



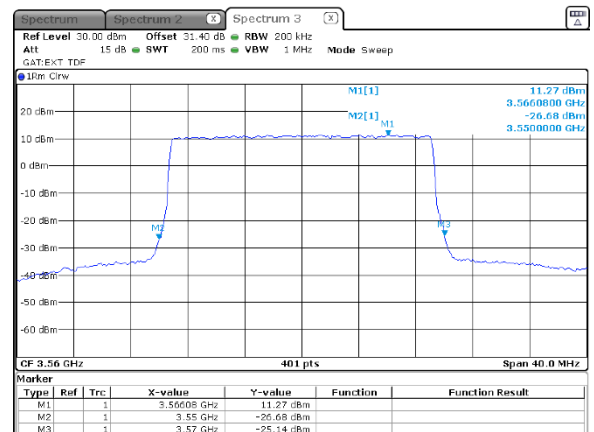
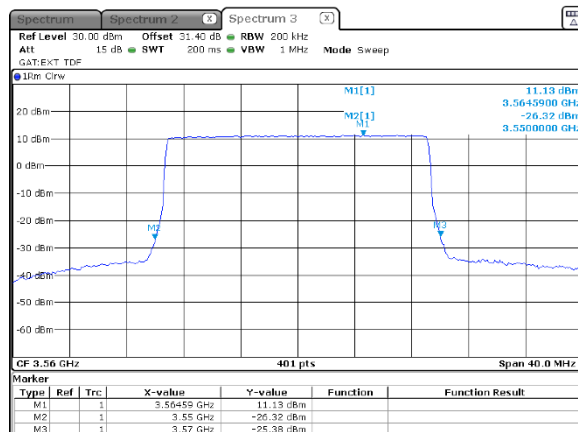
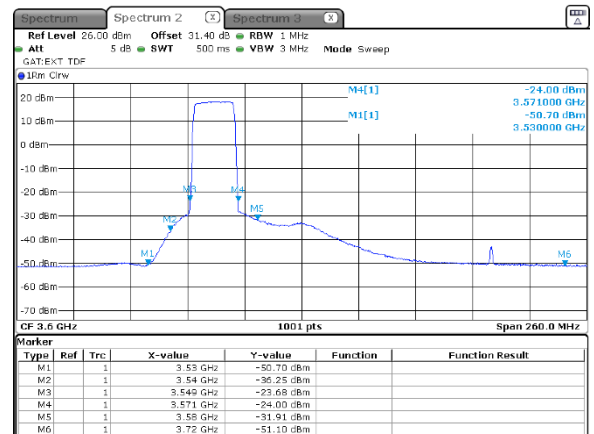
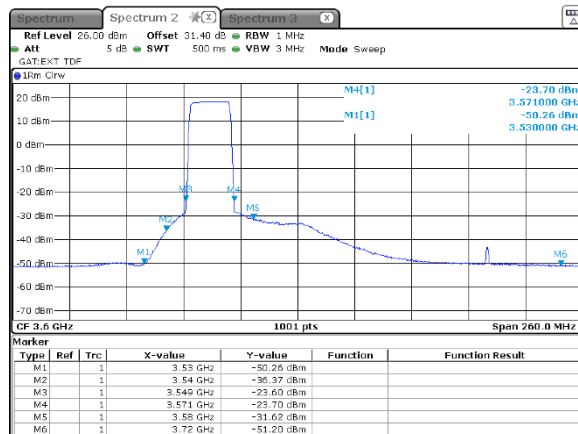
HERMON LABORATORIES

Test specification:		Section 96.41(e), Emission mask	
Test procedure:		Section 96.41(e)(3)	
Test mode:		Verdict: PASS	
Date(s):			
15-Nov-21			
Temperature: 25 °C	Relative Humidity: 54 %	Air Pressure: 1011 hPa	Power: 48 VDC
Remarks:			

Plot 7.4.1 Emission outside the fundamental test results at low carrier frequency

CHANNEL SPACING:
ANTENNA CHAIN:
Modulation: QPSK

20 MHz
1
Modulation: 256QAM

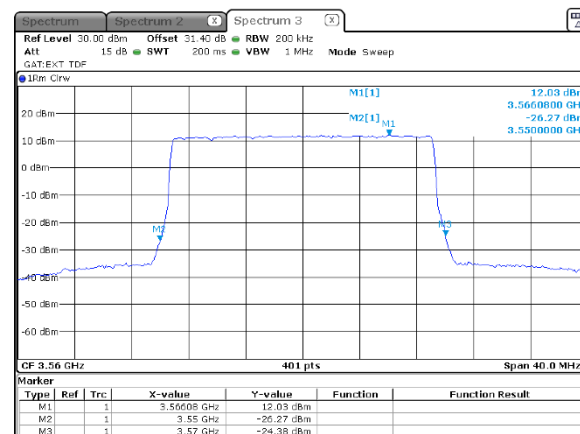
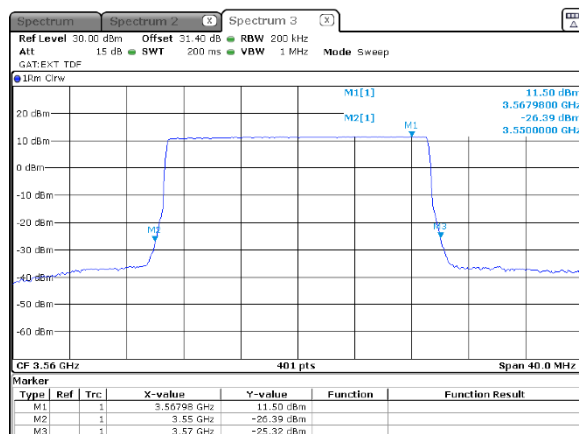
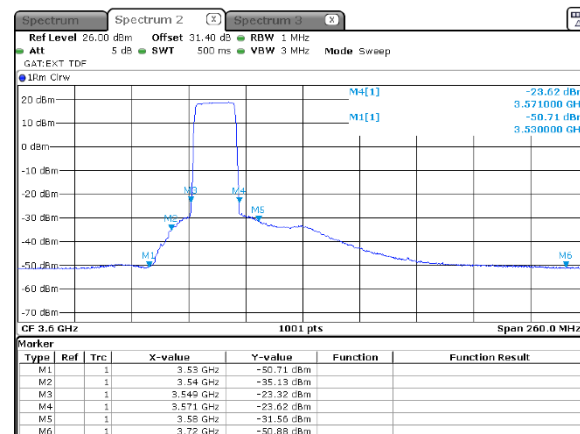
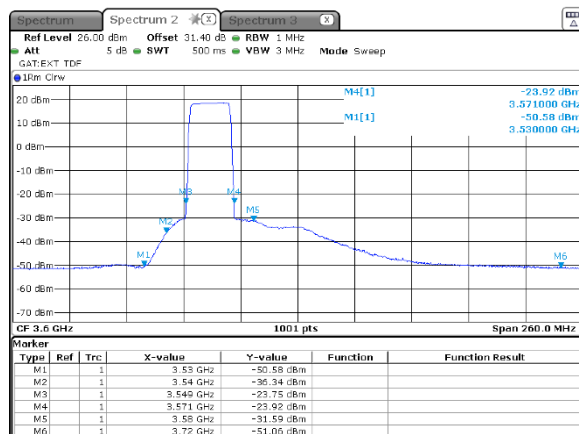


Test specification: Section 96.41(e), Emission mask			
Test procedure: Section 96.41(e)(3)			
Test mode: Compliance		Verdict: PASS	
Date(s): 15-Nov-21			
Temperature: 25 °C	Relative Humidity: 54 %	Air Pressure: 1011 hPa	Power: 48 VDC
Remarks:			

Plot 7.4.2 Emission outside the fundamental test results at low carrier frequency

CHANNEL SPACING:
ANTENNA CHAIN:
Modulation: QPSK

20 MHz
2
Modulation: 256QAM





HERMON LABORATORIES

Report ID: AIRRAD_FCC.44746_Rev1

Date of Issue: 24-Nov-21

Test specification:		Section 96.41(e), Emission mask	
Test procedure:		Section 96.41(e)(3)	
Test mode:		Verdict: PASS	
Date(s):			
15-Nov-21			
Temperature: 25 °C	Relative Humidity: 54 %	Air Pressure: 1011 hPa	Power: 48 VDC
Remarks:			

Plot 7.4.3 Emission outside the fundamental test results at low carrier frequency

CHANNEL SPACING:

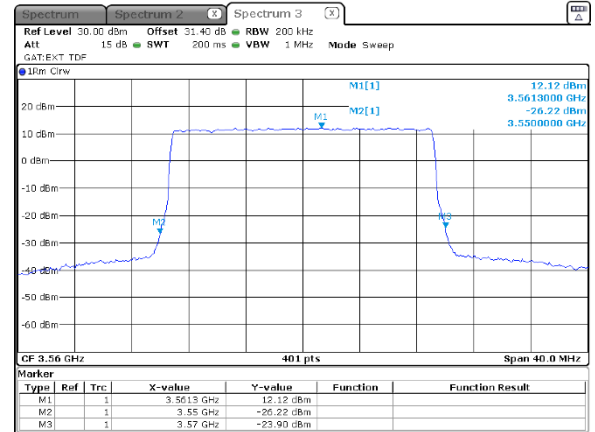
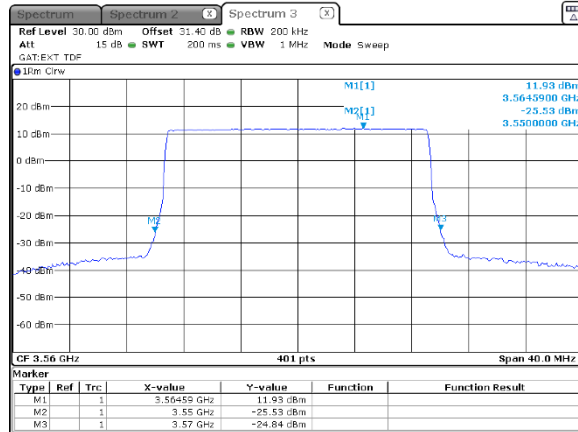
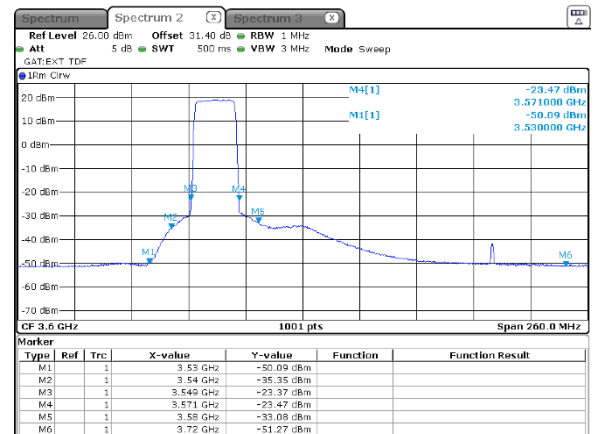
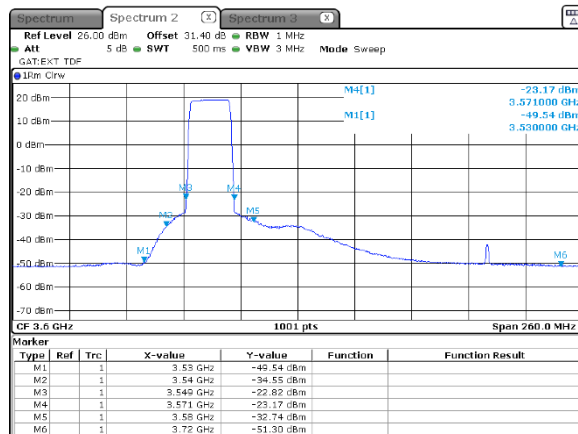
ANTENNA CHAIN:

Modulation: QPSK

20 MHz

3

Modulation: 256QAM

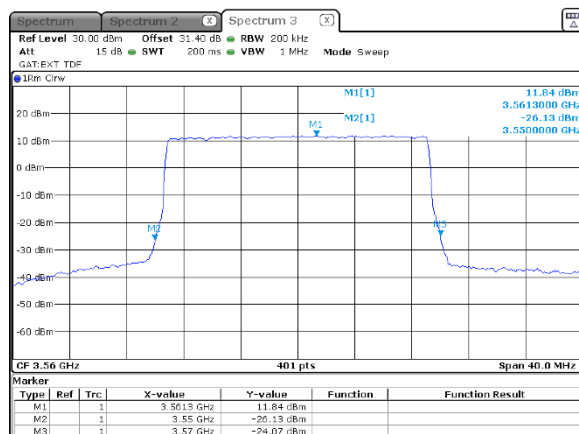
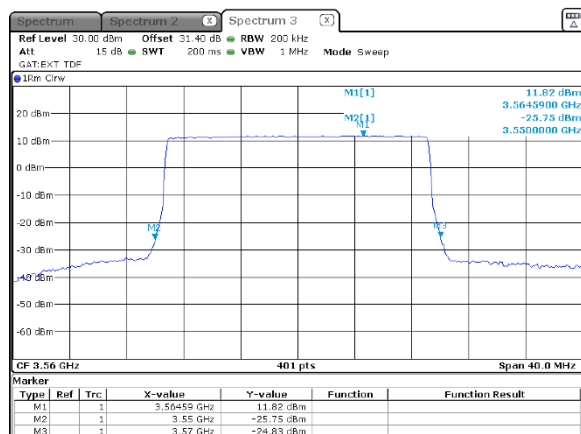
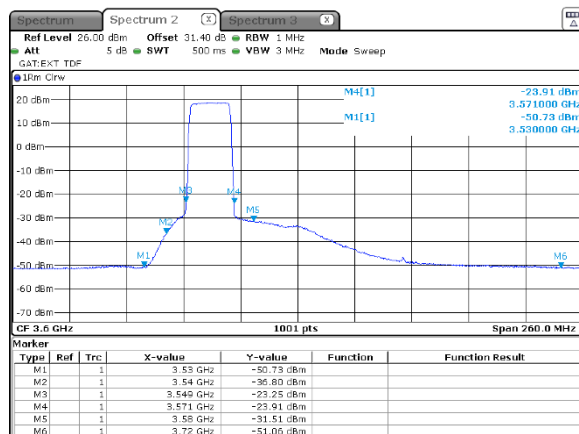
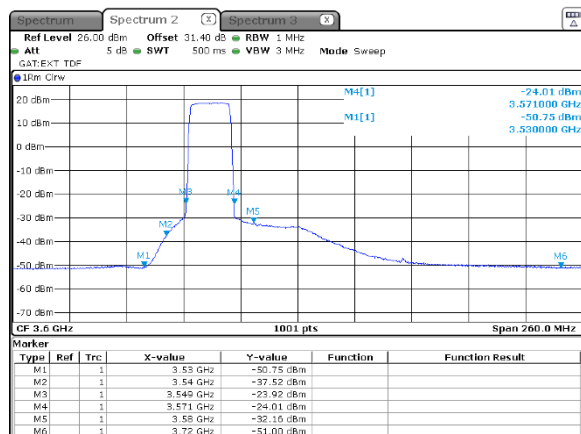


Test specification: Section 96.41(e), Emission mask			
Test procedure: Section 96.41(e)(3)			
Test mode: Compliance		Verdict: PASS	
Date(s): 15-Nov-21			
Temperature: 25 °C	Relative Humidity: 54 %	Air Pressure: 1011 hPa	Power: 48 VDC
Remarks:			

Plot 7.4.4 Emission outside the fundamental test results at low carrier frequency

CHANNEL SPACING:
ANTENNA CHAIN:
Modulation: QPSK

20 MHz
4
Modulation: 256QAM

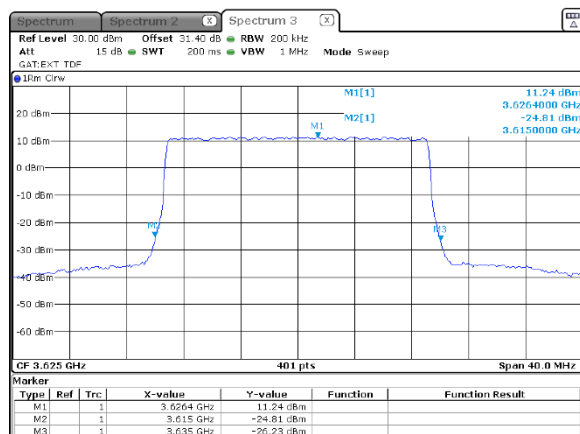
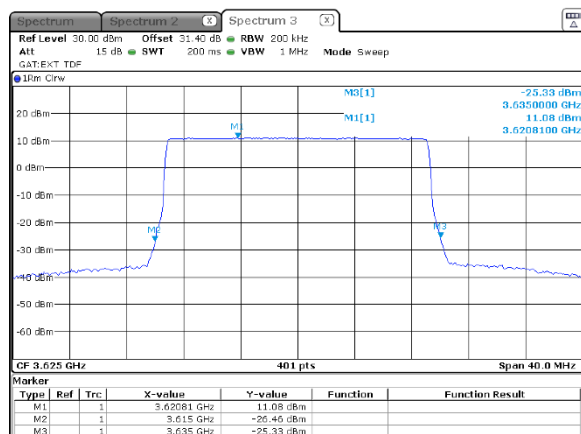
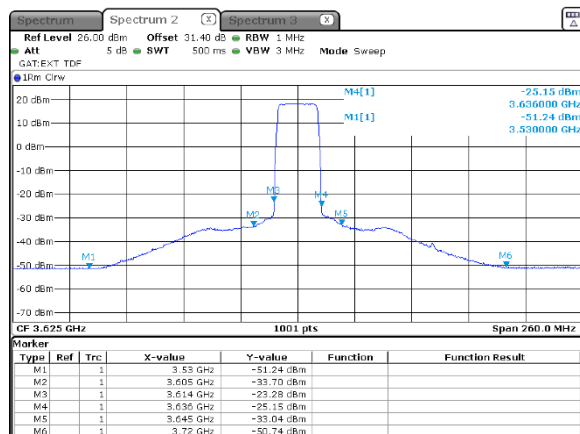
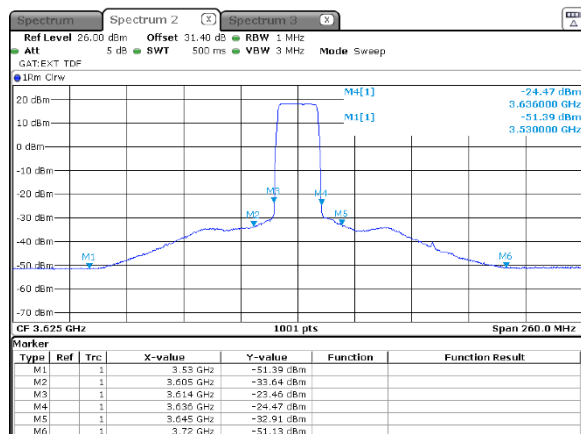


Test specification: Section 96.41(e), Emission mask			
Test procedure: Section 96.41(e)(3)			
Test mode: Compliance		Verdict: PASS	
Date(s): 15-Nov-21			
Temperature: 25 °C	Relative Humidity: 54 %	Air Pressure: 1011 hPa	Power: 48 VDC
Remarks:			

Plot 7.4.5 Emission outside the fundamental test results at mid carrier frequency

CHANNEL SPACING:
ANTENNA CHAIN:
Modulation: QPSK

20 MHz
1
Modulation: 256QAM

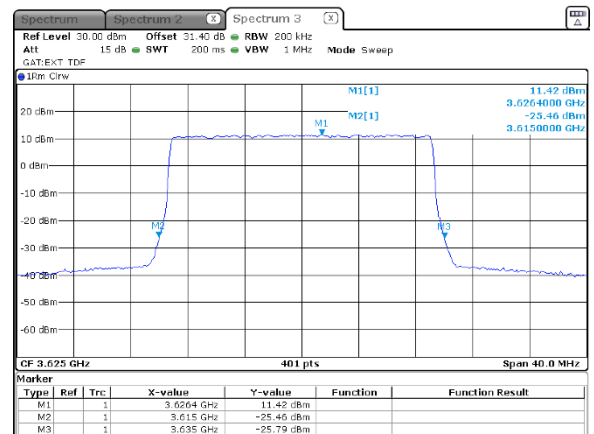
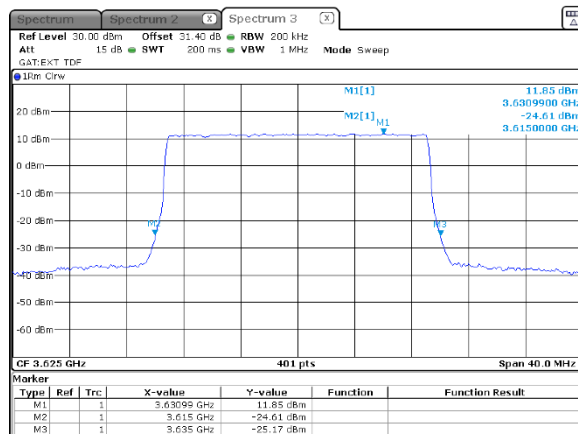
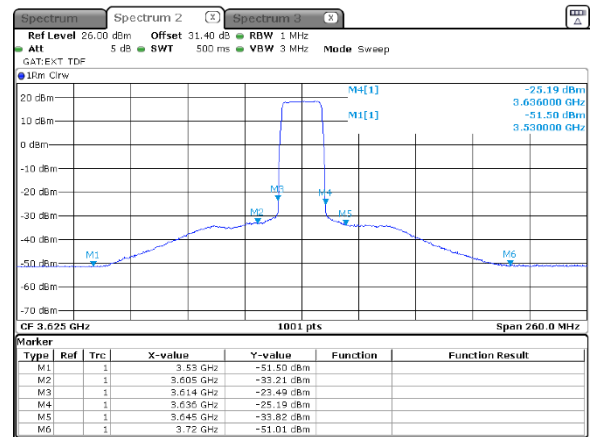
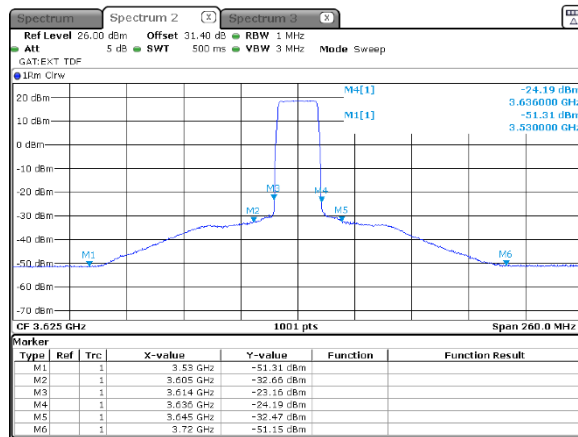


Test specification:		Section 96.41(e), Emission mask	
Test procedure:		Section 96.41(e)(3)	
Test mode:		Verdict: PASS	
Date(s):			
15-Nov-21			
Temperature: 25 °C	Relative Humidity: 54 %	Air Pressure: 1011 hPa	Power: 48 VDC
Remarks:			

Plot 7.4.6 Emission outside the fundamental test results at mid carrier frequency

CHANNEL SPACING:
ANTENNA CHAIN:
Modulation: QPSK

20 MHz
2
Modulation: 256QAM





HERMON LABORATORIES

Report ID: AIRRAD_FCC.44746_Rev1

Date of Issue: 24-Nov-21

Test specification:		Section 96.41(e), Emission mask	
Test procedure:		Section 96.41(e)(3)	
Test mode:		Verdict: PASS	
Date(s):			
15-Nov-21			
Temperature: 25 °C	Relative Humidity: 54 %	Air Pressure: 1011 hPa	Power: 48 VDC
Remarks:			

Plot 7.4.7 Emission outside the fundamental test results at mid carrier frequency

CHANNEL SPACING:

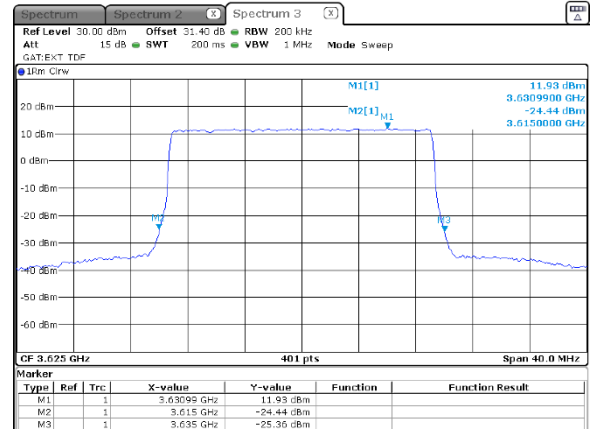
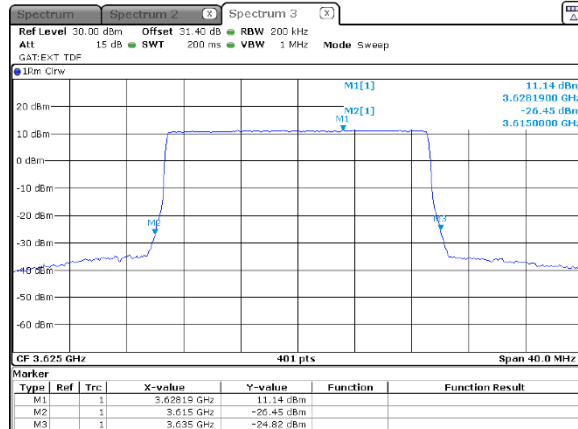
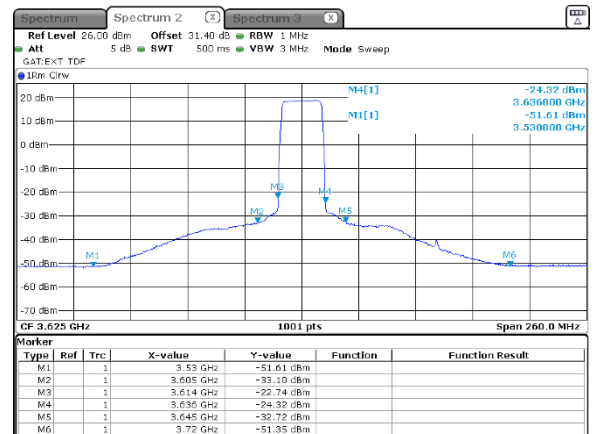
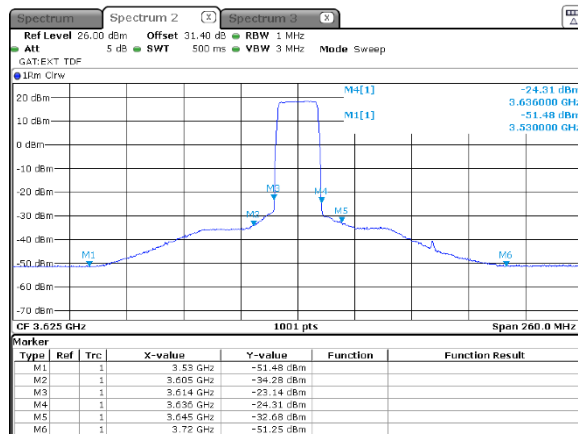
ANTENNA CHAIN:

Modulation: QPSK

20 MHz

3

Modulation: 256QAM





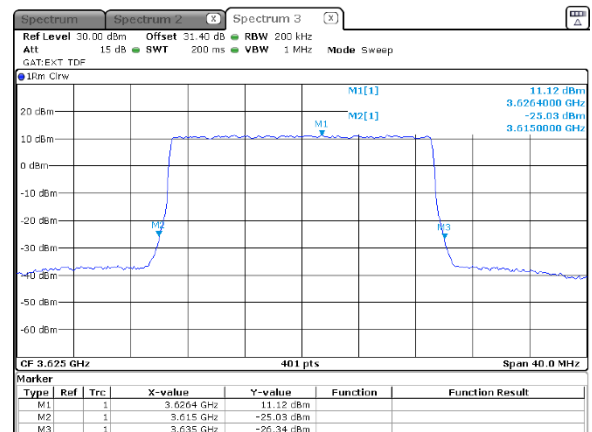
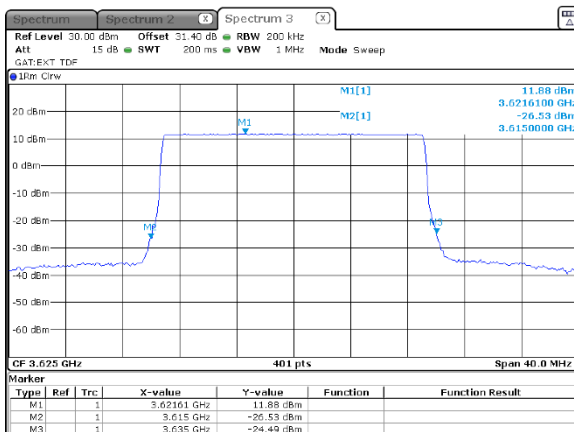
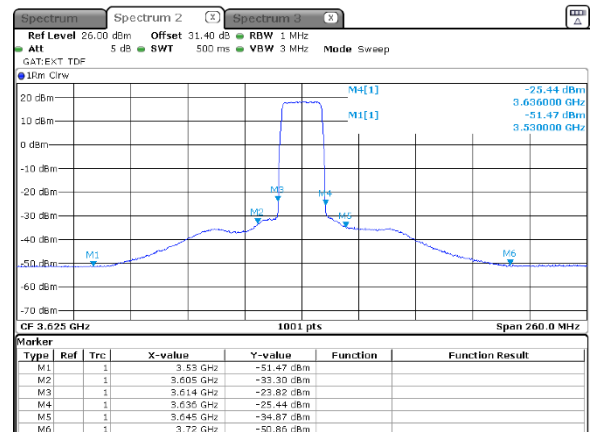
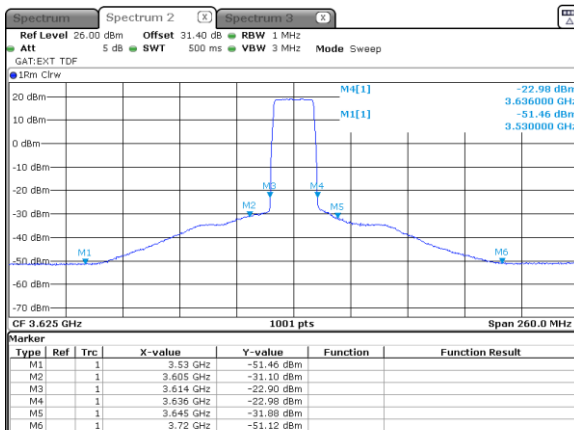
HERMON LABORATORIES

Test specification:		Section 96.41(e), Emission mask	
Test procedure:		Section 96.41(e)(3)	
Test mode:		Verdict: PASS	
Date(s):			
15-Nov-21			
Temperature: 25 °C	Relative Humidity: 54 %	Air Pressure: 1011 hPa	Power: 48 VDC
Remarks:			

Plot 7.4.8 Emission outside the fundamental test results at mid carrier frequency

CHANNEL SPACING:
ANTENNA CHAIN:
Modulation: QPSK

20 MHz
4
Modulation: 256QAM

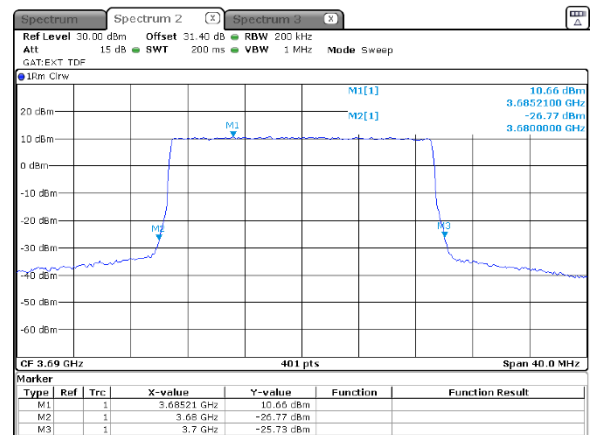
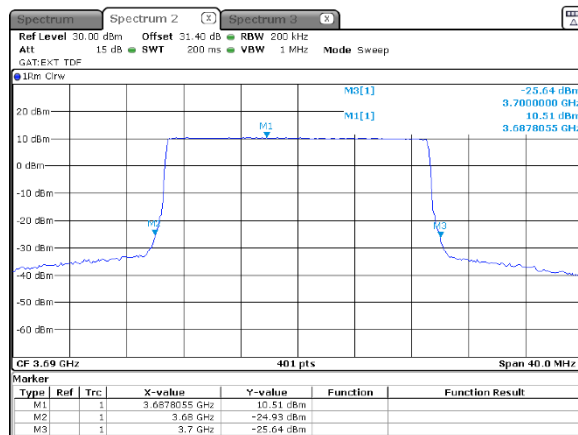
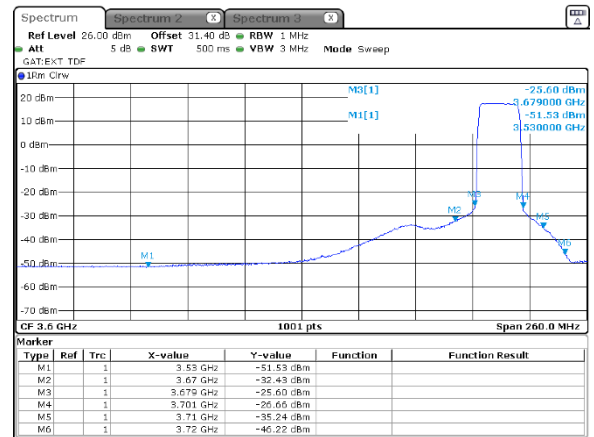
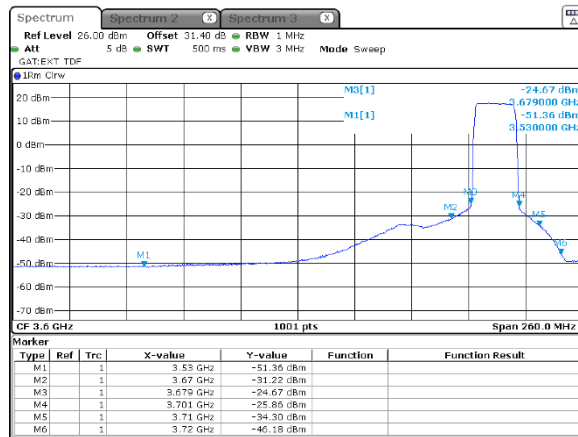


Test specification: Section 96.41(e), Emission mask			
Test procedure: Section 96.41(e)(3)			
Test mode: Compliance		Verdict: PASS	
Date(s): 15-Nov-21			
Temperature: 25 °C	Relative Humidity: 54 %	Air Pressure: 1011 hPa	Power: 48 VDC
Remarks:			

Plot 7.4.9 Emission outside the fundamental test results at high carrier frequency

CHANNEL SPACING:
ANTENNA CHAIN:
Modulation: QPSK

20 MHz
1
Modulation: 256QAM

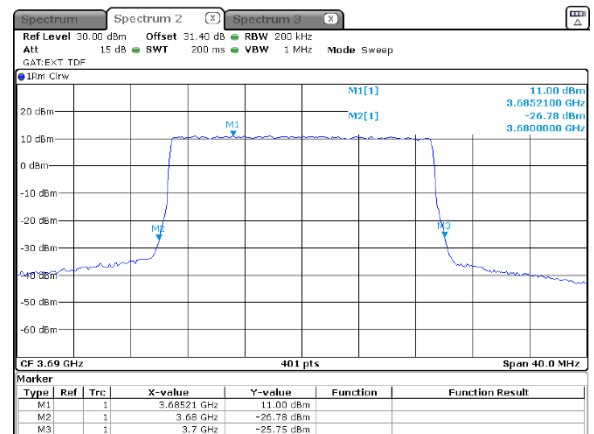
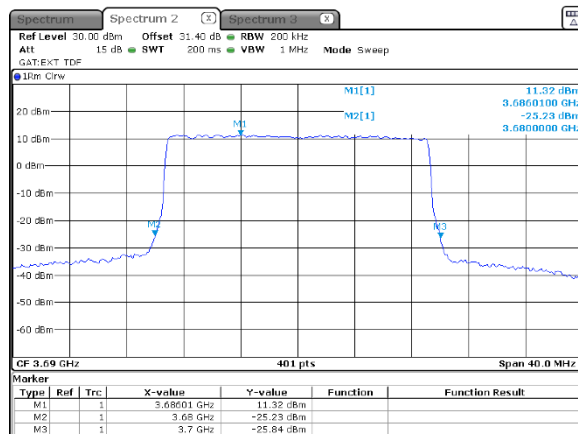
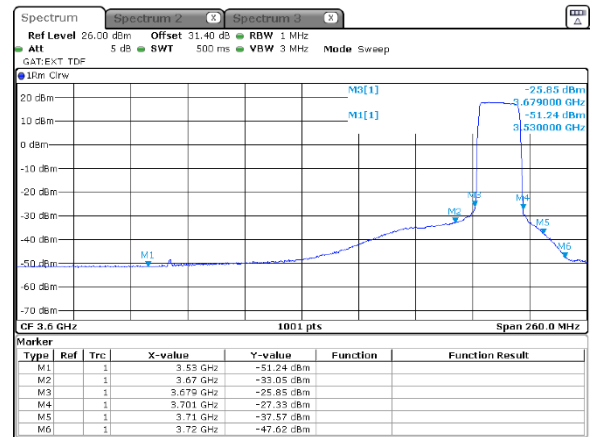
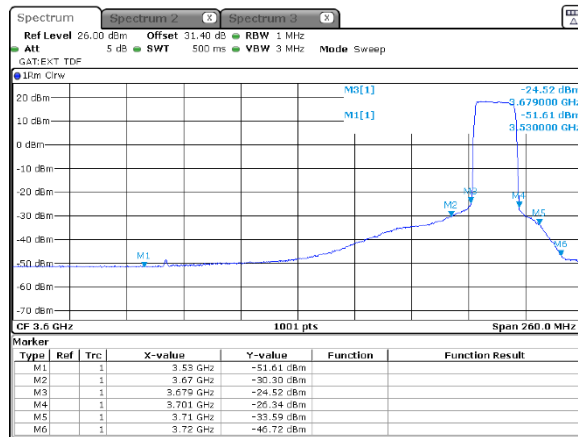


Test specification:		Section 96.41(e), Emission mask	
Test procedure:		Section 96.41(e)(3)	
Test mode:		Verdict: PASS	
Date(s):			
15-Nov-21			
Temperature: 25 °C	Relative Humidity: 54 %	Air Pressure: 1011 hPa	Power: 48 VDC
Remarks:			

Plot 7.4.10 Emission outside the fundamental test results at high carrier frequency

CHANNEL SPACING:
ANTENNA CHAIN:
Modulation: QPSK

20 MHz
2
Modulation: 256QAM





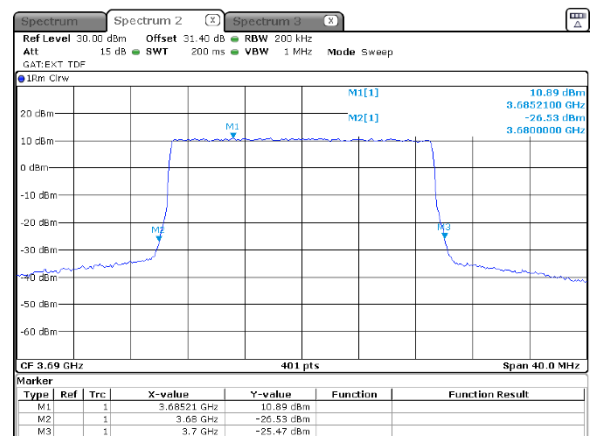
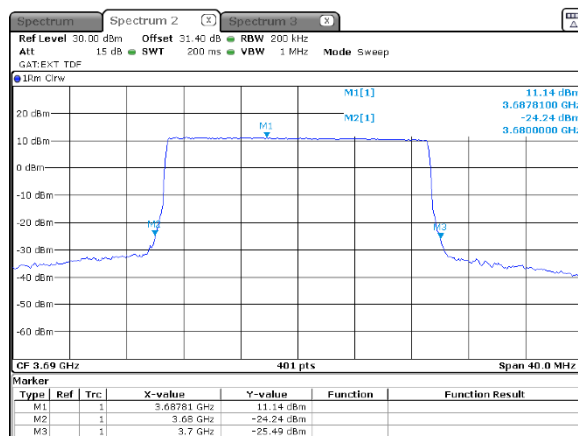
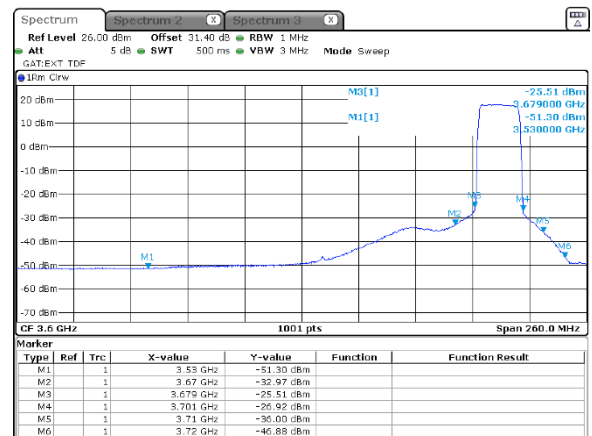
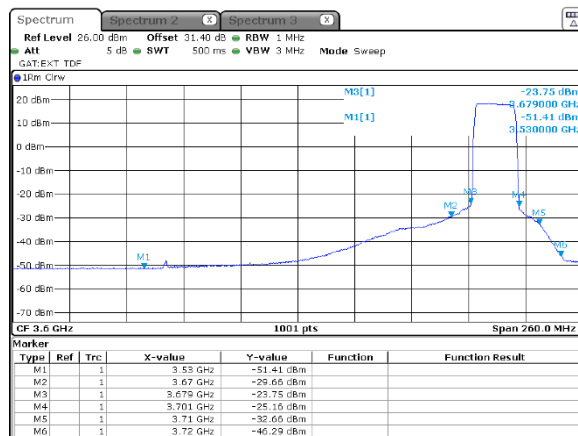
HERMON LABORATORIES

Test specification: Section 96.41(e), Emission mask			
Test procedure: Section 96.41(e)(3)			
Test mode: Compliance		Verdict: PASS	
Date(s): 15-Nov-21			
Temperature: 25 °C	Relative Humidity: 54 %	Air Pressure: 1011 hPa	Power: 48 VDC
Remarks:			

Plot 7.4.11 Emission outside the fundamental test results at high carrier frequency

CHANNEL SPACING:
ANTENNA CHAIN:
Modulation: QPSK

20 MHz
3
Modulation: 256QAM

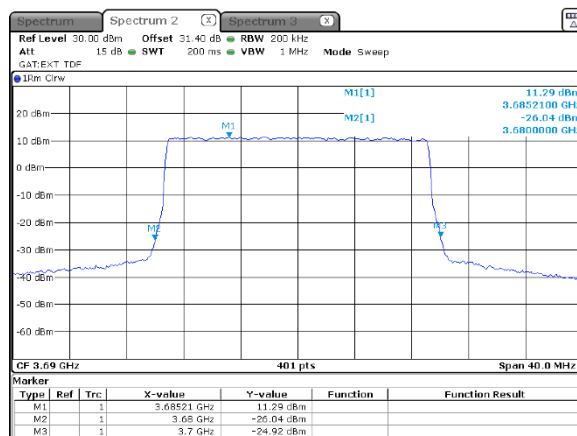
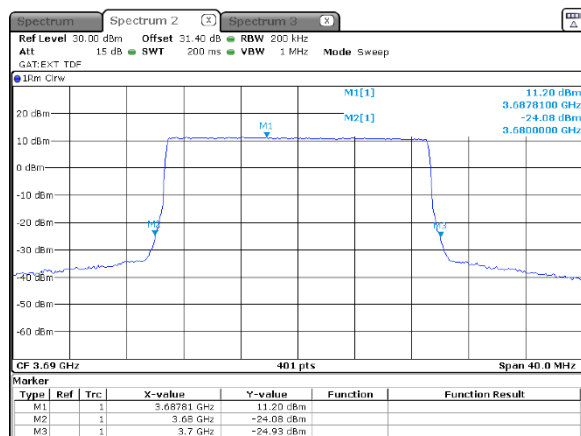
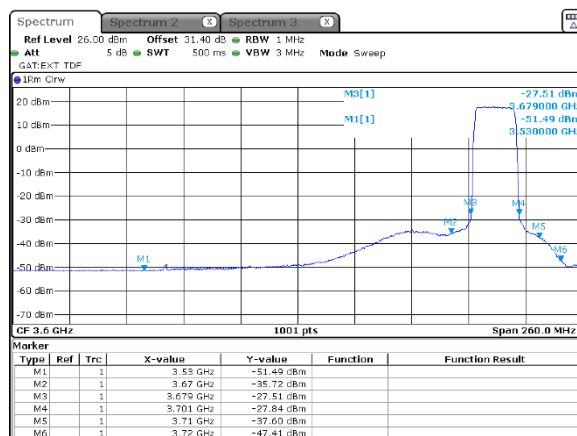
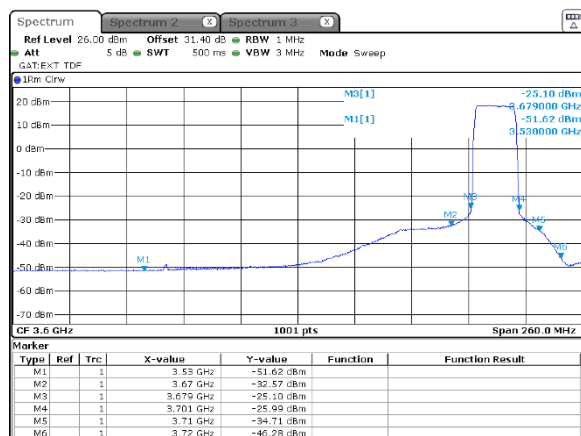


Test specification: Section 96.41(e), Emission mask			
Test procedure: Section 96.41(e)(3)			
Test mode: Compliance		Verdict: PASS	
Date(s): 15-Nov-21			
Temperature: 25 °C	Relative Humidity: 54 %	Air Pressure: 1011 hPa	Power: 48 VDC
Remarks:			

Plot 7.4.12 Emission outside the fundamental test results at high carrier frequency

CHANNEL SPACING:
ANTENNA CHAIN:
Modulation: QPSK

20 MHz
4
Modulation: 256QAM





HERMON LABORATORIES

Report ID: AIRRAD_FCC.44746_Rev1

Date of Issue: 24-Nov-21

Test specification:		Section 96.41(e), Emission mask	
Test procedure:		Section 96.41(e)(3)	
Test mode:		Verdict: PASS	
Date(s):			
15-Nov-21			
Temperature: 25 °C	Relative Humidity: 54 %	Air Pressure: 1011 hPa	Power: 48 VDC
Remarks:			

Plot 7.4.13 Emission outside the fundamental test results at low carrier frequency

CHANNEL SPACING:

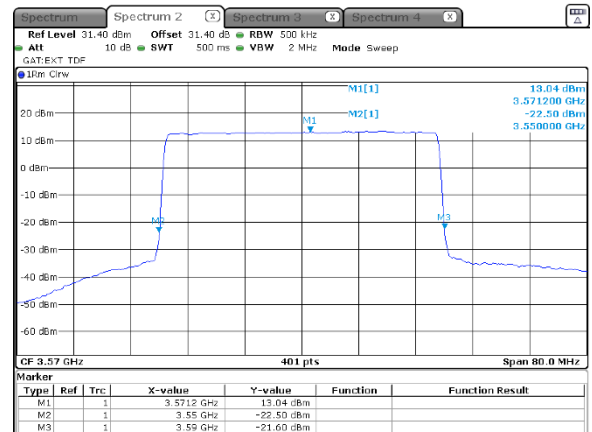
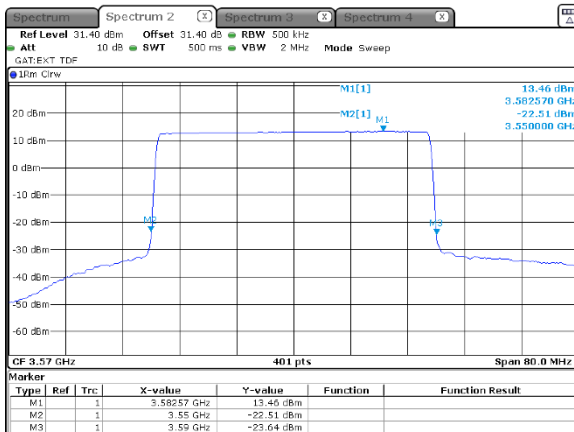
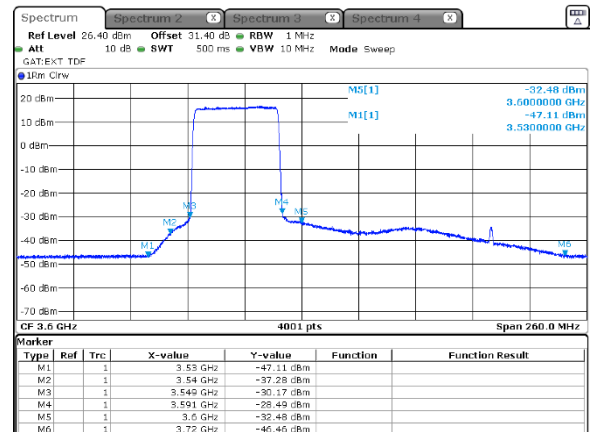
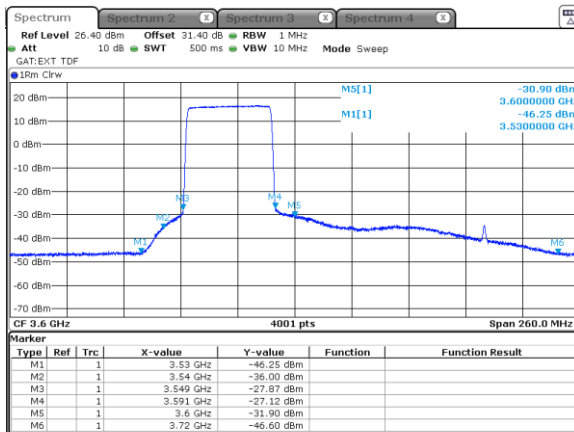
ANTENNA CHAIN:

Modulation: QPSK

40 MHz

1

Modulation: 256QAM

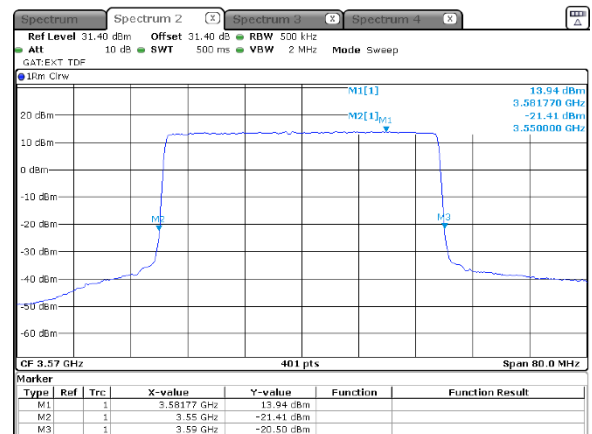
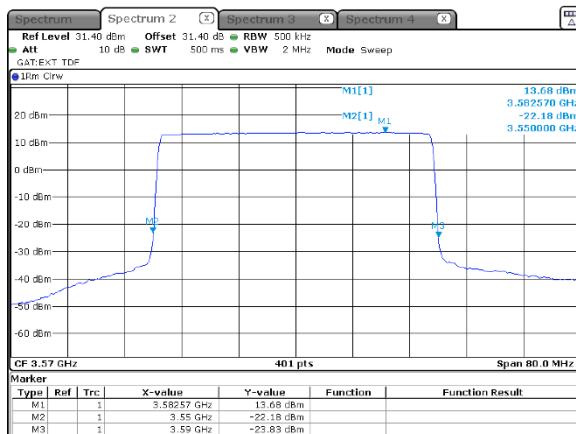
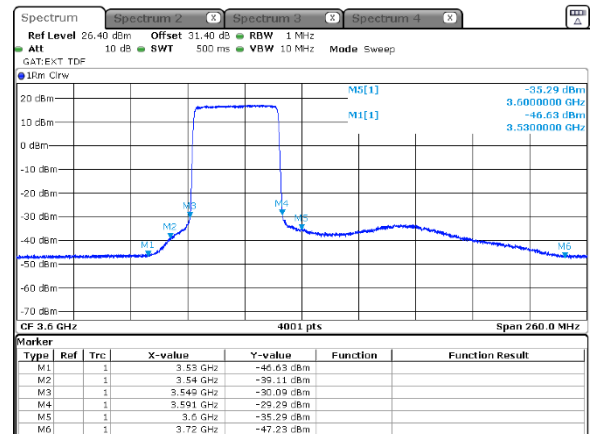
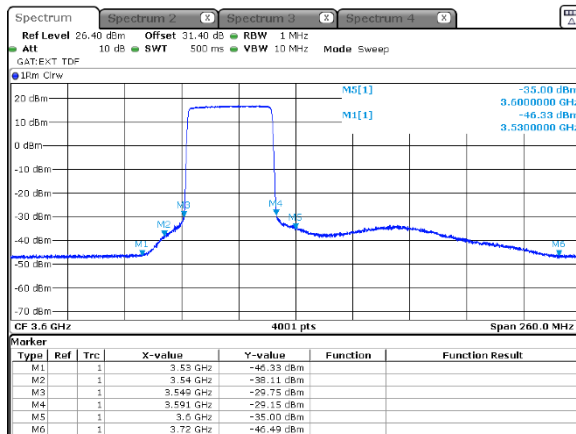


Test specification:		Section 96.41(e), Emission mask	
Test procedure:		Section 96.41(e)(3)	
Test mode:		Verdict: PASS	
Date(s):			
15-Nov-21			
Temperature: 25 °C	Relative Humidity: 54 %	Air Pressure: 1011 hPa	Power: 48 VDC
Remarks:			

Plot 7.4.14 Emission outside the fundamental test results at low carrier frequency

CHANNEL SPACING:
ANTENNA CHAIN:
Modulation: QPSK

40 MHz
2
Modulation: 256QAM





HERMON LABORATORIES

Test specification:		Section 96.41(e), Emission mask	
Test procedure:		Section 96.41(e)(3)	
Test mode:		Verdict: PASS	
Date(s):			
15-Nov-21			
Temperature: 25 °C	Relative Humidity: 54 %	Air Pressure: 1011 hPa	Power: 48 VDC
Remarks:			

Plot 7.4.15 Emission outside the fundamental test results at low carrier frequency

CHANNEL SPACING:

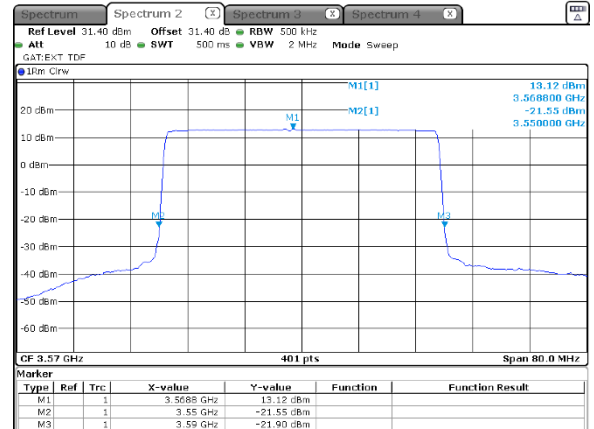
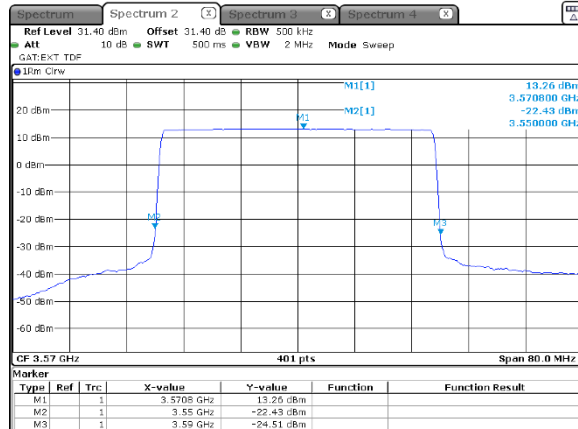
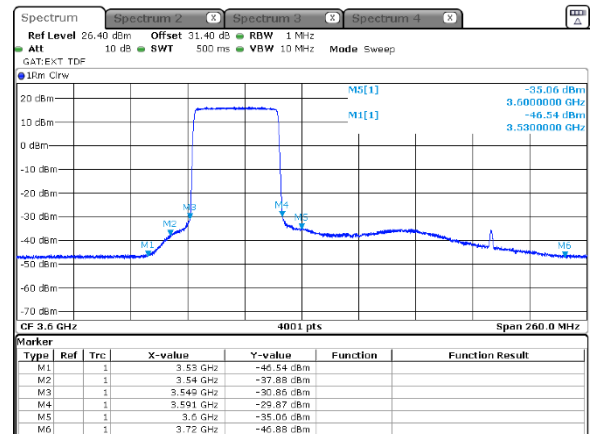
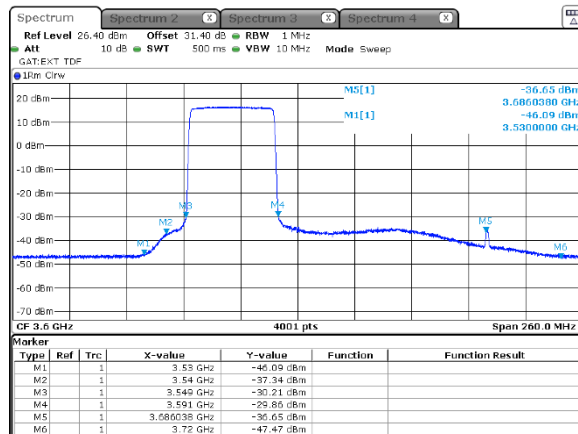
ANTENNA CHAIN:

Modulation: QPSK

40 MHz

3

Modulation: 256QAM





HERMON LABORATORIES

Test specification:		Section 96.41(e), Emission mask	
Test procedure:		Section 96.41(e)(3)	
Test mode:		Verdict: PASS	
Date(s):			
15-Nov-21			
Temperature: 25 °C	Relative Humidity: 54 %	Air Pressure: 1011 hPa	Power: 48 VDC
Remarks:			

Plot 7.4.16 Emission outside the fundamental test results at low carrier frequency

CHANNEL SPACING:

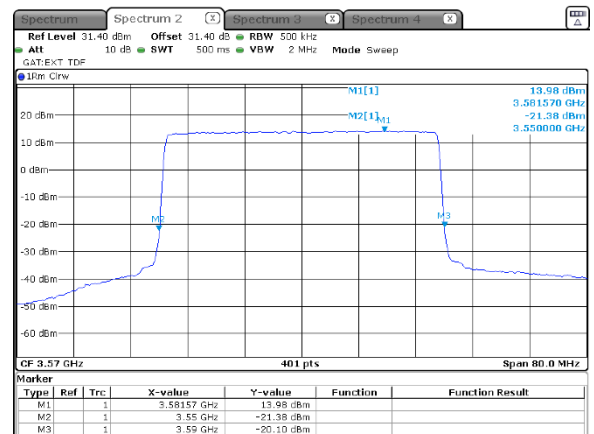
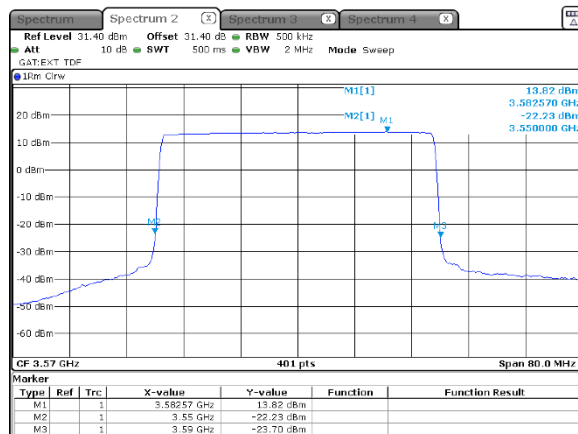
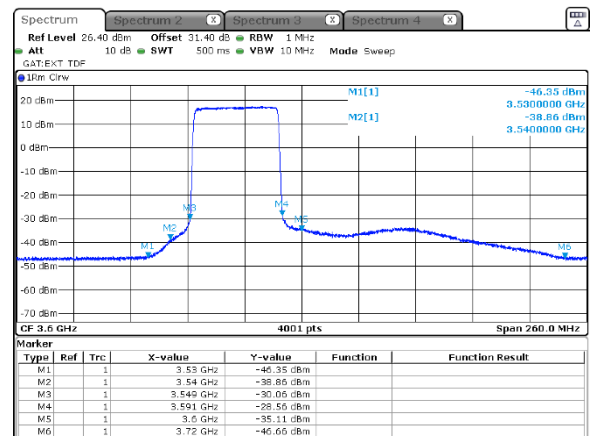
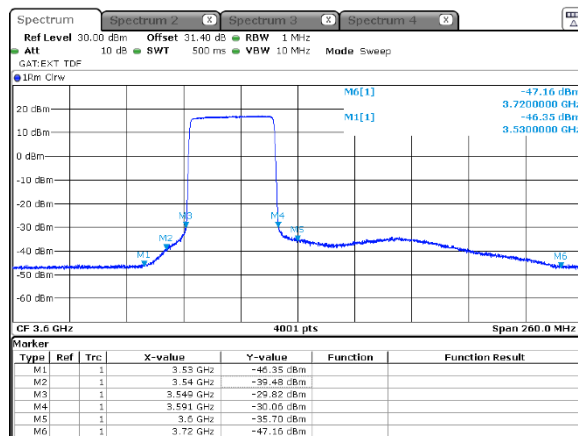
ANTENNA CHAIN:

Modulation: QPSK

40 MHz

4

Modulation: 256QAM





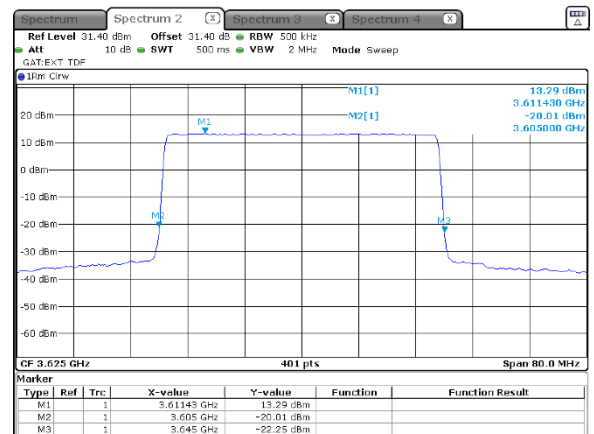
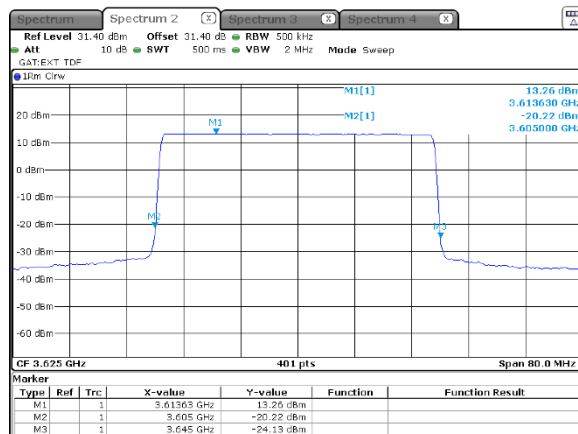
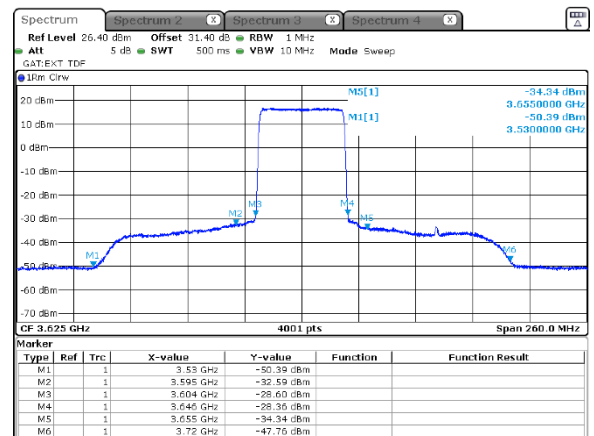
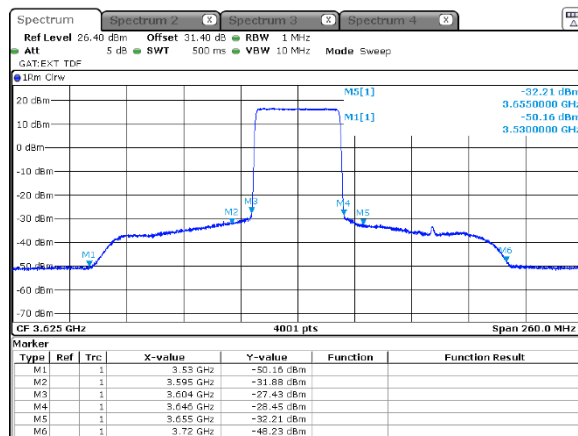
HERMON LABORATORIES

Test specification:		Section 96.41(e), Emission mask	
Test procedure:		Section 96.41(e)(3)	
Test mode:		Verdict: PASS	
Date(s):			
15-Nov-21			
Temperature: 25 °C	Relative Humidity: 54 %	Air Pressure: 1011 hPa	Power: 48 VDC
Remarks:			

Plot 7.4.17 Emission outside the fundamental test results at mid carrier frequency

CHANNEL SPACING:
ANTENNA CHAIN:
Modulation: QPSK

40 MHz
1
Modulation: 256QAM

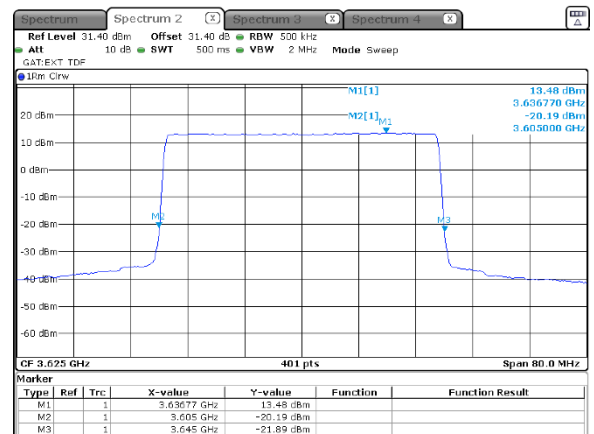
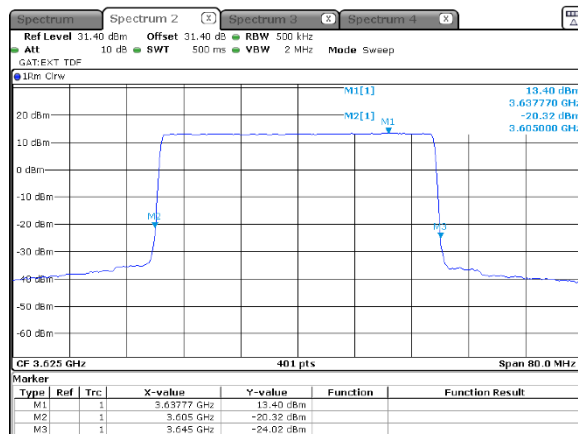
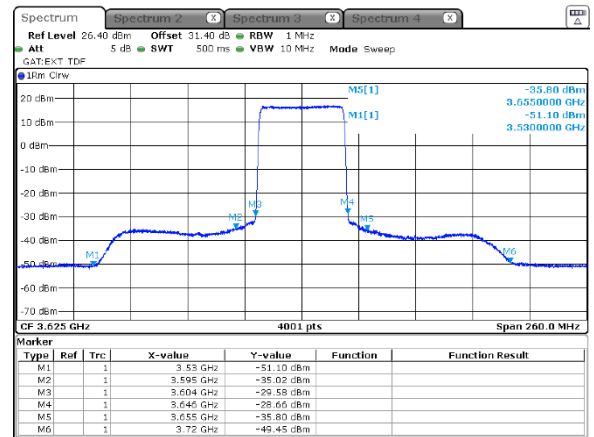
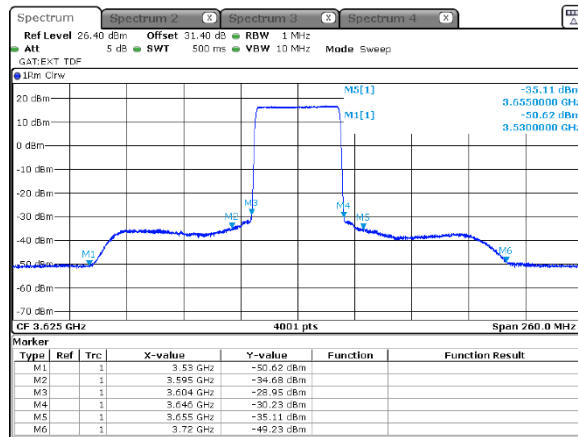


Test specification:		Section 96.41(e), Emission mask	
Test procedure:		Section 96.41(e)(3)	
Test mode:		Verdict: PASS	
Date(s):			
15-Nov-21			
Temperature: 25 °C	Relative Humidity: 54 %	Air Pressure: 1011 hPa	Power: 48 VDC
Remarks:			

Plot 7.4.18 Emission outside the fundamental test results at mid carrier frequency

CHANNEL SPACING:
ANTENNA CHAIN:
Modulation: QPSK

40 MHz
2
Modulation: 256AM

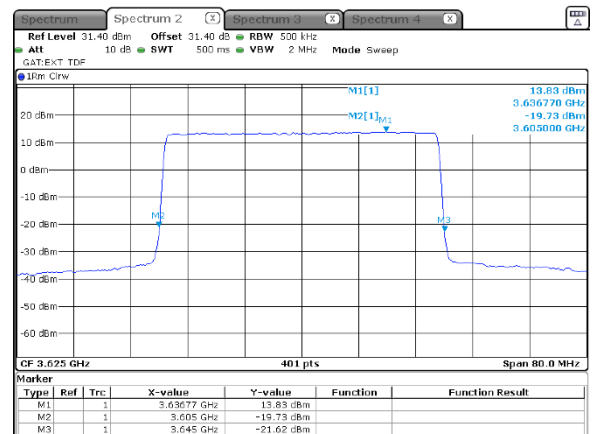
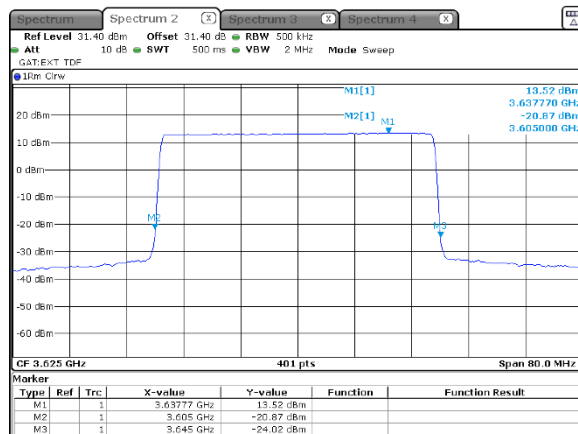
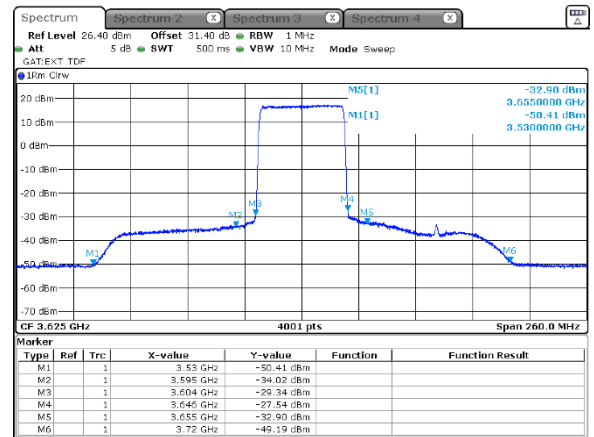
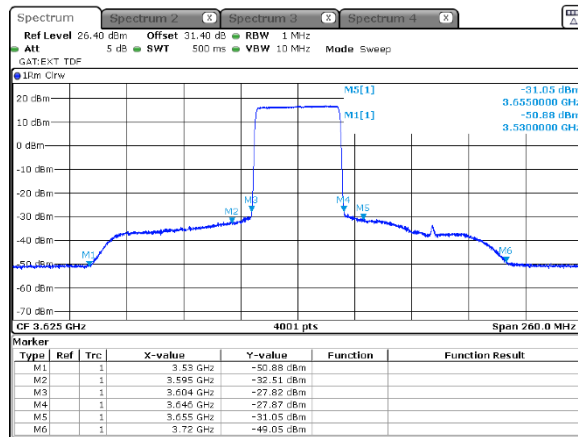


Test specification:		Section 96.41(e), Emission mask	
Test procedure:		Section 96.41(e)(3)	
Test mode:		Verdict: PASS	
Date(s):			
15-Nov-21			
Temperature: 25 °C	Relative Humidity: 54 %	Air Pressure: 1011 hPa	Power: 48 VDC
Remarks:			

Plot 7.4.19 Emission outside the fundamental test results at mid carrier frequency

CHANNEL SPACING:
ANTENNA CHAIN:
Modulation: QPSK

40 MHz
3
Modulation: 256QAM





HERMON LABORATORIES

Report ID: AIRRAD_FCC.44746_Rev1

Date of Issue: 24-Nov-21

Test specification:		Section 96.41(e), Emission mask	
Test procedure:		Section 96.41(e)(3)	
Test mode:		Verdict: PASS	
Date(s):			
15-Nov-21			
Temperature: 25 °C	Relative Humidity: 54 %	Air Pressure: 1011 hPa	Power: 48 VDC
Remarks:			

Plot 7.4.20 Emission outside the fundamental test results at mid carrier frequency

CHANNEL SPACING:

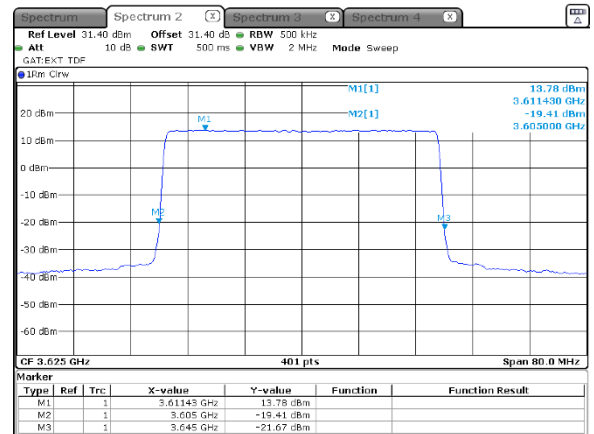
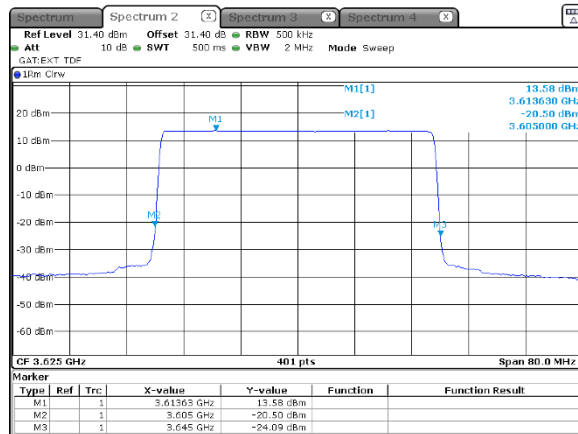
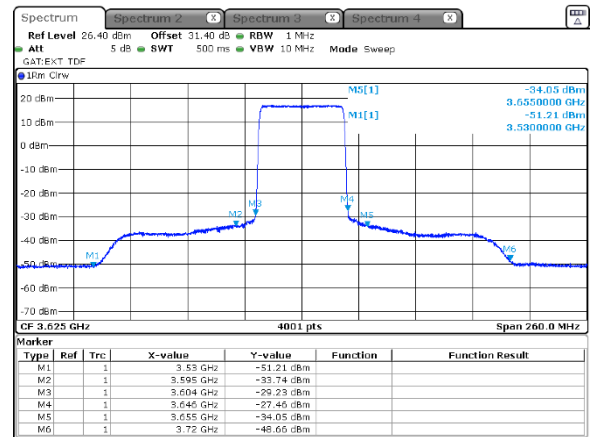
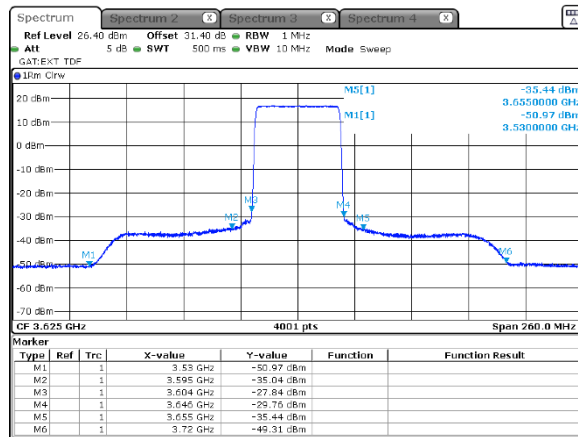
ANTENNA CHAIN:

Modulation: QPSK

40 MHz

4

Modulation: 256QAM

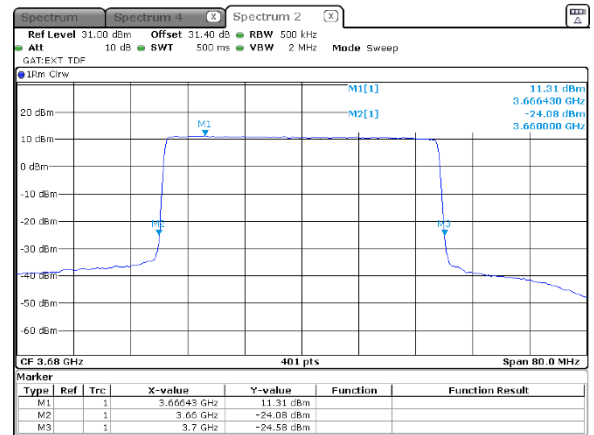
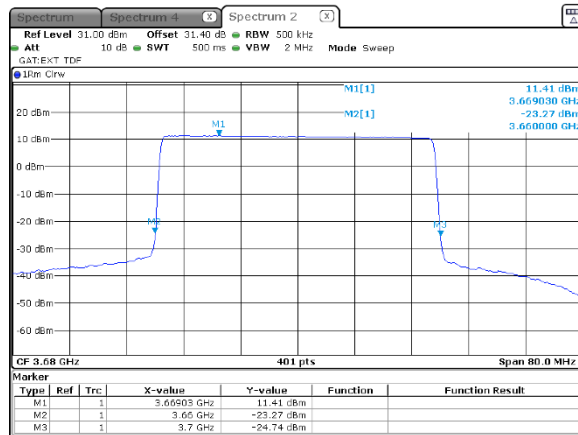
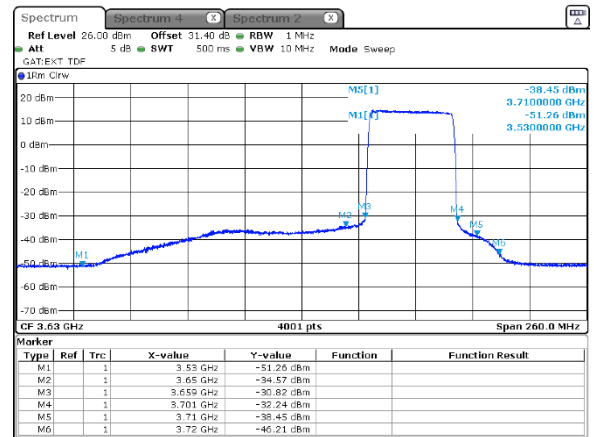
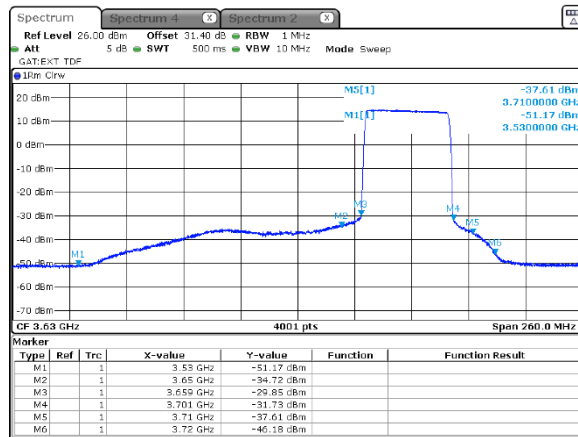


Test specification:		Section 96.41(e), Emission mask	
Test procedure:		Section 96.41(e)(3)	
Test mode:		Verdict: PASS	
Date(s):			
15-Nov-21			
Temperature: 25 °C	Relative Humidity: 54 %	Air Pressure: 1011 hPa	Power: 48 VDC
Remarks:			

Plot 7.4.21 Emission outside the fundamental test results at high carrier frequency

CHANNEL SPACING:
ANTENNA CHAIN:
Modulation: QPSK

40 MHz
1
Modulation: 256QAM

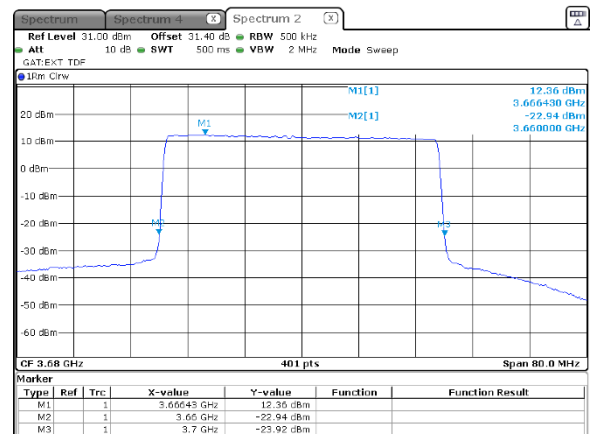
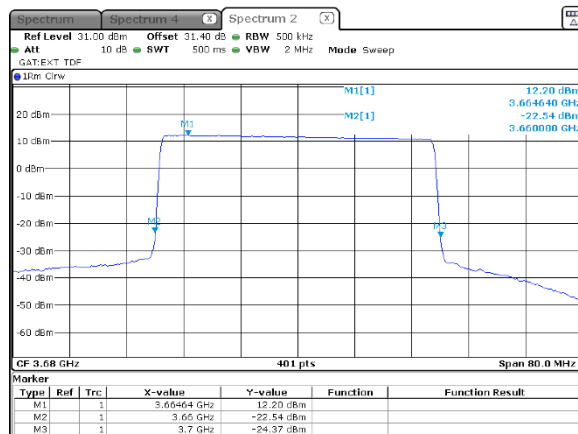
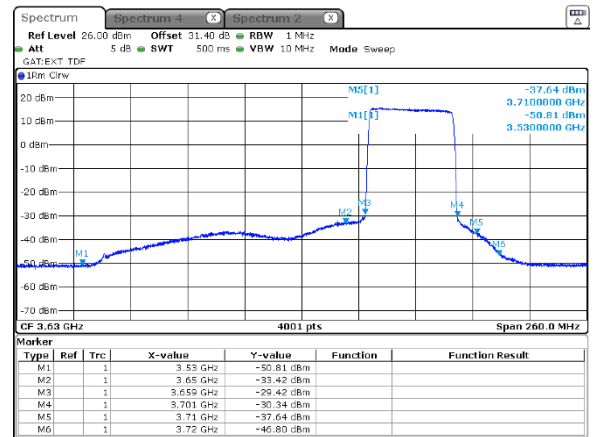
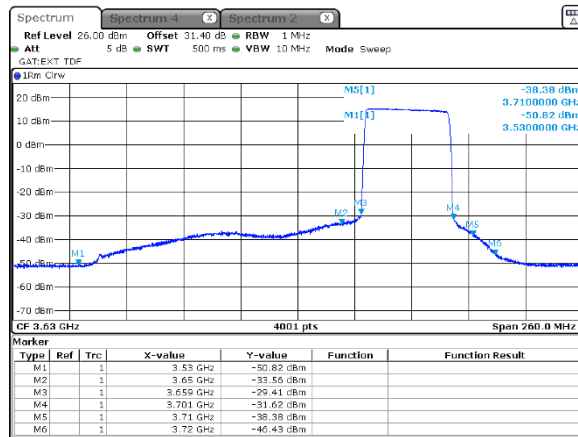


Test specification:		Section 96.41(e), Emission mask	
Test procedure:		Section 96.41(e)(3)	
Test mode:		Verdict: PASS	
Date(s):			
15-Nov-21			
Temperature: 25 °C	Relative Humidity: 54 %	Air Pressure: 1011 hPa	Power: 48 VDC
Remarks:			

Plot 7.4.22 Emission outside the fundamental test results at high carrier frequency

CHANNEL SPACING:
ANTENNA CHAIN:
Modulation: QPSK

40 MHz
2
Modulation: 256QAM





HERMON LABORATORIES

Report ID: AIRRAD_FCC.44746_Rev1

Date of Issue: 24-Nov-21

Test specification:		Section 96.41(e), Emission mask	
Test procedure:		Section 96.41(e)(3)	
Test mode:		Verdict: PASS	
Date(s):			
15-Nov-21			
Temperature: 25 °C	Relative Humidity: 54 %	Air Pressure: 1011 hPa	Power: 48 VDC
Remarks:			

Plot 7.4.23 Emission outside the fundamental test results at high carrier frequency

CHANNEL SPACING:

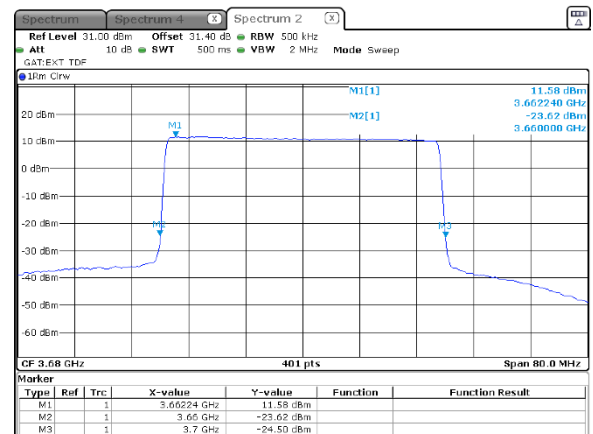
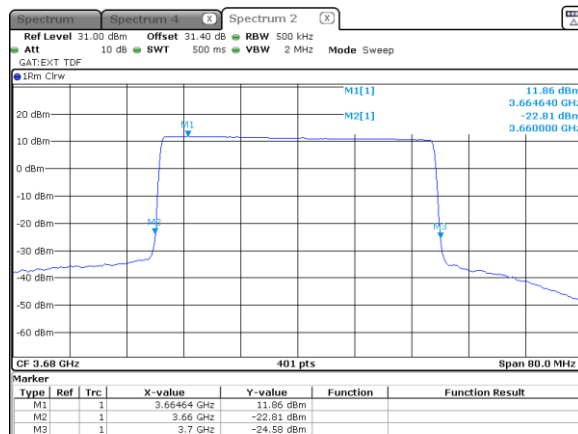
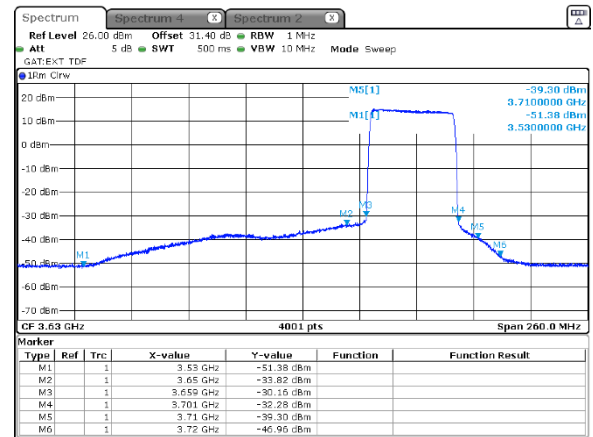
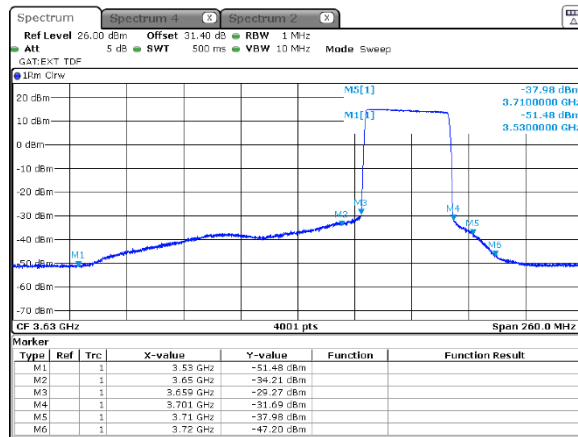
ANTENNA CHAIN:

Modulation: QPSK

40 MHz

3

Modulation: 256QAM

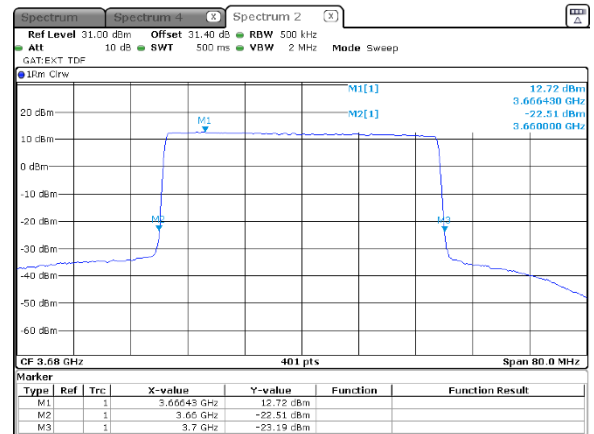
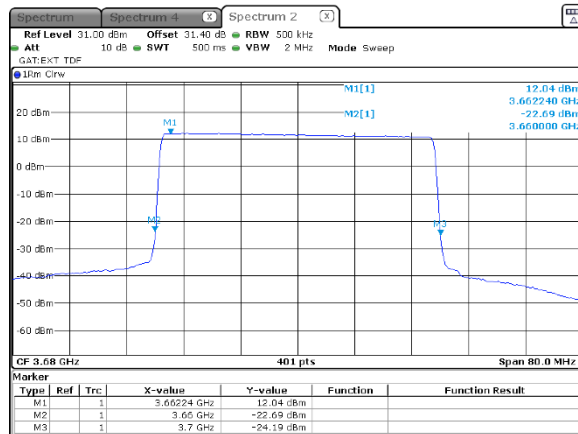
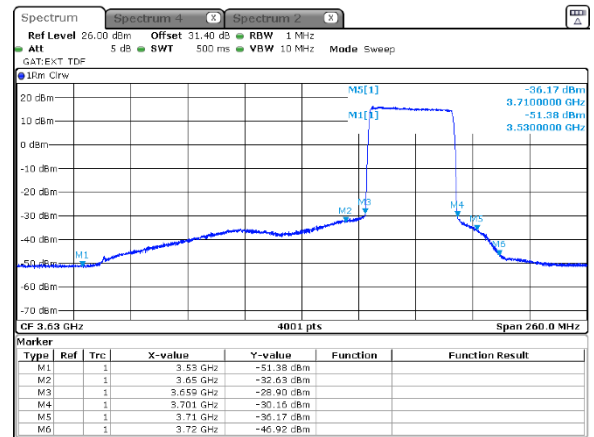
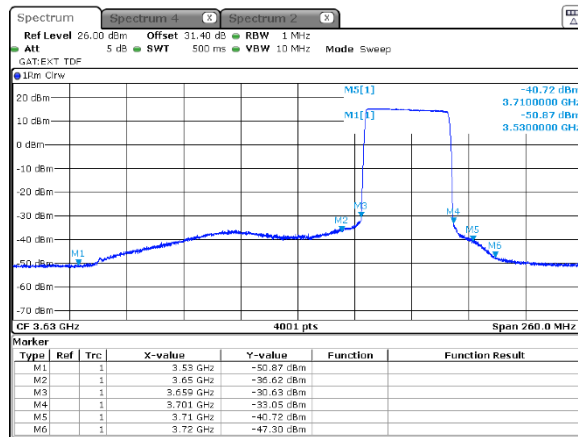


Test specification:		Section 96.41(e), Emission mask	
Test procedure:		Section 96.41(e)(3)	
Test mode:		Verdict: PASS	
Date(s):			
15-Nov-21			
Temperature: 25 °C	Relative Humidity: 54 %	Air Pressure: 1011 hPa	Power: 48 VDC
Remarks:			

Plot 7.4.24 Emission outside the fundamental test results at high carrier frequency

CHANNEL SPACING:
ANTENNA CHAIN:
Modulation: QPSK

40 MHz
4
Modulation: 256QAM





Test specification:		Section 96.41(e)(2), Radiated spurious emissions	
Test procedure:		Section 96.41(e)(3)	
Test mode:		Verdict: PASS	
Date(s):			
04-Nov-21			
Temperature: 25 °C	Relative Humidity: 54 %	Air Pressure: 1010 hPa	Power: 48 VDC
Remarks:			

7.5 Radiated spurious emission measurements

7.5.1 General

This test was performed to measure radiated spurious emissions from the EUT. Specification test limits are given in Table 7.5.1.

Table 7.5.1 Radiated spurious emission test limits

Frequency, MHz	EIRP of spurious, dBm	Equivalent field strength limit @ 3m, dB(μV/m)***
0.09 – below 3530.0	-40.0	55.2
3720.0 – 10th harmonic*	-40.0	55.2

*** - Equivalent field strength limit was calculated from maximum allowed ERP of spurious as follows:
 $E = \sqrt{30 \times P \times 1.64} / r$, where P is ERP in Watts, 1.64 is numeric gain of ideal dipole and r is antenna to EUT distance in meters

7.5.2 Test procedure for spurious emission field strength measurements in 9 kHz to 30 MHz band

7.5.2.1 The EUT was set up as shown in Figure 7.5.1, energized and the performance check was conducted.

7.5.2.2 The specified frequency range was investigated with antenna connected to spectrum analyzer. To find maximum radiation the turntable was rotated 360° and the measuring antenna was rotated around its vertical axis.

7.5.2.3 The worst test results (the lowest margins) were recorded in Table 7.5.2 and shown in the associated plots.

7.5.3 Test procedure for spurious emission field strength measurements above 30 MHz

7.5.3.1 The EUT was set up as shown in Figure 7.5.2, energized and the performance check was conducted.

7.5.3.2 The specified frequency range was investigated with antenna connected to spectrum analyzer. To find maximum radiation the turntable was rotated 360° and the measuring antenna height was swept from 1 to 4 m in both, vertical and horizontal, polarizations.

7.5.3.3 The worst test results (the lowest margins) were recorded in Table 7.5.2 and shown in the associated plots.



Test specification: Section 96.41(e)(2), Radiated spurious emissions			
Test procedure: Section 96.41(e)(3)			
Test mode: Compliance		Verdict: PASS	
Date(s): 04-Nov-21			
Temperature: 25 °C	Relative Humidity: 54 %	Air Pressure: 1010 hPa	Power: 48 VDC
Remarks:			

Figure 7.5.1 Setup for spurious emission field strength measurements in 9 kHz to 30 MHz band

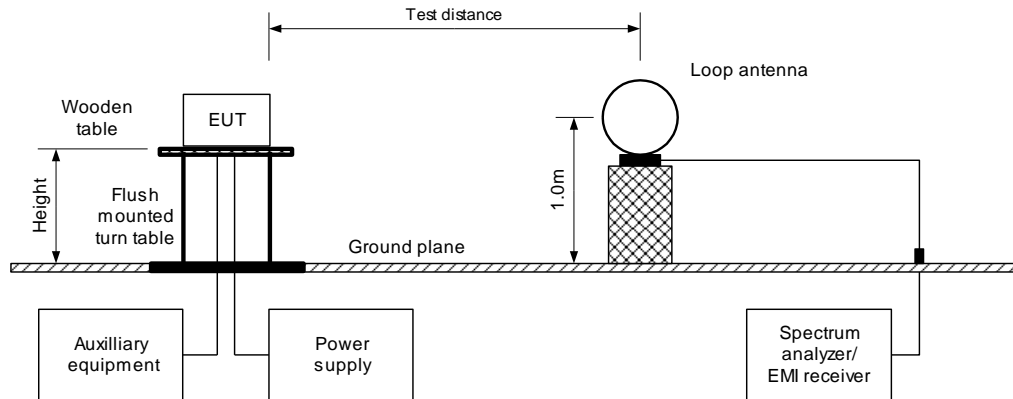
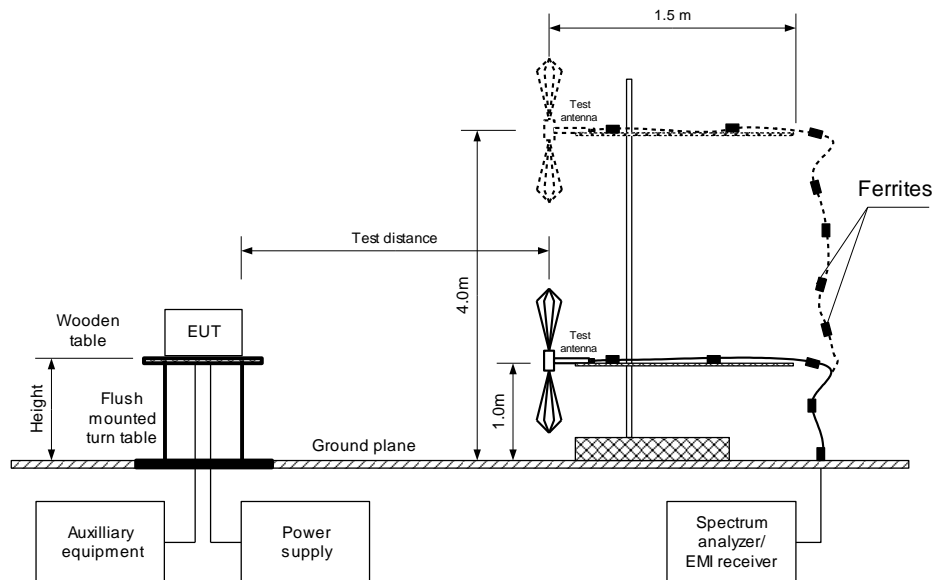


Figure 7.5.2 Setup for spurious emission field strength measurements above 30 MHz





Test specification:		Section 96.41(e)(2), Radiated spurious emissions	
Test procedure:		Section 96.41(e)(3)	
Test mode:		Verdict: PASS	
Date(s):			
04-Nov-21			
Temperature: 25 °C	Relative Humidity: 54 %	Air Pressure: 1010 hPa	Power: 48 VDC
Remarks:			

Table 7.5.2 Spurious emission field strength test results

ASSIGNED FREQUENCY RANGE: 3550 - 3700 MHz
 TEST DISTANCE: 3 m
 TEST SITE: Semi anechoic chamber
 INVESTIGATED FREQUENCY RANGE: 0.009 – 1000 MHz
 DETECTOR USED: Peak
 VIDEO BANDWIDTH: > Resolution bandwidth
 TEST ANTENNA TYPE: Active loop (9 kHz – 30 MHz)
 Biconilog (30 MHz – 1000 MHz)
 MODULATION: QPSK
 CHANNEL BANDWIDTH: 40 MHz
 TRANSMITTER OUTPUT POWER SETTINGS: Maximum

Frequency, MHz	Field strength, dB(μV/m)	Limit, dB(μV/m)	Margin, dB*	RBW, kHz	Antenna polarization	Antenna height, m	Turn-table position**, degrees
32.237	41.46	55.20	-13.74	100	Horizontal	1.02	95.0
38.569	34.95	55.20	-20.25	100	Horizontal	1.00	131.0
43.310	37.99	55.20	-17.21	100	Horizontal	1.00	-166.0
59.659	31.81	55.20	-23.39	100	Horizontal	1.02	-58.0
95.014	27.76	55.20	-27.44	100	Horizontal	1.02	177.0
263.996	35.96	55.20	-19.24	100	Horizontal	1.02	-106.0