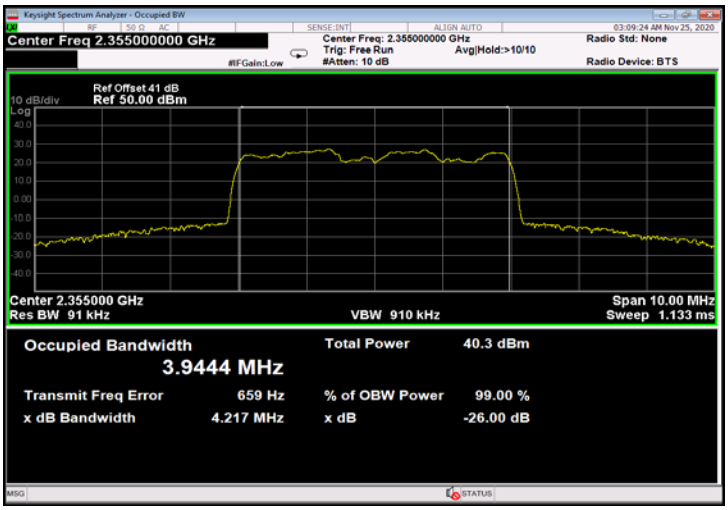

Figure 93: 64QAM 5MHz B.W.; 2355.0MHz, 30kHz - Output

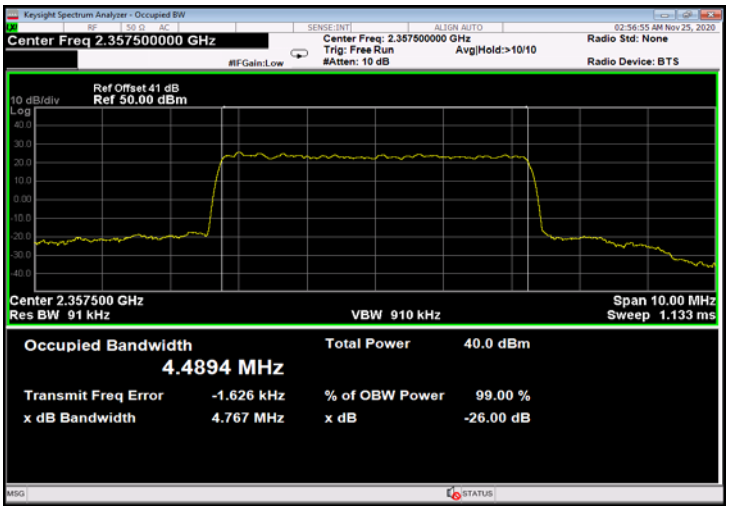

Figure 94: 64QAM 5MHz B.W.; 2357.5MHz, 15kHz - Output

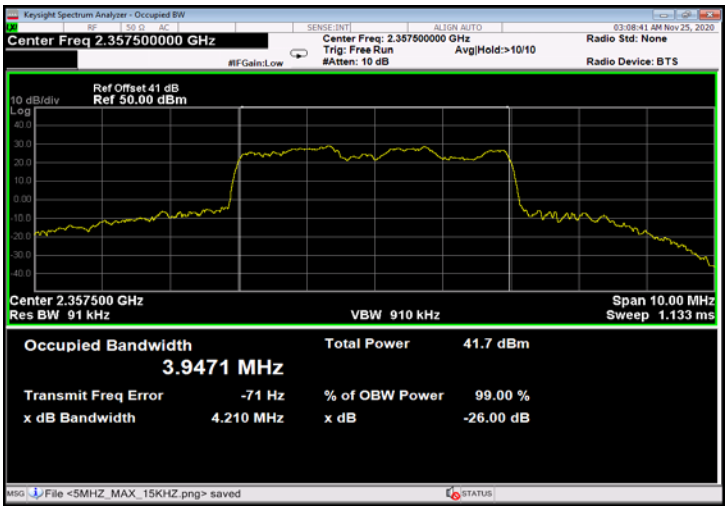

Figure 95: 64QAM 5MHz B.W.; 2357.5MHz, 30kHz - Output

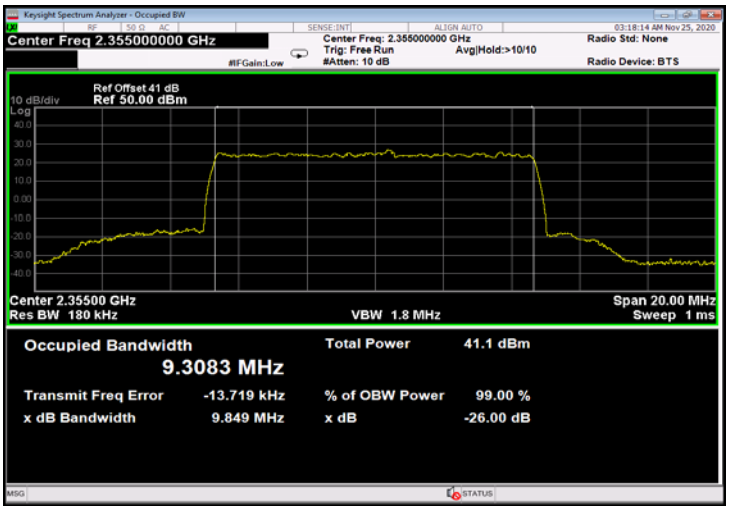

Figure 96: 64QAM 10MHz B.W.; 2355.0MHz, 15kHz - Output

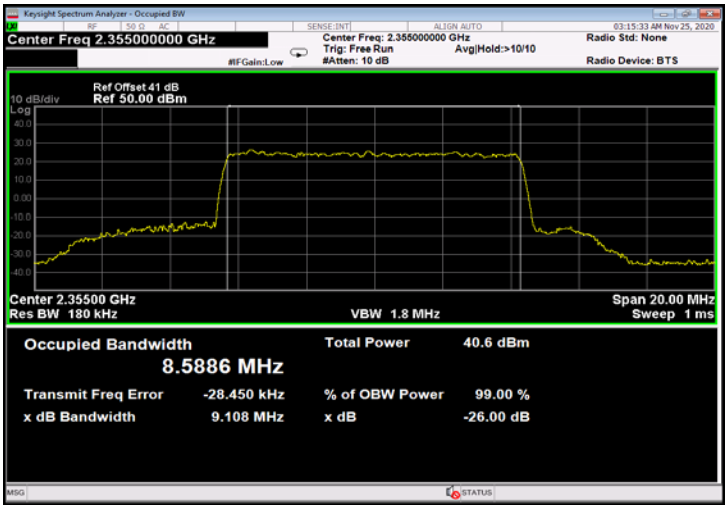

Figure 97: 64QAM 10MHz B.W.; 2355.0MHz, 30kHz - Output

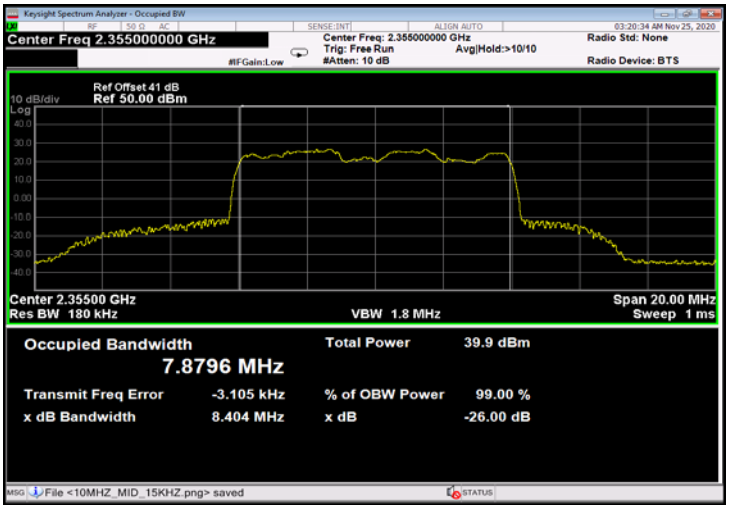

Figure 98: 64QAM 10MHz B.W.; 2355.0MHz, 60kHz - Output

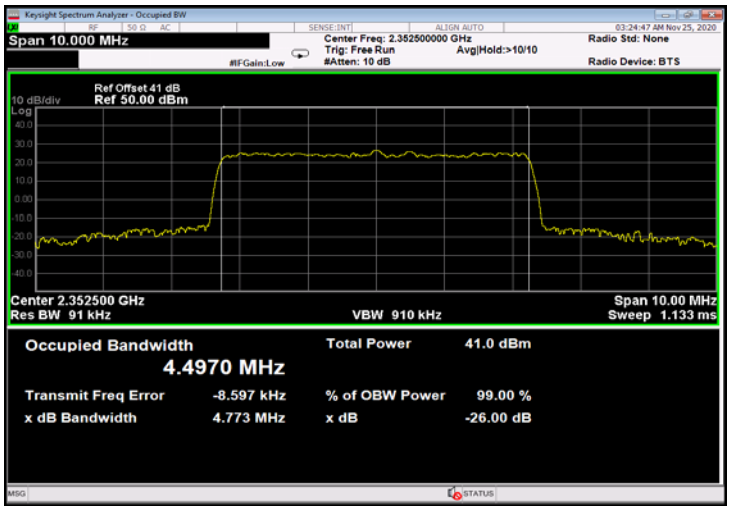

Figure 99: 256QAM 5MHz B.W.; 2352.5MHz, 15kHz - Output

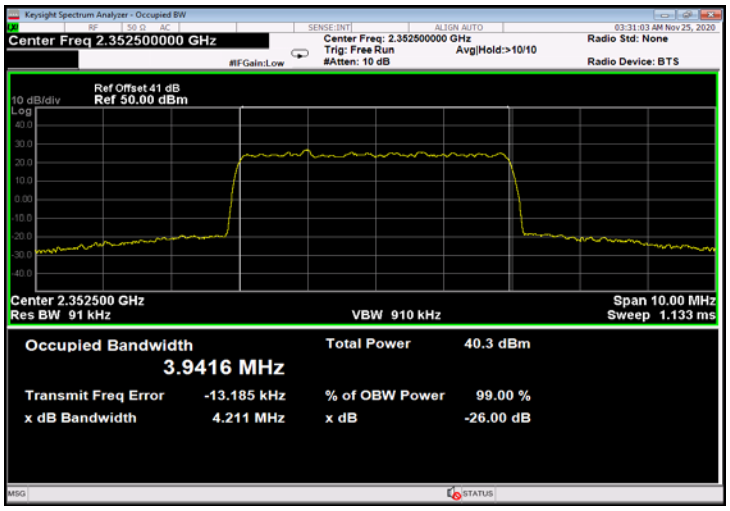

Figure 100: 256QAM 10MHz B.W.; 2352.5MHz, 30kHz - Output

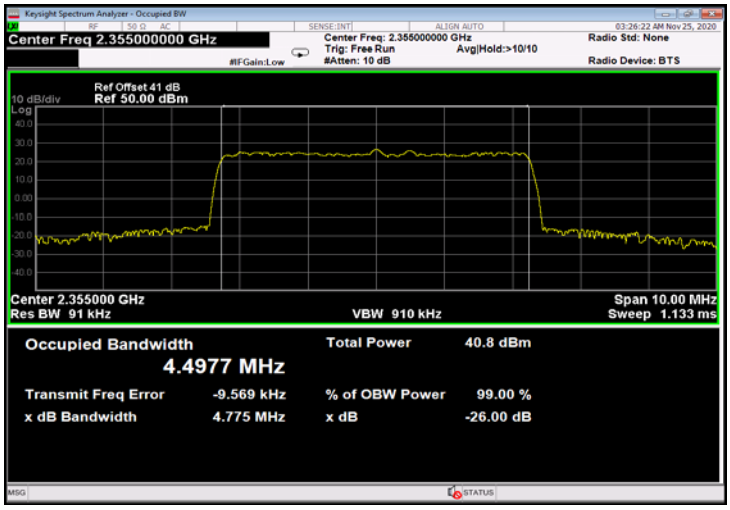

Figure 101: 256QAM 5MHz B.W.; 2355.0MHz, 15kHz - Output

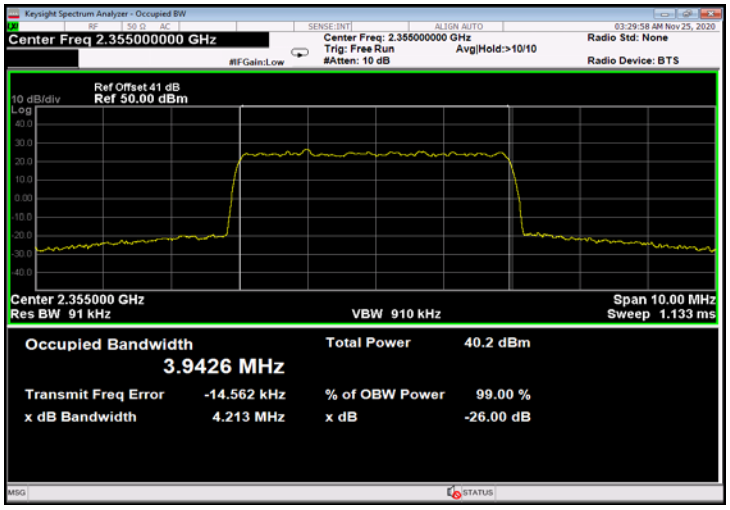

Figure 102: 256QAM 5MHz B.W.; 2355.0MHz, 30kHz - Output

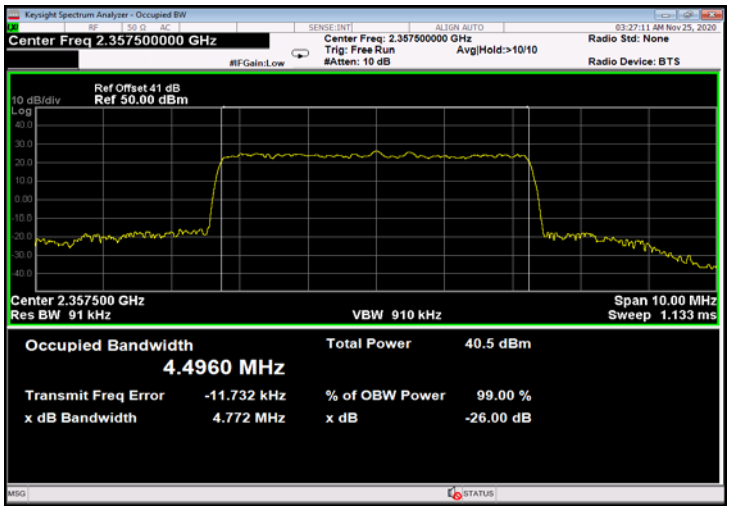

Figure 103: 256QAM 5MHz B.W.; 2357.5MHz, 15kHz - Output

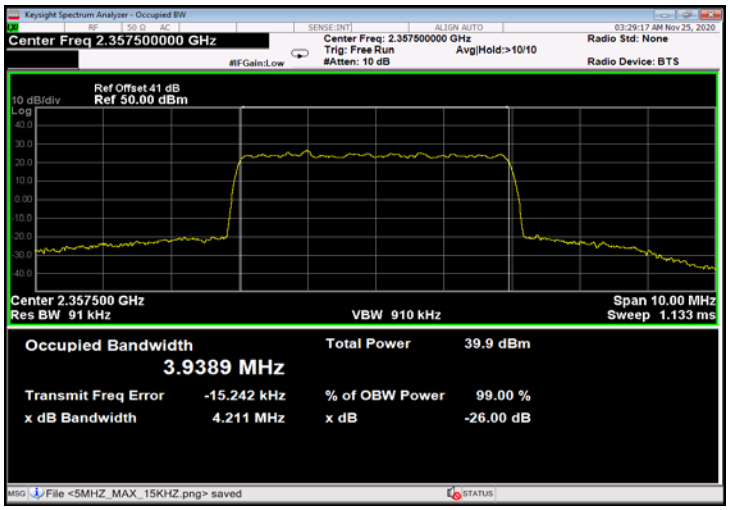

Figure 104: 256QAM 5MHz B.W.; 2357.5MHz, 30kHz - Output

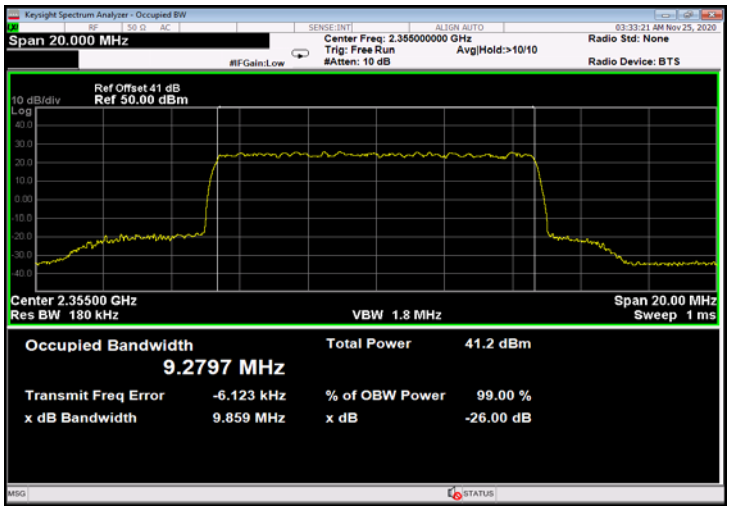

Figure 105: 256QAM 10MHz B.W.;2355.0MHz, 15kHz - Output

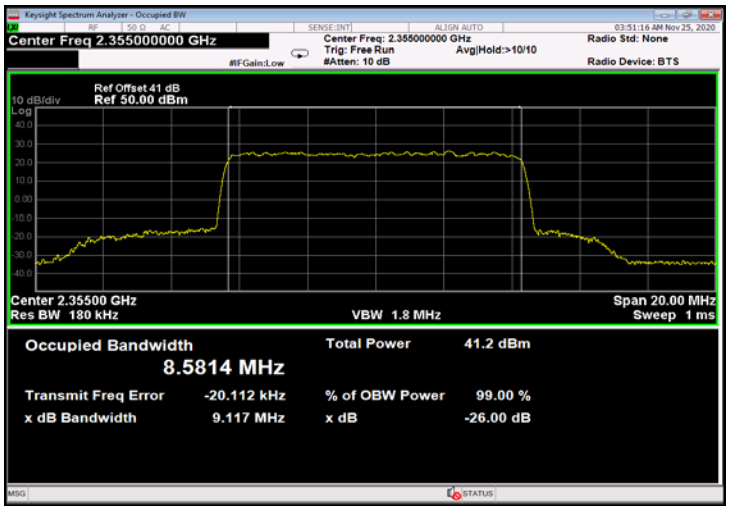

Figure 106: 256QAM 10MHz B.W.; 2355.0MHz, 30kHz - Output

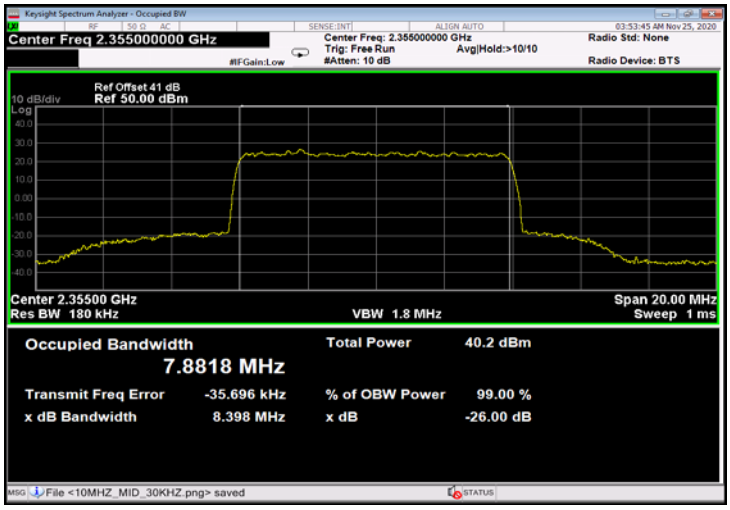

Figure 107: 256QAM 10MHz B.W.; 2355.0MHz, 60kHz - Output

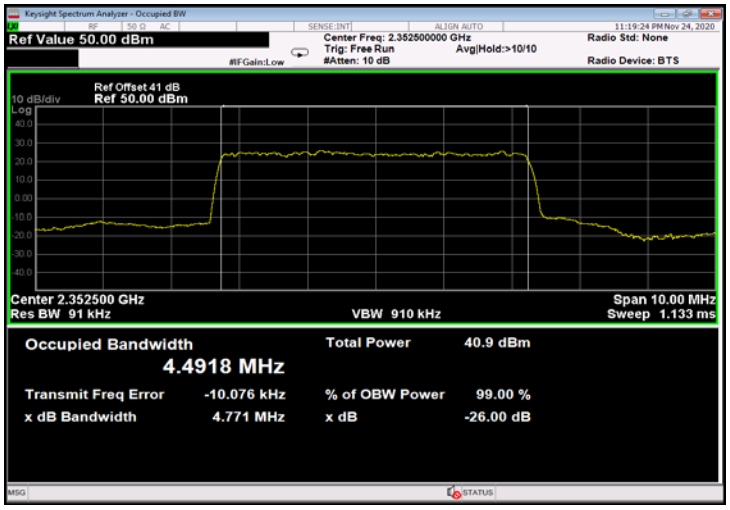

Figure 108: QPSK 5MHz B.W.; 2352.5MHz, 15kHz - Output

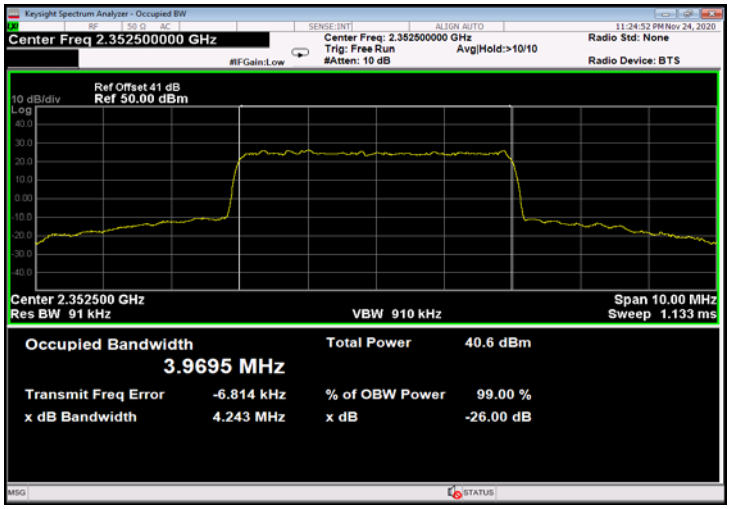

Figure 109: QPSK 5MHz B.W.; 2352.5MHz, 30kHz - Output

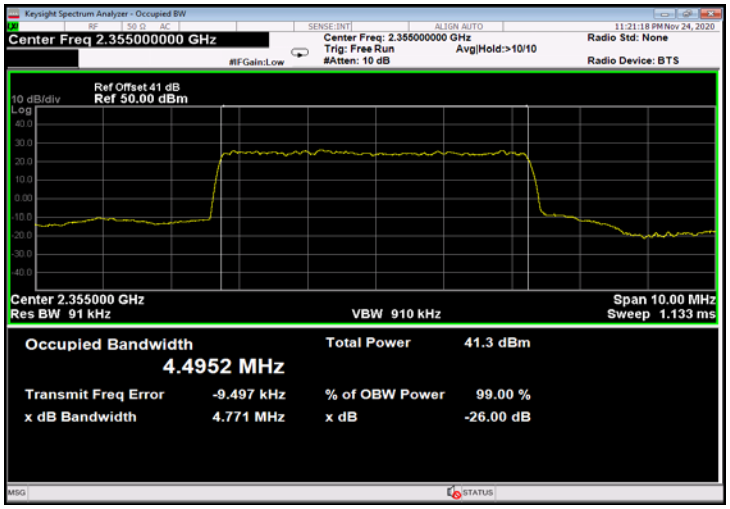

Figure 110: QPSK 5MHz B.W.; 2355.0MHz, 15kHz - Output

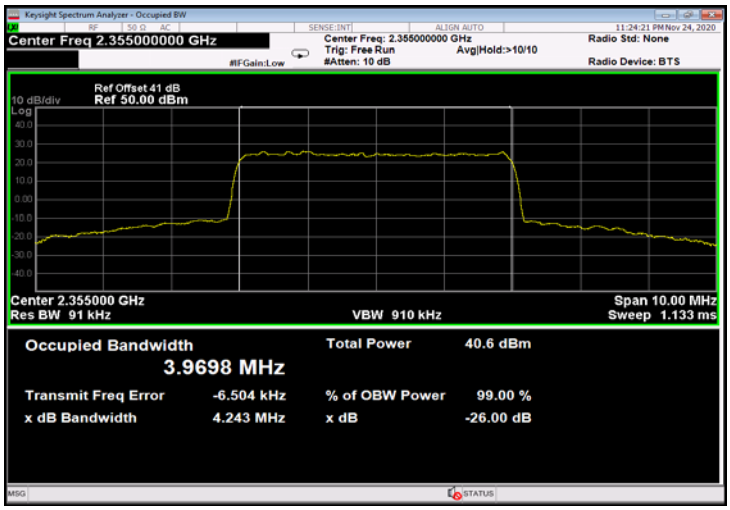

Figure 111: QPSK 5MHz B.W.; 2355.0MHz, 30kHz - Output

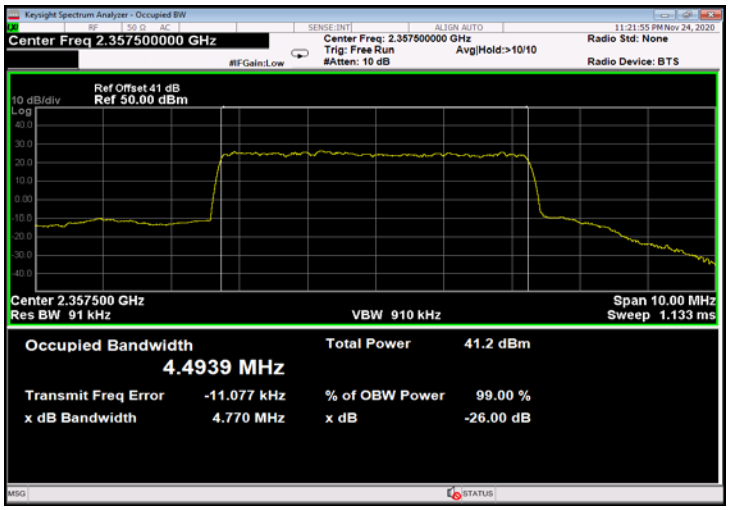

Figure 112: QPSK 5MHz B.W.; 2357.5MHz, 15kHz - Output

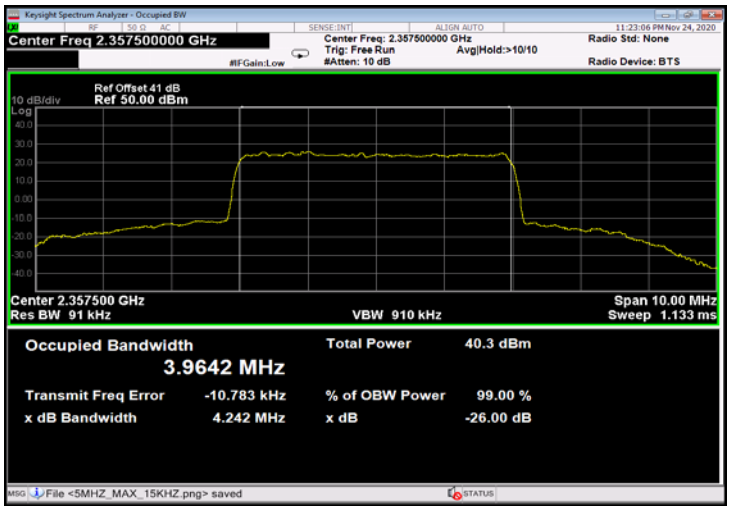

Figure 113: QPSK 5MHz B.W.;2357.5MHz, 30kHz - Output

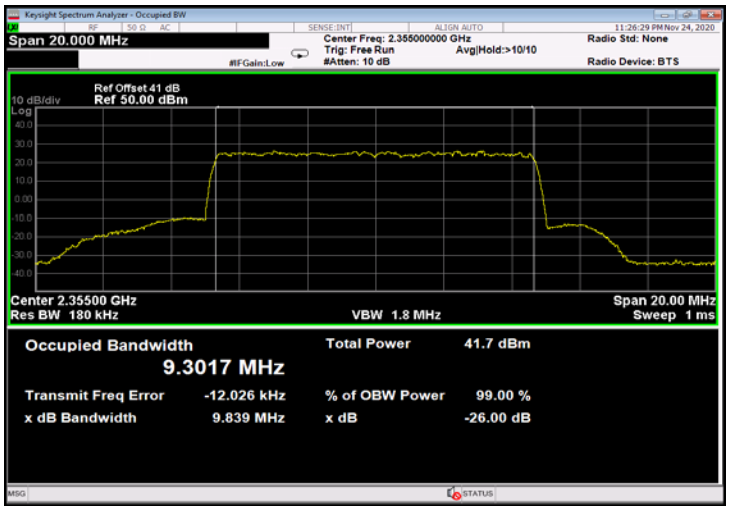

Figure 114: QPSK 10MHz B.W.; 2355.0MHz, 15kHz - Output

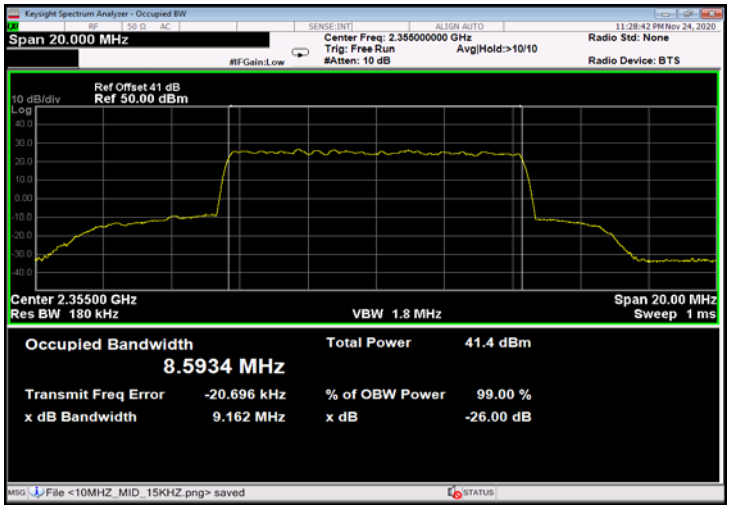

Figure 115: QPSK 10MHz B.W.; 2355.0MHz, 30kHz - Output

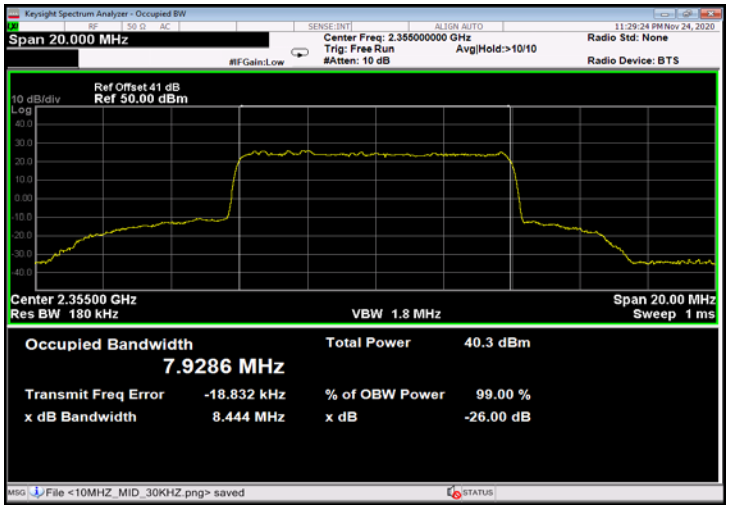

Figure 116: QPSK 10MHz B.W.; 2355.0MHz, 60kHz - Output

5.5 Test Equipment Used; Occupied Bandwidth

Instrument	Manufacturer	Model	Serial Number	Calibration	
				Last Calibration Date	Next Calibration Due
EXA signal Analyzer	Agilent Technologies	N9010A	MY52220686	November 28, 2018	November 28, 2020
Vector Signal Generator	R&S	SMBV100B	1423.1003K02 -101470-XE	October 2, 2019	October 2, 2022
40 dB Attenuator	Weinschel	WA 39-40-33	A1323	July 7, 2020	July 31, 2021
RF Cable	Huber Suner	Sucofelex	27504/4PEA	August 23, 2020	August 31, 2021

Table 14 Test Equipment Used

6 Spurious Emissions at Antenna Terminals

6.1 Test Specification

FCC Part 27, Subpart C, Sections 27.53(a)(1)

6.2 Test Procedure

(Temperature (22°C)/ Humidity (36%RH))

The E.U.T. antenna terminal was connected to the spectrum analyzer through an external attenuator and an appropriate coaxial cable (max loss 44.0 dB).

The evaluation was performed in the frequency band from 9.0kHz-24.0GHz.

6.3 Test Limit

The power of any emission outside of the authorized operating frequency ranges (2350-2360 MHz) must be attenuated below the transmitting power (P) by a factor of at least as specified in this section.

Frequency Band (MHz)	Calculated Factor (dBc)	Absolute Limit (dBm)
f<2285.0	75+10*log(2)=78.0	-45
2285.0MHz<f<2287.5MHz	72+10*log(2)=75.0	-42
2287.5MHz<f<2300.0MHz	70+10*log(2)=73.0	-40
2300.0MHz<f<2305.0MHz	43+10*log(2)=46.0	-13
2305.0MHz<f<2320.0MHz	43+10*log(2)=46.0	-13
2320.0MHz<f<2345.0MHz	75+10*log(2)=78.0	-45
2345.0MHz<f<2360.0MHz	43+10*log(2)=46.0	-13
2360.0MHz<f<2362.5MHz	43+10*log(2)=46.0	-13
2362.5MHz<f<2365.0MHz	55+10*log(2)=58.0	-25
2365.0MHz<f<2367.5MHz	70+10*log(2)=60.0	-40
2367.5MHz<f<2370.0MHz	72+10*log(2)=62.0	-42
2370.0<f	75+10*log(2)=65.0	-45

6.4 Test Results

JUDGEMENT: Passed

See additional information in Figure 117 to Figure 218.

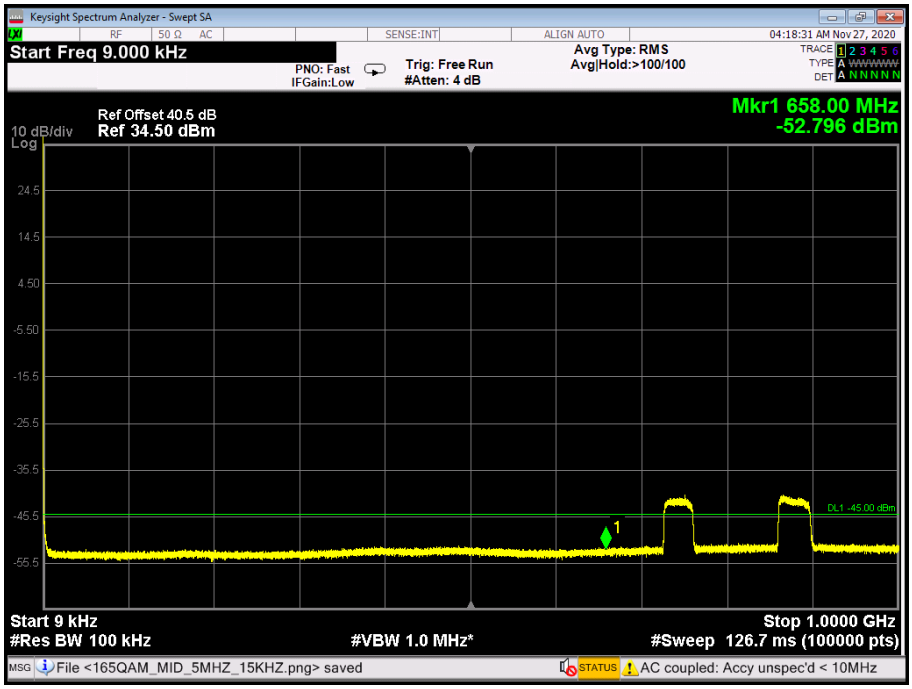

Figure 117: Spurious Emissions at Antenna Terminal 9kHz-1GHz - 16QAM 5MHz B.W.; Low, 15kHz

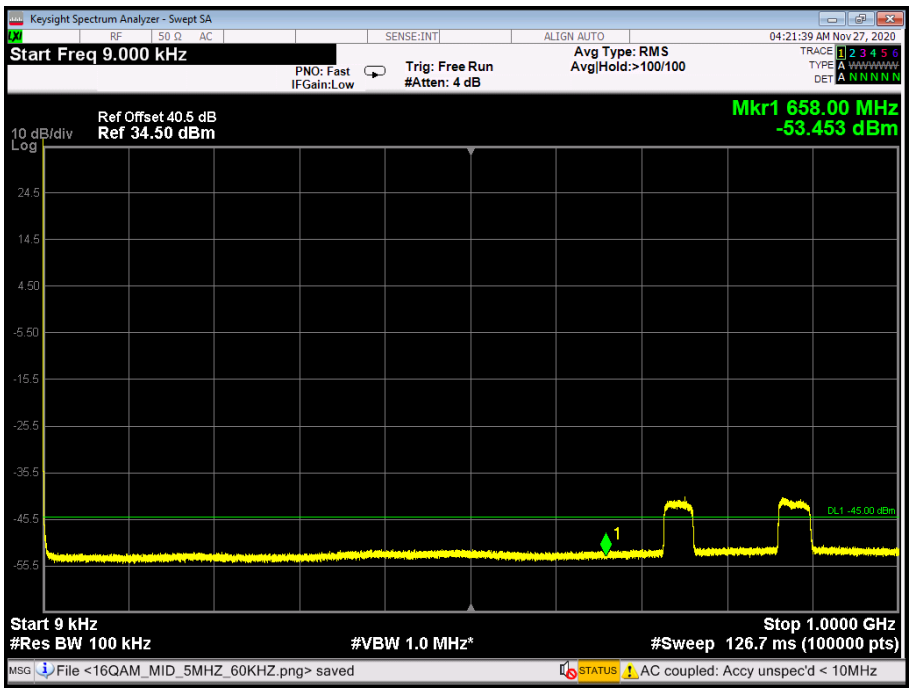

Figure 118: Spurious Emissions at Antenna Terminal 9kHz-1GHz - 16QAM 5MHz B.W.; Low, 30kHz

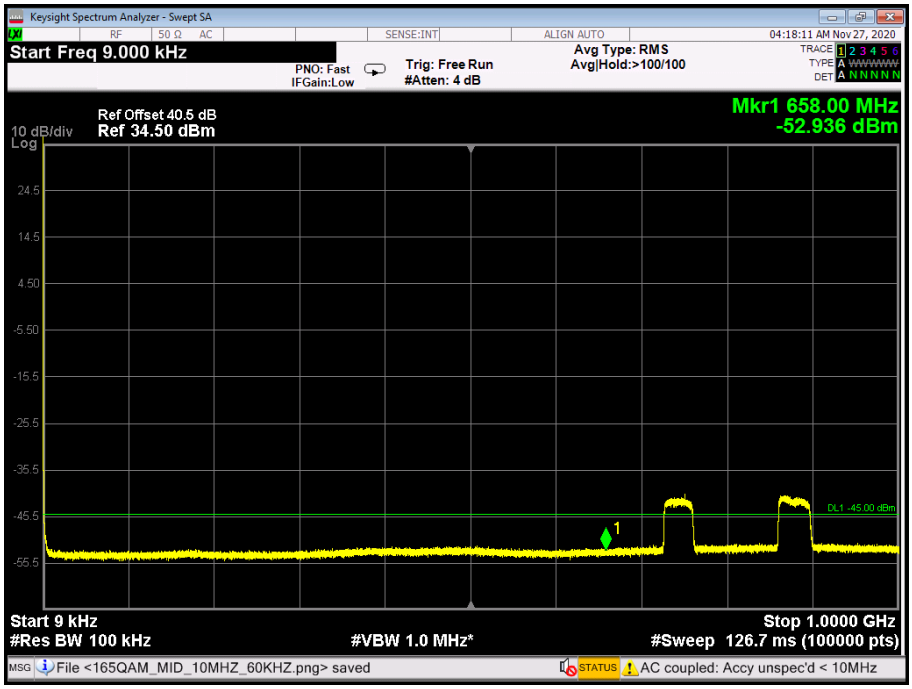

Figure 119: Spurious Emissions at Antenna Terminal 9kHz-1GHz - 16QAM 5MHz B.W.; Mid, 15kHz

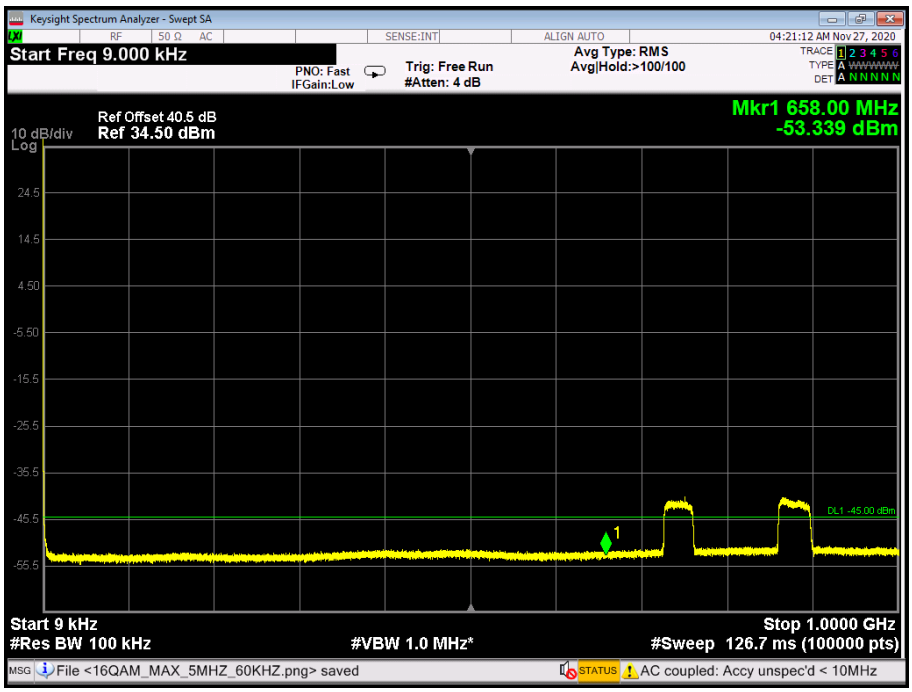

Figure 120: Spurious Emissions at Antenna Terminal 9kHz-1GHz - 16QAM 5MHz B.W.; Mid, 30kHz

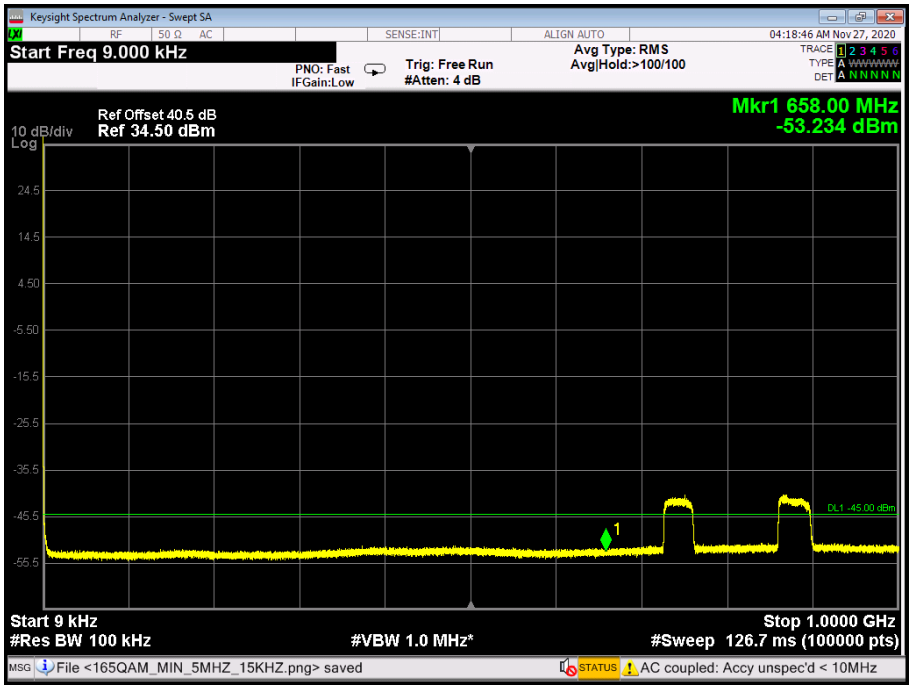

Figure 121: Spurious Emissions at Antenna Terminal 9kHz-1GHz - 16QAM 5MHz B.W.; High, 15kHz

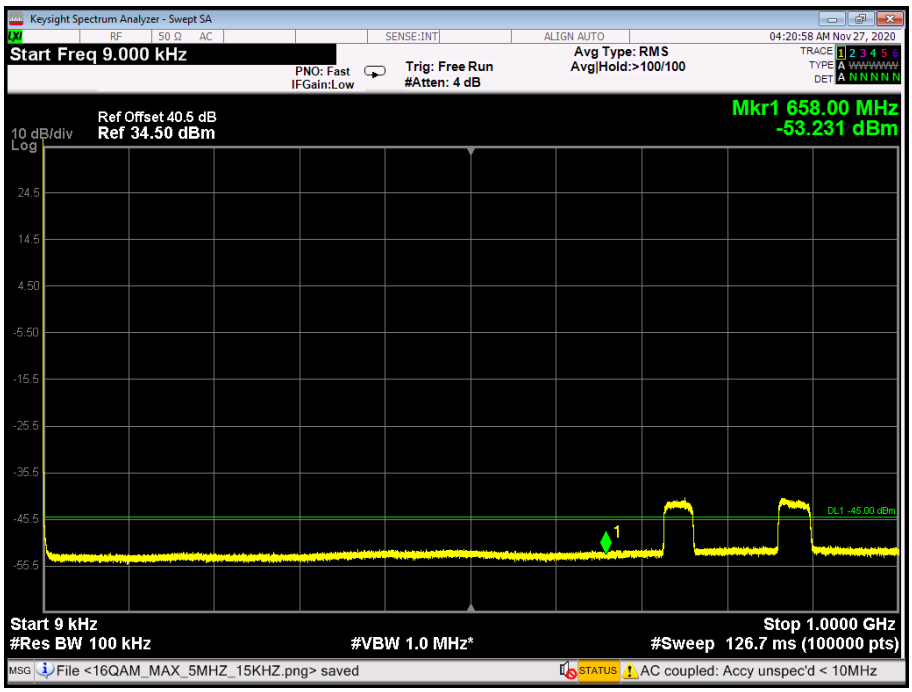

Figure 122: Spurious Emissions at Antenna Terminal 9kHz-1GHz - 16QAM 5MHz B.W.; High, 30kHz

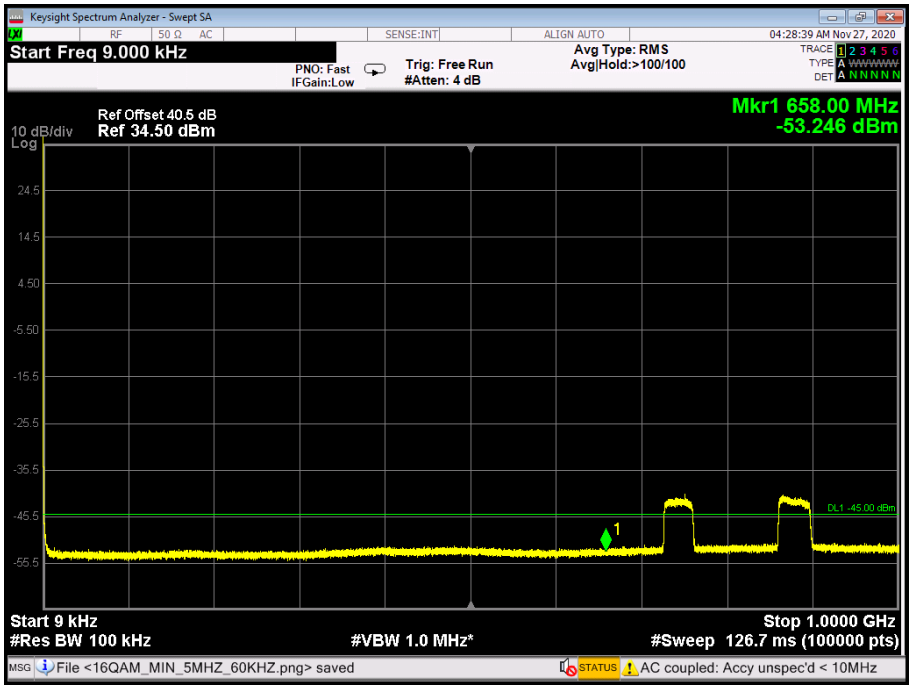

Figure 123: Spurious Emissions at Antenna Terminal 9kHz-1GHz - 64QAM 5MHz B.W.; Low, 15kHz

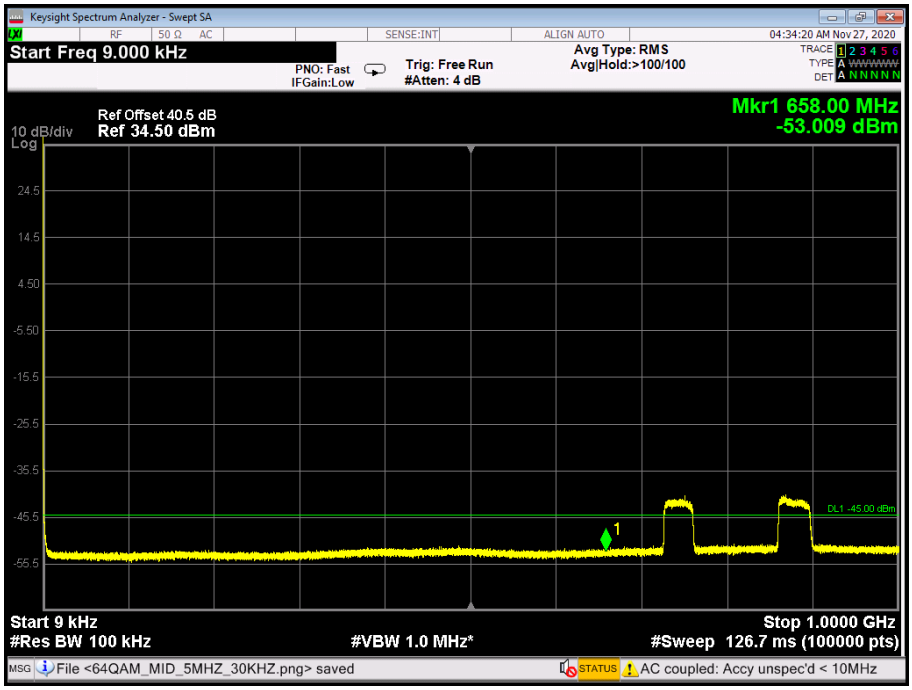

Figure 124: Spurious Emissions at Antenna Terminal 9kHz-1GHz - 64QAM 5MHz B.W.; Low, 30kHz

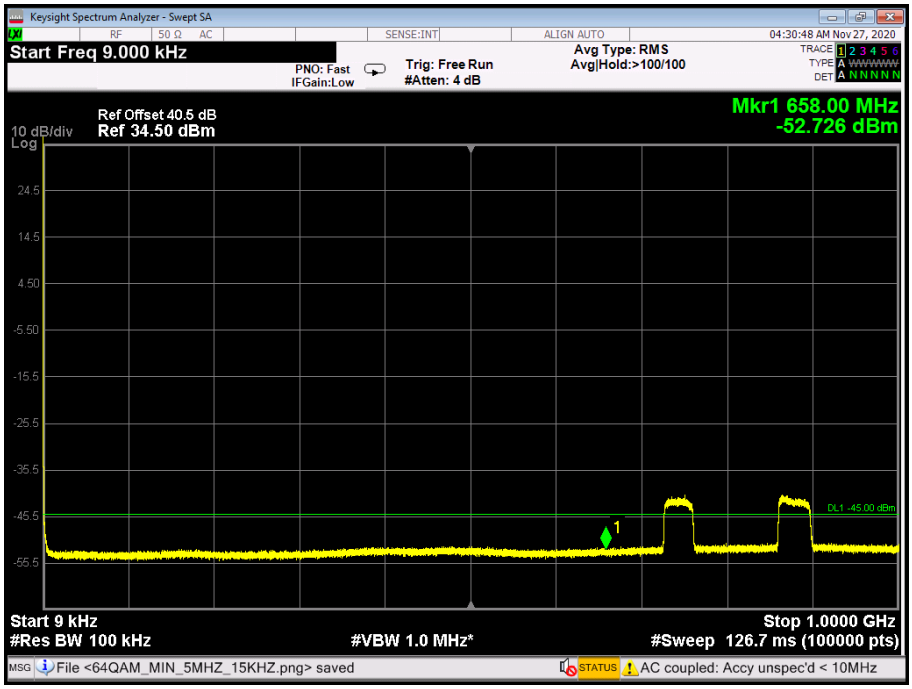

Figure 125: Spurious Emissions at Antenna Terminal 9kHz-1GHz - 64QAM 5MHz B.W.; Mid, 15kHz

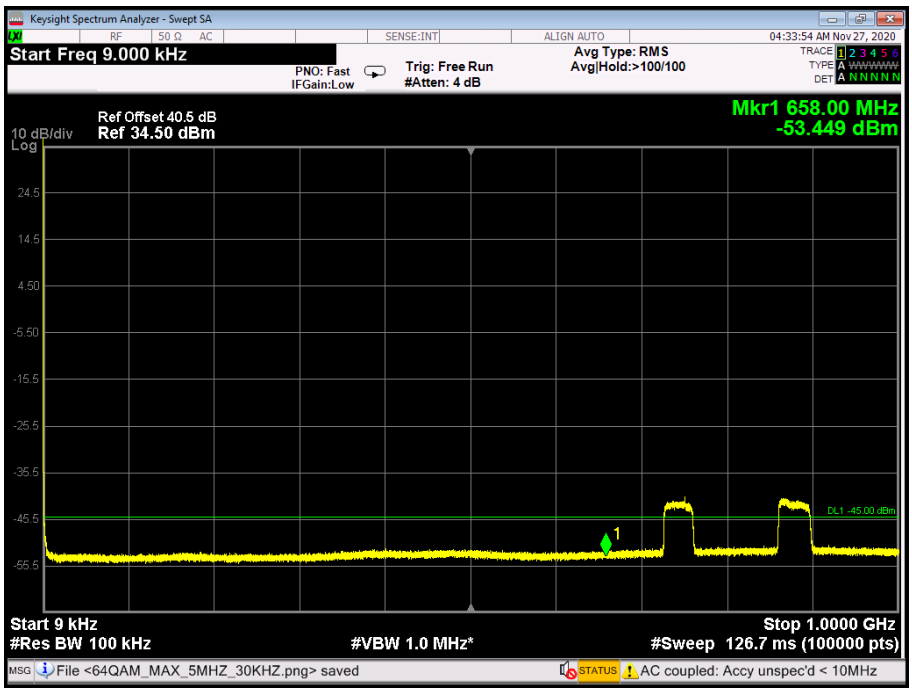

Figure 126: Spurious Emissions at Antenna Terminal 9kHz-1GHz - 64QAM 5MHz B.W.; Mid, 30kHz

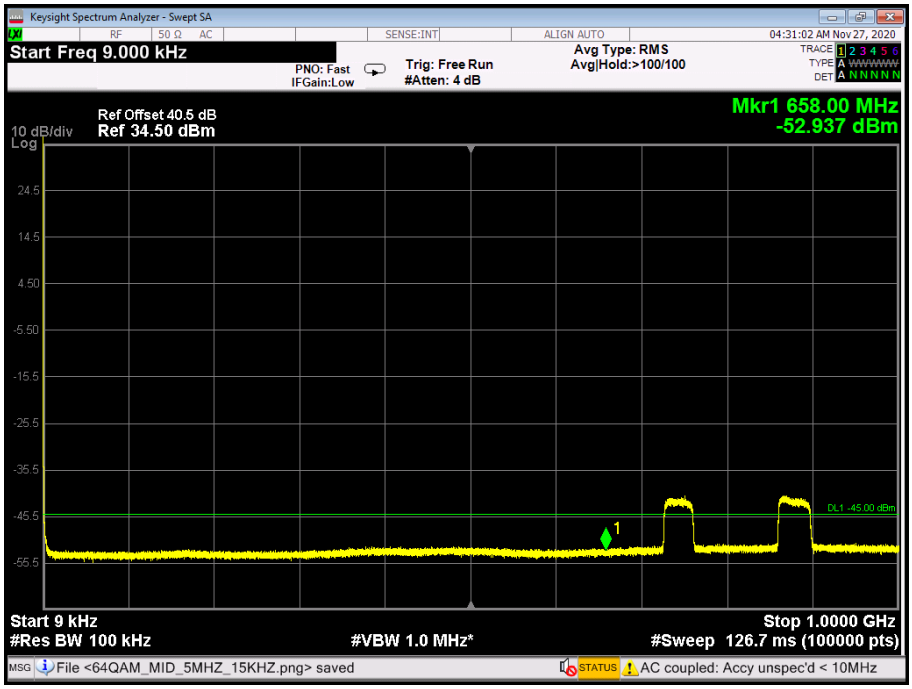

Figure 127: Spurious Emissions at Antenna Terminal 9kHz-1GHz - 64QAM 5MHz B.W.; High, 15kHz

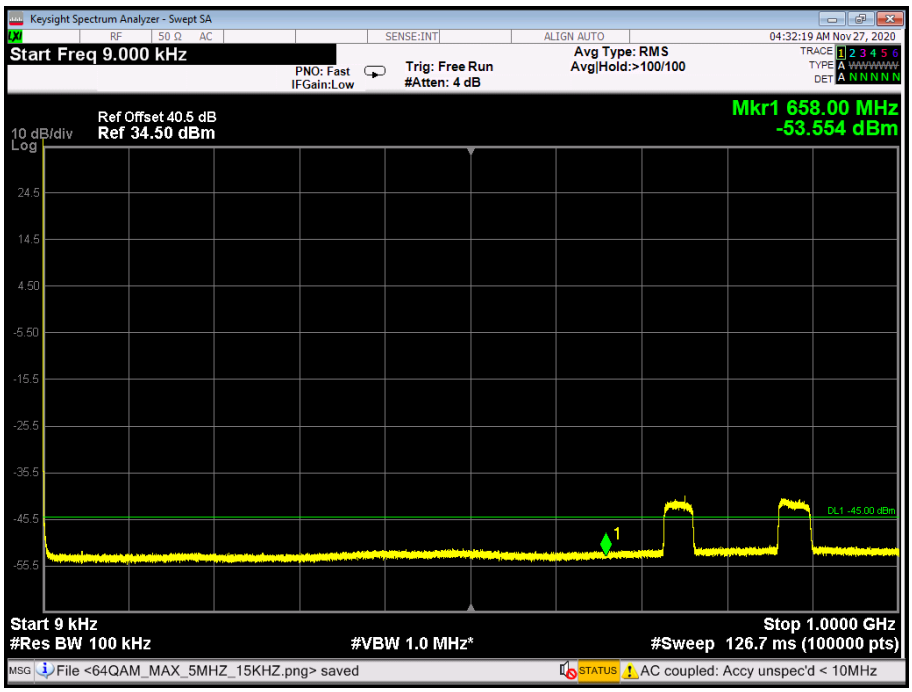

Figure 128: Spurious Emissions at Antenna Terminal 9kHz-1GHz - 64QAM 5MHz B.W.; High, 30kHz

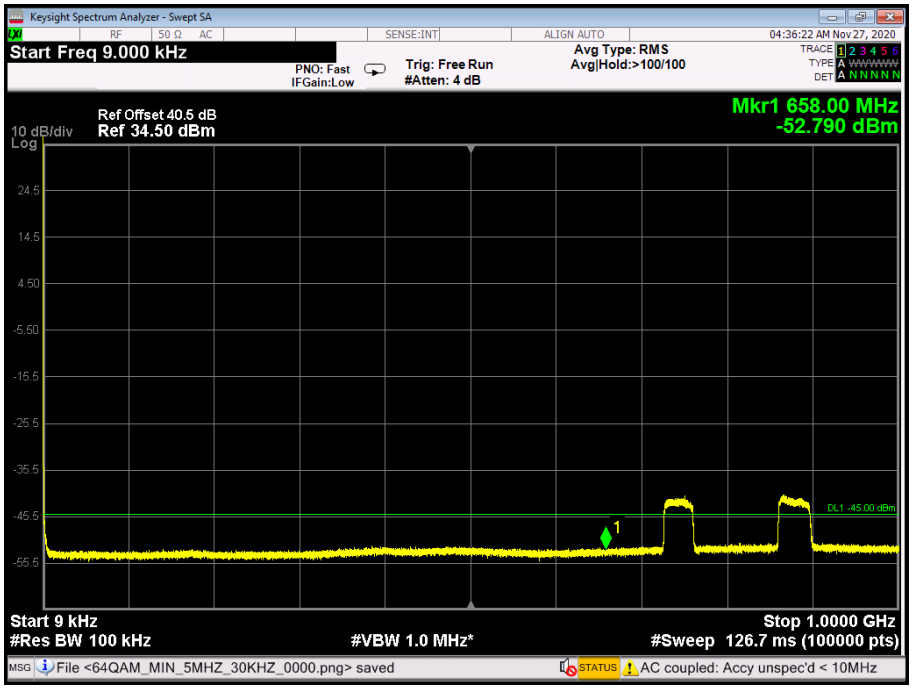

Figure 129: Spurious Emissions at Antenna Terminal 9kHz-1GHz - 64QAM 10MHz B.W.; Mid, 15kHz

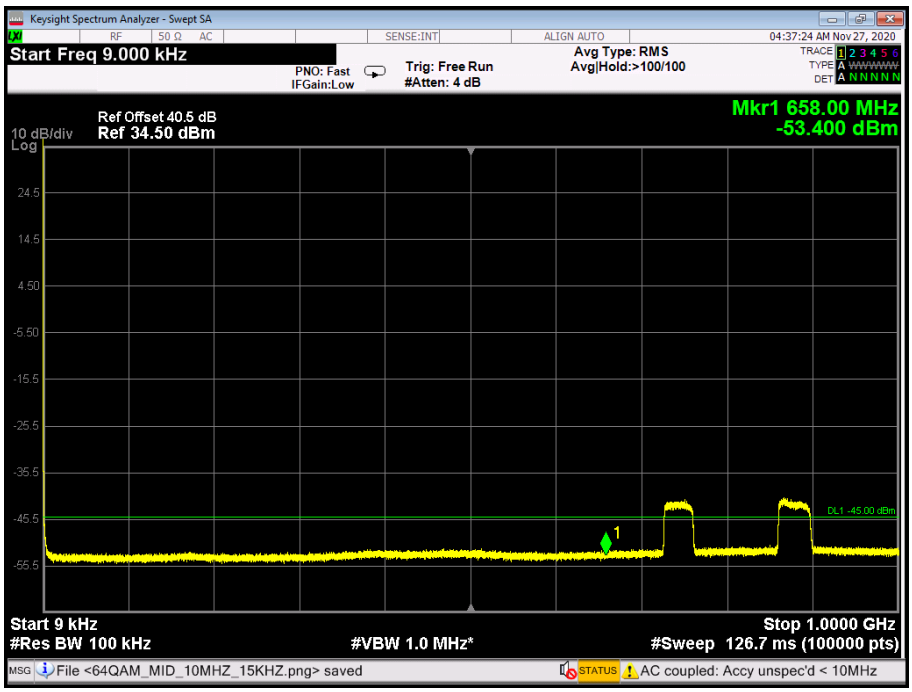

Figure 130: Spurious Emissions at Antenna Terminal 9kHz-1GHz - 64QAM 10MHz B.W.; Mid, 30kHz

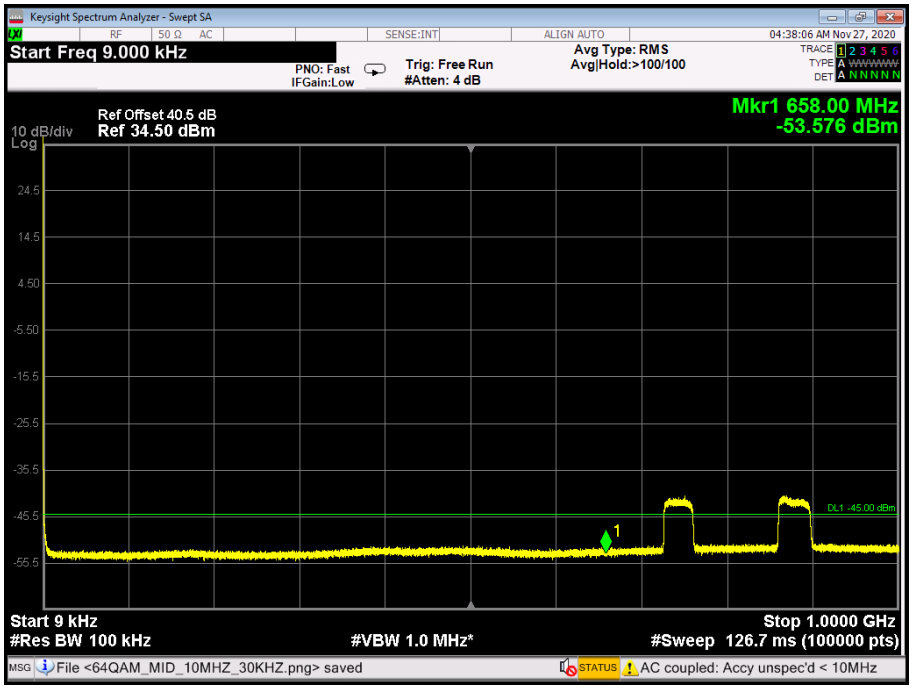

Figure 131: Spurious Emissions at Antenna Terminal 9kHz-1GHz - 64QAM 10MHz B.W.; Mid, 60kHz

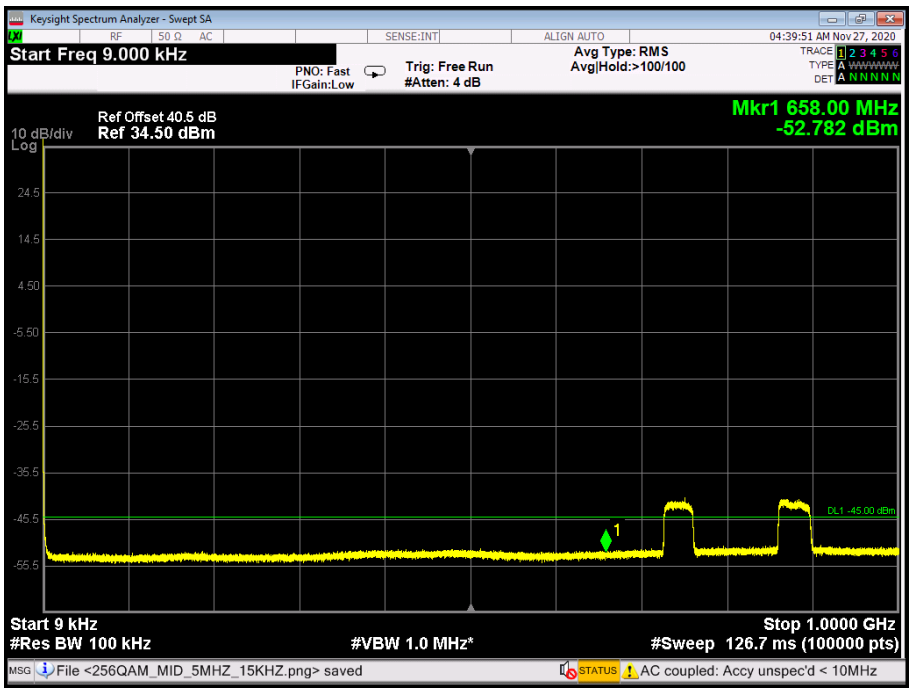

Figure 132: Spurious Emissions at Antenna Terminal 9kHz-1GHz - 256QAM 5MHz B.W.; Low, 15kHz

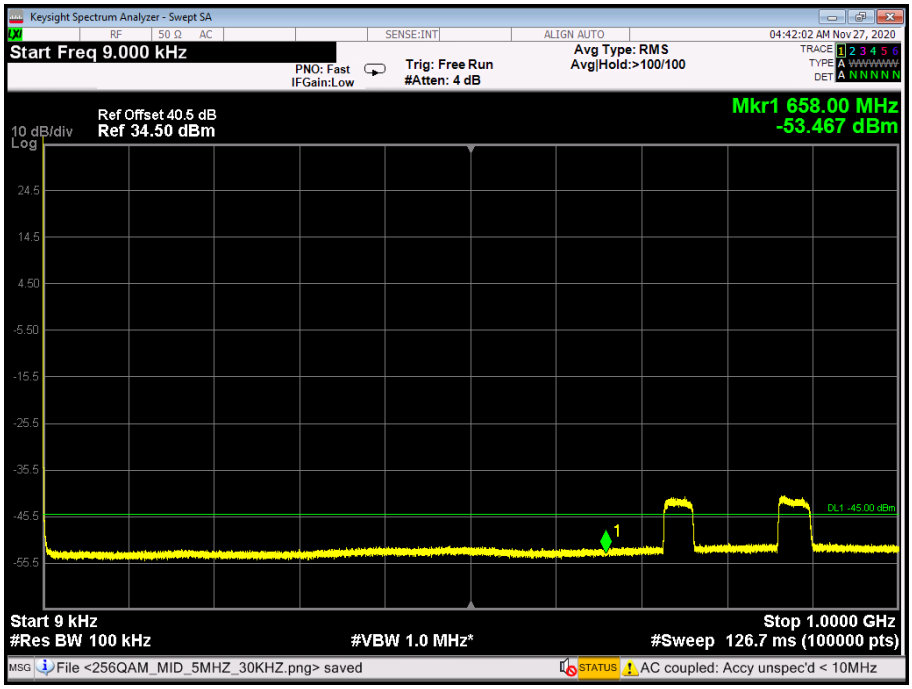

Figure 133: Spurious Emissions at Antenna Terminal 9kHz-1GHz - 256QAM 5MHz B.W.; Low, 30kHz

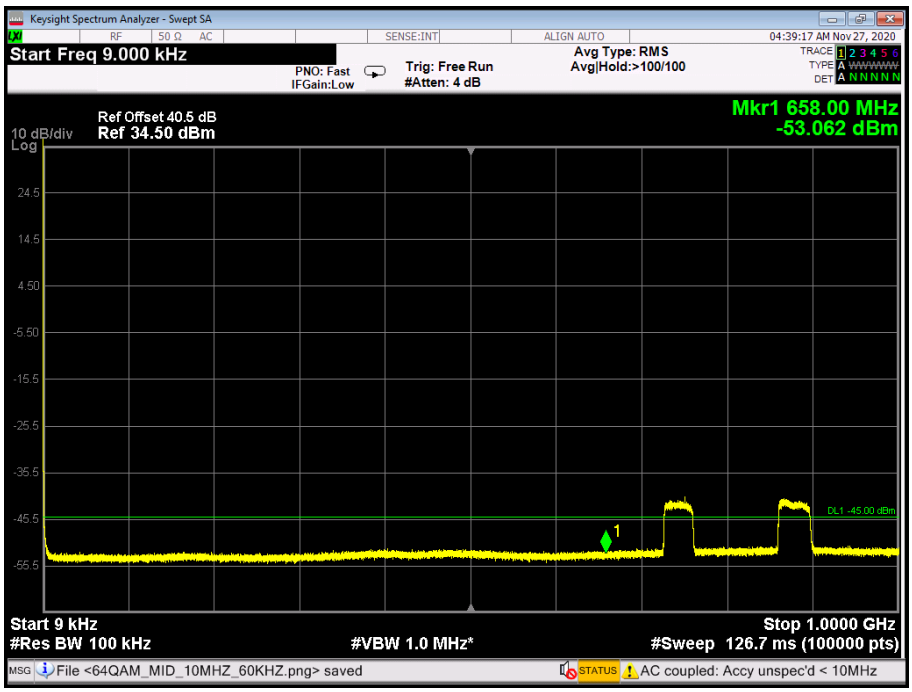

Figure 134: Spurious Emissions at Antenna Terminal 9kHz-1GHz - 256QAM 5MHz B.W.; Mid, 15kHz

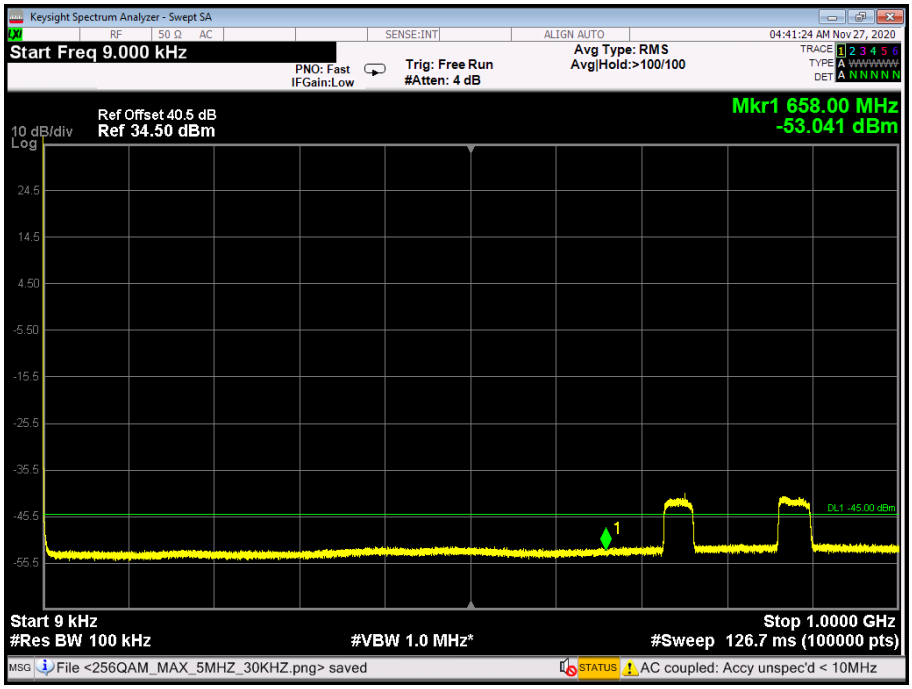

Figure 135: Spurious Emissions at Antenna Terminal 9kHz-1GHz - 256QAM 5MHz B.W.; Mid, 30kHz

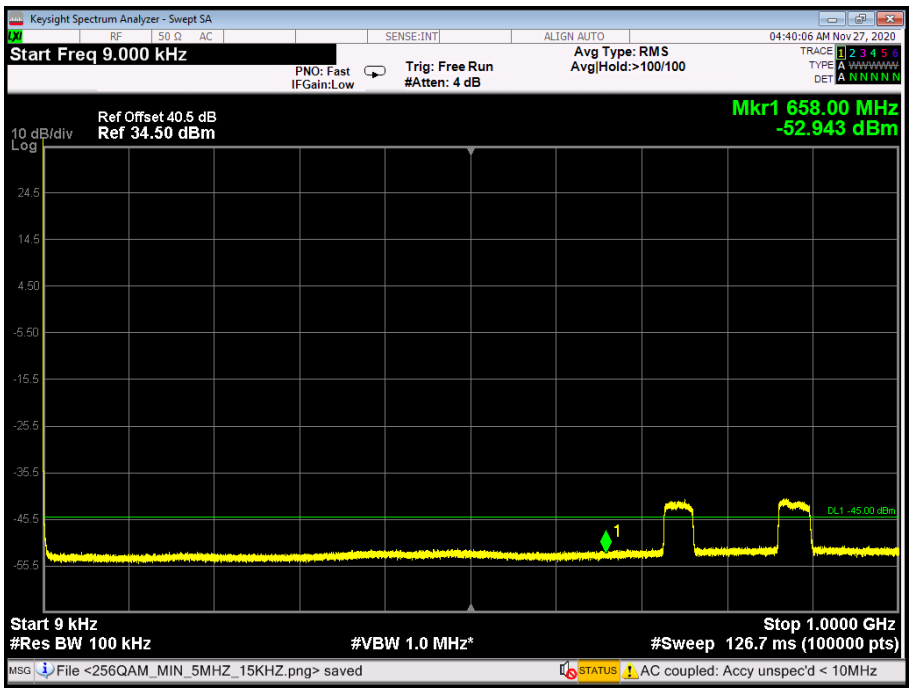

Figure 136: Spurious Emissions at Antenna Terminal 9kHz-1GHz - 256QAM 5MHz B.W.; High, 15kHz

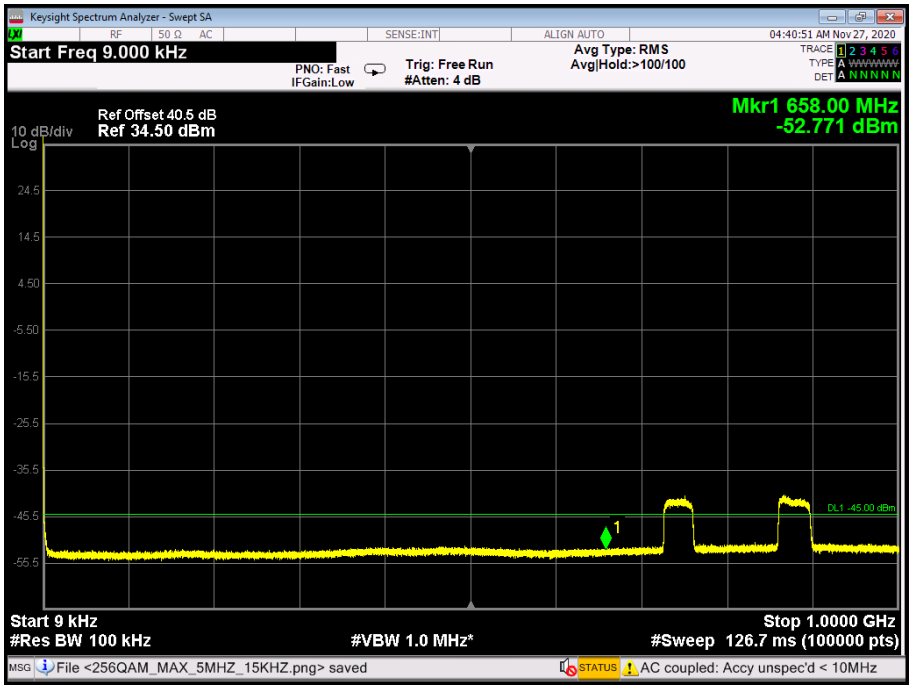

Figure 137: Spurious Emissions at Antenna Terminal 9kHz-1GHz - 256QAM 5MHz B.W.; High, 30kHz

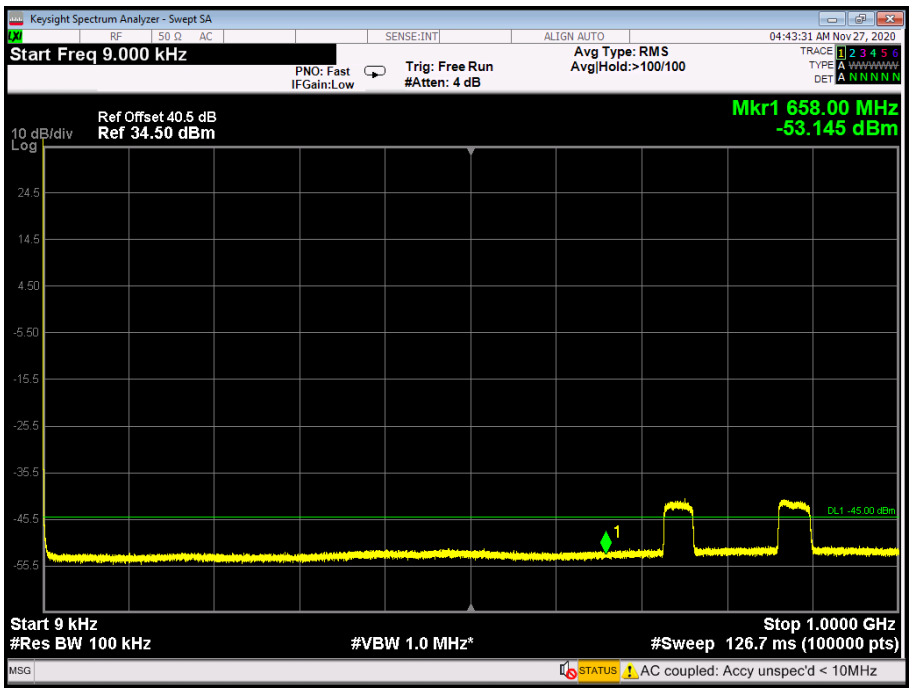

Figure 138: Spurious Emissions at Antenna Terminal 9kHz-1GHz - 256QAM 10MHz B.W.; Mid, 15kHz

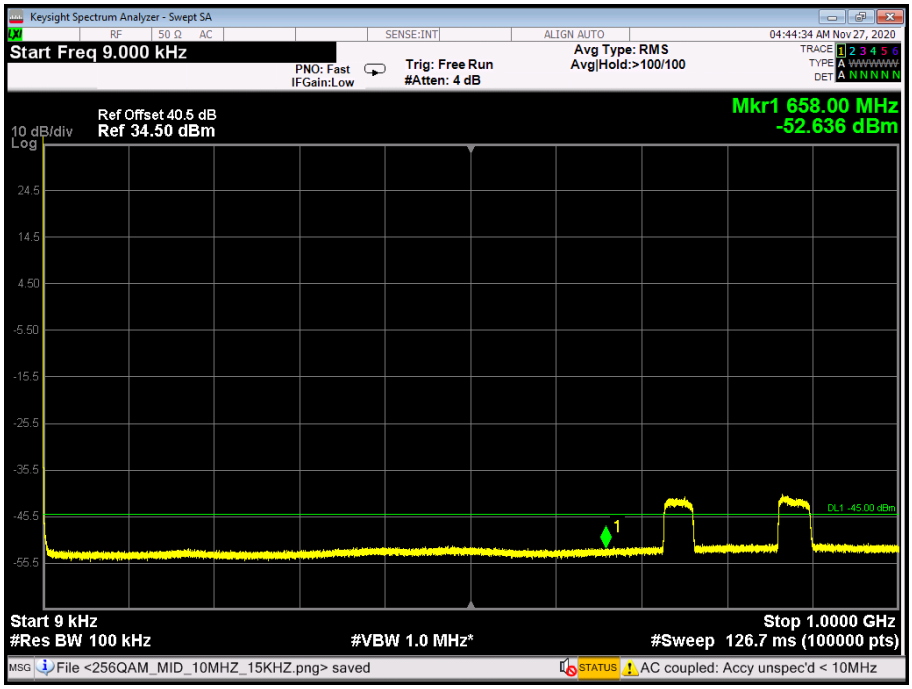

Figure 139: Spurious Emissions at Antenna Terminal 9kHz-1GHz - 256QAM 10MHz B.W.; Mid, 30kHz

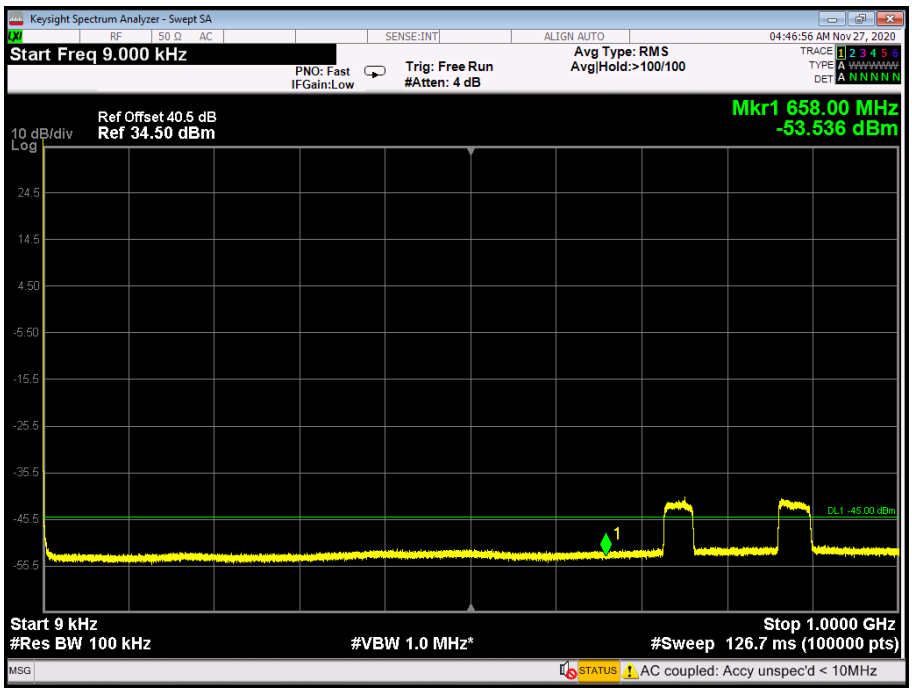

Figure 140: Spurious Emissions at Antenna Terminal 9kHz-1GHz - 256QAM 10MHz B.W.; Mid, 60kHz

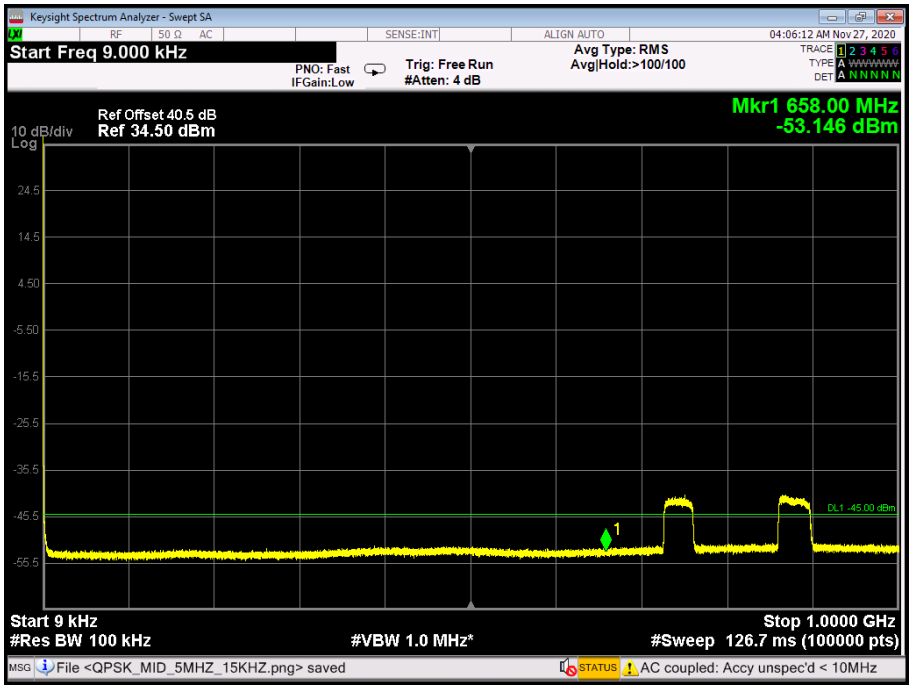

Figure 141: Spurious Emissions at Antenna Terminal 9kHz-1GHz - QPSK 5MHz B.W.; Low, 15kHz

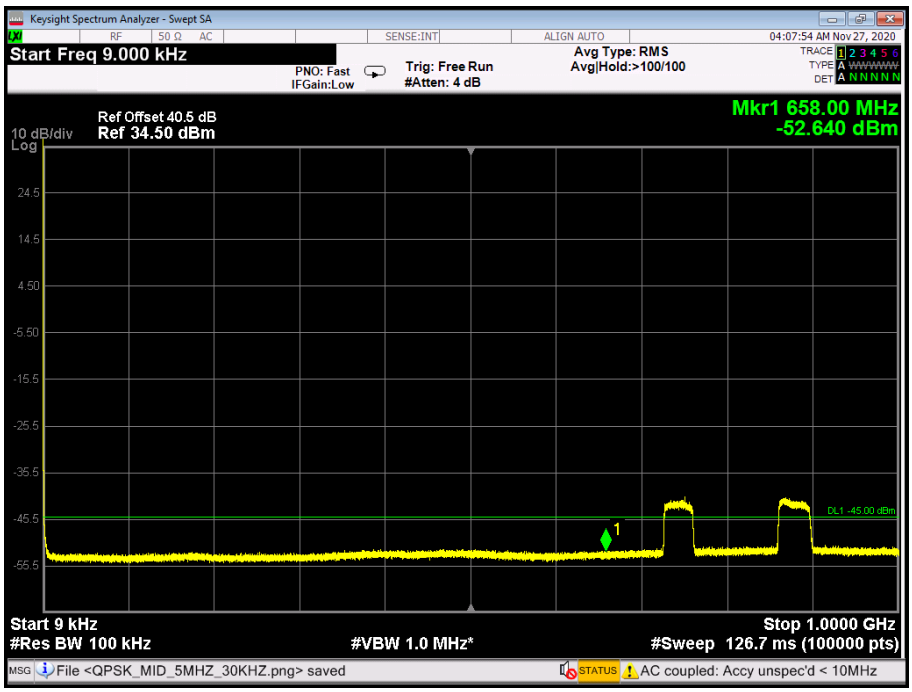

Figure 142: Spurious Emissions at Antenna Terminal 9kHz-1GHz - QPSK 5MHz B.W.; Low, 30kHz

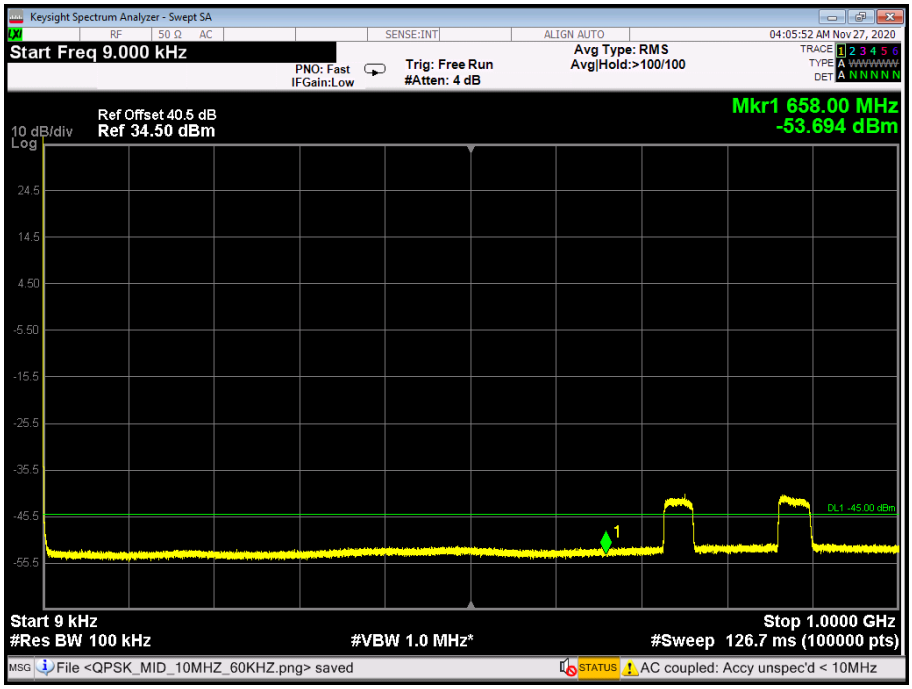

Figure 143: Spurious Emissions at Antenna Terminal 9kHz-1GHz - QPSK 5MHz B.W.; Mid, 15kHz

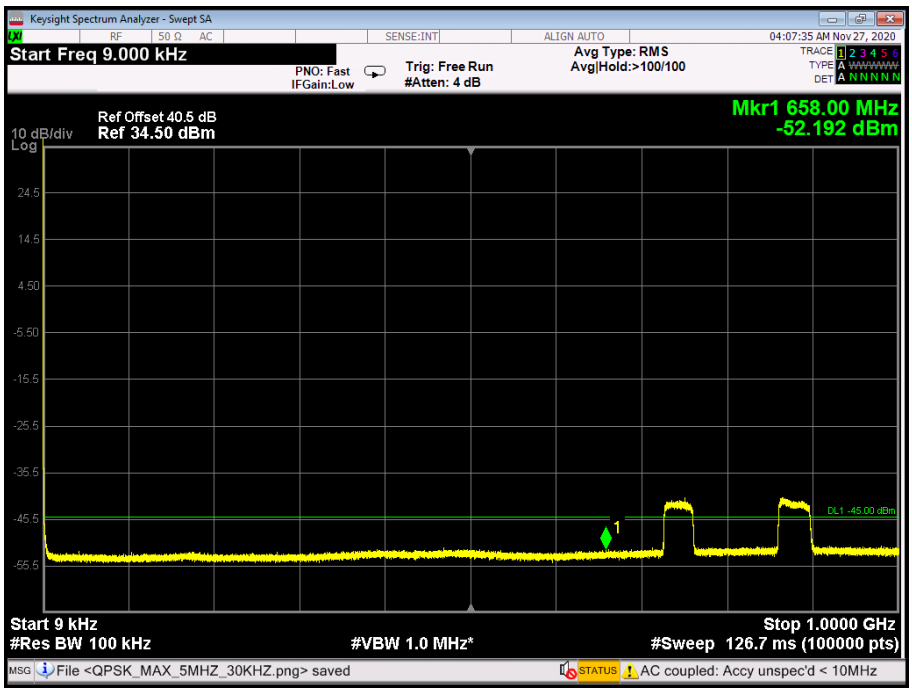

Figure 144: Spurious Emissions at Antenna Terminal 9kHz-1GHz - QPSK 5MHz B.W.; Mid, 30kHz

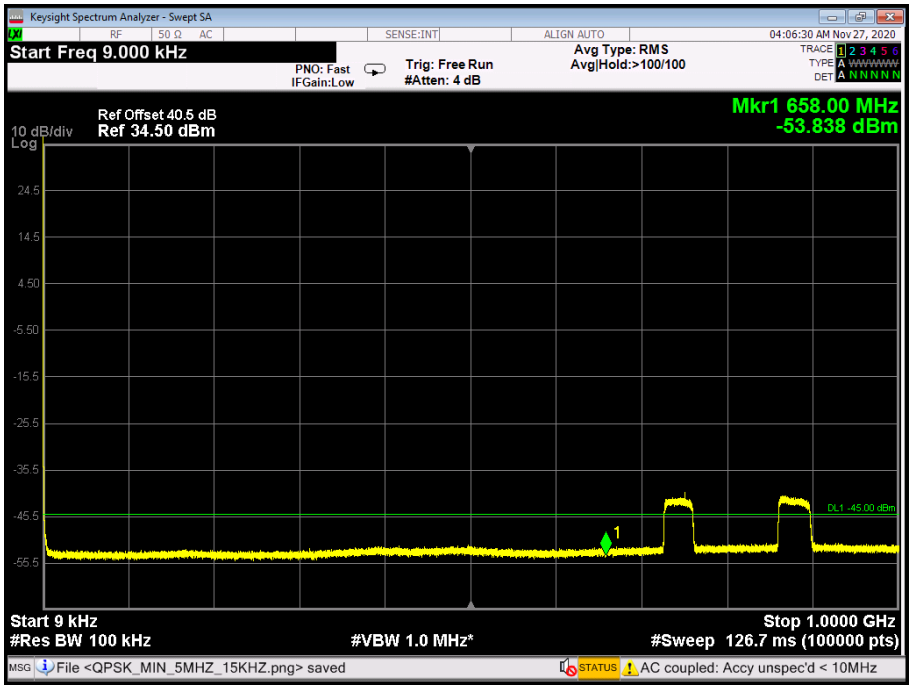

Figure 145: Spurious Emissions at Antenna Terminal 9kHz-1GHz - QPSK 5MHz B.W.; High, 15kHz

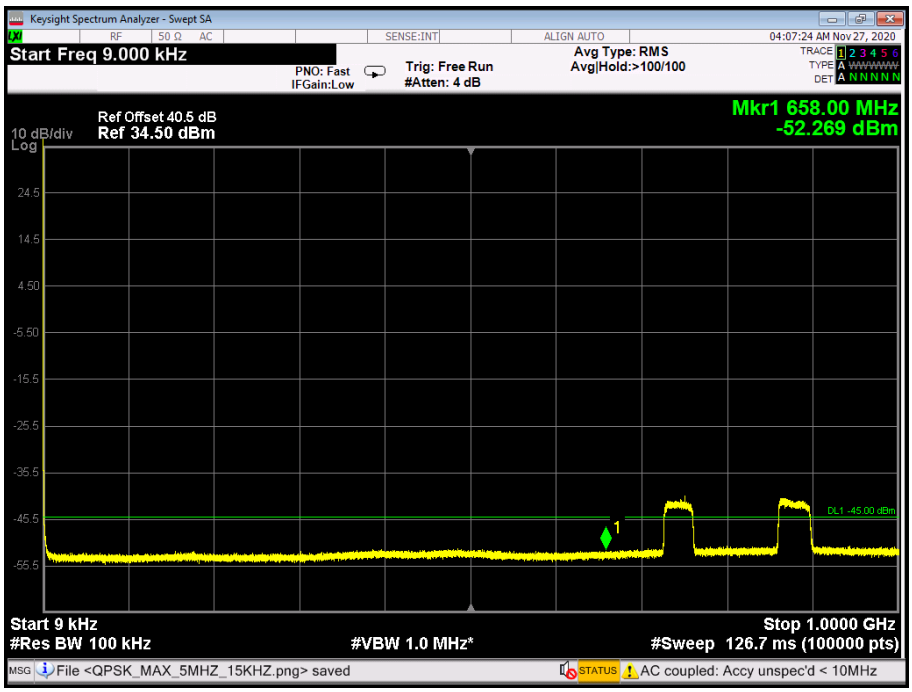

Figure 146: Spurious Emissions at Antenna Terminal 9kHz-1GHz - QPSK 5MHz B.W.; High, 30kHz

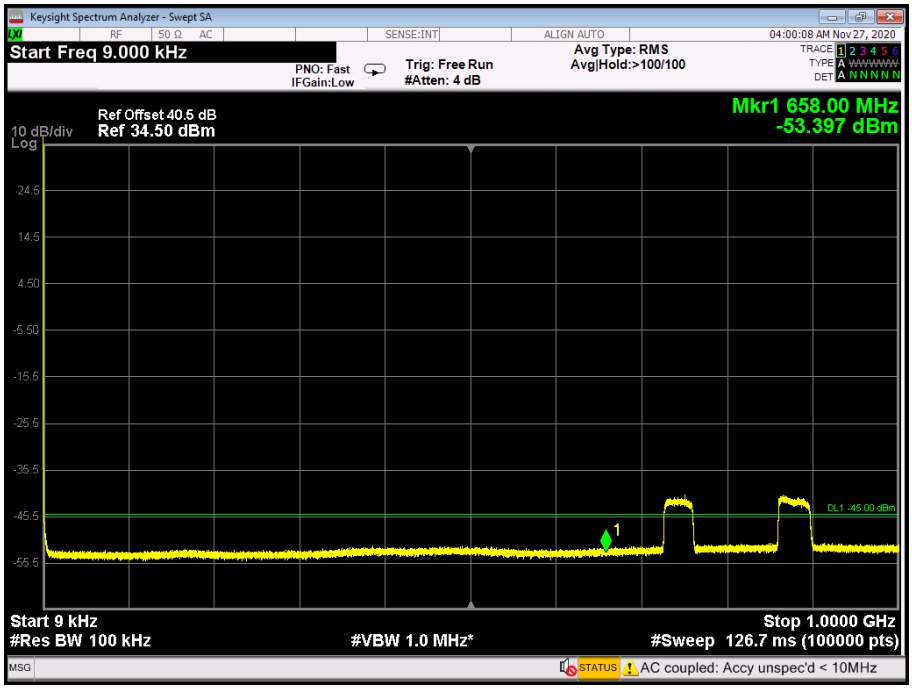

Figure 147: Spurious Emissions at Antenna Terminal 9kHz-1GHz - QPSK 10MHz B.W.; Mid, 15kHz

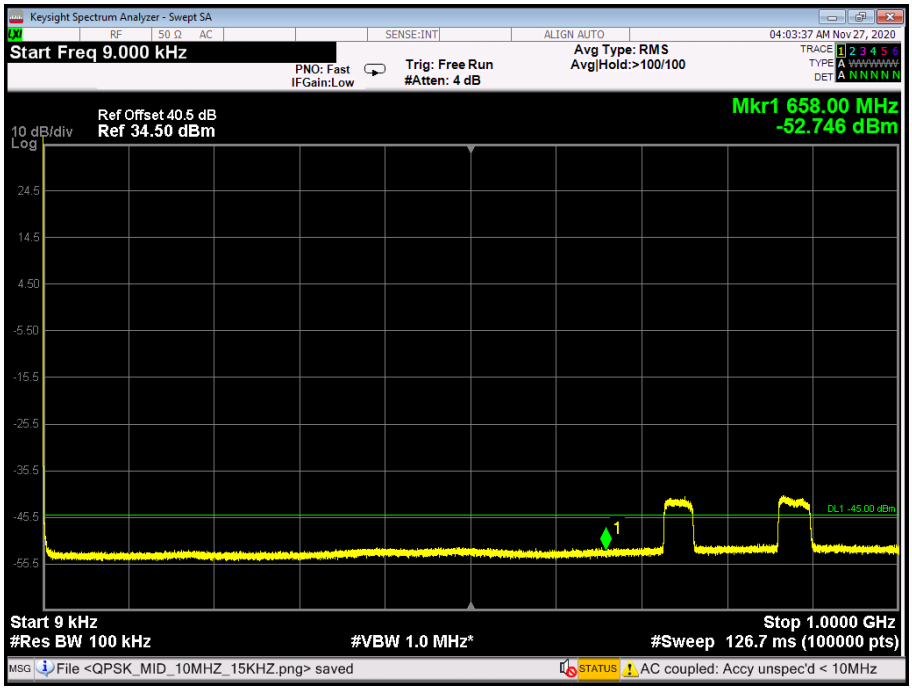

Figure 148: Spurious Emissions at Antenna Terminal 9kHz-1GHz - QPSK 10MHz B.W.; Mid, 30kHz

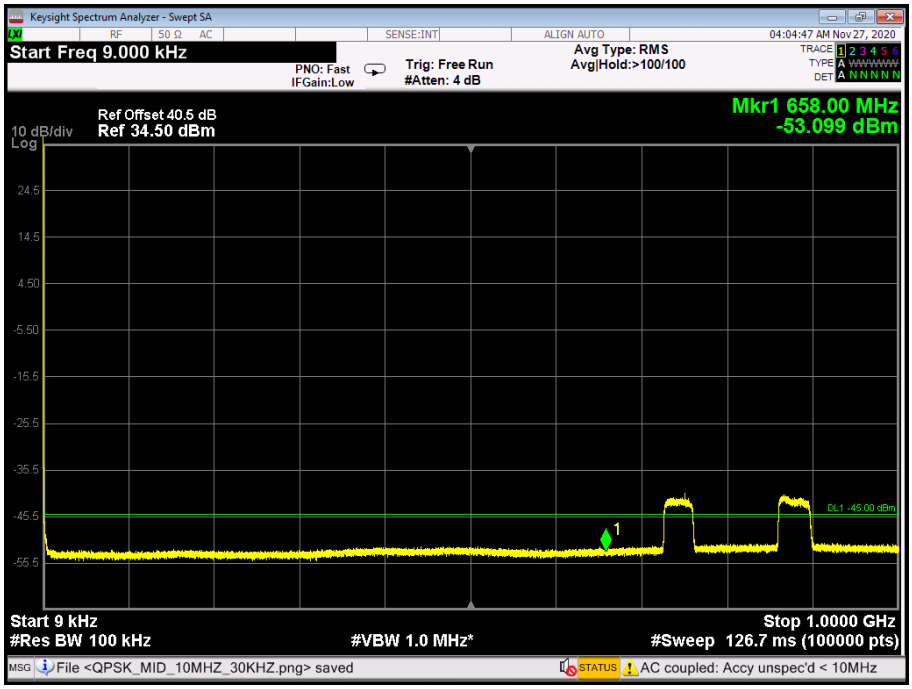

Figure 149: Spurious Emissions at Antenna Terminal 9kHz-1GHz - QPSK 10MHz B.W.; Mid, 60kHz

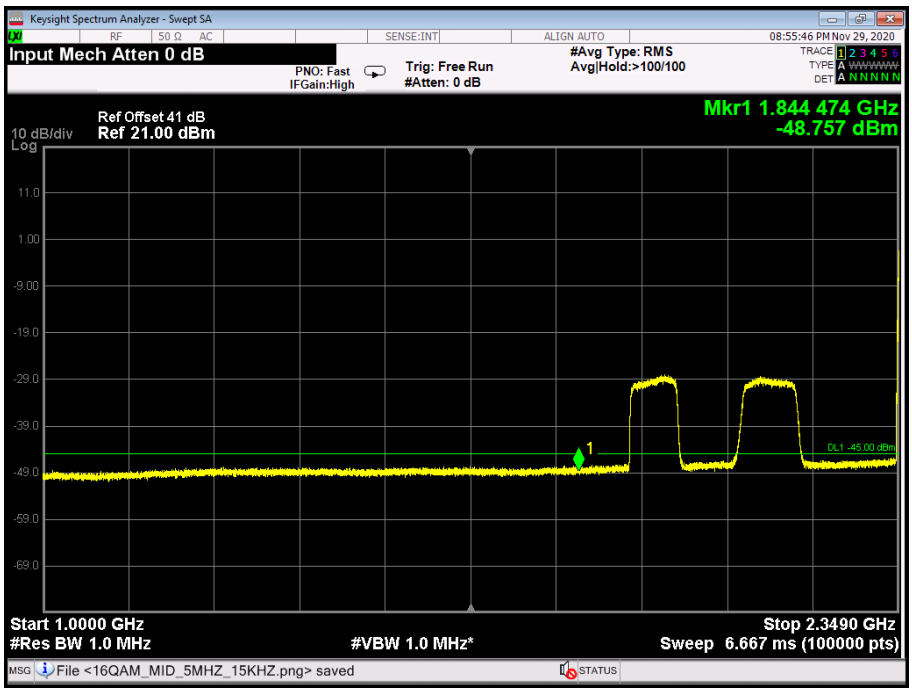

Figure 150: Spurious Emissions at Antenna Terminal 1GHz-2.349GHz - 16QAM 5MHz B.W.; Low, 15kHz

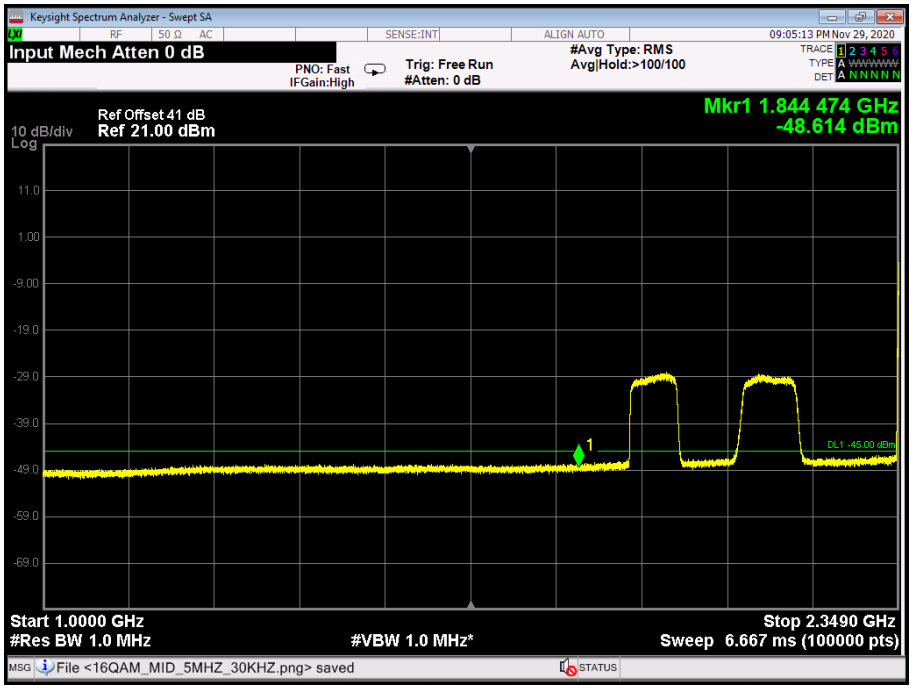

Figure 151: Spurious Emissions at Antenna Terminal 1GHz-2.349GHz - 16QAM 5MHz B.W.; Low, 30kHz

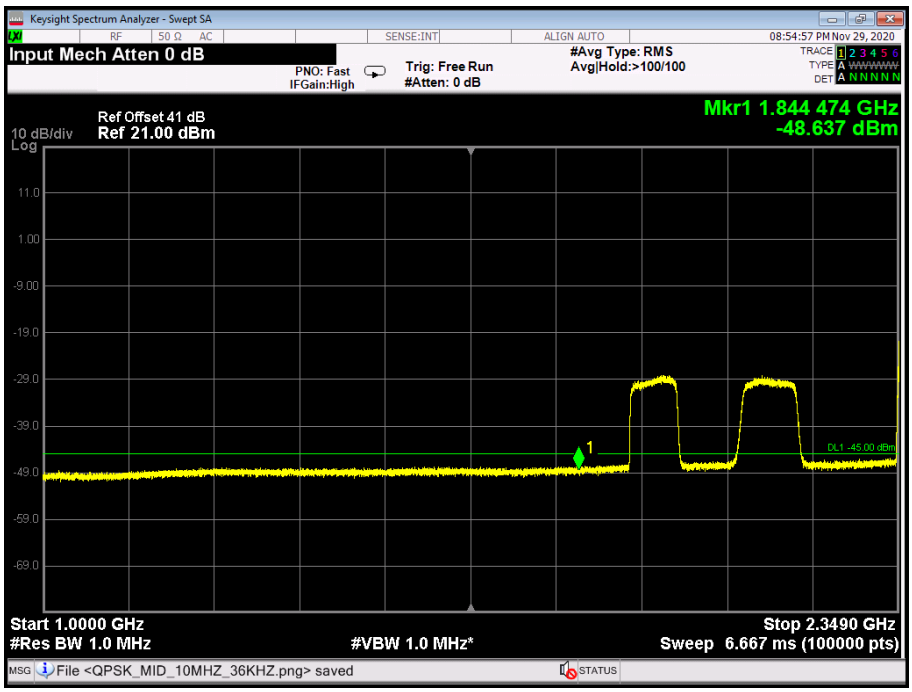

Figure 152: Spurious Emissions at Antenna Terminal 1GHz-2.349GHz - 16QAM 5MHz B.W.; Mid, 15kHz

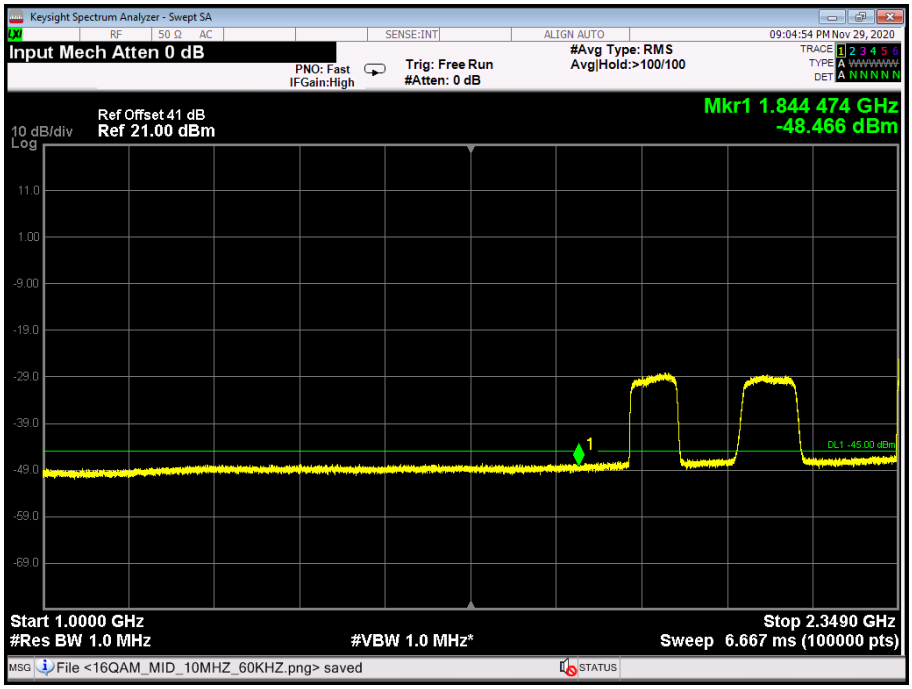

Figure 153: Spurious Emissions at Antenna Terminal 1GHz-2.349GHz - 16QAM 5MHz B.W.; Mid, 30kHz

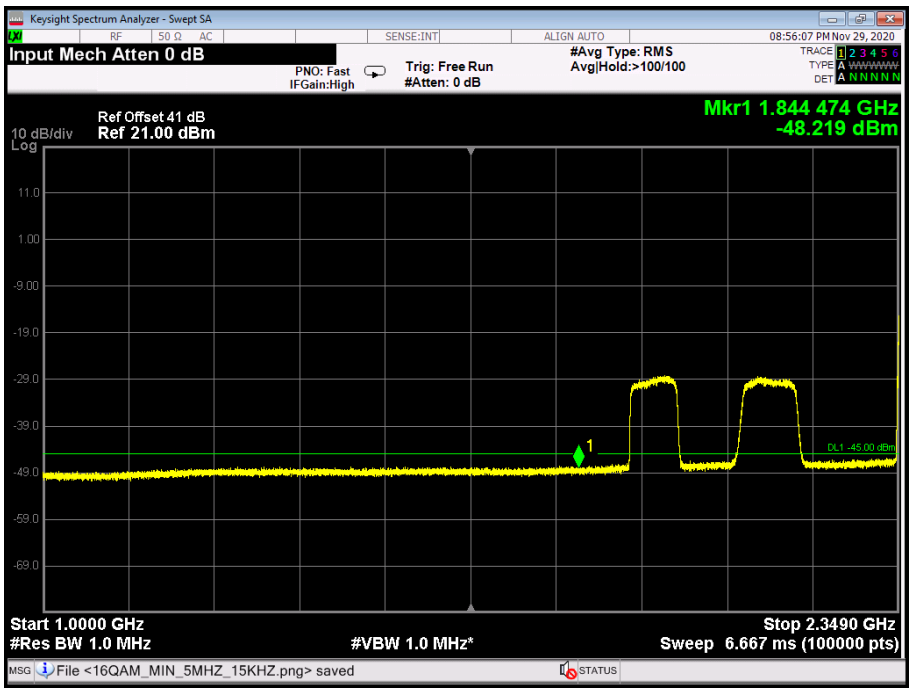

Figure 154: Spurious Emissions at Antenna Terminal 1GHz-2.349GHz - 16QAM 5MHz B.W.; High, 15kHz

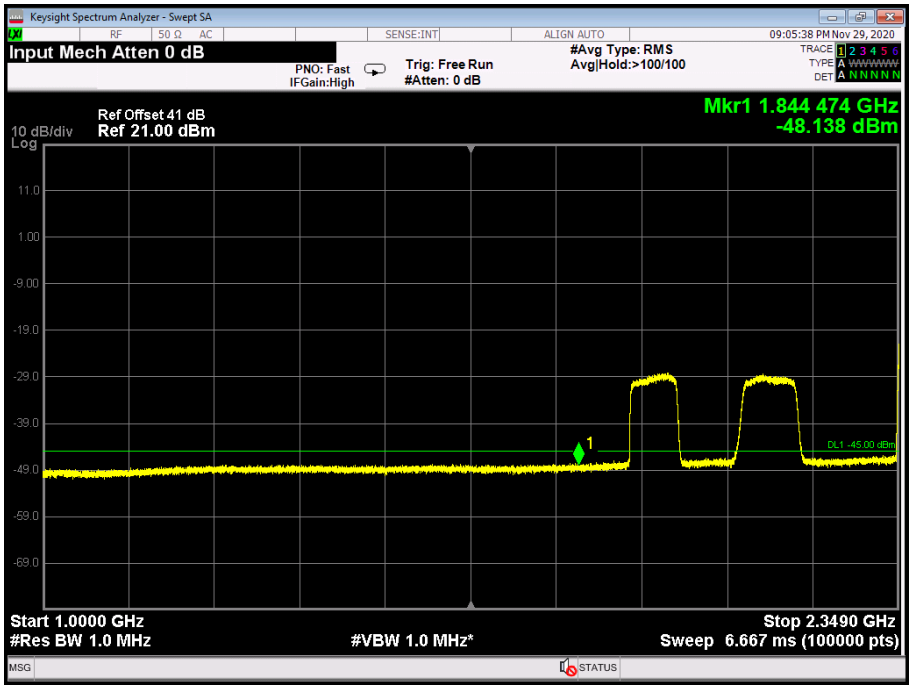

Figure 155: Spurious Emissions at Antenna Terminal 1GHz-2.349GHz - 16QAM 5MHz B.W.; High, 30kHz

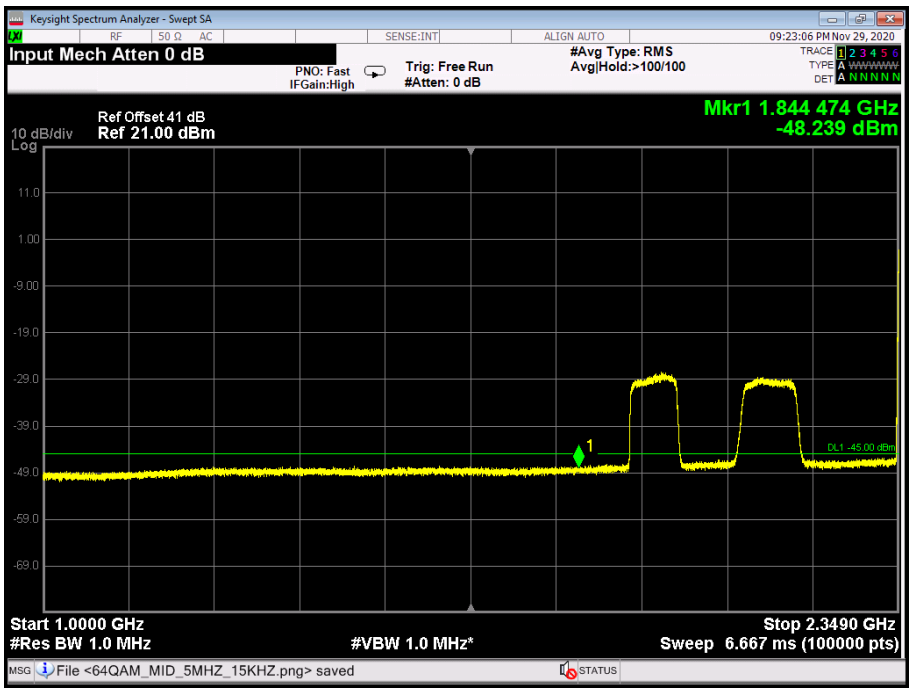

Figure 156: Spurious Emissions at Antenna Terminal 1GHz-2.349GHz - 64QAM 5MHz B.W.; Low, 15kHz

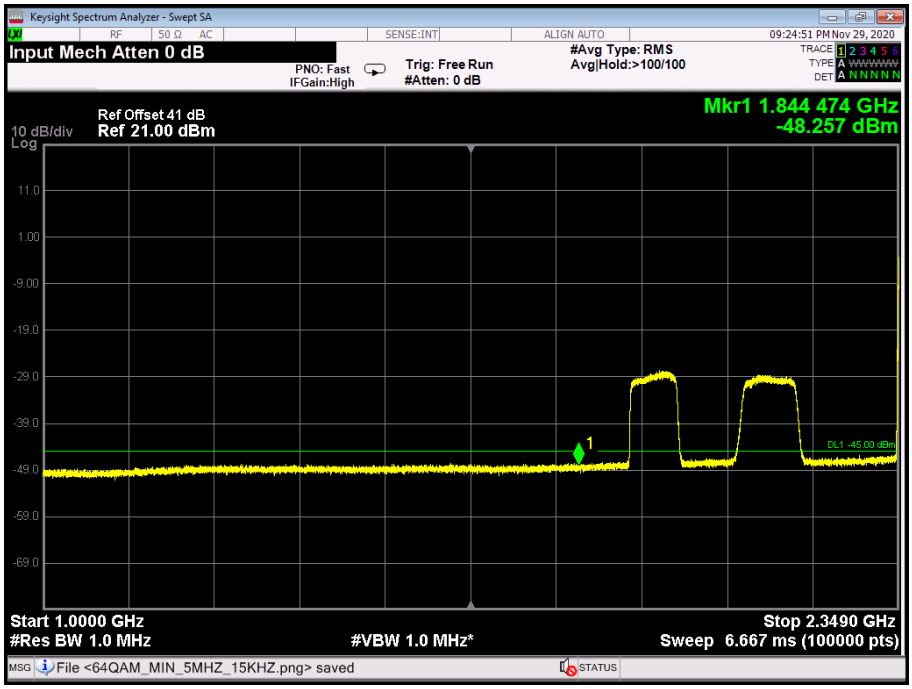

Figure 157: Spurious Emissions at Antenna Terminal 1GHz-2.349GHz - 64QAM 5MHz B.W.; Low, 30kHz

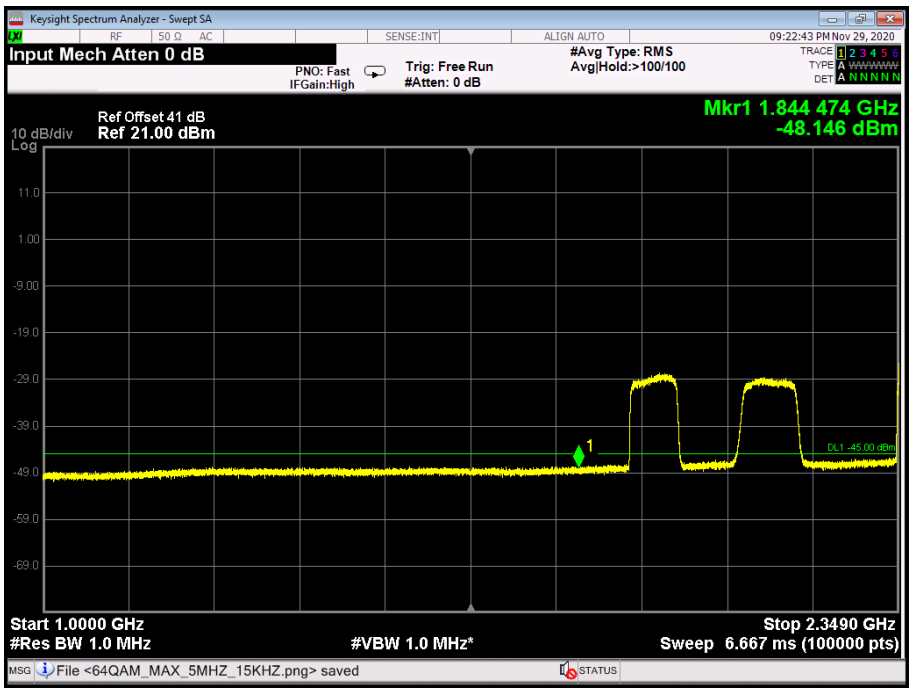

Figure 158: Spurious Emissions at Antenna Terminal 1GHz-2.349GHz - 64QAM 5MHz B.W.; Mid, 15kHz

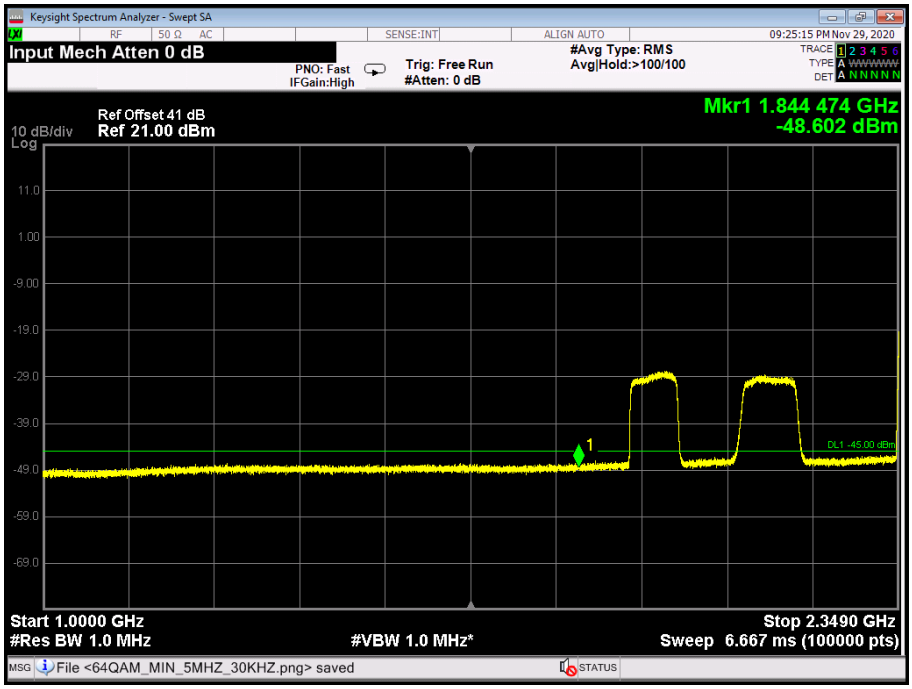

Figure 159: Spurious Emissions at Antenna Terminal 1GHz-2.349GHz - 64QAM 5MHz B.W.; Mid, 30kHz

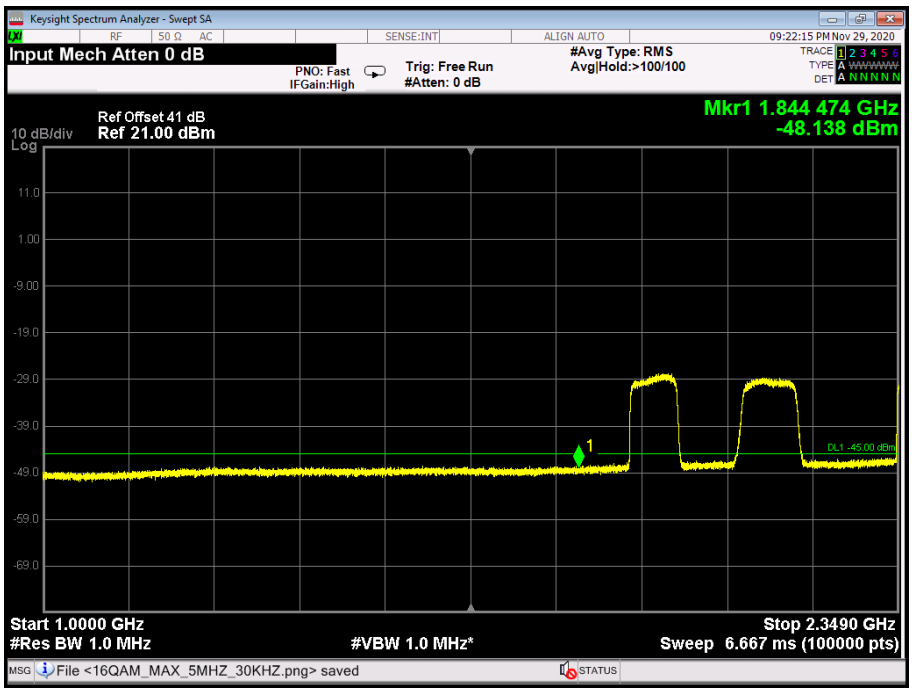

Figure 160: Spurious Emissions at Antenna Terminal 1GHz-2.349GHz - 64QAM 5MHz B.W.; High, 15kHz

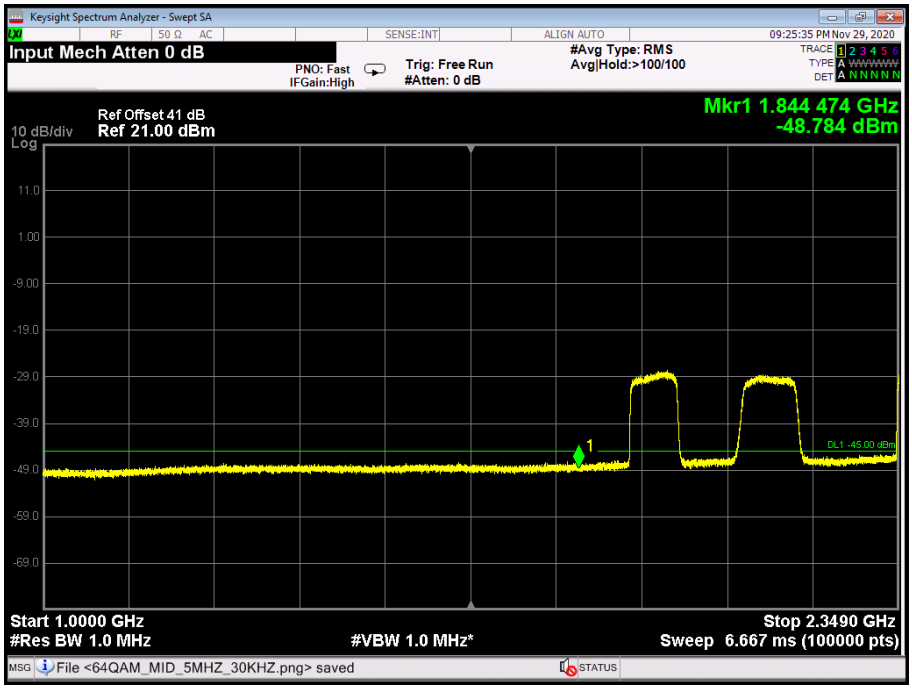

Figure 161: Spurious Emissions at Antenna Terminal 1GHz-2.349GHz - 64QAM 5MHz B.W.; High, 30kHz

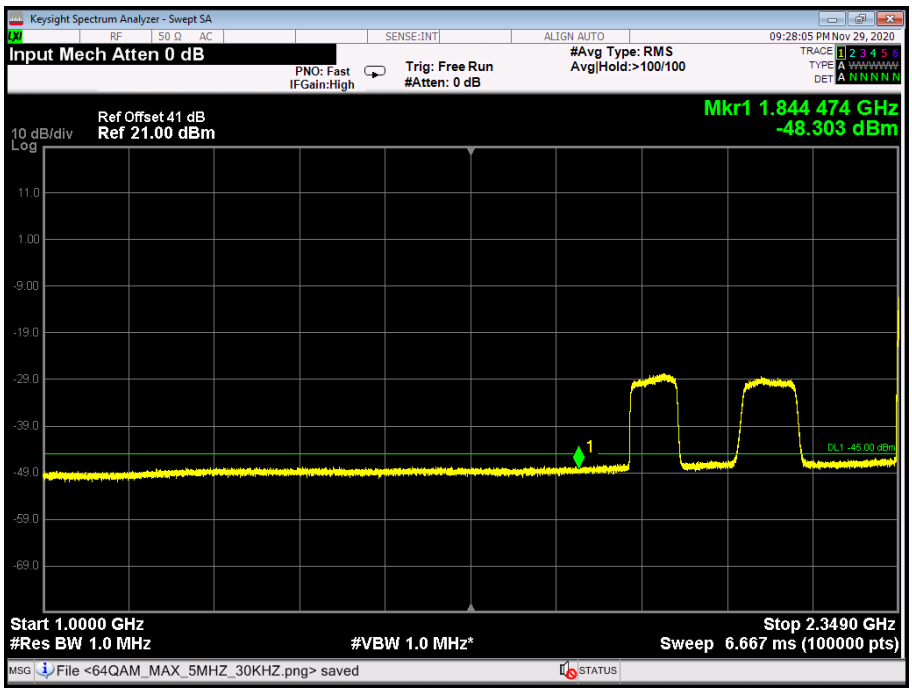

Figure 162: Spurious Emissions at Antenna Terminal 1GHz-2.349GHz - 64QAM 10MHz B.W.; Mid, 15kHz

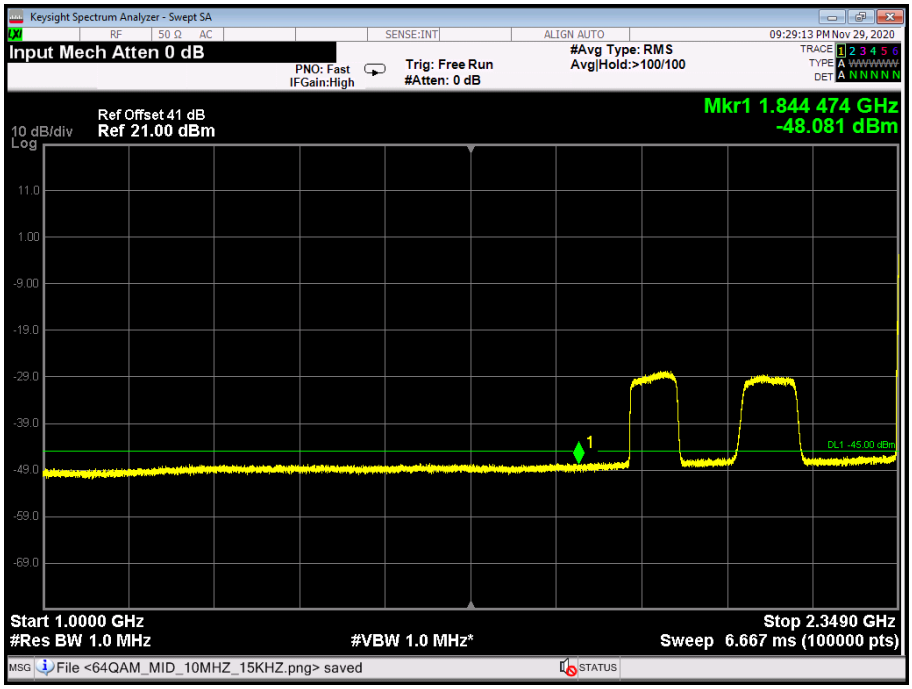

Figure 163: Spurious Emissions at Antenna Terminal 1GHz-2.349GHz - 64QAM 10MHz B.W.; Mid, 30kHz

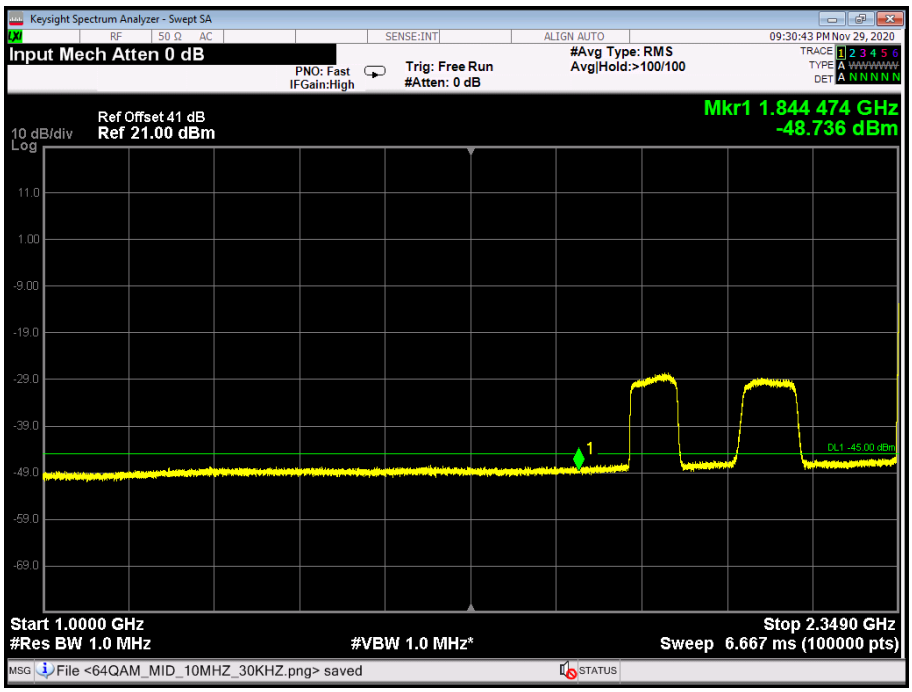

Figure 164: Spurious Emissions at Antenna Terminal 1GHz-2.349GHz - 64QAM 10MHz B.W.; Mid, 60kHz

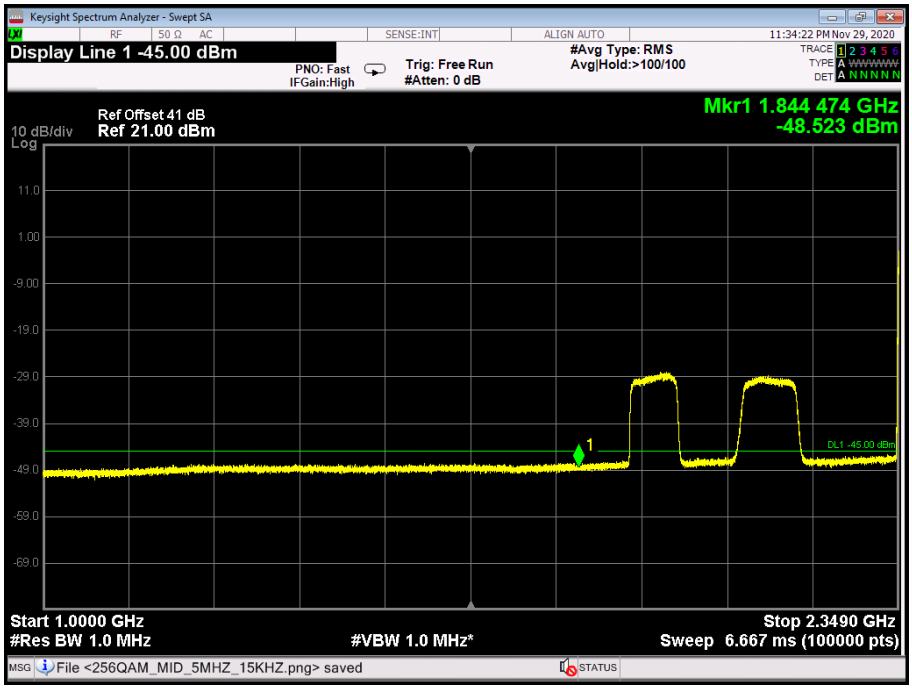

Figure 165: Spurious Emissions at Antenna Terminal 1GHz-2.349GHz - 256QAM 5MHz B.W.; Low, 15kHz

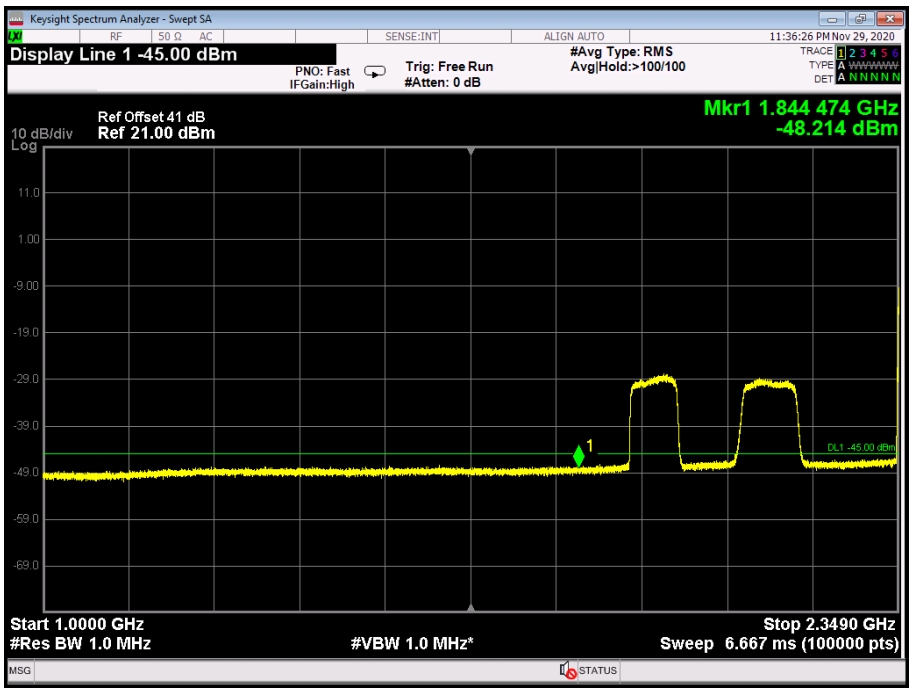

Figure 166: Spurious Emissions at Antenna Terminal 1GHz-2.349GHz - 256QAM 5MHz B.W.; Low, 30kHz

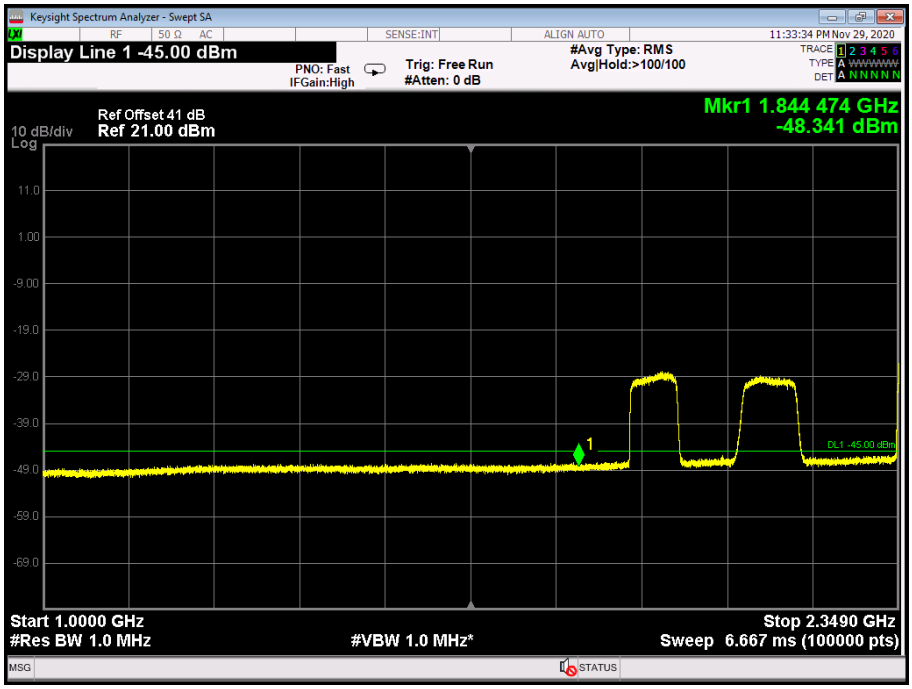

Figure 167: Spurious Emissions at Antenna Terminal 1GHz-2.349GHz - 256QAM 5MHz B.W.; Mid, 15kHz

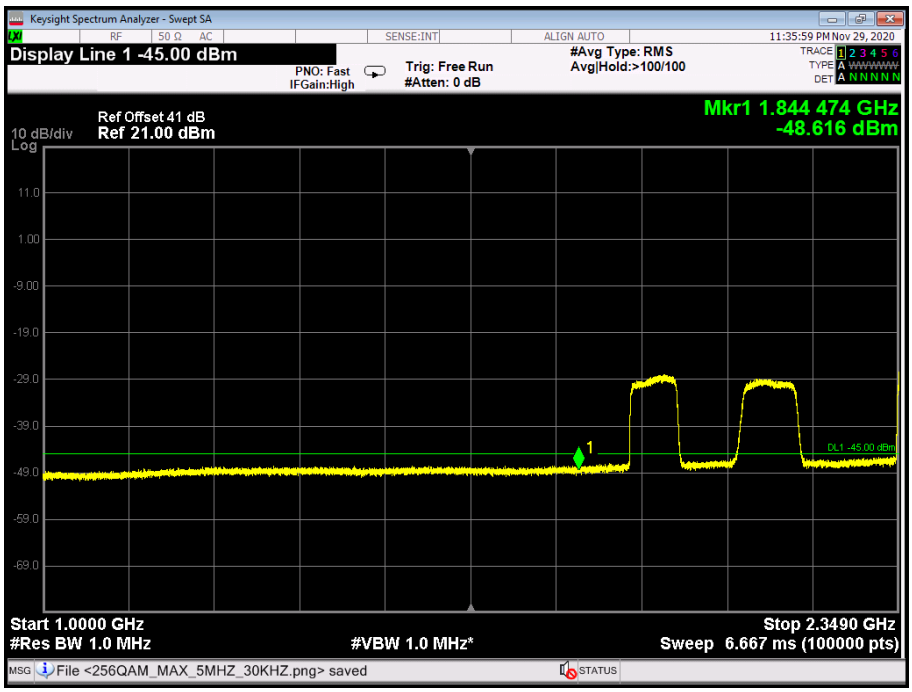

Figure 168: Spurious Emissions at Antenna Terminal 1GHz-2.349GHz - 256QAM 5MHz B.W.; Mid, 30kHz

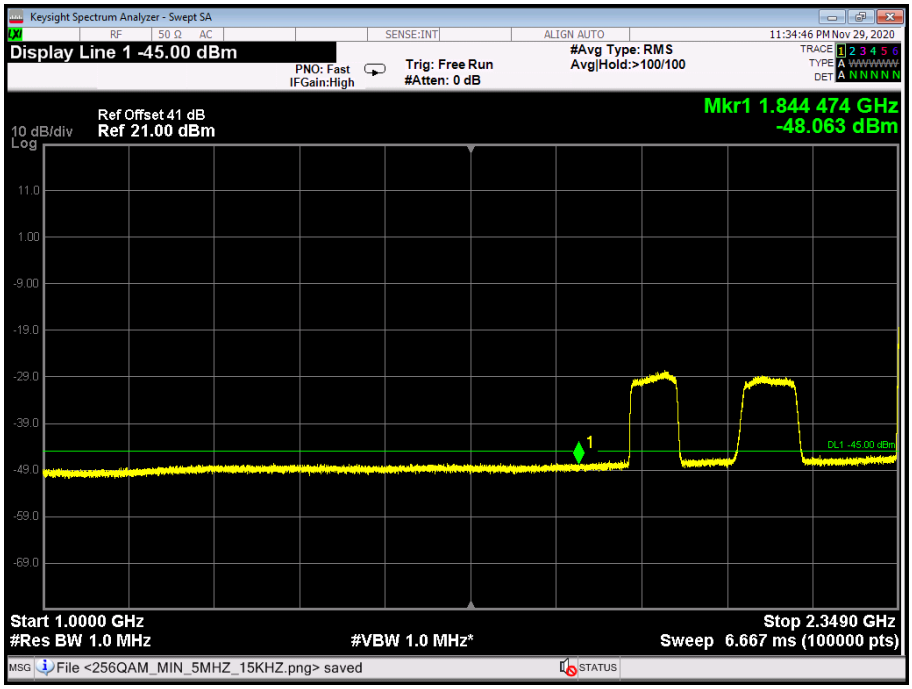

Figure 169: Spurious Emissions at Antenna Terminal 1GHz-2.349GHz - 256QAM 5MHz B.W.; High, 15kHz

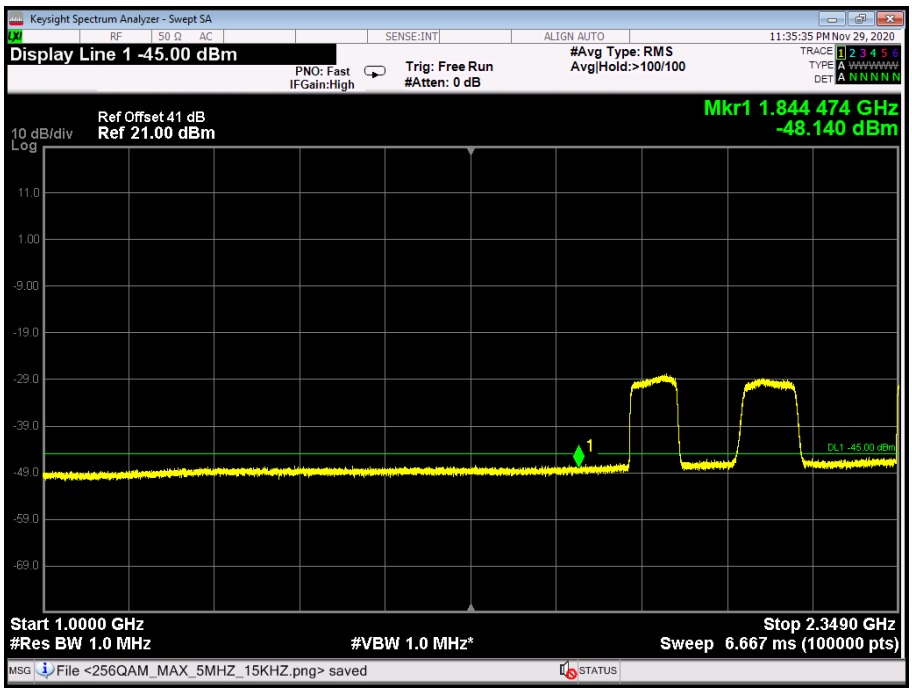

Figure 170: Spurious Emissions at Antenna Terminal 1GHz-2.349GHz - 256QAM 5MHz B.W.; High, 30kHz

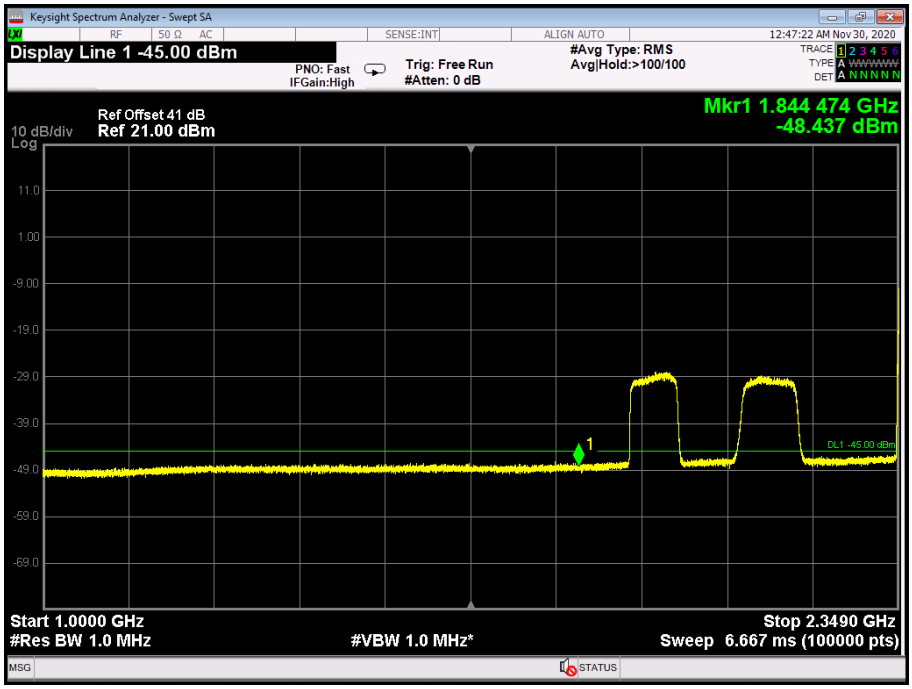

Figure 171: Spurious Emissions at Antenna Terminal 1GHz-2.349GHz - 256QAM 10MHz B.W.; Mid, 15kHz

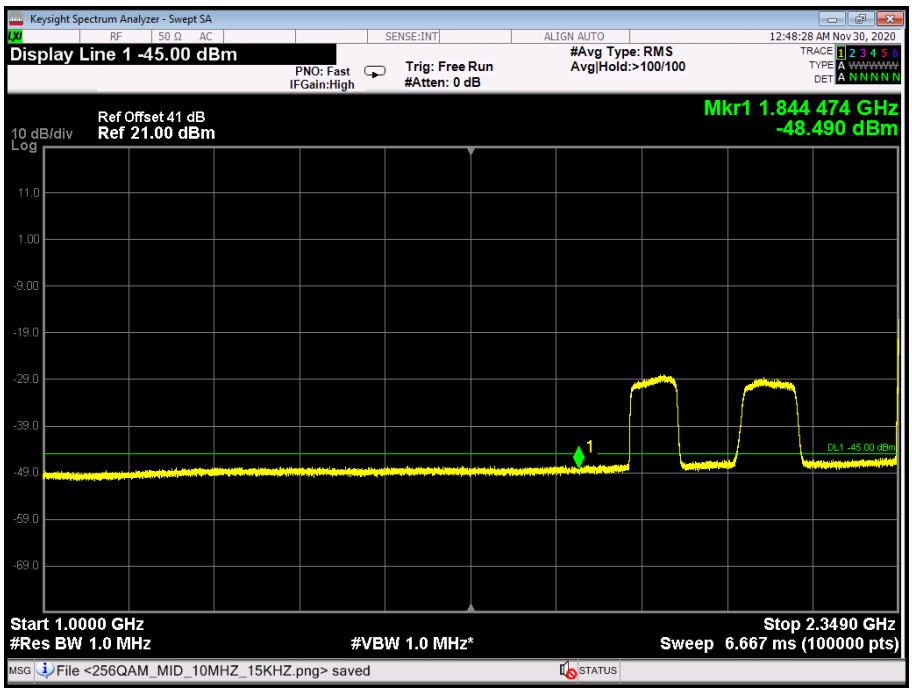

Figure 172: Spurious Emissions at Antenna Terminal 1GHz-2.349GHz - 256QAM 10MHz B.W.; Mid, 30kHz

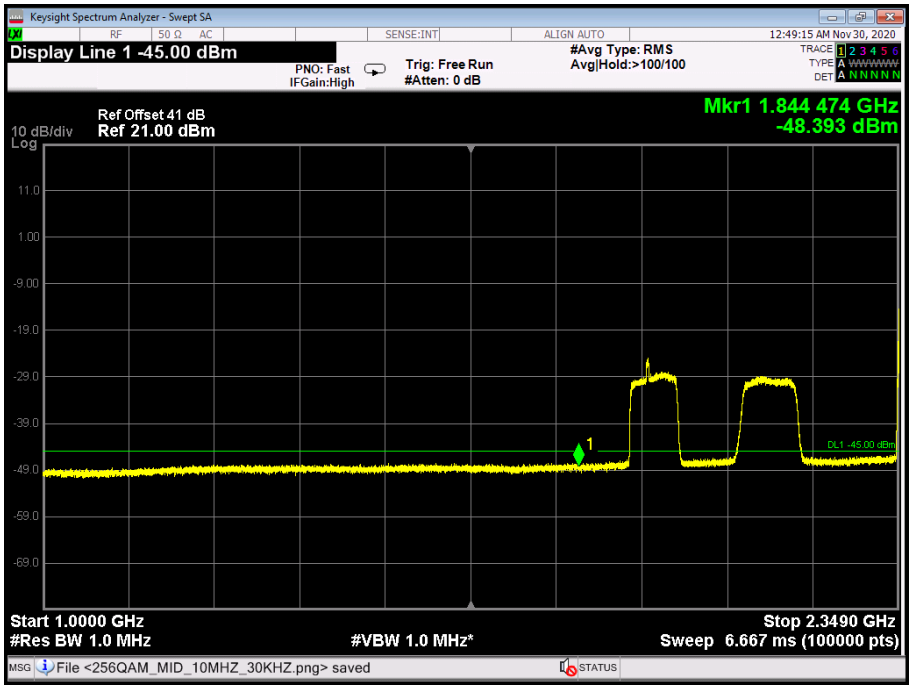

Figure 173: Spurious Emissions at Antenna Terminal 1GHz-2.349GHz - 256QAM 10MHz B.W.; Mid, 60kHz

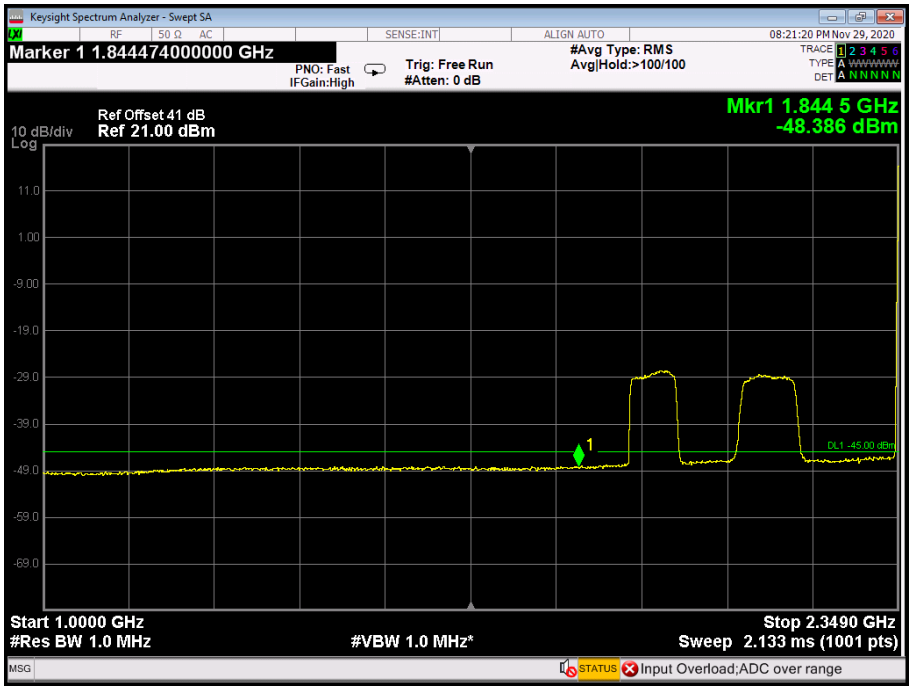

Figure 174: Spurious Emissions at Antenna Terminal 1GHz-2.349GHz - QPSK 5MHz B.W.; Low, 15kHz

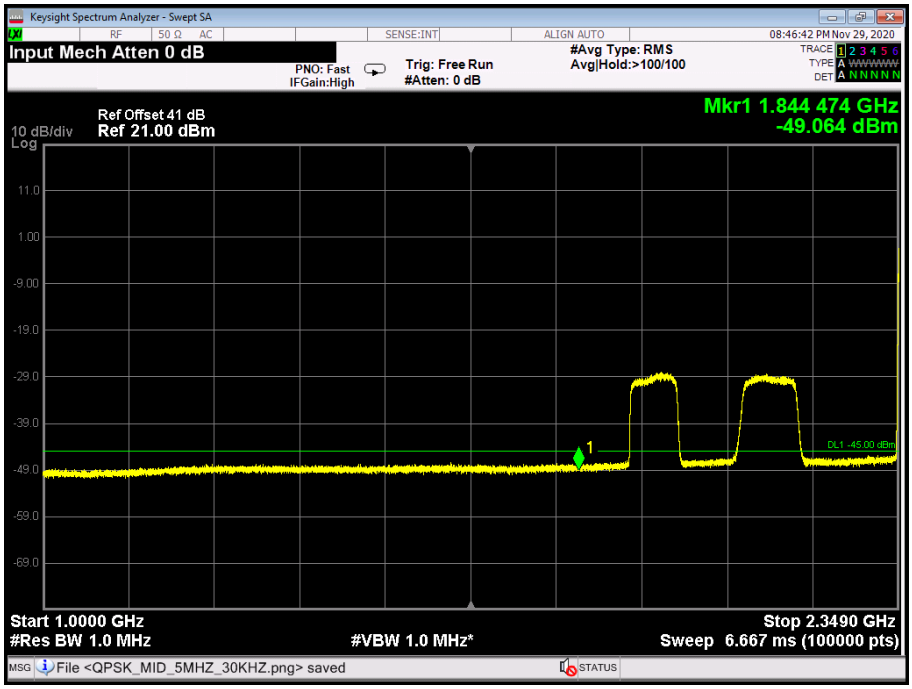

Figure 175: Spurious Emissions at Antenna Terminal 1GHz-2.349GHz - QPSK 5MHz B.W.; Low, 30kHz

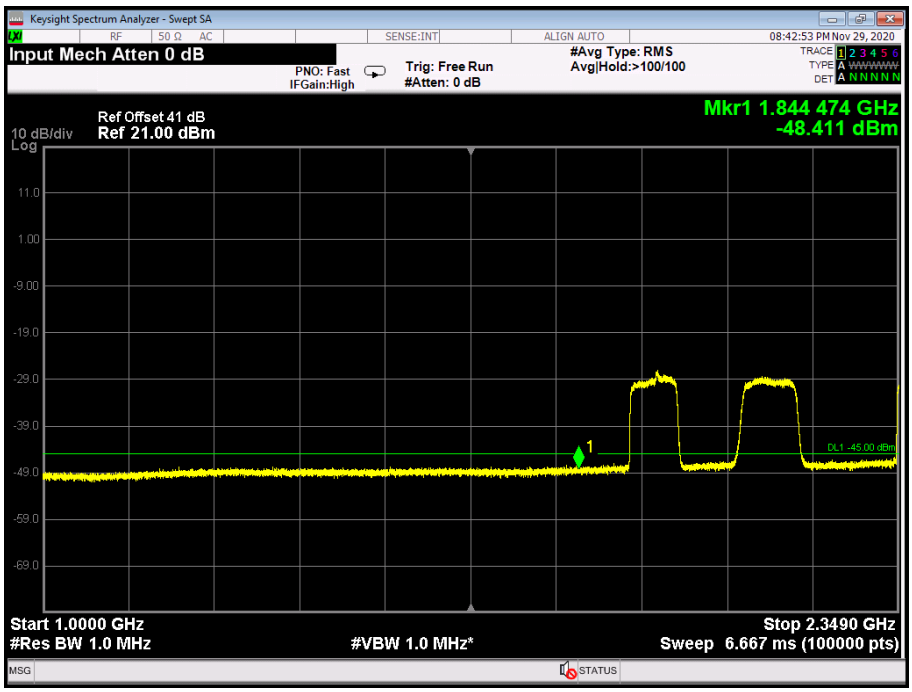

Figure 176: Spurious Emissions at Antenna Terminal 1GHz-2.349GHz - QPSK 5MHz B.W.; Mid, 15kHz

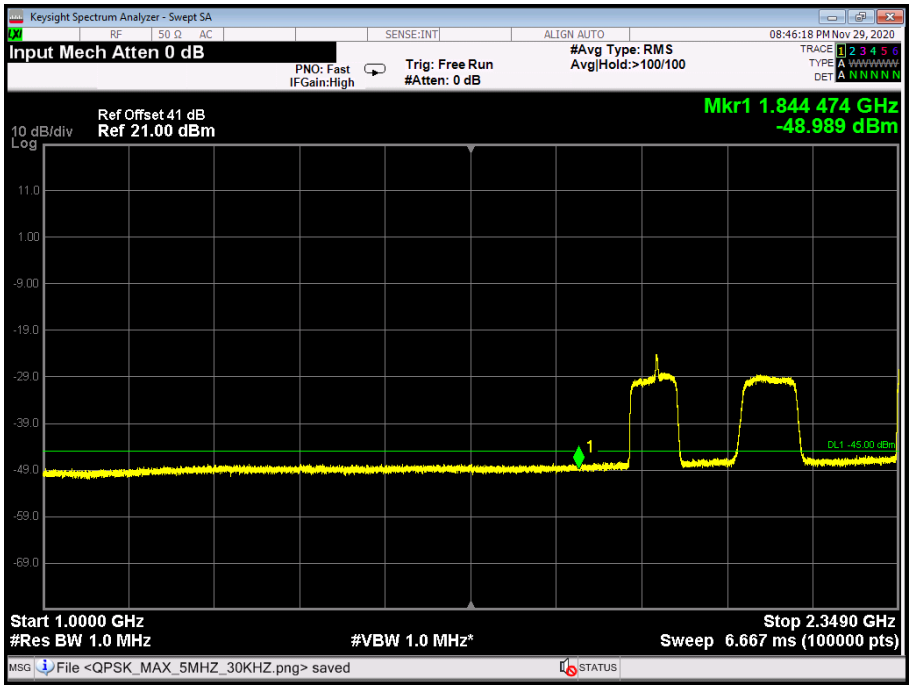

Figure 177: Spurious Emissions at Antenna Terminal 1GHz-2.349GHz - QPSK 5MHz B.W.; Mid, 30kHz

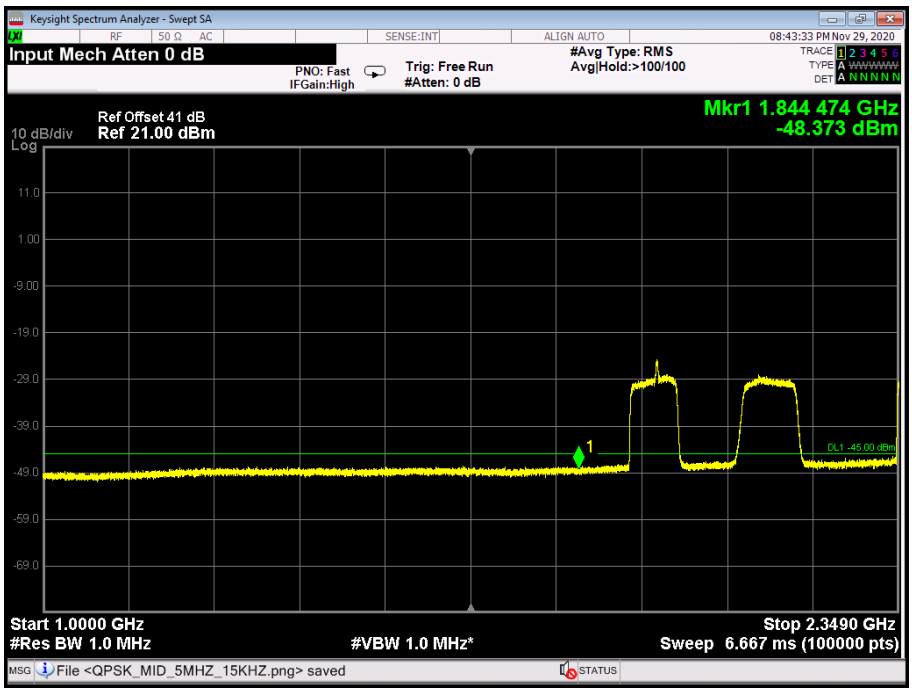

Figure 178: Spurious Emissions at Antenna Terminal 1GHz-2.349GHz - QPSK 5MHz B.W.; High, 15kHz

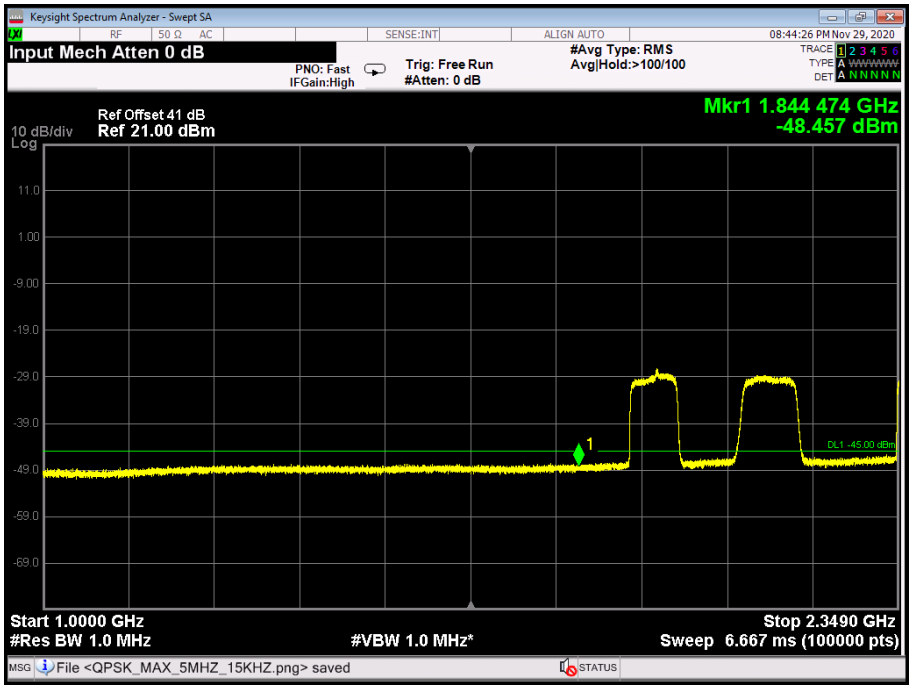

Figure 179: Spurious Emissions at Antenna Terminal 1GHz-2.349GHz - QPSK 5MHz B.W.; High, 30kHz

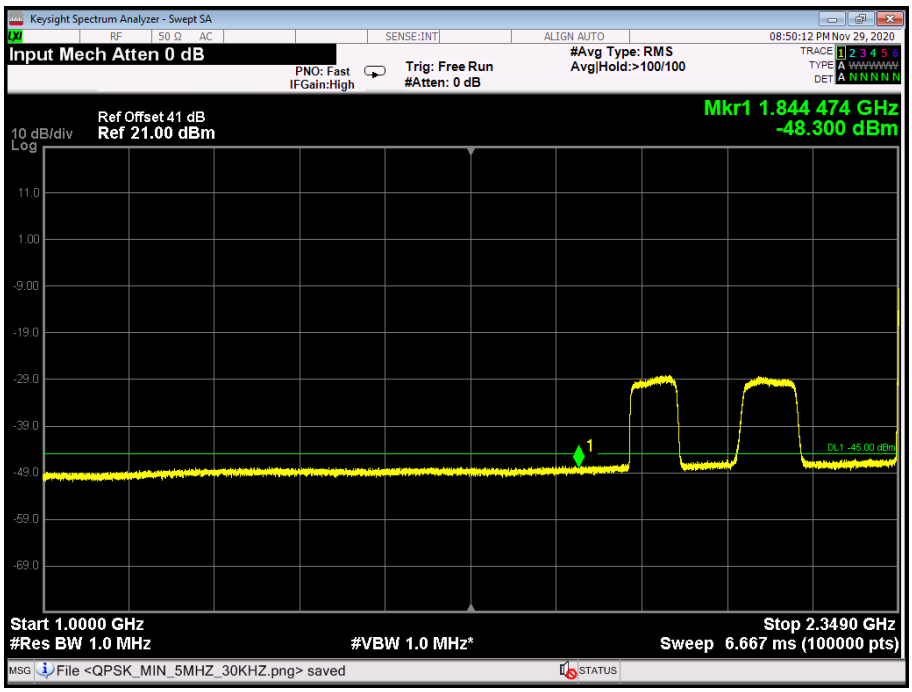

Figure 180: Spurious Emissions at Antenna Terminal 1GHz-2.349GHz - QPSK 10MHz B.W.; Mid, 15kHz

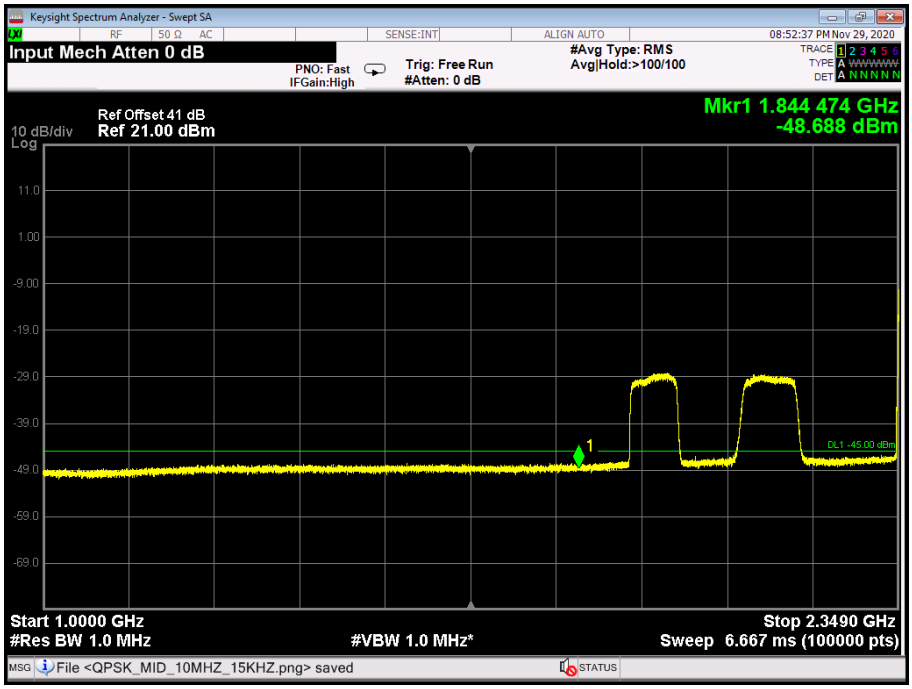

Figure 181: Spurious Emissions at Antenna Terminal 1GHz-2.349GHz - QPSK 10MHz B.W.; Mid, 30kHz

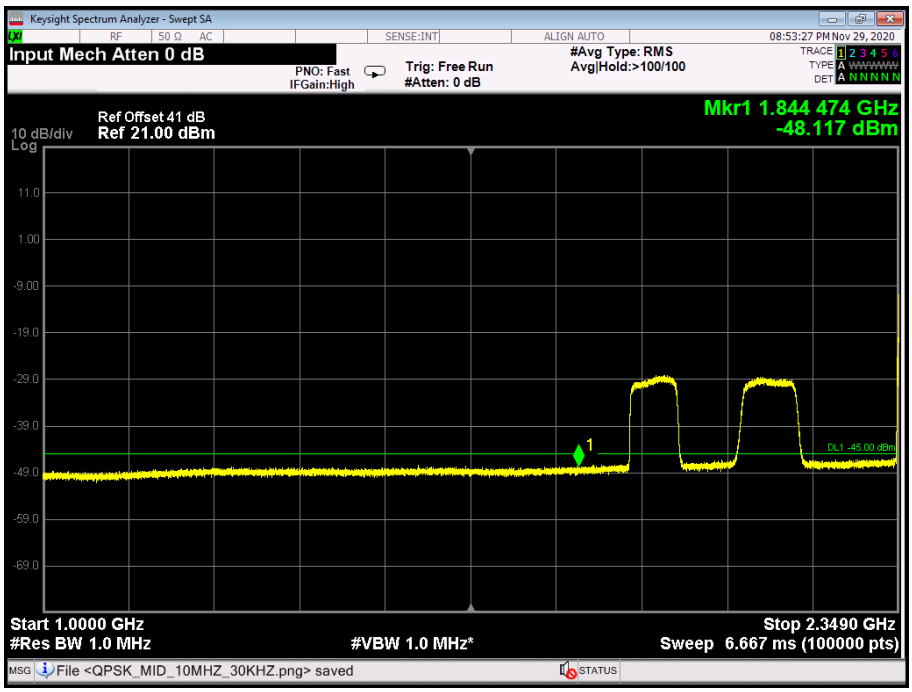

Figure 182: Spurious Emissions at Antenna Terminal 1GHz-2.349GHz - QPSK 10MHz B.W.; Mid, 60kHz

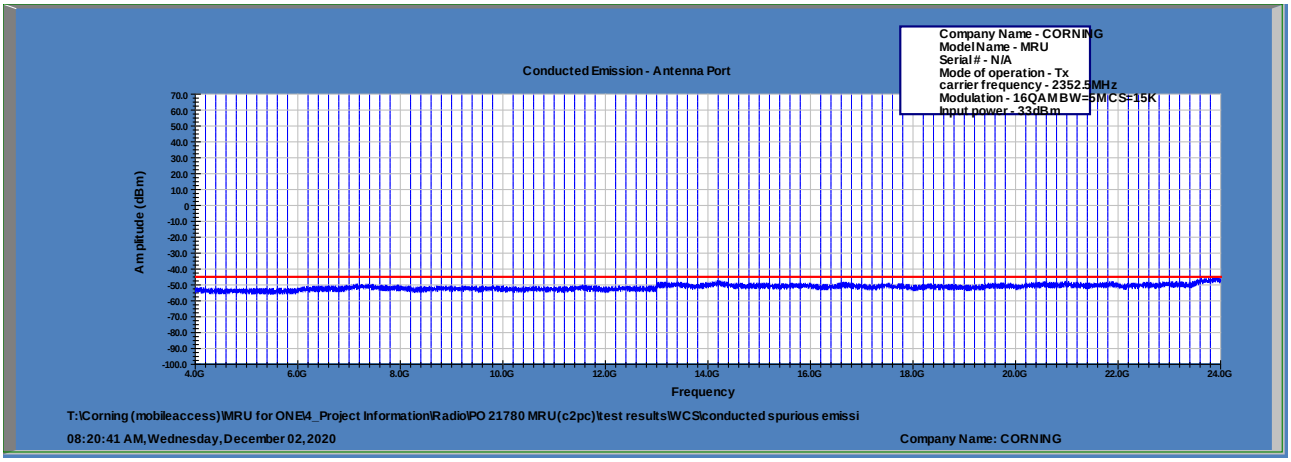

Figure 183: Spurious Emissions at Antenna Terminal 4GHz-24GHz - 16QAM 5MHz B.W.; Low, 15kHz

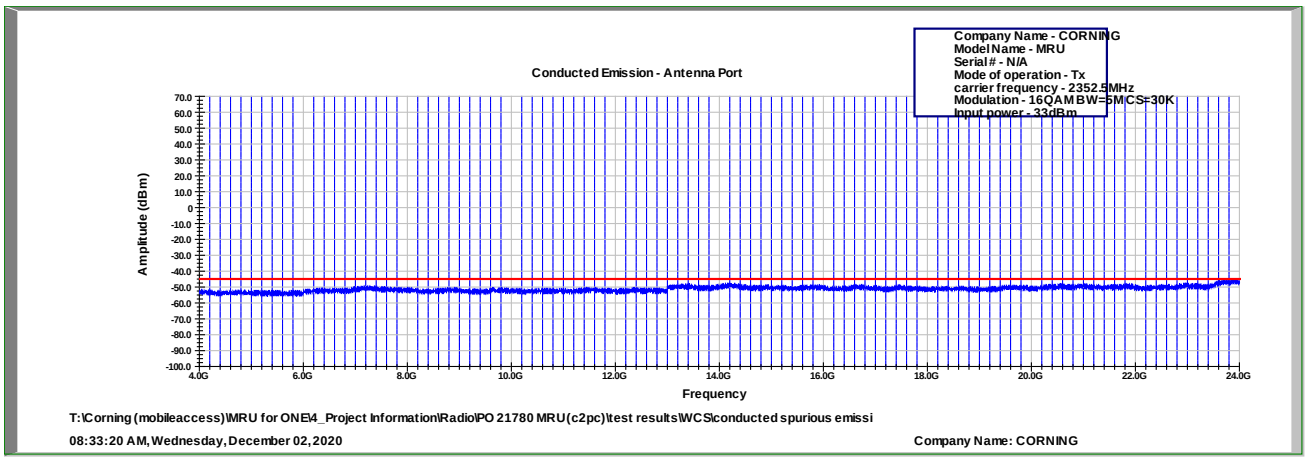

Figure 184: Spurious Emissions at Antenna Terminal 4GHz-24GHz - 16QAM 5MHz B.W.; Low, 30kHz

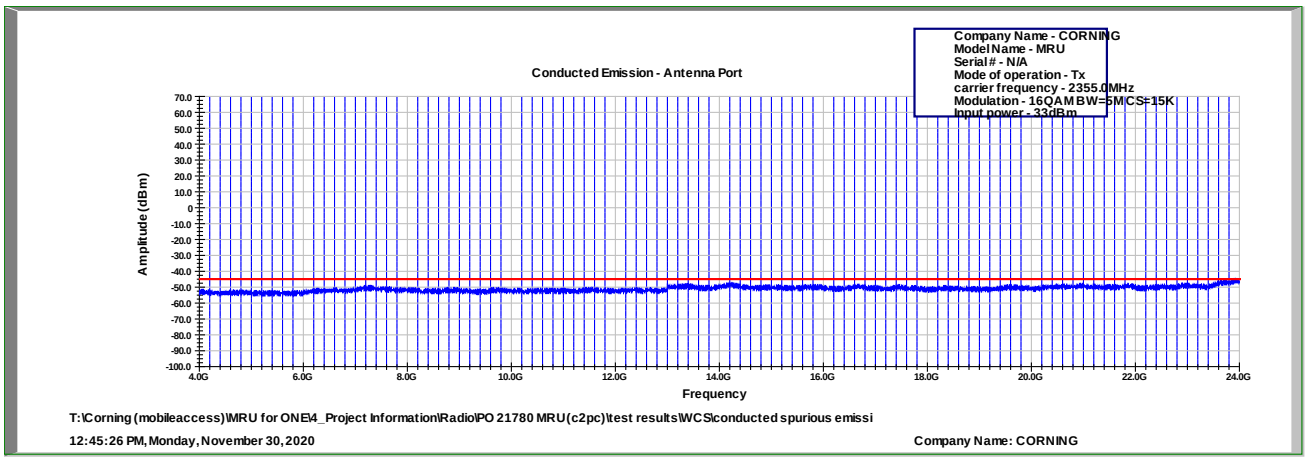

Figure 185: Spurious Emissions at Antenna Terminal 4GHz-24GHz - 16QAM 5MHz B.W.; Mid, 15kHz

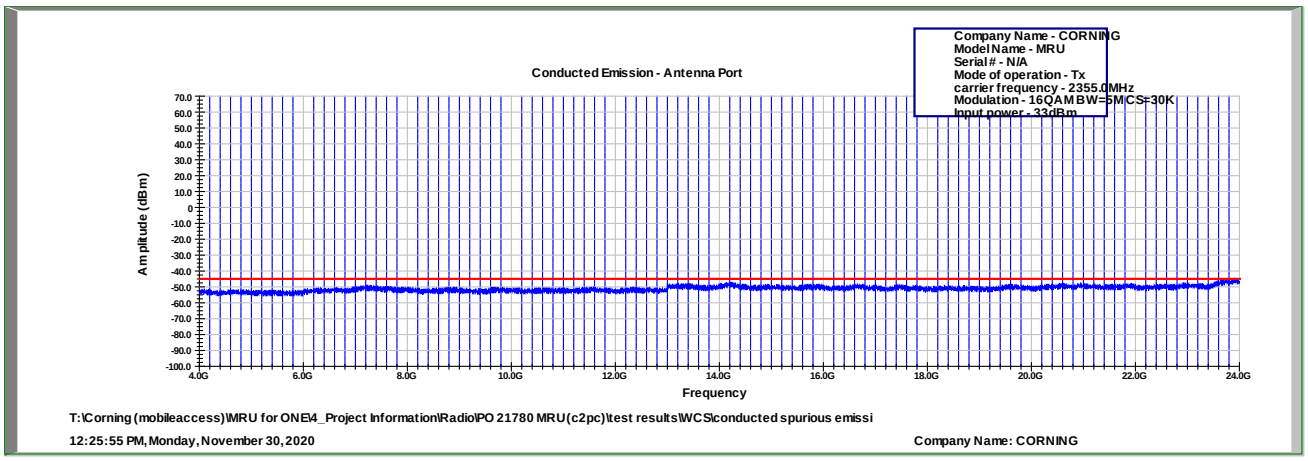

Figure 186: Spurious Emissions at Antenna Terminal 4GHz-24GHz - 16QAM 5MHz B.W.; Mid, 30kHz

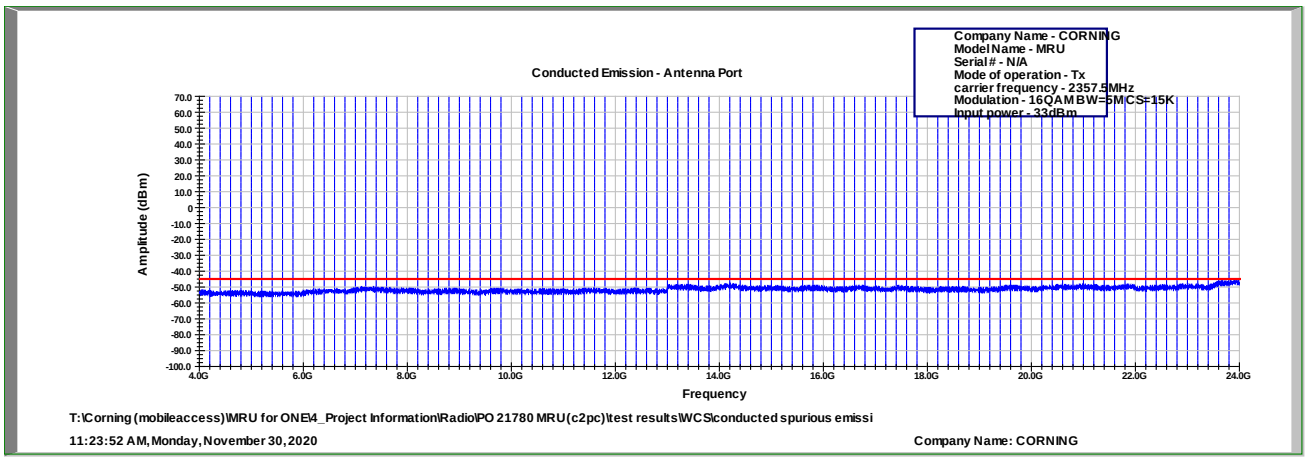

Figure 187: Spurious Emissions at Antenna Terminal 4GHz-24GHz - 16QAM 5MHz B.W.; High, 15kHz

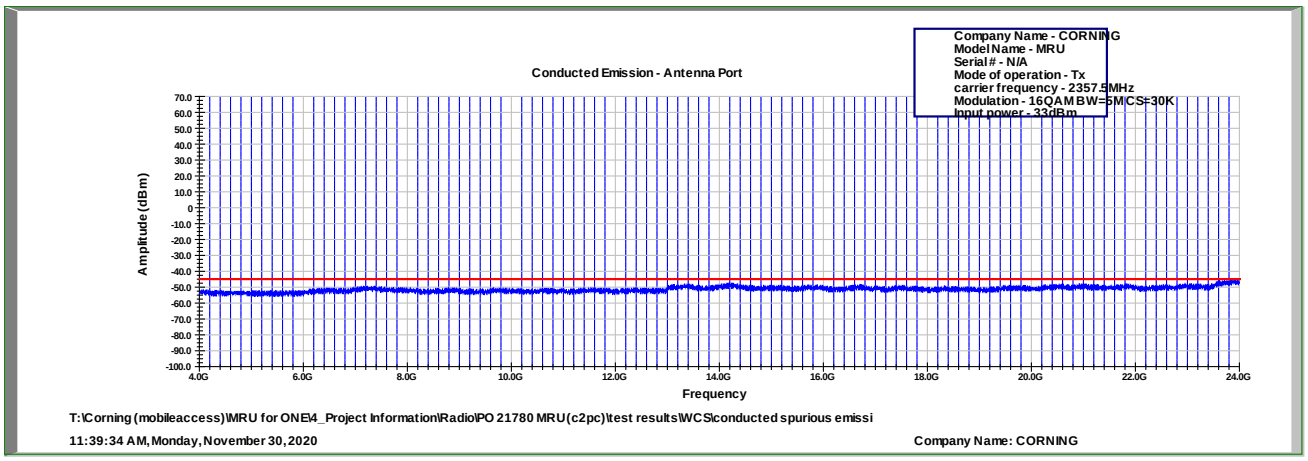

Figure 188: Spurious Emissions at Antenna Terminal 4GHz-24GHz - 16QAM 5MHz B.W.; High, 30kHz

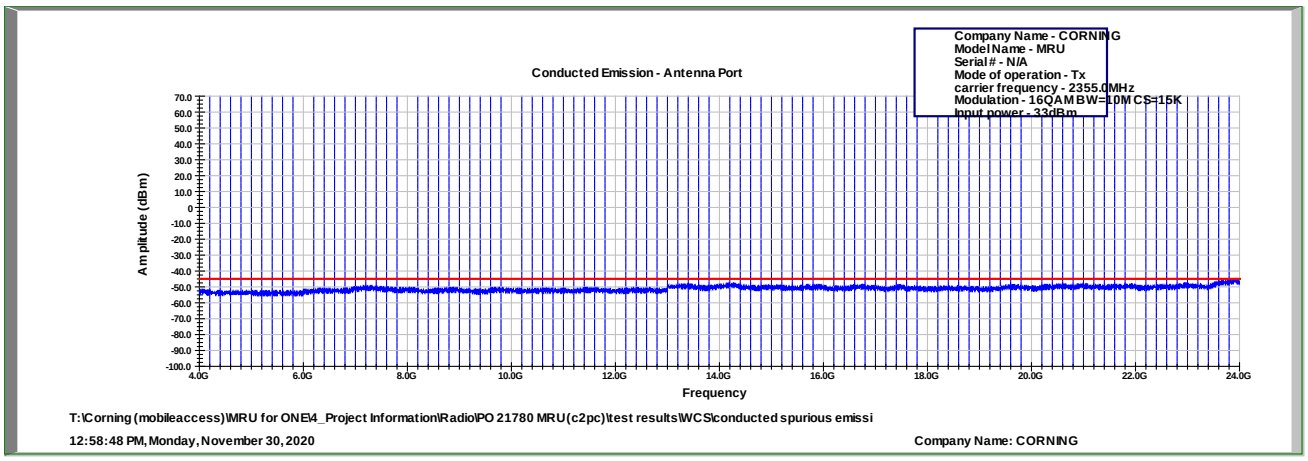

Figure 189: Spurious Emissions at Antenna Terminal 4GHz-24GHz - 16QAM 10MHz B.W.; Mid, 15kHz

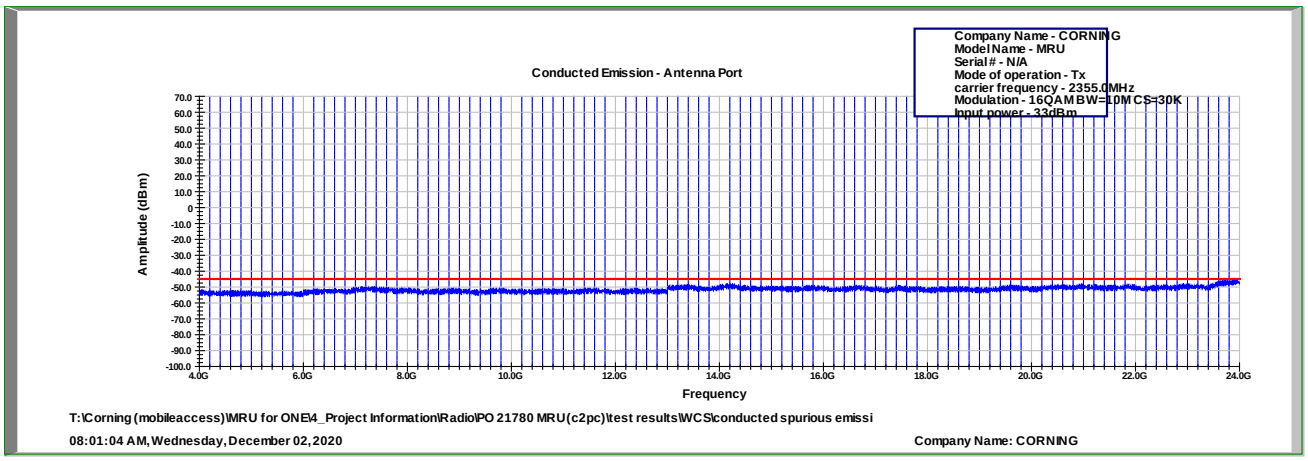

Figure 190: Spurious Emissions at Antenna Terminal 4GHz-24GHz - 16QAM 10MHz B.W.; Mid, 30kHz

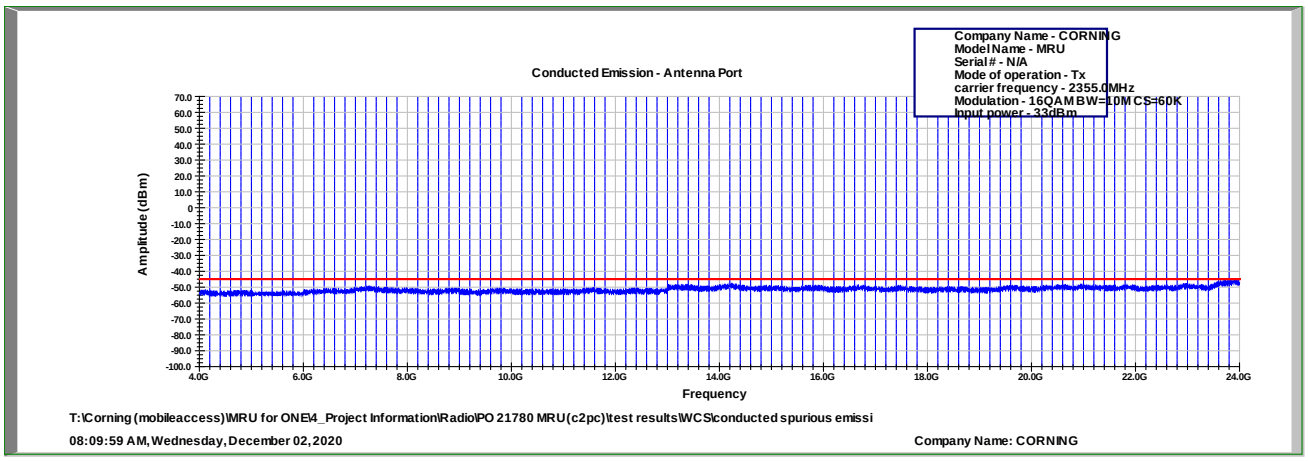

Figure 191: Spurious Emissions at Antenna Terminal 4GHz-24GHz - 16QAM 10MHz B.W.; Mid, 60kHz

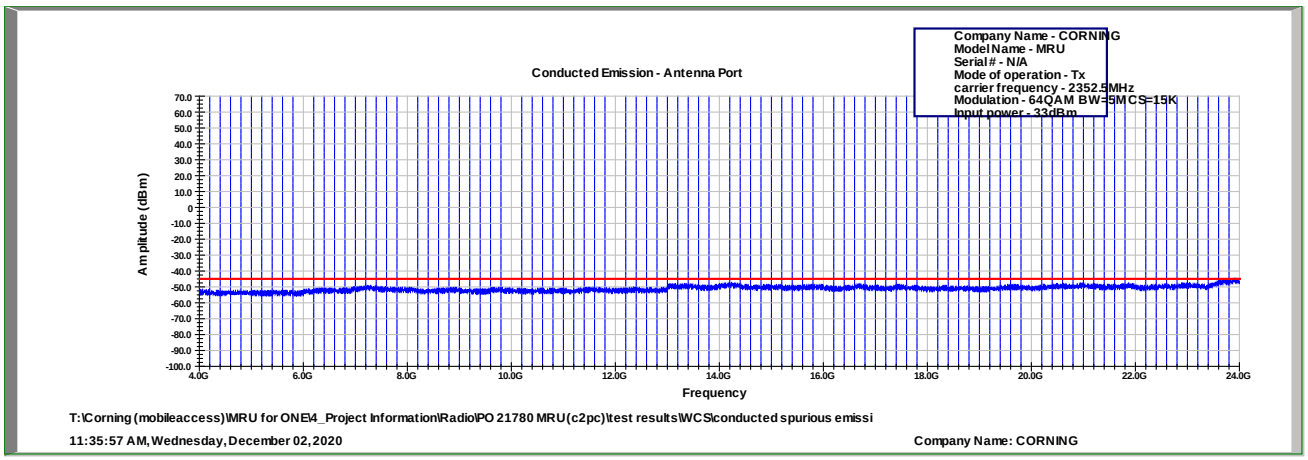

Figure 192: Spurious Emissions at Antenna Terminal 4GHz-24GHz - 64QAM 5MHz B.W.; Low, 15kHz

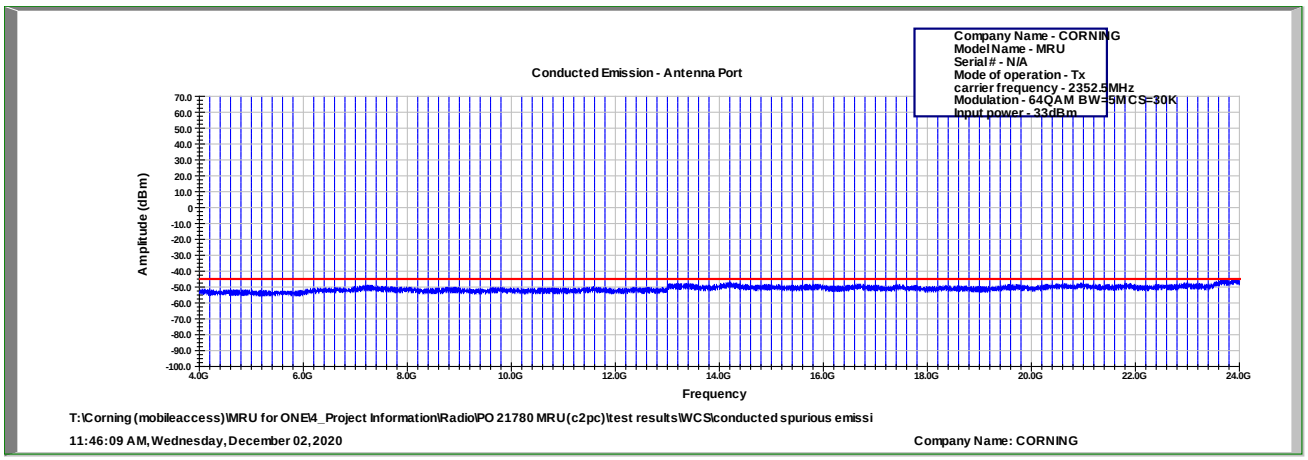

Figure 193: Spurious Emissions at Antenna Terminal 4GHz-24GHz - 64QAM 5MHz B.W.; Low, 30kHz

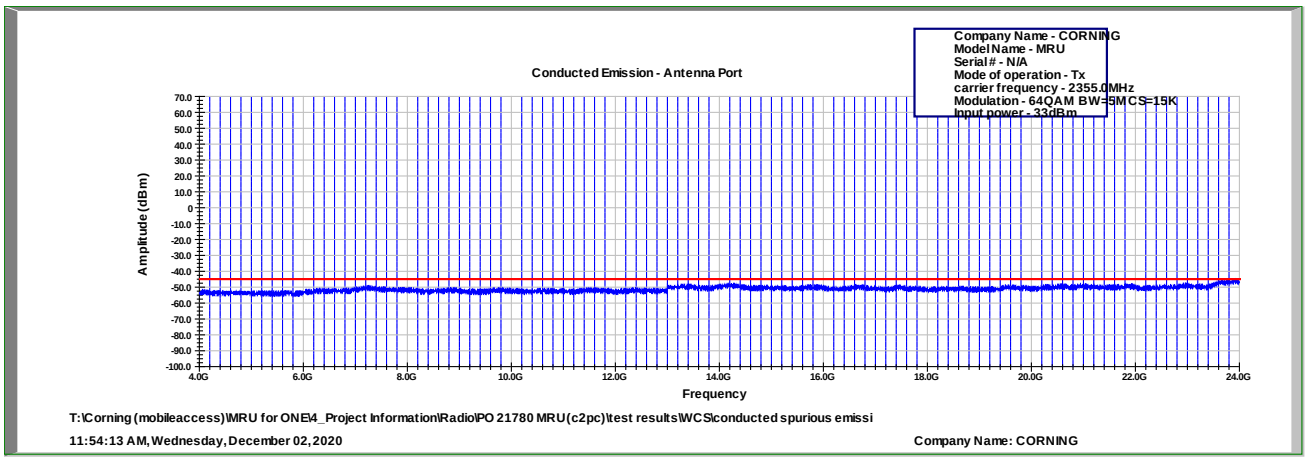

Figure 194: Spurious Emissions at Antenna Terminal 4GHz-24GHz - 64QAM 5MHz B.W.; Mid, 15kHz

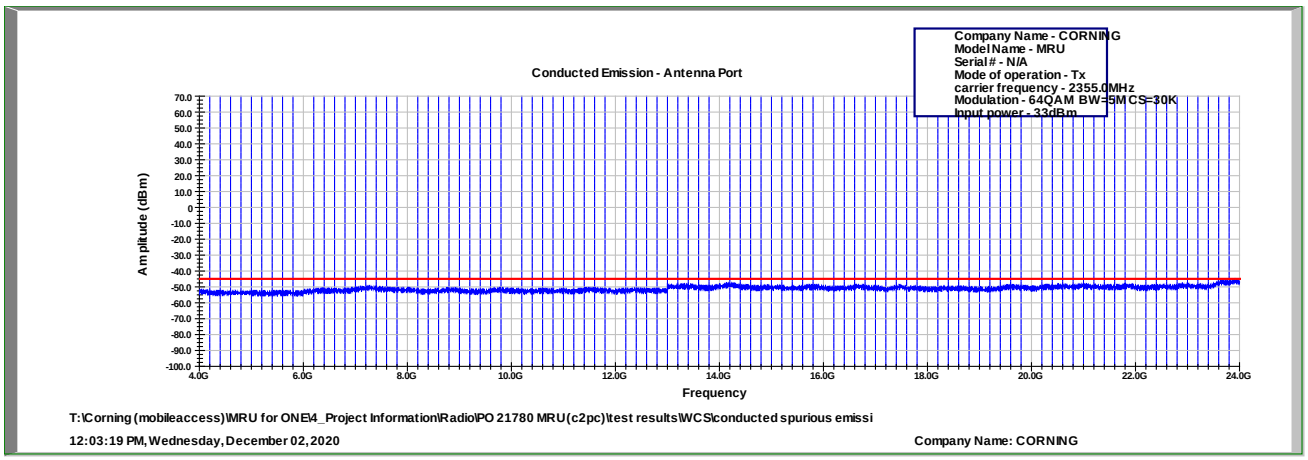

Figure 195: Spurious Emissions at Antenna Terminal 4GHz-24GHz - 64QAM 5MHz B.W.; Mid, 30kHz

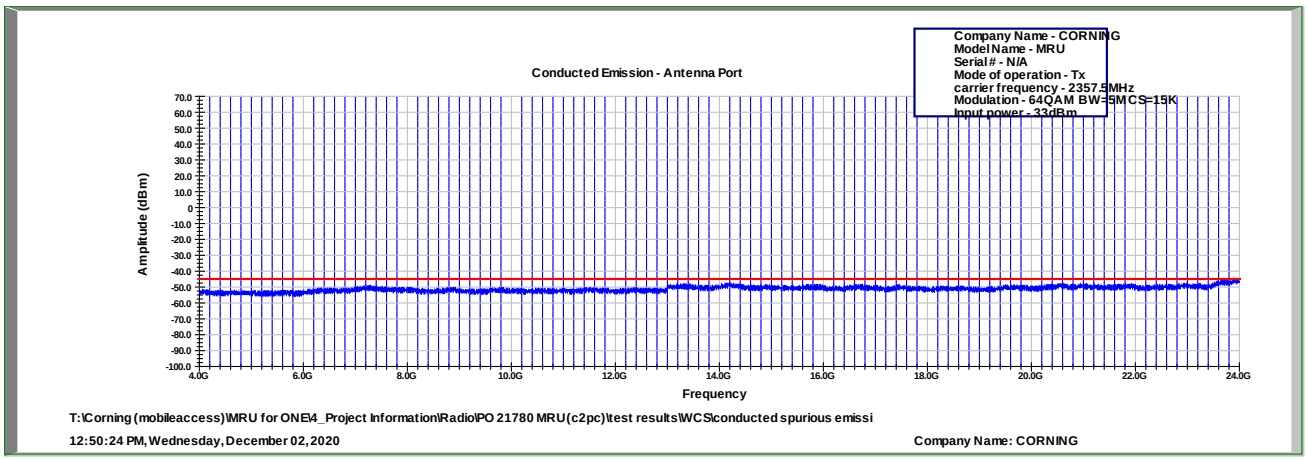

Figure 196: Spurious Emissions at Antenna Terminal 4GHz-24GHz - 64QAM 5MHz B.W.; High, 15kHz

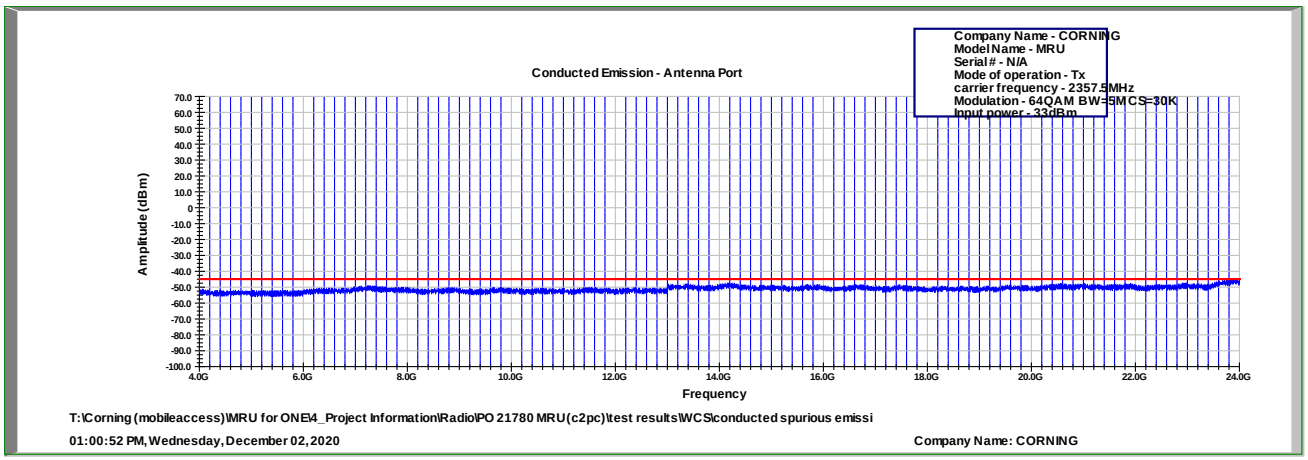

Figure 197: Spurious Emissions at Antenna Terminal 4GHz-24GHz - 64QAM 5MHz B.W.; High, 30kHz

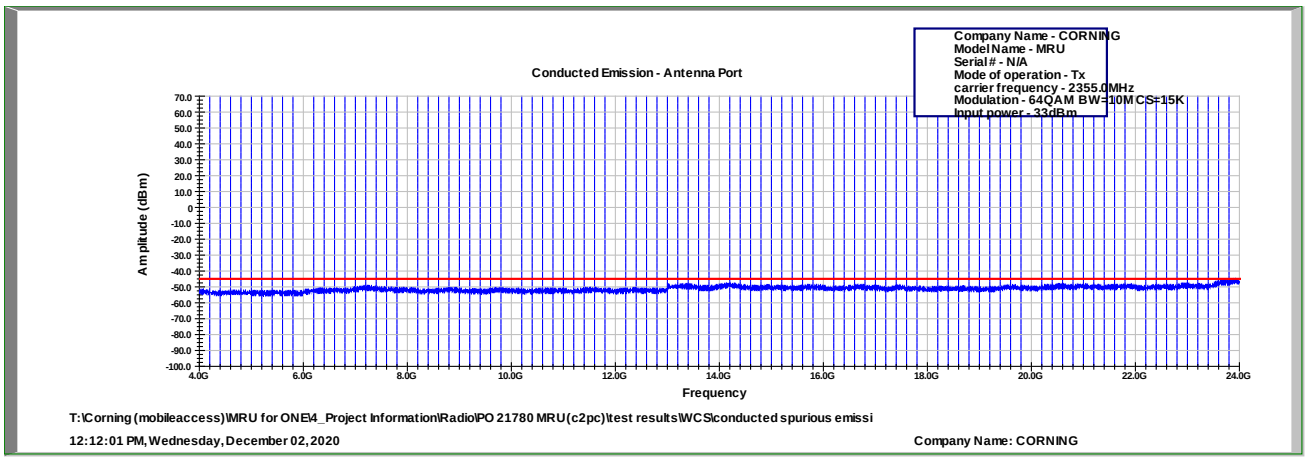

Figure 198: Spurious Emissions at Antenna Terminal 4GHz-24GHz - 64QAM 10MHz B.W.; Mid, 15kHz

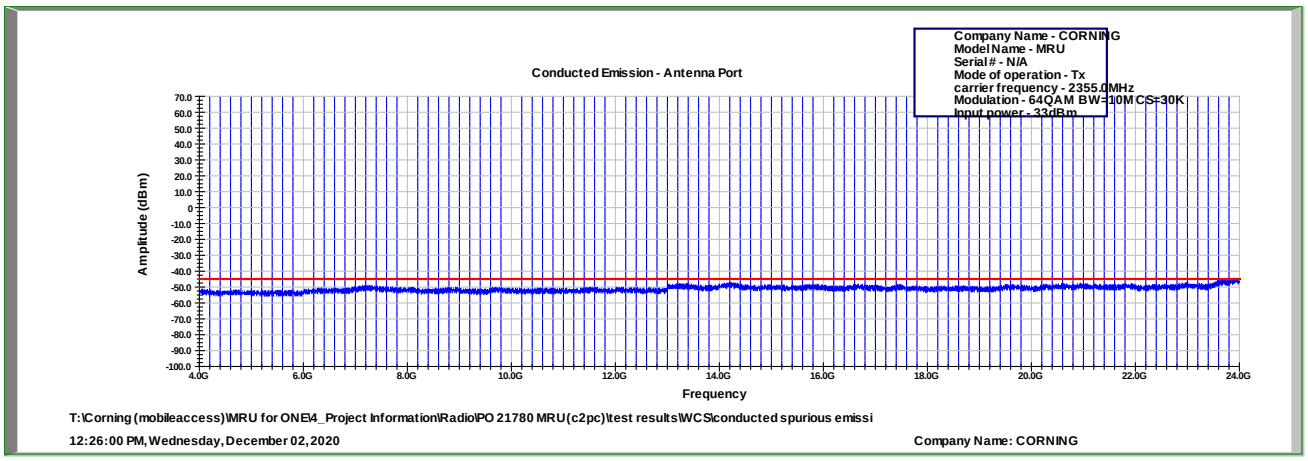

Figure 199: Spurious Emissions at Antenna Terminal 4GHz-24GHz - 64QAM 10MHz B.W.; Mid, 30kHz

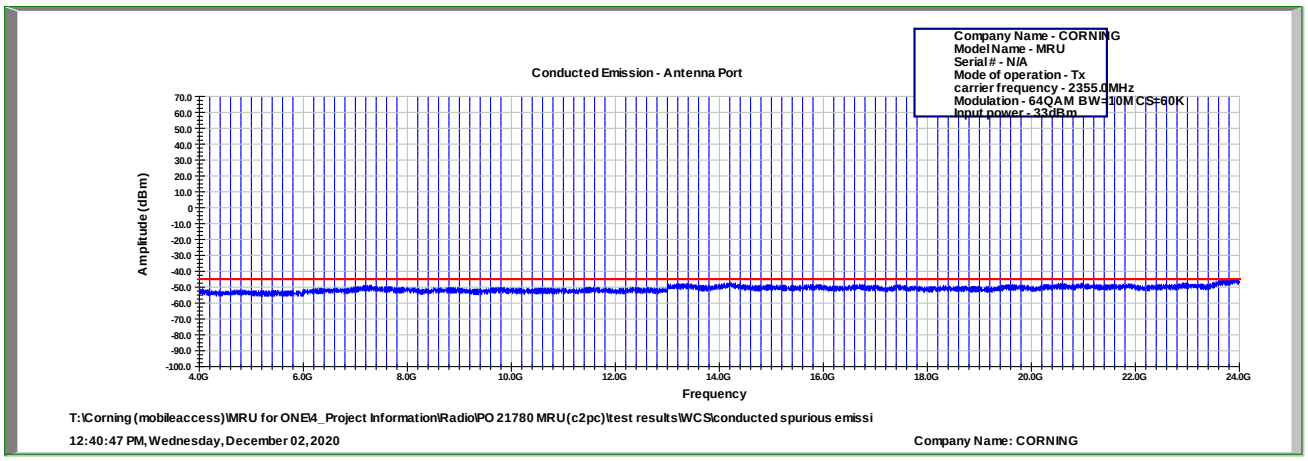

Figure 200: Spurious Emissions at Antenna Terminal 4GHz-24GHz - 64QAM 10MHz B.W.; Mid, 60kHz

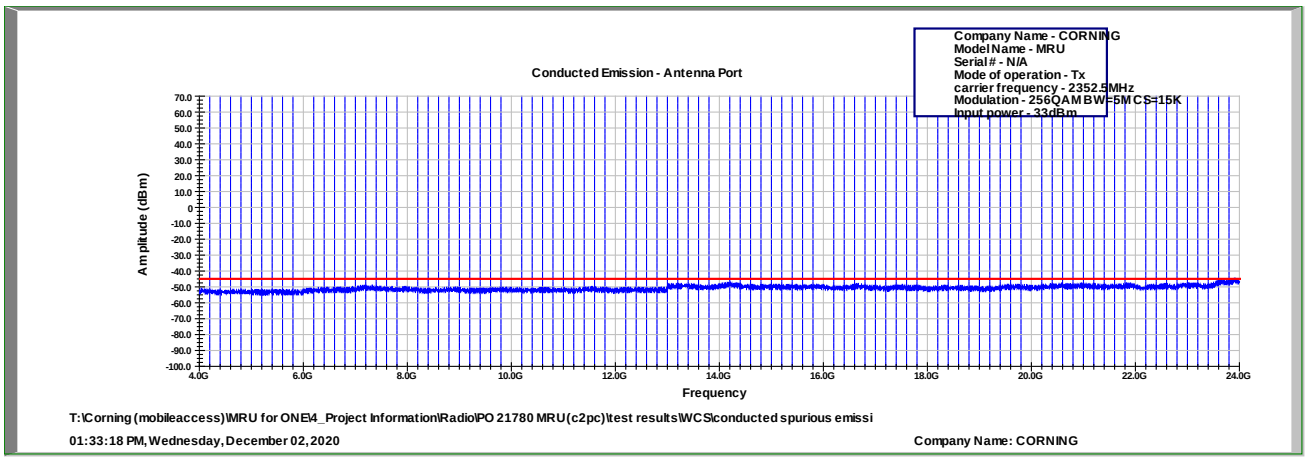

Figure 201: Spurious Emissions at Antenna Terminal 4GHz-24GHz - 256QAM 5MHz B.W.; Low, 15kHz

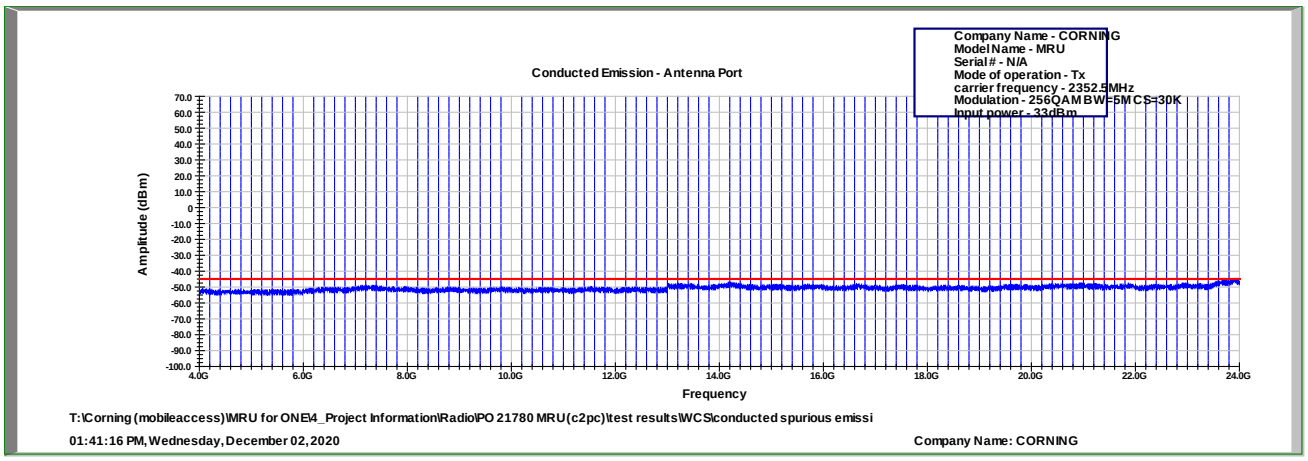

Figure 202: Spurious Emissions at Antenna Terminal 4GHz-24GHz - 256QAM 5MHz B.W.; Low, 30kHz

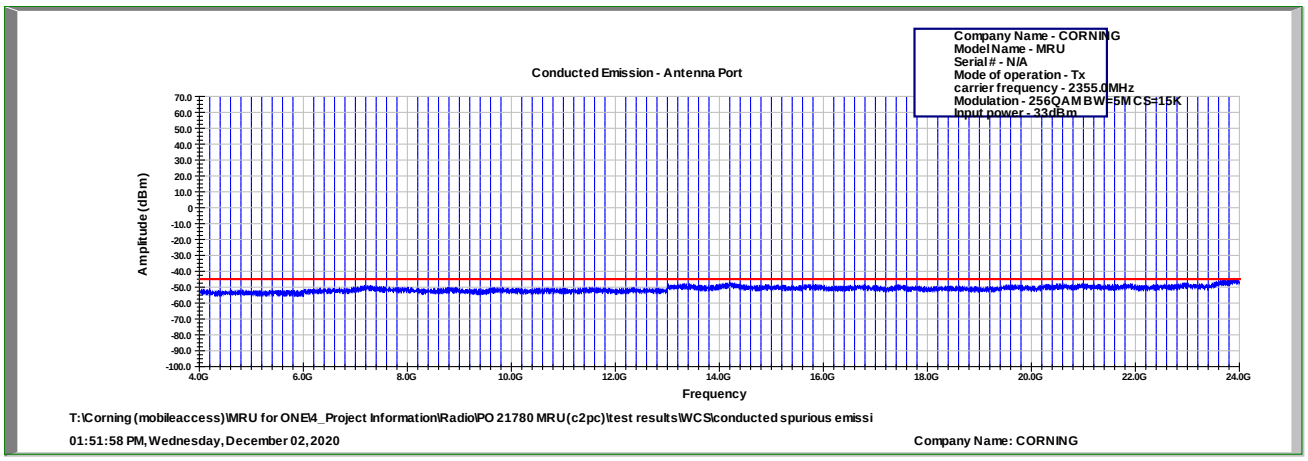

Figure 203: Spurious Emissions at Antenna Terminal 4GHz-24GHz - 256QAM 5MHz B.W.; Mid, 15kHz

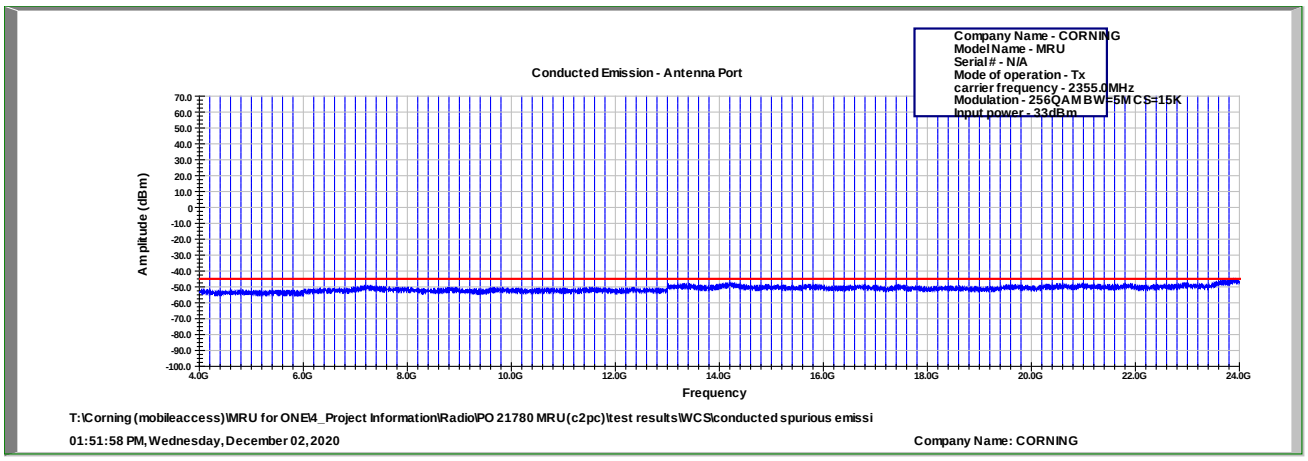

Figure 204: Spurious Emissions at Antenna Terminal 4GHz-24GHz - 256QAM 5MHz B.W.; Mid, 30kHz

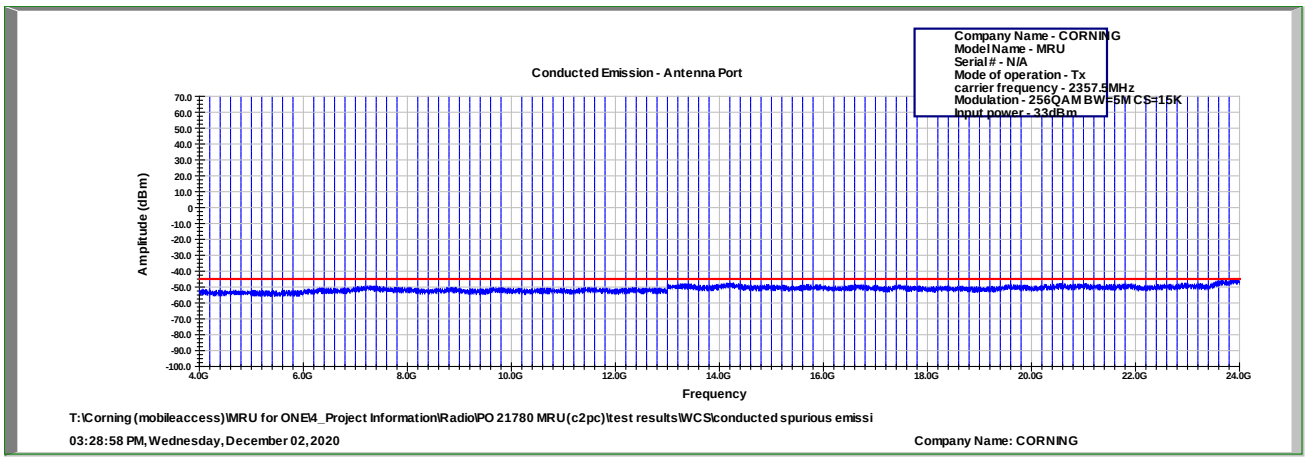

Figure 205: Spurious Emissions at Antenna Terminal 4GHz-24GHz - 256QAM 5MHz B.W.; High, 15kHz

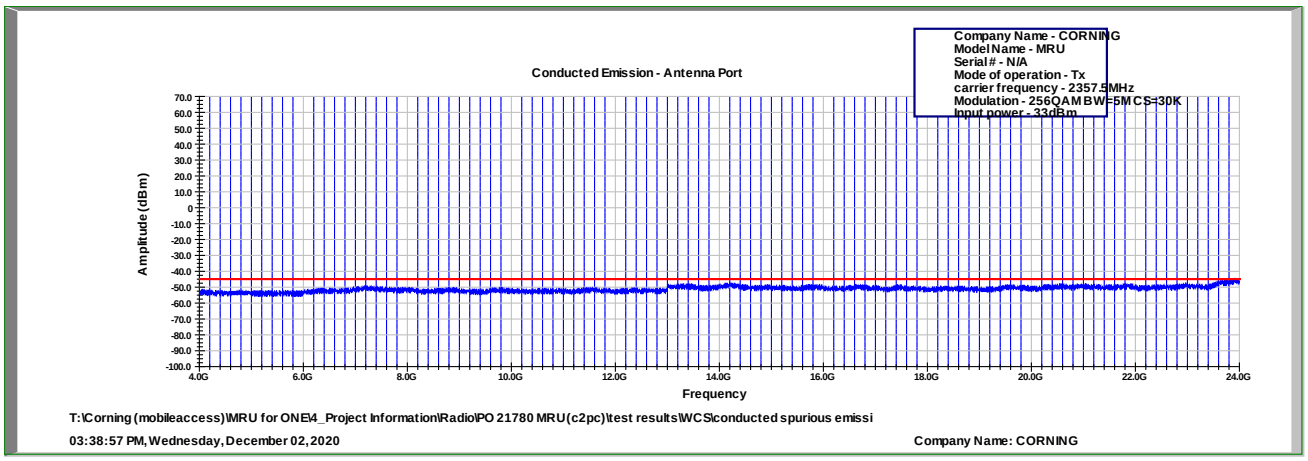

Figure 206: Spurious Emissions at Antenna Terminal 4GHz-24GHz - 256QAM 5MHz B.W.; High, 30kHz

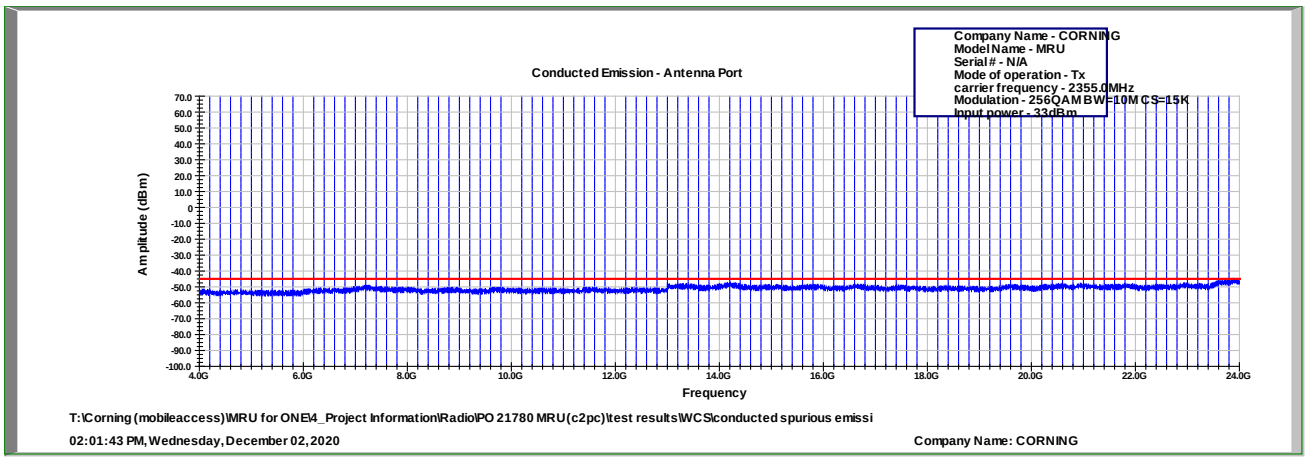

Figure 207: Spurious Emissions at Antenna Terminal 4GHz-24GHz - 256QAM 10MHz B.W.; Mid, 15kHz

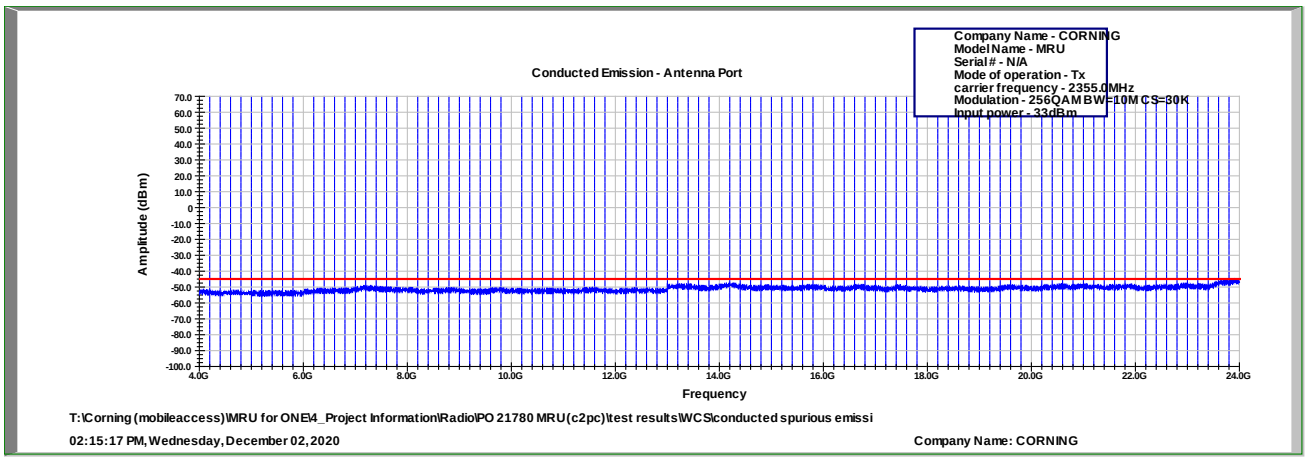

Figure 208: Spurious Emissions at Antenna Terminal 4GHz-24GHz - 256QAM 10MHz B.W.; Mid, 30kHz

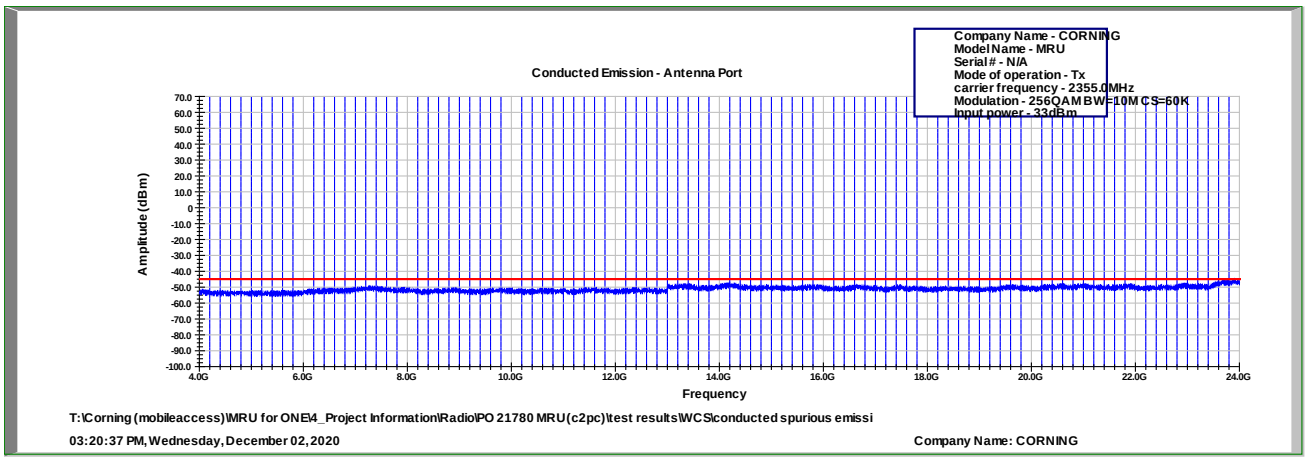

Figure 209: Spurious Emissions at Antenna Terminal 4GHz-24GHz - 256QAM 10MHz B.W.; Mid, 60kHz

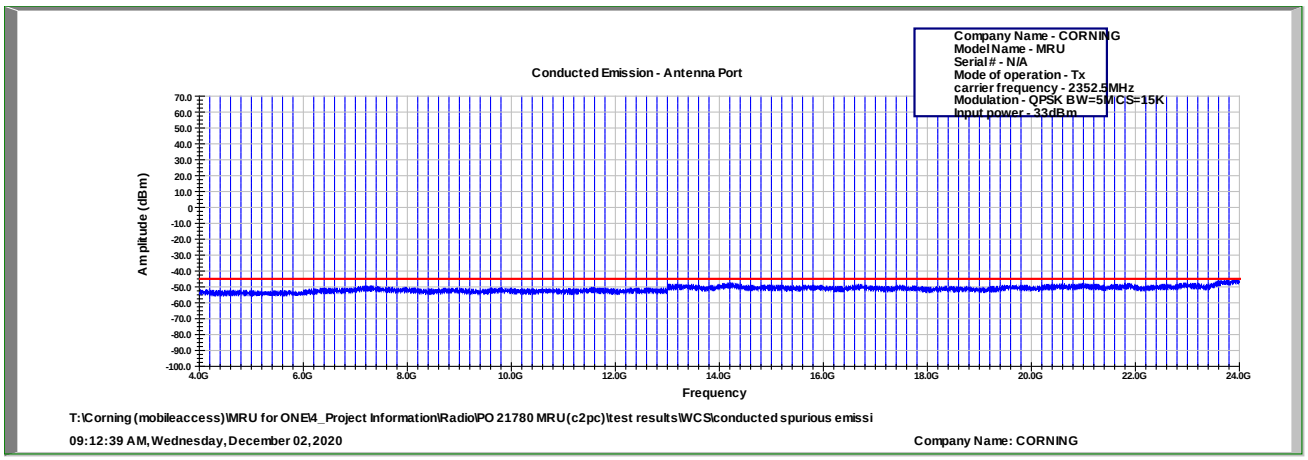

Figure 210: Spurious Emissions at Antenna Terminal 4GHz-24GHz - QPSK 5MHz B.W.; Low, 15kHz

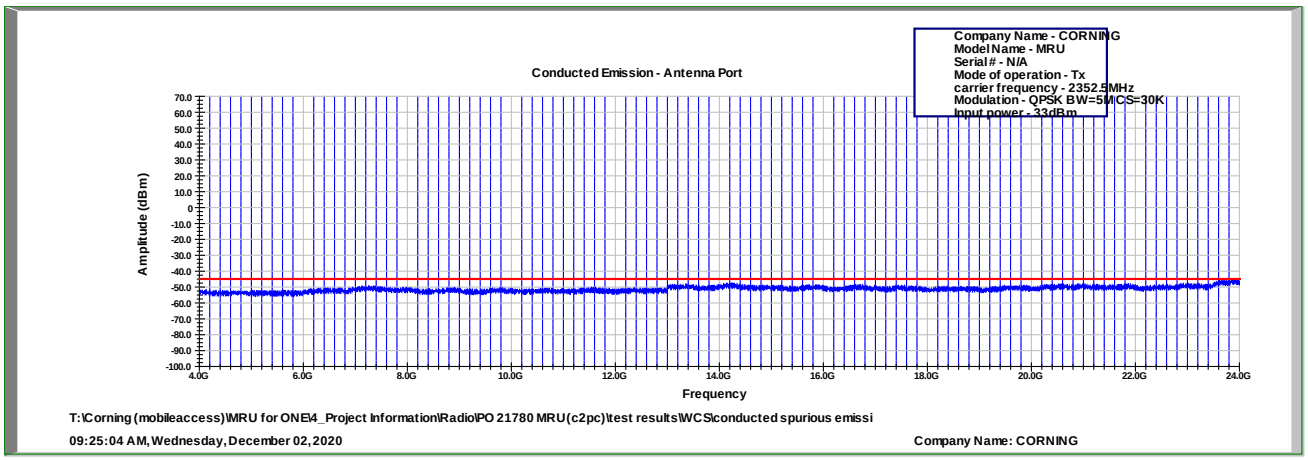

Figure 211: Spurious Emissions at Antenna Terminal 4GHz-24GHz - QPSK 5MHz B.W.; Low, 30kHz

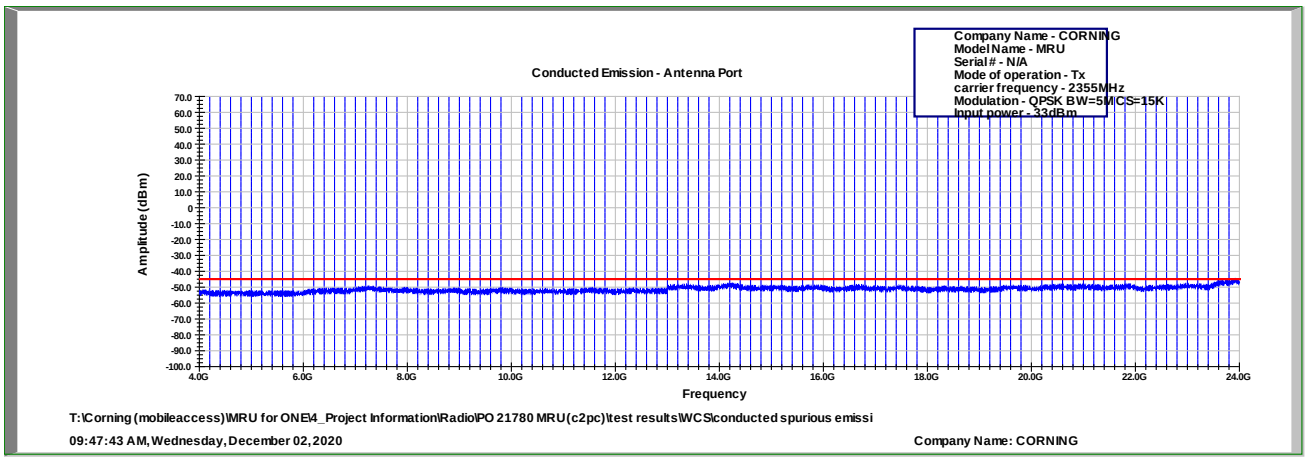

Figure 212: Spurious Emissions at Antenna Terminal 4GHz-24GHz - QPSK 5MHz B.W.; Mid, 15kHz

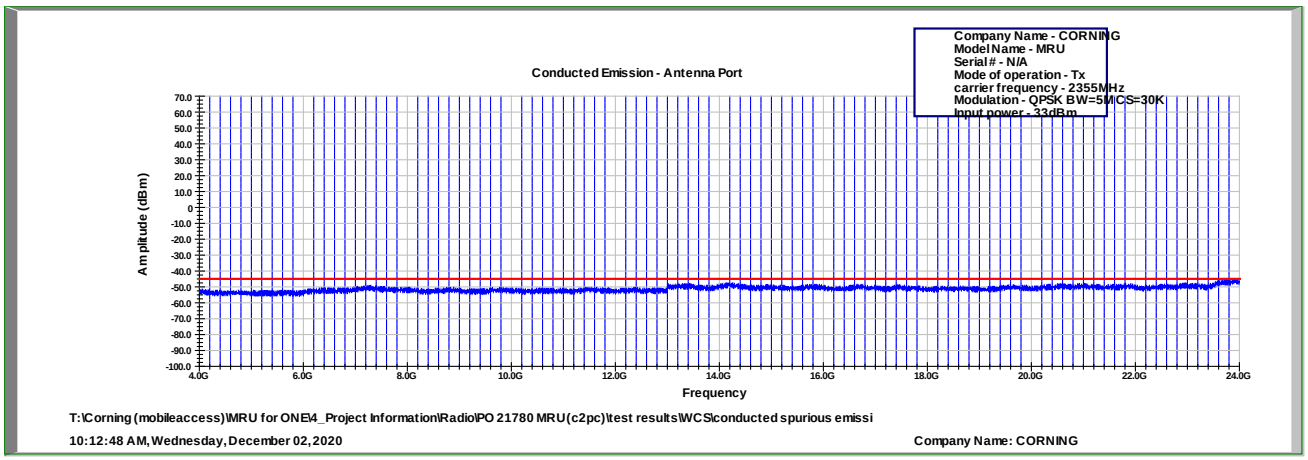

Figure 213: Spurious Emissions at Antenna Terminal 4GHz-24GHz - QPSK 5MHz B.W.; Mid, 30kHz

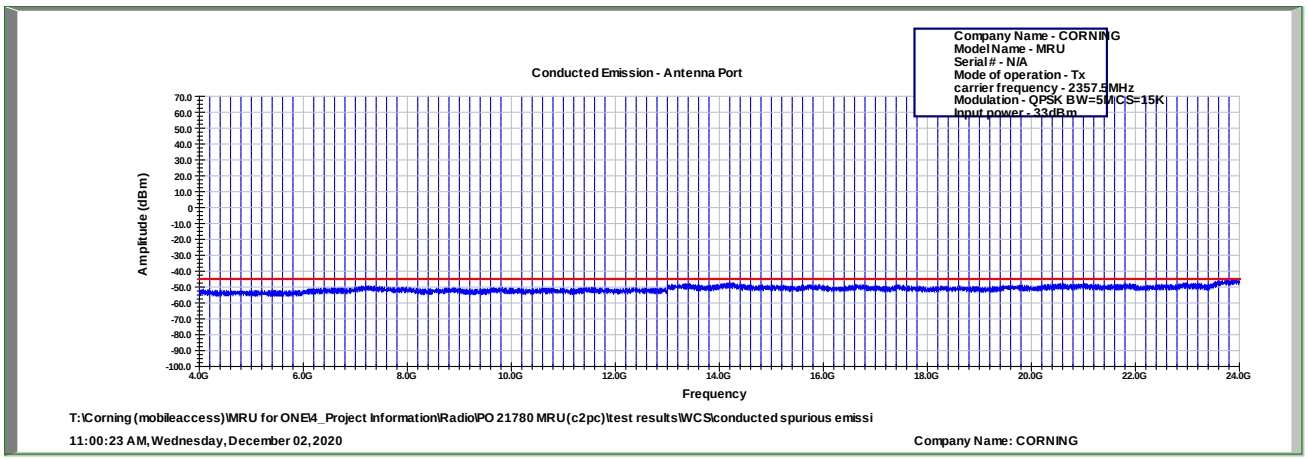

Figure 214: Spurious Emissions at Antenna Terminal 4GHz-24GHz - QPSK 5MHz B.W.; High, 15kHz

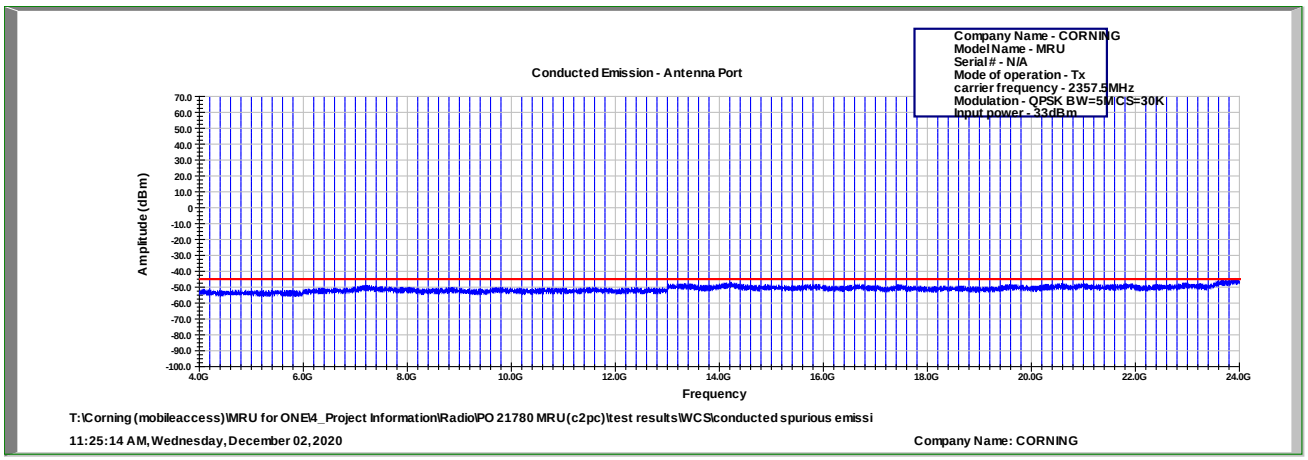

Figure 215: Spurious Emissions at Antenna Terminal 4GHz-24GHz - QPSK 5MHz B.W.; High, 30kHz

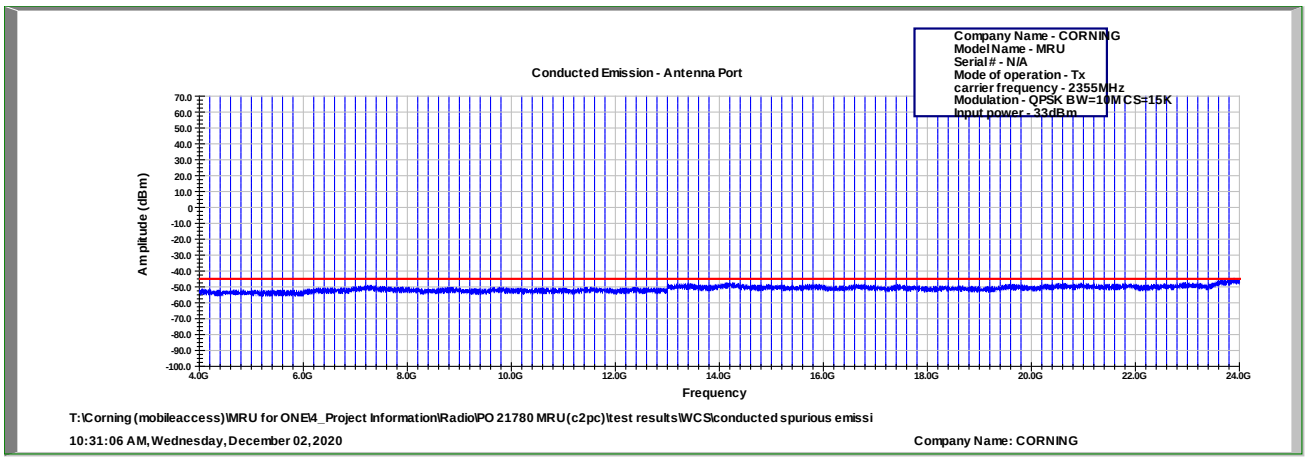

Figure 216: Spurious Emissions at Antenna Terminal 4GHz-24GHz - QPSK 10MHz B.W.; Mid, 15kHz

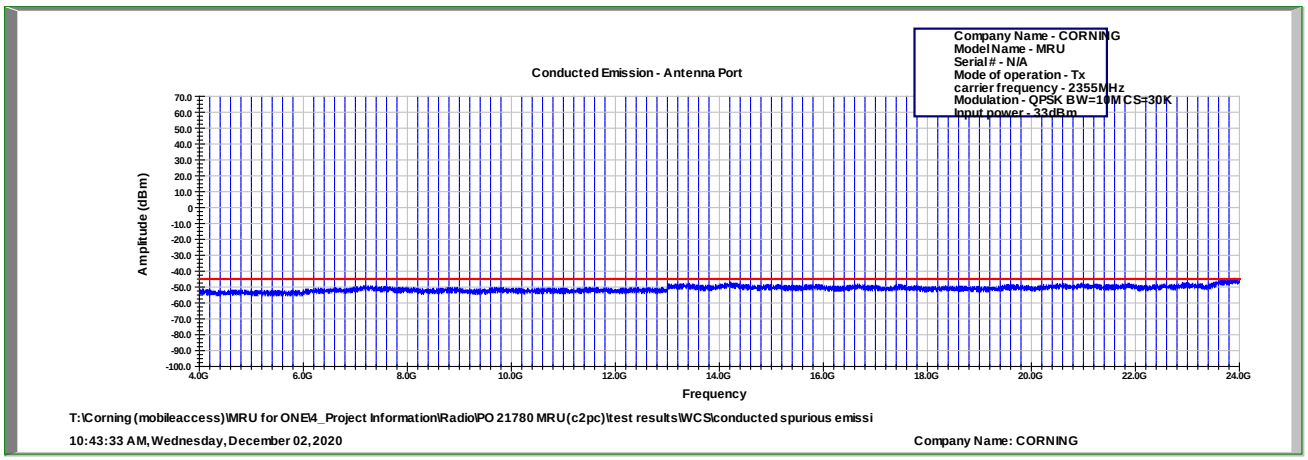

Figure 217: Spurious Emissions at Antenna Terminal 4GHz-24GHz - QPSK 10MHz B.W.; Mid, 30kHz

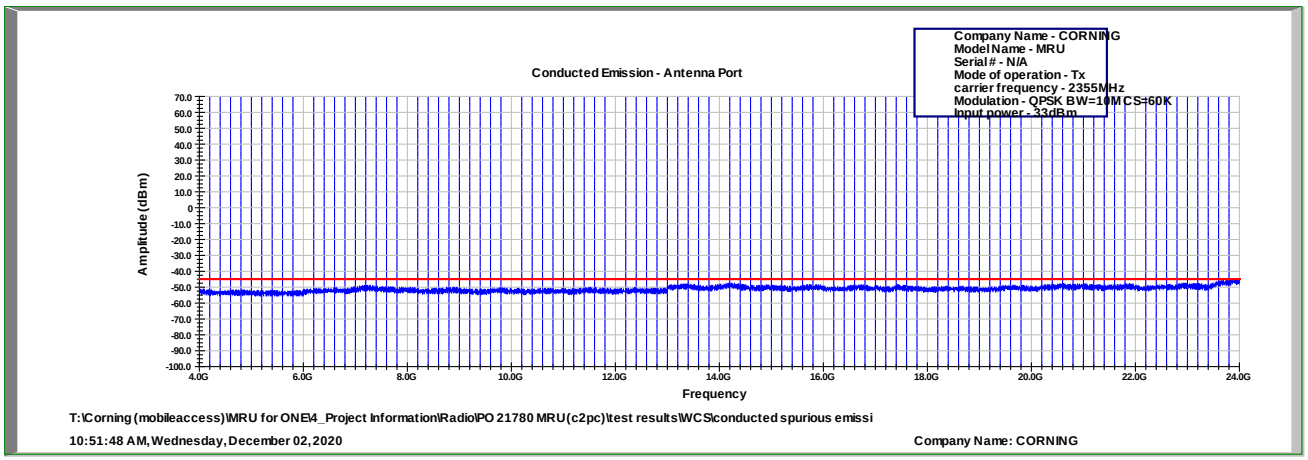

Figure 218: Spurious Emissions at Antenna Terminal 4GHz-24GHz - QPSK 10MHz B.W.; Mid, 60kHz

6.5 Test Equipment Used; Spurious Emissions at Antenna Terminals

Instrument	Manufacturer	Model	Serial Number	Calibration	
				Last Calibration Date	Next Calibration Due
EXA signal Analyzer	Agilent Technologies	N9010A	MY52220686	November 28, 2018	November 28, 2020
Vector Signal Generator	R&S	SMBV100B	1423.1003K02 -101470-XE	October 2, 2019	October 2, 2022
40 dB Attenuator	Weinschel	WA 39-40-33	A1323	July 7, 2020	July 31, 2021
RF Cable	Huber Suner	Sucofelex	27504/4PEA	August 23, 2020	August 31, 2021

Table 15 Test Equipment Used

7 Spurious Radiated Emission

7.1 Test Specification

FCC, Part 27, Subpart C, Section 27.53 (a)(1

7.2 Test Procedure

(Temperature (23°C)/ Humidity (47%RH))

The test method was based on ANSI/TIA-603-D: 2010, Section 2.2.12 Unwanted Emissions: Radiated Spurious.

For measurements between 0.009MHz-30MHz:

The E.U.T was tested inside the shielded room at a distance of 3 meters and the E.U.T was placed on a non-metallic table, 1.5 meters above the ground. The frequency range 0.009MHz-30MHz was scanned. The readings were maximized by the turntable azimuth between 0-360°, and the antenna polarization.
The emissions were measured at a distance of 3 meters.

For measurements between 30.0MHz-1.0GHz:
A preliminary measurement to characterize the E.U.T was performed inside the shielded room at a distance of 3 meters, using peak detection mode and broadband antennas. The preliminary measurements produced a list of the highest emissions. The E.U.T was then transferred to the open site, and placed on a remote-controlled turntable. The E.U.T was placed on a non-metallic table, 0.8 meters above the ground. The frequency range 30.0MHz -1.0GHz was scanned and the list of the highest emissions was verified and updated accordingly.
The readings were maximized by adjusting the antenna height between 1-4 meters, the turntable azimuth between 0-360°, and the antenna polarization.
The emissions were measured at a distance of 3 meters.

For measurements between 1.0GHz-24.0GHz:

The E.U.T was tested inside the shielded room at a distance of 3 meters and the E.U.T was placed on a non-metallic table, 1.5 meters above the ground. The frequency range 1.0GHz -24.0GHz was scanned. The readings were maximized by the turntable azimuth between 0-360°, and the antenna polarization.
The emissions were measured at a distance of 3 meters.
The E.U.T. was replaced by a substitution antenna (dipole 30MHz-1GHz, Horn Antenna above 1GHz) driven by a signal generator.
The height was readjusted for maximum reading. The signal generator level was adjusted to obtain the same reading on the EMI receiver as in step (a).
The signals observed in step (a) were converted to radiated power using:

$P_d(dBm) = P_g(dBm) – Cable\ Loss\ (dB) + Substitution\ Antenna\ Gain\ (dBd)$

P_d = Dipole equivalent power (result).
P_g = Signal generator output level.

A Peak detector was used for this test.

Testing was performed when the RF port was connected to 50 Ω termination.

Evaluation was performed for all possible modulations, bandwidths, and sub carriers.

7.3 Test Limit

The power of any emission outside of the authorized operating frequency ranges(2350.0-2360.0MHz) must be attenuated below the transmitting power (P) by a factor of at least 43 + log (P) dB, yielding –13dBm.

Frequency Band (MHz)	Calculated Factor (dBc)	Absolute Limit (dBm)
f<2285.0	75+10*log(2)=78.0	-45
2285.0MHz<f<2287.5MHz	72+10*log(2)=75.0	-42
2287.5MHz<f<2300.0MHz	70+10*log(2)=73.0	-40
2300.0MHz<f<2305.0MHz	43+10*log(2)=46.0	-13
2305.0MHz<f<2320.0MHz	43+10*log(2)=46.0	-13
2320.0MHz<f<2345.0MHz	75+10*log(2)=78.0	-45
2345.0MHz<f<2360.0MHz	43+10*log(2)=46.0	-13
2360.0MHz<f<2362.5MHz	43+10*log(2)=46.0	-13
2362.5MHz<f<2365.0MHz	55+10*log(2)=58.0	-25
2365.0MHz<f<2367.5MHz	70+10*log(2)=60.0	-40
2367.5MHz<f<2370.0MHz	72+10*log(2)=62.0	-42
2370.0<f	75+10*log(2)=65.0	-45

Figure 219 Mask Limit Table

7.4 Test Results

JUDGEMENT: Passed

No emissions were detected above the EMI receiver noise level which is at least 6 dB margin below the lowest limit(-45dBm) and 20dB margin below the highest limit(-13dBm)

7.5 Test Instrumentation Used; Radiated Measurements

Instrument	Manufacturer	Model	Serial Number	Calibration	
				Last Calibration Date	Next Calibration Due
EMI Receiver	HP	8542E	3906A00276	March 03, 2020	March 03, 2021
RF Filter Section	HP	85420E	3705A00248	March 03, 2020	March 03, 2021
Spectrum Analyzer	HP	8593EM	3536A00120ADI	March 10, 2020	March 10, 2021
Active Loop Antenna	EMCO	6502	9506-2950	February 5, 2019	February 28, 2021
Antenna Biconical	EMCO	3110B	9912-3337	May 21, 2019	May 31, 2021
Antenna Log Periodic	EMCO	3146	9505-4081	May 31, 2018	May 31, 2021
Horn Antenna 1G-18G	ETS	3115	29845	May 31, 2018	May 31, 2021
Horn Antenna 18G-26.5G	ARA	SWH-28	1007	December 13, 2017	December 31, 2020
Low Noise Amplifier	Narda	LNA-DBS-0411N313	013	December 24, 2019	December 31, 2020
Low Noise Amplifier	Sophia Wireless	LNA 28-B	232	December 24, 2019	December 31, 2020
Vector Signal Generator	VIAVI	MTS 5800	WMNK0071690263	July 1, 2018	July 1, 2021
Semi Anechoic Civil Chamber	ETS	S81	SL 11643	NCR	NCR
Antenna Mast	ETS	2070-2	-	NCR	NCR
Turntable	ETS	2087	-	NCR	NCR
Mast & Table Controller	ETS/EMCO	2090	9608-1456	NCR	NCR

Table 16 Test Equipment Used

8 APPENDIX A - CORRECTION FACTORS

8.1 Correction factors for RF OATS Cable 35m

ITL #1784

Frequency (MHz)	Cable loss (dB)
10.0	0.3
20.0	0.2
50.0	-0.1
100.0	-0.6
200.0	-1.2
500.0	-2.3
1000.0	-3.6

8.2 Correction factors for RF OATS Cable 10m

ITL #1794

Frequency(MHz)	Cable loss(dB)
10.0	-0.3
20.0	-0.3
50.0	-0.5
100.0	-0.7
200.0	-1.1
500.0	-1.8
1000.0	-2.7

8.3 Correction factors for Horn Antenna

Model: SWH-28
at 1 meter range.

FREQUENCY (GHz)	AFE (dB /m)	Gain (dB1)
18.0	40.3	16.1
19.0	40.3	16.3
20.0	40.3	16.1
21.0	40.3	16.3
22.0	40.4	16.8
23.0	40.5	16.4
24.0	40.5	16.6
25.0	40.5	16.7
26.0	40.6	16.4

8.4 Correction factors for Horn Antenna

Model: 3115

Antenna serial number: 29845

3 meter range

f(GHz)	AF(dB/m)	GA(dB)
0.75	25	3
1G	23.5	7
1.5G	26	8
2G	29	7
2.5G	27.5	10
3G	30	10
3.5G	31.5	10
4G	32.5	9.5
4.5G	32.5	10.5
5G	33	10.5
5.5G	35	10.5
6G	36.5	9.5
6.5G	36.5	10
7G	37.5	10
7.5G	37.5	10
8G	37.5	11
8.5G	38	11
9G	37.5	11.5
9.5G	38	11.5
10G	38.5	11.5
10.5G	38.5	12
11G	38.5	12.5
11.5G	38.5	13
12G	38	13.5
12.5G	38.5	13
13G	40	12
13.5G	41	12
14G	40	13
14.5G	39	14
15G	38	15.5
15.5G	37.5	16
16G	37.5	16
16.5G	39	15
17G	40	15
17.5G	42	13.5
18G	42.5	13

8.5 Correction factors for Log Periodic Antenna EMCO, Model 3146, Serial #9505-4081

Frequency [MHz]	AF [dB/m]
200.0	11.47
250.0	12.06
300.0	14.77
400.0	15.77
500.0	18.01
600.0	18.84
700.0	20.93
800.0	21.27
900.0	22.44
1000.0	24.10

8.6 Correction factors for Biconical Antenna EMCO, Model 3110B, Serial #9912-3337

Frequency [MHz]	AF [dB/m]
30.0	14.18
35.0	13.95
40.0	12.84
45.0	11.23
50.0	11.10
60.0	10.39
70.0	9.34
80.0	9.02
90.0	9.31
100.0	8.95
120.0	11.53
140.0	12.20
160.0	12.56
180.0	13.49
200.0	15.27

8.7 Correction factors for ACTIVE LOOP ANTENNA

Model 6502
S/N 9506-2950

f(MHz)	MAF(dBs/m)	AF(dB/m)
0.01	-33.1	18.4
0.02	-37.2	14.3
0.03	-38.2	13.3
0.05	-39.8	11.7
0.1	-40.1	11.4
0.2	-40.3	11.2
0.3	-40.3	11.2
0.5	-40.3	11.2
0.7	-40.3	11.2
1	-40.1	11.4
2	-40	11.5
3	-40	11.5
4	-40.1	11.4
5	-40.2	11.3
6	-40.4	11.1
7	-40.4	11.1
8	-40.4	11.1
9	-40.5	11
10	-40.5	11
20	-41.5	10
30	-43.5	8