

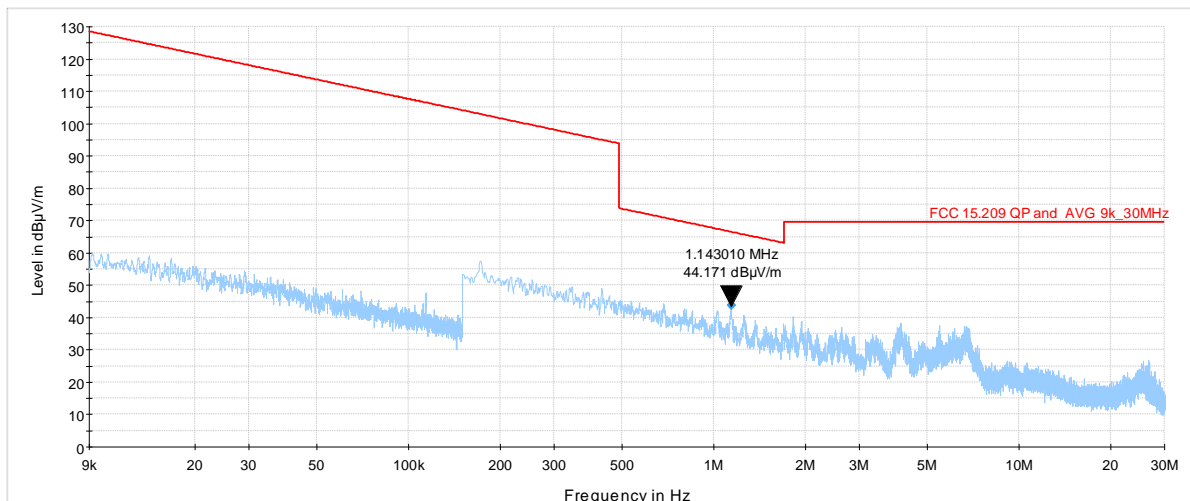


HERMON LABORATORIES

Test specification: Section 15.245(b), Field strength of emissions			
Test procedure: ANSI C63.4, Section 13.1.4			
Test mode: Compliance		Verdict:	
Date(s): 05-Jun-24			
Temperature: 23 °C	Relative Humidity: 45 %	Air Pressure: 1005 hPa	Power: 48 VDC
Remarks:			

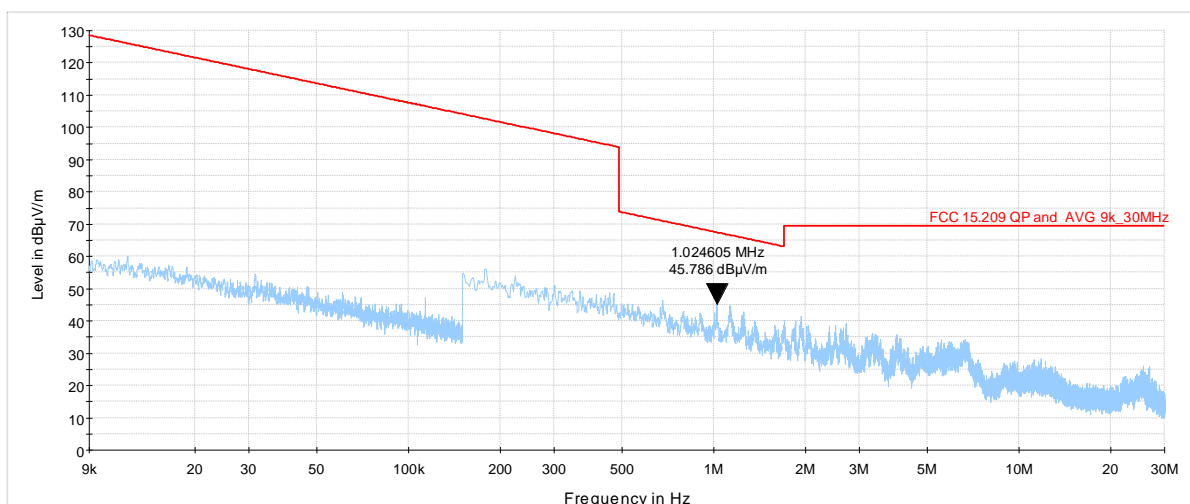
Plot 7.3.1 Radiated emission measurements from 9 KHz to 30 MHz at 58.32 GHz Carrier Frequency

TEST SITE: Semi anechoic chamber
TEST DISTANCE: 3 m
ANTENNA POLARIZATION: Vertical and horizontal
EUT POSITION: Typical



Plot 7.3.2 Radiated emission measurements from 9 KHz to 30 MHz at 60.48 GHz Carrier Frequency

TEST SITE: Semi anechoic chamber
TEST DISTANCE: 3 m
ANTENNA POLARIZATION: Vertical and horizontal
EUT POSITION: Typical

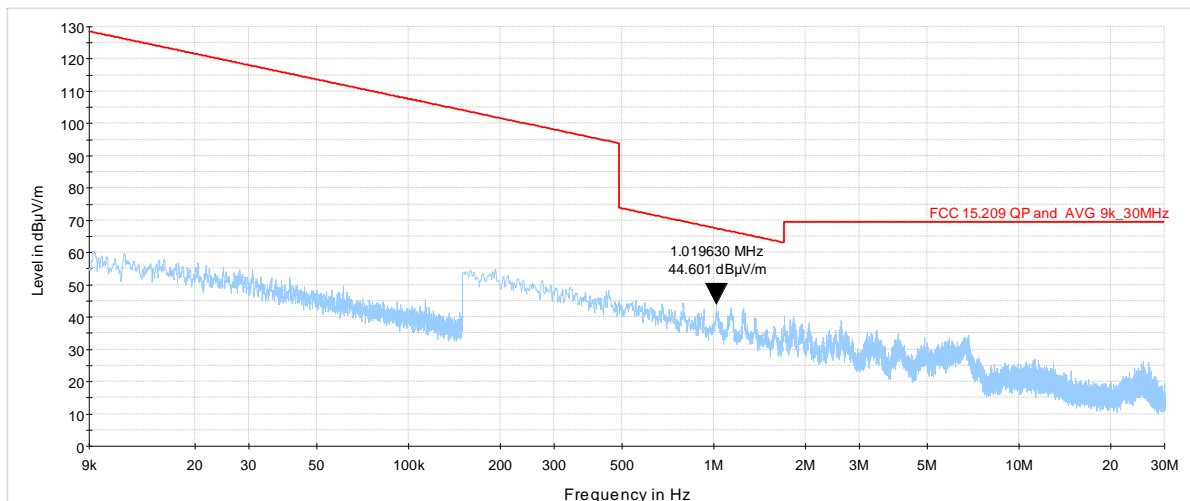




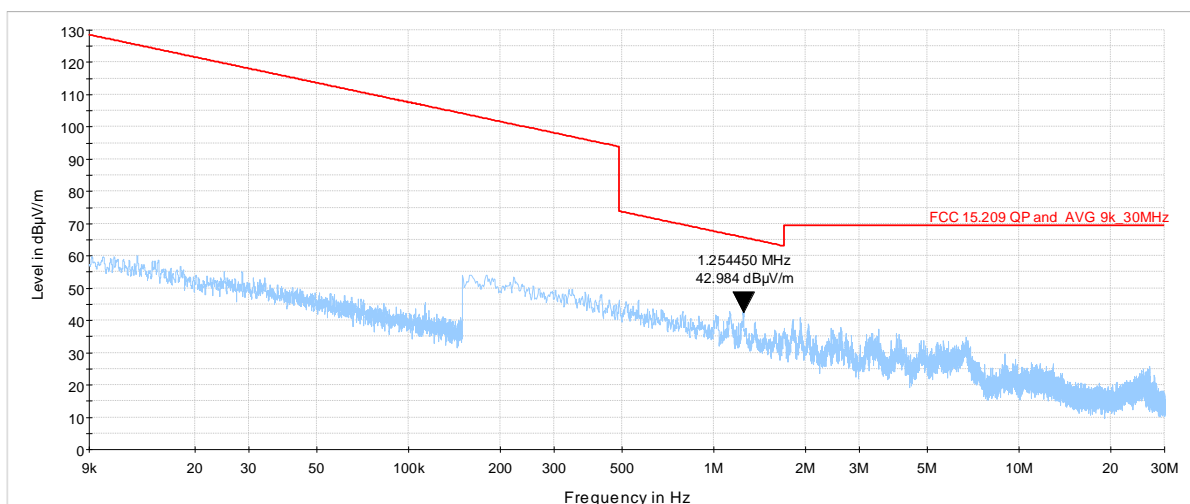
Test specification: Section 15.245(b), Field strength of emissions			
Test procedure: ANSI C63.4, Section 13.1.4			
Test mode: Compliance		Verdict:	
Date(s): 05-Jun-24			
Temperature: 23 °C	Relative Humidity: 45 %	Air Pressure: 1005 hPa	Power: 48 VDC
Remarks:			

Plot 7.3.3 Radiated emission measurements from 9 KHz to 30 MHz at 62.64 GHz Carrier Frequency

TEST SITE: Semi anechoic chamber
TEST DISTANCE: 3 m
ANTENNA POLARIZATION: Vertical and horizontal
EUT POSITION: Typical

**Plot 7.3.4 Radiated emission measurements from 9 KHz to 30 MHz at 64.80 GHz Carrier Frequency**

TEST SITE: Semi anechoic chamber
TEST DISTANCE: 3 m
ANTENNA POLARIZATION: Vertical and horizontal
EUT POSITION: Typical





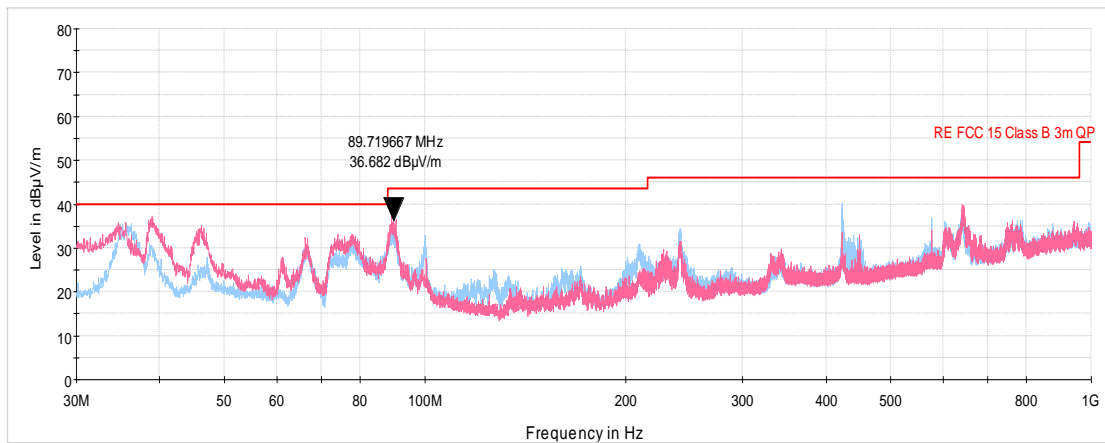
HERMON LABORATORIES

Report ID: SIKRAD_FCC.52762.docx
Date of Issue: 18-Aug-25

Test specification: Section 15.245(b), Field strength of emissions			
Test procedure: ANSI C63.4, Section 13.1.4			
Test mode: Compliance		Verdict:	
Date(s): 05-Jun-24			
Temperature: 23 °C	Relative Humidity: 45 %	Air Pressure: 1005 hPa	Power: 48 VDC
Remarks:			

Plot 7.3.5 Radiated emission measurements from 30 to 1000 MHz at 58.32 GHz Carrier Frequency

TEST SITE: Semi anechoic chamber
TEST DISTANCE: 3 m
ANTENNA POLARIZATION: Vertical and Horizontal
EUT POSITION: Typical



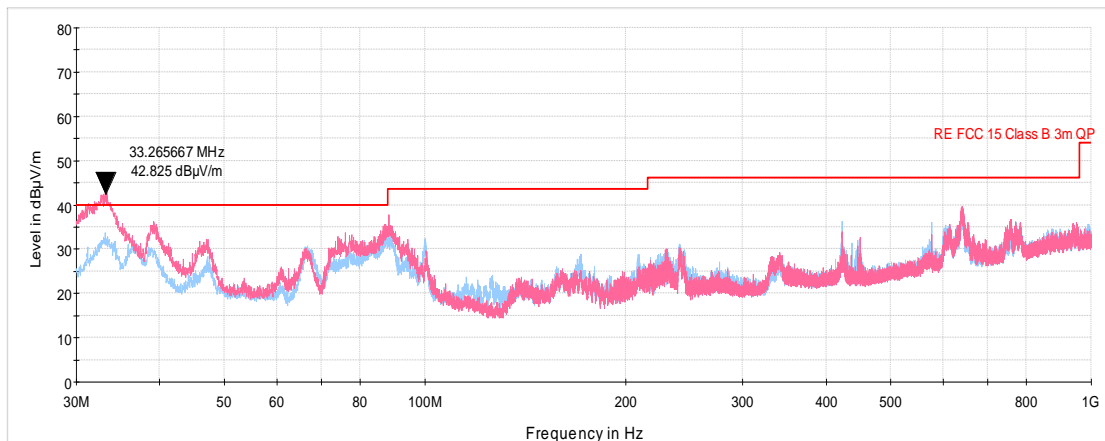


HERMON LABORATORIES

Test specification: Section 15.245(b), Field strength of emissions			
Test procedure: ANSI C63.4, Section 13.1.4			
Test mode: Compliance		Verdict:	
Date(s): 05-Jun-24			
Temperature: 23 °C	Relative Humidity: 45 %	Air Pressure: 1005 hPa	Power: 48 VDC
Remarks:			

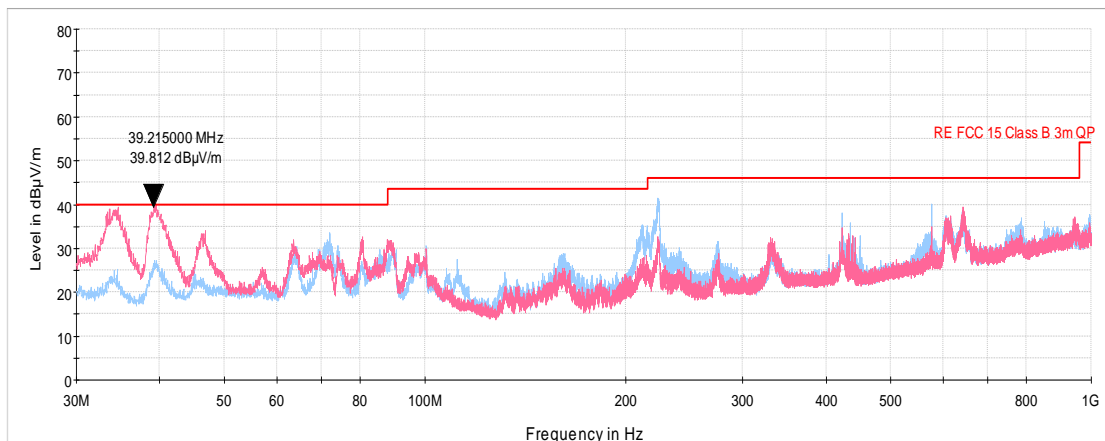
Plot 7.3.6 Radiated emission measurements from 30 to 1000 MHz at 60.48 GHz Carrier Frequency

TEST SITE: Semi anechoic chamber
TEST DISTANCE: 3 m
ANTENNA POLARIZATION: Vertical and Horizontal
EUT POSITION: Typical



Plot 7.3.7 Radiated emission measurements from 30 to 1000 MHz at 62.64 GHz Carrier Frequency

TEST SITE: Semi anechoic chamber
TEST DISTANCE: 3 m
ANTENNA POLARIZATION: Vertical and Horizontal
EUT POSITION: Typical





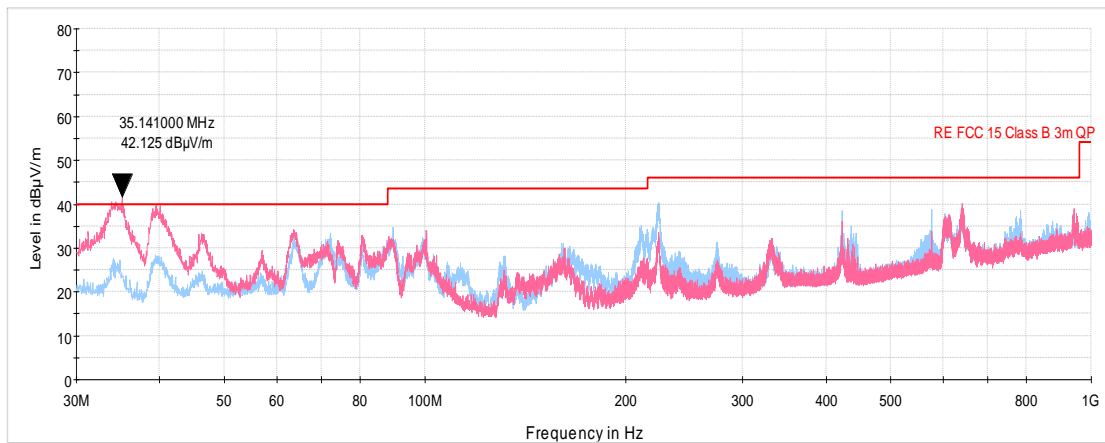
HERMON LABORATORIES

Report ID: SIKRAD_FCC.52762.docx
Date of Issue: 18-Aug-25

Test specification:		Section 15.245(b), Field strength of emissions	
Test procedure:		ANSI C63.4, Section 13.1.4	
Test mode:		Verdict:	
Date(s):			
05-Jun-24			
Temperature: 23 °C	Relative Humidity: 45 %	Air Pressure: 1005 hPa	Power: 48 VDC
Remarks:			

Plot 7.3.8 Radiated emission measurements from 30 to 1000 MHz at 64.80 GHz Carrier Frequency

TEST SITE: Semi anechoic chamber
TEST DISTANCE: 3 m
ANTENNA POLARIZATION: Vertical and Horizontal
EUT POSITION: Typical



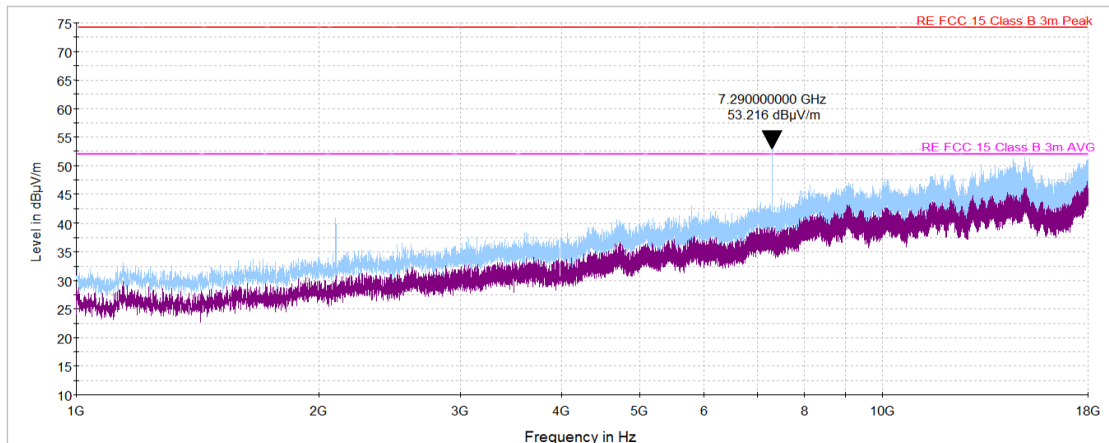


HERMON LABORATORIES

Test specification:		Section 15.245(b), Field strength of emissions	
Test procedure:		ANSI C63.4, Section 13.1.4	
Test mode:		Verdict:	
Date(s):			
05-Jun-24			
Temperature: 23 °C	Relative Humidity: 45 %	Air Pressure: 1005 hPa	Power: 48 VDC
Remarks:			

Plot 7.3.9 Radiated emission measurements from 1 to 18 MHz at 58.32 GHz Carrier Frequency

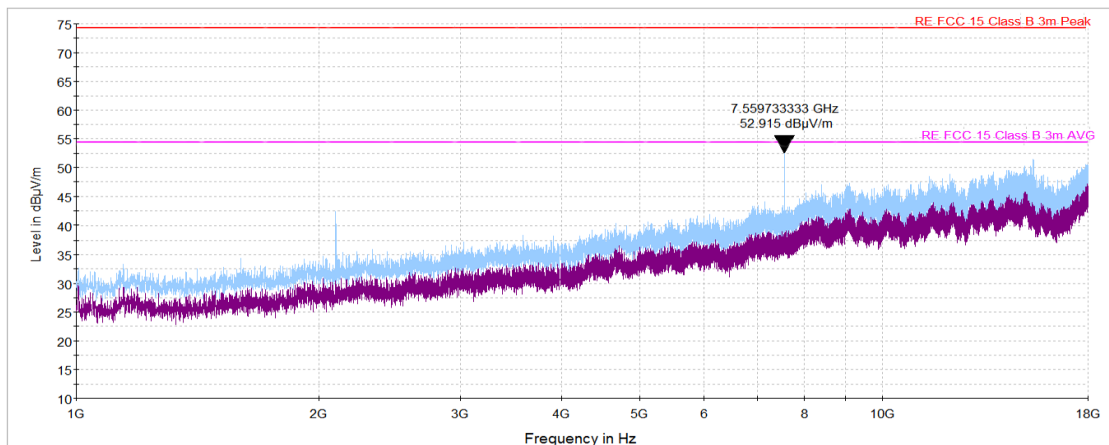
TEST SITE: Semi anechoic chamber
TEST DISTANCE: 3 m
ANTENNA POLARIZATION: Vertical and Horizontal
EUT POSITION: Typical



*Will be apply average limit of 54 dB(μV/m)

Plot 7.3.10 Radiated emission measurements from 1 to 18 MHz at 60.48 GHz Carrier Frequency

TEST SITE: Semi anechoic chamber
TEST DISTANCE: 3 m
ANTENNA POLARIZATION: Vertical and Horizontal
EUT POSITION: Typical



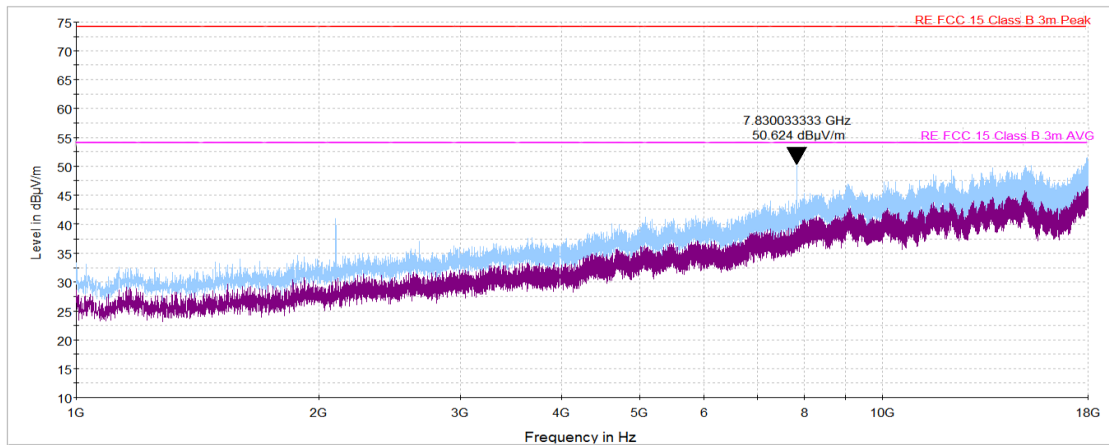


HERMON LABORATORIES

Test specification:		Section 15.245(b), Field strength of emissions	
Test procedure:		ANSI C63.4, Section 13.1.4	
Test mode:		Verdict:	
Date(s):			
05-Jun-24			
Temperature: 23 °C	Relative Humidity: 45 %	Air Pressure: 1005 hPa	Power: 48 VDC
Remarks:			

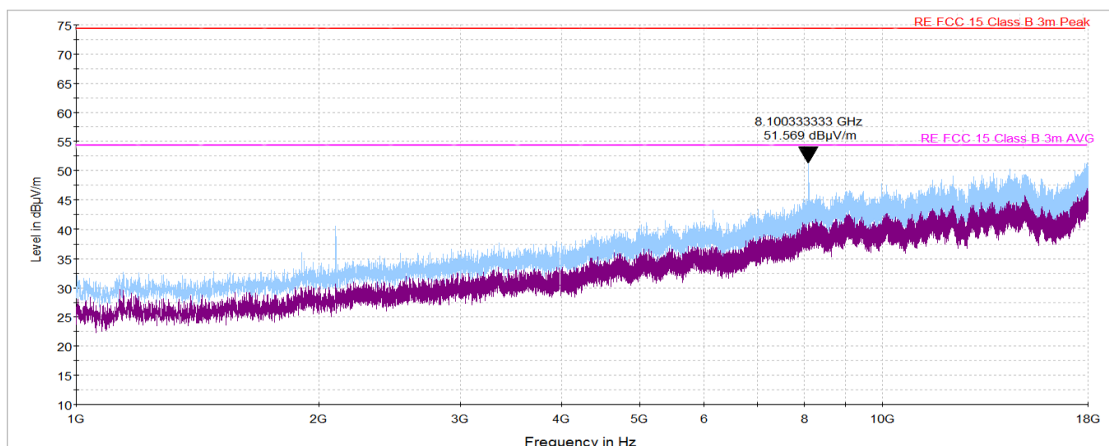
Plot 7.3.11 Radiated emission measurements from 1 to 18 MHz at 62.64 GHz Carrier Frequency

TEST SITE: Semi anechoic chamber
TEST DISTANCE: 3 m
ANTENNA POLARIZATION: Vertical and Horizontal
EUT POSITION: Typical



Plot 7.3.12 Radiated emission measurements from 1 to 18 MHz at 64.80 GHz Carrier Frequency

TEST SITE: Semi anechoic chamber
TEST DISTANCE: 3 m
ANTENNA POLARIZATION: Vertical and Horizontal
EUT POSITION: Typical





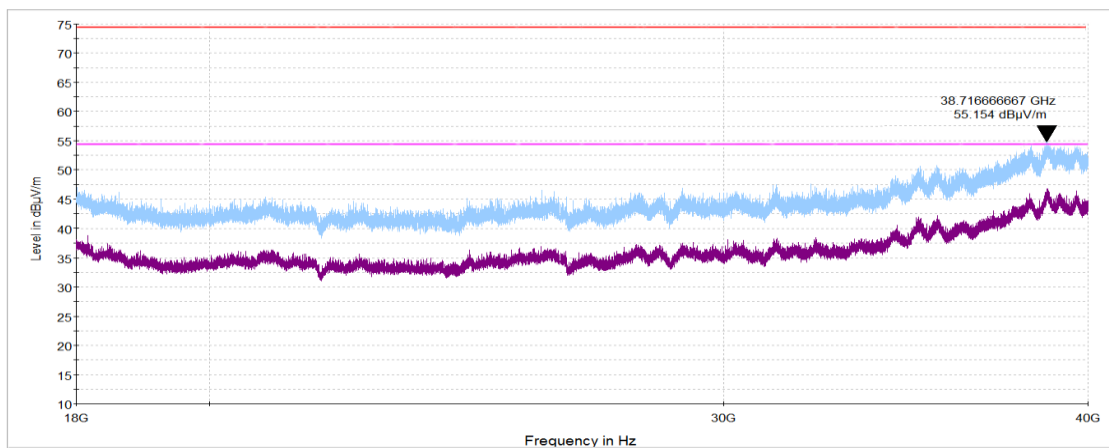
HERMON LABORATORIES

Report ID: SIKRAD_FCC.52762.docx
Date of Issue: 18-Aug-25

Test specification:		Section 15.245(b), Field strength of emissions	
Test procedure:		ANSI C63.4, Section 13.1.4	
Test mode:		Verdict:	
Date(s):			
05-Jun-24			
Temperature: 23 °C	Relative Humidity: 45 %	Air Pressure: 1005 hPa	Power: 48 VDC
Remarks:			

Plot 7.3.13 Radiated emission measurements from 18 to 40 GHz at 58.32 GHz Carrier Frequency

TEST SITE: Semi anechoic chamber
TEST DISTANCE: 3 m
ANTENNA POLARIZATION: Vertical and Horizontal
EUT POSITION: Typical



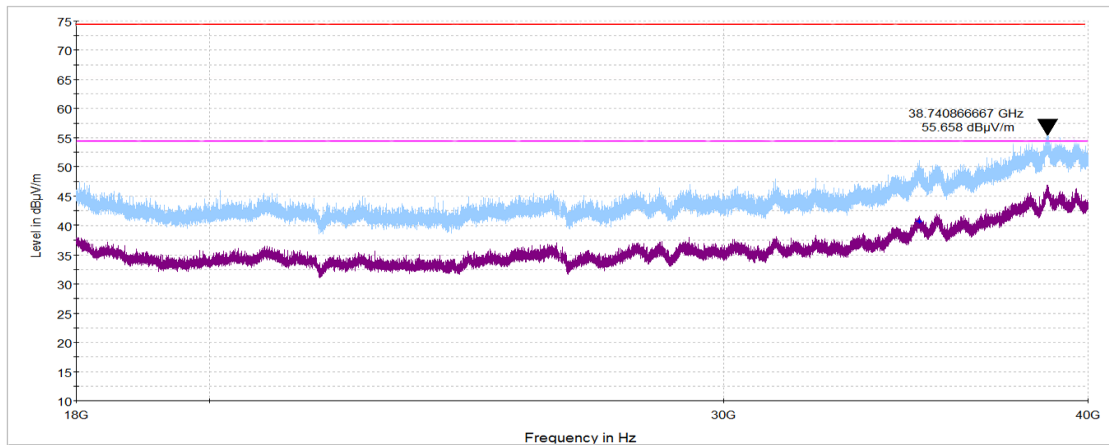


HERMON LABORATORIES

Test specification:		Section 15.245(b), Field strength of emissions	
Test procedure:		ANSI C63.4, Section 13.1.4	
Test mode:		Verdict:	
Date(s):			
05-Jun-24			
Temperature: 23 °C	Relative Humidity: 45 %	Air Pressure: 1005 hPa	Power: 48 VDC
Remarks:			

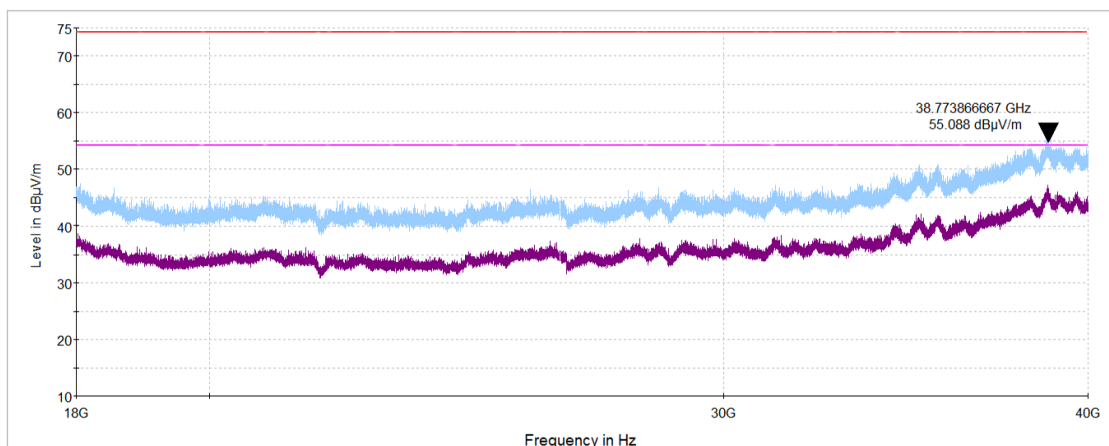
Plot 7.3.14 Radiated emission measurements from 18 to 40 GHz at 60.48 GHz Carrier Frequency

TEST SITE: Semi anechoic chamber
TEST DISTANCE: 3 m
ANTENNA POLARIZATION: Vertical and Horizontal
EUT POSITION: Typical



Plot 7.3.15 Radiated emission measurements from 18 to 40 GHz at 62.64 GHz Carrier Frequency

TEST SITE: Semi anechoic chamber
TEST DISTANCE: 3 m
ANTENNA POLARIZATION: Vertical and Horizontal
EUT POSITION: Typical





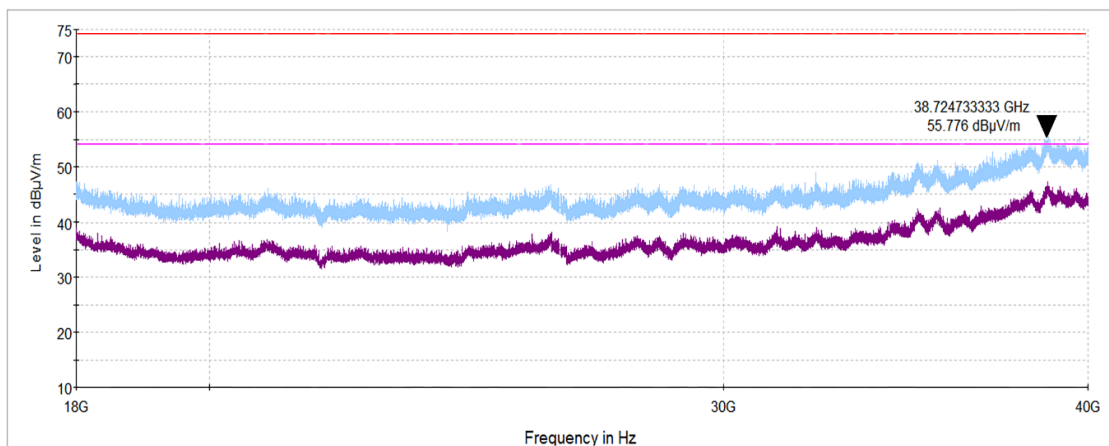
HERMON LABORATORIES

Report ID: SIKRAD_FCC.52762.docx
Date of Issue: 18-Aug-25

Test specification: Section 15.245(b), Field strength of emissions			
Test procedure: ANSI C63.4, Section 13.1.4			
Test mode: Compliance		Verdict:	
Date(s): 05-Jun-24			
Temperature: 23 °C	Relative Humidity: 45 %	Air Pressure: 1005 hPa	Power: 48 VDC
Remarks:			

Plot 7.3.16 Radiated emission measurements from 18 to 40 GHz at 64.80 GHz Carrier Frequency

TEST SITE: Semi anechoic chamber
TEST DISTANCE: 3 m
ANTENNA POLARIZATION: Vertical and Horizontal
EUT POSITION: Typical





Test specification:		FCC Section 15.255(d)(3), RSS-210 section J.3, Out of band radiated emissions above 40 GHz	
Test procedure:		ANSI C63.10, Sections 9.9, 9.12	
Test mode:		Verdict:	
Date(s):			
Compliance			
05-Jun-24			
Temperature: 23 °C	Relative Humidity: 45 %	Air Pressure: 1005 hPa	Power: 48 VDC
Remarks:			

7.4 Out of band radiated emissions above 40 GHz up to 200 GHz

7.4.1 General

This test was performed to measure radiated spurious emissions from the EUT. Specification test limits are given in Table 7.4.1

Table 7.4.1 Radiated spurious emission test limits

Frequency, GHz	Power density at 3 m distance pW/cm ²	Distance, m	Field strength dB(μV/m)*, peak	Field strength dB(μV/m)*, average
40 – 220	90.0	3.0	105.30	85.30
90 - 110	90.0	0.50	120.90**	100.90**
110 - 140	90.0	0.05	140.90**	120.90**
140 - 200	90.0	0.01	154.80**	134.80**

* - Field strength was calculated per equation (26) of ANSI C63.10-2013 section 9 as follows: $E = \sqrt{PD \times 377}$, where PD is the power density at the distance specified by the limit in W/m², E- field strength in V/m.

** - The limit for other test distance was calculated using the inverse distance extrapolation factor as follows:
 $\text{Lim}_{S2} = \text{Lim}_{S1} + 20 \log(S1/S2)$, where S₁ and S₂ – standard defined and test distance respectively in meters.

7.4.2 Test procedure for spurious emission field strength measurements

7.4.2.1 The EUT was set up as shown in Figure 7.4.1, energized and the performance check was conducted.

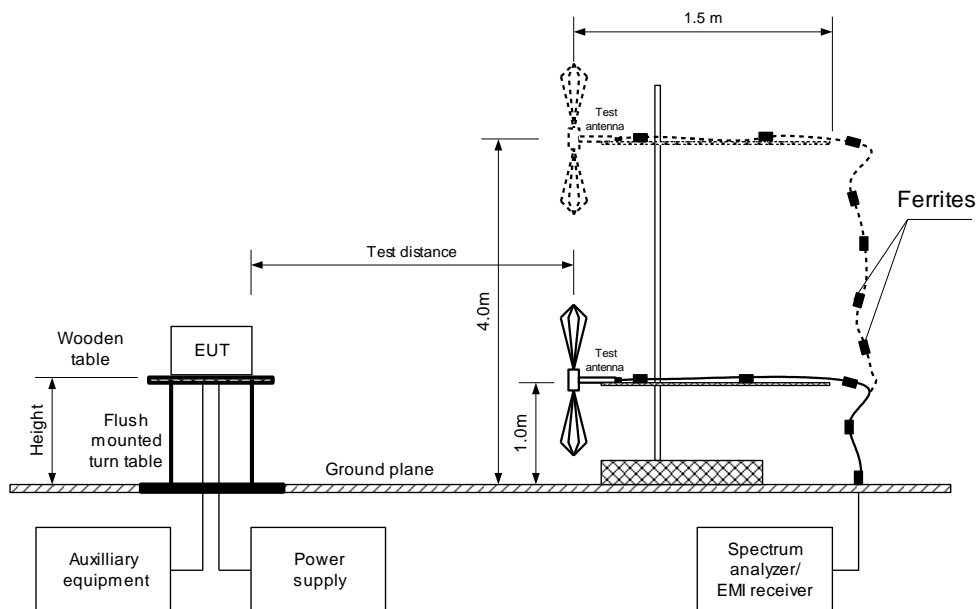
7.4.2.2 The specified frequency range was investigated with antenna connected to spectrum analyzer/ EMI receiver. To find maximum radiation the turntable was rotated 360°, the measuring antenna height was changed from 1 to 4 m, its polarization was switched from vertical to horizontal.

7.4.2.3 The test results are given in Table 7.4.2 and shown in the associated plots.



Test specification: FCC Section 15.255(d)(3), RSS-210 section J.3, Out of band radiated emissions above 40 GHz			
Test procedure: ANSI C63.10, Sections 9.9, 9.12			
Test mode: Compliance		Verdict:	
Date(s): 05-Jun-24			
Temperature: 23 °C	Relative Humidity: 45 %	Air Pressure: 1005 hPa	Power: 48 VDC
Remarks:			

Figure 7.4.1 Radiated emissions above 40 GHz test set up





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Test specification: FCC Section 15.255(d)(3), RSS-210 section J.3, Out of band radiated emissions above 40 GHz			
Test procedure: ANSI C63.10, Sections 9.9, 9.12			
Test mode: Compliance		Verdict:	
Date(s): 05-Jun-24			
Temperature: 23 °C	Relative Humidity: 45 %	Air Pressure: 1005 hPa	Power: 48 VDC
Remarks:			

Table 7.4.2 Out of band radiated emissions test results

TEST DISTANCE: 0.05 - 3 m
EUT POSITION: Typical (Vertical)
MODULATION: 16QAM
TRANSMITTER OUTPUT POWER: Maximum
INVESTIGATED FREQUENCY RANGE: 40 – 200 GHz
RESOLUTION BANDWIDTH: 1000 kHz
VIDEO BANDWIDTH: ≥ Resolution bandwidth
TEST ANTENNA TYPE: Standard Gain Horn 24dB (40-60 GHz)
Standard Gain Horn 24dB (50-75 GHz)
Standard Gain Horn 24dB (75-110 GHz)
Standard Gain Horn 24dB (90-140 GHz)
Standard Gain Horn 24dB (140-220 GHz)

Standard Gain Horn 24dB (140-220 GHz)										
Frequency, MHz	Antenna		Azimuth, degrees*	Peak field strength(VBW=3 MHz)			Average field strength(VBW=10 kHz)			Verdict
	Polariz.	Height, m		Measured, dB(μV/m)	Limit, dB(μV/m)	Margin, dB**	Measured, dB(μV/m)	Limit, dB(μV/m)	Margin, dB**	
Low carrier frequency										
58320	Vertical	1.5	0	136.69	154.8	-18.11	125.47	134.8	-9.33	Pass
Mid carrier frequency										
60480	Vertical	1.5	0	136.94	154.8	-17.86	125.29	134.8	-9.51	Pass
Mid carrier frequency										
62640	Vertical	1.5	0	135.76	154.8	-19.04	125.02	134.8	-9.78	Pass
High carrier frequency										
64800	Vertical	1.5	0	135.83	154.8	-18.97	125.43	134.8	-9.37	Pass

*- EUT front panel refer to 0 degrees position of turntable.

**-. Margin = Measured emission - specification limit.

Reference numbers of test equipment used

HL 5986	HL 5235	HL 5380	HL 0770	HL 3235	HL 4023	HL 0747	HL 3536
HL 3901	HL 1312	HL 3329					

Full description is given in Appendix A.



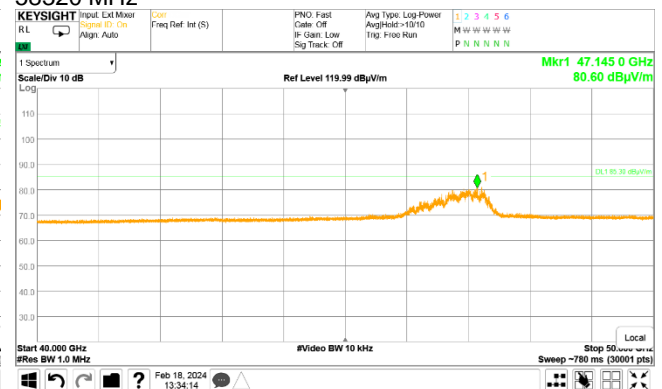
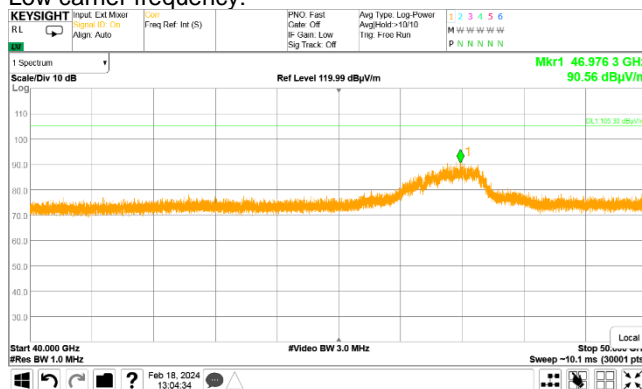
HERMON LABORATORIES

Test specification:		FCC Section 15.255(d)(3), RSS-210 section J.3, Out of band radiated emissions above 40 GHz	
Test procedure:		ANSI C63.10, Sections 9.9, 9.12	
Test mode:		Compliance	Verdict:
Date(s):		05-Jun-24	
Temperature: 23 °C	Relative Humidity: 45 %	Air Pressure: 1005 hPa	Power: 48 VDC
Remarks:			

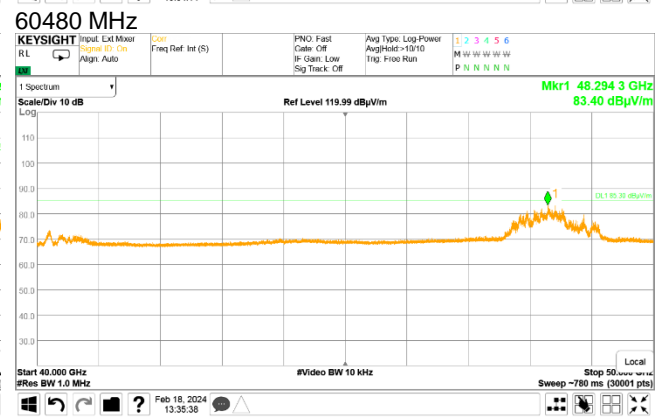
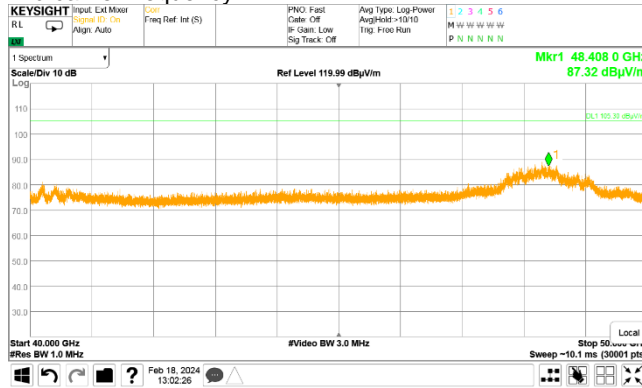
Plot 7.4.1 Spurious emission measurements in 40 – 50 GHz range

TEST SITE:
TEST DISTANCE:
MODULATION:
ANTENNA POLARIZATION:
DETECTOR: Peak RBW = 1 MHz; VBW = 3 MHz
Low carrier frequency:

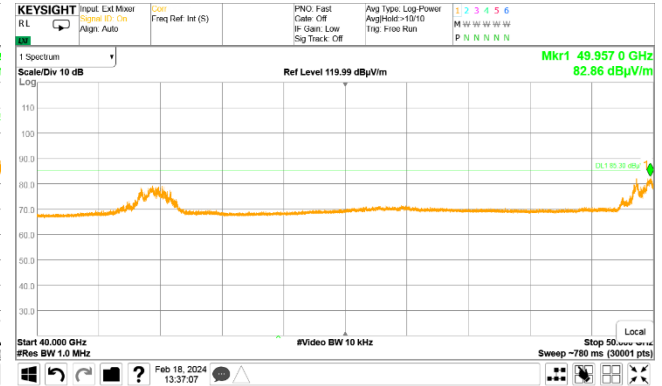
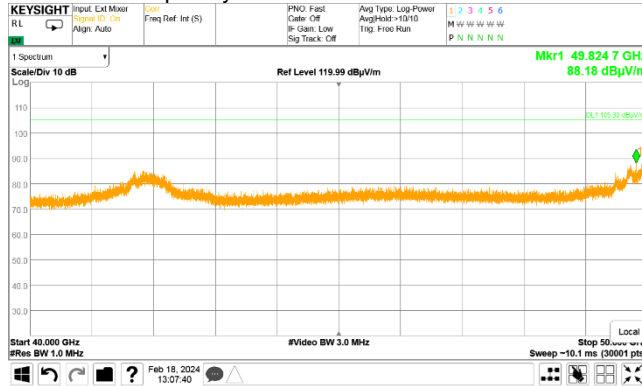
OATS
3 m
16QAM
Vertical and Horizontal
DETECTOR: Peak RBW = 1 MHz; VBW = 10 kHz
58320 MHz



Mid carrier frequency:



Mid carrier frequency:





HERMON LABORATORIES

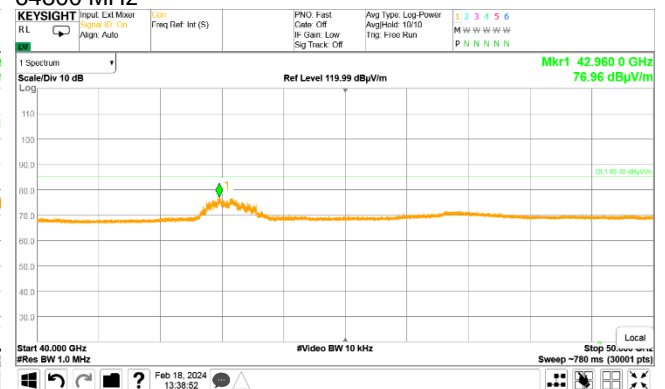
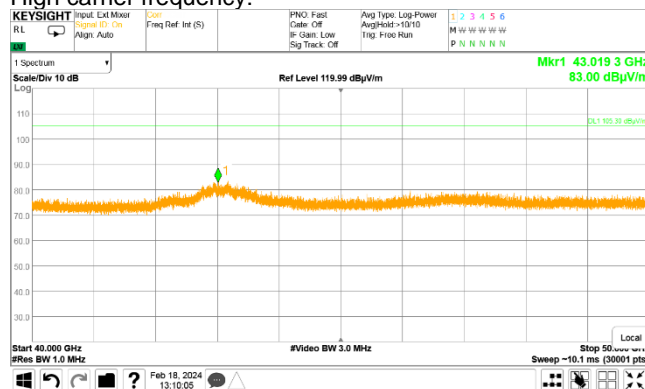
Report ID: SIKRAD_FCC.52762.docx
Date of Issue: 18-Aug-25

Test specification:		FCC Section 15.255(d)(3), RSS-210 section J.3, Out of band radiated emissions above 40 GHz	
Test procedure:		ANSI C63.10, Sections 9.9, 9.12	
Test mode:		Verdict:	
Date(s):			
05-Jun-24			
Temperature: 23 °C	Relative Humidity: 45 %	Air Pressure: 1005 hPa	Power: 48 VDC
Remarks:			

Plot 7.4.2 Spurious emission measurements in 40 – 50 GHz range

TEST SITE:
TEST DISTANCE:
MODULATION:
ANTENNA POLARIZATION:
DETECTOR: Peak RBW = 1 MHz; VBW = 3 MHz
High carrier frequency:

OATS
3 m
16QAM
Vertical and Horizontal
DETECTOR: Peak RBW = 1 MHz; VBW = 10 kHz
64800 MHz

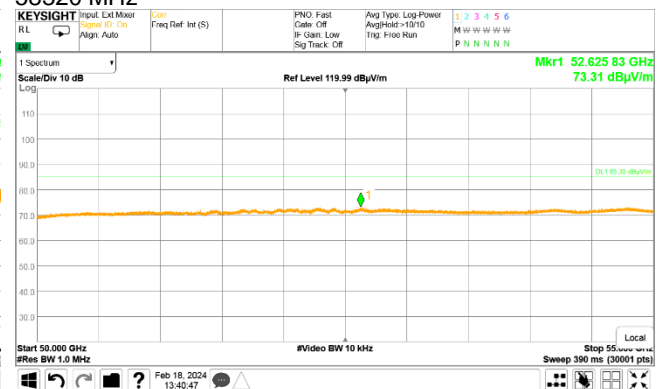
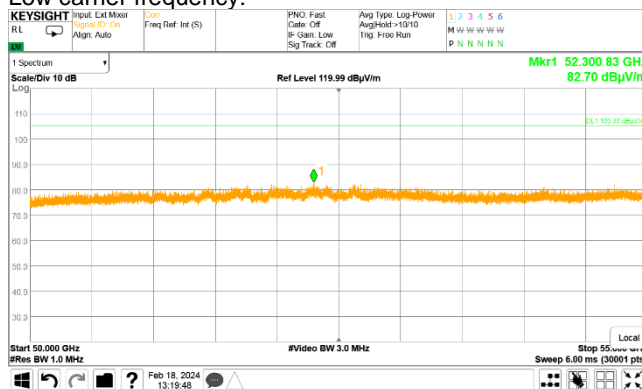


Test specification:		FCC Section 15.255(d)(3), RSS-210 section J.3, Out of band radiated emissions above 40 GHz	
Test procedure:		ANSI C63.10, Sections 9.9, 9.12	
Test mode:		Verdict:	
Date(s):		05-Jun-24	
Temperature: 23 °C	Relative Humidity: 45 %	Air Pressure: 1005 hPa	Power: 48 VDC
Remarks:			

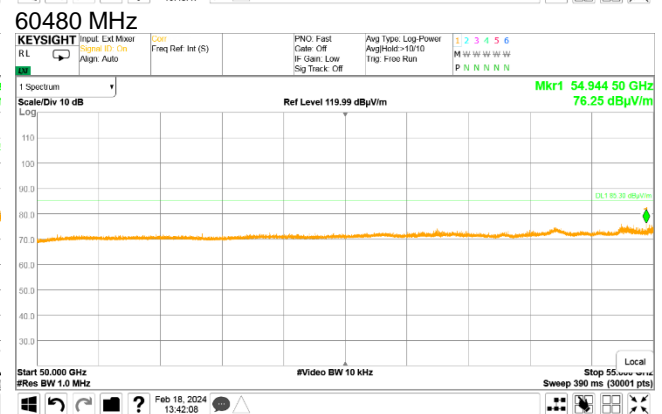
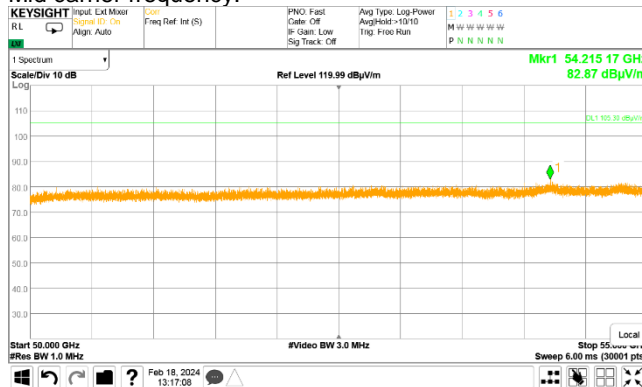
Plot 7.4.3 Spurious emission measurements in 50 – 55 GHz range

TEST SITE:
TEST DISTANCE:
MODULATION:
ANTENNA POLARIZATION:
DETECTOR: Peak RBW = 1 MHz; VBW = 3 MHz
Low carrier frequency:

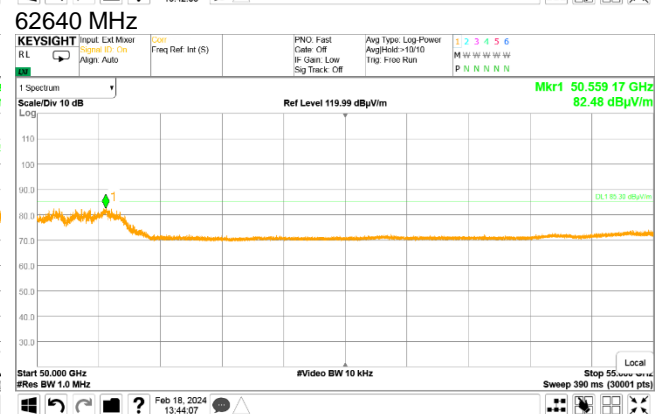
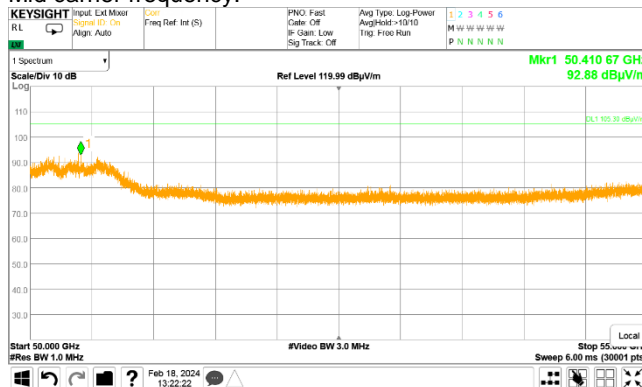
OATS
3 m
16QAM
Vertical and Horizontal
DETECTOR: Peak RBW = 1 MHz; VBW = 10 kHz
58320 MHz



Mid carrier frequency:



Mid carrier frequency:





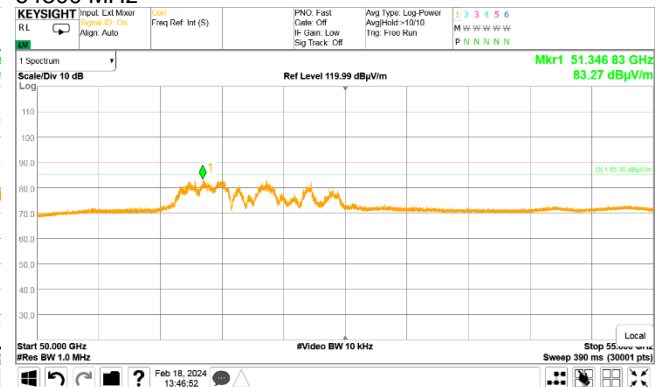
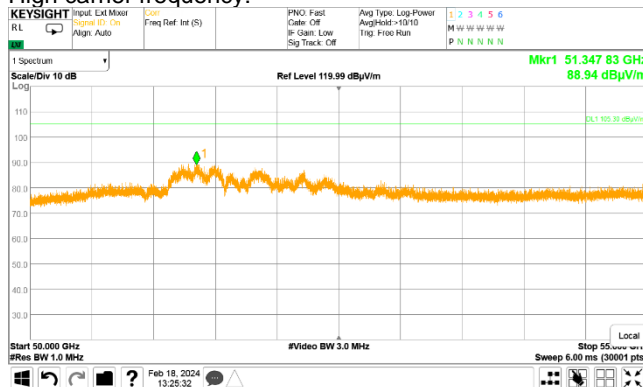
HERMON LABORATORIES

Test specification:		FCC Section 15.255(d)(3), RSS-210 section J.3, Out of band radiated emissions above 40 GHz	
Test procedure:		ANSI C63.10, Sections 9.9, 9.12	
Test mode:		Verdict:	
Date(s):			
05-Jun-24			
Temperature: 23 °C	Relative Humidity: 45 %	Air Pressure: 1005 hPa	Power: 48 VDC
Remarks:			

Plot 7.4.4 Spurious emission measurements in 50 – 55 GHz range

TEST SITE:
TEST DISTANCE:
MODULATION:
ANTENNA POLARIZATION:
DETECTOR: Peak RBW = 1 MHz; VBW = 3 MHz
High carrier frequency:

OATS
3 m
16QAM
Vertical and Horizontal
DETECTOR: Peak RBW = 1 MHz; VBW = 10 kHz
64800 MHz





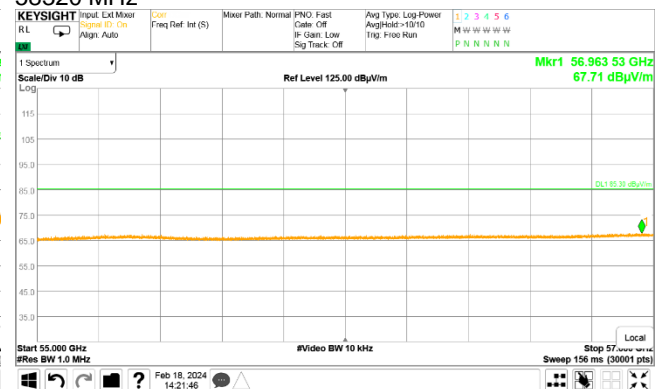
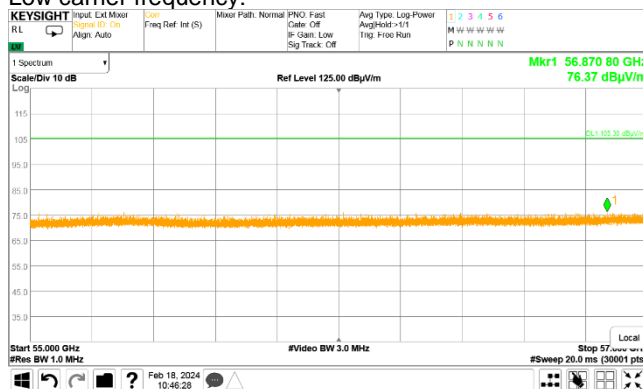
HERMON LABORATORIES

Test specification:		FCC Section 15.255(d)(3), RSS-210 section J.3, Out of band radiated emissions above 40 GHz	
Test procedure:		ANSI C63.10, Sections 9.9, 9.12	
Test mode:		Verdict:	
Date(s):			
05-Jun-24			
Temperature: 23 °C	Relative Humidity: 45 %	Air Pressure: 1005 hPa	Power: 48 VDC
Remarks:			

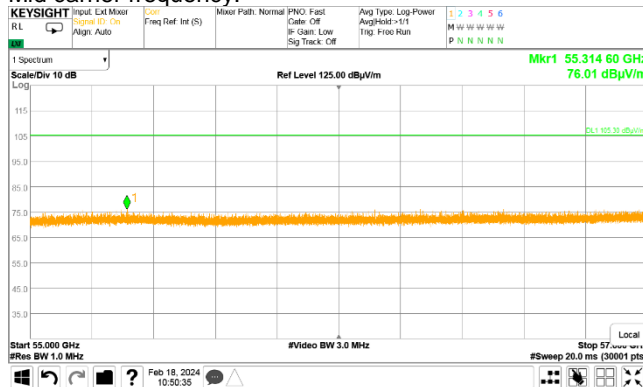
Plot 7.4.5 Spurious emission measurements in 55 – 57 GHz range

TEST SITE:
TEST DISTANCE:
MODULATION:
ANTENNA POLARIZATION:
DETECTOR: Peak RBW = 1 MHz; VBW = 3 MHz
Low carrier frequency:

OATS
3 m
16QAM
Vertical and Horizontal
DETECTOR: Peak RBW = 1 MHz; VBW = 10 kHz
58320 MHz



Mid carrier frequency:



Mid carrier frequency:

