CERTIFICATION TEST REPORT

Report Number. : 4790841160-E4V3

Applicant	:	SAMSUNG ELECTRONICS CO., LTD. 129 SAMSUNG-RO, YEONGTONG-GU, SUWON-SI, GYEONGGI-DO, 16677, KOREA
Model	:	SC-55D, SCG22
FCC ID	:	A3LSMF946JPN
EUT Description	:	GSM/WCDMA/LTE 5G NR Phone + BT/BLE, DTS/UNII a/b/g/n/ac/ax, NFC, WPT and UWB
Test Standard(s)	:	FCC CFR47 PART 27 SUBPART F,H,L,M

Date Of Issue:
2023-07-10

Prepared by:
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Suwon Test Site: UL KOREA LTD. Suwon Laboratory
218 Maeyeong-ro, Yeongtong-gu,
Suwon-si, Gyeonggi-do, 16675, Korea
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IAS ACCREDITED
Testing Laboratory
TL-637

Revision History

Rev.	Issue Date	Revisions	Revised By
V1	2023-06-30	Initial issue	Yujin Kim
V2	2023-07-06	Updated to address TCB's question	Yujin Kim
V3	2023-07-10	Updated to address TCB's question	Yujin Kim

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1. ATTESTATION OF TEST RESULTS

COMPANY NAME:	SAMSUNG ELECTRONICS CO., LTD.
EUT DESCRIPTION:	GSM/WCDMA/LTE 5G NR Phone + BT/BLE, DTS/UNII a/b/g/n/ac/ax, NFC, WPT and UWB.
MODEL NUMBER:	SC-55D, SCG22
SERIAL NUMBER:	R3CW408V07D, R3CW408V0NP (CONDUCTED); R3CW408VDSK, R3CW408V6XH, R3CW408V7JJ, R3CW408VA8J (RADIATED);
DATE TESTED:	2023-06-07 - 2023-06-30;

APPLICABLE STANDARDS	
STANDARD	**TEST RESULTS**
FCC PART 27F,H,L,M	Complies

UL KOREA LTD. tested the above equipment in accordance with the requirements set forth in the above standards. All indications of Pass/Fail in this report are opinions expressed by UL KOREA LTD. based on interpretations and/or observations of test results. Measurement Uncertainties were not taken into account and are published for informational purposes only. The test results show that the equipment tested is capable of demonstrating compliance with the requirements as documented in this report.

Note: The results documented in this report apply only to the tested sample, under the conditions and Modes of operation as described herein. This document may not be altered or revised in any way unless done so by UL KOREA LTD. and all revisions are duly noted in the revisions section. Any alteration of this document not carried out by UL KOREA LTD. will constitute fraud and shall nullify the document. This report must not be used by the client to claim product certification, approval, or endorsement by IAS, any agency of the Federal Government, or any agency of any government.

Approved & Released For
UL KOREA LTD. By:

Seokhwan Hong
Suwon Lab Engineer
UL KOREA LTD.

Tested By:

Yujin Kim
Suwon Lab Engineer
UL KOREA LTD.

2. TEST METHODOLOGY

The tests documented in this report were performed in accordance with following methods.

1. FCC CFR 47 Part 2.
2. FCC CFR 47 Part 27.
3. ANSI TIA-603-E, 2016
4. ANSI C63.26, 2015
5. KDB 971168 D01 Power Meas License Digital Systems v03r01

3. FACILITIES AND ACCREDITATION

The test sites and measurement facilities used to collect data are located at 218 Maeyeong-ro, Yeongtong-gu, Suwon-si, Gyeonggi-do,16675, Korea. Line conducted emissions are measured only at the 218 address. The following table identifies which facilities were utilized for radiated emission measurements documented in this report. Specific facilities are also identified in the test results sections.

218 Maeyeong-ro
☒ Chamber 1(3m semi-anechoic chamber)
☒ Chamber 2(3m semi-anechoic chamber)
☐ Chamber 3(3m semi-anechoic chamber)
☒ Chamber 4(3m Full-anechoic chamber)
☐ Chamber 5(3m Full-anechoic chamber)

UL KOREA LTD. is accredited by IAS, Laboratory Code TL-637. The full scope of accreditation can be viewed at https://www.iasonline.org/wp-content/uploads/2017/05/TL-637-cert-New.pdf.

4. CALIBRATION AND UNCERTAINTY

4.1. MEASURING INSTRUMENT CALIBRATION

The measuring equipment utilized to perform the tests documented in this report has been calibrated in accordance with the manufacturer's recommendations, and is traceable to recognized national standards.

4.2. SAMPLE CALCULATION

Where relevant, the following sample calculation is provided:

EIRP = PSA reading with EUT worst orientation (dBm) + Path loss (dB) – cable loss(between the SG and substitution antenna) + Substitution Antenna Factor (dBi)

ERP = PSA reading with EUT worst orientation (dBm) + Path loss (dB) – cable loss(between the SG and substitution antenna)

(Path loss = Signal generator output – PSA reading with substitution antenna)

4.3. MEASUREMENT UNCERTAINTY

Where relevant, the following measurement uncertainty levels have been estimated for tests performed on the apparatus:

PARAMETER	UNCERTAINTY
Conducted Disturbance, 0.15 to 30 MHz	2.80 dB
Radiated Disturbance, 30 MHz to 1 GHz	3.92 dB
Radiated Disturbance, 1 GHz to 18 GHz	5.06 dB
Radiated Disturbance, 18 GHz to 40 GHz	6.02 dB

Uncertainty figures are valid to a confidence level of 95%.

4.4. DECISION RULE

Decision rule for statement(s) of conformity is based on Procedure 2, Clause 4.4.3 in IEC Guide 115:2021.

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5. EQUIPMENT UNDER TEST

5.1. DESCRIPTION OF EUT

The EUT is a GSM/WCDMA/LTE 5G NR Phone + BT/BLE, DTS/UNII a/b/g/n/ac/ax, NFC, WPT and UWB. This test report addresses the WWAN operational Mode.

Representative model	Difference	Derivative model
		SCG22
SC-55D	Hardware	Same as SC-55D.
	Software	Supported WWAN Band is different.

Thus, SC-55D was set for final test.

5.2. MAXIMUM OUTPUT POWER

The transmitter has a maximum average radiated ERP / EIRP output powers as follows:

LTE Band 12

FCC Part 27									
Band	Frequency Range [MHz]	BandWidth [MHz]	Modulation	Conducted		Radiated (ANT A+B)		Radiated (ANT A)	
				Avg [dBm]	Avg [mW]	Avg [dBm]	Avg [mW]	Avg [dBm]	Avg [mW]
Band 12	704.00 ~ 711.00	10	QPSK	23.84	242.10	**19.60**	**91.20**	17.52	56.49
			16QAM	23.10	204.17	18.62	72.78	16.53	44.98
			64QAM	22.14	163.68				
	701.50 ~ 713.50	5	QPSK	23.93	247.17	19.56	90.36	17.58	57.28
			16QAM	23.33	215.28	18.60	72.44	16.65	46.24
			64QAM	23.34	215.77				
	700.50 ~ 714.50	3	QPSK	23.85	242.66	19.44	87.90	17.57	57.15
			16QAM	23.19	208.45	18.46	70.15	16.56	45.29
			64QAM	22.78	189.67				
	699.70 ~ 715.30	1.4	QPSK	**23.94**	**247.74**	19.34	85.90	**17.62**	**57.81**
			16QAM	23.24	210.86	18.14	65.16	16.60	45.71
			64QAM	22.27	168.66				

LTE Band 13

FCC Part 27									
Band	Frequency Range [MHz]	BandWidth [MHz]	Modulation	Conducted		Radiated (ANT A+B)		Radiated (ANT A)	
				Avg [dBm]	Avg [mW]	Avg [dBm]	Avg [mW]	Avg [dBm]	Avg [mW]
Band 13	782.00	10	QPSK	24.47	279.90	19.03	79.98	18.01	63.24
			16QAM	23.68	233.35	18.00	63.10	16.99	50.00
			64QAM	22.90	194.98				
	779.50 ~ 784.50	5	QPSK	**24.58**	**287.08**	**19.78**	**95.06**	**18.12**	**64.86**
			16QAM	23.79	239.33	18.70	74.13	17.08	51.05
			64QAM	22.52	178.65				

LTE Band 41 (ANT B)

FCC Part 27							
Band	Frequency Range [MHz]	BandWidth [MHz]	Modulation	Conducted		Radiated	
				Avg [dBm]	Avg [mW]	Avg [dBm]	Avg [mW]
Band 41	2506.00 ~ 2680.00	20	QPSK	23.79	239.33	24.38	274.16
			16QAM	22.77	189.23	23.99	250.61
			64QAM	22.63	183.23		
	2503.50 ~ 2682.50	15	QPSK	23.65	231.74	24.28	267.92
			16QAM	23.05	201.84	23.51	224.39
			64QAM	21.79	151.01		
	2501.00 ~ 2685.00	10	QPSK	24.03	252.93	24.42	276.69
			16QAM	23.34	215.77	23.63	230.67
			64QAM	22.00	158.49		
	2498.50 ~ 2687.50	5	QPSK	**24.08**	**255.86**	**24.51**	**282.49**
			16QAM	23.01	199.99	23.65	231.74
			64QAM	22.08	161.44		

LTE Band 41 (ANT F)

FCC Part 27							
Band	Frequency Range [MHz]	BandWidth [MHz]	Modulation	Conducted		Radiated	
				Avg [dBm]	Avg [mW]	Avg [dBm]	Avg [mW]
Band 41	2506.00 ~ 2680.00	20	QPSK	24.18	261.82	20.87	122.18
			16QAM	23.49	223.36	20.10	102.33
			64QAM	22.20	165.96		
	2503.50 ~ 2682.50	15	QPSK	24.19	262.42	20.90	123.03
			16QAM	23.18	207.97	20.42	110.15
			64QAM	22.09	161.81		
	2501.00 ~ 2685.00	10	QPSK	24.22	264.24	21.37	137.09
			16QAM	23.21	209.41	21.07	127.94
			64QAM	22.00	158.49		
	2498.50 ~ 2687.50	5	QPSK	**24.27**	**267.30**	**21.50**	**141.25**
			16QAM	23.39	218.27	20.95	124.45
			64QAM	21.99	158.12		

LTE Band 41C (UL CA, ANT B)

Part 27			
EIRP Limit (dBm)	33	ANT Gain (dBi)	-2.4

Frequency Range (MHz)	Bandwidth (MHz)	Modulation	Output Power				Margin
			Conducted Average Power	Antenna Gain	EIRP Average Power		
			(dBm)	dBi	dBm	mW	
2496.00 ~ 2690.00	40MHz (20+20)	QPSK	**24.29**	-2.40	**21.89**	**154.53**	-11.11
		16QAM	23.61		21.21	132.13	-11.79
	35MHz (15+20)	QPSK	24.03		21.63	145.55	-11.37
		16QAM	23.55		21.15	130.32	-11.85
	30MHz (15+15)	QPSK	24.16		21.76	149.97	-11.24
		16QAM	23.55		21.15	130.32	-11.85
	25MHz (5+20)	QPSK	24.10		21.70	147.91	-11.30
		16QAM	23.59		21.19	131.52	-11.81

LTE Band 41C (UL CA, ANT F)

Part 27			
EIRP Limit (dBm)	33	ANT Gain (dBi)	-4.6

Frequency Range (MHz)	Bandwidth (MHz)	Modulation	Output Power				Margin
			Conducted Average Power	Antenna Gain	EIRP Average Power		
			(dBm)	dBi	dBm	mW	
2496.00 ~ 2690.00	40MHz (20+20)	QPSK	**24.43**	-4.60	**19.83**	**96.16**	-13.17
		16QAM	23.69		19.09	81.10	-13.91
	35MHz (15+20)	QPSK	24.22		19.62	91.62	-13.38
		16QAM	23.65		19.05	80.35	-13.95
	30MHz (15+15)	QPSK	24.31		19.71	93.54	-13.29
		16QAM	23.67		19.07	80.72	-13.93
	25MHz (5+20)	QPSK	24.39		19.79	95.28	-13.21
		16QAM	23.68		19.08	80.91	-13.92

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LTE Band 66 (ANT B)

FCC Part 27							
Band	Frequency Range [MHz]	BandWidth [MHz]	Modulation	Conducted		Radiated	
				Avg [dBm]	Avg [mW]	Avg [dBm]	Avg [mW]
Band 66	1720.00 ~ 1770.00	20	QPSK	24.13	258.82	23.65	231.74
			16QAM	23.57	227.51	22.55	179.89
			64QAM	22.57	180.72		
	1717.50 ~ 1772.50	15	QPSK	24.08	255.86	**24.29**	**268.53**
			16QAM	23.58	228.03	23.67	232.81
			64QAM	22.36	172.19		
	1715.00 ~ 1775.00	10	QPSK	**24.18**	**261.82**	24.21	263.63
			16QAM	23.54	225.94	23.59	228.56
			64QAM	22.58	181.13		
	1712.50 ~ 1777.50	5	QPSK	24.10	257.04	23.79	239.33
			16QAM	23.70	234.42	23.30	213.80
			64QAM	22.69	185.78		
	1711.50 ~ 1778.50	3	QPSK	24.11	257.63	23.72	235.50
			16QAM	23.65	231.74	23.28	212.81
			64QAM	22.45	175.79		
	1710.70 ~ 1779.30	1.4	QPSK	24.09	256.45	23.08	203.24
			16QAM	23.42	219.79	22.47	176.60
			64QAM	22.48	177.01		

NR Band n41 (ANT B)

FCC Part 27								
Band	Frequency Range [MHz]	BandWidth [MHz]	Modulation	Mode	Conducted		Radiated	
					Avg [dBm]	Avg [mW]	Avg [dBm]	Avg [mW]
n41	2546.01 ~ 2640.00	100	DFT-s OFDM	π/2 BPSK	24.04	253.76		
				QPSK	24.00	250.95	22.22	166.72
				16QAM	22.64	183.48	21.37	137.09
				64QAM	21.09	128.53		
				256QAM	19.11	81.47		
			CP-OFDM	QPSK	22.09	161.80		
	2541.00 ~ 2644.98	90	DFT-s OFDM	π/2 BPSK	23.83	241.41		
				QPSK	23.95	248.03	**22.32**	**170.61**
				16QAM	22.79	190.13	21.22	132.43
				64QAM	21.21	132.19		
				256QAM	19.12	81.71		
			CP-OFDM	QPSK	22.22	166.87		
	2536.02 ~ 2649.99	80	DFT-s OFDM	π/2 BPSK	23.92	246.33		
				QPSK	23.85	242.54	21.99	158.12
				16QAM	22.70	186.03	20.96	124.74
				64QAM	21.23	132.59		
				256QAM	19.15	82.21		
			CP-OFDM	QPSK	22.25	167.96		
	2531.01 ~ 2655.00	70	DFT-s OFDM	π/2 BPSK	23.93	246.89		
				QPSK	23.84	242.14	21.53	142.23
				16QAM	22.33	171.18	20.57	114.02
				64QAM	21.21	132.19		
				256QAM	19.25	84.16		
			CP-OFDM	QPSK	22.40	173.95		
	2526.00 ~ 2659.98	60	DFT-s OFDM	π/2 BPSK	24.05	254.15		
				QPSK	23.95	248.60	22.31	170.22
				16QAM	22.86	193.41	21.55	142.89
				64QAM	21.65	146.22		
				256QAM	19.55	90.06		
			CP-OFDM	QPSK	22.60	181.89		
	2521.02 ~ 2664.99	50	DFT-s OFDM	π/2 BPSK	23.79	239.43		
				QPSK	24.00	250.92	22.16	164.44
				16QAM	22.84	192.21	21.28	134.28
				64QAM	21.54	142.41		
				256QAM	19.55	90.21		
			CP-OFDM	QPSK	22.20	165.91		
	2516.01 ~ 2670.00	40	DFT-s OFDM	π/2 BPSK	23.82	241.02		
				QPSK	**24.08**	**255.61**	21.10	128.82
				16QAM	22.90	195.13	20.07	101.62
				64QAM	21.46	140.08		
				256QAM	19.41	87.37		
			CP-OFDM	QPSK	21.94	156.27		
	2511.00 ~ 2674.98	30	DFT-s OFDM	π/2 BPSK	23.87	243.66		
				QPSK	24.07	255.15	22.30	169.82
				16QAM	23.00	199.31	21.26	133.66
				64QAM	21.50	141.35		
				256QAM	19.54	89.87		
			CP-OFDM	QPSK	22.36	172.14		
	2506.02 ~ 2679.99	20	DFT-s OFDM	π/2 BPSK	23.75	236.87		
				QPSK	24.00	251.34	22.24	167.49
				16QAM	23.27	212.23	21.24	133.05
				64QAM	21.54	142.72		
				256QAM	19.55	90.23		
			CP-OFDM	QPSK	22.39	173.54		

n41	2503.50 ~ 2682.48	15	DFT-s OFDM	π/2 BPSK	23.84	242.18		
				QPSK	23.71	234.94	22.22	166.72
				16QAM	23.00	199.44	21.22	132.43
				64QAM	21.60	144.68		
				256QAM	19.49	88.98		
			CP-OFDM	QPSK	22.37	172.71		
	2501.01 ~ 2685.00	10	DFT-s OFDM	π/2 BPSK	23.87	243.86		
				QPSK	23.86	243.07	21.97	157.40
				16QAM	22.73	187.53	20.96	124.74
				64QAM	21.56	143.35		
				256QAM	19.40	87.18		
			CP-OFDM	QPSK	22.36	172.06		

NR Band n41 (ANT F)

Band	Frequency Range [MHz]	BandWidth [MHz]	Modulation	Mode	Conducted		Radiated	
					Avg [dBm]	Avg [mW]	Avg [dBm]	Avg [mW]
n41	2546.01 ~ 2640.00	100	DFT-s OFDM	π/2 BPSK	24.51	282.49		
				QPSK	24.52	283.14	21.74	149.28
				16QAM	23.72	235.50	20.91	123.31
				64QAM	22.18	165.20		
				256QAM	19.95	98.86		
			CP-OFDM	QPSK	23.10	204.17		
	2541.00 ~ 2644.98	90	DFT-s OFDM	π/2 BPSK	24.33	271.02		
				QPSK	24.41	276.06	21.73	148.94
				16QAM	23.32	214.78	20.78	119.67
				64QAM	22.02	159.22		
				256QAM	19.66	92.47		
			CP-OFDM	QPSK	23.02	200.45		
	2536.02 ~ 2649.99	80	DFT-s OFDM	π/2 BPSK	24.37	273.53		
				QPSK	24.38	274.16	21.73	148.94
				16QAM	23.30	213.80	20.76	119.12
				64QAM	22.17	164.82		
				256QAM	20.04	100.93		
			CP-OFDM	QPSK	23.00	199.53		
	2531.01 ~ 2655.00	70	DFT-s OFDM	π/2 BPSK	24.82	303.39		
				QPSK	24.84	304.79	21.82	152.05
				16QAM	23.72	235.50	20.92	123.59
				64QAM	22.42	174.58		
				256QAM	20.02	100.46		
			CP-OFDM	QPSK	23.32	214.78		
	2526.00 ~ 2659.98	60	DFT-s OFDM	π/2 BPSK	24.77	299.92		
				QPSK	24.92	310.46	21.82	152.05
				16QAM	23.71	234.96	20.82	120.78
				64QAM	22.50	177.83		
				256QAM	20.12	102.80		
			CP-OFDM	QPSK	23.36	216.77		
	2521.02 ~ 2664.99	50	DFT-s OFDM	π/2 BPSK	24.93	311.17		
				QPSK	24.77	299.92	21.72	148.59
				16QAM	23.77	238.23	20.63	115.61
				64QAM	21.84	152.76		
				256QAM	20.22	105.20		
			CP-OFDM	QPSK	23.48	222.84		
	2516.01 ~ 2670.00	40	DFT-s OFDM	π/2 BPSK	24.95	312.61		
				QPSK	**24.97**	**314.05**	**21.97**	**157.40**
				16QAM	23.87	243.78	21.05	127.35
				64QAM	22.11	162.55		
				256QAM	20.36	108.64		
			CP-OFDM	QPSK	23.29	213.30		
	2511.00 ~ 2674.98	30	DFT-s OFDM	π/2 BPSK	24.67	293.09		
				QPSK	24.87	306.90	21.74	149.28
				16QAM	23.78	238.78	20.97	125.03
				64QAM	22.08	161.44		
				256QAM	19.56	90.36		
			CP-OFDM	QPSK	23.23	210.38		
	2506.02 ~ 2679.99	20	DFT-s OFDM	π/2 BPSK	24.61	289.07		
				QPSK	24.68	293.76	21.70	147.91
				16QAM	23.52	224.91	20.81	120.50
				64QAM	22.31	170.22		
				256QAM	20.09	102.09		
			CP-OFDM	QPSK	22.62	182.81		

n41	2503.50 ~ 2682.48	15	DFT-s OFDM	π/2 BPSK	24.68	293.76		
				QPSK	24.66	292.42	21.58	143.88
				16QAM	23.84	242.10	20.52	112.72
				64QAM	22.50	177.83		
				256QAM	20.23	105.44		
			CP-OFDM	QPSK	23.10	204.17		
	2501.01 ~ 2685.00	10	DFT-s OFDM	π/2 BPSK	24.72	296.48		
				QPSK	24.70	295.12	21.39	137.72
				16QAM	23.77	238.23	20.73	118.30
				64QAM	22.11	162.55		
				256QAM	19.85	96.61		
			CP-OFDM	QPSK	23.07	202.77		

NR Band n66 (ANT B)

FCC Part 27								
Band	Frequency Range [MHz]	BandWidth [MHz]	Modulation	Mode	Conducted		Radiated	
					Avg [dBm]	Avg [mW]	Avg [dBm]	Avg [mW]
n66	1730.00 ~ 1760.00	40	DFT-s OFDM	π/2 BPSK	**24.04**	**253.51**		
				QPSK	**24.04**	**253.51**	22.80	190.55
				16QAM	23.14	206.06	21.88	154.17
				64QAM	21.62	145.21		
				256QAM	19.09	81.10		
			CP-OFDM	QPSK	22.33	171.00		
	1725.00 ~ 1765.00	30	DFT-s OFDM	π/2 BPSK	23.95	248.31		
				QPSK	23.86	243.22	**22.98**	**198.61**
				16QAM	22.83	191.87	22.26	168.27
				64QAM	21.77	150.31		
				256QAM	19.82	95.94		
			CP-OFDM	QPSK	22.34	171.40		
	1722.50 ~ 1767.50	25	DFT-s OFDM	π/2 BPSK	23.85	242.66		
				QPSK	23.90	245.47	20.69	117.22
				16QAM	23.33	215.28	20.08	101.86
				64QAM	21.61	144.88		
				256QAM	20.23	105.44		
			CP-OFDM	QPSK	22.45	175.79		
	1720.00 ~ 1770.00	20	DFT-s OFDM	π/2 BPSK	23.99	250.61		
				QPSK	23.69	233.88	20.83	121.06
				16QAM	22.99	199.07	20.24	105.68
				64QAM	21.89	154.53		
				256QAM	19.67	92.68		
			CP-OFDM	QPSK	22.12	162.93		
	1717.50 ~ 1772.50	15	DFT-s OFDM	π/2 BPSK	23.72	235.50		
				QPSK	23.75	237.14	20.74	118.58
				16QAM	23.12	205.12	19.90	97.72
				64QAM	21.62	145.21		
				256QAM	19.62	91.62		
			CP-OFDM	QPSK	22.31	170.22		
	1715.00 ~ 1775.00	10	DFT-s OFDM	π/2 BPSK	23.64	231.21		
				QPSK	23.75	237.14	20.78	119.67
				16QAM	22.83	191.87	19.79	95.28
				64QAM	21.73	148.94		
				256QAM	19.65	92.26		
			CP-OFDM	QPSK	22.34	171.40		
	1712.50 ~ 1777.50	5	DFT-s OFDM	π/2 BPSK	23.56	226.99		
				QPSK	23.77	238.23	21.06	127.64
				16QAM	23.02	200.45	20.18	104.23
				64QAM	21.57	143.55		
				256QAM	19.64	92.04		
			CP-OFDM	QPSK	22.35	171.79		

5.3. DESCRIPTION OF AVAILABLE ANTENNAS

The radio utilizes a internal antenna for the supported bands with a maximum peak gain as follow:

Frequency (MHz)	Peak Gain (dBi/dBd)
LTE Band 12 699 - 716 MHz	-5.3 (ANT A)
	-5.9 (ANT A+B)
LTE Band 13 777 - 787 MHz	-5.0 (ANT A)
	-5.8 (ANT A+B)
LTE Band 41 / NR Band n41 2496 - 2690 MHz	-2.4 (ANT B)
	-4.6 (ANT F)
LTE Band 4 / LTE Band 66 / NR Band n66 1710 - 1780 MHz	-2.8 (ANT B)

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5.4. WORST-CASE ORIENTATION

Following Modes should be considered as worst-case scenario for all other measurements.

For LTE Bands the worst-case scenario for all measurements is based on the average conducted output power measurement investigation results. Output power measurements were measured on QPSK, 16QAM, 64QAM modulations. However, the out of band emissions and spurious radiation were only performed on bandwidth and RB offset(with RB size 1) with the highest power in QPSK.

For NR Bands the worst-case scenario for all measurements is based on the average conducted output power measurement investigation results. Output power measurements were measured on π/2 BPSK, QPSK, 16QAM, 64QAM and 256QAM modulations. It was found that QPSK and 16QAM results were worst case as below.

For NR Band n41 supported both ANT B(Main Port) and ANT F(Sub Port).
For NR Band n41,Upper refers to the results of the ANT F test.

Both NSA and SA modes were tested and worst case is reported. the out of band emissions and spurious radiation were only performed on bandwidth and RB offset(with RB size 1) with the highest conducted power.

This device supports AFS (Adaptive Frame Switching) Mode for below 1GHz Bands.
The adaptive frame switching (AFS) mode of device operates only in the radiated state.
So both folded and open conditions were tested and worst data is reported.

Condition	Antenna
Open, Half folded, Full folded	A+B
Full folded (Grip)	A

This device supports Tx Hopping Mode for above 1GHz LTE/NR Bands.
So both folded and open modes were tested and worst data is reported.

Condition	Antenna
Open, Half folded, Full folded (Normal)	B
Open, Half folded, Full folded (Tx hopping)	F

- NR Worst case

BAND	NSA or SA	Antenna
n41(PC3)	SA	B
n41(PC3)	SA	F

LTE Band 4
LTE Band 4 (Frequency range: 1710-1755 MHz) is covered by LTE Band 66 (Frequency range: 1710-1780 MHz) due to same frequency range, same channel bandwidth and maximum tune-up limit is higher than LTE Band 4

- Conducted Spurious Emission (ANT A)

Highest conducted output power setting for each bands				
LTE Band	**Frequency (MHz)**	**Bandwidth (MHz)**	**RB size**	**RB offset**
12	699.70	1.4	1	3
	707.50		1	3
	715.30		1	3
13	779.50	5	1	0
	782.00		1	0
	784.50		1	0

- Conducted Spurious Emission (ANT B)

Highest conducted output power setting for each bands				
LTE Band	**Frequency (MHz)**	**Bandwidth (MHz)**	**RB size**	**RB offset**
41	2498.50	5	1	0
	2593.00		1	24
	2687.50		1	12
66	1715.00	10	1	0
	1745.00		1	0
	1775.00		1	25
NR Band	**Frequency (MHz)**	**Bandwidth (MHz)**	**RB size**	**RB offset**
41	2516.01	40	1	104
	2592.99		1	104
	2670.00		1	104
66	1730.00	40	1	214
	1745.00		1	108
	1760.00		1	1

- Conducted Spurious Emission (ANT F)

Highest conducted output power setting for each bands				
LTE Band	**Frequency (MHz)**	**Bandwidth (MHz)**	**RB size**	**RB offset**
41	2498.50	5	1	12
	2593.00		1	12
	2687.50		1	0
NR Band	**Frequency (MHz)**	**Bandwidth (MHz)**	**RB size**	**RB offset**
41	2516.01	40	1	104
	2592.99		1	1
	2670.00		1	1

- Radiated Spurious Emission(ANT A+B)

Highest EIRP setting for each bands				
LTE Band	**Frequency (MHz)**	**Bandwidth (MHz)**	**RB size**	**RB offset**
12	704.00	10	1	0
	707.50		1	0
	711.00		1	49
13	779.50	5	1	0
	782.00		1	0
	784.50		1	0

- Radiated Spurious Emission(ANT A)

Highest EIRP setting for each bands				
LTE Band	**Frequency (MHz)**	**Bandwidth (MHz)**	**RB size**	**RB offset**
12	699.70	1.4	1	3
	707.50		1	3
	715.30		1	3
13	779.50	5	1	0
	782.00		1	0
	784.50		1	0

- Radiated Spurious Emission(ANT B)

Highest EIRP setting for each bands				
LTE Band	**Frequency (MHz)**	**Bandwidth (MHz)**	**RB size**	**RB offset**
41	2498.50	5	1	0
	2593.00		1	24
	2687.50		1	12
66	1717.50	15	1	74
	1745.00		1	74
	1772.50		1	37
NR Band	**Frequency (MHz)**	**Bandwidth (MHz)**	**RB size**	**RB offset**
41	2541.00	90	1	243
	2592.99		1	243
	2644.98		1	123
66	1725.00	30	1	80
	1745.00		1	80
	1765.00		1	80

- Radiated Spurious Emission(ANT F)

Highest EIRP setting for each bands				
LTE Band	**Frequency (MHz)**	**Bandwidth (MHz)**	**RB size**	**RB offset**
41	2498.50	5	1	12
	2593.00		1	12
	2687.50		1	0
NR Band	**Frequency (MHz)**	**Bandwidth (MHz)**	**RB size**	**RB offset**
41	2516.01	40	1	104
	2592.99		1	1
	2670.00		1	1

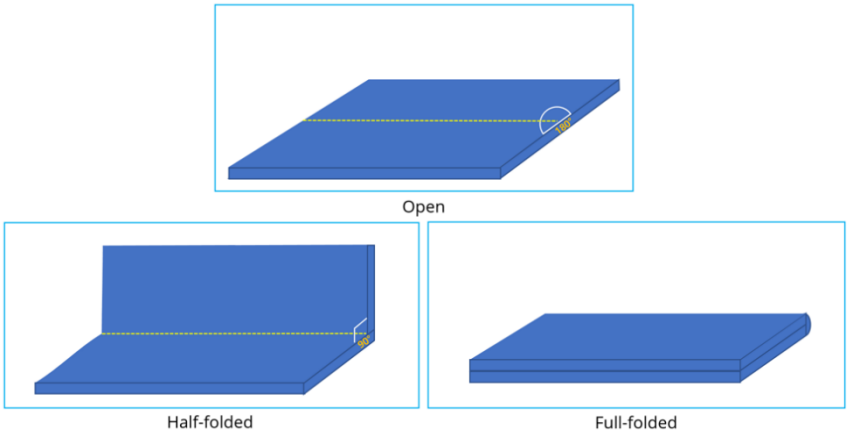
- Uplink CA (ANT B / ANT F)

Highest conducted output power setting for each bands					
LTE Band	**Component Carrier**	**Frequency (MHz)**	**Bandwidth (MHz)**	**RB size**	**RB offset**
41C	PCC	2506.0	20	1	99
	SCC	2525.8	20	1	0

For LTE anchor, the band with highest output power was chosen among the possible combinations with NR Bands.

NR Band	LTE Band
41	**66**
66	**13**

The fundamental and radiated spurious emission were investigated in three orthogonal orientations X, Y and Z, it was determined that below orientation was worst-case orientation for each band.



Band	ANT	ERP/EIRP			RSE		
		X	Y	Z	X	Y	Z
LTE B12	**A+B**	-	-	Half-folded	-	-	Half-folded
	A	-	-	Full-folded	-	-	Full-folded
LTE B13	**A+B**	-	-	Half-folded	Half-folded	-	-
	A	-	-	Full-folded	-	-	Full-folded
LTE B41	**B**	Open	-	-	-	-	Open
	F	Open	-	-	-	-	Half-folded
LTE B66	**B**	Open	-	-	-	Open	-
NR n41	**B**	-	Half-folded	-	-	-	Half-folded
	F	Open	-	-	-	-	Half-folded
NR n66	**B**	Full-folded	-	-	-	Open	-
LTE B41C(UL CA)	**B**	-	-	-	-	-	Open
	F	-	-	-	-	-	Half-folded

- Note 1
For ERP/EIRP testing, the EUT didn't attached with travel adapter. But radiated spurious testing, the EUT attached with travel adapter for the worst case condition. The EUT is continuously communicated with the call box during the tests.

- Note 2
For AFS (Adaptive Frame Switching) tests, forced setting and operation verification are possible through software application to the EUT.
For Tx Hopping mode tests, forced setting and operation verification are possible through separate settings of the EUT.

5.5. DESCRIPTION OF TEST SETUP

SUPPORT EQUIPMENT

Support Equipment List				
Description	**Manufacture**	**Model**	**Serial Number**	**FCC ID**
Charger	SAMSUNG	EP-TA800	R37N9QP4SL9DK3	N/A
Data Cable	SAMSUNG	WBR0062M	GH39-02112A	N/A

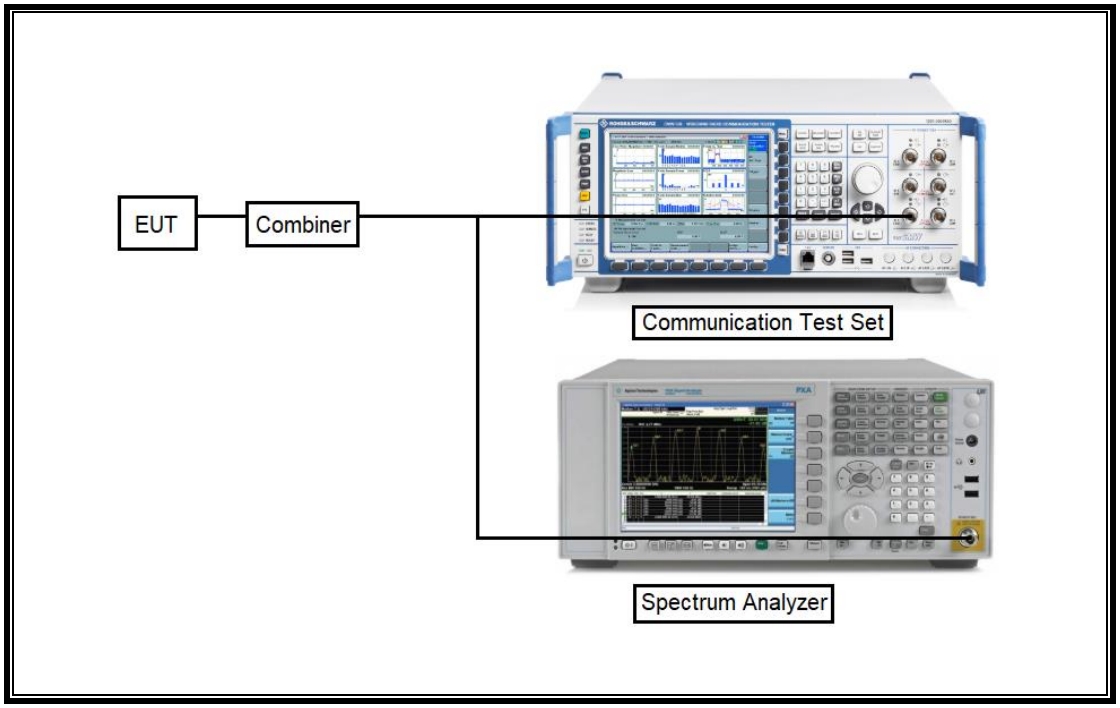
I/O CABLE

I/O Cable List						
Cable No.	**Port**	**# of identical ports**	**Connector Type**	**Cable Type**	**Cable Length (m)**	**Remarks**
1	DC Power	1	C Type	Shielded	1.0 m	N/A

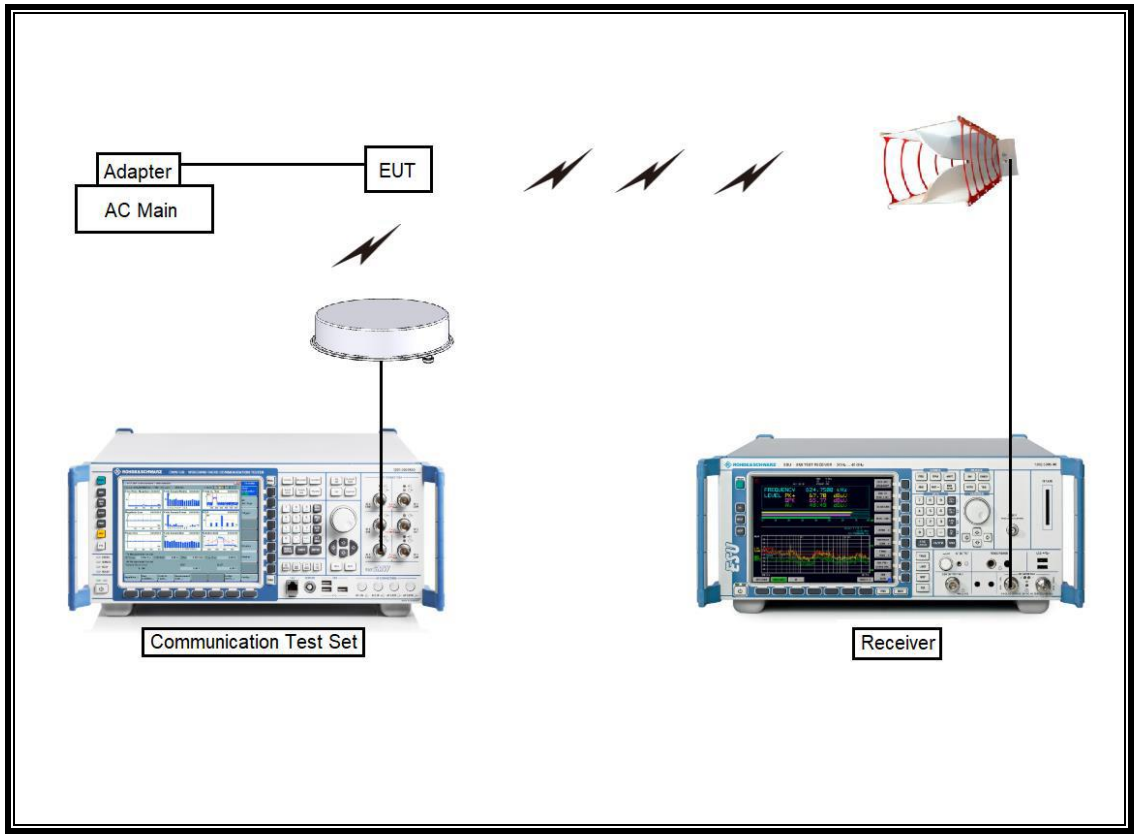
TEST SETUP

The EUT is continuously communicated with the call box during the tests.

SETUP DIAGRAM FOR TESTS (CONDUCTED TEST SETUP)



SETUP DIAGRAM FOR TESTS (RADIATED TEST SETUP)



6. TEST AND MEASUREMENT EQUIPMENT

The following test and measurement equipment was utilized for the tests documented in this report:

Test Equipment List				
Description	**Manufacturer**	**Model**	**S/N**	**Cal Due**
Antenna, Tuned Dipole 400~1000 MHz	ETS	3121D DB4	00164753	2025-01-17
Directional Antenna	Cobham	FPA3-0.8-6.0R/1329	110367-0003	N/A
Directional Antenna	Cobham	FPA3-0.8-6.0R/1329	80108-0004	N/A
Antenna, Horn, 40 GHz	ETS	3116C	00168645	2023-10-13
Preamplifier	ETS	3115-PA	00167475	2023-08-04
Preamplifier	ETS	3116C-PA	00168841	2023-08-04
Antenna, Bilog, 30MHz-1GHz	SCHWARZBECK	VULB9163	750	2024-08-15
Antenna, Bilog, 30MHz-1GHz	SCHWARZBECK	VULB9163	845	2024-08-15
Antenna, Bilog, 30MHz-1GHz	SCHWARZBECK	VULB9163	749	2024-08-15
Antenna, Horn, 18 GHz	ETS	3115	00161451	2024-08-21
Antenna, Horn, 18 GHz	ETS	3117	00168717	2024-08-21
Communications Test Set	R&S	CMW500	169796	2024-01-05
DC Power Supply	Agilent / HP	E3640A	MY54226395	2023-08-02
Preamplifier, 1000 MHz	Sonoma	310N	341282	2023-08-02
Preamplifier, 1000 MHz	Sonoma	310N	351741	2023-08-02
Preamplifier, 18 GHz	Miteq	AFS42-00101800-25-S-42	2029169	2023-08-01
Preamplifier, 18 GHz	Miteq	AFS42-00101800-25-S-42	1896138	2023-08-01
Spectrum Analyzer, 44 GHz	Agilent / HP	N9030A	MY54170614	2023-08-03
Spectrum Analyzer, 44 GHz	Agilent / HP	N9030A	MY54490312	2023-08-01
Spectrum Analyzer, 44 GHz	KEYSIGHT	N9030B	MY60070693	2024-01-09
EMI Test Receive, 40 GHz	R&S	ESU40	100439	2023-08-02
EMI Test Receive, 40 GHz	R&S	ESU40	100457	2023-07-29
High Pass Filter 1.2GHz	Micro-Tronics	HPM50108-02	G005	2023-08-01
High Pass Filter 1.2GHz	Micro-Tronics	HPM50108-02	G006	2023-08-01
High Pass Filter 2.8GHz	Micro-Tronics	HPM50111-02	010	2023-08-01
High Pass Filter 2.8GHz	Micro-Tronics	HPM50111-02	011	2023-08-01
High Pass Filter 4GHz	Micro-Tronics	HPM50118-02	G001	2023-08-01
High Pass Filter 4GHz	Micro-Tronics	HPM50118-02	G002	2023-08-01
Attenuator	PASTERNACK	PE7087-10	A009	2023-08-03
Attenuator	PASTERNACK	PE7087-10	A001	2023-08-03
Attenuator	PASTERNACK	PE7087-10	A008	2023-08-03
Attenuator	PASTERNACK	PE7004-10	2	2023-08-01
Attenuator	PASTERNACK	PE7395-10	A011	2023-08-03
Antenna, Loop, 9kHz-30MHz	R&S	HFH2-Z2	100418	2023-10-06
Temperature Chamber	ESPEC	SH-642	93001109	2023-08-01
Power Splitter	MINI-CIRCUITS	WA1534	UL003	2024-01-09
Power Splitter	MINI-CIRCUITS	WA1534	UL004	2024-01-09
UXM 5G Wireless Test Platform	KEYSIGHT	E7515B	MY57510655	2024-01-09
UXM 5G Wireless Test Platform	KEYSIGHT	E7515B	MY58010202	2024-01-27
UXM 5G Wireless Test Platform	KEYSIGHT	E7515B	MY58460570	2023-12-08

UL Software			
Description	**Manufacturer**	**Model**	**Version**
Antenna port test software	UL	CLT	Ver 3.4
Radiated software	UL	UL EMC	Ver 9.5
Antenna port test software (5G NR FR1)	UL	UL iM	Ver 1.06

7. SUMMARY TABLE

FCC Part Section	Test Description	Test Limit	Test Condition	Test Result
2.1049	Occupied Band width (99%)	N/A	Conducted	Pass
27.53(g),(h)	Band Edge / Conducted Spurious Emission	-13dBm		Pass
27.53(m)	Conducted Spurious Emission	-25dBm		Pass
27.53(m)	Emission mask	Section 9.2.2		Pass
2.1046	Conducted output power	N/A		Pass
27.54	Frequency Stability	2.5PPM		Pass
27.50(c)(10) 27.50(b)(10)	Effective Radiated Power	34.77dBm	Radiated	Pass
27.50(h)(2)	Equivalent Isotropic Radiated Power	33dBm		Pass
27.50(d)(4)		30dBm		Pass
27.53 (g),(h)	Radiated Spurious Emission	-13dBm		Pass
27.53(f)		-40dBm		Pass
27.53(m)		-25dBm		Pass

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8. CONDUCTED RESULTS

8.1. CONDUCTED OUTPUT POWER

Test Procedure

Per KDB 971168 D01 Power Meas License Digital Systems v03r01;

The transmitter output was connected to either CMW500 Test Set or E7515B Test set and configured to operate at maximum power.

NOTE

5G NR: All Waveforms (CP-OFDM vs DFT-s_OFDM) and modulations (π/2 BPSK, QPSK, 16QAM, 64QAM, 256QAM) were investigated to determine the worst case configuration. All Modes of operation were investigated and the worst case configuration results are reported in this section.

RESULTS

See the following pages.

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8.1.1. CONDUCTED AVERAGE OUTPUT POWER

LTE Band 12

BW (MHz)	Mode	RB Allocation	RB offset	Pmax Average Power (dBm)			MPR	Tune-up Limit
				Measured Pwr (dBm)				
				23060	23095	23130		
				704.00 MHz	707.50 MHz	711.00 MHz		
10 MHz	QPSK	1	0	23.82	23.73	23.72	0.0	25.5
		1	25	23.76	23.74	23.84	0.0	25.5
		1	49	23.70	23.81	23.84	0.0	25.5
		25	0	22.75	22.76	22.75	1.0	24.5
		25	12	22.85	22.82	22.83	1.0	24.5
		25	25	22.76	22.75	22.86	1.0	24.5
		50	0	22.80	22.79	22.79	1.0	24.5
	16QAM	1	0	23.05	23.00	23.05	1.0	24.5
		1	25	22.97	22.92	23.00	1.0	24.5
		1	49	22.89	22.98	23.10	1.0	24.5
		25	0	21.84	21.73	21.80	2.0	23.5
		25	12	21.89	21.80	21.85	2.0	23.5
		25	25	21.83	21.75	21.92	2.0	23.5
		50	0	21.83	21.82	21.82	2.0	23.5
	64QAM	1	0	21.96	21.91	22.05	2.0	23.5
		1	25	21.91	22.03	22.13	2.0	23.5
		1	49	21.95	22.04	22.14	2.0	23.5
		25	0	20.78	20.79	20.74	3.0	22.5
		25	12	20.93	20.83	20.83	3.0	22.5
		25	25	20.77	20.79	20.89	3.0	22.5
		50	0	20.82	20.82	20.81	3.0	22.5
BW (MHz)	Mode	RB Allocation	RB offset	Measured Pwr (dBm)			MPR	Tune-up Limit
				23035	23095	23155		
				701.50 MHz	707.50 MHz	713.50 MHz		
5 MHz	QPSK	1	0	23.72	23.65	23.78	0.0	25.5
		1	12	23.80	23.75	23.93	0.0	25.5
		1	24	23.68	23.76	23.83	0.0	25.5
		12	0	22.74	22.73	22.81	1.0	24.5
		12	7	22.86	22.84	22.85	1.0	24.5
		12	13	22.80	22.79	22.90	1.0	24.5
		25	0	22.79	22.78	22.82	1.0	24.5
	16QAM	1	0	23.09	23.09	23.18	1.0	24.5
		1	12	23.16	23.07	23.33	1.0	24.5
		1	24	23.07	23.10	23.19	1.0	24.5
		12	0	21.75	21.77	21.89	2.0	23.5
		12	7	21.84	21.85	21.94	2.0	23.5
		12	13	21.78	21.85	21.95	2.0	23.5
		25	0	21.84	21.79	21.83	2.0	23.5
	64QAM	1	0	22.08	22.03	23.34	2.0	23.5
		1	12	22.17	22.10	22.10	2.0	23.5
		1	24	22.05	22.04	22.01	2.0	23.5
		12	0	20.73	20.85	21.76	3.0	22.5
		12	7	20.82	20.91	21.77	3.0	22.5
		12	13	20.80	20.87	21.75	3.0	22.5
		25	0	20.86	20.80	20.75	3.0	22.5

BW (MHz)	Mode	RB Allocation	RB offset	Measured Pwr (dBm)			MPR	Tune-up Limit
				23025	23095	23165		
				700.50 MHz	707.50 MHz	714.50 MHz		
3 MHz	QPSK	1	0	23.71	23.79	23.45	0.0	25.5
		1	8	23.78	23.78	23.60	0.0	25.5
		1	14	23.66	23.85	23.72	0.0	25.5
		8	0	22.82	23.77	23.73	1.0	24.5
		8	4	22.84	23.81	23.78	1.0	24.5
		8	7	22.77	23.81	23.79	1.0	24.5
		15	0	22.81	22.77	22.78	1.0	24.5
	16QAM	1	0	23.07	23.02	23.15	1.0	24.5
		1	8	23.10	23.00	23.13	1.0	24.5
		1	14	22.95	23.07	23.19	1.0	24.5
		8	0	21.84	22.82	22.87	2.0	23.5
		8	4	21.88	22.85	22.86	2.0	23.5
		8	7	21.87	22.83	22.88	2.0	23.5
		15	0	21.85	21.78	21.80	2.0	23.5
	64QAM	1	0	22.78	22.07	21.84	2.0	23.5
		1	8	22.10	22.07	22.05	2.0	23.5
		1	14	22.11	22.11	22.17	2.0	23.5
		8	0	21.85	21.85	21.88	3.0	22.5
		8	4	21.84	21.86	21.86	3.0	22.5
		8	7	21.84	21.84	21.87	3.0	22.5
		15	0	20.80	20.80	20.78	3.0	22.5

BW (MHz)	Mode	RB Allocation	RB offset	Measured Pwr (dBm)			MPR	Tune-up Limit
				23017	23095	23173		
				699.70 MHz	707.50 MHz	715.30 MHz		
1.4 MHz	QPSK	1	0	23.67	23.63	23.87	0.0	25.5
		1	3	23.70	23.66	23.88	0.0	25.5
		1	5	23.66	23.62	23.86	0.0	25.5
		3	0	23.77	23.70	23.84	1.0	24.5
		3	1	23.77	23.72	23.91	1.0	24.5
		3	3	23.79	23.76	23.94	1.0	24.5
		6	0	22.73	22.71	22.81	1.0	24.5
	16QAM	1	0	22.91	22.86	23.18	1.0	24.5
		1	3	22.91	22.90	23.24	1.0	24.5
		1	5	22.87	22.92	23.23	1.0	24.5
		3	0	22.88	22.80	23.03	2.0	23.5
		3	1	22.85	22.81	23.07	2.0	23.5
		3	3	22.81	22.85	23.07	2.0	23.5
		6	0	21.80	21.77	21.85	2.0	23.5
	64QAM	1	0	21.98	22.01	22.16	2.0	23.5
		1	3	22.07	22.04	22.27	2.0	23.5
		1	5	22.02	22.02	22.13	2.0	23.5
		3	0	21.88	21.86	22.05	3.0	22.5
		3	1	21.92	21.88	22.05	3.0	22.5
		3	3	21.82	21.89	22.03	3.0	22.5
		6	0	20.80	20.80	20.88	3.0	22.5

LTE Band 13

BW (MHz)	Mode	RB Allocation	RB offset	Maximum Average Power (dBm)			MPR	Tune-up Limit
				Measured Pwr (dBm)				
					23230			
					782.00 MHz			
10 MHz	QPSK	1	0		24.47		0.0	25.5
		1	25		24.25		0.0	25.5
		1	49		24.01		0.0	25.5
		25	0		23.55		1.0	24.5
		25	12		23.29		1.0	24.5
		25	25		23.11		1.0	24.5
		50	0		23.40		1.0	24.5
	16QAM	1	0		23.68		1.0	24.5
		1	25		23.45		1.0	24.5
		1	49		23.28		1.0	24.5
		25	0		22.58		2.0	23.5
		25	12		22.31		2.0	23.5
		25	25		22.11		2.0	23.5
		50	0		22.36		2.0	23.5
	64QAM	1	0		22.90		2.0	23.5
		1	25		22.53		2.0	23.5
		1	49		22.34		2.0	23.5
		25	0		21.59		3.0	22.5
		25	12		21.33		3.0	22.5
		25	25		21.14		3.0	22.5
		50	0		21.40		3.0	22.5
BW (MHz)	Mode	RB Allocation	RB offset	Measured Pwr (dBm)			MPR	Tune-up Limit
				23205	23230	23255		
				779.50 MHz	782.00 MHz	784.50 MHz		
5 MHz	QPSK	1	0	24.58	24.56	23.96	0.0	25.5
		1	12	24.48	24.47	24.48	0.0	25.5
		1	24	24.11	24.14	24.10	0.0	25.5
		12	0	23.56	23.27	23.06	1.0	24.5
		12	7	24.44	24.43	24.43	1.0	24.5
		12	13	24.25	24.30	24.28	1.0	24.5
		25	0	23.41	23.43	23.41	1.0	24.5
	16QAM	1	0	23.72	23.74	23.79	1.0	24.5
		1	12	23.65	23.65	23.60	1.0	24.5
		1	24	23.27	23.27	23.22	1.0	24.5
		12	0	22.73	22.47	22.22	2.0	23.5
		12	7	23.43	23.48	23.45	2.0	23.5
		12	13	23.30	23.32	23.27	2.0	23.5
		25	0	22.44	22.45	22.43	2.0	23.5
	64QAM	1	0	22.52	22.37	21.85	2.0	23.5
		1	12	22.33	22.12	21.90	2.0	23.5
		1	24	21.99	21.96	21.84	2.0	23.5
		12	0	21.20	20.90	20.61	3.0	22.5
		12	7	21.13	20.85	20.61	3.0	22.5
		12	13	20.91	20.72	20.52	3.0	22.5
		25	0	21.01	20.81	20.66	3.0	22.5

LTE Band 41 (ANT B)

BW (MHz)	Mode	RB Allocation	RB offset	Maximum Average Power (dBm) Pmax			MPR	Tune-up Limit
				Measured Pwr (dBm)				
				39750	40620	41490		
				2506.00 MHz	2593.00 MHz	2680.00 MHz		
20 MHz	QPSK	1	0	22.98	23.36	23.69	0.0	25.0
		1	49	22.89	23.37	23.63	0.0	25.0
		1	99	23.18	23.51	23.79	0.0	25.0
		50	0	22.03	22.51	22.75	1.0	24.0
		50	24	22.13	22.59	22.77	1.0	24.0
		50	50	22.09	22.61	22.82	1.0	24.0
		100	0	22.08	22.56	22.71	1.0	24.0
	16QAM	1	0	21.92	22.50	22.69	1.0	24.0
		1	49	21.95	22.64	22.66	1.0	24.0
		1	99	21.84	22.77	22.76	1.0	24.0
		50	0	21.07	21.57	21.74	2.0	23.0
		50	24	21.13	21.58	21.76	2.0	23.0
		50	50	21.09	21.63	21.92	2.0	23.0
		100	0	21.26	21.60	21.63	2.0	23.0
	64QAM	1	0	21.68	21.30	22.03	2.0	23.0
		1	49	21.52	21.53	22.63	2.0	23.0
		1	99	21.57	21.57	22.08	2.0	23.0
		50	0	20.54	20.47	21.06	3.0	22.0
		50	24	20.64	20.54	21.12	3.0	22.0
		50	50	20.60	20.34	21.16	3.0	22.0
		100	0	20.51	20.34	20.93	3.0	22.0
BW (MHz)	Mode	RB Allocation	RB offset	Measured Pwr (dBm)			MPR	Tune-up Limit
				39725	40620	41515		
				2503.50 MHz	2593.00 MHz	2682.50 MHz		
15 MHz	QPSK	1	0	22.89	22.95	23.58	0.0	25.0
		1	37	23.14	23.00	23.65	0.0	25.0
		1	74	23.05	23.00	23.56	0.0	25.0
		36	0	22.23	22.06	22.70	1.0	24.0
		36	20	22.35	22.14	22.68	1.0	24.0
		36	39	22.20	22.17	22.80	1.0	24.0
		75	0	22.34	22.14	22.67	1.0	24.0
	16QAM	1	0	22.50	21.97	22.62	1.0	24.0
		1	37	22.34	22.07	23.05	1.0	24.0
		1	74	22.14	22.28	22.58	1.0	24.0
		36	0	21.23	21.09	21.65	2.0	23.0
		36	20	21.35	21.18	21.62	2.0	23.0
		36	39	21.28	21.18	21.75	2.0	23.0
		75	0	21.37	21.17	21.66	2.0	23.0
	64QAM	1	0	21.19	21.37	21.49	2.0	23.0
		1	37	21.26	21.10	21.47	2.0	23.0
		1	74	21.22	21.34	21.79	2.0	23.0
		36	0	20.28	20.06	20.68	3.0	22.0
		36	20	20.36	20.08	20.72	3.0	22.0
		36	39	20.30	20.18	20.72	3.0	22.0
		75	0	20.34	20.12	20.73	3.0	22.0

BW (MHz)	Mode	RB Allocation	RB offset	Measured Pwr (dBm)			MPR	Tune-up Limit
				39700	40620	41540		
				2501.00 MHz	2593.00 MHz	2685.00 MHz		
10 MHz	QPSK	1	0	23.41	23.20	23.96	0.0	25.0
		1	25	23.32	23.35	23.94	0.0	25.0
		1	49	23.30	23.32	24.03	0.0	25.0
		25	0	22.33	22.36	22.96	1.0	24.0
		25	12	22.44	22.47	23.03	1.0	24.0
		25	25	22.41	22.44	23.10	1.0	24.0
		50	0	22.41	22.48	23.03	1.0	24.0
	16QAM	1	0	22.18	22.43	23.30	1.0	24.0
		1	25	22.00	22.56	23.34	1.0	24.0
		1	49	22.43	22.43	22.89	1.0	24.0
		25	0	21.38	21.45	22.03	2.0	23.0
		25	12	21.54	21.54	22.03	2.0	23.0
		25	25	21.49	21.51	22.07	2.0	23.0
		50	0	21.46	21.50	21.98	2.0	23.0
	64QAM	1	0	21.26	21.18	21.91	2.0	23.0
		1	25	21.40	21.39	22.00	2.0	23.0
		1	49	21.61	21.26	21.97	2.0	23.0
		25	0	20.39	20.36	21.03	3.0	22.0
		25	12	20.41	20.48	21.04	3.0	22.0
		25	25	20.48	20.48	21.06	3.0	22.0
		50	0	20.48	20.48	20.98	3.0	22.0

BW (MHz)	Mode	RB Allocation	RB offset	Measured Pwr (dBm)			MPR	Tune-up Limit
				39675	40620	41565		
				2498.50 MHz	2593.00 MHz	2687.50 MHz		
5 MHz	QPSK	1	0	23.36	23.23	23.88	0.0	25.0
		1	12	23.30	23.41	24.08	0.0	25.0
		1	24	23.31	23.42	23.89	0.0	25.0
		12	0	22.39	22.34	22.97	1.0	24.0
		12	7	22.49	22.50	22.84	1.0	24.0
		12	13	22.39	22.47	23.08	1.0	24.0
		25	0	22.36	22.47	22.94	1.0	24.0
	16QAM	1	0	22.39	22.06	23.01	1.0	24.0
		1	12	22.21	22.33	23.01	1.0	24.0
		1	24	22.22	22.69	22.92	1.0	24.0
		12	0	21.51	21.36	21.97	2.0	23.0
		12	7	21.56	21.41	22.04	2.0	23.0
		12	13	21.52	21.39	22.04	2.0	23.0
		25	0	21.49	21.55	21.89	2.0	23.0
	64QAM	1	0	21.23	21.41	22.03	2.0	23.0
		1	12	21.60	21.83	22.08	2.0	23.0
		1	24	21.61	21.65	22.08	2.0	23.0
		12	0	20.38	20.29	20.95	3.0	22.0
		12	7	20.39	20.43	20.98	3.0	22.0
		12	13	20.39	20.33	21.05	3.0	22.0
		25	0	20.49	20.39	20.94	3.0	22.0

LTE Band 41 (ANT F)

BW (MHz)	Mode	RB Allocation	RB offset	Maximum Average Power (dBm) Pmax			MPR	Tune-up Limit
				Measured Pwr (dBm)				
				39750	40620	41490		
				2506.00 MHz	2593.00 MHz	2680.00 MHz		
20 MHz	QPSK	1	0	23.43	23.44	24.06	0.0	25.0
		1	49	23.51	23.41	24.12	0.0	25.0
		1	99	23.52	23.60	24.18	0.0	25.0
		50	0	22.59	22.53	23.12	1.0	24.0
		50	24	22.71	22.66	23.14	1.0	24.0
		50	50	22.63	22.62	23.29	1.0	24.0
		100	0	22.64	22.58	23.14	1.0	24.0
	16QAM	1	0	22.60	22.48	23.04	1.0	24.0
		1	49	22.74	22.67	23.49	1.0	24.0
		1	99	22.63	22.69	23.40	1.0	24.0
		50	0	21.65	21.50	22.12	2.0	23.0
		50	24	21.71	21.60	22.16	2.0	23.0
		50	50	21.69	21.63	22.24	2.0	23.0
		100	0	21.68	21.61	22.19	2.0	23.0
	64QAM	1	0	21.34	21.30	22.09	2.0	23.0
		1	49	21.24	21.55	22.06	2.0	23.0
		1	99	21.13	21.63	22.20	2.0	23.0
		50	0	20.46	20.38	20.94	3.0	22.0
		50	24	20.46	20.48	20.96	3.0	22.0
		50	50	20.41	20.42	21.07	3.0	22.0
		100	0	20.49	20.51	21.00	3.0	22.0
BW (MHz)	Mode	RB Allocation	RB offset	Measured Pwr (dBm)			MPR	Tune-up Limit
				39725	40620	41515		
				2503.50 MHz	2593.00 MHz	2682.50 MHz		
15 MHz	QPSK	1	0	23.44	23.35	24.01	0.0	25.0
		1	37	23.49	23.44	24.19	0.0	25.0
		1	74	23.52	23.51	24.17	0.0	25.0
		36	0	22.58	22.56	23.11	1.0	24.0
		36	20	22.65	22.58	23.12	1.0	24.0
		36	39	22.62	22.54	23.24	1.0	24.0
		75	0	22.66	22.61	23.16	1.0	24.0
	16QAM	1	0	22.44	22.36	23.18	1.0	24.0
		1	37	22.53	22.47	23.14	1.0	24.0
		1	74	22.47	22.49	23.13	1.0	24.0
		36	0	21.58	21.49	22.08	2.0	23.0
		36	20	21.62	21.59	22.15	2.0	23.0
		36	39	21.65	21.61	22.23	2.0	23.0
		75	0	21.63	21.61	22.16	2.0	23.0
	64QAM	1	0	21.34	21.26	21.57	2.0	23.0
		1	37	21.27	21.20	21.97	2.0	23.0
		1	74	21.25	21.26	22.09	2.0	23.0
		36	0	20.34	20.33	20.84	3.0	22.0
		36	20	20.40	20.40	20.79	3.0	22.0
		36	39	20.34	20.36	20.94	3.0	22.0
		75	0	20.41	20.43	20.87	3.0	22.0

BW (MHz)	Mode	RB Allocation	RB offset	Measured Pwr (dBm)			MPR	Tune-up Limit
				39700	40620	41540		
				2501.00 MHz	2593.00 MHz	2685.00 MHz		
10 MHz	QPSK	1	0	23.65	23.52	24.15	0.0	25.0
		1	25	23.66	23.60	24.19	0.0	25.0
		1	49	23.64	23.58	24.22	0.0	25.0
		25	0	22.68	22.54	23.16	1.0	24.0
		25	12	22.75	22.67	23.20	1.0	24.0
		25	25	22.72	22.67	23.26	1.0	24.0
		50	0	22.70	22.65	23.18	1.0	24.0
	16QAM	1	0	22.80	22.60	23.13	1.0	24.0
		1	25	22.72	22.55	23.17	1.0	24.0
		1	49	22.72	22.80	23.21	1.0	24.0
		25	0	21.64	21.65	22.17	2.0	23.0
		25	12	21.76	21.72	22.21	2.0	23.0
		25	25	21.82	21.70	22.27	2.0	23.0
		50	0	21.61	21.69	22.24	2.0	23.0
	64QAM	1	0	21.57	21.29	21.93	2.0	23.0
		1	25	21.37	21.35	21.90	2.0	23.0
		1	49	21.29	21.39	22.00	2.0	23.0
		25	0	20.47	20.32	20.91	3.0	22.0
		25	12	20.51	20.49	20.94	3.0	22.0
		25	25	20.46	20.48	21.08	3.0	22.0
		50	0	20.36	20.44	20.87	3.0	22.0

BW (MHz)	Mode	RB Allocation	RB offset	Measured Pwr (dBm)			MPR	Tune-up Limit
				39675	40620	41565		
				2498.50 MHz	2593.00 MHz	2687.50 MHz		
5 MHz	QPSK	1	0	23.58	23.59	24.27	0.0	25.0
		1	12	23.62	23.66	24.20	0.0	25.0
		1	24	23.52	23.55	24.25	0.0	25.0
		12	0	22.71	22.60	23.15	1.0	24.0
		12	7	22.72	22.64	23.20	1.0	24.0
		12	13	22.71	22.66	23.27	1.0	24.0
		25	0	22.74	22.65	23.18	1.0	24.0
	16QAM	1	0	22.59	22.54	23.34	1.0	24.0
		1	12	22.64	22.81	23.37	1.0	24.0
		1	24	22.64	22.59	23.39	1.0	24.0
		12	0	21.63	21.57	22.05	2.0	23.0
		12	7	21.67	21.72	22.10	2.0	23.0
		12	13	21.62	21.72	22.13	2.0	23.0
		25	0	21.89	21.71	22.22	2.0	23.0
	64QAM	1	0	21.58	21.11	21.86	2.0	23.0
		1	12	21.57	21.32	21.99	2.0	23.0
		1	24	21.57	21.37	21.80	2.0	23.0
		12	0	20.41	20.30	20.89	3.0	22.0
		12	7	20.44	20.33	20.99	3.0	22.0
		12	13	20.39	20.34	21.03	3.0	22.0
		25	0	20.43	20.42	20.80	3.0	22.0

LTE Band 41 (UL CA, ANT B)

Bandwidth	PCC Frequency (MHz)	SCC1 Frequency (MHz)	PCC RB Size	PCC RB Offset	SCC1 RB Size	SCC1 RB Offset	Conducted Average Power (dBm) QPSK	Conducted Average Power (dBm) 16QAM
40MHz (20MHz / 20MHz)	2506	2525.8	1	99	1	0	24.09	23.52
			1	0	1	99	15.27	16.05
			100	0	100	0	22.11	21.10
	2583.1	2602.9	1	99	1	0	24.29	23.34
			1	0	1	99	15.75	16.27
			100	0	100	0	22.20	21.24
	2660.2	2680	1	99	1	0	24.15	23.61
			1	0	1	99	15.67	16.11
			100	0	100	0	22.17	21.31

Bandwidth	PCC Frequency (MHz)	SCC1 Frequency (MHz)	PCC RB Size	PCC RB Offset	SCC1 RB Size	SCC1 RB Offset	Conducted Average Power (dBm) QPSK	Conducted Average Power (dBm) 16QAM
35MHz (15MHz / 20MHz)	2503.5	2520.6	1	74	1	0	23.89	23.13
			1	0	1	99	15.50	16.06
			75	0	100	0	22.10	21.18
	2583.3	2600.4	1	74	1	0	24.03	23.55
			1	0	1	99	15.86	16.08
			75	0	100	0	22.34	21.26
	2662.9	2680	1	74	1	0	23.90	23.47
			1	0	1	99	15.70	16.19
			75	0	100	0	22.20	21.24

Bandwidth	PCC Frequency (MHz)	SCC1 Frequency (MHz)	PCC RB Size	PCC RB Offset	SCC1 RB Size	SCC1 RB Offset	Conducted Average Power (dBm) QPSK	Conducted Average Power (dBm) 16QAM
30MHz (15MHz / 15MHz)	2503.5	2518.5	1	74	1	0	23.98	23.55
			1	0	1	74	15.61	16.19
			75	0	75	0	22.35	21.16
	2585.5	2600.5	1	74	1	0	24.16	23.55
			1	0	1	74	15.73	16.25
			75	0	75	0	22.22	21.26
	2667.5	2682.5	1	74	1	0	23.75	23.31
			1	0	1	74	15.59	16.13
			75	0	75	0	22.16	21.15

Bandwidth	PCC Frequency (MHz)	SCC1 Frequency (MHz)	PCC RB Size	PCC RB Offset	SCC1 RB Size	SCC1 RB Offset	Conducted Average Power (dBm) QPSK	Conducted Average Power (dBm) 16QAM
25MHz (5MHz / 20MHz)	2498.5	2510.2	1	24	1	0	24.05	23.57
			1	0	1	99	15.75	16.07
			25	0	100	0	22.13	21.16
	2583.8	2595.5	1	24	1	0	24.10	23.57
			1	0	1	99	15.82	16.18
			25	0	100	0	22.24	21.26
	2668.3	2680	1	24	1	0	24.03	23.59
			1	0	1	99	15.42	16.15
			25	0	100	0	22.13	21.14

LTE Band 41 (UL CA, ANT F)

Bandwidth	PCC Frequency (MHz)	SCC1 Frequency (MHz)	PCC RB	PCC RB	SCC1 RB	SCC1 RB	Conducted Average Power (dBm)	
			Size	Offset	Size	Offset	QPSK	16QAM
40MHz (20MHz / 20MHz)	2506	2525.8	1	99	1	0	24.07	23.24
			1	0	1	99	15.76	15.91
			100	0	100	0	22.33	21.26
	2583.1	2602.9	1	99	1	0	24.14	23.42
			1	0	1	99	15.69	16.02
			100	0	100	0	22.19	21.26
	2660.2	2680	1	99	1	0	24.43	23.69
			1	0	1	99	16.17	16.25
			100	0	100	0	22.63	21.63

Bandwidth	PCC Frequency (MHz)	SCC1 Frequency (MHz)	PCC RB	PCC RB	SCC1 RB	SCC1 RB	Conducted Average Power (dBm)	
			Size	Offset	Size	Offset	QPSK	16QAM
35MHz (15MHz / 20MHz)	2503.5	2520.6	1	74	1	0	24.14	23.03
			1	0	1	99	15.60	15.76
			75	0	100	0	22.08	21.28
	2583.3	2600.4	1	74	1	0	24.01	23.22
			1	0	1	99	15.62	15.90
			75	0	100	0	22.23	21.22
	2662.9	2680	1	74	1	0	24.22	23.65
			1	0	1	99	16.01	16.17
			75	0	100	0	22.58	21.64

Bandwidth	PCC Frequency (MHz)	SCC1 Frequency (MHz)	PCC RB	PCC RB	SCC1 RB	SCC1 RB	Conducted Average Power (dBm)	
			Size	Offset	Size	Offset	QPSK	16QAM
30MHz (15MHz / 15MHz)	2503.5	2518.5	1	74	1	0	24.18	23.16
			1	0	1	74	15.59	15.90
			75	0	75	0	22.14	21.12
	2585.5	2600.5	1	74	1	0	24.19	23.23
			1	0	1	74	15.87	16.03
			75	0	75	0	22.15	21.13
	2667.5	2682.5	1	74	1	0	24.31	23.67
			1	0	1	74	16.31	16.45
			75	0	75	0	22.70	21.71

Bandwidth	PCC Frequency (MHz)	SCC1 Frequency (MHz)	PCC RB	PCC RB	SCC1 RB	SCC1 RB	Conducted Average Power (dBm)	
			Size	Offset	Size	Offset	QPSK	16QAM
25MHz (5MHz / 20MHz)	2498.5	2510.2	1	24	1	0	24.18	23.44
			1	0	1	99	15.79	15.93
			25	0	100	0	22.22	21.43
	2583.8	2595.5	1	24	1	0	24.03	23.43
			1	0	1	99	15.98	16.35
			25	0	100	0	22.22	21.31
	2668.3	2680	1	24	1	0	24.39	23.68
			1	0	1	99	16.28	16.47
			25	0	100	0	22.71	21.76

LTE Band 66 (ANT B)

BW (MHz)	Mode	RB Allocation	RB offset	Maximum Average Power (dBm)				
				Measured Pwr (dBm)			MPR	Tune-up Limit
				132072	132322	132572		
				1720.00 MHz	1745.00 MHz	1770.00 MHz		
20 MHz	QPSK	1	0	23.97	24.13	23.99	0.0	25.0
		1	49	23.69	24.03	24.03	0.0	25.0
		1	99	24.04	24.06	23.92	0.0	25.0
		50	0	23.12	23.16	23.13	1.0	24.0
		50	24	23.18	23.21	23.20	1.0	24.0
		50	50	23.09	23.17	23.19	1.0	24.0
		100	0	23.04	23.16	23.19	1.0	24.0
	16QAM	1	0	23.57	23.32	23.43	1.0	24.0
		1	49	23.52	23.34	23.54	1.0	24.0
		1	99	23.53	23.32	23.41	1.0	24.0
		50	0	22.19	22.17	22.14	2.0	23.0
		50	24	22.20	22.20	22.23	2.0	23.0
		50	50	22.12	22.19	22.22	2.0	23.0
		100	0	22.09	22.18	22.19	2.0	23.0
	64QAM	1	0	22.41	22.53	22.40	2.0	23.0
		1	49	22.57	22.45	22.41	2.0	23.0
		1	99	22.40	22.41	22.35	2.0	23.0
		50	0	21.11	21.17	21.16	3.0	22.0
		50	24	21.21	21.19	21.18	3.0	22.0
		50	50	21.22	21.18	21.09	3.0	22.0
		100	0	21.21	21.17	21.08	3.0	22.0
BW (MHz)	Mode	RB Allocation	RB offset	Measured Pwr (dBm)			MPR	Tune-up Limit
				132047	132322	132597		
				1717.50 MHz	1745.00 MHz	1772.50 MHz		
15 MHz	QPSK	1	0	23.85	23.88	24.06	0.0	25.0
		1	37	23.62	23.83	24.08	0.0	25.0
		1	74	23.88	23.89	23.86	0.0	25.0
		36	0	22.75	23.04	23.09	1.0	24.0
		36	20	23.00	23.00	23.06	1.0	24.0
		36	39	23.03	23.01	23.15	1.0	24.0
		75	0	22.83	23.02	23.10	1.0	24.0
	16QAM	1	0	23.12	23.40	23.40	1.0	24.0
		1	37	23.16	23.35	23.58	1.0	24.0
		1	74	23.25	23.35	23.32	1.0	24.0
		36	0	21.91	22.04	22.08	2.0	23.0
		36	20	21.99	22.03	22.09	2.0	23.0
		36	39	22.02	22.03	22.15	2.0	23.0
		75	0	21.92	22.01	22.10	2.0	23.0
	64QAM	1	0	22.27	22.34	22.21	2.0	23.0
		1	37	22.25	22.20	22.22	2.0	23.0
		1	74	22.36	22.31	22.20	2.0	23.0
		36	0	20.99	21.05	21.10	3.0	22.0
		36	20	21.01	21.04	21.10	3.0	22.0
		36	39	21.00	21.03	21.18	3.0	22.0
		75	0	21.01	21.02	21.09	3.0	22.0

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BW (MHz)	Mode	RB Allocation	RB offset	Measured Pwr (dBm)			MPR	Tune-up Limit
				132022	132322	132622		
				1715.00 MHz	1745.00 MHz	1775.00 MHz		
10 MHz	QPSK	1	0	23.73	24.08	24.17	0.0	25.0
		1	25	23.43	24.04	24.18	0.0	25.0
		1	49	23.54	24.02	24.08	0.0	25.0
		25	0	22.64	23.10	23.18	1.0	24.0
		25	12	22.84	23.15	23.20	1.0	24.0
		25	25	23.02	23.13	23.27	1.0	24.0
		50	0	22.07	22.11	22.17	1.0	24.0
	16QAM	1	0	23.26	23.30	23.46	1.0	24.0
		1	25	22.95	23.33	23.51	1.0	24.0
		1	49	23.11	23.32	23.54	1.0	24.0
		25	0	21.82	22.20	22.23	2.0	23.0
		25	12	22.06	22.23	22.28	2.0	23.0
		25	25	22.16	22.18	22.33	2.0	23.0
		50	0	21.69	22.10	22.22	2.0	23.0
	64QAM	1	0	22.18	22.41	22.54	2.0	23.0
		1	25	22.02	22.42	22.58	2.0	23.0
		1	49	22.13	22.40	22.52	2.0	23.0
		25	0	21.08	21.16	21.22	3.0	22.0
		25	12	21.15	21.17	21.27	3.0	22.0
		25	25	21.11	21.15	21.29	3.0	22.0
		50	0	21.01	21.12	21.24	3.0	22.0

BW (MHz)	Mode	RB Allocation	RB offset	Measured Pwr (dBm)			MPR	Tune-up Limit
				131997	132322	132647		
				1712.50 MHz	17450 MHz	1777.50 MHz		
5 MHz	QPSK	1	0	23.54	24.01	24.10	0.0	25.0
		1	12	23.34	24.05	24.05	0.0	25.0
		1	24	23.33	23.99	23.98	0.0	25.0
		12	0	22.58	23.09	23.17	1.0	24.0
		12	7	22.64	23.14	23.27	1.0	24.0
		12	13	22.72	23.07	23.24	1.0	24.0
		25	0	22.43	23.09	23.18	1.0	24.0
	16QAM	1	0	23.06	23.40	23.64	1.0	24.0
		1	12	22.89	23.50	23.70	1.0	24.0
		1	24	22.82	23.43	23.65	1.0	24.0
		12	0	21.80	22.18	22.16	2.0	23.0
		12	7	21.89	22.23	22.26	2.0	23.0
		12	13	21.97	22.21	22.22	2.0	23.0
		25	0	21.43	22.15	22.21	2.0	23.0
	64QAM	1	0	22.27	22.40	22.58	2.0	23.0
		1	12	22.07	22.38	22.69	2.0	23.0
		1	24	21.96	22.38	22.62	2.0	23.0
		12	0	21.09	21.13	21.27	3.0	22.0
		12	7	21.15	21.17	21.40	3.0	22.0
		12	13	21.14	21.14	21.35	3.0	22.0
		25	0	20.86	21.11	21.24	3.0	22.0

BW (MHz)	Mode	RB Allocation	RB offset	Measured Pwr (dBm)			MPR	Tune-up Limit
				131987	132322	132657		
				1711.50 MHz	1745.00 MHz	1778.50 MHz		
3 MHz	QPSK	1	0	23.44	24.02	24.04	0.0	25.0
		1	8	23.33	24.09	24.11	0.0	25.0
		1	14	23.22	23.96	24.01	0.0	25.0
		8	0	22.58	23.07	23.16	1.0	24.0
		8	4	22.65	23.09	23.16	1.0	24.0
		8	7	22.65	23.07	23.26	1.0	24.0
		15	0	22.61	23.07	23.13	1.0	24.0
	16QAM	1	0	22.99	23.38	23.53	1.0	24.0
		1	8	22.93	23.42	23.65	1.0	24.0
		1	14	22.85	23.29	23.56	1.0	24.0
		8	0	21.73	22.14	22.21	2.0	23.0
		8	4	21.78	22.19	22.24	2.0	23.0
		8	7	21.80	22.18	22.33	2.0	23.0
		15	0	21.76	22.08	22.19	2.0	23.0
	64QAM	1	0	22.19	22.32	22.38	2.0	23.0
		1	8	22.04	22.39	22.45	2.0	23.0
		1	14	21.88	22.33	22.42	2.0	23.0
		8	0	21.04	21.11	21.18	3.0	22.0
		8	4	21.06	21.17	21.20	3.0	22.0
		8	7	21.08	21.14	21.28	3.0	22.0
		15	0	21.07	21.14	21.23	3.0	22.0

BW (MHz)	Mode	RB Allocation	RB offset	Measured Pwr (dBm)			MPR	Tune-up Limit
				131979	132322	132665		
				1710.70 MHz	1745.00 MHz	1779.30 MHz		
1.4 MHz	QPSK	1	0	23.34	24.00	24.09	0.0	25.0
		1	3	23.31	23.98	24.03	0.0	25.0
		1	5	23.26	23.99	23.98	0.0	25.0
		3	0	23.43	24.08	24.04	0.0	25.0
		3	1	23.38	24.09	24.03	0.0	25.0
		3	3	23.42	24.08	24.05	0.0	25.0
		6	0	22.60	23.05	23.19	1.0	24.0
	16QAM	1	0	22.78	23.36	23.35	1.0	24.0
		1	3	22.71	23.42	23.36	1.0	24.0
		1	5	22.68	23.42	23.34	1.0	24.0
		3	0	22.70	23.24	23.25	1.0	24.0
		3	1	22.65	23.20	23.30	1.0	24.0
		3	3	22.69	23.22	23.25	1.0	24.0
		6	0	21.76	22.13	22.30	2.0	23.0
	64QAM	1	0	21.75	22.46	22.41	2.0	23.0
		1	3	21.69	22.48	22.45	2.0	23.0
		1	5	21.56	22.44	22.39	2.0	23.0
		3	0	22.12	22.23	22.41	2.0	23.0
		3	1	22.13	22.24	22.42	2.0	23.0
		3	3	22.12	22.23	22.39	2.0	23.0
		6	0	21.13	21.09	21.29	3.0	22.0

NR Band n41 (ANT B)

BW (MHz)	Modulation	Mode	RB Allocation	RB offset	Maximum Average Power (dBm)			MPR	Tune-up Limit
					Measured Pwr (dBm)				
					509202	518598	528000		
					2546.01 MHz	2592.99 MHz	2640.00 MHz		
100 MHz	DFT-s-OFDM	π/2 BPSK	1	1	22.82	22.98	23.51	0.0	25.0
			1	137	22.86	23.45	23.87	0.0	25.0
			1	271	23.14	23.92	23.40	0.0	25.0
			135	0	22.58	22.74	23.38	0.5	24.5
			135	69	23.01	23.55	24.04	0.0	25.0
			135	138	22.54	23.34	22.85	0.5	24.5
			270	0	22.64	23.06	23.41	0.5	24.5
		QPSK	1	1	22.96	23.02	23.51	0.0	25.0
			1	137	22.86	23.53	23.84	0.0	25.0
			1	271	23.10	24.00	23.60	0.0	25.0
			135	0	22.13	22.24	22.94	1.0	24.0
			135	69	23.07	23.64	23.86	0.0	25.0
			135	138	21.99	22.83	23.03	1.0	24.0
			270	0	22.10	22.57	22.86	1.0	24.0
		16QAM	1	1	22.05	22.16	22.64	1.0	24.0
			1	137	21.98	22.53	22.55	1.0	24.0
			1	271	22.20	23.09	21.99	1.0	24.0
		64QAM	1	1	20.38	20.59	21.09	2.5	22.5
		256QAM	1	1	18.22	18.23	19.11	4.5	20.5
	CP-OFDM	QPSK	1	1	21.55	21.67	22.09	1.5	23.5
BW (MHz)	Modulation	Mode	RB Allocation	RB offset	Measured Pwr (dBm)			MPR	Tune-up Limit
					508200	518598	528996		
					2541.00 MHz	2592.99 MHz	2644.98 MHz		
90 MHz	DFT-s-OFDM	π/2 BPSK	1	1	22.80	23.06	23.57	0.0	25.0
			1	123	22.81	23.41	23.83	0.0	25.0
			1	243	23.07	23.79	23.71	0.0	25.0
			120	0	22.48	22.78	23.36	0.5	24.5
			120	63	22.98	23.62	23.70	0.0	25.0
			120	125	22.45	23.37	23.33	0.5	24.5
			243	0	22.51	23.13	23.43	0.5	24.5
		QPSK	1	1	22.83	23.09	23.62	0.0	25.0
			1	123	22.86	23.50	23.79	0.0	25.0
			1	243	23.11	23.95	23.52	0.0	25.0
			120	0	22.03	22.29	22.95	1.0	24.0
			120	63	23.01	23.60	23.80	0.0	25.0
			120	125	21.96	22.89	22.74	1.0	24.0
			243	0	22.10	22.59	22.94	1.0	24.0
		16QAM	1	1	22.01	22.18	22.79	1.0	24.0
		64QAM	1	1	20.40	20.59	21.21	2.5	22.5
		256QAM	1	1	18.30	18.60	19.12	4.5	20.5
	CP-OFDM	QPSK	1	1	21.40	21.66	22.22	1.5	23.5
BW (MHz)	Modulation	Mode	RB Allocation	RB offset	Measured Pwr (dBm)			MPR	Tune-up Limit
					507204	518598	529998		
					2536.02 MHz	2592.99 MHz	2649.99 MHz		
80 MHz	DFT-s-OFDM	π/2 BPSK	1	1	22.82	22.99	23.59	0.0	25.0
			1	109	22.93	23.43	23.74	0.0	25.0
			1	215	22.96	23.85	23.82	0.0	25.0
			108	0	22.50	22.73	23.33	0.5	24.5
			108	55	23.03	23.57	23.92	0.0	25.0
			108	109	22.42	23.23	23.26	0.5	24.5
			216	0	22.51	23.02	23.36	0.5	24.5
		QPSK	1	1	22.89	23.04	23.60	0.0	25.0
			1	109	22.91	23.41	23.69	0.0	25.0
			1	215	22.95	23.85	23.21	0.0	25.0
			108	0	22.03	22.25	22.91	1.0	24.0
			108	55	22.96	23.56	23.78	0.0	25.0
			108	109	22.00	22.75	22.96	1.0	24.0
			216	0	21.99	22.50	22.88	1.0	24.0
		16QAM	1	1	21.99	22.12	22.70	1.0	24.0
		64QAM	1	1	20.39	20.55	21.23	2.5	22.5
		256QAM	1	1	18.35	18.44	19.15	4.5	20.5
	CP-OFDM	QPSK	1	1	21.49	21.56	22.25	1.5	23.5

BW (MHz)	Modulation	Mode	RB Allocation	RB offset	Measured Pwr (dBm)			MPR	Tune-up Limit
					506202	518598	531996		
					2531.01 MHz	2592.99 MHz	2655.00 MHz		
70 MHz	DFT-s-OFDM	π/2 BPSK	1	1	22.77	22.93	23.68	0.0	25.0
			1	95	22.86	23.30	23.81	0.0	25.0
			1	188	22.85	23.63	23.74	0.0	25.0
			90	0	22.52	22.72	23.38	0.5	24.5
			90	50	23.07	23.46	23.93	0.0	25.0
			90	99	22.40	23.15	23.07	0.5	24.5
			180	0	22.49	22.96	23.36	0.5	24.5
		QPSK	1	1	22.85	22.95	23.84	0.0	25.0
			1	95	22.91	23.37	23.74	0.0	25.0
			1	188	22.91	23.74	23.40	0.0	25.0
			90	0	22.04	22.35	23.01	1.0	24.0
			90	50	23.06	23.47	23.42	0.0	25.0
			90	99	21.90	22.71	22.87	1.0	24.0
			180	0	22.01	22.53	22.72	1.0	24.0
		16QAM	1	1	21.98	22.06	22.33	1.0	24.0
		64QAM	1	1	20.30	20.52	21.21	2.5	22.5
		256QAM	1	1	18.34	18.58	19.25	4.5	20.5
	CP-OFDM	QPSK	1	1	21.35	21.52	22.40	1.5	23.5
BW (MHz)	Modulation	Mode	RB Allocation	RB offset	Measured Pwr (dBm)			MPR	Tune-up Limit
					505200	518598	531996		
					2526.00 MHz	2592.99 MHz	2659.98 MHz		
60 MHz	DFT-s-OFDM	π/2 BPSK	1	1	22.76	23.12	23.99	0.0	25.0
			1	81	23.51	23.62	24.05	0.0	25.0
			1	160	22.82	23.82	23.55	0.0	25.0
			81	0	22.77	22.87	23.52	0.5	24.5
			81	41	23.42	23.68	23.46	0.0	25.0
			81	81	22.74	23.43	23.58	0.5	24.5
			162	0	22.81	23.14	23.57	0.5	24.5
		QPSK	1	1	22.76	23.14	23.88	0.0	25.0
			1	81	23.60	23.37	23.95	0.0	25.0
			1	160	22.96	23.46	23.02	0.0	25.0
			81	0	22.32	22.41	23.04	1.0	24.0
			81	41	23.45	23.69	23.81	0.0	25.0
			81	81	22.28	22.92	23.13	1.0	24.0
			162	0	22.32	22.63	23.02	1.0	24.0
		16QAM	1	1	21.89	22.21	22.86	1.0	24.0
		64QAM	1	1	20.48	20.74	21.65	2.5	22.5
		256QAM	1	1	18.33	18.47	19.55	4.5	20.5
	CP-OFDM	QPSK	1	1	21.34	21.66	22.60	1.5	23.5
BW (MHz)	Modulation	Mode	RB Allocation	RB offset	Measured Pwr (dBm)			MPR	Tune-up Limit
					504204	518598	532998		
					2521.02 MHz	2592.99 MHz	2664.99 MHz		
50 MHz	DFT-s-OFDM	π/2 BPSK	1	1	23.04	23.16	23.70	0.0	25.0
			1	67	23.35	23.45	23.45	0.0	25.0
			1	131	23.08	23.43	22.53	0.0	25.0
			64	0	22.84	22.86	22.98	0.5	24.5
			64	35	23.43	23.63	23.79	0.0	25.0
			64	69	22.94	23.28	22.06	0.5	24.5
			128	0	22.91	23.10	23.44	0.5	24.5
		QPSK	1	1	23.01	23.16	23.95	0.0	25.0
			1	67	23.49	23.49	23.79	0.0	25.0
			1	131	23.06	24.00	23.08	0.0	25.0
			64	0	22.35	22.40	22.77	1.0	24.0
			64	35	23.53	23.66	23.38	0.0	25.0
			64	69	22.38	22.82	22.76	1.0	24.0
			128	0	21.89	22.62	22.84	1.0	24.0
		16QAM	1	1	21.57	22.33	22.84	1.0	24.0
		64QAM	1	1	20.54	20.68	21.54	2.5	22.5
		256QAM	1	1	18.49	18.54	19.55	4.5	20.5
	CP-OFDM	QPSK	1	1	21.56	21.83	22.20	1.5	23.5

BW (MHz)	Modulation	Mode	RB Allocation	RB offset	Measured Pwr (dBm)			MPR	Tune-up Limit
					503202	518598	534000		
					2516.01 MHz	2592.99 MHz	2670.00 MHz		
40 MHz	DFT-s-OFDM	π/2 BPSK	1	1	23.18	23.42	23.17	0.0	25.0
			1	53	23.22	23.60	22.71	0.0	25.0
			1	104	23.27	23.82	23.70	0.0	25.0
			50	0	22.77	23.01	23.12	0.5	24.5
			50	28	22.94	23.66	23.35	0.0	25.0
			50	56	22.68	22.93	22.68	0.5	24.5
			100	0	22.82	23.19	22.72	0.5	24.5
		QPSK	1	1	23.05	23.33	23.48	0.0	25.0
			1	53	23.18	23.56	22.99	0.0	25.0
			1	104	23.33	24.08	23.72	0.0	25.0
			50	0	22.34	22.53	22.87	1.0	24.0
			50	28	23.32	23.64	23.42	0.0	25.0
			50	56	22.33	22.94	22.94	1.0	24.0
			100	0	22.25	22.63	22.79	1.0	24.0
		16QAM	1	1	21.70	22.50	22.90	1.0	24.0
		64QAM	1	1	20.79	21.05	21.46	2.5	22.5
		256QAM	1	1	18.69	18.91	19.41	4.5	20.5
	CP-OFDM	QPSK	1	1	21.69	21.94	21.84	1.5	23.5
BW (MHz)	Modulation	Mode	RB Allocation	RB offset	Measured Pwr (dBm)			MPR	Tune-up Limit
					502200	518598	534996		
					2511.00 MHz	2592.99 MHz	2674.98 MHz		
30 MHz	DFT-s-OFDM	π/2 BPSK	1	1	23.20	23.49	23.66	0.0	25.0
			1	39	23.20	23.54	22.52	0.0	25.0
			1	76	23.38	23.87	22.52	0.0	25.0
			36	0	22.42	23.05	23.32	0.5	24.5
			36	21	23.27	23.63	23.58	0.0	25.0
			36	42	22.84	23.31	22.57	0.5	24.5
			75	0	22.74	23.18	23.02	0.5	24.5
		QPSK	1	1	23.12	23.47	24.07	0.0	25.0
			1	39	23.17	23.52	23.08	0.0	25.0
			1	76	22.73	23.84	23.40	0.0	25.0
			36	0	22.27	22.53	23.00	1.0	24.0
			36	21	23.27	23.71	23.55	0.0	25.0
			36	42	22.44	22.83	23.18	1.0	24.0
			75	0	22.29	22.70	22.95	1.0	24.0
		16QAM	1	1	22.06	22.58	23.00	1.0	24.0
		64QAM	1	1	20.72	20.99	21.50	2.5	22.5
		256QAM	1	1	18.77	19.00	19.54	4.5	20.5
	CP-OFDM	QPSK	1	1	21.69	22.00	22.36	1.5	23.5
BW (MHz)	Modulation	Mode	RB Allocation	RB offset	Measured Pwr (dBm)			MPR	Tune-up Limit
					501204	518598	535998		
					2506.02 MHz	2592.99 MHz	2679.99 MHz		
20 MHz	DFT-s-OFDM	π/2 BPSK	1	1	22.85	23.48	23.70	0.0	25.0
			1	26	22.76	23.11	23.29	0.0	25.0
			1	49	23.32	23.13	23.06	0.0	25.0
			25	0	22.79	23.23	23.57	0.5	24.5
			25	13	23.30	23.75	23.69	0.0	25.0
			25	26	22.80	23.27	23.61	0.5	24.5
			50	0	22.88	23.33	23.37	0.5	24.5
		QPSK	1	1	23.23	23.48	24.00	0.0	25.0
			1	26	22.89	22.63	23.00	0.0	25.0
			1	49	23.14	22.66	22.94	0.0	25.0
			25	0	22.29	22.78	23.10	1.0	24.0
			25	13	23.29	23.75	23.60	0.0	25.0
			25	26	22.31	22.78	23.13	1.0	24.0
			50	0	22.35	22.79	23.13	1.0	24.0
		16QAM	1	1	22.36	22.58	23.27	1.0	24.0
		64QAM	1	1	20.84	21.06	21.54	2.5	22.5
		256QAM	1	1	18.66	19.06	19.55	4.5	20.5
	CP-OFDM	QPSK	1	1	21.72	22.11	22.39	1.5	23.5

BW (MHz)	Modulation	Mode	RB Allocation	RB offset	Measured Pwr (dBm)			MPR	Tune-up Limit
					500700	518598	536496		
					2503.50 MHz	2592.99 MHz	2682.48 MHz		
15 MHz	DFT-s-OFDM	π/2 BPSK	1	1	23.19	23.61	23.84	0.0	25.0
			1	19	23.09	23.45	22.81	0.0	25.0
			1	36	23.24	23.69	23.22	0.0	25.0
			18	0	22.67	23.08	22.95	0.5	24.5
			18	10	23.21	23.56	23.84	0.0	25.0
			18	20	22.84	23.21	23.28	0.5	24.5
			36	0	22.71	23.09	22.51	0.5	24.5
		QPSK	1	1	23.16	23.56	23.20	0.0	25.0
			1	19	23.07	23.44	23.09	0.0	25.0
			1	36	23.30	23.71	22.70	0.0	25.0
			18	0	22.24	22.61	23.05	1.0	24.0
			18	10	23.18	23.58	23.55	0.0	25.0
			18	20	22.28	22.76	23.15	1.0	24.0
			36	0	22.21	22.61	22.93	1.0	24.0
		16QAM	1	1	22.24	22.70	23.00	1.0	24.0
		64QAM	1	1	20.80	21.23	21.60	2.5	22.5
		256QAM	1	1	18.67	19.08	19.49	4.5	20.5
	CP-OFDM	QPSK	1	1	21.69	22.11	22.37	1.5	23.5

BW (MHz)	Modulation	Mode	RB Allocation	RB offset	Measured Pwr (dBm)			MPR	Tune-up Limit
					500202	518598	537000		
					2501.01 MHz	2592.99 MHz	2685.00 MHz		
10 MHz	DFT-s-OFDM	π/2 BPSK	1	1	22.73	23.56	23.57	0.0	25.0
			1	12	22.78	23.66	23.48	0.0	25.0
			1	22	22.81	23.70	23.47	0.0	25.0
			12	0	22.27	23.07	23.49	0.5	24.5
			12	6	22.84	23.72	23.87	0.0	25.0
			12	12	22.37	23.21	23.41	0.5	24.5
			24	0	22.63	23.20	23.46	0.5	24.5
		QPSK	1	1	23.10	23.61	23.79	0.0	25.0
			1	12	23.14	23.76	23.77	0.0	25.0
			1	22	23.15	23.75	23.76	0.0	25.0
			12	0	22.13	22.55	22.96	1.0	24.0
			12	6	23.11	23.73	23.86	0.0	25.0
			12	12	22.20	22.71	23.03	1.0	24.0
			24	0	22.12	22.71	22.90	1.0	24.0
		16QAM	1	1	22.19	22.57	22.73	1.0	24.0
		64QAM	1	1	20.70	21.20	21.56	2.5	22.5
		256QAM	1	1	18.51	18.99	19.40	4.5	20.5
	CP-OFDM	QPSK	1	1	21.56	22.04	22.36	1.5	23.5

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BW (MHz)	Modulation	Mode	RB Allocation	RB offset	Maximum Average Power (dBm)			MPR	Tune-up Limit
					Measured Pwr (dBm)				
					509202	518598	528000		
					2546.01 MHz	2592.99 MHz	2640.00 MHz		
100 MHz	DFT-s-OFDM	π/2 BPSK	1	1	23.58	24.29	24.51	0.0	25.0
			1	137	24.07	24.03	24.05	0.0	25.0
			1	271	24.00	23.75	24.17	0.0	25.0
			135	0	23.47	23.87	23.88	0.5	24.5
			135	69	24.18	24.15	24.18	0.0	25.0
			135	138	23.62	23.45	23.55	0.5	24.5
			270	0	23.70	23.71	23.65	0.5	24.5
		QPSK	1	1	23.65	24.30	24.52	0.0	25.0
			1	137	24.04	24.04	24.16	0.0	25.0
			1	271	23.98	23.76	24.31	0.0	25.0
			135	0	23.01	23.32	23.31	1.0	24.0
			135	69	24.25	24.23	24.15	0.0	25.0
			135	138	23.18	22.99	23.02	1.0	24.0
			270	0	23.17	23.09	23.22	1.0	24.0
		16QAM	1	1	22.49	23.26	23.72	1.0	24.0
			1	137	22.99	22.94	23.32	1.0	24.0
			1	271	22.93	22.64	23.41	1.0	24.0
		64QAM	1	1	21.31	21.98	22.18	2.5	22.5
		256QAM	1	1	18.97	19.01	19.95	4.5	20.5
	CP-OFDM	QPSK	1	1	22.46	23.01	23.10	1.5	23.5
BW (MHz)	Modulation	Mode	RB Allocation	RB offset	Measured Pwr (dBm)			MPR	Tune-up Limit
					508200	518598	528996		
					2541.00 MHz	2592.99 MHz	2644.98 MHz		
90 MHz	DFT-s-OFDM	π/2 BPSK	1	1	23.50	24.32	24.33	0.0	25.0
			1	123	24.03	24.17	24.10	0.0	25.0
			1	243	24.11	23.85	23.88	0.0	25.0
			120	0	23.32	23.85	23.81	0.5	24.5
			120	63	24.15	24.22	24.32	0.0	25.0
			120	125	23.72	23.50	23.55	0.5	24.5
			243	0	23.46	23.73	23.70	0.5	24.5
		QPSK	1	1	23.46	24.41	24.24	0.0	25.0
			1	123	24.02	24.09	24.12	0.0	25.0
			1	243	24.12	23.97	24.02	0.0	25.0
			120	0	22.84	23.36	23.13	1.0	24.0
			120	63	24.15	24.23	24.33	0.0	25.0
			120	125	23.23	23.05	23.26	1.0	24.0
			243	0	22.96	23.20	23.11	1.0	24.0
		16QAM	1	1	22.46	23.32	23.10	1.0	24.0
		64QAM	1	1	21.25	22.02	21.94	2.5	22.5
		256QAM	1	1	18.54	19.66	19.32	4.5	20.5
	CP-OFDM	QPSK	1	1	21.06	23.02	22.84	1.5	23.5
BW (MHz)	Modulation	Mode	RB Allocation	RB offset	Measured Pwr (dBm)			MPR	Tune-up Limit
					507204	518598	529998		
					2536.02 MHz	2592.99 MHz	2649.99 MHz		
80 MHz	DFT-s-OFDM	π/2 BPSK	1	1	23.41	24.31	24.37	0.0	25.0
			1	109	24.05	24.12	23.97	0.0	25.0
			1	215	24.13	23.70	24.00	0.0	25.0
			108	0	23.30	23.88	23.76	0.5	24.5
			108	55	24.08	24.22	24.07	0.0	25.0
			108	109	23.67	23.58	23.59	0.5	24.5
			216	0	23.51	23.78	23.69	0.5	24.5
		QPSK	1	1	23.38	24.38	24.29	0.0	25.0
			1	109	24.02	24.15	23.91	0.0	25.0
			1	215	24.11	23.77	24.00	0.0	25.0
			108	0	22.96	23.43	23.20	1.0	24.0
			108	55	24.14	24.28	23.30	0.0	25.0
			108	109	23.23	23.01	23.04	1.0	24.0
			216	0	23.03	23.22	23.15	1.0	24.0
		16QAM	1	1	22.25	23.24	23.30	1.0	24.0
		64QAM	1	1	20.96	22.17	21.89	2.5	22.5
		256QAM	1	1	18.55	20.04	19.66	4.5	20.5
	CP-OFDM	QPSK	1	1	21.97	23.00	22.92	1.5	23.5

BW (MHz)	Modulation	Mode	RB Allocation	RB offset	Measured Pwr (dBm)			MPR	Tune-up Limit
					506202	518598	531996		
					2531.01 MHz	2592.99 MHz	2655.00 MHz		
70 MHz	DFT-s-OFDM	π/2 BPSK	1	1	23.33	24.82	24.13	0.0	25.0
			1	95	23.94	24.46	23.99	0.0	25.0
			1	188	24.12	23.51	23.38	0.0	25.0
			90	0	23.25	24.35	23.67	0.5	24.5
			90	50	24.12	24.63	24.05	0.0	25.0
			90	99	23.57	23.91	23.50	0.5	24.5
			180	0	23.38	24.15	23.60	0.5	24.5
		QPSK	1	1	23.32	24.84	24.10	0.0	25.0
			1	95	23.90	24.48	23.94	0.0	25.0
			1	188	23.04	22.96	23.41	0.0	25.0
			90	0	22.81	23.78	23.62	1.0	24.0
			90	50	24.03	24.60	24.10	0.0	25.0
			90	99	23.12	23.35	23.54	1.0	24.0
			180	0	22.84	23.69	23.57	1.0	24.0
		16QAM	1	1	22.51	23.72	22.92	1.0	24.0
		64QAM	1	1	20.78	22.42	21.68	2.5	22.5
		256QAM	1	1	18.51	20.02	19.37	4.5	20.5
	CP-OFDM	QPSK	1	1	21.84	23.32	22.74	1.5	23.5
BW (MHz)	Modulation	Mode	RB Allocation	RB offset	Measured Pwr (dBm)			MPR	Tune-up Limit
					505200	518598	531996		
					2526.00 MHz	2592.99 MHz	2659.98 MHz		
60 MHz	DFT-s-OFDM	π/2 BPSK	1	1	23.52	24.77	24.15	0.0	25.0
			1	81	24.15	24.55	23.95	0.0	25.0
			1	160	24.13	24.25	24.02	0.0	25.0
			81	0	23.26	24.37	23.59	0.5	24.5
			81	41	24.20	24.65	24.19	0.0	25.0
			81	81	23.73	24.01	23.61	0.5	24.5
			162	0	23.56	24.13	23.61	0.5	24.5
		QPSK	1	1	23.49	24.92	24.21	0.0	25.0
			1	81	24.04	24.66	24.02	0.0	25.0
			1	160	24.18	24.32	23.02	0.0	25.0
			81	0	22.80	23.77	23.10	1.0	24.0
			81	41	24.11	23.70	24.04	0.0	25.0
			81	81	23.17	23.54	23.07	1.0	24.0
			162	0	23.07	23.67	23.10	1.0	24.0
		16QAM	1	1	22.50	23.71	23.23	1.0	24.0
		64QAM	1	1	21.06	22.50	21.85	2.5	22.5
		256QAM	1	1	19.01	20.12	19.37	4.5	20.5
	CP-OFDM	QPSK	1	1	22.02	23.36	23.12	1.5	23.5
BW (MHz)	Modulation	Mode	RB Allocation	RB offset	Measured Pwr (dBm)			MPR	Tune-up Limit
					504204	518598	532998		
					2521.02 MHz	2592.99 MHz	2664.99 MHz		
50 MHz	DFT-s-OFDM	π/2 BPSK	1	1	23.53	24.93	24.28	0.0	25.0
			1	67	24.04	24.65	24.11	0.0	25.0
			1	131	24.23	24.60	24.25	0.0	25.0
			64	0	23.23	24.23	23.73	0.5	24.5
			64	35	24.07	24.65	24.11	0.0	25.0
			64	69	23.79	23.94	23.66	0.5	24.5
			128	0	23.51	24.15	23.75	0.5	24.5
		QPSK	1	1	23.55	24.77	24.22	0.0	25.0
			1	67	23.97	24.51	24.02	0.0	25.0
			1	131	24.23	24.37	24.23	0.0	25.0
			64	0	22.73	23.69	23.23	1.0	24.0
			64	35	24.05	24.61	24.12	0.0	25.0
			64	69	23.23	23.50	23.14	1.0	24.0
			128	0	23.02	23.64	23.22	1.0	24.0
		16QAM	1	1	22.65	23.77	23.25	1.0	24.0
		64QAM	1	1	21.13	21.84	21.50	2.5	22.5
		256QAM	1	1	18.98	20.22	19.64	4.5	20.5
	CP-OFDM	QPSK	1	1	22.60	23.48	22.86	1.5	23.5

BW (MHz)	Modulation	Mode	RB Allocation	RB offset	Measured Pwr (dBm)			MPR	Tune-up Limit
					503202	518598	534000		
					2516.01 MHz	2592.99 MHz	2670.00 MHz		
40 MHz	DFT-s-OFDM	π/2 BPSK	1	1	23.82	24.95	24.39	0.0	25.0
			1	53	23.94	24.66	24.08	0.0	25.0
			1	104	24.47	24.57	24.22	0.0	25.0
			50	0	23.32	24.47	23.76	0.5	24.5
			50	28	24.01	24.79	24.24	0.0	25.0
			50	56	23.90	24.30	23.84	0.5	24.5
			100	0	23.71	24.35	23.80	0.5	24.5
		QPSK	1	1	23.74	24.97	24.31	0.0	25.0
			1	53	23.92	24.70	24.05	0.0	25.0
			1	104	24.38	24.64	24.25	0.0	25.0
			50	0	22.86	23.97	23.30	1.0	24.0
			50	28	24.10	24.80	24.22	0.0	25.0
			50	56	23.30	23.79	23.34	1.0	24.0
			100	0	23.17	23.83	23.27	1.0	24.0
		16QAM	1	1	23.03	23.87	23.16	1.0	24.0
		64QAM	1	1	21.50	22.11	21.56	2.5	22.5
		256QAM	1	1	19.12	20.36	19.54	4.5	20.5
	CP-OFDM	QPSK	1	1	22.50	23.29	22.75	1.5	23.5
BW (MHz)	Modulation	Mode	RB Allocation	RB offset	Measured Pwr (dBm)			MPR	Tune-up Limit
					502200	518598	534996		
					2511.00 MHz	2592.99 MHz	2674.98 MHz		
30 MHz	DFT-s-OFDM	π/2 BPSK	1	1	23.74	24.21	24.18	0.0	25.0
			1	39	23.28	24.28	23.67	0.0	25.0
			1	76	23.51	24.15	23.81	0.0	25.0
			36	0	23.59	24.15	23.75	0.5	24.5
			36	21	23.97	24.67	24.21	0.0	25.0
			36	42	23.60	24.17	23.74	0.5	24.5
			75	0	23.78	24.14	23.90	0.5	24.5
		QPSK	1	1	23.76	24.87	24.08	0.0	25.0
			1	39	22.82	23.77	23.14	0.0	25.0
			1	76	22.99	23.70	23.28	0.0	25.0
			36	0	22.78	23.71	23.16	1.0	24.0
			36	21	23.92	24.63	24.24	0.0	25.0
			36	42	23.03	23.63	23.30	1.0	24.0
			75	0	23.20	23.64	23.27	1.0	24.0
		16QAM	1	1	22.67	23.78	23.06	1.0	24.0
		64QAM	1	1	21.38	22.08	21.73	2.5	22.5
		256QAM	1	1	19.56	19.23	19.56	4.5	20.5
	CP-OFDM	QPSK	1	1	22.23	23.23	22.64	1.5	23.5
BW (MHz)	Modulation	Mode	RB Allocation	RB offset	Measured Pwr (dBm)			MPR	Tune-up Limit
					501204	518598	535998		
					2506.02 MHz	2592.99 MHz	2679.99 MHz		
20 MHz	DFT-s-OFDM	π/2 BPSK	1	1	23.78	24.61	24.05	0.0	25.0
			1	26	23.71	24.50	24.00	0.0	25.0
			1	49	24.04	24.48	24.08	0.0	25.0
			25	0	23.24	24.24	23.67	0.5	24.5
			25	13	23.78	24.58	24.21	0.0	25.0
			25	26	23.36	24.02	23.63	0.5	24.5
			50	0	23.29	24.04	23.64	0.5	24.5
		QPSK	1	1	23.72	24.68	23.99	0.0	25.0
			1	26	23.65	24.67	24.00	0.0	25.0
			1	49	24.04	24.49	24.08	0.0	25.0
			25	0	22.73	23.66	23.12	1.0	24.0
			25	13	23.77	24.54	24.12	0.0	25.0
			25	26	22.86	23.53	23.14	1.0	24.0
			50	0	22.81	23.55	23.15	1.0	24.0
		16QAM	1	1	22.80	23.52	23.26	1.0	24.0
		64QAM	1	1	21.44	22.31	21.62	2.5	22.5
		256QAM	1	1	19.78	20.09	19.27	4.5	20.5
	CP-OFDM	QPSK	1	1	22.26	22.40	22.62	1.5	23.5

BW (MHz)	Modulation	Mode	RB Allocation	RB offset	Measured Pwr (dBm)			MPR	Tune-up Limit
					500700	518598	536496		
					2503.50 MHz	2592.99 MHz	2682.48 MHz		
15 MHz	DFT-s-OFDM	π/2 BPSK	1	1	23.64	24.60	24.12	0.0	25.0
			1	19	23.53	24.66	24.15	0.0	25.0
			1	36	23.66	24.60	24.04	0.0	25.0
			18	0	23.20	24.16	24.00	0.5	24.5
			18	10	23.50	24.68	24.23	0.0	25.0
			18	20	23.05	24.05	23.41	0.5	24.5
			36	0	23.32	24.13	24.20	0.5	24.5
		QPSK	1	1	23.50	24.65	24.32	0.0	25.0
			1	19	23.66	24.60	24.54	0.0	25.0
			1	36	23.74	24.58	24.32	0.0	25.0
			18	0	22.62	23.66	23.64	1.0	24.0
			18	10	23.50	24.59	24.66	0.0	25.0
			18	20	22.42	23.41	23.50	1.0	24.0
			36	0	22.69	23.67	23.49	1.0	24.0
		16QAM	1	1	22.64	23.84	22.94	1.0	24.0
		64QAM	1	1	21.32	22.50	21.98	2.5	22.5
		256QAM	1	1	18.96	20.23	19.26	4.5	20.5
	CP-OFDM	QPSK	1	1	22.39	23.10	22.74	1.5	23.5

BW (MHz)	Modulation	Mode	RB Allocation	RB offset	Measured Pwr (dBm)			MPR	Tune-up Limit
					500202	518598	537000		
					2501.01 MHz	2592.99 MHz	2685.00 MHz		
10 MHz	DFT-s-OFDM	π/2 BPSK	1	1	23.56	24.66	24.00	0.0	25.0
			1	12	23.48	24.65	24.13	0.0	25.0
			1	22	23.60	24.55	24.06	0.0	25.0
			12	0	23.10	24.20	23.45	0.5	24.5
			12	6	23.62	24.72	24.16	0.0	25.0
			12	12	23.15	24.10	23.63	0.5	24.5
			24	0	23.20	24.12	23.75	0.5	24.5
		QPSK	1	1	23.46	24.65	24.14	0.0	25.0
			1	12	23.50	24.57	24.05	0.0	25.0
			1	22	23.62	24.54	23.98	0.0	25.0
			12	0	22.56	23.61	23.06	1.0	24.0
			12	6	23.61	24.70	24.26	0.0	25.0
			12	12	22.70	23.55	23.13	1.0	24.0
			24	0	22.54	23.71	23.34	1.0	24.0
		16QAM	1	1	22.50	23.77	23.30	1.0	24.0
		64QAM	1	1	20.90	22.11	21.74	2.5	22.5
		256QAM	1	1	18.75	19.85	19.56	4.5	20.5
	CP-OFDM	QPSK	1	1	22.00	23.07	22.63	1.5	23.5

NR Band n66 (ANT B)

BW (MHz)	Modulation	Mode	RB Allocation	RB offset	Pmax Average Power (dBm)			MPR	Tune-up Limit
					Measured Pwr (dBm)				
					346000	349000	352000		
					1730.00 MHz	1745.00 MHz	1760.00 MHz		
40 MHz	DFT-s-OFDM	π/2 BPSK	1	1	22.51	22.96	23.59	0.0	25.0
			1	108	22.83	23.52	23.54	0.0	25.0
			1	214	23.17	23.37	23.29	0.0	25.0
			108	0	23.12	23.23	23.46	0.5	24.5
			108	54	23.79	23.83	24.04	0.0	25.0
			108	108	23.23	23.22	23.44	0.5	24.5
			216	0	23.34	23.33	23.23	0.5	24.5
		QPSK	1	1	23.03	23.08	23.73	0.0	25.0
			1	108	23.56	23.54	23.64	0.0	25.0
			1	214	23.92	23.40	23.16	0.0	25.0
			108	0	22.93	23.06	23.11	1.0	24.0
			108	54	23.92	23.94	24.04	0.0	25.0
			108	108	22.95	23.91	23.11	1.0	24.0
			216	0	22.85	22.82	22.93	1.0	24.0
		16QAM	1	1	21.85	22.90	22.76	1.0	24.0
			1	108	22.47	23.14	22.99	1.0	24.0
			1	214	22.82	23.02	22.76	1.0	24.0
		64QAM	1	1	20.67	21.26	21.62	2.5	22.5
		256QAM	1	1	18.70	19.09	19.08	4.5	20.5
	CP-OFDM	QPSK	1	1	21.01	21.89	22.33	1.5	23.5
BW (MHz)	Modulation	Mode	RB Allocation	RB offset	Measured Pwr (dBm)			MPR	Tune-up Limit
					345000	349000	353000		
					1725.00 MHz	1745.00 MHz	1765.00 MHz		
30 MHz	DFT-s-OFDM	π/2 BPSK	1	1	23.23	23.62	23.86	0.0	25.0
			1	80	23.76	23.83	23.85	0.0	25.0
			1	158	23.89	23.71	23.48	0.0	25.0
			80	0	23.10	23.04	23.03	0.5	24.5
			80	40	23.62	23.95	23.78	0.0	25.0
			80	80	23.26	23.49	23.14	0.5	24.5
			160	0	22.92	23.49	22.41	0.5	24.5
		QPSK	1	1	23.42	23.60	23.81	0.0	25.0
			1	80	23.65	23.81	23.86	0.0	25.0
			1	158	23.60	23.74	23.70	0.0	25.0
			80	0	23.10	23.04	23.74	1.0	24.0
			80	40	23.23	23.73	23.82	0.0	25.0
			80	80	23.00	23.15	22.90	1.0	24.0
			160	0	22.91	23.10	22.81	1.0	24.0
		16QAM	1	1	22.24	22.83	22.74	1.0	24.0
		64QAM	1	1	21.15	21.77	21.77	2.5	22.5
		256QAM	1	1	19.34	19.82	19.68	4.5	20.5
	CP-OFDM	QPSK	1	1	21.88	22.34	22.12	1.5	23.5
BW (MHz)	Modulation	Mode	RB Allocation	RB offset	Measured Pwr (dBm)			MPR	Tune-up Limit
					344500	349000	353500		
					1722.50 MHz	1745.00 MHz	1767.50 MHz		
25 MHz	DFT-s-OFDM	π/2 BPSK	1	1	23.13	23.46	23.38	0.0	25.0
			1	67	23.24	23.52	23.45	0.0	25.0
			1	131	23.12	23.48	23.33	0.0	25.0
			64	0	23.21	23.16	23.12	0.5	24.5
			64	35	23.35	23.85	23.74	0.0	25.0
			64	69	23.26	23.51	23.36	0.5	24.5
			128	0	23.14	23.49	23.19	0.5	24.5
		QPSK	1	1	23.65	23.78	23.90	0.0	25.0
			1	67	23.66	23.88	23.74	0.0	25.0
			1	131	23.42	23.74	23.56	0.0	25.0
			64	0	22.98	22.57	22.42	1.0	24.0
			64	35	23.52	23.77	23.65	0.0	25.0
			64	69	23.01	23.10	23.11	1.0	24.0
			128	0	22.84	23.12	23.01	1.0	24.0
		16QAM	1	1	22.74	22.95	23.33	1.0	24.0
		64QAM	1	1	21.16	21.61	21.41	2.5	22.5
		256QAM	1	1	20.23	19.89	20.23	4.5	20.5
	CP-OFDM	QPSK	1	1	22.28	22.41	22.45	1.5	23.5

BW (MHz)	Modulation	Mode	RB Allocation	RB offset	Measured Pwr (dBm)			MPR	Tune-up Limit
					344000	349000	354000		
					1720.00 MHz	1745.00 MHz	1770.00 MHz		
20 MHz	DFT-s-OFDM	π/2 BPSK	1	1	23.28	23.12	23.17	0.0	25.0
			1	53	23.99	23.45	23.85	0.0	25.0
			1	104	23.58	22.98	23.54	0.0	25.0
			50	0	23.01	22.73	23.02	0.5	24.5
			50	28	23.75	23.52	23.72	0.0	25.0
			50	56	23.37	23.30	22.98	0.5	24.5
			100	0	23.26	23.28	22.89	0.5	24.5
		QPSK	1	1	23.32	23.31	23.09	0.0	25.0
			1	53	23.45	23.65	23.50	0.0	25.0
			1	104	23.28	22.95	23.21	0.0	25.0
			50	0	22.82	22.77	22.78	1.0	24.0
			50	28	23.69	23.47	23.59	0.0	25.0
			50	56	22.62	22.78	22.94	1.0	24.0
			100	0	22.81	22.72	22.91	1.0	24.0
		16QAM	1	1	22.38	22.99	22.58	1.0	24.0
			1	53	22.36	23.08	22.99	1.0	24.0
			1	104	22.41	22.90	22.89	1.0	24.0
		64QAM	1	1	21.17	21.75	21.89	2.5	22.5
		256QAM	1	1	19.09	19.61	19.67	4.5	20.5
	CP-OFDM	QPSK	1	1	22.08	22.10	22.12	1.5	23.5

BW (MHz)	Modulation	Mode	RB Allocation	RB offset	Measured Pwr (dBm)			MPR	Tune-up Limit
					343500	349000	354500		
					1717.50 MHz	1745.00 MHz	1772.50 MHz		
15 MHz	DFT-s-OFDM	π/2 BPSK	1	1	23.53	23.35	23.56	0.0	25.0
			1	40	23.66	23.17	23.64	0.0	25.0
			1	77	23.25	23.56	23.66	0.0	25.0
			36	0	22.66	22.74	23.01	0.5	24.5
			36	22	23.43	23.54	23.72	0.0	25.0
			36	43	22.68	23.21	22.98	0.5	24.5
			75	0	22.74	23.50	22.96	0.5	24.5
		QPSK	1	1	23.54	23.27	23.49	0.0	25.0
			1	40	23.58	23.36	23.55	0.0	25.0
			1	77	23.62	22.98	23.62	0.0	25.0
			36	0	22.78	22.77	22.99	1.0	24.0
			36	22	23.65	23.47	23.75	0.0	25.0
			36	43	22.96	23.06	23.11	1.0	24.0
			75	0	22.84	22.53	23.01	1.0	24.0
		16QAM	1	1	22.54	22.75	23.12	1.0	24.0
		64QAM	1	1	21.20	21.62	21.62	2.5	22.5
		256QAM	1	1	19.56	19.56	19.62	4.5	20.5
	CP-OFDM	QPSK	1	1	22.28	22.25	22.31	1.5	23.5

BW (MHz)	Modulation	Mode	RB Allocation	RB offset	Measured Pwr (dBm)			MPR	Tune-up Limit
					343000	349000	355000		
					1715.00 MHz	1745.00 MHz	1775.00 MHz		
10 MHz	DFT-s-OFDM	π/2 BPSK	1	1	23.34	23.40	23.31	0.0	25.0
			1	26	23.34	23.34	23.34	0.0	25.0
			1	50	23.12	23.41	23.51	0.0	25.0
			25	0	22.74	23.11	23.07	0.5	24.5
			25	14	23.35	23.49	23.64	0.0	25.0
			25	27	23.01	23.10	22.82	0.5	24.5
			50	0	22.89	22.89	22.91	0.5	24.5
		QPSK	1	1	23.03	23.16	23.66	0.0	25.0
			1	26	23.12	23.32	23.37	0.0	25.0
			1	50	23.09	23.38	23.56	0.0	25.0
			25	0	22.80	22.82	22.98	1.0	24.0
			25	14	23.49	23.48	23.75	0.0	25.0
			25	27	22.85	22.90	22.89	1.0	24.0
			50	0	22.84	22.73	22.91	1.0	24.0
		16QAM	1	1	22.70	22.57	22.83	1.0	24.0
		64QAM	1	1	21.46	21.73	21.54	2.5	22.5
		256QAM	1	1	19.54	19.65	19.48	4.5	20.5
	CP-OFDM	QPSK	1	1	22.25	22.34	22.27	1.5	23.5

BW (MHz)	Modulation	Mode	RB Allocation	RB offset	Measured Pwr (dBm)			MPR	Tune-up Limit
					342500	349000	355500		
					1712.50 MHz	1745.00 MHz	1777.50 MHz		
5 MHz	DFT-s-OFDM	π/2 BPSK	1	1	23.14	23.54	23.45	0.0	25.0
			1	13	23.21	23.53	23.25	0.0	25.0
			1	23	23.12	23.43	23.21	0.0	25.0
			12	0	22.47	23.02	22.47	0.5	24.5
			12	7	23.23	23.56	23.47	0.0	25.0
			12	13	22.56	23.01	23.49	0.5	24.5
			25	0	22.61	22.92	22.93	0.5	24.5
		QPSK	1	1	22.97	23.44	23.64	0.0	25.0
			1	13	23.18	23.36	23.50	0.0	25.0
			1	23	23.17	23.40	23.50	0.0	25.0
			12	0	22.51	22.73	22.94	1.0	24.0
			12	7	23.35	23.75	23.77	0.0	25.0
			12	13	22.67	22.95	22.89	1.0	24.0
			25	0	22.71	22.79	22.89	1.0	24.0
		16QAM	1	1	22.49	23.02	22.91	1.0	24.0
		64QAM	1	1	21.53	21.45	21.57	2.5	22.5
		256QAM	1	1	19.48	19.56	19.64	4.5	20.5
	CP-OFDM	QPSK	1	1	22.24	22.34	22.35	1.5	23.5

8.2. PEAK TO AVERAGE RATIO

Test Procedure

Per KDB 971168 D01 Power Meas License Digital Systems v03r01;

The transmitter output was connected to either CMW500 Test Set or E7515B Test set and configured to operate at maximum power.The PAR were measured on the Spectrum Analyzer.

Test Spec

In addition, when the transmitter power is measured in terms of average value, the peak-to-average ratio of the power shall not exceed 13 dB.

NOTE

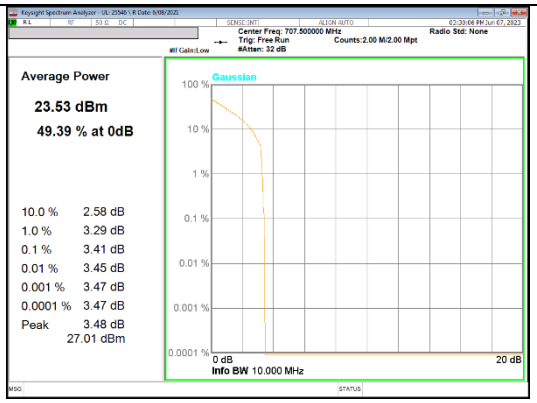
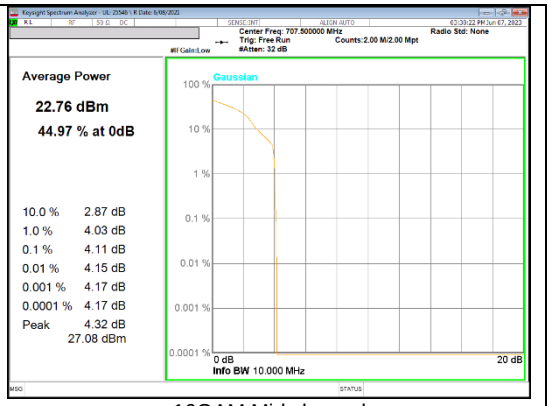
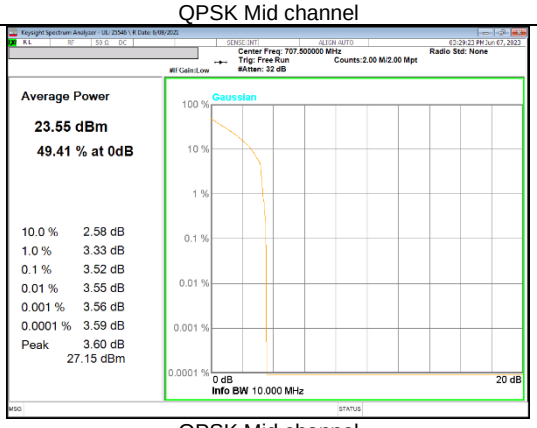
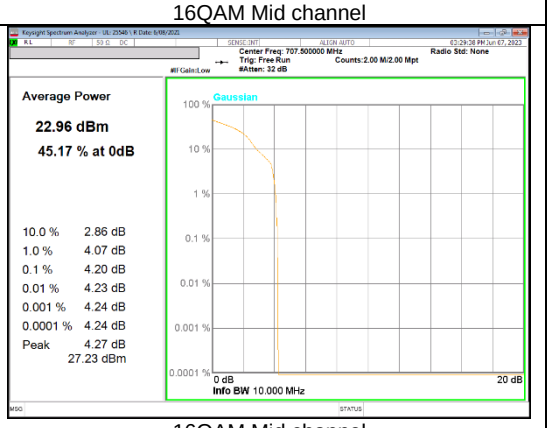
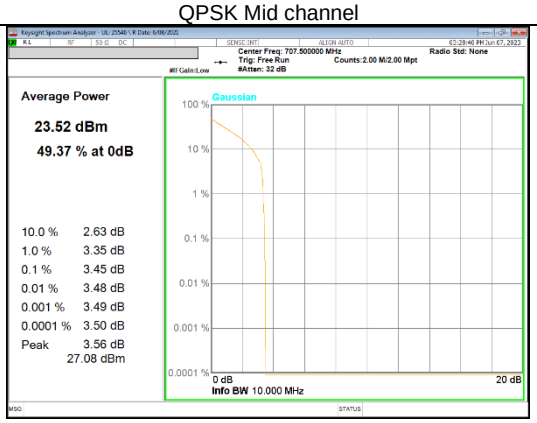
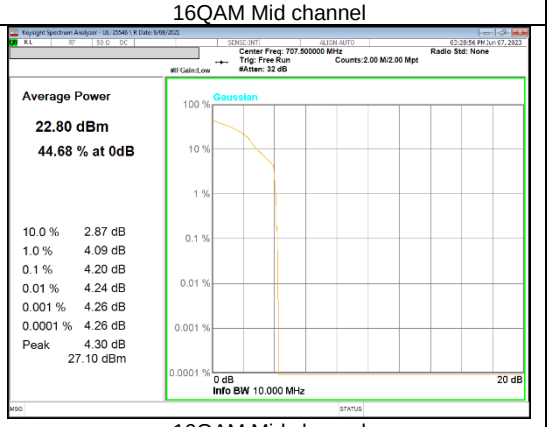
5G NR: All Waveforms (CP-OFDM vs DFT-s_OFDM) and modulations (π/2 BPSK, QPSK, 16QAM, 64QAM, 256QAM) were investigated to determine the worst case configuration. All Modes of operation were investigated and the worst case configuration results are reported in this section.

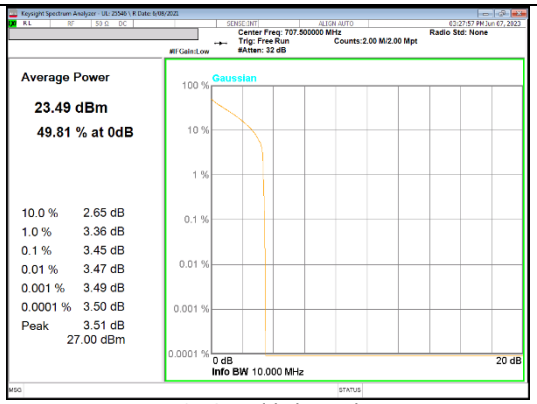
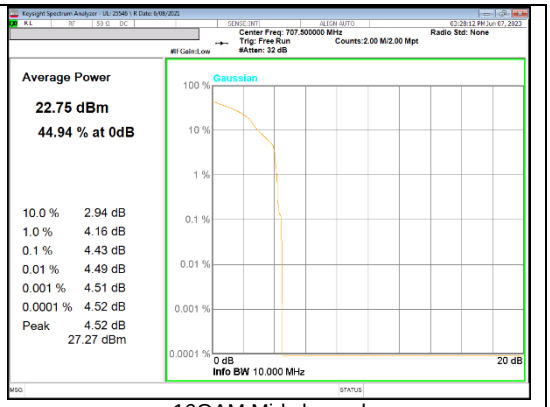
RESULTS

See the following pages.

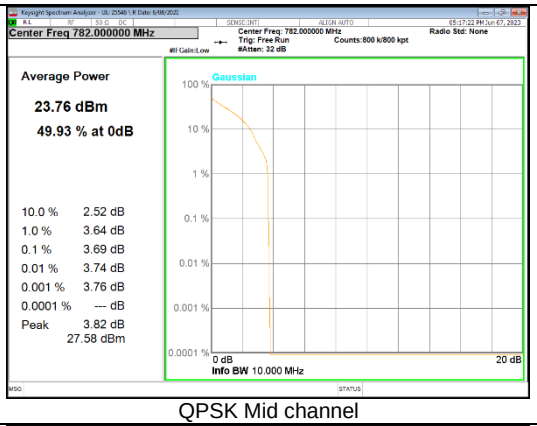
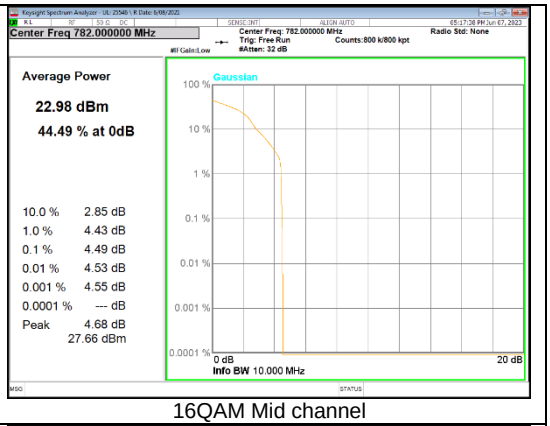
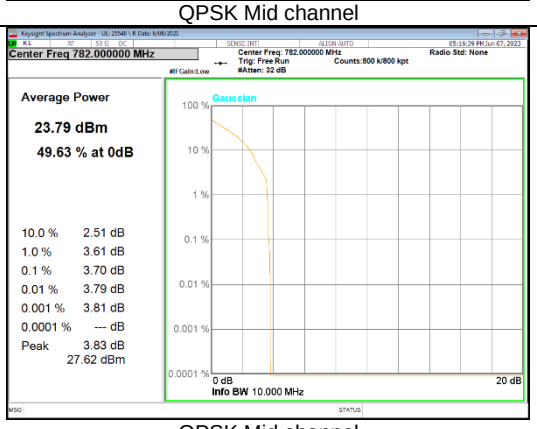
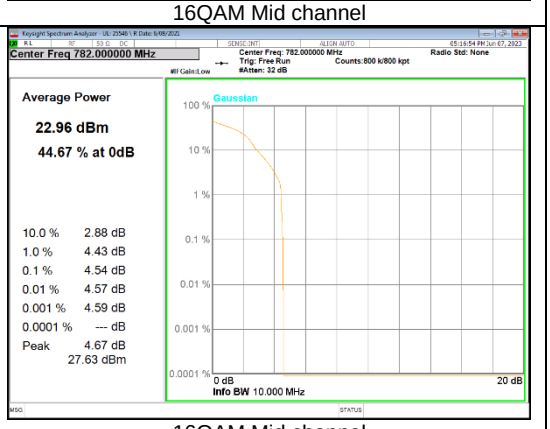
8.2.1. CONDUCTED PEAK TO AVERAGE RESULT

LTE Band 12

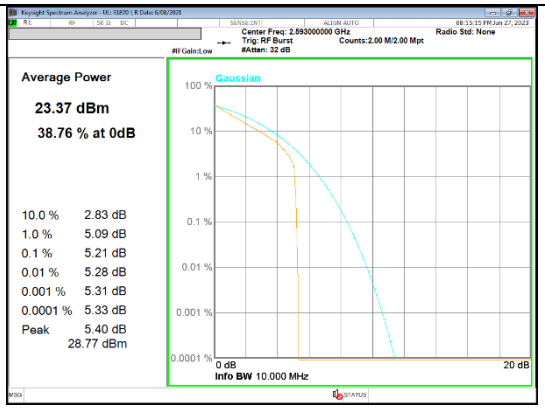
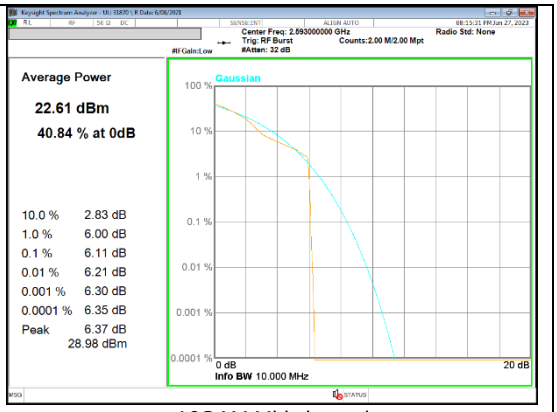
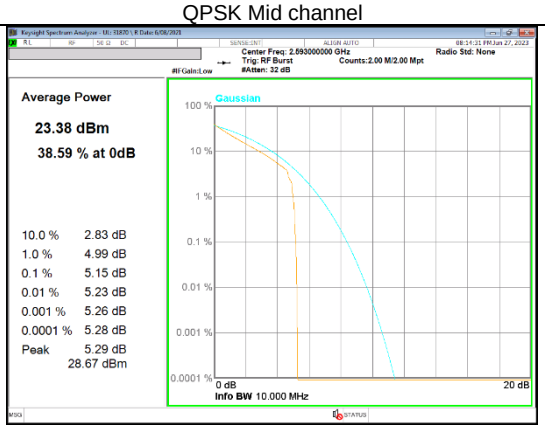
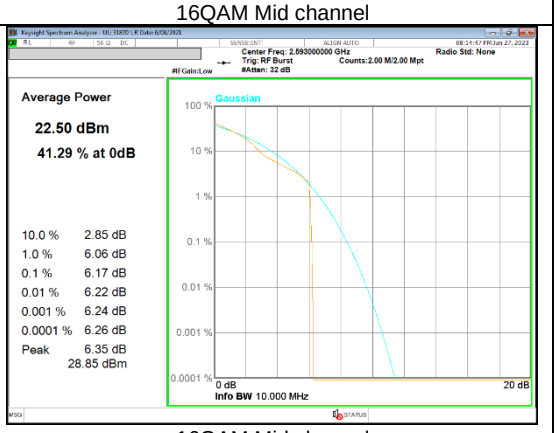
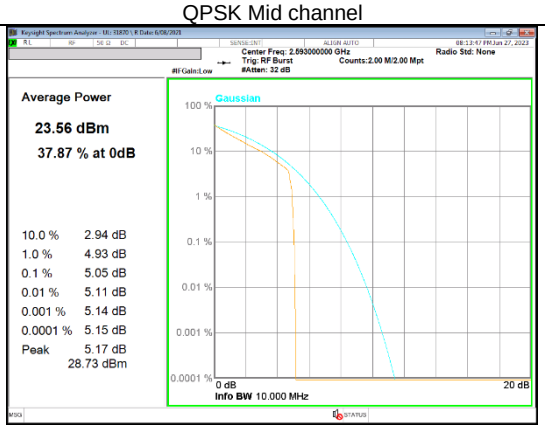
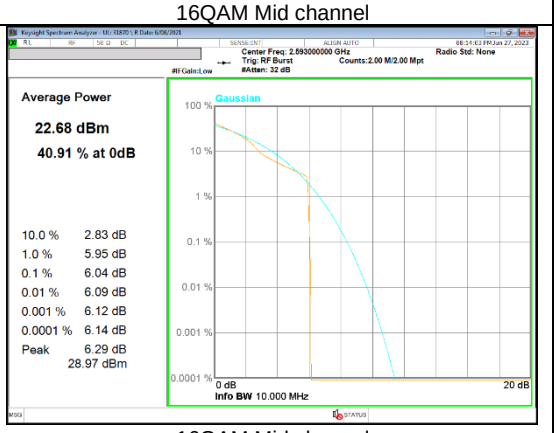
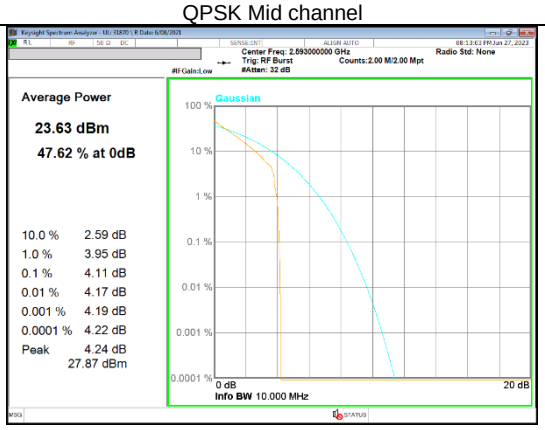
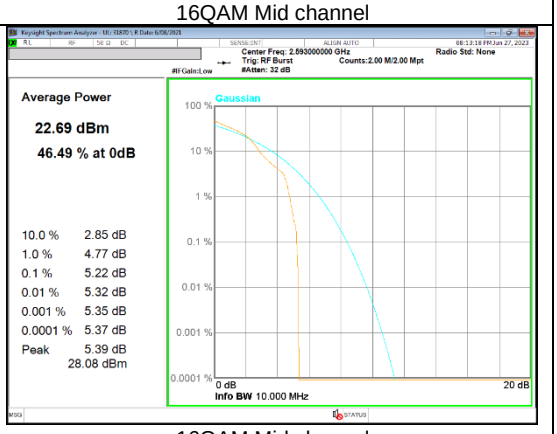
10 MHz	 QPSK Mid channel	 16QAM Mid channel
5 MHz	 QPSK Mid channel	 16QAM Mid channel
3 MHz	 QPSK Mid channel	 16QAM Mid channel

1.4 MHz	 QPSK Mid channel	 16QAM Mid channel

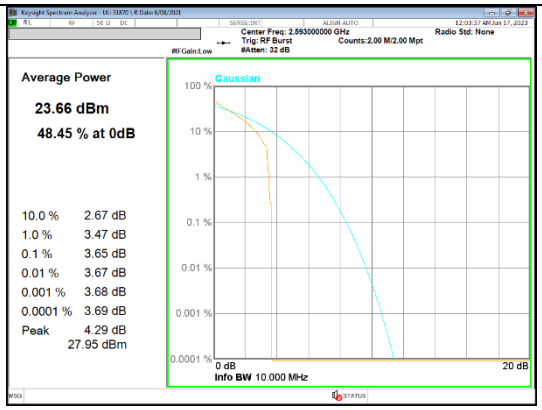
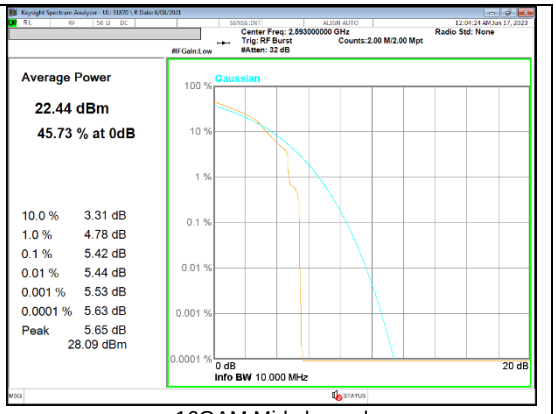
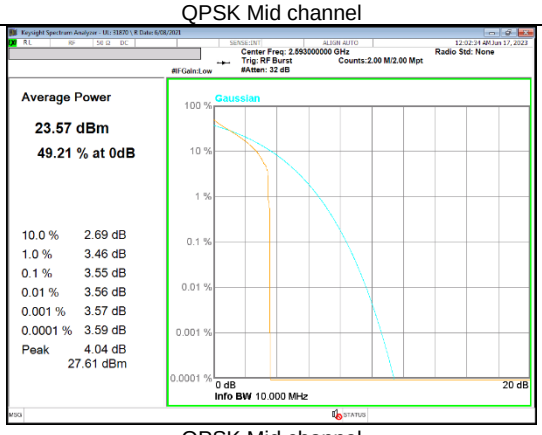
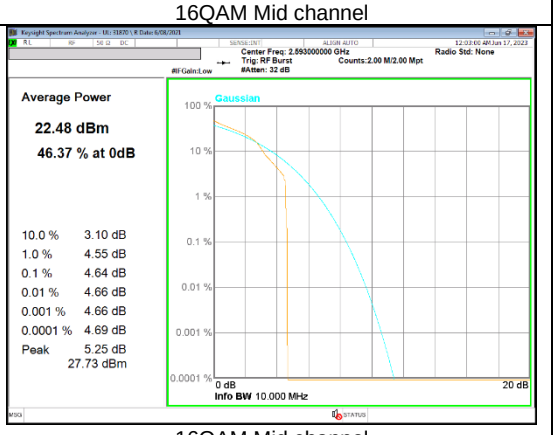
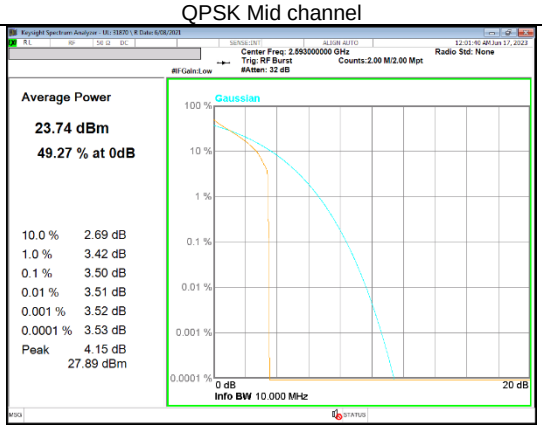
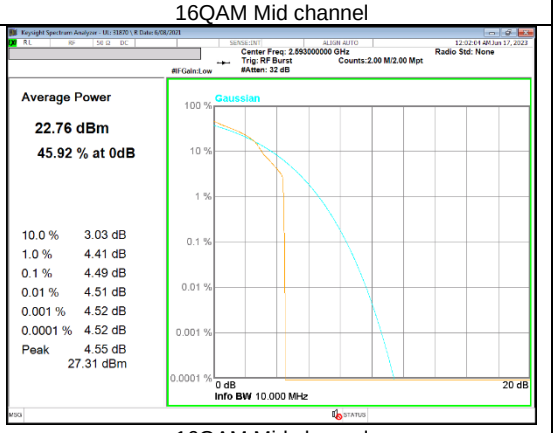
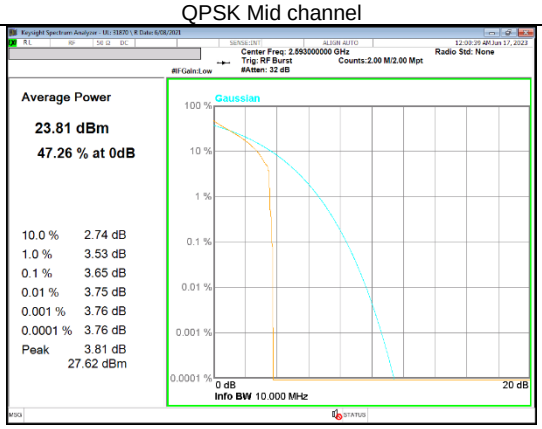
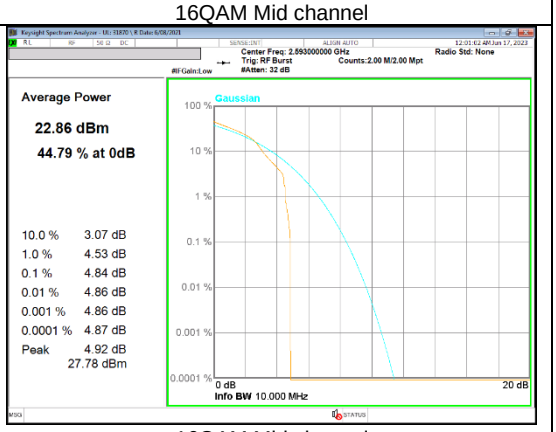
LTE Band 13

10 MHz	 QPSK Mid channel	 16QAM Mid channel
5 MHz	 QPSK Mid channel	 16QAM Mid channel

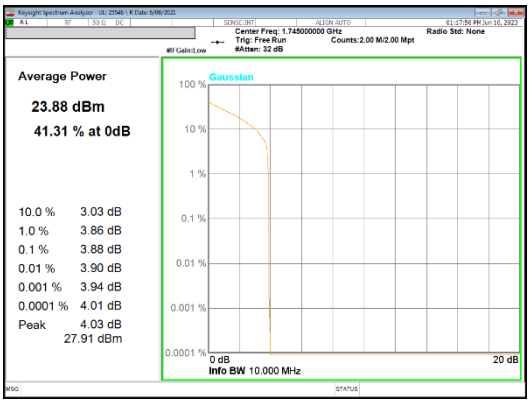
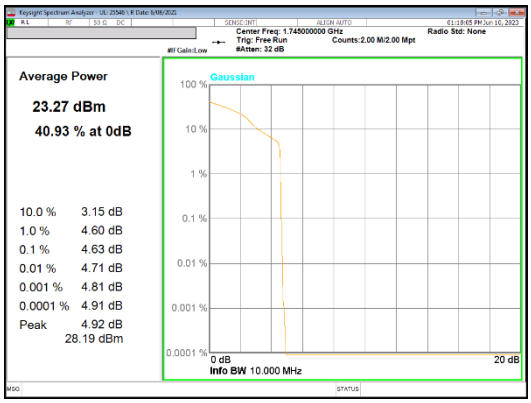
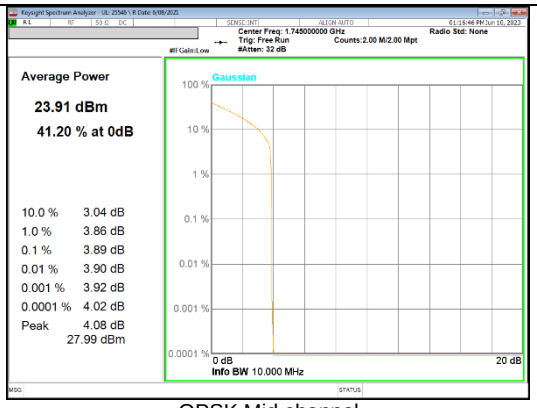
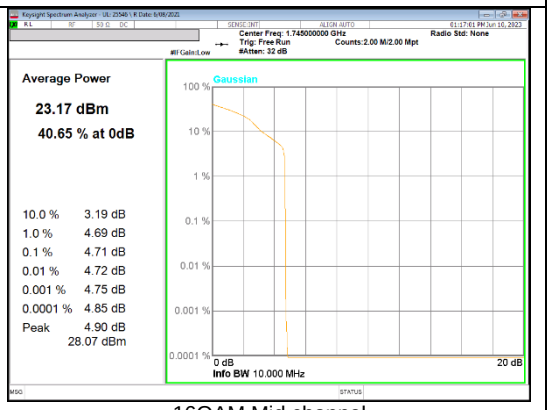
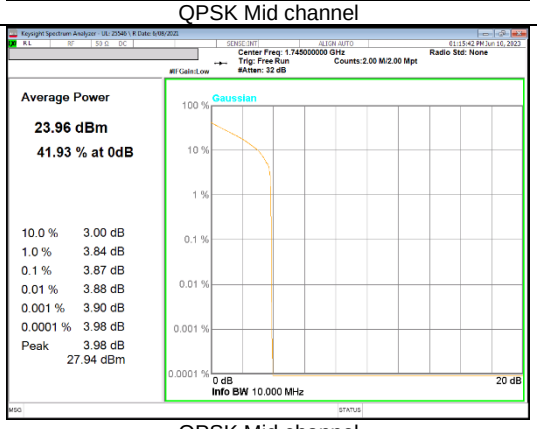
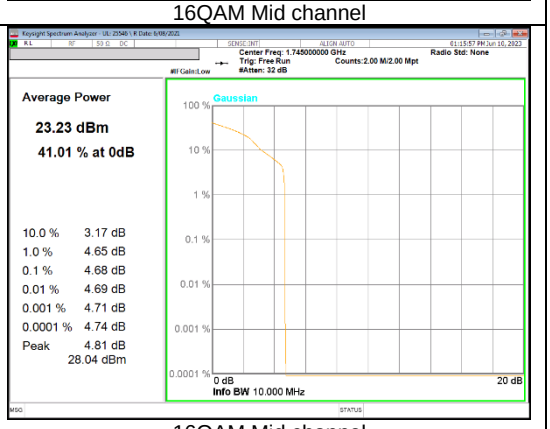
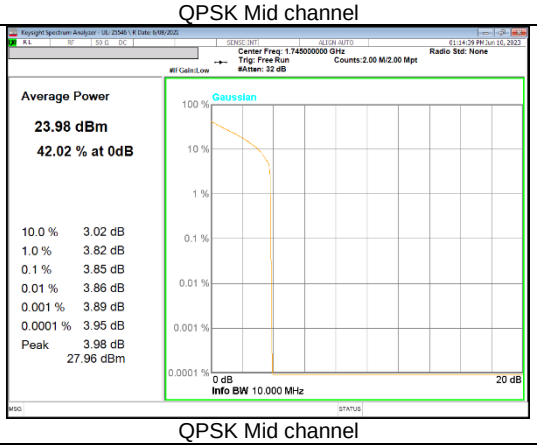
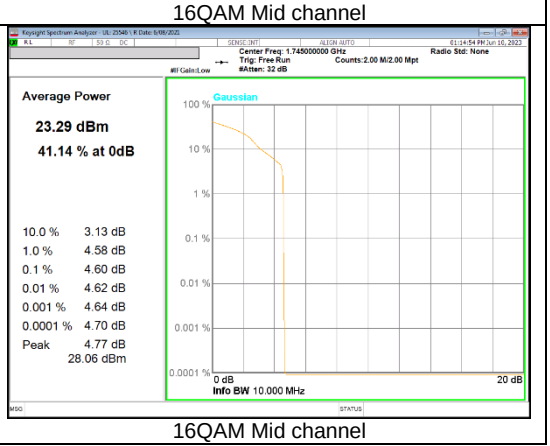
LTE Band 41 (ANT B)

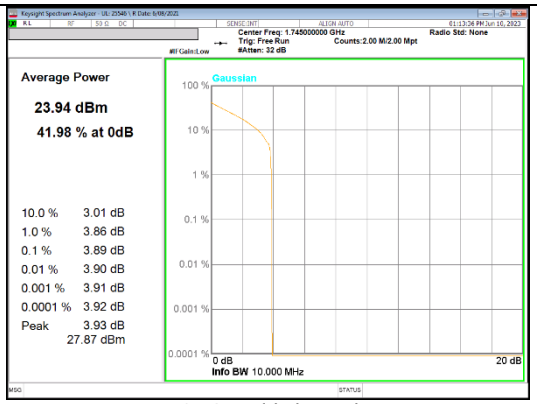
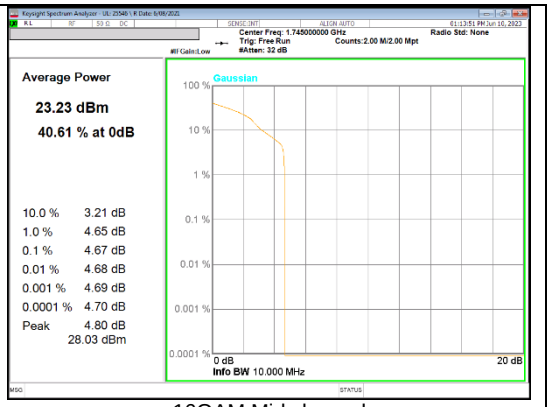
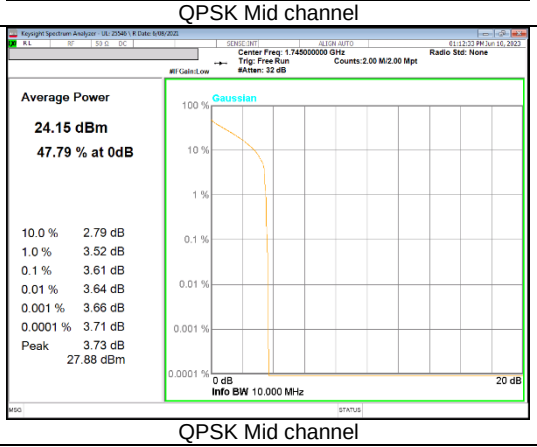
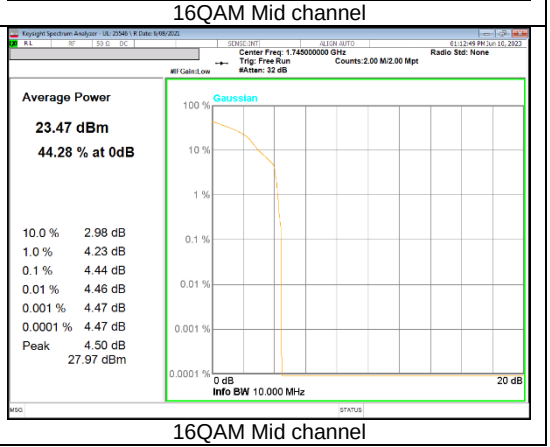
20 MHz	 QPSK Mid channel	 16QAM Mid channel
15 MHz	 QPSK Mid channel	 16QAM Mid channel
10 MHz	 QPSK Mid channel	 16QAM Mid channel
5 MHz	 QPSK Mid channel	 16QAM Mid channel

LTE Band 41 (ANT F)

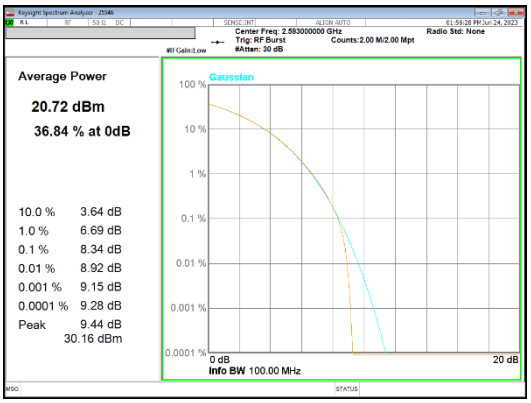
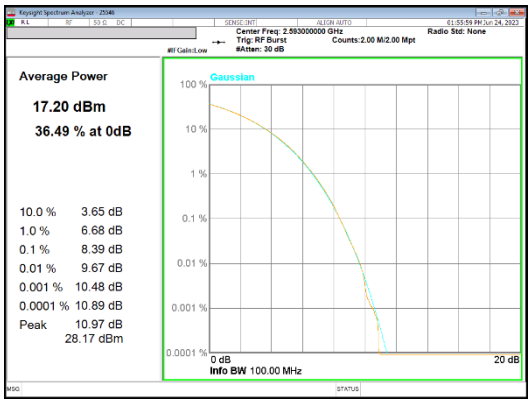
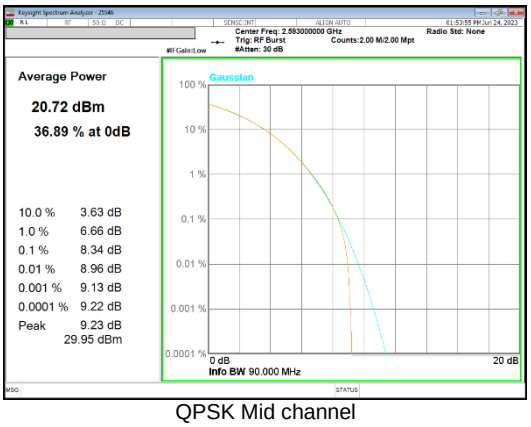
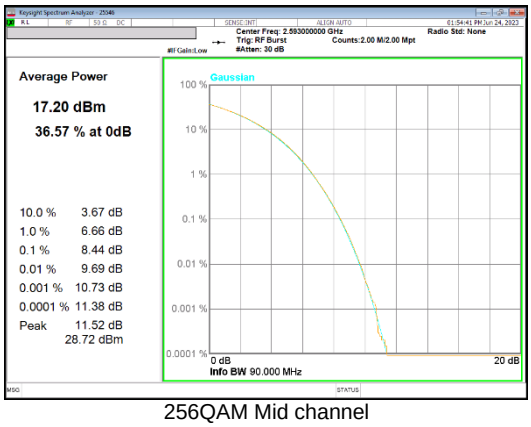
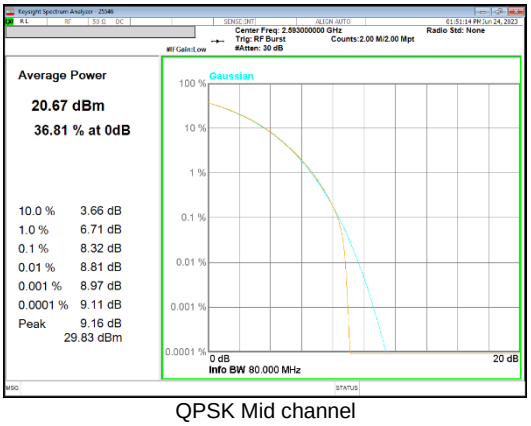
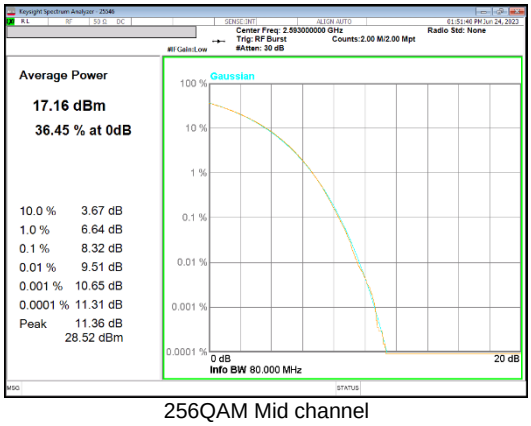
20 MHz	 QPSK Mid channel	 16QAM Mid channel
15 MHz	 QPSK Mid channel	 16QAM Mid channel
10 MHz	 QPSK Mid channel	 16QAM Mid channel
5 MHz	 QPSK Mid channel	 16QAM Mid channel

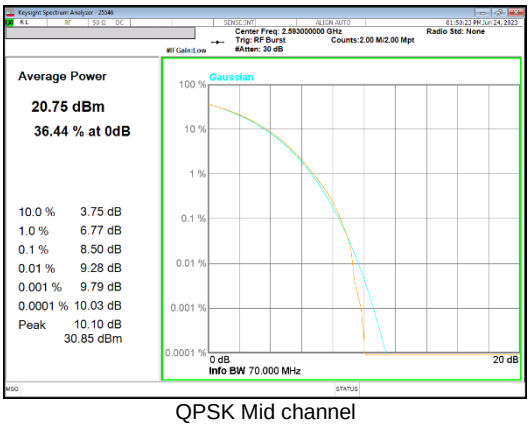
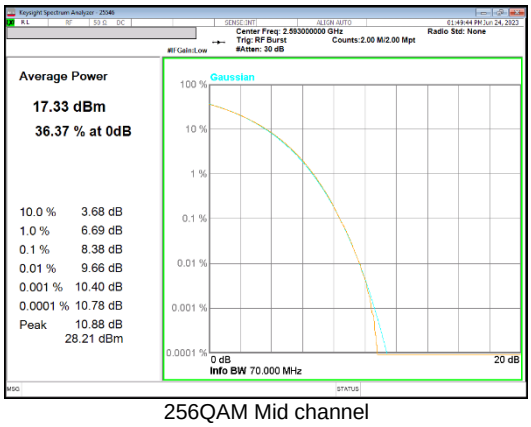
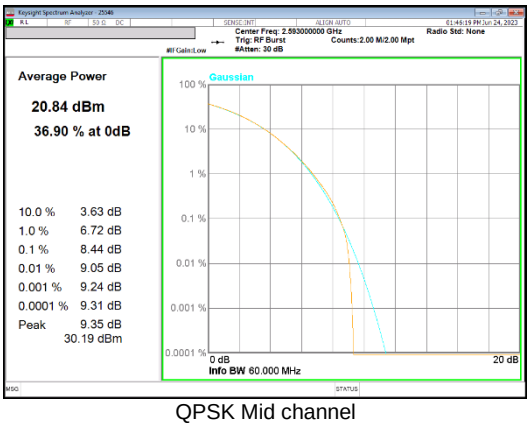
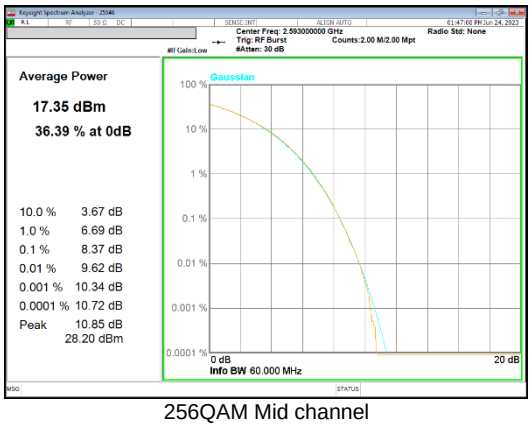
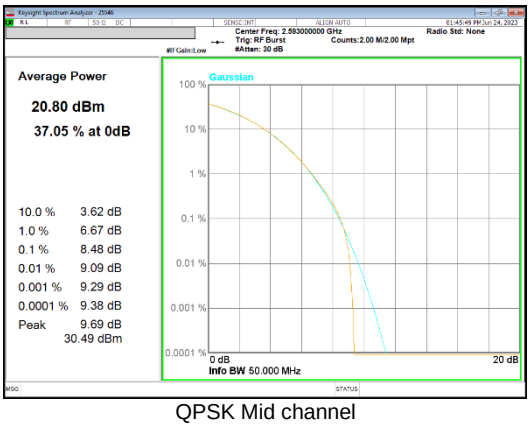
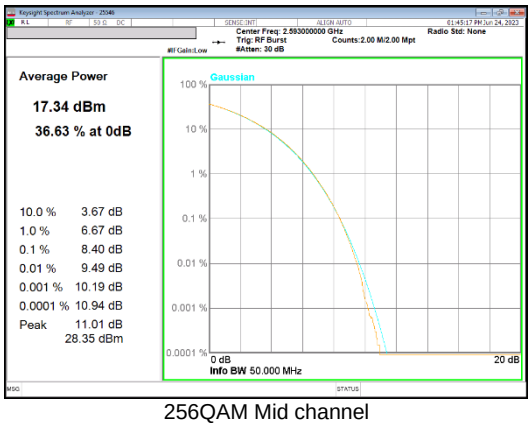
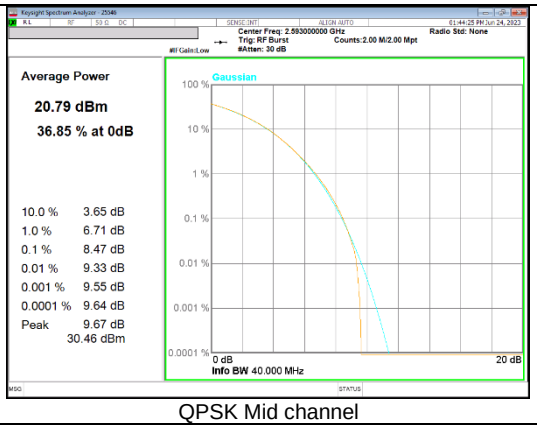
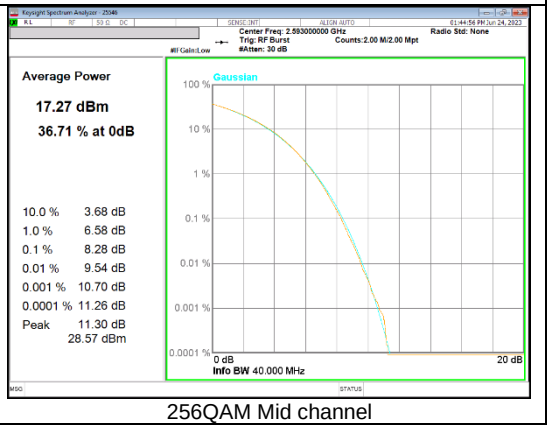
LTE Band 66 (ANT B)

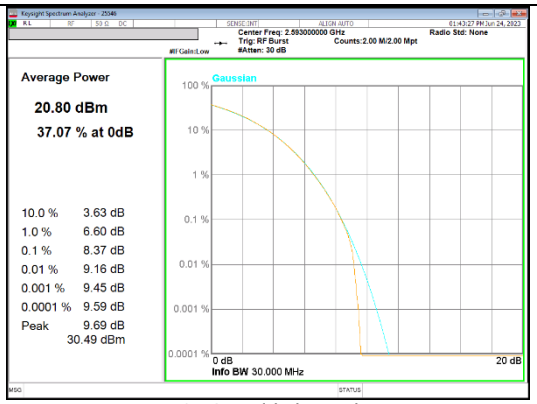
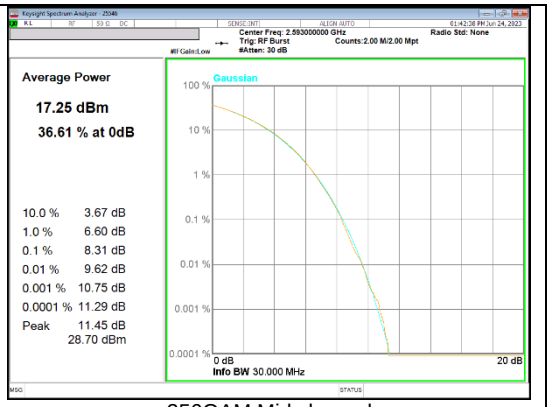
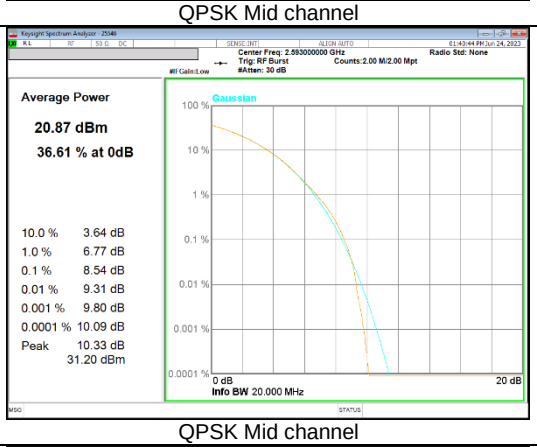
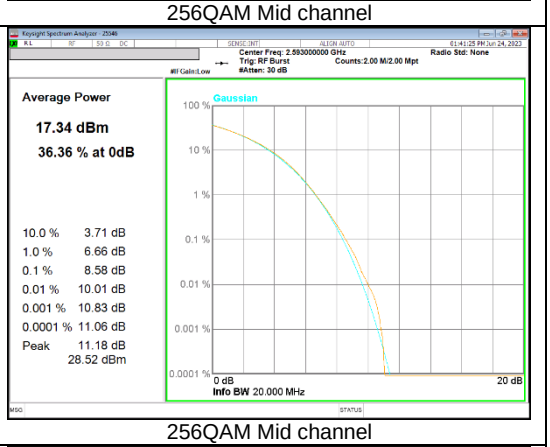
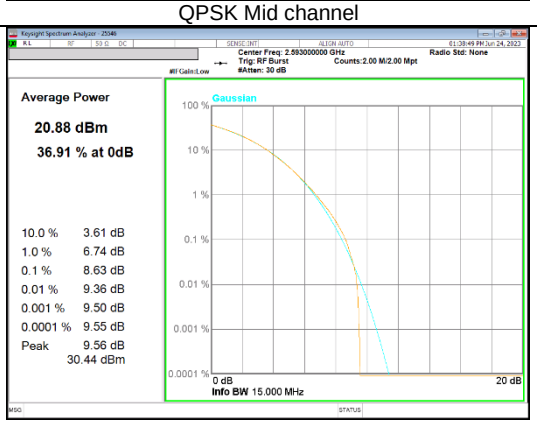
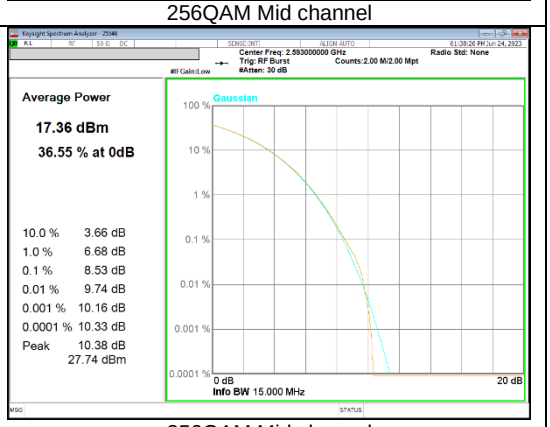
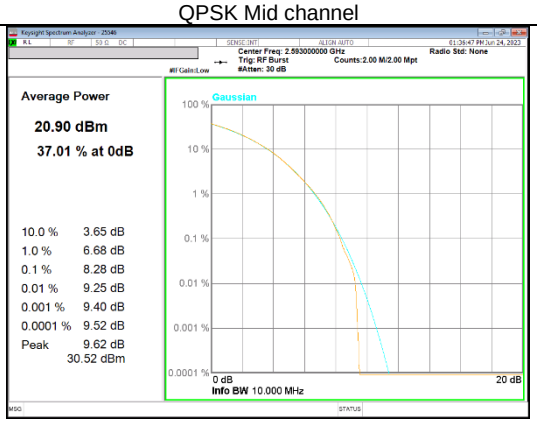
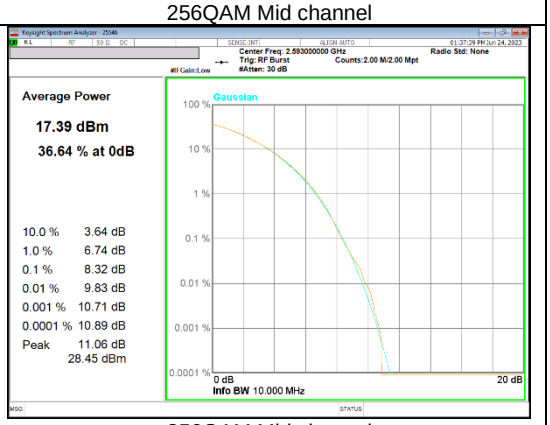
20 MHz	 QPSK Mid channel	 16QAM Mid channel
15 MHz	 QPSK Mid channel	 16QAM Mid channel
10 MHz	 QPSK Mid channel	 16QAM Mid channel
5 MHz	 QPSK Mid channel	 16QAM Mid channel

3 MHz	 QPSK Mid channel	 16QAM Mid channel
1.4 MHz	 QPSK Mid channel	 16QAM Mid channel

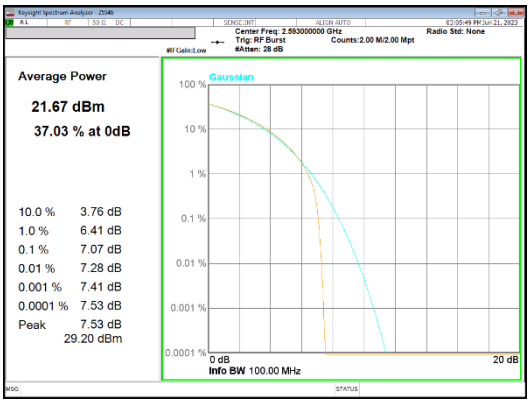
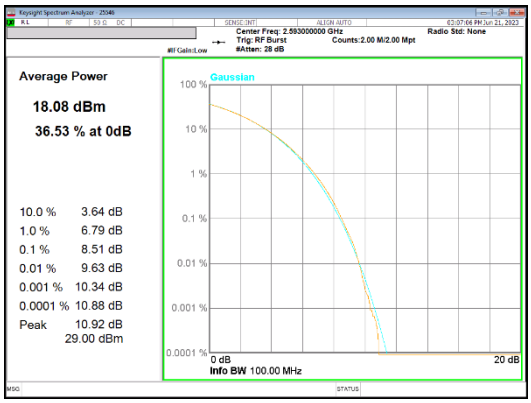
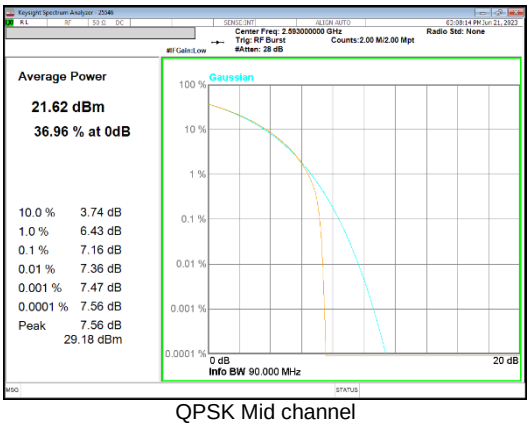
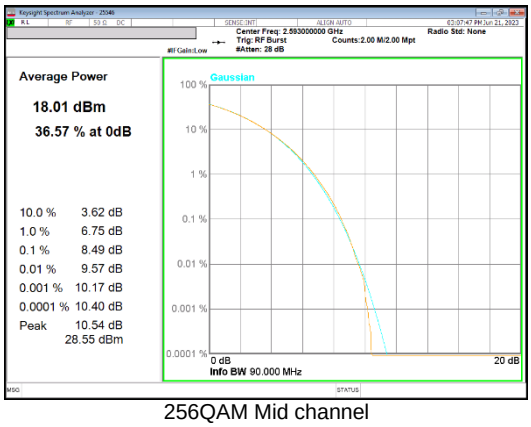
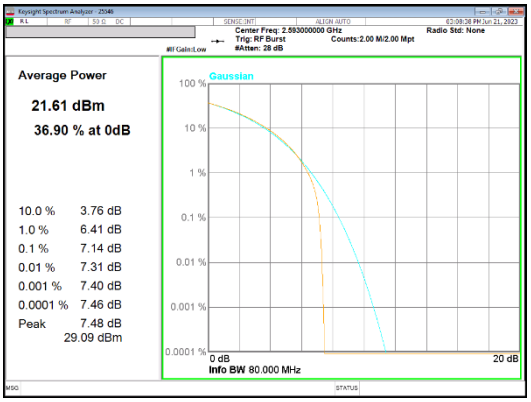
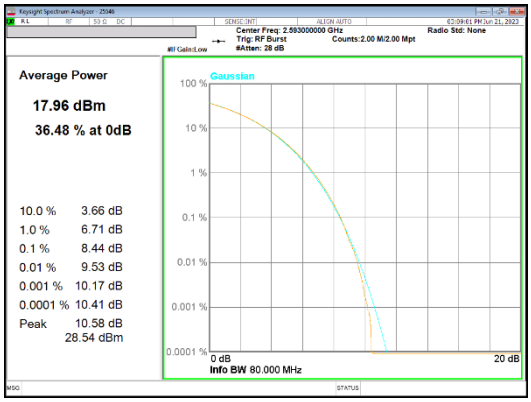
NR Band n41(CP-OFDM, ANT B)

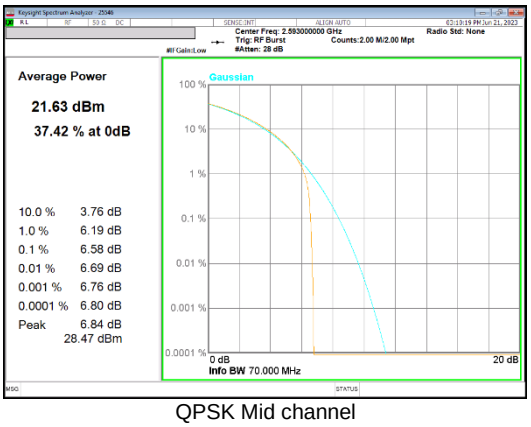
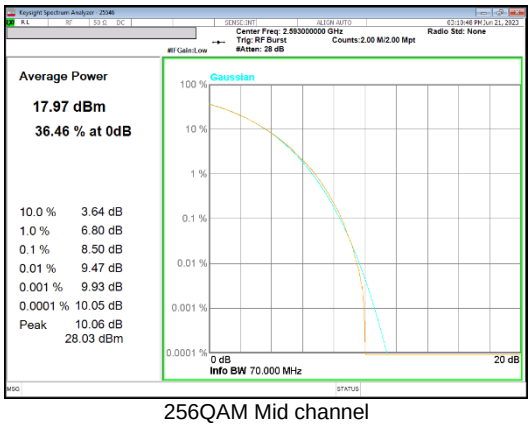
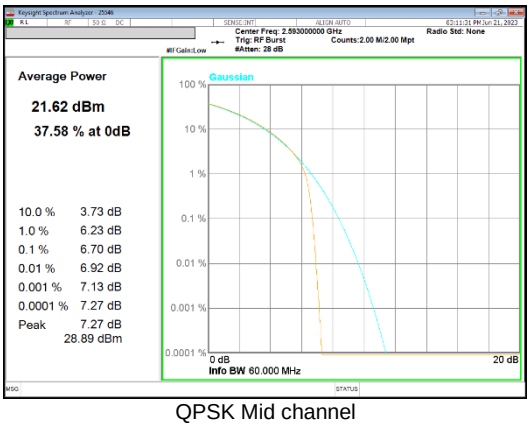
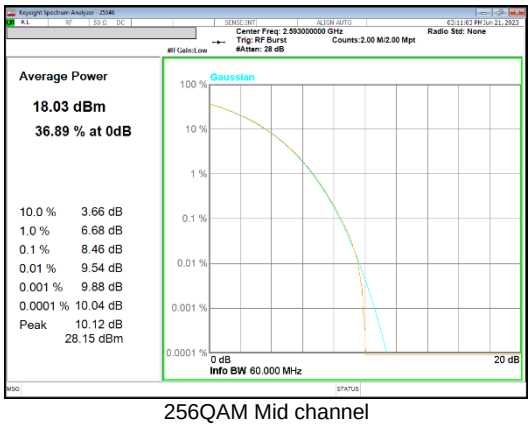
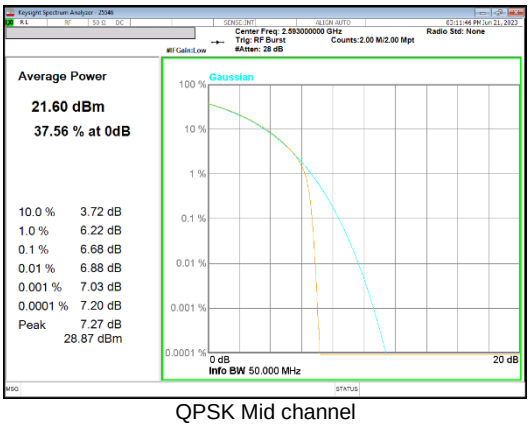
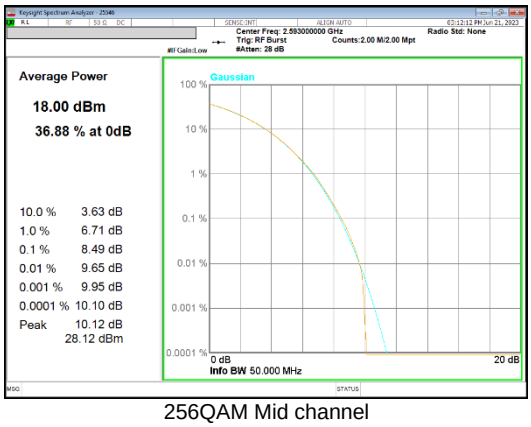
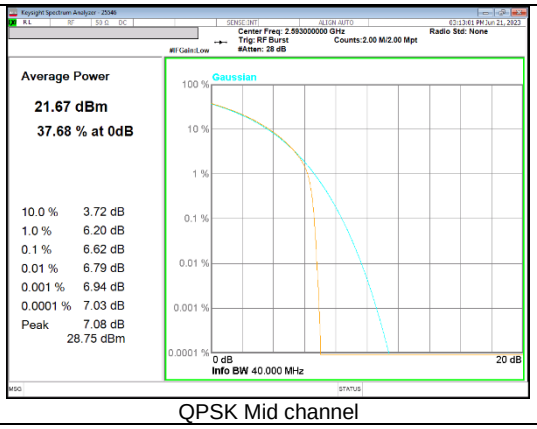
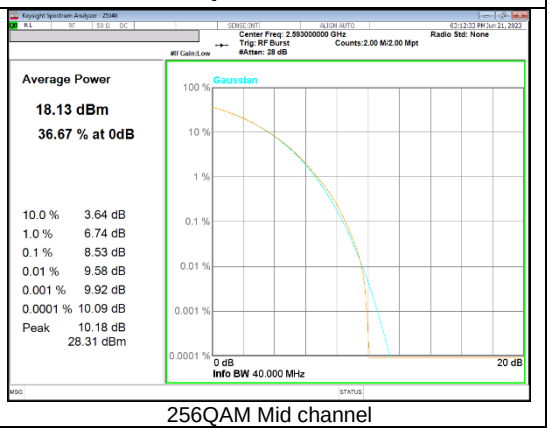
100 MHz	 QPSK Mid channel	 256QAM Mid channel
90 MHz	 QPSK Mid channel	 256QAM Mid channel
80 MHz	 QPSK Mid channel	 256QAM Mid channel

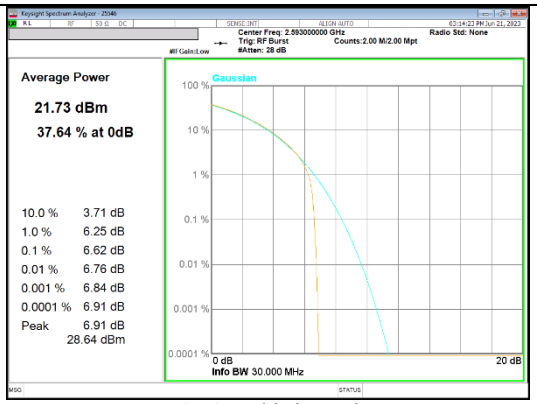
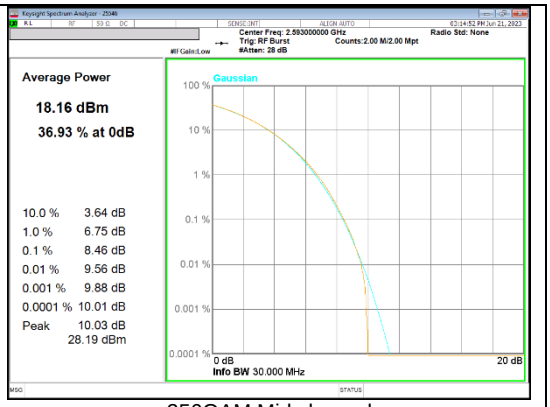
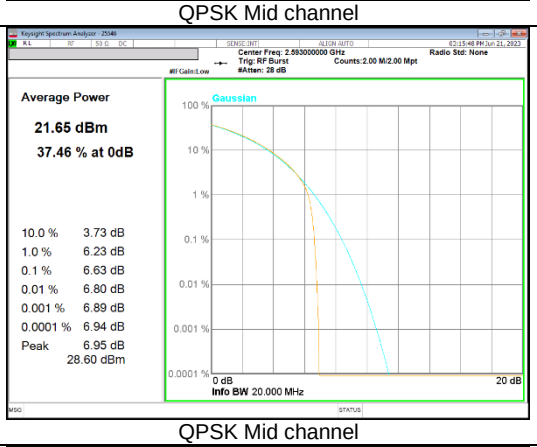
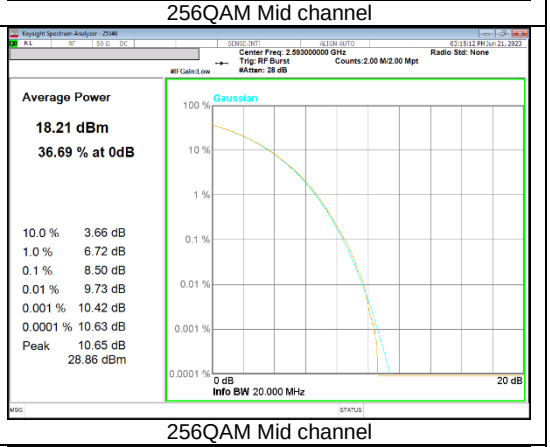
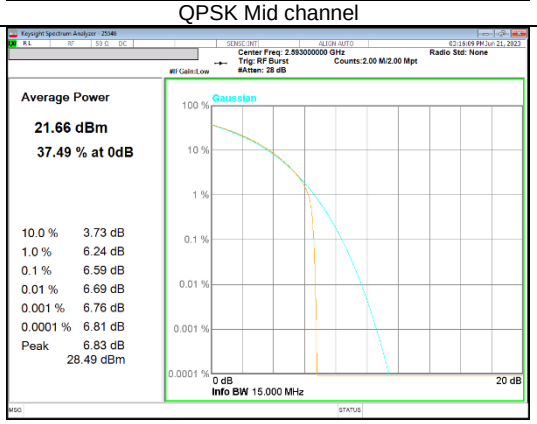
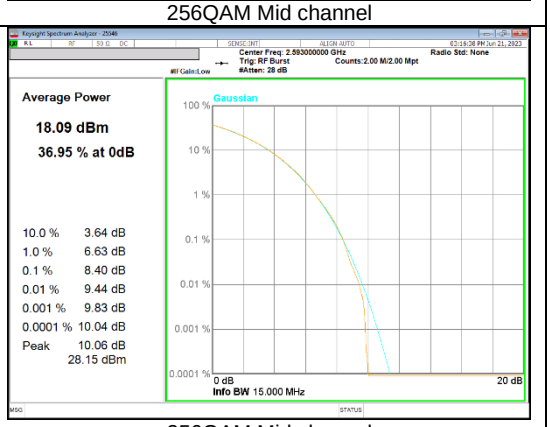
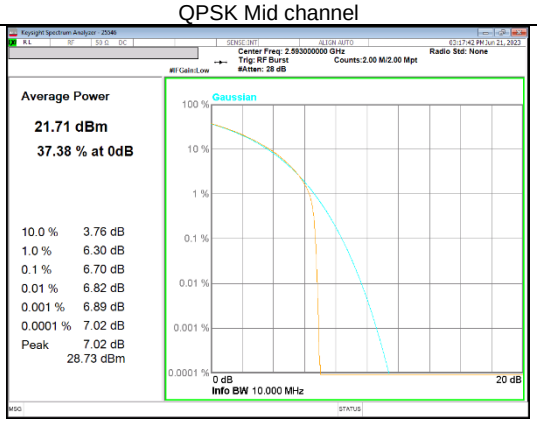
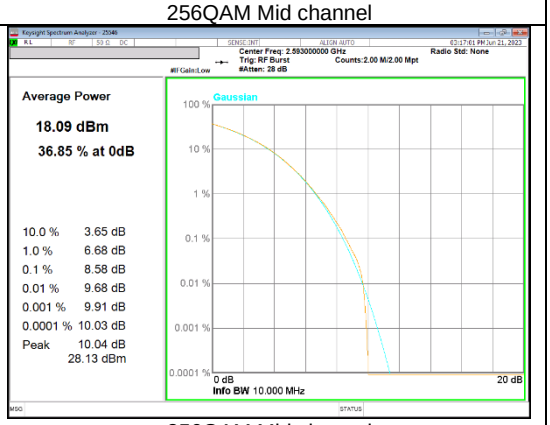
70 MHz	 QPSK Mid channel	 256QAM Mid channel
60 MHz	 QPSK Mid channel	 256QAM Mid channel
50 MHz	 QPSK Mid channel	 256QAM Mid channel
40 MHz	 QPSK Mid channel	 256QAM Mid channel

30 MHz	 QPSK Mid channel	 256QAM Mid channel
20 MHz	 QPSK Mid channel	 256QAM Mid channel
15 MHz	 QPSK Mid channel	 256QAM Mid channel
10 MHz	 QPSK Mid channel	 256QAM Mid channel

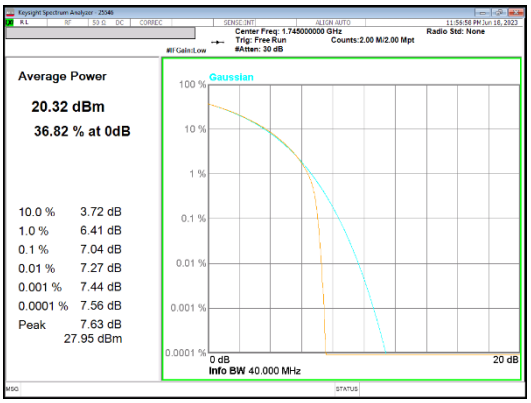
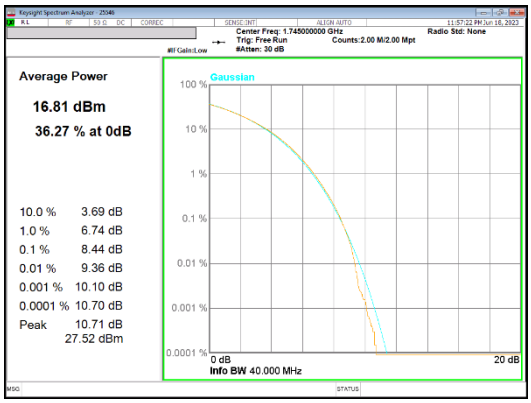
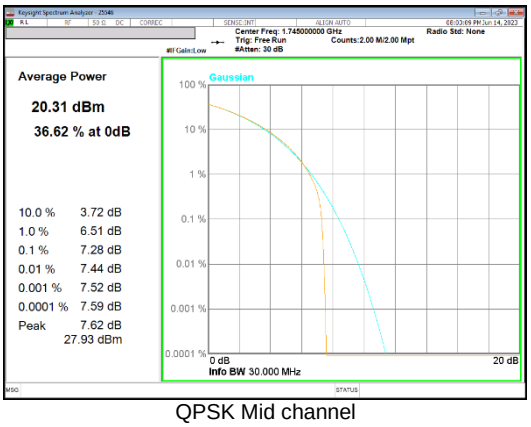
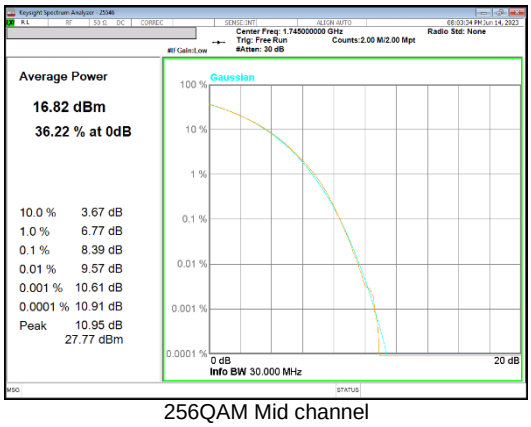
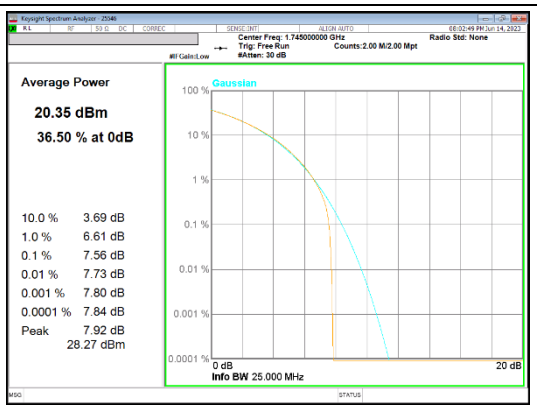
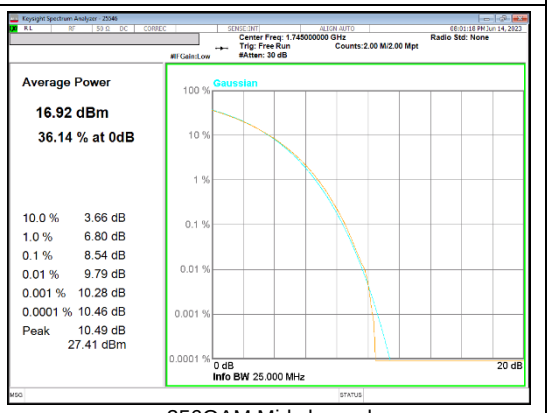
NR Band n41 (CP-OFDM, ANT F)

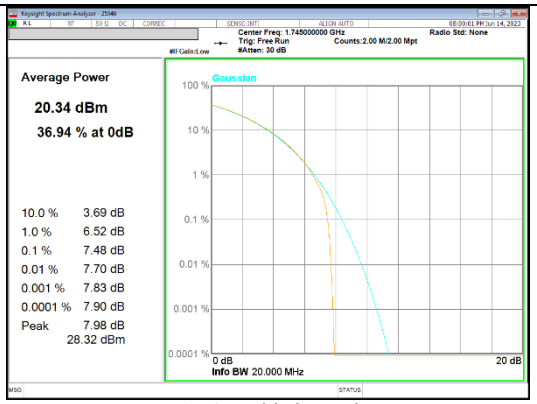
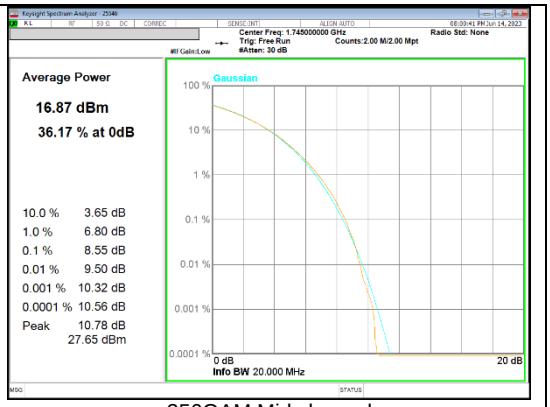
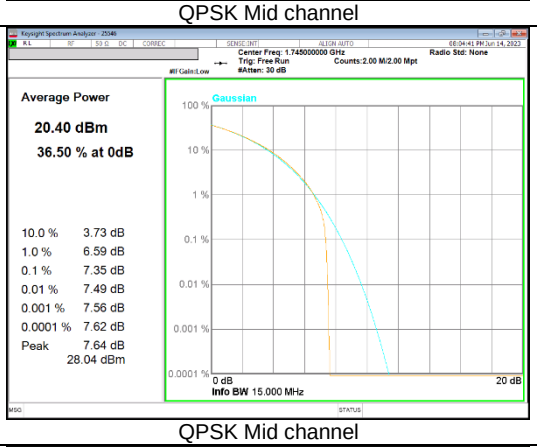
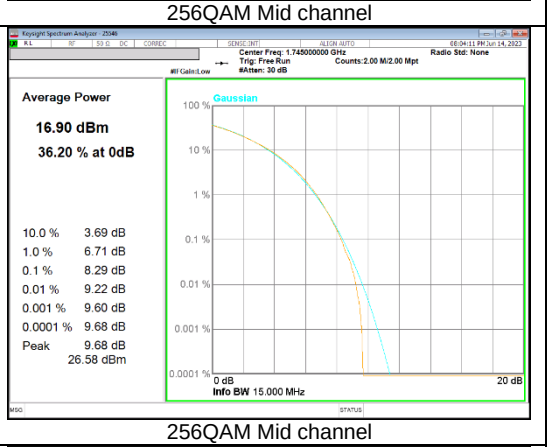
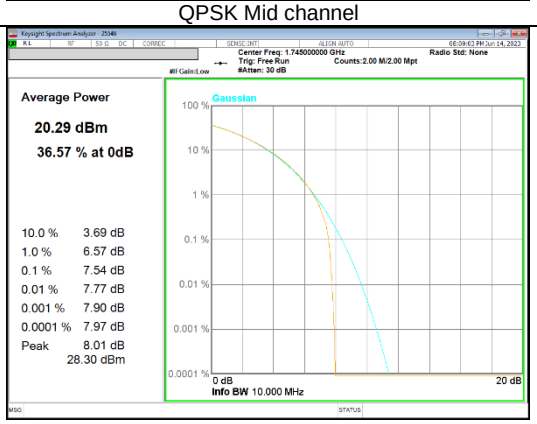
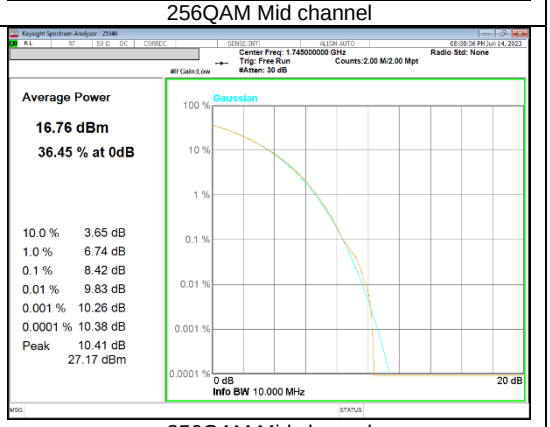
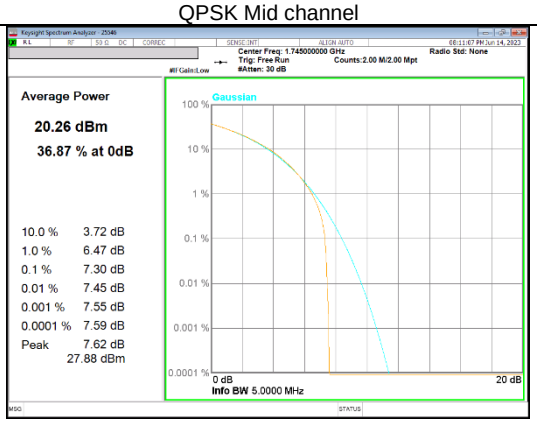
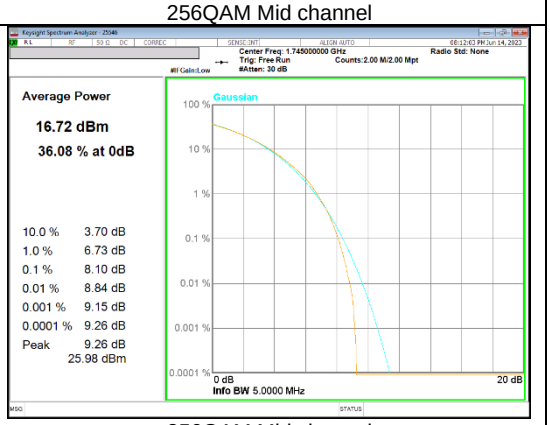
100 MHz	 QPSK Mid channel	 256QAM Mid channel
90 MHz	 QPSK Mid channel	 256QAM Mid channel
80 MHz	 QPSK Mid channel	 256QAM Mid channel

70 MHz	 QPSK Mid channel	 256QAM Mid channel
60 MHz	 QPSK Mid channel	 256QAM Mid channel
50 MHz	 QPSK Mid channel	 256QAM Mid channel
40 MHz	 QPSK Mid channel	 256QAM Mid channel

30 MHz	 QPSK Mid channel	 256QAM Mid channel
20 MHz	 QPSK Mid channel	 256QAM Mid channel
15 MHz	 QPSK Mid channel	 256QAM Mid channel
10 MHz	 QPSK Mid channel	 256QAM Mid channel

NR Band n66 (CP-OFDM, ANT B)

40 MHz	 QPSK Mid channel	 256QAM Mid channel
30 MHz	 QPSK Mid channel	 256QAM Mid channel
25 MHz	 QPSK Mid channel	 256QAM Mid channel

20 MHz	 QPSK Mid channel	 256QAM Mid channel
15 MHz	 QPSK Mid channel	 256QAM Mid channel
10 MHz	 QPSK Mid channel	 256QAM Mid channel
5 MHz	 QPSK Mid channel	 256QAM Mid channel

8.3. OCCUPIED BANDWIDTH

RULE PART(S)

FCC: §2.1049

LIMITS

For reporting purposes only

TEST PROCEDURE

The transmitter output was connected to a calibrated coaxial cable and coupler, the other end of which was connected to a spectrum analyzer. The occupied bandwidth was measured with the spectrum analyzer at middle channel in each band. The -26dB bandwidth was also measured and recorded.

(KDB 971168 D01 Power Meas License Digital Systems v03r01)

RESULTS

See the following pages.

- LTE Band 12 (ANT A)

Band	BW	Modulation	f [MHz]	99% BW (MHz)	-26dB BW (MHz)
LTE B12	10M	QPSK	707.5	8.942	9.935
		16QAM		8.945	9.824
	5M	QPSK		4.493	4.981
		16QAM		4.494	5.121
	3M	QPSK		2.694	3.012
		16QAM		2.698	3.050
	1.4M	QPSK		1.086	1.310
		16QAM		1.093	1.344

- LTE Band 13 (ANT A)

Band	BW	Modulation	f [MHz]	99% BW (MHz)	-26dB BW (MHz)
LTE B13	10M	QPSK	782.0	8.929	9.878
		16QAM		8.931	9.794
	5M	QPSK		4.493	5.126
		16QAM		4.494	5.016

- LTE Band 41 (ANT B)

Band	BW	Modulation	f [MHz]	99% BW (MHz)	-26dB BW (MHz)
LTE B41	20M	QPSK	2593.0	17.926	19.390
		16QAM		17.941	19.620
	15M	QPSK		13.430	14.770
		16QAM		13.444	14.830
	10M	QPSK		8.959	9.927
		16QAM		8.971	9.887
	5M	QPSK		4.501	5.102
		16QAM		4.494	5.097

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- LTE Band 41 (ANT F)

Band	BW	Modulation	f [MHz]	99% BW (MHz)	-26dB BW (MHz)
LTE B41	20M	QPSK	2593.0	17.906	19.400
		16QAM		17.915	19.460
	15M	QPSK		13.424	14.720
		16QAM		13.432	14.410
	10M	QPSK		8.986	9.788
		16QAM		8.983	9.765
	5M	QPSK		4.489	4.954
		16QAM		4.477	4.923

- LTE Band 41C(UL CA, ANT B)

Band	BW	Modulation	f [MHz]	99% BW (MHz)	-26dB BW (MHz)
41C	20+20	QPSK	2593.0	37.582	39.650
		16QAM		37.576	39.510

- LTE Band 41C(UL CA, ANT F)

Band	BW	Modulation	f [MHz]	99% BW (MHz)	-26dB BW (MHz)
41C	20+20	QPSK	2593.0	37.459	39.340
		16QAM		37.547	39.380

- LTE Band 66 (ANT B)

Band	BW	Modulation	f [MHz]	99% BW (MHz)	-26dB BW (MHz)
LTE B66	20M	QPSK	1745.0	17.949	19.770
		16QAM		17.918	19.510
	15M	QPSK		13.454	14.660
		16QAM		13.433	14.700
	10M	QPSK		8.965	9.898
		16QAM		8.966	9.936
	5M	QPSK		4.505	5.134
		16QAM		4.495	5.080
	3M	QPSK		2.695	3.023
		16QAM		2.701	3.044
	1.4M	QPSK		1.086	1.339
		16QAM		1.095	1.341

- NR Band n41 (CP-OFDM, ANT B)

Band	BW	Modulation	f [MHz]	99% BW (MHz)	-26dB BW (MHz)
NR n41	100M	QPSK	2593.0	97.674	101.200
		16QAM		97.571	101.200
	90M	QPSK		87.748	91.160
		16QAM		87.785	91.460
	80M	QPSK		77.700	80.500
		16QAM		77.526	80.660
	70M	QPSK		67.518	70.200
		16QAM		67.710	70.030
	60M	QPSK		57.975	60.450
		16QAM		57.896	60.270
	50M	QPSK		47.439	49.550
		16QAM		47.542	49.540
	40M	QPSK		37.934	39.950
		16QAM		37.929	39.470
	30M	QPSK		27.837	29.490
		16QAM		27.877	29.710
	20M	QPSK		18.198	19.700
		16QAM		18.264	19.620
	15M	QPSK		13.602	14.810
		16QAM		13.593	15.050
	10M	QPSK		8.593	9.553
		16QAM		8.580	9.276

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- NR Band n41 (CP-OFDM, ANT F)

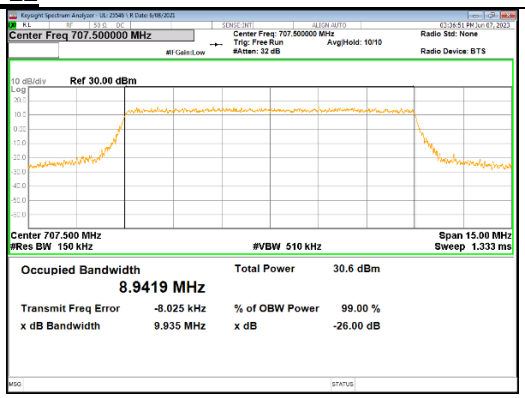
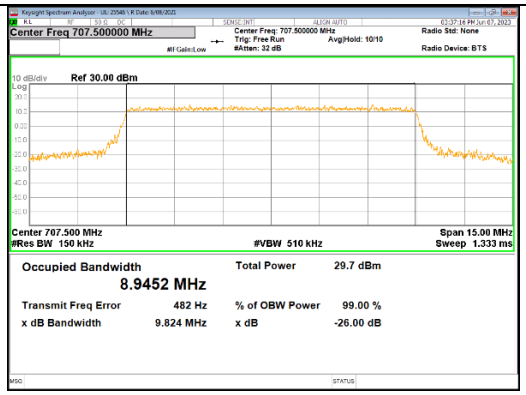
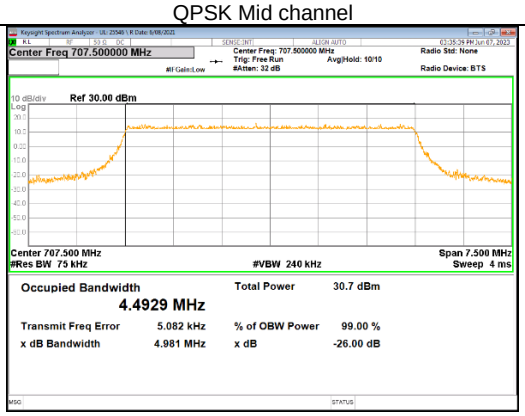
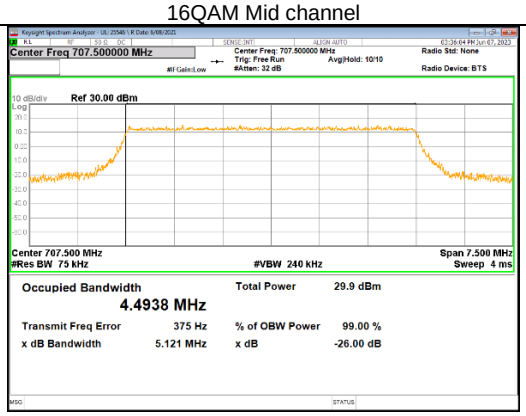
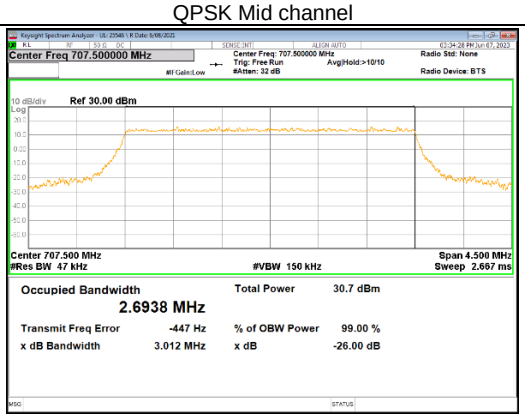
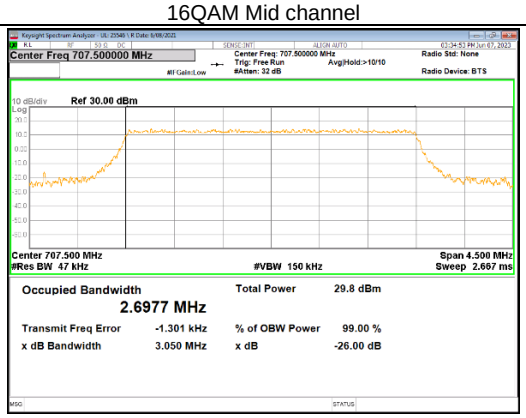
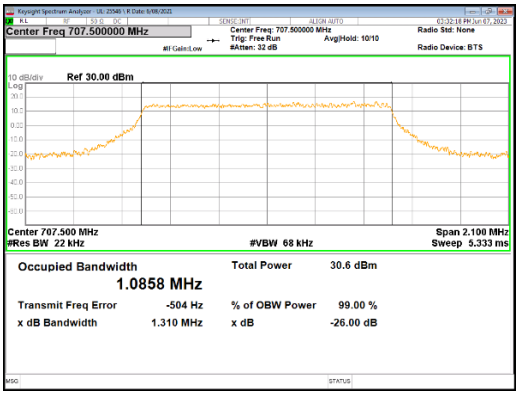
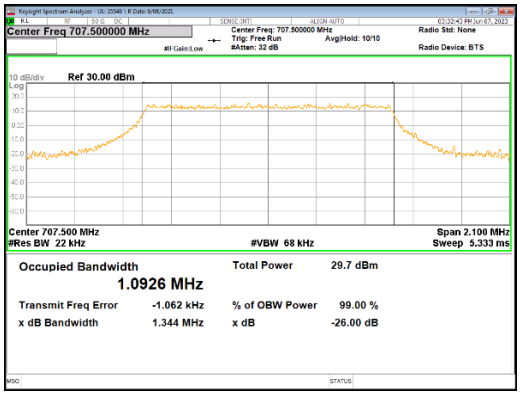
Band	BW	Modulation	f [MHz]	99% BW (MHz)	-26dB BW (MHz)
NR n41	100M	QPSK	2593.0	97.643	101.400
		16QAM		97.418	101.400
	90M	QPSK		87.580	92.110
		16QAM		87.511	91.150
	80M	QPSK		77.545	85.210
		16QAM		77.599	80.560
	70M	QPSK		67.523	70.170
		16QAM		67.481	71.800
	60M	QPSK		57.929	60.220
		16QAM		57.867	60.170
	50M	QPSK		47.527	49.540
		16QAM		47.560	50.740
	40M	QPSK		37.861	40.230
		16QAM		37.906	39.570
	30M	QPSK		27.826	29.480
		16QAM		27.864	29.250
	20M	QPSK		18.213	19.700
		16QAM		18.185	19.150
	15M	QPSK		13.591	14.730
		16QAM		13.601	15.000
	10M	QPSK		8.573	9.651
		16QAM		8.581	9.841

- NR Band n66 (CP-OFDM, ANT B)

Band	BW	Modulation	f [MHz]	99% BW (MHz)	-26dB BW (MHz)
NR n66	40M	QPSK	1745.0	38.607	40.150
		16QAM		38.585	40.140
	30M	QPSK		28.547	29.780
		16QAM		28.658	29.860
	25M	QPSK		23.785	24.980
		16QAM		23.850	25.180
	20M	QPSK		18.963	20.020
		16QAM		18.935	20.040
	15M	QPSK		14.152	14.910
		16QAM		14.120	15.120
	10M	QPSK		9.299	9.965
		16QAM		9.303	10.140
	5M	QPSK		4.483	5.142
		16QAM		4.481	5.214

8.3.1. OCCUPIED BANDWIDTH RESULTS

LTE Band 12

10MHz	 QPSK Mid channel	 16QAM Mid channel
5MHz	 QPSK Mid channel	 16QAM Mid channel
3MHz	 QPSK Mid channel	 16QAM Mid channel
1.4MHz	 QPSK Mid channel	 16QAM Mid channel