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ELECTRICAL TESTING
0839.01

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RADIATED EMISSIONS TEST REPORT

ACCORDING TO: FCC 47CFR part 27

FOR:

SuperCom LTD
PureBeacon
Model: PureBeacon3.0
P/N: PRF-PUREBEACON3.0
FCC ID: 2BAX3-PUREBEACON3
IC: 22778-PUREBEACON3

This report is in conformity with ISO/ IEC 17025. The "A2LA Accredited" symbol endorsement applies only to the tests and calibrations that are listed in the scope of Hermon Laboratories accreditation. The test results relate only to the items tested. This test report shall not be reproduced in any form except in full with the written approval of Hermon Laboratories Ltd.

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1 Applicant information

Manufacturer name:	SuperCom LTD
Address:	3 Rothschild St, Tel Aviv,6688106, Israel 6713412
Telephone:	+972-9-8890880
E-Mail:	Sanny.raviv@megger.com
Contact name:	Mr. Sanny Raviv

2 Equipment under test attributes

Product name:	PureBeacon
Product type:	Transceiver
Model(s):	PureBeacon3.0
Part number:	PRF-PUREBEACON3.0
Hardware version:	3.2
Software release:	1.0.0.34.40
Receipt date	06-Aug-24

3 Manufacturer information

Manufacturer name:	SuperCom LTD
Address:	3 Rothschild St, Tel Aviv,6688106, Israel 6713412
Telephone:	+972-9-8890880
E-Mail:	Sanny.raviv@megger.com
Contact name:	Mr. Sanny Raviv

4 Test details

Project ID:	54670
Location:	Hermon Laboratories Ltd. P.O. Box 23, Binyamina 3055001, Israel
Test conducted:	28-Aug-24
Test specification(s):	FCC 47CFR part 27

5 Tests summary

Test	Status
Transmitter characteristics	
Section 27.53(m)(2), Radiated out of band emission	Pass*

The relevant test was done to support operation of LTE radio module approved by FCC under FCC ID: RI7LE910CXWWX simultaneously transmitting with PureBeacon3.0 radio and submit Application for certification PureBeacon3.0 under FCC ID: 2BAX3-PUREBEACON3 following FCC 15.31(k) and FCC 2.947(f) requirements.

Testing was completed against all relevant requirements of the test standard. The results obtained indicate that the product under test complies in full with the requirements tested.
The test results relate only to the items tested. Pass/ fail decision was based on nominal values.

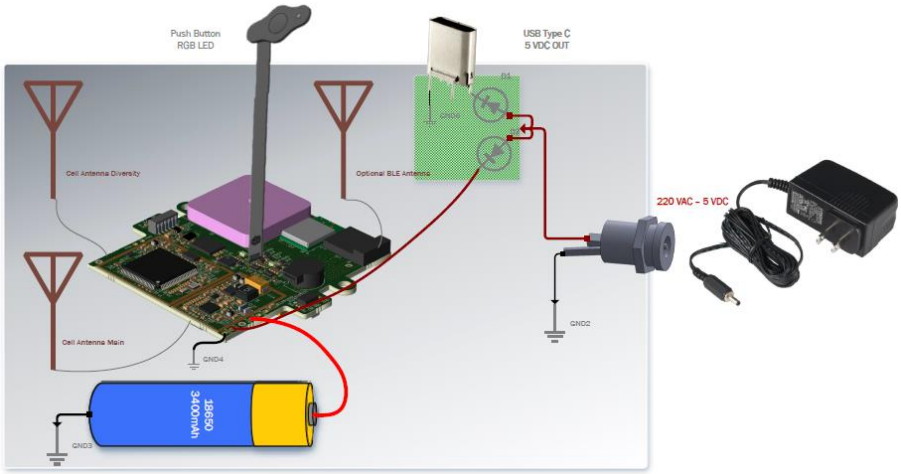
	Name and Title	**Date**	**Signature**
Tested by:	Mrs. N. Lenkina, test engineer, EMC & Radio	28-Aug-24	
Reviewed by:	Mrs. S. Peysahov Sheynin, certification specialist, EMC & Radio	25-Sep-24	
Approved by:	Mr. M. Nikishin, group leader, EMC & Radio	22-Oct-24	

6 EUT description

6.1 General information

The PureBeacon home unit is an optional accessory which enables indoor surveillance of Offenders when GPS is either not available or when the PureTrack/PureOne devices have low GPS signal reception. The PureBeacon communicates with the PureTrack/PureOne device to indicate that the Offender is currently in a pre-defined zone. The PureBeacon is AC powered and contains an internal battery backup capable of providing approximately 75 hours of operation. The AC/DC adapter manufactured by SuperCom, model PRF-QBEACON3.0-CR was used during the testing.
It incorporates a quick charging station for the PureOne's portable charger and contains an LED interface and physical Button Press for multiple added functionalities.

6.2 Test configuration



6.3 Changes made in the EUT

No changes were implemented in the EUT during testing.

Test specification:	**Section 27.53, Radiated spurious emissions**		
Test procedure:	47 CFR, Section 2.1053		
Test mode:	Compliance	**Verdict:**	PASS
Date(s):	30-Jul-23		
Temperature: 24 ºC	**Relative Humidity:** 48 %	**Air Pressure:** 1012 hPa	**Power:** 230 VAC, 50 Hz
Remarks:			

7 Transmitter tests according to 47CFR part 27

7.1 Radiated out of band emission measurements at BLE and LTE module simultaneous transmitting mode

7.1.1 General

This test was performed to measure radiated spurious emissions from the EUT. Specification test limits are given in Table 7.1.1.

Table 7.1.1 Radiated spurious emission test limits

Frequency, MHz	Attenuation below carrier, dBc	ERP of spurious, dBm	Equivalent field strength limit @ 3m, dB(µV/m)***
0.009 – 10th harmonic*	**43+10logP****	**-13**	**84.4**

* - Excluding the band emission
** - P is transmitter output power in Watts
*** - Equivalent field strength limit was calculated from maximum allowed ERP of spurious as follows:

$$E=sqrt(30\times P\times 1.64)/r,$$

where P is ERP in Watts, 1.64 is numeric gain of ideal dipole and r is antenna to EUT distance in meters

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

7.1.2.1 The EUT was set up as shown in Figure 7.1.1, energized and the performance check was conducted.

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

7.1.2.3 The worst test results (the lowest margins) were recorded in Table 7.1.2 and shown in the associated plots.

7.1.3 Test procedure for spurious emission field strength measurements above 30 MHz

7.1.3.1 The EUT was set up as shown in Figure 7.1.2, energized and the performance check was conducted.

7.1.3.2 The specified frequency range was investigated with antenna connected to spectrum analyzer. To find maximum radiation the turntable was rotated 360° and the measuring antenna height was swept from 1 to 4 m in both, vertical and horizontal, polarizations.

7.1.3.3 The worst test results (the lowest margins) were recorded in Table 7.1.2 and Table 7.1.3 and shown in the associated plots.

Test specification:	**Section 27.53, Radiated spurious emissions**		
Test procedure:	47 CFR, Section 2.1053		
Test mode:	Compliance	**Verdict:**	PASS
Date(s):	30-Jul-23		
Temperature: 24 ºC	**Relative Humidity:** 48 %	**Air Pressure:** 1012 hPa	**Power:** 230 VAC, 50 Hz
Remarks:			

Figure 7.1.1 Setup for spurious emission field strength measurements in 9 kHz to 30 MHz band

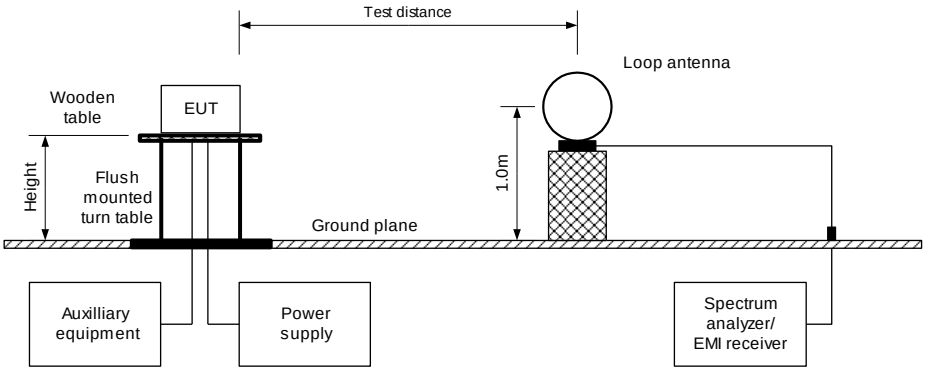
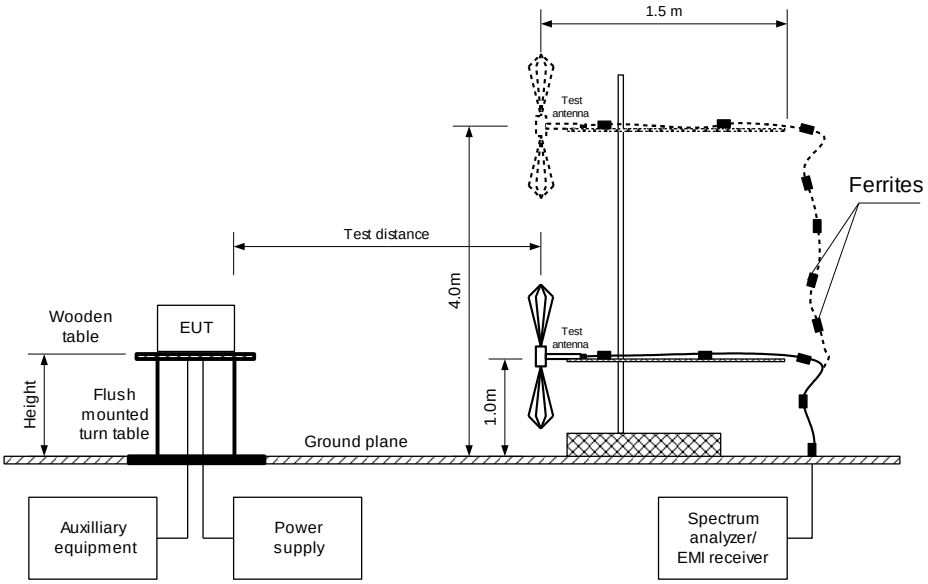
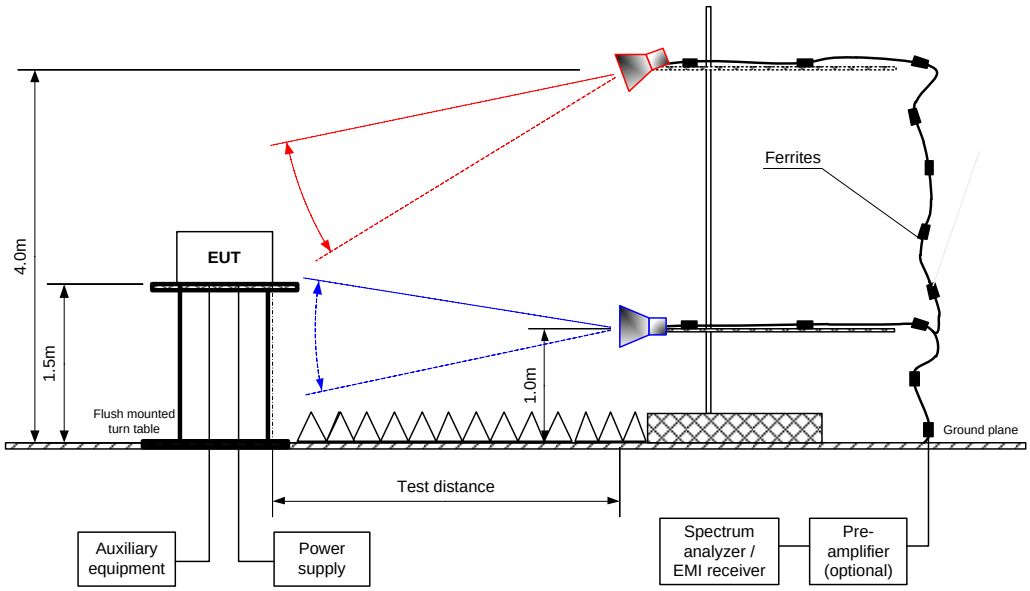


Figure 7.1.2 Setup for spurious emission field strength measurements above 30 MHz



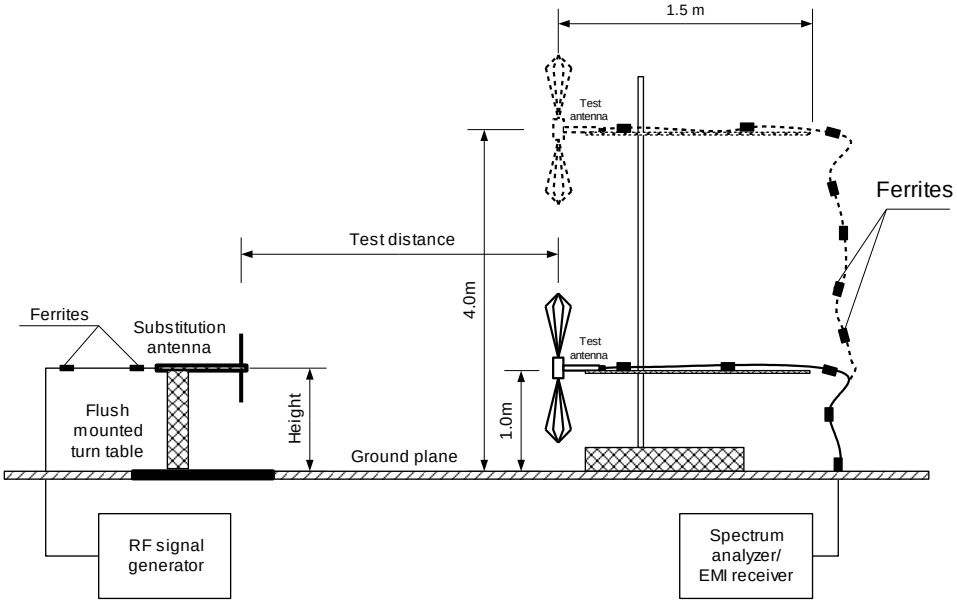
Test specification:	**Section 27.53, Radiated spurious emissions**		
Test procedure:	47 CFR, Section 2.1053		
Test mode:	Compliance	**Verdict:**	PASS
Date(s):	30-Jul-23		
Temperature: 24 ºC	**Relative Humidity:** 48 %	**Air Pressure:** 1012 hPa	**Power:** 230 VAC, 50 Hz
Remarks:			

Figure 7.1.3 Setup for spurious emission field strength measurements above1000 MHz



Test specification:	**Section 27.53, Radiated spurious emissions**		
Test procedure:	47 CFR, Section 2.1053		
Test mode:	Compliance	**Verdict:**	PASS
Date(s):	30-Jul-23		
Temperature: 24 ºC	**Relative Humidity:** 48 %	**Air Pressure:** 1012 hPa	**Power:** 230 VAC, 50 Hz
Remarks:			

Figure 7.1.4 Setup for substitution ERP measurements of spurious



Test specification:	**Section 27.53, Radiated spurious emissions**		
Test procedure:	47 CFR, Section 2.1053		
Test mode:	Compliance	**Verdict:**	PASS
Date(s):	30-Jul-23		
Temperature: 24 ºC	**Relative Humidity:** 48 %	**Air Pressure:** 1012 hPa	**Power:** 230 VAC, 50 Hz
Remarks:			

Table 7.1.2 Field strength of spurious emissions below 1 GHz

INVESTIGATED FREQUENCY RANGE:	0.009 – 1000 MHz
TEST DISTANCE:	3 m
MODULATION:	GFSK
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***				
With LTE LF (700 MHz)***								
Spurious not founded								Pass
With LTE MF (900 MHz)***								
Spurious not founded								Pass
With LTE HF (2100 MHz)***								
Spurious not founded								Pass

*****- Margin = Measured emission - specification limit.
******- EUT front panel refer to 0 degrees position of turntable.
***-The simultaneous operation was performed for 3 groups of LTE band under one worst case condition

Test specification:	**Section 27.53, Radiated spurious emissions**		
Test procedure:	47 CFR, Section 2.1053		
Test mode:	Compliance	**Verdict:**	PASS
Date(s):	30-Jul-23		
Temperature: 24 ºC	**Relative Humidity:** 48 %	**Air Pressure:** 1012 hPa	**Power:** 230 VAC, 50 Hz
Remarks:			

Table 7.1.3 Spurious emission field strength test results

TEST DISTANCE: 3 m
TEST SITE: Semi anechoic chamber
INVESTIGATED FREQUENCY RANGE: 1000 – 25000 MHz
DETECTOR USED: Peak
RESOLUTION BANDWIDTH: 1000 kHz
VIDEO BANDWIDTH: > Resolution bandwidth
TEST ANTENNA TYPE: Double ridged guide
MODULATION: GFSK
DUTY CYCLE: 100 %
TRANSMITTER OUTPUT POWER SETTINGS: Maximum

Frequency, MHz	Antenna		Azimuth, degrees	Peak field strength)			Average field strength				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**	
With LTE LF (700 MHz)**											
No emissions were found											
With LTE MF (900 MHz)**											
No emissions were found											
With LTE HF (2100 MHz)**											
3898.4432	Horizontal	1.5	-170	81.69	84.40	-2.71	N/A	N/A	N/A	N/A	Pass

*****- Margin = Field strength of spurious – calculated field strength limit.
**-The simultaneous operation was performed for 3 groups of LTE band under one worst case condition

Table 7.1.4 ERP of spurious emissions test results

TEST SITE: Semi anechoic chamber
TEST DISTANCE: 3 m
SUBSTITUTION ANTENNA HEIGHT: 1.5 m
TEST ANTENNA HEIGHTS RANGE: 1.0 – 4.0 m
DETECTOR USED: Peak
RESOLUTION BANDWIDTH: 1000 kHz
VIDEO BANDWIDTH: 3000 kHz
SUBSTITUTION ANTENNA TYPE: Double ridged guide (above 1000 MHz)

Frequency, MHz	Field strength, dB(µV/m)	RBW, kHz	Antenna polarization	RF generator output, dBm	Ant gain, dBi	Cable loss, dB	Spurious emission, dBm	Limit, dBm	Margin, dB*	Verdict
With LTE HF(2100 MHz)**										
3898.4432	81.69	1000	Horizontal	-20.39	9.043	2.08	-13.43	-13.00	-0.43	Pass

*****- Margin = Field strength of spurious – calculated field strength limit.

**-The simultaneous operation was performed for 3 groups of LTE band under one worst case condition

Reference numbers of test equipment used

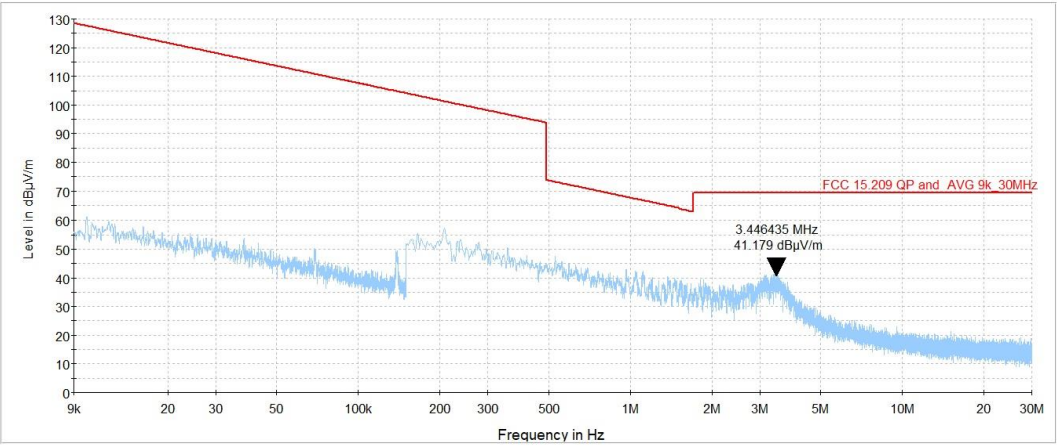
HL 5288	HL 0446	HL 4956	HL 3903	HL 5902	HL 7585	HL 5112	HL 4933
HL 4339	HL 4917	HL 5673	HL 4114	HL 5942			

Full description is given in Appendix A.

Test specification:	**Section 27.53, Radiated spurious emissions**		
Test procedure:	47 CFR, Section 2.1053		
Test mode:	Compliance	**Verdict:**	PASS
Date(s):	30-Jul-23		
Temperature: 24 ºC	**Relative Humidity:** 48 %	**Air Pressure:** 1012 hPa	**Power:** 230 VAC, 50 Hz
Remarks:			

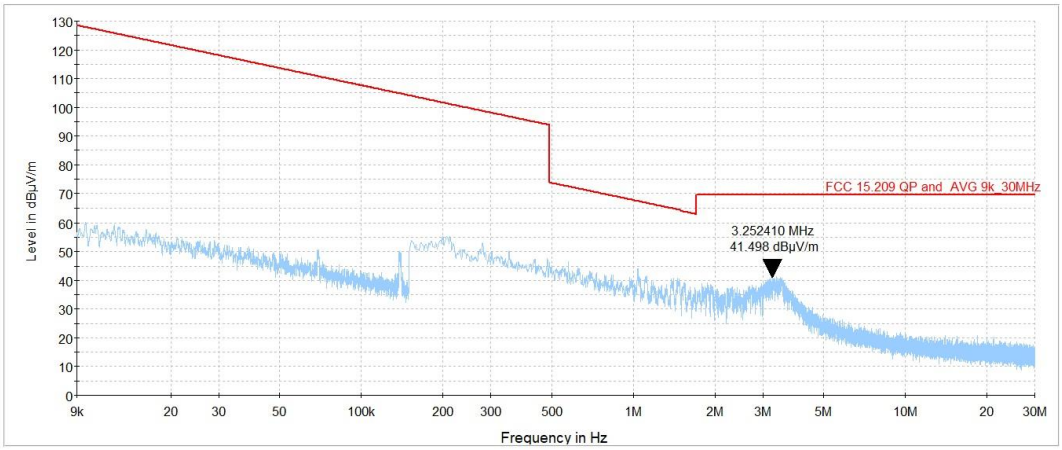
Plot 7.1.1 Radiated emission measurements from 9 kHz to 30 MHz with LTE LF

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



Plot 7.1.2 Radiated emission measurements from 9 kHz to 30 MHz with LTE MF

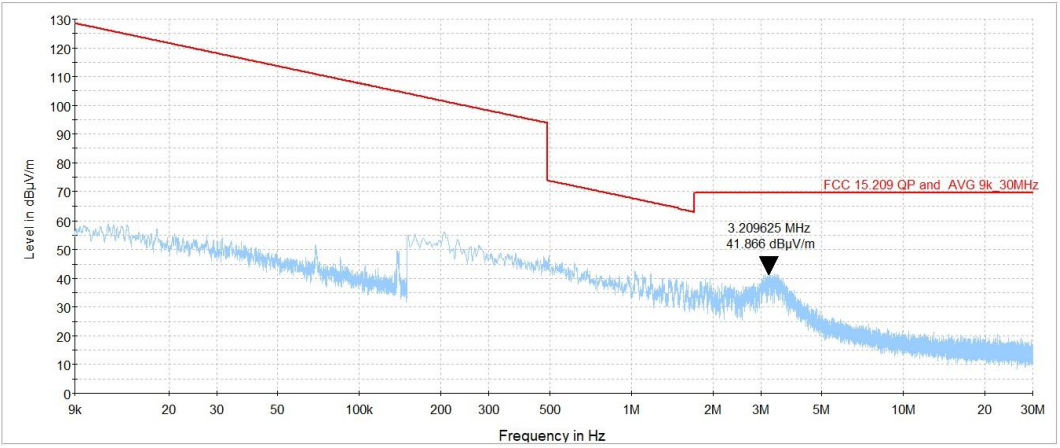
TEST SITE: Semi anechoic chamber
TEST DISTANCE: 3 m
ANTENNA POLARIZATION: Vertical



Test specification:	**Section 27.53, Radiated spurious emissions**		
Test procedure:	47 CFR, Section 2.1053		
Test mode:	Compliance	**Verdict:**	PASS
Date(s):	30-Jul-23		
Temperature: 24 ºC	**Relative Humidity:** 48 %	**Air Pressure:** 1012 hPa	**Power:** 230 VAC, 50 Hz
Remarks:			

Plot 7.1.3 Radiated emission measurements from 9 kHz to 30 MHz with LTE HF

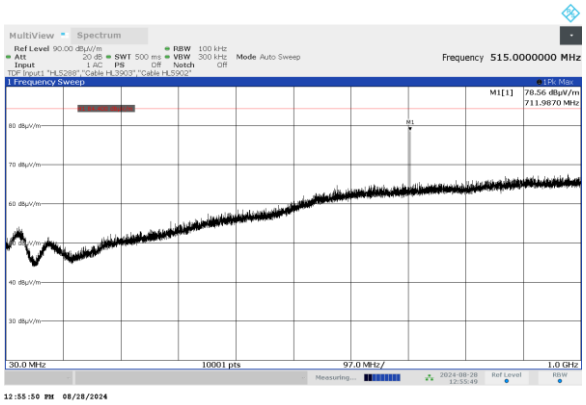
TEST SITE: Semi anechoic chamber
TEST DISTANCE: 3 m
ANTENNA POLARIZATION: Vertical

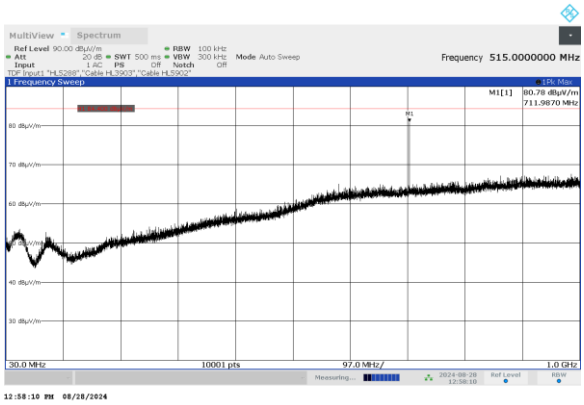


Test specification:	**Section 27.53, Radiated spurious emissions**		
Test procedure:	47 CFR, Section 2.1053		
Test mode:	Compliance	**Verdict:**	PASS
Date(s):	30-Jul-23		
Temperature: 24 ºC	**Relative Humidity:** 48 %	**Air Pressure:** 1012 hPa	**Power:** 230 VAC, 50 Hz
Remarks:			

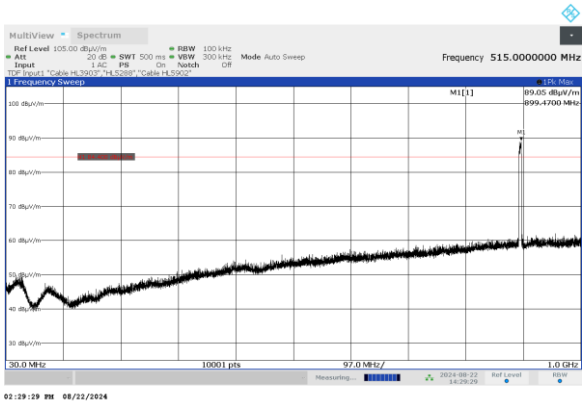
Plot 7.1.4 Radiated emission measurements from 30 to 1000 MHz with LTE LF

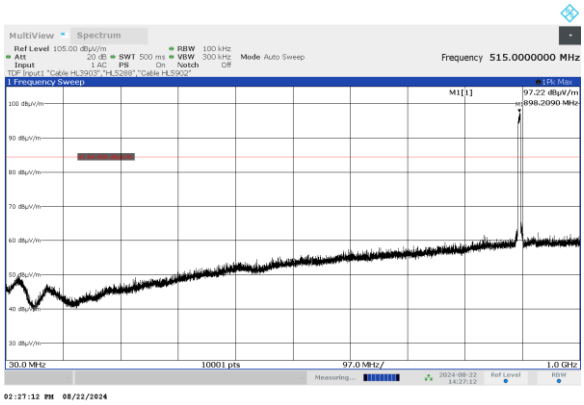
TEST SITE: Semi anechoic chamber
TEST DISTANCE: 3 m
ANTENNA POLARIZATION: Vertical and Horizontal





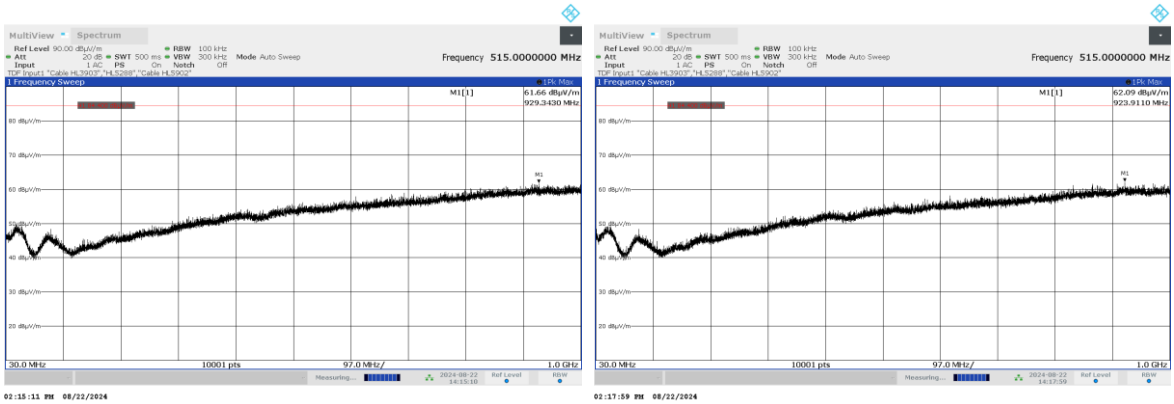
Plot 7.1.5 Radiated emission measurements from 30 to 1000 MHz with LTE MF





Test specification:	**Section 27.53, Radiated spurious emissions**		
Test procedure:	47 CFR, Section 2.1053		
Test mode:	Compliance	**Verdict:**	PASS
Date(s):	30-Jul-23		
Temperature: 24 ºC	**Relative Humidity:** 48 %	**Air Pressure:** 1012 hPa	**Power:** 230 VAC, 50 Hz
Remarks:			

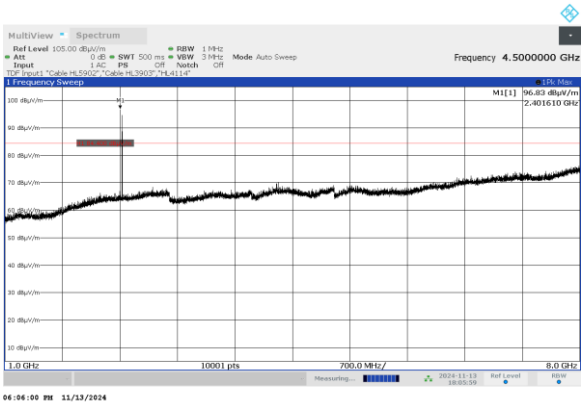
Plot 7.1.6 Radiated emission measurements from 30 to 1000 MHz with LTE HF

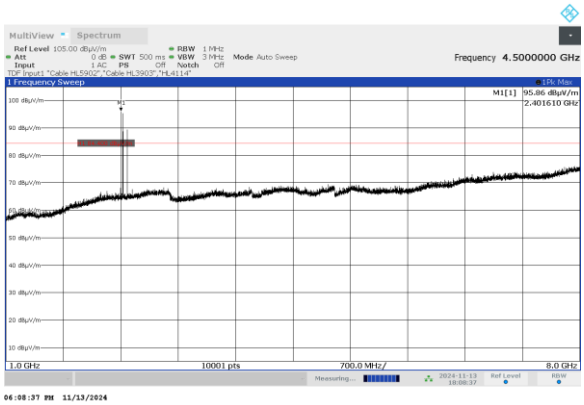


Test specification:	**Section 27.53, Radiated spurious emissions**		
Test procedure:	47 CFR, Section 2.1053		
Test mode:	Compliance	**Verdict:**	PASS
Date(s):	30-Jul-23		
Temperature: 24 ºC	**Relative Humidity:** 48 %	**Air Pressure:** 1012 hPa	**Power:** 230 VAC, 50 Hz
Remarks:			

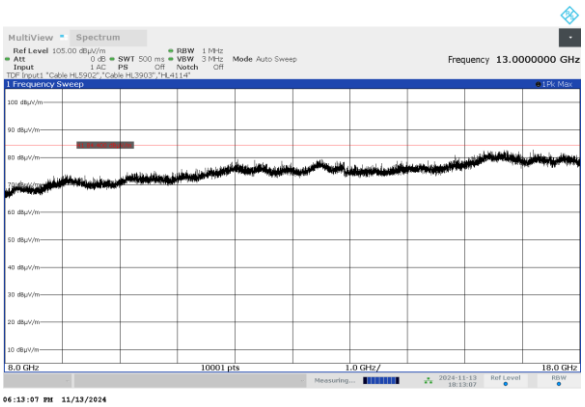
Plot 7.1.7 Radiated emission measurements from 1000 to 18000 MHz with LTE LF

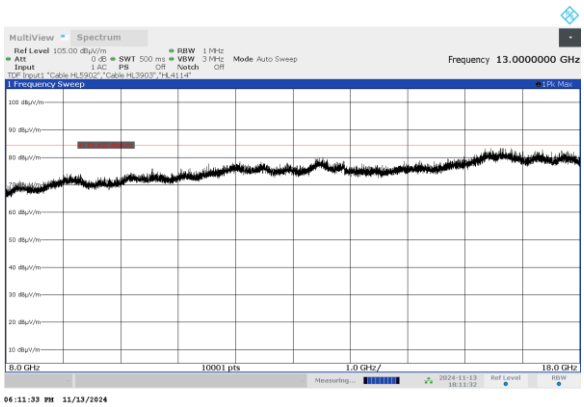
TEST SITE: Semi anechoic chamber
TEST DISTANCE: 3 m
ANTENNA POLARIZATION: Vertical and Horizontal



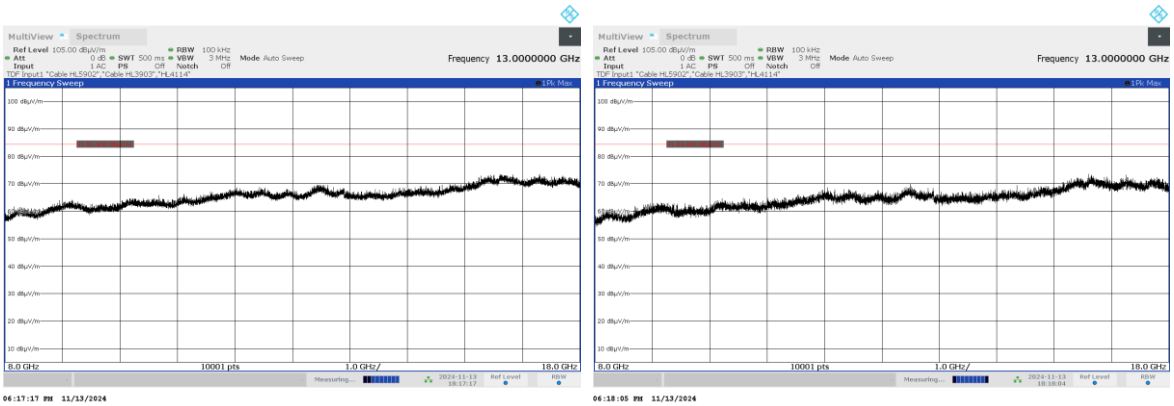


The markers are BLE carriers



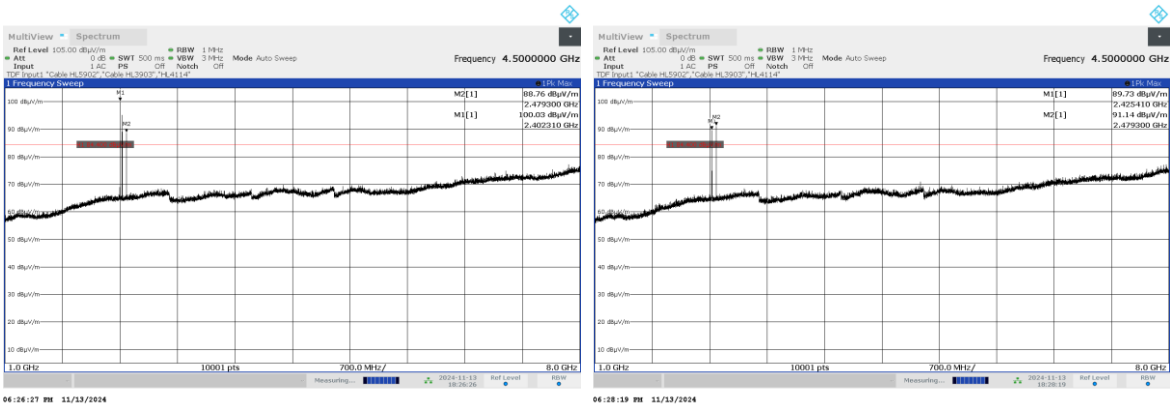


Test specification:	**Section 27.53, Radiated spurious emissions**		
Test procedure:	47 CFR, Section 2.1053		
Test mode:	Compliance	**Verdict:**	PASS
Date(s):	30-Jul-23		
Temperature: 24 ºC	**Relative Humidity:** 48 %	**Air Pressure:** 1012 hPa	**Power:** 230 VAC, 50 Hz
Remarks:			

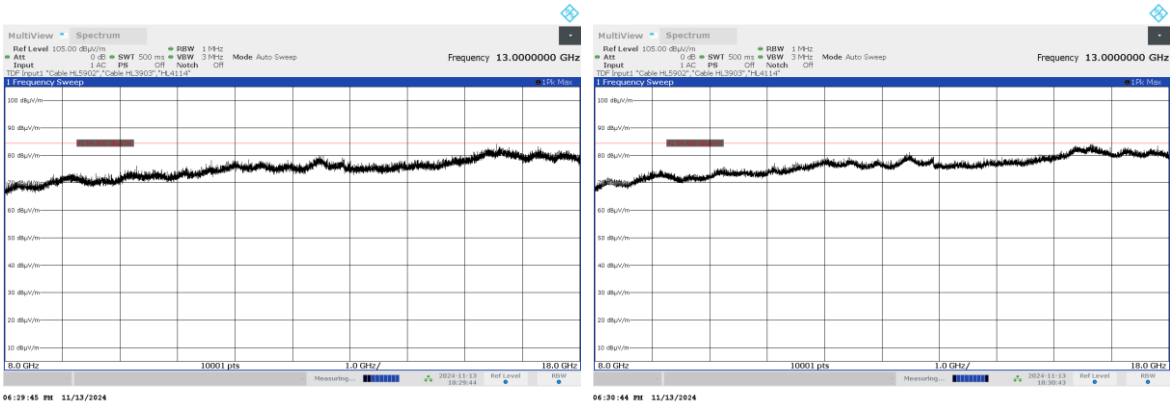


Plot 7.1.8 Radiated emission measurements from 1000 to 18000 MHz with LTE MF

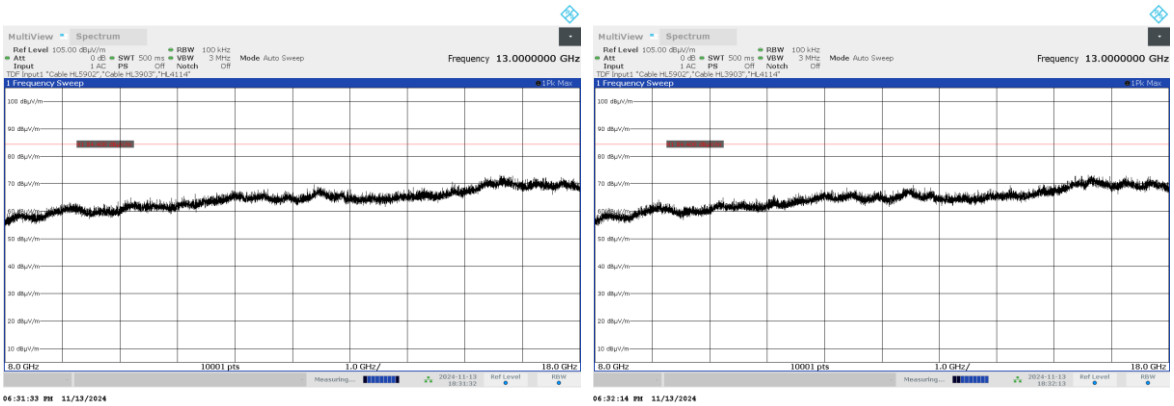
TEST SITE: Semi anechoic chamber
TEST DISTANCE: 3 m
ANTENNA POLARIZATION: Vertical and Horizontal



The markers are BLE carriers

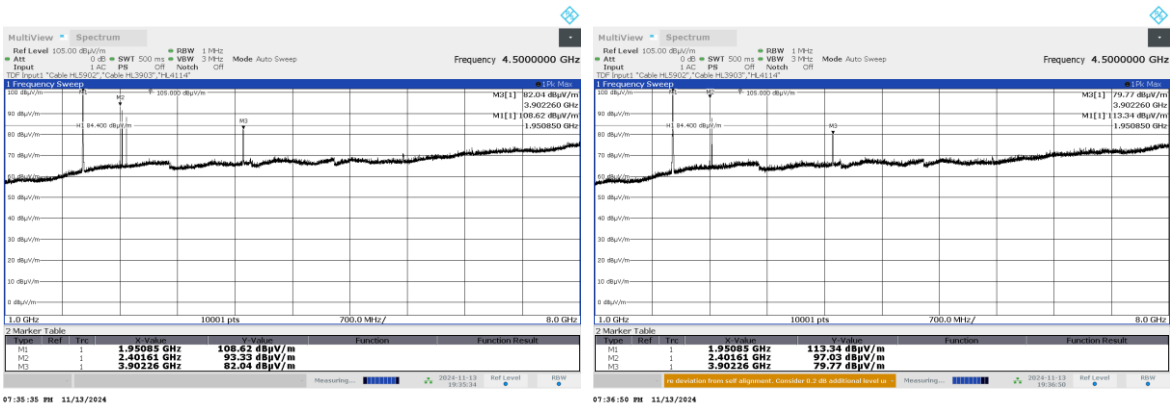


Test specification:	**Section 27.53, Radiated spurious emissions**		
Test procedure:	47 CFR, Section 2.1053		
Test mode:	Compliance	**Verdict:**	PASS
Date(s):	30-Jul-23		
Temperature: 24 ºC	**Relative Humidity:** 48 %	**Air Pressure:** 1012 hPa	**Power:** 230 VAC, 50 Hz
Remarks:			

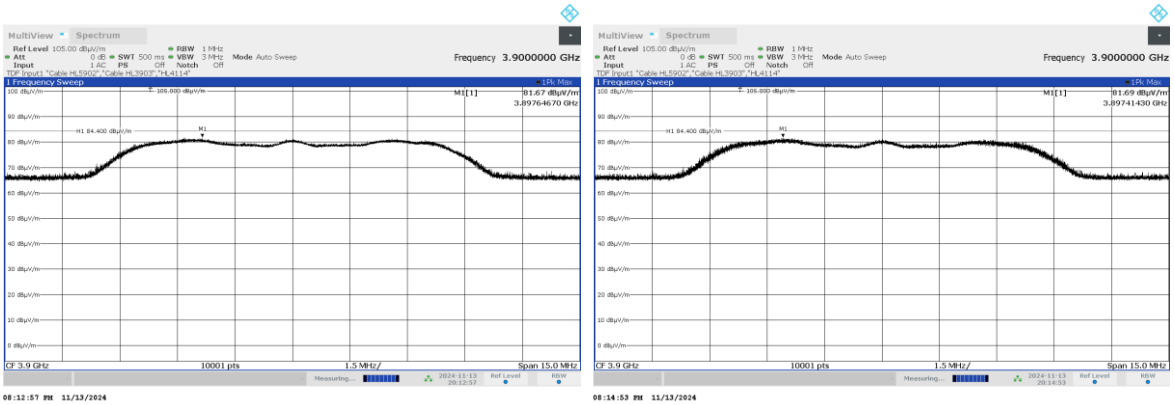


Plot 7.1.9 Radiated emission measurements from 1000 to 18000 MHz with LTE HF

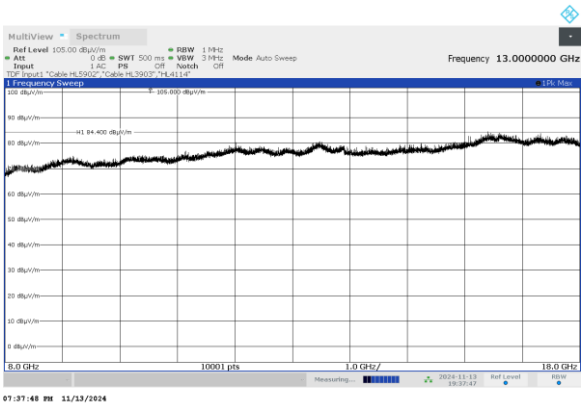
TEST SITE: Semi anechoic chamber
TEST DISTANCE: 3 m
ANTENNA POLARIZATION: Vertical and Horizontal

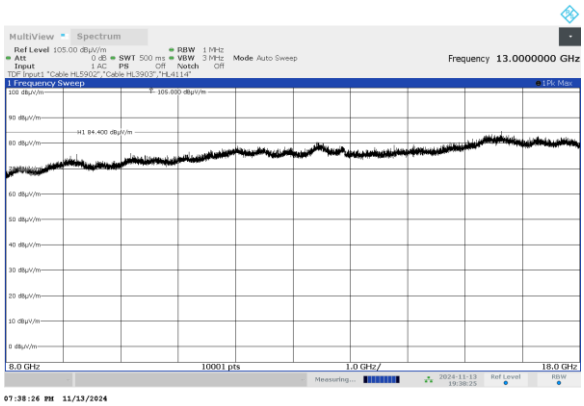


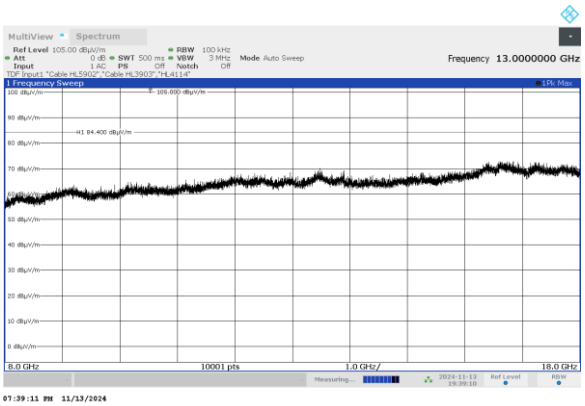
The markers are BLE and LTE 2100 MHz carriers

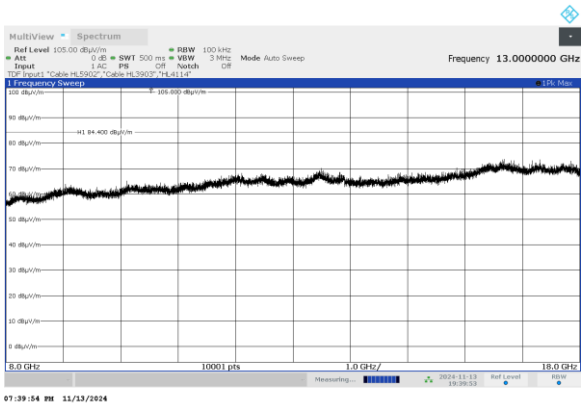


Test specification:	**Section 27.53, Radiated spurious emissions**		
Test procedure:	47 CFR, Section 2.1053		
Test mode:	Compliance	**Verdict:**	PASS
Date(s):	30-Jul-23		
Temperature: 24 ºC	**Relative Humidity:** 48 %	**Air Pressure:** 1012 hPa	**Power:** 230 VAC, 50 Hz
Remarks:			



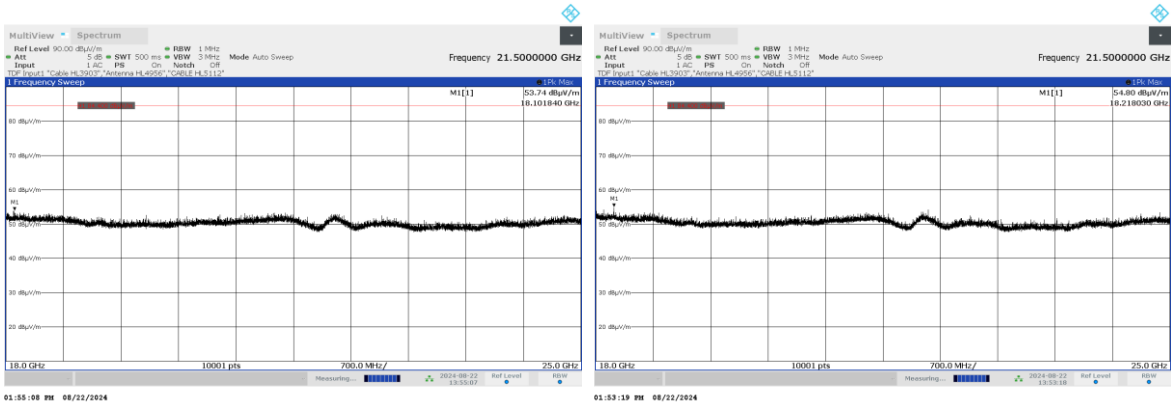




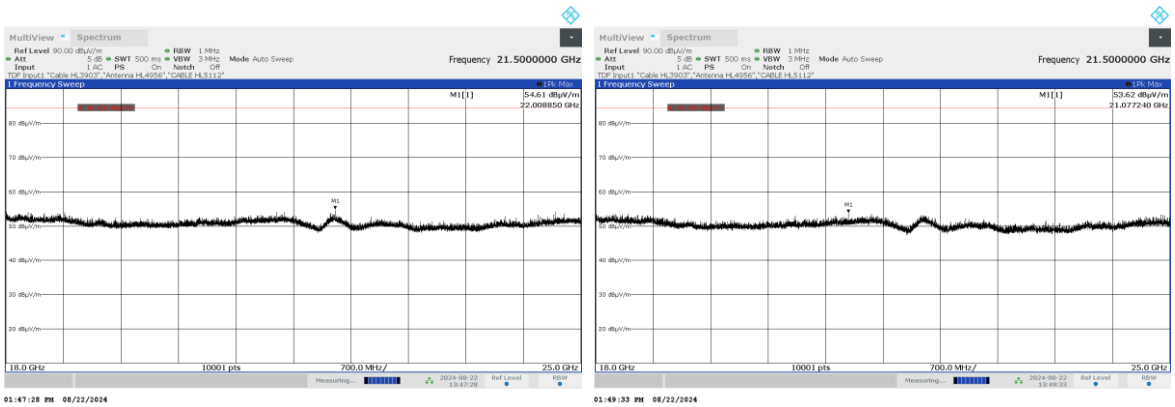


Test specification:	**Section 27.53, Radiated spurious emissions**		
Test procedure:	47 CFR, Section 2.1053		
Test mode:	Compliance	**Verdict:**	PASS
Date(s):	30-Jul-23		
Temperature: 24 ºC	**Relative Humidity:** 48 %	**Air Pressure:** 1012 hPa	**Power:** 230 VAC, 50 Hz
Remarks:			

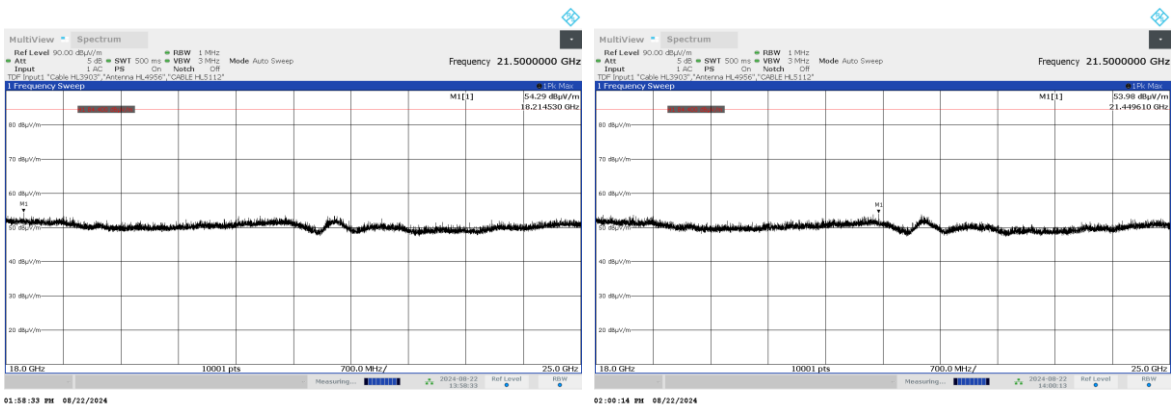
Plot 7.1.10 Radiated emission measurements from 18000 to 25000 MHz with LTE LF



Plot 7.1.11 Radiated emission measurements from 18000 to 25000 MHz with LTE MF



Plot 7.1.12 Radiated emission measurements from 18000 to 25000 MHz with LTE HF



8 APPENDIX A Test equipment and ancillaries used for tests

HL No	Description	Manufacturer	Model	Ser. No.	Last Cal./ Check	Due Cal./ Check
0446	Antenna, Loop, Active, 10 (9) kHz - 30 MHz	EMCO	6502	2857	29-Feb-24	28-Feb-25
3903	Microwave Cable Assembly, 40.0 GHz, 1.5 m, SMA/SMA	Huber-Suhner	SUCOFLEX 102A	1226/2A	06-May-24	06-May-25
4114	Antenna, Double-Ridged Waveguide Horn, 1 to 18 GHz	ETS Lindgren	3117	00123515	08-Nov-23	08-Nov-24
4338	Reject Band Filter, 50 Ohm, 0 to 2170 and 3000 to 18000 MHz,SMA-FM / SMA-M	Micro-Tronics	BRM 50702-02	023	10-Jul-24	10-Jul-26
4339	High pass Filter, 50 Ohm, 1000 to 18000 MHz, SMA-FM / SMA-M	Micro-Tronics	HPM50115-02	001	21-Jun-23	21-Jun-25
4917	High Pass Filter, 50 Ohm, 3150 to 6500 MHz, SMA-FM / SMA-M	Mini-Circuits	VHF-2700+	NA	22-Jun-23	22-Jun-25
4933	Active Horn Antenna, 1 GHz to 18 GHz	COM-POWER CORPORATION	AHA-118	701046	20-Feb-24	20-Feb-25
4956	Active horn antenna, 18 to 40 GHz	COM-POWER CORPORATION	AHA-840	105004	03-Mar-24	03-Mar-25
5112	RF cable, 40 GHz, 5.5 m, K-type	Huber-Suhner	SF102EA/11SK/11SK/5500MM	502494/2EA	02-Jun-24	02-Jun-25
5288	Trilog Antenna, 25 MHz - 8 GHz, 100W	Frankonia	ALX-8000E	00809	24-Mar-22	24-Mar-25
5601	Precision Fixed Attenuator, 50 Ohm, 5 W, 10 dB, DC to 18000 MHz	Mini Circuits	BW-N10W5+	NA	14-Aug-24	14-Aug-25
5622	Precision Fixed Attenuator, 50 Ohm, 5 W, 20 dB, DC to 18 GHz	Mini Circuits	BW-N20W5+	NA	14-Aug-24	14-Aug-25
5673	Cable SF126EA/11N(x2)/2M, 18GHz	Huber-Suhner	SF126EA	506756/126EA	19-May-24	19-May-25
5902	RF cable, 18 GHz, 6.0m, N-type	Huber-Suhner	SF126EA/11N/11N/6000	NA	19-Nov-23	19-Nov-24
5942	Signal Generator, 8.0 kHz to 6.0 GHz	Rohde & Schwarz	SMB-100B	102327	14-Jan-24	14-Jan-25
7585	EMI Test Receiver, 1 Hz to 44 GHz	Rohde & Schwarz	ESW44	103130	21-Sep-23	21-Sep-24

9 APPENDIX B Test equipment correction factors

HL 5288: Trilog Antenna
Frankonia, model: ALX-8000E, s/n: 00809
30-1000 MHz

Frequency, MHz	Antenna factor, dB/m	Frequency, MHz	Antenna factor, dB/m
30	14.96	160	12.67
35	15.33	180	13.34
40	16.37	200	15.40
45	17.56	250	16.42
50	17.95	300	17.28
60	16.87	400	19.98
70	13.22	500	21.11
80	10.56	600	22.90
90	13.61	700	24.13
100	15.46	800	25.25
120	14.03	900	26.35
140	12.23	1000	27.18

The antenna factor shall be added to receiver reading in dBμV to obtain field strength in dBμV/m.

above 1000 MHz

Frequency, MHz	Antenna factor, dB/m	Frequency, MHz	Antenna factor, dB/m
1000	26.9	3600	38.9
1100	28.1	3700	39.4
1200	28.4	3800	39.4
1300	29.6	3900	39.6
1400	29.1	4000	39.7
1500	30.4	4100	39.8
1600	30.7	4200	40.5
1700	31.5	4300	40.9
1800	32.3	4400	41.1
1900	32.6	4500	41.4
2000	32.5	4600	41.3
2100	32.9	4700	41.6
2200	33.5	4800	41.9
2300	33.2	4900	42.3
2400	33.7	5000	42.7
2500	34.6	5100	43.0
2600	34.7	5200	42.9
2700	34.6	5300	43.5
2800	35.0	5400	43.6
2900	35.5	5500	44.3
3000	36.2	5600	44.7
3100	36.8	5700	45.0
3200	36.8	5800	45.0
3300	37.0	5900	45.3
3400	37.5	6000	45.9
3500	38.2		

The antenna factor shall be added to receiver reading in dBμV to obtain field strength in dBμV/m.

HL 0446: Active Loop Antenna
EMCO, model: 6502, s/n 2857

Frequency,	Measured antenna factor, dBS/m	Measurement uncertainty, dB
10	-33.4	±1.0
20	-37.8	±1.0
50	-40.5	±1.0
75	-41.0	±1.0
100	-41.2	±1.0
150	-41.2	±1.0
250	-41.1	±1.0
500	-41.2	±1.0
750	-41.3	±1.0
1000	-41.3	±1.0

Frequency,	Measured antenna factor, dBS/m	Measurement uncertainty, dB
2000	-41.4	±1.0
3000	-41.4	±1.0
4000	-41.5	±1.0
5000	-41.5	±1.0
10000	-41.7	±1.0
15000	-42.1	±1.0
20000	-42.7	±1.0
25000	-44.2	±1.0
30000	-45.8	±1.0

The antenna factor shall be added to receiver reading in dBμV to obtain field strength in dBμA/m.

HL 4933: Active Horn Antenna
COM-POWER CORPORATION, model: AHA-118, s/n 701046

Frequency, MHz	Measured antenna factor (with preamplifier), dB/m
1000	-16.1
1500	-15.1
2000	-10.9
2500	-11.9
3000	-11.1
3500	-10.6
4000	-8.6
4500	-8.3
5000	-5.9
5500	-5.7
6000	-3.3
6500	-4.0
7000	-2.2
7500	-1.7
8000	1.1
8500	-0.8
9000	-1.5
9500	-0.2

Frequency, MHz	Measured antenna factor (with preamplifier), dB/m
10000	1.8
10500	1.0
11000	0.3
11500	-0.5
12000	3.1
12500	1.4
13000	-0.3
13500	-0.4
14000	2.5
14500	2.2
15000	1.9
15500	0.5
16000	2.1
16500	1.2
17000	0.6
17500	3.1
18000	4.2

The antenna factor shall be added to receiver reading in dBμV to obtain field strength in dBμV/m.

10 APPENDIX C Measurement uncertainties

Expanded uncertainty at 95% confidence in Hermon Labs EMC measurements

Test description	Expanded uncertainty
Transmitter tests	
Spurious emissions radiated 30 MHz – 40 GHz (substitution method)	± 4.5 dB

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.

11 APPENDIX D Test laboratory description

Tests were performed at Hermon Laboratories Ltd., which is a fully independent, private, EMC, Radio, Safety, Environmental and Telecommunication testing facility.
Hermon Laboratories 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 927748, Designation Number is IL1001; Recognized by Innovation, Science and Economic Development Canada for wireless and terminal testing (ISED), ISED #2186A, CAB identifier is IL1001; Certified by VCCI, Japan (the registration numbers are R-10808 for OATS, R-1082 for anechoic chamber, G-10869 for RE measurements above 1 GHz, C-10845 for conducted emissions site and T-11606 for conducted emissions at telecommunication ports).
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. 839.01, 839.03 and 839.04).

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Person for contact: Mr. Michael Nikishin, EMC&Radio group manager

12 APPENDIX E Specification references

47CFR part 27: 2022	Private land mobile radio services
47CFR part 2: 2023	Frequency allocations and radio treaty matters; general rules and regulations
ANSI/TIA/EIA-603-E:2016	Land Mobile FM or PM Communications Equipment Measurement and Performance Standards

13 APPENDIX F Abbreviations and acronyms

A	ampere
AC	alternating current
A/m	ampere per meter
AM	amplitude modulation
AVRG	average (detector)
BB	broad band
cm	centimeter
dB	decibel
dBm	decibel referred to one milliwatt
dB(μV)	decibel referred to one microvolt
dB(μV/m)	decibel referred to one microvolt per meter
dB(μA)	decibel referred to one microampere
dBΩ	decibel referred to one Ohm
DC	direct current
EIRP	equivalent isotropically radiated power
ERP	effective radiated power
EUT	equipment under test
F	frequency
GHz	gigahertz
GND	ground
H	height
HL	Hermon laboratories
Hz	hertz
ITE	information technology equipment
k	kilo
kHz	kilohertz
LISN	line impedance stabilization network
LO	local oscillator
m	meter
MHz	megahertz
min	minute
mm	millimeter
ms	millisecond
μs	microsecond
NA	not applicable
NB	narrow band
NT	not tested
OATS	open area test site
Ω	Ohm
QP	quasi-peak
PM	pulse modulation
PS	power supply
RE	radiated emission
RF	radio frequency
rms	root mean square
Rx	receive
s	second
T	temperature
Tx	transmit
V	volt
VA	volt-ampere

END OF DOCUMENT