

TEST REPORT

ACCORDING TO:

FCC 47 CFR part 15 subpart C §15.247 (DTS), RSS-247 Issue 4: 2025

FOR:

Vence Corp

EUT:

Vence Collar System

Model: Vence Collar

FCC ID: 2AX22-SHVCR30

IC: 26779- SHVCR30

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Revision table

Radio test report

for

Vence Collar System, model: Vence Collar

Revision	Description	Affected pages	Date	Approval
-	New release	All	05-Apr-26	<i>Michael</i>
1	Changing model name	1, 2 & 6	04-May-26	<i>Michael</i>
2	Changing Product Name and Software version	1, 2 & 6	14-May-26	<i>[Signature]</i>

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1. Applicant Information

Client Name	Vence Corp
Address	16855 W. Bernardo Dr Suite 100 San Diego, CA 92127
Telephone	858-688-7640
E-mail	Robert.luo@merck.com
Contact Name	Robert Luo

2. Equipment under test attributes

Product name	Vence Collar System
Model	Vence Collar
Serial number	ZKV51010CR100987
Hardware version	51030
Software (Radio) version	3.0.0.1

3. Manufacturer information

Manufacturer Name	Vence Corp
Address	16855 W. Bernardo Dr Suite 100 San Diego, CA 92127
Telephone	858-688-7640
E-mail	Robert.luo@merck.com
Contact Name	Robert Luo

4. Test details

Project ID:	144388
Locations	QualiTech, 43 HaSivim St, Petah Tikva, Israel
Testing started	12-Feb-26
Testing completed	24-Feb-26
Test specifications:	FCC 47 CFR part 15 subpart C §15.247 (DTS), RSS-247 Issue 11

5. Tests summary

Test	Status
FCC 15.247 and RSS-247_DTS_without RF antenna connector	
FCC section 15.247(a)(2), RSS-247 section A8.2(a), 6 dB bandwidth	Pass
FCC section 15.247(b)3, RSS-247 section A8.4(4) ,Peak output power	Pass
FCC section 15.247(d), RSS-247 section A8.5, Radiated spurious emissions	Pass
FCC section 15.247(d), RSS-247 section A8.5, Band edge emissions	Pass
FCC section 15.247(e), RSS-247 A8.2(b), Peak power density	Pass

The test results relate only to the items tested. Pass/ fail decision was based on nominal values.

	Name and title	Date	Signature
Tested by	Ortal Klainman, Test Engineer	17-Feb-26 – 23-Feb-26	<i>Ortal Klainman</i>
Prepared by	Nofar Green, Test Engineer	31-Mar-26	<i>Nofar</i>
Reviewed by	Michael Gudovsky, Team Leader	05-Apr-26	<i>Michael</i>
Approved by	Michael Nikishin, Head of Department	05-Apr-26	<i>Michael</i>

6. General information

Note: The following data in Section 6.1 is provided by the customer and represents his sole responsibility.

6.1. EUT description

6.1.1. EUT brief description

The EUT is This is a battery-operated cow neck collar used to track and manage a cow to stay in or out of programmable virtual fences (Vences).
Each cow's location is tracked by the CR electronics and a sound and/or electric stimulus are applied to pressure the animals based on distance to Vence management zone edges.

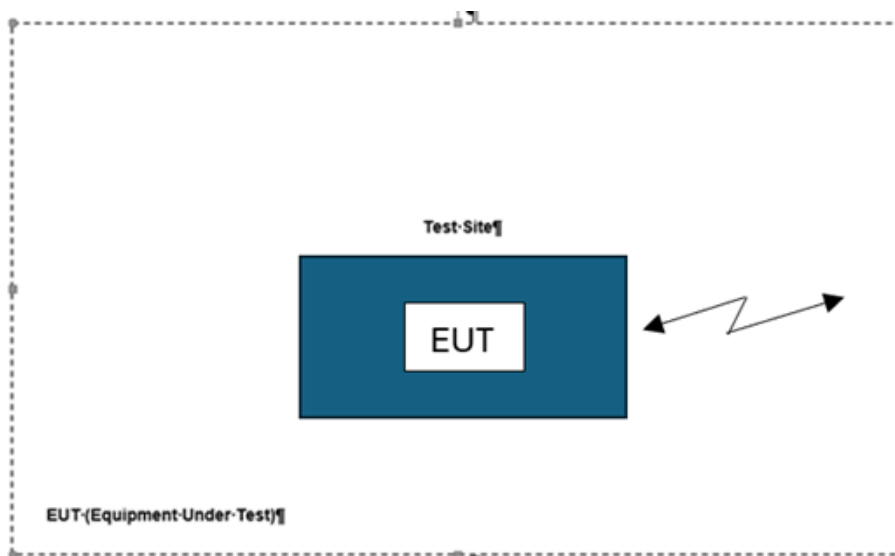
6.1.2. EUT mechanical characteristics

The Equipment Under Test (EUT) measures (H) 169.75 mm by (W) 75.25 mm by (D) 121 mm.
The Equipment Under Test (EUT) weights 1.085kg.

6.1.3. Power supply

Power supply type	Voltage (VDC)	Current (A)
Battery	3.6	0.1

6.1.4. Test configuration



6.1.5. Operating frequencies

Frequency	Description
Uplink 903 to 914.2MHz increments 200 kHz Downlink 923.3 to 927.5 MHz increment 600 kHz	LoRaWAN chip type: IC RF LOW POWER SUB-GHz LoRa RF TRANSCEIVER 24QFN MODEL: SX1262IMLTRT

6.2. Transmitter characteristics

6.2.1. DTS

Type of equipment						
V	Stand-alone (Equipment with or without its own control provisions)					
	Combined equipment (Equipment where the radio part is fully integrated within another type of equipment)					
	Plug-in card (Equipment intended for a variety of host systems)					
Assigned frequency ranges		902 – 928 MHz				
Operating frequencies		Uplink: 903.0 - 914.2 MHz Downlink: 923.3- 927.5 MHz				
Maximum rated output power		At transmitter 50 Ω RF output connector			dBm	
		Peak output power			24.27 dBm	
Is transmitter output power variable?	V	No				
	Yes		continuous variable			
			stepped variable with step size			dB
			minimum RF power			dBm
			maximum RF power			dBm
Antenna connection						
unique coupling	standard connector	V	integral	V with temporary RF connector V without temporary RF connector		
Antenna/s technical characteristics						
Type	Manufacturer	Model number		Gain		
Integrated	NA	NA		1.2 dBi		
Transmitter aggregate data rate/s		7.031 kbps				
Type of modulation		LoRa				
Modulating test signal (baseband)						
Transmitter power source						
V	Battery	Nominal rated voltage	3.6 VDC	Battery type	Primary battery cell	
	DC	Nominal rated voltage				
	AC mains	Nominal rated voltage		Frequency		
Common power source for transmitter and receiver				V	yes no	
Spread spectrum technique used			Frequency hopping (FHSS)			
		V	Digital transmission system (DTS)			
			Hybrid			

Test specification:		FCC section 15.247(a)(2) 6 dB bandwidth	
Test procedure:		Section 15.247(a)2	
Test Date:		12-Feb-26	Verdict: PASS
Condition during the test:	Temperature: 24.5 °C	Air pressure: 1013 hPa	Relative humidity: 33 %
Remarks:			

7. Transmitter tests according to 47CFR part 15 subpart C and RSS-247 requirements

7.1. Minimum 6 dB bandwidth

7.1.1. General

This test was performed to measure the 6 dB bandwidth of the EUT carrier frequency. Specification test limits are given in Table 7.1.1.

Table 7.1.1 The 6 dB bandwidth limits

Assigned frequency, MHz	Modulation envelope reference points*, dBc	Minimum bandwidth, kHz
902.0 – 928.0	6.0	500.0
2400.0 – 2483.5		
5725.0 – 5850.0		

* - Modulation envelope reference points provided in terms of attenuation below the peak of modulated carrier.

The 99% bandwidth limits

Assigned frequency, MHz	Modulation envelope reference points	Limit, kHz
902.0 – 928.0	99%	NA
2400.0 – 2483.5		
5725.0 – 5850.0		

7.1.2. Test procedure

7.1.2.1. The EUT was set up as shown in Figure 7.1.1, energized and its proper operation was checked.

7.1.2.2. The EUT was set to transmit modulated carrier.

7.1.2.3. The transmitter minimum 6 dB bandwidth was measured with spectrum analyzer as frequency delta between reference points on modulation envelope and provided in Table 7.1.2 and the associated plots.

Figure 7.1.1 The 6 dB bandwidth test setup



Test specification:		FCC section 15.247(a)(2) 6 dB bandwidth	
Test procedure:		Section 15.247(a)2	
Test Date:		12-Feb-26	Verdict: PASS
Condition during the test:	Temperature: 24.5 °C	Air pressure: 1013 hPa	Relative humidity: 33 %
Remarks:			

Table 7.1.2 The 6 dB bandwidth test results

ASSIGNED FREQUENCY BAND: 902-928 MHz
 DETECTOR USED: Peak
 SWEEP TIME: Auto
 RESOLUTION BANDWIDTH: 100 kHz
 VIDEO BANDWIDTH: 300 kHz
 MODULATION ENVELOPE REFERENCE POINTS: 6.0 dBc
 MODULATION: LoRa
 BIT RATE: 7.031 Kbps

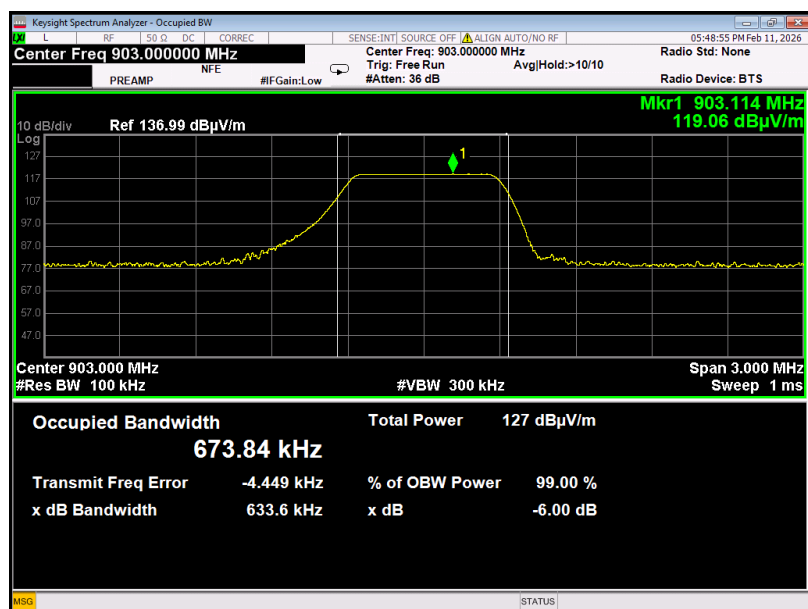
Carrier frequency, MHz	99% bandwidth, MHz	6 dB bandwidth, kHz	Limit, kHz	Margin, kHz	Verdict
Low frequency					
903.0	673.84	633.6	500.0	133.6	PASS
Mid frequency					
907.8	672.38	631.7	500.0	131.7	PASS
High frequency					
914.2	672.44	632.2	500.0	132.2	PASS

Reference numbers of test equipment used

HL 6208	HL 6573	HL 6918	HL 8120					
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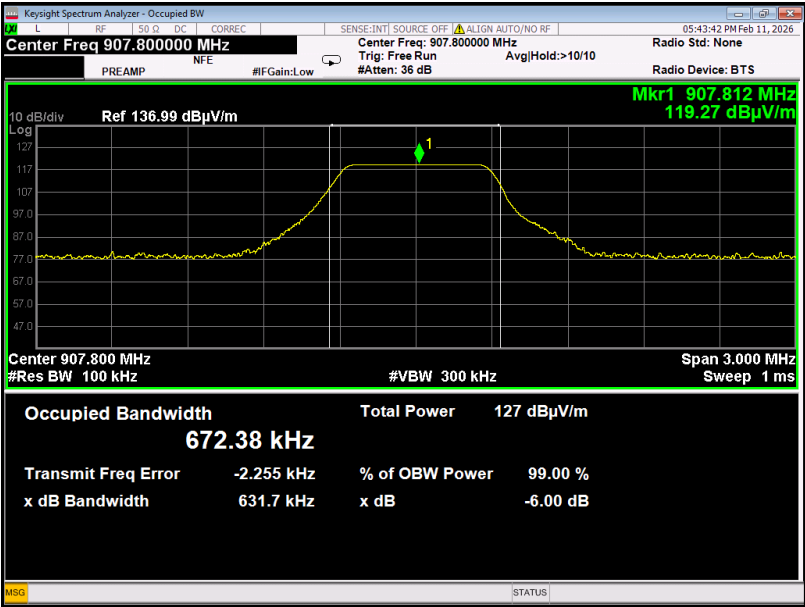
Full description is given in Appendix A.

Plot 7.1.1 The 6 dB bandwidth test result at low frequency

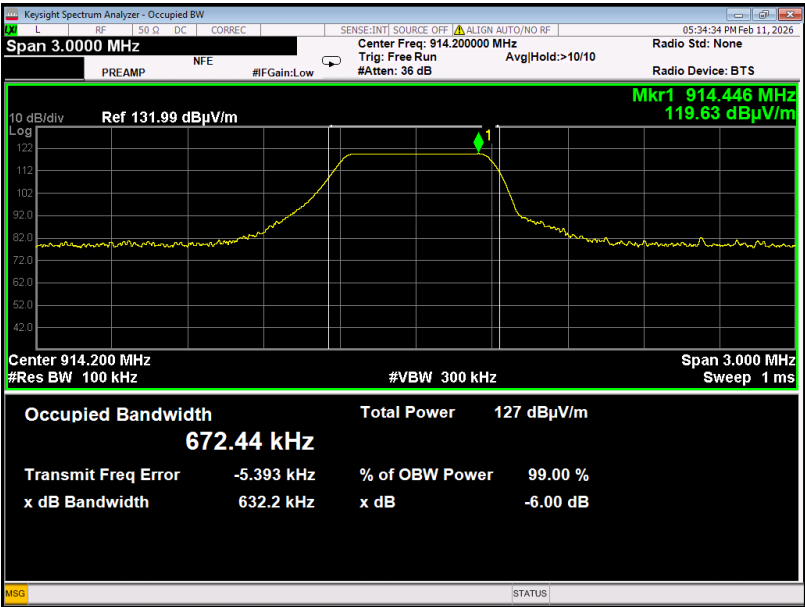


Test specification:		FCC section 15.247(a)(2) 6 dB bandwidth	
Test procedure:		Section 15.247(a)2	
Test Date:		12-Feb-26	Verdict: PASS
Condition during the test:	Temperature: 24.5 °C	Air pressure: 1013 hPa	Relative humidity: 33 %
Remarks:			

Plot 7.1.2 The 6 dB bandwidth test result at mid frequency



Plot 7.1.3 The 6 dB bandwidth test result at high frequency



Test specification:		FCC section 15.247(b)3, Peak output power	
Test procedure:		Section 15.247(d)	
Test Date:		12-Feb-26 - 15-Feb-26	Verdict: PASS
Condition during the test:	Temperature: 23.7 °C	Air pressure: 1013 hPa	Relative humidity: 33 %
Remarks:			

7.2. Peak output power

7.2.1. General

This test was performed to measure the maximum peak output power radiated by transmitter. Specification test limits are given in Table 7.2.1.

Table 7.2.1 Peak output power limits

Assigned frequency range, MHz	Maximum antenna gain, dBi	Peak output power*		Equivalent field strength limit @ 3m, dB(μV/m)**
		W	dBm	
902.0 – 928.0	6.0	1.0	30.0	131.2
2400.0 – 2483.5				
5725.0 – 5850.0				

*- The limit is provided in terms of conducted RF power at the antenna connector. If transmitting antennas of directional gain greater than 6 dBi are used, the peak output power limit shall be reduced below the stated value as follows:

by 1 dB for every 3 dB that the directional gain of antenna exceeds 6 dBi for fixed point-to-point transmitters operate in 2400-2483.5 MHz band;
without any corresponding reduction for fixed point-to-point transmitters operate in 5725-5850 MHz band;
by the amount in dB that the directional gain of antenna exceeds 6 dBi for the rest of transmitters.

** - Equivalent field strength limit was calculated from the peak output power as follows: $E = \sqrt{30 \times P \times G} / r$, where P is peak output power in Watts, r is antenna to EUT distance in meters and G is transmitter antenna gain in dBi.

7.2.2. Test procedure

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

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

7.2.2.3. The resolution bandwidth of spectrum analyzer was set wider than 6 dB bandwidth of the EUT and the field strength of the EUT carrier frequency was measured with antenna connected to spectrum analyzer/ EMI receiver. To find maximum radiation the turntable was rotated 360° and the measuring antenna height was swept in both vertical and horizontal polarizations.

7.2.2.4. The maximum field strength of the EUT carrier frequency was measured as provided in Table 7.2.2 and associated plots.

7.2.2.5. The maximum peak output power was calculated from the field strength of carrier as follows:

$$P = (E \times d)^2 / (30 \times G),$$

where P is the peak output power in W, E is the field strength in V/m, d is the test distance and G is the transmitter numeric antenna gain over an isotropic radiator.

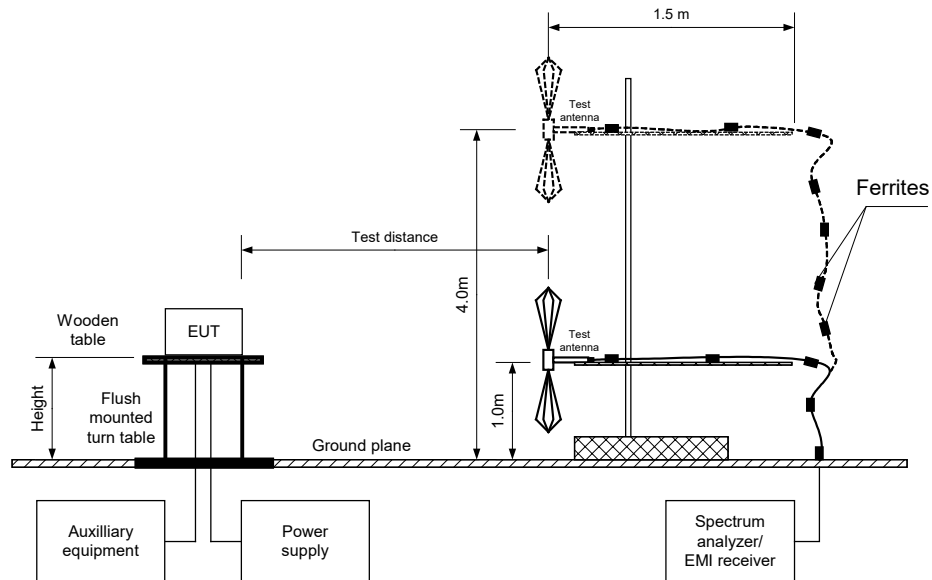
The above equation was converted in logarithmic units for 3 m test distance:

$$\text{Peak output power in dBm} = \text{Field strength in dB}(\mu\text{V/m}) - \text{Transmitter antenna gain in dBi} - 95.2 \text{ dB}$$

7.2.2.6. The worst test results (the lowest margins) were recorded in Table 7.2.2.

Test specification:		FCC section 15.247(b)3, Peak output power	
Test procedure:		Section 15.247(d)	
Test Date:	12-Feb-26 - 15-Feb-26	Verdict:	PASS
Condition during the test:	Temperature: 23.7 °C	Air pressure: 1013 hPa	Relative humidity: 33 %
Remarks:			

Figure 7.2.1 Setup for carrier field strength measurements



Test specification:		FCC section 15.247(b)3, Peak output power	
Test procedure:		Section 15.247(d)	
Test Date:		12-Feb-26 - 15-Feb-26	Verdict: PASS
Condition during the test:	Temperature: 23.7 °C	Air pressure: 1013 hPa	Relative humidity: 33 %
Remarks:			

Table 7.2.2 Peak output power test results

ASSIGNED FREQUENCY: 902-928 MHz
 TEST DISTANCE: 3 m
 TEST SITE: Semi anechoic chamber
 EUT HEIGHT: 0.8 m
 TEST ANTENNA TYPE: Biconilog (30 MHz – 1000 MHz)
 MODULATION: LoRa
 BIT RATE: 7.031 Kbps
 TRANSMITTER OUTPUT POWER SETTINGS: Maximum
 DETECTOR USED: RMS
 EUT 6 dB BANDWIDTH: 633.6 KHz
 RESOLUTION BANDWIDTH: 27 KHz
 VIDEO BANDWIDTH: 82 KHz

Frequency, MHz	Field strength, dB(μV/m)	Antenna polarization	Antenna height, m	Azimuth, degrees*	EUT antenna gain, dBi	Peak output power, dBm**	Limit, dBm	Margin, dB***	Verdict
903.0	119.9	Horizontal	1.5	34	1.2	23.5	30	-6.5	PASS
903.0	114.3	Vertical	1.5	91	1.2	17.9	30	-12.10	PASS
907.8	120.3	Horizontal	1.5	43	1.2	23.9	30	-6.10	PASS
907.8	114.9	Vertical	1.5	93	1.2	18.5	30	-11.5	PASS
914.2	120.7	Horizontal	1.5	39	1.2	24.27	30	-5.73	PASS
914.2	114.7	Vertical	1.5	97	1.2	18.3	30	-11.7	PASS

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

**-. Peak output power was calculated from the field strength of carrier as follows: $P = (E \times d)^2 / (30 \times G)$, where P is the peak output power in W, E is the field strength in V/m, d is the test distance in meters and G is the transmitter numeric antenna gain over an isotropic radiator. The above equation was converted in logarithmic units for 3 m test distance: *Peak output power in dBm = Field strength in dB(μV/m) - Transmitter antenna gain in dBi – 95.2 dB*

***- Margin = Peak output power – specification limit.

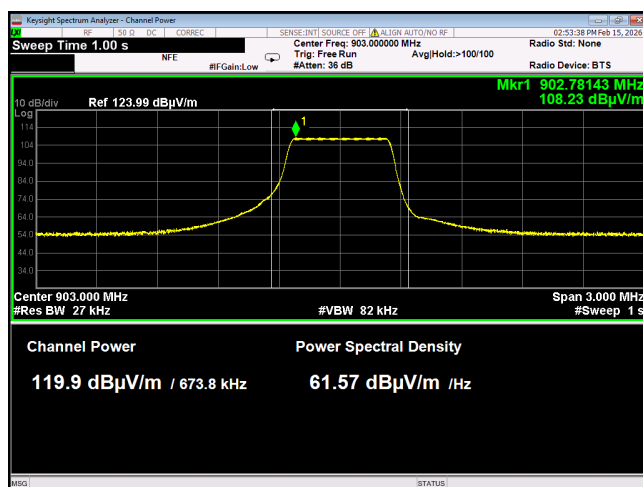
Reference numbers of test equipment used

HL 6208	HL 6573	HL 6918	HL 8120				
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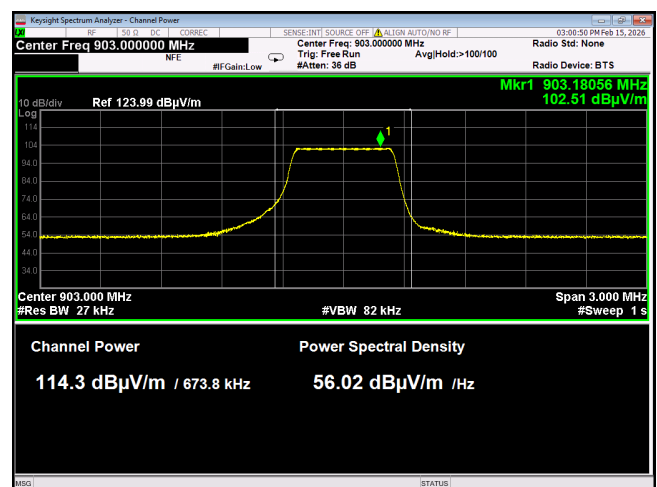
Full description is given in Appendix A.

Plot 7.2.1 Field strength of carrier at low frequency

Horizontal



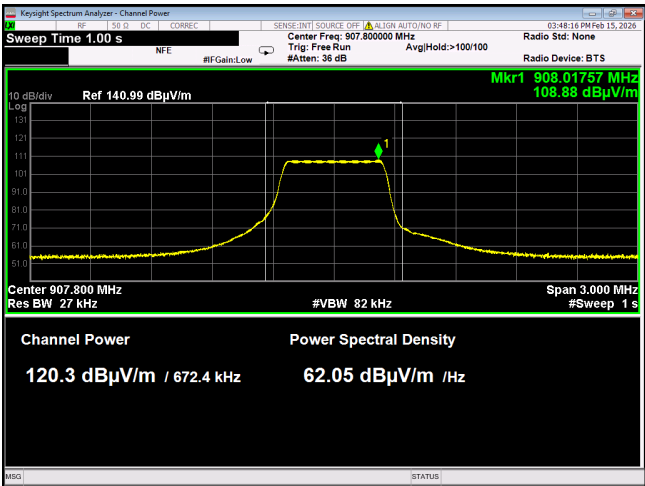
Vertical



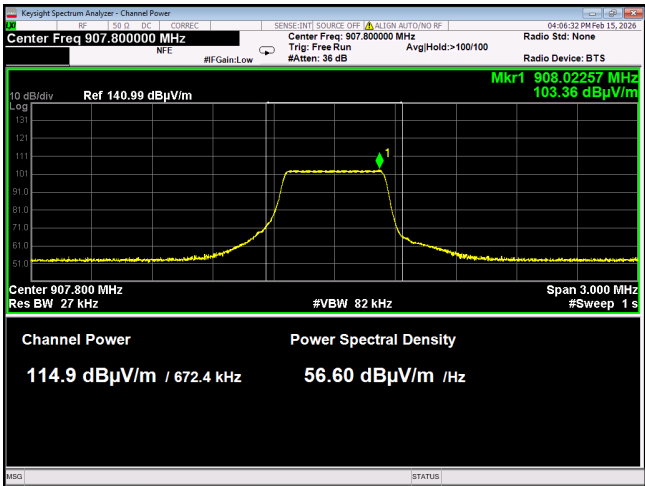
Test specification:		FCC section 15.247(b)3, Peak output power	
Test procedure:		Section 15.247(d)	
Test Date:	12-Feb-26 - 15-Feb-26	Verdict:	PASS
Condition during the test:	Temperature: 23.7 °C	Air pressure: 1013 hPa	Relative humidity: 33 %
Remarks:			

Plot 7.2.2 Field strength of carrier at mid frequency

Horizontal

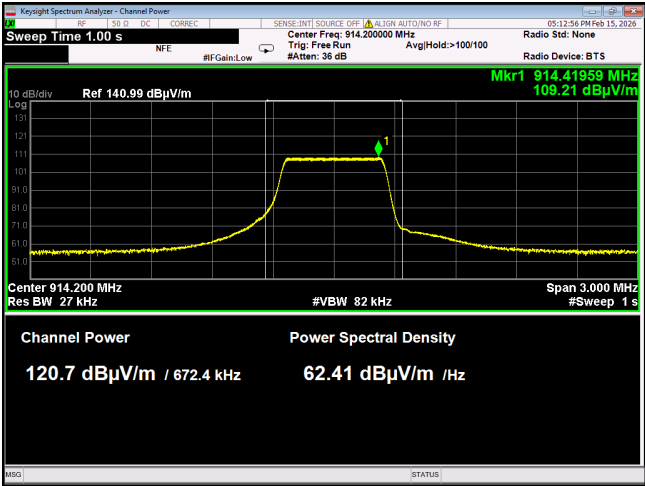


Vertical

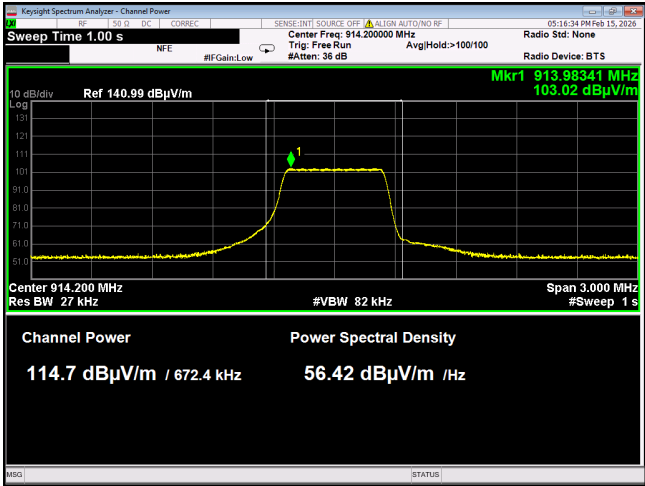


Plot 7.2.3 Field strength of carrier at high frequency

Horizontal



Vertical



Test specification:		FCC section 15.247(d), Radiated spurious emissions	
Test procedure:		Section 15.247(a)2	
Test Date:		16-Feb-26 - 24-Feb-26	Verdict: PASS
Condition during the test:	Temperature: 23.8 °C	Air pressure: 1014 hPa	Relative humidity: 25 %
Remarks:			

7.3. Field strength of spurious emissions

7.3.1. General

This test was performed to measure field strength of spurious emissions from the EUT. Specification test limits according to FCC part 15 section 15.247(c) and RSS-210 section 6.2.2(o)(e1) are given in Table 7.3.1.

Table 7.3.1 Radiated spurious emissions limits

Frequency, MHz	Field strength at 3 m within restricted bands, dB(μV/m)*			Attenuation of field strength of spurious versus carrier outside restricted bands, dBc***
	Peak	Quasi Peak	Average	
0.009 – 0.090	148.5 – 128.5	NA	128.5 – 108.5**	30.0
0.090 – 0.110	NA	108.5 – 106.8**	NA	
0.110 – 0.490	126.8 – 113.8	NA	106.8 – 93.8**	
0.490 – 1.705	NA	73.8 – 63.0**	NA	
1.705 – 30.0*		69.5		
30 – 88		40.0		
88 – 216		43.5		
216 – 960		46.0		
960 - 1000		54.0		
1000 – 10 th harmonic	74.0	NA	54.0	

*- The limit for 3 m test distance was calculated using the inverse square distance extrapolation factor as follows:

$$\text{Lim}_{S2} = \text{Lim}_{S1} + 40 \log (S_1/S_2),$$

where S₁ and S₂ – standard defined and test distance respectively in meters.

** - The limit decreases linearly with the logarithm of frequency.

*** - The field strength limits applied from the lowest radio frequency generated in the device, without going below 9 kHz up to the tenth harmonic of the highest fundamental frequency.

7.3.2. Test procedure for spurious emission field strength measurements in 9 kHz to 30 MHz band

7.3.2.1. The EUT was set up as shown in Figure 7.3.1, energized and the performance check was conducted.

7.3.2.2. The specified frequency range was investigated with antenna connected to spectrum analyzer/ EMI receiver. To find maximum radiation the turntable was rotated 360° and the measuring antenna was rotated around its vertical axis.

7.3.2.3. The worst test results (the lowest margins) were recorded and shown in the associated plots.

7.3.3. Test procedure for spurious emission field strength measurements above 30 MHz

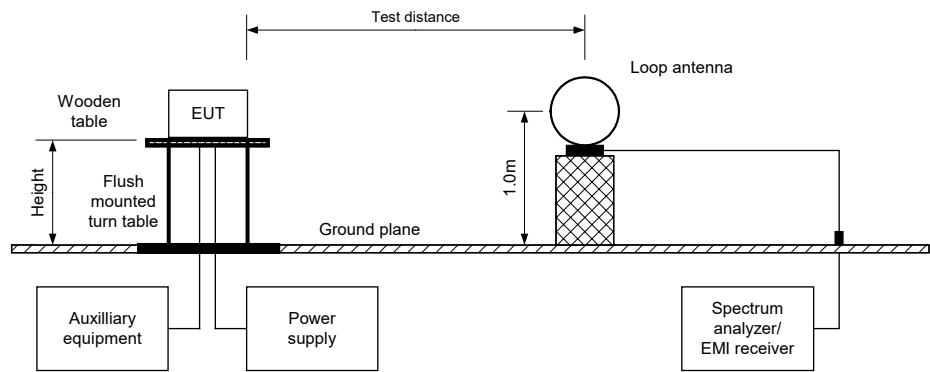
7.3.3.1. The EUT was set up as shown in Figure 7.3.2, Figure 1.1.3, energized and the performance check was conducted.

7.3.3.2. 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.

7.3.3.3. The worst test results (the lowest margins) were recorded and shown in the associated plots.

Test specification:		FCC section 15.247(d), Radiated spurious emissions	
Test procedure:		Section 15.247(a)2	
Test Date:	16-Feb-26 - 24-Feb-26	Verdict:	PASS
Condition during the test:	Temperature: 23.8 °C	Air pressure: 1014 hPa	Relative humidity: 25 %
Remarks:			

Figure 7.3.1 Setup for spurious emission field strength measurements below 30 MHz



Test specification:		FCC section 15.247(d), Radiated spurious emissions	
Test procedure:		Section 15.247(a)2	
Test Date:	16-Feb-26 - 24-Feb-26	Verdict:	PASS
Condition during the test:	Temperature: 23.8 °C	Air pressure: 1014 hPa	Relative humidity: 25 %
Remarks:			

Figure 7.3.2 Setup for spurious emission field strength measurements in 30 -1000 MHz

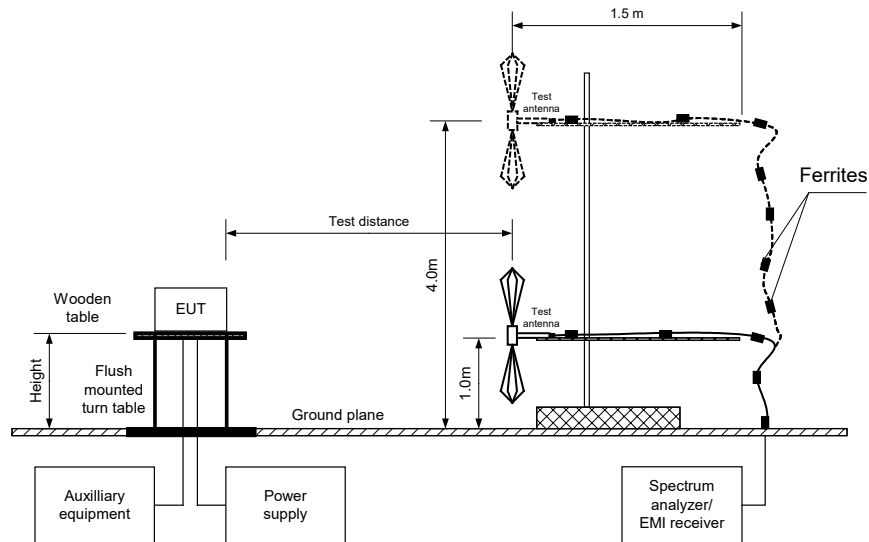
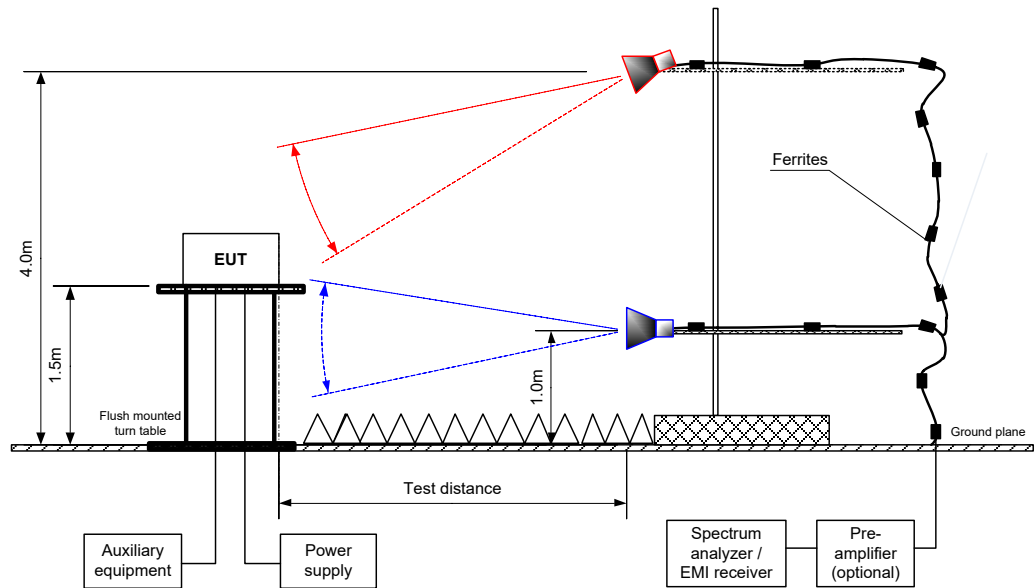


Figure 7.3.3 Setup for spurious emission field strength measurements above 1000 MHz



Test specification:		FCC section 15.247(d), Radiated spurious emissions	
Test procedure:		Section 15.247(a)2	
Test Date:		16-Feb-26 - 24-Feb-26	Verdict: PASS
Condition during the test:	Temperature: 23.8 °C	Air pressure: 1014 hPa	Relative humidity: 25 %
Remarks:			

Table 7.3.2 Field strength of emissions outside restricted bands

ASSIGNED FREQUENCY: 902-928 MHz
 INVESTIGATED FREQUENCY RANGE: 0.009 - 10000 MHz
 TEST DISTANCE: 3 m
 MODULATION: LoRa
 BIT RATE: 7.031 Kbps
 DUTY CYCLE: 100 %
 TRANSMITTER OUTPUT POWER SETTINGS: Maximum
 DETECTOR USED: RMS
 RESOLUTION BANDWIDTH: 100 kHz
 VIDEO BANDWIDTH: 300 kHz
 TEST ANTENNA TYPE: Active loop (9 kHz – 30 MHz)
 Biconilog (30 MHz – 1000 MHz)
 Double ridged guide (above 1000 MHz)

Frequency, MHz	Field strength of spurious, dB(μV/m)	Antenna polarization	Antenna height, m	Azimuth, degrees*	Field strength of carrier, dB(μV/m)	Attenuation below carrier, dBc	Limit, dBc	Margin, dB**	Verdict
Low carrier frequency									
31.750	28.236	Vertical	2.12	0	109.025	80.789	30.000	50.789	PASS
672.316	25.479	Vertical	1.95	40		83.546		53.546	
934.989	32.188	Vertical	2.35	333		76.837		46.837	
1805.617	26.437	Vertical	1.50	121		82.588		52.588	
875.969	46.137	Horizontal	1.00	2	114.299	68.162		38.162	
935.186	45.954	Horizontal	1.00	143		68.345		38.345	
Mid carrier frequency									
30.013	29.966	Vertical	1.84	192	108.378	78.412	30.000	48.412	PASS
152.548	20.252	Vertical	1.00	277		88.126		58.126	
877.788	34.479	Vertical	1.63	96		73.899		43.899	
939.979	34.470	Vertical	2.37	0		73.908		43.908	
1815.845	30.047	Vertical	1.01	278		78.331		48.331	
857.182	37.14	Horizontal	1.67	36	114.012	76.872		46.872	
875.646	46.72	Horizontal	1.00	0		67.292		37.292	
939.703	45.71	Horizontal	1.63	69		68.302		38.302	
1815.951	34.524	Horizontal	1.01	240		79.488	49.488		
High carrier frequency									
30.050	30.021	Vertical	3.62	0	108.603	78.582	30.000	48.582	PASS
143.624	20.818	Vertical	1.07	335		87.785		57.785	
882.008	42.521	Vertical	1.55	104		66.082		36.082	
1828.768	27.055	Vertical	1.01	165		81.548		51.548	
874.959	40.009	Horizontal	1.63	29	114.898	74.889		44.889	
882.368	47.699	Horizontal	1.63	43		67.199		37.199	
946.190	42.515	Horizontal	1.43	0		72.383		42.383	
1828.720	28.739	Horizontal	1.04	156		86.159		56.159	

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

** - Margin = Attenuation below carrier – specification limit.

Test specification: FCC section 15.247(d), Radiated spurious emissions			
Test procedure: Section 15.247(a)2			
Test Date: 16-Feb-26 - 24-Feb-26		Verdict: PASS	
Condition during the test:	Temperature: 23.8 °C	Air pressure: 1014 hPa	Relative humidity: 25 %
Remarks:			

Table 7.3.3 Field strength of spurious emissions above 1 GHz within restricted bands

ASSIGNED FREQUENCY: 902-928 MHz
 INVESTIGATED FREQUENCY RANGE: 1000 - 10000 MHz
 TEST DISTANCE: 3 m
 MODULATION: LoRa
 BIT RATE: 7.031 Kbps
 DUTY CYCLE: 100 %
 TRANSMITTER OUTPUT POWER SETTINGS: Maximum
 DETECTOR USED: Peak
 RESOLUTION BANDWIDTH: 1000 kHz
 TEST ANTENNA TYPE: Double ridged guide

Frequency, MHz	Antenna		Azimuth, degrees*	Peak field strength(VBW=3 MHz)			Average field strength(VBW=10 Hz)				Verdict
	Polarization	Height, m		Measured, dB(μV/m)	Limit, dB(μV/m)	Margin, dB**	Measured, dB(μV/m)	Calculated, dB(μV/m)	Limit, dB(μV/m)	Margin, dB***	
Low carrier frequency											
3612.396	Vertical	3.72	333	40.32	74.00	-33.68	27.62	NA	54.00	-26.38	PASS
2708.972	Horizontal	2.86	9	43.22	74.00	-30.78	33.22	NA	54.00	-20.78	
3612.454	Horizontal	2.83	0	45.51	74.00	-28.49	36.51	NA	54.00	-17.49	
Mid carrier frequency											
2723.584	Horizontal	3.19	2	46.34	74.00	-27.66	36.90	NA	54.00	-17.10	PASS
3631.117	Horizontal	3.19	2	43.16	74.00	-30.84	30.56	NA	54.00	-23.44	
High carrier frequency											
2742.044	Horizontal	2.86	2	44.04	74.00	-29.96	29.96	NA	54.00	-24.04	PASS

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

**- Margin = Measured field strength - specification limit.

***- Margin = Calculated field strength - specification limit,

where Calculated field strength = Measured field strength + average factor.

Table 7.3.4 Average factor calculation

Transmission pulse		Transmission burst		Transmission train duration, ms	Average factor, dB
Duration, ms	Period, ms	Duration, ms	Period, ms		
NA	NA	NA	NA	NA	NA

*- Average factor was calculated as follows

for pulse train shorter than 100 ms:

$$\text{Average factor} = 20 \times \log_{10} \left(\frac{\text{Pulse duration}}{\text{Pulse period}} \times \frac{\text{Burst duration}}{\text{Train duration}} \times \text{Number of bursts within pulse train} \right)$$

for pulse train longer than 100 ms:

$$\text{Average factor} = 20 \times \log_{10} \left(\frac{\text{Pulse duration}}{\text{Pulse period}} \times \frac{\text{Burst duration}}{100 \text{ ms}} \times \text{Number of bursts within 100 ms} \right)$$

Test specification:		FCC section 15.247(d), Radiated spurious emissions	
Test procedure:		Section 15.247(a)2	
Test Date:		16-Feb-26 - 24-Feb-26	Verdict: PASS
Condition during the test:	Temperature: 23.8 °C	Air pressure: 1014 hPa	Relative humidity: 25 %
Remarks:			

Table 7.3.5 Field strength of spurious emissions below 1 GHz within restricted bands

ASSIGNED FREQUENCY: 902-928 MHz
 INVESTIGATED FREQUENCY RANGE: 0.009 – 1000 MHz
 TEST DISTANCE: 3 m
 MODULATION: LoRa
 BIT RATE: 7.031 Kbps
 DUTY CYCLE: 100 %
 TRANSMITTER OUTPUT POWER SETTINGS: Maximum
 RESOLUTION BANDWIDTH: 0.2 kHz (9 kHz – 150 kHz)
 9.0 kHz (150 kHz – 30 MHz)
 120 kHz (30 MHz – 1000 MHz)
 VIDEO BANDWIDTH: > Resolution bandwidth
 TEST ANTENNA TYPE: Active loop (9 kHz – 30 MHz)
 Biconilog (30 MHz – 1000 MHz)

Frequency, MHz	Peak emission, dB(μV/m)	Quasi-peak			Antenna polarization	Antenna height, m	Turn-table position**, degrees	Verdict
		Measured emission, dB(μV/m)	Limit, dB(μV/m)	Margin, dB*				
Low carrier frequency								
163.499	28.096	21.70	43.00	-21.30	Vertical	1.00	343	PASS
Mid carrier frequency								
No emissions were detected								PASS
High carrier frequency								
No emissions were detected								PASS

*- Margin = Measured emission - specification limit.

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

Test specification:		FCC section 15.247(d), Radiated spurious emissions			
Test procedure:		Section 15.247(a)2			
Test Date:		16-Feb-26 - 24-Feb-26		Verdict: PASS	
Condition during the test:		Temperature: 23.8 °C		Air pressure: 1014 hPa	
				Relative humidity: 25 %	
Remarks:					

Table 7.3.6 Restricted bands according to FCC section 15.205

MHz	MHz	MHz	MHz	MHz	GHz
0.09 - 0.11	8.37625 - 8.38675	73 - 74.6	399.9 - 410	2690 - 2900	10.6 - 12.7
0.495 - 0.505	8.41425 - 8.41475	74.8 - 75.2	608 - 614	3260 - 3267	13.25 - 13.4
2.1735 - 2.1905	12.29 - 12.293	108 - 121.94	960 - 1240	3332 - 3339	14.47 - 14.5
4.125 - 4.128	12.51975 - 12.52025	123 - 138	1300 - 1427	3345.8 - 3358	15.35 - 16.2
4.17725 - 4.17775	12.57675 - 12.57725	149.9 - 150.05	1435 - 1626.5	3600 - 4400	17.7 - 21.4
4.20725 - 4.20775	13.36 - 13.41	156.52475 - 156.52525	1645.5 - 1646.5	4500 - 5150	22.01 - 23.12
6.215 - 6.218	16.42 - 16.423	156.7 - 156.9	1660 - 1710	5350 - 5460	23.6 - 24
6.26775 - 6.26825	16.69475 - 16.69525	162.0125 - 167.17	1718.8 - 1722.2	7250 - 7750	31.2 - 31.8
6.31175 - 6.31225	16.80425 - 16.80475	167.72 - 173.2	2200 - 2300	8025 - 8500	36.43 - 36.5
8.291 - 8.294	25.5 - 25.67	240 - 285	2310 - 2390	9000 - 9200	Above 38.6
8.362 - 8.366	37.5 - 38.25	322 - 335.4	2483.5 - 2500	9300 - 9500	

Table 7.3.7 Restricted bands according to RSS-Gen

MHz	MHz	MHz	MHz	MHz	GHz
0.09 - 0.11	8.291 - 8.294	16.80425 - 16.80475	399.9 - 410	3260 - 3267	10.6 - 12.7
2.1735 - 2.1905	8.362 - 8.366	25.5 - 25.67	608 - 614	3332 - 3339	13.25 - 13.4
3.020 - 3.026	8.37625 - 8.38675	37.5 - 38.25	960 - 1427	3345.8 - 3358	14.47 - 14.5
4.125 - 4.128	8.41425 - 8.41475	73 - 74.6	1435 - 1626.5	3500 - 4400	15.35 - 16.2
4.17725 - 4.17775	12.29 - 12.293	74.8 - 75.2	1645.5 - 1646.5	4500 - 5150	17.7 - 21.4
4.20725 - 4.20775	12.51975 - 12.52025	108 - 138	1660 - 1710	5350 - 5460	22.01 - 23.12
5.677 - 5.683	12.57675 - 12.57725	156.52475 - 156.52525	1718.8 - 1722.2	7250 - 7750	23.6 - 24
6.215 - 6.218	13.36 - 13.41	156.7 - 156.9	2200 - 2300	8025 - 8500	31.2 - 31.8
6.26775 - 6.26825	16.42 - 16.423	240 - 285	2310 - 2390	9000 - 9200	36.43 - 36.5
6.31175 - 6.31225	16.69475 - 16.69525	322 - 335.4	2655 - 2900	9300 - 9500	Above 38.6

Reference numbers of test equipment used

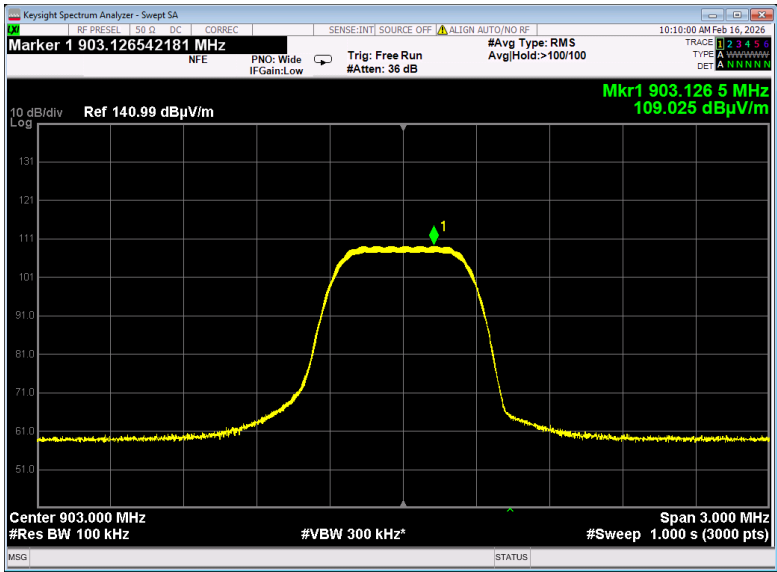
HL 6208	HL 6573	HL 6574	HL 6665	HL 6678	HL 6679	HL 6918	HL 6932
HL 8120							

Full description is given in Appendix A.

Test specification:		FCC section 15.247(d), Radiated spurious emissions	
Test procedure:		Section 15.247(a)2	
Test Date:		16-Feb-26 - 24-Feb-26	Verdict: PASS
Condition during the test:	Temperature: 23.8 °C	Air pressure: 1014 hPa	Relative humidity: 25 %
Remarks:			

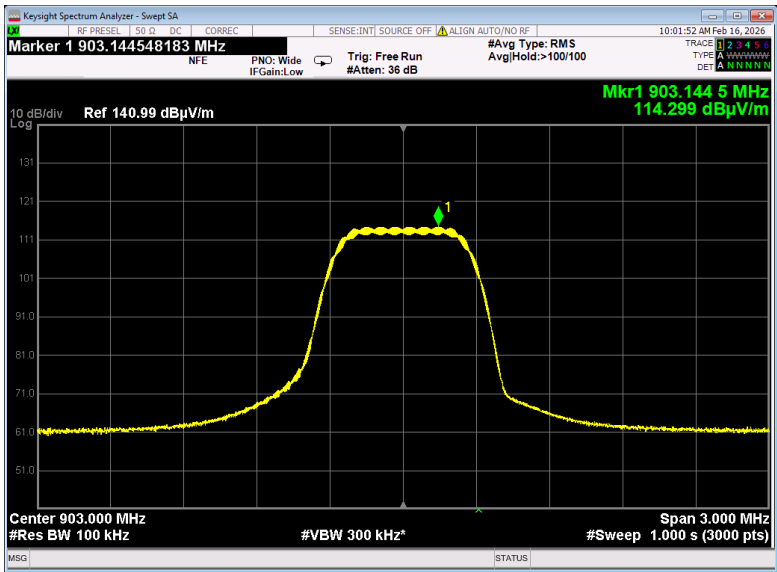
Plot 7.3.1 Radiated emission measurements at the low carrier frequency

TEST SITE: Semi anechoic chamber
 TEST DISTANCE: 3 m
 ANTENNA POLARIZATION: Vertical



Plot 7.3.2 Radiated emission measurements at the low carrier frequency

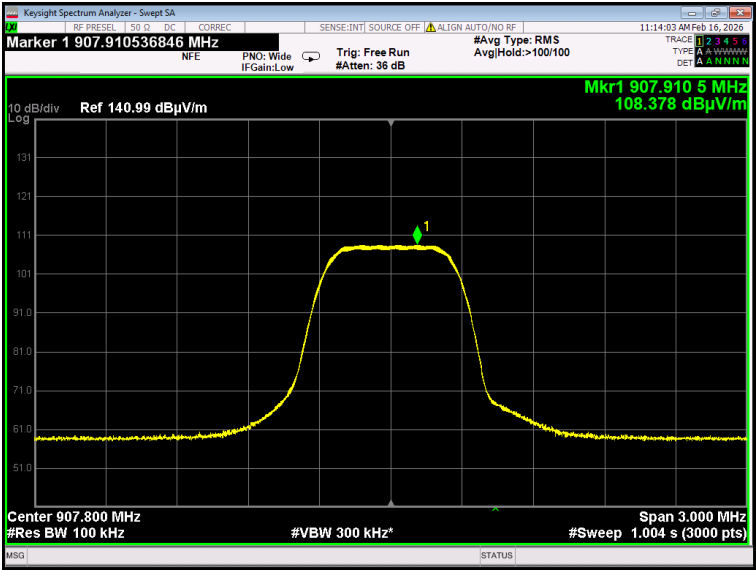
TEST SITE: Semi anechoic chamber
 TEST DISTANCE: 3 m
 ANTENNA POLARIZATION: Horizontal



Test specification:		FCC section 15.247(d), Radiated spurious emissions	
Test procedure:		Section 15.247(a)2	
Test Date:		16-Feb-26 - 24-Feb-26	Verdict: PASS
Condition during the test:	Temperature: 23.8 °C	Air pressure: 1014 hPa	Relative humidity: 25 %
Remarks:			

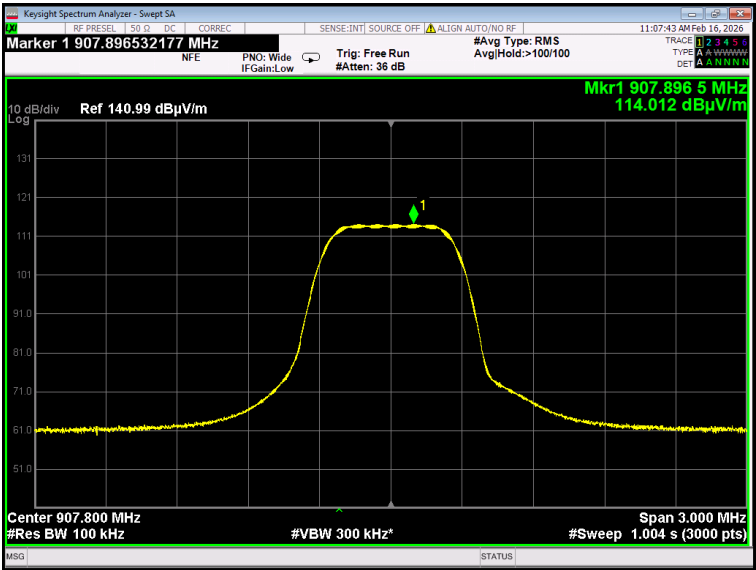
Plot 7.3.3 Radiated emission measurements at the mid carrier frequency

TEST SITE: Semi anechoic chamber
 TEST DISTANCE: 3 m
 ANTENNA POLARIZATION: Vertical



Plot 7.3.4 Radiated emission measurements at the mid carrier frequency

TEST SITE: Semi anechoic chamber
 TEST DISTANCE: 3 m
 ANTENNA POLARIZATION: Horizontal

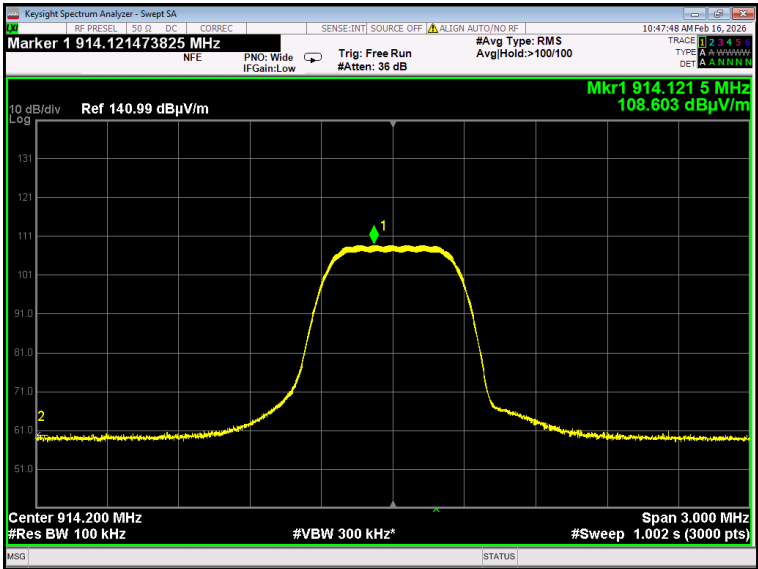


Plot 7.3.5 Radiated emission measurements at the high carrier frequency

TEST SITE: Semi anechoic chamber

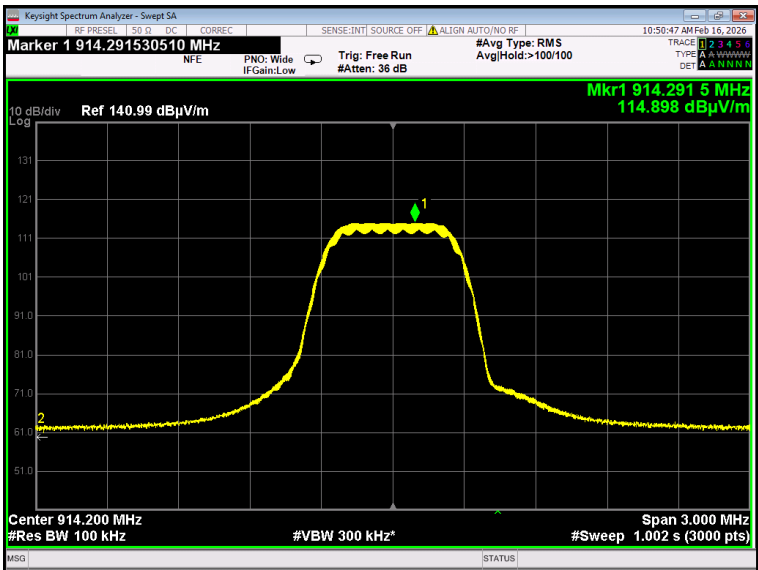
Test specification:		FCC section 15.247(d), Radiated spurious emissions	
Test procedure:		Section 15.247(a)2	
Test Date:		16-Feb-26 - 24-Feb-26	Verdict: PASS
Condition during the test:	Temperature: 23.8 °C	Air pressure: 1014 hPa	Relative humidity: 25 %
Remarks:			

TEST DISTANCE: 3 m
 ANTENNA POLARIZATION: Vertical



Plot 7.3.6 Radiated emission measurements at the high carrier frequency

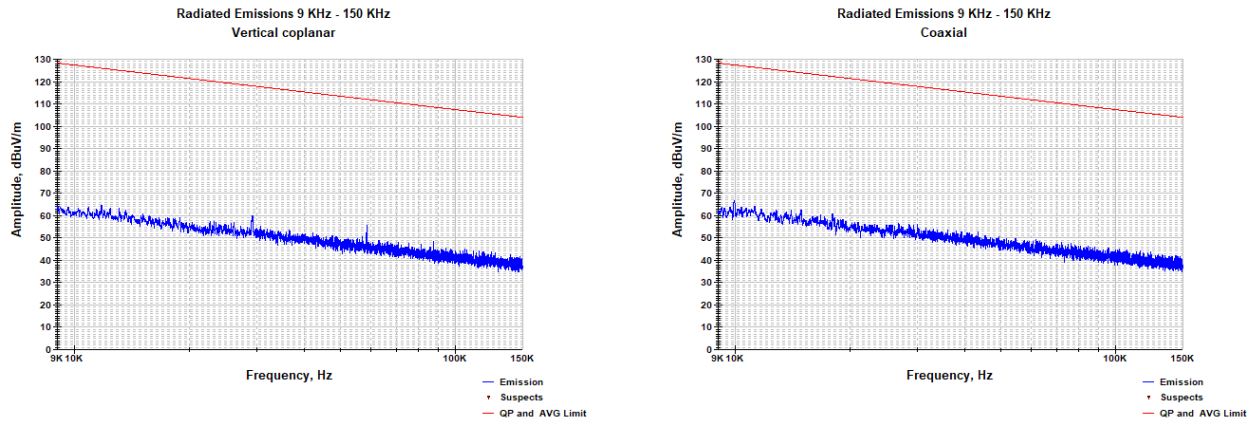
TEST SITE: Semi anechoic chamber
 TEST DISTANCE: 3 m
 ANTENNA POLARIZATION: Horizontal



Test specification:		FCC section 15.247(d), Radiated spurious emissions	
Test procedure:		Section 15.247(a)2	
Test Date:	16-Feb-26 - 24-Feb-26	Verdict:	PASS
Condition during the test:	Temperature: 23.8 °C	Air pressure: 1014 hPa	Relative humidity: 25 %
Remarks:			

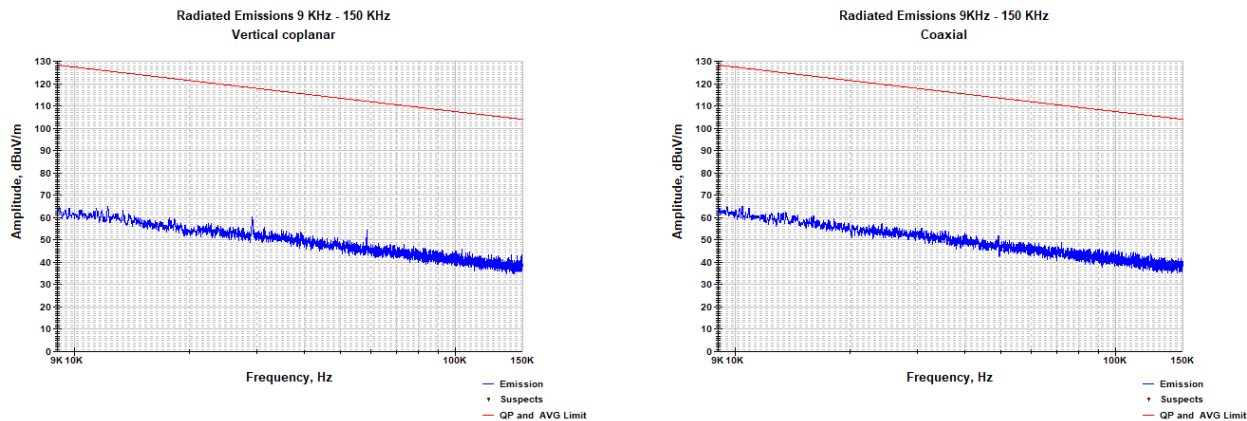
Plot 7.3.7 Radiated emission measurements from 9 to 150 kHz at the low carrier frequency

TEST SITE: Semi anechoic chamber
TEST DISTANCE: 3 m



Plot 7.3.8 Radiated emission measurements from 9 to 150 kHz at the mid carrier frequency

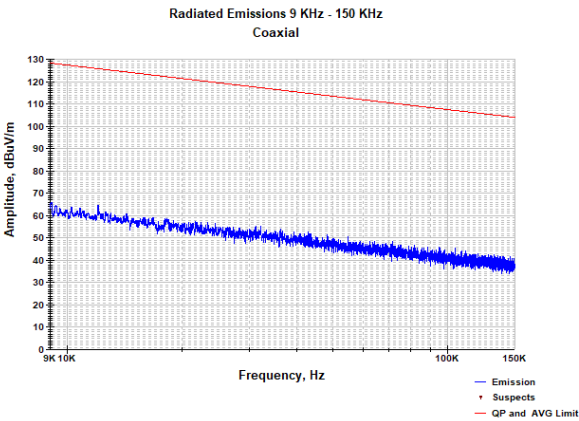
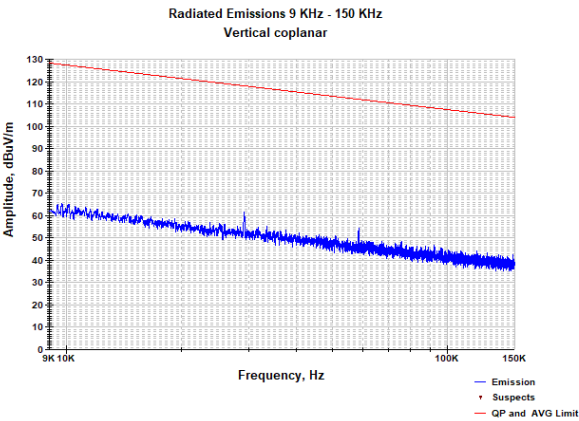
TEST SITE: Semi anechoic chamber
TEST DISTANCE: 3 m



Test specification:		FCC section 15.247(d), Radiated spurious emissions	
Test procedure:		Section 15.247(a)2	
Test Date:	16-Feb-26 - 24-Feb-26	Verdict:	PASS
Condition during the test:	Temperature: 23.8 °C	Air pressure: 1014 hPa	Relative humidity: 25 %
Remarks:			

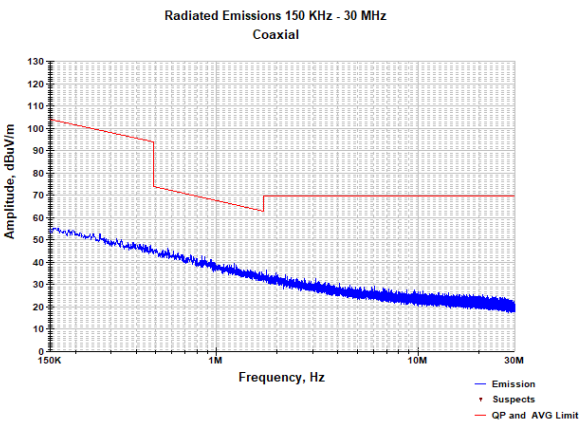
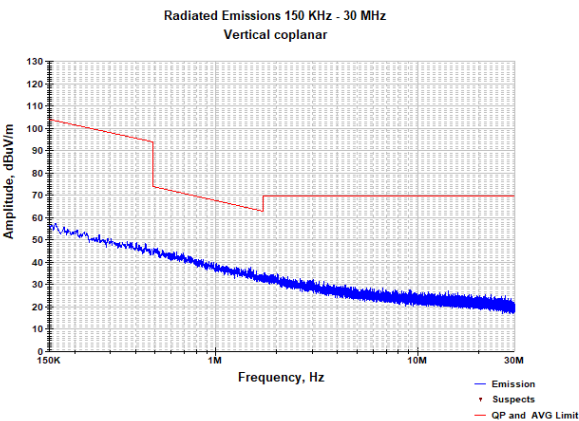
Plot 7.3.9 Radiated emission measurements from 9 to 150 kHz at the high carrier frequency

TEST SITE: Semi anechoic chamber
TEST DISTANCE: 3 m



Plot 7.3.10 Radiated emission measurements from 0.15 to 30 MHz at the low carrier frequency

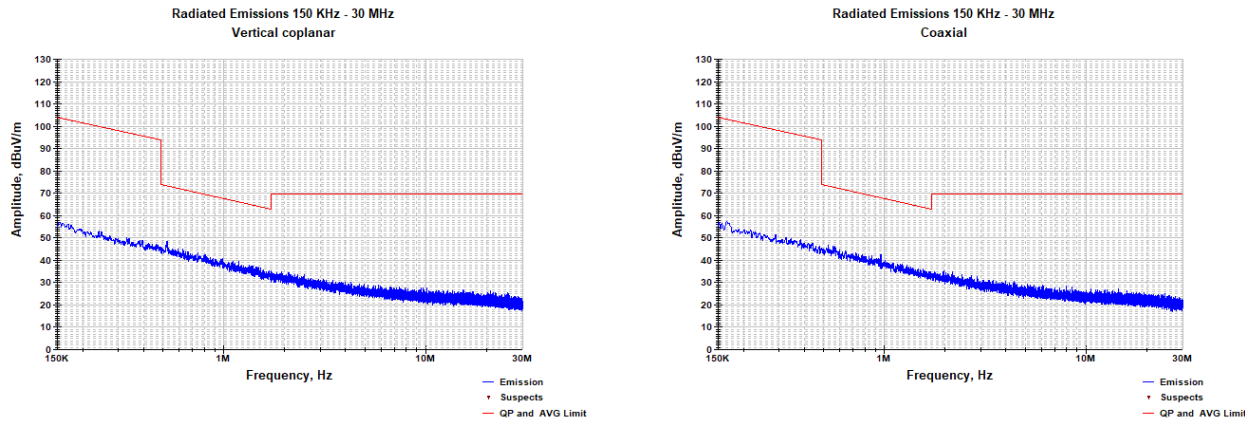
TEST SITE: Semi anechoic chamber
TEST DISTANCE: 3 m



Test specification:		FCC section 15.247(d), Radiated spurious emissions	
Test procedure:		Section 15.247(a)2	
Test Date:		16-Feb-26 - 24-Feb-26	Verdict: PASS
Condition during the test:	Temperature: 23.8 °C	Air pressure: 1014 hPa	Relative humidity: 25 %
Remarks:			

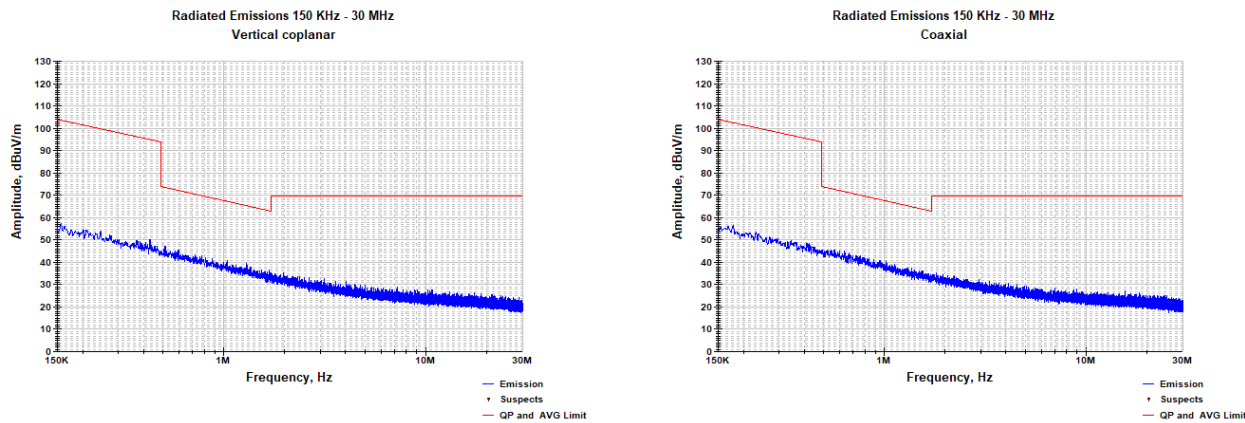
Plot 7.3.11 Radiated emission measurements from 0.15 to 30 MHz at the mid carrier frequency

TEST SITE: Semi anechoic chamber
TEST DISTANCE: 3 m



Plot 7.3.12 Radiated emission measurements from 0.15 to 30 MHz at the high carrier frequency

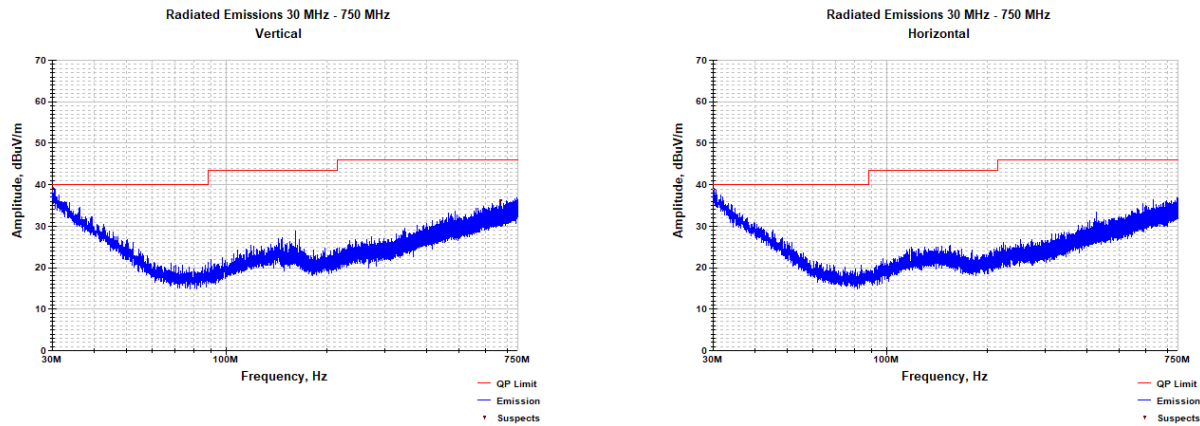
TEST SITE: Semi anechoic chamber
TEST DISTANCE: 3 m



Test specification:		FCC section 15.247(d), Radiated spurious emissions	
Test procedure:		Section 15.247(a)2	
Test Date:		16-Feb-26 - 24-Feb-26	Verdict: PASS
Condition during the test:	Temperature: 23.8 °C	Air pressure: 1014 hPa	Relative humidity: 25 %
Remarks:			

Plot 7.3.13 Radiated emission measurements from 30 to 750 MHz at the low carrier frequency

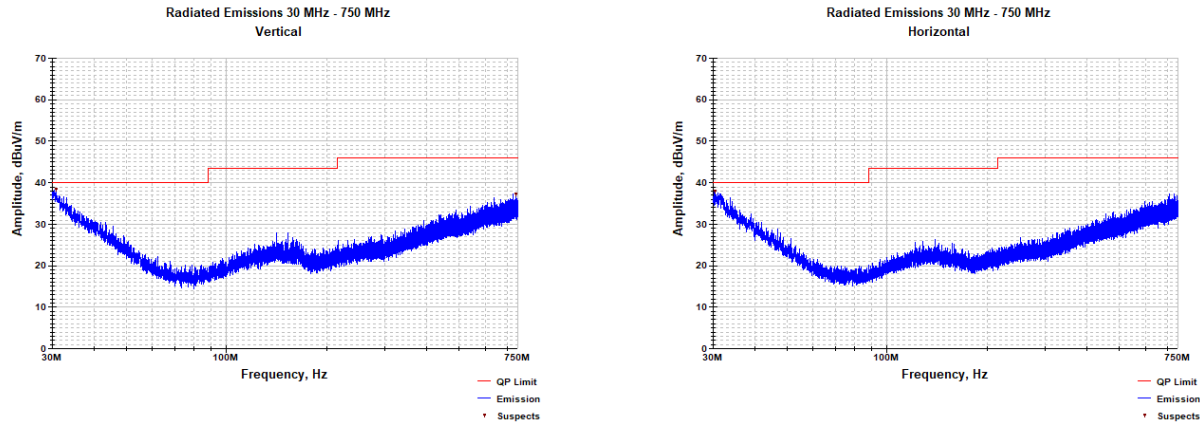
TEST SITE: Semi anechoic chamber
TEST DISTANCE: 3 m
ANTENNA POLARIZATION: Vertical and Horizontal



* With Low Pass Filter HL 6665

Plot 7.3.14 Radiated emission measurements from 30 to 750 MHz at the mid carrier frequency

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

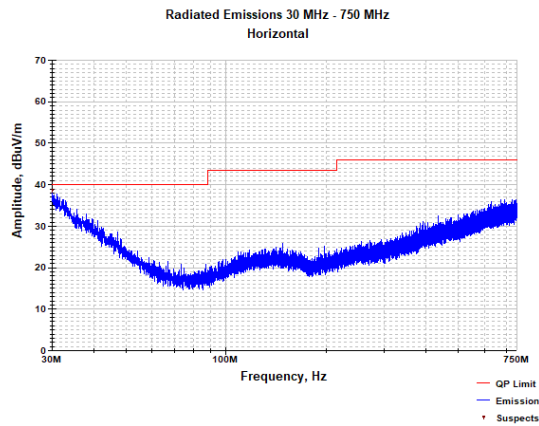
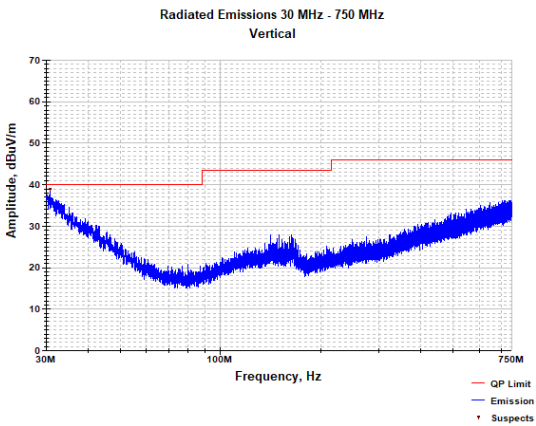


*With Low Pass Filter HL 6665

Test specification:		FCC section 15.247(d), Radiated spurious emissions	
Test procedure:		Section 15.247(a)2	
Test Date:		16-Feb-26 - 24-Feb-26	Verdict: PASS
Condition during the test:	Temperature: 23.8 °C	Air pressure: 1014 hPa	Relative humidity: 25 %
Remarks:			

Plot 7.3.15 Radiated emission measurements from 30 to 750 MHz at the high carrier frequency

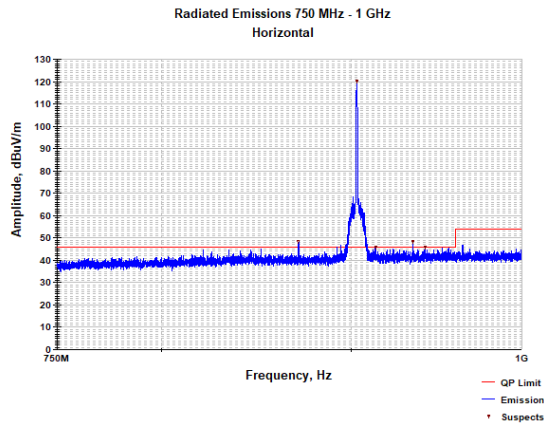
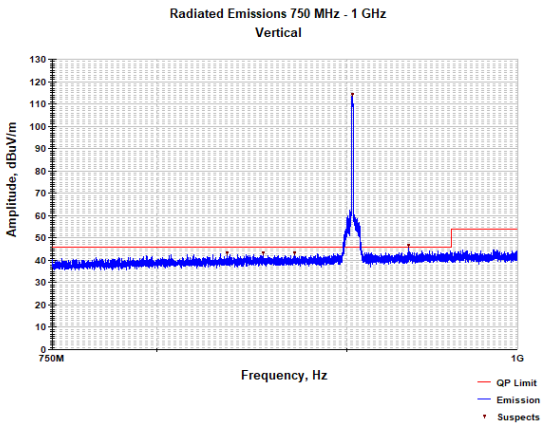
TEST SITE: Semi anechoic chamber
TEST DISTANCE: 3 m
ANTENNA POLARIZATION: Vertical and Horizontal



* With Low Pass Filter HL 6665

Plot 7.3.16 Radiated emission measurements from 750 to 1000 MHz at the low carrier frequency

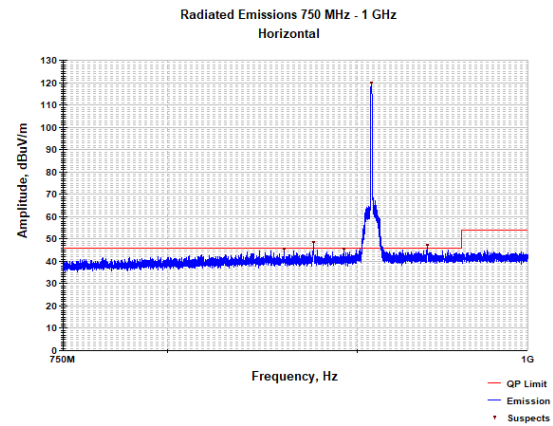
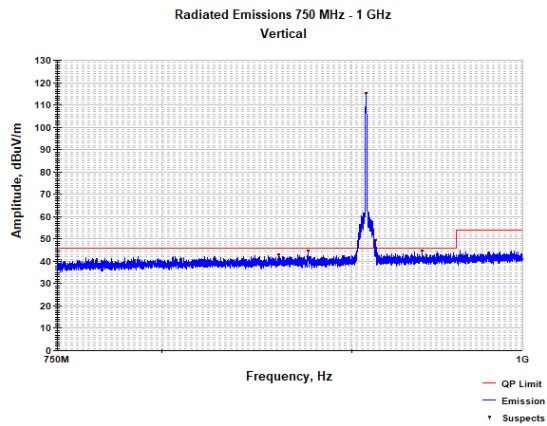
TEST SITE: Semi anechoic chamber
TEST DISTANCE: 3 m
ANTENNA POLARIZATION: Vertical and Horizontal



Test specification:		FCC section 15.247(d), Radiated spurious emissions	
Test procedure:		Section 15.247(a)2	
Test Date:	16-Feb-26 - 24-Feb-26	Verdict:	PASS
Condition during the test:	Temperature: 23.8 °C	Air pressure: 1014 hPa	Relative humidity: 25 %
Remarks:			

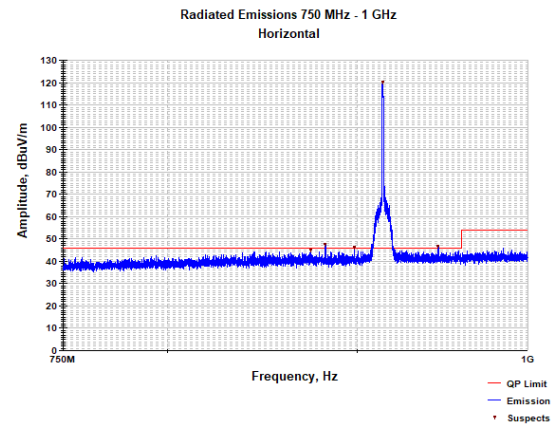
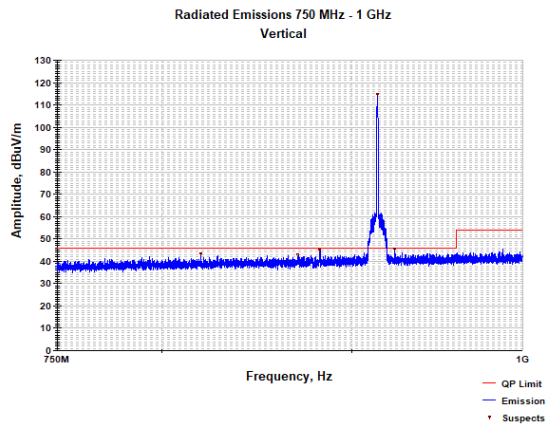
Plot 7.3.17 Radiated emission measurements from 750 to 1000 MHz at the mid carrier frequency

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



Plot 7.3.18 Radiated emission measurements from 750 to 1000 MHz at the high carrier frequency

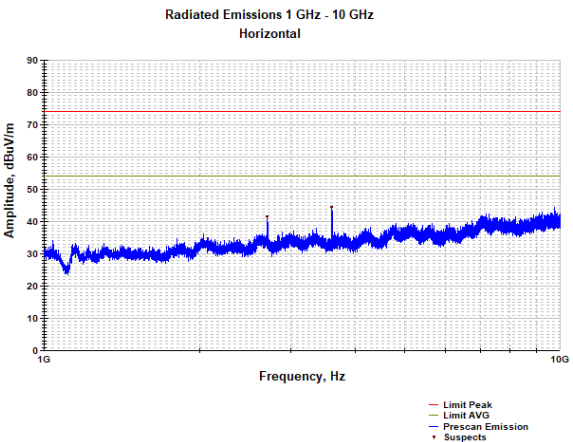
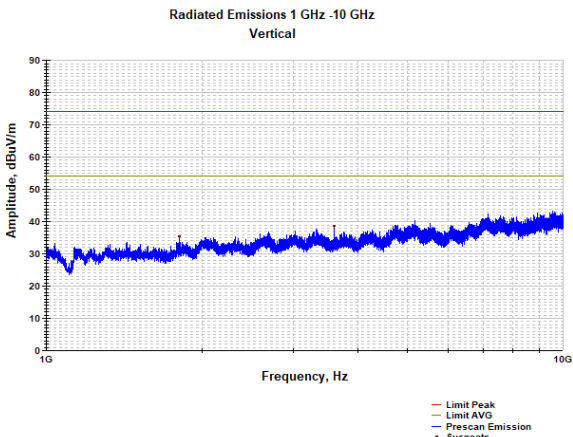
TEST SITE: Semi anechoic chamber
TEST DISTANCE: 3 m
ANTENNA POLARIZATION: Vertical and Horizontal



Test specification:		FCC section 15.247(d), Radiated spurious emissions	
Test procedure:		Section 15.247(a)2	
Test Date:	16-Feb-26 - 24-Feb-26	Verdict:	PASS
Condition during the test:	Temperature: 23.8 °C	Air pressure: 1014 hPa	Relative humidity: 25 %
Remarks:			

Plot 7.3.19 Radiated emission measurements from 1000 to 10000 MHz at the low carrier frequency

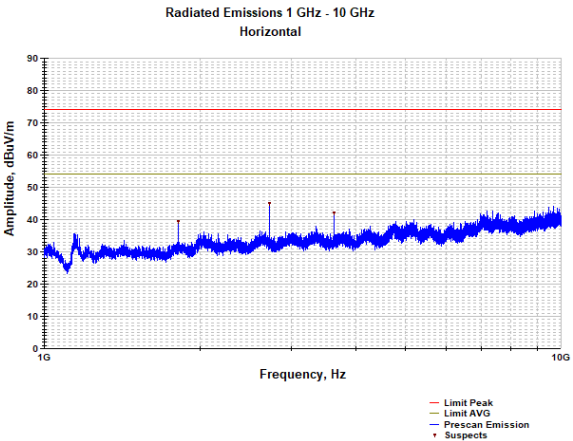
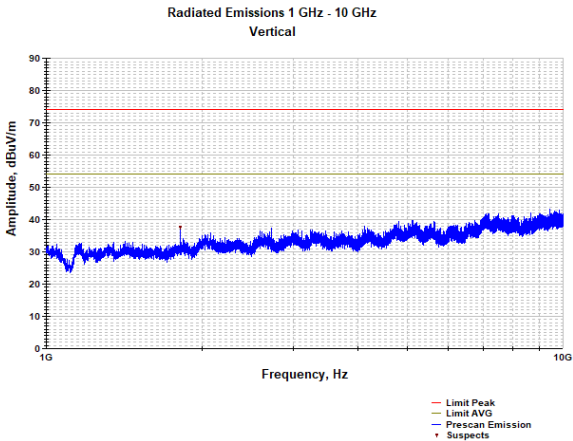
TEST SITE: Semi anechoic chamber
TEST DISTANCE: 3 m
ANTENNA POLARIZATION: Vertical and Horizontal



* With Filter HL 6932

Plot 7.3.20 Radiated emission measurements from 1000 to 10000 MHz at the mid carrier frequency

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

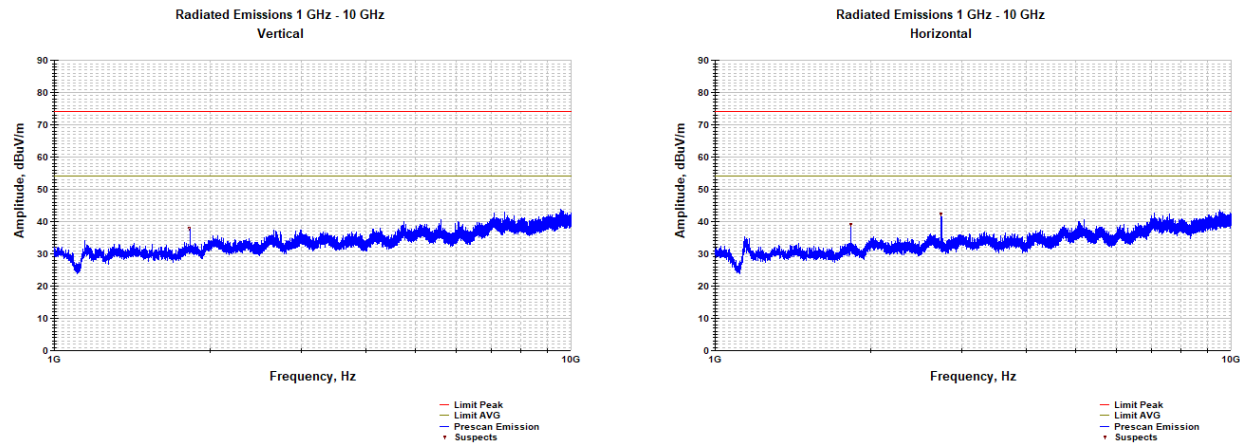


With Filter HL 6932

Test specification:		FCC section 15.247(d), Radiated spurious emissions	
Test procedure:		Section 15.247(a)2	
Test Date:		16-Feb-26 - 24-Feb-26	Verdict: PASS
Condition during the test:	Temperature: 23.8 °C	Air pressure: 1014 hPa	Relative humidity: 25 %
Remarks:			

Plot 7.3.21 Radiated emission measurements from 1000 to 10000 MHz at the high carrier frequency

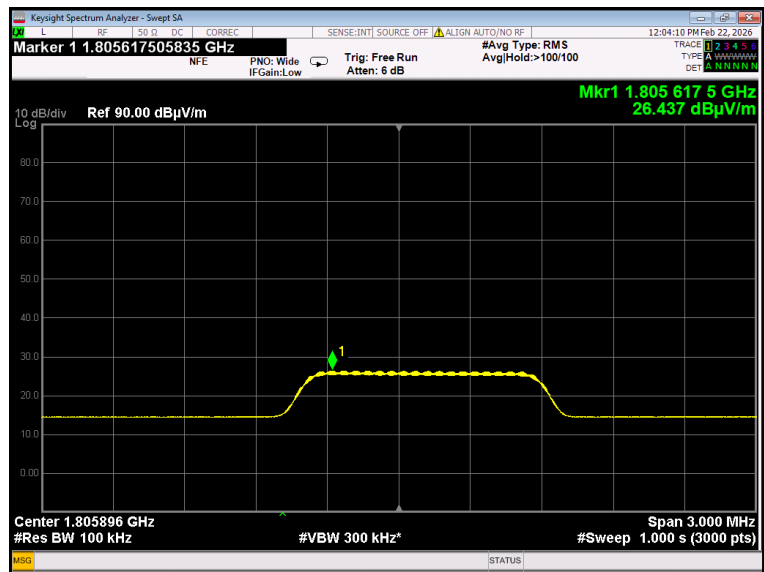
TEST SITE: Semi anechoic chamber
TEST DISTANCE: 3 m
ANTENNA POLARIZATION: Vertical and Horizontal



* With Filter HL 6932

Plot 7.3.22 Radiated emission measurements at the second harmonic of low carrier frequency

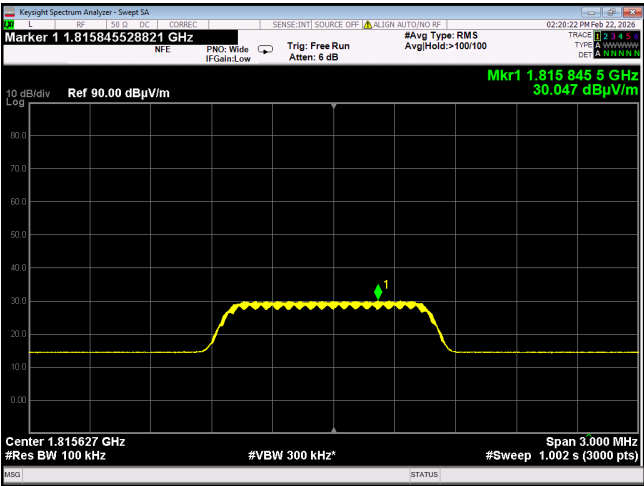
TEST SITE: Semi anechoic chamber
TEST DISTANCE: 3 m
ANTENNA POLARIZATION: Vertical



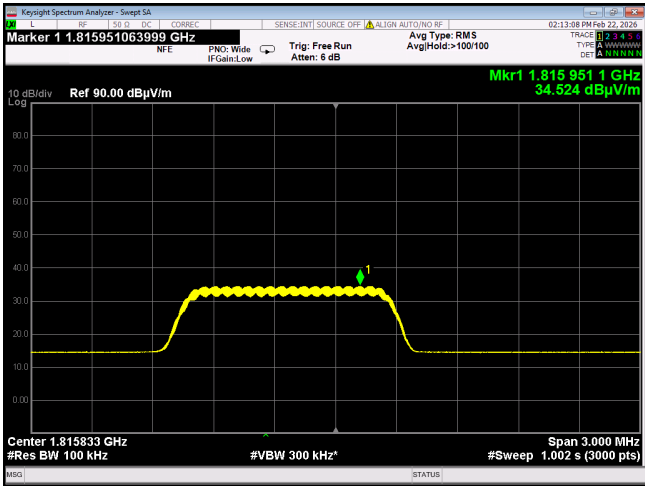
Test specification:		FCC section 15.247(d), Radiated spurious emissions	
Test procedure:		Section 15.247(a)2	
Test Date:		16-Feb-26 - 24-Feb-26	Verdict: PASS
Condition during the test:	Temperature: 23.8 °C	Air pressure: 1014 hPa	Relative humidity: 25 %
Remarks:			

Plot 7.3.23 Radiated emission measurements at the second harmonic of mid carrier frequency

TEST SITE: Semi anechoic chamber
 TEST DISTANCE: 3 m
 Vertical

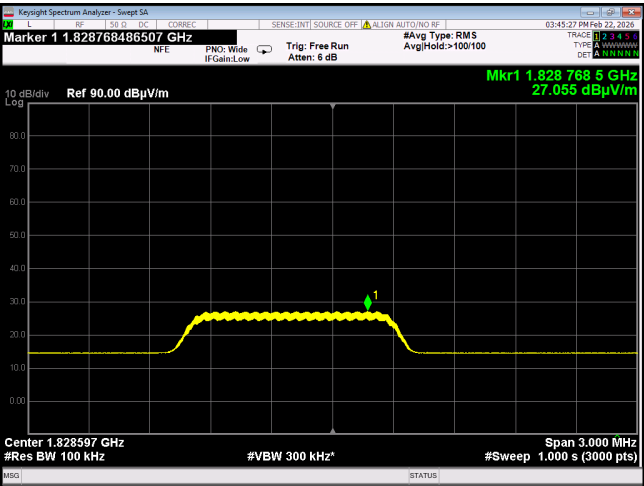


Horizontal

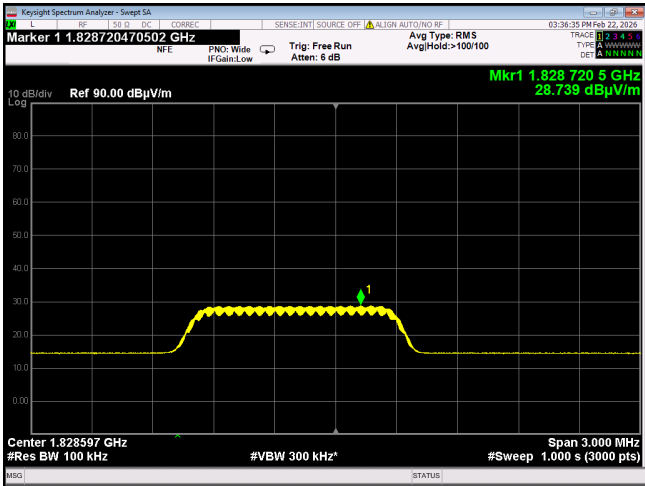


Plot 7.3.24 Radiated emission measurements at the second harmonic of high carrier frequency

TEST SITE: Semi anechoic chamber
 TEST DISTANCE: 3 m
 Vertical



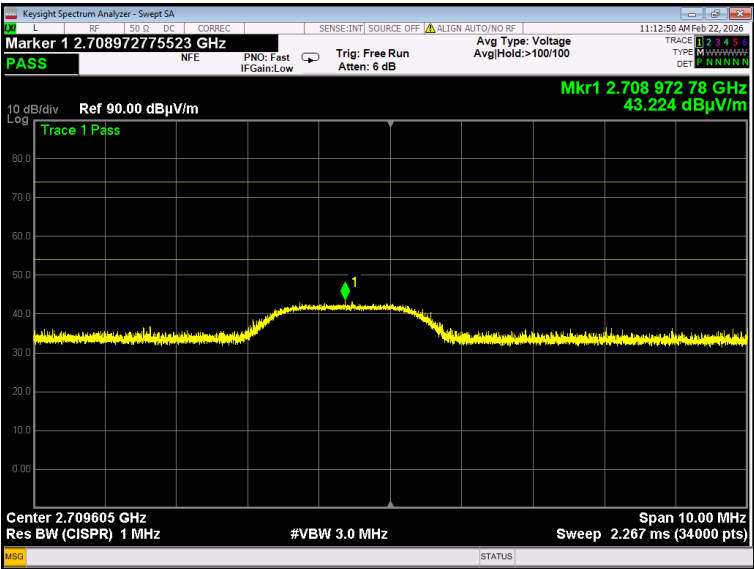
Horizontal



Test specification:		FCC section 15.247(d), Radiated spurious emissions	
Test procedure:		Section 15.247(a)2	
Test Date:		16-Feb-26 - 24-Feb-26	Verdict: PASS
Condition during the test:	Temperature: 23.8 °C	Air pressure: 1014 hPa	Relative humidity: 25 %
Remarks:			

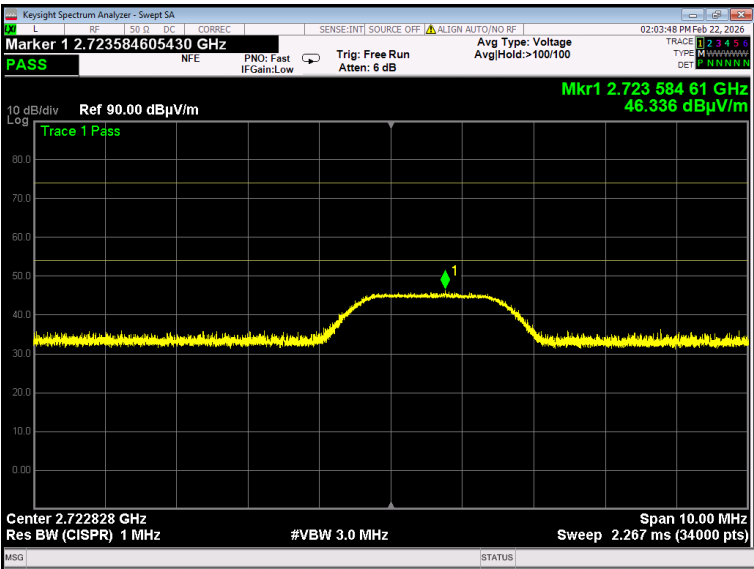
Plot 7.3.25 Radiated emission measurements at the third harmonic of low carrier frequency

TEST SITE: Semi anechoic chamber
TEST DISTANCE: 3 m
ANTENNA POLARIZATION: Horizontal



Plot 7.3.26 Radiated emission measurements at the third harmonic of mid carrier frequency

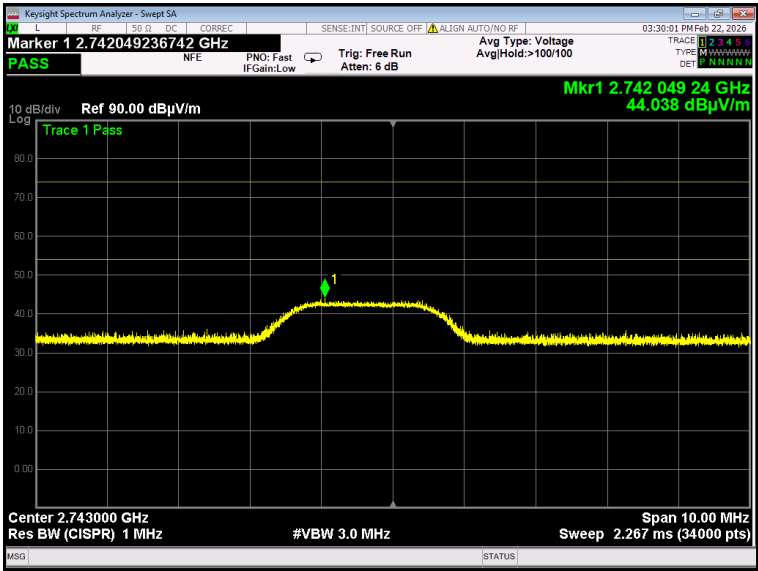
TEST SITE: Semi anechoic chamber
TEST DISTANCE: 3 m
ANTENNA POLARIZATION: Horizontal



Test specification:		FCC section 15.247(d), Radiated spurious emissions	
Test procedure:		Section 15.247(a)2	
Test Date:		16-Feb-26 - 24-Feb-26	Verdict: PASS
Condition during the test:	Temperature: 23.8 °C	Air pressure: 1014 hPa	Relative humidity: 25 %
Remarks:			

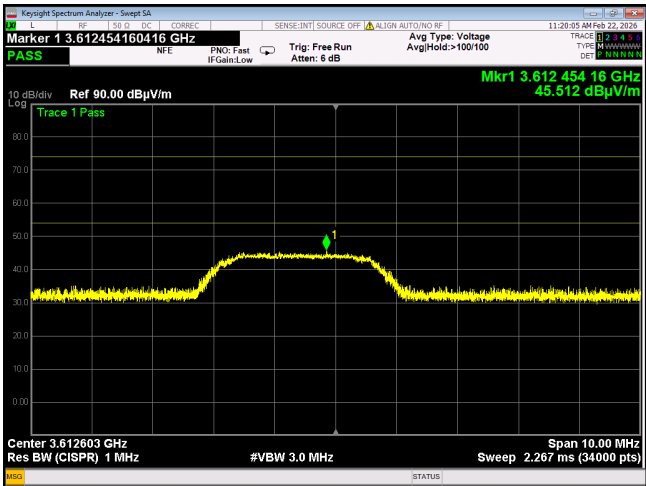
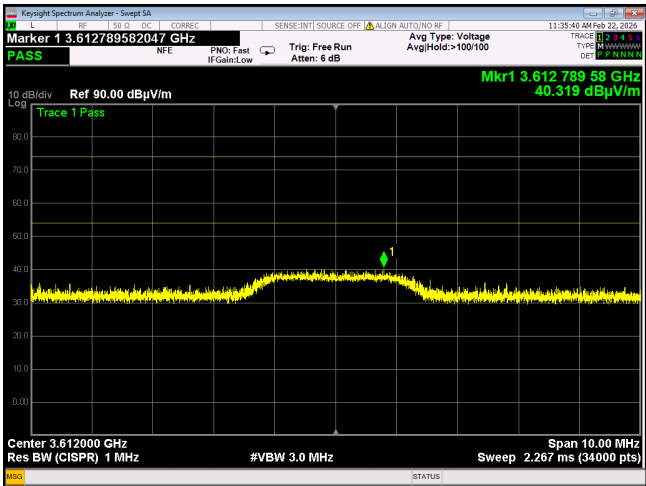
Plot 7.3.27 Radiated emission measurements at the third harmonic of high carrier frequency

TEST SITE: Semi anechoic chamber
 TEST DISTANCE: 3 m
 ANTENNA POLARIZATION: Horizontal



Plot 7.3.28 Radiated emission measurements at the fourth harmonic of low carrier frequency

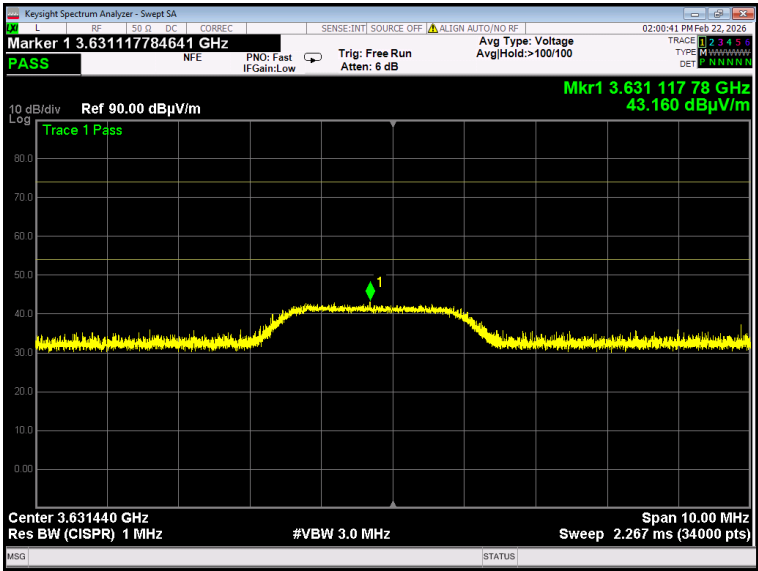
TEST SITE: Semi anechoic chamber
 TEST DISTANCE: 3 m
 Vertical Horizontal



Test specification:		FCC section 15.247(d), Radiated spurious emissions	
Test procedure:		Section 15.247(a)2	
Test Date:		16-Feb-26 - 24-Feb-26	Verdict: PASS
Condition during the test:	Temperature: 23.8 °C	Air pressure: 1014 hPa	Relative humidity: 25 %
Remarks:			

Plot 7.3.29 Radiated emission measurements at the fourth harmonic of mid carrier frequency

TEST SITE: Semi anechoic chamber
TEST DISTANCE: 3 m
ANTENNA POLARIZATION: Horizontal



Test specification:		FCC section 15.247(d), Band edge emissions	
Test procedure:		Section 15.247(d)	
Test Date:		16-Feb-26	Verdict: PASS
Condition during the test:	Temperature: 23.1 °C	Air pressure: 1014 hPa	Relative humidity: 35 %
Remarks:			

7.4. Band edge radiated emissions

7.4.1. General

This test was performed to measure emissions, radiated from the EUT at the assigned frequency band edges. 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	Field strength at 3 m within restricted bands, dB(μV/m)	
			Peak	Average
Peak	902.0 – 928.0	20.0	74.0	54.0
Averaged over a time interval	902.0 – 928.0	30.0	74.0	54.0

* - 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.
- 7.4.2.7. The above procedure was repeated with the frequency hopping function enabled.

Figure 7.4.1 Band edge emission test setup



Test specification:		FCC section 15.247(d), Band edge emissions	
Test procedure:		Section 15.247(d)	
Test Date:	16-Feb-26	Verdict:	PASS
Condition during the test:	Temperature: 23.1 °C	Air pressure: 1014 hPa	Relative humidity: 35 %
Remarks:			

Table 7.4.2 Band edge emission test results

ASSIGNED FREQUENCY RANGE: 902-928 MHz
 DETECTOR USED: RMS
 MODULATION: LoRa
 BIT RATE: 7.031 Kbps
 TRANSMITTER OUTPUT POWER SETTINGS: Maximum
 RESOLUTION BANDWIDTH: $\geq 1\%$ of the span
 VIDEO BANDWIDTH: $\geq$ RBW

Frequency, MHz	Band edge emission, dBuv/m	Emission at carrier, dBuv/m	Attenuation below carrier, dBc	Limit, dBc	Margin, dB*	Verdict
Averaged over a time interval power						
903.0	59.640	114.121	54.481	30.0	24.481	PASS
914.2	60.280	114.803	54.523		24.523	

*- Margin = Attenuation below carrier – specification limit.

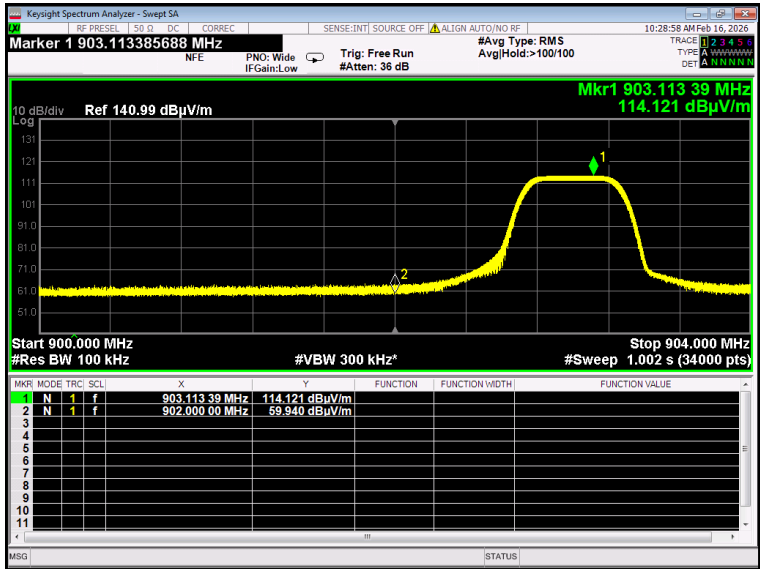
Reference numbers of test equipment used

HL 6208	HL 6573	HL 6918	HL 8120				
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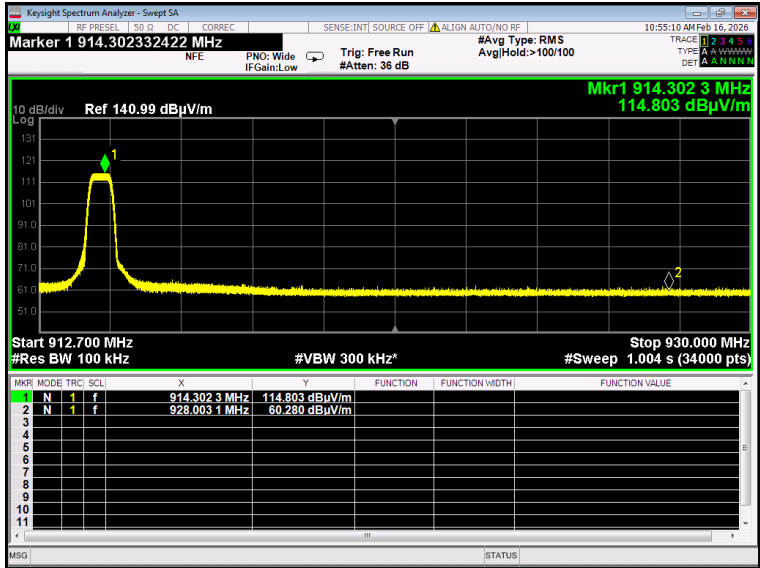
Full description is given in Appendix A.

Test specification:		FCC section 15.247(d), Band edge emissions	
Test procedure:		Section 15.247(d)	
Test Date:	16-Feb-26	Verdict:	PASS
Condition during the test:	Temperature: 23.1 °C	Air pressure: 1014 hPa	Relative humidity: 35 %
Remarks:			

Plot 7.4.1 The highest band edge emission at low carrier frequency



Plot 7.4.2 The highest band edge emission at high carrier frequency



Test specification:		FCC section 15.247(e), Peak power density	
Test procedure:		Section 15.247(d)	
Test Date:		12-Feb-26 - 15-Feb-26	Verdict: PASS
Condition during the test:	Temperature: 23.7 °C	Air pressure: 1013 hPa	Relative humidity: 33 %
Remarks:			

7.5. Peak spectral power density

7.5.1. General

This test was performed to measure the peak spectral power density radiated by the transmitter RF antenna. 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	Equivalent field strength limit @ 3m, dB(μV/m)*
902.0 – 928.0	3.0	8.0	103.2

* - Equivalent field strength limit was calculated from the peak spectral power density as follows: $E = \sqrt{30 \times P} / r$, where P is peak spectral power density and r is antenna to EUT distance in meters.

7.5.2. Test procedure for field strength measurements

- 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 field strength of the EUT carrier frequency was measured with antenna connected to spectrum analyzer/ EMI receiver. To find maximum radiation the turntable was rotated 360° and the measuring antenna height was swept in both vertical and horizontal polarizations.
- 7.5.2.4. 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. The spectrum lines spacing was verified to be wider than 3 kHz. Otherwise the resolution bandwidth was reduced until individual spectrum lines were resolved and the power of individual spectrum lines was integrated over 3 kHz band.
- 7.5.2.5. The peak of emission was zoomed with span set just wide enough to capture the emission peak area and sweep time was set equal to span width divided by resolution bandwidth. Spectrum analyzer was set in peak hold mode, sufficient number of sweeps was allowed for trace stabilization and peak spectral power density was measured as provided in Table 7.5.2 and associated plots.

Test specification: FCC section 15.247(e), Peak power density	
Test procedure: Section 15.247(d)	
Test Date: 12-Feb-26 - 15-Feb-26	Verdict: PASS
Condition during the test:	Temperature: 23.7 °C
	Air pressure: 1013 hPa
	Relative humidity: 33 %
Remarks:	

Figure 7.5.1 Setup for carrier field strength measurements

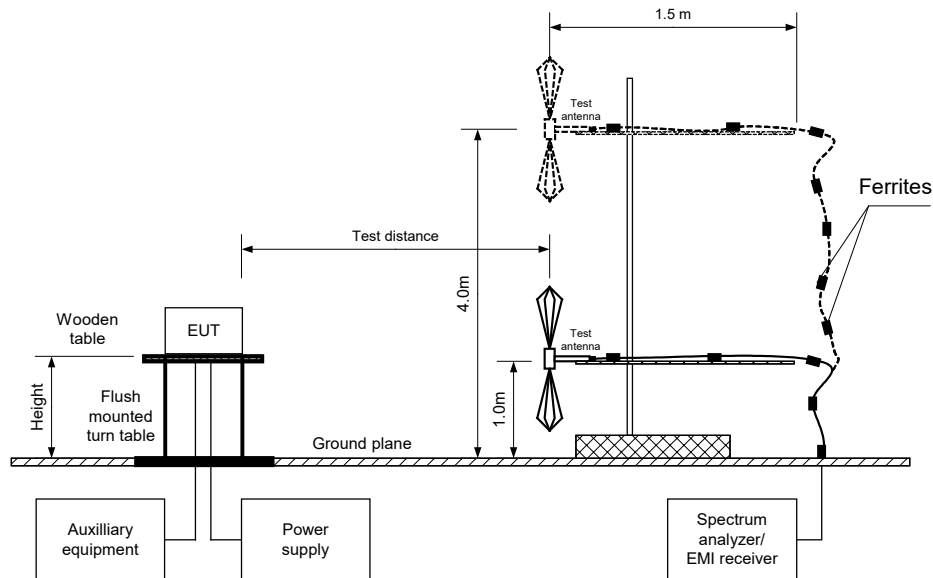


Table 7.5.2 Field strength measurement of peak spectral power density

ASSIGNED FREQUENCY:	902-928 MHz
TEST DISTANCE:	3 m
TEST SITE:	Semi anechoic chamber
EUT HEIGHT:	0.8 m
DETECTOR USED:	RMS
RESOLUTION BANDWIDTH:	3 kHz
VIDEO BANDWIDTH:	10 kHz
TEST ANTENNA TYPE:	Biconilog (30 MHz – 1000 MHz)
MODULATION:	LoRa
BIT RATE:	7.031 Kbps
TRANSMITTER OUTPUT POWER SETTINGS:	Maximum
TRANSMITTER OUTPUT POWER:	23.5 dBm at low carrier frequency
	23.9 dBm at mid carrier frequency
	24.27 dBm at high carrier frequency

Frequency, MHz	Field strength, dB(μV/m)	EUT antenna gain, dBi	Limit, dB(μV/m)	Margin, dB*	Antenna polarization	Antenna height, m	Turn-table position**, degrees	Verdict
903.230	100.72	1.20	103.20	-3.68	Horizontal	1.50	41	PASS
903.230	94.03	1.20	103.20	-10.37	Vertical	1.50	91	PASS
907.800	101.28	1.20	103.20	-3.12	Horizontal	1.50	41	PASS
907.800	94.87	1.20	103.20	-9.53	Vertical	1.50	92	PASS
914.431	101.00	1.20	103.20	-3.40	Horizontal	1.50	40	PASS
914.431	94.71	1.20	103.20	-9.69	Vertical	1.50	97	PASS

*- Margin = Field strength - EUT antenna gain - calculated field strength limit.

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

Reference numbers of test equipment used

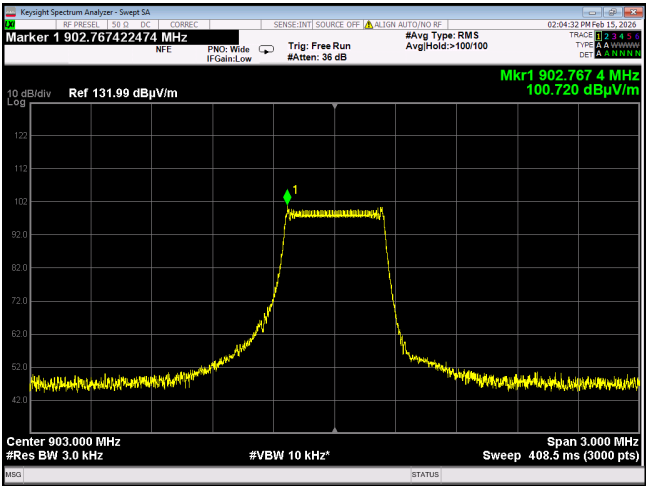
HL 6208	HL 6573	HL 6918	HL 8120				
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Full description is given in Appendix A.

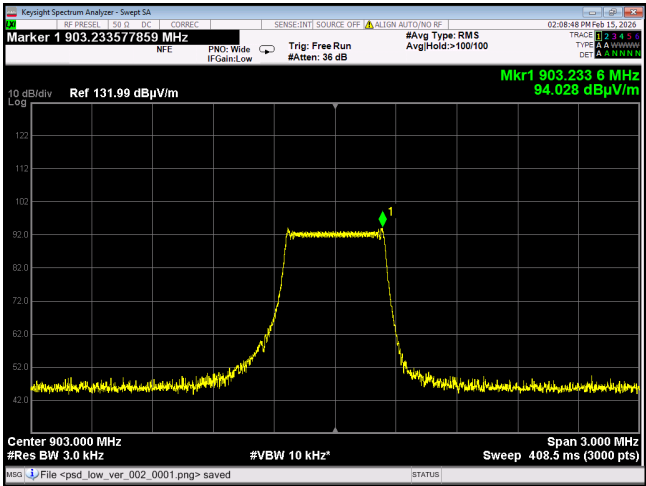
Test specification:		FCC section 15.247(e), Peak power density	
Test procedure:		Section 15.247(d)	
Test Date:	12-Feb-26 - 15-Feb-26	Verdict:	PASS
Condition during the test:	Temperature: 23.7 °C	Air pressure: 1013 hPa	Relative humidity: 33 %
Remarks:			

Plot 7.5.1 Peak spectral power density at low frequency

Horizontal

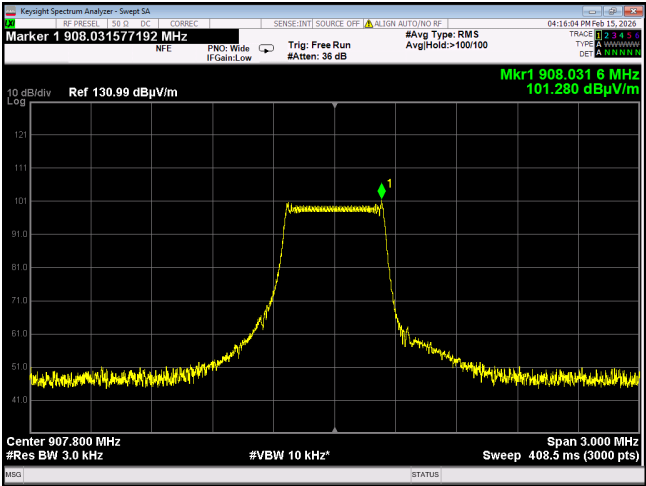


Vertical

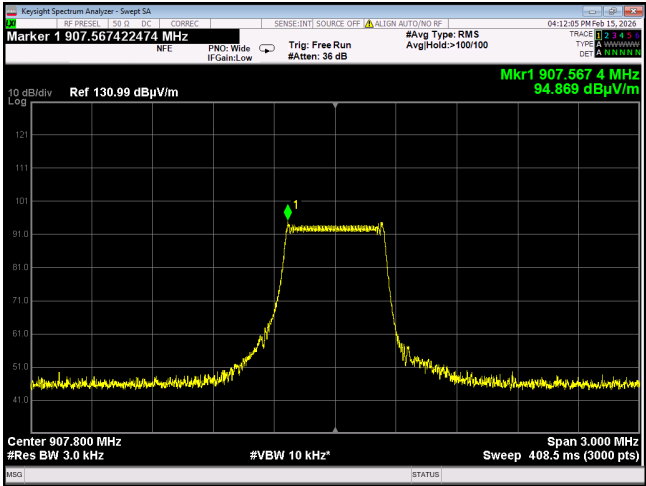


Plot 7.5.2 Peak spectral power density at mid frequency

Horizontal



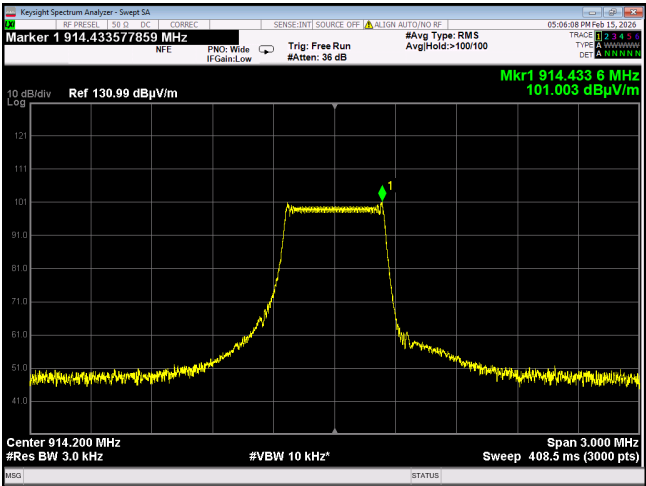
Vertical



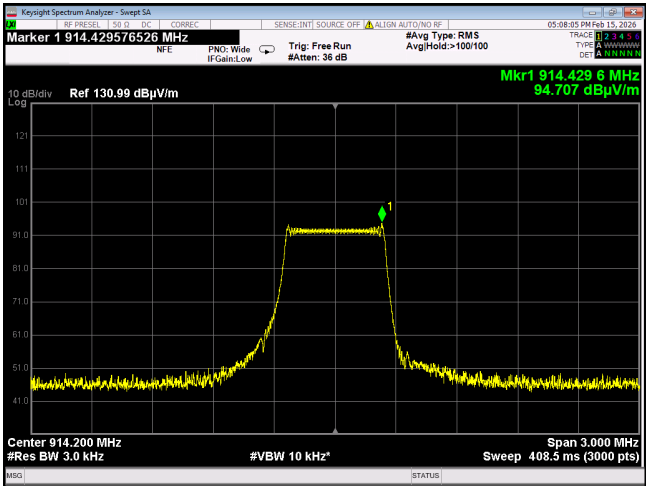
Test specification:		FCC section 15.247(e), Peak power density	
Test procedure:		Section 15.247(d)	
Test Date:		12-Feb-26 - 15-Feb-26	Verdict: PASS
Condition during the test:	Temperature: 23.7 °C	Air pressure: 1013 hPa	Relative humidity: 33 %
Remarks:			

Plot 7.5.3 Peak spectral power density at high frequency

Horizontal



Vertical



8. APPENDIX A. Test equipment and ancillaries used for tests

Code	Description	Manufacturer	Model	Serial no	Last calibration	Due calibration
6208	MXE EMI Receiver, 3Hz to 44.0 GHz	Keysight Technologies	N9038A	MY56400070	06-Mar-25	06-Mar-26
6573	Antenna Biconilog	Chase	CBL6141	4025	16-Jan-25	16-Jan-27
6574	Antenna, double ridged waveguide horn, 1.0 to 18.0 GHz	ARA Inc	DRG-118/A	17188	04-Nov-25	04-Nov-26
6665	Band Pass Filter	K&L Microwave Inc.	7L340-750/U3000-N/NP	1	23-Oct-25	23-Oct-27
6678	Low Noise Amplifier (LNA) 1-18 GHz	Spacek Labs	SL-1018-56-5	17J29	11-Mar-25	11-Mar-26
6679	Antenna, Loop, Active, 10 (9) kHz - 30 MHz	EMCO	6502	3424	18-Feb-25	16-Mar-26
6918	RF coaxial cable 3m, 26.5 GHz, SMA-m to SMA-m up to 26.5GHz	Huber-Suhner	Sucoflex 126E	110	16-Feb-25	16-Mar-26
6932	High Pass Filter, 1.2 to 15 GHz	Wainwright Instruments	WHKX10-1010-1200-15000-40EF	1	08-Jun-25	08-Jun-27
8120	RF cable, 18 GHz, 10 m, N-N	Huber+Suhner	Sucoflex 118	503311/118	08-May-25	08-May-26

* Software Version of Emission suite is Tile 7.4.2.5

9. APPENDIX B. Test facility description

Tests were performed at QualiTech – subdivision of Hermon Laboratories, which is a fully independent, private, EMC, Radio, Safety, and Environmental testing facility.

QualiTech is recognized and accredited by the Federal Communications Commission (USA) for relevant parts of Code of Federal Regulations 47 (CFR 47), Test Firm Registration Number is 488238, Designation Number is IL1006; Recognized by Innovation, Science and Economic Development Canada for wireless and terminal testing (ISED), CAB identifier is IL1006, ISED# number 4808A; Certified by VCCI, Japan (the registration numbers are C-13775, G-20167, R-13404, T-20046).

The laboratory is accredited by American Association for Laboratory Accreditation (USA) according to ISO/IEC 17025 for electromagnetic compatibility, product safety, telecommunications testing, environmental simulation and calibration (for exact scope please refer to Certificate No. 1633.01 and 1633.02).

Address: 43 Hasivim St., Petah-Tikva 4959388, Israel
Telephone: +972 4 626 8494
Fax: +972 4 628 8277
e-mail: mail@hermonlabs.com
website: www.hermonlabs.com

Person for contact: Mr. M. Nikishin, Head of Department, EMC and Radio

10. APPENDIX C Abbreviations and acronyms

A	ampere	LISN	line impedance stabilization network
AC	alternating current	m	meter
A/m	ampere per meter	ME	Medical electrical
AM	amplitude modulation	MHz	megahertz
ASSL	abnormal steady state limits	MIL	military
ATP	acceptance test procedure	mm	millimeter
AVRG	average (detector)	ms	millisecond
BB	broad band	μ F	microfarad
cm	centimeter	μ s	microsecond
dB	decibel	NA	not applicable
dBm	decibel referred to one milliwatt	NB	narrow band
dB(μ A)	decibel referred to one microampere	NP	normal performance
dB μ V	decibel referred to one microvolt	NSSL	normal steady state limits
dB μ V/m	decibel referred to one microvolt per meter	NT	not tested
DC	direct current	OATS	open area test site
EMI	electromagnetic interference	Ω	Ohm
EP	essential performance	QP	quasi-peak
ESS	environmental stress screening	PBIT	periodic built in test
ESSL	emergency steady state limits	PM	pulse modulation
EUT	equipment under test	PS	power supply
FTE	functional test equipment	RE	radiated emission
GHz	gigahertz	RF	radio frequency
GND	ground	rms	root mean square
H	height	s	second
HL	Hermon laboratories	STD	standard
Hz	hertz	TBD	to be defined
k	kilo	V	volt
kHz	kilohertz	VA	volt-ampere
kV	kilovolt	W	width
L	length	W	watt

11. APPENDIX D. Measurement Uncertainty

Expanded uncertainty at 95% confidence in Hermon Labs EMC measurements

Test Name	Range	Expanded U lab Uncertainty	U CISPR Uncertainty
Radiated Emission	30 MHz - 200 MHz, Horizontal Polarization	$\pm 4.20\text{dB}$	± 5.06
	30 MHz - 200 MHz, Vertical Polarization	$\pm 4.89\text{dB}$	± 5.17
	200 MHz - 1 GHz, Horizontal Polarization	$\pm 5.23\text{dB}$	± 5.34
	200 MHz - 1 GHz, Vertical Polarization	$\pm 6.29\text{dB}$	± 6.32
	1.0 GHz - 6.0 GHz	$\pm 5.11\text{dB}$	± 5.18
	6.0 GHz - 18.0 GHz	$\pm 5.17\text{dB}$	± 5.48
Conducted Emission-Mains	9 kHz - 150 kHz	$\pm 3.69\text{dB}$	± 3.83
	150 kHz - 30 MHz	$\pm 3.31\text{dB}$	± 3.44

Hermon Laboratories is accredited by A2LA for calibration according to present requirements of ISO/IEC 17025 and NCSL Z540-1. The accreditation is granted to perform calibration of parameters that are listed in the Scope of Hermon Laboratories Accreditation.

Hermon Laboratories calibrates its reference and transfer standards by calibration laboratories accredited to ISO/IEC 17025 by a mutually recognized Accreditation Body or by a recognized national metrology institute. All reference and transfer standards used in the calibration system are traceable to national or international standards.

In-house calibration of all test and measurement equipment is performed on a regular basis according to Hermon Laboratories calibration procedures, manufacturer calibration/verification procedures or procedures defined in the relevant standards. The Hermon Laboratories test and measurement equipment is calibrated within the tolerances specified by the manufacturers and/or by the relevant standards.

12. APPENDIX E. Specification references

FCC 47CFR part 15: 2022	Radio Frequency Devices
ANSI C63.10: 2013	American National Standard of Procedures for Compliance Testing of Unlicensed Wireless Devices
RSS-210 Issue 11	Licence-Exempt Radio Apparatus: Category I Equipment
RSS-247 Issue 4: 2025	Digital Transmission Systems (DTSs), Frequency Hopping Systems (FHSs) and Licence-Exempt Local Area Network (LE-LAN) Devices
RSS-Gen Issue 5 with_amendment_1_2: 2021	General Requirements and Information for the Certification of Radiocommunication Equipment
ANSI C63.4-2009	American National Standard for Methods of Measurement of Radio-Noise Emissions from Low-Voltage Electrical and Electronic Equipment in the Range of 9 kHz to 40 GHz.
ICES-003: 2020, Issue 7	Information Technology Equipment (Including Digital Apparatus)

END OF TEST REPORT