PCTEST
18855 Adams Court, Morgan Hill, CA 95037 USA
Tel. +1.410.290.6652 / Fax +1.410.290.6654
http://www.pctest.com

SAR EVALUATION REPORT

Applicant Name:
Apple Inc.
One Apple Park Way
Cupertino, CA 95014 USA

Date of Testing:
06/08/2020 – 07/16/2020
Test Site/Location:
PCTEST Lab, Morgan Hill, CA, USA
Document Serial No.:
1C2004270033-01.BCG

FCC ID:	**BCGA2428**
APPLICANT:	**APPLE, INC.**

DUT Type:	Tablet Device
Application Type:	Certification
FCC Rule Part(s):	CFR §2.1093
Model:	A2428

Equipment Class	Band & Mode	Tx Frequency	SAR
			1g Body (W/kg)
PCB	GPRS/EDGE 850	824.20 - 848.80 MHz	1.19
PCB	GPRS/EDGE 1900	1850.20 - 1909.80 MHz	0.92
PCB	UMTS 850	826.40 - 846.60 MHz	1.15
PCB	UMTS 1750	1712.4 - 1752.6 MHz	1.02
PCB	UMTS 1900	1852.4 - 1907.6 MHz	1.02
PCB	LTE Band 71	665.5 - 695.5 MHz	1.04
PCB	LTE Band 12	699.7 - 715.3 MHz	1.01
PCB	LTE Band 17	706.5 - 713.5 MHz	N/A
PCB	LTE Band 13	779.5 - 784.5 MHz	1.00
PCB	LTE Band 14	790.5 - 795.5 MHz	0.84
PCB	LTE Band 26 (Cell)	814.7 - 848.3 MHz	1.08
PCB	LTE Band 5 (Cell)	824.7 - 848.3 MHz	1.07
PCB	LTE Band 66 (AWS)	1710.7 - 1779.3 MHz	1.03
PCB	LTE Band 4 (AWS)	1710.7 - 1754.3 MHz	N/A
PCB	LTE Band 25 (PCS)	1850.7 - 1914.3 MHz	1.19
PCB	LTE Band 2 (PCS)	1850.7 - 1909.3 MHz	N/A
PCB	LTE Band 30	2307.5 - 2312.5 MHz	0.85
PCB	LTE Band 7	2502.5 - 2567.5 MHz	1.14
PCB	LTE Band 41	2498.5 - 2687.5 MHz	1.18
DTS	2.4 GHz WLAN	2412 - 2472 MHz	1.01
NII	U-NII-1	5180 - 5240 MHz	N/A
NII	U-NII-2A	5260 - 5320 MHz	0.81
NII	U-NII-2C	5500 - 5720 MHz	1.08
NII	U-NII-3	5745 - 5825 MHz	0.78
DSS/DTS	Bluetooth	2402 - 2480 MHz	1.15
Simultaneous SAR per KDB 690783 D01v01r03:			1.43

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

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

Randy Ortanez
President

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

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1 DEVICE UNDER TEST

1.1 Device Overview

Band & Mode	Operating Modes	Tx Frequency
GPRS/EDGE 850	Data	824.20 - 848.80 MHz
GPRS/EDGE 1900	Data	1850.20 - 1909.80 MHz
UMTS 850	Data	826.40 - 846.60 MHz
UMTS 1750	Data	1712.4 - 1752.6 MHz
UMTS 1900	Data	1852.4 - 1907.6 MHz
LTE Band 71	Data	665.5 - 695.5 MHz
LTE Band 12	Data	699.7 - 715.3 MHz
LTE Band 17	Data	706.5 - 713.5 MHz
LTE Band 13	Data	779.5 - 784.5 MHz
LTE Band 14	Data	790.5 - 795.5 MHz
LTE Band 5 (Cell)	Data	824.7 - 848.3 MHz
LTE Band 66 (AWS)	Data	1710.7 - 1779.3 MHz
LTE Band 4 (AWS)	Data	1710.7 - 1754.3 MHz
LTE Band 25 (PCS)	Data	1850.7 - 1914.3 MHz
LTE Band 2 (PCS)	Data	1850.7 - 1909.3 MHz
LTE Band 30	Data	2307.5 - 2312.5 MHz
LTE Band 7	Data	2502.5 - 2567.5 MHz
LTE Band 41	Data	2498.5 - 2687.5 MHz
2.4 GHz WLAN	Voice/Data	2412 - 2472 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

1.2 Power Reduction for SAR

This device uses the manufacturer's proprietary motion detect mode to determine proximity to the user's body and set licensed power level accordingly for SAR compliance. When being used in the hand or the body, the output power for licensed transmitters will always be reduced. Per FCC KDB Guidance, SAR testing was performed only using reduced output powers following the test positions in KDB Publications 616217.

This device additionally utilizes a power reduction mechanism for Bluetooth operations. When Bluetooth is operating simultaneously with 5 GHz WLAN, the output power is permanently reduced. SAR evaluations were

additionally performed at the maximum allowed output power for these scenarios to evaluate simultaneous transmission compliance.

Detailed descriptions of the power reduction mechanisms are included in the operational description. The power reduction mechanisms were confirmed during the SAR evaluation. Appendix G contains a summary of the verification results.

1.3 Nominal and Maximum Output Power Specifications

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

1.3.1 2G/3G/4G Output Power for Portable Use Conditions

A. Antenna C

Mode / Band		Burst Average GMSK (dBm)		Burst Average 8-PSK (dBm)	
		1 TX Slots	*2 TX Slots*	*1 TX Slots*	*2 TX Slots*
GPRS/EDGE 850	Maximum	**27.75**	**24.75**	**24.75**	**23.75**
	Nominal	**27.00**	**24.00**	**24.00**	**23.00**
GPRS/EDGE 1900	Maximum	**21.95**	**18.95**	**21.95**	**18.95**
	Nominal	**21.20**	**18.20**	**21.20**	**18.20**

Mode / Band		Modulated Average (dBm)			
		3GPP WCDMA	*3GPP HSDPA*	*3GPP HSUPA*	*3GPP DC-HSDPA*
UMTS Band 5 (850 MHz)	Maximum	**17.70**	**17.70**	**17.70**	**17.70**
	Nominal	**17.20**	**17.20**	**17.20**	**17.20**
UMTS Band 4 (1750 MHz)	Maximum	**13.30**	**13.30**	**13.30**	**13.30**
	Nominal	**12.80**	**12.80**	**12.80**	**12.80**
UMTS Band 2 (1900 MHz)	Maximum	**13.10**	**13.10**	**13.10**	**13.10**
	Nominal	**12.60**	**12.60**	**12.60**	**12.60**

Mode / Band		Modulated Average (dBm)
LTE Band 71	Maximum	18.10
	Nominal	17.60
LTE Band 12	Maximum	17.50
	Nominal	17.00
LTE Band 17	Maximum	17.50
	Nominal	17.00
LTE Band 13	Maximum	18.10
	Nominal	17.60
LTE Band 14	Maximum	18.10
	Nominal	17.60
LTE Band 26 (Cell)	Maximum	18.20
	Nominal	17.70
LTE Band 5 (Cell)	Maximum	17.70
	Nominal	17.20
LTE Band 66 (AWS)	Maximum	13.30
	Nominal	12.80
LTE Band 4 (AWS)	Maximum	13.30
	Nominal	12.80
LTE Band 25 (PCS)	Maximum	13.10
	Nominal	12.60
LTE Band 2 (PCS)	Maximum	13.10
	Nominal	12.60
LTE Band 30	Maximum	13.20
	Nominal	12.70
LTE Band 7 ULCA	Maximum	12.40
	Nominal	11.40
LTE Band 7	Maximum	12.40
	Nominal	11.90
LTE Band 41 (PC3) ULCA	Maximum	15.40
	Nominal	14.40
LTE Band 41 (PC3)	Maximum	15.40
	Nominal	14.90
LTE Band 41 (PC2)	Maximum	15.40
	Nominal	14.90

B. Antenna D

Mode / Band		Burst Average GMSK (dBm)		Burst Average 8-PSK (dBm)	
		1 TX Slots	*2 TX Slots*	*1 TX Slots*	*2 TX Slots*
GPRS/EDGE 850	Maximum	**28.25**	**25.50**	**22.75**	**21.75**
	Nominal	**27.50**	**24.75**	**22.00**	**21.00**
GPRS/EDGE 1900	Maximum	**21.25**	**18.25**	**21.25**	**18.25**
	Nominal	**20.50**	**17.50**	**20.50**	**17.50**

Mode / Band		Modulated Average (dBm)			
		3GPP WCDMA	*3GPP HSDPA*	*3GPP HSUPA*	*3GPP DC-HSDPA*
UMTS Band 5 (850 MHz)	Maximum	**19.20**	**19.20**	**19.20**	**19.20**
	Nominal	**18.70**	**18.70**	**18.70**	**18.70**
UMTS Band 4 (1750 MHz)	Maximum	**13.20**	**13.20**	**13.20**	**13.20**
	Nominal	**12.70**	**12.70**	**12.70**	**12.70**
UMTS Band 2 (1900 MHz)	Maximum	**12.00**	**12.00**	**12.00**	**12.00**
	Nominal	**11.50**	**11.50**	**11.50**	**11.50**

Mode / Band		Modulated Average (dBm)
LTE Band 71	Maximum	17.20
	Nominal	16.70
LTE Band 12	Maximum	17.20
	Nominal	16.70
LTE Band 17	Maximum	17.20
	Nominal	16.70
LTE Band 13	Maximum	18.30
	Nominal	17.80
LTE Band 14	Maximum	18.30
	Nominal	17.80
LTE Band 26 (Cell)	Maximum	18.20
	Nominal	17.70
LTE Band 5 (Cell)	Maximum	19.20
	Nominal	18.70
LTE Band 66 (AWS)	Maximum	13.20
	Nominal	12.70
LTE Band 4 (AWS)	Maximum	13.20
	Nominal	12.70
LTE Band 25 (PCS)	Maximum	12.00
	Nominal	11.50
LTE Band 2 (PCS)	Maximum	12.00
	Nominal	11.50
LTE Band 30	Maximum	12.80
	Nominal	12.30
LTE Band 7 ULCA	Maximum	12.40
	Nominal	11.40
LTE Band 7	Maximum	12.40
	Nominal	11.90
LTE Band 41 (PC3) ULCA	Maximum	15.40
	Nominal	14.40
LTE Band 41 (PC3)	Maximum	15.40
	Nominal	14.90
LTE Band 41 (PC2)	Maximum	15.40
	Nominal	14.90

1.3.2 Unlicensed Maximum Output Power

Mode/ Band			IEEE 802.11b (2.4 GHz)		IEEE 802.11g (2.4 GHz)		IEEE 802.11n (2.4 GHz)	
		Channel	Maximum	Nominal	Maximum	Nominal	Maximum	Nominal
Modulated Average - Single Tx Chain (dBm) - Antenna A	20 MHz Bandwidth	1	16.00	14.50	15.00	13.50	15.00	13.50
		2	16.00	14.50	16.00	14.50	16.00	14.50
		3	16.00	14.50	16.00	14.50	16.00	14.50
		4	16.00	14.50	16.00	14.50	16.00	14.50
		5	16.00	14.50	16.00	14.50	16.00	14.50
		6	16.00	14.50	16.00	14.50	16.00	14.50
		7	16.00	14.50	16.00	14.50	16.00	14.50
		8	16.00	14.50	16.00	14.50	16.00	14.50
		9	16.00	14.50	16.00	14.50	16.00	14.50
		10	16.00	14.50	16.00	14.50	16.00	14.50
		11	16.00	14.50	14.00	12.50	14.00	12.50
		12	16.00	14.50	11.00	9.50	11.00	9.50
		13	14.00	12.50	2.00	0.50	2.00	0.50

Mode/ Band			IEEE 802.11g (2.4 GHz)		IEEE 802.11n (2.4 GHz)	
		Channel	Maximum	Nominal	Maximum	Nominal
Modulated Average - 2 Tx Chain (dBm) - Antenna A	20 MHz Bandwidth	1	13.50	12.00	13.50	12.00
		2	16.00	14.50	16.00	14.50
		3	16.00	14.50	16.00	14.50
		4	16.00	14.50	16.00	14.50
		5	16.00	14.50	16.00	14.50
		6	16.00	14.50	16.00	14.50
		7	16.00	14.50	16.00	14.50
		8	16.00	14.50	16.00	14.50
		9	16.00	14.50	16.00	14.50
		10	16.00	14.50	16.00	14.50
		11	13.00	11.50	13.00	11.50
		12	10.00	8.50	10.00	8.50
		13	0.00	-1.50	0.00	-1.50

Note: In MIMO operations each antenna transmits at maximum allowed Powers as indicated above.

Mode/ Band			IEEE 802.11b (2.4 GHz)		IEEE 802.11g (2.4 GHz)		IEEE 802.11n (2.4 GHz)	
		Channel	Maximum	Nominal	Maximum	Nominal	Maximum	Nominal
Modulated Average - Single Tx Chain (dBm) - Antenna B	20 MHz Bandwidth	1	16.00	14.50	15.00	13.50	15.00	13.50
		2	16.00	14.50	16.00	14.50	16.00	14.50
		3	16.00	14.50	16.00	14.50	16.00	14.50
		4	16.00	14.50	16.00	14.50	16.00	14.50
		5	16.00	14.50	16.00	14.50	16.00	14.50
		6	16.00	14.50	16.00	14.50	16.00	14.50
		7	16.00	14.50	16.00	14.50	16.00	14.50
		8	16.00	14.50	16.00	14.50	16.00	14.50
		9	16.00	14.50	16.00	14.50	16.00	14.50
		10	16.00	14.50	16.00	14.50	16.00	14.50
		11	16.00	14.50	14.00	12.50	14.00	12.50
		12	16.00	14.50	11.00	9.50	11.00	9.50
		13	14.00	12.50	2.00	0.50	2.00	0.50

Mode/ Band			IEEE 802.11g (2.4 GHz)		IEEE 802.11n (2.4 GHz)	
		Channel	Maximum	Nominal	Maximum	Nominal
Modulated Average - 2 Tx Chain (dBm) - Antenna B	20 MHz Bandwidth	1	13.50	12.00	13.50	12.00
		2	16.00	14.50	16.00	14.50
		3	16.00	14.50	16.00	14.50
		4	16.00	14.50	16.00	14.50
		5	16.00	14.50	16.00	14.50
		6	16.00	14.50	16.00	14.50
		7	16.00	14.50	16.00	14.50
		8	16.00	14.50	16.00	14.50
		9	16.00	14.50	16.00	14.50
		10	16.00	14.50	16.00	14.50
		11	13.00	11.50	13.00	11.50
		12	10.00	8.50	10.00	8.50
		13	0.00	-1.50	0.00	-1.50

Note: In MIMO operations each antenna transmits at maximum allowed Powers as indicated above.

Mode / Band		Modulated Average (dBm) - Antenna A
Bluetooth BDR/LE	Maximum	**17.00**
	Nominal	**15.50**
Bluetooth EDR	Maximum	**12.50**
	Nominal	**11.00**

Mode/ Band			IEEE 802.11a (5 GHz)		IEEE 802.11n (5 GHz)		IEEE 802.11ac (5 GHz)	
		Channel	Maximum	Nominal	Maximum	Nominal	Maximum	Nominal
Modulated Average - Single Tx Chain (dBm) - 5GHz ANT A	20 MHz Bandwidth	36	16.00	14.50	16.00	14.50	16.00	14.50
		40	16.50	15.00	16.50	15.00	16.50	15.00
		44	16.50	15.00	16.50	15.00	16.50	15.00
		48	16.50	15.00	16.50	15.00	16.50	15.00
		52	17.00	15.50	17.00	15.50	17.00	15.50
		56	17.00	15.50	17.00	15.50	17.00	15.50
		60	17.00	15.50	17.00	15.50	17.00	15.50
		64	16.00	14.50	16.00	14.50	16.00	14.50
		100	15.00	13.50	15.00	13.50	15.00	13.50
		104	17.50	16.00	17.50	16.00	17.50	16.00
		108	17.50	16.00	17.50	16.00	17.50	16.00
		112	17.50	16.00	17.50	16.00	17.50	16.00
		116	17.50	16.00	17.50	16.00	17.50	16.00
		120	17.50	16.00	17.50	16.00	17.50	16.00
		124	17.50	16.00	17.50	16.00	17.50	16.00
		128	17.50	16.00	17.50	16.00	17.50	16.00
		132	17.50	16.00	17.50	16.00	17.50	16.00
		136	17.50	16.00	17.50	16.00	17.50	16.00
		140	14.00	12.50	14.00	12.50	14.00	12.50
		144	17.50	16.00	17.50	16.00	17.50	16.00
		149	16.25	14.75	16.25	14.75	16.25	14.75
		153	16.25	14.75	16.25	14.75	16.25	14.75
		157	16.25	14.75	16.25	14.75	16.25	14.75
		161	16.25	14.75	16.25	14.75	16.25	14.75
		165	16.25	14.75	16.25	14.75	16.25	14.75
	40 MHz Bandwidth	38	[redacted]		13.00	11.50	13.00	11.50
		46			16.50	15.00	16.50	15.00
		54			17.00	15.50	17.00	15.50
		62			14.50	13.00	14.50	13.00
		102			12.50	11.00	12.50	11.00
		110			17.50	16.00	17.50	16.00
		118			17.50	16.00	17.50	16.00
		126			17.50	16.00	17.50	16.00
		134			15.00	13.50	15.00	13.50
		142			17.50	16.00	17.50	16.00
		151			16.25	14.75	16.25	14.75
		159			16.25	14.75	16.25	14.75
	80 MHz Bandwidth	42	[redacted]				11.50	10.00
		58					12.00	10.50
		106					12.00	10.50
		122					15.50	14.00
		138					17.50	16.00
		155					15.00	13.50

Mode/ Band			IEEE 802.11a (5 GHz)		IEEE 802.11n (5 GHz)		IEEE 802.11ac (5 GHz)	
		Channel	Maximum	Nominal	Maximum	Nominal	Maximum	Nominal
Modulated Average - 2 Tx Chain (dBm) CDD - 5GHz ANT A	20 MHz Bandwidth	36	15.00	13.50	15.00	13.50	15.00	13.50
		40	16.50	15.00	16.50	15.00	16.50	15.00
		44	16.50	15.00	16.50	15.00	16.50	15.00
		48	16.50	15.00	16.50	15.00	16.50	15.00
		52	16.50	15.00	16.50	15.00	16.50	15.00
		56	16.50	15.00	16.50	15.00	16.50	15.00
		60	16.50	15.00	16.50	15.00	16.50	15.00
		64	14.50	13.00	14.50	13.00	14.50	13.00
		100	14.50	13.00	14.50	13.00	14.50	13.00
		104	15.50	14.00	15.50	14.00	15.50	14.00
		108	15.50	14.00	15.50	14.00	15.50	14.00
		112	15.50	14.00	15.50	14.00	15.50	14.00
		116	15.50	14.00	15.50	14.00	15.50	14.00
		120	15.50	14.00	15.50	14.00	15.50	14.00
		124	15.50	14.00	15.50	14.00	15.50	14.00
		128	15.50	14.00	15.50	14.00	15.50	14.00
		132	15.50	14.00	15.50	14.00	15.50	14.00
		136	15.50	14.00	15.50	14.00	15.50	14.00
		140	13.00	11.50	13.00	11.50	13.00	11.50
		144	15.50	14.00	15.50	14.00	15.50	14.00
		149	16.25	14.75	16.25	14.75	16.25	14.75
		153	16.25	14.75	16.25	14.75	16.25	14.75
		157	16.25	14.75	16.25	14.75	16.25	14.75
		161	16.25	14.75	16.25	14.75	16.25	14.75
		165	16.25	14.75	16.25	14.75	16.25	14.75
	40 MHz Bandwidth	38	[redacted]		11.50	10.00	11.50	10.00
		46			16.50	15.00	16.50	15.00
		54			16.00	14.50	16.00	14.50
		62			11.50	10.00	11.50	10.00
		102			11.50	10.00	11.50	10.00
		110			17.00	15.50	17.00	15.50
		118			17.50	16.00	17.50	16.00
		126			17.50	16.00	17.50	16.00
		134			13.00	11.50	13.00	11.50
		142			17.50	16.00	17.50	16.00
		151			16.25	14.75	16.25	14.75
		159			16.25	14.75	16.25	14.75
	80 MHz Bandwidth	42	[redacted]				10.00	8.50
		58					10.50	9.00
		106					10.50	9.00
		122					14.00	12.50
		138					17.50	16.00
		155					14.00	12.50

Note: In MIMO operations, each antenna transmits at maximum allowed powers as indicated above

Mode/ Band			IEEE 802.11n (5 GHz)		IEEE 802.11ac (5 GHz)	
		Channel	Maximum	Nominal	Maximum	Nominal
Modulated Average - 2 Tx Chain (dBm) SDM - 5GHz ANT A	20 MHz Bandwidth	36	15.00	13.50	15.00	13.50
		40	16.50	15.00	16.50	15.00
		44	16.50	15.00	16.50	15.00
		48	16.50	15.00	16.50	15.00
		52	17.00	15.50	17.00	15.50
		56	17.00	15.50	17.00	15.50
		60	17.00	15.50	17.00	15.50
		64	14.50	13.00	14.50	13.00
		100	14.50	13.00	14.50	13.00
		104	17.50	16.00	17.50	16.00
		108	17.50	16.00	17.50	16.00
		112	17.50	16.00	17.50	16.00
		116	17.50	16.00	17.50	16.00
		120	17.50	16.00	17.50	16.00
		124	17.50	16.00	17.50	16.00
		128	17.50	16.00	17.50	16.00
		132	17.50	16.00	17.50	16.00
		136	17.50	16.00	17.50	16.00
		140	13.00	11.50	13.00	11.50
		144	17.50	16.00	17.50	16.00
		149	16.25	14.75	16.25	14.75
		153	16.25	14.75	16.25	14.75
		157	16.25	14.75	16.25	14.75
		161	16.25	14.75	16.25	14.75
		165	16.25	14.75	16.25	14.75
	40 MHz Bandwidth	38	11.50	10.00	11.50	10.00
		46	16.50	15.00	16.50	15.00
		54	16.00	14.50	16.00	14.50
		62	11.50	10.00	11.50	10.00
		102	11.50	10.00	11.50	10.00
		110	17.00	15.50	17.00	15.50
		118	17.50	16.00	17.50	16.00
		126	17.50	16.00	17.50	16.00
		134	13.00	11.50	13.00	11.50
		142	17.50	16.00	17.50	16.00
		151	16.25	14.75	16.25	14.75
		159	16.25	14.75	16.25	14.75
	80 MHz Bandwidth	42	[redacted]		10.00	8.50
		58			10.50	9.00
		106			10.50	9.00
		122			14.00	12.50
		138			17.50	16.00
		155			14.00	12.50

Note: In MIMO operations, each antenna transmits at maximum allowed powers as indicated above

Mode/ Band			IEEE 802.11a (5 GHz)		IEEE 802.11n (5 GHz)		IEEE 802.11ac (5 GHz)	
		Channel	Maximum	Nominal	Maximum	Nominal	Maximum	Nominal
Modulated Average - Single Tx Chain (dBm) - 5GHz ANT B	20 MHz Bandwidth	36	16.00	14.50	16.00	14.50	16.00	14.50
		40	16.25	14.75	16.25	14.75	16.25	14.75
		44	16.25	14.75	16.25	14.75	16.25	14.75
		48	16.25	14.75	16.25	14.75	16.25	14.75
		52	16.75	15.25	16.75	15.25	16.75	15.25
		56	16.75	15.25	16.75	15.25	16.75	15.25
		60	16.75	15.25	16.75	15.25	16.75	15.25
		64	16.00	14.50	16.00	14.50	16.00	14.50
		100	15.00	13.50	15.00	13.50	15.00	13.50
		104	17.25	15.75	17.25	15.75	17.25	15.75
		108	17.25	15.75	17.25	15.75	17.25	15.75
		112	17.25	15.75	17.25	15.75	17.25	15.75
		116	17.25	15.75	17.25	15.75	17.25	15.75
		120	17.25	15.75	17.25	15.75	17.25	15.75
		124	17.25	15.75	17.25	15.75	17.25	15.75
		128	17.25	15.75	17.25	15.75	17.25	15.75
		132	17.25	15.75	17.25	15.75	17.25	15.75
		136	17.25	15.75	17.25	15.75	17.25	15.75
		140	14.00	12.50	14.00	12.50	14.00	12.50
		144	17.25	15.75	17.25	15.75	17.25	15.75
		149	16.50	15.00	16.50	15.00	16.50	15.00
		153	16.50	15.00	16.50	15.00	16.50	15.00
		157	16.50	15.00	16.50	15.00	16.50	15.00
		161	16.50	15.00	16.50	15.00	16.50	15.00
		165	16.50	15.00	16.50	15.00	16.50	15.00
	40 MHz Bandwidth	38			13.00	11.50	13.00	11.50
		46			16.25	14.75	16.25	14.75
		54			16.75	15.25	16.75	15.25
		62			14.50	13.00	14.50	13.00
		102			12.50	11.00	12.50	11.00
		110			17.25	15.75	17.25	15.75
		118			17.25	15.75	17.25	15.75
		126			17.25	15.75	17.25	15.75
		134			15.00	13.50	15.00	13.50
		142			17.25	15.75	17.25	15.75
		151			16.50	15.00	16.50	15.00
		159			16.50	15.00	16.50	15.00
	80 MHz Bandwidth	42					11.50	10.00
		58					12.00	10.50
		106					12.00	10.50
		122					15.50	14.00
		138					17.25	15.75
		155					15.00	13.50

Mode/ Band			IEEE 802.11a (5 GHz)		IEEE 802.11n (5 GHz)		IEEE 802.11ac (5 GHz)	
		Channel	Maximum	Nominal	Maximum	Nominal	Maximum	Nominal
Modulated Average - 2 Tx Chain (dBm) CDD - 5GHz ANT B	20 MHz Bandwidth	36	15.00	13.50	15.00	13.50	15.00	13.50
		40	16.25	14.75	16.25	14.75	16.25	14.75
		44	16.25	14.75	16.25	14.75	16.25	14.75
		48	16.25	14.75	16.25	14.75	16.25	14.75
		52	16.50	15.00	16.50	15.00	16.50	15.00
		56	16.50	15.00	16.50	15.00	16.50	15.00
		60	16.50	15.00	16.50	15.00	16.50	15.00
		64	14.50	13.00	14.50	13.00	14.50	13.00
		100	14.50	13.00	14.50	13.00	14.50	13.00
		104	15.50	14.00	15.50	14.00	15.50	14.00
		108	15.50	14.00	15.50	14.00	15.50	14.00
		112	15.50	14.00	15.50	14.00	15.50	14.00
		116	15.50	14.00	15.50	14.00	15.50	14.00
		120	15.50	14.00	15.50	14.00	15.50	14.00
		124	15.50	14.00	15.50	14.00	15.50	14.00
		128	15.50	14.00	15.50	14.00	15.50	14.00
		132	15.50	14.00	15.50	14.00	15.50	14.00
		136	15.50	14.00	15.50	14.00	15.50	14.00
		140	13.00	11.50	13.00	11.50	13.00	11.50
		144	15.50	14.00	15.50	14.00	15.50	14.00
		149	16.50	15.00	16.50	15.00	16.50	15.00
		153	16.50	15.00	16.50	15.00	16.50	15.00
		157	16.50	15.00	16.50	15.00	16.50	15.00
		161	16.50	15.00	16.50	15.00	16.50	15.00
		165	16.50	15.00	16.50	15.00	16.50	15.00
	40 MHz Bandwidth	38	[redacted]		11.50	10.00	11.50	10.00
		46			16.25	14.75	16.25	14.75
		54			16.00	14.50	16.00	14.50
		62			11.50	10.00	11.50	10.00
		102			11.50	10.00	11.50	10.00
		110			17.00	15.50	17.00	15.50
		118			17.25	15.75	17.25	15.75
		126			17.25	15.75	17.25	15.75
		134			13.00	11.50	13.00	11.50
		142			17.25	15.75	17.25	15.75
		151			16.50	15.00	16.50	15.00
		159			16.50	15.00	16.50	15.00
	80 MHz Bandwidth	42	[redacted]				10.00	8.50
		58					10.50	9.00
		106					10.50	9.00
		122					14.00	12.50
		138					17.25	15.75
		155					14.00	12.50

Note: In MIMO operations, each antenna transmits at maximum allowed powers as indicated above

Mode/ Band		Channel	IEEE 802.11n (5 GHz)		IEEE 802.11ac (5 GHz)	
			Maximum	Nominal	Maximum	Nominal
Modulated Average - 2 Tx Chain (dBm) SDM - 5GHz ANT B	20 MHz Bandwidth	36	15.00	13.50	15.00	13.50
		40	16.25	14.75	16.25	14.75
		44	16.25	14.75	16.25	14.75
		48	16.25	14.75	16.25	14.75
		52	16.75	15.25	16.75	15.25
		56	16.75	15.25	16.75	15.25
		60	16.75	15.25	16.75	15.25
		64	14.50	13.00	14.50	13.00
		100	14.50	13.00	14.50	13.00
		104	17.25	15.75	17.25	15.75
		108	17.25	15.75	17.25	15.75
		112	17.25	15.75	17.25	15.75
		116	17.25	15.75	17.25	15.75
		120	17.25	15.75	17.25	15.75
		124	17.25	15.75	17.25	15.75
		128	17.25	15.75	17.25	15.75
		132	17.25	15.75	17.25	15.75
		136	17.25	15.75	17.25	15.75
		140	13.00	11.50	13.00	11.50
		144	17.25	15.75	17.25	15.75
		149	16.50	15.00	16.50	15.00
		153	16.50	15.00	16.50	15.00
		157	16.50	15.00	16.50	15.00
		161	16.50	15.00	16.50	15.00
		165	16.50	15.00	16.50	15.00
	40 MHz Bandwidth	38	11.50	10.00	11.50	10.00
		46	16.25	14.75	16.25	14.75
		54	16.00	14.50	16.00	14.50
		62	11.50	10.00	11.50	10.00
		102	11.50	10.00	11.50	10.00
		110	17.00	15.50	17.00	15.50
		118	17.25	15.75	17.25	15.75
		126	17.25	15.75	17.25	15.75
		134	13.00	11.50	13.00	11.50
		142	17.25	15.75	17.25	15.75
		151	16.50	15.00	16.50	15.00
		159	16.50	15.00	16.50	15.00
	80 MHz Bandwidth	42	[redacted]		10.00	8.50
		58			10.50	9.00
		106			10.50	9.00
		122			14.00	12.50
		138			17.25	15.75
		155			14.00	12.50

Note: In MIMO operations, each antenna transmits at maximum allowed powers as indicated above

1.3.3 Unlicensed Reduced Output Power

Mode / Band		Modulated Average - Single Tx Chain (dBm) - Antenna A
Bluetooth BDR/LE Reduced	Maximum	**10.00**
	Nominal	**8.50**
Bluetooth EDR Reduced	Maximum	**10.00**
	Nominal	**8.50**

Note: Bluetooth operations on Antenna A are reduced in output power when it is operating simultaneously with 5 GHz WLAN. Detailed description of the power reduction mechanism is included in the operational description.

1.4 DUT Antenna Locations

The overall dimensions of this device are > 200 mm. A diagram showing the location of the device antennas can be found in Appendix E. Exact Antenna dimensions and separation distances are shown in the Technical description in the FCC filings.

Table 1-1
Device Edges/Sides for SAR Testing

Device Sides/Edges for SAR Testing						
Mode	Back	Front	Top	Bottom	Right	Left
GPRS 850 Antenna C	Yes	No	Yes	No	Yes	No
GPRS 1900 Antenna C	Yes	No	Yes	No	Yes	No
UMTS 850 Antenna C	Yes	No	Yes	No	Yes	No
UMTS 1750 Antenna C	Yes	No	Yes	No	Yes	No
UMTS 1900 Antenna C	Yes	No	Yes	No	Yes	No
LTE Band 71 Antenna C	Yes	No	Yes	No	Yes	No
LTE Band 12 Antenna C	Yes	No	Yes	No	Yes	No
LTE Band 13 Antenna C	Yes	No	Yes	No	Yes	No
LTE Band 14 Antenna C	Yes	No	Yes	No	Yes	No
LTE Band 26 (Cell) Antenna C	Yes	No	Yes	No	Yes	No
LTE Band 5 (Cell) Antenna C	Yes	No	Yes	No	Yes	No
LTE Band 66 (AWS) Antenna C	Yes	No	Yes	No	Yes	No
LTE Band 25 (PCS) Antenna C	Yes	No	Yes	No	Yes	No
LTE Band 30 Antenna C	Yes	No	Yes	No	Yes	No
LTE Band 7 Antenna C	Yes	No	Yes	No	Yes	No
LTE Band 41 Antenna C	Yes	No	Yes	No	Yes	No
GPRS 850 Antenna D	Yes	No	Yes	No	No	Yes
GPRS 1900 Antenna D	Yes	No	Yes	No	No	Yes
UMTS 850 Antenna D	Yes	No	Yes	No	No	Yes
UMTS 1750 Antenna D	Yes	No	Yes	No	No	Yes
UMTS 1900 Antenna D	Yes	No	Yes	No	No	Yes
LTE Band 71 Antenna D	Yes	No	Yes	No	No	Yes
LTE Band 12 Antenna D	Yes	No	Yes	No	No	Yes
LTE Band 13 Antenna D	Yes	No	Yes	No	No	Yes
LTE Band 14 Antenna D	Yes	No	Yes	No	No	Yes
LTE Band 26 (Cell) Antenna D	Yes	No	Yes	No	No	Yes
LTE Band 5 (Cell) Antenna D	Yes	No	Yes	No	No	Yes
LTE Band 66 (AWS) Antenna D	Yes	No	Yes	No	No	Yes
LTE Band 25 (PCS) Antenna D	Yes	No	Yes	No	No	Yes
LTE Band 30 Antenna D	Yes	No	Yes	No	No	Yes
LTE Band 7 Antenna D	Yes	No	Yes	No	No	Yes
LTE Band 41 Antenna D	Yes	No	Yes	No	No	Yes
2.4 GHz WLAN Antenna A	Yes	No	No	Yes	No	Yes
2.4 GHz WLAN Antenna B	Yes	No	No	Yes	Yes	No
5 GHz WLAN Antenna A	Yes	No	No	Yes	No	Yes
5 GHz WLAN Antenna B	Yes	No	No	Yes	Yes	No
Bluetooth Antenna A	Yes	No	No	Yes	No	Yes

Note: Per FCC KDB Publications 616217 D04v01r01, particular edges were not required to be evaluated for SAR based on the SAR exclusion threshold in KDB 447498 DO1V06. Additional edges may have been evaluated for simultaneous transmission analysis.

1.5 Simultaneous Transmission Capabilities

According to FCC KDB Publication 447498 D01v06, transmitters are considered to be 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	Body
1	Cellular Band + 2.4 GHz WI-FI	Yes
2	Cellular Band + 5 GHz WI-FI	Yes
3	Cellular Band + 2.4 GHz Bluetooth	Yes
4	Cellular Band + 2.4 GHz WI-FI MIMO	Yes
5	Cellular Band + 5 GHz WI-FI MIMO	Yes
6	Cellular Band + 2.4 GHz Bluetooth + 5 GHz WI-FI	Yes
7	Cellular Band + 2.4 GHz Bluetooth + 5 GHz WI-FI MIMO	Yes
8	2.4 GHz Bluetooth + 5 GHz WI-FI	Yes
9	2.4 GHz Bluetooth + 5 GHz WI-FI MIMO	Yes

1. There are no limitations in the above listed simultaneous transmission scenarios between cellular antennas and BT/WI-FI antennas.
2. 2.4 GHz WLAN, and 2.4 GHz Bluetooth share the same antenna path and cannot transmit simultaneously on any antenna (Antenna A, Antenna B).
3. All licensed modes share the same antenna path and cannot transmit simultaneously.
4. This device supports 2x2 MIMO Tx for WLAN 802.11a/g/n/ac. 802.11a/g/n/ac supports CDD and STBC and 802.11n/ac additionally supports SDM. Each WLAN antenna can transmit independently or together when operating with MIMO.
5. This device supports VOWIFI.

1.6 Miscellaneous SAR Test Considerations

(A) WIFI/BT

Since U-NII-2A band have a higher or the same maximum output power than U-NII-1 for both Antenna A and Antenna B, U-NII-2A was evaluated for both Antenna A and Antenna B SAR. Additional testing for U-NII-1 Antenna A and Antenna B was not required since all reported SAR for U-NII-2A was less than 1.2 W/kg per FCC KDB Publication 248227 D01v02r02.

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

WLAN/Bluetooth SAR worst case configuration was evaluated for Variant 1 and Variant 2. The Variant with the highest reported SAR value was evaluated for the remaining WLAN/Bluetooth configurations.

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

This device supports IEEE 802.11ac with the following features:

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

(B) Licensed Transmitter(s)

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

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

This device supports LTE Carrier Aggregation (CA) in the downlink. All uplink communications are identical to Release 8 specifications. ULCA is only supported in Power Class 3. Per FCC KDB Publication 941225 D05A v01r02, SAR for LTE CA operations was not needed since the maximum average output power in LTE CA mode was not >0.25 dB higher than the maximum output power when downlink carrier aggregation was inactive. The downlink carrier aggregation exclusion analysis can be found in Appendix F. This device supports LTE Carrier Aggregation (CA) for LTE Band 7 and LTE Band 41 with two components carriers in the uplink. SAR measurements and conducted powers were evaluated per 2017 Fall TCB Workshop Notes.

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

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

This device supports both Power Class 2 (PC2) and Power Class 3 (PC3) for LTE Band 41. Per 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 13.1).

1.7 Guidance Applied

- FCC KDB Publication 941225 D01v03r01, D05v02r04, D05Av01r02, D06v02r01 (2G/3G/4G)
- FCC KDB Publication 248227 D01v02r02 (SAR Considerations for 802.11 Devices)
- FCC KDB Publication 447498 D01v06 (General SAR Guidance)
- FCC KDB Publication 865664 D01v01r04, D02v01r02 (SAR Measurements up to 6 GHz)
- FCC KDB Publication 616217 D04v01r02 (Tablet)
- October 2013 TCB Workshop Notes (GPRS Testing Considerations)
- May 2017 TCB Workshop Notes (LTE Band 41 Power Class 2/3)
- April 2018 TCB Workshop Notes (LTE Carrier Aggregation)

1.8 Device Serial Numbers

Several samples with identical hardware were used to support SAR testing. The manufacturer has confirmed that the device(s) tested have the same physical, mechanical and thermal characteristics and are within operational tolerances expected for production units. The serial numbers used for each test are indicated alongside the results in Section 10.

2 LTE INFORMATION

LTE Information					
Form Factor	Tablet Device				
Frequency Range of each LTE transmission band	LTE Band 71 (665.5 - 695.5 MHz)				
	LTE Band 12 (699.7 - 715.3 MHz)				
	LTE Band 17 (706.5 - 713.5 MHz)				
	LTE Band 13 (779.5 - 784.5 MHz)				
	LTE Band 14 (790.5 - 795.5 MHz)				
	LTE Band 26 (Cell) (814.7 - 848.3 MHz)				
	LTE Band 5 (Cell) (824.7 - 848.3 MHz)				
	LTE Band 66 (AWS) (1710.7 - 1779.3 MHz)				
	LTE Band 4 (AWS) (1710.7 - 1754.3 MHz)				
	LTE Band 25 (PCS) (1850.7 - 1914.3 MHz)				
	LTE Band 2 (PCS) (1850.7 - 1909.3 MHz)				
	LTE Band 30 (2307.5 - 2312.5 MHz)				
	LTE Band 7 (2502.5 - 2567.5 MHz)				
	LTE Band 41 (2498.5 - 2687.5 MHz)				
Channel Bandwidths	LTE Band 71: 5 MHz, 10 MHz, 15 MHz, 20 MHz				
	LTE Band 12: 1.4 MHz, 3 MHz, 5 MHz, 10 MHz				
	LTE Band 17: 5 MHz, 10 MHz				
	LTE Band 13: 5 MHz, 10 MHz				
	LTE Band 14: 5 MHz, 10 MHz				
	LTE Band 26 (Cell): 1.4 MHz, 3 MHz, 5 MHz, 10 MHz				
	LTE Band 5 (Cell): 1.4 MHz, 3 MHz, 5 MHz, 10 MHz				
	LTE Band 66 (AWS): 1.4 MHz, 3 MHz, 5 MHz, 10 MHz, 15 MHz, 20 MHz				
	LTE Band 4 (AWS): 1.4 MHz, 3 MHz, 5 MHz, 10 MHz, 15 MHz, 20 MHz				
	LTE Band 25 (PCS): 1.4 MHz, 3 MHz, 5 MHz, 10 MHz, 15 MHz, 20 MHz				
	LTE Band 2 (PCS): 1.4 MHz, 3 MHz, 5 MHz, 10 MHz, 15 MHz, 20 MHz				
	LTE Band 30: 5 MHz, 10 MHz				
	LTE Band 7: 5 MHz, 10 MHz, 15 MHz, 20 MHz				
	LTE Band 41: 5 MHz, 10 MHz, 15 MHz, 20 MHz				
Channel Numbers and Frequencies (MHz)	Low	Low-Mid	Mid	Mid-High	High
LTE Band 71: 5 MHz	665.5 (133147)		680.5 (133297)	695.5 (133447)	
LTE Band 71: 10 MHz	668 (133172)		680.5 (133297)	693 (133422)	
LTE Band 71: 15 MHz	670.5 (133197)		680.5 (133297)	690.5 (133397)	
LTE Band 71: 20 MHz	673 (133222)		680.5 (133297)	688 (133372)	
LTE Band 12: 1.4 MHz	699.7 (23017)		707.5 (23095)	715.3 (23173)	
LTE Band 12: 3 MHz	700.5 (23025)		707.5 (23095)	714.5 (23165)	
LTE Band 12: 5 MHz	701.5 (23035)		707.5 (23095)	713.5 (23155)	
LTE Band 12: 10 MHz	704 (23060)		707.5 (23095)	711 (23130)	
LTE Band 17: 5 MHz	706.5 (23755)		710 (23790)	713.5 (23825)	
LTE Band 17: 10 MHz	709 (23780)		710 (23790)	711 (23800)	
LTE Band 13: 5 MHz	779.5 (23205)		782 (23230)	784.5 (23255)	
LTE Band 13: 10 MHz	N/A		782 (23230)	N/A	
LTE Band 14: 5 MHz	790.5 (23305)		793 (23330)	795.5 (23355)	
LTE Band 14: 10 MHz	N/A		793 (23330)	N/A	
LTE Band 26 (Cell): 1.4 MHz	814.7 (26697)		831.5 (26865)	848.3 (27033)	
LTE Band 26 (Cell): 3 MHz	815.5 (26705)		831.5 (26865)	847.5 (27025)	
LTE Band 26 (Cell): 5 MHz	816.5 (26715)		831.5 (26865)	846.5 (27015)	
LTE Band 26 (Cell): 10 MHz	819 (26740)		831.5 (26865)	844 (26990)	
LTE Band 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 41: 5 MHz	2506 (39750)	2549.5 (40185)	2593 (40620)	2636.5 (41055)	2680 (41490)
LTE Band 41: 10 MHz	2506 (39750)	2549.5 (40185)	2593 (40620)	2636.5 (41055)	2680 (41490)
LTE Band 41: 15 MHz	2506 (39750)	2549.5 (40185)	2593 (40620)	2636.5 (41055)	2680 (41490)
LTE Band 41: 20 MHz	2506 (39750)	2549.5 (40185)	2593 (40620)	2636.5 (41055)	2680 (41490)
UE Category	DL UE Cat 16 (QPSK, 16QAM, 64QAM, 256QAM), UL UE Cat 13 (QPSK, 16QAM, 64QAM)				
Modulations Supported in UL	QPSK, 16QAM, 64QAM				
LTE MPR Permanently implemented per 3GPP TS 36.101 section 6.2.3~6.2.5? (manufacturer attestation to be provided)	YES				
A-MPR (Additional MPR) disabled for SAR Testing?	YES				
LTE Carrier Aggregation Possible Combinations	The technical description includes all the possible carrier aggregation combinations				
LTE Additional Information	This device does not support full CA features on 3GPP Release 13. It supports carrier aggregation features as shown in section 8 and Appendix E. 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 13 features are not supported: Relay, HetNet, Enhanced MIMO, eICIC, eMBMS, Cross-Carrier scheduling, Enhanced SCFDMA.				

3 INTRODUCTION

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

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

3.1 SAR Definition

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

Equation 3-1
SAR Mathematical Equation

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

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

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

where:

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

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

4 DOSIMETRIC ASSESSMENT

4.1 Measurement Procedure

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

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.

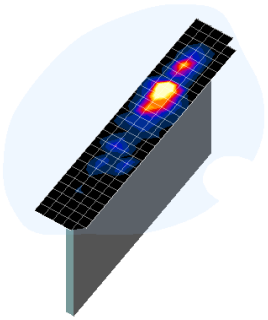

Figure 4-1
Sample SAR Area Scan

3. Based on the area scan data, the peak of the region with maximum SAR was determined by spline interpolation. Around this point, a volume was assessed according to the measurement resolution and volume size requirements of FCC KDB Publication 865664 D01v01r04 (See Table 4-1) and IEEE 1528-2013. On the basis of this data set, the spatial peak SAR value was evaluated with the following procedure (see references or the DASY manual online for more details):

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

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

   c. All neighboring volumes were evaluated until no neighboring volume with a higher average value was found.

4. The SAR reference value, at the same location as step 2, was re-measured after the zoom scan was complete to calculate the SAR drift. If the drift deviated by more than 5%, the SAR test and drift measurements were repeated.

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

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

*Also compliant to IEEE 1528-2013 Table 6

5 TEST CONFIGURATION POSITIONS

5.1 Device Holder

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

5.2 SAR Testing for Tablet per KDB Publication 616217 D04v01r02

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

6 RF EXPOSURE LIMITS

6.1 Uncontrolled Environment

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

6.2 Controlled Environment

CONTROLLED ENVIRONMENTS are defined as locations where there is exposure that may be incurred by persons who are aware of the potential for exposure, (i.e. as a result of employment or occupation). In general, occupational/controlled exposure limits are applicable to situations in which persons are exposed as a consequence of their employment, who have been made fully aware of the potential for exposure and can exercise control over their exposure. This exposure category is also applicable when the exposure is of a transient nature due to incidental passage through a location where the exposure levels may be higher than the general population/uncontrolled limits, but the exposed person is fully aware of the potential for exposure and can exercise control over his or her exposure by leaving the area or by some other appropriate means.

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

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

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

7 FCC MEASUREMENT PROCEDURES

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

7.1 Measured and Reported SAR

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

7.2 3G SAR Test Reduction Procedure

In FCC KDB Publication 941225 D01v03r01, certain transmission modes within a frequency band and wireless mode evaluated for SAR are defined as primary modes. The equivalent modes considered for SAR test reduction are denoted as secondary modes. When the maximum output power including tune-up tolerance specified for production units in a secondary mode is ≤ 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.

7.3 Procedures Used to Establish RF Signal for SAR

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

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

7.4 SAR Measurement Conditions for UMTS

7.4.1 Output Power Verification

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

7.4.2 Body SAR Measurements

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

7.4.3 SAR Measurements with Rel 5 HSDPA

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

7.4.4 SAR Measurements with Rel 6 HSUPA

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

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

7.4.5 SAR Measurement Conditions for DC-HSDPA

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

7.5 SAR Measurement Conditions for LTE

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

7.5.1 Spectrum Plots for RB Configurations

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

7.5.2 MPR

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

7.5.3 A-MPR

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

7.5.4 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.

7.5.5 TDD

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

7.5.6 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.

7.6 SAR Testing with 802.11 Transmitters

The normal network operating configurations of 802.11 transmitters are not suitable for SAR measurements. Unpredictable fluctuations in network traffic and antenna diversity conditions can introduce undesirable variations in SAR results. The SAR for these devices should be measured using chipset based test mode software to ensure the results are consistent and reliable. See KDB Publication 248227 D01v02r02 for more details.

7.6.1 General Device Setup

Chipset based test mode software is hardware dependent and generally varies among manufacturers. The device operating parameters established in test mode for SAR measurements must be identical to those programmed in production units, including output power levels, amplifier gain settings and other RF performance tuning parameters.

A periodic duty factor is required for current generation SAR systems to measure SAR. When 802.11 frame gaps are accounted for in the transmission, a maximum transmission duty factor of 92 - 96% is typically achievable in most test mode configurations. A minimum transmission duty factor of 85% is required to avoid certain hardware and device implementation issues related to wide range SAR scaling. The reported SAR is scaled to 100% transmission duty factor to determine compliance at the maximum tune-up tolerance limit.

7.6.2 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.

7.6.3 U-NII-2C and U-NII-3

The frequency range covered by U-NII-2C and U-NII-3 is 380 MHz (5.47 – 5.85 GHz), which requires a minimum of at least two SAR probe calibration frequency points to support SAR measurements. When Terminal Doppler Weather Radar (TDWR) restriction applies, the channels at 5.60 – 5.65 GHz in U-NII-2C band must be disabled with acceptable mechanisms and documented in the equipment certification. Unless band gap channels are permanently disabled, SAR must be considered for these channels. Each band is tested independently according to the normally required OFDM SAR measurement and probe calibration frequency points requirements.

7.6.4 2.4 GHz SAR Test Requirements

SAR is measured for 2.4 GHz 802.11b DSSS using either the fixed test position or, when applicable, the initial test position procedure. SAR test reduction is determined according to the following:

1) When the reported SAR of the highest measured maximum output power channel for the exposure configuration is ≤ 0.8 W/kg, no further SAR testing is required for 802.11b DSSS in that exposure configuration.

2) When the reported SAR is > 0.8 W/kg, SAR is required for that position using the next highest measured output power channel. When any reported SAR is > 1.2 W/kg, SAR is required for the third channel; i.e., all channels require testing.

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

7.6.5 OFDM Transmission Mode and SAR Test Channel Selection

When the same maximum output power was specified for multiple OFDM transmission mode configurations in a frequency band or aggregated band, SAR is measured using the configuration with the largest channel bandwidth, lowest order modulation and lowest data rate. When the maximum output power of a channel is the same for equivalent OFDM configurations; for example, 802.11a, 802.11n and 802.11ac or 802.11g and 802.11n with the same channel bandwidth, modulation and data rate etc., the lower order 802.11 mode i.e., 802.11a, then 802.11n and 802.11ac or 802.11g then 802.11n, is used for SAR measurement. When the maximum output power are the same for multiple test channels, either according to the default or additional power measurement requirements, SAR is measured using the channel closest to the middle of the frequency band or aggregated band. When there are multiple channels with the same maximum output power, SAR is measured using the higher number channel.

7.6.6 Initial Test Configuration Procedure

For OFDM, an initial test configuration is determined for each frequency band and aggregated band, according to the transmission mode with the highest maximum output power specified for SAR measurements. When the same maximum output power is specified for multiple OFDM transmission mode configurations in a frequency band or aggregated band, SAR is measured using the configuration(s) with the largest channel bandwidth, lowest order modulation, lowest data rate and lowest order IEEE 802.11 mode. The channel of the transmission mode with the highest average RF output conducted power will be the initial test configuration.

When the reported SAR is ≤ 0.8 W/kg, no additional measurements on other test channels are required. Otherwise, SAR is evaluated using the subsequent highest average RF output channel until the reported SAR result is ≤ 1.2 W/kg or all channels are measured. When there are multiple untested channels having the same subsequent highest average RF output power, the channel with higher frequency from the lowest 802.11 mode is considered for SAR measurements (See Section 7.6.5).

7.6.7 Subsequent Test Configuration Procedures

For OFDM configurations in each frequency band and aggregated band, SAR is evaluated for initial test configuration using the fixed test position or the initial test position procedure. When the highest reported SAR (for the initial test configuration), adjusted by the ratio of the specified maximum output power of the subsequent test configuration to initial test configuration, is ≤ 1.2 W/kg, no additional SAR tests for the subsequent test configurations are required.

7.6.8 MIMO SAR considerations

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

8 RF CONDUCTED POWERS

8.1 GSM Conducted Powers

Table 8-1
Conducted Power Antenna C

Maximum Burst-Averaged Output Power					
		GPRS/EDGE Data (GMSK)		*EDGE Data (8-PSK)*	
Band	**Channel**	**GPRS [dBm] 1 Tx Slot**	**GPRS [dBm] 2 Tx Slot**	**EDGE [dBm] 1 Tx Slot**	**EDGE [dBm] 2 Tx Slot**
GSM 850	128	27.33	24.31	24.45	23.50
	190	27.27	24.25	24.41	23.46
	251	27.23	24.28	24.40	23.47
GSM 1900	512	20.76	17.75	20.89	17.64
	661	20.69	17.65	20.68	17.69
	810	20.90	17.88	20.90	17.89

Calculated Maximum Frame-Averaged Output Power					
		GPRS/EDGE Data (GMSK)		*EDGE Data (8-PSK)*	
Band	**Channel**	**GPRS [dBm] 1 Tx Slot**	**GPRS [dBm] 2 Tx Slot**	**EDGE [dBm] 1 Tx Slot**	**EDGE [dBm] 2 Tx Slot**
GSM 850	128	18.13	18.12	15.25	17.31
	190	18.07	18.06	15.21	17.27
	251	18.03	18.09	15.20	17.28
GSM 1900	512	11.56	11.56	11.69	11.45
	661	11.49	11.46	11.48	11.50
	810	11.70	11.69	11.70	11.70

GSM 850	**Frame Avg.Targets:**	17.80	17.81	14.80	16.81
GSM 1900		12.00	12.01	12.00	12.01

Table 8-2
Conducted Power Antenna D

Maximum Burst-Averaged Output Power					
		GPRS/EDGE Data (GMSK)		*EDGE Data (8-PSK)*	
Band	**Channel**	**GPRS [dBm] 1 Tx Slot**	**GPRS [dBm] 2 Tx Slot**	**EDGE [dBm] 1 Tx Slot**	**EDGE [dBm] 2 Tx Slot**
GSM 850	128	27.98	25.43	22.40	21.43
	190	27.92	25.39	22.34	21.37
	251	27.94	25.19	22.32	21.36
GSM 1900	512	21.02	18.06	21.00	18.02
	661	20.97	17.96	20.93	17.97
	810	21.19	18.00	21.13	18.14

Calculated Maximum Frame-Averaged Output Power					
		GPRS/EDGE Data (GMSK)		*EDGE Data (8-PSK)*	
Band	**Channel**	**GPRS [dBm] 1 Tx Slot**	**GPRS [dBm] 2 Tx Slot**	**EDGE [dBm] 1 Tx Slot**	**EDGE [dBm] 2 Tx Slot**
GSM 850	128	18.78	19.24	13.20	15.24
	190	18.72	19.20	13.14	15.18
	251	18.74	19.00	13.12	15.17
GSM 1900	512	11.82	11.87	11.80	11.83
	661	11.77	11.77	11.73	11.78
	810	11.99	11.81	11.93	11.95

GSM 850	**Frame Avg.Targets:**	18.30	18.56	12.80	14.81
GSM 1900		11.30	11.31	11.30	11.31

Note:

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

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

Figure 8-1
Power Measurement Setup

8.2 UMTS Conducted Powers

Table 8-3
Conducted Power Antenna C

3GPP Release Version	Mode	3GPP 34.121 Subtest	Cellular Band [dBm]			AWS Band [dBm]			PCS Band [dBm]			MPR [dB]
			4132	4183	4233	1312	1412	1513	9262	9400	9538	
99	WCDMA	12.2 kbps RMC	17.70	17.56	17.50	12.96	12.76	12.76	12.98	12.93	12.90	-
6	HSDPA	Subtest 1	17.70	17.56	17.52	13.29	13.21	13.08	12.93	12.90	12.90	0
6		Subtest 2	17.69	17.58	17.46	13.30	13.16	13.03	12.85	12.88	12.83	0
6		Subtest 3	17.69	17.59	17.50	13.30	13.20	13.02	12.86	12.84	12.81	0
6		Subtest 4	17.70	17.57	17.46	13.28	13.17	13.01	12.83	12.82	12.82	0
6	HSUPA	Subtest 1	17.68	17.55	17.43	12.96	12.81	12.65	12.84	12.84	12.81	0
6		Subtest 2	17.70	17.61	17.48	13.10	12.88	12.76	12.72	12.80	12.73	0
6		Subtest 3	17.69	17.56	17.47	12.95	12.78	12.70	12.76	12.81	12.78	0
6		Subtest 4	17.70	17.57	17.46	13.05	12.89	12.74	12.75	12.78	12.75	0
6		Subtest 5	17.67	17.56	17.47	13.13	12.93	12.82	12.90	12.83	12.82	0
8	DC-HSDPA	Subtest 1	17.67	17.53	17.47	13.30	13.20	13.08	12.99	13.00	12.98	0
8		Subtest 2	17.66	17.55	17.46	13.29	13.14	13.04	12.99	13.01	12.97	0
8		Subtest 3	17.67	17.55	17.46	13.28	13.13	13.03	13.00	12.98	12.97	0
8		Subtest 4	17.64	17.55	17.46	13.26	13.12	13.05	12.98	12.97	12.94	0

Table 8-4
Conducted Power Antenna D

3GPP Release Version	Mode	3GPP 34.121 Subtest	Cellular Band [dBm]			AWS Band [dBm]			PCS Band [dBm]			MPR [dB]
			4132	4183	4233	1312	1412	1513	9262	9400	9538	
99	WCDMA	12.2 kbps RMC	19.14	18.99	18.92	12.85	12.81	12.67	11.69	11.63	11.70	-
6	HSDPA	Subtest 1	18.67	18.47	18.50	12.70	12.69	12.58	11.50	11.46	11.47	0
6		Subtest 2	18.64	18.48	18.45	12.68	12.65	12.51	11.50	11.46	11.41	0
6		Subtest 3	18.67	18.51	18.45	12.69	12.68	12.52	11.48	11.45	11.33	0
6		Subtest 4	18.67	18.50	18.47	12.64	12.65	12.51	11.49	11.42	11.34	0
6	HSUPA	Subtest 1	18.63	18.45	18.44	12.70	12.68	12.55	11.49	11.45	11.40	0
6		Subtest 2	18.67	18.52	18.47	12.70	12.67	12.54	11.38	11.37	11.27	0
6		Subtest 3	18.67	18.50	18.47	12.62	12.64	12.56	11.39	11.42	11.33	0
6		Subtest 4	18.67	18.49	18.49	12.67	12.65	12.54	11.46	11.39	11.32	0
6		Subtest 5	18.65	18.48	18.48	12.70	12.70	12.58	11.50	11.44	11.41	0
8	DC-HSDPA	Subtest 1	18.66	18.47	18.46	12.70	12.70	12.64	11.50	11.48	11.46	0
8		Subtest 2	18.65	18.49	18.47	12.70	12.70	12.59	11.50	11.45	11.44	0
8		Subtest 3	18.68	18.48	18.47	12.70	12.70	12.61	11.50	11.45	11.40	0
8		Subtest 4	18.66	18.47	18.47	12.70	12.69	12.58	11.50	11.47	11.40	0

DC-HSDPA considerations

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

Figure 8-2
Power Measurement Setup

8.3 LTE Conducted Powers

8.3.1 LTE Band 71

Table 8-5
LTE Band 71 Conducted Powers Antenna C - 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	**17.96**	0	0
	1	50	17.90		0
	1	99	17.82		0
	50	0	18.04	0-1	0
	50	25	**18.07**		0
	50	50	17.97		0
	100	0	17.95		0
16QAM	1	0	18.09	0-1	0
	1	50	17.99		0
	1	99	17.92		0
	50	0	17.83	0-2	0
	50	25	17.85		0
	50	50	17.73		0
	100	0	17.83		0
64QAM	1	0	18.03	0-2	0
	1	50	17.97		0
	1	99	17.92		0
	50	0	17.84	0-3	0
	50	25	17.85		0
	50	50	17.72		0
	100	0	17.88		0

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

Table 8-6
LTE Band 71 Conducted Powers Antenna C - 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	17.83	0	0
	1	36	18.03		0
	1	74	17.73		0
	36	0	17.99	0-1	0
	36	18	18.09		0
	36	37	17.99		0
	75	0	18.08		0
16QAM	1	0	17.97	0-1	0
	1	36	18.05		0
	1	74	17.78		0
	36	0	17.73	0-2	0
	36	18	17.82		0
	36	37	17.75		0
	75	0	17.86		0
64QAM	1	0	17.90	0-2	0
	1	36	18.00		0
	1	74	17.76		0
	36	0	17.78	0-3	0
	36	18	17.84		0
	36	37	17.83		0
	75	0	17.87		0

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

Table 8-7
LTE Band 71 Conducted Powers Antenna C - 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) Conducted Power [dBm]	MPR Allowed per 3GPP [dB]	MPR [dB]
QPSK	1	0	17.82	17.76	17.69	0	0
	1	25	17.61	17.78	17.64		0
	1	49	17.67	17.64	17.61		0
	25	0	17.68	17.79	17.70	0-1	0
	25	12	17.62	17.79	17.68		0
	25	25	17.78	17.75	17.70		0
	50	0	17.75	17.80	17.68		0
16QAM	1	0	18.02	17.78	17.77	0-1	0
	1	25	17.74	17.81	17.69		0
	1	49	17.63	17.81	17.58		0
	25	0	17.46	17.59	17.50	0-2	0
	25	12	17.40	17.60	17.46		0
	25	25	17.54	17.56	17.49		0
	50	0	17.49	17.63	17.46		0
64QAM	1	0	18.00	17.71	17.75	0-2	0
	1	25	17.73	17.91	17.80		0
	1	49	17.72	17.70	17.73		0
	25	0	17.42	17.61	17.48	0-3	0
	25	12	17.39	17.60	17.41		0
	25	25	17.56	17.56	17.43		0
	50	0	17.47	17.61	17.42		0

Table 8-9
LTE Band 71 Conducted Powers Antenna C - 5 MHz Bandwidth

LTE Band 71 5 MHz							
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	17.99	17.82	17.55	0	0
	1	12	17.73	17.81	17.56		0
	1	24	17.69	17.79	17.51		0
	12	0	17.77	17.79	17.64	0-1	0
	12	6	17.65	17.79	17.67		0
	12	13	17.60	17.80	17.64		0
	25	0	17.65	17.80	17.67		0
16QAM	1	0	17.97	17.78	17.56	0-1	0
	1	12	17.79	17.74	17.72		0
	1	24	17.57	17.78	17.69		0
	12	0	17.59	17.65	17.43	0-2	0
	12	6	17.50	17.64	17.49		0
	12	13	17.40	17.62	17.47		0
	25	0	17.44	17.57	17.48		0
64QAM	1	0	17.87	17.60	17.71	0-2	0
	1	12	17.44	17.75	17.78		0
	1	24	17.54	17.73	17.65		0
	12	0	17.51	17.63	17.40	0-3	0
	12	6	17.42	17.56	17.45		0
	12	13	17.42	17.57	17.39		0
	25	0	17.49	17.60	17.43		0

Table 8-10
LTE Band 71 Conducted Powers Antenna D - 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	**17.11**	0	0
	1	50	17.00		0
	1	99	17.06		0
	50	0	**16.94**	0-1	0
	50	25	16.93		0
	50	50	16.91		0
	100	0	16.93		0
16QAM	1	0	17.20	0-1	0
	1	50	17.20		0
	1	99	17.19		0
	50	0	16.94	0-2	0
	50	25	16.93		0
	50	50	16.89		0
	100	0	16.98		0
64QAM	1	0	17.18	0-2	0
	1	50	17.15		0
	1	99	17.20		0
	50	0	17.20	0-3	0
	50	25	17.18		0
	50	50	17.09		0
	100	0	17.20		0

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

Table 8-11
LTE Band 71 Conducted Powers Antenna D - 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	16.85	0	0
	1	36	16.94		0
	1	74	16.83		0
	36	0	16.83	0-1	0
	36	18	16.78		0
	36	37	16.69		0
	75	0	16.85		0
16QAM	1	0	17.06	0-1	0
	1	36	17.15		0
	1	74	17.14		0
	36	0	16.85	0-2	0
	36	18	16.78		0
	36	37	16.70		0
	75	0	16.81		0
64QAM	1	0	16.87	0-2	0
	1	36	16.94		0
	1	74	16.88		0
	36	0	17.10	0-3	0
	36	18	17.00		0
	36	37	16.95		0
	75	0	17.06		0

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

Table 8-12
LTE Band 71 Conducted Powers Antenna D - 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) Conducted Power [dBm]	MPR Allowed per 3GPP [dB]	MPR [dB]
QPSK	1	0	16.96	16.82	16.69	0	0
	1	25	16.80	16.72	16.57		0
	1	49	16.84	16.60	16.61		0
	25	0	16.75	16.80	16.73	0-1	0
	25	12	16.82	16.74	16.69		0
	25	25	16.88	16.68	16.61		0
	50	0	16.87	16.78	16.64		0
16QAM	1	0	17.08	17.17	16.90	0-1	0
	1	25	17.13	16.92	16.87		0
	1	49	16.98	16.93	16.77		0
	25	0	16.78	16.83	16.70	0-2	0
	25	12	16.88	16.77	16.71		0
	25	25	16.90	16.70	16.66		0
	50	0	16.84	16.78	16.63		0
64QAM	1	0	17.10	17.08	16.91	0-2	0
	1	25	17.00	16.69	16.82		0
	1	49	17.02	16.84	16.89		0
	25	0	16.99	17.06	16.94	0-3	0
	25	12	17.03	16.98	16.92		0
	25	25	17.09	16.96	16.84		0
	50	0	17.09	17.01	16.88		0

Table 8-13
LTE Band 71 Conducted Powers Antenna D - 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	16.96	16.91	16.51	0	0
	1	12	16.80	16.79	16.45		0
	1	24	16.89	16.76	16.59		0
	12	0	16.86	16.74	16.56	0-1	0
	12	6	16.79	16.73	16.56		0
	12	13	16.78	16.74	16.60		0
	25	0	16.78	16.73	16.59		0
16QAM	1	0	17.15	17.20	16.92	0-1	0
	1	12	17.07	17.08	16.74		0
	1	24	17.19	17.12	16.97		0
	12	0	16.91	16.81	16.66	0-2	0
	12	6	16.85	16.78	16.61		0
	12	13	16.84	16.77	16.63		0
	25	0	16.83	16.78	16.58		0
64QAM	1	0	17.20	17.14	16.80	0-2	0
	1	12	17.17	17.01	16.74		0
	1	24	17.18	17.01	17.01		0
	12	0	16.93	16.84	16.69	0-3	0
	12	6	16.83	16.83	16.65		0
	12	13	16.76	16.79	16.70		0
	25	0	16.80	16.82	16.67		0

8.3.2 LTE Band 12

Table 8-14
LTE Band 12 Conducted Powers Antenna C - 10 MHz Bandwidth

LTE Band 12 10 MHz Bandwidth					
Modulation	RB Size	RB Offset	Mid Channel 23095 (707.5 MHz)	MPR Allowed per 3GPP [dB]	MPR [dB]
			Conducted Power [dBm]		
QPSK	1	0	**17.45**	0	0
	1	25	17.37		0
	1	49	17.32		0
	25	0	**17.45**	0-1	0
	25	12	17.44		0
	25	25	17.43		0
	50	0	17.43		0
16QAM	1	0	17.32	0-1	0
	1	25	17.15		0
	1	49	17.13		0
	25	0	16.97	0-2	0
	25	12	16.95		0
	25	25	16.93		0
	50	0	16.97		0
64QAM	1	0	17.41	0-2	0
	1	25	17.32		0
	1	49	17.34		0
	25	0	16.98	0-3	0
	25	12	16.97		0
	25	25	16.95		0
	50	0	16.99		0

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

Table 8-15
LTE Band 12 Conducted Powers Antenna C - 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	17.42	17.32	17.41	0	0
	1	12	17.48	17.33	17.43		0
	1	24	17.49	17.38	17.46		0
	12	0	17.37	17.42	17.45	0-1	0
	12	6	17.47	17.43	17.41		0
	12	13	17.46	17.40	17.49		0
	25	0	17.47	17.43	17.47		0
16QAM	1	0	17.30	17.15	17.21	0-1	0
	1	12	17.19	17.24	17.26		0
	1	24	17.26	17.32	17.28		0
	12	0	16.91	17.03	17.04	0-2	0
	12	6	16.93	17.03	17.00		0
	12	13	17.00	17.03	17.04		0
	25	0	16.95	17.00	17.01		0
64QAM	1	0	17.22	17.26	17.04	0-2	0
	1	12	16.98	17.35	17.29		0
	1	24	17.20	17.38	17.23		0
	12	0	16.93	16.99	17.07	0-3	0
	12	6	16.95	17.03	17.00		0
	12	13	17.00	16.98	17.01		0
	25	0	16.93	16.97	17.02		0

Table 8-16
LTE Band 12 Conducted Powers Antenna C - 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	17.29	17.35	17.32	0	0
	1	7	17.35	17.43	17.44		0
	1	14	17.39	17.32	17.42		0
	8	0	17.34	17.45	17.46	0-1	0
	8	4	17.35	17.45	17.50		0
	8	7	17.44	17.44	17.50		0
	15	0	17.37	17.47	17.24		0
16QAM	1	0	17.18	17.04	17.23	0-1	0
	1	7	17.32	17.29	17.38		0
	1	14	17.32	17.21	17.37		0
	8	0	16.94	17.05	17.07	0-2	0
	8	4	16.91	17.08	17.10		0
	8	7	17.01	17.02	17.06		0
	15	0	16.93	17.04	17.06		0
64QAM	1	0	17.02	17.12	17.13	0-2	0
	1	7	17.10	17.36	17.24		0
	1	14	17.27	17.15	17.30		0
	8	0	17.02	17.04	17.08	0-3	0
	8	4	16.93	17.02	17.06		0
	8	7	17.04	17.11	17.07		0
	15	0	16.89	17.00	17.09		0

Table 8-17
LTE Band 12 Conducted Powers Antenna C - 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	17.28	17.35	17.47	0	0
	1	2	17.26	17.34	17.43		0
	1	5	17.27	17.35	17.50		0
	3	0	17.29	17.40	17.35		0
	3	2	17.29	17.39	17.34		0
	3	3	17.30	17.37	17.41		0
	6	0	17.27	17.38	17.33	0-1	0
16QAM	1	0	17.10	17.25	17.11	0-1	0
	1	2	17.00	17.22	17.12		0
	1	5	17.19	17.24	17.22		0
	3	0	16.92	17.12	17.10		0
	3	2	17.02	17.12	17.02		0
	3	3	17.01	17.11	17.17		0
	6	0	16.98	17.03	17.04	0-2	0
64QAM	1	0	17.19	17.15	17.25	0-2	0
	1	2	17.14	17.17	17.31		0
	1	5	17.09	17.11	17.21		0
	3	0	16.99	17.06	17.20		0
	3	2	17.03	17.08	17.25		0
	3	3	17.01	17.12	17.31		0
	6	0	16.87	17.07	16.92	0-3	0

Table 8-18
LTE Band 12 Conducted Powers Antenna D - 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	**17.20**	0	0
	1	25	17.17		0
	1	49	17.14		0
	25	0	**17.19**	0-1	0
	25	12	17.15		0
	25	25	17.15		0
	50	0	17.16		0
16QAM	1	0	17.17	0-1	0
	1	25	17.15		0
	1	49	17.12		0
	25	0	16.81	0-2	0
	25	12	16.72		0
	25	25	16.75		0
	50	0	16.74		0
64QAM	1	0	17.12	0-2	0
	1	25	17.11		0
	1	49	17.07		0
	25	0	16.96	0-3	0
	25	12	16.89		0
	25	25	16.88		0
	50	0	16.89		0

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

Table 8-19
LTE Band 12 Conducted Powers Antenna D - 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	17.10	17.19	16.95	0	0
	1	12	17.09	17.12	16.89		0
	1	24	17.02	17.13	16.96		0
	12	0	17.18	17.08	17.09	0-1	0
	12	6	17.19	17.08	16.98		0
	12	13	17.19	17.07	16.99		0
	25	0	17.18	17.10	16.98		0
16QAM	1	0	17.17	17.13	17.04	0-1	0
	1	12	17.18	17.05	16.96		0
	1	24	17.19	17.08	17.06		0
	12	0	17.01	16.84	16.82	0-2	0
	12	6	16.99	16.87	16.76		0
	12	13	17.00	16.86	16.76		0
	25	0	16.99	16.85	16.70		0
64QAM	1	0	16.92	17.15	17.12	0-2	0
	1	12	16.93	17.00	16.89		0
	1	24	16.90	16.95	16.96		0
	12	0	16.99	16.82	16.89	0-3	0
	12	6	17.00	16.84	16.76		0
	12	13	16.99	16.80	16.76		0
	25	0	16.97	16.85	16.70		0

Table 8-20
LTE Band 12 Conducted Powers Antenna D - 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	17.16	17.04	16.94	0	0
	1	7	17.13	17.09	16.98		0
	1	14	17.18	17.00	16.95		0
	8	0	17.20	17.10	17.01	0-1	0
	8	4	17.18	17.12	17.04		0
	8	7	17.20	17.12	17.06		0
	15	0	17.20	17.13	17.05		0
16QAM	1	0	17.12	17.07	16.95	0-1	0
	1	7	17.17	17.19	17.05		0
	1	14	17.18	17.03	16.96		0
	8	0	17.02	16.89	16.77	0-2	0
	8	4	17.02	16.92	16.79		0
	8	7	17.02	16.89	16.85		0
	15	0	17.01	16.86	16.80		0
64QAM	1	0	17.12	17.04	16.93	0-2	0
	1	7	17.19	17.00	17.04		0
	1	14	17.15	16.85	16.93		0
	8	0	17.00	16.88	16.78	0-3	0
	8	4	17.00	16.87	16.82		0
	8	7	17.02	16.91	16.85		0
	15	0	16.98	16.85	16.81		0

Table 8-21
LTE Band 12 Conducted Powers Antenna D - 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	17.15	17.16	17.03	0	0
	1	2	17.16	17.14	16.99		0
	1	5	17.17	17.19	17.05		0
	3	0	17.19	17.08	17.02		0
	3	2	17.19	17.07	17.01		0
	3	3	17.18	17.09	17.06		0
	6	0	17.16	17.06	16.98	0-1	0
16QAM	1	0	17.16	16.98	17.12	0-1	0
	1	2	17.20	17.05	17.12		0
	1	5	17.20	17.00	17.16		0
	3	0	17.09	16.95	16.99		0
	3	2	17.11	16.87	16.96		0
	3	3	17.10	17.01	16.97		0
	6	0	17.05	16.96	16.87	0-2	0
64QAM	1	0	17.20	17.07	17.14	0-2	0
	1	2	17.19	17.00	17.03		0
	1	5	17.20	17.08	17.01		0
	3	0	17.08	16.96	17.03		0
	3	2	17.03	16.98	17.06		0
	3	3	17.05	16.95	17.05		0
	6	0	16.98	16.95	16.79	0-3	0

8.3.3 LTE Band 13

Table 8-22
LTE Band 13 Conducted Powers Antenna C - 10 MHz Bandwidth

LTE Band 13 10 MHz Bandwidth					
Modulation	RB Size	RB Offset	Mid Channel 23230 (782.0 MHz) Conducted Power [dBm]	MPR Allowed per 3GPP [dB]	MPR [dB]
QPSK	1	0	**18.06**	0	0
	1	25	17.75		0
	1	49	17.68		0
	25	0	**17.91**	0-1	0
	25	12	17.82		0
	25	25	17.71		0
	50	0	17.86		0
16QAM	1	0	18.04	0-1	0
	1	25	17.72		0
	1	49	17.61		0
	25	0	17.63	0-2	0
	25	12	17.57		0
	25	25	17.51		0
	50	0	17.53		0
64QAM	1	0	18.04	0-2	0
	1	25	17.89		0
	1	49	17.41		0
	25	0	17.58	0-3	0
	25	12	17.53		0
	25	25	17.42		0
	50	0	17.52		0

Table 8-23
LTE Band 13 Conducted Powers Antenna C - 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	17.97	0	0
	1	12	17.80		0
	1	24	17.74		0
	12	0	17.99	0-1	0
	12	6	17.97		0
	12	13	17.93		0
	25	0	17.94		0
16QAM	1	0	18.01	0-1	0
	1	12	17.80		0
	1	24	17.88		0
	12	0	17.74	0-2	0
	12	6	17.70		0
	12	13	17.67		0
	25	0	17.67		0
64QAM	1	0	17.80	0-2	0
	1	12	17.74		0
	1	24	17.48		0
	12	0	17.50	0-3	0
	12	6	17.54		0
	12	13	17.46		0
	25	0	17.44		0

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

Table 8-24
LTE Band 13 Conducted Powers Antenna D - 10 MHz Bandwidth

LTE Band 13 10 MHz Bandwidth					
Modulation	RB Size	RB Offset	Mid Channel 23230 (782.0 MHz) Conducted Power [dBm]	MPR Allowed per 3GPP [dB]	MPR [dB]
QPSK	1	0	**18.09**	0	0
	1	25	17.96		0
	1	49	17.96		0
	25	0	**18.16**	0-1	0
	25	12	18.03		0
	25	25	17.97		0
	50	0	18.08		0
16QAM	1	0	18.30	0-1	0
	1	25	18.02		0
	1	49	17.91		0
	25	0	17.91	0-2	0
	25	12	17.84		0
	25	25	17.73		0
	50	0	17.81		0
64QAM	1	0	18.27	0-2	0
	1	25	18.07		0
	1	49	18.05		0
	25	0	17.92	0-3	0
	25	12	17.84		0
	25	25	17.74		0
	50	0	17.83		0

Table 8-25
LTE Band 13 Conducted Powers Antenna D - 5 MHz Bandwidth

LTE Band 13 5 MHz Bandwidth					
Modulation	RB Size	RB Offset	Mid Channel 23230 (782.0 MHz) Conducted Power [dBm]	MPR Allowed per 3GPP [dB]	MPR [dB]
QPSK	1	0	18.24	0	0
	1	12	18.02		0
	1	24	17.98		0
	12	0	18.21	0-1	0
	12	6	18.20		0
	12	13	18.12		0
	25	0	18.12		0
16QAM	1	0	18.30	0-1	0
	1	12	18.12		0
	1	24	18.03		0
	12	0	17.99	0-2	0
	12	6	17.99		0
	12	13	17.89		0
	25	0	17.90		0
64QAM	1	0	18.21	0-2	0
	1	12	17.98		0
	1	24	17.87		0
	12	0	17.97	0-3	0
	12	6	17.99		0
	12	13	17.90		0
	25	0	17.90		0

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

8.3.4 LTE Band 14

Table 8-26
LTE Band 14 Conducted Powers Antenna C - 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	18.08	0	0
	1	25	18.04		0
	1	49	**18.10**		0
	25	0	18.06	0-1	0
	25	12	**18.09**		0
	25	25	18.07		0
	50	0	18.07		0
16QAM	1	0	18.06	0-1	0
	1	25	18.08		0
	1	49	18.09		0
	25	0	17.82	0-2	0
	25	12	17.85		0
	25	25	17.87		0
	50	0	17.87		0
64QAM	1	0	17.92	0-2	0
	1	25	17.94		0
	1	49	17.96		0
	25	0	17.61	0-3	0
	25	12	17.63		0
	25	25	17.64		0
	50	0	17.62		0

Table 8-27
LTE Band 14 Conducted Powers Antenna C - 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	18.09	0	0
	1	12	18.06		0
	1	24	18.09		0
	12	0	17.95	0-1	0
	12	6	17.97		0
	12	13	17.95		0
	25	0	17.97		0
16QAM	1	0	18.08	0-1	0
	1	12	18.01		0
	1	24	18.07		0
	12	0	17.76	0-2	0
	12	6	17.81		0
	12	13	17.77		0
	25	0	17.86		0
64QAM	1	0	17.67	0-2	0
	1	12	17.74		0
	1	24	17.79		0
	12	0	17.48	0-3	0
	12	6	17.47		0
	12	13	17.56		0
	25	0	17.51		0

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.

Table 8-28
LTE Band 14 Conducted Powers Antenna D - 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	**18.16**	0	0
	1	25	18.11		0
	1	49	18.08		0
	25	0	**18.16**	0-1	0
	25	12	18.10		0
	25	25	18.11		0
	50	0	18.13		0
16QAM	1	0	18.12	0-1	0
	1	25	18.07		0
	1	49	18.03		0
	25	0	17.91	0-2	0
	25	12	17.84		0
	25	25	17.90		0
	50	0	17.90		0
64QAM	1	0	18.23	0-2	0
	1	25	18.12		0
	1	49	18.05		0
	25	0	17.93	0-3	0
	25	12	17.85		0
	25	25	17.87		0
	50	0	17.89		0

Table 8-29
LTE Band 14 Conducted Powers Antenna D - 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	17.93	0	0
	1	12	17.87		0
	1	24	17.93		0
	12	0	17.97	0-1	0
	12	6	17.98		0
	12	13	17.94		0
	25	0	17.99		0
16QAM	1	0	18.29	0-1	0
	1	12	18.23		0
	1	24	18.30		0
	12	0	18.03	0-2	0
	12	6	18.06		0
	12	13	17.98		0
	25	0	18.04		0
64QAM	1	0	18.20	0-2	0
	1	12	18.21		0
	1	24	18.21		0
	12	0	18.01	0-3	0
	12	6	18.01		0
	12	13	17.95		0
	25	0	18.02		0

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.

8.3.5 LTE Band 26

Table 8-30
LTE Band 26 Conducted Powers Antenna C - 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	**18.14**	17.85	17.83	0	0
	1	25	17.98	17.71	17.90		0
	1	49	17.95	17.70	17.87		0
	25	0	**17.92**	17.80	17.82	0-1	0
	25	12	17.91	17.74	17.74		0
	25	25	17.91	17.76	17.85		0
	50	0	17.90	17.76	17.75		0
16QAM	1	0	18.10	17.71	17.90	0-1	0
	1	25	17.99	17.70	17.64		0
	1	49	18.02	17.95	17.82		0
	25	0	17.70	17.55	17.65	0-2	0
	25	12	17.72	17.53	17.64		0
	25	25	17.73	17.61	17.54		0
	50	0	17.71	17.60	17.52		0
64QAM	1	0	17.97	17.79	17.77	0-2	0
	1	25	17.92	17.71	17.73		0
	1	49	17.91	17.88	17.94		0
	25	0	17.70	17.54	17.67	0-3	0
	25	12	17.71	17.51	17.54		0
	25	25	17.72	17.60	17.66		0
	50	0	17.70	17.59	17.57		0

Table 8-31
LTE Band 26 Conducted Powers Antenna C - 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	18.00	17.59	17.83	0	0
	1	12	17.83	17.50	17.82		0
	1	24	17.80	17.47	17.77		0
	12	0	17.95	17.65	17.87	0-1	0
	12	6	17.84	17.61	17.84		0
	12	13	17.81	17.59	17.78		0
	25	0	17.86	17.63	17.85		0
16QAM	1	0	18.00	18.00	18.00	0-1	0
	1	12	17.98	17.89	17.99		0
	1	24	17.96	17.74	17.97		0
	12	0	17.71	17.44	17.65	0-2	0
	12	6	17.61	17.40	17.62		0
	12	13	17.61	17.39	17.58		0
	25	0	17.61	17.37	17.50		0
64QAM	1	0	18.00	18.00	18.00	0-2	0
	1	12	17.97	17.88	18.00		0
	1	24	17.98	17.81	17.96		0
	12	0	17.63	17.34	17.58	0-3	0
	12	6	17.59	17.38	17.65		0
	12	13	17.55	17.35	17.50		0
	25	0	17.57	17.35	17.56		0

Table 8-32
LTE Band 26 Conducted Powers Antenna C - 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	18.00	18.00	17.92	0	0
	1	7	17.88	17.61	17.97		0
	1	14	17.76	17.62	17.92		0
	8	0	17.91	17.66	17.75	0-1	0
	8	4	17.89	17.67	17.82		0
	8	7	17.82	17.66	17.83		0
	15	0	17.89	17.67	17.84		0
16QAM	1	0	17.43	17.94	17.92	0-1	0
	1	7	17.73	17.87	17.94		0
	1	14	17.71	17.95	17.87		0
	8	0	17.83	17.44	17.69	0-2	0
	8	4	17.80	17.38	17.59		0
	8	7	17.70	17.44	17.61		0
	15	0	17.72	17.42	17.59		0
64QAM	1	0	17.79	17.85	17.82	0-2	0
	1	7	17.90	17.80	17.92		0
	1	14	17.81	17.75	17.80		0
	8	0	17.73	17.46	17.65	0-3	0
	8	4	17.71	17.44	17.60		0
	8	7	17.60	17.37	17.59		0
	15	0	17.67	17.41	17.67		0

Table 8-33
LTE Band 26 Conducted Powers Antenna C - 1.4 MHz Bandwidth

LTE Band 26 (Cell) 1.4 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel 26697 (814.7 MHz)	Mid Channel 26865 (831.5 MHz)	High Channel 27033 (848.3 MHz)	MPR Allowed per 3GPP [dB]	MPR [dB]
			Conducted Power [dBm]				
QPSK	1	0	17.65	17.57	17.92	0	0
	1	2	17.80	17.53	17.87		0
	1	5	17.87	17.55	17.90		0
	3	0	18.00	17.64	17.78		0
	3	2	18.00	17.61	17.78		0
	3	3	17.97	17.62	17.80		0
	6	0	18.00	17.63	17.79	0-1	0
16QAM	1	0	17.58	18.00	18.00	0-1	0
	1	2	17.87	17.95	17.97		0
	1	5	17.89	17.86	17.80		0
	3	0	17.90	17.60	17.74		0
	3	2	17.90	17.53	17.81		0
	3	3	17.87	17.60	17.70		0
	6	0	17.82	17.51	17.67	0-2	0
64QAM	1	0	18.00	17.53	17.77	0-2	0
	1	2	17.96	17.54	17.78		0
	1	5	17.98	17.49	17.71		0
	3	0	18.00	17.63	17.83		0
	3	2	17.95	17.60	17.79		0
	3	3	17.86	17.62	17.80		0
	6	0	17.94	17.63	17.81	0-3	0

Table 8-34
LTE Band 26 Conducted Powers Antenna D - 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	**18.14**	17.95	18.00	0	0
	1	25	18.00	17.93	17.92		0
	1	49	18.11	18.05	18.01		0
	25	0	18.04	18.04	18.06	0-1	0
	25	12	18.05	18.02	17.99		0
	25	25	**18.07**	18.03	18.00		0
	50	0	18.06	18.02	17.98		0
16QAM	1	0	18.20	18.17	18.12	0-1	0
	1	25	18.13	18.06	18.10		0
	1	49	18.20	18.15	18.13		0
	25	0	17.83	17.83	17.87	0-2	0
	25	12	17.84	17.80	17.74		0
	25	25	17.86	17.83	17.79		0
	50	0	17.85	17.81	17.72		0
64QAM	1	0	18.20	18.10	18.01	0-2	0
	1	25	18.15	18.06	18.00		0
	1	49	18.20	18.15	18.03		0
	25	0	17.80	17.85	17.91	0-3	0
	25	12	17.83	17.83	17.76		0
	25	25	17.82	17.84	17.81		0
	50	0	17.85	17.83	17.76		0

Table 8-35
LTE Band 26 Conducted Powers Antenna D - 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	18.00	17.93	18.05	0	0
	1	12	18.03	17.91	18.04		0
	1	24	18.07	17.94	18.11		0
	12	0	18.11	17.99	17.99	0-1	0
	12	6	18.04	17.97	17.95		0
	12	13	18.04	17.99	18.00		0
	25	0	18.03	17.99	17.96		0
16QAM	1	0	18.20	18.05	18.05	0-1	0
	1	12	18.02	18.02	18.04		0
	1	24	18.07	18.04	18.10		0
	12	0	17.90	17.85	17.83	0-2	0
	12	6	17.88	17.85	17.79		0
	12	13	17.87	17.87	17.80		0
	25	0	17.85	17.82	17.76		0
64QAM	1	0	18.14	18.15	17.93	0-2	0
	1	12	18.11	18.20	18.16		0
	1	24	18.00	18.12	18.19		0
	12	0	17.92	17.79	17.78	0-3	0
	12	6	17.84	17.78	17.72		0
	12	13	17.88	17.77	17.78		0
	25	0	17.85	17.81	17.73		0

Table 8-36
LTE Band 26 Conducted Powers Antenna D - 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	18.14	17.91	17.88	0	0
	1	7	18.09	17.96	17.96		0
	1	14	17.98	17.91	17.87		0
	8	0	18.16	18.02	17.97	0-1	0
	8	4	18.12	18.01	18.01		0
	8	7	18.06	18.01	18.01		0
	15	0	18.12	18.02	18.02		0
16QAM	1	0	18.20	18.02	17.89	0-1	0
	1	7	18.19	18.12	18.09		0
	1	14	18.02	18.00	18.02		0
	8	0	18.02	17.84	17.82	0-2	0
	8	4	17.94	17.86	17.83		0
	8	7	17.91	17.85	17.83		0
	15	0	17.90	17.84	17.80		0
64QAM	1	0	18.08	17.88	17.97	0-2	0
	1	7	18.20	18.09	17.99		0
	1	14	18.17	18.04	18.00		0
	8	0	18.03	17.89	17.81	0-3	0
	8	4	17.94	17.86	17.83		0
	8	7	17.91	17.89	17.83		0
	15	0	17.89	17.79	17.83		0

Table 8-37
LTE Band 26 Conducted Powers Antenna D - 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	18.10	17.98	18.14	0	0
	1	2	18.13	17.96	18.11		0
	1	5	18.14	17.99	18.13		0
	3	0	18.20	18.03	18.02		0
	3	2	18.19	18.03	18.02		0
	3	3	17.95	18.01	18.02		0
	6	0	18.17	18.02	18.00	0-1	0
16QAM	1	0	18.10	18.18	18.11	0-1	0
	1	2	18.07	18.06	17.80		0
	1	5	18.08	18.16	18.13		0
	3	0	18.12	17.98	17.94		0
	3	2	18.06	17.90	17.91		0
	3	3	18.15	17.99	17.93		0
	6	0	18.06	17.87	17.86	0-2	0
64QAM	1	0	18.20	18.13	17.90	0-2	0
	1	2	18.06	18.06	17.92		0
	1	5	18.19	18.15	17.83		0
	3	0	18.16	17.94	17.87		0
	3	2	18.19	17.91	17.97		0
	3	3	18.18	17.94	17.87		0
	6	0	17.98	17.80	17.89	0-3	0

8.3.6 LTE Band 5

Table 8-38
LTE Band 5 Conducted Powers Antenna C - 10 MHz Bandwidth

LTE Band 5 (Cell) 10 MHz Bandwidth					
Modulation	RB Size	RB Offset	Mid Channel 20525 (836.5 MHz)	MPR Allowed per 3GPP [dB]	MPR [dB]
			Conducted Power [dBm]		
QPSK	1	0	17.49	0	0
	1	25	17.51		0
	1	49	**17.65**		0
	25	0	17.54	0-1	0
	25	12	17.55		0
	25	25	**17.57**		0
	50	0	17.53		0
16QAM	1	0	17.44	0-1	0
	1	25	17.47		0
	1	49	17.61		0
	25	0	17.11	0-2	0
	25	12	17.09		0
	25	25	17.20		0
	50	0	17.11		0
64QAM	1	0	17.13	0-2	0
	1	25	17.33		0
	1	49	17.59		0
	25	0	17.04	0-3	0
	25	12	17.06		0
	25	25	17.11		0
	50	0	17.08		0

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

Table 8-39
LTE Band 5 Conducted Powers Antenna C - 5 MHz Bandwidth

LTE Band 5 (Cell) 5 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel 20425 (826.5 MHz)	Mid Channel 20525 (836.5 MHz)	High Channel 20625 (846.5 MHz)	MPR Allowed per 3GPP [dB]	MPR [dB]
			Conducted Power [dBm]				
QPSK	1	0	17.56	17.47	17.33	0	0
	1	12	17.47	17.45	17.39		0
	1	24	17.47	17.48	17.50		0
	12	0	17.44	17.50	17.44	0-1	0
	12	6	17.40	17.49	17.47		0
	12	13	17.41	17.48	17.55		0
	25	0	17.43	17.50	17.49		0
16QAM	1	0	17.61	17.42	17.49	0-1	0
	1	12	17.68	17.51	17.51		0
	1	24	17.41	17.59	17.52		0
	12	0	17.25	17.29	17.22	0-2	0
	12	6	17.18	17.26	17.27		0
	12	13	17.18	17.28	17.27		0
	25	0	17.19	17.24	17.24		0
64QAM	1	0	17.54	17.42	17.22	0-2	0
	1	12	17.14	17.36	17.56		0
	1	24	17.28	17.43	17.50		0
	12	0	17.20	17.28	17.20	0-3	0
	12	6	17.17	17.29	17.27		0
	12	13	17.22	17.28	17.28		0
	25	0	17.20	17.28	17.28		0

Table 8-40
LTE Band 5 Conducted Powers Antenna C - 3 MHz Bandwidth

LTE Band 5 (Cell) 3 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel 20415 (825.5 MHz)	Mid Channel 20525 (836.5 MHz)	High Channel 20635 (847.5 MHz)	MPR Allowed per 3GPP [dB]	MPR [dB]
			Conducted Power [dBm]				
QPSK	1	0	17.41	17.41	17.40	0	0
	1	7	17.43	17.46	17.53		0
	1	14	17.36	17.38	17.47		0
	8	0	17.52	17.52	17.52	0-1	0
	8	4	17.47	17.51	17.58		0
	8	7	17.46	17.50	17.61		0
	15	0	17.48	17.52	17.59		0
16QAM	1	0	17.62	17.52	17.56	0-1	0
	1	7	17.60	17.62	17.68		0
	1	14	17.48	17.49	17.56		0
	8	0	17.33	17.37	17.33	0-2	0
	8	4	17.26	17.37	17.38		0
	8	7	17.25	17.34	17.41		0
	15	0	17.22	17.31	17.32		0
64QAM	1	0	17.52	17.58	17.62	0-2	0
	1	7	17.53	17.52	17.64		0
	1	14	17.51	17.49	17.52		0
	8	0	17.35	17.37	17.36	0-3	0
	8	4	17.27	17.35	17.39		0
	8	7	17.30	17.35	17.38		0
	15	0	17.23	17.33	17.32		0

Table 8-41
LTE Band 5 Conducted Powers Antenna C - 1.4 MHz Bandwidth

LTE Band 5 (Cell) 1.4 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel 20407 (824.7 MHz)	Mid Channel 20525 (836.5 MHz)	High Channel 20643 (848.3 MHz)	MPR Allowed per 3GPP [dB]	MPR [dB]
			Conducted Power [dBm]				
QPSK	1	0	17.51	17.36	17.48	0	0
	1	2	17.37	17.38	17.32		0
	1	5	17.37	17.37	17.33		0
	3	0	17.46	17.48	17.41		0
	3	2	17.48	17.48	17.43		0
	3	3	17.47	17.49	17.42		0
	6	0	17.48	17.49	17.45	0-1	0
16QAM	1	0	17.65	17.29	17.26	0-1	0
	1	2	17.64	17.58	17.46		0
	1	5	17.42	17.57	17.59		0
	3	0	17.49	17.33	17.35		0
	3	2	17.48	17.41	17.35		0
	3	3	17.46	17.39	17.37		0
	6	0	17.44	17.34	17.38	0-2	0
64QAM	1	0	17.70	17.39	17.33	0-2	0
	1	2	17.45	17.43	17.40		0
	1	5	17.59	17.45	17.30		0
	3	0	17.52	17.26	17.56		0
	3	2	17.47	17.32	17.52		0
	3	3	17.42	17.31	17.53		0
	6	0	17.38	17.35	17.30	0-3	0

Table 8-42
LTE Band 5 Conducted Powers Antenna D - 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	19.04	0	0
	1	25	19.04		0
	1	49	**19.15**		0
	25	0	**19.10**	0-1	0
	25	12	19.09		0
	25	25	19.07		0
	50	0	19.09		0
16QAM	1	0	18.98	0-1	0
	1	25	18.85		0
	1	49	18.95		0
	25	0	18.86	0-2	0
	25	12	18.85		0
	25	25	18.98		0
	50	0	18.70		0
64QAM	1	0	19.05	0-2	0
	1	25	19.10		0
	1	49	19.15		0
	25	0	18.91	0-3	0
	25	12	18.90		0
	25	25	18.89		0
	50	0	18.88		0

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

Table 8-43
LTE Band 5 Conducted Powers Antenna D - 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	19.17	19.09	18.94	0	0
	1	12	19.09	19.07	18.91		0
	1	24	19.12	19.10	18.95		0
	12	0	19.03	19.09	19.03	0-1	0
	12	6	19.02	19.09	18.97		0
	12	13	19.01	19.09	19.03		0
	25	0	19.03	19.10	18.98		0
16QAM	1	0	19.11	19.14	18.99	0-1	0
	1	12	19.20	19.06	19.01		0
	1	24	19.06	19.14	19.12		0
	12	0	18.83	18.94	18.83	0-2	0
	12	6	18.83	18.89	18.81		0
	12	13	18.86	18.89	18.81		0
	25	0	18.80	18.89	18.79		0
64QAM	1	0	18.99	19.17	19.01	0-2	0
	1	12	18.91	19.05	18.96		0
	1	24	19.05	19.10	19.04		0
	12	0	18.81	18.88	18.78	0-3	0
	12	6	18.89	18.92	18.77		0
	12	13	18.86	18.83	18.77		0
	25	0	18.86	18.88	18.73		0

Table 8-44
LTE Band 5 Conducted Powers Antenna D - 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	19.07	19.02	18.88	0	0
	1	7	19.04	19.07	18.98		0
	1	14	18.99	19.01	18.92		0
	8	0	19.17	19.13	18.98	0-1	0
	8	4	19.07	19.11	19.04		0
	8	7	19.08	19.11	19.04		0
	15	0	19.09	19.12	19.05		0
16QAM	1	0	19.20	19.15	19.13	0-1	0
	1	7	19.09	18.90	19.01		0
	1	14	19.07	19.03	19.14		0
	8	0	18.95	18.95	18.83	0-2	0
	8	4	18.85	18.94	18.83		0
	8	7	18.89	18.92	18.88		0
	15	0	18.85	18.91	18.82		0
64QAM	1	0	19.08	19.11	19.02	0-2	0
	1	7	19.17	19.05	19.07		0
	1	14	19.03	19.15	19.06		0
	8	0	18.92	18.95	18.86	0-3	0
	8	4	18.86	18.93	18.86		0
	8	7	18.87	18.98	18.89		0
	15	0	18.82	18.90	18.86		0

Table 8-45
LTE Band 5 Conducted Powers Antenna D - 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	19.14	19.08	19.14	0	0
	1	2	19.07	19.05	19.10		0
	1	5	19.04	19.07	19.14		0
	3	0	19.15	19.12	19.04		0
	3	2	19.16	19.10	19.02		0
	3	3	19.19	19.10	19.04		0
	6	0	19.14	19.10	19.01	0-1	0
16QAM	1	0	19.11	19.11	18.98	0-1	0
	1	2	19.20	19.04	19.01		0
	1	5	19.08	19.03	19.08		0
	3	0	19.05	19.10	19.00		0
	3	2	19.09	19.00	19.03		0
	3	3	19.09	18.99	18.96		0
	6	0	18.99	18.96	18.95	0-2	0
64QAM	1	0	19.15	19.18	19.17	0-2	0
	1	2	19.18	19.12	19.09		0
	1	5	19.06	19.10	19.08		0
	3	0	19.06	19.01	19.12		0
	3	2	19.10	19.03	19.11		0
	3	3	19.04	18.95	19.07		0
	6	0	18.97	18.92	18.87	0-3	0

8.3.7 LTE Band 66

Table 8-46
LTE Band 66 Conducted Powers Antenna C - 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	**13.29**	12.72	12.56	0	0
	1	50	13.10	12.67	12.61		0
	1	99	13.00	12.62	12.54		0
	50	0	**13.12**	12.56	12.57	0-1	0
	50	25	13.04	12.52	12.59		0
	50	50	12.92	12.54	12.58		0
	100	0	13.07	12.56	12.60		0
16QAM	1	0	13.16	13.05	13.03	0-1	0
	1	50	13.04	12.99	12.99		0
	1	99	12.77	13.00	12.85		0
	50	0	12.88	12.76	12.76	0-2	0
	50	25	12.80	12.71	12.77		0
	50	50	12.71	12.72	12.73		0
	100	0	12.82	12.74	12.80		0
64QAM	1	0	13.22	12.86	13.00	0-2	0
	1	50	13.00	12.85	13.05		0
	1	99	12.91	12.86	13.02		0
	50	0	12.88	12.74	12.71	0-3	0
	50	25	12.81	12.70	12.74		0
	50	50	12.68	12.72	12.74		0
	100	0	12.81	12.71	12.73		0

Table 8-47
LTE Band 66 Conducted Powers Antenna C - 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	13.22	13.05	12.89	0	0
	1	36	13.20	12.95	12.87		0
	1	74	13.23	12.90	12.81		0
	36	0	13.26	12.93	13.00	0-1	0
	36	18	13.25	12.95	13.02		0
	36	37	13.19	12.99	13.04		0
	75	0	13.24	12.90	13.01		0
16QAM	1	0	13.29	13.15	13.10	0-1	0
	1	36	13.30	13.17	13.14		0
	1	74	13.24	13.00	12.99		0
	36	0	12.98	12.81	12.84	0-2	0
	36	18	12.97	12.83	12.85		0
	36	37	12.93	12.62	12.86		0
	75	0	12.91	12.83	12.76		0
64QAM	1	0	13.22	13.19	13.06	0-2	0
	1	36	13.28	13.11	12.95		0
	1	74	13.15	12.67	12.96		0
	36	0	12.94	12.85	12.87	0-3	0
	36	18	12.95	12.87	12.82		0
	36	37	12.94	12.68	12.85		0
	75	0	12.91	12.83	12.77		0

Table 8-48
LTE Band 66 Conducted Powers Antenna C - 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	13.25	12.91	12.83	0	0
	1	25	13.21	12.89	12.76		0
	1	49	13.15	12.76	12.78		0
	25	0	13.22	12.90	12.98	0-1	0
	25	12	13.22	12.87	12.92		0
	25	25	13.14	13.00	12.98		0
	50	0	13.20	13.04	13.03		0
16QAM	1	0	13.28	13.12	13.30	0-1	0
	1	25	13.22	13.03	13.05		0
	1	49	13.19	12.78	13.14		0
	25	0	12.99	12.82	12.75	0-2	0
	25	12	13.00	12.81	12.69		0
	25	25	12.93	12.75	12.73		0
	50	0	12.98	12.81	12.79		0
64QAM	1	0	13.23	12.94	13.16	0-2	0
	1	25	13.24	12.94	12.90		0
	1	49	13.14	12.64	12.95		0
	25	0	12.84	12.81	12.80	0-3	0
	25	12	12.89	12.75	12.72		0
	25	25	12.84	12.75	12.79		0
	50	0	12.90	12.76	12.81		0

Table 8-49
LTE Band 66 Conducted Powers Antenna C - 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	13.30	12.98	12.82	0	0
	1	12	13.23	12.95	12.78		0
	1	24	13.27	12.93	12.84		0
	12	0	13.27	12.94	13.01	0-1	0
	12	6	13.23	12.92	12.99		0
	12	13	13.25	12.93	13.03		0
	25	0	13.24	12.90	13.00		0
16QAM	1	0	13.30	13.11	12.94	0-1	0
	1	12	13.27	13.09	13.02		0
	1	24	13.10	13.09	13.02		0
	12	0	13.14	12.86	12.79	0-2	0
	12	6	13.00	12.85	12.72		0
	12	13	13.02	12.80	12.78		0
	25	0	12.95	12.81	12.76		0
64QAM	1	0	13.17	12.95	13.21	0-2	0
	1	12	13.16	13.11	13.01		0
	1	24	13.01	13.13	12.86		0
	12	0	13.01	12.88	12.79	0-3	0
	12	6	12.97	12.82	12.73		0
	12	13	12.95	12.81	12.79		0
	25	0	12.92	12.80	12.74		0

Table 8-50
LTE Band 66 Conducted Powers Antenna C - 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	13.19	12.90	12.82	0	0
	1	7	13.26	12.93	12.95		0
	1	14	13.15	12.88	12.84		0
	8	0	13.28	12.95	13.07	0-1	0
	8	4	13.27	12.92	12.96		0
	8	7	13.24	12.92	12.96		0
	15	0	13.25	12.90	12.96		0
16QAM	1	0	13.26	13.06	13.07	0-1	0
	1	7	13.23	13.08	12.90		0
	1	14	13.24	12.88	13.07		0
	8	0	13.09	12.90	12.83	0-2	0
	8	4	13.08	12.90	12.86		0
	8	7	13.00	12.91	12.81		0
	15	0	13.09	12.86	12.82		0
64QAM	1	0	13.22	13.11	12.94	0-2	0
	1	7	13.30	13.02	13.02		0
	1	14	13.29	13.11	12.87		0
	8	0	13.13	12.84	12.87	0-3	0
	8	4	13.12	12.98	12.89		0
	8	7	13.02	12.96	12.86		0
	15	0	13.08	12.83	12.80		0

Table 8-51
LTE Band 66 Conducted Powers Antenna C - 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	13.20	12.98	12.88	0	0
	1	2	13.16	12.96	12.85		0
	1	5	13.19	12.85	12.89		0
	3	0	13.21	12.96	12.90		0
	3	2	13.22	12.97	12.89		0
	3	3	13.21	12.97	13.02		0
	6	0	13.22	12.97	13.00	0-1	0
16QAM	1	0	13.01	13.12	13.08	0-1	0
	1	2	12.96	12.96	12.99		0
	1	5	12.99	12.97	12.91		0
	3	0	12.87	12.99	12.84		0
	3	2	12.86	13.01	12.83		0
	3	3	12.89	12.98	12.86		0
	6	0	12.85	12.85	12.87	0-2	0
64QAM	1	0	13.23	12.93	13.11	0-2	0
	1	2	13.13	13.02	13.18		0
	1	5	13.24	13.00	13.00		0
	3	0	13.03	12.87	13.08		0
	3	2	13.07	12.89	13.14		0
	3	3	13.12	12.86	13.15		0
	6	0	13.04	12.87	12.87	0-3	0

Table 8-52
LTE Band 66 Conducted Powers Antenna D - 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	**13.12**	12.98	12.95	0	0
	1	50	12.93	12.93	12.92		0
	1	99	12.88	12.94	12.91		0
	50	0	**13.07**	12.87	12.79	0-1	0
	50	25	12.97	12.83	12.85		0
	50	50	12.90	12.88	12.84		0
	100	0	13.02	12.87	12.95		0
16QAM	1	0	13.20	12.94	13.01	0-1	0
	1	50	13.00	12.83	12.99		0
	1	99	12.90	12.72	13.00		0
	50	0	12.97	12.80	12.81	0-2	0
	50	25	12.87	12.72	12.80		0
	50	50	12.79	12.69	12.72		0
	100	0	12.90	12.77	12.81		0
64QAM	1	0	13.20	12.85	12.83	0-2	0
	1	50	13.00	12.67	12.81		0
	1	99	13.03	12.72	12.81		0
	50	0	12.99	12.80	12.79	0-3	0
	50	25	12.85	12.75	12.82		0
	50	50	12.80	12.73	12.75		0
	100	0	12.89	12.79	12.82		0

Table 8-53
LTE Band 66 Conducted Powers Antenna D - 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	13.19	12.77	12.70	0	0
	1	36	13.20	12.82	12.86		0
	1	74	12.97	12.71	12.74		0
	36	0	13.04	12.81	12.85	0-1	0
	36	18	13.06	12.83	12.92		0
	36	37	12.88	12.82	12.91		0
	75	0	13.04	12.84	12.92		0
16QAM	1	0	13.18	13.09	12.99	0-1	0
	1	36	13.19	13.13	13.20		0
	1	74	13.09	13.09	13.05		0
	36	0	13.07	12.90	12.92	0-2	0
	36	18	13.13	12.90	12.93		0
	36	37	12.99	12.90	12.89		0
	75	0	13.12	12.89	12.91		0
64QAM	1	0	13.12	13.15	13.20	0-2	0
	1	36	13.10	13.00	13.17		0
	1	74	13.19	13.13	13.17		0
	36	0	13.09	12.86	12.94	0-3	0
	36	18	13.11	12.88	12.92		0
	36	37	12.98	12.87	12.89		0
	75	0	13.08	12.87	12.92		0

Table 8-54
LTE Band 66 Conducted Powers Antenna D - 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	13.03	12.79	12.83	0	0
	1	25	13.02	12.79	12.78		0
	1	49	12.91	12.81	12.74		0
	25	0	12.99	12.80	12.88	0-1	0
	25	12	13.02	12.81	12.87		0
	25	25	13.00	12.77	12.87		0
	50	0	13.03	12.82	12.88		0
16QAM	1	0	13.20	13.18	13.10	0-1	0
	1	25	13.20	13.20	12.80		0
	1	49	13.18	13.16	13.04		0
	25	0	13.02	12.85	12.88	0-2	0
	25	12	13.09	12.82	12.91		0
	25	25	13.08	12.80	12.91		0
	50	0	13.11	12.84	12.89		0
64QAM	1	0	13.18	13.20	13.13	0-2	0
	1	25	13.20	13.10	13.17		0
	1	49	13.20	13.19	13.12		0
	25	0	13.03	12.82	12.84	0-3	0
	25	12	13.05	12.81	12.87		0
	25	25	13.06	12.75	12.85		0
	50	0	13.05	12.76	12.86		0

Table 8-55
LTE Band 66 Conducted Powers Antenna D - 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	13.07	12.93	12.84	0	0
	1	12	12.99	12.91	12.81		0
	1	24	13.07	12.86	12.79		0
	12	0	13.01	12.79	12.93	0-1	0
	12	6	12.96	12.78	12.90		0
	12	13	12.99	12.74	12.88		0
	25	0	12.98	12.78	12.92		0
16QAM	1	0	13.20	13.15	13.20	0-1	0
	1	12	13.17	13.06	13.19		0
	1	24	13.12	13.18	13.16		0
	12	0	13.08	12.85	12.95	0-2	0
	12	6	13.03	12.83	12.93		0
	12	13	13.06	12.85	12.93		0
	25	0	13.01	12.81	12.92		0
64QAM	1	0	13.20	13.19	13.05	0-2	0
	1	12	13.20	13.16	13.01		0
	1	24	13.17	13.09	13.04		0
	12	0	13.15	12.91	12.95	0-3	0
	12	6	13.01	12.88	12.94		0
	12	13	13.11	12.75	12.92		0
	25	0	13.05	12.85	12.89		0

Table 8-56
LTE Band 66 Conducted Powers Antenna D - 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	12.96	12.70	12.78	0	0
	1	7	13.00	12.78	12.76		0
	1	14	12.91	12.67	12.70		0
	8	0	13.05	12.82	12.91	0-1	0
	8	4	13.02	12.83	12.87		0
	8	7	13.00	12.79	12.86		0
	15	0	13.03	12.80	12.88		0
16QAM	1	0	13.20	13.19	13.18	0-1	0
	1	7	13.20	13.20	13.18		0
	1	14	13.19	13.19	13.20		0
	8	0	13.19	12.83	12.98	0-2	0
	8	4	13.11	12.86	12.96		0
	8	7	13.11	12.83	12.90		0
	15	0	13.09	12.87	12.91		0
64QAM	1	0	13.20	13.16	12.90	0-2	0
	1	7	13.20	13.10	13.15		0
	1	14	13.20	13.14	12.91		0
	8	0	13.15	12.92	12.97	0-3	0
	8	4	13.08	12.93	12.98		0
	8	7	13.05	12.95	12.94		0
	15	0	13.10	12.84	12.94		0

Table 8-57
LTE Band 66 Conducted Powers Antenna D - 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	13.03	12.79	13.01	0	0
	1	2	13.01	12.76	12.99		0
	1	5	13.03	12.80	13.01		0
	3	0	13.05	12.85	12.87		0
	3	2	13.03	12.85	12.87		0
	3	3	13.05	12.88	12.86		0
	6	0	13.05	12.83	12.86	0-1	0
16QAM	1	0	13.20	13.06	12.92	0-1	0
	1	2	13.20	13.19	12.95		0
	1	5	13.10	12.88	12.98		0
	3	0	13.17	12.99	13.00		0
	3	2	13.15	13.02	12.98		0
	3	3	13.10	12.99	12.94		0
	6	0	13.19	12.89	12.89	0-2	0
64QAM	1	0	13.15	13.17	13.15	0-2	0
	1	2	13.16	13.13	13.10		0
	1	5	13.13	13.20	13.15		0
	3	0	13.15	13.04	12.95		0
	3	2	13.08	13.06	13.00		0
	3	3	13.07	12.98	12.99		0
	6	0	13.20	12.93	12.94	0-3	0

8.3.8 LTE Band 25

Table 8-58
LTE Band 25 Conducted Powers Antenna C - 20 MHz Bandwidth

LTE Band 25 (PCS) 20 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel 26140 (1860.0 MHz)	Mid Channel 26365 (1882.5 MHz)	High Channel 26590 (1905.0 MHz)	MPR Allowed per 3GPP [dB]	MPR [dB]
			Conducted Power [dBm]				
QPSK	1	0	12.94	**13.02**	13.00	0	0
	1	50	12.71	12.75	12.65		0
	1	99	12.85	12.92	12.71		0
	50	0	12.81	12.63	12.90	0-1	0
	50	25	12.57	12.68	12.62		0
	50	50	12.59	**13.02**	12.66		0
	100	0	12.65	13.01	12.67		0
16QAM	1	0	13.00	12.99	12.95	0-1	0
	1	50	12.87	12.88	12.86		0
	1	99	12.96	12.90	12.91		0
	50	0	12.71	12.63	12.73	0-2	0
	50	25	12.62	12.63	12.66		0
	50	50	12.61	12.81	12.62		0
	100	0	12.70	12.74	12.67		0
64QAM	1	0	13.10	12.88	12.97	0-2	0
	1	50	12.97	12.70	12.85		0
	1	99	13.06	12.88	12.80		0
	50	0	12.65	12.50	12.57	0-3	0
	50	25	12.63	12.56	12.58		0
	50	50	12.62	12.68	12.56		0
	100	0	12.50	12.61	12.55		0

Table 8-59
LTE Band 25 Conducted Powers Antenna C - 15 MHz Bandwidth

LTE Band 25 (PCS) 15 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel 26115 (1857.5 MHz)	Mid Channel 26365 (1882.5 MHz)	High Channel 26615 (1907.5 MHz)	MPR Allowed per 3GPP [dB]	MPR [dB]
			Conducted Power [dBm]				
QPSK	1	0	12.93	12.73	13.02	0	0
	1	36	12.85	12.84	13.01		0
	1	74	12.84	13.01	13.10		0
	36	0	13.00	12.83	12.90	0-1	0
	36	18	12.96	12.86	13.06		0
	36	37	12.92	12.97	12.98		0
	75	0	12.97	12.91	13.10		0
16QAM	1	0	13.06	12.90	13.07	0-1	0
	1	36	13.04	12.92	13.06		0
	1	74	13.10	13.03	13.06		0
	36	0	12.81	12.56	12.71	0-2	0
	36	18	12.76	12.62	12.86		0
	36	37	12.77	12.73	12.79		0
	75	0	12.74	12.68	12.83		0
64QAM	1	0	13.10	12.84	13.04	0-2	0
	1	36	13.08	12.83	12.99		0
	1	74	13.07	12.81	13.03		0
	36	0	12.70	12.56	12.70	0-3	0
	36	18	12.62	12.57	12.76		0
	36	37	12.64	12.63	12.74		0
	75	0	12.61	12.60	12.73		0

Table 8-60
LTE Band 25 Conducted Powers Antenna C - 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	13.10	12.77	12.92	0	0
	1	25	12.99	12.77	12.89		0
	1	49	12.90	12.95	12.97		0
	25	0	12.99	12.85	12.98	0-1	0
	25	12	12.99	12.83	12.97		0
	25	25	12.91	12.86	13.01		0
	50	0	12.99	12.87	13.00		0
16QAM	1	0	13.02	12.78	13.08	0-1	0
	1	25	13.07	12.84	13.02		0
	1	49	13.02	13.00	13.03		0
	25	0	12.77	12.56	12.73	0-2	0
	25	12	12.79	12.55	12.79		0
	25	25	12.68	12.64	12.76		0
	50	0	12.75	12.58	12.79		0
64QAM	1	0	13.10	12.90	12.98	0-2	0
	1	25	13.05	12.84	13.07		0
	1	49	13.00	13.08	13.10		0
	25	0	12.72	12.64	12.64	0-3	0
	25	12	12.77	12.63	12.70		0
	25	25	12.60	12.71	12.69		0
	50	0	12.65	12.61	12.77		0

Table 8-61
LTE Band 25 Conducted Powers Antenna C - 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	13.10	12.86	12.84	0	0
	1	12	13.08	12.83	12.86		0
	1	24	13.07	12.88	12.92		0
	12	0	13.05	12.81	12.95	0-1	0
	12	6	12.98	12.81	12.96		0
	12	13	13.01	12.84	13.01		0
	25	0	13.00	12.82	12.96		0
16QAM	1	0	13.03	12.99	13.05	0-1	0
	1	12	13.05	12.91	13.09		0
	1	24	13.03	12.93	13.06		0
	12	0	12.86	12.58	12.79	0-2	0
	12	6	12.86	12.59	12.80		0
	12	13	12.75	12.68	12.79		0
	25	0	12.81	12.55	12.76		0
64QAM	1	0	13.10	12.73	13.03	0-2	0
	1	12	12.86	12.89	13.00		0
	1	24	12.96	12.98	13.03		0
	12	0	12.80	12.65	12.78	0-3	0
	12	6	12.76	12.54	12.70		0
	12	13	12.84	12.62	12.75		0
	25	0	12.65	12.55	12.65		0

Table 8-62
LTE Band 25 Conducted Powers Antenna C - 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	13.03	12.69	12.80	0	0
	1	7	13.07	12.78	12.93		0
	1	14	12.99	12.76	12.84		0
	8	0	13.05	12.83	12.96	0-1	0
	8	4	12.99	12.80	12.99		0
	8	7	13.04	12.79	12.99		0
	15	0	13.10	12.82	13.00		0
16QAM	1	0	13.07	12.76	12.91	0-1	0
	1	7	13.03	12.78	13.05		0
	1	14	13.00	12.85	13.08		0
	8	0	12.90	12.62	12.78	0-2	0
	8	4	12.77	12.60	12.83		0
	8	7	12.83	12.61	12.79		0
	15	0	12.87	12.57	12.80		0
64QAM	1	0	13.09	12.61	12.98	0-2	0
	1	7	13.09	12.90	13.04		0
	1	14	13.10	12.64	12.99		0
	8	0	12.81	12.59	12.80	0-3	0
	8	4	12.84	12.59	12.76		0
	8	7	12.77	12.60	12.79		0
	15	0	12.72	12.57	12.78		0

Table 8-63
LTE Band 25 Conducted Powers Antenna C - 1.4 MHz Bandwidth

LTE Band 25 (PCS) 1.4 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel 26047 (1850.7 MHz)	Mid Channel 26365 (1882.5 MHz)	High Channel 26683 (1914.3 MHz)	MPR Allowed per 3GPP [dB]	MPR [dB]
			Conducted Power [dBm]				
QPSK	1	0	12.98	12.82	12.94	0	0
	1	2	12.98	12.80	12.93		0
	1	5	12.95	12.81	12.95		0
	3	0	13.05	12.70	12.98		0
	3	2	13.01	12.70	12.97		0
	3	3	13.01	12.70	12.99		0
	6	0	12.98	12.68	12.95	0-1	0
16QAM	1	0	13.10	12.77	12.92	0-1	0
	1	2	13.05	12.97	13.09		0
	1	5	13.10	12.88	12.99		0
	3	0	12.95	12.76	12.91		0
	3	2	12.85	12.74	12.83		0
	3	3	12.80	12.70	12.78		0
	6	0	12.93	12.76	12.90	0-2	0
64QAM	1	0	13.09	12.71	13.04	0-2	0
	1	2	13.10	12.80	13.01		0
	1	5	13.01	12.81	12.93		0
	3	0	12.83	12.71	12.79		0
	3	2	12.78	12.74	12.76		0
	3	3	12.81	12.67	12.78		0
	6	0	12.66	12.51	12.78	0-3	0

Table 8-64
LTE Band 25 Conducted Powers Antenna D - 20 MHz Bandwidth

LTE Band 25 (PCS) 20 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel 26140 (1860.0 MHz)	Mid Channel 26365 (1882.5 MHz)	High Channel 26590 (1905.0 MHz)	MPR Allowed per 3GPP [dB]	MPR [dB]
			Conducted Power [dBm]				
QPSK	1	0	**12.00**	11.91	11.96	0	0
	1	50	11.75	11.75	11.76		0
	1	99	11.84	11.85	11.74		0
	50	0	**11.89**	11.79	11.87	0-1	0
	50	25	11.72	11.80	11.76		0
	50	50	11.76	11.81	11.66		0
	100	0	11.87	11.88	11.80		0
16QAM	1	0	11.90	11.83	11.80	0-1	0
	1	50	11.60	11.56	11.74		0
	1	99	11.72	11.62	11.64		0
	50	0	11.65	11.63	11.65	0-2	0
	50	25	11.60	11.62	11.50		0
	50	50	11.55	11.61	11.41		0
	100	0	11.61	11.60	11.52		0
64QAM	1	0	11.84	11.50	11.57	0-2	0
	1	50	11.62	11.42	11.39		0
	1	99	11.74	11.54	11.31		0
	50	0	11.40	11.35	11.40	0-3	0
	50	25	11.45	11.31	11.30		0
	50	50	11.47	11.37	11.27		0
	100	0	11.46	11.46	11.37		0

Table 8-65
LTE Band 25 Conducted Powers Antenna D - 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	11.87	11.72	11.92	0	0
	1	36	11.86	11.85	11.83		0
	1	74	11.77	11.78	11.76		0
	36	0	11.93	11.82	11.78	0-1	0
	36	18	11.83	11.88	11.75		0
	36	37	11.77	11.92	11.69		0
	75	0	11.84	11.95	11.76		0
16QAM	1	0	12.00	11.89	11.91	0-1	0
	1	36	11.90	11.95	11.91		0
	1	74	11.86	11.86	11.91		0
	36	0	11.80	11.73	11.71	0-2	0
	36	18	11.80	11.80	11.72		0
	36	37	11.74	11.83	11.68		0
	75	0	11.82	11.78	11.73		0
64QAM	1	0	11.65	11.81	11.76	0-2	0
	1	36	11.90	11.82	11.64		0
	1	74	11.78	11.83	11.69		0
	36	0	11.61	11.47	11.44	0-3	0
	36	18	11.58	11.53	11.46		0
	36	37	11.53	11.58	11.43		0
	75	0	11.54	11.60	11.44		0

Table 8-66
LTE Band 25 Conducted Powers Antenna D - 10 MHz Bandwidth

LTE Band 25 (PCS) 10 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel 26090 (1855.0 MHz)	Mid Channel 26365 (1882.5 MHz)	High Channel 26640 (1910.0 MHz)	MPR Allowed per 3GPP [dB]	MPR [dB]
			Conducted Power [dBm]				
QPSK	1	0	12.00	11.84	11.70	0	0
	1	25	11.96	11.82	11.57		0
	1	49	11.86	11.94	11.64		0
	25	0	11.89	11.83	11.65	0-1	0
	25	12	11.82	11.81	11.60		0
	25	25	11.74	11.84	11.64		0
	50	0	11.83	11.84	11.65		0
16QAM	1	0	11.75	11.86	11.84	0-1	0
	1	25	11.98	11.99	11.72		0
	1	49	11.91	11.85	11.80		0
	25	0	11.85	11.85	11.65	0-2	0
	25	12	11.80	11.84	11.62		0
	25	25	11.75	11.83	11.67		0
	50	0	11.80	11.83	11.62		0
64QAM	1	0	11.98	11.88	11.64	0-2	0
	1	25	11.94	11.77	11.50		0
	1	49	11.84	11.91	11.66		0
	25	0	11.63	11.51	11.34	0-3	0
	25	12	11.57	11.50	11.29		0
	25	25	11.57	11.54	11.34		0
	50	0	11.52	11.53	11.36		0

Table 8-67
LTE Band 25 Conducted Powers Antenna D - 5 MHz Bandwidth

LTE Band 25 (PCS) 5 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel 26065 (1852.5 MHz)	Mid Channel 26365 (1882.5 MHz)	High Channel 26665 (1912.5 MHz)	MPR Allowed per 3GPP [dB]	MPR [dB]
			Conducted Power [dBm]				
QPSK	1	0	12.00	11.82	11.76	0	0
	1	12	12.00	11.74	11.80		0
	1	24	11.98	11.77	11.83		0
	12	0	11.88	11.77	11.60	0-1	0
	12	6	11.87	11.76	11.65		0
	12	13	11.92	11.77	11.69		0
	25	0	11.89	11.76	11.66		0
16QAM	1	0	11.85	11.91	11.85	0-1	0
	1	12	11.74	11.94	11.92		0
	1	24	11.82	11.86	11.91		0
	12	0	11.80	11.79	11.64	0-2	0
	12	6	11.74	11.75	11.67		0
	12	13	11.72	11.83	11.64		0
	25	0	11.80	11.81	11.72		0
64QAM	1	0	12.00	11.73	11.55	0-2	0
	1	12	11.95	11.69	11.69		0
	1	24	11.93	11.82	11.65		0
	12	0	11.60	11.53	11.41	0-3	0
	12	6	11.61	11.48	11.46		0
	12	13	11.65	11.54	11.44		0
	25	0	11.59	11.50	11.39		0

Table 8-68
LTE Band 25 Conducted Powers Antenna D - 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	11.97	11.78	11.59	0	0
	1	7	12.00	11.83	11.68		0
	1	14	11.99	11.78	11.58		0
	8	0	11.91	11.81	11.68	0-1	0
	8	4	11.92	11.81	11.72		0
	8	7	11.92	11.79	11.70		0
	15	0	11.91	11.79	11.69		0
16QAM	1	0	11.78	11.87	11.67	0-1	0
	1	7	11.76	12.00	11.74		0
	1	14	11.87	11.91	11.78		0
	8	0	11.80	11.75	11.68	0-2	0
	8	4	11.76	11.85	11.71		0
	8	7	11.75	11.82	11.63		0
	15	0	11.70	11.81	11.66		0
64QAM	1	0	11.80	11.94	11.63	0-2	0
	1	7	11.95	11.76	11.74		0
	1	14	11.88	11.90	11.47		0
	8	0	11.67	11.60	11.42	0-3	0
	8	4	11.68	11.55	11.43		0
	8	7	11.65	11.58	11.39		0
	15	0	11.68	11.52	11.46		0

Table 8-69
LTE Band 25 Conducted Powers Antenna D - 1.4 MHz Bandwidth

LTE Band 25 (PCS) 1.4 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel 26047 (1850.7 MHz)	Mid Channel 26365 (1882.5 MHz)	High Channel 26683 (1914.3 MHz)	MPR Allowed per 3GPP [dB]	MPR [dB]
			Conducted Power [dBm]				
QPSK	1	0	12.00	11.83	11.88	0	0
	1	2	11.99	11.79	11.84		0
	1	5	11.99	11.82	11.85		0
	3	0	11.88	11.83	11.72		0
	3	2	11.86	11.81	11.72		0
	3	3	11.87	11.81	11.69		0
	6	0	11.87	11.79	11.68	0-1	0
16QAM	1	0	12.00	11.85	11.85	0-1	0
	1	2	12.00	11.90	11.88		0
	1	5	11.95	11.92	11.91		0
	3	0	11.89	11.75	11.78		0
	3	2	11.80	11.77	11.66		0
	3	3	11.76	11.83	11.60		0
	6	0	11.80	11.73	11.62	0-2	0
64QAM	1	0	11.96	11.94	11.91	0-2	0
	1	2	11.90	11.67	11.73		0
	1	5	11.86	11.93	11.62		0
	3	0	11.71	11.69	11.67		0
	3	2	11.68	11.63	11.58		0
	3	3	11.75	11.75	11.57		0
	6	0	11.73	11.56	11.50	0-3	0

8.3.9 LTE Band 30

Table 8-70
LTE Band 30 Conducted Powers Antenna C - 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	**13.16**	0	0
	1	25	13.12		0
	1	49	13.11		0
	25	0	13.03	0-1	0
	25	12	12.98		0
	25	25	**13.08**		0
	50	0	13.01		0
16QAM	1	0	13.15	0-1	0
	1	25	13.16		0
	1	49	13.13		0
	25	0	12.77	0-2	0
	25	12	12.75		0
	25	25	12.80		0
	50	0	12.78		0
64QAM	1	0	13.20	0-2	0
	1	25	13.15		0
	1	49	13.08		0
	25	0	12.76	0-3	0
	25	12	12.69		0
	25	25	12.72		0
	50	0	12.77		0

Table 8-71
LTE Band 30 Conducted Powers Antenna C - 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	13.19	0	0
	1	12	13.16		0
	1	24	13.17		0
	12	0	13.19	0-1	0
	12	6	13.18		0
	12	13	13.09		0
	25	0	13.18		0
16QAM	1	0	13.13	0-1	0
	1	12	12.91		0
	1	24	13.02		0
	12	0	12.69	0-2	0
	12	6	12.68		0
	12	13	12.62		0
	25	0	12.62		0
64QAM	1	0	13.06	0-2	0
	1	12	13.03		0
	1	24	12.94		0
	12	0	12.64	0-3	0
	12	6	12.67		0
	12	13	12.62		0
	25	0	12.65		0

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

Table 8-72
LTE Band 30 Conducted Powers Antenna D - 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	12.61	0	0
	1	25	12.63		0
	1	49	**12.66**		0
	25	0	12.45	0-1	0
	25	12	**12.49**		0
	25	25	12.48		0
	50	0	12.47		0
16QAM	1	0	12.63	0-1	0
	1	25	12.65		0
	1	49	12.70		0
	25	0	12.15	0-2	0
	25	12	12.20		0
	25	25	12.19		0
	50	0	12.18		0
64QAM	1	0	12.43	0-2	0
	1	25	12.46		0
	1	49	12.50		0
	25	0	12.24	0-3	0
	25	12	12.30		0
	25	25	12.28		0
	50	0	12.24		0

Table 8-73
LTE Band 30 Conducted Powers Antenna D - 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	12.77	0	0
	1	12	12.65		0
	1	24	12.70		0
	12	0	12.68	0-1	0
	12	6	12.70		0
	12	13	12.68		0
	25	0	12.68		0
16QAM	1	0	12.71	0-1	0
	1	12	12.70		0
	1	24	12.73		0
	12	0	12.45	0-2	0
	12	6	12.46		0
	12	13	12.46		0
	25	0	12.45		0
64QAM	1	0	12.64	0-2	0
	1	12	12.33		0
	1	24	12.38		0
	12	0	12.21	0-3	0
	12	6	12.18		0
	12	13	12.16		0
	25	0	12.19		0

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

8.3.10 LTE Band 7

Table 8-74
LTE Band 7 Conducted Powers Antenna C - 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	12.19	12.09	12.16	0	0
	1	50	12.31	12.14	12.21		0
	1	99	**12.36**	12.15	12.13		0
	50	0	12.11	12.16	12.01	0-1	0
	50	25	12.25	12.20	12.12		0
	50	50	**12.35**	12.20	12.05		0
	100	0	12.34	12.23	12.22		0
16QAM	1	0	12.10	12.05	11.87	0-1	0
	1	50	12.12	12.08	11.93		0
	1	99	12.21	12.00	12.01		0
	50	0	11.95	11.95	11.74	0-2	0
	50	25	12.02	11.94	11.90		0
	50	50	12.00	11.91	11.82		0
	100	0	12.01	11.93	12.02		0
64QAM	1	0	12.09	12.17	11.98	0-2	0
	1	50	12.22	12.21	11.97		0
	1	99	12.29	12.09	12.09		0
	50	0	11.84	11.88	11.76	0-3	0
	50	25	11.98	11.92	11.87		0
	50	50	12.01	11.91	11.80		0
	100	0	12.06	11.94	11.92		0

Table 8-75
LTE Band 7 Conducted Powers Antenna C - 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	12.18	12.34	11.95	0	0
	1	36	12.27	12.23	12.08		0
	1	74	12.36	12.28	12.04		0
	36	0	12.22	12.28	12.13	0-1	0
	36	18	12.33	12.33	12.14		0
	36	37	12.40	12.29	12.12		0
	75	0	12.39	12.34	12.14		0
16QAM	1	0	12.14	12.26	11.96	0-1	0
	1	36	12.14	12.34	12.16		0
	1	74	12.36	12.16	12.26		0
	36	0	11.86	12.03	11.84	0-2	0
	36	18	11.94	12.06	11.96		0
	36	37	11.98	11.93	11.94		0
	75	0	12.01	11.96	11.95		0
64QAM	1	0	12.26	12.07	11.90	0-2	0
	1	36	12.15	12.06	12.05		0
	1	74	12.16	12.02	11.88		0
	36	0	11.85	11.90	11.81	0-3	0
	36	18	11.90	11.95	11.88		0
	36	37	11.91	11.85	11.87		0
	75	0	11.92	11.84	11.84		0

Table 8-76
LTE Band 7 Conducted Powers Antenna C - 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	12.22	12.35	11.98	0	0
	1	25	12.09	12.23	12.04		0
	1	49	12.27	12.26	12.06		0
	25	0	12.18	12.38	12.08	0-1	0
	25	12	12.11	12.40	12.07		0
	25	25	12.25	12.36	12.12		0
	50	0	12.17	12.32	12.08		0
16QAM	1	0	12.22	12.29	12.17	0-1	0
	1	25	12.17	12.10	12.19		0
	1	49	12.16	12.12	12.13		0
	25	0	11.96	12.00	11.89	0-2	0
	25	12	11.86	12.01	11.91		0
	25	25	11.95	11.92	11.94		0
	50	0	11.88	11.93	11.86		0
64QAM	1	0	12.31	12.12	11.93	0-2	0
	1	25	11.98	11.97	11.99		0
	1	49	12.20	11.84	12.07		0
	25	0	11.81	11.89	11.83	0-3	0
	25	12	11.72	11.94	11.82		0
	25	25	11.84	11.84	11.86		0
	50	0	11.76	11.81	11.81		0

Table 8-77
LTE Band 7 Conducted Powers Antenna C - 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	12.36	12.33	12.04	0	0
	1	12	12.27	12.26	12.02		0
	1	24	12.25	12.34	12.06		0
	12	0	12.23	12.38	12.12	0-1	0
	12	6	12.22	12.40	12.12		0
	12	13	12.17	12.32	12.10		0
	25	0	12.24	12.32	12.11		0
16QAM	1	0	12.18	12.21	12.15	0-1	0
	1	12	12.16	12.13	12.18		0
	1	24	12.26	12.20	12.25		0
	12	0	11.97	12.08	11.85	0-2	0
	12	6	12.00	12.12	12.08		0
	12	13	11.98	12.10	12.02		0
	25	0	11.98	12.04	12.05		0
64QAM	1	0	11.95	12.22	11.95	0-2	0
	1	12	12.03	12.03	12.18		0
	1	24	12.09	12.07	12.00		0
	12	0	11.83	11.86	11.90	0-3	0
	12	6	11.81	11.92	11.91		0
	12	13	11.78	11.83	11.94		0
	25	0	11.87	11.83	11.87		0

Table 8-78
LTE Band 7 Conducted Powers Antenna D - 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	12.01	**12.26**	12.03	0	0
	1	50	12.20	12.17	12.18		0
	1	99	12.14	12.16	12.23		0
	50	0	12.14	12.20	12.06	0-1	0
	50	25	12.22	12.13	12.23		0
	50	50	**12.24**	12.11	12.20		0
	100	0	12.08	12.00	12.09		0
16QAM	1	0	12.04	12.21	12.06	0-1	0
	1	50	12.07	12.11	12.23		0
	1	99	12.15	12.18	12.16		0
	50	0	11.91	11.96	11.84	0-2	0
	50	25	11.95	11.92	12.00		0
	50	50	11.98	11.94	12.00		0
	100	0	12.07	11.96	12.05		0
64QAM	1	0	12.21	12.26	11.86	0-2	0
	1	50	12.39	12.11	12.05		0
	1	99	12.31	12.03	12.09		0
	50	0	11.89	11.94	11.86	0-3	0
	50	25	11.98	11.89	12.01		0
	50	50	11.96	11.88	11.93		0
	100	0	12.02	11.90	12.05		0

Table 8-79
LTE Band 7 Conducted Powers Antenna D - 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	12.11	12.13	12.07	0	0
	1	36	12.21	12.24	12.29		0
	1	74	12.18	11.98	12.14		0
	36	0	12.13	12.24	12.15	0-1	0
	36	18	12.25	12.28	12.25		0
	36	37	12.26	12.11	12.20		0
	75	0	12.33	12.20	12.26		0
16QAM	1	0	12.23	12.29	12.09	0-1	0
	1	36	12.29	12.31	12.22		0
	1	74	12.35	12.32	12.28		0
	36	0	12.09	12.24	12.16	0-2	0
	36	18	12.23	12.27	12.26		0
	36	37	12.20	12.10	12.21		0
	75	0	12.26	12.17	12.27		0
64QAM	1	0	12.18	12.39	12.15	0-2	0
	1	36	12.28	12.40	12.30		0
	1	74	12.38	12.40	12.32		0
	36	0	12.08	12.24	12.14	0-3	0
	36	18	12.20	12.28	12.25		0
	36	37	12.19	12.13	12.19		0
	75	0	12.26	12.20	12.23		0

Table 8-80
LTE Band 7 Conducted Powers Antenna D - 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	12.28	12.23	12.06	0	0
	1	25	12.23	12.14	12.09		0
	1	49	12.36	12.10	12.10		0
	25	0	12.13	12.22	12.21	0-1	0
	25	12	12.12	12.21	12.17		0
	25	25	12.20	12.15	12.16		0
	50	0	12.18	12.15	12.15		0
16QAM	1	0	12.40	12.37	12.11	0-1	0
	1	25	12.37	12.21	12.21		0
	1	49	12.22	12.18	12.25		0
	25	0	12.08	12.19	12.20	0-2	0
	25	12	12.08	12.23	12.19		0
	25	25	12.18	12.16	12.21		0
	50	0	12.09	12.16	12.14		0
64QAM	1	0	12.39	12.40	12.28	0-2	0
	1	25	12.28	12.40	12.38		0
	1	49	12.36	12.40	12.40		0
	25	0	12.13	12.23	12.17	0-3	0
	25	12	12.05	12.25	12.15		0
	25	25	12.16	12.20	12.17		0
	50	0	12.14	12.17	12.13		0

Table 8-81
LTE Band 7 Conducted Powers Antenna D - 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	12.28	12.21	12.33	0	0
	1	12	12.24	12.15	12.35		0
	1	24	12.24	12.12	12.33		0
	12	0	12.05	12.20	12.21	0-1	0
	12	6	12.10	12.21	12.21		0
	12	13	12.07	12.16	12.17		0
	25	0	12.12	12.15	12.21		0
16QAM	1	0	12.35	12.38	12.39	0-1	0
	1	12	12.34	12.39	12.37		0
	1	24	12.38	12.40	12.39		0
	12	0	12.13	12.22	12.25	0-2	0
	12	6	12.18	12.23	12.20		0
	12	13	12.06	12.20	12.23		0
	25	0	12.14	12.15	12.27		0
64QAM	1	0	12.37	12.36	12.32	0-2	0
	1	12	12.35	12.40	12.33		0
	1	24	12.31	12.34	12.38		0
	12	0	12.08	12.30	12.25	0-3	0
	12	6	12.06	12.26	12.25		0
	12	13	12.12	12.19	12.21		0
	25	0	12.06	12.19	12.21		0

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Table 8-82
LTE Band 41 Conducted Powers Antenna C - 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	15.11	**15.36**	15.07	15.18	14.92	0	0
	1	50	15.08	15.27	15.06	15.11	14.84		0
	1	99	15.14	15.24	15.09	15.08	14.87		0
	50	0	15.06	**15.25**	15.08	15.03	14.90	0-1	0
	50	25	15.08	15.21	15.06	15.01	14.89		0
	50	50	15.11	15.14	15.07	14.97	14.89		0
	100	0	15.12	15.20	15.10	15.00	14.87		0
16QAM	1	0	15.06	15.26	15.05	15.00	14.86	0-1	0
	1	50	15.15	15.21	14.94	14.93	14.69		0
	1	99	15.01	15.08	15.01	14.89	14.78		0
	50	0	15.04	15.19	14.96	14.87	14.70	0-2	0
	50	25	15.05	15.22	14.95	14.83	14.72		0
	50	50	15.10	15.12	14.94	14.82	14.71		0
	100	0	15.07	15.19	14.97	14.84	14.73		0
64QAM	1	0	15.25	15.35	15.21	15.08	15.01	0-2	0
	1	50	15.23	15.33	15.23	15.01	14.90		0
	1	99	15.19	15.28	15.13	15.00	14.86		0
	50	0	15.04	15.20	14.96	14.88	14.71	0-3	0
	50	25	15.01	15.16	14.96	14.84	14.70		0
	50	50	15.09	15.10	14.95	14.81	14.69		0
	100	0	15.08	15.18	14.96	14.83	14.74		0

Table 8-83
LTE Band 41 Conducted Powers Antenna C - 15 MHz Bandwidth

LTE Band 41 15 MHz Bandwidth									
Modulation	RB Size	RB Offset	Low Channel	Low-Mid Channel	Mid Channel	Mid-High Channel	High Channel	MPR Allowed per 3GPP [dB]	MPR [dB]
			39750 (2506.0 MHz)	40185 (2549.5 MHz)	40620 (2593.0 MHz)	41055 (2636.5 MHz)	41490 (2680.0 MHz)		
			Conducted Power [dBm]						
QPSK	1	0	15.26	15.38	15.12	15.18	14.82	0	0
	1	36	15.38	15.37	15.23	15.14	14.89		0
	1	74	15.30	15.27	15.11	15.00	14.85		0
	36	0	15.33	15.37	15.21	15.18	14.89	0-1	0
	36	18	15.34	15.31	15.27	15.17	14.92		0
	36	37	15.38	15.33	15.21	15.08	14.91		0
	75	0	15.34	15.40	15.27	15.15	14.93		0
16QAM	1	0	14.81	15.08	15.05	14.87	14.60	0-1	0
	1	36	14.84	15.32	15.16	14.92	14.61		0
	1	74	14.89	15.00	14.76	14.77	14.49		0
	36	0	15.03	15.09	14.94	14.90	14.59	0-2	0
	36	18	15.10	15.14	14.97	14.88	14.62		0
	36	37	15.08	15.05	14.95	14.80	14.61		0
	75	0	15.05	15.12	14.98	14.86	14.62		0
64QAM	1	0	15.09	15.05	15.16	14.81	14.65	0-2	0
	1	36	15.13	14.99	15.07	14.83	14.66		0
	1	74	15.15	14.84	15.08	14.64	14.76		0
	36	0	15.01	15.09	14.91	14.89	14.55	0-3	0
	36	18	15.09	15.14	14.96	14.86	14.60		0
	36	37	15.07	15.04	14.92	14.82	14.58		0
	75	0	15.05	15.10	14.97	14.87	14.62		0

Table 8-84
LTE Band 41 Conducted Powers Antenna C - 10 MHz Bandwidth

LTE Band 41 10 MHz Bandwidth									
Modulation	RB Size	RB Offset	Low Channel	Low-Mid Channel	Mid Channel	Mid-High Channel	High Channel	MPR Allowed per 3GPP [dB]	MPR [dB]
			39750 (2506.0 MHz)	40185 (2549.5 MHz)	40620 (2593.0 MHz)	41055 (2636.5 MHz)	41490 (2680.0 MHz)		
			Conducted Power [dBm]						
QPSK	1	0	15.37	15.37	15.28	15.24	14.87	0	0
	1	25	15.33	15.35	15.30	15.14	14.94		0
	1	49	15.27	15.32	15.27	15.15	14.99		0
	25	0	15.33	15.35	15.19	15.10	14.86	0-1	0
	25	12	15.35	15.36	15.21	15.06	14.85		0
	25	25	15.35	15.30	15.16	14.98	14.87		0
	50	0	15.30	15.37	15.22	15.06	14.88		0
16QAM	1	0	15.04	15.24	15.00	15.00	14.72	0-1	0
	1	25	14.97	15.25	14.92	14.66	14.63		0
	1	49	15.04	15.19	14.94	14.92	14.73		0
	25	0	15.01	15.05	14.89	14.78	14.55	0-2	0
	25	12	15.05	15.06	14.93	14.77	14.54		0
	25	25	15.04	14.96	14.90	14.76	14.56		0
	50	0	15.03	15.05	14.93	14.80	14.56		0
64QAM	1	0	14.98	14.98	14.96	14.90	14.61	0-2	0
	1	25	14.81	15.08	14.81	14.77	14.48		0
	1	49	15.08	14.96	14.98	14.95	14.70		0
	25	0	15.06	15.04	14.96	14.78	14.54	0-3	0
	25	12	15.05	15.12	14.96	14.75	14.62		0
	25	25	15.09	15.03	14.98	14.78	14.56		0
	50	0	15.00	15.08	14.97	14.78	14.59		0

Table 8-85
LTE Band 41 Conducted Powers Antenna C - 5 MHz Bandwidth

LTE Band 41 5 MHz Bandwidth									
Modulation	RB Size	RB Offset	Low Channel	Low-Mid Channel	Mid Channel	Mid-High Channel	High Channel	MPR Allowed per 3GPP [dB]	MPR [dB]
			39750 (2506.0 MHz)	40185 (2549.5 MHz)	40620 (2593.0 MHz)	41055 (2636.5 MHz)	41490 (2680.0 MHz)		
			Conducted Power [dBm]						
QPSK	1	0	15.35	15.36	15.39	15.17	14.87	0	0
	1	12	15.40	15.38	15.38	15.09	14.99		0
	1	24	15.36	15.40	15.36	15.09	15.00		0
	12	0	15.37	15.34	15.26	15.13	14.87	0-1	0
	12	6	15.38	15.34	15.28	15.11	14.88		0
	12	13	15.34	15.30	15.20	15.09	14.90		0
	25	0	15.33	15.36	15.27	15.12	14.86		0
16QAM	1	0	15.17	15.19	15.06	14.89	14.70	0-1	0
	1	12	15.12	15.14	15.16	14.63	14.65		0
	1	24	15.26	14.99	15.12	14.92	14.73		0
	12	0	15.07	15.08	14.98	14.91	14.56	0-2	0
	12	6	15.14	15.09	15.02	14.81	14.54		0
	12	13	15.13	15.02	14.98	14.83	14.59		0
	25	0	15.08	15.05	14.99	14.86	14.58		0
64QAM	1	0	14.98	15.15	15.18	14.79	14.82	0-2	0
	1	12	15.20	15.25	15.11	14.92	14.79		0
	1	24	15.25	15.19	15.03	14.99	14.62		0
	12	0	15.06	15.13	15.03	14.87	14.67	0-3	0
	12	6	15.13	15.09	15.01	14.84	14.64		0
	12	13	15.12	15.04	15.00	14.83	14.60		0
	25	0	15.06	15.09	14.99	14.88	14.63		0

Table 8-86
LTE Band 41 Conducted Powers Antenna D - 20 MHz Bandwidth

LTE Band 41 20 MHz Bandwidth									
Modulation	RB Size	RB Offset	Low Channel	Low-Mid Channel	Mid Channel	Mid-High Channel	High Channel	MPR Allowed per 3GPP [dB]	MPR [dB]
			39750 (2506.0 MHz)	40185 (2549.5 MHz)	40620 (2593.0 MHz)	41055 (2636.5 MHz)	41490 (2680.0 MHz)		
			Conducted Power [dBm]						
QPSK	1	0	15.30	**15.40**	15.34	15.32	15.15	0	0
	1	50	15.23	15.34	15.27	15.26	15.03		0
	1	99	15.35	15.38	15.33	15.27	15.02		0
	50	0	15.18	**15.40**	15.29	15.15	15.05	0-1	0
	50	25	15.15	15.36	15.22	15.17	15.02		0
	50	50	15.24	15.37	15.23	15.16	15.00		0
	100	0	15.19	15.38	15.24	15.18	15.05		0
16QAM	1	0	15.21	15.40	15.38	15.30	15.14	0-1	0
	1	50	15.18	15.37	15.31	15.17	15.08		0
	1	99	15.20	15.37	15.37	15.28	15.03		0
	50	0	15.10	15.39	15.22	15.12	15.04	0-2	0
	50	25	15.13	15.33	15.21	15.17	15.01		0
	50	50	15.22	15.34	15.20	15.14	14.99		0
	100	0	15.16	15.37	15.22	15.20	15.06		0
64QAM	1	0	15.35	15.37	15.36	15.36	15.35	0-2	0
	1	50	15.26	15.33	15.08	15.34	15.39		0
	1	99	15.31	15.36	15.40	15.31	15.14		0
	50	0	15.18	15.39	15.02	15.11	15.04	0-3	0
	50	25	15.15	15.35	14.97	15.14	15.01		0
	50	50	15.20	15.32	14.99	15.14	15.00		0
	100	0	15.16	15.36	14.98	15.21	15.08		0

Table 8-87
LTE Band 41 Conducted Powers Antenna D - 15 MHz Bandwidth

LTE Band 41 15 MHz Bandwidth									
Modulation	RB Size	RB Offset	Low Channel	Low-Mid Channel	Mid Channel	Mid-High Channel	High Channel	MPR Allowed per 3GPP [dB]	MPR [dB]
			39750 (2506.0 MHz)	40185 (2549.5 MHz)	40620 (2593.0 MHz)	41055 (2636.5 MHz)	41490 (2680.0 MHz)		
			Conducted Power [dBm]						
QPSK	1	0	15.27	15.32	15.24	15.26	15.01	0	0
	1	36	15.35	15.40	15.27	15.28	15.03		0
	1	74	15.32	15.35	15.16	15.11	14.88		0
	36	0	15.30	15.38	15.28	15.22	15.05	0-1	0
	36	18	15.34	15.36	15.30	15.23	15.05		0
	36	37	15.30	15.32	15.26	15.17	14.98		0
	75	0	15.28	15.35	15.28	15.22	15.03		0
16QAM	1	0	15.21	15.33	15.37	15.23	15.22	0-1	0
	1	36	15.36	15.40	15.25	15.21	15.11		0
	1	74	15.34	15.29	15.24	15.15	15.06		0
	36	0	15.27	15.32	15.27	15.21	15.06	0-2	0
	36	18	15.33	15.38	15.27	15.25	15.05		0
	36	37	15.29	15.36	15.23	15.15	14.94		0
	75	0	15.26	15.37	15.28	15.23	15.04		0
64QAM	1	0	15.34	15.35	15.23	15.39	15.1	0-2	0
	1	36	15.13	15.34	15.33	15.27	14.91		0
	1	74	15.38	15.39	15.18	15.2	15.01		0
	36	0	15.27	15.34	15.28	15.25	15.04	0-3	0
	36	18	15.31	15.36	15.27	15.26	15.06		0
	36	37	15.23	15.36	15.28	15.3	14.97		0
	75	0	15.26	15.4	15.24	15.25	15.06		0

Table 8-88
LTE Band 41 Conducted Powers Antenna D - 10 MHz Bandwidth

LTE Band 41 10 MHz Bandwidth									
Modulation	RB Size	RB Offset	Low Channel	Low-Mid Channel	Mid Channel	Mid-High Channel	High Channel	MPR Allowed per 3GPP [dB]	MPR [dB]
			39750 (2506.0 MHz)	40185 (2549.5 MHz)	40620 (2593.0 MHz)	41055 (2636.5 MHz)	41490 (2680.0 MHz)		
			Conducted Power [dBm]						
QPSK	1	0	15.12	15.26	15.11	14.97	14.87	0	0
	1	25	15.20	15.20	15.14	15.01	14.90		0
	1	49	15.12	15.10	15.00	14.86	14.76		0
	25	0	15.05	15.25	15.02	14.98	14.81	0-1	0
	25	12	15.09	15.19	15.03	15.03	14.81		0
	25	25	15.03	15.14	14.98	14.95	14.74		0
	50	0	15.00	15.19	15.04	15.01	14.80		0
16QAM	1	0	15.21	15.24	15.26	15.24	14.92	0-1	0
	1	25	15.15	15.35	15.25	15.27	14.99		0
	1	49	15.27	15.20	15.27	15.16	15.01		0
	25	0	15.16	15.22	15.30	15.30	14.99	0-2	0
	25	12	15.20	15.23	15.18	15.26	15.00		0
	25	25	15.30	15.19	15.24	15.35	15.04		0
	50	0	15.14	15.24	15.20	15.21	14.98		0
64QAM	1	0	15.34	15.35	15.23	15.39	15.1	0-2	0
	1	25	15.13	15.34	15.33	15.27	14.91		0
	1	49	15.38	15.39	15.18	15.2	15.01		0
	25	0	15.27	15.38	15.28	15.25	15.04	0-3	0
	25	12	15.31	15.36	15.27	15.26	15.06		0
	25	25	15.23	15.4	15.28	15.3	14.97		0
	50	0	15.26	15.4	15.24	15.25	15.06		0

Table 8-89
LTE Band 41 Conducted Powers Antenna D - 5 MHz Bandwidth

LTE Band 41 5 MHz Bandwidth									
Modulation	RB Size	RB Offset	Low Channel	Low-Mid Channel	Mid Channel	Mid-High Channel	High Channel	MPR Allowed per 3GPP [dB]	MPR [dB]
			39750 (2506.0 MHz)	40185 (2549.5 MHz)	40620 (2593.0 MHz)	41055 (2636.5 MHz)	41490 (2680.0 MHz)		
			Conducted Power [dBm]						
QPSK	1	0	15.37	15.40	15.40	15.17	15.03	0	0
	1	12	15.37	15.30	15.39	15.15	15.15		0
	1	24	15.34	15.31	15.40	15.13	15.12		0
	12	0	15.30	15.31	15.29	15.15	15.04	0-1	0
	12	6	15.31	15.32	15.27	15.19	15.02		0
	12	13	15.27	15.40	15.27	15.16	15.00		0
	25	0	15.26	15.32	15.28	15.19	15.03		0
16QAM	1	0	15.24	15.33	15.40	15.19	15.04	0-1	0
	1	12	15.37	15.24	15.36	15.15	15.10		0
	1	24	15.28	15.35	15.39	15.19	15.05		0
	12	0	15.32	15.39	15.28	15.16	15.05	0-2	0
	12	6	15.31	15.40	15.29	15.22	15.02		0
	12	13	15.28	15.37	15.24	15.24	15.01		0
	25	0	15.26	15.39	15.29	15.21	15.03		0
64QAM	1	0	15.38	15.38	15.37	15.04	15.01	0-2	0
	1	12	15.4	15.37	15.36	15.18	15.1		0
	1	24	15.27	15.37	15.38	15.29	15.16		0
	12	0	15.33	15.35	15.3	15.17	15.1	0-3	0
	12	6	15.38	15.36	15.25	15.28	15.01		0
	12	13	15.3	15.39	15.31	15.09	15.03		0
	25	0	15.24	15.23	15	15.17	15.02		0

Table 8-90
LTE Band 41 (PC2) Conducted Powers Ant C - 20 MHz Bandwidth (QPSK)

LTE Band 41 20 MHz Bandwidth									
Modulation	RB Size	RB Offset	Low Channel	Low-Mid Channel	Mid Channel	Mid-High Channel	High Channel	MPR Allowed per 3GPP [dB]	MPR [dB]
			39750 (2506.0 MHz)	40185 (2549.5 MHz)	40620 (2593.0 MHz)	41055 (2636.5 MHz)	41490 (2680.0 MHz)		
			Conducted Power [dBm]						
QPSK	1	0	15.31	**15.40**	15.13	15.11	14.74	0	0
	1	50	15.30	15.26	15.11	15.03	14.67		0
	1	99	15.35	15.22	15.11	15.02	14.73		0
	50	0	15.19	**15.32**	15.03	14.95	14.76	0-1	0
	50	25	15.16	15.29	15.05	14.93	14.73		0
	50	50	15.23	15.22	15.03	14.88	14.74		0
	100	0	15.21	15.31	15.05	14.93	14.75		0

Table 8-91
LTE Band 41 (PC2) Conducted Powers Ant D - 20 MHz Bandwidth (QPSK)

LTE Band 41 20 MHz Bandwidth									
Modulation	RB Size	RB Offset	Low Channel	Low-Mid Channel	Mid Channel	Mid-High Channel	High Channel	MPR Allowed per 3GPP [dB]	MPR [dB]
			39750 (2506.0 MHz)	40185 (2549.5 MHz)	40620 (2593.0 MHz)	41055 (2636.5 MHz)	41490 (2680.0 MHz)		
			Conducted Power [dBm]						
QPSK	1	0	15.27	**15.40**	15.39	15.13	15.24	0	0
	1	50	15.25	15.32	15.32	15.10	15.14		0
	1	99	15.35	15.36	15.38	15.09	15.12		0
	50	0	15.18	**15.40**	15.24	15.11	15.07	0-1	0
	50	25	15.14	15.35	15.21	15.10	15.02		0
	50	50	15.21	15.35	15.21	15.13	14.99		0
	100	0	15.17	15.36	15.23	15.12	15.05		0

8.3.12 LTE Uplink Carrier Aggregation Conducted Powers

Table 8-92
LTE Uplink Carrier Aggregation Conducted Powers – Antenna C

	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_7C	LTE B7	20	21100	2535.0	3100	2655.0	QPSK	1	99	LTE B7	20	21298	2554.8	3298	2674.8	QPSK	1	0	12.26	12.15

	PCC							SCC							Power	
Combination	PCC Band	PCC Bandwidth [MHz]	PCC (UL/DL) Channel	PCC (UL/DL) Frequency [MHz]	Modulation	PCC UL# RB	PCC UL RB Offset	SCC Band	SCC Bandwidth [MHz]	SCC (UL/DL) Channel	SCC (UL/DL) Frequency [MHz]	Modulation	SCC UL# RB	SCC UL RB Offset	LTE Tx.Power with UL CA Enabled (dBm)	LTE Single Carrier Tx Power (dBm)
CA_41C	LTE B41	20	41490	2680.0	QPSK	50	0	LTE B41	20	41292	2660.2	QPSK	50	50	14.88	14.90

Table 8-93
LTE Uplink Carrier Aggregation Conducted Powers – Antenna D

	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_7C	LTE B7	20	21350	2560	3350	2680	QPSK	100	0	LTE B7	20	21152	2540.2	3152	2660.2	QPSK	100	0	11.90	12.09

	PCC							SCC							Power	
Combination	PCC Band	PCC Bandwidth [MHz]	PCC (UL/DL) Channel	PCC (UL/DL) Frequency [MHz]	Modulation	PCC UL# RB	PCC UL RB Offset	SCC Band	SCC Bandwidth [MHz]	SCC (UL/DL) Channel	SCC (UL/DL) Frequency [MHz]	Modulation	SCC UL# RB	SCC UL RB Offset	LTE Tx.Power with UL CA Enabled (dBm)	LTE Single Carrier Tx Power (dBm)
CA_41C	LTE B41	20	41490	2680.0	QPSK	1	0	LTE B41	20	41292	2660.2	QPSK	1	99	15.02	15.15

Notes:

1. This device supports uplink carrier aggregation for LTE CA_41C and LTE CA_7C with a maximum of two 20 MHz component carriers. For intraband contiguous carrier aggregation scenarios, 3GPP 36.101 Table 6.2.2A-1 specifies that the aggregate maximum allowed output power is equivalent to the single carrier scenario. 3GPP 36.101 6.2.3A allows for several dB of MPR to be applied when non-contiguous RB allocation is implemented. The conducted powers and MPR settings in this device are permanently implemented per the above 3GPP requirements.
2. Per FCC Guidance, the output power with uplink CA active was measured for the configuration with the highest reported SAR with single carrier for each exposure condition. The power was measured with wideband signal integration over both component carriers.
3. Uplink carrier aggregation is only possible when the device is operating with Power Class 3 for LTE Band 41.

Figure 8-3
Power Measurement Setup

8.4 WLAN Conducted Powers

8.4.1 Variant 1

Table 8-94
2.4 GHz WLAN Maximum Average RF Power – Ant A

2.4GHz Conducted Power [dBm]				
Freq [MHz]	Channel	IEEE Transmission Mode		
		802.11b	802.11g	802.11n
		Average	Average	Average
2412	1	15.15	14.95	15.00
2417	2	N/A	14.92	15.11
2437	6	15.12	14.88	15.05
2457	10	N/A	15.01	15.08
2462	11	**15.16**	13.94	14.00

Table 8-95
2.4 GHz WLAN Maximum Average RF Power – Ant B

2.4GHz Conducted Power [dBm]				
Freq [MHz]	Channel	IEEE Transmission Mode		
		802.11b	802.11g	802.11n
		Average	Average	Average
2412	1	14.99	15.00	14.99
2417	2	N/A	15.10	15.06
2437	6	**15.09**	14.90	14.69
2457	10	N/A	14.79	14.83
2462	11	14.97	14.00	14.00

Table 8-96
5 GHz WLAN Maximum Average RF Power – Ant A

5GHz (40MHz) Conducted Power [dBm]			
Freq [MHz]	Channel	IEEE Transmission Mode	
		802.11n	802.11ac
		Average	Average
5190	38	12.96	12.87
5230	46	**15.39**	15.31
5270	54	**16.01**	15.95
5310	62	13.32	13.26
5755	151	15.11	15.13
5795	159	**15.22**	15.26

5GHz (80MHz) Conducted Power [dBm]		
Freq [MHz]	Channel	IEEE Transmission Mode
		802.11ac
		Average
5530	106	10.94
5610	122	14.13
5690	138	**16.42**

Table 8-97
5 GHz WLAN Maximum Average RF Power – Ant B

5GHz (40MHz) Conducted Power [dBm]			
Freq [MHz]	Channel	IEEE Transmission Mode	
		802.11n	802.11ac
		Average	Average
5190	38	12.88	12.79
5230	46	**15.21**	15.19
5270	54	**15.85**	15.68
5310	62	13.49	13.41
5755	151	16.07	15.46
5795	159	**16.08**	15.43

5GHz (80MHz) Conducted Power [dBm]		
Freq [MHz]	Channel	IEEE Transmission Mode
		802.11ac
		Average
5530	106	11.88
5610	122	14.95
5690	138	**16.22**

8.4.2 Variant 2

Table 8-98
2.4 GHz WLAN Maximum Average RF Power – Ant A

2.4GHz Conducted Power [dBm]				
Freq [MHz]	Channel	IEEE Transmission Mode		
		802.11b	802.11g	802.11n
		Average	Average	Average
2412	1	14.91	14.95	14.64
2417	2	N/A	14.98	15.10
2437	6	**14.95**	14.86	14.94
2457	10	N/A	14.89	14.93
2462	11	14.94	13.72	13.63

Table 8-99
2.4 GHz WLAN Maximum Average RF Power – Ant B

2.4GHz Conducted Power [dBm]				
Freq [MHz]	Channel	IEEE Transmission Mode		
		802.11b	802.11g	802.11n
		Average	Average	Average
2412	1	**14.93**	15.00	14.95
2417	2	N/A	14.89	14.93
2437	6	14.80	14.99	14.89
2457	10	N/A	14.95	14.82
2462	11	14.90	13.77	13.70

Table 8-100
5 GHz WLAN Maximum Average RF Power – Ant A

5GHz (40MHz) Conducted Power [dBm]			
Freq [MHz]	Channel	IEEE Transmission Mode	
		802.11n	802.11ac
		Average	Average
5190	38	12.91	12.87
5230	46	**15.49**	15.37
5270	54	**15.93**	15.88
5310	62	13.52	13.41
5755	151	**15.25**	15.23
5795	159	15.23	15.21

5GHz (80MHz) Conducted Power [dBm]		
Freq [MHz]	Channel	IEEE Transmission Mode
		802.11ac
		Average
5530	106	10.98
5610	122	14.48
5690	138	**16.51**

Table 8-101
5 GHz WLAN Maximum Average RF Power – Ant B

5GHz (40MHz) Conducted Power [dBm]			
Freq [MHz]	Channel	IEEE Transmission Mode	
		802.11n	802.11ac
		Average	Average
5190	38	12.99	12.91
5230	46	**15.29**	15.17
5270	54	**15.81**	15.75
5310	62	13.51	13.60
5755	151	15.55	15.51
5795	159	**15.91**	15.52

5GHz (80MHz) Conducted Power [dBm]		
Freq [MHz]	Channel	IEEE Transmission Mode
		802.11ac
		Average
5530	106	10.99
5610	122	14.50
5690	138	**16.31**

8.4.3 Notes for WLAN

- Justification for test configurations for WLAN per KDB Publication 248227 D01v02r02:
- Power measurements were performed for the transmission mode configuration with the highest maximum output power specified for production units.
- For transmission modes with the same maximum output power specification, powers were measured for the largest channel bandwidth, lowest order modulation and lowest data rate.
- For transmission modes with identical maximum specified output power, channel bandwidth, modulation and data rates, power measurements were required for all identical configurations.
- For each transmission mode configuration, powers were measured for the highest and lowest channels; and at the mid-band channel(s) when there were at least 3 channels supported. For configurations with multiple mid-band channels, due to an even number of channels, both channels were measured.
- The WLAN chipset in this device is produced by two different suppliers. The electronically identical modules are manufactured with the identical mechanical structure to meet the same specifications and functions.
- WLAN SAR worst case configuration was evaluated for Variant 1 and Variant 2. The Variant with the highest reported SAR value was evaluated for the remaining WLAN configurations.
- The bolded data rate and channel above were tested for SAR.
- Full Power measurements were preformed by Variant 1 and Variant 2 per FCC KDB Procedures 248227

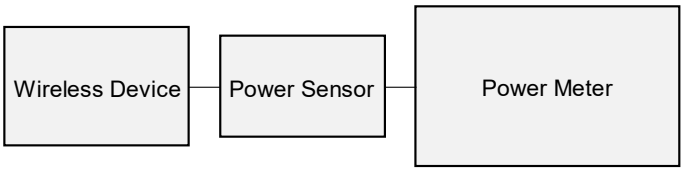

Figure 8-4
Power Measurement Setup

8.5 Bluetooth Conducted Powers

8.5.1 Variant 1

Table 8-101
Bluetooth Max Average RF Power - Ant A

Frequency [MHz]	Modulation	Data Rate [Mbps]	Channel No.	Avg Conducted Power	
				[dBm]	[mW]
2402	GFSK	1.0	0	16.24	42.073
2441	GFSK	1.0	39	15.84	38.371
2480	GFSK	1.0	78	**16.35**	43.152

Table 8-102
Bluetooth Reduced Average RF Power - Ant A

Frequency [MHz]	Modulation	Data Rate [Mbps]	Channel No.	Avg Conducted Power	
				[dBm]	[mW]
2402	GFSK	1.0	0	**9.72**	9.376
2441	GFSK	1.0	39	9.47	8.851
2480	GFSK	1.0	78	9.40	8.710

8.5.2 Variant 2

Table 8-103
Bluetooth Max Average RF Power - Ant A

Frequency [MHz]	Modulation	Data Rate [Mbps]	Channel No.	Avg Conducted Power	
				[dBm]	[mW]
2402	GFSK	1.0	0	16.71	46.881
2441	GFSK	1.0	39	16.60	45.709
2480	GFSK	1.0	78	**16.99**	50.003

Table 8-104
Bluetooth Reduced Average RF Power - Ant A

Frequency [MHz]	Modulation	Data Rate [Mbps]	Channel No.	Avg Conducted Power	
				[dBm]	[mW]
2402	GFSK	1.0	0	9.35	8.610
2441	GFSK	1.0	39	**9.97**	9.931
2480	GFSK	1.0	78	9.55	9.016

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

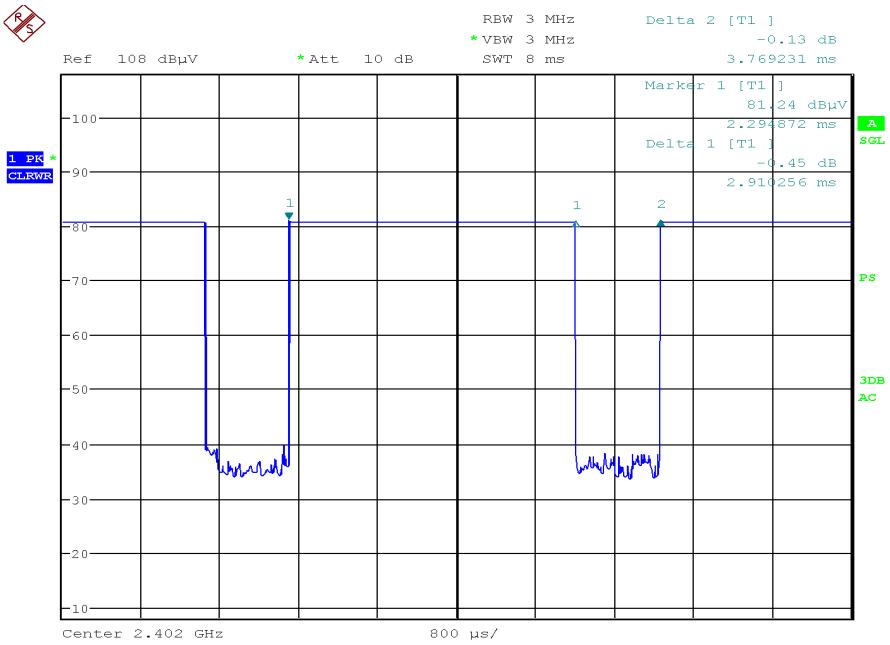

Figure 8-5
Bluetooth Transmission Plot & Duty Cycle Calculation – Antenna A Variant 1

$$Duty\ Cycle = \frac{Pulse\ Width}{Period} * 100\% = \frac{2.9103ms}{3.769ms} * 100\% = 77.2\%$$

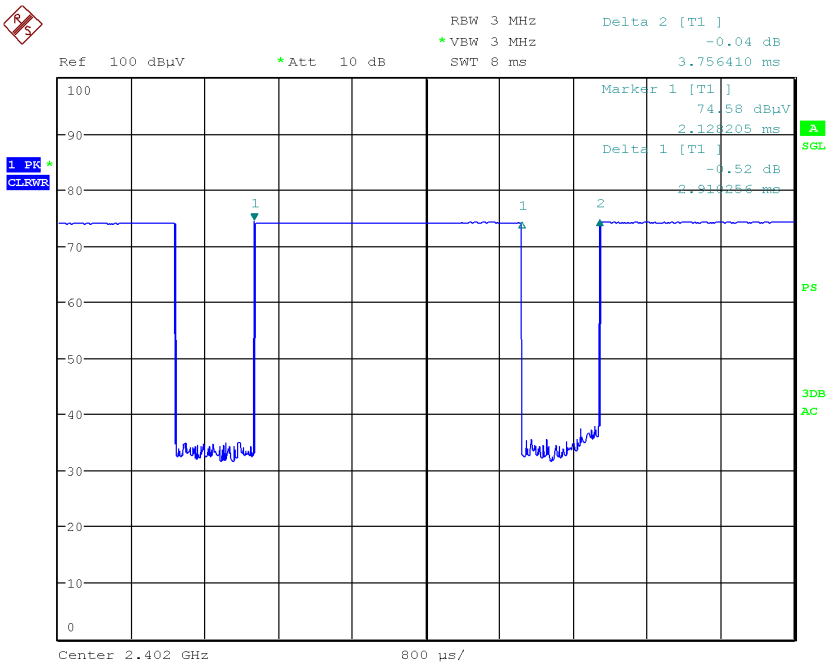

Figure 8-6
Bluetooth Transmission Plot & Duty Cycle Calculation – Antenna A Variant 2

$$Duty\ Cycle = \frac{Pulse\ Width}{Period} * 100\% = \frac{2.9103ms}{3.756ms} * 100\% = 77.5\%$$

8.5.3 Bluetooth Power Reduction Verification Summary

Antenna	Mode/Band	Condition (s)	Maximum Target Power [dBm] (Tolerance [dB])	Reduced Target Power [dBm] (Tolerance [dB])	Maximum Measured Power [dBm]	Reduced Measured Power [dBm]	Verdict
A	2.4 GHz Bluetooth	5 GHz WLAN ON Antenna A	15.50 (+1.5/-2.0)	8.50 (+1.5/-2.0)	15.1	8.32	Pass
	2.4 GHz Bluetooth	5 GHz WLAN ON Antenna B	15.50 (+1.5/-2.0)	8.50 (+1.5/-2.0)	15.1	8.35	Pass
	2.4 GHz Bluetooth	5 GHz WLAN ON Antenna A & Antenna B	15.50 (+1.5/-2.0)	8.50 (+1.5/-2.0)	15.1	8.35	Pass

Conducted powers were measured for each Mode/Band and applied condition. All conducted power measurement were verified to be within tolerance.

8.5.4 Notes for Bluetooth

- The Bluetooth chipset in this device is produced by two different suppliers. The electrically identical modules are manufactured with the identical mechanical structure to meet the same specifications and functions. Two device variants are referenced as Variant 1 and Variant 2 in this report.
- Bluetooth SAR worst case configuration was evaluated for Variant 1 and Variant 2. The Variant with the highest reported SAR value was evaluated for the remaining Bluetooth Configurations.
- Full Power measurements were performed for Variant 1 and Variant 2 per FCC KDB Procedures 248227.

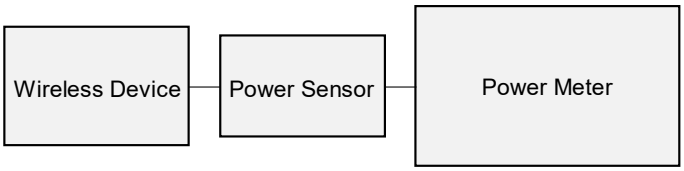

Figure 8-7
Power Measurement Setup

9 SYSTEM VERIFICATION

9.1 Tissue Verification

Table 9-1
Measured Tissue Properties

Calibrated for Tests Performed on:	Tissue Type	Tissue Temp During Calibration (°C)	Measured Frequency (MHz)	Measured Conductivity, σ (S/m)	Measured Dielectric Constant, ε	TARGET Conductivity, σ (S/m)	TARGET Dielectric Constant, ε	% dev σ	% dev ε
6/16/2020	750B	21.9	680	0.950	53.632	0.958	55.804	-0.84%	-3.89%
			695	0.954	53.604	0.959	55.745	-0.52%	-3.84%
			700	0.956	53.594	0.959	55.726	-0.31%	-3.83%
			710	0.960	53.578	0.960	55.687	0.00%	-3.79%
			720	0.964	53.563	0.961	55.648	0.31%	-3.75%
			725	0.966	53.553	0.961	55.629	0.52%	-3.73%
			740	0.973	53.519	0.963	55.570	1.04%	-3.69%
			755	0.978	53.481	0.964	55.512	1.45%	-3.66%
			770	0.983	53.444	0.965	55.453	1.87%	-3.62%
			785	0.988	53.402	0.966	55.395	2.28%	-3.60%
			800	0.993	53.357	0.967	55.336	2.69%	-3.58%
6/15/2020	850B	22.7	800	0.949	54.860	0.967	55.336	-1.82%	-0.86%
			820	0.969	54.668	0.969	55.258	0.00%	-1.07%
			835	0.984	54.529	0.970	55.200	1.44%	-1.22%
			850	0.998	54.396	0.988	55.154	1.01%	-1.37%
6/17/2020	850B	22.6	820	0.974	54.630	0.969	55.258	0.52%	-1.14%
			835	0.989	54.479	0.970	55.200	1.96%	-1.31%
			850	1.004	54.331	0.988	55.154	1.62%	-1.49%
7/16/2020	850B	21.5	820	0.973	53.907	0.969	55.258	0.41%	-2.44%
			835	0.988	53.755	0.970	55.200	1.86%	-2.62%
			850	1.003	53.623	0.988	55.154	1.52%	-2.78%
6/15/2020	1750B	22.1	1710	1.492	51.695	1.463	53.537	1.98%	-3.44%
			1750	1.532	51.596	1.488	53.432	2.96%	-3.44%
			1790	1.568	51.459	1.514	53.326	3.57%	-3.50%
6/8/2020	1900B	21.4	1850	1.466	51.862	1.520	53.300	-3.55%	-2.70%
			1880	1.499	51.761	1.520	53.300	-1.38%	-2.89%
			1910	1.532	51.672	1.520	53.300	0.79%	-3.05%
6/10/2020	1900B	22.4	1850	1.527	52.077	1.520	53.300	0.46%	-2.29%
			1880	1.560	51.962	1.520	53.300	2.63%	-2.51%
			1910	1.591	51.867	1.520	53.300	4.67%	-2.69%
7/6/2020	2300B	21.1	2300	1.891	50.998	1.809	52.900	4.53%	-3.60%
			2310	1.900	50.992	1.816	52.887	4.63%	-3.58%
			2320	1.907	50.982	1.826	52.873	4.44%	-3.58%

6/17/2020	2450B	22.4	2400	1.951	51.951	1.902	52.767	2.58%	-1.55%
			2450	2.009	51.710	1.950	52.700	3.03%	-1.88%
			2500	2.083	51.547	2.021	52.636	3.07%	-2.07%
			2550	2.146	51.298	2.092	52.573	2.58%	-2.43%
			2600	2.218	51.168	2.163	52.509	2.54%	-2.55%
			2650	2.290	50.892	2.234	52.445	2.51%	-2.96%
			2700	2.360	50.758	2.305	52.382	2.39%	-3.10%
6/21/2020	2450B	22.8	2300	1.792	51.784	1.809	52.900	-0.94%	-2.11%
			2310	1.806	51.760	1.816	52.887	-0.55%	-2.13%
			2320	1.818	51.730	1.826	52.873	-0.44%	-2.16%
			2400	1.927	51.445	1.902	52.767	1.31%	-2.51%
			2450	1.990	51.242	1.950	52.700	2.05%	-2.77%
			2500	2.063	51.059	2.021	52.636	2.08%	-3.00%
			2550	2.128	50.823	2.092	52.573	1.72%	-3.33%
			2600	2.199	50.653	2.163	52.509	1.66%	-3.53%
			2650	2.267	50.404	2.234	52.445	1.48%	-3.89%
			2700	2.336	50.251	2.305	52.382	1.34%	-4.07%
6/25/2020	2450B	22.3	2300	1.815	52.363	1.809	52.900	0.33%	-1.02%
			2310	1.828	52.332	1.816	52.887	0.66%	-1.05%
			2320	1.841	52.298	1.826	52.873	0.82%	-1.09%
			2400	1.948	51.995	1.902	52.767	2.42%	-1.46%
			2450	2.010	51.786	1.950	52.700	3.08%	-1.73%
			2500	2.080	51.613	2.021	52.636	2.92%	-1.94%
			2550	2.147	51.397	2.092	52.573	2.63%	-2.24%
			2600	2.218	51.249	2.163	52.509	2.54%	-2.40%
			2650	2.290	51.013	2.234	52.445	2.51%	-2.73%
			2700	2.362	50.844	2.305	52.382	2.47%	-2.94%
			2750	2.435	50.602	2.375	52.320	2.53%	-3.28%
06/11/2020	5200B-5800B	22.5	5180	5.414	47.557	5.276	49.041	2.62%	-3.03%
			5200	5.443	47.521	5.299	49.014	2.72%	-3.05%
			5220	5.467	47.499	5.323	48.987	2.71%	-3.04%
			5240	5.489	47.447	5.346	48.960	2.67%	-3.09%
			5260	5.521	47.418	5.369	48.933	2.83%	-3.10%
			5280	5.548	47.379	5.393	48.906	2.87%	-3.12%
			5300	5.570	47.344	5.416	48.879	2.84%	-3.14%
			5320	5.597	47.316	5.439	48.851	2.90%	-3.14%
			5500	5.841	47.003	5.650	48.607	3.38%	-3.30%
			5520	5.865	46.970	5.673	48.580	3.38%	-3.31%
			5540	5.895	46.928	5.696	48.553	3.49%	-3.35%
			5560	5.921	46.889	5.720	48.526	3.51%	-3.37%
			5580	5.953	46.861	5.743	48.499	3.66%	-3.38%
			5600	5.980	46.844	5.766	48.471	3.71%	-3.36%
			5620	6.003	46.808	5.790	48.444	3.68%	-3.38%
			5640	6.034	46.754	5.813	48.417	3.80%	-3.43%
			5660	6.063	46.724	5.837	48.390	3.87%	-3.44%
			5680	6.091	46.689	5.860	48.363	3.94%	-3.46%
			5700	6.116	46.673	5.883	48.336	3.96%	-3.44%
			5745	6.180	46.580	5.936	48.275	4.11%	-3.51%
			5765	6.210	46.554	5.959	48.248	4.21%	-3.51%
			5785	6.239	46.529	5.982	48.220	4.30%	-3.51%
			5800	6.255	46.487	6.000	48.200	4.25%	-3.55%
			5805	6.264	46.476	6.006	48.193	4.30%	-3.56%
			5825	6.291	46.453	6.029	48.166	4.35%	-3.56%

The above measured tissue parameters were used in the DASY software. The DASY software was used to perform interpolation to determine the dielectric parameters at the SAR test device frequencies (per KDB Publication 865664 D01v01r04 and IEEE 1528-2013 6.6.1.2). The tissue parameters listed in the SAR test plots may slightly differ from the table above due to significant digit rounding in the software.

9.2 Tissue 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 D.

Table 9-2
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)	$Deviation_{1g}$ (%)
AM8	750	BODY	06/16/2020	21.0	21.9	0.200	1057	7532	1.790	8.640	8.950	3.59%
AM4	835	BODY	06/15/2020	22.1	21.8	0.200	4d040	7421	2.040	9.530	10.200	7.03%
AM4	835	BODY	06/17/2020	21.3	22.6	0.200	4d180	7421	2.030	9.590	10.150	5.84%
AM4	850	BODY	07/16/2020	23.0	22.3	0.200	1010	7421	2.170	10.200	10.850	6.37%
AM1	1750	BODY	06/15/2020	23.3	22.0	0.100	1104	7427	3.930	36.600	39.300	7.38%
AM8	1900	BODY	06/08/2020	22.4	22.0	0.100	5d026	7532	4.030	39.900	40.300	1.00%
AM8	1900	BODY	06/10/2020	22.8	20.4	0.100	5d180	7532	4.080	39.500	40.800	3.29%
AM6	2300	BODY	07/06/2020	22.5	21.1	0.100	1064	3837	4.980	47.600	49.800	4.62%
AM3	2450	BODY	06/17/2020	23.7	22.4	0.100	921	3949	5.410	50.800	54.100	6.50%
AM3	2450	BODY	06/21/2020	21.2	21.8	0.100	921	3949	4.980	50.800	49.800	-1.97%
AM3	2450	BODY	06/25/2020	21.2	21.1	0.100	921	3949	5.230	50.800	52.300	2.95%
AM3	2600	BODY	06/17/2020	23.7	22.4	0.100	1069	3949	5.850	55.300	58.500	5.79%
AM3	2600	BODY	06/25/2020	21.2	21.1	0.100	1069	3949	5.280	55.300	52.800	-4.52%
AM2	5250	BODY	06/11/2020	23.8	21.9	0.050	1123	7420	3.590	74.000	71.800	-2.97%
AM2	5600	BODY	06/11/2020	23.8	21.9	0.050	1123	7420	4.060	77.600	81.200	4.64%
AM2	5750	BODY	06/11/2020	23.8	21.9	0.050	1123	7420	3.530	74.700	70.600	-5.49%

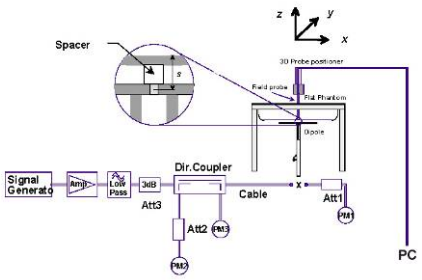

Figure 9-1
System Verification Setup Diagram

Figure 9-2
System Verification Setup Photo

10 SAR DATA SUMMARY

10.1 Standalone Body SAR Data

Table10-1
GPRS 850 MHz Antenna C Body SAR

MEASUREMENT RESULTS																			
FREQUENCY		Mode	Service	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	Position	Spacing	Antenna Config.	Device Serial Number	# of Time Slots	Duty Cycle	Side	SAR (1g)	Scaling Factor	Reported SAR (1g)	SAR (10g)	Reported SAR (10g)	Plot #
MHz	Ch.													(W/kg)		(W/kg)	(W/kg)	(W/kg)	
824.20	128	GSM 850	GPRS	24.75	24.31	-0.04	Body	0 mm	Antenna C	F9FCN03DQ7KN	2	1:4.15	back	0.964	1.107	1.067	0.479	0.530	
836.60	190	GSM 850	GPRS	24.75	24.25	-0.10	Body	0 mm	Antenna C	F9FCN03DQ7KN	2	1:4.15	back	0.902	1.122	1.012	0.449	0.504	
848.80	251	GSM 850	GPRS	24.75	24.28	-0.07	Body	0 mm	Antenna C	F9FCN03DQ7KN	2	1:4.15	back	0.881	1.114	0.981	0.433	0.482	
836.60	190	GSM 850	GPRS	24.75	24.25	-0.05	Body	0 mm	Antenna C	F9FCN03DQ7KN	2	1:4.15	top	0.677	1.122	0.760	0.380	0.426	
836.60	190	GSM 850	GPRS	24.75	24.25	-0.17	Body	0 mm	Antenna C	F9FCN03DQ7KN	2	1:4.15	bottom	0.010	1.122	0.011	0.006	0.007	
836.60	190	GSM 850	GPRS	24.75	24.25	-0.17	Body	0 mm	Antenna C	F9FCN03DQ7KN	2	1:4.15	right	0.062	1.122	0.070	0.032	0.036	
836.60	190	GSM 850	GPRS	24.75	24.25	0.03	Body	0 mm	Antenna C	F9FCN03DQ7KN	2	1:4.15	left	0.008	1.122	0.009	0.005	0.006	
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population								Body 1.6 W/kg (mW/g) averaged over 1 gram											

Table 10-2
GPRS 850 MHz Antenna D Body SAR

MEASUREMENT RESULTS																			
FREQUENCY		Mode	Service	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	Position	Spacing	Antenna Config.	Device Serial Number	# of Time Slots	Duty Cycle	Side	SAR (1g)	Scaling Factor	Reported SAR (1g)	SAR (10g)	Reported SAR (10g)	Plot #
MHz	Ch.													(W/kg)		(W/kg)	(W/kg)	(W/kg)	
824.20	128	GSM 850	GPRS	25.50	25.43	-0.06	Body	0 mm	Antenna D	F9FCN03DQ7KN	2	1:4.15	back	1.170	1.016	**1.189**	0.577	**0.586**	A1
836.60	190	GSM 850	GPRS	25.50	25.39	-0.04	Body	0 mm	Antenna D	F9FCN03DQ7KN	2	1:4.15	back	1.060	1.026	1.088	0.535	0.549	
848.80	251	GSM 850	GPRS	25.50	25.19	0.04	Body	0 mm	Antenna D	F9FCN03DQ7KN	2	1:4.15	back	1.010	1.074	1.085	0.511	0.549	
824.20	128	GSM 850	GPRS	25.50	25.43	-0.09	Body	0 mm	Antenna D	F9FCN03DQ7KN	2	1:4.15	top	0.824	1.016	0.837	0.461	0.468	
836.60	190	GSM 850	GPRS	25.50	25.39	0.06	Body	0 mm	Antenna D	F9FCN03DQ7KN	2	1:4.15	top	0.778	1.026	0.798	0.444	0.456	
848.80	251	GSM 850	GPRS	25.50	25.19	-0.09	Body	0 mm	Antenna D	F9FCN03DQ7KN	2	1:4.15	top	0.740	1.074	0.795	0.422	0.453	
836.60	190	GSM 850	GPRS	25.50	25.39	-0.02	Body	0 mm	Antenna D	F9FCN03DQ7KN	2	1:4.15	bottom	0.010	1.026	0.010	0.006	0.006	
836.60	190	GSM 850	GPRS	25.50	25.39	0.05	Body	0 mm	Antenna D	F9FCN03DQ7KN	2	1:4.15	right	0.027	1.026	0.028	0.013	0.013	
836.60	190	GSM 850	GPRS	25.50	25.39	0.06	Body	0 mm	Antenna D	F9FCN03DQ7KN	2	1:4.15	left	0.132	1.026	0.135	0.070	0.072	
824.20	128	GSM 850	GPRS	25.50	25.43	-0.06	Body	0 mm	Antenna D	F9FCN03DQ7KN	2	1:4.15	back	1.140	1.016	1.158	0.575	0.584	
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population								Body 1.6 W/kg (mW/g) averaged over 1 gram											

Note: Blue entries represents variability measurement

Table 10-3
GPRS 1900 MHz Antenna C Body SAR

MEASUREMENT RESULTS																				
FREQUENCY		Mode	Service	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	Position	Spacing	Antenna Config.	Device Serial Number	# of Time Slots	Duty Cycle	Side	SAR (1g)	Scaling Factor	Reported SAR (1g)	SAR (10g)	Reported SAR (10g)	Plot #
MHz	Ch.													(W/kg)		(W/kg)	(W/kg)	(W/kg)	
1850.20	512	GSM 1900	GPRS	18.95	17.75	-0.03	Body	0 mm	Antenna C	F9FCN04QQ7KN	2	1:4.15	back	0.655	1.318	0.863	0.293	0.386	
1880.00	661	GSM 1900	GPRS	18.95	17.65	0.01	Body	0 mm	Antenna C	F9FCN04QQ7KN	2	1:4.15	back	0.682	1.349	0.920	0.309	0.417	
1909.80	810	GSM 1900	GPRS	18.95	17.88	0.01	Body	0 mm	Antenna C	F9FCN04QQ7KN	2	1:4.15	back	0.712	1.279	0.911	0.319	0.408	
1880.00	661	GSM 1900	GPRS	18.95	17.65	-0.04	Body	0 mm	Antenna C	F9FCN04QQ7KN	2	1:4.15	top	0.470	1.349	0.634	0.216	0.291	
1880.00	661	GSM 1900	GPRS	18.95	17.65	0.10	Body	0 mm	Antenna C	F9FCN04QQ7KN	2	1:4.15	bottom	0.000	1.349	0.000	0.000	0.000	
1880.00	661	GSM 1900	GPRS	18.95	17.65	0.08	Body	0 mm	Antenna C	F9FCN04QQ7KN	2	1:4.15	right	0.060	1.349	0.081	0.027	0.036	
1880.00	661	GSM 1900	GPRS	18.95	17.65	-0.11	Body	0 mm	Antenna C	F9FCN04QQ7KN	2	1:4.15	left	0.018	1.349	0.024	0.008	0.011	
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population								Body 1.6 W/kg (mW/g) averaged over 1 gram											

Table 10-4
GPRS 1900 MHz Antenna D Body SAR

MEASUREMENT RESULTS																				
FREQUENCY		Mode	Service	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	Position	Spacing	Antenna Config.	Device Serial Number	# of Time Slots	Duty Cycle	Side	SAR (1g)	Scaling Factor	Reported SAR (1g)	SAR (10g)	Reported SAR (10g)	Plot #
MHz	Ch.													(W/kg)		(W/kg)	(W/kg)	(W/kg)	
1850.20	512	GSM 1900	GPRS	18.25	18.06	-0.05	Body	0 mm	Antenna D	F9FCN04QQ7KN	2	1:4.15	back	0.762	1.045	0.796	0.319	0.333	
1880.00	661	GSM 1900	GPRS	18.25	17.96	-0.09	Body	0 mm	Antenna D	F9FCN04QQ7KN	2	1:4.15	back	0.819	1.069	0.876	0.340	0.363	
1909.80	810	GSM 1900	GPRS	18.25	18.00	0.00	Body	0 mm	Antenna D	F9FCN04QQ7KN	2	1:4.15	back	0.867	1.059	0.918	0.364	0.385	A2
1880.00	661	GSM 1900	GPRS	18.25	17.96	0.05	Body	0 mm	Antenna D	F9FCN04QQ7KN	2	1:4.15	top	0.524	1.069	0.560	0.238	0.254	
1880.00	661	GSM 1900	GPRS	18.25	17.96	0.00	Body	0 mm	Antenna D	F9FCN04QQ7KN	2	1:4.15	bottom	0.000	1.069	0.000	0.000	0.000	
1880.00	661	GSM 1900	GPRS	18.25	17.96	0.09	Body	0 mm	Antenna D	F9FCN04QQ7KN	2	1:4.15	right	0.006	1.069	0.006	0.002	0.002	
1880.00	661	GSM 1900	GPRS	18.25	17.96	0.07	Body	0 mm	Antenna D	F9FCN04QQ7KN	2	1:4.15	left	0.046	1.069	0.049	0.020	0.021	
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population								Body 1.6 W/kg (mW/g) averaged over 1 gram											

Table 10-5
UMTS 850 MHz Antenna C Body SAR

MEASUREMENT RESULTS																			
FREQUENCY		Mode	Service	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	Position	Spacing	Antenna Config.	Device Serial Number	Duty Cycle	Side	SAR (1g)	Scaling Factor	Reported SAR (1g)	SAR (10g)	Reported SAR (10g)	Plot #
MHz	Ch.												(W/kg)		(W/kg)	(W/kg)	(W/kg)	
826.40	4132	UMTS 850	RMC	17.70	17.70	0.02	Body	0 mm	Antenna C	F9FCN03DQ7KN	1:1	back	0.977	1.000	0.977	0.491	0.491	
836.60	4183	UMTS 850	RMC	17.70	17.56	0.02	Body	0 mm	Antenna C	F9FCN03DQ7KN	1:1	back	0.902	1.033	0.932	0.455	0.470	
846.60	4233	UMTS 850	RMC	17.70	17.50	0.05	Body	0 mm	Antenna C	F9FCN03DQ7KN	1:1	back	0.883	1.047	0.925	0.442	0.463	
836.60	4183	UMTS 850	RMC	17.70	17.56	-0.03	Body	0 mm	Antenna C	F9FCN03DQ7KN	1:1	top	0.692	1.033	0.715	0.396	0.409	
836.60	4183	UMTS 850	RMC	17.70	17.56	0.03	Body	0 mm	Antenna C	F9FCN03DQ7KN	1:1	bottom	0.020	1.033	0.021	0.011	0.011	
836.60	4183	UMTS 850	RMC	17.70	17.56	0.06	Body	0 mm	Antenna C	F9FCN03DQ7KN	1:1	right	0.105	1.033	0.108	0.052	0.054	
836.60	4183	UMTS 850	RMC	17.70	17.56	-0.05	Body	0 mm	Antenna C	F9FCN03DQ7KN	1:1	left	0.013	1.033	0.013	0.008	0.008	
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population								Body 1.6 W/kg (mW/g) averaged over 1 gram											

Table 10-6
UMTS 850 MHz Antenna D Body SAR

MEASUREMENT RESULTS																			
FREQUENCY		Mode	Service	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	Position	Spacing	Antenna Config.	Device Serial Number	Duty Cycle	Side	SAR (1g)	Scaling Factor	Reported SAR (1g)	SAR (10g)	Reported SAR (10g)	Plot #
MHz	Ch.												(W/kg)		(W/kg)	(W/kg)	(W/kg)	
826.40	4132	UMTS 850	RMC	19.20	19.14	-0.01	Body	0 mm	Antenna D	F9FCN03DQ7KN	1:1	back	1.130	1.014	1.146	0.554	0.562	A3
836.60	4183	UMTS 850	RMC	19.20	18.99	-0.03	Body	0 mm	Antenna D	F9FCN03DQ7KN	1:1	back	1.010	1.050	1.061	0.509	0.534	
846.60	4233	UMTS 850	RMC	19.20	18.92	-0.01	Body	0 mm	Antenna D	F9FCN03DQ7KN	1:1	back	0.937	1.067	1.000	0.471	0.503	
826.40	4132	UMTS 850	RMC	19.20	19.14	-0.03	Body	0 mm	Antenna D	F9FCN03DQ7KN	1:1	top	0.915	1.014	0.928	0.512	0.519	
836.60	4183	UMTS 850	RMC	19.20	18.99	0.02	Body	0 mm	Antenna D	F9FCN03DQ7KN	1:1	top	0.838	1.050	0.880	0.463	0.486	
846.60	4233	UMTS 850	RMC	19.20	18.92	-0.03	Body	0 mm	Antenna D	F9FCN03DQ7KN	1:1	top	0.780	1.067	0.832	0.433	0.462	
836.60	4183	UMTS 850	RMC	19.20	18.99	0.03	Body	0 mm	Antenna D	F9FCN03DQ7KN	1:1	bottom	0.032	1.050	0.034	0.018	0.019	
836.60	4183	UMTS 850	RMC	19.20	18.99	0.04	Body	0 mm	Antenna D	F9FCN03DQ7KN	1:1	right	0.003	1.050	0.003	0.001	0.001	
836.60	4183	UMTS 850	RMC	19.20	18.99	0.02	Body	0 mm	Antenna D	F9FCN03DQ7KN	1:1	left	0.151	1.050	0.159	0.085	0.089	
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population							Body 1.6 W/kg (mW/g) averaged over 1 gram											

Table 10-7
UMTS 1750 MHz Antenna C Body SAR

MEASUREMENT RESULTS																			
FREQUENCY		Mode	Service	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	Position	Spacing	Antenna Config.	Device Serial Number	Duty Cycle	Side	SAR (1g)	Scaling Factor	Reported SAR (1g)	SAR (10g)	Reported SAR (10g)	Plot #
MHz	Ch.												(W/kg)		(W/kg)	(W/kg)	(W/kg)	
1712.40	1312	UMTS 1750	RMC	13.30	12.96	-0.16	Body	0 mm	Antenna C	F9FCN03GQ7KN	1:1	back	0.848	1.081	0.917	0.390	0.422	
1732.40	1412	UMTS 1750	RMC	13.30	12.76	-0.18	Body	0 mm	Antenna C	F9FCN03GQ7KN	1:1	back	0.904	1.132	1.023	0.427	0.483	A4
1752.60	1513	UMTS 1750	RMC	13.30	12.76	-0.06	Body	0 mm	Antenna C	F9FCN03GQ7KN	1:1	back	0.875	1.132	0.991	0.410	0.464	
1732.40	1412	UMTS 1750	RMC	13.30	12.76	-0.01	Body	0 mm	Antenna C	F9FCN03GQ7KN	1:1	top	0.521	1.132	0.590	0.251	0.284	
1732.40	1412	UMTS 1750	RMC	13.30	12.76	0.10	Body	0 mm	Antenna C	F9FCN03GQ7KN	1:1	bottom	0.001	1.132	0.001	0.000	0.000	
1732.40	1412	UMTS 1750	RMC	13.30	12.76	0.02	Body	0 mm	Antenna C	F9FCN03GQ7KN	1:1	right	0.073	1.132	0.083	0.035	0.040	
1732.40	1412	UMTS 1750	RMC	13.30	12.76	0.11	Body	0 mm	Antenna C	F9FCN03GQ7KN	1:1	left	0.023	1.132	0.026	0.012	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											

Table 10-8
UMTS 1750 MHz Antenna D Body SAR

MEASUREMENT RESULTS																			
FREQUENCY		Mode	Service	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	Position	Spacing	Antenna Config.	Device Serial Number	Duty Cycle	Side	SAR (1g)	Scaling Factor	Reported SAR (1g)	SAR (10g)	Reported SAR (10g)	Plot #
MHz	Ch.												(W/kg)		(W/kg)	(W/kg)	(W/kg)	
1712.40	1312	UMTS 1750	RMC	13.20	12.85	-0.02	Body	0 mm	Antenna D	F9FCN03QQ7KN	1:1	back	0.702	1.084	0.761	0.304	0.330	
1732.40	1412	UMTS 1750	RMC	13.20	12.81	-0.05	Body	0 mm	Antenna D	F9FCN03QQ7KN	1:1	back	0.750	1.094	0.821	0.324	0.354	
1752.60	1513	UMTS 1750	RMC	13.20	12.67	-0.06	Body	0 mm	Antenna D	F9FCN03QQ7KN	1:1	back	0.777	1.130	0.878	0.336	0.380	
1732.40	1412	UMTS 1750	RMC	13.20	12.81	-0.01	Body	0 mm	Antenna D	F9FCN03QQ7KN	1:1	top	0.509	1.094	0.557	0.236	0.258	
1732.40	1412	UMTS 1750	RMC	13.20	12.81	0.09	Body	0 mm	Antenna D	F9FCN03QQ7KN	1:1	bottom	0.000	1.094	0.000	0.000	0.000	
1732.40	1412	UMTS 1750	RMC	13.20	12.81	0.05	Body	0 mm	Antenna D	F9FCN03QQ7KN	1:1	right	0.010	1.094	0.011	0.005	0.005	
1732.40	1412	UMTS 1750	RMC	13.20	12.81	-0.03	Body	0 mm	Antenna D	F9FCN03QQ7KN	1:1	left	0.072	1.094	0.079	0.033	0.036	
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population							Body 1.6 W/kg (mW/g) averaged over 1 gram											

Table 10-9
UMTS 1900 MHz Antenna C Body SAR

MEASUREMENT RESULTS																			
FREQUENCY		Mode	Service	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	Position	Spacing	Antenna Config.	Device Serial Number	Duty Cycle	Side	SAR (1g)	Scaling Factor	Reported SAR (1g)	SAR (10g)	Reported SAR (10g)	Plot #
MHz	Ch.												(W/kg)		(W/kg)	(W/kg)	(W/kg)	
1852.40	9262	UMTS 1900	RMC	13.1	12.98	0.03	Body	0 mm	Antenna C	F9FCN04QQ7KN	1:1	back	0.930	1.028	0.956	0.420	0.432	
1880.00	9400	UMTS 1900	RMC	13.1	12.93	0.02	Body	0 mm	Antenna C	F9FCN04QQ7KN	1:1	back	0.940	1.040	0.978	0.425	0.442	
1907.60	9538	UMTS 1900	RMC	13.1	12.90	0.02	Body	0 mm	Antenna C	F9FCN04QQ7KN	1:1	back	0.977	1.047	1.023	0.441	0.462	A5
1880.00	9400	UMTS 1900	RMC	13.1	12.93	-0.02	Body	0 mm	Antenna C	F9FCN04QQ7KN	1:1	top	0.682	1.040	0.709	0.315	0.328	
1880.00	9400	UMTS 1900	RMC	13.1	12.93	0.00	Body	0 mm	Antenna C	F9FCN04QQ7KN	1:1	bottom	0.000	1.040	0.000	0.000	0.000	
1880.00	9400	UMTS 1900	RMC	13.1	12.93	0.07	Body	0 mm	Antenna C	F9FCN04QQ7KN	1:1	right	0.083	1.040	0.086	0.038	0.040	
1880.00	9400	UMTS 1900	RMC	13.1	12.93	0.03	Body	0 mm	Antenna C	F9FCN04QQ7KN	1:1	left	0.027	1.040	0.028	0.012	0.012	
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population							Body 1.6 W/kg (mW/g) averaged over 1 gram											

Table 10-10
UMTS 1900 MHz Antenna D Body SAR

MEASUREMENT RESULTS																			
FREQUENCY		Mode	Service	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	Position	Spacing	Antenna Config.	Device Serial Number	Duty Cycle	Side	SAR (1g)	Scaling Factor	Reported SAR (1g)	SAR (10g)	Reported SAR (10g)	Plot #
MHz	Ch.												(W/kg)		(W/kg)	(W/kg)	(W/kg)	
1852.40	9262	UMTS 1900	RMC	12.00	11.69	-0.01	Body	0 mm	Antenna D	F9FCN04QQ7KN	1:1	back	0.868	1.074	0.932	0.370	0.397	
1880.00	9400	UMTS 1900	RMC	12.00	11.63	0.00	Body	0 mm	Antenna D	F9FCN04QQ7KN	1:1	back	0.884	1.089	0.963	0.377	0.411	
1907.60	9538	UMTS 1900	RMC	12.00	11.70	0.00	Body	0 mm	Antenna D	F9FCN04QQ7KN	1:1	back	0.925	1.072	0.992	0.392	0.420	
1880.00	9400	UMTS 1900	RMC	12.00	11.63	-0.01	Body	0 mm	Antenna D	F9FCN04QQ7KN	1:1	top	0.662	1.089	0.721	0.296	0.322	
1880.00	9400	UMTS 1900	RMC	12.00	11.63	-0.10	Body	0 mm	Antenna D	F9FCN04QQ7KN	1:1	bottom	0.000	1.089	0.000	0.000	0.000	
1880.00	9400	UMTS 1900	RMC	12.00	11.63	0.14	Body	0 mm	Antenna D	F9FCN04QQ7KN	1:1	right	0.009	1.089	0.010	0.003	0.003	
1880.00	9400	UMTS 1900	RMC	12.00	11.63	0.16	Body	0 mm	Antenna D	F9FCN04QQ7KN	1:1	left	0.058	1.089	0.063	0.025	0.027	
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population							Body 1.6 W/kg (mW/g) averaged over 1 gram											

Table 10-11
LTE Band 71 Antenna C Body 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)	SAR (10g)	Reported SAR (10g)	Plot #
MHz	Ch.																(W/kg)		(W/kg)	(W/kg)	(W/kg)	
680.50	133297	Mid	LTE Band 71	20	18.10	17.96	-0.21	0	Antenna C	F9FCN04UQ7KN	QPSK	1	0	0 mm	back	1:1	1.010	1.033	1.043	0.488	0.504	A6
680.50	133297	Mid	LTE Band 71	20	18.10	18.07	-0.01	0	Antenna C	F9FCN04UQ7KN	QPSK	50	25	0 mm	back	1:1	0.877	1.007	0.883	0.431	0.434	
680.50	133297	Mid	LTE Band 71	20	18.10	17.95	0.01	0	Antenna C	F9FCN04UQ7KN	QPSK	100	0	0 mm	back	1:1	0.882	1.035	0.913	0.436	0.451	
680.50	133297	Mid	LTE Band 71	20	18.10	17.96	-0.10	0	Antenna C	F9FCN04UQ7KN	QPSK	1	0	0 mm	top	1:1	0.622	1.033	0.643	0.322	0.333	
680.50	133297	Mid	LTE Band 71	20	18.10	18.07	-0.07	0	Antenna C	F9FCN04UQ7KN	QPSK	50	25	0 mm	top	1:1	0.602	1.007	0.606	0.308	0.310	
680.50	133297	Mid	LTE Band 71	20	18.10	17.96	0.10	0	Antenna C	F9FCN04UQ7KN	QPSK	1	0	0 mm	bottom	1:1	0.020	1.033	0.021	0.012	0.012	
680.50	133297	Mid	LTE Band 71	20	18.10	18.07	0.06	0	Antenna C	F9FCN04UQ7KN	QPSK	50	25	0 mm	bottom	1:1	0.017	1.007	0.017	0.011	0.011	
680.50	133297	Mid	LTE Band 71	20	18.10	17.96	-0.02	0	Antenna C	F9FCN04UQ7KN	QPSK	1	0	0 mm	right	1:1	0.098	1.033	0.101	0.046	0.048	
680.50	133297	Mid	LTE Band 71	20	18.10	18.07	0.02	0	Antenna C	F9FCN04UQ7KN	QPSK	50	25	0 mm	right	1:1	0.108	1.007	0.109	0.052	0.052	
680.50	133297	Mid	LTE Band 71	20	18.10	17.96	0.05	0	Antenna C	F9FCN04UQ7KN	QPSK	1	0	0 mm	left	1:1	0.030	1.033	0.031	0.013	0.013	
680.50	133297	Mid	LTE Band 71	20	18.10	18.07	-0.12	0	Antenna C	F9FCN04UQ7KN	QPSK	50	25	0 mm	left	1:1	0.030	1.007	0.030	0.013	0.013	
680.50	133297	Mid	LTE Band 71	20	18.10	17.96	-0.21	0	Antenna C	F9FCN04UQ7KN	QPSK	1	0	0 mm	back	1:1	0.992	1.033	1.025	0.479	0.495	
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population									Body 1.6 W/kg (mW/g) averaged over 1 gram													

Note: Blue entries represents variability measurement

Table 10-12
LTE Band 71 Antenna D Body 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)	SAR (10g)	Reported SAR (10g)	Plot #
MHz	Ch.																(W/kg)		(W/kg)	(W/kg)	(W/kg)	
680.50	133297	Mid	LTE Band 71	20	17.20	17.11	-0.03	0	Antenna D	F9FCN04DQ7KN	QPSK	1	0	0 mm	back	1:1	0.886	1.021	0.905	0.428	0.437	
680.50	133297	Mid	LTE Band 71	20	17.20	16.94	-0.06	0	Antenna D	F9FCN04DQ7KN	QPSK	50	0	0 mm	back	1:1	0.859	1.062	0.912	0.412	0.438	
680.50	133297	Mid	LTE Band 71	20	17.20	16.93	-0.08	0	Antenna D	F9FCN04DQ7KN	QPSK	100	0	0 mm	back	1:1	0.858	1.064	0.913	0.410	0.436	
680.50	133297	Mid	LTE Band 71	20	17.20	17.11	0.14	0	Antenna D	F9FCN04DQ7KN	QPSK	1	0	0 mm	top	1:1	0.369	1.021	0.377	0.186	0.190	
680.50	133297	Mid	LTE Band 71	20	17.20	16.94	0.02	0	Antenna D	F9FCN04DQ7KN	QPSK	50	0	0 mm	top	1:1	0.354	1.062	0.376	0.179	0.190	
680.50	133297	Mid	LTE Band 71	20	17.20	17.11	0.03	0	Antenna D	F9FCN04DQ7KN	QPSK	1	0	0 mm	bottom	1:1	0.015	1.021	0.015	0.009	0.009	
680.50	133297	Mid	LTE Band 71	20	17.20	16.94	0.05	0	Antenna D	F9FCN04DQ7KN	QPSK	50	0	0 mm	bottom	1:1	0.013	1.062	0.014	0.008	0.008	
680.50	133297	Mid	LTE Band 71	20	17.20	17.11	0.05	0	Antenna D	F9FCN04DQ7KN	QPSK	1	0	0 mm	right	1:1	0.005	1.021	0.005	0.002	0.002	
680.50	133297	Mid	LTE Band 71	20	17.20	16.94	0.06	0	Antenna D	F9FCN04DQ7KN	QPSK	50	0	0 mm	right	1:1	0.008	1.062	0.008	0.004	0.004	
680.50	133297	Mid	LTE Band 71	20	17.20	17.11	0.21	0	Antenna D	F9FCN04DQ7KN	QPSK	1	0	0 mm	left	1:1	0.066	1.021	0.067	0.033	0.034	
680.50	133297	Mid	LTE Band 71	20	17.20	16.94	0.10	0	Antenna D	F9FCN04DQ7KN	QPSK	50	0	0 mm	left	1:1	0.065	1.062	0.069	0.033	0.035	
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population															Body 1.6 W/kg (mW/g) averaged over 1 gram									

Table 10-13
LTE Band 12 Antenna C Body 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)	SAR (10g)	Reported SAR (10g)	Plot #
MHz	Ch.																(W/kg)		(W/kg)	(W/kg)	(W/kg)	
707.50	23095	Mid	LTE Band 12	10	17.50	17.45	0.05	0	Antenna C	F9FCN03QQ7KN	QPSK	1	0	0 mm	back	1:1	0.974	1.012	0.986	0.471	0.477	
707.50	23095	Mid	LTE Band 12	10	17.50	17.45	0.00	0	Antenna C	F9FCN03QQ7KN	QPSK	25	0	0 mm	back	1:1	1.000	1.012	1.012	0.477	0.483	A7
707.50	23095	Mid	LTE Band 12	10	17.50	17.43	-0.01	0	Antenna C	F9FCN03QQ7KN	QPSK	50	0	0 mm	back	1:1	0.955	1.016	0.970	0.462	0.469	
707.50	23095	Mid	LTE Band 12	10	17.50	17.45	0.02	0	Antenna C	F9FCN03QQ7KN	QPSK	1	0	0 mm	top	1:1	0.518	1.012	0.524	0.279	0.282	
707.50	23095	Mid	LTE Band 12	10	17.50	17.45	0.12	0	Antenna C	F9FCN03QQ7KN	QPSK	25	0	0 mm	top	1:1	0.510	1.012	0.516	0.272	0.275	
707.50	23095	Mid	LTE Band 12	10	17.50	17.45	0.16	0	Antenna C	F9FCN03QQ7KN	QPSK	1	0	0 mm	bottom	1:1	0.016	1.012	0.016	0.008	0.008	
707.50	23095	Mid	LTE Band 12	10	17.50	17.45	0.02	0	Antenna C	F9FCN03QQ7KN	QPSK	25	0	0 mm	bottom	1:1	0.018	1.012	0.018	0.010	0.010	
707.50	23095	Mid	LTE Band 12	10	17.50	17.45	0.09	0	Antenna C	F9FCN03QQ7KN	QPSK	1	0	0 mm	right	1:1	0.074	1.012	0.075	0.036	0.036	
707.50	23095	Mid	LTE Band 12	10	17.50	17.45	0.21	0	Antenna C	F9FCN03QQ7KN	QPSK	25	0	0 mm	right	1:1	0.078	1.012	0.079	0.037	0.037	
707.50	23095	Mid	LTE Band 12	10	17.50	17.45	0.03	0	Antenna C	F9FCN03QQ7KN	QPSK	1	0	0 mm	left	1:1	0.021	1.012	0.021	0.009	0.009	
707.50	23095	Mid	LTE Band 12	10	17.50	17.45	0.03	0	Antenna C	F9FCN03QQ7KN	QPSK	25	0	0 mm	left	1:1	0.025	1.012	0.025	0.011	0.011	
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population															Body 1.6 W/kg (mW/g) averaged over 1 gram									

Table 10-14
LTE Band 12 Antenna D Body 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)	SAR (10g)	Reported SAR (10g)	Plot #
MHz	Ch.																(W/kg)		(W/kg)	(W/kg)	(W/kg)	
707.50	23095	Mid	LTE Band 12	10	17.20	17.20	0.00	0	Antenna D	F9FCN04QQ7KN	QPSK	1	0	0 mm	back	1:1	0.898	1.000	0.898	0.431	0.431	
707.50	23095	Mid	LTE Band 12	10	17.20	17.19	-0.05	0	Antenna D	F9FCN04QQ7KN	QPSK	25	0	0 mm	back	1:1	0.872	1.002	0.874	0.420	0.421	
707.50	23095	Mid	LTE Band 12	10	17.20	17.16	-0.04	0	Antenna D	F9FCN04QQ7KN	QPSK	50	0	0 mm	back	1:1	0.857	1.009	0.865	0.411	0.415	
707.50	23095	Mid	LTE Band 12	10	17.20	17.20	0.00	0	Antenna D	F9FCN04QQ7KN	QPSK	1	0	0 mm	top	1:1	0.516	1.000	0.516	0.271	0.271	
707.50	23095	Mid	LTE Band 12	10	17.20	17.19	-0.01	0	Antenna D	F9FCN04QQ7KN	QPSK	25	0	0 mm	top	1:1	0.512	1.002	0.513	0.266	0.267	
707.50	23095	Mid	LTE Band 12	10	17.20	17.20	0.03	0	Antenna D	F9FCN04QQ7KN	QPSK	1	0	0 mm	bottom	1:1	0.016	1.000	0.016	0.007	0.007	
707.50	23095	Mid	LTE Band 12	10	17.20	17.19	0.21	0	Antenna D	F9FCN04QQ7KN	QPSK	25	0	0 mm	bottom	1:1	0.016	1.002	0.016	0.008	0.008	
707.50	23095	Mid	LTE Band 12	10	17.20	17.20	0.02	0	Antenna D	F9FCN04QQ7KN	QPSK	1	0	0 mm	right	1:1	0.021	1.000	0.021	0.009	0.009	
707.50	23095	Mid	LTE Band 12	10	17.20	17.19	0.05	0	Antenna D	F9FCN04QQ7KN	QPSK	25	0	0 mm	right	1:1	0.021	1.002	0.021	0.009	0.009	
707.50	23095	Mid	LTE Band 12	10	17.20	17.20	0.04	0	Antenna D	F9FCN04QQ7KN	QPSK	1	0	0 mm	left	1:1	0.079	1.000	0.079	0.038	0.038	
707.50	23095	Mid	LTE Band 12	10	17.20	17.19	0.01	0	Antenna D	F9FCN04QQ7KN	QPSK	25	0	0 mm	left	1:1	0.086	1.002	0.086	0.041	0.041	
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population															Body 1.6 W/kg (mW/g) averaged over 1 gram							

Table 10-15
LTE Band 13 Antenna C Body 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)	SAR (10g)	Reported SAR (10g)	Plot #
MHz	Ch.																(W/kg)		(W/kg)	(W/kg)	(W/kg)	
782.00	23230	Mid	LTE Band 13	10	18.10	18.06	0.05	0	Antenna C	F9FCN03QQ7KN	QPSK	1	0	0 mm	back	1:1	0.884	1.009	0.892	0.432	0.436	
782.00	23230	Mid	LTE Band 13	10	18.10	17.91	-0.01	0	Antenna C	F9FCN03QQ7KN	QPSK	25	0	0 mm	back	1:1	0.816	1.045	0.853	0.398	0.416	
782.00	23230	Mid	LTE Band 13	10	18.10	17.86	-0.01	0	Antenna C	F9FCN03QQ7KN	QPSK	50	0	0 mm	back	1:1	0.828	1.057	0.875	0.405	0.428	
782.00	23230	Mid	LTE Band 13	10	18.10	18.06	-0.01	0	Antenna C	F9FCN03QQ7KN	QPSK	1	0	0 mm	top	1:1	0.508	1.009	0.513	0.256	0.258	
782.00	23230	Mid	LTE Band 13	10	18.10	17.91	-0.03	0	Antenna C	F9FCN03QQ7KN	QPSK	25	0	0 mm	top	1:1	0.467	1.045	0.488	0.236	0.247	
782.00	23230	Mid	LTE Band 13	10	18.10	18.06	0.05	0	Antenna C	F9FCN03QQ7KN	QPSK	1	0	0 mm	bottom	1:1	0.032	1.009	0.032	0.016	0.016	
782.00	23230	Mid	LTE Band 13	10	18.10	17.91	0.03	0	Antenna C	F9FCN03QQ7KN	QPSK	25	0	0 mm	bottom	1:1	0.023	1.045	0.024	0.012	0.013	
782.00	23230	Mid	LTE Band 13	10	18.10	18.06	0.15	0	Antenna C	F9FCN03QQ7KN	QPSK	1	0	0 mm	right	1:1	0.128	1.009	0.129	0.071	0.072	
782.00	23230	Mid	LTE Band 13	10	18.10	17.91	-0.03	0	Antenna C	F9FCN03QQ7KN	QPSK	25	0	0 mm	right	1:1	0.109	1.045	0.114	0.060	0.063	
782.00	23230	Mid	LTE Band 13	10	18.10	18.06	0.19	0	Antenna C	F9FCN03QQ7KN	QPSK	1	0	0 mm	left	1:1	0.024	1.009	0.024	0.011	0.011	
782.00	23230	Mid	LTE Band 13	10	18.10	17.91	0.16	0	Antenna C	F9FCN03QQ7KN	QPSK	25	0	0 mm	left	1:1	0.015	1.045	0.016	0.007	0.007	
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population															Body 1.6 W/kg (mW/g) averaged over 1 gram							

Table 10-16
LTE Band 13 Antenna D Body 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)	SAR (10g)	Reported SAR (10g)	Plot #
MHz	Ch.																(W/kg)		(W/kg)	(W/kg)	(W/kg)	
782.00	23230	Mid	LTE Band 13	10	18.30	18.09	-0.05	0	Antenna D	F9FCN03NQ7KN	QPSK	1	0	0 mm	back	1:1	0.952	1.050	1.000	0.463	0.486	A8
782.00	23230	Mid	LTE Band 13	10	18.30	18.16	-0.07	0	Antenna D	F9FCN03NQ7KN	QPSK	25	0	0 mm	back	1:1	0.840	1.033	0.868	0.408	0.421	
782.00	23230	Mid	LTE Band 13	10	18.30	18.08	-0.05	0	Antenna D	F9FCN03NQ7KN	QPSK	50	0	0 mm	back	1:1	0.817	1.052	0.859	0.397	0.418	
782.00	23230	Mid	LTE Band 13	10	18.30	18.09	0.01	0	Antenna D	F9FCN03NQ7KN	QPSK	1	0	0 mm	top	1:1	0.767	1.050	0.805	0.415	0.436	
782.00	23230	Mid	LTE Band 13	10	18.30	18.16	0.01	0	Antenna D	F9FCN03NQ7KN	QPSK	25	0	0 mm	top	1:1	0.695	1.033	0.718	0.379	0.392	
782.00	23230	Mid	LTE Band 13	10	18.30	18.08	0.01	0	Antenna D	F9FCN03NQ7KN	QPSK	50	0	0 mm	top	1:1	0.710	1.052	0.747	0.385	0.405	
782.00	23230	Mid	LTE Band 13	10	18.30	18.09	-0.05	0	Antenna D	F9FCN03NQ7KN	QPSK	1	0	0 mm	bottom	1:1	0.026	1.050	0.027	0.013	0.014	
782.00	23230	Mid	LTE Band 13	10	18.30	18.16	0.06	0	Antenna D	F9FCN03NQ7KN	QPSK	25	0	0 mm	bottom	1:1	0.024	1.033	0.025	0.012	0.012	
782.00	23230	Mid	LTE Band 13	10	18.30	18.09	0.03	0	Antenna D	F9FCN03NQ7KN	QPSK	1	0	0 mm	right	1:1	0.030	1.050	0.032	0.014	0.015	
782.00	23230	Mid	LTE Band 13	10	18.30	18.16	0.03	0	Antenna D	F9FCN03NQ7KN	QPSK	25	0	0 mm	right	1:1	0.026	1.033	0.027	0.012	0.012	
782.00	23230	Mid	LTE Band 13	10	18.30	18.09	0.14	0	Antenna D	F9FCN03NQ7KN	QPSK	1	0	0 mm	left	1:1	0.154	1.050	0.162	0.074	0.078	
782.00	23230	Mid	LTE Band 13	10	18.30	18.16	0.13	0	Antenna D	F9FCN03NQ7KN	QPSK	25	0	0 mm	left	1:1	0.156	1.033	0.161	0.075	0.077	
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population															Body 1.6 W/kg (mW/g) averaged over 1 gram							

Table 10-17
LTE Band 14 Antenna C Body 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)	SAR (10g)	Reported SAR (10g)	Plot #
MHz	Ch.																(W/kg)		(W/kg)	(W/kg)	(W/kg)	
793.00	23330	Mid	LTE Band 14	10	18.10	18.10	0.01	0	Antenna C	F9FCN03QQ7KN	QPSK	1	49	0 mm	back	1:1	0.803	1.000	0.803	0.401	0.401	
793.00	23330	Mid	LTE Band 14	10	18.10	18.09	-0.02	0	Antenna C	F9FCN03QQ7KN	QPSK	25	12	0 mm	back	1:1	0.810	1.002	0.812	0.403	0.404	
793.00	23330	Mid	LTE Band 14	10	18.10	18.07	0.01	0	Antenna C	F9FCN03QQ7KN	QPSK	50	0	0 mm	back	1:1	0.816	1.007	0.822	0.405	0.408	A9
793.00	23330	Mid	LTE Band 14	10	18.10	18.10	-0.02	0	Antenna C	F9FCN03QQ7KN	QPSK	1	49	0 mm	top	1:1	0.427	1.000	0.427	0.219	0.219	
793.00	23330	Mid	LTE Band 14	10	18.10	18.09	-0.03	0	Antenna C	F9FCN03QQ7KN	QPSK	25	12	0 mm	top	1:1	0.429	1.002	0.430	0.217	0.217	
793.00	23330	Mid	LTE Band 14	10	18.10	18.10	0.21	0	Antenna C	F9FCN03QQ7KN	QPSK	1	49	0 mm	bottom	1:1	0.021	1.000	0.021	0.012	0.012	
793.00	23330	Mid	LTE Band 14	10	18.10	18.09	-0.08	0	Antenna C	F9FCN03QQ7KN	QPSK	25	12	0 mm	bottom	1:1	0.023	1.002	0.023	0.012	0.012	
793.00	23330	Mid	LTE Band 14	10	18.10	18.10	0.04	0	Antenna C	F9FCN03QQ7KN	QPSK	1	49	0 mm	right	1:1	0.108	1.000	0.108	0.054	0.054	
793.00	23330	Mid	LTE Band 14	10	18.10	18.09	-0.08	0	Antenna C	F9FCN03QQ7KN	QPSK	25	12	0 mm	right	1:1	0.111	1.002	0.111	0.055	0.055	
793.00	23330	Mid	LTE Band 14	10	18.10	18.10	0.03	0	Antenna C	F9FCN03QQ7KN	QPSK	1	49	0 mm	left	1:1	0.004	1.000	0.004	0.002	0.002	
793.00	23330	Mid	LTE Band 14	10	18.10	18.09	-0.07	0	Antenna C	F9FCN03QQ7KN	QPSK	25	12	0 mm	left	1:1	0.002	1.002	0.002	0.001	0.001	
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population															Body 1.6 W/kg (mW/g) averaged over 1 gram							

Table 10-18
LTE Band 14 Antenna D Body 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)	SAR (10g)	Reported SAR (10g)	Plot #
MHz	Ch.																(W/kg)		(W/kg)	(W/kg)	(W/kg)	
793.00	23330	Mid	LTE Band 14	10	18.30	18.16	-0.03	0	Antenna D	F9FCN03NQ7KN	QPSK	1	0	0 mm	back	1:1	0.814	1.033	0.841	0.400	0.413	
793.00	23330	Mid	LTE Band 14	10	18.30	18.16	-0.04	0	Antenna D	F9FCN03NQ7KN	QPSK	25	0	0 mm	back	1:1	0.750	1.033	0.775	0.366	0.378	
793.00	23330	Mid	LTE Band 14	10	18.30	18.13	-0.06	0	Antenna D	F9FCN03NQ7KN	QPSK	50	0	0 mm	back	1:1	0.725	1.040	0.754	0.354	0.368	
793.00	23330	Mid	LTE Band 14	10	18.30	18.16	0.09	0	Antenna D	F9FCN03NQ7KN	QPSK	1	0	0 mm	top	1:1	0.762	1.033	0.787	0.421	0.435	
793.00	23330	Mid	LTE Band 14	10	18.30	18.16	0.10	0	Antenna D	F9FCN03NQ7KN	QPSK	25	0	0 mm	top	1:1	0.661	1.033	0.683	0.361	0.373	
793.00	23330	Mid	LTE Band 14	10	18.30	18.16	-0.05	0	Antenna D	F9FCN03NQ7KN	QPSK	1	0	0 mm	bottom	1:1	0.028	1.033	0.029	0.014	0.014	
793.00	23330	Mid	LTE Band 14	10	18.30	18.16	0.11	0	Antenna D	F9FCN03NQ7KN	QPSK	25	0	0 mm	bottom	1:1	0.027	1.033	0.028	0.016	0.017	
793.00	23330	Mid	LTE Band 14	10	18.30	18.16	0.05	0	Antenna D	F9FCN03NQ7KN	QPSK	1	0	0 mm	right	1:1	0.032	1.033	0.033	0.016	0.017	
793.00	23330	Mid	LTE Band 14	10	18.30	18.16	0.02	0	Antenna D	F9FCN03NQ7KN	QPSK	25	0	0 mm	right	1:1	0.036	1.033	0.037	0.018	0.019	
793.00	23330	Mid	LTE Band 14	10	18.30	18.16	0.05	0	Antenna D	F9FCN03NQ7KN	QPSK	1	0	0 mm	left	1:1	0.177	1.033	0.183	0.086	0.089	
793.00	23330	Mid	LTE Band 14	10	18.30	18.16	-0.15	0	Antenna D	F9FCN03NQ7KN	QPSK	25	0	0 mm	left	1:1	0.128	1.033	0.132	0.071	0.073	
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population															Body 1.6 W/kg (mW/g) averaged over 1 gram							

Table 10-19
LTE Band 26 (Cell) Antenna C Body 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)	SAR (10g)	Reported SAR (10g)	Plot #
MHz	Ch.																(W/kg)		(W/kg)	(W/kg)	(W/kg)	
819.00	26740	Low	LTE Band 26 (Cell)	10	18.20	18.14	-0.21	0	Antenna C	F9FCN03DQ7KN	QPSK	1	0	0 mm	back	1:1	1.050	1.014	1.065	0.531	0.538	A10
831.50	26865	Mid	LTE Band 26 (Cell)	10	18.20	17.85	-0.19	0	Antenna C	F9FCN03DQ7KN	QPSK	1	0	0 mm	back	1:1	0.991	1.084	1.074	0.502	0.544	
844.00	26990	High	LTE Band 26 (Cell)	10	18.20	17.90	-0.02	0	Antenna C	F9FCN03DQ7KN	QPSK	1	25	0 mm	back	1:1	0.922	1.072	0.988	0.466	0.500	
819.00	26740	Low	LTE Band 26 (Cell)	10	18.20	17.92	-0.02	0	Antenna C	F9FCN03DQ7KN	QPSK	25	0	0 mm	back	1:1	0.976	1.067	1.041	0.497	0.530	
831.50	26865	Mid	LTE Band 26 (Cell)	10	18.20	17.80	-0.02	0	Antenna C	F9FCN03DQ7KN	QPSK	25	0	0 mm	back	1:1	0.959	1.096	1.051	0.485	0.532	
844.00	26990	High	LTE Band 26 (Cell)	10	18.20	17.85	-0.21	0	Antenna C	F9FCN03DQ7KN	QPSK	25	25	0 mm	back	1:1	0.920	1.084	0.997	0.464	0.503	
819.00	26740	Low	LTE Band 26 (Cell)	10	18.20	17.90	-0.19	0	Antenna C	F9FCN03DQ7KN	QPSK	50	0	0 mm	back	1:1	1.010	1.072	1.083	0.511	0.548	
819.00	26740	Low	LTE Band 26 (Cell)	10	18.20	18.14	-0.03	0	Antenna C	F9FCN03DQ7KN	QPSK	1	0	0 mm	top	1:1	0.879	1.014	0.891	0.498	0.505	
831.50	26865	Mid	LTE Band 26 (Cell)	10	18.20	17.85	-0.01	0	Antenna C	F9FCN03DQ7KN	QPSK	1	0	0 mm	top	1:1	0.869	1.084	0.942	0.483	0.524	
844.00	26990	High	LTE Band 26 (Cell)	10	18.20	17.90	-0.07	0	Antenna C	F9FCN03DQ7KN	QPSK	1	25	0 mm	top	1:1	0.907	1.072	0.972	0.495	0.531	
819.00	26740	Low	LTE Band 26 (Cell)	10	18.20	17.92	0.01	0	Antenna C	F9FCN03DQ7KN	QPSK	25	0	0 mm	top	1:1	0.886	1.067	0.945	0.500	0.534	
831.50	26865	Mid	LTE Band 26 (Cell)	10	18.20	17.80	0.01	0	Antenna C	F9FCN03DQ7KN	QPSK	25	0	0 mm	top	1:1	0.880	1.096	0.964	0.483	0.529	
844.00	26990	High	LTE Band 26 (Cell)	10	18.20	17.85	-0.04	0	Antenna C	F9FCN03DQ7KN	QPSK	25	25	0 mm	top	1:1	0.898	1.084	0.973	0.488	0.529	
819.00	26740	Low	LTE Band 26 (Cell)	10	18.20	17.90	0.03	0	Antenna C	F9FCN03DQ7KN	QPSK	50	0	0 mm	top	1:1	0.877	1.072	0.940	0.484	0.519	
819.00	26740	Low	LTE Band 26 (Cell)	10	18.20	18.14	0.05	0	Antenna C	F9FCN03DQ7KN	QPSK	1	0	0 mm	bottom	1:1	0.033	1.014	0.033	0.017	0.017	
819.00	26740	Low	LTE Band 26 (Cell)	10	18.20	17.92	-0.05	0	Antenna C	F9FCN03DQ7KN	QPSK	25	0	0 mm	bottom	1:1	0.030	1.067	0.032	0.016	0.017	
819.00	26740	Low	LTE Band 26 (Cell)	10	18.20	18.14	0.04	0	Antenna C	F9FCN03DQ7KN	QPSK	1	0	0 mm	right	1:1	0.112	1.014	0.114	0.055	0.056	
819.00	26740	Low	LTE Band 26 (Cell)	10	18.20	17.92	0.03	0	Antenna C	F9FCN03DQ7KN	QPSK	25	0	0 mm	right	1:1	0.111	1.067	0.118	0.054	0.058	
819.00	26740	Low	LTE Band 26 (Cell)	10	18.20	18.14	0.06	0	Antenna C	F9FCN03DQ7KN	QPSK	1	0	0 mm	left	1:1	0.004	1.014	0.004	0.002	0.002	
819.00	26740	Low	LTE Band 26 (Cell)	10	18.20	17.92	0.05	0	Antenna C	F9FCN03DQ7KN	QPSK	25	0	0 mm	left	1:1	0.003	1.067	0.003	0.002	0.002	
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population															Body 1.6 W/kg (mW/g) averaged over 1 gram							

Table 10-20
LTE Band 26 (Cell) Antenna D Body 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)	SAR (10g)	Reported SAR (10g)	Plot #
MHz	Ch.																(W/kg)		(W/kg)	(W/kg)	(W/kg)	
819.00	26740	Low	LTE Band 26 (Cell)	10	18.20	18.14	-0.01	0	Antenna D	F9FCN03DQ7KN	QPSK	1	0	0 mm	back	1:1	0.899	1.014	0.912	0.454	0.460	
831.50	26865	Mid	LTE Band 26 (Cell)	10	18.20	18.05	0.00	0	Antenna D	F9FCN03DQ7KN	QPSK	1	49	0 mm	back	1:1	0.835	1.035	0.864	0.418	0.433	
844.00	26990	High	LTE Band 26 (Cell)	10	18.20	18.01	0.02	0	Antenna D	F9FCN03DQ7KN	QPSK	1	49	0 mm	back	1:1	0.738	1.045	0.771	0.371	0.388	
819.00	26740	Low	LTE Band 26 (Cell)	10	18.20	18.07	-0.01	0	Antenna D	F9FCN03DQ7KN	QPSK	25	25	0 mm	back	1:1	0.861	1.030	0.887	0.435	0.448	
831.50	26865	Mid	LTE Band 26 (Cell)	10	18.20	18.04	-0.01	0	Antenna D	F9FCN03DQ7KN	QPSK	25	0	0 mm	back	1:1	0.809	1.038	0.840	0.403	0.418	
844.00	26990	High	LTE Band 26 (Cell)	10	18.20	18.06	-0.02	0	Antenna D	F9FCN03DQ7KN	QPSK	25	0	0 mm	back	1:1	0.764	1.033	0.789	0.384	0.397	
819.00	26740	Low	LTE Band 26 (Cell)	10	18.20	18.06	-0.02	0	Antenna D	F9FCN03DQ7KN	QPSK	50	0	0 mm	back	1:1	0.869	1.033	0.898	0.440	0.455	
819.00	26740	Low	LTE Band 26 (Cell)	10	18.20	18.14	-0.08	0	Antenna D	F9FCN03DQ7KN	QPSK	1	0	0 mm	top	1:1	0.812	1.014	0.823	0.456	0.462	
831.50	26865	Mid	LTE Band 26 (Cell)	10	18.20	18.05	-0.02	0	Antenna D	F9FCN03DQ7KN	QPSK	1	49	0 mm	top	1:1	0.609	1.035	0.630	0.333	0.345	
844.00	26990	High	LTE Band 26 (Cell)	10	18.20	18.01	-0.04	0	Antenna D	F9FCN03DQ7KN	QPSK	1	49	0 mm	top	1:1	0.580	1.045	0.606	0.318	0.332	
819.00	26740	Low	LTE Band 26 (Cell)	10	18.20	18.07	0.00	0	Antenna D	F9FCN03DQ7KN	QPSK	25	25	0 mm	top	1:1	0.799	1.030	0.823	0.440	0.453	
831.50	26865	Mid	LTE Band 26 (Cell)	10	18.20	18.04	0.00	0	Antenna D	F9FCN03DQ7KN	QPSK	25	0	0 mm	top	1:1	0.605	1.038	0.628	0.334	0.347	
844.00	26990	High	LTE Band 26 (Cell)	10	18.20	18.06	-0.03	0	Antenna D	F9FCN03DQ7KN	QPSK	25	0	0 mm	top	1:1	0.611	1.033	0.631	0.335	0.346	
819.00	26740	Low	LTE Band 26 (Cell)	10	18.20	18.06	-0.01	0	Antenna D	F9FCN03DQ7KN	QPSK	50	0	0 mm	top	1:1	0.797	1.033	0.823	0.439	0.453	
819.00	26740	Low	LTE Band 26 (Cell)	10	18.20	18.14	-0.10	0	Antenna D	F9FCN03DQ7KN	QPSK	1	0	0 mm	bottom	1:1	0.018	1.014	0.018	0.009	0.009	
819.00	26740	Low	LTE Band 26 (Cell)	10	18.20	18.07	0.14	0	Antenna D	F9FCN03DQ7KN	QPSK	25	25	0 mm	bottom	1:1	0.020	1.030	0.021	0.010	0.010	
819.00	26740	Low	LTE Band 26 (Cell)	10	18.20	18.14	0.09	0	Antenna D	F9FCN03DQ7KN	QPSK	1	0	0 mm	right	1:1	0.012	1.014	0.012	0.006	0.006	
819.00	26740	Low	LTE Band 26 (Cell)	10	18.20	18.07	0.03	0	Antenna D	F9FCN03DQ7KN	QPSK	25	25	0 mm	right	1:1	0.012	1.030	0.012	0.006	0.006	
819.00	26740	Low	LTE Band 26 (Cell)	10	18.20	18.14	0.07	0	Antenna D	F9FCN03DQ7KN	QPSK	1	0	0 mm	left	1:1	0.098	1.014	0.099	0.047	0.048	
819.00	26740	Low	LTE Band 26 (Cell)	10	18.20	18.07	0.02	0	Antenna D	F9FCN03DQ7KN	QPSK	25	25	0 mm	left	1:1	0.107	1.030	0.110	0.052	0.054	
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population															Body 1.6 W/kg (mW/g) averaged over 1 gram							

Table 10-21
LTE Band 5 (Cell) Antenna C Body 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)	SAR (10g)	Reported SAR (10g)	Plot #
MHz	Ch.																(W/kg)		(W/kg)	(W/kg)	(W/kg)	
836.50	20525	Mid	LTE Band 5 (Cell)	10	17.70	17.65	0.12	0	Antenna C	F9FCN03DQ7KN	QPSK	1	49	0 mm	back	1:1	0.925	1.012	0.936	0.466	0.472	
836.50	20525	Mid	LTE Band 5 (Cell)	10	17.70	17.57	-0.05	0	Antenna C	F9FCN03DQ7KN	QPSK	25	25	0 mm	back	1:1	0.888	1.030	0.915	0.456	0.470	
836.50	20525	Mid	LTE Band 5 (Cell)	10	17.70	17.53	-0.18	0	Antenna C	F9FCN03DQ7KN	QPSK	50	0	0 mm	back	1:1	0.914	1.040	0.951	0.464	0.483	
836.50	20525	Mid	LTE Band 5 (Cell)	10	17.70	17.65	-0.04	0	Antenna C	F9FCN03DQ7KN	QPSK	1	49	0 mm	top	1:1	0.668	1.012	0.676	0.379	0.384	
836.50	20525	Mid	LTE Band 5 (Cell)	10	17.70	17.57	-0.04	0	Antenna C	F9FCN03DQ7KN	QPSK	25	25	0 mm	top	1:1	0.660	1.030	0.680	0.375	0.386	
836.50	20525	Mid	LTE Band 5 (Cell)	10	17.70	17.65	-0.03	0	Antenna C	F9FCN03DQ7KN	QPSK	1	49	0 mm	bottom	1:1	0.021	1.012	0.021	0.011	0.011	
836.50	20525	Mid	LTE Band 5 (Cell)	10	17.70	17.57	0.16	0	Antenna C	F9FCN03DQ7KN	QPSK	25	25	0 mm	bottom	1:1	0.019	1.030	0.020	0.010	0.010	
836.50	20525	Mid	LTE Band 5 (Cell)	10	17.70	17.65	-0.14	0	Antenna C	F9FCN03DQ7KN	QPSK	1	49	0 mm	right	1:1	0.100	1.012	0.101	0.053	0.054	
836.50	20525	Mid	LTE Band 5 (Cell)	10	17.70	17.57	-0.02	0	Antenna C	F9FCN03DQ7KN	QPSK	25	25	0 mm	right	1:1	0.107	1.030	0.110	0.057	0.059	
836.50	20525	Mid	LTE Band 5 (Cell)	10	17.70	17.65	0.06	0	Antenna C	F9FCN03DQ7KN	QPSK	1	49	0 mm	left	1:1	0.015	1.012	0.015	0.008	0.008	
836.50	20525	Mid	LTE Band 5 (Cell)	10	17.70	17.57	0.03	0	Antenna C	F9FCN03DQ7KN	QPSK	25	25	0 mm	left	1:1	0.015	1.030	0.015	0.008	0.008	
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population															Body 1.6 W/kg (mW/g) averaged over 1 gram							

Table 10-22
LTE Band 5 (Cell) Antenna D Body 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)	SAR (10g)	Reported SAR (10g)	Plot #
MHz	Ch.																(W/kg)		(W/kg)	(W/kg)	(W/kg)	
836.50	20525	Mid	LTE Band 5 (Cell)	10	19.20	19.15	-0.02	0	Antenna D	F9FCN04QQ7KN	QPSK	1	49	0 mm	back	1:1	0.936	1.012	0.947	0.478	0.484	
836.50	20525	Mid	LTE Band 5 (Cell)	10	19.20	19.10	-0.10	0	Antenna D	F9FCN04QQ7KN	QPSK	25	0	0 mm	back	1:1	1.050	1.023	1.074	0.516	0.528	A11
836.50	20525	Mid	LTE Band 5 (Cell)	10	19.20	19.09	-0.01	0	Antenna D	F9FCN04QQ7KN	QPSK	50	0	0 mm	back	1:1	1.010	1.026	1.036	0.505	0.518	
836.50	20525	Mid	LTE Band 5 (Cell)	10	19.20	19.15	0.00	0	Antenna D	F9FCN04QQ7KN	QPSK	1	49	0 mm	top	1:1	0.936	1.012	0.947	0.515	0.521	
836.50	20525	Mid	LTE Band 5 (Cell)	10	19.20	19.10	-0.09	0	Antenna D	F9FCN04QQ7KN	QPSK	25	0	0 mm	top	1:1	0.958	1.023	0.980	0.523	0.535	
836.50	20525	Mid	LTE Band 5 (Cell)	10	19.20	19.09	-0.04	0	Antenna D	F9FCN04QQ7KN	QPSK	50	0	0 mm	top	1:1	0.934	1.026	0.958	0.512	0.525	
836.50	20525	Mid	LTE Band 5 (Cell)	10	19.20	19.15	-0.07	0	Antenna D	F9FCN04QQ7KN	QPSK	1	49	0 mm	bottom	1:1	0.021	1.012	0.021	0.011	0.011	
836.50	20525	Mid	LTE Band 5 (Cell)	10	19.20	19.10	0.09	0	Antenna D	F9FCN04QQ7KN	QPSK	25	0	0 mm	bottom	1:1	0.019	1.023	0.019	0.010	0.010	
836.50	20525	Mid	LTE Band 5 (Cell)	10	19.20	19.15	0.02	0	Antenna D	F9FCN04QQ7KN	QPSK	1	49	0 mm	right	1:1	0.018	1.012	0.018	0.008	0.008	
836.50	20525	Mid	LTE Band 5 (Cell)	10	19.20	19.10	0.15	0	Antenna D	F9FCN04QQ7KN	QPSK	25	0	0 mm	right	1:1	0.020	1.023	0.020	0.009	0.009	
836.50	20525	Mid	LTE Band 5 (Cell)	10	19.20	19.15	0.00	0	Antenna D	F9FCN04QQ7KN	QPSK	1	49	0 mm	left	1:1	0.196	1.012	0.198	0.098	0.099	
836.50	20525	Mid	LTE Band 5 (Cell)	10	19.20	19.10	-0.02	0	Antenna D	F9FCN04QQ7KN	QPSK	25	0	0 mm	left	1:1	0.198	1.023	0.203	0.097	0.099	
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population															Body 1.6 W/kg (mW/g) averaged over 1 gram							

Table 10-23
LTE Band 66 (AWS) Antenna C Body 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)	SAR (10g)	Reported SAR (10g)	Plot #
MHz	Ch.																(W/kg)		(W/kg)	(W/kg)	(W/kg)	
1720.00	132072	Low	LTE Band 66 (AWS)	20	13.30	13.29	-0.08	0	Antenna C	F9FCN03GQ7KN	QPSK	1	0	0 mm	back	1:1	0.877	1.002	0.879	0.409	0.410	
1745.00	132322	Mid	LTE Band 66 (AWS)	20	13.30	12.72	0.06	0	Antenna C	F9FCN03GQ7KN	QPSK	1	0	0 mm	back	1:1	0.904	1.143	1.033	0.430	0.491	
1770.00	132572	High	LTE Band 66 (AWS)	20	13.30	12.61	-0.09	0	Antenna C	F9FCN03GQ7KN	QPSK	1	50	0 mm	back	1:1	0.853	1.172	1.000	0.403	0.472	
1720.00	132072	Low	LTE Band 66 (AWS)	20	13.30	13.12	-0.14	0	Antenna C	F9FCN03GQ7KN	QPSK	50	0	0 mm	back	1:1	0.838	1.042	0.873	0.391	0.407	
1745.00	132322	Mid	LTE Band 66 (AWS)	20	13.30	12.56	-0.16	0	Antenna C	F9FCN03GQ7KN	QPSK	50	0	0 mm	back	1:1	0.862	1.186	1.022	0.405	0.480	
1770.00	132572	High	LTE Band 66 (AWS)	20	13.30	12.59	-0.12	0	Antenna C	F9FCN03GQ7KN	QPSK	50	25	0 mm	back	1:1	0.846	1.178	0.997	0.397	0.468	
1720.00	132072	Low	LTE Band 66 (AWS)	20	13.30	13.07	-0.09	0	Antenna C	F9FCN03GQ7KN	QPSK	100	0	0 mm	back	1:1	0.864	1.054	0.911	0.404	0.426	
1720.00	132072	Low	LTE Band 66 (AWS)	20	13.30	13.29	0.00	0	Antenna C	F9FCN03GQ7KN	QPSK	1	0	0 mm	top	1:1	0.529	1.002	0.530	0.256	0.257	
1720.00	132072	Low	LTE Band 66 (AWS)	20	13.30	13.12	0.00	0	Antenna C	F9FCN03GQ7KN	QPSK	50	0	0 mm	top	1:1	0.522	1.042	0.544	0.252	0.263	
1720.00	132072	Low	LTE Band 66 (AWS)	20	13.30	13.29	0.21	0	Antenna C	F9FCN03GQ7KN	QPSK	1	0	0 mm	bottom	1:1	0.002	1.002	0.002	0.000	0.000	
1720.00	132072	Low	LTE Band 66 (AWS)	20	13.30	13.12	0.10	0	Antenna C	F9FCN03GQ7KN	QPSK	50	0	0 mm	bottom	1:1	0.001	1.042	0.001	0.000	0.000	
1720.00	132072	Low	LTE Band 66 (AWS)	20	13.30	13.29	0.12	0	Antenna C	F9FCN03GQ7KN	QPSK	1	0	0 mm	right	1:1	0.060	1.002	0.060	0.029	0.029	
1720.00	132072	Low	LTE Band 66 (AWS)	20	13.30	13.12	0.02	0	Antenna C	F9FCN03GQ7KN	QPSK	50	0	0 mm	right	1:1	0.059	1.042	0.061	0.028	0.029	
1720.00	132072	Low	LTE Band 66 (AWS)	20	13.30	13.29	-0.03	0	Antenna C	F9FCN03GQ7KN	QPSK	1	0	0 mm	left	1:1	0.026	1.002	0.026	0.012	0.012	
1720.00	132072	Low	LTE Band 66 (AWS)	20	13.30	13.12	0.05	0	Antenna C	F9FCN03GQ7KN	QPSK	50	0	0 mm	left	1:1	0.024	1.042	0.025	0.011	0.011	
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population															Body 1.6 W/kg (mW/g) averaged over 1 gram							

Table 10-24
LTE Band 66 (AWS) Antenna D Body 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)	SAR (10g)	Reported SAR (10g)	Plot #
MHz	Ch.																(W/kg)		(W/kg)	(W/kg)	(W/kg)	
1720.00	132072	Low	LTE Band 66 (AWS)	20	13.20	13.12	0.01	0	Antenna D	F9FCN03QQ7KN	QPSK	1	0	0 mm	back	1:1	0.800	1.019	0.815	0.350	0.357	
1745.00	132322	Mid	LTE Band 66 (AWS)	20	13.20	12.98	0.06	0	Antenna D	F9FCN03QQ7KN	QPSK	1	0	0 mm	back	1:1	0.829	1.052	0.872	0.361	0.380	
1770.00	132572	High	LTE Band 66 (AWS)	20	13.20	12.95	-0.03	0	Antenna D	F9FCN03QQ7KN	QPSK	1	0	0 mm	back	1:1	0.881	1.059	0.933	0.383	0.406	
1720.00	132072	Low	LTE Band 66 (AWS)	20	13.20	13.07	0.05	0	Antenna D	F9FCN03QQ7KN	QPSK	50	0	0 mm	back	1:1	0.781	1.030	0.804	0.341	0.351	
1745.00	132322	Mid	LTE Band 66 (AWS)	20	13.20	12.88	-0.03	0	Antenna D	F9FCN03QQ7KN	QPSK	50	50	0 mm	back	1:1	0.841	1.076	0.905	0.365	0.393	
1770.00	132572	High	LTE Band 66 (AWS)	20	13.20	12.85	0.06	0	Antenna D	F9FCN03QQ7KN	QPSK	50	25	0 mm	back	1:1	0.926	1.084	1.004	0.397	0.430	A12
1720.00	132072	Low	LTE Band 66 (AWS)	20	13.20	13.02	0.08	0	Antenna D	F9FCN03QQ7KN	QPSK	100	0	0 mm	back	1:1	0.809	1.042	0.843	0.352	0.367	
1720.00	132072	Low	LTE Band 66 (AWS)	20	13.20	13.12	-0.01	0	Antenna D	F9FCN03QQ7KN	QPSK	1	0	0 mm	top	1:1	0.487	1.019	0.496	0.227	0.231	
1720.00	132072	Low	LTE Band 66 (AWS)	20	13.20	13.07	-0.02	0	Antenna D	F9FCN03QQ7KN	QPSK	50	0	0 mm	top	1:1	0.486	1.030	0.501	0.226	0.233	
1720.00	132072	Low	LTE Band 66 (AWS)	20	13.20	13.12	-0.11	0	Antenna D	F9FCN03QQ7KN	QPSK	1	0	0 mm	bottom	1:1	0.001	1.019	0.001	0.000	0.000	
1720.00	132072	Low	LTE Band 66 (AWS)	20	13.20	13.07	0.09	0	Antenna D	F9FCN03QQ7KN	QPSK	50	0	0 mm	bottom	1:1	0.001	1.030	0.001	0.000	0.000	
1720.00	132072	Low	LTE Band 66 (AWS)	20	13.20	13.12	0.11	0	Antenna D	F9FCN03QQ7KN	QPSK	1	0	0 mm	right	1:1	0.008	1.019	0.008	0.003	0.003	
1720.00	132072	Low	LTE Band 66 (AWS)	20	13.20	13.07	0.11	0	Antenna D	F9FCN03QQ7KN	QPSK	50	0	0 mm	right	1:1	0.009	1.030	0.009	0.004	0.004	
1720.00	132072	Low	LTE Band 66 (AWS)	20	13.20	13.12	0.10	0	Antenna D	F9FCN03QQ7KN	QPSK	1	0	0 mm	left	1:1	0.066	1.019	0.067	0.030	0.031	
1720.00	132072	Low	LTE Band 66 (AWS)	20	13.20	13.07	0.13	0	Antenna D	F9FCN03QQ7KN	QPSK	50	0	0 mm	left	1:1	0.066	1.030	0.068	0.030	0.031	
1770.00	132572	High	LTE Band 66 (AWS)	20	13.20	12.85	0.06	0	Antenna D	F9FCN03QQ7KN	QPSK	50	25	0 mm	back	1:1	0.922	1.084	0.999	0.398	0.431	
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population															Body 1.6 W/kg (mW/g) averaged over 1 gram									

Note: Blue entries represents variability measurement

Table 10-25
LTE Band 25 (PCS) Antenna C Body 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)	SAR (10g)	Reported SAR (10g)	Plot #
MHz	Ch.																(W/kg)		(W/kg)	(W/kg)	(W/kg)	
1860.00	26140	Low	LTE Band 25 (PCS)	20	13.1	12.94	0.00	0	Antenna C	F9FCN03FQ7KN	QPSK	1	0	0 mm	back	1:1	1.110	1.038	1.152	0.510	0.529	
1882.50	26365	Mid	LTE Band 25 (PCS)	20	13.1	13.02	0.06	0	Antenna C	F9FCN03FQ7KN	QPSK	1	0	0 mm	back	1:1	1.120	1.019	1.141	0.514	0.524	
1905.00	26590	High	LTE Band 25 (PCS)	20	13.1	13.00	0.01	0	Antenna C	F9FCN03FQ7KN	QPSK	1	0	0 mm	back	1:1	1.160	1.023	**1.187**	0.524	**0.536**	A13
1860.00	26140	Low	LTE Band 25 (PCS)	20	13.1	12.81	0.03	0	Antenna C	F9FCN03FQ7KN	QPSK	50	0	0 mm	back	1:1	1.090	1.069	1.165	0.496	0.530	
1882.50	26365	Mid	LTE Band 25 (PCS)	20	13.1	13.02	0.04	0	Antenna C	F9FCN03FQ7KN	QPSK	50	50	0 mm	back	1:1	1.120	1.019	1.141	0.511	0.521	
1905.00	26590	High	LTE Band 25 (PCS)	20	13.1	12.90	0.00	0	Antenna C	F9FCN03FQ7KN	QPSK	50	0	0 mm	back	1:1	1.110	1.047	1.162	0.510	0.534	
1882.50	26365	Mid	LTE Band 25 (PCS)	20	13.1	13.01	0.00	0	Antenna C	F9FCN03FQ7KN	QPSK	100	0	0 mm	back	1:1	1.140	1.021	1.164	0.520	0.531	
1860.00	26140	Low	LTE Band 25 (PCS)	20	13.1	12.94	-0.01	0	Antenna C	F9FCN03FQ7KN	QPSK	1	0	0 mm	top	1:1	0.835	1.038	0.867	0.389	0.404	
1882.50	26365	Mid	LTE Band 25 (PCS)	20	13.1	13.02	0.00	0	Antenna C	F9FCN03FQ7KN	QPSK	1	0	0 mm	top	1:1	0.823	1.019	0.839	0.382	0.389	
1905.00	26590	High	LTE Band 25 (PCS)	20	13.1	13.00	0.03	0	Antenna C	F9FCN03FQ7KN	QPSK	1	0	0 mm	top	1:1	0.875	1.023	0.895	0.404	0.413	
1860.00	26140	Low	LTE Band 25 (PCS)	20	13.1	12.81	0.04	0	Antenna C	F9FCN03FQ7KN	QPSK	50	0	0 mm	top	1:1	0.829	1.069	0.886	0.384	0.410	
1882.50	26365	Mid	LTE Band 25 (PCS)	20	13.1	13.02	-0.02	0	Antenna C	F9FCN03FQ7KN	QPSK	50	50	0 mm	top	1:1	0.810	1.019	0.825	0.374	0.381	
1905.00	26590	High	LTE Band 25 (PCS)	20	13.1	12.90	0.04	0	Antenna C	F9FCN03FQ7KN	QPSK	50	0	0 mm	top	1:1	0.883	1.047	0.925	0.407	0.426	
1882.50	26365	Mid	LTE Band 25 (PCS)	20	13.1	13.01	0.00	0	Antenna C	F9FCN03FQ7KN	QPSK	100	0	0 mm	top	1:1	0.846	1.021	0.864	0.392	0.400	
1882.50	26365	Mid	LTE Band 25 (PCS)	20	13.1	13.02	0.00	0	Antenna C	F9FCN03FQ7KN	QPSK	1	0	0 mm	bottom	1:1	0.000	1.019	0.000	0.000	0.000	
1882.50	26365	Mid	LTE Band 25 (PCS)	20	13.1	13.02	0.10	0	Antenna C	F9FCN03FQ7KN	QPSK	50	50	0 mm	bottom	1:1	0.000	1.019	0.000	0.000	0.000	
1882.50	26365	Mid	LTE Band 25 (PCS)	20	13.1	13.02	0.03	0	Antenna C	F9FCN03FQ7KN	QPSK	1	0	0 mm	right	1:1	0.104	1.019	0.106	0.046	0.047	
1882.50	26365	Mid	LTE Band 25 (PCS)	20	13.1	13.02	0.11	0	Antenna C	F9FCN03FQ7KN	QPSK	50	50	0 mm	right	1:1	0.100	1.019	0.102	0.045	0.046	
1882.50	26365	Mid	LTE Band 25 (PCS)	20	13.1	13.02	0.03	0	Antenna C	F9FCN03FQ7KN	QPSK	1	0	0 mm	left	1:1	0.040	1.019	0.041	0.018	0.018	
1882.50	26365	Mid	LTE Band 25 (PCS)	20	13.1	13.02	0.21	0	Antenna C	F9FCN03FQ7KN	QPSK	50	50	0 mm	left	1:1	0.039	1.019	0.040	0.018	0.018	
1905.00	26590	High	LTE Band 25 (PCS)	20	13.1	13.00	0.01	0	Antenna C	F9FCN03FQ7KN	QPSK	1	0	0 mm	back	1:1	1.140	1.023	1.166	0.524	0.536	
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population															Body 1.6 W/kg (mW/g) averaged over 1 gram									

Note: Blue entries represents variability measurement

Table 10-26
LTE Band 25 (PCS) Antenna D Body 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)	SAR (10g)	Reported SAR (10g)	Plot #
MHz	Ch.																(W/kg)		(W/kg)	(W/kg)	(W/kg)	
1860.00	26140	Low	LTE Band 25 (PCS)	20	12.00	12.00	-0.01	0	Antenna D	F9FCN04QQ7KN	QPSK	1	0	0 mm	back	1:1	0.904	1.000	0.904	0.377	0.377	
1882.50	26365	Mid	LTE Band 25 (PCS)	20	12.00	11.91	-0.06	0	Antenna D	F9FCN04QQ7KN	QPSK	1	0	0 mm	back	1:1	0.939	1.021	0.959	0.390	0.398	
1905.00	26590	High	LTE Band 25 (PCS)	20	12.00	11.96	-0.04	0	Antenna D	F9FCN04QQ7KN	QPSK	1	0	0 mm	back	1:1	0.987	1.009	0.996	0.410	0.414	
1860.00	26140	Low	LTE Band 25 (PCS)	20	12.00	11.89	-0.08	0	Antenna D	F9FCN04QQ7KN	QPSK	50	0	0 mm	back	1:1	0.889	1.026	0.912	0.370	0.380	
1882.50	26365	Mid	LTE Band 25 (PCS)	20	12.00	11.81	0.01	0	Antenna D	F9FCN04QQ7KN	QPSK	50	50	0 mm	back	1:1	0.925	1.045	0.967	0.383	0.400	
1905.00	26590	High	LTE Band 25 (PCS)	20	12.00	11.87	-0.08	0	Antenna D	F9FCN04QQ7KN	QPSK	50	0	0 mm	back	1:1	0.986	1.030	1.016	0.413	0.425	
1882.50	26365	Mid	LTE Band 25 (PCS)	20	12.00	11.88	-0.01	0	Antenna D	F9FCN04QQ7KN	QPSK	100	0	0 mm	back	1:1	0.947	1.028	0.974	0.391	0.402	
1860.00	26140	Low	LTE Band 25 (PCS)	20	12.00	12.00	-0.01	0	Antenna D	F9FCN04QQ7KN	QPSK	1	0	0 mm	top	1:1	0.671	1.000	0.671	0.304	0.304	
1860.00	26140	Low	LTE Band 25 (PCS)	20	12.00	11.89	0.02	0	Antenna D	F9FCN04QQ7KN	QPSK	50	0	0 mm	top	1:1	0.664	1.026	0.681	0.299	0.307	
1860.00	26140	Low	LTE Band 25 (PCS)	20	12.00	12.00	0.15	0	Antenna D	F9FCN04QQ7KN	QPSK	1	0	0 mm	bottom	1:1	0.001	1.000	0.001	0.000	0.000	
1860.00	26140	Low	LTE Band 25 (PCS)	20	12.00	11.89	0.18	0	Antenna D	F9FCN04QQ7KN	QPSK	50	0	0 mm	bottom	1:1	0.000	1.026	0.000	0.000	0.000	
1860.00	26140	Low	LTE Band 25 (PCS)	20	12.00	12.00	0.20	0	Antenna D	F9FCN04QQ7KN	QPSK	1	0	0 mm	right	1:1	0.008	1.000	0.008	0.003	0.003	
1860.00	26140	Low	LTE Band 25 (PCS)	20	12.00	11.89	0.19	0	Antenna D	F9FCN04QQ7KN	QPSK	50	0	0 mm	right	1:1	0.009	1.026	0.009	0.003	0.003	
1860.00	26140	Low	LTE Band 25 (PCS)	20	12.00	12.00	0.09	0	Antenna D	F9FCN04QQ7KN	QPSK	1	0	0 mm	left	1:1	0.066	1.000	0.066	0.029	0.029	
1860.00	26140	Low	LTE Band 25 (PCS)	20	12.00	11.89	0.18	0	Antenna D	F9FCN04QQ7KN	QPSK	50	0	0 mm	left	1:1	0.061	1.026	0.063	0.027	0.028	
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population															Body 1.6 W/kg (mW/g) averaged over 1 gram									

Table 10-27
LTE Band 30 Antenna C Body 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)	SAR (10g)	Reported SAR (10g)	Plot #
MHz	Ch.																(W/kg)		(W/kg)	(W/kg)	(W/kg)	
2310.00	27710	Mid	LTE Band 30	10	13.20	13.16	0.03	0	Antenna C	F9FCN04QQ7KN	QPSK	1	0	0 mm	back	1:1	0.719	1.009	0.725	0.310	0.313	
2310.00	27710	Mid	LTE Band 30	10	13.20	13.08	0.02	0	Antenna C	F9FCN04QQ7KN	QPSK	25	25	0 mm	back	1:1	0.720	1.028	0.740	0.309	0.318	
2310.00	27710	Mid	LTE Band 30	10	13.20	13.16	-0.06	0	Antenna C	F9FCN04QQ7KN	QPSK	1	0	0 mm	top	1:1	0.832	1.009	0.839	0.370	0.373	A14
2310.00	27710	Mid	LTE Band 30	10	13.20	13.08	-0.20	0	Antenna C	F9FCN04QQ7KN	QPSK	25	25	0 mm	top	1:1	0.800	1.028	0.822	0.357	0.367	
2310.00	27710	Mid	LTE Band 30	10	13.20	13.01	0.03	0	Antenna C	F9FCN04QQ7KN	QPSK	50	0	0 mm	top	1:1	0.817	1.045	0.854	0.367	0.384	
2310.00	27710	Mid	LTE Band 30	10	13.20	13.16	0.04	0	Antenna C	F9FCN04QQ7KN	QPSK	1	0	0 mm	bottom	1:1	0.000	1.009	0.000	0.000	0.000	
2310.00	27710	Mid	LTE Band 30	10	13.20	13.08	0.10	0	Antenna C	F9FCN04QQ7KN	QPSK	25	25	0 mm	bottom	1:1	0.000	1.028	0.000	0.000	0.000	
2310.00	27710	Mid	LTE Band 30	10	13.20	13.16	0.05	0	Antenna C	F9FCN04QQ7KN	QPSK	1	0	0 mm	right	1:1	0.116	1.009	0.117	0.049	0.049	
2310.00	27710	Mid	LTE Band 30	10	13.20	13.08	-0.02	0	Antenna C	F9FCN04QQ7KN	QPSK	25	25	0 mm	right	1:1	0.110	1.028	0.113	0.046	0.047	
2310.00	27710	Mid	LTE Band 30	10	13.20	13.16	0.20	0	Antenna C	F9FCN04QQ7KN	QPSK	1	0	0 mm	left	1:1	0.020	1.009	0.020	0.008	0.008	
2310.00	27710	Mid	LTE Band 30	10	13.20	13.08	0.03	0	Antenna C	F9FCN04QQ7KN	QPSK	25	25	0 mm	left	1:1	0.025	1.028	0.026	0.011	0.011	
2310.00	27710	Mid	LTE Band 30	10	13.20	13.16	-0.05	0	Antenna C	F9FCN04QQ7KN	QPSK	1	0	0 mm	top	1:1	0.756	1.009	0.763	0.344	0.347	
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population															Body 1.6 W/kg (mW/g) averaged over 1 gram									

Note: Blue entries represents variability measurement

Table 10-28
LTE Band 30 Antenna D Body 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)	SAR (10g)	Reported SAR (10g)	Plot #
MHz	Ch.																(W/kg)		(W/kg)	(W/kg)	(W/kg)	
2310.00	27710	Mid	LTE Band 30	10	12.80	12.66	0.05	0	Antenna D	F9FCN04QQ7KN	QPSK	1	49	0 mm	back	1:1	0.635	1.033	0.656	0.289	0.299	
2310.00	27710	Mid	LTE Band 30	10	12.80	12.49	0.03	0	Antenna D	F9FCN04QQ7KN	QPSK	25	12	0 mm	back	1:1	0.626	1.074	0.672	0.285	0.306	
2310.00	27710	Mid	LTE Band 30	10	12.80	12.47	0.03	0	Antenna D	F9FCN04QQ7KN	QPSK	50	0	0 mm	back	1:1	0.645	1.079	0.696	0.291	0.314	
2310.00	27710	Mid	LTE Band 30	10	12.80	12.66	0.02	0	Antenna D	F9FCN04QQ7KN	QPSK	1	49	0 mm	top	1:1	0.496	1.033	0.512	0.228	0.236	
2310.00	27710	Mid	LTE Band 30	10	12.80	12.49	-0.11	0	Antenna D	F9FCN04QQ7KN	QPSK	25	12	0 mm	top	1:1	0.490	1.074	0.526	0.226	0.243	
2310.00	27710	Mid	LTE Band 30	10	12.80	12.66	0.00	0	Antenna D	F9FCN04QQ7KN	QPSK	1	49	0 mm	bottom	1:1	0.000	1.033	0.000	0.000	0.000	
2310.00	27710	Mid	LTE Band 30	10	12.80	12.49	0.00	0	Antenna D	F9FCN04QQ7KN	QPSK	25	12	0 mm	bottom	1:1	0.000	1.074	0.000	0.000	0.000	
2310.00	27710	Mid	LTE Band 30	10	12.80	12.66	-0.01	0	Antenna D	F9FCN04QQ7KN	QPSK	1	49	0 mm	right	1:1	0.025	1.033	0.026	0.011	0.011	
2310.00	27710	Mid	LTE Band 30	10	12.80	12.49	0.09	0	Antenna D	F9FCN04QQ7KN	QPSK	25	12	0 mm	right	1:1	0.022	1.074	0.024	0.009	0.010	
2310.00	27710	Mid	LTE Band 30	10	12.80	12.66	-0.02	0	Antenna D	F9FCN04QQ7KN	QPSK	1	49	0 mm	left	1:1	0.112	1.033	0.116	0.048	0.050	
2310.00	27710	Mid	LTE Band 30	10	12.80	12.49	-0.04	0	Antenna D	F9FCN04QQ7KN	QPSK	25	12	0 mm	left	1:1	0.108	1.074	0.116	0.046	0.049	

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

Table 10-29
LTE Band 7 Antenna C Body SAR

MEASUREMENT RESULTS																										
1 CC Uplink / 2CC Uplink	Component Carrier	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)	SAR (10g)	Reported SAR (10g)	Plot #
		MHz	Ch.																(W/kg)		(W/kg)	(W/kg)	(W/kg)	
1 CC Uplink	N/A	2510.00	20850	Low	LTE Band 7	20	12.40	12.36	0.00	0	Antenna C	F9FCN038Q7KN	QPSK	1	99	0 mm	back	1:1	1.000	1.009	1.009	0.397	0.401	
1 CC Uplink	N/A	2535.00	21100	Mid	LTE Band 7	20	12.40	12.15	-0.10	0	Antenna C	F9FCN038Q7KN	QPSK	1	99	0 mm	back	1:1	1.000	1.059	1.059	0.390	0.413	
1 CC Uplink	N/A	2560.00	21350	High	LTE Band 7	20	12.40	12.21	-0.04	0	Antenna C	F9FCN038Q7KN	QPSK	1	50	0 mm	back	1:1	0.947	1.045	0.990	0.367	0.384	
1 CC Uplink	N/A	2510.00	20850	Low	LTE Band 7	20	12.40	12.35	-0.02	0	Antenna C	F9FCN038Q7KN	QPSK	50	50	0 mm	back	1:1	0.993	1.012	1.005	0.390	0.395	
1 CC Uplink	N/A	2535.00	21100	Mid	LTE Band 7	20	12.40	12.20	-0.03	0	Antenna C	F9FCN038Q7KN	QPSK	50	25	0 mm	back	1:1	0.998	1.047	1.045	0.388	0.406	
1 CC Uplink	N/A	2560.00	21350	High	LTE Band 7	20	12.40	12.12	-0.02	0	Antenna C	F9FCN038Q7KN	QPSK	50	25	0 mm	back	1:1	0.957	1.067	1.021	0.370	0.395	
1 CC Uplink	N/A	2510.00	20850	Low	LTE Band 7	20	12.40	12.34	-0.03	0	Antenna C	F9FCN038Q7KN	QPSK	100	0	0 mm	back	1:1	0.975	1.014	0.989	0.384	0.389	
1 CC Uplink	N/A	2510.00	20850	Low	LTE Band 7	20	12.40	12.36	-0.06	0	Antenna C	F9FCN038Q7KN	QPSK	1	99	0 mm	top	1:1	1.040	1.009	1.049	0.440	0.444	
1 CC Uplink	N/A	2535.00	21100	Mid	LTE Band 7	20	12.40	12.15	-0.09	0	Antenna C	F9FCN038Q7KN	QPSK	1	99	0 mm	top	1:1	1.060	1.059	1.123	0.448	0.474	
1 CC Uplink	N/A	2560.00	21350	High	LTE Band 7	20	12.40	12.21	-0.07	0	Antenna C	F9FCN038Q7KN	QPSK	1	50	0 mm	top	1:1	0.996	1.045	1.041	0.419	0.438	
1 CC Uplink	N/A	2510.00	20850	Low	LTE Band 7	20	12.40	12.35	-0.04	0	Antenna C	F9FCN038Q7KN	QPSK	50	50	0 mm	top	1:1	0.998	1.012	1.010	0.424	0.429	
1 CC Uplink	N/A	2535.00	21100	Mid	LTE Band 7	20	12.40	12.20	-0.02	0	Antenna C	F9FCN038Q7KN	QPSK	50	25	0 mm	top	1:1	1.040	1.047	1.089	0.440	0.461	
1 CC Uplink	N/A	2560.00	21350	High	LTE Band 7	20	12.40	12.12	0.02	0	Antenna C	F9FCN038Q7KN	QPSK	50	25	0 mm	top	1:1	0.967	1.067	1.032	0.406	0.433	
1 CC Uplink	N/A	2510.00	20850	Low	LTE Band 7	20	12.40	12.34	-0.07	0	Antenna C	F9FCN038Q7KN	QPSK	100	0	0 mm	top	1:1	1.000	1.014	1.014	0.428	0.434	
2CC Uplink	PCC	2535.00	21100	Mid	LTE Band 7	20	12.40	12.26	0.05	0	Antenna C	F9FCN038Q7KN	QPSK	1	99	0 mm	top	1:1	1.100	1.033	1.136	0.458	0.473	A15
2CC Uplink	SCC	2554.80	21298	Mid	LTE Band 7	20								1	0									
1 CC Uplink	N/A	2510.00	20850	Low	LTE Band 7	20	12.40	12.36	0.00	0	Antenna C	F9FCN038Q7KN	QPSK	1	99	0 mm	bottom	1:1	0.000	1.009	0.000	0.000	0.000	
1 CC Uplink	N/A	2510.00	20850	Low	LTE Band 7	20	12.40	12.35	0.00	0	Antenna C	F9FCN038Q7KN	QPSK	50	50	0 mm	bottom	1:1	0.000	1.012	0.000	0.000	0.000	
1 CC Uplink	N/A	2510.00	20850	Low	LTE Band 7	20	12.40	12.36	0.11	0	Antenna C	F9FCN038Q7KN	QPSK	1	99	0 mm	right	1:1	0.136	1.009	0.137	0.053	0.053	
1 CC Uplink	N/A	2510.00	20850	Low	LTE Band 7	20	12.40	12.35	0.03	0	Antenna C	F9FCN038Q7KN	QPSK	50	50	0 mm	right	1:1	0.125	1.012	0.127	0.049	0.050	
1 CC Uplink	N/A	2510.00	20850	Low	LTE Band 7	20	12.40	12.36	0.07	0	Antenna C	F9FCN038Q7KN	QPSK	1	99	0 mm	left	1:1	0.027	1.009	0.027	0.011	0.011	
1 CC Uplink	N/A	2510.00	20850	Low	LTE Band 7	20	12.40	12.35	0.03	0	Antenna C	F9FCN038Q7KN	QPSK	50	50	0 mm	left	1:1	0.027	1.012	0.027	0.011	0.011	

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

Table 10-30
LTE Band 7 Antenna D Body SAR

MEASUREMENT RESULTS																								
1 CC Uplink / 2CC Uplink	Component Carrier	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)	SAR (10g)	Reported SAR (10g)	Plot #
		MHz	Ch.																(W/kg)		(W/kg)	(W/kg)	(W/kg)	
1 CC Uplink	N/A	2510.00	20850	Low	LTE Band 7	20	12.40	12.20	0.04	0	Antenna D	F9FCN03NQ7KN	QPSK	1	50	0 mm	back	1:1	0.815	1.047	0.853	0.351	0.367	
1 CC Uplink	N/A	2535.00	21100	Mid	LTE Band 7	20	12.40	12.26	0.04	0	Antenna D	F9FCN03NQ7KN	QPSK	1	0	0 mm	back	1:1	0.763	1.033	0.788	0.327	0.338	
1 CC Uplink	N/A	2560.00	21350	High	LTE Band 7	20	12.40	12.23	0.00	0	Antenna D	F9FCN03NQ7KN	QPSK	1	99	0 mm	back	1:1	0.723	1.040	0.752	0.306	0.318	
1 CC Uplink	N/A	2510.00	20850	Low	LTE Band 7	20	12.40	12.24	0.09	0	Antenna D	F9FCN03NQ7KN	QPSK	50	50	0 mm	back	1:1	0.798	1.038	0.828	0.345	0.358	
1 CC Uplink	N/A	2535.00	21100	Mid	LTE Band 7	20	12.40	12.20	0.10	0	Antenna D	F9FCN03NQ7KN	QPSK	50	0	0 mm	back	1:1	0.755	1.047	0.790	0.324	0.339	
1 CC Uplink	N/A	2560.00	21350	High	LTE Band 7	20	12.40	12.23	0.01	0	Antenna D	F9FCN03NQ7KN	QPSK	50	25	0 mm	back	1:1	0.723	1.040	0.752	0.308	0.320	
1 CC Uplink	N/A	2560.00	21350	High	LTE Band 7	20	12.40	12.09	0.00	0	Antenna D	F9FCN03NQ7KN	QPSK	100	0	0 mm	back	1:1	0.743	1.074	0.798	0.316	0.339	
1 CC Uplink	N/A	2510.00	20850	Low	LTE Band 7	20	12.40	12.20	0.01	0	Antenna D	F9FCN03NQ7KN	QPSK	1	50	0 mm	top	1:1	0.899	1.047	0.941	0.367	0.384	
1 CC Uplink	N/A	2535.00	21100	Mid	LTE Band 7	20	12.40	12.26	-0.09	0	Antenna D	F9FCN03NQ7KN	QPSK	1	0	0 mm	top	1:1	0.890	1.033	0.919	0.361	0.373	
1 CC Uplink	N/A	2560.00	21350	High	LTE Band 7	20	12.40	12.23	0.00	0	Antenna D	F9FCN03NQ7KN	QPSK	1	99	0 mm	top	1:1	0.893	1.040	0.929	0.358	0.372	
1 CC Uplink	N/A	2510.00	20850	Low	LTE Band 7	20	12.40	12.24	0.05	0	Antenna D	F9FCN03NQ7KN	QPSK	50	50	0 mm	top	1:1	0.884	1.038	0.918	0.360	0.374	
1 CC Uplink	N/A	2535.00	21100	Mid	LTE Band 7	20	12.40	12.20	0.02	0	Antenna D	F9FCN03NQ7KN	QPSK	50	0	0 mm	top	1:1	0.901	1.047	0.943	0.364	0.381	
1 CC Uplink	N/A	2560.00	21350	High	LTE Band 7	20	12.40	12.23	0.11	0	Antenna D	F9FCN03NQ7KN	QPSK	50	25	0 mm	top	1:1	0.911	1.040	0.947	0.366	0.381	
1 CC Uplink	N/A	2560.00	21350	High	LTE Band 7	20	12.40	12.09	0.11	0	Antenna D	F9FCN03NQ7KN	QPSK	100	0	0 mm	top	1:1	0.947	1.074	1.017	0.382	0.410	
2CC Uplink	PCC	2560.00	21350	High	LTE Band 7	20	12.40	11.90	0.02	0	Antenna D	F9FCN03NQ7KN	QPSK	100	0	0 mm	top	1:1	0.923	1.122	1.036	0.373	0.419	
2CC Uplink	SCC	2540.20	21152	High	LTE Band 7	20								100	0									
1 CC Uplink	N/A	2535.00	21100	Mid	LTE Band 7	20	12.40	12.26	0.00	0	Antenna D	F9FCN03NQ7KN	QPSK	1	0	0 mm	bottom	1:1	0.000	1.033	0.000	0.000	0.000	
1 CC Uplink	N/A	2510.00	20850	Low	LTE Band 7	20	12.40	12.24	0.00	0	Antenna D	F9FCN03NQ7KN	QPSK	50	50	0 mm	bottom	1:1	0.000	1.038	0.000	0.000	0.000	
1 CC Uplink	N/A	2535.00	21100	Mid	LTE Band 7	20	12.40	12.26	0.15	0	Antenna D	F9FCN03NQ7KN	QPSK	1	0	0 mm	right	1:1	0.012	1.033	0.012	0.004	0.004	
1 CC Uplink	N/A	2510.00	20850	Low	LTE Band 7	20	12.40	12.24	0.06	0	Antenna D	F9FCN03NQ7KN	QPSK	50	50	0 mm	right	1:1	0.014	1.038	0.015	0.005	0.005	
1 CC Uplink	N/A	2535.00	21100	Mid	LTE Band 7	20	12.40	12.26	0.03	0	Antenna D	F9FCN03NQ7KN	QPSK	1	0	0 mm	left	1:1	0.147	1.033	0.152	0.058	0.060	
1 CC Uplink	N/A	2510.00	20850	Low	LTE Band 7	20	12.40	12.24	-0.02	0	Antenna D	F9FCN03NQ7KN	QPSK	50	50	0 mm	left	1:1	0.146	1.038	0.152	0.058	0.060	
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population																Body 1.6 W/kg (mW/g) averaged over 1 gram								

Table 10-31
LTE Band 41 Antenna C Body SAR

MEASUREMENT RESULTS																									
1 CC Uplink / 2CC Uplink, Power Class	Component Carrier	FREQUENCY			Mode	Bandwidth [MHz]	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	MPR [dB]	Antenna Config.	Device Serial Number	Modulation	RB Size	RB Offset	Spacing	Side	Duty Cycle	SAR (1g) (W/kg)	Scaling Factor	Reported SAR (1g) (W/kg)	SAR (10g) (W/kg)	Reported SAR (10g) (W/kg)	Plot #
		MHz	Ch.																					
1 CC Uplink - Power Class 3	N/A	2506.00	39750	Low	LTE Band 41	20	15.40	15.14	0.05	0	Antenna C	F9FCN03DQ7KN	QPSK	1	99	0 mm	back	1:1.58	0.971	1.062	1.031	0.381	0.405	
1 CC Uplink - Power Class 3	N/A	2549.50	40185	Low-Mid	LTE Band 41	20	15.40	15.36	0.07	0	Antenna C	F9FCN03DQ7KN	QPSK	1	0	0 mm	back	1:1.58	0.987	1.009	0.996	0.384	0.387	
1 CC Uplink - Power Class 3	N/A	2593.00	40620	Mid	LTE Band 41	20	15.40	15.09	0.10	0	Antenna C	F9FCN03DQ7KN	QPSK	1	99	0 mm	back	1:1.58	0.874	1.074	0.939	0.334	0.359	
1 CC Uplink - Power Class 3	N/A	2636.50	41055	Mid-High	LTE Band 41	20	15.40	15.18	0.14	0	Antenna C	F9FCN03DQ7KN	QPSK	1	0	0 mm	back	1:1.58	0.879	1.052	0.925	0.332	0.349	
1 CC Uplink - Power Class 3	N/A	2680.00	41490	High	LTE Band 41	20	15.40	14.92	0.16	0	Antenna C	F9FCN03DQ7KN	QPSK	1	0	0 mm	back	1:1.58	0.832	1.117	0.929	0.311	0.347	
1 CC Uplink - Power Class 3	N/A	2506.00	39750	Low	LTE Band 41	20	15.40	15.11	0.10	0	Antenna C	F9FCN03DQ7KN	QPSK	50	50	0 mm	back	1:1.58	0.966	1.069	1.033	0.378	0.404	
1 CC Uplink - Power Class 3	N/A	2549.50	40185	Low-Mid	LTE Band 41	20	15.40	15.25	0.07	0	Antenna C	F9FCN03DQ7KN	QPSK	50	0	0 mm	back	1:1.58	0.969	1.035	1.003	0.376	0.389	
1 CC Uplink - Power Class 3	N/A	2593.00	40620	Mid	LTE Band 41	20	15.40	15.08	0.12	0	Antenna C	F9FCN03DQ7KN	QPSK	50	0	0 mm	back	1:1.58	0.916	1.076	0.986	0.348	0.374	
1 CC Uplink - Power Class 3	N/A	2636.50	41055	Mid-High	LTE Band 41	20	15.40	15.03	0.16	0	Antenna C	F9FCN03DQ7KN	QPSK	50	0	0 mm	back	1:1.58	0.855	1.089	0.931	0.322	0.351	
1 CC Uplink - Power Class 3	N/A	2680.00	41490	High	LTE Band 41	20	15.40	14.90	0.17	0	Antenna C	F9FCN03DQ7KN	QPSK	50	0	0 mm	back	1:1.58	0.821	1.122	0.921	0.305	0.342	
1 CC Uplink - Power Class 3	N/A	2549.50	40185	Low-Mid	LTE Band 41	20	15.40	15.20	0.13	0	Antenna C	F9FCN03DQ7KN	QPSK	100	0	0 mm	back	1:1.58	0.958	1.047	1.003	0.369	0.386	
1 CC Uplink - Power Class 3	N/A	2506.00	39750	Low	LTE Band 41	20	15.40	15.14	0.01	0	Antenna C	F9FCN03DQ7KN	QPSK	1	99	0 mm	top	1:1.58	1.010	1.062	1.073	0.432	0.459	
1 CC Uplink - Power Class 3	N/A	2549.50	40185	Low-Mid	LTE Band 41	20	15.40	15.36	-0.02	0	Antenna C	F9FCN03DQ7KN	QPSK	1	0	0 mm	top	1:1.58	1.090	1.009	1.100	0.460	0.464	
1 CC Uplink - Power Class 3	N/A	2593.00	40620	Mid	LTE Band 41	20	15.40	15.09	-0.02	0	Antenna C	F9FCN03DQ7KN	QPSK	1	99	0 mm	top	1:1.58	1.040	1.074	1.117	0.426	0.458	
1 CC Uplink - Power Class 3	N/A	2636.50	41055	Mid-High	LTE Band 41	20	15.40	15.18	-0.03	0	Antenna C	F9FCN03DQ7KN	QPSK	1	0	0 mm	top	1:1.58	1.100	1.052	1.157	0.452	0.476	A16
1 CC Uplink - Power Class 3	N/A	2680.00	41490	High	LTE Band 41	20	15.40	14.92	-0.01	0	Antenna C	F9FCN03DQ7KN	QPSK	1	0	0 mm	top	1:1.58	1.050	1.117	1.173	0.427	0.477	
1 CC Uplink - Power Class 3	N/A	2506.00	39750	Low	LTE Band 41	20	15.40	15.11	-0.01	0	Antenna C	F9FCN03DQ7KN	QPSK	50	50	0 mm	top	1:1.58	1.060	1.069	1.133	0.451	0.482	
1 CC Uplink - Power Class 3	N/A	2549.50	40185	Low-Mid	LTE Band 41	20	15.40	15.25	-0.11	0	Antenna C	F9FCN03DQ7KN	QPSK	50	0	0 mm	top	1:1.58	1.090	1.035	1.128	0.448	0.464	
1 CC Uplink - Power Class 3	N/A	2593.00	40620	Mid	LTE Band 41	20	15.40	15.08	-0.03	0	Antenna C	F9FCN03DQ7KN	QPSK	50	0	0 mm	top	1:1.58	0.974	1.076	1.048	0.410	0.441	
1 CC Uplink - Power Class 3	N/A	2636.50	41055	Mid-High	LTE Band 41	20	15.40	15.03	0.01	0	Antenna C	F9FCN03DQ7KN	QPSK	50	0	0 mm	top	1:1.58	1.080	1.089	1.176	0.443	0.482	
1 CC Uplink - Power Class 3	N/A	2680.00	41490	High	LTE Band 41	20	15.40	14.90	-0.03	0	Antenna C	F9FCN03DQ7KN	QPSK	50	0	0 mm	top	1:1.58	1.050	1.122	1.178	0.422	0.473	
1 CC Uplink - Power Class 3	N/A	2549.50	40185	Low-Mid	LTE Band 41	20	15.40	15.20	-0.06	0	Antenna C	F9FCN03DQ7KN	QPSK	100	0	0 mm	top	1:1.58	1.060	1.047	1.110	0.439	0.460	
1 CC Uplink - Power Class 2	N/A	2680.00	41490	High	LTE Band 41	20	15.40	14.76	-0.02	0	Antenna C	F9FCN03DQ7KN	QPSK	50	0	0 mm	top	1:2.31	0.675	1.159	0.782	0.271	0.314	
2 CC Uplink - Power Class 3	PCC	2680.00	41490	High	LTE Band 41	20	15.40	14.88	-0.01	0	Antenna C	F9FCN03DQ7KN	QPSK	50	0	0 mm	top	1:1.58	1.030	1.127	1.161	0.423	0.477	
2 CC Uplink - Power Class 3	SCC	2660.20	41292	High	LTE Band 41	20								50	50									
1 CC Uplink - Power Class 3	N/A	2549.50	40185	Low-Mid	LTE Band 41	20	15.40	15.36	0.02	0	Antenna C	F9FCN03DQ7KN	QPSK	1	0	0 mm	bottom	1:1.58	0.000	1.009	0.000	0.000	0.000	
1 CC Uplink - Power Class 3	N/A	2549.50	40185	Low-Mid	LTE Band 41	20	15.40	15.25	-0.10	0	Antenna C	F9FCN03DQ7KN	QPSK	50	0	0 mm	bottom	1:1.58	0.000	1.035	0.000	0.000	0.000	
1 CC Uplink - Power Class 3	N/A	2549.50	40185	Low-Mid	LTE Band 41	20	15.40	15.36	0.01	0	Antenna C	F9FCN03DQ7KN	QPSK	1	0	0 mm	right	1:1.58	0.174	1.009	0.176	0.067	0.068	
1 CC Uplink - Power Class 3	N/A	2549.50	40185	Low-Mid	LTE Band 41	20	15.40	15.25	-0.10	0	Antenna C	F9FCN03DQ7KN	QPSK	50	0	0 mm	right	1:1.58	0.179	1.035	0.185	0.069	0.071	
1 CC Uplink - Power Class 3	N/A	2549.50	40185	Low-Mid	LTE Band 41	20	15.40	15.36	0.17	0	Antenna C	F9FCN03DQ7KN	QPSK	1	0	0 mm	left	1:1.58	0.021	1.009	0.021	0.009	0.009	
1 CC Uplink - Power Class 3	N/A	2549.50	40185	Low-Mid	LTE Band 41	20	15.40	15.25	0.03	0	Antenna C	F9FCN03DQ7KN	QPSK	50	0	0 mm	left	1:1.58	0.021	1.035	0.022	0.009	0.009	
1 CC Uplink - Power Class 3	N/A	2506.00	39750	Low	LTE Band 41	20	15.40	15.11	-0.02	0	Antenna C	F9FCN03DQ7KN	QPSK	50	50	0 mm	top	1:1.58	0.980	1.069	1.048	0.423	0.452	
1 CC Uplink - Power Class 3	N/A	2636.50	41055	Mid-High	LTE Band 41	20	15.40	15.18	-0.03	0	Antenna C	F9FCN03DQ7KN	QPSK	1	0	0 mm	top	1:1.58	1.090	1.052	1.147	0.451	0.474	
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population																			Body 1.6 W/kg (mW/g) averaged over 1 gram					

Note: Blue entries represents variability measurement

Table 10-32
LTE Band 41 Antenna D Body SAR

MEASUREMENT RESULTS																										
1 CC Uplink / 2CC Uplink, Power Class	Component Carrier	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)	SAR (10g)	Reported SAR (10g)	Plot #
		MHz	Ch.																(W/kg)		(W/kg)	(W/kg)	(W/kg)	
1 CC Uplink - Power Class 3	N/A	2506.00	39750	Low	LTE Band 41	20	15.40	15.35	-0.02	0	Antenna D	F9FCN03QQ7KN	QPSK	1	99	0 mm	back	1:1.58	1.030	1.012	1.042	0.442	0.447	
1 CC Uplink - Power Class 3	N/A	2549.50	40185	Low-Mid	LTE Band 41	20	15.40	15.40	-0.14	0	Antenna D	F9FCN03QQ7KN	QPSK	1	0	0 mm	back	1:1.58	0.964	1.000	0.964	0.407	0.407	
1 CC Uplink - Power Class 3	N/A	2593.00	40620	Mid	LTE Band 41	20	15.40	15.34	0.16	0	Antenna D	F9FCN03QQ7KN	QPSK	1	0	0 mm	back	1:1.58	0.859	1.014	0.871	0.346	0.351	
1 CC Uplink - Power Class 3	N/A	2636.50	41055	Mid-High	LTE Band 41	20	15.40	15.32	-0.01	0	Antenna D	F9FCN03QQ7KN	QPSK	1	0	0 mm	back	1:1.58	0.788	1.019	0.803	0.331	0.337	
1 CC Uplink - Power Class 3	N/A	2680.00	41490	High	LTE Band 41	20	15.40	15.15	-0.01	0	Antenna D	F9FCN03QQ7KN	QPSK	1	0	0 mm	back	1:1.58	0.733	1.059	0.776	0.304	0.322	
1 CC Uplink - Power Class 3	N/A	2506.00	39750	Low	LTE Band 41	20	15.40	15.24	-0.02	0	Antenna D	F9FCN03QQ7KN	QPSK	50	50	0 mm	back	1:1.58	0.840	1.038	0.872	0.359	0.373	
1 CC Uplink - Power Class 3	N/A	2549.50	40185	Low-Mid	LTE Band 41	20	15.40	15.40	-0.02	0	Antenna D	F9FCN03QQ7KN	QPSK	50	0	0 mm	back	1:1.58	0.945	1.000	0.945	0.402	0.402	
1 CC Uplink - Power Class 3	N/A	2593.00	40620	Mid	LTE Band 41	20	15.40	15.29	-0.19	0	Antenna D	F9FCN03QQ7KN	QPSK	50	0	0 mm	back	1:1.58	0.820	1.026	0.841	0.325	0.333	
1 CC Uplink - Power Class 3	N/A	2636.50	41055	Mid-High	LTE Band 41	20	15.40	15.17	-0.02	0	Antenna D	F9FCN03QQ7KN	QPSK	50	25	0 mm	back	1:1.58	0.779	1.054	0.821	0.325	0.343	
1 CC Uplink - Power Class 3	N/A	2680.00	41490	High	LTE Band 41	20	15.40	15.05	-0.11	0	Antenna D	F9FCN03QQ7KN	QPSK	50	0	0 mm	back	1:1.58	0.600	1.084	0.650	0.239	0.259	
1 CC Uplink - Power Class 3	N/A	2549.50	40185	Low-Mid	LTE Band 41	20	15.40	15.38	-0.02	0	Antenna D	F9FCN03QQ7KN	QPSK	100	0	0 mm	back	1:1.58	0.818	1.005	0.822	0.372	0.374	
1 CC Uplink - Power Class 3	N/A	2506.00	39750	Low	LTE Band 41	20	15.40	15.35	-0.07	0	Antenna D	F9FCN03QQ7KN	QPSK	1	99	0 mm	top	1:1.58	0.927	1.012	0.938	0.384	0.389	
1 CC Uplink - Power Class 3	N/A	2549.50	40185	Low-Mid	LTE Band 41	20	15.40	15.40	-0.14	0	Antenna D	F9FCN03QQ7KN	QPSK	1	0	0 mm	top	1:1.58	0.974	1.000	0.974	0.401	0.401	
1 CC Uplink - Power Class 3	N/A	2593.00	40620	Mid	LTE Band 41	20	15.40	15.34	-0.05	0	Antenna D	F9FCN03QQ7KN	QPSK	1	0	0 mm	top	1:1.58	1.020	1.014	1.034	0.401	0.407	
1 CC Uplink - Power Class 3	N/A	2636.50	41055	Mid-High	LTE Band 41	20	15.40	15.32	0.00	0	Antenna D	F9FCN03QQ7KN	QPSK	1	0	0 mm	top	1:1.58	1.030	1.019	1.050	0.416	0.424	
1 CC Uplink - Power Class 3	N/A	2680.00	41490	High	LTE Band 41	20	15.40	15.15	0.19	0	Antenna D	F9FCN03QQ7KN	QPSK	1	0	0 mm	top	1:1.58	1.040	1.059	1.101	0.408	0.432	
1 CC Uplink - Power Class 3	N/A	2506.00	39750	Low	LTE Band 41	20	15.40	15.24	0.01	0	Antenna D	F9FCN03QQ7KN	QPSK	50	50	0 mm	top	1:1.58	0.930	1.038	0.965	0.382	0.397	
1 CC Uplink - Power Class 3	N/A	2549.50	40185	Low-Mid	LTE Band 41	20	15.40	15.40	0.01	0	Antenna D	F9FCN03QQ7KN	QPSK	50	0	0 mm	top	1:1.58	0.996	1.000	0.996	0.405	0.405	
1 CC Uplink - Power Class 3	N/A	2593.00	40620	Mid	LTE Band 41	20	15.40	15.29	-0.03	0	Antenna D	F9FCN03QQ7KN	QPSK	50	0	0 mm	top	1:1.58	0.923	1.026	0.947	0.370	0.380	
1 CC Uplink - Power Class 3	N/A	2636.50	41055	Mid-High	LTE Band 41	20	15.40	15.17	-0.02	0	Antenna D	F9FCN03QQ7KN	QPSK	50	25	0 mm	top	1:1.58	1.010	1.054	1.065	0.398	0.419	
1 CC Uplink - Power Class 3	N/A	2680.00	41490	High	LTE Band 41	20	15.40	15.05	-0.02	0	Antenna D	F9FCN03QQ7KN	QPSK	50	0	0 mm	top	1:1.58	0.986	1.084	1.069	0.388	0.421	
1 CC Uplink - Power Class 3	N/A	2549.50	40185	Low-Mid	LTE Band 41	20	15.40	15.38	-0.02	0	Antenna D	F9FCN03QQ7KN	QPSK	100	0	0 mm	top	1:1.58	0.975	1.005	0.980	0.395	0.397	
1 CC Uplink - Power Class 2	N/A	2680.00	41490	High	LTE Band 41	20	15.40	15.24	0.00	0	Antenna D	F9FCN03QQ7KN	QPSK	1	0	0 mm	top	1:2.31	0.710	1.038	0.737	0.275	0.285	
2 CC Uplink - Power Class 3	PCC	2680.00	41490	High	LTE Band 41	20	15.40	15.02	-0.15	0	Antenna D	F9FCN03QQ7KN	QPSK	1	0	0 mm	top	1:1.58	0.983	1.091	1.072	0.397	0.433	
2 CC Uplink - Power Class 3	SCC	2660.20	41292	High	LTE Band 41	20								1	99									
1 CC Uplink - Power Class 3	N/A	2549.50	40185	Low-Mid	LTE Band 41	20	15.40	15.40	0.00	0	Antenna D	F9FCN03QQ7KN	QPSK	1	0	0 mm	bottom	1:1.58	0.000	1.000	0.000	0.000	0.000	
1 CC Uplink - Power Class 3	N/A	2549.50	40185	Low-Mid	LTE Band 41	20	15.40	15.40	0.00	0	Antenna D	F9FCN03QQ7KN	QPSK	50	0	0 mm	bottom	1:1.58	0.000	1.000	0.000	0.000	0.000	
1 CC Uplink - Power Class 3	N/A	2549.50	40185	Low-Mid	LTE Band 41	20	15.40	15.40	0.03	0	Antenna D	F9FCN03QQ7KN	QPSK	1	0	0 mm	right	1:1.58	0.021	1.000	0.021	0.008	0.008	
1 CC Uplink - Power Class 3	N/A	2549.50	40185	Low-Mid	LTE Band 41	20	15.40	15.40	0.21	0	Antenna D	F9FCN03QQ7KN	QPSK	50	0	0 mm	right	1:1.58	0.020	1.000	0.020	0.007	0.007	
1 CC Uplink - Power Class 3	N/A	2549.50	40185	Low-Mid	LTE Band 41	20	15.40	15.40	-0.08	0	Antenna D	F9FCN03QQ7KN	QPSK	1	0	0 mm	left	1:1.58	0.165	1.000	0.165	0.066	0.066	
1 CC Uplink - Power Class 3	N/A	2549.50	40185	Low-Mid	LTE Band 41	20	15.40	15.40	0.04	0	Antenna D	F9FCN03QQ7KN	QPSK	50	0	0 mm	left	1:1.58	0.159	1.000	0.159	0.063	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					

Table 10-33
2.4GHz WLAN Antenna A Body SAR

MEASUREMENT RESULTS																						
FREQUENCY		Mode	Service	Bandwidth [MHz]	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	Variant	Antenna Config.	Variant	Device Serial Number	Data Rate (Mbps)	Side	Duty Cycle (%)	SAR (1g)	Scaling Factor (Power)	Scaling Factor (Duty Cycle)	Reported SAR (1g)	SAR (10g)	Reported SAR (10g)	Plot #
MHz	Ch.														(W/kg)			(W/kg)	(W/kg)	(W/kg)	
2462	11	802.11b	DSSS	22	16.00	15.16	0.10	0 mm	Antenna A	V1	F9FCN038Q7KN	1	back	100.0	0.032	1.213	1.000	0.039	0.015	0.018	
2462	11	802.11b	DSSS	22	16.00	15.16	-0.03	0 mm	Antenna A	V1	F9FCN038Q7KN	1	top	100.0	0.007	1.213	1.000	0.008	0.003	0.004	
2412	1	802.11b	DSSS	22	16.00	15.15	0.01	0 mm	Antenna A	V1	F9FCN038Q7KN	1	bottom	100.0	0.593	1.216	1.000	0.721	0.190	0.231	
2437	6	802.11b	DSSS	22	16.00	15.12	-0.01	0 mm	Antenna A	V1	F9FCN038Q7KN	1	bottom	100.0	0.674	1.225	1.000	0.826	0.216	0.265	
2462	11	802.11b	DSSS	22	16.00	15.16	0.00	0 mm	Antenna A	V1	F9FCN038Q7KN	1	bottom	100.0	0.711	1.213	1.000	0.862	0.228	0.277	
2462	11	802.11b	DSSS	22	16.0	14.94	0.06	0 mm	Antenna A	V2	F9FCN04UQ7KN	1	bottom	100.0	0.642	1.276	1.000	0.819	0.206	0.263	
2462	11	802.11b	DSSS	22	16.00	15.16	0.06	0 mm	Antenna A	V1	F9FCN038Q7KN	1	right	100.0	0.001	1.213	1.000	0.001	0.000	0.000	
2462	11	802.11b	DSSS	22	16.00	15.16	-0.03	0 mm	Antenna A	V1	F9FCN038Q7KN	1	left	100.0	0.085	1.213	1.000	0.103	0.038	0.046	
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population															Body 1.6 W/kg (mW/g) averaged over 1 gram						

Table 10-34
2.4GHz WLAN Antenna B Body SAR

MEASUREMENT RESULTS																						
FREQUENCY		Mode	Service	Bandwidth [MHz]	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	Variant	Antenna Config.	Variant	Device Serial Number	Data Rate (Mbps)	Side	Duty Cycle (%)	SAR (1g) (W/kg)	Scaling Factor (Power)	Scaling Factor (Duty Cycle)	Reported SAR (1g) (W/kg)	SAR (10g) (W/kg)	Reported SAR (10g) (W/kg)	Plot #
MHz	Ch.																				
2437	6	802.11b	DSSS	22	16.00	15.09	0.15	0 mm	Antenna B	V1	F9FCN038Q7KN	1	back	100.0	0.055	1.233	1.000	0.068	0.028	0.035	
2437	6	802.11b	DSSS	22	16.00	15.09	0.04	0 mm	Antenna B	V1	F9FCN038Q7KN	1	top	100.0	0.012	1.233	1.000	0.015	0.005	0.006	
2412	1	802.11b	DSSS	22	16.00	14.99	-0.17	0 mm	Antenna B	V1	F9FCN038Q7KN	1	bottom	100.0	0.661	1.262	1.000	0.834	0.218	0.275	
2437	6	802.11b	DSSS	22	16.00	15.09	0.08	0 mm	Antenna B	V1	F9FCN038Q7KN	1	bottom	100.0	0.820	1.233	1.000	**1.011**	**0.270**	**0.333**	A17
2437	6	802.11b	DSSS	22	16.00	14.80	-0.06	0 mm	Antenna B	V2	F9FCN04NQ7KN	1	bottom	100.0	0.630	1.318	1.000	0.830	0.204	0.269	
2462	11	802.11b	DSSS	22	16.0	14.97	0.05	0 mm	Antenna B	V1	F9FCN038Q7KN	1	bottom	100.0	0.623	1.268	1.000	0.790	0.204	0.259	
2437	6	802.11b	DSSS	22	16.00	15.09	0.03	0 mm	Antenna B	V1	F9FCN038Q7KN	1	right	100.0	0.126	1.233	1.000	0.155	0.058	0.072	
2437	6	802.11b	DSSS	22	16.00	15.09	-0.17	0 mm	Antenna B	V1	F9FCN038Q7KN	1	left	100.0	0.002	1.233	1.000	0.002	0.001	0.001	
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population									Body 1.6 W/kg (mW/g) averaged over 1 gram												

Table 10-35
5GHz WLAN Antenna A Body SAR

MEASUREMENT RESULTS																						
FREQUENCY		Mode	Service	Bandwidth [MHz]	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	Variant	Antenna Config.	Variant	Device Serial Number	Data Rate (Mbps)	Side	Duty Cycle (%)	SAR (1g) (W/kg)	Scaling Factor (Power)	Scaling Factor (Duty Cycle)	Reported SAR (1g) (W/kg)	SAR (10g) (W/kg)	Reported SAR (10g) (W/kg)	Plot #
MHz	Ch.																				
5270	54	802.11n	OFDM	40	17.00	16.01	-0.09	0 mm	Antenna A	V1	F9FCN03GQ7KN	13.5	back	96.7	0.029	1.256	1.034	0.038	0.011	0.014	
5270	54	802.11n	OFDM	40	17.00	16.01	0.03	0 mm	Antenna A	V1	F9FCN03GQ7KN	13.5	top	96.7	0.009	1.256	1.034	0.012	0.003	0.004	
5270	54	802.11n	OFDM	40	17.00	16.01	-0.03	0 mm	Antenna A	V1	F9FCN03GQ7KN	13.5	bottom	96.7	0.612	1.256	1.034	0.795	0.199	0.258	
5270	54	802.11n	OFDM	40	17.00	15.93	-0.17	0 mm	Antenna A	V2	F9FCN04NQ7KN	13.5	bottom	97.7	0.546	1.279	1.024	0.715	0.179	0.234	
5310	62	802.11n	OFDM	40	14.50	13.32	-0.03	0 mm	Antenna A	V1	F9FCN03GQ7KN	13.5	bottom	96.7	0.374	1.312	1.034	0.507	0.122	0.166	
5270	54	802.11n	OFDM	40	17.00	16.01	-0.10	0 mm	Antenna A	V1	F9FCN03GQ7KN	13.5	right	96.7	0.000	1.256	1.034	0.000	0.000	0.000	
5270	54	802.11n	OFDM	40	17.00	16.01	0.08	0 mm	Antenna A	V1	F9FCN03GQ7KN	13.5	left	96.7	0.058	1.256	1.034	0.075	0.022	0.029	
5690	138	802.11ac	OFDM	80	17.50	16.51	0.03	0 mm	Antenna A	V2	F9FCN04UQ7KN	29.3	back	95.4	0.088	1.256	1.048	0.116	0.029	0.038	
5690	138	802.11ac	OFDM	80	17.50	16.51	0.05	0 mm	Antenna A	V2	F9FCN04UQ7KN	29.3	top	95.4	0.022	1.256	1.048	0.029	0.007	0.009	
5530	106	802.11ac	OFDM	80	12.00	10.98	-0.02	0 mm	Antenna A	V2	F9FCN04UQ7KN	29.3	bottom	95.4	0.329	1.265	1.048	0.436	0.109	0.145	
5610	122	802.11ac	OFDM	80	15.50	14.48	-0.09	0 mm	Antenna A	V2	F9FCN04UQ7KN	29.3	bottom	95.4	0.695	1.265	1.048	0.921	0.236	0.313	
5690	138	802.11ac	OFDM	80	17.50	16.51	-0.15	0 mm	Antenna A	V2	F9FCN04UQ7KN	29.3	bottom	95.4	0.765	1.256	1.048	1.007	0.260	0.342	
5690	138	802.11ac	OFDM	80	17.50	16.42	-0.03	0 mm	Antenna A	V1	F9FCN03QQ7KN	29.3	bottom	95.3	0.683	1.282	1.049	0.919	0.233	0.313	
5690	138	802.11ac	OFDM	80	17.50	16.51	-0.02	0 mm	Antenna A	V2	F9FCN04UQ7KN	29.3	right	95.4	0.004	1.256	1.048	0.005	0.001	0.001	
5690	138	802.11ac	OFDM	80	17.50	16.51	-0.05	0 mm	Antenna A	V2	F9FCN04UQ7KN	29.3	left	95.4	0.111	1.256	1.048	0.146	0.041	0.054	
5795	159	802.11n	OFDM	40	16.25	15.22	-0.11	0 mm	Antenna A	V1	F9FCN03QQ7KN	13.5	back	96.7	0.065	1.268	1.034	0.085	0.021	0.028	
5795	159	802.11n	OFDM	40	16.25	15.22	0.15	0 mm	Antenna A	V1	F9FCN03QQ7KN	13.5	top	96.7	0.014	1.268	1.034	0.018	0.005	0.007	
5755	151	802.11n	OFDM	40	16.25	15.11	0.04	0 mm	Antenna A	V1	F9FCN03QQ7KN	13.5	bottom	96.7	0.529	1.300	1.034	0.711	0.183	0.246	
5795	159	802.11n	OFDM	40	16.25	15.22	-0.01	0 mm	Antenna A	V1	F9FCN03QQ7KN	13.5	bottom	96.7	0.597	1.268	1.034	0.783	0.203	0.266	
5795	159	802.11n	OFDM	40	16.25	15.23	0.07	0 mm	Antenna A	V2	F9FCN04QQ7KN	13.5	bottom	97.7	0.578	1.265	1.024	0.749	0.195	0.253	
5795	159	802.11n	OFDM	40	16.25	15.22	-0.05	0 mm	Antenna A	V1	F9FCN03QQ7KN	13.5	right	96.7	0.001	1.268	1.034	0.001	0.000	0.000	
5795	159	802.11n	OFDM	40	16.25	15.22	-0.08	0 mm	Antenna A	V1	F9FCN03QQ7KN	13.5	left	96.7	0.079	1.268	1.034	0.104	0.026	0.034	
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population									Body 1.6 W/kg (mW/g) averaged over 1 gram												

Table 10-36
5GHz WLAN Antenna B Body SAR

MEASUREMENT RESULTS																						
FREQUENCY		Mode	Service	Bandwidth [MHz]	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	Variant	Antenna Config.	Variant	Device Serial Number	Data Rate (Mbps)	Side	Duty Cycle (%)	SAR (1g)	Scaling Factor (Power)	Scaling Factor (Duty Cycle)	Reported SAR (1g)	SAR (10g)	Reported SAR (10g)	Plot #
MHz	Ch.														(W/kg)			(W/kg)	(W/kg)	(W/kg)	
5270	54	802.11n	OFDM	40	16.75	15.81	-0.02	0 mm	Antenna B	V2	F9FCN04QQ7KN	13.5	back	97.7	0.043	1.242	1.024	0.055	0.018	0.023	
5270	54	802.11n	OFDM	40	16.75	15.81	-0.03	0 mm	Antenna B	V2	F9FCN04QQ7KN	13.5	top	97.7	0.017	1.242	1.024	0.022	0.006	0.008	
5270	54	802.11n	OFDM	40	16.75	15.81	-0.04	0 mm	Antenna B	V2	F9FCN04QQ7KN	13.5	bottom	97.7	0.640	1.242	1.024	0.814	0.212	0.270	
5270	54	802.11n	OFDM	40	16.75	15.85	-0.03	0 mm	Antenna B	V1	F9FCN03QQ7KN	13.5	bottom	97.5	0.626	1.230	1.026	0.790	0.215	0.271	
5310	62	802.11n	OFDM	40	14.50	13.51	0.03	0 mm	Antenna B	V2	F9FCN04QQ7KN	13.5	bottom	97.7	0.323	1.256	1.024	0.415	0.108	0.139	
5270	54	802.11n	OFDM	40	16.75	15.81	-0.03	0 mm	Antenna B	V2	F9FCN04QQ7KN	13.5	right	97.7	0.076	1.242	1.024	0.097	0.028	0.036	
5270	54	802.11n	OFDM	40	16.75	15.81	0.04	0 mm	Antenna B	V2	F9FCN04QQ7KN	13.5	left	97.7	0.004	1.242	1.024	0.005	0.002	0.003	
5690	138	802.11ac	OFDM	80	17.25	16.22	0.19	0 mm	Antenna B	V1	F9FCN03QQ7KN	29.3	back	95.3	0.044	1.268	1.049	0.059	0.019	0.025	
5690	138	802.11ac	OFDM	80	17.25	16.22	0.07	0 mm	Antenna B	V1	F9FCN03QQ7KN	29.3	top	95.3	0.023	1.268	1.049	0.031	0.008	0.011	
5530	106	802.11ac	OFDM	80	12.00	11.88	0.01	0 mm	Antenna B	V1	F9FCN03QQ7KN	29.3	bottom	95.3	0.284	1.028	1.049	0.306	0.099	0.107	
5610	122	802.11ac	OFDM	80	15.50	14.95	0.04	0 mm	Antenna B	V1	F9FCN03QQ7KN	29.3	bottom	95.3	0.709	1.135	1.049	0.844	0.253	0.301	
5690	138	802.11ac	OFDM	80	17.25	16.22	-0.01	0 mm	Antenna B	V1	F9FCN03QQ7KN	29.3	bottom	95.3	0.815	1.268	1.049	**1.084**	0.293	0.390	A18
5690	138	802.11ac	OFDM	80	17.25	16.31	-0.14	0 mm	Antenna B	V2	F9FCN04UQ7KN	29.3	bottom	95.1	0.674	1.242	1.052	0.881	0.240	0.314	
5690	138	802.11ac	OFDM	80	17.25	16.22	0.19	0 mm	Antenna B	V1	F9FCN03QQ7KN	29.3	right	95.3	0.093	1.268	1.049	0.124	0.034	0.045	
5690	138	802.11ac	OFDM	80	17.25	16.22	-0.10	0 mm	Antenna B	V1	F9FCN03QQ7KN	29.3	left	95.3	0.004	1.268	1.049	0.005	0.002	0.003	
5795	159	802.11n	OFDM	40	16.50	16.08	0.05	0 mm	Antenna B	V1	F9FCN03QQ7KN	13.5	back	97.5	0.066	1.102	1.026	0.075	0.024	0.027	
5795	159	802.11n	OFDM	40	16.50	16.08	0.03	0 mm	Antenna B	V1	F9FCN03QQ7KN	13.5	top	97.5	0.019	1.102	1.026	0.021	0.006	0.007	
5755	151	802.11n	OFDM	40	16.5	16.07	-0.14	0 mm	Antenna B	V1	F9FCN03QQ7KN	13.5	bottom	97.5	0.689	1.104	1.026	0.780	0.241	0.273	
5755	151	802.11n	OFDM	40	16.5	15.55	-0.08	0 mm	Antenna B	V2	F9FCN04QQ7KN	13.5	bottom	97.7	0.587	1.245	1.024	0.748	0.211	0.269	
5795	159	802.11n	OFDM	40	16.50	16.08	0.04	0 mm	Antenna B	V1	F9FCN03QQ7KN	13.5	bottom	97.5	0.676	1.102	1.026	0.764	0.243	0.275	
5795	159	802.11n	OFDM	40	16.50	16.08	0.01	0 mm	Antenna B	V1	F9FCN03QQ7KN	13.5	right	97.5	0.098	1.102	1.026	0.111	0.034	0.038	
5795	159	802.11n	OFDM	40	16.50	16.08	0.03	0 mm	Antenna B	V1	F9FCN03QQ7KN	13.5	left	97.5	0.009	1.102	1.026	0.010	0.003	0.003	
5690	138	802.11ac	OFDM	80	17.25	16.22	-0.10	0 mm	Antenna B	V1	F9FCN03QQ7KN	29.3	bottom	95.3	0.800	1.268	1.049	1.064	0.296	0.394	
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population															Body 1.6 W/kg (mW/g) averaged over 1 gram						

Note: Blue entries represents variability measurement

Table 10-37
Bluetooth Antenna A Body SAR

MEASUREMENT RESULTS																					
FREQUENCY		Mode	Service	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	Variant	Antenna Config.	Variant	Device Serial Number	Data Rate (Mbps)	Side	Duty Cycle (%)	SAR (1g)	Scaling Factor (Cond Power)	Scaling Factor (Duty Cycle)	Reported SAR (1g)	SAR (10g)	Reported SAR (10g)	Plot #
MHz	Ch.													(W/kg)			(W/kg)	(W/kg)	(W/kg)	
2480	78	Bluetooth	FHSS	17.00	16.35	0.01	0 mm	Antenna A	V1	F9FCN038Q7KN	1	back	77.2	0.046	1.161	1.004	0.054	0.020	0.023	
2480	78	Bluetooth	FHSS	17.00	16.35	-0.04	0 mm	Antenna A	V1	F9FCN038Q7KN	1	top	77.2	0.007	1.161	1.004	0.008	0.002	0.002	
2402	0	Bluetooth	FHSS	17.00	16.24	0.05	0 mm	Antenna A	V1	F9FCN038Q7KN	1	bottom	77.2	0.618	1.191	1.004	0.739	0.199	0.238	
2441	39	Bluetooth	FHSS	17.00	15.84	0.01	0 mm	Antenna A	V1	F9FCN038Q7KN	1	bottom	77.2	0.819	1.306	1.004	1.074	0.265	0.347	
2480	78	Bluetooth	FHSS	17.00	16.35	0.03	0 mm	Antenna A	V1	F9FCN038Q7KN	1	bottom	77.2	0.984	1.161	1.004	**1.147**	0.324	**0.378**	
2480	78	Bluetooth	FHSS	17.00	16.99	0.01	0 mm	Antenna A	V2	F9FCN04UQ7KN	1	bottom	77.5	1.000	1.002	1.000	1.002	0.327	0.328	A19
2402	0	Bluetooth	FHSS	10.00	9.72	-0.08	0 mm	Antenna A	V1	F9FCN038Q7KN	1	bottom	77.2	0.160	1.067	1.004	0.171	0.049	0.052	
2480	78	Bluetooth	FHSS	17.00	16.35	0.04	0 mm	Antenna A	V1	F9FCN038Q7KN	1	right	77.2	0.002	1.161	1.004	0.002	0.000	0.000	
2480	78	Bluetooth	FHSS	17.00	16.35	0.04	0 mm	Antenna A	V1	F9FCN038Q7KN	1	left	77.2	0.114	1.161	1.004	0.133	0.047	0.055	
2402	0	Bluetooth	FHSS	10.00	9.72	0.04	0 mm	Antenna A	V1	F9FCN038Q7KN	1	left	77.2	0.021	1.067	1.004	0.022	0.006	0.006	
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population															Body 1.6 W/kg (mW/g) averaged over 1 gram						

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

SAR Test Notes

General Notes:

1. The test data reported are the worst-case SAR values according to test procedures specified in FCC KDB Publication 616217 D04v01r02 and FCC KDB Publication 447498 D01v06.
2. Batteries are fully charged at the beginning of the SAR measurements.
3. Liquid tissue depth was at least 15.0 cm for all frequencies.
4. The manufacturer has confirmed that the device(s) tested have the same physical, mechanical and thermal characteristics and are within operational tolerances expected for production units.
5. SAR results were scaled to the maximum allowed power to demonstrate compliance per FCC KDB Publication 447498 D01v06.
6. Per FCC KDB 865664 D01v01r04, variability SAR tests were performed when the measured SAR results for a frequency band were greater than or equal to 0.8 W/kg. Repeated SAR measurements are highlighted in the tables above for clarity. Please see Section 12 for variability analysis.
7. FCC KDB Publication 616217 D04v01r02 Section 4.3, SAR tests are required for the back surface and edges of the tablet with the tablet touching the phantom. The SAR Exclusion Threshold in FCC KDB 447498 D01v06 was applied to determine SAR test exclusion for adjacent edge configurations.

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GSM Test Notes:

1. Justification for reduced test configurations per KDB Publication 941225 D01v03r01 and October 2013 TCB Workshop Notes: The source-based frame-averaged output power was evaluated for all GPRS/EDGE slot configurations. The configuration with the highest target frame averaged output power was evaluated for 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.
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.

UMTS Notes:

1. UMTS mode was tested under RMC 12.2 kbps with HSPA Inactive per KDB Publication 941225 D01v03r01. AMR and HSPA SAR was not required per the 3G Test Reduction Procedure in KDB Publication 941225 D01v03r01.
2. Per FCC KDB Publication 447498 D01v06, if the reported (scaled) SAR measured at the middle channel or highest output power channel for each test configuration is ≤ 0.8 W/kg for 1g evaluations then testing at the other channels is not required for such test configuration(s). When the maximum output power variation across the required test channels is > ½ dB, instead of the middle channel, the highest output power channel was used.

LTE Notes:

1. LTE test configurations are determined according to SAR Evaluation Considerations for LTE Devices in FCC KDB Publication 941225 D05v02r04. The general test procedures used for testing can be found in Section 7.5.4.
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 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 13 for linearity results.
8. For LTE Band 7 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. ULCA is only supported in Power Class 3.

WLAN Notes:

1. Justification for test configurations for WLAN per KDB Publication 248227 D01v02r02 for 2.4 GHz WIFI single transmission chain operations, the highest measured maximum output power channel for DSSS was selected for SAR measurement. SAR for OFDM modes (2.4 GHz 802.11g/n) was not required due to the maximum allowed powers and the highest reported DSSS SAR. See Section 7.6.4 for more information.
2. Justification for test configurations for WLAN per KDB Publication 248227 D01v02r02 for 5 GHz WIFI single transmission chain operations, the initial test configuration was selected according to the transmission mode with the highest maximum allowed powers. Other transmission modes were not investigated since the highest reported SAR for initial test configuration adjusted by the ratio of maximum output powers is less than 1.2 W/kg for 1g evaluations. See Section 7.6.5 for more information.
3. 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.
4. The device was configured to transmit continuously at the required data rate, channel bandwidth and signal modulation, using the highest transmission duty factor supported by the test mode tools. The reported SAR was scaled to the 100% transmission duty factor to determine compliance. Procedures used to measure the duty factor are identical to that in the associated EMC test reports.

Bluetooth Notes

1. Bluetooth SAR was evaluated with a test mode with hopping disabled with DH5 operation. The reported SAR was scaled to 77.5% transmission duty factor to determine compliance since the duty factor of the device of the device is limited to 77.5% per the manufacturer. See Section 8.5 for the time domain plot and calculation for the duty factor of the device.

11 FCC MULTI-TX AND ANTENNA SAR CONSIDERATIONS

11.1 Introduction

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

11.2 Simultaneous Transmission Procedures

This device contains transmitters that may operate simultaneously. Therefore, simultaneous transmission analysis is required. Per FCC KDB Publication 447498 D01v06 4.3.2 and IEEE 1528-2013 Section 6.3.4.1.2, simultaneous transmission SAR test exclusion may be applied when the sum of the 1g SAR for all the simultaneous transmitting antennas in a specific a physical test configuration is ≤1.6 W/kg. The different test positions in an exposure condition may be considered collectively to determine SAR test exclusion according to the sum of 1g or 10g SAR.

Note: ** The SAR distributions for at least one of the antennas are spatially separated from the other antennas per FCC KDB Publication 248227 Section 6.1 procedures. Therefore, the simultaneous transmission was treated independently for this configuration. See Section 11.4 for more information about the Spatial Separation Analysis.

For each position, the highest SAR value across all modes for the applicable cellular band antenna was considered for summation to determine simultaneous SAR test exclusion.

11.3 Body SAR Simultaneous Transmission Analysis

Table 11-1
Cellular Band Antenna C Simultaneous Transmission Scenario with 2.4 GHz WLAN

Simult Tx	Configuration	Cellular Band Antenna C SAR (W/kg)	2.4 GHz WLAN Antenna A SAR (W/kg)	2.4 GHz WLAN Antenna B SAR (W/kg)	Σ SAR (W/kg)		
		1	2	3	1+2	1+3	1+2+3
Body SAR	Back	1.187	0.039	0.068	1.226	1.255	**1.294**
	Top	1.178	0.008	0.015	1.186	1.193	1.201
	Bottom	0.033	0.862	1.011	0.895	1.044	1.044**
	Right	0.185	0.001	0.155	0.186	0.340	0.341
	Left	0.041	0.103	0.002	0.144	0.043	0.146

Table 11-2
Cellular Band Antenna D Simultaneous Transmission Scenario with 2.4 GHz WLAN

Simult Tx	Configuration	Cellular Band Antenna D SAR (W/kg)	2.4 GHz WLAN Antenna A SAR (W/kg)	2.4 GHz WLAN Antenna B SAR (W/kg)	Σ SAR (W/kg)		
		1	2	3	1+2	1+3	1+2+3
Body SAR	Back	1.189	0.039	0.068	1.228	1.257	**1.296**
	Top	1.101	0.008	0.015	1.109	1.116	1.124
	Bottom	0.034	0.862	1.011	0.896	1.045	1.045**
	Right	0.037	0.001	0.155	0.038	0.192	0.193
	Left	0.203	0.103	0.002	0.306	0.205	0.308

Table 11-3
Cellular Band Antenna C Simultaneous Transmission Scenario with 5 GHz WLAN

Simult Tx	Configuration	Cellular Band Antenna C SAR (W/kg)	5 GHz WLAN Antenna A SAR (W/kg)	5 GHz WLAN Antenna B SAR (W/kg)	Σ SAR (W/kg)		
		1	2	3	1+2	1+3	1+2+3
Body SAR	Back	1.187	0.116	0.075	1.303	1.262	**1.378**
	Top	1.178	0.029	0.031	1.207	1.209	1.238
	Bottom	0.033	1.007	1.084	1.040	1.117	1.117**
	Right	0.185	0.005	0.124	0.190	0.309	0.314
	Left	0.041	0.146	0.010	0.187	0.051	0.197

Table 11-4
Cellular Band Antenna D Simultaneous Transmission Scenario with 5 GHz WLAN

Simult Tx	Configuration	Cellular Band Antenna D SAR (W/kg)	5 GHz WLAN Antenna A SAR (W/kg)	5 GHz WLAN Antenna B SAR (W/kg)	Σ SAR (W/kg)		
		1	2	3	1+2	1+3	1+2+3
Body SAR	Back	1.189	0.116	0.075	1.305	1.264	**1.380**
	Top	1.101	0.029	0.031	1.130	1.132	1.161
	Bottom	0.034	1.007	1.084	1.041	1.118	1.118**
	Right	0.037	0.005	0.124	0.042	0.161	0.166
	Left	0.203	0.146	0.010	0.349	0.213	0.359

Table 11-5
Cellular Band Antenna C Simultaneous Transmission Scenario with Bluetooth

Simult Tx	Configuration	Cellular Band Antenna C SAR (W/kg)	Bluetooth Antenna A SAR (W/kg)	Σ SAR (W/kg)
		1	2	1+2
Body SAR	Back	1.187	0.054	**1.241**
	Top	1.178	0.008	1.186
	Bottom	0.033	1.147	1.180
	Right	0.185	0.002	0.187
	Left	0.041	0.133	0.174

Table 11-6
Cellular Band Antenna D Simultaneous Transmission Scenario with Bluetooth

Simult Tx	Configuration	Cellular Band Antenna D SAR (W/kg)	Bluetooth Antenna A SAR (W/kg)	Σ SAR (W/kg)
		1	2	1+2
Body SAR	Back	1.189	0.054	**1.243**
	Top	1.101	0.008	1.109
	Bottom	0.034	1.147	1.181
	Right	0.037	0.002	0.039
	Left	0.203	0.133	0.336

Table 11-7
Cellular Band Antenna C Simultaneous Transmission Scenario with Bluetooth and 5GHz WLAN

Simult Tx	Configuration	Cellular Band Antenna C SAR (W/kg)	5 GHz WLAN Antenna A SAR (W/kg)	5 GHz WLAN Antenna B SAR (W/kg)	Bluetooth Antenna A at 10 dBm SAR (W/kg)	Σ SAR (W/kg)		
		1	2	3	4	1+2+4	1+3+4	1+2+3+4
Body SAR	Back	1.187	0.116	0.075	0.054	1.357	1.316	**1.432**
	Top	1.178	0.029	0.031	0.008	1.215	1.217	1.246
	Bottom	0.033	1.007	1.084	0.171	1.211	1.288	1.211**
	Right	0.185	0.005	0.124	0.002	0.192	0.311	0.316
	Left	0.041	0.146	0.010	0.022	0.209	0.073	0.219

Table 11-8
Cellular Band Antenna D Simultaneous Transmission Scenario with Bluetooth and 5GHz WLAN

Simult Tx	Configuration	Cellular Band Antenna D SAR (W/kg)	5 GHz WLAN Antenna A SAR (W/kg)	5 GHz WLAN Antenna B SAR (W/kg)	Bluetooth Antenna A at 10 dBm SAR (W/kg)	Σ SAR (W/kg)		
		1	2	3	4	1+2+4	1+3+4	1+2+3+4
Body SAR	Back	1.189	0.116	0.075	0.054	1.359	1.318	**1.434**
	Top	1.101	0.029	0.031	0.008	1.138	1.140	1.169
	Bottom	0.034	1.007	1.084	0.171	1.212	1.289	1.212**
	Right	0.037	0.005	0.124	0.002	0.044	0.163	0.168
	Left	0.203	0.146	0.010	0.022	0.371	0.235	0.381

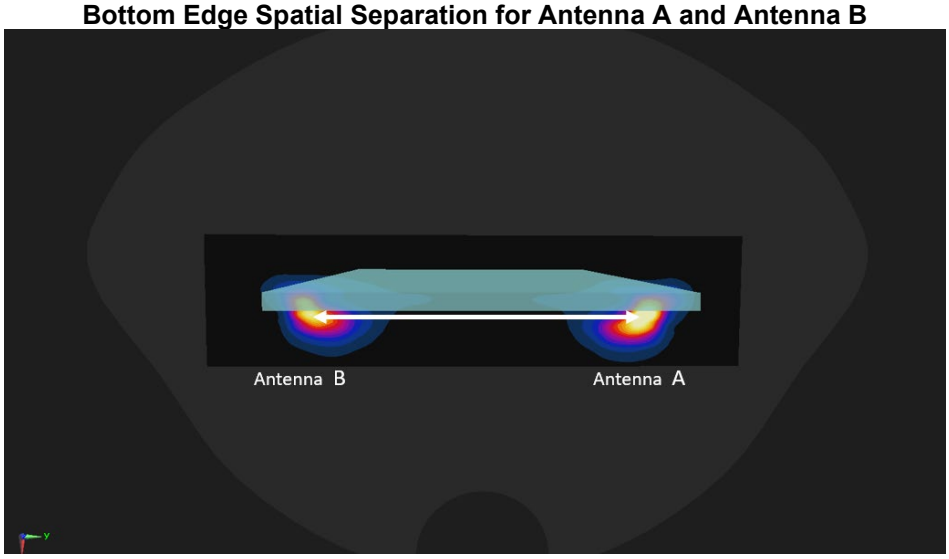
11.4 Spatial Separation Analysis

Per FCC KDB Publication 248227, antennas may be considered spatially separated when the aggregate SAR from multiple antennas at any location in the combined SAR distribution is either ≤ 1.2 W/kg where at least 90% of the SAR is attributed to a single SAR distribution or ≤ 0.4 W/kg where no more than one SAR distribution is contributing > 0.1 W/kg.

Spatial separation was determined by inspection of the area scan SAR distributions to confirm that at all locations, SAR was < 1.2 W/kg, where at least 90% of the SAR is attributed to a single SAR distribution. See below for illustrations of the spatial separated antennas considered.

11.4.1 Bottom Edge Spatial Separation Analysis

Figure 11-1
Bottom Edge Spatial Separation for Antenna A and Antenna B



11.5 Simultaneous Transmission Conclusion

The above numerical summed SAR results for all the worst-case simultaneous transmission conditions were below the SAR limit. Therefore, the above analysis is sufficient to determine that simultaneous transmission cases will not exceed the SAR limit and therefore no measured volumetric simultaneous SAR summation is required per FCC KDB Publication 447498 D01v06 and IEEE 1528-2013 Section 6.3.4.1.2.

12 SAR MEASUREMENT VARIABILITY

12.1 Measurement Variability

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

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

1) When the original highest measured SAR is ≥ 0.80 W/kg, the measurement was repeated once.
2) A second repeated measurement was 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 12-1
Body SAR Measurement Variability Results

BODY VARIABILITY RESULTS																
Band	FREQUENCY		Mode	Antenna	Service	# of Time Slots	Data Rate (Mbps)	Side	Spacing	Measured SAR (1g)	1st Repeated SAR (1g)	Ratio	2nd Repeated SAR (1g)	Ratio	3rd Repeated SAR (1g)	Ratio
	MHz	Ch.								(W/kg)	(W/kg)		(W/kg)		(W/kg)	
835	824.20	128	GSM 850	Antenna D	GPRS	2	N/A	back	0 mm	1.170	1.140	1.03	N/A	N/A	N/A	N/A
750	680.50	133297	LTE Band 71, 20 MHz Bandwidth	Antenna C	QPSK, 1 RB, 0 RB Offset	N/A	N/A	back	0 mm	1.010	0.992	1.02	N/A	N/A	N/A	N/A
1750	1770.00	132572	LTE Band 66 (AWS), 20 MHz Bandwidth	Antenna D	QPSK, 50 RB, 25 RB Offset	N/A	N/A	back	0 mm	0.926	0.922	1.00	N/A	N/A	N/A	N/A
1900	1905.00	26590	LTE Band 25 (PCS), 20 MHz Bandwidth	Antenna C	QPSK, 1 RB, 0 RB Offset	N/A	N/A	back	0 mm	1.160	1.140	1.02	N/A	N/A	N/A	N/A
2300	2310.00	27710	LTE Band 30, 10 MHz Bandwidth	Antenna C	QPSK, 1 RB, 0 RB Offset	N/A	N/A	top	0 mm	0.832	0.756	1.10	N/A	N/A	N/A	N/A
2450	2506.00	39750	LTE Band 41, 20 MHz Bandwidth	Antenna C	QPSK, 50 RB, 50 RB Offset	N/A	N/A	top	0 mm	1.060	0.980	1.08	N/A	N/A	N/A	N/A
2600	2636.50	41055	LTE Band 41, 20 MHz Bandwidth	Antenna C	QPSK, 1 RB, 0 RB Offset	N/A	N/A	top	0 mm	1.100	1.090	1.01	N/A	N/A	N/A	N/A
5750	5690.00	138	802.11ac, 80 MHz Bandwidth	Antenna B	OFDM	N/A	29.3	bottom	0 mm	0.815	0.800	1.02	N/A	N/A	N/A	N/A
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population										Body 1.6 W/kg (mW/g) averaged over 1 gram						

12.2 Measurement Uncertainty

The measured SAR was <1.5 W/kg for 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.

13 ADDITIONAL TESTING PER FCC GUIDANCE

13.1 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.
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 13-1
LTE Band 41 Body Linearity Data – Antenna C

	LTE Band 41 PC3	LTE Band 41 PC2
Maximum Allowed Output Power (dBm)	15.4	15.4
Measured Output Power (dBm)	14.9	14.76
Measured SAR (W/kg)	1.05	0.675
Measured Power (mW)	30.90	29.92
Duty Cycle	63.3%	43.3%
Frame Averaged Output Power (mW)	19.56	12.96
% deviation from expected linearity		-2.94%

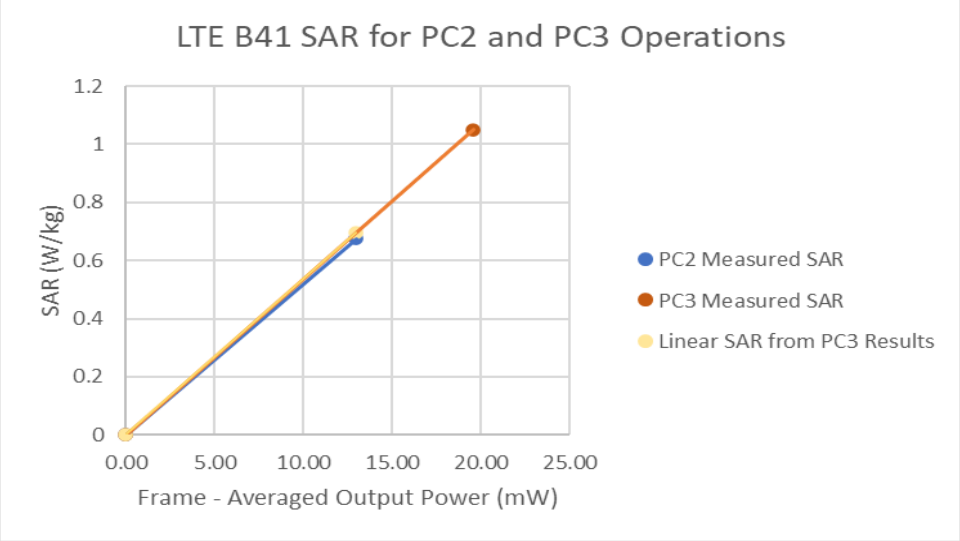
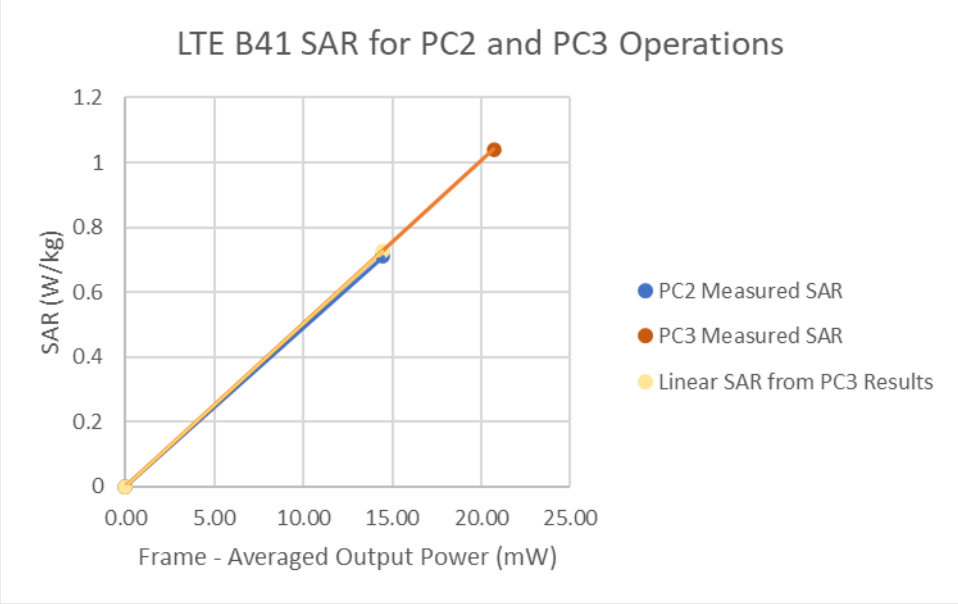


Table 13-2
LTE Band 41 Body Linearity – Antenna D

	LTE Band 41 PC3	LTE Band 41 PC2
Maximum Allowed Output Power (dBm)	15.4	15.4
Measured Output Power (dBm)	15.15	15.24
Measured SAR (W/kg)	1.04	0.71
Measured Power (mW)	32.73	33.42
Duty Cycle	63.3%	43.3%
Frame Averaged Output Power (mW)	20.72	14.47
% deviation from expected linearity		-2.24%



14 EQUIPMENT LIST

Manufacturer	Model	Description	Cal Date	Cal Interval	Cal Due	Serial Number
Agilent	8753ES	S-Parameter Network Analyzer	8/26/2019	Annual	8/26/2020	MY40000670
Agilent	E4438C	ESG Vector Signal Generator	9/30/2019	Annual	9/30/2020	US41460739
Agilent	N5182A	MXG Vector Signal Generator	8/19/2019	Annual	8/19/2020	MY47420837
Amplifier Research	15S1G6	Amplifier	CBT	N/A	CBT	343972
Amplifier Research	15S1G6	Amplifier	CBT	N/A	CBT	343971
Anritsu	MT8862A	Wireless Connectivity Test Set	8/8/2019	Annual	8/8/2020	6261782395
Anritsu	MA24106A	USB Power Sensor	8/5/2019	Annual	8/5/2020	1827527
Anritsu	MA24106A	USB Power Sensor	6/21/2019	Annual	6/21/2020	1244515
Anritsu	MA2411B	Pulse Power Sensor	11/15/2019	Annual	11/15/2020	1027293
Anritsu	MA2411B	Pulse Power Sensor	8/14/2019	Annual	8/14/2020	1315051
Anritsu	ML2496A	Power Meter	11/6/2019	Annual	11/6/2020	1405003
Control Company	4040	Therm./ Clock/ Humidity Monitor	6/29/2020	Biennial	6/29/2021	192291463
Control Company	4040	Therm./ Clock/ Humidity Monitor	6/29/2019	Biennial	6/29/2021	192291470
Control Company	4352	Ultra Long Stem Thermometer	8/2/2018	Biennial	8/2/2020	181292054
Control Company	4352	Ultra Long Stem Thermometer	8/2/2018	Biennial	8/2/2020	181334696
Control Company	4352	Ultra Long Stem Thermometer	8/2/2018	Biennial	8/2/2020	181334678
Keysight	772D	Dual Directional Coupler	CBT	N/A	CBT	MY52180215
MCL	BW-N6W5+	6dB Attenuator	CBT	N/A	CBT	1139
MCL	BW-N10W5+	10dB Attenuator	CBT	N/A	CBT	1611
Mini-Circuits	NLP-1200+	Low Pass Filter DC to 1000 MHz	CBT	N/A	CBT	N/A
Mini-Circuits	NLP-2950+	Low Pass Filter DC to 2700 MHz	CBT	N/A	CBT	N/A
Mini-Circuits	VHF-3100+	High Pass Filter	CBT	N/A	CBT	N/A
MiniCircuits	VLF-1000+	Low Pass Filter	CBT	N/A	CBT	N/A
MiniCircuits	VLF-1200+	Low Pass Filter	CBT	N/A	CBT	N/A
MiniCircuits	VLF-2950+	Low Pass Filter	CBT	N/A	CBT	N/A
MiniCircuits	VLF-6000+	Low Pass Filter	CBT	N/A	CBT	N/A
Insize	1108-150	Digital Caliper	1/17/2020	Biennial	1/17/2022	409193536
Narda	4772-3	Attenuator (3dB)	CBT	N/A	CBT	9406
Pasternack	PE2209-10	Bidirectional Coupler	CBT	N/A	CBT	N/A
Pasternack	PE2208-6	Bidirectional Coupler	CBT	N/A	CBT	N/A
Seekonk	NC-100	Torque Wrench	7/18/2019	Annual	7/18/2020	N/A
Rohde & Schwarz	CMW500	Radio Communication Tester	6/26/2019	Annual	6/26/2020	108843
Rohde & Schwarz	CMW500	Radio Communication Tester	8/20/2019	Annual	8/20/2020	106578
Rohde & Schwarz	CMW500	Radio Communication Tester	5/13/2020	Annual	5/13/2021	167284
Rohde& Schwarz	CMW500	Wideband Radio Communication Tester	8/8/2019	Annual	8/8/2020	145663
Rohde& Schwarz	FSP-7	Spectrum Analyzer	1/9/2020	Biennial	1/9/2022	100288
SPEAG	DAK-12	Dielectric Assessment Kit (10MHz - 3GHz)	11/12/2019	Annual	11/12/2020	1121
SPEAG	DAK-3.5	Dielectric Assessment Kit	5/12/2020	Annual	5/12/2021	1070
SPEAG	DAKS-3.5	Portable DAK	9/10/2019	Annual	9/10/2020	1045
SPEAG	DAE4	Dasy Data Acquisition Electronics	4/15/2020	Annual	4/15/2021	501
SPEAG	DAE4	Dasy Data Acquisition Electronics	3/19/2020	Annual	3/19/2021	604
SPEAG	DAE4	Dasy Data Acquisition Electronics	8/12/2019	Annual	8/12/2020	1408
SPEAG	DAE4	Dasy Data Acquisition Electronics	11/13/2019	Annual	11/13/2020	1213
SPEAG	DAE4	Dasy Data Acquisition Electronics	2/13/2020	Annual	2/13/2021	1403
SPEAG	DAE4	Dasy Data Acquisition Electronics	1/14/2020	Annual	1/14/2021	793
SPEAG	EX3DV4	SAR Probe	1/20/2020	Annual	1/20/2021	3837
SPEAG	EX3DV4	SAR Probe	8/29/2019	Annual	8/29/2020	3949
SPEAG	EX3DV4	SAR Probe	11/21/2019	Annual	11/21/2020	7420
SPEAG	EX3DV4	SAR Probe	2/19/2020	Annual	2/19/2021	7427
SPEAG	EX3DV4	SAR Probe	3/20/2020	Annual	3/20/2021	7421
SPEAG	EX3DV4	SAR Probe	4/20/2020	Annual	4/20/2021	7532
SPEAG	EX3DV4	SAR Probe	7/16/2019	Annual	7/16/2020	7491
SPEAG	D750V3	750 MHz SAR Dipole	6/20/2019	Annual	6/20/2020	1057
SPEAG	D835V2	835 MHz SAR Dipole	5/18/2018	Triennial	5/18/2021	4d180
SPEAG	D835V2	835 MHz SAR Dipole	6/20/2019	Annual	6/20/2020	4d040
SPEAG	D850V2	850 MHz SAR Dipole	9/8/2017	Triennial	9/8/2020	1010
SPEAG	D1750V2	1750 MHz SAR Dipole	9/7/2017	Triennial	9/7/2020	1104
SPEAG	D1900V2	1900 MHz SAR Dipole	8/16/2017	Triennial	8/16/2020	5d180
SPEAG	D1900V2	1900 MHz SAR Dipole	5/14/2018	Biennial	5/14/2021	5d026
SPEAG	D2300V2	2300 MHz SAR Dipole	11/12/2019	Annual	11/12/2020	1064
SPEAG	D2450V2	2450 MHz SAR Dipole	11/12/2018	Biennial	11/12/2020	921
SPEAG	D2600V2	2600 MHz SAR Dipole	9/11/2017	Triennial	9/11/2020	1069
SPEAG	D5GHzV2	5 GHz SAR Dipole	3/13/2018	Triennial	3/13/2021	1123

Note: All equipment was used strictly during calibration date.

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

15 MEASUREMENT UNCERTAINTIES

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

16 CONCLUSION

16.1 Measurement Conclusion

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

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

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