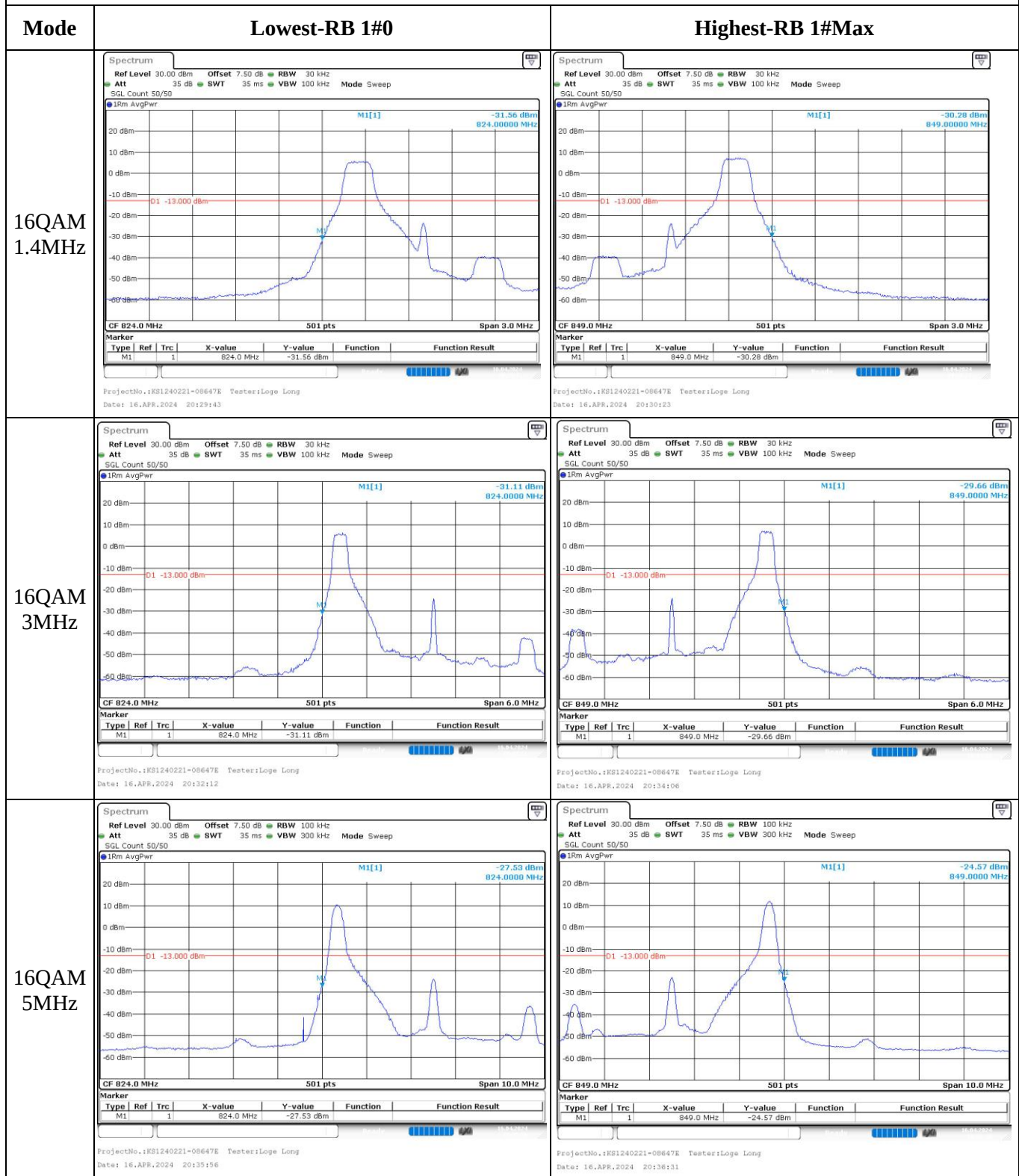
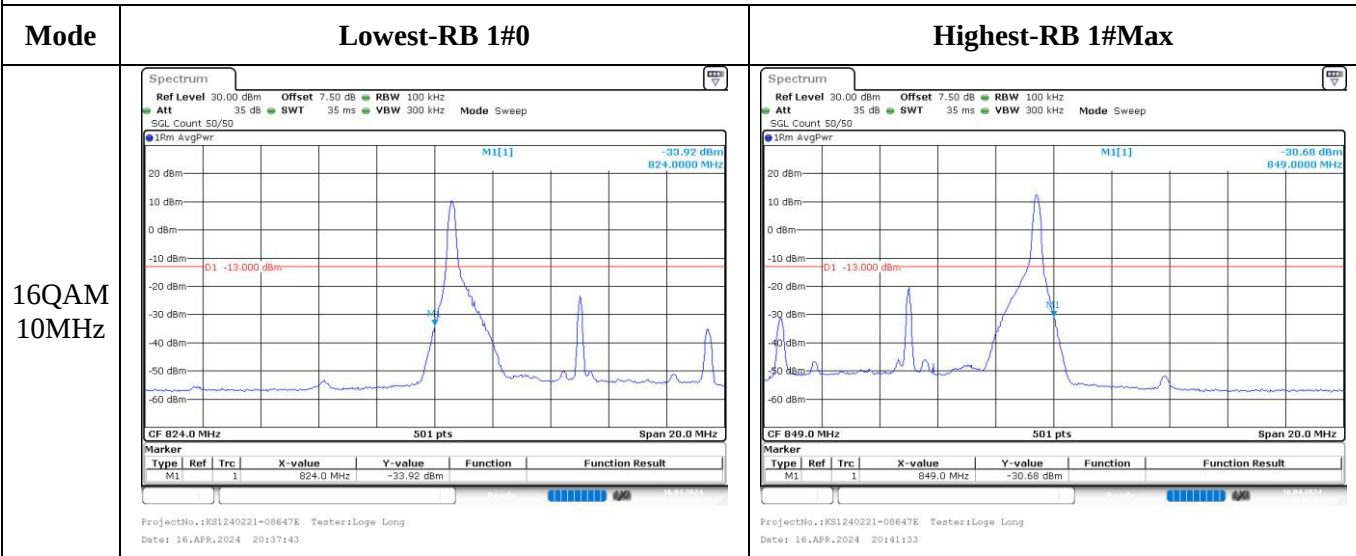


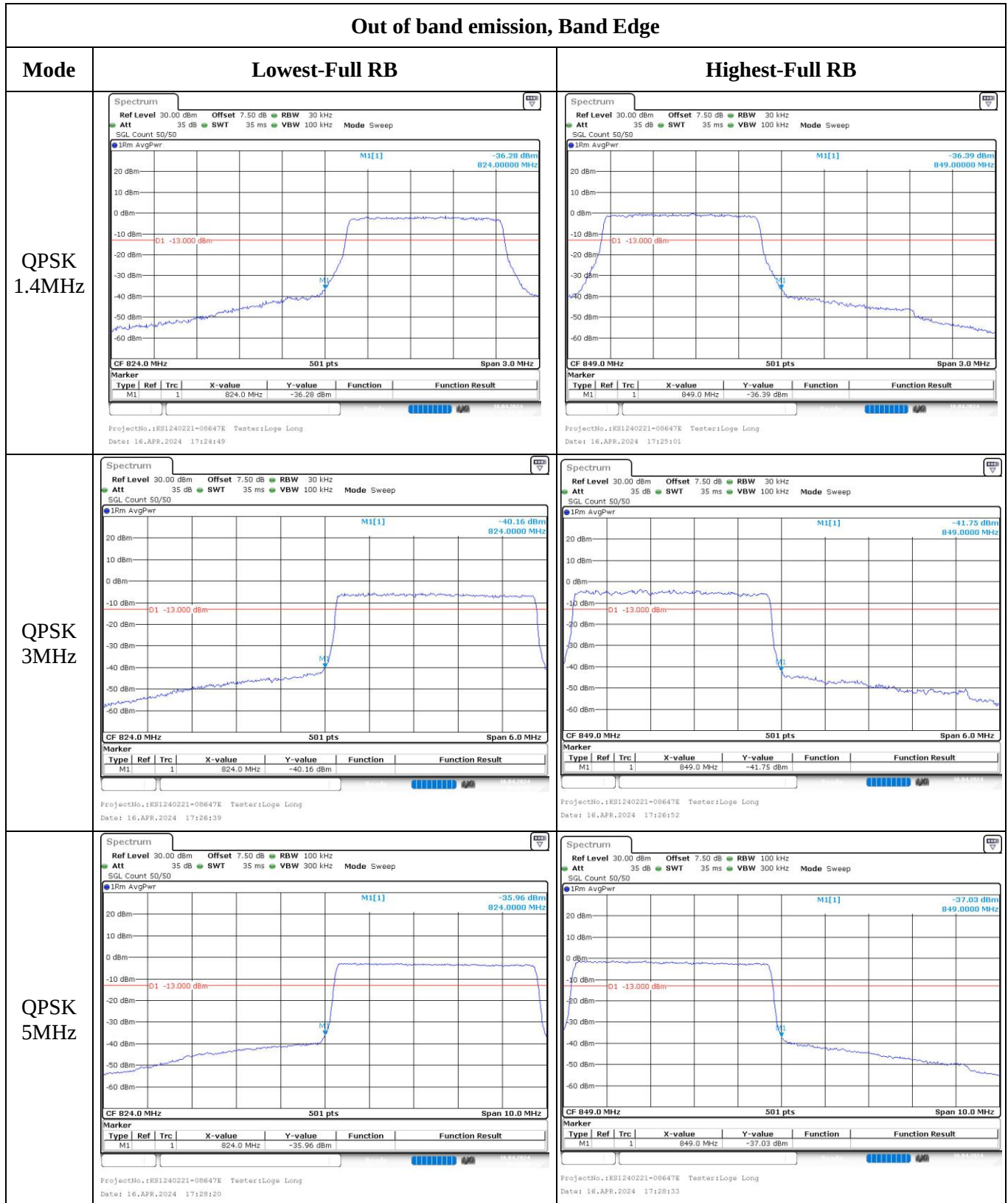
Out of band emission, Band Edge



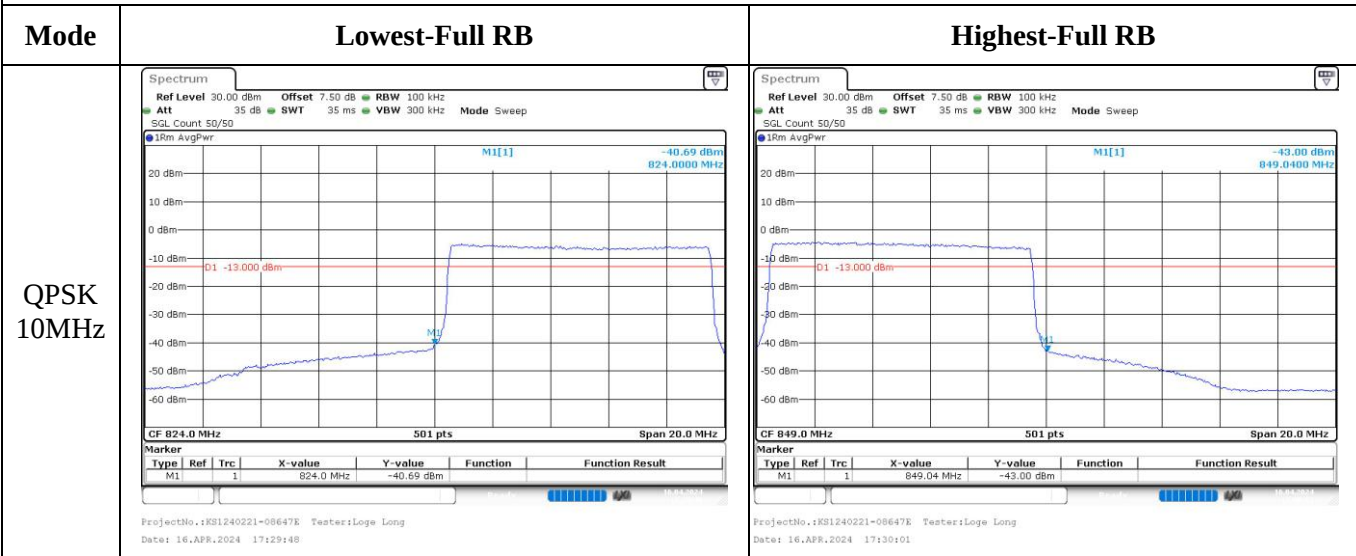
Out of band emission, Band Edge



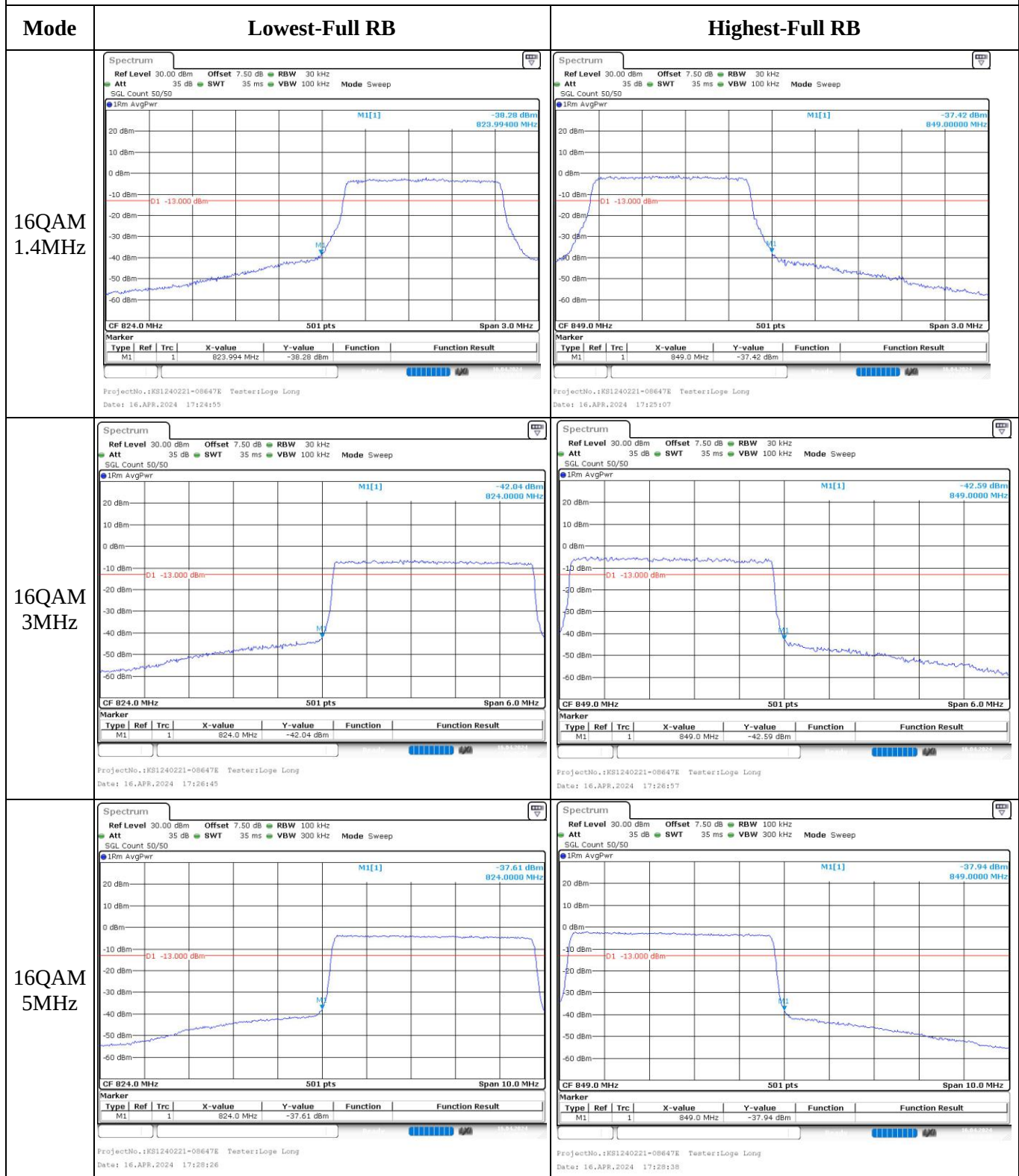
Out of band emission, Band Edge



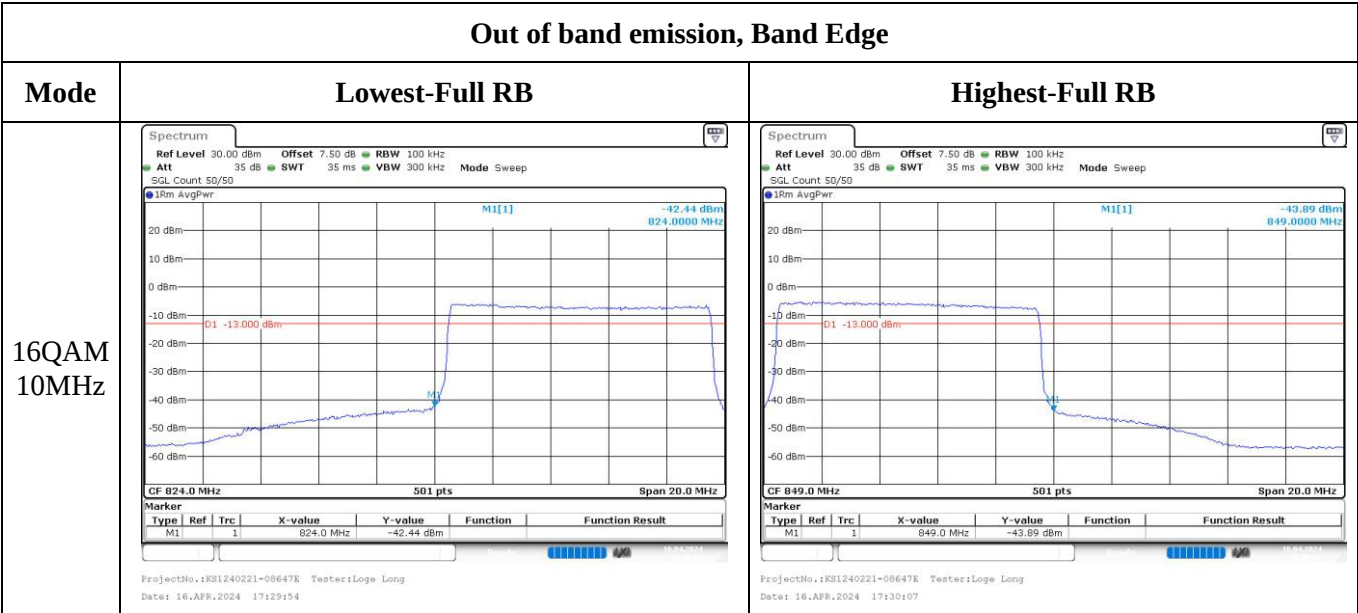
Out of band emission, Band Edge



Out of band emission, Band Edge



Out of band emission, Band Edge



5.8 Antenna Port Test Data and Results for LTE Band 7

Serial Number:	2HV7-2	Test Date:	2024/4/16~2024/4/19
Test Site:	RF	Test Mode:	Transmitting
Tester:	Loge Long	Test Result:	Pass

Environmental Conditions:					
Temperature: (°C)	26.4~28.1	Relative Humidity: (%)	46~61	ATM Pressure: (kPa)	100.1~100.5

Test Equipment List and Details:					
Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
R&S	Spectrum Analyzer	FSV40	101461	2023/11/27	2024/11/26
Minl-Clrucits	Coaxial Power Splitters & Combiner	ZFRSC-183-S+	SF448201614	2024/2/25	2025/2/24
R&S	Wideband Radio Communication Tester	CMW500	110479	2023/10/18	2024/10/17
BACL	TEMP&HUMI Test Chamber	BTH-150-40	30173	2023/10/18	2024/10/17
All-sun	Clamp Meter	EM305A	8348897	2023/8/3	2024/8/2
Micro-Coax	Coaxial Cable	UFB205A	323308-024	2024/1/2	2025/1/1
TDK-Lambda	DC Power Supply	Z+60-14	F-08-EM038-1	N/A	N/A

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	21.14	21.56	22.06	24.75	33
	RB1#13	21.26	21.74	22.24		
	RB1#24	21.17	21.62	22.06		
	RB15#0	20.24	20.70	21.21		
	RB15#10	20.20	20.65	21.23		
	RB25#0	20.20	20.63	21.14		
5MHz 16QAM	RB1#0	20.27	20.52	20.91	23.58	33
	RB1#13	20.45	20.71	21.07		
	RB1#24	20.33	20.60	20.90		
	RB15#0	19.19	19.67	20.22		
	RB15#10	19.13	19.61	20.27		
	RB25#0	19.12	19.61	20.26		
10MHz QPSK	RB1#0	21.20	21.56	22.10	24.88	33
	RB1#25	21.40	21.84	22.37		
	RB1#49	21.21	21.72	22.24		
	RB25#0	20.29	20.60	21.08		
	RB25#25	20.20	20.62	21.20		
	RB50#0	20.18	20.61	21.17		
10MHz 16QAM	RB1#0	20.45	20.62	21.03	23.79	33
	RB1#25	20.71	20.84	21.28		
	RB1#49	20.68	20.75	21.18		
	RB25#0	19.27	19.60	20.19		
	RB25#25	19.22	19.59	20.35		
	RB50#0	19.20	19.57	20.20		
15MHz QPSK	RB1#0	21.01	21.51	22.01	24.7	33
	RB1#38	21.04	21.79	22.19		
	RB1#74	21.21	21.77	22.18		
	RB36#0	20.44	20.77	21.19		
	RB36#39	20.43	20.84	21.35		
	RB75#0	20.47	20.78	21.27		
15MHz 16QAM	RB1#0	20.37	20.90	21.09	23.83	33
	RB1#38	20.62	21.09	21.32		
	RB1#74	20.62	21.10	21.30		
	RB36#0	19.38	19.69	20.17		
	RB36#39	19.41	19.73	20.32		
	RB75#0	19.40	19.73	20.27		
20MHz QPSK	RB1#0	20.75	21.31	21.70	24.72	33
	RB1#50	21.32	21.87	22.21		
	RB1#99	21.14	21.62	21.95		

20MHz 16QAM	RB50#0	20.24	20.51	20.93	24.23	33
	RB50#50	20.11	20.55	21.25		
	RB100#0	20.40	20.57	21.11		
	RB1#0	20.17	20.44	21.17		
	RB1#50	20.65	20.95	21.72		
	RB1#99	20.47	20.71	21.40		
	RB50#0	19.30	19.50	19.91		
	RB50#50	19.42	19.54	20.28		
	RB100#0	19.44	19.52	20.14		

Note: EIRP=Conducted Power(dBm) - Lc(dB) + G_T(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	3.16	3.94	4.41	13
	RB100#0	3.94	3.59	4.14	13
20MHz 16QAM	RB1#0	4.20	5.07	5.07	13
	RB100#0	5.68	5.30	5.83	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	4.491	4.531	4.980	4.960	4.940
5MHz 16QAM	4.531	4.531	4.491	4.960	4.980	5.020
10MHz QPSK	8.942	8.942	8.942	9.680	9.640	9.640
10MHz 16QAM	8.942	8.942	8.942	9.680	9.600	9.640
15MHz QPSK	13.533	13.533	13.473	14.760	14.760	14.700
15MHz 16QAM	13.533	13.533	13.473	14.700	14.700	14.700
20MHz QPSK	17.964	17.964	17.964	19.280	19.280	19.440
20MHz 16QAM	18.044	17.884	17.884	19.360	19.440	19.440

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	2501.052	2500.00	2569.007	2570
	-20	3.8	2501.037	2500.00	2569.010	2570
	-10	3.8	2501.040	2500.00	2569.013	2570
	0	3.8	2501.037	2500.00	2569.019	2570
	10	3.8	2501.055	2500.00	2569.016	2570
	20	3.8	2501.058	2500.00	2569.022	2570
	30	3.8	2501.064	2500.00	2569.049	2570
	40	3.8	2501.064	2500.00	2569.043	2570
	50	3.8	2501.061	2500.00	2569.040	2570
Frequency Stability vs. Voltage	20	3.4	2501.082	2500.00	2569.049	2570
	20	4.35	2501.079	2500.00	2569.037	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	2501.037	2500.00	2569.004	2570
	-20	3.8	2501.031	2500.00	2569.007	2570
	-10	3.8	2501.052	2500.00	2569.019	2570
	0	3.8	2501.034	2500.00	2568.995	2570
	10	3.8	2501.043	2500.00	2569.013	2570
	20	3.8	2501.058	2500.00	2569.022	2570
	30	3.8	2501.067	2500.00	2569.025	2570
	40	3.8	2501.073	2500.00	2569.025	2570
	50	3.8	2501.070	2500.00	2569.025	2570
Frequency Stability vs. Voltage	20	3.4	2501.064	2500.00	2569.037	2570
	20	4.35	2501.061	2500.00	2569.049	2570
					Result:	Pass

Test Plots:

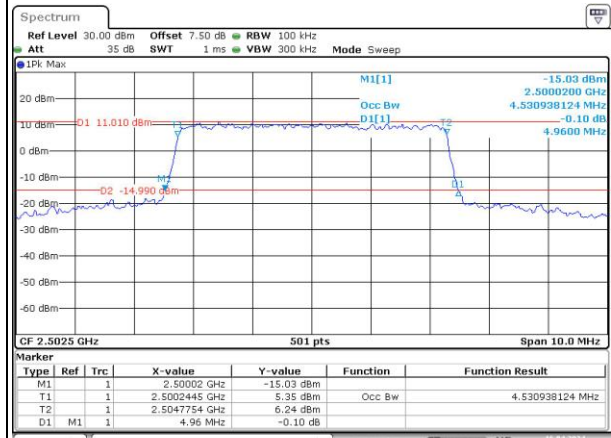
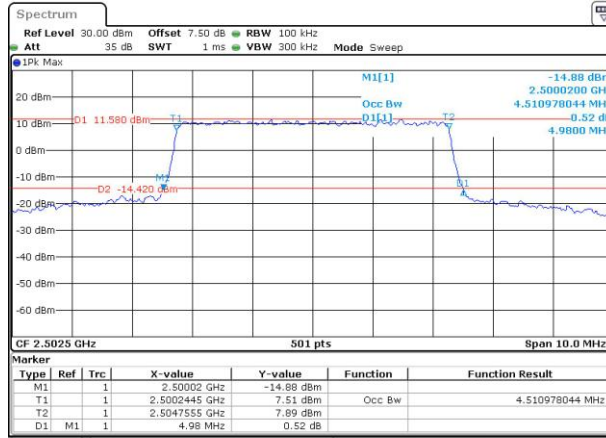
Occupied Bandwidth

Channel

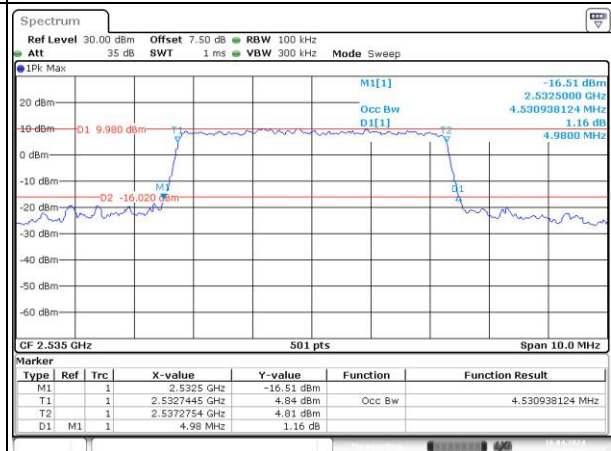
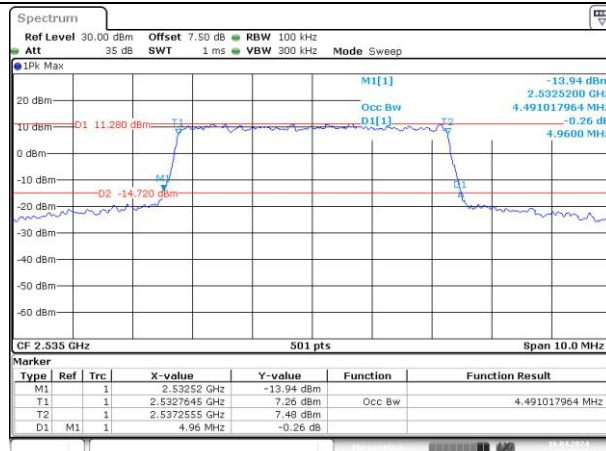
5MHz Bandwidth QPSK

5MHz Bandwidth 16QAM

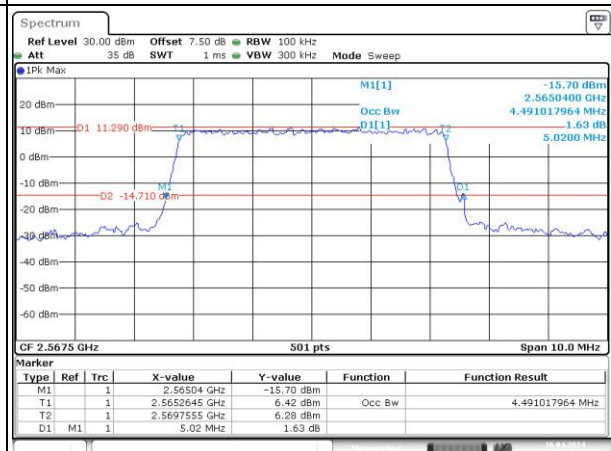
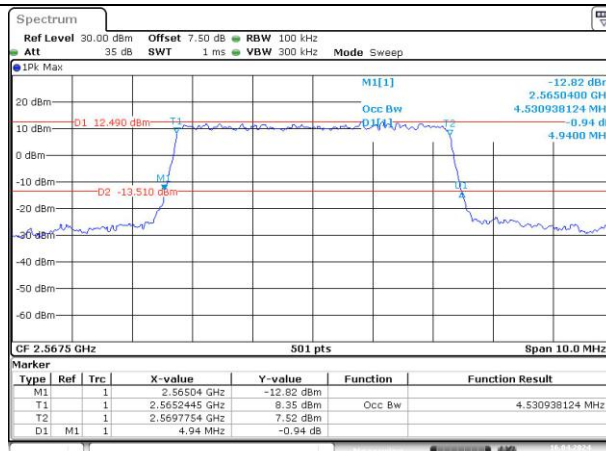
Lowest



Middle



Highest



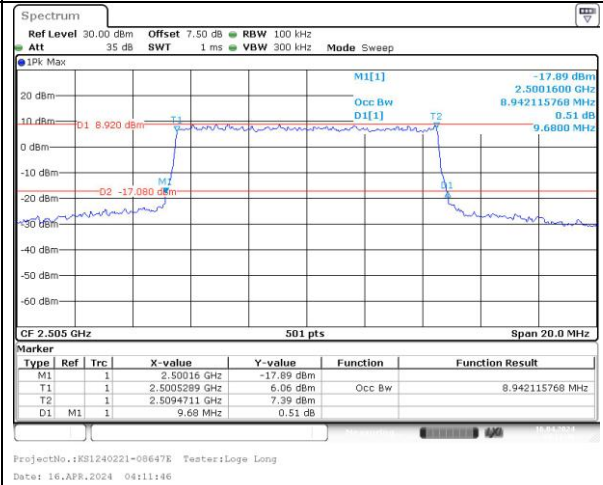
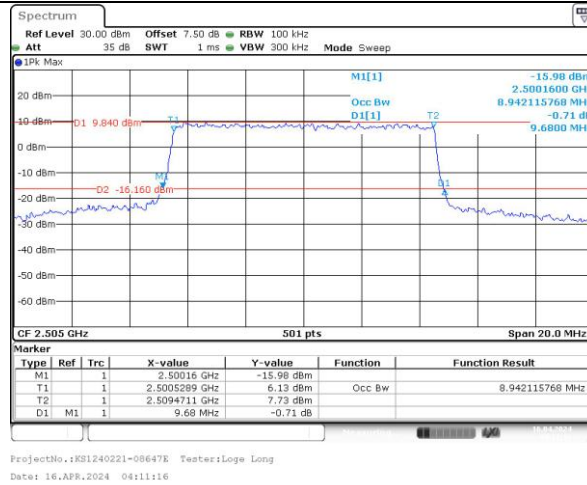
Occupied Bandwidth

Channel

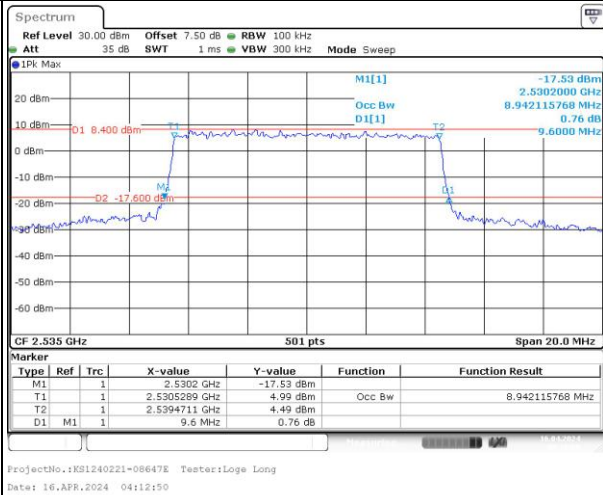
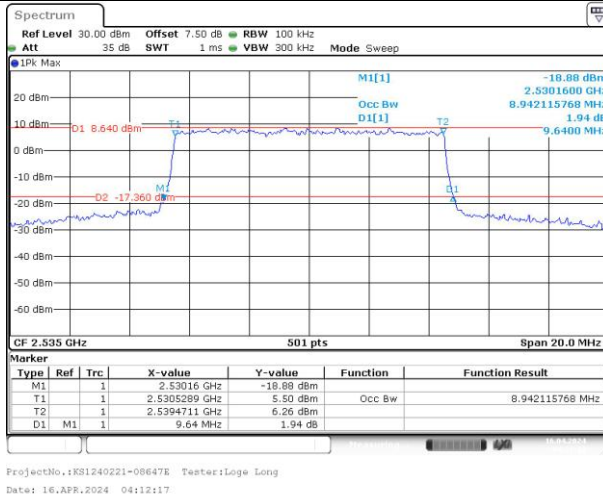
10MHz Bandwidth QPSK

10MHz Bandwidth 16QAM

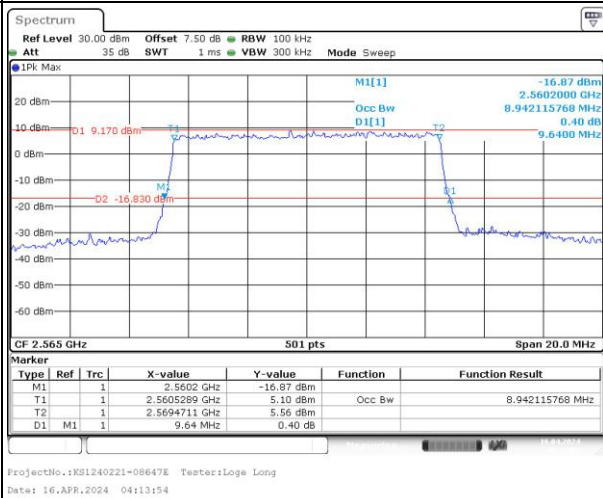
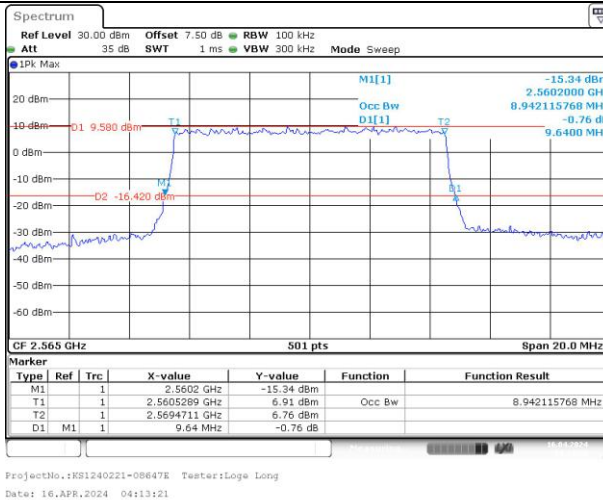
Lowest



Middle



Highest



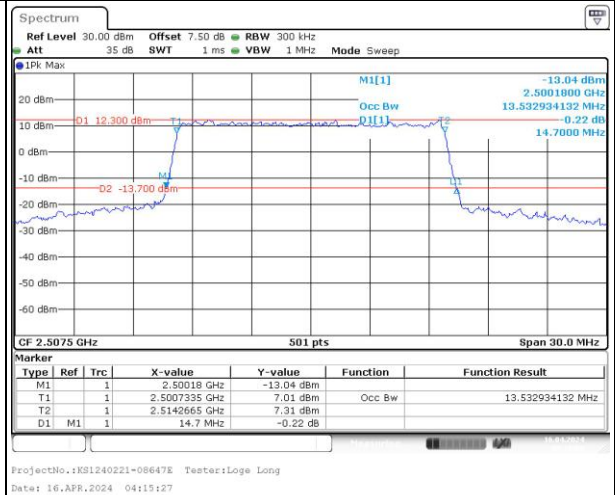
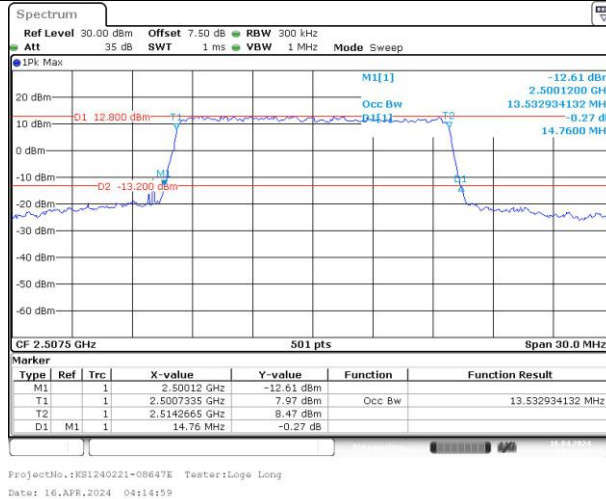
Occupied Bandwidth

Channel

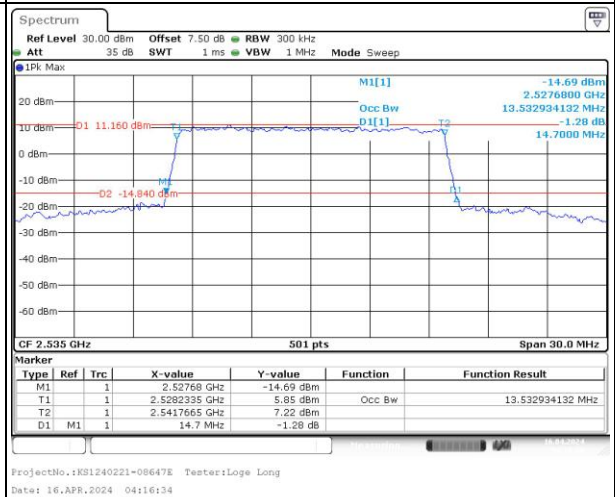
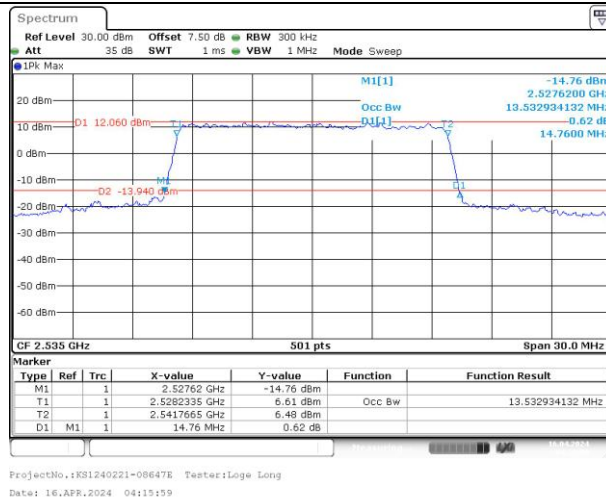
15MHz Bandwidth QPSK

15MHz Bandwidth 16QAM

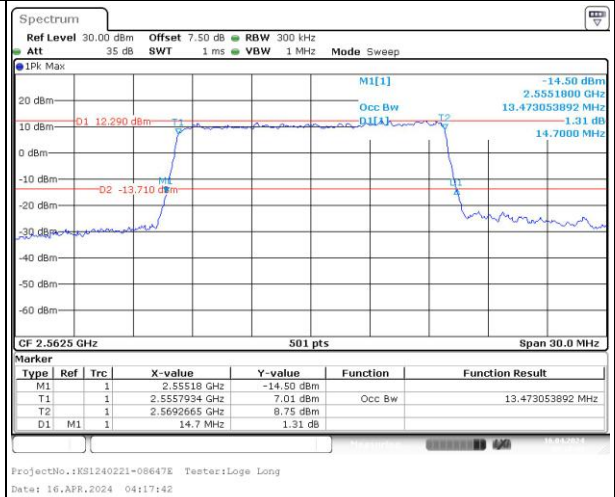
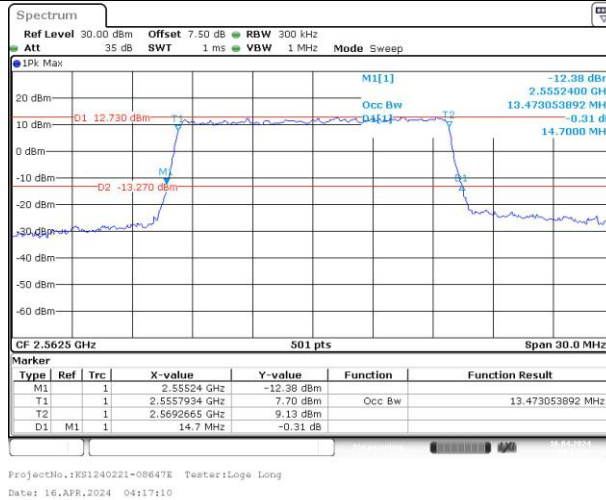
Lowest



Middle



Highest



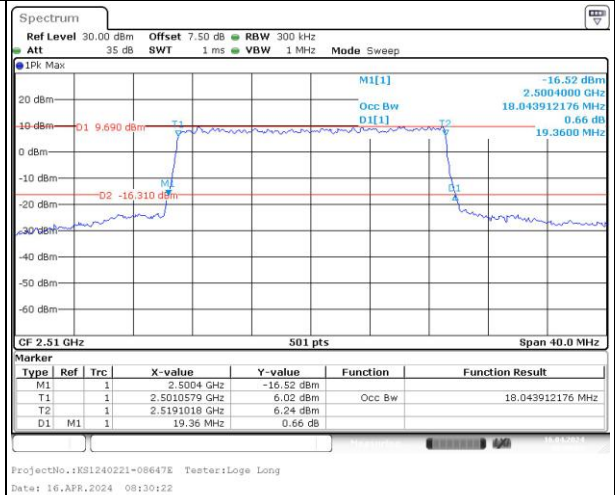
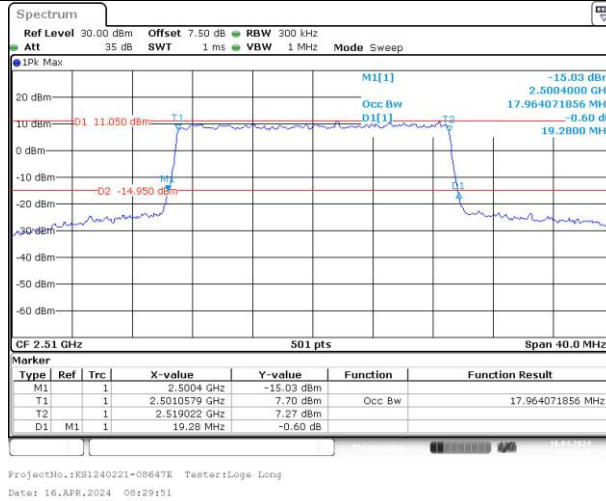
Occupied Bandwidth

Channel

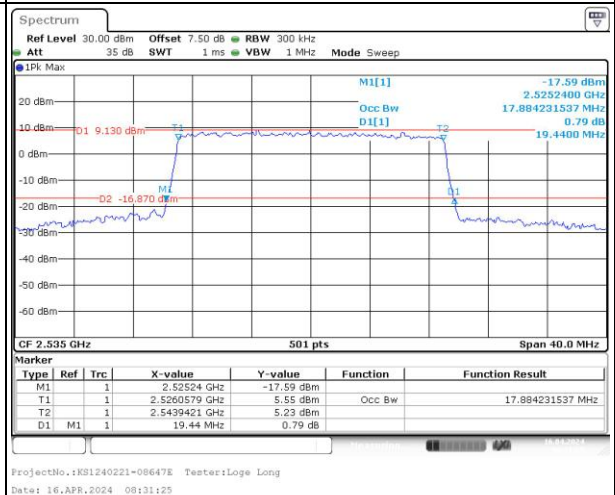
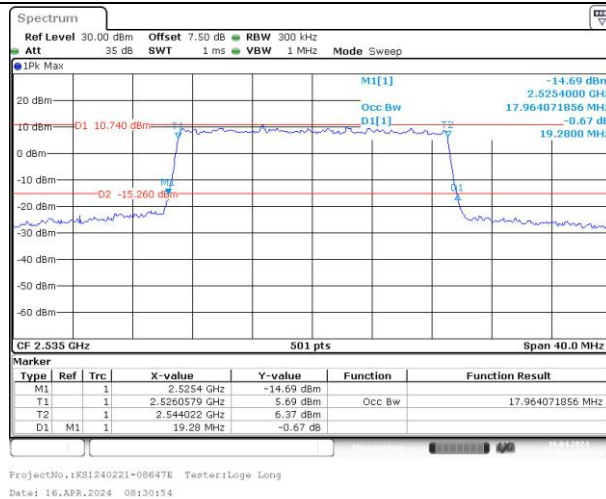
20MHz Bandwidth QPSK

20MHz Bandwidth 16QAM

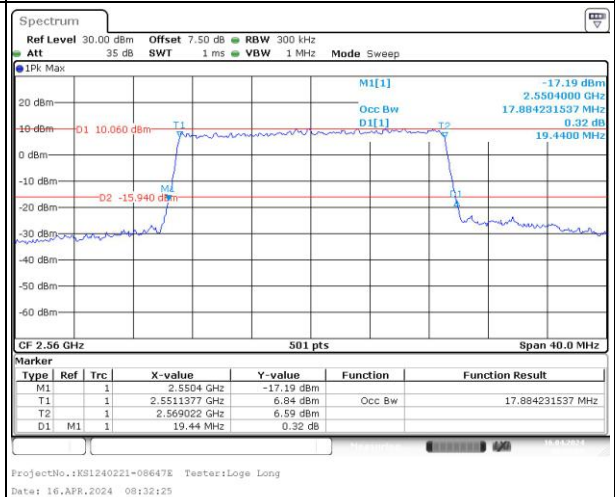
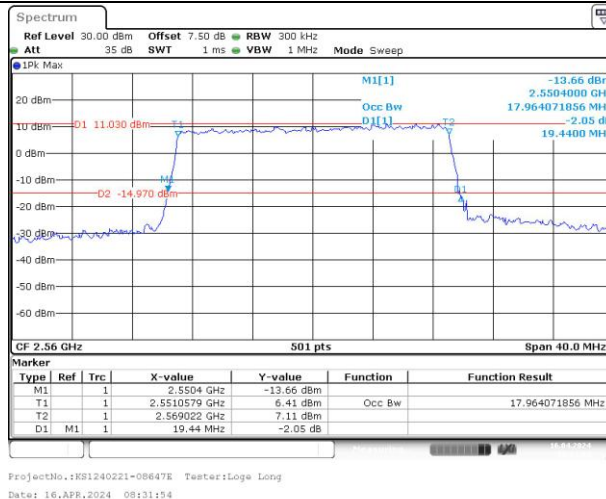
Lowest



Middle

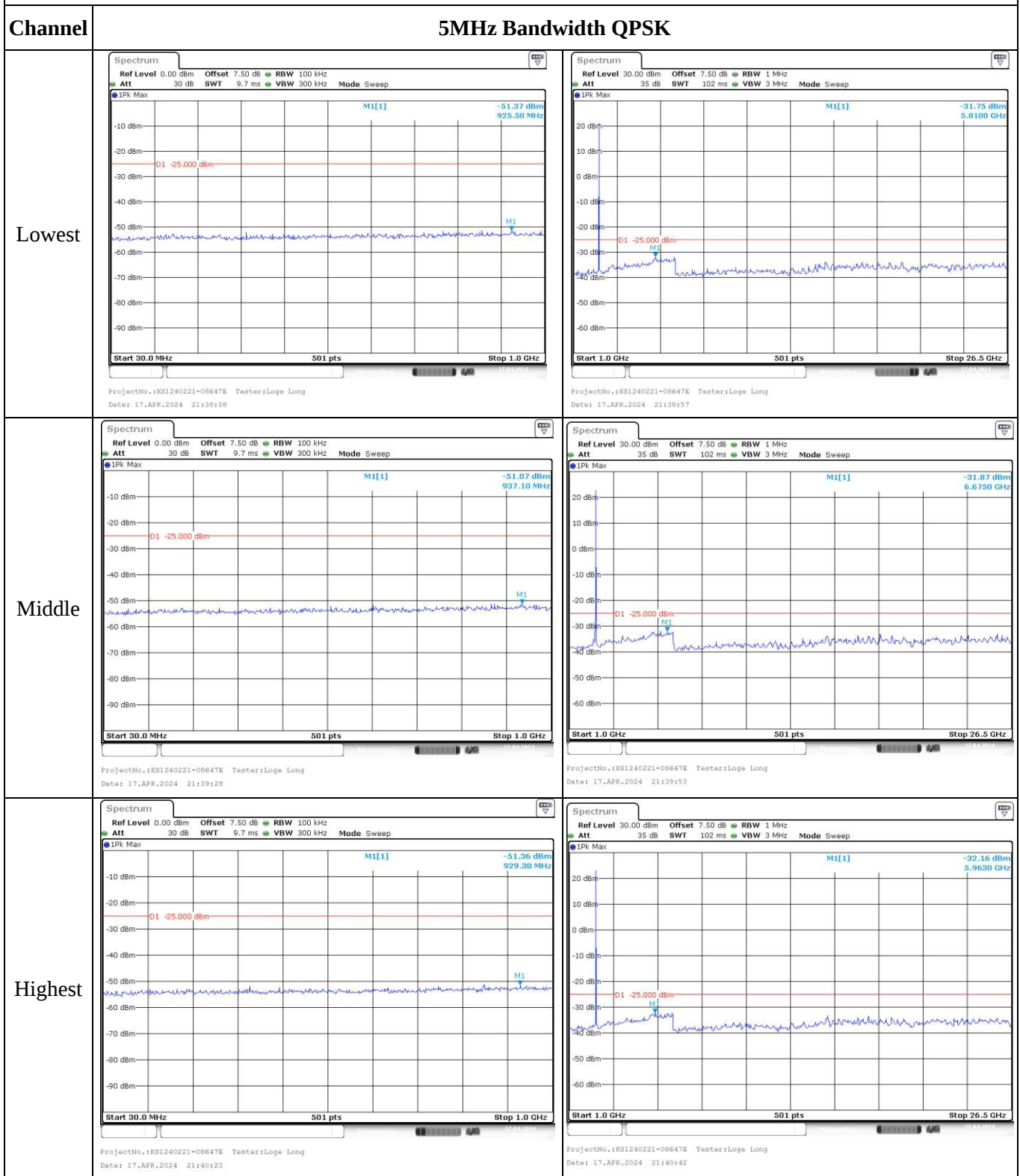


Highest



1RB:

Spurious Emissions at Antenna Terminal

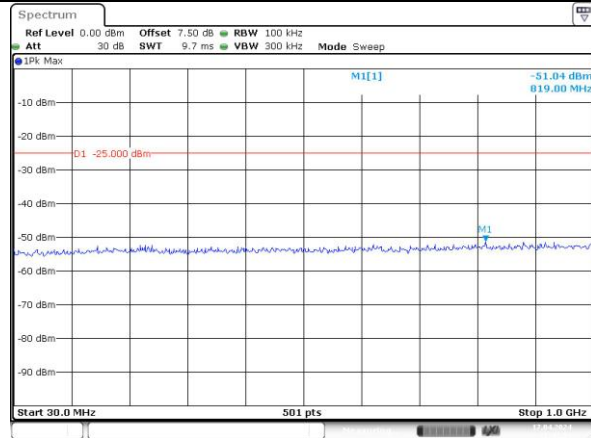


Spurious Emissions at Antenna Terminal

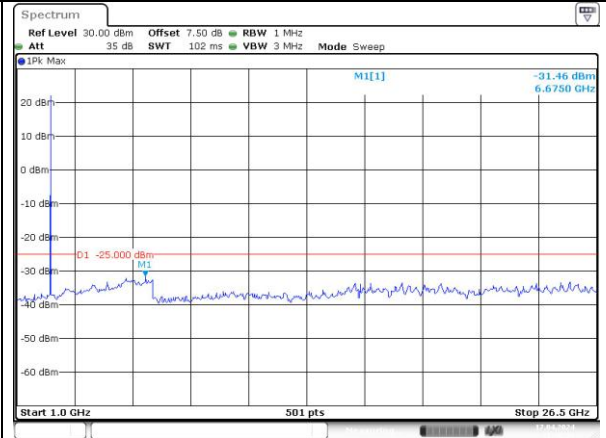
Channel

10MHz Bandwidth QPSK

Lowest

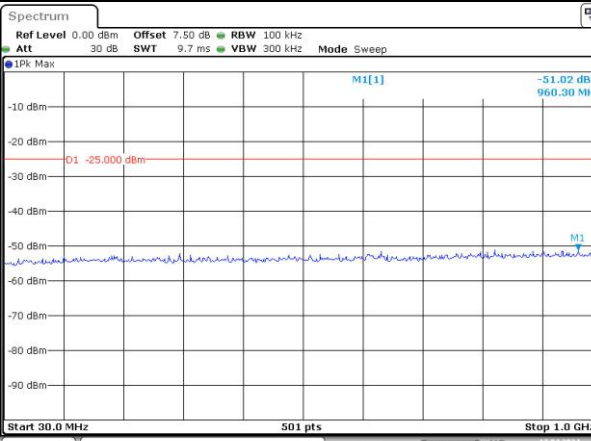


ProjectNo.:KS1240221-08647E Tester:Loge Long
Date: 17.APR.2024 21:41:54

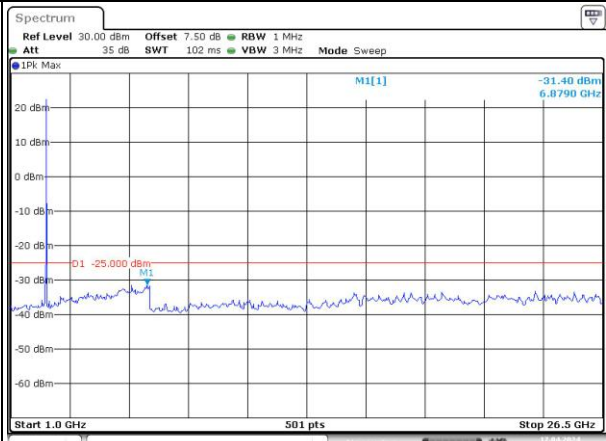


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Date: 17.APR.2024 21:42:20

Middle

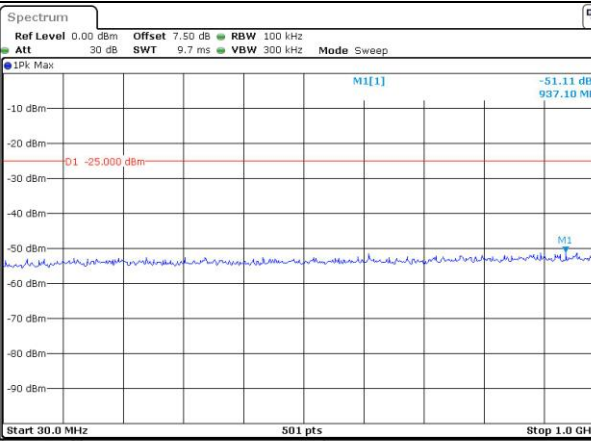


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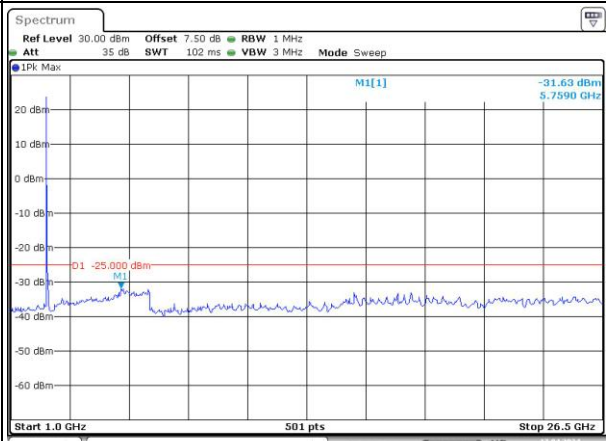


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Date: 17.APR.2024 21:43:31

Highest

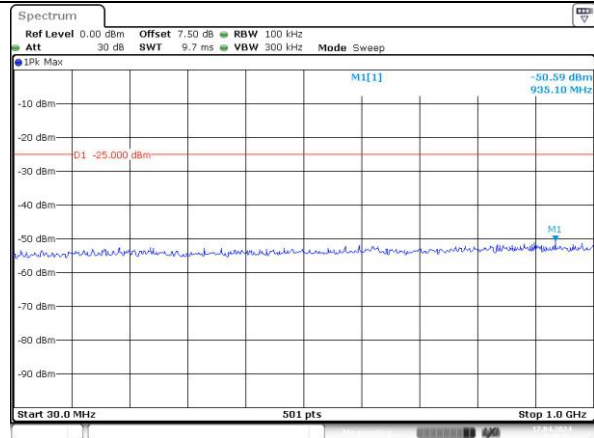
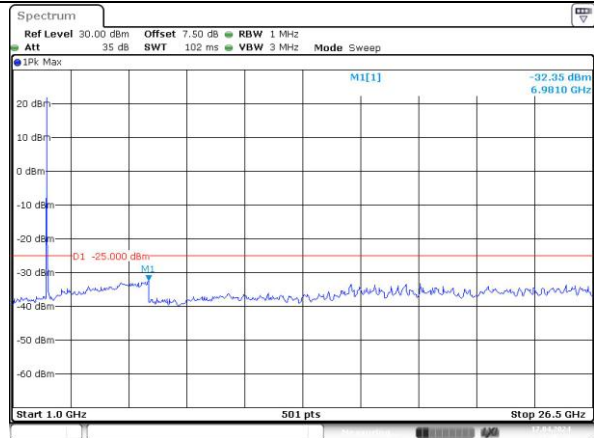
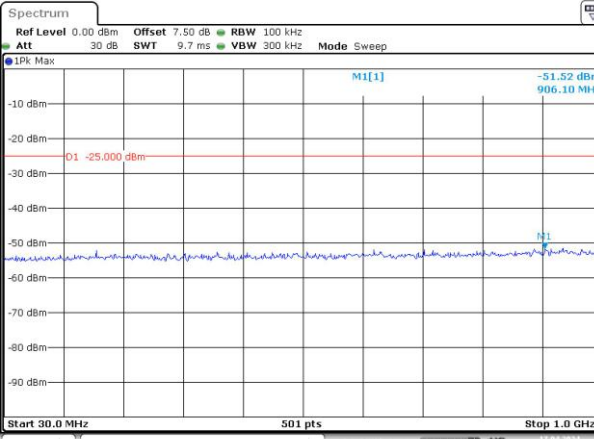
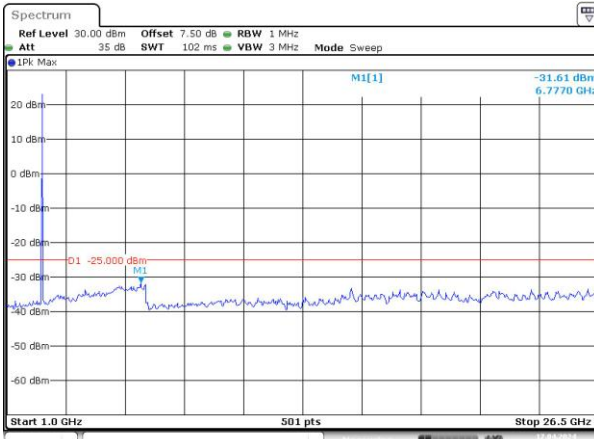
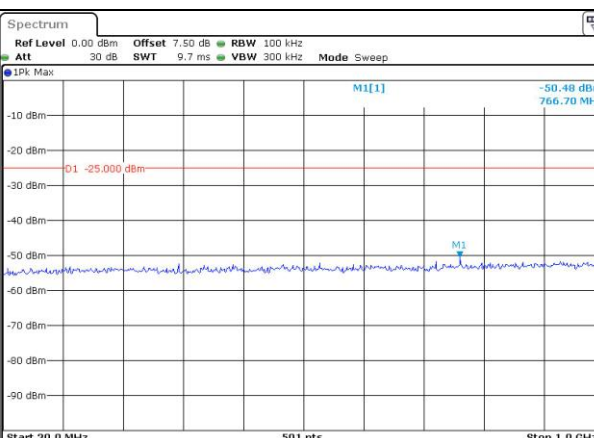
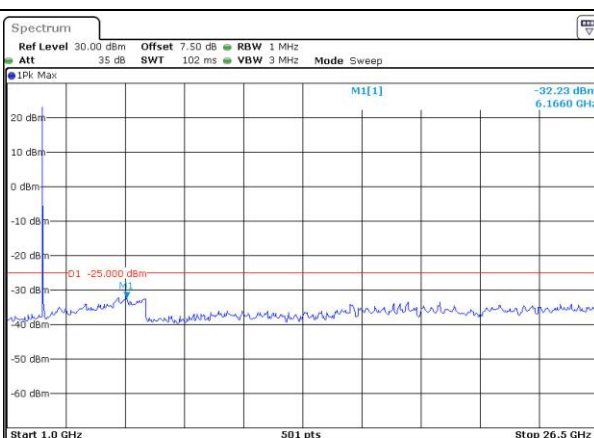


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Date: 17.APR.2024 21:44:08



ProjectNo.:KS1240221-08647E Tester:Loge Long
Date: 17.APR.2024 21:44:33

Spurious Emissions at Antenna Terminal

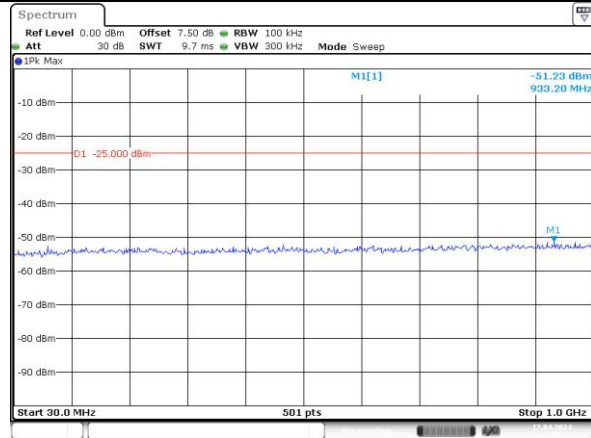
Channel	15MHz Bandwidth QPSK	
Lowest		
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Middle		
	ProjectNo.:KS1240221-08647E Tester:Loge Long Date: 17.APR.2024 21:46:16	ProjectNo.:KS1240221-08647E Tester:Loge Long Date: 17.APR.2024 21:47:21
Highest		
	ProjectNo.:KS1240221-08647E Tester:Loge Long Date: 17.APR.2024 21:47:14	ProjectNo.:KS1240221-08647E Tester:Loge Long Date: 17.APR.2024 21:48:13

Spurious Emissions at Antenna Terminal

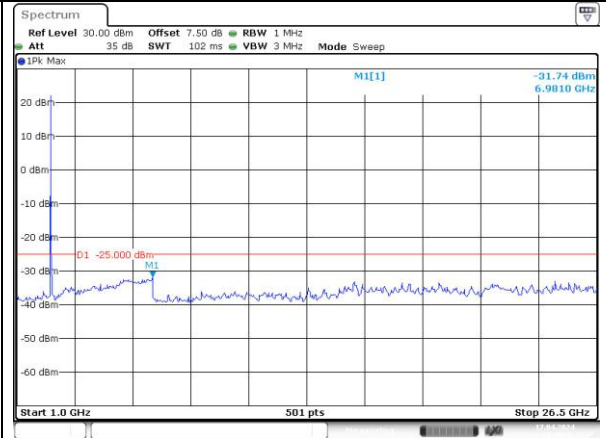
Channel

20MHz Bandwidth QPSK

Lowest

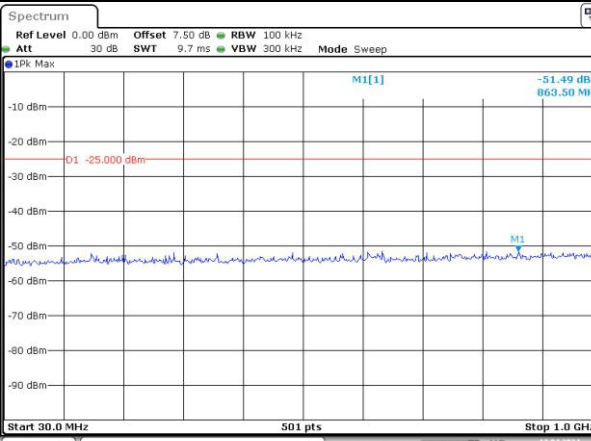


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Date: 17.APR.2024 21:49:15

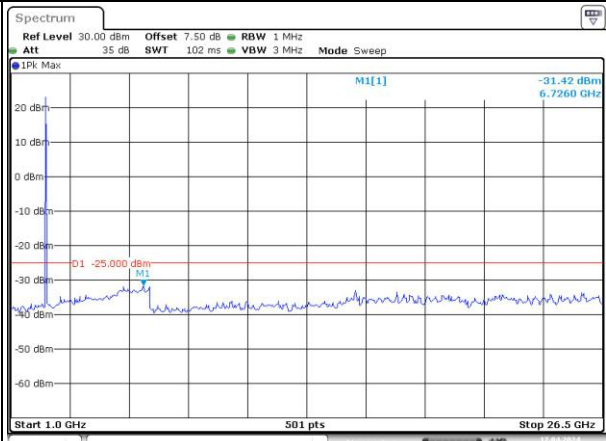


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Date: 17.APR.2024 21:49:43

Middle

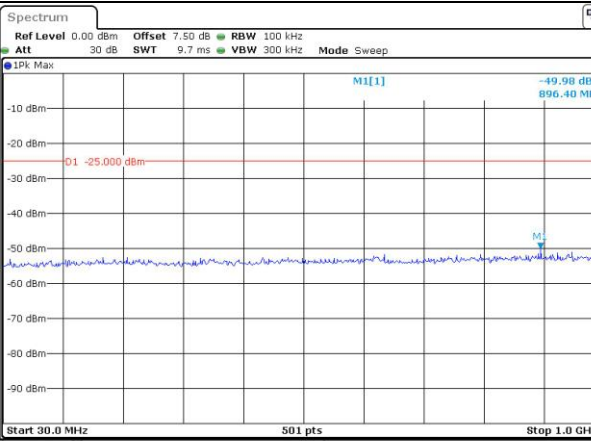


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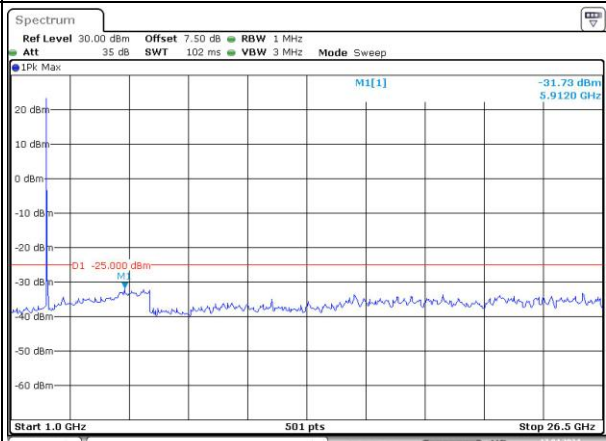


ProjectNo.:KS1240221-08647E Tester:Loge Long
Date: 17.APR.2024 21:50:35

Highest

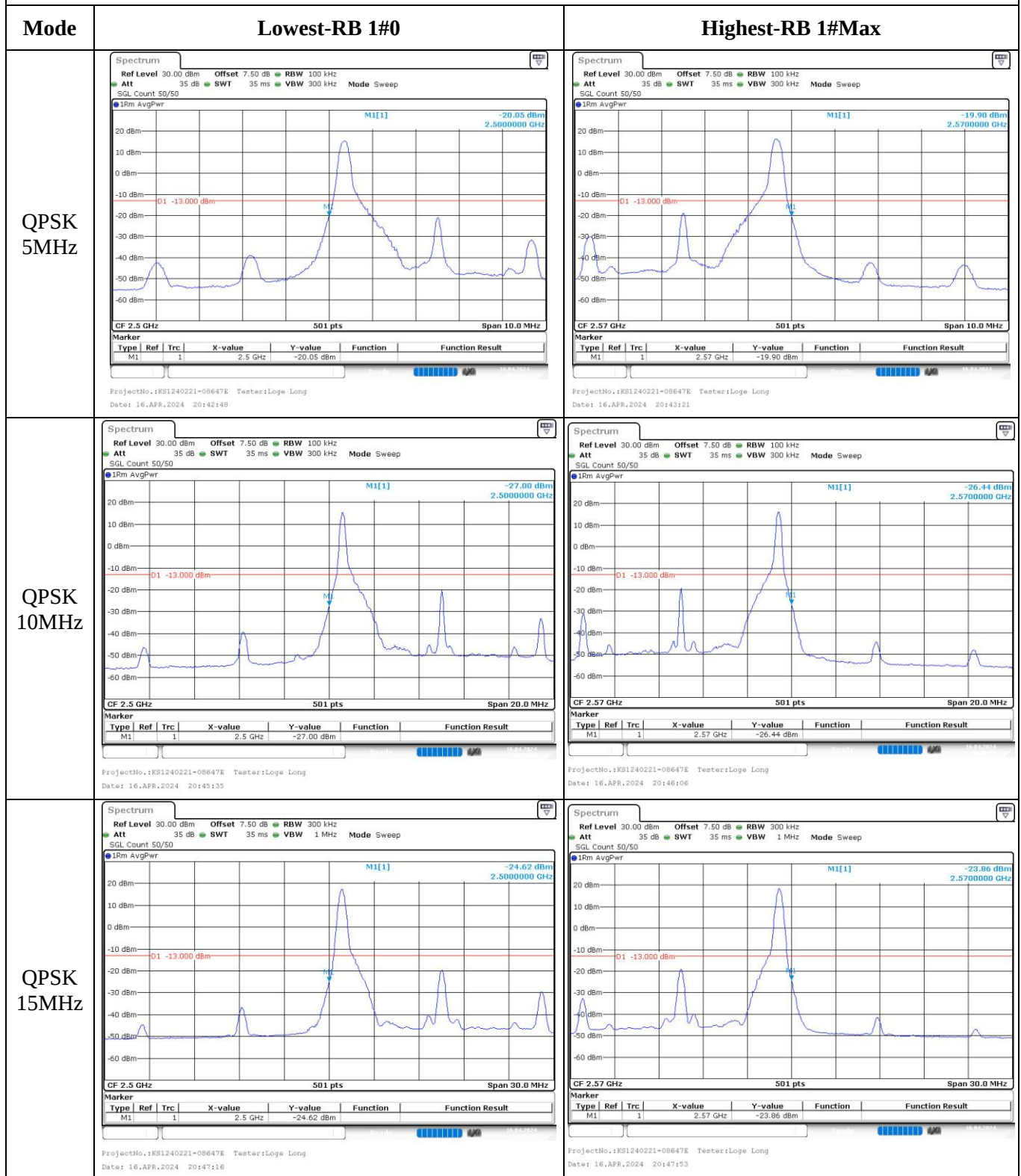


ProjectNo.:KS1240221-08647E Tester:Loge Long
Date: 17.APR.2024 21:51:14

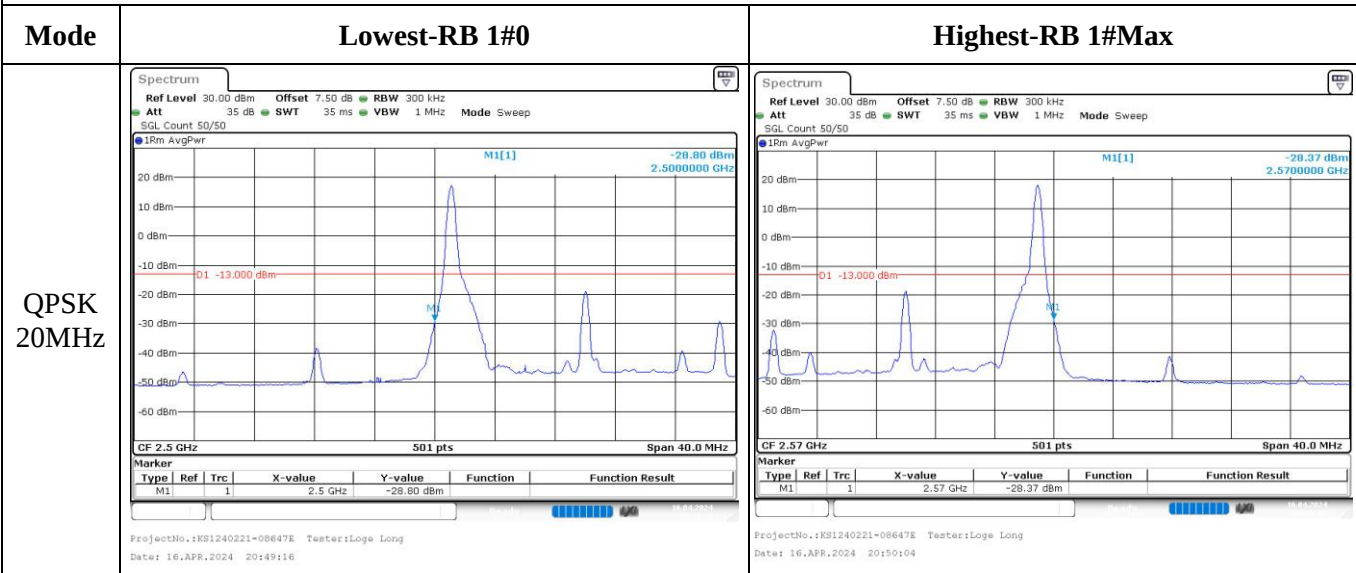


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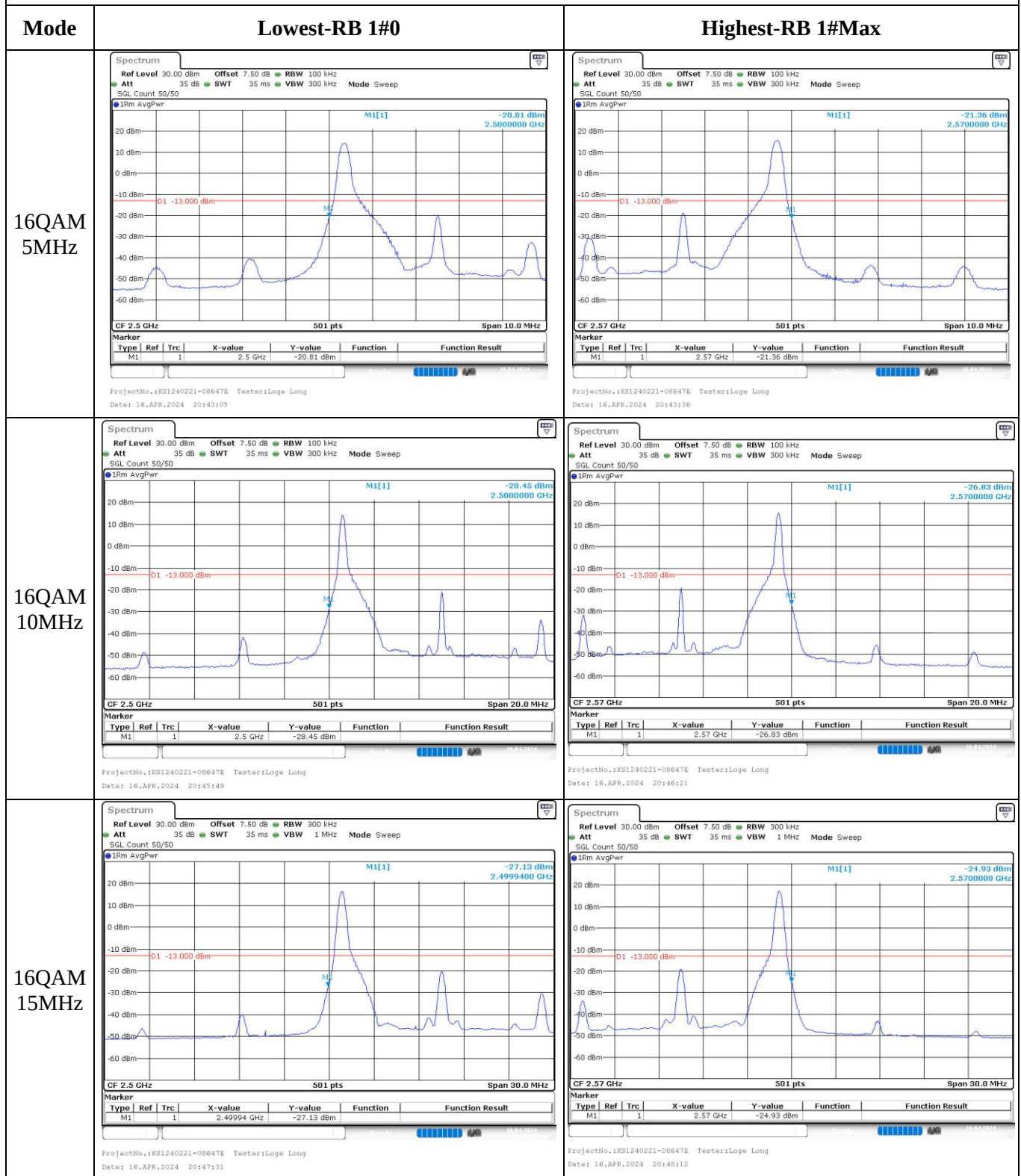
Out of band emission, Band Edge



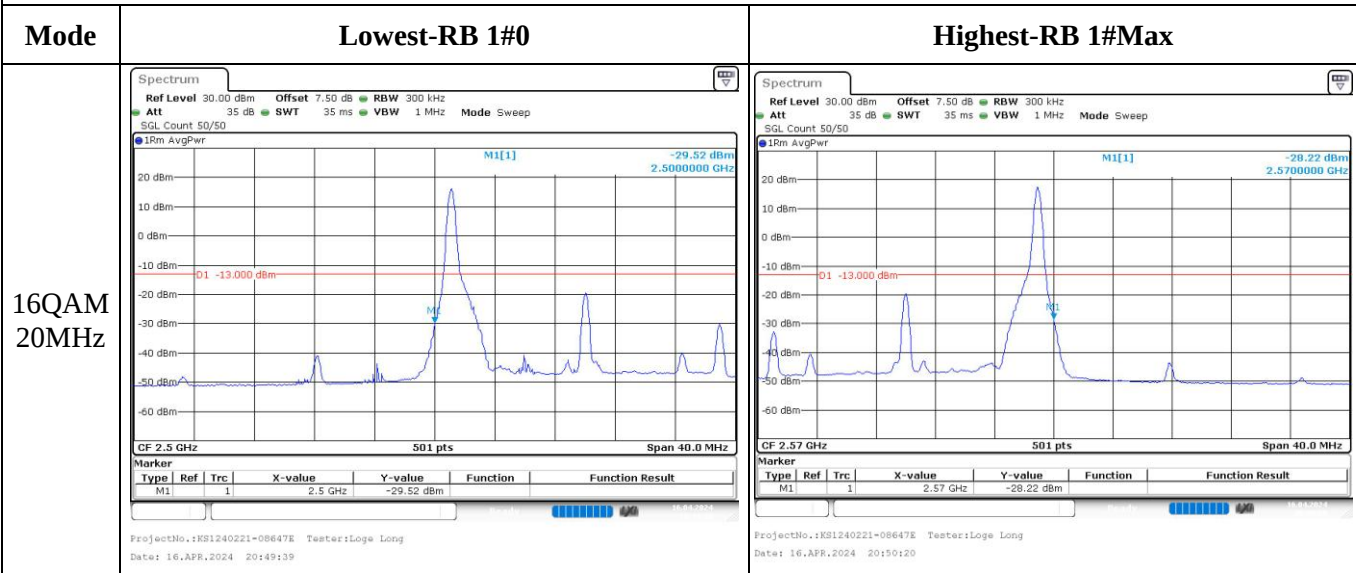
Out of band emission, Band Edge



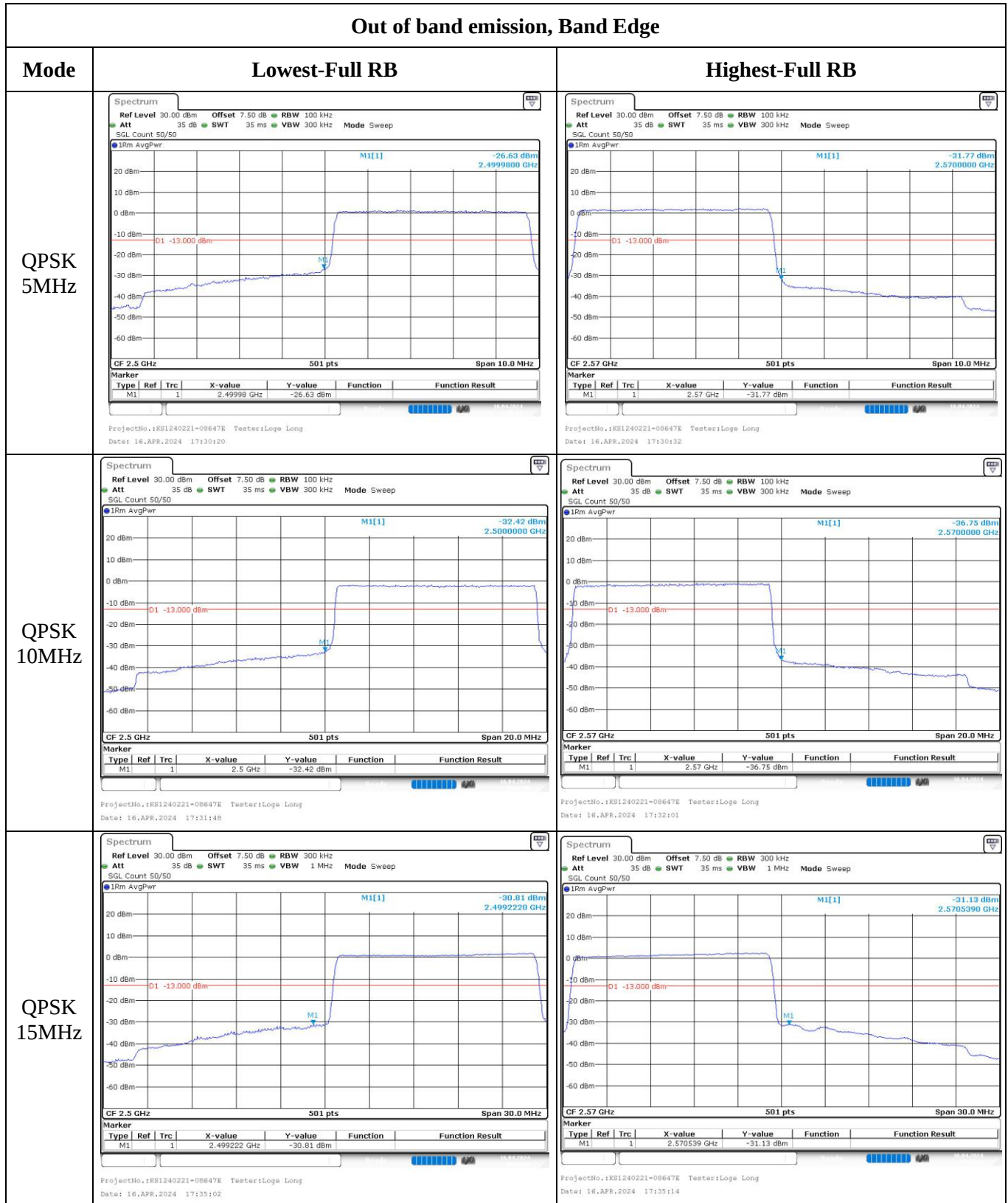
Out of band emission, Band Edge



Out of band emission, Band Edge



Out of band emission, Band Edge



Out of band emission, Band Edge

