

CERTIFICATION TEST REPORT

Report Number. : 4791082054-E4V3

Applicant : SAMSUNG ELECTRONICS CO., LTD.
129 SAMSUNG-RO, YEONGTONG-GU, SUWON-SI,
GYEONGGI-DO, 16677, KOREA

Model : SM-A556E, SM-A556E/DS

FCC ID : A3LSMA556E

EUT Description : GSM/WCDMA/LTE/5G NR Phone + BT/BLE, DTS/UNII a/b/g/n/ac/ax,
and NFC.

Test Standard(s) : FCC 47 CFR PART 27 SUBPART F,H,L,M,O,Q

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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, and NFC.

MODEL NUMBER: SM-A556E, SM-A556E/DS

SERIAL NUMBER: R3CWA0H7NHA, R3CWB0FCVGV, R3CWB0A1AKR, R3CWB0A1DPA, R3CWB0FCXWY (CONDUCTED); R3CWB0A1A3B, R3CWB0A1CPH, R3CWB0A1DBF, R3CWB0A1AYP, R3CWB0A1B4K (RADIATED);

DATE TESTED: 2023-12-01 - 2024-01-18;

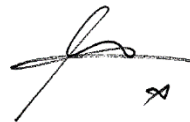
APPLICABLE STANDARDS	
STANDARD	TEST RESULTS
FCC PART 27F,H,L,M,O,Q	Complies

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:

Tested By:



Seokhwan Hong
Suwon Lab Engineer
UL KOREA LTD.

Yeonhee Lim
Suwon Lab Engineer
UL KOREA LTD.

2. TEST METHODOLOGY

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

1. FCC 47 CFR Part 2.
2. FCC 47 CFR Part 27.
3. ANSI TIA-603-E, 2016
4. ANSI C63.26, 2015
5. KDB 971168 D01 Power Meas License Digital Systems v03r01
6. KDB 971168 D02 Misc Rev Approv License Devices v02r02
7. KDB 412172 D01 Determining ERP and EIRP v01r01

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	
<input checked="" type="checkbox"/>	Chamber 1(3m semi-anechoic chamber)
<input checked="" type="checkbox"/>	Chamber 2(3m semi-anechoic chamber)
<input type="checkbox"/>	Chamber 3(3m semi-anechoic chamber)
<input checked="" type="checkbox"/>	Chamber 4(3m Full-anechoic chamber)
<input type="checkbox"/>	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:

$EIRP = \text{PSA reading with EUT worst orientation (dBm)} + \text{Path loss (dB)} - \text{cable loss (between the SG and substitution antenna)} + \text{Substitution Antenna Factor (dBi)}$

$ERP = \text{PSA reading with EUT worst orientation (dBm)} + \text{Path loss (dB)} - \text{cable loss (between the SG and substitution antenna)}$

(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.

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, and NFC. This test report addresses the WWAN operational mode.

Representative model	Difference	Derivative model
		SM-A556E/DS
SM-A556E	Hardware	Different SIM tray SM-A556E/DS has dual sim tray
	Software	Same as SM-A556E

Thus, SM-A556E was set for final test.

5.2. MAXIMUM OUTPUT POWER

The transmitter has a maximum average radiated ERP / EIRP output powers as follows: Radiated samples were set to a higher power than conducted resulting in radiated ERP greater than conducted measurements.

WCDMA B4

FCC Part 27							
Band	ANT	Frequency Range [MHz]	Modulation	Conducted		Radiated	
				Avg [dBm]	Avg [mW]	Avg [dBm]	Avg [mW]
Band 4	Antenna A Main 1	1712.40 ~ 1752.60	Rel. 99	23.02	200.45	23.08	203.24
			HSDPA	22.62	182.81	22.41	174.18

LTE Band 12

FCC Part 27								
Band	ANT	Frequency Range [MHz]	BandWidth [MHz]	Modulation	Conducted		Radiated	
					Avg [dBm]	Avg [mW]	Avg [dBm]	Avg [mW]
Band 12	Antenna A Main 1	704.00 ~ 711.00	10	QPSK	22.96	197.70	16.46	44.26
				16QAM	22.38	172.98	15.22	33.27
				64QAM	21.16	130.62		
				256QAM	18.20	66.07		
		701.50 ~ 713.50	5	QPSK	23.02	200.45	16.36	43.25
				16QAM	22.42	174.58	15.35	34.28
				64QAM	20.95	124.45		
				256QAM	18.20	66.07		
		700.50 ~ 714.50	3	QPSK	23.13	205.59	16.44	44.06
				16QAM	22.30	169.82	15.26	33.57
				64QAM	21.19	131.52		
				256QAM	18.36	68.55		
		699.70 ~ 715.30	1.4	QPSK	23.13	205.59	16.32	42.85
				16QAM	22.35	171.79	15.24	33.42
				64QAM	21.83	152.41		
				256QAM	18.23	66.53		

LTE Band 13

FCC Part 27								
Band	AMT	Frequency Range [MHz]	BandWidth [MHz]	Modulation	Conducted		Radiated	
					Avg [dBm]	Avg [mW]	Avg [dBm]	Avg [mW]
Band 13	Antenna A Main 1	782.00	10	QPSK	23.49	223.36	19.40	87.10
				16QAM	22.50	177.83	17.78	59.98
				64QAM	21.14	130.02		
				256QAM	18.46	70.15		
		779.50 ~ 784.50	5	QPSK	23.64	231.21	18.68	73.79
				16QAM	22.67	184.93	17.71	59.02
				64QAM	21.51	141.58		
				256QAM	18.53	71.29		

LTE Band 41

FCC Part 27								
BanH	ANT	Frequency Range [MHz]	BanHWiHth [MHz]	Modulation	Conducted		Radiated	
					Avg [dBm]	Avg [mW]	Avg [dBm]	Avg [mW]
Band 41	Antenna B Main 2	2506.00 ~ 2680.00	20	QPSK	24.66	292.42	24.16	260.62
				16QAM	23.91	246.04	23.51	224.39
				64QAM	22.62	182.81		
				256QAM	19.63	91.83		
		2503.50 ~ 2682.50	15	QPSK	24.78	300.61	24.34	271.64
				16QAM	23.70	234.42	23.48	222.84
				64QAM	22.35	171.79		
				256QAM	19.60	91.20		
		2501.00 ~ 2685.00	10	QPSK	24.65	291.74	24.36	272.90
				16QAM	23.65	231.74	23.56	226.99
				64QAM	22.25	167.88		
				256QAM	19.69	93.11		
		2498.50 ~ 2687.50	5	QPSK	24.74	297.85	24.08	255.86
				16QAM	23.77	238.23	23.19	208.45
				64QAM	22.61	182.39		
				256QAM	19.62	91.62		
FCC Part 27								
BanH	ANT	Frequency Range [MHz]	BanHWiHth [MHz]	Modulation	Conducted		Radiated	
					Avg [dBm]	Avg [mW]	Avg [dBm]	Avg [mW]
Band 41	Antenna F Sub 2	2506.00 ~ 2680.00	20	QPSK	23.27	212.32	21.74	149.28
				16QAM	22.40	173.78	20.84	121.34
				64QAM	21.58	143.88		
				256QAM	18.39	69.02		
		2503.50 ~ 2682.50	15	QPSK	23.22	209.89	21.88	154.17
				16QAM	22.43	174.98	20.91	123.31
				64QAM	21.57	143.55		
				256QAM	18.50	70.79		
		2501.00 ~ 2685.00	10	QPSK	23.19	208.45	21.81	151.71
				16QAM	22.40	173.78	20.88	122.46
				64QAM	21.31	135.21		
				256QAM	18.31	67.76		
		2498.50 ~ 2687.50	5	QPSK	23.17	207.49	21.87	153.82
				16QAM	22.26	168.27	20.73	118.30
				64QAM	21.28	134.28		
				256QAM	18.18	65.77		

LTE Band 66

FCC Part 27										
Band	ANT	Frequency Range [MHz]	BandWidth [MHz]	Modulation	Conducted		Radiated			
					Avg [dBm]	Avg [mW]	Avg [dBm]	Avg [mW]		
Band 66	Antenna A Main 1	1720.00 ~ 1770.00	20	QPSK	23.23	210.38	21.50	141.25		
				16QAM	22.55	179.89	20.46	111.17		
				64QAM	21.46	139.96				
				256QAM	18.48	70.47				
		1717.50 ~ 1772.50	15	QPSK	23.33	215.28	21.54	142.56		
				16QAM	22.43	174.98	20.32	107.65		
				64QAM	21.50	141.25				
		1715.00 ~ 1775.00	10	256QAM	18.82	76.21				
				QPSK	23.47	222.33	21.68	147.23		
				16QAM	22.59	181.55	20.35	108.39		
		1712.50 ~ 1777.50	5	64QAM	21.35	136.46				
				256QAM	18.44	69.82				
				QPSK	23.55	226.46	21.62	145.21		
		1711.50 ~ 1778.50	3	16QAM	22.62	182.81	20.41	109.90		
				64QAM	21.58	143.88				
				256QAM	18.65	73.28				
				QPSK	23.55	226.46	21.83	152.41		
		1710.70 ~ 1779.30	1.4	16QAM	22.64	183.65	20.43	110.41		
				64QAM	21.55	142.89				
				256QAM	18.64	73.11				
				QPSK	23.64	231.21	21.82	152.05		
		FCC Part 27								
		Band	ANT	Frequency Range [MHz]	BandWidth [MHz]	Modulation	Conducted		Radiated	
							Avg [dBm]	Avg [mW]	Avg [dBm]	Avg [mW]
Band 66	Antenna F Sub 2	1720.00 ~ 1770.00	20	QPSK	23.57	227.51	22.71	186.64		
				16QAM	22.92	195.88	21.70	147.91		
				64QAM	21.66	146.55				
				256QAM	18.70	74.13				
		1717.50 ~ 1772.50	15	QPSK	23.47	222.33	22.78	189.67		
				16QAM	22.49	177.42	21.56	143.22		
				64QAM	21.53	142.23				
		1715.00 ~ 1775.00	10	256QAM	18.61	72.61				
				QPSK	23.50	223.87	22.89	194.54		
				16QAM	22.57	180.72	21.76	149.97		
		1712.50 ~ 1777.50	5	64QAM	21.65	146.22				
				256QAM	18.55	71.61				
				QPSK	23.62	230.14	22.89	194.54		
		1711.50 ~ 1778.50	3	16QAM	22.75	188.36	21.99	158.12		
				64QAM	21.52	141.91				
				256QAM	18.40	69.18				
				QPSK	23.68	233.35	23.14	206.06		
		1710.70 ~ 1779.30	1.4	16QAM	22.75	188.36	21.85	153.11		
				64QAM	21.52	141.91				
				256QAM	18.77	75.34				
				QPSK	23.64	231.21	23.10	204.17		
						16QAM	22.69	185.78	21.95	156.68
						64QAM	21.58	143.88		
						256QAM	18.44	69.82		

NR Band n41

FCC Part 27									
Band	ANT	Frequency Range [MHz]	BandWidth [MHz]	Modulation	Mode	Conducted		Radiated	
						Avg [dBm]	Avg [mW]	Avg [dBm]	Avg [mW]
n41	Antenna B Main 2	2546.01 ~ 2640.00	100	DFT-s OFDM	$\pi/2$ BSK	23.89	245.09		
					QSK	23.84	242.21	23.76	237.47
					16QAM	22.92	196.07	23.01	199.81
					64QAM	21.47	140.28		
					256QAM	19.49	88.92		
					CP-OFDM	QSK	22.50	177.83	
		2541.00 ~ 2644.98	90	DFT-s OFDM	$\pi/2$ BPSK	23.99	250.61		
					QPSK	23.99	250.61	24.08	255.88
					16QAM	22.93	196.17	23.15	206.56
					64QAM	21.48	140.60		
					256QAM	19.49	88.92		
					CP-OFDM	QPSK	22.46	176.20	
		2536.02 ~ 2649.99	80	DFT-s OFDM	$\pi/2$ BPSK	23.71	235.18		
					QPSK	23.78	238.92	24.11	257.43
					16QAM	22.63	183.14	23.22	209.73
					64QAM	21.16	130.73		
					256QAM	19.23	83.70		
					CP-OFDM	QPSK	22.07	161.05	
		2531.02 ~ 2654.98	70	DFT-s OFDM	$\pi/2$ BPSK	23.70	234.66		
					QPSK	23.78	238.83	23.86	243.04
					16QAM	22.54	179.29	22.88	193.95
					64QAM	20.97	124.93		
					256QAM	19.01	79.70		
					CP-OFDM	QPSK	22.00	158.65	
		2526.00 ~ 2659.98	60	DFT-s OFDM	$\pi/2$ BPSK	23.70	234.18		
					QPSK	23.62	229.90	23.76	237.81
					16QAM	22.57	180.65	22.86	193.30
					64QAM	21.18	131.10		
					256QAM	18.89	77.42		
					CP-OFDM	QPSK	21.92	155.47	
		2521.01 ~ 2665.00	50	DFT-s OFDM	$\pi/2$ BPSK	23.76	237.62		
					QPSK	23.72	235.71	23.75	236.91
					16QAM	22.44	175.36	22.91	195.36
					64QAM	21.21	132.11		
					256QAM	18.99	79.31		
					CP-OFDM	QPSK	22.10	162.34	
		2516.01 ~ 2670.00	40	DFT-s OFDM	$\pi/2$ BPSK	23.75	237.19		
					QPSK	23.75	237.21	23.87	243.76
					16QAM	22.71	186.68	22.77	189.35
					64QAM	20.96	124.67		
					256QAM	18.92	78.07		
					CP-OFDM	QPSK	21.98	157.81	
		2511.00 ~ 2675.00	30	DFT-s OFDM	$\pi/2$ BPSK	23.78	238.82		
					QPSK	23.80	239.97	24.09	256.17
					16QAM	22.68	185.49	22.86	193.24
					64QAM	20.97	125.13		
					256QAM	18.94	78.42		
					CP-OFDM	QPSK	21.97	157.30	
2506.02 ~ 2679.99	20	DFT-s OFDM	$\pi/2$ BPSK	23.81	240.44				
			QPSK	23.78	238.64	23.12	204.97		
			16QAM	22.73	187.54	22.99	198.92		
			64QAM	21.17	130.99				
			256QAM	19.05	80.41				
			CP-OFDM	QPSK	22.12	163.11			
2503.50 ~ 2682.48	15	DFT-s OFDM	$\pi/2$ BPSK	23.80	240.02				
			QPSK	23.76	237.64	23.20	209.02		
			16QAM	22.63	183.40	22.99	199.16		
			64QAM	21.03	126.70				
			256QAM	19.17	82.67				
			CP-OFDM	QPSK	22.17	164.83			
2501.01 ~ 2685.00	10	DFT-s OFDM	$\pi/2$ BPSK	23.76	237.83				
			QPSK	23.94	247.59	23.47	222.31		
			16QAM	22.68	185.47	23.03	200.89		
			64QAM	21.42	138.70				
			256QAM	19.12	81.65				
			CP-OFDM	QPSK	22.27	168.83			

FCC Part 27										
Band	ANT	Frequency Range [MHz]	BandWidth [MHz]	Modulation	Mode	Conducted		Radiated		
						Avg [dBm]	Avg [mW]	Avg [dBm]	Avg [mW]	
n41	Antenna F Sub 2	2546.01 ~ 2640.00	100	DFT-s OFDM	$\pi/2$ BSK	22.59	181.74			
					QSK	22.71	186.64	23.73	235.91	
					16QAM	21.71	148.38	22.78	189.72	
					64QAM	19.95	98.85			
		2541.00 ~ 2644.98	90	DFT-s OFDM	256QAM	18.12	64.80			
					CP-OFDM	QSK	21.01	126.15		
					$\pi/2$ BPSK	22.62	183.00			
					QPSK	22.74	187.76	23.85	242.59	
		2536.02 ~ 2649.99	80	DFT-s OFDM	16QAM	21.63	145.66	22.71	186.59	
					64QAM	20.11	102.57			
					256QAM	18.18	65.70			
					CP-OFDM	QPSK	21.18	131.12		
		2531.02 ~ 2654.98	70	DFT-s OFDM	$\pi/2$ BPSK	22.61	182.50			
					QPSK	22.73	187.33	23.98	250.32	
					16QAM	21.53	142.21	22.64	183.66	
					64QAM	20.13	103.11			
		2526.00 ~ 2659.98	60	DFT-s OFDM	256QAM	18.14	65.22			
					CP-OFDM	QPSK	21.13	129.68		
					$\pi/2$ BPSK	22.64	183.81			
					QPSK	22.79	190.07	23.84	242.18	
		2521.01 ~ 2665.00	50	DFT-s OFDM	16QAM	21.58	143.81	22.85	192.81	
					64QAM	19.94	98.72			
					256QAM	17.99	63.02			
					CP-OFDM	QPSK	20.99	125.48		
		2516.01 ~ 2670.00	40	DFT-s OFDM	$\pi/2$ BPSK	22.59	181.73			
					QPSK	22.84	192.34	23.96	248.86	
					16QAM	21.60	144.42	23.01	199.97	
					64QAM	19.93	98.47			
		2511.00 ~ 2675.00	30	DFT-s OFDM	256QAM	18.15	65.39			
					CP-OFDM	QPSK	21.13	129.86		
					$\pi/2$ BPSK	22.65	183.90			
					QPSK	22.81	191.13	23.77	238.26	
		2506.02 ~ 2679.99	20	DFT-s OFDM	16QAM	21.73	148.83	23.06	202.33	
					64QAM	20.08	101.88			
					256QAM	18.07	64.12			
					CP-OFDM	QPSK	21.16	130.73		
		2503.50 ~ 2682.48	15	DFT-s OFDM	$\pi/2$ BPSK	22.67	184.74			
					QPSK	22.79	190.27	23.75	236.92	
					16QAM	21.60	144.70	22.99	198.89	
					64QAM	20.12	102.91			
		2501.01 ~ 2685.00	10	DFT-s OFDM	256QAM	18.17	65.66			
					CP-OFDM	QPSK	21.19	131.54		
					$\pi/2$ BPSK	22.58	181.23			
					QPSK	22.65	183.98	23.68	233.33	
					16QAM	21.58	143.98	22.93	196.32	
					64QAM	20.09	102.12			
					256QAM	18.14	65.21			
					CP-OFDM	QPSK	21.14	130.00		
			$\pi/2$ BPSK	22.56	180.41					
			QPSK	22.59	181.42	22.90	194.79			
			16QAM	21.58	143.97	23.01	200.17			
			64QAM	20.04	100.94					
			256QAM	18.13	64.98					
			CP-OFDM	QPSK	21.11	129.07				
			$\pi/2$ BPSK	22.56	180.27					
			QPSK	22.61	182.43	22.90	194.79			
			16QAM	21.52	141.81	23.05	201.61			
			64QAM	20.09	102.09					
			256QAM	18.11	64.65					
			CP-OFDM	QPSK	21.07	127.89				
			$\pi/2$ BPSK	22.56	180.42					
			QPSK	22.60	181.98	22.89	194.34			
			16QAM	21.66	146.68	23.18	208.01			
			64QAM	19.97	99.36					
			256QAM	18.21	66.20					
			CP-OFDM	QPSK	21.09	128.42				

NR Band n41 (SRS)

FCC Part 27							
Band	ANT	Frequency Range [MHz]	BandWidth [MHz]	Conducted		Radiated	
				Avg [dBm]	Avg [mW]	Avg [dBm]	Avg [mW]
n41_SRS1	Antenna F Sub 2	2546.01 ~ 2640.00	100	22.22	166.72		
		2541.00 ~ 2644.98	90	22.15	164.06		
		2536.02 ~ 2649.99	80	22.05	160.32		
		2531.02 ~ 2654.98	70	22.24	167.49	17.69	58.75
		2526.00 ~ 2659.98	60	22.05	160.32		
		2521.01 ~ 2665.00	50	21.91	155.24		
		2516.01 ~ 2670.00	40	21.06	127.64		
		2511.00 ~ 2675.00	30	21.63	145.55		
		2506.02 ~ 2679.99	20	21.93	155.96		
		2503.5 ~ 2682.48	15	21.75	149.62		
2501.01 ~ 2685.00	10	20.83	121.06				
FCC Part 27							
Band	ANT	Frequency Range [MHz]	BandWidth [MHz]	Conducted		Radiated	
				Avg [dBm]	Avg [mW]	Avg [dBm]	Avg [mW]
n41_SRS2	Antenna E Sub 1	2546.01 ~ 2640.00	100	20.68	116.95		
		2541.00 ~ 2644.98	90	20.71	117.76		
		2536.02 ~ 2649.99	80	20.98	125.31	17.09	51.17
		2531.02 ~ 2654.98	70	20.95	124.45		
		2526.00 ~ 2659.98	60	20.76	119.12		
		2521.01 ~ 2665.00	50	20.85	121.62		
		2516.01 ~ 2670.00	40	20.11	102.57		
		2511.00 ~ 2675.00	30	19.23	83.75		
		2506.02 ~ 2679.99	20	18.83	76.38		
		2503.5 ~ 2682.48	15	18.13	65.01		
2501.01 ~ 2685.00	10	18.36	68.55				
FCC Part 27							
Band	ANT	Frequency Range [MHz]	BandWidth [MHz]	Conducted		Radiated	
				Avg [dBm]	Avg [mW]	Avg [dBm]	Avg [mW]
n41_SRS3	Antenna D Main 4	2546.01 ~ 2640.00	100	21.64	145.88		
		2541.00 ~ 2644.98	90	21.81	151.71		
		2536.02 ~ 2649.99	80	21.70	147.91		
		2531.02 ~ 2654.98	70	21.86	153.46		
		2526.00 ~ 2659.98	60	21.95	156.68	13.80	23.99
		2521.01 ~ 2665.00	50	20.93	123.88		
		2516.01 ~ 2670.00	40	19.66	92.47		
		2511.00 ~ 2675.00	30	19.60	91.20		
		2506.02 ~ 2679.99	20	19.59	90.99		
		2503.5 ~ 2682.48	15	19.56	90.36		
2501.01 ~ 2685.00	10	19.58	90.78				

NR Band n66

FCC Part 27									
Band	ANT	Frequency Range [MHz]	BandWidth [MHz]	Modulation	Mode	Conducted		Radiated	
						Avg [dBm]	Avg [mW]	Avg [dBm]	Avg [mW]
n66	Antenna A Main 1	1730.00 ~ 1760.00	40	DFT-s OFDM	$\pi/2$ BPSK	22.81	190.99		
					QPSK	22.82	191.43	21.80	151.36
					16QAM	21.93	155.96	20.67	116.68
				64QAM	20.12	102.80			
				256QAM	18.07	64.12			
				CP-OFDM	QPSK	21.04	127.06		
		1725.00 ~ 1765.00	30	DFT-s OFDM	$\pi/2$ BPSK	22.82	191.43		
					QPSK	22.82	191.43	21.66	146.55
					16QAM	21.80	151.36	20.61	115.08
				64QAM	20.21	104.95			
				256QAM	17.94	62.23			
				CP-OFDM	QPSK	21.10	128.82		
		1722.50 ~ 1767.50	25	DFT-s OFDM	$\pi/2$ BPSK	22.74	187.93		
					QPSK	22.73	187.50	21.48	140.60
					16QAM	21.67	146.89	20.51	112.46
				64QAM	20.14	103.28			
				256QAM	18.04	63.68			
				CP-OFDM	QPSK	21.17	130.92		
		1720.00 ~ 1770.00	20	DFT-s OFDM	$\pi/2$ BPSK	22.76	188.80		
					QPSK	22.75	188.36	21.45	139.64
					16QAM	21.75	149.62	20.49	111.94
				64QAM	20.35	108.39			
				256QAM	18.08	64.27			
				CP-OFDM	QPSK	21.25	133.35		
		1717.50 ~ 1772.50	15	DFT-s OFDM	$\pi/2$ BPSK	22.70	186.21		
					QPSK	22.66	184.50	21.41	138.36
					16QAM	21.67	146.89	20.46	111.17
				64QAM	20.28	106.66			
				256QAM	18.04	63.68			
				CP-OFDM	QPSK	21.12	129.42		
		1715.00 ~ 1775.00	10	DFT-s OFDM	$\pi/2$ BPSK	22.68	185.35		
					QPSK	22.71	186.64	21.45	139.64
16QAM	21.74				149.28	20.56	113.76		
64QAM	20.22			105.20					
256QAM	18.07			64.12					
CP-OFDM	QPSK			21.15	130.32				
1712.50 ~ 1777.50	5	DFT-s OFDM	$\pi/2$ BPSK	22.65	184.08				
			QPSK	22.63	183.23	21.44	139.32		
			16QAM	21.63	145.55	20.47	111.43		
		64QAM	20.18	104.23					
		256QAM	18.03	63.53					
		CP-OFDM	QPSK	21.13	129.72				

FCC Part 27									
Band	Band	Frequency Range [MHz]	BandWidth [MHz]	Modulation	Mode	Conducted		Radiated	
						Avg [dBm]	Avg [mW]	Avg [dBm]	Avg [mW]
n66	Antenna F Sub 2	1730.00 ~ 1760.00	40	DFT-s OFDM	$\pi/2$ BPSK	23.48	222.84		
					QPSK	23.38	217.77	22.92	195.88
					16QAM	22.62	182.81	22.10	162.18
					64QAM	20.81	120.50		
					256QAM	18.67	73.62		
		CP-OFDM	QPSK	21.74	149.28				
		1725.00 ~ 1765.00	30	DFT-s OFDM	$\pi/2$ BPSK	23.36	216.77		
					QPSK	23.38	217.77	23.08	203.24
					16QAM	22.33	171.00	21.90	154.88
					64QAM	20.67	122.18		
					256QAM	18.77	75.34		
		CP-OFDM	QPSK	21.77	150.31				
		1722.50 ~ 1767.50	25	DFT-s OFDM	$\pi/2$ BPSK	23.37	217.27		
					QPSK	23.40	218.78	23.10	204.17
					16QAM	22.38	172.98	22.03	159.59
					64QAM	20.75	118.85		
					256QAM	18.76	75.16		
		CP-OFDM	QPSK	21.85	153.11				
		1720.00 ~ 1770.00	20	DFT-s OFDM	$\pi/2$ BPSK	23.47	222.33		
					QPSK	23.50	223.87	23.25	211.35
					16QAM	22.58	181.13	22.15	164.06
					64QAM	21.01	126.18		
					256QAM	18.80	75.86		
		CP-OFDM	QPSK	21.96	157.04				
		1717.50 ~ 1772.50	15	DFT-s OFDM	$\pi/2$ BPSK	23.35	216.27		
					QPSK	23.36	216.77	23.20	208.93
					16QAM	22.38	172.98	22.07	161.06
					64QAM	20.68	116.95		
					256QAM	18.68	73.79		
		CP-OFDM	QPSK	21.70	147.91				
1715.00 ~ 1775.00	10	DFT-s OFDM	$\pi/2$ BPSK	23.30	213.80				
			QPSK	23.32	214.78	23.29	213.30		
			16QAM	22.35	171.79	22.21	166.34		
			64QAM	20.89	122.74				
			256QAM	18.68	73.79				
CP-OFDM	QPSK	21.80	151.36						
1712.50 ~ 1777.50	5	DFT-s OFDM	$\pi/2$ BPSK	23.31	214.29				
			QPSK	23.32	214.78	23.34	215.77		
			16QAM	22.35	171.79	22.26	168.27		
			64QAM	20.91	123.31				
			256QAM	18.80	75.86				
CP-OFDM	QPSK	21.81	151.71						

NR Band n77(PC2, 3450-3550 MHz)

FCC Part 27									
Band	ANT	Frequency Range [MHz]	BandWidth [MHz]	Modulation	Mode	Conducted		Radiated	
						Avg [dBm]	Avg [mW]	Avg [dBm]	Avg [mW]
n77	Antenna F Sub 2	3499.98	100	DFT-s OFDM	π/2 BPSK	25.56	360.10	23.52	224.91
					QSK	25.42	348.54	23.10	204.17
					16QAM	24.90	308.89		
					64QAM	23.22	209.89		
					256QAM	21.41	138.24		
		CP-OFDM	QPSK	24.35	272.18				
		3495.00 ~ 3504.99	90	DFT-s OFDM	π/2 BPSK	25.67	369.01	24.89	308.32
					QPSK	25.31	339.63	24.34	271.64
					16QAM	24.96	313.33		
					64QAM	23.49	223.39		
					256QAM	21.40	138.17		
		CP-OFDM	QPSK	24.49	281.13				
		3490.02 ~ 3510.00	80	DFT-s OFDM	π/2 BPSK	25.73	373.84	23.84	242.10
					QPSK	25.26	335.92	23.36	216.77
					16QAM	24.93	310.93		
					64QAM	23.27	212.49		
					256QAM	21.22	132.53		
		CP-OFDM	QPSK	24.24	265.38				
		3485.01 ~ 3514.98	70	DFT-s OFDM	π/2 BPSK	25.56	359.53	24.91	309.74
					QPSK	25.29	338.00	24.46	279.25
					16QAM	24.96	313.17		
					64QAM	23.19	208.41		
					256QAM	21.13	129.82		
		CP-OFDM	QPSK	24.33	271.11				
		3480.00 ~ 3519.99	60	DFT-s OFDM	π/2 BPSK	25.58	361.74	24.69	294.44
					QPSK	25.22	332.36	24.18	261.82
					16QAM	24.83	303.99		
					64QAM	23.42	219.54		
					256QAM	21.46	139.86		
		CP-OFDM	QPSK	24.38	274.24				
		3475.02 ~ 3525.00	50	DFT-s OFDM	π/2 BPSK	25.89	387.85	24.89	308.32
					QPSK	25.36	343.29	24.29	268.53
					16QAM	24.99	315.35		
					64QAM	23.45	221.48		
					256QAM	21.45	139.75		
		CP-OFDM	QPSK	24.47	279.66				
		3470.01 ~ 3529.98	40	DFT-s OFDM	π/2 BPSK	25.93	391.42	24.78	300.61
					QPSK	25.37	344.25	24.28	267.92
					16QAM	24.90	309.38		
					64QAM	23.27	212.10		
					256QAM	21.23	132.76		
		CP-OFDM	QPSK	24.42	276.93				
		3465.00 ~ 3535.02	30	DFT-s OFDM	π/2 BPSK	25.94	392.98	24.73	297.17
					QPSK	25.34	342.02	24.19	262.42
					16QAM	24.86	306.09		
					64QAM	23.23	210.33		
					256QAM	21.33	135.99		
		CP-OFDM	QPSK	24.37	273.48				
		3462.51 ~ 3537.48	25	DFT-s OFDM	π/2 BPSK	25.99	397.26	24.76	299.23
					QPSK	25.28	337.18	24.16	260.62
					16QAM	24.97	314.07		
					64QAM	23.49	223.50		
					256QAM	21.44	139.30		
		CP-OFDM	QPSK	24.46	279.06				
		3460.02 ~ 3540.00	20	DFT-s OFDM	π/2 BPSK	25.99	397.14	24.89	308.32
					QPSK	25.24	334.34	24.41	276.06
					16QAM	24.75	298.53		
					64QAM	23.44	220.93		
					256QAM	21.35	136.32		
		CP-OFDM	QPSK	24.36	272.76				
		3457.50 ~ 3542.49	15	DFT-s OFDM	π/2 BPSK	25.91	389.87	24.93	311.17
					QPSK	25.29	338.43	24.41	276.06
					16QAM	24.91	309.94		
					64QAM	23.20	208.98		
					256QAM	21.41	138.25		
		CP-OFDM	QPSK	24.34	271.57				
		3455.01 ~ 3549.99	10	DFT-s OFDM	π/2 BPSK	25.93	391.43	24.78	300.61
					QPSK	25.32	340.11	24.36	272.90
					16QAM	24.85	305.42		
					64QAM	23.50	223.71		
					256QAM	21.45	139.53		
		CP-OFDM	QPSK	24.34	271.60				

NR Band n77(3700-3980 MHz)

FCC Part 27											
Band	ANT	Frequency Range [MHz]	BandWidth [MHz]	Modulation	Mode	Conducted		Radiated			
						Avg [dBm]	Avg [mW]	Avg [dBm]	Avg [mW]		
n77	Antenna F Sub 2	3750.00 ~ 3930.00	100	DFT-s OFDM	π/2 BSK	25.44	349.64	24.76	299.23		
					QSK	25.44	349.89	24.23	264.85		
					16QAM	24.69	294.77				
					64QAM	22.99	199.24				
					256QAM	20.98	125.19				
				CP-OFDM	QPSK	24.04	253.30				
				3745.02 ~ 3934.98	90	DFT-s OFDM	π/2 BPSK	25.49	354.00	24.79	301.30
							QPSK	25.36	343.32	24.21	263.63
							16QAM	24.58	286.90		
							64QAM	23.15	206.50		
		256QAM	21.06				127.57				
		CP-OFDM	QPSK	24.03	253.21						
		3740.01 ~ 3939.99	80	DFT-s OFDM	π/2 BPSK	25.58	361.59	24.49	281.19		
					QPSK	25.37	344.27	23.95	248.31		
					16QAM	24.67	293.36				
					64QAM	22.90	194.78				
					256QAM	21.02	126.38				
		CP-OFDM	QPSK	24.04	253.45						
		3735.02 ~ 3944.98	70	DFT-s OFDM	π/2 BPSK	25.63	365.32	24.69	294.44		
					QPSK	25.22	333.03	24.11	257.63		
					16QAM	24.44	278.27				
					64QAM	22.96	197.72				
					256QAM	21.01	126.19				
		CP-OFDM	QPSK	23.96	248.62						
		3730.02 ~ 3949.98	60	DFT-s OFDM	π/2 BPSK	25.55	358.61	24.60	288.40		
					QPSK	25.49	354.11	24.13	258.82		
					16QAM	24.80	301.75				
					64QAM	23.32	214.78				
					256QAM	21.04	126.95				
		CP-OFDM	QPSK	24.07	255.03						
		3725.01 ~ 3954.99	50	DFT-s OFDM	π/2 BPSK	25.52	356.45	24.50	281.84		
					QPSK	25.48	353.34	24.02	252.35		
					16QAM	24.75	298.43				
					64QAM	23.15	206.77				
					256QAM	21.21	132.04				
		CP-OFDM	QPSK	24.13	258.91						
		3720.02 ~ 3960.0	40	DFT-s OFDM	π/2 BPSK	25.32	340.20	24.57	286.42		
					QPSK	25.47	352.41	24.21	263.63		
					16QAM	24.88	307.38				
					64QAM	23.10	204.08				
					256QAM	21.28	134.14				
		CP-OFDM	QPSK	24.20	262.97						
		3715.02 ~ 3964.98	30	DFT-s OFDM	π/2 BPSK	25.28	337.39	24.45	278.61		
					QPSK	25.39	345.88	24.01	251.77		
					16QAM	24.82	303.16				
					64QAM	23.12	205.19				
					256QAM	21.36	136.78				
		CP-OFDM	QPSK	24.36	273.12						
		3712.50 ~ 3967.50	25	DFT-s OFDM	π/2 BPSK	25.19	330.62	24.58	287.08		
					QPSK	25.42	348.54	24.27	267.30		
					16QAM	24.83	303.98				
					64QAM	23.31	214.42				
					256QAM	21.23	132.87				
		CP-OFDM	QPSK	24.43	277.34						
		3710.01 ~ 3969.99	20	DFT-s OFDM	π/2 BPSK	25.23	333.32	24.57	286.42		
					QPSK	25.40	346.62	24.11	257.63		
					16QAM	24.95	312.25				
					64QAM	23.46	221.89				
					256QAM	21.23	132.88				
		CP-OFDM	QPSK	24.37	273.41						
		3707.52 ~ 3972.48	15	DFT-s OFDM	π/2 BPSK	25.08	322.22	24.89	308.32		
					QPSK	25.34	342.06	24.52	283.14		
					16QAM	24.93	311.10				
					64QAM	23.14	206.02				
					256QAM	21.13	129.69				
		CP-OFDM	QPSK	24.32	270.47						
		3705.00 ~ 3975.00	10	DFT-s OFDM	π/2 BPSK	25.22	332.33	24.90	309.03		
					QPSK	25.34	341.59	24.48	280.54		
					16QAM	24.96	313.43				
					64QAM	23.49	223.59				
					256QAM	21.40	138.09				
		CP-OFDM	QPSK	24.36	272.67						

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)	ANT	Peak Gain (dBi)
WCDMA B4 / LTE Band 4 / LTE Band 66 / NR Band n66 1710 - 1780 MHz	Antenna A Main 1	-4.5
	Antenna F Sub 2	-5.9
LTE Band 12 699 - 716 MHz	Antenna A Main 1	-5.5
LTE Band 13 777 - 787 MHz	Antenna A Main 1	-5.58
LTE Band 41 / NR Band n41 2496 - 2690 MHz	Antenna B Main 2	-4.9
	Antenna F Sub 2	-5.7
	Antenna E Sub 1	-9.0
	Antenna D Main 4	-8.4
NR Band n77 3450-3550 MHz, 3700-3980 MHz	Antenna F Sub 2	-3.2

5.4. WORST-CASE ORIENTATION

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

- UMTS REL 99/HSDPA

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 and 256QAM modulations. It was found QPSK and 16QAM results were worst case.

For 5G NR n41, 66 the worst-case scenario for all measurements is based on the average conducted output power measurement investigation results. Output power measurements were measured on $\pi/2$ BPSK, QPSK, 16QAM, 64QAM and 256QAM modulations. It was found QPSK and 16QAM results were worst case.

For 5G NR n77 the worst-case scenario for all measurements is based on the average conducted output power measurement investigation results. Output power measurements were measured on $\pi/2$ BPSK, QPSK, 16QAM, 64QAM and 256QAM modulations. It was found $\pi/2$ BPSK and 16QAM results were worst case.

This device supports both NSA and SA Mode and Tx Hopping Mode and ENDC Switching Mode. During the entire mode were tested and worst case is reported.

This device supports SRS (sounding reference signal) 1, 2, 3 Mode for NR TDD band 41. For each SRS 1, 2, 3 Conducted power and radiated measurement were performed through FTM Mode provide by the customer. The worst-case scenario for all measurements is based on the average conducted output power measurement investigation results. SRS 1, 2, 3 Mode the worstcase scenario was radiated tested and reported.

This device supports Tx Hopping Mode and ENDC Switching Mode.(Sub Antenna)
 So the test case is as below.

Test Item	Test case antenna & port
Conducted output power	All
RF port test	Worst case
ERP / EIRP	All
Radiated Spurious Emissions	All

As for the conducted test, 'Main ANT' is the same or higher than 'Sub ANT', so we tested with 'Main ANT'.

Band	Main ANT	Tune-up Limit (dBm)	Sub ANT	Tune up Limit (dBm)
WCDMA B4	<u>Antenna A (Main 1)</u>	<u>24.0</u>		
LTE B12	<u>Antenna A (Main 1)</u>	<u>24.0</u>		
LTE B13	<u>Antenna A (Main 1)</u>	<u>24.0</u>		
LTE B41	<u>Antenna B (Main 2)</u>	<u>25.0</u>	Antenna F (Sub 2)	24.0
LTE B66	<u>Antenna A (Main 1)</u>	<u>24.0</u>	Antenna F (Sub 2)	24.0
NR n41	<u>Antenna B (Main 2)</u>	<u>24.0</u>	Antenna F (Sub 2)	24.0
			SRS 1, 2, 3	-
NR n66	<u>Antenna A (Main 1)</u>	<u>24.0</u>	Antenna F (Sub 2)	24.0
NR n77 (PC2)	<u>Antenna F (Sub 2)</u>	<u>26.0</u>		

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

NR Band	LTE Band
41	2, 4, 12, 66
66	2, 5, 12, 13
77	2, 5, 12, 13 , 25, 66

LTE Band 4

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

NR Band 77(PC3)

NR Band 77(PC3, Frequency range : 3450-3550 MHz, 3700-3980 MHz) is covered by NR Band 77(PC2, Frequency range : 3450-3550 MHz, 3700-3980 MHz) due to same frequency range, same channel bandwidth and maximum tune-up limit is higher than NR Band 77(PC3).

● Conducted Spurious Emission

Highest conducted output power setting for each bands					
LTE Band	ANT	Frequency (MHz)	Bandwidth (MHz)	RB size	RB offset
12	Antenna A Main 1	700.50	3	1	0
		707.50		1	12
		714.50		1	0
13	Antenna A Main 1	779.50	5	1	12
		782.50		1	12
		784.50		1	12
41	Antenna B Main 2	2503.50	15	1	37
		2593.00		1	37
		2682.50		1	37
66	Antenna A Main 1	1710.70	1.4	1	0
		1745.00		1	0
		1779.30		1	0
NR Band	ANT	Frequency (MHz)	Bandwidth (MHz)	RB size	RB offset
41	Antenna B Main 2	2541.00	90	1	123
		2592.99		1	243
		2644.98		1	1
66	Antenna A Main 1	1730.00	40	1	108
		1745.00		1	108
		1760.00		1	108
77(PC2) (3450-3550 MHz)	Antenna F Sub 2	3462.51	25	1	32
		3499.98		1	1
		3537.48		1	32
77(PC2) (3700-3980 MHz)	Antenna F Sub 2	3735.02	70	1	187
		3840.00		1	1
		3944.98		1	187

● Radiated Spurious Emission

Highest ERP/EIRP setting for each bands					
LTE Band	ANT	Frequency (MHz)	Bandwidth (MHz)	RB size	RB offset
12	Antenna A Main 1	704.00	10	1	0
		707.50		1	0
		711.00		1	0
13	Antenna A Main 1	782.00	10	1	0
41	Antenna B Main 2	2501.00	10	1	25
		2593.00		1	25
		2685.00		1	25
41	Antenna F Sub 2	2503.50	15	1	74
		2593.00		1	37
		2682.50		1	74
66	Antenna A Main 1	1711.50	3	1	14
		1745.00		1	8
		1778.00		1	14
66	Antenna F Sub 2	1711.50	3	1	14
		1745.00		1	8
		1778.00		1	8
NR Band	ANT	Frequency (MHz)	Bandwidth (MHz)	RB size	RB offset
41	Antenna B Main 2	2536.02	80	1	109
		2592.99		1	215
		2649.99		1	215
41	Antenna F Sub 2	2536.02	80	1	109
		2592.99		1	215
		2649.99		1	215
66	Antenna A Main 1	1730.00	40	1	108
		1745.00		1	108
		1760.00		1	108
66	Antenna F Sub 2	1712.50	5	1	23
		1745.00		1	23
		1777.50		1	23
77(PC2) (3450-3550 MHz)	Antenna F Sub 2	3457.50	15	1	1
		3499.98		1	1
		3542.49		1	1
77(PC2) (3700-3980 MHz)	Antenna F Sub 2	3705.00	10	1	1
		3840.00		1	1
		3975.00		1	1

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
WCDMA B4	Antenna A Main 1	O	-	-	-	-	O
LTE B12	Antenna A Main 1	-	-	O	-	-	O
LTE B13	Antenna A Main 1	-	-	O	-	-	O
LTE B41	Antenna B Main 2	O			-	-	O
	Antenna F Sub 2	O			-	-	O
LTE B66	Antenna A Main 1	O	-	-	-	-	O
	Antenna F Sub 2	O	-	-	O	-	-
NR n41(PC2)	Antenna B Main 2	O	-	-	-	O	-
	Antenna F Sub 2	O	-	-	-	-	O
NR n41_SRS1	Antenna F Sub 2	O	-	-	-	O	-
NR n41_SRS2	Antenna E Sub 1	O	-	-	-	O	-
NR n41_SRS3	Antenna D Main 4	-	-	O	-	O	-
NR n66	Antenna A Main 1	-	O	-	-	O	-
	Antenna F Sub 2	O	-	-	O	-	-
NR n77(PC2) (3450 - 3550 MHz)	Antenna F Sub 2	O	-	-	O	-	-
NR n77(PC2) (3700 - 3980 MHz)	Antenna F Sub 2	-	O	-	-	O	-

Note : For the radiated testing, the EUT attached with travel adapter for the worst case condition. The EUT is continuously communicated with the call box during the tests.

5.5. DESCRIPTION OF TEST SETUP

SUPPORT EQUIPMENT

Support Equipment List				
Description	Manufacture	Model	Serial Number	FCC ID
Charger	SAMSUNG	EP-TA800	R37W61WENTASEA	N/A
Data Cable	SAMSUNG	EP-DN980	GH39-02117A	N/A

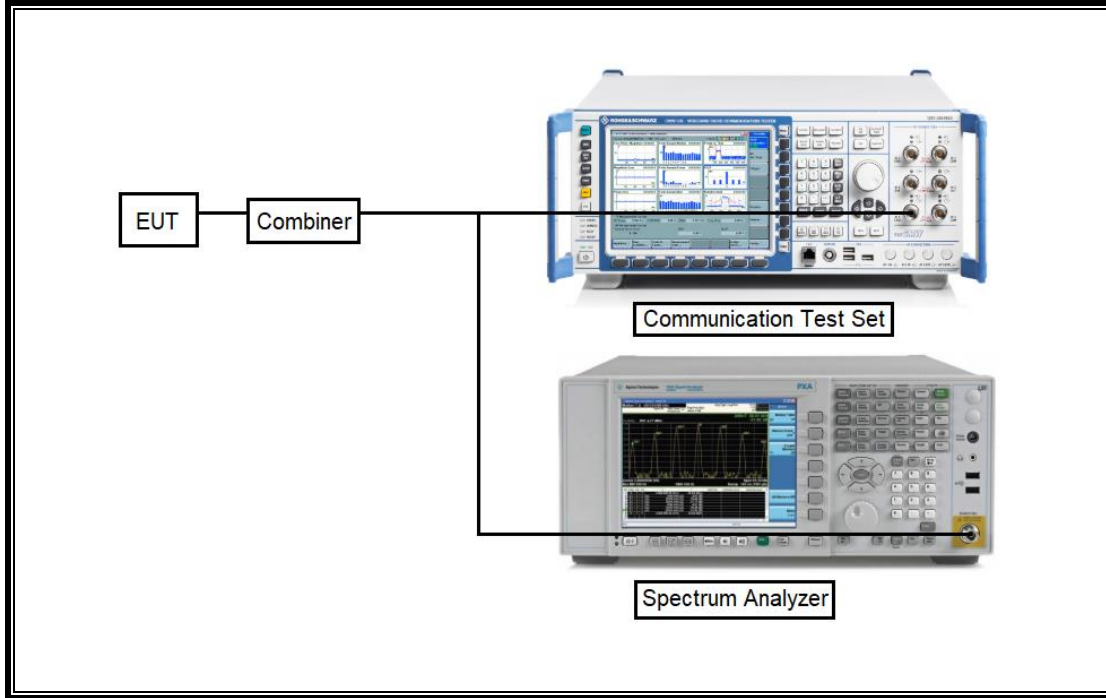
I/O CABLE

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

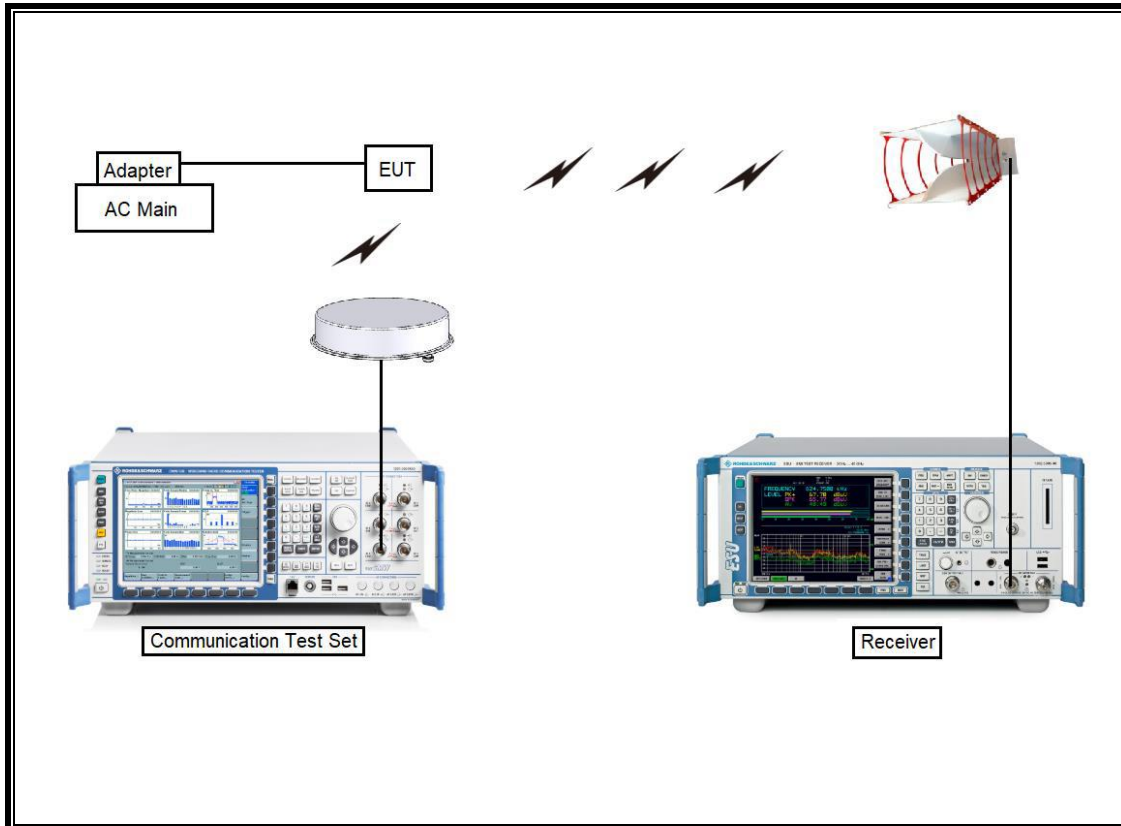
TEST SETUP

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	00166155	2024-08-02
Antenna, Horn, 40 GHz	ETS	3116C	00168645	2025-10-05
Preamplifier	ETS	3115-PA	00167475	2024-07-25
Preamplifier	ETS	3116C-PA	00168841	2024-07-25
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	00167211	2024-08-04
Antenna, Horn, 18 GHz	ETS	3115	00161451	2024-08-21
Antenna, Horn, 18 GHz	ETS	3117	00168724	2024-08-04
Antenna, Horn, 18 GHz	ETS	3117	00168717	2024-08-21
Communications Test Set	R&S	CMW500	169797	2024-07-23
DC Power Supply	Agilent / HP	E3640A	MY54226395	2024-07-24
Preamplifier, 1000 MHz	Sonoma	310N	341282	2024-07-24
Preamplifier, 1000 MHz	Sonoma	310N	370599	2024-07-24
Preamplifier, 1000 MHz	Sonoma	310N	351741	2024-07-24
Preamplifier, 18 GHz	Miteq	AFS42-00101800-25-S-42	2029169	2024-07-24
Preamplifier, 18 GHz	Miteq	AFS42-00101800-25-S-42	1896138	2024-07-25
Spectrum Analyzer, 44 GHz	Agilent / HP	N9030A	MY54170614	2024-07-25
Spectrum Analyzer, 44 GHz	Agilent / HP	N9030A	MY54490312	2024-07-24
Spectrum Analyzer, 44 GHz	KEYSIGHT	N9030B	MY57143717	2024-07-24
EMI Test Receive, 40 GHz	R&S	ESU40	100439	2024-07-23
EMI Test Receive, 40 GHz	R&S	ESU40	100457	2024-07-24
High Pass Filter 1.2GHz	Micro-Tronics	HPM50108-02	G005	2024-07-23
High Pass Filter 1.2GHz	Micro-Tronics	HPM50108-02	G006	2024-07-23
High Pass Filter 2.8GHz	Micro-Tronics	HPM50111-02	010	2024-07-24
High Pass Filter 2.8GHz	Micro-Tronics	HPM50111-02	011	2024-07-24
High Pass Filter 4GHz	Micro-Tronics	HPM50118-02	G001	2024-07-24
High Pass Filter 4GHz	Micro-Tronics	HPM50118-02	G002	2024-07-24
Attenuator	PASTERNAK	PE7087-10	A009	2024-07-24
Attenuator	PASTERNAK	PE7087-10	A001	2024-07-24
Attenuator	PASTERNAK	PE7087-10	A008	2024-07-27
Attenuator	PASTERNAK	PE7004-10	2	2024-07-23
Attenuator	PASTERNAK	PE7395-10	A011	2024-07-25
Antenna, Loop, 9kHz-30MHz	R&S	HFH2-Z2	100418	2025-09-06
Temperature Chamber	ESPEC	SH-642	93001109	2024-07-24
Power Splitter	MINI-CIRCUITS	WA1534	UL003	2025-01-02
Power Splitter	MINI-CIRCUITS	WA1534	UL004	2025-01-02
UXM5G Wireless Test Platform	KEYSIGHT	E7515B	MY58010202	2024-01-27
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 Results	
2.1046	Conducted Output Power	N/A	Conducted	Pass	
2.1049	Occupied Bandwidth (99%)	N/A		Pass	
27.53(c)(2) 27.53(g) 27.53(h) 27.53(l)(2) 27.53(n)(2)	Conducted Band Edge / Conducted Spurious Emission	-13 dBm		Pass	
27.53(m)		-25 dBm		Pass	
27.53(c)(4)		-35 dBm		Pass	
27.53(m)	Emission Mask	Section 9.2.2		Pass	
27.54	Frequency Stability	2.5 ppm		Pass	
27.50(c)(10) 27.50(h)(10)	Effective Radiated Power	34.77 dBm		Radiated	Pass
27.50(h)(2) 27.50(j)(3) 27.50(k)(3)	Effective Isotropic Radiated Power	33 dBm			Pass
27.50(d)(4)		30 dBm	Pass		
27.53(c)(2) 27.53(g) 27.53(h)	Radiated Spurious Emission	-13 dBm	Pass		
27.53(f)		-40 dBm	Pass		
27.53(m) 27.53(l)(2) 27.53(n)(2)		-25 dBm	Pass		

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 ($\pi/2$ 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.

8.1.1. CONDUCTED AVERAGE OUTPUT POWER

WCDMA (Antenna A, Main 1)

Mode		UL Ch No.	Freq. (MHz)	Maximum Average Power (dBm)		
				Measured Pwr	MPR	Tune-up Limit
Release 99	Rel 99 (RMC, 12.2 kbps)	1312	1712.4	22.96	N/A	24.0
		1413	1732.6	22.78		
		1513	1752.6	23.02		
HSDPA	Subtest 1	1312	1712.4	22.47	0	23.5
		1413	1732.6	22.30		
		1513	1752.6	22.62		
	Subtest 2	1312	1712.4	21.31	0	23.5
		1413	1732.6	21.21		
		1513	1752.6	21.50		
	Subtest 3	1312	1712.4	20.51	0.5	23.0
		1413	1732.6	20.55		
		1513	1752.6	20.59		
	Subtest 4	1312	1712.4	20.61	0.5	23.0
		1413	1732.6	20.55		
		1513	1752.6	20.53		
HSUPA	Subtest 1	1312	1712.4	21.23	0	23.5
		1413	1732.6	21.11		
		1513	1752.6	21.39		
	Subtest 2	1312	1712.4	19.25	2	21.5
		1413	1732.6	19.11		
		1513	1752.6	19.42		
	Subtest 3	1312	1712.4	20.43	1	22.5
		1413	1732.6	20.18		
		1513	1752.6	20.45		
	Subtest 4	1312	1712.4	19.53	2	21.5
		1413	1732.6	19.26		
		1513	1752.6	19.51		
	Subtest 5	1312	1712.4	22.60	0	23.5
		1413	1732.6	22.38		
		1513	1752.6	22.64		
DC-HSDPA	Subtest 1	1312	1712.4	22.34	0	23.5
		1413	1732.6	22.54		
		1513	1752.6	22.54		
	Subtest 2	1312	1712.4	21.29	0	23.5
		1413	1732.6	21.45		
		1513	1752.6	21.43		
	Subtest 3	1312	1712.4	20.61	0.5	23.0
		1413	1732.6	20.53		
		1513	1752.6	20.57		
	Subtest 4	1312	1712.4	20.51	0.5	23.0
		1413	1732.6	20.53		
		1513	1752.6	20.55		

LTE Band 12 (Antenna A, Main 1)

BW (MHz)	Mode	RB Allocation	RB offset	Maximum Average Power (dBm)					
				Measured Pwr (dBm)			MPR	Tune-up Limit	
				23060 704 MHz	23095 707.5 MHz	23130 711 MHz			
10 MHz	QPSK	1	0	22.85	22.96	22.95	0.0	24.0	
		1	25	22.78	22.88	22.87	0.0	24.0	
		1	49	22.76	22.85	22.86	0.0	24.0	
		25	0	21.90	22.03	22.01	1.0	23.0	
		25	12	21.87	21.95	21.99	1.0	23.0	
		25	25	21.82	21.89	21.93	1.0	23.0	
	16QAM	50	0	21.87	21.96	21.99	1.0	23.0	
		1	0	22.08	22.12	22.29	1.0	23.0	
		1	25	22.16	22.13	22.38	1.0	23.0	
		1	49	21.89	21.93	22.09	1.0	23.0	
		25	0	20.90	20.96	21.01	2.0	22.0	
		25	12	20.86	20.93	20.99	2.0	22.0	
	64QAM	25	25	20.80	20.88	20.95	2.0	22.0	
		50	0	20.87	20.94	20.99	2.0	22.0	
		1	0	21.03	20.86	21.16	2.0	22.0	
		1	25	20.92	20.83	21.01	2.0	22.0	
		1	49	20.84	20.68	20.98	2.0	22.0	
		25	0	19.94	20.02	20.07	3.0	21.0	
	256QAM	25	12	19.91	19.99	20.03	3.0	21.0	
		25	25	19.86	19.96	20.01	3.0	21.0	
		50	0	19.85	19.95	20.00	3.0	21.0	
		1	0	18.01	18.20	18.18	5.0	19.0	
		1	25	17.94	18.13	18.13	5.0	19.0	
		1	49	17.88	18.10	18.00	5.0	19.0	
5 MHz	QPSK	25	0	17.93	18.02	18.08	5.0	19.0	
		25	12	17.91	17.98	18.05	5.0	19.0	
		25	25	17.85	17.94	18.00	5.0	19.0	
		50	0	17.83	17.94	17.99	5.0	19.0	
		16QAM	1	0	22.87	22.90	23.00	0.0	24.0
			1	12	22.85	22.92	23.02	0.0	24.0
	1		24	22.84	22.91	22.99	0.0	24.0	
	12		0	21.91	21.96	22.04	1.0	23.0	
	12		7	21.90	21.95	22.01	1.0	23.0	
	12		13	21.87	21.92	22.00	1.0	23.0	
	64QAM	25	0	21.90	21.94	22.03	1.0	23.0	
		1	0	22.14	22.22	22.42	1.0	23.0	
		1	12	22.10	22.18	22.32	1.0	23.0	
		1	24	22.14	22.23	22.28	1.0	23.0	
		12	0	20.91	20.95	21.07	2.0	22.0	
		12	7	20.88	20.92	21.01	2.0	22.0	
	256QAM	12	13	20.87	20.89	21.01	2.0	22.0	
		25	0	20.93	20.93	21.01	2.0	22.0	
		1	0	20.89	20.93	20.90	2.0	22.0	
		1	12	20.81	20.86	20.79	2.0	22.0	
		1	24	20.88	20.95	20.88	2.0	22.0	
		12	0	19.87	19.95	20.11	3.0	21.0	
	5 MHz	64QAM	12	7	19.84	19.92	20.07	3.0	21.0
			12	13	19.84	19.92	20.06	3.0	21.0
25			0	19.85	19.93	20.06	3.0	21.0	
1			0	18.13	18.20	18.09	5.0	19.0	
1			12	17.97	18.07	17.99	5.0	19.0	
1			24	18.08	18.17	17.99	5.0	19.0	
256QAM		12	0	17.82	17.87	18.04	5.0	19.0	
		12	7	17.80	17.86	18.02	5.0	19.0	
		12	13	17.79	17.85	17.99	5.0	19.0	
		25	0	17.87	17.94	18.04	5.0	19.0	

BW (MHz)	Mode	RB Allocation	RB offset	Measured Pwr (dBm)			MPR	Tune-up Limit	
				23025	23095	23165			
				700.5 MHz	707.5 MHz	714.5 MHz			
3 MHz	QPSK	1	0	22.97	22.92	23.07	0.0	24.0	
		1	8	22.92	22.95	23.04	0.0	24.0	
		1	14	22.90	22.95	23.03	0.0	24.0	
		8	0	23.01	23.03	23.13	0.5	23.5	
		8	4	23.01	23.03	23.11	0.5	23.5	
		8	7	23.01	23.03	23.11	0.5	23.5	
	16QAM	15	0	21.96	22.00	22.10	1.0	23.0	
		1	0	22.14	22.16	22.28	1.0	23.0	
		1	8	22.13	22.08	22.30	1.0	23.0	
		1	14	22.12	22.05	22.29	1.0	23.0	
		8	0	22.03	22.05	22.17	1.5	22.5	
		8	4	22.04	22.04	22.18	1.5	22.5	
	64QAM	8	7	22.03	22.04	22.16	1.5	22.5	
		15	0	20.98	21.04	21.11	2.0	22.0	
		1	0	20.98	21.06	20.96	2.0	22.0	
		1	8	20.92	20.98	20.89	2.0	22.0	
		1	14	20.89	20.96	20.87	2.0	22.0	
		8	0	21.01	20.94	21.19	2.5	21.5	
	256QAM	8	4	21.00	20.93	21.18	2.5	21.5	
		8	7	20.99	20.93	21.18	2.5	21.5	
		15	0	19.98	20.01	20.15	3.0	21.0	
		1	0	18.16	18.10	18.36	5.0	19.0	
		1	8	18.15	18.05	18.35	5.0	19.0	
		1	14	18.11	18.02	18.34	5.0	19.0	
1.4 MHz	QPSK	8	0	18.00	18.04	18.14	5.0	19.0	
		8	4	17.97	18.02	18.12	5.0	19.0	
		8	7	17.98	18.02	18.12	5.0	19.0	
		15	0	18.01	17.96	18.17	5.0	19.0	
		16QAM	1	0	22.88	22.88	22.97	0.0	24.0
			1	3	22.75	22.94	23.03	0.0	24.0
	1		5	22.84	22.93	23.02	0.0	24.0	
	3		0	22.85	23.04	23.13	0.0	24.0	
	3		1	22.87	22.98	23.08	0.0	24.0	
	3		3	22.86	22.98	23.08	0.0	24.0	
	64QAM		6	0	21.77	22.97	23.05	0.5	23.5
			1	0	21.84	22.22	22.35	1.0	23.0
			1	3	22.09	22.16	22.27	1.0	23.0
			1	5	21.88	22.15	22.28	1.0	23.0
			3	0	21.98	22.14	22.20	1.0	23.0
			3	1	21.88	22.13	22.20	1.0	23.0
	256QAM	3	3	21.87	22.13	22.20	1.0	23.0	
		6	0	20.87	22.01	22.14	1.5	22.5	
		1	0	21.83	20.96	21.17	2.0	22.0	
		1	3	20.95	20.86	21.08	2.0	22.0	
		3	5	20.95	20.89	21.10	2.0	22.0	
		3	0	20.96	20.98	21.16	2.0	22.0	
	1.4 MHz	64QAM	3	1	20.94	20.97	21.14	2.0	22.0
			3	3	20.93	20.97	21.14	2.0	22.0
6			0	20.80	20.97	21.06	2.5	21.5	
1			0	18.16	18.07	18.23	5.0	19.0	
1			3	18.13	18.04	18.22	5.0	19.0	
1			5	18.11	18.03	18.23	5.0	19.0	
256QAM		3	0	17.94	18.02	18.10	5.0	19.0	
		3	1	17.94	17.98	18.09	5.0	19.0	
		3	3	17.94	17.97	18.09	5.0	19.0	
		6	0	17.85	17.89	17.99	5.0	19.0	

LTE Band 13 (Antenna A, Main 1)

BW (MHz)	Mode	RB Allocation	RB offset	Maximum Average Power (dBm)					
				Measured Pwr (dBm)			MPR	Tune-up Limit	
					23230				
10 MHz	QPSK	1	0		23.49		0.0	24.0	
		1	25		23.25		0.0	24.0	
		1	49		23.36		0.0	24.0	
		25	0		22.45		1.0	23.0	
		25	12		22.40		1.0	23.0	
		25	25		22.40		1.0	23.0	
	16QAM	50	0		22.44		1.0	23.0	
		1	0		22.49		1.0	23.0	
		1	25		22.45		1.0	23.0	
		1	49		22.50		1.0	23.0	
		25	0		21.39		2.0	22.0	
		25	12		21.36		2.0	22.0	
	64QAM	25	25		21.39		2.0	22.0	
		50	0		21.34		2.0	22.0	
		1	0		21.14		2.0	22.0	
		1	25		21.04		2.0	22.0	
		1	49		21.02		2.0	22.0	
		25	0		20.37		3.0	21.0	
	256QAM	25	12		20.35		3.0	21.0	
		25	25		20.39		3.0	21.0	
		50	0		20.35		3.0	21.0	
		1	0		18.46		5.0	19.0	
		1	25		18.46		5.0	19.0	
		1	49		18.45		5.0	19.0	
	5 MHz	QPSK	25	0		18.36		5.0	19.0
			25	12		18.34		5.0	19.0
			25	25		18.36		5.0	19.0
			50	0		18.33		5.0	19.0
1			0		23.55	23.58	23.57	0.0	24.0
1			12		23.64	23.64	23.58	0.0	24.0
16QAM		1	24		23.47	23.51	23.54	0.0	24.0
		12	0		22.51	22.58	22.56	1.0	23.0
		12	7		22.50	22.57	22.57	1.0	23.0
		12	13		22.46	22.55	22.56	1.0	23.0
		25	0		22.45	22.52	22.28	1.0	23.0
		1	0		22.56	22.56	22.64	1.0	23.0
64QAM		1	12		22.52	22.53	22.55	1.0	23.0
		1	24		22.45	22.51	22.67	1.0	23.0
		12	0		21.37	21.40	21.40	2.0	22.0
		12	7		21.32	21.40	21.44	2.0	22.0
		12	13		21.32	21.37	21.28	2.0	22.0
		25	0		21.31	21.40	21.43	2.0	22.0
256QAM		1	0		21.28	21.50	21.41	2.0	22.0
		1	12		21.22	21.41	21.47	2.0	22.0
		1	24		21.28	21.47	21.51	2.0	22.0
		12	0		20.24	20.21	20.32	3.0	21.0
		12	7		20.22	20.19	20.34	3.0	21.0
		12	13		20.21	20.23	20.33	3.0	21.0
256QAM		25	0		20.19	20.23	20.30	3.0	21.0
		1	0		18.33	18.49	18.33	5.0	19.0
		1	12		18.30	18.53	18.44	5.0	19.0
		1	24		18.23	18.50	18.41	5.0	19.0
	12	0		18.16	18.23	18.26	5.0	19.0	
	12	7		18.13	18.22	18.27	5.0	19.0	
256QAM	12	13		18.13	18.24	18.27	5.0	19.0	
	25	0		18.18	18.17	18.29	5.0	19.0	

LTE Band 41 (Antenna B, Main 2)

BW (MHz)	Mode	RB Allocation	RB offset	Maximum Average Power (dBm)				
				Measured Pwr (dBm)			MPR	Tune-up Limit
				20850 2510.00 MHz	21100 2535.00 MHz	21350 2560.00 MHz		
20 MHz	QPSK	1	0	23.60	23.68	24.58	0.0	25.0
		1	49	23.59	23.58	24.51	0.0	25.0
		1	99	23.62	23.69	24.66	0.0	25.0
		50	0	22.64	22.68	23.64	1.0	24.0
		50	24	22.64	22.69	23.63	1.0	24.0
		50	50	22.60	22.68	23.62	1.0	24.0
	16QAM	100	0	22.62	22.71	23.63	1.0	24.0
		1	0	22.52	22.68	23.61	1.0	24.0
		1	49	22.57	22.87	23.91	1.0	24.0
		1	99	22.83	22.85	23.77	1.0	24.0
		50	0	21.62	21.60	22.56	2.0	23.0
		50	24	21.58	21.65	22.53	2.0	23.0
	64QAM	50	50	21.50	21.61	22.52	2.0	23.0
		100	0	21.54	21.63	22.54	2.0	23.0
		1	0	21.21	21.35	22.53	2.0	23.0
		1	49	21.24	21.40	22.62	2.0	23.0
		1	99	21.29	21.30	22.59	2.0	23.0
		50	0	20.48	20.55	21.52	3.0	22.0
	256QAM	50	24	20.48	20.58	21.54	3.0	22.0
		50	50	20.47	20.57	21.56	3.0	22.0
		100	0	20.52	20.60	21.43	3.0	22.0
		1	0	18.66	18.60	19.40	5.0	20.0
		1	49	18.68	18.80	19.63	5.0	20.0
		1	99	18.58	18.70	19.45	5.0	20.0
15 MHz	QPSK	50	0	18.48	18.57	19.45	5.0	20.0
		50	24	18.49	18.57	19.47	5.0	20.0
		50	50	18.44	18.55	19.44	5.0	20.0
		100	0	18.47	18.58	19.41	5.0	20.0
		1	0	23.64	23.64	24.51	0.0	25.0
		1	37	23.94	23.85	24.78	0.0	25.0
	16QAM	1	74	23.59	23.69	24.42	0.0	25.0
		36	0	22.61	22.74	23.68	1.0	24.0
		36	20	22.61	22.73	23.62	1.0	24.0
		36	39	22.55	22.68	23.63	1.0	24.0
		75	0	22.55	22.75	23.63	1.0	24.0
		1	0	22.28	22.44	23.36	1.0	24.0
	64QAM	1	37	22.42	22.43	23.70	1.0	24.0
		1	74	22.52	22.61	23.42	1.0	24.0
		36	0	21.57	21.69	22.58	2.0	23.0
		36	20	21.53	21.66	22.55	2.0	23.0
		36	39	21.51	21.63	22.55	2.0	23.0
		75	0	21.48	21.64	22.53	2.0	23.0
	256QAM	1	0	21.30	21.31	22.22	2.0	23.0
		1	37	21.33	21.22	22.35	2.0	23.0
		1	74	21.36	21.33	22.21	2.0	23.0
		36	0	20.41	20.55	21.55	3.0	22.0
		36	20	20.40	20.55	21.58	3.0	22.0
		36	39	20.37	20.54	21.51	3.0	22.0
256QAM	75	0	20.42	20.55	21.45	3.0	22.0	
	1	0	18.11	18.40	19.60	5.0	20.0	
	1	37	18.73	18.03	19.39	5.0	20.0	
	1	74	18.04	18.50	19.53	5.0	20.0	
	36	0	18.35	18.43	19.29	5.0	20.0	
	36	20	18.35	18.43	19.31	5.0	20.0	
256QAM	36	39	18.28	18.41	19.29	5.0	20.0	
	75	0	18.29	18.44	19.32	5.0	20.0	

BW (MHz)	Mode	RB Allocation	RB offset	Measured Pwr (dBm)			MPR	Tune-up Limit		
				20800	21100	21400				
				2505.00 MHz	2535.00 MHz	2565.00 MHz				
10 MHz	QPSK	1	0	23.60	23.69	24.57	0.0	25.0		
		1	25	23.60	23.70	24.65	0.0	25.0		
		1	49	23.50	23.66	24.59	0.0	25.0		
		25	0	22.53	22.66	23.56	1.0	24.0		
		25	12	22.48	22.64	23.52	1.0	24.0		
		25	25	22.47	22.64	23.53	1.0	24.0		
	16QAM	50	0	22.49	22.64	23.53	1.0	24.0		
		1	0	22.51	22.82	23.63	1.0	24.0		
		1	25	22.69	22.95	23.65	1.0	24.0		
		1	49	22.61	22.80	23.64	1.0	24.0		
		25	0	21.48	21.61	22.47	2.0	23.0		
		25	12	21.46	21.61	22.44	2.0	23.0		
	64QAM	25	25	21.40	21.58	22.43	2.0	23.0		
		50	0	21.44	21.63	22.46	2.0	23.0		
		1	0	21.37	21.34	22.21	2.0	23.0		
		1	25	21.21	21.27	22.08	2.0	23.0		
		1	49	21.30	21.41	22.25	2.0	23.0		
		25	0	20.35	20.53	21.38	3.0	22.0		
	256QAM	25	12	20.35	20.51	21.36	3.0	22.0		
		25	25	20.32	20.50	21.34	3.0	22.0		
		50	0	20.43	20.55	21.39	3.0	22.0		
		1	0	18.32	18.44	19.69	5.0	20.0		
		1	25	18.14	18.37	19.58	5.0	20.0		
		1	49	18.29	18.34	19.64	5.0	20.0		
	5 MHz	QPSK	25	0	18.30	18.48	19.27	5.0	20.0	
25			12	18.27	18.47	19.26	5.0	20.0		
25			25	18.23	18.47	19.24	5.0	20.0		
50			0	18.27	18.46	19.21	5.0	20.0		
BW (MHz)			Mode	RB Allocation	RB offset	Measured Pwr (dBm)			MPR	Tune-up Limit
						20775	21100	21425		
		2502.50 MHz				2535.00 MHz	2567.50 MHz			
5 MHz		QPSK	1	0	23.54	23.63	24.48	0.0	25.0	
			1	12	23.69	23.75	24.74	0.0	25.0	
			1	24	23.49	23.63	24.48	0.0	25.0	
			12	0	22.45	22.65	23.53	1.0	24.0	
			12	7	22.45	22.61	23.52	1.0	24.0	
			12	13	22.44	22.61	23.52	1.0	24.0	
		16QAM	25	0	22.43	22.61	23.51	1.0	24.0	
			1	0	22.43	22.65	23.46	1.0	24.0	
			1	12	22.45	22.66	23.77	1.0	24.0	
			1	24	22.42	22.70	23.50	1.0	24.0	
			12	0	21.42	21.53	22.47	2.0	23.0	
			12	7	21.39	21.54	22.48	2.0	23.0	
		64QAM	12	13	21.36	21.53	22.41	2.0	23.0	
			25	0	21.41	21.58	22.43	2.0	23.0	
			1	0	21.27	21.42	22.41	2.0	23.0	
			1	12	21.43	21.51	22.61	2.0	23.0	
			1	24	21.30	21.57	22.33	2.0	23.0	
			12	0	20.39	20.55	21.35	3.0	22.0	
	256QAM	12	7	20.38	20.58	21.34	3.0	22.0		
		12	13	20.37	20.53	21.33	3.0	22.0		
		25	0	20.36	20.53	21.35	3.0	22.0		
		1	0	18.17	18.43	19.43	5.0	20.0		
		1	12	18.51	18.52	19.62	5.0	20.0		
		1	24	18.17	18.37	19.32	5.0	20.0		
			12	0	18.20	18.40	19.23	5.0	20.0	
12			7	18.21	18.39	19.25	5.0	20.0		
12			13	18.21	18.39	19.23	5.0	20.0		
25			0	18.19	18.38	19.23	5.0	20.0		
25			0	18.19	18.38	19.23	5.0	20.0		

LTE Band 41 (Antenna F, Sub 2)

BW (MHz)	Mode	RB Allocation	RB offset	Maximum Average Power (dBm)				
				Measured Pwr (dBm)			MPR	Tune-up Limit
				20850 2510.00 MHz	21100 2535.00 MHz	21350 2560.00 MHz		
20 MHz	QPSK	1	0	22.89	22.79	22.86	0.0	24.0
		1	49	22.91	23.12	23.27	0.0	24.0
		1	99	23.09	22.95	23.11	0.0	24.0
		50	0	22.04	22.03	22.04	1.0	23.0
		50	24	22.17	22.07	22.12	1.0	23.0
		50	50	22.21	22.10	22.08	1.0	23.0
	16QAM	100	0	22.06	22.05	22.11	1.0	23.0
		1	0	22.21	22.30	22.28	1.0	23.0
		1	49	22.19	22.22	22.32	1.0	23.0
		1	99	22.33	22.40	22.24	1.0	23.0
		50	0	20.95	21.00	21.03	2.0	22.0
		50	24	21.04	21.08	21.02	2.0	22.0
	64QAM	50	50	21.13	21.09	21.04	2.0	22.0
		100	0	21.02	21.05	21.01	2.0	22.0
		1	0	20.90	21.19	21.23	2.0	22.0
		1	49	21.58	21.31	21.47	2.0	22.0
		1	99	21.43	21.29	21.27	2.0	22.0
		50	0	19.94	20.00	20.12	3.0	21.0
	256QAM	50	24	20.05	20.03	20.06	3.0	21.0
		50	50	20.08	20.08	20.16	3.0	21.0
		100	0	19.95	19.97	20.10	3.0	21.0
		1	0	17.79	17.95	18.20	5.0	19.0
		1	49	18.09	18.11	18.39	5.0	19.0
		1	99	18.31	18.05	18.24	5.0	19.0
15 MHz	QPSK	50	0	17.89	17.96	17.98	5.0	19.0
		50	24	17.94	17.95	18.04	5.0	19.0
		50	50	18.12	18.07	18.06	5.0	19.0
		100	0	17.95	17.97	18.07	5.0	19.0
		1	0	22.95	23.09	22.87	0.0	24.0
		1	37	22.69	23.20	22.65	0.0	24.0
	16QAM	1	74	23.22	23.12	22.92	0.0	24.0
		36	0	22.08	22.07	22.08	1.0	23.0
		36	20	22.19	22.05	22.07	1.0	23.0
		36	39	22.26	22.15	22.06	1.0	23.0
		75	0	22.12	22.02	22.08	1.0	23.0
		1	0	22.10	22.29	22.25	1.0	23.0
	64QAM	1	37	22.36	22.31	22.27	1.0	23.0
		1	74	22.43	22.40	22.21	1.0	23.0
		36	0	21.07	20.96	21.11	2.0	22.0
		36	20	21.13	21.04	21.09	2.0	22.0
		36	39	21.19	21.08	21.08	2.0	22.0
		75	0	21.09	21.04	21.16	2.0	22.0
	256QAM	1	0	20.90	21.31	21.36	2.0	22.0
		1	37	21.09	21.35	21.22	2.0	22.0
		1	74	21.13	21.37	21.57	2.0	22.0
		36	0	20.01	20.02	20.08	3.0	21.0
		36	20	20.12	20.07	20.18	3.0	21.0
		36	39	20.19	20.07	20.16	3.0	21.0
256QAM	75	0	20.07	20.01	20.14	3.0	21.0	
	1	0	18.03	18.18	18.17	5.0	19.0	
	1	37	18.24	18.20	18.50	5.0	19.0	
	1	74	18.24	18.26	18.31	5.0	19.0	
	36	0	17.96	17.95	18.04	5.0	19.0	
	36	20	17.97	17.97	18.15	5.0	19.0	
256QAM	36	39	18.10	18.05	18.14	5.0	19.0	
	75	0	18.03	17.99	18.09	5.0	19.0	

BW (MHz)	Mode	RB Allocation	RB offset	Measured Pwr (dBm)			MPR	Tune-up Limit	
				20800	21100	21400			
				2505.00 MHz	2535.00 MHz	2565.00 MHz			
10 MHz	QPSK	1	0	23.05	22.88	22.93	0.0	24.0	
		1	25	23.15	22.90	22.87	0.0	24.0	
		1	49	23.19	22.87	22.78	0.0	24.0	
		25	0	22.19	21.97	21.86	1.0	23.0	
		25	12	22.13	21.94	21.85	1.0	23.0	
		25	25	22.16	22.01	21.86	1.0	23.0	
	16QAM	50	0	22.30	22.00	21.86	1.0	23.0	
		1	0	22.02	22.17	22.11	1.0	23.0	
		1	25	22.08	22.14	22.14	1.0	23.0	
		1	49	22.40	22.26	22.22	1.0	23.0	
		25	0	21.05	20.92	20.88	2.0	22.0	
		25	12	21.09	20.95	20.91	2.0	22.0	
	64QAM	25	25	21.13	20.95	20.92	2.0	22.0	
		50	0	21.17	20.97	20.90	2.0	22.0	
		1	0	21.12	20.98	20.90	2.0	22.0	
		1	25	21.14	21.02	20.77	2.0	22.0	
		1	49	21.27	21.31	21.05	2.0	22.0	
		25	0	20.03	19.95	19.91	3.0	21.0	
	256QAM	25	12	20.14	19.97	19.95	3.0	21.0	
		25	25	20.17	19.99	19.94	3.0	21.0	
		50	0	20.27	19.94	19.89	3.0	21.0	
		1	0	18.09	17.90	17.99	5.0	19.0	
		1	25	18.09	17.90	17.89	5.0	19.0	
		1	49	18.31	18.02	17.95	5.0	19.0	
5 MHz	QPSK	25	0	18.02	17.87	17.80	5.0	19.0	
		25	12	18.07	17.86	17.75	5.0	19.0	
		25	25	18.10	17.93	17.77	5.0	19.0	
		50	0	18.18	17.91	17.77	5.0	19.0	
		16QAM	1	0	23.09	22.97	22.83	0.0	24.0
			1	12	22.92	23.08	22.95	0.0	24.0
	1		24	23.17	23.02	22.91	0.0	24.0	
	12		0	22.21	22.03	21.94	1.0	23.0	
	12		7	22.23	22.02	21.95	1.0	23.0	
	12		13	22.27	22.02	21.95	1.0	23.0	
	64QAM	25	0	22.27	22.01	21.96	1.0	23.0	
		1	0	22.21	22.19	22.14	1.0	23.0	
		1	12	22.18	22.24	22.16	1.0	23.0	
		1	24	22.26	22.18	22.13	1.0	23.0	
		12	0	21.14	21.04	20.99	2.0	22.0	
		12	7	21.16	21.07	21.00	2.0	22.0	
	256QAM	12	13	21.18	21.04	20.99	2.0	22.0	
		25	0	21.18	21.02	20.94	2.0	22.0	
		1	0	21.16	21.06	21.09	2.0	22.0	
		1	12	21.11	21.00	20.86	2.0	22.0	
		1	24	21.28	21.09	21.11	2.0	22.0	
		12	0	20.09	20.02	19.94	3.0	21.0	
	16QAM	12	7	20.11	20.03	19.95	3.0	21.0	
		12	13	20.15	20.05	19.92	3.0	21.0	
25		0	20.16	19.98	19.95	3.0	21.0		
1		0	18.03	18.05	18.06	5.0	19.0		
1		12	18.08	18.18	18.00	5.0	19.0		
1		24	18.13	18.10	18.02	5.0	19.0		
64QAM	12	0	17.94	17.94	17.94	5.0	19.0		
	12	7	17.97	17.98	17.94	5.0	19.0		
	12	13	18.01	18.00	17.89	5.0	19.0		
	25	0	17.96	17.94	17.94	5.0	19.0		

LTE Band 66 (Antenna A, Main 1)

BW (MHz)	Mode	RB Allocation	RB offset	Maximum Average Power (dBm)				
				Measured Pwr (dBm)			MPR	Tune-up Limit
				132072 1720.00 MHz	132322 1745.00 MHz	132572 1770.00 MHz		
20 MHz	QPSK	1	0	23.23	23.13	23.21	0.0	24.0
		1	49	23.13	23.23	23.02	0.0	24.0
		1	99	23.16	23.07	23.17	0.0	24.0
		50	0	22.28	22.16	22.22	1.0	23.0
		50	24	22.27	22.13	22.20	1.0	23.0
		50	50	22.25	22.11	22.15	1.0	23.0
	16QAM	100	0	22.25	22.15	22.17	1.0	23.0
		1	0	22.48	22.43	22.55	1.0	23.0
		1	49	22.37	22.36	22.44	1.0	23.0
		1	99	22.45	22.35	22.37	1.0	23.0
		50	0	21.27	21.09	21.19	2.0	22.0
		50	24	21.25	21.08	21.12	2.0	22.0
	64QAM	50	50	21.23	21.05	21.08	2.0	22.0
		100	0	21.23	21.09	21.15	2.0	22.0
		1	0	21.46	21.25	21.33	2.0	22.0
		1	49	21.17	21.34	21.31	2.0	22.0
		1	99	21.36	21.25	21.16	2.0	22.0
		50	0	20.32	20.18	20.24	3.0	21.0
	256QAM	50	24	20.29	20.17	20.19	3.0	21.0
		50	50	20.28	20.15	20.17	3.0	21.0
		100	0	20.24	20.13	20.14	3.0	21.0
		1	0	18.48	18.28	18.31	5.0	19.0
		1	49	18.47	18.35	18.28	5.0	19.0
		1	99	18.43	18.17	18.19	5.0	19.0
15 MHz	QPSK	50	0	18.27	18.11	18.17	5.0	19.0
		50	24	18.26	18.07	18.09	5.0	19.0
		50	50	18.22	18.08	18.08	5.0	19.0
		100	0	18.26	18.06	18.11	5.0	19.0
		1	0	22.57	23.23	23.29	0.0	24.0
		1	37	23.33	23.23	23.30	0.0	24.0
	16QAM	1	74	23.32	23.23	23.21	0.0	24.0
		36	0	22.26	22.34	22.43	1.0	23.0
		36	20	22.44	22.31	22.40	1.0	23.0
		36	39	22.45	22.30	22.40	1.0	23.0
		75	0	22.46	22.32	22.42	1.0	23.0
		1	0	21.92	22.39	22.41	1.0	23.0
	64QAM	1	37	22.37	22.12	22.43	1.0	23.0
		1	74	22.40	22.33	22.36	1.0	23.0
		36	0	21.37	21.25	21.38	2.0	22.0
		36	20	21.34	21.22	21.35	2.0	22.0
		36	39	21.33	21.21	21.33	2.0	22.0
		75	0	21.34	21.27	21.35	2.0	22.0
	256QAM	1	0	21.36	21.26	21.30	2.0	22.0
		1	37	21.32	21.11	21.50	2.0	22.0
		1	74	21.30	21.24	21.23	2.0	22.0
		36	0	20.44	20.23	20.25	3.0	21.0
		36	20	20.44	20.20	20.24	3.0	21.0
		36	39	20.41	20.19	20.20	3.0	21.0
QPSK	75	0	20.36	20.20	20.28	3.0	21.0	
	1	0	18.43	18.60	18.17	5.0	19.0	
	1	37	18.59	18.82	18.20	5.0	19.0	
	1	74	18.36	18.55	18.06	5.0	19.0	
	36	0	18.32	18.17	18.24	5.0	19.0	
	36	20	18.29	18.16	18.20	5.0	19.0	
16QAM	36	39	18.27	18.12	18.18	5.0	19.0	
	75	0	18.29	18.17	18.22	5.0	19.0	

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	22.62	23.27	23.34	0.0	24.0	
		1	25	22.95	23.25	23.47	0.0	24.0	
		1	49	23.16	23.22	23.36	0.0	24.0	
		25	0	22.07	22.25	22.38	1.0	23.0	
		25	12	22.28	22.23	22.35	1.0	23.0	
		25	25	22.43	22.22	22.33	1.0	23.0	
	16QAM	50	0	22.28	22.27	22.37	1.0	23.0	
		1	0	21.82	22.28	22.58	1.0	23.0	
		1	25	22.20	22.23	22.59	1.0	23.0	
		1	49	22.32	22.30	22.46	1.0	23.0	
		25	0	21.40	21.19	21.31	2.0	22.0	
		25	12	21.38	21.19	21.28	2.0	22.0	
	64QAM	25	25	21.39	21.16	21.25	2.0	22.0	
		50	0	21.43	21.22	21.30	2.0	22.0	
		1	0	21.29	21.29	21.26	2.0	22.0	
		1	25	21.34	21.23	21.17	2.0	22.0	
		1	49	21.35	21.34	21.15	2.0	22.0	
		25	0	20.47	20.23	20.35	3.0	21.0	
	256QAM	25	12	20.46	20.21	20.31	3.0	21.0	
		25	25	20.44	20.22	20.32	3.0	21.0	
		50	0	20.44	20.22	20.33	3.0	21.0	
		1	0	18.23	18.37	18.44	5.0	19.0	
		1	25	18.30	18.38	18.40	5.0	19.0	
		1	49	18.16	18.32	18.35	5.0	19.0	
	5 MHz	QPSK	25	0	18.42	18.23	18.37	5.0	19.0
			25	12	18.40	18.23	18.33	5.0	19.0
			25	25	18.38	18.22	18.34	5.0	19.0
			50	0	18.36	18.17	18.30	5.0	19.0
1			0	23.52	23.18	23.37	0.0	24.0	
1			12	23.51	23.25	23.55	0.0	24.0	
16QAM		1	24	23.54	23.22	23.42	0.0	24.0	
		12	0	22.51	22.26	22.45	1.0	23.0	
		12	7	22.48	22.21	22.42	1.0	23.0	
		12	13	22.49	22.23	22.44	1.0	23.0	
		25	0	22.49	22.22	22.41	1.0	23.0	
		1	0	22.62	22.38	22.50	1.0	23.0	
64QAM		1	12	22.60	21.92	22.54	1.0	23.0	
		1	24	22.59	22.31	22.57	1.0	23.0	
		12	0	21.41	21.19	21.30	2.0	22.0	
		12	7	21.39	21.18	21.28	2.0	22.0	
		12	13	21.40	21.17	21.30	2.0	22.0	
		25	0	21.40	21.15	21.32	2.0	22.0	
256QAM		1	0	21.29	21.13	21.52	2.0	22.0	
		1	12	21.36	21.44	21.58	2.0	22.0	
		1	24	21.38	21.19	21.49	2.0	22.0	
		12	0	20.42	20.20	20.35	3.0	21.0	
		12	7	20.42	20.18	20.32	3.0	21.0	
		12	13	20.43	20.18	20.32	3.0	21.0	
256QAM		25	0	20.40	20.24	20.40	3.0	21.0	
		1	0	18.37	18.12	18.65	5.0	19.0	
		1	12	18.57	18.04	18.51	5.0	19.0	
		1	24	18.35	18.07	18.60	5.0	19.0	
	12	0	18.41	18.15	18.40	5.0	19.0		
	12	7	18.40	18.14	18.35	5.0	19.0		
256QAM	12	13	18.40	18.13	18.40	5.0	19.0		
	25	0	18.40	18.21	18.31	5.0	19.0		

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	23.11	23.24	23.48	0.0	24.0
		1	8	23.20	23.30	23.54	0.0	24.0
		1	14	23.23	23.23	23.55	0.0	24.0
		8	0	22.40	22.29	22.53	1.0	23.0
		8	4	22.47	22.25	22.49	1.0	23.0
		8	7	22.51	22.28	22.52	1.0	23.0
	16QAM	15	0	22.49	22.26	22.44	1.0	23.0
		1	0	22.31	22.50	22.56	1.0	23.0
		1	8	22.40	22.25	22.57	1.0	23.0
		1	14	22.35	22.53	22.48	1.0	23.0
		8	0	21.54	21.38	21.44	2.0	22.0
		8	4	21.50	21.33	21.36	2.0	22.0
	64QAM	8	7	21.55	21.35	21.40	2.0	22.0
		15	0	21.42	21.18	21.42	2.0	22.0
		1	0	21.51	21.33	21.25	2.0	22.0
		1	8	21.53	21.18	21.45	2.0	22.0
		1	14	21.61	21.41	21.19	2.0	22.0
		8	0	20.46	20.35	20.41	3.0	21.0
	256QAM	8	4	20.44	20.29	20.38	3.0	21.0
		8	7	20.45	20.32	20.40	3.0	21.0
		15	0	20.57	20.18	20.42	3.0	21.0
		1	0	18.48	18.50	18.32	5.0	19.0
		1	8	18.67	18.66	18.37	5.0	19.0
		1	14	18.54	18.40	18.37	5.0	19.0
1.4 MHz	QPSK	8	0	18.41	18.24	18.38	5.0	19.0
		8	4	18.38	18.17	18.40	5.0	19.0
		8	7	18.42	18.20	18.42	5.0	19.0
		15	0	18.53	18.18	18.45	5.0	19.0
		1	0	23.62	23.27	23.54	0.0	24.0
		1	3	23.53	23.23	23.53	0.0	24.0
	16QAM	1	5	23.58	23.25	23.52	0.0	24.0
		3	0	23.61	23.34	23.45	0.0	24.0
		3	1	23.64	23.30	23.51	0.0	24.0
		3	3	23.57	23.25	23.52	0.0	24.0
		6	0	22.58	22.26	22.52	1.0	23.0
		1	0	22.56	22.13	22.26	1.0	23.0
	64QAM	1	3	22.52	22.34	22.41	1.0	23.0
		1	5	22.64	22.24	22.35	1.0	23.0
		3	0	22.52	22.19	22.38	1.0	23.0
		3	1	22.55	22.23	22.41	1.0	23.0
		3	3	22.48	22.18	22.50	1.0	23.0
		6	0	21.56	21.21	21.38	2.0	22.0
	256QAM	1	0	21.19	21.33	21.55	2.0	22.0
		1	3	21.31	21.24	21.50	2.0	22.0
		1	5	21.30	21.26	21.51	2.0	22.0
		3	0	21.42	21.16	21.36	2.0	22.0
		3	1	21.35	21.19	21.36	2.0	22.0
		3	3	21.46	21.14	21.40	2.0	22.0
256QAM	6	0	20.44	20.31	20.41	3.0	21.0	
	1	0	18.64	18.25	18.25	5.0	19.0	
	1	3	18.61	18.32	18.11	5.0	19.0	
	1	5	18.49	18.12	18.25	5.0	19.0	
	3	0	18.64	18.19	18.31	5.0	19.0	
	3	1	18.60	18.16	18.26	5.0	19.0	
256QAM	3	3	18.43	18.18	18.38	5.0	19.0	
	6	0	18.43	18.11	18.30	5.0	19.0	

LTE Band 66 (Antenna F, Sub 2)

BW (MHz)	Mode	RB Allocation	RB offset	Maximum Average Power (dBm)				
				Measured Pwr (dBm)			MPR	Tune-up Limit
				132072 1720.00 MHz	132322 1745.00 MHz	132572 1770.00 MHz		
20 MHz	QPSK	1	0	23.20	23.44	23.41	0.0	24.0
		1	49	23.21	23.50	23.48	0.0	24.0
		1	99	23.57	23.46	23.32	0.0	24.0
		50	0	21.83	22.48	22.43	1.0	23.0
		50	24	22.61	22.49	22.42	1.0	23.0
		50	50	22.62	22.49	22.40	1.0	23.0
	16QAM	100	0	22.60	22.48	22.41	1.0	23.0
		1	0	22.92	22.45	22.67	1.0	23.0
		1	49	22.82	22.42	22.64	1.0	23.0
		1	99	22.75	22.56	22.50	1.0	23.0
		50	0	20.98	21.43	21.37	2.0	22.0
		50	24	21.59	21.46	21.34	2.0	22.0
	64QAM	50	50	21.58	21.46	21.31	2.0	22.0
		100	0	21.58	21.44	21.34	2.0	22.0
		1	0	20.12	21.51	21.48	2.0	22.0
		1	49	21.39	21.63	21.51	2.0	22.0
		1	99	21.56	21.66	21.38	2.0	22.0
		50	0	19.98	20.35	20.36	3.0	21.0
	256QAM	50	24	20.51	20.37	20.32	3.0	21.0
		50	50	20.47	20.39	20.29	3.0	21.0
		100	0	20.41	20.35	20.27	3.0	21.0
		1	0	17.87	18.55	18.33	5.0	19.0
		1	49	18.51	18.70	18.40	5.0	19.0
		1	99	18.46	18.63	18.20	5.0	19.0
15 MHz	QPSK	50	0	18.37	18.21	18.23	5.0	19.0
		50	24	18.39	18.24	18.20	5.0	19.0
		50	50	18.36	18.26	18.16	5.0	19.0
		100	0	18.37	18.21	18.18	5.0	19.0
		1	0	21.69	23.27	23.36	0.0	24.0
		1	37	21.87	23.45	23.47	0.0	24.0
	16QAM	1	74	22.89	23.27	23.31	0.0	24.0
		36	0	21.66	22.44	22.47	1.0	23.0
		36	20	21.15	22.42	22.46	1.0	23.0
		36	39	21.70	22.45	22.44	1.0	23.0
		75	0	21.19	22.42	22.47	1.0	23.0
		1	0	21.63	22.42	22.36	1.0	23.0
	64QAM	1	37	21.33	22.36	22.45	1.0	23.0
		1	74	22.31	22.49	22.33	1.0	23.0
		36	0	19.60	21.34	21.45	2.0	22.0
		36	20	20.29	21.35	21.43	2.0	22.0
		36	39	20.84	21.33	21.42	2.0	22.0
		75	0	20.33	21.37	21.40	2.0	22.0
	256QAM	1	0	21.34	21.46	21.26	2.0	22.0
		1	37	21.45	21.40	21.37	2.0	22.0
		1	74	21.41	21.53	21.21	2.0	22.0
		36	0	20.45	20.33	20.34	3.0	21.0
		36	20	20.49	20.33	20.31	3.0	21.0
		36	39	20.51	20.33	20.27	3.0	21.0
256QAM	75	0	20.45	20.29	20.34	3.0	21.0	
	1	0	18.31	18.35	18.37	5.0	19.0	
	1	37	18.61	18.61	18.35	5.0	19.0	
	1	74	18.35	18.40	18.28	5.0	19.0	
	36	0	18.33	18.23	18.29	5.0	19.0	
	36	20	18.34	18.24	18.25	5.0	19.0	
36	39	18.35	18.22	18.25	5.0	19.0		
75	0	18.32	18.24	18.27	5.0	19.0		

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	21.77	23.36	23.39	0.0	24.0	
		1	25	21.71	23.32	23.50	0.0	24.0	
		1	49	22.51	23.35	23.42	0.0	24.0	
		25	0	20.66	22.33	22.46	1.0	23.0	
		25	12	21.03	22.35	22.44	1.0	23.0	
		25	25	21.44	22.35	22.41	1.0	23.0	
	16QAM	50	0	21.09	22.38	22.45	1.0	23.0	
		1	0	21.32	22.46	22.56	1.0	23.0	
		1	25	21.11	22.40	22.57	1.0	23.0	
		1	49	21.91	22.57	22.46	1.0	23.0	
		25	0	19.81	21.31	21.43	2.0	22.0	
		25	12	20.21	21.31	21.43	2.0	22.0	
	64QAM	25	25	20.62	21.31	21.39	2.0	22.0	
		50	0	20.31	21.34	21.39	2.0	22.0	
		1	0	21.29	21.50	21.44	2.0	22.0	
		1	25	21.47	21.50	21.39	2.0	22.0	
		1	49	21.46	21.65	21.34	2.0	22.0	
		25	0	20.43	20.29	20.41	3.0	21.0	
	256QAM	25	12	20.46	20.29	20.39	3.0	21.0	
		25	25	20.47	20.31	20.37	3.0	21.0	
		50	0	20.45	20.30	20.38	3.0	21.0	
		1	0	18.32	18.42	18.53	5.0	19.0	
		1	25	18.45	18.55	18.37	5.0	19.0	
		1	49	18.32	18.48	18.42	5.0	19.0	
5 MHz	QPSK	25	0	18.36	18.29	18.37	5.0	19.0	
		25	12	18.38	18.30	18.34	5.0	19.0	
		25	25	18.39	18.30	18.33	5.0	19.0	
		50	0	18.35	18.24	18.33	5.0	19.0	
		16QAM	1	0	23.46	23.37	23.53	0.0	24.0
			1	12	23.52	23.45	23.62	0.0	24.0
	1		24	23.55	23.42	23.54	0.0	24.0	
	12		0	22.52	22.40	22.55	1.0	23.0	
	12		7	22.51	22.38	22.52	1.0	23.0	
	12		13	22.55	22.37	22.52	1.0	23.0	
	64QAM	25	0	22.51	22.36	22.52	1.0	23.0	
		1	0	22.68	22.36	22.75	1.0	23.0	
		1	12	22.41	22.45	22.74	1.0	23.0	
		1	24	22.66	22.43	22.68	1.0	23.0	
		12	0	21.42	21.39	21.50	2.0	22.0	
		12	7	21.40	21.38	21.47	2.0	22.0	
	256QAM	12	13	21.40	21.41	21.47	2.0	22.0	
		25	0	21.50	21.30	21.46	2.0	22.0	
		1	0	20.28	21.43	21.29	2.0	22.0	
		1	12	20.51	21.52	21.50	2.0	22.0	
		1	24	20.75	21.44	21.37	2.0	22.0	
		12	0	19.57	20.16	20.26	3.0	21.0	
	64QAM	12	7	19.72	20.14	20.26	3.0	21.0	
		12	13	19.86	20.15	20.26	3.0	21.0	
25		0	19.72	20.20	20.27	3.0	21.0		
1		0	17.76	18.27	18.27	5.0	19.0		
1		12	18.10	18.31	18.40	5.0	19.0		
1		24	18.19	18.27	18.19	5.0	19.0		
256QAM	12	0	18.08	18.12	18.26	5.0	19.0		
	12	7	18.20	18.10	18.26	5.0	19.0		
	12	13	18.19	18.16	18.27	5.0	19.0		
	25	0	18.23	18.07	18.23	5.0	19.0		

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	21.50	23.28	23.57	0.0	24.0
		1	8	21.61	23.42	23.68	0.0	24.0
		1	14	21.69	23.27	23.64	0.0	24.0
		8	0	20.79	22.36	22.59	1.0	23.0
		8	4	20.86	22.33	22.56	1.0	23.0
		8	7	20.90	22.38	22.58	1.0	23.0
	16QAM	15	0	20.89	22.32	22.52	1.0	23.0
		1	0	20.87	22.49	22.57	1.0	23.0
		1	8	21.01	22.34	22.59	1.0	23.0
		1	14	21.11	22.56	22.49	1.0	23.0
		8	0	20.03	21.38	21.51	2.0	22.0
		8	4	20.13	21.33	21.43	2.0	22.0
	64QAM	8	7	20.18	21.35	21.46	2.0	22.0
		15	0	20.10	21.28	21.47	2.0	22.0
		1	0	21.37	21.58	21.48	2.0	22.0
		1	8	21.50	21.63	21.72	2.0	22.0
		1	14	21.53	21.70	21.39	2.0	22.0
		8	0	20.35	20.43	20.44	3.0	21.0
	256QAM	8	4	20.31	20.40	20.37	3.0	21.0
		8	7	20.34	20.42	20.40	3.0	21.0
		15	0	20.49	20.28	20.49	3.0	21.0
		1	0	18.35	18.41	18.63	5.0	19.0
		1	8	18.51	18.60	18.77	5.0	19.0
		1	14	18.40	18.35	18.63	5.0	19.0
1.4 MHz	QPSK	8	0	18.32	18.29	18.45	5.0	19.0
		8	4	18.30	18.25	18.45	5.0	19.0
		8	7	18.35	18.28	18.44	5.0	19.0
		15	0	18.43	18.26	18.48	5.0	19.0
		1	0	23.38	23.38	23.60	0.0	24.0
		1	3	23.32	23.40	23.64	0.0	24.0
	16QAM	1	5	23.42	23.37	23.57	0.0	24.0
		3	0	23.43	23.41	23.40	0.0	24.0
		3	1	23.43	23.35	23.48	0.0	24.0
		3	3	23.35	23.30	23.59	0.0	24.0
		6	0	22.41	22.36	22.58	1.0	23.0
		1	0	22.21	22.16	22.58	1.0	23.0
	64QAM	1	3	22.30	22.33	22.69	1.0	23.0
		1	5	22.35	22.26	22.67	1.0	23.0
		3	0	22.48	22.26	22.49	1.0	23.0
		3	1	22.45	22.20	22.49	1.0	23.0
		3	3	22.40	22.19	22.56	1.0	23.0
		6	0	21.26	21.29	21.47	2.0	22.0
	256QAM	1	0	20.42	21.28	21.56	2.0	22.0
		1	3	20.37	21.22	21.58	2.0	22.0
		1	5	20.40	21.22	21.50	2.0	22.0
		3	0	20.15	21.27	21.50	2.0	22.0
		3	1	20.17	21.29	21.43	2.0	22.0
		3	3	20.19	21.36	21.46	2.0	22.0
256QAM	6	0	19.57	20.40	20.40	3.0	21.0	
	1	0	18.30	18.29	18.36	5.0	19.0	
	1	3	18.38	18.42	18.15	5.0	19.0	
	1	5	18.44	18.25	18.32	5.0	19.0	
	3	0	18.12	18.25	18.34	5.0	19.0	
	3	1	18.16	18.21	18.28	5.0	19.0	
256QAM	3	3	18.19	18.34	18.38	5.0	19.0	
	6	0	18.18	18.05	18.30	5.0	19.0	

NR Band n41 (Antenna B, Main 2)

BW (MHz)	Modulation	Mode	RB Allocation	RB offset	Maximum Average POWER (dBm)				
					Measured Pwr (dBm)			MPR	Tune-up Limit
					509202	518598	528000		
					2546.01 MHz	2592.99 MHz	2640.00 MHz		
100 MHz	DFT-s-OFDM	π/2 BPSK	1	1	23.00	23.23	23.89	0.0	24.0
			1	137	23.36	23.35	23.46	0.0	24.0
			1	271	23.18	23.33	23.54	0.0	24.0
			135	0	22.70	22.64	22.79	0.5	23.5
			135	69	23.40	23.38	23.52	0.0	24.0
			135	138	22.69	22.85	23.01	0.5	23.5
			270	0	22.86	22.84	23.00	0.5	23.5
		QPSK	1	1	22.97	23.30	23.84	0.0	24.0
			1	137	23.38	23.38	23.49	0.0	24.0
			1	271	23.21	23.38	23.59	0.0	24.0
			135	0	22.20	22.15	22.29	1.0	23.0
			135	69	23.40	23.36	23.52	0.0	24.0
			135	138	22.22	22.33	22.50	1.0	23.0
			270	0	22.35	22.30	22.48	1.0	23.0
	16QAM	1	1	21.88	22.36	22.92	1.0	23.0	
		1	137	22.20	22.48	22.48	1.0	23.0	
		1	271	22.03	22.46	22.56	1.0	23.0	
64QAM	1	1	20.42	20.70	21.47	2.5	21.5		
	1	1	18.50	18.74	19.49	4.5	19.5		
256QAM	1	1	18.50	18.74	19.49	4.5	19.5		
CP-OFDM	QPSK	1	1	21.46	21.70	22.50	1.5	22.5	
BW (MHz)	Modulation	Mode	RB Allocation	RB offset	Measured Pwr (dBm)			MPR	Tune-up Limit
					508200	518598	528996		
90 MHz	DFT-s-OFDM	π/2 BPSK	1	1	23.20	23.45	23.99	0.0	24.0
			1	123	23.69	23.60	23.65	0.0	24.0
			1	243	23.57	23.59	23.79	0.0	24.0
			120	0	22.96	22.95	23.05	0.5	23.5
			120	63	23.71	23.61	23.63	0.0	24.0
			120	125	22.91	23.00	23.25	0.5	23.5
			243	0	23.19	23.02	23.19	0.5	23.5
		QPSK	1	1	23.24	23.43	23.99	0.0	24.0
			1	123	23.67	23.57	23.63	0.0	24.0
			1	243	23.54	23.59	23.79	0.0	24.0
			120	0	22.43	22.42	22.53	1.0	23.0
			120	63	23.71	23.60	23.65	0.0	24.0
			120	125	22.36	22.49	22.67	1.0	23.0
			243	0	22.66	22.51	22.62	1.0	23.0
	16QAM	1	1	22.33	22.39	22.93	1.0	23.0	
		1	1	20.64	21.15	21.48	2.5	21.5	
		1	1	18.68	19.00	19.49	4.5	19.5	
256QAM	1	1	18.68	19.00	19.49	4.5	19.5		
CP-OFDM	QPSK	1	1	21.75	21.93	22.46	1.5	22.5	
BW (MHz)	Modulation	Mode	RB Allocation	RB offset	Measured Pwr (dBm)			MPR	Tune-up Limit
					507204	518598	529998		
80 MHz	DFT-s-OFDM	π/2 BPSK	1	1	23.13	23.29	23.38	0.0	24.0
			1	109	23.64	23.51	23.59	0.0	24.0
			1	215	23.37	23.49	23.68	0.0	24.0
			108	0	22.93	22.93	23.09	0.5	23.5
			108	55	23.71	23.55	23.62	0.0	24.0
			108	109	22.93	22.97	23.18	0.5	23.5
			216	0	23.14	23.00	23.13	0.5	23.5
		QPSK	1	1	23.24	23.38	23.42	0.0	24.0
			1	109	23.69	23.56	23.61	0.0	24.0
			1	215	23.47	23.59	23.78	0.0	24.0
			108	0	22.46	22.48	22.61	1.0	23.0
			108	55	23.76	23.62	23.67	0.0	24.0
			108	109	22.46	22.50	22.72	1.0	23.0
			216	0	22.68	22.53	22.65	1.0	23.0
	16QAM	1	1	22.40	22.55	22.63	1.0	23.0	
		1	1	20.66	20.84	21.16	2.5	21.5	
		1	1	18.70	18.78	19.23	4.5	19.5	
256QAM	1	1	18.70	18.78	19.23	4.5	19.5		
CP-OFDM	QPSK	1	1	21.73	21.84	22.07	1.5	22.5	

BW (MHz)	Modulation	Mode	RB Allocation	RB offset	Measured Pwr (dBm)			MPR	Tune-up Limit
					506202	518598	531000		
					2531.02 MHz	2592.99 MHz	2655.00 MHz		
70 MHz	DFT-s-OFDM	π/2 BPSK	1	1	23.12	23.20	23.40	0.0	24.0
			1	95	23.61	23.54	23.60	0.0	24.0
			1	188	23.24	23.42	23.70	0.0	24.0
			90	0	22.95	22.95	23.08	0.5	23.5
			90	50	23.64	23.57	23.63	0.0	24.0
			90	99	23.05	22.97	23.27	0.5	23.5
		180	0	23.05	23.04	23.13	0.5	23.5	
		QPSK	1	1	23.09	23.27	23.48	0.0	24.0
			1	95	23.54	23.53	23.63	0.0	24.0
			1	188	23.25	23.51	23.78	0.0	24.0
			90	0	22.37	22.49	22.62	1.0	23.0
			90	50	23.56	23.59	23.69	0.0	24.0
			90	99	22.50	22.50	22.81	1.0	23.0
		180	0	22.51	22.54	22.67	1.0	23.0	
16QAM	1	1	22.13	22.54	22.52	1.0	23.0		
64QAM	1	1	20.51	20.72	20.97	2.5	21.5		
256QAM	1	1	18.59	18.72	19.01	4.5	19.5		
CP-OFDM	QPSK	1	1	21.63	21.77	22.00	1.5	22.5	
BW (MHz)	Modulation	Mode	RB Allocation	RB offset	Measured Pwr (dBm)			MPR	Tune-up Limit
					505200	518598	513996		
					2526.00 MHz	2592.99 MHz	2659.98 MHz		
60 MHz	DFT-s-OFDM	π/2 BPSK	1	1	23.13	23.22	23.45	0.0	24.0
			1	81	23.62	23.64	23.68	0.0	24.0
			1	160	23.33	23.45	23.70	0.0	24.0
			81	0	22.93	23.02	23.06	0.5	23.5
			81	41	23.56	23.57	23.63	0.0	24.0
			81	81	23.21	22.96	23.26	0.5	23.5
		162	0	22.97	22.98	23.13	0.5	23.5	
		QPSK	1	1	23.10	23.15	23.39	0.0	24.0
			1	81	23.47	23.47	23.52	0.0	24.0
			1	160	23.37	23.39	23.62	0.0	24.0
			81	0	22.39	22.48	22.52	1.0	23.0
			81	41	23.54	23.51	23.58	0.0	24.0
			81	81	22.63	22.38	22.69	1.0	23.0
		162	0	22.46	22.46	22.54	1.0	23.0	
16QAM	1	1	22.18	22.22	22.57	1.0	23.0		
64QAM	1	1	20.75	20.82	21.18	2.5	21.5		
256QAM	1	1	18.39	18.63	18.89	4.5	19.5		
CP-OFDM	QPSK	1	1	21.62	21.68	21.92	1.5	22.5	
BW (MHz)	Modulation	Mode	RB Allocation	RB offset	Measured Pwr (dBm)			MPR	Tune-up Limit
					504204	518598	532998		
					2521.01 MHz	2592.99 MHz	2665.00 MHz		
50 MHz	DFT-s-OFDM	π/2 BPSK	1	1	23.19	23.29	23.60	0.0	24.0
			1	67	23.47	23.53	23.66	0.0	24.0
			1	131	23.52	23.43	23.76	0.0	24.0
			64	0	22.94	23.04	23.06	0.5	23.5
			64	35	23.48	23.55	23.70	0.0	24.0
			64	69	23.13	22.94	23.33	0.5	23.5
		128	0	22.96	23.01	23.15	0.5	23.5	
		QPSK	1	1	23.21	23.28	23.54	0.0	24.0
			1	67	23.45	23.48	23.57	0.0	24.0
			1	131	23.59	23.48	23.72	0.0	24.0
			64	0	22.40	22.50	22.51	1.0	23.0
			64	35	23.49	23.51	23.61	0.0	24.0
			64	69	22.58	22.40	22.73	1.0	23.0
		128	0	22.42	22.49	22.58	1.0	23.0	
16QAM	1	1	22.31	22.42	22.44	1.0	23.0		
64QAM	1	1	20.31	20.98	21.21	2.5	21.5		
256QAM	1	1	18.49	18.80	18.99	4.5	19.5		
CP-OFDM	QPSK	1	1	21.68	21.73	22.10	1.5	22.5	

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	23.19	23.30	23.45	0.0	24.0
			1	53	23.49	23.57	23.73	0.0	24.0
			1	104	23.57	23.34	23.75	0.0	24.0
			50	0	22.91	23.02	23.06	0.5	23.5
			50	28	23.46	23.51	23.72	0.0	24.0
			50	56	22.98	22.96	23.33	0.5	23.5
		100	0	22.96	23.03	23.20	0.5	23.5	
		QPSK	1	1	23.15	23.34	23.44	0.0	24.0
			1	53	23.43	23.50	23.70	0.0	24.0
			1	104	23.53	23.39	23.75	0.0	24.0
			50	0	22.38	22.47	22.57	1.0	23.0
			50	28	23.45	23.50	23.72	0.0	24.0
			50	56	22.45	22.42	22.79	1.0	23.0
		100	0	22.41	22.47	22.66	1.0	23.0	
16QAM	1	1	22.23	22.30	22.71	1.0	23.0		
64QAM	1	1	20.96	20.88	20.91	2.5	21.5		
256QAM	1	1	18.53	18.73	18.92	4.5	19.5		
CP-OFDM	QPSK	1	1	21.61	21.86	21.98	1.5	22.5	
BW (MHz)	Modulation	Mode	RB Allocation	RB offset	Measured Pwr (dBm)			MPR	Tune-up Limit
					502200	518598	534996		
					2511.00 MHz	2592.99 MHz	2675.00 MHz		
30 MHz	DFT-s-OFDM	π/2 BPSK	1	1	23.20	23.42	23.49	0.0	24.0
			1	39	23.44	23.63	23.78	0.0	24.0
			1	76	23.41	23.34	23.74	0.0	24.0
			36	0	22.86	23.02	23.12	0.5	23.5
			36	21	23.47	23.52	23.78	0.0	24.0
			36	42	22.93	23.00	23.29	0.5	23.5
		75	0	22.95	23.05	23.26	0.5	23.5	
		QPSK	1	1	23.22	23.47	23.52	0.0	24.0
			1	39	23.46	23.48	23.79	0.0	24.0
			1	76	23.45	23.40	23.80	0.0	24.0
			36	0	22.39	22.54	22.62	1.0	23.0
			36	21	23.49	23.56	23.79	0.0	24.0
			36	42	22.47	22.47	22.77	1.0	23.0
		75	0	22.48	22.50	22.70	1.0	23.0	
16QAM	1	1	22.40	22.68	22.38	1.0	23.0		
64QAM	1	1	20.97	20.87	20.97	2.5	21.5		
256QAM	1	1	18.60	18.84	18.94	4.5	19.5		
CP-OFDM	QPSK	1	1	21.71	21.97	21.95	1.5	22.5	
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	23.22	23.44	23.81	0.0	24.0
			1	26	23.36	23.46	23.77	0.0	24.0
			1	49	23.39	23.40	23.76	0.0	24.0
			25	0	22.85	23.02	23.23	0.5	23.5
			25	13	23.41	23.51	23.79	0.0	24.0
			25	26	22.95	23.00	23.28	0.5	23.5
		50	0	22.89	23.00	23.29	0.5	23.5	
		QPSK	1	1	23.21	23.54	23.63	0.0	24.0
			1	26	23.35	23.50	23.72	0.0	24.0
			1	49	23.40	23.44	23.76	0.0	24.0
			25	0	22.31	22.52	22.66	1.0	23.0
			25	13	23.34	23.49	23.78	0.0	24.0
			25	26	22.41	22.49	22.76	1.0	23.0
		50	0	22.39	22.45	22.74	1.0	23.0	
16QAM	1	1	22.30	22.61	22.73	1.0	23.0		
64QAM	1	1	20.97	21.17	21.17	2.5	21.5		
256QAM	1	1	18.68	18.88	19.05	4.5	19.5		
CP-OFDM	QPSK	1	1	21.78	21.98	22.12	1.5	22.5	

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	23.20	23.40	23.67	0.0	24.0
			1	19	23.34	23.57	23.80	0.0	24.0
			1	36	23.39	23.40	23.74	0.0	24.0
			18	0	22.82	22.99	23.25	0.5	23.5
			18	10	23.37	23.48	23.76	0.0	24.0
			18	20	22.88	22.98	23.25	0.5	23.5
		36	0	22.86	23.02	23.26	0.5	23.5	
		QPSK	1	1	23.23	23.51	23.68	0.0	24.0
			1	19	23.41	23.48	23.75	0.0	24.0
			1	36	23.41	23.45	23.75	0.0	24.0
			18	0	22.31	22.51	22.75	1.0	23.0
			18	10	23.34	23.51	23.76	0.0	24.0
			18	20	22.40	22.48	22.75	1.0	23.0
		36	0	22.35	22.49	22.75	1.0	23.0	
16QAM	1	1	22.32	22.52	22.63	1.0	23.0		
64QAM	1	1	20.64	20.89	21.03	2.5	21.5		
256QAM	1	1	18.72	18.91	19.17	4.5	19.5		
CP-OFDM	QPSK	1	1	21.74	21.94	22.17	1.5	22.5	
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	23.24	23.46	23.70	0.0	24.0
			1	12	23.38	23.60	23.76	0.0	24.0
			1	22	23.38	23.44	23.71	0.0	24.0
			12	0	22.80	22.96	23.23	0.5	23.5
			12	6	23.34	23.48	23.73	0.0	24.0
			12	12	22.86	22.98	23.20	0.5	23.5
		24	0	22.82	22.98	23.23	0.5	23.5	
		QPSK	1	1	23.24	23.43	23.77	0.0	24.0
			1	12	23.43	23.46	23.94	0.0	24.0
			1	22	23.39	23.50	23.84	0.0	24.0
			12	0	22.30	22.45	22.78	1.0	23.0
			12	6	23.34	23.49	23.80	0.0	24.0
			12	12	22.34	22.48	22.80	1.0	23.0
		24	0	22.34	22.48	22.81	1.0	23.0	
16QAM	1	1	22.26	22.68	22.59	1.0	23.0		
64QAM	1	1	20.59	20.85	21.42	2.5	21.5		
256QAM	1	1	18.60	18.85	19.12	4.5	19.5		
CP-OFDM	QPSK	1	1	21.79	22.09	22.27	1.5	22.5	

NR Band n41 (Antenna F, Sub 2)

BW (MHz)	Modulation	Mode	RB Allocation	RB offset	Maximum Average POWER (dBm)					
					Measured Pwr (dBm)			MPR	Tune-up Limit	
					509202	518598	528000			
					2546.01 MHz	2592.99 MHz	2640.00 MHz			
100 MHz	DFT-s-OFDM	π/2 BPSK	1	1	22.25	22.14	22.17	0.0	24.0	
			1	137	22.40	22.43	22.54	0.0	24.0	
			1	271	22.21	22.32	22.33	0.0	24.0	
			135	0	22.10	21.80	21.70	0.5	23.5	
			135	69	22.47	22.45	22.59	0.0	24.0	
			135	138	21.85	21.72	22.02	0.5	23.5	
		270	0	21.92	21.82	22.01	0.5	23.5		
		QPSK	1	1	22.41	22.39	22.30	0.0	24.0	
			1	137	22.59	22.60	22.64	0.0	24.0	
			1	271	22.35	22.48	22.51	0.0	24.0	
			135	0	21.76	21.45	21.31	1.0	23.0	
			135	69	22.65	22.58	22.71	0.0	24.0	
			135	138	21.52	21.33	21.62	1.0	23.0	
		16QAM	270	0	21.60	21.44	21.62	1.0	23.0	
			1	1	21.47	21.38	21.23	1.0	23.0	
		64QAM	1	137	21.71	21.54	21.42	1.0	23.0	
			1	271	21.28	21.37	21.34	1.0	23.0	
		256QAM	1	1	19.95	19.84	19.90	2.5	21.5	
	256QAM	1	1	18.00	17.85	18.12	4.5	19.5		
	CP-OFDM	QPSK	1	1	21.01	20.85	20.87	1.5	22.5	
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	22.32
1	123	22.45	22.21	22.56				0.0	24.0	
1	243	22.29	22.34	22.39				0.0	24.0	
120	0	22.11	21.80	21.76				0.5	23.5	
120	63	22.52	22.43	22.62				0.0	24.0	
120	125	21.83	21.71	22.00				0.5	23.5	
243	0	21.98	21.83	22.05			0.5	23.5		
QPSK	1	1	22.51	22.43			22.32	0.0	24.0	
	1	123	22.67	22.60			22.69	0.0	24.0	
	1	243	22.42	22.50			22.59	0.0	24.0	
	120	0	21.79	21.52			21.37	1.0	23.0	
	120	63	22.71	22.62			22.74	0.0	24.0	
	120	125	21.51	21.33			21.63	1.0	23.0	
16QAM	243	0	21.68	21.50			21.64	1.0	23.0	
	1	1	21.63	21.27			21.31	1.0	23.0	
64QAM	1	1	20.11	19.81			19.79	2.5	21.5	
256QAM	1	1	18.18	18.01			17.84	4.5	19.5	
CP-OFDM	QPSK	1	1	21.18			20.93	20.84	1.5	22.5
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	22.38
1	109	22.45	22.38	22.56				0.0	24.0	
1	215	22.24	22.30	22.42				0.0	24.0	
108	0	22.13	21.85	21.92				0.5	23.5	
108	55	22.51	22.43	22.61				0.0	24.0	
108	109	21.89	21.73	22.02				0.5	23.5	
216	0	21.98	21.85	22.07			0.5	23.5		
QPSK	1	1	22.54	22.43			22.21	0.0	24.0	
	1	109	22.68	22.61			22.67	0.0	24.0	
	1	215	22.44	22.42			22.58	0.0	24.0	
	108	0	21.80	21.55			21.52	1.0	23.0	
	108	55	22.73	22.63			22.73	0.0	24.0	
	108	109	21.57	21.36			21.61	1.0	23.0	
16QAM	216	0	21.67	21.49			21.67	1.0	23.0	
	1	1	21.53	21.39			21.10	1.0	23.0	
64QAM	1	1	20.13	19.87			19.62	2.5	21.5	
256QAM	1	1	18.14	18.12			17.75	4.5	19.5	
CP-OFDM	QPSK	1	1	21.13			20.99	20.73	1.5	22.5

BW (MHz)	Modulation	Mode	RB Allocation	RB offset	Measured Pwr (dBm)			MPR	Tune-up Limit
					506202	518598	531000		
					2531.02 MHz	2592.99 MHz	2655.00 MHz		
70 MHz	DFT-s-OFDM	π/2 BPSK	1	1	22.28	22.20	22.20	0.0	24.0
			1	95	22.47	22.40	22.52	0.0	24.0
			1	188	22.20	22.26	22.43	0.0	24.0
			90	0	22.06	21.88	22.02	0.5	23.5
			90	50	22.54	22.49	22.64	0.0	24.0
			90	99	21.86	21.82	22.05	0.5	23.5
		180	0	22.04	21.90	22.08	0.5	23.5	
		QPSK	1	1	22.49	22.45	22.36	0.0	24.0
			1	95	22.79	22.62	22.70	0.0	24.0
			1	188	22.47	22.36	22.66	0.0	24.0
			90	0	21.76	21.55	21.60	1.0	23.0
			90	50	22.77	22.63	22.72	0.0	24.0
			90	99	21.59	21.41	21.65	1.0	23.0
		180	0	21.76	21.56	21.67	1.0	23.0	
16QAM	1	1	21.58	21.39	21.44	1.0	23.0		
64QAM	1	1	19.94	19.92	19.75	2.5	21.5		
256QAM	1	1	17.99	17.89	17.75	4.5	19.5		
CP-OFDM	QPSK	1	1	20.99	20.96	20.73	1.5	22.5	
BW (MHz)	Modulation	Mode	RB Allocation	RB offset	Measured Pwr (dBm)			MPR	Tune-up Limit
					505200	518598	513996		
					2526.00 MHz	2592.99 MHz	2659.98 MHz		
60 MHz	DFT-s-OFDM	π/2 BPSK	1	1	22.37	22.20	22.27	0.0	24.0
			1	81	22.57	22.40	22.52	0.0	24.0
			1	160	22.20	22.15	22.44	0.0	24.0
			81	0	22.02	21.85	22.05	0.5	23.5
			81	41	22.51	22.42	22.59	0.0	24.0
			81	81	21.91	21.77	21.99	0.5	23.5
		162	0	22.02	21.89	22.05	0.5	23.5	
		QPSK	1	1	22.50	22.40	22.50	0.0	24.0
			1	81	22.80	22.60	22.84	0.0	24.0
			1	160	22.52	22.32	22.68	0.0	24.0
			81	0	21.74	21.59	21.67	1.0	23.0
			81	41	22.81	22.61	22.72	0.0	24.0
			81	81	21.67	21.47	21.69	1.0	23.0
		162	0	21.76	21.54	21.67	1.0	23.0	
16QAM	1	1	21.52	21.37	21.60	1.0	23.0		
64QAM	1	1	19.93	19.80	19.93	2.5	21.5		
256QAM	1	1	18.15	17.99	17.98	4.5	19.5		
CP-OFDM	QPSK	1	1	21.13	21.00	20.80	1.5	22.5	
BW (MHz)	Modulation	Mode	RB Allocation	RB offset	Measured Pwr (dBm)			MPR	Tune-up Limit
					504204	518598	532998		
					2521.01 MHz	2592.99 MHz	2665.00 MHz		
50 MHz	DFT-s-OFDM	π/2 BPSK	1	1	22.38	22.26	22.50	0.0	24.0
			1	67	22.59	22.40	22.55	0.0	24.0
			1	131	22.35	22.17	22.52	0.0	24.0
			64	0	22.03	21.88	22.08	0.5	23.5
			64	35	22.65	22.45	22.62	0.0	24.0
			64	69	21.96	21.84	22.08	0.5	23.5
		128	0	22.13	21.90	22.07	0.5	23.5	
		QPSK	1	1	22.55	22.54	22.63	0.0	24.0
			1	67	22.78	22.60	22.68	0.0	24.0
			1	131	22.61	22.36	22.67	0.0	24.0
			64	0	21.70	21.59	21.67	1.0	23.0
			64	35	22.81	22.61	22.73	0.0	24.0
			64	69	21.65	21.48	21.69	1.0	23.0
		128	0	21.78	21.59	21.63	1.0	23.0	
16QAM	1	1	21.62	21.64	21.73	1.0	23.0		
64QAM	1	1	20.03	19.92	20.08	2.5	21.5		
256QAM	1	1	18.07	17.98	18.00	4.5	19.5		
CP-OFDM	QPSK	1	1	21.11	21.05	21.16	1.5	22.5	

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	22.42	22.27	22.47	0.0	24.0
			1	53	22.61	22.39	22.59	0.0	24.0
			1	104	22.41	22.23	22.52	0.0	24.0
			50	0	22.02	21.90	22.06	0.5	23.5
			50	28	22.67	22.45	22.60	0.0	24.0
			50	56	22.06	21.84	22.09	0.5	23.5
		100	0	22.13	21.90	22.05	0.5	23.5	
		QPSK	1	1	22.55	22.47	22.54	0.0	24.0
			1	53	22.78	22.54	22.65	0.0	24.0
			1	104	22.57	22.33	22.59	0.0	24.0
			50	0	21.61	21.54	21.60	1.0	23.0
			50	28	22.79	22.58	22.65	0.0	24.0
			50	56	21.69	21.43	21.68	1.0	23.0
		100	0	21.74	21.55	21.62	1.0	23.0	
16QAM	1	1	21.28	21.50	21.60	1.0	23.0		
64QAM	1	1	20.08	19.86	20.12	2.5	21.5		
256QAM	1	1	18.15	18.15	18.17	4.5	19.5		
CP-OFDM	QPSK	1	1	21.19	20.90	21.12	1.5	22.5	
30 MHz	DFT-s-OFDM	π/2 BPSK	1	1	22.45	22.30	22.48	0.0	24.0
			1	39	22.51	22.39	22.54	0.0	24.0
			1	76	22.51	22.27	22.54	0.0	24.0
			36	0	22.00	21.92	22.07	0.5	23.5
			36	21	22.58	22.41	22.54	0.0	24.0
			36	42	22.12	21.87	22.09	0.5	23.5
		75	0	22.06	21.89	22.07	0.5	23.5	
		QPSK	1	1	22.50	22.43	22.49	0.0	24.0
			1	39	22.65	22.47	22.56	0.0	24.0
			1	76	22.61	22.31	22.57	0.0	24.0
			36	0	21.55	21.48	21.54	1.0	23.0
			36	21	22.64	22.49	22.56	0.0	24.0
			36	42	21.70	21.38	21.59	1.0	23.0
		75	0	21.62	21.46	21.53	1.0	23.0	
16QAM	1	1	21.58	21.31	21.53	1.0	23.0		
64QAM	1	1	20.09	19.94	20.01	2.5	21.5		
256QAM	1	1	18.14	17.87	18.13	4.5	19.5		
CP-OFDM	QPSK	1	1	21.14	20.98	21.02	1.5	22.5	
20 MHz	DFT-s-OFDM	π/2 BPSK	1	1	22.44	22.36	22.51	0.0	24.0
			1	26	22.01	21.90	22.04	0.0	24.0
			1	49	22.02	21.87	22.07	0.0	24.0
			25	0	22.04	21.84	22.05	0.5	23.5
			25	13	22.53	22.39	22.56	0.0	24.0
			25	26	22.03	21.83	22.05	0.5	23.5
		50	0	22.05	21.81	22.05	0.5	23.5	
		QPSK	1	1	22.52	22.46	22.52	0.0	24.0
			1	26	22.24	22.35	22.30	0.0	24.0
			1	49	22.36	22.42	22.24	0.0	24.0
			25	0	22.35	22.26	22.48	1.0	23.0
			25	13	22.59	22.44	22.57	0.0	24.0
			25	26	21.62	21.42	21.54	1.0	23.0
		50	0	21.65	21.37	21.58	1.0	23.0	
16QAM	1	1	21.49	21.46	21.58	1.0	23.0		
64QAM	1	1	20.04	20.00	20.02	2.5	21.5		
256QAM	1	1	18.13	17.94	18.11	4.5	19.5		
CP-OFDM	QPSK	1	1	21.11	20.90	20.94	1.5	22.5	

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	22.41	22.34	22.50	0.0	24.0
			1	19	22.48	22.36	22.51	0.0	24.0
			1	36	22.50	22.29	22.56	0.0	24.0
			18	0	21.99	21.89	22.08	0.5	23.5
			18	10	22.50	22.39	22.54	0.0	24.0
			18	20	21.99	21.86	22.06	0.5	23.5
		36	0	21.98	21.89	22.06	0.5	23.5	
		QPSK	1	1	22.35	22.47	22.55	0.0	24.0
			1	19	22.59	22.46	22.61	0.0	24.0
			1	36	22.60	22.37	22.61	0.0	24.0
			18	0	21.56	21.47	21.55	1.0	23.0
			18	10	22.57	22.46	22.54	0.0	24.0
			18	20	21.58	21.41	21.58	1.0	23.0
		36	0	21.54	21.46	21.52	1.0	23.0	
16QAM	1	1	21.14	21.46	21.52	1.0	23.0		
64QAM	1	1	19.92	20.09	19.96	2.5	21.5		
256QAM	1	1	18.11	18.08	18.05	4.5	19.5		
CP-OFDM	QPSK	1	1	21.07	20.99	21.03	1.5	22.5	
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	21.87	22.30	22.47	0.0	24.0
			1	12	22.44	22.34	22.35	0.0	24.0
			1	22	22.44	22.28	22.56	0.0	24.0
			12	0	21.92	21.83	22.01	0.5	23.5
			12	6	22.44	22.34	22.54	0.0	24.0
			12	12	21.94	21.83	22.06	0.5	23.5
		24	0	21.95	21.83	22.02	0.5	23.5	
		QPSK	1	1	22.48	22.46	22.54	0.0	24.0
			1	12	22.60	22.42	22.57	0.0	24.0
			1	22	22.54	22.41	22.60	0.0	24.0
			12	0	21.49	21.46	21.53	1.0	23.0
			12	6	22.52	22.44	22.56	0.0	24.0
			12	12	21.51	21.42	21.57	1.0	23.0
		24	0	21.51	21.43	21.54	1.0	23.0	
16QAM	1	1	21.66	21.48	21.61	1.0	23.0		
64QAM	1	1	19.97	19.85	19.90	2.5	21.5		
256QAM	1	1	17.93	18.21	18.20	4.5	19.5		
CP-OFDM	QPSK	1	1	21.06	20.91	21.09	1.5	22.5	

NR Band n41 (SRS1)

BW (MHz)	RB Allocation	RB offset	Maximum Average Power (dBm)				Tune-up Limit
			SRS1			MPR	
			Measured Pwr (dBm)				22.5
100 MHz	1	1	509202	518598	528000	MPR	
			2546.01 MHz	2592.99 MHz	2640 MHz		
			20.37	22.22	21.35	0.0	
90 MHz	1	1	508200	518598	528996	MPR	22.5
			2541 MHz	2592.99 MHz	2644.98 MHz		
			20.52	22.15	21.68	0.0	
80 MHz	1	1	507204	518598	529998	MPR	22.5
			2536.02 MHz	2592.99 MHz	2655.00 MHz		
			20.71	22.03	22.05	0.0	
70 MHz	1	1	506202	518598	531996	MPR	22.5
			2531.02 MHz	2592.99 MHz	2659.98 MHz		
			20.35	21.52	22.24	0.0	
60 MHz	1	1	505200	518598	531996	MPR	22.5
			2526 MHz	2592.99 MHz	2659.98 MHz		
			20.52	21.35	22.05	0.0	
50 MHz	1	1	504204	518598	532998	MPR	22.5
			2521.01 MHz	2592.99 MHz	2665 MHz		
			21.16	21.15	21.91	0.0	
40 MHz	1	1	503202	518598	534000	MPR	22.5
			2516.01 MHz	2592.99 MHz	2670 MHz		
			20.82	20.16	21.06	0.0	
30 MHz	1	1	502200	518598	534996	MPR	22.5
			2511 MHz	2592.99 MHz	2675.0 MHz		
			20.73	20.25	21.63	0.0	
20 MHz	1	1	501204	518598	535998	MPR	22.5
			2506.02 MHz	2592.99 MHz	2679.99 MHz		
			20.48	20.23	21.93	0.0	
15 MHz	1	1	500700	518598	536496	MPR	22.5
			2503.5 MHz	2592.99 MHz	2682.48MHz		
			20.41	20.33	21.75	0.0	
10 MHz	1	1	500202	518598	537000	MPR	22.5
			2501.01 MHz	2592.99 MHz	2685 MHz		
			20.35	20.05	20.83	0.0	

NR Band n41 (SRS2)

BW (MHz)	RB Allocation	RB offset	Maximum Average Power (dBm)				Tune-up Limit
			SRS2			MPR	
			Measured Pwr (dBm)				21.0
100 MHz	1	1	509202	518598	528000	MPR	
			2546.01 MHz	2592.99 MHz	2640 MHz		
			19.83	20.39	20.58	0.0	
90 MHz	1	1	508200	518598	528996	MPR	21.0
			2541 MHz	2592.99 MHz	2644.98 MHz		
			19.61	20.01	20.89	0.0	
80 MHz	1	1	507204	518598	529998	MPR	21.0
			2536.02 MHz	2592.99 MHz	2655.00 MHz		
			19.53	20.13	20.91	0.0	
70 MHz	1	1	506202	518598	531996	MPR	21.0
			2531.02 MHz	2592.99 MHz	2659.98 MHz		
			19.79	19.90	20.98	0.0	
60 MHz	1	1	505200	518598	531996	MPR	21.0
			2526 MHz	2592.99 MHz	2659.98 MHz		
			19.85	19.93	20.79	0.0	
50 MHz	1	1	504204	518598	532998	MPR	21.0
			2521.01 MHz	2592.99 MHz	2665 MHz		
			19.92	19.95	20.92	0.0	
40 MHz	1	1	503202	518598	534000	MPR	21.0
			2516.01 MHz	2592.99 MHz	2670 MHz		
			18.73	18.53	19.82	0.0	
30 MHz	1	1	502200	518598	534996	MPR	21.0
			2511 MHz	2592.99 MHz	2675.0 MHz		
			18.61	18.53	19.65	0.0	
20 MHz	1	1	501204	518598	535998	MPR	21.0
			2506.02 MHz	2592.99 MHz	2679.99 MHz		
			18.58	18.59	19.05	0.0	
15 MHz	1	1	500700	518598	536496	MPR	21.0
			2503.5 MHz	2592.99 MHz	2682.48MHz		
			18.61	18.53	18.85	0.0	
10 MHz	1	1	500202	518598	537000	MPR	21.0
			2501.01 MHz	2592.99 MHz	2685 MHz		
			18.56	18.52	18.57	0.0	

NR Band n41 (SRS3)

BW (MHz)	RB Allocation	RB offset	Maximum Average Power (dBm)				Tune-up Limit
			SRS3			MPR	
			Measured Pwr (dBm)				22.0
100 MHz	1	1	509202	518598	528000	MPR	
			2546.01 MHz	2592.99 MHz	2640 MHz		
			20.74	20.57	21.64	0.0	
90 MHz	1	1	508200	518598	528996	MPR	22.0
			2541 MHz	2592.99 MHz	2644.98 MHz		
			20.51	20.65	21.81	0.0	
80 MHz	1	1	507204	518598	529998	MPR	22.0
			2536.02 MHz	2592.99 MHz	2655.00 MHz		
			20.17	20.00	21.70	0.0	
70 MHz	1	1	506202	518598	531996	MPR	22.0
			2531.02 MHz	2592.99 MHz	2659.98 MHz		
			20.32	20.31	21.86	0.0	
60 MHz	1	1	505200	518598	531996	MPR	22.0
			2526 MHz	2592.99 MHz	2659.98 MHz		
			20.29	20.37	21.95	0.0	
50 MHz	1	1	504204	518598	532998	MPR	22.0
			2521.01 MHz	2592.99 MHz	2665 MHz		
			20.75	20.89	20.93	0.0	
40 MHz	1	1	503202	518598	534000	MPR	22.0
			2516.01 MHz	2592.99 MHz	2670 MHz		
			19.66	19.58	19.60	0.0	
30 MHz	1	1	502200	518598	534996	MPR	22.0
			2511 MHz	2592.99 MHz	2675.0 MHz		
			19.60	19.60	19.56	0.0	
20 MHz	1	1	501204	518598	535998	MPR	22.0
			2506.02 MHz	2592.99 MHz	2679.99 MHz		
			19.59	19.57	19.58	0.0	
15 MHz	1	1	500700	518598	536496	MPR	22.0
			2503.5 MHz	2592.99 MHz	2682.48MHz		
			19.55	19.53	19.56	0.0	
10 MHz	1	1	500202	518598	537000	MPR	22.0
			2501.01 MHz	2592.99 MHz	2685 MHz		
			19.58	19.52	19.55	0.0	

NR Band n66 (Antenna A, Main 1)

BW (MHz)	Modulation	Mode	RB Allocation	RB offset	Maximum Average Power (dBm)				
					Measured Pwr (dBm)			MPR	Tune-up Limit
					346000	349000	352000		
1730.00 MHz	1745.00 MHz	1760.00 MHz							
40 MHz	DFT-s-OFDM	π/2 BPSK	1	1	22.42	22.44	22.63	0.0	24.0
			1	108	22.55	22.70	22.81	0.0	24.0
			1	214	22.53	22.68	22.67	0.0	24.0
			108	0	21.43	21.67	21.66	0.5	23.5
			108	54	22.52	22.70	22.81	0.0	24.0
			108	108	21.67	21.80	21.67	0.5	23.5
		216	0	21.51	21.67	21.77	0.5	23.5	
		QPSK	1	1	22.45	22.44	22.61	0.0	24.0
			1	108	22.58	22.69	22.82	0.0	24.0
			1	214	22.55	22.67	22.66	0.0	24.0
			108	0	21.44	21.65	21.64	1.0	23.0
			108	54	22.53	22.70	22.81	0.0	24.0
			108	108	21.66	21.78	21.67	1.0	23.0
		216	0	21.51	21.67	21.77	1.0	23.0	
		16QAM	1	1	21.49	21.44	21.73	1.0	23.0
			1	108	21.66	21.77	21.93	1.0	23.0
			1	214	21.61	21.69	21.72	1.0	23.0
		64QAM	1	1	19.94	19.93	20.12	2.5	21.5
1	1		17.83	17.81	18.07	4.5	19.5		
256QAM	1	1	17.83	17.81	18.07	4.5	19.5		
CP-OFDM	QPSK	1	1	20.93	20.83	21.04	1.5	22.5	
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	22.48	22.50	22.61	0.0	24.0
			1	80	22.46	22.73	22.82	0.0	24.0
			1	158	22.56	22.79	22.63	0.0	24.0
			80	0	21.45	21.69	21.79	0.5	23.5
			80	40	22.45	22.68	22.71	0.0	24.0
			80	80	21.52	21.70	21.66	0.5	23.5
		160	0	21.44	21.65	21.68	0.5	23.5	
		QPSK	1	1	22.45	22.50	22.55	0.0	24.0
			1	80	22.49	22.68	22.82	0.0	24.0
			1	158	22.63	22.78	22.63	0.0	24.0
			80	0	21.50	21.67	21.77	1.0	23.0
			80	40	22.49	22.66	22.69	0.0	24.0
			80	80	21.54	21.70	21.63	1.0	23.0
		160	0	21.47	21.64	21.66	1.0	23.0	
		16QAM	1	1	21.51	21.52	21.65	1.0	23.0
			1	80	21.53	21.73	21.80	1.0	23.0
			1	158	21.58	21.77	21.71	1.0	23.0
		64QAM	1	1	20.05	19.97	20.21	2.5	21.5
256QAM	1	1	17.94	17.93	17.91	4.5	19.5		
CP-OFDM	QPSK	1	1	20.95	20.95	21.10	1.5	22.5	
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	22.46	22.53	22.72	0.0	24.0
			1	67	22.33	22.57	22.60	0.0	24.0
			1	131	22.49	22.74	22.65	0.0	24.0
			64	0	21.45	21.68	21.76	0.5	23.5
			64	35	22.41	22.67	22.69	0.0	24.0
			64	69	21.45	21.68	21.67	0.5	23.5
		128	0	21.41	21.65	21.68	0.5	23.5	
		QPSK	1	1	22.45	22.50	22.70	0.0	24.0
			1	67	22.34	22.54	22.58	0.0	24.0
			1	131	22.49	22.73	22.66	0.0	24.0
			64	0	21.45	21.67	21.75	1.0	23.0
			64	35	22.41	22.66	22.69	0.0	24.0
			64	69	21.45	21.68	21.68	1.0	23.0
		128	0	21.41	21.64	21.67	1.0	23.0	
		16QAM	1	1	21.46	21.53	21.65	1.0	23.0
			1	67	21.39	21.53	21.45	1.0	23.0
			1	131	21.52	21.67	21.55	1.0	23.0
		64QAM	1	1	19.90	20.10	20.14	2.5	21.5
256QAM	1	1	17.79	17.91	18.04	4.5	19.5		
CP-OFDM	QPSK	1	1	20.88	20.97	21.17	1.5	22.5	

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	22.46	22.64	22.72	0.0	24.0
			1	53	22.37	22.68	22.64	0.0	24.0
			1	104	22.43	22.76	22.67	0.0	24.0
			50	0	21.44	21.71	21.71	0.5	23.5
			50	28	22.37	22.66	22.68	0.0	24.0
			50	56	21.39	21.67	21.71	0.5	23.5
		100	0	21.39	21.67	21.67	0.5	23.5	
		QPSK	1	1	22.49	22.63	22.71	0.0	24.0
			1	53	22.41	22.70	22.64	0.0	24.0
			1	104	22.47	22.75	22.67	0.0	24.0
			50	0	21.46	21.71	21.70	1.0	23.0
			50	28	22.40	22.67	22.67	0.0	24.0
			50	56	21.42	21.68	21.69	1.0	23.0
		100	0	21.42	21.67	21.66	1.0	23.0	
		16QAM	1	1	21.47	21.60	21.75	1.0	23.0
			1	53	21.45	21.61	21.71	1.0	23.0
1	104		21.45	21.65	21.65	1.0	23.0		
64QAM	1	1	19.85	20.13	20.35	2.5	21.5		
256QAM	1	1	17.99	17.92	18.08	4.5	19.5		
CP-OFDM	QPSK	1	1	20.97	21.08	21.25	1.5	22.5	
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	22.50	22.65	22.63	0.0	24.0
			1	40	22.37	22.57	22.54	0.0	24.0
			1	77	22.43	22.70	22.67	0.0	24.0
			36	0	21.51	21.71	21.64	0.5	23.5
			36	22	22.44	22.66	22.63	0.0	24.0
			36	43	21.44	21.67	21.68	0.5	23.5
		75	0	21.46	21.65	21.61	0.5	23.5	
		QPSK	1	1	22.52	22.63	22.60	0.0	24.0
			1	40	22.36	22.56	22.51	0.0	24.0
			1	77	22.42	22.66	22.62	0.0	24.0
			36	0	21.50	21.69	21.64	1.0	23.0
			36	22	22.46	22.63	22.61	0.0	24.0
			36	43	21.44	21.64	21.66	1.0	23.0
		75	0	21.45	21.65	21.60	1.0	23.0	
		16QAM	1	1	21.56	21.58	21.64	1.0	23.0
			1	40	21.37	21.57	21.51	1.0	23.0
1	77		21.40	21.62	21.67	1.0	23.0		
64QAM	1	1	20.08	20.28	20.06	2.5	21.5		
256QAM	1	1	17.87	18.02	18.04	4.5	19.5		
CP-OFDM	QPSK	1	1	21.03	21.12	21.07	1.5	22.5	
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	22.53	22.66	22.64	0.0	24.0
			1	26	22.52	22.66	22.66	0.0	24.0
			1	50	22.44	22.62	22.68	0.0	24.0
			25	0	21.53	21.67	21.65	0.5	23.5
			25	14	22.51	22.61	22.68	0.0	24.0
			25	27	21.48	21.62	21.71	0.5	23.5
		50	0	21.51	21.63	21.68	0.5	23.5	
		QPSK	1	1	22.56	22.64	22.63	0.0	24.0
			1	26	22.54	22.65	22.71	0.0	24.0
			1	50	22.44	22.61	22.69	0.0	24.0
			25	0	21.54	21.65	21.66	1.0	23.0
			25	14	22.51	22.61	22.67	0.0	24.0
			25	27	21.48	21.61	21.71	1.0	23.0
		50	0	21.51	21.61	21.66	1.0	23.0	
		16QAM	1	1	21.57	21.65	21.63	1.0	23.0
			1	26	21.61	21.72	21.74	1.0	23.0
1	50		21.44	21.68	21.67	1.0	23.0		
64QAM	1	1	20.10	20.22	20.07	2.5	21.5		
256QAM	1	1	17.97	18.04	18.07	4.5	19.5		
CP-OFDM	QPSK	1	1	21.07	21.09	21.15	1.5	22.5	

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	22.43	22.65	22.63	0.0	24.0
			1	13	22.32	22.52	22.56	0.0	24.0
			1	23	22.36	22.61	22.62	0.0	24.0
			12	0	21.44	21.63	21.65	0.5	23.5
			12	7	22.41	22.61	22.64	0.0	24.0
			12	13	21.41	21.61	21.64	0.5	23.5
		25	0	21.43	21.62	21.65	0.5	23.5	
		QPSK	1	1	22.44	22.62	22.59	0.0	24.0
			1	13	22.34	22.49	22.55	0.0	24.0
			1	23	22.39	22.60	22.61	0.0	24.0
			12	0	21.45	21.62	21.64	1.0	23.0
			12	7	22.43	22.60	22.63	0.0	24.0
			12	13	21.42	21.60	21.64	1.0	23.0
		16QAM	1	1	21.52	21.63	21.59	1.0	23.0
			1	13	21.39	21.49	21.52	1.0	23.0
			1	23	21.46	21.59	21.60	1.0	23.0
		64QAM	1	1	19.95	20.18	20.06	2.5	21.5
		256QAM	1	1	17.88	18.03	18.01	4.5	19.5
CP-OFDM	QPSK	1	1	20.93	21.13	21.11	1.5	22.5	

NR Band n66 (Sub 2)

BW (MHz)	Modulation	Mode	RB Allocation	RB offset	Maximum Average Power (dBm)			MPR	Tune-up Limit
					Measured Pwr (dBm)				
					346000	349000	352000		
40 MHz	DFT-s-OFDM	π/2 BPSK	1	1	22.77	23.22	23.20	0.0	24.0
			1	108	23.41	23.38	23.48	0.0	24.0
			1	214	23.28	23.35	23.37	0.0	24.0
			108	0	22.21	22.36	22.42	0.5	23.5
			108	54	23.38	23.35	23.48	0.0	24.0
			108	108	22.29	22.52	22.40	0.5	23.5
		216	0	22.34	22.33	22.45	0.5	23.5	
		QPSK	1	1	22.66	23.24	23.22	0.0	24.0
			1	108	23.11	23.38	23.31	0.0	24.0
			1	214	23.31	23.37	23.33	0.0	24.0
			108	0	22.25	22.36	22.42	1.0	23.0
			108	54	22.61	23.37	22.71	0.0	24.0
			108	108	22.31	22.54	22.41	1.0	23.0
		216	0	22.36	22.35	22.45	1.0	23.0	
		16QAM	1	1	21.92	22.33	22.26	1.0	23.0
			1	108	22.45	22.44	22.62	1.0	23.0
			1	214	22.31	22.38	22.45	1.0	23.0
		64QAM	1	1	20.53	20.81	20.67	2.5	21.5
256QAM	1	1	18.48	18.58	18.67	4.5	19.5		
CP-OFDM	QPSK	1	1	21.48	21.73	21.74	1.5	22.5	
30 MHz	DFT-s-OFDM	π/2 BPSK	1	1	23.00	23.20	23.30	0.0	24.0
			1	80	23.25	23.25	23.36	0.0	24.0
			1	158	23.13	23.36	23.33	0.0	24.0
			80	0	22.12	22.21	22.40	0.5	23.5
			80	40	23.21	23.24	23.32	0.0	24.0
			80	80	22.24	22.38	22.32	0.5	23.5
		160	0	22.20	22.22	22.30	0.5	23.5	
		QPSK	1	1	23.03	23.20	23.31	0.0	24.0
			1	80	23.26	23.27	23.38	0.0	24.0
			1	158	23.16	23.35	23.34	0.0	24.0
			80	0	22.14	22.22	22.40	1.0	23.0
			80	40	23.22	23.24	23.33	0.0	24.0
			80	80	22.23	22.40	22.32	1.0	23.0
		160	0	22.20	22.22	22.29	1.0	23.0	
		16QAM	1	1	22.04	22.19	22.20	1.0	23.0
			1	80	22.27	22.33	22.31	1.0	23.0
			1	158	22.13	22.28	22.30	1.0	23.0
		64QAM	1	1	20.55	20.75	20.87	2.5	21.5
256QAM	1	1	18.47	18.62	18.77	4.5	19.5		
CP-OFDM	QPSK	1	1	21.55	21.63	21.77	1.5	22.5	

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	22.94	23.15	23.31	0.0	24.0
			1	67	23.02	23.12	23.19	0.0	24.0
			1	131	23.10	23.37	23.30	0.0	24.0
			64	0	22.00	22.21	22.32	0.5	23.5
			64	35	23.10	23.23	23.28	0.0	24.0
			64	69	22.17	22.38	22.33	0.5	23.5
		128	0	22.07	22.21	22.26	0.5	23.5	
		QPSK	1	1	22.96	23.17	23.34	0.0	24.0
			1	67	23.04	23.14	23.21	0.0	24.0
			1	131	23.13	23.40	23.32	0.0	24.0
			64	0	22.05	22.21	22.32	1.0	23.0
			64	35	23.11	23.24	23.28	0.0	24.0
			64	69	22.19	22.36	22.32	1.0	23.0
		128	0	22.08	22.22	22.28	1.0	23.0	
		16QAM	1	1	22.02	22.20	22.34	1.0	23.0
			1	67	22.03	22.17	22.22	1.0	23.0
1	131		22.17	22.38	22.38	1.0	23.0		
64QAM	1	1	20.58	20.67	20.75	2.5	21.5		
	1	1	18.40	18.56	18.76	4.5	19.5		
256QAM	1	1	21.52	21.66	21.85	1.5	22.5		
20 MHz	DFT-s-OFDM	π/2 BPSK	1	1	23.04	23.30	23.39	0.0	24.0
			1	53	23.20	23.32	23.43	0.0	24.0
			1	104	23.24	23.47	23.44	0.0	24.0
			50	0	22.12	22.34	22.38	0.5	23.5
			50	28	23.19	23.34	23.40	0.0	24.0
			50	56	22.23	22.48	22.44	0.5	23.5
		100	0	22.17	22.34	22.39	0.5	23.5	
		QPSK	1	1	23.11	23.34	23.41	0.0	24.0
			1	53	23.26	23.35	23.43	0.0	24.0
			1	104	23.27	23.50	23.44	0.0	24.0
			50	0	22.16	22.36	22.39	1.0	23.0
			50	28	23.21	23.34	23.40	0.0	24.0
			50	56	22.26	22.48	22.47	1.0	23.0
		100	0	22.20	22.36	22.40	1.0	23.0	
		16QAM	1	1	22.25	22.35	22.45	1.0	23.0
			1	53	22.26	22.49	22.45	1.0	23.0
1	104		22.29	22.58	22.45	1.0	23.0		
64QAM	1	1	20.85	20.89	21.01	2.5	21.5		
256QAM	1	1	18.53	18.70	18.80	4.5	19.5		
CP-OFDM	QPSK	1	1	21.63	21.89	21.96	1.5	22.5	
15 MHz	DFT-s-OFDM	π/2 BPSK	1	1	23.00	23.16	23.20	0.0	24.0
			1	40	23.00	23.14	23.16	0.0	24.0
			1	77	23.17	23.35	23.31	0.0	24.0
			36	0	22.06	22.21	22.23	0.5	23.5
			36	22	23.10	23.22	23.25	0.0	24.0
			36	43	22.12	22.31	22.30	0.5	23.5
		75	0	22.08	22.23	22.26	0.5	23.5	
		QPSK	1	1	23.07	23.20	23.21	0.0	24.0
			1	40	23.03	23.16	23.18	0.0	24.0
			1	77	23.19	23.36	23.31	0.0	24.0
			36	0	22.07	22.21	22.25	1.0	23.0
			36	22	23.12	23.22	23.25	0.0	24.0
			36	43	22.14	22.31	22.33	1.0	23.0
		75	0	22.10	22.24	22.25	1.0	23.0	
		16QAM	1	1	22.02	22.19	22.15	1.0	23.0
			1	40	22.01	22.16	22.14	1.0	23.0
1	77		22.15	22.38	22.29	1.0	23.0		
64QAM	1	1	20.50	20.51	20.68	2.5	21.5		
256QAM	1	1	18.49	18.53	18.68	4.5	19.5		
CP-OFDM	QPSK	1	1	21.47	21.69	21.70	1.5	22.5	

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	23.02	23.17	23.23	0.0	24.0
			1	26	23.15	23.19	23.27	0.0	24.0
			1	50	23.12	23.28	23.28	0.0	24.0
			25	0	22.08	22.21	22.24	0.5	23.5
			25	14	23.11	23.21	23.30	0.0	24.0
			25	27	22.11	22.27	22.34	0.5	23.5
		50	0	22.10	22.22	22.30	0.5	23.5	
		QPSK	1	1	23.06	23.20	23.22	0.0	24.0
			1	26	23.16	23.19	23.31	0.0	24.0
			1	50	23.16	23.28	23.31	0.0	24.0
			25	0	22.09	22.20	22.29	1.0	23.0
			25	14	23.12	23.22	23.32	0.0	24.0
			25	27	22.14	22.27	22.36	1.0	23.0
		16QAM	1	1	22.16	22.12	22.22	1.0	23.0
			1	26	22.29	22.19	22.35	1.0	23.0
			1	50	22.22	22.25	22.30	1.0	23.0
64QAM	1	1	20.60	20.73	20.89	2.5	21.5		
256QAM	1	1	18.52	18.64	18.68	4.5	19.5		
CP-OFDM	QPSK	1	1	21.63	21.80	21.72	1.5	22.5	
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	22.95	23.17	23.29	0.0	24.0
			1	13	22.88	23.11	23.24	0.0	24.0
			1	23	23.00	23.21	23.31	0.0	24.0
			12	0	22.96	22.19	22.32	0.5	23.5
			12	7	22.99	23.20	23.31	0.0	24.0
			12	13	22.00	22.21	22.33	0.5	23.5
		25	0	22.01	22.20	22.34	0.5	23.5	
		QPSK	1	1	23.02	23.18	23.31	0.0	24.0
			1	13	22.94	23.11	23.25	0.0	24.0
			1	23	23.05	23.23	23.32	0.0	24.0
			12	0	22.01	22.20	22.32	1.0	23.0
			12	7	23.03	23.21	23.32	0.0	24.0
			12	13	22.03	22.22	22.34	1.0	23.0
		25	0	22.04	22.21	22.33	1.0	23.0	
		16QAM	1	1	21.95	22.19	22.31	1.0	23.0
			1	13	21.95	22.13	22.27	1.0	23.0
1	23		22.00	22.24	22.35	1.0	23.0		
64QAM	1	1	20.54	20.67	20.91	2.5	21.5		
256QAM	1	1	18.48	18.59	18.80	4.5	19.5		
CP-OFDM	QPSK	1	1	21.49	21.68	21.81	1.5	22.5	

NR Band n77 (PC2, Antenna F, Sub 2)

BW (MHz)	Modulation	Mode	RB Allocation	RB offset	Maximum Average Power (dBm)						MPR	Tune-up Limit
					Measured Pwr (dBm)							
					633332	650000	656000	662000				
100 MHz	DFT-s-OFDM	π/2 BPSK	1	1	25.06	25.06	24.65	24.76	24.58	0.0	26.0	
			1	137	25.52	25.52	24.65	24.72	25.15	0.0	26.0	
			1	271	24.59	24.59	25.02	24.83	25.31	0.0	26.0	
			135	0	25.35	25.35	24.49	25.21	24.99	0.5	25.5	
			135	69	25.56	25.56	24.68	24.76	25.21	0.0	26.0	
			135	138	25.21	25.21	24.85	24.74	25.44	0.5	25.5	
			270	0	25.50	25.50	24.58	24.70	25.18	0.5	25.5	
		QPSK	1	1	25.42	25.42	24.57	25.04	25.02	0.0	26.0	
			1	137	25.02	25.02	24.67	24.76	25.05	0.0	26.0	
			1	271	24.71	24.71	25.05	24.99	25.44	0.0	26.0	
			135	0	24.61	24.61	24.20	24.65	24.63	1.0	25.0	
			135	69	25.03	25.03	24.75	24.73	25.04	0.0	26.0	
			135	138	24.31	24.31	24.57	24.32	24.94	1.0	25.0	
			270	0	24.49	24.49	24.22	24.22	24.54	1.0	25.0	
		16QAM	1	1	24.90	24.90	24.10	24.59	24.40	1.0	25.0	
			1	137	24.45	24.45	24.28	24.31	24.69	1.0	25.0	
			1	271	24.26	24.26	24.55	24.48	24.49	1.0	25.0	
64QAM	1	1	23.22	23.22	22.44	22.99	22.63	2.5	23.5			
256QAM	1	1	21.41	21.41	20.65	20.98	20.64	4.5	21.5			
CP-OFDM	QPSK	1	1	24.35	24.35	23.68	24.04	23.84	1.5	24.5		
BW (MHz)	Modulation	Mode	RB Allocation	RB offset	Measured Pwr (dBm)						MPR	Tune-up Limit
					633000	633332	633666	649666	656000	662332		
					3495MHz	3499.98MHz	3504.99MHz	3744.99MHz	3840 MHz	3934.98MHz		
90 MHz	DFT-s-OFDM	π/2 BPSK	1	1	25.08	25.07	25.12	24.63	24.89	24.80	0.0	26.0
			1	123	25.61	25.53	25.45	24.56	24.74	25.35	0.0	26.0
			1	243	24.92	24.75	24.62	24.79	24.77	25.36	0.0	26.0
			120	0	25.34	25.41	25.49	24.53	25.17	24.95	0.5	25.5
			120	63	25.67	25.59	25.49	24.61	24.77	25.41	0.0	26.0
			120	125	25.26	25.20	25.19	24.86	24.78	25.49	0.5	25.5
			243	0	25.47	25.45	25.45	24.51	24.70	25.35	0.5	25.5
		QPSK	1	1	25.31	25.29	24.15	24.58	25.05	25.23	0.0	26.0
			1	123	25.00	24.92	24.83	24.69	24.70	25.05	0.0	26.0
			1	243	24.75	24.71	24.65	24.99	24.87	25.36	0.0	26.0
			120	0	24.58	24.59	24.56	24.14	24.61	24.56	1.0	25.0
			120	63	25.06	25.00	24.93	24.69	24.76	25.13	0.0	26.0
			120	125	24.26	24.25	24.28	24.49	24.34	24.90	1.0	25.0
			243	0	24.51	24.46	24.40	24.18	24.22	24.61	1.0	25.0
		16QAM	1	1	24.96	24.90	24.89	24.06	24.58	24.45	1.0	25.0
		64QAM	1	1	23.49	23.28	23.09	22.42	23.15	22.88	2.5	23.5
		256QAM	1	1	21.28	21.19	21.40	20.63	21.06	20.96	4.5	21.5
CP-OFDM	QPSK	1	1	24.49	24.32	24.26	23.61	24.03	23.86	1.5	24.5	
BW (MHz)	Modulation	Mode	RB Allocation	RB offset	Measured Pwr (dBm)						MPR	Tune-up Limit
					632668	633332	634000	649334	656000	662666		
					3490.02 MHz	3499.98MHz	3510 MHz	3740.01 MHz	3840 MHz	3939.99 MHz		
80 MHz	DFT-s-OFDM	π/2 BPSK	1	1	25.15	25.06	25.19	24.67	24.99	24.93	0.0	26.0
			1	109	25.71	25.54	25.31	24.51	24.74	25.54	0.0	26.0
			1	215	25.09	24.88	24.57	24.73	24.64	25.31	0.0	26.0
			108	0	25.33	25.49	25.49	24.58	25.15	24.97	0.5	25.5
			108	55	25.73	25.60	25.37	24.53	24.79	25.58	0.0	26.0
			108	109	25.34	25.26	25.18	24.82	24.82	25.49	0.5	25.5
			216	0	25.50	25.43	25.39	24.45	24.72	25.47	0.5	25.5
		QPSK	1	1	25.26	25.02	25.03	24.47	25.00	24.98	0.0	26.0
			1	109	25.08	24.87	24.70	24.65	24.66	25.17	0.0	26.0
			1	215	24.69	24.66	24.46	24.89	24.75	25.37	0.0	26.0
			108	0	24.57	24.52	24.47	24.08	24.54	24.49	1.0	25.0
			108	55	25.13	24.94	24.78	24.67	24.68	25.22	0.0	26.0
			108	109	24.30	24.17	24.18	24.30	24.26	24.89	1.0	25.0
			216	0	24.54	24.39	24.27	24.11	24.16	24.72	1.0	25.0
		16QAM	1	1	24.93	24.61	24.57	24.05	24.67	24.58	1.0	25.0
		64QAM	1	1	23.27	23.27	22.98	22.57	22.90	22.88	2.5	23.5
		256QAM	1	1	21.22	21.19	20.96	20.78	21.02	20.85	4.5	21.5
CP-OFDM	QPSK	1	1	24.24	24.02	23.94	23.44	24.01	24.04	1.5	24.5	

BW (MHz)	Modulation	Mode	RB Allocation	RB offset	Measured Pwr (dBm)						MPR	Tune-up Limit
					632334	633332	634332	649000	656000	663000		
					3485.01 MHz	3499.98MHz	3514.98 MHz	3735MHz	3840 MHz	3945MHz		
70 MHz	DFT-s-OFDM	π/2 BPSK	1	1	24.92	25.00	25.28	24.56	25.05	24.80	0.0	26.0
			1	95	25.51	25.44	25.18	24.44	24.70	25.59	0.0	26.0
			1	187	25.03	24.91	24.51	24.71	24.57	25.27	0.0	26.0
			90	0	25.16	25.46	25.49	24.59	25.08	25.08	0.5	25.5
			90	50	25.56	25.50	25.23	24.50	24.74	25.63	0.0	26.0
			90	99	25.42	25.15	25.06	24.66	24.80	25.45	0.5	25.5
		180	0	25.45	25.49	25.26	24.43	24.73	25.48	0.5	25.5	
		QPSK	1	1	25.29	23.89	24.89	24.39	24.96	24.84	0.0	26.0
			1	95	25.14	24.81	24.63	24.55	24.63	25.16	0.0	26.0
			1	187	24.75	24.52	24.43	24.82	24.65	25.18	0.0	26.0
			90	0	24.70	24.48	24.37	24.00	24.48	24.41	1.0	25.0
			90	50	25.22	24.89	24.69	24.61	24.64	25.22	0.0	26.0
			90	99	24.47	24.16	24.12	24.10	24.20	24.81	1.0	25.0
		180	0	24.62	24.41	24.19	24.05	24.15	24.68	1.0	25.0	
16QAM	1	1	24.96	24.68	24.51	24.17	24.44	24.30	1.0	25.0		
64QAM	1	1	23.19	22.99	22.72	22.25	22.96	22.79	2.5	23.5		
256QAM	1	1	21.13	21.10	20.85	20.30	21.01	20.87	4.5	21.5		
CP-OFDM	QPSK	1	1	24.33	24.00	23.97	23.43	23.96	23.95	1.5	24.5	
BW (MHz)	Modulation	Mode	RB Allocation	RB offset	Measured Pwr (dBm)						MPR	Tune-up Limit
					632000	633332	634666	648668	656000	663332		
					3480 MHz	3499.98MHz	3519.99 MHz	3730.02 MHz	3840 MHz	3949.98 MHz		
60 MHz	DFT-s-OFDM	π/2 BPSK	1	1	24.99	25.11	25.43	24.54	25.15	24.60	0.0	26.0
			1	81	25.58	25.53	25.20	24.49	24.76	25.52	0.0	26.0
			1	160	25.16	25.03	24.55	24.63	24.60	25.15	0.0	26.0
			81	0	25.20	25.44	25.38	24.57	25.03	25.23	0.5	25.5
			81	41	25.54	25.55	25.21	24.49	24.76	25.55	0.0	26.0
			81	81	25.49	25.24	25.05	24.50	24.86	25.38	0.5	25.5
		162	0	25.43	25.49	25.22	24.41	24.69	25.43	0.5	25.5	
		QPSK	1	1	25.22	25.09	25.13	24.56	25.12	24.93	0.0	26.0
			1	81	25.16	25.04	24.76	24.78	24.73	25.47	0.0	26.0
			1	160	24.78	24.73	24.61	24.85	24.86	25.37	0.0	26.0
			81	0	24.71	24.66	24.44	24.21	24.54	24.63	1.0	25.0
			81	41	25.20	25.06	24.82	24.82	24.79	25.49	0.0	26.0
			81	81	24.61	24.36	24.30	24.27	24.30	24.93	1.0	25.0
		162	0	24.62	24.53	24.33	24.26	24.25	24.94	1.0	25.0	
16QAM	1	1	24.77	24.83	24.62	24.27	24.80	24.30	1.0	25.0		
64QAM	1	1	23.42	23.28	23.12	22.53	23.32	22.74	2.5	23.5		
256QAM	1	1	21.46	21.21	21.10	20.57	21.04	20.90	4.5	21.5		
CP-OFDM	QPSK	1	1	24.38	24.07	24.12	23.60	24.07	23.93	1.5	24.5	
BW (MHz)	Modulation	Mode	RB Allocation	RB offset	Measured Pwr (dBm)						MPR	Tune-up Limit
					631668	633332	635000	648334	656000	663666		
					3475.02 MHz	3499.98MHz	3525 MHz	3725.01 MHz	3840 MHz	3954.99 MHz		
50 MHz	DFT-s-OFDM	π/2 BPSK	1	1	24.98	25.45	25.77	24.43	24.64	25.49	0.0	26.0
			1	67	25.46	25.83	25.58	24.49	24.65	25.35	0.0	26.0
			1	131	25.83	25.56	24.81	24.51	24.89	25.52	0.0	26.0
			64	0	25.15	25.46	25.44	24.44	24.68	25.45	0.5	25.5
			64	35	25.50	25.89	25.60	24.36	24.80	25.38	0.0	26.0
			64	69	25.43	25.45	25.29	24.43	24.64	25.45	0.5	25.5
		128	0	25.41	25.45	25.46	25.06	25.46	25.41	0.5	25.5	
		QPSK	1	1	25.36	24.63	25.01	24.56	25.06	25.04	0.0	26.0
			1	67	25.17	24.78	24.80	24.70	24.75	25.44	0.0	26.0
			1	131	25.01	24.74	24.66	24.70	24.86	25.43	0.0	26.0
			64	0	24.75	24.66	24.36	24.21	24.49	24.80	1.0	25.0
			64	35	25.21	25.03	24.85	24.79	24.80	25.48	0.0	26.0
			64	69	24.69	24.35	24.28	24.30	24.33	24.91	1.0	25.0
		128	0	24.65	24.53	24.32	24.24	24.30	24.97	1.0	25.0	
16QAM	1	1	24.99	24.79	24.57	24.21	24.52	24.75	1.0	25.0		
64QAM	1	1	23.45	23.06	22.71	22.80	23.15	23.06	2.5	23.5		
256QAM	1	1	21.45	21.24	20.84	20.72	21.21	21.19	4.5	21.5		
CP-OFDM	QPSK	1	1	24.47	24.11	23.95	23.64	24.13	24.02	1.5	24.5	

BW (MHz)	Modulation	Mode	RB Allocation	RB offset	Measured Pwr (dBm)						MPR	Tune-up Limit
					631334	633332	635332	648000	656000	664000		
					3470.01 MHz	3499.98MHz	3529.98 MHz	3720 MHz	3840 MHz	3960 MHz		
40 MHz	DFT-s-OFDM	π/2 BPSK	1	1	25.02	25.67	25.61	24.44	24.90	25.17	0.0	26.0
			1	53	25.26	25.86	25.54	24.50	24.53	25.20	0.0	26.0
			1	104	25.82	25.62	24.86	24.51	24.68	24.97	0.0	26.0
			50	0	25.13	25.48	25.45	24.52	24.72	25.32	0.5	25.5
			50	28	25.35	25.93	25.58	24.55	24.60	25.15	0.0	26.0
			50	56	25.45	25.48	25.24	24.51	24.77	25.01	0.5	25.5
		100	0	25.29	25.46	25.42	24.52	24.57	25.14	0.5	25.5	
		QPSK	1	1	25.37	25.12	24.76	24.66	24.97	25.19	0.0	26.0
			1	53	25.19	24.96	24.84	24.73	24.64	25.43	0.0	26.0
			1	104	25.18	24.74	24.67	24.75	24.74	25.35	0.0	26.0
			50	0	24.81	24.65	24.28	24.19	24.44	24.91	1.0	25.0
			50	28	25.20	25.04	24.83	24.79	24.78	25.47	0.0	26.0
			50	56	24.69	24.36	24.29	24.28	24.26	24.91	1.0	25.0
		100	0	24.70	24.52	24.33	24.21	24.27	24.95	1.0	25.0	
16QAM	1	1	24.90	24.73	24.34	24.24	24.88	24.76	1.0	25.0		
64QAM	1	1	23.27	22.96	22.80	22.63	23.04	23.10	2.5	23.5		
256QAM	1	1	21.23	21.04	21.07	20.52	20.90	21.28	4.5	21.5		
CP-OFDM	QPSK	1	1	24.42	24.13	23.81	23.64	24.10	24.20	1.5	24.5	
BW (MHz)	Modulation	Mode	RB Allocation	RB offset	Measured Pwr (dBm)						MPR	Tune-up Limit
					631000	633332	635666	647668	656000	664332		
					3465 MHz	3499.98MHz	3534.99 MHz	3715.02 MHz	3840 MHz	3964.98 MHz		
30 MHz	DFT-s-OFDM	π/2 BPSK	1	1	25.08	25.78	25.60	24.61	24.80	25.28	0.0	26.0
			1	39	25.27	25.90	25.46	24.56	24.54	25.04	0.0	26.0
			1	76	25.68	25.74	24.85	24.49	24.71	25.06	0.0	26.0
			36	0	25.17	25.43	25.47	24.58	24.71	25.20	0.5	25.5
			36	21	25.30	25.94	25.45	24.59	24.59	25.10	0.0	26.0
			36	42	25.41	25.47	25.16	24.58	24.73	25.04	0.5	25.5
		75	0	25.31	25.42	25.44	24.60	24.58	25.11	0.5	25.5	
		QPSK	1	1	25.34	25.20	24.70	24.66	24.97	25.24	0.0	26.0
			1	39	25.20	24.98	24.77	24.68	24.70	25.34	0.0	26.0
			1	76	25.17	24.84	24.64	24.76	24.74	25.33	0.0	26.0
			36	0	24.82	24.69	24.30	24.19	24.40	24.91	1.0	25.0
			36	21	25.24	25.08	24.79	24.72	24.78	25.39	0.0	26.0
			36	42	24.70	24.47	24.26	24.28	24.23	24.90	1.0	25.0
		75	0	24.76	24.56	24.32	24.23	24.27	24.89	1.0	25.0	
16QAM	1	1	24.86	24.70	24.27	24.12	24.49	24.82	1.0	25.0		
64QAM	1	1	23.15	23.23	22.68	22.74	23.04	23.12	2.5	23.5		
256QAM	1	1	21.33	21.05	20.75	20.57	21.08	21.36	4.5	21.5		
CP-OFDM	QPSK	1	1	24.37	24.22	23.82	23.71	24.04	24.36	1.5	24.5	
BW (MHz)	Modulation	Mode	RB Allocation	RB offset	Measured Pwr (dBm)						MPR	Tune-up Limit
					630834	633332	635832	647500	656000	664500		
					3462.51 MHz	3499.98MHz	3537.48 MHz	3712.5 MHz	3840 MHz	3967.5 MHz		
25 MHz	DFT-s-OFDM	π/2 BPSK	1	1	25.15	25.99	25.68	24.77	24.97	25.19	0.0	26.0
			1	32	25.29	25.98	25.41	24.68	24.78	25.05	0.0	26.0
			1	63	25.53	25.55	25.43	24.95	24.95	25.02	0.0	26.0
			33	0	25.18	25.50	25.31	24.74	24.85	25.15	0.5	25.5
			33	17	25.28	25.99	25.44	24.72	24.82	25.08	0.0	26.0
			33	32	25.38	25.45	25.22	24.70	24.90	25.04	0.5	25.5
		65	0	25.22	25.49	25.43	24.70	24.79	25.08	0.5	25.5	
		QPSK	1	1	25.15	25.22	24.82	24.67	24.90	25.42	0.0	26.0
			1	32	25.20	24.98	24.80	24.66	24.72	25.40	0.0	26.0
			1	63	25.13	25.22	24.84	24.84	24.88	25.42	0.0	26.0
			33	0	24.80	24.63	24.30	24.18	24.36	24.91	1.0	25.0
			33	17	25.28	25.05	24.83	24.73	24.75	25.39	0.0	26.0
			33	32	24.71	24.44	24.27	24.25	24.25	24.89	1.0	25.0
		65	0	24.76	24.55	24.29	24.23	24.27	24.90	1.0	25.0	
16QAM	1	1	24.97	24.94	24.27	24.26	24.50	24.83	1.0	25.0		
64QAM	1	1	23.49	23.12	22.89	22.76	23.01	23.31	2.5	23.5		
256QAM	1	1	21.44	21.30	20.70	20.79	21.13	21.23	4.5	21.5		
CP-OFDM	QPSK	1	1	24.46	24.15	23.73	23.72	23.99	24.43	1.5	24.5	

BW (MHz)	Modulation	Mode	RB Allocation	RB offset	Measured Pwr (dBm)						MPR	Tune-up Limit
					630668	633332	636000	647334	656000	664666		
					3460.02 MHz	3499.98MHz	3540 MHz	3710.01 MHz	3840 MHz	3969.99 MHz		
20 MHz	DFT-s-OFDM	π/2 BPSK	1	1	24.98	25.97	25.56	24.73	24.92	25.23	0.0	26.0
			1	26	25.07	25.99	25.43	24.71	24.84	25.14	0.0	26.0
			1	49	25.10	25.95	25.32	24.69	24.76	25.09	0.0	26.0
			25	0	25.19	25.47	25.13	24.72	24.87	25.13	0.5	25.5
			25	13	25.15	25.93	25.23	24.70	24.81	25.09	0.0	26.0
			25	26	25.20	25.47	25.13	24.72	24.85	25.12	0.5	25.5
		QPSK	1	1	25.24	25.05	24.61	24.72	24.91	25.38	0.0	26.0
			1	26	24.77	24.52	24.18	24.18	24.36	24.88	0.0	26.0
			1	49	24.71	24.46	24.20	24.20	24.27	24.88	0.0	26.0
			25	0	24.69	24.42	24.18	24.23	24.27	24.90	1.0	25.0
			25	13	25.21	24.95	24.74	24.69	24.78	25.40	0.0	26.0
			25	26	24.69	24.42	24.19	24.19	24.20	24.89	1.0	25.0
		16QAM	1	1	24.67	24.75	24.10	24.18	24.47	24.95	1.0	25.0
			64QAM	1	1	23.44	23.19	22.83	22.79	22.98	23.46	2.5
256QAM	1	1	21.35	21.14	20.76	20.72	20.77	21.23	4.5	21.5		
CP-OFDM	QPSK	1	1	24.36	24.13	23.64	23.70	23.96	24.37	1.5	24.5	
BW (MHz)	Modulation	Mode	RB Allocation	RB offset	Measured Pwr (dBm)						MPR	Tune-up Limit
					630500	633332	636166	647168	656000	664832		
					3457.5 MHz	3499.98MHz	3542.49 MHz	3709.52 MHz	3840 MHz	3972.48 MHz		
15 MHz	DFT-s-OFDM	π/2 BPSK	1	1	24.99	25.87	25.30	24.69	24.74	24.96	0.0	26.0
			1	19	25.01	25.90	24.98	24.58	24.67	25.04	0.0	26.0
			1	36	25.14	25.80	24.84	24.63	24.80	25.08	0.0	26.0
			18	0	25.06	25.48	25.23	24.71	24.75	25.00	0.5	25.5
			18	10	25.09	25.91	25.05	24.67	24.68	25.03	0.0	26.0
			18	20	25.12	25.46	24.91	24.67	24.76	25.06	0.5	25.5
		QPSK	36	0	25.09	25.47	25.09	24.68	24.71	25.03	0.5	25.5
			1	1	25.29	25.08	24.74	24.54	24.76	25.26	0.0	26.0
			1	19	25.25	24.91	24.66	24.54	24.66	25.31	0.0	26.0
			1	36	25.18	24.84	24.60	24.60	24.68	25.31	0.0	26.0
			18	0	24.86	24.53	24.21	24.08	24.28	24.80	1.0	25.0
			18	10	25.28	24.96	24.67	24.63	24.66	25.34	0.0	26.0
		16QAM	18	20	24.73	24.40	24.13	24.16	24.20	24.82	1.0	25.0
			36	0	24.78	24.46	24.18	24.14	24.20	24.83	1.0	25.0
64QAM	1	1	24.91	24.57	24.27	24.20	24.37	24.93	1.0	25.0		
256QAM	1	1	23.20	23.06	22.77	22.51	22.81	23.14	2.5	23.5		
CP-OFDM	QPSK	1	1	21.41	21.07	20.58	20.50	20.71	21.13	4.5	21.5	
CP-OFDM	QPSK	1	1	24.34	24.05	23.67	23.64	23.83	24.32	1.5	24.5	
BW (MHz)	Modulation	Mode	RB Allocation	RB offset	Measured Pwr (dBm)						MPR	Tune-up Limit
					630334	633332	636332	647000	656000	665000		
					3455.01 MHz	3499.98 MHz	3544.98 MHz	3705 MHz	3840 MHz	3975 MHz		
10 MHz	DFT-s-OFDM	π/2 BPSK	1	1	25.04	25.90	25.15	24.64	24.72	25.11	0.0	26.0
			1	12	25.05	25.93	25.04	24.63	24.66	25.17	0.0	26.0
			1	22	25.13	25.84	24.90	24.64	24.73	25.22	0.0	26.0
			12	0	25.08	25.48	25.17	24.67	24.71	25.14	0.5	25.5
			12	6	25.08	25.90	25.06	24.68	24.69	25.18	0.0	26.0
			12	12	25.14	25.47	24.97	24.69	24.73	25.20	0.5	25.5
		QPSK	24	0	25.06	25.46	25.08	24.68	24.68	25.19	0.5	25.5
			1	1	25.32	24.94	24.55	24.52	24.77	25.16	0.0	26.0
			1	12	25.23	24.92	24.58	24.56	24.63	25.34	0.0	26.0
			1	22	25.21	24.90	24.52	24.62	24.63	25.27	0.0	26.0
			12	0	24.81	24.46	24.08	24.08	24.24	24.81	1.0	25.0
			12	6	25.28	24.94	24.57	24.58	24.69	25.31	0.0	26.0
		16QAM	12	12	24.72	24.40	24.07	24.09	24.17	24.82	1.0	25.0
			24	0	24.76	24.43	24.06	24.09	24.17	24.82	1.0	25.0
64QAM	1	1	24.82	24.85	23.86	24.22	24.28	24.96	1.0	25.0		
256QAM	1	1	23.50	22.74	22.45	22.56	22.78	23.49	2.5	23.5		
CP-OFDM	QPSK	1	1	21.45	20.66	20.64	20.70	20.65	21.40	4.5	21.5	
CP-OFDM	QPSK	1	1	24.34	23.95	23.58	23.62	23.72	24.36	1.5	24.5	

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

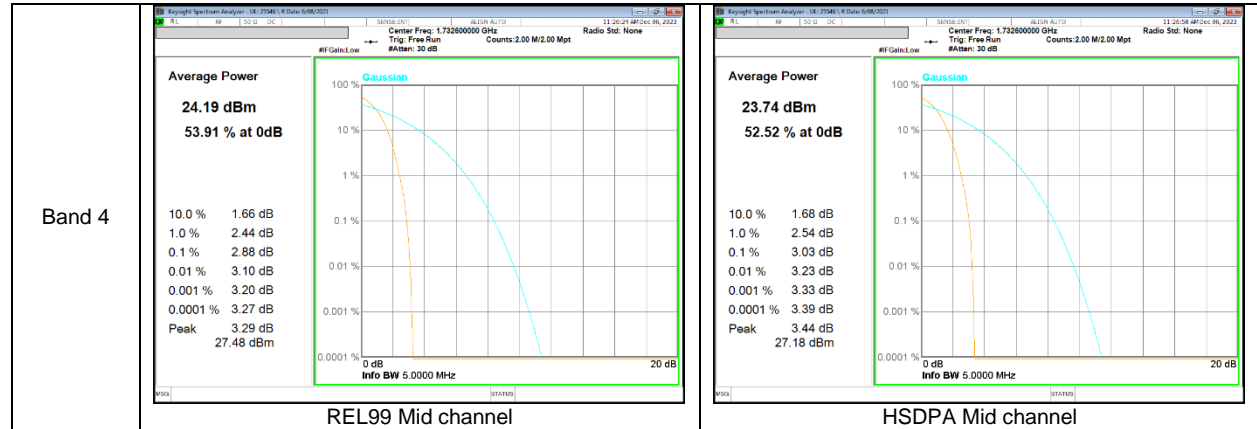
5G NR: All Waveforms (CP-OFDM vs DFT-s_OFDM) and modulations ($\pi/2$ BPSK, QPSK, 16QAM, 64QAM, 256QAM) were investigated to determine the worst case configuration. All Modes of operation were investigated and the worst case configuration results are reported in this section.

RESULTS

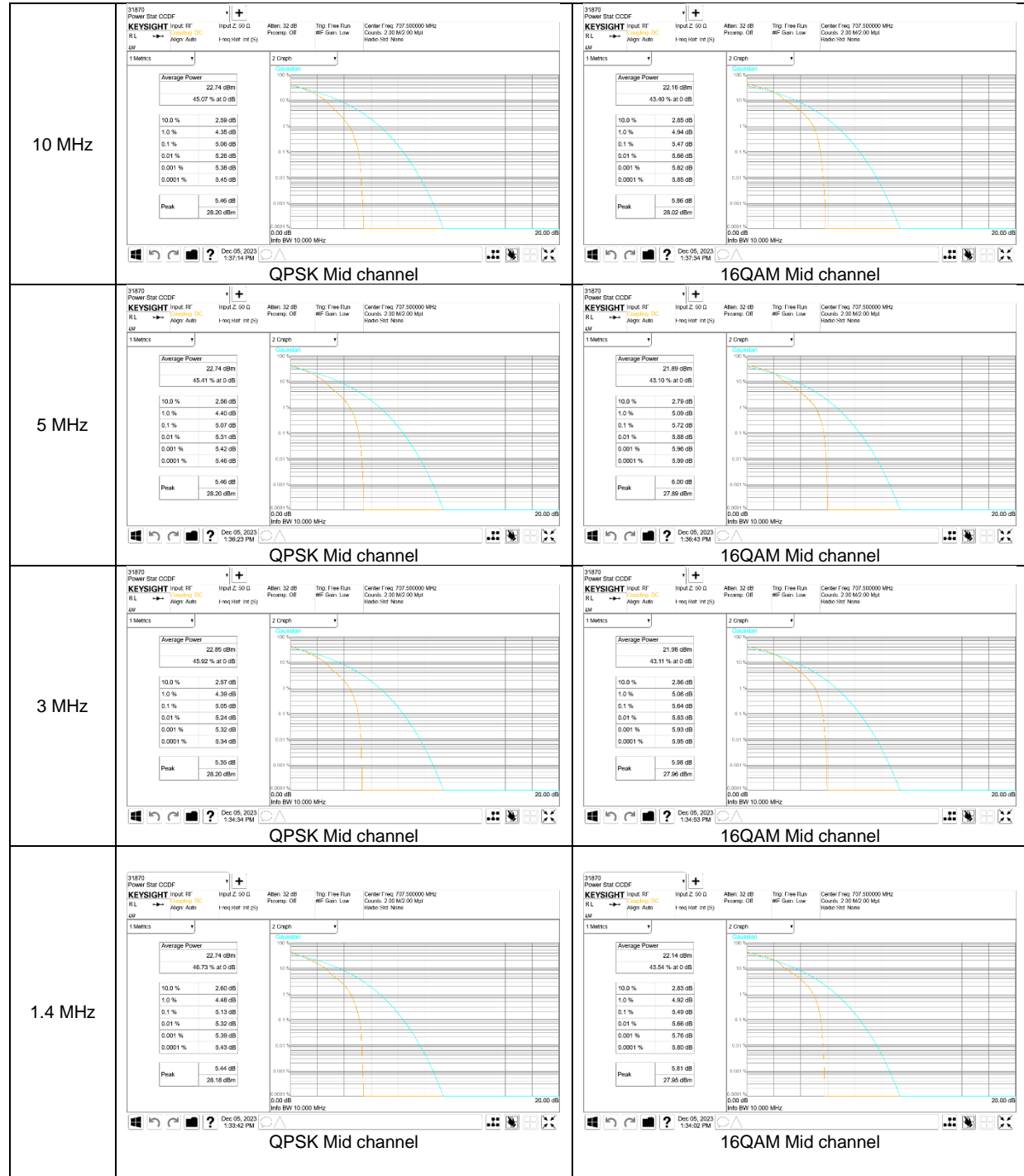
See the following pages.

8.2.1. CONDUCTED PEAK TO AVERAGE RESULTS

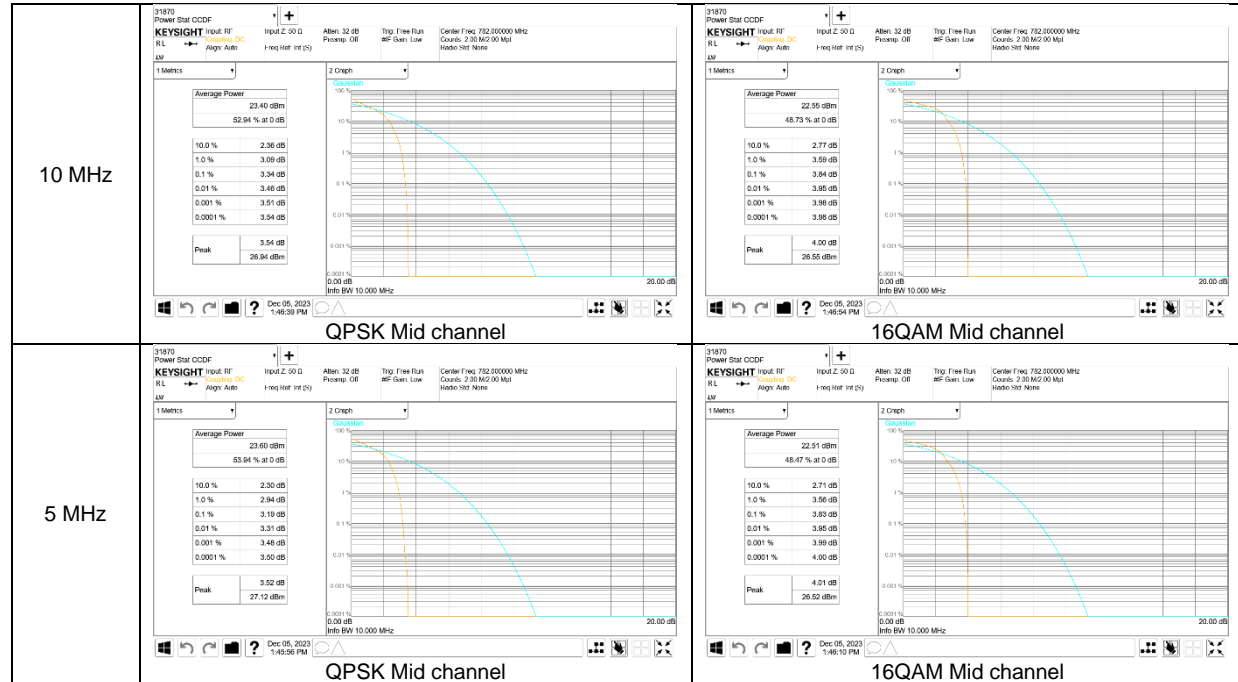
WCDMA B4



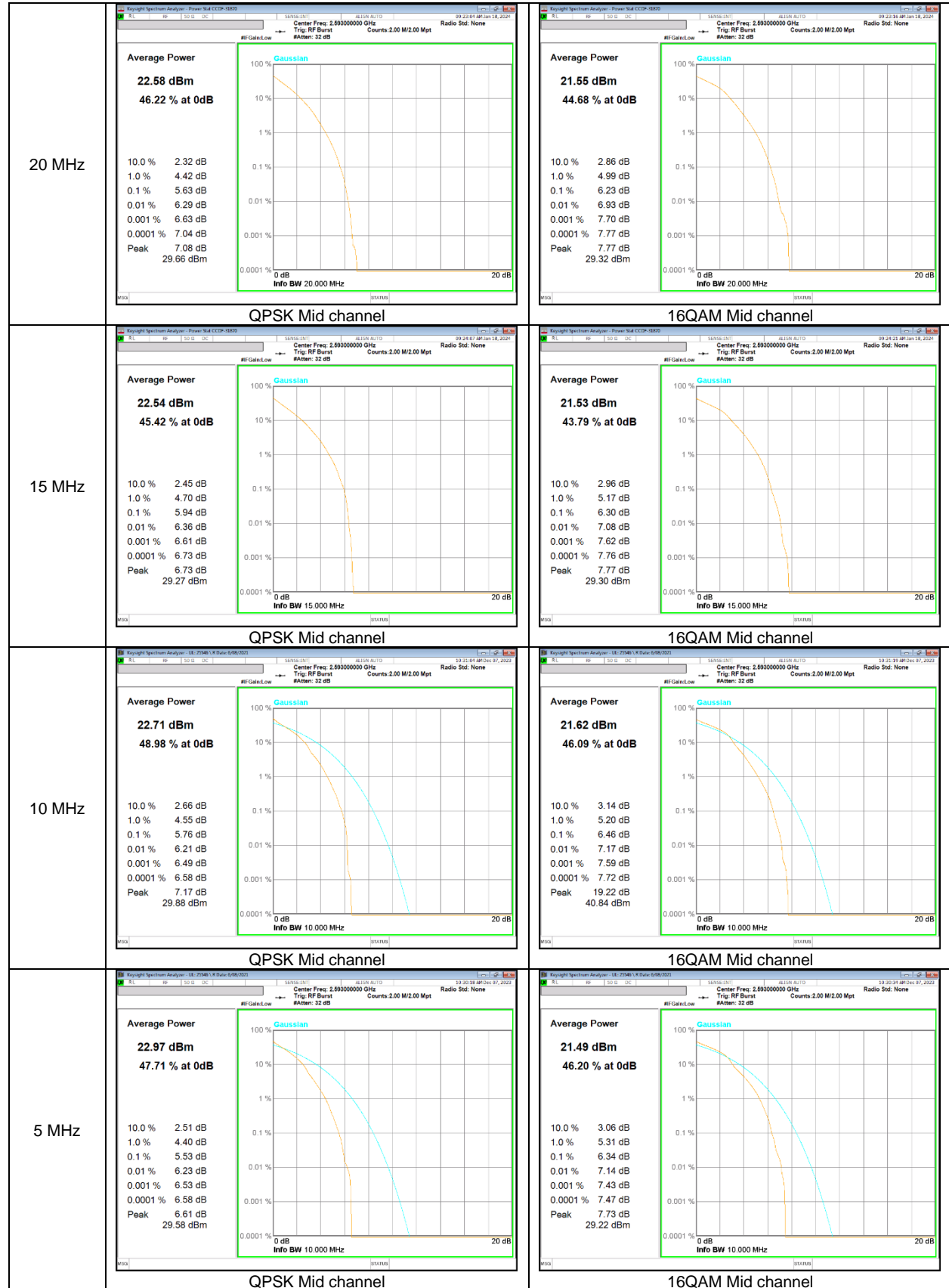
LTE Band 12



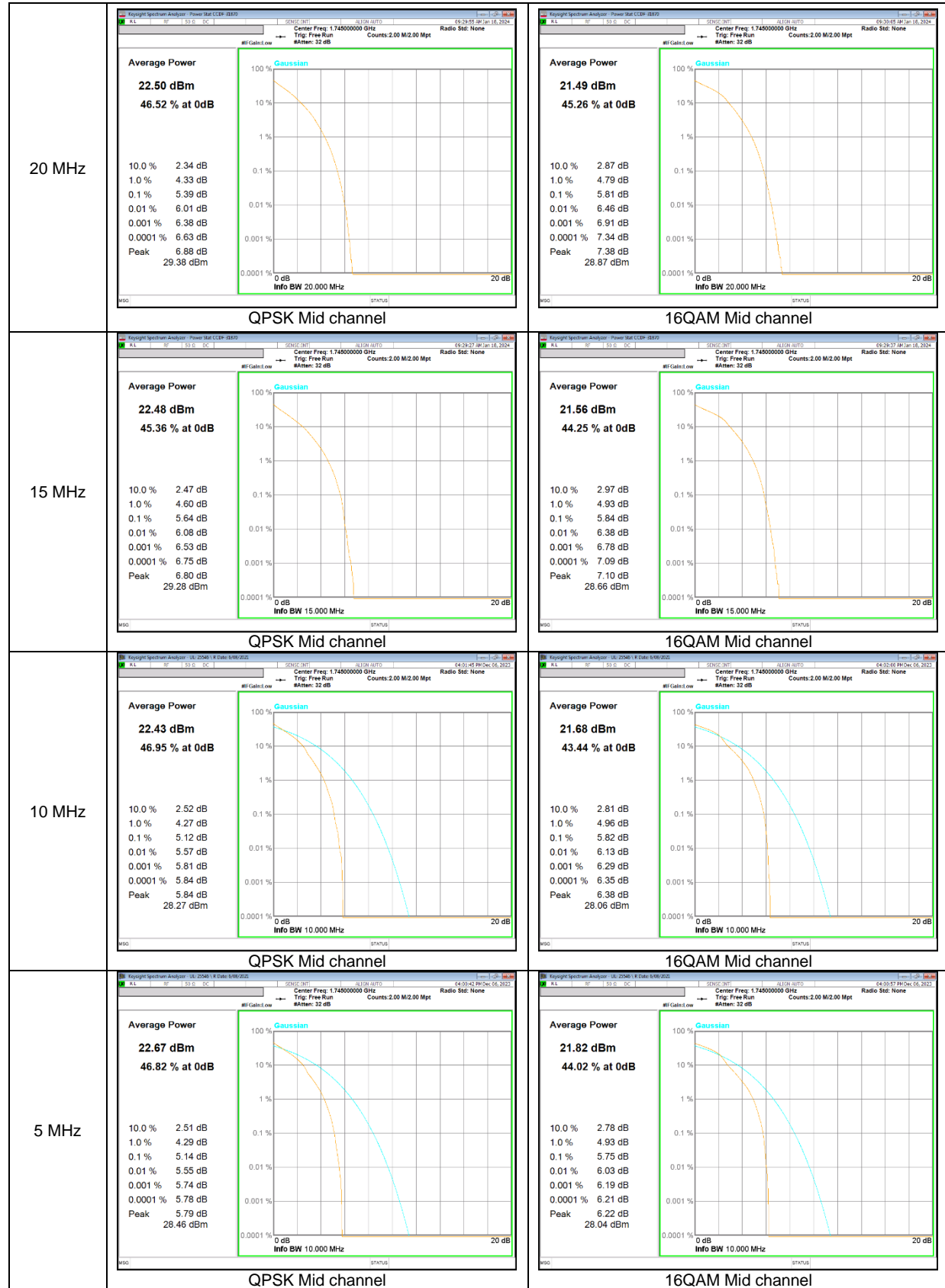
LTE Band 13

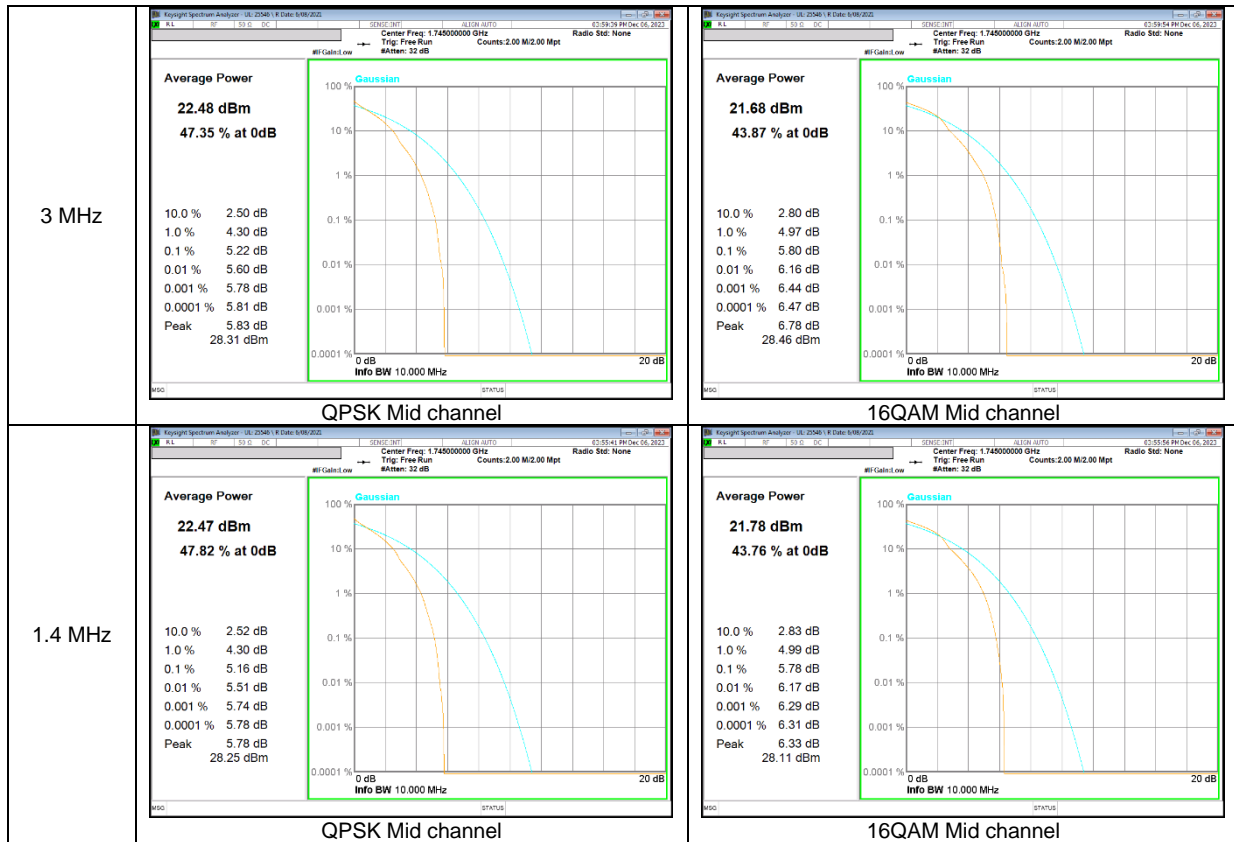


LTE Band 41

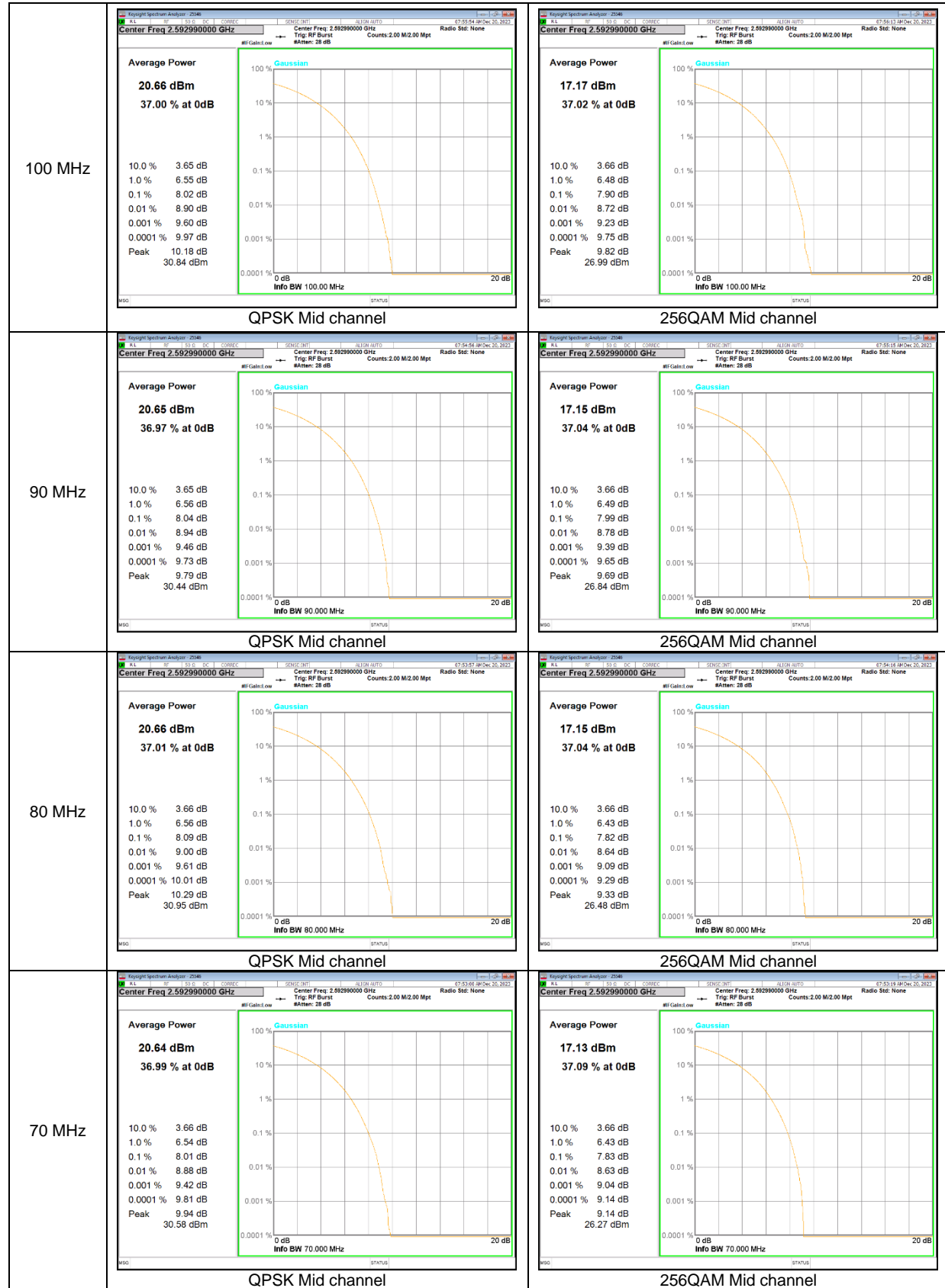


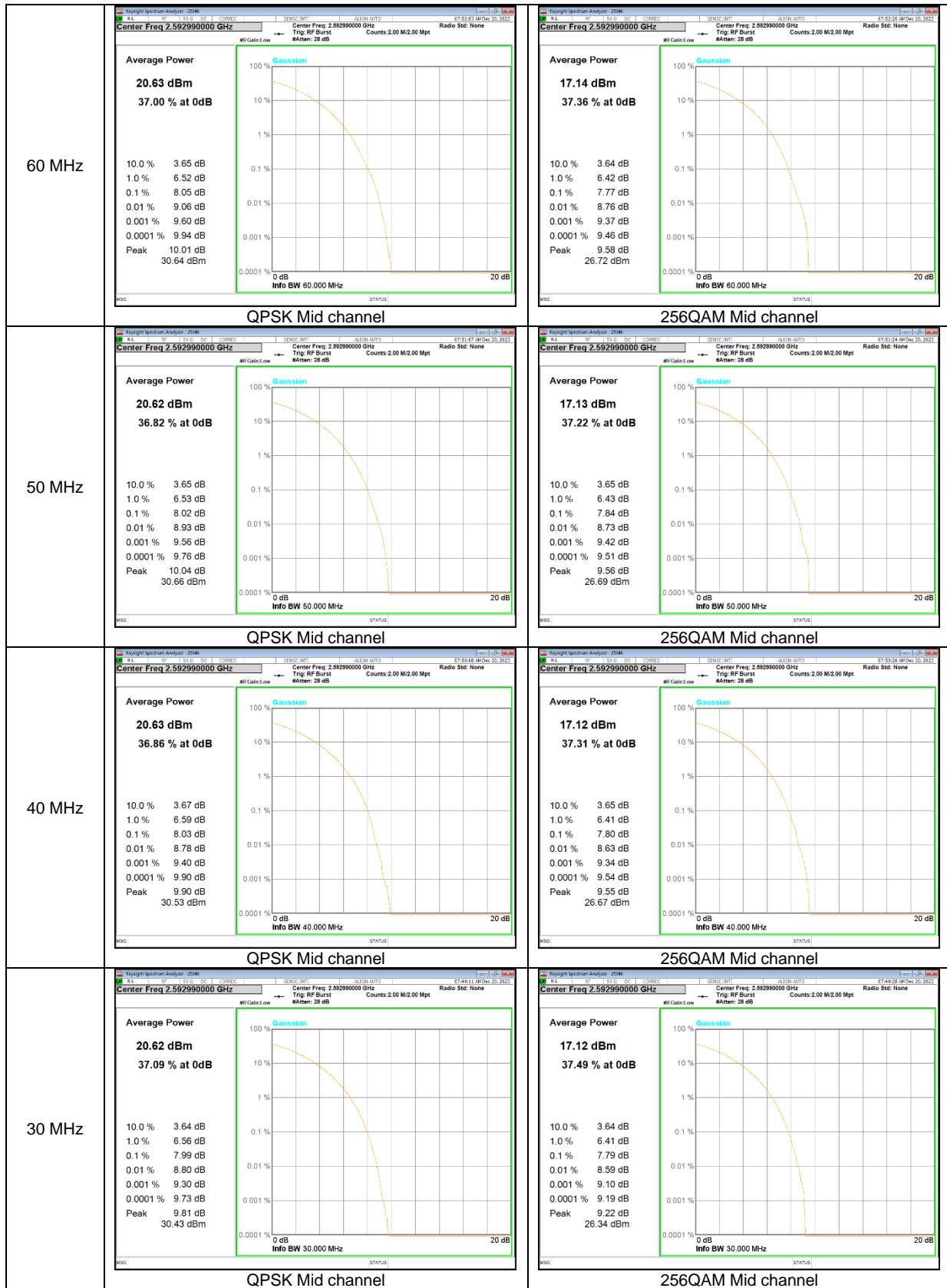
LTE Band 66

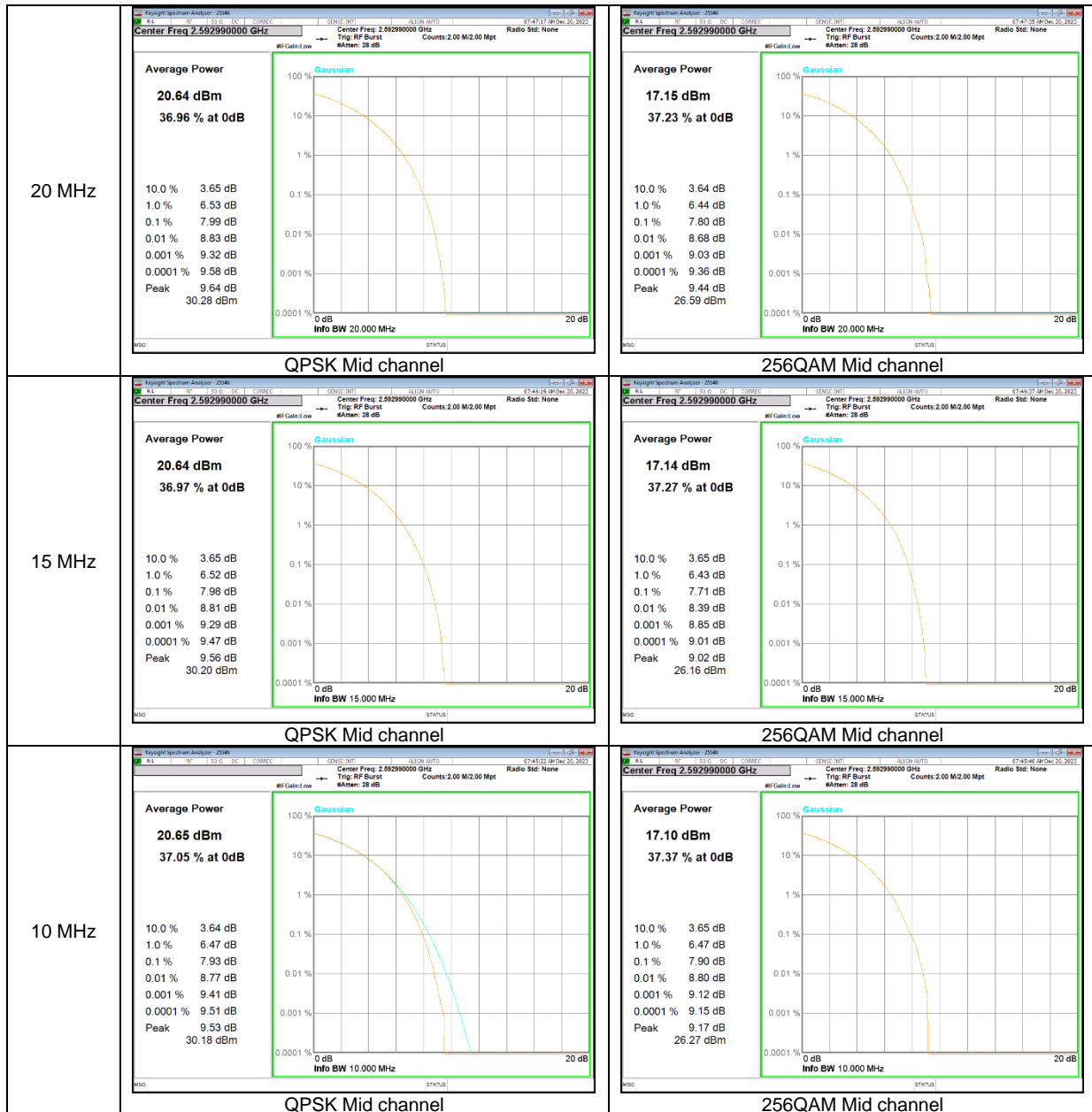




NR Band n41 CP-OFDM

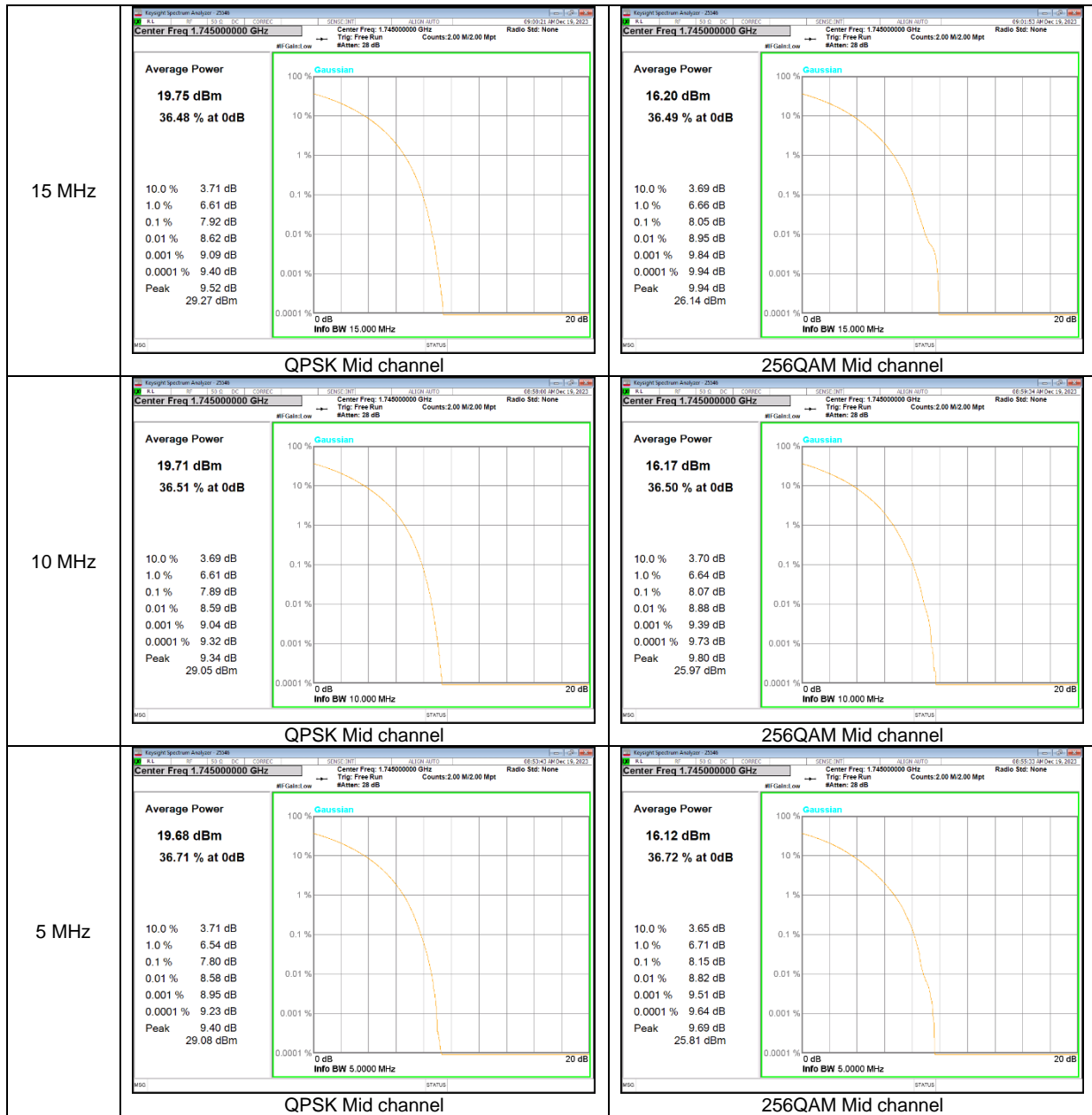




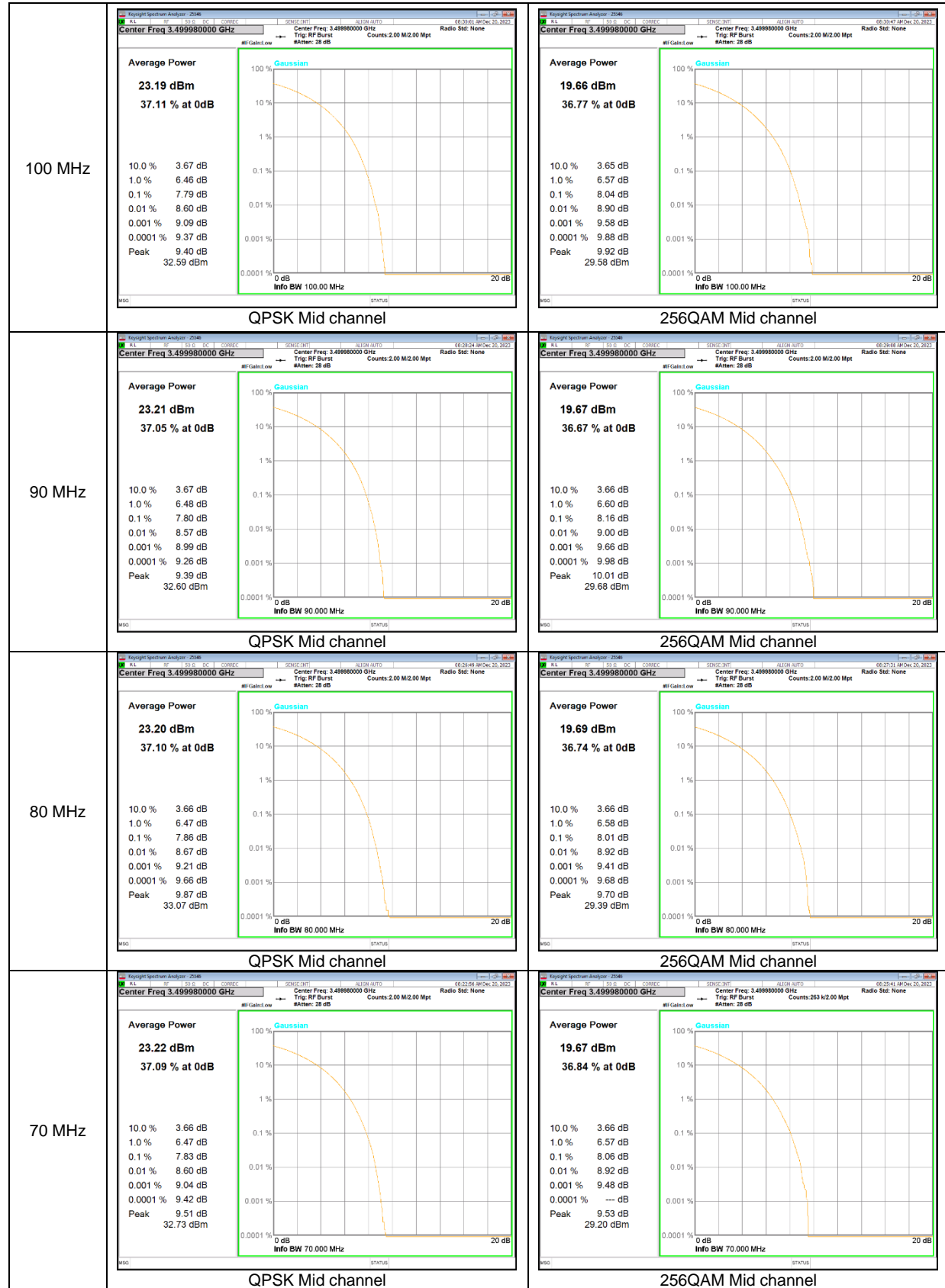


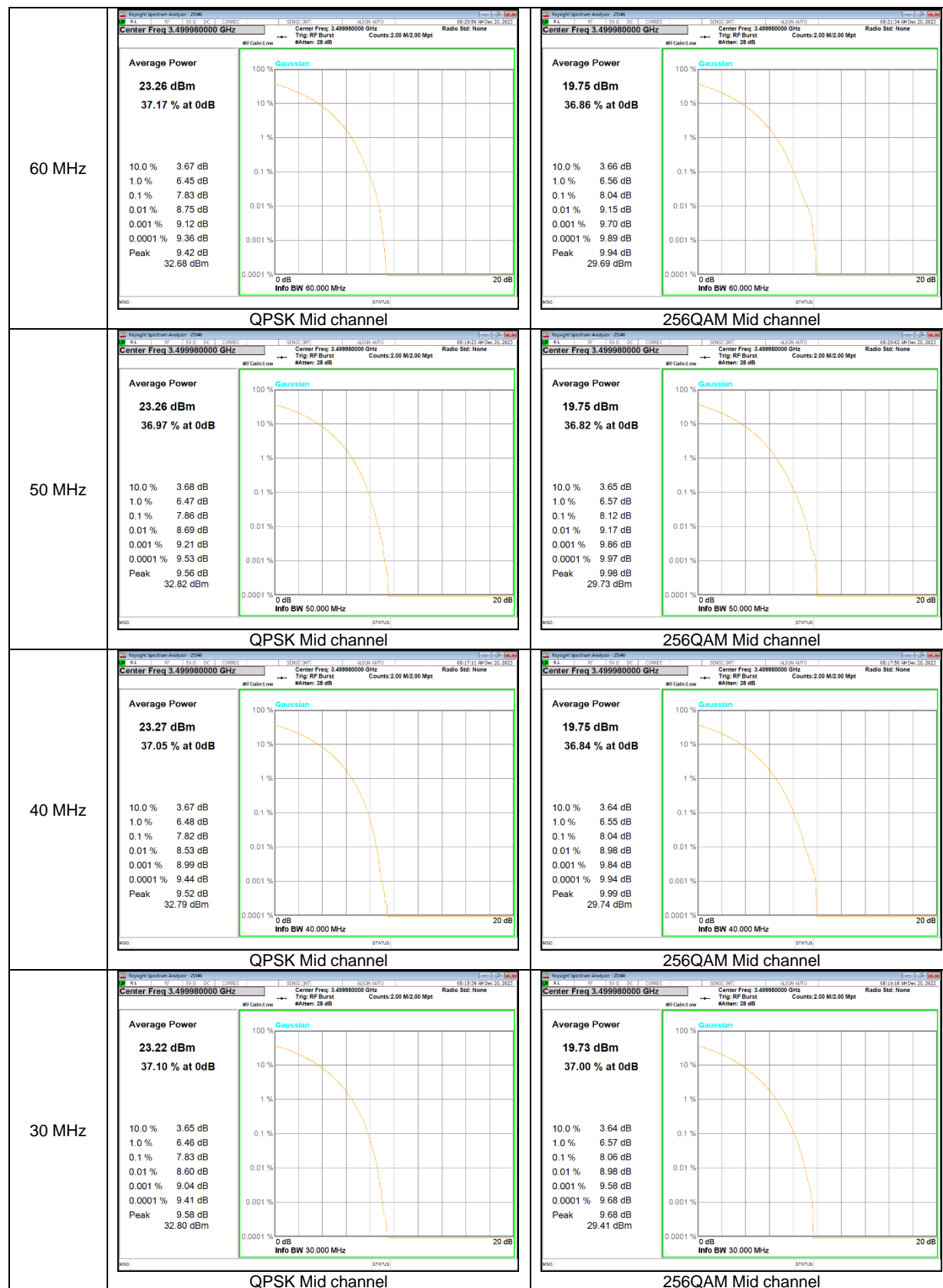
NR Band n66 CP-OFDM





NR Band n77(PC2, 3450-3550 MHz) CP-OFDM







NR Band n77(PC2, 3700–3980 MHz) CP-OFDM

