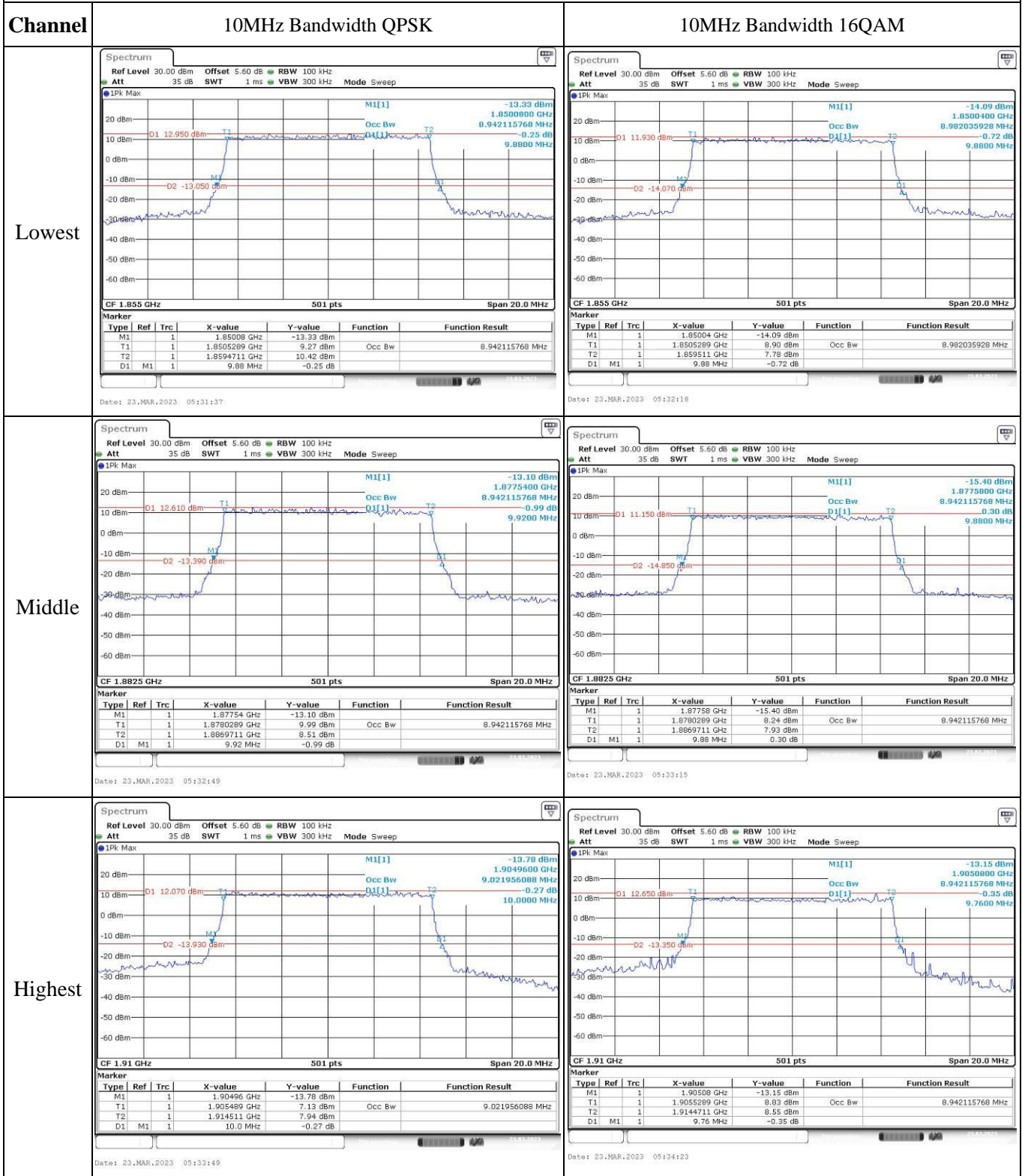


Occupied Bandwidth



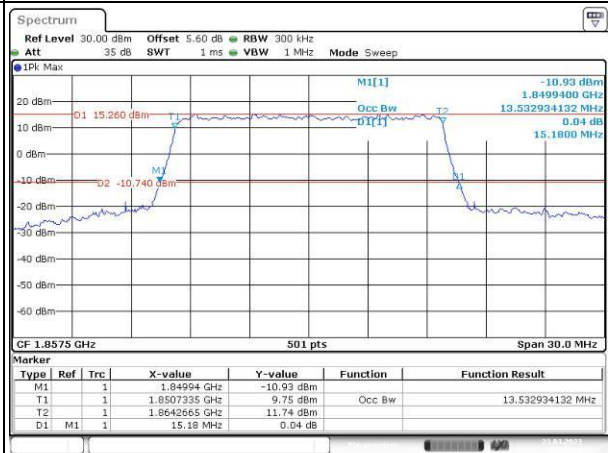
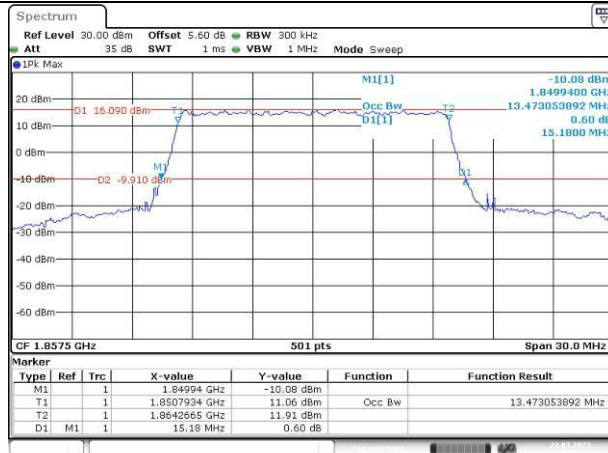
Occupied Bandwidth

Channel

15MHz Bandwidth QPSK

15MHz Bandwidth 16QAM

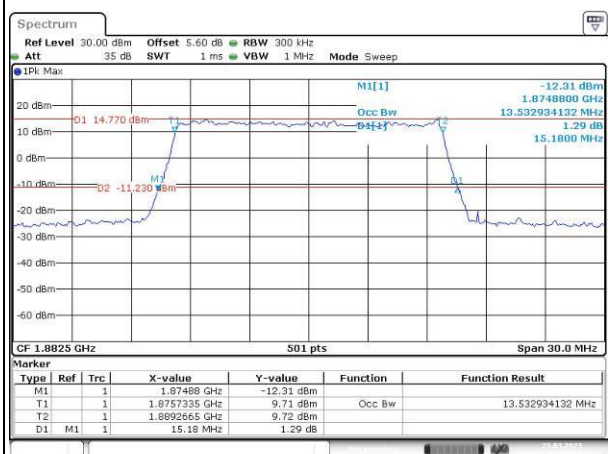
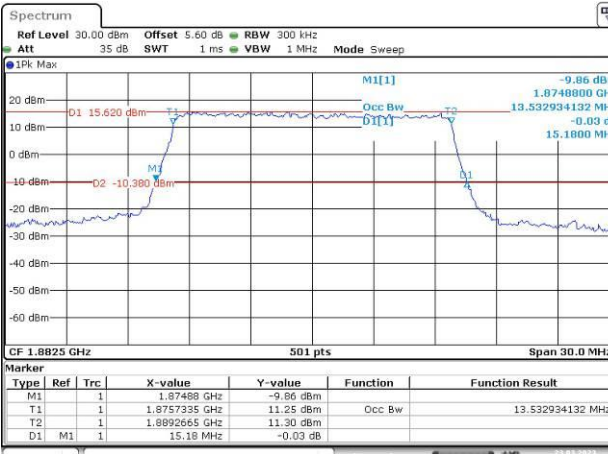
Lowest



Date: 23.MAR.2023 05:13:14

Date: 23.MAR.2023 05:13:15

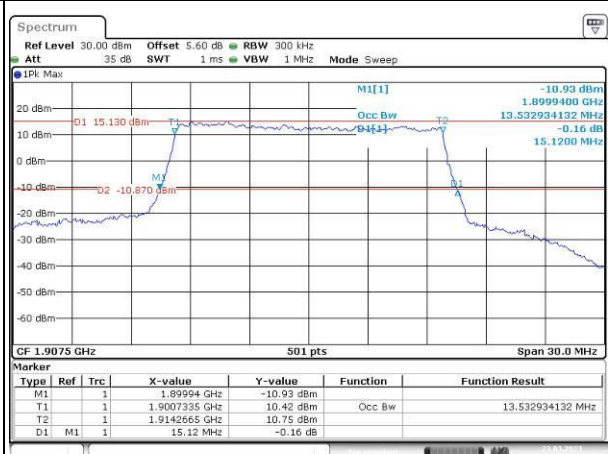
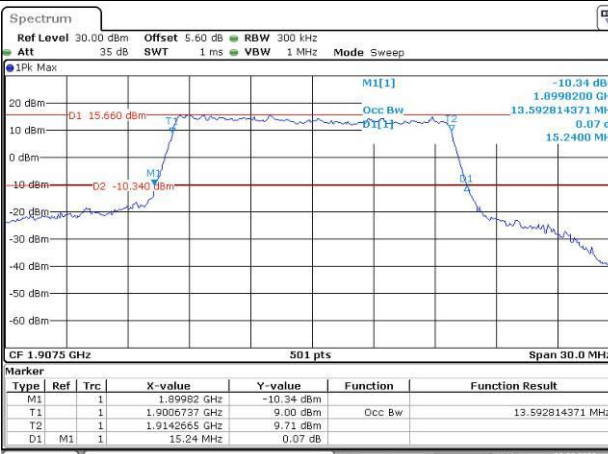
Middle



Date: 23.MAR.2023 05:13:30

Date: 23.MAR.2023 05:13:31

Highest



Date: 23.MAR.2023 05:13:23

Date: 23.MAR.2023 05:13:24

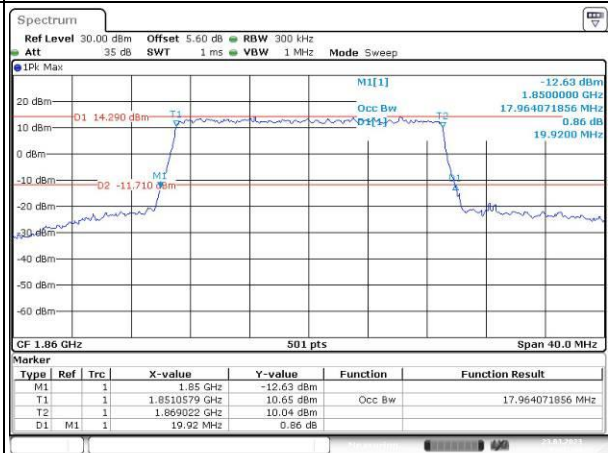
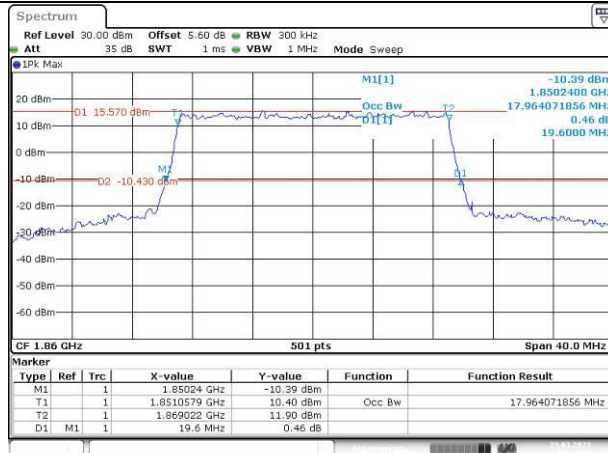
Occupied Bandwidth

Channel

20MHz Bandwidth QPSK

20MHz Bandwidth 16QAM

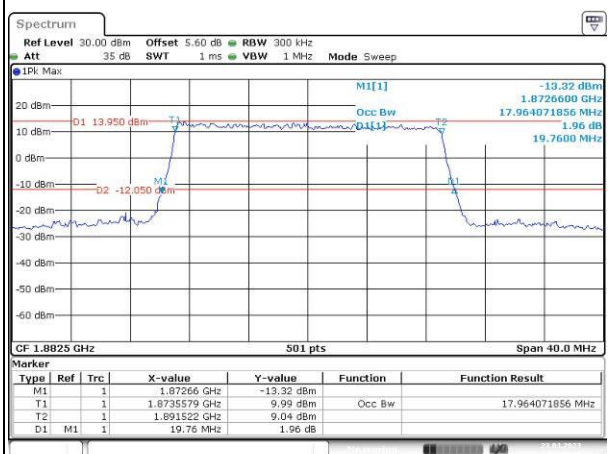
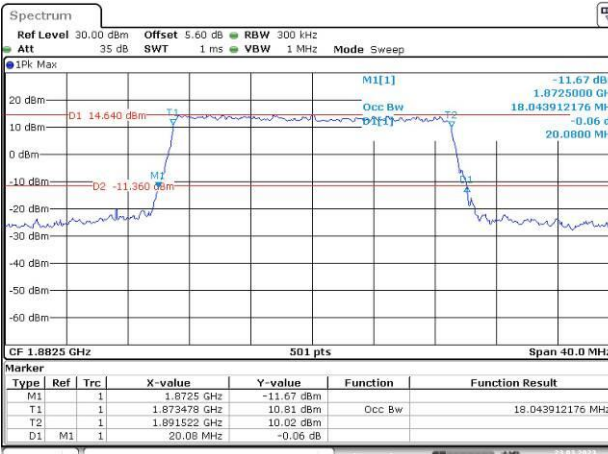
Lowest



Date: 23.MAR.2023 05:41:08

Date: 23.MAR.2023 05:41:43

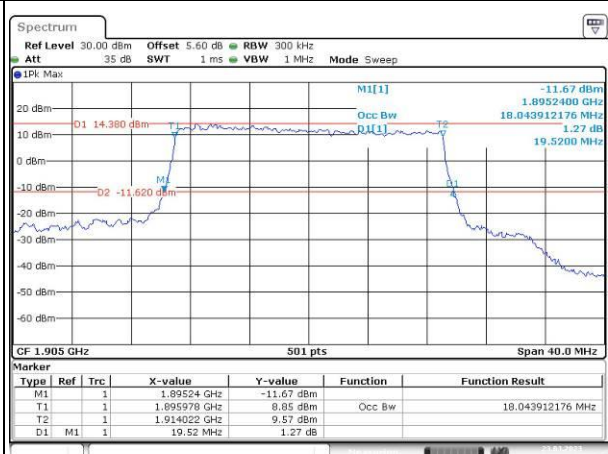
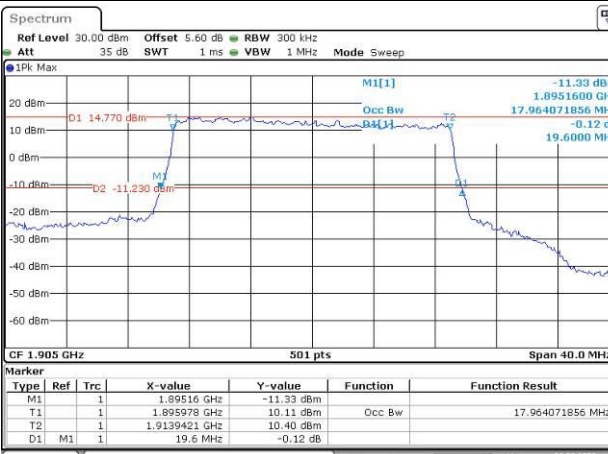
Middle



Date: 23.MAR.2023 05:42:12

Date: 23.MAR.2023 05:42:39

Highest



Date: 23.MAR.2023 05:43:11

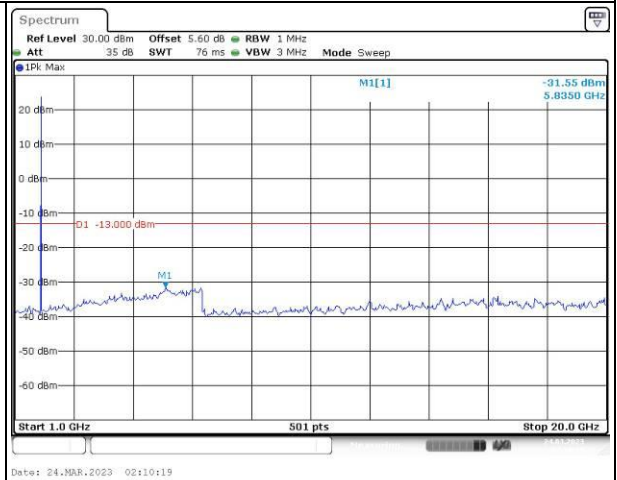
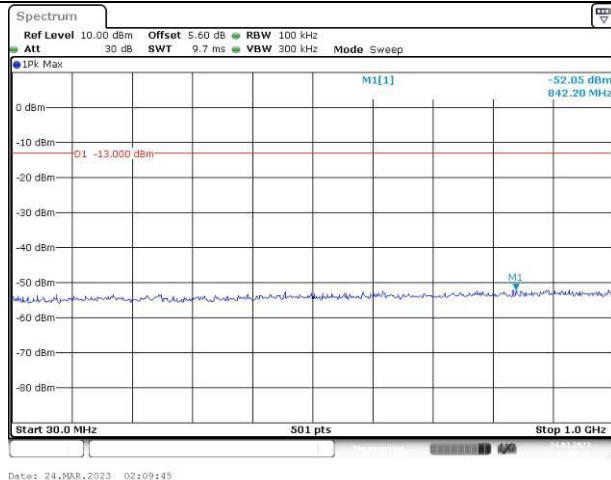
Date: 23.MAR.2023 05:43:39

Spurious Emissions at Antenna Terminal

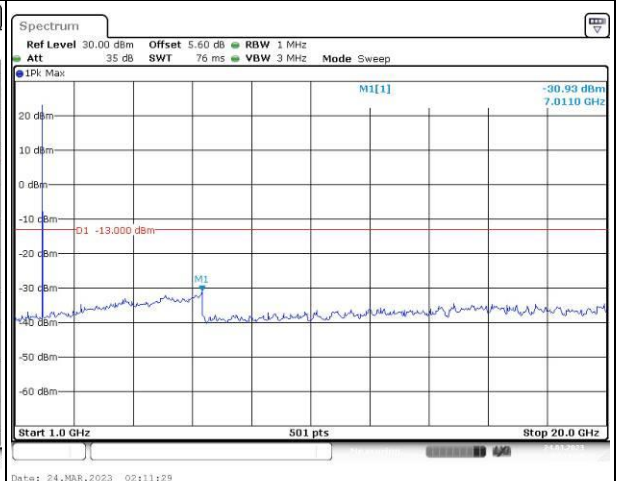
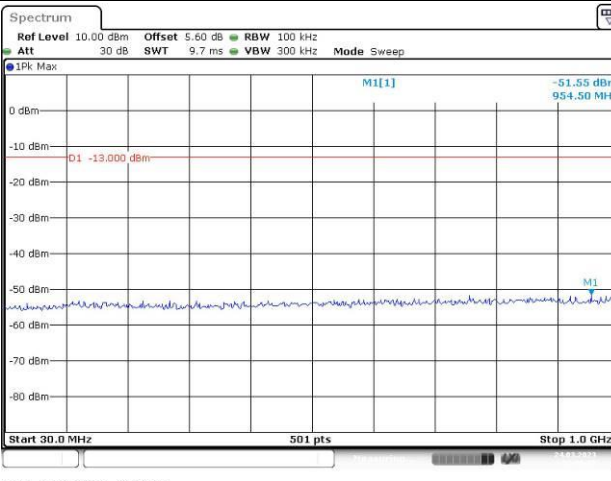
Channel

1.4MHz Bandwidth QPSK

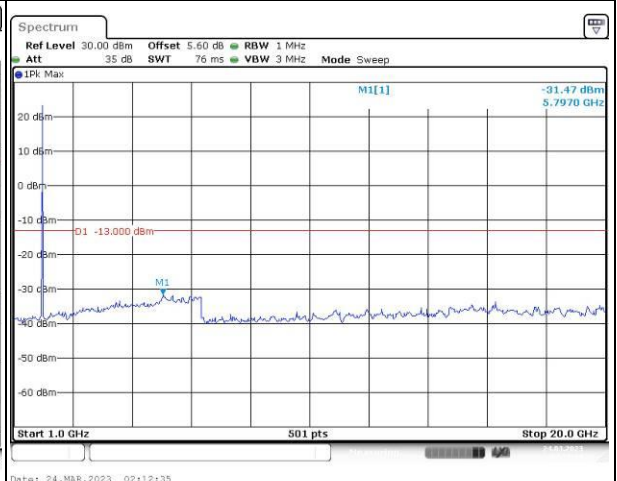
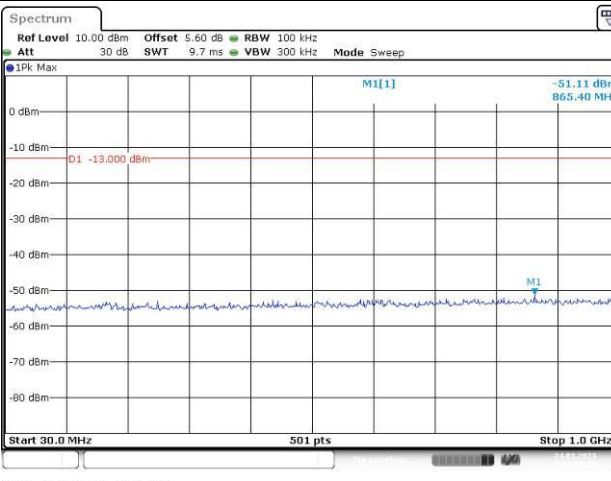
Lowest



Middle



Highest

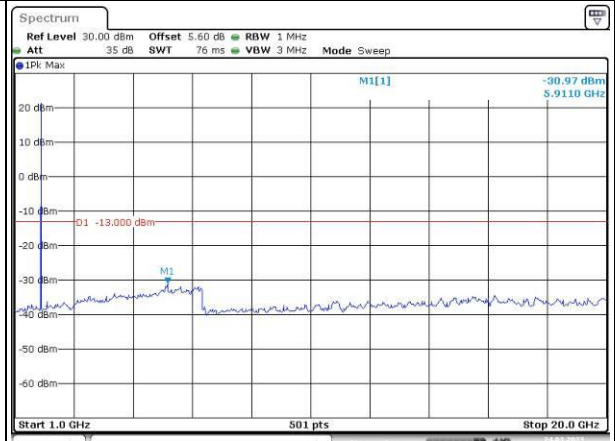
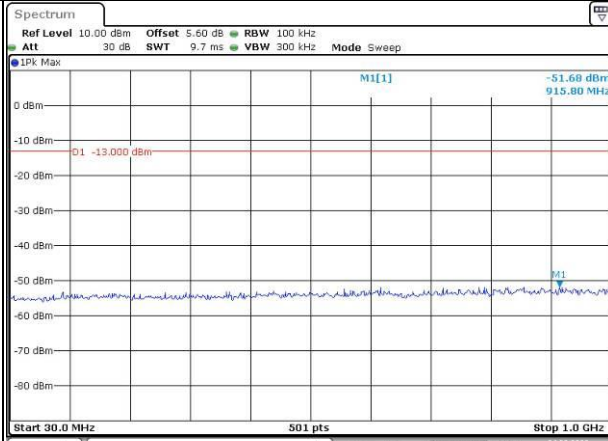


Spurious Emissions at Antenna Terminal

Channel

3MHz Bandwidth QPSK

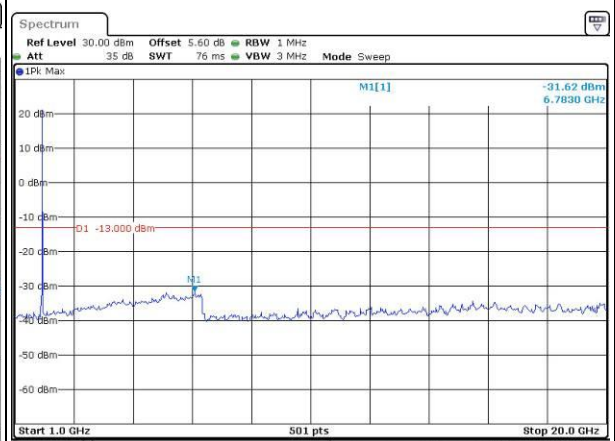
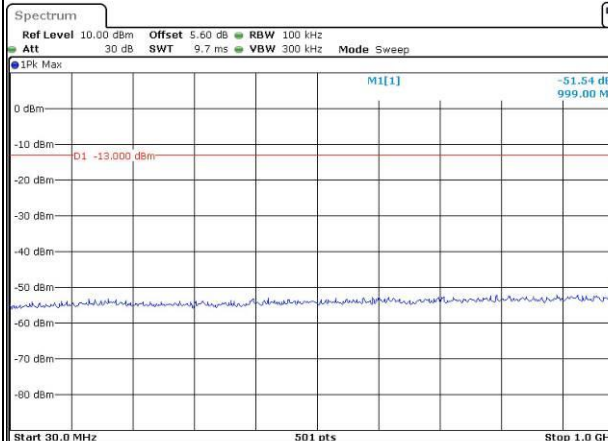
Lowest



Date: 24.MAR.2023 02:13:37

Date: 24.MAR.2023 02:14:14

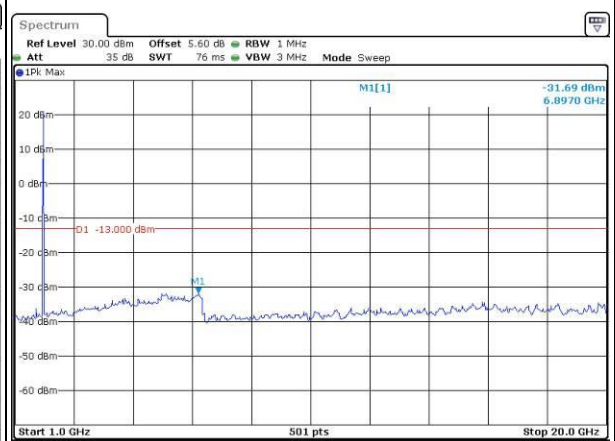
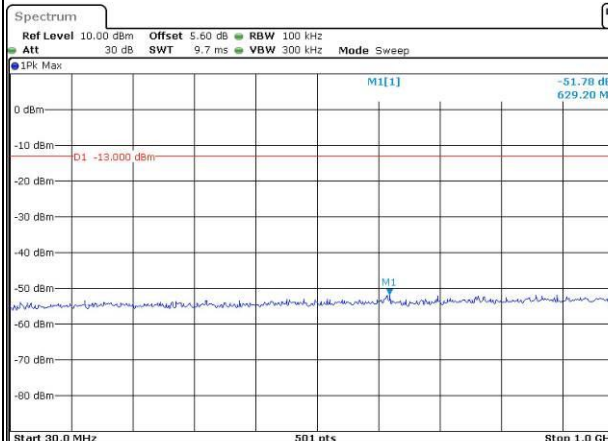
Middle



Date: 24.MAR.2023 02:14:50

Date: 24.MAR.2023 02:15:13

Highest



Date: 24.MAR.2023 02:15:49

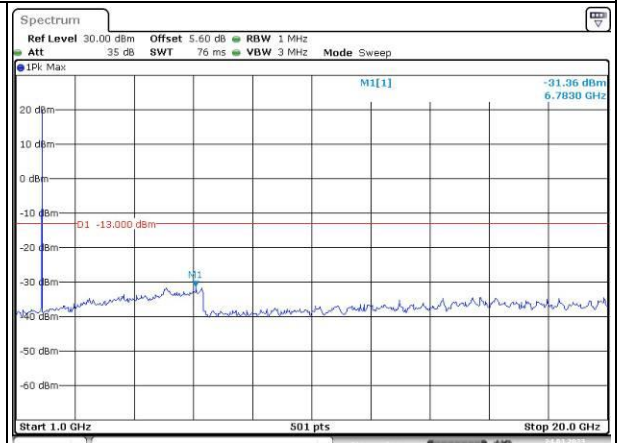
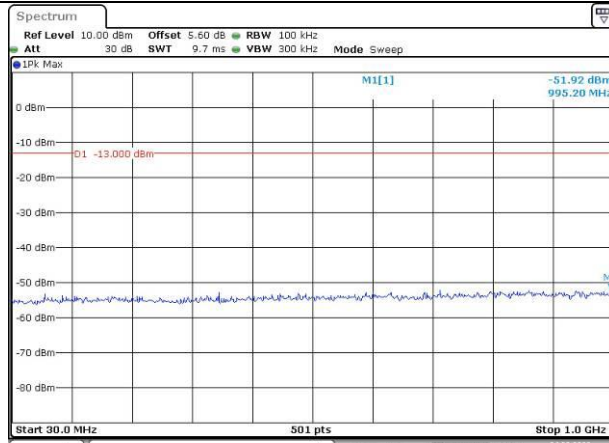
Date: 24.MAR.2023 02:16:19

Spurious Emissions at Antenna Terminal

Channel

5MHz Bandwidth QPSK

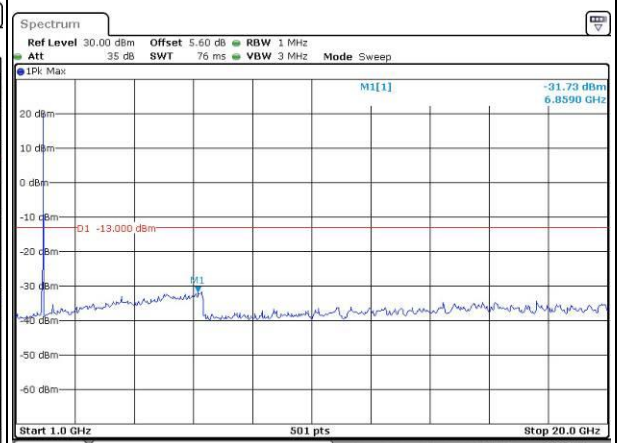
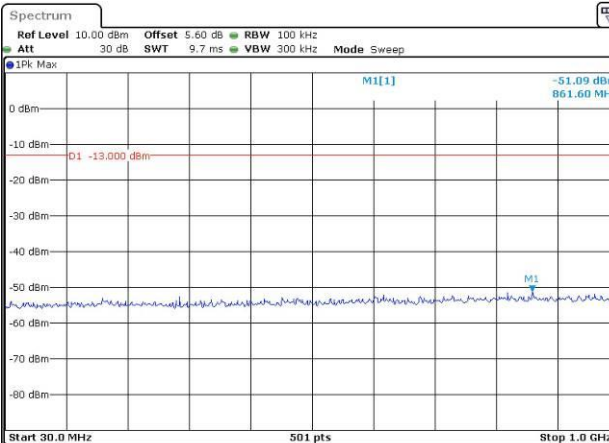
Lowest



Date: 24.MAR.2023 02:17:18

Date: 24.MAR.2023 02:17:44

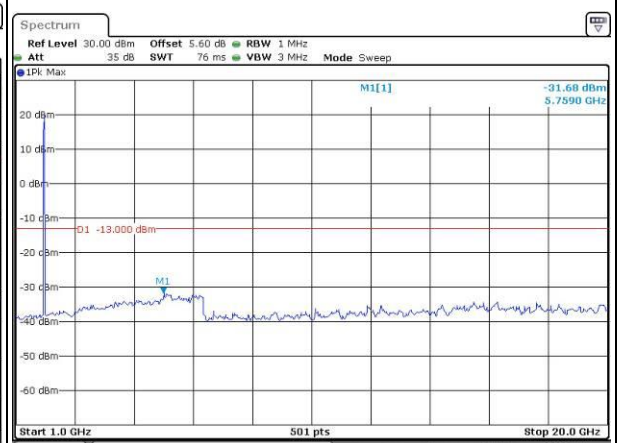
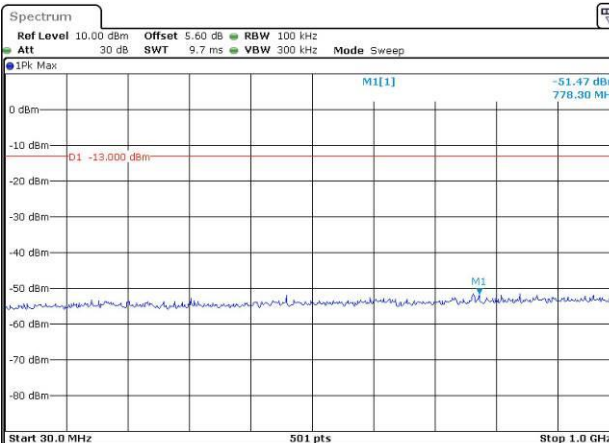
Middle



Date: 24.MAR.2023 02:18:17

Date: 24.MAR.2023 02:18:46

Highest



Date: 24.MAR.2023 02:19:19

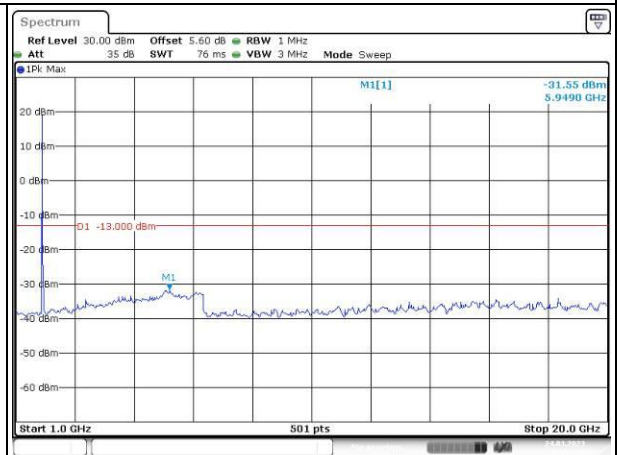
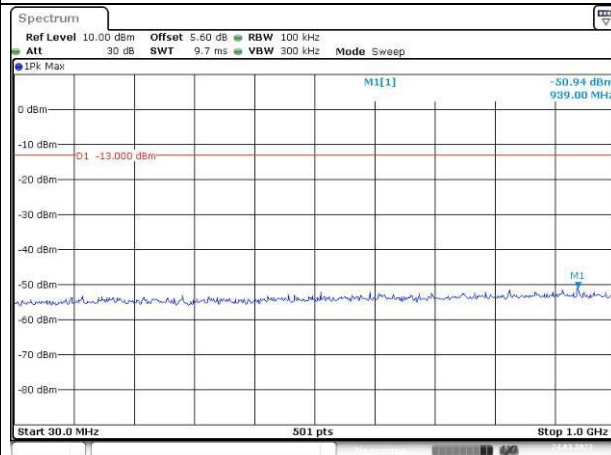
Date: 24.MAR.2023 02:19:52

Spurious Emissions at Antenna Terminal

Channel

10MHz Bandwidth QPSK

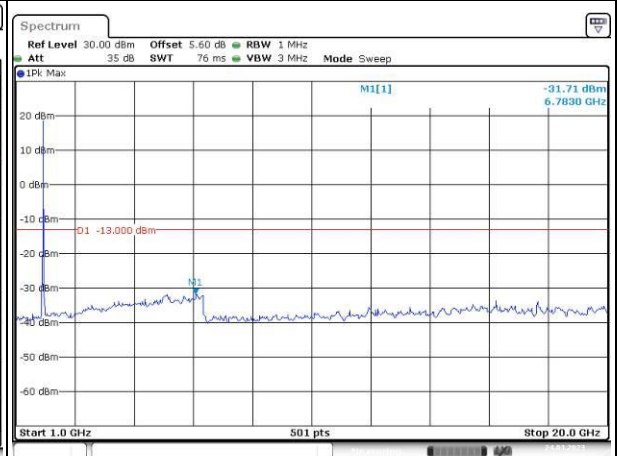
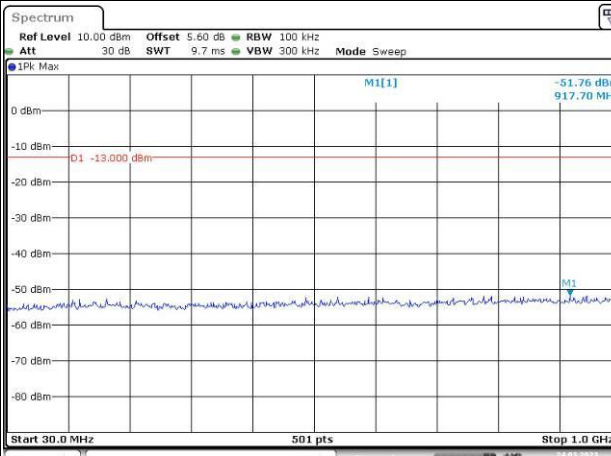
Lowest



Date: 24.MAR.2023 02:21:18

Date: 24.MAR.2023 02:21:52

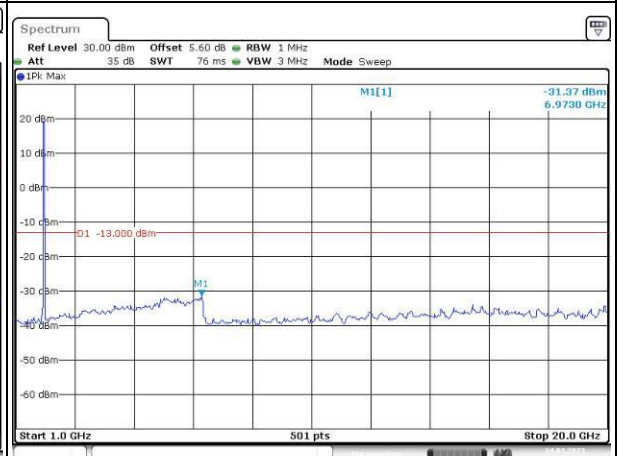
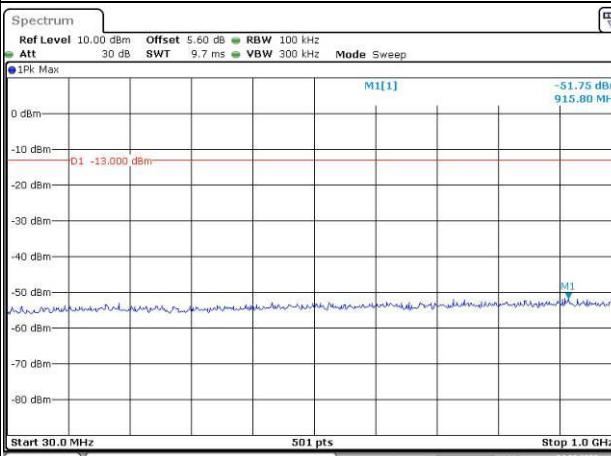
Middle



Date: 24.MAR.2023 02:22:29

Date: 24.MAR.2023 02:22:55

Highest



Date: 24.MAR.2023 02:23:32

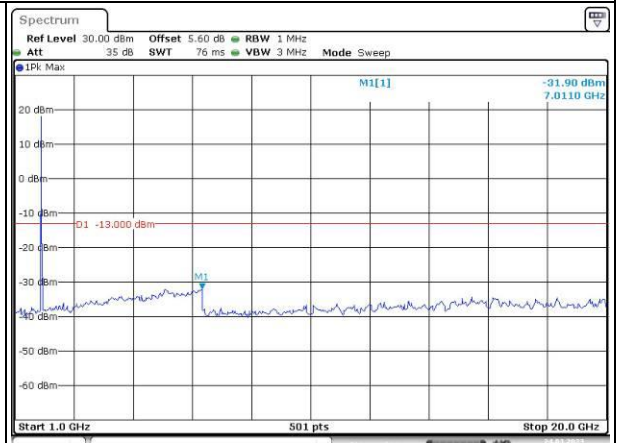
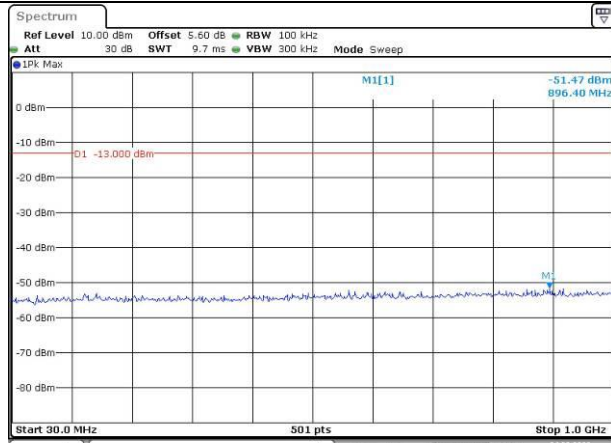
Date: 24.MAR.2023 02:24:05

Spurious Emissions at Antenna Terminal

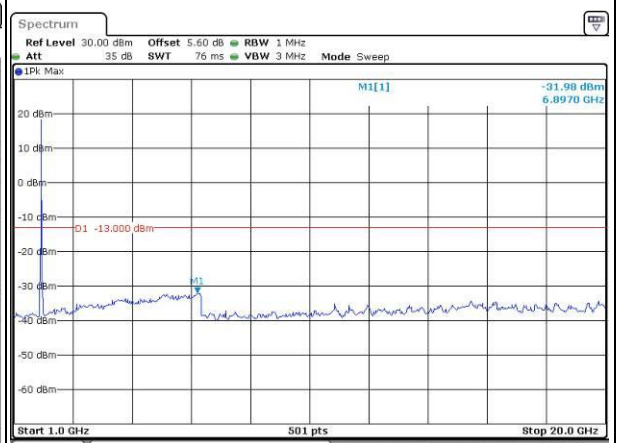
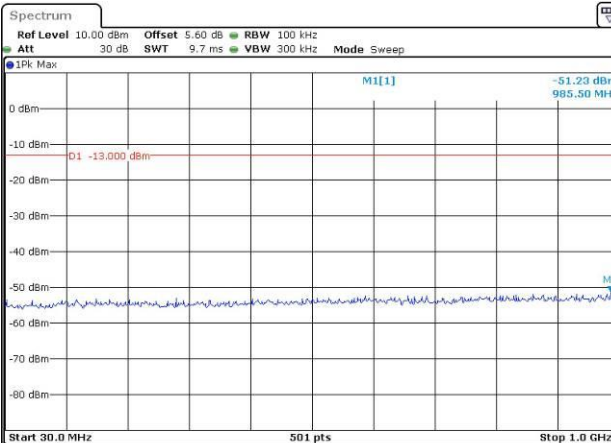
Channel

15MHz Bandwidth QPSK

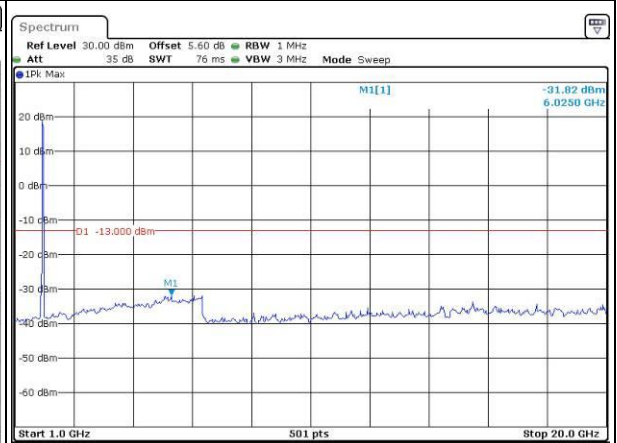
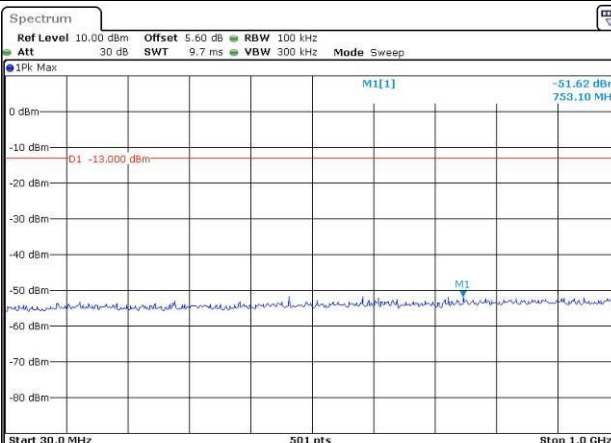
Lowest



Middle



Highest

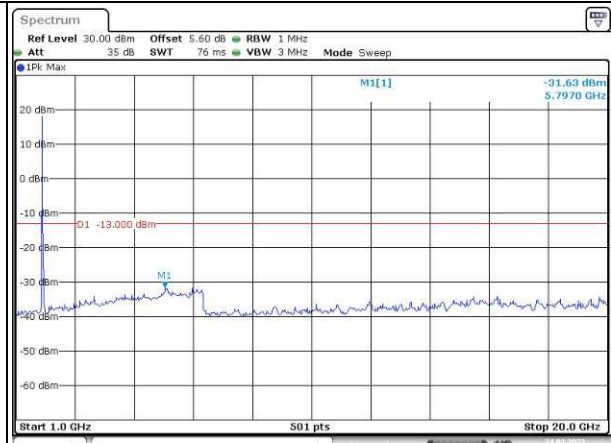
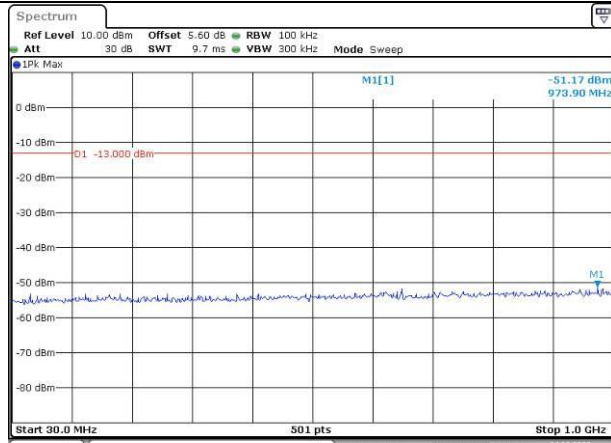


Spurious Emissions at Antenna Terminal

Channel

20MHz Bandwidth QPSK

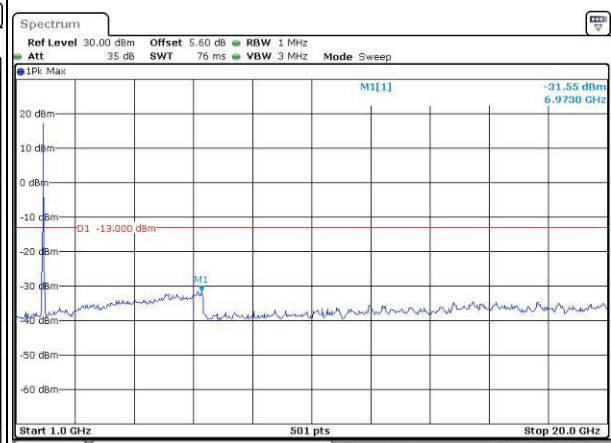
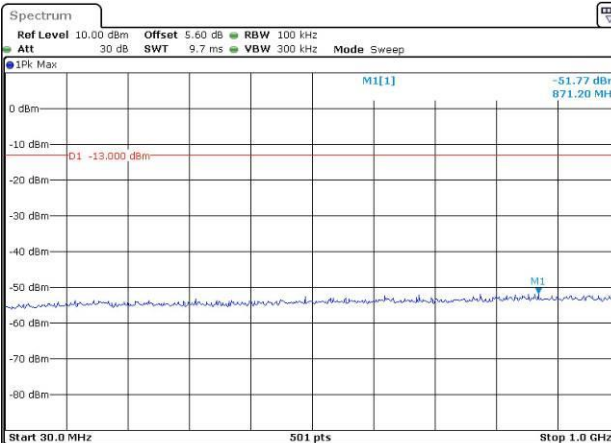
Lowest



Date: 24.MAR.2023 02:13:16

Date: 24.MAR.2023 02:13:18

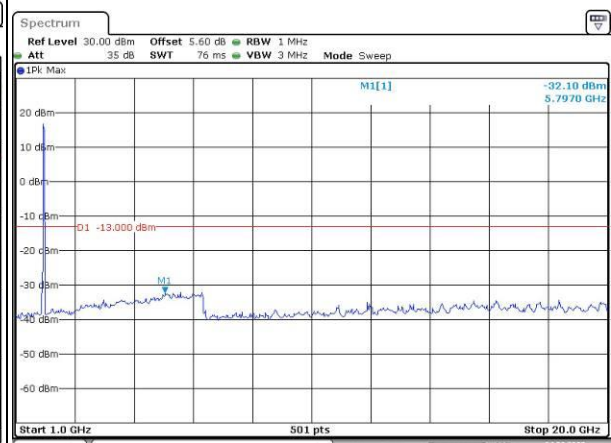
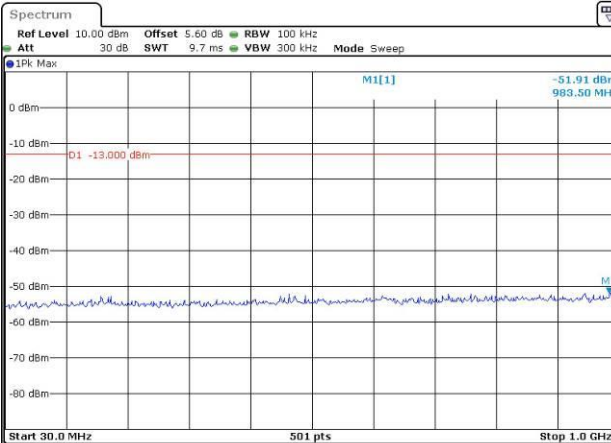
Middle



Date: 24.MAR.2023 02:13:19

Date: 24.MAR.2023 02:13:13

Highest



Date: 24.MAR.2023 02:13:19

Date: 24.MAR.2023 02:13:15

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 5.60 dB RBW 30 kHz Att 35 dB SWT 35 ms VBW 100 kHz Mode Sweep SGL Count 50/50 IRm AvgPwr MI[1] -31.10 dBm 1.8500000 GHz -13.000 dBm CF 1.85 GHz 501 pts Span 3.0 MHz Date: 30.MAR.2023 10:23:05</p>	<p>Ref Level 30.00 dBm Offset 5.60 dB RBW 30 kHz Att 35 dB SWT 35 ms VBW 100 kHz Mode Sweep SGL Count 50/50 IRm AvgPwr MI[1] -29.24 dBm 1.9150000 GHz -13.000 dBm CF 1.915 GHz 501 pts Span 3.0 MHz Date: 30.MAR.2023 10:23:18</p>
16QAM 3MHz	<p>Ref Level 30.00 dBm Offset 5.60 dB RBW 30 kHz Att 35 dB SWT 35 ms VBW 100 kHz Mode Sweep SGL Count 50/50 IRm AvgPwr MI[1] -35.83 dBm 1.8500000 GHz -13.000 dBm CF 1.85 GHz 501 pts Span 6.0 MHz Date: 30.MAR.2023 10:23:57</p>	<p>Ref Level 30.00 dBm Offset 5.60 dB RBW 30 kHz Att 35 dB SWT 35 ms VBW 100 kHz Mode Sweep SGL Count 50/50 IRm AvgPwr MI[1] -33.34 dBm 1.9150000 GHz -13.000 dBm CF 1.915 GHz 501 pts Span 6.0 MHz Date: 30.MAR.2023 10:24:10</p>
16QAM 5MHz	<p>Ref Level 30.00 dBm Offset 5.60 dB RBW 100 kHz Att 35 dB SWT 35 ms VBW 300 kHz Mode Sweep SGL Count 50/50 IRm AvgPwr MI[1] -26.99 dBm 1.8499800 GHz -13.000 dBm CF 1.85 GHz 501 pts Span 10.0 MHz Date: 30.MAR.2023 10:24:49</p>	<p>Ref Level 30.00 dBm Offset 5.60 dB RBW 100 kHz Att 35 dB SWT 35 ms VBW 300 kHz Mode Sweep SGL Count 50/50 IRm AvgPwr MI[1] -25.72 dBm 1.9150000 GHz -13.000 dBm CF 1.915 GHz 501 pts Span 10.0 MHz Date: 30.MAR.2023 10:25:03</p>

Out of band emission, Band Edge

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

4.14 Antenna Port Test Data and Results for LTE Band 38

Serial Number:	2205	Test Date:	2023/3/23~2023/3/30
Test Site:	RF	Test Mode:	Transmitting
Tester:	Jou Zhou	Test Result:	Pass

Environmental Conditions:

Temperature: (°C)	24.1~25.3	Relative Humidity: (%)	41~56	ATM Pressure: (kPa)	100.1~101.6
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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	2022/7/15	2023/7/14
zhuoxiang	Coaxial Cable	SMA-178	211001	Each time	N/A
YINSAIGE	Coaxial Cable	SS402	SJ0100004	Each time	N/A
Mini-Circuits	DC Block	BLK-18-S+	1554404	Each time	N/A
eastsheep	Coaxial Attenuator	2W-SMA-JK-18G	21060301	Each time	N/A
Weinschel	Power splitter	1515	RA915	Each time	N/A
R&S	Wideband Radio Communication Tester	CMW500	149218	2022/7/15	2023/7/14
BACL	TEMP&HUMI Test Chamber	BTH-150-40	30174	2022/4/6	2023/4/5
UNI-T	Multimeter	UT39A+	C210582554	2022/9/29	2023/9/28
ZHAOXIN	DC Power Supply	RXN-6010D	21R6010D0912386	N/A	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).

Test Frequency For Each Mode:

Operation Bandwidth	Lowest Frequency (MHz)	Middle Frequency (MHz)	Highest Frequency (MHz)
5MHz	2572.5	2595	2617.5
10MHz	2575	2595	2615
15MHz	2577.5	2595	2612.5
20MHz	2580	2595	2610

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	22.49	22.22	22.26	25.61	33
	RB1#13	22.55	22.38	22.46		
	RB1#24	22.37	22.24	22.34		
	RB15#0	21.44	21.32	21.65		
	RB15#10	21.43	21.27	21.49		
	RB25#0	21.4	21.26	21.65		
5MHz 16QAM	RB1#0	21.22	21.27	21.83	25.14	33
	RB1#13	21.29	21.39	22.08		
	RB1#24	21.13	21.25	22		
	RB15#0	20.37	20.36	20.9		
	RB15#10	20.38	20.31	20.87		
	RB25#0	20.41	20.29	20.77		
10MHz QPSK	RB1#0	22.91	22.75	22.66	26.08	33
	RB1#25	23.02	22.84	22.92		
	RB1#49	22.81	22.72	22.75		
	RB25#0	21.83	21.76	21.76		
	RB25#25	21.87	21.67	21.78		
	RB50#0	21.84	21.73	21.77		
10MHz 16QAM	RB1#0	21.91	21.64	21.74	25.03	33
	RB1#25	21.97	21.74	21.97		
	RB1#49	21.79	21.62	21.84		
	RB25#0	20.86	20.73	20.87		
	RB25#25	20.9	20.61	20.84		
	RB50#0	20.82	20.72	20.74		
15MHz QPSK	RB1#0	22.75	22.65	22.72	25.87	33
	RB1#38	22.78	22.71	22.81		
	RB1#74	22.65	22.64	22.72		
	RB36#0	21.81	21.86	21.81		
	RB36#39	21.88	21.75	21.81		
	RB75#0	21.86	21.87	21.88		
15MHz 16QAM	RB1#0	21.88	21.63	21.62	24.94	33
	RB1#38	21.85	21.67	21.77		
	RB1#74	21.69	21.58	21.72		
	RB36#0	20.89	20.75	20.83		
	RB36#39	20.88	20.63	20.83		
	RB75#0	20.77	20.75	20.81		

20MHz QPSK	RB1#0	22.69	22.5	22.5	26.04	33
	RB1#50	22.98	22.87	22.89		
	RB1#99	22.49	22.43	22.6		
	RB50#0	21.73	21.76	21.78		
	RB50#50	21.69	21.62	21.69		
	RB100#0	21.72	21.64	21.75		
20MHz 16QAM	RB1#0	21.72	21.71	21.83	25.26	33
	RB1#50	21.99	22.02	22.2		
	RB1#99	21.53	21.65	21.96		
	RB50#0	20.73	20.84	20.79		
	RB50#50	20.7	20.67	20.69		
	RB100#0	20.7	20.66	20.72		
Note: EIRP=Conducted Power(dBm) - Lc(dB) + Gr(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	9.91	9.28	8.61	13	
	RB100#0	9.8	9.59	8.52	13	
20MHz 16QAM	RB1#0	10.67	10.12	10.06	13	
	RB100#0	11.22	11.19	11.16	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	4.531	4.551	5.14	5.16	5.16
5MHz 16QAM	4.531	4.531	4.511	5.18	5.16	5.14
10MHz QPSK	8.982	8.942	8.982	9.68	9.88	9.96
10MHz 16QAM	8.982	8.982	8.942	9.84	10.04	9.68
15MHz QPSK	13.533	13.533	13.593	15.24	16.02	15.66
15MHz 16QAM	13.533	13.533	13.533	15.42	15.12	15.12
20MHz QPSK	17.964	17.964	17.964	19.52	20	19.6
20MHz 16QAM	17.964	17.964	17.964	20	19.76	19.84
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.

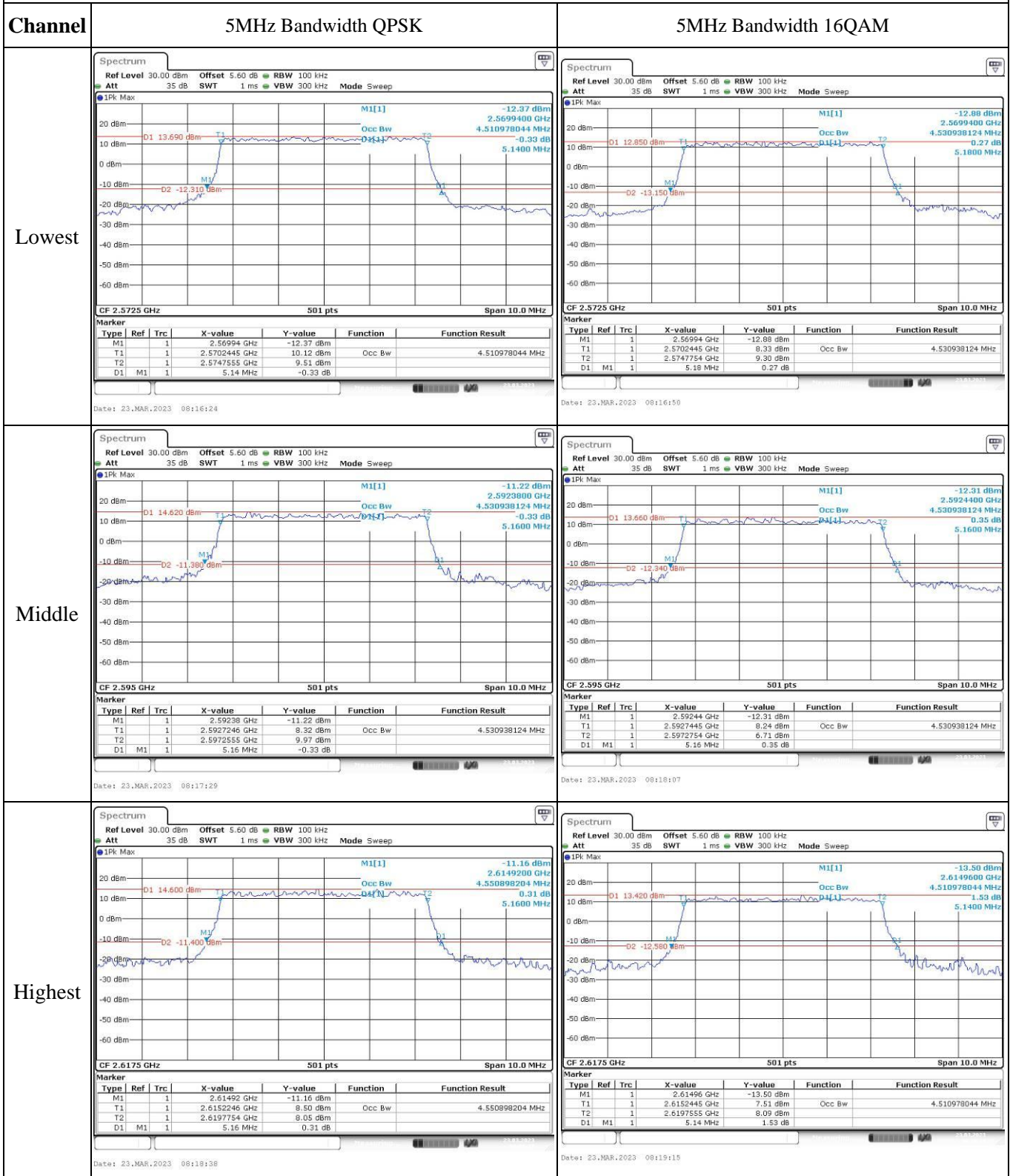
FCC §2.1051, §27.53:Out of band emission, Band Edge	
Result:	Pass, Please refer to the test plots of Out of band emission, Band Edge.

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	2571.031	2570.00	2619.232	2620
	-20	3.8	2571.069	2570.00	2619.227	2620
	-10	3.8	2571.017	2570.00	2619.162	2620
	0	3.8	2571.013	2570.00	2619.103	2620
	10	3.8	2571.059	2570.00	2619.080	2620
	20	3.8	2571.058	2570.00	2619.022	2620
	30	3.8	2571.035	2570.00	2619.012	2620
	40	3.8	2571.021	2570.00	2619.023	2620
Frequency Stability vs. Voltage	20	3.3	2571.069	2570.00	2619.055	2620
	20	4.3	2571.014	2570.00	2618.996	2620
					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	2571.010	2570.00	2619.133	2620
	-20	3.8	2571.080	2570.00	2619.111	2620
	-10	3.8	2571.034	2570.00	2619.071	2620
	0	3.8	2571.084	2570.00	2619.008	2620
	10	3.8	2571.018	2570.00	2619.123	2620
	20	3.8	2571.058	2570.00	2619.122	2620
	30	3.8	2571.024	2570.00	2619.124	2620
	40	3.8	2570.989	2570.00	2619.126	2620
Frequency Stability vs. Voltage	20	3.3	2571.019	2570.00	2619.125	2620
	20	4.3	2571.012	2570.00	2619.123	2620
					Result:	Pass

Test Plots(Note: The 5.6dB is the Insertion loss of the RF cable, Power Splitter and DC Block, which was offset into the Spectrum Analyzer):

Occupied Bandwidth



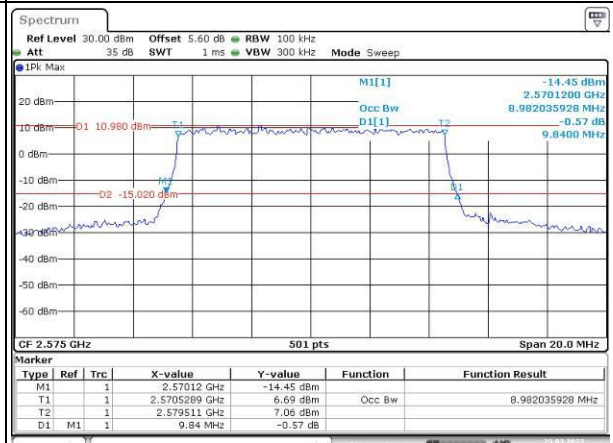
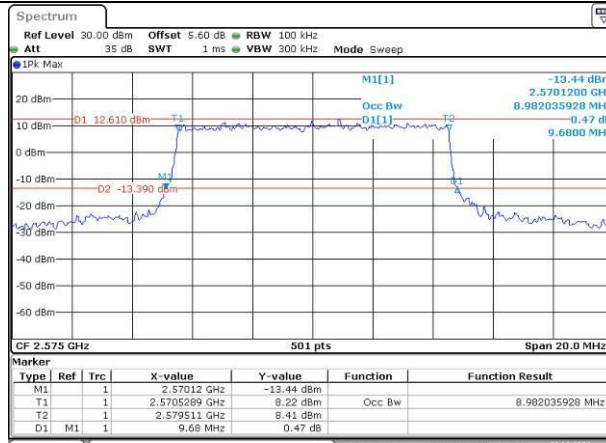
Occupied Bandwidth

Channel

10MHz Bandwidth QPSK

10MHz Bandwidth 16QAM

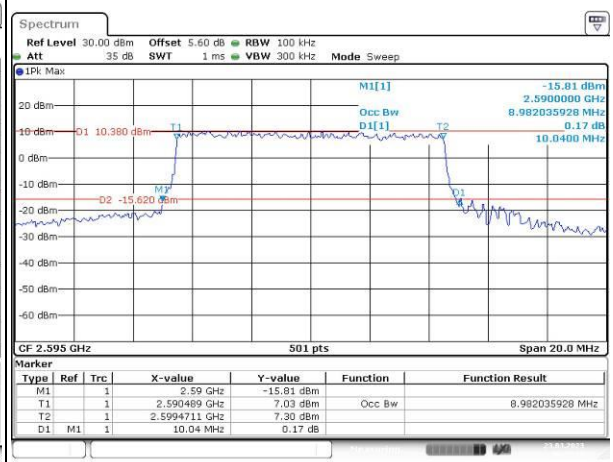
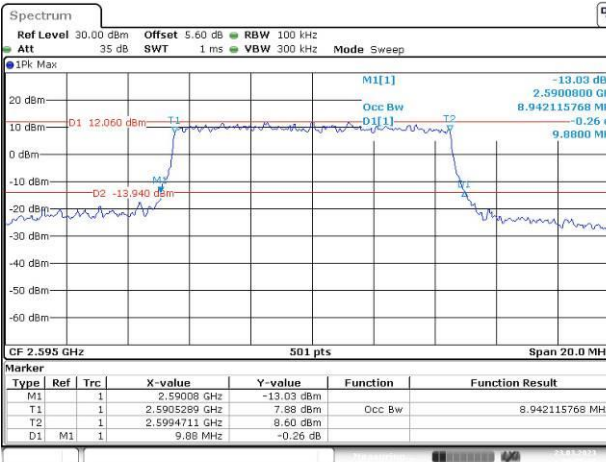
Lowest



Date: 23.MAR.2023 08:20:31

Date: 23.MAR.2023 08:21:04

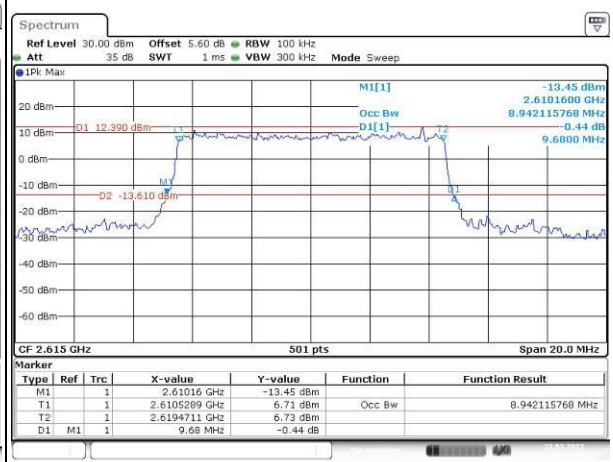
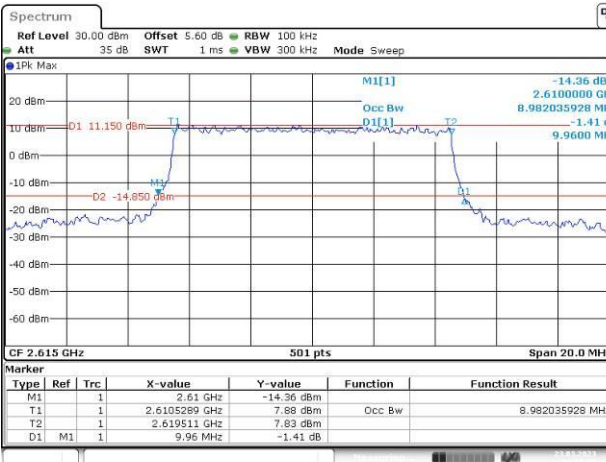
Middle



Date: 23.MAR.2023 08:21:39

Date: 23.MAR.2023 08:22:12

Highest



Date: 23.MAR.2023 08:22:57

Date: 23.MAR.2023 08:23:42

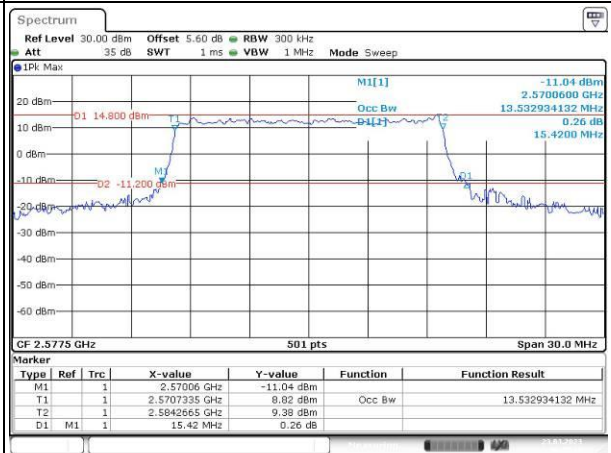
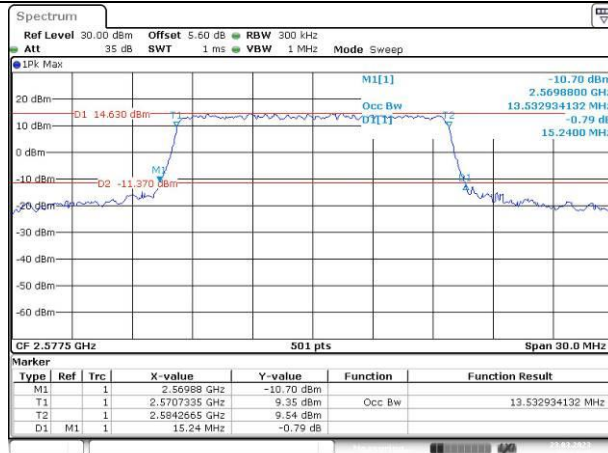
Occupied Bandwidth

Channel

15MHz Bandwidth QPSK

15MHz Bandwidth 16QAM

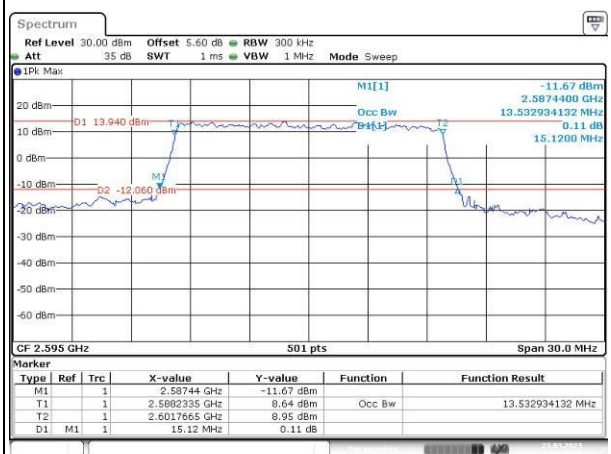
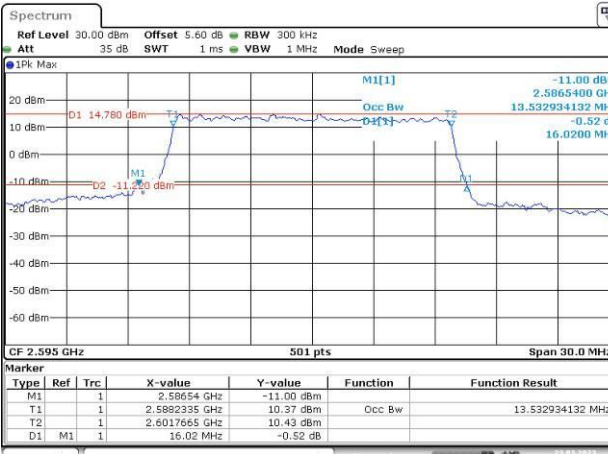
Lowest



Date: 23.MAR.2023 08:24:33

Date: 23.MAR.2023 08:25:10

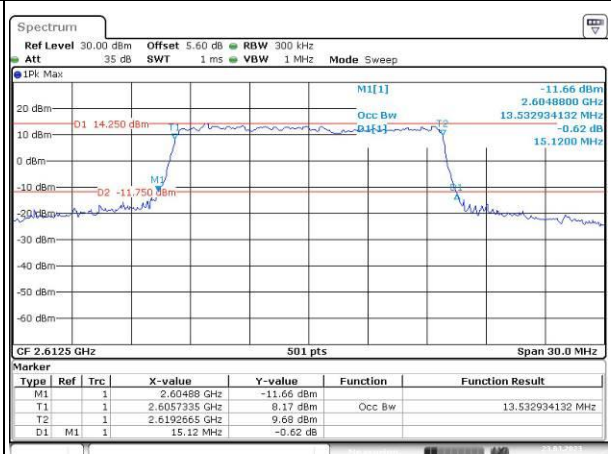
Middle



Date: 23.MAR.2023 08:25:39

Date: 23.MAR.2023 08:26:10

Highest



Date: 23.MAR.2023 08:26:46

Date: 23.MAR.2023 08:27:17

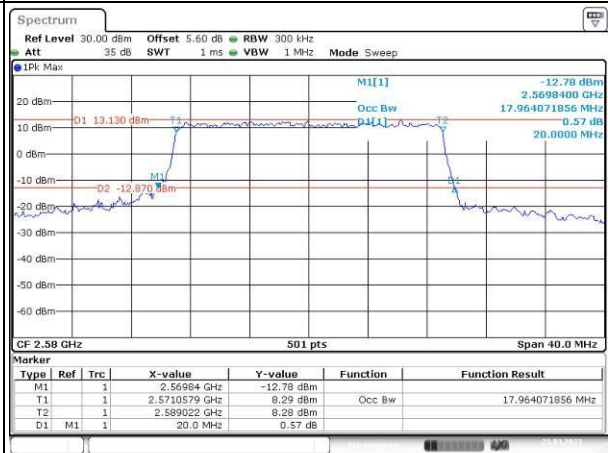
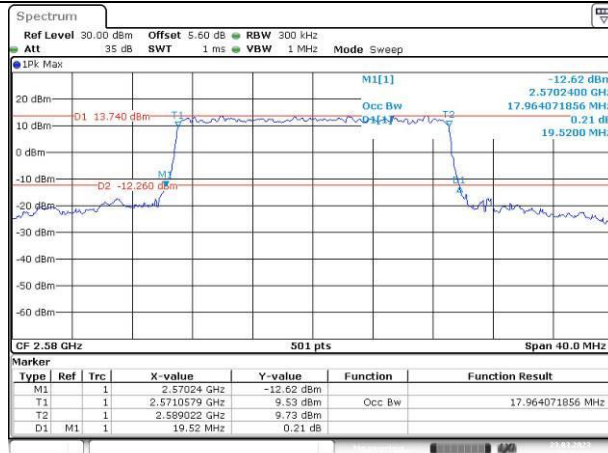
Occupied Bandwidth

Channel

20MHz Bandwidth QPSK

20MHz Bandwidth 16QAM

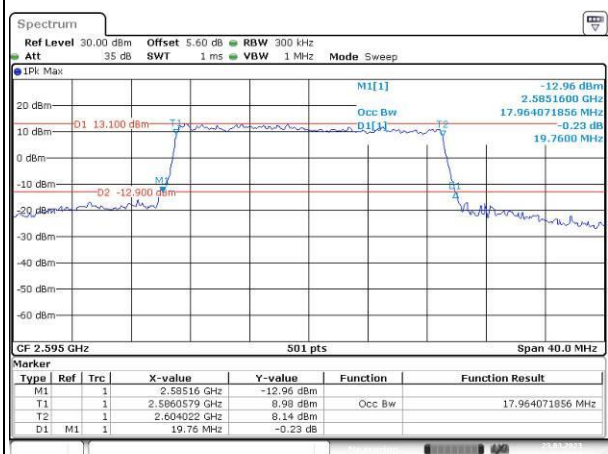
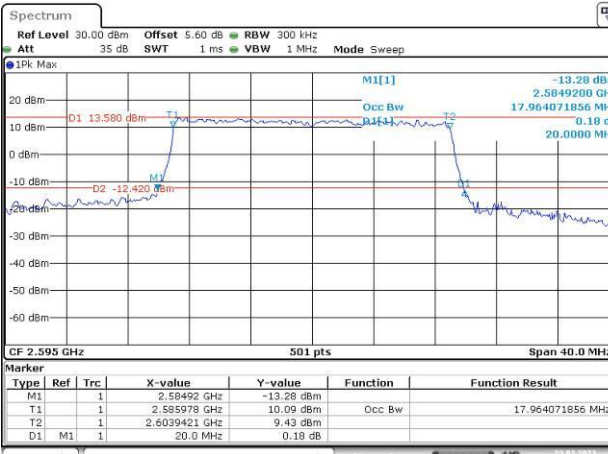
Lowest



Date: 23.MAR.2023 08:28:26

Date: 23.MAR.2023 08:29:01

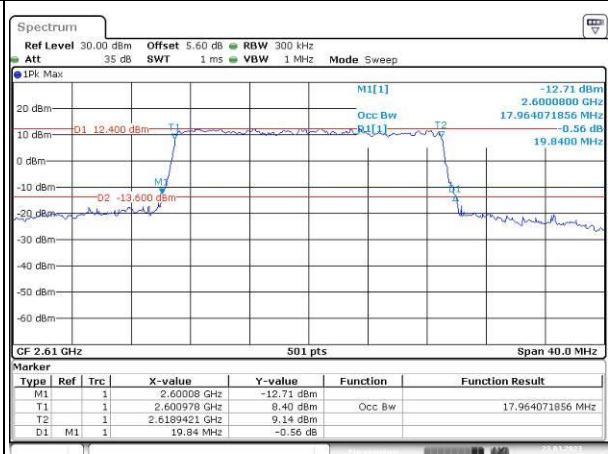
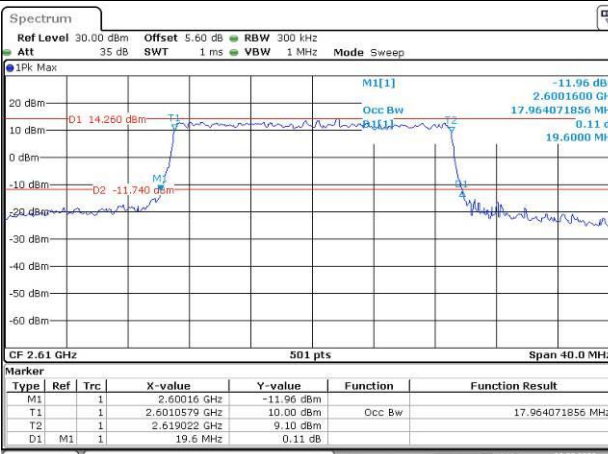
Middle



Date: 23.MAR.2023 08:129:33

Date: 23.MAR.2023 08:130:04

Highest



Date: 23.MAR.2023 08:130:37

Date: 23.MAR.2023 08:131:08