F2 Labs
16740 Peters Road
Middlefield, Ohio 44062
United States of America
www.f2labs.com

PCII TEST REPORT

Manufacturer:	**Nextfour Solutions Oy** **Kaurakatu 48b** **20740 Turku Varsinais-suomi FINLAND**
Applicant:	**Same as Above**
Product Name:	**Wi-Fi / Bluetooth Module**
Product Description:	Wi-Fi / Bluetooth Module
Operating Voltage/Freq. of EUT During Testing:	120V/60 Hz
Model:	**9260.NGW**
FCC ID:	**2AYT7-9260**
Testing Commenced:	2024-02-14
Testing Ended:	2025-01-28

Note: Test report reflects limited testing for PCII due to change in Wi-Fi/BT antenna.

Summary of Test Results: **In Compliance**

The EUT complies with the EMC requirements when manufactured identically as the unit tested in this report, including any required modifications and/or manufacturer's statement. Any changes to the design or build of this unit subsequent to this testing may deem it non-compliant.

Rules:

- **FCC Part 15 Subpart C, Section 15.247**
- **FCC15.207 - Conducted Limits**
- **ANSI C63.10:2013**

Evaluation Conducted by:

Julius Chiller, Senior Wireless Project Engineer

Erik Tobin, EMC Engineer

Report Reviewed by:

Ken Littell, Vice President of Operations

F2 Labs
26501 Ridge Road
Damascus, MD 20872
Ph 301.253.4500

F2 Labs
16740 Peters Road
Middlefield, OH 44062
Ph 440.632.5541

F2 Labs
8583 Zionsville Road
Indianapolis, IN 46268
Ph 317.610.0611

This test report may be reproduced in full; partial reproduction only may be made with the written consent of F2 Labs. The results in this report apply only to the equipment tested.

TABLE OF CONTENTS

1 ADMINISTRATIVE INFORMATION

2 SUMMARY OF TEST RESULTS/MODIFICATIONS

3 ENGINEERING STATEMENT

4 EUT INFORMATION AND DATA

5 LIST OF MEASUREMENT INSTRUMENTATION

6 RADIATED SPURIOUS EMISSIONS

7 CONDUCTED EMISSIONS

8 TEST SETUP PHOTOGRAPHS

1 ADMINISTRATIVE INFORMATION

1.1 Measurement Location:

F2 Labs in Middlefield, Ohio. Site description and attenuation data are on file with the FCC's Sampling and Measurement Branch at the FCC Laboratory in Columbia, MD.

1.2 Measurement Procedure:

All measurements were performed according ANSI C63.10 and recommended FCC procedure of measurement under Section 15.247 and in KDB558074. A list of the measurement equipment can be found in Section 6.

1.3 Uncertainty Budget:

The uncertainty in EMC measurements arises from several factors which affect the results, some associated with environmental conditions in the measurement room, the test equipment being used and the measurement techniques adopted.

The measurement uncertainty budgets detailed below are calculated from the test and calibration data, and are expressed with a 95% confidence factor. Note: Only measurements listed below which relate to tests included in this Test Report are applicable to it.

Measurement Range	Expanded Uncertainty	Combined Uncertainly
Radiated Emissions <1 GHz @ 3m	±5.07dB	±2.54dB
Radiated Emissions <1 GHz @10m	±5.09dB	±2.55dB
Radiated Emissions 1 GHz to 2.7 GHz	±3.62dB	±1.81dB
Radiated Emissions 2.7 GHz to 18 GHz	±3.10dB	±1.55dB
AC Power Line Conducted Emissions, 150kHz to 30 MHz	±2.76dB	±1.38dB

This Uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of k=2.

1.4 Document History

Document Number	Description	Issue Date	Approved By
F2P31257B-01E	First Issue	2025-01-30	K. Littell

2 SUMMARY OF TEST RESULTS

Test Name	Standard(s)	Results
Radiated Spurious Emission	CFR 47 Part 15.247(d) / Part 15.209 / KDB558074	Complies
Conducted Emissions	CFR 47 Part 15.207(a)	Complies

Modifications Made to the Equipment
None

3 ENGINEERING STATEMENT

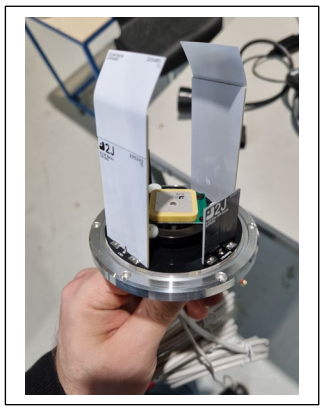
This report has been prepared on behalf of Nextfour Solutions **Oy** to provide documentation for the testing described herein. This equipment has been tested and found to comply with Part 15.247 of the FCC Rules using ANSI C63.10 and KDB558074 standards. The test results found in this test report relate only to the items tested.

4 EUT INFORMATION AND DATA

4.1 Equipment Under Test:

Product: Wi-Fi / Bluetooth Module
Model(s): 9260.NGW
Serial No.: 8SSW10M73241T1SS1A90090
FCC ID: 2AYT7-9260

BLUETOOTH / WI-FI TESTING
ANTENNA INTERNAL PHOTO



CLASSIC BLUETOOTH TESTING

4.2 Trade Name:

Nextfour Solutions Oy

4.3 Power Supply:

Meanwell GST90A12, s/n SC211I1435

4.4 Applicable Rules:

CFR 47, Part 15.247, subpart C

4.5 Equipment Category:

Radio -DTS

4.6 Antenna:

2J Antennas Monopole model 2JP0202

4.7 Accessories:

Testing Conducted in 2025

Device	Manufacturer	Model Number	Serial Number
Desktop Computer	Lenovo	11DT	GM018407

4.8 Test Item Condition:

The equipment to be tested was received in good condition.

4.9 Testing Algorithm:

Spurious and band edge emissions were measured for both 2.4 GHz Bluetooth and Wi-Fi radios using a proposed new antenna. Two of the same antennas are used for both Wi-Fi and Bluetooth. The highest emissions were recorded in the data tables.

The new antenna was evaluated using 2Mbps Bluetooth as the worst case based on higher bandwidth, and CCK 11Mb Wi-Fi as worst case based on output power and PSD.

- The Wi-Fi and Cellular modules were disabled during Bluetooth testing.
- The Bluetooth and Cellular modules were disabled during Wi-Fi testing.
- The GPS module was disabled during all testing.
- The module was connected to a Host to get power from it. The Host was not powered on and functioning in any way. The Host was only supplying power to the module for testing.

5 LIST OF MEASUREMENT INSTRUMENTATION

Equipment Type	Asset Number	Manufacturer	Model	Serial Number	Calibration Due Date
Shielded Chamber	CL166-E	Albatross Projects	B83117-DF435-T261	US140023	2025-01-31
Receiver	CL151	Rohde & Schwarz	ESU40	100319	2025-04-09
Low Loss Cable Set	CL315 / CL318	Fairview Microwave	FMC0202914-72/FMC0202914-240	None Spec.	2025-04-10
Horn Antenna	CL098	Emco	3115	9809-5580	2025-01-02
Antenna, JB3 Combination	CL175	Sunol Sciences	JB3	A030315	2024-09-25
Horn Antenna 18-26.5 GHz	CL114	A.H. Systems, Inc.	SAS-572	237	2026-01-09
Antenna	CL333	ETS Lindgren	DRHA18G	J203061349	2025-02-22
Pre-Amplifier	CL250	Com-Power	PAM-118A	18040011	2025-04-11
Pre-Amplifier	CL189	Com-Power	PAM-840A	461303	2026-04-10
Active 18” Loop Antenna	CL163-Loop	A.H. Systems, Inc.	EHA-52B	100	2024-12-14
Software:	Tile Version 3.4.B.3		Software Verified: 2024-03-06		
Software:	EMC 32, Version 8.53.0		Software Verified: 2024-03-06, 2025-01-28		
Spectrum Analyzer	0141	Hewlett Packard	8591E	3520A04145	2025-04-09
Temp/Hum. Recorder	CL293	Thermpro	TP50	1	2025-05-31
Temp/Hum Rec	CL232	Extech	445814	01	2025-05-19
Temp/Hum Rec	CL294	Thermpro	TP50	2	2026-04-27
LISN	CL184	Com-Power	LI-125A	191213	2026-11-02
LISN	CL185	Com-Power	LI-125A	191214	2026-11-02
Transient Limiter	0202	Hewlett Packard	11947A	3107A00729	2025-04-09

6 RADIATED SPURIOUS EMISSIONS

6.1 Requirements:

All emissions that fall in the restricted bands defined in FCC Part 15.205 shall not exceed the maximum field strength listed in FCC Part 15.209(a).

6.2 Procedures:

The EUT antenna ports were fitted with their Monopole Antennas having a peak gain of 5.4 dBi. Radiated emissions were measured in a Semi-Anechoic Chamber. All emissions generated that fall in the restricted bands per FCC Part 15.205 were examined.

Scans were performed from 9kHz to 26 GHz at the low, mid, and high channels. The tables of measured results follow in data presented and include measurements from all channels.

6.3 Test Data

Test Date(s):	2024-03-06	Test Engineer:	J. Chiller
Standards:	CFR 47 Part 15.247(d); Part 15.209 / KDB558074	Air Temperature:	22.8ºC
		Relative Humidity:	39%

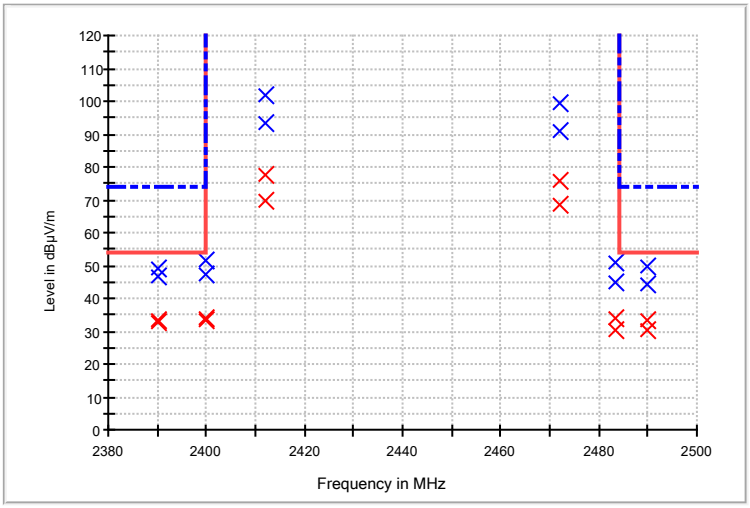
Notes: Plots are peak, max hold prescan data included only to determine what frequencies to investigate and measure. The EUT was initially placed in a semi-anechoic chamber, and rotated in all three orthogonal positions to maximize the emissions. Characterization measurements were then performed to determine at which frequencies significant emissions occurred. These graphs are shown below. FINAL measurement charts and tables confirm compliance.

The equipment was fully exercised with all cabling attached to the EUT and was positioned on the Semi-Anechoic Chamber for maximum emissions. While the equipment was energized, the receiving antenna was scanned from 1.0 meter to 4.0 meters in both vertical and horizontal polarities while the turntable was adjusted 360 degrees to determine the maximum field strength. The tables of measured results can be found below.

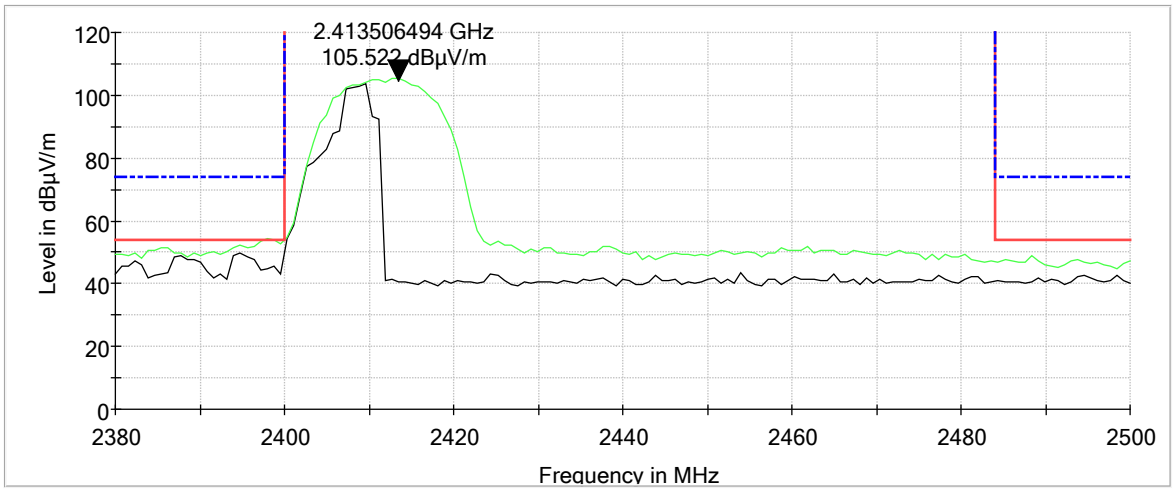
In the following plots, the black line indicates the active scan and the green line indicates the MaxPk during rotation with the EUT on. Emissions to be found by the EUT were measured and listed in tables. The plots are for reference only and the limit lines are not actual limit lines but merely a guide.

Wi-Fi, Measurements: Band Edges

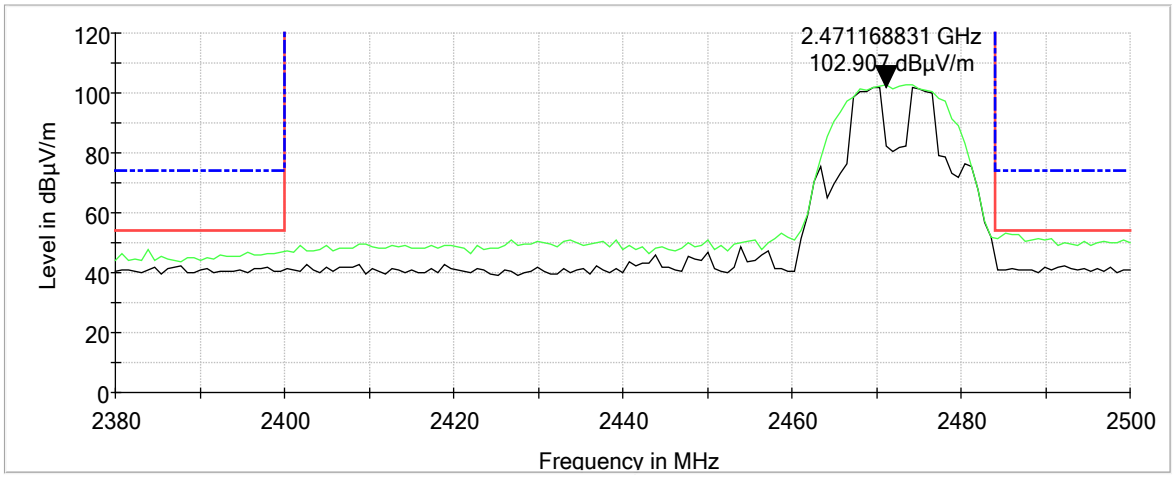
Frequency (MHz)	MaxPeak (dBµV/m)	Average (dBµV/m)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Polarization	Azimuth (deg)	Corr. (dB)	Margin - AVG (dB)	Limit - AVG (dBµV/m)
2390.000000	48.9	33.5	1000.0	1000.000	150.0	V	190.0	8.2	20.5	54.0
2390.000000	46.9	33.0	1000.0	1000.000	150.0	H	296.0	8.2	21.0	54.0
2400.000000	47.1	33.2	1000.0	1000.000	150.0	H	296.0	8.2	20.8	54.0
2400.000000	51.8	33.9	1000.0	1000.000	150.0	V	190.0	8.2	20.1	54.0
2412.000000	101.6	77.5	1000.0	1000.000	150.0	V	190.0	8.2	-----	-----
2412.000000	93.4	69.6	1000.0	1000.000	150.0	H	296.0	8.2	-----	-----
2472.000000	99.3	75.9	1000.0	1000.000	150.0	V	170.0	8.3	-----	-----
2472.000000	90.7	68.8	1000.0	1000.000	150.0	H	331.0	8.3	-----	-----
2483.500000	50.9	33.9	1000.0	1000.000	150.0	V	170.0	8.3	20.1	54.0
2483.500000	45.1	30.1	1000.0	1000.000	150.0	H	331.0	8.3	23.9	54.0
2490.000000	49.8	33.6	1000.0	1000.000	150.0	V	170.0	8.4	20.4	54.0
2490.000000	44.0	30.1	1000.0	1000.000	150.0	H	331.0	8.4	23.9	54.0



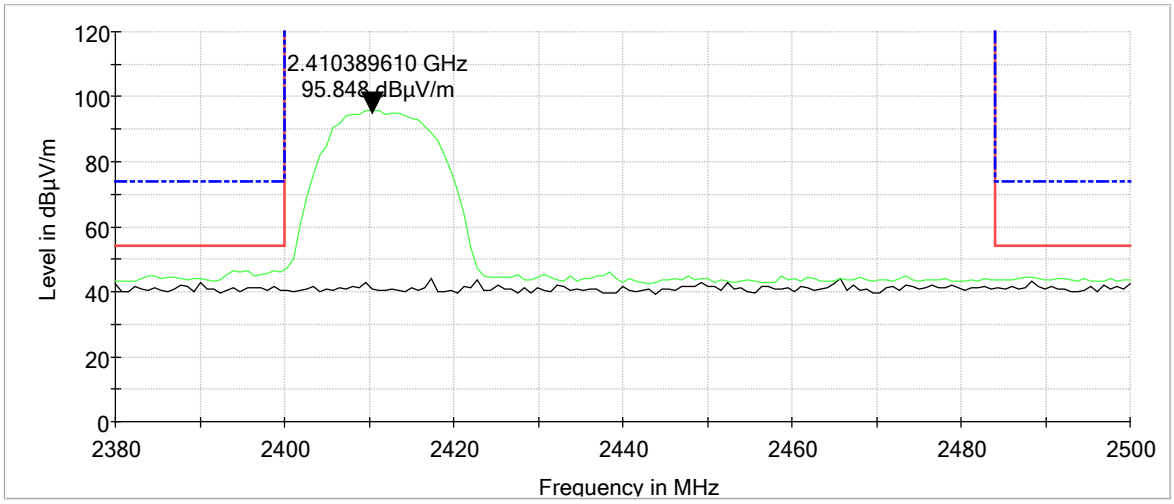
Wi-Fi, Lower Band Edge – Vertical



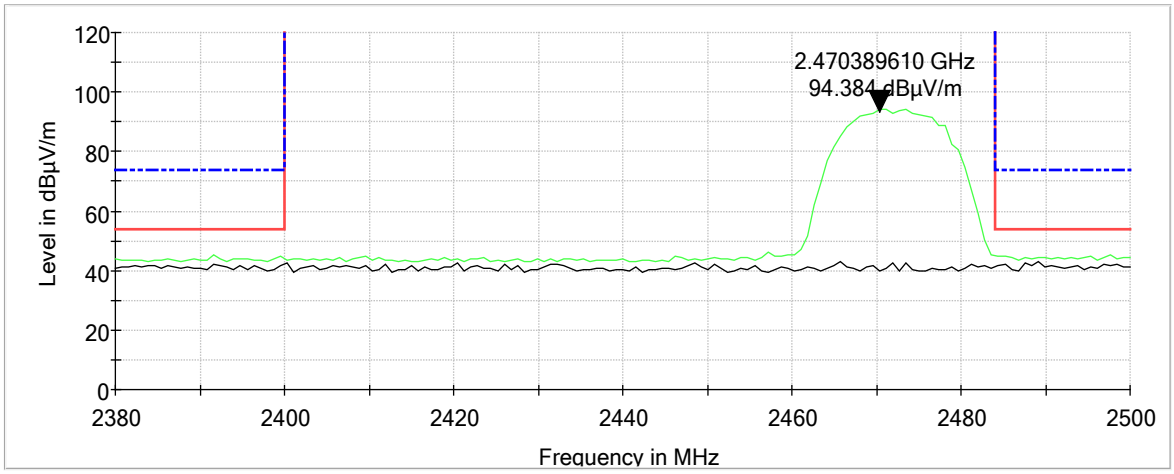
Wi-Fi, Upper Band Edge – Vertical



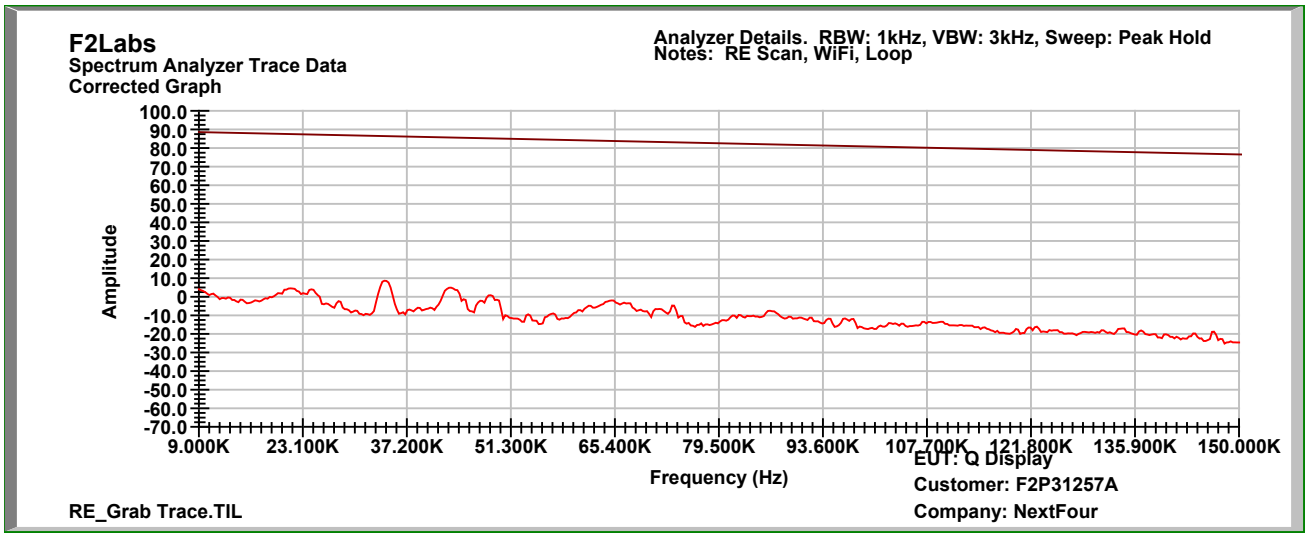
Wi-Fi, Lower Band Edge – Horizontal



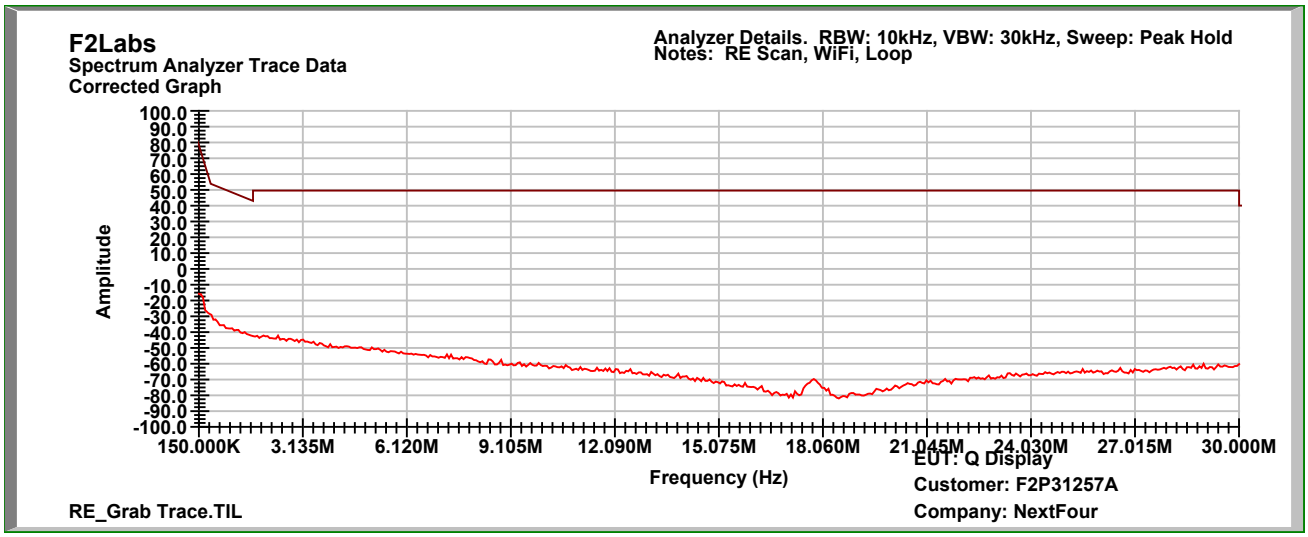
Wi-Fi, Upper Band Edge – Horizontal



Wi-Fi, Radiated Spurious Emissions: 0.009 MHz to 0.15 MHz



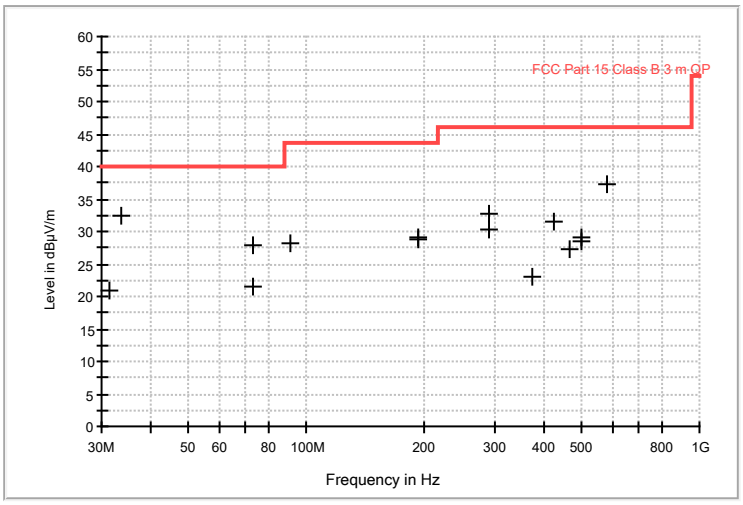
Wi-Fi, Radiated Spurious Emissions: 0.15 MHz to 30 MHz



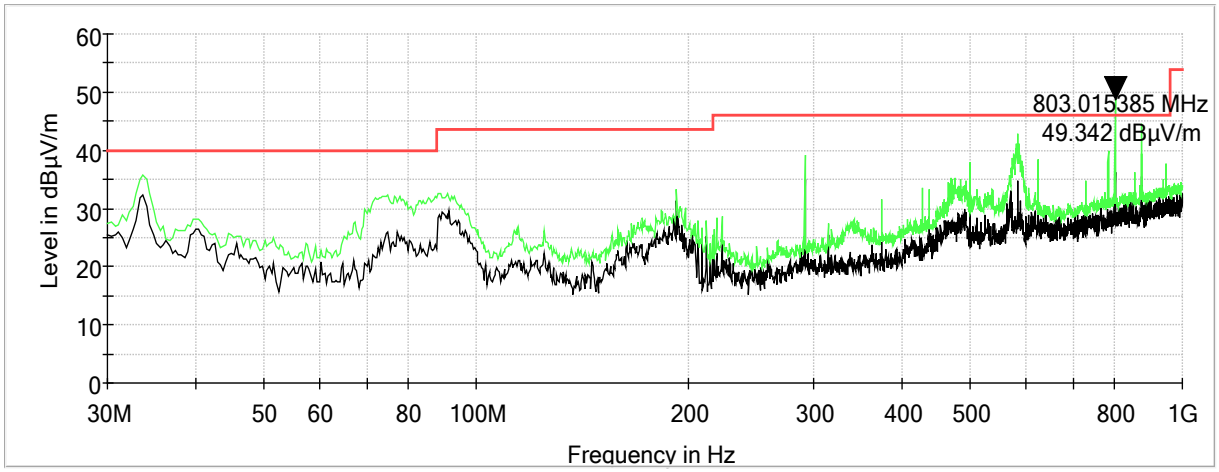
Wi-Fi, Measurements: 30 MHz to 1000 MHz

Table contains measurements from all channels

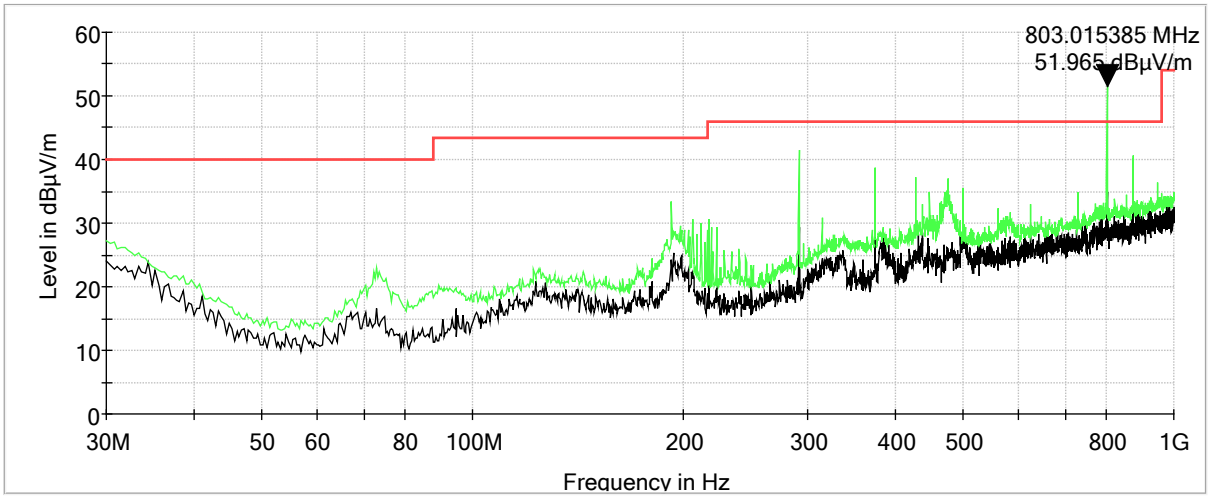
Frequency (MHz)	QuasiPeak (dBµV/m)	Bandwidth (kHz)	Height (cm)	Polarization	Azimuth (deg)	Corr. (dB)	Margin - QPK (dB)	Limit - QPK (dBµV/m)
31.490000	21.0	120.000	100.0	H	0.0	-20.2	19.0	40.0
33.730000	32.5	120.000	100.0	V	28.0	-21.8	7.5	40.0
72.900000	21.4	120.000	301.0	H	169.0	-31.5	18.6	40.0
72.900000	27.9	120.000	100.0	V	326.0	-31.5	12.1	40.0
90.810000	28.1	120.000	100.0	V	58.0	-32.1	15.4	43.5
191.920000	29.1	120.000	100.0	V	172.0	-27.4	14.4	43.5
191.920000	28.7	120.000	100.0	H	167.0	-27.4	14.8	43.5
291.900000	32.7	120.000	196.0	H	73.0	-25.1	13.4	46.0
291.900000	30.2	120.000	100.0	V	295.0	-25.1	15.8	46.0
375.100000	23.1	120.000	100.0	H	142.0	-23.3	22.9	46.0
428.070000	31.4	120.000	108.0	H	133.0	-22.0	14.6	46.0
469.110000	27.3	120.000	100.0	H	81.0	-21.0	18.7	46.0
500.080000	28.5	120.000	100.0	V	225.0	-20.7	17.5	46.0
500.080000	29.1	120.000	100.0	V	179.0	-20.7	16.9	46.0
584.020000	37.3	120.000	100.0	V	6.0	-19.4	8.7	46.0



Wi-Fi, Radiated Spurious Emissions: 30 MHz to 1000 MHz - Vertical

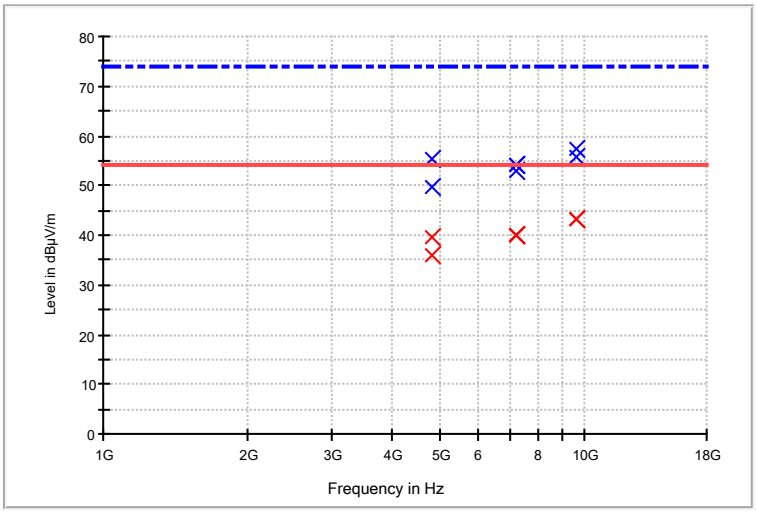


Wi-Fi, Radiated Spurious Emissions: 30 MHz to 1000 MHz - Horizontal

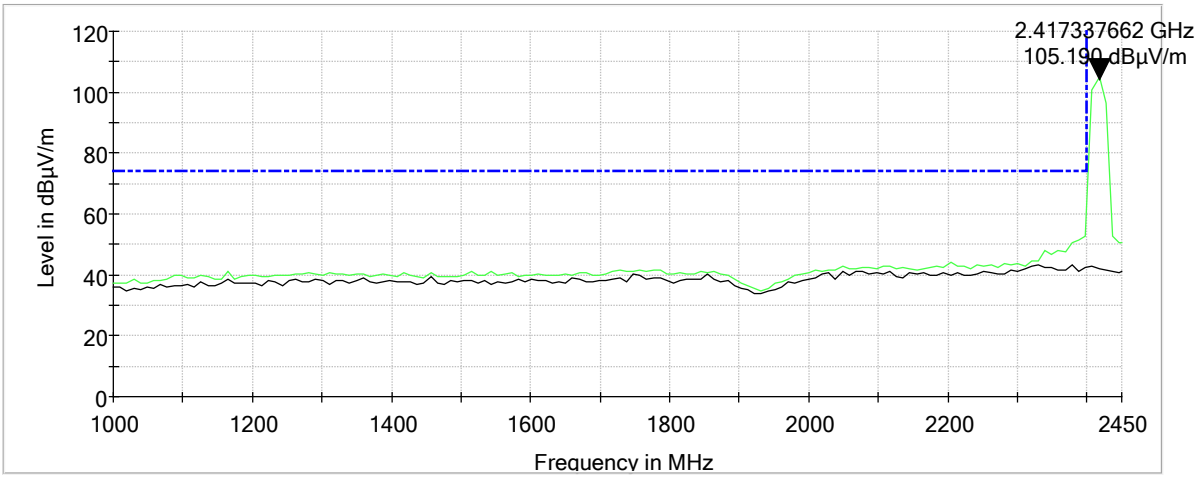


Wi-Fi, Measurements: Greater Than 1 GHz

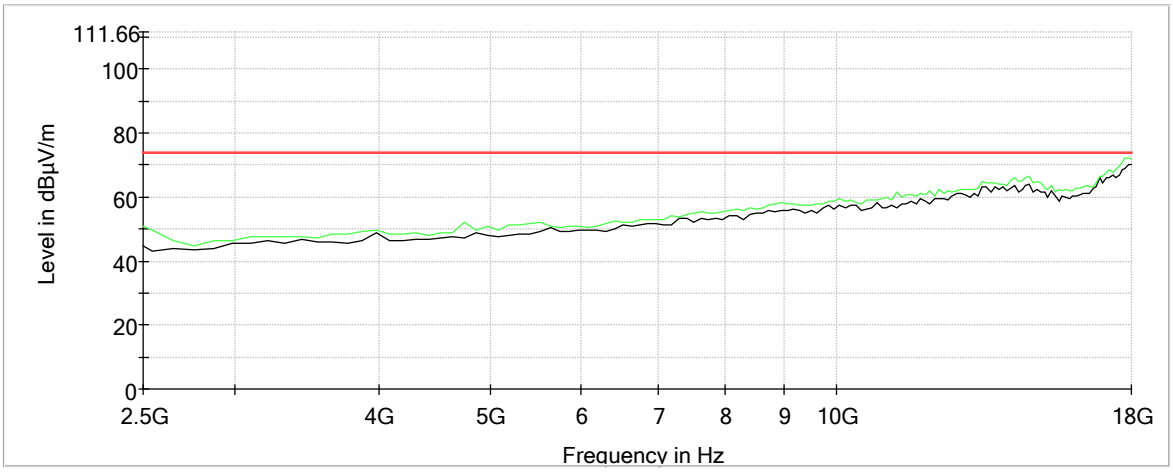
Frequency (MHz)	MaxPeak (dBµV/m)	Average (dBµV/m)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Polarization	Azimuth (deg)	Corr. (dB)	Margin - AVG (dB)	Limit - AVG (dBµV/m)	Comment
4824.000000	55.5	39.7	1000.0	1000.000	150.0	V	0.0	13.6	14.3	54.0	
4824.000000	49.6	36.0	1000.0	1000.000	150.0	H	4.0	13.6	18.0	54.0	
7236.000000	52.8	40.0	1000.0	1000.000	150.0	V	0.0	18.4	14.0	54.0	
7236.000000	54.3	40.1	1000.0	1000.000	150.0	V	343.0	18.4	13.9	54.0	
7236.000000	54.2	40.1	1000.0	1000.000	150.0	H	0.0	18.4	13.9	54.0	
9648.000000	57.2	43.3	1000.0	1000.000	150.0	V	0.0	21.9	10.7	54.0	
9648.000000	55.9	43.2	1000.0	1000.000	150.0	H	0.0	21.9	10.8	54.0	



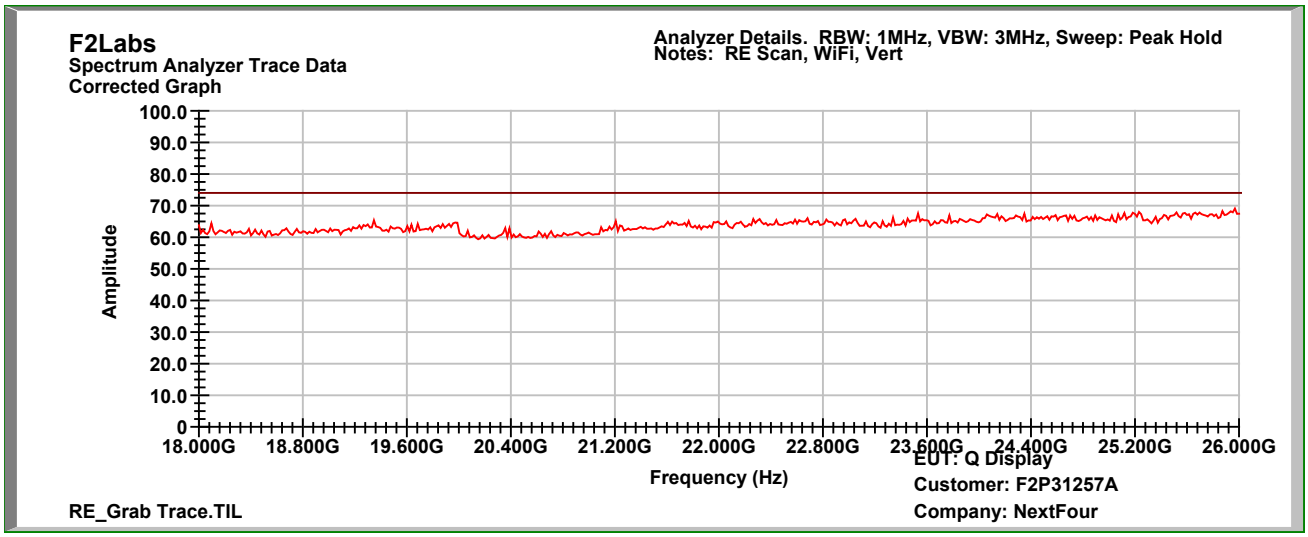
Wi-Fi, Radiated Spurious Emissions: 1 GHz to 2.4 GHz - Vertical



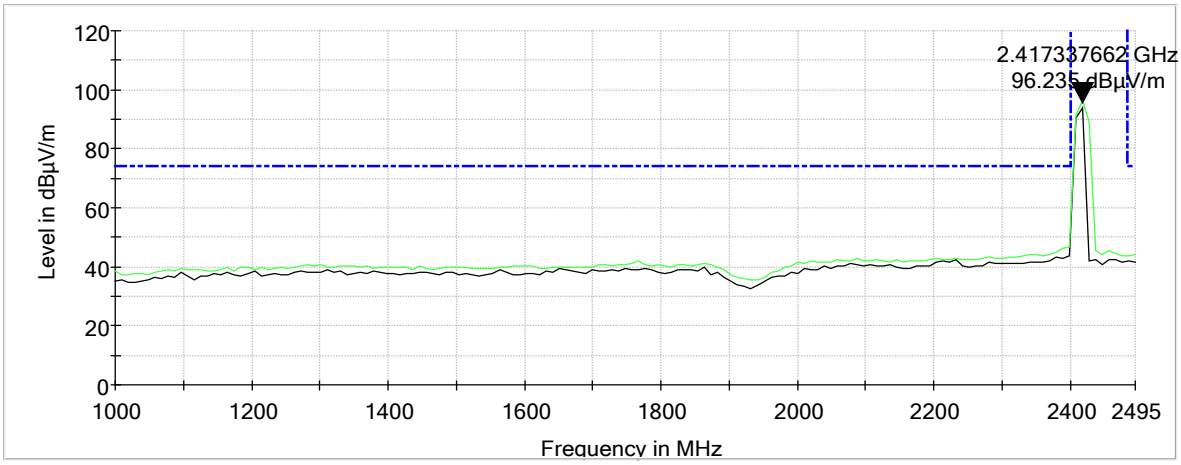
Wi-Fi, Radiated Spurious Emissions: 2.5 GHz to 18 GHz - Vertical



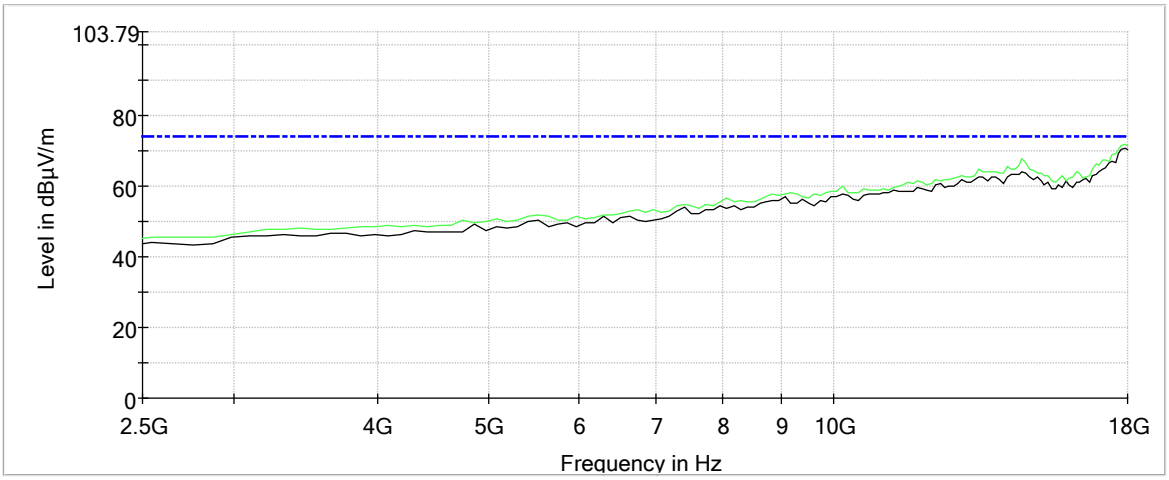
Wi-Fi, Radiated Spurious Emissions: 18 GHz to 26 GHz - Vertical



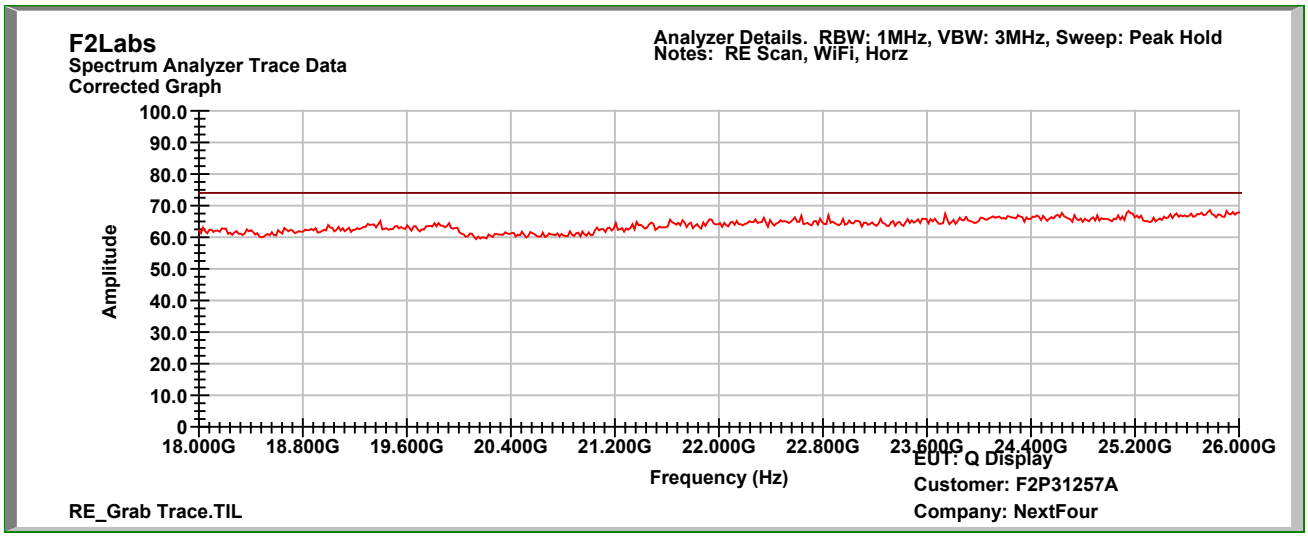
Wi-Fi, Radiated Spurious Emissions: 1 GHz to 2.4 GHz - Horizontal



Wi-Fi, Radiated Spurious Emissions: 2.5 GHz to 18 GHz - Horizontal

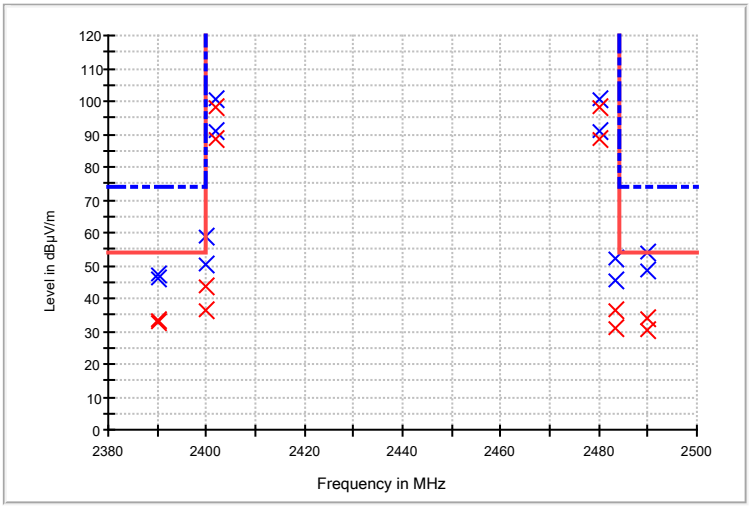


Wi-Fi, Radiated Spurious Emissions: 18 GHz to 26 GHz - Horizontal

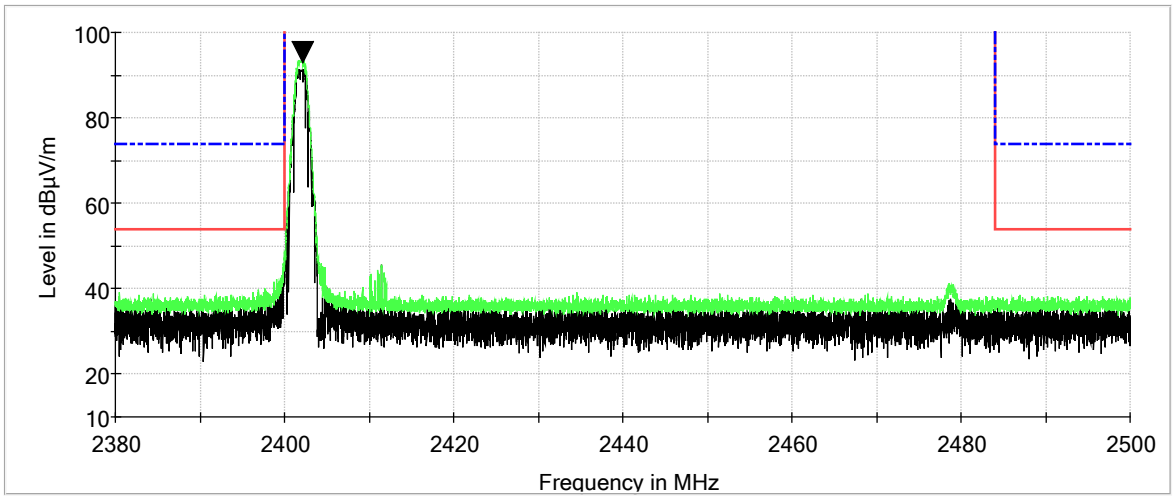


Bluetooth, Measurements: Band Edges

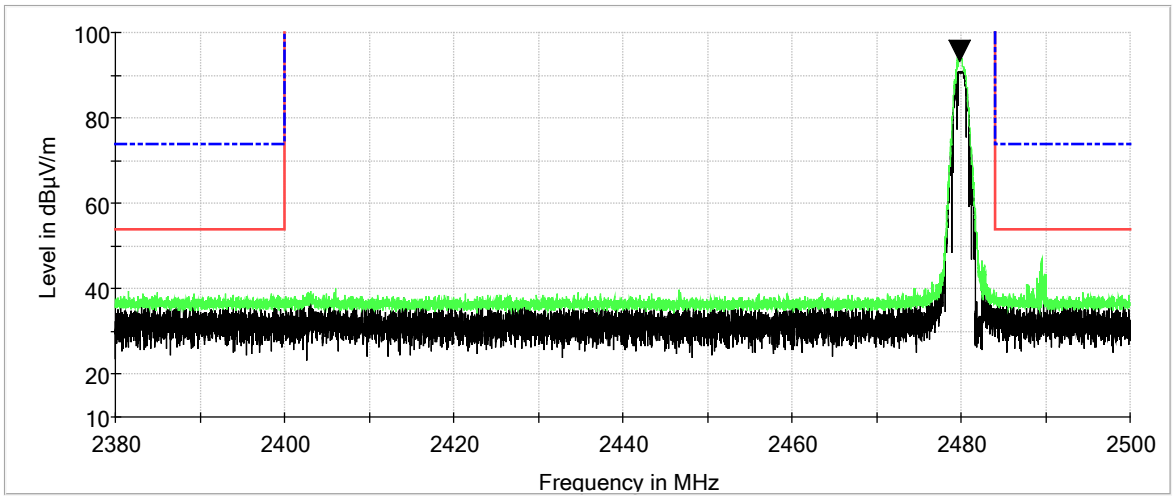
Frequency (MHz)	MaxPeak (dBµV/m)	Average (dBµV/m)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Polarization	Azimuth (deg)	Corr. (dB)	Margin - AVG (dB)	Limit - AVG (dBµV/m)
2390.000000	47.1	33.4	1000.0	1000.000	207.0	V	302.0	8.2	20.6	54.0
2390.000000	46.0	33.0	1000.0	1000.000	150.0	H	49.0	8.2	21.0	54.0
2400.000000	50.5	36.3	1000.0	1000.000	150.0	H	49.0	8.2	17.7	54.0
2400.000000	58.6	43.5	1000.0	1000.000	207.0	V	302.0	8.2	10.5	54.0
2402.000000	100.8	98.4	1000.0	1000.000	207.0	V	302.0	8.2	-----	-----
2402.000000	91.0	88.7	1000.0	1000.000	150.0	H	49.0	8.2	-----	-----
2480.000000	91.0	88.5	1000.0	1000.000	150.0	H	97.0	8.3	-----	-----
2480.000000	100.7	98.4	1000.0	1000.000	196.0	V	341.0	8.3	-----	-----
2483.500000	45.5	30.7	1000.0	1000.000	150.0	H	97.0	8.3	23.3	54.0
2483.500000	52.1	36.4	1000.0	1000.000	196.0	V	341.0	8.3	17.6	54.0
2490.000000	48.3	30.0	1000.0	1000.000	150.0	H	97.0	8.4	24.0	54.0
2490.000000	54.2	34.0	1000.0	1000.000	196.0	V	341.0	8.4	20.0	54.0



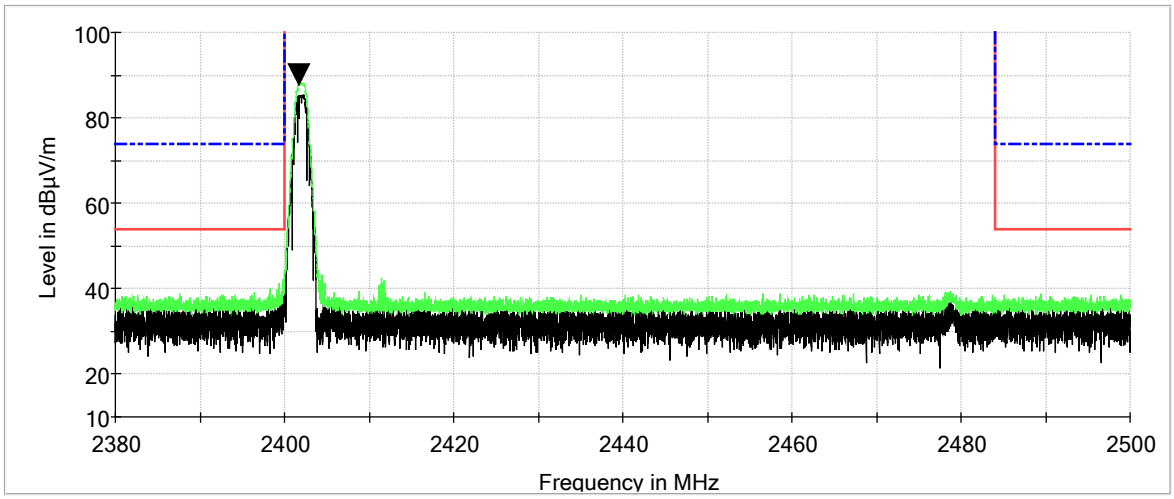
Bluetooth, Lower Band Edge – Vertical



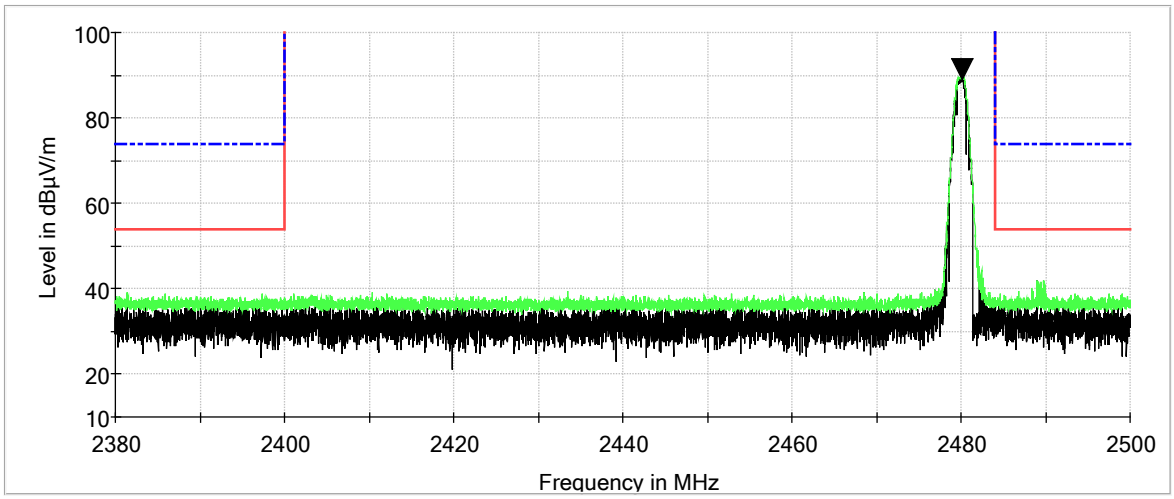
Bluetooth, Upper Band Edge – Vertical



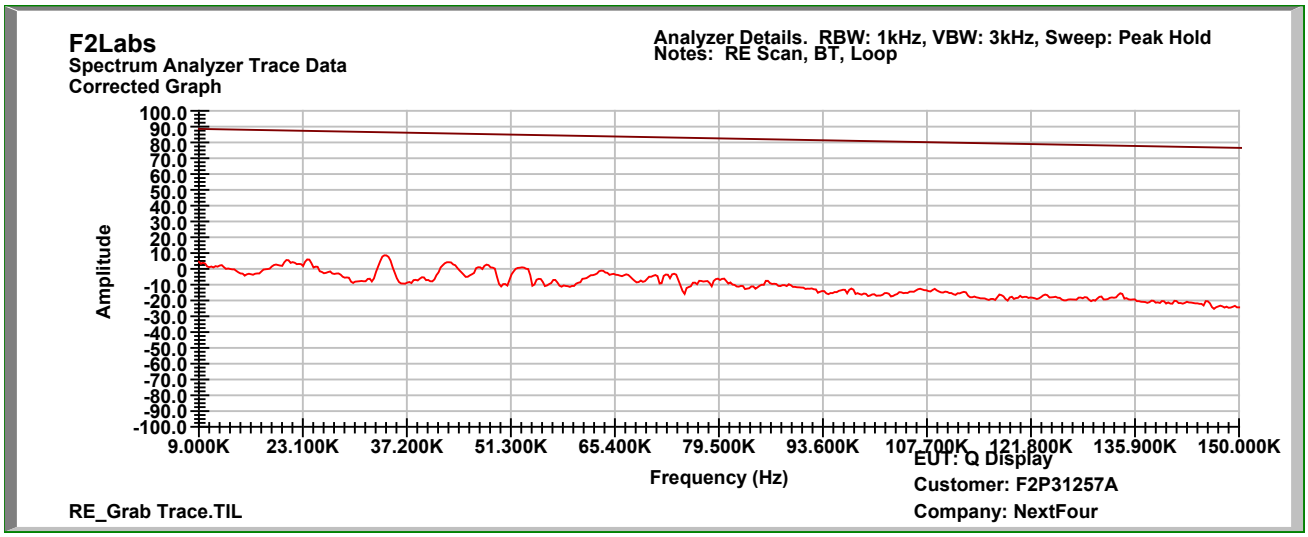
Bluetooth, Lower Band Edge – Horizontal



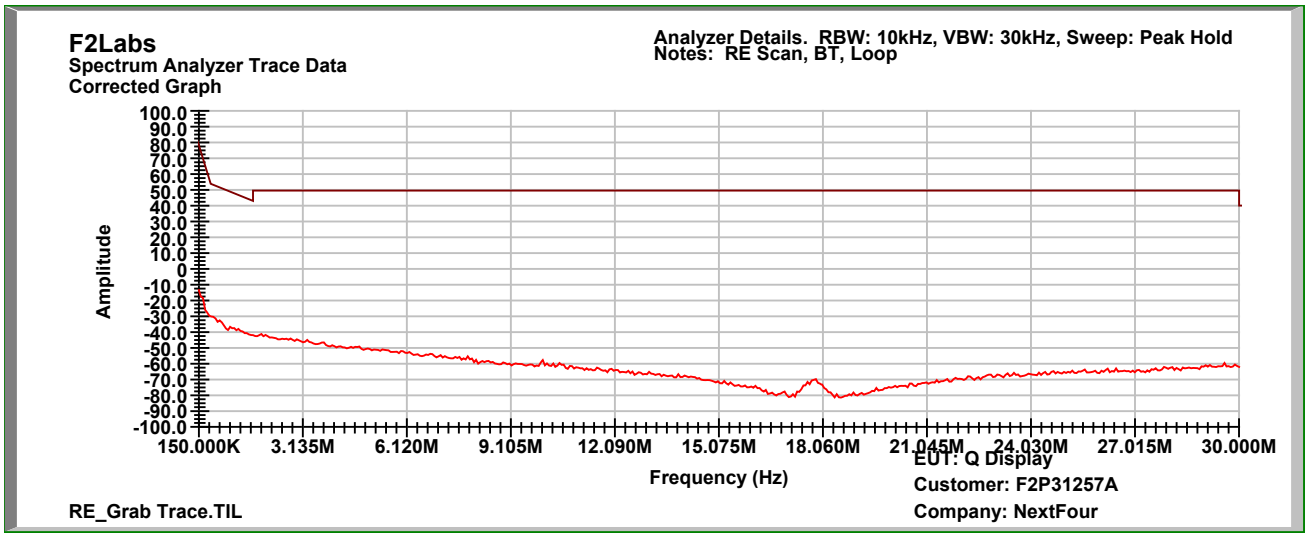
Bluetooth, Upper Band Edge – Horizontal



Bluetooth, Radiated Spurious Emissions: 0.009 MHz to 0.15 MHz



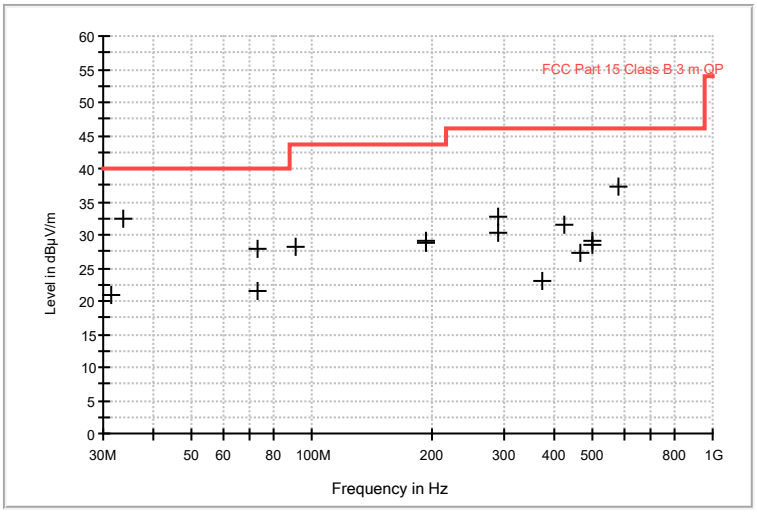
Bluetooth, Radiated Spurious Emissions: 0.15 MHz to 30 MHz



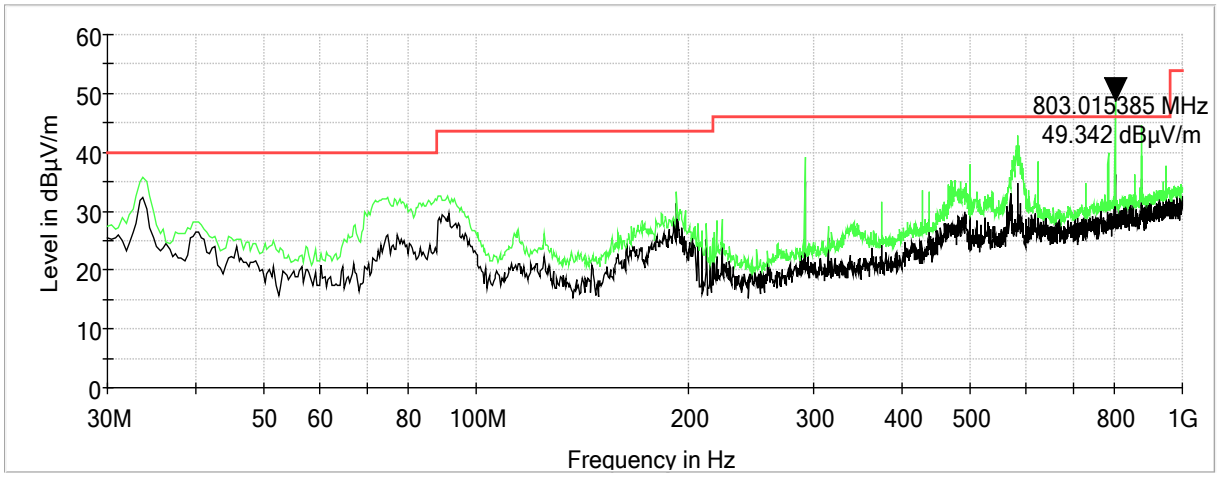
Bluetooth, Measurements: 30 MHz to 1000 MHz

*Table contains measurements from all channels

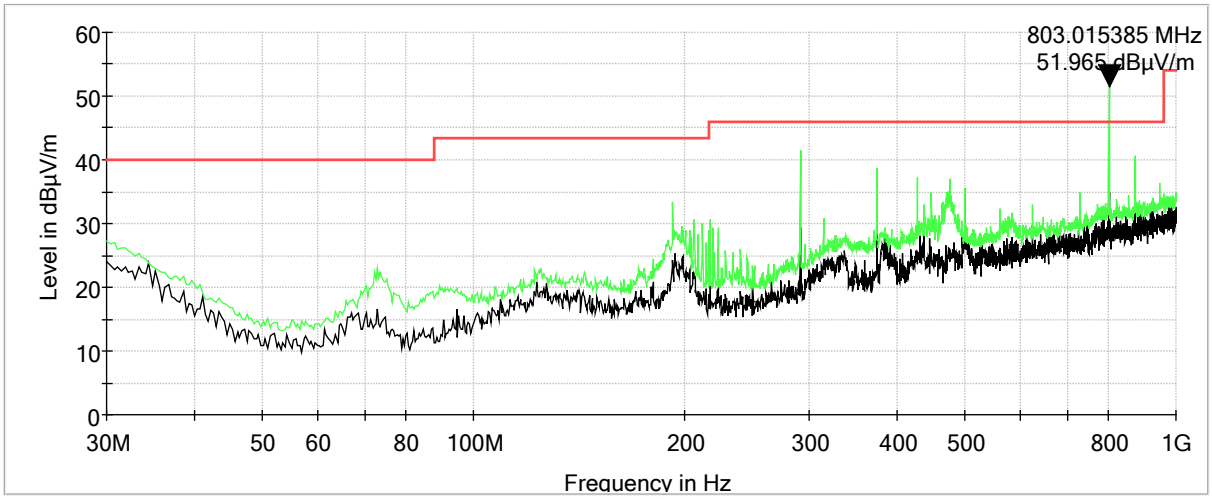
Frequency (MHz)	QuasiPeak (dBµV/m)	Bandwidth (kHz)	Height (cm)	Polarization	Azimuth (deg)	Corr. (dB)	Margin - QPK (dB)	Limit - QPK (dBµV/m)
31.490000	21.0	120.000	100.0	H	0.0	-20.2	19.0	40.0
33.730000	32.5	120.000	100.0	V	28.0	-21.8	7.5	40.0
72.900000	21.4	120.000	301.0	H	169.0	-31.5	18.6	40.0
72.900000	27.9	120.000	100.0	V	326.0	-31.5	12.1	40.0
90.810000	28.1	120.000	100.0	V	58.0	-32.1	15.4	43.5
191.920000	29.1	120.000	100.0	V	172.0	-27.4	14.4	43.5
191.920000	28.7	120.000	100.0	H	167.0	-27.4	14.8	43.5
291.900000	32.7	120.000	196.0	H	73.0	-25.1	13.4	46.0
291.900000	30.2	120.000	100.0	V	295.0	-25.1	15.8	46.0
375.100000	23.1	120.000	100.0	H	142.0	-23.3	22.9	46.0
428.070000	31.4	120.000	108.0	H	133.0	-22.0	14.6	46.0
469.110000	27.3	120.000	100.0	H	81.0	-21.0	18.7	46.0
500.080000	28.5	120.000	100.0	V	225.0	-20.7	17.5	46.0
500.080000	29.1	120.000	100.0	V	179.0	-20.7	16.9	46.0
584.020000	37.3	120.000	100.0	V	6.0	-19.4	8.7	46.0



Bluetooth, Radiated Spurious Emissions: 30 MHz to 1000 MHz - Vertical

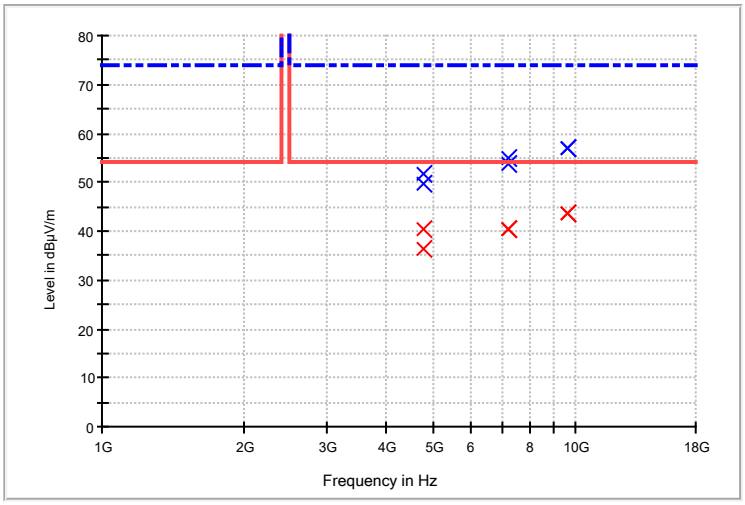


Bluetooth, Radiated Spurious Emissions: 30 MHz to 1000 MHz - Horizontal

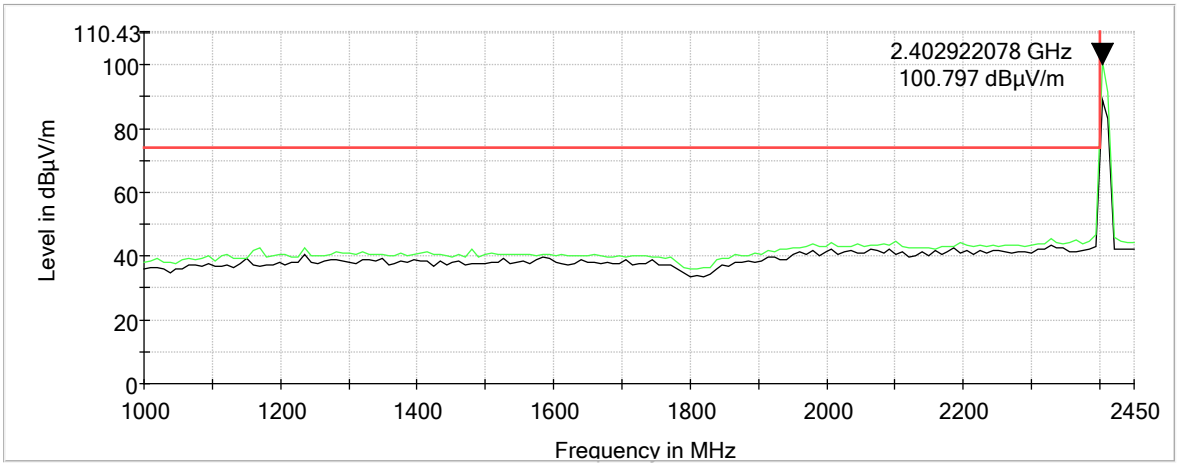


Bluetooth, Measurements: Greater Than 1 GHz

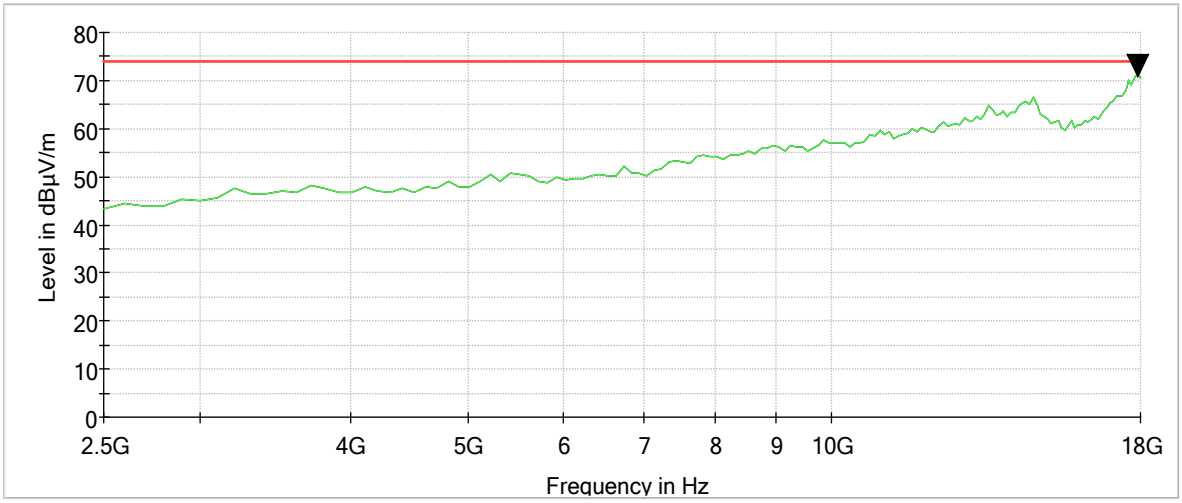
Frequency (MHz)	MaxPeak (dBµV/m)	Average (dBµV/m)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Polarization	Azimuth (deg)	Corr. (dB)	Margin - AVG (dB)	Limit - AVG (dBµV/m)	Comment
4804.000000	51.7	40.3	1000.0	1000.000	150.0	V	4.0	13.5	13.7	54.0	
4804.000000	49.8	36.2	1000.0	1000.000	150.0	H	353.0	13.5	17.8	54.0	
7206.000000	53.9	40.5	1000.0	1000.000	150.0	V	0.0	18.2	13.5	54.0	
7206.000000	54.9	40.5	1000.0	1000.000	150.0	H	3.0	18.2	13.5	54.0	
9608.000000	57.1	43.8	1000.0	1000.000	150.0	V	0.0	21.8	10.2	54.0	
9608.000000	56.9	43.7	1000.0	1000.000	150.0	H	0.0	21.8	10.3	54.0	



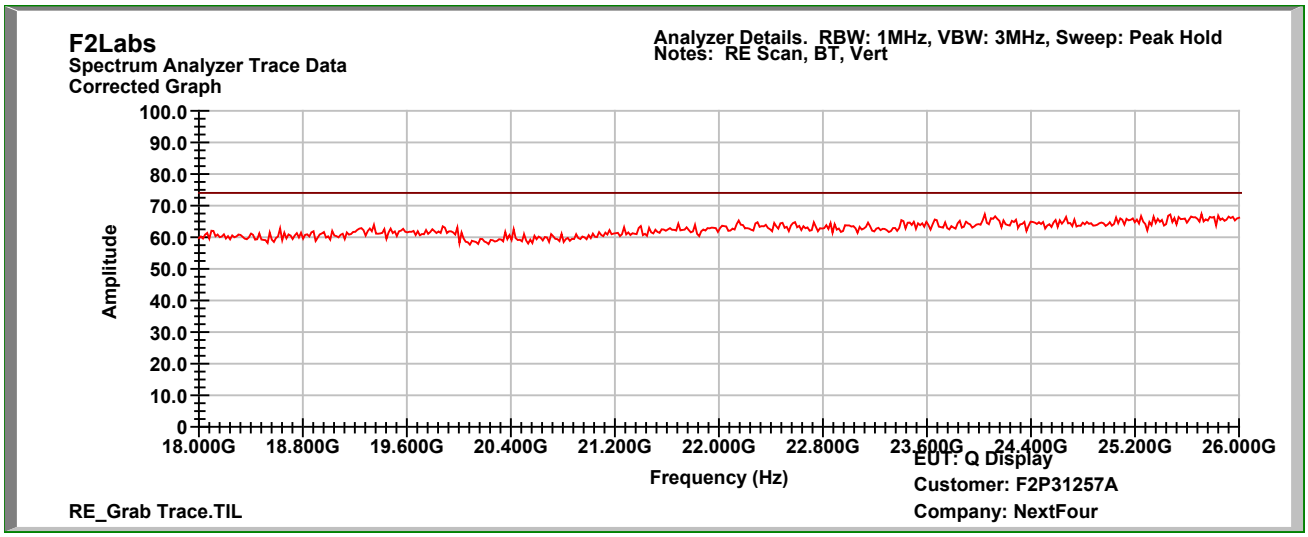
Bluetooth, Radiated Spurious Emissions: 1 GHz to 2.45 GHz - Vertical



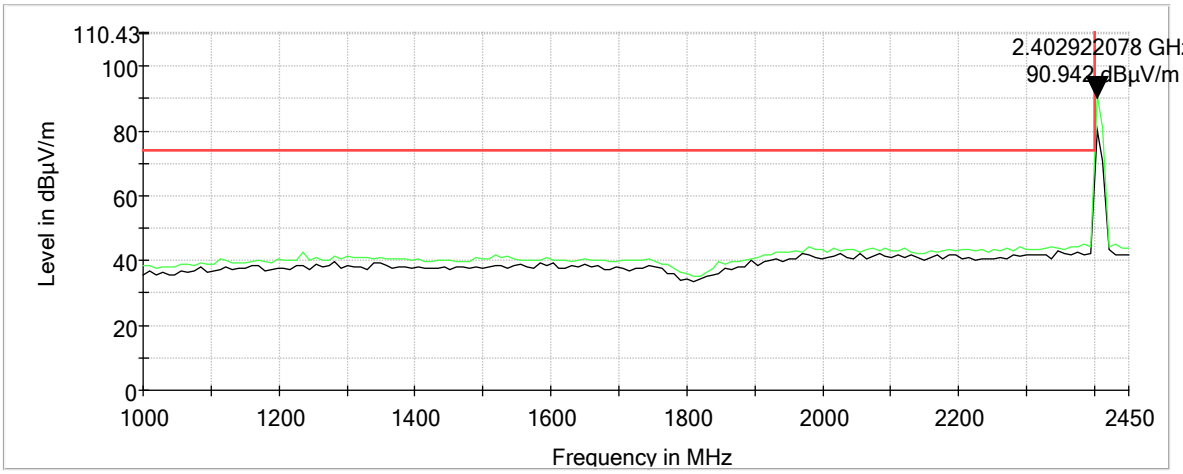
Bluetooth, Radiated Spurious Emissions: 2.5 GHz to 18 GHz - Vertical



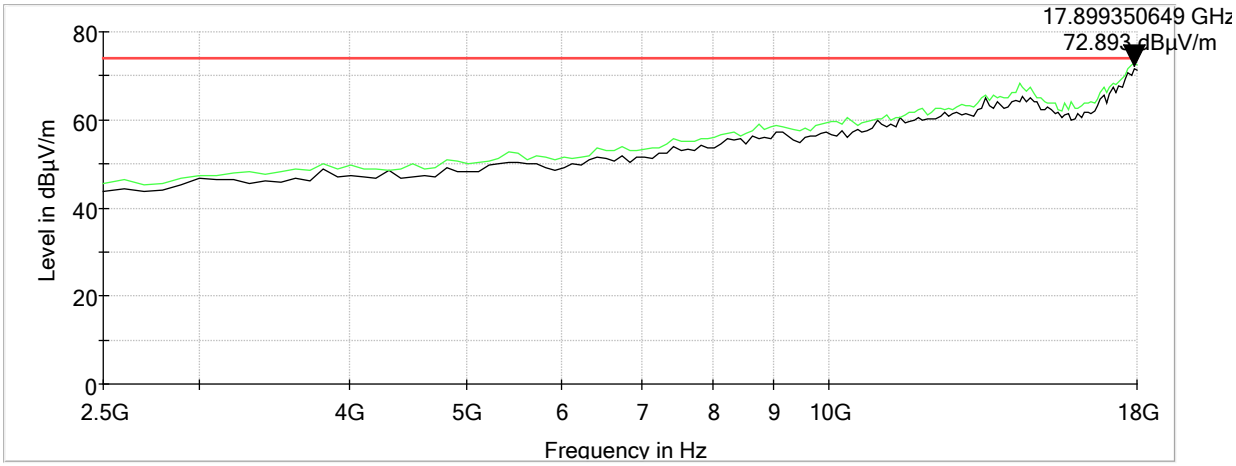
Bluetooth, Radiated Spurious Emissions: 18 GHz to 26 GHz - Vertical



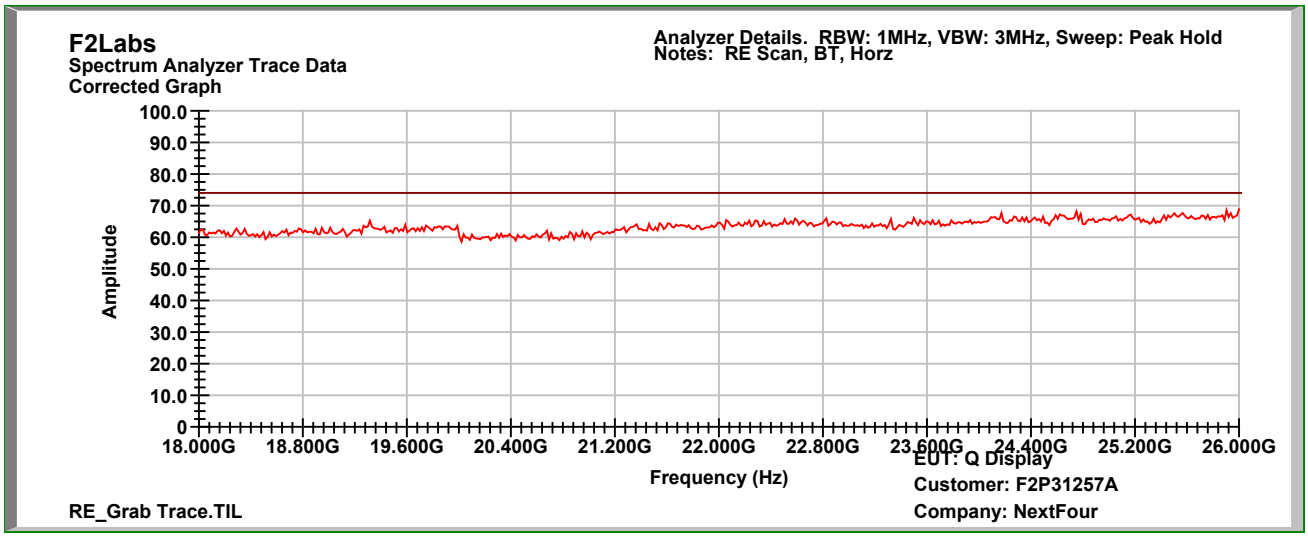
Bluetooth, Radiated Spurious Emissions: 1 GHz to 2.45 GHz - Horizontal



Bluetooth, Radiated Spurious Emissions: 2.5 GHz to 18 GHz - Horizontal



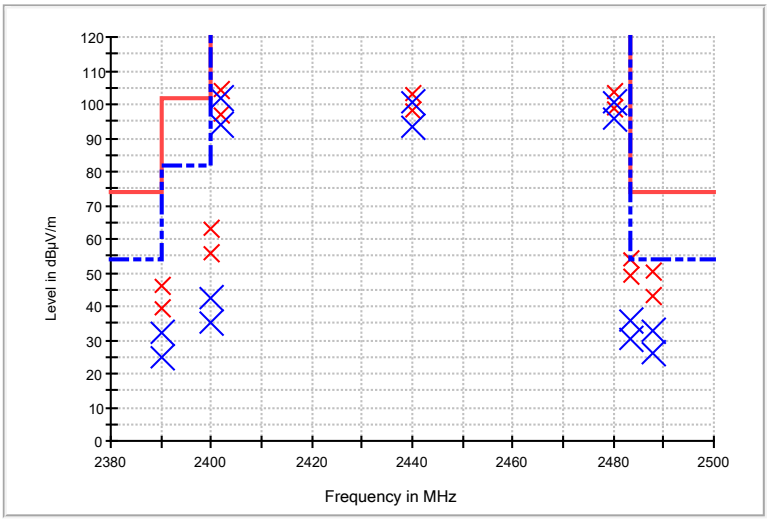
Bluetooth, Radiated Spurious Emissions: 18 GHz to 26 GHz - Horizontal



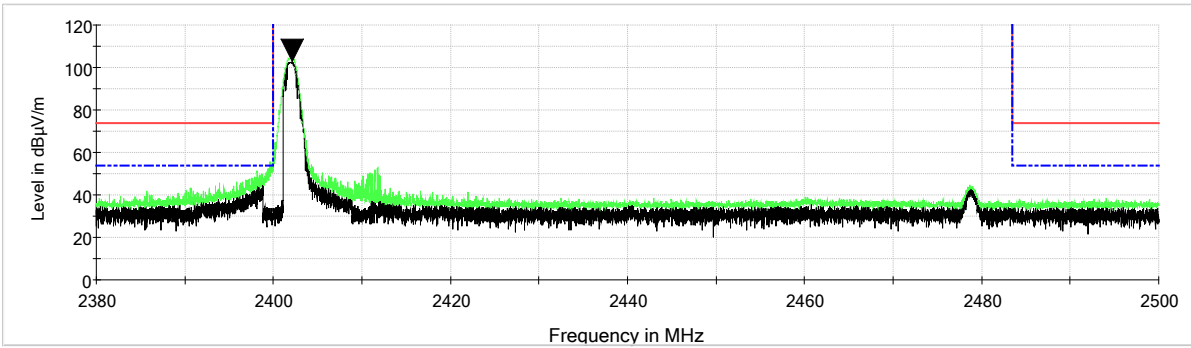
Test Date(s):	2025-01-28	Test Engineer:	E. Tobin
Standards:	CFR 47 Part 15.247(d); Part 15.209 / KDB558074	Air Temperature:	21.0ºC
		Relative Humidity:	35%

Classic Bluetooth, Measurements: Band Edges

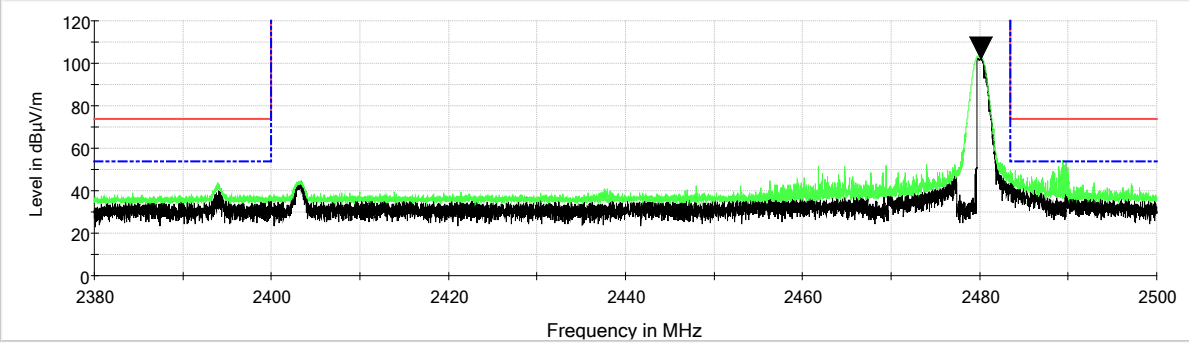
Frequency (MHz)	MaxPeak (dBµV/m)	Average (dBµV/m)	Bandwidth (kHz)	Height (cm)	Polarization	Azimuth (deg)	Corr. (dB)	Margin - AVG (dB)	Limit - AVG (dBµV/m)	Comment
2390.000000	39.2	25.0	1000.000	150.0	H	190.0	-11.5	29.0	54.0	
2390.000000	46.3	31.9	1000.000	150.0	V	300.0	-11.5	22.1	54.0	
2400.000000	63.0	42.6	1000.000	150.0	V	300.0	-11.5	39.2	81.8	
2400.000000	56.0	35.0	1000.000	150.0	H	190.0	-11.5	46.8	81.8	
2402.000000	96.8	93.8	1000.000	150.0	H	190.0	-11.5			
2402.000000	104.5	101.8	1000.000	150.0	V	300.0	-11.5			
2440.000000	103.1	100.4	1000.000	199.0	V	322.0	-11.4			
2440.000000	98.0	93.3	1000.000	116.0	H	100.0	-11.4			
2480.000000	103.5	100.7	1000.000	178.0	V	330.0	-11.4			
2480.000000	98.7	95.9	1000.000	105.0	H	75.0	-11.4			
2483.500000	53.8	35.6	1000.000	178.0	V	330.0	-11.4	18.4	54.0	
2483.500000	49.2	30.2	1000.000	105.0	H	75.0	-11.4	23.8	54.0	
2488.000000	43.2	26.0	1000.000	105.0	H	75.0	-11.4	28.0	54.0	
2488.000000	50.1	32.6	1000.000	178.0	V	330.0	-11.4	21.4	54.0	



Classic Bluetooth, Lower Band Edge – Vertical (2402 MHz)

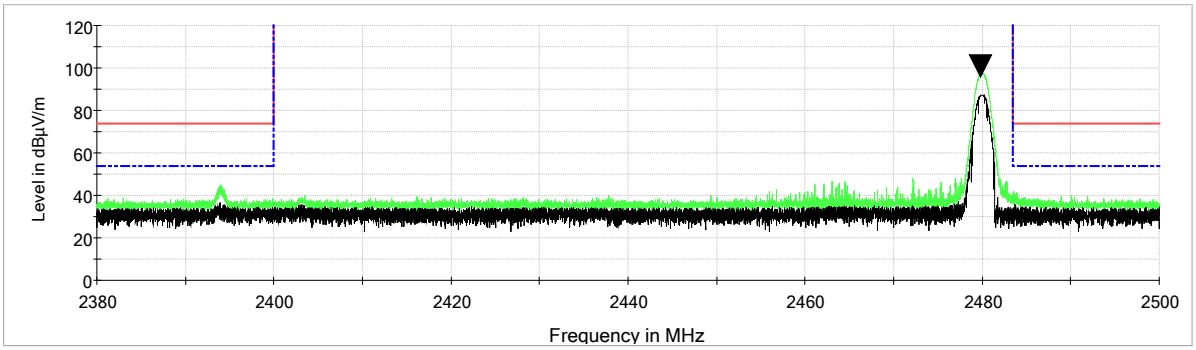


Classic Bluetooth, Upper Band Edge – Vertical (2480 MHz)

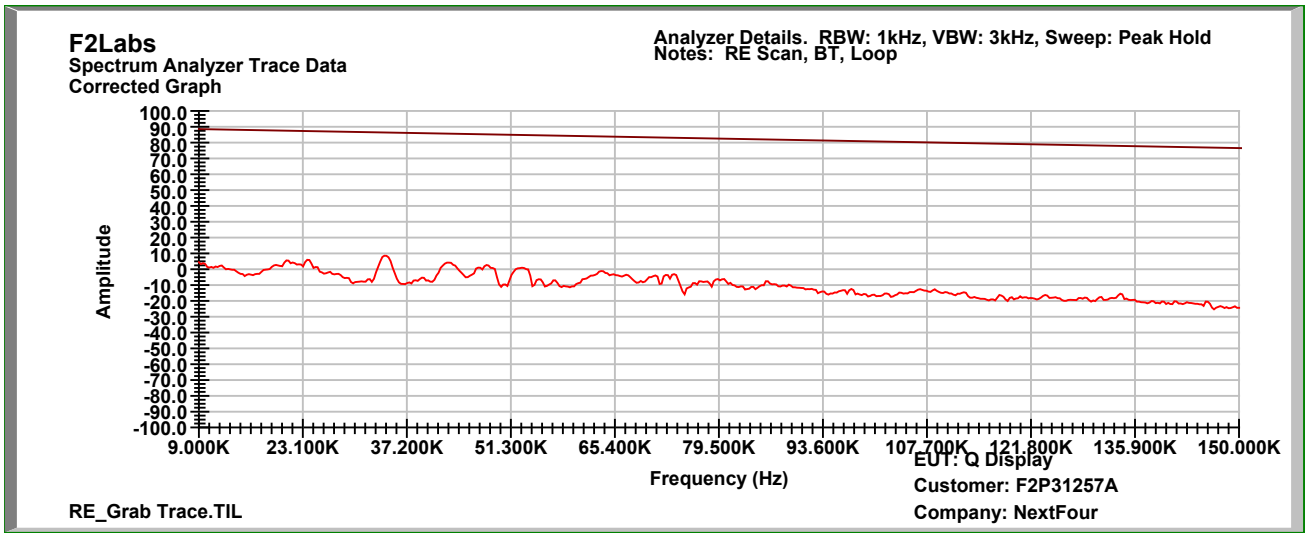


Classic Bluetooth, Lower Band Edge – Horizontal (2402 MHz)

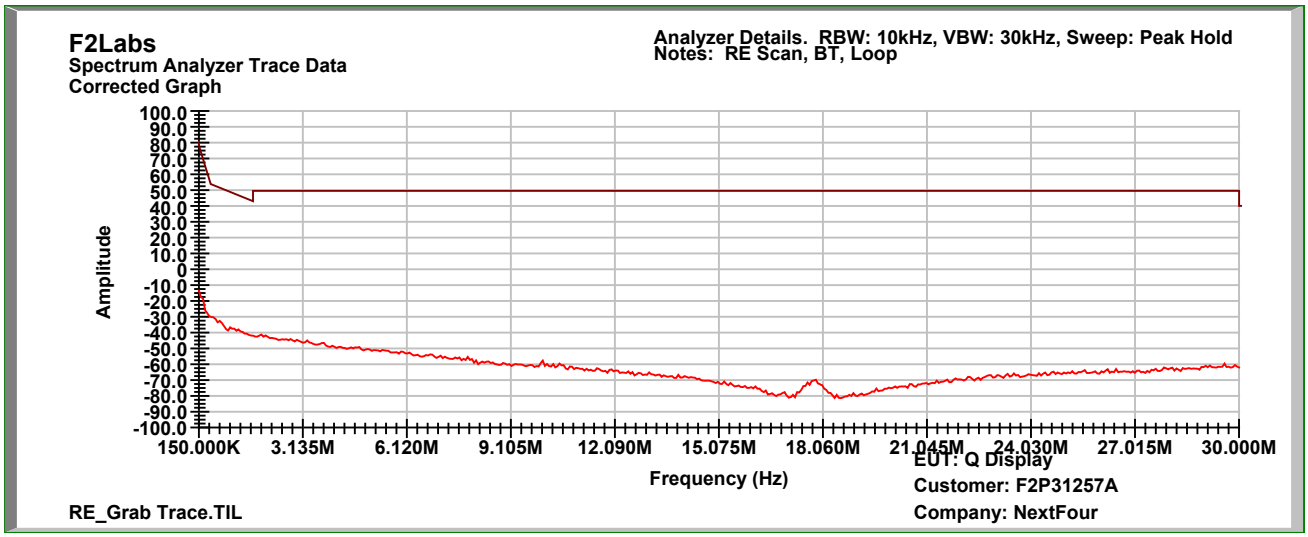
Classic Bluetooth, Upper Band Edge – Horizontal (2480 MHz)



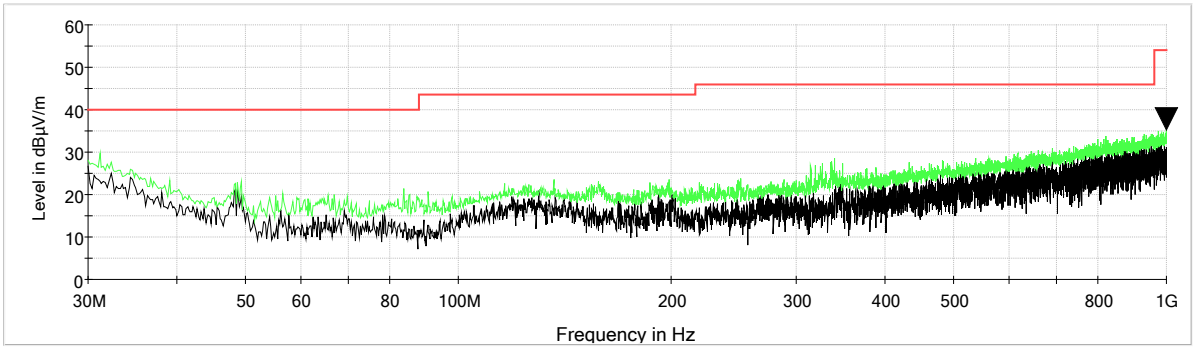
Classic Bluetooth, Radiated Spurious Emissions: 0.009 MHz to 0.15 MHz



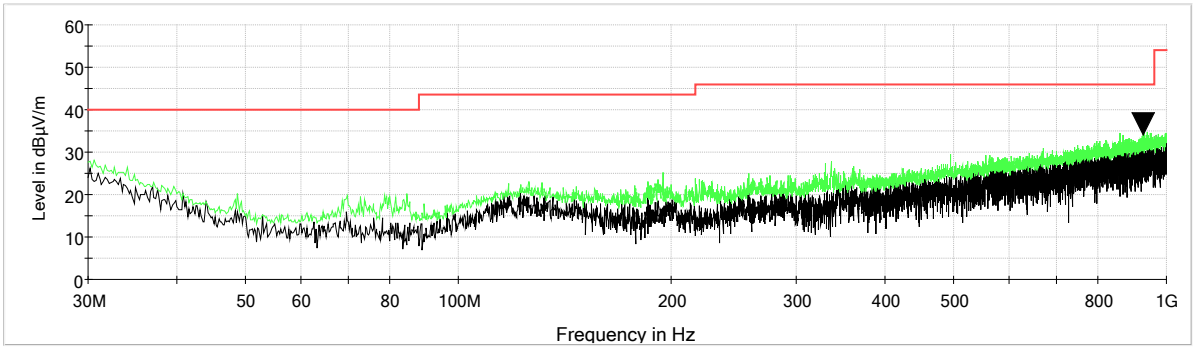
Classic Bluetooth, Radiated Spurious Emissions: 0.15 MHz to 30 MHz



Classic Bluetooth, Radiated Spurious Emissions: 30 MHz to 1000 MHz - Vertical

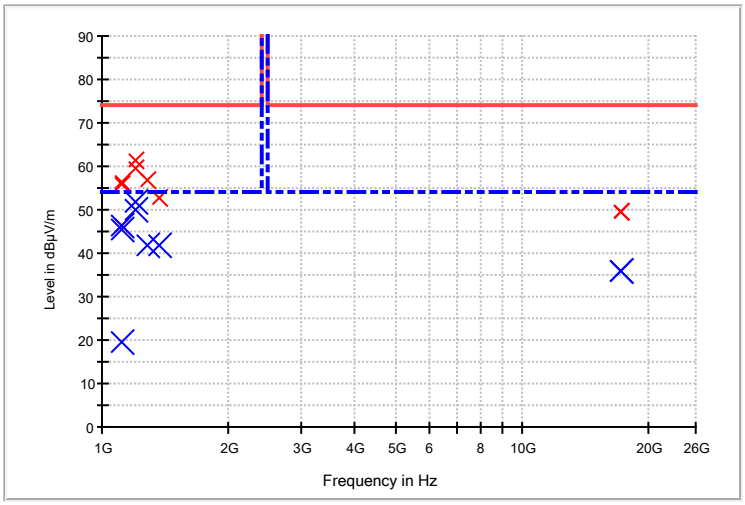


Classic Bluetooth, Radiated Spurious Emissions: 30 MHz to 1000 MHz - Horizontal

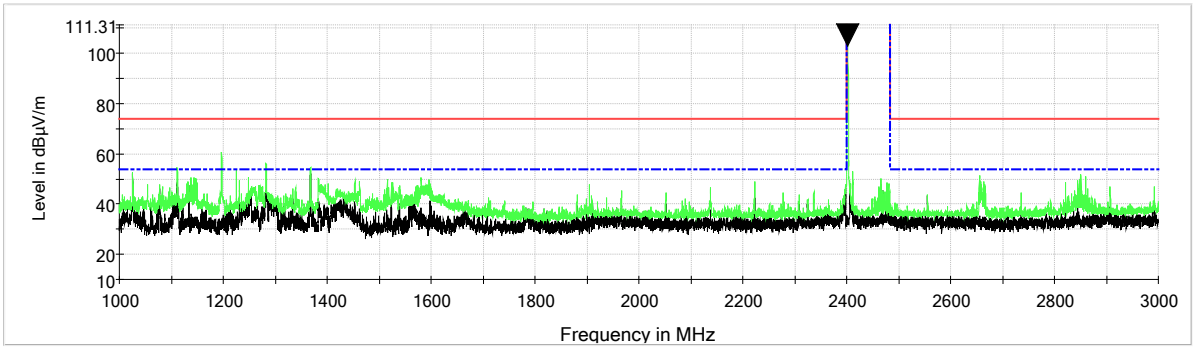


Classic Bluetooth, Measurements: Greater Than 1 GHz

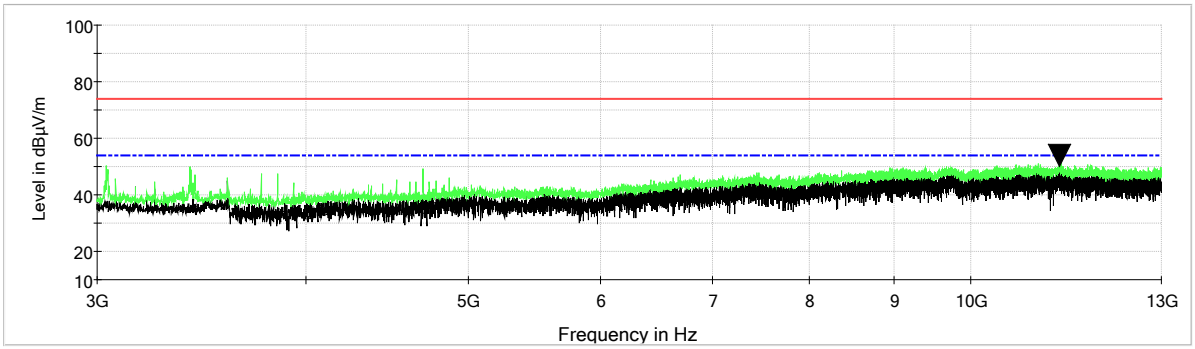
Frequency (MHz)	MaxPeak (dBµV/m)	Average (dBµV/m)	Bandwidth (kHz)	Height (cm)	Polarization	Azimuth (deg)	Corr. (dB)	Margin - AVG (dB)	Limit - AVG (dBµV/m)	Comment
1111.400000	46.2	19.4	1000.000	150.0	V	1.0	-14.3	34.6	54.0	
1111.400000	56.6	45.3	1000.000	150.0	V	161.0	-14.3	8.7	54.0	
1111.400000	55.8	46.5	1000.000	150.0	H	5.0	-14.3	7.5	54.0	
1197.000000	61.5	51.8	1000.000	150.0	V	346.0	-14.0	2.2	54.0	
1197.000000	59.4	50.1	1000.000	150.0	H	351.0	-14.0	3.9	54.0	
1282.400000	56.9	41.6	1000.000	150.0	H	7.0	-13.9	12.4	54.0	
1368.000000	52.6	41.9	1000.000	150.0	V	4.0	-13.9	12.1	54.0	
17176.500000	49.7	35.7	1000.000	150.0	V	327.0	7.8	18.3	54.0	
17176.500000	49.7	35.7	1000.000	150.0	H	12.0	7.8	18.3	54.0	



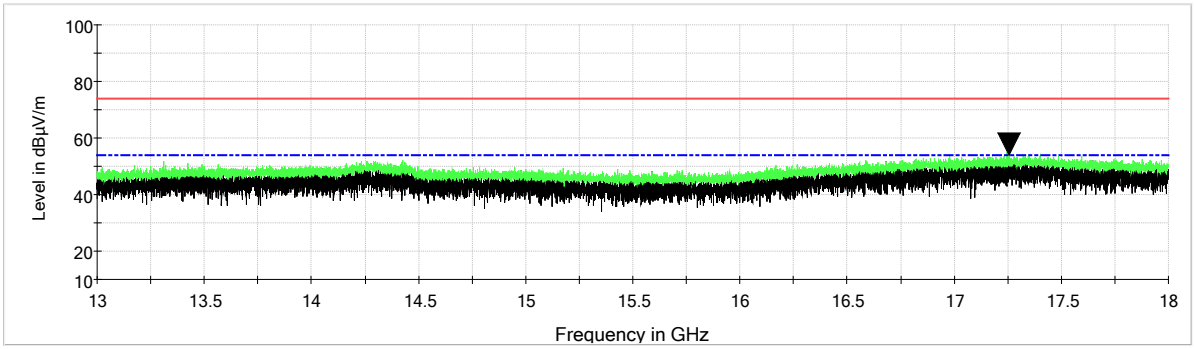
Classic Bluetooth, Radiated Spurious Emissions: 1 GHz to 3 GHz - Vertical



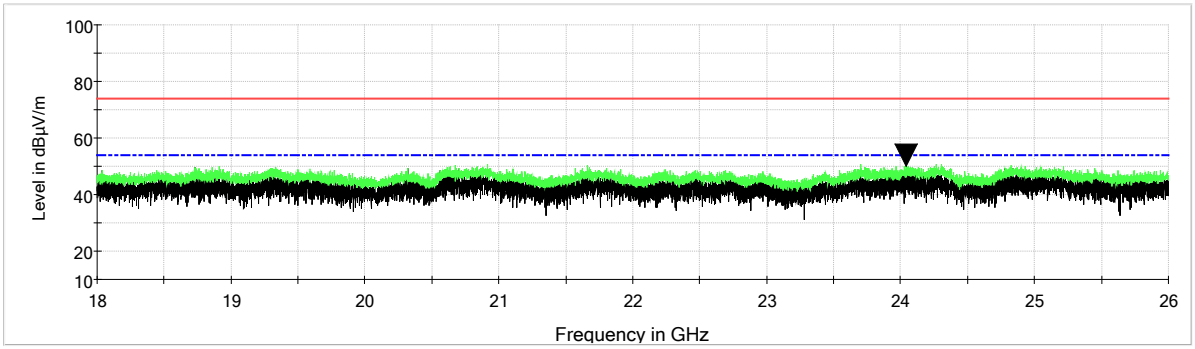
Classic Bluetooth, Radiated Spurious Emissions: 3 GHz to 13 GHz - Vertical



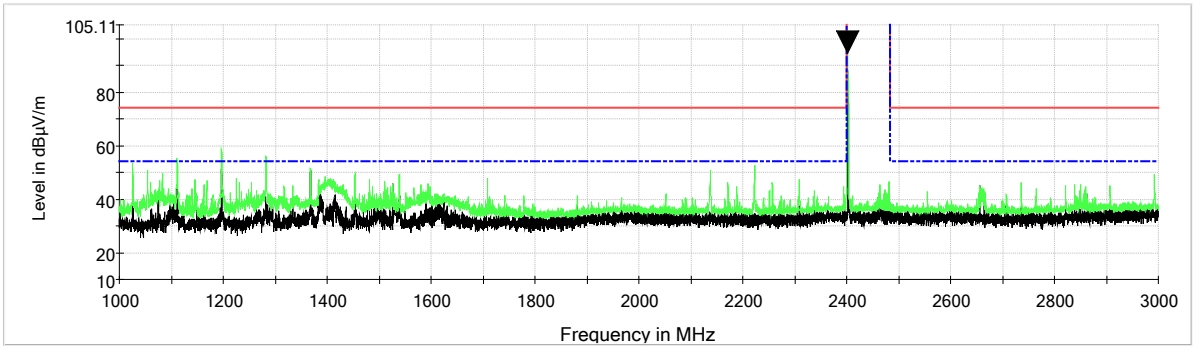
Classic Bluetooth, Radiated Spurious Emissions: 13 GHz to 18 GHz - Vertical



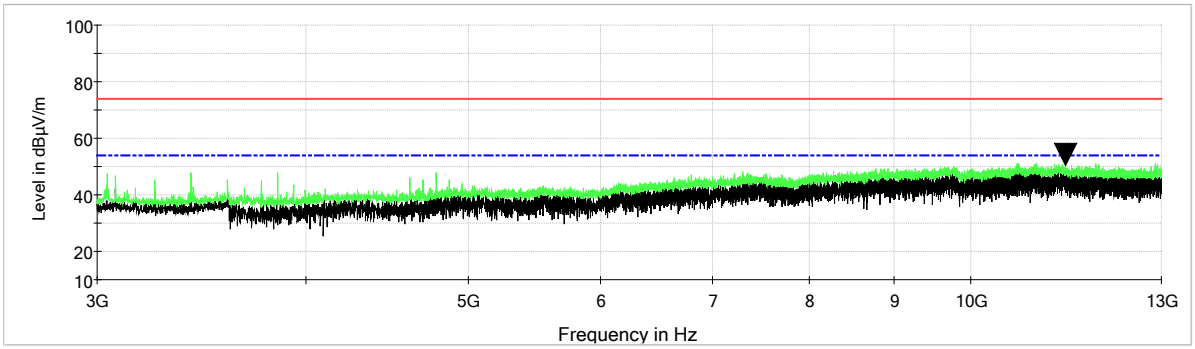
Classic Bluetooth, Radiated Spurious Emissions: 18 GHz to 26 GHz - Vertical



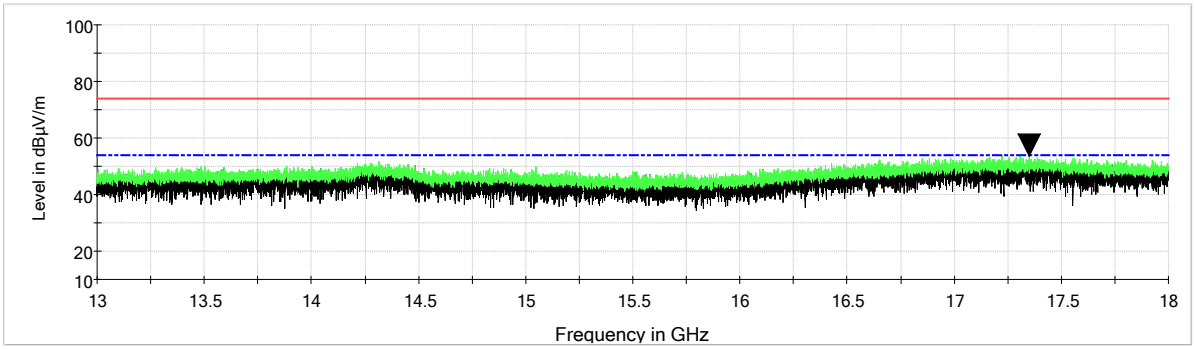
Classic Bluetooth, Radiated Spurious Emissions: 1 GHz to 3 GHz - Horizontal



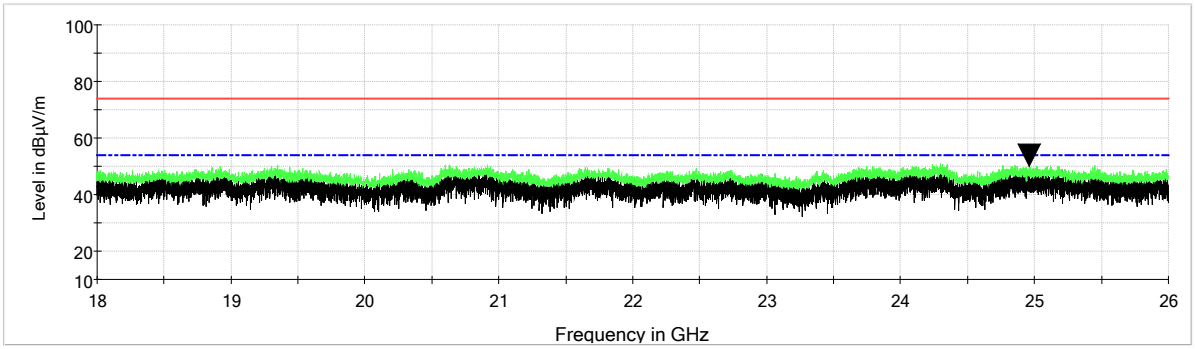
Classic Bluetooth, Radiated Spurious Emissions: 3 GHz to 13 GHz - Horizontal



Classic Bluetooth, Radiated Spurious Emissions: 13 GHz to 18 GHz - Horizontal



Classic Bluetooth, Radiated Spurious Emissions: 18 GHz to 26 GHz - Horizontal



7 CONDUCTED EMISSIONS

7.1 Requirements

In accordance with FCC CFR 47 Part 15.207(a), “Except as shown in paragraphs (b) and (c) of this section, for an intentional radiator that is designed to be connected to the public utility (AC) power line, the radio frequency voltage that is conducted back onto the AC power line on any frequency or frequencies, within the band 150 kHz to 30 MHz, shall not exceed the limits in the following table, as measured using a 50 µH/50 ohms line impedance stabilization network (LISN). Compliance with the provisions of this paragraph shall be based on the measurement of the radio frequency voltage between each power line and ground at the power terminal. The lower limit applies at the boundary between the frequency ranges.

Frequency of Emission (MHz)	Conducted Limit (dBµV)	
	Quasi-peak	Average
0.15-0.5	66 to 56*	56 to 46*
0.5-5	56	46
5-30	60	50

*Decreases with the logarithm of the frequency.

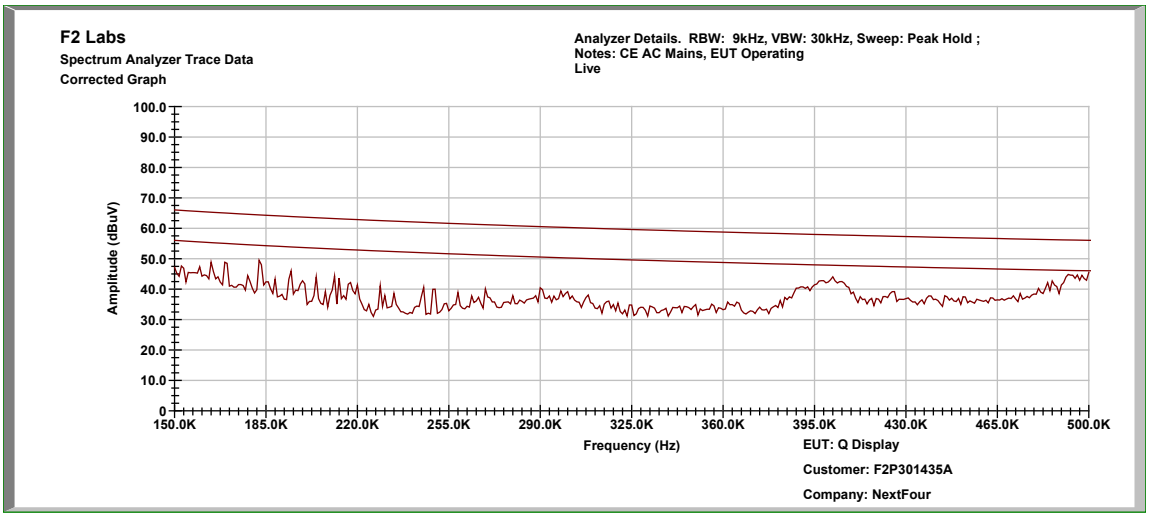
7.2 Procedure

The EUT was placed on a 1.0 x 1.5 meter non-conductive table, 0.8 meter above a horizontal ground plane and 0.4 meter from a vertical ground plane. Power was provided to the EUT through a LISN bonded to a 3 x 2 meter ground plane. The LISN and peripherals were supplied power through a filtered AC power source. The output of the LISN was connected to the input of the receiver via a transient limiter, and emissions in the range 150 kHz to 30 MHz were measured. The measurements were recorded using the quasi-peak and average detectors as directed by the standard, and the resolution bandwidth during testing was 9 kHz. The raw measurements were corrected to allow for attenuation from the LISN, transient limiter and cables.

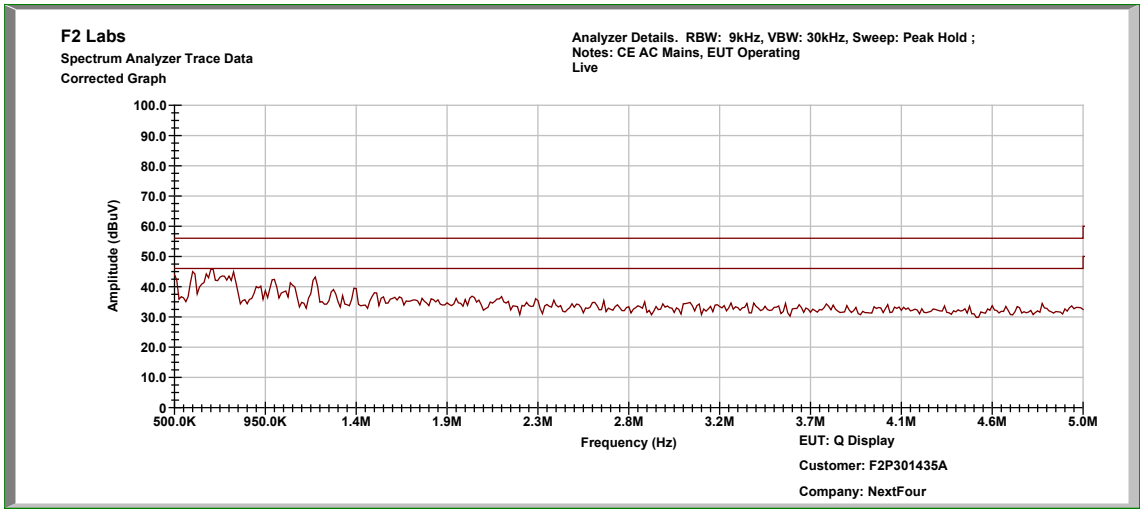
7.3 Test Data

Test Date(s):	2024-01-11	**Test Engineer:**	J. Chiller
Rule:	15.207	**Air Temperature:**	21.3º C
Test Results:	Complies	**Relative Humidity:**	41%

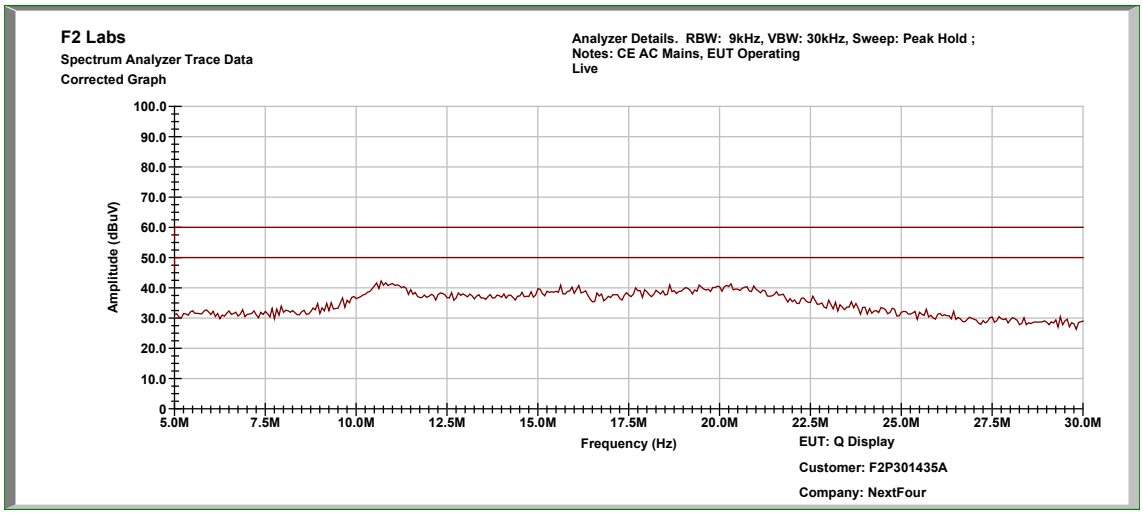
Conducted Test – Live: 0.15 MHz to 0.5 MHz



Conducted Test – Live: 0.5 MHz to 5.0 MHz

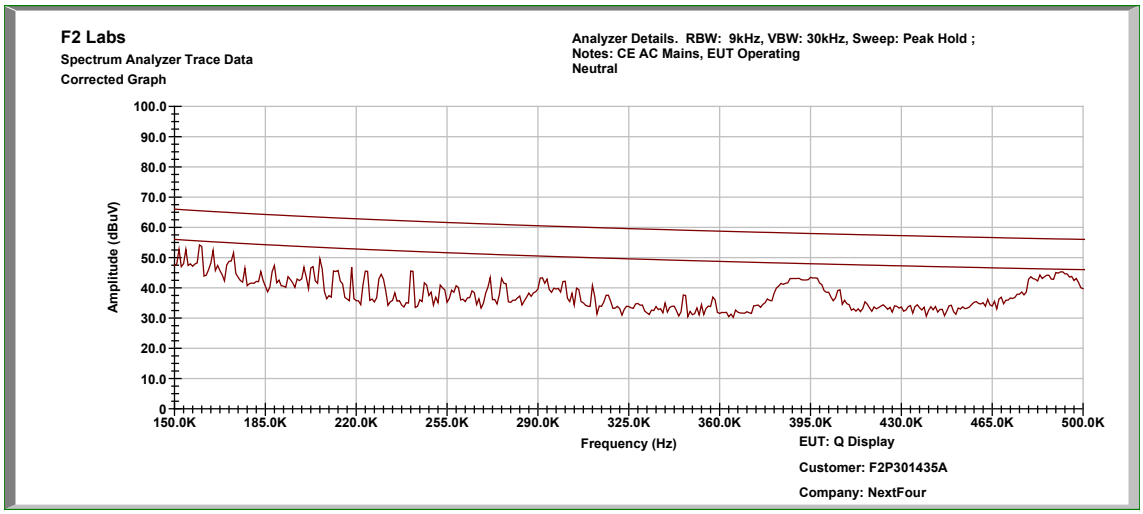


Conducted Test – Live: 5.0 MHz to 30.0 MHz

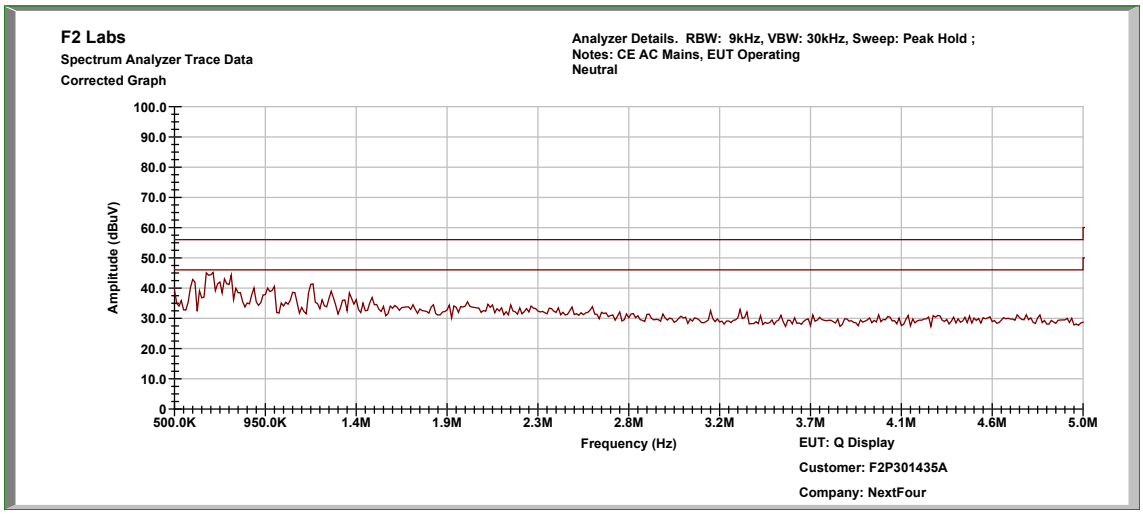


Top Discrete Measurements								
No.	Conductor	Frequency (MHz)	Detector	Level (dBµV)	Adjustment (dB)	Results (dBµV)	Limit (dBµV)	Margin (dB)
1	Line 1	0.493	Quasi-Peak	33.12	10.021	43.14	56.1	-13.0
			Average	21.65	10.021	31.67	46.1	-14.4
2	Line 1	0.500	Quasi-Peak	32.63	10.200	42.83	56.0	-13.2
			Average	21.73	10.200	31.93	46.0	-14.1
3	Line 1	0.601	Quasi-Peak	33.69	9.980	43.67	56.0	-12.3
			Average	20.69	9.980	30.67	46.0	-15.3
4	Line 1	0.691	Quasi-Peak	33.90	9.902	43.80	56.0	-12.2
			Average	19.85	9.902	29.75	46.0	-16.2
5	Line 1	0.792	Quasi-Peak	31.75	9.914	41.66	56.0	-14.3
			Average	21.73	9.914	31.64	46.0	-14.4
5	Line 1	1.197	Quasi-Peak	30.99	9.922	40.91	56.0	-15.1
			Average	18.16	9.922	28.08	46.0	-17.9

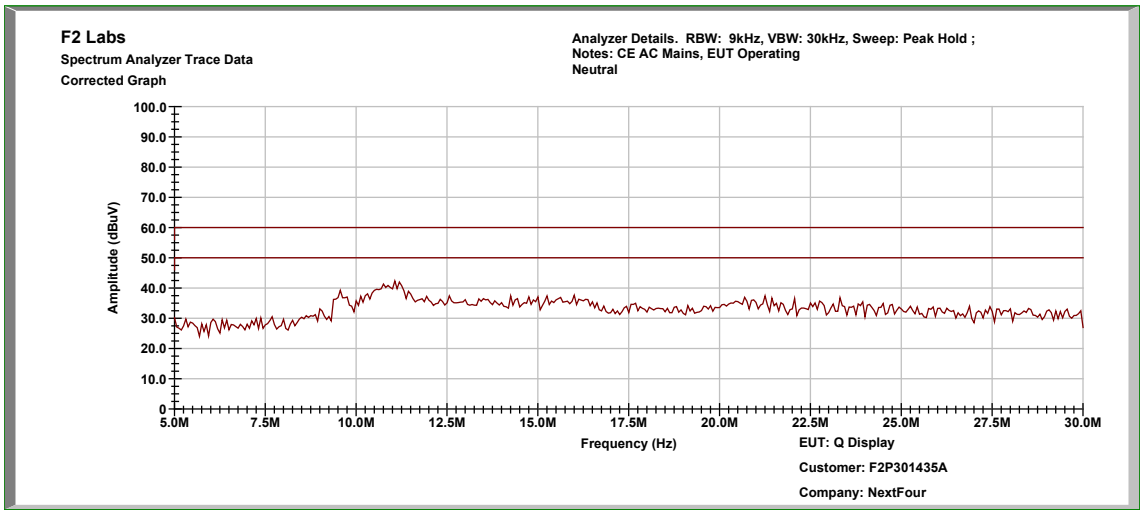
Conducted Test – Neutral: 0.15 MHz to 0.5 MHz



Conducted Test – Neutral: 0.5 MHz to 5.0 MHz



Conducted Test – Neutral: 5.0 MHz to 30.0 MHz

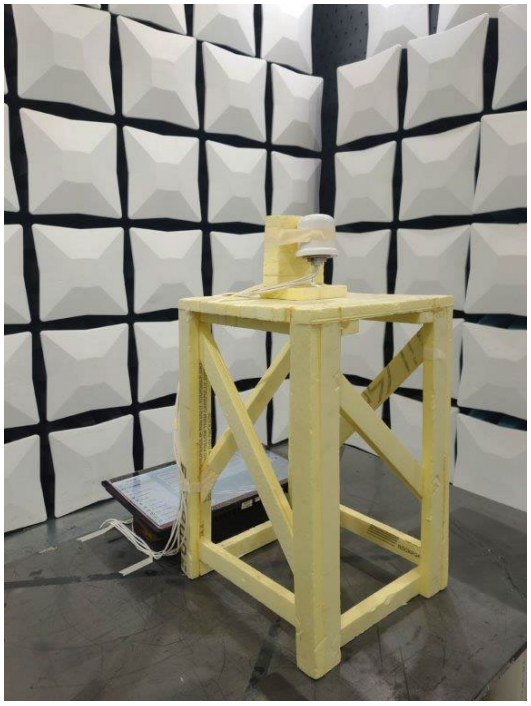


Top Discrete Measurements								
No.	Conductor	Frequency (MHz)	Detector	Level (dBµV)	Adjustment (dB)	Results (dBµV)	Limit (dBµV)	Margin (dB)
1	Neutral	0.160	Quasi-Peak	31.98	10.927	42.91	65.44	-22.5
			Average	25.11	10.927	36.04	55.44	-19.4
2	Neutral	0.482	Quasi-Peak	32.74	10.002	42.74	56.13	-13.4
			Average	20.12	10.002	30.12	46.13	-16.0
3	Neutral	0.691	Quasi-Peak	32.61	9.956	42.57	56.0	-13.4
			Average	21.20	9.956	31.16	46.0	-14.8
4	Neutral	0.781	Quasi-Peak	31.13	9.919	41.05	56.0	-15.0
			Average	21.51	9.919	31.43	46.0	-14.6

8 TEST SETUP PHOTOGRAPH(S)

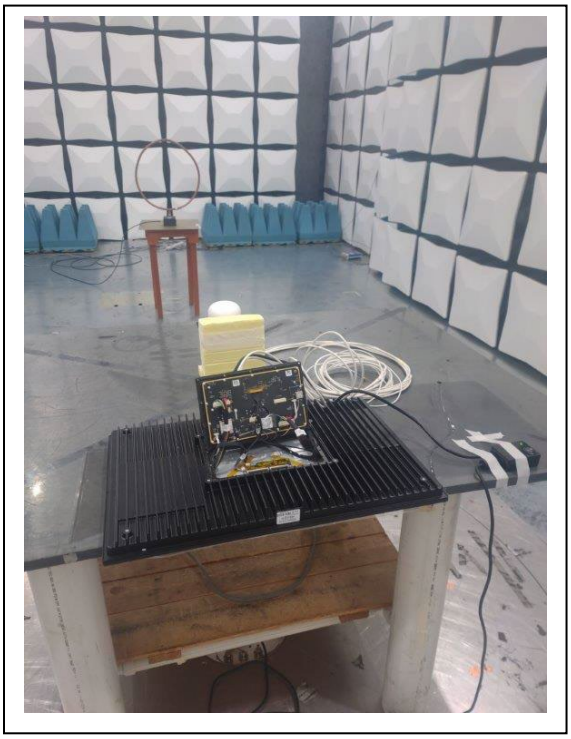
Wi-Fi / BLUETOOTH

Radio Setup



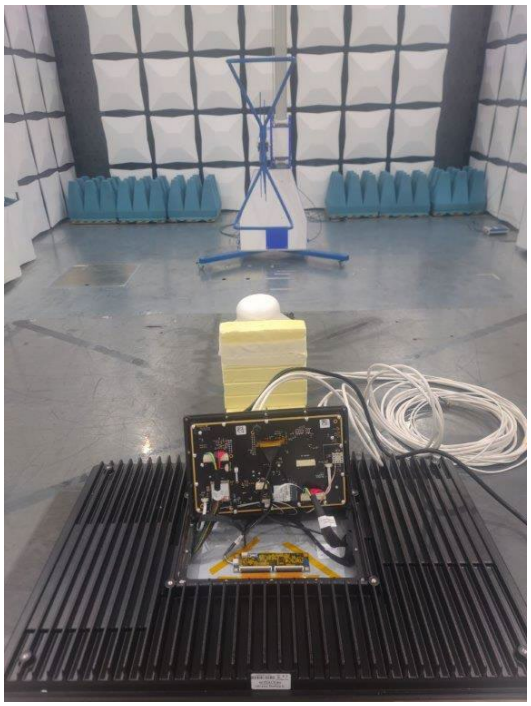
Wi-Fi / BLUETOOTH, cont'd

Radiated Spurious Emission: 0.009 MHz to 30 MHz



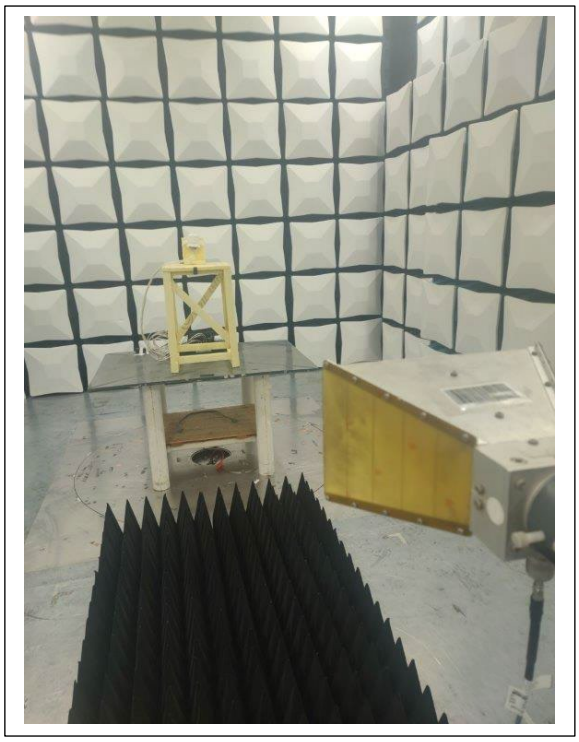
Wi-Fi / BLUETOOTH, cont'd

Radiated Spurious Emission: 30 MHz to 1000 MHz



Wi-Fi / BLUETOOTH, cont'd

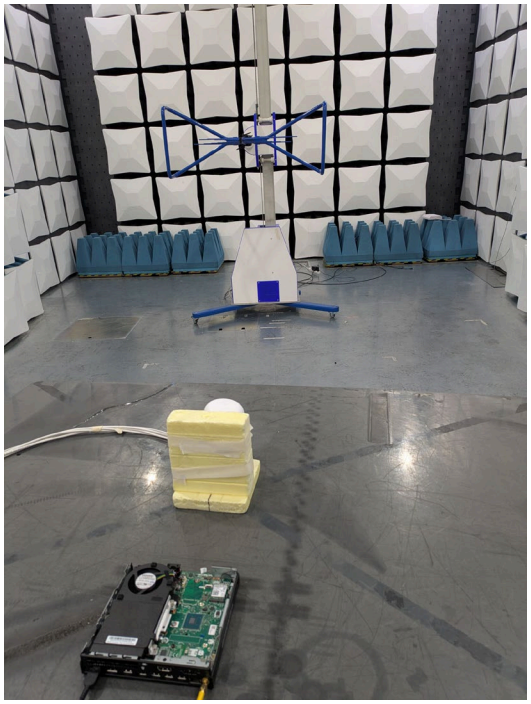
Radiated Spurious Emission: Greater than 1 GHz



Classic Bluetooth

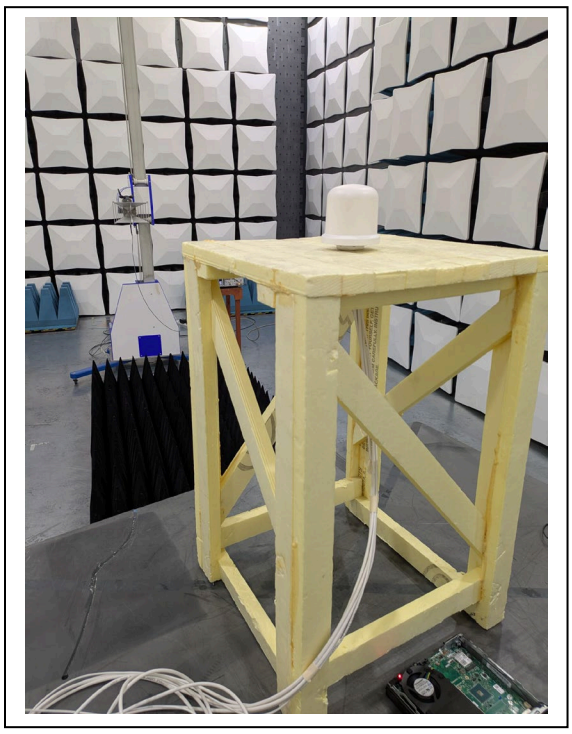
Radiated Spurious Emission: 0.009 MHz to 30 MHz

Radiated Spurious Emission: 30 MHz to 1000 MHz



Classic Bluetooth, cont'd

Radiated Spurious Emission: 1 GHz to 18 GHz



Radiated Spurious Emission: 18 GHz to 26 GHz

Conducted Emissions