

Out of band emission, Band Edge

Mode	Lowest	Highest
QPSK 1.4MHz		
QPSK 3MHz		
QPSK 5MHz		

Out of band emission, Band Edge

Mode	Lowest	Highest
QPSK 10MHz		
QPSK 15MHz		
QPSK 20MHz		

Out of band emission, Band Edge

Mode	Lowest	Highest
16QAM 1.4MHz	<p>Ref Level 30.00 dBm Offset 7.00 dB RBW 30 kHz Att 35 dB SWT 63.3 μs VBW 100 kHz Mode Auto FFT</p> <p>12m Max M1[1] -15.43 dBm 1.7100000 GHz</p> <p>01 -13.000 dBm</p> <p>CF 1.71 GHz 501 pts Span 3.0 MHz</p> <p>Date: 7.JUL.2022 11:46:21</p>	<p>Ref Level 30.00 dBm Offset 7.00 dB RBW 30 kHz Att 35 dB SWT 63.3 μs VBW 100 kHz Mode Auto FFT</p> <p>12m Max M1[1] -18.12 dBm 1.7550000 GHz</p> <p>01 -13.000 dBm</p> <p>CF 1.755 GHz 501 pts Span 3.0 MHz</p> <p>Date: 11.JUL.2022 18:51:12</p>
16QAM 3MHz	<p>Ref Level 30.00 dBm Offset 7.00 dB RBW 30 kHz Att 35 dB SWT 63.2 μs VBW 100 kHz Mode Auto FFT</p> <p>12m Max M1[1] -20.72 dBm 1.7100000 GHz</p> <p>01 -13.000 dBm</p> <p>CF 1.71 GHz 501 pts Span 6.0 MHz</p> <p>Date: 7.JUL.2022 11:47:24</p>	<p>Ref Level 30.00 dBm Offset 7.00 dB RBW 30 kHz Att 35 dB SWT 63.2 μs VBW 100 kHz Mode Auto FFT</p> <p>12m Max M1[1] -21.98 dBm 1.7550000 GHz</p> <p>01 -13.000 dBm</p> <p>CF 1.755 GHz 501 pts Span 6.0 MHz</p> <p>Date: 7.JUL.2022 11:47:56</p>
16QAM 5MHz	<p>Ref Level 30.00 dBm Offset 7.00 dB RBW 50 kHz Att 35 dB SWT 37.9 μs VBW 200 kHz Mode Auto FFT</p> <p>12m Max M1[1] -10.52 dBm 1.7100000 GHz</p> <p>01 -13.000 dBm</p> <p>CF 1.71 GHz 501 pts Span 10.0 MHz</p> <p>Date: 11.JUL.2022 18:53:09</p>	<p>Ref Level 30.00 dBm Offset 7.00 dB RBW 50 kHz Att 35 dB SWT 37.9 μs VBW 200 kHz Mode Auto FFT</p> <p>12m Max M1[1] -16.83 dBm 1.7550000 GHz</p> <p>01 -13.000 dBm</p> <p>CF 1.755 GHz 501 pts Span 10.0 MHz</p> <p>Date: 11.JUL.2022 18:52:28</p>

Out of band emission, Band Edge

Mode	Lowest	Highest
16QAM 10MHz		
16QAM 15MHz		
16QAM 20MHz		

4.7 Antenna Port Test Data and Results for LTE Band 5

Serial Number:	CR220050079-RF-S1	Test Date:	2022/7/2~2022/7/11
Test Site:	RF	Test Mode:	Transmitting
Tester:	Ted Min	Test Result:	Pass

Environmental Conditions:

Temperature: (°C)	24.3~24.8	Relative Humidity: (%)	49~52	ATM Pressure: (kPa)	100.0~100.2
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Test Equipment List and Details:

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
R&S	Spectrum Analyzer	FSV40	101943	2021-10-10	2022-10-09
R&S	Wideband Radio Communication Tester	CMW500	149218	2021-07-21	2022-07-20
BACL	TEMP&HUMI Test Chamber	BTH-150-40	30174	2022-04-06	2023-04-05
UNI-T	Multimeter	UT39A+	C210582554	2021-09-30	2022-09-29
ZHAOXIN	DC Power Supply	RXN-6010D	21R6010D0912386	N/A	N/A
zhuoxiang	Coaxial Cable	SMA-178	211001	Each time	N/A
E-Microwave	Two-way Splitter	ODP-1-6	OE0120176	Each time	N/A
HuiXunDa	DC Block	SMA-JK 18G	DCB181108042	Each time	N/A
Weinschel	Coaxial Attenuators	53-20-34	LN751	Each time	N/A
YINSAIGE	Coaxial Cable	SS402	SJ0100003	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 5▲:

Antenna Gain (dBi):	-0.46	Antenna Gain (dBd):	-2.61	Path Loss L _C (dB):	0
Operation Voltage(V _{DC}):					
Lowest:	3.42	Normal:	3.8	Highest:	4.18

Test Frequency For Each Mode:

Operation Bandwidth	Lowest Frequency (MHz)	Middle Frequency (MHz)	Highest Frequency (MHz)
1.4MHz	824.7	836.5	848.3
3MHz	825.5	836.5	847.5
5MHz	826.5	836.5	846.5
10MHz	829	836.5	844

Test Data:

FCC§2.1046;§ 22.913 (a)						
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		
1.4MHz QPSK	RB1#0	22.12	21.87	21.99	19.65	38.45
	RB1#3	22.19	21.83	22.13		
	RB1#5	22.24	21.99	22.26		
	RB3#0	22.19	21.92	22.19		
	RB3#3	22.19	21.87	22.11		
	RB6#0	21.82	21.46	21.61		
1.4MHz 16QAM	RB1#0	21.97	21.65	21.93	19.45	38.45
	RB1#3	21.98	21.69	22.06		
	RB1#5	22.01	21.78	22.04		
	RB3#0	21.95	21.73	21.91		
	RB3#3	22.04	21.86	21.97		
	RB6#0	21.61	21.42	21.53		
3MHz QPSK	RB1#0	21.85	22.00	22.09	19.63	38.45
	RB1#8	21.9	22.00	22.17		
	RB1#14	21.88	21.97	22.24		
	RB6#0	21.71	21.88	22.19		
	RB6#9	21.84	21.99	22.23		
	RB15#0	21.43	21.58	21.84		
3MHz 16QAM	RB1#0	21.53	21.69	21.86	19.42	38.45
	RB1#8	21.73	21.88	22.03		
	RB1#14	21.72	21.96	22.02		
	RB6#0	21.62	21.96	21.95		
	RB6#9	21.73	21.96	21.92		
	RB15#0	21.31	21.62	21.68		
5MHz QPSK	RB1#0	22.12	22.16	21.76	19.64	38.45
	RB1#13	22.25	22.15	21.81		
	RB1#24	22.17	22.17	21.94		
	RB15#0	22.22	22.03	21.85		
	RB15#10	22.05	21.98	21.8		
	RB25#0	21.90	21.70	21.52		
5MHz 16QAM	RB1#0	21.87	21.68	21.54	19.5	38.45
	RB1#13	21.96	21.87	21.65		
	RB1#24	22.06	22.01	21.76		
	RB15#0	22.11	21.98	21.56		
	RB15#10	22.03	21.94	21.62		
	RB25#0	21.93	21.77	21.22		

10MHz QPSK	RB1#0	22.02	22.01	21.78	19.66	38.45
	RB1#25	22.14	22.16	21.85		
	RB1#49	22.27	22.17	21.98		
	RB25#0	22.07	22.10	21.64		
	RB25#25	22.13	22.13	21.70		
	RB50#0	21.67	21.77	21.37		
10MHz 16QAM	RB1#0	21.56	21.71	21.35	19.47	38.45
	RB1#25	21.67	21.94	21.55		
	RB1#49	21.88	22.02	21.64		
	RB25#0	21.83	22.08	21.42		
	RB25#25	21.85	22.01	21.52		
	RB50#0	21.55	21.76	21.19		

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	
10MHz QPSK	RB1#0	3.26	3.22	3.19	13
	RB50#0	5.14	5.13	5.21	13
10MHz 16QAM	RB1#0	4.09	4.38	4.26	13
	RB50#0	6.23	6.31	6.25	13
Result:					Pass

FCC §2.1049, §22.905: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
1.4MHz QPSK	1.096	1.102	1.102	1.296	1.314	1.29
1.4MHz 16QAM	1.096	1.09	1.096	1.326	1.284	1.296
3MHz QPSK	2.683	2.683	2.683	2.880	2.880	2.892
3MHz 16QAM	2.671	2.671	2.671	2.892	2.868	2.868
5MHz QPSK	4.531	4.511	4.471	4.960	5.320	4.920
5MHz 16QAM	4.491	4.511	4.491	4.940	4.940	5.260
10MHz QPSK	8.982	8.982	8.942	9.680	9.640	9.560
10MHz 16QAM	8.982	8.942	8.942	9.560	9.560	9.600

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

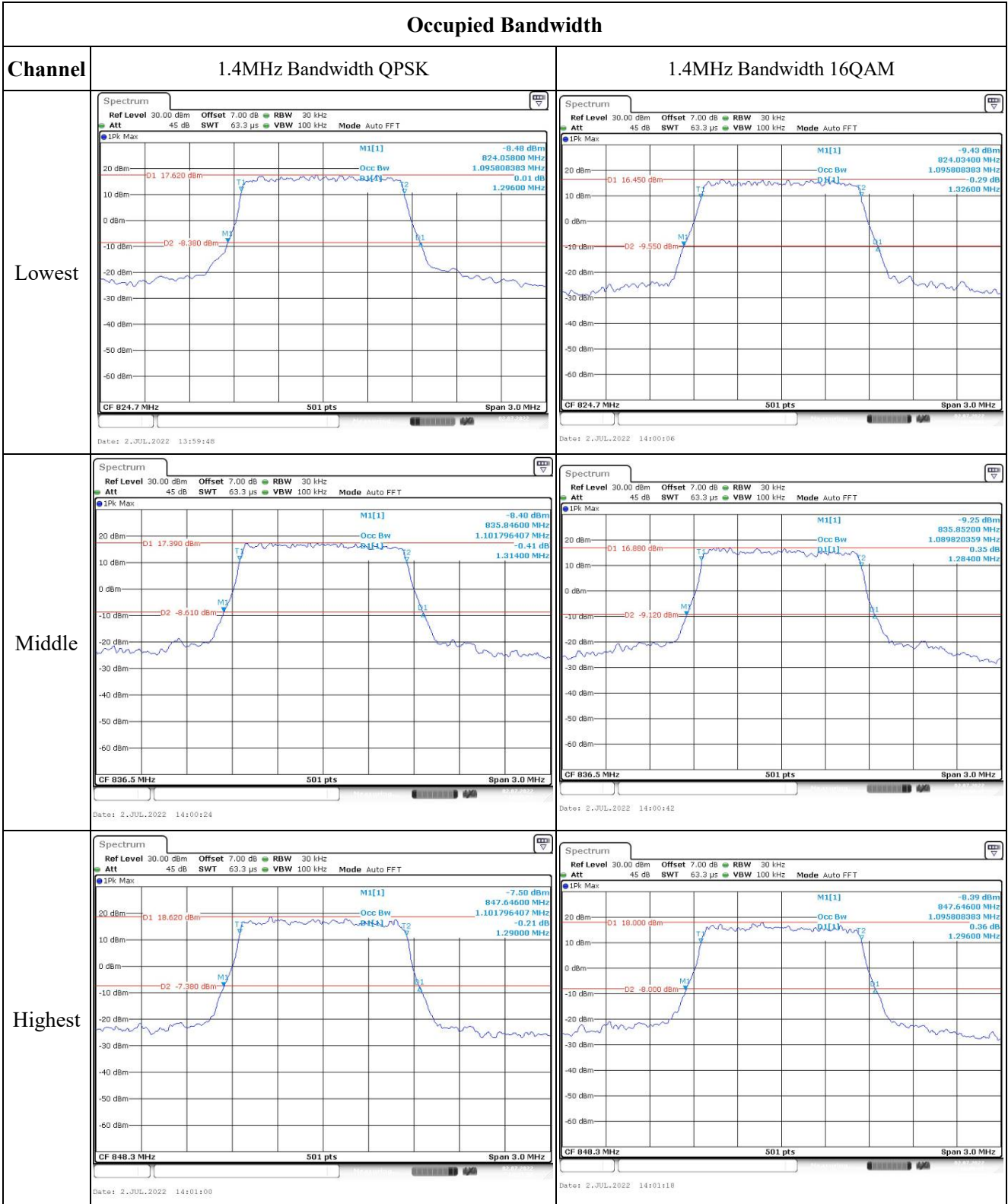
FCC §2.1051, §22.917(a):Spurious Emissions at Antenna Terminal**Result:** Pass, Please refer to the test plots of Spurious Emissions at Antenna Terminal.**FCC §2.1051, §22.917(a):Out of band emission, Band Edge****Result:** Pass, Please refer to the test plots of Out of band emission, Band Edge.**FCC §2.1055, §22.355: Frequency Stability**

Test Mode:	10 MHz QPSK		Test Channel:	836.5	MHz
Test Item	Temperature (°C)	Voltage (V _{DC})	Frequency Error		Limit
			(Hz)	(ppm)	(ppm)
Frequency Stability vs. Temperature	-30	3.8	18	0.022	2.5
	-20	3.8	18	0.022	2.5
	-10	3.8	13	0.016	2.5
	0	3.8	18	0.022	2.5
	10	3.8	12	0.014	2.5
	20	3.8	11	0.013	2.5
	30	3.8	12	0.014	2.5
	40	3.8	14	0.017	2.5
	50	3.8	14	0.017	2.5
Frequency Stability vs. Voltage	20	3.42	18	0.022	2.5
	20	4.18	15	0.018	2.5
Result:				Pass	

Test Mode:	10 MHz 16QAM		Test Channel:	836.5	MHz
Test Item	Temperature (°C)	Voltage (V _{DC})	Frequency Error		Limit
			(Hz)	(ppm)	(ppm)
Frequency Stability vs. Temperature	-30	3.8	19	0.023	2.5
	-20	3.8	10	0.012	2.5
	-10	3.8	12	0.014	2.5
	0	3.8	17	0.020	2.5
	10	3.8	12	0.014	2.5
	20	3.8	17	0.020	2.5
	30	3.8	14	0.017	2.5
	40	3.8	11	0.013	2.5
	50	3.8	19	0.023	2.5
Frequency Stability vs. Voltage	20	3.42	12	0.014	2.5
	20	4.18	11	0.013	2.5
Result:				Pass	

Test Plots:

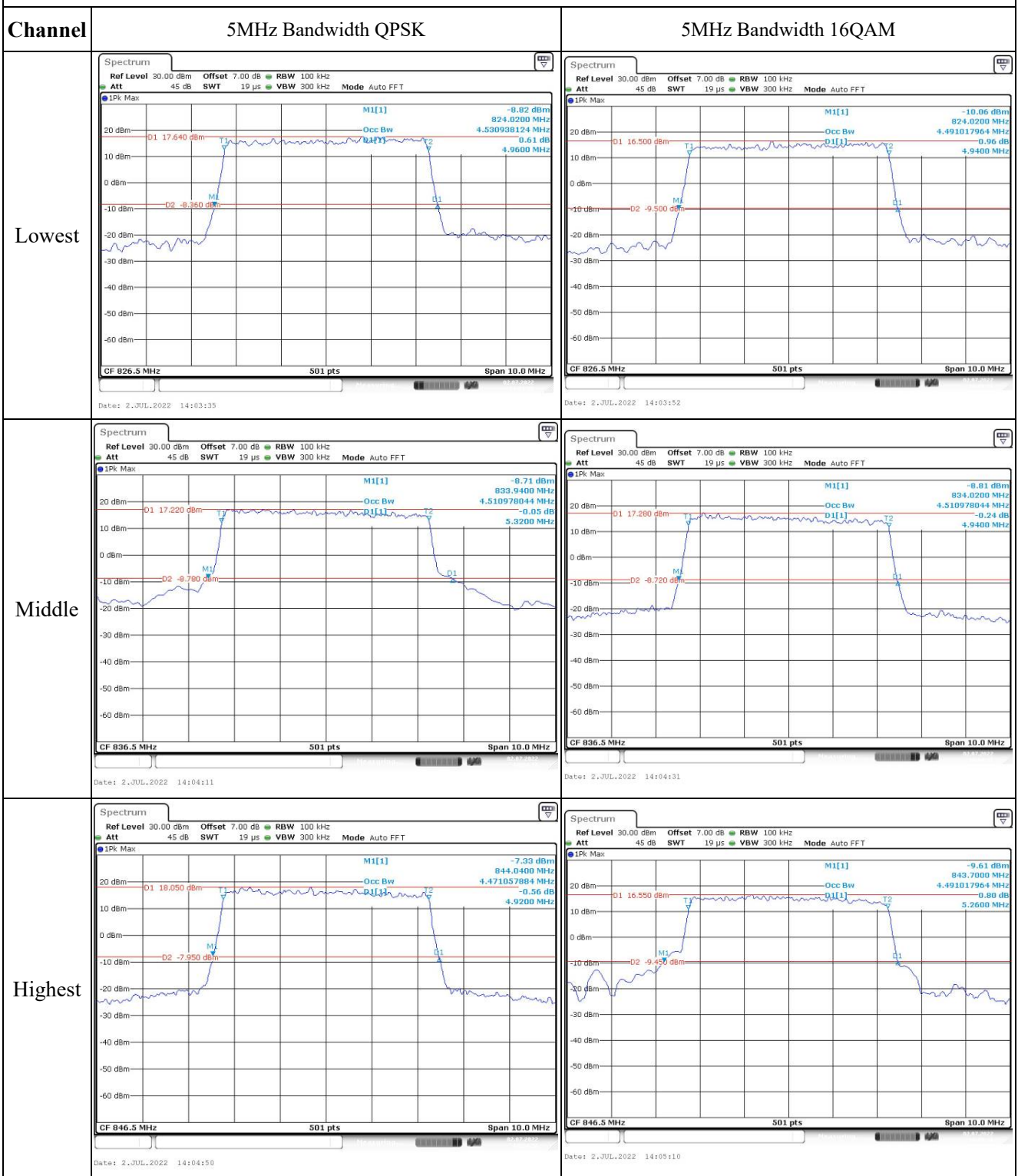
Occupied Bandwidth



Occupied Bandwidth

Channel	3MHz Bandwidth QPSK	3MHz Bandwidth 16QAM
Lowest	<p>Ref Level 30.00 dBm Offset 7.00 dB RBW 30 kHz Att 45 dB SWT 63.2 μs VBW 100 kHz Mode Auto FFT M1[1] -10.73 dBm Occ Bw 2.682634731 MHz D1[1] -0.13 dB 2.8800 MHz CF 825.5 MHz 501 pts Span 6.0 MHz Date: 2.JUL.2022 14:01:38</p>	<p>Ref Level 30.00 dBm Offset 7.00 dB RBW 30 kHz Att 45 dB SWT 63.2 μs VBW 100 kHz Mode Auto FFT M1[1] -13.06 dBm Occ Bw 2.670658683 MHz D1[1] 1.33 dB 2.8920 MHz CF 825.5 MHz 501 pts Span 6.0 MHz Date: 2.JUL.2022 14:02:05</p>
Middle	<p>Ref Level 30.00 dBm Offset 7.00 dB RBW 30 kHz Att 45 dB SWT 63.2 μs VBW 100 kHz Mode Auto FFT M1[1] -12.27 dBm Occ Bw 2.682634731 MHz D1[1] 1.88 dB 2.8800 MHz CF 836.5 MHz 501 pts Span 6.0 MHz Date: 2.JUL.2022 14:02:24</p>	<p>Ref Level 30.00 dBm Offset 7.00 dB RBW 30 kHz Att 45 dB SWT 63.2 μs VBW 100 kHz Mode Auto FFT M1[1] -11.78 dBm Occ Bw 2.670658683 MHz D1[1] 0.42 dB 2.8680 MHz CF 836.5 MHz 501 pts Span 6.0 MHz Date: 2.JUL.2022 14:02:41</p>
Highest	<p>Ref Level 30.00 dBm Offset 7.00 dB RBW 30 kHz Att 45 dB SWT 63.2 μs VBW 100 kHz Mode Auto FFT M1[1] -11.14 dBm Occ Bw 2.682634731 MHz D1[1] -1.34 dB 2.8920 MHz CF 847.5 MHz 501 pts Span 6.0 MHz Date: 2.JUL.2022 14:03:00</p>	<p>Ref Level 30.00 dBm Offset 7.00 dB RBW 30 kHz Att 45 dB SWT 63.2 μs VBW 100 kHz Mode Auto FFT M1[1] -10.62 dBm Occ Bw 2.670658683 MHz D1[1] -1.25 dB 2.8680 MHz CF 847.5 MHz 501 pts Span 6.0 MHz Date: 2.JUL.2022 14:03:14</p>

Occupied Bandwidth



Occupied Bandwidth

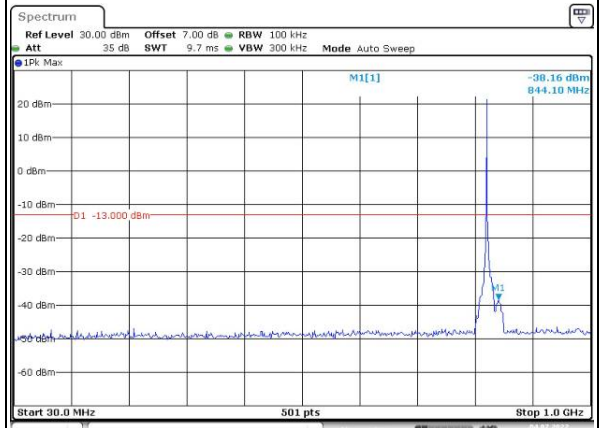
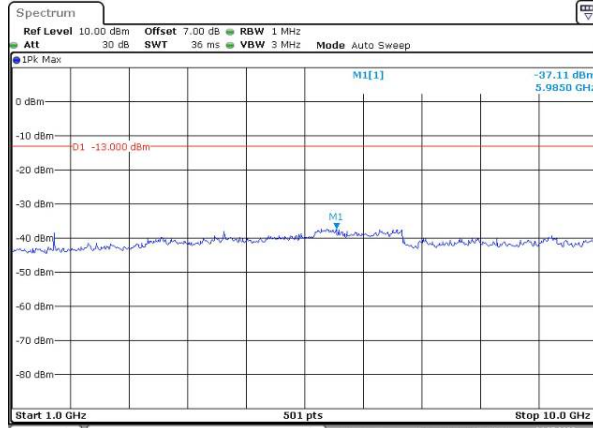
Channel	10MHz Bandwidth QPSK	10MHz Bandwidth 16QAM
Lowest		
Middle		
Highest		

Spurious Emissions at Antenna Terminal

Channel

1.4MHz Bandwidth QPSK

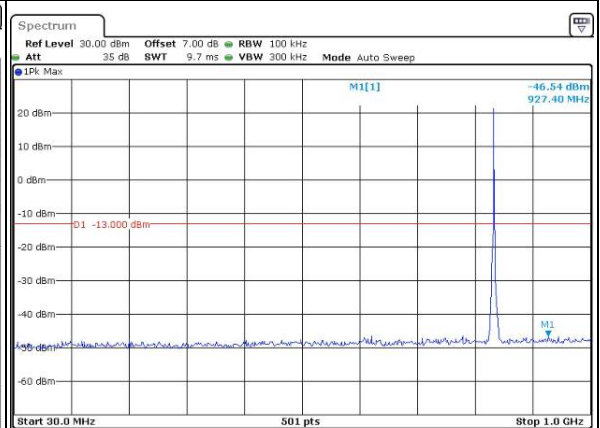
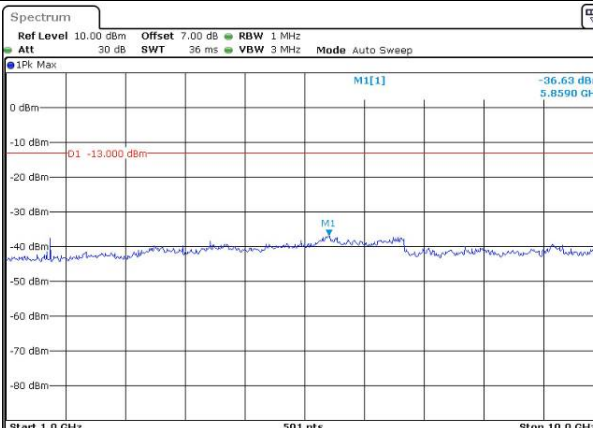
Lowest



Date: 4.JUL.2022 12:35:27

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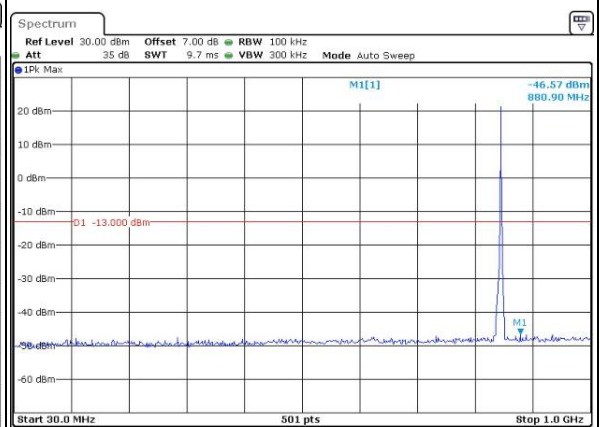
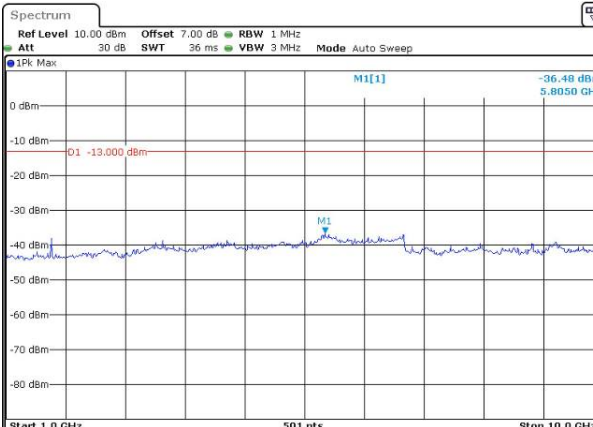
Middle



Date: 4.JUL.2022 12:36:19

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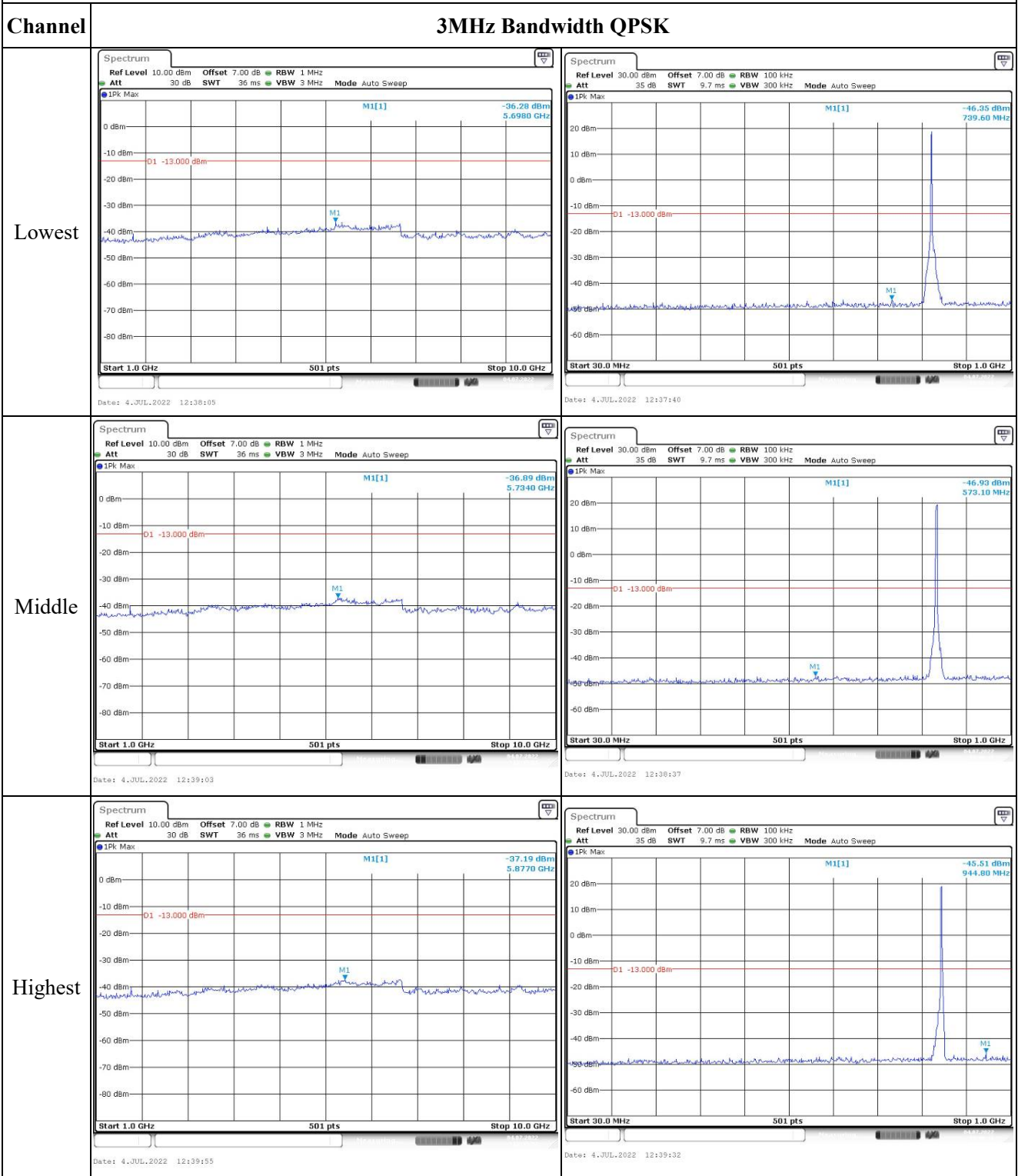
Highest



Date: 4.JUL.2022 12:37:10

Date: 4.JUL.2022 12:36:45

Spurious Emissions at Antenna Terminal

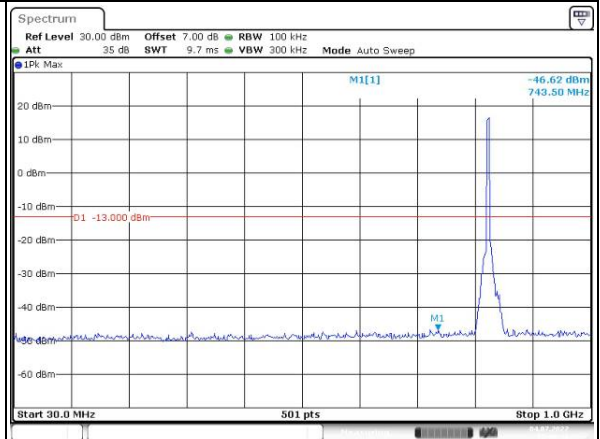
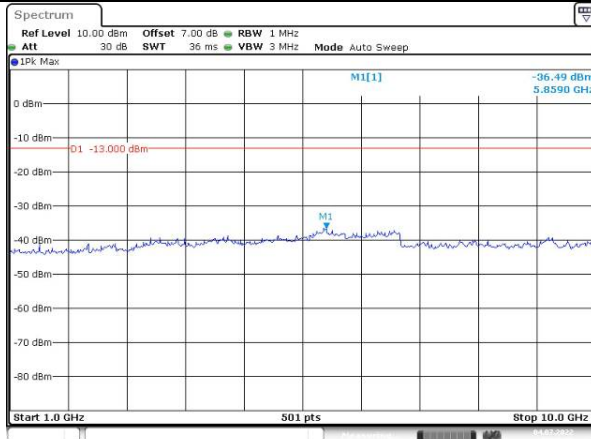


Spurious Emissions at Antenna Terminal

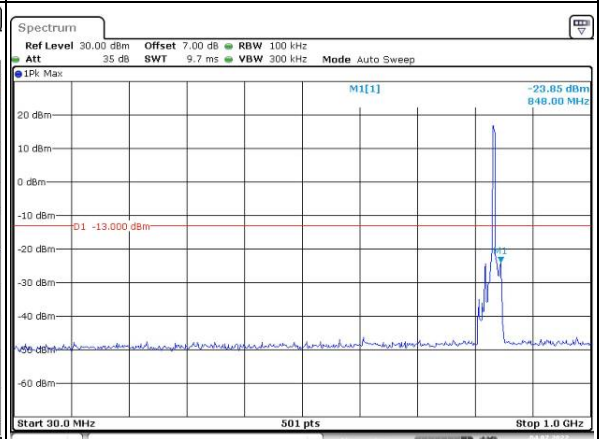
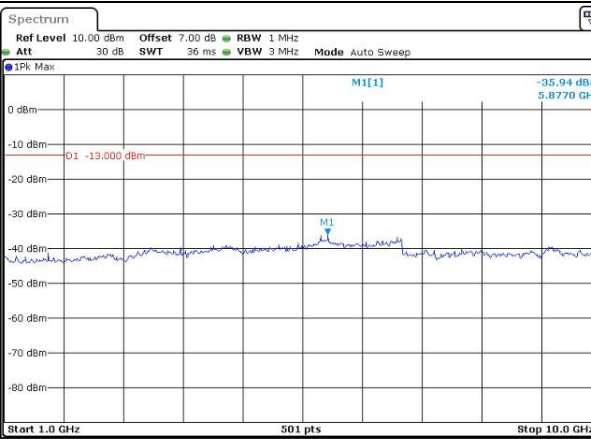
Channel

5MHz Bandwidth QPSK

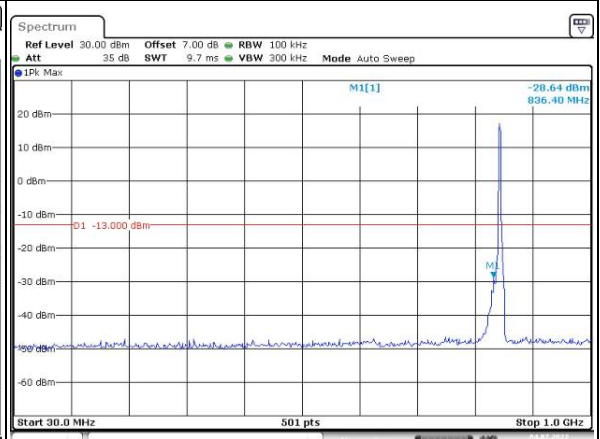
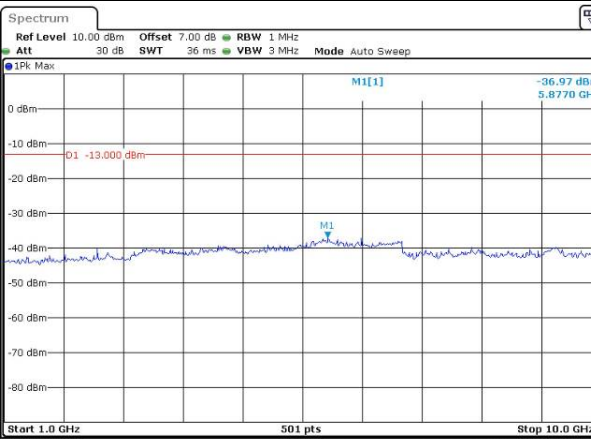
Lowest



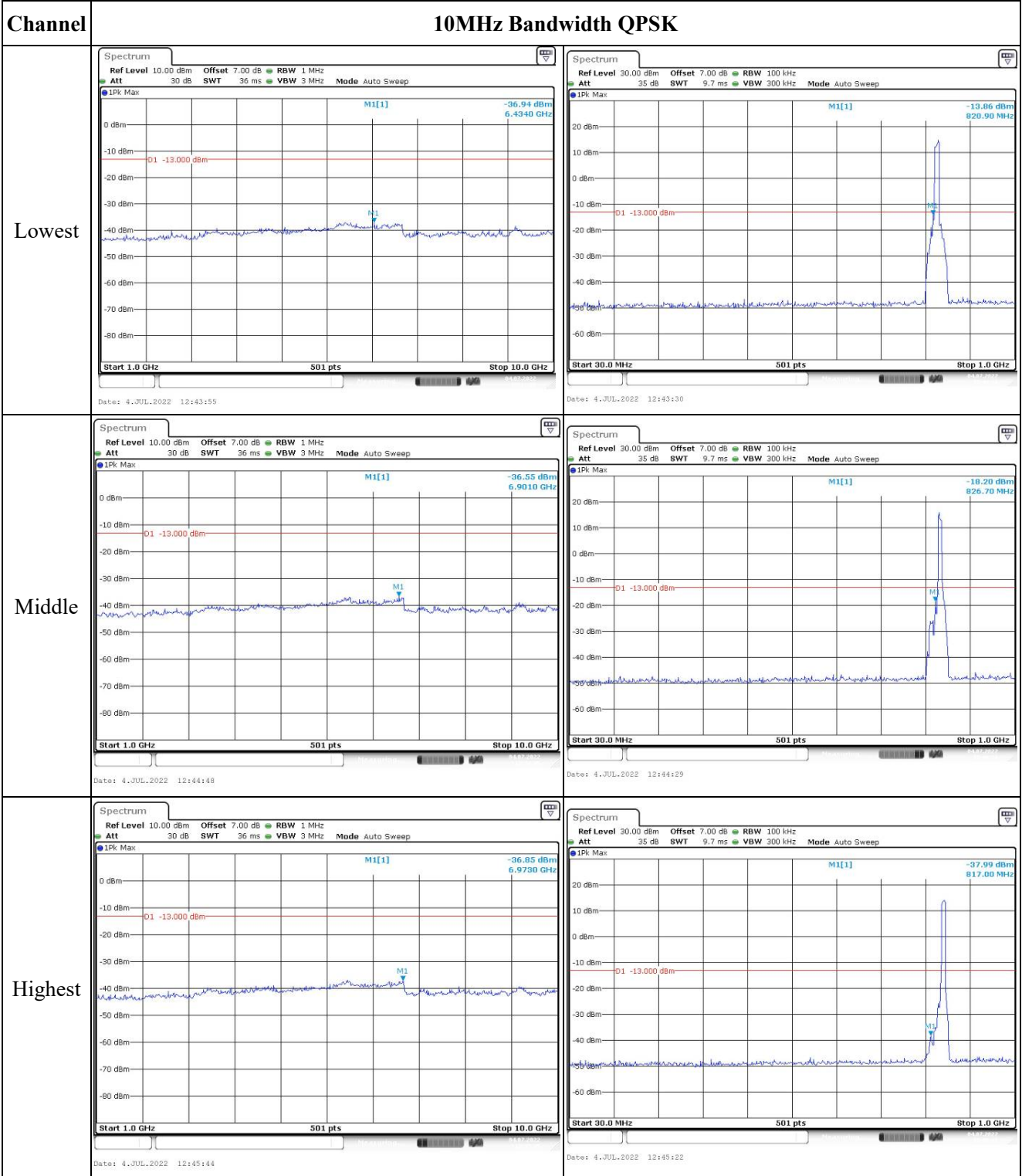
Middle



Highest



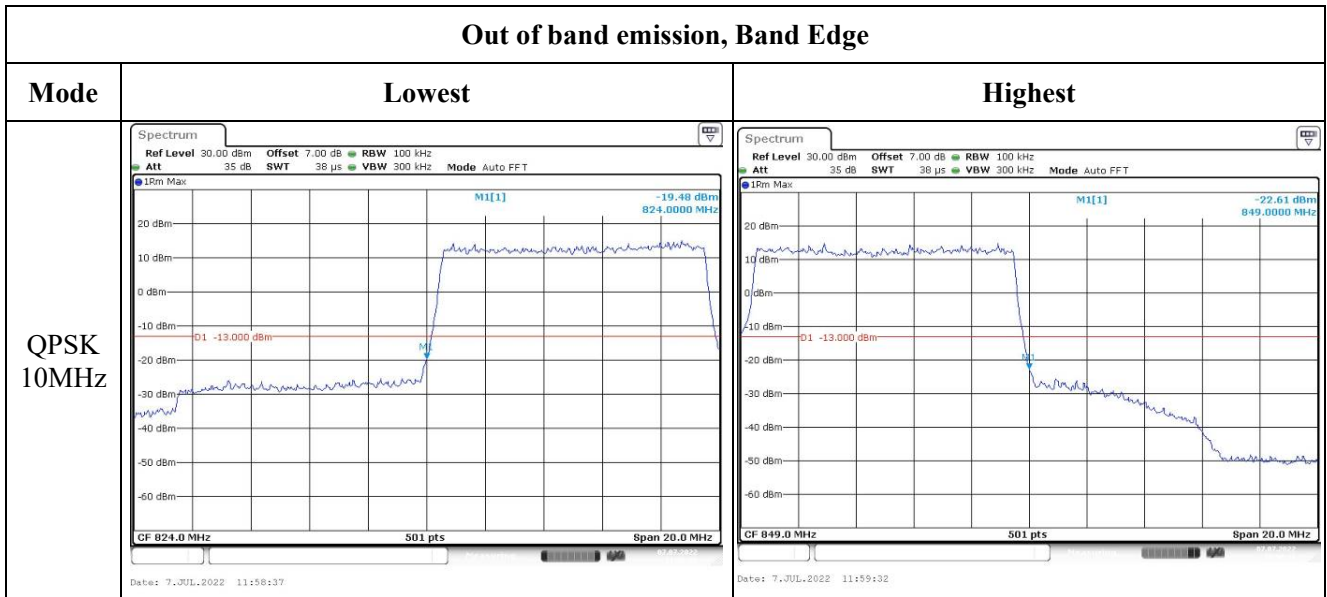
Spurious Emissions at Antenna Terminal



Out of band emission, Band Edge

Mode	Lowest	Highest
QPSK 1.4MHz		
QPSK 3MHz		
QPSK 5MHz		

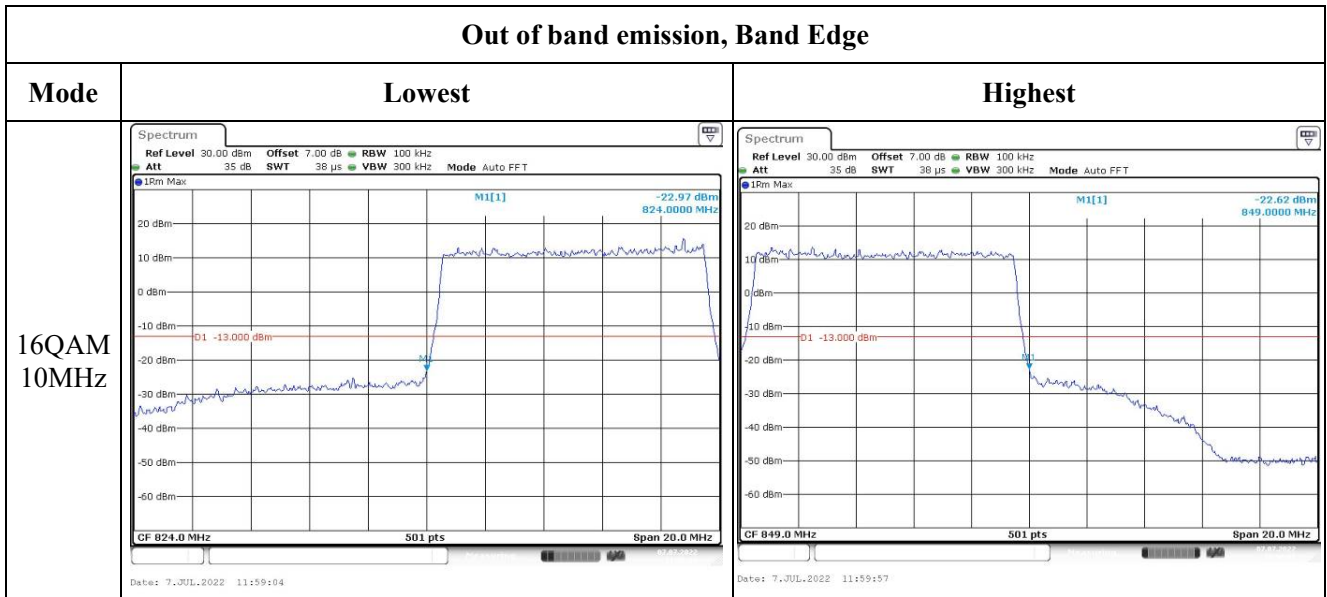
Out of band emission, Band Edge



Out of band emission, Band Edge

Mode	Lowest	Highest
16QAM 1.4MHz	<p>Ref Level 30.00 dBm Offset 7.00 dB RBW 30 kHz Att 35 dB SWT 63.3 μs VBW 100 kHz Mode Auto FFT</p> <p>1Rm Max M1[1] -14.61 dBm 824.0000 MHz</p> <p>01 -13.000 dBm</p> <p>CF 824.0 MHz 501 pts Span 3.0 MHz</p> <p>Date: 7.JUL.2022 11:55:17</p>	<p>Ref Level 30.00 dBm Offset 7.00 dB RBW 30 kHz Att 35 dB SWT 63.3 μs VBW 100 kHz Mode Auto FFT</p> <p>1Rm Max M1[1] -17.39 dBm 849.0000 MHz</p> <p>01 -13.000 dBm</p> <p>CF 849.0 MHz 501 pts Span 3.0 MHz</p> <p>Date: 7.JUL.2022 11:55:45</p>
16QAM 3MHz	<p>Ref Level 30.00 dBm Offset 7.00 dB RBW 30 kHz Att 35 dB SWT 63.2 μs VBW 100 kHz Mode Auto FFT</p> <p>1Rm Max M1[1] -21.44 dBm 824.0000 MHz</p> <p>01 -13.000 dBm</p> <p>CF 824.0 MHz 501 pts Span 6.0 MHz</p> <p>Date: 7.JUL.2022 11:56:22</p>	<p>Ref Level 30.00 dBm Offset 7.00 dB RBW 30 kHz Att 35 dB SWT 63.2 μs VBW 100 kHz Mode Auto FFT</p> <p>1Rm Max M1[1] -21.64 dBm 849.0000 MHz</p> <p>01 -13.000 dBm</p> <p>CF 849.0 MHz 501 pts Span 6.0 MHz</p> <p>Date: 7.JUL.2022 11:56:51</p>
16QAM 5MHz	<p>Ref Level 30.00 dBm Offset 7.00 dB RBW 50 kHz Att 35 dB SWT 37.9 μs VBW 200 kHz Mode Auto FFT</p> <p>1Rm Max M1[1] -17.02 dBm 824.0000 MHz</p> <p>01 -13.000 dBm</p> <p>CF 824.0 MHz 501 pts Span 10.0 MHz</p> <p>Date: 11.JUL.2022 18:55:55</p>	<p>Ref Level 30.00 dBm Offset 7.00 dB RBW 50 kHz Att 35 dB SWT 37.9 μs VBW 200 kHz Mode Auto FFT</p> <p>1Rm Max M1[1] -17.69 dBm 849.0000 MHz</p> <p>01 -13.000 dBm</p> <p>CF 849.0 MHz 501 pts Span 10.0 MHz</p> <p>Date: 11.JUL.2022 18:56:55</p>

Out of band emission, Band Edge



4.8 Antenna Port Test Data and Results for LTE Band 7

Serial Number:	CR220050079-RF-S1	Test Date:	2022/7/2~2022/7/11
Test Site:	RF	Test Mode:	Transmitting
Tester:	Ted Min	Test Result:	Pass

Environmental Conditions:

Temperature: (°C)	24.3~24.8	Relative Humidity: (%)	49~52	ATM Pressure: (kPa)	100.0~100.2
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Test Equipment List and Details:

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
R&S	Spectrum Analyzer	FSV40	101943	2021-10-10	2022-10-09
R&S	Wideband Radio Communication Tester	CMW500	149218	2021-07-21	2022-07-20
BACL	TEMP&HUMI Test Chamber	BTH-150-40	30174	2022-04-06	2023-04-05
UNI-T	Multimeter	UT39A+	C210582554	2021-09-30	2022-09-29
ZHAOXIN	DC Power Supply	RXN-6010D	21R6010D0912386	N/A	N/A
zhuoxiang	Coaxial Cable	SMA-178	211001	Each time	N/A
E-Microwave	Two-way Splitter	ODP-1-6	OE0120176	Each time	N/A
HuiXunDa	DC Block	SMA-JK 18G	DCB181108042	Each time	N/A
Weinschel	Coaxial Attenuators	53-20-34	LN751	Each time	N/A
YINSAIGE	Coaxial Cable	SS402	SJ0100003	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 7▲:

Antenna Gain (dBi):	0.72	Path Loss L _C (dB):	0
Operation Voltage(V _{DC}):			
Lowest:	3.42	Normal:	3.8
		Highest:	4.18

Test Frequency For Each Mode:

Operation Bandwidth	Lowest Frequency (MHz)	Middle Frequency (MHz)	Highest Frequency (MHz)
5MHz	2502.5	2535	2567.5
10MHz	2505	2535	2565
15MHz	2507.5	2535	2562.5
20MHz	2510	2535	2560

Test Data:**FCC§2.1046;§ 27.50(h)(2)****RF Output Power:**

Test Bandwidth & Modulation	Resource Block & RB offset	Conducted Average Output Power(dBm)			Maximum EIRP (dBm)	EIRP Limit (dBm)
		Lowest Channel	Middle Channel	Highest Channel		
5MHz QPSK	RB1#0	21.8	22.17	21.78	22.95	33
	RB1#13	21.82	22.2	21.89		
	RB1#24	21.91	22.23	22.02		
	RB15#0	21.87	22.15	21.96		
	RB15#10	21.9	22.2	22.07		
	RB25#0	21.56	21.89	21.75		
5MHz 16QAM	RB1#0	21.74	21.95	21.84	22.7	33
	RB1#13	21.69	21.9	21.72		
	RB1#24	21.7	21.98	21.82		
	RB15#0	21.57	21.85	21.83		
	RB15#10	21.62	21.78	21.81		
	RB25#0	21.23	21.59	21.58		
10MHz QPSK	RB1#0	21.95	21.98	21.94	22.79	33
	RB1#25	21.93	21.93	22.05		
	RB1#49	21.96	22.07	22.03		
	RB25#0	21.94	21.93	22.00		
	RB25#25	21.93	22.03	22.05		
	RB50#0	21.73	21.63	21.68		
10MHz 16QAM	RB1#0	21.82	21.89	21.91	22.74	33
	RB1#25	21.92	21.96	21.98		
	RB1#49	21.88	21.98	22.02		
	RB25#0	21.86	21.87	22.01		
	RB25#25	21.96	21.88	21.96		
	RB50#0	21.52	21.59	21.86		
15MHz QPSK	RB1#0	22.09	21.99	22.03	22.93	33
	RB1#38	22.17	22.06	22.16		
	RB1#74	22.21	22.14	22.12		
	RB36#0	22.08	22.08	22.04		
	RB36#39	22.13	22.02	22.06		
	RB75#0	21.75	21.47	21.65		
15MHz 16QAM	RB1#0	21.9	21.85	21.91	22.73	33
	RB1#38	21.97	21.68	21.92		
	RB1#74	21.95	21.89	22.01		
	RB36#0	21.95	21.9	21.87		
	RB36#39	21.97	21.91	22.00		
	RB75#0	21.54	21.60	21.53		

20MHz QPSK	RB1#0	21.96	22.07	22.17	23.1	33
	RB1#50	21.95	22.09	22.30		
	RB1#99	22.01	22.15	22.38		
	RB50#0	22.03	22.13	22.36		
	RB50#50	21.86	21.96	22.13		
	RB100#0	21.68	21.91	22.02		
20MHz 16QAM	RB1#0	21.73	21.91	21.96	22.8	33
	RB1#50	21.88	21.93	22.06		
	RB1#99	21.90	21.95	22.08		
	RB50#0	21.75	21.90	21.96		
	RB50#50	21.75	21.92	21.95		
	RB100#0	21.41	21.55	21.85		

Note: EIRP=Conducted Power(dBm) - Cable loss(dB) + Antenna Gain(dBi)

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	3.01	3.07	3.03	13
	RB100#0	5.13	5.24	5.13	13
20MHz 16QAM	RB1#0	4.12	4.18	4.06	13
	RB100#0	6.24	6.15	6.29	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	4.491	4.96	4.96	4.94
5MHz 16QAM	4.491	4.511	4.511	4.96	4.96	4.98
10MHz QPSK	8.982	8.942	8.942	9.68	9.64	9.64
10MHz 16QAM	8.942	8.942	8.982	9.60	9.64	9.64
15MHz QPSK	13.533	13.473	13.473	14.82	14.58	14.70
15MHz 16QAM	13.533	13.473	13.473	14.76	14.64	14.70
20MHz QPSK	17.964	17.884	17.884	19.28	19.20	19.44
20MHz 16QAM	17.964	17.964	17.884	19.20	19.28	19.20

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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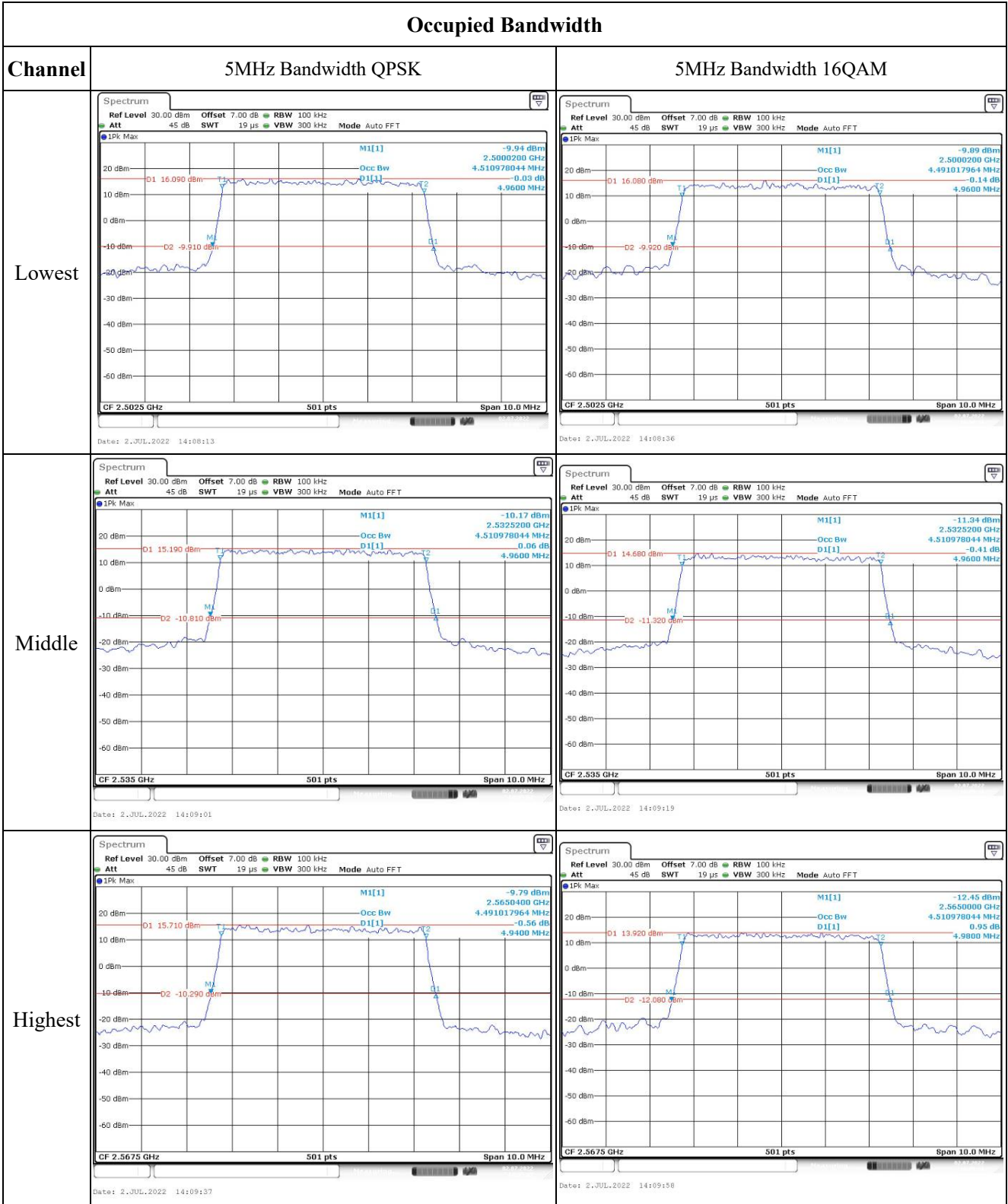
FCC §2.1055, §27.54: Frequency Stability

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	2500.298	2500.00	2569.628	2570
	-20	3.8	2500.222	2500.00	2569.701	2570
	-10	3.8	2500.415	2500.00	2569.697	2570
	0	3.8	2500.391	2500.00	2569.737	2570
	10	3.8	2500.259	2500.00	2569.654	2570
	20	3.8	2500.315	2500.00	2569.721	2570
	30	3.8	2500.398	2500.00	2569.795	2570
	40	3.8	2500.416	2500.00	2569.642	2570
Frequency Stability vs. Voltage	20	3.42	2500.258	2500.00	2569.782	2570
	20	4.18	2500.404	2500.00	2569.782	2570
					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	2500.409	2500.00	2569.734	2570
	-20	3.8	2500.398	2500.00	2569.696	2570
	-10	3.8	2500.288	2500.00	2569.715	2570
	0	3.8	2500.416	2500.00	2569.635	2570
	10	3.8	2500.290	2500.00	2569.676	2570
	20	3.8	2500.385	2500.00	2569.602	2570
	30	3.8	2500.319	2500.00	2569.667	2570
	40	3.8	2500.417	2500.00	2569.641	2570
Frequency Stability vs. Voltage	20	3.42	2500.257	2500.00	2569.684	2570
	20	4.18	2500.273	2500.00	2569.710	2570
					Result:	Pass

Test Plots:

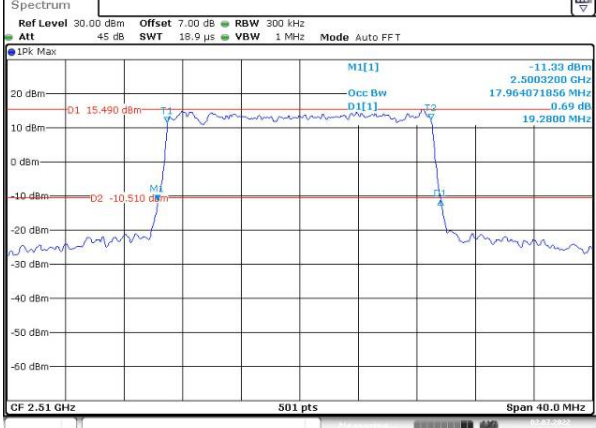
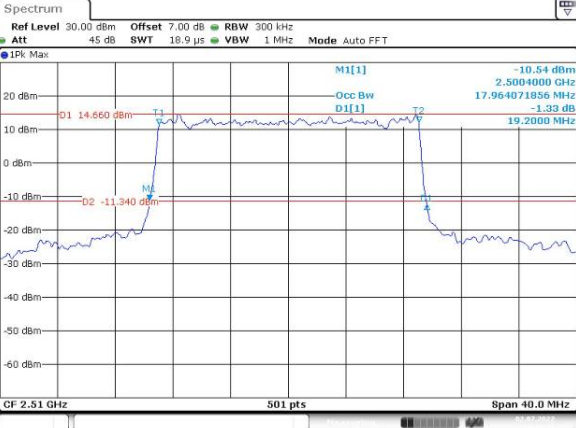
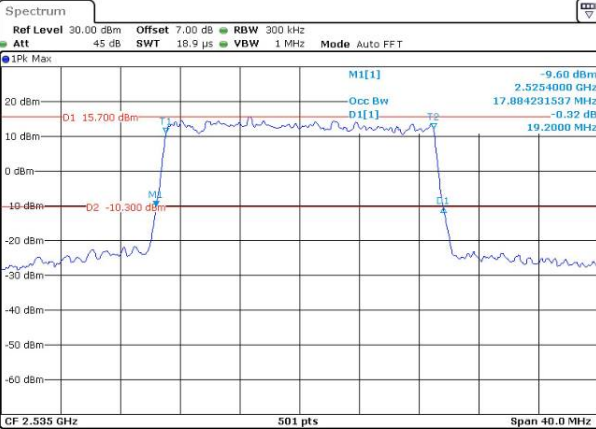
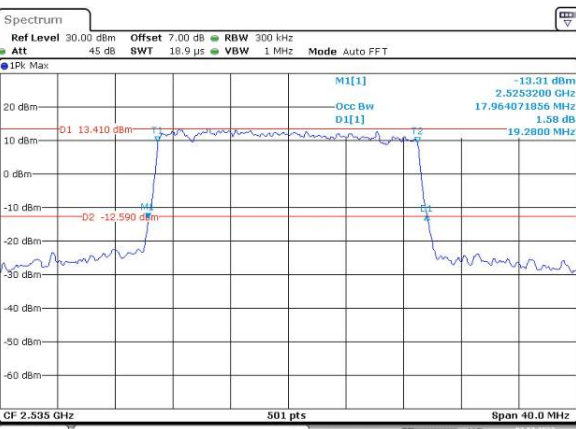
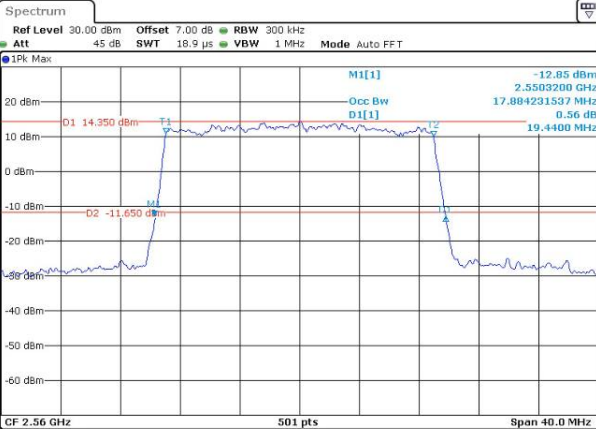
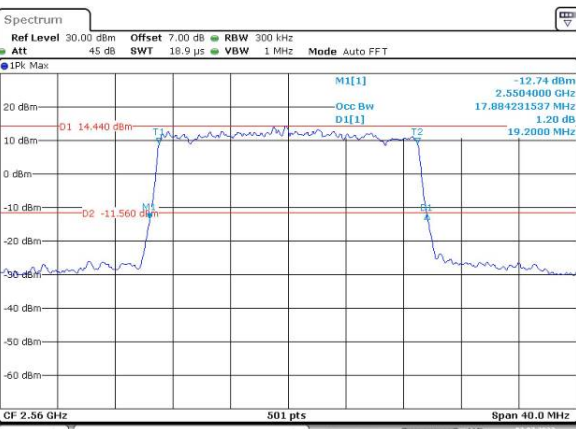
Occupied Bandwidth



Occupied Bandwidth

Channel	10MHz Bandwidth QPSK	10MHz Bandwidth 16QAM
Lowest	<p>Ref Level 30.00 dBm Offset 7.00 dB RBW 100 kHz Att 45 dB SWT 38 μs VBW 300 kHz Mode Auto FFT M1[1] -11.76 dBm 2.5001200 GHz 8.982035928 MHz Occ Bw 9.6800 MHz D1[1] -0.31 dB</p> <p>CF 2.505 GHz 501 pts Span 20.0 MHz Date: 2.JUL.2022 14:10:27</p>	<p>Ref Level 30.00 dBm Offset 7.00 dB RBW 100 kHz Att 45 dB SWT 38 μs VBW 300 kHz Mode Auto FFT M1[1] -12.08 dBm 2.5002000 GHz 8.942115768 MHz Occ Bw 9.6000 MHz D1[1] -1.15 dB</p> <p>CF 2.505 GHz 501 pts Span 20.0 MHz Date: 2.JUL.2022 14:10:52</p>
Middle	<p>Ref Level 30.00 dBm Offset 7.00 dB RBW 100 kHz Att 45 dB SWT 38 μs VBW 300 kHz Mode Auto FFT M1[1] -13.47 dBm 2.5301600 GHz 8.942115768 MHz Occ Bw 9.6400 MHz D1[1] 0.09 dB</p> <p>CF 2.535 GHz 501 pts Span 20.0 MHz Date: 2.JUL.2022 14:11:16</p>	<p>Ref Level 30.00 dBm Offset 7.00 dB RBW 100 kHz Att 45 dB SWT 38 μs VBW 300 kHz Mode Auto FFT M1[1] -14.02 dBm 2.5301600 GHz 8.942115768 MHz Occ Bw 9.6400 MHz D1[1] -0.21 dB</p> <p>CF 2.535 GHz 501 pts Span 20.0 MHz Date: 2.JUL.2022 14:11:47</p>
Highest	<p>Ref Level 30.00 dBm Offset 7.00 dB RBW 100 kHz Att 45 dB SWT 38 μs VBW 300 kHz Mode Auto FFT M1[1] -13.76 dBm 2.5601600 GHz 8.942115768 MHz Occ Bw 9.6400 MHz D1[1] 0.25 dB</p> <p>CF 2.565 GHz 501 pts Span 20.0 MHz Date: 2.JUL.2022 14:12:15</p>	<p>Ref Level 30.00 dBm Offset 7.00 dB RBW 100 kHz Att 45 dB SWT 38 μs VBW 300 kHz Mode Auto FFT M1[1] -14.30 dBm 2.5601600 GHz 8.982035928 MHz Occ Bw 9.6400 MHz D1[1] 0.14 dB</p> <p>CF 2.565 GHz 501 pts Span 20.0 MHz Date: 2.JUL.2022 14:12:40</p>

Occupied Bandwidth

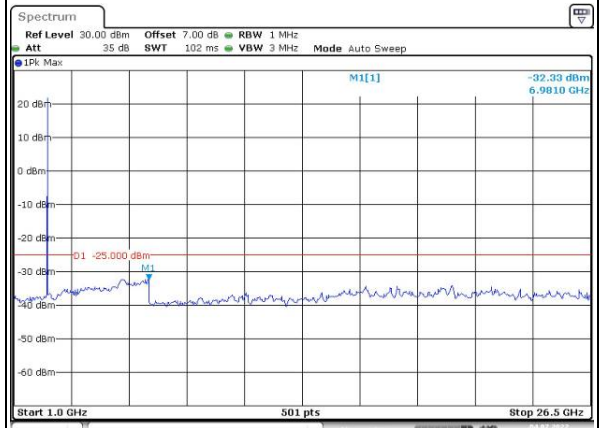
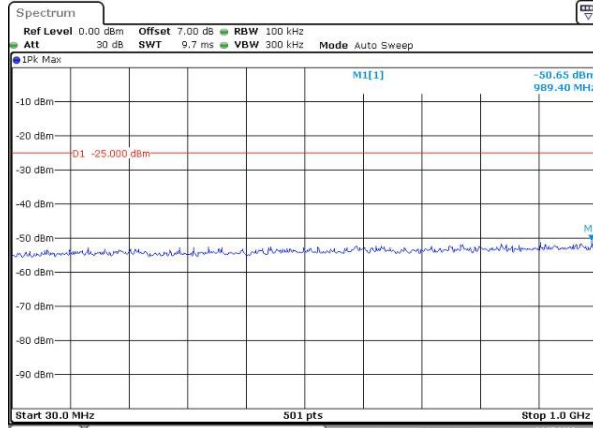
Channel	20MHz Bandwidth QPSK	20MHz Bandwidth 16QAM
Lowest	 <p>Ref Level 30.00 dBm Offset 7.00 dB RBW 300 kHz Att 45 dB SWT 18.9 μs VBW 1 MHz Mode Auto FFT</p> <p>1Pk Max</p> <p>M1[1] -11.33 dBm 2.5003200 GHz Occ Bw 17.964071856 MHz D1[1] -0.69 dB 19.2800 MHz</p> <p>D1 15.490 dBm D2 -10.510 dBm</p> <p>CF 2.51 GHz 501 pts Span 40.0 MHz</p> <p>Date: 2.JUL.2022 14:16:06</p>	 <p>Ref Level 30.00 dBm Offset 7.00 dB RBW 300 kHz Att 45 dB SWT 18.9 μs VBW 1 MHz Mode Auto FFT</p> <p>1Pk Max</p> <p>M1[1] -10.54 dBm 2.5004000 GHz Occ Bw 17.964071856 MHz D1[1] -1.33 dB 19.2000 MHz</p> <p>D1 14.660 dBm D2 -11.340 dBm</p> <p>CF 2.51 GHz 501 pts Span 40.0 MHz</p> <p>Date: 2.JUL.2022 14:16:32</p>
Middle	 <p>Ref Level 30.00 dBm Offset 7.00 dB RBW 300 kHz Att 45 dB SWT 18.9 μs VBW 1 MHz Mode Auto FFT</p> <p>1Pk Max</p> <p>M1[1] -9.60 dBm 2.5254000 GHz Occ Bw 17.884231537 MHz D1[1] -0.32 dB 19.2000 MHz</p> <p>D1 15.700 dBm D2 -10.300 dBm</p> <p>CF 2.535 GHz 501 pts Span 40.0 MHz</p> <p>Date: 2.JUL.2022 14:17:09</p>	 <p>Ref Level 30.00 dBm Offset 7.00 dB RBW 300 kHz Att 45 dB SWT 18.9 μs VBW 1 MHz Mode Auto FFT</p> <p>1Pk Max</p> <p>M1[1] -13.31 dBm 2.5253200 GHz Occ Bw 17.964071856 MHz D1[1] 1.58 dB 19.2800 MHz</p> <p>D1 13.410 dBm D2 -12.590 dBm</p> <p>CF 2.535 GHz 501 pts Span 40.0 MHz</p> <p>Date: 2.JUL.2022 14:17:31</p>
Highest	 <p>Ref Level 30.00 dBm Offset 7.00 dB RBW 300 kHz Att 45 dB SWT 18.9 μs VBW 1 MHz Mode Auto FFT</p> <p>1Pk Max</p> <p>M1[1] -12.85 dBm 2.5503200 GHz Occ Bw 17.884231537 MHz D1[1] 0.56 dB 19.4400 MHz</p> <p>D1 14.350 dBm D2 -11.650 dBm</p> <p>CF 2.56 GHz 501 pts Span 40.0 MHz</p> <p>Date: 2.JUL.2022 14:18:01</p>	 <p>Ref Level 30.00 dBm Offset 7.00 dB RBW 300 kHz Att 45 dB SWT 18.9 μs VBW 1 MHz Mode Auto FFT</p> <p>1Pk Max</p> <p>M1[1] -12.74 dBm 2.5504000 GHz Occ Bw 17.884231537 MHz D1[1] 1.20 dB 19.2000 MHz</p> <p>D1 14.440 dBm D2 -11.560 dBm</p> <p>CF 2.56 GHz 501 pts Span 40.0 MHz</p> <p>Date: 2.JUL.2022 14:18:34</p>

Spurious Emissions at Antenna Terminal

Channel

5MHz Bandwidth QPSK

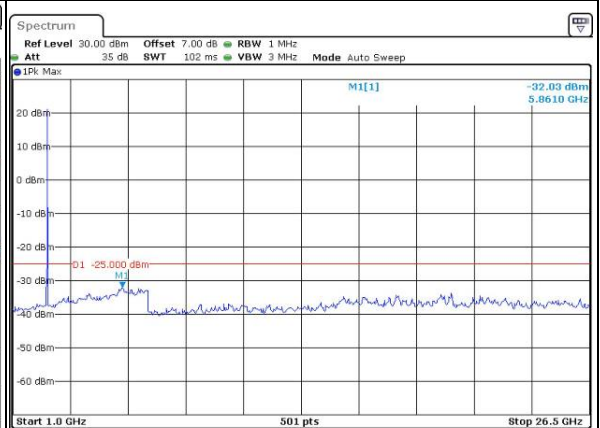
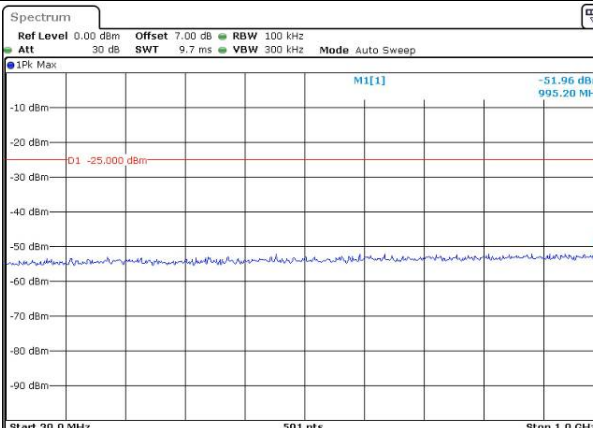
Lowest



Date: 4.JUL.2022 12:46:16

Date: 4.JUL.2022 12:46:41

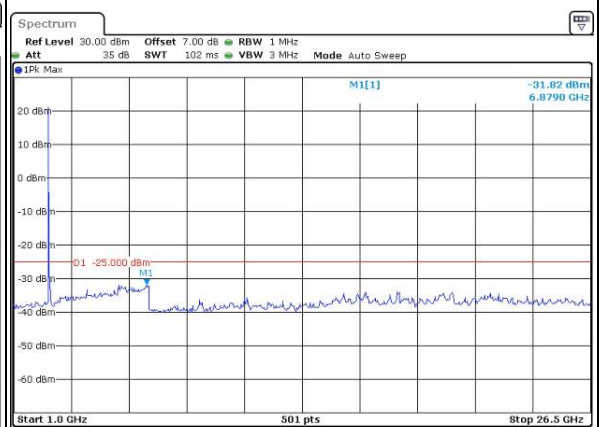
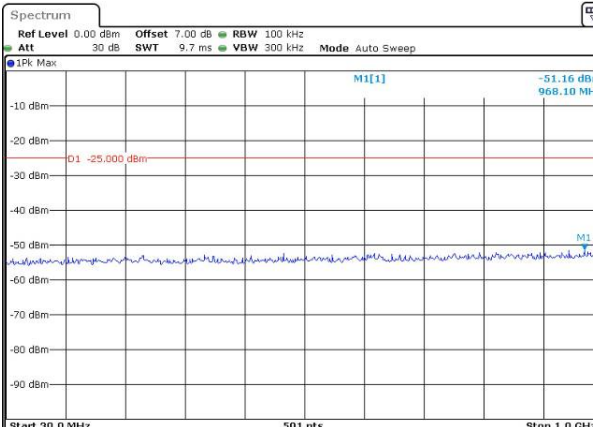
Middle



Date: 4.JUL.2022 12:47:11

Date: 4.JUL.2022 12:47:36

Highest



Date: 4.JUL.2022 12:47:56

Date: 4.JUL.2022 12:48:28