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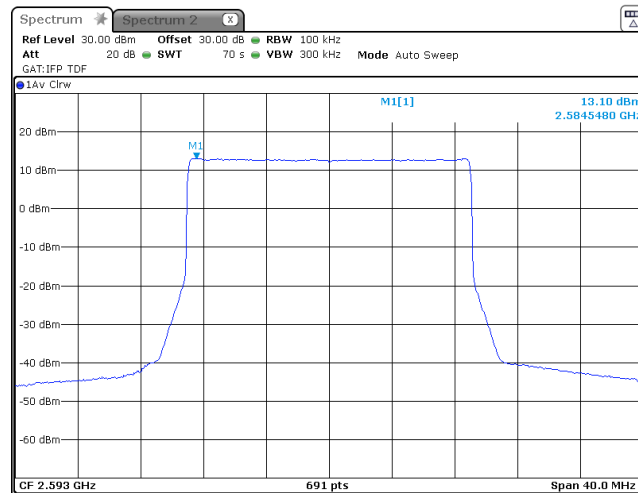
Test specification:		Section 27.50, Peak output power	
Test procedure:		47 CFR, Section 2.1046; TIA/EIA-603-E, Section 2.2.1	
Test mode:		Verdict: PASS	
Date(s):			
06-Aug-23			
Temperature: 21 °C	Relative Humidity: 54 %	Air Pressure: 1012 hPa	Power: 110 VAC, 60 Hz
Remarks:			

Plot 7.2.17 Peak output power test results frequency, at low, mid, high frequency

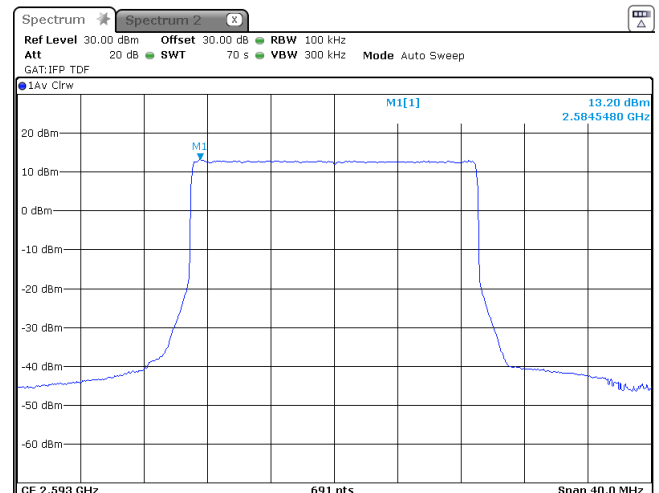
CHANNEL BANDWIDTH:
NUMBER OF ANTENNA:

20 MHz
2

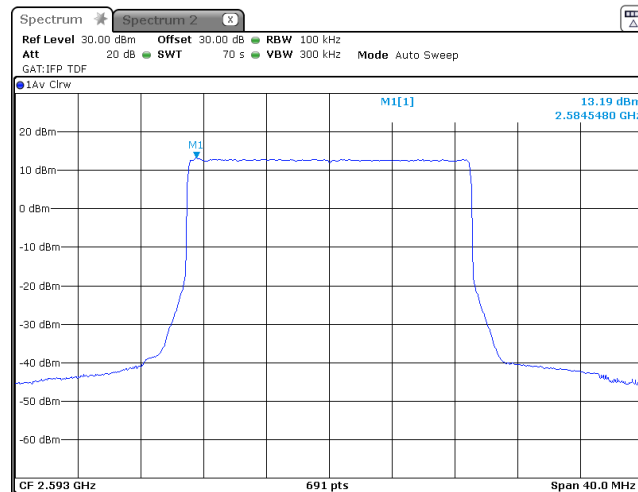
MODULATION: QPSK



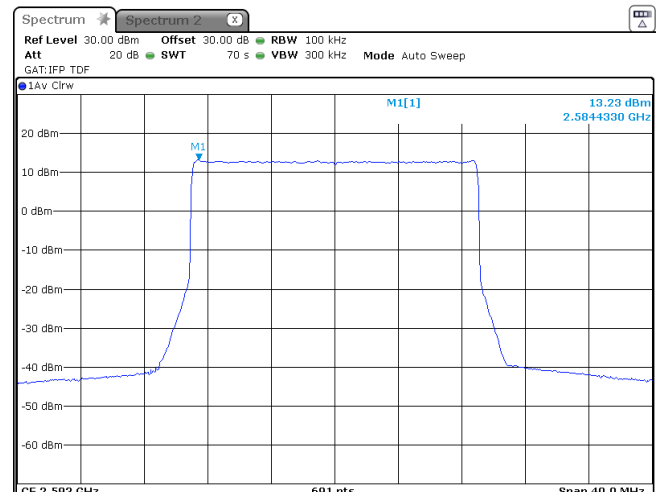
MODULATION: 16 QAM



MODULATION: 64 QAM



MODULATION: 256 QAM





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Report ID: AIRRAD_FCC.51025.docx
Date of Issue: 21-Aug-23

Test specification: Section 27.50, Peak output power			
Test procedure: 47 CFR, Section 2.1046; TIA/EIA-603-E, Section 2.2.1			
Test mode: Compliance		Verdict: PASS	
Date(s): 06-Aug-23			
Temperature: 21 °C	Relative Humidity: 54 %	Air Pressure: 1012 hPa	Power: 110 VAC, 60 Hz
Remarks:			

Plot 7.2.18 Peak output power test results frequency, at low, mid, high frequency

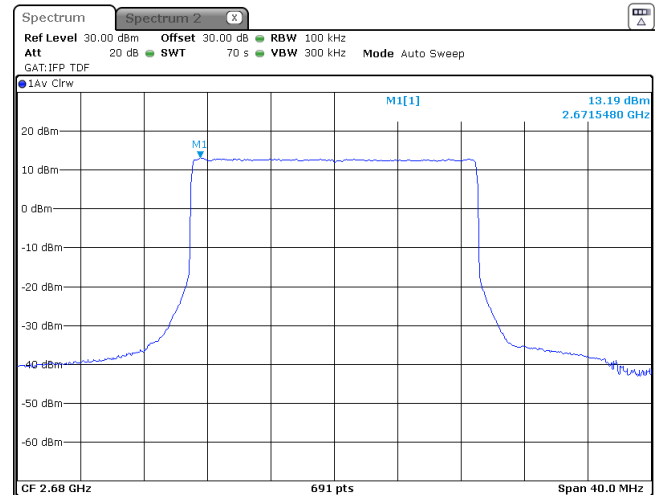
CHANNEL BANDWIDTH:
NUMBER OF ANTENNA:

20 MHz
1

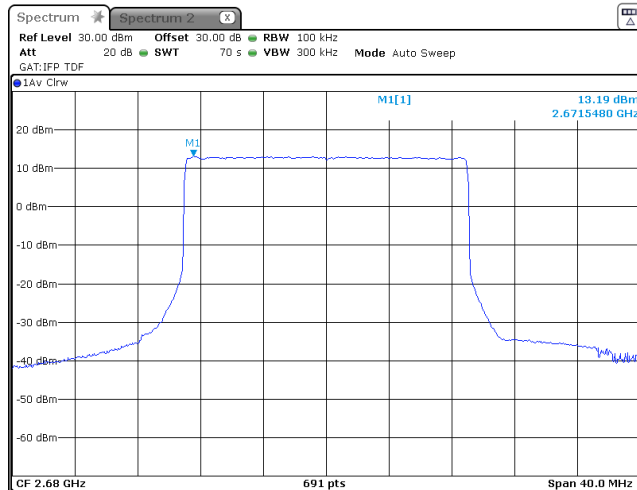
MODULATION: QPSK



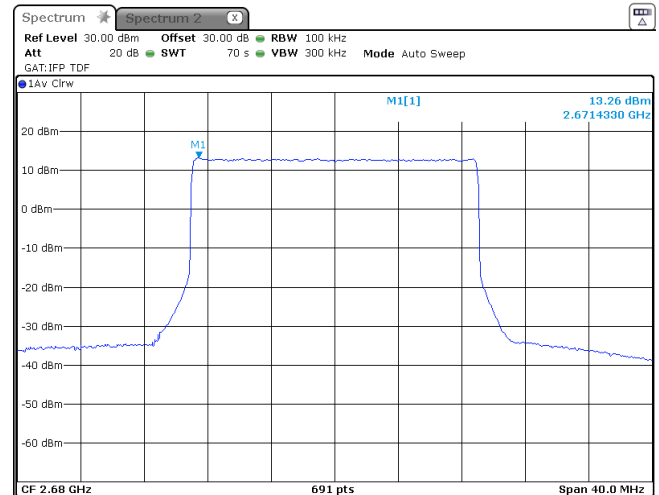
MODULATION: 16 QAM



MODULATION: 64 QAM



MODULATION: 256 QAM





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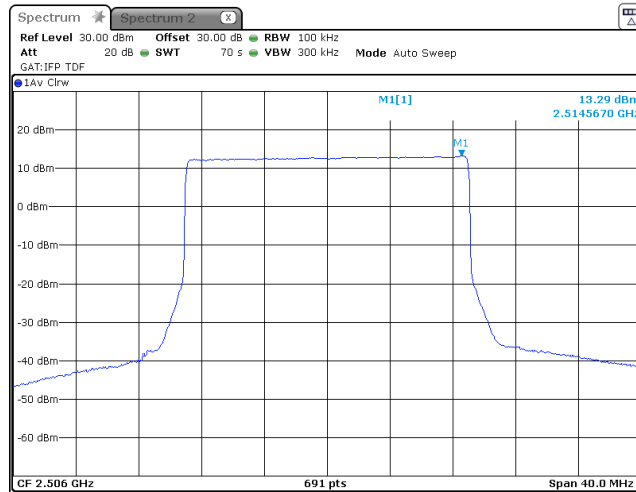
Test specification:		Section 27.50, Peak output power	
Test procedure:		47 CFR, Section 2.1046; TIA/EIA-603-E, Section 2.2.1	
Test mode:		Verdict: PASS	
Date(s):			
06-Aug-23			
Temperature: 21 °C	Relative Humidity: 54 %	Air Pressure: 1012 hPa	Power: 110 VAC, 60 Hz
Remarks:			

Plot 7.2.19 Peak output power test results frequency, at low, mid, high frequency

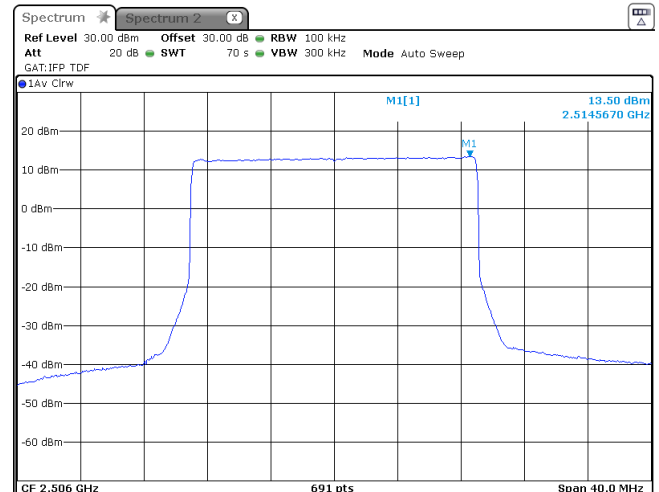
CHANNEL BANDWIDTH:
NUMBER OF ANTENNA:

20 MHz
3

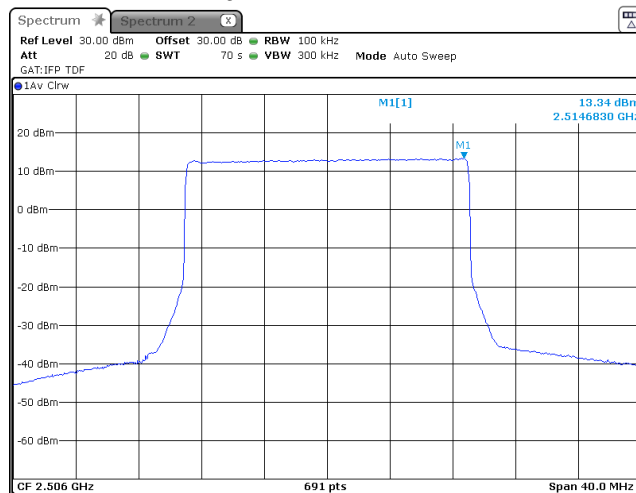
MODULATION: QPSK



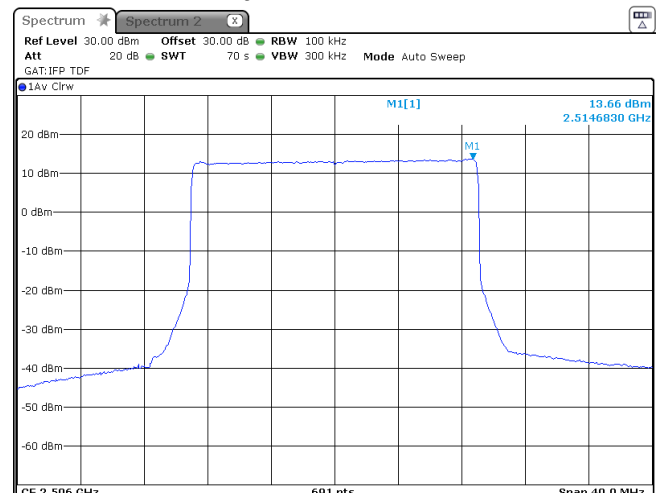
MODULATION: 16 QAM



MODULATION: 64 QAM



MODULATION: 256 QAM





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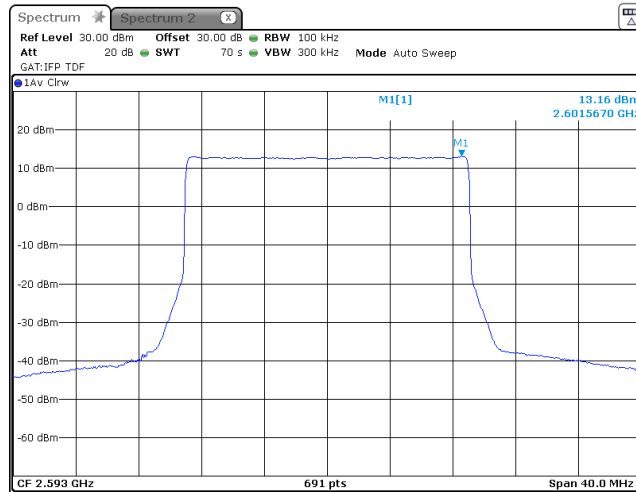
Test specification:		Section 27.50, Peak output power	
Test procedure:		47 CFR, Section 2.1046; TIA/EIA-603-E, Section 2.2.1	
Test mode:		Verdict: PASS	
Date(s):			
06-Aug-23			
Temperature: 21 °C	Relative Humidity: 54 %	Air Pressure: 1012 hPa	Power: 110 VAC, 60 Hz
Remarks:			

Plot 7.2.20 Peak output power test results frequency, at low, mid, high frequency

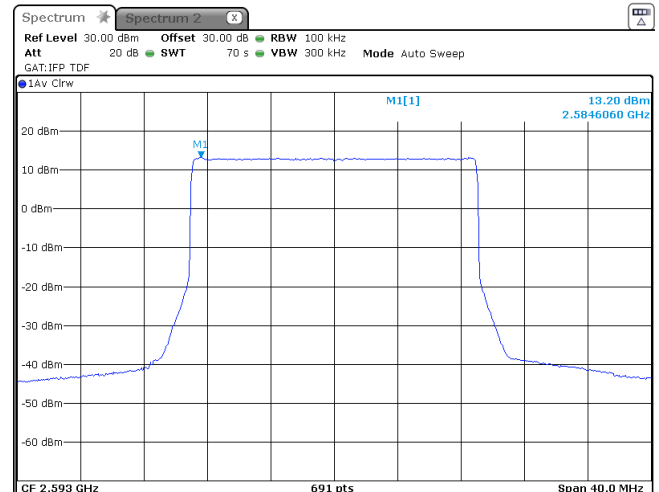
CHANNEL BANDWIDTH:
NUMBER OF ANTENNA:

20 MHz
3

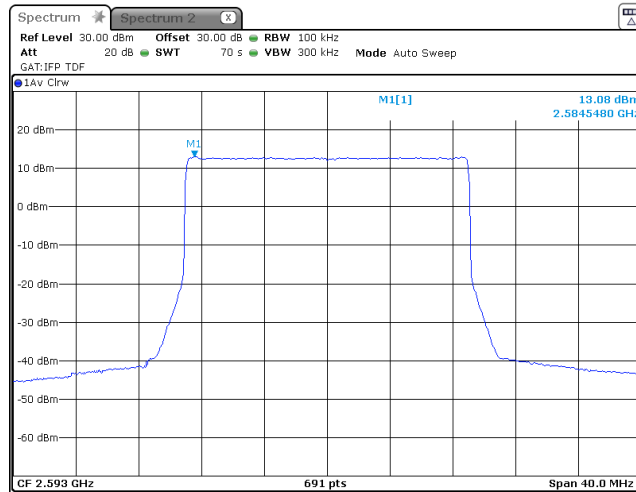
MODULATION: QPSK



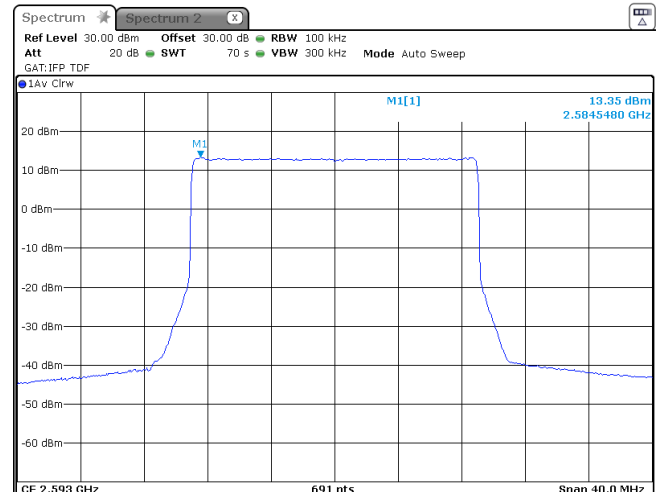
MODULATION: 16 QAM



MODULATION: 64 QAM



MODULATION: 256 QAM





HERMON LABORATORIES

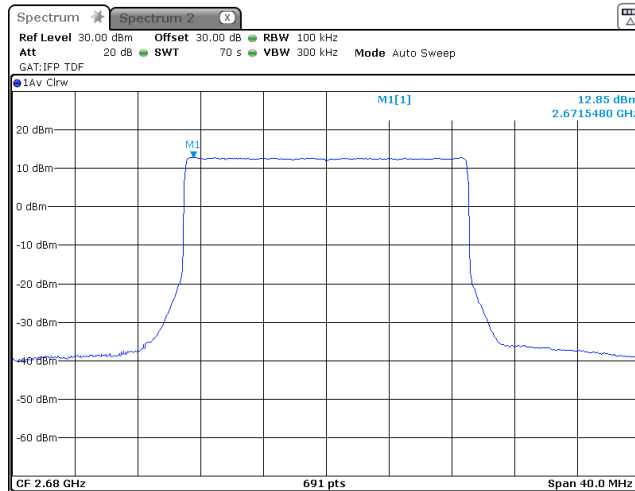
Test specification:		Section 27.50, Peak output power	
Test procedure:		47 CFR, Section 2.1046; TIA/EIA-603-E, Section 2.2.1	
Test mode:		Verdict: PASS	
Date(s):			
06-Aug-23			
Temperature: 21 °C	Relative Humidity: 54 %	Air Pressure: 1012 hPa	Power: 110 VAC, 60 Hz
Remarks:			

Plot 7.2.21 Peak output power test results frequency, at low, mid, high frequency

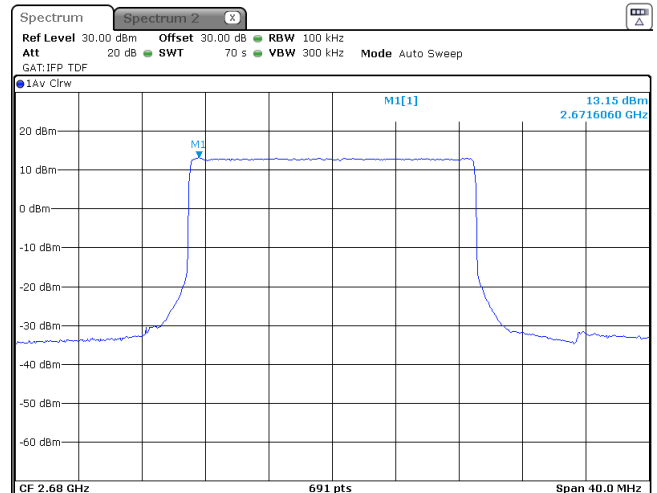
CHANNEL BANDWIDTH:
NUMBER OF ANTENNA:

20 MHz
3

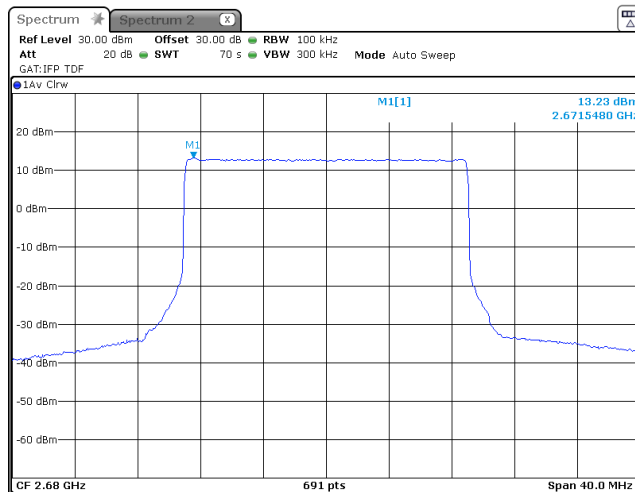
MODULATION: QPSK



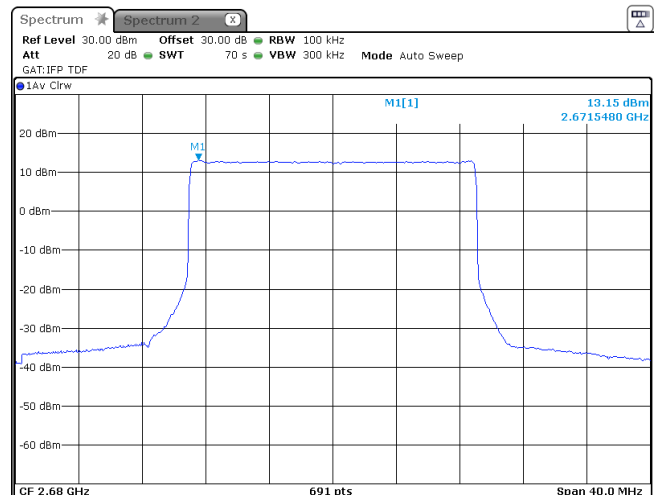
MODULATION: 16 QAM



MODULATION: 64 QAM



MODULATION: 256 QAM





HERMON LABORATORIES

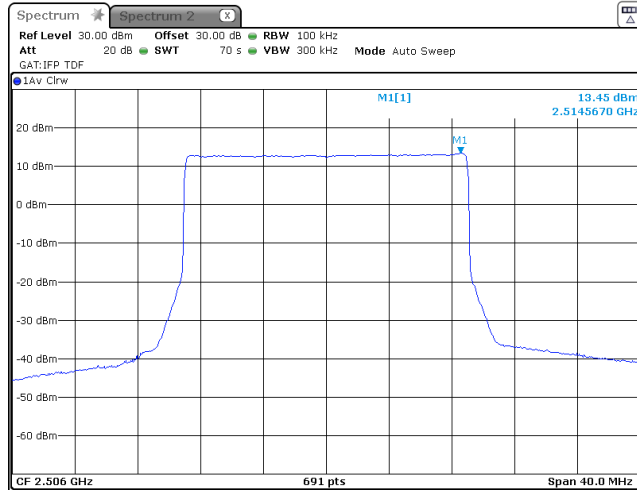
Test specification:		Section 27.50, Peak output power	
Test procedure:		47 CFR, Section 2.1046; TIA/EIA-603-E, Section 2.2.1	
Test mode:		Verdict: PASS	
Date(s):			
06-Aug-23			
Temperature: 21 °C	Relative Humidity: 54 %	Air Pressure: 1012 hPa	Power: 110 VAC, 60 Hz
Remarks:			

Plot 7.2.22 Peak output power test results frequency, at low, mid, high frequency

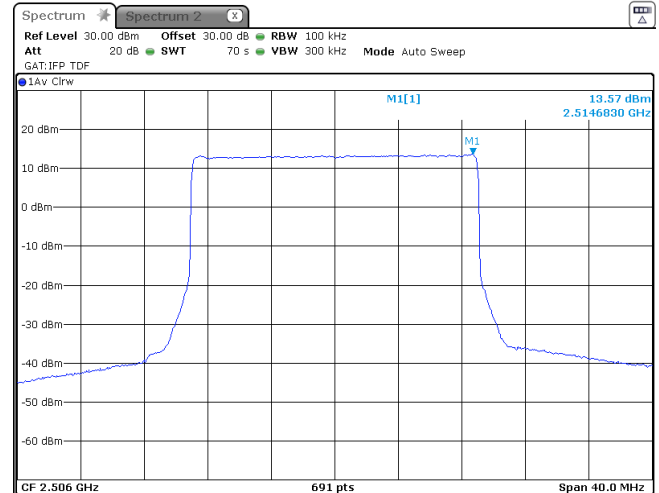
CHANNEL BANDWIDTH:
NUMBER OF ANTENNA:

20 MHz
4

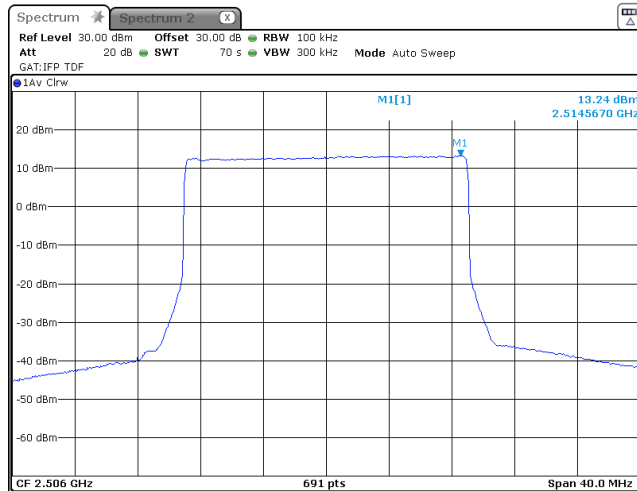
MODULATION: QPSK



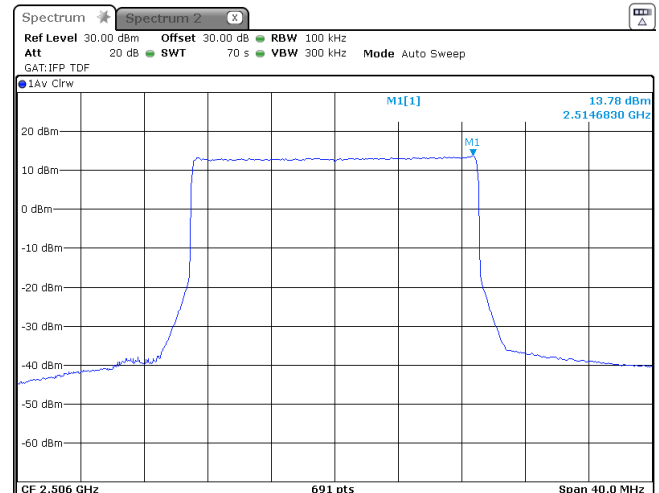
MODULATION: 16 QAM



MODULATION: 64 QAM



MODULATION: 256 QAM





HERMON LABORATORIES

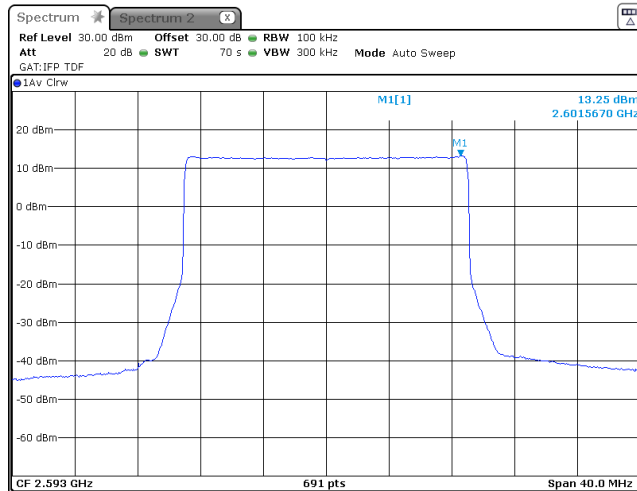
Test specification:		Section 27.50, Peak output power	
Test procedure:		47 CFR, Section 2.1046; TIA/EIA-603-E, Section 2.2.1	
Test mode:		Verdict: PASS	
Date(s):			
06-Aug-23			
Temperature: 21 °C	Relative Humidity: 54 %	Air Pressure: 1012 hPa	Power: 110 VAC, 60 Hz
Remarks:			

Plot 7.2.23 Peak output power test results frequency, at low, mid, high frequency

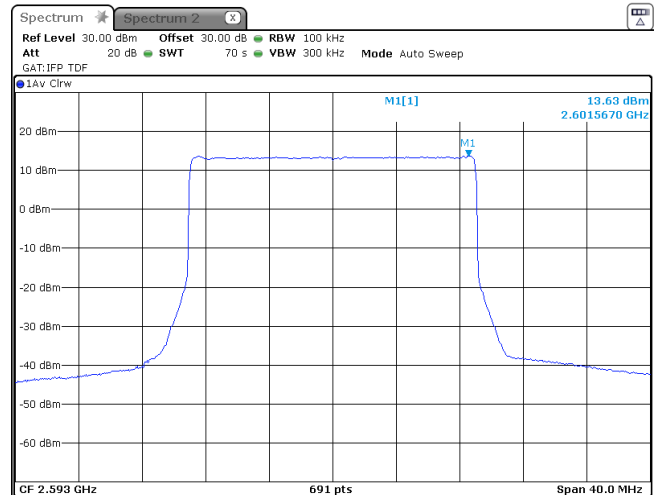
CHANNEL BANDWIDTH:
NUMBER OF ANTENNA:

20 MHz
4

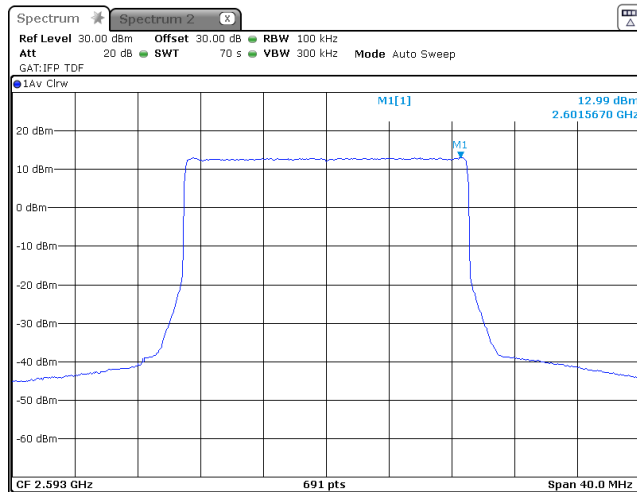
MODULATION: QPSK



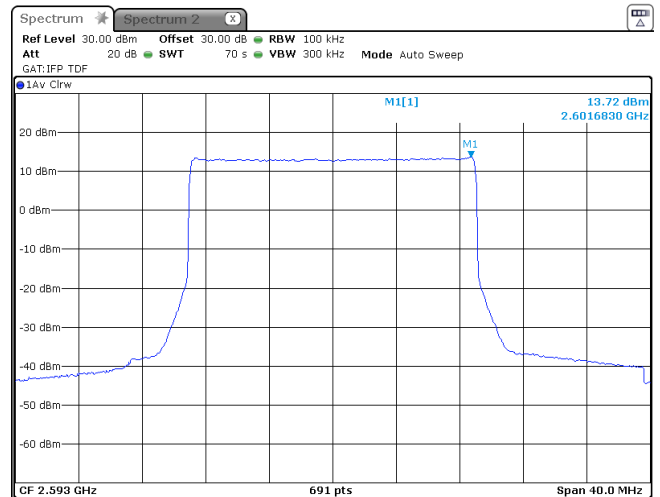
MODULATION: 16 QAM



MODULATION: 64 QAM



MODULATION: 256 QAM





HERMON LABORATORIES

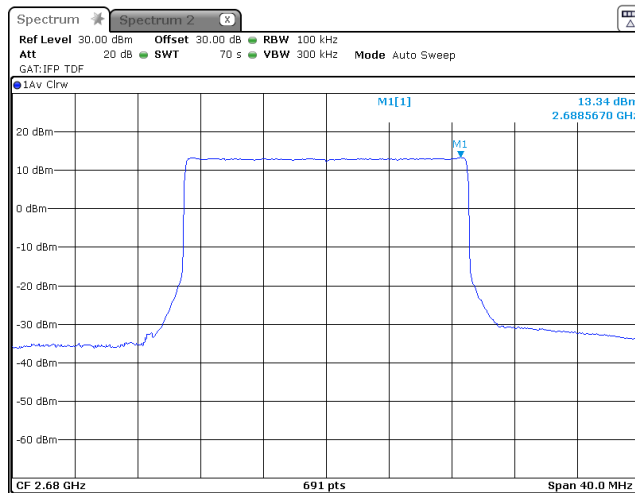
Test specification:		Section 27.50, Peak output power	
Test procedure:		47 CFR, Section 2.1046; TIA/EIA-603-E, Section 2.2.1	
Test mode:		Verdict: PASS	
Date(s):			
06-Aug-23			
Temperature: 21 °C	Relative Humidity: 54 %	Air Pressure: 1012 hPa	Power: 110 VAC, 60 Hz
Remarks:			

Plot 7.2.24 Peak output power test results frequency, at low, mid, high frequency

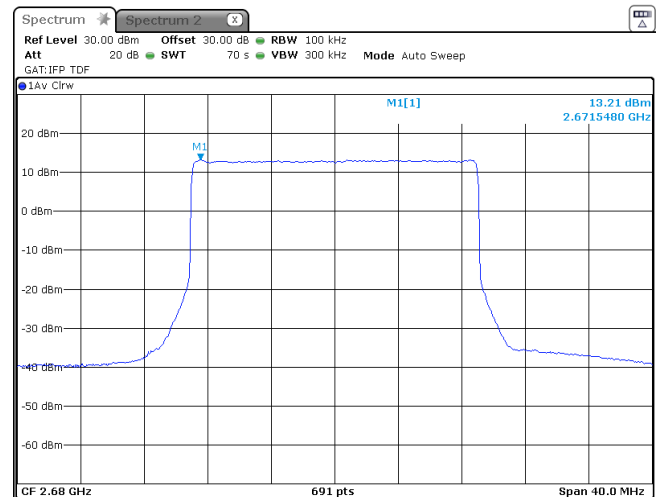
CHANNEL BANDWIDTH:
NUMBER OF ANTENNA:

20 MHz
4

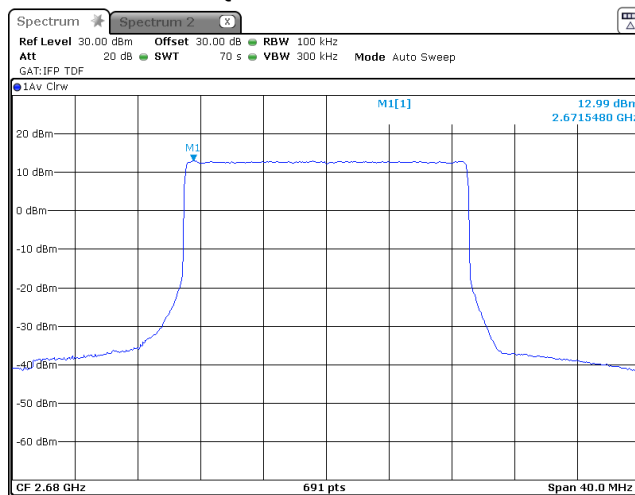
MODULATION: QPSK



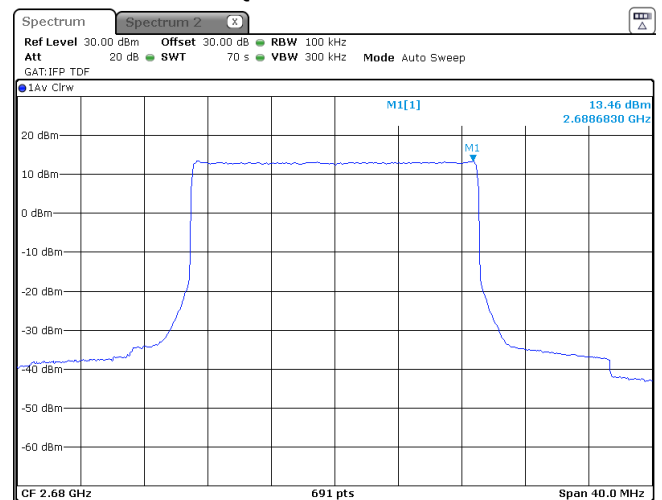
MODULATION: 16 QAM



MODULATION: 64 QAM



MODULATION: 256 QAM





Test specification: Section 27.53, Band edge emissions			
Test procedure: 447 CFR, Sections 2.1051, 27.53;			
Test mode: Compliance		Verdict: PASS	
Date(s): 02-Aug-23			
Temperature: 21 °C	Relative Humidity: 54 %	Air Pressure: 1012 hPa	Power: 110 VAC, 60 Hz
Remarks:			

7.3 Band edge emissions at RF connector test

7.3.1 General

This test was performed to measure spurious emissions at the channel edge at the RF antenna connector. Specification test limits are given in Table 7.3.1.

Table 7.3.1 Spurious emission limits at band edges

Channel, 10 MHz	Frequency range	RBW, kHz	Attenuation below carrier, dBc	Limit, dBm
2496.0 – 2507.5	Below 2495 MHz	1000	43+ 10*Log (P*)	-13.0
	2495.0 – 2496.0	100/300	43+ 10*Log (P*)	-13.0
	2507.5 – 2508.5	100/300	43+ 10*Log (P*)	-13.0
	Above 2508.5 MHz	1000	43+ 10*Log (P*)	-13.0
2584-2596	Below 2583.0 MHz	1000	43+ 10*Log (P*)	-13.0
	2584-2590	100/300	43+ 10*Log (P*)	-13.0
	2590-2596	100/300	43+ 10*Log (P*)	-13.0
	Above 2597.0 MHz	1000	43+ 10*Log (P*)	-13.0
2679.0 – 2690.0	Below 2678.0 MHz	1000	43+ 10*Log (P*)	-13.0
	2678.0 – 2679.0	100/300	43+ 10*Log (P*)	-13.0
	2690.0 – 2691.0	100/300	43+ 10*Log (P*)	-13.0
	Above 2691.0	1000	43+ 10*Log (P*)	-13.0
Channel, 20 MHz	Frequency range	RBW, kHz	Attenuation below carrier, dBc	Limit, dBm
2496.0 – 2518.5	Below 2495.0 MHz	1000	43+ 10*Log (P*)	-13.0
	2495.0-2496.0	100/300	43+ 10*Log (P*)	-13.0
	2518.5-2519.5	100/300	43+ 10*Log (P*)	-13.0
	Above 2519.5 MHz	1000	43+ 10*Log (P*)	-13.0
2578.0-2602.0	Below 2577.0 MHz	1000	43+ 10*Log (P*)	-13.0
	2578-2584	100/300	43+ 10*Log (P*)	-13.0
	2596-2602	100/300	43+ 10*Log (P*)	-13.0
	Above 2603.0 MHz	1000	43+ 10*Log (P*)	-13.0
2668.0 – 2690.0	Below 2667.0 MHz	1000	43+ 10*Log (P*)	-13.0
	2667.0 – 2668.0	100/300	43+ 10*Log (P*)	-13.0
	2690.0 – 2691.0	100/300	43+ 10*Log (P*)	-13.0
	Above 2691.0	1000	43+ 10*Log (P*)	-13.0

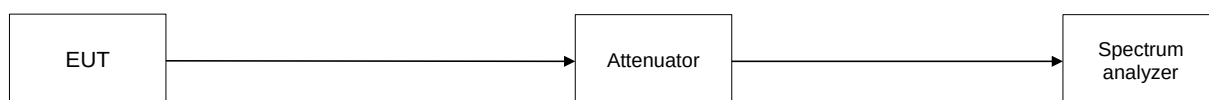
* - P is transmitter output power in Watts

7.3.2 Test procedure

7.3.2.1 The EUT was set up as shown in Figure 7.3.1, energized and its proper operation was checked.

7.3.2.2 The spurious emission was measured with spectrum analyzer as provided in Table 7.3.2 and the associated plots.

Figure 7.3.1 Spurious emission test setup for single output





Test specification: Section 27.53, Band edge emissions			
Test procedure: 447 CFR, Sections 2.1051, 27.53;			
Test mode: Compliance		Verdict: PASS	
Date(s): 02-Aug-23			
Temperature: 21 °C	Relative Humidity: 54 %	Air Pressure: 1012 hPa	Power: 110 VAC, 60 Hz
Remarks:			

Table 7.3.2 Spurious emission at band edge test results

ASSIGNED FREQUENCY RANGE: 2496.0 – 2690.0 MHz
 DETECTOR USED: Average (gated)
 RESOLUTION BANDWIDTH: 100 KHz
 VIDEO BANDWIDTH: ≥ Resolution bandwidth
 EBW: 10 MHz
 NUMBER OF CHAINS: 4
 ANTENNA PORT: #1

ANTENNA PORT. #1

Frequency MHz	Band edge	SA reading over 1 chain*, dBm	Total band edge**, dBm	RBW, kHz	Limit, dBm	Margin***, dB	Verdict
QPSK							
Low frequency 2501.0 MHz							
2496.00	Low	-28.18	-22.18	100	-13.0	-9.18	Pass
2495.00	Low	-19.89	-13.89	1000	-13.0	-0.89	
2507.50	High	-40.79	-34.79	100	-13.0	-21.79	
2508.50	High	-29.49	-23.49	1000	-13.0	-10.49	
Mid frequency 2590.0 MHz							
2584.00	Low	-37.86	-31.86	100	-13.0	-18.86	Pass
2583.00	Low	-29.51	-23.51	1000	-13.0	-10.51	
2596.00	High	-40.26	-34.26	100	-13.0	-21.26	
2597.00	High	-30.66	-24.66	1000	-13.0	-11.66	
High frequency 2685.0 MHz							
2679.00	Low	-38.47	-32.47	100	-13.0	-19.47	Pass
2678.00	Low	-29.95	-23.95	1000	-13.0	-10.95	
2690.00	High	-27.44	-21.44	100	-13.0	-8.44	
2691.00	High	-19.95	-13.95	1000	-13.0	-0.95	
256QAM							
Low frequency 2501.0 MHz							
2496.00	Low	-29.26	-23.26	100	-13.0	-10.26	Pass
2495.00	Low	-19.89	-13.89	1000	-13.0	-0.89	
2507.50	High	-37.71	-31.71	100	-13.0	-18.71	
2508.50	High	-28.95	-22.95	1000	-13.0	-9.95	
Mid frequency 2590.0 MHz							
2584.00	Low	-39.74	-33.74	100	-13.0	-20.74	Pass
2583.00	Low	-31.93	-25.93	1000	-13.0	-12.93	
2596.00	High	-41.00	-35	100	-13.0	-22.00	
2597.00	High	-32.92	-26.92	1000	-13.0	-13.92	
High frequency 2685.0 MHz							
2679.00	Low	-38.76	-32.76	100	-13.0	-19.76	Pass
2678.00	Low	-30.09	-24.09	1000	-13.0	-11.09	
2690.00	High	-29.48	-23.48	100	-13.0	-10.48	
2691.00	High	-20.08	-14.08	1000	-13.0	-1.08	

* - SA Reading over 1 chain = Max SA reading (Chains #1&2 and #3&4)

** - Total band edge = Maximum SA Reading over 1 chain + 10*log(N) = SA reading +6 dB

*** - Margin = Total band edge – Specification limit



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Report ID: AIRRAD_FCC.51025.docx

Date of Issue: 21-Aug-23

Test specification: Section 27.53, Band edge emissions			
Test procedure: 447 CFR, Sections 2.1051, 27.53;			
Test mode: Compliance		Verdict: PASS	
Date(s): 02-Aug-23			
Temperature: 21 °C	Relative Humidity: 54 %	Air Pressure: 1012 hPa	Power: 110 VAC, 60 Hz
Remarks:			

Table 7.3.3 Spurious emission at band edge test results

ASSIGNED FREQUENCY RANGE: 2496.0 – 2690.0 MHz
 DETECTOR USED: Average (gated)
 RESOLUTION BANDWIDTH: 100 KHz
 VIDEO BANDWIDTH: ≥ Resolution bandwidth
 EBW: 20 MHz
 NUMBER OF CHAINS: 4
 ANTENNA PORT: #1

ANTENNA PORT. #1

Frequency MHz	Band edge	SA reading over 1 chain*, dBm	Total band edge**, dBm	RBW, kHz	Limit, dBm	Margin***, dB	Verdict
QPSK							
Low frequency 2506.0 MHz							
2496.00	Low	-43.64	-37.64	100	-13.0	-24.64	Pass
2495.00	Low	-30.99	-24.99	1000	-13.0	-11.99	
2518.50	High	-29.63	-23.63	100	-13.0	-10.63	
2519.50	High	-33.91	-27.91	1000	-13.0	-14.91	
Mid frequency 2590.0 MHz							
2578.00	Low	-42.81	-36.81	100	-13.0	-23.81	Pass
2577.00	Low	-33.72	-27.72	1000	-13.0	-14.72	
2602.00	High	-43.30	-37.3	100	-13.0	-24.3	
2603.00	High	-34.82	-28.82	1000	-13.0	-15.82	
High frequency 2680.0 MHz							
2668.00	Low	-41.60	-35.6	100	-13.0	-22.6	Pass
2667.00	Low	-33.26	-27.26	1000	-13.0	-14.26	
2690.00	High	-31.35	-25.35	100	-13.0	-12.35	
2691.00	High	-30.53	-24.53	1000	-13.0	-11.53	
256QAM							
Low frequency 2506.0 MHz							
2496.00	Low	-31.09	-25.09	100	-13.0	-12.09	Pass
2495.00	Low	-30.63	-24.63	1000	-13.0	-11.63	
2518.50	High	-43.25	-37.25	100	-13.0	-24.25	
2519.50	High	-33.38	-27.38	1000	-13.0	-14.38	
Mid frequency 2590.0 MHz							
2578.00	Low	-41.32	-35.32	100	-13.0	-22.32	Pass
2577.00	Low	-32.46	-26.46	1000	-13.0	-13.46	
2602.00	High	-42.07	-36.07	100	-13.0	-23.07	
2603.00	High	-32.71	-26.71	1000	-13.0	-13.71	
High frequency 2680.0 MHz							
2668.00	Low	-40.56	-34.56	100	-13.0	-21.56	Pass
2667.00	Low	-30.81	-24.81	1000	-13.0	-11.81	
2690.00	High	-30.56	-24.56	100	-13.0	-11.56	
2691.00	High	-29.45	-23.45	1000	-13.0	-10.45	

* - SA Reading over 1 chain = Max SA reading (Chains #1&2 and #3&4)

** - Total band edge = Maximum SA Reading over 1 chain + 10*log(N) = SA reading +6 dB

*** - Margin = Total band edge – Specification limit

Reference numbers of test equipment used

HL 2016	HL 5376	HL 5637					
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Full description is given in Appendix A.



HERMON LABORATORIES

Test specification: Section 27.53, Band edge emissions	
Test procedure: 447 CFR, Sections 2.1051, 27.53;	
Test mode: Compliance	Verdict: PASS
Date(s): 02-Aug-23	
Temperature: 21 °C	Relative Humidity: 54 %
Air Pressure: 1012 hPa	
Power: 110 VAC, 60 Hz	
Remarks:	

Plot 7.3.1 Spurious emission at band edges test results at low carrier frequency

ASSIGNED FREQUENCY RANGE:

DETECTOR USED:

MODULATION:

EBW:

TRANSMITTER OUTPUT POWER SETTINGS:

ANTENNA PORT:

2496 – 2690 MHz

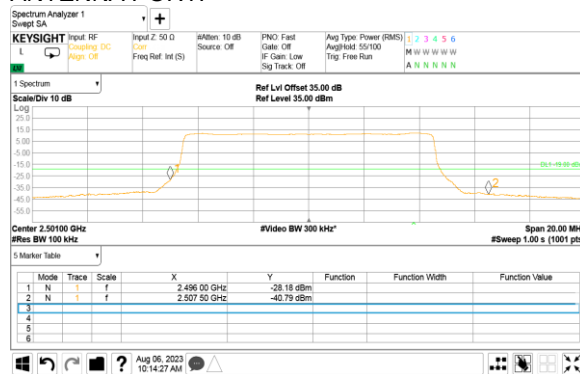
Average

QPSK

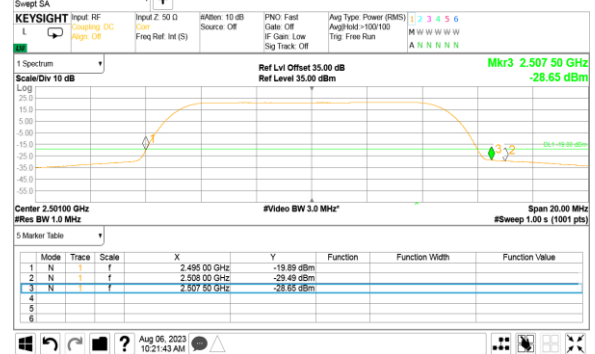
10 MHz

Maximum

#1



*Will be applied limit of -13dBm



*Will be applied limit of -13dBm

Plot 7.3.2 Spurious emission at band edges test results at low carrier frequency

ASSIGNED FREQUENCY RANGE:

DETECTOR USED:

MODULATION:

EBW:

TRANSMITTER OUTPUT POWER SETTINGS:

ANTENNA PORT:

2496 – 2690 MHz

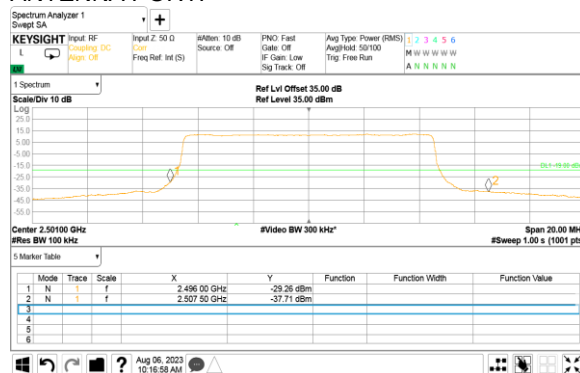
Average

256QAM

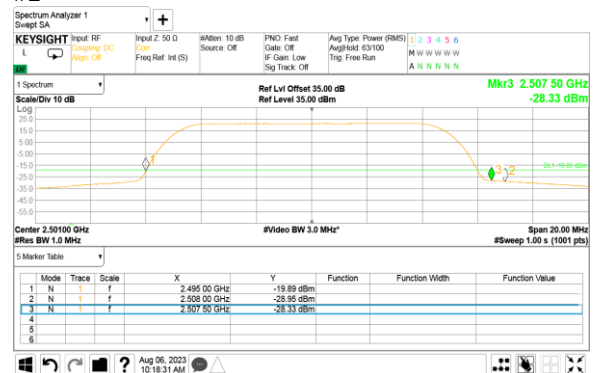
10 MHz

Maximum

#1



*Will be applied limit of -13dBm



*Will be applied limit of -13dBm



HERMON LABORATORIES

Test specification: Section 27.53, Band edge emissions			
Test procedure: 447 CFR, Sections 2.1051, 27.53;			
Test mode: Compliance		Verdict: PASS	
Date(s): 02-Aug-23			
Temperature: 21 °C	Relative Humidity: 54 %	Air Pressure: 1012 hPa	Power: 110 VAC, 60 Hz
Remarks:			

Plot 7.3.3 Spurious emission at band edges test results at mid carrier frequency

ASSIGNED FREQUENCY RANGE:

DETECTOR USED:

MODULATION:

EBW:

TRANSMITTER OUTPUT POWER SETTINGS:

ANTENNA PORT:

2496 – 2690 MHz

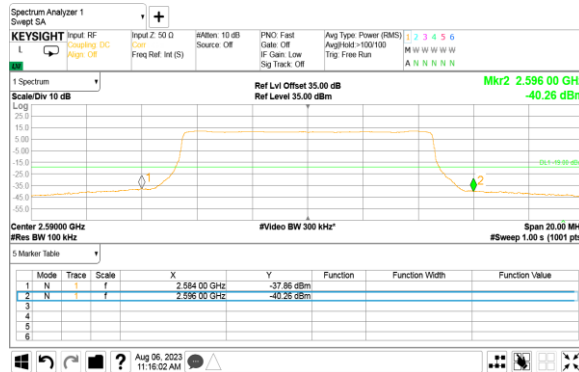
Average

QPSK

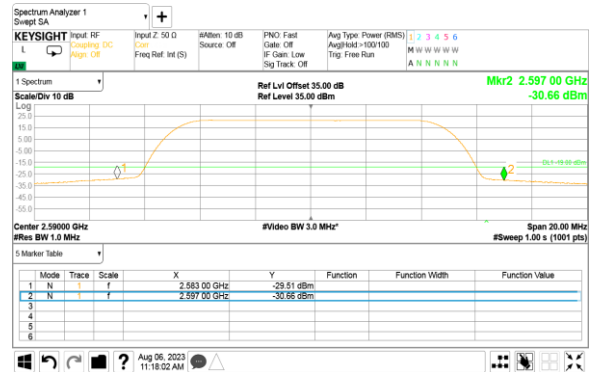
10 MHz

Maximum

#1



*Will be applied limit of -13dBm



*Will be applied limit of -13dBm

Plot 7.3.4 Spurious emission at band edges test results at mid carrier frequency

ASSIGNED FREQUENCY RANGE:

DETECTOR USED:

MODULATION:

EBW:

TRANSMITTER OUTPUT POWER SETTINGS:

ANTENNA PORT:

2496 – 2690 MHz

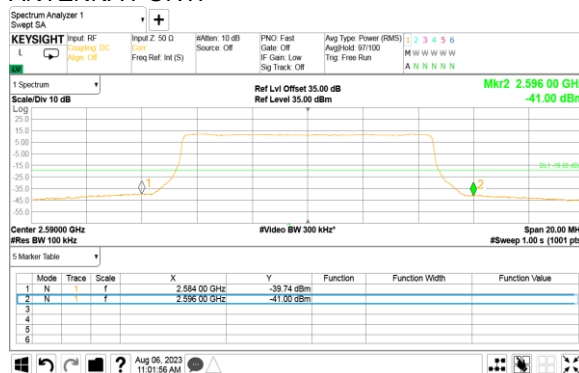
Average

256QAM

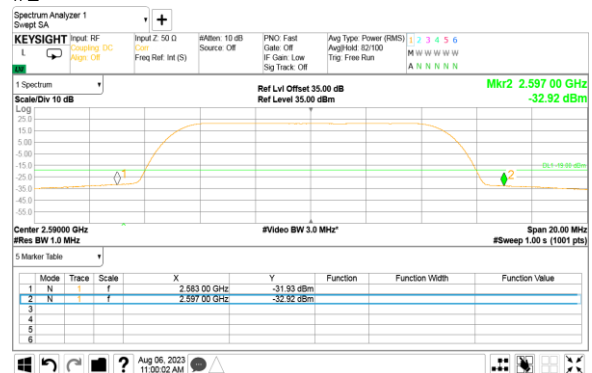
10 MHz

Maximum

#1



*Will be applied limit of -13dBm



*Will be applied limit of -13dBm



HERMON LABORATORIES

Test specification: Section 27.53, Band edge emissions			
Test procedure: 447 CFR, Sections 2.1051, 27.53;			
Test mode: Compliance		Verdict: PASS	
Date(s): 02-Aug-23			
Temperature: 21 °C	Relative Humidity: 54 %	Air Pressure: 1012 hPa	Power: 110 VAC, 60 Hz
Remarks:			

Plot 7.3.5 Spurious emission at band edges test results at high carrier frequency

ASSIGNED FREQUENCY RANGE:

DETECTOR USED:

MODULATION:

EBW:

TRANSMITTER OUTPUT POWER SETTINGS:

ANTENNA PORT:

2496 – 2690 MHz

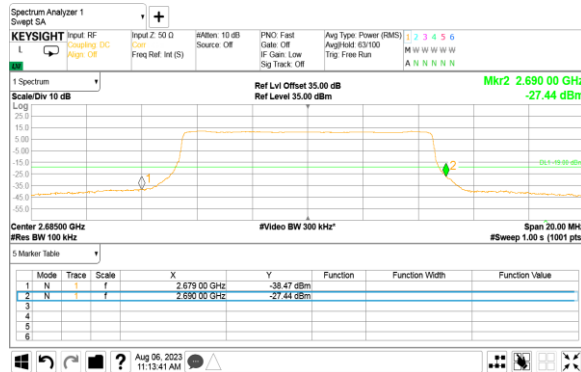
Average

QPSK

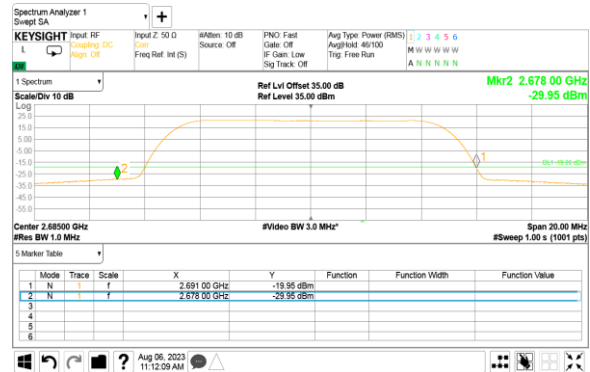
10 MHz

Maximum

#1



*Will be applied limit of -13dBm



*Will be applied limit of -13dBm

Plot 7.3.6 Spurious emission at band edges test results at high carrier frequency

ASSIGNED FREQUENCY RANGE:

DETECTOR USED:

MODULATION:

EBW:

TRANSMITTER OUTPUT POWER SETTINGS:

ANTENNA PORT:

2496 – 2690 MHz

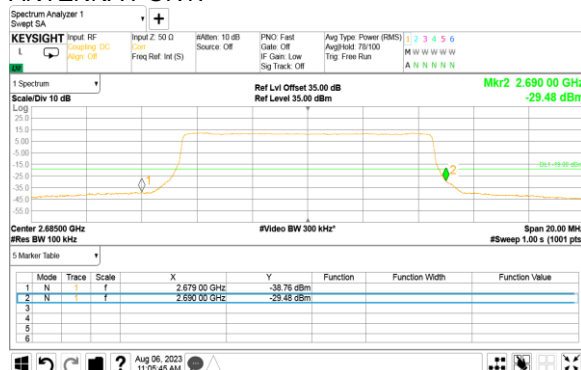
Average

256QAM

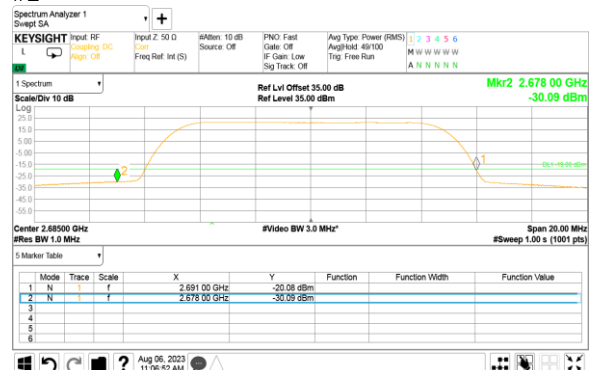
10 MHz

Maximum

#1



*Will be applied limit of -13dBm



*Will be applied limit of -13dBm



HERMON LABORATORIES

Test specification: Section 27.53, Band edge emissions			
Test procedure: 447 CFR, Sections 2.1051, 27.53;			
Test mode: Compliance		Verdict: PASS	
Date(s): 02-Aug-23			
Temperature: 21 °C	Relative Humidity: 54 %	Air Pressure: 1012 hPa	Power: 110 VAC, 60 Hz
Remarks:			

Plot 7.3.7 Spurious emission at band edges test results at low carrier frequency

ASSIGNED FREQUENCY RANGE:

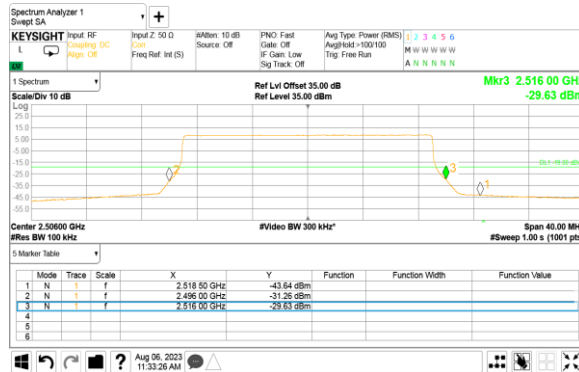
DETECTOR USED:

MODULATION:

EBW:

TRANSMITTER OUTPUT POWER SETTINGS:

ANTENNA PORT:



*Will be applied limit of -13dBm

2496 – 2690 MHz

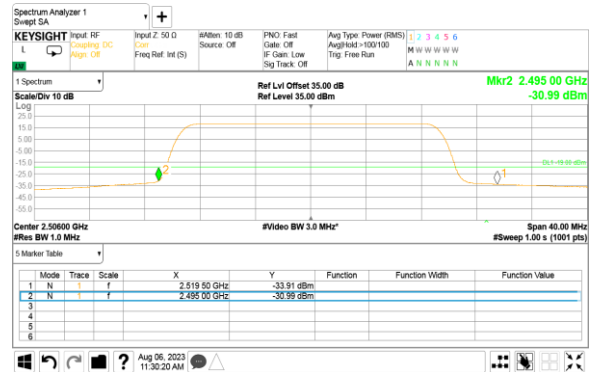
Average

QPSK

20 MHz

Maximum

#1



*Will be applied limit of -13dBm

Plot 7.3.8 Spurious emission at band edges test results at low carrier frequency

ASSIGNED FREQUENCY RANGE:

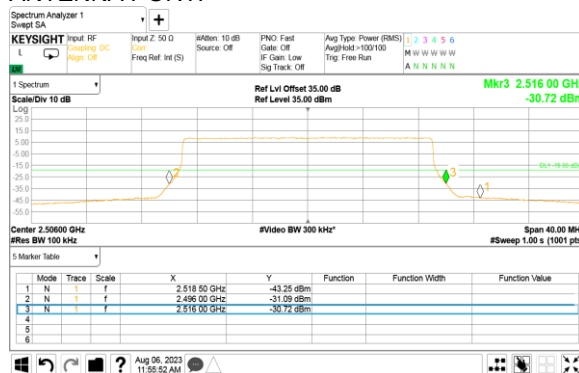
DETECTOR USED:

MODULATION:

EBW:

TRANSMITTER OUTPUT POWER SETTINGS:

ANTENNA PORT:



*Will be applied limit of -13dBm

2496 – 2690 MHz

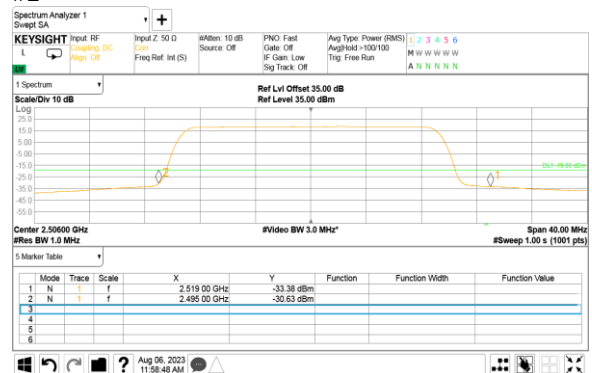
Average

256QAM

20 MHz

Maximum

#1



*Will be applied limit of -13dBm



HERMON LABORATORIES

Test specification: Section 27.53, Band edge emissions			
Test procedure: 447 CFR, Sections 2.1051, 27.53;			
Test mode: Compliance		Verdict: PASS	
Date(s): 02-Aug-23			
Temperature: 21 °C	Relative Humidity: 54 %	Air Pressure: 1012 hPa	Power: 110 VAC, 60 Hz
Remarks:			

Plot 7.3.11 Spurious emission at band edges test results at high carrier frequency

ASSIGNED FREQUENCY RANGE:

DETECTOR USED:

MODULATION:

EBW:

TRANSMITTER OUTPUT POWER SETTINGS:

ANTENNA PORT:

2496 – 2690 MHz

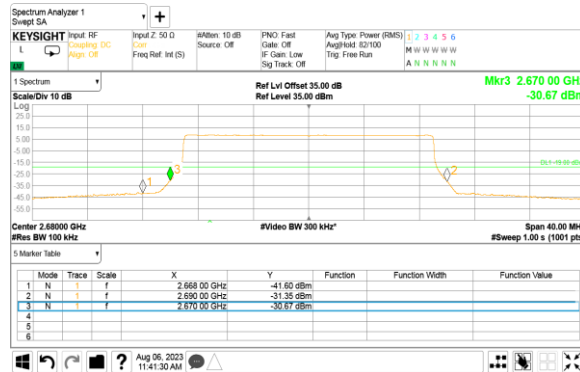
Average

QPSK

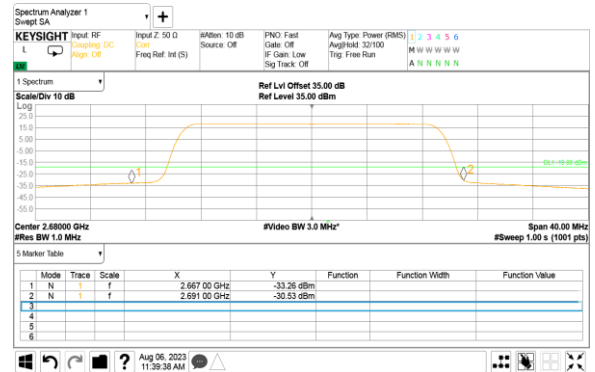
20 MHz

Maximum

#1



*Will be applied limit of -13dBm



*Will be applied limit of -13dBm

Plot 7.3.12 Spurious emission at band edges test results at high carrier frequency

ASSIGNED FREQUENCY RANGE:

DETECTOR USED:

MODULATION:

EBW:

TRANSMITTER OUTPUT POWER SETTINGS:

ANTENNA PORT:

2496 – 2690 MHz

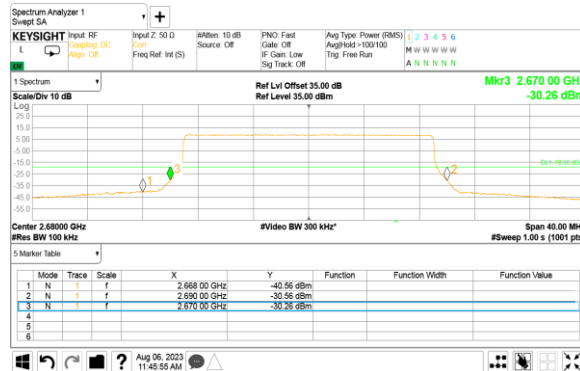
Average

256QAM

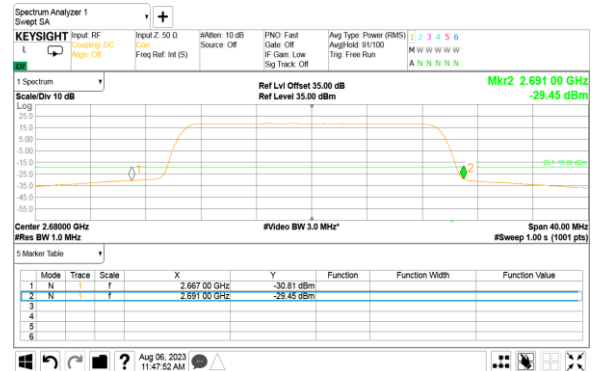
20 MHz

Maximum

#1



*Will be applied limit of -13dBm



*Will be applied limit of -13dBm



Test specification: Section 27.53, Spurious emissions at RF antenna connector			
Test procedure: 47 CFR, Sections 2.1051, 27.53			
Test mode: Compliance		Verdict: PASS	
Date(s): 02-Aug-23			
Temperature: 21 °C	Relative Humidity: 54 %	Air Pressure: 1012 hPa	Power: 110 VAC, 60 Hz
Remarks:			

7.4 Spurious emissions at RF antenna connector test

7.4.1 General

This test was performed to measure spurious emissions at RF antenna connector. Specification test limits are given in Table 7.4.1.

Table 7.4.1 Spurious emission limits

Frequency, MHz	Attenuation below carrier, dBc	Spurious emissions, dBm
Base and fixed user stations		
0.009 – 10th harmonic*	43+10logP(W)**	-13.0

* - spurious emission limits do not apply to the channel edge emission investigated in course of band edge emission testing

** - P is transmitter output power in watts

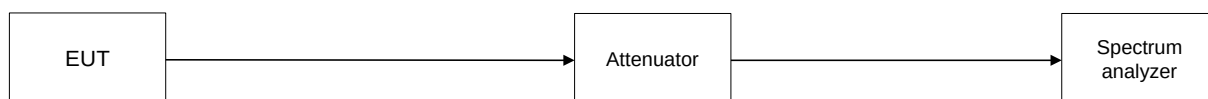
7.4.2 Test procedure

7.4.2.1 The EUT was set up as shown in Figure 7.4.1, energized and its proper operation was checked.

7.4.2.2 The EUT was adjusted to produce maximum available for end user RF output power.

7.4.2.3 The spurious emission was measured with spectrum analyzer as provided in Table 7.4.2 and the associated plots.

Figure 7.4.1 Spurious emission test setup, single output





Test specification:		Section 27.53, Spurious emissions at RF antenna connector	
Test procedure:		47 CFR, Sections 2.1051, 27.53	
Test mode:		Verdict: PASS	
Date(s):			
02-Aug-23			
Temperature: 21 °C	Relative Humidity: 54 %	Air Pressure: 1012 hPa	Power: 110 VAC, 60 Hz
Remarks:			

Table 7.4.2 Spurious emission test results

ASSIGNED FREQUENCY RANGE: 2496-2690 MHz
 INVESTIGATED FREQUENCY RANGE: 0.009 – 26900 MHz
 DETECTOR USED: Peak
 VIDEO BANDWIDTH: ≥ Resolution bandwidth
 MODULATION: QPSK
 TRANSMITTER OUTPUT POWER SETTINGS: Maximum
 ANTENNA PORT: #1

Frequency, MHz	SA reading, dBm	Attenuation, dB	Cable loss, dB	RBW, kHz	Spurious emission, dBm	Limit, dBm	Margin, dB*	Verdict
Low carrier frequency								
No emissions were found								Pass
Mid carrier frequency								
No emissions were found								Pass
High carrier frequency								
No emissions were found								Pass

*- Margin = Spurious emission – specification limit.

Reference numbers of test equipment used

HL 5376	HL 5637	HL5642					
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Full description is given in Appendix A.

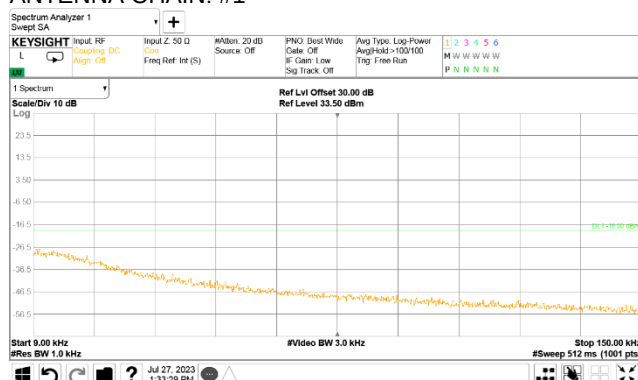


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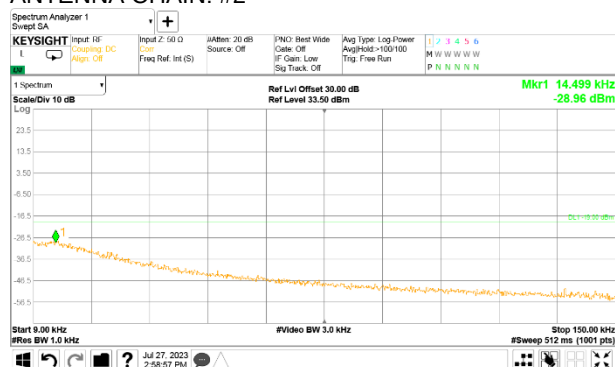
Test specification: Section 27.53, Spurious emissions at RF antenna connector			
Test procedure: 47 CFR, Sections 2.1051, 27.53			
Test mode: Compliance		Verdict: PASS	
Date(s): 02-Aug-23			
Temperature: 21 °C	Relative Humidity: 54 %	Air Pressure: 1012 hPa	Power: 110 VAC, 60 Hz
Remarks:			

Plot 7.4.1 Spurious emission measurements in 9 - 150 kHz range at low carrier frequency

MODULATION:
CHANNEL SPACING:
ANTENNA CHAIN: #1

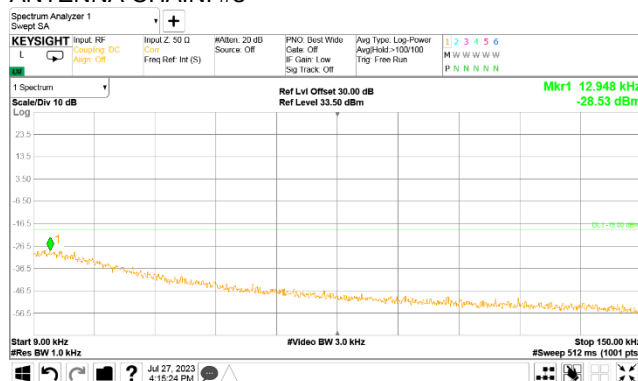


QPSK
10 MHz
ANTENNA CHAIN: #2

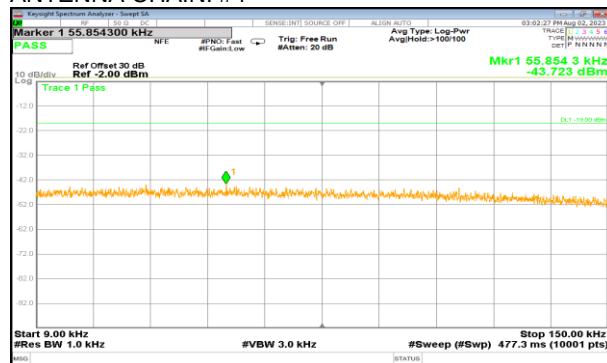


* The limit line is $43+10\log P(W) - 10*\log(N)$

ANTENNA CHAIN: #3



ANTENNA CHAIN: #4



* The limit line is $43+10\log P(W) - 10*\log(N)$

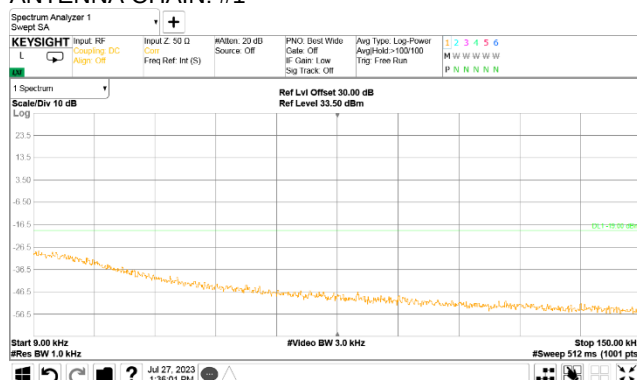


HERMON LABORATORIES

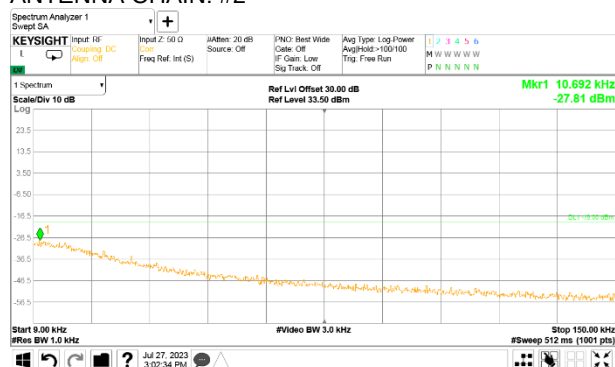
Test specification: Section 27.53, Spurious emissions at RF antenna connector			
Test procedure: 47 CFR, Sections 2.1051, 27.53			
Test mode: Compliance		Verdict: PASS	
Date(s): 02-Aug-23			
Temperature: 21 °C	Relative Humidity: 54 %	Air Pressure: 1012 hPa	Power: 110 VAC, 60 Hz
Remarks:			

Plot 7.4.2 Spurious emission measurements in 9 - 150 kHz range at mid carrier frequency

MODULATION:
CHANNEL SPACING:
ANTENNA CHAIN: #1

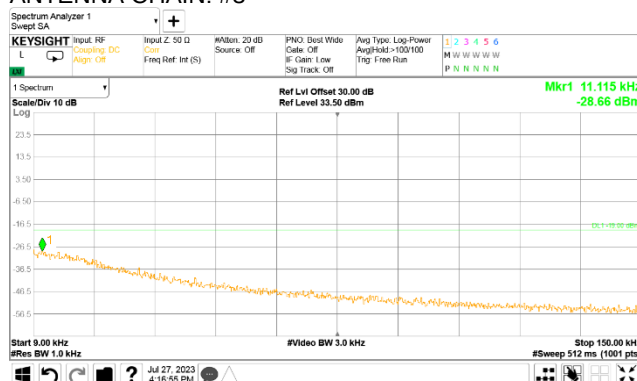


QPSK
10 MHz
ANTENNA CHAIN: #2

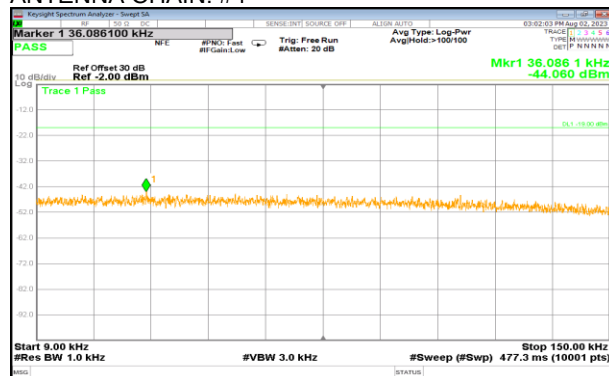


* The limit line is $43+10\log P(W) - 10*\log(N)$

ANTENNA CHAIN: #3



ANTENNA CHAIN: #4



* The limit line is $43+10\log P(W) - 10*\log(N)$

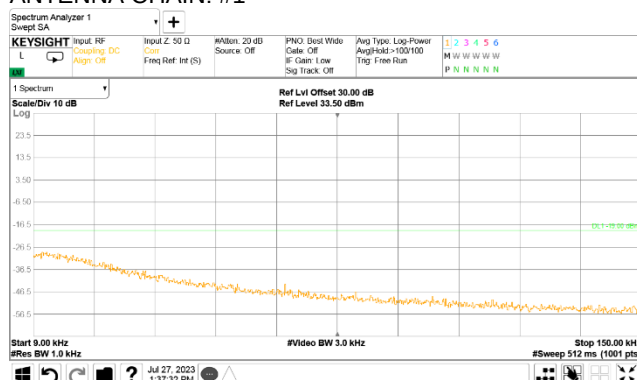


HERMON LABORATORIES

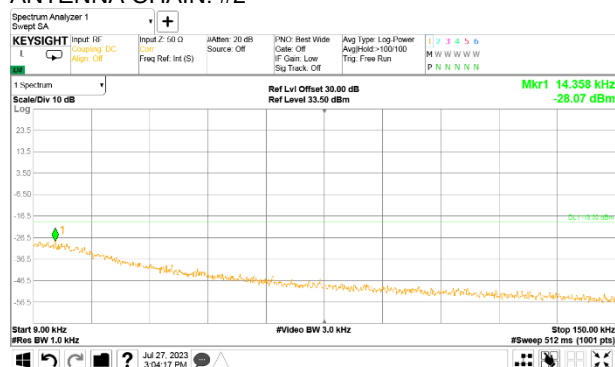
Test specification: Section 27.53, Spurious emissions at RF antenna connector			
Test procedure: 47 CFR, Sections 2.1051, 27.53			
Test mode: Compliance		Verdict: PASS	
Date(s): 02-Aug-23			
Temperature: 21 °C	Relative Humidity: 54 %	Air Pressure: 1012 hPa	Power: 110 VAC, 60 Hz
Remarks:			

Plot 7.4.3 Spurious emission measurements in 9 - 150 kHz range at high carrier frequency

MODULATION:
CHANNEL SPACING:
ANTENNA CHAIN: #1

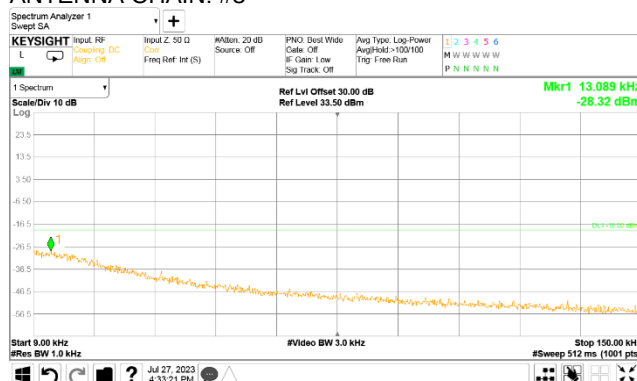


QPSK
10 MHz
ANTENNA CHAIN: #2

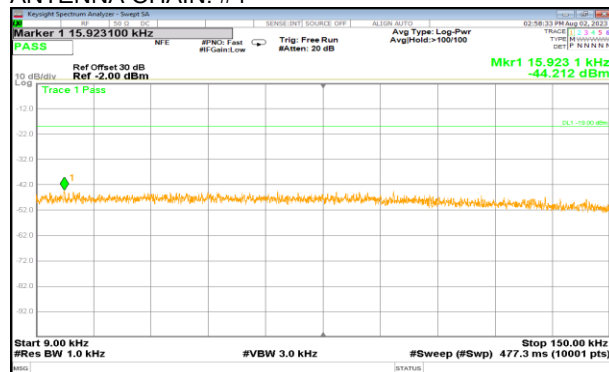


* The limit line is $43+10\log P(W) - 10*\log(N)$

ANTENNA CHAIN: #3



ANTENNA CHAIN: #4

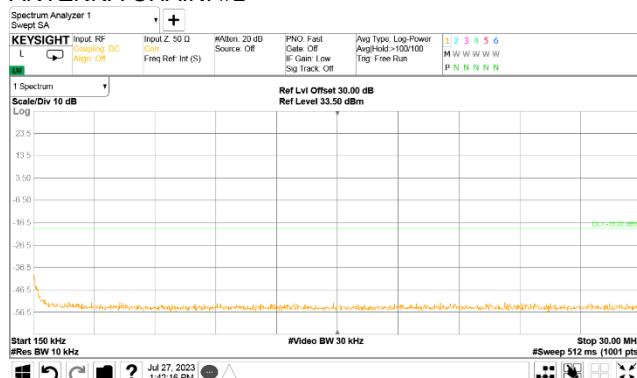


* The limit line is $43+10\log P(W) - 10*\log(N)$

Test specification: Section 27.53, Spurious emissions at RF antenna connector			
Test procedure: 47 CFR, Sections 2.1051, 27.53			
Test mode: Compliance		Verdict: PASS	
Date(s): 02-Aug-23			
Temperature: 21 °C	Relative Humidity: 54 %	Air Pressure: 1012 hPa	Power: 110 VAC, 60 Hz
Remarks:			

Plot 7.4.4 Spurious emission measurements in 150 kHz - 30 MHz range at low carrier frequency

MODULATION:
CHANNEL SPACING:
ANTENNA CHAIN: #1

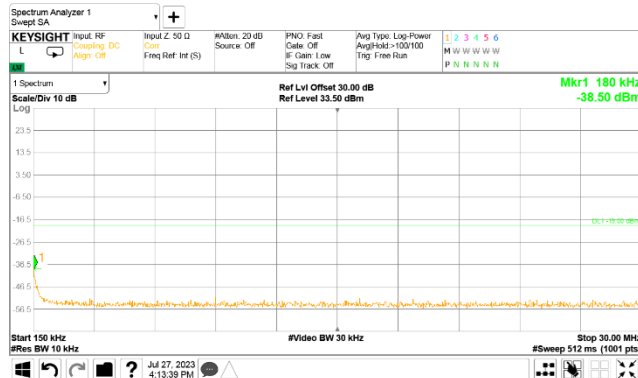


QPSK
10 MHz
ANTENNA CHAIN: #2

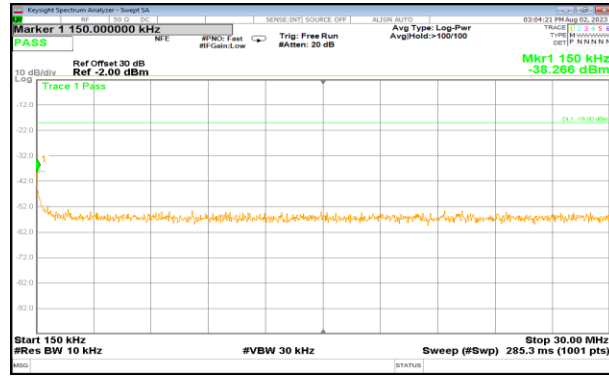


* The limit line is $43 + 10 \log P(W) - 10 * \log(N)$

ANTENNA CHAIN: #3



ANTENNA CHAIN: #4



* The limit line is $43 + 10 \log P(W) - 10 * \log(N)$