

FCC/ISED Test Report

Prepared for: SEMEQ

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Product: SMQ990-C

FCC ID: 2BSOL-SMQ990
IC ID: 34822-SMQ990
HVIN: SMQ990

Test Report No: R20250623-81-E3

Approved by: 
Blake Winter
EMC Test Engineer
iNARTE #EMC-50662-E

DATE: February 18, 2026

Total Pages: 39

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REVISION PAGE

Rev. No.	Date	Description
0	18 February 2026	Approved by BWinter Reviewed by FLane Prepared by BWinter

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1.0 SUMMARY OF TEST RESULTS

The worst-case measurements were reported in this report. Summary of test results presented in this report corresponds to the following section:

FCC Part 15.247 RSS-247 Issue 4

The EUT has been tested according to the following specifications:

- (1) US Code of Federal Regulations, Title 47, Part 15
- (2) ISED RSS-Gen, Issue 5
- (3) ISED RSS-247, Issue 4

APPLIED STANDARDS AND REGULATIONS		
Standard Section	Test Type	Result
FCC Part 15.35 RSS Gen, Issue 5, Section 6.10	Duty Cycle	NA
FCC Part 15.247(b)(3) RSS-247 Issue 4 Section 6.3.2	Peak output power	Pass
FCC Part 15.247(a)(2) RSS-247 Issue 4 Section 6.3.1(a)	Bandwidth	Pass
FCC Part 15.209 RSS-Gen Issue 5, Section 7.3	Receiver Radiated Emissions	Pass
FCC Part 15.209 (restricted bands), 15.247 (unrestricted) RSS-247 Issue 4 Section 6.6, RSS-Gen Issue 5, Section 8.9	Transmitter Radiated Emissions	Pass
FCC Part 15.247(e) RSS-247 Issue 4 Section 6.3.1(b)	Power Spectral Density	Pass
FCC Part 15.209, 15.247(d) RSS-247 Issue 4 Section 6.6	Band Edge Measurement	Pass
FCC Part 15.207 RSS-Gen Issue 5, Section 8.8	Conducted Emissions	Pass
KDB996369 D04	Module Integration	Pass



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2.0 EUT DESCRIPTION

2.1 EQUIPMENT UNDER TEST

Summary and Operating Condition:

Manufacturer	SEMEQ
EUT	SMQ990-C
FCC ID	2BSOL-SMQ990
IC ID	34822-SMQ990
Cell Module Manufacturer and FCC ID	Quectel Wireless Solutions Co., Ltd. XMR201903EG25G
EUT Tested	4 August 2025 - 21 January 2026
Serial No.	8380 (BLE and module integration)
Operating Band	2400 – 2483.5 MHz
Device Type	BLE
Power Supply / Voltage	120VAC, 60Hz

NOTE: For more detailed features description, please refer to the manufacturer's specifications or user's manual.

2.2 DESCRIPTION OF TEST MODES

The operating range of the EUT is dependent on the device type found in section 2.1:

Mode	BW	Channel	Frequency (MHz)
BLE	1MHz	1	2402
BLE	1MHz	19	2440
BLE	1MHz	39	2480

These are the only representative channels tested in the frequency range according to FCC Part 15.31. See the operational description for a list of all channel frequencies and designations.

2.3 DESCRIPTION OF SUPPORT UNITS

None

3.0 LABORATORY AND GENERAL TEST DESCRIPTION

3.1 LABORATORY DESCRIPTION

All testing was performed at the following Facility:

The Nebraska Center for Excellence in Electronics (NCEE Labs)
4740 Discovery Drive
Lincoln, NE 68521

A2LA Certificate Number: 1953.01
FCC Accredited Test Site Designation No: US1060
Industry Canada Test Site Registration No: 4294A
NCC CAB Identification No: US0177
FCC Lab Registration No: 134067

Environmental conditions varied slightly throughout the tests.



3.2 TEST PERSONNEL

No.	PERSONNEL	TITLE	ROLE
1	Fox Lane	Test Engineer	Review
2	Blake Winter	Test Engineer	Testing and Report

Notes:

All personnel are permanent staff members of NCEE Labs. No testing or review was sub-contracted or performed by sub-contracted personnel.

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3.3 TEST EQUIPMENT

DESCRIPTION AND MANUFACTURER	MODEL NO.	SERIAL NO.	LAST CALIBRATION DATE	CALIBRATION DUE DATE
Keysight MXE Signal Analyzer (26.5GHz)	N9010A	MY56070862	July 14, 2025	July 14, 2027
Keysight MXE Signal Analyzer (26.5GHz)	N9038A	MY56400083	July 15, 2025	July 15, 2027
SunAR RF Motion	JB1	A082918-1	July 22, 2025	July 22, 2027
ETS EMCO Red Horn Antenna	3117	0029616	May 16, 2024	May 16, 2026
Com-Power LISN, Single Phase	LI-220C	20070017	July 15, 2025	July 15, 2027
ETS EMCO Amplifier*	3115-PA	00218576	July 28, 2025	July 28, 2027
Agilent 87405A Preamplifier*	87405A	3207A01838	July 18, 2025	July 18, 2027
Trilithic High Pass Filter*	6HC330	23042	July 18, 2025	July 18, 2027
ETS – Lindgren- VSWR on 10m Chamber*	10m Semi-anechoic chamber-VSWR	4740 Discovery Drive	July 3, 2025	July 3, 2027
NCEE Labs-NSA on 10m Chamber*	10m Semi-anechoic chamber-NSA	NCEE-001	August 29, 2025	August 29, 2027
TDK Emissions Lab Software	V11.25	700307	NA	NA
RF Cable (preamplifier to antenna)*	MFR-57500	01-07-002	July 18, 2025	July 18, 2027
RF Cable (antenna to 10m chamber bulkhead)*	FSCM 64639	01E3872	July 18, 2025	July 18, 2027
RF Cable (10m chamber bulkhead to control room bulkhead)*	FSCM 64639	01E3864	July 18, 2025	July 18, 2027
RF Cable (control room bulkhead to test receiver)*	FSCM 64639	01F1206	July 18, 2025	July 18, 2027
N connector bulkhead (10m chamber)*	PE9128	NCEEBH1	July 18, 2025	July 18, 2027
N connector bulkhead (control room)*	PE9128	NCEEBH2	July 18, 2025	July 18, 2027

*Internal Characterization

2 year calibration cycle unless otherwise noted.

Testing was performed during calibration cycle of equipment.

Notes:

All equipment is owned by NCEE Labs and stored permanently at NCEE Labs facilities.

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3.4 GENERAL TEST PROCEDURE AND SETUP FOR RADIO MEASUREMENTS

Measurement type presented in this report (Please see the checked box below):

Conducted ☒

The conducted measurements were performed by connecting the output of the transmitter directly into a spectrum analyzer using an impedance matched cable and connector soldered to the EUT in place of the antenna. The information regarding resolution bandwidth, video bandwidth, span and the detector used can be found in the graphs provided in Appendix C. All the radio measurements were performed using the sections from ANSI C63.10, details about the section used can be found in the spectrum analyzer titles on the graph.

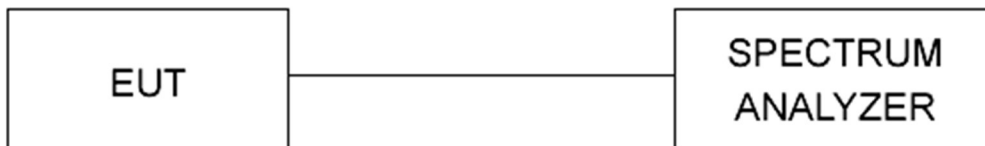


Figure 1 - Bandwidth Measurements Test Setup

Radiated ☒

All the radiated measurements were taken at a distance of 3m from the EUT. The information regarding resolution bandwidth, video bandwidth, span and the detector used can be found in the graphs provided in Appendix C. All the radio measurements were performed using the sections from ANSI C63.10, details about the section used can be found in the spectrum analyzer titles on the graph.

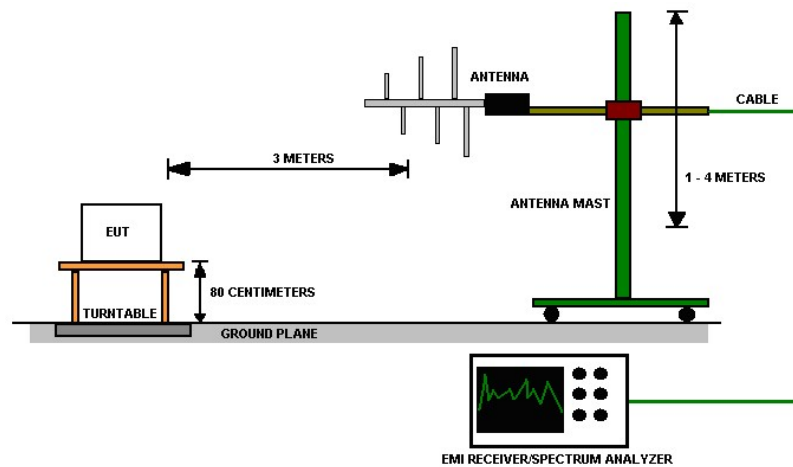


Figure 2 - Radiated Emissions Test Setup, 30MHz – 1GHz

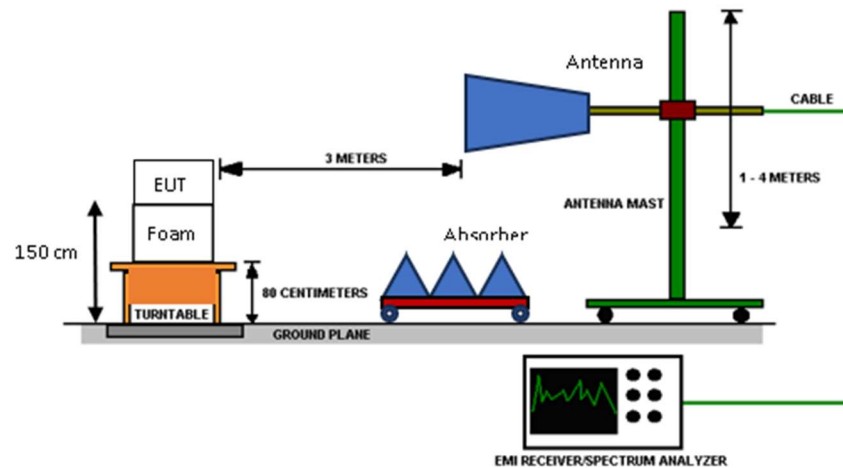


Figure 3 - Radiated Emissions Test Setup, 1GHz – 18GHz



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4.0 RESULTS

DTS Radio Measurements, BLE							
CHANNEL	Transmitter	Occupied Bandwidth (MHz)	6 dB Bandwidth (MHz)	PEAK OUTPUT POWER (dBm)	PEAK OUTPUT POWER (mW)	PSD (dBm)	Result
Low	BLE	1.053	0.6849	6.83	4.82	-8.741	Pass
Mid	BLE	1.055	0.6855	6.49	4.46	-9.276	Pass
High	BLE	1.055	0.6837	6.05	4.03	-9.701	Pass
Unrestricted Band-Edge							
CHANNEL	Mode	Band edge /Measurement Frequency (MHz)	Relative Highest out of band level (dB)	Relative Fundamental (dB)	Delta (dB)	Min Delta (dB)	Result
Low	BLE	2400.00	7.16	-44.74	51.90	20	Pass
High	BLE	2483.50	113.10	54.69	58.41	20	Pass



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Radiated Peak Restricted Band-Edge

CHANNEL	Mode	Band edge /Measurement Frequency (MHz)	Highest out of band level (dB μ V /m @ 3m)	Measurement Type	Limit (dB μ V/m @ 3m)	Margin	Result
Low	BLE	2390.00	52.03	Peak	73.98	21.95	Pass
High	BLE	2483.50	73.61	Peak	73.98	0.37	Pass

*Limit shown is the peak limit taken from FCC Part 15.209

Radiated Average Restricted Band-Edge

CHANNEL	Mode	Band edge /Measurement Frequency (MHz)	Highest out of band level (dB μ V /m @ 3m)	Measurement Type	Limit (dB μ V/m @ 3m)	Margin	Result
Low	BLE	2390.00	42.97	Average	53.98	11.01	Pass
High	BLE	2483.50	47.90	Average	53.98	6.08	Pass

*Limit shown is the average limit taken from FCC Part 15.209



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4.1 OUTPUT POWER

Test Method: BLE power measurements were performed using ANSI C63.10, Section 11.9.1.1.

Limits of power measurements:

For FCC Part 15.247:

The maximum peak conducted output power of the intentional radiator shall not exceed the following: For systems using digital modulation in the 902-928 MHz, 2400-2483.5 MHz, and 5725-5850 MHz bands: 1 Watt.

RSS-247 Issue 4 Device:

For DTS operating in the band 2400-2483.5 MHz, the maximum peak conducted output power shall not exceed 1W

Test procedures:

Details can be found in section 3.4 of this report.

Deviations from test standard:

No deviation.

Test setup:

Details can be found in section 3.4 of this report.

EUT operating conditions:

Details can be found in section 2.1 of this report.

Test results:

Pass

Comments:

1. All the output power plots can be found in Appendix C.
2. All the measurements were found to be compliant.
3. The measurements are listed in the tables in section 4.0.



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4.2 BANDWIDTH

Test Method: All the radio measurements were performed using the sections from ANSI C63.10, details about the section used can be found in the spectrum analyzer titles on the graph.

Limits of bandwidth measurements:

For FCC Part 15.247:

Systems using digital modulation techniques may operate in the 902-928 MHz, 2400-2483.5 MHz, and 5725-5850 MHz bands. The minimum 6 dB bandwidth shall be at least 500 kHz. (The 99% occupied bandwidth is for informational purposes only.)

RSS-247 Issue 4 Device:

The following applies to the bands 902-928 MHz and 2400-2483.5 MHz:

- the minimum 6 dB bandwidth shall be 500 kHz.

Test procedures:

Details can be found in section 3.4 of this report.

Deviations from test standard:

No deviation.

Test setup:

Test setup details can be found in section 3.4 of this report.

EUT operating conditions:

Details can be found in section 2.1 of this report.

Test results:

Pass

Comments:

- All the bandwidth plots can be found in Appendix C.
- All the measurements were found to be compliant.
- The measurements are listed in the tables in section 4.0.



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4.3 DUTY CYCLE

All Transmitters pertaining to this test report were tested with a duty cycle >98%. Duty cycle not reported.



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4.4 RADIATED EMISSIONS

Test Method: ANSI C63.10-2020, Section 6.5, 6.6
KDB 996369 D04 (Module Integration Verification)

Limits for radiated emissions measurements:

Emissions radiated outside of the specified bands shall be applied to the limits in 15.209 as follows:

FREQUENCIES (MHz)	FIELD STRENGTH ($\mu\text{V/m}$)	MEASUREMENT DISTANCE (m)
0.009-0.490	2400/F(kHz)	300
0.490-1.705	24000/F(kHz)	30
1.705-30.0	30	3
30-88	100	3
88-216	150	3
216-960	200	3
Above 960	500	3

NOTE:

1. The lower limit shall apply at the transition frequencies.
2. Emission level ($\text{dB}\mu\text{V/m}$) = $20 * \log * \text{Emission level } (\mu\text{V/m})$.
3. As shown in 15.35(b), for frequencies above 1000MHz, the field strength limits are based on average detector, however, the peak field strength of any emission shall not exceed the maximum permitted average limits by more than 20dB under any condition of modulation.



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Test procedures:

- a. The EUT was placed on the top of a rotating table above the ground plane in a 10 meter semi-anechoic chamber. The table was rotated 360 degrees to determine the position of the highest radiation. The table was 0.8m high for measurements from 30MHz-1Ghz and 1.5m for measurements from 1GHz and higher.
- b. The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.
- c. The antenna was a broadband antenna, and its height is varied from one meter to four meters above the ground to determine the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna are used to make the measurement.
- d. For each suspected emission, the EUT was arranged to maximize its emissions and then the antenna height was varied from 1 meter to 4 meters and the rotating table was turned from 0 degrees to 360 degrees to find the maximum emission reading.
- e. The test-receiver system was set to use a peak detector with a specified resolution bandwidth. For spectrum analyzer measurements, the composite maximum of several analyzer sweeps was used for final measurements.
- f. If the emission level of the EUT in peak mode was 6dB lower than the limit specified, then testing could be stopped and the peak values of the EUT would be reported. Otherwise, the emissions that did not have 6 dB margin would be re-tested one by one using peak, quasi-peak or average method as specified and then reported in a data sheet.
- g. The EUT was maximized in all 3 orthogonal positions. The results are presented for the axis that had the highest emissions.

Test setup:

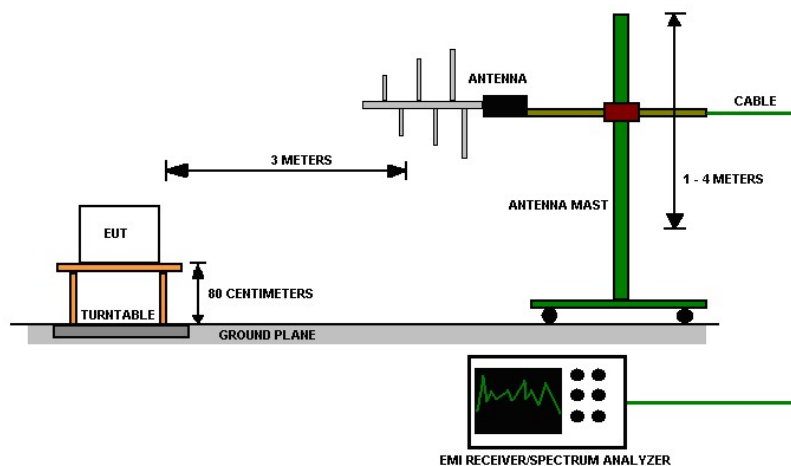


Figure 4 - Radiated Emissions Test Setup

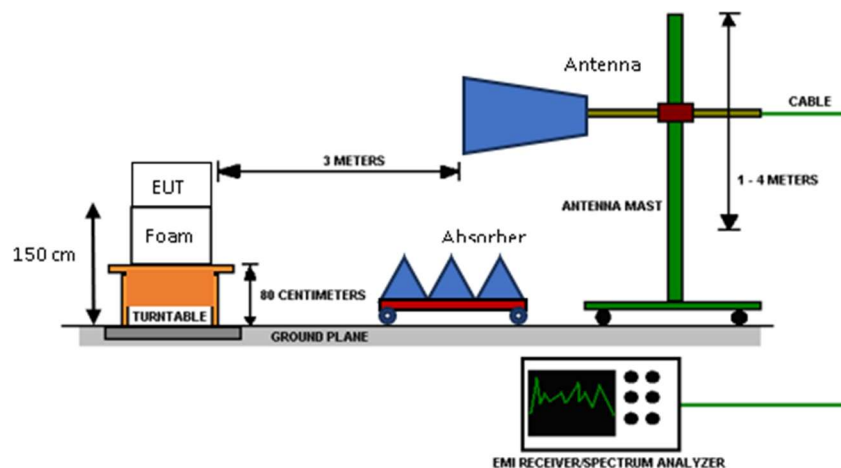


Figure 5 - Radiated Emissions Test Setup, 1GHz – 18GHz

NOTE:

1. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 120kHz for Peak detection (PK) and Quasi-peak detection (QP) at frequencies below 1GHz.

2. The resolution bandwidth was 1 MHz for all measurements and at frequencies above 1GHz, A peak and RMS detector was used for all measurements above 1GHz. Measurements were made with an EMI Receiver.

Deviations from test standard:

No deviation.

EUT operating conditions

Details can be found in section 2.1 of this report.

Test results:

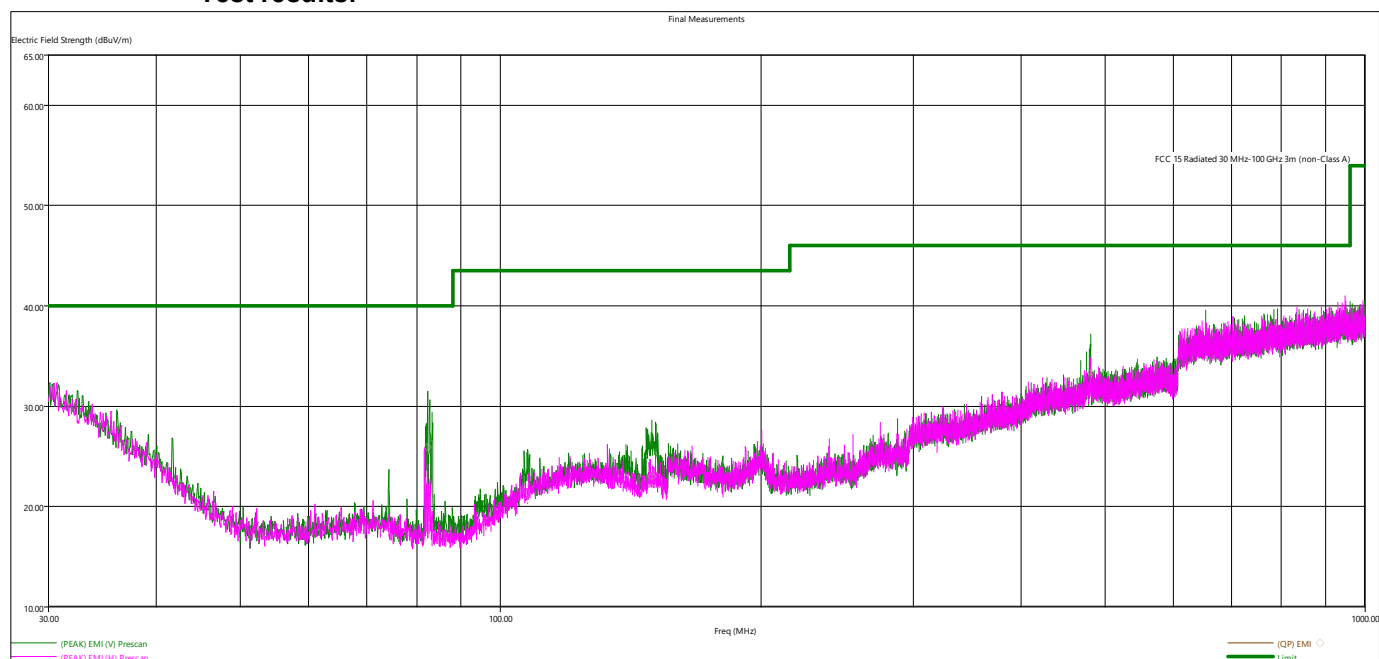


Figure 6 - Radiated Emissions Plot, Receive

Quasi-Peak Measurements, RX only						
Frequency	Level	Limit	Margin	Height	Angle	Pol
MHz	dBuV/m	dBuV/m	dB	cm.	deg.	
82.282080	25.96	40.00	14.04	104.41	215.50	V
107.450640	20.67	43.52	22.85	123.46	279.75	V
149.608560	23.02	43.52	20.50	108.41	343.50	V
481.352880	33.40	46.02	12.62	134.92	306.75	V

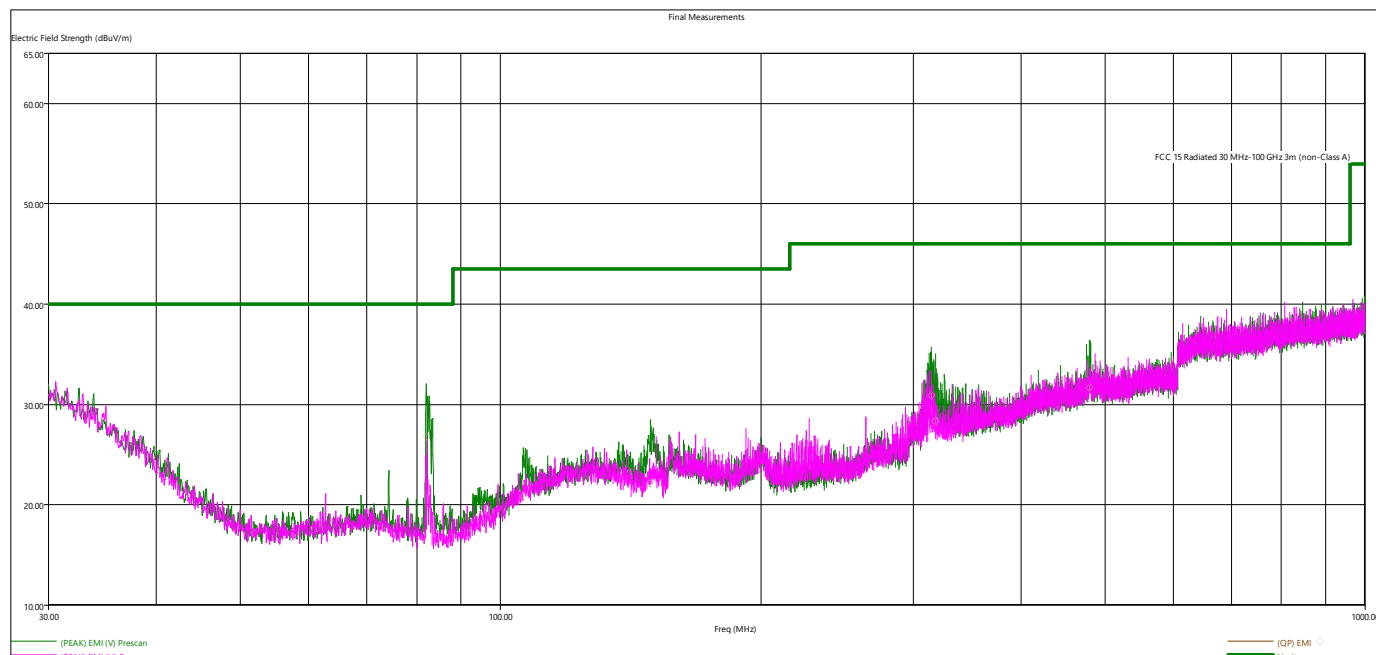


Figure 7 - Radiated Emissions Plot, BLE

Quasi-Peak Measurements, BLE						
Frequency	Level	Limit	Margin	Height	Angle	Pol
MHz	dBuV/m	dBuV/m	dB	cm.	deg.	
82.072320	26.74	40.00	13.26	104.65	302.50	V
106.215600	20.86	43.52	22.66	109.79	2.25	V
148.890480	22.27	43.52	21.25	127.52	359.00	V
315.006000	30.93	46.02	15.09	158.74	53.00	V
318.816480	28.42	46.02	17.60	171.40	102.75	V
480.071760	31.67	46.02	14.35	139.64	309.75	V

REMARKS:

1. Emission level (dBuV/m) = Raw Value (dBuV) + Correction Factor (dB)
2. Correction Factor (dB/m) = Antenna Factor (dB/m) + Cable Factor (dB)
3. The other emission levels were very low against the limit.
4. Margin value = Limit value - Emission level

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Peak Measurements, BLE							
Frequency	Level	Limit	Margin	Height	Angle	Pol	Channel
MHz	dB μ V/m	dB μ V/m	dB	cm.	deg.		
2402.088000	106.86	NA	NA	296.53	43.25	H	Low
2439.964000	104.92	NA	NA	295.40	78.50	H	Mid
2480.200000	106.95	NA	NA	136.29	44.00	H	High

The worst-case is shown in the plot and table above.
All other measurements were found to be at least 6 dB Below the limit.

Average Measurements, BLE							
Frequency	Level	Limit	Margin	Height	Angle	Pol	Channel
MHz	dB μ V/m	dB μ V/m	dB	cm.	deg.		
2402.088000	101.86	NA	NA	296.53	43.25	H	Low
2439.964000	100.23	NA	NA	295.40	78.50	H	Mid
2480.200000	100.86	NA	NA	136.29	44.00	H	High

The worst-case is shown in the plot and table above.
All other measurements were found to be at least 6 dB Below the limit.

For the module integration test, the test lab controlled the cell module, XMR201903EG25G, with a cell site simulator that was located within the receive antenna main lobe.

Intermodulation products were evaluated with all 3 radios active, and the measurements were lower than the allowed limits.

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4.5 CONDUCTED SPURIOUS EMISSIONS

Test Method: ANSI C63.10-2020, Section 6.7

Limits of spurious emissions:

From FCC Part 15.247, RSS-247 Issue 4:

In any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement, provided the transmitter demonstrates compliance with the peak conducted power limits. If the transmitter complies with the conducted power limits based on the use of RMS averaging over a time interval, as permitted under paragraph (b)(3) of this section, the attenuation required under this paragraph shall be 30dB instead of 20dB. Attenuation below the general limits specified in § 15.209(a) is not required. In addition, radiated emissions which fall in the restricted bands, as defined in § 15.205(a), must also comply with the radiated emission limits specified in § 15.209(a) (see § 15.205(c)).

Test procedures:

The highest emissions level was measured and recorded. All spurious measurements were evaluated to 30dB below the fundamental. More details can be found in section 3.4 of this report. The line shown in the plots is a reference line placed at -20dBm.

Deviations from test standard:

NA

Test setup:

Test setup details can be found in section 3.4 of this report.

EUT operating conditions:

Details can be found in section 2.1 of this report.

Test results:

Plots are shown in Appendix C.

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4.6 BAND EDGES

Test Method: All the radio measurements were performed using the sections from ANSI C63.10, details about the section used can be found in the spectrum analyzer titles on the graph.

Limits of band-edge measurements:

For FCC Part 15.247, RSS-247 Issue 4 Device:

In any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement, provided the transmitter demonstrates compliance with the peak conducted power limits. If the transmitter complies with the conducted power limits based on the use of RMS averaging over a time interval, as permitted under paragraph (b)(3) of this section, the attenuation required under this paragraph shall be 30 dB instead of 20 dB. Attenuation below the general limits specified in §15.209(a) is not required. In addition, radiated emissions which fall in the restricted bands, as defined in §15.205(a), must also comply with the radiated emission limits specified in §15.209(a) (see §15.205(c))

Test procedures:

The highest emissions level beyond the band-edge was measured and recorded. All band edge measurements were evaluated to the general limits in Part 15.209. More details can be found in section 3.4 of this report.

Deviations from test standard:

No deviation.

Test setup:

Test setup details can be found in section 3.4 of this report.

EUT operating conditions:

Details can be found in section 2.1 of this report.

Test results:

Pass

Comments:

1. All the band edge plots can be found in Appendix C.
2. If the device falls under FCC Part 15.247, RSS-247 Issue 4 (Details can be found in summary of test results), compliance is shown in the unrestricted band edges by showing minimum delta of 20 dB between peak and the band edge.
3. The restricted band edge compliance is shown by comparing it to the general limit defined in Part 15.209. The limit shown in the graph accounts for the antenna gain of the device.



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4.7 POWER SPECTRAL DENSITY

Test Method: All the radio measurements were performed using the sections from ANSI C63.10, details about the section used can be found in the spectrum analyzer titles on the graph.

Limits of power measurements:

For FCC Part 15.247, RSS-247 Issue 4 Device:

For digitally modulated systems, the power spectral density conducted from the intentional radiator to the antenna shall not be greater than 8 dBm in any 3 kHz band during any time interval of continuous transmission.

Test procedures:

Details can be found in section 3.4 of this report.

Deviations from test standard:

No deviation.

Test setup:

Details can be found in section 3.4 of this report.

EUT operating conditions:

Details can be found in section 2.1 of this report.

Test results:

Pass

Comments:

1. All the Power Spectral Density (PSD) plots can be found in Appendix C.
2. All the measurements were found to be compliant.
3. The measurements are listed in the tables in section 4.0.

4.8 CONDUCTED AC MAINS EMISSIONS

Test Method: ANSI C63.10-2020, Section(s) 6.2

Limits for conducted emissions measurements:

FREQUENCY OF EMISSION (MHz)	CONDUCTED LIMIT (dB μ V)	
	Quasi-peak	Average
0.15-0.5	66 to 56	56 to 46
0.5-5	56	46
5-30	60	50

Notes:

1. The lower limit shall apply at the transition frequencies.
2. The limit decreases in line with the logarithm of the frequency in the range of 0.15 to 0.50 MHz
3. All emanations from a class A/B digital device or system, including any network of conductors and apparatus connected thereto, shall not exceed the level of field strengths specified above.

Test Procedures:

- a. The EUT was placed 0.8m above a ground reference plane and 0.4 meters from the conducting wall of a shielded room with EUT being connected to the power mains through a line impedance stabilization network (LISN). The LISN provides 50 ohm/ 50uH of coupling impedance for the measuring instrument.
- b. Both lines of the power mains connected to the EUT were checked for maximum conducted interference as well as the ground.
- c. The frequency range from 150 kHz to 30 MHz was searched. Emission levels over 10dB under the prescribed limits are not reported.
- d. Results were compared to the 15.207 quasi-peak limits. The quasi-peak measurements pass the quasi-peak limits. The traces in the plots below are peak and average, but the failure in the trace is the peak which is not used for comparison with the quasi-peak limits.

Deviation from the test standard:

No deviation

EUT operating conditions:

Details can be found in section 2.1 of this report.

Test Results:



Figure 8 - Conducted Emissions, Line



Figure 9 - Conducted Emissions, Neutral

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APPENDIX A: SAMPLE CALCULATION

Radiated Emissions

The field strength is calculated in decibels (dB) by adding the Antenna Factor and Cable Factor, and subtracting the Amplifier Gain (if any) from the measured reading. The basic equation with a sample calculation is as follows:

$$FS = R + AF - (-CF + AG)$$

where FS = Field Strength

R = Receiver Amplitude Receiver reading in dBμV

AF = Antenna Factor

CF = Cable Attenuation Factor

AG = Preamplifier Amplifier Gain

Assume a receiver reading of 55.00 dBμV is obtained. The Antenna Factor of 12.00 and a Cable Factor of 1.10 is added. The Amplifier Gain of 20 dB is subtracted, giving a field strength of 48.10 dBμV/m.

$$FS = 55.00 + 12.00 - (-1.10 + 20.00) = 48.1 \text{ dB}\mu\text{V/m}$$

The 48.1 dBμV/m value can be mathematically converted to its corresponding level in μV/m.

$$\text{Level in } \mu\text{V/m} = \text{Common Antilogarithm } [(48.1 \text{ dB}\mu\text{V/m})/20] = 254.1 \text{ } \mu\text{V/m}$$

Conducted Emissions

Receiver readings are compared directly to the conducted emissions limits in decibels (dB) by adding the cable loss and LISN insertion loss to the receiver reading. The basic equations with a sample calculation is as follows;

$$FS = R + IL - (-CF)$$

where V = Conducted Emissions Voltage Measurement

R = Receiver reading in dBμV

IL = LISN Insertion Loss

CF = Cable Attenuation Factor

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APPENDIX B – MEASUREMENT UNCERTAINTY

Where relevant, the following measurement uncertainty levels apply to tests performed in this test report:

Test	Frequency Range	NCEE Labs Uncertainty Value (dB)	Maximum Uncertainty Values per CISPR 16-4-2:2011/A1:2018
Radiated Emissions, 3m	30MHz - 1GHz	4.50	5.3
Radiated Emissions, 3m	1GHz – 6GHz	4.49	5.2
Radiated Emissions, 3m	6GHz – 18GHz	4.22	5.5
Conducted Emissions	150kHz – 1GHz	3.03	3.4

Expanded uncertainty values are calculated to a confidence level of 95%.

NCEE Labs meets the maximum uncertainty requirements per CISPR 16-4-2:2011/A1:2018, and therefore does not require a minimum passing margin to state that an EUT is less than the field strength limits of the applicable CISPR, IEC or EN limit per CISPR 16-4-2:2011/A1:2018, Section 4.1.

NCEE Labs employs tilting when testing at 3m test distance. The maximum uncertainty associated with this method is used.

Maximum uncertainty values show the worst-case of all test distances used.

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APPENDIX C – GRAPHS AND TABLES

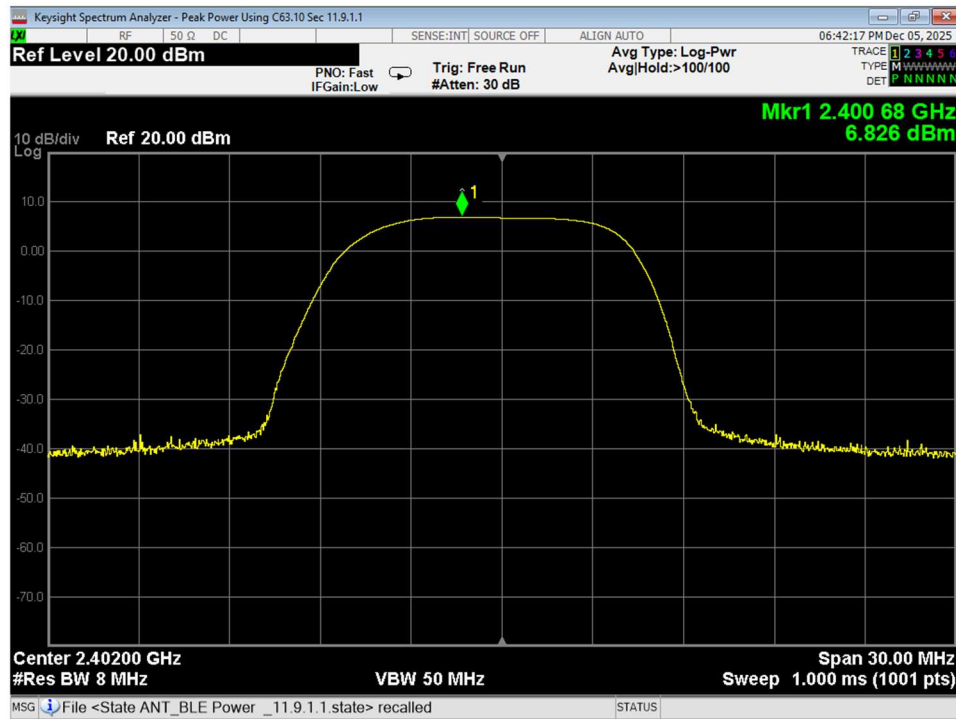


Figure 10 Peak Power, Low, BLE, Conducted

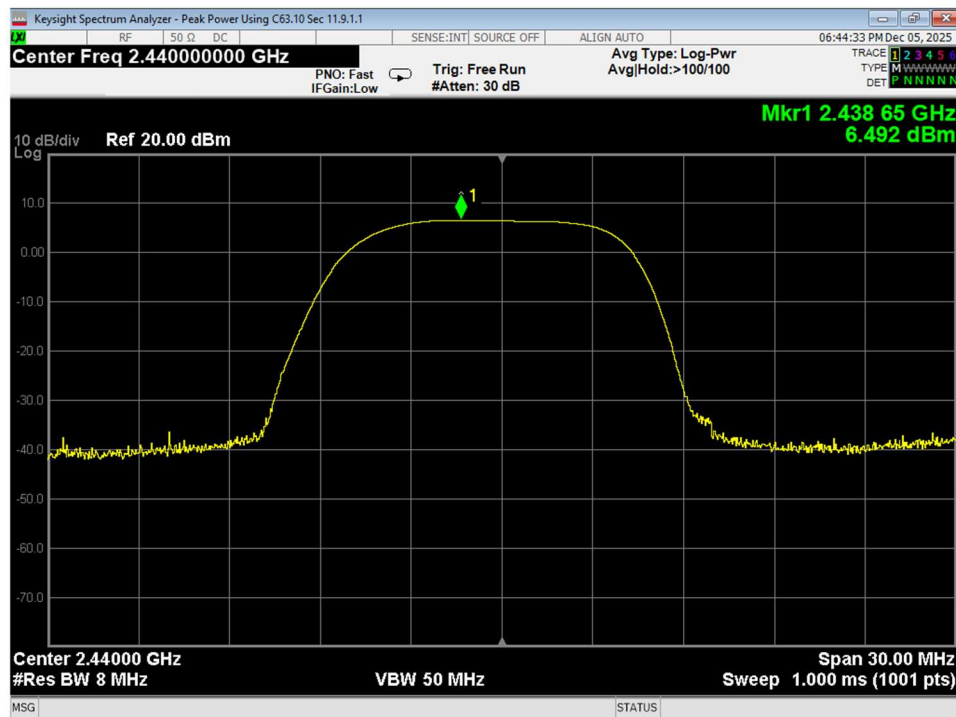


Figure 11 Peak Power, Mid, BLE, Conducted

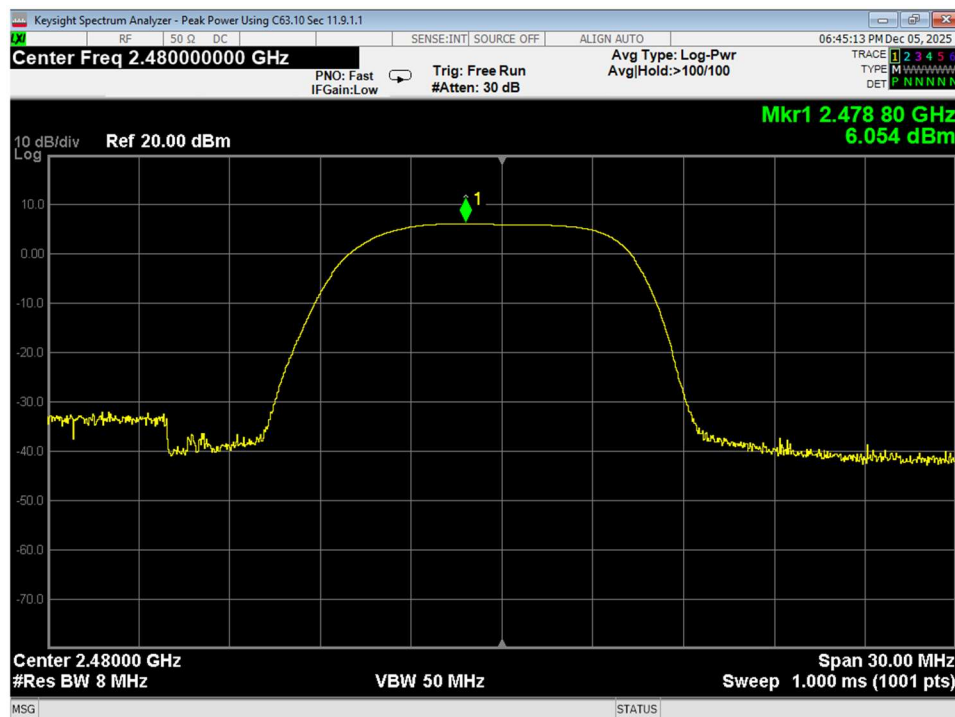


Figure 12 Peak Power, High, BLE, Conducted

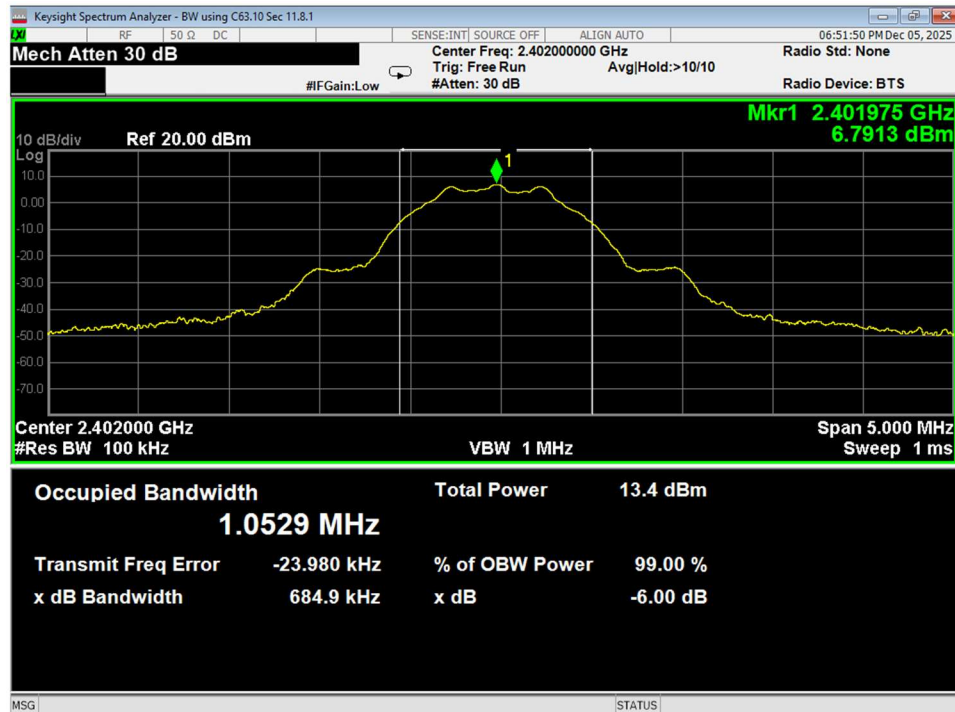


Figure 13 6dB Bandwidth, Low, BLE, Conducted

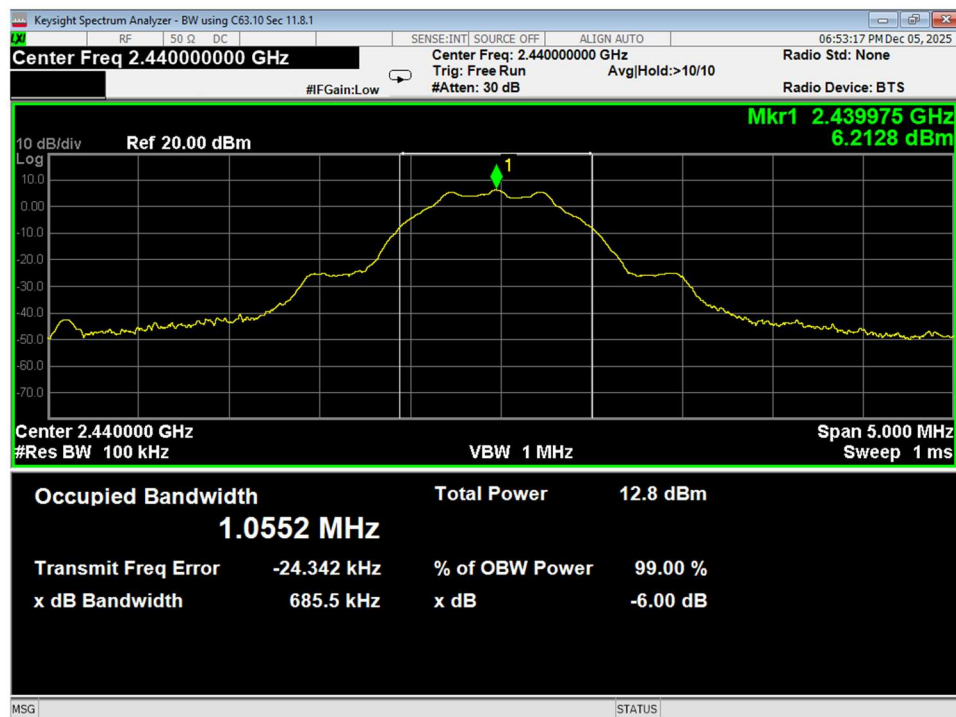


Figure 14 6dB Bandwidth, Mid, BLE, Conducted

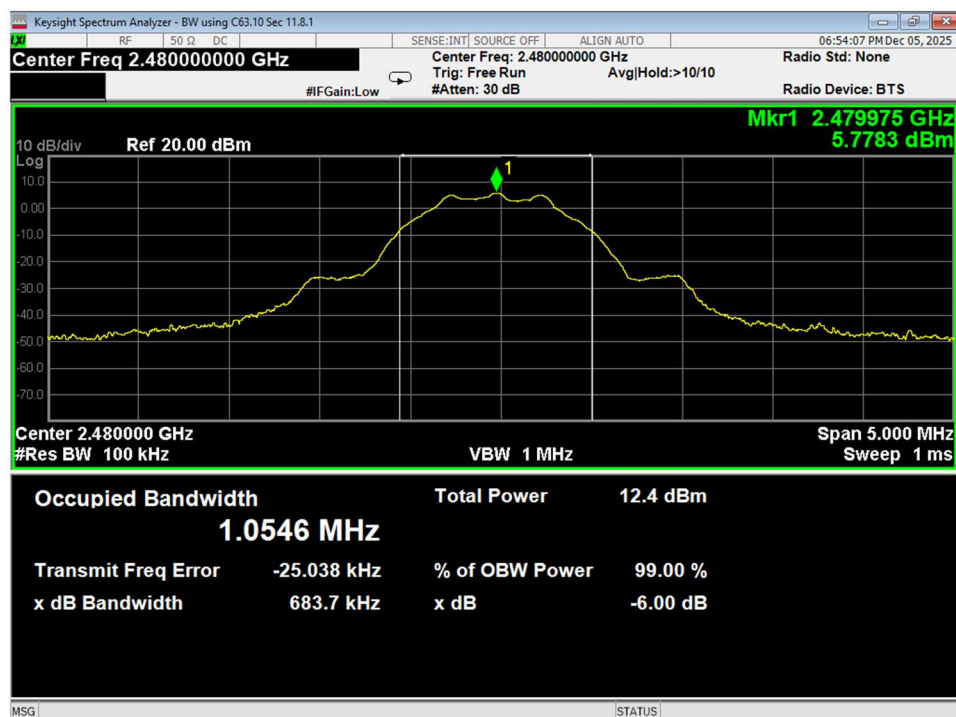


Figure 15 6dB Bandwidth, High, BLE, Conducted

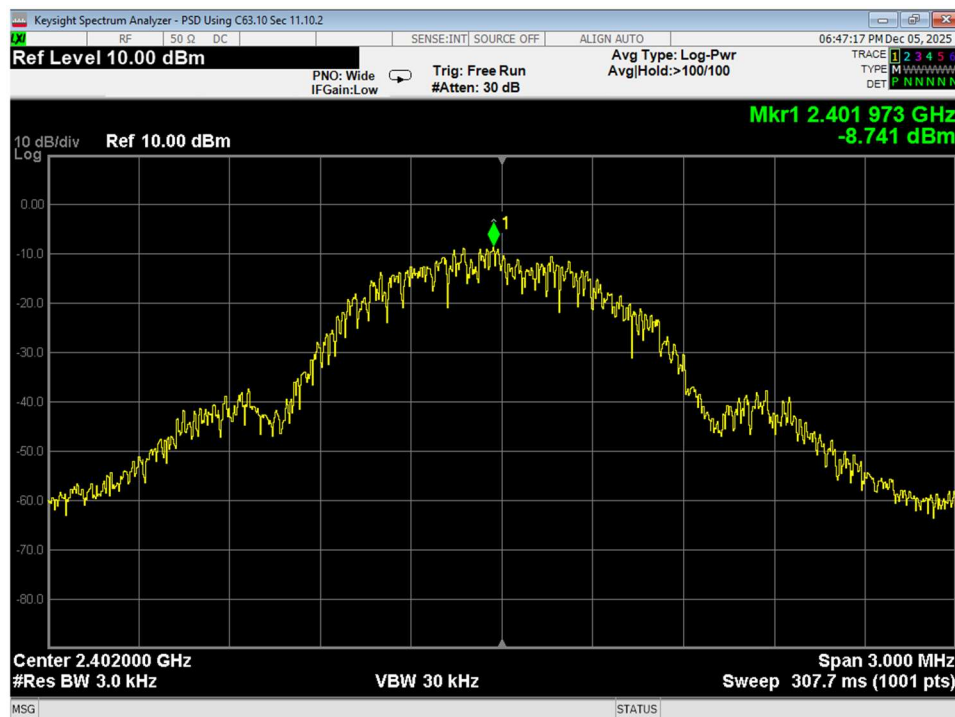


Figure 16 PSD, Low, BLE, Conducted

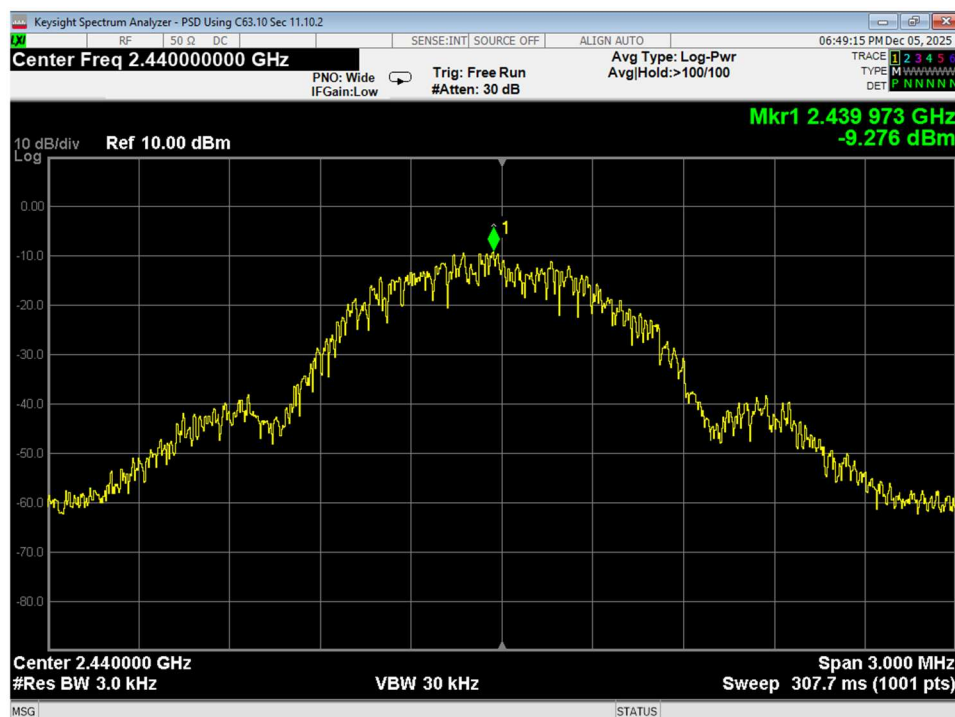


Figure 17 PSD, Mid, BLE, Conducted

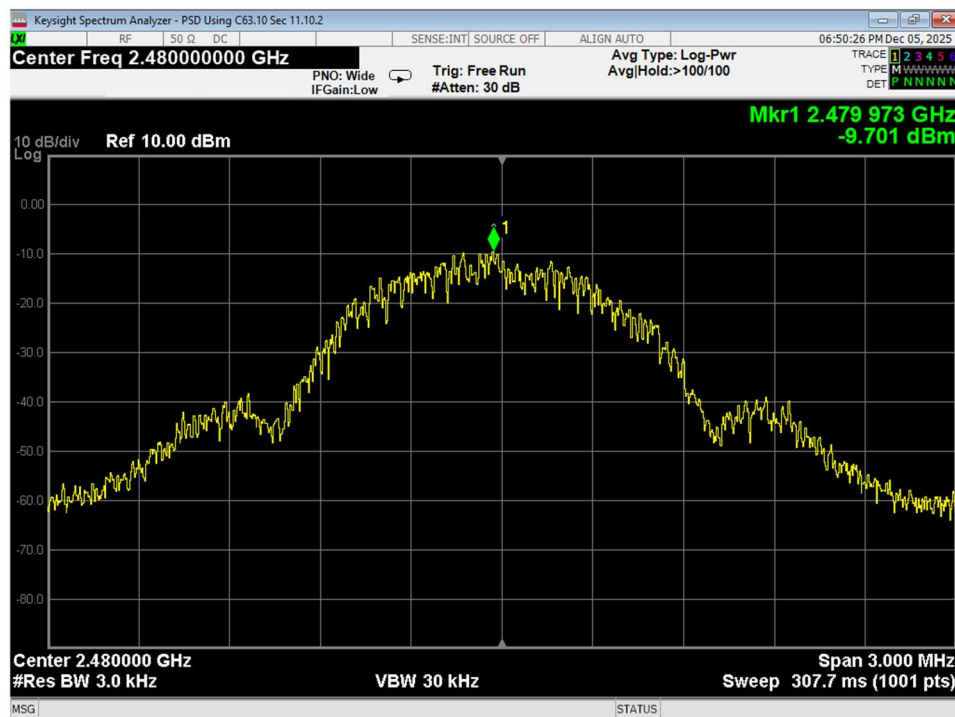


Figure 18 PSD, High, BLE, Conducted

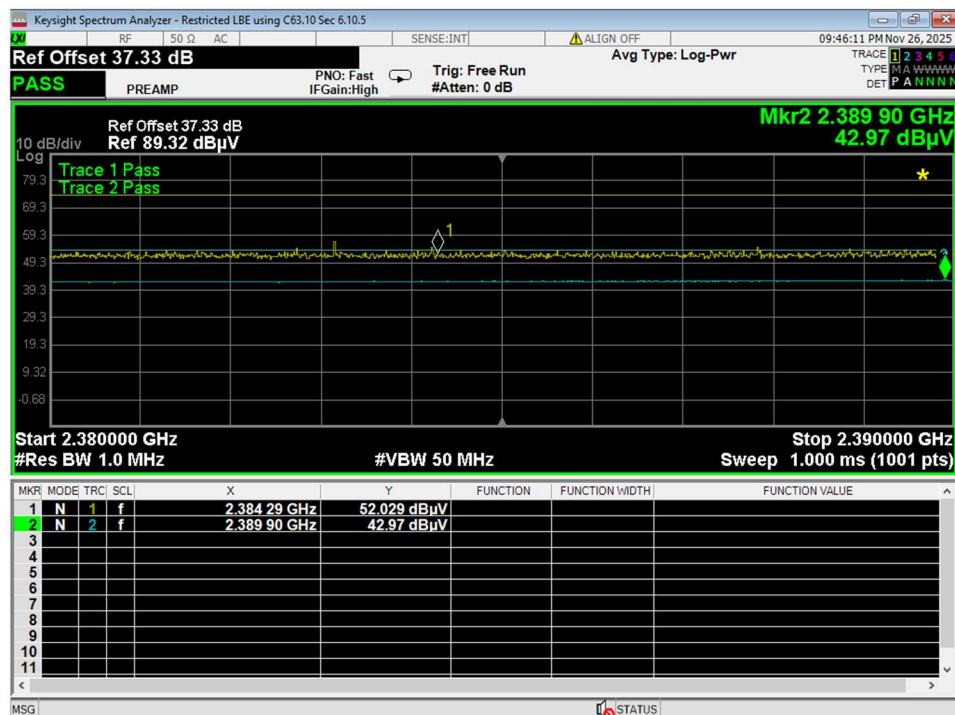


Figure 19 Lower Bandedge, Restricted, BLE, radiated

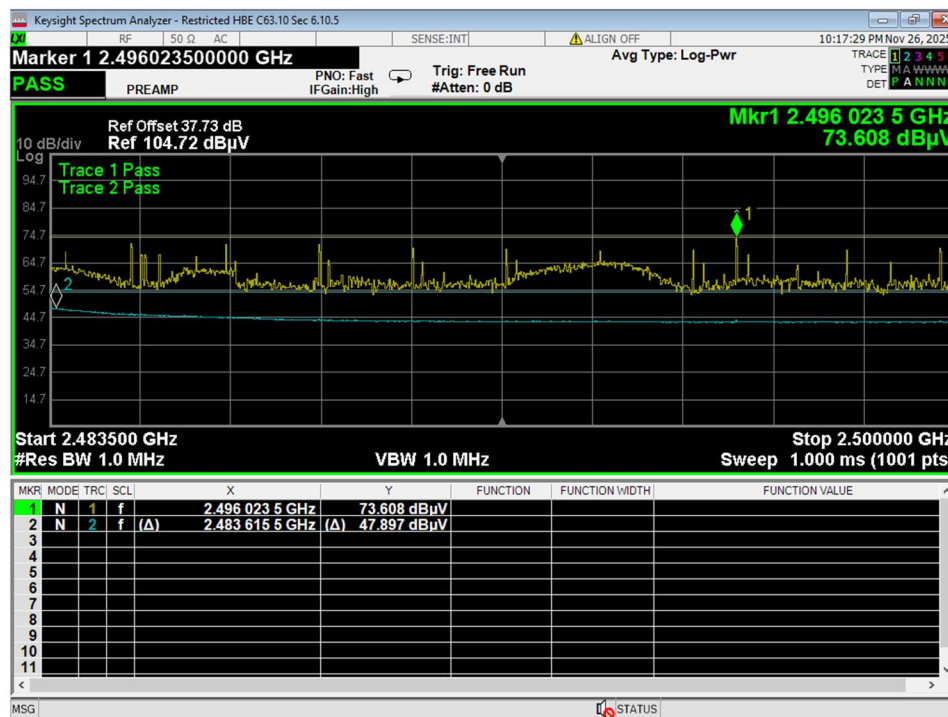


Figure 20 Upper Bandedge, Restricted, BLE, radiated

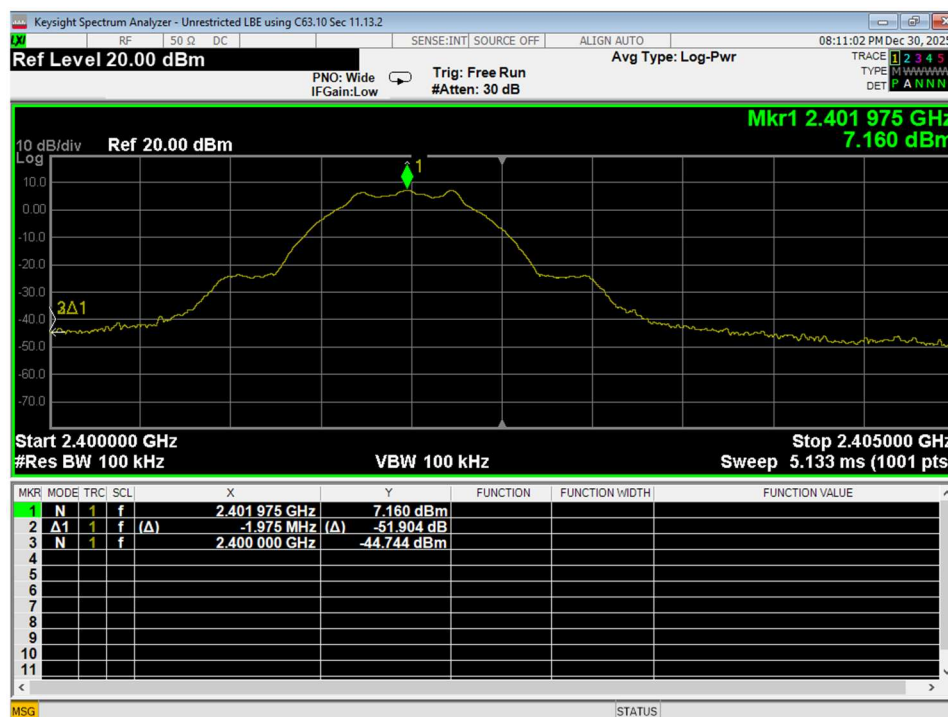


Figure 21 Lower Bandedge, Unrestricted, BLE, Conducted

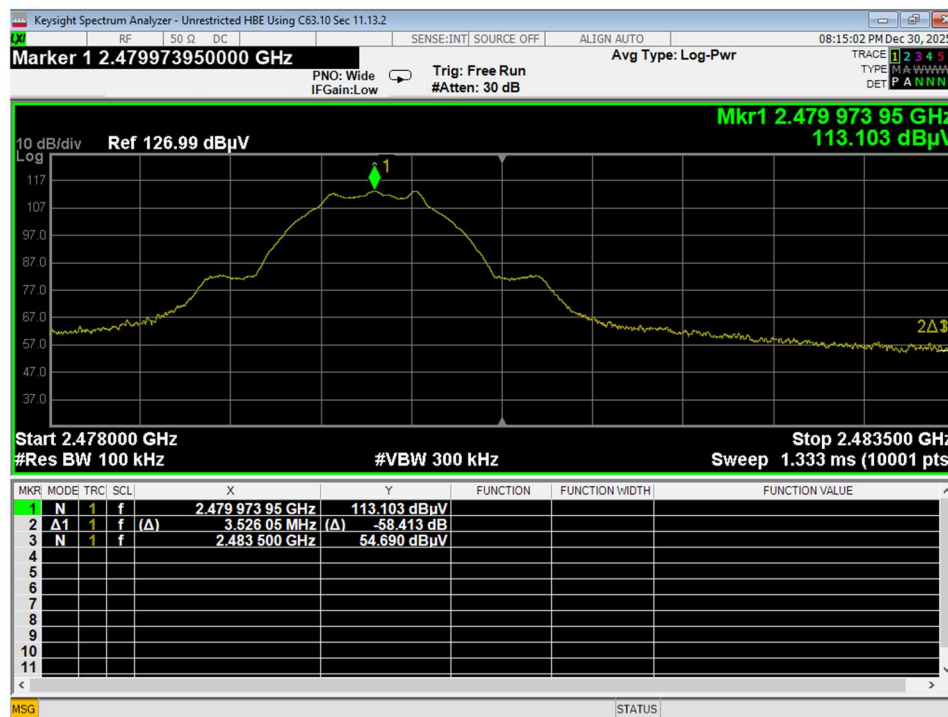


Figure 22 Lower Bandedge, Unrestricted, BLE, Conducted

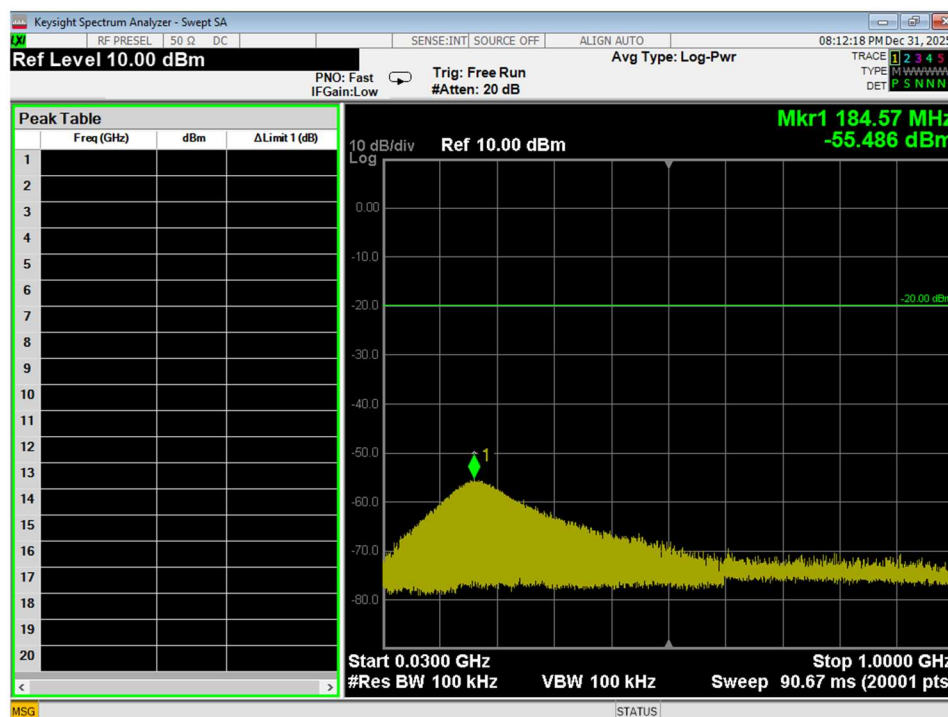


Figure 23 Conducted Spurious Emissions, BLE, Low Channel, Conducted, 30MHz – 1GHz

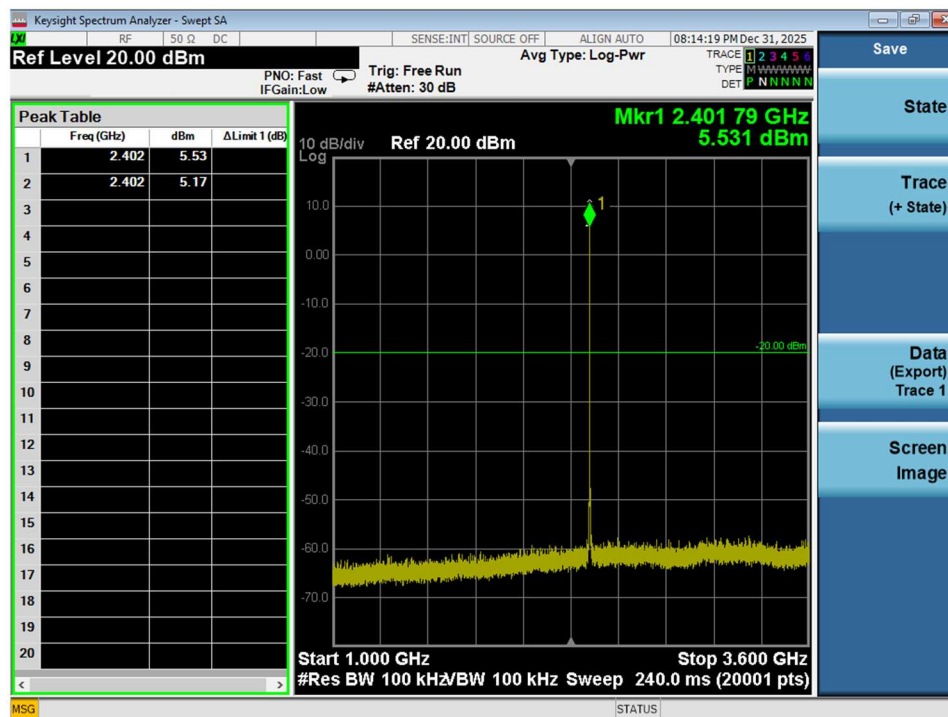


Figure 24 Conducted Spurious Emissions, BLE, Low Channel, Conducted, 1GHz – 3.6GHz

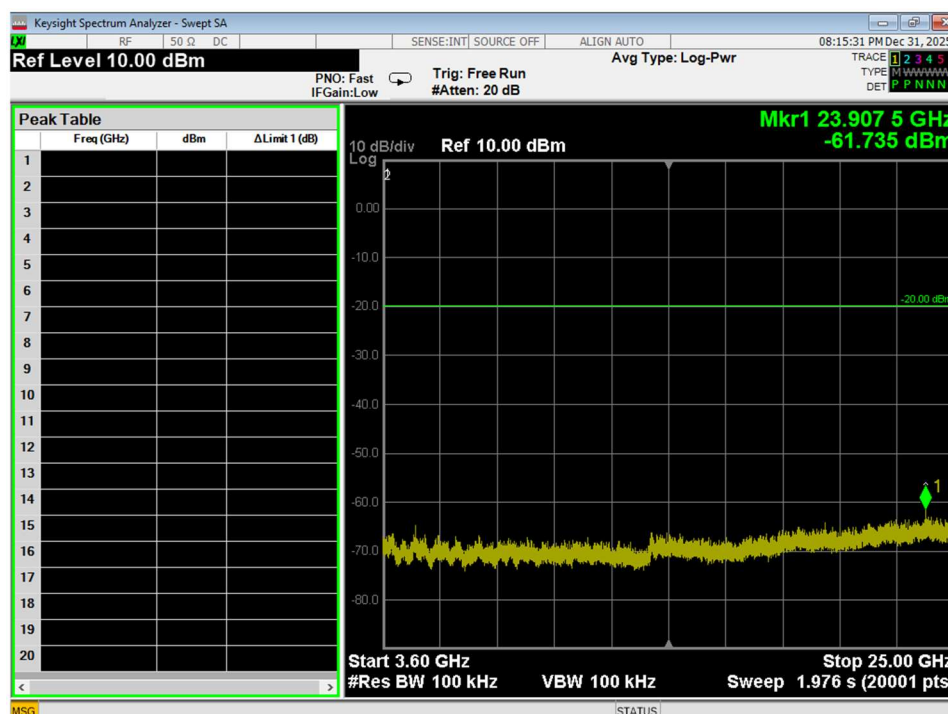


Figure 25 Conducted Spurious Emissions, BLE, Low Channel, Conducted, 3.6GHz – 25GHz

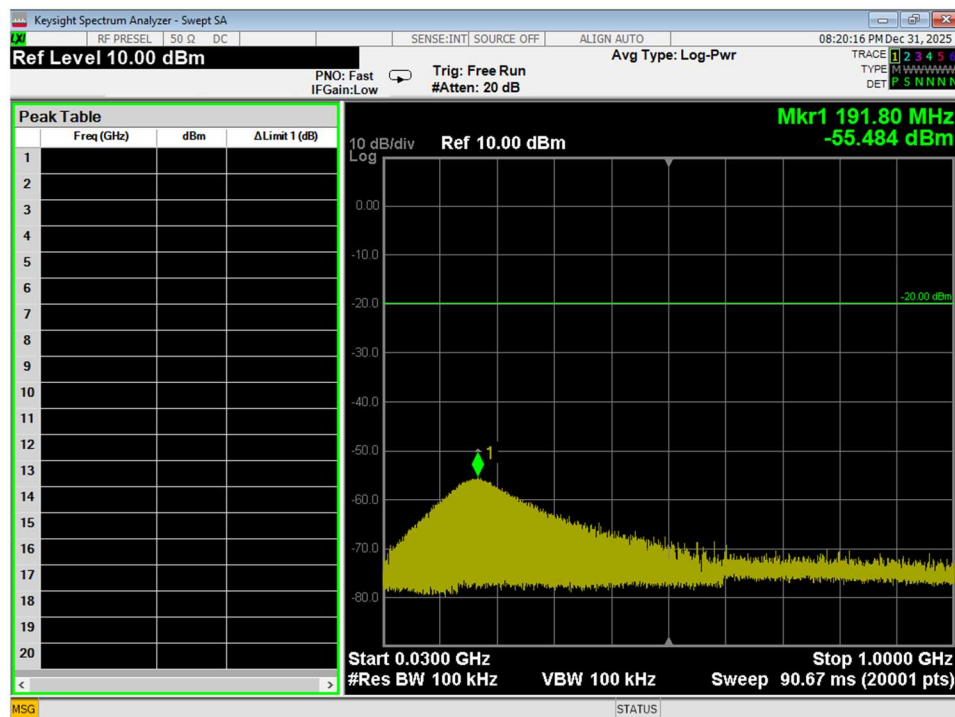


Figure 26 Conducted Spurious Emissions, BLE, Mid Channel, Conducted, 30MHz – 1GHz

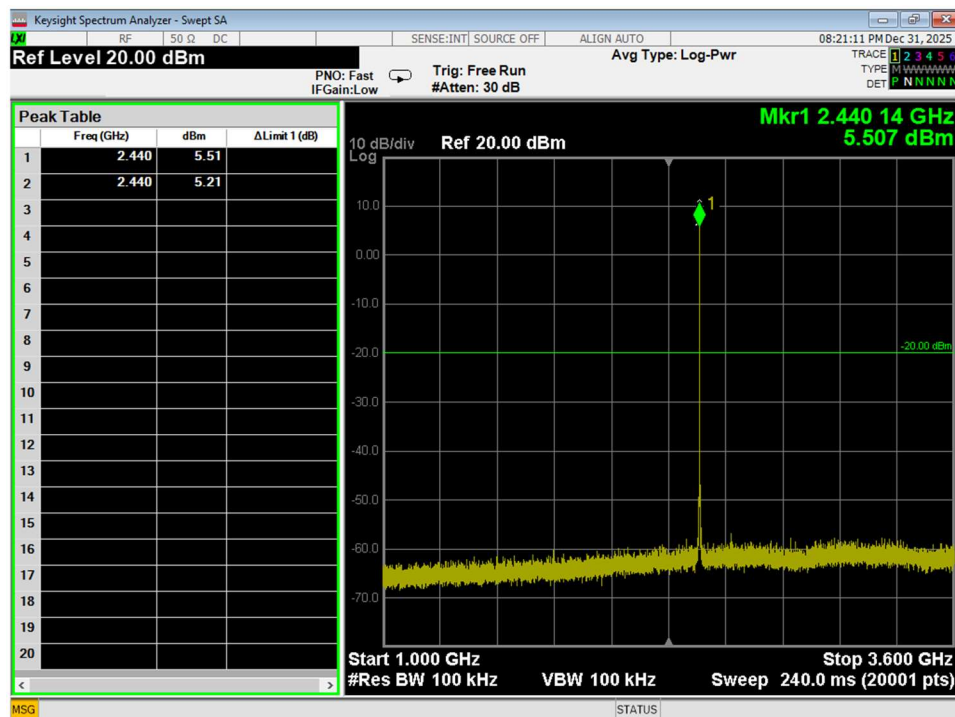


Figure 27 Conducted Spurious Emissions, BLE, Mid Channel, Conducted, 1GHz – 3.6GHz

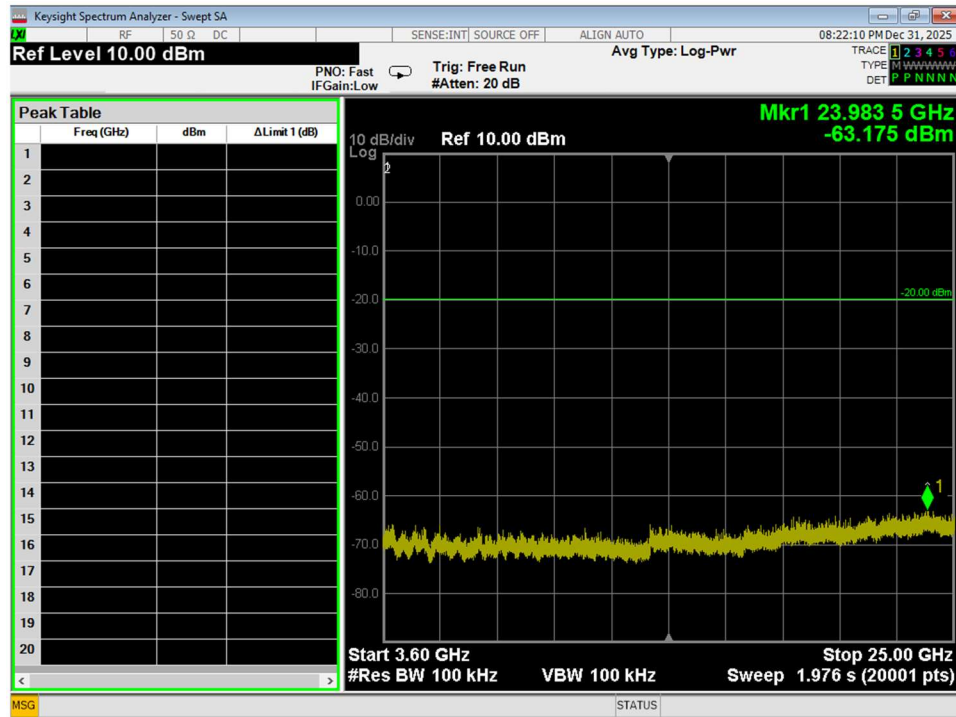


Figure 28 Conducted Spurious Emissions, BLE, Mid Channel, Conducted, 3.6GHz – 25GHz

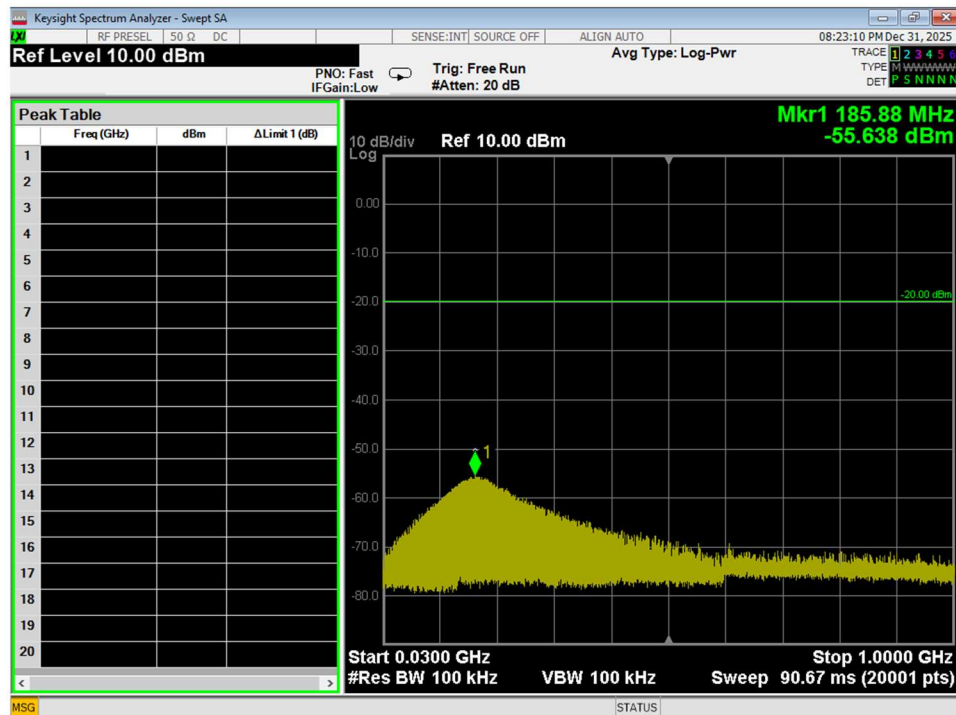


Figure 29 Conducted Spurious Emissions, BLE, High Channel, Conducted, 30MHz – 1GHz

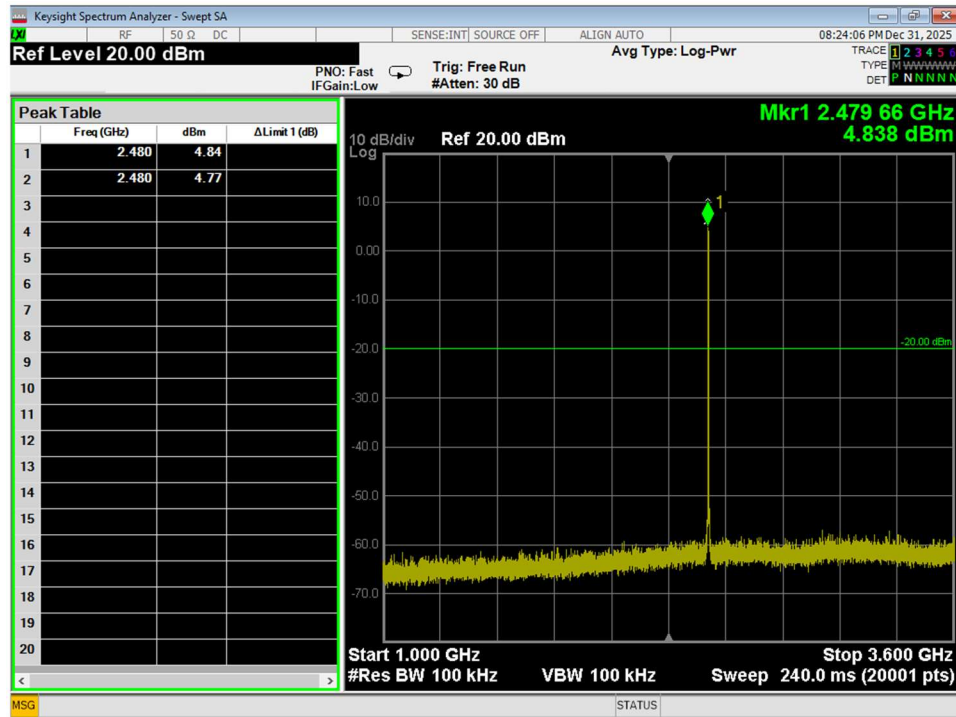


Figure 30 Conducted Spurious Emissions, BLE, High Channel, Conducted, 1GHz – 3.6GHz

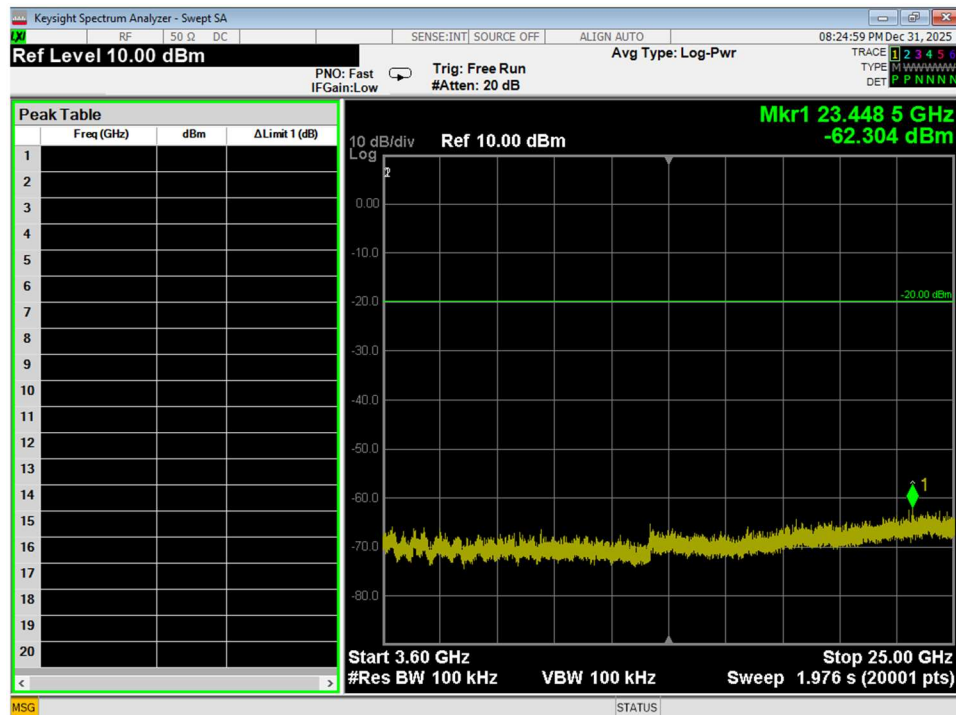


Figure 31 Conducted Spurious Emissions, BLE, High Channel, Conducted, 3.6GHz – 25GHz



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