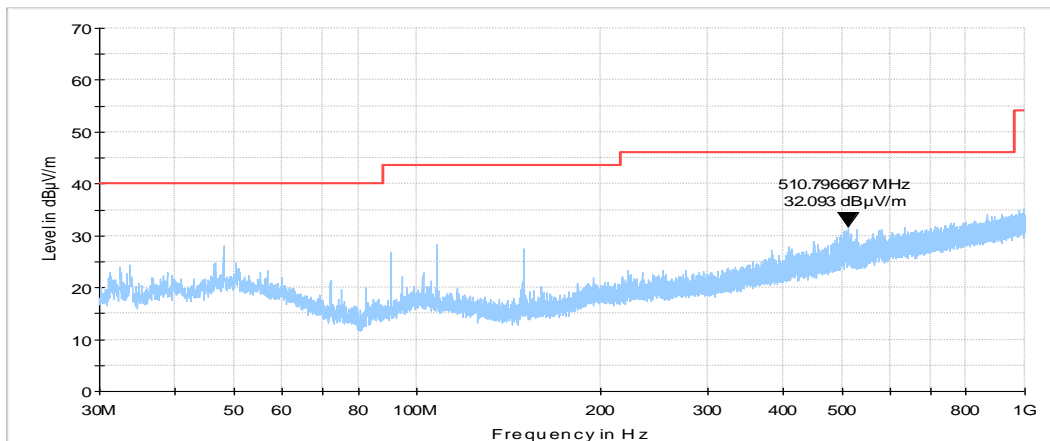




Test specification: Section 15.247(d) / RSS-247 section 5.5, Radiated spurious emissions			
Test procedure: ANSI C63.10 section 11.12.1			
Test mode: Compliance		Verdict: PASS	
Date(s): 29-Jul-20			
Temperature: 26 °C	Relative Humidity: 38 %	Air Pressure: 1003 hPa	Power: 28 VDC
Remarks:			

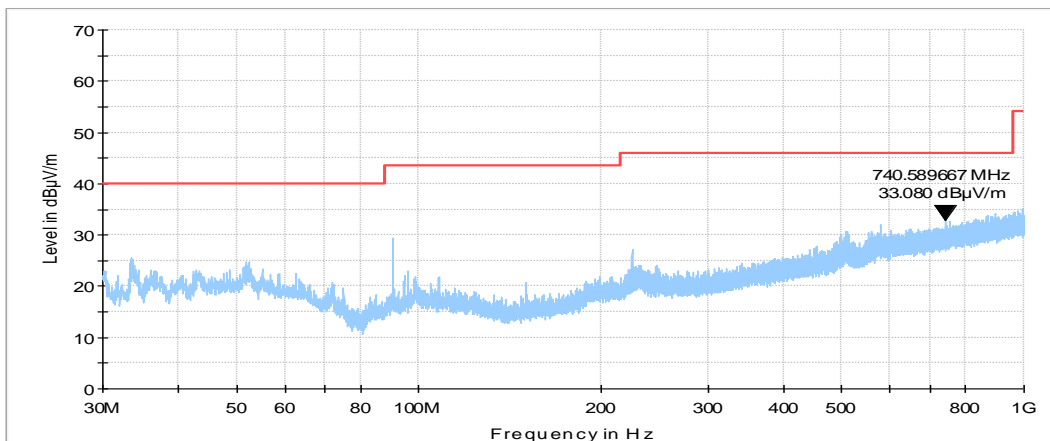
Plot 7.3.25 Radiated emission measurements from 30 to 1000 MHz at the low carrier frequency

TEST SITE: Semi anechoic chamber
TEST DISTANCE: 3 m
ANTENNA POLARIZATION: Vertical and Horizontal
EUT POSITION: X
TRANSMITTER: 2



Plot 7.3.26 Radiated emission measurements from 30 to 1000 MHz at the low carrier frequency

TEST SITE: Semi anechoic chamber
TEST DISTANCE: 3 m
ANTENNA POLARIZATION: Vertical and Horizontal
EUT POSITION: Y
TRANSMITTER: 2

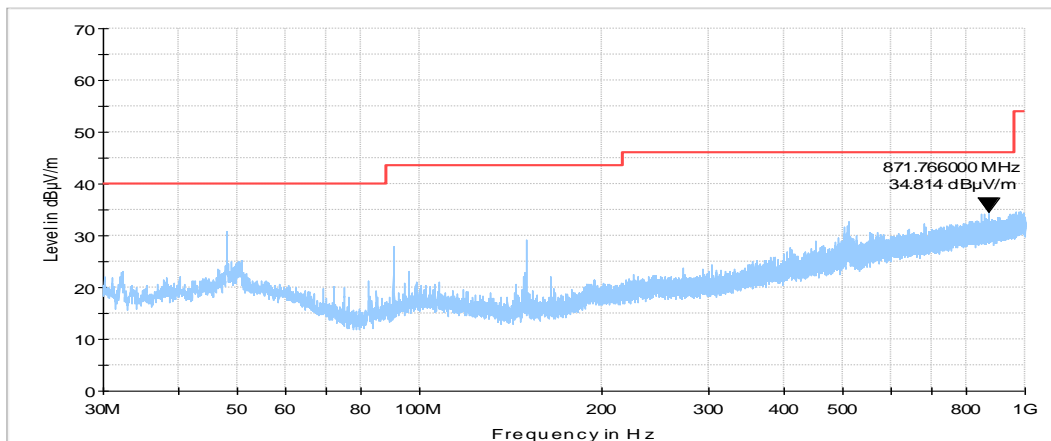




Test specification: Section 15.247(d) / RSS-247 section 5.5, Radiated spurious emissions			
Test procedure: ANSI C63.10 section 11.12.1			
Test mode: Compliance		Verdict: PASS	
Date(s): 29-Jul-20			
Temperature: 26 °C	Relative Humidity: 38 %	Air Pressure: 1003 hPa	Power: 28 VDC
Remarks:			

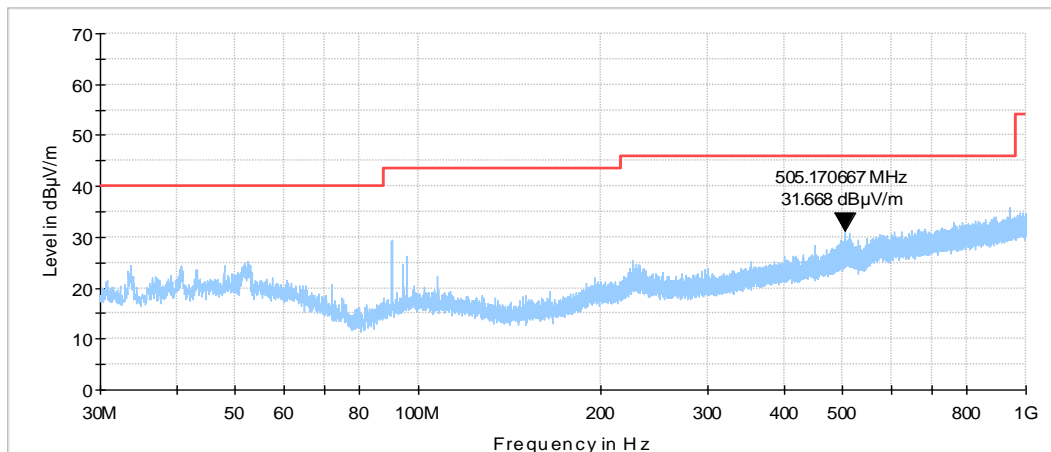
Plot 7.3.27 Radiated emission measurements from 30 to 1000 MHz at the mid carrier frequency

TEST SITE: Semi anechoic chamber
TEST DISTANCE: 3 m
ANTENNA POLARIZATION: Vertical and Horizontal
EUT POSITION: X
TRANSMITTER: 2



Plot 7.3.28 Radiated emission measurements from 30 to 1000 MHz at the mid carrier frequency

TEST SITE: Semi anechoic chamber
TEST DISTANCE: 3 m
ANTENNA POLARIZATION: Vertical and Horizontal
EUT POSITION: Y
TRANSMITTER: 2

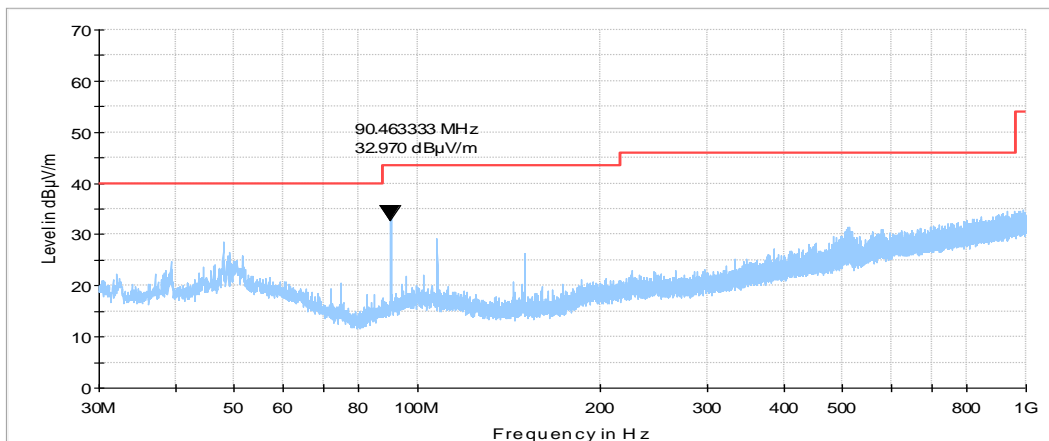




Test specification: Section 15.247(d) / RSS-247 section 5.5, Radiated spurious emissions			
Test procedure: ANSI C63.10 section 11.12.1			
Test mode: Compliance		Verdict: PASS	
Date(s): 29-Jul-20			
Temperature: 26 °C	Relative Humidity: 38 %	Air Pressure: 1003 hPa	Power: 28 VDC
Remarks:			

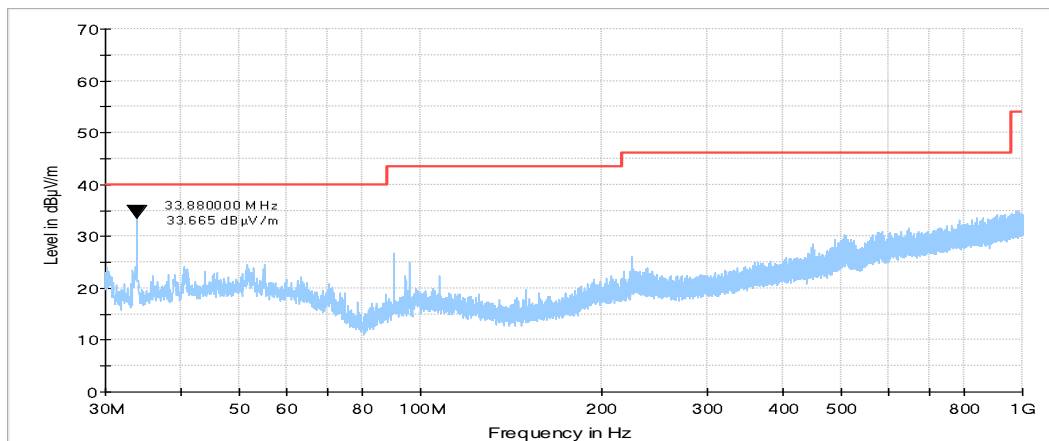
Plot 7.3.29 Radiated emission measurements from 30 to 1000 MHz at the high carrier frequency

TEST SITE: Semi anechoic chamber
 TEST DISTANCE: 3 m
 ANTENNA POLARIZATION: Vertical and Horizontal
 EUT POSITION: X
 TRANSMITTER: 2



Plot 7.3.30 Radiated emission measurements from 30 to 1000 MHz at the high carrier frequency

TEST SITE: Semi anechoic chamber
 TEST DISTANCE: 3 m
 ANTENNA POLARIZATION: Vertical and Horizontal
 EUT POSITION: Y
 TRANSMITTER: 2

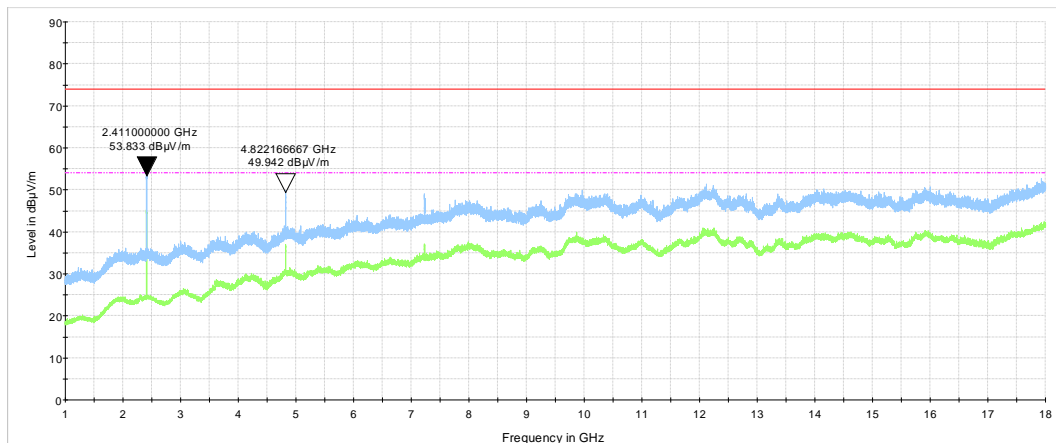




Test specification: Section 15.247(d) / RSS-247 section 5.5, Radiated spurious emissions			
Test procedure: ANSI C63.10 section 11.12.1			
Test mode: Compliance		Verdict: PASS	
Date(s): 29-Jul-20			
Temperature: 26 °C	Relative Humidity: 38 %	Air Pressure: 1003 hPa	Power: 28 VDC
Remarks:			

Plot 7.3.31 Radiated emission measurements from 1 to 18 GHz at the low carrier frequency

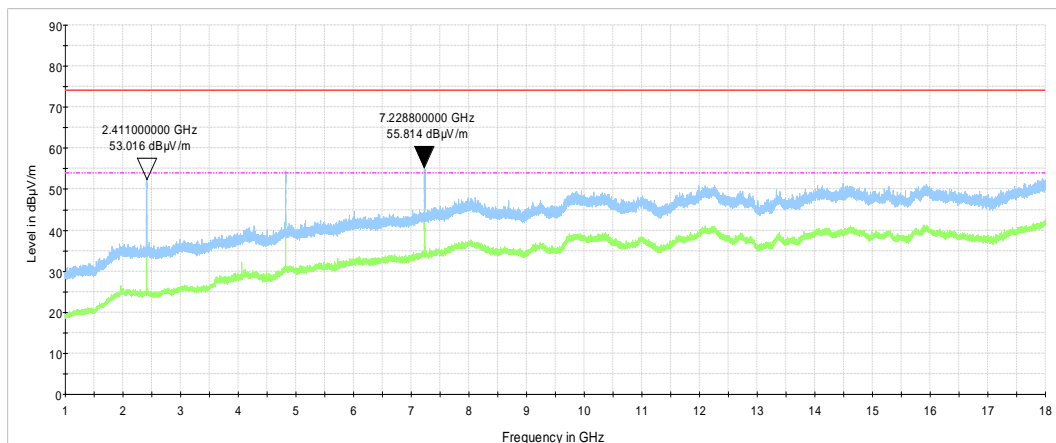
TEST SITE: Semi anechoic chamber
 TEST DISTANCE: 3 m
 ANTENNA POLARIZATION: Vertical and Horizontal
 EUT POSITION: X
 TRANSMITTER: 1



Note: The measurement was performed using stop-reject filter in frequency range 2.1 – 3.0 GHz

Plot 7.3.32 Radiated emission measurements from 1 to 18 GHz at the low carrier frequency

TEST SITE: Semi anechoic chamber
 TEST DISTANCE: 3 m
 ANTENNA POLARIZATION: Vertical and Horizontal
 EUT POSITION: Y
 TRANSMITTER: 1



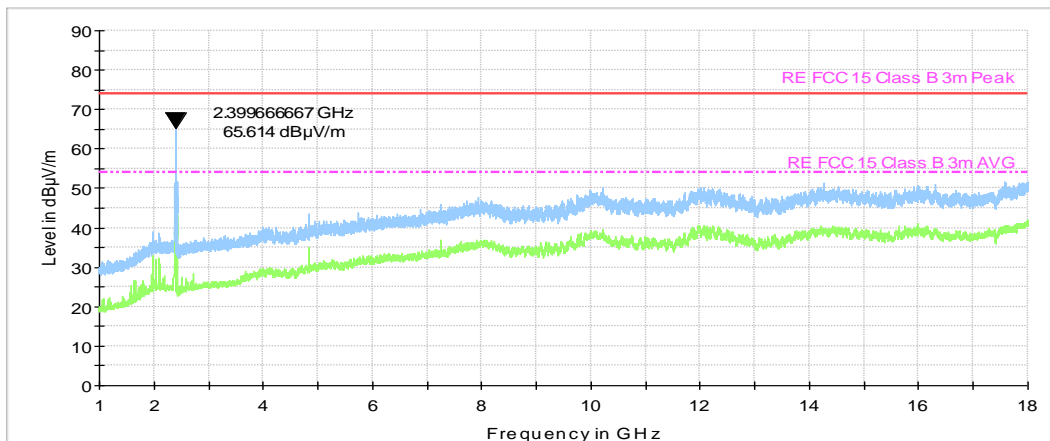
Note: The measurement was performed using stop-reject filter in frequency range 2.1 – 3.0 GHz



Test specification: Section 15.247(d) / RSS-247 section 5.5, Radiated spurious emissions			
Test procedure: ANSI C63.10 section 11.12.1			
Test mode: Compliance		Verdict: PASS	
Date(s): 29-Jul-20			
Temperature: 26 °C	Relative Humidity: 38 %	Air Pressure: 1003 hPa	Power: 28 VDC
Remarks:			

Plot 7.3.33 Radiated emission measurements from 1 to 18 GHz at the mid carrier frequency

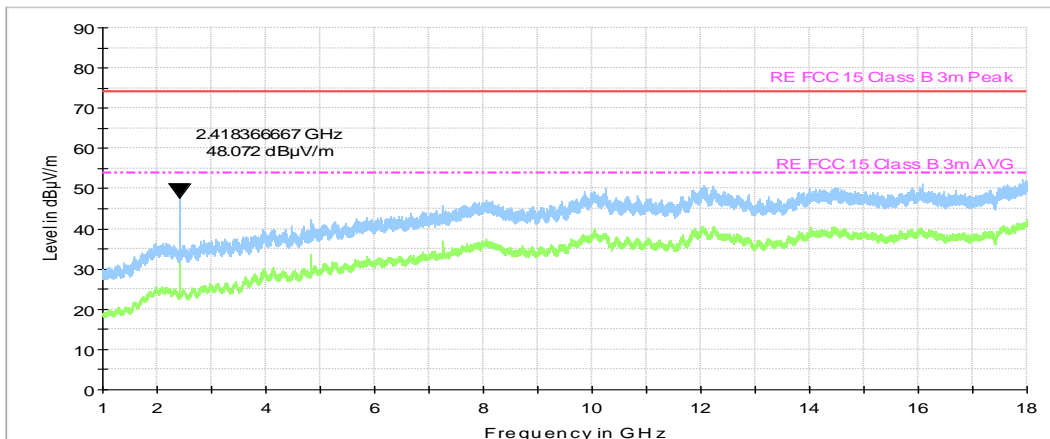
TEST SITE: Semi anechoic chamber
 TEST DISTANCE: 3 m
 ANTENNA POLARIZATION: Vertical and Horizontal
 EUT POSITION: X
 TRANSMITTER: 1



Note: The measurement was performed using stop-reject filter in frequency range 2.1 – 3.0 GHz

Plot 7.3.34 Radiated emission measurements from 1 to 18 GHz at the mid carrier frequency

TEST SITE: Semi anechoic chamber
 TEST DISTANCE: 3 m
 ANTENNA POLARIZATION: Vertical and Horizontal
 EUT POSITION: Y
 TRANSMITTER: 1



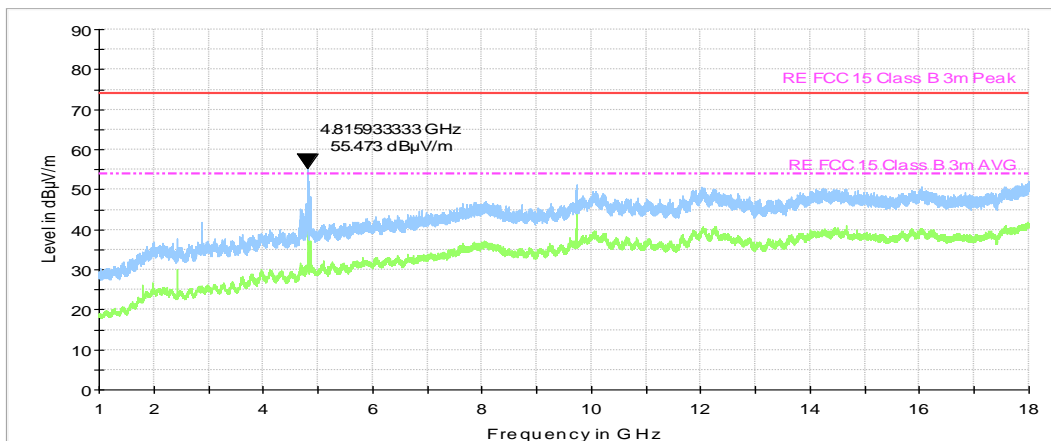
Note: The measurement was performed using stop-reject filter in frequency range 2.1 – 3.0 GHz



Test specification: Section 15.247(d) / RSS-247 section 5.5, Radiated spurious emissions			
Test procedure: ANSI C63.10 section 11.12.1			
Test mode: Compliance		Verdict: PASS	
Date(s): 29-Jul-20			
Temperature: 26 °C	Relative Humidity: 38 %	Air Pressure: 1003 hPa	Power: 28 VDC
Remarks:			

Plot 7.3.35 Radiated emission measurements from 1 to 18 GHz at the high carrier frequency

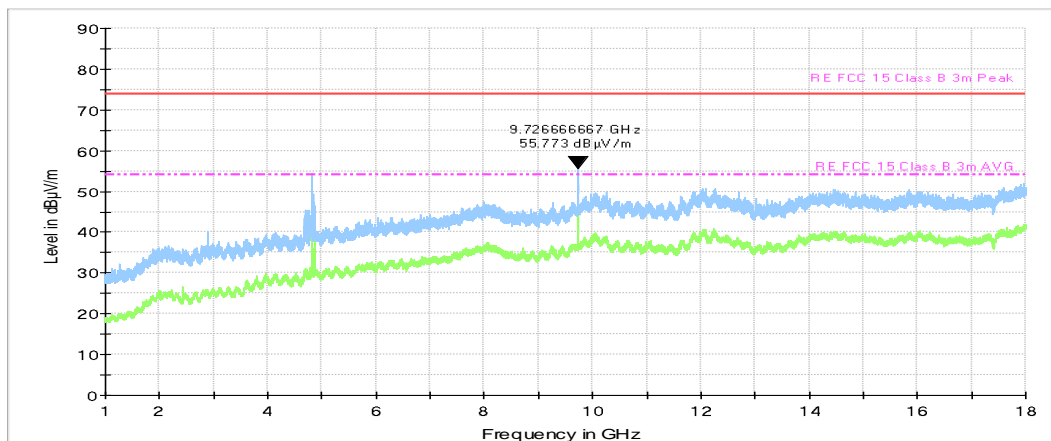
TEST SITE: Semi anechoic chamber
 TEST DISTANCE: 3 m
 ANTENNA POLARIZATION: Vertical and Horizontal
 EUT POSITION: X
 TRANSMITTER: 1



Note: The measurement was performed using stop-reject filter in frequency range 2.1 – 3.0 GHz

Plot 7.3.36 Radiated emission measurements from 1 to 18 GHz at the high carrier frequency

TEST SITE: Semi anechoic chamber
 TEST DISTANCE: 3 m
 ANTENNA POLARIZATION: Vertical and Horizontal
 EUT POSITION: Y
 TRANSMITTER: 1



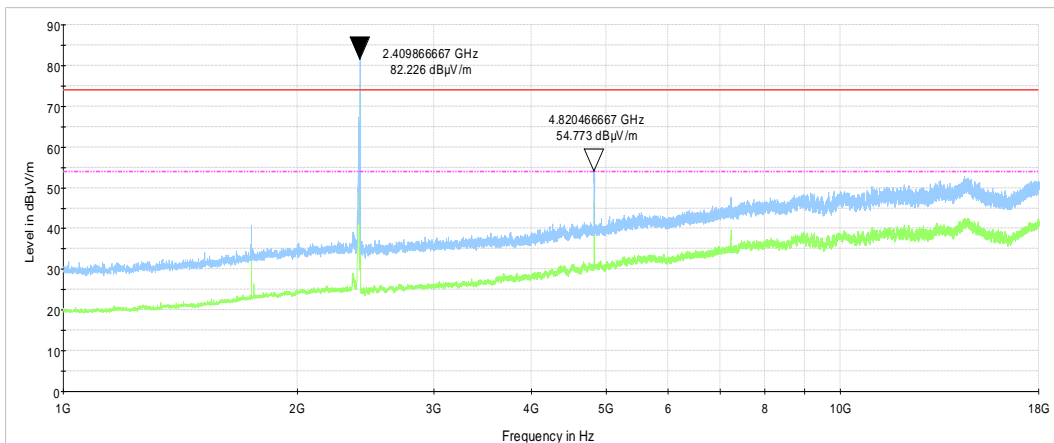
Note: The measurement was performed using stop-reject filter in frequency range 2.1 – 3.0 GHz



Test specification: Section 15.247(d) / RSS-247 section 5.5, Radiated spurious emissions			
Test procedure: ANSI C63.10 section 11.12.1			
Test mode: Compliance		Verdict: PASS	
Date(s): 29-Jul-20			
Temperature: 26 °C	Relative Humidity: 38 %	Air Pressure: 1003 hPa	Power: 28 VDC
Remarks:			

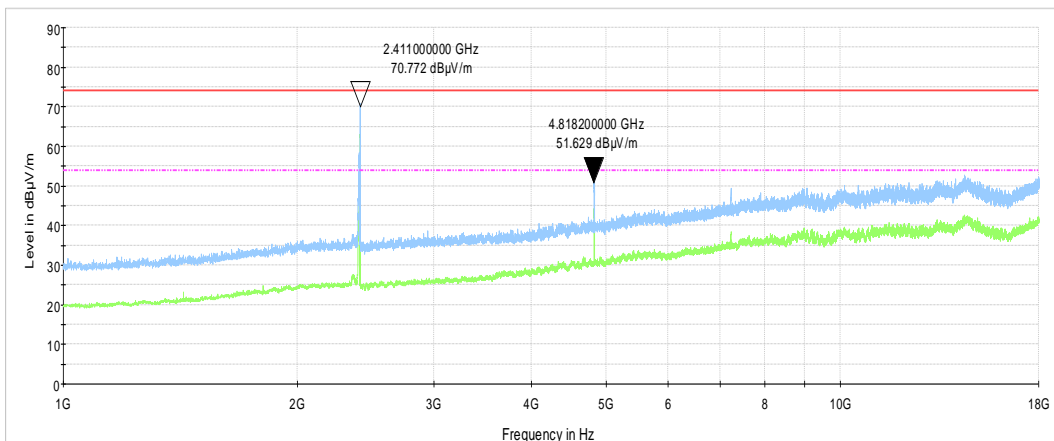
Plot 7.3.37 Radiated emission measurements from 1 to 18 GHz at the low carrier frequency

TEST SITE: Semi anechoic chamber
TEST DISTANCE: 3 m
ANTENNA POLARIZATION: Vertical and Horizontal
EUT POSITION: X
TRANSMITTER: 2



Plot 7.3.38 Radiated emission measurements from 1 to 18 GHz at the low carrier frequency

TEST SITE: Semi anechoic chamber
TEST DISTANCE: 3 m
ANTENNA POLARIZATION: Vertical and Horizontal
EUT POSITION: Y
TRANSMITTER: 2

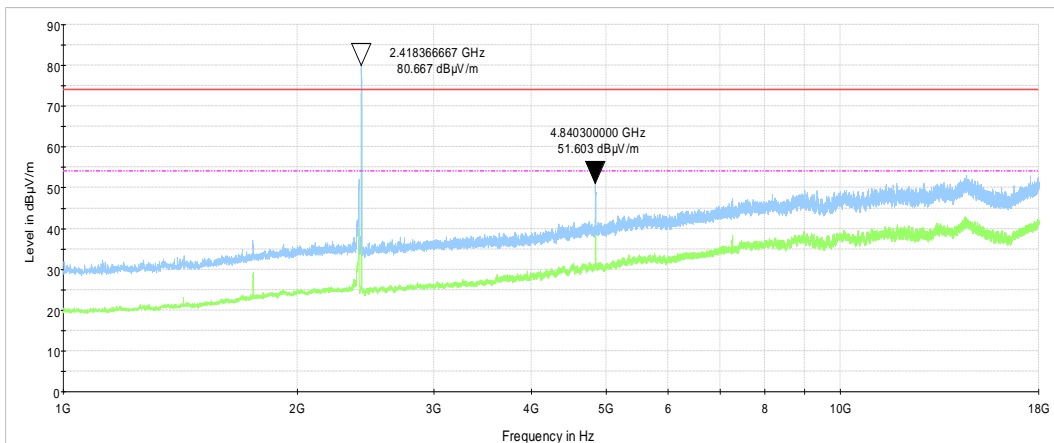




Test specification: Section 15.247(d) / RSS-247 section 5.5, Radiated spurious emissions			
Test procedure: ANSI C63.10 section 11.12.1			
Test mode: Compliance		Verdict: PASS	
Date(s): 29-Jul-20			
Temperature: 26 °C	Relative Humidity: 38 %	Air Pressure: 1003 hPa	Power: 28 VDC
Remarks:			

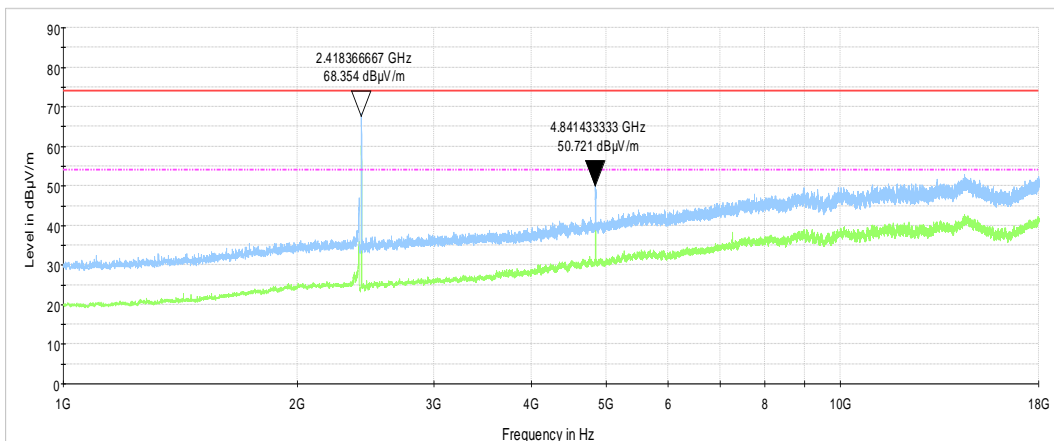
Plot 7.3.39 Radiated emission measurements from 1 to 18 GHz at the mid carrier frequency

TEST SITE: Semi anechoic chamber
 TEST DISTANCE: 3 m
 ANTENNA POLARIZATION: Vertical and Horizontal
 EUT POSITION: X
 TRANSMITTER: 2



Plot 7.3.40 Radiated emission measurements from 1 to 18 GHz at the mid carrier frequency

TEST SITE: Semi anechoic chamber
 TEST DISTANCE: 3 m
 ANTENNA POLARIZATION: Vertical and Horizontal
 EUT POSITION: Y
 TRANSMITTER: 2

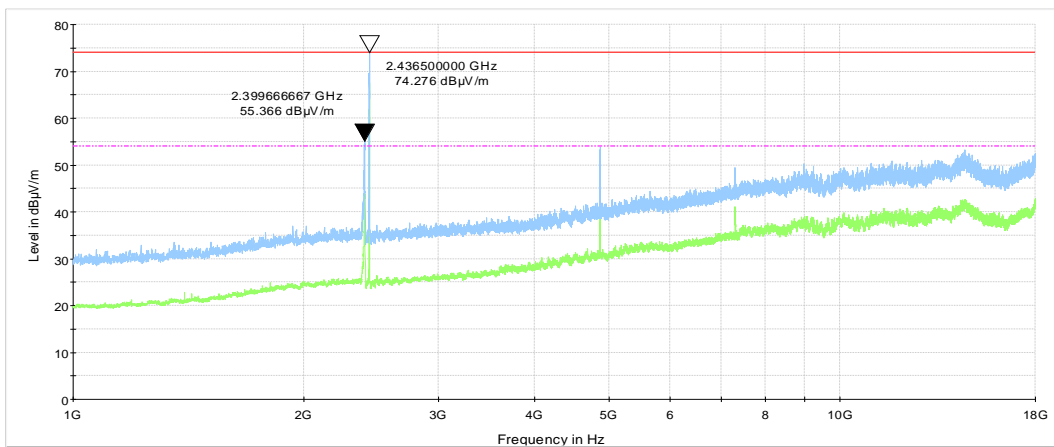




Test specification: Section 15.247(d) / RSS-247 section 5.5, Radiated spurious emissions			
Test procedure: ANSI C63.10 section 11.12.1			
Test mode: Compliance		Verdict: PASS	
Date(s): 29-Jul-20			
Temperature: 26 °C	Relative Humidity: 38 %	Air Pressure: 1003 hPa	Power: 28 VDC
Remarks:			

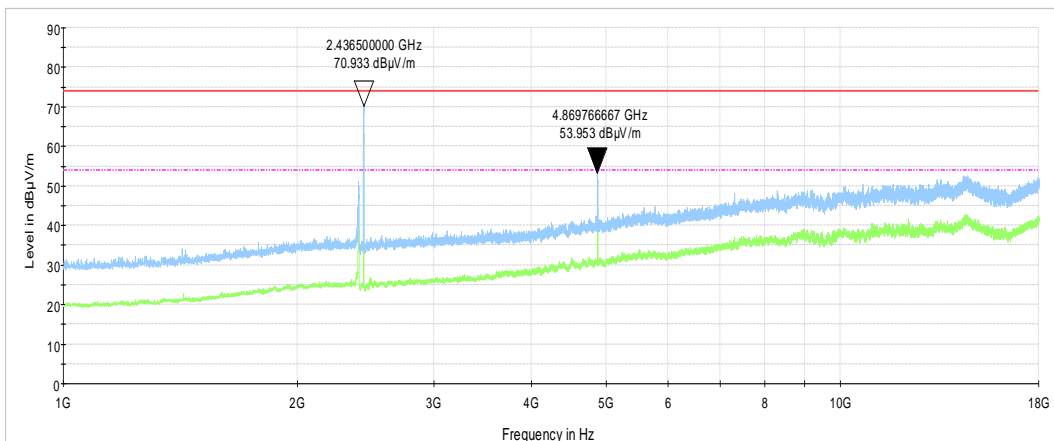
Plot 7.3.41 Radiated emission measurements from 1 to 18 GHz at the high carrier frequency

TEST SITE: Semi anechoic chamber
TEST DISTANCE: 3 m
ANTENNA POLARIZATION: Vertical and Horizontal
EUT POSITION: X
TRANSMITTER: 2



Plot 7.3.42 Radiated emission measurements from 1 to 18 GHz at the high carrier frequency

TEST SITE: Semi anechoic chamber
TEST DISTANCE: 3 m
ANTENNA POLARIZATION: Vertical and Horizontal
EUT POSITION: Y
TRANSMITTER: 2

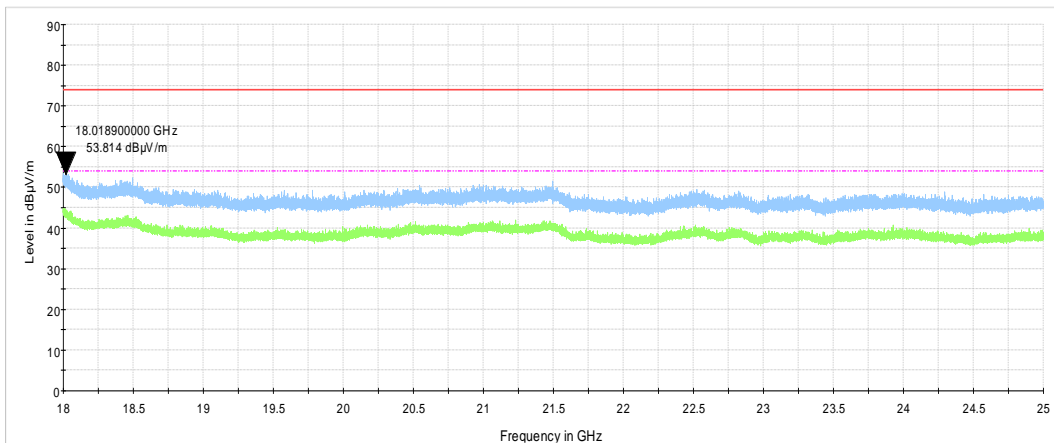




Test specification: Section 15.247(d) / RSS-247 section 5.5, Radiated spurious emissions			
Test procedure: ANSI C63.10 section 11.12.1			
Test mode: Compliance		Verdict: PASS	
Date(s): 29-Jul-20			
Temperature: 26 °C	Relative Humidity: 38 %	Air Pressure: 1003 hPa	Power: 28 VDC
Remarks:			

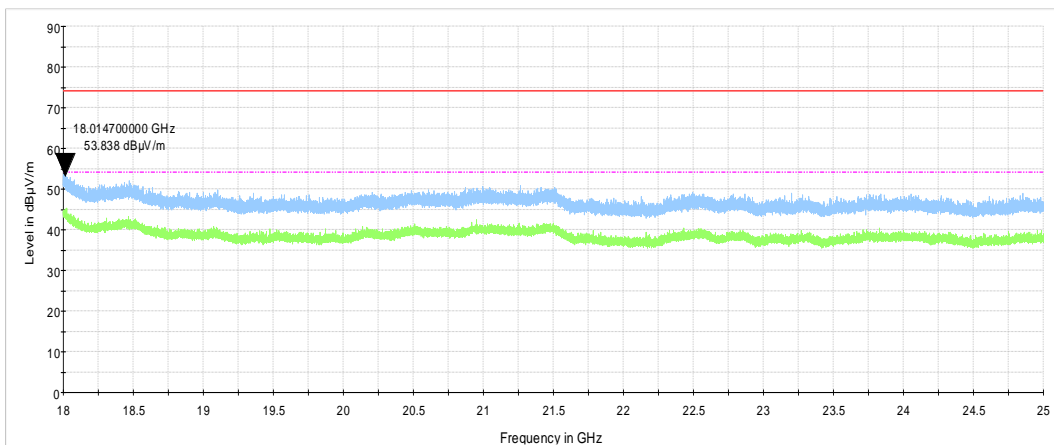
Plot 7.3.43 Radiated emission measurements from 18 to 25 GHz at the low carrier frequency

TEST SITE: Semi anechoic chamber
 TEST DISTANCE: 3 m
 ANTENNA POLARIZATION: Vertical and Horizontal
 EUT POSITION: X
 TRANSMITTER 1



Plot 7.3.44 Radiated emission measurements from 18 to 25 GHz at the low carrier frequency

TEST SITE: Semi anechoic chamber
 TEST DISTANCE: 3 m
 ANTENNA POLARIZATION: Vertical and Horizontal
 EUT POSITION: Y
 TRANSMITTER 1

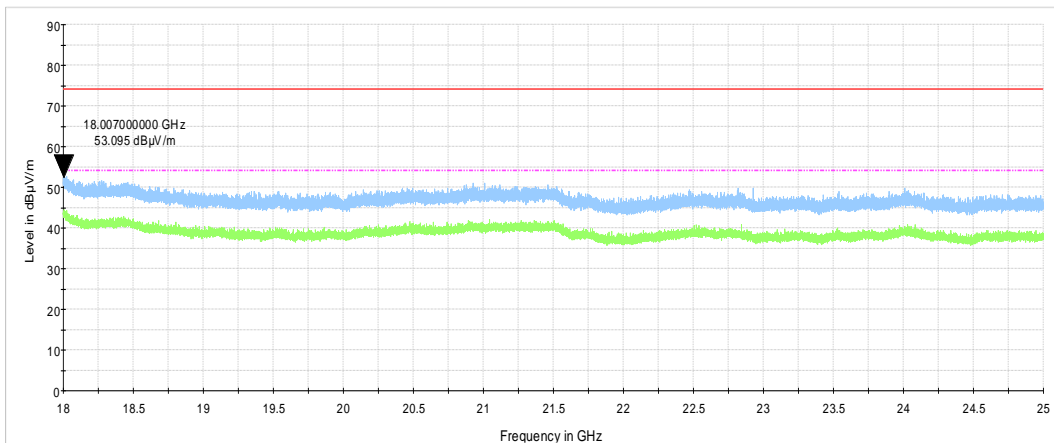




Test specification: Section 15.247(d) / RSS-247 section 5.5, Radiated spurious emissions			
Test procedure: ANSI C63.10 section 11.12.1			
Test mode: Compliance		Verdict: PASS	
Date(s): 29-Jul-20			
Temperature: 26 °C	Relative Humidity: 38 %	Air Pressure: 1003 hPa	Power: 28 VDC
Remarks:			

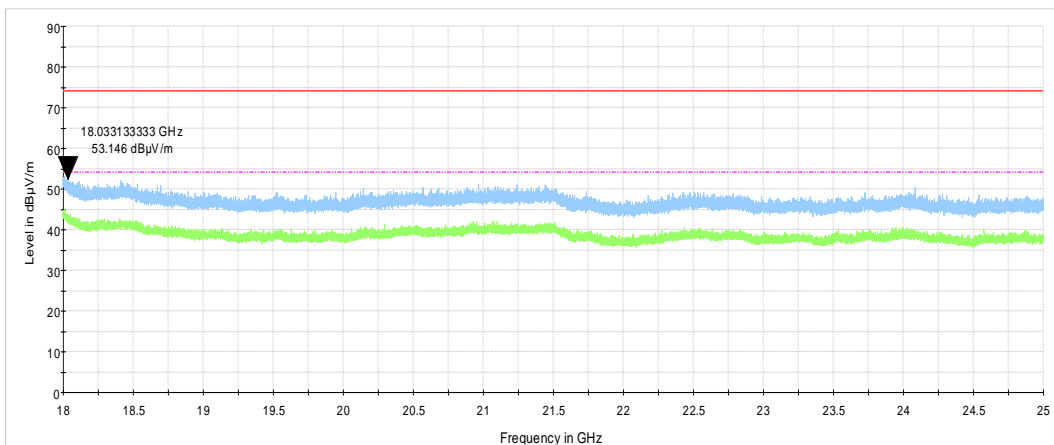
Plot 7.3.45 Radiated emission measurements from 18 to 25 GHz at the mid carrier frequency

TEST SITE: Semi anechoic chamber
 TEST DISTANCE: 3 m
 ANTENNA POLARIZATION: Vertical and Horizontal
 EUT POSITION: X
 TRANSMITTER 1



Plot 7.3.46 Radiated emission measurements from 18 to 25 GHz at the mid carrier frequency

TEST SITE: Semi anechoic chamber
 TEST DISTANCE: 3 m
 ANTENNA POLARIZATION: Vertical and Horizontal
 EUT POSITION: Y
 TRANSMITTER 1

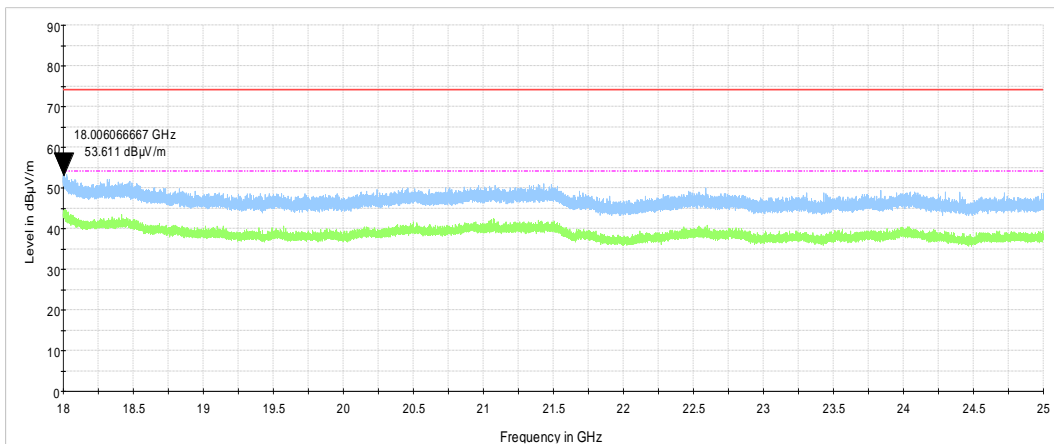




Test specification: Section 15.247(d) / RSS-247 section 5.5, Radiated spurious emissions			
Test procedure: ANSI C63.10 section 11.12.1			
Test mode: Compliance		Verdict: PASS	
Date(s): 29-Jul-20			
Temperature: 26 °C	Relative Humidity: 38 %	Air Pressure: 1003 hPa	Power: 28 VDC
Remarks:			

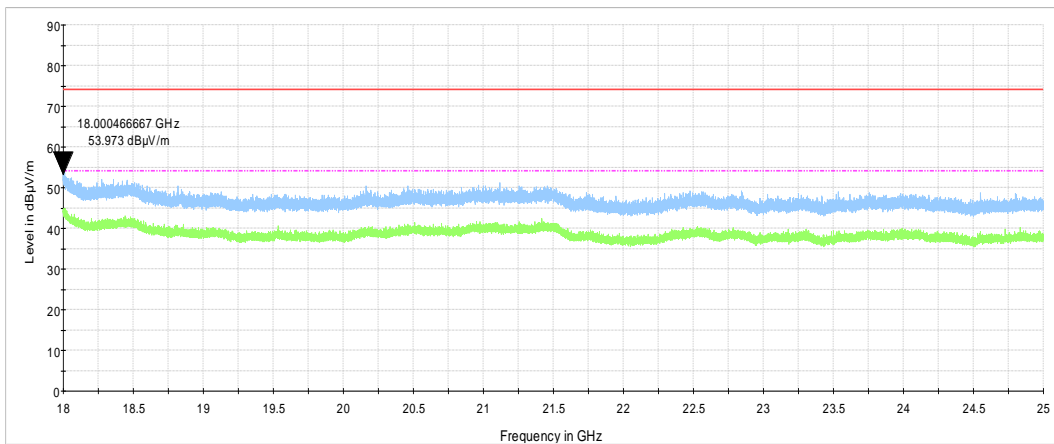
Plot 7.3.47 Radiated emission measurements from 18 to 25 GHz at the high carrier frequency

TEST SITE: Semi anechoic chamber
 TEST DISTANCE: 3 m
 ANTENNA POLARIZATION: Vertical and Horizontal
 EUT POSITION: X
 TRANSMITTER 1



Plot 7.3.48 Radiated emission measurements from 18 to 25 GHz at the high carrier frequency

TEST SITE: Semi anechoic chamber
 TEST DISTANCE: 3 m
 ANTENNA POLARIZATION: Vertical and Horizontal
 EUT POSITION: Y
 TRANSMITTER 1



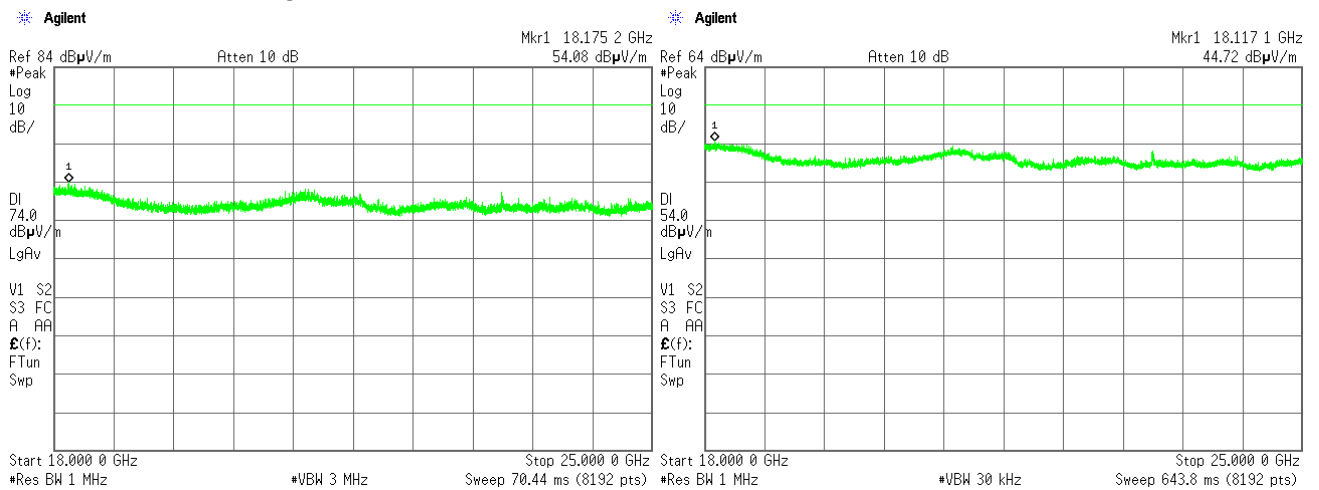


HERMON LABORATORIES

Test specification: Section 15.247(d) / RSS-247 section 5.5, Radiated spurious emissions			
Test procedure: ANSI C63.10 section 11.12.1			
Test mode: Compliance		Verdict: PASS	
Date(s): 29-Jul-20			
Temperature: 26 °C	Relative Humidity: 38 %	Air Pressure: 1003 hPa	Power: 28 VDC
Remarks:			

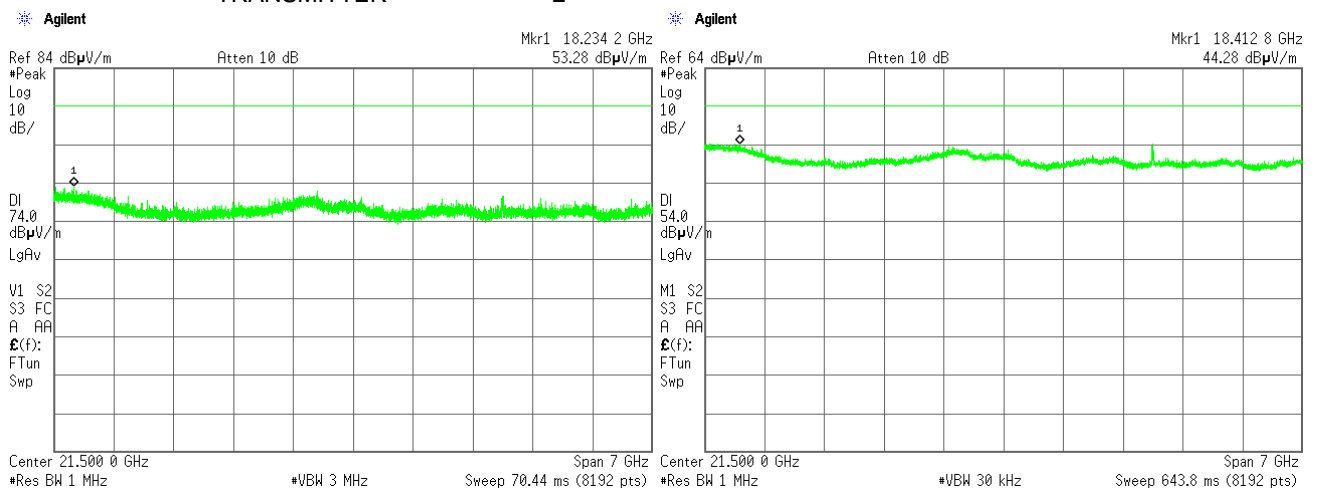
Plot 7.3.49 Radiated emission measurements from 18 to 25 GHz at the low carrier frequency

TEST SITE: Semi anechoic chamber
TEST DISTANCE: 3 m
ANTENNA POLARIZATION: Vertical and Horizontal
EUT POSITION: X
TRANSMITTER: 2



Plot 7.3.50 Radiated emission measurements from 18 to 25 GHz at the low carrier frequency

TEST SITE: Semi anechoic chamber
TEST DISTANCE: 3 m
ANTENNA POLARIZATION: Vertical and Horizontal
EUT POSITION: Y
TRANSMITTER: 2



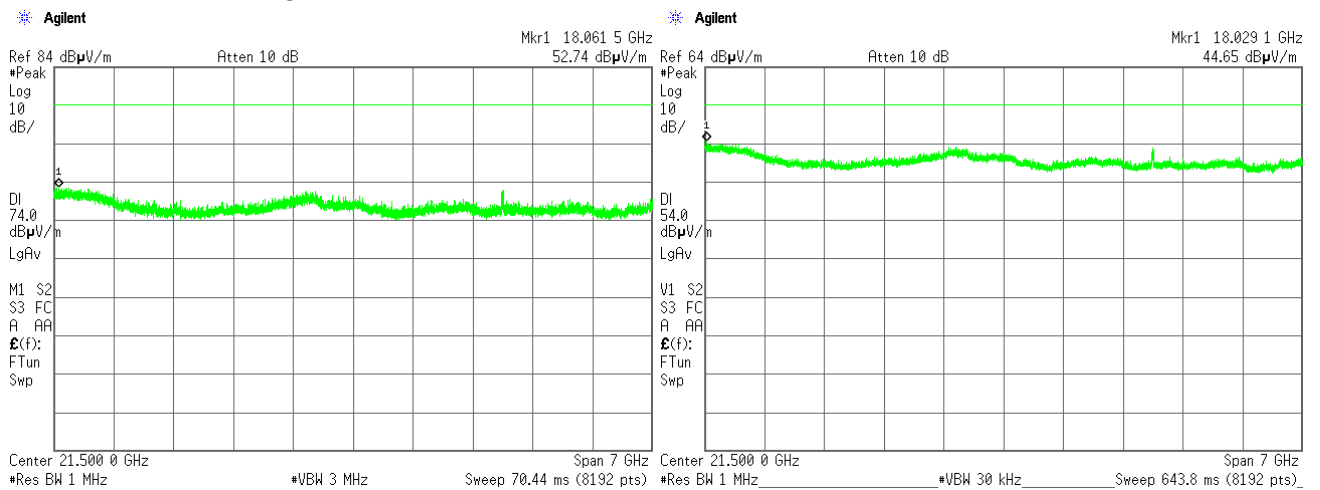


HERMON LABORATORIES

Test specification: Section 15.247(d) / RSS-247 section 5.5, Radiated spurious emissions			
Test procedure: ANSI C63.10 section 11.12.1			
Test mode: Compliance		Verdict: PASS	
Date(s): 29-Jul-20			
Temperature: 26 °C	Relative Humidity: 38 %	Air Pressure: 1003 hPa	Power: 28 VDC
Remarks:			

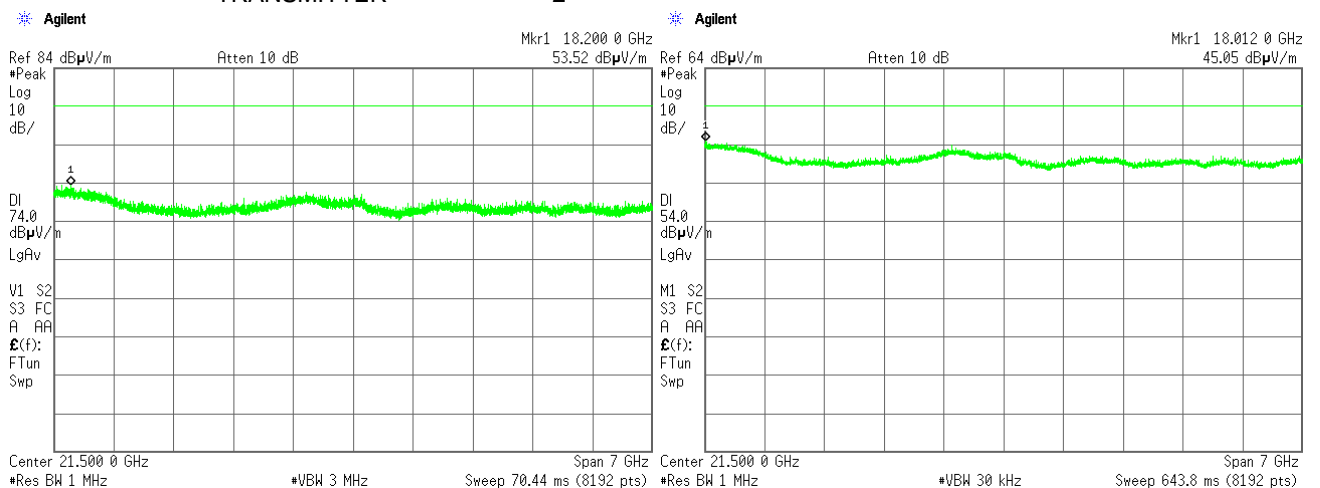
Plot 7.3.51 Radiated emission measurements from 18 to 25 GHz at the mid carrier frequency

TEST SITE: Semi anechoic chamber
 TEST DISTANCE: 3 m
 ANTENNA POLARIZATION: Vertical and Horizontal
 EUT POSITION: X
 TRANSMITTER: 2



Plot 7.3.52 Radiated emission measurements from 18 to 25 GHz at the mid carrier frequency

TEST SITE: Semi anechoic chamber
 TEST DISTANCE: 3 m
 ANTENNA POLARIZATION: Vertical and Horizontal
 EUT POSITION: Y
 TRANSMITTER: 2



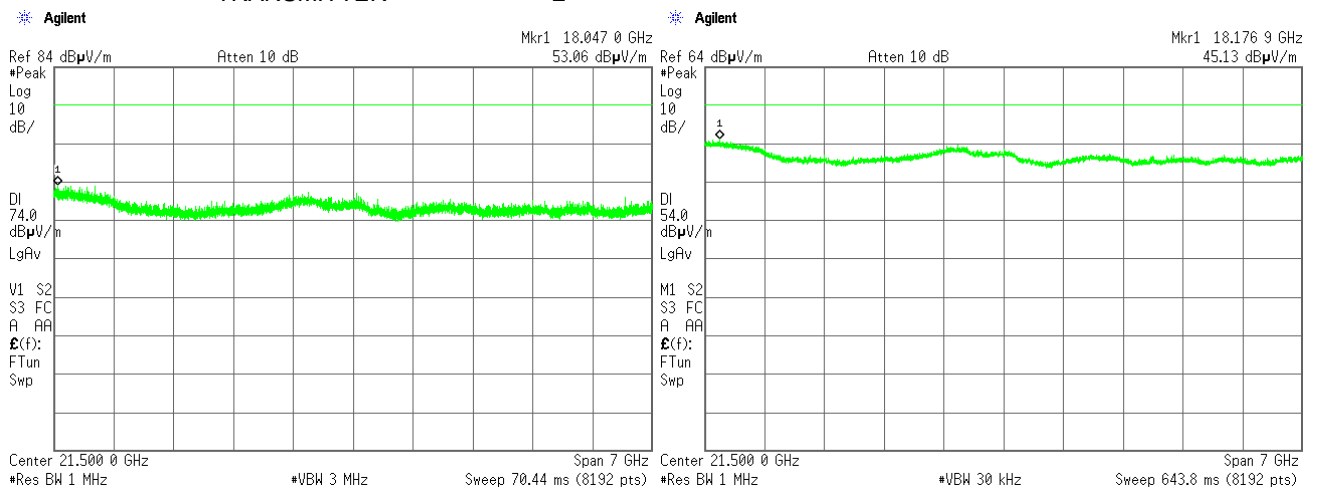


HERMON LABORATORIES

Test specification: Section 15.247(d) / RSS-247 section 5.5, Radiated spurious emissions			
Test procedure: ANSI C63.10 section 11.12.1			
Test mode: Compliance		Verdict: PASS	
Date(s): 29-Jul-20			
Temperature: 26 °C	Relative Humidity: 38 %	Air Pressure: 1003 hPa	Power: 28 VDC
Remarks:			

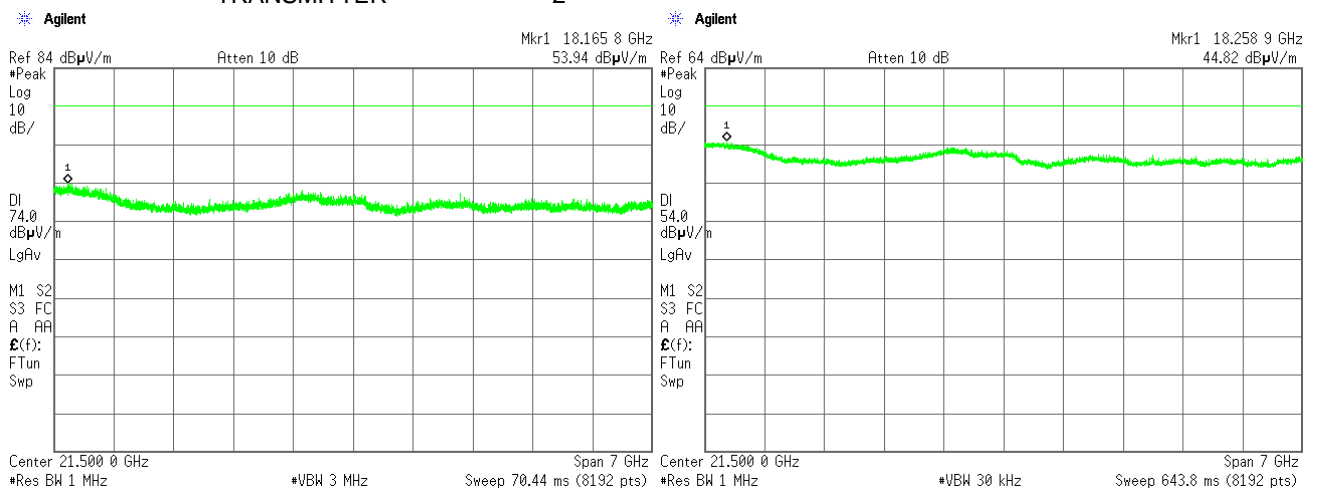
Plot 7.3.53 Radiated emission measurements from 18 to 25 GHz at the high carrier frequency

TEST SITE: Semi anechoic chamber
 TEST DISTANCE: 3 m
 ANTENNA POLARIZATION: Vertical and Horizontal
 EUT POSITION: X
 TRANSMITTER: 2



Plot 7.3.54 Radiated emission measurements from 18 to 25 GHz at the high carrier frequency

TEST SITE: Semi anechoic chamber
 TEST DISTANCE: 3 m
 ANTENNA POLARIZATION: Vertical and Horizontal
 EUT POSITION: Y
 TRANSMITTER: 2





Test specification: Section 15.247(d) / RSS-247 section 5.5, Band edge emissions			
Test procedure: ANSI C63.10 section 11.12.1			
Test mode: Compliance		Verdict: PASS	
Date(s): 09-Jun-20			
Temperature: 25 °C	Relative Humidity: 41 %	Air Pressure: 1005 hPa	Power: 28 VDC
Remarks:			

7.4 Band edge emissions at RF antenna connector

7.4.1 General

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

Table 7.4.1 Band edge emission limits

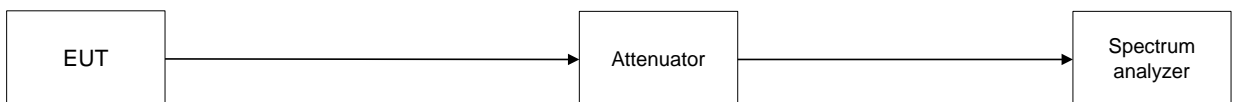
Output power	Assigned frequency, MHz	Attenuation below carrier*, dBc
Peak	902.0 – 928.0	20.0
	2400.0 – 2483.5	
	5725.0 – 5850.0	
Averaged over a time interval	902.0 – 928.0	30.0
	2400.0 – 2483.5	
	5725.0 – 5850.0	

* - Band edge emission limit is provided in terms of attenuation below the peak of modulated carrier measured with the same resolution bandwidth.

7.4.2 Test procedure

- 7.4.2.1 The EUT was set up as shown in Figure 7.4.1, energized normally modulated at the maximum data rate and its proper operation was checked.
- 7.4.2.2 The EUT was adjusted to produce maximum available to end user RF output power at the lowest carrier frequency.
- 7.4.2.3 The spectrum analyzer span was set to capture the carrier frequency and associated modulation products. The resolution bandwidth was set wider than 1 % of the frequency span.
- 7.4.2.4 The spectrum analyzer was set in max hold mode and allowed trace to stabilize. The highest emission level within the authorized band was measured.
- 7.4.2.5 The maximum band edge emission and modulation product outside of the band were measured as provided in Table 7.4.2 and associated plots and referenced to the highest emission level measured within the authorized band.
- 7.4.2.6 The above procedure was repeated with the EUT adjusted to produce maximum RF output power at the highest carrier frequency.

Figure 7.4.1 Band edge emission test setup





Test specification: Section 15.247(d) / RSS-247 section 5.5, Band edge emissions			
Test procedure: ANSI C63.10 section 11.12.1			
Test mode: Compliance		Verdict: PASS	
Date(s): 09-Jun-20			
Temperature: 25 °C	Relative Humidity: 41 %	Air Pressure: 1005 hPa	Power: 28 VDC
Remarks:			

Table 7.4.2 Band edge emission outside restricted band test results

ASSIGNED FREQUENCY RANGE: 2400.0 – 2483.5 MHz
 DETECTOR USED: Average
 MODULATING SIGNAL: PRBS
 TRANSMITTER OUTPUT POWER SETTINGS: Maximum
 RESOLUTION BANDWIDTH: 100 kHz
 VIDEO BANDWIDTH: ≥ RBW

CHANNEL SPACING: 5 MHz

Frequency, MHz	Band edge emission, dBm	Emission at carrier, dBm	Attenuation below carrier, dBc	Limit, dBc	Margin, dB*	Verdict
Modulation QPSK						
2400.0	-38.96	18.06	57.02	30.0	27.02	Pass
Modulation 16QAM						
2400.0	-37.18	18.05	55.23	30.0	25.23	Pass

*- Margin = Attenuation below carrier – specification limit.

CHANNEL SPACING: 10 MHz

Frequency, MHz	Band edge emission, dBm	Emission at carrier, dBm	Attenuation below carrier, dBc	Limit, dBc	Margin, dB*	Verdict
Modulation QPSK						
2400.0	-39.16	16.02	55.18	30.0	25.18	Pass
Modulation 16QAM						
2400.0	-41.50	15.59	57.09	30.0	27.09	Pass

*- Margin = Attenuation below carrier – specification limit.



Test specification: Section 15.247(d) / RSS-247 section 5.5, Band edge emissions			
Test procedure: ANSI C63.10 section 11.12.1			
Test mode: Compliance		Verdict: PASS	
Date(s): 09-Jun-20			
Temperature: 25 °C	Relative Humidity: 41 %	Air Pressure: 1005 hPa	Power: 28 VDC
Remarks:			

Table 7.4.3 Band edge emission within restricted band test results

ASSIGNED FREQUENCY RANGE: 2400.0 – 2483.5 MHz
 DETECTOR USED: Peak
 MODULATING SIGNAL: PRBS
 TRANSMITTER OUTPUT POWER SETTINGS: Maximum
 RESOLUTION BANDWIDTH: 1 MHz

CHANNEL SPACING: 5 MHz

Frequency, MHz	Peak band edge emission, dBm	Limit, dBm**	Margin, dB*	Average band edge emission, dBm	Limit, dBm**	Margin, dB*	Verdict
Low band edge							
Modulation QPSK							
2389.64	-34.02	-25.9	-8.12	-51.87	-45.9	-5.97	Pass
Modulation 16QAM							
2389.89	-30.86	-25.9	-4.96	-48.83	-45.9	-2.93	Pass
High band edge							
Modulation QPSK							
2722.77	-44.47	-25.9	-18.57	-54.54	-45.9	-8.64	Pass
Modulation 16QAM							
2711.66	-44.66	-25.9	-18.76	-54.61	-45.9	-8.71	Pass

CHANNEL SPACING: 10 MHz

Frequency, MHz	Peak band edge emission, dBm	Limit, dBm**	Margin, dB*	Average band edge emission, dBm	Limit, dBm**	Margin, dB*	Verdict
Low band edge							
Modulation QPSK							
2390.00	-33.19	-25.9	-7.29	-48.58	-45.9	-2.68	Pass
Modulation 16QAM							
2390.00	-34.52	-25.9	-8.62	-47.48	-45.9	-1.58	Pass
High band edge							
Modulation QPSK							
2716.25	-44.35	-25.9	-18.45	-54.22	-45.9	-8.32	Pass
Modulation 16QAM							
2723.32	-44.52	-25.9	-18.62	-54.49	-45.9	-8.59	Pass

*- Margin = Attenuation below carrier – specification limit.

** - Limit = Appropriate radiated limit (74 dBuV/m for Peak measurements and 54 dBuV/m for Average measurements) – 95.2 – Antenna gain (6 dBi)

Reference numbers of test equipment used

HL 3901	HL 3818	HL 5598	HL 5623				
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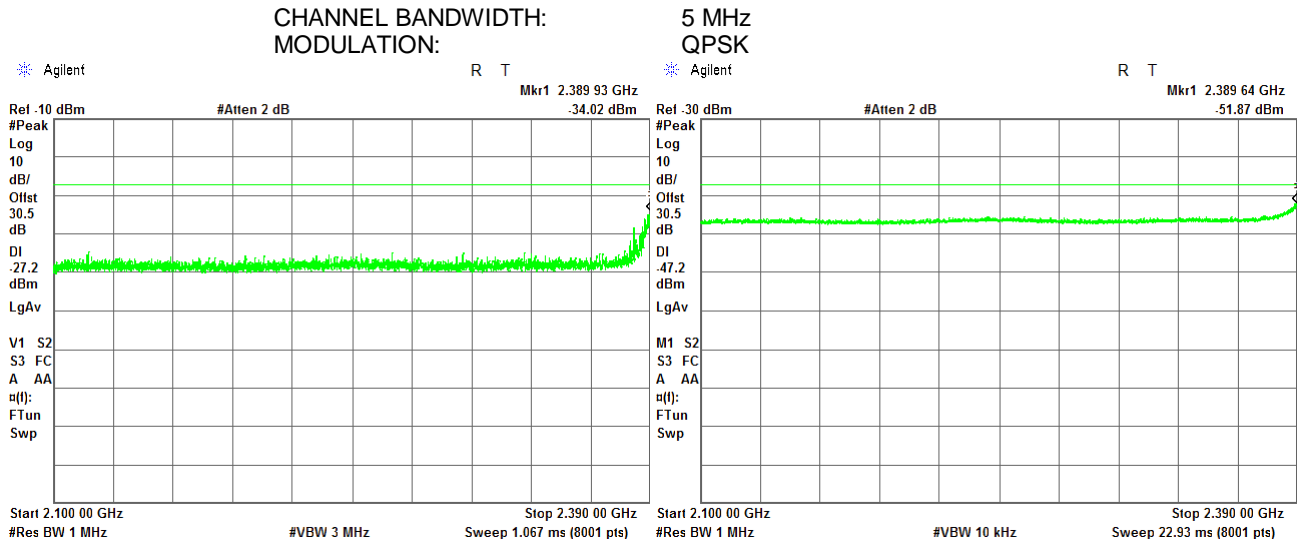
Full description is given in Appendix A.



HERMON LABORATORIES

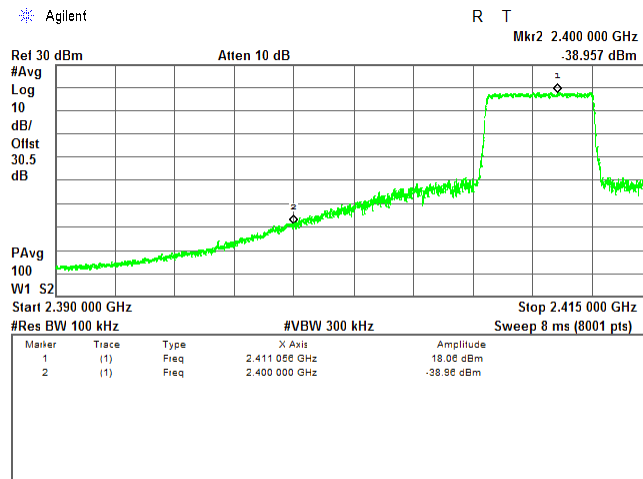
Test specification: Section 15.247(d) / RSS-247 section 5.5, Band edge emissions			
Test procedure: ANSI C63.10 section 11.12.1			
Test mode: Compliance		Verdict: PASS	
Date(s): 09-Jun-20			
Temperature: 25 °C	Relative Humidity: 41 %	Air Pressure: 1005 hPa	Power: 28 VDC
Remarks:			

Plot 7.4.1 Spurious emission measurements in 2100 - 2390 MHz range at low carrier frequency



Plot 7.4.2 Spurious emission measurements in 2390 - 2400 MHz range at low carrier frequency

CHANNEL BANDWIDTH: 5 MHz
MODULATION: QPSK

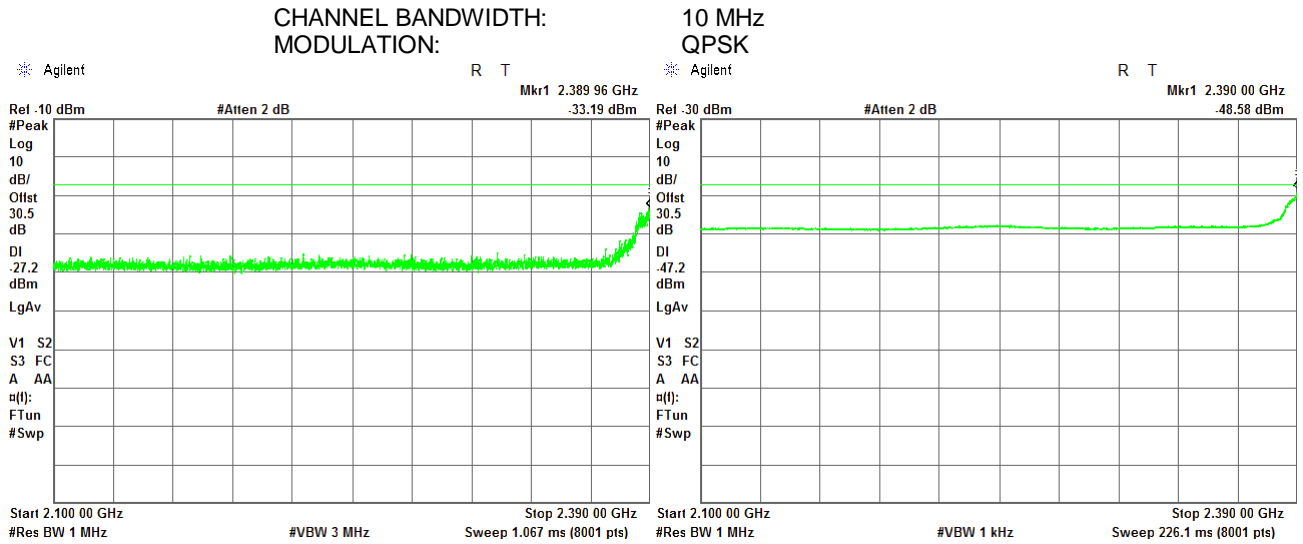




HERMON LABORATORIES

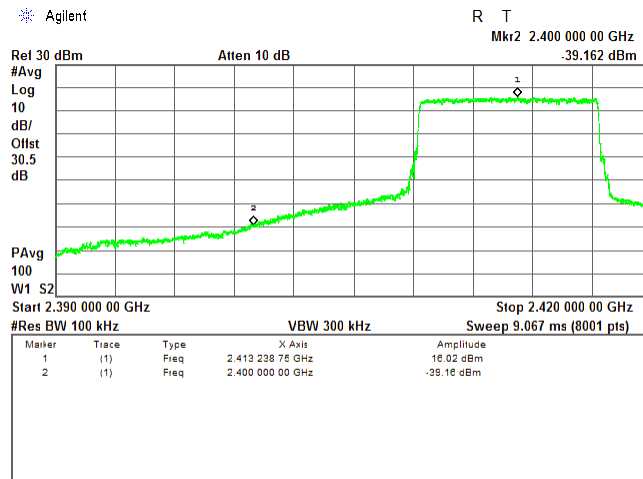
Test specification: Section 15.247(d) / RSS-247 section 5.5, Band edge emissions			
Test procedure: ANSI C63.10 section 11.12.1			
Test mode: Compliance		Verdict: PASS	
Date(s): 09-Jun-20			
Temperature: 25 °C	Relative Humidity: 41 %	Air Pressure: 1005 hPa	Power: 28 VDC
Remarks:			

Plot 7.4.3 Spurious emission measurements in 2100 - 2390 MHz range at low carrier frequency



Plot 7.4.4 Spurious emission measurements in 2390 - 2400 MHz range at low carrier frequency

CHANNEL BANDWIDTH: 10 MHz
MODULATION: QPSK

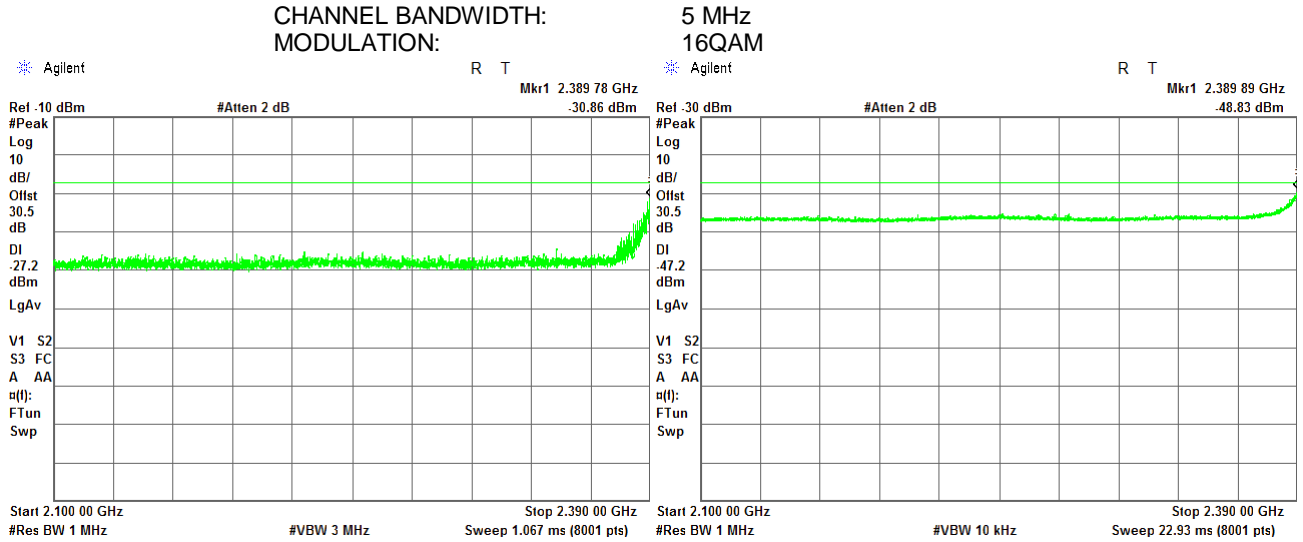




HERMON LABORATORIES

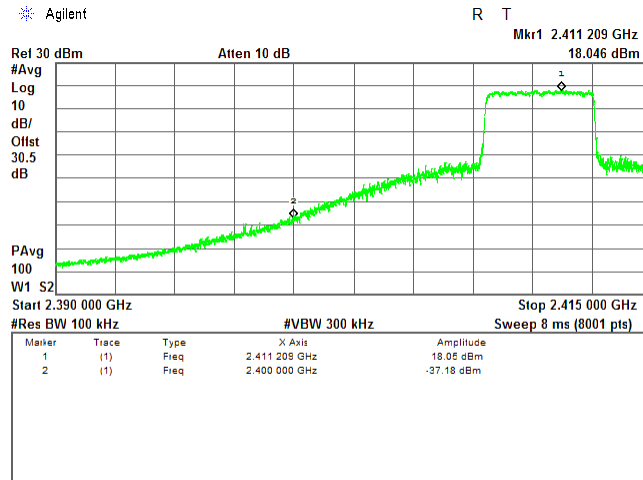
Test specification: Section 15.247(d) / RSS-247 section 5.5, Band edge emissions			
Test procedure: ANSI C63.10 section 11.12.1			
Test mode: Compliance		Verdict: PASS	
Date(s): 09-Jun-20			
Temperature: 25 °C	Relative Humidity: 41 %	Air Pressure: 1005 hPa	Power: 28 VDC
Remarks:			

Plot 7.4.5 Spurious emission measurements in 2100 - 2390 MHz range at low carrier frequency



Plot 7.4.6 Spurious emission measurements in 2390 - 2400 MHz range at low carrier frequency

CHANNEL BANDWIDTH: 5 MHz
MODULATION: 16QAM

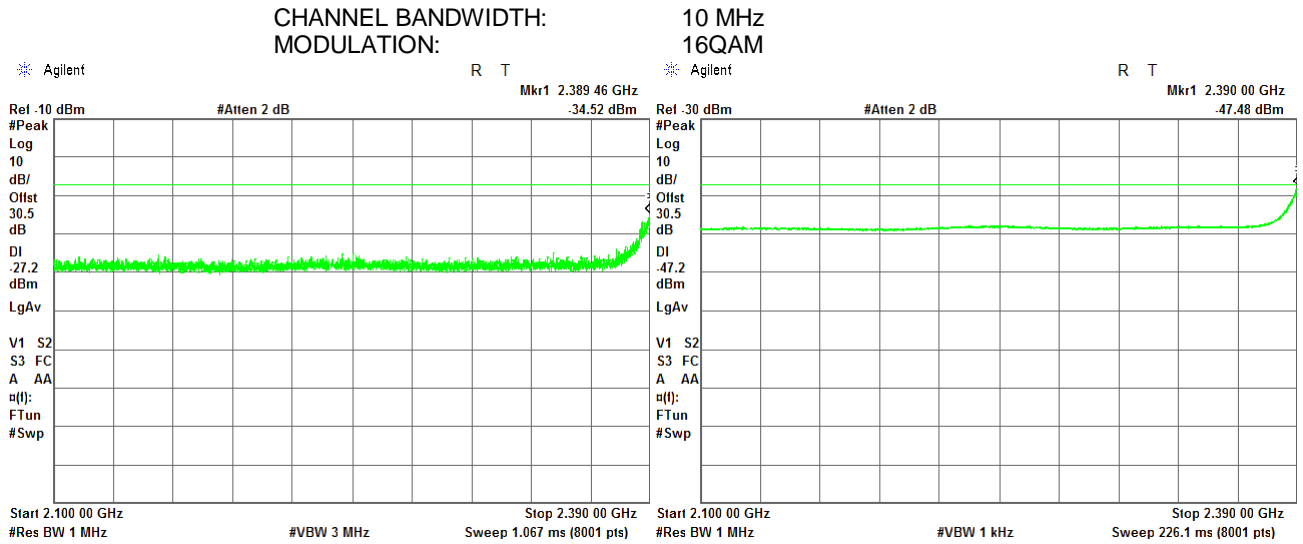




HERMON LABORATORIES

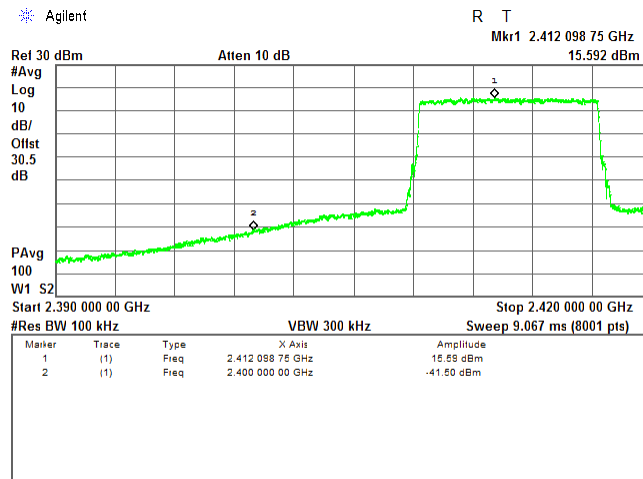
Test specification: Section 15.247(d) / RSS-247 section 5.5, Band edge emissions			
Test procedure: ANSI C63.10 section 11.12.1			
Test mode: Compliance		Verdict: PASS	
Date(s): 09-Jun-20			
Temperature: 25 °C	Relative Humidity: 41 %	Air Pressure: 1005 hPa	Power: 28 VDC
Remarks:			

Plot 7.4.7 Spurious emission measurements in 2100 - 2390 MHz range at low carrier frequency



Plot 7.4.8 Spurious emission measurements in 2390 - 2400 MHz range at low carrier frequency

CHANNEL BANDWIDTH: 10 MHz
MODULATION: 16QAM

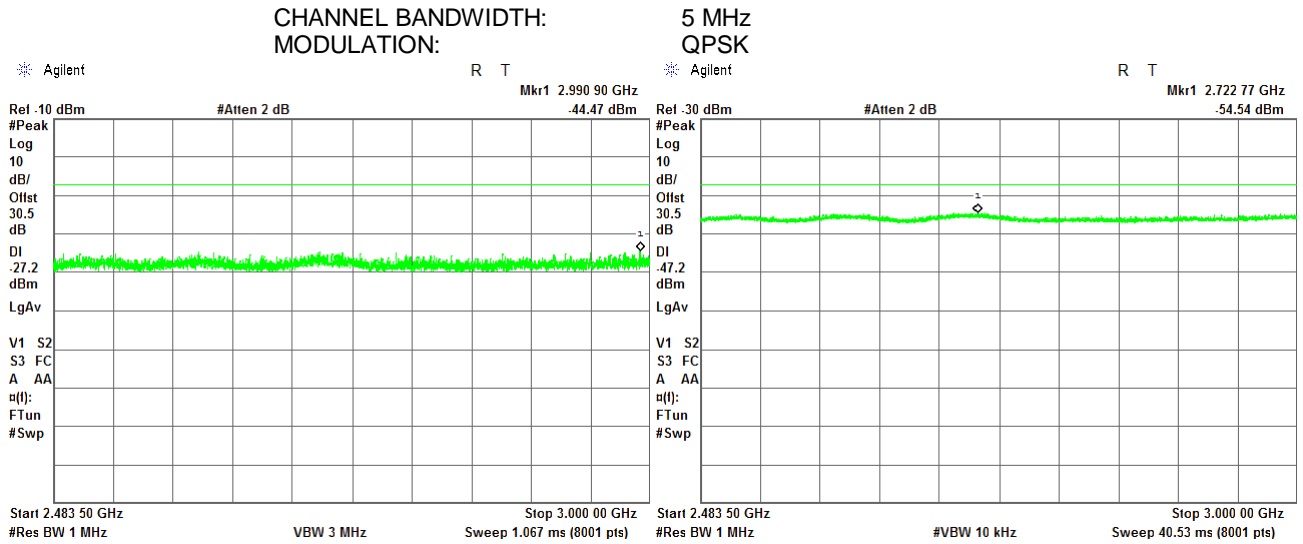




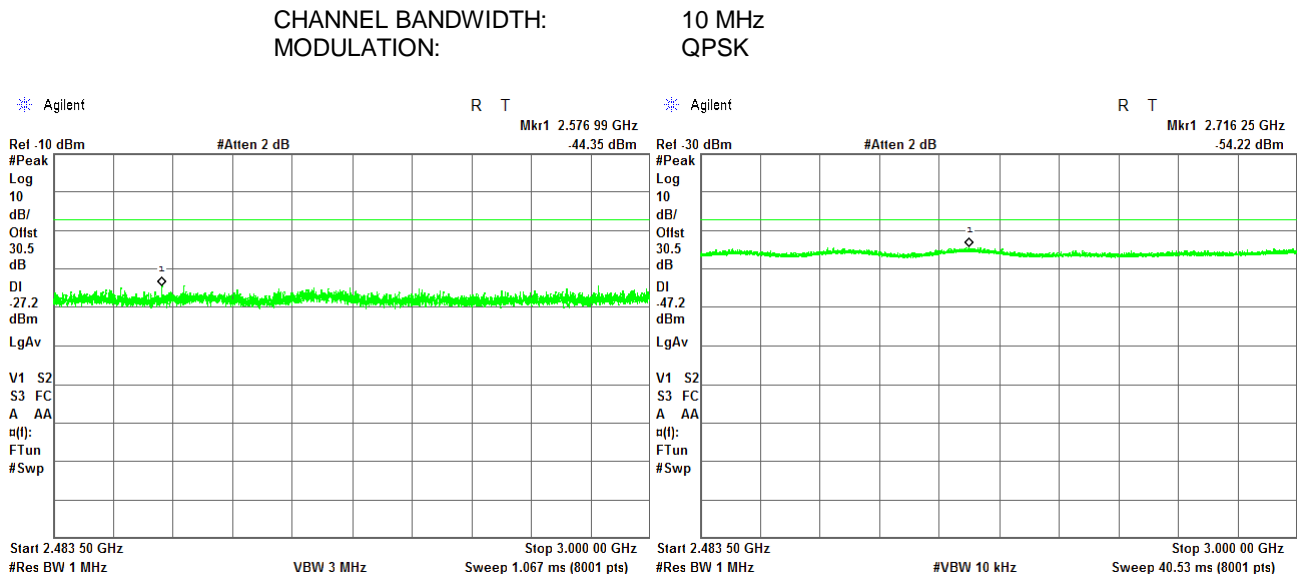
HERMON LABORATORIES

Test specification: Section 15.247(d) / RSS-247 section 5.5, Band edge emissions			
Test procedure: ANSI C63.10 section 11.12.1			
Test mode: Compliance		Verdict: PASS	
Date(s): 09-Jun-20			
Temperature: 25 °C	Relative Humidity: 41 %	Air Pressure: 1005 hPa	Power: 28 VDC
Remarks:			

Plot 7.4.9 Spurious emission measurements in 2483.5 - 3000 MHz range at high carrier frequency



Plot 7.4.10 Spurious emission measurements in 2483.5 - 3000 MHz range at high carrier frequency

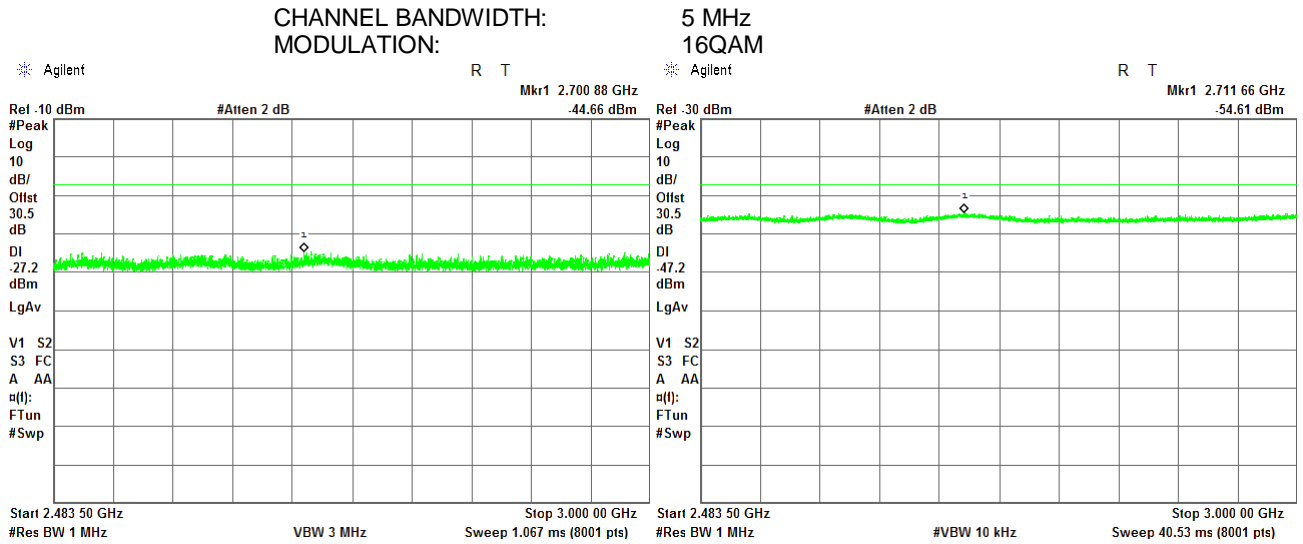




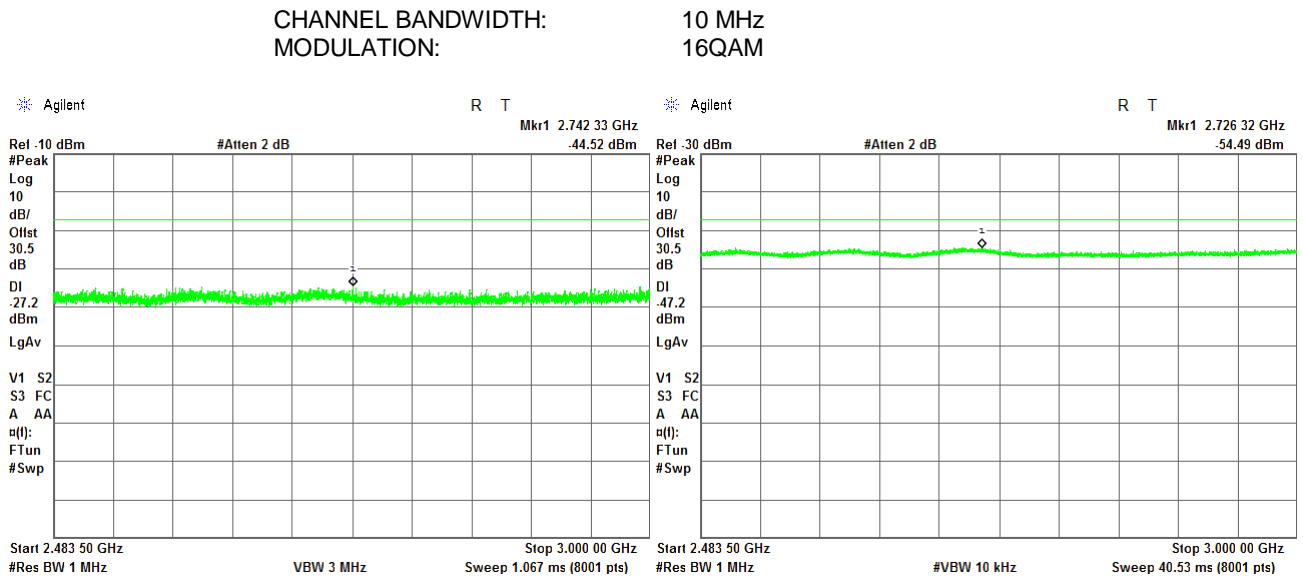
HERMON LABORATORIES

Test specification: Section 15.247(d) / RSS-247 section 5.5, Band edge emissions			
Test procedure: ANSI C63.10 section 11.12.1			
Test mode: Compliance		Verdict: PASS	
Date(s): 09-Jun-20			
Temperature: 25 °C	Relative Humidity: 41 %	Air Pressure: 1005 hPa	Power: 28 VDC
Remarks:			

Plot 7.4.11 Spurious emission measurements in 2483.5 - 3000 MHz range at high carrier frequency



Plot 7.4.12 Spurious emission measurements in 2483.5 - 3000 MHz range at high carrier frequency





Test specification: Section 15.247(e) / RSS-247 section 5.2(2), Peak spectral power density			
Test procedure: ANSI C63.10 section 11.10.2			
Test mode: Compliance		Verdict: PASS	
Date(s): 22-Jun-20			
Temperature: 25.3 °C	Relative Humidity: 38 %	Air Pressure: 1024 hPa	Power: 28 VDC
Remarks:			

7.5 Peak spectral power density

7.5.1 General

This test was performed to measure the peak spectral power density at the transmitter RF antenna connector. Specification test limits are given in Table 7.5.1.

Table 7.5.1 Peak spectral power density limits

Assigned frequency range, MHz	Measurement bandwidth, kHz	Peak spectral power density, dBm
2400-2483.5	3.0	8.0

7.5.2 Test procedure

7.5.2.1 The EUT was set up as shown in Figure 7.5.1, energized and its proper operation was checked.

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

7.5.2.3 The frequency span of spectrum analyzer was set to capture the entire 6 dB band of the transmitter, in peak hold mode with resolution bandwidth set to 3.0 kHz, video bandwidth wider than resolution bandwidth, auto sweep time and sufficient number of sweeps was allowed for trace stabilization..

7.5.2.4 The average detector with power averaging mode was used over a minimum of 100 traces. The peak marker function was used to determine the maximum power spectral density. To compute the average PSD during the actual transmission time the average factor was added to the measured values of PSD and the results provided in Table 7.5.2 and associated plots.

Figure 7.5.1 Peak spectral power density test setup

