

CERTIFICATION TEST REPORT

Report Number. : S-4791655852-E4V1

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

Model : SC-54F

FCC ID : A3LSMA366JPN

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 H,L,M

Date Of Issue:
2025-04-01

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Revision History

Rev.	Issue Date	Revisions	Revised By
V1	2025-04-01	Initial issue	Yeonhee Lim

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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: SC-54F

SERIAL NUMBER: R3CXB0VFZ0X, R3CXB0VFXGW, R3CXB0VG4HW, R3CXB0VG41A (CONDUCTED);
R3CXB0VG1KB, R3CXB0VG1MT, R3CXB0VG18W, R3CXB0VG1HK (RADIATED);

DATE TESTED: 2025-02-11 – 2025-04-01;

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

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

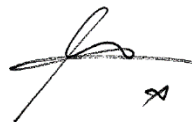
Note: The results documented in this report apply only to the tested sample, under the conditions and Modes of operation as described herein. This document may not be altered or revised in any way unless done so by UL KOREA LTD. and all revisions are duly noted in the revisions section. Any alteration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

Approved & Released For
UL KOREA LTD. By:



Seokhwan Hong
Suwon Lab Engineer
UL KOREA LTD.

Tested By:



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

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

4. CALIBRATION AND UNCERTAINTY

4.1. MEASURING INSTRUMENT CALIBRATION

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

4.2. SAMPLE CALCULATION

Where relevant, the following sample calculation is provided:

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

$$\text{ERP} = \text{SG reading with EUT worst orientation (dBm)} - \text{cable loss(between the SG and substitution antenna)} + \text{Substitution Antenna Factor (dBd)}$$

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	1.84 dB
Radiated Disturbance, 9 kHz to 30 MHz	2.41 dB
Radiated Disturbance, 30 MHz to 1 GHz	3.69 dB
Radiated Disturbance, 1 GHz to 18 GHz	5.18 dB
Radiated Disturbance, Above 18 GHz	5.07 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 Clause 4.3.3 in IEC Guide 115:2023.

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.

5.2. MAXIMUM OUTPUT POWER

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

LTE Band 12

FCC Part 27								
Band	ANT	Frequency Range	BandWidth	Modulation	Conducted		Radiated	
		[MHz]	[MHz]		Avg [dBm]	Avg [mW]	Avg [dBm]	Avg [mW]
Band 12	A	704.00 ~ 711.00	10	QPSK	24.57	286.42	18.34	68.23
				16QAM	23.93	247.17	17.21	52.60
				64QAM	22.79	190.11		
		701.50 ~ 713.50	5	QPSK	24.61	289.07	18.04	63.68
				16QAM	24.05	254.10	16.91	49.09
				64QAM	22.94	196.79		
		700.50 ~ 714.50	3	QPSK	24.53	283.79	18.16	65.46
				16QAM	24.13	258.82	17.24	52.97
				64QAM	22.86	193.20		
		699.70 ~ 715.30	1.4	QPSK	24.67	293.09	17.78	59.98
				16QAM	23.79	239.33	16.68	46.56
				64QAM	23.14	206.06		

LTE Band 41

FCC Part 27								
Band	ANT	Frequency Range	BandWidth	Modulation	Conducted		Radiated	
		[MHz]	[MHz]		Avg [dBm]	Avg [mW]	Avg [dBm]	Avg [mW]
Band 41	B	2506.00 ~ 2680.00	20	QPSK	24.23	264.85	24.24	265.46
				16QAM	23.29	213.30	23.70	234.42
				64QAM	22.24	167.49		
		2503.50 ~ 2682.50	15	QPSK	24.29	268.53	23.86	243.22
				16QAM	23.32	214.78	23.32	214.78
				64QAM	22.25	167.88		
		2501.00 ~ 2685.00	10	QPSK	24.39	274.79	24.04	253.51
				16QAM	23.59	228.56	23.52	224.91
				64QAM	22.49	177.42		
		2498.50 ~ 2687.50	5	QPSK	24.45	278.61	23.93	247.17
				16QAM	23.48	222.84	23.37	217.27
				64QAM	22.40	173.78		
Band 41	D	2506.00 ~ 2680.00	20	QPSK	24.56	285.76	21.10	128.82
				16QAM	23.80	239.88	20.16	103.75
				64QAM	22.49	177.42		
		2503.50 ~ 2682.50	15	QPSK	24.60	288.40	20.96	124.74
				16QAM	23.57	227.51	20.53	112.98
				64QAM	22.61	182.39		
		2501.00 ~ 2685.00	10	QPSK	24.68	293.76	20.96	124.74
				16QAM	23.81	240.44	20.35	108.39
				64QAM	22.81	190.99		
		2498.50 ~ 2687.50	5	QPSK	24.73	297.17	21.24	133.05
				16QAM	23.71	234.96	20.64	115.88
				64QAM	22.70	186.21		

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	B	1720.00 ~ 1770.00	20	QPSK	23.58	228.03	21.48	140.60
				16QAM	22.84	192.31	20.80	120.23
				64QAM	21.79	151.01		
		1717.50 ~ 1772.50	15	QPSK	23.57	227.51	21.46	139.96
				16QAM	22.97	198.15	20.86	121.90
				64QAM	21.85	153.11		
		1715.00 ~ 1775.00	10	QPSK	23.81	240.44	21.55	142.89
				16QAM	23.35	216.27	20.71	117.76
				64QAM	22.44	175.39		
		1712.50 ~ 1777.50	5	QPSK	23.89	244.91	21.66	146.55
				16QAM	23.21	209.41	20.99	125.60
				64QAM	21.95	156.68		
		1711.50 ~ 1778.50	3	QPSK	23.58	228.03	21.60	144.54
				16QAM	22.84	192.31	20.74	118.58
				64QAM	21.74	149.28		
		1710.70 ~ 1779.30	1.4	QPSK	23.59	228.56	21.73	148.94
				16QAM	23.17	207.49	21.09	128.53
				64QAM	22.08	161.44		
Band 66	D	1720.00 ~ 1770.00	20	QPSK	24.20	263.03	22.13	163.31
				16QAM	23.71	234.96	21.36	136.77
				64QAM	23.46	221.82		
		1717.50 ~ 1772.50	15	QPSK	24.09	256.45	21.79	151.01
				16QAM	23.50	223.87	21.36	136.77
				64QAM	23.35	216.27		
		1715.00 ~ 1775.00	10	QPSK	24.35	272.27	21.62	145.21
				16QAM	23.86	243.22	21.20	131.83
				64QAM	23.65	231.74		
		1712.50 ~ 1777.50	5	QPSK	24.30	269.15	22.20	165.96
				16QAM	23.81	240.44	21.77	150.31
				64QAM	23.50	223.87		
		1711.50 ~ 1778.50	3	QPSK	24.25	266.07	21.59	144.21
				16QAM	23.95	248.31	20.96	124.74
				64QAM	23.59	228.56		
		1710.70 ~ 1779.30	1.4	QPSK	24.50	281.84	21.67	146.89
				16QAM	23.90	245.47	21.32	135.52
				64QAM	22.97	198.15		

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	B	2546.01 ~ 2640.00	100	DFT-s OFDM	$\pi/2$ BPSK	24.64	291.07		
					QPSK	24.59	287.74	24.31	269.77
					16QAM	23.58	228.03	23.71	234.96
					64QAM	22.02	159.22		
					256QAM	20.05	101.16		
				CP-OFDM	QPSK	23.04	201.37		
					16QAM	22.66	184.50		
					64QAM	21.21	132.13		
					256QAM	18.37	68.71		
		2541.00 ~ 2644.98	90	DFT-s OFDM	$\pi/2$ BPSK	24.58	287.08		
					QPSK	24.68	293.76	24.83	304.09
					16QAM	23.51	224.39	24.16	260.62
					64QAM	21.99	158.12		
					256QAM	20.04	100.93		
				CP-OFDM	QPSK	22.95	197.24		
		2536.02 ~ 2649.99	80	DFT-s OFDM	$\pi/2$ BPSK	24.69	294.44		
					QPSK	24.60	288.40	24.69	294.44
					16QAM	23.52	224.91	23.96	248.89
					64QAM	22.08	161.44		
					256QAM	20.13	103.04		
				CP-OFDM	QPSK	23.10	204.17		
		2531.02 ~ 2654.98	70	DFT-s OFDM	$\pi/2$ BPSK	24.64	291.07		
					QPSK	24.65	291.74	24.70	295.12
					16QAM	23.63	230.67	24.02	252.35
					64QAM	22.15	164.06		
					256QAM	20.20	104.71		
				CP-OFDM	QPSK	23.12	205.12		
		2526.00 ~ 2659.98	60	DFT-s OFDM	$\pi/2$ BPSK	24.80	302.00		
					QPSK	24.95	312.61	24.69	294.44
					16QAM	23.79	239.33	23.97	249.46
					64QAM	22.20	165.96		
					256QAM	20.26	106.17		
				CP-OFDM	QPSK	23.21	209.41		
		2521.01 ~ 2665.00	50	DFT-s OFDM	$\pi/2$ BPSK	24.83	304.09		
					QPSK	24.97	314.05	24.65	291.74
					16QAM	23.92	246.60	23.67	232.81
					64QAM	22.35	171.79		
					256QAM	20.36	108.64		
				CP-OFDM	QPSK	23.36	216.77		
		2516.01 ~ 2670.00	40	DFT-s OFDM	$\pi/2$ BPSK	24.95	312.61		
					QPSK	24.98	314.77	24.75	298.54
					16QAM	23.86	243.22	23.92	246.60
					64QAM	22.44	175.39		
					256QAM	20.50	112.20		
				CP-OFDM	QPSK	23.40	218.78		
		2511.00 ~ 2675.00	30	DFT-s OFDM	$\pi/2$ BPSK	24.94	311.89		
					QPSK	24.99	315.50	24.46	279.25
					16QAM	23.92	246.60	23.41	219.28
					64QAM	22.31	170.22		
					256QAM	20.41	109.90		
				CP-OFDM	QPSK	23.41	219.28		
		2506.02 ~ 2679.99	20	DFT-s OFDM	$\pi/2$ BPSK	24.80	302.00		
					QPSK	24.89	308.32	24.40	275.42
					16QAM	23.83	241.55	23.27	212.32
					64QAM	22.32	170.61		
					256QAM	20.35	108.39		
				CP-OFDM	QPSK	23.30	213.80		
		2503.50 ~ 2682.48	15	DFT-s OFDM	$\pi/2$ BPSK	24.79	301.30		
					QPSK	24.86	306.20	24.30	269.15
					16QAM	23.80	239.88	23.17	207.49
					64QAM	22.33	171.00		
					256QAM	20.40	109.65		
				CP-OFDM	QPSK	23.27	212.32		
		2501.01 ~ 2685.00	10	DFT-s OFDM	$\pi/2$ BPSK	24.65	291.74		
					QPSK	24.81	302.69	24.06	254.68
					16QAM	23.69	233.88	22.98	198.61
					64QAM	22.18	165.20		
					256QAM	20.21	104.95		
				CP-OFDM	QPSK	23.12	205.12		

FCC Part 27												
Band	ANT	Frequency Range [MHz]	BandWidth [MHz]	Modulation	Mode	Conducted		Radiated				
						Avg [dBm]	Avg [mW]	Avg [dBm]	Avg [mW]			
n41	D	2546.01 ~ 2640.00	100	DFT-s OFDM	π/2 BPSK	24.78	300.61					
					QPSK	24.73	297.17	22.47	176.60			
					16QAM	23.70	234.42	21.55	142.89			
					64QAM	22.09	161.81					
					256QAM	20.09	102.09					
				CP-OFDM	QPSK	23.16	207.01					
					16QAM	22.67	184.93					
					64QAM	21.14	130.02					
					256QAM	18.27	67.14					
					2541.00 ~ 2644.98	90	DFT-s OFDM	π/2 BPSK	24.73	297.17		
		QPSK	24.65	291.74				22.68	185.35			
		16QAM	23.70	234.42				21.48	140.60			
		64QAM	22.23	167.11								
		256QAM	20.20	104.71								
		CP-OFDM	QPSK	23.03			200.91					
			2536.02 ~ 2649.99	80			DFT-s OFDM	π/2 BPSK	24.70	295.12		
								QPSK	24.70	295.12	22.57	180.72
								16QAM	23.62	230.14	21.52	141.91
								64QAM	22.10	162.18		
		256QAM			20.16	103.75						
		CP-OFDM			QPSK	23.13	205.59					
					2531.02 ~ 2654.98	70	DFT-s OFDM	π/2 BPSK	24.73	297.17		
								QPSK	24.74	297.85	22.61	182.39
								16QAM	23.69	233.88	21.65	146.22
								64QAM	22.19	165.58		
		256QAM	20.27	106.41								
		CP-OFDM	QPSK	23.17			207.49					
			2526.00 ~ 2659.98	60			DFT-s OFDM	π/2 BPSK	24.89	308.32		
								QPSK	24.81	302.69	22.53	179.06
								16QAM	23.79	239.33	21.46	139.85
								64QAM	22.12	162.93		
		256QAM			20.19	104.47						
		CP-OFDM			QPSK	23.14	206.06					
					2521.01 ~ 2665.00	50	DFT-s OFDM	π/2 BPSK	25.00	316.23		
								QPSK	24.85	305.49	22.38	172.98
								16QAM	23.87	243.78	20.95	124.45
								64QAM	22.24	167.49		
		256QAM	20.27	106.41								
		CP-OFDM	QPSK	23.24			210.86					
			2516.01 ~ 2670.00	40			DFT-s OFDM	π/2 BPSK	25.04	319.15		
								QPSK	25.05	319.89	22.44	175.39
								16QAM	24.06	254.68	21.60	144.54
								64QAM	22.39	173.38		
		256QAM			20.47	111.43						
		CP-OFDM			QPSK	23.45	221.31					
					2511.00 ~ 2675.00	30	DFT-s OFDM	π/2 BPSK	24.98	314.77		
								QPSK	25.03	318.42	22.20	165.96
								16QAM	24.03	252.93	21.30	134.90
								64QAM	22.31	170.22		
		256QAM	20.42	110.15								
		CP-OFDM	QPSK	23.39			218.27					
			2506.02 ~ 2679.99	20			DFT-s OFDM	π/2 BPSK	24.97	314.05		
								QPSK	24.92	310.46	22.05	160.32
								16QAM	23.89	244.91	21.11	129.12
								64QAM	22.26	168.27		
		256QAM			20.40	109.65						
		CP-OFDM			QPSK	23.37	217.27					
2503.50 ~ 2682.48	15				DFT-s OFDM	π/2 BPSK	24.92	310.46				
						QPSK	24.89	308.32	22.10	162.18		
						16QAM	23.87	243.78	21.16	130.62		
						64QAM	22.27	168.66				
		256QAM	20.42	110.15								
		CP-OFDM	QPSK	23.36	216.77							
			2501.01 ~ 2685.00	10	DFT-s OFDM	π/2 BPSK	24.82	303.39				
						QPSK	24.79	301.30	21.99	158.12		
						16QAM	23.77	238.23	21.01	126.18		
						64QAM	22.08	161.44				
256QAM	20.17	103.99										
CP-OFDM	QPSK	23.15			206.54							

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/dBd)
LTE Band 12 699 - 716 MHz	A	-3.5
LTE Band 41 / NR Band n41 2496 - 2690 MHz	B	-2.7
	D	-5.3
LTE Band 66 1710 - 1780 MHz	B	-2.5
	D	-2.1

5.4. WORST-CASE ORIENTATION

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

- **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 and 64QAM modulations. It was found QPSK and 16QAM results were worst case.

As for the Antenna Switching supported Tx Device Hopping conditions. Only the Tx trigger is different and there is no difference in the results regarding the method. It has been verified. Tx device hopping can be implemented through the application provided by the manufacturer.

Band	Antenna Switching
LTE B41	Tx Device Hopping

- It was tested for all rf ports and, 'Main ANT' conducted test power is the same or higher than 'Sub ANT', so we reported with 'Sub ANT'.
So the test case is as below.

Band	Main ANT	Tune up Limit (dBm)	Sub ANT	Tune up Limit (dBm)
LTE B41	B	25.0	<u>D</u>	<u>25.0</u>
LTE B66	B	25.8	<u>D</u>	<u>25.8</u>

Test Item	Test case antenna & port
Conducted output power	All
RF port test	All (Worst case reported)
EIRP	All
Radiated Spurious Emissions	All

- NR Band n41

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.

This device supports both NSA and SA, but for n41, it only supports NSA.
So the test case is as below.

NR Band	NSA	SA
n41	<u>LTE B66</u>	not supported

- As for the Antenna Switching supported Tx Device Hopping conditions. Only the Tx trigger is different and there is no difference in the results regarding the method. It has been verified. Tx device hopping can be implemented through the application provided by the manufacturer.

Band	Antenna Switching
NR n41	Tx Device Hopping

- It was tested for all rf ports and, 'Main ANT' conducted test power is the same or higher than 'Sub ANT', so we reported with 'Sub ANT'.
So the test case is as below.

Band	Main ANT	Tune up Limit (dBm)	Sub ANT	Tune up Limit (dBm)
NR n41	B	25.5	<u>D</u>	<u>25.5</u>

Test Item	Test case antenna & port
Conducted output power	All
RF port test	All (Worst case reported)
EIRP	All
Radiated Spurious Emissions	All

● Conducted Spurious Emission

Highest conducted output power setting for each bands						
LTE Band	ANT	Frequency (MHz)	Bandwidth (MHz)	Modulation	RB size	RB offset
12	A	699.70	1.4	QPSK	1	3
		707.50			1	5
		715.30			1	0
41	D	2498.50	5	QPSK	1	24
		2593.00			1	12
		2687.50			1	24
66	D	1710.70	1.4	QPSK	1	3
		1745.00			1	3
		1779.30			1	3
NR Band	ANT	Frequency (MHz)	Bandwidth (MHz)	Modulation	RB size	RB offset
41	D	2516.01	40	DFT-s OFDM QPSK	1	104
		2592.99			1	104
		2670.00			1	104

● Radiated Spurious Emission

Highest ERP/ EIRP setting for each bands						
LTE Band	ANT	Frequency (MHz)	Bandwidth (MHz)	Modulation	RB size	RB offset
12	A	704.00	10	QPSK	1	0
		707.50			1	0
		711.00			1	25
41	B	2506.00	20	QPSK	1	99
		2593.00			1	99
		2680.00			1	99
	D	2498.50	5	QPSK	1	24
		2593.00			1	12
		2687.50			1	24
66	B	1710.70	1.4	QPSK	1	3
		1745.00			1	0
		1779.30			1	0
	D	1712.50	5	QPSK	1	0
		1745.00			1	12
		1777.50			1	12
NR Band	ANT	Frequency (MHz)	Bandwidth (MHz)	Modulation	RB size	RB offset
41	B	2541.00	90	DFT-s OFDM QPSK	1	243
		2592.99			1	1
		2644.98			1	1
	D	2541.00	90	DFT-s OFDM QPSK	1	243
		2592.99			1	243
		2644.98			1	243

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

Band	ANT	ERP/EIRP			RSE		
		X	Y	Z	X	Y	Z
LTE B12	A	-	-	O	O	-	-
LTE B41	B	O	-	-	-	-	O
	D	-	O	-	-	O	-
LTE B66	B	O	-	-	O	-	-
	D	-	-	O	-	-	O
NR n41	B	O	-	-	O	-	-
	D	-	O	-	-	O	-

Note1 : For the radiated spurious testing, the EUT attached with travel adapter for the worst case condition. The EUT is continuously communicated with the call box during the tests.

5.5. DESCRIPTION OF TEST SETUP

SUPPORT EQUIPMENT

Support Equipment List				
Description	Manufacture	Model	Serial Number	FCC ID
Charger	SAMSUNG	EP-TA800	R37XBMJF8FBDKA	N/A
Data Cable	SAMSUNG	EP-DN980B	N/A	N/A

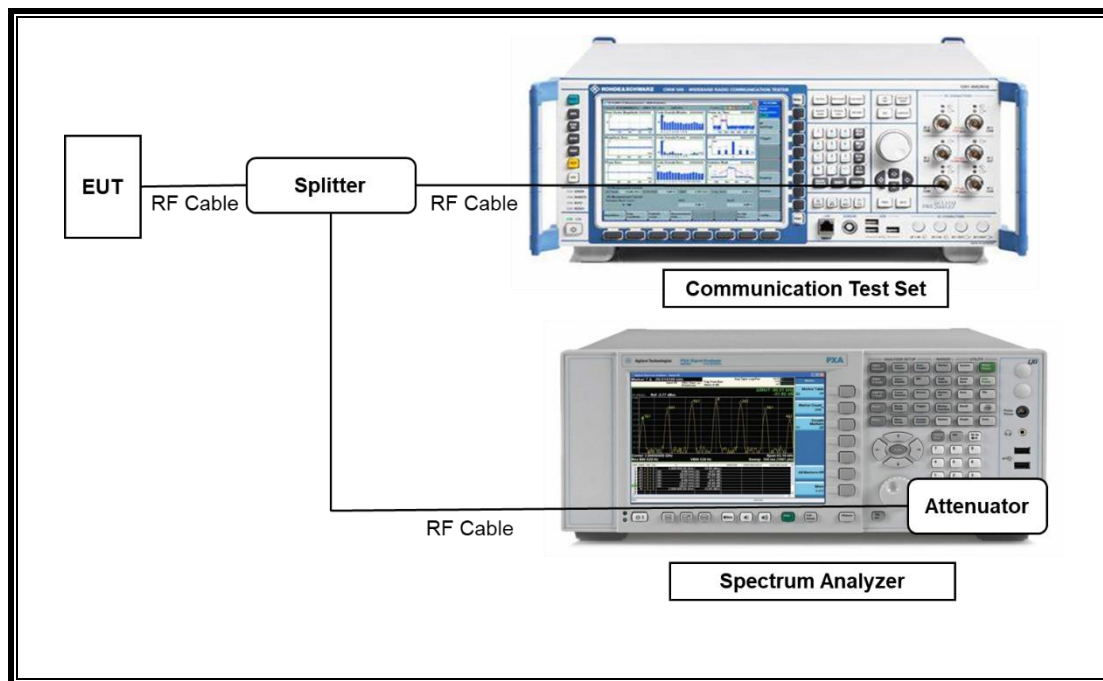
I/O CABLE

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

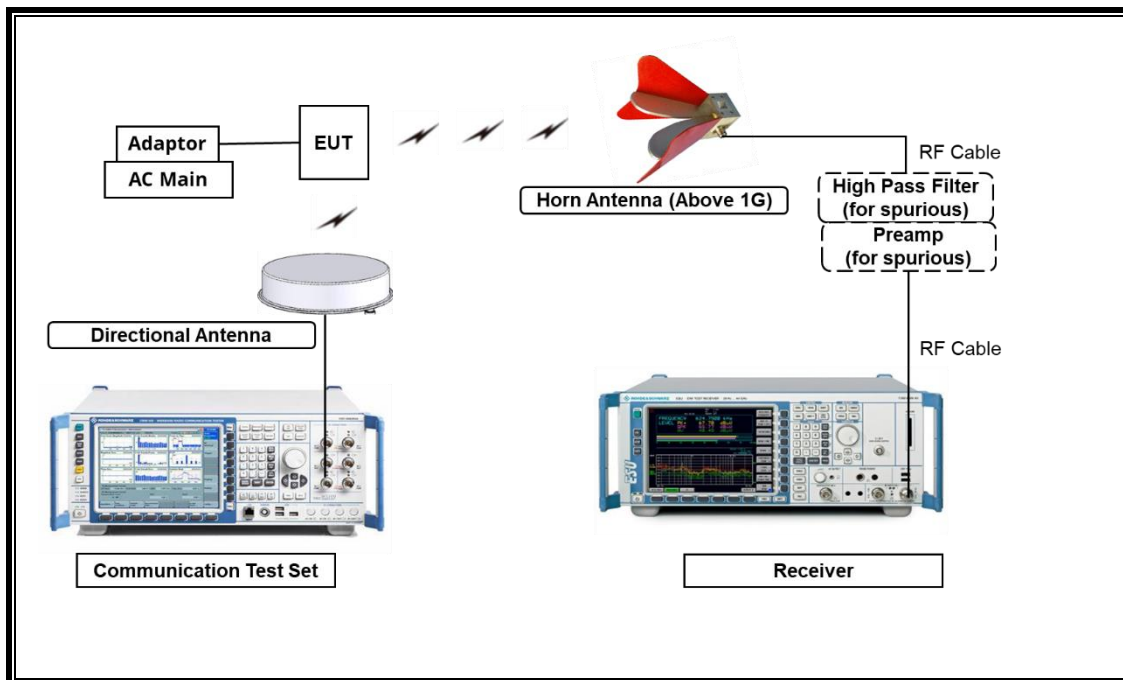
TEST SETUP

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

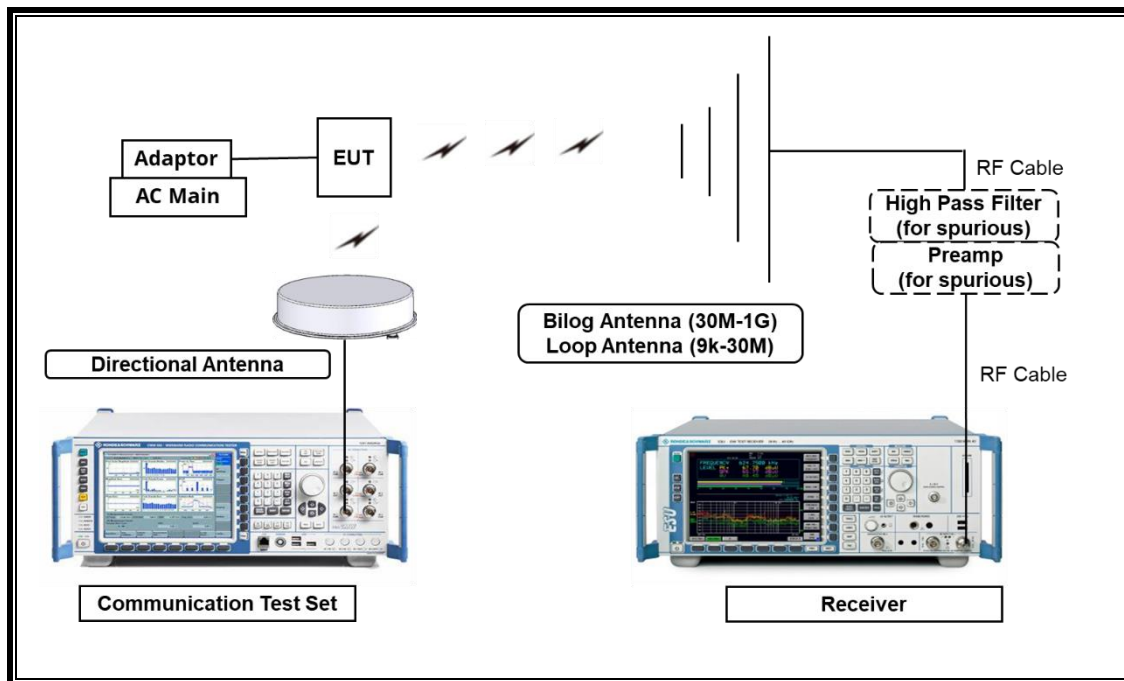
SETUP DIAGRAM FOR TESTS (CONDUCTED TEST SETUP)



SETUP DIAGRAM FOR TESTS (RADIATED TEST SETUP) Above 1G



SETUP DIAGRAM FOR TESTS (RADIATED TEST SETUP) Below 1G



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 DB-4	00164753	2027-01-08
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	2026-07-23
Antenna, Horn, 40 GHz	ETS	3116C	00168645	2025-10-06
Preamplifier	ETS	3116C-PA	00168841	2025-07-25
Antenna, Bilog, 30MHz-1GHz	SCHWARZBECK	VULB 9163	750	2026-07-30
Antenna, Bilog, 30MHz-1GHz	SCHWARZBECK	VULB 9163	845	2026-07-30
Antenna, Bilog, 30MHz-1GHz	SCHWARZBECK	VULB 9163	749	2026-08-12
Antenna, Horn, 18 GHz	ETS	3115	00167211	2026-07-17
Antenna, Horn, 18 GHz	ETS	3115	00161451	2026-07-17
Antenna, Horn, 18 GHz	ETS	3117	00168724	2026-07-17
Antenna, Horn, 18 GHz	ETS	3117	00168717	2026-07-17
Communications Test Set	R&S	CMW500	169797	2025-07-23
DC Power Supply	Agilent / HP	E3640A	MY54226395	2025-07-24
Preamplifier, 1000 MHz	Sonoma	310N	341282	2025-07-22
Preamplifier, 1000 MHz	Sonoma	310N	370599	2025-07-22
Preamplifier, 1000 MHz	Sonoma	310N	351741	2025-07-22
Preamplifier, 18 GHz	Miteq	AFS42-00101800-25-S-42	2029169	2025-07-23
Preamplifier, 18 GHz	B&Z Technologies, LLC	BZR-01001800-231040-182020	28451	2025-07-22
Preamplifier, 18 GHz	B&Z Technologies, LLC	BZR-01001800-231040-181515	23576	2025-07-25
Spectrum Analyzer, 44 GHz	Agilent / HP	N9030A	MY54170614	2025-07-24
Spectrum Analyzer, 44 GHz	Agilent / HP	N9030A	MY54490312	2026-01-02
Spectrum Analyzer, 44 GHz	KEYSIGHT	N9030B	MY57143717	2025-07-23
EMI Test Receive, 40 GHz	R&S	ESU40	100439	2025-07-23
EMI Test Receive, 40 GHz	R&S	ESU40	100457	2025-07-22
High Pass Filter 1.2GHz	Micro-Tronics	HPM50108-02	G005	2025-07-23
High Pass Filter 1.2GHz	Micro-Tronics	HPM50108-02	G006	2025-07-23
High Pass Filter 2.8GHz	Micro-Tronics	HPM50111-02	010	2025-07-23
High Pass Filter 2.8GHz	Micro-Tronics	HPM50111-02	011	2025-07-23
High Pass Filter 4GHz	Micro-Tronics	HPM50118-02	G001	2025-07-23
High Pass Filter 4GHz	Micro-Tronics	HPM50118-02	G002	2025-07-23
Attenuator	PASTERNAK	PE7087-10	A009	2025-07-23
Attenuator	PASTERNAK	PE7087-10	A001	2025-07-23
Attenuator	PASTERNAK	PE7087-10	A008	2025-07-23
Attenuator	PASTERNAK	PE7004-10	2	2025-07-23
Attenuator	PASTERNAK	PE7395-10	A011	2025-07-25
Antenna, Loop, 9kHz-30MHz	R&S	HFH2-Z2	100418	2025-09-07
Temperature Chamber	ESPEC	SH-642	93001109	2025-07-23
Power Splitter	MINI-CIRCUITS	WA1534	UL003	2026-01-03
Power Splitter	MINI-CIRCUITS	WA1534	UL004	2026-01-03
UXM 5G Wireless Test Platform	KEYSIGHT	E7515B	MY57510655	2026-01-03
Notch Filter	MICRO-TRONICS	BRC50705-02	G024	2025-07-24
Notch Filter	MICRO-TRONICS	BRM50702-02	G036	2025-07-23
Notch Filter	MICRO-TRONICS	BRM50707-02	G002	2025-07-23
Notch Filter	MICRO-TRONICS	BRM50709-02	G001	2025-07-23
Notch Filter	MICRO-TRONICS	BRM50713-02	G001	2025-07-24
Notch Filter	MICRO-TRONICS	BRM50716-2	006	2025-07-23
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	Complies
2.1049	Occupied Bandwidth (99%)	N/A		Complies
27.53(g), 27.53(h)	Conducted Band Edge / Conducted Spurious Emission	-13 dBm		Complies
27.53(m)		-25 dBm		Complies
27.53(m)	Emission Mask	Section 8.4.2		Complies
27.54	Frequency Stability	2.5 ppm		Complies
27.50(c)(10)	Effective Radiated Power	34.77 dBm	Radiated	Complies
27.50(h)(2)	Effective Isotropic Radiated Power	33 dBm		Complies
27.50(d)(4)		30 dBm		Complies
27.53(g) 27.53(h)	Radiated Spurious Emission	-13 dBm		Complies
27.53(m),		-25 dBm		Complies

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

LTE Band 12 (ANT A)

BW (MHz)	Mode	RB Allocation	RB offset	Maximum Average Power (dBm)				
				Measured Pwr (dBm)			MPR	Tune-up Limit
				23060	23095	23130		
				704.00 MHz	707.50 MHz	711.00 MHz		
10 MHz	QPSK	1	0	24.57	24.43	24.21	0.0	25.5
		1	25	24.43	24.34	24.30	0.0	25.5
		1	49	24.24	24.16	24.16	0.0	25.5
		25	0	23.48	23.39	23.35	1.0	24.5
		25	12	23.47	23.38	23.38	1.0	24.5
		25	25	23.27	23.31	23.31	1.0	24.5
		50	0	23.33	23.33	23.34	1.0	24.5
	16QAM	1	0	23.53	23.93	23.48	1.0	24.5
		1	25	23.60	23.55	23.74	1.0	24.5
		1	49	23.18	23.54	23.56	1.0	24.5
		25	0	22.48	22.42	22.29	2.0	23.5
		25	12	22.48	22.42	22.31	2.0	23.5
		25	25	22.28	22.39	22.25	2.0	23.5
		50	0	22.34	22.28	22.25	2.0	23.5
	64QAM	1	0	22.59	22.31	22.31	2.0	23.5
		1	25	22.51	22.58	22.35	2.0	23.5
		1	49	22.79	22.65	22.27	2.0	23.5
		25	0	21.49	21.38	21.39	3.0	22.5
		25	12	21.38	21.31	21.39	3.0	22.5
		25	25	21.33	21.24	21.24	3.0	22.5
		50	0	21.40	21.38	21.26	3.0	22.5
BW (MHz)	Mode	RB Allocation	RB offset	Measured Pwr (dBm)			MPR	Tune-up Limit
				23035	23095	23155		
				701.50 MHz	707.50 MHz	713.50 MHz		
5 MHz	QPSK	1	0	24.61	24.42	24.25	0.0	25.5
		1	12	24.51	24.37	24.23	0.0	25.5
		1	24	24.24	24.26	24.14	0.0	25.5
		12	0	23.56	23.40	23.23	1.0	24.5
		12	7	23.48	23.33	23.24	1.0	24.5
		12	13	23.40	23.31	23.24	1.0	24.5
		25	0	23.37	23.37	23.29	1.0	24.5
	16QAM	1	0	23.95	23.81	23.80	1.0	24.5
		1	12	23.76	23.51	23.74	1.0	24.5
		1	24	23.77	23.41	24.05	1.0	24.5
		12	0	22.54	22.32	22.39	2.0	23.5
		12	7	22.51	22.30	22.36	2.0	23.5
		12	13	22.33	22.31	22.34	2.0	23.5
		25	0	22.44	22.31	22.21	2.0	23.5
	64QAM	1	0	22.45	22.31	22.47	2.0	23.5
		1	12	22.94	22.49	22.53	2.0	23.5
		1	24	22.50	22.18	22.55	2.0	23.5
		12	0	21.52	21.33	21.24	3.0	22.5
		12	7	21.39	21.46	21.29	3.0	22.5
		12	13	21.37	21.38	21.36	3.0	22.5
		25	0	21.45	21.31	21.34	3.0	22.5

BW (MHz)	Mode	RB Allocation	RB offset	Measured Pwr (dBm)			MPR	Tune-up Limit
				23025	23095	23165		
				700.50 MHz	707.50 MHz	714.50 MHz		
3 MHz	QPSK	1	0	24.44	24.31	24.18	0.0	25.5
		1	8	24.53	24.39	24.23	0.0	25.5
		1	14	24.34	24.16	24.11	0.0	25.5
		8	0	23.59	23.30	23.24	1.0	24.5
		8	4	23.56	23.36	23.24	1.0	24.5
		8	7	23.42	23.26	23.21	1.0	24.5
	16QAM	15	0	23.45	23.27	23.21	1.0	24.5
		1	0	24.10	23.53	23.44	1.0	24.5
		1	8	24.13	23.22	23.43	1.0	24.5
		1	14	24.02	23.54	23.25	1.0	24.5
		8	0	22.66	22.33	22.30	2.0	23.5
		8	4	22.71	22.32	22.34	2.0	23.5
	64QAM	8	7	22.54	22.46	22.29	2.0	23.5
		15	0	22.46	22.35	22.16	2.0	23.5
		1	0	22.86	22.32	22.49	2.0	23.5
		1	8	22.58	22.23	22.51	2.0	23.5
		1	14	22.54	22.62	21.99	2.0	23.5
		8	0	21.59	21.41	21.21	3.0	22.5
1.4 MHz	QPSK	8	4	21.54	21.44	21.26	3.0	22.5
		8	7	21.46	21.34	21.12	3.0	22.5
		15	0	21.60	21.37	21.26	3.0	22.5
	16QAM	1	0	24.49	24.25	24.22	0.0	25.5
		1	3	24.63	24.27	24.13	0.0	25.5
		1	5	24.59	24.31	24.08	0.0	25.5
	64QAM	3	0	24.59	24.24	24.20	1.0	24.5
		3	1	24.67	24.25	24.26	1.0	24.5
		3	3	24.52	24.27	24.32	1.0	24.5
	16QAM	6	0	23.52	23.39	23.19	1.0	24.5
		1	0	23.66	23.70	23.42	1.0	24.5
		1	3	23.77	23.12	23.69	1.0	24.5
		1	5	23.79	23.53	23.54	1.0	24.5
	64QAM	3	0	23.70	23.52	23.18	2.0	23.5
		3	1	23.73	23.44	23.21	2.0	23.5
		3	3	23.70	23.26	23.10	2.0	23.5
		6	0	22.62	22.41	22.22	2.0	23.5
	16QAM	1	0	22.83	22.50	22.11	2.0	23.5
		1	3	23.14	22.24	22.23	2.0	23.5
		1	5	22.64	22.47	22.15	2.0	23.5
	64QAM	3	0	22.85	22.47	22.30	3.0	22.5
		3	1	22.55	22.41	22.30	3.0	22.5
		3	3	22.70	22.57	22.34	3.0	22.5
		6	0	21.69	21.35	21.34	3.0	22.5

LTE Band 41 (ANT B)

BW (MHz)	Mode	RB Allocation	RB offset	Maximum Average Power (dBm)				
				Measured Pwr (dBm)			MPR	Tune-up Limit
				39750	40620	41490		
				2506.00 MHz	2593.00 MHz	2680.00 MHz		
20 MHz	QPSK	1	0	24.16	24.13	24.02	0.0	25.8
		1	49	24.15	24.17	24.05	0.0	25.8
		1	99	24.23	24.22	24.13	0.0	25.8
		50	0	23.30	23.19	23.12	1.0	24.8
		50	24	23.30	23.17	23.13	1.0	24.8
		50	50	23.24	23.22	23.23	1.0	24.8
	16QAM	100	0	23.30	23.15	23.10	1.0	24.8
		1	0	23.21	23.27	23.21	1.0	24.8
		1	49	23.13	23.25	23.28	1.0	24.8
		1	99	23.29	23.20	23.24	1.0	24.8
		50	0	22.29	22.18	22.10	2.0	23.8
		50	24	22.22	22.20	22.10	2.0	23.8
	64QAM	50	50	22.28	22.26	22.19	2.0	23.8
		100	0	22.24	22.12	22.17	2.0	23.8
		1	0	22.02	22.10	22.05	2.0	23.8
		1	49	22.05	22.15	21.88	2.0	23.8
		1	99	22.17	22.24	22.16	2.0	23.8
		50	0	21.23	21.15	21.08	3.0	22.8
15 MHz	QPSK	50	24	21.25	21.16	21.08	3.0	22.8
		50	50	21.23	21.27	21.17	3.0	22.8
		100	0	21.26	21.15	21.12	3.0	22.8
	16QAM	1	0	24.22	24.23	24.14	0.0	25.8
		1	37	24.27	24.22	24.11	0.0	25.8
		1	74	24.15	24.25	24.29	0.0	25.8
	64QAM	36	0	23.25	23.18	23.13	1.0	24.8
		36	20	23.20	23.17	23.14	1.0	24.8
		36	39	23.23	23.21	23.24	1.0	24.8
	16QAM	75	0	23.23	23.13	23.13	1.0	24.8
		1	0	23.32	23.22	22.99	1.0	24.8
		1	37	23.02	23.09	23.13	1.0	24.8
		1	74	23.25	23.13	23.27	1.0	24.8
		36	0	22.22	22.16	22.09	2.0	23.8
		36	20	22.27	22.19	22.10	2.0	23.8
	64QAM	36	39	22.24	22.23	22.21	2.0	23.8
		75	0	22.21	22.15	22.10	2.0	23.8
		1	0	22.23	22.12	22.21	2.0	23.8
		1	37	22.05	22.25	22.14	2.0	23.8
		1	74	22.16	22.20	22.18	2.0	23.8
		36	0	21.22	21.16	21.08	3.0	22.8
	64QAM	36	20	21.26	21.12	21.09	3.0	22.8
		36	39	21.20	21.24	21.18	3.0	22.8
		75	0	21.25	21.18	21.15	3.0	22.8

BW (MHz)	Mode	RB Allocation	RB offset	Measured Pwr (dBm)			MPR	Tune-up Limit
				39700	40620	41540		
				2501.00 MHz	2593.00 MHz	2685.00 MHz		
10 MHz	QPSK	1	0	24.33	24.30	24.18	0.0	25.8
		1	25	24.39	24.38	24.37	0.0	25.8
		1	49	24.30	24.27	24.26	0.0	25.8
		25	0	23.36	23.27	23.19	1.0	24.8
		25	12	23.37	23.30	23.26	1.0	24.8
		25	25	23.33	23.35	23.28	1.0	24.8
	16QAM	50	0	23.31	23.26	23.20	1.0	24.8
		1	0	23.42	23.36	23.28	1.0	24.8
		1	25	23.43	23.42	23.37	1.0	24.8
		1	49	23.29	23.59	23.19	1.0	24.8
		25	0	22.31	22.31	22.23	2.0	23.8
		25	12	22.39	22.27	22.18	2.0	23.8
	64QAM	25	25	22.34	22.36	22.30	2.0	23.8
		50	0	22.35	22.30	22.21	2.0	23.8
		1	0	22.49	22.37	22.11	2.0	23.8
		1	25	22.40	22.43	22.05	2.0	23.8
		1	49	22.22	22.30	22.23	2.0	23.8
		25	0	21.36	21.25	21.22	3.0	22.8
5 MHz	QPSK	25	12	21.41	21.33	21.23	3.0	22.8
		25	25	21.31	21.35	21.28	3.0	22.8
		50	0	21.31	21.29	21.18	3.0	22.8
	16QAM	1	0	24.45	24.29	24.20	0.0	25.8
		1	12	24.45	24.35	24.35	0.0	25.8
		1	24	24.39	24.35	24.23	0.0	25.8
	64QAM	12	0	23.42	23.30	23.29	1.0	24.8
		12	7	23.43	23.43	23.30	1.0	24.8
		12	13	23.36	23.36	23.30	1.0	24.8
	16QAM	25	0	23.37	23.28	23.31	1.0	24.8
		1	0	23.42	23.35	23.37	1.0	24.8
		1	12	23.47	23.40	23.41	1.0	24.8
		1	24	23.39	23.48	23.45	1.0	24.8
		12	0	22.36	22.26	22.38	2.0	23.8
	64QAM	12	7	22.40	22.39	22.38	2.0	23.8
		12	13	22.37	22.35	22.34	2.0	23.8
		25	0	22.34	22.26	22.25	2.0	23.8
		1	0	22.34	22.31	22.21	2.0	23.8
		1	12	22.36	22.40	22.23	2.0	23.8
		1	24	22.25	22.40	22.35	2.0	23.8
	16QAM	12	0	21.31	21.32	21.24	3.0	22.8
		12	7	21.37	21.39	21.35	3.0	22.8
		12	13	21.31	21.43	21.29	3.0	22.8
		25	0	21.32	21.21	21.27	3.0	22.8

LTE Band 41 (ANT D)

BW (MHz)	Mode	RB Allocation	RB offset	Maximum Average Power (dBm)				
				Measured Pwr (dBm)			MPR	Tune-up Limit
				39750	40620	41490		
				2506.00 MHz	2593.00 MHz	2680.00 MHz		
20 MHz	QPSK	1	0	24.47	24.46	24.44	0.0	25.8
		1	49	24.53	24.35	24.46	0.0	25.8
		1	99	24.42	24.40	24.56	0.0	25.8
		50	0	23.49	23.40	23.50	1.0	24.8
		50	24	23.53	23.44	23.58	1.0	24.8
		50	50	23.55	23.41	23.53	1.0	24.8
	16QAM	100	0	23.54	23.44	23.58	1.0	24.8
		1	0	23.48	23.49	23.41	1.0	24.8
		1	49	23.71	23.47	23.62	1.0	24.8
		1	99	23.35	23.56	23.80	1.0	24.8
		50	0	22.49	22.42	22.59	2.0	23.8
		50	24	22.50	22.42	22.57	2.0	23.8
	64QAM	50	50	22.55	22.37	22.54	2.0	23.8
		100	0	22.47	22.48	22.54	2.0	23.8
		1	0	22.48	22.14	22.48	2.0	23.8
		1	49	22.46	22.27	22.42	2.0	23.8
		1	99	22.23	22.39	22.49	2.0	23.8
		50	0	21.47	21.41	21.48	3.0	22.8
15 MHz	QPSK	50	24	21.47	21.39	21.52	3.0	22.8
		50	50	21.53	21.38	21.51	3.0	22.8
		100	0	21.50	21.40	21.46	3.0	22.8
	16QAM	1	0	24.34	24.49	24.44	0.0	25.8
		1	37	24.36	24.43	24.52	0.0	25.8
		1	74	24.53	24.43	24.60	0.0	25.8
		36	0	23.47	23.40	23.54	1.0	24.8
		36	20	23.48	23.47	23.55	1.0	24.8
		36	39	23.50	23.35	23.56	1.0	24.8
	64QAM	75	0	23.49	23.48	23.52	1.0	24.8
		1	0	23.30	23.38	23.36	1.0	24.8
		1	37	23.52	23.57	23.57	1.0	24.8
		1	74	23.43	23.42	23.49	1.0	24.8
		36	0	22.47	22.39	22.50	2.0	23.8
		36	20	22.48	22.45	22.56	2.0	23.8
	16QAM	36	39	22.47	22.41	22.57	2.0	23.8
		75	0	22.48	22.47	22.54	2.0	23.8
	64QAM	1	0	22.40	22.18	22.49	2.0	23.8
		1	37	22.47	22.40	22.59	2.0	23.8
		1	74	22.46	22.45	22.61	2.0	23.8
		36	0	21.44	21.35	21.53	3.0	22.8
	64QAM	36	20	21.50	21.37	21.54	3.0	22.8
		36	39	21.49	21.39	21.55	3.0	22.8
		75	0	21.46	21.43	21.53	3.0	22.8

BW (MHz)	Mode	RB Allocation	RB offset	Measured Pwr (dBm)			MPR	Tune-up Limit
				39700	40620	41540		
				2501.00 MHz	2593.00 MHz	2685.00 MHz		
10 MHz	QPSK	1	0	24.53	24.46	24.51	0.0	25.8
		1	25	24.50	24.60	24.68	0.0	25.8
		1	49	24.52	24.51	24.59	0.0	25.8
		25	0	23.58	23.50	23.68	1.0	24.8
		25	12	23.57	23.58	23.76	1.0	24.8
		25	25	23.60	23.50	23.66	1.0	24.8
	16QAM	50	0	23.60	23.58	23.70	1.0	24.8
		1	0	23.51	23.72	23.81	1.0	24.8
		1	25	23.65	23.54	23.80	1.0	24.8
		1	49	23.66	23.53	23.65	1.0	24.8
		25	0	22.57	22.58	22.60	2.0	23.8
		25	12	22.64	22.60	22.66	2.0	23.8
	64QAM	25	25	22.61	22.50	22.69	2.0	23.8
		50	0	22.54	22.58	22.62	2.0	23.8
		1	0	22.54	22.64	22.54	2.0	23.8
		1	25	22.67	22.68	22.63	2.0	23.8
		1	49	22.57	22.65	22.81	2.0	23.8
		25	0	21.62	21.52	21.60	3.0	22.8
5 MHz	QPSK	25	12	21.60	21.54	21.70	3.0	22.8
		25	25	21.54	21.52	21.63	3.0	22.8
		50	0	21.50	21.55	21.64	3.0	22.8
	16QAM	1	0	24.44	24.44	24.61	0.0	25.8
		1	12	24.62	24.54	24.64	0.0	25.8
		1	24	24.65	24.47	24.73	0.0	25.8
	64QAM	12	0	23.52	23.54	23.64	1.0	24.8
		12	7	23.50	23.54	23.71	1.0	24.8
		12	13	23.54	23.50	23.67	1.0	24.8
	16QAM	25	0	23.50	23.52	23.65	1.0	24.8
		1	0	23.49	23.41	23.70	1.0	24.8
		1	12	23.61	23.50	23.64	1.0	24.8
		1	24	23.52	23.52	23.71	1.0	24.8
		12	0	22.60	22.55	22.65	2.0	23.8
	64QAM	12	7	22.58	22.55	22.65	2.0	23.8
		12	13	22.51	22.48	22.71	2.0	23.8
		25	0	22.49	22.49	22.71	2.0	23.8
		1	0	22.50	22.57	22.61	2.0	23.8
		1	12	22.56	22.52	22.70	2.0	23.8
		1	24	22.47	22.37	22.62	2.0	23.8
	64QAM	12	0	21.48	21.49	21.58	3.0	22.8
		12	7	21.51	21.48	21.66	3.0	22.8
		12	13	21.56	21.41	21.64	3.0	22.8
		25	0	21.53	21.49	21.67	3.0	22.8

LTE Band 66 (ANT B)

BW (MHz)	Mode	RB Allocation	RB offset	Maximum Average Power (dBm)				
				Measured Pwr (dBm)			MPR	Tune-up Limit
				132072	132322	132572		
				1720.00 MHz	1745.00 MHz	1770.00 MHz		
20 MHz	QPSK	1	0	23.30	23.18	23.25	0.0	25.0
		1	49	23.38	23.15	23.52	0.0	25.0
		1	99	23.39	23.33	23.58	0.0	25.0
		50	0	22.37	22.33	22.51	1.0	24.0
		50	24	22.34	22.26	22.52	1.0	24.0
		50	50	22.41	22.25	22.63	1.0	24.0
	16QAM	100	0	22.38	22.36	22.57	1.0	24.0
		1	0	22.82	22.33	22.84	1.0	24.0
		1	49	22.75	22.47	22.81	1.0	24.0
		1	99	22.55	22.60	22.45	1.0	24.0
		50	0	21.40	21.26	21.49	2.0	23.0
		50	24	21.43	21.35	21.51	2.0	23.0
	64QAM	50	50	21.40	21.32	21.52	2.0	23.0
		100	0	21.45	21.40	21.54	2.0	23.0
		1	0	21.79	21.72	21.13	2.0	23.0
		1	49	21.39	21.41	21.67	2.0	23.0
		1	99	21.04	21.51	21.69	2.0	23.0
		50	0	20.42	20.30	20.46	3.0	22.0
15 MHz	QPSK	50	24	20.34	20.34	20.58	3.0	22.0
		50	50	20.39	20.34	20.56	3.0	22.0
		100	0	20.41	20.32	20.63	3.0	22.0
	16QAM	1	0	23.16	23.19	23.40	0.0	25.0
		1	37	23.36	23.22	23.51	0.0	25.0
		1	74	23.57	23.29	23.43	0.0	25.0
		36	0	22.37	22.21	22.45	1.0	24.0
		36	20	22.37	22.30	22.51	1.0	24.0
		36	39	22.44	22.34	22.59	1.0	24.0
	64QAM	75	0	22.35	22.32	22.62	1.0	24.0
		1	0	22.72	22.57	22.68	1.0	24.0
		1	37	22.50	22.29	22.97	1.0	24.0
		1	74	22.60	22.61	22.74	1.0	24.0
		36	0	21.37	21.12	21.47	2.0	23.0
		36	20	21.42	21.32	21.53	2.0	23.0
	QPSK	36	39	21.39	21.25	21.60	2.0	23.0
		75	0	21.38	21.31	21.57	2.0	23.0
	16QAM	1	0	21.54	21.20	21.72	2.0	23.0
		1	37	21.37	21.52	21.77	2.0	23.0
		1	74	21.60	21.61	21.85	2.0	23.0
		36	0	20.31	20.31	20.52	3.0	22.0
	64QAM	36	20	20.41	20.42	20.59	3.0	22.0
		36	39	20.46	20.32	20.55	3.0	22.0
		75	0	20.34	20.33	20.62	3.0	22.0

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	23.45	23.30	23.55	0.0	25.0
		1	25	23.58	23.40	23.81	0.0	25.0
		1	49	23.42	23.45	23.71	0.0	25.0
		25	0	22.57	22.33	22.60	1.0	24.0
		25	12	22.53	22.49	22.80	1.0	24.0
		25	25	22.54	22.42	22.76	1.0	24.0
	16QAM	50	0	22.51	22.47	22.72	1.0	24.0
		1	0	22.95	22.88	23.11	1.0	24.0
		1	25	23.35	22.82	23.02	1.0	24.0
		1	49	23.06	22.45	23.00	1.0	24.0
		25	0	21.67	21.29	21.73	2.0	23.0
		25	12	21.59	21.53	21.81	2.0	23.0
	64QAM	25	25	21.54	21.45	21.66	2.0	23.0
		50	0	21.55	21.53	21.66	2.0	23.0
		1	0	21.61	21.58	22.17	2.0	23.0
		1	25	21.61	21.58	21.92	2.0	23.0
		1	49	21.88	21.55	22.44	2.0	23.0
		25	0	20.56	20.33	20.63	3.0	22.0
		25	12	20.55	20.51	20.78	3.0	22.0
		25	25	20.52	20.46	20.75	3.0	22.0
		50	0	20.53	20.47	20.70	3.0	22.0
BW (MHz)	Mode	RB Allocation	RB offset	Measured Pwr (dBm)			MPR	Tune-up Limit
				131997	132322	132647		
				1712.50 MHz	1745.00 MHz	1777.50 MHz		
5 MHz	QPSK	1	0	23.44	23.33	23.55	0.0	25.0
		1	12	23.52	23.31	23.89	0.0	25.0
		1	24	23.51	23.60	23.59	0.0	25.0
		12	0	22.53	22.37	22.60	1.0	24.0
		12	7	22.59	22.55	22.81	1.0	24.0
		12	13	22.50	22.44	22.72	1.0	24.0
	16QAM	25	0	22.51	22.43	22.71	1.0	24.0
		1	0	23.10	22.92	22.79	1.0	24.0
		1	12	23.06	23.03	23.16	1.0	24.0
		1	24	22.56	22.55	23.21	1.0	24.0
		12	0	21.77	21.49	21.74	2.0	23.0
		12	7	21.70	21.47	21.84	2.0	23.0
	64QAM	12	13	21.54	21.45	21.82	2.0	23.0
		25	0	21.62	21.40	21.69	2.0	23.0
		1	0	21.80	21.39	21.40	2.0	23.0
		1	12	21.63	21.79	21.82	2.0	23.0
		1	24	21.88	21.73	21.95	2.0	23.0
		12	0	20.42	20.42	20.55	3.0	22.0
		12	7	20.58	20.44	20.76	3.0	22.0
		12	13	20.50	20.57	20.75	3.0	22.0
		25	0	20.46	20.47	20.78	3.0	22.0

BW (MHz)	Mode	RB Allocation	RB offset	Measured Pwr (dBm)			MPR	Tune-up Limit
				131987	132322	132657		
				1711.50 MHz	1745.00 MHz	1778.50 MHz		
3 MHz	QPSK	1	0	23.19	23.18	23.54	0.0	25.0
		1	8	23.28	23.36	23.57	0.0	25.0
		1	14	23.30	23.29	23.58	0.0	25.0
		8	0	22.34	22.19	22.52	1.0	24.0
		8	4	22.31	22.36	22.62	1.0	24.0
		8	7	22.28	22.36	22.54	1.0	24.0
	16QAM	15	0	22.30	22.37	22.64	1.0	24.0
		1	0	22.64	22.70	22.84	1.0	24.0
		1	8	22.81	22.62	22.82	1.0	24.0
		1	14	22.53	22.34	22.73	1.0	24.0
		8	0	21.45	21.22	21.61	2.0	23.0
		8	4	21.45	21.34	21.71	2.0	23.0
	64QAM	8	7	21.48	21.49	21.68	2.0	23.0
		15	0	21.32	21.41	21.56	2.0	23.0
		1	0	21.19	21.53	21.74	2.0	23.0
		1	8	21.41	21.12	21.54	2.0	23.0
		1	14	21.21	21.62	21.71	2.0	23.0
		8	0	20.31	20.34	20.66	3.0	22.0
1.4 MHz	QPSK	8	4	20.29	20.41	20.74	3.0	22.0
		8	7	20.36	20.44	20.72	3.0	22.0
		15	0	20.38	20.40	20.52	3.0	22.0
	16QAM	1	0	23.18	23.28	23.56	0.0	25.0
		1	3	23.28	23.23	23.55	0.0	25.0
		1	5	23.26	23.25	23.56	0.0	25.0
	64QAM	3	0	23.25	23.34	23.51	1.0	24.0
		3	1	23.35	23.33	23.55	1.0	24.0
		3	3	23.35	23.38	23.59	1.0	24.0
		6	0	22.37	22.33	22.58	1.0	24.0
	16QAM	1	0	22.48	22.51	22.70	1.0	24.0
		1	3	22.64	22.54	22.51	1.0	24.0
		1	5	22.76	22.61	23.17	1.0	24.0
		3	0	22.37	22.46	22.69	2.0	23.0
		3	1	22.44	22.52	22.66	2.0	23.0
		3	3	22.30	22.43	22.74	2.0	23.0
	64QAM	6	0	21.40	21.39	21.73	2.0	23.0
		1	0	21.31	21.48	21.49	2.0	23.0
		1	3	21.36	21.44	22.05	2.0	23.0
		1	5	21.74	21.77	22.08	2.0	23.0
		3	0	21.50	21.41	21.65	3.0	22.0
		3	1	21.50	21.51	21.91	3.0	22.0
		3	3	21.54	21.52	21.60	3.0	22.0
		6	0	20.48	20.57	20.62	3.0	22.0

LTE Band 66 (ANT D)

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	23.96	23.92	24.00	0.0	25.0
		1	49	23.93	23.94	24.03	0.0	25.0
		1	99	24.20	24.11	24.00	0.0	25.0
		50	0	23.06	22.91	23.05	1.0	24.0
		50	24	23.10	23.03	23.12	1.0	24.0
		50	50	23.06	23.09	23.26	1.0	24.0
	16QAM	100	0	23.16	22.93	23.21	1.0	24.0
		1	0	23.39	23.49	23.36	1.0	24.0
		1	49	23.26	23.71	23.66	1.0	24.0
		1	99	23.63	23.39	23.63	1.0	24.0
		50	0	22.13	22.06	22.05	1.0	24.0
		50	24	22.13	21.97	22.17	1.0	24.0
	64QAM	50	50	22.00	22.05	22.23	1.0	24.0
		100	0	22.10	21.95	22.13	1.0	24.0
		1	0	23.16	22.90	23.07	1.0	24.0
		1	49	23.14	23.04	23.10	1.0	24.0
		1	99	22.82	23.01	23.46	1.0	24.0
		50	0	22.04	21.92	22.02	2.0	23.0
15 MHz	QPSK	50	24	22.17	21.93	22.08	2.0	23.0
		50	50	22.01	21.95	22.19	2.0	23.0
		100	0	22.11	21.94	22.13	2.0	23.0
	16QAM	1	0	23.99	23.92	24.03	0.0	25.0
		1	37	24.09	23.93	24.04	0.0	25.0
		1	74	23.94	24.01	23.97	0.0	25.0
	64QAM	36	0	23.12	22.99	23.07	1.0	24.0
		36	20	22.96	22.95	23.20	1.0	24.0
		36	39	22.92	23.10	23.24	1.0	24.0
		75	0	22.93	23.00	23.17	1.0	24.0
	16QAM	1	0	23.13	23.21	23.33	1.0	24.0
		1	37	23.12	23.47	23.45	1.0	24.0
		1	74	23.24	23.50	23.33	1.0	24.0
		36	0	22.17	22.01	22.07	1.0	24.0
		36	20	21.97	21.98	22.33	1.0	24.0
		36	39	22.11	22.07	22.30	1.0	24.0
	64QAM	75	0	22.07	21.94	22.13	1.0	24.0
		1	0	22.71	22.75	23.06	1.0	24.0
		1	37	23.27	23.25	23.08	1.0	24.0
		1	74	23.14	22.69	23.35	1.0	24.0
		36	0	22.14	22.03	22.05	2.0	23.0
		36	20	22.07	21.96	22.29	2.0	23.0
		36	39	22.06	22.02	22.25	2.0	23.0
		75	0	21.98	21.93	22.11	2.0	23.0

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	24.09	24.14	24.16	0.0	25.0
		1	25	24.20	24.11	24.32	0.0	25.0
		1	49	24.11	24.06	24.35	0.0	25.0
		25	0	23.22	23.07	23.20	1.0	24.0
		25	12	23.09	23.14	23.34	1.0	24.0
		25	25	23.19	23.15	23.29	1.0	24.0
	16QAM	50	0	23.17	23.12	23.34	1.0	24.0
		1	0	23.47	23.54	23.43	1.0	24.0
		1	25	23.05	23.35	23.86	1.0	24.0
		1	49	23.43	23.76	23.72	1.0	24.0
		25	0	22.26	22.14	22.30	1.0	24.0
		25	12	22.09	22.09	22.38	1.0	24.0
	64QAM	25	25	22.21	22.10	22.23	1.0	24.0
		50	0	22.09	22.16	22.33	1.0	24.0
		1	0	23.50	23.19	23.13	1.0	24.0
		1	25	23.32	23.20	23.65	1.0	24.0
		1	49	23.33	23.00	23.07	1.0	24.0
		25	0	22.09	22.07	22.29	2.0	23.0
5 MHz	QPSK	25	12	22.14	22.04	22.42	2.0	23.0
		25	25	22.18	22.20	22.22	2.0	23.0
		50	0	22.14	22.07	22.30	2.0	23.0
	16QAM	1	0	24.25	24.01	24.29	0.0	25.0
		1	12	24.24	24.07	24.30	0.0	25.0
		1	24	24.18	24.07	24.30	0.0	25.0
		12	0	23.20	23.03	23.21	1.0	24.0
		12	7	23.14	23.06	23.30	1.0	24.0
		12	13	23.13	23.14	23.31	1.0	24.0
	64QAM	25	0	23.17	23.08	23.29	1.0	24.0
		1	0	23.53	23.34	23.47	1.0	24.0
		1	12	23.62	23.66	23.81	1.0	24.0
		1	24	23.58	23.60	23.63	1.0	24.0
		12	0	22.18	22.13	22.27	1.0	24.0
		12	7	22.29	22.15	22.37	1.0	24.0
	16QAM	12	13	22.28	22.16	22.33	1.0	24.0
		25	0	22.20	22.09	22.23	1.0	24.0
	64QAM	1	0	23.09	22.85	23.41	1.0	24.0
		1	12	23.40	23.50	23.42	1.0	24.0
		1	24	23.14	22.85	23.49	1.0	24.0
		12	0	22.14	21.99	22.15	2.0	23.0
	64QAM	12	7	22.23	22.22	22.33	2.0	23.0
		12	13	22.19	22.13	22.32	2.0	23.0
		25	0	22.07	22.05	22.24	2.0	23.0

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	24.05	24.06	24.25	0.0	25.0
		1	8	24.19	24.08	24.20	0.0	25.0
		1	14	24.13	23.97	24.17	0.0	25.0
		8	0	23.13	23.13	23.28	1.0	24.0
		8	4	23.22	23.12	23.26	1.0	24.0
		8	7	23.12	23.07	23.35	1.0	24.0
	16QAM	15	0	23.04	23.02	23.26	1.0	24.0
		1	0	23.60	23.42	23.80	1.0	24.0
		1	8	23.78	23.95	23.94	1.0	24.0
		1	14	23.31	23.39	23.59	1.0	24.0
		8	0	22.14	22.06	22.24	1.0	24.0
		8	4	22.28	22.28	22.56	1.0	24.0
	64QAM	8	7	22.53	22.20	22.32	1.0	24.0
		15	0	22.06	22.20	22.33	1.0	24.0
		1	0	23.22	23.09	23.39	1.0	24.0
		1	8	23.19	23.30	23.59	1.0	24.0
		1	14	23.08	22.90	23.56	1.0	24.0
		8	0	22.22	22.14	22.35	2.0	23.0
1.4 MHz	QPSK	8	4	22.39	22.09	22.34	2.0	23.0
		8	7	22.12	22.04	22.39	2.0	23.0
		15	0	22.08	22.20	22.32	2.0	23.0
	16QAM	1	0	24.30	23.98	24.20	0.0	25.0
		1	3	24.12	24.26	24.50	0.0	25.0
		1	5	24.11	24.05	24.15	0.0	25.0
	64QAM	3	0	24.09	24.11	24.23	0.0	25.0
		3	1	24.21	24.13	24.27	0.0	25.0
		3	3	24.16	24.06	24.28	0.0	25.0
	16QAM	6	0	23.19	23.10	23.23	1.0	24.0
		1	0	23.82	23.42	23.59	1.0	24.0
		1	3	23.37	23.51	23.90	1.0	24.0
		1	5	23.68	23.29	23.83	1.0	24.0
		3	0	23.48	23.23	23.29	1.0	24.0
	64QAM	3	1	23.37	23.19	23.23	1.0	24.0
		3	3	23.30	23.22	23.40	1.0	24.0
		6	0	22.28	22.13	22.38	2.0	23.0
	16QAM	1	0	22.57	22.32	22.66	2.0	23.0
		1	3	22.05	22.31	22.72	2.0	23.0
		1	5	22.97	22.13	22.46	2.0	23.0
	64QAM	3	0	22.61	22.15	22.37	2.0	23.0
		3	1	22.21	22.20	22.45	2.0	23.0
		3	3	22.14	22.35	22.33	2.0	23.0
		6	0	21.18	21.06	21.30	3.0	22.0

NR Band n41 (ANT B)

BW (MHz)	Modulation	Mode	RB Allocation	RB offset	Maximum Average POWER (dBm)				
					Measured Pwr (dBm)			MPR	Tune-up Limit
					509202 2546.01 MHz	518598 2592.99 MHz	528000 2640.00 MHz		
100 MHz	DFT-s-OFDM	π/2 BPSK	1	0	23.86	24.01	24.03	0.5	25.0
			1	1	24.35	24.57	24.52	0.0	25.5
			1	136	24.53	24.47	24.37	0.0	25.5
			1	271	24.52	24.28	24.20	0.0	25.5
			1	272	24.01	23.79	23.79	0.5	25.0
			135	0	24.01	24.19	23.94	0.5	25.0
			135	69	24.64	24.56	24.22	0.0	25.5
			135	138	24.10	23.89	23.73	0.5	25.0
			270	0	24.01	24.04	23.76	0.5	25.0
		QPSK	1	0	23.40	23.51	23.45	1.0	24.5
			1	1	24.40	24.57	24.42	0.0	25.5
			1	136	24.59	24.46	24.22	0.0	25.5
			1	271	24.56	24.29	24.20	0.0	25.5
			1	272	23.54	23.28	23.18	1.0	24.5
			135	0	23.51	23.59	23.36	1.0	24.5
			135	69	24.59	24.49	24.19	0.0	25.5
			135	138	23.58	23.35	23.17	1.0	24.5
			270	0	23.49	23.46	23.22	1.0	24.5
		16QAM	1	0	22.25	22.45	22.45	2.0	23.5
			1	1	23.23	23.51	23.41	1.0	24.5
			1	136	23.39	23.45	23.23	1.0	24.5
			1	271	23.40	23.25	23.17	1.0	24.5
			1	272	22.40	22.24	22.16	2.0	23.5
			135	0	22.47	22.59	22.39	2.0	23.5
			135	69	23.58	23.44	23.25	1.0	24.5
			135	138	22.52	22.28	22.19	2.0	23.5
			270	0	22.41	22.45	22.23	2.0	23.5
		64QAM	1	1	21.90	22.02	21.85	2.5	23.0
		256QAM	1	1	19.79	20.05	19.92	4.5	21.0
	CP-OFDM	QPSK	1	0	21.27	21.39	21.42	3.0	22.5
			1	1	22.68	22.96	22.91	1.5	24.0
			1	137	23.03	22.88	22.73	1.5	24.0
			1	271	22.94	22.78	22.72	1.5	24.0
			1	272	21.49	21.21	21.16	3.0	22.5
			135	0	21.45	21.58	21.40	3.0	22.5
			135	69	23.04	22.94	22.72	1.5	24.0
			135	138	21.51	21.33	21.22	3.0	22.5
			270	0	21.45	21.44	21.23	3.0	22.5
		16QAM	1	0	21.35	21.58	21.22	3.0	22.5
			1	1	22.41	22.52	22.17	2.0	23.5
			1	137	22.66	22.38	21.92	2.0	23.5
			1	271	22.60	22.22	22.01	2.0	23.5
			1	272	21.51	21.25	21.04	3.0	22.5
			135	0	21.44	21.62	21.46	3.0	22.5
			135	69	22.57	22.45	22.30	2.0	23.5
			135	138	21.49	21.28	21.22	3.0	22.5
			270	0	21.45	21.46	21.31	3.0	22.5
		64QAM	1	1	20.65	21.21	21.12	3.5	22.0
		256QAM	1	1	17.72	18.37	18.01	6.5	19.0
BW (MHz)	Modulation	Mode	RB Allocation	RB offset	Measured Pwr (dBm)			MPR	Tune-up Limit
					508200 2541.00 MHz	518598 2592.99 MHz	528996 2644.98 MHz		
90 MHz	DFT-s-OFDM	π/2 BPSK	1	0	23.80	23.99	23.96	0.5	25.0
			1	1	24.32	24.50	24.46	0.0	25.5
			1	123	24.44	24.43	24.30	0.0	25.5
			1	243	24.46	24.32	24.32	0.0	25.5
			1	244	24.05	23.77	23.80	0.5	25.0
			120	0	24.08	24.09	23.89	0.5	25.0
			120	62	24.58	24.50	24.29	0.0	25.5
			120	125	24.03	23.91	23.73	0.5	25.0
			243	0	24.04	24.01	23.86	0.5	25.0
		QPSK	1	0	23.41	23.55	23.41	1.0	24.5
			1	1	24.43	24.55	24.42	0.0	25.5
			1	123	24.54	24.49	24.24	0.0	25.5
			1	243	24.68	24.39	24.27	0.0	25.5
			1	244	23.61	23.36	23.24	1.0	24.5
			120	0	23.58	23.66	23.41	1.0	24.5
			120	62	24.59	24.49	24.25	0.0	25.5
			120	125	23.59	23.41	23.28	1.0	24.5
			243	0	23.53	23.49	23.36	1.0	24.5
		16QAM	1	1	23.32	23.51	23.38	1.0	24.5
			1	123	23.46	23.44	23.20	1.0	24.5
			1	243	23.44	23.32	23.23	1.0	24.5
		64QAM	1	1	21.91	21.99	21.83	2.5	23.0
		256QAM	1	1	19.89	20.04	19.93	4.5	21.0
	CP-OFDM	QPSK	1	1	22.86	22.95	22.93	1.5	24.0

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	$\pi/2$ BPSK	1	0	23.82	24.05	23.99	0.5	25.0
			1	1	24.33	24.57	24.47	0.0	25.5
			1	108	24.56	24.39	24.24	0.0	25.5
			1	215	24.48	24.14	24.24	0.0	25.5
			1	216	24.01	23.73	23.68	0.5	25.0
			108	0	24.04	24.10	23.81	0.5	25.0
			108	54	24.69	24.46	24.33	0.0	25.5
			108	108	24.11	23.86	23.72	0.5	25.0
			216	0	24.09	24.01	23.80	0.5	25.0
		QPSK	1	0	23.42	23.63	23.48	1.0	24.5
			1	1	24.49	24.60	24.47	0.0	25.5
			1	108	24.59	24.51	24.23	0.0	25.5
			1	215	24.56	24.27	24.20	0.0	25.5
			1	216	23.60	23.32	23.20	1.0	24.5
			108	0	23.47	23.64	23.36	1.0	24.5
			108	54	24.60	24.50	24.31	0.0	25.5
			108	109	23.66	23.44	23.27	1.0	24.5
			216	0	23.60	23.54	23.36	1.0	24.5
		16QAM	1	1	23.35	23.52	23.46	1.0	24.5
			1	108	23.51	23.38	23.16	1.0	24.5
			1	215	23.52	23.16	23.17	1.0	24.5
		64QAM	1	1	21.98	22.08	21.83	2.5	23.0
		256QAM	1	1	19.86	20.13	19.97	4.5	21.0
	CP-OFDM	QPSK	1	1	22.86	23.10	22.97	1.5	24.0
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	$\pi/2$ BPSK	1	0	23.91	24.11	24.03	0.5	25.0
			1	1	24.44	24.64	24.52	0.0	25.5
			1	94	24.48	24.47	24.32	0.0	25.5
			1	187	24.44	24.22	24.25	0.0	25.5
			1	188	23.93	23.71	23.78	0.5	25.0
			90	0	24.08	24.19	23.94	0.5	25.0
			90	49	24.57	24.50	24.26	0.0	25.5
			90	99	24.12	23.96	23.84	0.5	25.0
			180	0	24.10	24.07	23.85	0.5	25.0
		QPSK	1	0	23.51	23.68	23.40	1.0	24.5
			1	1	24.61	24.65	24.47	0.0	25.5
			1	94	24.51	24.54	24.26	0.0	25.5
			1	187	24.54	24.28	24.15	0.0	25.5
			1	188	23.54	23.27	23.19	1.0	24.5
			90	0	23.55	23.65	23.36	1.0	24.5
			90	49	24.57	24.52	24.25	0.0	25.5
			90	99	23.61	23.47	23.35	1.0	24.5
			180	0	23.55	23.57	23.35	1.0	24.5
		16QAM	1	1	23.41	23.63	23.49	1.0	24.5
			1	94	23.42	23.51	23.31	1.0	24.5
			1	187	23.40	23.22	23.18	1.0	24.5
		64QAM	1	1	22.09	22.15	21.86	2.5	23.0
		256QAM	1	1	19.96	20.20	19.92	4.5	21.0
	CP-OFDM	QPSK	1	1	23.02	23.12	22.92	1.5	24.0
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	$\pi/2$ BPSK	1	0	24.05	24.26	24.01	0.5	25.0
			1	1	24.57	24.74	24.50	0.0	25.5
			1	80	24.68	24.77	24.42	0.0	25.5
			1	160	24.80	24.45	24.49	0.0	25.5
			1	161	24.30	23.93	23.93	0.5	25.0
			81	0	24.23	24.28	23.88	0.5	25.0
			81	40	24.75	24.78	24.33	0.0	25.5
			81	81	24.34	24.16	23.91	0.5	25.0
			162	0	24.32	24.26	23.94	0.5	25.0
		QPSK	1	0	23.71	23.76	23.45	1.0	24.5
			1	1	24.69	24.74	24.49	0.0	25.5
			1	80	24.83	24.83	24.37	0.0	25.5
			1	160	24.95	24.52	24.40	0.0	25.5
			1	161	23.89	23.49	23.44	1.0	24.5
			81	0	23.74	23.83	23.40	1.0	24.5
			81	40	24.73	24.77	24.34	0.0	25.5
			81	81	23.85	23.64	23.48	1.0	24.5
			162	0	23.81	23.77	23.48	1.0	24.5
		16QAM	1	1	23.56	23.74	23.50	1.0	24.5
			1	80	23.60	23.76	23.36	1.0	24.5
			1	160	23.79	23.49	23.43	1.0	24.5
		64QAM	1	1	22.14	22.20	21.86	2.5	23.0
		256QAM	1	1	20.12	20.26	19.96	4.5	21.0
	CP-OFDM	QPSK	1	1	23.08	23.21	22.97	1.5	24.0

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	$\pi/2$ BPSK	1	0	24.06	24.30	23.93	0.5	25.0
			1	1	24.58	24.79	24.46	0.0	25.5
			1	66	24.70	24.75	24.48	0.0	25.5
			1	131	24.83	24.56	24.53	0.0	25.5
			1	132	24.32	24.04	24.08	0.5	25.0
			64	0	24.21	24.25	23.92	0.5	25.0
			64	34	24.74	24.82	24.40	0.0	25.5
			64	69	24.23	24.18	23.98	0.5	25.0
			128	0	24.27	24.27	23.90	0.5	25.0
		QPSK	1	0	23.70	23.84	23.37	1.0	24.5
			1	1	24.75	24.88	24.40	0.0	25.5
			1	66	24.84	24.79	24.43	0.0	25.5
			1	131	24.97	24.61	24.51	0.0	25.5
			1	132	23.99	23.58	23.51	1.0	24.5
			64	0	23.72	23.77	23.42	1.0	24.5
			64	34	24.76	24.78	24.41	0.0	25.5
			64	69	23.78	23.69	23.46	1.0	24.5
			128	0	23.76	23.77	23.42	1.0	24.5
		16QAM	1	1	23.58	23.75	23.38	1.0	24.5
			1	66	23.65	23.70	23.41	1.0	24.5
			1	131	23.92	23.52	23.46	1.0	24.5
		64QAM	1	1	22.15	22.35	21.80	2.5	23.0
		256QAM	1	1	20.14	20.36	19.88	4.5	21.0
	CP-OFDM	QPSK	1	1	22.99	23.36	22.86	1.5	24.0
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	$\pi/2$ BPSK	1	0	24.25	24.44	24.15	0.5	25.0
			1	1	24.81	24.95	24.67	0.0	25.5
			1	52	24.71	24.80	24.66	0.0	25.5
			1	104	24.89	24.76	24.86	0.0	25.5
			1	105	24.37	24.28	24.34	0.5	25.0
			50	0	24.23	24.36	24.08	0.5	25.0
			50	28	24.79	24.79	24.62	0.0	25.5
			50	56	24.38	24.33	24.21	0.5	25.0
			100	0	24.35	24.30	24.12	0.5	25.0
		QPSK	1	0	23.82	23.94	23.60	1.0	24.5
			1	1	24.88	24.98	24.60	0.0	25.5
			1	52	24.78	24.85	24.58	0.0	25.5
			1	104	24.97	24.81	24.79	0.0	25.5
			1	105	23.96	23.82	23.79	1.0	24.5
			50	0	23.74	23.83	23.60	1.0	24.5
			50	28	24.80	24.76	24.64	0.0	25.5
			50	56	23.90	23.84	23.68	1.0	24.5
			100	0	23.82	23.82	23.63	1.0	24.5
		16QAM	1	1	23.75	23.86	23.59	1.0	24.5
			1	52	23.62	23.75	23.56	1.0	24.5
			1	104	23.86	23.69	23.76	1.0	24.5
		64QAM	1	1	22.31	22.44	21.96	2.5	23.0
		256QAM	1	1	20.29	20.50	20.09	4.5	21.0
	CP-OFDM	QPSK	1	1	23.31	23.40	23.02	1.5	24.0
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	$\pi/2$ BPSK	1	0	24.16	24.33	24.11	0.5	25.0
			1	1	24.68	24.80	24.62	0.0	25.5
			1	39	24.74	24.70	24.61	0.0	25.5
			1	76	24.94	24.79	24.71	0.0	25.5
			1	77	24.45	24.28	24.25	0.5	25.0
			36	0	24.21	24.32	23.99	0.5	25.0
			36	21	24.77	24.76	24.59	0.0	25.5
			36	42	24.37	24.36	24.21	0.5	25.0
			75	0	24.29	24.30	24.09	0.5	25.0
		QPSK	1	0	23.74	23.86	23.54	1.0	24.5
			1	1	24.80	24.87	24.57	0.0	25.5
			1	39	24.79	24.76	24.54	0.0	25.5
			1	76	24.99	24.90	24.74	0.0	25.5
			1	77	24.01	23.86	23.69	1.0	24.5
			36	0	23.73	23.80	23.53	1.0	24.5
			36	21	24.78	24.76	24.62	0.0	25.5
			36	42	23.94	23.87	23.71	1.0	24.5
			75	0	23.79	23.81	23.59	1.0	24.5
		16QAM	1	1	23.67	23.84	23.55	1.0	24.5
			1	39	23.66	23.73	23.57	1.0	24.5
			1	76	23.92	23.84	23.67	1.0	24.5
		64QAM	1	1	22.29	22.31	21.98	2.5	23.0
		256QAM	1	1	20.20	20.41	20.06	4.5	21.0
	CP-OFDM	QPSK	1	1	23.27	23.41	23.00	1.5	24.0

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	$\pi/2$ BPSK	1	0	24.12	24.31	23.94	0.5	25.0
			1	1	24.64	24.79	24.45	0.0	25.5
			1	26	24.64	24.64	24.42	0.0	25.5
			1	49	24.80	24.63	24.58	0.0	25.5
			1	50	24.29	24.12	24.05	0.5	25.0
			25	0	24.21	24.29	23.94	0.5	25.0
			25	13	24.78	24.73	24.42	0.0	25.5
			25	26	24.23	24.20	24.02	0.5	25.0
			50	0	24.30	24.25	23.88	0.5	25.0
		QPSK	1	0	23.74	23.81	23.38	1.0	24.5
			1	1	24.76	24.84	24.37	0.0	25.5
			1	26	24.73	24.68	24.38	0.0	25.5
			1	49	24.89	24.71	24.51	0.0	25.5
			1	50	23.86	23.71	23.50	1.0	24.5
			25	0	23.75	23.81	23.45	1.0	24.5
			25	13	24.78	24.77	24.41	0.0	25.5
			25	26	23.80	23.71	23.48	1.0	24.5
			50	0	23.83	23.76	23.46	1.0	24.5
		16QAM	1	1	23.61	23.83	23.35	1.0	24.5
			1	26	23.60	23.67	23.38	1.0	24.5
			1	49	23.71	23.67	23.49	1.0	24.5
		64QAM	1	1	22.28	22.32	21.70	2.5	23.0
		256QAM	1	1	20.17	20.35	19.78	4.5	21.0
	CP-OFDM	QPSK	1	1	23.21	23.30	22.92	1.5	24.0
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	$\pi/2$ BPSK	1	0	24.15	24.28	24.01	0.5	25.0
			1	1	24.70	24.79	24.50	0.0	25.5
			1	19	24.62	24.66	24.51	0.0	25.5
			1	36	24.72	24.71	24.57	0.0	25.5
			1	37	24.23	24.21	24.04	0.5	25.0
			18	0	24.25	24.34	23.91	0.5	25.0
			18	10	24.70	24.73	24.51	0.0	25.5
			18	20	24.31	24.30	23.98	0.5	25.0
			36	0	24.23	24.27	24.01	0.5	25.0
		QPSK	1	0	23.73	23.78	23.43	1.0	24.5
			1	1	24.76	24.85	24.44	0.0	25.5
			1	19	24.67	24.74	24.45	0.0	25.5
			1	36	24.86	24.75	24.51	0.0	25.5
			1	37	23.80	23.74	23.50	1.0	24.5
			18	0	23.74	23.79	23.45	1.0	24.5
			18	10	24.72	24.76	24.50	0.0	25.5
			18	20	23.79	23.75	23.51	1.0	24.5
			36	0	23.73	23.78	23.50	1.0	24.5
		16QAM	1	1	23.63	23.80	23.42	1.0	24.5
			1	19	23.53	23.70	23.43	1.0	24.5
			1	36	23.69	23.72	23.49	1.0	24.5
		64QAM	1	1	22.31	22.33	21.81	2.5	23.0
		256QAM	1	1	20.23	20.40	19.96	4.5	21.0
	CP-OFDM	QPSK	1	1	23.19	23.27	22.91	1.5	24.0
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	$\pi/2$ BPSK	1	0	24.03	24.15	23.95	0.5	25.0
			1	1	24.55	24.65	24.46	0.0	25.5
			1	12	24.54	24.62	24.44	0.0	25.5
			1	22	24.65	24.62	24.47	0.0	25.5
			1	23	24.12	24.05	23.92	0.5	25.0
			12	0	24.15	24.17	23.89	0.5	25.0
			12	6	24.63	24.65	24.40	0.0	25.5
			12	12	24.13	24.17	23.91	0.5	25.0
			24	0	24.14	24.17	23.90	0.5	25.0
		QPSK	1	0	23.61	23.67	23.42	1.0	24.5
			1	1	24.62	24.65	24.39	0.0	25.5
			1	12	24.63	24.66	24.40	0.0	25.5
			1	22	24.81	24.65	24.44	0.0	25.5
			1	23	23.69	23.62	23.42	1.0	24.5
			12	0	23.60	23.70	23.41	1.0	24.5
			12	6	24.62	24.66	24.43	0.0	25.5
			12	12	23.68	23.66	23.41	1.0	24.5
			24	0	23.65	23.70	23.38	1.0	24.5
		16QAM	1	1	23.50	23.69	23.38	1.0	24.5
			1	12	23.50	23.63	23.40	1.0	24.5
			1	22	23.65	23.61	23.41	1.0	24.5
		64QAM	1	1	22.18	22.18	21.75	2.5	23.0
		256QAM	1	1	20.09	20.21	19.83	4.5	21.0
	CP-OFDM	QPSK	1	1	23.03	23.12	22.79	1.5	24.0

NR Band n41 (ANT D)

BW (MHz)	Modulation	Mode	RB Allocation	RB offset	Maximum Average POWER (dBm)				
					Measured Pwr (dBm)			MPR	Tune-up Limit
					509202 2546.01 MHz	518598 2592.99 MHz	528000 2640.00 MHz		
100 MHz	DFT-s-OFDM	$\pi/2$ BPSK	1	0	23.84	23.99	24.03	0.5	25.5
			1	1	24.38	24.50	24.54	0.0	26.0
			1	136	24.51	24.51	24.61	0.0	26.0
			1	271	24.55	24.59	24.78	0.0	26.0
			1	272	24.06	24.09	24.26	0.5	25.5
			135	0	23.99	24.13	24.07	0.5	25.5
			135	69	24.60	24.56	24.62	0.0	26.0
			135	138	24.16	24.04	24.13	0.5	25.5
			270	0	24.12	24.02	24.09	0.5	25.5
		QPSK	1	0	23.48	23.52	23.52	1.0	25.0
			1	1	24.45	24.57	24.49	0.0	26.0
			1	136	24.73	24.55	24.55	0.0	26.0
			1	271	24.65	24.66	24.68	0.0	26.0
			1	272	23.64	23.65	23.68	1.0	25.0
			135	0	23.52	23.65	23.61	1.0	25.0
			135	69	24.61	24.59	24.57	0.0	26.0
			135	138	23.65	23.54	23.61	1.0	25.0
			270	0	23.69	23.53	23.57	1.0	25.0
		16QAM	1	0	22.37	22.51	22.51	2.0	24.0
			1	1	23.36	23.49	23.52	1.0	25.0
			1	136	23.52	23.47	23.57	1.0	25.0
			1	271	23.53	23.63	23.70	1.0	25.0
			1	272	22.58	22.63	22.73	2.0	24.0
			135	0	22.53	22.68	22.54	2.0	24.0
			135	69	23.64	23.56	23.56	1.0	25.0
			135	138	22.67	22.56	22.63	2.0	24.0
			270	0	22.65	22.51	22.57	2.0	24.0
		64QAM	1	1	22.09	22.04	21.90	2.5	23.5
		256QAM	1	1	19.89	20.09	20.04	4.5	21.5
	CP-OFDM	QPSK	1	0	21.45	21.45	21.50	3.0	23.0
			1	1	22.93	22.94	23.02	1.5	24.5
			1	137	23.06	22.98	22.98	1.5	24.5
			1	271	23.09	23.09	23.16	1.5	24.5
			1	272	21.60	21.59	21.66	3.0	23.0
			135	0	21.53	21.58	21.51	3.0	23.0
			135	69	23.14	22.99	23.08	1.5	24.5
			135	138	21.66	21.49	21.58	3.0	23.0
			270	0	21.61	21.51	21.52	3.0	23.0
		16QAM	1	0	21.41	21.62	21.27	3.0	23.0
			1	1	22.46	22.56	22.18	2.0	24.0
			1	137	22.59	22.44	22.26	2.0	24.0
			1	271	22.65	22.67	22.39	2.0	24.0
			1	272	21.59	21.65	21.43	3.0	23.0
			135	0	21.47	21.62	21.55	3.0	23.0
			135	69	22.62	22.54	22.55	2.0	24.0
			135	138	21.57	21.49	21.59	3.0	23.0
			270	0	21.62	21.54	21.57	3.0	23.0
		64QAM	1	1	20.64	21.12	21.14	3.5	22.5
		256QAM	1	1	17.76	18.27	18.00	6.5	19.5
BW (MHz)	Modulation	Mode	RB Allocation	RB offset	Measured Pwr (dBm)			MPR	Tune-up Limit
					508200 2541.00 MHz	518598 2592.99 MHz	528996 2644.98 MHz		
90 MHz	DFT-s-OFDM	$\pi/2$ BPSK	1	0	23.84	24.05	24.05	0.5	25.5
			1	1	24.42	24.54	24.62	0.0	26.0
			1	123	24.53	24.47	24.63	0.0	26.0
			1	243	24.59	24.55	24.73	0.0	26.0
			1	244	24.09	24.02	24.24	0.5	25.5
			120	0	23.97	24.13	24.11	0.5	25.5
			120	62	24.61	24.56	24.60	0.0	26.0
			120	125	24.04	24.01	24.11	0.5	25.5
			243	0	24.09	24.05	24.10	0.5	25.5
		QPSK	1	0	23.46	23.60	23.41	1.0	25.0
			1	1	24.52	24.57	24.42	0.0	26.0
			1	123	24.54	24.47	24.48	0.0	26.0
			1	243	24.65	24.61	24.57	0.0	26.0
			1	244	23.67	23.58	23.61	1.0	25.0
			120	0	23.53	23.69	23.59	1.0	25.0
			120	62	24.56	24.52	24.58	0.0	26.0
			120	125	23.59	23.50	23.60	1.0	25.0
			243	0	23.58	23.42	23.55	1.0	25.0
		16QAM	1	1	23.48	23.67	23.26	1.0	25.0
			1	123	23.54	23.58	23.33	1.0	25.0
			1	243	23.59	23.70	23.35	1.0	25.0
		64QAM	1	1	21.81	22.23	22.15	2.5	23.5
		256QAM	1	1	19.94	20.20	20.08	4.5	21.5
	CP-OFDM	QPSK	1	1	22.94	23.03	22.96	1.5	24.5

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	$\pi/2$ BPSK	1	0	24.04	24.05	24.02	0.5	25.5
			1	1	24.33	24.54	24.53	0.0	26.0
			1	108	24.36	24.45	24.65	0.0	26.0
			1	215	24.50	24.55	24.70	0.0	26.0
			1	216	23.92	24.04	24.19	0.5	25.5
			108	0	23.96	24.16	24.14	0.5	25.5
			108	54	24.51	24.55	24.63	0.0	26.0
			108	108	24.09	23.99	24.10	0.5	25.5
			216	0	24.05	23.96	24.14	0.5	25.5
		QPSK	1	0	23.50	23.59	23.47	1.0	25.0
			1	1	24.58	24.61	24.49	0.0	26.0
			1	108	24.65	24.50	24.55	0.0	26.0
			1	215	24.70	24.53	24.58	0.0	26.0
			1	216	23.57	23.60	23.60	1.0	25.0
			108	0	23.50	23.66	23.68	1.0	25.0
			108	54	24.52	24.54	24.69	0.0	26.0
			108	109	23.60	23.48	23.66	1.0	25.0
			216	0	23.56	23.51	23.65	1.0	25.0
		16QAM	1	1	23.39	23.57	23.54	1.0	25.0
			1	108	23.43	23.47	23.60	1.0	25.0
			1	215	23.49	23.55	23.62	1.0	25.0
		64QAM	1	1	22.02	22.10	21.92	2.5	23.5
		256QAM	1	1	19.97	20.16	20.03	4.5	21.5
	CP-OFDM	QPSK	1	1	22.93	23.13	22.93	1.5	24.5
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	$\pi/2$ BPSK	1	0	23.91	24.15	24.15	0.5	25.5
			1	1	24.46	24.70	24.70	0.0	26.0
			1	94	24.39	24.48	24.73	0.0	26.0
			1	187	24.43	24.49	24.65	0.0	26.0
			1	188	23.95	23.96	24.18	0.5	25.5
			90	0	24.01	24.12	24.10	0.5	25.5
			90	49	24.57	24.55	24.68	0.0	26.0
			90	99	24.13	24.00	24.15	0.5	25.5
			180	0	24.07	24.03	24.19	0.5	25.5
		QPSK	1	0	23.54	23.64	23.65	1.0	25.0
			1	1	24.56	24.74	24.61	0.0	26.0
			1	94	24.54	24.51	24.66	0.0	26.0
			1	187	24.53	24.51	24.62	0.0	26.0
			1	188	23.50	23.54	23.59	1.0	25.0
			90	0	23.49	23.62	23.62	1.0	25.0
			90	49	24.53	24.52	24.67	0.0	26.0
			90	99	23.60	23.48	23.65	1.0	25.0
			180	0	23.52	23.52	23.62	1.0	25.0
		16QAM	1	1	23.44	23.69	23.64	1.0	25.0
			1	94	23.41	23.48	23.65	1.0	25.0
			1	187	23.45	23.49	23.60	1.0	25.0
		64QAM	1	1	22.09	22.19	22.05	2.5	23.5
		256QAM	1	1	19.97	20.27	20.12	4.5	21.5
	CP-OFDM	QPSK	1	1	22.99	23.17	23.12	1.5	24.5
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	$\pi/2$ BPSK	1	0	23.87	24.08	24.21	0.5	25.5
			1	1	24.39	24.61	24.69	0.0	26.0
			1	80	24.52	24.69	24.85	0.0	26.0
			1	160	24.60	24.72	24.89	0.0	26.0
			1	161	24.09	24.23	24.36	0.5	25.5
			81	0	24.01	24.21	24.29	0.5	25.5
			81	40	24.59	24.76	24.79	0.0	26.0
			81	81	24.20	24.23	24.37	0.5	25.5
			162	0	24.09	24.27	24.29	0.5	25.5
		QPSK	1	0	23.53	23.61	23.66	1.0	25.0
			1	1	24.53	24.63	24.68	0.0	26.0
			1	80	24.63	24.77	24.80	0.0	26.0
			1	160	24.71	24.76	24.81	0.0	26.0
			1	161	23.71	23.77	23.81	1.0	25.0
			81	0	23.57	23.70	23.78	1.0	25.0
			81	40	24.60	24.74	24.75	0.0	26.0
			81	81	23.71	23.73	23.90	1.0	25.0
			162	0	23.63	23.74	23.81	1.0	25.0
		16QAM	1	1	23.41	23.57	23.67	1.0	25.0
			1	80	23.50	23.72	23.79	1.0	25.0
			1	160	23.62	23.68	23.79	1.0	25.0
		64QAM	1	1	22.02	22.11	22.12	2.5	23.5
		256QAM	1	1	19.99	20.17	20.19	4.5	21.5
	CP-OFDM	QPSK	1	1	23.05	23.14	23.14	1.5	24.5

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	$\pi/2$ BPSK	1	0	24.14	24.12	24.33	0.5	25.5
			1	1	24.45	24.68	24.81	0.0	26.0
			1	66	24.48	24.73	24.91	0.0	26.0
			1	131	24.60	24.76	25.00	0.0	26.0
			1	132	24.12	24.28	24.49	0.5	25.5
			64	0	24.00	24.19	24.35	0.5	25.5
			64	34	24.59	24.77	24.82	0.0	26.0
			64	69	24.15	24.26	24.43	0.5	25.5
		QPSK	128	0	24.09	24.25	24.31	0.5	25.5
			1	0	23.56	23.69	23.74	1.0	25.0
			1	1	24.60	24.74	24.76	0.0	26.0
			1	66	24.64	24.79	24.84	0.0	26.0
			1	131	24.77	24.82	24.85	0.0	26.0
			1	132	23.74	23.83	23.94	1.0	25.0
			64	0	23.57	23.70	23.85	1.0	25.0
			64	34	24.60	24.77	24.85	0.0	26.0
			64	69	23.69	23.76	23.90	1.0	25.0
			128	0	23.60	23.75	23.78	1.0	25.0
		16QAM	1	1	23.44	23.66	23.73	1.0	25.0
			1	66	23.47	23.73	23.83	1.0	25.0
		64QAM	1	131	23.66	23.79	23.87	1.0	25.0
			1	1	22.10	22.24	22.19	2.5	23.5
		256QAM	1	1	20.01	20.25	20.27	4.5	21.5
	CP-OFDM	QPSK	1	1	22.98	23.24	23.22	1.5	24.5
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	$\pi/2$ BPSK	1	0	24.11	24.34	24.52	0.5	25.5
			1	1	24.61	24.84	25.04	0.0	26.0
			1	52	24.71	24.77	24.97	0.0	26.0
			1	104	24.87	24.91	24.98	0.0	26.0
			1	105	24.40	24.43	24.60	0.5	25.5
			50	0	24.23	24.28	24.37	0.5	25.5
			50	28	24.83	24.83	24.92	0.0	26.0
			50	56	24.38	24.37	24.44	0.5	25.5
		QPSK	100	0	24.27	24.37	24.42	0.5	25.5
			1	0	23.72	23.87	23.97	1.0	25.0
			1	1	24.76	24.89	24.97	0.0	26.0
			1	52	25.03	24.82	24.96	0.0	26.0
			1	104	25.03	24.98	25.05	0.0	26.0
			1	105	24.00	23.95	24.06	1.0	25.0
			50	0	23.75	23.77	23.84	1.0	25.0
			50	28	24.80	24.87	24.98	0.0	26.0
			50	56	23.94	23.88	23.98	1.0	25.0
			100	0	23.81	23.83	23.95	1.0	25.0
		16QAM	1	1	23.62	23.85	23.94	1.0	25.0
			1	52	23.77	23.79	23.92	1.0	25.0
		64QAM	1	104	23.87	23.92	24.06	1.0	25.0
			1	1	22.25	22.39	22.36	2.5	23.5
		256QAM	1	1	20.17	20.40	20.47	4.5	21.5
	CP-OFDM	QPSK	1	1	23.26	23.45	23.45	1.5	24.5
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	$\pi/2$ BPSK	1	0	23.99	24.31	24.39	0.5	25.5
			1	1	24.50	24.80	24.91	0.0	26.0
			1	39	24.64	24.76	24.97	0.0	26.0
			1	76	24.85	24.82	24.98	0.0	26.0
			1	77	24.33	24.32	24.60	0.5	25.5
			36	0	24.13	24.28	24.36	0.5	25.5
			36	21	24.72	24.79	24.94	0.0	26.0
			36	42	24.33	24.30	24.47	0.5	25.5
		QPSK	75	0	24.23	24.32	24.42	0.5	25.5
			1	0	23.60	23.79	23.86	1.0	25.0
			1	1	24.64	24.82	24.90	0.0	26.0
			1	39	24.77	24.82	24.95	0.0	26.0
			1	76	24.91	24.89	25.03	0.0	26.0
			1	77	23.90	23.91	24.04	1.0	25.0
			36	0	23.66	23.78	23.88	1.0	25.0
			36	21	24.78	24.84	24.96	0.0	26.0
			36	42	23.83	23.85	23.97	1.0	25.0
			75	0	23.75	23.84	23.97	1.0	25.0
		16QAM	1	1	23.51	23.83	23.85	1.0	25.0
			1	39	23.64	23.79	23.93	1.0	25.0
		64QAM	1	76	23.84	23.88	24.03	1.0	25.0
			1	1	22.17	22.31	22.31	2.5	23.5
		256QAM	1	1	20.11	20.42	20.33	4.5	21.5
	CP-OFDM	QPSK	1	1	23.01	23.39	23.32	1.5	24.5

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	$\pi/2$ BPSK	1	0	23.94	24.14	24.38	0.5	25.5
			1	1	24.48	24.64	24.90	0.0	26.0
			1	26	24.40	24.63	24.91	0.0	26.0
			1	49	24.58	24.72	24.97	0.0	26.0
			1	50	24.08	24.23	24.47	0.5	25.5
			25	0	24.06	24.17	24.40	0.5	25.5
			25	13	24.57	24.72	24.87	0.0	26.0
			25	26	24.15	24.24	24.35	0.5	25.5
		QPSK	50	0	24.10	24.18	24.40	0.5	25.5
			1	0	23.57	23.68	23.85	1.0	25.0
			1	1	24.59	24.68	24.86	0.0	26.0
			1	26	24.52	24.66	24.87	0.0	26.0
			1	49	24.74	24.80	24.88	0.0	26.0
			1	50	23.71	23.76	23.90	1.0	25.0
			25	0	23.57	23.70	23.87	1.0	25.0
			25	13	24.63	24.73	24.92	0.0	26.0
			25	26	23.67	23.73	23.86	1.0	25.0
			50	0	23.65	23.73	23.93	1.0	25.0
		16QAM	1	1	23.49	23.64	23.89	1.0	25.0
			1	26	23.42	23.65	23.83	1.0	25.0
			1	49	23.54	23.75	23.88	1.0	25.0
		64QAM	1	1	22.14	22.17	22.26	2.5	23.5
		256QAM	1	1	20.01	20.26	20.40	4.5	21.5
	CP-OFDM	QPSK	1	1	23.06	23.17	23.37	1.5	24.5
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	$\pi/2$ BPSK	1	0	23.90	24.09	24.40	0.5	25.5
			1	1	24.45	24.63	24.91	0.0	26.0
			1	19	24.44	24.60	24.90	0.0	26.0
			1	36	24.54	24.71	24.92	0.0	26.0
			1	37	24.10	24.20	24.40	0.5	25.5
			18	0	24.09	24.15	24.38	0.5	25.5
			18	10	24.56	24.63	24.89	0.0	26.0
			18	20	24.10	24.26	24.35	0.5	25.5
		QPSK	36	0	24.06	24.17	24.42	0.5	25.5
			1	0	23.66	23.65	23.88	1.0	25.0
			1	1	24.67	24.71	24.89	0.0	26.0
			1	19	24.59	24.65	24.84	0.0	26.0
			1	36	24.74	24.76	24.87	0.0	26.0
			1	37	23.70	23.78	23.89	1.0	25.0
			18	0	23.57	23.71	23.89	1.0	25.0
			18	10	24.61	24.70	24.89	0.0	26.0
			18	20	23.62	23.73	23.83	1.0	25.0
			36	0	23.56	23.71	23.92	1.0	25.0
		16QAM	1	1	23.43	23.56	23.84	1.0	25.0
			1	19	23.45	23.48	23.80	1.0	25.0
			1	36	23.58	23.61	23.87	1.0	25.0
		64QAM	1	1	22.14	22.19	22.27	2.5	23.5
		256QAM	1	1	20.04	20.25	20.42	4.5	21.5
	CP-OFDM	QPSK	1	1	23.03	23.18	23.36	1.5	24.5
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	$\pi/2$ BPSK	1	0	23.83	24.01	24.23	0.5	25.5
			1	1	24.35	24.51	24.74	0.0	26.0
			1	12	24.41	24.55	24.76	0.0	26.0
			1	22	24.40	24.62	24.82	0.0	26.0
			1	23	23.89	24.04	24.30	0.5	25.5
			12	0	23.98	24.03	24.22	0.5	25.5
			12	6	24.50	24.57	24.69	0.0	26.0
			12	12	24.00	24.14	24.26	0.5	25.5
		QPSK	24	0	23.94	24.08	24.25	0.5	25.5
			1	0	23.41	23.49	23.67	1.0	25.0
			1	1	24.47	24.55	24.68	0.0	26.0
			1	12	24.51	24.62	24.74	0.0	26.0
			1	22	24.58	24.63	24.79	0.0	26.0
			1	23	23.46	23.56	23.75	1.0	25.0
			12	0	23.48	23.55	23.70	1.0	25.0
			12	6	24.49	24.60	24.72	0.0	26.0
			12	12	23.54	23.65	23.78	1.0	25.0
			24	0	23.49	23.63	23.75	1.0	25.0
		16QAM	1	1	23.34	23.52	23.65	1.0	25.0
			1	12	23.38	23.57	23.71	1.0	25.0
			1	22	23.43	23.62	23.77	1.0	25.0
		64QAM	1	1	21.96	22.03	22.08	2.5	23.5
		256QAM	1	1	19.93	20.12	20.17	4.5	21.5
	CP-OFDM	QPSK	1	1	22.94	23.00	23.15	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

LTE: All modulations were investigated and the worst modulations (QPSK, 64QAM) are reported.

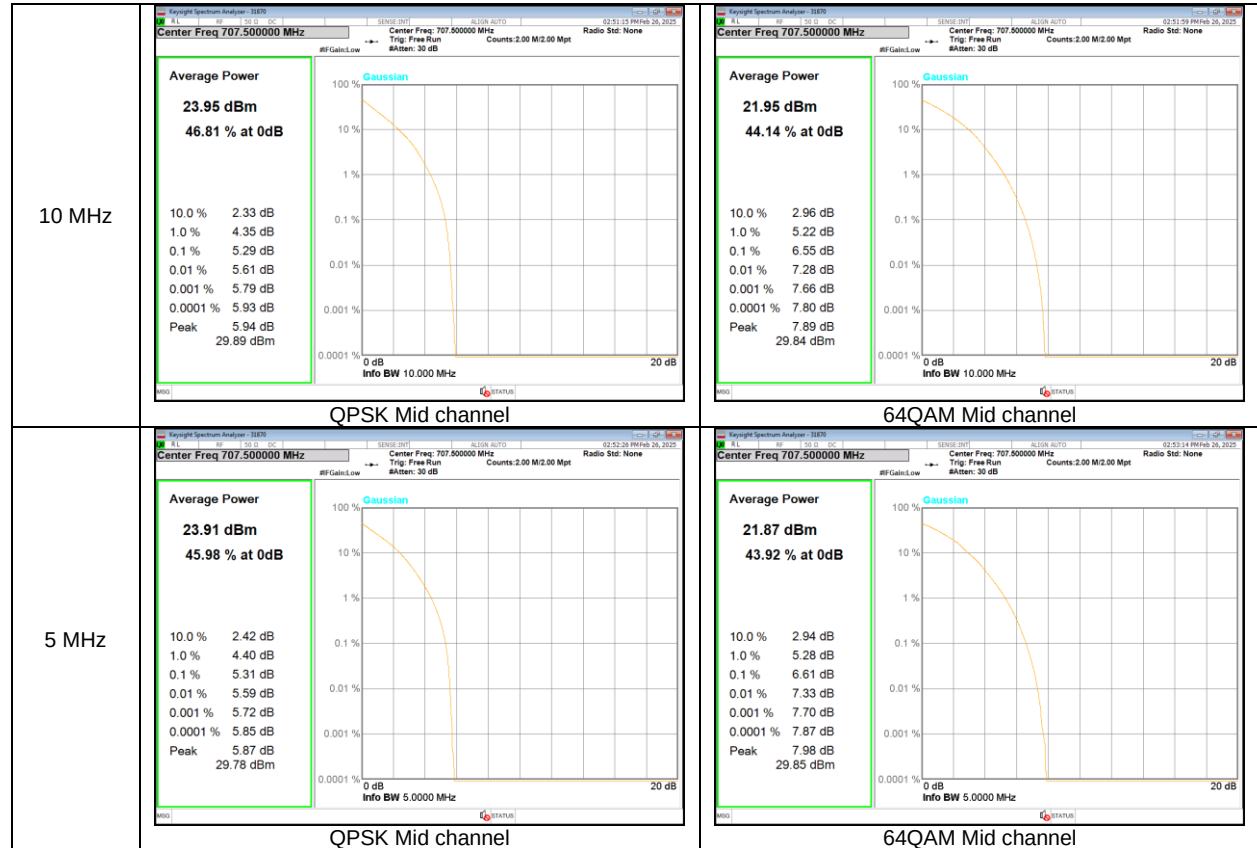
5G NR: All Waveforms (CP-OFDM vs DFT-s_OFDM) and modulations ($\pi/2$ BPSK, QPSK, 16QAM, 64QAM, 256QAM) were investigated to determine the worst case configuration. All Modes of operation were investigated and the worst case configuration results are reported in this section.

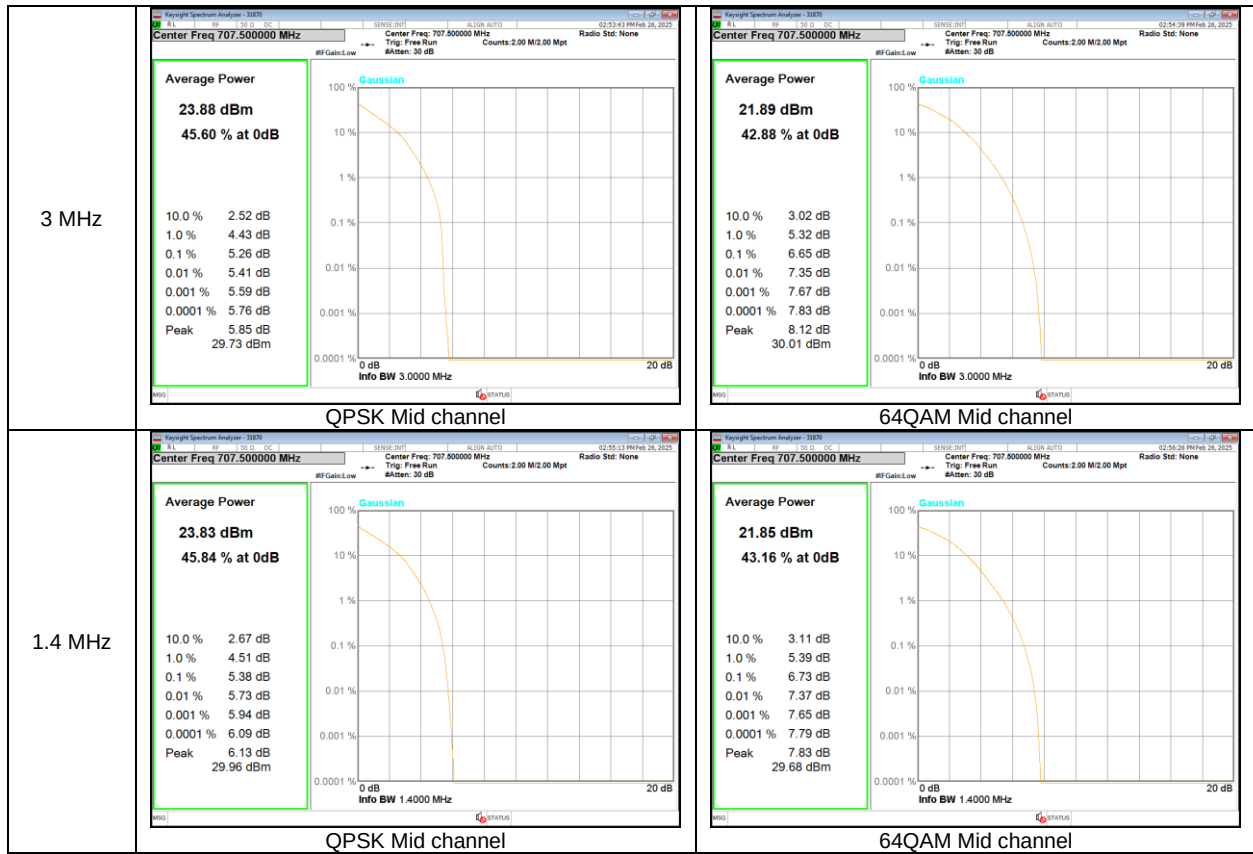
RESULTS

See the following pages.

8.2.1. CONDUCTED PEAK TO AVERAGE RESULT

LTE Band 12 (ANT A)

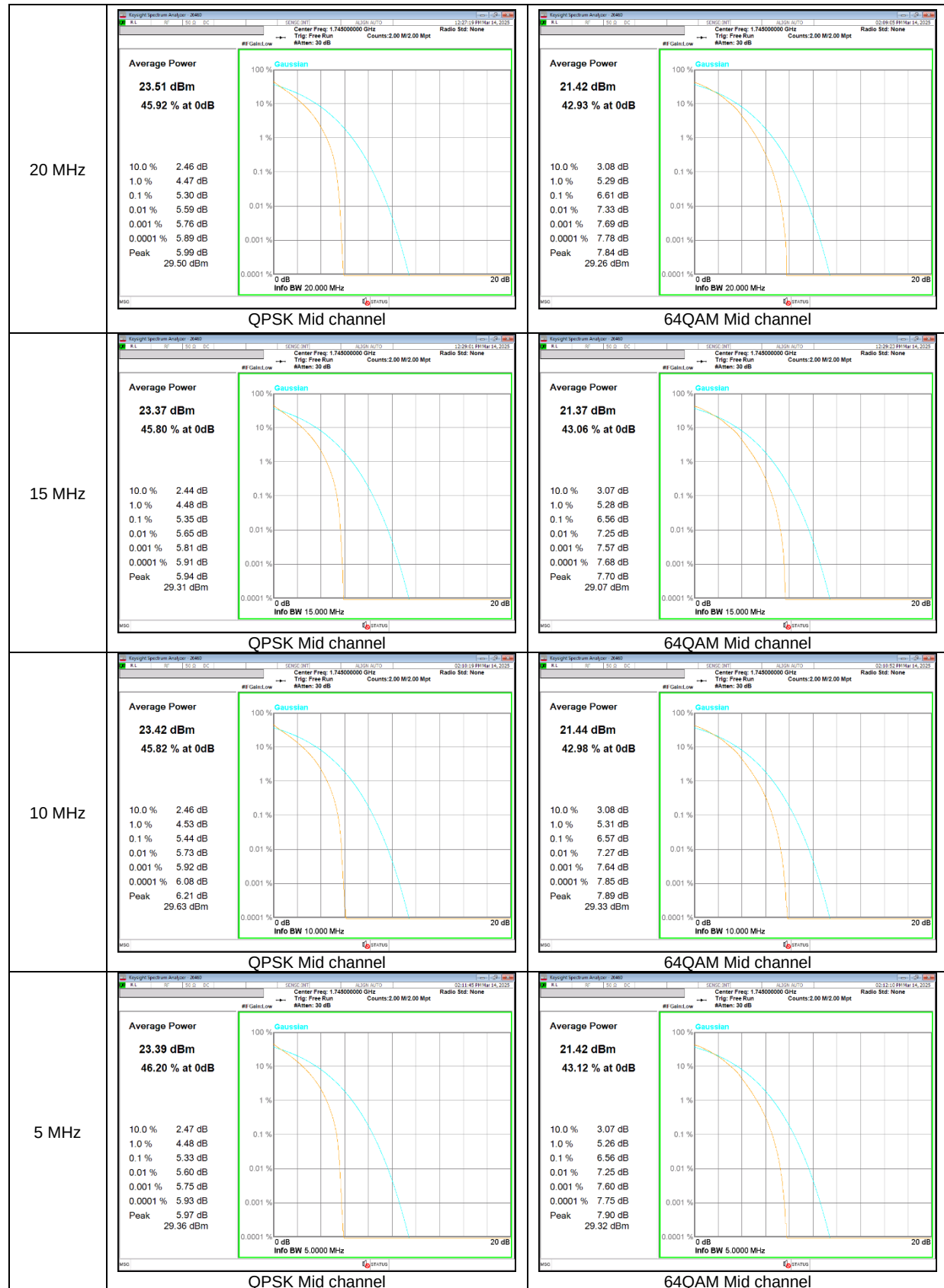


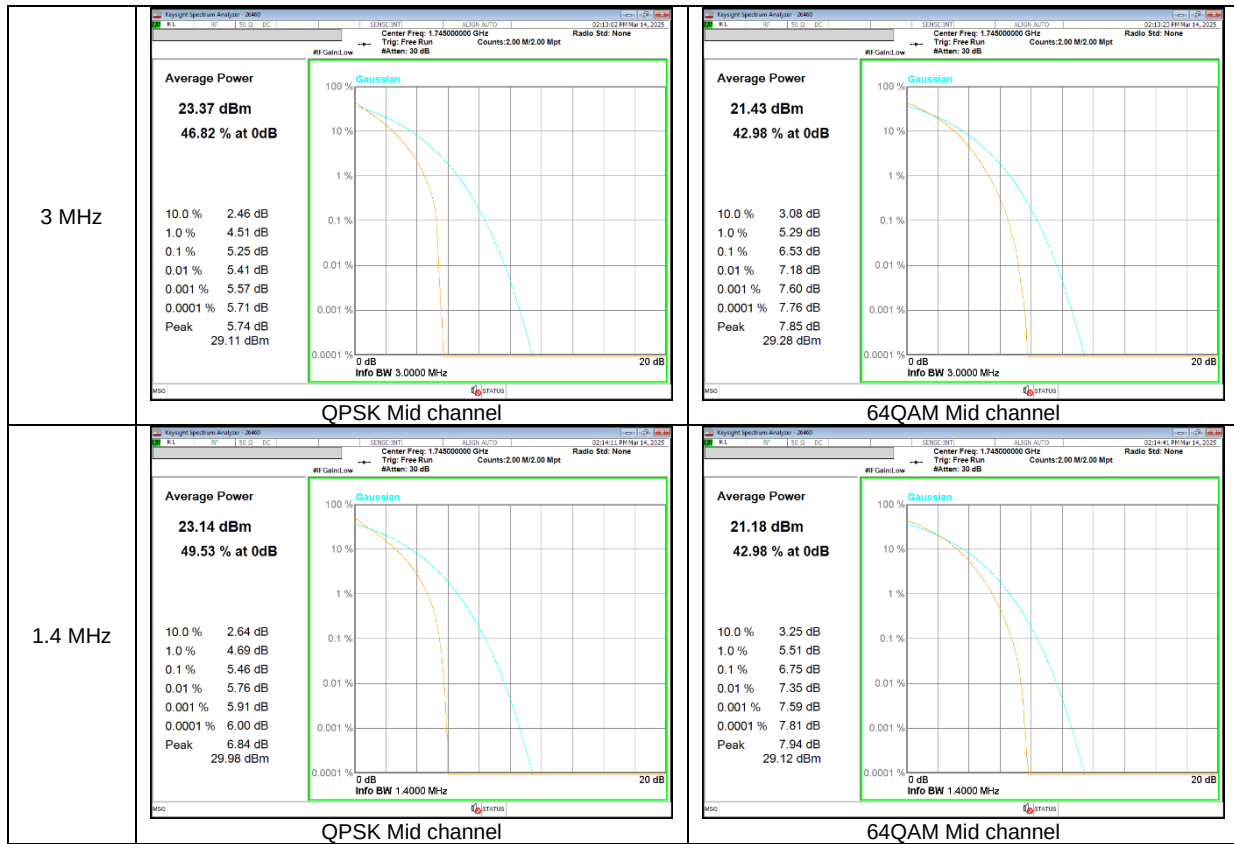


LTE Band 41 (ANT D)

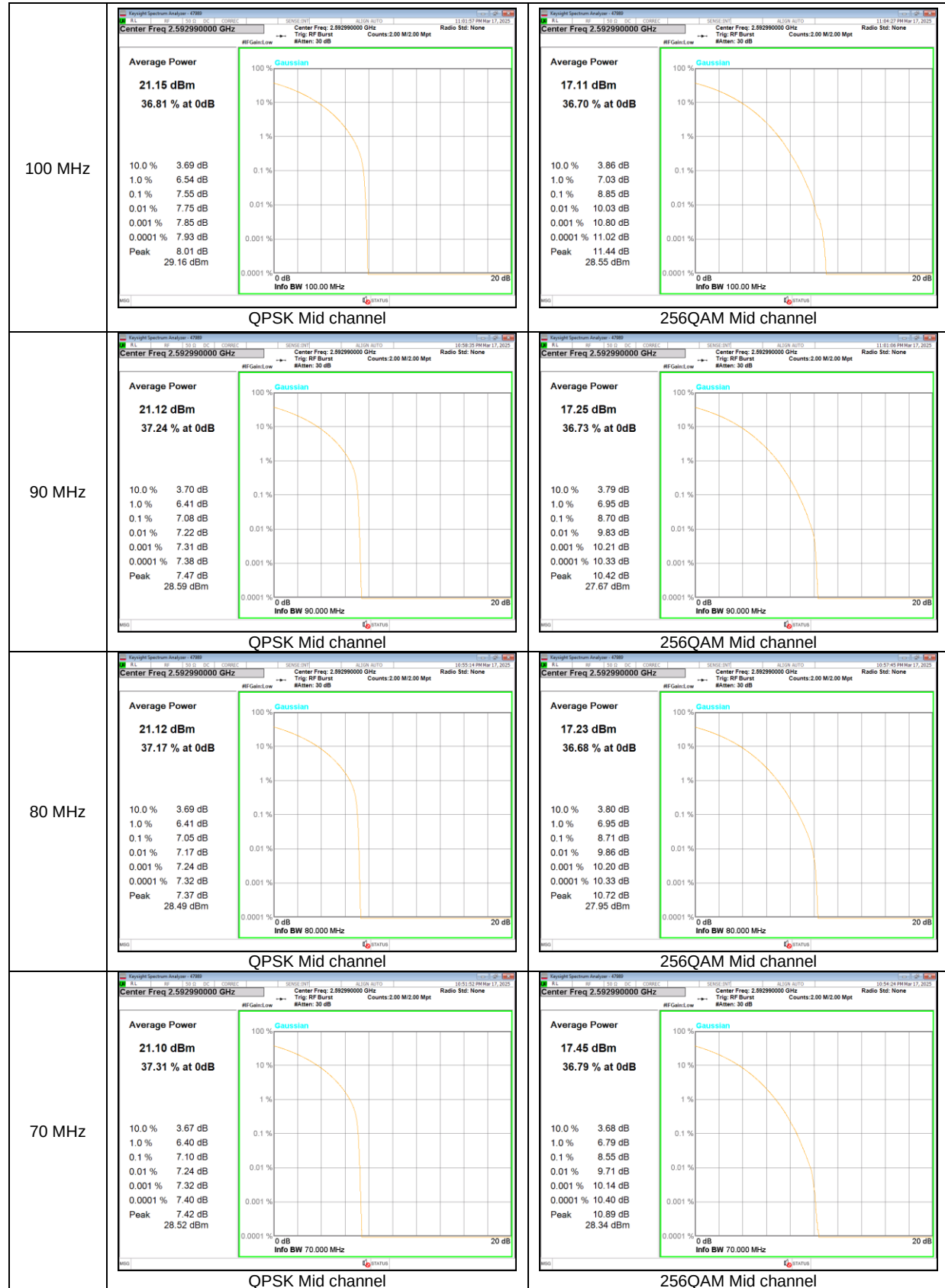


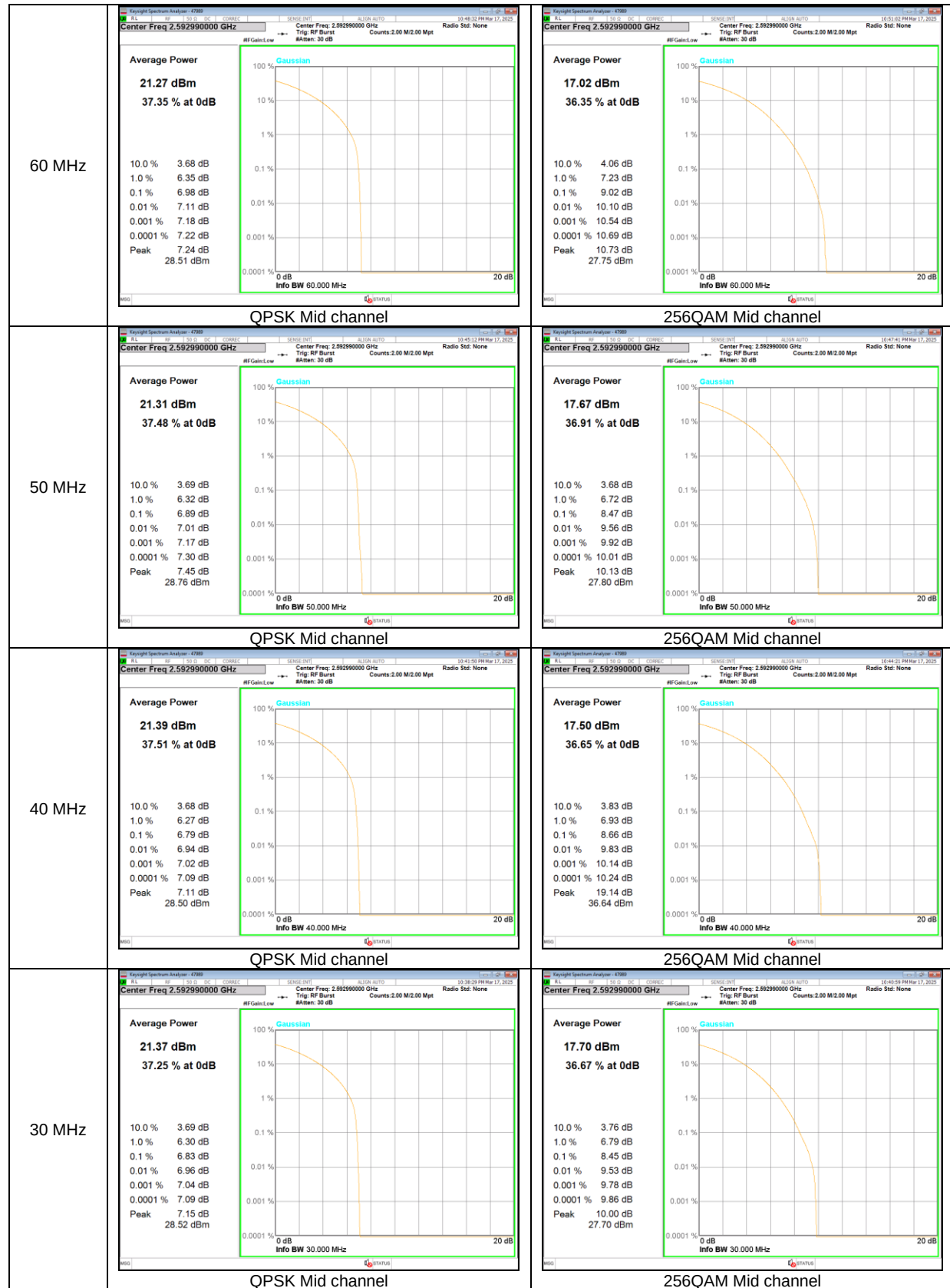
LTE Band 66 (ANT D)

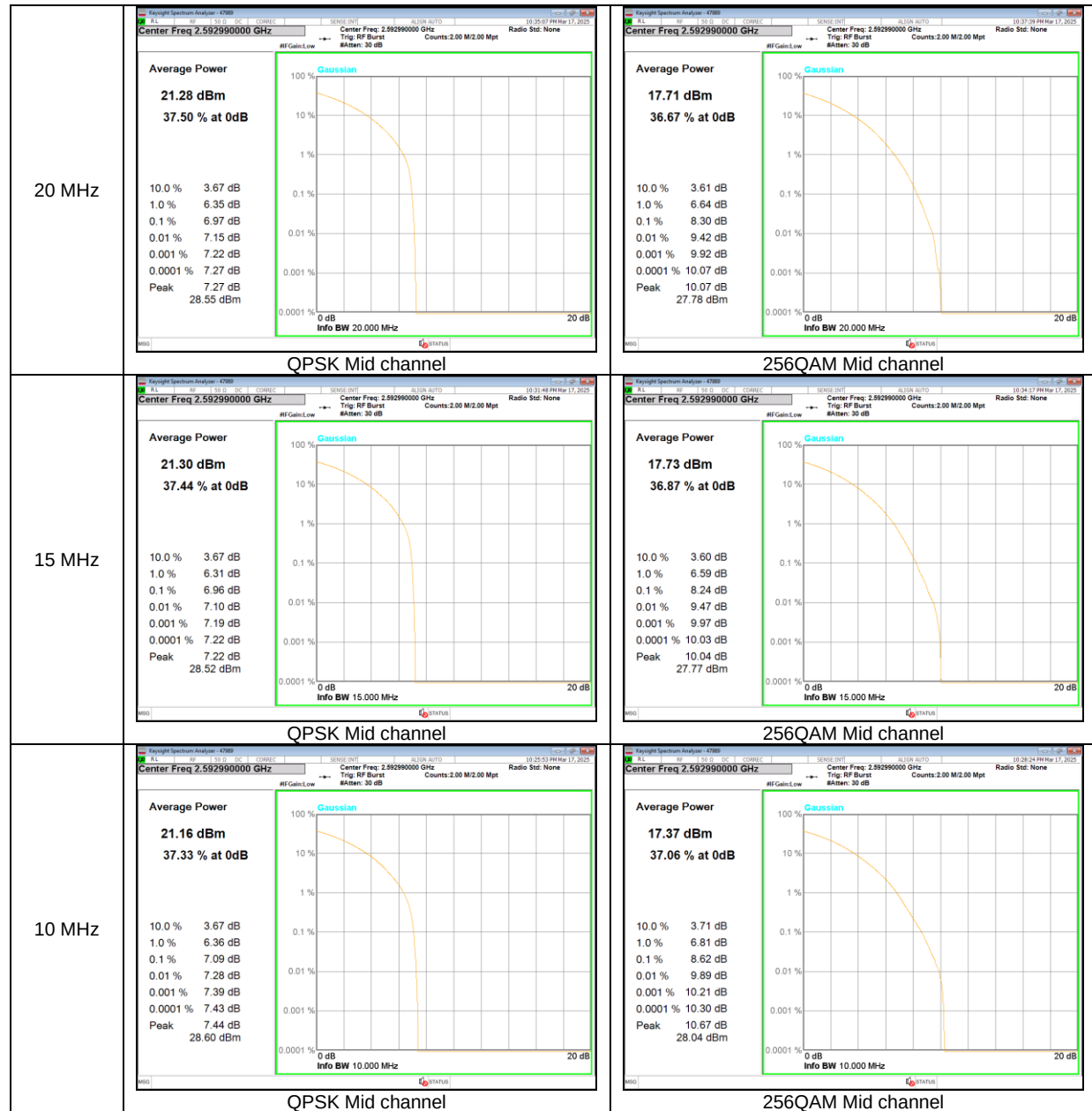




NR Band n41 CP-OFDM (ANT D)







8.3. OCCUPIED BANDWIDTH

RULE PART(S)

FCC: §2.1049

LIMITS

For reporting purposes only

TEST PROCEDURE

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

(KDB 971168 D01 Power Meas License Digital Systems v03r01)

RESULTS

See the following pages.

- LTE Band 12 (ANT A)

Band	BW	Modulation	Frequency [MHz]	99% BW (MHz)	-26dB BW (MHz)
LTE B12	10M	QPSK	707.50	8.946	9.654
		16QAM		8.924	9.720
	5M	QPSK		4.482	5.045
		16QAM		4.481	5.026
	3M	QPSK		2.691	3.028
		16QAM		2.687	2.996
	1.4M	QPSK		1.086	1.312
		16QAM		1.092	1.333

- LTE Band 41 (ANT D)

Band	BW	Modulation	Frequency [MHz]	99% BW (MHz)	-26dB BW (MHz)
LTE B41	20M	QPSK	2593.00	17.871	18.890
		16QAM		17.897	19.450
	15M	QPSK		13.408	14.330
		16QAM		13.455	14.530
	10M	QPSK		8.969	9.678
		16QAM		8.988	9.833
	5M	QPSK		4.497	5.060
		16QAM		4.484	5.000

- LTE Band 66 (ANT D)

Band	BW	Modulation	Frequency [MHz]	99% BW (MHz)	-26dB BW (MHz)
LTE B66	20M	QPSK	1745.00	17.875	18.950
		16QAM		17.984	19.220
	15M	QPSK		13.446	14.550
		16QAM		13.411	14.440
	10M	QPSK		8.961	9.895
		16QAM		8.931	9.816
	5M	QPSK		4.487	5.001
		16QAM		4.495	5.073
	3M	QPSK		2.695	3.057
		16QAM		2.694	2.997
	1.4M	QPSK		1.085	1.317
		16QAM		1.086	1.310

- NR Band n41 (PC2) CP-OFDM (ANT D)

Band	BW	Modulation	Frequency [MHz]	99% BW (MHz)	-26dB BW (MHz)
NR n41	100M	QPSK	2592.99	97.633	101.800
		16QAM		97.618	101.800
	90M	QPSK		87.599	91.650
		16QAM		87.574	91.690
	80M	QPSK		77.551	80.870
		16QAM		77.565	80.900
	70M	QPSK		67.633	70.690
		16QAM		67.617	70.660
	60M	QPSK		57.905	60.410
		16QAM		57.979	60.450
	50M	QPSK		47.604	49.790
		16QAM		47.608	49.800
	40M	QPSK		37.890	39.690
		16QAM		37.914	39.740
	30M	QPSK		27.901	29.440
		16QAM		27.941	29.440
	20M	QPSK		18.311	19.510
		16QAM		18.281	19.620
	15M	QPSK		13.657	14.730
		16QAM		13.610	14.650
	10M	QPSK		8.611	9.786
		16QAM		8.613	9.660

8.3.1. OCCUPIED BANDWIDTH RESULT

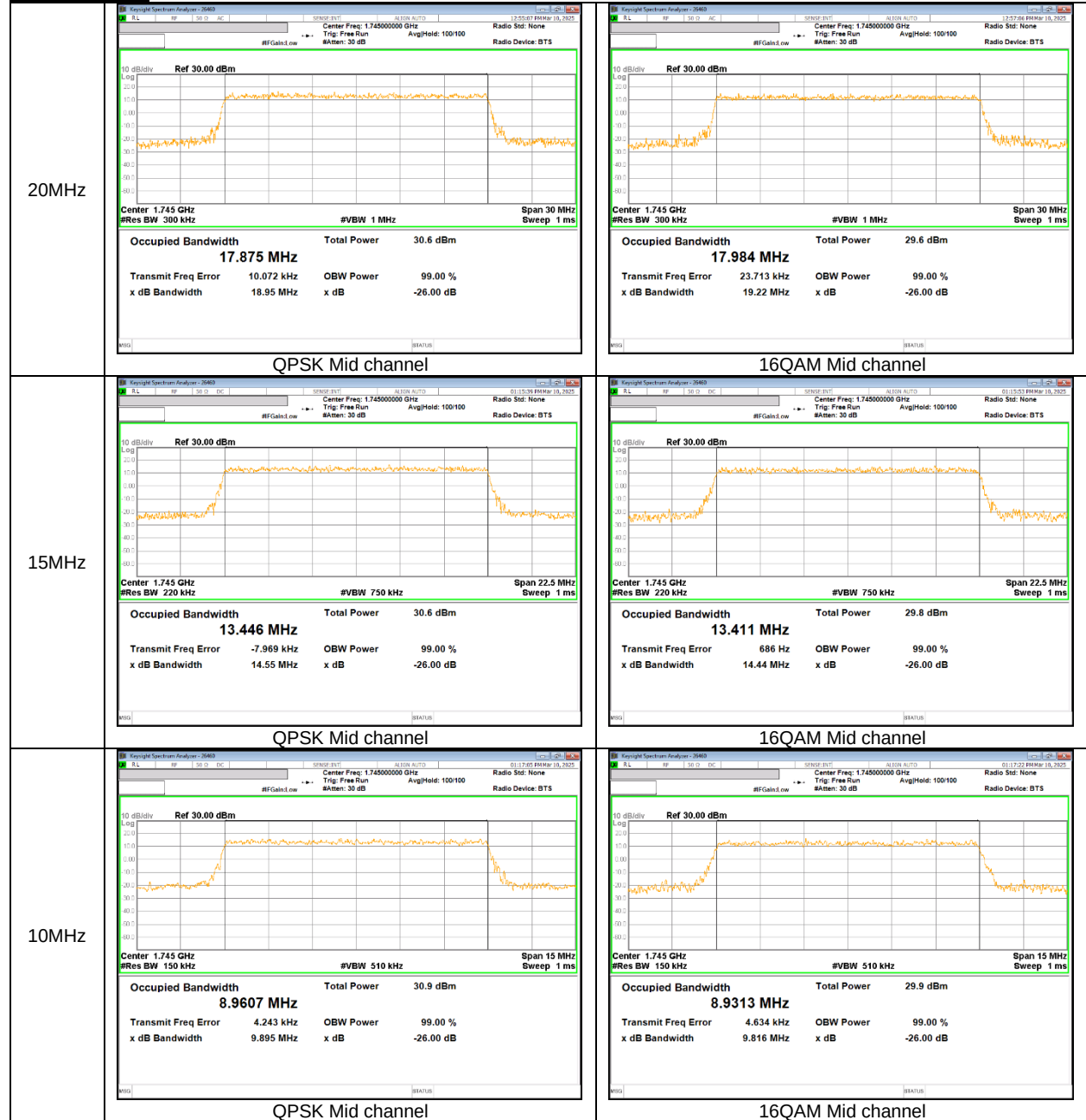
LTE Band 12

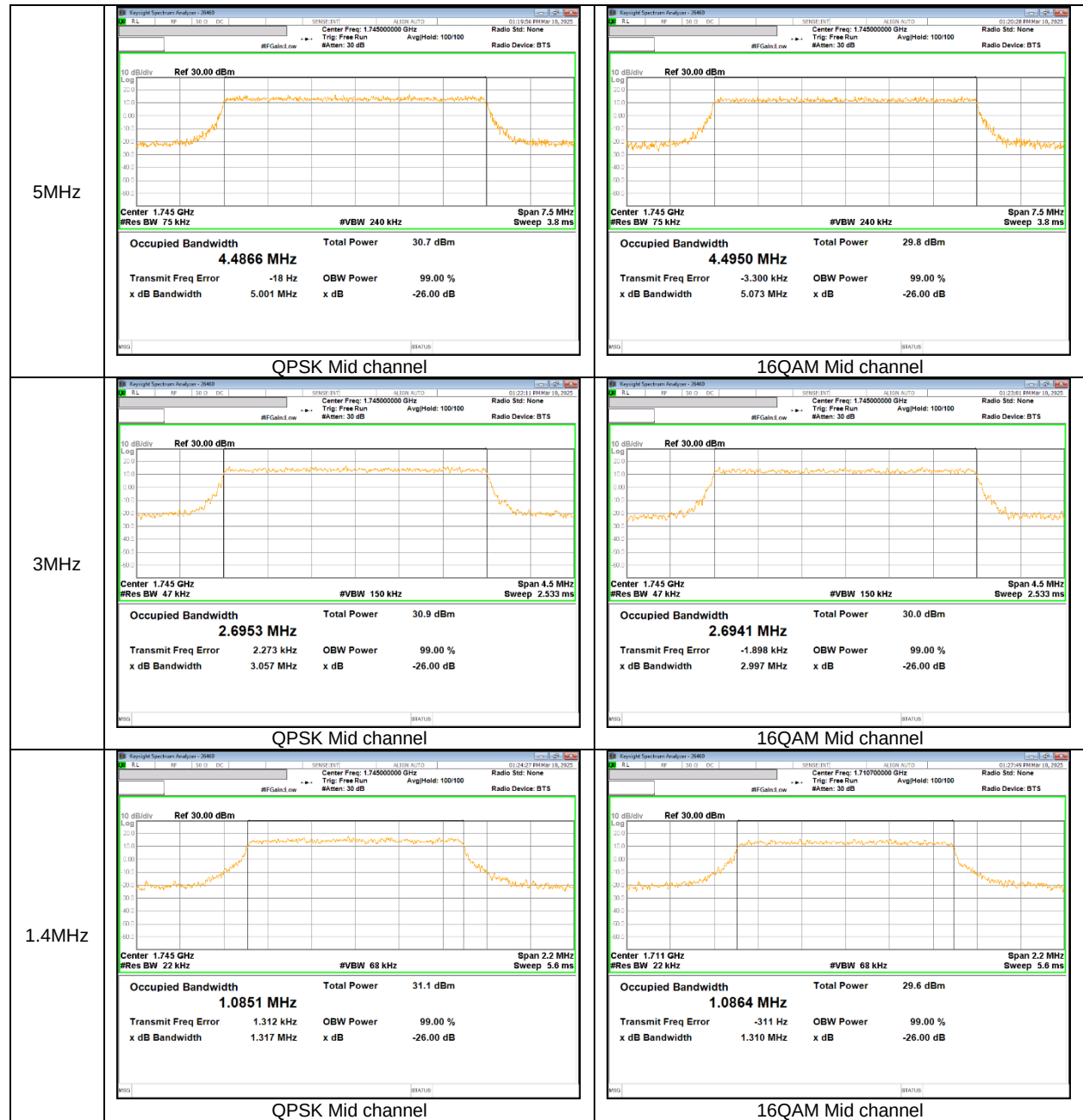


LTE Band 41



LTE Band 66





NR Band n41 CP-OFDM



