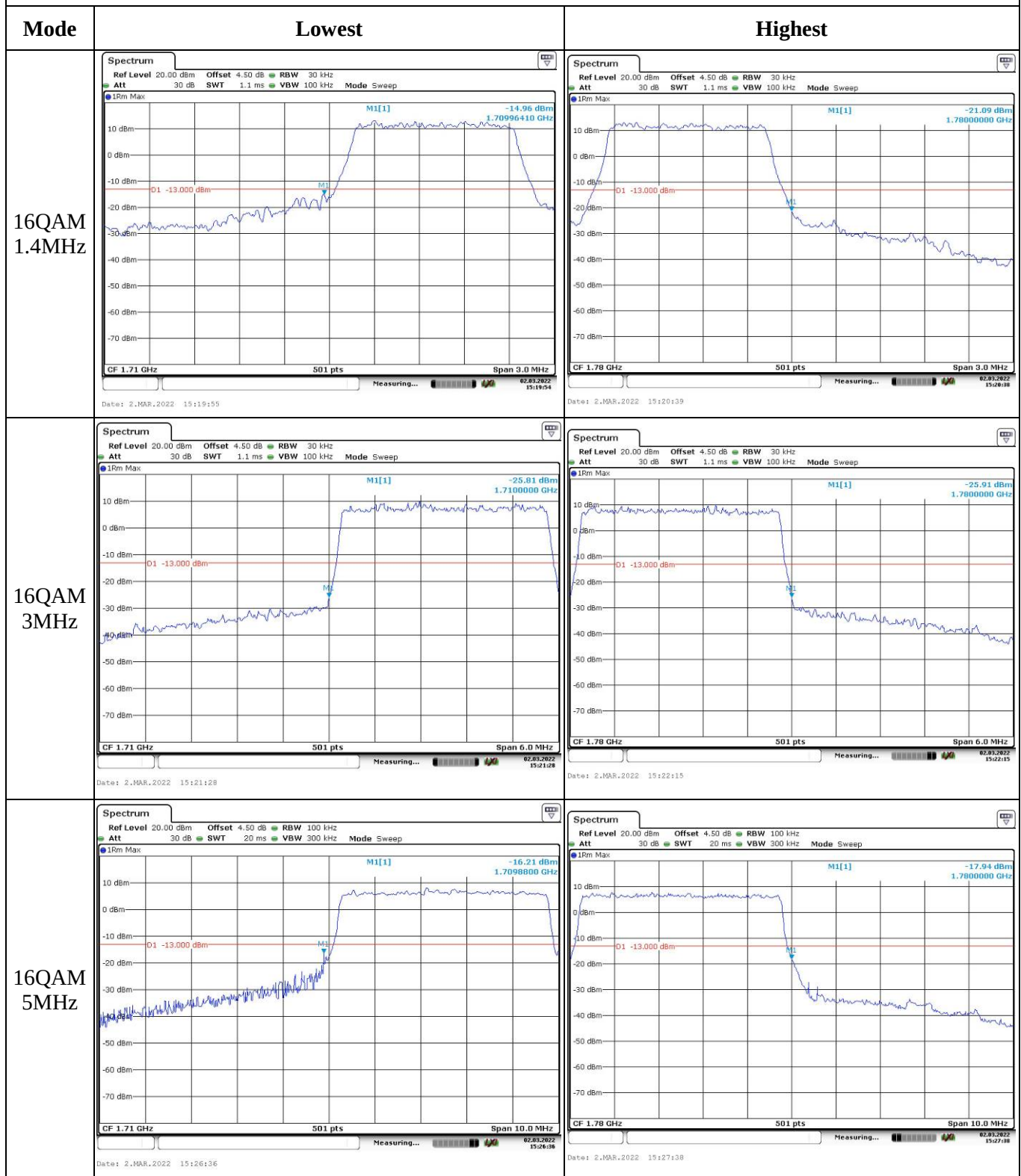
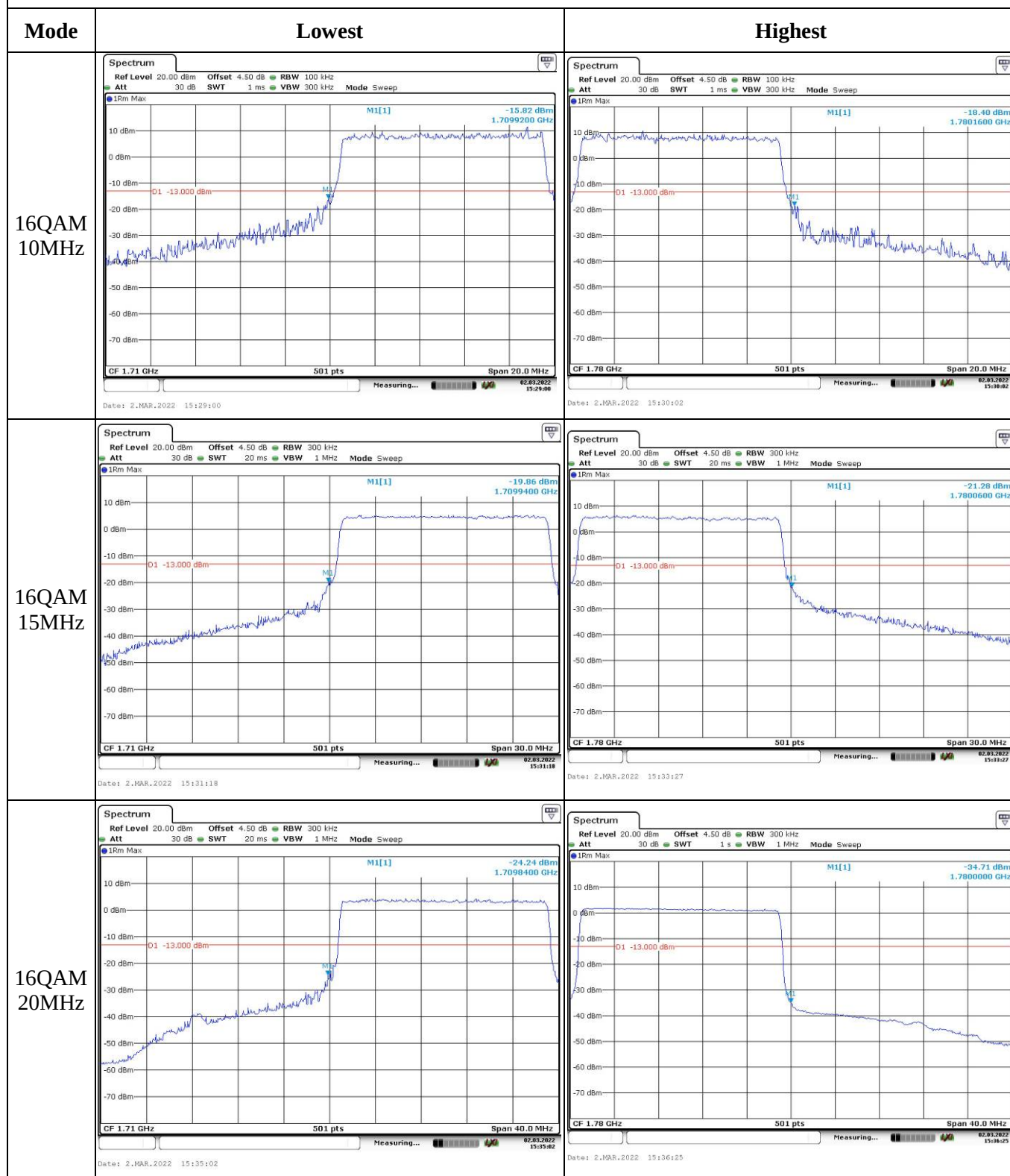


Out of band emission, Band Edge



Out of band emission, Band Edge



4.14 Antenna Port Test Data and Results for LTE Band 71

Serial Number:	CR22020002-RF-S1/3	Test Date:	2022-04-02~2022-04-05
Test Site:	RF	Test Mode:	Transmitting
Tester:	Ada Yan	Test Result:	Pass

Environmental Conditions:

Temperature: (°C)	21.2~22.3	Relative Humidity: (%)	42~52	ATM Pressure: (kPa)	101.7~101.8
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Test Equipment List and Details:

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
R&S	Spectrum Analyzer	FSV40	101474	2021/7/22	2022/7/21
zhuoxiang	Coaxial Cable	SMA-178	211001	Each time	N/A
Mini-Circuits	DC Block	BLK-18-S+	1554403	Each time	N/A
Weinschel	Coaxial Attenuators	53-20-34	LN751	Each time	N/A
R&S	Wideband Radio Communication Tester	CMW500	149218	2021/7/22	2022/7/21
BACL	TEMP&HUMI Test Chamber	BTH-150	30026	2021/7/22	2022/7/22
UNI-T	Multimeter	UT39A+	C210582554	2021/9/30	2022/9/30
E-Microwave	Two-way Splitter	ODP-1-6	OE0120176	Each Time	N/A

* Statement of Traceability: China Certification ICT Co., Ltd (Dongguan) attests that all calibrations have been performed, traceable to National Primary Standards and International System of Units (SI).

EUT Information@ LTE Band 71▲:

Antenna Gain (dBi):	0.7	Antenna Gain (dBd):	-1.45	Cable Loss (dB):	0.1
Operation Voltage(V _{DC}):					
Lowest:	3.6	Normal:	3.8	Highest:	4.3

Test Frequency For Each Mode:

Operation Bandwidth	Lowest Frequency (MHz)	Middle Frequency (MHz)	Highest Frequency (MHz)
5MHz	665.5	680.5	695.5
10MHz	668	680.5	693
15MHz	670.5	680.5	690.5
20MHz	673	680.5	688

Test Data:**FCC§2.1046;§ 27.50(c) (10)****RF Output Power:**

Test Bandwidth & Modulation	Resource Block & RB offset	Conducted Average Output Power(dBm)			Maximum ERP (dBm)	ERP Limit (dBm)
		Lowest Channel	Middle Channel	Highest Channel		
5MHz QPSK	RB1#0	22.21	22.18	22.22	20.77	34.77
	RB1#13	22.28	22.32	22.31		
	RB1#24	22.16	22.17	22.25		
	RB15#0	21.21	21.25	21.39		
	RB15#10	21.23	21.26	21.36		
	RB25#0	21.23	21.24	21.35		
5MHz 16QAM	RB1#0	20.97	21.46	21.26	20.01	34.77
	RB1#13	21.13	21.56	21.39		
	RB1#24	21.02	21.45	21.29		
	RB15#0	20.33	20.25	20.36		
	RB15#10	20.32	20.26	20.35		
	RB25#0	20.32	20.29	20.32		
10MHz QPSK	RB1#0	22.16	22.20	22.21	20.94	34.77
	RB1#25	22.32	22.43	22.49		
	RB1#49	22.18	22.25	22.36		
	RB25#0	21.27	21.37	21.46		
	RB25#25	21.39	21.39	21.32		
	RB50#0	21.36	21.38	21.42		
10MHz 16QAM	RB1#0	21.72	21.27	21.16	20.37	34.77
	RB1#25	21.92	21.54	21.45		
	RB1#49	21.72	21.37	21.32		
	RB25#0	20.31	20.41	20.50		
	RB25#25	20.46	20.46	20.34		
	RB50#0	20.37	20.40	20.38		
15MHz QPSK	RB1#0	22.09	22.11	22.11	20.73	34.77
	RB1#38	22.18	22.28	22.26		
	RB1#74	22.18	22.17	22.26		
	RB36#0	21.14	21.34	21.19		
	RB36#39	21.22	21.35	21.32		
	RB75#0	21.19	21.36	21.26		
15MHz 16QAM	RB1#0	21.62	21.20	21.48	20.17	34.77
	RB1#38	21.72	21.40	21.60		
	RB1#74	21.71	21.28	21.62		
	RB36#0	20.22	20.41	20.20		
	RB36#39	20.25	20.40	20.25		
	RB75#0	20.21	20.37	20.18		

20MHz QPSK	RB1#0	21.96	21.94	21.95	20.9	34.77
	RB1#50	22.38	22.45	22.35		
	RB1#99	22.11	22.08	22.07		
	RB50#0	20.96	21.44	21.05		
	RB50#50	21.09	21.46	21.07		
	RB100#0	21.05	21.44	21.07		
20MHz 16QAM	RB1#0	21.21	21.06	21.45	20.27	34.77
	RB1#50	21.65	21.60	21.82		
	RB1#99	21.38	21.20	21.62		
	RB50#0	19.93	20.44	20.05		
	RB50#50	20.07	20.47	20.05		
	RB100#0	20.03	20.47	20.04		
Note: ERP=Conducted Power(dBm) - Cable loss(dB) + Antenna Gain(dBd)						
					Result:	Pass

Peak-to-average Ratio(PAR)

Test Bandwidth & Modulation	Resource Block & RB offset	Peak-to-average Ratio(dB)			Limit (dB)
		Lowest Channel	Middle Channel	Highest Channel	
20MHz QPSK	RB1#0	4.7	5.1	4.93	13
	RB100#0	5.45	5.3	5.16	13
20MHz 16QAM	RB1#0	5.42	5.71	6.52	13
	RB100#0	6.17	6.23	6.03	13
Result:					Pass

FCC §2.1049, §27.53:Occupied Bandwidth

Operation Mode	99% Occupied Bandwidth (MHz)			26 dB Occupied Bandwidth (MHz)		
	Low Channel	Middle channel	High Channel	Low Channel	Middle Channel	High Channel
5MHz QPSK	4.511	4.511	4.531	5.200	5.200	5.200
5MHz 16QAM	4.531	4.551	4.531	5.180	5.240	5.180
10MHz QPSK	9.022	8.981	8.942	10.040	9.840	9.840
10MHz 16QAM	8.942	8.981	8.981	9.760	9.880	9.840
15MHz QPSK	13.593	13.473	13.473	15.060	15.000	15.120
15MHz 16QAM	13.533	13.533	13.533	15.000	15.000	15.000
20MHz QPSK	17.964	17.964	18.044	19.520	19.760	19.920
20MHz 16QAM	17.964	17.964	17.884	19.600	19.680	19.520

Note: The test plots please refer to the Plots of Occupied Bandwidth

FCC §2.1051, §27.53:Spurious Emissions at Antenna Terminal

Result:	Pass, Please refer to the test plots of Spurious Emissions at Antenna Terminal.
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FCC §2.1051, §27.53:Out of band emission, Band Edge

Result:	Pass, Please refer to the test plots of Out of band emission, Band Edge.
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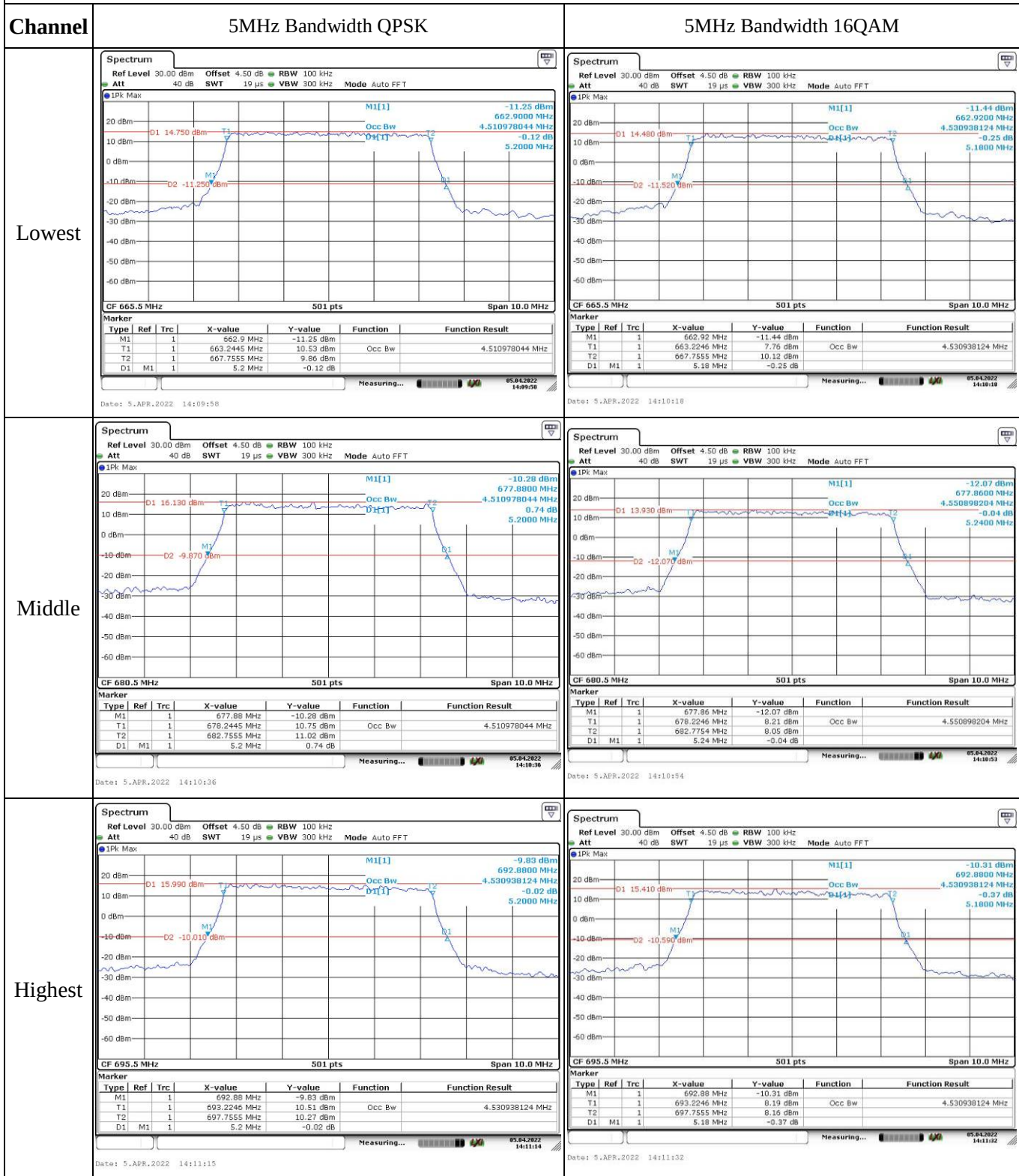
FCC §2.1055, §27.54: Frequency Stability

Test Mode:	20M QPSK	Test Channel: Lowest for Lower Edge,Highest for Upper Edge				
Test Item	Temperature (°C)	Voltage (V _{DC})	Lower Edge (MHz)		Upper Edge (MHz)	
			Result	Limit	Result	Limit
Frequency Stability vs. Temperature	-30	3.8	663.059	663.00	697.978	698.00
	-20	3.8	663.058	663.00	697.974	698.00
	-10	3.8	663.061	663.00	697.976	698.00
	0	3.8	663.059	663.00	697.978	698.00
	10	3.8	663.058	663.00	697.975	698.00
	20	3.8	663.058	663.00	697.978	698.00
	30	3.8	663.057	663.00	697.977	698.00
	40	3.8	663.058	663.00	697.975	698.00
Frequency Stability vs. Voltage	50	3.8	663.052	663.00	697.979	698.00
	20	3.6	663.058	663.00	697.978	698.00
	20	4.3	663.056	663.00	697.980	698.00
					Result:	Pass

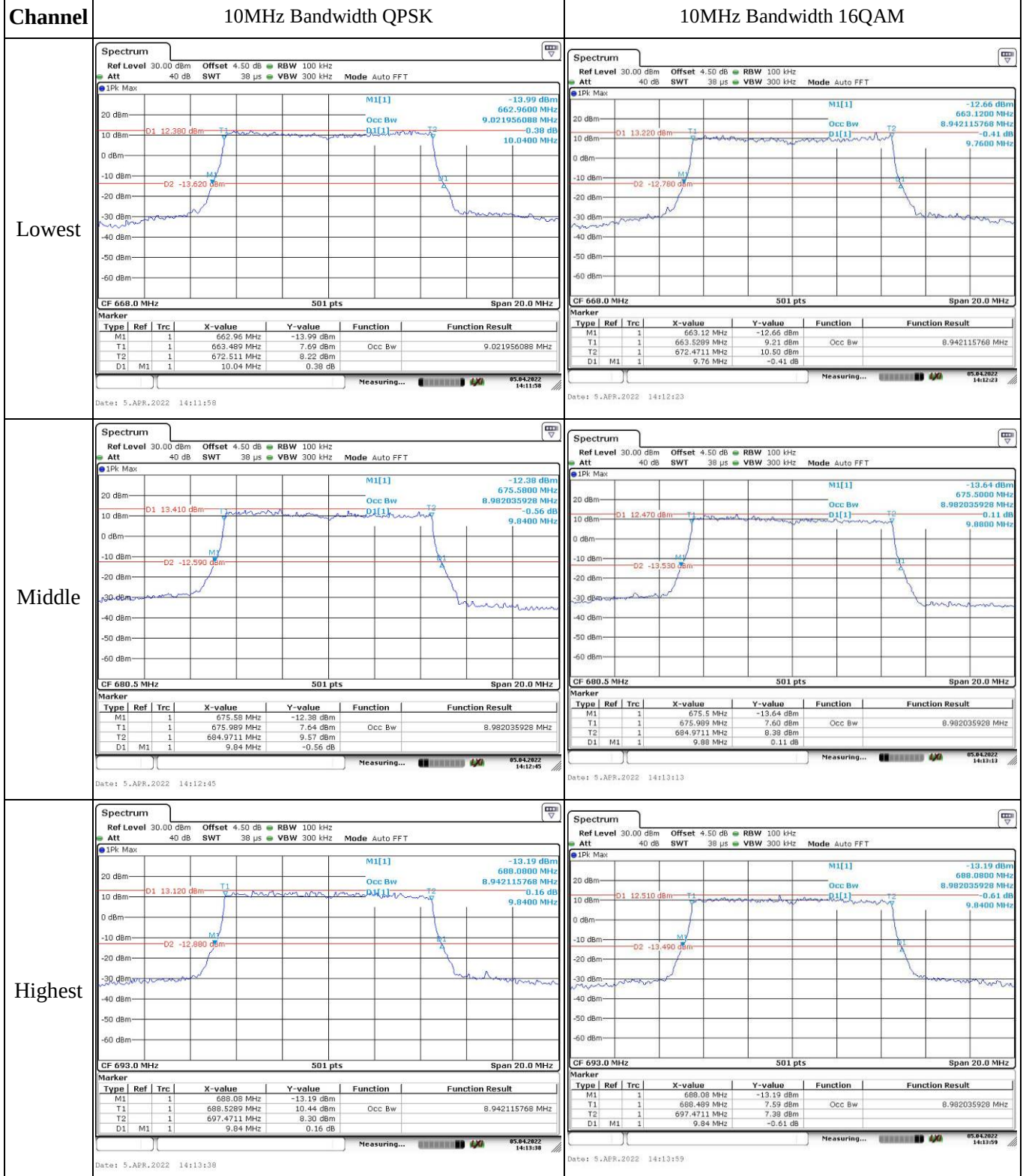
Test Mode:	20M 16QAM	Test Channel: Lowest for Lower Edge,Highest for Upper Edge				
Test Item	Temperature (°C)	Voltage (V _{DC})	Lower Edge (MHz)		Upper Edge (MHz)	
			Result	Limit	Result	Limit
Frequency Stability vs. Temperature	-30	3.8	663.022	663.00	697.021	698.00
	-20	3.8	663.021	663.00	697.018	698.00
	-10	3.8	663.020	663.00	697.022	698.00
	0	3.8	663.019	663.00	697.021	698.00
	10	3.8	663.021	663.00	697.023	698.00
	20	3.8	663.022	663.00	697.022	698.00
	30	3.8	663.020	663.00	697.024	698.00
	40	3.8	663.022	663.00	697.022	698.00
Frequency Stability vs. Voltage	50	3.8	663.021	663.00	697.021	698.00
	20	3.6	663.023	663.00	697.022	698.00
	20	4.3	663.022	663.00	697.019	698.00
					Result:	Pass

Test Plots:

Occupied Bandwidth



Occupied Bandwidth



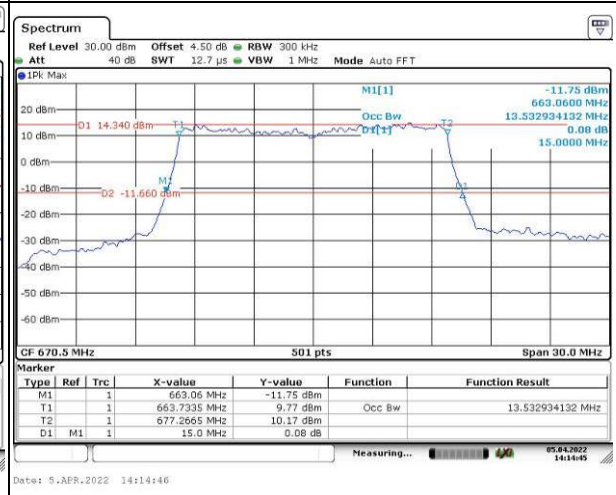
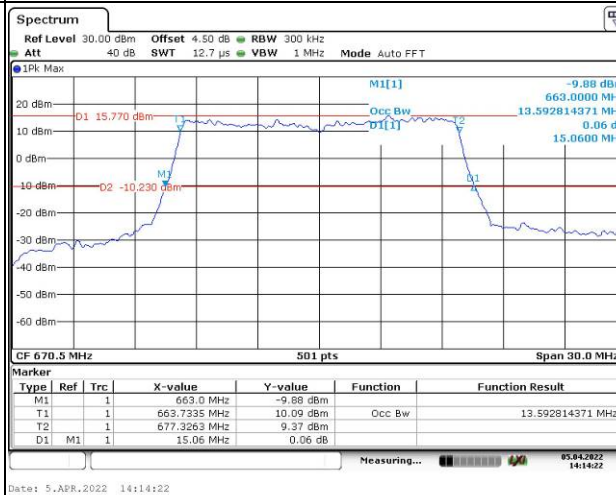
Occupied Bandwidth

Channel

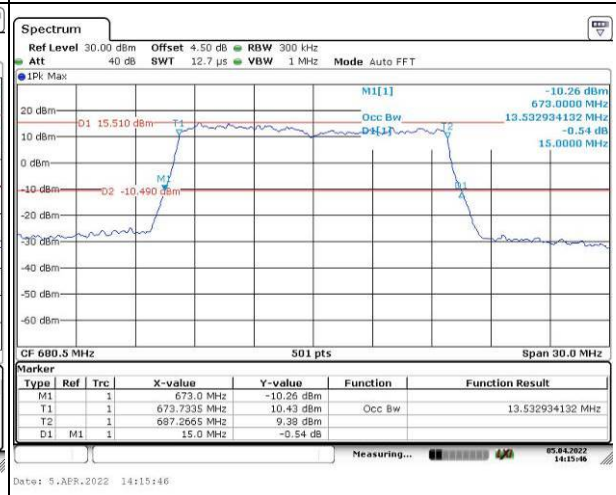
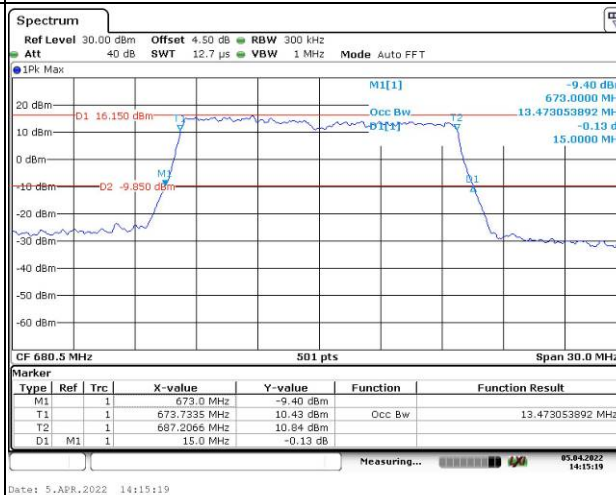
15MHz Bandwidth QPSK

15MHz Bandwidth 16QAM

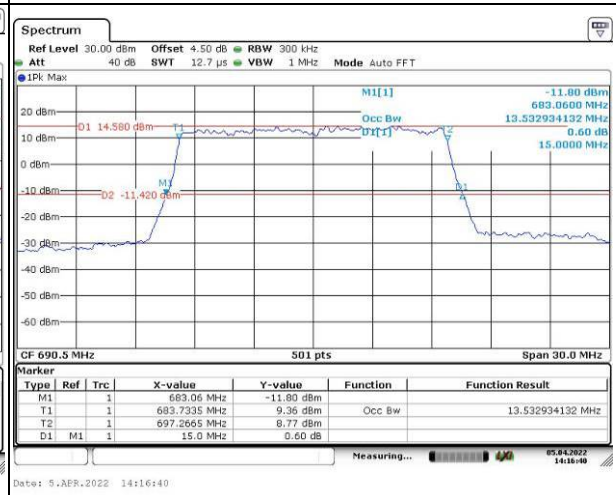
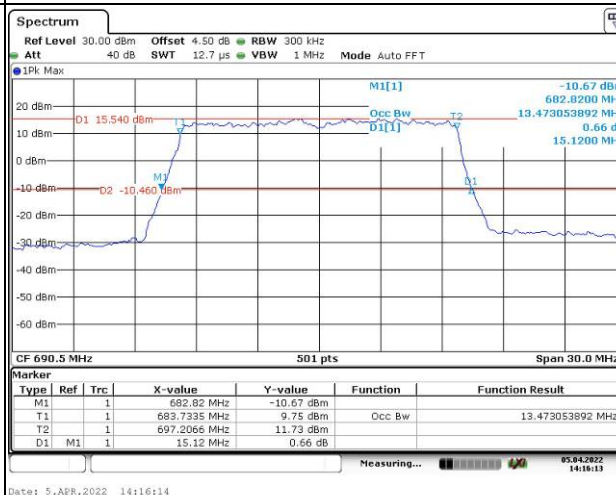
Lowest



Middle



Highest



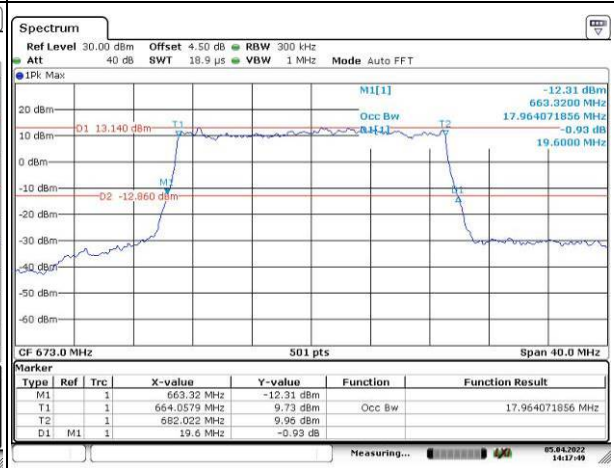
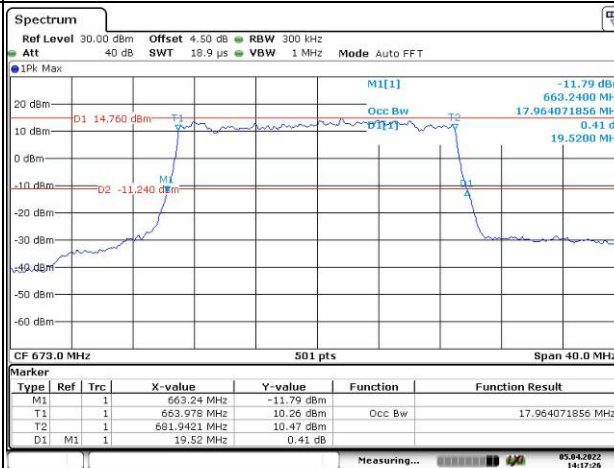
Occupied Bandwidth

Channel

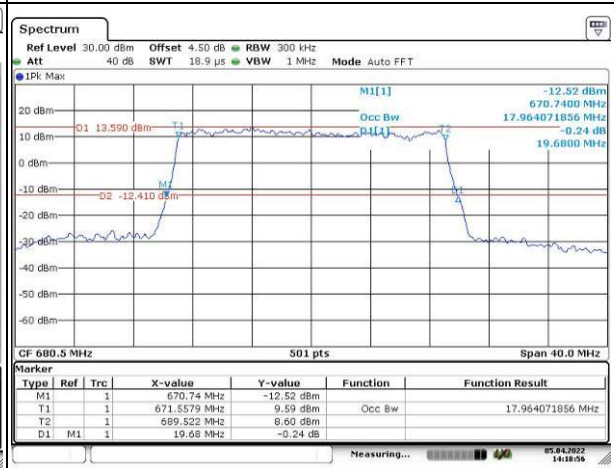
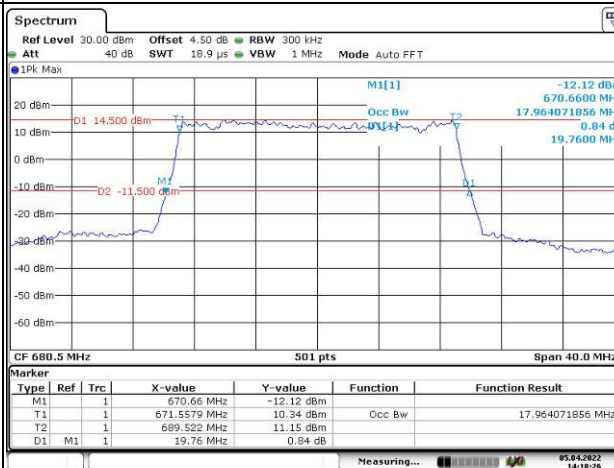
20MHz Bandwidth QPSK

20MHz Bandwidth 16QAM

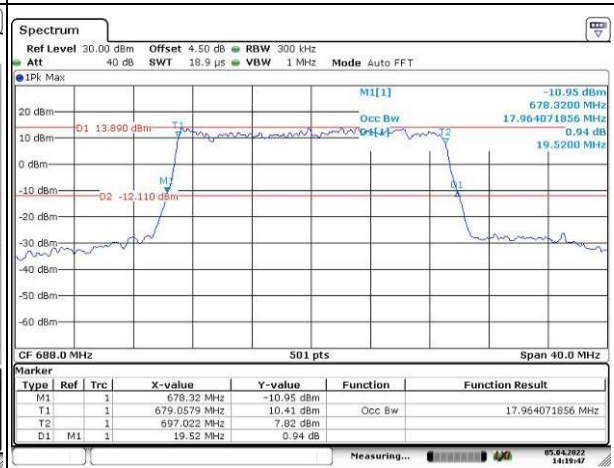
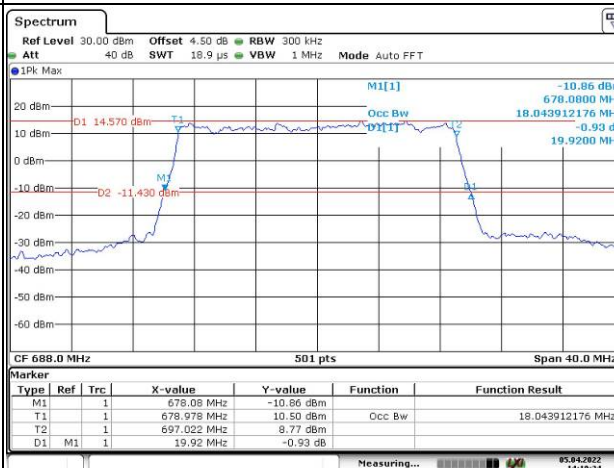
Lowest



Middle



Highest

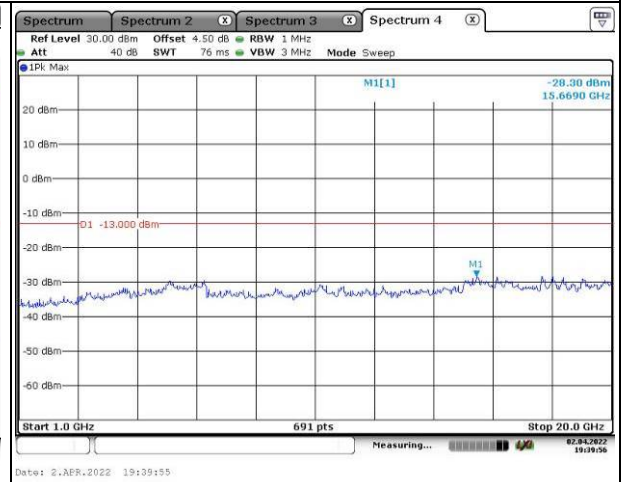
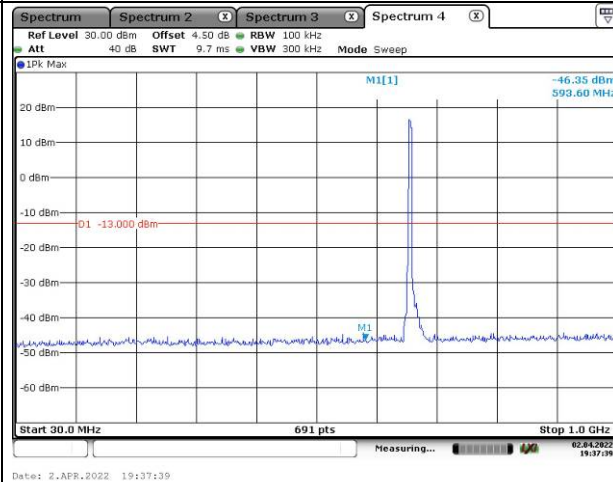


Spurious Emissions at Antenna Terminal

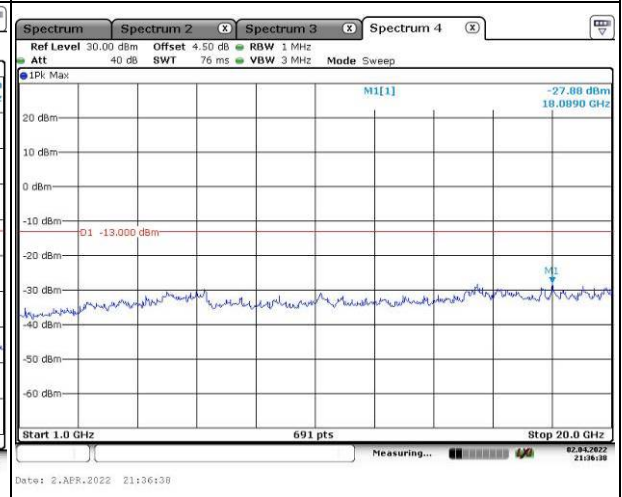
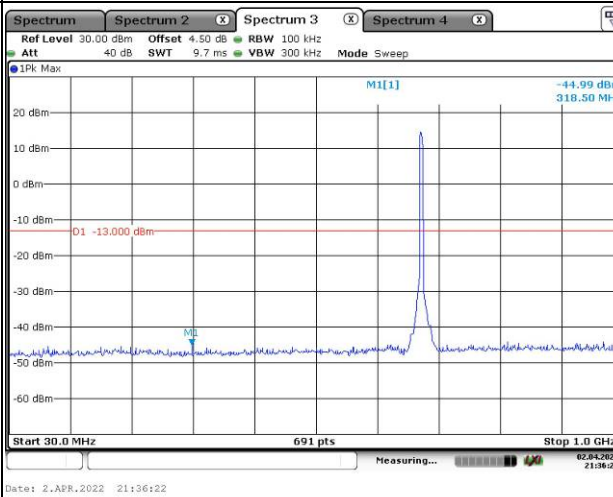
Channel

5MHz Bandwidth QPSK

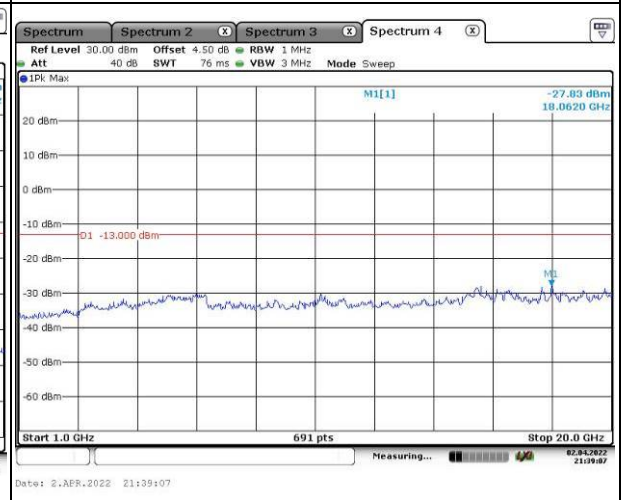
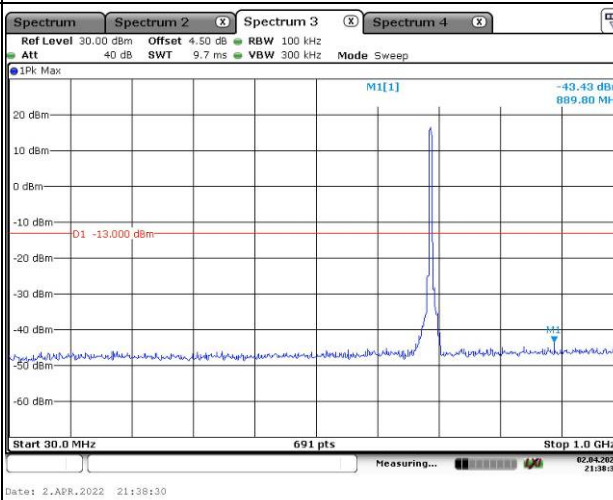
Lowest



Middle



Highest

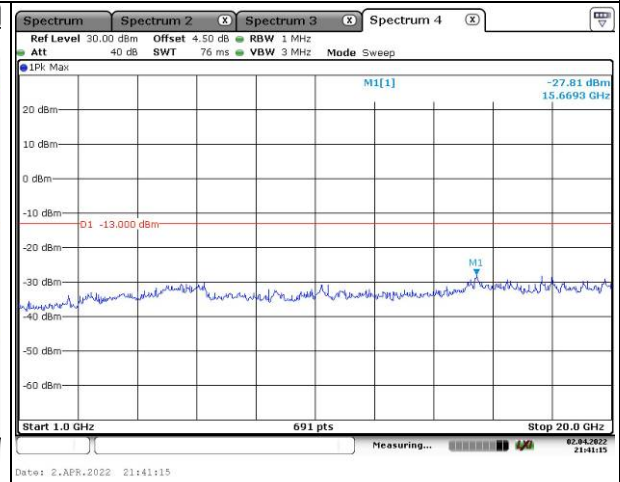
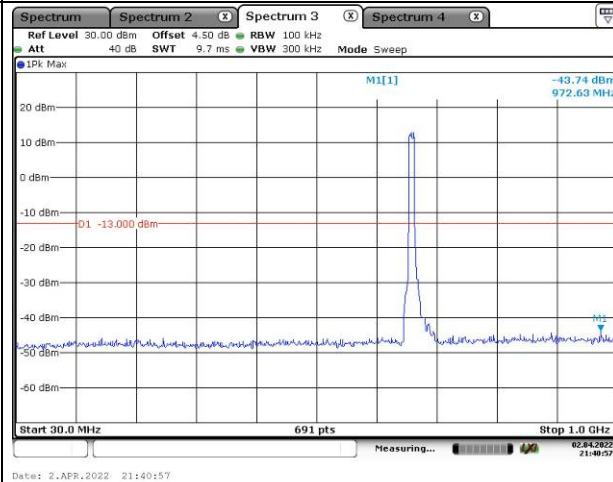


Spurious Emissions at Antenna Terminal

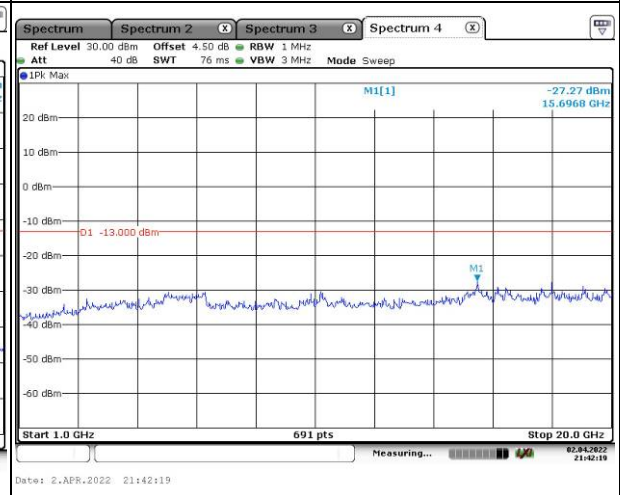
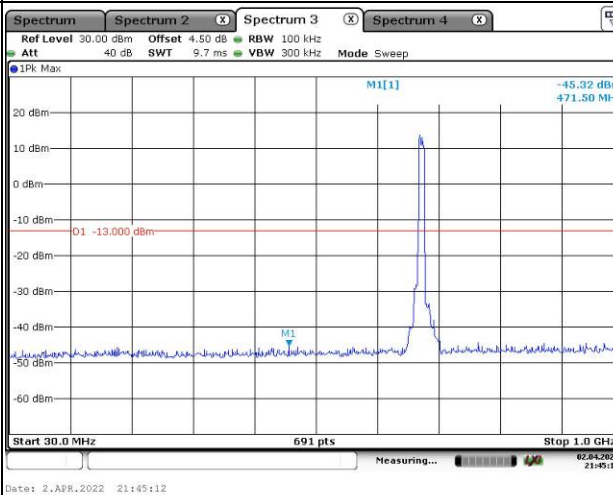
Channel

10MHz Bandwidth QPSK

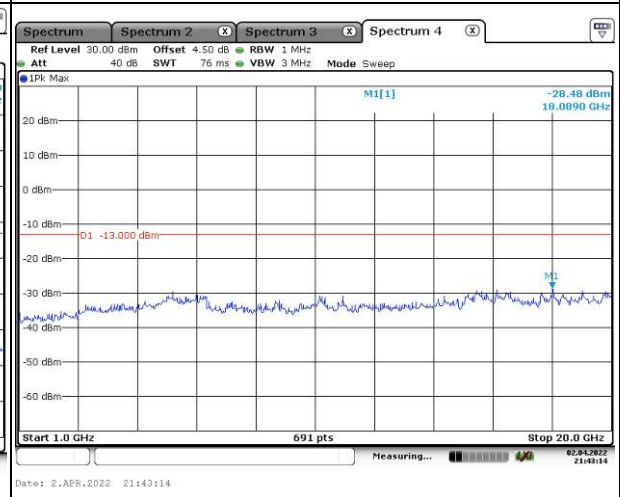
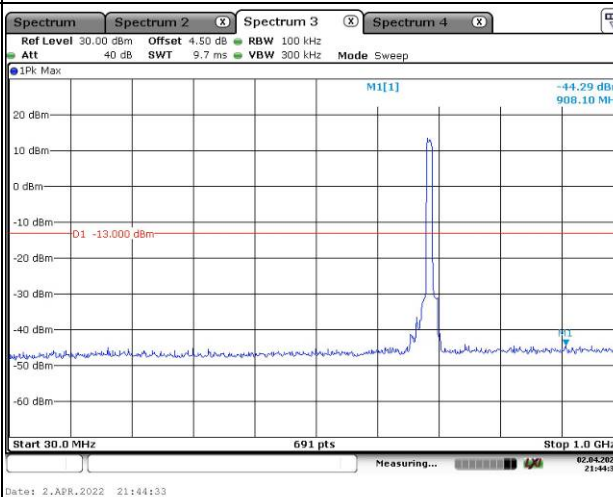
Lowest



Middle



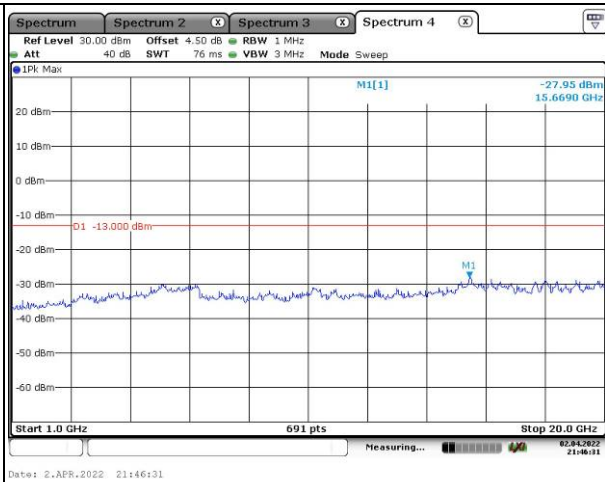
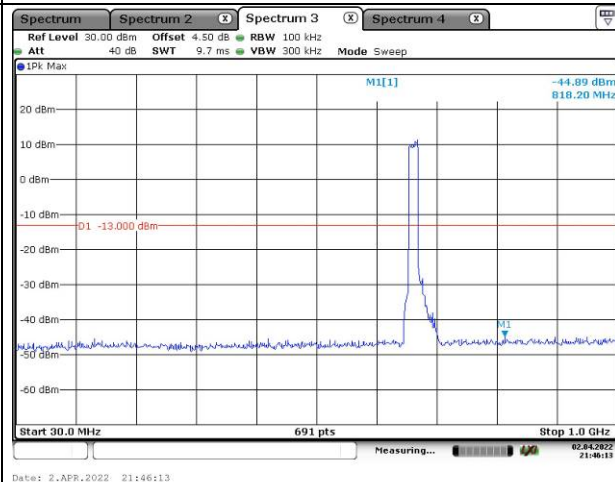
Highest



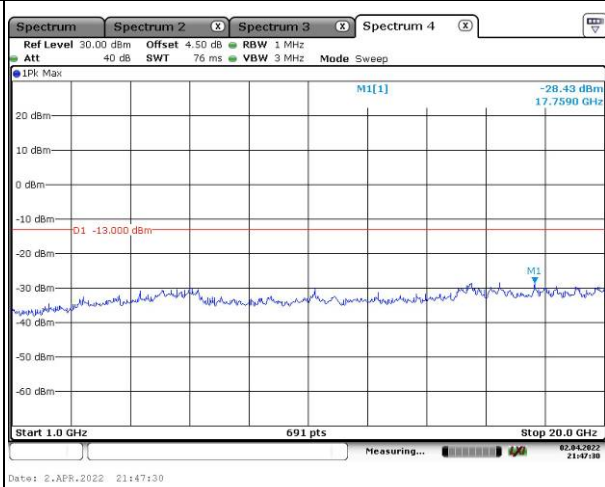
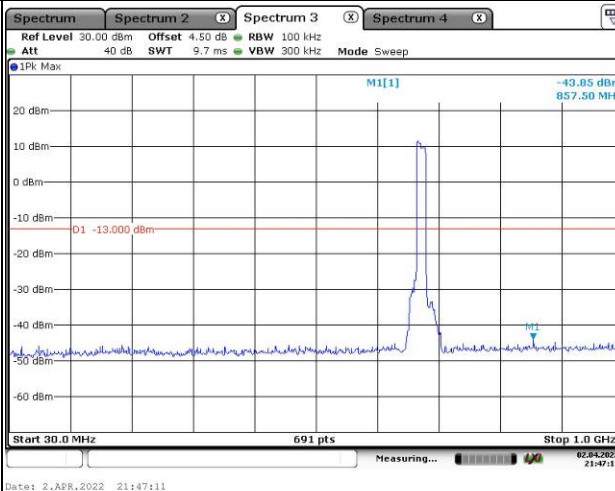
Channel

15MHz Bandwidth QPSK

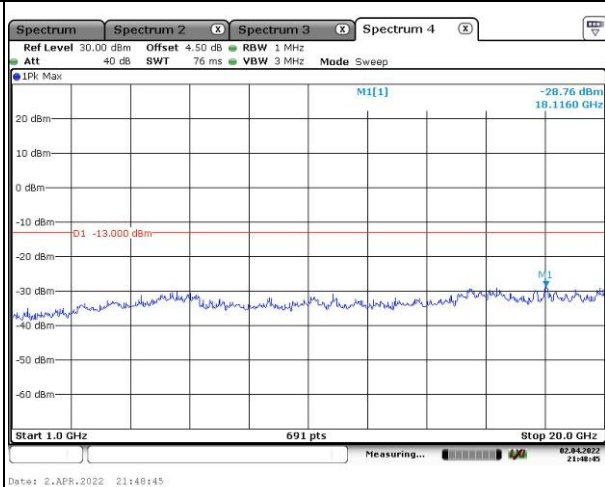
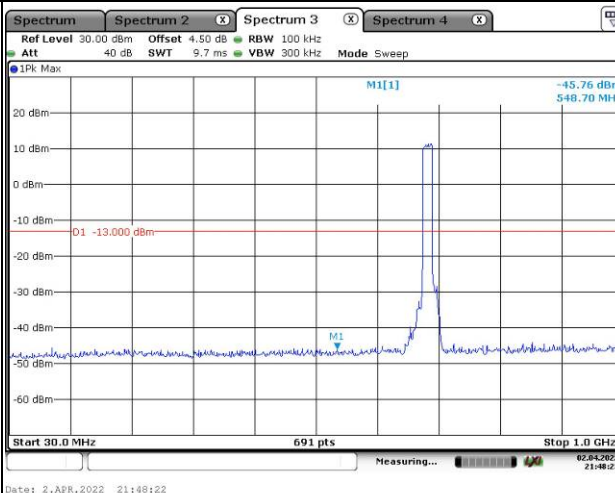
Lowest



Middle



Highest

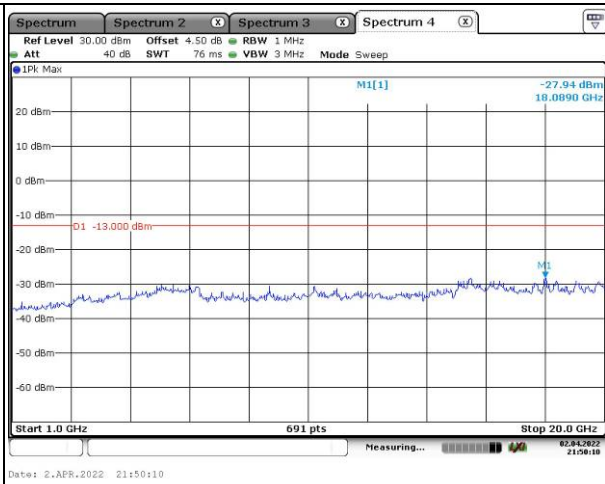
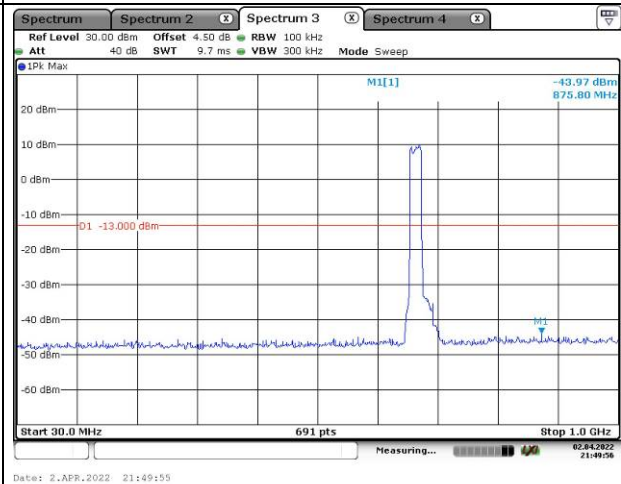


Spurious Emissions at Antenna Terminal

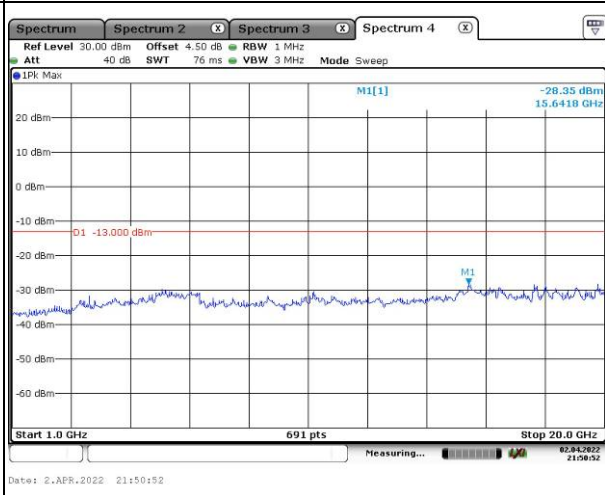
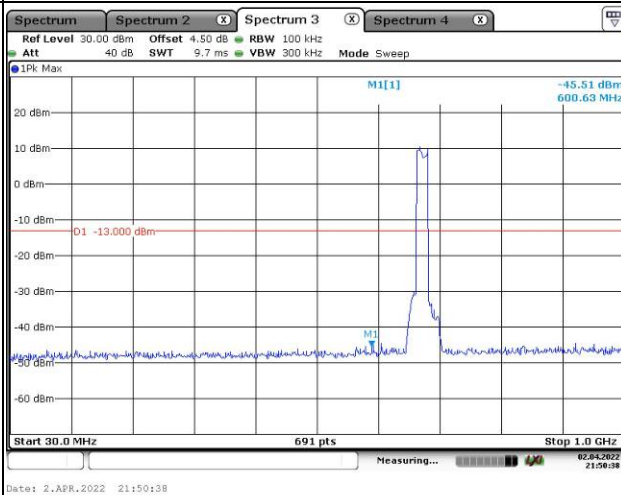
Channel

20MHz Bandwidth QPSK

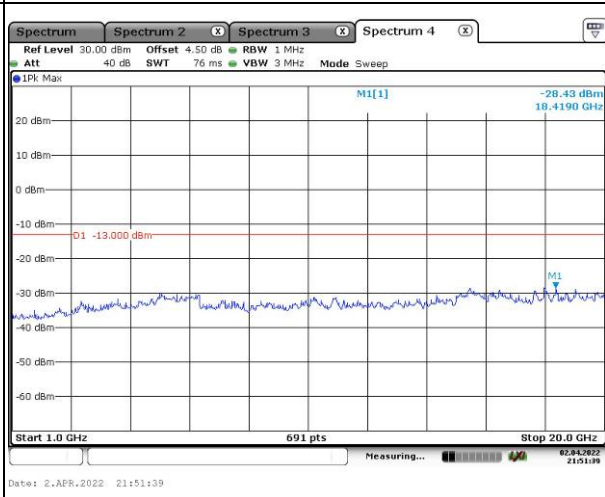
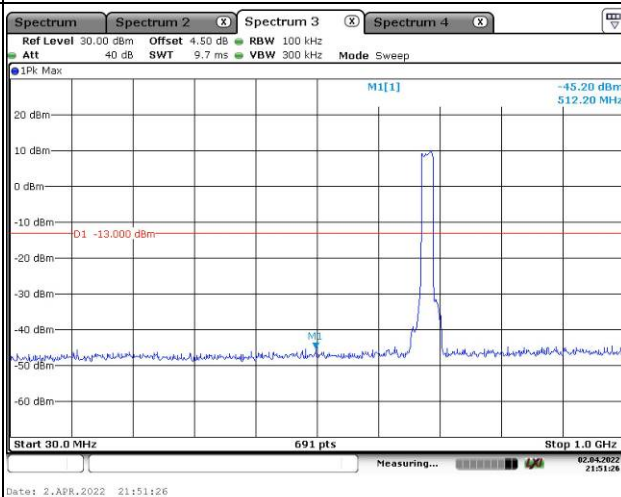
Lowest



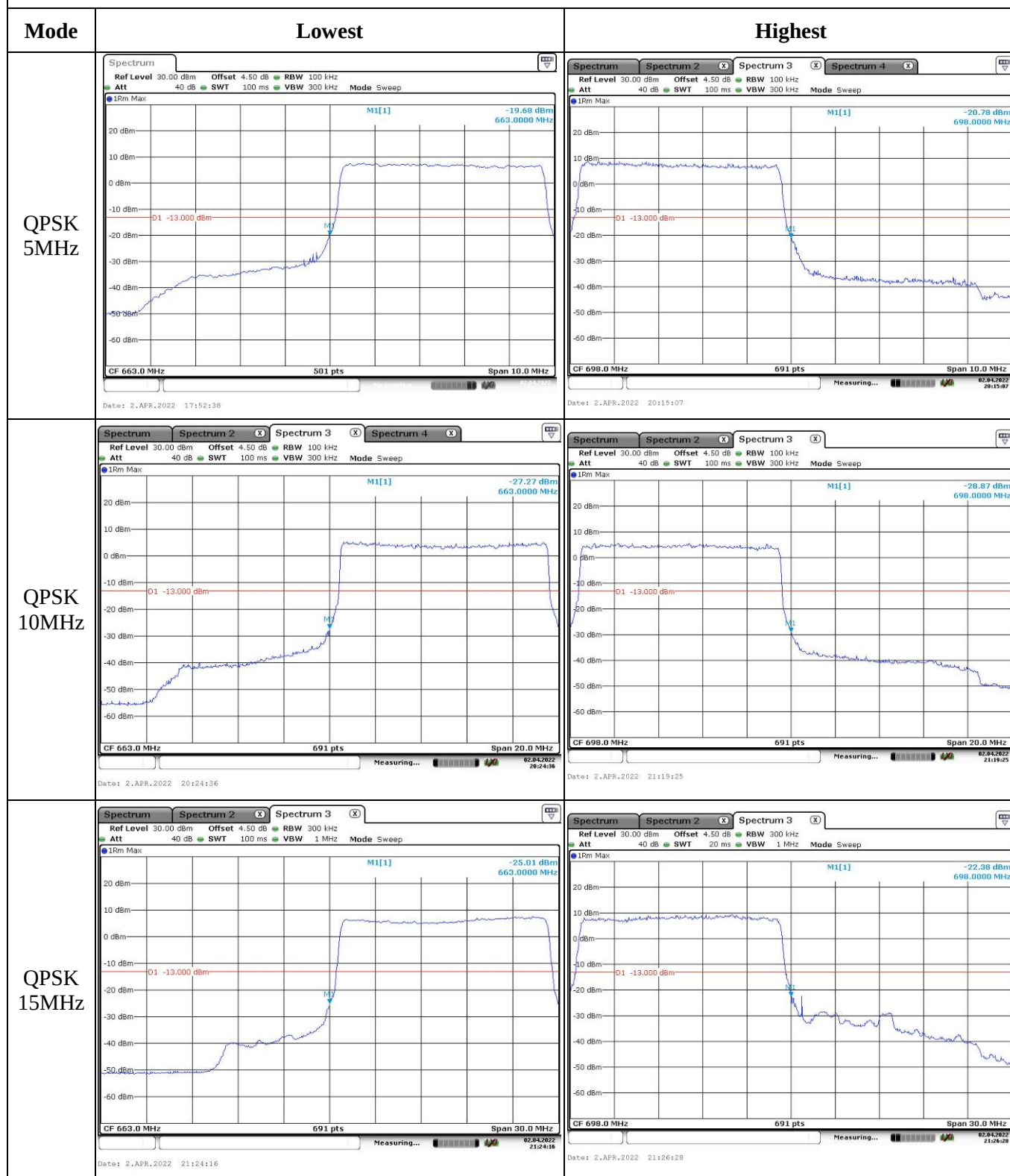
Middle



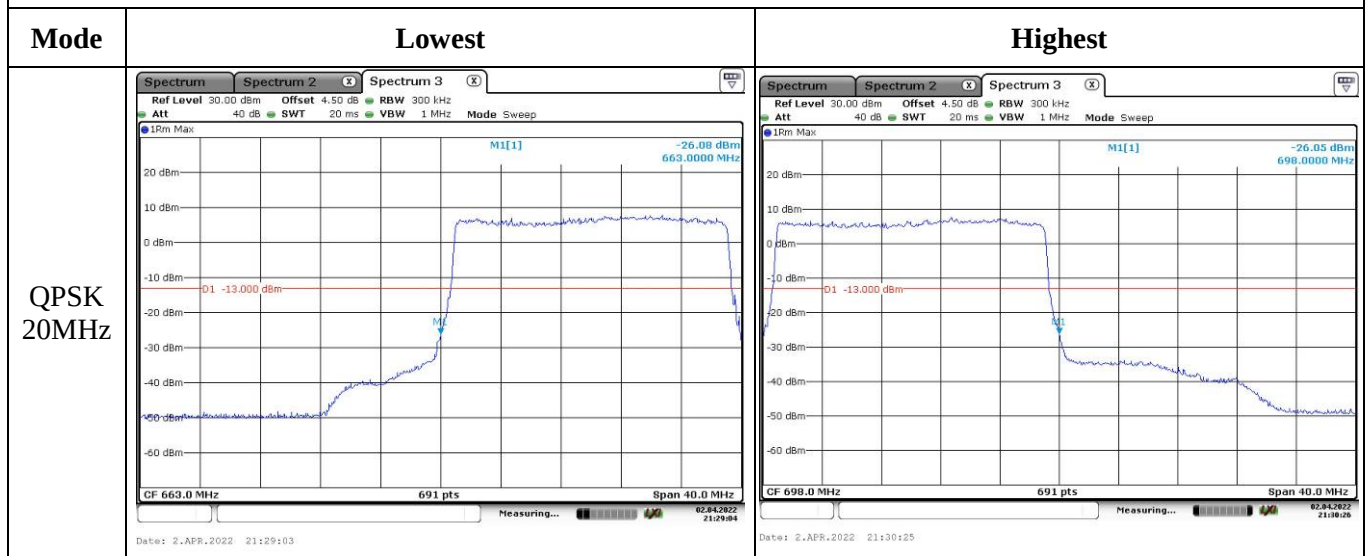
Highest



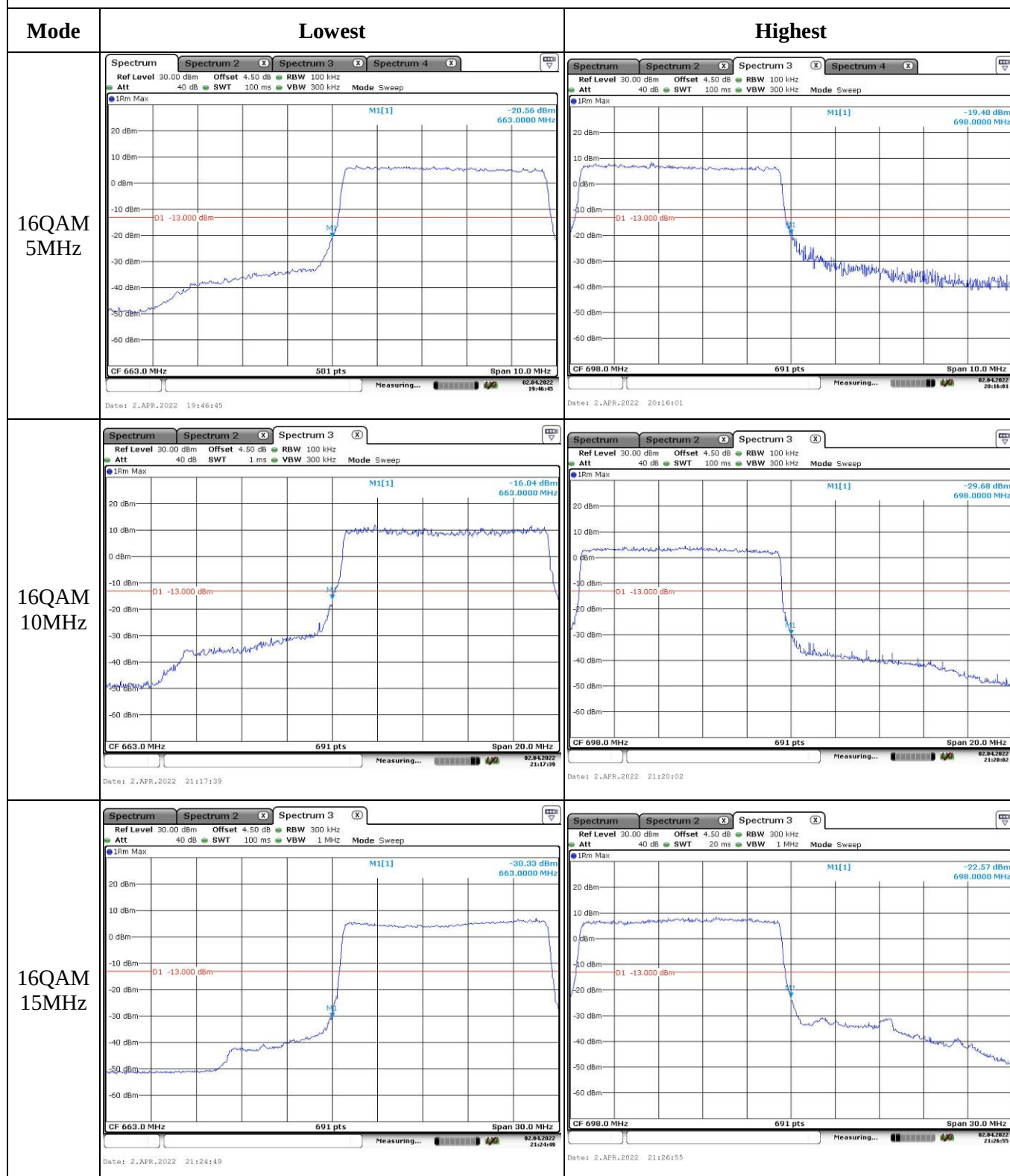
Out of band emission, Band Edge



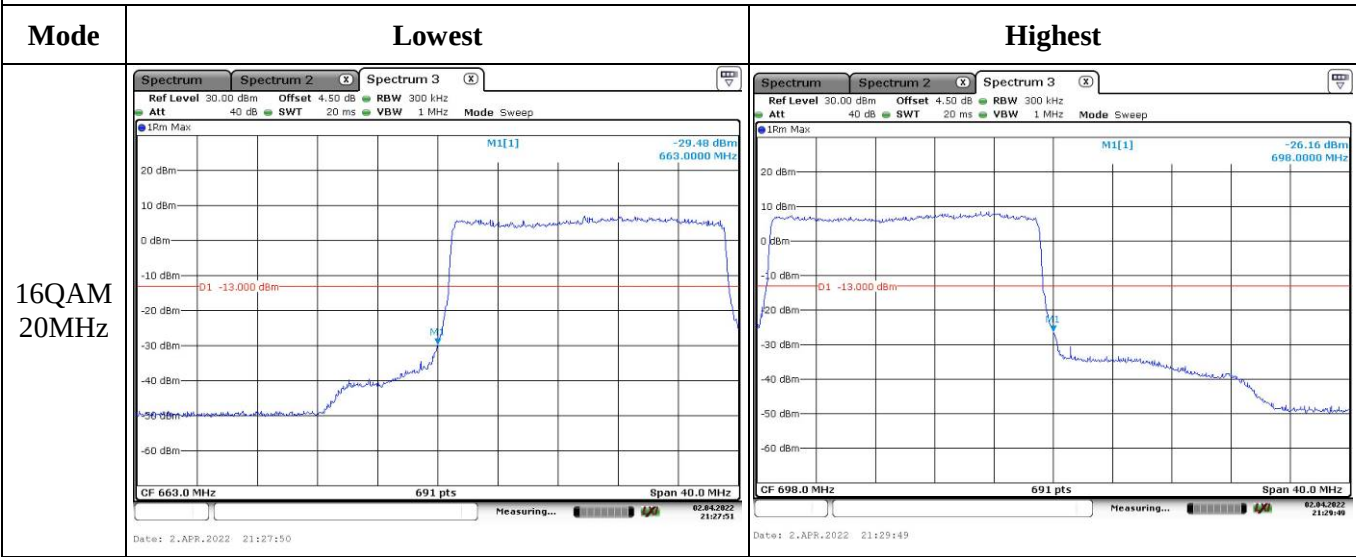
Out of band emission, Band Edge



Out of band emission, Band Edge



Out of band emission, Band Edge



4.15 Radiated Spurious Emissions

Serial Number:	CR22020002-RF-S1/3	Test Date:	2022-02-17~2022-02-18
Test Site:	966-2, 966-1	Test Mode:	Transmitting
Tester:	Great Qiao, Carl Liang	Test Result:	Pass

Environmental Conditions:

Temperature: (°C)	17.7~18.4	Relative Humidity: (%)	51~57	ATM Pressure: (kPa)	100.9
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Test Equipment List and Details:

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
Sunol Sciences	Antenna	JB6	A082520-5	2020-10-19	2023-10-18
R&S	EMI Test Receiver	ESR3	102724	2021-07-22	2022-07-21
TIMES MICROWAVE	Coaxial Cable	LMR-600-UltraFlex	C-0470-02	2021-07-18	2022-07-17
TIMES MICROWAVE	Coaxial Cable	LMR-600-UltraFlex	C-0780-01	2021-07-18	2022-07-17
Sonoma	Amplifier	310N	186165	2021-07-18	2022-07-17
EMCO	Adjustable Dipole Antenna	3121C	9109-756	N/A	N/A
MICRO-COAX	Coaxial Cable	UFA210B-0-0720-300300	99G1448	2021-07-25	2022-07-24
Agilent	Signal Generator	E8247C	MY43321352	2021-04-25	2022-04-24
ETS-Lindgren	Horn Antenna	3115	9912-5985	2020-10-13	2023-10-12
R&S	Spectrum Analyzer	FSV40	101591	2021-07-22	2022-07-21
MICRO-COAX	Coaxial Cable	UFA210A-1-1200-70U300	217423-008	2021-08-08	2022-08-07
MICRO-COAX	Coaxial Cable	UFA210A-1-2362-300300	235780-001	2021-08-08	2022-08-07
Mini	Pre-amplifier	ZVA-183-S+	5969001149	2021-11-10	2022-11-09
AH	Double Ridge Guide Horn Antenna	SAS-571	1396	2021-10-18	2024-10-17
PASTERNAK	Horn Antenna	PE9852/2F-20	112002	2021-02-05	2024-02-04
PASTERNAK	Horn Antenna	PE9852/2F-20	112001	2021-02-05	2024-02-04
AH	Preamplifier	PAM-1840VH	190	2021-11-19	2022-11-18
PASTERNAK	Horn Antenna	PE9850/2F-20	072001	2021-02-05	2024-02-04
PASTERNAK	Horn Antenna	PE9850/2F-20	072002	2021-02-05	2024-02-04
MICRO-COAX	Coaxial Cable	UFB142A-1-2362-200200	235772-001	2021-08-08	2022-08-07

* Statement of Traceability: China Certification ICT Co., Ltd (Dongguan) attests that all calibrations have been performed, traceable to National Primary Standards and International System of Units (SI).

Test Data:

Please refer to the below table and plots.

Note: The device can be mounted in multiple orientations, test was performed with X,Y, Z Axis, the worst orientation was photographed and it's data was recorded.

Cellular Band (PART 22H)**30 MHz-10 GHz:**

Frequency (MHz)	Polar (H/V)	Receiver Reading (dBμV)	Substituted Method			Absolute Level (dBm)	Limit (dBm)	Margin (dB)
			Substituted Level (dBm)	Antenna Gain (dBd/dBi)	Cable Loss (dB)			
GSM 850 Frequency:824.2MHz								
1648.40	H	48.82	-55.51	8.68	0.80	-47.63	-13.00	34.63
1648.40	V	47.81	-56.60	8.68	0.80	-48.72	-13.00	35.72
2472.60	H	49.26	-51.52	9.38	1.00	-43.14	-13.00	30.14
2472.60	V	49.78	-50.95	9.38	1.00	-42.57	-13.00	29.57
3296.80	H	40.76	-55.92	10.32	1.15	-46.75	-13.00	33.75
3296.80	V	41.35	-55.09	10.32	1.15	-45.92	-13.00	32.92
38.89	H	32.92	-49.92	-25.87	0.11	-75.90	-13.00	62.90
43.66	V	40.25	-54.31	-21.57	0.12	-76.00	-13.00	63.00
GSM 850 Frequency:836.6MHz								
1673.20	H	52.95	-51.36	8.71	0.85	-43.50	-13.00	30.50
1673.20	V	50.21	-54.20	8.71	0.85	-46.34	-13.00	33.34
2509.80	H	49.97	-50.64	9.42	1.01	-42.23	-13.00	29.23
2509.80	V	60.16	-40.46	9.42	1.01	-32.05	-13.00	19.05
3346.40	H	38.16	-59.01	10.34	1.16	-49.83	-13.00	36.83
3346.40	V	37.76	-59.27	10.34	1.16	-50.09	-13.00	37.09
38.89	H	32.80	-50.04	-25.87	0.11	-76.02	-13.00	63.02
43.81	V	40.72	-54.04	-21.37	0.12	-75.53	-13.00	62.53
GSM 850 Frequency:848.8MHz								
1697.60	H	53.62	-50.67	8.74	0.90	-42.83	-13.00	29.83
1697.60	V	46.68	-57.74	8.74	0.90	-49.90	-13.00	36.90
2546.40	H	55.68	-44.65	9.47	1.01	-36.19	-13.00	23.19
2546.40	V	60.85	-39.43	9.47	1.01	-30.97	-13.00	17.97
3395.20	H	37.03	-60.66	10.36	1.19	-51.49	-13.00	38.49
3395.20	V	36.47	-61.19	10.36	1.19	-52.02	-13.00	39.02
38.89	H	33.27	-49.57	-25.87	0.11	-75.55	-13.00	62.55
43.81	V	41.30	-53.46	-21.37	0.12	-74.95	-13.00	61.95

Frequency (MHz)	Polar (H/V)	Receiver Reading (dBμV)	Substituted Method			Absolute Level (dBm)	Limit (dBm)	Margin (dB)
			Substituted Level (dBm)	Antenna Gain (dBd/dBi)	Cable Loss (dB)			
WCDMA Band 5 Frequency:826.4 MHz								
1652.80	H	32.26	-72.07	8.68	0.81	-64.20	-13.00	51.20
1652.80	V	34.58	-69.83	8.68	0.81	-61.96	-13.00	48.96
2479.20	H	33.64	-67.12	9.39	1.01	-58.74	-13.00	45.74
2479.20	V	33.62	-67.11	9.39	1.01	-58.73	-13.00	45.73
3305.60	H	35.06	-61.67	10.32	1.15	-52.50	-13.00	39.50
3305.60	V	35.11	-61.39	10.32	1.15	-52.22	-13.00	39.22
39.21	H	32.06	-51.23	-26.02	0.11	-77.36	-13.00	64.36
44.05	V	40.92	-54.15	-21.05	0.12	-75.32	-13.00	62.32
WCDMA Band 5 Frequency:836.6MHz								
1673.20	H	35.16	-69.15	8.71	0.85	-61.29	-13.00	48.29
1673.20	V	33.94	-70.47	8.71	0.85	-62.61	-13.00	49.61
2509.80	H	33.37	-67.24	9.42	1.01	-58.83	-13.00	45.83
2509.80	V	33.44	-67.18	9.42	1.01	-58.77	-13.00	45.77
3346.40	H	34.92	-62.25	10.34	1.16	-53.07	-13.00	40.07
3346.40	V	34.44	-62.59	10.34	1.16	-53.41	-13.00	40.41
39.21	H	32.24	-51.05	-26.02	0.11	-77.18	-13.00	64.18
44.05	V	39.36	-55.71	-21.05	0.12	-76.88	-13.00	63.88
WCDMA Band 5 Frequency:846.6MHz								
1693.20	H	34.29	-70.01	8.73	0.89	-62.17	-13.00	49.17
1693.20	V	35.27	-69.15	8.73	0.89	-61.31	-13.00	48.31
2539.80	H	32.89	-67.49	9.46	1.01	-59.04	-13.00	46.04
2539.80	V	34.09	-66.25	9.46	1.01	-57.80	-13.00	44.80
3386.40	H	35.14	-62.45	10.35	1.18	-53.28	-13.00	40.28
3386.40	V	34.41	-63.13	10.35	1.18	-53.96	-13.00	40.96
39.21	H	33.18	-50.11	-26.02	0.11	-76.24	-13.00	63.24
44.05	V	41.37	-53.70	-21.05	0.12	-74.87	-13.00	61.87

PCS Band (PART 24E)**1 GHz-20 GHz:**

Frequency (MHz)	Polar (H/V)	Receiver Reading (dBμV)	Substituted Method			Absolute Level (dBm)	Limit (dBm)	Margin (dB)
			Substituted Level (dBm)	Antenna Gain (dBd/dBi)	Cable Loss (dB)			
GSM 1900 Frequency:1850.2MHz								
3700.40	H	51.72	-45.60	10.60	1.25	-36.25	-13.00	23.25
3700.40	V	47.62	-49.68	10.60	1.25	-40.33	-13.00	27.33
5550.60	H	42.49	-50.77	11.44	1.49	-40.82	-13.00	27.82
5550.60	V	45.69	-47.41	11.44	1.49	-37.46	-13.00	24.46
38.89	H	32.55	-50.29	-25.87	0.11	-76.27	-13.00	63.27
44.05	V	39.43	-55.64	-21.05	0.12	-76.81	-13.00	63.81
GSM 1900 Frequency:1880MHz								
3760.00	H	50.49	-45.92	10.66	1.24	-36.50	-13.00	23.50
3760.00	V	48.92	-47.37	10.66	1.24	-37.95	-13.00	24.95
5640.00	H	50.79	-42.66	11.33	1.54	-32.87	-13.00	19.87
5640.00	V	46.18	-47.15	11.33	1.54	-37.36	-13.00	24.36
38.08	H	33.05	-48.65	-25.48	0.11	-74.24	-13.00	61.24
47.49	V	44.40	-54.36	-17.36	0.12	-71.84	-13.00	58.84
GSM 1900 Frequency:1909.8MHz								
3819.60	H	56.21	-39.65	10.72	1.29	-30.22	-13.00	17.22
3819.60	V	48.76	-46.96	10.72	1.29	-37.53	-13.00	24.53
5729.40	H	47.97	-45.51	11.22	1.59	-35.88	-13.00	22.88
5729.40	V	51.94	-41.42	11.22	1.59	-31.79	-13.00	18.79
38.21	H	33.27	-48.61	-25.54	0.11	-74.26	-13.00	61.26
43.81	V	40.02	-54.74	-21.37	0.12	-76.23	-13.00	63.23

Frequency (MHz)	Polar (H/V)	Receiver Reading (dBμV)	Substituted Method			Absolute Level (dBm)	Limit (dBm)	Margin (dB)
			Substituted Level (dBm)	Antenna Gain (dBd/dBi)	Cable Loss (dB)			
WCDMA Band II, Frequency:1852.4 MHz								
3704.80	H	42.53	-54.73	10.60	1.25	-45.38	-13.00	32.38
3704.80	V	41.85	-55.38	10.60	1.25	-46.03	-13.00	33.03
5557.20	H	40.24	-53.04	11.43	1.49	-43.10	-13.00	30.10
5557.20	V	43.52	-49.61	11.43	1.49	-39.67	-13.00	26.67
39.21	H	32.48	-50.81	-26.02	0.11	-76.94	-13.00	63.94
48.90	V	39.01	-61.14	-15.98	0.12	-77.24	-13.00	64.24
WCDMA Band II, Frequency:1880 MHz								
3760.00	H	43.67	-52.74	10.66	1.24	-43.32	-13.00	30.32
3760.00	V	41.97	-54.32	10.66	1.24	-44.90	-13.00	31.90
5640.00	H	40.96	-52.49	11.33	1.54	-42.70	-13.00	29.70
5640.00	V	42.87	-50.46	11.33	1.54	-40.67	-13.00	27.67
39.21	H	32.23	-51.06	-26.02	0.11	-77.19	-13.00	64.19
44.05	V	38.97	-56.10	-21.05	0.12	-77.27	-13.00	64.27
WCDMA Band II, Frequency:1907.6MHz								
3815.20	H	45.96	-49.89	10.72	1.29	-40.46	-13.00	27.46
3815.20	V	40.92	-54.77	10.72	1.29	-45.34	-13.00	32.34
5722.80	H	40.81	-52.68	11.23	1.58	-43.03	-13.00	30.03
5722.80	V	42.03	-51.32	11.23	1.58	-41.67	-13.00	28.67
39.21	H	32.41	-50.88	-26.02	0.11	-77.01	-13.00	64.01
44.05	V	38.03	-57.04	-21.05	0.12	-78.21	-13.00	65.21

AWS Band(Part 27)**30 MHz-20 GHz:**

Frequency (MHz)	Polar (H/V)	Receiver Reading (dBμV)	Substituted Method			Absolute Level (dBm)	Limit (dBm)	Margin (dB)
			Substituted Level (dBm)	Antenna Gain (dBd/dBi)	Cable Loss (dB)			
WCDMA Band IV, Frequency:1712.4 MHz								
3424.80	H	36.25	-61.52	10.37	1.17	-52.32	-13.00	39.32
3424.80	V	35.29	-62.45	10.37	1.17	-53.25	-13.00	40.25
5137.20	H	37.52	-56.10	11.28	1.46	-46.28	-13.00	33.28
5137.20	V	37.95	-55.55	11.28	1.46	-45.73	-13.00	32.73
80.08	H	35.12	-74.69	0.00	0.16	-74.85	-13.00	61.85
79.80	V	44.72	-63.74	-0.10	0.16	-64.00	-13.00	51.00
WCDMA Band IV, Frequency:1732.6 MHz								
3465.20	H	41.12	-56.69	10.39	1.15	-47.45	-13.00	34.45
3465.20	V	37.26	-60.51	10.39	1.15	-51.27	-13.00	38.27
5197.80	H	40.25	-53.88	11.32	1.44	-44.00	-13.00	31.00
5197.80	V	41.56	-52.42	11.32	1.44	-42.54	-13.00	29.54
79.80	H	34.52	-75.14	-0.10	0.16	-75.40	-13.00	62.40
79.80	V	42.01	-66.45	-0.10	0.16	-66.71	-13.00	53.71
WCDMA Band IV, Frequency:1752.6MHz								
3505.20	H	42.61	-55.22	10.41	1.18	-45.99	-13.00	32.99
3505.20	V	42.51	-55.26	10.41	1.18	-46.03	-13.00	33.03
5257.80	H	40.98	-52.75	11.35	1.47	-42.87	-13.00	29.87
5257.80	V	45.32	-48.19	11.35	1.47	-38.31	-13.00	25.31
80.08	H	33.80	-76.01	0.00	0.16	-76.17	-13.00	63.17
80.08	V	42.58	-66.01	0.00	0.16	-66.17	-13.00	53.17

LTE Bands:**LTE Band 2 (30MHz-20GHz):**

Frequency (MHz)	Polar (H/V)	Receiver Reading (dBμV)	Substituted Method			Absolute Level (dBm)	Limit (dBm)	Margin (dB)
			Substituted Level (dBm)	Antenna Gain (dBd/dBi)	Cable Loss (dB)			
QPSK,Frequency:1850.7 MHz								
3701.40	H	34.56	-62.75	10.60	1.25	-53.40	-13.00	40.40
3701.40	V	34.18	-63.11	10.60	1.25	-53.76	-13.00	40.76
5552.10	H	34.52	-58.75	11.44	1.49	-48.80	-13.00	35.80
5552.10	V	34.93	-58.17	11.44	1.49	-48.22	-13.00	35.22
80.08	H	37.67	-72.14	0.00	0.16	-72.30	-13.00	59.30
80.08	V	43.70	-64.89	0.00	0.16	-65.05	-13.00	52.05
QPSK,Frequency:1880 MHz								
3760.00	H	36.39	-60.02	10.66	1.24	-50.60	-13.00	37.60
3760.00	V	34.78	-61.51	10.66	1.24	-52.09	-13.00	39.09
5640.00	H	35.28	-58.17	11.33	1.54	-48.38	-13.00	35.38
5640.00	V	34.97	-58.36	11.33	1.54	-48.57	-13.00	35.57
79.80	H	38.64	-71.02	-0.10	0.16	-71.28	-13.00	58.28
79.80	V	44.03	-64.43	-0.10	0.16	-64.69	-13.00	51.69
QPSK,Frequency:1909.3 MHz								
3818.60	H	36.57	-59.30	10.72	1.29	-49.87	-13.00	36.87
3818.60	V	35.29	-60.42	10.72	1.29	-50.99	-13.00	37.99
5727.90	H	35.37	-58.11	11.23	1.59	-48.47	-13.00	35.47
5727.90	V	34.81	-58.55	11.23	1.59	-48.91	-13.00	35.91
79.80	H	37.17	-72.49	-0.10	0.16	-72.75	-13.00	59.75
79.80	V	44.47	-63.99	-0.10	0.16	-64.25	-13.00	51.25

LTE Band 4 (30MHz-20GHz):

Frequency (MHz)	Polar (H/V)	Receiver Reading (dBμV)	Substituted Method			Absolute Level (dBm)	Limit (dBm)	Margin (dB)
			Substituted Level (dBm)	Antenna Gain (dBd/dBi)	Cable Loss (dB)			
QPSK, Frequency: 1710.7 MHz								
3421.40	H	35.78	-61.98	10.37	1.17	-52.78	-13.00	39.78
3421.40	V	34.07	-63.66	10.37	1.17	-54.46	-13.00	41.46
5132.10	H	34.55	-59.02	11.28	1.47	-49.21	-13.00	36.21
5132.10	V	35.11	-58.35	11.28	1.47	-48.54	-13.00	35.54
80.08	H	37.17	-72.64	0.00	0.16	-72.80	-13.00	59.80
79.80	V	44.15	-64.31	-0.10	0.16	-64.57	-13.00	51.57
QPSK, Frequency: 1732.5 MHz								
3465.00	H	35.64	-62.17	10.39	1.15	-52.93	-13.00	39.93
3465.00	V	34.18	-63.59	10.39	1.15	-54.35	-13.00	41.35
5197.50	H	34.87	-59.26	11.32	1.44	-49.38	-13.00	36.38
5197.50	V	35.69	-58.29	11.32	1.44	-48.41	-13.00	35.41
79.80	H	37.88	-71.78	-0.10	0.16	-72.04	-13.00	59.04
79.80	V	43.92	-64.54	-0.10	0.16	-64.80	-13.00	51.80
QPSK, Frequency: 1754.3 MHz								
3505.20	H	35.87	-61.96	10.41	1.18	-52.73	-13.00	39.73
3505.20	V	34.18	-63.59	10.41	1.18	-54.36	-13.00	41.36
5257.80	H	35.97	-57.76	11.35	1.47	-47.88	-13.00	34.88
5257.80	V	34.11	-59.40	11.35	1.47	-49.52	-13.00	36.52
79.80	H	37.92	-71.74	-0.10	0.16	-72.00	-13.00	59.00
80.08	V	44.13	-64.46	0.00	0.16	-64.62	-13.00	51.62

LTE Band 5(30MHz-10GHz):

EYE Band (QPSK 16QAM 16QAM)								
Frequency (MHz)	Polar (H/V)	Receiver Reading (dBμV)	Substituted Method			Absolute Level (dBm)	Limit (dBm)	Margin (dB)
			Substituted Level (dBm)	Antenna Gain (dBd/dBi)	Cable Loss (dB)			
QPSK, Frequency: 824.7 MHz								
1649.40	H	34.93	-69.40	8.68	0.80	-61.52	-13.00	48.52
1649.40	V	34.45	-69.96	8.68	0.80	-62.08	-13.00	49.08
2474.10	H	32.94	-67.84	9.38	1.00	-59.46	-13.00	46.46
2474.10	V	32.64	-68.09	9.38	1.00	-59.71	-13.00	46.71
3298.80	H	34.17	-62.51	10.32	1.15	-53.34	-13.00	40.34
3298.80	V	34.88	-61.56	10.32	1.15	-52.39	-13.00	39.39
80.08	H	36.93	-72.88	0.00	0.16	-73.04	-13.00	60.04
79.80	V	43.15	-65.31	-0.10	0.16	-65.57	-13.00	52.57
QPSK, Frequency: 836.5 MHz								
1673.00	H	34.82	-69.49	8.71	0.85	-61.63	-13.00	48.63
1673.00	V	35.37	-69.04	8.71	0.85	-61.18	-13.00	48.18
2509.50	H	42.68	-57.93	9.42	1.01	-49.52	-13.00	36.52
2509.50	V	34.29	-66.33	9.42	1.01	-57.92	-13.00	44.92
3346.00	H	35.17	-61.99	10.34	1.16	-52.81	-13.00	39.81
3346.00	V	35.30	-61.72	10.34	1.16	-52.54	-13.00	39.54
80.08	H	37.44	-72.37	0.00	0.16	-72.53	-13.00	59.53
79.80	V	43.79	-64.67	-0.10	0.16	-64.93	-13.00	51.93
QPSK, Frequency: 848.3 MHz								
1696.60	H	35.66	-68.63	8.74	0.89	-60.78	-13.00	47.78
1696.60	V	34.18	-70.24	8.74	0.89	-62.39	-13.00	49.39
2544.90	H	32.59	-67.75	9.47	1.01	-59.29	-13.00	46.29
2544.90	V	32.97	-67.33	9.47	1.01	-58.87	-13.00	45.87
3393.20	H	34.71	-62.96	10.36	1.19	-53.79	-13.00	40.79
3393.20	V	34.54	-63.09	10.36	1.19	-53.92	-13.00	40.92
80.08	H	37.85	-71.96	0.00	0.16	-72.12	-13.00	59.12
79.80	V	44.17	-64.29	-0.10	0.16	-64.55	-13.00	51.55

LTE Band 12 (30MHz-10GHz):

Frequency (MHz)	Polar (H/V)	Receiver Reading (dBμV)	Substituted Method			Absolute Level (dBm)	Limit (dBm)	Margin (dB)
			Substituted Level (dBm)	Antenna Gain (dBd/dBi)	Cable Loss (dB)			
QPSK, Frequency: 699.7 MHz								
1399.40	H	36.41	-67.29	8.22	0.71	-59.78	-13.00	46.78
1399.40	V	36.02	-67.73	8.22	0.71	-60.22	-13.00	47.22
2099.10	H	48.39	-53.49	9.16	0.91	-45.24	-13.00	32.24
2099.10	V	42.64	-59.19	9.16	0.91	-50.94	-13.00	37.94
2798.80	H	32.84	-67.09	9.88	1.04	-58.25	-13.00	45.25
2798.80	V	32.54	-67.26	9.88	1.04	-58.42	-13.00	45.42
79.08	H	36.93	-72.30	-0.46	0.16	-72.92	-13.00	59.92
670.49	V	48.75	-53.25	0.00	0.50	-53.75	-13.00	40.75
QPSK, Frequency:707.5 MHz								
1415.00	H	36.36	-67.31	8.26	0.72	-59.77	-13.00	46.77
1415.00	V	36.43	-67.29	8.26	0.72	-59.75	-13.00	46.75
2122.50	H	49.55	-52.44	9.17	0.92	-44.19	-13.00	31.19
2122.50	V	44.98	-56.99	9.17	0.92	-48.74	-13.00	35.74
2830.00	H	32.88	-66.92	9.93	1.06	-58.05	-13.00	45.05
2830.00	V	33.76	-65.97	9.93	1.06	-57.10	-13.00	44.10
80.08	H	37.46	-72.35	0.00	0.16	-72.51	-13.00	59.51
679.96	V	47.02	-54.75	0.00	0.52	-55.27	-13.00	42.27
QPSK, Frequency: 715.3 MHz								
1430.60	H	35.66	-67.97	8.31	0.73	-60.39	-13.00	47.39
1430.60	V	35.75	-67.94	8.31	0.73	-60.36	-13.00	47.36
2145.90	H	48.15	-53.95	9.19	0.93	-45.69	-13.00	32.69
2145.90	V	39.03	-63.08	9.19	0.93	-54.82	-13.00	41.82
2861.20	H	33.14	-66.51	9.98	1.07	-57.60	-13.00	44.60
2861.20	V	33.95	-65.72	9.98	1.07	-56.81	-13.00	43.81
462.35	H	36.74	-71.00	0.00	0.41	-71.41	-13.00	58.41
696.86	V	51.44	-49.92	0.00	0.55	-50.47	-13.00	37.47

LTE Band 13 (30MHz-10GHz):

Frequency (MHz)	Polar (H/V)	Receiver Reading (dBμV)	Substituted Method			Absolute Level (dBm)	Limit (dBm)	Margin (dB)
			Substituted Level (dBm)	Antenna Gain (dBd/dBi)	Cable Loss (dB)			
QPSK, Frequency: 779.5 MHz								
1559.00	H	34.88	-69.11	8.57	0.80	-61.34	-40.00	21.34
1559.00	V	34.62	-69.43	8.57	0.80	-61.66	-40.00	21.66
2338.50	H	42.78	-58.81	9.30	0.97	-50.48	-13.00	37.48
2338.50	V	39.85	-61.51	9.30	0.97	-53.18	-13.00	40.18
3118.00	H	34.38	-63.11	10.25	1.13	-53.99	-13.00	40.99
3118.00	V	33.64	-63.71	10.25	1.13	-54.59	-13.00	41.59
80.08	H	37.17	-72.64	0.00	0.16	-72.80	-13.00	59.80
80.08	V	44.40	-64.19	0.00	0.16	-64.35	-13.00	51.35
QPSK, Frequency: 784.5 MHz								
1569.00	H	35.11	-68.97	8.58	0.81	-61.20	-40.00	21.20
1569.00	V	35.61	-68.52	8.58	0.81	-60.75	-40.00	21.75
2353.50	H	40.36	-61.09	9.31	0.97	-52.75	-13.00	39.75
2353.50	V	39.44	-61.78	9.31	0.97	-53.44	-13.00	40.44
3138.00	H	34.09	-63.31	10.26	1.14	-54.19	-13.00	41.19
3138.00	V	33.63	-63.60	10.26	1.14	-54.48	-13.00	41.48
80.08	H	38.06	-71.75	0.00	0.16	-71.91	-13.00	58.91
80.08	V	45.17	-63.42	0.00	0.16	-63.58	-13.00	50.58

LTE Band 17 (30MHz-10GHz):

Frequency (MHz)	Polar (H/V)	Receiver Reading (dBμV)	Substituted Method			Absolute Level (dBm)	Limit (dBm)	Margin (dB)
			Substituted Level (dBm)	Antenna Gain (dBd/dBi)	Cable Loss (dB)			
QPSK, Frequency: 706.5 MHz								
1413.00	H	35.86	-67.81	8.26	0.72	-60.27	-13.00	47.27
1413.00	V	36.54	-67.18	8.26	0.72	-59.64	-13.00	46.64
2119.50	H	41.65	-60.32	9.17	0.92	-52.07	-13.00	39.07
2119.50	V	37.67	-64.28	9.17	0.92	-56.03	-13.00	43.03
2826.00	H	33.24	-66.57	9.92	1.06	-57.71	-13.00	44.71
2826.00	V	33.27	-66.47	9.92	1.06	-57.61	-13.00	44.61
80.08	H	37.15	-72.66	0.00	0.16	-72.82	-13.00	59.82
677.58	V	49.12	-52.70	0.00	0.51	-53.21	-13.00	40.21
QPSK, Frequency: 710MHz								
1420.00	H	35.21	-68.45	8.28	0.73	-60.90	-13.00	47.90
1420.00	V	36.24	-67.47	8.28	0.73	-59.92	-13.00	46.92
2130.00	H	43.09	-58.93	9.18	0.92	-50.67	-13.00	37.67
2130.00	V	36.91	-65.10	9.18	0.92	-56.84	-13.00	43.84
2840.00	H	33.17	-66.58	9.94	1.06	-57.70	-13.00	44.70
2840.00	V	32.65	-67.06	9.94	1.06	-58.18	-13.00	45.18
80.08	H	37.29	-72.52	0.00	0.16	-72.68	-13.00	59.68
679.96	V	48.31	-53.46	0.00	0.52	-53.98	-13.00	40.98
QPSK, Frequency: 713.5 MHz								
1427.00	H	36.69	-66.95	8.30	0.73	-59.38	-13.00	46.38
1427.00	V	35.53	-68.16	8.30	0.73	-60.59	-13.00	47.59
2140.50	H	41.92	-60.15	9.18	0.93	-51.90	-13.00	38.90
2140.50	V	34.61	-67.47	9.18	0.93	-59.22	-13.00	46.22
2854.00	H	33.83	-65.86	9.97	1.07	-56.96	-13.00	43.96
2854.00	V	33.19	-66.49	9.97	1.07	-57.59	-13.00	44.59
80.08	H	37.45	-72.36	0.00	0.16	-72.52	-13.00	59.52
682.35	V	49.46	-52.25	0.00	0.52	-52.77	-13.00	39.77

LTE Band 41(30MHz-26.5GHz):

EYE Band 4 (QPSK 2557.5 MHz)								
Frequency (MHz)	Polar (H/V)	Receiver Reading (dBμV)	Substituted Method			Absolute Level (dBm)	Limit (dBm)	Margin (dB)
			Substituted Level (dBm)	Antenna Gain (dBd/dBi)	Cable Loss (dB)			
QPSK, Frequency: 2557.5 MHz								
5115.00	H	38.59	-54.84	11.27	1.51	-45.08	-25.00	20.08
5115.00	V	39.86	-53.47	11.27	1.51	-43.71	-25.00	18.71
7672.50	H	36.31	-53.20	10.87	2.03	-44.36	-25.00	19.36
7672.50	V	33.98	-56.21	10.87	2.03	-47.37	-25.00	22.37
501.18	H	52.78	-54.06	0.00	0.45	-54.51	-25.00	29.51
501.18	V	59.70	-43.00	0.00	0.45	-43.45	-25.00	18.45
QPSK, Frequency: 2593MHz								
5186.00	H	37.12	-56.91	11.31	1.44	-47.04	-25.00	22.04
5186.00	V	39.83	-54.06	11.31	1.44	-44.19	-25.00	19.19
7779.00	H	37.95	-51.54	10.84	1.99	-42.69	-25.00	17.69
7779.00	V	39.45	-50.49	10.84	1.99	-41.64	-25.00	16.64
501.18	H	52.32	-54.52	0.00	0.45	-54.97	-25.00	29.97
501.18	V	61.50	-41.20	0.00	0.45	-41.65	-25.00	16.65
QPSK, Frequency: 2652.5 MHz								
5305.00	H	40.92	-52.52	11.38	1.46	-42.60	-25.00	17.60
5305.00	V	41.32	-51.86	11.38	1.46	-41.94	-25.00	16.94
7957.50	H	46.39	-42.03	10.81	2.09	-33.31	-25.00	8.31
7957.50	V	37.84	-51.03	10.81	2.09	-42.31	-25.00	17.31
440.20	H	54.58	-53.69	0.00	0.42	-54.11	-25.00	29.11
501.18	V	60.58	-42.12	0.00	0.45	-42.57	-25.00	17.57

LTE Band 66(30MHz-20GHz):

EYE Band 66(SCHMIL 20GHz)								
Frequency (MHz)	Polar (H/V)	Receiver Reading (dBμV)	Substituted Method			Absolute Level (dBm)	Limit (dBm)	Margin (dB)
			Substituted Level (dBm)	Antenna Gain (dBd/dBi)	Cable Loss (dB)			
QPSK, Frequency: 1710.7 MHz								
3421.40	H	35.64	-62.12	10.37	1.17	-52.92	-13.00	39.92
3421.40	V	35.26	-62.47	10.37	1.17	-53.27	-13.00	40.27
5132.10	H	36.71	-56.86	11.28	1.47	-47.05	-13.00	34.05
5132.10	V	36.52	-56.94	11.28	1.47	-47.13	-13.00	34.13
80.08	H	37.05	-72.76	0.00	0.16	-72.92	-13.00	59.92
80.08	V	43.08	-65.51	0.00	0.16	-65.67	-13.00	52.67
QPSK, Frequency:1745 MHz								
3490.00	H	36.69	-61.15	10.40	1.17	-51.92	-13.00	38.92
3490.00	V	34.61	-63.17	10.40	1.17	-53.94	-13.00	40.94
5235.00	H	36.57	-57.33	11.34	1.46	-47.45	-13.00	34.45
5235.00	V	36.12	-57.59	11.34	1.46	-47.71	-13.00	34.71
79.80	H	37.44	-72.22	-0.10	0.16	-72.48	-13.00	59.48
80.08	V	44.20	-64.39	0.00	0.16	-64.55	-13.00	51.55
QPSK, Frequency: 1779.3 MHz								
3558.60	H	35.58	-62.09	10.46	1.22	-52.85	-13.00	39.85
3558.60	V	36.62	-60.95	10.46	1.22	-51.71	-13.00	38.71
5337.90	H	37.33	-56.14	11.40	1.47	-46.21	-13.00	33.21
5337.90	V	36.43	-56.90	11.40	1.47	-46.97	-13.00	33.97
80.08	H	37.20	-72.61	0.00	0.16	-72.77	-13.00	59.77
79.80	V	44.79	-63.67	-0.10	0.16	-63.93	-13.00	50.93

LTE Band 71(30MHz-10GHz):

Frequency (MHz)	Polar (H/V)	Receiver Reading (dBμV)	Substituted Method			Absolute Level (dBm)	Limit (dBm)	Margin (dB)
			Substituted Level (dBm)	Antenna Gain (dBd/dBi)	Cable Loss (dB)			
QPSK, Frequency: 665.5 MHz								
1331.00	H	36.43	-66.60	8.03	0.76	-59.33	-13.00	46.33
1331.00	V	35.91	-67.45	8.03	0.76	-60.18	-13.00	47.18
1996.50	H	34.36	-67.80	9.10	0.89	-59.59	-13.00	46.59
1996.50	V	33.42	-68.12	9.10	0.89	-59.91	-13.00	46.91
2662.00	H	33.82	-66.14	9.66	1.06	-57.54	-13.00	44.54
2662.00	V	32.65	-67.23	9.66	1.06	-58.63	-13.00	45.63
80.08	H	37.22	-72.59	0.00	0.16	-72.75	-13.00	59.75
79.80	V	42.58	-65.88	-0.10	0.16	-66.14	-13.00	53.14
QPSK, Frequency:680.5 MHz								
1361.00	H	34.94	-68.39	8.11	0.77	-61.05	-13.00	48.05
1361.00	V	34.99	-68.54	8.11	0.77	-61.20	-13.00	48.20
2041.50	H	33.35	-68.68	9.12	0.91	-60.47	-13.00	47.47
2041.50	V	33.79	-67.85	9.12	0.91	-59.64	-13.00	46.64
2722.00	H	33.26	-66.71	9.76	1.05	-58.00	-13.00	45.00
2722.00	V	33.74	-66.17	9.76	1.05	-57.46	-13.00	44.46
80.08	H	37.36	-72.45	0.00	0.16	-72.61	-13.00	59.61
79.80	V	45.52	-62.94	-0.10	0.16	-63.20	-13.00	50.20
QPSK, Frequency: 695.5 MHz								
1391.00	H	36.07	-67.55	8.19	0.72	-60.08	-13.00	47.08
1391.00	V	34.66	-69.04	8.19	0.72	-61.57	-13.00	48.57
2086.50	H	33.35	-68.56	9.15	0.91	-60.32	-13.00	47.32
2086.50	V	33.35	-68.44	9.15	0.91	-60.20	-13.00	47.20
2782.00	H	34.02	-65.92	9.85	1.05	-57.12	-13.00	44.12
2782.00	V	33.16	-66.67	9.85	1.05	-57.87	-13.00	44.87
79.80	H	36.62	-73.04	-0.10	0.16	-73.30	-13.00	60.30
726.81	V	43.61	-56.99	0.00	0.52	-57.51	-13.00	44.51

Note:

- 1) The unit of Antenna Gain is dBd for frequency below 1GHz, and the unit of Antenna Gain is dBi for frequency above 1GHz.
- 2) Absolute Level = Substituted Level - Cable loss + Antenna Gain
- 3) Margin = Limit-Absolute Level

******* END OF REPORT *******