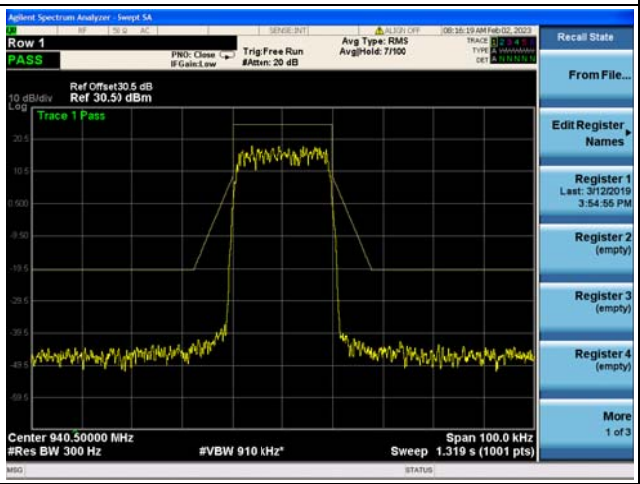
12.5kHz/ 256QAM /940.4300 -940.4600 MHz

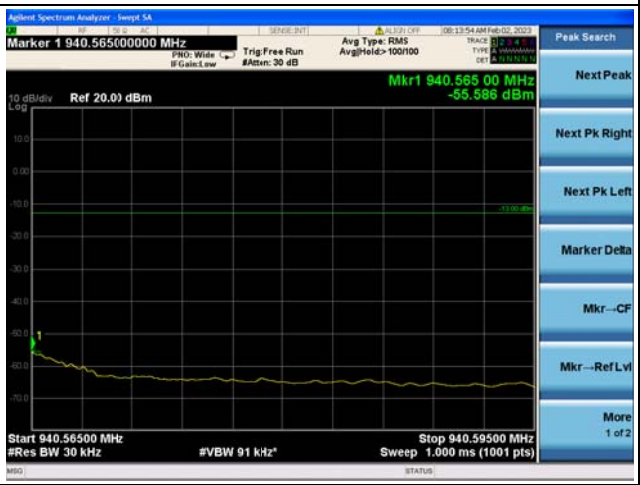
12.5kHz/ 256QAM /940.5400 -940.5700 MHz

25kHz/ QPSK

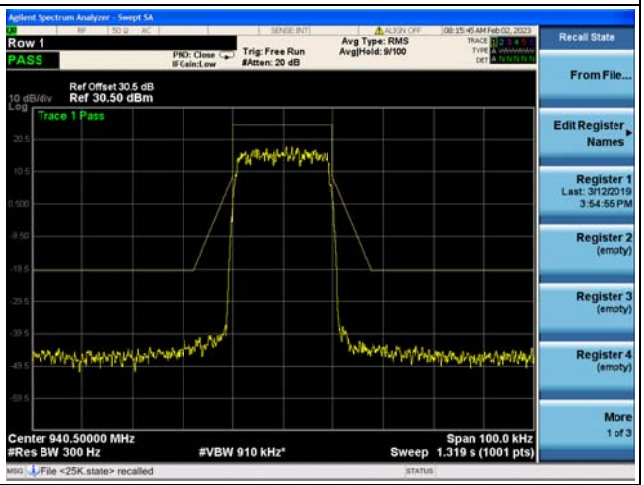


25kHz/ QPSK/940.4050 -940.4350 MHz

25kHz/ QPSK/940.5650 -940.5950 MHz

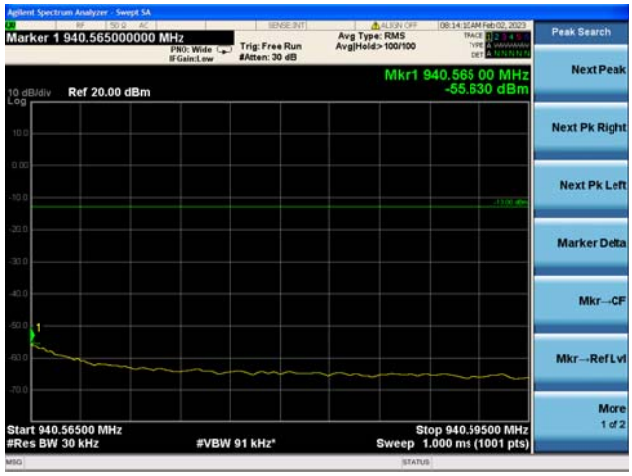


25kHz/16QAM

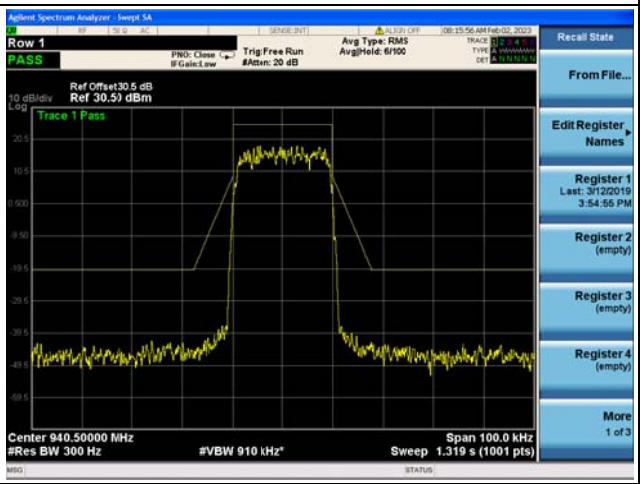


25kHz/ 16QAM /940.4050 -940.4350 MHz

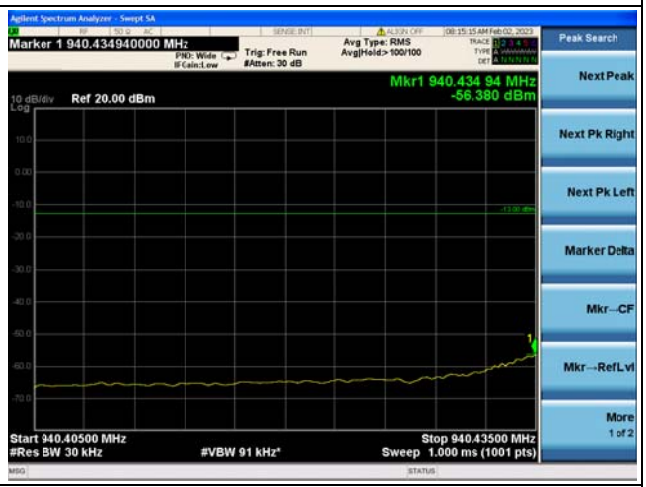
25kHz/ 16QAM /940.5650 -940.5950 MHz



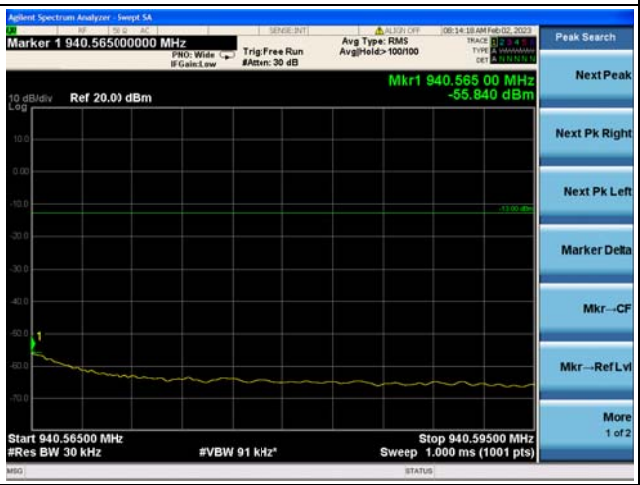
25kHz/ 64QAM



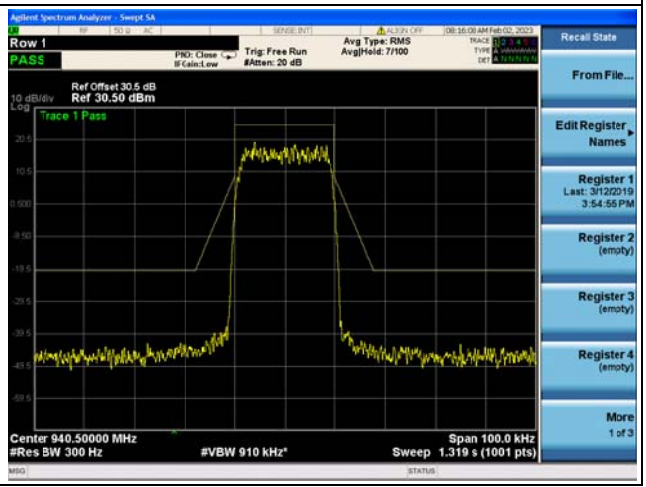
25kHz/ 64QAM /940.4050 -940.4350 MHz



25kHz/ 64QAM /940.5650 -940.5950 MHz

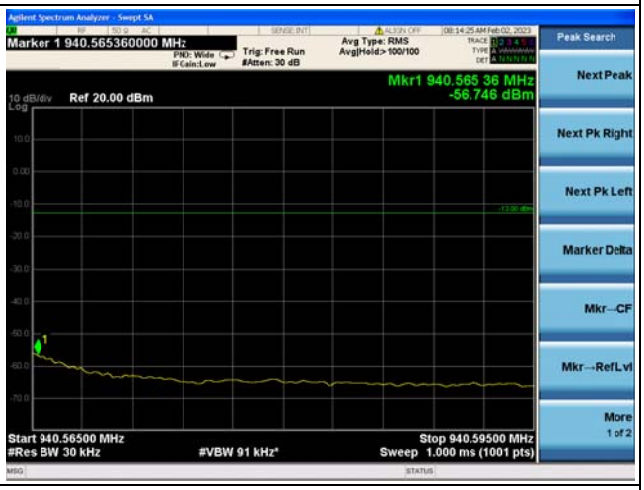


25kHz/256QAM



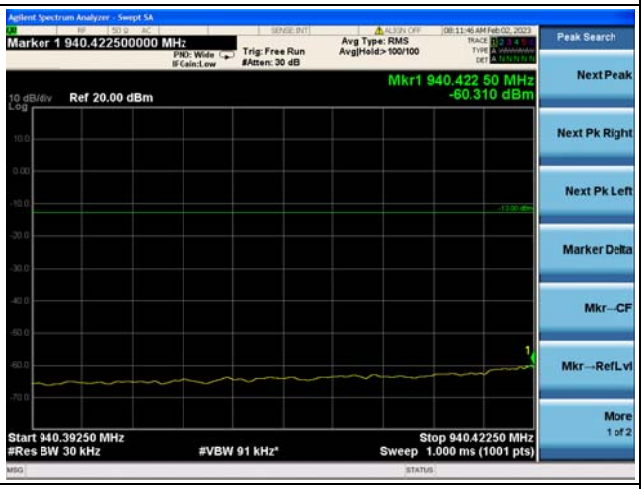
25kHz/ 256QAM /940.4050 -940.4350 MHz

25kHz/ 256QAM /940.5650 -940.5950 MHz

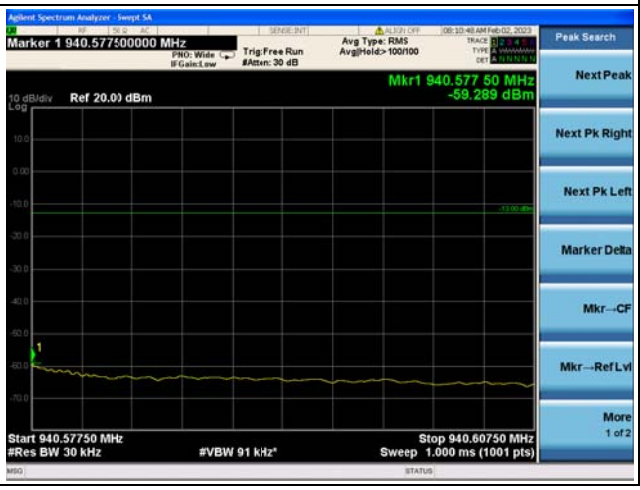


50kHz/ QPSK

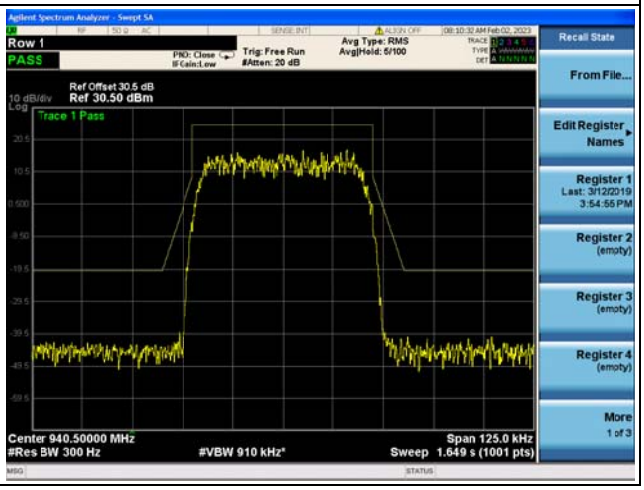
50kHz/ QPSK/940.3925 -940.4225 MHz



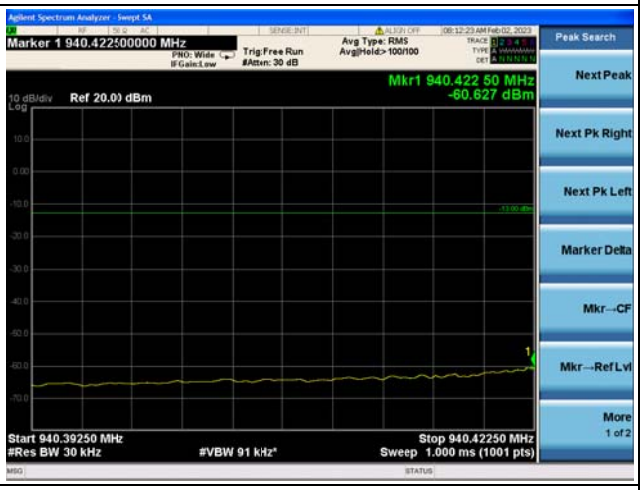
50kHz/ QPSK/940.5775 -940.6075 MHz



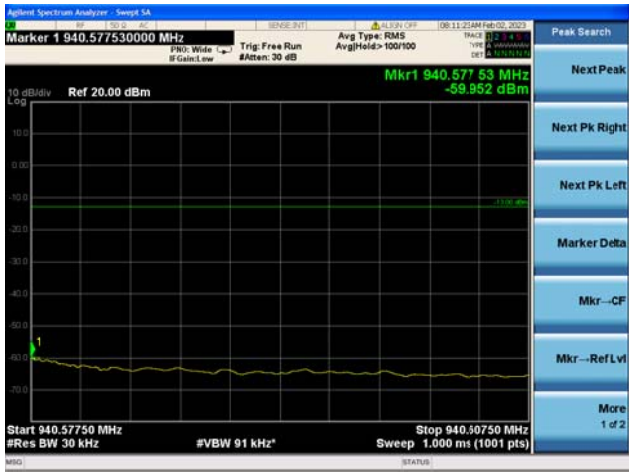
50kHz/16QAM



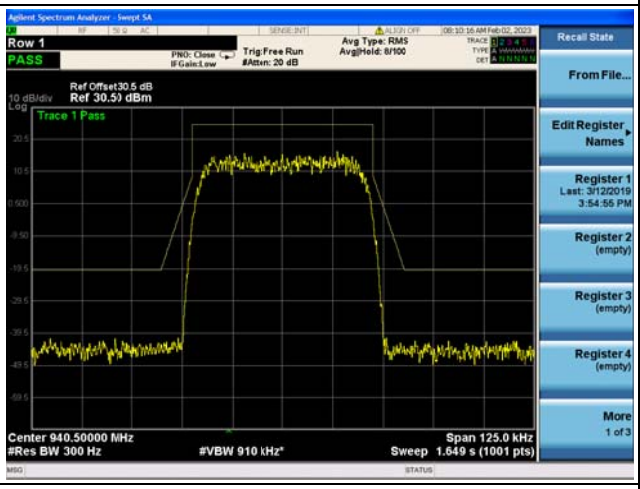
50kHz/ 16QAM /940.3925 -940.4225 MHz



50kHz/ 16QAM /940.5775 -940.6075 MHz

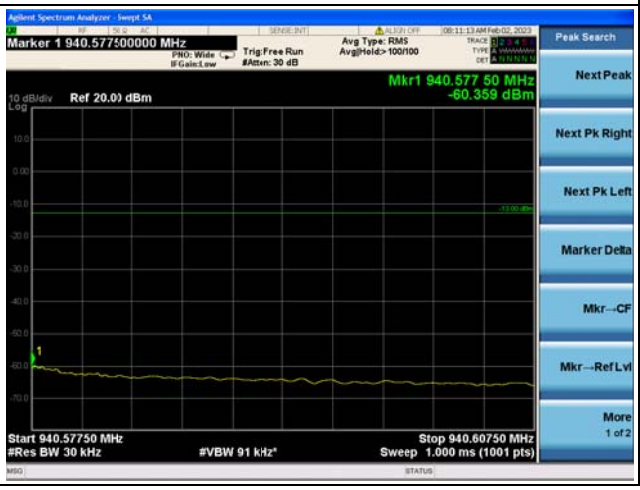


50kHz/ 64QAM

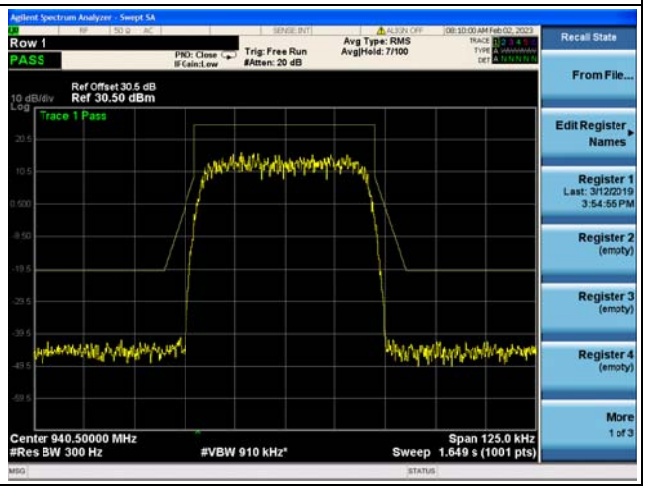


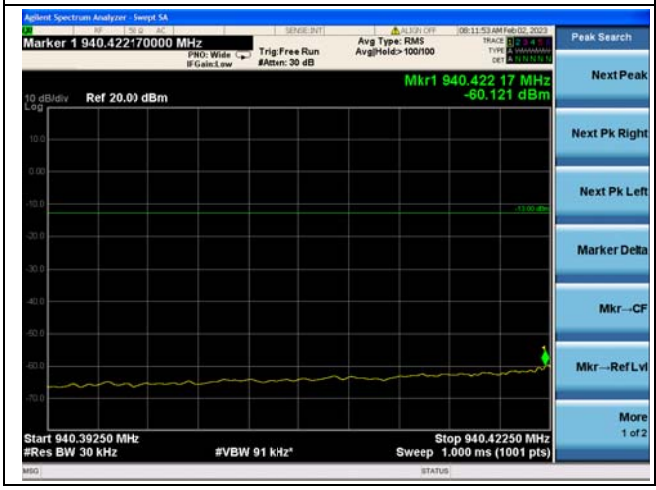
50kHz/ 64QAM /940.3925 -940.4225 MHz

50kHz/ 64QAM /940.5775 -940.6075 MHz

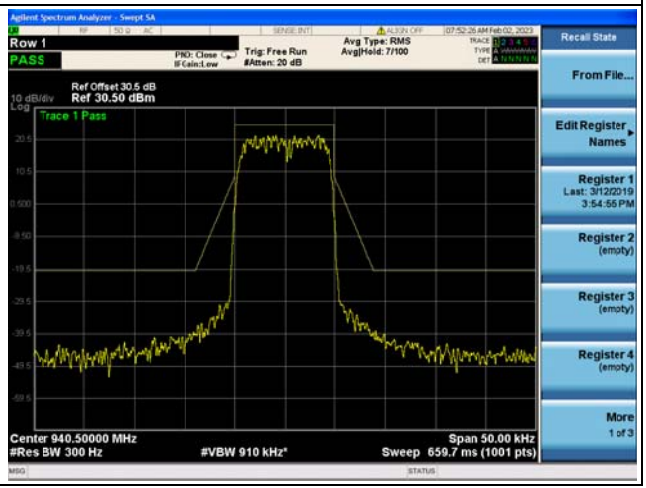


50kHz/256QAM



50kHz/ 256QAM /940.3925 -940.4225 MHz	50kHz/ 256QAM /940.5775 -940.6075 MHz
	

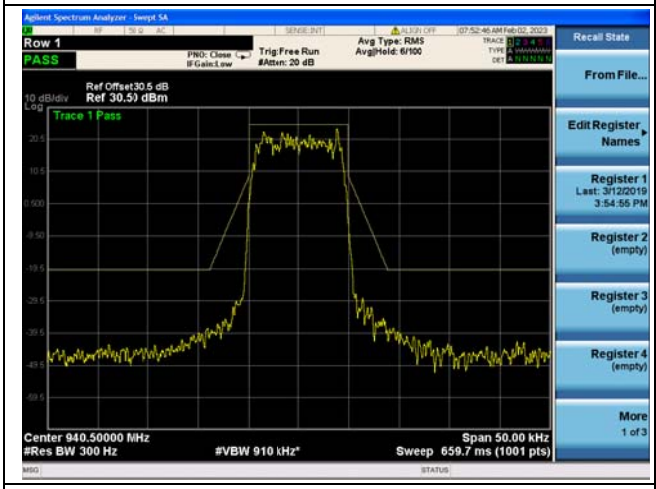
Nominal Frequency: 940.50 MHz Tx Port: Channel V

12.5kHz/ QPSK	12.5kHz/ QPSK/940.4300 -940.4600 MHz
12.5kHz/ QPSK/940.5400 -940.5700 MHz	**12.5kHz/16QAM**
	

12.5kHz/ 16QAM /940.4300 -940.4600 MHz

12.5kHz/ 16QAM /940.5400 -940.5700 MHz

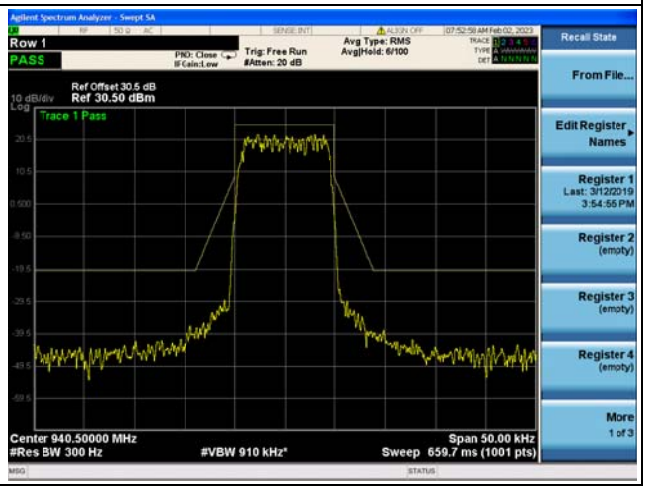
12.5kHz/ 64QAM



12.5kHz/ 64QAM /940.4300 -940.4600 MHz

12.5kHz/ 64QAM /940.5400 -940.5700 MHz

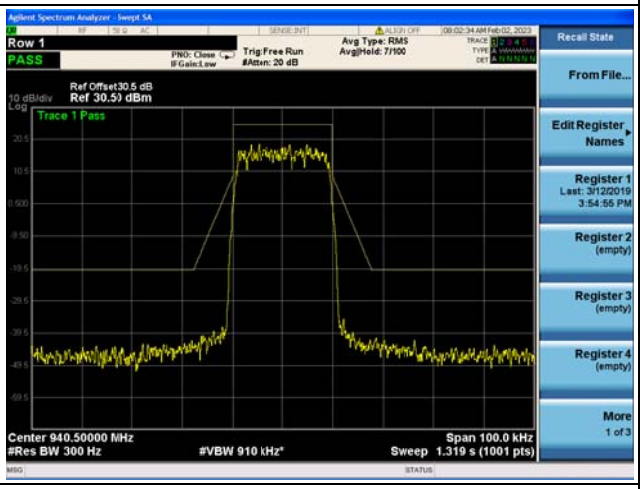
12.5kHz/256QAM



12.5kHz/ 256QAM /940.4300 -940.4600 MHz

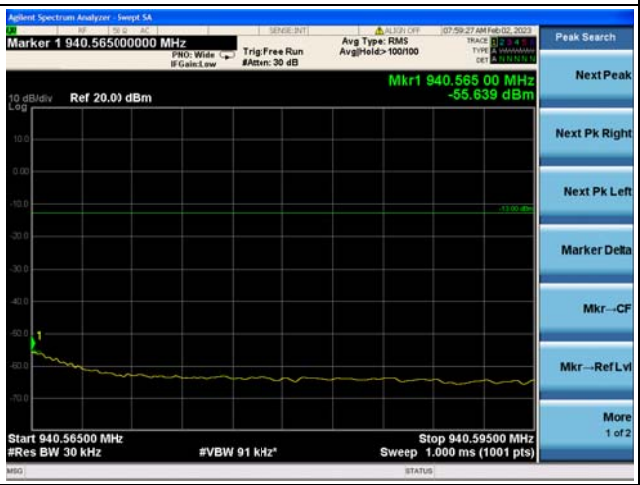
12.5kHz/ 256QAM /940.5400 -940.5700 MHz

25kHz/ QPSK

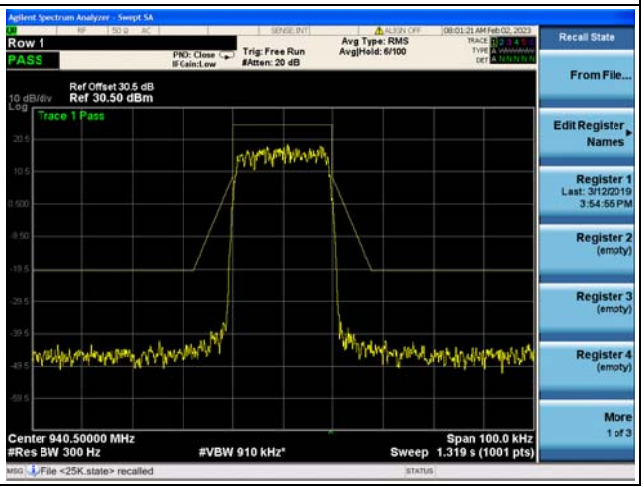


25kHz/ QPSK/940.4050 -940.4350 MHz

25kHz/ QPSK/940.5650 -940.5950 MHz

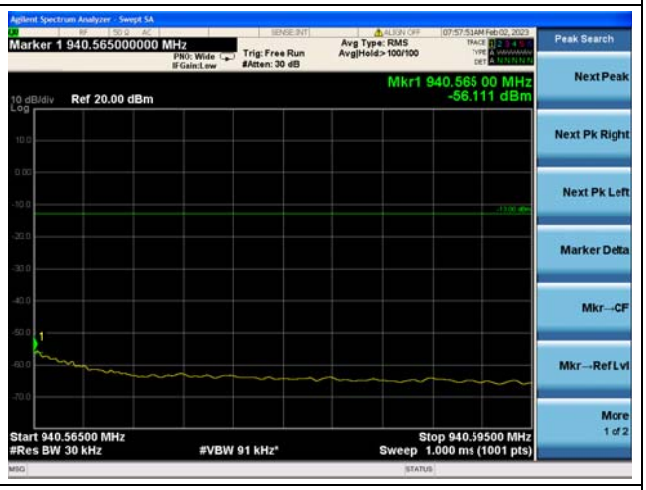


25kHz/16QAM

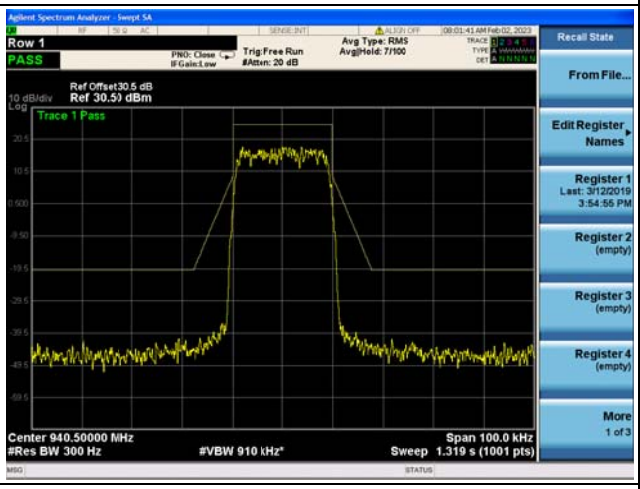


25kHz/ 16QAM /940.4050 -940.4350 MHz

25kHz/ 16QAM /940.5650 -940.5950 MHz



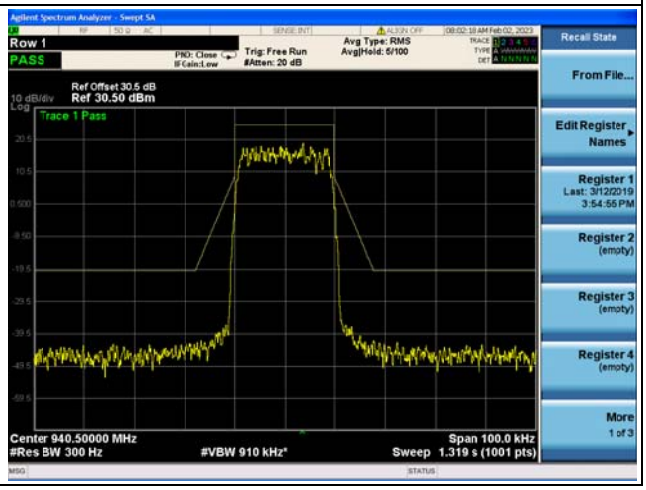
25kHz/ 64QAM



25kHz/ 64QAM /940.4050 -940.4350 MHz

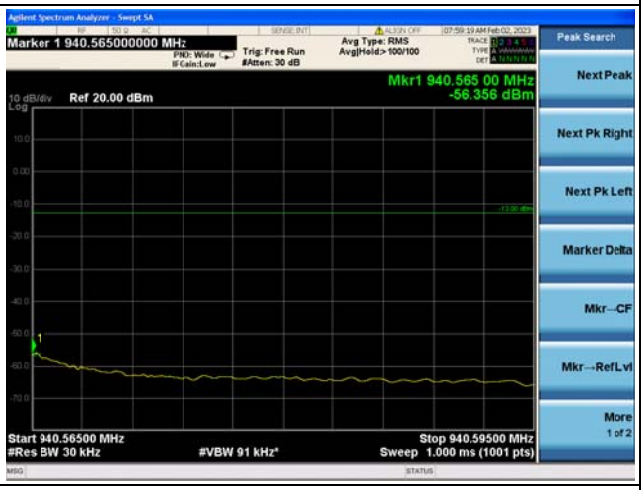
25kHz/ 64QAM /940.5650 -940.5950 MHz

25kHz/256QAM



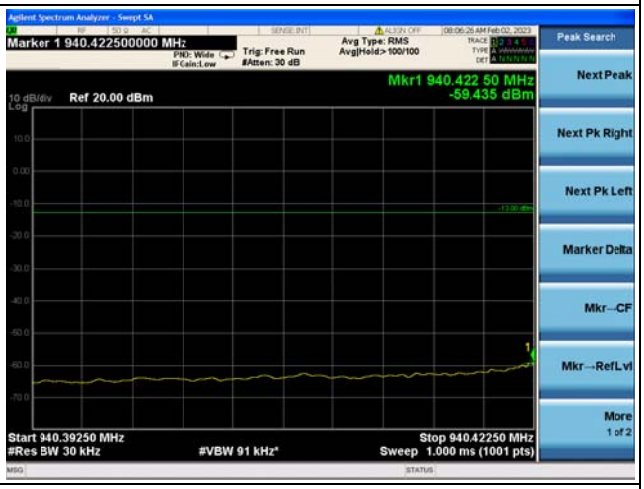
25kHz/ 256QAM /940.4050 -940.4350 MHz

25kHz/ 256QAM /940.5650 -940.5950 MHz



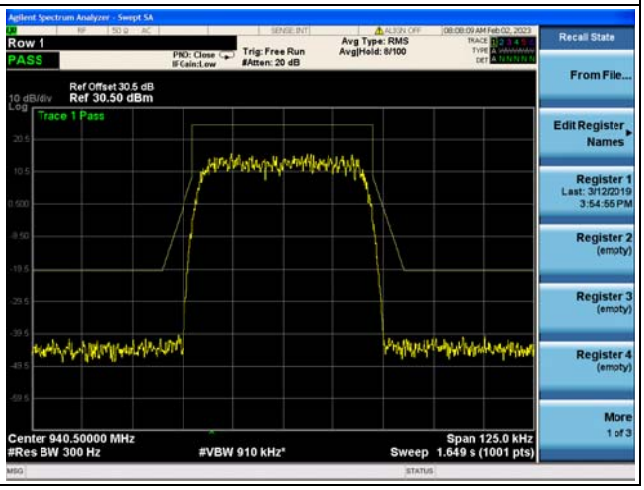
50kHz/ QPSK

50kHz/ QPSK/940.3925 -940.4225 MHz

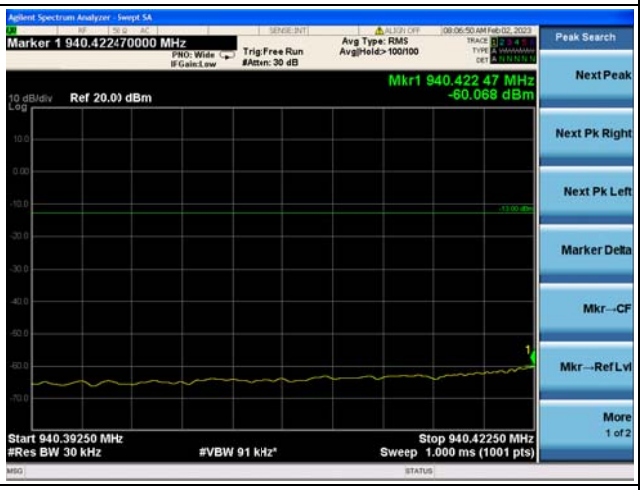


50kHz/ QPSK/940.5775 -940.6075 MHz

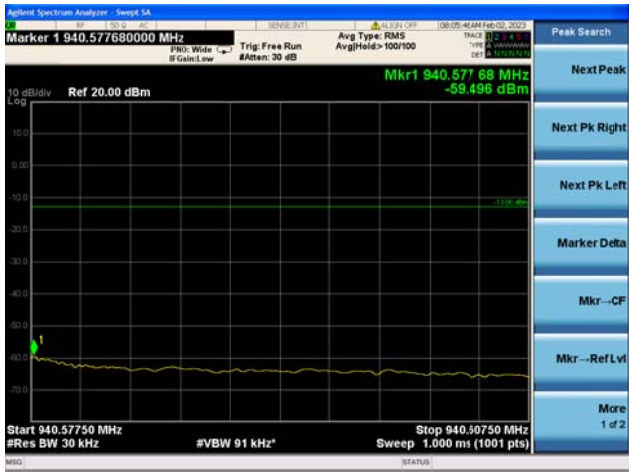
50kHz/16QAM



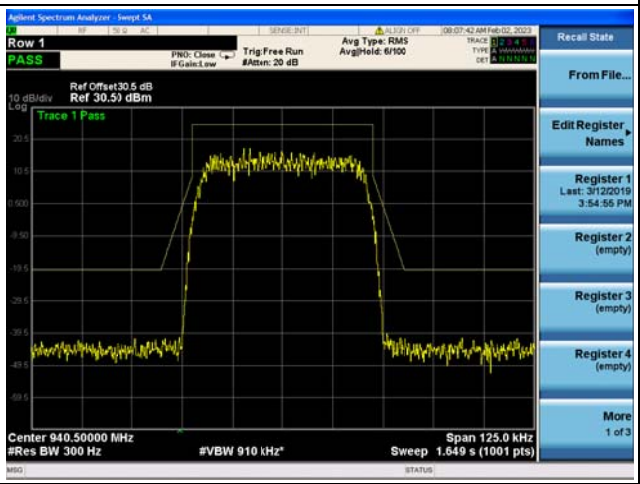
50kHz/ 16QAM /940.3925 -940.4225 MHz



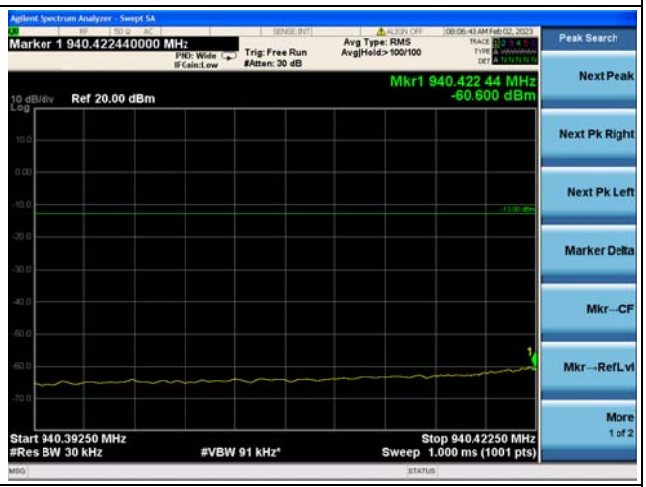
50kHz/ 16QAM /940.5775 -940.6075 MHz



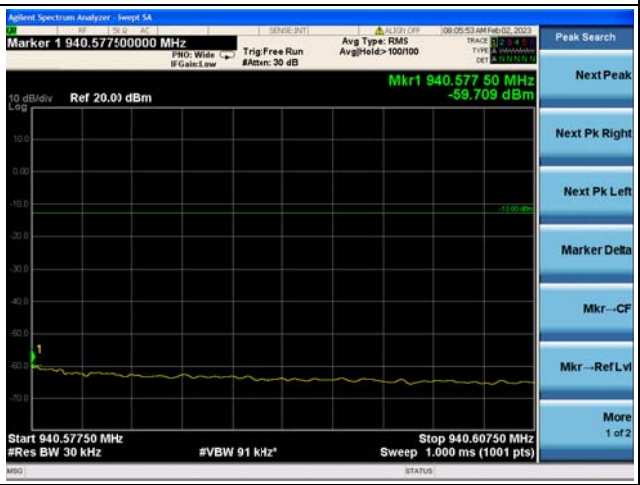
50kHz/ 64QAM



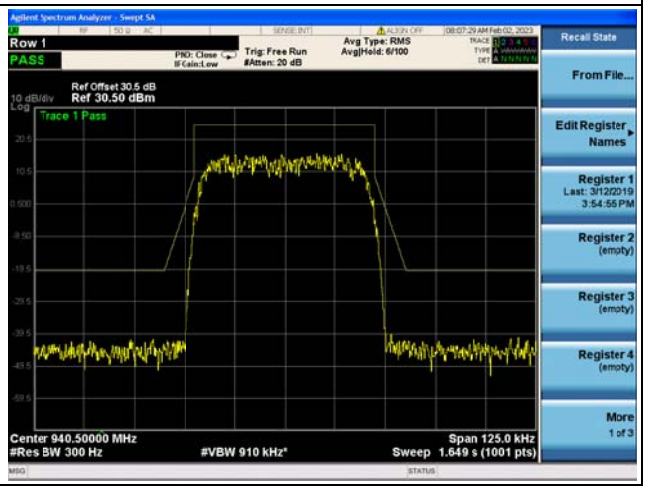
50kHz/ 64QAM /940.3925 -940.4225 MHz

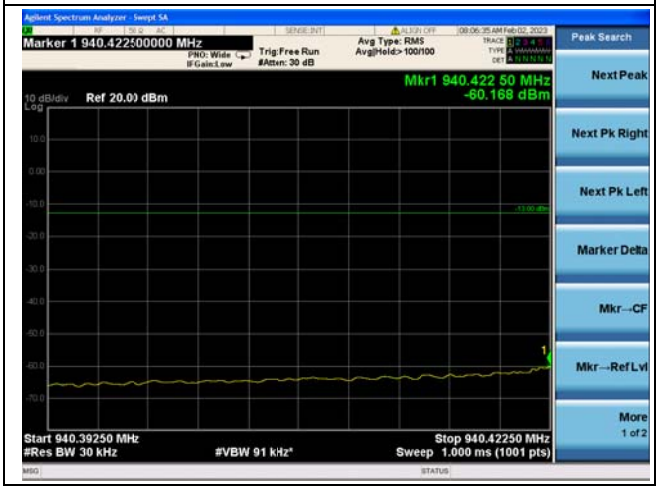


50kHz/ 64QAM /940.5775 -940.6075 MHz



50kHz/256QAM



50kHz/ 256QAM /940.3925 -940.4225 MHz	50kHz/ 256QAM /940.5775 -940.6075 MHz
	

2.4. Radiated Spurious Emissions

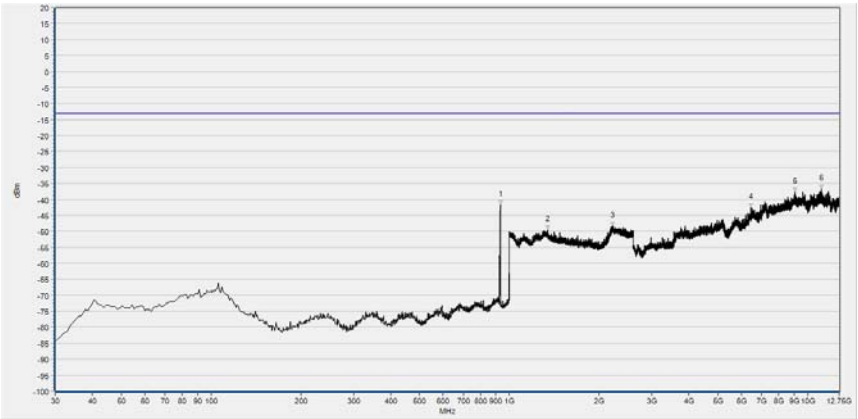
2.4.1. Requirement

According to FCC section 2.1053 and section 24.133(a).For operations in the 930-931 MHz&940-941MHz band, the power of any emission outside the licensee's frequency band(s) of operation shall be attenuated below the transmitter power within the licensed band(s) of operation, measured in watts, in accordance with the following:
(1) On any frequency outside the 930-931 MHz&940-941MHz band, the power of any emission shall be attenuated outside the band below the transmitter power (P) by at least 43 + 10 log (P) dB;

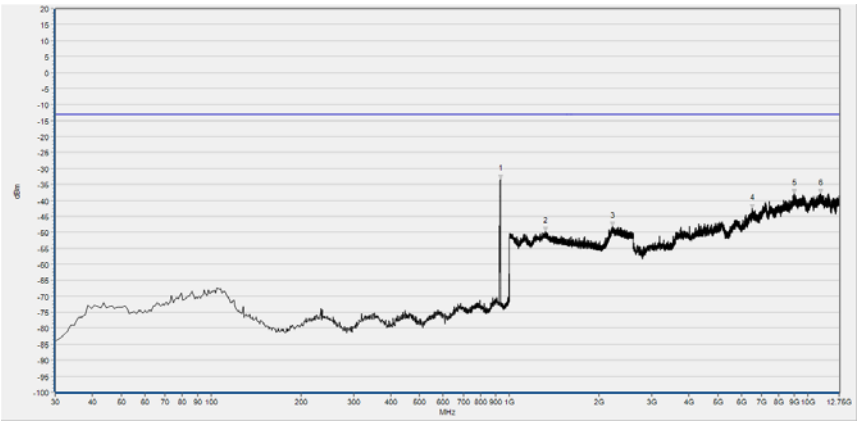
2.4.2. Test Result

Note 1: No discrete emissions were detected.
Note 2: The power of the EUT transmitting frequency should be ignored.
Note 3: N/A means the frequency is the basic frequency; they are no need to verdict.
Note 4: For measurements below 1GHz the resolution bandwidth is set to 100 kHz for peak detection measurements. For measurements above 1GHz the resolution bandwidth is set to 1MHz for peak measurements.
Note 5: All bandwidth and modulation were considered and evaluated respectively by performing full test; only the worst cases were recorded in this test report.

Nominal Frequency 930.5MHz, 12.5kHz BW, 256QAM

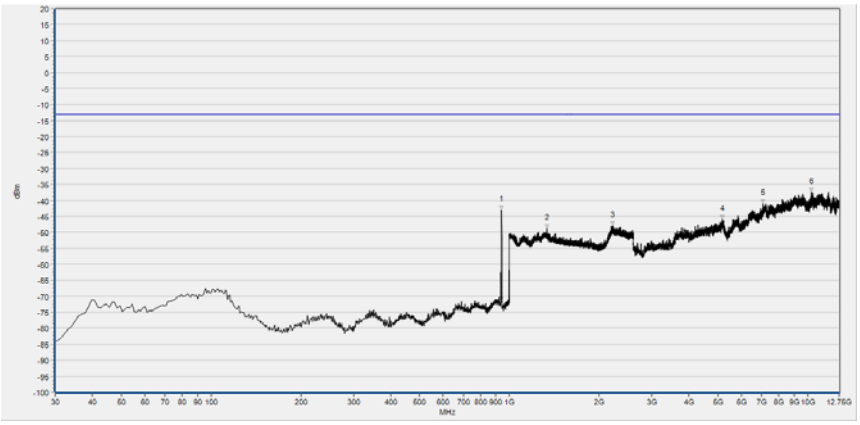


No.	Fre.(MHz)	PK (dBm)	Limit (dBm)	Antenna	Verdict
1	932.100	-41.64	-13.00	Horizontal	N/A
2	1342.933	-49.60	-13.00	Horizontal	PASS
3	2219.733	-48.48	-13.00	Horizontal	PASS
4	6440.760	-42.55	-13.00	Horizontal	PASS
5	9071.640	-37.64	-13.00	Horizontal	PASS
6	11130.060	-36.65	-13.00	Horizontal	PASS

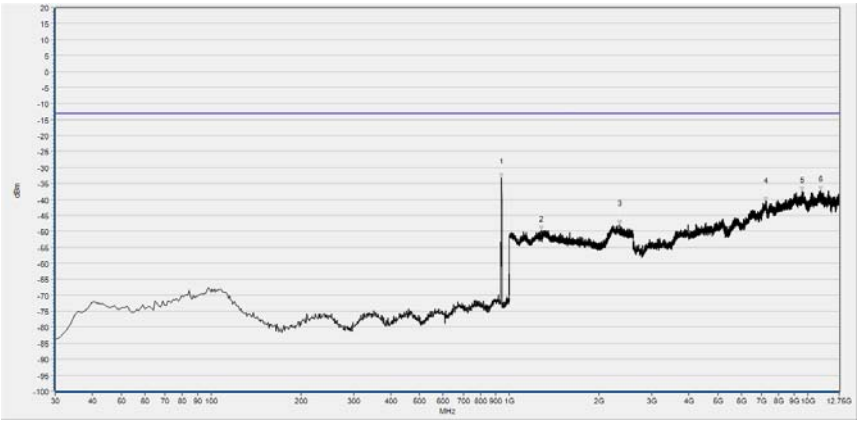


No.	Fre.(MHz)	PK (dBm)	Limit (dBm)	Antenna	Verdict
1	932.100	-33.38	-13.00	Vertical	N/A
2	1324.800	-49.78	-13.00	Vertical	PASS
3	2216.533	-48.14	-13.00	Vertical	PASS
4	6528.050	-42.59	-13.00	Vertical	PASS
5	9000.590	-37.99	-13.00	Vertical	PASS
6	11038.710	-37.94	-13.00	Vertical	PASS

Nominal Frequency 940.5MHz, 12.5kHz BW, 256QAM



No.	Fre.(MHz)	PK (dBm)	Limit (dBm)	Antenna	Verdict
1	941.800	-43.08	-13.00	Horizontal	N/A
2	1332.800	-48.92	-13.00	Horizontal	PASS
3	2217.067	-47.83	-13.00	Horizontal	PASS
4	5167.950	-45.90	-13.00	Horizontal	PASS
5	7092.390	-40.96	-13.00	Horizontal	PASS
6	10309.940	-37.43	-13.00	Horizontal	PASS



No.	Fre.(MHz)	PK (dBm)	Limit (dBm)	Antenna	Verdict
1	941.800	-33.29	-13.00	Vertical	N/A
2	1278.400	-49.82	-13.00	Vertical	PASS
3	2338.133	-48.02	-13.00	Vertical	PASS
4	7228.400	-40.65	-13.00	Vertical	PASS
5	9583.200	-37.49	-13.00	Vertical	PASS
6	11061.040	-37.19	-13.00	Vertical	PASS

2.5. Frequency Stability

2.5.1. Requirement

According to FCC section 2.1055 and FCC section 24.135.e frequency stability shall be sufficient to ensure that the fundamental emission stays within the authorized frequency block. According to FCC section 24.135, the test conditions are:

The frequency stability of the transmitter shall be maintained within ±0.0001 percent (±1 ppm) of the center frequency over a temperature variation of −30 °Celsius to + 50 °Celsius at normal supply voltage, and over a variation in the primary supply voltage of 85 percent to 115 percent of the rated supply voltage at a temperature of 20 °Celsius..

2.5.2. Test Results

930.5MHz QPSK 12.5kHz Limit =Within Authorized Band					
Voltage (%)	**Power (VDC)**	**Temp (°C)**	**Fre. Dev. (Hz)**	**Deviation (ppm)**	**Result**
100	24.0	+20(Ref)	16	0.017	PASS
100		-40	-19	-0.020	
100		-30	-19	-0.020	
100		-20	22	0.024	
100		-10	33	0.035	
100		0	27	0.029	
100		+10	-15	-0.016	
100		+20	-22	-0.024	
100		+30	49	0.053	
100		+40	-16	-0.017	
100		+50	50	0.054	
100		+60	22	0.024	
100		+70	-14	-0.015	
115	27.6	+20	21	0.023	
85	20.4	+20	30	0.032	

930.5MHz QPSK 25.0kHz Limit =Within Authorized Band					
Voltage (%)	**Power (VDC)**	**Temp (°C)**	**Fre. Dev. (Hz)**	**Deviation (ppm)**	**Result**
100	24.0	+20(Ref)	-20	-0.021	PASS
100		-40	47	0.051	
100		-30	37	0.040	
100		-20	21	0.023	
100		-10	23	0.025	
100		0	32	0.034	
100		+10	36	0.039	
100		+20	41	0.044	
100		+30	46	0.049	
100		+40	-20	-0.021	
100		+50	17	0.018	
100		+60	14	0.015	
100		+70	23	0.025	
115	27.6	+20	-16	-0.017	
85	20.4	+20	52	0.056	

930.5MHz QPSK 50.0kHz Limit =Within Authorized Band					
Voltage (%)	**Power (VDC)**	**Temp (°C)**	**Fre. Dev. (Hz)**	**Deviation (ppm)**	**Result**
100	24.0	+20(Ref)	-21	-0.023	PASS
100		-40	-14	-0.015	
100		-30	42	0.045	
100		-20	-23	-0.025	
100		-10	-19	-0.020	
100		0	18	0.019	
100		+10	21	0.023	
100		+20	17	0.018	
100		+30	51	0.055	
100		+40	46	0.049	
100		+50	20	0.021	
100		+60	-21	-0.023	
100		+70	23	0.025	
115	27.6	+20	41	0.044	

85	20.4	+20	-14	-0.015	

940.5MHz QPSK 12.5kHz Limit =Within Authorized Band					
Voltage (%)	**Power (VDC)**	**Temp (°C)**	**Fre. Dev. (Hz)**	**Deviation (ppm)**	**Result**
100	24.0	+20(Ref)	22	0.023	PASS
100		-40	23	0.024	
100		-30	30	0.032	
100		-20	-21	-0.022	
100		-10	39	0.041	
100		0	-15	-0.016	
100		+10	-18	-0.019	
100		+20	-21	-0.022	
100		+30	42	0.045	
100		+40	44	0.047	
100		+50	22	0.023	
100		+60	-19	-0.020	
100		+70	-17	-0.018	
115	27.6	+20	13	0.014	
85	20.4	+20	52	0.055	

940.5MHz QPSK 25.0kHz Limit =Within Authorized Band					
Voltage (%)	**Power (VDC)**	**Temp (°C)**	**Fre. Dev. (Hz)**	**Deviation (ppm)**	**Result**
100	24.0	+20(Ref)	34	0.036	PASS
100		-40	14	0.015	
100		-30	30	0.032	
100		-20	15	0.016	
100		-10	44	0.047	
100		0	53	0.056	
100		+10	19	0.020	
100		+20	18	0.019	
100		+30	-19	-0.020	
100		+40	22	0.023	
100		+50	-15	-0.016	
100		+60	13	0.014	

100		+70	22	0.023	
115	27.6	+20	23	0.024	
85	20.4	+20	-22	-0.023	

940.5MHz QPSK 50.0kHz Limit =Within Authorized Band					
Voltage (%)	**Power (VDC)**	**Temp (°C)**	**Fre. Dev. (Hz)**	**Deviation (ppm)**	**Result**
100	24.0	+20(Ref)	48	0.051	PASS
100		-40	-14	-0.015	
100		-30	-18	-0.019	
100		-20	20	0.021	
100		-10	38	0.040	
100		0	20	0.021	
100		+10	16	0.017	
100		+20	-20	-0.021	
100		+30	15	0.016	
100		+40	23	0.024	
100		+50	47	0.050	
100		+60	-23	-0.024	
100		+70	23	0.024	
115	27.6	+20	32	0.034	
85	20.4	+20	20	0.021	

Annex A Test Uncertainty

Where relevant, the following measurement uncertainty levels have been estimated for test performed on the EUT as specified in CISPR 16-1-2:

Test items	Uncertainty
Output Power	±2.22 dB
Bandwidth	±5%
Conducted Spurious Emission	±2.77 dB
Band Edge	±2.77 dB
Equivalent Isotropic Radiated Power	±2.22 dB
Radiated Spurious Emissions	±6 dB

This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of k=2.

Annex B Testing Laboratory Information

1. Identification of the Responsible Testing Laboratory

Company Name:	Shenzhen Morlab Communications Technology Co., Ltd.
Laboratory Address:	FL.1-3, Building A, FeiYang Science Park, No.8 LongChang Road, Block 67, BaoAn District, ShenZhen, GuangDong Province, P. R. China
Telephone:	+86 755 36698555
Facsimile:	+86 755 36698525

2. Identification of the Responsible Testing Location

Name:	Shenzhen Morlab Communications Technology Co., Ltd.
Address:	FL.1-3, Building A, FeiYang Science Park, No.8 LongChang Road, Block 67, BaoAn District, ShenZhen, GuangDong Province, P. R. China

3. Facilities and Accreditations

All measurement facilities used to collect the measurement data are located at FL.3, Building A, FeiYang Science Park, Block 67, BaoAn District, Shenzhen, 518101 P. R. China. The test site is constructed in conformance with the requirements of ANSI C63.10-2013and CISPR Publication 22; the FCC designation number is CN1192, the test firm registration number is 226174.

4. Test Equipment Utilized

4.1 Conducted Test Equipment

Equipment Name	Serial No.	Type	Manufacturer	Cal. Date	Cal. Due
Power Splitter	NW521	1506A	Weinschel	N/A	N/A
Attenuator 1	(N/A.)	30.0dB	Resnet	N/A	N/A
Attenuator 2	(N/A.)	30.0dB	Resnet	N/A	N/A
EXA Signal Analyzer	MY51511149	N9020A	Agilent	2022.07.04	2023.07.03
RF Cable (30MHz-26GHz)	CB01	RF01	Morlab	N/A	N/A
Coaxial Cable	CB02	RF02	Morlab	N/A	N/A
SMA Connector	CN01	RF03	HUBER-SUHNER	N/A	N/A
Temperature Chamber	S022177101 00089002	KMT-36LF 1A0	KOMEG	2022.11.18	2023.11.17