



## SAR EVALUATION REPORT

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

**Date of Testing:**  
 12/28/20-01/21/21  
**Test Site/Location:**  
 PCTEST, Columbia, MD, USA  
**Document Serial No.:**  
 1M2012210202-01.A3L

**FCC ID:** **A3LSMG996U**

**APPLICANT:** **SAMSUNG ELECTRONICS CO., LTD.**


**DUT Type:** Portable Handset  
**Application Type:** Class II Permissive Change  
**FCC Rule Part(s):** CFR §2.1093  
**Model:** SM-G996U  
**Additional Model(s):** SM-G996U1  
**Date of Original Certification:** 12/18/2020  
**Permissive Change(s):** PLimit (DSI = 0/1/4) for n66 Antenna I is reduced, NR Band n77 SRS enabled

Equipment Class	Band & Mode	Tx Frequency	SAR			
			1g Head (W/kg)	1g Body-Worn (W/kg)	1g Hotspot (W/kg)	10g Phablet (W/kg)
PCE	NR Band n66 (AWS)	1712.5 - 1777.5 MHz	N/A	0.30	N/A	N/A
PCE	NR Band n77	3710.01 - 3969.99 MHz	< 0.1	0.22	0.29	1.61
<b>Simultaneous SAR per KDB 690783 D01v01r03:</b>			1.47	1.29	1.51	<b>3.99</b>

Note: The following test data was evaluated for the current test report. Please refer to RF Exposure Technical Report S/N 1M2009140143-01-R2.A3L for original compliance evaluation.



This wireless portable device has been shown to be capable of compliance for localized specific absorption rate (SAR) for uncontrolled environment/general population exposure limits specified in ANSI/IEEE C95.1-1992 and has been tested in accordance with the measurement procedures specified in Section 1.9 of this report; for North American frequency bands only.

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

  
 Randy Ortanez  
 President





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# 1 DEVICE UNDER TEST

## 1.1 Device Overview

Band & Mode	Operating Modes	Tx Frequency
CDMA/EVDO BC10 (§90S)	Voice/Data	817.90 - 823.10 MHz
CDMA/EVDO BC0 (§22H)	Voice/Data	824.70 - 848.31 MHz
PCS CDMA/EVDO	Voice/Data	1851.25 - 1908.75 MHz
GSM/GPRS/EDGE 850	Voice/Data	824.20 - 848.80 MHz
GSM/GPRS/EDGE 1900	Voice/Data	1850.20 - 1909.80 MHz
UMTS 850	Voice/Data	826.40 - 846.60 MHz
UMTS 1750	Voice/Data	1712.4 - 1752.6 MHz
UMTS 1900	Voice/Data	1852.4 - 1907.6 MHz
LTE Band 71	Voice/Data	665.5 - 695.5 MHz
LTE Band 12	Voice/Data	699.7 - 715.3 MHz
LTE Band 13	Voice/Data	779.5 - 784.5 MHz
LTE Band 14	Voice/Data	790.5 - 795.5 MHz
LTE Band 5 (Cell)	Voice/Data	824.7 - 848.3 MHz
LTE Band 26 (Cell)	Voice/Data	814.7 - 848.3 MHz
LTE Band 66 (AWS)	Voice/Data	1710.7 - 1779.3 MHz
LTE Band 4 (AWS)	Voice/Data	1710.7 - 1754.3 MHz
LTE Band 25 (PCS)	Voice/Data	1850.7 - 1914.3 MHz
LTE Band 2 (PCS)	Voice/Data	1850.7 - 1909.3 MHz
LTE Band 30	Voice/Data	2307.5 - 2312.5 MHz
LTE Band 7	Voice/Data	2502.5 - 2567.5 MHz
LTE Band 48	Voice/Data	3552.5 - 3697.5 MHz
LTE Band 41	Voice/Data	2498.5 - 2687.5 MHz
LTE Band 38	Voice/Data	2572.5 - 2617.5 MHz
NR Band n71	Data	665.5 - 695.5 MHz
NR Band n12	Data	701.5 - 713.5 MHz
NR Band n5 (Cell)	Data	826.5 - 846.5 MHz
NR Band n66 (AWS)	Data	1712.5 - 1777.5 MHz
NR Band n25 (PCS)	Data	1852.5 - 1912.5 MHz
NR Band n2 (PCS)	Data	1852.5 - 1907.5 MHz
NR Band n30	Data	2307.5 - 2312.5 MHz
NR Band n41	Data	2506.02 - 2679.99 MHz
NR Band n77	Data	3710.01 - 3969.99 MHz
2.4 GHz WLAN	Voice/Data	2412 - 2462 MHz
U-NII-1	Voice/Data	5180 - 5240 MHz
U-NII-2A	Voice/Data	5260 - 5320 MHz
U-NII-2C	Voice/Data	5500 - 5720 MHz
U-NII-3	Voice/Data	5745 - 5825 MHz
2.4 GHz Bluetooth	Data	2402 - 2480 MHz
NFC	Data	13.56 MHz
NR Band n260	Data	37000 - 40000 MHz
NR Band n261	Data	27500 - 28350 MHz

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## 1.2 Time-Averaging Algorithm for RF Exposure Compliance

Exposure Scenario:		Body-Worn	Phablet	Phablet	Head	Hotspot	Earjack	Maximum Tune-up Output Power*
Averaging Volume:		1g	10g	10g	1g	1g	10g	
Spacing:		15 mm	5, 4, 10 mm	0 mm	0 mm	10 mm	0 mm	
DSI:		0	0	1	2	3	4	
Technology/Band	Antenna	Plimit corresponding to 1mW/g (SAR_design_target)						Pmax
CDMA/EVDO BC10	A	30.1		26.6	30.9	26.6	26.6	24.8
CDMA/EVDO BC0	A	29.7		26.5	31.7	26.4	26.5	24.5
CDMA/EVDO BC1	A	25.6		20.0	31.8	18.0	20.0	23.5
GSM/GPRS/EDGE 850 MHz	A	28.8		29.1	32.2	26.8	29.1	25.3
GSM/GPRS/EDGE 1900 MHz	A	25.6		20.1	31.9	18.1	20.1	22.3
UMTS B5	A	29.5		26.5	32.2	26.5	26.5	24.8
UMTS B4	A	24.8		20.5	31.6	18.0	20.5	23.5
UMTS B2	A	25.6		20.5	31.9	18.0	20.5	23.5
LTE FDD B71	A	32.1		26.9	35.5	26.9	26.9	24.8
LTE FDD B12	A	31.2		26.9	33.8	26.9	26.9	24.8
LTE FDD B13	A	30.9		27.5	33.6	27.5	27.5	24.8
LTE FDD B14	A	30.7		27.3	32.8	27.3	27.3	24.8
LTE FDD B26	A	29.8		26.9	32.2	26.6	26.9	24.8
LTE FDD B5	A	29.8		26.9	32.6	26.9	26.9	24.8
LTE FDD B66/4	A	24.9		19.5	30.6	19.0	19.5	23.5
LTE FDD B25/2	A	26.2		19.5	32.4	17.5	19.5	23.5
LTE FDD B30	A	26.8		19.0	37.0	19.0	19.0	23.0
LTE FDD B7	B	27.3		19.0	36.2	19.0	19.0	23.5
LTE TDD B48	G	20.0		20.0	15.0	20.0	20.0	21.5
LTE TDD B38/41 PC3	B	27.6		20.0	34.7	19.0	20.0	22.0
LTE TDD B41 PC2	B	27.6		20.0	34.7	19.0	20.0	23.4
NR FDD n71	A	32.1		27.9	36.1	27.9	27.9	24.8
NR FDD n12	A	30.6		28.6	34.5	28.6	28.6	24.8
NR FDD n5	A	30.6		27.3	33.4	26.3	27.3	24.8
NR FDD n66 Ant A	A	25.1		19.5	31.0	19.0	19.5	24.0
NR FDD n66 Ant I	I	22.0		22.0	17.0	19.0	22.0	23.5
NR FDD n25/2 Ant A	A	26.7		19.5	33.2	17.5	19.5	24.3
NR FDD n25/2 Ant I	I	24.3		23.5	17.0	19.0	23.5	23.5
NR FDD n30	A	26.2		19.0	38.1	19.0	19.0	23.0
NR TDD n41 Ant B	B	18.0		14.0	18.0	13.0	14.0	24.0
NR TDD n41 Ant I PC3	I	20.0		20.0	16.0	18.0	20.0	24.3
NR TDD n41 Ant I PC2	I	20.0		20.0	16.0	18.0	20.0	26.3
NR TDD n77 PC3	G	19.0		19.0	14.0	17.5	19.0	23.5
NR TDD n77 PC2	G	19.0		19.0	14.0	17.5	19.0	25.5
NR TDD n77 PC3	H	18.5		18.5	13.5	17.0	18.5	23.0
NR TDD n77 PC2	H	18.5		18.5	13.5	17.0	18.5	25.0
NR TDD n77 PC3	B	16.0		16.0	11.0	14.5	16.0	20.5
NR TDD n77 PC2	B	16.0		16.0	11.0	14.5	16.0	22.5
NR TDD n77 PC3	D	15.5		15.5	10.5	14.0	15.5	20.0
NR TDD n77 PC2	D	15.5		15.5	10.5	14.0	15.5	22.0

The Smart Transmit Algorithm was not affected by the permissive changes. Please see original technical filings 1M2009140143-01-R2.A3L for compliance evaluation.

## 1.3 Power Reduction for SAR

This device uses an independent fixed level power reduction mechanism for WLAN operations when 5G NR is active and also during all voice or VoIP held to ear scenarios. Per FCC Guidance, the held-to-ear exposure conditions were evaluated at reduced power according to the head SAR positions described in IEEE 1528-2013. Detailed descriptions of the power reduction mechanism are included in the operational description.

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# 1.4 Nominal and Maximum Output Power Specifications



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

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




CDMA BC10 (815 MHz)				
Power Level		Modulated Average Output Power (in dBm)		
		1x-RTT	EVDO Rev 0	EVDO Rev A
DSI = 0 (Body-Worn or Phablet Max)	Max allowed power	25.8	25.8	25.8
	Nominal	24.8	24.8	24.8
DSI = 1 (Phablet Reduced)	Max allowed power	25.8	25.8	25.8
	Nominal	24.8	24.8	24.8
DSI = 2 (Head)	Max allowed power	25.8	25.8	25.8
	Nominal	24.8	24.8	24.8
DSI = 3 (Hotspot)	Max allowed power	25.8	25.8	25.8
	Nominal	24.8	24.8	24.8
DSI = 4 (Earjack)	Max allowed power	25.8	25.8	25.8
	Nominal	24.8	24.8	24.8
CDMA BC0 (835 MHz)				
Power Level		Modulated Average Output Power (in dBm)		
		1x-RTT	EVDO Rev 0	EVDO Rev A
DSI = 0 (Body-Worn or Phablet Max)	Max allowed power	25.5	25.5	25.5
	Nominal	24.5	24.5	24.5
DSI = 1 (Phablet Reduced)	Max allowed power	25.5	25.5	25.5
	Nominal	24.5	24.5	24.5
DSI = 2 (Head)	Max allowed power	25.5	25.5	25.5
	Nominal	24.5	24.5	24.5
DSI = 3 (Hotspot)	Max allowed power	25.5	25.5	25.5
	Nominal	24.5	24.5	24.5
DSI = 4 (Earjack)	Max allowed power	25.5	25.5	25.5
	Nominal	24.5	24.5	24.5
CDMA BC1 (1900 MHz)				
Power Level		Modulated Average Output Power (in dBm)		
		1x-RTT	EVDO Rev 0	EVDO Rev A
DSI = 0 (Body-Worn or Phablet Max)	Max allowed power	24.5	24.5	24.5
	Nominal	23.5	23.5	23.5
DSI = 1 (Phablet Reduced)	Max allowed power	21.0	21.0	21.0
	Nominal	20.0	20.0	20.0
DSI = 2 (Head)	Max allowed power	24.5	24.5	24.5
	Nominal	23.5	23.5	23.5
DSI = 3 (Hotspot)	Max allowed power	19.0	19.0	19.0
	Nominal	18.0	18.0	18.0
DSI = 4 (Earjack)	Max allowed power	21.0	21.0	21.0
	Nominal	20.0	20.0	20.0

GSM/GPRS/EDGE 850										
Power Level		Voice (in dBm)	Data - Burst Average GSMK (in dBm)				Data - Burst Average 8-PSK (in dBm)			
		1 TX Slot	1 TX Slots	2 TX Slots	3 TX Slots	4 TX Slots	1 TX Slots	2 TX Slots	3 TX Slots	4 TX Slots
DSI = 0 (Body-Worn or Phablet Max)	Max allowed power	33.5	33.5	32.5	30.5	28.5	28.0	26.0	24.0	23.0
	Nominal	32.5	32.5	31.5	29.5	27.5	27.0	25.0	23.0	22.0
DSI = 1 (Phablet Reduced)	Max allowed power	33.5	33.5	32.5	30.5	28.5	28.0	26.0	24.0	23.0
	Nominal	32.5	32.5	31.5	29.5	27.5	27.0	25.0	23.0	22.0
DSI = 2 (Head)	Max allowed power	33.5	33.5	32.5	30.5	28.5	28.0	26.0	24.0	23.0
	Nominal	32.5	32.5	31.5	29.5	27.5	27.0	25.0	23.0	22.0
DSI = 3 (Hotspot)	Max allowed power	N/A	33.5	32.5	30.5	28.5	28.0	26.0	24.0	23.0
	Nominal	N/A	32.5	31.5	29.5	27.5	27.0	25.0	23.0	22.0
DSI = 4 (Earjack)	Max allowed power	33.5	33.5	32.5	30.5	28.5	28.0	26.0	24.0	23.0
	Nominal	32.5	32.5	31.5	29.5	27.5	27.0	25.0	23.0	22.0
GSM/GPRS/EDGE 1900										
Power Level		Voice (in dBm)	Data - Burst Average GSMK (in dBm)				Data - Burst Average 8-PSK (in dBm)			
		1 TX Slot	1 TX Slots	2 TX Slots	3 TX Slots	4 TX Slots	1 TX Slots	2 TX Slots	3 TX Slots	4 TX Slots
DSI = 0 (Body-Worn or Phablet Max)	Max allowed power	30.5	30.5	29.5	27.5	25.5	27.0	25.0	23.0	22.0
	Nominal	29.5	29.5	28.5	26.5	24.5	26.0	24.0	22.0	21.0
DSI = 1 (Phablet Reduced)	Max allowed power	30.3	30.3	27.3	25.5	24.3	27.0	25.0	23.0	22.0
	Nominal	29.3	29.3	26.3	24.5	23.3	26.0	24.0	22.0	21.0
DSI = 2 (Head)	Max allowed power	30.5	30.5	29.5	27.5	25.5	27.0	25.0	23.0	22.0
	Nominal	29.5	29.5	28.5	26.5	24.5	26.0	24.0	22.0	21.0
DSI = 3 (Hotspot)	Max allowed power	N/A	28.3	25.3	23.5	22.3	27.0	25.0	23.0	22.0
	Nominal	N/A	27.3	24.3	22.5	21.3	26.0	24.0	22.0	21.0
DSI = 4 (Earjack)	Max allowed power	30.3	30.3	27.3	25.5	24.3	27.0	25.0	23.0	22.0
	Nominal	29.3	29.3	26.3	24.5	23.3	26.0	24.0	22.0	21.0




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

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UMTS Band 5 (850 MHz)					
Power Level		Modulated Average Output Power (in dBm)			
		3GPP WCDMA Rel 99	3GPP HSDPA Rel 5	3GPP HSUPA Rel 6	3GPP DC-HSDPA Rel 8
DSI = 0 (Body-Worn or Phablet Max)	Max allowed power	25.8	24.8	24.8	24.8
	Nominal	24.8	23.8	23.8	23.8
DSI = 1 (Phablet Reduced)	Max allowed power	25.8	24.8	24.8	24.8
	Nominal	24.8	23.8	23.8	23.8
DSI = 2 (Head)	Max allowed power	25.8	24.8	24.8	24.8
	Nominal	24.8	23.8	23.8	23.8
DSI = 3 (Hotspot)	Max allowed power	25.8	24.8	24.8	24.8
	Nominal	24.8	23.8	23.8	23.8
DSI = 4 (Earjack)	Max allowed power	25.8	24.8	24.8	24.8
	Nominal	24.8	23.8	23.8	23.8
UMTS Band 4 (1750 MHz)					
Power Level		Modulated Average Output Power (in dBm)			
		3GPP WCDMA Rel 99	3GPP HSDPA Rel 5	3GPP HSUPA Rel 6	3GPP DC-HSDPA Rel 8
DSI = 0 (Body-Worn or Phablet Max)	Max allowed power	24.5	23.5	23.5	23.5
	Nominal	23.5	22.5	22.5	22.5
DSI = 1 (Phablet Reduced)	Max allowed power	21.5	20.5	20.5	20.5
	Nominal	20.5	19.5	19.5	19.5
DSI = 2 (Head)	Max allowed power	24.5	23.5	23.5	23.5
	Nominal	23.5	22.5	22.5	22.5
DSI = 3 (Hotspot)	Max allowed power	19.0	18.0	18.0	18.0
	Nominal	18.0	17.0	17.0	17.0
DSI = 4 (Earjack)	Max allowed power	21.5	20.5	20.5	20.5
	Nominal	20.5	19.5	19.5	19.5
UMTS Band 2 (1900 MHz)					
Power Level		Modulated Average Output Power (in dBm)			
		3GPP WCDMA Rel 99	3GPP HSDPA Rel 5	3GPP HSUPA Rel 6	3GPP DC-HSDPA Rel 8
DSI = 0 (Body-Worn or Phablet Max)	Max allowed power	24.5	23.5	23.5	23.5
	Nominal	23.5	22.5	22.5	22.5
DSI = 1 (Phablet Reduced)	Max allowed power	21.5	20.5	20.5	20.5
	Nominal	20.5	19.5	19.5	19.5
DSI = 2 (Head)	Max allowed power	24.5	23.5	23.5	23.5
	Nominal	23.5	22.5	22.5	22.5
DSI = 3 (Hotspot)	Max allowed power	19.0	18.0	18.0	18.0
	Nominal	18.0	17.0	17.0	17.0
DSI = 4 (Earjack)	Max allowed power	21.5	20.5	20.5	20.5
	Nominal	20.5	19.5	19.5	19.5

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Mode / Band		Modulated Average Output Power (in dBm)				
		DSI = 0 (Body-Worn or Phablet Max)	DSI = 1 (Phablet Reduced)	DSI = 2 (Head)	DSI = 3 (Hotspot)	DSI = 4 (Earjack)
LTE FDD Band 71	Max allowed	25.8	25.8	25.8	25.8	25.8
	Nominal	24.8	24.8	24.8	24.8	24.8
LTE FDD Band 12	Max allowed	25.8	25.8	25.8	25.8	25.8
	Nominal	24.8	24.8	24.8	24.8	24.8
LTE FDD Band 13	Max allowed	25.8	25.8	25.8	25.8	25.8
	Nominal	24.8	24.8	24.8	24.8	24.8
LTE FDD Band 14	Max allowed	25.8	25.8	25.8	25.8	25.8
	Nominal	24.8	24.8	24.8	24.8	24.8
LTE FDD Band 26	Max allowed	25.8	25.8	25.8	25.8	25.8
	Nominal	24.8	24.8	24.8	24.8	24.8
LTE FDD Band 5	Max allowed	25.8	25.8	25.8	25.8	25.8
	Nominal	24.8	24.8	24.8	24.8	24.8
LTE FDD Band 66	Max allowed	24.5	20.5	24.5	20.0	20.5
	Nominal	23.5	19.5	23.5	19.0	19.5
LTE FDD Band 4	Max allowed	24.5	20.5	24.5	20.0	20.5
	Nominal	23.5	19.5	23.5	19.0	19.5
LTE FDD Band 25	Max allowed	24.5	20.5	24.5	18.5	20.5
	Nominal	23.5	19.5	23.5	17.5	19.5
LTE FDD Band 2	Max allowed	24.5	20.5	24.5	18.5	20.5
	Nominal	23.5	19.5	23.5	17.5	19.5
LTE FDD Band 30	Max allowed	24.0	20.0	24.0	20.0	20.0
	Nominal	23.0	19.0	23.0	19.0	19.0
LTE FDD Band 7	Max allowed	24.5	20.0	24.5	20.0	20.0
	Nominal	23.5	19.0	23.5	19.0	19.0
LTE TDD Band 48	Max allowed	23.0	23.0	18.0	23.0	23.0
	Nominal	22.0	22.0	17.0	22.0	22.0
LTE TDD Band 41	Max allowed	25.0	23.0	25.0	22.0	23.0
	Nominal	24.0	22.0	24.0	21.0	22.0
LTE TDD Band 41 (PC2)	Max allowed	28.0	24.6	28.0	23.6	24.6
	Nominal	27.0	23.6	27.0	22.6	23.6
LTE TDD Band 38	Max allowed	25.0	23.0	25.0	22.0	23.0
	Nominal	24.0	22.0	24.0	21.0	22.0

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Mode / Band		Modulated Average Output Power (in dBm)				
		DSI = 0 (Body-Worn or Phablet Max)	DSI = 1 (Phablet Reduced)	DSI = 2 (Head)	DSI = 3 (Hotspot)	DSI = 4 (Earjack)
NR FDD Band 71	Max allowed	25.8	25.8	25.8	25.8	25.8
	Nominal	24.8	24.8	24.8	24.8	24.8
NR FDD Band 12	Max allowed	25.8	25.8	25.8	25.8	25.8
	Nominal	24.8	24.8	24.8	24.8	24.8
NR FDD Band 5	Max allowed	25.8	25.8	25.8	25.8	25.8
	Nominal	24.8	24.8	24.8	24.8	24.8
NR FDD Band 66 (Ant A)	Max allowed	25.0	20.5	25.0	20.0	20.5
	Nominal	24.0	19.5	24.0	19.0	19.5
NR FDD Band 25 (Ant A)	Max allowed	25.3	20.5	25.3	18.5	20.5
	Nominal	24.3	19.5	24.3	17.5	19.5
NR FDD Band 2 (Ant A)	Max allowed	25.3	20.5	25.3	18.5	20.5
	Nominal	24.3	19.5	24.3	17.5	19.5
NR FDD Band 30	Max allowed	24.0	20.0	24.0	20.0	20.0
	Nominal	23.0	19.0	23.0	19.0	19.0
NR TDD Band 41 (Ant B)	Max allowed	19.0	15.0	19.0	14.0	15.0
	Nominal	18.0	14.0	18.0	13.0	14.0
NR TDD Band 77 (Ant G)	Max allowed	20.0	20.0	15.0	18.5	20.0
	Nominal	19.0	19.0	14.0	17.5	19.0
NR TDD Band 77 (Ant H)	Max allowed	19.5	19.5	14.5	18.0	19.5
	Nominal	18.5	18.5	13.5	17.0	18.5
NR TDD Band 77 (Ant B)	Max allowed	17.0	17.0	12.0	15.5	17.0
	Nominal	16.0	16.0	11.0	14.5	16.0
NR TDD Band 77 (Ant D)	Max allowed	16.5	16.5	11.5	15.0	16.5
	Nominal	15.5	15.5	10.5	14.0	15.5



  

Mode / Band		Modulated Average Output Power (in dBm)				
		DSI = 0 (Body-Worn or Phablet Max)	DSI = 1 (Phablet Reduced)	DSI = 2 (Head)	DSI = 3 (Hotspot)	DSI = 4 (Earjack)
NR FDD Band 66 Ant I	Max allowed	23.0	23.0	18.0	20.0	23.0
	Nominal	22.0	22.0	17.0	19.0	22.0
NR FDD Band 25 Ant I	Max allowed	24.5	24.5	18.0	20.0	24.5
	Nominal	23.5	23.5	17.0	19.0	23.5
NR FDD Band 2 Ant I	Max allowed	24.5	24.5	18.0	20.0	24.5
	Nominal	23.5	23.5	17.0	19.0	23.5
NR TDD Band 41 Ant I	Max allowed	21.0	21.0	17.0	19.0	21.0
	Nominal	20.0	20.0	16.0	18.0	20.0

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

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

Mode	Band	IEEE 802.11 (in dBm)																							
		SISO								SISO								MIMO							
		Antenna 1				Antenna 2				Antenna 2				MIMO											
		b		g		n		ax (SU)		b		g		n		ax (SU)		g (CDD+STBC)		n (CDD+STBC, SDM)		ax (SU) (CDD+STBC, SDM)			
Max	Nom.	Max	Nom.	Max	Nom.	Max	Nom.	Max	Nom.	Max	Nom.	Max	Nom.	Max	Nom.	Max	Nom.	Max	Nom.	Max	Nom.				
2.4 GHz WIFI	2.45 GHz	21.0	20.0	18.5	17.5	18.5	17.5	18.0	17.0	19.5	18.5	17.5	16.5	17.5	16.5	17.0	16.0	21.0	20.0	21.0	20.0	18.0	17.0		
				ch. 1: 16.5	15.5	ch. 1: 16.5	15.5	ch. 1: 15.5	14.5	ch. 2: 16.5	15.5	ch. 1: 16.5	15.5	ch. 1: 16.5	15.5	ch. 1: 15.5	14.5	ch. 1: 19.5	18.5	ch. 1: 19.5	18.5	ch. 1: 15.5	14.5	ch. 2: 16.5	15.5
				ch. 10: 16.5	15.5	ch. 10: 16.5	15.5	ch. 10: 16.5	15.5	ch. 11: 16.5	15.5	ch. 10: 16.5	15.5	ch. 10: 16.5	15.5	ch. 10: 16.5	15.5	ch. 11: 19.5	18.5	ch. 11: 19.5	18.5	ch. 10: 16.5	15.5	ch. 11: 13.5	12.5

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Mode	Band	IEEE 802.11 (in dBm)																					
		SISO								SISO								MIMO					
		Antenna 1								Antenna 2													
		b		g		n		ax (SU)		b		g		n		ax (SU)		g (CDD + STBC)		n (CDD+STBC, SDM)		ax (SU) (CDD+STBC, SDM)	
Max	Nom.	Max	Nom.	Max	Nom.	Max	Nom.	Max	Nom.	Max	Nom.	Max	Nom.	Max	Nom.	Max	Nom.	Max	Nom.	Max	Nom.		
2.4 GHz WIFI	2.45 GHz	21.0	20.0	18.5	17.5	18.5	17.5	18.0	17.0	19.5	18.5	17.5	16.5	17.5	16.5	17.0	16.0	21.0	20.0	21.0	20.0	18.0	17.0
				ch. 1: 16.5	15.5	ch. 1: 16.5	15.5	ch. 1: 15.5	14.5			ch. 1: 16.5	15.5	ch. 1: 16.5	15.5	ch. 1: 15.5	14.5	ch. 1: 19.5	18.5	ch. 1: 19.5	18.5	ch. 1: 15.5	14.5
				ch. 10: 16.5	15.5	ch. 10: 16.5	15.5	ch. 2: 16.5	15.5			ch. 10: 16.5	15.5	ch. 2: 16.5	15.5	ch. 2: 16.5	15.5	ch. 10: 19.5	18.5	ch. 10: 19.5	18.5	ch. 2: 16.5	15.5
				ch. 11: 16.5	15.5	ch. 11: 16.5	15.5	ch. 11: 13.5	12.5			ch. 11: 16.5	15.5	ch. 11: 16.5	15.5	ch. 11: 13.5	12.5	ch. 11: 19.5	18.5	ch. 11: 19.5	18.5	ch. 10: 16.5	15.5
																						ch. 10: 16.5	15.5
																						ch. 11: 13.5	12.5

Mode / Band	Modulated Average (dBm)	
Bluetooth	Maximum	18.0
	Nominal	17.0
Bluetooth (EDR)	Maximum	12.0
	Nominal	11.0
Bluetooth LE 2Mbps	Maximum	10.0
	Nominal	9.0
Bluetooth LE 1 Bbps	Maximum	10.0
	Nominal	9.0

### 1.4.3 2.4 GHz Reduced WLAN Output Powers



The below table is applicable in the following conditions:

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

Mode	Band	IEEE 802.11 (in dBm)													
		SISO								MIMO					
		Antenna 1/2													
		b		g		n		ax (SU)		g (CDD + STBC)		n (CDD+STBC, SDM)		ax (SU) (CDD+STBC, SDM)	
Max	Nom.	Max	Nom.	Max	Nom.	Max	Nom.	Max	Nom.	Max	Nom.	Max	Nom.		
2.4 GHz WIFI	2.45 GHz	16.0	15.0	16.0	15.0	16.0	15.0	16.0	15.0	19.0	18.0	19.0	18.0	18.0	17.0
								ch. 1: 15.5	14.5					ch. 1: 15.5	14.5
								ch. 11: 13.5	12.5					ch. 2: 16.5	15.5
														ch. 10: 16.5	15.5
														ch. 11: 13.5	12.5



The below table is applicable in the following conditions:

- Head Conditions during simultaneous conditions with 5 GHz WLAN

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

Mode	Band	IEEE 802.11 (in dBm)													
		SISO								MIMO					
		Antenna 1/2													
		b		g		n		ax (SU)		<sup>g</sup> (CDD + STBC)		<sup>n</sup> (CDD+STBC, SDM)		<sup>ax (SU)</sup> (CDD+STBC, SDM)	
Maximum / Nominal Power	Max	Nom.	Max	Nom.	Max	Nom.	Max	Nom.	Max	Nom.	Max	Nom.	Max	Nom.	
2.4 GHz WIFI	2.45 GHz	13.0	12.0	13.0	12.0	13.0	12.0	13.0	12.0	16.0	15.0	16.0	15.0	16.0	15.0
														ch. 1: 15.5 ch. 11: 13.5	14.5 12.5

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### 1.4.4

### 5 GHz Maximum SISO/MIMO WLAN Output Power

Mode	Band	IEEE 802.11 (in dBm)																							
		SISO								SISO								MIMO							
		Antenna 1				Antenna 2				a		n		ac		ax (SU)		a (CDD + STBC)		n (CDD+STBC, SDM)		ac (CDD+STBC, SDM)		ax (SU) (CDD+STBC, SDM)	
		a	n	ac	ax (SU)	a	n	ac	ax (SU)	a	n	a	n	a	n	a	n	a	n						
Maximum / Nominal Power	Max	Nom.	Max	Nom.	Max	Nom.	Max	Nom.	Max	Nom.	Max	Nom.	Max	Nom.	Max	Nom.	Max	Nom.	Max	Nom.	Max	Nom.	Max	Nom.	
5 GHz WiFi (20MHz BW)	5200 MHz	18.5	17.5	18.5	17.5	18.5	17.5	18.0	17.0	17.5	16.5	17.5	16.5	17.5	16.5	17.0	16.0	21.0	20.0	21.0	20.0	21.0	20.0	18.0	17.0
	5300 MHz	18.5	17.5	18.5	17.5	18.5	17.5	18.0	17.0	17.5	16.5	17.5	16.5	17.5	16.5	17.0	16.0	21.0	20.0	21.0	20.0	21.0	20.0	18.0	17.0
	5500 MHz	18.5	17.5	18.5	17.5	18.5	17.5	18.0	17.0	17.5	16.5	17.5	16.5	17.5	16.5	17.0	16.0	21.0	20.0	21.0	20.0	21.0	20.0	18.0	17.0
	5800 MHz	18.5	17.5	18.5	17.5	18.5	17.5	18.0	17.0	17.5	16.5	17.5	16.5	17.5	16.5	17.0	16.0	21.0	20.0	21.0	20.0	21.0	20.0	18.0	17.0
5 GHz WiFi (40MHz BW)	5200 MHz		17.5	16.5	17.5	16.5	17.0	16.0		16.5	15.5	16.5	15.5	16.0	15.0		20.0	19.0	20.0	19.0	20.0	19.0	17.0	16.0	
	5300 MHz		17.5	16.5	17.5	16.5	17.0	16.0		16.5	15.5	16.5	15.5	16.0	15.0		20.0	19.0	20.0	19.0	20.0	19.0	17.0	16.0	
	5500 MHz		17.5	16.5	17.5	16.5	17.0	16.0		16.5	15.5	16.5	15.5	16.0	15.0		20.0	19.0	20.0	19.0	20.0	19.0	17.0	16.0	
	5800 MHz		17.5	16.5	17.5	16.5	17.0	16.0		16.5	15.5	16.5	15.5	16.0	15.0		20.0	19.0	20.0	19.0	20.0	19.0	17.0	16.0	
5 GHz WiFi (80MHz BW)	5200 MHz				13.0	12.0	13.0	12.0				13.0	12.0	13.0	12.0				16.0	15.0	13.0	12.0			
	5300 MHz				13.0	12.0	12.5	11.5				13.0	12.0	12.5	11.5				16.0	15.0	12.5	11.5			
	5500 MHz				16.5	15.5	16.0	15.0				15.5	14.5	15.0	14.0				19.0	18.0	16.0	15.0			
	5800 MHz				16.5	15.5	16.0	15.0				15.5	14.5	15.0	14.0				19.0	18.0	16.0	15.0			



### 1.4.5

### 5 GHz Reduced WLAN Output Powers

The below table is applicable in the following conditions:

- Head Conditions
- Simultaneous conditions with 2.4 GHz WLAN
- Simultaneous conditions with 5G NR(FR1)
- Head Conditions during simultaneous conditions with 2.4 GHz WLAN




Mode	Band	IEEE 802.11 (in dBm)																								
		SISO								MIMO																
		Antenna 1/2				a				n				ax (SU)												
		a	n	ac	ax (SU)	a (CDD + STBC)	n (CDD+STBC, SDM)	ac (CDD+STBC, SDM)	ax (SU) (CDD+STBC, SDM)	a (CDD + STBC)	n (CDD+STBC, SDM)	ac (CDD+STBC, SDM)	ax (SU) (CDD+STBC, SDM)	a (CDD + STBC)	n (CDD+STBC, SDM)	ac (CDD+STBC, SDM)	ax (SU) (CDD+STBC, SDM)									
Maximum / Nominal Power	Max	Nom.	Max	Nom.	Max	Nom.	Max	Nom.	Max	Nom.	Max	Nom.	Max	Nom.	Max	Nom.	Max	Nom.	Max	Nom.	Max	Nom.	Max	Nom.		
5 GHz WiFi (20MHz BW)	5200 MHz	13.0	12.0	13.0	12.0	13.0	12.0	13.0	12.0	16.0	15.0	16.0	15.0	16.0	15.0	16.0	15.0	16.0	15.0	16.0	15.0	16.0	15.0	16.0	15.0	
	5300 MHz	13.0	12.0	13.0	12.0	13.0	12.0	13.0	12.0	16.0	15.0	16.0	15.0	16.0	15.0	16.0	15.0	16.0	15.0	16.0	15.0	16.0	15.0	16.0	15.0	
	5500 MHz	13.0	12.0	13.0	12.0	13.0	12.0	13.0	12.0	16.0	15.0	16.0	15.0	16.0	15.0	16.0	15.0	16.0	15.0	16.0	15.0	16.0	15.0	16.0	15.0	
	5800 MHz	13.0	12.0	13.0	12.0	13.0	12.0	13.0	12.0	16.0	15.0	16.0	15.0	16.0	15.0	16.0	15.0	16.0	15.0	16.0	15.0	16.0	15.0	16.0	15.0	
5 GHz WiFi (40MHz BW)	5200 MHz				13.0	12.0	13.0	12.0				16.0	15.0	16.0	15.0	16.0	15.0				16.0	15.0	16.0	15.0		
	5300 MHz				13.0	12.0	13.0	12.0				16.0	15.0	16.0	15.0	16.0	15.0				16.0	15.0	16.0	15.0		
	5500 MHz				13.0	12.0	13.0	12.0				16.0	15.0	16.0	15.0	16.0	15.0				16.0	15.0	16.0	15.0		
	5800 MHz				13.0	12.0	13.0	12.0				16.0	15.0	16.0	15.0	16.0	15.0				16.0	15.0	16.0	15.0		
5 GHz WiFi (80MHz BW)	5200 MHz						13.0	12.0							16.0	15.0	13.0	12.0								
	5300 MHz						13.0	12.0	12.5	11.5					16.0	15.0	12.5	11.5								
	5500 MHz						13.0	12.0	13.0	12.0					16.0	15.0	16.0	15.0								
	5800 MHz						13.0	12.0	13.0	12.0					16.0	15.0	16.0	15.0								

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The below table is applicable in the following conditions:

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

Mode	Band	IEEE 802.11 (in dBm)															
		SISO								MIMO							
		Antenna 1/2															
		a		n		ac		ax (SU)		a (CDD + STBC)		n (CDD+STBC, SDM)		ac (CDD+STBC, SDM)		ax (SU) (CDD+STBC, SDM)	
Maximum / Nominal Power	Max	Nom.	Max	Nom.	Max	Nom.	Max	Nom.	Max	Nom.	Max	Nom.	Max	Nom.	Max	Nom.	
5 GHz WIFI (20MHz BW)	5200 MHz	11.0	10.0	11.0	10.0	11.0	10.0	11.0	10.0	14.0	13.0	14.0	13.0	14.0	13.0	14.0	13.0
	5300 MHz	11.0	10.0	11.0	10.0	11.0	10.0	11.0	10.0	14.0	13.0	14.0	13.0	14.0	13.0	14.0	13.0
	5500 MHz	11.0	10.0	11.0	10.0	11.0	10.0	11.0	10.0	14.0	13.0	14.0	13.0	14.0	13.0	14.0	13.0
	5800 MHz	11.0	10.0	11.0	10.0	11.0	10.0	11.0	10.0	14.0	13.0	14.0	13.0	14.0	13.0	14.0	13.0
5 GHz WIFI (40MHz BW)	5200 MHz			11.0	10.0	11.0	10.0	11.0	10.0			14.0	13.0	14.0	13.0	14.0	13.0
	5300 MHz			11.0	10.0	11.0	10.0	11.0	10.0			14.0	13.0	14.0	13.0	14.0	13.0
	5500 MHz			11.0	10.0	11.0	10.0	11.0	10.0			14.0	13.0	14.0	13.0	14.0	13.0
	5800 MHz			11.0	10.0	11.0	10.0	11.0	10.0			14.0	13.0	14.0	13.0	14.0	13.0
5 GHz WIFI (80MHz BW)	5200 MHz					11.0	10.0	11.0	10.0					14.0	13.0	13.0	12.0
	5300 MHz					11.0	10.0	11.0	10.0					14.0	13.0	12.5	11.5
	5500 MHz					11.0	10.0	11.0	10.0					14.0	13.0	14.0	13.0
	5800 MHz					11.0	10.0	11.0	10.0					14.0	13.0	14.0	13.0

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## 1.5 DUT Antenna Locations

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

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

Mode	Back	Front	Top	Bottom	Right	Left
NR Band n66 (AWS) Antenna I	Yes	No	No	No	No	No
NR Band n77 Antenna G	Yes	Yes	No	No	Yes	No
NR Band n77 Antenna B	Yes	Yes	No	Yes	No	Yes
NR Band n77 Antenna H	Yes	Yes	Yes	No	No	No
NR Band n77 Antenna D	Yes	Yes	No	Yes	No	Yes

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




## 1.6 Near Field Communications (NFC) Antenna

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

## 1.7 Simultaneous Transmission Capabilities

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



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

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**Table 1-2  
Simultaneous Transmission Scenarios**

No.	Capable Transmit Configuration	Head	Body-Worn Accessory	Wireless Router	Phablet	Notes
1	1x CDMA voice + 2.4 GHz WLAN	Yes	Yes	N/A	Yes	
2	1x CDMA voice + 5 GHz WLAN	Yes	Yes	N/A	Yes	
3	1x CDMA voice + 2.4 GHz Bluetooth	Yes^	Yes	N/A	Yes	^ Bluetooth Tethering is considered
4	1x CDMA voice + 2.4 GHz WLAN MIMO	Yes	Yes	N/A	Yes	
5	1x CDMA voice + 5 GHz WLAN MIMO	Yes	Yes	N/A	Yes	
6	1x CDMA voice + 2.4 GHz Bluetooth + 5 GHz WLAN	Yes^	Yes	N/A	Yes	^ Bluetooth Tethering is considered
7	1x CDMA voice + 2.4 GHz Bluetooth + 5 GHz WLAN MIMO	Yes^	Yes	N/A	Yes	^ Bluetooth Tethering is considered
8	1x CDMA voice + 2.4 GHz WLAN + 5 GHz WLAN	Yes	Yes	N/A	Yes	
9	1x CDMA voice + 2.4 GHz WLAN MIMO + 5 GHz WLAN MIMO	Yes	Yes	N/A	Yes	
10	GSM voice + 2.4 GHz WLAN	Yes	Yes	N/A	Yes	
11	GSM voice + 5 GHz WLAN	Yes	Yes	N/A	Yes	
12	GSM voice + 2.4 GHz Bluetooth	Yes^	Yes	N/A	Yes	^ Bluetooth Tethering is considered
13	GSM voice + 2.4 GHz WLAN MIMO	Yes	Yes	N/A	Yes	
14	GSM voice + 5 GHz WLAN MIMO	Yes	Yes	N/A	Yes	
15	GSM voice + 2.4 GHz Bluetooth + 5 GHz WLAN	Yes^	Yes	N/A	Yes	^ Bluetooth Tethering is considered
16	GSM voice + 2.4 GHz Bluetooth + 5 GHz WLAN MIMO	Yes^	Yes	N/A	Yes	^ Bluetooth Tethering is considered
17	GSM voice + 2.4 GHz WLAN + 5 GHz WLAN	Yes	Yes	N/A	Yes	
18	GSM voice + 2.4 GHz WLAN MIMO + 5 GHz WLAN MIMO	Yes	Yes	N/A	Yes	
19	UMTS + 2.4 GHz WLAN	Yes	Yes	Yes	Yes	
20	UMTS + 5 GHz WLAN	Yes	Yes	Yes	Yes	
21	UMTS + 2.4 GHz Bluetooth	Yes^	Yes	Yes^	Yes	^ Bluetooth Tethering is considered
22	UMTS + 2.4 GHz WLAN MIMO	Yes	Yes	Yes	Yes	
23	UMTS + 5 GHz WLAN MIMO	Yes	Yes	Yes	Yes	
24	UMTS + 2.4 GHz Bluetooth + 5 GHz WLAN	Yes^	Yes	Yes^	Yes	^ Bluetooth Tethering is considered
25	UMTS + 2.4 GHz Bluetooth + 5 GHz WLAN MIMO	Yes^	Yes	Yes^	Yes	^ Bluetooth Tethering is considered
26	UMTS + 2.4 GHz WLAN + 5 GHz WLAN	Yes	Yes	Yes	Yes	
27	UMTS + 2.4 GHz WLAN MIMO + 5 GHz WLAN MIMO	Yes	Yes	Yes	Yes	
28	LTE + 2.4 GHz WLAN	Yes	Yes	Yes	Yes	
29	LTE + 5 GHz WLAN	Yes	Yes	Yes	Yes	
30	LTE + 2.4 GHz Bluetooth	Yes^	Yes	Yes^	Yes	^ Bluetooth Tethering is considered
31	LTE + 2.4 GHz WLAN MIMO	Yes	Yes	Yes	Yes	
32	LTE + 5 GHz WLAN MIMO	Yes	Yes	Yes	Yes	
33	LTE + 2.4 GHz Bluetooth + 5 GHz WLAN	Yes^	Yes	Yes^	Yes	^ Bluetooth Tethering is considered
34	LTE + 2.4 GHz Bluetooth + 5 GHz WLAN MIMO	Yes^	Yes	Yes^	Yes	^ Bluetooth Tethering is considered
35	LTE + 2.4 GHz WLAN + 5 GHz WLAN	Yes	Yes	Yes	Yes	
36	LTE + 2.4 GHz WLAN MIMO + 5 GHz WLAN MIMO	Yes	Yes	Yes	Yes	
37	LTE + NR	Yes	Yes	N/A	Yes	
38	LTE + NR + 2.4 GHz WLAN	Yes	Yes	Yes	Yes	
39	LTE + NR + 5 GHz WLAN	Yes	Yes	Yes	Yes	
40	LTE + NR + 2.4 GHz Bluetooth	Yes^	Yes	Yes^	Yes	^ Bluetooth Tethering is considered
41	LTE + NR + 2.4 GHz WLAN MIMO	Yes	Yes	Yes	Yes	
42	LTE + NR + 5 GHz WLAN MIMO	Yes	Yes	Yes	Yes	
43	LTE + NR + 2.4 GHz Bluetooth + 5 GHz WLAN	Yes^	Yes	Yes^	Yes	^ Bluetooth Tethering is considered
44	LTE + NR + 2.4 GHz Bluetooth + 5 GHz WLAN MIMO	Yes^	Yes	Yes^	Yes	^ Bluetooth Tethering is considered
45	LTE + NR + 2.4 GHz WLAN + 5 GHz WLAN	Yes	Yes	Yes	Yes	
46	LTE + NR + 2.4 GHz WLAN MIMO + 5 GHz WLAN MIMO	Yes	Yes	Yes	Yes	
47	NR + 2.4 GHz WLAN	Yes	Yes	Yes	Yes	
48	NR + 5 GHz WLAN	Yes	Yes	Yes	Yes	
49	NR + 2.4 GHz Bluetooth	Yes^	Yes	Yes^	Yes	^ Bluetooth Tethering is considered
50	NR + 2.4 GHz WLAN MIMO	Yes	Yes	Yes	Yes	
51	NR + 5 GHz WLAN MIMO	Yes	Yes	Yes	Yes	
52	NR + 2.4 GHz Bluetooth + 5 GHz WLAN	Yes^	Yes	Yes^	Yes	^ Bluetooth Tethering is considered
53	NR + 2.4 GHz Bluetooth + 5 GHz WLAN MIMO	Yes^	Yes	Yes^	Yes	^ Bluetooth Tethering is considered
54	NR + 2.4 GHz WLAN + 5 GHz WLAN	Yes	Yes	Yes	Yes	
55	NR + 2.4 GHz WLAN MIMO + 5 GHz WLAN MIMO	Yes	Yes	Yes	Yes	
56	CDMA/EVDO data + 2.4 GHz WLAN	Yes*	Yes*	Yes	Yes	* Pre-installed VOIP applications are considered.
57	CDMA/EVDO data + 5 GHz WLAN	Yes*	Yes*	Yes	Yes	* Pre-installed VOIP applications are considered.
58	CDMA/EVDO data + 2.4 GHz Bluetooth	Yes*^	Yes*	Yes^	Yes	* Pre-installed VOIP applications are considered. ^ Bluetooth Tethering is considered
59	CDMA/EVDO data + 2.4 GHz WLAN MIMO	Yes*	Yes*	Yes	Yes	* Pre-installed VOIP applications are considered.
60	CDMA/EVDO data + 5 GHz WLAN MIMO	Yes*	Yes*	Yes	Yes	* Pre-installed VOIP applications are considered.
61	CDMA/EVDO data + 2.4 GHz Bluetooth + 5 GHz WLAN	Yes*^	Yes*	Yes^	Yes	* Pre-installed VOIP applications are considered. ^ Bluetooth Tethering is considered
62	CDMA/EVDO data + 2.4 GHz Bluetooth + 5 GHz WLAN MIMO	Yes*^	Yes*	Yes^	Yes	* Pre-installed VOIP applications are considered. ^ Bluetooth Tethering is considered
63	CDMA/EVDO data + 2.4 GHz WLAN + 5 GHz WLAN	Yes*	Yes*	Yes	Yes	* Pre-installed VOIP applications are considered.
64	CDMA/EVDO data + 2.4 GHz WLAN MIMO + 5 GHz WLAN MIMO	Yes*	Yes*	Yes	Yes	* Pre-installed VOIP applications are considered.
65	GPRS/EDGE + 2.4 GHz WLAN	N/A	N/A	Yes	Yes	
66	GPRS/EDGE + 5 GHz WLAN	N/A	N/A	Yes	Yes	
67	GPRS/EDGE + 2.4 GHz Bluetooth	N/A	N/A	Yes^	Yes	^ Bluetooth Tethering is considered
68	GPRS/EDGE + 2.4 GHz WLAN MIMO	N/A	N/A	Yes	Yes	
69	GPRS/EDGE + 5 GHz WLAN MIMO	N/A	N/A	Yes	Yes	
70	GPRS/EDGE + 2.4 GHz Bluetooth + 5 GHz WLAN	N/A	N/A	Yes^	Yes	^ Bluetooth Tethering is considered
71	GPRS/EDGE + 2.4 GHz Bluetooth + 5 GHz WLAN MIMO	N/A	N/A	Yes^	Yes	^ Bluetooth Tethering is considered
72	GPRS/EDGE + 2.4 GHz WLAN + 5 GHz WLAN	N/A	N/A	Yes	Yes	
73	GPRS/EDGE + 2.4 GHz WLAN MIMO + 5 GHz WLAN MIMO	N/A	N/A	Yes	Yes	

- 2.4 GHz WLAN and 2.4 GHz Bluetooth share the same antenna path and cannot transmit simultaneously.
- All licensed modes share the same antenna path and cannot transmit simultaneously.
- When the user utilizes multiple services in UMTS 3G mode it uses multi-Radio Access Bearer or multi-RAB. The power control is based on a physical control channel (Dedicated Physical Control Channel [DPCCH]) and power control will be adjusted to meet the needs of both services. Therefore, the UMTS+WLAN scenario also represents the UMTS Voice/DATA + WLAN Hotspot scenario.

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4. Per the manufacturer, WIFI Direct is not expected to be used in conjunction with a held-to-ear or body-worn accessory voice call. Therefore, there are no simultaneous transmission scenarios involving WIFI direct beyond that listed in the above table.
5. 5 GHz Wireless Router is only supported for the U-NII-3 by S/W, therefore U-NII-1, U-NII2A, and U-NII2C were not evaluated for wireless router conditions.
6. This device supports 2x2 MIMO Tx for WLAN 802.11a/g/n/ac/ax. 802.11a/g/n/ac/ax supports CDD and STBC and 802.11n/ac/ax additionally supports SDM. Each WLAN antenna can transmit independently or together when operating with MIMO.
7. This device supports VoWIFI.
8. This device supports Bluetooth Tethering.
9. This device supports VoLTE.
10. LTE + 5G NR FR1 Scenarios are limited to LTE Anchor Bands, LTE 2/5/12/13/14/25/30/41/48/66.
11. 5G NR FR2 n260 and n261 cannot transmit simultaneously.
12. LTE + 5G NR FR2 n260 and n261 operations are possible only with LTE 2/5/12/13/14/30/48/66 under EN-DC mode.

## 1.8 Miscellaneous SAR Test Considerations

### (A) WIFI/BT

There were no changes made to the WIFI and BT operations within this device. Please see original compliance evaluation in RF Exposure Technical Report S/N 1M2009140143-01-R2.A3L for complete evaluation of these operating modes.

### (B) Licensed Transmitter(s)




Only operations relevant to this permissive change were evaluated for compliance. Please see original compliance evaluation in RF Exposure Technical Report S/N 1M2009140143-01-R2.A3L for complete evaluation of all other operating modes. The operational description includes a description of all changed items.

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

NR implementation supports SA and NSA modes. NR implementation in EN-DC mode operates with the LTE Bands shown in the NR FR1 checklist acting as anchor bands. Per FCC Guidance, SAR tests were performed separately for NR Bands and LTE Anchor Bands. Please see Section 13 for more details.

NR Test Configurations were selected per the following guidelines

- MPR is permanently implemented per 3GPP standards. Conducted power and SAR test configurations were identified for RB configurations/modulations with MPR=0 dB as the most conservative SAR scenarios. 1 RB and 50% RB allocations with a low, mid and high offset within the “Inner RB allocation” range were selected to identify the configurations with the highest power.
- The SAR test guidance outlined in section 5 of KDB 941225 D05 was generally adapted for the NR testing. DFT-S-OFDM QPSK was used as the lowest order modulation. Additional modulations were not required since conducted power was not > 0.5 dB higher than the lowest order modulation.
- All available SCS settings for this device were evaluated. The NR checklist contains information about the SCS settings per band.

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No additional Part 2 testing was required for this C2PC since the changes do not impact the essential test cases evaluated in the original filing. The original filing includes at least one band of evaluation with same output power characteristics, and therefore, any additional evaluation for Part 2 smart transmit algorithm verification was not necessary.

## 1.9 Guidance Applied

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



## 1.10 Device Serial Numbers

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

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LTE Information					
Form Factor	Portable Handset				
Frequency Range of each LTE transmission band	LTE Band 71 (663.5 - 695.5 MHz)				
	LTE Band 12 (699.7 - 715.3 MHz)				
	LTE Band 13 (779.5 - 784.5 MHz)				
	LTE Band 14 (790.5 - 795.5 MHz)				
	LTE Band 5 (Cell) (824.7 - 848.3 MHz)				
	LTE Band 26 (Cell) (814.7 - 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 66 (AWS): 1.4 MHz, 3 MHz, 5 MHz, 10 MHz, 15 MHz, 20 MHz				
	LTE Band 30 (2307.5 - 2312.5 MHz)				
	LTE Band 7 (2502.5 - 2567.5 MHz)				
	LTE Band 48 (3552.5 - 3697.5 MHz)				
	LTE Band 41 (2498.5 - 2687.5 MHz)				
	LTE Band 38 (2572.5 - 2617.5 MHz)				
	Channel Bandwidths	LTE Band 71: 5 MHz, 10 MHz, 15 MHz, 20 MHz			
		LTE Band 12: 1.4 MHz, 3 MHz, 5 MHz, 10 MHz			
LTE Band 13: 5 MHz					
LTE Band 14: 5 MHz, 10 MHz					
LTE Band 5 (Cell): 1.4 MHz, 3 MHz, 5 MHz, 10 MHz					
LTE Band 26 (Cell): 1.4 MHz, 3 MHz, 5 MHz, 10 MHz, 15 MHz					
LTE Band 66 (AWS): 1.4 MHz, 3 MHz, 5 MHz, 10 MHz, 15 MHz, 20 MHz					
LTE Band 4 (AWS): 1.4 MHz, 3 MHz, 5 MHz, 10 MHz, 15 MHz, 20 MHz					
LTE Band 25 (PCS): 1.4 MHz, 3 MHz, 5 MHz, 10 MHz, 15 MHz, 20 MHz					
LTE Band 2 (PCS): 1.4 MHz, 3 MHz, 5 MHz, 10 MHz, 15 MHz, 20 MHz					
LTE Band 30: 5 MHz, 10 MHz					
LTE Band 7: 5 MHz, 10 MHz, 15 MHz, 20 MHz					
LTE Band 48: 5 MHz, 10 MHz, 15 MHz, 20 MHz					
LTE Band 41: 5 MHz, 10 MHz, 15 MHz, 20 MHz					
LTE Band 38: 5 MHz, 10 MHz, 15 MHz, 20 MHz					
Channel Numbers and Frequencies (MHz)		Low	Low-Mid	Mid	Mid-High
		High			
LTE Band 71: 5 MHz	665.5 (133147)		693.5 (133297)	695.5 (133447)	
LTE Band 71: 10 MHz	669 (133172)		690.5 (133297)	693 (133422)	
LTE Band 71: 15 MHz	670.5 (133197)		690.5 (133297)	690.5 (133397)	
LTE Band 71: 20 MHz	673 (133222)		690.5 (133297)	688 (133372)	
LTE Band 12: 1.4 MHz	699.7 (23017)		707.5 (23095)	715.3 (23173)	
LTE Band 12: 3 MHz	700.5 (23025)		707.5 (23095)	714.5 (23165)	
LTE Band 12: 5 MHz	701.5 (23035)		707.5 (23095)	713.5 (23155)	
LTE Band 12: 10 MHz	704 (23060)		707.5 (23095)	711 (23130)	
LTE Band 13: 5 MHz	779.5 (23205)		782 (23230)	784.5 (23255)	
LTE Band 13: 10 MHz	N/A		782 (23230)	N/A	
LTE Band 14: 5 MHz	790.5 (23205)		793 (23230)	795.5 (23255)	
LTE Band 14: 10 MHz	N/A		793 (23230)	N/A	
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 26 (Cell): 1.4 MHz	814.7 (26697)		831.5 (26865)	848.3 (27033)	
LTE Band 26 (Cell): 3 MHz	815.5 (26705)		831.5 (26865)	847.5 (27025)	
LTE Band 26 (Cell): 5 MHz	816.5 (26715)		831.5 (26865)	846.5 (27015)	
LTE Band 26 (Cell): 10 MHz	819 (26740)		831.5 (26865)	844 (26990)	
LTE Band 26 (Cell): 15 MHz	821.5 (26765)		831.5 (26865)	841.5 (26965)	
LTE Band 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 (131979)		1732.5 (20175)	1753.5 (20385)	
LTE Band 4 (AWS): 3 MHz	1711.5 (131987)		1732.5 (20175)	1753.5 (20385)	
LTE Band 4 (AWS): 5 MHz	1712.5 (131997)		1732.5 (20175)	1752.5 (20375)	
LTE Band 4 (AWS): 10 MHz	1715 (20000)		1732.5 (20175)	1750 (20350)	
LTE Band 4 (AWS): 15 MHz	1717.5 (20025)		1732.5 (20175)	1747.5 (20325)	
LTE Band 4 (AWS): 20 MHz	1720 (20050)		1732.5 (20175)	1745 (20300)	
LTE Band 25 (PCS): 1.4 MHz	1850.7 (26047)		1882.5 (26365)	1914.3 (26683)	
LTE Band 25 (PCS): 3 MHz	1851.5 (26055)		1882.5 (26365)	1913.5 (26675)	
LTE Band 25 (PCS): 5 MHz	1852.5 (26065)		1882.5 (26365)	1912.5 (26665)	
LTE Band 25 (PCS): 10 MHz	1855 (26090)		1882.5 (26365)	1910 (26640)	
LTE Band 25 (PCS): 15 MHz	1857.5 (26115)		1882.5 (26365)	1907.5 (26615)	
LTE Band 25 (PCS): 20 MHz	1860 (26140)		1882.5 (26365)	1905 (26590)	
LTE Band 2 (PCS): 1.4 MHz	1850.7 (18607)		1880 (18900)	1909.3 (19193)	
LTE Band 2 (PCS): 3 MHz	1851.5 (18615)		1880 (18900)	1908.5 (19185)	
LTE Band 2 (PCS): 5 MHz	1852.5 (18625)		1880 (18900)	1907.5 (19175)	
LTE Band 2 (PCS): 10 MHz	1855 (18650)		1880 (18900)	1905 (19150)	
LTE Band 2 (PCS): 15 MHz	1857.5 (18675)		1880 (18900)	1902.5 (19125)	
LTE Band 2 (PCS): 20 MHz	1860 (18700)		1880 (18900)	1900 (19100)	
LTE Band 30: 5 MHz	2307.5 (27685)		2310 (27710)	2312.5 (27735)	
LTE Band 30: 10 MHz	N/A		2310 (27710)	N/A	
LTE Band 7: 5 MHz	2502.5 (20775)		2535 (21100)	2567.5 (21425)	
LTE Band 7: 10 MHz	2505 (20800)		2535 (21100)	2565 (21400)	
LTE Band 7: 15 MHz	2507.5 (20825)		2535 (21100)	2562.5 (21375)	
LTE Band 7: 20 MHz	2510 (20850)		2535 (21100)	2560 (21350)	
LTE Band 48: 5 MHz	3552.5 (55269)	3600.9 (55749)	N/A	3649.2 (56232)	
LTE Band 48: 10 MHz	3555 (55290)	3601.7 (55757)	N/A	3649.3 (56233)	
LTE Band 48: 15 MHz	3557.5 (55315)	3602.5 (55765)	N/A	3647.5 (56215)	
LTE Band 48: 20 MHz	3560 (55340)	3603.3 (55773)	N/A	3646.7 (56207)	
LTE Band 41: 5 MHz	2506 (39750)	2549.5 (40185)	2593 (40620)	2636.5 (41055)	
LTE Band 41: 10 MHz	2506 (39750)	2549.5 (40185)	2593 (40620)	2680 (41490)	
LTE Band 41: 15 MHz	2506 (39750)	2549.5 (40185)	2593 (40620)	2636.5 (41055)	
LTE Band 41: 20 MHz	2506 (39750)	2549.5 (40185)	2593 (40620)	2680 (41490)	
LTE Band 38: 5 MHz	2572.5 (37775)		2595 (38000)	2617.5 (38225)	
LTE Band 38: 10 MHz	2575 (37800)		2595 (38000)	2615 (38200)	
LTE Band 38: 15 MHz	2577.5 (37825)		2595 (38000)	2612.5 (38175)	
LTE Band 38: 20 MHz	2580 (37850)		2595 (38000)	2610 (38150)	
UE Category	DL UE Cat 20, UL UE Cat 18				
Modulations Supported in UL	QPSK, 16QAM, 64QAM, 256QAM				
LTE MPR Permanently implemented per 3GPP TS 36.101 section 6.2.3-6.2.5? (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 16. It supports carrier aggregation, downlink MIMO, LAA features as shown in Section 9. All uplink communications are identical to the Release 8 Specifications. Uplink communications are done on the PCC. The following LTE Release 16 Features are not supported: Relay, HetNet, Enhanced MIMO, eICIC, eMBMS, Cross-Carrier Scheduling, Enhanced SC-FDMA.				

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NR Information					
Form Factor	Portable Handset				
Frequency Range of each LTE transmission band	NR Band n71 (665.5 - 695.5 MHz)				
	NR Band n12 (701.5 - 713.5 MHz)				
	NR Band n5 (Cell) (826.5 - 846.5 MHz)				
	NR Band n66 (AWS) (1712.5 - 1777.5 MHz)				
	NR Band n25 (PCS) (1852.5 - 1912.5 MHz)				
	NR Band n2 (PCS) (1852.5 - 1907.5 MHz)				
	NR Band n30 (2307.5 - 2312.5 MHz)				
	NR Band n41 (2506.02 - 2679.99 MHz)				
Channel Bandwidths	NR Band n71: 5 MHz, 10 MHz, 15 MHz, 20 MHz				
	NR Band n12: 5 MHz, 10 MHz, 15 MHz				
	NR Band n5 (Cell): 5 MHz, 10 MHz, 15 MHz, 20 MHz				
	NR Band n66 (AWS): 5 MHz, 10 MHz, 15 MHz, 20 MHz, 30 MHz, 40 MHz				
	NR Band n25 (PCS): 5 MHz, 10 MHz, 15 MHz, 20 MHz, 25 MHz, 30 MHz, 40 MHz				
	NR Band n2 (PCS): 5 MHz, 10 MHz, 15 MHz, 20 MHz				
	NR Band n30: 5 MHz, 10 MHz				
	NR Band n41: 20 MHz, 30 MHz, 40 MHz, 50 MHz, 60 MHz, 80 MHz, 90MHz, 100 MHz				
Channel Numbers and Frequencies (MHz)	Low	Low-Mid	Mid	Mid-High	High
NR Band n71: 5 MHz	665.5 (133100)		680.5 (136100)		695.5 (139100)
NR Band n71: 10 MHz	668 (133600)		680.5 (136100)		693 (138600)
NR Band n71: 15 MHz	670.5 (134100)		680.5 (136100)		690.5 (138100)
NR Band n71: 20 MHz	673 (134600)		680.5 (136100)		688 (137600)
NR Band n12: 5 MHz	701.5 (140300)		707.5 (141500)		713.5 (142700)
NR Band n12: 10 MHz	704 (140800)		707.5 (141500)		711 (142200)
NR Band n12: 15 MHz	706.5 (141300)		707.5 (141500)		708.5 (141700)
NR Band n5 (Cell): 5 MHz	826.5 (165300)		836.5 (167300)		846.5 (169300)
NR Band n5 (Cell): 10 MHz	829 (165800)		836.5 (167300)		844 (168800)
NR Band n5 (Cell): 15 MHz	831.5 (166300)		836.5 (167300)		841.5 (168300)
NR Band n5 (Cell): 20 MHz	834 (166800)		836.5 (167300)		839 (167800)
NR Band n66 (AWS): 5 MHz	1712.5 (342500)		1745 (349000)		1777.5 (355500)
NR Band n66 (AWS): 10 MHz	1715 (343000)		1745 (349000)		1775 (355000)
NR Band n66 (AWS): 15 MHz	1717.5 (343500)		1745 (349000)		1772.5 (354500)
NR Band n66 (AWS): 20 MHz	1720 (344000)		1745 (349000)		1770 (354000)
NR Band n66 (AWS): 30 MHz	1725 (345000)		1745 (349000)		1765 (353000)
NR Band n66 (AWS): 40 MHz	1730 (346000)		1745 (349000)		1760 (352000)
NR Band n25 (PCS): 5 MHz	1852.5 (370500)		1882.5 (376500)		1912.5 (382500)
NR Band n25 (PCS): 10 MHz	1855 (371000)		1882.5 (376500)		1910 (382000)
NR Band n25 (PCS): 15 MHz	1857.5 (371500)		1882.5 (376500)		1907.5 (381500)
NR Band n25 (PCS): 20 MHz	1860 (372000)		1882.5 (376500)		1905 (381000)
NR Band n25 (PCS): 25 MHz	1862.5 (372500)		1882.5 (376500)		1902.5 (380500)
NR Band n25 (PCS): 30 MHz	1865 (373000)		1882.5 (376500)		1900 (380000)
NR Band n25 (PCS): 40 MHz	1870 (374000)		1882.5 (376500)		1895 (379000)
NR Band n2 (PCS): 5 MHz	1852.5 (370500)		1880 (376000)		1907.5 (381500)
NR Band n2 (PCS): 10 MHz	1855 (371000)		1880 (376000)		1905 (381000)
NR Band n2 (PCS): 15 MHz	1857.5 (371500)		1880 (376000)		1902.5 (380500)
NR Band n2 (PCS): 20 MHz	1860 (372000)		1880 (376000)		1900 (380000)
NR Band n30: 5 MHz	2307.5 (461500)		2310 (462000)		2312.5 (462500)
NR Band n30: 10 MHz	N/A		2310 (462000)		N/A
NR Band n41: 20 MHz	2506.02 (501204)	2549.49 (509898)	2592.99 (518598)	2636.49 (527298)	2679.99 (535998)
NR Band n41: 30 MHz	2511 (502200)	2552.01 (510402)	2592.99 (518598)	2634 (526800)	2674.98 (534998)
NR Band n41: 40 MHz	2516.01 (503202)	2567.34 (513468)	N/A	2618.67 (523734)	2670 (534000)
NR Band n41: 50 MHz		2521.02 (504204)	2592.99 (518598)	2664.99 (532998)	
NR Band n41: 60 MHz		2526 (505200)	2592.99 (518598)	2659.98 (531998)	
NR Band n41: 80 MHz		2536.02 (507204)	N/A	2649.99 (529998)	
NR Band n41: 90 MHz		2541 (508200)	N/A	2644.98 (528998)	
NR Band n41: 100 MHz		2546.01 (509202)	2592.99 (518598)	2640 (528000)	
SCS for NR Band n71/n12/n5/n66/n25/n2/n30	15 kHz				
SCS for NR Band n41	30 kHz				
Modulations Supported in UL	DFT-s-OFDM: $\mu$ /2 BPSK, QPSK, 16QAM, 64QAM, 256QAM CP-OFDM: QPSK, 16QAM, 64QAM, 256QAM				
NR MPR Permanently implemented per 3GPP TS 38.101	YES				
A-MPR (Additional MPR) disabled for SAR Testing?	YES				
EN-DC Carrier Aggregation Possible Combinations	The technical description includes all the possible carrier aggregation combinations				
LTE Anchor Bands for NR Band n71	LTE Band 2/66				
LTE Anchor Bands for NR Band n12	LTE Band 2/66				
LTE Anchor Bands for NR Band n5 (Cell)	LTE Band 2/30/48/66				
LTE Anchor Bands for NR Band n66 (AWS)	LTE Band 2/5/12/13/14/30/48				
LTE Anchor Bands for NR Band n25 (PCS)	LTE Band 12/66				
LTE Anchor Bands for NR Band n2 (PCS)	LTE Band 5/12/13/14/30/48/66				
LTE Anchor Bands for NR Band n30	N/A				
LTE Anchor Bands for NR Band n41	LTE Band 2/12/25/41/66				

NR Information					
Form Factor	Portable Handset				
Frequency Range of each NR transmission band	NR Band n77 (3710.01 - 3969.99 MHz)				
Channel Bandwidths	NR Band n77: 20 MHz, 30 MHz, 40 MHz, 50 MHz, 60 MHz, 70 MHz, 80 MHz, 90 MHz, 100 MHz				
Channel Numbers and Frequencies (MHz)					
NR Band n77: 20 MHz	3710.01 (647334)	3762 (650900)	3813.99 (654266)	3866.01 (657734)	3918 (661200)
NR Band n77: 30 MHz	3715.02 (647668)	3765 (651000)	3815.01 (654334)	3864.99 (657666)	3915 (661000)
NR Band n77: 40 MHz	3720 (648000)	3768 (651200)	3816 (654400)	3864 (657600)	3912 (660800)
NR Band n77: 50 MHz	3725.01 (648334)	3782.49 (652166)	3840 (656000)	3897.51 (658834)	3954.99 (663666)
NR Band n77: 60 MHz	3730.02 (648668)	3803.34 (653556)	N/A	N/A	3876.66 (658444)
NR Band n77: 70 MHz	3735 (649000)	3804.99 (653666)	N/A	N/A	3875.01 (658334)
NR Band n77: 80 MHz	3740.01 (649334)	N/A	3840 (656000)	N/A	3939.99 (662666)
NR Band n77: 90 MHz	3745.02 (649668)	N/A	3840 (656000)	N/A	3934.98 (662332)
NR Band n77: 100 MHz	3750 (650000)	N/A	N/A	N/A	3930 (662000)
SCS for NR Band n77	30 kHz				
Modulations Supported in UL	DFT-s-OFDM: $\mu$ /2 BPSK, QPSK, 16QAM, 64QAM, 256QAM CP-OFDM: QPSK, 16QAM, 64QAM, 256QAM				
NR MPR Permanently implemented per 3GPP T 38.101	YES				
A-MPR (Additional MPR) disabled for SAR Testing?	YES				
EN-DC and NR SA Carrier Aggregation Possible Combinations	The technical description includes all the possible carrier aggregation combinations				
LTE Anchor Bands for NR Band n77	LTE Band 2/5/12/13/14/30/66				

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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 ( $\rho$ ). 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:

- $\sigma$  = conductivity of the tissue-simulating material (S/m)
- $\rho$  = mass density of the tissue-simulating material (kg/m<sup>3</sup>)
- E = Total RMS electric field strength (V/m)

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

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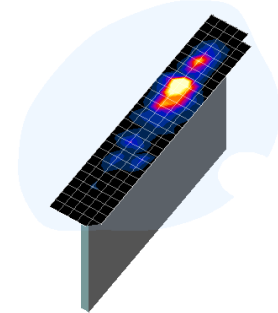
# 4

## DOSIMETRIC ASSESSMENT

### 4.1 Measurement Procedure

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

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 6-1) and IEEE 1528-2013.
2. The point SAR measurement was taken at the maximum SAR region determined from Step 1 to enable the monitoring of SAR fluctuations/drifts during the 1g/10g cube evaluation. SAR at this fixed point was measured and used as a reference value.
3. Based on the area scan data, the peak of the region with maximum SAR was determined by spline interpolation. Around this point, a volume was assessed according to the measurement resolution and volume size requirements of FCC KDB Publication 865664 D01v01r04 (See Table 6-1) 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 6-1. The extrapolation was based on a least-squares algorithm. A polynomial of the fourth order was calculated through the points in the z-axis (normal to the phantom shell).
  - b. After the maximum interpolated values were calculated between the points in the cube, the SAR was averaged over the spatial volume (1g or 10g) using a 3D-Spline interpolation algorithm. The 3D-spline is composed of three one-dimensional splines with the “Not a knot” condition (in x, y, and z directions). The volume was then integrated with the trapezoidal algorithm. One thousand points (10 x 10 x 10) were obtained through interpolation, in order to calculate the averaged SAR.
  - c. All neighboring volumes were evaluated until no neighboring volume with a higher average value was found.
4. The SAR reference value, at the same location as step 2, was re-measured after the zoom scan was complete to calculate the SAR drift. If the drift deviated by more than 5%, the SAR test and drift measurements were repeated.





**Figure 6-1** point  
**Sample SAR Area Scan**

**Table 6-1**  
**Area and Zoom Scan Resolutions per FCC KDB Publication 865664 D01v01r04\***

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

\*Also compliant to IEEE 1528-2013 Table 6

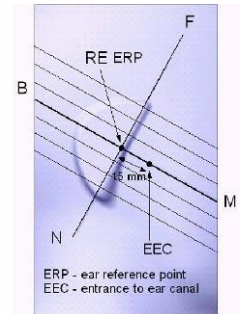
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# 5

## DEFINITION OF REFERENCE POINTS

### 5.1 EAR REFERENCE POINT

Figure 7-2 shows the front, back and side views of the SAM Twin Phantom. The point “M” is the reference point for the center of the mouth, “LE” is the left ear reference point (ERP), and “RE” is the right ERP. The ERP is 15mm posterior to the entrance to the ear canal (EEC) along the B-M line (Back-Mouth), as shown in Figure 7-1. The plane passing through the two ear canals and M is defined as the Reference Plane. The line N-F (Neck-Front), also called the Reference Pivoting Line, is not perpendicular to the reference plane (see Figure 7-1). Line B-M is perpendicular to the N-F line. Both N-F and B-M lines are marked on the external phantom shell to facilitate handset positioning [5].



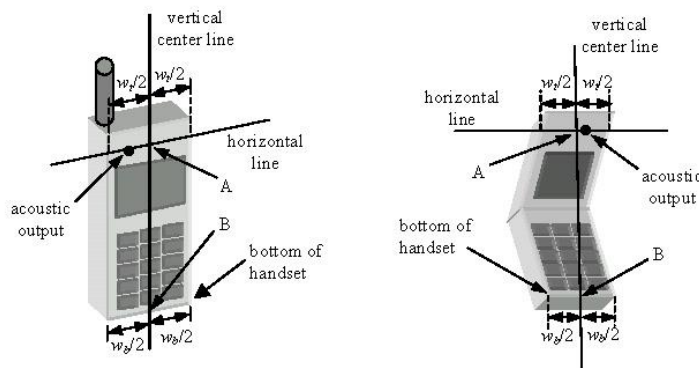
**Figure 7-1**  
Close-Up Side view of ERP

### 5.2 HANDSET REFERENCE POINTS

Two imaginary lines on the handset were established: the vertical centerline and the horizontal line. The test device was placed in a normal operating position with the acoustic output located along the “vertical centerline” on the front of the device aligned to the “ear reference point” (See Figure 7-3). The acoustic output was then located at the same level as the center of the ear reference point. The test device was positioned so that the “vertical centerline” was bisecting the front surface of the handset at its top and bottom edges, positioning the “ear reference point” on the outer surface of the both the left and right head phantoms on the ear reference point.



**Figure 7-2**  
Front, back and side view of SAM Twin Phantom



**Figure 7-3**  
Handset Vertical Center & Horizontal Line Reference Points

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## 6 TEST CONFIGURATION POSITIONS

### 6.1 Device Holder

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

### 6.2 Positioning for Cheek

1. The test device was positioned with the device close to the surface of the phantom such that point A is on the (virtual) extension of the line passing through points RE and LE on the phantom (see Figure 8-1), such that the plane defined by the vertical center line and the horizontal line of the phone is approximately parallel to the sagittal plane of the phantom.

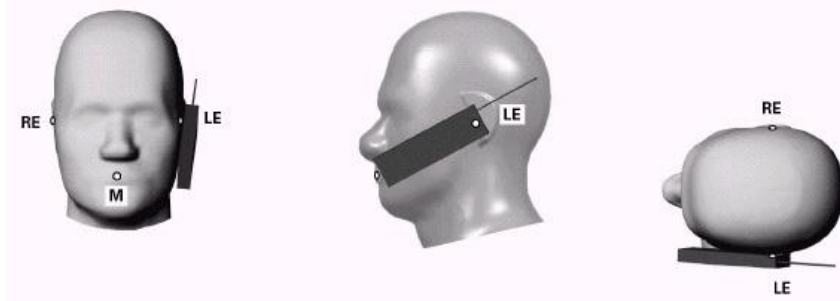




Figure 8-1 Front, Side and Top View of Cheek Position

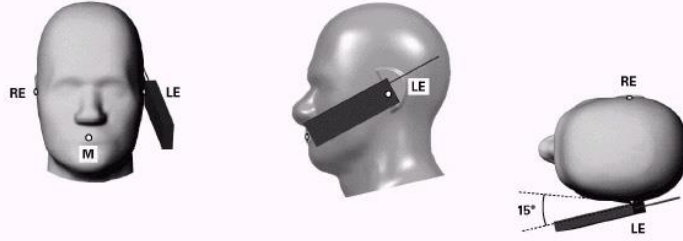
2. The handset was translated towards the phantom along the line passing through RE & LE until the handset touches the pinna.
3. While maintaining the handset in this plane, the handset was rotated around the LE-RE line until the vertical centerline was in the reference plane.
4. The phone was then rotated around the vertical centerline until the phone (horizontal line) was symmetrical with respect to the line NF.
5. While maintaining the vertical centerline in the reference plane, keeping point A on the line passing through RE and LE, and maintaining the device contact with the ear, the device was rotated about the NF line until any point on the handset made contact with a phantom point below the ear (cheek) (See Figure 8-2).

### 6.3 Positioning for Ear / 15° Tilt

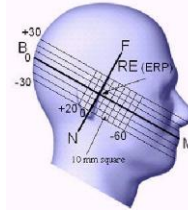
With the test device aligned in the “Cheek Position”:

1. While maintaining the orientation of the phone, the phone was retracted parallel to the reference plane far enough to enable a rotation of the phone by 15 degrees.
2. The phone was then rotated around the horizontal line by 15 degrees.
3. While maintaining the orientation of the phone, the phone was moved parallel to the reference plane until any part of the handset touched the head. (In this position, point A was located on the line RE-LE). The tilted position is obtained when the contact is on the pinna. If the contact was at any location other than the pinna, the angle of the phone would then be reduced. In this situation, the tilted position was obtained when any part of the phone was in contact of the ear as well as a second part of the phone was in contact with the head (see Figure 8-2).

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**Figure 8-2 Front, Side and Top View of Ear/15° Tilt Position**



**Figure 8-3 Side view w/ relevant markings**

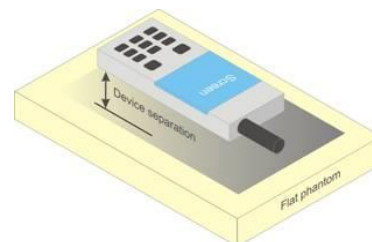
## 6.4 SAR Evaluations near the Mouth/Jaw Regions of the SAM Phantom

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

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




## 6.5 Body-Worn Accessory Configurations

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



**Figure 6-4 Sample Body-Worn Diagram**

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

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

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

## 6.6 Extremity Exposure Configurations

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

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




## 6.7 Wireless Router Configurations

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

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

## 6.8 Phablet Configurations

For smart phones with a display diagonal dimension > 150 mm or an overall diagonal dimension > 160 mm that provide similar mobile web access and multimedia support found in mini-tablets or UMPC mini-tablets that support voice calls next to the ear, the phablets procedures outlined in KDB Publication 648474 D04v01r03

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should be applied to evaluate SAR compliance. A device marketed as phablets, regardless of form factors and operating characteristics must be tested as a phablet to determine SAR compliance. In addition to the normally required head and body-worn accessory SAR test procedures required for handsets, the UMPC mini-tablet procedures must also be applied to test the SAR of all surfaces and edges with an antenna  $\leq 25$  mm from that surface or edge, in direct contact with the phantom, for 10g SAR. The UMPC mini-tablet 1g SAR at 5 mm is not required. When hotspot mode applies, 10g SAR is required only for the surfaces and edges with hotspot mode 1g SAR  $> 1.2$  W/kg.

## 6.9 Proximity Sensor Considerations

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

When the device's antenna is within a certain distance of the user, the sensor activates and reduces the maximum allowed output power. However, the sensor is not active when the device is moved beyond the sensor triggering distance and the maximum output power is no longer limited. Therefore, additional evaluation is needed in the vicinity of the triggering distance to ensure SAR is compliant when the device is allowed to operate at a non-reduced output power level. FCC KDB Publication 616217 D04v01r02 Section 6 was used as a guideline for selecting SAR test distances for this device at these additional test positions.

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

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## 7.1 Uncontrolled Environment

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



## 7.2 Controlled Environment

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

**Table 9-1**  
**SAR Human Exposure Specified in ANSI/IEEE C95.1-1992 and Health Canada Safety Code 6**

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



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

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## 8 FCC MEASUREMENT PROCEDURES

### 8.1 Measured and Reported SAR

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

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# 9

# RF CONDUCTED POWERS

All conducted power measurements in this section were performed by setting *Reserve\_power\_margin* (Qualcomm® Smart Transmit EFS entry) to 0dB, so that the EUT transmits continuously at minimum ( $P_{limit}$ , maximum tune up output power  $P_{max}$ ).

Note: Per October 2020 TCB Workshop Guidance, NR FR1 SAR evaluations are being generally based on adapting the existing LTE SAR procedures (FCC KDB Publication 941225 D05v02r05). Therefore, NR SAR for the lower bandwidths was not required for testing based on the measured output power and the reported NR SAR for the highest bandwidth. Lower bandwidth conducted powers for all NR bands can be found in appendix F.

## 9.1 NR Conducted Powers




### 9.1.1 NR Band n66 Antenna I

Table 9-1

NR Band n66 Measured  $P_{Limit}$  for DSI = 0 (Body-worn, or Phablet with grip sensor not triggered), or DSI = 1 (Phablet with grip sensor active) or DSI = 4 (Earjack active) - 40 MHz Bandwidth

NR Band n66 40 MHz Bandwidth					
Modulation	RB Size	RB Offset	Channel	MPR Allowed per 3GPP [dB]	MPR Allowed per 3GPP [dB]
			349000 (1745 MHz) Conducted Power [dBm]		
DFT-s-OFDM $\pi/2$ BPSK	1	1	22.23	0	0.0
	1	108	22.57		0.0
	1	214	22.25		0.0
	108	0	22.41	0-0.5	0.0
	108	54	22.42	0	0.0
	108	108	22.48	0-0.5	0.0
	216	0	22.45		0.0
DFT-s-OFDM QPSK	1	1	22.37	0	0.0
	1	108	<b>22.55</b>		0.0
	1	214	22.36		0.0
	108	0	22.43	0-1	0.0
	108	54	22.42	0	0.0
	108	108	<b>22.51</b>	0-1	0.0
	216	0	22.30		0.0
DFT-s-OFDM 16QAM	1	1	22.65	0-1	0.0
CP-OFDM QPSK	1	1	22.35	0-1.5	0.0

Note: NR Band n66 (AWS) at 40 MHz bandwidth does not support non-overlapping channels. Per FCC Guidance, when a device supports overlapping channel assignment in a channel bandwidth configuration, the middle channel of the group of overlapping channels should be selected for testing.

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9.1.2

NR Band n77 Antenna B

Table 9-2



NR Band n77 Measured  $P_{Limit}$  for DSI = 0 (Body-worn, or Phablet with grip sensor not triggered) or DSI = 1 (Phablet with grip sensor active) or DSI = 4 (Earjack active) – 100 MHz Bandwidth

NR Band n77 100 MHz Bandwidth						
Modulation	RB Size	RB Offset	Channel		MPR Allowed per 3GPP [dB]	MPR [dB]
			650000 (3750 MHz)	662000 (3930 MHz)		
			Conducted Power [dBm]			
DFT-s-OFDM $\pi/2$ BPSK	1	1	15.93	15.99	0	0.0
	1	137	15.62	16.26		0.0
	1	271	15.24	16.08		0.0
	135	0	15.42	15.54	0-0.5	0.5
	135	69	15.64	16.31	0	0.0
	135	138	14.90	15.79	0-0.5	0.5
	270	0	15.18	15.63		0.5
DFT-s-OFDM QPSK	1	1	15.64	16.01	0	0.0
	1	137	15.53	<b>16.28</b>		0.0
	1	271	15.33	16.17		0.0
	135	0	14.78	14.84	0-1	1.0
	135	69	15.56	<b>16.11</b>	0	0.0
	135	138	14.47	15.24	0-1	1.0
	270	0	14.65	14.92		1.0
DFT-s-OFDM 16QAM	1	1	14.73	14.62	0-1	1.0
CP-OFDM QPSK	1	1	14.30	14.36	0-1.5	1.5

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**Table 9-3  
NR Band n77 Measured  $P_{Limit}$  for DSI = 2 (Head) – 100 MHz Bandwidth**

NR Band n77 100 MHz Bandwidth						
Modulation	RB Size	RB Offset	Channel		MPR Allowed per 3GPP [dB]	MPR [dB]
			650000 (3750 MHz)	662000 (3930 MHz)		
			Conducted Power [dBm]			
DFT-s-OFDM $\pi/2$ BPSK	1	1	10.55	10.36	0	0.0
	1	137	10.31	11.09		0.0
	1	271	10.01	10.80		0.0
	135	0	10.56	10.72	0-0.5	0.0
	135	69	10.32	10.90	0	0.0
	135	138	10.09	11.09	0-0.5	0.0
	270	0	10.35	10.85		0.0
DFT-s-OFDM QPSK	1	1	10.48	10.37	0	0.0
	1	137	10.29	<b>11.17</b>		0.0
	1	271	10.00	10.87		0.0
	135	0	10.48	10.78	0-1	0.0
	135	69	10.32	10.97	0	0.0
	135	138	10.13	<b>11.04</b>	0-1	0.0
	270	0	10.29	10.83		0.0
DFT-s-OFDM 16QAM	1	1	10.18	10.21	0-1	0.0
CP-OFDM QPSK	1	1	10.52	10.43	0-1.5	0.0

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**Table 9-4  
NR Band n77 Measured  $P_{Limit}$  for DSI = 3 (Hotspot) – 100 MHz Bandwidth**

NR Band n77 100 MHz Bandwidth						
Modulation	RB Size	RB Offset	Channel		MPR Allowed per 3GPP [dB]	MPR [dB]
			650000 (3750 MHz)	662000 (3930 MHz)		
			Conducted Power [dBm]			
DFT-s-OFDM $\pi/2$ BPSK	1	1	14.12	14.12	0	0.0
	1	137	14.09	14.62		0.0
	1	271	13.74	14.33		0.0
	135	0	14.28	14.54	0-0.5	0.0
	135	69	14.13	14.71	0	0.0
	135	138	14.02	14.63	0-0.5	0.0
	270	0	14.11	14.56		0.0
DFT-s-OFDM QPSK	1	1	14.21	14.15	0	0.0
	1	137	14.18	<b>14.78</b>		0.0
	1	271	13.81	14.59		0.0
	135	0	14.33	14.47	0-1	0.0
	135	69	14.12	<b>14.72</b>	0	0.0
	135	138	14.02	14.69	0-1	0.0
	270	0	14.13	14.58		0.0
DFT-s-OFDM 16QAM	1	1	13.95	13.79	0-1	0.0
CP-OFDM QPSK	1	1	14.27	14.11	0-1.5	0.0

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9.1.3

NR Band n77 Antenna H

Table 9-5

NR Band n77 Measured  $P_{Limit}$  for DSI = 0 (Body-worn, or Phablet with grip sensor not triggered), or DSI = 1 (Phablet with grip sensor active) or DSI = 4 (Earjack active) – 100 MHz Bandwidth



NR Band n77 100 MHz Bandwidth						
Modulation	RB Size	RB Offset	Channel		MPR Allowed per 3GPP [dB]	MPR [dB]
			650000 (3750 MHz)	662000 (3930 MHz)		
			Conducted Power [dBm]			
DFT-s-OFDM $\pi/2$ BPSK	1	1	18.05	18.65	0	0.0
	1	137	18.18	19.14		0.0
	1	271	18.19	18.72		0.0
	135	0	17.65	18.40	0-0.5	0.5
	135	69	18.19	18.99	0	0.0
	135	138	17.64	18.41	0-0.5	0.5
	270	0	17.69	18.42		0.5
DFT-s-OFDM QPSK	1	1	18.10	18.67	0	0.0
	1	137	18.28	<b>19.18</b>		0.0
	1	271	18.35	18.85		0.0
	135	0	17.17	17.94	0-1	1.0
	135	69	18.20	<b>19.05</b>	0	0.0
	135	138	17.23	17.88	0-1	1.0
	270	0	17.09	17.74		1.0
DFT-s-OFDM 16QAM	1	1	17.41	17.70	0-1	1.0
CP-OFDM QPSK	1	1	16.98	17.15	0-1.5	1.5

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**Table 9-6  
NR Band n77 Measured  $P_{Limit}$  for DSI = 2 (Head) – 100 MHz Bandwidth**

NR Band n77 100 MHz Bandwidth						
Modulation	RB Size	RB Offset	Channel		MPR Allowed per 3GPP [dB]	MPR [dB]
			650000 (3750 MHz)	662000 (3930 MHz)		
			Conducted Power [dBm]			
DFT-s-OFDM $\pi/2$ BPSK	1	1	12.75	13.18	0	0.0
	1	137	12.90	13.71		0.0
	1	271	12.78	13.33		0.0
	135	0	12.95	13.56	0-0.5	0.0
	135	69	12.88	13.67	0	0.0
	135	138	12.87	13.66	0-0.5	0.0
	270	0	12.91	13.55		0.0
DFT-s-OFDM QPSK	1	1	12.83	13.23	0	0.0
	1	137	12.94	<b>13.79</b>		0.0
	1	271	12.95	13.45		0.0
	135	0	12.97	13.62	0-1	0.0
	135	69	12.86	<b>13.63</b>	0	0.0
	135	138	12.83	13.61	0-1	0.0
	270	0	12.93	13.55		0.0
DFT-s-OFDM 16QAM	1	1	12.80	13.24	0-1	0.0
CP-OFDM QPSK	1	1	12.68	13.41	0-1.5	0.0

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**Table 9-7  
NR Band n77 Measured  $P_{Limit}$  for DSI = 3 (Hotspot) – 100 MHz Bandwidth**

NR Band n77 100 MHz Bandwidth						
Modulation	RB Size	RB Offset	Channel		MPR Allowed per 3GPP [dB]	MPR [dB]
			650000 (3750 MHz)	662000 (3930 MHz)		
			Conducted Power [dBm]			
DFT-s-OFDM $\pi/2$ BPSK	1	1	16.43	17.17	0	0.0
	1	137	16.59	17.50		0.0
	1	271	16.61	17.20		0.0
	135	0	16.67	17.31	0-0.5	0.0
	135	69	16.60	17.49	0	0.0
	135	138	16.63	17.35	0-0.5	0.0
	270	0	16.61	17.35		0.0
DFT-s-OFDM QPSK	1	1	16.43	17.06	0	0.0
	1	137	16.71	<b>17.61</b>		0.0
	1	271	16.54	17.22		0.0
	135	0	16.68	17.45	0-1	0.0
	135	69	16.62	<b>17.51</b>	0	0.0
	135	138	16.61	17.38	0-1	0.0
	270	0	16.61	17.43		0.0
DFT-s-OFDM 16QAM	1	1	16.37	17.16	0-1	0.0
CP-OFDM QPSK	1	1	16.42	17.25	0-1.5	0.0

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9.1.4

NR Band n77 Antenna D

Table 9-8



NR Band n77 Measured  $P_{Limit}$  for DSI = 0 (Body-worn, or Phablet with grip sensor not triggered), or DSI = 1 (Phablet with grip sensor active) or DSI = 4 (Earjack active) – 100 MHz Bandwidth

NR Band n77 100 MHz Bandwidth						
Modulation	RB Size	RB Offset	Channel		MPR Allowed per 3GPP [dB]	MPR [dB]
			650000 (3750 MHz)	662000 (3930 MHz)		
			Conducted Power [dBm]			
DFT-s-OFDM $\pi/2$ BPSK	1	1	15.42	15.59	0	0.0
	1	137	15.47	16.17		0.0
	1	271	15.14	15.56		0.0
	135	0	15.21	15.53	0-0.5	0.5
	135	69	15.56	16.17	0	0.0
	135	138	14.94	15.49	0-0.5	0.5
	270	0	15.03	15.58		0.5
DFT-s-OFDM QPSK	1	1	15.62	15.46	0	0.0
	1	137	15.58	<b>16.15</b>		0.0
	1	271	15.28	15.56		0.0
	135	0	14.67	14.84	0-1	1.0
	135	69	15.61	<b>15.99</b>	0	0.0
	135	138	14.41	14.89	0-1	1.0
	270	0	14.59	14.58		1.0
DFT-s-OFDM 16QAM	1	1	14.20	14.35	0-1	1.0
CP-OFDM QPSK	1	1	14.03	14.12	0-1.5	1.5

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**Table 9-9  
NR Band n77 Measured  $P_{Limit}$  for DSI = 2 (Head) – 100 MHz Bandwidth**

NR Band n77 100 MHz Bandwidth						
Modulation	RB Size	RB Offset	Channel		MPR Allowed per 3GPP [dB]	MPR [dB]
			650000 (3750 MHz)	662000 (3930 MHz)		
			Conducted Power [dBm]			
DFT-s-OFDM $\pi/2$ BPSK	1	1	10.49	10.23	0	0.0
	1	137	10.33	10.82		0.0
	1	271	10.00	10.35		0.0
	135	0	10.42	10.81	0-0.5	0.0
	135	69	10.26	10.86	0	0.0
	135	138	10.27	10.85	0-0.5	0.0
	270	0	10.32	10.74		0.0
DFT-s-OFDM QPSK	1	1	10.45	10.22	0	0.0
	1	137	10.29	<b>10.85</b>		0.0
	1	271	10.05	10.53		0.0
	135	0	10.51	10.73	0-1	0.0
	135	69	10.35	<b>10.86</b>	0	0.0
	135	138	10.20	10.81	0-1	0.0
	270	0	10.29	10.75		0.0
DFT-s-OFDM 16QAM	1	1	10.09	9.99	0-1	0.0
CP-OFDM QPSK	1	1	10.41	10.28	0-1.5	0.0

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**Table 9-10**  
**NR Band n77 Measured  $P_{Limit}$  for DSI = 3 (Hotspot) – 100 MHz Bandwidth**

NR Band n77 100 MHz Bandwidth						
Modulation	RB Size	RB Offset	Channel		MPR Allowed per 3GPP [dB]	MPR [dB]
			650000 (3750 MHz)	662000 (3930 MHz)		
			Conducted Power [dBm]			
DFT-s-OFDM $\pi/2$ BPSK	1	1	14.03	14.13	0	0.0
	1	137	14.15	14.66		0.0
	1	271	13.81	14.04		0.0
	135	0	14.18	14.39	0-0.5	0.0
	135	69	14.09	14.55	0	0.0
	135	138	13.98	14.44	0-0.5	0.0
	270	0	14.10	14.42		0.0
DFT-s-OFDM QPSK	1	1	14.03	14.04	0	0.0
	1	137	13.93	<b>14.63</b>		0.0
	1	271	13.83	13.97		0.0
	135	0	14.23	14.61	0-1	0.0
	135	69	14.09	<b>14.64</b>	0	0.0
	135	138	14.10	14.52	0-1	0.0
	270	0	14.05	14.50		0.0
DFT-s-OFDM 16QAM	1	1	13.87	13.92	0-1	0.0
CP-OFDM QPSK	1	1	14.03	14.26	0-1.5	0.0

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# 10 SYSTEM VERIFICATION

## 10.1 Tissue Verification

**Table 10-1  
Measured Tissue Properties**

Calibrated for Tests Performed on:	Tissue Type	Tissue Temp During Calibration (°C)	Measured Frequency (MHz)	Measured Conductivity, $\sigma$ (S/m)	Measured Dielectric Constant, $\epsilon$	TARGET Conductivity, $\sigma$ (S/m)	TARGET Dielectric Constant, $\epsilon$	% dev $\sigma$	% dev $\epsilon$
01/21/2021	3600 Head	19.1	3700	3.046	36.600	3.117	37.700	-2.28%	-2.92%
			3750	3.091	36.489	3.169	37.643	-2.46%	-3.07%
			3900	3.250	36.247	3.323	37.471	-2.20%	-3.27%
			3930	3.275	36.187	3.353	37.437	-2.33%	-3.34%
			4100	3.461	35.859	3.528	37.243	-1.90%	-3.72%
			4150	3.511	35.765	3.579	37.186	-1.90%	-3.82%
12/28/2020	1750 Body	23.0	1710	1.485	51.684	1.463	53.537	1.50%	-3.46%
			1720	1.495	51.637	1.469	53.511	1.77%	-3.50%
			1745	1.524	51.531	1.485	53.445	2.63%	-3.58%
			1750	1.529	51.512	1.488	53.432	2.76%	-3.59%
			1770	1.551	51.444	1.501	53.379	3.33%	-3.63%
			1790	1.571	51.369	1.514	53.326	3.76%	-3.67%
01/18/2021	3600 Body	20.3	3700	3.470	49.452	3.548	51.050	-2.20%	-3.13%
			3750	3.530	49.346	3.606	50.982	-2.11%	-3.21%
			3900	3.721	49.096	3.781	50.779	-1.59%	-3.31%
			3930	3.760	49.026	3.816	50.738	-1.47%	-3.37%
			4100	3.995	48.682	4.015	50.507	-0.50%	-3.61%
			4150	4.061	48.582	4.073	50.439	-0.29%	-3.68%
01/20/2021	3600 Body	20.2	3700	3.440	49.131	3.548	51.050	-3.04%	-3.76%
			3750	3.504	49.032	3.606	50.982	-2.83%	-3.82%
			3900	3.693	48.765	3.781	50.779	-2.33%	-3.97%
			3930	3.724	48.724	3.816	50.738	-2.41%	-3.97%
			4100	3.956	48.408	4.015	50.507	-1.47%	-4.16%
			4150	4.021	48.312	4.073	50.439	-1.28%	-4.22%

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

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## 10.2 Test System Verification

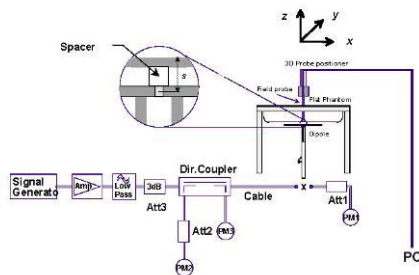
Prior to SAR assessment, the system is verified to  $\pm 10\%$  of the SAR measurement on the reference dipole at the time of calibration by the calibration facility. Full system validation status and result summary can be found in Appendix D.

**Table 10-2**  
**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 <sub>1g</sub> (W/kg)	1 W Target SAR <sub>1g</sub> (W/kg)	1 W Normalized SAR <sub>1g</sub> (W/kg)	Deviation <sub>1g</sub> (%)
I	3700	HEAD	01/21/2021	20.5	18.7	0.100	1067	7551	7.110	67.200	71.100	5.80%
I	3900	HEAD	01/21/2021	20.5	18.7	0.100	1056	7551	7.410	68.900	74.100	7.55%
H	1750	BODY	12/28/2020	22.4	23.0	0.100	1008	7357	3.890	37.400	38.900	4.01%
L	3700	BODY	01/18/2021	22.3	20.3	0.100	1067	7539	6.630	65.200	66.300	1.69%
L	3900	BODY	01/18/2021	22.3	20.3	0.100	1056	7539	7.010	66.300	70.100	5.73%

**Table 10-3**  
**System Verification Results – 10g**

System Verification TARGET & MEASURED												
SAR System #	Tissue Frequency (MHz)	Tissue Type	Date	Amb. Temp (°C)	Liquid Temp (°C)	Input Power (W)	Source SN	Probe SN	Measured SAR <sub>10g</sub> (W/kg)	1 W Target SAR <sub>10g</sub> (W/kg)	1 W Normalized SAR <sub>10g</sub> (W/kg)	Deviation <sub>10g</sub> (%)
L	3700	BODY	01/20/2021	22.9	20.3	0.100	1067	7539	2.430	23.300	24.300	4.29%
L	3900	BODY	01/20/2021	22.9	20.3	0.100	1056	7539	2.340	23.000	23.400	1.74%



**Figure 12-1**  
**System Verification Setup Diagram**



**Figure 12-2**  
**System Verification Setup Photo**

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# 11 SAR DATA SUMMARY

## 11.1 Standalone Head SAR Data

**Table 11-1  
NR Band n77 Ant B Head SAR**



MEASUREMENT RESULTS																				
FREQUENCY		Mode	Bandwidth [MHz]	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	MPR [dB]	Side	Test Position	Waveform	Modulation	RB Size	RB Offset	Serial Number	Duty Cycle	SAR (1g)	Scaling Factor	Reported SAR (1g)	Plot #	
MHz	Ch.															(W/kg)		(W/kg)		
3930.00	662000	High	NR Band n77	100	12.0	11.17	0.00	0	Right	Cheek	DFT-S-OFDM	QPSK	1	137	6132M	1:1	0.000	1.211	0.000	
3930.00	662000	High	NR Band n77	100	12.0	11.04	0.00	0	Right	Cheek	DFT-S-OFDM	QPSK	135	138	6132M	1:1	0.000	1.247	0.000	
3930.00	662000	High	NR Band n77	100	12.0	11.17	0.00	0	Right	Tilt	DFT-S-OFDM	QPSK	1	137	6132M	1:1	0.000	1.211	0.000	
3930.00	662000	High	NR Band n77	100	12.0	11.04	0.10	0	Right	Tilt	DFT-S-OFDM	QPSK	135	138	6132M	1:1	0.000	1.247	0.000	
3930.00	662000	High	NR Band n77	100	12.0	11.17	0.00	0	Left	Cheek	DFT-S-OFDM	QPSK	1	137	6132M	1:1	0.000	1.211	0.000	
3930.00	662000	High	NR Band n77	100	12.0	11.04	0.00	0	Left	Cheek	DFT-S-OFDM	QPSK	135	138	6132M	1:1	0.000	1.247	0.000	
3750.00	650000	Low	NR Band n77	100	12.0	10.52	0.00	0	Left	Cheek	CP-OFDM	QPSK	1	1	6132M	1:1	0.000	1.406	0.000	
3930.00	662000	High	NR Band n77	100	12.0	11.17	0.00	0	Left	Tilt	DFT-S-OFDM	QPSK	1	137	6132M	1:1	0.000	1.211	0.000	
3930.00	662000	High	NR Band n77	100	12.0	11.04	0.00	0	Left	Tilt	DFT-S-OFDM	QPSK	135	138	6132M	1:1	0.000	1.247	0.000	
ANSI / IEEE C95.1 1992 - SAFETY LIMIT									Head											
Spatial Peak									1.6 W/kg (mW/g)											
Uncontrolled Exposure/General Population									averaged over 1 gram											

**Table 11-2  
NR Band n77 Ant H Head SAR**

MEASUREMENT RESULTS																				
FREQUENCY		Mode	Bandwidth [MHz]	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	MPR [dB]	Side	Test Position	Waveform	Modulation	RB Size	RB Offset	Serial Number	Duty Cycle	SAR (1g)	Scaling Factor	Reported SAR (1g)	Plot #	
MHz	Ch.															(W/kg)		(W/kg)		
3930.00	662000	High	NR Band n77	100	14.5	13.79	0.16	0	Right	Cheek	DFT-S-OFDM	QPSK	1	137	6134M	1:1	0.004	1.178	0.005	
3930.00	662000	High	NR Band n77	100	14.5	13.63	0.10	0	Right	Cheek	DFT-S-OFDM	QPSK	135	69	6134M	1:1	0.003	1.222	0.004	
3930.00	662000	High	NR Band n77	100	14.5	13.79	0.17	0	Right	Tilt	DFT-S-OFDM	QPSK	1	137	6134M	1:1	0.007	1.178	0.008	
3930.00	662000	High	NR Band n77	100	14.5	13.63	0.08	0	Right	Tilt	DFT-S-OFDM	QPSK	135	69	6134M	1:1	0.007	1.222	0.009	
3930.00	662000	High	NR Band n77	100	14.5	13.79	0.18	0	Left	Cheek	DFT-S-OFDM	QPSK	1	137	6134M	1:1	0.002	1.178	0.002	
3930.00	662000	High	NR Band n77	100	14.5	13.63	0.11	0	Left	Cheek	DFT-S-OFDM	QPSK	135	69	6134M	1:1	0.003	1.222	0.004	
3930.00	662000	High	NR Band n77	100	14.5	13.79	0.16	0	Left	Tilt	DFT-S-OFDM	QPSK	1	137	6134M	1:1	0.009	1.178	0.011	A1
3930.00	662000	High	NR Band n77	100	14.5	13.63	0.17	0	Left	Tilt	DFT-S-OFDM	QPSK	135	69	6134M	1:1	0.006	1.222	0.007	
3930.00	662000	High	NR Band n77	100	14.5	13.41	0.14	0	Left	Tilt	CP-OFDM	QPSK	1	1	6134M	1:1	0.006	1.285	0.008	
ANSI / IEEE C95.1 1992 - SAFETY LIMIT									Head											
Spatial Peak									1.6 W/kg (mW/g)											
Uncontrolled Exposure/General Population									averaged over 1 gram											

**Table 11-3  
NR Band n77 Ant D Head SAR**

MEASUREMENT RESULTS																				
FREQUENCY		Mode	Bandwidth [MHz]	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	MPR [dB]	Side	Test Position	Waveform	Modulation	RB Size	RB Offset	Serial Number	Duty Cycle	SAR (1g)	Scaling Factor	Reported SAR (1g)	Plot #	
MHz	Ch.															(W/kg)		(W/kg)		
3930.00	662000	High	NR Band n77	100	11.5	10.85	0.00	0	Right	Cheek	DFT-S-OFDM	QPSK	1	137	6134M	1:1	0.000	1.161	0.000	
3930.00	662000	High	NR Band n77	100	11.5	10.86	0.00	0	Right	Cheek	DFT-S-OFDM	QPSK	135	69	6134M	1:1	0.000	1.159	0.000	
3930.00	662000	High	NR Band n77	100	11.5	10.85	0.00	0	Right	Tilt	DFT-S-OFDM	QPSK	1	137	6134M	1:1	0.000	1.161	0.000	
3930.00	662000	High	NR Band n77	100	11.5	10.86	0.00	0	Right	Tilt	DFT-S-OFDM	QPSK	135	69	6134M	1:1	0.000	1.159	0.000	
3930.00	662000	High	NR Band n77	100	11.5	10.85	0.00	0	Left	Cheek	DFT-S-OFDM	QPSK	1	137	6134M	1:1	0.000	1.161	0.000	
3930.00	662000	High	NR Band n77	100	11.5	10.86	0.00	0	Left	Cheek	DFT-S-OFDM	QPSK	135	69	6134M	1:1	0.000	1.159	0.000	
3930.00	662000	High	NR Band n77	100	11.5	10.85	0.11	0	Left	Tilt	DFT-S-OFDM	QPSK	1	137	6134M	1:1	0.001	1.161	0.001	
3930.00	662000	High	NR Band n77	100	11.5	10.86	0.01	0	Left	Tilt	DFT-S-OFDM	QPSK	135	69	6134M	1:1	0.001	1.159	0.001	
3750.00	650000	Low	NR Band n77	100	11.5	10.41	0.01	0.0	Left	Tilt	CP-OFDM	QPSK	1	1	6134M	1:1	0.000	1.285	0.000	
ANSI / IEEE C95.1 1992 - SAFETY LIMIT									Head											
Spatial Peak									1.6 W/kg (mW/g)											
Uncontrolled Exposure/General Population									averaged over 1 gram											

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# 11.2 Standalone Body-Worn SAR Data

**Table 11-4  
NR Band n66 Antenna I Body-Worn SAR**

MEASUREMENT RESULTS																				
FREQUENCY		Mode	Bandwidth [MHz]	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	MPR [dB]	Serial Number	Waveform	Modulation	RB Size	RB Offset	Spacing	Side	Duty Cycle	SAR (1g)	Scaling Factor	Reported SAR	Plot #	
MHz	Ch.															(W/kg)		(1g)		(W/kg)
1745.00	349000	Mid	NR Band n66 (AWS)	40	23.0	22.55	0.07	0	6132M	DFT-S-OFDM	QPSK	1	108	15 mm	back	1:1	0.248	1.109	0.275	
1745.00	349000	Mid	NR Band n66 (AWS)	40	23.0	22.51	0.03	0	6132M	DFT-S-OFDM	QPSK	108	108	15 mm	back	1:1	0.272	1.119	0.304	A2
1745.00	349000	Mid	NR Band n66 (AWS)	40	23.0	22.35	0.12	0	6132M	CP-OFDM	QPSK	1	1	15 mm	back	1:1	0.251	1.161	0.291	
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population												Body 1.6 W/kg (mW/g) averaged over 1 gram								

**Table 11-5  
NR Band n77 Ant B Body-Worn SAR**



MEASUREMENT RESULTS																				
FREQUENCY		Mode	Bandwidth [MHz]	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	MPR [dB]	Serial Number	Waveform	Modulation	RB Size	RB Offset	Spacing	Side	Duty Cycle	SAR (1g)	Scaling Factor	Reported SAR	Plot #	
MHz	Ch.															(W/kg)		(1g)		(W/kg)
3930.00	662000	High	NR Band n77	100	17.0	16.28	0.09	0	6132M	DFT-S-OFDM	QPSK	1	137	15 mm	back	1:1	0.026	1.180	0.031	
3930.00	662000	High	NR Band n77	100	17.0	16.11	-0.18	0	6132M	DFT-S-OFDM	QPSK	135	69	15 mm	back	1:1	0.026	1.227	0.032	
3930.00	662000	High	NR Band n77	100	15.5	14.36	-0.11	1.5	6132M	CP-OFDM	QPSK	1	1	15 mm	back	1:1	0.017	1.300	0.022	
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population												Body 1.6 W/kg (mW/g) averaged over 1 gram								

**Table 11-6  
NR Band n77 Ant H Body-Worn SAR**

MEASUREMENT RESULTS																				
FREQUENCY		Mode	Bandwidth [MHz]	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	MPR [dB]	Serial Number	Waveform	Modulation	RB Size	RB Offset	Spacing	Side	Duty Cycle	SAR (1g)	Scaling Factor	Reported SAR	Plot #	
MHz	Ch.															(W/kg)		(1g)		(W/kg)
3930.00	662000	High	NR Band n77	100	19.5	19.18	-0.10	0	6134M	DFT-S-OFDM	QPSK	1	137	15 mm	back	1:1	0.201	1.076	0.216	A3
3930.00	662000	High	NR Band n77	100	19.5	19.05	-0.07	0	6134M	DFT-S-OFDM	QPSK	135	69	15 mm	back	1:1	0.200	1.109	0.222	
3930.00	662000	High	NR Band n77	100	18.0	17.15	0.08	1.5	6134M	CP-OFDM	QPSK	1	1	15 mm	back	1:1	0.140	1.216	0.170	
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population												Body 1.6 W/kg (mW/g) averaged over 1 gram								

**Table 11-7  
NR Band n77 Ant D Body-Worn SAR**

MEASUREMENT RESULTS																				
FREQUENCY		Mode	Bandwidth [MHz]	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	MPR [dB]	Serial Number	Waveform	Modulation	RB Size	RB Offset	Spacing	Side	Duty Cycle	SAR (1g)	Scaling Factor	Reported SAR	Plot #	
MHz	Ch.															(W/kg)		(1g)		(W/kg)
3930.00	662000	High	NR Band n77	100	16.5	16.15	0.03	0	6132M	DFT-S-OFDM	QPSK	1	137	15 mm	back	1:1	0.184	1.084	0.199	
3930.00	662000	High	NR Band n77	100	16.5	15.99	0.02	0	6132M	DFT-S-OFDM	QPSK	135	69	15 mm	back	1:1	0.179	1.125	0.201	
3930.00	662000	High	NR Band n77	100	15.0	14.12	0.18	1.5	6132M	CP-OFDM	QPSK	1	1	15 mm	back	1:1	0.122	1.225	0.149	
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population												Body 1.6 W/kg (mW/g) averaged over 1 gram								

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# 11.3 Standalone Hotspot SAR Data

## Table 11-8 NR Band n77 Ant B Hotspot SAR



MEASUREMENT RESULTS																				
FREQUENCY		Mode	Bandwidth [MHz]	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	MPR [dB]	Serial Number	Waveform	Modulation	RB Size	RB Offset	Spacing	MPR [dB]	Duty Cycle	SAR (1g)	Scaling Factor	Reported SAR (1g)	Plot #	
MHz	Ch.															(W/kg)		(W/kg)		
3930.00	662000	High	NR Band n77	100	15.5	14.78	-0.17	0	6132M	DFT-S-OFDM	QPSK	1	137	10 mm	back	1:1	0.042	1.180	0.050	
3930.00	662000	High	NR Band n77	100	15.5	14.72	-0.13	0	6132M	DFT-S-OFDM	QPSK	135	69	10 mm	back	1:1	0.041	1.197	0.049	
3750.00	650000	Low	NR Band n77	100	15.5	14.27	-0.12	0	6132M	CP-OFDM	QPSK	1	1	10 mm	back	1:1	0.044	1.327	0.058	
3930.00	662000	High	NR Band n77	100	15.5	14.78	-0.10	0	6132M	DFT-S-OFDM	QPSK	1	137	10 mm	front	1:1	0.029	1.180	0.034	
3930.00	662000	High	NR Band n77	100	15.5	14.72	-0.16	0	6132M	DFT-S-OFDM	QPSK	135	69	10 mm	front	1:1	0.029	1.197	0.035	
3930.00	662000	High	NR Band n77	100	15.5	14.78	-0.16	0	6132M	DFT-S-OFDM	QPSK	1	137	10 mm	bottom	1:1	0.031	1.180	0.037	
3930.00	662000	High	NR Band n77	100	15.5	14.72	-0.14	0	6132M	DFT-S-OFDM	QPSK	135	69	10 mm	bottom	1:1	0.030	1.197	0.036	
3930.00	662000	High	NR Band n77	100	15.5	14.78	-0.14	0	6132M	DFT-S-OFDM	QPSK	1	137	10 mm	left	1:1	0.013	1.180	0.015	
3930.00	662000	High	NR Band n77	100	15.5	14.72	-0.11	0	6132M	DFT-S-OFDM	QPSK	135	69	10 mm	left	1:1	0.013	1.197	0.016	
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population											Body 1.6 W/kg (mW/g) averaged over 1 gram									

## Table 11-9 NR Band n77 Ant H Hotspot SAR

MEASUREMENT RESULTS																				
FREQUENCY		Mode	Bandwidth [MHz]	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	MPR [dB]	Serial Number	Waveform	Modulation	RB Size	RB Offset	Spacing	MPR [dB]	Duty Cycle	SAR (1g)	Scaling Factor	Reported SAR (1g)	Plot #	
MHz	Ch.															(W/kg)		(W/kg)		
3930.00	662000	High	NR Band n77	100	18.0	17.61	-0.04	0.0	6134M	DFT-S-OFDM	QPSK	1	137	10 mm	back	1:1	0.245	1.094	0.268	
3930.00	662000	High	NR Band n77	100	18.0	17.51	0.08	0.0	6134M	DFT-S-OFDM	QPSK	135	69	10 mm	back	1:1	0.239	1.119	0.267	
3930.00	662000	High	NR Band n77	100	18.0	17.25	0.00	0.0	6134M	CP-OFDM	QPSK	1	1	10 mm	back	1:1	0.247	1.189	0.294	A4
3930.00	662000	High	NR Band n77	100	18.0	17.61	0.11	0.0	6134M	DFT-S-OFDM	QPSK	1	137	10 mm	front	1:1	0.003	1.094	0.003	
3930.00	662000	High	NR Band n77	100	18.0	17.51	0.03	0.0	6134M	DFT-S-OFDM	QPSK	135	69	10 mm	front	1:1	0.003	1.119	0.003	
3930.00	662000	High	NR Band n77	100	18.0	17.61	0.00	0.0	6134M	DFT-S-OFDM	QPSK	1	137	10 mm	top	1:1	0.035	1.094	0.038	
3930.00	662000	High	NR Band n77	100	18.0	17.51	0.18	0.0	6134M	DFT-S-OFDM	QPSK	135	69	10 mm	top	1:1	0.033	1.119	0.037	
3930.00	662000	High	NR Band n77	100	18.0	17.61	-0.17	0.0	6134M	DFT-S-OFDM	QPSK	1	137	10 mm	left	1:1	0.011	1.094	0.012	
3930.00	662000	High	NR Band n77	100	18.0	17.51	0.04	0.0	6134M	DFT-S-OFDM	QPSK	135	69	10 mm	left	1:1	0.012	1.119	0.013	
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population											Body 1.6 W/kg (mW/g) averaged over 1 gram									

## Table 11-10 NR Band n77 Ant D Hotspot SAR

MEASUREMENT RESULTS																				
FREQUENCY		Mode	Bandwidth [MHz]	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	MPR [dB]	Serial Number	Waveform	Modulation	RB Size	RB Offset	Spacing	MPR [dB]	Duty Cycle	SAR (1g)	Scaling Factor	Reported SAR (1g)	Plot #	
MHz	Ch.															(W/kg)		(W/kg)		
3930.00	662000	High	NR Band n77	100	15.0	14.63	0.03	0	6132M	DFT-S-OFDM	QPSK	1	137	10 mm	back	1:1	0.223	1.089	0.243	
3930.00	662000	High	NR Band n77	100	15.0	14.64	0.01	0	6132M	DFT-S-OFDM	QPSK	135	69	10 mm	back	1:1	0.220	1.086	0.239	
3930.00	662000	High	NR Band n77	100	15.0	14.26	0.01	0	6132M	CP-OFDM	QPSK	1	1	10 mm	back	1:1	0.225	1.186	0.267	
3930.00	662000	High	NR Band n77	100	15.0	14.63	0.19	0	6132M	DFT-S-OFDM	QPSK	1	137	10 mm	front	1:1	0.005	1.089	0.005	
3930.00	662000	High	NR Band n77	100	15.0	14.64	-0.05	0	6132M	DFT-S-OFDM	QPSK	135	69	10 mm	front	1:1	0.004	1.086	0.004	
3930.00	662000	High	NR Band n77	100	15.0	14.63	-0.07	0	6132M	DFT-S-OFDM	QPSK	1	137	10 mm	bottom	1:1	0.049	1.089	0.053	
3930.00	662000	High	NR Band n77	100	15.0	14.64	-0.04	0	6132M	DFT-S-OFDM	QPSK	135	69	10 mm	bottom	1:1	0.049	1.086	0.053	
3930.00	662000	High	NR Band n77	100	15.0	14.63	-0.10	0	6132M	DFT-S-OFDM	QPSK	1	137	10 mm	left	1:1	0.007	1.089	0.008	
3930.00	662000	High	NR Band n77	100	15.0	14.64	-0.14	0	6132M	DFT-S-OFDM	QPSK	135	69	10 mm	left	1:1	0.007	1.086	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									

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## 11.4 Standalone Phablet SAR Data

**Table 11-11  
NR Band n77 Ant H Phablet SAR**

MEASUREMENT RESULTS																				
FREQUENCY		Mode	Bandwidth [MHz]	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	MPR [dB]	Serial Number	Waveform	Modulation	RB Size	RB Offset	Spacing	MPR [dB]	Duty Cycle	Scaling Factor	SAR (10g)	Reported SAR (10g)	Plot #	
MHz	Ch.																(W/kg)	(W/kg)		
3750.00	650000	Low	NR Band n77	100	19.5	18.35	-0.19	0	6132M	DFT-S-OFDM	QPSK	1	271	0 mm	back	1:1	1.303	1.190	1.551	
3930.00	662000	High	NR Band n77	100	19.5	19.18	-0.15	0	6132M	DFT-S-OFDM	QPSK	1	137	0 mm	back	1:1	1.076	1.270	1.367	
3750.00	650000	Low	NR Band n77	100	19.5	18.20	-0.17	0	6132M	DFT-S-OFDM	QPSK	135	69	0 mm	back	1:1	1.349	1.190	1.605	
3930.00	662000	High	NR Band n77	100	19.5	19.05	-0.11	0	6132M	DFT-S-OFDM	QPSK	135	69	0 mm	back	1:1	1.109	1.250	1.386	
3930.00	662000	High	NR Band n77	100	18.5	17.74	-0.18	1	6132M	DFT-S-OFDM	QPSK	270	0	0 mm	back	1:1	1.191	0.967	1.152	
3930.00	662000	High	NR Band n77	100	18.0	17.15	-0.17	1.5	6132M	CP-OFDM	QPSK	1	1	0 mm	back	1:1	1.216	0.893	1.086	
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population											Phablet 4.0 W/kg (mW/g) averaged over 10 gram									



**Table 11-12  
NR Band n77 Ant D Phablet SAR**

MEASUREMENT RESULTS																				
FREQUENCY		Mode	Bandwidth [MHz]	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	MPR [dB]	Serial Number	Waveform	Modulation	RB Size	RB Offset	Spacing	MPR [dB]	Duty Cycle	Scaling Factor	SAR (10g)	Reported SAR (10g)	Plot #	
MHz	Ch.																(W/kg)	(W/kg)		
3750.00	650000	Low	NR Band n77	100	16.5	15.62	-0.12	0	6132M	DFT-S-OFDM	QPSK	1	1	0 mm	back	1:1	1.225	1.130	1.384	
3930.00	662000	High	NR Band n77	100	16.5	16.15	-0.15	0	6132M	DFT-S-OFDM	QPSK	1	137	0 mm	back	1:1	1.084	1.310	1.420	A5
3750.00	650000	Low	NR Band n77	100	16.5	15.61	-0.02	0	6132M	DFT-S-OFDM	QPSK	135	69	0 mm	back	1:1	1.227	1.240	1.521	
3930.00	662000	High	NR Band n77	100	16.5	15.99	-0.18	0	6132M	DFT-S-OFDM	QPSK	135	69	0 mm	back	1:1	1.125	1.250	1.406	
3750.00	650000	Low	NR Band n77	100	15.5	14.59	-0.11	1	6132M	DFT-S-OFDM	QPSK	270	0	0 mm	back	1:1	1.233	0.973	1.200	
3930.00	662000	High	NR Band n77	100	15.0	14.12	-0.10	1.5	6132M	CP-OFDM	QPSK	1	1	0 mm	back	1:1	1.225	0.964	1.181	
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population											Phablet 4.0 W/kg (mW/g) averaged over 10 gram									

## 11.5 SAR Test Notes

### General Notes:



- The test data reported are the worst-case SAR values according to test procedures specified in IEEE 1528-2013, FCC KDB Publication 447498 D01v06.
- Batteries are fully charged at the beginning of the SAR measurements.
- Liquid tissue depth was at least 15.0 cm for all frequencies.
- The manufacturer has confirmed that the device(s) tested have the same physical, mechanical and thermal characteristics and are within operational tolerances expected for production units.
- SAR results were scaled to the maximum allowed power to demonstrate compliance per FCC KDB Publication 447498 D01v06.
- Device was tested using a fixed spacing for body-worn accessory testing. A separation distance of 15 mm was considered because the manufacturer has determined that there will be body-worn accessories available in the marketplace for users to support this separation distance.
- Per FCC KDB Publication 648474 D04v01r03, body-worn SAR was evaluated without a headset connected to the device. Since the standalone reported body-worn SAR was  $\leq 1.2$  W/kg, no additional body-worn SAR evaluations using a headset cable were required.
- Per FCC KDB Publication 648474 D04v01r03, this device is considered a "phablet" since the diagonal dimension is  $> 160$  mm and  $< 200$  mm. Therefore, phablet SAR tests are required when wireless router mode does not apply or if wireless router 1g SAR  $> 1.2$  W/kg.
- Additional SAR tests for phablet SAR were evaluated per KDB 616217 Section 6 (See Section 6.9 for more information).
- Unless otherwise noted, when 10g SAR measurement is considered, a factor of 2.5 is applied to the thresholds below.

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11. This device uses Qualcomm Smart Transmit for 2G/3G/4G/5G operations to control and manage transmitting power in real time to ensure RF Exposure compliance. Per FCC Guidance, compliance for was assessed at the minimum of the time averaged power and the maximum output power for each band/mode/exposure condition (DSI).
12. Per FCC KDB 865664 D01v01r04, variability SAR tests were not required since the measured SAR results for each frequency band were less than 0.8 W/kg for 1g and less than 2.0 W/kg for 10g. Please see Section 13 for more information.

**NR Notes:**

1. NR implementation supports SA and NSA mode. In EN-DC mode, NR operates with the LTE Bands shown in the NR FR1 checklist acting as anchor bands. Per FCC guidance, SAR tests for NR Bands and LTE Anchors Bands were performed separately due to limitations in SAR probe calibration factors.
2. Due to test setup limitations, SAR testing for NR was performed using test mode software to establish the connection.
3. This device additionally supports some EN-DC conditions where additional LTE carriers are added on the downlink only.
4. Per FCC Guidance, NR modulations and RB Sizes/Offsets were selected for testing such that configurations with the highest output power were evaluated for SAR tests.

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## 12 FCC MULTI-TX AND ANTENNA SAR CONSIDERATIONS

### 12.1 Introduction

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




### 12.2 Simultaneous Transmission Procedures

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

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

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

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

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## 12.3 Head SAR Simultaneous Transmission Analysis

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



Configuration	Mode	5G SAR (W/kg)	2.4 GHz WLAN Ant 1 SAR (W/kg)	2.4 GHz WLAN Ant 2 SAR (W/kg)	Σ SAR (W/kg)		
		1	2	3	1+2	1+3	1+2+3
Head SAR	NR Band n77	0.011	0.408	0.265	0.419	0.276	<b>0.684</b>

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

Configuration	Mode	5G SAR (W/kg)	5 GHz WLAN Ant 1 SAR (W/kg)	5 GHz WLAN Ant 2 SAR (W/kg)	Σ SAR (W/kg)		
		1	2	3	1+2	1+3	1+2+3
Head SAR	NR Band n77	0.011	0.510	0.274	0.521	0.285	<b>0.795</b>

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

Configuration	Mode	5G SAR (W/kg)	2.4 GHz WLAN Ant 1 SAR (W/kg)	2.4 GHz WLAN Ant 2 SAR (W/kg)	5 GHz WLAN Ant 1 SAR (W/kg)	5 GHz WLAN Ant 2 SAR (W/kg)	Σ SAR (W/kg)
		1	2	3	4	5	1+2+3+4+5
Head SAR	NR Band n77	0.011	0.408	0.265	0.510	0.274	<b>1.468</b>



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

Configuration	Mode	5G SAR (W/kg)	2.4 GHz Bluetooth SAR (W/kg)	$\Sigma$ SAR (W/kg)
		1	2	
Head SAR	NR Band n77	0.011	0.530	<b>0.541</b>

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

Configuration	Mode	5G SAR (W/kg)	2.4 GHz Bluetooth SAR (W/kg)	5 GHz WLAN Ant 1 at 10 dBm SAR (W/kg)	5 GHz WLAN Ant 2 at 10 dBm SAR (W/kg)	$\Sigma$ SAR (W/kg)
		1	2	3	4	
Head SAR	NR Band n77	0.011	0.530	0.271	0.107	<b>0.919</b>

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## 12.4 Body-Worn Simultaneous Transmission Analysis

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

Configuration	Mode	5G SAR (W/kg)	2.4 GHz WLAN Ant 1 SAR (W/kg)	2.4 GHz WLAN Ant 2 SAR (W/kg)	Σ SAR (W/kg)		
		1	2	3	1+2	1+3	1+2+3
Body - Worn SAR	NR Band n66 (AWS)	0.304	0.120	0.140	0.424	0.444	<b>0.564</b>
	NR Band n77	0.222	0.120	0.140	0.342	0.362	0.482

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




Configuration	Mode	5G SAR (W/kg)	5 GHz WLAN Ant 1 SAR (W/kg)	5 GHz WLAN Ant 2 SAR (W/kg)	Σ SAR (W/kg)		
		1	2	3	1+2	1+3	1+2+3
Body - Worn SAR	NR Band n66 (AWS)	0.304	0.194	0.527	0.498	0.831	<b>1.025</b>
	NR Band n77	0.222	0.194	0.527	0.416	0.749	0.943

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

Configuration	Mode	5G SAR (W/kg)	2.4 GHz WLAN Ant 1 SAR (W/kg)	2.4 GHz WLAN Ant 2 SAR (W/kg)	5 GHz WLAN Ant 1 SAR (W/kg)	5 GHz WLAN Ant 2 SAR (W/kg)	Σ SAR (W/kg)
		1	2	3	4	5	1+2+3+4+5
Body - Worn	NR Band n66 (AWS)	0.304	0.120	0.140	0.194	0.527	<b>1.285</b>
	NR Band n77	0.222	0.120	0.140	0.194	0.527	1.203

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

Configuration	Mode	5G SAR (W/kg)	2.4 GHz Bluetooth SAR (W/kg)	Σ SAR (W/kg)
		1	2	1+2
Body - Worn SAR	NR Band n66 (AWS)	0.304	0.046	<b>0.350</b>
	NR Band n77	0.222	0.046	0.268

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

Configuration	Mode	5G SAR (W/kg)	2.4 GHz Bluetooth SAR (W/kg)	5 GHz WLAN Ant 1 SAR (W/kg)	5 GHz WLAN Ant 2 SAR (W/kg)	Σ SAR (W/kg)		
		1	2	3	4	1+2+3	1+2+4	1+2+3+4
Body - Worn SAR	NR Band n66 (AWS)	0.304	0.046	0.194	0.527	0.544	0.877	<b>1.071</b>
	NR Band n77	0.222	0.046	0.194	0.527	0.462	0.795	0.989

## 12.5 Hotspot SAR Simultaneous Transmission Analysis

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



Configuration	Mode	5G SAR (W/kg)	2.4 GHz WLAN Ant 1 SAR (W/kg)	2.4 GHz WLAN Ant 2 SAR (W/kg)	Σ SAR (W/kg)		
		1	2	3	1+2	1+3	1+2+3
Hotspot	NR Band n77	0.294	0.455	0.351	0.749	0.645	<b>1.100</b>

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

Configuration	Mode	5G SAR (W/kg)	5 GHz WLAN Ant 1 SAR (W/kg)	5 GHz WLAN Ant 2 SAR (W/kg)	Σ SAR (W/kg)		
		1	2	3	1+2	1+3	1+2+3
Hotspot	NR Band n77	0.294	0.529	0.690	0.823	0.984	<b>1.513</b>

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

Configuration	Mode	5G SAR (W/kg)	2.4 GHz WLAN MIMO at 15 dBm SAR (W/kg)	5 GHz WLAN MIMO at 12 dBm SAR (W/kg)	Σ SAR (W/kg)
		1	2	3	1+2+3
Hotspot	NR Band n77	0.294	0.200	0.549	<b>1.043</b>

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



Configuration	Mode	5G SAR (W/kg)	2.4 GHz Bluetooth SAR (W/kg)	$\Sigma$ SAR (W/kg)
		1	2	
Hotspot SAR	NR Band n77	0.294	0.176	<b>0.470</b>

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

Configuration	Mode	5G SAR (W/kg)	2.4 GHz Bluetooth SAR (W/kg)	5 GHz WLAN Ant 1 SAR (W/kg)	5 GHz WLAN Ant 2 SAR (W/kg)	$\Sigma$ SAR (W/kg)	
		1	2	3	4	1+2+3	1+2+4
Hotspot SAR	NR Band n77	0.294	0.176	0.529	0.690	0.999	<b>1.160</b>

**Table 12-16**  
**Simultaneous Transmission Scenario with Bluetooth and 5 GHz WLAN MIMO (Hotspot at 1.0 cm)**



Simult Tx	Configuration	NR Band n77 Ant B SAR (W/kg)	2.4 GHz Bluetooth SAR (W/kg)	5 GHz WLAN Ant 1 SAR (W/kg)	5 GHz WLAN Ant 2 SAR (W/kg)	$\Sigma$ SAR (W/kg)
		1	2	3	4	1+2+3+4
Body SAR	Back	0.050	0.106	0.234	0.690	1.080
	Front	0.035	0.103	0.249	0.031	0.418
	Top	-	-	-	0.179	0.179
	Bottom	0.037	-	-	-	0.037
	Left	0.016	0.176	0.529	0.690*	<b>1.411</b>

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Simult Tx	Configuration	NR Band n77 Ant H SAR (W/kg)	2.4 GHz Bluetooth SAR (W/kg)	5 GHz WLAN Ant 1 SAR (W/kg)	5 GHz WLAN Ant 2 SAR (W/kg)	Σ SAR (W/kg)
		1	2	3	4	1+2+3+4
Body SAR	Back	0.294	0.106	0.234	0.690	1.324
	Front	0.003	0.103	0.249	0.031	0.386
	Top	0.038	-	-	0.179	0.217
	Left	0.013	0.176	0.529	0.690*	<b>1.408</b>

Simult Tx	Configuration	NR Band n77 Ant D SAR (W/kg)	2.4 GHz Bluetooth SAR (W/kg)	5 GHz WLAN Ant 1 SAR (W/kg)	5 GHz WLAN Ant 2 SAR (W/kg)	Σ SAR (W/kg)
		1	2	3	4	1+2+3+4
Body SAR	Back	0.267	0.106	0.234	0.690	1.297
	Front	0.005	0.103	0.249	0.031	0.388
	Top	-	-	-	0.179	0.179
	Bottom	0.053	-	-	-	0.053
	Left	0.008	0.176	0.529	0.690*	<b>1.403</b>

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## 12.6 Phablet Simultaneous Transmission Analysis

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




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

**Table 12-17**  
**Simultaneous Transmission Scenario with Bluetooth and 5 GHz WLAN (Phablet)**

Simult Tx	Configuration	NR Band n77 Ant H SAR (W/kg)	5 GHz WLAN Ant 1 SAR (W/kg)	5 GHz WLAN Ant 2 SAR (W/kg)	Σ SAR (W/kg)		
		1	2	3	1+2	1+3	1+2+3
Phablet SAR	Back	1.605	0.370	2.018	1.975	3.623	<b>3.993</b>
	Front	-	1.139	0.194	1.139	0.194	1.333
	Top	-	-	0.278	-	0.278	0.278
	Left	-	2.310	0.069	2.310	0.069	2.379
Simult Tx	Configuration	NR Band n77 Ant D SAR (W/kg)	5 GHz WLAN Ant 1 SAR (W/kg)	5 GHz WLAN Ant 2 SAR (W/kg)	Σ SAR (W/kg)		
		1	2	3	1+2	1+3	1+2+3
Phablet SAR	Back	1.521	0.370	2.018	1.891	3.539	<b>3.909</b>
	Front	-	1.139	0.194	1.139	0.194	1.333
	Top	-	-	0.278	-	0.278	0.278
	Left	-	2.310	0.069	2.310	0.069	2.379

## 12.7 Simultaneous Transmission Conclusion

The above numerical summed SAR results 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.

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# 13 SAR MEASUREMENT VARIABILITY

## 13.1 Measurement Variability

Per FCC KDB Publication 865664 D01v01r04, variability SAR tests were not required since measured SAR results for all frequency bands were less than 0.8 W/kg

## 13.2 Measurement Uncertainty

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




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# 14 EQUIPMENT LIST

Manufacturer	Model	Description	Cal Date	Cal Interval	Cal Due	Serial Number
Agilent	85033E	3.5mm Standard Calibration Kit	6/6/2020	Annual	6/6/2021	MY53402352
Agilent	8594A	(9kHz-2.9GHz) Spectrum Analyzer	N/A	N/A	N/A	3051A00187
Agilent	8753ES	Network Analyzer	3/5/2020	Annual	3/5/2021	MY40001472
Agilent	8753ES	S-Parameter Network Analyzer	1/16/2020	Annual	1/16/2021	US39170118
Agilent	E4438C	ESG Vector Signal Generator	3/8/2019	Biennial	3/8/2021	MY42082385
Agilent	E5515C	Wireless Communications Test Set	2/26/2020	Annual	2/26/2021	GB44400860
Agilent	N5182A	MXG Vector Signal Generator	2/19/2020	Annual	2/19/2021	MY47420651
Agilent	N9020A	MXA Signal Analyzer	3/26/2020	Annual	3/26/2021	MY56470202
Amplifier Research	15S1G6	Amplifier	CBT	N/A	CBT	433972
Anritsu	MA24106A	USB Power Sensor	9/15/2020	Annual	9/15/2021	1244515
Anritsu	MA2411B	Pulse Power Sensor	9/22/2020	Annual	9/22/2021	1315051
Anritsu	ML2495A	Power Meter	11/3/2020	Annual	11/3/2021	1039008
Anritsu	ML2495A	Power Meter	1/15/2020	Annual	1/15/2021	1328004
Control Company	4040	Therm./ Clock/ Humidity Monitor	2/17/2020	Biennial	2/17/2022	200113269
Control Company	4352	Long Stem Thermometer	6/26/2019	Biennial	6/26/2021	192282744
Keysight	772D	Dual Directional Coupler	CBT	N/A	CBT	MY52180215
KEYSIGHT	E4438C	VECTOR SIGNAL GENERATOR	6/22/2020	Annual	6/22/2021	MY45092078
Keysight Technologies	AT/N6705B	DC Power Supply	N/A	N/A	N/A	MY53001315
Keysight Technologies	N6705B	DC Power Analyzer	4/27/2019	Biennial	4/27/2021	MY53004059
Keysight Technologies	U3401A	Digital Multimeter	5/14/2020	Biennial	5/14/2022	MY57201470
Insize	1108-150	Digital Caliper	1/17/2020	Biennial	1/17/2022	409193536
MCL	BW-N6W5+	6dB Attenuator	CBT	N/A	CBT	1139
MiniCircuits	SLP-2400+	Low Pass Filter	CBT	N/A	CBT	R8979500903
MiniCircuits	VLF-6000+	Low Pass Filter	CBT	N/A	CBT	N/A
Mini-Circuits	BW-N20W5	Power Attenuator	CBT	N/A	CBT	1226
Mini-Circuits	BW-N20W5+	DC to 18 GHz Precision Fixed 20 dB Attenuator	CBT	N/A	CBT	N/A
Mini-Circuits	NLP-2950+	Low Pass Filter DC to 2700 MHz	CBT	N/A	CBT	N/A
Narda	4772-3	Attenuator (3dB)	CBT	N/A	CBT	9406
Narda	BW-S3W2	Attenuator (3dB)	CBT	N/A	CBT	120
Pasternack	NC-100	Torque Wrench	8/4/2020	Biennial	8/4/2022	N/A
Pasternack	PE2208-6	Bidirectional Coupler	CBT	N/A	CBT	N/A
Rohde & Schwarz	ZNLE6	Vector Network Analyzer	9/29/2020	Annual	9/29/2021	101307
SPEAG	DAK-3.5	Dielectric Assessment Kit	5/12/2020	Annual	5/12/2021	1070
SPEAG	D1765V2	1765 MHz SAR Dipole	5/23/2018	Triennial	5/23/2021	1008
SPEAG	D3700V2	3700 MHz SAR Dipole	1/21/2020	Annual	1/21/2021	1067
SPEAG	D3900V2	SAR Dipole	10/9/2020	Annual	10/9/2021	1056
SPEAG	DAE4	Dasy Data Acquisition Electronics	5/20/2020	Annual	5/20/2021	728
SPEAG	DAE4	Dasy Data Acquisition Electronics	10/16/2020	Annual	10/16/2021	1333
SPEAG	DAE4	Dasy Data Acquisition Electronics	4/15/2020	Annual	4/15/2021	1407
SPEAG	EX3DV4	SAR Probe	4/21/2020	Annual	4/21/2021	7357
SPEAG	EX3DV4	SAR Probe	10/20/2020	Annual	10/20/2021	7539
SPEAG	EX3DV4	SAR Probe	10/20/2020	Annual	10/20/2021	7551




Note:

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

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# 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 <sub>f</sub> 1gm	c <sub>g</sub> 10 gms	1gm u <sub>f</sub> (± %)	10gms u <sub>g</sub> (± %)	v <sub>i</sub>
<b>Measurement System</b>								
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	∞
<b>Test Sample Related</b>								
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	∞
<b>Phantom &amp; Tissue Parameters</b>								
Phantom Uncertainty (Shape & Thickness tolerances)	7.6	R	1.73	1.0	1.0	4.4	4.4	∞
Liquid Conductivity - measurement uncertainty	4.2	N	1	0.78	0.71	3.3	3.0	10
Liquid Permittivity - measurement uncertainty	4.1	N	1	0.23	0.26	1.0	1.1	10
Liquid Conductivity - Temperature Uncertainty	3.4	R	1.73	0.78	0.71	1.5	1.4	∞
Liquid Permittivity - Temperature Uncertainty	0.6	R	1.73	0.23	0.26	0.1	0.1	∞
Liquid Conductivity - deviation from target values	5.0	R	1.73	0.64	0.43	1.8	1.2	∞
Liquid Permittivity - deviation from target values	5.0	R	1.73	0.60	0.49	1.7	1.4	∞
<b>Combined Standard Uncertainty (k=1)</b>	RSS					11.5	11.3	60
<b>Expanded Uncertainty</b> (95% CONFIDENCE LEVEL)	k=2					23.0	22.6	



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## 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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# 17 REFERENCES

- [1] Federal Communications Commission, ET Docket 93-62, Guidelines for Evaluating the Environmental Effects of Radiofrequency Radiation, Aug. 1996.
- [2] ANSI/IEEE C95.1-2005, American National Standard safety levels with respect to human exposure to radio frequency electromagnetic fields, 3kHz to 300GHz, New York: IEEE, 2006.
- [3] ANSI/IEEE C95.1-1992, American National Standard safety levels with respect to human exposure to radio frequency electromagnetic fields, 3kHz to 300GHz, New York: IEEE, Sept. 1992.
- [4] ANSI/IEEE C95.3-2002, IEEE Recommended Practice for the Measurement of Potentially Hazardous Electromagnetic Fields - RF and Microwave, New York: IEEE, December 2002.
- [5] IEEE Standards Coordinating Committee 39 –Standards Coordinating Committee 34 – IEEE Std. 1528-2013, IEEE Recommended Practice for Determining the Peak Spatial-Average Specific Absorption Rate (SAR) in the Human Head from Wireless Communications Devices: Measurement Techniques.
- [6] NCRP, National Council on Radiation Protection and Measurements, Biological Effects and Exposure Criteria for RadioFrequency Electromagnetic Fields, NCRP Report No. 86, 1986. Reprinted Feb. 1995.
- [7] T. Schmid, O. Egger, N. Kuster, Automated E-field scanning system for dosimetric assessments, IEEE Transaction on Microwave Theory and Techniques, vol. 44, Jan. 1996, pp. 105-113.
- [8] K. Pokovic, T. Schmid, N. Kuster, Robust setup for precise calibration of E-field probes in tissue simulating liquids at mobile communications frequencies, ICECOM97, Oct. 1997, pp. 1 -124.
- [9] K. Pokovic, T. Schmid, and N. Kuster, E-field Probe with improved isotropy in brain simulating liquids, Proceedings of the ELMAR, Zadar, Croatia, June 23-25, 1996, pp. 172-175.
- [10] Schmid & Partner Engineering AG, Application Note: Data Storage and Evaluation, June 1998, p2.
- [11] V. Hombach, K. Meier, M. Burkhardt, E. Kuhn, N. Kuster, The Dependence of EM Energy Absorption upon Human Modeling at 900 MHz, IEEE Transaction on Microwave Theory and Techniques, vol. 44 no. 10, Oct. 1996, pp. 1865-1873.
- [12] N. Kuster and Q. Balzano, Energy absorption mechanism by biological bodies in the near field of dipole antennas above 300MHz, IEEE Transaction on Vehicular Technology, vol. 41, no. 1, Feb. 1992, pp. 17-23.
- [13] G. Hartsgrove, A. Kraszewski, A. Surowiec, Simulated Biological Materials for Electromagnetic Radiation Absorption Studies, University of Ottawa, Bioelectromagnetics, Canada: 1987, pp. 29-36.
- [14] Q. Balzano, O. Garay, T. Manning Jr., Electromagnetic Energy Exposure of Simulated Users of Portable Cellular Telephones, IEEE Transactions on Vehicular Technology, vol. 44, no.3, Aug. 1995.
- [15] W. Gander, Computermathematik, Birkhaeuser, Basel, 1992.
- [16] W.H. Press, S.A. Teukolsky, W.T. Vetterling, and B.P. Flannery, Numerical Recipes in C, The Art of Scientific Computing, Second edition, Cambridge University Press, 1992.
- [17] N. Kuster, R. Kastle, T. Schmid, Dosimetric evaluation of mobile communications equipment with known precision, IEEE Transaction on Communications, vol. E80-B, no. 5, May 1997, pp. 645-652.

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- [18] CENELEC CLC/SC111B, European Prestandard (prENV 50166-2), Human Exposure to Electromagnetic Fields High-frequency: 10kHz-300GHz, Jan. 1995.
- [19] Prof. Dr. Niels Kuster, ETH, Eidgenössische Technische Hochschule Zürich, Dosimetric Evaluation of the Cellular Phone.
- [20] IEC 62209-1, Measurement procedure for the assessment of specific absorption rate of human exposure to radio frequency fields from hand-held and body-mounted wireless communication devices - Part 1: Devices used next to the ear (Frequency range of 300 MHz to 6 GHz), July 2016.
- [21] Innovation, Science, Economic Development Canada RSS-102 Radio Frequency Exposure Compliance of Radiocommunication Apparatus (All Frequency Bands) Issue 5, March 2015.
- [22] Health Canada Safety Code 6 Limits of Human Exposure to Radio Frequency Electromagnetic Fields in the Frequency Range from 3 kHz – 300 GHz, 2015
- [23] FCC SAR Test Procedures for 2G-3G Devices, Mobile Hotspot and UMPC Devices KDB Publications 941225, D01-D07
- [24] SAR Measurement Guidance for IEEE 802.11 Transmitters, KDB Publication 248227 D01
- [25] FCC SAR Considerations for Handsets with Multiple Transmitters and Antennas, KDB Publications 648474 D03-D04
- [26] FCC SAR Evaluation Considerations for Laptop, Notebook, Netbook and Tablet Computers, FCC KDB Publication 616217 D04
- [27] FCC SAR Measurement and Reporting Requirements for 100MHz – 6 GHz, KDB Publications 865664 D01-D02
- [28] FCC General RF Exposure Guidance and SAR Procedures for Dongles, KDB Publication 447498, D01-D02
- [29] Anexo à Resolução No. 533, de 10 de Setembro de 2009.

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## APPENDIX A: SAR TEST DATA

# PCTEST

**DUT: A3LSMG996U; Type: Portable Handset; Serial: 6134M**

Communication System: UID 0, NR Band n77; Frequency: 3930 MHz; Duty Cycle: 1:1  
Medium: 3600 Head; Medium parameters used:  
 $f = 3930$  MHz;  $\sigma = 3.275$  S/m;  $\epsilon_r = 36.187$ ;  $\rho = 1000$  kg/m<sup>3</sup>  
Phantom section: Left Section

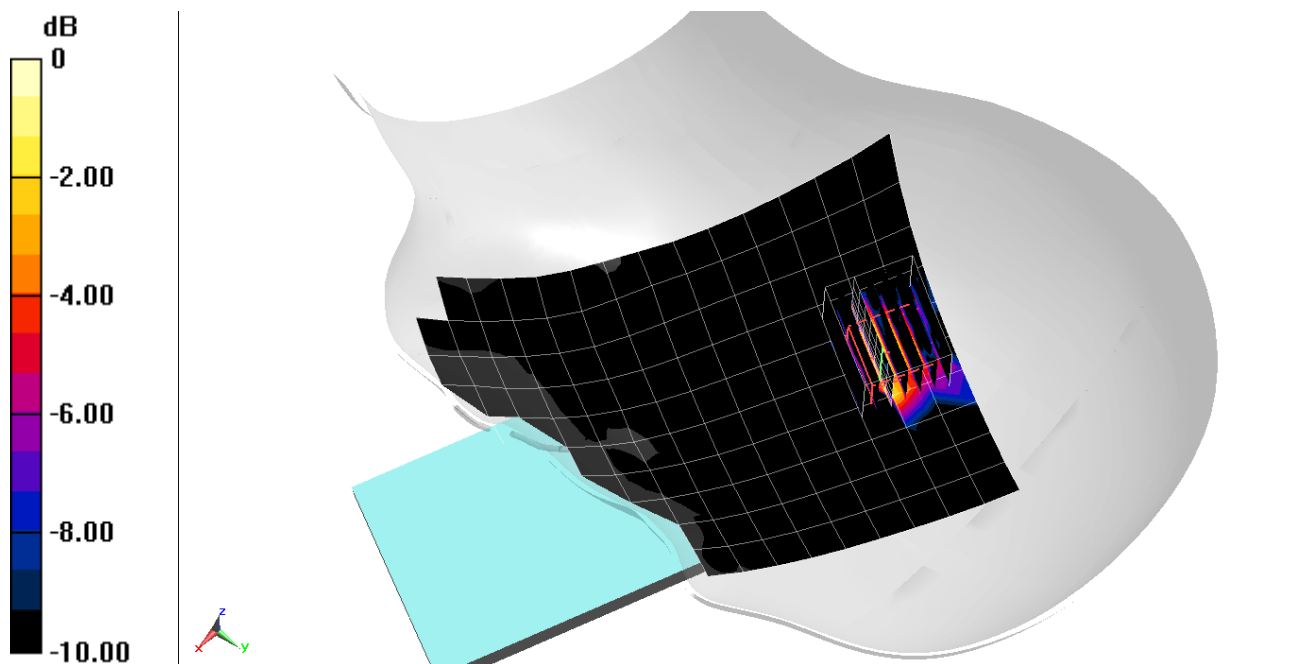
Test Date: 01/21/2021; Ambient Temp: 20.5°C; Tissue Temp: 18.7°C

Probe: EX3DV4 - SN7551; ConvF(6.08, 6.08, 6.08) @ 3930 MHz; Calibrated: 10/20/2020  
Sensor-Surface: 1.4mm (Mechanical Surface Detection)  
Electronics: DAE4 Sn1333; Calibrated: 10/16/2020  
Phantom: Twin-SAM V5.0 (20) Right Back; Type: QD 000 P40 CD; Serial: 1692  
Measurement SW: DASY52, Version 52.10 (4);SEMCAD X Version 14.6.14 (7483)

**Mode: NR Band n77, Antenna H, Left Head, Tilt, Ch. 662000, 100 MHz Bandwidth  
DFT-s-OFDM QPSK, 1 RB, 137 RB Offset**

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

**Zoom Scan (8x7x8)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=1.4mm; Graded Ratio: 1.4  
Reference Value = 1.901 V/m; Power Drift = 0.16 dB  
Peak SAR (extrapolated) = 0.0230 W/kg  
**SAR(1 g) = 0.009 W/kg**



0 dB = 0.0168 W/kg = -17.75 dBW/kg

# PCTEST

**DUT: A3LSMG996U; Type: Portable Handset; Serial: 6132M**

Communication System: UID 0, NR Band n66; Frequency: 1745 MHz; Duty Cycle: 1:1  
Medium: 1750 Body; Medium parameters used:  
 $f = 1745 \text{ MHz}$ ;  $\sigma = 1.524 \text{ S/m}$ ;  $\epsilon_r = 51.531$ ;  $\rho = 1000 \text{ kg/m}^3$   
Phantom section: Flat Section; Space: 1.5 cm

Test Date: 12/28/2020; Ambient Temp: 22.4°C; Tissue Temp: 23.0°C

Probe: EX3DV4 - SN7357; ConvF(8.17, 8.17, 8.17) @ 1745 MHz; Calibrated: 4/21/2020  
Sensor-Surface: 1.4mm (Mechanical Surface Detection)  
Electronics: DAE4 Sn1407; Calibrated: 4/15/2020  
Phantom: Twin-SAM V5.0 Right 30; Type: QD 000 P40 CD; Serial: 1759  
Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7483)

**Mode: NR Band n66, Antenna I, Body SAR, Back Side, 40 MHz Bandwidth  
DFT-s-OFDM QPSK, Ch. 349000, 108 RB, 108 RB Offset**

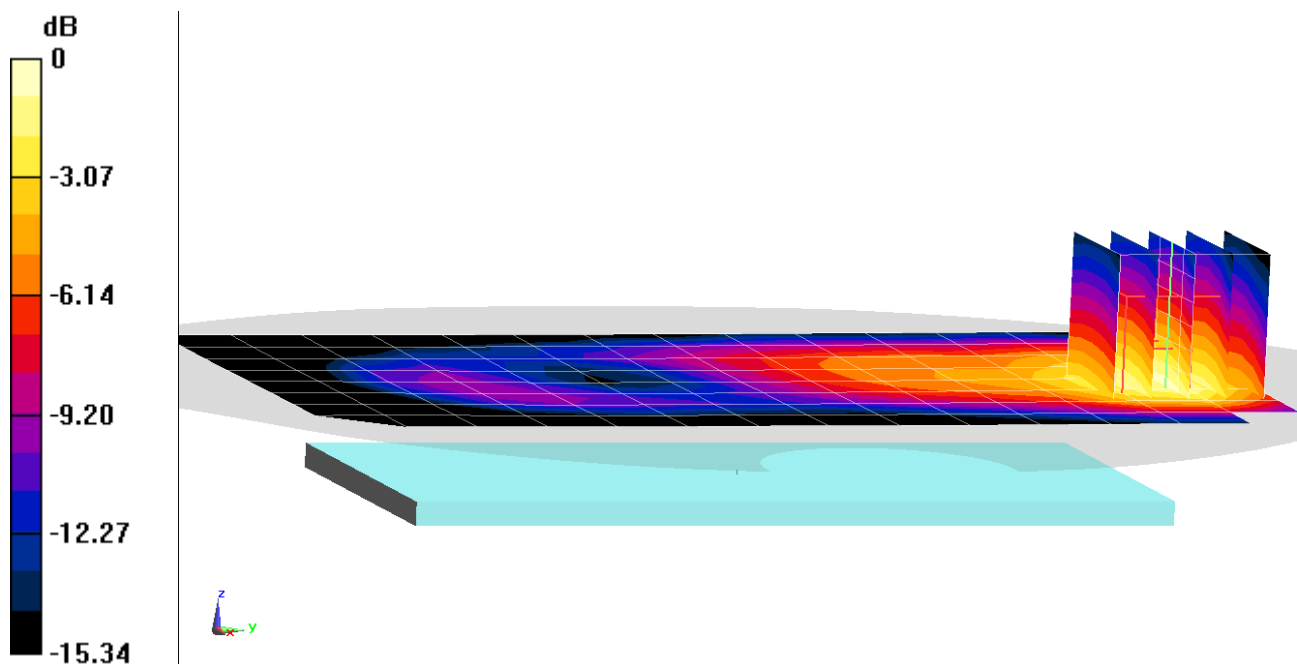
**Area Scan (9x15x1):** Measurement grid: dx=15mm, dy=15mm

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

Reference Value = 13.95 V/m; Power Drift = 0.03 dB

Peak SAR (extrapolated) = 0.441 W/kg

**SAR(1 g) = 0.272 W/kg**



0 dB = 0.382 W/kg = -4.18 dBW/kg

# PCTEST

**DUT: A3LSMG996U; Type: Portable Handset; Serial: 6134M**

Communication System: UID 0, NR Band n77; Frequency: 3930 MHz; Duty Cycle: 1:1  
Medium: 3600 Body; Medium parameters used:  
 $f = 3930 \text{ MHz}$ ;  $\sigma = 3.76 \text{ S/m}$ ;  $\epsilon_r = 49.026$ ;  $\rho = 1000 \text{ kg/m}^3$   
Phantom section: Flat Section; Space: 1.5 cm

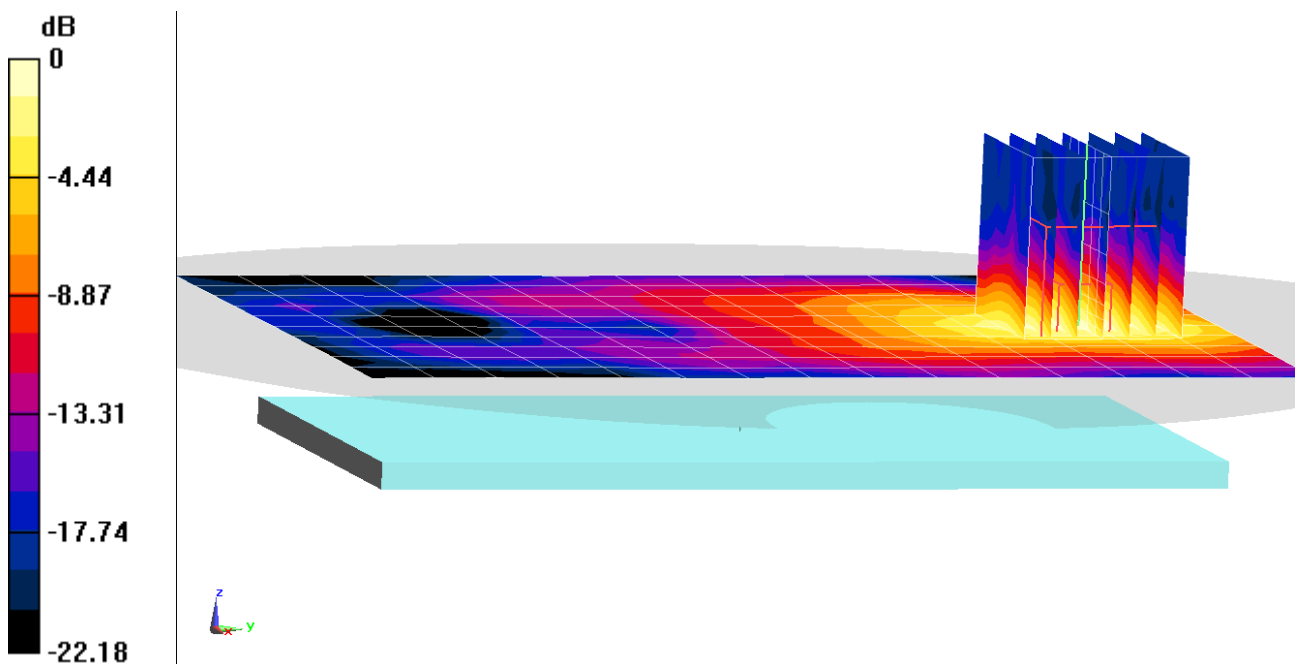
Test Date: 01/18/2021; Ambient Temp: 22.3°C; Tissue Temp: 20.3°C

Probe: EX3DV4 - SN7539; ConvF(6.18, 6.18, 6.18) @ 3930 MHz; Calibrated: 10/20/2020  
Sensor-Surface: 1.4mm (Mechanical Surface Detection)  
Electronics: DAE4 Sn728; Calibrated: 5/20/2020  
Phantom: Twin-SAM V5.0 (left 20); Type: QD 000 P40 CD; Serial: 1630  
Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7483)

**Mode: NR Band n77, Antenna H, Body SAR, Back side, Ch. 662000, 100 MHz Bandwidth  
DFT-s-OFDM QPSK, 1 RB, 137 RB Offset**

**Area Scan (11x16x1):** Measurement grid: dx=12mm, dy=12mm

**Zoom Scan (7x7x8)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=1.4mm; Graded Ratio: 1.4  
Reference Value = 7.794 V/m; Power Drift = -0.10 dB  
Peak SAR (extrapolated) = 0.511 W/kg  
**SAR(1 g) = 0.201 W/kg**



0 dB = 0.371 W/kg = -4.31 dBW/kg

# PCTEST

**DUT: A3LSMG996U; Type: Portable Handset; Serial: 6134M**

Communication System: UID 0, NR Band n77; Frequency: 3930 MHz; Duty Cycle: 1:1

Medium: 3600 Body; Medium parameters used:

$f = 3930$  MHz;  $\sigma = 3.76$  S/m;  $\epsilon_r = 49.026$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Flat Section; Space: 1.0 cm

Test Date: 01/18/2021; Ambient Temp: 22.3°C; Tissue Temp: 20.3°C

Probe: EX3DV4 - SN7539; ConvF(6.18, 6.18, 6.18) @ 3930 MHz; Calibrated: 10/20/2020

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Electronics: DAE4 Sn728; Calibrated: 5/20/2020

Phantom: Twin-SAM V5.0 (left 20); Type: QD 000 P40 CD; Serial: 1630

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

**Mode: NR Band n77, Antenna H, Body SAR, Back side, Ch. 662000, 100 MHz Bandwidth  
CP-OFDM QPSK, 1 RB, 1 RB Offset**

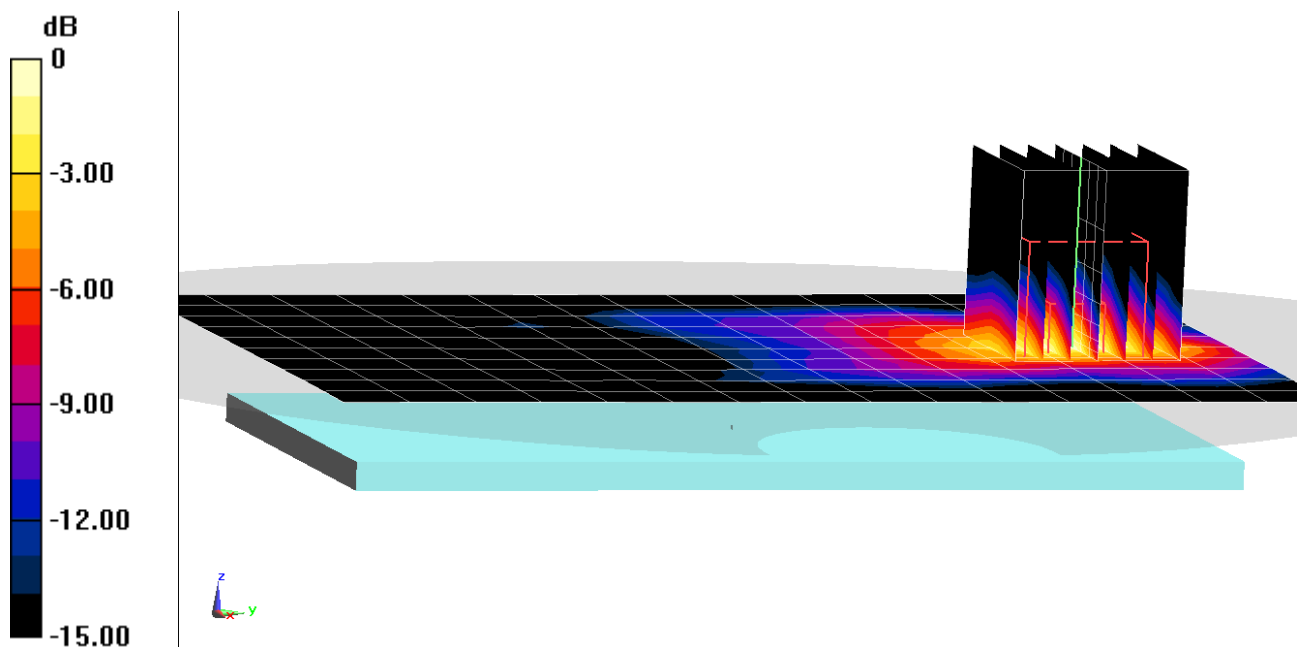
**Area Scan (11x16x1):** Measurement grid: dx=12mm, dy=12mm

**Zoom Scan (7x7x8)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=1.4mm; Graded Ratio: 1.4

Reference Value = 8.803 V/m; Power Drift = 0.00 dB

Peak SAR (extrapolated) = 0.669 W/kg

**SAR(1 g) = 0.247 W/kg**



0 dB = 0.478 W/kg = -3.21 dBW/kg

# PCTEST

**DUT: A3LSMG996U; Type: Portable Handset; Serial: 6132M**

Communication System: UID 0, NR Band n77; Frequency: 3930 MHz; Duty Cycle: 1:1  
Medium: 3600 Body; Medium parameters used:  
 $f = 3930$  MHz;  $\sigma = 3.724$  S/m;  $\epsilon_r = 48.724$ ;  $\rho = 1000$  kg/m<sup>3</sup>  
Phantom section: Flat Section; Space: 0.0 cm

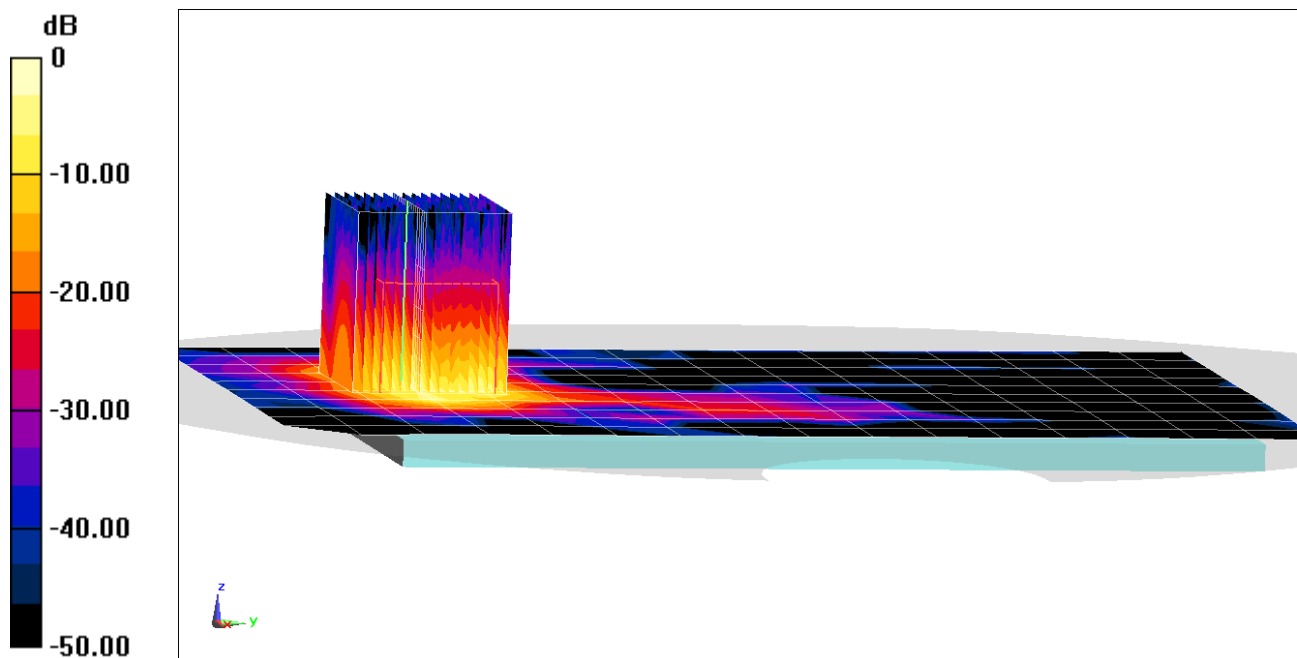
Test Date: 01/20/2021; Ambient Temp: 22.9°C; Tissue Temp: 20.3°C

Probe: EX3DV4 - SN7539; ConvF(6.18, 6.18, 6.18) @ 3930 MHz; Calibrated: 10/20/2020  
Sensor-Surface: 1.4mm (Mechanical Surface Detection)  
Electronics: DAE4 Sn728; Calibrated: 5/20/2020  
Phantom: Twin-SAM V5.0 (left 20); Type: QD 000 P40 CD; Serial: 1630  
Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7483)

**Mode: NR Band n77, Antenna D, Phablet SAR, Back side, Ch. 662000, 100 MHz Bandwidth  
DFT-s-OFDM QPSK, 1 RB, 137 RB Offset**

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

**Zoom Scan (17x17x8)/Cube 0:** Measurement grid: dx=1.8mm, dy=1.8mm, dz=1.4mm; Graded Ratio: 1.4  
Reference Value = 38.95 V/m; Power Drift = -0.15 dB  
Peak SAR (extrapolated) = 29.4 W/kg  
**SAR(10 g) = 1.31 W/kg**



0 dB = 15.8 W/kg = 11.99 dBW/kg



## APPENDIX B: SYSTEM VERIFICATION

# PCTEST

**DUT: Dipole 3700 MHz; Type: D3700V2; Serial: 1067**

Communication System: UID 0, CW; Frequency: 3700 MHz; Duty Cycle: 1:1

Medium: 3600 Head Medium parameters used:

$f = 3700$  MHz;  $\sigma = 3.046$  S/m;  $\epsilon_r = 36.6$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Flat Section; Space: 1.0 cm

Test Date: 01/21/2021; Ambient Temp: 20.5°C; Tissue Temp: 18.7°C

Probe: EX3DV4 - SN7551; ConvF(6.48, 6.48, 6.48) @ 3700 MHz; Calibrated: 10/20/2020

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Electronics: DAE4 Sn1333; Calibrated: 10/16/2020

Phantom: Twin-SAM V5.0 (20) Right Back; Type: QD 000 P40 CD; Serial: 1692

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

## 3700 MHz System Verification at 20.0 dBm (100 mW)

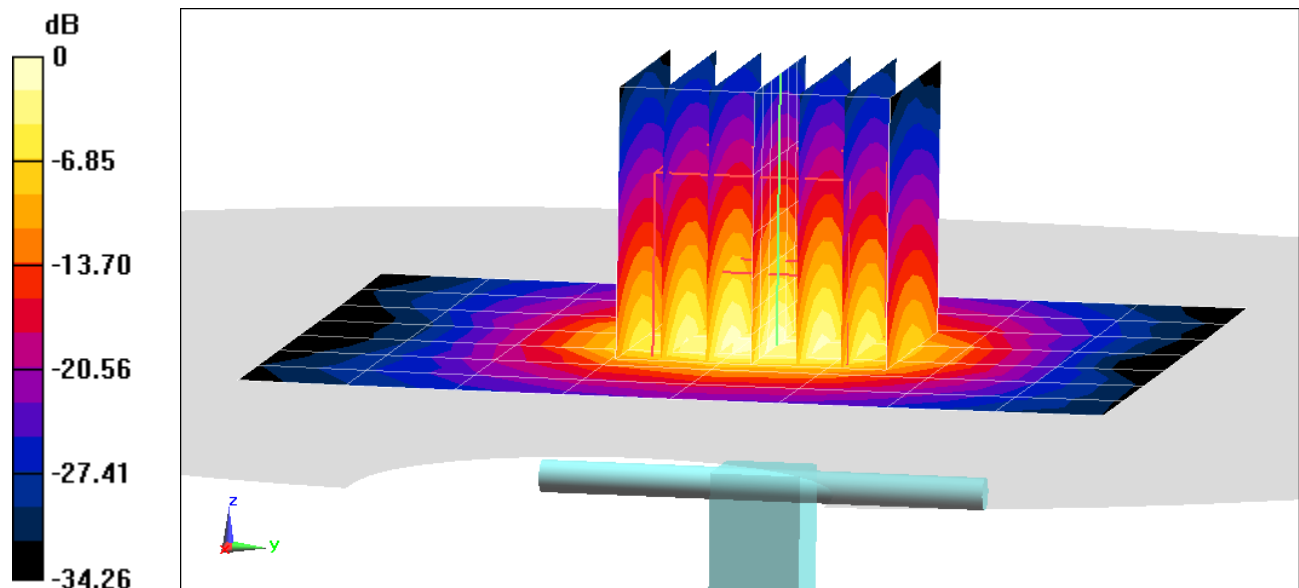
**Area Scan (8x9x1):** Measurement grid: dx=12mm, dy=12mm

**Zoom Scan (7x7x8)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=1.4mm; Graded Ratio: 1.4

Peak SAR (extrapolated) = 19.5 W/kg

**SAR(1 g) = 7.11 W/kg**

Deviation(1 g) = 5.80%



0 dB = 14.2 W/kg = 11.52 dBW/kg

# PCTEST

**DUT: Dipole 3900 MHz; Type: D3900V2; Serial: 1056**

Communication System: UID 0, CW; Frequency: 3900 MHz; Duty Cycle: 1:1

Medium: 3600 Head Medium parameters used:

$f = 3900 \text{ MHz}$ ;  $\sigma = 3.25 \text{ S/m}$ ;  $\epsilon_r = 36.247$ ;  $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section; Space: 1.0 cm

Test Date: 01/21/2021; Ambient Temp: 20.5°C; Tissue Temp: 18.7°C

Probe: EX3DV4 - SN7551; ConvF(6.08, 6.08, 6.08) @ 3900 MHz; Calibrated: 10/20/2020

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Electronics: DAE4 Sn1333; Calibrated: 10/16/2020

Phantom: Twin-SAM V5.0 (20) Right Back; Type: QD 000 P40 CD; Serial: 1692

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

## 3900 MHz System Verification at 20.0 dBm (100 mW)

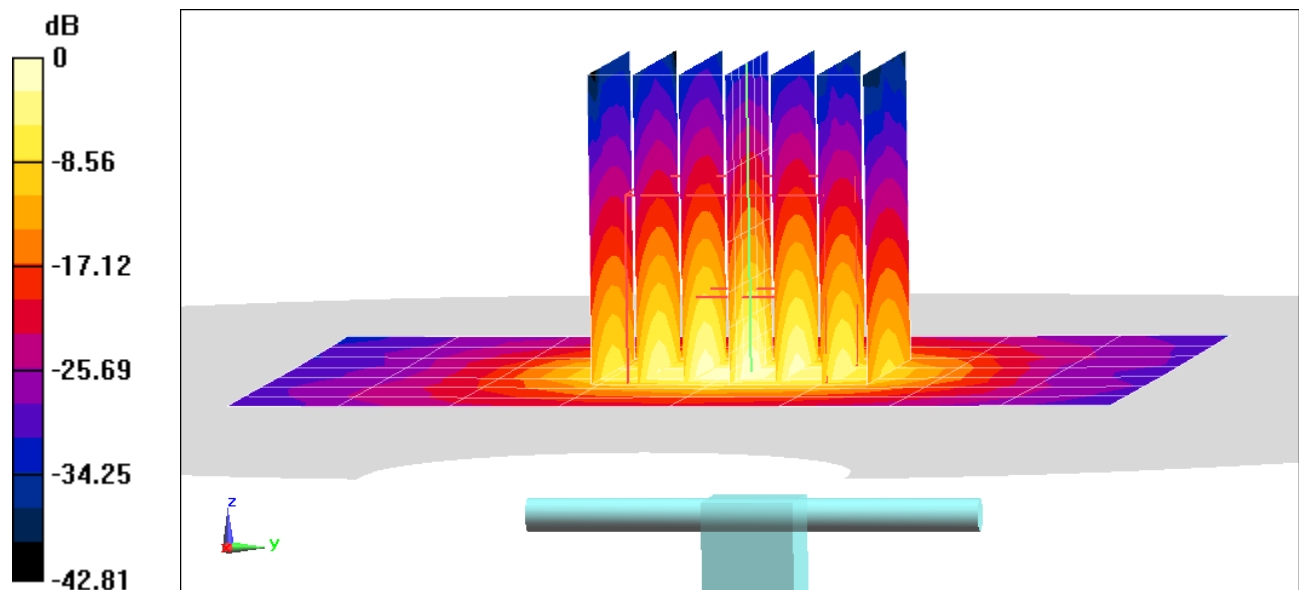
**Area Scan (8x9x1):** Measurement grid: dx=12mm, dy=12mm

**Zoom Scan (7x7x8)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=1.4mm; Graded Ratio: 1.4

Peak SAR (extrapolated) = 20.8 W/kg

**SAR(1 g) = 7.41 W/kg**

Deviation(1 g) = 7.55%



0 dB = 15.3 W/kg = 11.85 dBW/kg

# PCTEST

**DUT: Dipole 1750 MHz; Type: D1765V2; Serial: 1008**

Communication System: UID 0, CW; Frequency: 1750 MHz; Duty Cycle: 1:1

Medium: 1750 Body Medium parameters used:

$f = 1750$  MHz;  $\sigma = 1.529$  S/m;  $\epsilon_r = 51.512$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Flat Section; Space: 1.0 cm

Test Date: 12/28/2020; Ambient Temp: 22.4°C; Tissue Temp: 23.0°C

Probe: EX3DV4 - SN7357; ConvF(8.17, 8.17, 8.17) @ 1750 MHz; Calibrated: 4/21/2020

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

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

Phantom: Twin-SAM V5.0 Right 30; Type: QD 000 P40 CD; Serial: 1759

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

## 1750 MHz System Verification at 20.0 dBm (100 mW)

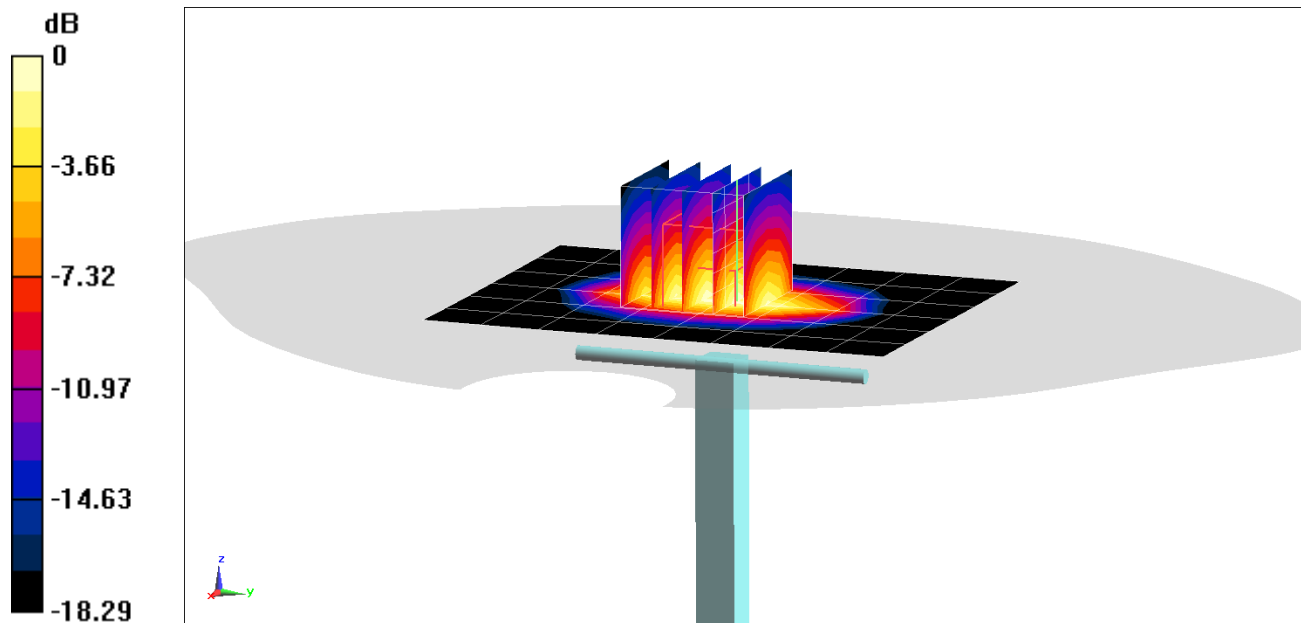
**Area Scan (7x9x1):** Measurement grid: dx=15mm, dy=15mm

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

Peak SAR (extrapolated) = 7.08 W/kg

**SAR(1 g) = 3.89 W/kg**

Deviation(1 g) = 4.01%



0 dB = 5.89 W/kg = 7.70 dBW/kg

# PCTEST

**DUT: Dipole 3700 MHz; Type: D3700V2; Serial: 1067**

Communication System: UID 0, CW; Frequency: 3700 MHz; Duty Cycle: 1:1

Medium: 3600 Body Medium parameters used:

$f = 3700$  MHz;  $\sigma = 3.47$  S/m;  $\epsilon_r = 49.452$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Flat Section; Space: 1.0 cm

Test Date: 01/18/2021; Ambient Temp: 22.3°C; Tissue Temp: 20.3°C

Probe: EX3DV4 - SN7539; ConvF(6.48, 6.48, 6.48) @ 3700 MHz; Calibrated: 10/20/2020

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Electronics: DAE4 Sn728; Calibrated: 5/20/2020

Phantom: Twin-SAM V5.0 (left 20); Type: QD 000 P40 CD; Serial: 1630

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

## 3700 MHz System Verification at 20.0 dBm (100 mW)

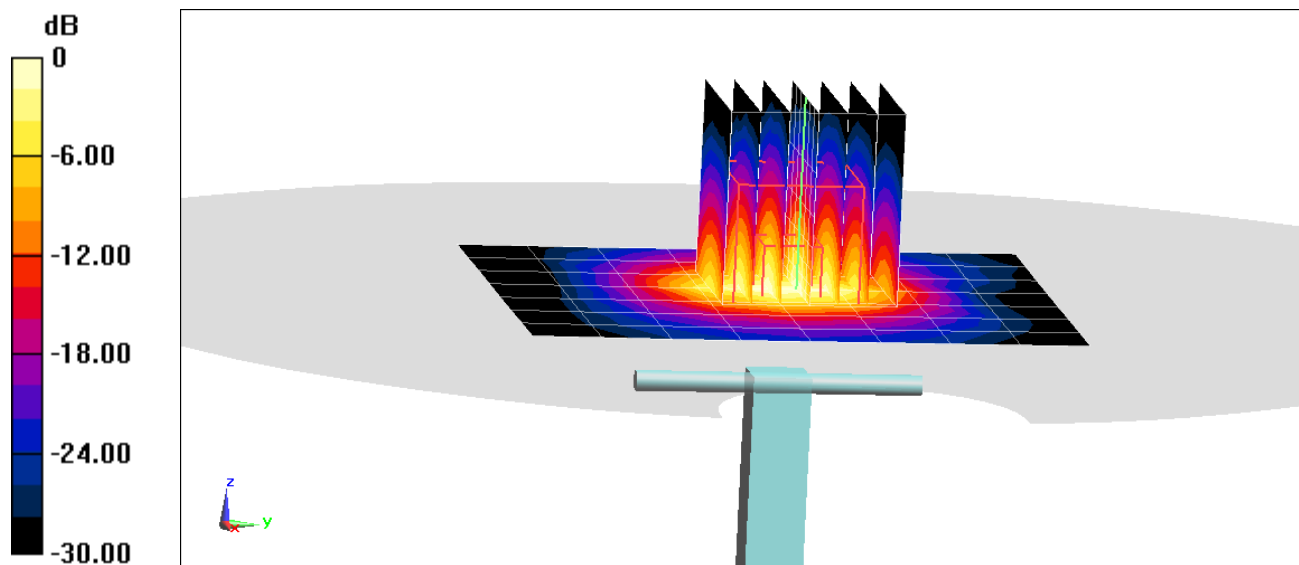
**Area Scan (8x9x1):** Measurement grid: dx=12mm, dy=12mm

**Zoom Scan (7x7x8)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=1.4mm; Graded Ratio: 1.4

Peak SAR (extrapolated) = 18.0 W/kg

**SAR(1 g) = 6.63 W/kg**

Deviation(1 g) = 1.69%



0 dB = 12.7 W/kg = 11.04 dBW/kg

# PCTEST

**DUT: Dipole 3700 MHz; Type: D3700V2; Serial: 1067**

Communication System: UID 0, CW; Frequency: 3700 MHz; Duty Cycle: 1:1

Medium: 3600 Body Medium parameters used:

$f = 3700 \text{ MHz}$ ;  $\sigma = 3.44 \text{ S/m}$ ;  $\epsilon_r = 49.131$ ;  $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section; Space: 1.0 cm

Test Date: 01/20/2021; Ambient Temp: 22.9°C; Tissue Temp: 20.3°C

Probe: EX3DV4 - SN7539; ConvF(6.48, 6.48, 6.48) @ 3700 MHz; Calibrated: 10/20/2020

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Electronics: DAE4 Sn728; Calibrated: 5/20/2020

Phantom: Twin-SAM V5.0 (left 20); Type: QD 000 P40 CD; Serial: 1630

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

## 3700 MHz System Verification at 20.0 dBm (100 mW)

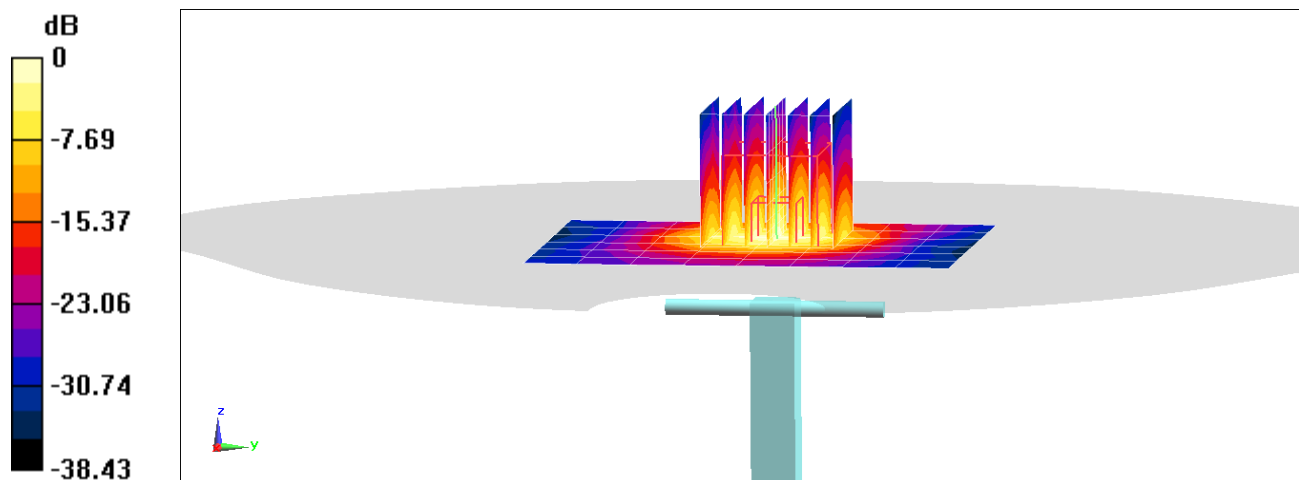
**Area Scan (7x9x1):** Measurement grid: dx=12mm, dy=12mm

**Zoom Scan (7x7x8)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=1.4mm; Graded Ratio: 1.4

Peak SAR (extrapolated) = 19.2 W/kg

**SAR(10 g) = 2.43 W/kg**

Deviation(10 g) = 4.29%



# PCTEST

**DUT: Dipole 3900 MHz; Type: D3900V2; Serial: 1056**

Communication System: UID 0, CW; Frequency: 3900 MHz; Duty Cycle: 1:1

Medium: 3600 Body Medium parameters used:

$f = 3900$  MHz;  $\sigma = 3.721$  S/m;  $\epsilon_r = 49.096$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Flat Section; Space: 1.0 cm

Test Date: 01/18/2021; Ambient Temp: 22.3°C; Tissue Temp: 20.3°C

Probe: EX3DV4 - SN7539; ConvF(6.18, 6.18, 6.18) @ 3900 MHz; Calibrated: 10/20/2020

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Electronics: DAE4 Sn728; Calibrated: 5/20/2020

Phantom: Twin-SAM V5.0 (left 20); Type: QD 000 P40 CD; Serial: 1630

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

## 3900 MHz System Verification at 20.0 dBm (100 mW)

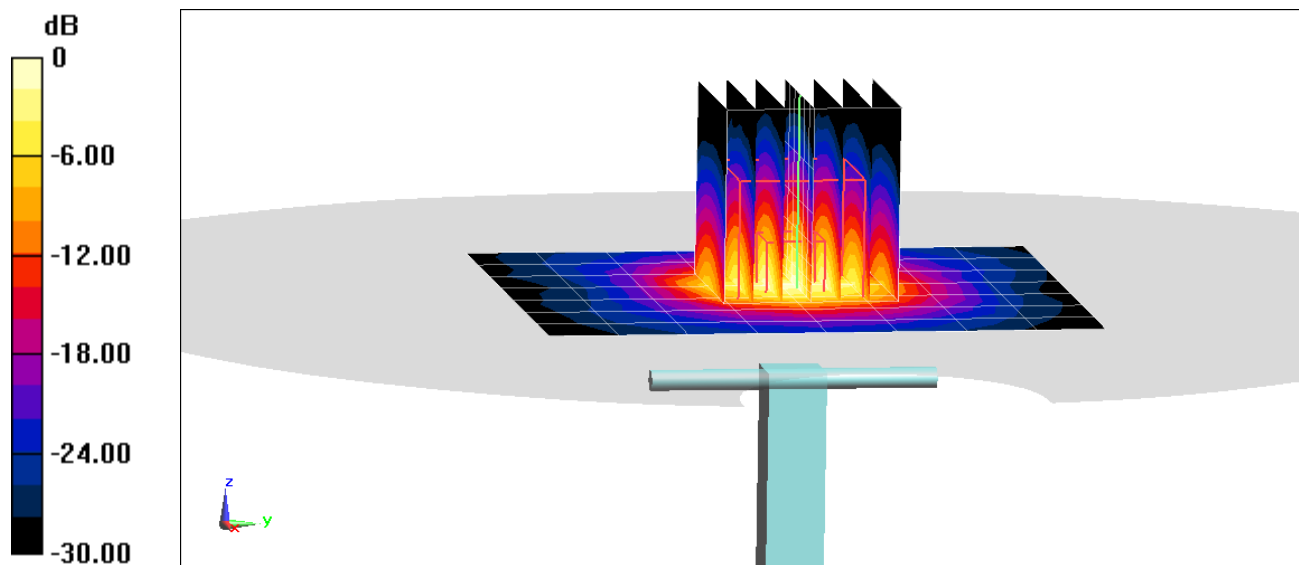
**Area Scan (8x9x1):** Measurement grid: dx=12mm, dy=12mm

**Zoom Scan (7x7x8)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=1.4mm; Graded Ratio: 1.4

Peak SAR (extrapolated) = 19.6 W/kg

**SAR(1 g) = 7.01 W/kg**

Deviation(1 g) = 5.73%



0 dB = 14.2 W/kg = 11.52 dBW/kg

# PCTEST

**DUT: Dipole 3900 MHz; Type: D3900V2; Serial: 1056**

Communication System: UID 0, CW; Frequency: 3900 MHz; Duty Cycle: 1:1

Medium: 3600 Body Medium parameters used:

$f = 3900$  MHz;  $\sigma = 3.693$  S/m;  $\epsilon_r = 48.765$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Flat Section; Space: 1.0 cm

Test Date: 01/20/2021; Ambient Temp: 22.9°C; Tissue Temp: 20.3°C

Probe: EX3DV4 - SN7539; ConvF(6.18, 6.18, 6.18) @ 3900 MHz; Calibrated: 10/20/2020

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Electronics: DAE4 Sn728; Calibrated: 5/20/2020

Phantom: Twin-SAM V5.0 (left 20); Type: QD 000 P40 CD; Serial: 1630

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

## 3900 MHz System Verification at 20.0 dBm (100 mW)

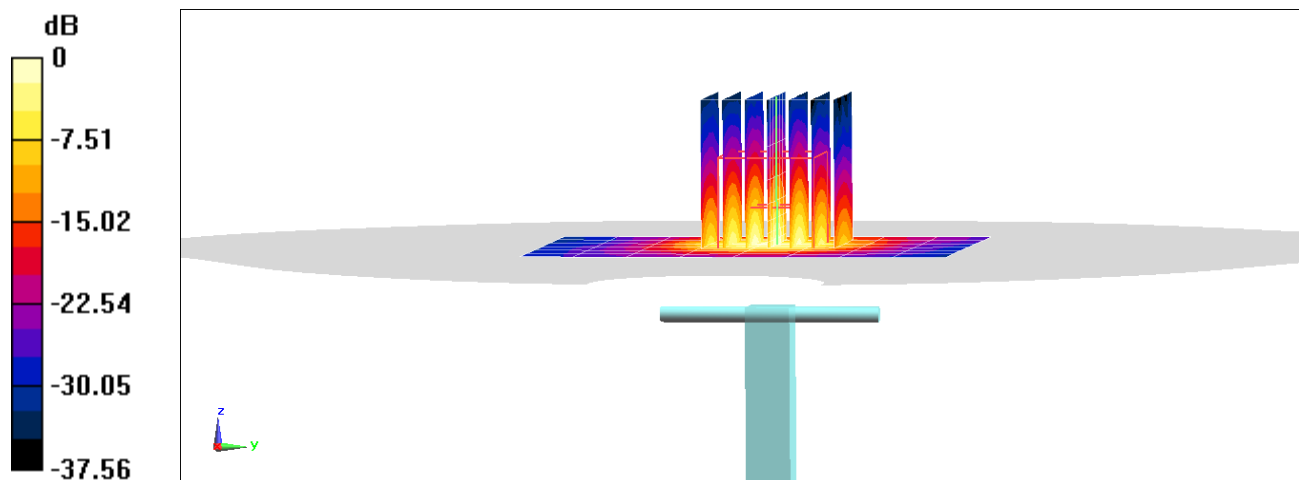
**Area Scan (7x9x1):** Measurement grid: dx=12mm, dy=12mm

**Zoom Scan (7x7x8)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=1.4mm; Graded Ratio: 1.4

Peak SAR (extrapolated) = 19.9 W/kg

**SAR(10 g) = 2.34 W/kg**

Deviation(10 g) = 1.74%



0 dB = 13.9 W/kg = 11.43 dBW/kg



## APPENDIX C: SAR TISSUE SPECIFICATIONS

Measurement Procedure for Tissue verification:

- 1) The network analyzer and probe system was configured and calibrated.
- 2) The probe was immersed in the tissue. The tissue was placed in a nonmetallic container. Trapped air bubbles beneath the flange were minimized by placing the probe at a slight angle.
- 3) The complex admittance with respect to the probe aperture was measured
- 4) The complex relative permittivity  $\epsilon'$  can be calculated from the below equation (Pournaropoulos and Misra):

$$Y = \frac{j2\omega\epsilon_r\epsilon_0}{[\ln(b/a)]^2} \int_a^b \int_a^b \int_0^\pi \cos\phi' \frac{\exp[-j\omega r(\mu_0\epsilon_r'\epsilon_0)^{1/2}]}{r} d\phi' d\rho' d\rho$$

where  $Y$  is the admittance of the probe in contact with the sample, the primed and unprimed coordinates refer to source and observation points, respectively,  $r^2 = \rho^2 + \rho'^2 - 2\rho\rho'\cos\phi'$ ,  $\omega$  is the angular frequency, and  $j = \sqrt{-1}$ .

### 3 Composition / Information on ingredients

#### 3.2 Mixtures

**Description:** Aqueous solution with surfactants and inhibitors

**Declarable, or hazardous components:**

CAS: 107-21-1 EINECS: 203-473-3 Reg.nr.: 01-2119456816-28-0000	<b>Ethanediol</b> STOT RE 2, H373; Acute Tox. 4, H302	>1.0-4.9%
CAS: 68608-26-4 EINECS: 271-781-5 Reg.nr.: 01-2119527859-22-0000	<b>Sodium petroleum sulfonate</b> Eye Irrit. 2, H319	< 2.9%
CAS: 107-41-5 EINECS: 203-489-0 Reg.nr.: 01-2119539582-35-0000	<b>Hexylene Glycol / 2-Methyl-pentane-2,4-diol</b> Skin Irrit. 2, H315; Eye Irrit. 2, H319	< 2.9%
CAS: 68920-66-1 NLP: 500-236-9 Reg.nr.: 01-2119489407-26-0000	<b>Alkoxyated alcohol, &gt; C<sub>16</sub></b> Aquatic Chronic 2, H411; Skin Irrit. 2, H315; Eye Irrit. 2, H319	< 2.0%

**Additional information:**



For the wording of the listed risk phrases refer to section 16.

Not mentioned CAS-, EINECS- or registration numbers are to be regarded as Proprietary/Confidential.

The specific chemical identity and/or exact percentage concentration of proprietary components is withheld as a trade secret.

**Figure C-1**

Note: Liquid recipes are proprietary SPEAG. Since the composition is approximate to the actual liquids utilized, the manufacturer tissue-equivalent liquid data sheets are provided below.

<b>FCC ID:</b> A3LSMG996U	 <b>PCTEST</b> Proud to be part of Samsung	<b>SAR EVALUATION REPORT</b>		<b>Approved by:</b> Quality Manager
<b>Test Dates:</b> 12/28/20-01/21/21	<b>DUT Type:</b> Portable Handset			<b>APPENDIX C:</b> Page 1 of 3

**Measurement Certificate / Material Test**

Item Name	Body Tissue Simulating Liquid (MBBL600-6000V6)
Product No.	SL AAM U16 BC (Batch: 200803-1)
Manufacturer	SPEAG

**Measurement Method**

TSL dielectric parameters measured using calibrated DAK probe.

**Target Parameters**

Target parameters as defined in the KDB 865664 compliance standard.

**Test Condition**

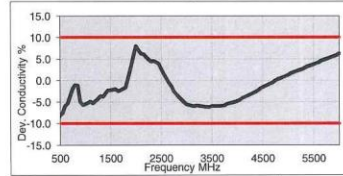
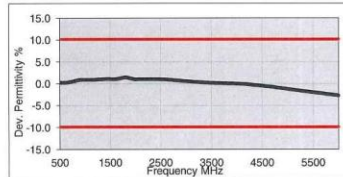
Ambient Condition 22°C ; 30% humidity  
 TSL Temperature 22°C  
 Test Date 6-Aug-20  
 Operator CL

**Additional Information**

TSL Density  
 TSL Heat-capacity

**Results**

f [MHz]	Measured			Target		Diff.to Target [%]	
	e'	e''	sigma	eps	sigma	Δ-eps	Δ-sigma
600	56.3	26.8	0.89	56.1	0.96	0.3	-6.3
750	55.8	22.6	0.94	55.5	0.96	0.5	-2.1
800	55.7	21.6	0.96	55.3	0.97	0.7	-1.0
825	55.7	21.1	0.97	55.2	0.98	0.8	-1.0
835	55.7	20.9	0.98	55.1	0.99	1.0	-0.5
850	55.6	20.7	0.98	55.2	0.99	0.8	-1.0
900	55.5	19.9	1.00	55.0	1.05	0.9	-4.8
1400	54.7	15.9	1.24	54.1	1.28	1.1	-3.1
1450	54.6	15.8	1.27	54.0	1.30	1.1	-2.3
1600	54.4	15.3	1.36	53.8	1.39	1.1	-2.2
1625	54.4	15.3	1.38	53.8	1.41	1.2	-2.1
1640	54.4	15.2	1.39	53.7	1.42	1.3	-2.1
1650	54.3	15.2	1.39	53.7	1.43	1.1	-2.8
1700	54.2	15.1	1.43	53.6	1.46	1.2	-2.1
1750	54.2	15.0	1.46	53.4	1.49	1.4	-2.0
1800	54.1	14.9	1.50	53.3	1.52	1.5	-1.3
1810	54.1	14.9	1.51	53.3	1.52	1.5	-0.7
1825	54.1	14.9	1.52	53.3	1.52	1.5	0.0
1850	54.0	14.9	1.53	53.3	1.52	1.3	0.7
1900	54.0	14.8	1.57	53.3	1.52	1.3	3.3
1950	53.9	14.8	1.60	53.3	1.52	1.1	5.3
2000	53.8	14.8	1.64	53.3	1.52	0.9	7.9
2050	53.8	14.7	1.68	53.2	1.57	1.1	7.0
2100	53.7	14.7	1.72	53.2	1.62	1.0	6.2
2150	53.7	14.7	1.76	53.1	1.66	1.1	6.0
2200	53.6	14.7	1.80	53.0	1.71	1.1	5.3
2250	53.5	14.8	1.85	53.0	1.76	1.0	5.1
2300	53.5	14.8	1.89	52.9	1.81	1.1	4.4
2350	53.4	14.8	1.94	52.8	1.85	1.1	4.9
2400	53.3	14.8	1.98	52.8	1.90	1.0	4.2
2450	53.3	14.9	2.03	52.7	1.95	1.1	4.1
2500	53.2	14.9	2.07	52.6	2.02	1.1	2.5
2550	53.1	15.0	2.12	52.6	2.09	1.0	1.4
2600	53.0	15.0	2.17	52.5	2.16	0.9	0.5



3500	51.4	16.0	3.11	51.3	3.31	0.2	-6.0
3700	51.1	16.2	3.34	51.1	3.55	0.1	-5.9
5200	48.3	18.7	5.42	49.0	5.30	-1.5	2.3
5250	48.2	18.8	5.50	49.0	5.36	-1.6	2.5
5300	48.1	18.9	5.57	48.9	5.42	-1.7	2.8
5500	47.7	19.2	5.86	48.6	5.65	-2.0	3.8
5600	47.5	19.3	6.01	48.5	5.77	-2.1	4.2
5700	47.3	19.4	6.16	48.3	5.88	-2.3	4.8
5800	47.0	19.6	6.32	48.2	6.00	-2.4	5.3
6000	46.6	19.8	6.62	47.9	6.23	-2.7	6.3

**Figure C-2**  
**600 – 5800 MHz Body Tissue Equivalent Matter**

FCC ID: A3LSMG996U	PCTEST Proud to be part of Element	SAR EVALUATION REPORT		Approved by: Quality Manager
Test Dates: 12/28/20-01/21/21	DUT Type: Portable Handset			APPENDIX C: Page 2 of 3

**Measurement Certificate / Material Test**

Item Name	Head Tissue Simulating Liquid (HBBL600-10000V6)
Product No.	SL AAH U16 BC (Batch: 200805-4)
Manufacturer	SPEAG

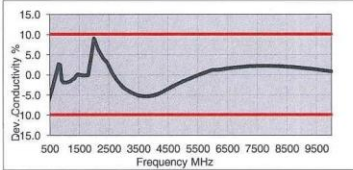
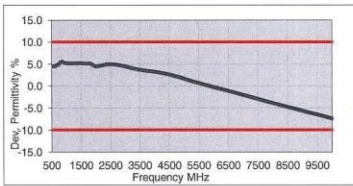
<b>Measurement Method</b>
TSL dielectric parameters measured using calibrated DAK probe.

<b>Target Parameters</b>
Target parameters as defined in the IEEE 1528 and IEC 62209 compliance standards.

<b>Test Condition</b>
Ambient Condition 22°C ; 30% humidity
TSL Temperature 22°C
Test Date 6-Aug-20
Operator CL

<b>Additional Information</b>
TSL Density
TSL Heat-capacity

f [MHz]	Measured			Target		Diff.to Target [%]	
	e'	e''	sigma	eps	sigma	Δ-eps	Δ-sigma
600	44.7	25.7	0.86	42.7	0.88	4.6	-2.5
750	44.1	21.7	0.90	41.9	0.89	5.1	0.7
800	44.0	20.7	0.92	41.7	0.90	5.6	2.5
825	43.9	20.3	0.93	41.6	0.91	5.6	2.6
835	43.9	20.1	0.94	41.5	0.91	5.7	3.1
850	43.8	19.9	0.94	41.5	0.92	5.5	2.6
900	43.7	19.1	0.96	41.5	0.97	5.3	-1.0
1400	42.7	15.1	1.18	40.6	1.18	5.2	0.0
1450	42.6	14.9	1.20	40.5	1.20	5.2	0.0
1600	42.4	14.4	1.28	40.3	1.28	5.2	-0.3
1625	42.4	14.4	1.30	40.3	1.30	5.3	0.1
1640	42.4	14.3	1.31	40.3	1.31	5.3	0.3
1650	42.3	14.3	1.31	40.2	1.31	5.1	-0.2
1700	42.2	14.2	1.34	40.2	1.34	5.1	-0.2
1750	42.2	14.1	1.37	40.1	1.37	5.3	-0.1
1800	42.1	14.0	1.40	40.0	1.40	5.3	0.0
1810	42.1	14.0	1.41	40.0	1.40	5.3	0.7
1825	42.1	13.9	1.42	40.0	1.40	5.3	1.4
1850	42.0	13.9	1.43	40.0	1.40	5.0	2.1
1900	41.9	13.8	1.46	40.0	1.40	4.7	4.3
1950	41.9	13.8	1.49	40.0	1.40	4.7	6.4
2000	41.8	13.7	1.53	40.0	1.40	4.5	9.3
2050	41.7	13.7	1.56	39.9	1.44	4.5	8.0
2100	41.7	13.7	1.60	39.8	1.49	4.7	7.5
2150	41.6	13.6	1.63	39.7	1.53	4.7	6.3
2200	41.5	13.6	1.67	39.6	1.58	4.7	5.8
2250	41.5	13.6	1.70	39.6	1.62	4.9	4.8
2300	41.4	13.6	1.74	39.5	1.67	4.9	4.4
2350	41.3	13.6	1.78	39.4	1.71	4.9	4.0
2400	41.2	13.6	1.82	39.3	1.76	4.9	3.7
2450	41.2	13.6	1.85	39.2	1.80	5.1	2.8
2500	41.1	13.6	1.89	39.1	1.85	5.0	1.9
2550	41.0	13.7	1.94	39.1	1.91	4.9	1.6
2600	40.9	13.7	1.98	39.0	1.96	4.8	0.8



3500	39.4	14.2	2.77	37.9	2.91	3.7	-5.1
3700	39.0	14.3	2.95	37.7	3.12	3.5	-5.3
5200	36.4	15.9	4.61	36.0	4.66	1.3	-1.0
5250	36.4	16.0	4.67	35.9	4.71	1.2	-0.9
5300	36.3	16.0	4.72	35.9	4.76	1.1	-0.7
5500	35.9	16.2	4.96	35.6	4.96	0.7	-0.1
5600	35.7	16.3	5.07	35.5	5.07	0.5	0.2
5700	35.5	16.4	5.19	35.4	5.17	0.3	0.4
5800	35.4	16.5	5.31	35.3	5.27	0.1	0.7
6000	35.0	16.6	5.54	35.1	5.48	-0.2	1.2
6500	34.1	17.1	6.17	34.5	6.07	-1.1	1.6
7000	33.2	17.4	6.78	33.9	6.65	-2.0	2.0
7500	32.3	17.7	7.40	33.3	7.24	-2.9	2.2
8000	31.5	18.0	8.01	32.7	7.84	-3.8	2.2
8500	30.6	18.2	8.63	32.1	8.45	-4.7	2.1
9000	29.8	18.4	9.24	31.5	9.08	-5.6	1.8
9500	29.0	18.6	9.84	31.0	9.71	-6.5	1.3
10000	28.1	18.8	10.44	30.4	10.36	-7.4	0.8

**Figure C-3**  
**600 – 5800 MHz Head Tissue Equivalent Matter**

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## APPENDIX D: SAR SYSTEM VALIDATION

Per FCC KDB Publication 865664 D02v01r02, SAR system validation status should be documented to confirm measurement accuracy. The SAR systems (including SAR probes, system components and software versions) used for this device were validated against its performance specifications prior to the SAR measurements. Reference dipoles were used with the required tissue- equivalent media for system validation, according to the procedures outlined in FCC KDB Publication 865664 D01v01r04 and IEEE 1528-2013. Since SAR probe calibrations are frequency dependent, each probe calibration point was validated at a frequency within the valid frequency range of the probe calibration point, using the system that normally operates with the probe for routine SAR measurements and according to the required tissue-equivalent media.

A tabulated summary of the system validation status including the validation date(s), measurement frequencies, SAR probes and tissue dielectric parameters has been included.



**Table D-1**  
**SAR System Validation Summary – 1g**

SAR SYSTEM #	FREQ. [MHz]	DATE	PROBE SN	PROBE CAL. POINT		COND.	PERM.	CW VALIDATION			MOD. VALIDATION		
						( $\sigma$ )	( $\epsilon_r$ )	SENSITIVITY	PROBE LINEARITY	PROBE ISOTROPY	MOD. TYPE	DUTY FACTOR	PAR
I	3900	1/19/2021	7551	3900	Head	3.163	36.018	PASS	PASS	PASS	TDD	PASS	N/A
H	1750	5/14/2020	7357	1750	Body	1.531	51.7	PASS	PASS	PASS	N/A	N/A	N/A
L	3900	11/2/2020	7539	3900	Body	3.674	50.52	PASS	PASS	PASS	TDD	PASS	N/A

**Table D-2**  
**SAR System Validation Summary – 10g**

SAR SYSTEM #	FREQ. [MHz]	DATE	PROBE SN	PROBE CAL. POINT		COND.	PERM.	CW VALIDATION			MOD. VALIDATION		
						( $\sigma$ )	( $\epsilon_r$ )	SENSITIVITY	PROBE LINEARITY	PROBE ISOTROPY	MOD. TYPE	DUTY FACTOR	PAR
L	3700	11/3/2020	7539	3700	Body	3.423	50.88	PASS	PASS	PASS	TDD	PASS	N/A
L	3900	11/2/2020	7539	3900	Body	3.674	50.52	PASS	PASS	PASS	TDD	PASS	N/A

NOTE: While the probes have been calibrated for both CW and modulated signals, all measurements were performed using communication systems calibrated for CW signals only. Modulations in the table above represent test configurations for which the measurement system has been validated per FCC KDB Publication 865664 D01v01r04 for scenarios when CW probe calibrations are used with other signal types. SAR systems were validated for modulated signals with a periodic duty cycle, such as GMSK, or with a high peak to average ratio (>5 dB), such as OFDM according to FCC KDB Publication 865664 D01v01r04.

<b>FCC ID:</b> A3LSMG996U	 <small>Products to be part of Samsung</small>	<b>SAR EVALUATION REPORT</b>		<b>Approved by:</b> Quality Manager
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## APPENDIX F: NR LOWER BANDWIDTH RF CONDUCTED POWERS

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

### F.1 NR Lower Bandwidth RF Conducted Powers

#### F.1.1 NR Band n66 Antenna I

Table F-1

NR Band n66 Measured  $P_{Limit}$  for DSI = 0 (Body-worn, or Phablet with grip sensor not triggered), or DSI = 1 (Phablet with grip sensor active) or DSI = 4 (Earjack active) - 30 MHz Bandwidth

NR Band n66 30 MHz Bandwidth					
Modulation	RB Size	RB Offset	Channel	MPR Allowed per 3GPP [dB]	MPR [dB]
			349000 (1745 MHz) Conducted Power [dBm]		
DFT-s-OFDM $\pi/2$ BPSK	1	1	22.67	0	0.0
	1	80	22.49		0.0
	1	158	22.67		0.0
	80	0	22.54	0-0.5	0.0
	80	40	22.45	0	0.0
	80	80	22.55	0-0.5	0.0
	160	0	22.50		0.0
DFT-s-OFDM QPSK	1	1	22.65	0	0.0
	1	80	22.50		0.0
	1	158	22.62		0.0
	80	0	22.61	0-1	0.0
	80	40	22.49	0	0.0
	80	80	22.58	0-1	0.0
	160	0	22.55		0.0
DFT-s-OFDM 16QAM	1	1	22.92	0-1	0.0
CP-OFDM QPSK	1	1	22.68	0-1.5	0.0



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Table F-2

NR Band n66 Measured  $P_{Limit}$  for DSI = 0 (Body-worn, or Phablet with grip sensor not triggered), or DSI = 1 (Phablet with grip sensor active) or DSI = 4 (Earjack active) - 20 MHz Bandwidth

NR Band n66 20 MHz Bandwidth							
Modulation	RB Size	RB Offset	Channel			MPR Allowed per 3GPP [dB]	MPR [dB]
			344000 (1720 MHz)	349000 (1745 MHz)	354000 (1770 MHz)		
			Conducted Power [dBm]				
DFT-s-OFDM $\pi/2$ BPSK	1	1	22.27	22.20	22.17	0	0.0
	1	53	22.26	22.30	22.14		0.0
	1	104	22.39	22.38	22.37		0.0
	50	0	22.22	22.33	22.13	0-0.5	0.0
	50	28	22.26	22.30	22.23	0	0.0
	50	56	22.19	22.25	22.21	0-0.5	0.0
	100	0	22.23	22.25	22.19		0.0
DFT-s-OFDM QPSK	1	1	22.33	22.13	22.18	0	0.0
	1	53	22.20	22.22	22.11		0.0
	1	104	22.34	22.26	22.19		0.0
	50	0	22.21	22.35	22.21	0-1	0.0
	50	28	22.32	22.26	22.25	0	0.0
	50	56	22.25	22.30	22.27	0-1	0.0
	100	0	22.28	22.32	22.15		0.0
DFT-s-OFDM 16QAM	1	1	22.47	22.34	22.46	0-1	0.0
CP-OFDM QPSK	1	1	22.20	22.34	22.09	0-1.5	0.0




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Table F-3

NR Band n66 Measured  $P_{Limit}$  for DSI = 0 (Body-worn, or Phablet with grip sensor not triggered), or DSI = 1 (Phablet with grip sensor active) or DSI = 4 (Earjack active) - 15 MHz Bandwidth

NR Band n66 15 MHz Bandwidth							
Modulation	RB Size	RB Offset	Channel			MPR Allowed per 3GPP [dB]	MPR [dB]
			343500 (1717.5 MHz)	349000 (1745 MHz)	354500 (1772.5 MHz)		
			Conducted Power [dBm]				
DFT-s-OFDM $\pi/2$ BPSK	1	1	22.33	22.46	22.18	0	0.0
	1	40	22.14	22.27	22.15		0.0
	1	77	22.27	22.39	22.25		0.0
	36	0	22.23	22.27	22.23	0-0.5	0.0
	36	22	22.20	22.27	22.20	0	0.0
	36	43	22.32	22.24	22.24	0-0.5	0.0
	75	0	22.32	22.30	22.24		0.0
DFT-s-OFDM QPSK	1	1	22.24	22.34	22.09	0	0.0
	1	40	22.16	22.25	22.02		0.0
	1	77	22.30	22.22	22.20		0.0
	36	0	22.30	22.40	22.20	0-1	0.0
	36	22	22.24	22.28	22.22	0	0.0
	36	43	22.31	22.30	22.26	0-1	0.0
	75	0	22.38	22.38	22.30		0.0
DFT-s-OFDM 16QAM	1	1	22.36	22.66	22.51	0-1	0.0
CP-OFDM QPSK	1	1	22.41	22.25	22.30	0-1.5	0.0




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Table F-4

NR Band n66 Measured  $P_{Limit}$  for DSI = 0 (Body-worn, or Phablet with grip sensor not triggered), or DSI = 1 (Phablet with grip sensor active) or DSI = 4 (Earjack active) - 10 MHz Bandwidth

NR Band n66 10 MHz Bandwidth							
Modulation	RB Size	RB Offset	Channel			MPR Allowed per 3GPP [dB]	MPR [dB]
			343000 (1715 MHz)	349000 (1745 MHz)	355000 (1775 MHz)		
			Conducted Power [dBm]				
DFT-s-OFDM $\pi/2$ BPSK	1	1	22.20	22.26	22.23	0	0.0
	1	26	22.37	22.49	22.21		0.0
	1	50	22.28	22.40	22.25		0.0
	25	0	22.16	22.37	22.27	0-0.5	0.0
	25	14	22.31	22.34	22.25	0	0.0
	25	27	22.22	22.28	22.23	0-0.5	0.0
	50	0	22.24	22.36	22.29		0.0
DFT-s-OFDM QPSK	1	1	22.08	22.20	22.16	0	0.0
	1	26	22.20	22.36	22.18		0.0
	1	50	22.24	22.34	22.09		0.0
	25	0	22.19	22.35	22.32	0-1	0.0
	25	14	22.30	22.35	22.26	0	0.0
	25	27	22.31	22.39	22.29	0-1	0.0
	50	0	22.24	22.35	22.30		0.0
DFT-s-OFDM 16QAM	1	1	22.57	22.38	22.40	0-1	0.0
CP-OFDM QPSK	1	1	22.11	22.22	22.24	0-1.5	0.0







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Table F-5

NR Band n66 Measured  $P_{Limit}$  for DSI = 0 (Body-worn, or Phablet with grip sensor not triggered), or DSI = 1 (Phablet with grip sensor active) or DSI = 4 (Earjack active) - 5 MHz Bandwidth

NR Band n66 5 MHz Bandwidth							
Modulation	RB Size	RB Offset	Channel			MPR Allowed per 3GPP [dB]	MPR [dB]
			342500 (1712.5 MHz)	349000 (1745 MHz)	355500 (1777.5 MHz)		
			Conducted Power [dBm]				
DFT-s-OFDM $\pi/2$ BPSK	1	1	22.19	22.30	22.24	0	0.0
	1	13	22.17	22.36	22.20		0.0
	1	23	22.25	22.23	22.19		0.0
	12	0	22.26	22.31	22.32	0-0.5	0.0
	12	7	22.24	22.36	22.23	0	0.0
	12	13	22.23	22.30	22.20	0-0.5	0.0
	25	0	22.18	22.28	22.19		0.0
DFT-s-OFDM QPSK	1	1	22.20	22.31	22.30	0	0.0
	1	13	22.24	22.37	22.16		0.0
	1	23	22.05	22.14	22.08		0.0
	12	0	22.20	22.30	22.30	0-1	0.0
	12	7	22.20	22.34	22.21	0	0.0
	12	13	22.25	22.30	22.21	0-1	0.0
	25	0	22.22	22.33	22.26		0.0
DFT-s-OFDM 16QAM	1	1	22.55	22.52	22.41	0-1	0.0
CP-OFDM QPSK	1	1	22.21	22.44	22.38	0-1.5	0.0

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F.1.2 NR Band n77 Antenna B

Table F-6

NR Band n77 Measured *Plimit* for DSI = 0 (Body-worn, or Phablet with grip sensor inactive), or DSI = 1 (Phablet with grip sensor active) and/or DSI = 4 (Earjack Active) - 90 MHz Bandwidth

NR Band n77 90 MHz Bandwidth							
Modulation	RB Size	RB Offset	649668 (3745.02 MHz)	656000 (3840 MHz)	662332 (3934.98 MHz)	MPR Allowed per 3GPP [dB]	MPR [dB]
			Conducted Power [dBm]				
DFT-s-OFDM $\pi/2$ BPSK	1	1	15.36	15.54	15.63	0	0.0
	1	123	15.27	16.07	15.73		0.0
	1	243	15.23	15.98	15.64		0.0
	120	0	14.85	15.22	15.08	0-0.5	0.5
	120	63	15.39	15.70	15.79	0	0.0
	120	125	15.06	15.23	15.52	0-0.5	0.5
	243	0	14.93	15.20	15.30		0.5
DFT-s-OFDM QPSK	1	1	15.45	15.59	15.74	0	0.0
	1	123	15.36	16.01	15.89		0.0
	1	243	15.28	15.95	15.77		0.0
	120	0	14.36	14.85	14.63	0-1	1.0
	120	63	15.40	15.84	15.86	0	0.0
	120	125	14.44	14.77	15.05	0-1	1.0
	243	0	14.42	14.78	14.85		1.0
DFT-s-OFDM 16QAM	1	1	14.13	14.71	14.54	0-1	1.0
CP-OFDM QPSK	1	1	13.66	14.01	14.20	0-1.5	1.5




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Table F-7

NR Band n77 Measured *Plimit* for DSI = 0 (Body-worn, or Phablet with grip sensor inactive), or DSI = 1 (Phablet with grip sensor active) and/or DSI = 4 (Earjack Active) - 80 MHz Bandwidth

NR Band n77 80 MHz Bandwidth							
Modulation	RB Size	RB Offset	Channel			MPR Allowed per 3GPP [dB]	MPR [dB]
			649334 (3740.01 MHz)	656000 (3840 MHz)	662666 (3939.99 MHz)		
			Conducted Power [dBm]				
DFT-s-OFDM $\pi/2$ BPSK	1	1	15.59	15.78	15.95	0	0.0
	1	109	15.52	16.09	16.17		0.0
	1	215	15.61	15.97	15.82		0.0
	108	0	14.85	15.44	15.61	0-0.5	0.5
	108	55	15.56	15.93	16.19	0	0.0
	108	109	14.94	15.34	15.58	0-0.5	0.5
	216	0	14.91	15.39	15.62		0.5
DFT-s-OFDM QPSK	1	1	15.48	15.79	15.71	0	0.0
	1	109	15.33	16.01	15.94		0.0
	1	215	15.50	15.96	15.54		0.0
	108	0	14.40	14.86	14.91	0-1	1.0
	108	55	15.51	16.05	15.92	0	0.0
	108	109	14.47	14.93	14.74	0-1	1.0
	216	0	14.38	14.86	14.94		1.0
DFT-s-OFDM 16QAM	1	1	14.74	15.00	14.72	0-1	1.0
CP-OFDM QPSK	1	1	14.02	14.23	14.23	0-1.5	1.5




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Table F-8

NR Band n77 Measured *Plimit* for DSI = 0 (Body-worn, or Phablet with grip sensor inactive), or DSI = 1 (Phablet with grip sensor active) and/or DSI = 4 (Earjack Active) - 70 MHz Bandwidth

NR Band n77 70 MHz Bandwidth								
Modulation	RB Size	RB Offset	649000 (3735 MHz)	653666 (3804.99 MHz)	658334 (3875.01 MHz)	663000 (3945 MHz)	MPR Allowed per 3GPP [dB]	MPR [dB]
			Conducted Power [dBm]					
DFT-s-OFDM $\pi/2$ BPSK	1	1	15.61	15.68	15.71	15.81	0	0.0
	1	95	15.60	16.04	15.80	15.99		0.0
	1	187	15.59	15.78	15.76	15.80		0.0
	90	0	15.04	15.25	15.23	15.31	0-0.5	0.5
	90	50	15.47	15.95	15.79	16.05	0	0.0
	90	99	15.09	15.51	15.22	15.64	0-0.5	0.5
	180	0	15.04	15.45	15.18	15.43		0.5
DFT-s-OFDM QPSK	1	1	15.49	15.63	15.75	15.82	0	0.0
	1	95	15.68	16.00	15.78	15.96		0.0
	1	187	15.47	15.81	15.66	15.78		0.0
	90	0	14.55	14.85	14.75	14.85	0-1	1.0
	90	50	15.54	16.03	15.78	16.07	0	0.0
	90	99	14.56	15.01	14.84	15.14	0-1	1.0
	180	0	14.64	14.94	14.73	15.06		1.0
DFT-s-OFDM 16QAM	1	1	14.62	14.60	14.80	14.58	0-1	1.0
CP-OFDM QPSK	1	1	14.07	13.99	14.11	14.14	0-1.5	1.5




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Table F-9

NR Band n77 Measured *Plimit* for DSI = 0 (Body-worn, or Phablet with grip sensor inactive), or DSI = 1 (Phablet with grip sensor active) and/or DSI = 4 (Earjack Active) - 60 MHz Bandwidth

NR Band n77 60 MHz Bandwidth								
Modulation	RB Size	RB Offset	Channel				MPR Allowed per 3GPP [dB]	MPR [dB]
			648668 (3730.02 MHz)	653556 (3803.34 MHz)	658444 (3876.66 MHz)	663332 (3949.98 MHz)		
			Conducted Power [dBm]					
DFT-s-OFDM $\pi/2$ BPSK	1	1	15.82	16.01	15.77	15.87	0	0.0
	1	81	15.71	15.94	15.83	16.08		0.0
	1	160	15.83	16.01	15.77	15.91		0.0
	81	0	15.27	15.38	15.25	15.44	0-0.5	0.5
	81	41	15.71	15.98	15.83	16.15	0	0.0
	81	81	15.23	15.58	15.48	15.66	0-0.5	0.5
	162	0	15.27	15.44	15.35	15.58		0.5
DFT-s-OFDM QPSK	1	1	15.82	16.05	15.87	15.99	0	0.0
	1	81	15.78	16.05	15.93	16.14		0.0
	1	160	15.86	16.04	15.85	16.00		0.0
	81	0	14.76	14.92	14.83	14.95	0-1	1.0
	81	41	15.69	15.99	15.85	16.12	0	0.0
	81	81	14.77	14.98	15.03	15.20	0-1	1.0
	162	0	14.70	14.95	14.90	15.09		1.0
DFT-s-OFDM 16QAM	1	1	14.49	15.02	14.87	14.56	0-1	1.0
CP-OFDM QPSK	1	1	14.17	14.48	14.36	14.22	0-1.5	1.5




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Table F-10

NR Band n77 Measured *Plimit* for DSI = 0 (Body-worn, or Phablet with grip sensor inactive), or DSI = 1 (Phablet with grip sensor active) and/or DSI = 4 (Earjack Active) - 50 MHz Bandwidth

NR Band n77 50 MHz Bandwidth									
Modulation	RB Size	RB Offset	Channel					MPR Allowed per 3GPP [dB]	MPR [dB]
			648334 (3725.01 MHz)	652166 (3782.49 MHz)	656000 (3840 MHz)	659834 (3897.51 MHz)	663666 (3954.99 MHz)		
			Conducted Power [dBm]						
DFT-s-OFDM $\pi/2$ BPSK	1	1	15.76	15.89	15.88	15.82	16.30	0	0.0
	1	67	15.60	15.96	16.18	15.92	16.42		0.0
	1	131	15.48	16.06	16.28	16.12	16.44		0.0
	64	0	15.25	15.47	15.73	15.45	15.72	0-0.5	0.5
	64	35	15.62	16.02	16.21	16.04	16.33	0	0.0
	64	69	15.09	15.45	15.73	15.58	15.84	0-0.5	0.5
	128	0	15.20	15.54	15.70	15.49	15.73		0.5
DFT-s-OFDM QPSK	1	1	15.90	16.00	15.97	15.90	16.21	0	0.0
	1	67	15.70	15.94	16.27	16.13	16.42		0.0
	1	131	15.58	16.12	16.23	16.27	16.45		0.0
	64	0	14.78	14.97	15.21	14.92	15.16	0-1	1.0
	64	35	15.65	15.98	16.23	16.06	16.35	0	0.0
	64	69	14.69	14.92	15.32	15.13	15.41	0-1	1.0
	128	0	14.73	15.02	15.23	15.06	15.48		1.0
DFT-s-OFDM 16QAM	1	1	14.71	14.91	15.05	14.83	15.01	0-1	1.0
CP-OFDM QPSK	1	1	14.24	14.45	14.44	14.30	14.43	0-1.5	1.5







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Table F-11

NR Band n77 Measured *Plimit* for DSI = 0 (Body-worn, or Phablet with grip sensor inactive), or DSI = 1 (Phablet with grip sensor active) and/or DSI = 4 (Earjack Active) - 40 MHz Bandwidth

NR Band n77 40 MHz Bandwidth										
Modulation	RB Size	RB Offset	Channel						MPR Allowed per 3GPP [dB]	MPR [dB]
			648000 (3720 MHz)	651200 (3768 MHz)	654400 (3816 MHz)	657600 (3864 MHz)	660800 (3912 MHz)	664000 (3960 MHz)		
			Conducted Power [dBm]							
DFT-s-OFDM $\pi/2$ BPSK	1	1	15.41	15.68	16.06	16.50	16.15	16.30	0	0.0
	1	53	15.35	15.80	16.14	16.47	16.20	16.39		0.0
	1	104	15.37	16.03	16.35	16.50	16.36	16.43		0.0
	50	0	14.90	15.63	15.87	15.93	15.52	15.94	0-0.5	0.5
	50	28	15.39	15.53	15.99	16.50	16.05	16.42	0	0.0
	50	56	14.96	15.63	16.00	16.00	15.75	15.85	0-0.5	0.5
DFT-s-OFDM QPSK	100	0	14.94	15.45	15.63	15.96	15.57	15.94	0	0.5
	1	1	15.70	15.69	16.24	16.49	16.04	16.42		0.0
	1	53	15.49	15.77	16.17	16.47	16.02	16.41		0.0
	1	104	15.53	16.10	16.38	16.50	16.28	16.44	0	0.0
	50	0	14.47	14.71	15.16	15.39	14.82	15.45	0-1	1.0
	50	28	15.48	15.71	16.32	16.26	16.03	16.47	0	0.0
DFT-s-OFDM 16QAM	50	56	14.47	15.09	15.37	15.50	15.12	15.38	0-1	1.0
	100	0	14.50	14.90	15.31	15.46	15.07	15.42		1.0
CP-OFDM QPSK	1	1	14.41	14.66	15.11	15.43	14.96	15.24	0-1	1.0
CP-OFDM QPSK	1	1	14.28	14.12	14.55	14.98	14.93	14.88	0-1.5	1.5

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**Table F-12**

**NR Band n77 Measured *Plimit* for DSI = 0 (Body-worn, or Phablet with grip sensor inactive), or DSI = 1 (Phablet with grip sensor active) and/or DSI = 4 (Earjack Active) - 30 MHz Bandwidth**

NR Band n77 30 MHz Bandwidth									
Modulation	RB Size	RB Offset	Channel						MPR Allowed per 3GPP [dB]
			647668 (3715.02 MHz)	651000 (3765 MHz)	654334 (3815.01 MHz)	657666 (3864.99 MHz)	661000 (3915 MHz)	664332 (3964.98 MHz)	
			Conducted Power [dBm]						
DFT-s-OFDM $\pi/2$ BPSK	1	1	15.47	15.51	15.95	15.73	15.51	16.17	0
	1	39	15.47	15.82	16.00	15.79	15.66	16.23	
	1	76	15.61	15.98	16.22	16.00	15.79	16.36	
	36	0	15.17	15.49	15.51	15.45	15.46	15.92	0-0.5
	36	21	15.37	15.47	16.10	15.91	15.45	16.21	0
	36	42	15.28	15.59	15.72	15.75	15.57	15.89	0-0.5
DFT-s-OFDM QPSK	75	0	15.07	15.40	15.62	15.52	15.31	15.83	0
	1	1	15.66	15.49	15.55	15.68	15.40	15.83	
	1	39	15.54	15.66	16.05	15.83	15.72	16.17	
	1	76	15.51	15.84	16.24	15.97	15.89	16.36	0-1
	36	0	14.78	14.79	15.11	14.93	14.79	15.46	0
	36	21	15.29	15.36	15.44	15.59	16.22	15.97	0
	36	42	14.57	15.02	15.22	15.07	15.25	15.44	0-1
DFT-s-OFDM 16QAM	1	1	14.53	14.63	14.92	15.03	15.37	15.44	0-1
CP-OFDM QPSK	1	1	14.11	14.24	14.75	14.81	14.75	14.86	0-1.5







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Table F-13




NR Band n77 Measured *Plimit* for DSI = 0 (Body-worn, or Phablet with grip sensor inactive), or DSI = 1 (Phablet with grip sensor active) and/or DSI = 4 (Earjack Active) - 20 MHz Bandwidth

NR Band n77 20 MHz Bandwidth										
Modulation	RB Size	RB Offset	Channel						MPR Allowed per 3GPP [dB]	MPR [dB]
			647334 (3710.01 MHz)	650800 (3762 MHz)	654266 (3813.99 MHz)	657734 (3866.01 MHz)	661200 (3918 MHz)	664666 (3969.99 MHz)		
			Conducted Power [dBm]							
DFT-s-OFDM $\pi/2$ BPSK	1	1	15.33	15.69	16.06	16.22	16.38	16.43	0	0.0
	1	26	15.32	15.77	16.14	16.33	16.40	16.49		0.0
	1	49	15.45	15.93	16.20	16.19	16.34	16.50		0.0
	25	0	14.89	15.38	15.89	15.87	15.86	16.00	0-0.5	0.5
	25	13	15.44	15.72	16.14	16.13	16.32	16.43	0	0.0
	25	26	14.82	15.50	15.91	15.93	16.00	15.99	0-0.5	0.5
DFT-s-OFDM QPSK	1	1	15.31	15.47	16.08	16.39	16.19	16.46	0	0.0
	1	26	15.42	15.74	16.14	16.40	16.15	16.48		0.0
	1	49	15.44	15.91	16.27	<b>16.41</b>	16.20	16.49		0.0
	25	0	15.12	15.10	15.41	15.44	15.29	15.50	0-1	1.0
	25	13	15.38	15.82	15.90	16.06	<b>16.31</b>	16.20	0	0.0
	25	26	14.60	15.06	15.46	15.47	15.40	15.49	0-1	1.0
DFT-s-OFDM 16QAM	1	1	14.81	14.94	15.44	15.50	15.31	15.43	0-1	1.0
CP-OFDM QPSK	1	1	14.22	14.52	14.72	15.00	14.88	14.98	0-1.5	1.5

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**Table F-14**  
**NR Band n77 Measured  $P_{Limit}$  for DSI = 3 (Hotspot Mode) - 90 MHz Bandwidth**

NR Band n77 90 MHz Bandwidth							
Modulation	RB Size	RB Offset	649668 (3745.02 MHz)	656000 (3840 MHz)	662332 (3934.98 MHz)	MPR Allowed per 3GPP [dB]	MPR [dB]
			Conducted Power [dBm]				
DFT-s-OFDM $\pi/2$ BPSK	1	1	13.90	14.37	14.48	0	0.0
	1	123	14.02	14.92	14.68		0.0
	1	243	14.12	14.83	14.78		0.0
	120	0	14.04	14.74	14.64	0-0.5	0.0
	120	63	14.08	14.73	14.73	0	0.0
	120	125	14.21	14.83	14.75	0-0.5	0.0
	243	0	14.13	14.81	14.72		0.0
DFT-s-OFDM QPSK	1	1	14.02	14.62	14.62	0	0.0
	1	123	14.10	14.64	14.88		0.0
	1	243	14.17	14.79	14.48		0.0
	120	0	14.18	14.74	14.67	0-1	0.0
	120	63	14.15	14.77	14.78	0	0.0
	120	125	14.21	14.87	14.76	0-1	0.0
	243	0	14.20	14.89	14.71		0.0
DFT-s-OFDM 16QAM	1	1	14.31	14.72	14.59	0-1	0.0
CP-OFDM QPSK	1	1	14.22	14.38	14.59	0-1.5	0.0

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**Table F-15**  
**NR Band n77 Measured  $P_{Limit}$  for DSI = 3 (Hotspot Mode) - 80 MHz Bandwidth**

NR Band n77 80 MHz Bandwidth							
Modulation	RB Size	RB Offset	Channel			MPR Allowed per 3GPP [dB]	MPR [dB]
			649334 (3740.01 MHz)	656000 (3840 MHz)	662666 (3939.99 MHz)		
			Conducted Power [dBm]				
DFT-s-OFDM $\pi/2$ BPSK	1	1	14.35	14.53	14.60	0	0.0
	1	109	14.12	14.84	14.87		0.0
	1	215	14.16	14.89	14.80		0.0
	108	0	14.18	14.90	14.62	0-0.5	0.0
	108	55	14.15	14.80	14.70	0	0.0
	108	109	14.14	14.90	14.83	0-0.5	0.0
	216	0	14.15	14.93	14.79		0.0
DFT-s-OFDM QPSK	1	1	14.30	14.80	14.78	0	0.0
	1	109	14.24	14.77	14.84		0.0
	1	215	14.23	14.87	14.63		0.0
	108	0	14.16	14.85	14.65	0-1	0.0
	108	55	14.12	14.86	14.77	0	0.0
	108	109	14.11	14.88	14.85	0-1	0.0
	216	0	14.13	14.98	14.82		0.0
DFT-s-OFDM 16QAM	1	1	14.33	14.85	14.75	0-1	0.0
CP-OFDM QPSK	1	1	14.30	14.61	14.75	0-1.5	0.0

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**Table F-16**  
**NR Band n77 Measured  $P_{Limit}$  for DSI = 3 (Hotspot Mode) - 70 MHz Bandwidth**

NR Band n77 70 MHz Bandwidth								
Modulation	RB Size	RB Offset	649000 (3735 MHz)	653666 (3804.99 MHz)	658334 (3875.01 MHz)	663000 (3945 MHz)	MPR Allowed per 3GPP [dB]	MPR [dB]
			Conducted Power [dBm]					
DFT-s-OFDM $\pi/2$ BPSK	1	1	14.16	14.40	14.70	14.68	0	0.0
	1	95	14.10	14.58	14.73	14.66		0.0
	1	187	14.11	14.84	14.86	14.77		0.0
	90	0	14.15	14.78	14.78	14.73	0-0.5	0.0
	90	50	14.17	14.67	14.87	14.78	0	0.0
	90	99	14.18	14.79	14.89	14.82	0-0.5	0.0
	180	0	14.20	14.88	14.84	14.75		0.0
DFT-s-OFDM QPSK	1	1	14.25	14.72	14.86	14.74	0	0.0
	1	95	14.20	14.55	14.83	14.75		0.0
	1	187	14.39	14.83	14.95	14.86		0.0
	90	0	14.33	14.85	14.87	14.62	0-1	0.0
	90	50	14.18	14.75	14.92	14.75	0	0.0
	90	99	14.21	14.83	14.91	14.79	0-1	0.0
	180	0	14.30	14.90	14.90	14.76		0.0
DFT-s-OFDM 16QAM	1	1	14.35	14.75	14.92	14.68	0-1	0.0
CP-OFDM QPSK	1	1	14.38	14.45	14.93	14.74	0-1.5	0.0

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**Table F-17**  
**NR Band n77 Measured  $P_{Limit}$  for DSI = 3 (Hotspot Mode) - 60 MHz Bandwidth**

NR Band n77 60 MHz Bandwidth								
Modulation	RB Size	RB Offset	Channel				MPR Allowed per 3GPP [dB]	MPR [dB]
			648668 (3730.02 MHz)	653556 (3803.34 MHz)	658444 (3876.66 MHz)	663332 (3949.98 MHz)		
			Conducted Power [dBm]					
DFT-s-OFDM $\pi/2$ BPSK	1	1	14.00	14.41	14.99	14.91	0	0.0
	1	81	13.95	14.46	15.00	15.00		0.0
	1	160	14.02	14.68	14.97	14.99		0.0
	81	0	14.02	14.49	15.00	14.94	0-0.5	0.0
	81	41	13.99	14.50	14.93	14.93	0	0.0
	81	81	14.01	14.74	14.90	14.87	0-0.5	0.0
	162	0	14.01	14.78	15.00	14.91		0.0
DFT-s-OFDM QPSK	1	1	14.08	14.57	14.94	14.86	0	0.0
	1	81	14.15	14.64	14.98	14.96		0.0
	1	160	14.18	14.82	14.88	14.83		0.0
	81	0	14.12	14.86	14.96	14.89	0-1	0.0
	81	41	14.10	14.65	14.96	14.95	0	0.0
	81	81	14.09	14.77	14.95	14.94	0-1	0.0
	162	0	14.12	14.75	14.97	14.91		0.0
DFT-s-OFDM 16QAM	1	1	14.16	14.46	14.96	14.90	0-1	0.0
CP-OFDM QPSK	1	1	14.20	14.66	14.98	14.98	0-1.5	0.0

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**Table F-18**  
**NR Band n77 Measured  $P_{Limit}$  for DSI = 3 (Hotspot Mode) - 50 MHz Bandwidth**

NR Band n77 50 MHz Bandwidth									
Modulation	RB Size	RB Offset	Channel					MPR Allowed per 3GPP [dB]	MPR [dB]
			648334 (3725.01 MHz)	652166 (3782.49 MHz)	656000 (3840 MHz)	659834 (3897.51 MHz)	663666 (3954.99 MHz)		
			Conducted Power [dBm]						
DFT-s-OFDM $\pi/2$ BPSK	1	1	14.64	14.55	14.99	15.13	15.13	0	0.0
	1	67	14.75	14.96	14.97	15.08	15.20		0.0
	1	131	14.43	14.98	15.00	15.23	15.32		0.0
	64	0	14.65	14.73	14.96	15.23	15.24	0-0.5	0.0
	64	35	14.63	14.79	15.18	15.06	15.27	0	0.0
	64	69	14.52	14.87	15.30	15.09	15.23	0-0.5	0.0
	128	0	14.54	14.88	15.13	15.11	15.20		0.0
DFT-s-OFDM QPSK	1	1	14.65	14.81	14.96	15.12	15.12	0	0.0
	1	67	14.72	14.97	15.00	15.18	15.15		0.0
	1	131	14.54	15.00	15.39	15.27	15.18		0.0
	64	0	14.51	14.99	15.08	15.25	15.11	0-1	0.0
	64	35	14.65	14.81	15.20	15.17	15.25	0	0.0
	64	69	14.59	14.89	15.25	15.17	15.28	0-1	0.0
	128	0	14.56	14.91	15.21	15.18	15.22		0.0
DFT-s-OFDM 16QAM	1	1	14.64	14.87	14.92	15.19	15.24	0-1	0.0
CP-OFDM QPSK	1	1	14.90	14.56	14.99	15.25	15.19	0-1.5	0.0

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**Table F-19**  
**NR Band n77 Measured  $P_{Limit}$  for DSI = 3 (Hotspot Mode) - 40 MHz Bandwidth**

NR Band n77 40 MHz Bandwidth										
Modulation	RB Size	RB Offset	Channel						MPR Allowed per 3GPP [dB]	MPR [dB]
			648000 (3720 MHz)	651200 (3768 MHz)	654400 (3816 MHz)	657600 (3864 MHz)	660800 (3912 MHz)	664000 (3960 MHz)		
			Conducted Power [dBm]							
DFT-s-OFDM $\pi/2$ BPSK	1	1	14.67	14.27	14.92	14.88	14.72	14.85	0	0.0
	1	53	14.51	14.56	14.89	14.86	14.71	14.73		0.0
	1	104	14.58	14.61	15.00	14.92	14.80	14.72		0.0
	50	0	14.52	14.49	14.90	14.99	14.78	14.81	0-0.5	0.0
	50	28	14.53	14.44	14.90	15.00	14.70	14.78	0	0.0
	50	56	14.44	14.86	14.98	14.99	14.72	14.83	0-0.5	0.0
	100	0	14.47	14.67	14.91	14.99	14.71	14.84		0.0
DFT-s-OFDM QPSK	1	1	14.64	14.64	14.26	14.99	14.79	14.90	0	0.0
	1	53	14.57	14.74	14.43	14.99	14.78	14.77		0.0
	1	104	14.52	15.00	14.55	14.97	14.82	14.73		0.0
	50	0	14.45	14.96	14.40	14.96	14.84	14.85	0-1	0.0
	50	28	14.35	14.70	14.48	14.98	14.78	14.82	0	0.0
	50	56	14.39	14.84	14.63	14.96	14.84	14.83	0-1	0.0
	100	0	14.39	14.73	14.57	14.99	14.85	14.85		0.0
DFT-s-OFDM 16QAM	1	1	14.37	14.66	14.55	14.98	14.84	14.83	0-1	0.0
CP-OFDM QPSK	1	1	14.56	14.59	14.48	14.99	14.76	14.67	0-1.5	0.0

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**Table F-20**  
**NR Band n77 Measured  $P_{Limit}$  for DSI = 3 (Hotspot Mode) - 30 MHz Bandwidth**




NR Band n77 30 MHz Bandwidth									
Modulation	RB Size	RB Offset	Channel						MPR Allowed per 3GPP [dB]
			647668 (3715.02 MHz)	651000 (3765 MHz)	654334 (3815.01 MHz)	657666 (3864.99 MHz)	661000 (3915 MHz)	664332 (3964.98 MHz)	
			Conducted Power [dBm]						
DFT-s-OFDM $\pi/2$ BPSK	1	1	14.11	14.34	14.70	15.15	14.66	14.80	0
	1	39	14.15	14.39	14.76	15.06	14.85	15.00	
	1	76	14.10	14.58	14.86	15.16	15.06	15.00	
	36	0	14.13	14.66	14.92	15.11	14.93	14.99	0-0.5
	36	21	14.18	14.44	14.87	15.13	14.90	14.98	0
	36	42	14.20	14.55	14.93	15.16	14.98	15.00	0-0.5
DFT-s-OFDM QPSK	75	0	14.21	14.62	14.90	15.16	14.98	15.08	0
	1	1	14.20	14.48	14.88	15.15	14.86	14.95	
	1	39	14.21	14.48	14.85	15.19	14.93	15.08	
	1	76	14.22	14.51	15.00	15.14	15.05	15.09	0-1
	36	0	14.26	14.74	14.96	15.17	14.97	15.00	0
	36	21	14.24	14.47	14.92	15.22	14.95	14.99	0
	36	42	14.25	14.62	15.00	15.20	14.97	15.09	0-1
DFT-s-OFDM 16QAM	75	0	14.13	14.68	14.92	15.16	15.00	15.15	0-1
CP-OFDM QPSK	1	1	14.16	14.41	14.70	14.98	14.88	14.99	0-1
CP-OFDM QPSK	1	1	14.13	14.25	14.74	14.95	14.83	14.95	0-1.5

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**Table F-21**  
**NR Band n77 Measured  $P_{Limit}$  for DSI = 3 (Hotspot Mode) - 20 MHz Bandwidth**

NR Band n77 20 MHz Bandwidth										
Modulation	RB Size	RB Offset	Channel						MPR Allowed per 3GPP [dB]	MPR [dB]
			647334 (3710.01 MHz)	650800 (3762 MHz)	654266 (3813.99 MHz)	657734 (3866.01 MHz)	661200 (3918 MHz)	664666 (3969.99 MHz)		
			Conducted Power [dBm]							
DFT-s-OFDM $\pi/2$ BPSK	1	1	14.60	14.45	14.99	15.35	15.13	15.15	0	0.0
	1	26	14.53	14.48	15.08	15.42	15.02	15.20		0.0
	1	49	14.49	14.62	15.13	15.46	15.21	15.13		0.0
	25	0	14.48	14.61	15.15	15.40	15.23	15.16	0-0.5	0.0
	25	13	14.46	14.79	15.17	15.39	15.14	15.34	0	0.0
	25	26	14.52	14.79	15.16	15.38	15.14	15.35	0-0.5	0.0
	50	0	14.48	14.77	15.12	15.39	15.12	15.36		0.0
DFT-s-OFDM QPSK	1	1	14.54	14.71	15.12	15.35	15.11	15.30	0	0.0
	1	26	14.55	14.65	15.09	15.40	15.02	15.39		0.0
	1	49	14.39	14.73	15.13	15.44	15.18	15.26		0.0
	25	0	14.47	14.76	15.18	15.42	15.17	15.27	0-1	0.0
	25	13	14.56	14.78	15.16	15.44	15.14	15.29	0	0.0
	25	26	14.53	14.74	15.20	15.41	15.11	15.30	0-1	0.0
	50	0	14.55	14.84	15.16	15.41	15.19	15.34		0.0
DFT-s-OFDM 16QAM	1	1	14.47	14.66	15.17	15.26	15.07	15.09	0-1	0.0
CP-OFDM QPSK	1	1	14.50	14.38	15.13	15.21	15.10	15.18	0-1.5	0.0

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**Table F-22**  
**NR Band n77 Measured  $P_{Limit}$  for DSI = 2 (Head) - 90 MHz Bandwidth**

NR Band n77 90 MHz Bandwidth							
Modulation	RB Size	RB Offset	649668 (3745.02 MHz)	656000 (3840 MHz)	662332 (3934.98 MHz)	MPR Allowed per 3GPP [dB]	MPR [dB]
			Conducted Power [dBm]				
DFT-s-OFDM $\pi/2$ BPSK	1	1	10.44	10.53	10.76	0	0.0
	1	123	10.35	10.84	11.10		0.0
	1	243	10.53	10.95	11.02		0.0
	120	0	10.48	10.89	10.96	0-0.5	0.0
	120	63	10.42	10.88	11.10	0	0.0
	120	125	10.55	11.06	11.18	0-0.5	0.0
	243	0	10.49	11.07	11.04		0.0
DFT-s-OFDM QPSK	1	1	10.38	10.82	10.67	0	0.0
	1	123	10.34	10.85	10.85		0.0
	1	243	10.47	10.93	10.68		0.0
	120	0	10.37	10.87	10.84	0-1	0.0
	120	63	10.50	11.05	10.95	0	0.0
	120	125	10.53	11.16	11.06	0-1	0.0
	243	0	10.52	11.02	10.91		0.0
DFT-s-OFDM 16QAM	1	1	10.49	10.75	10.99	0-1	0.0
CP-OFDM QPSK	1	1	10.29	10.70	10.85	0-1.5	0.0

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**Table F-23**  
**NR Band n77 Measured  $P_{Limit}$  for DSI = 2 (Head) - 80 MHz Bandwidth**

NR Band n77 80 MHz Bandwidth							
Modulation	RB Size	RB Offset	Channel			MPR Allowed per 3GPP [dB]	MPR [dB]
			649334 (3740.01 MHz)	656000 (3840 MHz)	662666 (3939.99 MHz)		
			Conducted Power [dBm]				
DFT-s-OFDM $\pi/2$ BPSK	1	1	10.50	10.60	10.86	0	0.0
	1	109	10.39	10.91	11.15		0.0
	1	215	10.46	10.99	11.05		0.0
	108	0	10.48	11.01	10.99	0-0.5	0.0
	108	55	10.42	11.05	11.09	0	0.0
	108	109	10.44	11.18	11.11	0-0.5	0.0
	216	0	10.47	11.11	10.94		0.0
DFT-s-OFDM QPSK	1	1	10.50	10.70	10.83	0	0.0
	1	109	10.36	11.03	11.07		0.0
	1	215	10.43	11.07	10.78		0.0
	108	0	10.45	11.04	11.02	0-1	0.0
	108	55	10.47	11.11	11.08	0	0.0
	108	109	10.46	11.18	11.11	0-1	0.0
	216	0	10.48	11.15	11.07		0.0
DFT-s-OFDM 16QAM	1	1	10.51	10.83	10.98	0-1	0.0
CP-OFDM QPSK	1	1	10.48	10.86	11.04	0-1.5	0.0

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**Table F-24**  
**NR Band n77 Measured  $P_{Limit}$  for DSI = 2 (Head) - 70 MHz Bandwidth**

NR Band n77 70 MHz Bandwidth								
Modulation	RB Size	RB Offset	649000 (3735 MHz)	653666 (3804.99 MHz)	658334 (3875.01 MHz)	663000 (3945 MHz)	MPR Allowed per 3GPP [dB]	MPR [dB]
			Conducted Power [dBm]					
DFT-s-OFDM $\pi/2$ BPSK	1	1	10.25	10.55	11.04	10.96	0	0.0
	1	95	10.29	10.77	11.16	11.20		0.0
	1	187	10.53	10.99	11.08	10.93		0.0
	90	0	10.40	10.80	11.12	11.00	0-0.5	0.0
	90	50	10.37	10.87	11.18	11.01	0	0.0
	90	99	10.40	11.09	11.20	11.19	0-0.5	0.0
	180	0	10.38	11.03	11.17	11.19		0.0
DFT-s-OFDM QPSK	1	1	10.29	10.63	11.17	11.20	0	0.0
	1	95	10.35	10.75	11.22	11.21		0.0
	1	187	10.49	10.97	11.05	10.99		0.0
	90	0	10.40	10.86	11.25	11.09	0-1	0.0
	90	50	10.44	10.89	11.22	11.16	0	0.0
	90	99	10.43	11.01	11.24	11.20	0-1	0.0
	180	0	10.47	10.98	11.23	11.18		0.0
DFT-s-OFDM 16QAM	1	1	10.43	10.84	11.16	11.08	0-1	0.0
CP-OFDM QPSK	1	1	10.50	10.86	11.23	11.06	0-1.5	0.0

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**Table F-25**  
**NR Band n77 Measured  $P_{Limit}$  for DSI = 2 (Head) - 60 MHz Bandwidth**

NR Band n77 60 MHz Bandwidth								
Modulation	RB Size	RB Offset	Channel				MPR Allowed per 3GPP [dB]	MPR [dB]
			648668 (3730.02 MHz)	653556 (3803.34 MHz)	658444 (3876.66 MHz)	663332 (3949.98 MHz)		
			Conducted Power [dBm]					
DFT-s-OFDM $\pi/2$ BPSK	1	1	10.44	10.88	11.21	11.07	0	0.0
	1	81	10.47	10.95	11.29	11.23		0.0
	1	160	10.52	11.17	11.22	11.25		0.0
	81	0	10.52	11.03	11.21	11.17	0-0.5	0.0
	81	41	10.50	10.94	11.26	11.20	0	0.0
	81	81	10.50	11.07	11.28	11.27	0-0.5	0.0
	162	0	10.51	11.07	11.27	11.22		0.0
DFT-s-OFDM QPSK	1	1	10.52	10.93	11.28	11.15	0	0.0
	1	81	10.50	10.92	11.28	11.25		0.0
	1	160	10.57	11.04	11.24	11.07		0.0
	81	0	10.59	10.84	11.22	11.22	0-1	0.0
	81	41	10.56	10.96	11.28	11.30	0	0.0
	81	81	10.55	11.08	11.29	11.32	0-1	0.0
	162	0	10.60	11.09	11.26	11.27		0.0
DFT-s-OFDM 16QAM	1	1	10.66	10.94	11.20	11.19	0-1	0.0
CP-OFDM QPSK	1	1	10.64	10.84	11.21	11.12	0-1.5	0.0

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**Table F-26**  
**NR Band n77 Measured  $P_{Limit}$  for DSI = 2 (Head) - 50 MHz Bandwidth**

NR Band n77 50 MHz Bandwidth									
Modulation	RB Size	RB Offset	Channel					MPR Allowed per 3GPP [dB]	MPR [dB]
			648334 (3725.01 MHz)	652166 (3782.49 MHz)	656000 (3840 MHz)	659834 (3897.51 MHz)	663666 (3954.99 MHz)		
			Conducted Power [dBm]						
DFT-s-OFDM $\pi/2$ BPSK	1	1	10.79	10.77	11.11	11.45	11.50	0	0.0
	1	67	10.81	10.99	11.38	11.37	11.47		0.0
	1	131	10.88	11.13	11.50	11.33	11.50		0.0
	64	0	10.81	11.13	11.38	11.41	11.45	0-0.5	0.0
	64	35	10.80	11.10	11.42	11.36	11.46	0	0.0
	64	69	10.81	11.18	11.50	11.35	11.44	0-0.5	0.0
128	0	10.76	11.22	11.49	11.37	11.42	0.0		
DFT-s-OFDM QPSK	1	1	10.95	11.05	11.35	11.41	11.49	0	0.0
	1	67	10.88	11.02	11.35	11.45	11.46		0.0
	1	131	10.82	11.16	11.50	11.44	11.49		0.0
	64	0	10.81	11.19	11.48	11.43	11.50	0-1	0.0
	64	35	10.82	11.12	11.42	11.42	11.48	0	0.0
	64	69	10.77	11.21	11.50	11.38	11.46	0-1	0.0
128	0	10.74	11.19	11.49	11.35	11.43	0.0		
DFT-s-OFDM 16QAM	1	1	10.86	11.07	11.31	11.46	11.50	0-1	0.0
CP-OFDM QPSK	1	1	10.91	10.70	11.24	11.44	11.49	0-1.5	0.0

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**Table F-27**  
**NR Band n77 Measured  $P_{Limit}$  for DSI = 2 (Head) - 40 MHz Bandwidth**

NR Band n77 40 MHz Bandwidth										
Modulation	RB Size	RB Offset	Channel						MPR Allowed per 3GPP [dB]	MPR [dB]
			648000 (3720 MHz)	651200 (3768 MHz)	654400 (3816 MHz)	657600 (3864 MHz)	660800 (3912 MHz)	664000 (3960 MHz)		
			Conducted Power [dBm]							
DFT-s-OFDM $\pi/2$ BPSK	1	1	10.75	10.72	11.07	11.50	11.26	11.28	0	0.0
	1	53	10.66	10.83	11.13	11.37	11.30	11.36		0.0
	1	104	10.75	11.00	11.35	11.41	11.25	11.48		0.0
	50	0	10.74	10.99	11.32	11.37	11.16	11.39	0-0.5	0.0
	50	28	10.62	10.84	11.19	11.36	11.15	11.34	0	0.0
	50	56	10.65	10.93	11.22	11.33	11.20	11.36	0-0.5	0.0
	100	0	10.66	10.93	11.24	11.33	11.22	11.39		0.0
DFT-s-OFDM QPSK	1	1	10.67	10.90	11.23	11.40	11.26	11.38	0	0.0
	1	53	10.65	10.84	11.14	11.47	11.23	11.38		0.0
	1	104	10.68	11.09	11.26	11.40	11.29	11.40		0.0
	50	0	10.72	11.00	11.30	11.40	11.20	11.38	0-1	0.0
	50	28	10.66	10.84	11.14	11.34	11.17	11.33	0	0.0
	50	56	10.66	10.99	11.18	11.34	11.22	11.36	0-1	0.0
	100	0	10.69	11.02	11.26	11.38	11.26	11.33		0.0
DFT-s-OFDM 16QAM	1	1	10.70	11.00	11.09	11.43	11.29	11.38	0-1	0.0
CP-OFDM QPSK	1	1	10.73	10.57	11.08	11.44	11.44	11.38	0-1.5	0.0




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**Table F-28**  
**NR Band n77 Measured  $P_{Limit}$  for DSI = 2 (Head) - 30 MHz Bandwidth**

NR Band n77 30 MHz Bandwidth										
Modulation	RB Size	RB Offset	Channel						MPR Allowed per 3GPP [dB]	MPR [dB]
			647668 (3715.02 MHz)	651000 (3765 MHz)	654334 (3815.01 MHz)	657666 (3864.99 MHz)	661000 (3915 MHz)	664332 (3964.98 MHz)		
			Conducted Power [dBm]							
DFT-s-OFDM $\pi/2$ BPSK	1	1	10.53	10.67	10.98	11.28	11.22	11.50	0	0.0
	1	39	10.57	10.79	11.16	11.33	11.25	11.46		0.0
	1	76	10.61	11.00	10.96	11.49	11.46	11.50		0.0
	36	0	10.55	10.63	10.99	11.30	11.29	11.50	0-0.5	0.0
	36	21	10.49	10.76	11.07	11.29	11.29	11.49	0	0.0
	36	42	10.53	10.77	11.13	11.34	11.33	11.48	0-0.5	0.0
DFT-s-OFDM QPSK	75	0	10.55	10.76	11.16	11.36	11.29	11.39	0	0.0
	1	1	10.58	10.60	10.92	11.38	11.32	11.50		0.0
	1	39	10.53	10.90	11.18	11.37	11.32	11.50		0.0
	1	76	10.58	11.05	11.24	11.49	11.42	11.48	0-1	0.0
	36	0	10.59	10.65	11.06	11.42	11.30	11.41	0	0.0
	36	21	10.50	10.71	11.03	11.36	11.30	11.45	0	0.0
DFT-s-OFDM 16QAM	36	42	10.51	10.93	11.15	11.38	11.34	11.46	0-1	0.0
	75	0	10.53	10.90	10.89	11.37	11.33	11.33		0.0
CP-OFDM QPSK	1	1	10.56	10.61	11.02	11.31	11.45	11.41	0-1	0.0
CP-OFDM QPSK	1	1	10.66	10.65	11.05	11.29	11.30	11.40	0-1.5	0.0

**Table F-29**  
**NR Band n77 Measured  $P_{Limit}$  for DSI = 2 (Head) - 20 MHz Bandwidth**

NR Band n77 20 MHz Bandwidth										
Modulation	RB Size	RB Offset	Channel						MPR Allowed per 3GPP [dB]	MPR [dB]
			647334 (3710.01 MHz)	650800 (3762 MHz)	654266 (3813.99 MHz)	657734 (3866.01 MHz)	661200 (3918 MHz)	664666 (3969.99 MHz)		
			Conducted Power [dBm]							
DFT-s-OFDM $\pi/2$ BPSK	1	1	10.96	11.00	11.15	11.50	11.24	11.41	0	0.0
	1	26	10.84	10.95	11.29	11.37	11.30	11.50		0.0
	1	49	10.77	11.17	11.39	11.39	11.25	11.50		0.0
	25	0	10.80	10.99	11.34	11.42	11.23	11.39	0-0.5	0.0
	25	13	10.70	10.94	11.25	11.41	11.22	11.37	0	0.0
	25	26	10.71	11.00	11.22	11.34	11.21	11.42	0-0.5	0.0
DFT-s-OFDM QPSK	50	0	10.74	11.04	11.24	11.36	11.25	11.41	0	0.0
	1	1	10.94	10.98	11.28	11.42	11.24	11.44		0.0
	1	26	10.88	11.04	11.35	11.45	11.30	11.48		0.0
	1	49	10.84	11.08	11.36	11.46	11.32	11.50	0-1	0.0
	25	0	10.79	11.09	11.36	11.49	11.26	11.43	0	0.0
	25	13	10.78	10.94	11.28	11.44	11.26	11.40	0	0.0
DFT-s-OFDM 16QAM	25	26	10.74	11.03	11.30	11.41	11.21	11.45	0-1	0.0
	50	0	10.76	11.02	11.29	11.39	11.22	11.44		0.0
CP-OFDM QPSK	1	1	10.88	11.01	11.34	11.50	11.24	11.50	0-1	0.0
CP-OFDM QPSK	1	1	10.89	10.95	11.32	11.49	11.30	11.49	0-1.5	0.0

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Table F-30

NR Band n77 Measured *Plimit* for DSI = 0 (Body-worn, or Phablet with grip sensor inactive), or DSI = 1 (Phablet with grip sensor active) and/or DSI = 4 (Earjack Active) - 90 MHz Bandwidth

NR Band n77 90 MHz Bandwidth							
Modulation	RB Size	RB Offset	649668 (3745.02 MHz)	656000 (3840 MHz)	662332 (3934.98 MHz)	MPR Allowed per 3GPP [dB]	MPR [dB]
			Conducted Power [dBm]				
DFT-s-OFDM $\pi/2$ BPSK	1	1	17.92	18.19	18.66	0	0.0
	1	123	18.16	18.80	19.15		0.0
	1	243	18.10	18.84	18.80		0.0
	120	0	17.60	18.12	18.42	0-0.5	0.5
	120	63	18.12	18.77	19.04	0	0.0
	120	125	17.63	18.41	18.46	0-0.5	0.5
	243	0	17.65	18.25	18.47		0.5
DFT-s-OFDM QPSK	1	1	17.94	18.25	18.54	0	0.0
	1	123	18.12	18.87	19.04		0.0
	1	243	18.10	18.85	18.60		0.0
	120	0	17.17	17.76	17.92	0-1	1.0
	120	63	18.20	18.94	19.03	0	0.0
	120	125	17.16	18.06	17.97	0-1	1.0
	243	0	17.18	17.88	17.90		1.0
DFT-s-OFDM 16QAM	1	1	17.05	17.40	17.75	0-1	1.0
CP-OFDM QPSK	1	1	16.67	16.92	17.16	0-1.5	1.5




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Table F-31

NR Band n77 Measured *Plimit* for DSI = 0 (Body-worn, or Phablet with grip sensor inactive), or DSI = 1 (Phablet with grip sensor active) and/or DSI = 4 (Earjack Active) - 80 MHz Bandwidth

NR Band n77 80 MHz Bandwidth							
Modulation	RB Size	RB Offset	Channel			MPR Allowed per 3GPP [dB]	MPR [dB]
			649334 (3740.01 MHz)	656000 (3840 MHz)	662666 (3939.99 MHz)		
			Conducted Power [dBm]				
DFT-s-OFDM $\pi/2$ BPSK	1	1	17.79	18.50	18.92	0	0.0
	1	109	18.00	18.88	19.27		0.0
	1	215	18.03	19.00	18.95		0.0
	108	0	17.60	18.29	18.62	0-0.5	0.5
	108	55	18.09	18.95	19.20	0	0.0
	108	109	17.62	18.58	18.60	0-0.5	0.5
	216	0	17.64	18.43	18.65		0.5
DFT-s-OFDM QPSK	1	1	18.02	18.60	19.03	0	0.0
	1	109	18.06	19.12	19.30		0.0
	1	215	18.07	19.10	18.95		0.0
	108	0	17.16	17.98	17.66	0-1	1.0
	108	55	18.16	19.07	18.84	0	0.0
	108	109	17.18	18.22	17.80	0-1	1.0
	216	0	17.16	18.04	17.88		1.0
DFT-s-OFDM 16QAM	1	1	17.11	17.76	17.85	0-1	1.0
CP-OFDM QPSK	1	1	16.66	17.33	17.27	0-1.5	1.5




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Table F-32

NR Band n77 Measured *Plimit* for DSI = 0 (Body-worn, or Phablet with grip sensor inactive), or DSI = 1 (Phablet with grip sensor active) and/or DSI = 4 (Earjack Active) - 70 MHz Bandwidth

NR Band n77 70 MHz Bandwidth								
Modulation	RB Size	RB Offset	649000 (3735 MHz)	653666 (3804.99 MHz)	658334 (3875.01 MHz)	663000 (3945 MHz)	MPR Allowed per 3GPP [dB]	MPR [dB]
			Conducted Power [dBm]					
DFT-s-OFDM $\pi/2$ BPSK	1	1	17.60	18.09	18.80	18.77	0	0.0
	1	95	17.87	18.69	19.19	19.14		0.0
	1	187	17.94	18.85	19.11	18.83		0.0
	90	0	17.41	17.89	18.54	18.49	0-0.5	0.5
	90	50	17.97	18.71	19.10	18.96	0	0.0
	90	99	17.46	18.41	18.60	18.38	0-0.5	0.5
	180	0	17.48	18.16	18.59	18.45		0.5
DFT-s-OFDM QPSK	1	1	17.79	18.21	18.88	19.05	0	0.0
	1	95	18.07	18.80	18.66	19.18		0.0
	1	187	18.04	18.98	18.64	18.95		0.0
	90	0	17.10	17.57	17.72	18.11	0-1	1.0
	90	50	18.12	18.82	18.85	19.14	0	0.0
	90	99	17.12	18.04	17.89	18.12	0-1	1.0
	180	0	17.14	17.79	17.88	18.15		1.0
DFT-s-OFDM 16QAM	1	1	17.10	17.27	17.67	18.07	0-1	1.0
CP-OFDM QPSK	1	1	16.60	16.79	17.27	17.60	0-1.5	1.5




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NR Band n77 Measured *Plimit* for DSI = 0 (Body-worn, or Phablet with grip sensor inactive), or DSI = 1 (Phablet with grip sensor active) and/or DSI = 4 (Earjack Active) - 60 MHz Bandwidth

NR Band n77 60 MHz Bandwidth								
Modulation	RB Size	RB Offset	Channel				MPR Allowed per 3GPP [dB]	MPR [dB]
			648668 (3730.02 MHz)	653556 (3803.34 MHz)	658444 (3876.66 MHz)	663332 (3949.98 MHz)		
			Conducted Power [dBm]					
DFT-s-OFDM $\pi/2$ BPSK	1	1	17.92	18.19	19.07	19.10	0	0.0
	1	81	18.15	18.62	19.22	19.25		0.0
	1	160	18.27	18.92	19.25	19.06		0.0
	81	0	17.59	17.90	18.59	18.68	0-0.5	0.5
	81	41	18.15	18.67	19.11	19.11	0	0.0
	81	81	17.63	18.37	18.61	18.50	0-0.5	0.5
	162	0	17.55	18.18	18.58	18.60		0.5
DFT-s-OFDM QPSK	1	1	17.97	18.37	19.00	19.17	0	0.0
	1	81	18.16	18.69	19.24	19.15		0.0
	1	160	18.13	19.01	19.17	19.01		0.0
	81	0	17.10	17.51	18.07	18.21	0-1	1.0
	81	41	18.16	18.76	19.14	19.21	0	0.0
	81	81	17.17	17.93	18.22	18.16	0-1	1.0
	162	0	17.13	17.79	18.20	18.16		1.0
DFT-s-OFDM 16QAM	1	1	17.02	17.51	18.10	18.24	0-1	1.0
CP-OFDM QPSK	1	1	16.59	17.11	17.65	17.75	0-1.5	1.5




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Table F-34

NR Band n77 Measured *Plimit* for DSI = 0 (Body-worn, or Phablet with grip sensor inactive), or DSI = 1 (Phablet with grip sensor active) and/or DSI = 4 (Earjack Active) - 50 MHz Bandwidth

NR Band n77 50 MHz Bandwidth									
Modulation	RB Size	RB Offset	Channel					MPR Allowed per 3GPP [dB]	MPR [dB]
			648334 (3725.01 MHz)	652166 (3782.49 MHz)	656000 (3840 MHz)	659834 (3897.51 MHz)	663666 (3954.99 MHz)		
			Conducted Power [dBm]						
DFT-s-OFDM $\pi/2$ BPSK	1	1	18.16	18.37	18.88	19.15	19.21	0	0.0
	1	67	18.42	18.76	19.19	19.23	19.29		0.0
	1	131	18.16	19.00	19.37	19.36	19.43		0.0
	64	0	17.81	18.10	18.70	18.77	18.78	0-0.5	0.5
	64	35	18.40	18.77	19.26	19.32	19.31	0	0.0
	64	69	17.82	18.34	18.86	18.80	18.86	0-0.5	0.5
	128	0	17.84	18.25	18.75	18.79	18.82		0.5
DFT-s-OFDM QPSK	1	1	18.19	18.46	18.94	19.16	19.32	0	0.0
	1	67	18.45	18.77	19.28	19.25	19.31		0.0
	1	131	18.37	19.08	19.42	19.38	19.40		0.0
	64	0	17.40	17.67	18.33	18.35	18.33	0-1	1.0
	64	35	18.53	18.87	19.38	19.40	19.41	0	0.0
	64	69	17.48	17.93	18.45	18.43	18.46	0-1	1.0
	128	0	17.41	17.86	18.36	18.37	18.43		1.0
DFT-s-OFDM 16QAM	1	1	17.69	17.89	18.32	18.41	18.49	0-1	1.0
CP-OFDM QPSK	1	1	16.82	17.08	17.61	17.75	17.97	0-1.5	1.5




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NR Band n77 Measured *Plimit* for DSI = 0 (Body-worn, or Phablet with grip sensor inactive), or DSI = 1 (Phablet with grip sensor active) and/or DSI = 4 (Earjack Active) - 40 MHz Bandwidth

NR Band n77 40 MHz Bandwidth										
Modulation	RB Size	RB Offset	Channel						MPR Allowed per 3GPP [dB]	MPR [dB]
			648000 (3720 MHz)	651200 (3768 MHz)	654400 (3816 MHz)	657600 (3864 MHz)	660800 (3912 MHz)	664000 (3960 MHz)		
			Conducted Power [dBm]							
DFT-s-OFDM $\pi/2$ BPSK	1	1	18.40	18.51	19.08	19.24	19.34	19.38	0	0.0
	1	53	18.55	18.58	19.14	19.24	19.30	19.19		0.0
	1	104	18.59	18.83	19.38	19.31	19.45	19.43		0.0
	50	0	17.98	18.06	18.49	18.78	18.79	18.81	0-0.5	0.5
	50	28	18.53	18.57	19.10	19.30	19.28	19.23	0	0.0
	50	56	18.04	18.31	18.78	18.84	18.88	18.80	0-0.5	0.5
DFT-s-OFDM QPSK	100	0	17.97	18.17	18.54	18.85	18.87	18.74		0.5
	1	1	18.42	18.65	18.95	19.36	19.44	19.37	0	0.0
	1	53	18.57	18.57	19.11	19.28	19.43	19.13		0.0
	1	104	18.33	18.93	19.34	19.44	19.48	19.42		0.0
	50	0	17.28	17.62	18.05	18.37	18.44	18.37	0-1	1.0
	50	28	18.36	18.71	19.22	19.32	19.45	19.28	0	0.0
DFT-s-OFDM 16QAM	50	56	17.43	17.92	18.33	18.39	18.43	18.32	0-1	1.0
	100	0	17.43	17.74	18.18	18.41	18.44	18.36		1.0
CP-OFDM QPSK	1	1	17.62	17.93	18.43	18.49	18.48	18.49	0-1	1.0
CP-OFDM QPSK	1	1	16.94	17.25	17.51	17.97	17.91	17.93	0-1.5	1.5




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NR Band n77 Measured *Plimit* for DSI = 0 (Body-worn, or Phablet with grip sensor inactive), or DSI = 1 (Phablet with grip sensor active) and/or DSI = 4 (Earjack Active) - 30 MHz Bandwidth

NR Band n77 30 MHz Bandwidth										
Modulation	RB Size	RB Offset	Channel						MPR Allowed per 3GPP [dB]	MPR [dB]
			647668 (3715.02 MHz)	651000 (3765 MHz)	654334 (3815.01 MHz)	657666 (3864.99 MHz)	661000 (3915 MHz)	664332 (3964.98 MHz)		
			Conducted Power [dBm]							
DFT-s-OFDM $\pi/2$ BPSK	1	1	18.25	18.49	18.78	19.18	19.07	18.90	0	0.0
	1	39	18.34	18.48	18.97	19.17	19.15	18.86		0.0
	1	76	18.46	18.71	19.38	19.26	19.28	18.99		0.0
	36	0	17.84	17.99	18.40	18.69	18.72	18.49	0-0.5	0.5
	36	21	18.43	18.55	19.01	19.23	19.20	18.90	0	0.0
	36	42	17.98	18.23	18.65	18.79	18.80	18.63	0-0.5	0.5
	75	0	17.95	18.07	18.50	18.75	18.75	18.52		0.5
DFT-s-OFDM QPSK	1	1	17.98	18.48	18.90	19.29	19.16	19.00	0	0.0
	1	39	18.18	18.43	18.88	19.19	19.22	18.94		0.0
	1	76	18.42	18.87	19.17	19.41	19.31	19.12		0.0
	36	0	17.26	17.60	17.94	18.28	18.22	18.03	0-1	1.0
	36	21	18.28	18.62	19.10	19.34	19.31	19.02	0	0.0
	36	42	17.40	17.83	18.16	18.35	18.36	18.16	0-1	1.0
	75	0	17.32	17.68	18.06	18.32	18.30	18.07		1.0
DFT-s-OFDM 16QAM	1	1	17.68	17.89	18.22	18.49	18.43	18.46	0-1	1.0
CP-OFDM QPSK	1	1	16.87	17.17	17.44	17.77	17.88	17.85	0-1.5	1.5







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NR Band n77 Measured *Plimit* for DSI = 0 (Body-worn, or Phablet with grip sensor inactive), or DSI = 1 (Phablet with grip sensor active) and/or DSI = 4 (Earjack Active) - 20 MHz Bandwidth




NR Band n77 20 MHz Bandwidth										
Modulation	RB Size	RB Offset	Channel						MPR Allowed per 3GPP [dB]	MPR [dB]
			647334 (3710.01 MHz)	650800 (3762 MHz)	654266 (3813.99 MHz)	657734 (3866.01 MHz)	661200 (3918 MHz)	664666 (3969.99 MHz)		
			Conducted Power [dBm]							
DFT-s-OFDM $\pi/2$ BPSK	1	1	18.29	18.26	18.28	18.71	18.82	19.00	0	0.0
	1	26	18.30	18.26	18.35	18.76	18.92	18.93		0.0
	1	49	18.54	18.42	18.42	18.85	18.98	18.94		0.0
	25	0	17.81	17.91	18.08	18.32	18.48	18.46	0-0.5	0.5
	25	13	18.37	18.18	18.52	18.74	18.98	19.07	0	0.0
	25	26	17.93	17.72	18.04	18.31	18.50	18.52	0-0.5	0.5
DFT-s-OFDM QPSK	50	0	17.97	17.82	18.02	18.28	18.43	18.55	0-0.5	0.5
	1	1	18.45	18.28	18.65	18.85	18.97	19.12	0	0.0
	1	26	18.44	18.34	18.52	18.80	19.03	19.00		0.0
	1	49	18.64	18.45	18.65	18.92	19.08	19.15		0.0
	25	0	17.48	17.49	17.70	17.84	18.02	18.03	0-1	1.0
	25	13	18.44	18.51	18.64	18.79	19.01	19.11	0	0.0
DFT-s-OFDM 16QAM	25	26	17.59	17.52	17.69	17.85	18.02	18.04	0-1	1.0
	50	0	17.52	17.54	17.67	17.85	18.04	18.10		1.0
CP-OFDM QPSK	1	1	17.89	17.59	17.86	17.94	18.07	18.33	0-1	1.0
CP-OFDM QPSK	1	1	16.97	17.02	17.35	17.40	17.60	17.53	0-1.5	1.5

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**Table F-38**  
**NR Band n77 Measured  $P_{Limit}$  for DSI = 3 (Hotspot Mode) - 90 MHz Bandwidth**

NR Band n77 90 MHz Bandwidth							
Modulation	RB Size	RB Offset	649668 (3745.02 MHz)	656000 (3840 MHz)	662332 (3934.98 MHz)	MPR Allowed per 3GPP [dB]	MPR [dB]
			Conducted Power [dBm]				
DFT-s-OFDM $\pi/2$ BPSK	1	1	15.89	15.95	16.23	0	0.0
	1	123	16.07	16.39	17.02		0.0
	1	243	15.82	16.27	16.91		0.0
	120	0	16.09	16.30	16.79	0-0.5	0.0
	120	63	16.06	16.33	16.99	0	0.0
	120	125	15.98	16.48	17.05	0-0.5	0.0
	243	0	15.79	16.40	16.90		0.0
DFT-s-OFDM QPSK	1	1	15.77	16.19	16.44	0	0.0
	1	123	15.97	16.48	17.10		0.0
	1	243	15.73	16.44	16.92		0.0
	120	0	16.07	16.41	16.81	0-1	0.0
	120	63	16.06	16.44	17.01	0	0.0
	120	125	16.00	16.54	17.03	0-1	0.0
	243	0	16.06	16.45	16.97		0.0
DFT-s-OFDM 16QAM	1	1	16.13	16.29	16.60	0-1	0.0
CP-OFDM QPSK	1	1	15.85	16.30	16.47	0-1.5	0.0

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**Table F-39**  
**NR Band n77 Measured  $P_{Limit}$  for DSI = 3 (Hotspot Mode) - 80 MHz Bandwidth**

NR Band n77 80 MHz Bandwidth							
Modulation	RB Size	RB Offset	Channel			MPR Allowed per 3GPP [dB]	MPR [dB]
			649334 (3740.01 MHz)	656000 (3840 MHz)	662666 (3939.99 MHz)		
			Conducted Power [dBm]				
DFT-s-OFDM $\pi/2$ BPSK	1	1	16.00	16.19	16.66	0	0.0
	1	109	16.04	16.49	17.14		0.0
	1	215	15.91	16.47	17.03		0.0
	108	0	16.10	16.47	16.95	0-0.5	0.0
	108	55	16.12	16.51	17.08	0	0.0
	108	109	16.08	16.62	16.86	0-0.5	0.0
	216	0	16.07	16.52	16.92		0.0
DFT-s-OFDM QPSK	1	1	16.11	16.31	16.54	0	0.0
	1	109	16.20	16.59	17.01		0.0
	1	215	15.96	16.73	16.84		0.0
	108	0	16.17	16.67	16.78	0-1	0.0
	108	55	16.20	16.67	16.99	0	0.0
	108	109	16.16	16.80	17.00	0-1	0.0
	216	0	16.22	16.72	16.89		0.0
DFT-s-OFDM 16QAM	1	1	16.34	16.77	16.75	0-1	0.0
CP-OFDM QPSK	1	1	16.23	16.58	16.62	0-1.5	0.0

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**Table F-40**  
**NR Band n77 Measured  $P_{Limit}$  for DSI = 3 (Hotspot Mode) - 70 MHz Bandwidth**

NR Band n77 70 MHz Bandwidth								
Modulation	RB Size	RB Offset	649000 (3735 MHz)	653666 (3804.99 MHz)	658334 (3875.01 MHz)	663000 (3945 MHz)	MPR Allowed per 3GPP [dB]	MPR [dB]
			Conducted Power [dBm]					
DFT-s-OFDM $\pi/2$ BPSK	1	1	16.01	16.04	16.22	16.63	0	0.0
	1	95	16.12	16.36	16.60	16.96		0.0
	1	187	15.98	16.40	16.73	16.85		0.0
	90	0	16.17	16.21	16.57	16.91	0-0.5	0.0
	90	50	16.19	16.38	16.63	17.01	0	0.0
	90	99	16.09	16.53	16.70	17.04	0-0.5	0.0
	180	0	16.11	16.29	16.65	16.96		0.0
DFT-s-OFDM QPSK	1	1	16.13	16.12	16.43	16.78	0	0.0
	1	95	16.18	16.49	16.70	17.14		0.0
	1	187	16.11	16.53	16.76	16.94		0.0
	90	0	16.19	16.36	16.63	17.00	0-1	0.0
	90	50	16.23	16.48	16.72	17.14	0	0.0
	90	99	16.14	16.66	16.77	17.15	0-1	0.0
	180	0	16.23	16.48	16.78	17.09		0.0
DFT-s-OFDM 16QAM	1	1	16.28	16.06	16.33	16.74	0-1	0.0
CP-OFDM QPSK	1	1	16.22	16.30	16.62	16.82	0-1.5	0.0

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**Table F-41**  
**NR Band n77 Measured  $P_{Limit}$  for DSI = 3 (Hotspot Mode) - 60 MHz Bandwidth**

NR Band n77 60 MHz Bandwidth								
Modulation	RB Size	RB Offset	Channel				MPR Allowed per 3GPP [dB]	MPR [dB]
			648668 (3730.02 MHz)	653556 (3803.34 MHz)	658444 (3876.66 MHz)	663332 (3949.98 MHz)		
			Conducted Power [dBm]					
DFT-s-OFDM $\pi/2$ BPSK	1	1	15.88	16.00	16.34	16.69	0	0.0
	1	81	16.05	16.35	16.53	16.92		0.0
	1	160	16.03	16.38	16.69	16.85		0.0
	81	0	16.10	16.17	16.51	16.91	0-0.5	0.0
	81	41	16.21	16.37	16.67	16.95	0	0.0
	81	81	16.11	16.47	16.68	16.94	0-0.5	0.0
	162	0	16.16	16.43	16.64	16.92		0.0
DFT-s-OFDM QPSK	1	1	15.82	16.29	16.54	16.89	0	0.0
	1	81	16.06	16.46	16.71	17.09		0.0
	1	160	16.00	16.57	16.86	17.01		0.0
	81	0	16.05	16.31	16.60	17.00	0-1	0.0
	81	41	16.08	16.49	16.70	17.01	0	0.0
	81	81	16.08	16.60	16.79	17.04	0-1	0.0
	162	0	16.10	16.44	16.70	17.02		0.0
DFT-s-OFDM 16QAM	1	1	15.83	16.18	16.41	16.66	0-1	0.0
CP-OFDM QPSK	1	1	16.07	16.20	16.72	17.05	0-1.5	0.0

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**Table F-42**  
**NR Band n77 Measured  $P_{Limit}$  for DSI = 3 (Hotspot Mode) - 50 MHz Bandwidth**

NR Band n77 50 MHz Bandwidth									
Modulation	RB Size	RB Offset	Channel					MPR Allowed per 3GPP [dB]	MPR [dB]
			648334 (3725.01 MHz)	652166 (3782.49 MHz)	656000 (3840 MHz)	659834 (3897.51 MHz)	663666 (3954.99 MHz)		
			Conducted Power [dBm]						
DFT-s-OFDM $\pi/2$ BPSK	1	1	16.21	16.33	16.48	16.83	17.15	0	0.0
	1	67	16.30	16.56	16.74	17.01	17.32		0.0
	1	131	16.13	16.66	16.92	17.29	17.51		0.0
	64	0	16.37	16.49	16.80	17.00	17.17	0-0.5	0.0
	64	35	16.46	16.64	16.89	17.07	17.38	0	0.0
	64	69	16.49	16.59	17.00	17.17	17.43	0-0.5	0.0
	128	0	16.50	16.60	16.86	17.09	17.38		0.0
DFT-s-OFDM QPSK	1	1	16.48	16.52	16.71	16.95	17.26	0	0.0
	1	67	16.56	16.61	16.92	17.09	17.36		0.0
	1	131	16.40	16.74	17.05	17.32	17.65		0.0
	64	0	16.54	16.57	16.91	17.04	17.30	0-1	0.0
	64	35	16.59	16.68	16.98	17.14	17.36	0	0.0
	64	69	16.46	16.66	17.07	17.21	17.52	0-1	0.0
	128	0	16.56	16.68	16.95	17.13	17.39		0.0
DFT-s-OFDM 16QAM	1	1	16.17	16.34	16.60	16.77	17.05	0-1	0.0
CP-OFDM QPSK	1	1	16.33	16.43	16.74	17.06	17.22	0-1.5	0.0

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**Table F-43**  
**NR Band n77 Measured  $P_{Limit}$  for DSI = 3 (Hotspot Mode) - 40 MHz Bandwidth**

NR Band n77 40 MHz Bandwidth										
Modulation	RB Size	RB Offset	Channel						MPR Allowed per 3GPP [dB]	MPR [dB]
			648000 (3720 MHz)	651200 (3768 MHz)	654400 (3816 MHz)	657600 (3864 MHz)	660800 (3912 MHz)	664000 (3960 MHz)		
			Conducted Power [dBm]							
DFT-s-OFDM $\pi/2$ BPSK	1	1	15.93	16.09	16.38	16.89	16.72	17.20	0	0.0
	1	53	16.06	16.11	16.51	16.77	16.80	17.10		0.0
	1	104	16.22	16.37	16.75	16.96	17.07	17.49		0.0
	50	0	16.16	16.20	16.52	16.84	16.79	17.21	0-0.5	0.0
	50	28	16.19	16.25	16.80	16.89	16.87	17.13	0	0.0
	50	56	16.23	16.38	16.83	16.94	17.05	17.25	0-0.5	0.0
DFT-s-OFDM QPSK	100	0	16.25	16.34	16.72	16.87	16.94	17.20		0.0
	1	1	16.20	16.37	16.78	16.94	16.96	17.24	0	0.0
	1	53	16.31	16.41	16.86	16.90	17.02	17.12		0.0
	1	104	16.43	16.60	17.01	17.11	17.29	17.48		0.0
	50	0	16.24	16.37	16.70	16.91	16.92	17.27	0-1	0.0
	50	28	16.35	16.09	16.77	16.94	17.03	17.18	0	0.0
DFT-s-OFDM 16QAM	50	56	16.34	16.31	16.86	17.01	17.16	17.39	0-1	0.0
	100	0	16.27	16.26	16.80	16.99	17.06	17.32		0.0
CP-OFDM QPSK	1	1	16.20	16.11	16.66	16.82	17.09	17.38	0-1	0.0
CP-OFDM QPSK	1	1	16.21	16.42	16.90	16.93	17.16	17.56	0-1.5	0.0

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**Table F-44**  
**NR Band n77 Measured  $P_{Limit}$  for DSI = 3 (Hotspot Mode) - 30 MHz Bandwidth**

NR Band n77 30 MHz Bandwidth										
Modulation	RB Size	RB Offset	Channel						MPR Allowed per 3GPP [dB]	MPR [dB]
			647668 (3715.02 MHz)	651000 (3765 MHz)	654334 (3815.01 MHz)	657666 (3864.99 MHz)	661000 (3915 MHz)	664332 (3964.98 MHz)		
			Conducted Power [dBm]							
DFT-s-OFDM $\pi/2$ BPSK	1	1	15.88	16.39	16.61	16.80	16.58	17.17	0	0.0
	1	39	16.18	16.45	16.67	16.82	16.83	17.11		0.0
	1	76	16.21	16.67	16.86	16.98	17.13	17.33		0.0
	36	0	16.15	16.41	16.60	16.76	16.83	17.12	0-0.5	0.0
	36	21	16.23	16.43	16.76	16.84	16.96	17.27	0	0.0
	36	42	16.28	16.63	16.79	16.91	17.05	17.37	0-0.5	0.0
	75	0	16.29	16.45	16.67	16.91	16.98	17.32		0.0
DFT-s-OFDM QPSK	1	1	16.12	16.49	16.70	16.95	16.88	17.44	0	0.0
	1	39	16.26	16.43	16.74	16.90	16.84	17.20		0.0
	1	76	16.41	16.68	16.94	17.01	17.20	17.39		0.0
	36	0	16.26	16.47	16.65	16.83	16.92	17.16	0-1	0.0
	36	21	16.37	16.48	16.79	16.79	17.04	17.25	0	0.0
	36	42	16.45	16.72	16.83	16.89	17.13	17.43	0-1	0.0
	75	0	16.33	16.51	16.69	16.90	17.03	17.33		0.0
DFT-s-OFDM 16QAM	1	1	16.32	16.57	16.72	17.01	17.08	17.47	0-1	0.0
CP-OFDM QPSK	1	1	16.36	16.61	16.79	17.03	17.01	17.62	0-1.5	0.0

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**Table F-45**  
**NR Band n77 Measured  $P_{Limit}$  for DSI = 3 (Hotspot Mode) - 20 MHz Bandwidth**




NR Band n77 20 MHz Bandwidth										
Modulation	RB Size	RB Offset	Channel						MPR Allowed per 3GPP [dB]	MPR [dB]
			647334 (3710.01 MHz)	650800 (3762 MHz)	654266 (3813.99 MHz)	657734 (3866.01 MHz)	661200 (3918 MHz)	664666 (3969.99 MHz)		
			Conducted Power [dBm]							
DFT-s-OFDM $\pi/2$ BPSK	1	1	16.19	16.63	16.80	17.09	16.83	17.34	0	0.0
	1	26	16.32	16.69	16.84	17.00	16.97	17.42		0.0
	1	49	16.59	16.80	17.00	17.14	17.25	17.53		0.0
	25	0	16.34	16.70	16.91	17.03	17.03	17.35	0-0.5	0.0
	25	13	16.44	16.65	16.88	16.99	17.11	17.47	0	0.0
	25	26	16.49	16.70	16.90	17.02	17.14	17.48	0-0.5	0.0
DFT-s-OFDM QPSK	50	0	16.43	16.68	16.93	17.00	17.12	17.52	0	0.0
	1	1	16.42	16.66	16.90	17.03	17.15	17.54		0.0
	1	26	16.50	16.71	16.95	17.00	17.13	17.51		0.0
	1	49	16.59	16.78	17.04	17.11	17.33	17.52	0	0.0
	25	0	16.40	16.75	16.99	17.03	17.22	17.50	0-1	0.0
	25	13	16.48	16.68	16.93	17.02	17.23	17.51	0	0.0
DFT-s-OFDM 16QAM	25	26	16.61	16.73	16.95	17.05	17.31	17.54	0-1	0.0
	50	0	16.50	16.77	17.00	17.05	17.29	17.58		0.0
CP-OFDM QPSK	1	1	16.58	16.76	17.03	17.28	17.29	17.49	0-1	0.0
CP-OFDM QPSK	1	1	16.59	16.81	17.10	17.27	17.35	17.64	0-1.5	0.0

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**Table F-46**  
**NR Band n77 Measured  $P_{Limit}$  for DSI = 2 (Head) - 90 MHz Bandwidth**

NR Band n77 90 MHz Bandwidth							
Modulation	RB Size	RB Offset	649668 (3745.02 MHz)	656000 (3840 MHz)	662332 (3934.98 MHz)	MPR Allowed per 3GPP [dB]	MPR [dB]
			Conducted Power [dBm]				
DFT-s-OFDM $\pi/2$ BPSK	1	1	12.57	12.29	12.72	0	0.0
	1	123	12.65	12.72	13.29		0.0
	1	243	12.32	12.69	12.99		0.0
	120	0	12.86	12.73	13.12	0-0.5	0.0
	120	63	12.76	12.81	13.28	0	0.0
	120	125	12.58	12.87	13.30	0-0.5	0.0
	243	0	12.77	12.75	13.19		0.0
DFT-s-OFDM QPSK	1	1	12.84	12.61	12.89	0	0.0
	1	123	12.82	12.85	13.39		0.0
	1	243	12.47	12.82	13.11		0.0
	120	0	12.92	12.77	13.17	0-1	0.0
	120	63	12.83	12.80	13.33	0	0.0
	120	125	12.68	12.89	13.36	0-1	0.0
	243	0	12.87	12.79	13.20		0.0
DFT-s-OFDM 16QAM	1	1	12.86	12.58	12.79	0-1	0.0
CP-OFDM QPSK	1	1	12.74	12.57	12.74	0-1.5	0.0

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**Table F-47**  
**NR Band n77 Measured  $P_{Limit}$  for DSI = 2 (Head) - 80 MHz Bandwidth**

NR Band n77 80 MHz Bandwidth							
Modulation	RB Size	RB Offset	Channel			MPR Allowed per 3GPP [dB]	MPR [dB]
			649334 (3740.01 MHz)	656000 (3840 MHz)	662666 (3939.99 MHz)		
			Conducted Power [dBm]				
DFT-s-OFDM $\pi/2$ BPSK	1	1	12.83	12.55	12.86	0	0.0
	1	109	12.75	12.84	13.30		0.0
	1	215	12.44	12.81	13.05		0.0
	108	0	12.90	12.83	13.15	0-0.5	0.0
	108	55	12.86	12.96	13.31	0	0.0
	108	109	12.73	12.96	13.27	0-0.5	0.0
	216	0	12.80	12.83	13.17		0.0
DFT-s-OFDM QPSK	1	1	12.89	12.66	13.02	0	0.0
	1	109	12.85	12.87	13.40		0.0
	1	215	12.49	12.91	13.10		0.0
	108	0	12.96	12.83	13.24	0-1	0.0
	108	55	12.83	12.94	13.34	0	0.0
	108	109	12.73	12.99	13.36	0-1	0.0
	216	0	12.85	12.91	13.21		0.0
DFT-s-OFDM 16QAM	1	1	13.03	12.61	13.04	0-1	0.0
CP-OFDM QPSK	1	1	12.94	12.64	12.95	0-1.5	0.0

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**Table F-48**  
**NR Band n77 Measured  $P_{Limit}$  for DSI = 2 (Head) - 70 MHz Bandwidth**

NR Band n77 70 MHz Bandwidth								
Modulation	RB Size	RB Offset	649000 (3735 MHz)	653666 (3804.99 MHz)	658334 (3875.01 MHz)	663000 (3945 MHz)	MPR Allowed per 3GPP [dB]	MPR [dB]
			Conducted Power [dBm]					
DFT-s-OFDM $\pi/2$ BPSK	1	1	12.62	12.53	12.69	12.95	0	0.0
	1	95	12.70	12.74	12.93	13.35		0.0
	1	187	12.46	12.68	13.02	13.02		0.0
	90	0	12.82	12.60	12.78	13.16	0-0.5	0.0
	90	50	12.77	12.72	12.90	13.29	0	0.0
	90	99	12.67	12.79	13.06	13.26	0-0.5	0.0
	180	0	12.75	12.71	12.89	13.21		0.0
DFT-s-OFDM QPSK	1	1	12.84	12.62	12.85	13.08	0	0.0
	1	95	12.83	12.73	12.99	13.52		0.0
	1	187	12.64	12.76	13.11	13.13		0.0
	90	0	12.84	12.65	12.90	13.27	0-1	0.0
	90	50	12.82	12.74	12.97	13.32	0	0.0
	90	99	12.73	12.81	13.14	13.30	0-1	0.0
	180	0	12.83	12.71	12.95	13.26		0.0
DFT-s-OFDM 16QAM	1	1	12.75	12.77	12.89	13.20	0-1	0.0
CP-OFDM QPSK	1	1	12.82	12.64	12.73	13.05	0-1.5	0.0

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**Table F-49**  
**NR Band n77 Measured  $P_{Limit}$  for DSI = 2 (Head) - 60 MHz Bandwidth**

NR Band n77 60 MHz Bandwidth								
Modulation	RB Size	RB Offset	Channel				MPR Allowed per 3GPP [dB]	MPR [dB]
			648668 (3730.02 MHz)	653556 (3803.34 MHz)	658444 (3876.66 MHz)	663332 (3949.98 MHz)		
			Conducted Power [dBm]					
DFT-s-OFDM $\pi/2$ BPSK	1	1	12.57	12.53	12.48	12.93	0	0.0
	1	81	12.83	12.65	12.68	13.31		0.0
	1	160	12.61	12.74	12.82	12.94		0.0
	81	0	12.82	12.62	12.67	13.16	0-0.5	0.0
	81	41	12.84	12.72	12.76	13.19	0	0.0
	81	81	12.71	12.80	12.90	13.17	0-0.5	0.0
	162	0	12.80	12.75	12.79	13.07		0.0
DFT-s-OFDM QPSK	1	1	12.71	12.72	12.78	13.05	0	0.0
	1	81	12.85	12.80	12.92	13.37		0.0
	1	160	12.72	12.86	13.06	13.04		0.0
	81	0	12.88	12.63	12.84	13.19	0-1	0.0
	81	41	12.82	12.72	12.86	13.33	0	0.0
	81	81	12.74	12.81	13.03	13.19	0-1	0.0
	162	0	12.82	12.75	12.85	13.17		0.0
DFT-s-OFDM 16QAM	1	1	12.71	12.71	12.84	13.15	0-1	0.0
CP-OFDM QPSK	1	1	12.74	12.67	12.88	13.18	0-1.5	0.0

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**Table F-50**  
**NR Band n77 Measured  $P_{Limit}$  for DSI = 2 (Head) - 50 MHz Bandwidth**

NR Band n77 50 MHz Bandwidth									
Modulation	RB Size	RB Offset	Channel					MPR Allowed per 3GPP [dB]	MPR [dB]
			648334 (3725.01 MHz)	652166 (3782.49 MHz)	656000 (3840 MHz)	659834 (3897.51 MHz)	663666 (3954.99 MHz)		
			Conducted Power [dBm]						
DFT-s-OFDM $\pi/2$ BPSK	1	1	12.50	12.60	12.57	12.79	13.29	0	0.0
	1	67	12.69	12.58	12.80	12.95	13.18		0.0
	1	131	12.66	12.70	12.99	13.17	13.35		0.0
	64	0	12.67	12.66	12.87	12.93	13.33	0-0.5	0.0
	64	35	12.75	12.71	12.87	13.02	13.30	0	0.0
	64	69	12.74	12.83	12.98	13.06	13.39	0	0.0
	128	0	12.71	12.72	12.87	13.04	13.33	0-0.5	0.0
DFT-s-OFDM QPSK	1	1	12.58	12.53	12.62	12.80	13.35	0	0.0
	1	67	12.63	12.70	12.81	12.88	13.21		0.0
	1	131	12.64	12.74	12.96	13.15	13.35		0.0
	64	0	12.73	12.81	12.91	13.02	13.40	0-1	0.0
	64	35	12.84	12.80	12.90	13.06	13.35	0	0.0
	64	69	12.84	12.92	13.03	13.09	13.48	0	0.0
	128	0	12.79	12.87	12.91	13.03	13.34	0-1	0.0
DFT-s-OFDM 16QAM	1	1	12.91	12.79	12.88	13.10	13.76	0-1	0.0
CP-OFDM QPSK	1	1	12.75	12.57	12.74	12.89	13.46	0-1.5	0.0

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**Table F-51**  
**NR Band n77 Measured  $P_{Limit}$  for DSI = 2 (Head) - 40 MHz Bandwidth**

NR Band n77 40 MHz Bandwidth										
Modulation	RB Size	RB Offset	Channel						MPR Allowed per 3GPP [dB]	MPR [dB]
			648000 (3720 MHz)	651200 (3768 MHz)	654400 (3816 MHz)	657600 (3864 MHz)	660800 (3912 MHz)	664000 (3960 MHz)		
			Conducted Power [dBm]							
DFT-s-OFDM $\pi/2$ BPSK	1	1	12.49	12.29	12.90	13.00	13.14	13.42	0	0.0
	1	53	12.57	12.81	12.87	12.89	13.12	13.35		0.0
	1	104	12.75	12.84	12.96	13.15	13.34	13.44		0.0
	50	0	12.56	12.70	12.81	12.94	13.11	13.39	0-0.5	0.0
	50	28	12.65	12.84	12.91	12.95	13.15	13.40	0	0.0
	50	56	12.72	12.87	12.90	13.01	13.26	13.42	0-0.5	0.0
	100	0	12.69	12.83	12.92	12.99	13.22	13.41		0.0
DFT-s-OFDM QPSK	1	1	12.54	12.74	12.92	13.04	13.10	13.38	0	0.0
	1	53	12.63	12.82	12.85	12.94	13.09	13.22		0.0
	1	104	12.78	12.89	12.90	13.12	13.30	13.08		0.0
	50	0	12.66	12.73	12.86	13.02	13.20	13.10	0-1	0.0
	50	28	12.72	12.83	12.93	13.02	13.24	13.14	0	0.0
	50	56	12.74	12.90	12.99	13.06	13.34	13.18	0-1	0.0
	100	0	12.75	12.91	12.96	13.07	13.28	13.25		0.0
DFT-s-OFDM 16QAM	1	1	12.78	13.09	13.06	13.36	13.37	13.53	0-1	0.0
CP-OFDM QPSK	1	1	12.62	12.85	13.11	13.15	13.31	13.33	0-1.5	0.0

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**Table F-52**  
**NR Band n77 Measured  $P_{Limit}$  for DSI = 2 (Head) - 30 MHz Bandwidth**

NR Band n77 30 MHz Bandwidth										
Modulation	RB Size	RB Offset	Channel						MPR Allowed per 3GPP [dB]	MPR [dB]
			647668 (3715.02 MHz)	651000 (3765 MHz)	654334 (3815.01 MHz)	657666 (3864.99 MHz)	661000 (3915 MHz)	664332 (3964.98 MHz)		
			Conducted Power [dBm]							
DFT-s-OFDM $\pi/2$ BPSK	1	1	12.39	12.72	12.78	12.86	13.03	12.93	0	0.0
	1	39	12.54	12.78	12.88	12.89	13.19	13.26		0.0
	1	76	12.84	12.92	12.95	13.07	13.31	13.43		0.0
	36	0	12.57	12.71	12.86	12.94	13.10	13.19	0-0.5	0.0
	36	21	12.63	12.84	12.88	12.95	13.20	13.27	0	0.0
	36	42	12.77	12.88	12.92	12.98	13.24	13.27	0-0.5	0.0
	75	0	12.66	12.83	12.89	12.97	13.23	13.36		0.0
DFT-s-OFDM QPSK	1	1	12.55	12.70	12.89	12.94	13.05	12.92	0	0.0
	1	39	12.58	12.75	12.91	12.93	13.13	12.91		0.0
	1	76	12.67	12.90	12.93	13.16	13.21	12.97		0.0
	36	0	12.57	12.78	12.86	13.00	13.18	12.98	0-1	0.0
	36	21	12.70	12.83	13.02	12.97	13.23	13.03	0	0.0
	36	42	12.77	12.91	12.97	13.02	13.26	13.02	0-1	0.0
	75	0	12.74	12.90	12.96	13.00	13.19	13.08		0.0
DFT-s-OFDM 16QAM	1	1	12.80	13.04	13.09	13.21	13.17	13.48	0-1	0.0
CP-OFDM QPSK	1	1	12.70	12.88	13.06	13.20	13.21	13.23	0-1.5	0.0

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**Table F-53**  
**NR Band n77 Measured  $P_{Limit}$  for DSI = 2 (Head) - 20 MHz Bandwidth**

NR Band n77 20 MHz Bandwidth										
Modulation	RB Size	RB Offset	Channel						MPR Allowed per 3GPP [dB]	MPR [dB]
			647334 (3710.01 MHz)	650800 (3762 MHz)	654266 (3813.99 MHz)	657734 (3866.01 MHz)	661200 (3918 MHz)	664666 (3969.99 MHz)		
			Conducted Power [dBm]							
DFT-s-OFDM $\pi/2$ BPSK	1	1	12.63	12.84	12.85	12.70	12.98	13.46	0	0.0
	1	26	12.66	12.75	12.87	12.72	13.12	13.54		0.0
	1	49	12.67	12.90	12.97	12.99	13.27	13.41		0.0
	25	0	12.56	12.84	12.85	12.90	13.13	13.32	0-0.5	0.0
	25	13	12.60	12.77	12.79	12.86	13.12	13.46	0	0.0
	25	26	12.64	12.80	12.82	12.89	13.24	13.43	0-0.5	0.0
	50	0	12.62	12.76	12.89	12.86	13.11	13.50	0	0.0
DFT-s-OFDM QPSK	1	1	12.57	12.89	12.97	13.02	13.21	13.57	0	0.0
	1	26	12.71	12.77	12.96	12.93	13.20	13.55		0.0
	1	49	12.88	12.86	12.99	13.07	13.43	13.51		0.0
	25	0	12.60	12.73	12.84	12.90	13.18	13.43	0-1	0.0
	25	13	12.61	12.69	12.81	12.85	13.16	13.53	0	0.0
	25	26	12.65	12.75	12.88	12.98	13.24	13.50	0-1	0.0
	50	0	12.66	12.78	12.85	12.96	13.23	13.50	0	0.0
DFT-s-OFDM 16QAM	1	1	12.87	13.12	13.19	12.84	12.97	13.29	0-1	0.0
CP-OFDM QPSK	1	1	12.70	12.86	12.93	12.97	13.16	13.60	0-1.5	0.0

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F.1.4 NR Band n77 Antenna D

Table F-54

NR Band n77 Measured *Plimit* for DSI = 0 (Body-worn, or Phablet with grip sensor inactive), or DSI = 1 (Phablet with grip sensor active) and/or DSI = 4 (Earjack Active) - 90 MHz Bandwidth

NR Band n77 90 MHz Bandwidth							
Modulation	RB Size	RB Offset	649668 (3745.02 MHz)	656000 (3840 MHz)	662332 (3934.98 MHz)	MPR Allowed per 3GPP [dB]	MPR [dB]
			Conducted Power [dBm]				
DFT-s-OFDM $\pi/2$ BPSK	1	1	15.53	15.46	15.69	0	0.0
	1	123	15.45	16.14	16.17		0.0
	1	243	15.35	15.92	15.65		0.0
	120	0	15.05	15.46	15.44	0-0.5	0.5
	120	63	15.40	16.16	16.09	0	0.0
	120	125	14.86	15.68	15.45	0-0.5	0.5
	243	0	14.95	15.55	15.47		0.5
DFT-s-OFDM QPSK	1	1	15.55	15.63	15.81	0	0.0
	1	123	15.43	16.24	16.26		0.0
	1	243	15.28	16.02	15.64		0.0
	120	0	14.57	15.06	15.01	0-1	1.0
	120	63	15.53	16.16	16.17	0	0.0
	120	125	14.47	15.23	15.02	0-1	1.0
	243	0	14.59	15.16	15.10		1.0
DFT-s-OFDM 16QAM	1	1	14.87	14.81	14.99	0-1	1.0
CP-OFDM QPSK	1	1	14.26	14.20	14.37	0-1.5	1.5




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Table F-55

NR Band n77 Measured *Plimit* for DSI = 0 (Body-worn, or Phablet with grip sensor inactive), or DSI = 1 (Phablet with grip sensor active) and/or DSI = 4 (Earjack Active) - 80 MHz Bandwidth

NR Band n77 80 MHz Bandwidth							
Modulation	RB Size	RB Offset	Channel			MPR Allowed per 3GPP [dB]	MPR [dB]
			649334 (3740.01 MHz)	656000 (3840 MHz)	662666 (3939.99 MHz)		
			Conducted Power [dBm]				
DFT-s-OFDM $\pi/2$ BPSK	1	1	15.67	15.66	15.93	0	0.0
	1	109	15.49	16.16	16.20		0.0
	1	215	15.44	16.08	15.69		0.0
	108	0	15.20	15.52	15.63	0-0.5	0.5
	108	55	15.57	16.18	16.16	0	0.0
	108	109	14.97	15.77	15.59	0-0.5	0.5
	216	0	15.09	15.58	15.60		0.5
DFT-s-OFDM QPSK	1	1	15.44	15.87	16.04	0	0.0
	1	109	15.54	16.36	16.28		0.0
	1	215	15.47	16.22	15.84		0.0
	108	0	14.71	15.19	15.17	0-1	1.0
	108	55	15.61	16.29	16.24	0	0.0
	108	109	14.58	15.36	15.15	0-1	1.0
	216	0	14.65	15.20	15.12		1.0
DFT-s-OFDM 16QAM	1	1	15.00	15.11	15.21	0-1	1.0
CP-OFDM QPSK	1	1	14.34	14.42	14.65	0-1.5	1.5




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Table F-56

NR Band n77 Measured *Plimit* for DSI = 0 (Body-worn, or Phablet with grip sensor inactive), or DSI = 1 (Phablet with grip sensor active) and/or DSI = 4 (Earjack Active) - 70 MHz Bandwidth

NR Band n77 70 MHz Bandwidth								
Modulation	RB Size	RB Offset	649000 (3735 MHz)	653666 (3804.99 MHz)	658334 (3875.01 MHz)	663000 (3945 MHz)	MPR Allowed per 3GPP [dB]	MPR [dB]
			Conducted Power [dBm]					
DFT-s-OFDM $\pi/2$ BPSK	1	1	15.62	15.38	16.03	15.84	0	0.0
	1	95	15.63	16.04	16.29	16.16		0.0
	1	187	15.51	16.16	16.12	15.74		0.0
	90	0	15.21	15.35	15.74	15.59	0-0.5	0.5
	90	50	15.63	16.03	16.27	16.12	0	0.0
	90	99	15.04	15.75	15.68	15.07	0-0.5	0.5
	180	0	15.18	15.49	15.79	15.24		0.5
DFT-s-OFDM QPSK	1	1	15.77	15.63	15.82	15.74	0	0.0
	1	95	15.70	16.08	16.09	15.97		0.0
	1	187	15.59	16.28	15.93	15.62		0.0
	90	0	14.80	14.85	15.15	14.94	0-1	1.0
	90	50	15.74	16.08	16.21	16.00	0	0.0
	90	99	14.64	15.30	15.15	14.89	0-1	1.0
	180	0	14.77	15.07	15.19	14.96		1.0
DFT-s-OFDM 16QAM	1	1	15.05	14.97	15.28	15.07	0-1	1.0
CP-OFDM QPSK	1	1	14.52	14.27	14.69	14.43	0-1.5	1.5




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Table F-57

NR Band n77 Measured *Plimit* for DSI = 0 (Body-worn, or Phablet with grip sensor inactive), or DSI = 1 (Phablet with grip sensor active) and/or DSI = 4 (Earjack Active) - 60 MHz Bandwidth

NR Band n77 60 MHz Bandwidth								
Modulation	RB Size	RB Offset	Channel				MPR Allowed per 3GPP [dB]	MPR [dB]
			648668 (3730.02 MHz)	653556 (3803.34 MHz)	658444 (3876.66 MHz)	663332 (3949.98 MHz)		
			Conducted Power [dBm]					
DFT-s-OFDM $\pi/2$ BPSK	1	1	15.58	15.53	16.28	15.97	0	0.0
	1	81	15.56	15.76	16.26	16.13		0.0
	1	160	15.48	16.25	16.18	15.87		0.0
	81	0	15.15	15.27	15.75	15.60	0-0.5	0.5
	81	41	15.61	16.01	16.26	16.11	0	0.0
	81	81	15.05	15.69	15.72	15.53	0-0.5	0.5
	162	0	15.11	15.53	15.78	15.58		0.5
DFT-s-OFDM QPSK	1	1	15.82	15.77	16.32	16.09	0	0.0
	1	81	15.71	16.09	16.35	16.20		0.0
	1	160	15.56	16.26	16.21	15.92		0.0
	81	0	14.76	14.87	15.32	15.17	0-1	1.0
	81	41	15.71	16.04	16.31	16.19	0	0.0
	81	81	14.58	15.24	15.30	15.11	0-1	1.0
	162	0	14.69	15.06	15.26	15.18		1.0
DFT-s-OFDM 16QAM	1	1	15.08	14.93	15.44	15.40	0-1	1.0
CP-OFDM QPSK	1	1	14.42	14.32	14.83	14.68	0-1.5	1.5




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Table F-58

NR Band n77 Measured *Plimit* for DSI = 0 (Body-worn, or Phablet with grip sensor inactive), or DSI = 1 (Phablet with grip sensor active) and/or DSI = 4 (Earjack Active) - 50 MHz Bandwidth

NR Band n77 50 MHz Bandwidth									
Modulation	RB Size	RB Offset	Channel					MPR Allowed per 3GPP [dB]	MPR [dB]
			648334 (3725.01 MHz)	652166 (3782.49 MHz)	656000 (3840 MHz)	659834 (3897.51 MHz)	663666 (3954.99 MHz)		
			Conducted Power [dBm]						
DFT-s-OFDM $\pi/2$ BPSK	1	1	15.92	15.99	16.24	16.33	16.44	0	0.0
	1	67	15.77	16.20	16.35	16.40	16.46		0.0
	1	131	15.78	16.45	16.48	16.48	16.41		0.0
	64	0	15.68	15.62	15.93	15.95	15.92	0-0.5	0.5
	64	35	16.07	16.36	16.41	16.45	16.49	0	0.0
	64	69	15.49	15.95	15.97	16.00	15.93	0-0.5	0.5
	128	0	15.63	15.90	15.83	15.93	16.00		0.5
DFT-s-OFDM QPSK	1	1	16.25	16.08	16.29	16.46	16.46	0	0.0
	1	67	16.12	16.38	16.38	16.47	16.47		0.0
	1	131	15.92	16.46	16.46	16.41	16.44		0.0
	64	0	15.23	15.17	15.35	15.49	15.47	0-1	1.0
	64	35	16.13	16.38	16.49	16.46	16.45	0	0.0
	64	69	15.06	15.42	15.48	15.43	15.41	0-1	1.0
	128	0	15.19	15.32	15.42	15.47	15.46		1.0
DFT-s-OFDM 16QAM	1	1	15.46	15.21	15.46	15.49	15.49	0-1	1.0
CP-OFDM QPSK	1	1	14.94	14.63	14.94	14.93	14.94	0-1.5	1.5




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NR Band n77 Measured *Plimit* for DSI = 0 (Body-worn, or Phablet with grip sensor inactive), or DSI = 1 (Phablet with grip sensor active) and/or DSI = 4 (Earjack Active) - 40 MHz Bandwidth

NR Band n77 40 MHz Bandwidth										
Modulation	RB Size	RB Offset	Channel						MPR Allowed per 3GPP [dB]	MPR [dB]
			648000 (3720 MHz)	651200 (3768 MHz)	654400 (3816 MHz)	657600 (3864 MHz)	660800 (3912 MHz)	664000 (3960 MHz)		
			Conducted Power [dBm]							
DFT-s-OFDM $\pi/2$ BPSK	1	1	15.87	15.94	16.30	16.42	16.43	16.38	0	0.0
	1	53	15.75	15.99	16.41	16.41	16.45	16.24		0.0
	1	104	15.89	16.24	16.44	16.44	16.44	16.39		0.0
	50	0	15.35	15.35	15.79	15.95	15.90	15.89	0-0.5	0.5
	50	28	15.82	16.02	16.38	16.43	16.41	16.26	0	0.0
	50	56	15.31	15.67	15.98	15.97	15.96	15.88	0-0.5	0.5
DFT-s-OFDM QPSK	100	0	15.37	15.53	15.86	15.98	15.97	15.82	0-0.5	0.5
	1	1	16.09	16.00	16.28	16.22	16.50	16.47	0	0.0
	1	53	15.86	15.99	16.46	16.18	16.42	16.32		0.0
	1	104	15.95	16.30	16.49	16.26	16.44	16.46		0.0
	50	0	15.01	15.00	15.34	15.48	15.47	15.48	0-1	1.0
	50	28	15.93	16.03	16.44	16.45	16.43	16.38	0	0.0
DFT-s-OFDM 16QAM	50	56	14.88	15.24	15.42	15.45	15.47	15.40	0-1	1.0
	100	0	15.02	15.02	15.37	15.47	15.48	15.41		1.0
CP-OFDM QPSK	1	1	15.33	15.31	15.48	15.49	15.49	15.40	0-1	1.0
CP-OFDM QPSK	1	1	14.78	14.54	14.96	14.99	14.97	14.99	0-1.5	1.5




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NR Band n77 Measured *Plimit* for DSI = 0 (Body-worn, or Phablet with grip sensor inactive), or DSI = 1 (Phablet with grip sensor active) and/or DSI = 4 (Earjack Active) - 30 MHz Bandwidth

NR Band n77 30 MHz Bandwidth										
Modulation	RB Size	RB Offset	Channel						MPR Allowed per 3GPP [dB]	MPR [dB]
			647668 (3715.02 MHz)	651000 (3765 MHz)	654334 (3815.01 MHz)	657666 (3864.99 MHz)	661000 (3915 MHz)	664332 (3964.98 MHz)		
			Conducted Power [dBm]							
DFT-s-OFDM $\pi/2$ BPSK	1	1	16.00	15.91	15.98	16.37	16.24	16.36	0	0.0
	1	39	15.92	15.88	16.10	16.38	16.40	16.28		0.0
	1	76	15.88	16.10	16.43	16.48	16.44	16.31		0.0
	36	0	15.47	15.36	15.64	15.93	15.85	15.73	0-0.5	0.5
	36	21	16.01	15.92	16.28	16.47	16.38	16.18	0	0.0
	36	42	15.43	15.56	15.84	15.92	15.96	15.88	0-0.5	0.5
DFT-s-OFDM QPSK	75	0	15.50	15.04	15.68	15.93	15.90	15.79		0.5
	1	1	16.14	15.64	16.19	16.41	16.11	16.40	0	0.0
	1	39	15.93	15.72	16.25	16.47	16.17	16.33		0.0
	1	76	16.03	16.00	16.49	16.45	16.44	16.37		0.0
	36	0	15.13	14.81	15.28	15.49	15.25	15.35	0-1	1.0
	36	21	15.65	15.84	16.40	16.48	16.27	16.34	0	0.0
DFT-s-OFDM 16QAM	36	42	14.77	15.02	15.40	15.48	15.36	15.45	0-1	1.0
	75	0	14.84	14.92	15.31	15.47	15.27	15.41		1.0
CP-OFDM QPSK	1	1	15.27	15.11	15.40	15.49	15.43	15.48	0-1	1.0
CP-OFDM QPSK	1	1	14.66	14.51	14.95	14.99	14.88	14.99	0-1.5	1.5







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NR Band n77 Measured *Plimit* for DSI = 0 (Body-worn, or Phablet with grip sensor inactive), or DSI = 1 (Phablet with grip sensor active) and/or DSI = 4 (Earjack Active) - 20 MHz Bandwidth




NR Band n77 20 MHz Bandwidth										
Modulation	RB Size	RB Offset	Channel						MPR Allowed per 3GPP [dB]	MPR [dB]
			647334 (3710.01 MHz)	650800 (3762 MHz)	654266 (3813.99 MHz)	657734 (3866.01 MHz)	661200 (3918 MHz)	664666 (3969.99 MHz)		
			Conducted Power [dBm]							
DFT-s-OFDM $\pi/2$ BPSK	1	1	16.24	15.99	16.46	16.40	16.34	16.27	0	0.0
	1	26	15.97	16.07	16.45	16.42	16.31	16.25		0.0
	1	49	16.11	16.22	16.49	16.41	16.42	16.29		0.0
	25	0	15.61	15.56	15.97	15.91	15.89	15.80	0-0.5	0.5
	25	13	16.10	16.07	16.49	16.45	16.38	16.33	0	0.0
	25	26	15.57	15.64	15.96	15.85	15.87	15.79	0-0.5	0.5
DFT-s-OFDM QPSK	50	0	15.67	15.67	15.99	15.87	15.89	15.87	0	0.5
	1	1	16.37	16.08	<b>16.46</b>	16.33	16.42	16.37		0.0
	1	26	16.17	16.21	16.41	16.34	16.43	16.34		0.0
	1	49	16.23	16.20	16.44	16.40	16.18	16.24	0.0	
	25	0	15.28	15.16	15.43	15.49	15.20	15.32	0-1	1.0
	25	13	16.24	16.14	<b>16.45</b>	16.38	16.19	16.39	0	0.0
DFT-s-OFDM 16QAM	25	26	15.18	15.20	15.44	15.44	15.24	15.37	0-1	1.0
	50	0	15.28	15.15	15.49	15.46	15.28	15.43		1.0
CP-OFDM QPSK	1	1	15.47	15.36	15.49	15.40	15.38	15.47	0-1	1.0
CP-OFDM QPSK	1	1	14.98	14.70	14.96	14.86	14.97	14.99	0-1.5	1.5

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**Table F-62**  
**NR Band n77 Measured  $P_{Limit}$  for DSI = 3 (Hotspot Mode) - 90 MHz Bandwidth**

NR Band n77 90 MHz Bandwidth							
Modulation	RB Size	RB Offset	649668 (3745.02 MHz)	656000 (3840 MHz)	662332 (3934.98 MHz)	MPR Allowed per 3GPP [dB]	MPR [dB]
			Conducted Power [dBm]				
DFT-s-OFDM $\pi/2$ BPSK	1	1	13.75	13.95	14.27	0	0.0
	1	123	13.66	14.41	14.62		0.0
	1	243	13.72	14.43	14.35		0.0
	120	0	13.82	14.30	14.50	0-0.5	0.0
	120	63	13.77	14.43	14.67	0	0.0
	120	125	13.75	14.56	14.61	0-0.5	0.0
	243	0	13.80	14.50	14.54		0.0
DFT-s-OFDM QPSK	1	1	13.81	14.26	14.34	0	0.0
	1	123	13.68	14.19	14.73		0.0
	1	243	13.65	14.48	13.98		0.0
	120	0	13.76	14.51	14.63	0-1	0.0
	120	63	13.77	14.62	14.66	0	0.0
	120	125	13.80	14.63	14.63	0-1	0.0
	243	0	13.79	14.66	14.64		0.0
DFT-s-OFDM 16QAM	1	1	13.86	14.29	14.38	0-1	0.0
CP-OFDM QPSK	1	1	13.91	14.20	14.62	0-1.5	0.0

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**Table F-63**  
**NR Band n77 Measured  $P_{Limit}$  for DSI = 3 (Hotspot Mode) - 80 MHz Bandwidth**

NR Band n77 80 MHz Bandwidth							
Modulation	RB Size	RB Offset	Channel			MPR Allowed per 3GPP [dB]	MPR [dB]
			649334 (3740.01 MHz)	656000 (3840 MHz)	662666 (3939.99 MHz)		
			Conducted Power [dBm]				
DFT-s-OFDM $\pi/2$ BPSK	1	1	14.20	14.39	14.74	0	0.0
	1	109	13.90	14.47	14.78		0.0
	1	215	13.92	14.68	14.64		0.0
	108	0	14.06	14.72	14.49	0-0.5	0.0
	108	55	13.92	14.82	14.76	0	0.0
	108	109	13.95	14.91	14.76	0-0.5	0.0
	216	0	14.01	14.86	14.66		0.0
DFT-s-OFDM QPSK	1	1	14.33	14.39	14.69	0	0.0
	1	109	14.10	14.66	14.68		0.0
	1	215	13.95	14.74	14.37		0.0
	108	0	14.10	14.70	14.76	0-1	0.0
	108	55	14.12	14.75	14.84	0	0.0
	108	109	14.04	14.85	14.88	0-1	0.0
	216	0	14.09	14.80	14.79		0.0
DFT-s-OFDM 16QAM	1	1	14.39	14.67	14.73	0-1	0.0
CP-OFDM QPSK	1	1	14.41	14.61	14.84	0-1.5	0.0

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**Table F-64**  
**NR Band n77 Measured  $P_{Limit}$  for DSI = 3 (Hotspot Mode) - 70 MHz Bandwidth**

NR Band n77 70 MHz Bandwidth								
Modulation	RB Size	RB Offset	649000 (3735 MHz)	653666 (3804.99 MHz)	658334 (3875.01 MHz)	663000 (3945 MHz)	MPR Allowed per 3GPP [dB]	MPR [dB]
			Conducted Power [dBm]					
DFT-s-OFDM $\pi/2$ BPSK	1	1	14.20	14.18	14.65	14.66	0	0.0
	1	95	13.94	14.65	14.68	14.65		0.0
	1	187	13.99	14.71	14.81	14.31		0.0
	90	0	14.17	14.33	14.77	14.69	0-0.5	0.0
	90	50	14.01	14.64	14.80	14.76	0	0.0
	90	99	13.97	14.78	14.81	14.70	0-0.5	0.0
	180	0	14.15	14.58	14.91	14.75		0.0
DFT-s-OFDM QPSK	1	1	14.27	14.36	14.70	14.71	0	0.0
	1	95	14.24	14.63	14.71	14.73		0.0
	1	187	14.07	14.71	14.88	14.33		0.0
	90	0	14.24	14.70	14.80	14.80	0-1	0.0
	90	50	14.27	14.53	14.88	14.76	0	0.0
	90	99	14.14	14.66	14.92	14.70	0-1	0.0
	180	0	14.15	14.68	14.90	14.61		0.0
DFT-s-OFDM 16QAM	1	1	14.47	14.23	14.78	14.37	0-1	0.0
CP-OFDM QPSK	1	1	14.48	14.26	14.74	14.77	0-1.5	0.0

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**Table F-65**  
**NR Band n77 Measured  $P_{Limit}$  for DSI = 3 (Hotspot Mode) - 60 MHz Bandwidth**

NR Band n77 60 MHz Bandwidth								
Modulation	RB Size	RB Offset	Channel				MPR Allowed per 3GPP [dB]	MPR [dB]
			648668 (3730.02 MHz)	653556 (3803.34 MHz)	658444 (3876.66 MHz)	663332 (3949.98 MHz)		
			Conducted Power [dBm]					
DFT-s-OFDM $\pi/2$ BPSK	1	1	14.17	14.21	14.68	14.79	0	0.0
	1	81	14.01	14.30	14.76	14.81		0.0
	1	160	14.06	14.58	14.87	14.71		0.0
	81	0	14.11	14.57	14.82	14.74	0-0.5	0.0
	81	41	14.08	14.43	14.84	14.82	0	0.0
	81	81	14.00	14.55	14.87	14.68	0-0.5	0.0
	162	0	14.07	14.62	14.85	14.59		0.0
DFT-s-OFDM QPSK	1	1	14.15	14.50	14.75	14.79	0	0.0
	1	81	14.06	14.42	14.73	14.81		0.0
	1	160	14.02	14.77	14.83	14.44		0.0
	81	0	14.07	14.62	14.86	14.64	0-1	0.0
	81	41	14.10	14.68	14.89	14.83	0	0.0
	81	81	14.06	14.73	14.81	14.65	0-1	0.0
	162	0	14.03	14.80	14.93	14.74		0.0
DFT-s-OFDM 16QAM	1	1	14.15	14.70	14.91	14.73	0-1	0.0
CP-OFDM QPSK	1	1	14.17	14.50	14.76	14.87	0-1.5	0.0

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**Table F-66**  
**NR Band n77 Measured  $P_{Limit}$  for DSI = 3 (Hotspot Mode) - 50 MHz Bandwidth**

NR Band n77 50 MHz Bandwidth									
Modulation	RB Size	RB Offset	Channel					MPR Allowed per 3GPP [dB]	MPR [dB]
			648334 (3725.01 MHz)	652166 (3782.49 MHz)	656000 (3840 MHz)	659834 (3897.51 MHz)	663666 (3954.99 MHz)		
			Conducted Power [dBm]						
DFT-s-OFDM $\pi/2$ BPSK	1	1	14.30	14.32	14.51	14.71	14.81	0	0.0
	1	67	14.23	14.47	14.80	14.65	14.99		0.0
	1	131	14.08	14.93	14.84	14.67	14.79		0.0
	64	0	14.20	14.59	14.73	14.80	15.00	0-0.5	0.0
	64	35	14.26	14.76	14.83	14.78	14.99	0	0.0
	64	69	14.28	14.82	14.86	14.76	14.88	0	0.0
DFT-s-OFDM QPSK	128	0	14.25	14.68	14.90	14.82	14.99	0-0.5	0.0
	1	1	14.31	14.47	14.77	14.82	15.00	0	0.0
	1	67	14.34	14.67	14.70	14.75	14.81		0.0
	1	131	14.30	15.00	14.75	14.82	14.96		0.0
	64	0	14.20	14.60	14.83	14.90	14.94	0-1	0.0
	64	35	14.38	14.64	14.69	14.82	14.85	0	0.0
64	69	14.37	14.77	14.77	14.80	14.82	0	0.0	
DFT-s-OFDM 16QAM	128	0	14.34	14.79	14.82	14.83	15.00	0-1	0.0
CP-OFDM QPSK	1	1	14.41	14.60	14.68	14.81	14.88	0-1	0.0
	1	1	14.56	14.47	14.34	14.72	14.80	0-1.5	0.0

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**Table F-67**  
**NR Band n77 Measured  $P_{Limit}$  for DSI = 3 (Hotspot Mode) - 40 MHz Bandwidth**

NR Band n77 40 MHz Bandwidth										
Modulation	RB Size	RB Offset	Channel						MPR Allowed per 3GPP [dB]	MPR [dB]
			648000 (3720 MHz)	651200 (3768 MHz)	654400 (3816 MHz)	657600 (3864 MHz)	660800 (3912 MHz)	664000 (3960 MHz)		
			Conducted Power [dBm]							
DFT-s-OFDM $\pi/2$ BPSK	1	1	14.38	14.40	14.54	14.92	14.93	14.90	0	0.0
	1	53	14.29	14.36	14.63	14.80	14.81	14.75		0.0
	1	104	14.35	14.66	14.89	14.96	14.98	14.86		0.0
	50	0	14.46	14.41	14.65	14.94	14.79	14.90	0-0.5	0.0
	50	28	14.46	14.48	14.85	14.92	14.88	14.79	0	0.0
	50	56	14.42	14.63	14.93	14.98	14.82	14.87	0-0.5	0.0
	100	0	14.49	14.47	14.75	14.92	14.91	14.85		0.0
DFT-s-OFDM QPSK	1	1	14.63	14.49	14.84	14.97	14.99	14.96	0	0.0
	1	53	14.52	14.44	14.93	14.93	14.97	14.87		0.0
	1	104	14.54	14.81	14.91	14.96	14.83	14.93		0.0
	50	0	14.57	14.46	14.76	14.86	14.90	14.96	0-1	0.0
	50	28	14.55	14.48	14.93	14.83	14.93	14.82	0	0.0
	50	56	14.54	14.71	14.99	14.88	14.20	14.93	0-1	0.0
	100	0	14.56	14.58	14.88	14.85	14.96	14.95		0.0
DFT-s-OFDM 16QAM	1	1	14.77	14.61	14.90	14.97	14.99	14.93	0-1	0.0
CP-OFDM QPSK	1	1	14.69	14.58	14.86	14.99	14.97	14.95	0-1.5	0.0

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**Table F-68**  
**NR Band n77 Measured  $P_{Limit}$  for DSI = 3 (Hotspot Mode) - 30 MHz Bandwidth**

NR Band n77 30 MHz Bandwidth										
Modulation	RB Size	RB Offset	Channel						MPR Allowed per 3GPP [dB]	MPR [dB]
			647668 (3715.02 MHz)	651000 (3765 MHz)	654334 (3815.01 MHz)	657666 (3864.99 MHz)	661000 (3915 MHz)	664332 (3964.98 MHz)		
			Conducted Power [dBm]							
DFT-s-OFDM $\pi/2$ BPSK	1	1	14.39	14.43	14.78	14.63	14.88	14.92	0	0.0
	1	39	14.45	14.40	14.85	14.78	14.92	14.81		0.0
	1	76	14.31	14.69	14.99	14.92	14.98	14.89		0.0
	36	0	14.50	14.51	14.85	14.90	14.91	14.88	0-0.5	0.0
	36	21	14.52	14.53	14.97	14.89	14.95	14.53	0	0.0
	36	42	14.52	14.69	14.98	14.99	14.96	14.65	0-0.5	0.0
	75	0	14.56	14.53	14.84	14.83	14.95	14.67		0.0
DFT-s-OFDM QPSK	1	1	14.73	14.53	14.83	14.82	14.92	14.83	0	0.0
	1	39	14.66	14.61	14.88	14.81	14.93	14.72		0.0
	1	76	14.59	14.88	14.99	14.91	14.85	14.85		0.0
	36	0	14.68	14.54	14.86	14.86	14.92	14.77	0-1	0.0
	36	21	14.64	14.56	14.96	14.84	14.94	14.79	0	0.0
	36	42	14.67	14.71	14.83	14.90	14.85	14.86	0-1	0.0
	75	0	14.66	14.58	14.86	14.87	14.98	14.84		0.0
DFT-s-OFDM 16QAM	1	1	14.85	14.70	14.89	14.98	14.94	14.97	0-1	0.0
CP-OFDM QPSK	1	1	14.61	14.48	14.88	14.99	15.00	14.92	0-1.5	0.0

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**Table F-69**  
**NR Band n77 Measured  $P_{Limit}$  for DSI = 3 (Hotspot Mode) - 20 MHz Bandwidth**




NR Band n77 20 MHz Bandwidth										
Modulation	RB Size	RB Offset	Channel						MPR Allowed per 3GPP [dB]	MPR [dB]
			647334 (3710.01 MHz)	650800 (3762 MHz)	654266 (3813.99 MHz)	657734 (3866.01 MHz)	661200 (3918 MHz)	664666 (3969.99 MHz)		
			Conducted Power [dBm]							
DFT-s-OFDM $\pi/2$ BPSK	1	1	14.40	14.00	14.90	14.77	14.78	14.97	0	0.0
	1	26	14.35	14.35	14.88	14.78	14.77	14.92		0.0
	1	49	14.37	14.47	14.91	14.83	14.91	14.73		0.0
	25	0	14.38	14.35	14.93	14.84	14.88	14.84	0-0.5	0.0
	25	13	14.30	14.36	14.76	14.79	14.84	14.90	0	0.0
	25	26	14.27	14.45	14.79	14.82	14.85	14.88	0-0.5	0.0
	50	0	14.30	14.44	14.77	14.84	14.87	14.90		0.0
DFT-s-OFDM QPSK	1	1	14.52	14.71	14.73	14.89	14.86	14.90	0	0.0
	1	26	14.37	14.73	14.76	14.86	14.79	14.98		0.0
	1	49	14.44	14.84	14.80	14.99	14.89	14.89		0.0
	25	0	14.41	14.86	14.81	14.95	14.84	14.89	0-1	0.0
	25	13	14.38	14.74	14.79	14.92	14.82	14.94	0	0.0
	25	26	14.42	14.75	14.80	14.92	14.85	14.90	0-1	0.0
	50	0	14.41	14.75	14.83	14.97	14.91	14.86		0.0
DFT-s-OFDM 16QAM	1	1	14.69	14.86	14.96	15.00	14.98	15.00	0-1	0.0
CP-OFDM QPSK	1	1	14.60	14.71	14.98	15.00	15.00	14.96	0-1.5	0.0

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**Table F-70**  
**NR Band n77 Measured  $P_{Limit}$  for DSI = 2 (Head) - 90 MHz Bandwidth**

NR Band n77 90 MHz Bandwidth							
Modulation	RB Size	RB Offset	649668 (3745.02 MHz)	656000 (3840 MHz)	662332 (3934.98 MHz)	MPR Allowed per 3GPP [dB]	MPR [dB]
			Conducted Power [dBm]				
DFT-s-OFDM $\pi/2$ BPSK	1	1	10.82	10.45	10.57	0	0.0
	1	123	10.56	10.91	11.08		0.0
	1	243	10.42	10.62	10.65		0.0
	120	0	10.75	10.81	10.92	0-0.5	0.0
	120	63	10.57	10.86	11.06	0	0.0
	120	125	10.50	10.87	11.04	0-0.5	0.0
	243	0	10.59	10.83	10.92		0.0
DFT-s-OFDM QPSK	1	1	10.64	10.52	10.44	0	0.0
	1	123	10.53	10.94	10.94		0.0
	1	243	10.37	10.74	10.60		0.0
	120	0	10.74	10.84	10.79	0-1	0.0
	120	63	10.54	10.89	10.97	0	0.0
	120	125	10.46	10.91	10.96	0-1	0.0
	243	0	10.62	10.82	10.87		0.0
DFT-s-OFDM 16QAM	1	1	10.95	10.57	10.66	0-1	0.0
CP-OFDM QPSK	1	1	10.84	10.61	10.70	0-1.5	0.0

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**Table F-71**  
**NR Band n77 Measured  $P_{Limit}$  for DSI = 2 (Head) - 80 MHz Bandwidth**

NR Band n77 80 MHz Bandwidth							
Modulation	RB Size	RB Offset	Channel			MPR Allowed per 3GPP [dB]	MPR [dB]
			649334 (3740.01 MHz)	656000 (3840 MHz)	662666 (3939.99 MHz)		
			Conducted Power [dBm]				
DFT-s-OFDM $\pi/2$ BPSK	1	1	10.56	10.49	10.66	0	0.0
	1	109	10.33	10.76	10.96		0.0
	1	215	10.22	10.63	10.64		0.0
	108	0	10.59	10.79	10.84	0-0.5	0.0
	108	55	10.45	10.96	10.98	0	0.0
	108	109	10.35	10.89	10.93	0-0.5	0.0
	216	0	10.49	10.78	10.88		0.0
DFT-s-OFDM QPSK	1	1	10.76	10.64	10.74	0	0.0
	1	109	10.44	10.89	11.06		0.0
	1	215	10.36	10.72	10.65		0.0
	108	0	10.66	10.81	10.91	0-1	0.0
	108	55	10.48	10.96	10.98	0	0.0
	108	109	10.45	10.89	11.00	0-1	0.0
	216	0	10.53	10.80	10.91		0.0
DFT-s-OFDM 16QAM	1	1	10.96	10.71	10.90	0-1	0.0
CP-OFDM QPSK	1	1	10.89	10.57	10.76	0-1.5	0.0

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**Table F-72**  
**NR Band n77 Measured  $P_{Limit}$  for DSI = 2 (Head) - 70 MHz Bandwidth**

NR Band n77 70 MHz Bandwidth								
Modulation	RB Size	RB Offset	649000 (3735 MHz)	653666 (3804.99 MHz)	658334 (3875.01 MHz)	663000 (3945 MHz)	MPR Allowed per 3GPP [dB]	MPR [dB]
			Conducted Power [dBm]					
DFT-s-OFDM $\pi/2$ BPSK	1	1	10.49	10.44	10.61	10.52	0	0.0
	1	95	10.39	10.79	10.59	10.92		0.0
	1	187	10.26	10.79	10.60	10.53		0.0
	90	0	10.53	10.53	10.70	10.80	0-0.5	0.0
	90	50	10.47	10.71	10.71	10.88	0	0.0
	90	99	10.37	10.84	10.77	10.87	0-0.5	0.0
	180	0	10.49	10.72	10.70	10.83		0.0
DFT-s-OFDM QPSK	1	1	10.68	10.49	10.77	10.72	0	0.0
	1	95	10.50	10.78	10.90	11.11		0.0
	1	187	10.41	10.81	10.81	10.68		0.0
	90	0	10.63	10.55	10.86	10.90	0-1	0.0
	90	50	10.55	10.82	10.84	10.95	0	0.0
	90	99	10.45	10.93	10.90	10.89	0-1	0.0
	180	0	10.52	10.82	10.86	10.86		0.0
DFT-s-OFDM 16QAM	1	1	10.84	10.65	10.98	10.77	0-1	0.0
CP-OFDM QPSK	1	1	10.56	10.40	10.91	10.90	0-1.5	0.0

FCC ID: A3LSMG996U	 <b>PCTEST</b> Proud to be part of 	<b>SAR EVALUATION REPORT</b>		<b>Reviewed by:</b> Quality Manager
<b>Test Dates:</b> 12/28/20-01/21/21	<b>DUT Type:</b> Portable Handset	APPENDIX F: Page 71 of 76		




**Table F-73**  
**NR Band n77 Measured  $P_{Limit}$  for DSI = 2 (Head) - 60 MHz Bandwidth**

NR Band n77 60 MHz Bandwidth								
Modulation	RB Size	RB Offset	Channel				MPR Allowed per 3GPP [dB]	MPR [dB]
			648668 (3730.02 MHz)	653556 (3803.34 MHz)	658444 (3876.66 MHz)	663332 (3949.98 MHz)		
			Conducted Power [dBm]					
DFT-s-OFDM $\pi/2$ BPSK	1	1	10.46	10.40	10.77	10.74	0	0.0
	1	81	10.44	10.72	10.82	10.97		0.0
	1	160	10.36	10.79	10.77	10.63		0.0
	81	0	10.60	10.58	10.78	10.89	0-0.5	0.0
	81	41	10.51	10.72	10.81	10.98	0	0.0
	81	81	10.42	10.83	10.82	10.84	0-0.5	0.0
	162	0	10.56	10.71	10.82	10.79		0.0
DFT-s-OFDM QPSK	1	1	10.75	10.50	10.82	10.83	0	0.0
	1	81	10.63	10.81	10.83	11.06		0.0
	1	160	10.48	10.84	10.84	10.66		0.0
	81	0	10.68	10.61	10.83	10.87	0-1	0.0
	81	41	10.58	10.80	10.81	10.97	0	0.0
	81	81	10.46	10.90	10.86	10.83	0-1	0.0
	162	0	10.57	10.75	10.79	10.85		0.0
DFT-s-OFDM 16QAM	1	1	10.84	10.65	10.88	10.85	0-1	0.0
CP-OFDM QPSK	1	1	10.57	10.62	10.87	10.74	0-1.5	0.0

FCC ID: A3LSMG996U	 <b>PCTEST</b> Proud to be part of 	<b>SAR EVALUATION REPORT</b>		<b>Reviewed by:</b> Quality Manager
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**Table F-74**  
**NR Band n77 Measured  $P_{Limit}$  for DSI = 2 (Head) - 50 MHz Bandwidth**

NR Band n77 50 MHz Bandwidth									
Modulation	RB Size	RB Offset	Channel					MPR Allowed per 3GPP [dB]	MPR [dB]
			648334 (3725.01 MHz)	652166 (3782.49 MHz)	656000 (3840 MHz)	659834 (3897.51 MHz)	663666 (3954.99 MHz)		
			Conducted Power [dBm]						
DFT-s-OFDM $\pi/2$ BPSK	1	1	10.77	10.41	10.83	10.89	11.24	0	0.0
	1	67	10.64	10.72	11.11	10.88	11.27		0.0
	1	131	10.57	10.98	11.19	10.99	11.14		0.0
	64	0	10.83	10.74	11.12	11.00	11.21	0-0.5	0.0
	64	35	10.83	10.89	11.16	11.01	11.25	0	0.0
	64	69	10.76	11.01	11.21	10.95	11.20	0-0.5	0.0
DFT-s-OFDM QPSK	128	0	10.82	10.83	11.15	11.01	11.25		0.0
	1	1	10.94	10.55	10.95	10.99	11.36	0	0.0
	1	67	10.82	10.84	11.13	11.00	11.16		0.0
	1	131	10.55	11.09	11.26	11.10	11.19		0.0
	64	0	10.88	10.82	11.18	11.09	11.26	0-1	0.0
	64	35	10.88	10.96	11.24	11.07	11.27	0	0.0
64	69	10.74	11.05	11.23	11.08	11.28		0.0	
DFT-s-OFDM 16QAM	128	0	10.87	10.91	11.13	11.06	11.18	0-1	0.0
CP-OFDM QPSK	1	1	11.10	10.77	11.15	11.11	11.42	0-1	0.0
	1	1	11.00	10.58	10.80	10.97	11.18	0-1.5	0.0

FCC ID: A3LSMG996U	 <b>PCTEST</b> Proud to be part of 	SAR EVALUATION REPORT		Reviewed by: Quality Manager
Test Dates: 12/28/20-01/21/21	DUT Type: Portable Handset	APPENDIX F: Page 73 of 76		




**Table F-75**  
**NR Band n77 Measured  $P_{Limit}$  for DSI = 2 (Head) - 40 MHz Bandwidth**

NR Band n77 40 MHz Bandwidth										
Modulation	RB Size	RB Offset	Channel						MPR Allowed per 3GPP [dB]	MPR [dB]
			648000 (3720 MHz)	651200 (3768 MHz)	654400 (3816 MHz)	657600 (3864 MHz)	660800 (3912 MHz)	664000 (3960 MHz)		
			Conducted Power [dBm]							
DFT-s-OFDM $\pi/2$ BPSK	1	1	10.77	10.68	11.11	11.18	11.02	11.28	0	0.0
	1	53	10.66	10.74	11.08	11.06	11.00	11.21		0.0
	1	104	10.75	11.01	11.19	11.20	11.15	11.14		0.0
	50	0	10.83	10.73	11.06	11.11	11.05	11.25	0-0.5	0.0
	50	28	10.76	10.92	11.17	11.08	11.09	11.22	0	0.0
	50	56	10.69	10.95	11.20	11.09	11.16	11.21	0-0.5	0.0
	100	0	10.83	10.93	11.21	11.06	11.14	11.27		0.0
DFT-s-OFDM QPSK	1	1	10.95	10.61	11.15	11.31	10.99	11.29	0	0.0
	1	53	10.76	10.72	11.22	11.11	10.91	11.23		0.0
	1	104	10.94	11.06	11.35	11.27	11.14	11.28		0.0
	50	0	10.91	10.75	11.13	11.16	11.01	11.27	0-1	0.0
	50	28	10.89	10.86	11.18	11.14	11.04	11.30	0	0.0
	50	56	10.86	10.96	11.27	11.19	11.18	11.18	0-1	0.0
	100	0	10.93	10.95	11.25	11.19	11.15	11.32		0.0
DFT-s-OFDM 16QAM	1	1	11.18	10.85	11.21	11.38	11.29	11.47	0-1	0.0
CP-OFDM QPSK	1	1	11.14	10.79	11.11	11.30	11.03	11.34	0-1.5	0.0

FCC ID: A3LSMG996U	 <b>PCTEST</b> Proud to be part of 	<b>SAR EVALUATION REPORT</b>		<b>Reviewed by:</b> Quality Manager
<b>Test Dates:</b> 12/28/20-01/21/21	<b>DUT Type:</b> Portable Handset	APPENDIX F: Page 74 of 76		




**Table F-76**  
**NR Band n77 Measured  $P_{Limit}$  for DSI = 2 (Head) - 30 MHz Bandwidth**

NR Band n77 30 MHz Bandwidth										
Modulation	RB Size	RB Offset	Channel						MPR Allowed per 3GPP [dB]	MPR [dB]
			647668 (3715.02 MHz)	651000 (3765 MHz)	654334 (3815.01 MHz)	657666 (3864.99 MHz)	661000 (3915 MHz)	664332 (3964.98 MHz)		
			Conducted Power [dBm]							
DFT-s-OFDM $\pi/2$ BPSK	1	1	10.68	10.52	10.64	11.03	11.01	11.07	0	0.0
	1	39	10.63	10.67	10.87	10.98	11.07	10.97		0.0
	1	76	10.55	10.76	11.00	11.20	11.24	11.08		0.0
	36	0	10.74	10.51	10.79	11.08	11.06	11.10	0-0.5	0.0
	36	21	10.66	10.60	10.90	11.04	11.13	11.05	0	0.0
	36	42	10.67	10.70	10.97	11.12	11.16	11.06	0-0.5	0.0
	75	0	10.71	10.69	10.96	11.09	11.11	11.13		0.0
DFT-s-OFDM QPSK	1	1	10.93	10.61	10.89	11.14	11.10	11.26	0	0.0
	1	39	10.72	10.72	10.97	11.09	11.12	11.10		0.0
	1	76	10.75	10.89	11.13	11.29	11.28	11.14		0.0
	36	0	10.84	10.57	10.83	11.11	11.09	11.09	0-1	0.0
	36	21	10.79	10.72	10.97	11.11	11.09	11.08	0	0.0
	36	42	10.77	10.76	11.02	11.14	11.18	11.11	0-1	0.0
	75	0	10.80	10.71	11.03	11.15	11.14	11.17		0.0
DFT-s-OFDM 16QAM	1	1	10.96	10.67	11.04	11.23	10.86	11.22	0-1	0.0
CP-OFDM QPSK	1	1	10.98	10.78	11.01	11.12	10.90	11.14	0-1.5	0.0

FCC ID: A3LSMG996U	 <b>PCTEST</b> Proud to be part of 	<b>SAR EVALUATION REPORT</b>		<b>Reviewed by:</b> Quality Manager
<b>Test Dates:</b> 12/28/20-01/21/21	<b>DUT Type:</b> Portable Handset	APPENDIX F: Page 75 of 76		

**Table F-77**  
**NR Band n77 Measured  $P_{Limit}$  for DSI = 2 (Head) - 20 MHz Bandwidth**

NR Band n77 20 MHz Bandwidth										
Modulation	RB Size	RB Offset	Channel						MPR Allowed per 3GPP [dB]	MPR [dB]
			647334 (3710.01 MHz)	650800 (3762 MHz)	654266 (3813.99 MHz)	657734 (3866.01 MHz)	661200 (3918 MHz)	664666 (3969.99 MHz)		
			Conducted Power [dBm]							
DFT-s-OFDM $\pi/2$ BPSK	1	1	11.10	10.48	10.88	11.00	11.04	11.22	0	0.0
	1	26	10.87	10.52	10.89	10.96	11.05	10.99		0.0
	1	49	10.90	10.71	10.95	11.08	11.06	11.06		0.0
	25	0	11.05	10.58	10.90	10.99	11.05	11.13	0-0.5	0.0
	25	13	10.96	10.53	10.94	11.03	11.10	11.14	0	0.0
	25	26	10.88	10.58	10.99	10.99	11.06	11.15	0-0.5	0.0
	50	0	10.97	10.59	10.91	11.04	11.10	11.14		0.0
DFT-s-OFDM QPSK	1	1	11.17	10.68	11.04	11.24	11.07	11.16	0	0.0
	1	26	10.91	10.60	10.98	11.09	11.11	11.14		0.0
	1	49	11.01	10.73	10.99	11.12	11.26	11.18		0.0
	25	0	11.00	10.67	10.99	11.15	11.12	11.17	0-1	0.0
	25	13	10.90	10.61	10.96	11.09	11.10	11.18	0	0.0
	25	26	10.91	10.68	10.95	11.08	11.11	11.15	0-1	0.0
	50	0	10.97	10.70	10.99	11.09	11.07	11.16		0.0
DFT-s-OFDM 16QAM	1	1	11.14	10.64	11.06	11.31	11.05	11.30	0-1	0.0
CP-OFDM QPSK	1	1	11.08	10.85	10.91	11.21	11.13	11.12	0-1.5	0.0

FCC ID: A3LSMG996U	 <b>PCTEST</b> Proud to be part of 	<b>SAR EVALUATION REPORT</b>		<b>Reviewed by:</b> Quality Manager
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# APPENDIX G: PROBE AND DIPOLE CALIBRATION CERTIFICATES



Accredited by the Swiss Accreditation Service (SAS)  
The Swiss Accreditation Service is one of the signatories to the EA  
Multilateral Agreement for the recognition of calibration certificates

Accreditation No.: **SCS 0108**

Client **PC Test**

Certificate No: **EX3-7551\_Oct20**

**CALIBRATION CERTIFICATE**

Object **EX3DV4 - SN:7551**

Calibration procedure(s) **QA CAL-01.v9, QA CAL-14.v6, QA CAL-23.v5, QA CAL-25.v7  
Calibration procedure for dosimetric E-field probes**

Calibration date: **October 20, 2020**

*BN ✓  
10-29-20*

This calibration certificate documents the traceability to national standards, which realize the physical units of measurements (SI).  
The measurements and the uncertainties with confidence probability are given on the following pages and are part of the certificate.

All calibrations have been conducted in the closed laboratory facility: environment temperature (22 ± 3)°C and humidity < 70%.

Calibration Equipment used (M&TE critical for calibration)

Primary Standards	ID	Cal Date (Certificate No.)	Scheduled Calibration
Power meter NRP	SN: 104778	01-Apr-20 (No. 217-03100/03101)	Apr-21
Power sensor NRP-Z91	SN: 103244	01-Apr-20 (No. 217-03100)	Apr-21
Power sensor NRP-Z91	SN: 103245	01-Apr-20 (No. 217-03101)	Apr-21
Reference 20 dB Attenuator	SN: CC2552 (20x)	31-Mar-20 (No. 217-03106)	Apr-21
DAE4	SN: 660	27-Dec-19 (No. DAE4-660_Dec19)	Dec-20
Reference Probe ES3DV2	SN: 3013	31-Dec-19 (No. ES3-3013_Dec19)	Dec-20
Secondary Standards	ID	Check Date (in house)	Scheduled Check
Power meter E4419B	SN: GB41293874	06-Apr-16 (in house check Jun-20)	In house check: Jun-22
Power sensor E4412A	SN: MY41498087	06-Apr-16 (in house check Jun-20)	In house check: Jun-22
Power sensor E4412A	SN: 000110210	06-Apr-16 (in house check Jun-20)	In house check: Jun-22
RF generator HP 8648C	SN: US3642U01700	04-Aug-99 (in house check Jun-20)	In house check: Jun-22
Network Analyzer E8358A	SN: US41080477	31-Mar-14 (in house check Oct-20)	In house check: Oct-21

Calibrated by: **Name: Jeffrey Katzman, Function: Laboratory Technician, Signature: [Signature]**

Approved by: **Name: Katja Pokovic, Function: Technical Manager, Signature: [Signature]**

Issued: October 21, 2020

This calibration certificate shall not be reproduced except in full without written approval of the laboratory.



Accredited by the Swiss Accreditation Service (SAS)  
The Swiss Accreditation Service is one of the signatories to the EA  
Multilateral Agreement for the recognition of calibration certificates

Accreditation No.: **SCS 0108**

**Glossary:**

TSL	tissue simulating liquid
NORM <sub>x,y,z</sub>	sensitivity in free space
ConvF	sensitivity in TSL / NORM <sub>x,y,z</sub>
DCP	diode compression point
CF	crest factor (1/duty_cycle) of the RF signal
A, B, C, D	modulation dependent linearization parameters
Polarization $\phi$	$\phi$ rotation around probe axis
Polarization $\vartheta$	$\vartheta$ rotation around an axis that is in the plane normal to probe axis (at measurement center), i.e., $\vartheta = 0$ is normal to probe axis
Connector Angle	information used in DASY system to align probe sensor X to the robot coordinate system

**Calibration is Performed According to the Following Standards:**

- a) IEEE Std 1528-2013, "IEEE Recommended Practice for Determining the Peak Spatial-Averaged Specific Absorption Rate (SAR) in the Human Head from Wireless Communications Devices: Measurement Techniques", June 2013
- b) IEC 62209-1, "Measurement procedure for the assessment of Specific Absorption Rate (SAR) from hand-held and body-mounted devices used next to the ear (frequency range of 300 MHz to 6 GHz)", July 2016
- c) IEC 62209-2, "Procedure to determine the Specific Absorption Rate (SAR) for wireless communication devices used in close proximity to the human body (frequency range of 30 MHz to 6 GHz)", March 2010
- d) KDB 865664, "SAR Measurement Requirements for 100 MHz to 6 GHz"

**Methods Applied and Interpretation of Parameters:**

- *NORM<sub>x,y,z</sub>*: Assessed for E-field polarization  $\vartheta = 0$  ( $f \leq 900$  MHz in TEM-cell;  $f > 1800$  MHz: R22 waveguide). *NORM<sub>x,y,z</sub>* are only intermediate values, i.e., the uncertainties of *NORM<sub>x,y,z</sub>* does not affect the  $E^2$ -field uncertainty inside TSL (see below *ConvF*).
- *NORM(f)<sub>x,y,z</sub>* = *NORM<sub>x,y,z</sub>* \* *frequency\_response* (see Frequency Response Chart). This linearization is implemented in DASY4 software versions later than 4.2. The uncertainty of the frequency response is included in the stated uncertainty of *ConvF*.
- *DCP<sub>x,y,z</sub>*: DCP are numerical linearization parameters assessed based on the data of power sweep with CW signal (no uncertainty required). DCP does not depend on frequency nor media.
- *PAR*: PAR is the Peak to Average Ratio that is not calibrated but determined based on the signal characteristics
- *A<sub>x,y,z</sub>*; *B<sub>x,y,z</sub>*; *C<sub>x,y,z</sub>*; *D<sub>x,y,z</sub>*; *VR<sub>x,y,z</sub>*: *A, B, C, D* are numerical linearization parameters assessed based on the data of power sweep for specific modulation signal. The parameters do not depend on frequency nor media. *VR* is the maximum calibration range expressed in RMS voltage across the diode.
- *ConvF and Boundary Effect Parameters*: Assessed in flat phantom using E-field (or Temperature Transfer Standard for  $f \leq 800$  MHz) and inside waveguide using analytical field distributions based on power measurements for  $f > 800$  MHz. The same setups are used for assessment of the parameters applied for boundary compensation (alpha, depth) of which typical uncertainty values are given. These parameters are used in DASY4 software to improve probe accuracy close to the boundary. The sensitivity in TSL corresponds to *NORM<sub>x,y,z</sub>* \* *ConvF* whereby the uncertainty corresponds to that given for *ConvF*. A frequency dependent *ConvF* is used in DASY version 4.4 and higher which allows extending the validity from  $\pm 50$  MHz to  $\pm 100$  MHz.
- *Spherical isotropy (3D deviation from isotropy)*: in a field of low gradients realized using a flat phantom exposed by a patch antenna.
- *Sensor Offset*: The sensor offset corresponds to the offset of virtual measurement center from the probe tip (on probe axis). No tolerance required.
- *Connector Angle*: The angle is assessed using the information gained by determining the *NORM<sub>x</sub>* (no uncertainty required).

## DASY/EASY - Parameters of Probe: EX3DV4 - SN:7551

### Basic Calibration Parameters

	Sensor X	Sensor Y	Sensor Z	Unc (k=2)
Norm ( $\mu\text{V}/(\text{V}/\text{m})^2$ ) <sup>A</sup>	0.57	0.54	0.56	± 10.1 %
DCP (mV) <sup>B</sup>	101.8	100.1	98.3	

### Calibration Results for Modulation Response

UID	Communication System Name		A dB	B dB $\sqrt{\mu\text{V}}$	C	D dB	VR mV	Max dev.	Max Unc <sup>E</sup> (k=2)
0	CW	X	0.00	0.00	1.00	0.00	151.4	± 2.5 %	± 4.7 %
		Y	0.00	0.00	1.00		153.6		
		Z	0.00	0.00	1.00		151.0		
10352- AAA	Pulse Waveform (200Hz, 10%)	X	20.00	94.39	23.37	10.00	60.0	± 3.6 %	± 9.6 %
		Y	20.00	94.00	22.14		60.0		
		Z	82.00	112.00	27.00		60.0		
10353- AAA	Pulse Waveform (200Hz, 20%)	X	20.00	95.23	22.76	6.99	80.0	± 2.4 %	± 9.6 %
		Y	20.00	96.43	22.48		80.0		
		Z	20.00	98.25	23.14		80.0		
10354- AAA	Pulse Waveform (200Hz, 40%)	X	20.00	96.33	21.93	3.98	95.0	± 1.5 %	± 9.6 %
		Y	20.00	99.22	22.66		95.0		
		Z	20.00	110.32	27.13		95.0		
10355- AAA	Pulse Waveform (200Hz, 60%)	X	20.00	100.56	22.75	2.22	120.0	± 1.1 %	± 9.6 %
		Y	20.00	107.02	25.17		120.0		
		Z	20.00	109.55	25.03		120.0		
10387- AAA	QPSK Waveform, 1 MHz	X	1.75	65.19	14.65	1.00	150.0	± 2.9 %	± 9.6 %
		Y	1.81	67.14	15.67		150.0		
		Z	1.65	69.91	15.91		150.0		
10388- AAA	QPSK Waveform, 10 MHz	X	2.28	67.37	15.27	0.00	150.0	± 1.2 %	± 9.6 %
		Y	2.40	69.06	16.36		150.0		
		Z	2.07	68.54	16.24		150.0		
10396- AAA	64-QAM Waveform, 100 kHz	X	3.05	70.02	18.41	3.01	150.0	± 1.7 %	± 9.6 %
		Y	2.89	70.53	19.01		150.0		
		Z	1.94	66.39	18.13		150.0		
10399- AAA	64-QAM Waveform, 40 MHz	X	3.42	66.24	15.23	0.00	150.0	± 1.3 %	± 9.6 %
		Y	3.52	67.10	15.83		150.0		
		Z	3.42	67.27	16.09		150.0		
10414- AAA	WLAN CCDF, 64-QAM, 40MHz	X	4.85	65.13	15.16	0.00	150.0	± 2.8 %	± 9.6 %
		Y	4.85	65.56	15.51		150.0		
		Z	4.66	65.99	15.94		150.0		

Note: For details on UID parameters see Appendix

The reported uncertainty of measurement is stated as the standard uncertainty of measurement multiplied by the coverage factor k=2, which for a normal distribution corresponds to a coverage probability of approximately 95%.

<sup>A</sup> The uncertainties of Norm X,Y,Z do not affect the E<sup>2</sup>-field uncertainty inside TSL (see Pages 5 and 6).

<sup>B</sup> Numerical linearization parameter: uncertainty not required.

<sup>E</sup> Uncertainty is determined using the max. deviation from linear response applying rectangular distribution and is expressed for the square of the field value.

## DASY/EASY - Parameters of Probe: EX3DV4 - SN:7551

### Sensor Model Parameters

	C1 fF	C2 fF	$\alpha$ $V^{-1}$	T1 $ms.V^{-2}$	T2 $ms.V^{-1}$	T3 ms	T4 $V^{-2}$	T5 $V^{-1}$	T6
X	53.8	394.49	34.36	22.54	0.46	5.07	0.97	0.32	1.01
Y	45.3	333.64	34.69	17.82	0.00	5.08	0.89	0.24	1.01
Z	26.6	208.51	38.81	9.63	0.34	5.10	0.00	0.10	1.01

### Other Probe Parameters

Sensor Arrangement	Triangular
Connector Angle (°)	-61.8
Mechanical Surface Detection Mode	enabled
Optical Surface Detection Mode	disabled
Probe Overall Length	337 mm
Probe Body Diameter	10 mm
Tip Length	9 mm
Tip Diameter	2.5 mm
Probe Tip to Sensor X Calibration Point	1 mm
Probe Tip to Sensor Y Calibration Point	1 mm
Probe Tip to Sensor Z Calibration Point	1 mm
Recommended Measurement Distance from Surface	1.4 mm

**Note:** Measurement distance from surface can be increased to 3-4 mm for an *Area Scan* job.

## DASY/EASY - Parameters of Probe: EX3DV4 - SN:7551

### Calibration Parameter Determined in Head Tissue Simulating Media

f (MHz) <sup>C</sup>	Relative Permittivity <sup>F</sup>	Conductivity (S/m) <sup>F</sup>	ConvF X	ConvF Y	ConvF Z	Alpha <sup>G</sup>	Depth <sup>G</sup> (mm)	Unc (k=2)
750	41.9	0.89	10.15	10.15	10.15	0.39	0.98	± 12.0 %
835	41.5	0.90	9.96	9.96	9.96	0.25	1.25	± 12.0 %
1750	40.1	1.37	8.50	8.50	8.50	0.39	0.86	± 12.0 %
1900	40.0	1.40	8.12	8.12	8.12	0.36	0.86	± 12.0 %
2300	39.5	1.67	7.60	7.60	7.60	0.34	0.90	± 12.0 %
2450	39.2	1.80	7.28	7.28	7.28	0.34	0.90	± 12.0 %
2600	39.0	1.96	7.14	7.14	7.14	0.44	0.90	± 12.0 %
3300	38.2	2.71	6.62	6.62	6.62	0.35	1.30	± 13.1 %
3500	37.9	2.91	6.51	6.51	6.51	0.35	1.30	± 13.1 %
3700	37.7	3.12	6.48	6.48	6.48	0.35	1.30	± 13.1 %
3900	37.5	3.32	6.08	6.08	6.08	0.40	1.60	± 13.1 %
4100	37.2	3.53	6.00	6.00	6.00	0.40	1.60	± 13.1 %

<sup>C</sup> Frequency validity above 300 MHz of ± 100 MHz only applies for DASY v4.4 and higher (see Page 2), else it is restricted to ± 50 MHz. The uncertainty is the RSS of the ConvF uncertainty at calibration frequency and the uncertainty for the indicated frequency band. Frequency validity below 300 MHz is ± 10, 25, 40, 50 and 70 MHz for ConvF assessments at 30, 64, 128, 150 and 220 MHz respectively. Validity of ConvF assessed at 6 MHz is 4-9 MHz, and ConvF assessed at 13 MHz is 9-19 MHz. Above 5 GHz frequency validity can be extended to ± 110 MHz.

<sup>F</sup> At frequencies below 3 GHz, the validity of tissue parameters ( $\epsilon$  and  $\sigma$ ) can be relaxed to ± 10% if liquid compensation formula is applied to measured SAR values. At frequencies above 3 GHz, the validity of tissue parameters ( $\epsilon$  and  $\sigma$ ) is restricted to ± 5%. The uncertainty is the RSS of the ConvF uncertainty for indicated target tissue parameters.

<sup>G</sup> Alpha/Depth are determined during calibration. SPEAG warrants that the remaining deviation due to the boundary effect after compensation is always less than ± 1% for frequencies below 3 GHz and below ± 2% for frequencies between 3-6 GHz at any distance larger than half the probe tip diameter from the boundary.

## DASY/EASY - Parameters of Probe: EX3DV4 - SN:7551

### Calibration Parameter Determined in Body Tissue Simulating Media

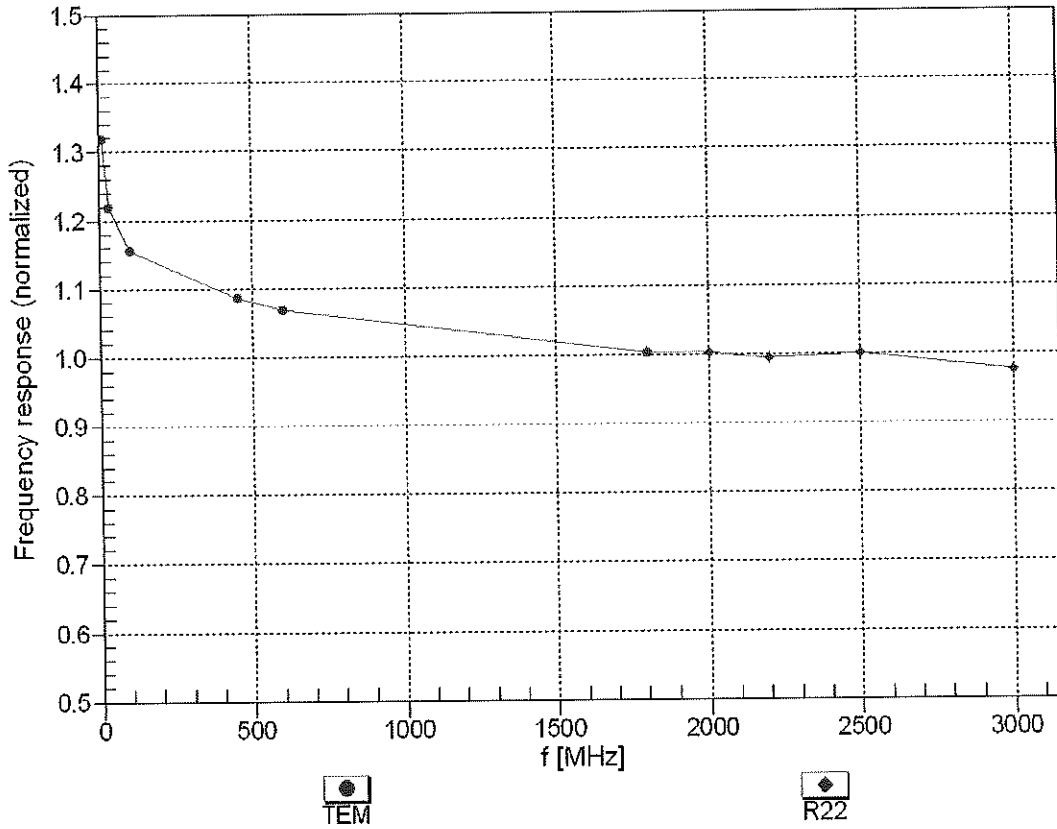
f (MHz) <sup>C</sup>	Relative Permittivity <sup>F</sup>	Conductivity (S/m) <sup>F</sup>	ConvF X	ConvF Y	ConvF Z	Alpha <sup>G</sup>	Depth <sup>G</sup> (mm)	Unc (k=2)
750	55.5	0.96	10.00	10.00	10.00	0.43	0.88	± 12.0 %
835	55.2	0.97	9.94	9.94	9.94	0.45	0.80	± 12.0 %
1750	53.4	1.49	8.32	8.32	8.32	0.24	0.88	± 12.0 %
1900	53.3	1.52	7.84	7.84	7.84	0.43	0.88	± 12.0 %
2300	52.9	1.81	7.62	7.62	7.62	0.44	0.90	± 12.0 %
2450	52.7	1.95	7.46	7.46	7.46	0.39	0.90	± 12.0 %
2600	52.5	2.16	7.29	7.29	7.29	0.24	0.95	± 12.0 %
3300	51.6	3.08	6.47	6.47	6.47	0.40	1.30	± 13.1 %
3500	51.3	3.31	6.31	6.31	6.31	0.40	1.30	± 13.1 %
3700	51.0	3.55	6.41	6.41	6.41	0.40	1.40	± 13.1 %
3900	51.2	3.78	5.95	5.95	5.95	0.40	1.70	± 13.1 %
4100	50.5	4.01	5.68	5.68	5.68	0.40	1.70	± 13.1 %

<sup>C</sup> Frequency validity above 300 MHz of ± 100 MHz only applies for DASY v4.4 and higher (see Page 2), else it is restricted to ± 50 MHz. The uncertainty is the RSS of the ConvF uncertainty at calibration frequency and the uncertainty for the indicated frequency band. Frequency validity below 300 MHz is ± 10, 25, 40, 50 and 70 MHz for ConvF assessments at 30, 64, 128, 150 and 220 MHz respectively. Validity of ConvF assessed at 6 MHz is 4-9 MHz, and ConvF assessed at 13 MHz is 9-19 MHz. Above 5 GHz frequency validity can be extended to ± 110 MHz.

<sup>F</sup> At frequencies below 3 GHz, the validity of tissue parameters ( $\epsilon$  and  $\sigma$ ) can be relaxed to ± 10% if liquid compensation formula is applied to measured SAR values. At frequencies above 3 GHz, the validity of tissue parameters ( $\epsilon$  and  $\sigma$ ) is restricted to ± 5%. The uncertainty is the RSS of the ConvF uncertainty for indicated target tissue parameters.

<sup>G</sup> Alpha/Depth are determined during calibration. SPEAG warrants that the remaining deviation due to the boundary effect after compensation is always less than ± 1% for frequencies below 3 GHz and below ± 2% for frequencies between 3-6 GHz at any distance larger than half the probe tip diameter from the boundary.

### Frequency Response of E-Field (TEM-Cell:ifi110 EXX, Waveguide: R22)



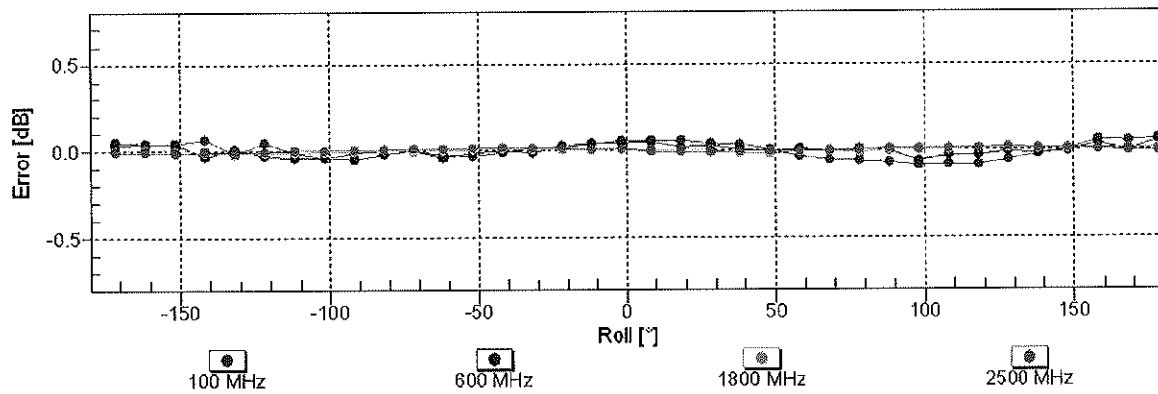
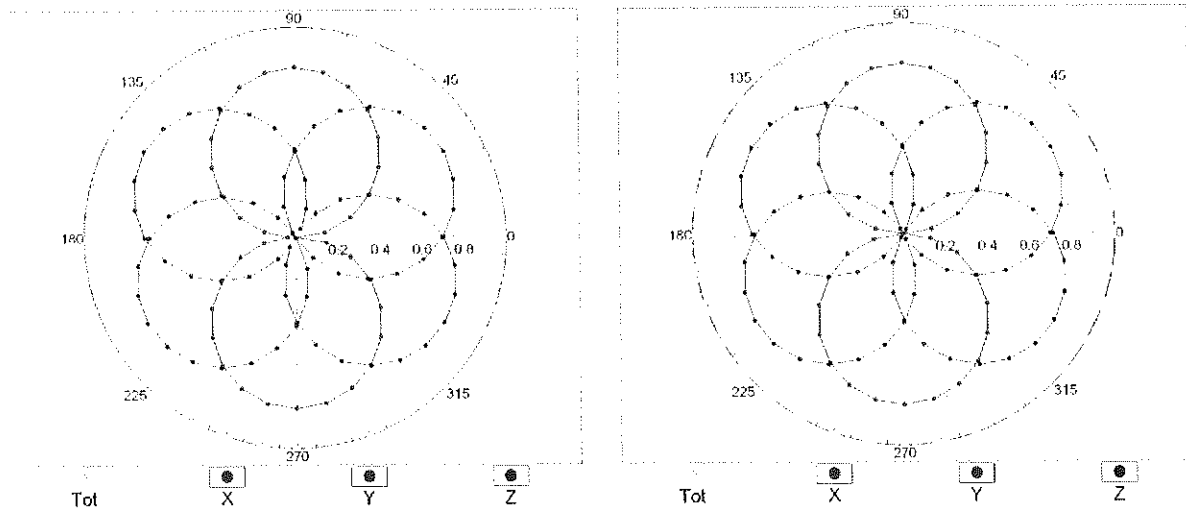
Uncertainty of Frequency Response of E-field:  $\pm 6.3\%$  (k=2)



## Receiving Pattern ( $\phi$ ), $\theta = 0^\circ$

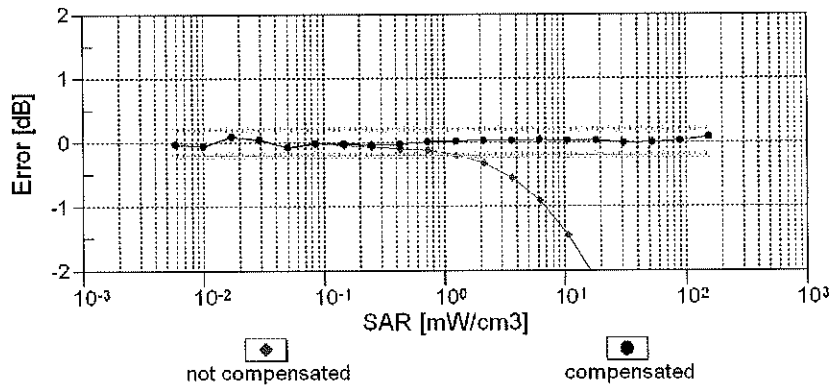
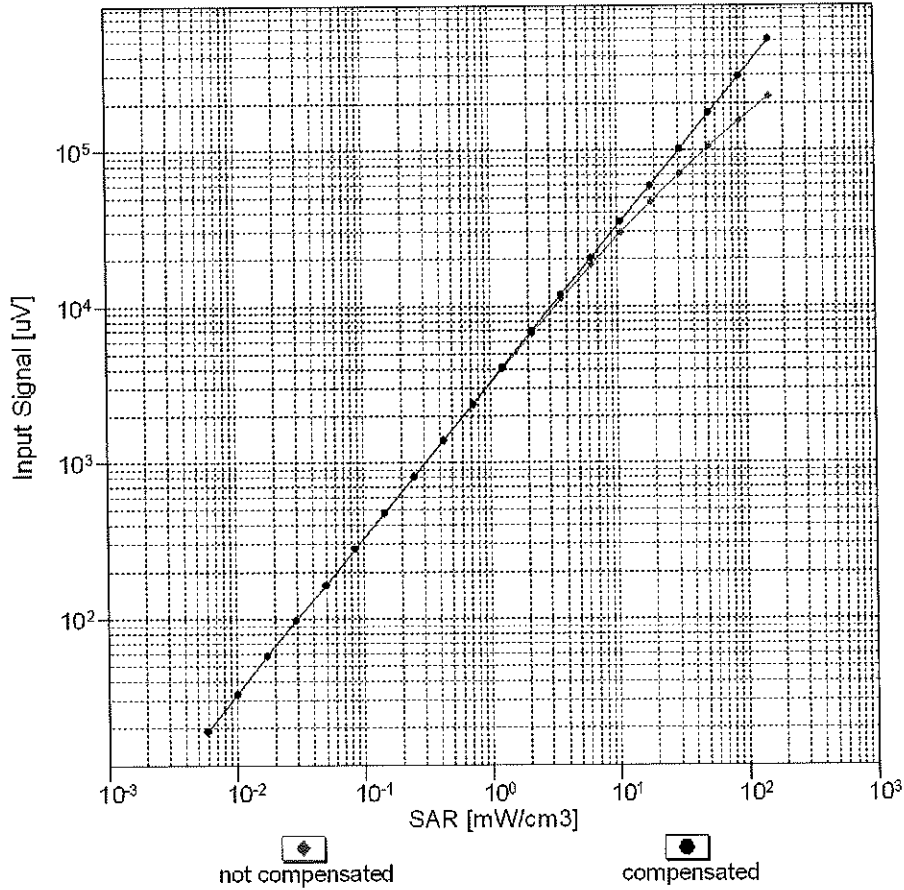
f=600 MHz,TEM

f=1800 MHz,R22



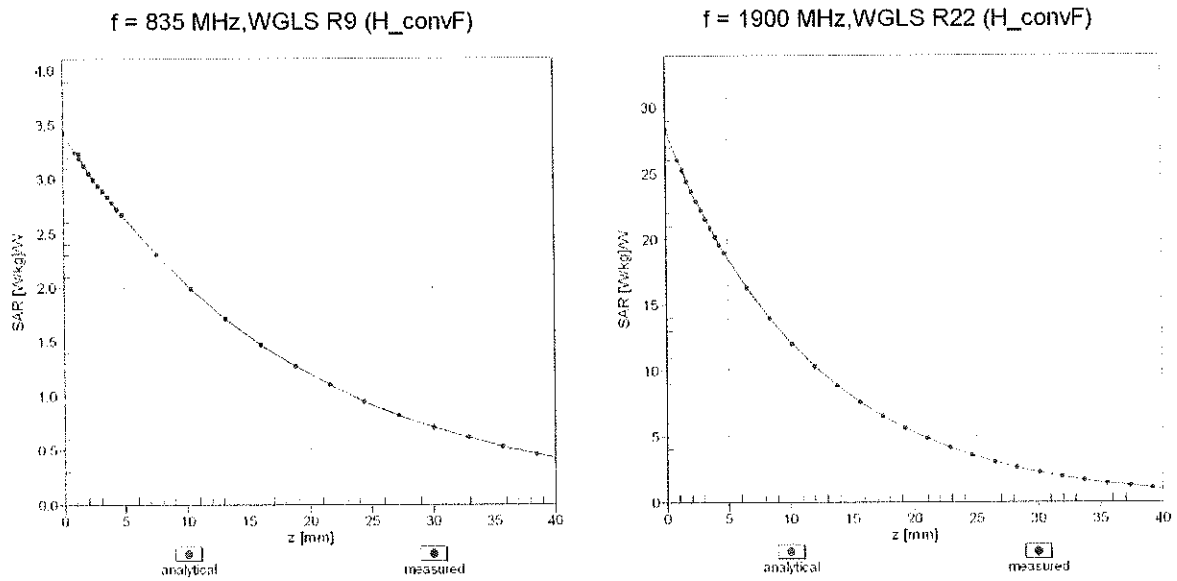
Uncertainty of Axial Isotropy Assessment:  $\pm 0.5\%$  ( $k=2$ )

### Dynamic Range $f(SAR_{head})$ (TEM cell , $f_{eval} = 1900$ MHz)

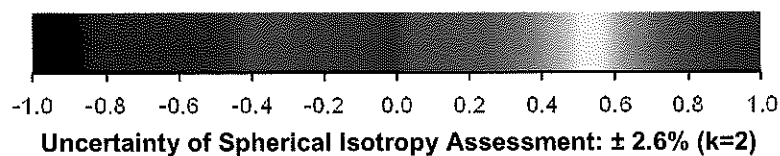
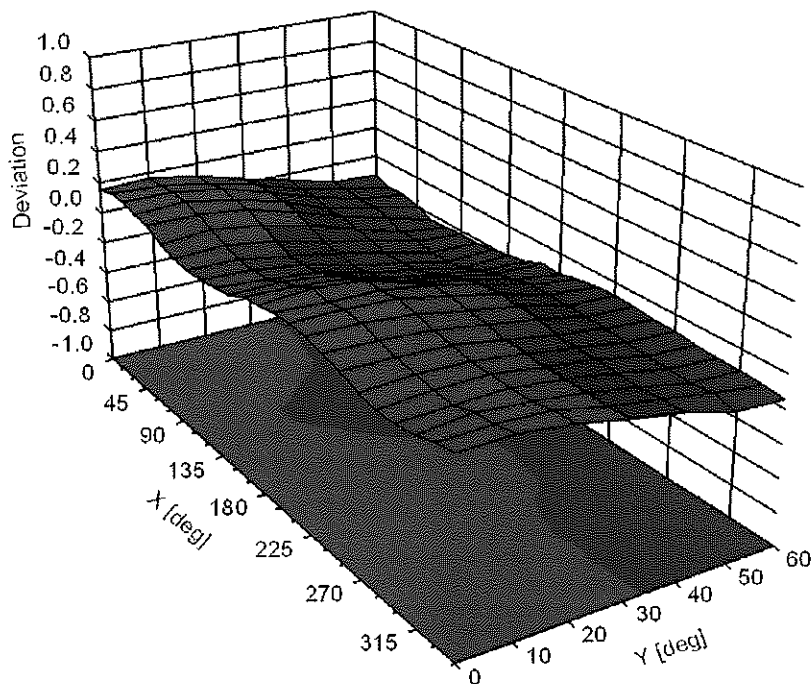


Uncertainty of Linearity Assessment:  $\pm 0.6\%$  ( $k=2$ )

### Conversion Factor Assessment



### Deviation from Isotropy in Liquid Error ( $\phi, \vartheta$ ), f = 900 MHz



## Appendix: Modulation Calibration Parameters

UID	Rev	Communication System Name	Group	PAR (dB)	Unc <sup>c</sup> (k=2)
0		CW	CW	0.00	± 4.7 %
10010	CAA	SAR Validation (Square, 100ms, 10ms)	Test	10.00	± 9.6 %
10011	CAB	UMTS-FDD (WCDMA)	WCDMA	2.91	± 9.6 %
10012	CAB	IEEE 802.11b WiFi 2.4 GHz (DSSS, 1 Mbps)	WLAN	1.87	± 9.6 %
10013	CAB	IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 6 Mbps)	WLAN	9.46	± 9.6 %
10021	DAC	GSM-FDD (TDMA, GMSK)	GSM	9.39	± 9.6 %
10023	DAC	GPRS-FDD (TDMA, GMSK, TN 0)	GSM	9.57	± 9.6 %
10024	DAC	GPRS-FDD (TDMA, GMSK, TN 0-1)	GSM	6.56	± 9.6 %
10025	DAC	EDGE-FDD (TDMA, 8PSK, TN 0)	GSM	12.62	± 9.6 %
10026	DAC	EDGE-FDD (TDMA, 8PSK, TN 0-1)	GSM	9.55	± 9.6 %
10027	DAC	GPRS-FDD (TDMA, GMSK, TN 0-1-2)	GSM	4.80	± 9.6 %
10028	DAC	GPRS-FDD (TDMA, GMSK, TN 0-1-2-3)	GSM	3.55	± 9.6 %
10029	DAC	EDGE-FDD (TDMA, 8PSK, TN 0-1-2)	GSM	7.78	± 9.6 %
10030	CAA	IEEE 802.15.1 Bluetooth (GFSK, DH1)	Bluetooth	5.30	± 9.6 %
10031	CAA	IEEE 802.15.1 Bluetooth (GFSK, DH3)	Bluetooth	1.87	± 9.6 %
10032	CAA	IEEE 802.15.1 Bluetooth (GFSK, DH5)	Bluetooth	1.16	± 9.6 %
10033	CAA	IEEE 802.15.1 Bluetooth (PI/4-DQPSK, DH1)	Bluetooth	7.74	± 9.6 %
10034	CAA	IEEE 802.15.1 Bluetooth (PI/4-DQPSK, DH3)	Bluetooth	4.53	± 9.6 %
10035	CAA	IEEE 802.15.1 Bluetooth (PI/4-DQPSK, DH5)	Bluetooth	3.83	± 9.6 %
10036	CAA	IEEE 802.15.1 Bluetooth (8-DPSK, DH1)	Bluetooth	8.01	± 9.6 %
10037	CAA	IEEE 802.15.1 Bluetooth (8-DPSK, DH3)	Bluetooth	4.77	± 9.6 %
10038	CAA	IEEE 802.15.1 Bluetooth (8-DPSK, DH5)	Bluetooth	4.10	± 9.6 %
10039	CAB	CDMA2000 (1xRTT, RC1)	CDMA2000	4.57	± 9.6 %
10042	CAB	IS-54 / IS-136 FDD (TDMA/FDM, PI/4-DQPSK, Halfrate)	AMPS	7.78	± 9.6 %
10044	CAA	IS-91/EIA/TIA-553 FDD (FDMA, FM)	AMPS	0.00	± 9.6 %
10048	CAA	DECT (TDD, TDMA/FDM, GFSK, Full Slot, 24)	DECT	13.80	± 9.6 %
10049	CAA	DECT (TDD, TDMA/FDM, GFSK, Double Slot, 12)	DECT	10.79	± 9.6 %
10056	CAA	UMTS-TDD (TD-SCDMA, 1.28 Mcps)	TD-SCDMA	11.01	± 9.6 %
10058	DAC	EDGE-FDD (TDMA, 8PSK, TN 0-1-2-3)	GSM	6.52	± 9.6 %
10059	CAB	IEEE 802.11b WiFi 2.4 GHz (DSSS, 2 Mbps)	WLAN	2.12	± 9.6 %
10060	CAB	IEEE 802.11b WiFi 2.4 GHz (DSSS, 5.5 Mbps)	WLAN	2.83	± 9.6 %
10061	CAB	IEEE 802.11b WiFi 2.4 GHz (DSSS, 11 Mbps)	WLAN	3.60	± 9.6 %
10062	CAD	IEEE 802.11a/h WiFi 5 GHz (OFDM, 6 Mbps)	WLAN	8.68	± 9.6 %
10063	CAD	IEEE 802.11a/h WiFi 5 GHz (OFDM, 9 Mbps)	WLAN	8.63	± 9.6 %
10064	CAD	IEEE 802.11a/h WiFi 5 GHz (OFDM, 12 Mbps)	WLAN	9.09	± 9.6 %
10065	CAD	IEEE 802.11a/h WiFi 5 GHz (OFDM, 18 Mbps)	WLAN	9.00	± 9.6 %
10066	CAD	IEEE 802.11a/h WiFi 5 GHz (OFDM, 24 Mbps)	WLAN	9.38	± 9.6 %
10067	CAD	IEEE 802.11a/h WiFi 5 GHz (OFDM, 36 Mbps)	WLAN	10.12	± 9.6 %
10068	CAD	IEEE 802.11a/h WiFi 5 GHz (OFDM, 48 Mbps)	WLAN	10.24	± 9.6 %
10069	CAD	IEEE 802.11a/h WiFi 5 GHz (OFDM, 54 Mbps)	WLAN	10.56	± 9.6 %
10071	CAB	IEEE 802.11g WiFi 2.4 GHz (DSSS/OFDM, 9 Mbps)	WLAN	9.83	± 9.6 %
10072	CAB	IEEE 802.11g WiFi 2.4 GHz (DSSS/OFDM, 12 Mbps)	WLAN	9.62	± 9.6 %
10073	CAB	IEEE 802.11g WiFi 2.4 GHz (DSSS/OFDM, 18 Mbps)	WLAN	9.94	± 9.6 %
10074	CAB	IEEE 802.11g WiFi 2.4 GHz (DSSS/OFDM, 24 Mbps)	WLAN	10.30	± 9.6 %
10075	CAB	IEEE 802.11g WiFi 2.4 GHz (DSSS/OFDM, 36 Mbps)	WLAN	10.77	± 9.6 %
10076	CAB	IEEE 802.11g WiFi 2.4 GHz (DSSS/OFDM, 48 Mbps)	WLAN	10.94	± 9.6 %
10077	CAB	IEEE 802.11g WiFi 2.4 GHz (DSSS/OFDM, 54 Mbps)	WLAN	11.00	± 9.6 %
10081	CAB	CDMA2000 (1xRTT, RC3)	CDMA2000	3.97	± 9.6 %
10082	CAB	IS-54 / IS-136 FDD (TDMA/FDM, PI/4-DQPSK, Fullrate)	AMPS	4.77	± 9.6 %
10090	DAC	GPRS-FDD (TDMA, GMSK, TN 0-4)	GSM	6.56	± 9.6 %
10097	CAC	UMTS-FDD (HSDPA)	WCDMA	3.98	± 9.6 %
10098	DAC	UMTS-FDD (HSUPA, Subtest 2)	WCDMA	3.98	± 9.6 %

10099	CAC	EDGE-FDD (TDMA, 8PSK, TN 0-4)	GSM	9.55	± 9.6 %
10100	CAC	LTE-FDD (SC-FDMA, 100% RB, 20 MHz, QPSK)	LTE-FDD	5.67	± 9.6 %
10101	CAB	LTE-FDD (SC-FDMA, 100% RB, 20 MHz, 16-QAM)	LTE-FDD	6.42	± 9.6 %
10102	CAB	LTE-FDD (SC-FDMA, 100% RB, 20 MHz, 64-QAM)	LTE-FDD	6.60	± 9.6 %
10103	DAC	LTE-TDD (SC-FDMA, 100% RB, 20 MHz, QPSK)	LTE-TDD	9.29	± 9.6 %
10104	CAE	LTE-TDD (SC-FDMA, 100% RB, 20 MHz, 16-QAM)	LTE-TDD	9.97	± 9.6 %
10105	CAE	LTE-TDD (SC-FDMA, 100% RB, 20 MHz, 64-QAM)	LTE-TDD	10.01	± 9.6 %
10108	CAE	LTE-FDD (SC-FDMA, 100% RB, 10 MHz, QPSK)	LTE-FDD	5.80	± 9.6 %
10109	CAG	LTE-FDD (SC-FDMA, 100% RB, 10 MHz, 16-QAM)	LTE-FDD	6.43	± 9.6 %
10110	CAG	LTE-FDD (SC-FDMA, 100% RB, 5 MHz, QPSK)	LTE-FDD	5.75	± 9.6 %
10111	CAG	LTE-FDD (SC-FDMA, 100% RB, 5 MHz, 16-QAM)	LTE-FDD	6.44	± 9.6 %
10112	CAG	LTE-FDD (SC-FDMA, 100% RB, 10 MHz, 64-QAM)	LTE-FDD	6.59	± 9.6 %
10113	CAG	LTE-FDD (SC-FDMA, 100% RB, 5 MHz, 64-QAM)	LTE-FDD	6.62	± 9.6 %
10114	CAG	IEEE 802.11n (HT Greenfield, 13.5 Mbps, BPSK)	WLAN	8.10	± 9.6 %
10115	CAG	IEEE 802.11n (HT Greenfield, 81 Mbps, 16-QAM)	WLAN	8.46	± 9.6 %
10116	CAG	IEEE 802.11n (HT Greenfield, 135 Mbps, 64-QAM)	WLAN	8.15	± 9.6 %
10117	CAG	IEEE 802.11n (HT Mixed, 13.5 Mbps, BPSK)	WLAN	8.07	± 9.6 %
10118	CAD	IEEE 802.11n (HT Mixed, 81 Mbps, 16-QAM)	WLAN	8.59	± 9.6 %
10119	CAD	IEEE 802.11n (HT Mixed, 135 Mbps, 64-QAM)	WLAN	8.13	± 9.6 %
10140	CAD	LTE-FDD (SC-FDMA, 100% RB, 15 MHz, 16-QAM)	LTE-FDD	6.49	± 9.6 %
10141	CAD	LTE-FDD (SC-FDMA, 100% RB, 15 MHz, 64-QAM)	LTE-FDD	6.53	± 9.6 %
10142	CAD	LTE-FDD (SC-FDMA, 100% RB, 3 MHz, QPSK)	LTE-FDD	5.73	± 9.6 %
10143	CAD	LTE-FDD (SC-FDMA, 100% RB, 3 MHz, 16-QAM)	LTE-FDD	6.35	± 9.6 %
10144	CAC	LTE-FDD (SC-FDMA, 100% RB, 3 MHz, 64-QAM)	LTE-FDD	6.65	± 9.6 %
10145	CAC	LTE-FDD (SC-FDMA, 100% RB, 1.4 MHz, QPSK)	LTE-FDD	5.76	± 9.6 %
10146	CAC	LTE-FDD (SC-FDMA, 100% RB, 1.4 MHz, 16-QAM)	LTE-FDD	6.41	± 9.6 %
10147	CAC	LTE-FDD (SC-FDMA, 100% RB, 1.4 MHz, 64-QAM)	LTE-FDD	6.72	± 9.6 %
10149	CAE	LTE-FDD (SC-FDMA, 50% RB, 20 MHz, 16-QAM)	LTE-FDD	6.42	± 9.6 %
10150	CAE	LTE-FDD (SC-FDMA, 50% RB, 20 MHz, 64-QAM)	LTE-FDD	6.60	± 9.6 %
10151	CAE	LTE-TDD (SC-FDMA, 50% RB, 20 MHz, QPSK)	LTE-TDD	9.28	± 9.6 %
10152	CAE	LTE-TDD (SC-FDMA, 50% RB, 20 MHz, 16-QAM)	LTE-TDD	9.92	± 9.6 %
10153	CAE	LTE-TDD (SC-FDMA, 50% RB, 20 MHz, 64-QAM)	LTE-TDD	10.05	± 9.6 %
10154	CAF	LTE-FDD (SC-FDMA, 50% RB, 10 MHz, QPSK)	LTE-FDD	5.75	± 9.6 %
10155	CAF	LTE-FDD (SC-FDMA, 50% RB, 10 MHz, 16-QAM)	LTE-FDD	6.43	± 9.6 %
10156	CAF	LTE-FDD (SC-FDMA, 50% RB, 5 MHz, QPSK)	LTE-FDD	5.79	± 9.6 %
10157	CAE	LTE-FDD (SC-FDMA, 50% RB, 5 MHz, 16-QAM)	LTE-FDD	6.49	± 9.6 %
10158	CAE	LTE-FDD (SC-FDMA, 50% RB, 10 MHz, 64-QAM)	LTE-FDD	6.62	± 9.6 %
10159	CAG	LTE-FDD (SC-FDMA, 50% RB, 5 MHz, 64-QAM)	LTE-FDD	6.56	± 9.6 %
10160	CAG	LTE-FDD (SC-FDMA, 50% RB, 15 MHz, QPSK)	LTE-FDD	5.82	± 9.6 %
10161	CAG	LTE-FDD (SC-FDMA, 50% RB, 15 MHz, 16-QAM)	LTE-FDD	6.43	± 9.6 %
10162	CAG	LTE-FDD (SC-FDMA, 50% RB, 15 MHz, 64-QAM)	LTE-FDD	6.58	± 9.6 %
10166	CAG	LTE-FDD (SC-FDMA, 50% RB, 1.4 MHz, QPSK)	LTE-FDD	5.46	± 9.6 %
10167	CAG	LTE-FDD (SC-FDMA, 50% RB, 1.4 MHz, 16-QAM)	LTE-FDD	6.21	± 9.6 %
10168	CAG	LTE-FDD (SC-FDMA, 50% RB, 1.4 MHz, 64-QAM)	LTE-FDD	6.79	± 9.6 %
10169	CAG	LTE-FDD (SC-FDMA, 1 RB, 20 MHz, QPSK)	LTE-FDD	5.73	± 9.6 %
10170	CAG	LTE-FDD (SC-FDMA, 1 RB, 20 MHz, 16-QAM)	LTE-FDD	6.52	± 9.6 %
10171	CAE	LTE-FDD (SC-FDMA, 1 RB, 20 MHz, 64-QAM)	LTE-FDD	6.49	± 9.6 %
10172	CAE	LTE-TDD (SC-FDMA, 1 RB, 20 MHz, QPSK)	LTE-TDD	9.21	± 9.6 %
10173	CAE	LTE-TDD (SC-FDMA, 1 RB, 20 MHz, 16-QAM)	LTE-TDD	9.48	± 9.6 %
10174	CAF	LTE-TDD (SC-FDMA, 1 RB, 20 MHz, 64-QAM)	LTE-TDD	10.25	± 9.6 %
10175	CAF	LTE-FDD (SC-FDMA, 1 RB, 10 MHz, QPSK)	LTE-FDD	5.72	± 9.6 %
10176	CAF	LTE-FDD (SC-FDMA, 1 RB, 10 MHz, 16-QAM)	LTE-FDD	6.52	± 9.6 %
10177	CAE	LTE-FDD (SC-FDMA, 1 RB, 5 MHz, QPSK)	LTE-FDD	5.73	± 9.6 %
10178	CAE	LTE-FDD (SC-FDMA, 1 RB, 5 MHz, 16-QAM)	LTE-FDD	6.52	± 9.6 %
10179	AAE	LTE-FDD (SC-FDMA, 1 RB, 10 MHz, 64-QAM)	LTE-FDD	6.50	± 9.6 %
10180	CAG	LTE-FDD (SC-FDMA, 1 RB, 5 MHz, 64-QAM)	LTE-FDD	6.50	± 9.6 %

10181	CAG	LTE-FDD (SC-FDMA, 1 RB, 15 MHz, QPSK)	LTE-FDD	5.72	± 9.6 %
10182	CAG	LTE-FDD (SC-FDMA, 1 RB, 15 MHz, 16-QAM)	LTE-FDD	6.52	± 9.6 %
10183	CAG	LTE-FDD (SC-FDMA, 1 RB, 15 MHz, 64-QAM)	LTE-FDD	6.50	± 9.6 %
10184	CAG	LTE-FDD (SC-FDMA, 1 RB, 3 MHz, QPSK)	LTE-FDD	5.73	± 9.6 %
10185	CAI	LTE-FDD (SC-FDMA, 1 RB, 3 MHz, 16-QAM)	LTE-FDD	6.51	± 9.6 %
10186	CAG	LTE-FDD (SC-FDMA, 1 RB, 3 MHz, 64-QAM)	LTE-FDD	6.50	± 9.6 %
10187	CAG	LTE-FDD (SC-FDMA, 1 RB, 1.4 MHz, QPSK)	LTE-FDD	5.73	± 9.6 %
10188	CAG	LTE-FDD (SC-FDMA, 1 RB, 1.4 MHz, 16-QAM)	LTE-FDD	6.52	± 9.6 %
10189	CAE	LTE-FDD (SC-FDMA, 1 RB, 1.4 MHz, 64-QAM)	LTE-FDD	6.50	± 9.6 %
10193	CAE	IEEE 802.11n (HT Greenfield, 6.5 Mbps, BPSK)	WLAN	8.09	± 9.6 %
10194	AAD	IEEE 802.11n (HT Greenfield, 39 Mbps, 16-QAM)	WLAN	8.12	± 9.6 %
10195	CAE	IEEE 802.11n (HT Greenfield, 65 Mbps, 64-QAM)	WLAN	8.21	± 9.6 %
10196	CAE	IEEE 802.11n (HT Mixed, 6.5 Mbps, BPSK)	WLAN	8.10	± 9.6 %
10197	AAE	IEEE 802.11n (HT Mixed, 39 Mbps, 16-QAM)	WLAN	8.13	± 9.6 %
10198	CAF	IEEE 802.11n (HT Mixed, 65 Mbps, 64-QAM)	WLAN	8.27	± 9.6 %
10219	CAF	IEEE 802.11n (HT Mixed, 7.2 Mbps, BPSK)	WLAN	8.03	± 9.6 %
10220	AAF	IEEE 802.11n (HT Mixed, 43.3 Mbps, 16-QAM)	WLAN	8.13	± 9.6 %
10221	CAC	IEEE 802.11n (HT Mixed, 72.2 Mbps, 64-QAM)	WLAN	8.27	± 9.6 %
10222	CAC	IEEE 802.11n (HT Mixed, 15 Mbps, BPSK)	WLAN	8.06	± 9.6 %
10223	CAD	IEEE 802.11n (HT Mixed, 90 Mbps, 16-QAM)	WLAN	8.48	± 9.6 %
10224	CAD	IEEE 802.11n (HT Mixed, 150 Mbps, 64-QAM)	WLAN	8.08	± 9.6 %
10225	CAD	UMTS-FDD (HSPA+)	WCDMA	5.97	± 9.6 %
10226	CAD	LTE-TDD (SC-FDMA, 1 RB, 1.4 MHz, 16-QAM)	LTE-TDD	9.49	± 9.6 %
10227	CAD	LTE-TDD (SC-FDMA, 1 RB, 1.4 MHz, 64-QAM)	LTE-TDD	10.26	± 9.6 %
10228	CAD	LTE-TDD (SC-FDMA, 1 RB, 1.4 MHz, QPSK)	LTE-TDD	9.22	± 9.6 %
10229	DAC	LTE-TDD (SC-FDMA, 1 RB, 3 MHz, 16-QAM)	LTE-TDD	9.48	± 9.6 %
10230	CAC	LTE-TDD (SC-FDMA, 1 RB, 3 MHz, 64-QAM)	LTE-TDD	10.25	± 9.6 %
10231	CAC	LTE-TDD (SC-FDMA, 1 RB, 3 MHz, QPSK)	LTE-TDD	9.19	± 9.6 %
10232	CAD	LTE-TDD (SC-FDMA, 1 RB, 5 MHz, 16-QAM)	LTE-TDD	9.48	± 9.6 %
10233	CAD	LTE-TDD (SC-FDMA, 1 RB, 5 MHz, 64-QAM)	LTE-TDD	10.25	± 9.6 %
10234	CAD	LTE-TDD (SC-FDMA, 1 RB, 5 MHz, QPSK)	LTE-TDD	9.21	± 9.6 %
10235	CAD	LTE-TDD (SC-FDMA, 1 RB, 10 MHz, 16-QAM)	LTE-TDD	9.48	± 9.6 %
10236	CAD	LTE-TDD (SC-FDMA, 1 RB, 10 MHz, 64-QAM)	LTE-TDD	10.25	± 9.6 %
10237	CAD	LTE-TDD (SC-FDMA, 1 RB, 10 MHz, QPSK)	LTE-TDD	9.21	± 9.6 %
10238	CAB	LTE-TDD (SC-FDMA, 1 RB, 15 MHz, 16-QAM)	LTE-TDD	9.48	± 9.6 %
10239	CAB	LTE-TDD (SC-FDMA, 1 RB, 15 MHz, 64-QAM)	LTE-TDD	10.25	± 9.6 %
10240	CAB	LTE-TDD (SC-FDMA, 1 RB, 15 MHz, QPSK)	LTE-TDD	9.21	± 9.6 %
10241	CAB	LTE-TDD (SC-FDMA, 50% RB, 1.4 MHz, 16-QAM)	LTE-TDD	9.82	± 9.6 %
10242	CAD	LTE-TDD (SC-FDMA, 50% RB, 1.4 MHz, 64-QAM)	LTE-TDD	9.86	± 9.6 %
10243	CAD	LTE-TDD (SC-FDMA, 50% RB, 1.4 MHz, QPSK)	LTE-TDD	9.46	± 9.6 %
10244	CAD	LTE-TDD (SC-FDMA, 50% RB, 3 MHz, 16-QAM)	LTE-TDD	10.06	± 9.6 %
10245	CAG	LTE-TDD (SC-FDMA, 50% RB, 3 MHz, 64-QAM)	LTE-TDD	10.06	± 9.6 %
10246	CAG	LTE-TDD (SC-FDMA, 50% RB, 3 MHz, QPSK)	LTE-TDD	9.30	± 9.6 %
10247	CAG	LTE-TDD (SC-FDMA, 50% RB, 5 MHz, 16-QAM)	LTE-TDD	9.91	± 9.6 %
10248	CAG	LTE-TDD (SC-FDMA, 50% RB, 5 MHz, 64-QAM)	LTE-TDD	10.09	± 9.6 %
10249	CAG	LTE-TDD (SC-FDMA, 50% RB, 5 MHz, QPSK)	LTE-TDD	9.29	± 9.6 %
10250	CAG	LTE-TDD (SC-FDMA, 50% RB, 10 MHz, 16-QAM)	LTE-TDD	9.81	± 9.6 %
10251	CAF	LTE-TDD (SC-FDMA, 50% RB, 10 MHz, 64-QAM)	LTE-TDD	10.17	± 9.6 %
10252	CAF	LTE-TDD (SC-FDMA, 50% RB, 10 MHz, QPSK)	LTE-TDD	9.24	± 9.6 %
10253	CAF	LTE-TDD (SC-FDMA, 50% RB, 15 MHz, 16-QAM)	LTE-TDD	9.90	± 9.6 %
10254	CAB	LTE-TDD (SC-FDMA, 50% RB, 15 MHz, 64-QAM)	LTE-TDD	10.14	± 9.6 %
10255	CAB	LTE-TDD (SC-FDMA, 50% RB, 15 MHz, QPSK)	LTE-TDD	9.20	± 9.6 %
10256	CAB	LTE-TDD (SC-FDMA, 100% RB, 1.4 MHz, 16-QAM)	LTE-TDD	9.96	± 9.6 %
10257	CAD	LTE-TDD (SC-FDMA, 100% RB, 1.4 MHz, 64-QAM)	LTE-TDD	10.08	± 9.6 %
10258	CAD	LTE-TDD (SC-FDMA, 100% RB, 1.4 MHz, QPSK)	LTE-TDD	9.34	± 9.6 %
10259	CAD	LTE-TDD (SC-FDMA, 100% RB, 3 MHz, 16-QAM)	LTE-TDD	9.98	± 9.6 %

10260	CAG	LTE-TDD (SC-FDMA, 100% RB, 3 MHz, 64-QAM)	LTE-TDD	9.97	± 9.6 %
10261	CAG	LTE-TDD (SC-FDMA, 100% RB, 3 MHz, QPSK)	LTE-TDD	9.24	± 9.6 %
10262	CAG	LTE-TDD (SC-FDMA, 100% RB, 5 MHz, 16-QAM)	LTE-TDD	9.83	± 9.6 %
10263	CAG	LTE-TDD (SC-FDMA, 100% RB, 5 MHz, 64-QAM)	LTE-TDD	10.16	± 9.6 %
10264	CAG	LTE-TDD (SC-FDMA, 100% RB, 5 MHz, QPSK)	LTE-TDD	9.23	± 9.6 %
10265	CAG	LTE-TDD (SC-FDMA, 100% RB, 10 MHz, 16-QAM)	LTE-TDD	9.92	± 9.6 %
10266	CAF	LTE-TDD (SC-FDMA, 100% RB, 10 MHz, 64-QAM)	LTE-TDD	10.07	± 9.6 %
10267	CAF	LTE-TDD (SC-FDMA, 100% RB, 10 MHz, QPSK)	LTE-TDD	9.30	± 9.6 %
10268	CAF	LTE-TDD (SC-FDMA, 100% RB, 15 MHz, 16-QAM)	LTE-TDD	10.06	± 9.6 %
10269	CAB	LTE-TDD (SC-FDMA, 100% RB, 15 MHz, 64-QAM)	LTE-TDD	10.13	± 9.6 %
10270	CAB	LTE-TDD (SC-FDMA, 100% RB, 15 MHz, QPSK)	LTE-TDD	9.58	± 9.6 %
10274	CAB	UMTS-FDD (HSUPA, Subtest 5, 3GPP Rel8.10)	WCDMA	4.87	± 9.6 %
10275	CAD	UMTS-FDD (HSUPA, Subtest 5, 3GPP Rel8.4)	WCDMA	3.96	± 9.6 %
10277	CAD	PHS (QPSK)	PHS	11.81	± 9.6 %
10278	CAD	PHS (QPSK, BW 884MHz, Rolloff 0.5)	PHS	11.81	± 9.6 %
10279	CAG	PHS (QPSK, BW 884MHz, Rolloff 0.38)	PHS	12.18	± 9.6 %
10290	CAG	CDMA2000, RC1, SO55, Full Rate	CDMA2000	3.91	± 9.6 %
10291	CAG	CDMA2000, RC3, SO55, Full Rate	CDMA2000	3.46	± 9.6 %
10292	CAG	CDMA2000, RC3, SO32, Full Rate	CDMA2000	3.39	± 9.6 %
10293	CAG	CDMA2000, RC3, SO3, Full Rate	CDMA2000	3.50	± 9.6 %
10295	CAG	CDMA2000, RC1, SO3, 1/8th Rate 25 fr.	CDMA2000	12.49	± 9.6 %
10297	CAF	LTE-FDD (SC-FDMA, 50% RB, 20 MHz, QPSK)	LTE-FDD	5.81	± 9.6 %
10298	CAF	LTE-FDD (SC-FDMA, 50% RB, 3 MHz, QPSK)	LTE-FDD	5.72	± 9.6 %
10299	CAF	LTE-FDD (SC-FDMA, 50% RB, 3 MHz, 16-QAM)	LTE-FDD	6.39	± 9.6 %
10300	CAC	LTE-FDD (SC-FDMA, 50% RB, 3 MHz, 64-QAM)	LTE-FDD	6.60	± 9.6 %
10301	CAC	IEEE 802.16e WiMAX (29:18, 5ms, 10MHz, QPSK, PUSC)	WiMAX	12.03	± 9.6 %
10302	CAB	IEEE 802.16e WiMAX (29:18, 5ms, 10MHz, QPSK, PUSC, 3CTRL)	WiMAX	12.57	± 9.6 %
10303	CAB	IEEE 802.16e WiMAX (31:15, 5ms, 10MHz, 64QAM, PUSC)	WiMAX	12.52	± 9.6 %
10304	CAA	IEEE 802.16e WiMAX (29:18, 5ms, 10MHz, 64QAM, PUSC)	WiMAX	11.86	± 9.6 %
10305	CAA	IEEE 802.16e WiMAX (31:15, 10ms, 10MHz, 64QAM, PUSC)	WiMAX	15.24	± 9.6 %
10306	CAA	IEEE 802.16e WiMAX (29:18, 10ms, 10MHz, 64QAM, PUSC)	WiMAX	14.67	± 9.6 %
10307	AAB	IEEE 802.16e WiMAX (29:18, 10ms, 10MHz, QPSK, PUSC)	WiMAX	14.49	± 9.6 %
10308	AAB	IEEE 802.16e WiMAX (29:18, 10ms, 10MHz, 16QAM, PUSC)	WiMAX	14.46	± 9.6 %
10309	AAB	IEEE 802.16e WiMAX (29:18, 10ms, 10MHz, 16QAM, AMC 2x3)	WiMAX	14.58	± 9.6 %
10310	AAB	IEEE 802.16e WiMAX (29:18, 10ms, 10MHz, QPSK, AMC 2x3)	WiMAX	14.57	± 9.6 %
10311	AAB	LTE-FDD (SC-FDMA, 100% RB, 15 MHz, QPSK)	LTE-FDD	6.06	± 9.6 %
10313	AAD	iDEN 1:3	iDEN	10.51	± 9.6 %
10314	AAD	iDEN 1:6	iDEN	13.48	± 9.6 %
10315	AAD	IEEE 802.11b WiFi 2.4 GHz (DSSS, 1 Mbps, 96pc dc)	WLAN	1.71	± 9.6 %
10316	AAD	IEEE 802.11g WiFi 2.4 GHz (ERP-OFDM, 6 Mbps, 96pc dc)	WLAN	8.36	± 9.6 %
10317	AAA	IEEE 802.11a WiFi 5 GHz (OFDM, 6 Mbps, 96pc dc)	WLAN	8.36	± 9.6 %
10352	AAA	Pulse Waveform (200Hz, 10%)	Generic	10.00	± 9.6 %
10353	AAA	Pulse Waveform (200Hz, 20%)	Generic	6.99	± 9.6 %
10354	AAA	Pulse Waveform (200Hz, 40%)	Generic	3.98	± 9.6 %
10355	AAA	Pulse Waveform (200Hz, 60%)	Generic	2.22	± 9.6 %
10356	AAA	Pulse Waveform (200Hz, 80%)	Generic	0.97	± 9.6 %
10387	AAA	QPSK Waveform, 1 MHz	Generic	5.10	± 9.6 %
10388	AAA	QPSK Waveform, 10 MHz	Generic	5.22	± 9.6 %
10396	AAA	64-QAM Waveform, 100 kHz	Generic	6.27	± 9.6 %
10399	AAA	64-QAM Waveform, 40 MHz	Generic	6.27	± 9.6 %
10400	AAD	IEEE 802.11ac WiFi (20MHz, 64-QAM, 99pc dc)	WLAN	8.37	± 9.6 %
10401	AAA	IEEE 802.11ac WiFi (40MHz, 64-QAM, 99pc dc)	WLAN	8.60	± 9.6 %
10402	AAA	IEEE 802.11ac WiFi (80MHz, 64-QAM, 99pc dc)	WLAN	8.53	± 9.6 %
10403	AAB	CDMA2000 (1xEV-DO, Rev. 0)	CDMA2000	3.76	± 9.6 %
10404	AAB	CDMA2000 (1xEV-DO, Rev. A)	CDMA2000	3.77	± 9.6 %
10406	AAD	CDMA2000, RC3, SO32, SCH0, Full Rate	CDMA2000	5.22	± 9.6 %

10410	AAA	LTE-TDD (SC-FDMA, 1 RB, 10 MHz, QPSK, UL Sub=2,3,4,7,8,9)	LTE-TDD	7.82	± 9.6 %
10414	AAA	WLAN CCDF, 64-QAM, 40MHz	Generic	8.54	± 9.6 %
10415	AAA	IEEE 802.11b WiFi 2.4 GHz (DSSS, 1 Mbps, 99pc dc)	WLAN	1.54	± 9.6 %
10416	AAA	IEEE 802.11g WiFi 2.4 GHz (ERP-OFDM, 6 Mbps, 99pc dc)	WLAN	8.23	± 9.6 %
10417	AAA	IEEE 802.11a/h WiFi 5 GHz (OFDM, 6 Mbps, 99pc dc)	WLAN	8.23	± 9.6 %
10418	AAA	IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 6 Mbps, 99pc, Long)	WLAN	8.14	± 9.6 %
10419	AAA	IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 6 Mbps, 99pc, Short)	WLAN	8.19	± 9.6 %
10422	AAA	IEEE 802.11n (HT Greenfield, 7.2 Mbps, BPSK)	WLAN	8.32	± 9.6 %
10423	AAA	IEEE 802.11n (HT Greenfield, 43.3 Mbps, 16-QAM)	WLAN	8.47	± 9.6 %
10424	AAE	IEEE 802.11n (HT Greenfield, 72.2 Mbps, 64-QAM)	WLAN	8.40	± 9.6 %
10425	AAE	IEEE 802.11n (HT Greenfield, 15 Mbps, BPSK)	WLAN	8.41	± 9.6 %
10426	AAE	IEEE 802.11n (HT Greenfield, 90 Mbps, 16-QAM)	WLAN	8.45	± 9.6 %
10427	AAB	IEEE 802.11n (HT Greenfield, 150 Mbps, 64-QAM)	WLAN	8.41	± 9.6 %
10430	AAB	LTE-FDD (OFDMA, 5 MHz, E-TM 3.1)	LTE-FDD	8.28	± 9.6 %
10431	AAC	LTE-FDD (OFDMA, 10 MHz, E-TM 3.1)	LTE-FDD	8.38	± 9.6 %
10432	AAB	LTE-FDD (OFDMA, 15 MHz, E-TM 3.1)	LTE-FDD	8.34	± 9.6 %
10433	AAC	LTE-FDD (OFDMA, 20 MHz, E-TM 3.1)	LTE-FDD	8.34	± 9.6 %
10434	AAG	W-CDMA (BS Test Model 1, 64 DPCH)	WCDMA	8.60	± 9.6 %
10435	AAA	LTE-TDD (SC-FDMA, 1 RB, 20 MHz, QPSK, UL Sub)	LTE-TDD	7.82	± 9.6 %
10447	AAA	LTE-FDD (OFDMA, 5 MHz, E-TM 3.1, Clipping 44%)	LTE-FDD	7.56	± 9.6 %
10448	AAA	LTE-FDD (OFDMA, 10 MHz, E-TM 3.1, Clipping 44%)	LTE-FDD	7.53	± 9.6 %
10449	AAC	LTE-FDD (OFDMA, 15 MHz, E-TM 3.1, Clipping 44%)	LTE-FDD	7.51	± 9.6 %
10450	AAA	LTE-FDD (OFDMA, 20 MHz, E-TM 3.1, Clipping 44%)	LTE-FDD	7.48	± 9.6 %
10451	AAA	W-CDMA (BS Test Model 1, 64 DPCH, Clipping 44%)	WCDMA	7.59	± 9.6 %
10453	AAC	Validation (Square, 10ms, 1ms)	Test	10.00	± 9.6 %
10456	AAC	IEEE 802.11ac WiFi (160MHz, 64-QAM, 99pc dc)	WLAN	8.63	± 9.6 %
10457	AAC	UMTS-FDD (DC-HSDPA)	WCDMA	6.62	± 9.6 %
10458	AAC	CDMA2000 (1xEV-DO, Rev. B, 2 carriers)	CDMA2000	6.55	± 9.6 %
10459	AAC	CDMA2000 (1xEV-DO, Rev. B, 3 carriers)	CDMA2000	8.25	± 9.6 %
10460	AAC	UMTS-FDD (WCDMA, AMR)	WCDMA	2.39	± 9.6 %
10461	AAC	LTE-TDD (SC-FDMA, 1 RB, 1.4 MHz, QPSK, UL Sub)	LTE-TDD	7.82	± 9.6 %
10462	AAC	LTE-TDD (SC-FDMA, 1 RB, 1.4 MHz, 16-QAM, UL Sub)	LTE-TDD	8.30	± 9.6 %
10463	AAD	LTE-TDD (SC-FDMA, 1 RB, 1.4 MHz, 64-QAM, UL Sub)	LTE-TDD	8.56	± 9.6 %
10464	AAD	LTE-TDD (SC-FDMA, 1 RB, 3 MHz, QPSK, UL Sub)	LTE-TDD	7.82	± 9.6 %
10465	AAC	LTE-TDD (SC-FDMA, 1 RB, 3 MHz, 16-QAM, UL Sub)	LTE-TDD	8.32	± 9.6 %
10466	AAC	LTE-TDD (SC-FDMA, 1 RB, 3 MHz, 64-QAM, UL Sub)	LTE-TDD	8.57	± 9.6 %
10467	AAA	LTE-TDD (SC-FDMA, 1 RB, 5 MHz, QPSK, UL Sub)	LTE-TDD	7.82	± 9.6 %
10468	AAF	LTE-TDD (SC-FDMA, 1 RB, 5 MHz, 16-QAM, UL Sub)	LTE-TDD	8.32	± 9.6 %
10469	AAD	LTE-TDD (SC-FDMA, 1 RB, 5 MHz, 64-QAM, UL Sub)	LTE-TDD	8.56	± 9.6 %
10470	AAD	LTE-TDD (SC-FDMA, 1 RB, 10 MHz, QPSK, UL Sub)	LTE-TDD	7.82	± 9.6 %
10471	AAC	LTE-TDD (SC-FDMA, 1 RB, 10 MHz, 16-QAM, UL Sub)	LTE-TDD	8.32	± 9.6 %
10472	AAC	LTE-TDD (SC-FDMA, 1 RB, 10 MHz, 64-QAM, UL Sub)	LTE-TDD	8.57	± 9.6 %
10473	AAA	LTE-TDD (SC-FDMA, 1 RB, 15 MHz, QPSK, UL Sub)	LTE-TDD	7.82	± 9.6 %
10474	AAC	LTE-TDD (SC-FDMA, 1 RB, 15 MHz, 16-QAM, UL Sub)	LTE-TDD	8.32	± 9.6 %
10475	AAD	LTE-TDD (SC-FDMA, 1 RB, 15 MHz, 64-QAM, UL Sub)	LTE-TDD	8.57	± 9.6 %
10477	AAC	LTE-TDD (SC-FDMA, 1 RB, 20 MHz, 16-QAM, UL Sub)	LTE-TDD	8.32	± 9.6 %
10478	AAC	LTE-TDD (SC-FDMA, 1 RB, 20 MHz, 64-QAM, UL Sub)	LTE-TDD	8.57	± 9.6 %
10479	AAC	LTE-TDD (SC-FDMA, 50% RB, 1.4 MHz, QPSK, UL Sub)	LTE-TDD	7.74	± 9.6 %
10480	AAA	LTE-TDD (SC-FDMA, 50% RB, 1.4 MHz, 16-QAM, UL Sub)	LTE-TDD	8.18	± 9.6 %
10481	AAA	LTE-TDD (SC-FDMA, 50% RB, 1.4 MHz, 64-QAM, UL Sub)	LTE-TDD	8.45	± 9.6 %
10482	AAA	LTE-TDD (SC-FDMA, 50% RB, 3 MHz, QPSK, UL Sub)	LTE-TDD	7.71	± 9.6 %
10483	AAA	LTE-TDD (SC-FDMA, 50% RB, 3 MHz, 16-QAM, Sub)	LTE-TDD	8.39	± 9.6 %
10484	AAB	LTE-TDD (SC-FDMA, 50% RB, 3 MHz, 64-QAM, UL Sub)	LTE-TDD	8.47	± 9.6 %
10485	AAB	LTE-TDD (SC-FDMA, 50% RB, 5 MHz, QPSK, UL Sub)	LTE-TDD	7.59	± 9.6 %
10486	AAB	LTE-TDD (SC-FDMA, 50% RB, 5 MHz, 16-QAM, UL Sub)	LTE-TDD	8.38	± 9.6 %
10487	AAC	LTE-TDD (SC-FDMA, 50% RB, 5 MHz, 64-QAM, UL Sub)	LTE-TDD	8.60	± 9.6 %



10488	AAC	LTE-TDD (SC-FDMA, 50% RB, 10 MHz, QPSK, UL Sub)	LTE-TDD	7.70	± 9.6 %
10489	AAC	LTE-TDD (SC-FDMA, 50% RB, 10 MHz, 16-QAM, UL Sub)	LTE-TDD	8.31	± 9.6 %
10490	AAF	LTE-TDD (SC-FDMA, 50% RB, 10 MHz, 64-QAM, UL Sub)	LTE-TDD	8.54	± 9.6 %
10491	AAF	LTE-TDD (SC-FDMA, 50% RB, 15 MHz, QPSK, UL Sub)	LTE-TDD	7.74	± 9.6 %
10492	AAF	LTE-TDD (SC-FDMA, 50% RB, 15 MHz, 16-QAM, UL Sub)	LTE-TDD	8.41	± 9.6 %
10493	AAF	LTE-TDD (SC-FDMA, 50% RB, 15 MHz, 64-QAM, UL Sub)	LTE-TDD	8.55	± 9.6 %
10494	AAF	LTE-TDD (SC-FDMA, 50% RB, 20 MHz, QPSK, UL Sub)	LTE-TDD	7.74	± 9.6 %
10495	AAF	LTE-TDD (SC-FDMA, 50% RB, 20 MHz, 16-QAM, UL Sub)	LTE-TDD	8.37	± 9.6 %
10496	AAE	LTE-TDD (SC-FDMA, 50% RB, 20 MHz, 64-QAM, UL Sub)	LTE-TDD	8.54	± 9.6 %
10497	AAE	LTE-TDD (SC-FDMA, 100% RB, 1.4 MHz, QPSK, UL Sub)	LTE-TDD	7.67	± 9.6 %
10498	AAE	LTE-TDD (SC-FDMA, 100% RB, 1.4 MHz, 16-QAM, UL Sub)	LTE-TDD	8.40	± 9.6 %
10499	AAC	LTE-TDD (SC-FDMA, 100% RB, 1.4 MHz, 64-QAM, UL Sub)	LTE-TDD	8.68	± 9.6 %
10500	AAF	LTE-TDD (SC-FDMA, 100% RB, 3 MHz, QPSK, UL Sub)	LTE-TDD	7.67	± 9.6 %
10501	AAF	LTE-TDD (SC-FDMA, 100% RB, 3 MHz, 16-QAM, UL Sub)	LTE-TDD	8.44	± 9.6 %
10502	AAB	LTE-TDD (SC-FDMA, 100% RB, 3 MHz, 64-QAM, UL Sub)	LTE-TDD	8.52	± 9.6 %
10503	AAB	LTE-TDD (SC-FDMA, 100% RB, 5 MHz, QPSK, UL Sub)	LTE-TDD	7.72	± 9.6 %
10504	AAB	LTE-TDD (SC-FDMA, 100% RB, 5 MHz, 16-QAM, UL Sub)	LTE-TDD	8.31	± 9.6 %
10505	AAC	LTE-TDD (SC-FDMA, 100% RB, 5 MHz, 64-QAM, UL Sub)	LTE-TDD	8.54	± 9.6 %
10506	AAC	LTE-TDD (SC-FDMA, 100% RB, 10 MHz, QPSK, UL Sub)	LTE-TDD	7.74	± 9.6 %
10507	AAC	LTE-TDD (SC-FDMA, 100% RB, 10 MHz, 16-QAM, UL Sub)	LTE-TDD	8.36	± 9.6 %
10508	AAF	LTE-TDD (SC-FDMA, 100% RB, 10 MHz, 64-QAM, UL Sub)	LTE-TDD	8.55	± 9.6 %
10509	AAF	LTE-TDD (SC-FDMA, 100% RB, 15 MHz, QPSK, UL Sub)	LTE-TDD	7.99	± 9.6 %
10510	AAF	LTE-TDD (SC-FDMA, 100% RB, 15 MHz, 16-QAM, UL Sub)	LTE-TDD	8.49	± 9.6 %
10511	AAF	LTE-TDD (SC-FDMA, 100% RB, 15 MHz, 64-QAM, UL Sub)	LTE-TDD	8.51	± 9.6 %
10512	AAF	LTE-TDD (SC-FDMA, 100% RB, 20 MHz, QPSK, UL Sub)	LTE-TDD	7.74	± 9.6 %
10513	AAF	LTE-TDD (SC-FDMA, 100% RB, 20 MHz, 16-QAM, UL Sub)	LTE-TDD	8.42	± 9.6 %
10514	AAE	LTE-TDD (SC-FDMA, 100% RB, 20 MHz, 64-QAM, UL Sub)	LTE-TDD	8.45	± 9.6 %
10515	AAE	IEEE 802.11b WiFi 2.4 GHz (DSSS, 2 Mbps, 99pc dc)	WLAN	1.58	± 9.6 %
10516	AAE	IEEE 802.11b WiFi 2.4 GHz (DSSS, 5.5 Mbps, 99pc dc)	WLAN	1.57	± 9.6 %
10517	AAF	IEEE 802.11b WiFi 2.4 GHz (DSSS, 11 Mbps, 99pc dc)	WLAN	1.58	± 9.6 %
10518	AAF	IEEE 802.11a/h WiFi 5 GHz (OFDM, 9 Mbps, 99pc dc)	WLAN	8.23	± 9.6 %
10519	AAF	IEEE 802.11a/h WiFi 5 GHz (OFDM, 12 Mbps, 99pc dc)	WLAN	8.39	± 9.6 %
10520	AAB	IEEE 802.11a/h WiFi 5 GHz (OFDM, 18 Mbps, 99pc dc)	WLAN	8.12	± 9.6 %
10521	AAB	IEEE 802.11a/h WiFi 5 GHz (OFDM, 24 Mbps, 99pc dc)	WLAN	7.97	± 9.6 %
10522	AAB	IEEE 802.11a/h WiFi 5 GHz (OFDM, 36 Mbps, 99pc dc)	WLAN	8.45	± 9.6 %
10523	AAC	IEEE 802.11a/h WiFi 5 GHz (OFDM, 48 Mbps, 99pc dc)	WLAN	8.08	± 9.6 %
10524	AAC	IEEE 802.11a/h WiFi 5 GHz (OFDM, 54 Mbps, 99pc dc)	WLAN	8.27	± 9.6 %
10525	AAC	IEEE 802.11ac WiFi (20MHz, MCS0, 99pc dc)	WLAN	8.36	± 9.6 %
10526	AAF	IEEE 802.11ac WiFi (20MHz, MCS1, 99pc dc)	WLAN	8.42	± 9.6 %
10527	AAF	IEEE 802.11ac WiFi (20MHz, MCS2, 99pc dc)	WLAN	8.21	± 9.6 %
10528	AAF	IEEE 802.11ac WiFi (20MHz, MCS3, 99pc dc)	WLAN	8.36	± 9.6 %
10529	AAF	IEEE 802.11ac WiFi (20MHz, MCS4, 99pc dc)	WLAN	8.36	± 9.6 %
10531	AAF	IEEE 802.11ac WiFi (20MHz, MCS6, 99pc dc)	WLAN	8.43	± 9.6 %
10532	AAF	IEEE 802.11ac WiFi (20MHz, MCS7, 99pc dc)	WLAN	8.29	± 9.6 %
10533	AAE	IEEE 802.11ac WiFi (20MHz, MCS8, 99pc dc)	WLAN	8.38	± 9.6 %
10534	AAE	IEEE 802.11ac WiFi (40MHz, MCS0, 99pc dc)	WLAN	8.45	± 9.6 %
10535	AAE	IEEE 802.11ac WiFi (40MHz, MCS1, 99pc dc)	WLAN	8.45	± 9.6 %
10536	AAF	IEEE 802.11ac WiFi (40MHz, MCS2, 99pc dc)	WLAN	8.32	± 9.6 %
10537	AAF	IEEE 802.11ac WiFi (40MHz, MCS3, 99pc dc)	WLAN	8.44	± 9.6 %
10538	AAF	IEEE 802.11ac WiFi (40MHz, MCS4, 99pc dc)	WLAN	8.54	± 9.6 %
10540	AAA	IEEE 802.11ac WiFi (40MHz, MCS6, 99pc dc)	WLAN	8.39	± 9.6 %
10541	AAA	IEEE 802.11ac WiFi (40MHz, MCS7, 99pc dc)	WLAN	8.46	± 9.6 %
10542	AAA	IEEE 802.11ac WiFi (40MHz, MCS8, 99pc dc)	WLAN	8.65	± 9.6 %
10543	AAC	IEEE 802.11ac WiFi (40MHz, MCS9, 99pc dc)	WLAN	8.65	± 9.6 %
10544	AAC	IEEE 802.11ac WiFi (80MHz, MCS0, 99pc dc)	WLAN	8.47	± 9.6 %
10545	AAC	IEEE 802.11ac WiFi (80MHz, MCS1, 99pc dc)	WLAN	8.55	± 9.6 %

10546	AAC	IEEE 802.11ac WiFi (80MHz, MCS2, 99pc dc)	WLAN	8.35	± 9.6 %
10547	AAC	IEEE 802.11ac WiFi (80MHz, MCS3, 99pc dc)	WLAN	8.49	± 9.6 %
10548	AAC	IEEE 802.11ac WiFi (80MHz, MCS4, 99pc dc)	WLAN	8.37	± 9.6 %
10550	AAC	IEEE 802.11ac WiFi (80MHz, MCS6, 99pc dc)	WLAN	8.38	± 9.6 %
10551	AAC	IEEE 802.11ac WiFi (80MHz, MCS7, 99pc dc)	WLAN	8.50	± 9.6 %
10552	AAC	IEEE 802.11ac WiFi (80MHz, MCS8, 99pc dc)	WLAN	8.42	± 9.6 %
10553	AAC	IEEE 802.11ac WiFi (80MHz, MCS9, 99pc dc)	WLAN	8.45	± 9.6 %
10554	AAC	IEEE 802.11ac WiFi (160MHz, MCS0, 99pc dc)	WLAN	8.48	± 9.6 %
10555	AAC	IEEE 802.11ac WiFi (160MHz, MCS1, 99pc dc)	WLAN	8.47	± 9.6 %
10556	AAC	IEEE 802.11ac WiFi (160MHz, MCS2, 99pc dc)	WLAN	8.50	± 9.6 %
10557	AAC	IEEE 802.11ac WiFi (160MHz, MCS3, 99pc dc)	WLAN	8.52	± 9.6 %
10558	AAC	IEEE 802.11ac WiFi (160MHz, MCS4, 99pc dc)	WLAN	8.61	± 9.6 %
10560	AAC	IEEE 802.11ac WiFi (160MHz, MCS6, 99pc dc)	WLAN	8.73	± 9.6 %
10561	AAC	IEEE 802.11ac WiFi (160MHz, MCS7, 99pc dc)	WLAN	8.56	± 9.6 %
10562	AAC	IEEE 802.11ac WiFi (160MHz, MCS8, 99pc dc)	WLAN	8.69	± 9.6 %
10563	AAC	IEEE 802.11ac WiFi (160MHz, MCS9, 99pc dc)	WLAN	8.77	± 9.6 %
10564	AAC	IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 9 Mbps, 99pc dc)	WLAN	8.25	± 9.6 %
10565	AAC	IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 12 Mbps, 99pc dc)	WLAN	8.45	± 9.6 %
10566	AAC	IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 18 Mbps, 99pc dc)	WLAN	8.13	± 9.6 %
10567	AAC	IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 24 Mbps, 99pc dc)	WLAN	8.00	± 9.6 %
10568	AAC	IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 36 Mbps, 99pc dc)	WLAN	8.37	± 9.6 %
10569	AAC	IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 48 Mbps, 99pc dc)	WLAN	8.10	± 9.6 %
10570	AAC	IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 54 Mbps, 99pc dc)	WLAN	8.30	± 9.6 %
10571	AAC	IEEE 802.11b WiFi 2.4 GHz (DSSS, 1 Mbps, 90pc dc)	WLAN	1.99	± 9.6 %
10572	AAC	IEEE 802.11b WiFi 2.4 GHz (DSSS, 2 Mbps, 90pc dc)	WLAN	1.99	± 9.6 %
10573	AAC	IEEE 802.11b WiFi 2.4 GHz (DSSS, 5.5 Mbps, 90pc dc)	WLAN	1.98	± 9.6 %
10574	AAC	IEEE 802.11b WiFi 2.4 GHz (DSSS, 11 Mbps, 90pc dc)	WLAN	1.98	± 9.6 %
10575	AAC	IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 6 Mbps, 90pc dc)	WLAN	8.59	± 9.6 %
10576	AAC	IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 9 Mbps, 90pc dc)	WLAN	8.60	± 9.6 %
10577	AAC	IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 12 Mbps, 90pc dc)	WLAN	8.70	± 9.6 %
10578	AAD	IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 18 Mbps, 90pc dc)	WLAN	8.49	± 9.6 %
10579	AAD	IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 24 Mbps, 90pc dc)	WLAN	8.36	± 9.6 %
10580	AAD	IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 36 Mbps, 90pc dc)	WLAN	8.76	± 9.6 %
10581	AAD	IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 48 Mbps, 90pc dc)	WLAN	8.35	± 9.6 %
10582	AAD	IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 54 Mbps, 90pc dc)	WLAN	8.67	± 9.6 %
10583	AAD	IEEE 802.11a/h WiFi 5 GHz (OFDM, 6 Mbps, 90pc dc)	WLAN	8.59	± 9.6 %
10584	AAD	IEEE 802.11a/h WiFi 5 GHz (OFDM, 9 Mbps, 90pc dc)	WLAN	8.60	± 9.6 %
10585	AAD	IEEE 802.11a/h WiFi 5 GHz (OFDM, 12 Mbps, 90pc dc)	WLAN	8.70	± 9.6 %
10586	AAD	IEEE 802.11a/h WiFi 5 GHz (OFDM, 18 Mbps, 90pc dc)	WLAN	8.49	± 9.6 %
10587	AAA	IEEE 802.11a/h WiFi 5 GHz (OFDM, 24 Mbps, 90pc dc)	WLAN	8.36	± 9.6 %
10588	AAA	IEEE 802.11a/h WiFi 5 GHz (OFDM, 36 Mbps, 90pc dc)	WLAN	8.76	± 9.6 %
10589	AAA	IEEE 802.11a/h WiFi 5 GHz (OFDM, 48 Mbps, 90pc dc)	WLAN	8.35	± 9.6 %
10590	AAA	IEEE 802.11a/h WiFi 5 GHz (OFDM, 54 Mbps, 90pc dc)	WLAN	8.67	± 9.6 %
10591	AAA	IEEE 802.11n (HT Mixed, 20MHz, MCS0, 90pc dc)	WLAN	8.63	± 9.6 %
10592	AAA	IEEE 802.11n (HT Mixed, 20MHz, MCS1, 90pc dc)	WLAN	8.79	± 9.6 %
10593	AAA	IEEE 802.11n (HT Mixed, 20MHz, MCS2, 90pc dc)	WLAN	8.64	± 9.6 %
10594	AAA	IEEE 802.11n (HT Mixed, 20MHz, MCS3, 90pc dc)	WLAN	8.74	± 9.6 %
10595	AAA	IEEE 802.11n (HT Mixed, 20MHz, MCS4, 90pc dc)	WLAN	8.74	± 9.6 %
10596	AAA	IEEE 802.11n (HT Mixed, 20MHz, MCS5, 90pc dc)	WLAN	8.71	± 9.6 %
10597	AAA	IEEE 802.11n (HT Mixed, 20MHz, MCS6, 90pc dc)	WLAN	8.72	± 9.6 %
10598	AAA	IEEE 802.11n (HT Mixed, 20MHz, MCS7, 90pc dc)	WLAN	8.50	± 9.6 %
10599	AAA	IEEE 802.11n (HT Mixed, 40MHz, MCS0, 90pc dc)	WLAN	8.79	± 9.6 %
10600	AAA	IEEE 802.11n (HT Mixed, 40MHz, MCS1, 90pc dc)	WLAN	8.88	± 9.6 %
10601	AAA	IEEE 802.11n (HT Mixed, 40MHz, MCS2, 90pc dc)	WLAN	8.82	± 9.6 %
10602	AAA	IEEE 802.11n (HT Mixed, 40MHz, MCS3, 90pc dc)	WLAN	8.94	± 9.6 %
10603	AAA	IEEE 802.11n (HT Mixed, 40MHz, MCS4, 90pc dc)	WLAN	9.03	± 9.6 %

10604	AAA	IEEE 802.11n (HT Mixed, 40MHz, MCS5, 90pc dc)	WLAN	8.76	± 9.6 %
10605	AAA	IEEE 802.11n (HT Mixed, 40MHz, MCS6, 90pc dc)	WLAN	8.97	± 9.6 %
10606	AAC	IEEE 802.11n (HT Mixed, 40MHz, MCS7, 90pc dc)	WLAN	8.82	± 9.6 %
10607	AAC	IEEE 802.11ac WiFi (20MHz, MCS0, 90pc dc)	WLAN	8.64	± 9.6 %
10608	AAC	IEEE 802.11ac WiFi (20MHz, MCS1, 90pc dc)	WLAN	8.77	± 9.6 %
10609	AAC	IEEE 802.11ac WiFi (20MHz, MCS2, 90pc dc)	WLAN	8.57	± 9.6 %
10610	AAC	IEEE 802.11ac WiFi (20MHz, MCS3, 90pc dc)	WLAN	8.78	± 9.6 %
10611	AAC	IEEE 802.11ac WiFi (20MHz, MCS4, 90pc dc)	WLAN	8.70	± 9.6 %
10612	AAC	IEEE 802.11ac WiFi (20MHz, MCS5, 90pc dc)	WLAN	8.77	± 9.6 %
10613	AAC	IEEE 802.11ac WiFi (20MHz, MCS6, 90pc dc)	WLAN	8.94	± 9.6 %
10614	AAC	IEEE 802.11ac WiFi (20MHz, MCS7, 90pc dc)	WLAN	8.59	± 9.6 %
10615	AAC	IEEE 802.11ac WiFi (20MHz, MCS8, 90pc dc)	WLAN	8.82	± 9.6 %
10616	AAC	IEEE 802.11ac WiFi (40MHz, MCS0, 90pc dc)	WLAN	8.82	± 9.6 %
10617	AAC	IEEE 802.11ac WiFi (40MHz, MCS1, 90pc dc)	WLAN	8.81	± 9.6 %
10618	AAC	IEEE 802.11ac WiFi (40MHz, MCS2, 90pc dc)	WLAN	8.58	± 9.6 %
10619	AAC	IEEE 802.11ac WiFi (40MHz, MCS3, 90pc dc)	WLAN	8.86	± 9.6 %
10620	AAC	IEEE 802.11ac WiFi (40MHz, MCS4, 90pc dc)	WLAN	8.87	± 9.6 %
10621	AAC	IEEE 802.11ac WiFi (40MHz, MCS5, 90pc dc)	WLAN	8.77	± 9.6 %
10622	AAC	IEEE 802.11ac WiFi (40MHz, MCS6, 90pc dc)	WLAN	8.68	± 9.6 %
10623	AAC	IEEE 802.11ac WiFi (40MHz, MCS7, 90pc dc)	WLAN	8.82	± 9.6 %
10624	AAC	IEEE 802.11ac WiFi (40MHz, MCS8, 90pc dc)	WLAN	8.96	± 9.6 %
10625	AAC	IEEE 802.11ac WiFi (40MHz, MCS9, 90pc dc)	WLAN	8.96	± 9.6 %
10626	AAC	IEEE 802.11ac WiFi (80MHz, MCS0, 90pc dc)	WLAN	8.83	± 9.6 %
10627	AAC	IEEE 802.11ac WiFi (80MHz, MCS1, 90pc dc)	WLAN	8.88	± 9.6 %
10628	AAC	IEEE 802.11ac WiFi (80MHz, MCS2, 90pc dc)	WLAN	8.71	± 9.6 %
10629	AAC	IEEE 802.11ac WiFi (80MHz, MCS3, 90pc dc)	WLAN	8.85	± 9.6 %
10630	AAC	IEEE 802.11ac WiFi (80MHz, MCS4, 90pc dc)	WLAN	8.72	± 9.6 %
10631	AAC	IEEE 802.11ac WiFi (80MHz, MCS5, 90pc dc)	WLAN	8.81	± 9.6 %
10632	AAC	IEEE 802.11ac WiFi (80MHz, MCS6, 90pc dc)	WLAN	8.74	± 9.6 %
10633	AAC	IEEE 802.11ac WiFi (80MHz, MCS7, 90pc dc)	WLAN	8.83	± 9.6 %
10634	AAC	IEEE 802.11ac WiFi (80MHz, MCS8, 90pc dc)	WLAN	8.80	± 9.6 %
10635	AAC	IEEE 802.11ac WiFi (80MHz, MCS9, 90pc dc)	WLAN	8.81	± 9.6 %
10636	AAC	IEEE 802.11ac WiFi (160MHz, MCS0, 90pc dc)	WLAN	8.83	± 9.6 %
10637	AAC	IEEE 802.11ac WiFi (160MHz, MCS1, 90pc dc)	WLAN	8.79	± 9.6 %
10638	AAC	IEEE 802.11ac WiFi (160MHz, MCS2, 90pc dc)	WLAN	8.86	± 9.6 %
10639	AAC	IEEE 802.11ac WiFi (160MHz, MCS3, 90pc dc)	WLAN	8.85	± 9.6 %
10640	AAC	IEEE 802.11ac WiFi (160MHz, MCS4, 90pc dc)	WLAN	8.98	± 9.6 %
10641	AAC	IEEE 802.11ac WiFi (160MHz, MCS5, 90pc dc)	WLAN	9.06	± 9.6 %
10642	AAC	IEEE 802.11ac WiFi (160MHz, MCS6, 90pc dc)	WLAN	9.06	± 9.6 %
10643	AAC	IEEE 802.11ac WiFi (160MHz, MCS7, 90pc dc)	WLAN	8.89	± 9.6 %
10644	AAC	IEEE 802.11ac WiFi (160MHz, MCS8, 90pc dc)	WLAN	9.05	± 9.6 %
10645	AAC	IEEE 802.11ac WiFi (160MHz, MCS9, 90pc dc)	WLAN	9.11	± 9.6 %
10646	AAC	LTE-TDD (SC-FDMA, 1 RB, 5 MHz, QPSK, UL Sub=2,7)	LTE-TDD	11.96	± 9.6 %
10647	AAC	LTE-TDD (SC-FDMA, 1 RB, 20 MHz, QPSK, UL Sub=2,7)	LTE-TDD	11.96	± 9.6 %
10648	AAC	CDMA2000 (1x Advanced)	CDMA2000	3.45	± 9.6 %
10652	AAC	LTE-TDD (OFDMA, 5 MHz, E-TM 3.1, Clipping 44%)	LTE-TDD	6.91	± 9.6 %
10653	AAC	LTE-TDD (OFDMA, 10 MHz, E-TM 3.1, Clipping 44%)	LTE-TDD	7.42	± 9.6 %
10654	AAC	LTE-TDD (OFDMA, 15 MHz, E-TM 3.1, Clipping 44%)	LTE-TDD	6.96	± 9.6 %
10655	AAC	LTE-TDD (OFDMA, 20 MHz, E-TM 3.1, Clipping 44%)	LTE-TDD	7.21	± 9.6 %
10658	AAC	Pulse Waveform (200Hz, 10%)	Test	10.00	± 9.6 %
10659	AAC	Pulse Waveform (200Hz, 20%)	Test	6.99	± 9.6 %
10660	AAC	Pulse Waveform (200Hz, 40%)	Test	3.98	± 9.6 %
10661	AAC	Pulse Waveform (200Hz, 60%)	Test	2.22	± 9.6 %
10662	AAC	Pulse Waveform (200Hz, 80%)	Test	0.97	± 9.6 %
10670	AAC	Bluetooth Low Energy	Bluetooth	2.19	± 9.6 %
10671	AAD	IEEE 802.11ax (20MHz, MCS0, 90pc dc)	WLAN	9.09	± 9.6 %

10672	AAD	IEEE 802.11ax (20MHz, MCS1, 90pc dc)	WLAN	8.57	± 9.6 %
10673	AAD	IEEE 802.11ax (20MHz, MCS2, 90pc dc)	WLAN	8.78	± 9.6 %
10674	AAD	IEEE 802.11ax (20MHz, MCS3, 90pc dc)	WLAN	8.74	± 9.6 %
10675	AAD	IEEE 802.11ax (20MHz, MCS4, 90pc dc)	WLAN	8.90	± 9.6 %
10676	AAD	IEEE 802.11ax (20MHz, MCS5, 90pc dc)	WLAN	8.77	± 9.6 %
10677	AAD	IEEE 802.11ax (20MHz, MCS6, 90pc dc)	WLAN	8.73	± 9.6 %
10678	AAD	IEEE 802.11ax (20MHz, MCS7, 90pc dc)	WLAN	8.78	± 9.6 %
10679	AAD	IEEE 802.11ax (20MHz, MCS8, 90pc dc)	WLAN	8.89	± 9.6 %
10680	AAD	IEEE 802.11ax (20MHz, MCS9, 90pc dc)	WLAN	8.80	± 9.6 %
10681	AAG	IEEE 802.11ax (20MHz, MCS10, 90pc dc)	WLAN	8.62	± 9.6 %
10682	AAF	IEEE 802.11ax (20MHz, MCS11, 90pc dc)	WLAN	8.83	± 9.6 %
10683	AAA	IEEE 802.11ax (20MHz, MCS0, 99pc dc)	WLAN	8.42	± 9.6 %
10684	AAC	IEEE 802.11ax (20MHz, MCS1, 99pc dc)	WLAN	8.26	± 9.6 %
10685	AAC	IEEE 802.11ax (20MHz, MCS2, 99pc dc)	WLAN	8.33	± 9.6 %
10686	AAC	IEEE 802.11ax (20MHz, MCS3, 99pc dc)	WLAN	8.28	± 9.6 %
10687	AAE	IEEE 802.11ax (20MHz, MCS4, 99pc dc)	WLAN	8.45	± 9.6 %
10688	AAE	IEEE 802.11ax (20MHz, MCS5, 99pc dc)	WLAN	8.29	± 9.6 %
10689	AAD	IEEE 802.11ax (20MHz, MCS6, 99pc dc)	WLAN	8.55	± 9.6 %
10690	AAE	IEEE 802.11ax (20MHz, MCS7, 99pc dc)	WLAN	8.29	± 9.6 %
10691	AAB	IEEE 802.11ax (20MHz, MCS8, 99pc dc)	WLAN	8.25	± 9.6 %
10692	AAA	IEEE 802.11ax (20MHz, MCS9, 99pc dc)	WLAN	8.29	± 9.6 %
10693	AAA	IEEE 802.11ax (20MHz, MCS10, 99pc dc)	WLAN	8.25	± 9.6 %
10694	AAA	IEEE 802.11ax (20MHz, MCS11, 99pc dc)	WLAN	8.57	± 9.6 %
10695	AAA	IEEE 802.11ax (40MHz, MCS0, 90pc dc)	WLAN	8.78	± 9.6 %
10696	AAA	IEEE 802.11ax (40MHz, MCS1, 90pc dc)	WLAN	8.91	± 9.6 %
10697	AAA	IEEE 802.11ax (40MHz, MCS2, 90pc dc)	WLAN	8.61	± 9.6 %
10698	AAA	IEEE 802.11ax (40MHz, MCS3, 90pc dc)	WLAN	8.89	± 9.6 %
10699	AAA	IEEE 802.11ax (40MHz, MCS4, 90pc dc)	WLAN	8.82	± 9.6 %
10700	AAA	IEEE 802.11ax (40MHz, MCS5, 90pc dc)	WLAN	8.73	± 9.6 %
10701	AAA	IEEE 802.11ax (40MHz, MCS6, 90pc dc)	WLAN	8.86	± 9.6 %
10702	AAA	IEEE 802.11ax (40MHz, MCS7, 90pc dc)	WLAN	8.70	± 9.6 %
10703	AAA	IEEE 802.11ax (40MHz, MCS8, 90pc dc)	WLAN	8.82	± 9.6 %
10704	AAA	IEEE 802.11ax (40MHz, MCS9, 90pc dc)	WLAN	8.56	± 9.6 %
10705	AAA	IEEE 802.11ax (40MHz, MCS10, 90pc dc)	WLAN	8.69	± 9.6 %
10706	AAC	IEEE 802.11ax (40MHz, MCS11, 90pc dc)	WLAN	8.66	± 9.6 %
10707	AAC	IEEE 802.11ax (40MHz, MCS0, 99pc dc)	WLAN	8.32	± 9.6 %
10708	AAC	IEEE 802.11ax (40MHz, MCS1, 99pc dc)	WLAN	8.55	± 9.6 %
10709	AAC	IEEE 802.11ax (40MHz, MCS2, 99pc dc)	WLAN	8.33	± 9.6 %
10710	AAC	IEEE 802.11ax (40MHz, MCS3, 99pc dc)	WLAN	8.29	± 9.6 %
10711	AAC	IEEE 802.11ax (40MHz, MCS4, 99pc dc)	WLAN	8.39	± 9.6 %
10712	AAC	IEEE 802.11ax (40MHz, MCS5, 99pc dc)	WLAN	8.67	± 9.6 %
10713	AAC	IEEE 802.11ax (40MHz, MCS6, 99pc dc)	WLAN	8.33	± 9.6 %
10714	AAC	IEEE 802.11ax (40MHz, MCS7, 99pc dc)	WLAN	8.26	± 9.6 %
10715	AAC	IEEE 802.11ax (40MHz, MCS8, 99pc dc)	WLAN	8.45	± 9.6 %
10716	AAC	IEEE 802.11ax (40MHz, MCS9, 99pc dc)	WLAN	8.30	± 9.6 %
10717	AAC	IEEE 802.11ax (40MHz, MCS10, 99pc dc)	WLAN	8.48	± 9.6 %
10718	AAC	IEEE 802.11ax (40MHz, MCS11, 99pc dc)	WLAN	8.24	± 9.6 %
10719	AAC	IEEE 802.11ax (80MHz, MCS0, 90pc dc)	WLAN	8.81	± 9.6 %
10720	AAC	IEEE 802.11ax (80MHz, MCS1, 90pc dc)	WLAN	8.87	± 9.6 %
10721	AAC	IEEE 802.11ax (80MHz, MCS2, 90pc dc)	WLAN	8.76	± 9.6 %
10722	AAC	IEEE 802.11ax (80MHz, MCS3, 90pc dc)	WLAN	8.55	± 9.6 %
10723	AAC	IEEE 802.11ax (80MHz, MCS4, 90pc dc)	WLAN	8.70	± 9.6 %
10724	AAC	IEEE 802.11ax (80MHz, MCS5, 90pc dc)	WLAN	8.90	± 9.6 %
10725	AAC	IEEE 802.11ax (80MHz, MCS6, 90pc dc)	WLAN	8.74	± 9.6 %
10726	AAC	IEEE 802.11ax (80MHz, MCS7, 90pc dc)	WLAN	8.72	± 9.6 %
10727	AAC	IEEE 802.11ax (80MHz, MCS8, 90pc dc)	WLAN	8.66	± 9.6 %

10728	AAC	IEEE 802.11ax (80MHz, MCS9, 90pc dc)	WLAN	8.65	± 9.6 %
10729	AAC	IEEE 802.11ax (80MHz, MCS10, 90pc dc)	WLAN	8.64	± 9.6 %
10730	AAC	IEEE 802.11ax (80MHz, MCS11, 90pc dc)	WLAN	8.67	± 9.6 %
10731	AAC	IEEE 802.11ax (80MHz, MCS0, 99pc dc)	WLAN	8.42	± 9.6 %
10732	AAC	IEEE 802.11ax (80MHz, MCS1, 99pc dc)	WLAN	8.46	± 9.6 %
10733	AAC	IEEE 802.11ax (80MHz, MCS2, 99pc dc)	WLAN	8.40	± 9.6 %
10734	AAC	IEEE 802.11ax (80MHz, MCS3, 99pc dc)	WLAN	8.25	± 9.6 %
10735	AAC	IEEE 802.11ax (80MHz, MCS4, 99pc dc)	WLAN	8.33	± 9.6 %
10736	AAC	IEEE 802.11ax (80MHz, MCS5, 99pc dc)	WLAN	8.27	± 9.6 %
10737	AAC	IEEE 802.11ax (80MHz, MCS6, 99pc dc)	WLAN	8.36	± 9.6 %
10738	AAC	IEEE 802.11ax (80MHz, MCS7, 99pc dc)	WLAN	8.42	± 9.6 %
10739	AAC	IEEE 802.11ax (80MHz, MCS8, 99pc dc)	WLAN	8.29	± 9.6 %
10740	AAC	IEEE 802.11ax (80MHz, MCS9, 99pc dc)	WLAN	8.48	± 9.6 %
10741	AAC	IEEE 802.11ax (80MHz, MCS10, 99pc dc)	WLAN	8.40	± 9.6 %
10742	AAC	IEEE 802.11ax (80MHz, MCS11, 99pc dc)	WLAN	8.43	± 9.6 %
10743	AAC	IEEE 802.11ax (160MHz, MCS0, 90pc dc)	WLAN	8.94	± 9.6 %
10744	AAC	IEEE 802.11ax (160MHz, MCS1, 90pc dc)	WLAN	9.16	± 9.6 %
10745	AAC	IEEE 802.11ax (160MHz, MCS2, 90pc dc)	WLAN	8.93	± 9.6 %
10746	AAC	IEEE 802.11ax (160MHz, MCS3, 90pc dc)	WLAN	9.11	± 9.6 %
10747	AAC	IEEE 802.11ax (160MHz, MCS4, 90pc dc)	WLAN	9.04	± 9.6 %
10748	AAC	IEEE 802.11ax (160MHz, MCS5, 90pc dc)	WLAN	8.93	± 9.6 %
10749	AAC	IEEE 802.11ax (160MHz, MCS6, 90pc dc)	WLAN	8.90	± 9.6 %
10750	AAC	IEEE 802.11ax (160MHz, MCS7, 90pc dc)	WLAN	8.79	± 9.6 %
10751	AAC	IEEE 802.11ax (160MHz, MCS8, 90pc dc)	WLAN	8.82	± 9.6 %
10752	AAC	IEEE 802.11ax (160MHz, MCS9, 90pc dc)	WLAN	8.81	± 9.6 %
10753	AAC	IEEE 802.11ax (160MHz, MCS10, 90pc dc)	WLAN	9.00	± 9.6 %
10754	AAC	IEEE 802.11ax (160MHz, MCS11, 90pc dc)	WLAN	8.94	± 9.6 %
10755	AAC	IEEE 802.11ax (160MHz, MCS0, 99pc dc)	WLAN	8.64	± 9.6 %
10756	AAC	IEEE 802.11ax (160MHz, MCS1, 99pc dc)	WLAN	8.77	± 9.6 %
10757	AAC	IEEE 802.11ax (160MHz, MCS2, 99pc dc)	WLAN	8.77	± 9.6 %
10758	AAC	IEEE 802.11ax (160MHz, MCS3, 99pc dc)	WLAN	8.69	± 9.6 %
10759	AAC	IEEE 802.11ax (160MHz, MCS4, 99pc dc)	WLAN	8.58	± 9.6 %
10760	AAC	IEEE 802.11ax (160MHz, MCS5, 99pc dc)	WLAN	8.49	± 9.6 %
10761	AAC	IEEE 802.11ax (160MHz, MCS6, 99pc dc)	WLAN	8.58	± 9.6 %
10762	AAC	IEEE 802.11ax (160MHz, MCS7, 99pc dc)	WLAN	8.49	± 9.6 %
10763	AAC	IEEE 802.11ax (160MHz, MCS8, 99pc dc)	WLAN	8.53	± 9.6 %
10764	AAC	IEEE 802.11ax (160MHz, MCS9, 99pc dc)	WLAN	8.54	± 9.6 %
10765	AAC	IEEE 802.11ax (160MHz, MCS10, 99pc dc)	WLAN	8.54	± 9.6 %
10766	AAC	IEEE 802.11ax (160MHz, MCS11, 99pc dc)	WLAN	8.51	± 9.6 %
10767	AAC	5G NR (CP-OFDM, 1 RB, 5 MHz, QPSK, 15 kHz)	5G NR FR1 TDD	7.99	± 9.6 %
10768	AAC	5G NR (CP-OFDM, 1 RB, 10 MHz, QPSK, 15 kHz)	5G NR FR1 TDD	8.01	± 9.6 %
10769	AAC	5G NR (CP-OFDM, 1 RB, 15 MHz, QPSK, 15 kHz)	5G NR FR1 TDD	8.01	± 9.6 %
10770	AAC	5G NR (CP-OFDM, 1 RB, 20 MHz, QPSK, 15 kHz)	5G NR FR1 TDD	8.02	± 9.6 %
10771	AAC	5G NR (CP-OFDM, 1 RB, 25 MHz, QPSK, 15 kHz)	5G NR FR1 TDD	8.02	± 9.6 %
10772	AAC	5G NR (CP-OFDM, 1 RB, 30 MHz, QPSK, 15 kHz)	5G NR FR1 TDD	8.23	± 9.6 %
10773	AAC	5G NR (CP-OFDM, 1 RB, 40 MHz, QPSK, 15 kHz)	5G NR FR1 TDD	8.03	± 9.6 %
10774	AAC	5G NR (CP-OFDM, 1 RB, 50 MHz, QPSK, 15 kHz)	5G NR FR1 TDD	8.02	± 9.6 %
10775	AAC	5G NR (CP-OFDM, 50% RB, 5 MHz, QPSK, 15 kHz)	5G NR FR1 TDD	8.31	± 9.6 %
10776	AAC	5G NR (CP-OFDM, 50% RB, 10 MHz, QPSK, 15 kHz)	5G NR FR1 TDD	8.30	± 9.6 %
10777	AAC	5G NR (CP-OFDM, 50% RB, 15 MHz, QPSK, 15 kHz)	5G NR FR1 TDD	8.30	± 9.6 %
10778	AAC	5G NR (CP-OFDM, 50% RB, 20 MHz, QPSK, 15 kHz)	5G NR FR1 TDD	8.34	± 9.6 %
10779	AAC	5G NR (CP-OFDM, 50% RB, 25 MHz, QPSK, 15 kHz)	5G NR FR1 TDD	8.42	± 9.6 %
10780	AAC	5G NR (CP-OFDM, 50% RB, 30 MHz, QPSK, 15 kHz)	5G NR FR1 TDD	8.38	± 9.6 %
10781	AAC	5G NR (CP-OFDM, 50% RB, 40 MHz, QPSK, 15 kHz)	5G NR FR1 TDD	8.38	± 9.6 %
10782	AAC	5G NR (CP-OFDM, 50% RB, 50 MHz, QPSK, 15 kHz)	5G NR FR1 TDD	8.43	± 9.6 %
10783	AAC	5G NR (CP-OFDM, 100% RB, 5 MHz, QPSK, 15 kHz)	5G NR FR1 TDD	8.31	± 9.6 %

10784	AAC	5G NR (CP-OFDM, 100% RB, 10 MHz, QPSK, 15 kHz)	5G NR FR1 TDD	8.29	± 9.6 %
10785	AAC	5G NR (CP-OFDM, 100% RB, 15 MHz, QPSK, 15 kHz)	5G NR FR1 TDD	8.40	± 9.6 %
10786	AAC	5G NR (CP-OFDM, 100% RB, 20 MHz, QPSK, 15 kHz)	5G NR FR1 TDD	8.35	± 9.6 %
10787	AAC	5G NR (CP-OFDM, 100% RB, 25 MHz, QPSK, 15 kHz)	5G NR FR1 TDD	8.44	± 9.6 %
10788	AAC	5G NR (CP-OFDM, 100% RB, 30 MHz, QPSK, 15 kHz)	5G NR FR1 TDD	8.39	± 9.6 %
10789	AAC	5G NR (CP-OFDM, 100% RB, 40 MHz, QPSK, 15 kHz)	5G NR FR1 TDD	8.37	± 9.6 %
10790	AAC	5G NR (CP-OFDM, 100% RB, 50 MHz, QPSK, 15 kHz)	5G NR FR1 TDD	8.39	± 9.6 %
10791	AAC	5G NR (CP-OFDM, 1 RB, 5 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	7.83	± 9.6 %
10792	AAC	5G NR (CP-OFDM, 1 RB, 10 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	7.92	± 9.6 %
10793	AAC	5G NR (CP-OFDM, 1 RB, 15 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	7.95	± 9.6 %
10794	AAC	5G NR (CP-OFDM, 1 RB, 20 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	7.82	± 9.6 %
10795	AAC	5G NR (CP-OFDM, 1 RB, 25 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	7.84	± 9.6 %
10796	AAC	5G NR (CP-OFDM, 1 RB, 30 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	7.82	± 9.6 %
10797	AAC	5G NR (CP-OFDM, 1 RB, 40 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	8.01	± 9.6 %
10798	AAC	5G NR (CP-OFDM, 1 RB, 50 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	7.89	± 9.6 %
10799	AAC	5G NR (CP-OFDM, 1 RB, 60 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	7.93	± 9.6 %
10801	AAC	5G NR (CP-OFDM, 1 RB, 80 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	7.89	± 9.6 %
10802	AAC	5G NR (CP-OFDM, 1 RB, 90 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	7.87	± 9.6 %
10803	AAE	5G NR (CP-OFDM, 1 RB, 100 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	7.93	± 9.6 %
10805	AAD	5G NR (CP-OFDM, 50% RB, 10 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	8.34	± 9.6 %
10806	AAD	5G NR (CP-OFDM, 50% RB, 15 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	8.37	± 9.6 %
10809	AAD	5G NR (CP-OFDM, 50% RB, 30 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	8.34	± 9.6 %
10810	AAD	5G NR (CP-OFDM, 50% RB, 40 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	8.34	± 9.6 %
10812	AAD	5G NR (CP-OFDM, 50% RB, 60 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	8.35	± 9.6 %
10817	AAD	5G NR (CP-OFDM, 100% RB, 5 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	8.35	± 9.6 %
10818	AAD	5G NR (CP-OFDM, 100% RB, 10 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	8.34	± 9.6 %
10819	AAD	5G NR (CP-OFDM, 100% RB, 15 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	8.33	± 9.6 %
10820	AAD	5G NR (CP-OFDM, 100% RB, 20 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	8.30	± 9.6 %
10821	AAC	5G NR (CP-OFDM, 100% RB, 25 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	8.41	± 9.6 %
10822	AAD	5G NR (CP-OFDM, 100% RB, 30 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	8.41	± 9.6 %
10823	AAC	5G NR (CP-OFDM, 100% RB, 40 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	8.36	± 9.6 %
10824	AAD	5G NR (CP-OFDM, 100% RB, 50 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	8.39	± 9.6 %
10825	AAD	5G NR (CP-OFDM, 100% RB, 60 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	8.41	± 9.6 %
10827	AAD	5G NR (CP-OFDM, 100% RB, 80 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	8.42	± 9.6 %
10828	AAE	5G NR (CP-OFDM, 100% RB, 90 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	8.43	± 9.6 %
10829	AAD	5G NR (CP-OFDM, 100% RB, 100 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	8.40	± 9.6 %
10830	AAD	5G NR (CP-OFDM, 1 RB, 10 MHz, QPSK, 60 kHz)	5G NR FR1 TDD	7.63	± 9.6 %
10831	AAD	5G NR (CP-OFDM, 1 RB, 15 MHz, QPSK, 60 kHz)	5G NR FR1 TDD	7.73	± 9.6 %
10832	AAD	5G NR (CP-OFDM, 1 RB, 20 MHz, QPSK, 60 kHz)	5G NR FR1 TDD	7.74	± 9.6 %
10833	AAD	5G NR (CP-OFDM, 1 RB, 25 MHz, QPSK, 60 kHz)	5G NR FR1 TDD	7.70	± 9.6 %
10834	AAD	5G NR (CP-OFDM, 1 RB, 30 MHz, QPSK, 60 kHz)	5G NR FR1 TDD	7.75	± 9.6 %
10835	AAD	5G NR (CP-OFDM, 1 RB, 40 MHz, QPSK, 60 kHz)	5G NR FR1 TDD	7.70	± 9.6 %
10836	AAE	5G NR (CP-OFDM, 1 RB, 50 MHz, QPSK, 60 kHz)	5G NR FR1 TDD	7.66	± 9.6 %
10837	AAD	5G NR (CP-OFDM, 1 RB, 60 MHz, QPSK, 60 kHz)	5G NR FR1 TDD	7.68	± 9.6 %
10839	AAD	5G NR (CP-OFDM, 1 RB, 80 MHz, QPSK, 60 kHz)	5G NR FR1 TDD	7.70	± 9.6 %
10840	AAD	5G NR (CP-OFDM, 1 RB, 90 MHz, QPSK, 60 kHz)	5G NR FR1 TDD	7.67	± 9.6 %
10841	AAD	5G NR (CP-OFDM, 1 RB, 100 MHz, QPSK, 60 kHz)	5G NR FR1 TDD	7.71	± 9.6 %
10843	AAD	5G NR (CP-OFDM, 50% RB, 15 MHz, QPSK, 60 kHz)	5G NR FR1 TDD	8.49	± 9.6 %
10844	AAD	5G NR (CP-OFDM, 50% RB, 20 MHz, QPSK, 60 kHz)	5G NR FR1 TDD	8.34	± 9.6 %
10846	AAD	5G NR (CP-OFDM, 50% RB, 30 MHz, QPSK, 60 kHz)	5G NR FR1 TDD	8.41	± 9.6 %
10854	AAD	5G NR (CP-OFDM, 100% RB, 10 MHz, QPSK, 60 kHz)	5G NR FR1 TDD	8.34	± 9.6 %
10855	AAD	5G NR (CP-OFDM, 100% RB, 15 MHz, QPSK, 60 kHz)	5G NR FR1 TDD	8.36	± 9.6 %
10856	AAD	5G NR (CP-OFDM, 100% RB, 20 MHz, QPSK, 60 kHz)	5G NR FR1 TDD	8.37	± 9.6 %
10857	AAD	5G NR (CP-OFDM, 100% RB, 25 MHz, QPSK, 60 kHz)	5G NR FR1 TDD	8.35	± 9.6 %
10858	AAD	5G NR (CP-OFDM, 100% RB, 30 MHz, QPSK, 60 kHz)	5G NR FR1 TDD	8.36	± 9.6 %
10859	AAD	5G NR (CP-OFDM, 100% RB, 40 MHz, QPSK, 60 kHz)	5G NR FR1 TDD	8.34	± 9.6 %

10860	AAD	5G NR (CP-OFDM, 100% RB, 50 MHz, QPSK, 60 kHz)	5G NR FR1 TDD	8.41	± 9.6 %
10861	AAD	5G NR (CP-OFDM, 100% RB, 60 MHz, QPSK, 60 kHz)	5G NR FR1 TDD	8.40	± 9.6 %
10863	AAD	5G NR (CP-OFDM, 100% RB, 80 MHz, QPSK, 60 kHz)	5G NR FR1 TDD	8.41	± 9.6 %
10864	AAE	5G NR (CP-OFDM, 100% RB, 90 MHz, QPSK, 60 kHz)	5G NR FR1 TDD	8.37	± 9.6 %
10865	AAD	5G NR (CP-OFDM, 100% RB, 100 MHz, QPSK, 60 kHz)	5G NR FR1 TDD	8.41	± 9.6 %
10866	AAD	5G NR (DFT-s-OFDM, 1 RB, 100 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	5.68	± 9.6 %
10868	AAD	5G NR (DFT-s-OFDM, 100% RB, 100 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	5.89	± 9.6 %
10869	AAD	5G NR (DFT-s-OFDM, 1 RB, 100 MHz, QPSK, 120 kHz)	5G NR FR2 TDD	5.75	± 9.6 %
10870	AAD	5G NR (DFT-s-OFDM, 100% RB, 100 MHz, QPSK, 120 kHz)	5G NR FR2 TDD	5.86	± 9.6 %
10871	AAD	5G NR (DFT-s-OFDM, 1 RB, 100 MHz, 16QAM, 120 kHz)	5G NR FR2 TDD	5.75	± 9.6 %
10872	AAD	5G NR (DFT-s-OFDM, 100% RB, 100 MHz, 16QAM, 120 kHz)	5G NR FR2 TDD	6.52	± 9.6 %
10873	AAD	5G NR (DFT-s-OFDM, 1 RB, 100 MHz, 64QAM, 120 kHz)	5G NR FR2 TDD	6.61	± 9.6 %
10874	AAD	5G NR (DFT-s-OFDM, 100% RB, 100 MHz, 64QAM, 120 kHz)	5G NR FR2 TDD	6.65	± 9.6 %
10875	AAD	5G NR (CP-OFDM, 1 RB, 100 MHz, QPSK, 120 kHz)	5G NR FR2 TDD	7.78	± 9.6 %
10876	AAD	5G NR (CP-OFDM, 100% RB, 100 MHz, QPSK, 120 kHz)	5G NR FR2 TDD	8.39	± 9.6 %
10877	AAD	5G NR (CP-OFDM, 1 RB, 100 MHz, 16QAM, 120 kHz)	5G NR FR2 TDD	7.95	± 9.6 %
10878	AAD	5G NR (CP-OFDM, 100% RB, 100 MHz, 16QAM, 120 kHz)	5G NR FR2 TDD	8.41	± 9.6 %
10879	AAD	5G NR (CP-OFDM, 1 RB, 100 MHz, 64QAM, 120 kHz)	5G NR FR2 TDD	8.12	± 9.6 %
10880	AAD	5G NR (CP-OFDM, 100% RB, 100 MHz, 64QAM, 120 kHz)	5G NR FR2 TDD	8.38	± 9.6 %
10881	AAD	5G NR (DFT-s-OFDM, 1 RB, 50 MHz, QPSK, 120 kHz)	5G NR FR2 TDD	5.75	± 9.6 %
10882	AAD	5G NR (DFT-s-OFDM, 100% RB, 50 MHz, QPSK, 120 kHz)	5G NR FR2 TDD	5.96	± 9.6 %
10883	AAD	5G NR (DFT-s-OFDM, 1 RB, 50 MHz, 16QAM, 120 kHz)	5G NR FR2 TDD	6.57	± 9.6 %
10884	AAD	5G NR (DFT-s-OFDM, 100% RB, 50 MHz, 16QAM, 120 kHz)	5G NR FR2 TDD	6.53	± 9.6 %
10885	AAD	5G NR (DFT-s-OFDM, 1 RB, 50 MHz, 64QAM, 120 kHz)	5G NR FR2 TDD	6.61	± 9.6 %
10886	AAD	5G NR (DFT-s-OFDM, 100% RB, 50 MHz, 64QAM, 120 kHz)	5G NR FR2 TDD	6.65	± 9.6 %
10887	AAD	5G NR (CP-OFDM, 1 RB, 50 MHz, QPSK, 120 kHz)	5G NR FR2 TDD	7.78	± 9.6 %
10888	AAD	5G NR (CP-OFDM, 100% RB, 50 MHz, QPSK, 120 kHz)	5G NR FR2 TDD	8.35	± 9.6 %
10889	AAD	5G NR (CP-OFDM, 1 RB, 50 MHz, 16QAM, 120 kHz)	5G NR FR2 TDD	8.02	± 9.6 %
10890	AAD	5G NR (CP-OFDM, 100% RB, 50 MHz, 16QAM, 120 kHz)	5G NR FR2 TDD	8.40	± 9.6 %
10891	AAD	5G NR (CP-OFDM, 1 RB, 50 MHz, 64QAM, 120 kHz)	5G NR FR2 TDD	8.13	± 9.6 %
10892	AAD	5G NR (CP-OFDM, 100% RB, 50 MHz, 64QAM, 120 kHz)	5G NR FR2 TDD	8.41	± 9.6 %
10897	AAD	5G NR (DFT-s-OFDM, 1 RB, 5 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	5.66	± 9.6 %
10898	AAD	5G NR (DFT-s-OFDM, 1 RB, 10 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	5.67	± 9.6 %
10899	AAD	5G NR (DFT-s-OFDM, 1 RB, 15 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	5.67	± 9.6 %
10900	AAD	5G NR (DFT-s-OFDM, 1 RB, 20 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	5.68	± 9.6 %
10901	AAD	5G NR (DFT-s-OFDM, 1 RB, 25 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	5.68	± 9.6 %
10902	AAD	5G NR (DFT-s-OFDM, 1 RB, 30 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	5.68	± 9.6 %
10903	AAD	5G NR (DFT-s-OFDM, 1 RB, 40 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	5.68	± 9.6 %
10904	AAD	5G NR (DFT-s-OFDM, 1 RB, 50 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	5.68	± 9.6 %
10905	AAD	5G NR (DFT-s-OFDM, 1 RB, 60 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	5.68	± 9.6 %
10906	AAD	5G NR (DFT-s-OFDM, 1 RB, 80 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	5.68	± 9.6 %
10907	AAD	5G NR (DFT-s-OFDM, 50% RB, 5 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	5.78	± 9.6 %
10908	AAD	5G NR (DFT-s-OFDM, 50% RB, 10 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	5.93	± 9.6 %
10909	AAD	5G NR (DFT-s-OFDM, 50% RB, 15 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	5.96	± 9.6 %
10910	AAD	5G NR (DFT-s-OFDM, 50% RB, 20 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	5.83	± 9.6 %
10911	AAD	5G NR (DFT-s-OFDM, 50% RB, 25 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	5.93	± 9.6 %
10912	AAD	5G NR (DFT-s-OFDM, 50% RB, 30 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	5.84	± 9.6 %
10913	AAD	5G NR (DFT-s-OFDM, 50% RB, 40 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	5.84	± 9.6 %
10914	AAD	5G NR (DFT-s-OFDM, 50% RB, 50 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	5.85	± 9.6 %
10915	AAD	5G NR (DFT-s-OFDM, 50% RB, 60 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	5.83	± 9.6 %
10916	AAD	5G NR (DFT-s-OFDM, 50% RB, 80 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	5.87	± 9.6 %
10917	AAD	5G NR (DFT-s-OFDM, 50% RB, 100 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	5.94	± 9.6 %
10918	AAD	5G NR (DFT-s-OFDM, 100% RB, 5 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	5.86	± 9.6 %
10919	AAD	5G NR (DFT-s-OFDM, 100% RB, 10 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	5.86	± 9.6 %
10920	AAD	5G NR (DFT-s-OFDM, 100% RB, 15 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	5.87	± 9.6 %
10921	AAD	5G NR (DFT-s-OFDM, 100% RB, 20 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	5.84	± 9.6 %

10922	AAD	5G NR (DFT-s-OFDM, 100% RB, 25 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	5.82	± 9.6 %
10923	AAD	5G NR (DFT-s-OFDM, 100% RB, 30 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	5.84	± 9.6 %
10924	AAD	5G NR (DFT-s-OFDM, 100% RB, 40 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	5.84	± 9.6 %
10925	AAD	5G NR (DFT-s-OFDM, 100% RB, 50 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	5.95	± 9.6 %
10926	AAD	5G NR (DFT-s-OFDM, 100% RB, 60 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	5.84	± 9.6 %
10927	AAD	5G NR (DFT-s-OFDM, 100% RB, 80 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	5.94	± 9.6 %
10928	AAD	5G NR (DFT-s-OFDM, 1 RB, 5 MHz, QPSK, 15 kHz)	5G NR FR1 FDD	5.52	± 9.6 %
10929	AAD	5G NR (DFT-s-OFDM, 1 RB, 10 MHz, QPSK, 15 kHz)	5G NR FR1 FDD	5.52	± 9.6 %
10930	AAD	5G NR (DFT-s-OFDM, 1 RB, 15 MHz, QPSK, 15 kHz)	5G NR FR1 FDD	5.52	± 9.6 %
10931	AAD	5G NR (DFT-s-OFDM, 1 RB, 20 MHz, QPSK, 15 kHz)	5G NR FR1 FDD	5.51	± 9.6 %
10932	AAB	5G NR (DFT-s-OFDM, 1 RB, 25 MHz, QPSK, 15 kHz)	5G NR FR1 FDD	5.51	± 9.6 %
10933	AAA	5G NR (DFT-s-OFDM, 1 RB, 30 MHz, QPSK, 15 kHz)	5G NR FR1 FDD	5.51	± 9.6 %
10934	AAA	5G NR (DFT-s-OFDM, 1 RB, 40 MHz, QPSK, 15 kHz)	5G NR FR1 FDD	5.51	± 9.6 %
10935	AAA	5G NR (DFT-s-OFDM, 1 RB, 50 MHz, QPSK, 15 kHz)	5G NR FR1 FDD	5.51	± 9.6 %
10936	AAC	5G NR (DFT-s-OFDM, 50% RB, 5 MHz, QPSK, 15 kHz)	5G NR FR1 FDD	5.90	± 9.6 %
10937	AAB	5G NR (DFT-s-OFDM, 50% RB, 10 MHz, QPSK, 15 kHz)	5G NR FR1 FDD	5.77	± 9.6 %
10938	AAB	5G NR (DFT-s-OFDM, 50% RB, 15 MHz, QPSK, 15 kHz)	5G NR FR1 FDD	5.90	± 9.6 %
10939	AAB	5G NR (DFT-s-OFDM, 50% RB, 20 MHz, QPSK, 15 kHz)	5G NR FR1 FDD	5.82	± 9.6 %
10940	AAB	5G NR (DFT-s-OFDM, 50% RB, 25 MHz, QPSK, 15 kHz)	5G NR FR1 FDD	5.89	± 9.6 %
10941	AAB	5G NR (DFT-s-OFDM, 50% RB, 30 MHz, QPSK, 15 kHz)	5G NR FR1 FDD	5.83	± 9.6 %
10942	AAB	5G NR (DFT-s-OFDM, 50% RB, 40 MHz, QPSK, 15 kHz)	5G NR FR1 FDD	5.85	± 9.6 %
10943	AAB	5G NR (DFT-s-OFDM, 50% RB, 50 MHz, QPSK, 15 kHz)	5G NR FR1 FDD	5.95	± 9.6 %
10944	AAB	5G NR (DFT-s-OFDM, 100% RB, 5 MHz, QPSK, 15 kHz)	5G NR FR1 FDD	5.81	± 9.6 %
10945	AAB	5G NR (DFT-s-OFDM, 100% RB, 10 MHz, QPSK, 15 kHz)	5G NR FR1 FDD	5.85	± 9.6 %
10946	AAC	5G NR (DFT-s-OFDM, 100% RB, 15 MHz, QPSK, 15 kHz)	5G NR FR1 FDD	5.83	± 9.6 %
10947	AAB	5G NR (DFT-s-OFDM, 100% RB, 20 MHz, QPSK, 15 kHz)	5G NR FR1 FDD	5.87	± 9.6 %
10948	AAB	5G NR (DFT-s-OFDM, 100% RB, 25 MHz, QPSK, 15 kHz)	5G NR FR1 FDD	5.94	± 9.6 %
10949	AAB	5G NR (DFT-s-OFDM, 100% RB, 30 MHz, QPSK, 15 kHz)	5G NR FR1 FDD	5.87	± 9.6 %
10950	AAB	5G NR (DFT-s-OFDM, 100% RB, 40 MHz, QPSK, 15 kHz)	5G NR FR1 FDD	5.94	± 9.6 %
10951	AAB	5G NR (DFT-s-OFDM, 100% RB, 50 MHz, QPSK, 15 kHz)	5G NR FR1 FDD	5.92	± 9.6 %
10952	AAB	5G NR DL (CP-OFDM, TM 3.1, 5 MHz, 64-QAM, 15 kHz)	5G NR FR1 FDD	8.25	± 9.6 %
10953	AAB	5G NR DL (CP-OFDM, TM 3.1, 10 MHz, 64-QAM, 15 kHz)	5G NR FR1 FDD	8.15	± 9.6 %
10954	AAB	5G NR DL (CP-OFDM, TM 3.1, 15 MHz, 64-QAM, 15 kHz)	5G NR FR1 FDD	8.23	± 9.6 %
10955	AAB	5G NR DL (CP-OFDM, TM 3.1, 20 MHz, 64-QAM, 15 kHz)	5G NR FR1 FDD	8.42	± 9.6 %
10956	AAB	5G NR DL (CP-OFDM, TM 3.1, 5 MHz, 64-QAM, 30 kHz)	5G NR FR1 FDD	8.14	± 9.6 %
10957	AAC	5G NR DL (CP-OFDM, TM 3.1, 10 MHz, 64-QAM, 30 kHz)	5G NR FR1 FDD	8.31	± 9.6 %
10958	AAB	5G NR DL (CP-OFDM, TM 3.1, 15 MHz, 64-QAM, 30 kHz)	5G NR FR1 FDD	8.61	± 9.6 %
10959	AAB	5G NR DL (CP-OFDM, TM 3.1, 20 MHz, 64-QAM, 30 kHz)	5G NR FR1 FDD	8.33	± 9.6 %
10960	AAB	5G NR DL (CP-OFDM, TM 3.1, 5 MHz, 64-QAM, 15 kHz)	5G NR FR1 TDD	9.32	± 9.6 %
10961	AAB	5G NR DL (CP-OFDM, TM 3.1, 10 MHz, 64-QAM, 15 kHz)	5G NR FR1 TDD	9.36	± 9.6 %
10962	AAB	5G NR DL (CP-OFDM, TM 3.1, 15 MHz, 64-QAM, 15 kHz)	5G NR FR1 TDD	9.40	± 9.6 %
10963	AAB	5G NR DL (CP-OFDM, TM 3.1, 20 MHz, 64-QAM, 15 kHz)	5G NR FR1 TDD	9.55	± 9.6 %
10964	AAB	5G NR DL (CP-OFDM, TM 3.1, 5 MHz, 64-QAM, 30 kHz)	5G NR FR1 TDD	9.29	± 9.6 %
10965	AAB	5G NR DL (CP-OFDM, TM 3.1, 10 MHz, 64-QAM, 30 kHz)	5G NR FR1 TDD	9.37	± 9.6 %
10966	AAB	5G NR DL (CP-OFDM, TM 3.1, 15 MHz, 64-QAM, 30 kHz)	5G NR FR1 TDD	9.55	± 9.6 %
10967	AAB	5G NR DL (CP-OFDM, TM 3.1, 20 MHz, 64-QAM, 30 kHz)	5G NR FR1 TDD	9.42	± 9.6 %
10968	AAB	5G NR DL (CP-OFDM, TM 3.1, 100 MHz, 64-QAM, 30 kHz)	5G NR FR1 TDD	9.49	± 9.6 %
10972	AAB	5G NR (CP-OFDM, 1 RB, 20 MHz, QPSK, 15 kHz)	5G NR FR1 TDD	11.59	± 9.6 %
10973	AAB	5G NR (DFT-s-OFDM, 1 RB, 100 MHz, QPSK, 30 kHz)	5G NR FR1 TDD	9.06	± 9.6 %
10974	AAB	5G NR (CP-OFDM, 100% RB, 100 MHz, 256-QAM, 30 kHz)	5G NR FR1 TDD	10.28	± 9.6 %

<sup>E</sup> Uncertainty is determined using the max. deviation from linear response applying rectangular distribution and is expressed for the square of the field value.





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Multilateral Agreement for the recognition of calibration certificates

Accreditation No.: **SCS 0108**

Client **PC Test**

Certificate No: **EX3-7539\_Oct20**

**CALIBRATION CERTIFICATE**

Object **EX3DV4 - SN:7539**

Calibration procedure(s) **QA CAL-01.v9, QA CAL-14.v6, QA CAL-23.v5, QA CAL-25.v7  
Calibration procedure for dosimetric E-field probes**

Calibration date: **October 20, 2020**

*BNV  
10-29-20*

This calibration certificate documents the traceability to national standards, which realize the physical units of measurements (SI).  
The measurements and the uncertainties with confidence probability are given on the following pages and are part of the certificate.

All calibrations have been conducted in the closed laboratory facility: environment temperature (22 ± 3)°C and humidity < 70%.

Calibration Equipment used (M&TE critical for calibration)

Primary Standards	ID	Cal Date (Certificate No.)	Scheduled Calibration
Power meter NRP	SN: 104778	01-Apr-20 (No. 217-03100/03101)	Apr-21
Power sensor NRP-Z91	SN: 103244	01-Apr-20 (No. 217-03100)	Apr-21
Power sensor NRP-Z91	SN: 103245	01-Apr-20 (No. 217-03101)	Apr-21
Reference 20 dB Attenuator	SN: CC2552 (20x)	31-Mar-20 (No. 217-03106)	Apr-21
DAE4	SN: 660	27-Dec-19 (No. DAE4-660_Dec19)	Dec-20
Reference Probe ES3DV2	SN: 3013	31-Dec-19 (No. ES3-3013_Dec19)	Dec-20
Secondary Standards	ID	Check Date (in house)	Scheduled Check
Power meter E4419B	SN: GB41293874	06-Apr-16 (in house check Jun-20)	In house check: Jun-22
Power sensor E4412A	SN: MY41498087	06-Apr-16 (in house check Jun-20)	In house check: Jun-22
Power sensor E4412A	SN: 000110210	06-Apr-16 (in house check Jun-20)	In house check: Jun-22
RF generator HP 8648C	SN: US3642U01700	04-Aug-99 (in house check Jun-20)	In house check: Jun-22
Network Analyzer E8358A	SN: US41080477	31-Mar-14 (in house check Oct-20)	In house check: Oct-21

Calibrated by:	Name <b>Jeffrey Katzman</b>	Function <b>Laboratory Technician</b>	Signature 
Approved by:	Name <b>Katja Pokovic</b>	Function <b>Technical Manager</b>	Signature 

Issued: October 21, 2020

This calibration certificate shall not be reproduced except in full without written approval of the laboratory.



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### Glossary:

TSL	tissue simulating liquid
NORM <sub>x,y,z</sub>	sensitivity in free space
ConvF	sensitivity in TSL / NORM <sub>x,y,z</sub>
DCP	diode compression point
CF	crest factor (1/duty_cycle) of the RF signal
A, B, C, D	modulation dependent linearization parameters
Polarization $\varphi$	$\varphi$ rotation around probe axis
Polarization $\vartheta$	$\vartheta$ rotation around an axis that is in the plane normal to probe axis (at measurement center), i.e., $\vartheta = 0$ is normal to probe axis
Connector Angle	information used in DASY system to align probe sensor X to the robot coordinate system

### Calibration is Performed According to the Following Standards:

- IEEE Std 1528-2013, "IEEE Recommended Practice for Determining the Peak Spatial-Averaged Specific Absorption Rate (SAR) in the Human Head from Wireless Communications Devices: Measurement Techniques", June 2013
- IEC 62209-1, "Measurement procedure for the assessment of Specific Absorption Rate (SAR) from hand-held and body-mounted devices used next to the ear (frequency range of 300 MHz to 6 GHz)", July 2016
- IEC 62209-2, "Procedure to determine the Specific Absorption Rate (SAR) for wireless communication devices used in close proximity to the human body (frequency range of 30 MHz to 6 GHz)", March 2010
- KDB 865664, "SAR Measurement Requirements for 100 MHz to 6 GHz"

### Methods Applied and Interpretation of Parameters:

- NORM<sub>x,y,z</sub>**: Assessed for E-field polarization  $\vartheta = 0$  ( $f \leq 900$  MHz in TEM-cell;  $f > 1800$  MHz: R22 waveguide). NORM<sub>x,y,z</sub> are only intermediate values, i.e., the uncertainties of NORM<sub>x,y,z</sub> does not affect the  $E^2$ -field uncertainty inside TSL (see below *ConvF*).
- NORM(f)<sub>x,y,z</sub>** = NORM<sub>x,y,z</sub> \* *frequency\_response* (see Frequency Response Chart). This linearization is implemented in DASY4 software versions later than 4.2. The uncertainty of the frequency response is included in the stated uncertainty of *ConvF*.
- DCP<sub>x,y,z</sub>**: DCP are numerical linearization parameters assessed based on the data of power sweep with CW signal (no uncertainty required). DCP does not depend on frequency nor media.
- PAR**: PAR is the Peak to Average Ratio that is not calibrated but determined based on the signal characteristics
- A<sub>x,y,z</sub>; B<sub>x,y,z</sub>; C<sub>x,y,z</sub>; D<sub>x,y,z</sub>; VR<sub>x,y,z</sub>**: A, B, C, D are numerical linearization parameters assessed based on the data of power sweep for specific modulation signal. The parameters do not depend on frequency nor media. VR is the maximum calibration range expressed in RMS voltage across the diode.
- ConvF and Boundary Effect Parameters**: Assessed in flat phantom using E-field (or Temperature Transfer Standard for  $f \leq 800$  MHz) and inside waveguide using analytical field distributions based on power measurements for  $f > 800$  MHz. The same setups are used for assessment of the parameters applied for boundary compensation (alpha, depth) of which typical uncertainty values are given. These parameters are used in DASY4 software to improve probe accuracy close to the boundary. The sensitivity in TSL corresponds to NORM<sub>x,y,z</sub> \* *ConvF* whereby the uncertainty corresponds to that given for *ConvF*. A frequency dependent *ConvF* is used in DASY version 4.4 and higher which allows extending the validity from  $\pm 50$  MHz to  $\pm 100$  MHz.
- Spherical isotropy (3D deviation from isotropy)**: in a field of low gradients realized using a flat phantom exposed by a patch antenna.
- Sensor Offset**: The sensor offset corresponds to the offset of virtual measurement center from the probe tip (on probe axis). No tolerance required.
- Connector Angle**: The angle is assessed using the information gained by determining the NORM<sub>x</sub> (no uncertainty required).

## DASY/EASY - Parameters of Probe: EX3DV4 - SN:7539

### Basic Calibration Parameters

	Sensor X	Sensor Y	Sensor Z	Unc (k=2)
Norm ( $\mu\text{V}/(\text{V}/\text{m})^2$ ) <sup>A</sup>	0.56	0.56	0.66	$\pm 10.1 \%$
DCP (mV) <sup>B</sup>	100.6	99.5	97.6	

### Calibration Results for Modulation Response

UID	Communication System Name		A dB	B dB $\sqrt{\mu\text{V}}$	C	D dB	VR mV	Max dev.	Max Unc <sup>E</sup> (k=2)
0	CW	X	0.00	0.00	1.00	0.00	150.7	$\pm 2.7 \%$	$\pm 4.7 \%$
		Y	0.00	0.00	1.00		169.1		
		Z	0.00	0.00	1.00		165.4		
10352-AAA	Pulse Waveform (200Hz, 10%)	X	20.00	91.85	20.76	10.00	60.0	$\pm 4.4 \%$	$\pm 9.6 \%$
		Y	4.24	72.12	13.13		60.0		
		Z	20.00	94.45	22.31		60.0		
10353-AAA	Pulse Waveform (200Hz, 20%)	X	20.00	95.27	21.37	6.99	80.0	$\pm 2.9 \%$	$\pm 9.6 \%$
		Y	7.54	78.57	14.41		80.0		
		Z	20.00	97.30	22.62		80.0		
10354-AAA	Pulse Waveform (200Hz, 40%)	X	20.00	98.49	21.62	3.98	95.0	$\pm 1.4 \%$	$\pm 9.6 \%$
		Y	20.00	88.66	16.49		95.0		
		Z	20.00	103.01	23.99		95.0		
10355-AAA	Pulse Waveform (200Hz, 60%)	X	20.00	104.64	23.31	2.22	120.0	$\pm 0.9 \%$	$\pm 9.6 \%$
		Y	20.00	93.33	17.80		120.0		
		Z	20.00	107.56	24.81		120.0		
10387-AAA	QPSK Waveform, 1 MHz	X	1.70	65.15	14.52	1.00	150.0	$\pm 1.7 \%$	$\pm 9.6 \%$
		Y	1.71	65.61	14.81		150.0		
		Z	1.59	63.96	13.78		150.0		
10388-AAA	QPSK Waveform, 10 MHz	X	2.22	67.14	15.17	0.00	150.0	$\pm 1.1 \%$	$\pm 9.6 \%$
		Y	2.23	67.45	15.47		150.0		
		Z	2.05	65.76	14.41		150.0		
10396-AAA	64-QAM Waveform, 100 kHz	X	2.74	68.87	17.88	3.01	150.0	$\pm 0.8 \%$	$\pm 9.6 \%$
		Y	2.91	70.51	18.94		150.0		
		Z	2.76	68.84	17.90		150.0		
10399-AAA	64-QAM Waveform, 40 MHz	X	3.38	66.10	15.18	0.00	150.0	$\pm 0.8 \%$	$\pm 9.6 \%$
		Y	3.56	67.00	15.71		150.0		
		Z	3.44	66.18	15.16		150.0		
10414-AAA	WLAN CCDF, 64-QAM, 40MHz	X	4.80	65.04	15.14	0.00	150.0	$\pm 1.9 \%$	$\pm 9.6 \%$
		Y	4.75	64.96	15.18		150.0		
		Z	4.88	65.24	15.22		150.0		

Note: For details on UID parameters see Appendix

The reported uncertainty of measurement is stated as the standard uncertainty of measurement multiplied by the coverage factor k=2, which for a normal distribution corresponds to a coverage probability of approximately 95%.

<sup>A</sup> The uncertainties of Norm X,Y,Z do not affect the E<sup>2</sup>-field uncertainty inside TSL (see Pages 5 and 6).

<sup>B</sup> Numerical linearization parameter: uncertainty not required.

<sup>E</sup> Uncertainty is determined using the max. deviation from linear response applying rectangular distribution and is expressed for the square of the field value.

## DASY/EASY - Parameters of Probe: EX3DV4 - SN:7539

### Sensor Model Parameters

	C1 fF	C2 fF	$\alpha$ V <sup>-1</sup>	T1 ms.V <sup>-2</sup>	T2 ms.V <sup>-1</sup>	T3 ms	T4 V <sup>-2</sup>	T5 V <sup>-1</sup>	T6
X	49.8	369.70	35.02	11.44	0.00	5.05	0.97	0.25	1.01
Y	47.3	353.42	35.53	13.22	0.00	4.99	1.50	0.14	1.01
Z	49.4	371.11	35.71	11.82	0.00	5.07	1.43	0.20	1.01

### Other Probe Parameters

Sensor Arrangement	Triangular
Connector Angle (°)	-93.7
Mechanical Surface Detection Mode	enabled
Optical Surface Detection Mode	disabled
Probe Overall Length	337 mm
Probe Body Diameter	10 mm
Tip Length	9 mm
Tip Diameter	2.5 mm
Probe Tip to Sensor X Calibration Point	1 mm
Probe Tip to Sensor Y Calibration Point	1 mm
Probe Tip to Sensor Z Calibration Point	1 mm
Recommended Measurement Distance from Surface	1.4 mm

**Note:** Measurement distance from surface can be increased to 3-4 mm for an *Area Scan* job.

## DASY/EASY - Parameters of Probe: EX3DV4 - SN:7539

### Calibration Parameter Determined in Head Tissue Simulating Media

f (MHz) <sup>C</sup>	Relative Permittivity <sup>F</sup>	Conductivity (S/m) <sup>F</sup>	ConvF X	ConvF Y	ConvF Z	Alpha <sup>G</sup>	Depth <sup>G</sup> (mm)	Unc (k=2)
750	41.9	0.89	10.28	10.28	10.28	0.59	0.86	± 12.0 %
835	41.5	0.90	9.96	9.96	9.96	0.47	0.96	± 12.0 %
1750	40.1	1.37	8.52	8.52	8.52	0.35	0.86	± 12.0 %
1900	40.0	1.40	8.03	8.03	8.03	0.42	0.86	± 12.0 %
2300	39.5	1.67	7.74	7.74	7.74	0.35	0.86	± 12.0 %
2450	39.2	1.80	7.43	7.43	7.43	0.40	0.86	± 12.0 %
2600	39.0	1.96	7.18	7.18	7.18	0.35	0.86	± 12.0 %
3300	38.2	2.71	6.77	6.77	6.77	0.32	1.30	± 13.1 %
3500	37.9	2.91	6.76	6.76	6.76	0.35	1.30	± 13.1 %
3700	37.7	3.12	6.55	6.55	6.55	0.35	1.30	± 13.1 %
3900	37.5	3.32	6.23	6.23	6.23	0.40	1.60	± 13.1 %
4100	37.2	3.53	6.15	6.15	6.15	0.40	1.60	± 13.1 %

<sup>C</sup> Frequency validity above 300 MHz of ± 100 MHz only applies for DASY v4.4 and higher (see Page 2), else it is restricted to ± 50 MHz. The uncertainty is the RSS of the ConvF uncertainty at calibration frequency and the uncertainty for the indicated frequency band. Frequency validity below 300 MHz is ± 10, 25, 40, 50 and 70 MHz for ConvF assessments at 30, 64, 128, 150 and 220 MHz respectively. Validity of ConvF assessed at 6 MHz is 4-9 MHz, and ConvF assessed at 13 MHz is 9-19 MHz. Above 5 GHz frequency validity can be extended to ± 110 MHz.

<sup>F</sup> At frequencies below 3 GHz, the validity of tissue parameters ( $\epsilon$  and  $\sigma$ ) can be relaxed to ± 10% if liquid compensation formula is applied to measured SAR values. At frequencies above 3 GHz, the validity of tissue parameters ( $\epsilon$  and  $\sigma$ ) is restricted to ± 5%. The uncertainty is the RSS of the ConvF uncertainty for indicated target tissue parameters.

<sup>G</sup> Alpha/Depth are determined during calibration. SPEAG warrants that the remaining deviation due to the boundary effect after compensation is always less than ± 1% for frequencies below 3 GHz and below ± 2% for frequencies between 3-6 GHz at any distance larger than half the probe tip diameter from the boundary.

## DASY/EASY - Parameters of Probe: EX3DV4 - SN:7539

### Calibration Parameter Determined in Body Tissue Simulating Media

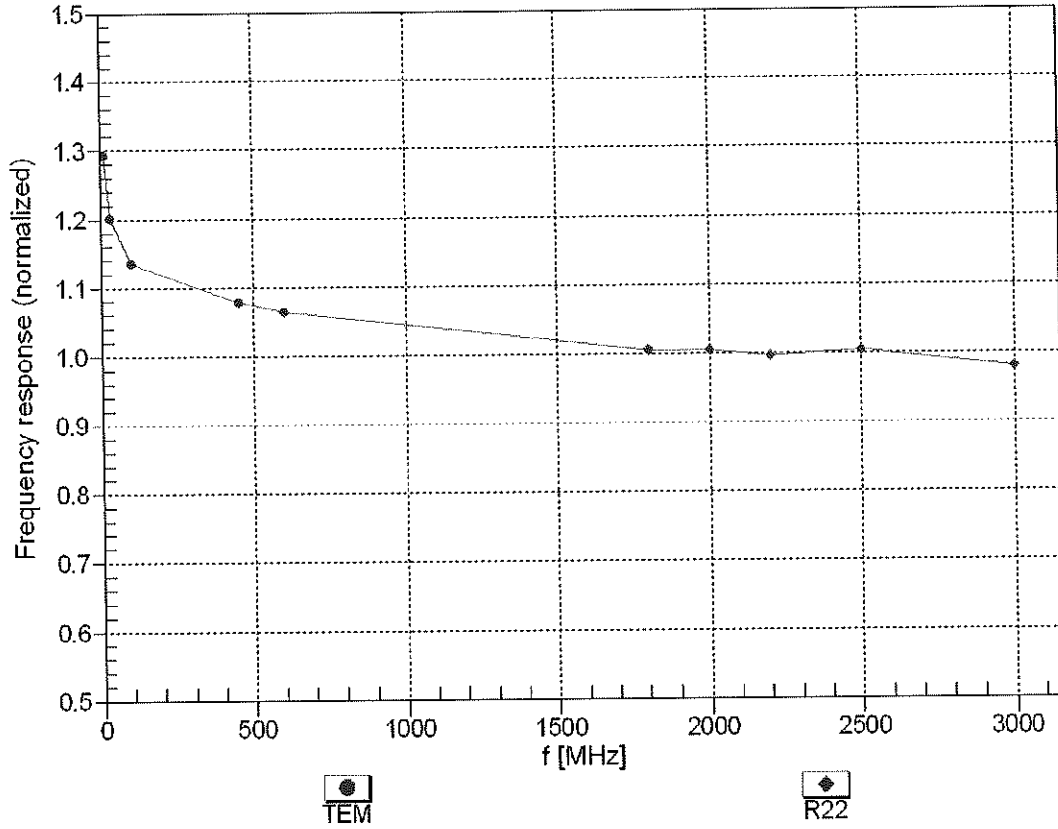
f (MHz) <sup>C</sup>	Relative Permittivity <sup>F</sup>	Conductivity (S/m) <sup>F</sup>	ConvF X	ConvF Y	ConvF Z	Alpha <sup>G</sup>	Depth <sup>G</sup> (mm)	Unc (k=2)
750	55.5	0.96	10.24	10.24	10.24	0.47	0.84	± 12.0 %
835	55.2	0.97	9.95	9.95	9.95	0.37	0.94	± 12.0 %
1750	53.4	1.49	8.16	8.16	8.16	0.37	0.88	± 12.0 %
1900	53.3	1.52	7.87	7.87	7.87	0.42	0.88	± 12.0 %
2300	52.9	1.81	7.64	7.64	7.64	0.42	0.88	± 12.0 %
2450	52.7	1.95	7.62	7.62	7.62	0.33	0.88	± 12.0 %
2600	52.5	2.16	7.55	7.55	7.55	0.33	0.88	± 12.0 %
3300	51.6	3.08	6.57	6.57	6.57	0.40	1.30	± 13.1 %
3500	51.3	3.31	6.50	6.50	6.50	0.40	1.30	± 13.1 %
3700	51.0	3.55	6.48	6.48	6.48	0.40	1.30	± 13.1 %
3900	51.2	3.78	6.18	6.18	6.18	0.40	1.70	± 13.1 %
4100	50.5	4.01	5.98	5.98	5.98	0.40	1.70	± 13.1 %

<sup>C</sup> Frequency validity above 300 MHz of ± 100 MHz only applies for DASY v4.4 and higher (see Page 2), else it is restricted to ± 50 MHz. The uncertainty is the RSS of the ConvF uncertainty at calibration frequency and the uncertainty for the indicated frequency band. Frequency validity below 300 MHz is ± 10, 25, 40, 50 and 70 MHz for ConvF assessments at 30, 64, 128, 150 and 220 MHz respectively. Validity of ConvF assessed at 6 MHz is 4-9 MHz, and ConvF assessed at 13 MHz is 9-19 MHz. Above 5 GHz frequency validity can be extended to ± 110 MHz.

<sup>F</sup> At frequencies below 3 GHz, the validity of tissue parameters ( $\epsilon$  and  $\sigma$ ) can be relaxed to ± 10% if liquid compensation formula is applied to measured SAR values. At frequencies above 3 GHz, the validity of tissue parameters ( $\epsilon$  and  $\sigma$ ) is restricted to ± 5%. The uncertainty is the RSS of the ConvF uncertainty for indicated target tissue parameters.

<sup>G</sup> Alpha/Depth are determined during calibration. SPEAG warrants that the remaining deviation due to the boundary effect after compensation is always less than ± 1% for frequencies below 3 GHz and below ± 2% for frequencies between 3-6 GHz at any distance larger than half the probe tip diameter from the boundary.

### Frequency Response of E-Field (TEM-Cell:ifi110 EXX, Waveguide: R22)

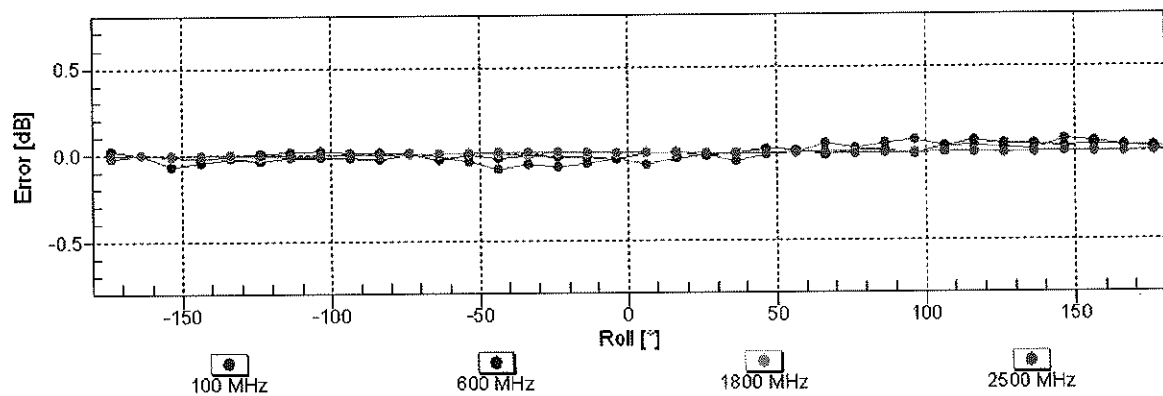
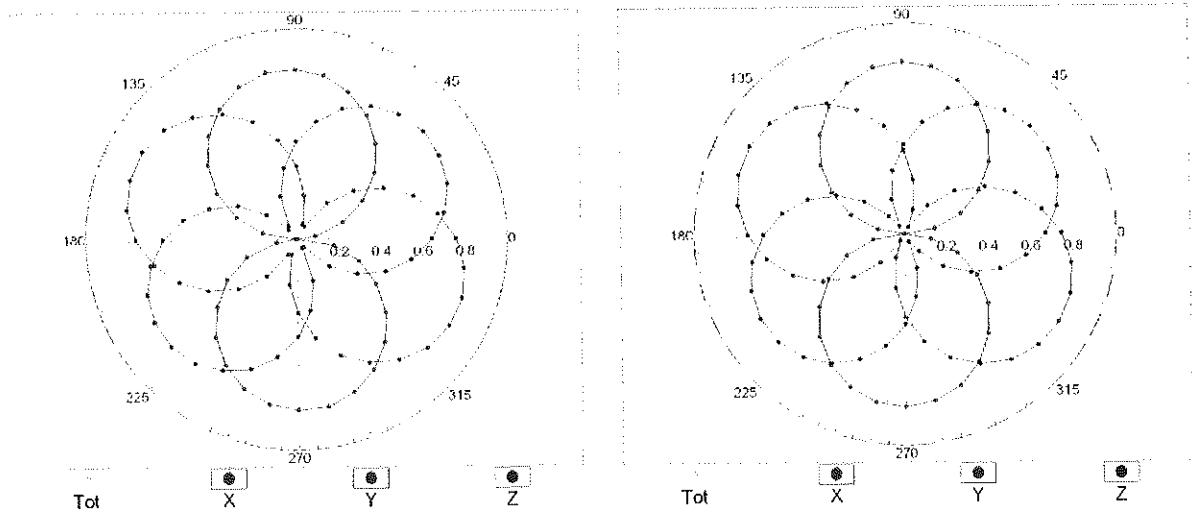


Uncertainty of Frequency Response of E-field:  $\pm 6.3\%$  (k=2)

### Receiving Pattern ( $\phi$ ), $\theta = 0^\circ$

f=600 MHz,TEM

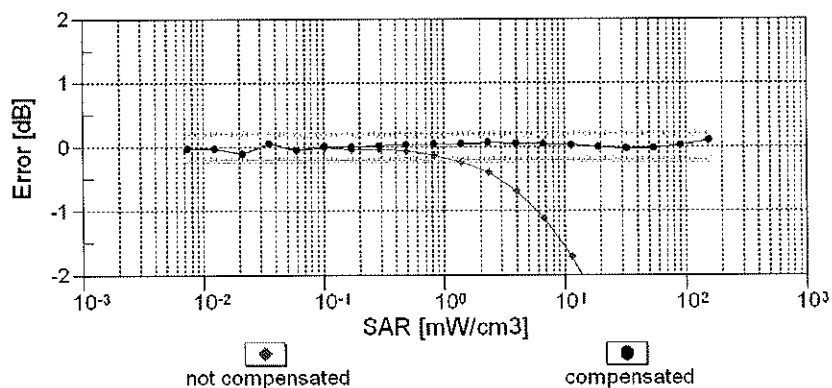
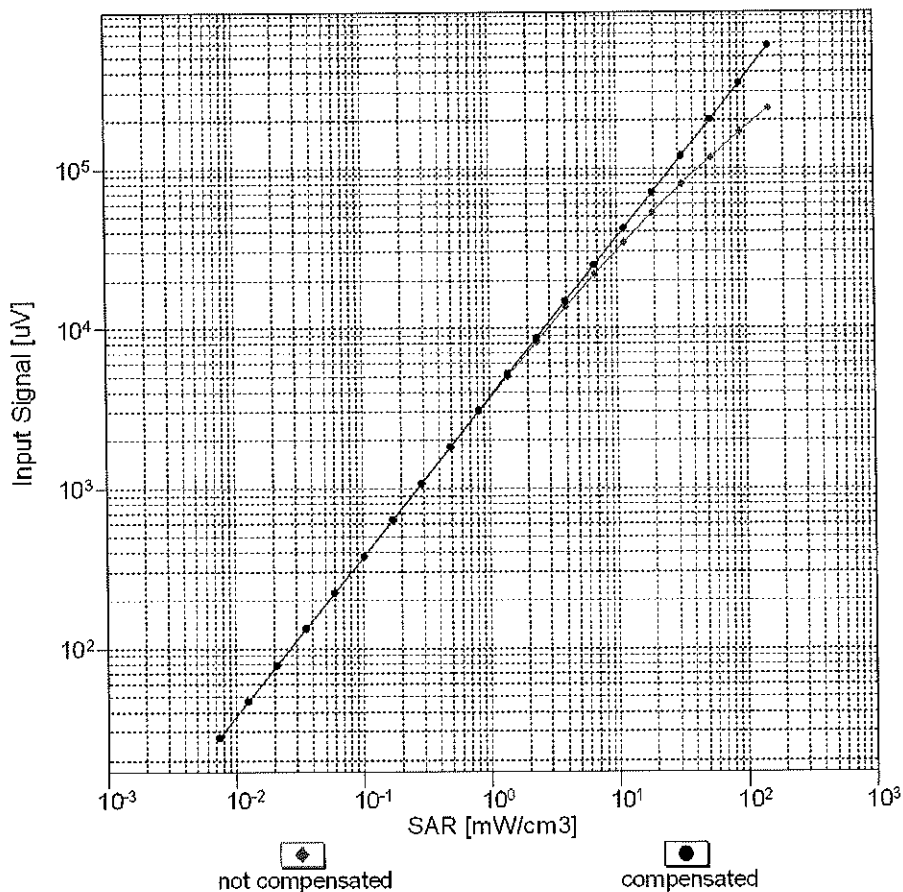
f=1800 MHz,R22



Uncertainty of Axial Isotropy Assessment:  $\pm 0.5\%$  ( $k=2$ )

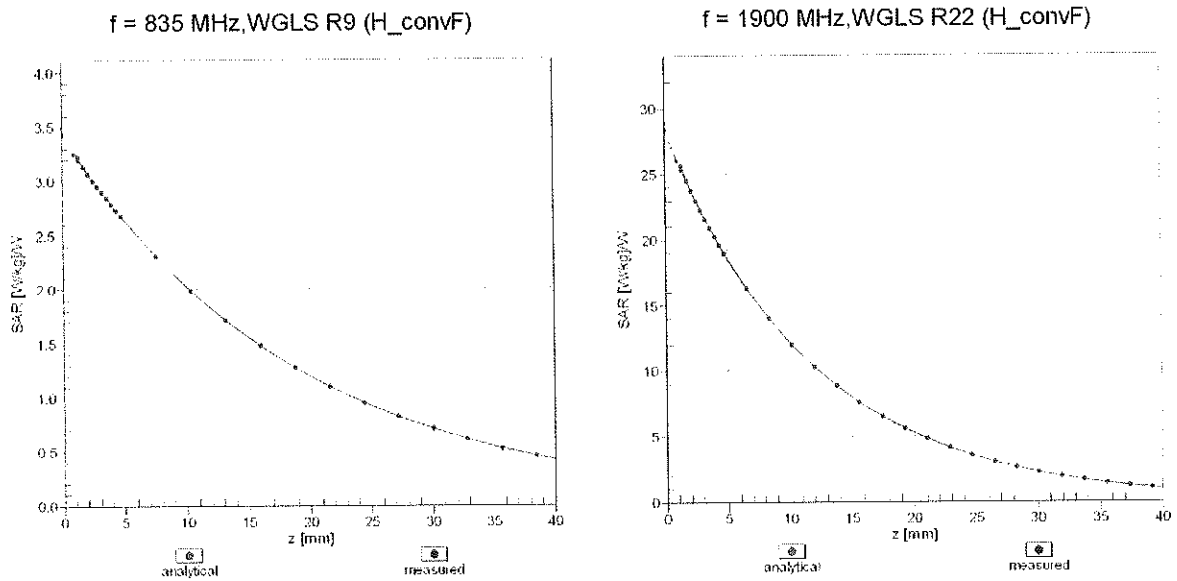


### Dynamic Range $f(SAR_{head})$ (TEM cell , $f_{eval} = 1900$ MHz)



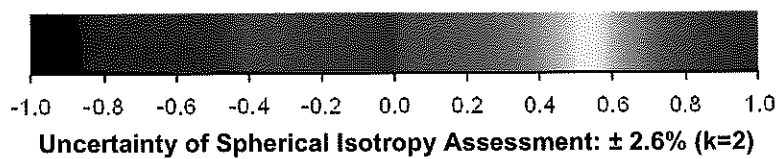
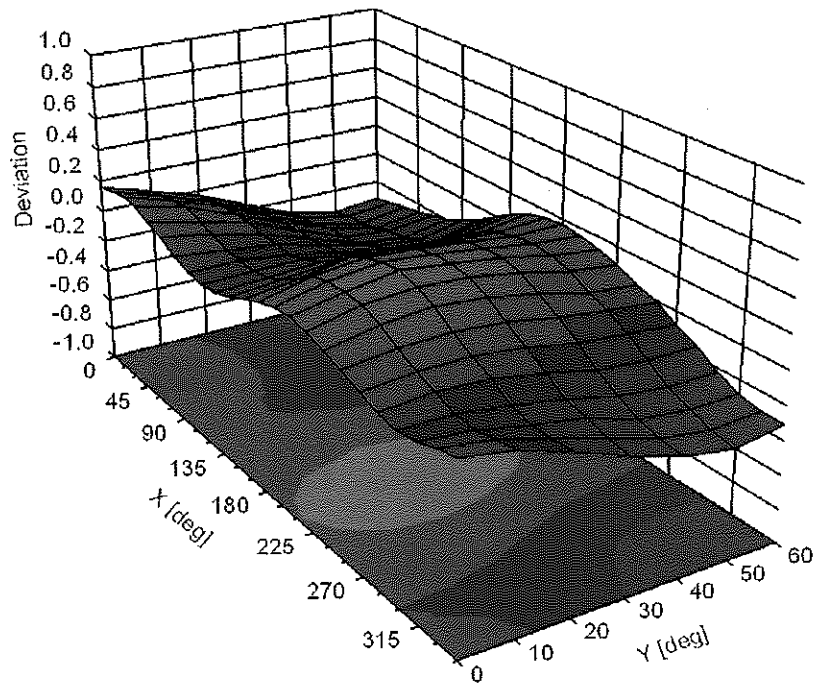
Uncertainty of Linearity Assessment:  $\pm 0.6\%$  ( $k=2$ )

### Conversion Factor Assessment



### Deviation from Isotropy in Liquid

Error ( $\phi, \theta$ ), f = 900 MHz



## Appendix: Modulation Calibration Parameters

UID	Rev	Communication System Name	Group	PAR (dB)	Unc <sup>E</sup> (k=2)
0		CW	CW	0.00	± 4.7 %
10010	CAA	SAR Validation (Square, 100ms, 10ms)	Test	10.00	± 9.6 %
10011	CAB	UMTS-FDD (WCDMA)	WCDMA	2.91	± 9.6 %
10012	CAB	IEEE 802.11b WiFi 2.4 GHz (DSSS, 1 Mbps)	WLAN	1.87	± 9.6 %
10013	CAB	IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 6 Mbps)	WLAN	9.46	± 9.6 %
10021	DAC	GSM-FDD (TDMA, GMSK)	GSM	9.39	± 9.6 %
10023	DAC	GPRS-FDD (TDMA, GMSK, TN 0)	GSM	9.57	± 9.6 %
10024	DAC	GPRS-FDD (TDMA, GMSK, TN 0-1)	GSM	6.56	± 9.6 %
10025	DAC	EDGE-FDD (TDMA, 8PSK, TN 0)	GSM	12.62	± 9.6 %
10026	DAC	EDGE-FDD (TDMA, 8PSK, TN 0-1)	GSM	9.55	± 9.6 %
10027	DAC	GPRS-FDD (TDMA, GMSK, TN 0-1-2)	GSM	4.80	± 9.6 %
10028	DAC	GPRS-FDD (TDMA, GMSK, TN 0-1-2-3)	GSM	3.55	± 9.6 %
10029	DAC	EDGE-FDD (TDMA, 8PSK, TN 0-1-2)	GSM	7.78	± 9.6 %
10030	CAA	IEEE 802.15.1 Bluetooth (GFSK, DH1)	Bluetooth	5.30	± 9.6 %
10031	CAA	IEEE 802.15.1 Bluetooth (GFSK, DH3)	Bluetooth	1.87	± 9.6 %
10032	CAA	IEEE 802.15.1 Bluetooth (GFSK, DH5)	Bluetooth	1.16	± 9.6 %
10033	CAA	IEEE 802.15.1 Bluetooth (PI/4-DQPSK, DH1)	Bluetooth	7.74	± 9.6 %
10034	CAA	IEEE 802.15.1 Bluetooth (PI/4-DQPSK, DH3)	Bluetooth	4.53	± 9.6 %
10035	CAA	IEEE 802.15.1 Bluetooth (PI/4-DQPSK, DH5)	Bluetooth	3.83	± 9.6 %
10036	CAA	IEEE 802.15.1 Bluetooth (8-DPSK, DH1)	Bluetooth	8.01	± 9.6 %
10037	CAA	IEEE 802.15.1 Bluetooth (8-DPSK, DH3)	Bluetooth	4.77	± 9.6 %
10038	CAA	IEEE 802.15.1 Bluetooth (8-DPSK, DH5)	Bluetooth	4.10	± 9.6 %
10039	CAB	CDMA2000 (1xRTT, RC1)	CDMA2000	4.57	± 9.6 %
10042	CAB	IS-54 / IS-136 FDD (TDMA/FDM, PI/4-DQPSK, Halfrate)	AMPS	7.78	± 9.6 %
10044	CAA	IS-91/EIA/TIA-553 FDD (FDMA, FM)	AMPS	0.00	± 9.6 %
10048	CAA	DECT (TDD, TDMA/FDM, GFSK, Full Slot, 24)	DECT	13.80	± 9.6 %
10049	CAA	DECT (TDD, TDMA/FDM, GFSK, Double Slot, 12)	DECT	10.79	± 9.6 %
10056	CAA	UMTS-TDD (TD-SCDMA, 1.28 Mcps)	TD-SCDMA	11.01	± 9.6 %
10058	DAC	EDGE-FDD (TDMA, 8PSK, TN 0-1-2-3)	GSM	6.52	± 9.6 %
10059	CAB	IEEE 802.11b WiFi 2.4 GHz (DSSS, 2 Mbps)	WLAN	2.12	± 9.6 %
10060	CAB	IEEE 802.11b WiFi 2.4 GHz (DSSS, 5.5 Mbps)	WLAN	2.83	± 9.6 %
10061	CAB	IEEE 802.11b WiFi 2.4 GHz (DSSS, 11 Mbps)	WLAN	3.60	± 9.6 %
10062	CAD	IEEE 802.11a/h WiFi 5 GHz (OFDM, 6 Mbps)	WLAN	8.68	± 9.6 %
10063	CAD	IEEE 802.11a/h WiFi 5 GHz (OFDM, 9 Mbps)	WLAN	8.63	± 9.6 %
10064	CAD	IEEE 802.11a/h WiFi 5 GHz (OFDM, 12 Mbps)	WLAN	9.09	± 9.6 %
10065	CAD	IEEE 802.11a/h WiFi 5 GHz (OFDM, 18 Mbps)	WLAN	9.00	± 9.6 %
10066	CAD	IEEE 802.11a/h WiFi 5 GHz (OFDM, 24 Mbps)	WLAN	9.38	± 9.6 %
10067	CAD	IEEE 802.11a/h WiFi 5 GHz (OFDM, 36 Mbps)	WLAN	10.12	± 9.6 %
10068	CAD	IEEE 802.11a/h WiFi 5 GHz (OFDM, 48 Mbps)	WLAN	10.24	± 9.6 %
10069	CAD	IEEE 802.11a/h WiFi 5 GHz (OFDM, 54 Mbps)	WLAN	10.56	± 9.6 %
10071	CAB	IEEE 802.11g WiFi 2.4 GHz (DSSS/OFDM, 9 Mbps)	WLAN	9.83	± 9.6 %
10072	CAB	IEEE 802.11g WiFi 2.4 GHz (DSSS/OFDM, 12 Mbps)	WLAN	9.62	± 9.6 %
10073	CAB	IEEE 802.11g WiFi 2.4 GHz (DSSS/OFDM, 18 Mbps)	WLAN	9.94	± 9.6 %
10074	CAB	IEEE 802.11g WiFi 2.4 GHz (DSSS/OFDM, 24 Mbps)	WLAN	10.30	± 9.6 %
10075	CAB	IEEE 802.11g WiFi 2.4 GHz (DSSS/OFDM, 36 Mbps)	WLAN	10.77	± 9.6 %
10076	CAB	IEEE 802.11g WiFi 2.4 GHz (DSSS/OFDM, 48 Mbps)	WLAN	10.94	± 9.6 %
10077	CAB	IEEE 802.11g WiFi 2.4 GHz (DSSS/OFDM, 54 Mbps)	WLAN	11.00	± 9.6 %
10081	CAB	CDMA2000 (1xRTT, RC3)	CDMA2000	3.97	± 9.6 %
10082	CAB	IS-54 / IS-136 FDD (TDMA/FDM, PI/4-DQPSK, Fullrate)	AMPS	4.77	± 9.6 %
10090	DAC	GPRS-FDD (TDMA, GMSK, TN 0-4)	GSM	6.56	± 9.6 %
10097	CAC	UMTS-FDD (HSDPA)	WCDMA	3.98	± 9.6 %
10098	DAC	UMTS-FDD (HSUPA, Subtest 2)	WCDMA	3.98	± 9.6 %

10099	CAC	EDGE-FDD (TDMA, 8PSK, TN 0-4)	GSM	9.55	± 9.6 %
10100	CAC	LTE-FDD (SC-FDMA, 100% RB, 20 MHz, QPSK)	LTE-FDD	5.67	± 9.6 %
10101	CAB	LTE-FDD (SC-FDMA, 100% RB, 20 MHz, 16-QAM)	LTE-FDD	6.42	± 9.6 %
10102	CAB	LTE-FDD (SC-FDMA, 100% RB, 20 MHz, 64-QAM)	LTE-FDD	6.60	± 9.6 %
10103	DAC	LTE-TDD (SC-FDMA, 100% RB, 20 MHz, QPSK)	LTE-TDD	9.29	± 9.6 %
10104	CAE	LTE-TDD (SC-FDMA, 100% RB, 20 MHz, 16-QAM)	LTE-TDD	9.97	± 9.6 %
10105	CAE	LTE-TDD (SC-FDMA, 100% RB, 20 MHz, 64-QAM)	LTE-TDD	10.01	± 9.6 %
10108	CAE	LTE-FDD (SC-FDMA, 100% RB, 10 MHz, QPSK)	LTE-FDD	5.80	± 9.6 %
10109	CAG	LTE-FDD (SC-FDMA, 100% RB, 10 MHz, 16-QAM)	LTE-FDD	6.43	± 9.6 %
10110	CAG	LTE-FDD (SC-FDMA, 100% RB, 5 MHz, QPSK)	LTE-FDD	5.75	± 9.6 %
10111	CAG	LTE-FDD (SC-FDMA, 100% RB, 5 MHz, 16-QAM)	LTE-FDD	6.44	± 9.6 %
10112	CAG	LTE-FDD (SC-FDMA, 100% RB, 10 MHz, 64-QAM)	LTE-FDD	6.59	± 9.6 %
10113	CAG	LTE-FDD (SC-FDMA, 100% RB, 5 MHz, 64-QAM)	LTE-FDD	6.62	± 9.6 %
10114	CAG	IEEE 802.11n (HT Greenfield, 13.5 Mbps, BPSK)	WLAN	8.10	± 9.6 %
10115	CAG	IEEE 802.11n (HT Greenfield, 81 Mbps, 16-QAM)	WLAN	8.46	± 9.6 %
10116	CAG	IEEE 802.11n (HT Greenfield, 135 Mbps, 64-QAM)	WLAN	8.15	± 9.6 %
10117	CAG	IEEE 802.11n (HT Mixed, 13.5 Mbps, BPSK)	WLAN	8.07	± 9.6 %
10118	CAD	IEEE 802.11n (HT Mixed, 81 Mbps, 16-QAM)	WLAN	8.59	± 9.6 %
10119	CAD	IEEE 802.11n (HT Mixed, 135 Mbps, 64-QAM)	WLAN	8.13	± 9.6 %
10140	CAD	LTE-FDD (SC-FDMA, 100% RB, 15 MHz, 16-QAM)	LTE-FDD	6.49	± 9.6 %
10141	CAD	LTE-FDD (SC-FDMA, 100% RB, 15 MHz, 64-QAM)	LTE-FDD	6.53	± 9.6 %
10142	CAD	LTE-FDD (SC-FDMA, 100% RB, 3 MHz, QPSK)	LTE-FDD	5.73	± 9.6 %
10143	CAD	LTE-FDD (SC-FDMA, 100% RB, 3 MHz, 16-QAM)	LTE-FDD	6.35	± 9.6 %
10144	CAC	LTE-FDD (SC-FDMA, 100% RB, 3 MHz, 64-QAM)	LTE-FDD	6.65	± 9.6 %
10145	CAC	LTE-FDD (SC-FDMA, 100% RB, 1.4 MHz, QPSK)	LTE-FDD	5.76	± 9.6 %
10146	CAC	LTE-FDD (SC-FDMA, 100% RB, 1.4 MHz, 16-QAM)	LTE-FDD	6.41	± 9.6 %
10147	CAC	LTE-FDD (SC-FDMA, 100% RB, 1.4 MHz, 64-QAM)	LTE-FDD	6.72	± 9.6 %
10149	CAE	LTE-FDD (SC-FDMA, 50% RB, 20 MHz, 16-QAM)	LTE-FDD	6.42	± 9.6 %
10150	CAE	LTE-FDD (SC-FDMA, 50% RB, 20 MHz, 64-QAM)	LTE-FDD	6.60	± 9.6 %
10151	CAE	LTE-TDD (SC-FDMA, 50% RB, 20 MHz, QPSK)	LTE-TDD	9.28	± 9.6 %
10152	CAE	LTE-TDD (SC-FDMA, 50% RB, 20 MHz, 16-QAM)	LTE-TDD	9.92	± 9.6 %
10153	CAE	LTE-TDD (SC-FDMA, 50% RB, 20 MHz, 64-QAM)	LTE-TDD	10.05	± 9.6 %
10154	CAF	LTE-FDD (SC-FDMA, 50% RB, 10 MHz, QPSK)	LTE-FDD	5.75	± 9.6 %
10155	CAF	LTE-FDD (SC-FDMA, 50% RB, 10 MHz, 16-QAM)	LTE-FDD	6.43	± 9.6 %
10156	CAF	LTE-FDD (SC-FDMA, 50% RB, 5 MHz, QPSK)	LTE-FDD	5.79	± 9.6 %
10157	CAE	LTE-FDD (SC-FDMA, 50% RB, 5 MHz, 16-QAM)	LTE-FDD	6.49	± 9.6 %
10158	CAE	LTE-FDD (SC-FDMA, 50% RB, 10 MHz, 64-QAM)	LTE-FDD	6.62	± 9.6 %
10159	CAG	LTE-FDD (SC-FDMA, 50% RB, 5 MHz, 64-QAM)	LTE-FDD	6.56	± 9.6 %
10160	CAG	LTE-FDD (SC-FDMA, 50% RB, 15 MHz, QPSK)	LTE-FDD	5.82	± 9.6 %
10161	CAG	LTE-FDD (SC-FDMA, 50% RB, 15 MHz, 16-QAM)	LTE-FDD	6.43	± 9.6 %
10162	CAG	LTE-FDD (SC-FDMA, 50% RB, 15 MHz, 64-QAM)	LTE-FDD	6.58	± 9.6 %
10166	CAG	LTE-FDD (SC-FDMA, 50% RB, 1.4 MHz, QPSK)	LTE-FDD	5.46	± 9.6 %
10167	CAG	LTE-FDD (SC-FDMA, 50% RB, 1.4 MHz, 16-QAM)	LTE-FDD	6.21	± 9.6 %
10168	CAG	LTE-FDD (SC-FDMA, 50% RB, 1.4 MHz, 64-QAM)	LTE-FDD	6.79	± 9.6 %
10169	CAG	LTE-FDD (SC-FDMA, 1 RB, 20 MHz, QPSK)	LTE-FDD	5.73	± 9.6 %
10170	CAG	LTE-FDD (SC-FDMA, 1 RB, 20 MHz, 16-QAM)	LTE-FDD	6.52	± 9.6 %
10171	CAE	LTE-FDD (SC-FDMA, 1 RB, 20 MHz, 64-QAM)	LTE-FDD	6.49	± 9.6 %
10172	CAE	LTE-TDD (SC-FDMA, 1 RB, 20 MHz, QPSK)	LTE-TDD	9.21	± 9.6 %
10173	CAE	LTE-TDD (SC-FDMA, 1 RB, 20 MHz, 16-QAM)	LTE-TDD	9.48	± 9.6 %
10174	CAF	LTE-TDD (SC-FDMA, 1 RB, 20 MHz, 64-QAM)	LTE-TDD	10.25	± 9.6 %
10175	CAF	LTE-FDD (SC-FDMA, 1 RB, 10 MHz, QPSK)	LTE-FDD	5.72	± 9.6 %
10176	CAF	LTE-FDD (SC-FDMA, 1 RB, 10 MHz, 16-QAM)	LTE-FDD	6.52	± 9.6 %
10177	CAE	LTE-FDD (SC-FDMA, 1 RB, 5 MHz, QPSK)	LTE-FDD	5.73	± 9.6 %
10178	CAE	LTE-FDD (SC-FDMA, 1 RB, 5 MHz, 16-QAM)	LTE-FDD	6.52	± 9.6 %
10179	AAE	LTE-FDD (SC-FDMA, 1 RB, 10 MHz, 64-QAM)	LTE-FDD	6.50	± 9.6 %
10180	CAG	LTE-FDD (SC-FDMA, 1 RB, 5 MHz, 64-QAM)	LTE-FDD	6.50	± 9.6 %

10181	CAG	LTE-FDD (SC-FDMA, 1 RB, 15 MHz, QPSK)	LTE-FDD	5.72	± 9.6 %
10182	CAG	LTE-FDD (SC-FDMA, 1 RB, 15 MHz, 16-QAM)	LTE-FDD	6.52	± 9.6 %
10183	CAG	LTE-FDD (SC-FDMA, 1 RB, 15 MHz, 64-QAM)	LTE-FDD	6.50	± 9.6 %
10184	CAG	LTE-FDD (SC-FDMA, 1 RB, 3 MHz, QPSK)	LTE-FDD	5.73	± 9.6 %
10185	CAI	LTE-FDD (SC-FDMA, 1 RB, 3 MHz, 16-QAM)	LTE-FDD	6.51	± 9.6 %
10186	CAG	LTE-FDD (SC-FDMA, 1 RB, 3 MHz, 64-QAM)	LTE-FDD	6.50	± 9.6 %
10187	CAG	LTE-FDD (SC-FDMA, 1 RB, 1.4 MHz, QPSK)	LTE-FDD	5.73	± 9.6 %
10188	CAG	LTE-FDD (SC-FDMA, 1 RB, 1.4 MHz, 16-QAM)	LTE-FDD	6.52	± 9.6 %
10189	CAE	LTE-FDD (SC-FDMA, 1 RB, 1.4 MHz, 64-QAM)	LTE-FDD	6.50	± 9.6 %
10193	CAE	IEEE 802.11n (HT Greenfield, 6.5 Mbps, BPSK)	WLAN	8.09	± 9.6 %
10194	AAD	IEEE 802.11n (HT Greenfield, 39 Mbps, 16-QAM)	WLAN	8.12	± 9.6 %
10195	CAE	IEEE 802.11n (HT Greenfield, 65 Mbps, 64-QAM)	WLAN	8.21	± 9.6 %
10196	CAE	IEEE 802.11n (HT Mixed, 6.5 Mbps, BPSK)	WLAN	8.10	± 9.6 %
10197	AAE	IEEE 802.11n (HT Mixed, 39 Mbps, 16-QAM)	WLAN	8.13	± 9.6 %
10198	CAF	IEEE 802.11n (HT Mixed, 65 Mbps, 64-QAM)	WLAN	8.27	± 9.6 %
10219	CAF	IEEE 802.11n (HT Mixed, 7.2 Mbps, BPSK)	WLAN	8.03	± 9.6 %
10220	AAF	IEEE 802.11n (HT Mixed, 43.3 Mbps, 16-QAM)	WLAN	8.13	± 9.6 %
10221	CAC	IEEE 802.11n (HT Mixed, 72.2 Mbps, 64-QAM)	WLAN	8.27	± 9.6 %
10222	CAC	IEEE 802.11n (HT Mixed, 15 Mbps, BPSK)	WLAN	8.06	± 9.6 %
10223	CAD	IEEE 802.11n (HT Mixed, 90 Mbps, 16-QAM)	WLAN	8.48	± 9.6 %
10224	CAD	IEEE 802.11n (HT Mixed, 150 Mbps, 64-QAM)	WLAN	8.08	± 9.6 %
10225	CAD	UMTS-FDD (HSPA+)	WCDMA	5.97	± 9.6 %
10226	CAD	LTE-TDD (SC-FDMA, 1 RB, 1.4 MHz, 16-QAM)	LTE-TDD	9.49	± 9.6 %
10227	CAD	LTE-TDD (SC-FDMA, 1 RB, 1.4 MHz, 64-QAM)	LTE-TDD	10.26	± 9.6 %
10228	CAD	LTE-TDD (SC-FDMA, 1 RB, 1.4 MHz, QPSK)	LTE-TDD	9.22	± 9.6 %
10229	DAC	LTE-TDD (SC-FDMA, 1 RB, 3 MHz, 16-QAM)	LTE-TDD	9.48	± 9.6 %
10230	CAC	LTE-TDD (SC-FDMA, 1 RB, 3 MHz, 64-QAM)	LTE-TDD	10.25	± 9.6 %
10231	CAC	LTE-TDD (SC-FDMA, 1 RB, 3 MHz, QPSK)	LTE-TDD	9.19	± 9.6 %
10232	CAD	LTE-TDD (SC-FDMA, 1 RB, 5 MHz, 16-QAM)	LTE-TDD	9.48	± 9.6 %
10233	CAD	LTE-TDD (SC-FDMA, 1 RB, 5 MHz, 64-QAM)	LTE-TDD	10.25	± 9.6 %
10234	CAD	LTE-TDD (SC-FDMA, 1 RB, 5 MHz, QPSK)	LTE-TDD	9.21	± 9.6 %
10235	CAD	LTE-TDD (SC-FDMA, 1 RB, 10 MHz, 16-QAM)	LTE-TDD	9.48	± 9.6 %
10236	CAD	LTE-TDD (SC-FDMA, 1 RB, 10 MHz, 64-QAM)	LTE-TDD	10.25	± 9.6 %
10237	CAD	LTE-TDD (SC-FDMA, 1 RB, 10 MHz, QPSK)	LTE-TDD	9.21	± 9.6 %
10238	CAB	LTE-TDD (SC-FDMA, 1 RB, 15 MHz, 16-QAM)	LTE-TDD	9.48	± 9.6 %
10239	CAB	LTE-TDD (SC-FDMA, 1 RB, 15 MHz, 64-QAM)	LTE-TDD	10.25	± 9.6 %
10240	CAB	LTE-TDD (SC-FDMA, 1 RB, 15 MHz, QPSK)	LTE-TDD	9.21	± 9.6 %
10241	CAB	LTE-TDD (SC-FDMA, 50% RB, 1.4 MHz, 16-QAM)	LTE-TDD	9.82	± 9.6 %
10242	CAD	LTE-TDD (SC-FDMA, 50% RB, 1.4 MHz, 64-QAM)	LTE-TDD	9.86	± 9.6 %
10243	CAD	LTE-TDD (SC-FDMA, 50% RB, 1.4 MHz, QPSK)	LTE-TDD	9.46	± 9.6 %
10244	CAD	LTE-TDD (SC-FDMA, 50% RB, 3 MHz, 16-QAM)	LTE-TDD	10.06	± 9.6 %
10245	CAG	LTE-TDD (SC-FDMA, 50% RB, 3 MHz, 64-QAM)	LTE-TDD	10.06	± 9.6 %
10246	CAG	LTE-TDD (SC-FDMA, 50% RB, 3 MHz, QPSK)	LTE-TDD	9.30	± 9.6 %
10247	CAG	LTE-TDD (SC-FDMA, 50% RB, 5 MHz, 16-QAM)	LTE-TDD	9.91	± 9.6 %
10248	CAG	LTE-TDD (SC-FDMA, 50% RB, 5 MHz, 64-QAM)	LTE-TDD	10.09	± 9.6 %
10249	CAG	LTE-TDD (SC-FDMA, 50% RB, 5 MHz, QPSK)	LTE-TDD	9.29	± 9.6 %
10250	CAG	LTE-TDD (SC-FDMA, 50% RB, 10 MHz, 16-QAM)	LTE-TDD	9.81	± 9.6 %
10251	CAF	LTE-TDD (SC-FDMA, 50% RB, 10 MHz, 64-QAM)	LTE-TDD	10.17	± 9.6 %
10252	CAF	LTE-TDD (SC-FDMA, 50% RB, 10 MHz, QPSK)	LTE-TDD	9.24	± 9.6 %
10253	CAF	LTE-TDD (SC-FDMA, 50% RB, 15 MHz, 16-QAM)	LTE-TDD	9.90	± 9.6 %
10254	CAB	LTE-TDD (SC-FDMA, 50% RB, 15 MHz, 64-QAM)	LTE-TDD	10.14	± 9.6 %
10255	CAB	LTE-TDD (SC-FDMA, 50% RB, 15 MHz, QPSK)	LTE-TDD	9.20	± 9.6 %
10256	CAB	LTE-TDD (SC-FDMA, 100% RB, 1.4 MHz, 16-QAM)	LTE-TDD	9.96	± 9.6 %
10257	CAD	LTE-TDD (SC-FDMA, 100% RB, 1.4 MHz, 64-QAM)	LTE-TDD	10.08	± 9.6 %
10258	CAD	LTE-TDD (SC-FDMA, 100% RB, 1.4 MHz, QPSK)	LTE-TDD	9.34	± 9.6 %
10259	CAD	LTE-TDD (SC-FDMA, 100% RB, 3 MHz, 16-QAM)	LTE-TDD	9.98	± 9.6 %

10260	CAG	LTE-TDD (SC-FDMA, 100% RB, 3 MHz, 64-QAM)	LTE-TDD	9.97	± 9.6 %
10261	CAG	LTE-TDD (SC-FDMA, 100% RB, 3 MHz, QPSK)	LTE-TDD	9.24	± 9.6 %
10262	CAG	LTE-TDD (SC-FDMA, 100% RB, 5 MHz, 16-QAM)	LTE-TDD	9.83	± 9.6 %
10263	CAG	LTE-TDD (SC-FDMA, 100% RB, 5 MHz, 64-QAM)	LTE-TDD	10.16	± 9.6 %
10264	CAG	LTE-TDD (SC-FDMA, 100% RB, 5 MHz, QPSK)	LTE-TDD	9.23	± 9.6 %
10265	CAG	LTE-TDD (SC-FDMA, 100% RB, 10 MHz, 16-QAM)	LTE-TDD	9.92	± 9.6 %
10266	CAF	LTE-TDD (SC-FDMA, 100% RB, 10 MHz, 64-QAM)	LTE-TDD	10.07	± 9.6 %
10267	CAF	LTE-TDD (SC-FDMA, 100% RB, 10 MHz, QPSK)	LTE-TDD	9.30	± 9.6 %
10268	CAF	LTE-TDD (SC-FDMA, 100% RB, 15 MHz, 16-QAM)	LTE-TDD	10.06	± 9.6 %
10269	CAB	LTE-TDD (SC-FDMA, 100% RB, 15 MHz, 64-QAM)	LTE-TDD	10.13	± 9.6 %
10270	CAB	LTE-TDD (SC-FDMA, 100% RB, 15 MHz, QPSK)	LTE-TDD	9.58	± 9.6 %
10274	CAB	UMTS-FDD (HSUPA, Subtest 5, 3GPP Rel8.10)	WCDMA	4.87	± 9.6 %
10275	CAD	UMTS-FDD (HSUPA, Subtest 5, 3GPP Rel8.4)	WCDMA	3.96	± 9.6 %
10277	CAD	PHS (QPSK)	PHS	11.81	± 9.6 %
10278	CAD	PHS (QPSK, BW 884MHz, Rolloff 0.5)	PHS	11.81	± 9.6 %
10279	CAG	PHS (QPSK, BW 884MHz, Rolloff 0.38)	PHS	12.18	± 9.6 %
10290	CAG	CDMA2000, RC1, SO55, Full Rate	CDMA2000	3.91	± 9.6 %
10291	CAG	CDMA2000, RC3, SO55, Full Rate	CDMA2000	3.46	± 9.6 %
10292	CAG	CDMA2000, RC3, SO32, Full Rate	CDMA2000	3.39	± 9.6 %
10293	CAG	CDMA2000, RC3, SO3, Full Rate	CDMA2000	3.50	± 9.6 %
10295	CAG	CDMA2000, RC1, SO3, 1/8th Rate 25 fr.	CDMA2000	12.49	± 9.6 %
10297	CAF	LTE-FDD (SC-FDMA, 50% RB, 20 MHz, QPSK)	LTE-FDD	5.81	± 9.6 %
10298	CAF	LTE-FDD (SC-FDMA, 50% RB, 3 MHz, QPSK)	LTE-FDD	5.72	± 9.6 %
10299	CAF	LTE-FDD (SC-FDMA, 50% RB, 3 MHz, 16-QAM)	LTE-FDD	6.39	± 9.6 %
10300	CAC	LTE-FDD (SC-FDMA, 50% RB, 3 MHz, 64-QAM)	LTE-FDD	6.60	± 9.6 %
10301	CAC	IEEE 802.16e WiMAX (29:18, 5ms, 10MHz, QPSK, PUSC)	WiMAX	12.03	± 9.6 %
10302	CAB	IEEE 802.16e WiMAX (29:18, 5ms, 10MHz, QPSK, PUSC, 3CTRL)	WiMAX	12.57	± 9.6 %
10303	CAB	IEEE 802.16e WiMAX (31:15, 5ms, 10MHz, 64QAM, PUSC)	WiMAX	12.52	± 9.6 %
10304	CAA	IEEE 802.16e WiMAX (29:18, 5ms, 10MHz, 64QAM, PUSC)	WiMAX	11.86	± 9.6 %
10305	CAA	IEEE 802.16e WiMAX (31:15, 10ms, 10MHz, 64QAM, PUSC)	WiMAX	15.24	± 9.6 %
10306	CAA	IEEE 802.16e WiMAX (29:18, 10ms, 10MHz, 64QAM, PUSC)	WiMAX	14.67	± 9.6 %
10307	AAB	IEEE 802.16e WiMAX (29:18, 10ms, 10MHz, QPSK, PUSC)	WiMAX	14.49	± 9.6 %
10308	AAB	IEEE 802.16e WiMAX (29:18, 10ms, 10MHz, 16QAM, PUSC)	WiMAX	14.46	± 9.6 %
10309	AAB	IEEE 802.16e WiMAX (29:18, 10ms, 10MHz, 16QAM, AMC 2x3)	WiMAX	14.58	± 9.6 %
10310	AAB	IEEE 802.16e WiMAX (29:18, 10ms, 10MHz, QPSK, AMC 2x3)	WiMAX	14.57	± 9.6 %
10311	AAB	LTE-FDD (SC-FDMA, 100% RB, 15 MHz, QPSK)	LTE-FDD	6.06	± 9.6 %
10313	AAD	iDEN 1:3	iDEN	10.51	± 9.6 %
10314	AAD	iDEN 1:6	iDEN	13.48	± 9.6 %
10315	AAD	IEEE 802.11b WiFi 2.4 GHz (DSSS, 1 Mbps, 96pc dc)	WLAN	1.71	± 9.6 %
10316	AAD	IEEE 802.11g WiFi 2.4 GHz (ERP-OFDM, 6 Mbps, 96pc dc)	WLAN	8.36	± 9.6 %
10317	AAA	IEEE 802.11a WiFi 5 GHz (OFDM, 6 Mbps, 96pc dc)	WLAN	8.36	± 9.6 %
10352	AAA	Pulse Waveform (200Hz, 10%)	Generic	10.00	± 9.6 %
10353	AAA	Pulse Waveform (200Hz, 20%)	Generic	6.99	± 9.6 %
10354	AAA	Pulse Waveform (200Hz, 40%)	Generic	3.98	± 9.6 %
10355	AAA	Pulse Waveform (200Hz, 60%)	Generic	2.22	± 9.6 %
10356	AAA	Pulse Waveform (200Hz, 80%)	Generic	0.97	± 9.6 %
10387	AAA	QPSK Waveform, 1 MHz	Generic	5.10	± 9.6 %
10388	AAA	QPSK Waveform, 10 MHz	Generic	5.22	± 9.6 %
10396	AAA	64-QAM Waveform, 100 kHz	Generic	6.27	± 9.6 %
10399	AAA	64-QAM Waveform, 40 MHz	Generic	6.27	± 9.6 %
10400	AAD	IEEE 802.11ac WiFi (20MHz, 64-QAM, 99pc dc)	WLAN	8.37	± 9.6 %
10401	AAA	IEEE 802.11ac WiFi (40MHz, 64-QAM, 99pc dc)	WLAN	8.60	± 9.6 %
10402	AAA	IEEE 802.11ac WiFi (80MHz, 64-QAM, 99pc dc)	WLAN	8.53	± 9.6 %
10403	AAB	CDMA2000 (1xEV-DO, Rev. 0)	CDMA2000	3.76	± 9.6 %
10404	AAB	CDMA2000 (1xEV-DO, Rev. A)	CDMA2000	3.77	± 9.6 %
10406	AAD	CDMA2000, RC3, SO32, SCH0, Full Rate	CDMA2000	5.22	± 9.6 %

10410	AAA	LTE-TDD (SC-FDMA, 1 RB, 10 MHz, QPSK, UL Sub=2,3,4,7,8,9)	LTE-TDD	7.82	± 9.6 %
10414	AAA	WLAN CCDF, 64-QAM, 40MHz	Generic	8.54	± 9.6 %
10415	AAA	IEEE 802.11b WiFi 2.4 GHz (DSSS, 1 Mbps, 99pc dc)	WLAN	1.54	± 9.6 %
10416	AAA	IEEE 802.11g WiFi 2.4 GHz (ERP-OFDM, 6 Mbps, 99pc dc)	WLAN	8.23	± 9.6 %
10417	AAA	IEEE 802.11a/h WiFi 5 GHz (OFDM, 6 Mbps, 99pc dc)	WLAN	8.23	± 9.6 %
10418	AAA	IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 6 Mbps, 99pc, Long)	WLAN	8.14	± 9.6 %
10419	AAA	IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 6 Mbps, 99pc, Short)	WLAN	8.19	± 9.6 %
10422	AAA	IEEE 802.11n (HT Greenfield, 7.2 Mbps, BPSK)	WLAN	8.32	± 9.6 %
10423	AAA	IEEE 802.11n (HT Greenfield, 43.3 Mbps, 16-QAM)	WLAN	8.47	± 9.6 %
10424	AAE	IEEE 802.11n (HT Greenfield, 72.2 Mbps, 64-QAM)	WLAN	8.40	± 9.6 %
10425	AAE	IEEE 802.11n (HT Greenfield, 15 Mbps, BPSK)	WLAN	8.41	± 9.6 %
10426	AAE	IEEE 802.11n (HT Greenfield, 90 Mbps, 16-QAM)	WLAN	8.45	± 9.6 %
10427	AAB	IEEE 802.11n (HT Greenfield, 150 Mbps, 64-QAM)	WLAN	8.41	± 9.6 %
10430	AAB	LTE-FDD (OFDMA, 5 MHz, E-TM 3.1)	LTE-FDD	8.28	± 9.6 %
10431	AAC	LTE-FDD (OFDMA, 10 MHz, E-TM 3.1)	LTE-FDD	8.38	± 9.6 %
10432	AAB	LTE-FDD (OFDMA, 15 MHz, E-TM 3.1)	LTE-FDD	8.34	± 9.6 %
10433	AAC	LTE-FDD (OFDMA, 20 MHz, E-TM 3.1)	LTE-FDD	8.34	± 9.6 %
10434	AAG	W-CDMA (BS Test Model 1, 64 DPCH)	WCDMA	8.60	± 9.6 %
10435	AAA	LTE-TDD (SC-FDMA, 1 RB, 20 MHz, QPSK, UL Sub)	LTE-TDD	7.82	± 9.6 %
10447	AAA	LTE-FDD (OFDMA, 5 MHz, E-TM 3.1, Clipping 44%)	LTE-FDD	7.56	± 9.6 %
10448	AAA	LTE-FDD (OFDMA, 10 MHz, E-TM 3.1, Clipping 44%)	LTE-FDD	7.53	± 9.6 %
10449	AAC	LTE-FDD (OFDMA, 15 MHz, E-TM 3.1, Clipping 44%)	LTE-FDD	7.51	± 9.6 %
10450	AAA	LTE-FDD (OFDMA, 20 MHz, E-TM 3.1, Clipping 44%)	LTE-FDD	7.48	± 9.6 %
10451	AAA	W-CDMA (BS Test Model 1, 64 DPCH, Clipping 44%)	WCDMA	7.59	± 9.6 %
10453	AAC	Validation (Square, 10ms, 1ms)	Test	10.00	± 9.6 %
10456	AAC	IEEE 802.11ac WiFi (160MHz, 64-QAM, 99pc dc)	WLAN	8.63	± 9.6 %
10457	AAC	UMTS-FDD (DC-HSDPA)	WCDMA	6.62	± 9.6 %
10458	AAC	CDMA2000 (1xEV-DO, Rev. B, 2 carriers)	CDMA2000	6.55	± 9.6 %
10459	AAC	CDMA2000 (1xEV-DO, Rev. B, 3 carriers)	CDMA2000	8.25	± 9.6 %
10460	AAC	UMTS-FDD (WCDMA, AMR)	WCDMA	2.39	± 9.6 %
10461	AAC	LTE-TDD (SC-FDMA, 1 RB, 1.4 MHz, QPSK, UL Sub)	LTE-TDD	7.82	± 9.6 %
10462	AAC	LTE-TDD (SC-FDMA, 1 RB, 1.4 MHz, 16-QAM, UL Sub)	LTE-TDD	8.30	± 9.6 %
10463	AAD	LTE-TDD (SC-FDMA, 1 RB, 1.4 MHz, 64-QAM, UL Sub)	LTE-TDD	8.56	± 9.6 %
10464	AAD	LTE-TDD (SC-FDMA, 1 RB, 3 MHz, QPSK, UL Sub)	LTE-TDD	7.82	± 9.6 %
10465	AAC	LTE-TDD (SC-FDMA, 1 RB, 3 MHz, 16-QAM, UL Sub)	LTE-TDD	8.32	± 9.6 %
10466	AAC	LTE-TDD (SC-FDMA, 1 RB, 3 MHz, 64-QAM, UL Sub)	LTE-TDD	8.57	± 9.6 %
10467	AAA	LTE-TDD (SC-FDMA, 1 RB, 5 MHz, QPSK, UL Sub)	LTE-TDD	7.82	± 9.6 %
10468	AAF	LTE-TDD (SC-FDMA, 1 RB, 5 MHz, 16-QAM, UL Sub)	LTE-TDD	8.32	± 9.6 %
10469	AAD	LTE-TDD (SC-FDMA, 1 RB, 5 MHz, 64-QAM, UL Sub)	LTE-TDD	8.56	± 9.6 %
10470	AAD	LTE-TDD (SC-FDMA, 1 RB, 10 MHz, QPSK, UL Sub)	LTE-TDD	7.82	± 9.6 %
10471	AAC	LTE-TDD (SC-FDMA, 1 RB, 10 MHz, 16-QAM, UL Sub)	LTE-TDD	8.32	± 9.6 %
10472	AAC	LTE-TDD (SC-FDMA, 1 RB, 10 MHz, 64-QAM, UL Sub)	LTE-TDD	8.57	± 9.6 %
10473	AAA	LTE-TDD (SC-FDMA, 1 RB, 15 MHz, QPSK, UL Sub)	LTE-TDD	7.82	± 9.6 %
10474	AAC	LTE-TDD (SC-FDMA, 1 RB, 15 MHz, 16-QAM, UL Sub)	LTE-TDD	8.32	± 9.6 %
10475	AAD	LTE-TDD (SC-FDMA, 1 RB, 15 MHz, 64-QAM, UL Sub)	LTE-TDD	8.57	± 9.6 %
10477	AAC	LTE-TDD (SC-FDMA, 1 RB, 20 MHz, 16-QAM, UL Sub)	LTE-TDD	8.32	± 9.6 %
10478	AAC	LTE-TDD (SC-FDMA, 1 RB, 20 MHz, 64-QAM, UL Sub)	LTE-TDD	8.57	± 9.6 %
10479	AAC	LTE-TDD (SC-FDMA, 50% RB, 1.4 MHz, QPSK, UL Sub)	LTE-TDD	7.74	± 9.6 %
10480	AAA	LTE-TDD (SC-FDMA, 50% RB, 1.4 MHz, 16-QAM, UL Sub)	LTE-TDD	8.18	± 9.6 %
10481	AAA	LTE-TDD (SC-FDMA, 50% RB, 1.4 MHz, 64-QAM, UL Sub)	LTE-TDD	8.45	± 9.6 %
10482	AAA	LTE-TDD (SC-FDMA, 50% RB, 3 MHz, QPSK, UL Sub)	LTE-TDD	7.71	± 9.6 %
10483	AAA	LTE-TDD (SC-FDMA, 50% RB, 3 MHz, 16-QAM, Sub)	LTE-TDD	8.39	± 9.6 %
10484	AAB	LTE-TDD (SC-FDMA, 50% RB, 3 MHz, 64-QAM, UL Sub)	LTE-TDD	8.47	± 9.6 %
10485	AAB	LTE-TDD (SC-FDMA, 50% RB, 5 MHz, QPSK, UL Sub)	LTE-TDD	7.59	± 9.6 %
10486	AAB	LTE-TDD (SC-FDMA, 50% RB, 5 MHz, 16-QAM, UL Sub)	LTE-TDD	8.38	± 9.6 %
10487	AAC	LTE-TDD (SC-FDMA, 50% RB, 5 MHz, 64-QAM, UL Sub)	LTE-TDD	8.60	± 9.6 %

10488	AAC	LTE-TDD (SC-FDMA, 50% RB, 10 MHz, QPSK, UL Sub)	LTE-TDD	7.70	± 9.6 %
10489	AAC	LTE-TDD (SC-FDMA, 50% RB, 10 MHz, 16-QAM, UL Sub)	LTE-TDD	8.31	± 9.6 %
10490	AAF	LTE-TDD (SC-FDMA, 50% RB, 10 MHz, 64-QAM, UL Sub)	LTE-TDD	8.54	± 9.6 %
10491	AAF	LTE-TDD (SC-FDMA, 50% RB, 15 MHz, QPSK, UL Sub)	LTE-TDD	7.74	± 9.6 %
10492	AAF	LTE-TDD (SC-FDMA, 50% RB, 15 MHz, 16-QAM, UL Sub)	LTE-TDD	8.41	± 9.6 %
10493	AAF	LTE-TDD (SC-FDMA, 50% RB, 15 MHz, 64-QAM, UL Sub)	LTE-TDD	8.55	± 9.6 %
10494	AAF	LTE-TDD (SC-FDMA, 50% RB, 20 MHz, QPSK, UL Sub)	LTE-TDD	7.74	± 9.6 %
10495	AAF	LTE-TDD (SC-FDMA, 50% RB, 20 MHz, 16-QAM, UL Sub)	LTE-TDD	8.37	± 9.6 %
10496	AAE	LTE-TDD (SC-FDMA, 50% RB, 20 MHz, 64-QAM, UL Sub)	LTE-TDD	8.54	± 9.6 %
10497	AAE	LTE-TDD (SC-FDMA, 100% RB, 1.4 MHz, QPSK, UL Sub)	LTE-TDD	7.67	± 9.6 %
10498	AAE	LTE-TDD (SC-FDMA, 100% RB, 1.4 MHz, 16-QAM, UL Sub)	LTE-TDD	8.40	± 9.6 %
10499	AAC	LTE-TDD (SC-FDMA, 100% RB, 1.4 MHz, 64-QAM, UL Sub)	LTE-TDD	8.68	± 9.6 %
10500	AAF	LTE-TDD (SC-FDMA, 100% RB, 3 MHz, QPSK, UL Sub)	LTE-TDD	7.67	± 9.6 %
10501	AAF	LTE-TDD (SC-FDMA, 100% RB, 3 MHz, 16-QAM, UL Sub)	LTE-TDD	8.44	± 9.6 %
10502	AAB	LTE-TDD (SC-FDMA, 100% RB, 3 MHz, 64-QAM, UL Sub)	LTE-TDD	8.52	± 9.6 %
10503	AAB	LTE-TDD (SC-FDMA, 100% RB, 5 MHz, QPSK, UL Sub)	LTE-TDD	7.72	± 9.6 %
10504	AAB	LTE-TDD (SC-FDMA, 100% RB, 5 MHz, 16-QAM, UL Sub)	LTE-TDD	8.31	± 9.6 %
10505	AAC	LTE-TDD (SC-FDMA, 100% RB, 5 MHz, 64-QAM, UL Sub)	LTE-TDD	8.54	± 9.6 %
10506	AAC	LTE-TDD (SC-FDMA, 100% RB, 10 MHz, QPSK, UL Sub)	LTE-TDD	7.74	± 9.6 %
10507	AAC	LTE-TDD (SC-FDMA, 100% RB, 10 MHz, 16-QAM, UL Sub)	LTE-TDD	8.36	± 9.6 %
10508	AAF	LTE-TDD (SC-FDMA, 100% RB, 10 MHz, 64-QAM, UL Sub)	LTE-TDD	8.55	± 9.6 %
10509	AAF	LTE-TDD (SC-FDMA, 100% RB, 15 MHz, QPSK, UL Sub)	LTE-TDD	7.99	± 9.6 %
10510	AAF	LTE-TDD (SC-FDMA, 100% RB, 15 MHz, 16-QAM, UL Sub)	LTE-TDD	8.49	± 9.6 %
10511	AAF	LTE-TDD (SC-FDMA, 100% RB, 15 MHz, 64-QAM, UL Sub)	LTE-TDD	8.51	± 9.6 %
10512	AAF	LTE-TDD (SC-FDMA, 100% RB, 20 MHz, QPSK, UL Sub)	LTE-TDD	7.74	± 9.6 %
10513	AAF	LTE-TDD (SC-FDMA, 100% RB, 20 MHz, 16-QAM, UL Sub)	LTE-TDD	8.42	± 9.6 %
10514	AAE	LTE-TDD (SC-FDMA, 100% RB, 20 MHz, 64-QAM, UL Sub)	LTE-TDD	8.45	± 9.6 %
10515	AAE	IEEE 802.11b WiFi 2.4 GHz (DSSS, 2 Mbps, 99pc dc)	WLAN	1.58	± 9.6 %
10516	AAE	IEEE 802.11b WiFi 2.4 GHz (DSSS, 5.5 Mbps, 99pc dc)	WLAN	1.57	± 9.6 %
10517	AAF	IEEE 802.11b WiFi 2.4 GHz (DSSS, 11 Mbps, 99pc dc)	WLAN	1.58	± 9.6 %
10518	AAF	IEEE 802.11a/h WiFi 5 GHz (OFDM, 9 Mbps, 99pc dc)	WLAN	8.23	± 9.6 %
10519	AAF	IEEE 802.11a/h WiFi 5 GHz (OFDM, 12 Mbps, 99pc dc)	WLAN	8.39	± 9.6 %
10520	AAB	IEEE 802.11a/h WiFi 5 GHz (OFDM, 18 Mbps, 99pc dc)	WLAN	8.12	± 9.6 %
10521	AAB	IEEE 802.11a/h WiFi 5 GHz (OFDM, 24 Mbps, 99pc dc)	WLAN	7.97	± 9.6 %
10522	AAB	IEEE 802.11a/h WiFi 5 GHz (OFDM, 36 Mbps, 99pc dc)	WLAN	8.45	± 9.6 %
10523	AAC	IEEE 802.11a/h WiFi 5 GHz (OFDM, 48 Mbps, 99pc dc)	WLAN	8.08	± 9.6 %
10524	AAC	IEEE 802.11a/h WiFi 5 GHz (OFDM, 54 Mbps, 99pc dc)	WLAN	8.27	± 9.6 %
10525	AAC	IEEE 802.11ac WiFi (20MHz, MCS0, 99pc dc)	WLAN	8.36	± 9.6 %
10526	AAF	IEEE 802.11ac WiFi (20MHz, MCS1, 99pc dc)	WLAN	8.42	± 9.6 %
10527	AAF	IEEE 802.11ac WiFi (20MHz, MCS2, 99pc dc)	WLAN	8.21	± 9.6 %
10528	AAF	IEEE 802.11ac WiFi (20MHz, MCS3, 99pc dc)	WLAN	8.36	± 9.6 %
10529	AAF	IEEE 802.11ac WiFi (20MHz, MCS4, 99pc dc)	WLAN	8.36	± 9.6 %
10531	AAF	IEEE 802.11ac WiFi (20MHz, MCS6, 99pc dc)	WLAN	8.43	± 9.6 %
10532	AAF	IEEE 802.11ac WiFi (20MHz, MCS7, 99pc dc)	WLAN	8.29	± 9.6 %
10533	AAE	IEEE 802.11ac WiFi (20MHz, MCS8, 99pc dc)	WLAN	8.38	± 9.6 %
10534	AAE	IEEE 802.11ac WiFi (40MHz, MCS0, 99pc dc)	WLAN	8.45	± 9.6 %
10535	AAE	IEEE 802.11ac WiFi (40MHz, MCS1, 99pc dc)	WLAN	8.45	± 9.6 %
10536	AAF	IEEE 802.11ac WiFi (40MHz, MCS2, 99pc dc)	WLAN	8.32	± 9.6 %
10537	AAF	IEEE 802.11ac WiFi (40MHz, MCS3, 99pc dc)	WLAN	8.44	± 9.6 %
10538	AAF	IEEE 802.11ac WiFi (40MHz, MCS4, 99pc dc)	WLAN	8.54	± 9.6 %
10540	AAA	IEEE 802.11ac WiFi (40MHz, MCS6, 99pc dc)	WLAN	8.39	± 9.6 %
10541	AAA	IEEE 802.11ac WiFi (40MHz, MCS7, 99pc dc)	WLAN	8.46	± 9.6 %
10542	AAA	IEEE 802.11ac WiFi (40MHz, MCS8, 99pc dc)	WLAN	8.65	± 9.6 %
10543	AAC	IEEE 802.11ac WiFi (40MHz, MCS9, 99pc dc)	WLAN	8.65	± 9.6 %
10544	AAC	IEEE 802.11ac WiFi (80MHz, MCS0, 99pc dc)	WLAN	8.47	± 9.6 %
10545	AAC	IEEE 802.11ac WiFi (80MHz, MCS1, 99pc dc)	WLAN	8.55	± 9.6 %



10546	AAC	IEEE 802.11ac WiFi (80MHz, MCS2, 99pc dc)	WLAN	8.35	± 9.6 %
10547	AAC	IEEE 802.11ac WiFi (80MHz, MCS3, 99pc dc)	WLAN	8.49	± 9.6 %
10548	AAC	IEEE 802.11ac WiFi (80MHz, MCS4, 99pc dc)	WLAN	8.37	± 9.6 %
10550	AAC	IEEE 802.11ac WiFi (80MHz, MCS6, 99pc dc)	WLAN	8.38	± 9.6 %
10551	AAC	IEEE 802.11ac WiFi (80MHz, MCS7, 99pc dc)	WLAN	8.50	± 9.6 %
10552	AAC	IEEE 802.11ac WiFi (80MHz, MCS8, 99pc dc)	WLAN	8.42	± 9.6 %
10553	AAC	IEEE 802.11ac WiFi (80MHz, MCS9, 99pc dc)	WLAN	8.45	± 9.6 %
10554	AAC	IEEE 802.11ac WiFi (160MHz, MCS0, 99pc dc)	WLAN	8.48	± 9.6 %
10555	AAC	IEEE 802.11ac WiFi (160MHz, MCS1, 99pc dc)	WLAN	8.47	± 9.6 %
10556	AAC	IEEE 802.11ac WiFi (160MHz, MCS2, 99pc dc)	WLAN	8.50	± 9.6 %
10557	AAC	IEEE 802.11ac WiFi (160MHz, MCS3, 99pc dc)	WLAN	8.52	± 9.6 %
10558	AAC	IEEE 802.11ac WiFi (160MHz, MCS4, 99pc dc)	WLAN	8.61	± 9.6 %
10560	AAC	IEEE 802.11ac WiFi (160MHz, MCS6, 99pc dc)	WLAN	8.73	± 9.6 %
10561	AAC	IEEE 802.11ac WiFi (160MHz, MCS7, 99pc dc)	WLAN	8.56	± 9.6 %
10562	AAC	IEEE 802.11ac WiFi (160MHz, MCS8, 99pc dc)	WLAN	8.69	± 9.6 %
10563	AAC	IEEE 802.11ac WiFi (160MHz, MCS9, 99pc dc)	WLAN	8.77	± 9.6 %
10564	AAC	IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 9 Mbps, 99pc dc)	WLAN	8.25	± 9.6 %
10565	AAC	IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 12 Mbps, 99pc dc)	WLAN	8.45	± 9.6 %
10566	AAC	IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 18 Mbps, 99pc dc)	WLAN	8.13	± 9.6 %
10567	AAC	IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 24 Mbps, 99pc dc)	WLAN	8.00	± 9.6 %
10568	AAC	IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 36 Mbps, 99pc dc)	WLAN	8.37	± 9.6 %
10569	AAC	IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 48 Mbps, 99pc dc)	WLAN	8.10	± 9.6 %
10570	AAC	IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 54 Mbps, 99pc dc)	WLAN	8.30	± 9.6 %
10571	AAC	IEEE 802.11b WiFi 2.4 GHz (DSSS, 1 Mbps, 90pc dc)	WLAN	1.99	± 9.6 %
10572	AAC	IEEE 802.11b WiFi 2.4 GHz (DSSS, 2 Mbps, 90pc dc)	WLAN	1.99	± 9.6 %
10573	AAC	IEEE 802.11b WiFi 2.4 GHz (DSSS, 5.5 Mbps, 90pc dc)	WLAN	1.98	± 9.6 %
10574	AAC	IEEE 802.11b WiFi 2.4 GHz (DSSS, 11 Mbps, 90pc dc)	WLAN	1.98	± 9.6 %
10575	AAC	IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 6 Mbps, 90pc dc)	WLAN	8.59	± 9.6 %
10576	AAC	IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 9 Mbps, 90pc dc)	WLAN	8.60	± 9.6 %
10577	AAC	IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 12 Mbps, 90pc dc)	WLAN	8.70	± 9.6 %
10578	AAD	IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 18 Mbps, 90pc dc)	WLAN	8.49	± 9.6 %
10579	AAD	IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 24 Mbps, 90pc dc)	WLAN	8.36	± 9.6 %
10580	AAD	IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 36 Mbps, 90pc dc)	WLAN	8.76	± 9.6 %
10581	AAD	IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 48 Mbps, 90pc dc)	WLAN	8.35	± 9.6 %
10582	AAD	IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 54 Mbps, 90pc dc)	WLAN	8.67	± 9.6 %
10583	AAD	IEEE 802.11a/h WiFi 5 GHz (OFDM, 6 Mbps, 90pc dc)	WLAN	8.59	± 9.6 %
10584	AAD	IEEE 802.11a/h WiFi 5 GHz (OFDM, 9 Mbps, 90pc dc)	WLAN	8.60	± 9.6 %
10585	AAD	IEEE 802.11a/h WiFi 5 GHz (OFDM, 12 Mbps, 90pc dc)	WLAN	8.70	± 9.6 %
10586	AAD	IEEE 802.11a/h WiFi 5 GHz (OFDM, 18 Mbps, 90pc dc)	WLAN	8.49	± 9.6 %
10587	AAA	IEEE 802.11a/h WiFi 5 GHz (OFDM, 24 Mbps, 90pc dc)	WLAN	8.36	± 9.6 %
10588	AAA	IEEE 802.11a/h WiFi 5 GHz (OFDM, 36 Mbps, 90pc dc)	WLAN	8.76	± 9.6 %
10589	AAA	IEEE 802.11a/h WiFi 5 GHz (OFDM, 48 Mbps, 90pc dc)	WLAN	8.35	± 9.6 %
10590	AAA	IEEE 802.11a/h WiFi 5 GHz (OFDM, 54 Mbps, 90pc dc)	WLAN	8.67	± 9.6 %
10591	AAA	IEEE 802.11n (HT Mixed, 20MHz, MCS0, 90pc dc)	WLAN	8.63	± 9.6 %
10592	AAA	IEEE 802.11n (HT Mixed, 20MHz, MCS1, 90pc dc)	WLAN	8.79	± 9.6 %
10593	AAA	IEEE 802.11n (HT Mixed, 20MHz, MCS2, 90pc dc)	WLAN	8.64	± 9.6 %
10594	AAA	IEEE 802.11n (HT Mixed, 20MHz, MCS3, 90pc dc)	WLAN	8.74	± 9.6 %
10595	AAA	IEEE 802.11n (HT Mixed, 20MHz, MCS4, 90pc dc)	WLAN	8.74	± 9.6 %
10596	AAA	IEEE 802.11n (HT Mixed, 20MHz, MCS5, 90pc dc)	WLAN	8.71	± 9.6 %
10597	AAA	IEEE 802.11n (HT Mixed, 20MHz, MCS6, 90pc dc)	WLAN	8.72	± 9.6 %
10598	AAA	IEEE 802.11n (HT Mixed, 20MHz, MCS7, 90pc dc)	WLAN	8.50	± 9.6 %
10599	AAA	IEEE 802.11n (HT Mixed, 40MHz, MCS0, 90pc dc)	WLAN	8.79	± 9.6 %
10600	AAA	IEEE 802.11n (HT Mixed, 40MHz, MCS1, 90pc dc)	WLAN	8.88	± 9.6 %
10601	AAA	IEEE 802.11n (HT Mixed, 40MHz, MCS2, 90pc dc)	WLAN	8.82	± 9.6 %
10602	AAA	IEEE 802.11n (HT Mixed, 40MHz, MCS3, 90pc dc)	WLAN	8.94	± 9.6 %
10603	AAA	IEEE 802.11n (HT Mixed, 40MHz, MCS4, 90pc dc)	WLAN	9.03	± 9.6 %

10604	AAA	IEEE 802.11n (HT Mixed, 40MHz, MCS5, 90pc dc)	WLAN	8.76	± 9.6 %
10605	AAA	IEEE 802.11n (HT Mixed, 40MHz, MCS6, 90pc dc)	WLAN	8.97	± 9.6 %
10606	AAC	IEEE 802.11n (HT Mixed, 40MHz, MCS7, 90pc dc)	WLAN	8.82	± 9.6 %
10607	AAC	IEEE 802.11ac WiFi (20MHz, MCS0, 90pc dc)	WLAN	8.64	± 9.6 %
10608	AAC	IEEE 802.11ac WiFi (20MHz, MCS1, 90pc dc)	WLAN	8.77	± 9.6 %
10609	AAC	IEEE 802.11ac WiFi (20MHz, MCS2, 90pc dc)	WLAN	8.57	± 9.6 %
10610	AAC	IEEE 802.11ac WiFi (20MHz, MCS3, 90pc dc)	WLAN	8.78	± 9.6 %
10611	AAC	IEEE 802.11ac WiFi (20MHz, MCS4, 90pc dc)	WLAN	8.70	± 9.6 %
10612	AAC	IEEE 802.11ac WiFi (20MHz, MCS5, 90pc dc)	WLAN	8.77	± 9.6 %
10613	AAC	IEEE 802.11ac WiFi (20MHz, MCS6, 90pc dc)	WLAN	8.94	± 9.6 %
10614	AAC	IEEE 802.11ac WiFi (20MHz, MCS7, 90pc dc)	WLAN	8.59	± 9.6 %
10615	AAC	IEEE 802.11ac WiFi (20MHz, MCS8, 90pc dc)	WLAN	8.82	± 9.6 %
10616	AAC	IEEE 802.11ac WiFi (40MHz, MCS0, 90pc dc)	WLAN	8.82	± 9.6 %
10617	AAC	IEEE 802.11ac WiFi (40MHz, MCS1, 90pc dc)	WLAN	8.81	± 9.6 %
10618	AAC	IEEE 802.11ac WiFi (40MHz, MCS2, 90pc dc)	WLAN	8.58	± 9.6 %
10619	AAC	IEEE 802.11ac WiFi (40MHz, MCS3, 90pc dc)	WLAN	8.86	± 9.6 %
10620	AAC	IEEE 802.11ac WiFi (40MHz, MCS4, 90pc dc)	WLAN	8.87	± 9.6 %
10621	AAC	IEEE 802.11ac WiFi (40MHz, MCS5, 90pc dc)	WLAN	8.77	± 9.6 %
10622	AAC	IEEE 802.11ac WiFi (40MHz, MCS6, 90pc dc)	WLAN	8.68	± 9.6 %
10623	AAC	IEEE 802.11ac WiFi (40MHz, MCS7, 90pc dc)	WLAN	8.82	± 9.6 %
10624	AAC	IEEE 802.11ac WiFi (40MHz, MCS8, 90pc dc)	WLAN	8.96	± 9.6 %
10625	AAC	IEEE 802.11ac WiFi (40MHz, MCS9, 90pc dc)	WLAN	8.96	± 9.6 %
10626	AAC	IEEE 802.11ac WiFi (80MHz, MCS0, 90pc dc)	WLAN	8.83	± 9.6 %
10627	AAC	IEEE 802.11ac WiFi (80MHz, MCS1, 90pc dc)	WLAN	8.88	± 9.6 %
10628	AAC	IEEE 802.11ac WiFi (80MHz, MCS2, 90pc dc)	WLAN	8.71	± 9.6 %
10629	AAC	IEEE 802.11ac WiFi (80MHz, MCS3, 90pc dc)	WLAN	8.85	± 9.6 %
10630	AAC	IEEE 802.11ac WiFi (80MHz, MCS4, 90pc dc)	WLAN	8.72	± 9.6 %
10631	AAC	IEEE 802.11ac WiFi (80MHz, MCS5, 90pc dc)	WLAN	8.81	± 9.6 %
10632	AAC	IEEE 802.11ac WiFi (80MHz, MCS6, 90pc dc)	WLAN	8.74	± 9.6 %
10633	AAC	IEEE 802.11ac WiFi (80MHz, MCS7, 90pc dc)	WLAN	8.83	± 9.6 %
10634	AAC	IEEE 802.11ac WiFi (80MHz, MCS8, 90pc dc)	WLAN	8.80	± 9.6 %
10635	AAC	IEEE 802.11ac WiFi (80MHz, MCS9, 90pc dc)	WLAN	8.81	± 9.6 %
10636	AAC	IEEE 802.11ac WiFi (160MHz, MCS0, 90pc dc)	WLAN	8.83	± 9.6 %
10637	AAC	IEEE 802.11ac WiFi (160MHz, MCS1, 90pc dc)	WLAN	8.79	± 9.6 %
10638	AAC	IEEE 802.11ac WiFi (160MHz, MCS2, 90pc dc)	WLAN	8.86	± 9.6 %
10639	AAC	IEEE 802.11ac WiFi (160MHz, MCS3, 90pc dc)	WLAN	8.85	± 9.6 %
10640	AAC	IEEE 802.11ac WiFi (160MHz, MCS4, 90pc dc)	WLAN	8.98	± 9.6 %
10641	AAC	IEEE 802.11ac WiFi (160MHz, MCS5, 90pc dc)	WLAN	9.06	± 9.6 %
10642	AAC	IEEE 802.11ac WiFi (160MHz, MCS6, 90pc dc)	WLAN	9.06	± 9.6 %
10643	AAC	IEEE 802.11ac WiFi (160MHz, MCS7, 90pc dc)	WLAN	8.89	± 9.6 %
10644	AAC	IEEE 802.11ac WiFi (160MHz, MCS8, 90pc dc)	WLAN	9.05	± 9.6 %
10645	AAC	IEEE 802.11ac WiFi (160MHz, MCS9, 90pc dc)	WLAN	9.11	± 9.6 %
10646	AAC	LTE-TDD (SC-FDMA, 1 RB, 5 MHz, QPSK, UL Sub=2,7)	LTE-TDD	11.96	± 9.6 %
10647	AAC	LTE-TDD (SC-FDMA, 1 RB, 20 MHz, QPSK, UL Sub=2,7)	LTE-TDD	11.96	± 9.6 %
10648	AAC	CDMA2000 (1x Advanced)	CDMA2000	3.45	± 9.6 %
10652	AAC	LTE-TDD (OFDMA, 5 MHz, E-TM 3.1, Clipping 44%)	LTE-TDD	6.91	± 9.6 %
10653	AAC	LTE-TDD (OFDMA, 10 MHz, E-TM 3.1, Clipping 44%)	LTE-TDD	7.42	± 9.6 %
10654	AAC	LTE-TDD (OFDMA, 15 MHz, E-TM 3.1, Clipping 44%)	LTE-TDD	6.96	± 9.6 %
10655	AAC	LTE-TDD (OFDMA, 20 MHz, E-TM 3.1, Clipping 44%)	LTE-TDD	7.21	± 9.6 %
10658	AAC	Pulse Waveform (200Hz, 10%)	Test	10.00	± 9.6 %
10659	AAC	Pulse Waveform (200Hz, 20%)	Test	6.99	± 9.6 %
10660	AAC	Pulse Waveform (200Hz, 40%)	Test	3.98	± 9.6 %
10661	AAC	Pulse Waveform (200Hz, 60%)	Test	2.22	± 9.6 %
10662	AAC	Pulse Waveform (200Hz, 80%)	Test	0.97	± 9.6 %
10670	AAC	Bluetooth Low Energy	Bluetooth	2.19	± 9.6 %
10671	AAD	IEEE 802.11ax (20MHz, MCS0, 90pc dc)	WLAN	9.09	± 9.6 %

10672	AAD	IEEE 802.11ax (20MHz, MCS1, 90pc dc)	WLAN	8.57	± 9.6 %
10673	AAD	IEEE 802.11ax (20MHz, MCS2, 90pc dc)	WLAN	8.78	± 9.6 %
10674	AAD	IEEE 802.11ax (20MHz, MCS3, 90pc dc)	WLAN	8.74	± 9.6 %
10675	AAD	IEEE 802.11ax (20MHz, MCS4, 90pc dc)	WLAN	8.90	± 9.6 %
10676	AAD	IEEE 802.11ax (20MHz, MCS5, 90pc dc)	WLAN	8.77	± 9.6 %
10677	AAD	IEEE 802.11ax (20MHz, MCS6, 90pc dc)	WLAN	8.73	± 9.6 %
10678	AAD	IEEE 802.11ax (20MHz, MCS7, 90pc dc)	WLAN	8.78	± 9.6 %
10679	AAD	IEEE 802.11ax (20MHz, MCS8, 90pc dc)	WLAN	8.89	± 9.6 %
10680	AAD	IEEE 802.11ax (20MHz, MCS9, 90pc dc)	WLAN	8.80	± 9.6 %
10681	AAG	IEEE 802.11ax (20MHz, MCS10, 90pc dc)	WLAN	8.62	± 9.6 %
10682	AAF	IEEE 802.11ax (20MHz, MCS11, 90pc dc)	WLAN	8.83	± 9.6 %
10683	AAA	IEEE 802.11ax (20MHz, MCS0, 99pc dc)	WLAN	8.42	± 9.6 %
10684	AAC	IEEE 802.11ax (20MHz, MCS1, 99pc dc)	WLAN	8.26	± 9.6 %
10685	AAC	IEEE 802.11ax (20MHz, MCS2, 99pc dc)	WLAN	8.33	± 9.6 %
10686	AAC	IEEE 802.11ax (20MHz, MCS3, 99pc dc)	WLAN	8.28	± 9.6 %
10687	AAE	IEEE 802.11ax (20MHz, MCS4, 99pc dc)	WLAN	8.45	± 9.6 %
10688	AAE	IEEE 802.11ax (20MHz, MCS5, 99pc dc)	WLAN	8.29	± 9.6 %
10689	AAD	IEEE 802.11ax (20MHz, MCS6, 99pc dc)	WLAN	8.55	± 9.6 %
10690	AAE	IEEE 802.11ax (20MHz, MCS7, 99pc dc)	WLAN	8.29	± 9.6 %
10691	AAB	IEEE 802.11ax (20MHz, MCS8, 99pc dc)	WLAN	8.25	± 9.6 %
10692	AAA	IEEE 802.11ax (20MHz, MCS9, 99pc dc)	WLAN	8.29	± 9.6 %
10693	AAA	IEEE 802.11ax (20MHz, MCS10, 99pc dc)	WLAN	8.25	± 9.6 %
10694	AAA	IEEE 802.11ax (20MHz, MCS11, 99pc dc)	WLAN	8.57	± 9.6 %
10695	AAA	IEEE 802.11ax (40MHz, MCS0, 90pc dc)	WLAN	8.78	± 9.6 %
10696	AAA	IEEE 802.11ax (40MHz, MCS1, 90pc dc)	WLAN	8.91	± 9.6 %
10697	AAA	IEEE 802.11ax (40MHz, MCS2, 90pc dc)	WLAN	8.61	± 9.6 %
10698	AAA	IEEE 802.11ax (40MHz, MCS3, 90pc dc)	WLAN	8.89	± 9.6 %
10699	AAA	IEEE 802.11ax (40MHz, MCS4, 90pc dc)	WLAN	8.82	± 9.6 %
10700	AAA	IEEE 802.11ax (40MHz, MCS5, 90pc dc)	WLAN	8.73	± 9.6 %
10701	AAA	IEEE 802.11ax (40MHz, MCS6, 90pc dc)	WLAN	8.86	± 9.6 %
10702	AAA	IEEE 802.11ax (40MHz, MCS7, 90pc dc)	WLAN	8.70	± 9.6 %
10703	AAA	IEEE 802.11ax (40MHz, MCS8, 90pc dc)	WLAN	8.82	± 9.6 %
10704	AAA	IEEE 802.11ax (40MHz, MCS9, 90pc dc)	WLAN	8.56	± 9.6 %
10705	AAA	IEEE 802.11ax (40MHz, MCS10, 90pc dc)	WLAN	8.69	± 9.6 %
10706	AAC	IEEE 802.11ax (40MHz, MCS11, 90pc dc)	WLAN	8.66	± 9.6 %
10707	AAC	IEEE 802.11ax (40MHz, MCS0, 99pc dc)	WLAN	8.32	± 9.6 %
10708	AAC	IEEE 802.11ax (40MHz, MCS1, 99pc dc)	WLAN	8.55	± 9.6 %
10709	AAC	IEEE 802.11ax (40MHz, MCS2, 99pc dc)	WLAN	8.33	± 9.6 %
10710	AAC	IEEE 802.11ax (40MHz, MCS3, 99pc dc)	WLAN	8.29	± 9.6 %
10711	AAC	IEEE 802.11ax (40MHz, MCS4, 99pc dc)	WLAN	8.39	± 9.6 %
10712	AAC	IEEE 802.11ax (40MHz, MCS5, 99pc dc)	WLAN	8.67	± 9.6 %
10713	AAC	IEEE 802.11ax (40MHz, MCS6, 99pc dc)	WLAN	8.33	± 9.6 %
10714	AAC	IEEE 802.11ax (40MHz, MCS7, 99pc dc)	WLAN	8.26	± 9.6 %
10715	AAC	IEEE 802.11ax (40MHz, MCS8, 99pc dc)	WLAN	8.45	± 9.6 %
10716	AAC	IEEE 802.11ax (40MHz, MCS9, 99pc dc)	WLAN	8.30	± 9.6 %
10717	AAC	IEEE 802.11ax (40MHz, MCS10, 99pc dc)	WLAN	8.48	± 9.6 %
10718	AAC	IEEE 802.11ax (40MHz, MCS11, 99pc dc)	WLAN	8.24	± 9.6 %
10719	AAC	IEEE 802.11ax (80MHz, MCS0, 90pc dc)	WLAN	8.81	± 9.6 %
10720	AAC	IEEE 802.11ax (80MHz, MCS1, 90pc dc)	WLAN	8.87	± 9.6 %
10721	AAC	IEEE 802.11ax (80MHz, MCS2, 90pc dc)	WLAN	8.76	± 9.6 %
10722	AAC	IEEE 802.11ax (80MHz, MCS3, 90pc dc)	WLAN	8.55	± 9.6 %
10723	AAC	IEEE 802.11ax (80MHz, MCS4, 90pc dc)	WLAN	8.70	± 9.6 %
10724	AAC	IEEE 802.11ax (80MHz, MCS5, 90pc dc)	WLAN	8.90	± 9.6 %
10725	AAC	IEEE 802.11ax (80MHz, MCS6, 90pc dc)	WLAN	8.74	± 9.6 %
10726	AAC	IEEE 802.11ax (80MHz, MCS7, 90pc dc)	WLAN	8.72	± 9.6 %
10727	AAC	IEEE 802.11ax (80MHz, MCS8, 90pc dc)	WLAN	8.66	± 9.6 %

10728	AAC	IEEE 802.11ax (80MHz, MCS9, 90pc dc)	WLAN	8.65	± 9.6 %
10729	AAC	IEEE 802.11ax (80MHz, MCS10, 90pc dc)	WLAN	8.64	± 9.6 %
10730	AAC	IEEE 802.11ax (80MHz, MCS11, 90pc dc)	WLAN	8.67	± 9.6 %
10731	AAC	IEEE 802.11ax (80MHz, MCS0, 99pc dc)	WLAN	8.42	± 9.6 %
10732	AAC	IEEE 802.11ax (80MHz, MCS1, 99pc dc)	WLAN	8.46	± 9.6 %
10733	AAC	IEEE 802.11ax (80MHz, MCS2, 99pc dc)	WLAN	8.40	± 9.6 %
10734	AAC	IEEE 802.11ax (80MHz, MCS3, 99pc dc)	WLAN	8.25	± 9.6 %
10735	AAC	IEEE 802.11ax (80MHz, MCS4, 99pc dc)	WLAN	8.33	± 9.6 %
10736	AAC	IEEE 802.11ax (80MHz, MCS5, 99pc dc)	WLAN	8.27	± 9.6 %
10737	AAC	IEEE 802.11ax (80MHz, MCS6, 99pc dc)	WLAN	8.36	± 9.6 %
10738	AAC	IEEE 802.11ax (80MHz, MCS7, 99pc dc)	WLAN	8.42	± 9.6 %
10739	AAC	IEEE 802.11ax (80MHz, MCS8, 99pc dc)	WLAN	8.29	± 9.6 %
10740	AAC	IEEE 802.11ax (80MHz, MCS9, 99pc dc)	WLAN	8.48	± 9.6 %
10741	AAC	IEEE 802.11ax (80MHz, MCS10, 99pc dc)	WLAN	8.40	± 9.6 %
10742	AAC	IEEE 802.11ax (80MHz, MCS11, 99pc dc)	WLAN	8.43	± 9.6 %
10743	AAC	IEEE 802.11ax (160MHz, MCS0, 90pc dc)	WLAN	8.94	± 9.6 %
10744	AAC	IEEE 802.11ax (160MHz, MCS1, 90pc dc)	WLAN	9.16	± 9.6 %
10745	AAC	IEEE 802.11ax (160MHz, MCS2, 90pc dc)	WLAN	8.93	± 9.6 %
10746	AAC	IEEE 802.11ax (160MHz, MCS3, 90pc dc)	WLAN	9.11	± 9.6 %
10747	AAC	IEEE 802.11ax (160MHz, MCS4, 90pc dc)	WLAN	9.04	± 9.6 %
10748	AAC	IEEE 802.11ax (160MHz, MCS5, 90pc dc)	WLAN	8.93	± 9.6 %
10749	AAC	IEEE 802.11ax (160MHz, MCS6, 90pc dc)	WLAN	8.90	± 9.6 %
10750	AAC	IEEE 802.11ax (160MHz, MCS7, 90pc dc)	WLAN	8.79	± 9.6 %
10751	AAC	IEEE 802.11ax (160MHz, MCS8, 90pc dc)	WLAN	8.82	± 9.6 %
10752	AAC	IEEE 802.11ax (160MHz, MCS9, 90pc dc)	WLAN	8.81	± 9.6 %
10753	AAC	IEEE 802.11ax (160MHz, MCS10, 90pc dc)	WLAN	9.00	± 9.6 %
10754	AAC	IEEE 802.11ax (160MHz, MCS11, 90pc dc)	WLAN	8.94	± 9.6 %
10755	AAC	IEEE 802.11ax (160MHz, MCS0, 99pc dc)	WLAN	8.64	± 9.6 %
10756	AAC	IEEE 802.11ax (160MHz, MCS1, 99pc dc)	WLAN	8.77	± 9.6 %
10757	AAC	IEEE 802.11ax (160MHz, MCS2, 99pc dc)	WLAN	8.77	± 9.6 %
10758	AAC	IEEE 802.11ax (160MHz, MCS3, 99pc dc)	WLAN	8.69	± 9.6 %
10759	AAC	IEEE 802.11ax (160MHz, MCS4, 99pc dc)	WLAN	8.58	± 9.6 %
10760	AAC	IEEE 802.11ax (160MHz, MCS5, 99pc dc)	WLAN	8.49	± 9.6 %
10761	AAC	IEEE 802.11ax (160MHz, MCS6, 99pc dc)	WLAN	8.58	± 9.6 %
10762	AAC	IEEE 802.11ax (160MHz, MCS7, 99pc dc)	WLAN	8.49	± 9.6 %
10763	AAC	IEEE 802.11ax (160MHz, MCS8, 99pc dc)	WLAN	8.53	± 9.6 %
10764	AAC	IEEE 802.11ax (160MHz, MCS9, 99pc dc)	WLAN	8.54	± 9.6 %
10765	AAC	IEEE 802.11ax (160MHz, MCS10, 99pc dc)	WLAN	8.54	± 9.6 %
10766	AAC	IEEE 802.11ax (160MHz, MCS11, 99pc dc)	WLAN	8.51	± 9.6 %
10767	AAC	5G NR (CP-OFDM, 1 RB, 5 MHz, QPSK, 15 kHz)	5G NR FR1 TDD	7.99	± 9.6 %
10768	AAC	5G NR (CP-OFDM, 1 RB, 10 MHz, QPSK, 15 kHz)	5G NR FR1 TDD	8.01	± 9.6 %
10769	AAC	5G NR (CP-OFDM, 1 RB, 15 MHz, QPSK, 15 kHz)	5G NR FR1 TDD	8.01	± 9.6 %
10770	AAC	5G NR (CP-OFDM, 1 RB, 20 MHz, QPSK, 15 kHz)	5G NR FR1 TDD	8.02	± 9.6 %
10771	AAC	5G NR (CP-OFDM, 1 RB, 25 MHz, QPSK, 15 kHz)	5G NR FR1 TDD	8.02	± 9.6 %
10772	AAC	5G NR (CP-OFDM, 1 RB, 30 MHz, QPSK, 15 kHz)	5G NR FR1 TDD	8.23	± 9.6 %
10773	AAC	5G NR (CP-OFDM, 1 RB, 40 MHz, QPSK, 15 kHz)	5G NR FR1 TDD	8.03	± 9.6 %
10774	AAC	5G NR (CP-OFDM, 1 RB, 50 MHz, QPSK, 15 kHz)	5G NR FR1 TDD	8.02	± 9.6 %
10775	AAC	5G NR (CP-OFDM, 50% RB, 5 MHz, QPSK, 15 kHz)	5G NR FR1 TDD	8.31	± 9.6 %
10776	AAC	5G NR (CP-OFDM, 50% RB, 10 MHz, QPSK, 15 kHz)	5G NR FR1 TDD	8.30	± 9.6 %
10777	AAC	5G NR (CP-OFDM, 50% RB, 15 MHz, QPSK, 15 kHz)	5G NR FR1 TDD	8.30	± 9.6 %
10778	AAC	5G NR (CP-OFDM, 50% RB, 20 MHz, QPSK, 15 kHz)	5G NR FR1 TDD	8.34	± 9.6 %
10779	AAC	5G NR (CP-OFDM, 50% RB, 25 MHz, QPSK, 15 kHz)	5G NR FR1 TDD	8.42	± 9.6 %
10780	AAC	5G NR (CP-OFDM, 50% RB, 30 MHz, QPSK, 15 kHz)	5G NR FR1 TDD	8.38	± 9.6 %
10781	AAC	5G NR (CP-OFDM, 50% RB, 40 MHz, QPSK, 15 kHz)	5G NR FR1 TDD	8.38	± 9.6 %
10782	AAC	5G NR (CP-OFDM, 50% RB, 50 MHz, QPSK, 15 kHz)	5G NR FR1 TDD	8.43	± 9.6 %
10783	AAC	5G NR (CP-OFDM, 100% RB, 5 MHz, QPSK, 15 kHz)	5G NR FR1 TDD	8.31	± 9.6 %