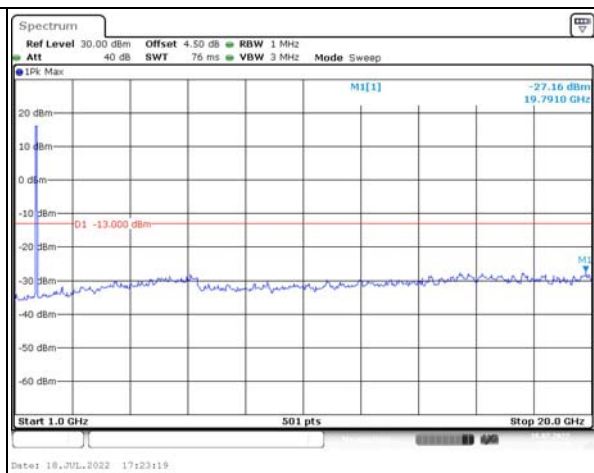
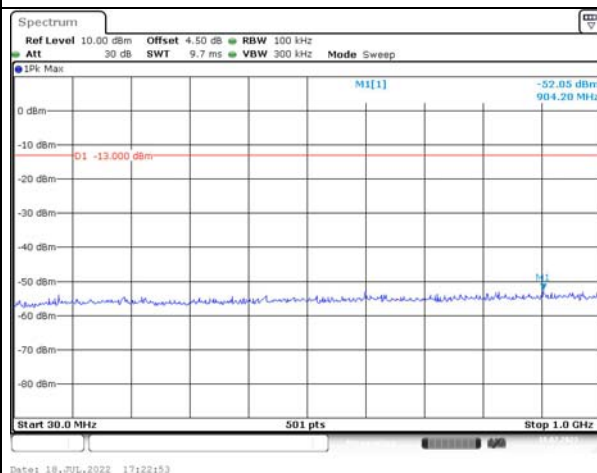


Spurious Emissions at Antenna Terminal

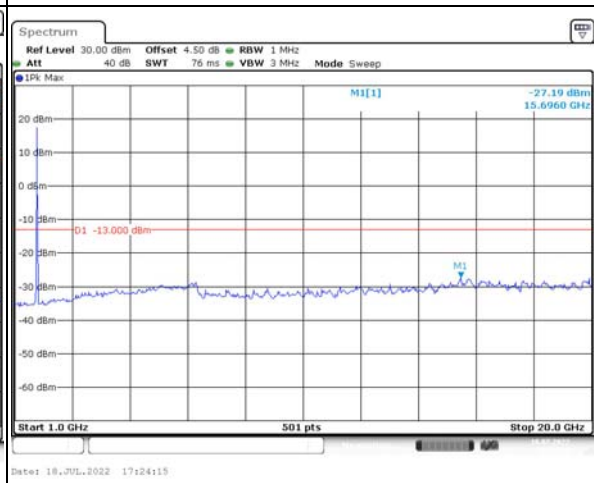
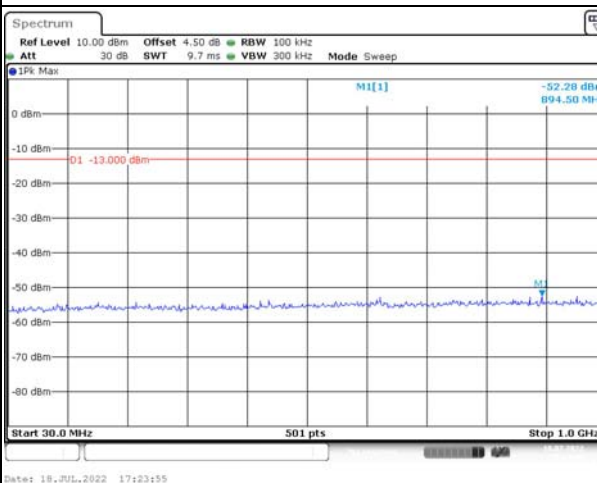
Channel

15MHz Bandwidth QPSK

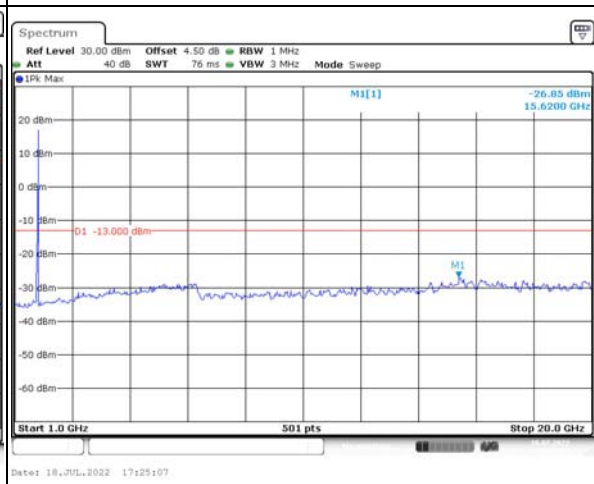
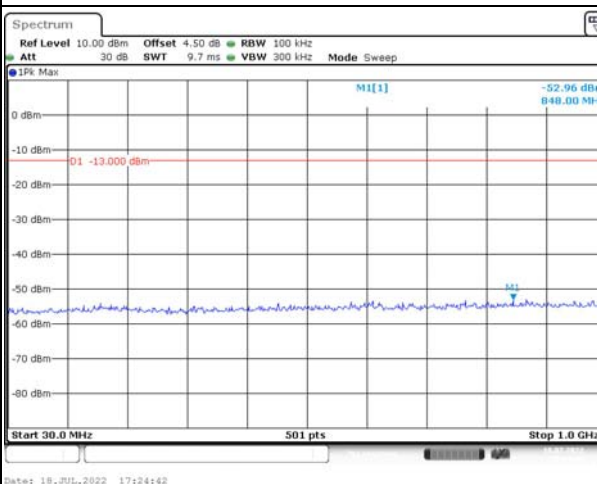
Lowest



Middle



Highest

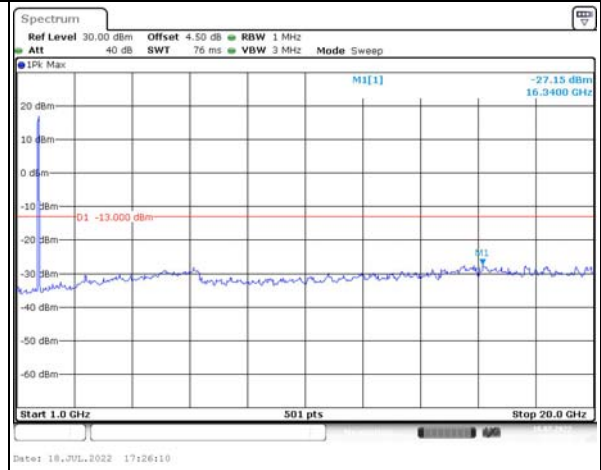
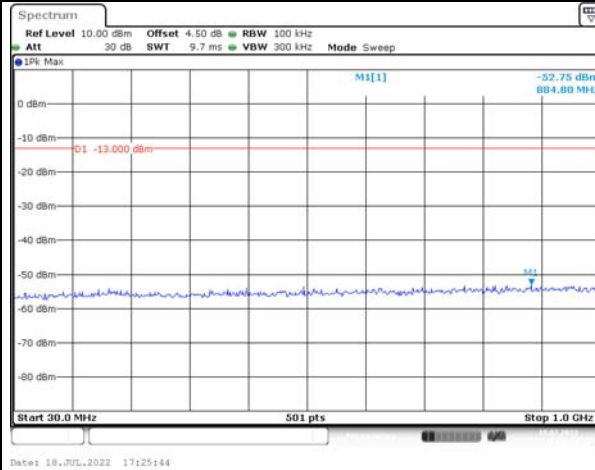


Spurious Emissions at Antenna Terminal

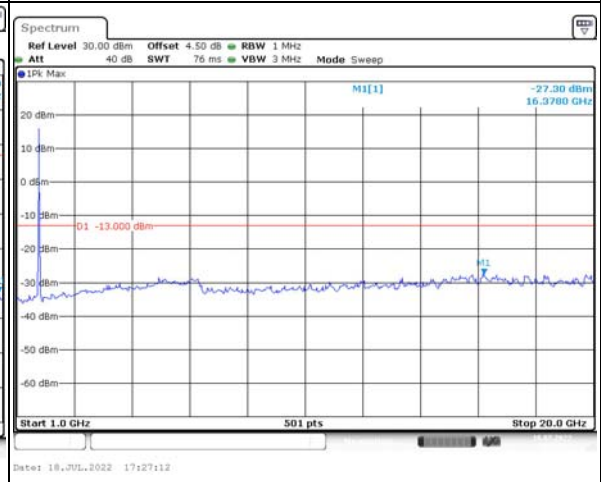
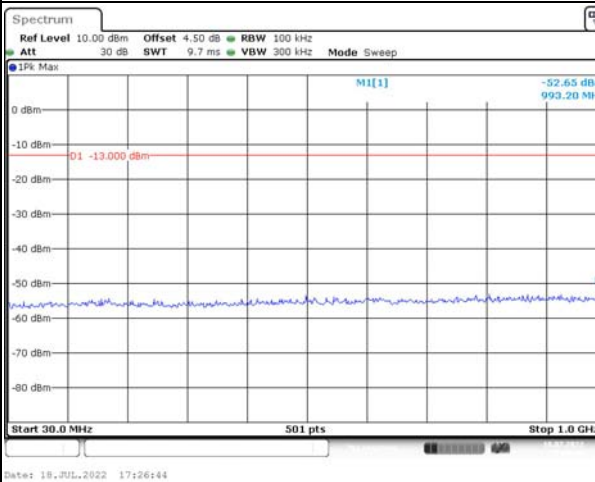
Channel

20MHz Bandwidth QPSK

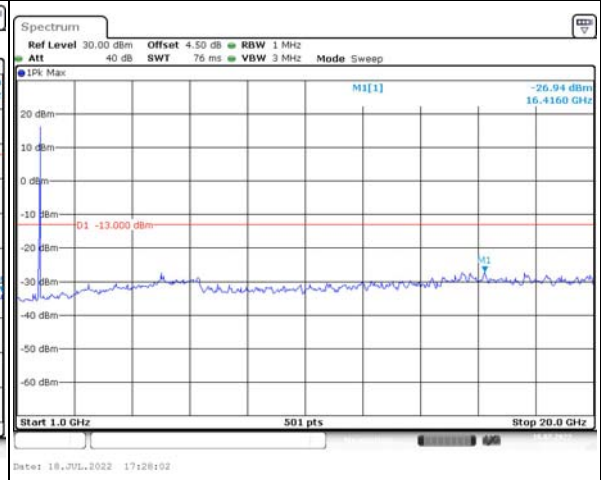
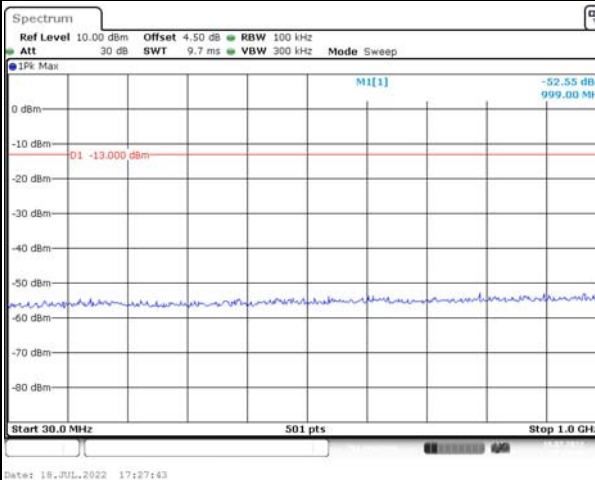
Lowest



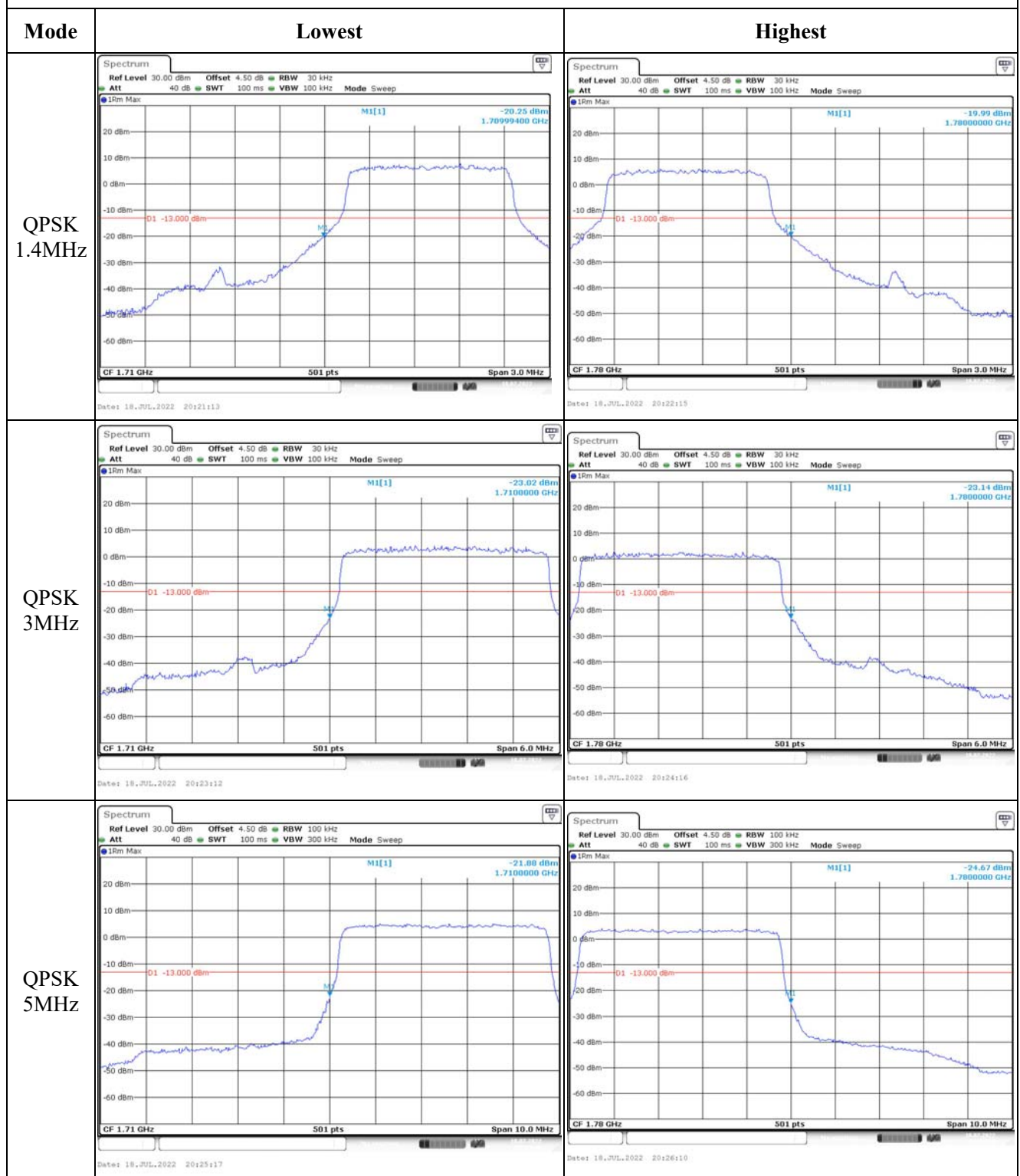
Middle



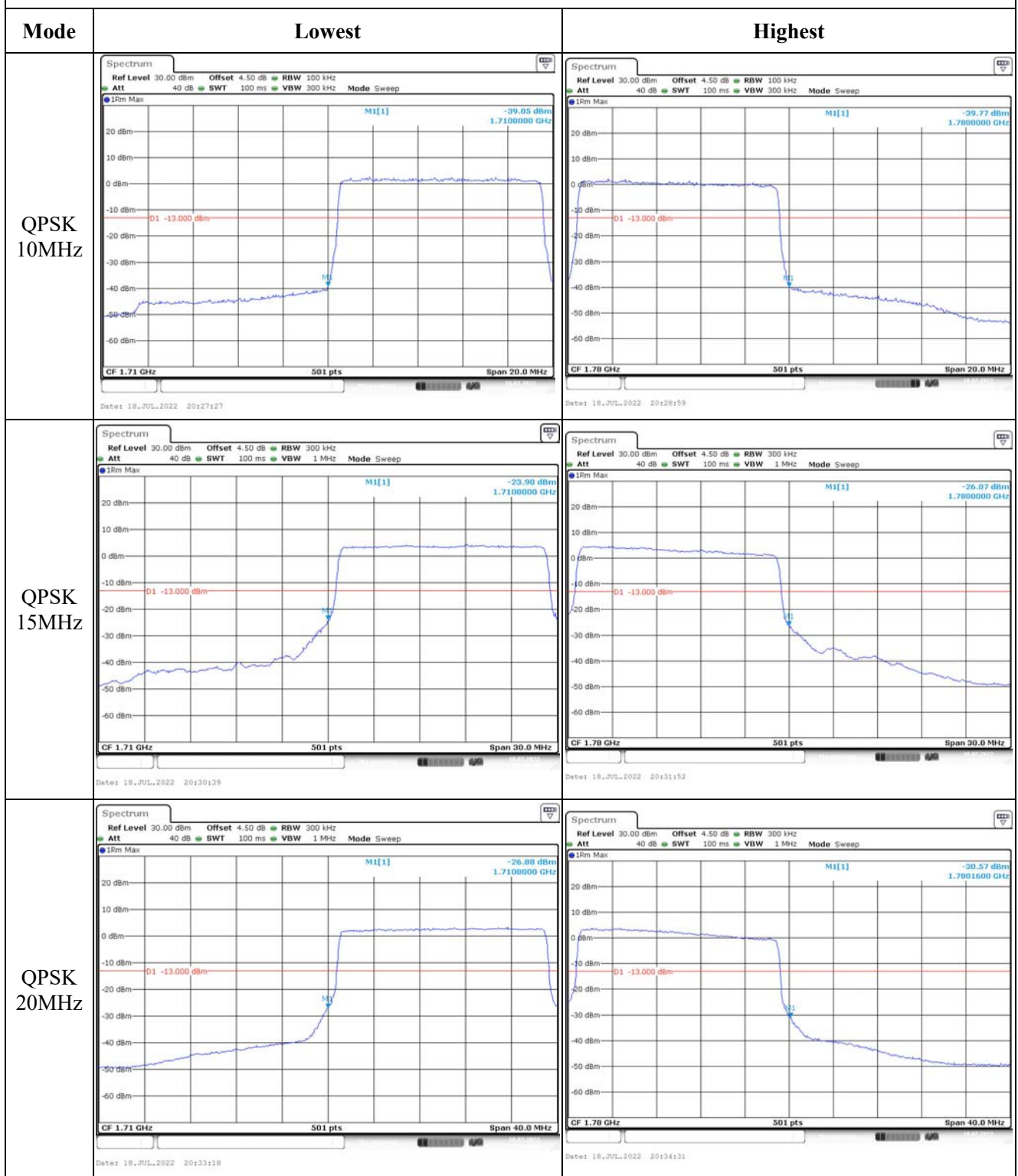
Highest



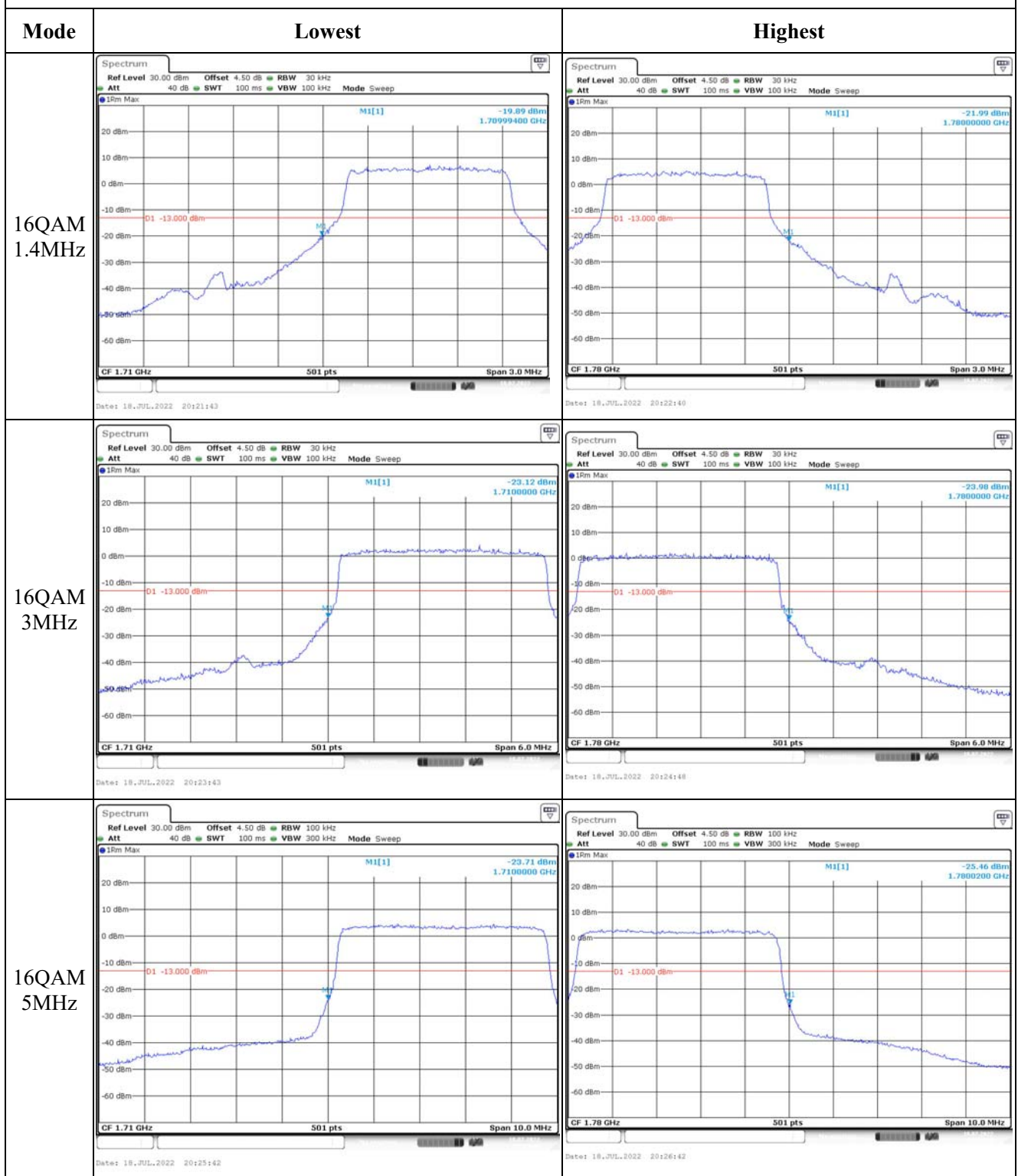
Out of band emission, Band Edge



Out of band emission, Band Edge



Out of band emission, Band Edge



4.8 Radiated Spurious Emissions

Serial Number:	CR22060009-RF-S1	Test Date:	2022-08-09~2022-08-10
Test Site:	966-1/966-2	Test Mode:	Transmit
Tester:	Gary Ling, Nick Tang	Test Result:	Pass

Environmental Conditions:

Temperature: (°C)	25.4~27.9	Relative Humidity: (%)	45~59	ATM Pressure: (kPa)	100.1~100.2
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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	2022-07-15	2023-07-14
TIMES MICROWAVE	Coaxial Cable	LMR-600-UltraFlex	C-0470-02	2022-07-17	2023-07-16
TIMES MICROWAVE	Coaxial Cable	LMR-600-UltraFlex	C-0780-01	2022-07-17	2023-07-16
Sonoma	Amplifier	310N	186165	2022-07-17	2023-07-16
EMCO	Adjustable Dipole Antenna	3121C	9109-756	N/A	N/A
MICRO-COAX	Coaxial Cable	UFA210B-0-0720-300300	99G1448	2022-07-17	2023-07-16
Agilent	Signal Generator	E8247C	MY43321352	2022-04-01	2023-03-31
ETS-Lindgren	Horn Antenna	3115	9912-5985	2020-10-13	2023-10-12
R&S	Spectrum Analyzer	FSV40	101591	2022-07-15	2023-07-14
MICRO-COAX	Coaxial Cable	UFA210A-1-1200-70U300	217423-008	2022-08-07	2023-08-06
MICRO-COAX	Coaxial Cable	UFA210A-1-2362-300300	235780-001	2022-08-07	2023-08-06
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
MICRO-COAX	Coaxial Cable	UFB142A-1-2362-200200	235772-001	2022-08-07	2023-08-06
Mini Circuits	High Pass Filter	VHF-3100+	31251	2022/08/07	2023/08/06
Sinoscite	Band-stop filter	BSF1710-1785MN-0383-003	0383003	2022/08/07	2023/08/06
Sinoscite	Band-stop filter	BSF1850-1910MS-0935V2	0935V2	2022/08/07	2023/08/06
Sinoscite	Band-stop filter	BSF824-862MS-1438-001	1438001	2022/08/07	2023/08/06
Sinoscite	Band-stop filter	BSF2500-2690MS-1438-002	145841	2022/08/07	2023/08/06

*** 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 according to C63.26 figure 5, 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								
782.31	H	30.25	-72.48	0.00	0.55	-73.03	-13.00	60.03
132.35	V	29.64	-77.49	0.00	0.22	-77.71	-13.00	64.71
1648.40	H	65.17	-39.16	8.68	0.80	-31.28	-13.00	18.28
1648.40	V	65.07	-39.34	8.68	0.80	-31.46	-13.00	18.46
2472.60	H	47.57	-53.21	9.38	1.00	-44.83	-13.00	31.83
2472.60	V	46.20	-54.53	9.38	1.00	-46.15	-13.00	33.15
3296.80	H	46.47	-50.21	10.32	1.15	-41.04	-13.00	28.04
3296.80	V	44.55	-51.89	10.32	1.15	-42.72	-13.00	29.72
GSM 850 Frequency:836.6MHz								
504.96	H	30.64	-76.12	0.00	0.45	-76.57	-13.00	63.57
462.62	V	30.63	-73.38	0.00	0.42	-73.80	-13.00	60.80
1673.20	H	62.23	-42.08	8.71	0.85	-34.22	-13.00	21.22
1673.20	V	61.73	-42.68	8.71	0.85	-34.82	-13.00	21.82
2509.80	H	51.31	-49.30	9.42	1.01	-40.89	-13.00	27.89
2509.80	V	51.64	-48.98	9.42	1.01	-40.57	-13.00	27.57
3346.40	H	52.61	-44.56	10.34	1.16	-35.38	-13.00	22.38
3346.40	V	53.12	-43.91	10.34	1.16	-34.73	-13.00	21.73
GSM 850 Frequency:848.8MHz								
233.64	H	30.53	-81.69	0.00	0.29	-81.98	-13.00	68.98
468.39	V	30.14	-73.66	0.00	0.43	-74.09	-13.00	61.09
1697.60	H	62.27	-42.02	8.74	0.90	-34.18	-13.00	21.18
1697.60	V	62.01	-42.41	8.74	0.90	-34.57	-13.00	21.57
2546.40	H	51.26	-49.07	9.47	1.01	-40.61	-13.00	27.61
2546.40	V	50.50	-49.78	9.47	1.01	-41.32	-13.00	28.32
3395.20	H	54.12	-43.57	10.36	1.19	-34.40	-13.00	21.40
3395.20	V	53.31	-44.35	10.36	1.19	-35.18	-13.00	22.18

PCS Band (PART 24E)**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)			
GSM 1900 Frequency:1850.2MHz								
535.95	H	30.47	-75.65	0.00	0.46	-76.11	-13.00	63.11
787.91	V	30.69	-68.36	0.00	0.59	-68.95	-13.00	55.95
3700.40	H	51.13	-46.19	10.60	1.25	-36.84	-13.00	23.84
3700.40	V	47.66	-49.64	10.60	1.25	-40.29	-13.00	27.29
5550.60	H	43.78	-49.48	11.44	1.49	-39.53	-13.00	26.53
5550.60	V	41.42	-51.68	11.44	1.49	-41.73	-13.00	28.73
GSM 1900 Frequency:1880MHz								
360.75	H	30.67	-79.13	0.00	0.37	-79.50	-13.00	66.50
203.11	V	31.55	-77.85	0.00	0.26	-78.11	-13.00	65.11
3760.00	H	50.72	-45.69	10.66	1.24	-36.27	-13.00	23.27
3760.00	V	47.19	-49.10	10.66	1.24	-39.68	-13.00	26.68
5640.00	H	44.44	-49.01	11.33	1.54	-39.22	-13.00	26.22
5640.00	V	42.30	-51.03	11.33	1.54	-41.24	-13.00	28.24
1270.00	V	70.80	-32.51	7.86	0.69	-25.34	-13.00	12.34
GSM 1900 Frequency:1909.8MHz								
306.10	H	30.32	-80.31	0.00	0.34	-80.65	-13.00	67.65
461.61	V	30.36	-73.68	0.00	0.41	-74.09	-13.00	61.09
3819.60	H	50.57	-45.29	10.72	1.29	-35.86	-13.00	22.86
3819.60	V	47.14	-48.58	10.72	1.29	-39.15	-13.00	26.15
5729.40	H	44.55	-48.93	11.22	1.59	-39.30	-13.00	26.30
5729.40	V	42.12	-51.24	11.22	1.59	-41.61	-13.00	28.61

LTE Bands:

(The Worst modulation and bandwidth was below)

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								
334.44	H	30.41	-79.79	0.00	0.35	-80.14	-13.00	67.14
69.56	V	31.85	-70.91	-5.23	0.15	-76.29	-13.00	63.29
3701.40	H	41.48	-55.83	10.60	1.25	-46.48	-13.00	33.48
3701.40	V	40.64	-56.65	10.60	1.25	-47.30	-13.00	34.30
5552.10	H	39.07	-54.20	11.44	1.49	-44.25	-13.00	31.25
5552.10	V	40.05	-53.05	11.44	1.49	-43.10	-13.00	30.10
2970.00	H	56.77	-42.15	10.15	1.11	-33.11	-13.00	20.11
QPSK,Frequency:1880 MHz								
752.13	H	30.33	-73.09	0.00	0.53	-73.62	-13.00	60.62
520.10	V	31.25	-71.65	0.00	0.41	-72.06	-13.00	59.06
3760.00	H	41.12	-55.29	10.66	1.24	-45.87	-13.00	32.87
3760.00	V	40.28	-56.01	10.66	1.24	-46.59	-13.00	33.59
5640.00	H	39.80	-53.65	11.33	1.54	-43.86	-13.00	30.86
5640.00	V	40.80	-52.53	11.33	1.54	-42.74	-13.00	29.74
QPSK,Frequency:1909.3 MHz								
955.44	H	31.60	-66.03	0.00	0.60	-66.63	-13.00	53.63
912.86	V	30.28	-65.87	0.00	0.56	-66.43	-13.00	53.43
3818.60	H	41.05	-54.81	10.72	1.29	-45.38	-13.00	32.38
3818.60	V	40.24	-55.47	10.72	1.29	-46.04	-13.00	33.04
5727.90	H	39.92	-53.56	11.23	1.59	-43.92	-13.00	30.92
5727.90	V	40.84	-52.52	11.23	1.59	-42.88	-13.00	29.88

LTE Band 4 (30MHz-20GHz):

LTE Band 1 (E-UTRA FDD)								
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								
34.88	H	28.32	-48.88	-24.06	0.11	-73.05	-13.00	60.05
875.28	V	32.45	-64.55	0.00	0.60	-65.15	-13.00	52.15
3421.40	H	41.97	-55.79	10.37	1.17	-46.59	-13.00	33.59
3421.40	V	41.01	-56.72	10.37	1.17	-47.52	-13.00	34.52
5132.10	H	39.26	-54.31	11.28	1.47	-44.50	-13.00	31.50
5132.10	V	40.24	-53.22	11.28	1.47	-43.41	-13.00	30.41
QPSK,Frequency:1732.5 MHz								
679.96	H	30.61	-74.04	0.00	0.52	-74.56	-13.00	61.56
511.84	V	31.14	-71.67	0.00	0.45	-72.12	-13.00	59.12
3465.00	H	41.95	-55.86	10.39	1.15	-46.62	-13.00	33.62
3465.00	V	41.02	-56.75	10.39	1.15	-47.51	-13.00	34.51
5197.50	H	40.15	-53.98	11.32	1.44	-44.10	-13.00	31.10
5197.50	V	40.92	-53.06	11.32	1.44	-43.18	-13.00	30.18
QPSK,Frequency:1752.6MHz								
945.44	H	31.21	-66.72	0.00	0.60	-67.32	-13.00	54.32
708.95	V	31.57	-69.48	0.00	0.53	-70.01	-13.00	57.01
3508.60	H	42.09	-55.73	10.41	1.19	-46.51	-13.00	33.51
3508.60	V	41.18	-56.58	10.41	1.19	-47.36	-13.00	34.36
5262.90	H	39.10	-54.60	11.36	1.47	-44.71	-13.00	31.71
5262.90	V	39.79	-53.68	11.36	1.47	-43.79	-13.00	30.79

LTE Band 5(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: 824.7 MHz								
241.13	H	30.56	-81.52	0.00	0.29	-81.81	-13.00	68.81
726.10	V	31.39	-69.23	0.00	0.51	-69.74	-13.00	56.74
1649.40	H	42.41	-61.92	8.68	0.80	-54.04	-13.00	41.04
1649.40	V	40.77	-63.64	8.68	0.80	-55.76	-13.00	42.76
2474.10	H	41.81	-58.97	9.38	1.00	-50.59	-13.00	37.59
2474.10	V	40.86	-59.87	9.38	1.00	-51.49	-13.00	38.49
3298.80	H	39.20	-57.48	10.32	1.15	-48.31	-13.00	35.31
3298.80	V	38.56	-57.88	10.32	1.15	-48.71	-13.00	35.71
QPSK, Frequency: 836.5 MHz								
63.92	H	29.02	-74.82	-8.22	0.14	-83.18	-13.00	70.18
342.28	V	30.31	-77.40	0.00	0.36	-77.76	-13.00	64.76
1673.00	H	43.04	-61.27	8.71	0.85	-53.41	-13.00	40.41
1673.00	V	41.42	-62.99	8.71	0.85	-55.13	-13.00	42.13
2509.50	H	41.79	-58.82	9.42	1.01	-50.41	-13.00	37.41
2509.50	V	40.92	-59.70	9.42	1.01	-51.29	-13.00	38.29
3346.00	H	40.16	-57.00	10.34	1.16	-47.82	-13.00	34.82
3346.00	V	39.57	-57.45	10.34	1.16	-48.27	-13.00	35.27
QPSK, Frequency: 848.3 MHz								
165.32	H	30.58	-81.26	0.00	0.24	-81.50	-13.00	68.50
480.67	V	31.46	-71.91	0.00	0.41	-72.32	-13.00	59.32
1696.60	H	43.48	-60.81	8.74	0.89	-52.96	-13.00	39.96
1696.60	V	41.89	-62.53	8.74	0.89	-54.68	-13.00	41.68
2544.90	H	41.26	-59.08	9.47	1.01	-50.62	-13.00	37.62
2544.90	V	39.24	-61.06	9.47	1.01	-52.60	-13.00	39.60
3393.20	H	39.18	-58.49	10.36	1.19	-49.32	-13.00	36.32
3393.20	V	38.74	-58.89	10.36	1.19	-49.72	-13.00	36.72

LTE Band 7 (30MHz-26.5GHz):

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: 2502.5 MHz								
789.64	H	31.01	-71.56	0.00	0.61	-72.17	-25.00	47.17
893.86	V	30.68	-65.89	0.00	0.66	-66.55	-25.00	41.55
5005.00	H	40.05	-52.91	11.20	1.47	-43.18	-25.00	18.18
5005.00	V	39.30	-53.52	11.20	1.47	-43.79	-25.00	18.79
7507.50	H	42.11	-47.68	10.90	1.95	-38.73	-25.00	13.73
7507.50	V	43.13	-47.16	10.90	1.95	-38.21	-25.00	13.21
QPSK, Frequency:2535 MHz								
886.36	H	31.80	-67.91	0.00	0.61	-68.52	-25.00	43.52
688.54	V	30.95	-70.61	0.00	0.54	-71.15	-25.00	46.15
5070.00	H	40.92	-52.27	11.24	1.47	-42.50	-25.00	17.50
5070.00	V	40.13	-52.96	11.24	1.47	-43.19	-25.00	18.19
7605.00	H	41.21	-48.26	10.88	2.01	-39.39	-25.00	14.39
7605.00	V	42.48	-47.71	10.88	2.01	-38.84	-25.00	13.84
QPSK, Frequency: 2567.5 MHz								
863.13	H	30.65	-69.77	0.00	0.57	-70.34	-25.00	45.34
578.36	V	32.79	-70.70	0.00	0.46	-71.16	-25.00	46.16
5135.00	H	42.02	-51.58	11.28	1.47	-41.77	-25.00	16.77
5135.00	V	41.11	-52.38	11.28	1.47	-42.57	-25.00	17.57
7702.50	H	41.13	-48.39	10.86	1.97	-39.50	-25.00	14.50
7702.50	V	42.42	-47.76	10.86	1.97	-38.87	-25.00	13.87

LTE Band 66(30MHz-20GHz):

DTE Band (QPSK-HF TO G3X):								
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								
851.03	H	30.60	-70.18	0.00	0.57	-70.75	-13.00	57.75
801.79	V	30.76	-67.94	0.00	0.57	-68.51	-13.00	55.51
3420.00	H	41.99	-55.77	10.37	1.17	-46.57	-13.00	33.57
3420.00	V	41.03	-56.70	10.37	1.17	-47.50	-13.00	34.50
5130.00	H	39.28	-54.28	11.28	1.48	-44.48	-13.00	31.48
5130.00	V	40.26	-53.19	11.28	1.48	-43.39	-13.00	30.39
QPSK, Frequency:1745 MHz								
884.50	H	30.51	-69.26	0.00	0.60	-69.86	-13.00	56.86
647.39	V	31.11	-71.45	0.00	0.52	-71.97	-13.00	58.97
3490.00	H	42.04	-55.80	10.40	1.17	-46.57	-13.00	33.57
3490.00	V	41.12	-56.66	10.40	1.17	-47.43	-13.00	34.43
5235.00	H	39.57	-54.33	11.34	1.46	-44.45	-13.00	31.45
5235.00	V	40.30	-53.41	11.34	1.46	-43.53	-13.00	30.53
QPSK, Frequency: 1779.3 MHz								
869.13	H	31.07	-69.17	0.00	0.58	-69.75	-13.00	56.75
815.98	V	30.83	-67.54	0.00	0.55	-68.09	-13.00	55.09
3560.00	H	42.03	-55.64	10.46	1.22	-46.40	-13.00	33.40
3560.00	V	41.07	-56.49	10.46	1.22	-47.25	-13.00	34.25
5340.00	H	39.02	-54.45	11.40	1.47	-44.52	-13.00	31.52
5340.00	V	39.86	-53.48	11.40	1.47	-43.55	-13.00	30.55

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 =====