



Test specification: Section 2.1049, Occupied bandwidth			
Test procedure: 47 CFR, Section 2.1049			
Test mode: Compliance		Verdict: PASS	
Date(s): 25-Jul-21 – 24-Nov-21			
Temperature: 24 °C	Relative Humidity: 52 %	Air Pressure: 1012 hPa	Power: 48 VAC
Remarks:			

7.3 Occupied bandwidth test

7.3.1 General

This test was performed to measure transmitter occupied bandwidth. Specification test limits are given in Table 7.3.1.

Table 7.3.1 Occupied bandwidth limits

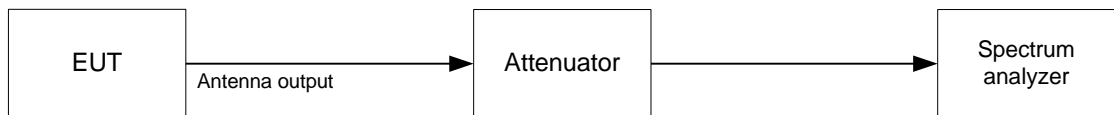
Assigned frequency, MHz	Modulation envelope reference points*, %	Maximum allowed bandwidth, MHz
3550 - 3700	99	10 / 20 / 30 / 40 MHz

* - Modulation envelope reference points are provided in terms of attenuation below the unmodulated carrier.

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 EUT was set to transmit the unmodulated carrier and the reference peak power level was measured.
- 7.3.2.3 The EUT was set to transmit the normally modulated carrier.
- 7.3.2.4 The transmitter occupied bandwidth was measured with spectrum analyzer as a frequency delta between the reference points on modulation envelope and provided in Table 7.3.2 and the associated plots.

Figure 7.3.1 Occupied bandwidth test setup





Test specification: Section2.1049, Occupied bandwidth			
Test procedure: 47 CFR, Section 2.1049			
Test mode: Compliance		Verdict: PASS	
Date(s): 25-Jul-21 – 24-Nov-21			
Temperature: 24 °C	Relative Humidity: 52 %	Air Pressure: 1012 hPa	Power: 48 VAC
Remarks:			

Table 7.3.2 Occupied bandwidth test results

DETECTOR USED: Peak hold
RESOLUTION BANDWIDTH: 1 – 5% of the OBW
VIDEO BANDWIDTH: > RBW
MODULATION ENVELOPE REFERENCE POINTS: 99%

Carrier frequency, MHz	Occupied bandwidth, MHz	Limit, MHz	Margin, MHz	Verdict
Channel spacing 10 MHz				
Modulation QPSK				
3555.0	8.6814	10.0	-1.3186	Pass
3625.0	8.6914	10.0	-1.3086	Pass
3695.0	8.6714	10.0	-1.3286	Pass
Modulation 16QAM				
3555.0	8.6914	10.0	-1.3086	Pass
3625.0	8.6739	10.0	-1.3261	Pass
3695.0	8.6739	10.0	-1.3261	Pass
Modulation 64QAM				
3555.0	8.6764	10.0	-1.3236	Pass
3625.0	8.6764	10.0	-1.3236	Pass
3680.0	8.6664	10.0	-1.3336	Pass
Modulation 256QAM				
3555.0	8.6364	10.0	-1.3636	Pass
3625.0	8.6289	10.0	-1.3711	Pass
3695.0	8.6289	10.0	-1.3711	Pass



Test specification: Section2.1049, Occupied bandwidth			
Test procedure: 47 CFR, Section 2.1049			
Test mode: Compliance		Verdict: PASS	
Date(s): 25-Jul-21 – 24-Nov-21			
Temperature: 24 °C	Relative Humidity: 52 %	Air Pressure: 1012 hPa	Power: 48 VAC
Remarks:			

Table 7.3.3 Occupied bandwidth test results (continue)

DETECTOR USED: Peak hold
 RESOLUTION BANDWIDTH: 1 – 5% of the OBW
 VIDEO BANDWIDTH: > RBW
 MODULATION ENVELOPE REFERENCE POINTS: 99%

Channel spacing 20 MHz				
Modulation QPSK				
3560.0	18.1927	20.0	-1.8073	Pass
3625.0	18.2027	20.0	-1.7973	Pass
3690.0	18.1927	20.0	-1.8073	Pass
Modulation 16QAM				
3560.0	18.1927	20.0	-1.8073	Pass
3625.0	18.2027	20.0	-1.7973	Pass
3690.0	18.1927	20.0	-1.8073	Pass
Modulation 64QAM				
3560.0	18.2377	20.0	-1.7623	Pass
3625.0	18.2627	20.0	-1.7373	Pass
3690.0	18.2627	20.0	-1.7373	Pass
Modulation 256QAM				
3560.0	18.1727	20.0	-1.8273	Pass
3625.0	18.1772	20.0	-1.8228	Pass
3690.0	18.2027	20.0	-1.7973	Pass
Channel spacing 30 MHz				
Modulation QPSK				
3.565	27.829	30.000	-2.171	Pass
3.625	27.867	30.000	-2.133	Pass
3.685	27.837	30.000	-2.163	Pass
Modulation 16QAM				
3.565	27.874	30.000	-2.126	Pass
3.625	27.867	30.000	-2.133	Pass
3.685	27.897	30.000	-2.103	Pass
Modulation 64QAM				
3.565	27.859	30.000	-2.141	Pass
3.625	27.897	30.000	-2.103	Pass
3.685	27.889	30.000	-2.111	Pass
Modulation 256QAM				
3.565	27.822	30.000	-2.178	Pass
3.625	27.837	30.000	-2.163	Pass
3.685	27.837	30.000	-2.163	Pass



Test specification: Section 2.1049, Occupied bandwidth			
Test procedure: 47 CFR, Section 2.1049			
Test mode: Compliance		Verdict: PASS	
Date(s): 25-Jul-21 – 24-Nov-21			
Temperature: 24 °C	Relative Humidity: 52 %	Air Pressure: 1012 hPa	Power: 48 VAC
Remarks:			

Table 7.3.4 Occupied bandwidth test results (continue)

DETECTOR USED: Peak hold
 RESOLUTION BANDWIDTH: 1 – 5% of the OBW
 VIDEO BANDWIDTH: > RBW
 MODULATION ENVELOPE REFERENCE POINTS: 99%

Channel spacing 40 MHz				
Modulation QPSK				
3570.0	37.7453	40.0	-2.2547	Pass
3625.0	37.7853	40.0	-2.2147	Pass
3680.0	37.7653	40.0	-2.2347	Pass
Modulation 16QAM				
3570.0	37.7353	40.0	-2.2647	Pass
3625.0	37.7953	40.0	-2.2047	Pass
3680.0	37.7753	40.0	-2.2247	Pass
Modulation 64QAM				
3570.0	37.7453	40.0	-2.2547	Pass
3625.0	37.8053	40.0	-2.1947	Pass
3680.0	37.7753	40.0	-2.2247	Pass
Modulation 256QAM				
3570.0	37.7453	40.0	-2.2547	Pass
3625.0	37.8053	40.0	-2.1947	Pass
3680.0	37.7653	40.0	-2.2347	Pass

Reference numbers of test equipment used

HL 4355	HL 3901	HL 5608				
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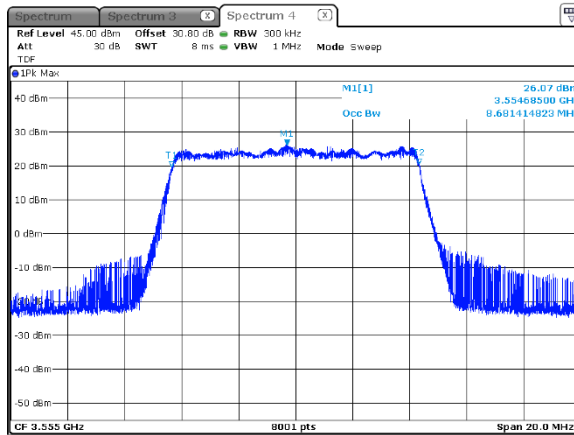
Full description is given in Appendix A.



Test specification: Section 2.1049, Occupied bandwidth			
Test procedure: 47 CFR, Section 2.1049			
Test mode: Compliance		Verdict: PASS	
Date(s): 25-Jul-21 – 24-Nov-21			
Temperature: 24 °C	Relative Humidity: 52 %	Air Pressure: 1012 hPa	Power: 48 VAC
Remarks:			

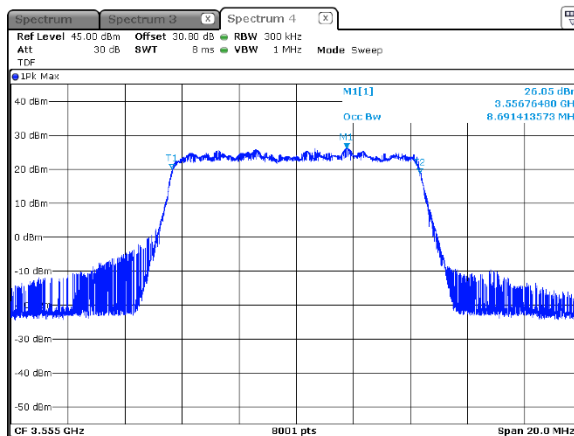
Plot 7.3.1 Occupied bandwidth test result at low frequency

MODULATION: QPSK
CHANNEL SPACING: 10 MHz
ANTENNA CHAIN: 1



Plot 7.3.2 Occupied bandwidth test result at low frequency

MODULATION: 16QAM
CHANNEL SPACING: 10 MHz
ANTENNA CHAIN: 1



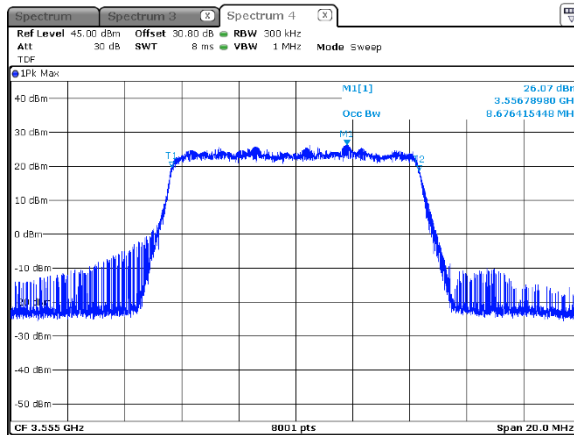


HERMON LABORATORIES

Test specification: Section2.1049, Occupied bandwidth			
Test procedure: 47 CFR, Section 2.1049			
Test mode: Compliance		Verdict: PASS	
Date(s): 25-Jul-21 – 24-Nov-21			
Temperature: 24 °C	Relative Humidity: 52 %	Air Pressure: 1012 hPa	Power: 48 VAC
Remarks:			

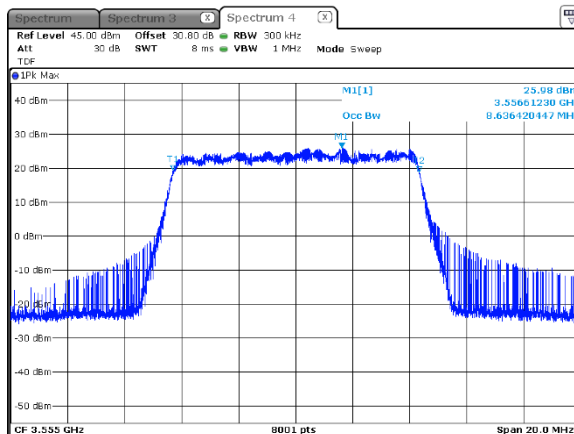
Plot 7.3.3 Occupied bandwidth test result at low frequency

MODULATION: 64QAM
CHANNEL SPACING: 10 MHz
ANTENNA CHAIN: 1



Plot 7.3.4 Occupied bandwidth test result at low frequency

MODULATION: 256QAM
CHANNEL SPACING: 10 MHz
ANTENNA CHAIN: 1



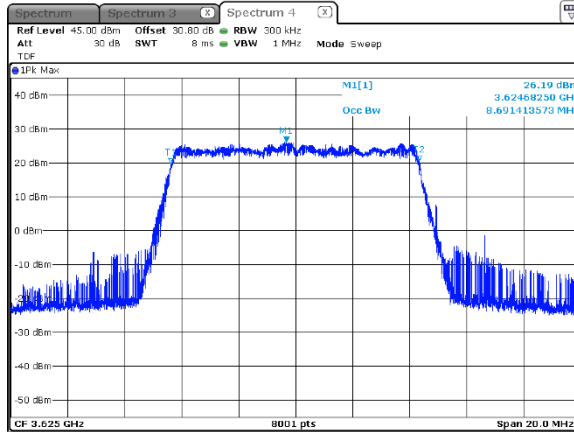


HERMON LABORATORIES

Test specification: Section 2.1049, Occupied bandwidth			
Test procedure: 47 CFR, Section 2.1049			
Test mode: Compliance		Verdict: PASS	
Date(s): 25-Jul-21 – 24-Nov-21			
Temperature: 24 °C	Relative Humidity: 52 %	Air Pressure: 1012 hPa	Power: 48 VAC
Remarks:			

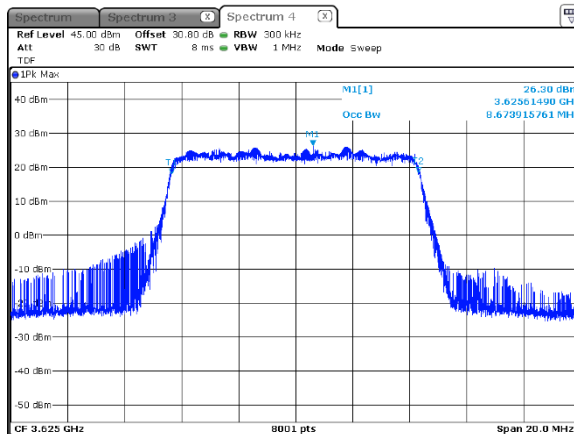
Plot 7.3.5 Occupied bandwidth test result at mid frequency

MODULATION: QPSK
CHANNEL SPACING: 10 MHz
ANTENNA CHAIN: 1



Plot 7.3.6 Occupied bandwidth test result at mid frequency

MODULATION: 16QAM
CHANNEL SPACING: 10 MHz
ANTENNA CHAIN: 1



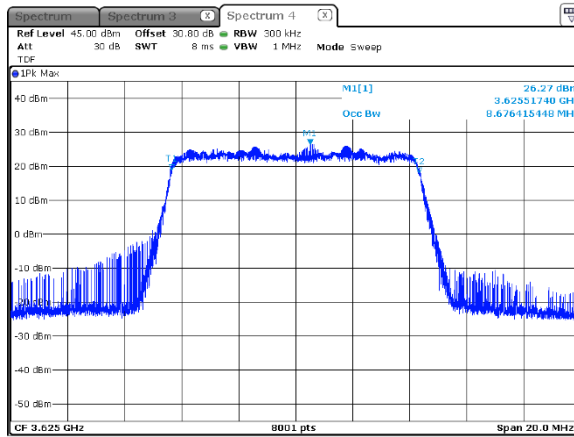


HERMON LABORATORIES

Test specification: Section2.1049, Occupied bandwidth			
Test procedure: 47 CFR, Section 2.1049			
Test mode: Compliance		Verdict: PASS	
Date(s): 25-Jul-21 – 24-Nov-21			
Temperature: 24 °C	Relative Humidity: 52 %	Air Pressure: 1012 hPa	Power: 48 VAC
Remarks:			

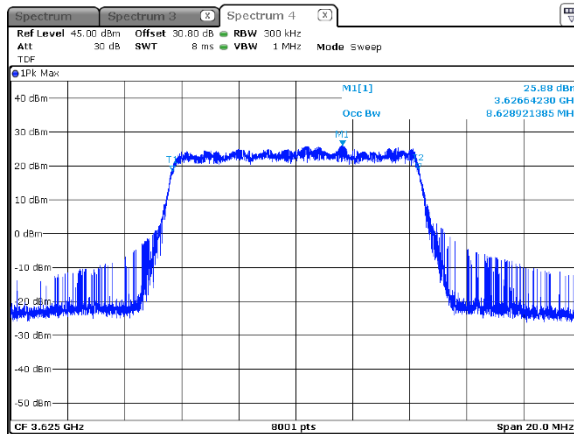
Plot 7.3.7 Occupied bandwidth test result at mid frequency

MODULATION: 64QAM
CHANNEL SPACING: 10 MHz
ANTENNA CHAIN: 1



Plot 7.3.8 Occupied bandwidth test result at mid frequency

MODULATION: 256QAM
CHANNEL SPACING: 10 MHz
ANTENNA CHAIN: 1

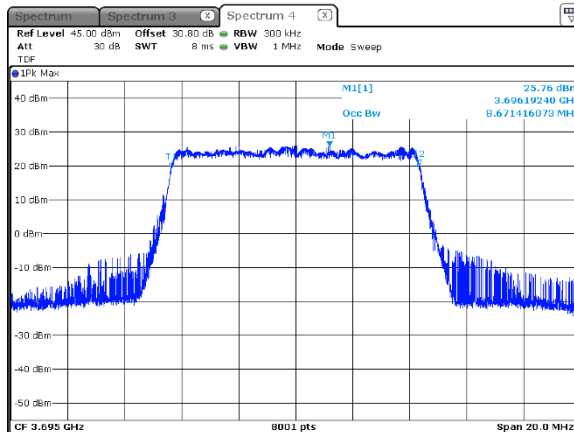




Test specification: Section 2.1049, Occupied bandwidth			
Test procedure: 47 CFR, Section 2.1049			
Test mode: Compliance		Verdict: PASS	
Date(s): 25-Jul-21 – 24-Nov-21			
Temperature: 24 °C	Relative Humidity: 52 %	Air Pressure: 1012 hPa	Power: 48 VAC
Remarks:			

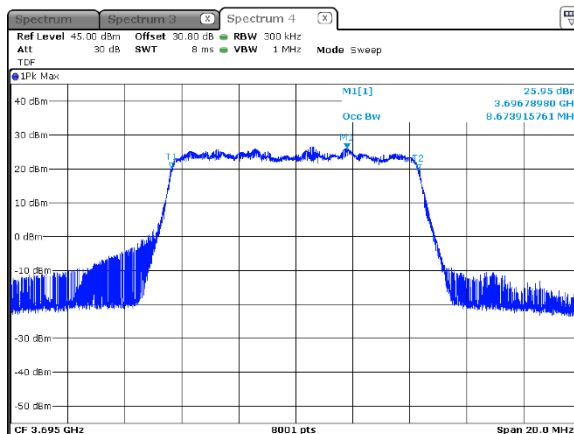
Plot 7.3.9 Occupied bandwidth test result at high frequency

MODULATION: QPSK
CHANNEL SPACING: 10 MHz
ANTENNA CHAIN: 1



Plot 7.3.10 Occupied bandwidth test result at high frequency

MODULATION: 16QAM
CHANNEL SPACING: 10 MHz
ANTENNA CHAIN: 1



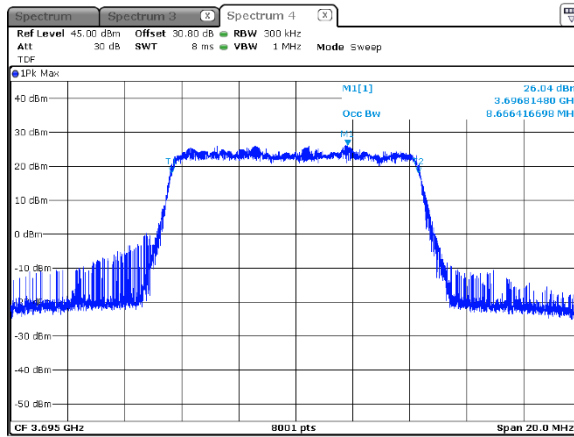


HERMON LABORATORIES

Test specification: Section2.1049, Occupied bandwidth			
Test procedure: 47 CFR, Section 2.1049			
Test mode: Compliance		Verdict: PASS	
Date(s): 25-Jul-21 – 24-Nov-21			
Temperature: 24 °C	Relative Humidity: 52 %	Air Pressure: 1012 hPa	Power: 48 VAC
Remarks:			

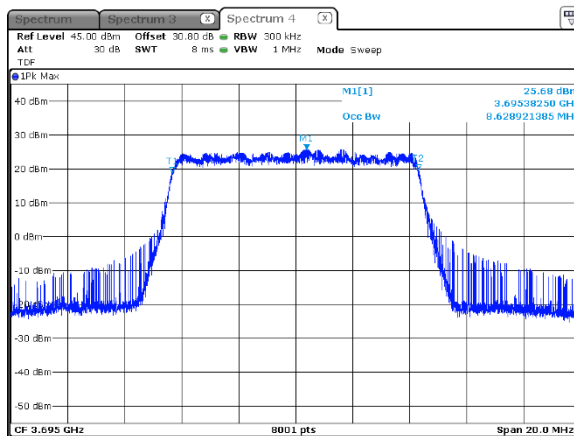
Plot 7.3.11 Occupied bandwidth test result at high frequency

MODULATION: 64QAM
CHANNEL SPACING: 10 MHz
ANTENNA CHAIN: 1



Plot 7.3.12 Occupied bandwidth test result at high frequency

MODULATION: 256QAM
CHANNEL SPACING: 10 MHz
ANTENNA CHAIN: 1



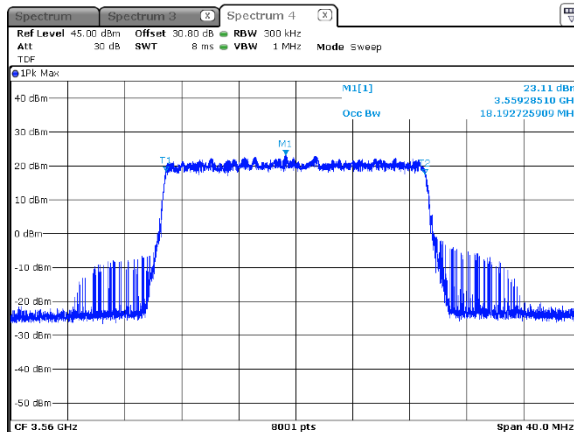


HERMON LABORATORIES

Test specification: Section2.1049, Occupied bandwidth			
Test procedure: 47 CFR, Section 2.1049			
Test mode: Compliance		Verdict: PASS	
Date(s): 25-Jul-21 – 24-Nov-21			
Temperature: 24 °C	Relative Humidity: 52 %	Air Pressure: 1012 hPa	Power: 48 VAC
Remarks:			

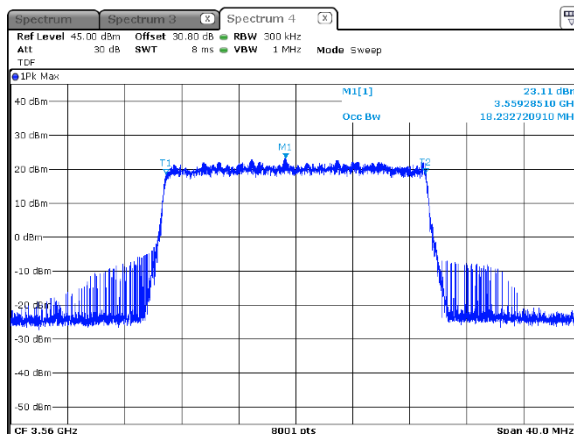
Plot 7.3.13 Occupied bandwidth test result at low frequency

MODULATION: QPSK
CHANNEL SPACING: 20 MHz
ANTENNA CHAIN: 1



Plot 7.3.14 Occupied bandwidth test result at low frequency

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

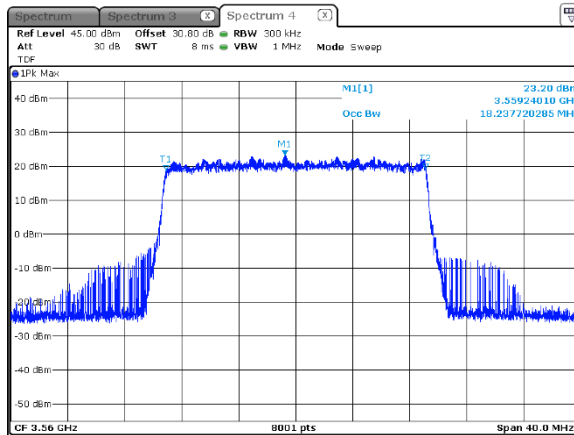




Test specification: Section2.1049, Occupied bandwidth			
Test procedure: 47 CFR, Section 2.1049			
Test mode: Compliance		Verdict: PASS	
Date(s): 25-Jul-21 – 24-Nov-21			
Temperature: 24 °C	Relative Humidity: 52 %	Air Pressure: 1012 hPa	Power: 48 VAC
Remarks:			

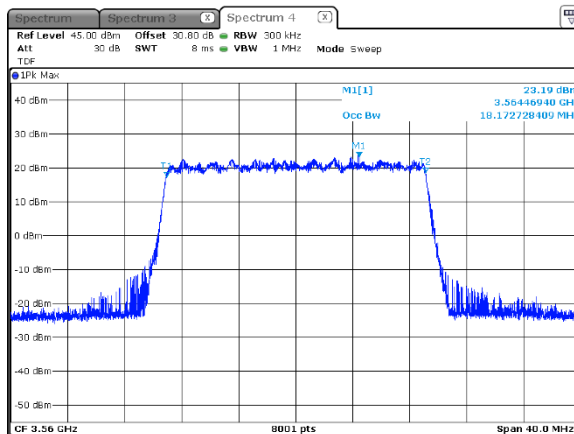
Plot 7.3.15 Occupied bandwidth test result at low frequency

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



Plot 7.3.16 Occupied bandwidth test result at low frequency

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



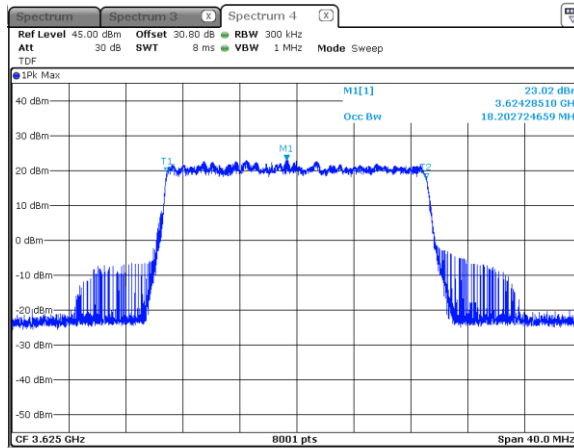


HERMON LABORATORIES

Test specification: Section 2.1049, Occupied bandwidth			
Test procedure: 47 CFR, Section 2.1049			
Test mode: Compliance		Verdict: PASS	
Date(s): 25-Jul-21 – 24-Nov-21			
Temperature: 24 °C	Relative Humidity: 52 %	Air Pressure: 1012 hPa	Power: 48 VAC
Remarks:			

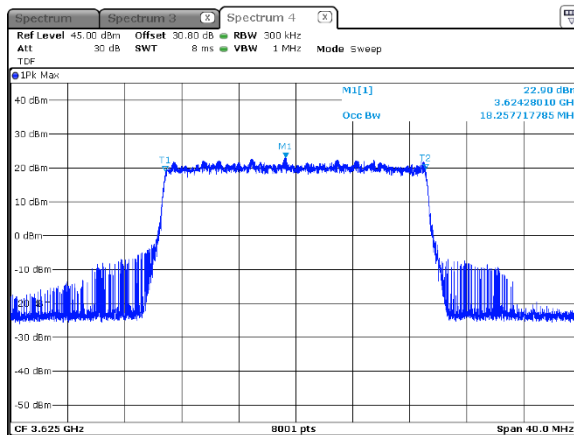
Plot 7.3.17 Occupied bandwidth test result at mid frequency

MODULATION: QPSK
CHANNEL SPACING: 20 MHz
ANTENNA CHAIN: 1



Plot 7.3.18 Occupied bandwidth test result at mid frequency

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



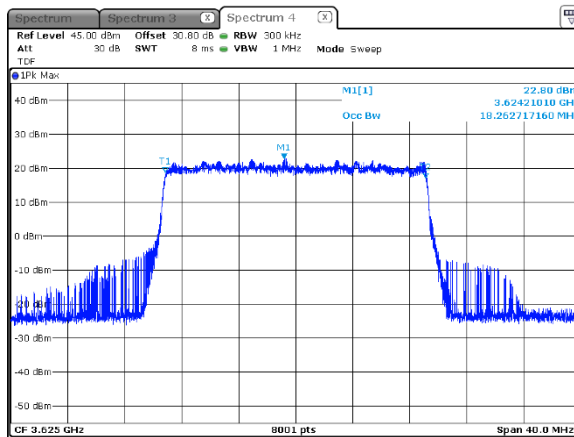


HERMON LABORATORIES

Test specification: Section2.1049, Occupied bandwidth			
Test procedure: 47 CFR, Section 2.1049			
Test mode: Compliance		Verdict: PASS	
Date(s): 25-Jul-21 – 24-Nov-21			
Temperature: 24 °C	Relative Humidity: 52 %	Air Pressure: 1012 hPa	Power: 48 VAC
Remarks:			

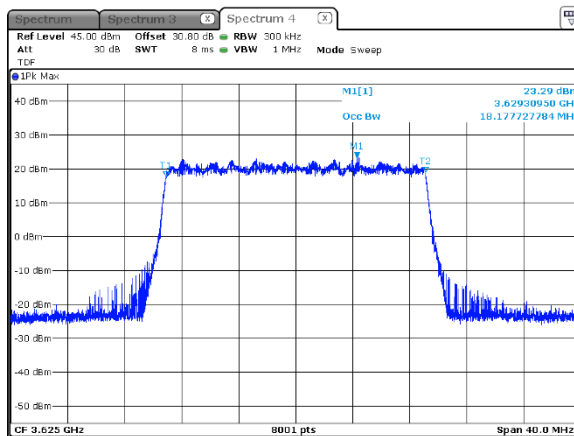
Plot 7.3.19 Occupied bandwidth test result at mid frequency

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



Plot 7.3.20 Occupied bandwidth test result at mid frequency

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



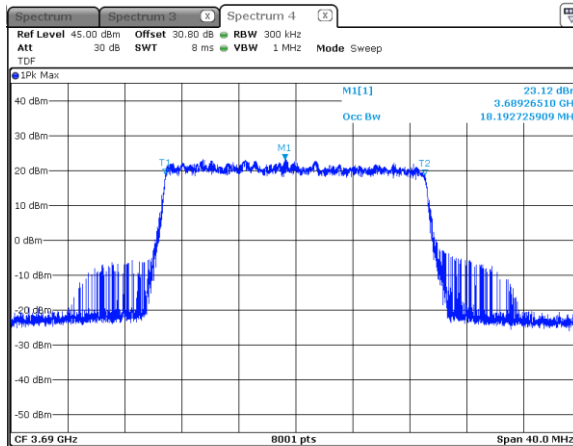


HERMON LABORATORIES

Test specification: Section 2.1049, Occupied bandwidth			
Test procedure: 47 CFR, Section 2.1049			
Test mode: Compliance		Verdict: PASS	
Date(s): 25-Jul-21 – 24-Nov-21			
Temperature: 24 °C	Relative Humidity: 52 %	Air Pressure: 1012 hPa	Power: 48 VAC
Remarks:			

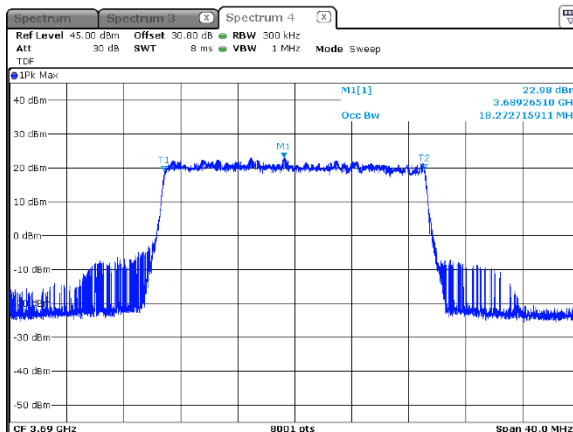
Plot 7.3.21 Occupied bandwidth test result at high frequency

MODULATION: QPSK
CHANNEL SPACING: 20 MHz
ANTENNA CHAIN: 1



Plot 7.3.22 Occupied bandwidth test result at high frequency

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



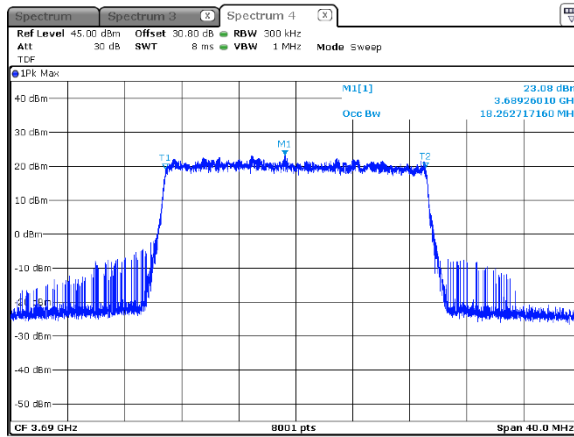


HERMON LABORATORIES

Test specification: Section2.1049, Occupied bandwidth			
Test procedure: 47 CFR, Section 2.1049			
Test mode: Compliance		Verdict: PASS	
Date(s): 25-Jul-21 – 24-Nov-21			
Temperature: 24 °C	Relative Humidity: 52 %	Air Pressure: 1012 hPa	Power: 48 VAC
Remarks:			

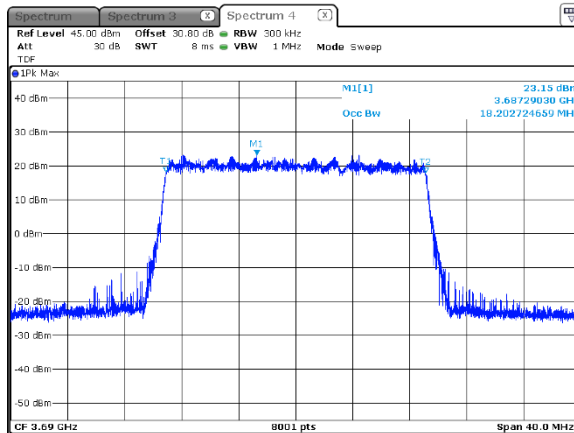
Plot 7.3.23 Occupied bandwidth test result at high frequency

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



Plot 7.3.24 Occupied bandwidth test result at high frequency

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



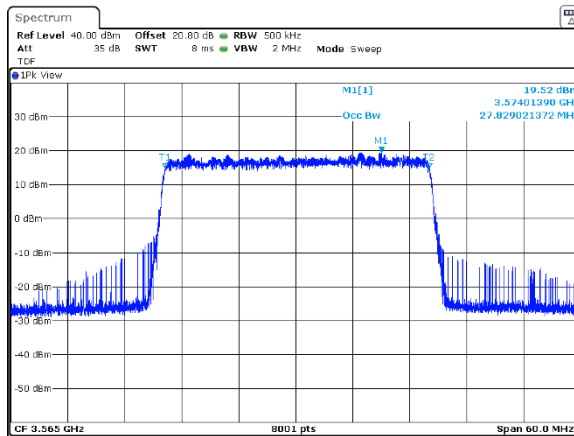


HERMON LABORATORIES

Test specification: Section2.1049, Occupied bandwidth			
Test procedure: 47 CFR, Section 2.1049			
Test mode: Compliance		Verdict: PASS	
Date(s): 25-Jul-21 – 24-Nov-21			
Temperature: 24 °C	Relative Humidity: 52 %	Air Pressure: 1012 hPa	Power: 48 VAC
Remarks:			

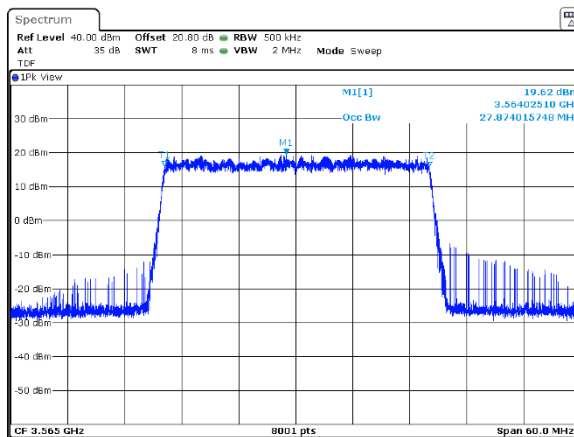
Plot 7.3.25 Occupied bandwidth test result at low frequency

MODULATION: QPSK
CHANNEL SPACING: 30 MHz
ANTENNA CHAIN: 1



Plot 7.3.26 Occupied bandwidth test result at low frequency

MODULATION: 16QAM
CHANNEL SPACING: 30 MHz
ANTENNA CHAIN: 1

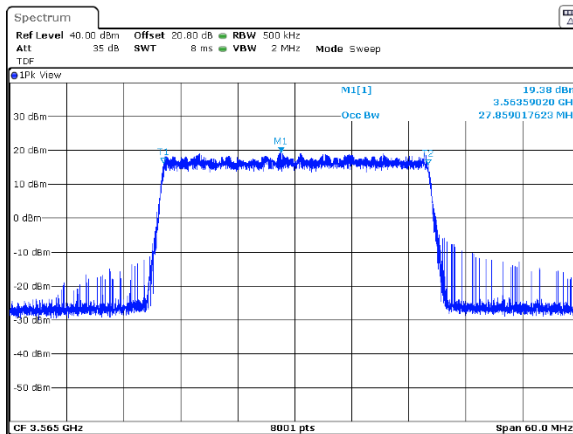




Test specification: Section2.1049, Occupied bandwidth			
Test procedure: 47 CFR, Section 2.1049			
Test mode: Compliance		Verdict: PASS	
Date(s): 25-Jul-21 – 24-Nov-21			
Temperature: 24 °C	Relative Humidity: 52 %	Air Pressure: 1012 hPa	Power: 48 VAC
Remarks:			

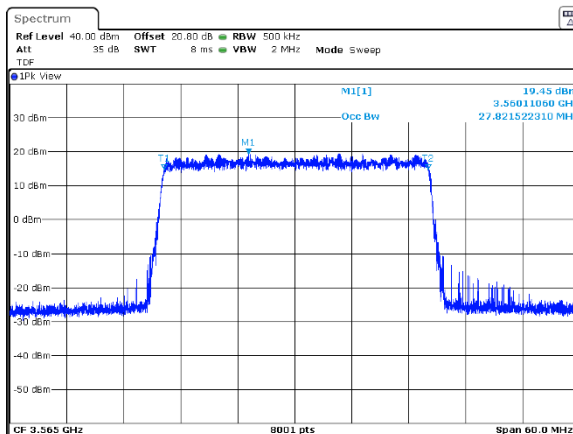
Plot 7.3.27 Occupied bandwidth test result at low frequency

MODULATION: 64QAM
CHANNEL SPACING: 30 MHz
ANTENNA CHAIN: 1



Plot 7.3.28 Occupied bandwidth test result at low frequency

MODULATION: 256QAM
CHANNEL SPACING: 30 MHz
ANTENNA CHAIN: 1

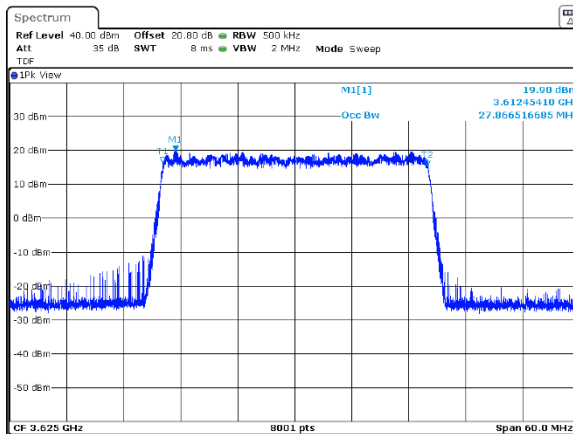




Test specification: Section2.1049, Occupied bandwidth			
Test procedure: 47 CFR, Section 2.1049			
Test mode: Compliance		Verdict: PASS	
Date(s): 25-Jul-21 – 24-Nov-21			
Temperature: 24 °C	Relative Humidity: 52 %	Air Pressure: 1012 hPa	Power: 48 VAC
Remarks:			

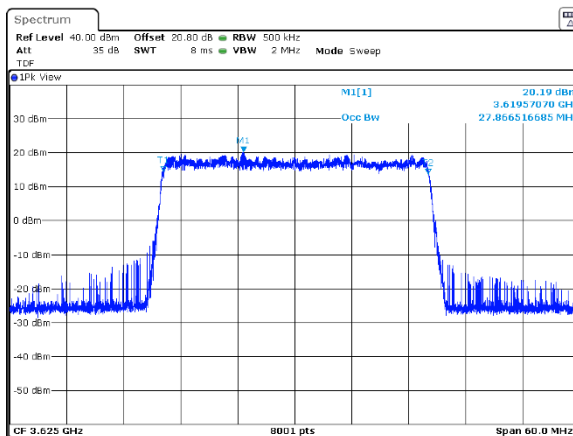
Plot 7.3.29 Occupied bandwidth test result at mid frequency

MODULATION: QPSK
CHANNEL SPACING: 30 MHz
ANTENNA CHAIN: 1



Plot 7.3.30 Occupied bandwidth test result at mid frequency

MODULATION: 16QAM
CHANNEL SPACING: 30 MHz
ANTENNA CHAIN: 1



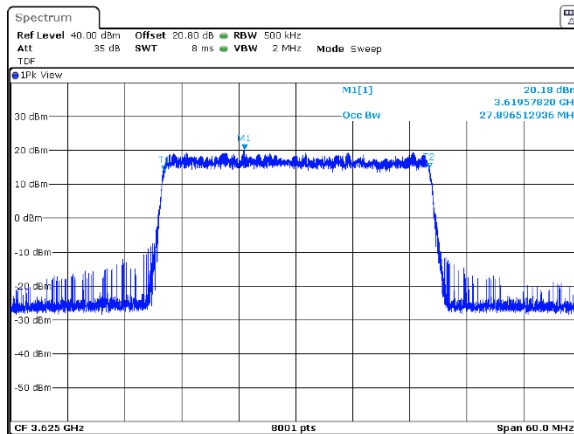


HERMON LABORATORIES

Test specification: Section2.1049, Occupied bandwidth			
Test procedure: 47 CFR, Section 2.1049			
Test mode: Compliance		Verdict: PASS	
Date(s): 25-Jul-21 – 24-Nov-21			
Temperature: 24 °C	Relative Humidity: 52 %	Air Pressure: 1012 hPa	Power: 48 VAC
Remarks:			

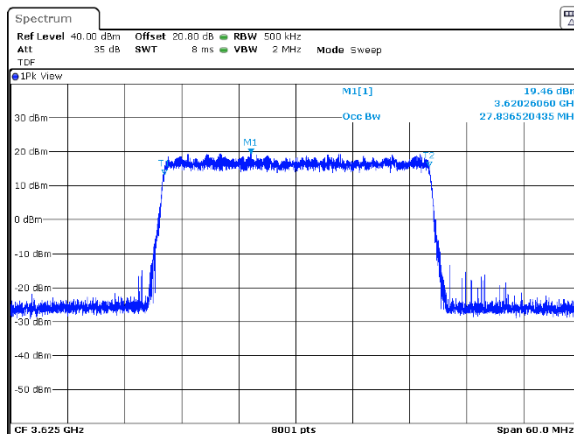
Plot 7.3.31 Occupied bandwidth test result at mid frequency

MODULATION: 64QAM
CHANNEL SPACING: 30 MHz
ANTENNA CHAIN: 1



Plot 7.3.32 Occupied bandwidth test result at mid frequency

MODULATION: 256QAM
CHANNEL SPACING: 30 MHz
ANTENNA CHAIN: 1



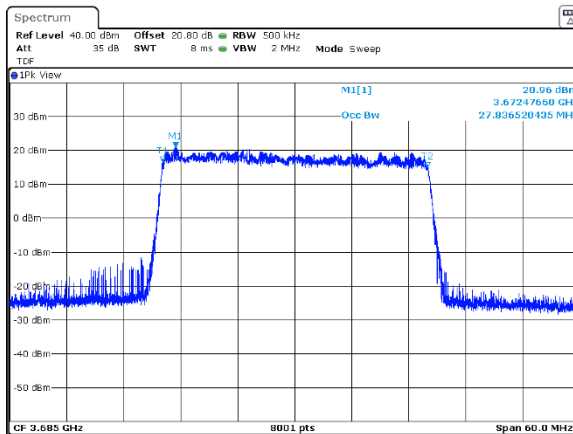


HERMON LABORATORIES

Test specification: Section2.1049, Occupied bandwidth			
Test procedure: 47 CFR, Section 2.1049			
Test mode: Compliance		Verdict: PASS	
Date(s): 25-Jul-21 – 24-Nov-21			
Temperature: 24 °C	Relative Humidity: 52 %	Air Pressure: 1012 hPa	Power: 48 VAC
Remarks:			

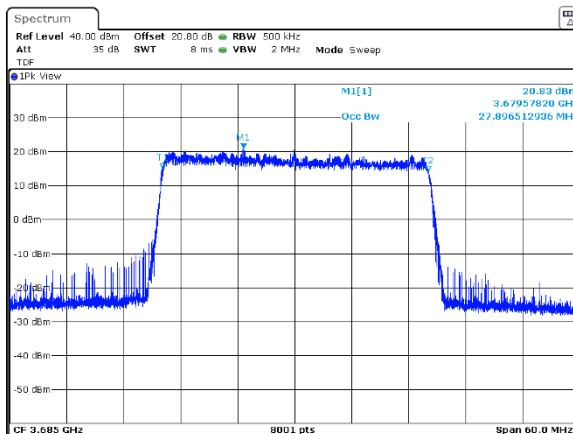
Plot 7.3.33 Occupied bandwidth test result at high frequency

MODULATION: QPSK
CHANNEL SPACING: 30 MHz
ANTENNA CHAIN: 1



Plot 7.3.34 Occupied bandwidth test result at high frequency

MODULATION: 16QAM
CHANNEL SPACING: 30 MHz
ANTENNA CHAIN: 1



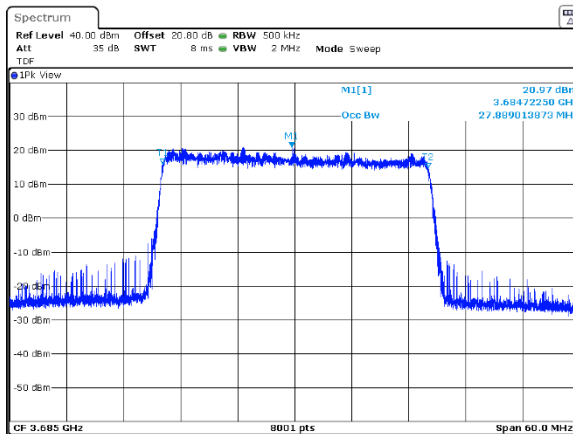


HERMON LABORATORIES

Test specification: Section2.1049, Occupied bandwidth			
Test procedure: 47 CFR, Section 2.1049			
Test mode: Compliance		Verdict: PASS	
Date(s): 25-Jul-21 – 24-Nov-21			
Temperature: 24 °C	Relative Humidity: 52 %	Air Pressure: 1012 hPa	Power: 48 VAC
Remarks:			

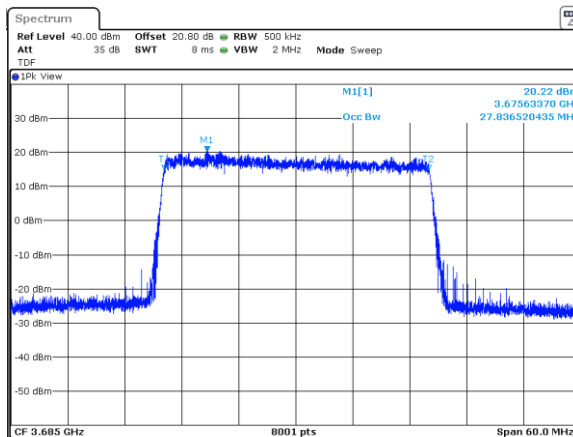
Plot 7.3.35 Occupied bandwidth test result at high frequency

MODULATION: 64QAM
CHANNEL SPACING: 30 MHz
ANTENNA CHAIN: 1



Plot 7.3.36 Occupied bandwidth test result at high frequency

MODULATION: 256QAM
CHANNEL SPACING: 30 MHz
ANTENNA CHAIN: 1



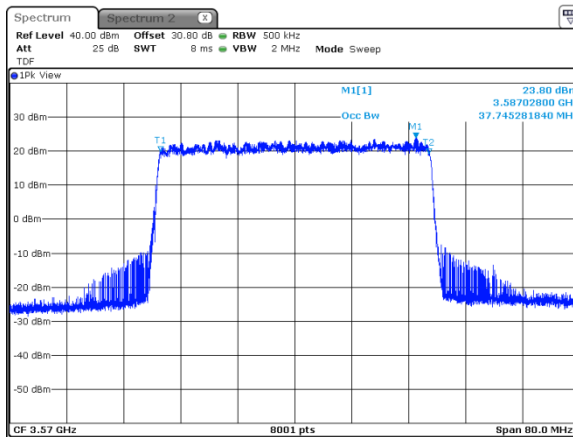


HERMON LABORATORIES

Test specification: Section2.1049, Occupied bandwidth			
Test procedure: 47 CFR, Section 2.1049			
Test mode: Compliance		Verdict: PASS	
Date(s): 25-Jul-21 – 24-Nov-21			
Temperature: 24 °C	Relative Humidity: 52 %	Air Pressure: 1012 hPa	Power: 48 VAC
Remarks:			

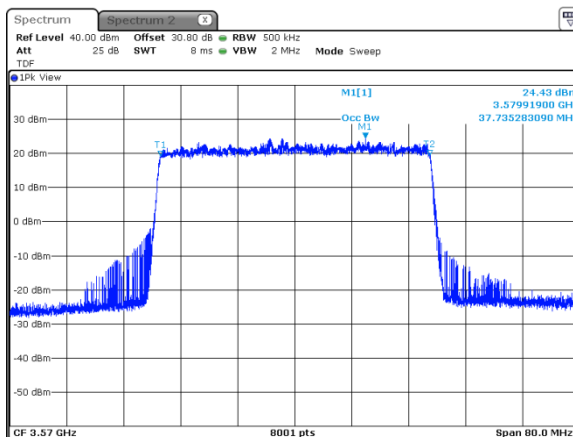
Plot 7.3.37 Occupied bandwidth test result at low frequency

MODULATION: QPSK
CHANNEL SPACING: 40 MHz
ANTENNA CHAIN: 1



Plot 7.3.38 Occupied bandwidth test result at low frequency

MODULATION: 16QAM
CHANNEL SPACING: 40 MHz
ANTENNA CHAIN: 1



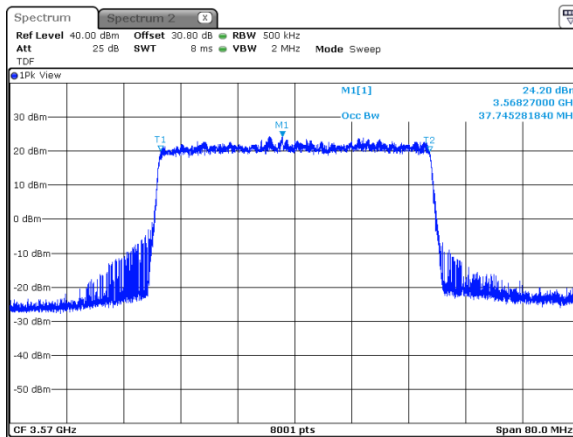


HERMON LABORATORIES

Test specification: Section2.1049, Occupied bandwidth			
Test procedure: 47 CFR, Section 2.1049			
Test mode: Compliance		Verdict: PASS	
Date(s): 25-Jul-21 – 24-Nov-21			
Temperature: 24 °C	Relative Humidity: 52 %	Air Pressure: 1012 hPa	Power: 48 VAC
Remarks:			

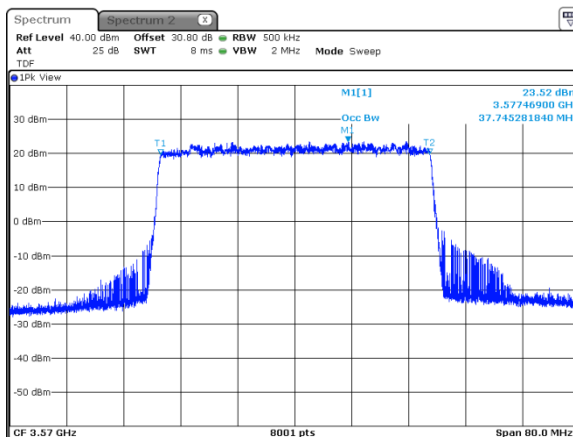
Plot 7.3.39 Occupied bandwidth test result at low frequency

MODULATION: 64QAM
CHANNEL SPACING: 40 MHz
ANTENNA CHAIN: 1



Plot 7.3.40 Occupied bandwidth test result at low frequency

MODULATION: 256QAM
CHANNEL SPACING: 40 MHz
ANTENNA CHAIN: 1



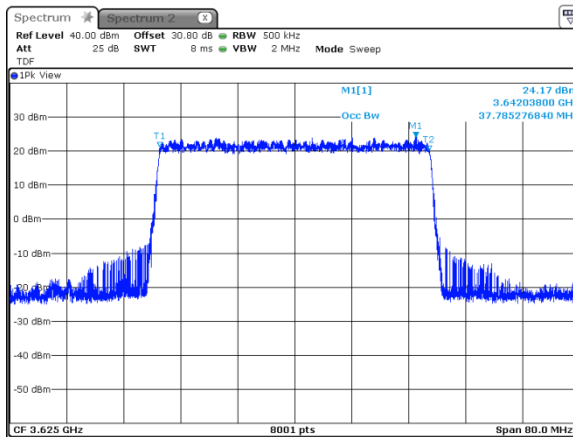


HERMON LABORATORIES

Test specification: Section2.1049, Occupied bandwidth			
Test procedure: 47 CFR, Section 2.1049			
Test mode: Compliance		Verdict: PASS	
Date(s): 25-Jul-21 – 24-Nov-21			
Temperature: 24 °C	Relative Humidity: 52 %	Air Pressure: 1012 hPa	Power: 48 VAC
Remarks:			

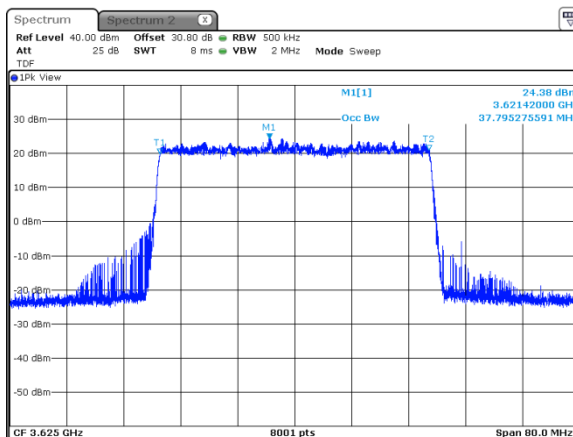
Plot 7.3.41 Occupied bandwidth test result at mid frequency

MODULATION: QPSK
CHANNEL SPACING: 40 MHz
ANTENNA CHAIN: 1



Plot 7.3.42 Occupied bandwidth test result at mid frequency

MODULATION: 16QAM
CHANNEL SPACING: 40 MHz
ANTENNA CHAIN: 1



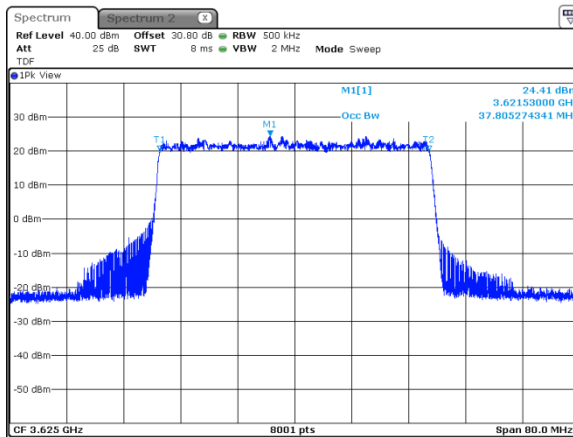


HERMON LABORATORIES

Test specification: Section2.1049, Occupied bandwidth			
Test procedure: 47 CFR, Section 2.1049			
Test mode: Compliance		Verdict: PASS	
Date(s): 25-Jul-21 – 24-Nov-21			
Temperature: 24 °C	Relative Humidity: 52 %	Air Pressure: 1012 hPa	Power: 48 VAC
Remarks:			

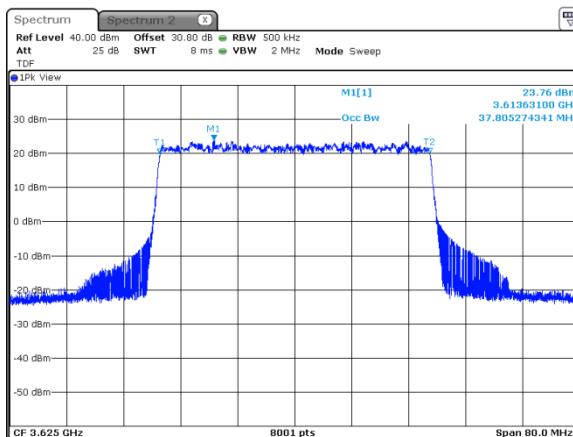
Plot 7.3.43 Occupied bandwidth test result at mid frequency

MODULATION: 64QAM
CHANNEL SPACING: 40 MHz
ANTENNA CHAIN: 1



Plot 7.3.44 Occupied bandwidth test result at mid frequency

MODULATION: 256QAM
CHANNEL SPACING: 40 MHz
ANTENNA CHAIN: 1



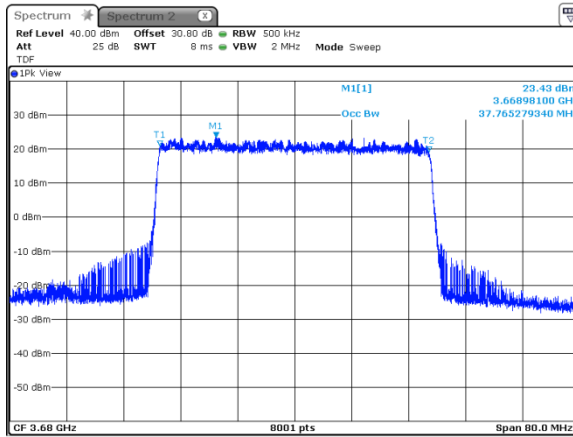


HERMON LABORATORIES

Test specification: Section 2.1049, Occupied bandwidth			
Test procedure: 47 CFR, Section 2.1049			
Test mode: Compliance		Verdict: PASS	
Date(s): 25-Jul-21 – 24-Nov-21			
Temperature: 24 °C	Relative Humidity: 52 %	Air Pressure: 1012 hPa	Power: 48 VAC
Remarks:			

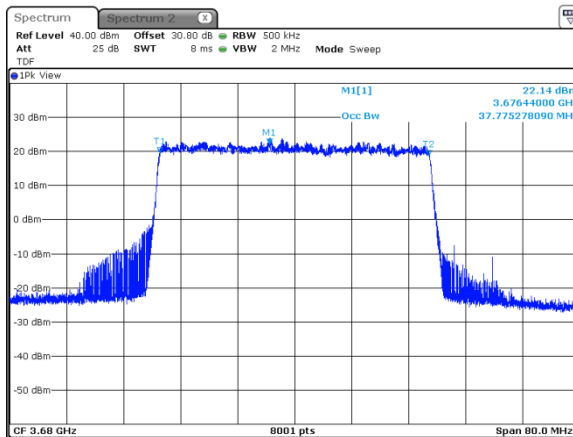
Plot 7.3.45 Occupied bandwidth test result at high frequency

MODULATION: QPSK
CHANNEL SPACING: 40 MHz
ANTENNA CHAIN: 1



Plot 7.3.46 Occupied bandwidth test result at high frequency

MODULATION: 16QAM
CHANNEL SPACING: 40 MHz
ANTENNA CHAIN: 1



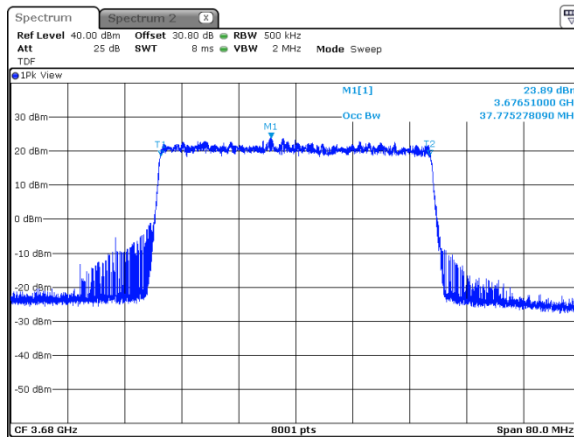


HERMON LABORATORIES

Test specification: Section 2.1049, Occupied bandwidth			
Test procedure: 47 CFR, Section 2.1049			
Test mode: Compliance		Verdict: PASS	
Date(s): 25-Jul-21 – 24-Nov-21			
Temperature: 24 °C	Relative Humidity: 52 %	Air Pressure: 1012 hPa	Power: 48 VAC
Remarks:			

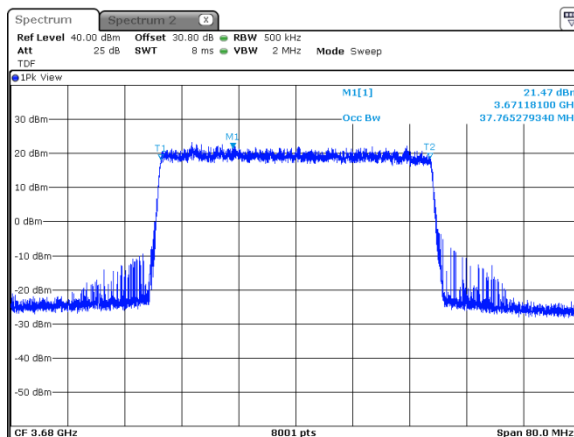
Plot 7.3.47 Occupied bandwidth test result at high frequency

MODULATION: 64QAM
CHANNEL SPACING: 40 MHz
ANTENNA CHAIN: 1



Plot 7.3.48 Occupied bandwidth test result at high frequency

MODULATION: 256QAM
CHANNEL SPACING: 40 MHz
ANTENNA CHAIN: 1





Test specification: Section 96.41(e), Emission mask			
Test procedure: Section 96.41(e)(3)			
Test mode: Compliance		Verdict: PASS	
Date(s): 25-Aug-21 – 24-Nov-21			
Temperature: 24.2 °C	Relative Humidity: 49 %	Air Pressure: 1010 hPa	Power: 48 VAC
Remarks:			

7.4 Emission outside the fundamental test

7.4.1 General

This test was performed to measure Emission outside the fundamental at RF antenna connector. Specification test limits are given in Table 7.4.1.

Table 7.4.1 Emission outside the fundamental limits

Frequency displacement from frequency block	Limit*, dBm/MHz	RBW, kHz
Channel Spacing 10 MHz		
0 – 1 MHz	- 13	100
0 – 10 MHz	- 13	1000
10 – 20 MHz	- 25	1000
Above 3530 MHz and below 3720 MHz	- 25	1000
Below 3530 MHz and above 3720 MHz	- 40	1000
Channel Spacing 20 MHz		
0 – 1 MHz	- 13	200
0 – 10 MHz	- 13	1000
10 – 20 MHz	- 25	1000
Above 3530 MHz and below 3720 MHz	- 25	1000
Below 3530 MHz and above 3720 MHz	- 40	1000
Channel Spacing 40 MHz		
0 – 1 MHz	- 13	400
0 – 10 MHz	- 13	1000
10 – 20 MHz	- 25	1000
Above 3530 MHz and below 3720 MHz	- 25	1000
Below 3530 MHz and above 3720 MHz	- 40	1000

* - Limit at each antenna connector (amount of antennas N = 4)

7.4.2 Test procedure

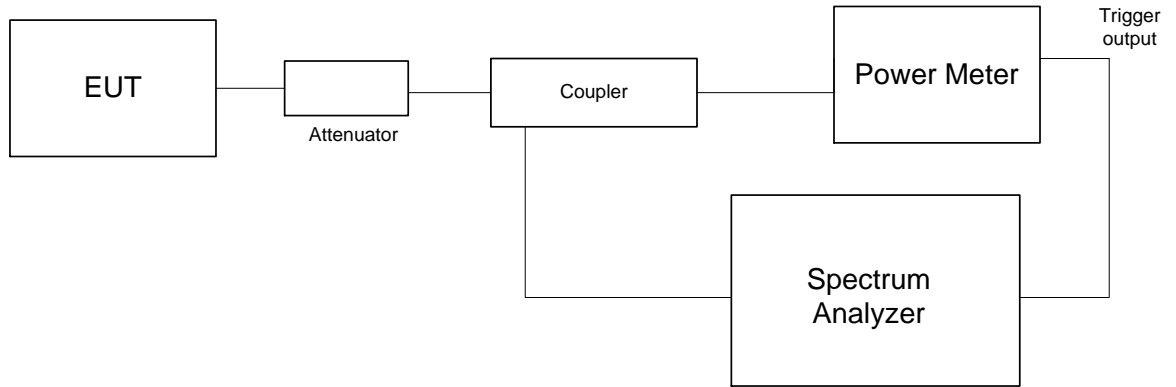
7.4.2.1 The EUT was set up as shown in Figure 7.4.1, energized and its proper operation was checked.

7.4.2.2 The Emission outside the fundamental was measured with spectrum analyzer as provided in Table 7.4.2, Table 7.4.3 and the the associated plots.



Test specification: Section 96.41(e), Emission mask			
Test procedure: Section 96.41(e)(3)			
Test mode: Compliance		Verdict: PASS	
Date(s): 25-Aug-21 – 24-Nov-21			
Temperature: 24.2 °C	Relative Humidity: 49 %	Air Pressure: 1010 hPa	Power: 48 VAC
Remarks:			

Figure 7.4.1 Emission outside the fundamental test setup





Test specification: Section 96.41(e), Emission mask			
Test procedure: Section 96.41(e)(3)			
Test mode: Compliance		Verdict: PASS	
Date(s): 25-Aug-21 – 24-Nov-21			
Temperature: 24.2 °C	Relative Humidity: 49 %	Air Pressure: 1010 hPa	Power: 48 VAC
Remarks:			

Table 7.4.2 Emission outside the fundamental test results

ASSIGNED FREQUENCY RANGE: 3550.0 –3700.0 MHz
 DETECTOR USED: Average (gated)
 VIDEO BANDWIDTH: ≥ Resolution bandwidth
 NUMBER OF CHAINS: 4
 ANTENNA PORT: Worst case
 CHANNEL SPACING: 10MHz

Frequency MHz	Band edge	SA reading over 1 chain, dBm	Total band edge*, dBm	RBW, kHz	Limit, dBm	Margin, dB	Verdict
QPSK							
Low frequency 3555.0 MHz							
3530.00	Low	-46.04	-40.04	1000	-40	-0.04	Pass
3540.00	Low	-35.89	-29.89	1000	-25	-4.89	
3550.00	Low	-26.73	-20.73	100	-13	-7.73	
3560.00	High	-25.85	-19.85	100	-13	-6.85	
3570.00	High	-31.74	-25.74	1000	-25	-0.74	
3720.00	High	-46.08	-40.08	1000	-40	-0.08	
Mid frequency 3625.0 MHz							
3530.00	Low	-46.12	-40.12	1000	-40	-0.12	Pass
3610.00	Low	-32.61	-26.61	1000	-25	-1.61	
3620.00	Low	-26.74	-20.74	100	-13	-7.74	
3630.00	High	-27.09	-21.09	100	-13	-8.09	
3640.00	High	-31.81	-25.81	1000	-25	-0.81	
3720.00	High	-46.07	-40.07	1000	-40	-0.07	
High frequency 3695.0 MHz							
3530.00	Low	-50.70	-44.70	1000	-40	-4.70	Pass
3680.00	Low	-31.66	-25.66	1000	-25	-0.66	
3690.00	Low	-20.48	-14.48	100	-13	-1.48	
3700.00	High	-26.36	-20.36	100	-13	-7.36	
3710.00	High	-34.14	-28.14	1000	-25	-3.14	
3720.00	High	-46.47	-40.47	1000	-40	-0.47	
256 QAM							
Low frequency 3555.0 MHz							
3530.00	Low	-46.10	-40.10	1000	-40	-0.10	Pass
3540.00	Low	-37.96	-31.96	1000	-25	-6.96	
3550.00	Low	-27.57	-21.57	100	-13	-8.57	
3560.00	High	-26.43	-20.43	100	-13	-7.43	
3570.00	High	-32.24	-26.24	1000	-25	-1.24	
3720.00	High	-46.06	-40.06	1000	-40	-0.06	
Mid frequency 3625.0 MHz							
3530.00	Low	-46.25	-40.25	1000	-40	-0.25	Pass
3610.00	Low	-34.04	-28.04	1000	-25	-3.04	
3620.00	Low	-27.66	-21.66	100	-13	-8.66	
3630.00	High	-27.67	-21.67	100	-13	-8.67	
3640.00	High	-33.68	-27.68	1000	-25	-2.68	
3720.00	High	-46.08	-40.08	1000	-40	-0.08	
High frequency 3695.0 MHz							
3530.00	Low	-50.55	-44.55	1000	-40	-4.55	Pass
3680.00	Low	-31.42	-25.42	1000	-25	-0.42	
3690.00	Low	-26.39	-20.39	100	-13	-7.39	
3700.00	High	-27.35	-21.35	100	-13	-8.35	
3710.00	High	-34.19	-28.19	1000	-25	-3.19	
3720.00	High	-46.82	-40.82	1000	-40	-0.82	

* - 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



Test specification: Section 96.41(e), Emission mask			
Test procedure: Section 96.41(e)(3)			
Test mode: Compliance		Verdict: PASS	
Date(s): 25-Aug-21 – 24-Nov-21			
Temperature: 24.2 °C	Relative Humidity: 49 %	Air Pressure: 1010 hPa	Power: 48 VAC
Remarks:			

Table 7.4.3 Emission outside the fundamental test results

ASSIGNED FREQUENCY RANGE: 3550.0 –3700.0 MHz
DETECTOR USED: Average (gated)
VIDEO BANDWIDTH: ≥ Resolution bandwidth
NUMBER OF CHAINS: 4
ANTENNA PORT: Worst case
CHANNEL SPACING: 20MHz

Frequency MHz	Band edge	SA reading over 1 chain, dBm	Total band edge*, dBm	RBW, kHz	Limit, dBm	Margin, dB	Verdict
QPSK							
Low frequency 3560.0 MHz							
3530.00	Low	-46.07	-40.07	1000	-40	-0.07	Pass
3540.00	Low	-35.17	-29.17	1000	-25	-4.17	
3550.00	Low	-29.70	-23.70	200	-13	-10.70	
3570.00	High	-25.50	-19.50	200	-13	-6.50	
3580.00	High	-31.95	-25.95	1000	-25	-0.95	
3720.00	High	-46.07	-40.07	1000	-40	-0.07	
Mid frequency 3625.0 MHz							
3530.00	Low	-47.49	-41.49	1000	-40	-1.49	Pass
3605.00	Low	-32.55	-26.55	1000	-25	-1.55	
3615.00	Low	-27.66	-21.66	200	-13	-8.66	
3635.00	High	-25.33	-19.33	200	-13	-6.33	
3645.00	High	-31.22	-25.22	1000	-25	-0.22	
3720.00	High	-46.06	-40.06	1000	-40	-0.06	
High frequency 3690.0 MHz							
3530.00	Low	-49.36	-43.36	1000	-40	-3.36	Pass
3670.00	Low	-31.57	-25.57	1000	-25	-0.57	
3680.00	Low	-27.10	-21.10	200	-13	-8.10	
3700.00	High	-26.43	-20.43	200	-13	-7.43	
3710.00	High	-33.53	-27.53	1000	-25	-2.53	
3720.00	High	-46.05	-40.05	1000	-40	-0.05	
256 QAM							
Low frequency 3560.0 MHz							
3530.00	Low	-46.05	-40.05	1000	-40	-0.05	Pass
3540.00	Low	-34.83	-28.83	1000	-25	-3.83	
3550.00	Low	-29.46	-23.46	200	-13	-10.46	
3570.00	High	-24.79	-18.79	200	-13	-5.79	
3580.00	High	-32.91	-26.91	1000	-25	-1.91	
3720.00	High	-46.24	-40.24	1000	-40	-0.24	
Mid frequency 3625.0 MHz							
3530.00	Low	-47.53	-41.53	1000	-40	-1.53	Pass
3605.00	Low	-32.40	-26.40	1000	-25	-1.40	
3615.00	Low	-29.46	-23.46	200	-13	-10.46	
3635.00	High	-24.79	-18.79	200	-13	-5.79	
3645.00	High	-31.11	-25.11	1000	-25	-0.11	
3720.00	High	-46.44	-40.44	1000	-40	-0.44	
High frequency 3690.0 MHz							
3530.00	Low	-49.45	-43.45	1000	-40	-3.45	Pass
3670.00	Low	-33.19	-27.19	1000	-25	-2.19	
3680.00	Low	-28.25	-22.25	200	-13	-9.25	
3700.00	High	-26.11	-20.11	200	-13	-7.11	
3710.00	High	-35.92	-29.92	1000	-25	-4.92	
3720.00	High	-46.43	-40.43	1000	-40	-0.43	

* - 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



Test specification: Section 96.41(e), Emission mask			
Test procedure: Section 96.41(e)(3)			
Test mode: Compliance		Verdict: PASS	
Date(s): 25-Aug-21 – 24-Nov-21			
Temperature: 24.2 °C	Relative Humidity: 49 %	Air Pressure: 1010 hPa	Power: 48 VAC
Remarks:			

Table 7.4.4 Emission outside the fundamental test results

ASSIGNED FREQUENCY RANGE: 3550.0 –3700.0 MHz
 DETECTOR USED: Average (gated)
 VIDEO BANDWIDTH: ≥ Resolution bandwidth
 NUMBER OF CHAINS: 4
 ANTENNA PORT: Worst case
 CHANNEL SPACING: 30MHz

Frequency MHz	Band edge	SA reading over 1 chain, dBm	Total band edge*, dBm	RBW, kHz	Limit, dBm	Margin, dB	Verdict
QPSK							
Low frequency 3565.0 MHz							
3530.00	Low	-47.61	-41.61	1000	-40	-1.61	Pass
3540.00	Low	-34.39	-28.39	1000	-25	-3.39	
3549.00	Low	-27.94	-21.94	1000	-13	-8.94	
3550.00	Low	-23.34	-17.34	500	-13	-4.34	
3580.00	High	-19.01	-13.01	500	-13	-0.01	
3581.00	High	-27.19	-21.19	1000	-13	-8.19	
3590.00	High	-31.54	-25.54	1000	-25	-0.54	
3720.00	High	-48.96	-42.96	1000	-40	-2.96	
Mid frequency 3625.0 MHz							
3530.00	Low	-48.81	-42.81	1000	-40	-2.81	Pass
3600.00	Low	-31.47	-25.47	1000	-25	-0.47	
3609.00	Low	-28.54	-22.54	1000	-13	-9.54	
3610.00	Low	-22.39	-16.39	500	-13	-3.39	
3640.00	High	-19.67	-13.67	500	-13	-0.67	
3641.00	High	-26.48	-20.48	1000	-13	-7.48	
3650.00	High	-32.28	-26.28	1000	-25	-1.28	
3720.00	High	-48.17	-42.17	1000	-40	-2.17	
High frequency 3685.0 MHz							
3530.00	Low	-49.30	-43.30	1000	-40	-3.30	Pass
3660.00	Low	-35.35	-29.35	1000	-25	-4.35	
3669.00	Low	-28.42	-22.42	1000	-13	-9.42	
3670.00	Low	-23.54	-17.54	500	-13	-4.54	
3700.00	High	-20.20	-14.20	500	-13	-1.20	
3701.00	High	-26.00	-20.00	1000	-13	-7.00	
3710.00	High	-37.95	-31.95	1000	-25	-6.95	
3720.00	High	-46.67	-40.67	1000	-40	-0.67	



Test specification: Section 96.41(e), Emission mask			
Test procedure: Section 96.41(e)(3)			
Test mode: Compliance		Verdict: PASS	
Date(s): 25-Aug-21 – 24-Nov-21			
Temperature: 24.2 °C	Relative Humidity: 49 %	Air Pressure: 1010 hPa	Power: 48 VAC
Remarks:			

Table 7.4.5 Emission outside the fundamental test results (continue)

ASSIGNED FREQUENCY RANGE: 3550.0 –3700.0 MHz
 DETECTOR USED: Average (gated)
 VIDEO BANDWIDTH: ≥ Resolution bandwidth
 NUMBER OF CHAINS: 4
 ANTENNA PORT: Worst case
 CHANNEL SPACING: 30MHz

Frequency MHz	Band edge	SA reading over 1 chain, dBm	Total band edge*, dBm	RBW, kHz	Limit, dBm	Margin, dB	Verdict
256 QAM							
Low frequency 3565.0 MHz							
3530.00	Low	-47.70	-41.70	1000	-40	-1.70	Pass
3540.00	Low	-35.56	-29.56	1000	-25	-4.56	
3549.00	Low	-29.09	-23.09	1000	-13	-10.09	
3550.00	Low	-23.97	-17.97	500	-13	-4.97	
3580.00	High	-19.95	-13.95	500	-13	-0.95	
3581.00	High	-27.71	-21.71	1000	-13	-8.71	
3590.00	High	-32.13	-26.13	1000	-25	-1.13	
3720.00	High	-48.76	-42.76	1000	-40	-2.76	
Mid frequency 3625.0 MHz							
3530.00	Low	-49.09	-43.09	1000	-40	-3.09	Pass
3600.00	Low	-31.67	-25.67	1000	-25	-0.67	
3609.00	Low	-30.48	-24.48	1000	-13	-11.48	
3610.00	Low	-23.29	-17.29	500	-13	-4.29	
3640.00	High	-20.85	-14.85	500	-13	-1.85	
3641.00	High	-27.94	-21.94	1000	-13	-8.94	
3650.00	High	-33.04	-27.04	1000	-25	-2.04	
3720.00	High	-48.03	-42.03	1000	-40	-2.03	
High frequency 3685.0 MHz							
3530.00	Low	-49.13	-43.13	1000	-40	-3.13	Pass
3660.00	Low	-34.61	-28.61	1000	-25	-3.61	
3669.00	Low	-29.97	-23.97	1000	-13	-10.97	
3670.00	Low	-24.36	-18.36	500	-13	-5.36	
3700.00	High	-19.42	-13.42	500	-13	-0.42	
3701.00	High	-26.00	-20.00	1000	-13	-7.00	
3710.00	High	-37.95	-31.95	1000	-25	-6.95	
3720.00	High	-46.41	-40.41	1000	-40	-0.41	



Test specification: Section 96.41(e), Emission mask			
Test procedure: Section 96.41(e)(3)			
Test mode: Compliance		Verdict: PASS	
Date(s): 25-Aug-21 – 24-Nov-21			
Temperature: 24.2 °C	Relative Humidity: 49 %	Air Pressure: 1010 hPa	Power: 48 VAC
Remarks:			

Table 7.4.6 Emission outside the fundamental test results

ASSIGNED FREQUENCY RANGE: 3550.0 –3700.0 MHz
DETECTOR USED: Average (gated)
VIDEO BANDWIDTH: ≥ Resolution bandwidth
NUMBER OF CHAINS: 4
ANTENNA PORT: Worst case
CHANNEL SPACING: 40MHz

Frequency MHz	Band edge	SA reading over 1 chain, dBm	Total band edge*, dBm	RBW, kHz	Limit, dBm	Margin, dB	Verdict
QPSK							
Low frequency 3570.0 MHz							
3530.00	Low	-46.62	-40.62	1000	-40.00	-0.62	Pass
3540.00	Low	-36.49	-30.49	1000	-25.00	-5.49	
3549.00	Low	-31.65	-25.65	1000	-13.00	-12.65	
3550.00	Low	-23.36	-17.36	100	-13.00	-4.36	
3590.00	High	-24.11	-18.11	100	-13.00	-5.11	
3591.00	High	-29.77	-23.77	1000	-13.00	-10.77	
3600.00	High	-32.68	-26.68	1000	-25.00	-1.68	
3720.00	High	-48.69	-42.69	1000	-40.00	-2.69	
Mid frequency 3625.0 MHz							
3530.00	Low	-48.11	-42.11	1000	-40.00	-2.11	Pass
3595.00	Low	-31.31	-25.31	1000	-25.00	-0.31	
3604.00	Low	-28.44	-22.44	1000	-13.00	-9.44	
3605.00	Low	-20.43	-14.43	100	-13.00	-1.43	
3645.00	High	-21.68	-15.68	100	-13.00	-2.68	
3646.00	High	-29.73	-23.73	1000	-13.00	-10.73	
3655.00	High	-32.52	-26.52	1000	-25.00	-1.52	
3720.00	High	-46.52	-40.52	1000	-40.00	-0.52	
High frequency 3680.0 MHz							
3530.00	Low	-51.50	-45.50	1000	-40.00	-5.50	Pass
3650.00	Low	-32.86	-26.86	1000	-25.00	-1.86	
3659.00	Low	-29.10	-23.10	1000	-13.00	-10.10	
3640.00	Low	-21.97	-15.97	100	-13.00	-2.97	
3660.00	High	-23.99	-17.99	100	-13.00	-4.99	
3701.00	High	-30.23	-24.23	1000	-13.00	-11.23	
3710.00	High	-37.21	-31.21	1000	-25.00	-6.21	
3720.00	High	-46.14	-40.14	1000	-40.00	-0.14	



Test specification: Section 96.41(e), Emission mask			
Test procedure: Section 96.41(e)(3)			
Test mode: Compliance		Verdict: PASS	
Date(s): 25-Aug-21 – 24-Nov-21			
Temperature: 24.2 °C	Relative Humidity: 49 %	Air Pressure: 1010 hPa	Power: 48 VAC
Remarks:			

Table 7.4.7 Emission outside the fundamental test results (continue)

Frequency MHz	Band edge	SA reading over 1 chain, dBm	Total band edge*, dBm	RBW, kHz	Limit, dBm	Margin, dB	Verdict
256 QAM							
Low frequency 3570.0 MHz							
3530.00	Low	-48.84	-42.84	1000	-40.00	-2.84	Pass
3540.00	Low	-37.59	-31.59	1000	-25.00	-6.59	
3549.00	Low	-30.14	-24.14	1000	-13.00	-11.14	
3550.00	Low	-22.50	-16.50	100	-13.00	-3.50	
3590.00	High	-20.99	-14.99	100	-13.00	-1.99	
3591.00	High	-29.96	-23.96	1000	-13.00	-10.96	
3600.00	High	-33.80	-27.80	1000	-25.00	-2.80	
3720.00	High	-48.69	-42.69	1000	-40.00	-2.69	
Mid frequency 3625.0 MHz							
3530.00	Low	-48.35	-42.35	1000	-40.00	-2.35	Pass
3595.00	Low	-33.35	-27.35	1000	-25.00	-2.35	
3604.00	Low	-28.25	-22.25	1000	-13.00	-9.25	
3605.00	Low	-20.38	-14.38	100	-13.00	-1.38	
3645.00	High	-21.52	-15.52	100	-13.00	-2.52	
3646.00	High	-30.17	-24.17	1000	-13.00	-11.17	
3655.00	High	-33.23	-27.23	1000	-25.00	-2.23	
3720.00	High	-47.22	-41.22	1000	-40.00	-1.22	
High frequency 3680.0 MHz							
3530.00	Low	-51.55	-45.55	1000	-40.00	-5.55	Pass
3650.00	Low	-33.41	-27.41	1000	-25.00	-2.41	
3659.00	Low	-29.28	-23.28	1000	-13.00	-10.28	
3640.00	Low	-23.14	-17.14	100	-13.00	-4.14	
3660.00	High	-23.30	-17.30	100	-13.00	-4.30	
3701.00	High	-30.89	-24.89	1000	-13.00	-11.89	
3710.00	High	-37.51	-31.51	1000	-25.00	-6.51	
3720.00	High	-47.28	-41.28	1000	-40.00	-1.28	

* - 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 3301	HL 3302	HL 4355	HL 3901	HL 4366			
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Full description is given in Appendix A.



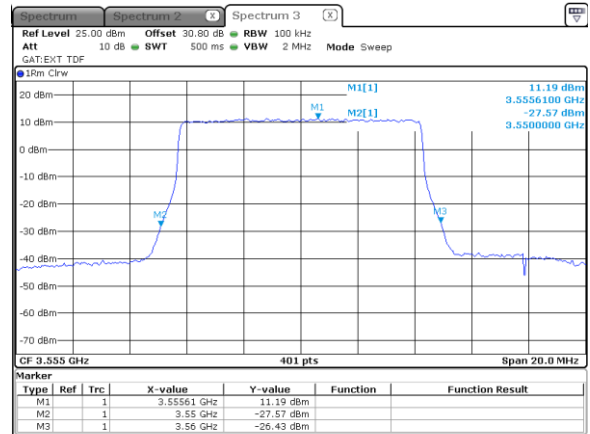
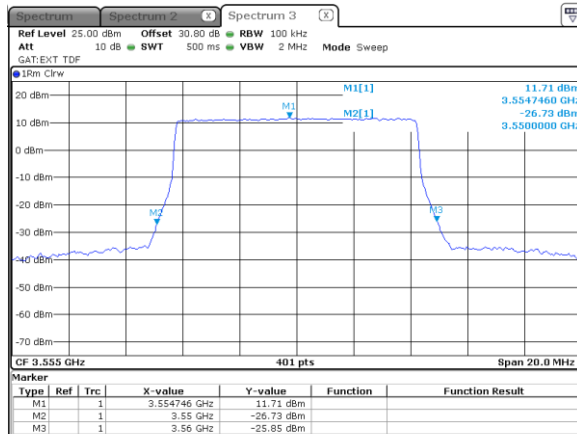
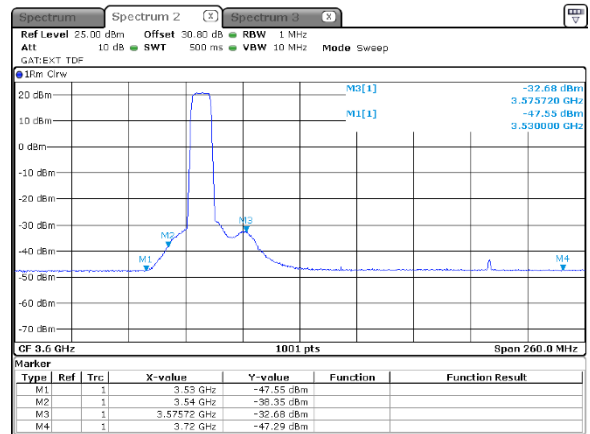
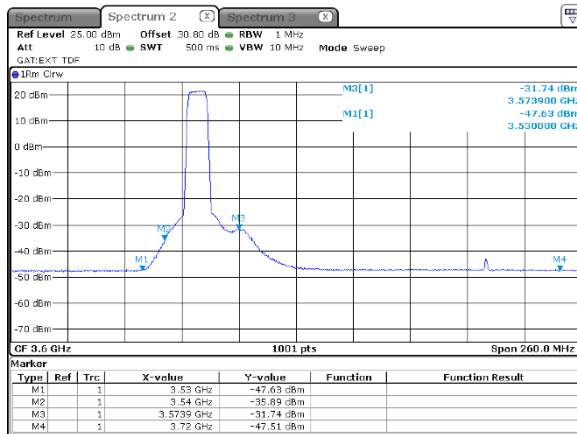
HERMON LABORATORIES

Test specification: Section 96.41(e), Emission mask			
Test procedure: Section 96.41(e)(3)			
Test mode: Compliance		Verdict: PASS	
Date(s): 25-Aug-21 – 24-Nov-21			
Temperature: 24.2 °C	Relative Humidity: 49 %	Air Pressure: 1010 hPa	Power: 48 VAC
Remarks:			

Plot 7.4.1 Emission outside the fundamental test results in 3470 - 3730 GHz range at low carrier frequency

CHANNEL SPACING:
ANTENNA CHAIN:
Modulation: QPSK

10 MHz
1
Modulation: 256QAM





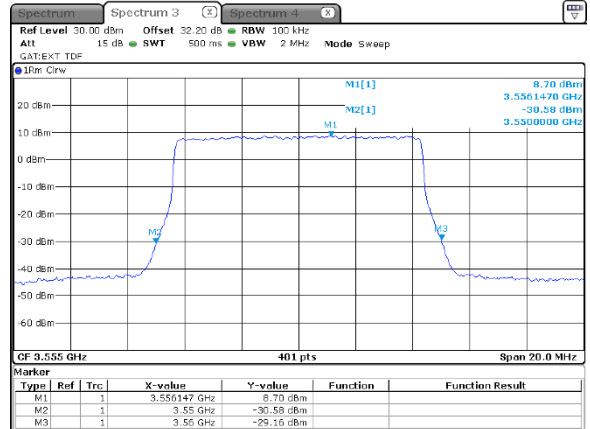
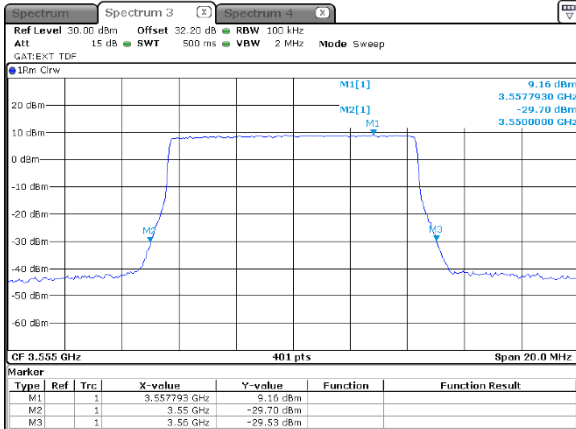
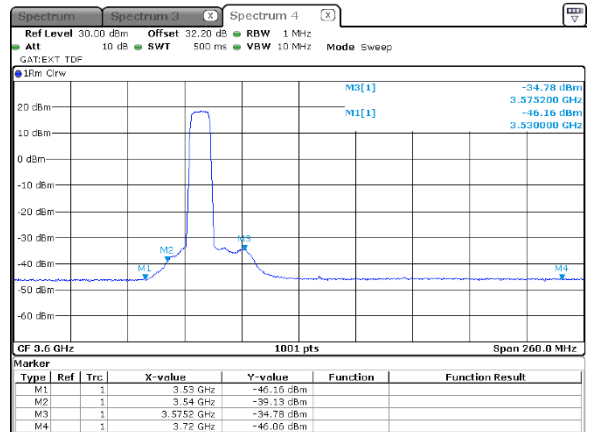
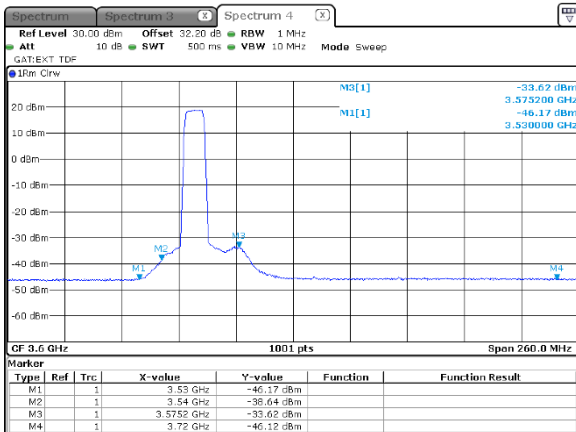
HERMON LABORATORIES

Test specification: Section 96.41(e), Emission mask			
Test procedure: Section 96.41(e)(3)			
Test mode: Compliance		Verdict: PASS	
Date(s): 25-Aug-21 – 24-Nov-21			
Temperature: 24.2 °C	Relative Humidity: 49 %	Air Pressure: 1010 hPa	Power: 48 VAC
Remarks:			

Plot 7.4.2 Emission outside the fundamental test results in 3470 - 3730 GHz range at low carrier frequency

CHANNEL SPACING:
ANTENNA CHAIN:
Modulation: QPSK

10 MHz
2
Modulation: 256QAM





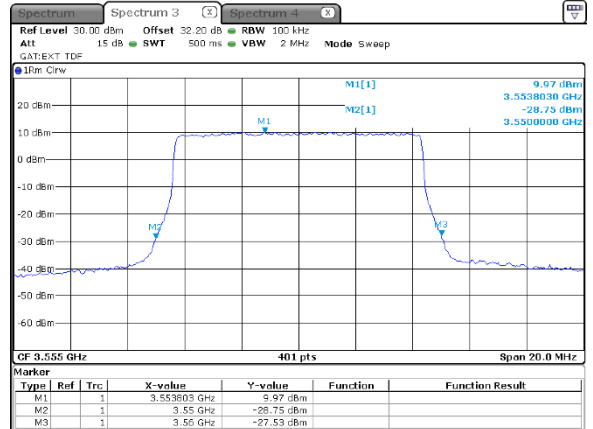
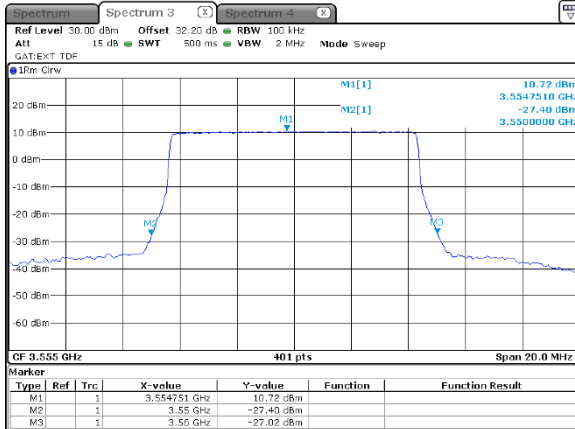
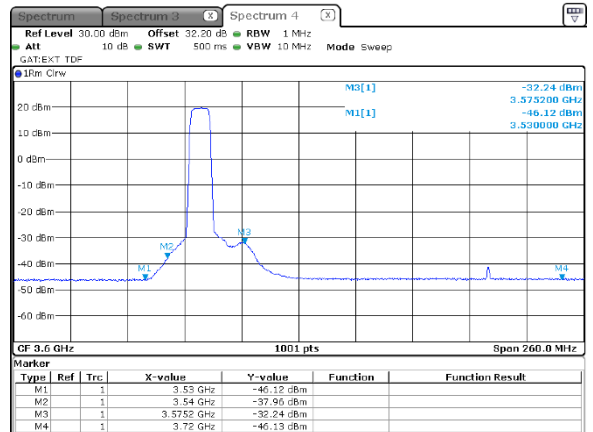
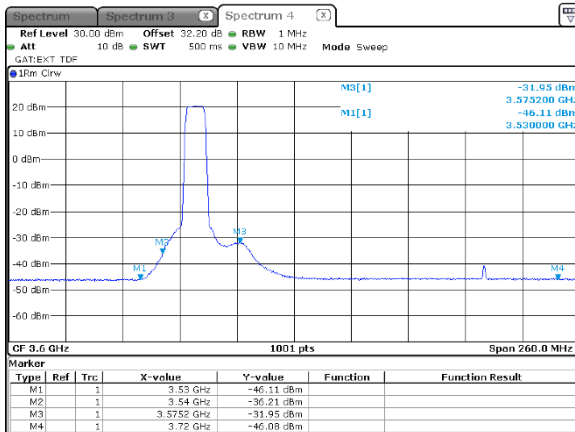
HERMON LABORATORIES

Test specification: Section 96.41(e), Emission mask			
Test procedure: Section 96.41(e)(3)			
Test mode: Compliance		Verdict: PASS	
Date(s): 25-Aug-21 – 24-Nov-21			
Temperature: 24.2 °C	Relative Humidity: 49 %	Air Pressure: 1010 hPa	Power: 48 VAC
Remarks:			

Plot 7.4.3 Emission outside the fundamental test results in 3470 - 3730 GHz range at low carrier frequency

CHANNEL SPACING:
ANTENNA CHAIN:
Modulation: QPSK

10 MHz
3
Modulation: 256QAM





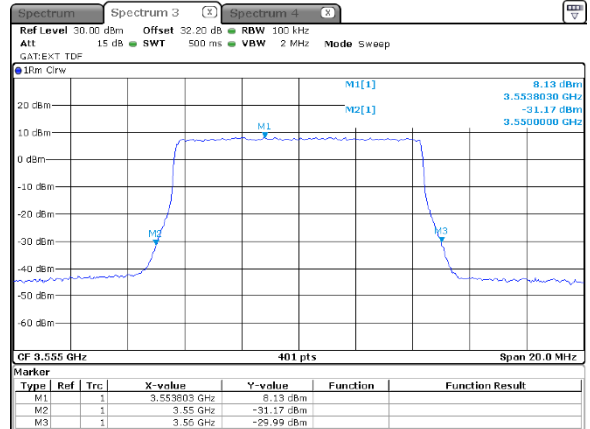
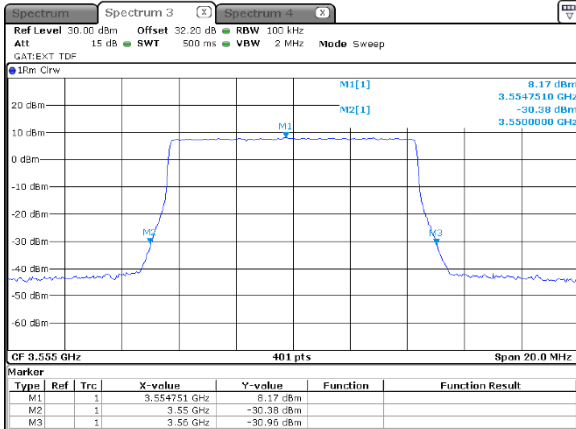
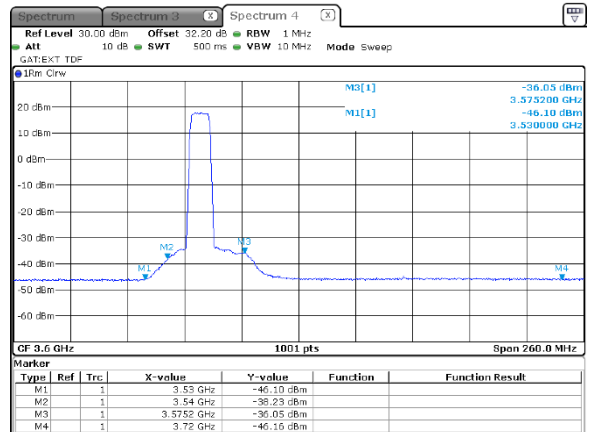
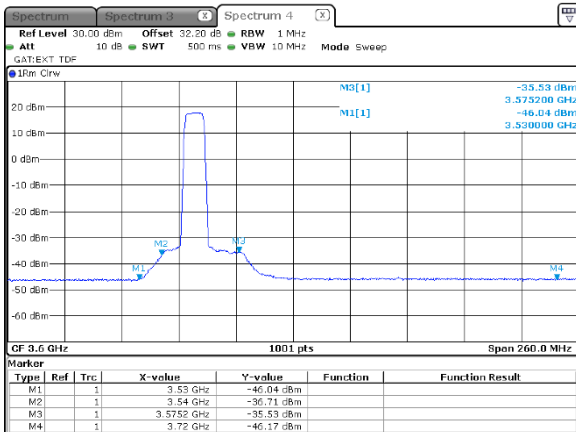
HERMON LABORATORIES

Test specification: Section 96.41(e), Emission mask			
Test procedure: Section 96.41(e)(3)			
Test mode: Compliance		Verdict: PASS	
Date(s): 25-Aug-21 – 24-Nov-21			
Temperature: 24.2 °C	Relative Humidity: 49 %	Air Pressure: 1010 hPa	Power: 48 VAC
Remarks:			

Plot 7.4.4 Emission outside the fundamental test results in 3470 - 3730 GHz range at low carrier frequency

CHANNEL SPACING:
ANTENNA CHAIN:
Modulation: QPSK

10 MHz
4
Modulation: 256QAM





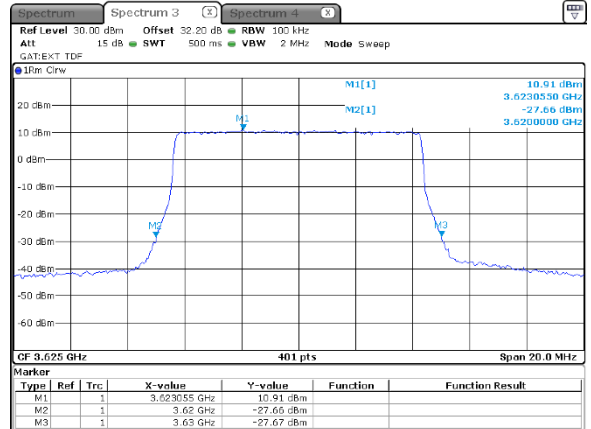
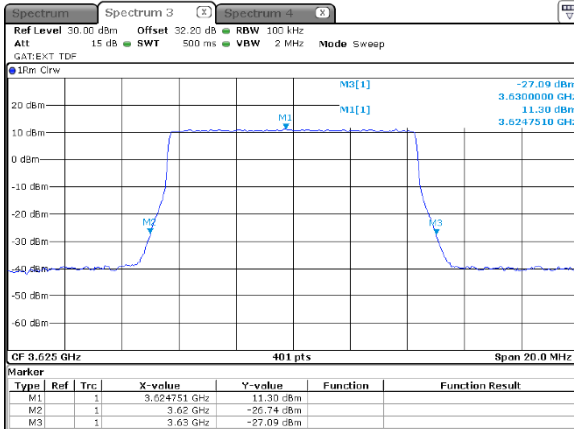
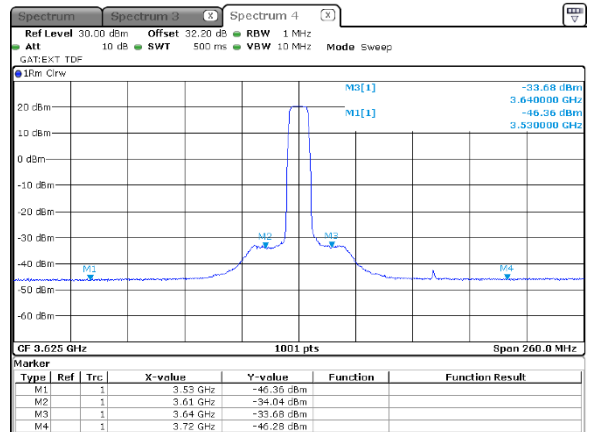
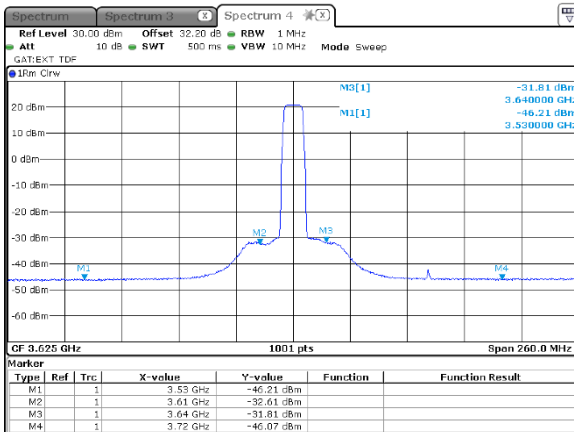
HERMON LABORATORIES

Test specification: Section 96.41(e), Emission mask			
Test procedure: Section 96.41(e)(3)			
Test mode: Compliance		Verdict: PASS	
Date(s): 25-Aug-21 – 24-Nov-21			
Temperature: 24.2 °C	Relative Humidity: 49 %	Air Pressure: 1010 hPa	Power: 48 VAC
Remarks:			

Plot 7.4.5 Emission outside the fundamental test results in 3495 - 3755 GHz range at mid carrier frequency

CHANNEL SPACING:
ANTENNA CHAIN:
Modulation: QPSK

10 MHz
1
Modulation: 256QAM





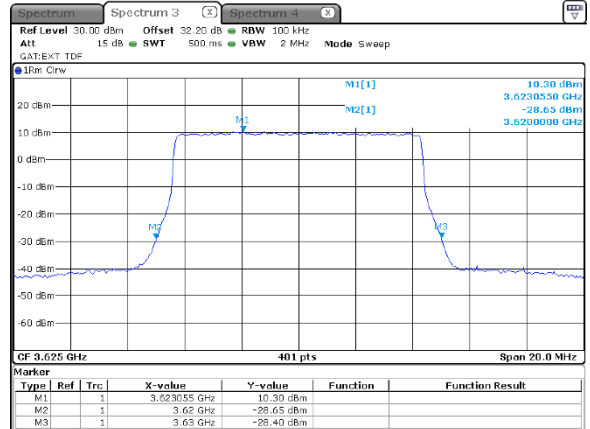
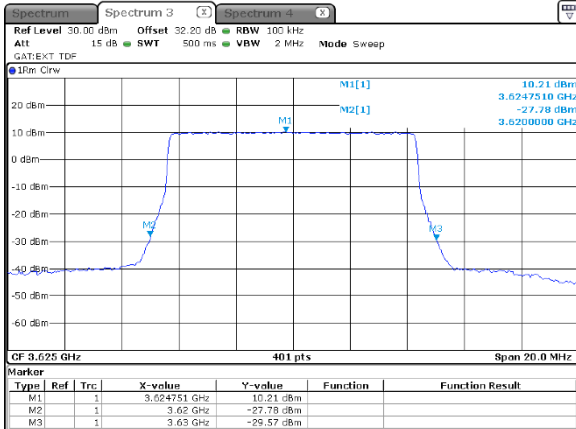
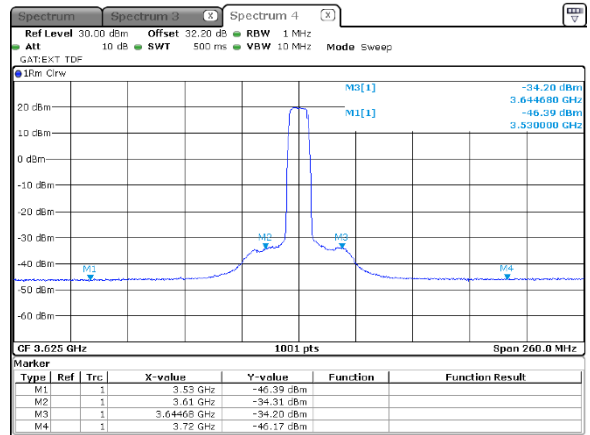
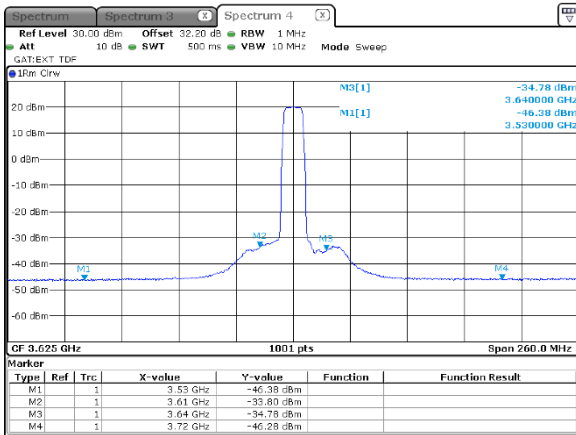
HERMON LABORATORIES

Test specification: Section 96.41(e), Emission mask			
Test procedure: Section 96.41(e)(3)			
Test mode: Compliance		Verdict: PASS	
Date(s): 25-Aug-21 – 24-Nov-21			
Temperature: 24.2 °C	Relative Humidity: 49 %	Air Pressure: 1010 hPa	Power: 48 VAC
Remarks:			

Plot 7.4.6 Emission outside the fundamental test results in 3495 - 3755 GHz range at mid carrier frequency

CHANNEL SPACING:
ANTENNA CHAIN:
Modulation: QPSK

10 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): 25-Aug-21 – 24-Nov-21			
Temperature: 24.2 °C	Relative Humidity: 49 %	Air Pressure: 1010 hPa	Power: 48 VAC
Remarks:			

Plot 7.4.7 Emission outside the fundamental test results in 3495 - 3755 GHz range at mid carrier frequency

CHANNEL SPACING:
ANTENNA CHAIN:
Modulation: QPSK

10 MHz
3
Modulation: 256QAM

