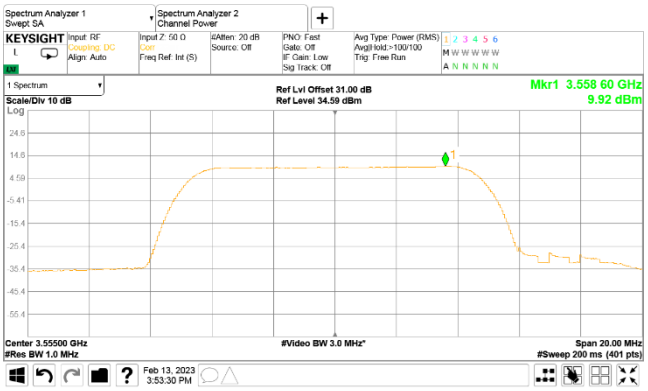
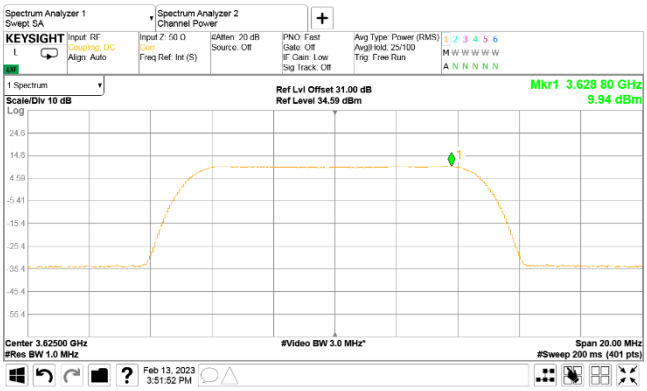
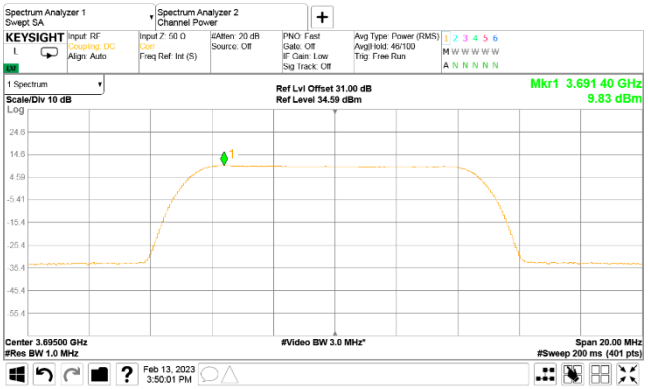
Test specification:	Section 96.41(b), Maximum EIRP and maximum power spectral density		
Test procedure:	Ansi 63.26 section 5.2.3.1		
Test mode:	Compliance	Verdict:	PASS
Date(s):	15-Feb-23 - 14-Feb-23		
Temperature: 21 ºC	Relative Humidity: 54 %	Air Pressure: 1013 hPa	Power: 110 VAC, 50 Hz
Remarks:			

Plot 7.1.16 Peak spectral power density at low, mid, high frequency

CHANNEL SPACING: 10 MHz
ANTENNA CHAIN: 4
Modulation: **256QAM**



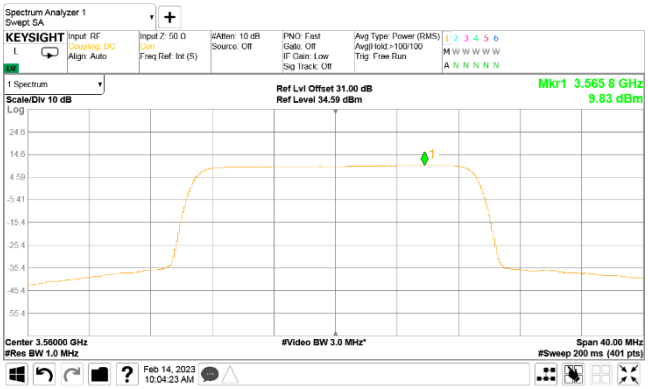


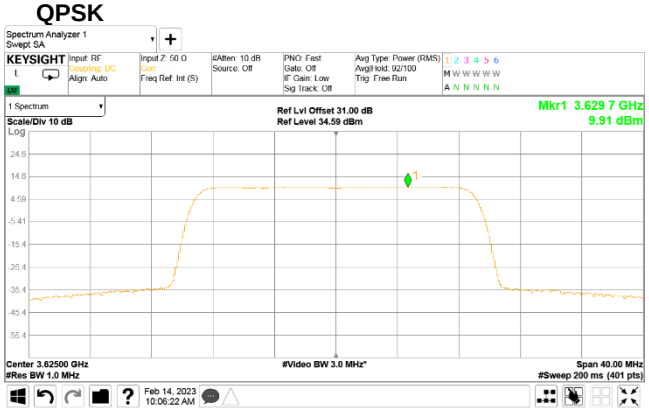


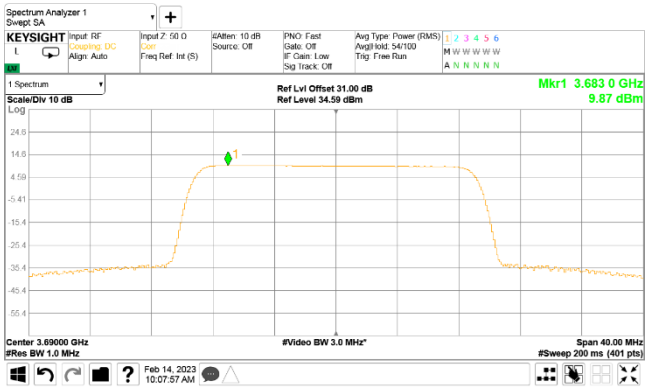
Test specification:	Section 96.41(b), Maximum EIRP and maximum power spectral density		
Test procedure:	Ansi 63.26 section 5.2.3.1		
Test mode:	Compliance	Verdict:	PASS
Date(s):	15-Feb-23 - 14-Feb-23		
Temperature: 21 ºC	Relative Humidity: 54 %	Air Pressure: 1013 hPa	Power: 110 VAC, 50 Hz
Remarks:			

Plot 7.1.17 Peak spectral power density at low, mid, high frequency

CHANNEL SPACING: 20 MHz
ANTENNA CHAIN: 4
Modulation: **QPSK**



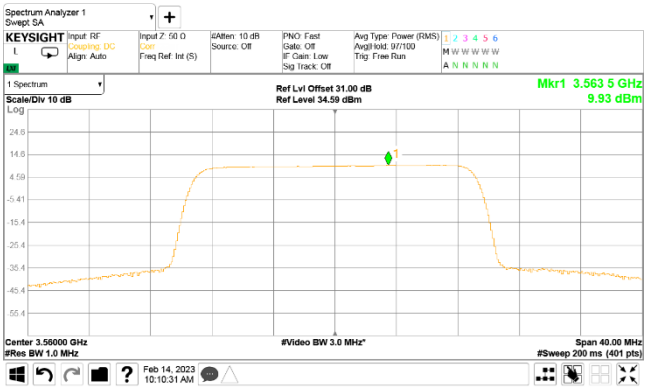


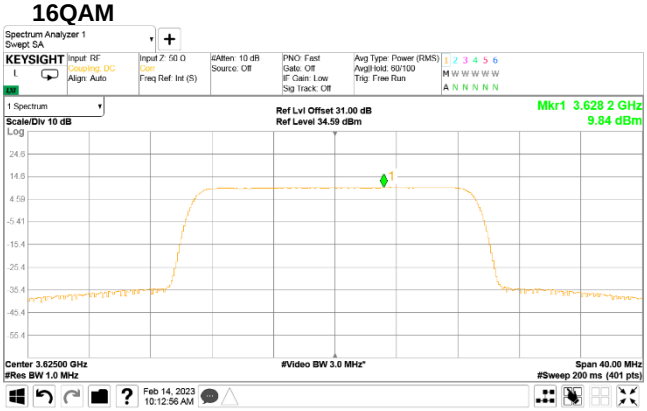


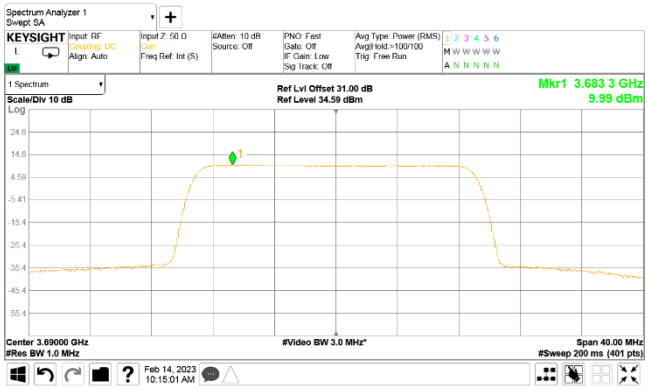
Test specification:	Section 96.41(b), Maximum EIRP and maximum power spectral density		
Test procedure:	Ansi 63.26 section 5.2.3.1		
Test mode:	Compliance	Verdict:	PASS
Date(s):	15-Feb-23 - 14-Feb-23		
Temperature: 21 ºC	Relative Humidity: 54 %	Air Pressure: 1013 hPa	Power: 110 VAC, 50 Hz
Remarks:			

Plot 7.1.18 Peak spectral power density at low, mid, high frequency

CHANNEL SPACING: 20 MHz
ANTENNA CHAIN: 4
Modulation: **16QAM**



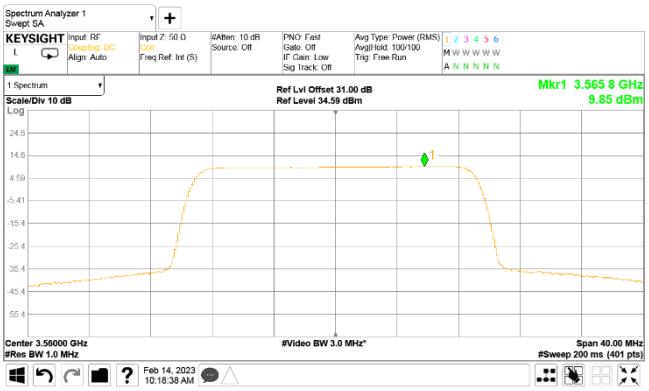


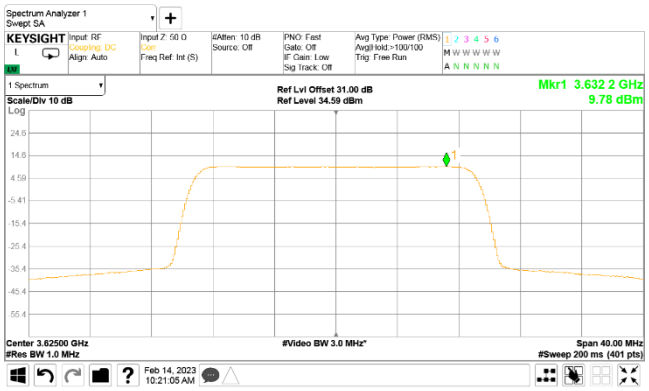


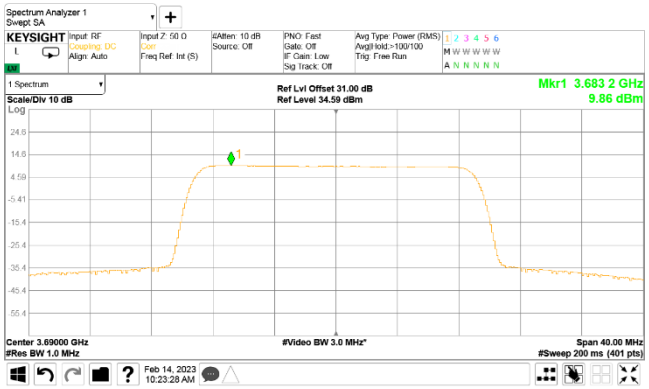
Test specification:	Section 96.41(b), Maximum EIRP and maximum power spectral density		
Test procedure:	Ansi 63.26 section 5.2.3.1		
Test mode:	Compliance	Verdict:	PASS
Date(s):	15-Feb-23 - 14-Feb-23		
Temperature: 21 ºC	Relative Humidity: 54 %	Air Pressure: 1013 hPa	Power: 110 VAC, 50 Hz
Remarks:			

Plot 7.1.19 Peak spectral power density at low, mid, high frequency

CHANNEL SPACING: 20 MHz
ANTENNA CHAIN: 4
Modulation: **64QAM**



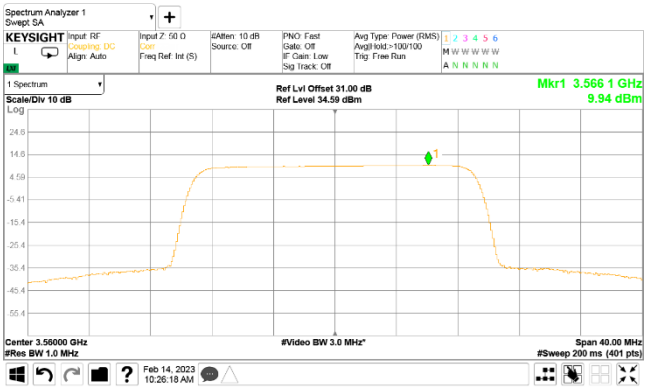


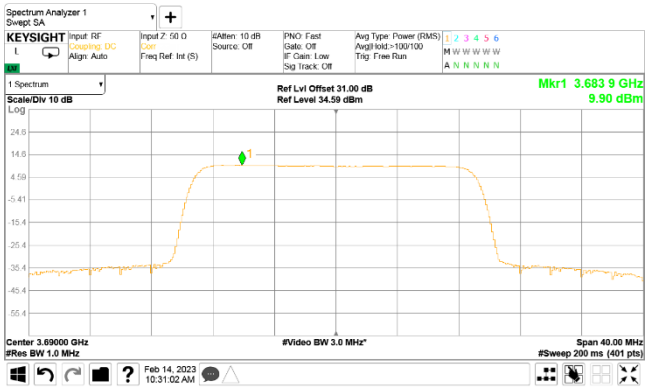


Test specification:	Section 96.41(b), Maximum EIRP and maximum power spectral density		
Test procedure:	Ansi 63.26 section 5.2.3.1		
Test mode:	Compliance	Verdict:	PASS
Date(s):	15-Feb-23 - 14-Feb-23		
Temperature: 21 ºC	Relative Humidity: 54 %	Air Pressure: 1013 hPa	Power: 110 VAC, 50 Hz
Remarks:			

Plot 7.1.20 Peak spectral power density at low, mid, high frequency

CHANNEL SPACING: 20 MHz
ANTENNA CHAIN: 4
Modulation: **256QAM**

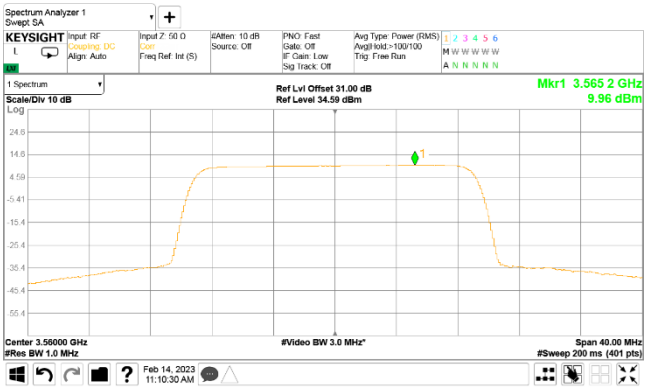


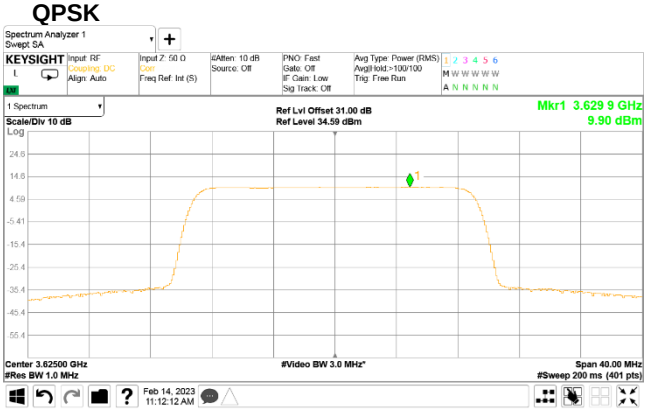


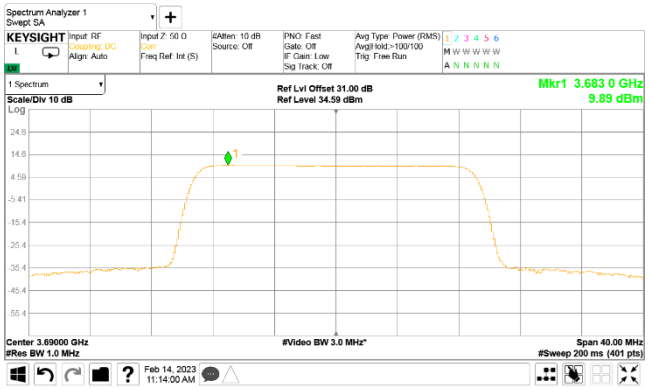
Test specification:	Section 96.41(b), Maximum EIRP and maximum power spectral density		
Test procedure:	Ansi 63.26 section 5.2.3.1		
Test mode:	Compliance	Verdict:	PASS
Date(s):	15-Feb-23 - 14-Feb-23		
Temperature: 21 ºC	Relative Humidity: 54 %	Air Pressure: 1013 hPa	Power: 110 VAC, 50 Hz
Remarks:			

Plot 7.1.21 Peak spectral power density at low, mid, high frequency

CHANNEL SPACING: 20 MHz
ANTENNA CHAIN: 3
Modulation: **QPSK**



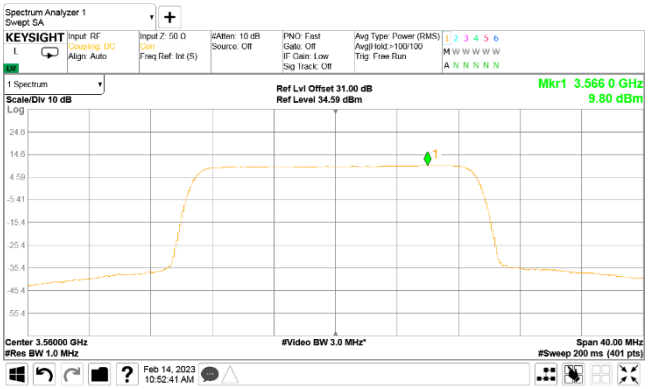


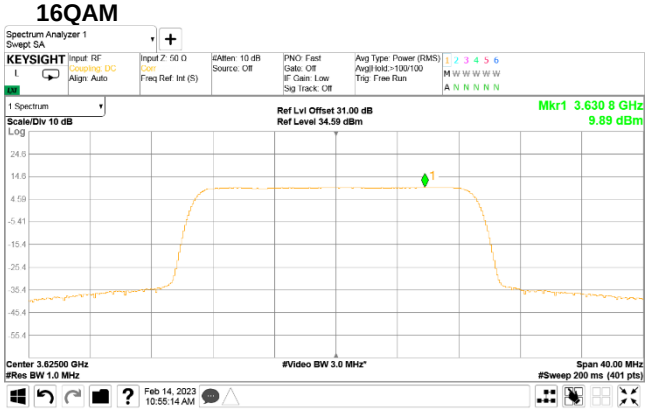


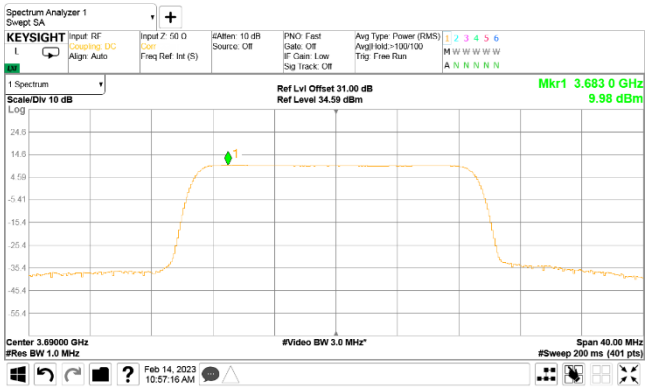
Test specification:	Section 96.41(b), Maximum EIRP and maximum power spectral density		
Test procedure:	Ansi 63.26 section 5.2.3.1		
Test mode:	Compliance	Verdict:	PASS
Date(s):	15-Feb-23 - 14-Feb-23		
Temperature: 21 ºC	Relative Humidity: 54 %	Air Pressure: 1013 hPa	Power: 110 VAC, 50 Hz
Remarks:			

Plot 7.1.22 Peak spectral power density at low, mid, high frequency

CHANNEL SPACING: 20 MHz
ANTENNA CHAIN: 3
Modulation: **16QAM**



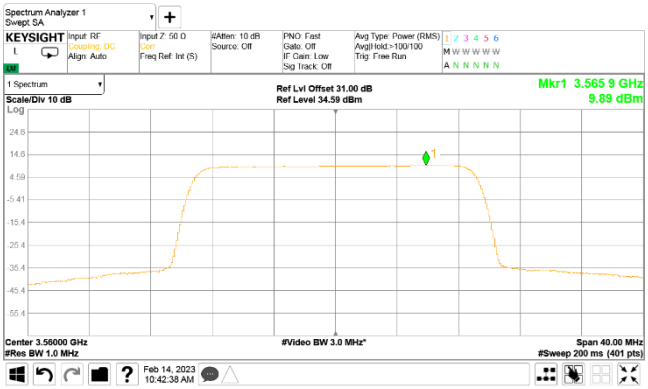


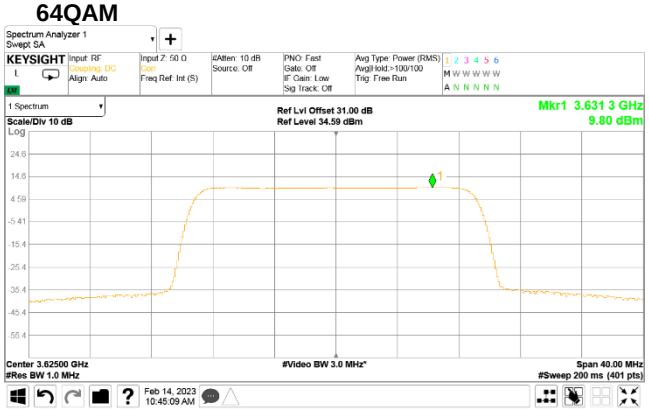


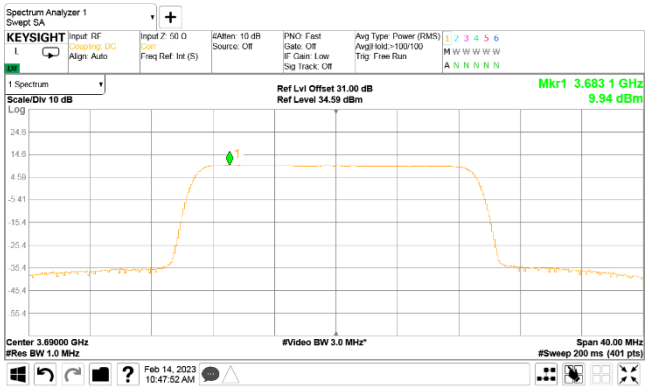
Test specification:	Section 96.41(b), Maximum EIRP and maximum power spectral density		
Test procedure:	Ansi 63.26 section 5.2.3.1		
Test mode:	Compliance	Verdict:	PASS
Date(s):	15-Feb-23 - 14-Feb-23		
Temperature: 21 ºC	Relative Humidity: 54 %	Air Pressure: 1013 hPa	Power: 110 VAC, 50 Hz
Remarks:			

Plot 7.1.23 Peak spectral power density at low, mid, high frequency

CHANNEL SPACING: 20 MHz
ANTENNA CHAIN: 3
Modulation: **64QAM**



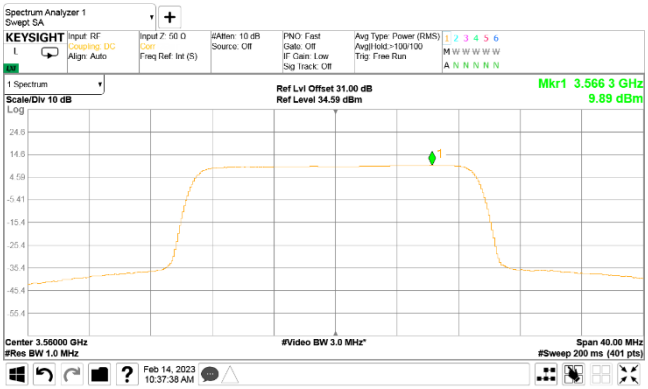


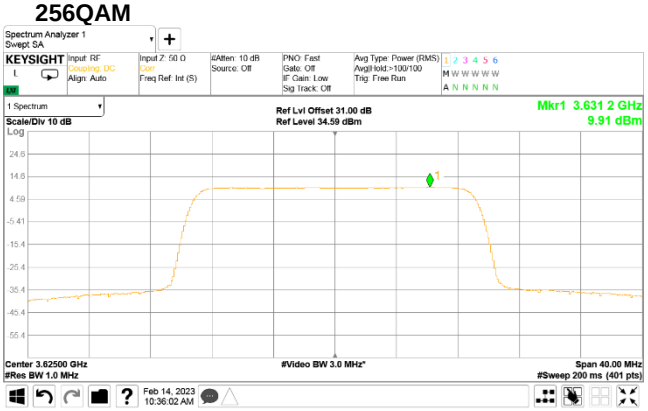


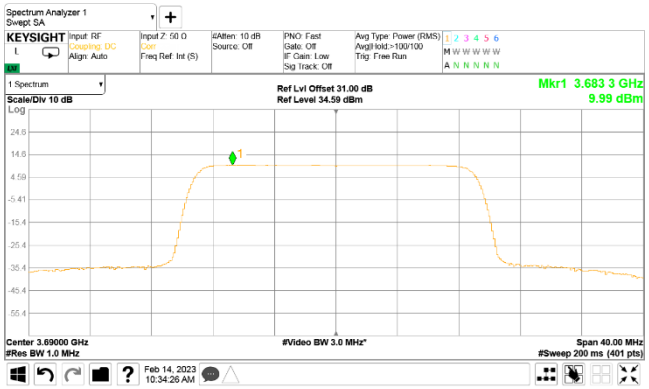
Test specification:	Section 96.41(b), Maximum EIRP and maximum power spectral density		
Test procedure:	Ansi 63.26 section 5.2.3.1		
Test mode:	Compliance	Verdict:	PASS
Date(s):	15-Feb-23 - 14-Feb-23		
Temperature: 21 ºC	Relative Humidity: 54 %	Air Pressure: 1013 hPa	Power: 110 VAC, 50 Hz
Remarks:			

Plot 7.1.24 Peak spectral power density at low, mid, high frequency

CHANNEL SPACING: 20 MHz
ANTENNA CHAIN: 3
Modulation: **256QAM**



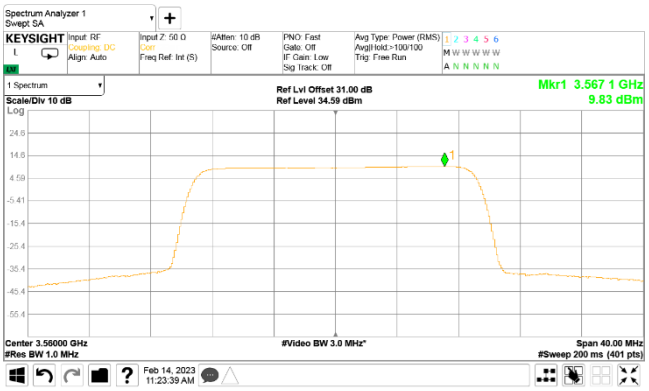


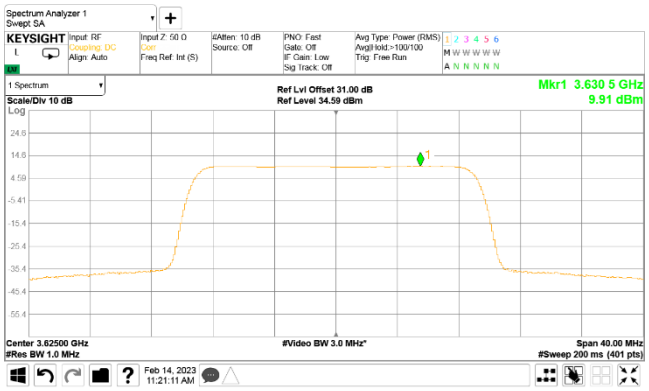


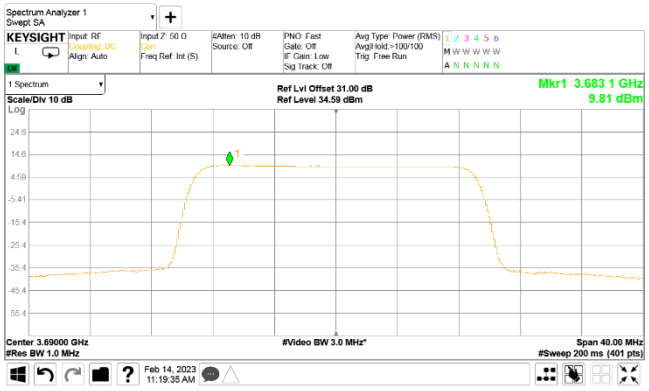
Test specification:	Section 96.41(b), Maximum EIRP and maximum power spectral density		
Test procedure:	Ansi 63.26 section 5.2.3.1		
Test mode:	Compliance	Verdict:	PASS
Date(s):	15-Feb-23 - 14-Feb-23		
Temperature: 21 ºC	Relative Humidity: 54 %	Air Pressure: 1013 hPa	Power: 110 VAC, 50 Hz
Remarks:			

Plot 7.1.25 Peak spectral power density at low, mid, high frequency

CHANNEL SPACING: 20 MHz
ANTENNA CHAIN: 2
Modulation: **QPSK**



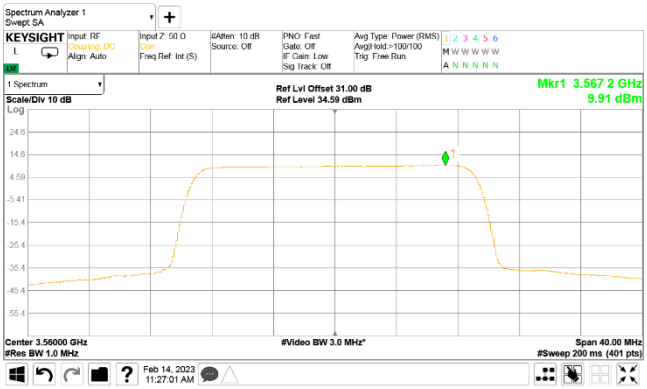


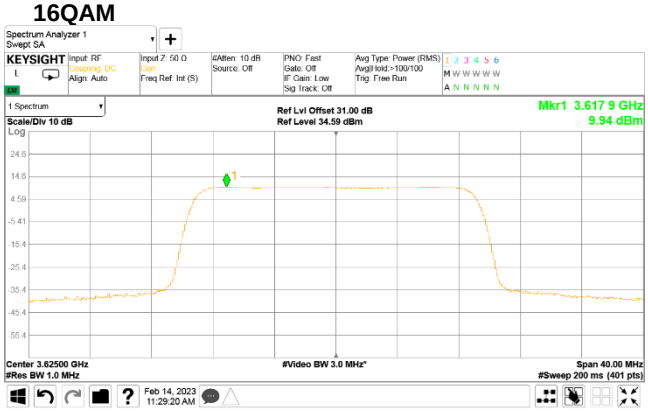


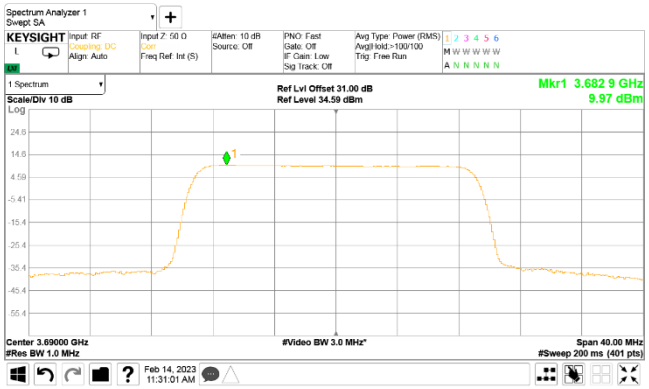
Test specification:	Section 96.41(b), Maximum EIRP and maximum power spectral density		
Test procedure:	Ansi 63.26 section 5.2.3.1		
Test mode:	Compliance	Verdict:	PASS
Date(s):	15-Feb-23 - 14-Feb-23		
Temperature: 21 ºC	Relative Humidity: 54 %	Air Pressure: 1013 hPa	Power: 110 VAC, 50 Hz
Remarks:			

Plot 7.1.26 Peak spectral power density at low, mid, high frequency

CHANNEL SPACING: 20 MHz
ANTENNA CHAIN: 2
Modulation: 16QAM



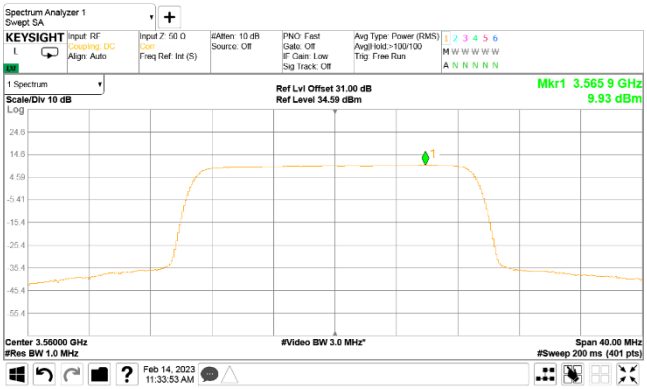


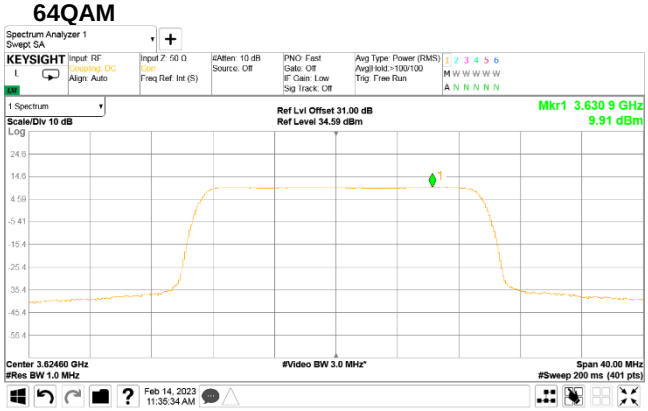


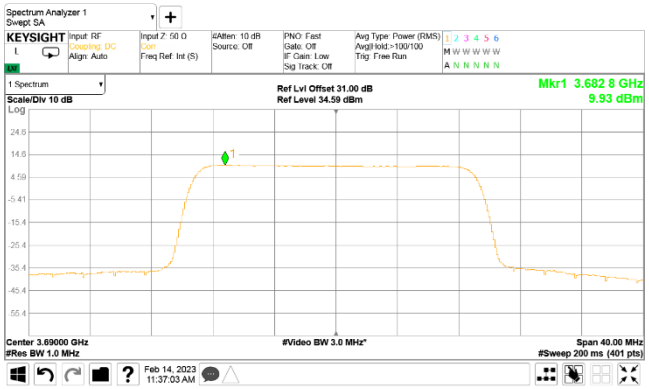
Test specification:	Section 96.41(b), Maximum EIRP and maximum power spectral density		
Test procedure:	Ansi 63.26 section 5.2.3.1		
Test mode:	Compliance	Verdict:	PASS
Date(s):	15-Feb-23 - 14-Feb-23		
Temperature: 21 ºC	Relative Humidity: 54 %	Air Pressure: 1013 hPa	Power: 110 VAC, 50 Hz
Remarks:			

Plot 7.1.27 Peak spectral power density at low, mid, high frequency

CHANNEL SPACING: 20 MHz
ANTENNA CHAIN: 2
Modulation: 64QAM



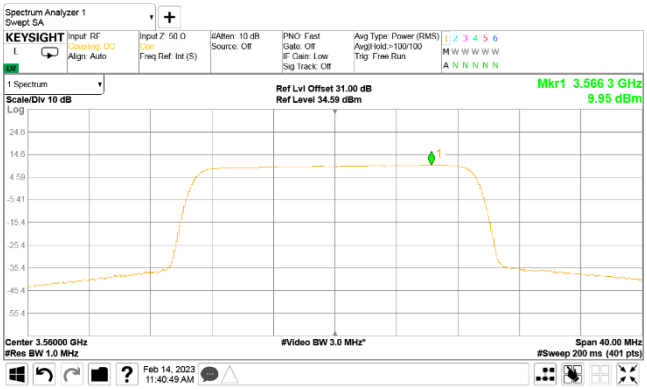


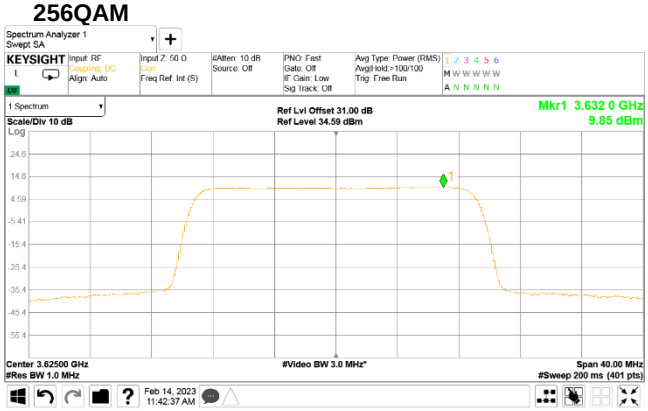


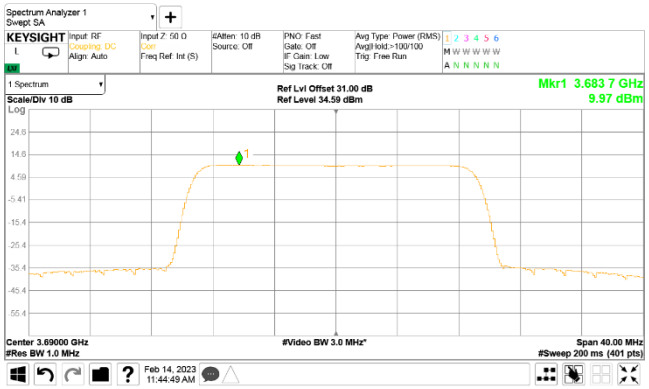
Test specification:	Section 96.41(b), Maximum EIRP and maximum power spectral density		
Test procedure:	Ansi 63.26 section 5.2.3.1		
Test mode:	Compliance	Verdict:	PASS
Date(s):	15-Feb-23 - 14-Feb-23		
Temperature: 21 ºC	Relative Humidity: 54 %	Air Pressure: 1013 hPa	Power: 110 VAC, 50 Hz
Remarks:			

Plot 7.1.28 Peak spectral power density at low, mid, high frequency

CHANNEL SPACING: 20 MHz
ANTENNA CHAIN: 2
Modulation: 256QAM



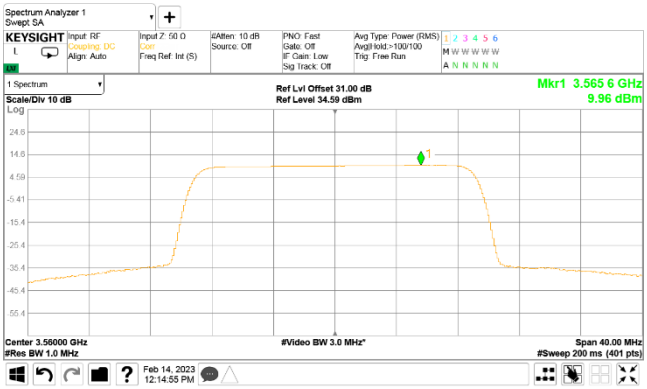


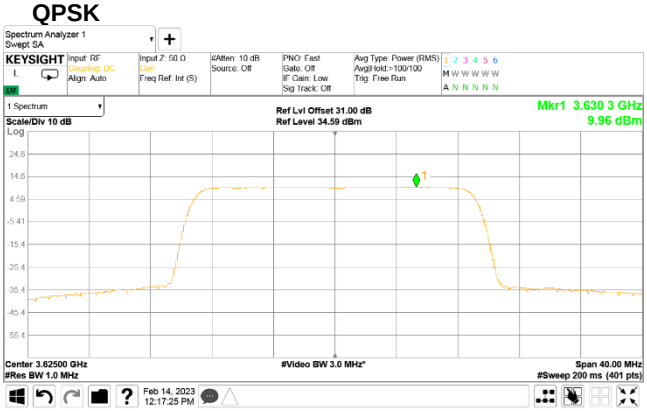


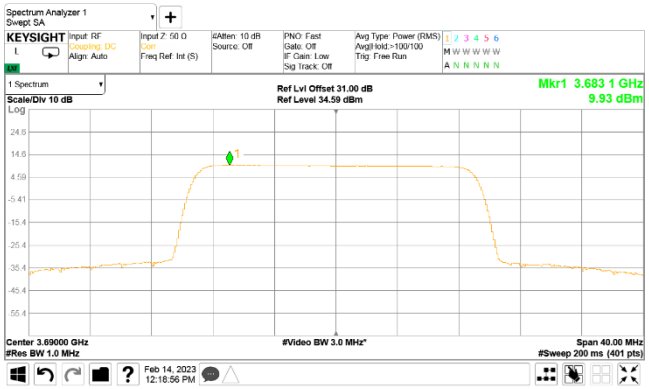
Test specification:	Section 96.41(b), Maximum EIRP and maximum power spectral density		
Test procedure:	Ansi 63.26 section 5.2.3.1		
Test mode:	Compliance	Verdict:	PASS
Date(s):	15-Feb-23 - 14-Feb-23		
Temperature: 21 ºC	Relative Humidity: 54 %	Air Pressure: 1013 hPa	Power: 110 VAC, 50 Hz
Remarks:			

Plot 7.1.29 Peak spectral power density at low, mid, high frequency

CHANNEL SPACING: 20 MHz
ANTENNA CHAIN: 1
Modulation: **QPSK**



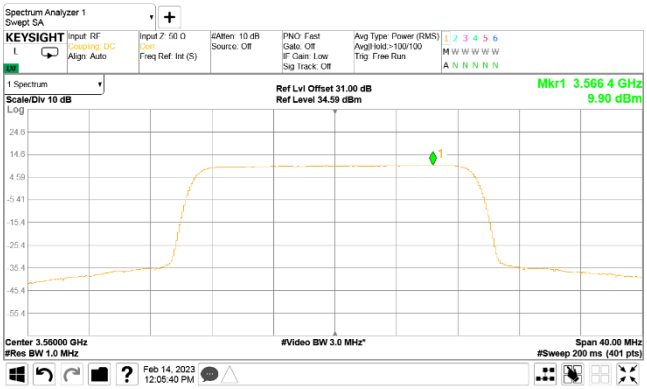


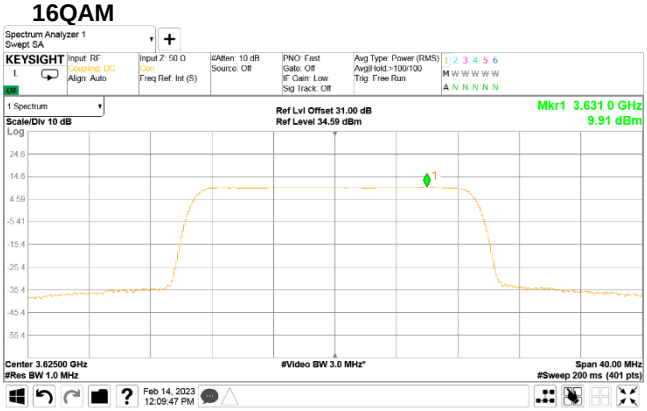


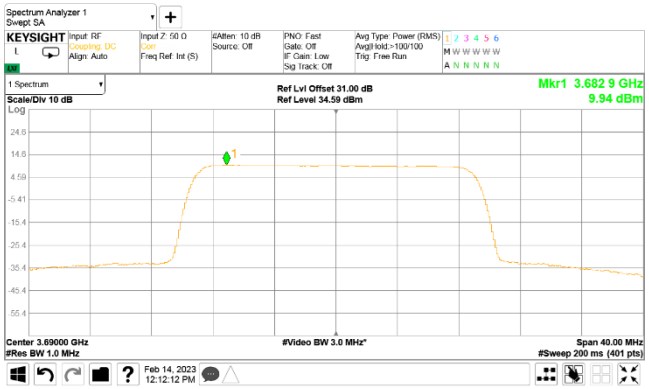
Test specification:	Section 96.41(b), Maximum EIRP and maximum power spectral density		
Test procedure:	Ansi 63.26 section 5.2.3.1		
Test mode:	Compliance	Verdict:	PASS
Date(s):	15-Feb-23 - 14-Feb-23		
Temperature: 21 ºC	Relative Humidity: 54 %	Air Pressure: 1013 hPa	Power: 110 VAC, 50 Hz
Remarks:			

Plot 7.1.30 Peak spectral power density at low, mid, high frequency

CHANNEL SPACING: 20 MHz
ANTENNA CHAIN: 1
Modulation: 16QAM



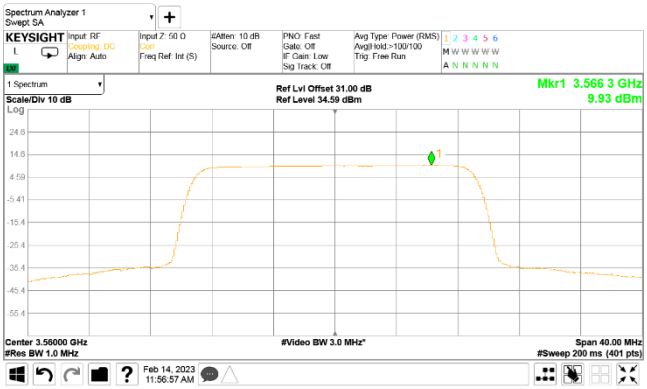


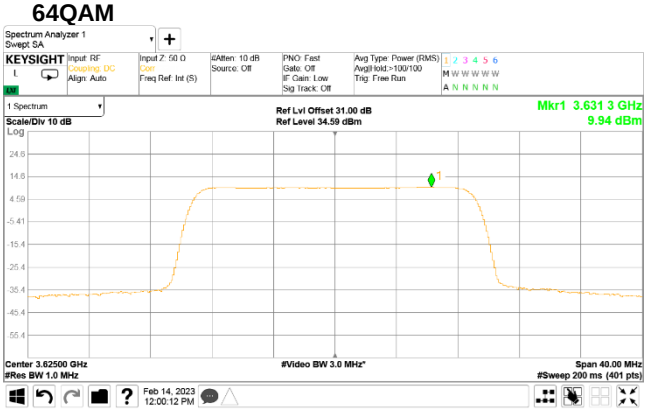


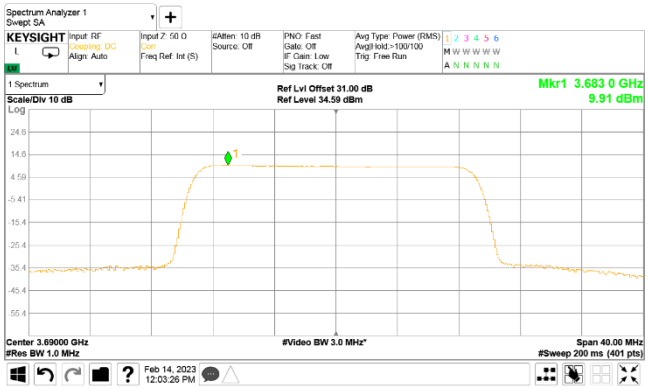
Test specification:	Section 96.41(b), Maximum EIRP and maximum power spectral density		
Test procedure:	Ansi 63.26 section 5.2.3.1		
Test mode:	Compliance	Verdict:	PASS
Date(s):	15-Feb-23 - 14-Feb-23		
Temperature: 21 ºC	Relative Humidity: 54 %	Air Pressure: 1013 hPa	Power: 110 VAC, 50 Hz
Remarks:			

Plot 7.1.31 Peak spectral power density at low, mid, high frequency

CHANNEL SPACING: 20 MHz
ANTENNA CHAIN: 1
Modulation: 64QAM



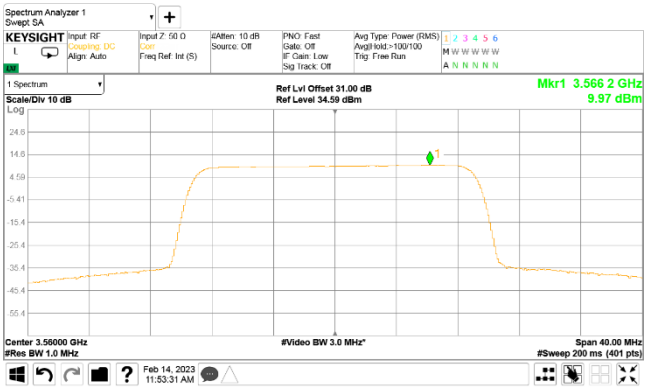


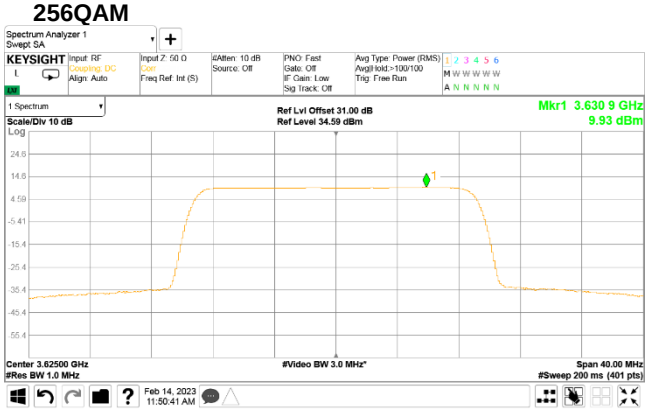


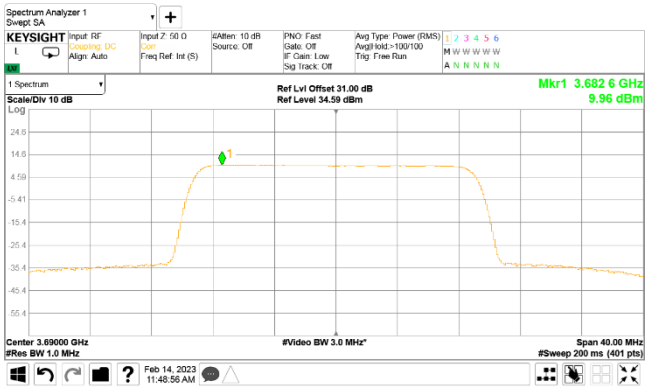
Test specification:	Section 96.41(b), Maximum EIRP and maximum power spectral density		
Test procedure:	Ansi 63.26 section 5.2.3.1		
Test mode:	Compliance	Verdict:	PASS
Date(s):	15-Feb-23 - 14-Feb-23		
Temperature: 21 ºC	Relative Humidity: 54 %	Air Pressure: 1013 hPa	Power: 110 VAC, 50 Hz
Remarks:			

Plot 7.1.32 Peak spectral power density at low, mid, high frequency

CHANNEL SPACING: 20 MHz
ANTENNA CHAIN: 1
Modulation: 256QAM



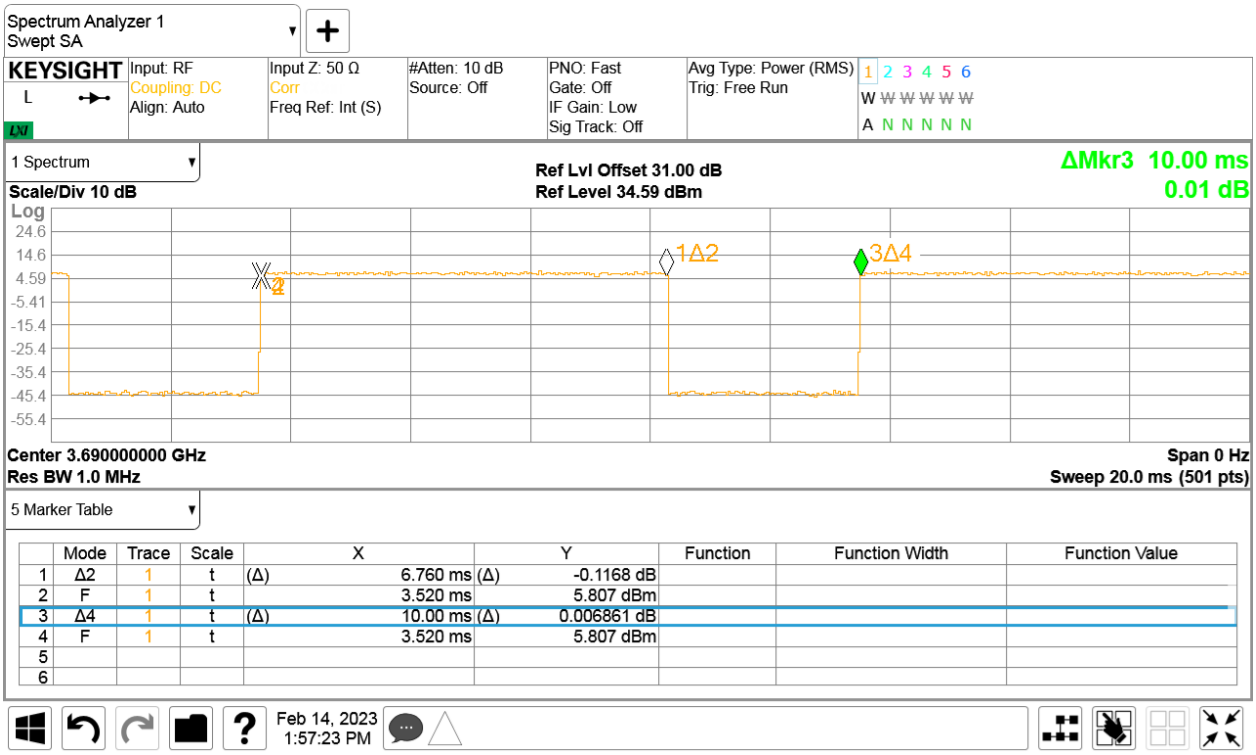




Test specification:	Section 96.41(b), Maximum EIRP and maximum power spectral density		
Test procedure:	Ansi 63.26 section 5.2.3.1		
Test mode:	Compliance	Verdict:	PASS
Date(s):	15-Feb-23 - 14-Feb-23		
Temperature: 21 ºC	Relative Humidity: 54 %	Air Pressure: 1013 hPa	Power: 110 VAC, 50 Hz
Remarks:			

Duty Cycle

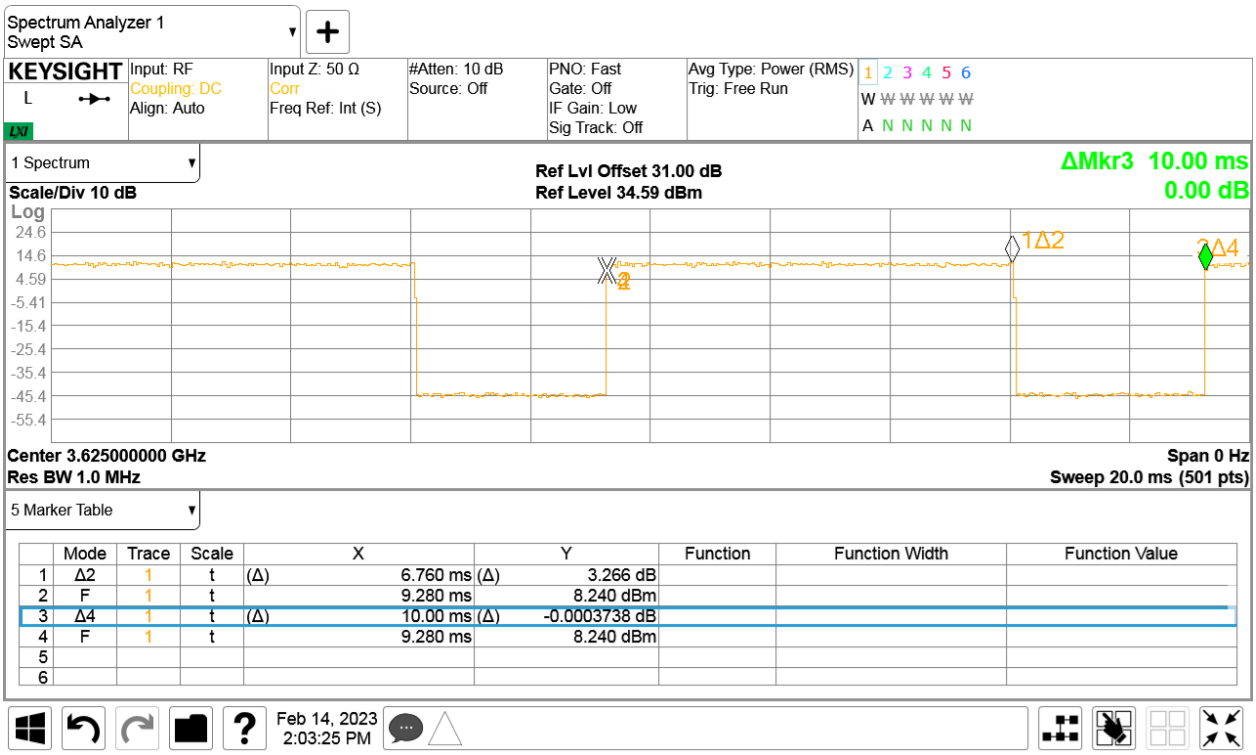
20 MHz 3690 MHz Antenna 1



	Mode	Trace	Scale	X	Y	Function	Function Width	Function Value
1	Δ2	1	t	(Δ) 6.760 ms	(Δ) -0.1168 dB			
2	F	1	t	3.520 ms	5.807 dBm			
3	Δ4	1	t	(Δ) 10.00 ms	(Δ) 0.006861 dB			
4	F	1	t	3.520 ms	5.807 dBm			
5								
6								

Test specification:	Section 96.41(b), Maximum EIRP and maximum power spectral density		
Test procedure:	Ansi 63.26 section 5.2.3.1		
Test mode:	Compliance	Verdict:	PASS
Date(s):	15-Feb-23 - 14-Feb-23		
Temperature: 21 ºC	Relative Humidity: 54 %	Air Pressure: 1013 hPa	Power: 110 VAC, 50 Hz
Remarks:			

10 MHz 3690 MHz Antenna 1



	Mode	Trace	Scale	X	Y	Function	Function Width	Function Value
1	Δ2	1	t	(Δ) 6.760 ms	(Δ) 3.266 dB			
2	F	1	t	9.280 ms	8.240 dBm			
3	Δ4	1	t	(Δ) 10.00 ms	(Δ) -0.0003738 dB			
4	F	1	t	9.280 ms	8.240 dBm			
5								
6								

Test specification:	Section 96.41(g), Peak-to- average power ratio		
Test procedure:	Section 96.41(g)		
Test mode:	Compliance	Verdict:	PASS
Date(s):	15-Feb-23 - 14-Feb-23		
Temperature: 21 ºC	Relative Humidity: 54 %	Air Pressure: 1013 hPa	Power: 110 VAC, 50 Hz
Remarks:			

7.2 Peak-to-average power ratio (PAPR) test

7.2.1 General

This test was performed to measure the peak to average power ratio at RF antenna connector. Specification test limits are given in Figure 7.2.1.

Table 7.2.1 Peak-to-average power ratio limits

Assigned frequency range, MHz	Peak to average power ratio limit	
	Probability, %	dB
3550.0 – 3700.0	0.1	13.0

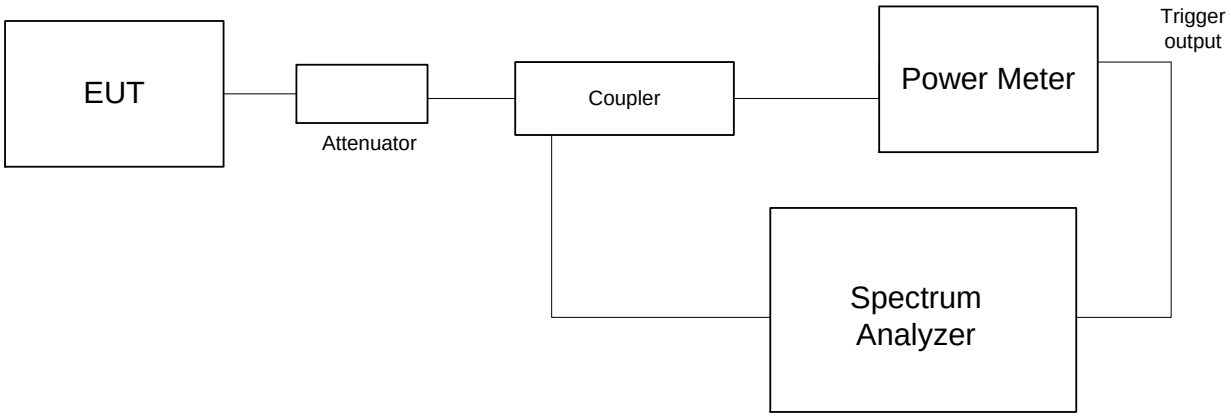
7.2.2 Test procedure

7.2.2.1 The EUT was set up as shown in Figure 7.2.1, energized and its proper operation was checked.

7.2.2.2 The EUT was adjusted to produce maximum available to the end user RF output power.

7.2.2.3 The peak output power was measured with spectrum analyzer as provided in Table 7.2.2 and associated plots.

Figure 7.2.1 Peak-to-average power ratio test setup



Test specification:	**Section 96.41(g), Peak-to- average power ratio**		
Test procedure:	Section 96.41(g)		
Test mode:	Compliance	**Verdict:**	PASS
Date(s):	15-Feb-23 - 14-Feb-23		
Temperature: 21 ºC	**Relative Humidity:** 54 %	**Air Pressure:** 1013 hPa	**Power:** 110 VAC, 50 Hz
Remarks:			

Table 7.2.2 Peak-to-average power ratio test results

OPERATING FREQUENCY RANGE: 3550 – 3700 MHz
DETECTOR USED: Peak/Average
MODULATING SIGNAL: PRBS
TRANSMITTER OUTPUT POWER SETTINGS: Maximum

Carrier frequency, MHz	Peak to average ratio, dB	Limit, dBm	Margin, dB	Verdict
Channel spacing 10 MHz				
Modulation QPSK				
3555.0	7.80	13.0	-5.20	Pass
3625.0	7.79	13.0	-5.21	Pass
3695.0	7.89	13.0	-5.11	Pass
Modulation 16QAM				
3555.0	7.84	13.0	-5.16	Pass
3625.0	7.78	13.0	-5.22	Pass
3695.0	7.76	13.0	-5.24	Pass
Modulation 64QAM				
3555.0	7.84	13.0	-5.16	Pass
3625.0	7.77	13.0	-5.23	Pass
3695.0	7.75	13.0	-5.25	Pass
Modulation 256QAM				
3555.0	7.88	13.0	-5.12	Pass
3625.0	7.84	13.0	-5.16	Pass
3695.0	7.97	13.0	-5.03	Pass
Channel spacing 20 MHz				
Modulation QPSK				
3560.0	7.57	13.0	-5.43	Pass
3625.0	7.64	13.0	-5.36	Pass
3690.0	7.93	13.0	-5.07	Pass
Modulation 16QAM				
3560.0	7.61	13.0	-5.39	Pass
3625.0	7.63	13.0	-5.37	Pass
3690.0	7.81	13.0	-5.19	Pass
Modulation 64QAM				
3560.0	7.62	13.0	-5.38	Pass
3625.0	7.63	13.0	-5.37	Pass
3690.0	7.68	13.0	-5.32	Pass
Modulation 256QAM				
3560.0	7.63	13.0	-5.37	Pass
3625.0	7.65	13.0	-5.35	Pass
3690.0	7.68	13.0	-5.32	Pass

Reference numbers of test equipment used

HL 3301	HL 3302	HL 4366	HL 5376	HL 5642			

Full description is given in Appendix A.