



TEST REPORT

APPLICANT : Hot Pepper, Inc.
PRODUCT NAME : 4G Smart Phone
MODEL NAME : HPP-GS1
BRAND NAME : Hot Pepper
FCC ID : 2APD4-A81C
STANDARD(S) : 47 CFR Part 15 Subpart C
TEST DATE : 2019-03-07 to 2019-04-18
ISSUE DATE : 2019-05-22

Prepared by: Lion Xiao
Lion Xiao (Project Engineer)

Approved by: Anne Liu
Anne Liu(Supervisor)

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DIRECTORY

- 1. Technical Information 3
 - 1.1. Applicant and Manufacturer Information..... 3
 - 1.2. Equipment Under Test (EUT) Description..... 3
 - 1.3. Test Standards and Results 5
 - 1.4. Environmental Conditions 5
- 2. 47 CFR Part 15C Requirements..... 6
 - 2.1. Antenna requirement..... 6
 - 2.2. Peak Output Power 7
 - 2.3. 6dB Bandwidth 13
 - 2.4. Conducted Spurious Emissions and Band Edge 20
 - 2.5. Power spectral density (PSD) 29
 - 2.6. Restricted Frequency Bands 35
 - 2.7. Conducted Emission 50
 - 2.8. Radiated Emission 54
- Annex A Test Uncertainty 112
- Annex B Testing Laboratory Information..... 113

Change History		
Version	Date	Reason for change
1.0	2019-05-22	First edition



1. Technical Information

Note: Provide by applicant.

1.1. Applicant and Manufacturer Information

Applicant:	Hot Pepper, Inc.
Applicant Address:	5151 California Ave., Suite 100, Irvine 92617, USA
Manufacturer:	Hot Pepper, Inc.
Manufacturer Address:	5151 California Ave., Suite 100, Irvine 92617, USA

1.2. Equipment Under Test (EUT) Description

Product Name:	4G Smart Phone	
Serial No:	(N/A, marked #1 by test site)	
Hardware Version:	A81C_MAINBOARD_P1	
Software Version:	HPP- GS1-V1.0.4-190121	
Modulation Type:	GFSK	
Operating Frequency Range:	2402MHz - 2480MHz (40 channels, at intervals of 2MHz);	
Bluetooth Version:	Bluetooth 5.0 LE	
Bluetooth Specification:	Bluetooth 5.0 LE 1M PHY Bluetooth 5.0 LE 2M PHY Bluetooth 5.0 LE Code	
Antenna Type:	PIFA Antenna	
Antenna Gain:	0.2dBi	
Ancillary Equipment:	AC Adapter	
	Manufacturer:	Shenzhen Tianyin Electronics Co.,Ltd.
	Model No.:	TPA-23A050200UU01
	Rated Input:	100-240V~ 50/60Hz, 0.3A
	Rated Output:	5V---2.0A
	Battery	
	Manufacturer:	SHENZHEN HUATIAN TONG TECHNOLOGY CO., LTD
	Model Name:	H2019GS1
	Manufacturer:	Shenzhen Nine Liyuan Electronic Technology Co., Ltd
	Model Name:	H2019GS1A



Note 1: The EUT contains Bluetooth Module operating at 2.4GHz ISM band; the frequencies is $F(\text{MHz})=2402+2*n$ ($0 \leq n \leq 39$). The lowest, middle, highest channel numbers of the Bluetooth Module used and tested in this report are separately 0 (2402MHz), 19 (2440MHz) and 39 (2480MHz).

Note 2: Bluetooth 5.0 LE support 1M PHY, 2M PHY and Code.

Note 3: The EUT connected to the serial port of the computer with a serial communication cable, we use the dedicated software to control the EUT continuous transmission.

Note 4: For a more detailed description, please refer to Specification or User's Manual supplied by the applicant and/or manufacturer.



1.3. Test Standards and Results

The objective of the report is to perform testing according to 47 CFR Part 15 Subpart C (Bluetooth, 2.4GHz ISM band radiators) for the EUT FCC ID Certification:

No	Identity	Document Title
1	47 CFR Part 15	Radio Frequency Devices

Test detailed items/section required by FCC rules and results are as below:

No.	Section	Description	Test Date	Test Engineer	Result
1	15.203	Antenna Requirement	N/A	N/A	<u>PASS</u>
2	15.247(b)	Peak Output Power	Mar 07, 2019 Mar 08, 2019	Lion Xiao	<u>PASS</u>
3	15.247(a)	Bandwidth	Mar 07, 2019 Mar 08, 2019	Lion Xiao	<u>PASS</u>
4	15.247(d)	Conducted Spurious Emission and Band Edge	Mar 07, 2019 Mar 08, 2019	Lion Xiao	<u>PASS</u>
5	15.247(e)	Power spectral density (PSD)	Mar 07, 2019 Mar 08, 2019	Lion Xiao	<u>PASS</u>
6	15.247(d)	Restricted Frequency Bands	Apr 13, 2019	Jiefeng Zhang	<u>PASS</u>
7	15.207	Conducted Emission	Apr 08, 2019	Jiefeng Zhang	<u>PASS</u>
8	15.209, 15.247(d)	Radiated Emission	Apr 10, 2019 Apr 18, 2019	Jiefeng Zhang	<u>PASS</u>

Note: The tests were performed according to the method of measurements prescribed in ANSIC63.10-2013 and 558074 D01 15.247 Meas Guidance v05r02.

1.4. Environmental Conditions

During the measurement, the environmental conditions were within the listed ranges:

Temperature (°C):	15 - 35
Relative Humidity (%):	30 -60
Atmospheric Pressure (kPa):	86-106



2. 47 CFR Part 15C Requirements

2.1. Antenna requirement

2.1.1. Applicable Standard

According to FCC 15.203, an intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device. The use of a permanently attached antenna or of an antenna that uses a unique coupling to the intentional radiator shall be considered sufficient to comply with the provisions of this section.

2.1.2. Result: Compliant

The EUT has a permanently and irreplaceable attached antenna. Please refer to the EUT internal photos.

2.2. Peak Output Power

2.2.1. Requirement

According to FCC section 15.247(b)(3), For systems using digital modulation in the 902-928 MHz, 2400-2483.5 MHz, and 5725-5850 MHz bands: The maximum peak conducted output power of the intentional radiator shall not exceed 1 Watt.

2.2.2. Test Description

The measure output power was calculated by the reading of the spectrum

A. Test Setup:



The EUT (Equipment under the test) is coupled to the Spectrum analyzer; the RF load attached to the EUT antenna terminal is 50Ohm; the path loss as the factor is calibrated to correct the reading, all test result in Spectrum analyzer.

B. Equipments List:

Please refer ANNEX B(4).

2.2.3. Test procedure

The measured output power was calculated by the reading of the spectrum analyzer and calibration. Following is the test procedure for Peak Output Power test on the spectrum analyzer:

- a) Set analyzer center frequency to channel center frequency.
- b) Set the RBW to 3MHz
- c) Set VBW to 8MHz
- d) Set span to 6MHz
- e) Sweep time to auto couple.
- f) Detector=peak.
- g) Trace mode=max hold.
- h) Allow trace to fully stabilize.
- i) Use peak marker function to determine the peak amplitude level.



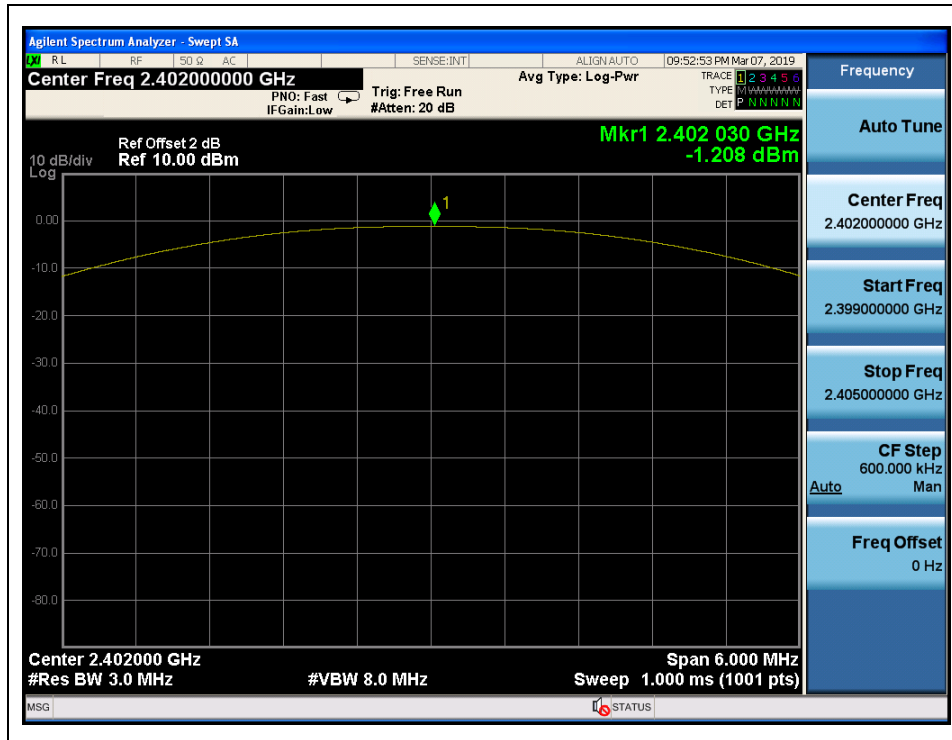
2.2.4. Test Result

The lowest, middle and highest chnnels are selected to perform testing to verify the conducted RF output peak power of the Module.

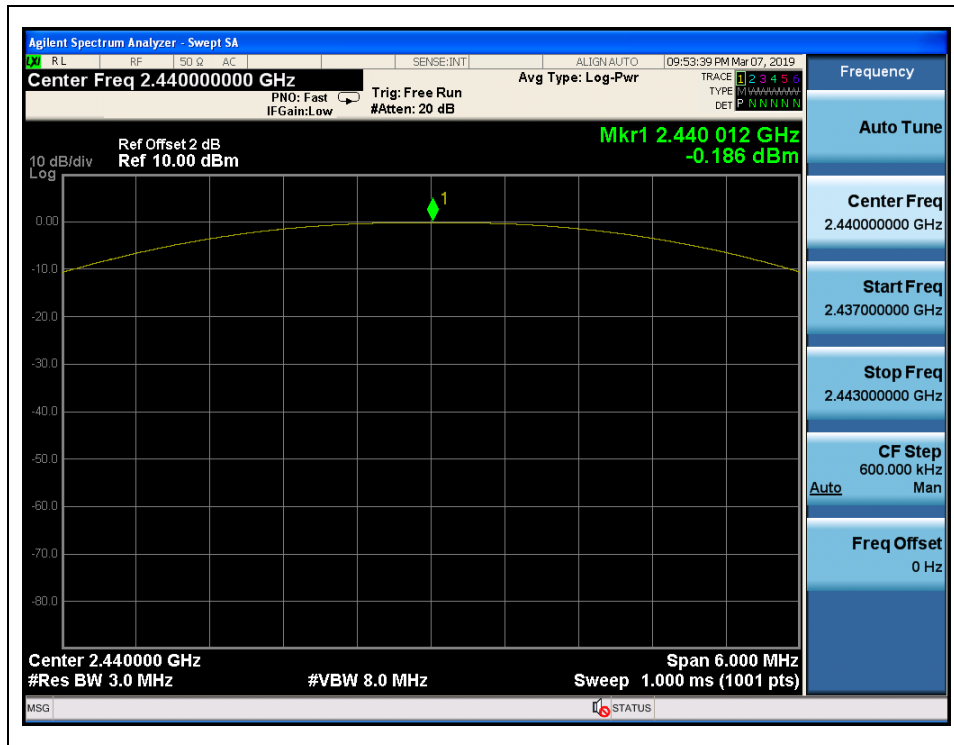
A. Test Verdict:

Mode	Channel	Frequency (MHz)	Measured Output Peak Power		Limit		Verdict
			dBm	W	dBm	W	
1M PHY	0	2402	-1.208	0.000757	30	1	PASS
	19	2440	-0.186	0.000958	30	1	PASS
	39	2480	-1.546	0.000700	30	1	PASS
2M PHY	0	2402	-1.211	0.000757	30	1	PASS
	19	2440	-0.199	0.000955	30	1	PASS
	39	2480	-1.545	0.000701	30	1	PASS
Code	0	2402	-1.247	0.000750	30	1	PASS
	19	2440	-0.253	0.000943	30	1	PASS
	39	2480	-1.641	0.000685	30	1	PASS

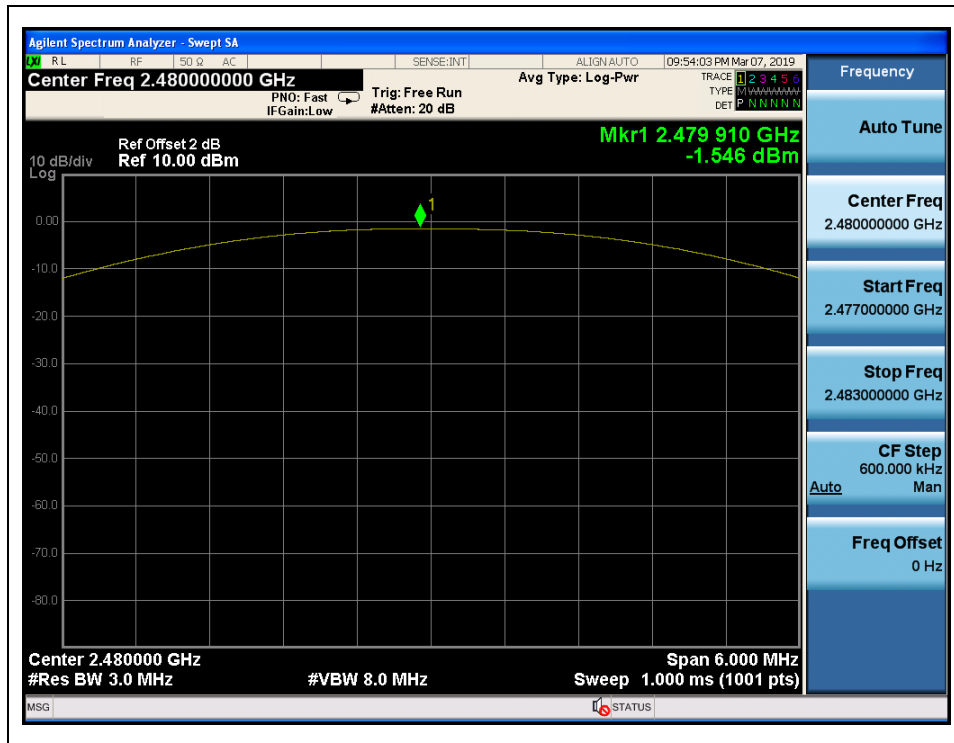
B. Test Plots:



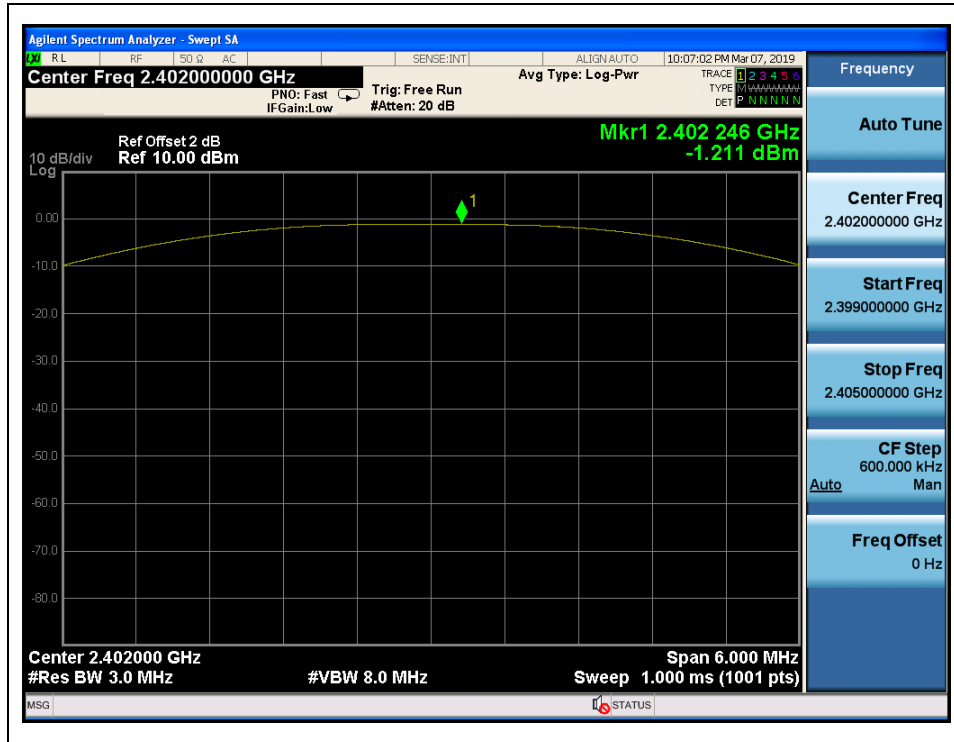
(Bluetooth 5.0 LE 1M PHY Channel 0, 2402MHz)



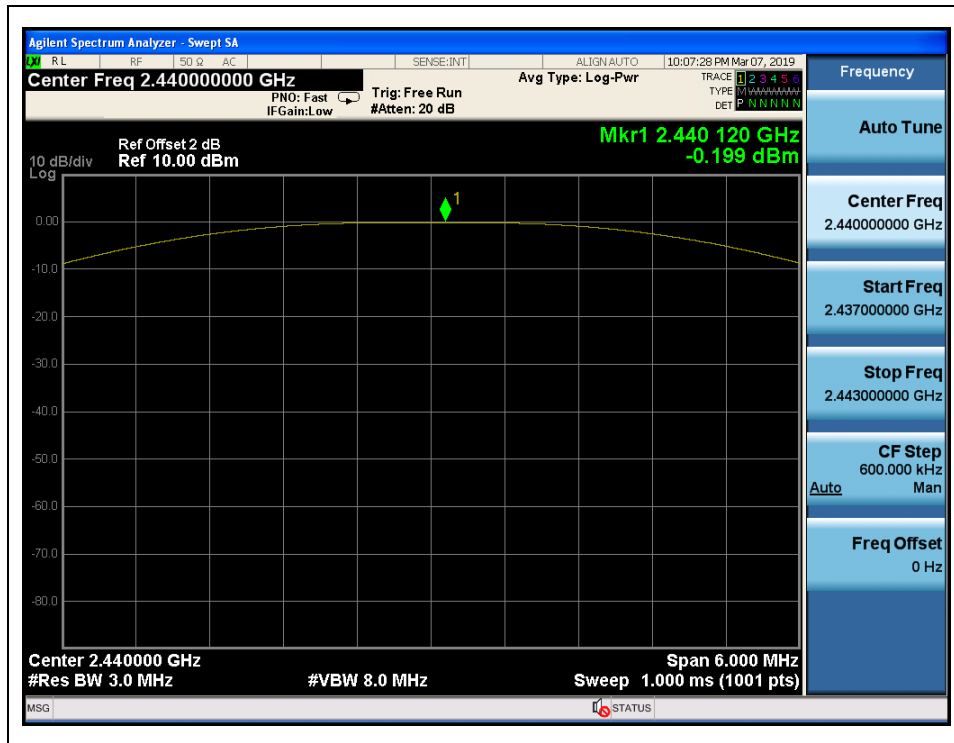
(Bluetooth 5.0 LE 1M PHY Channel 19, 2440MHz)



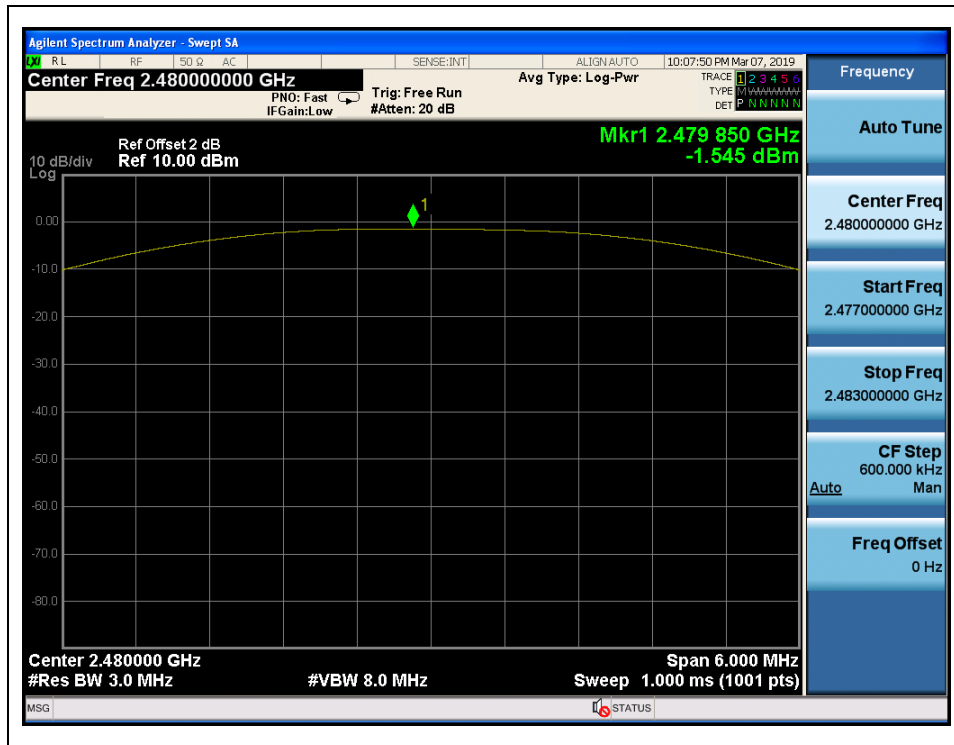
(Bluetooth 5.0 LE 1M PHY Channel 39, 2480MHz)



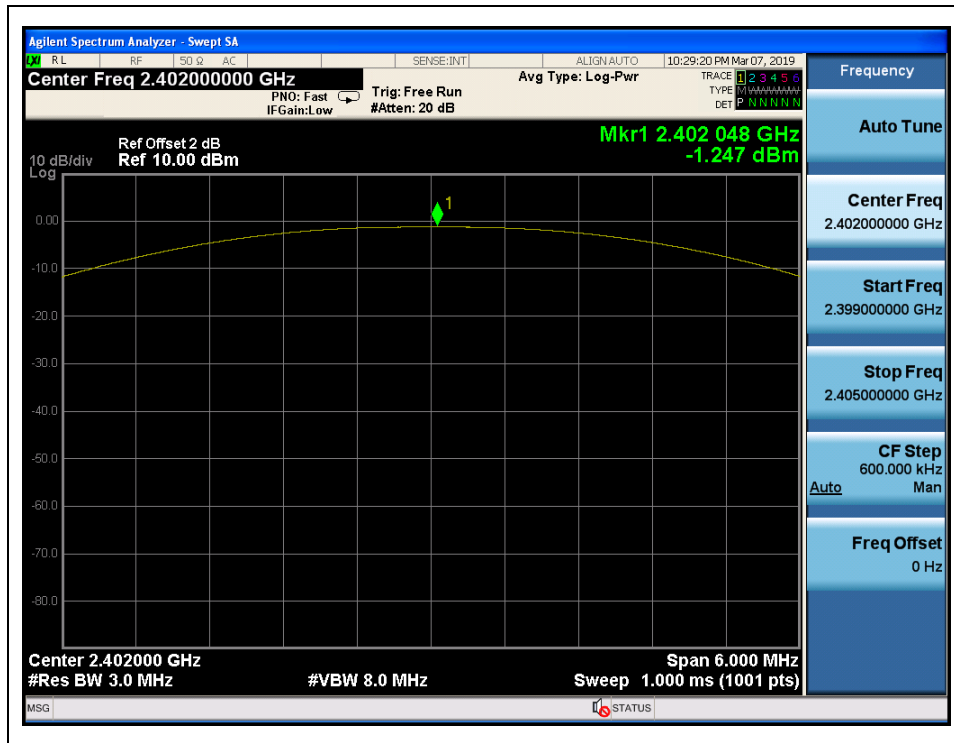
(Bluetooth 5.0 LE 2M PHY Channel 0, 2402MHz)



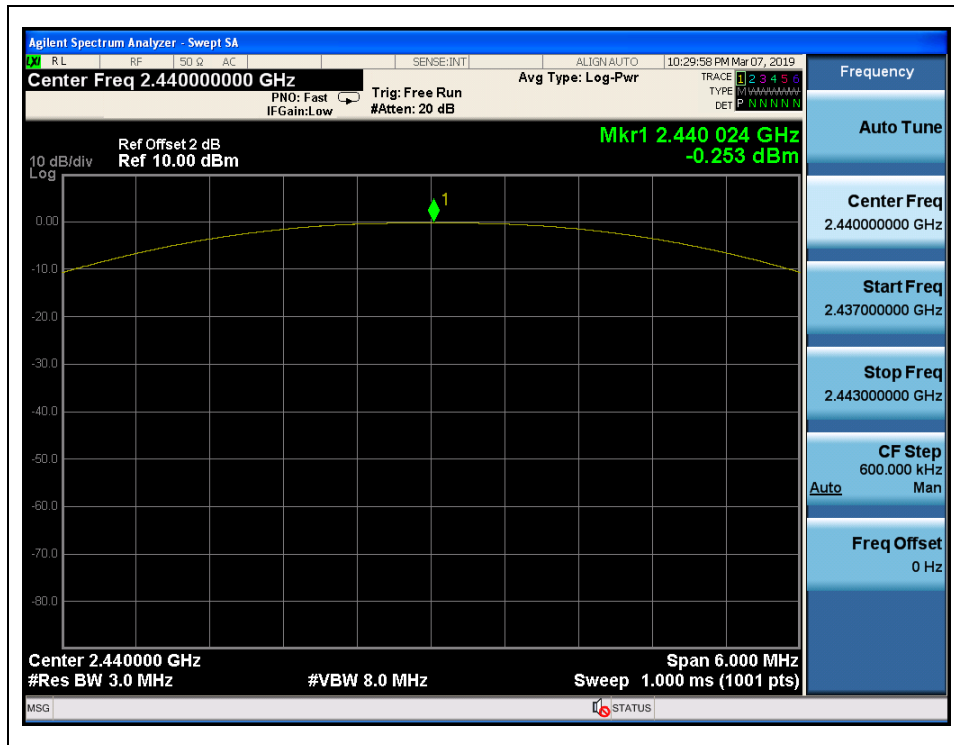
(Bluetooth 5.0 LE 2M PHY Channel 19, 2440MHz)



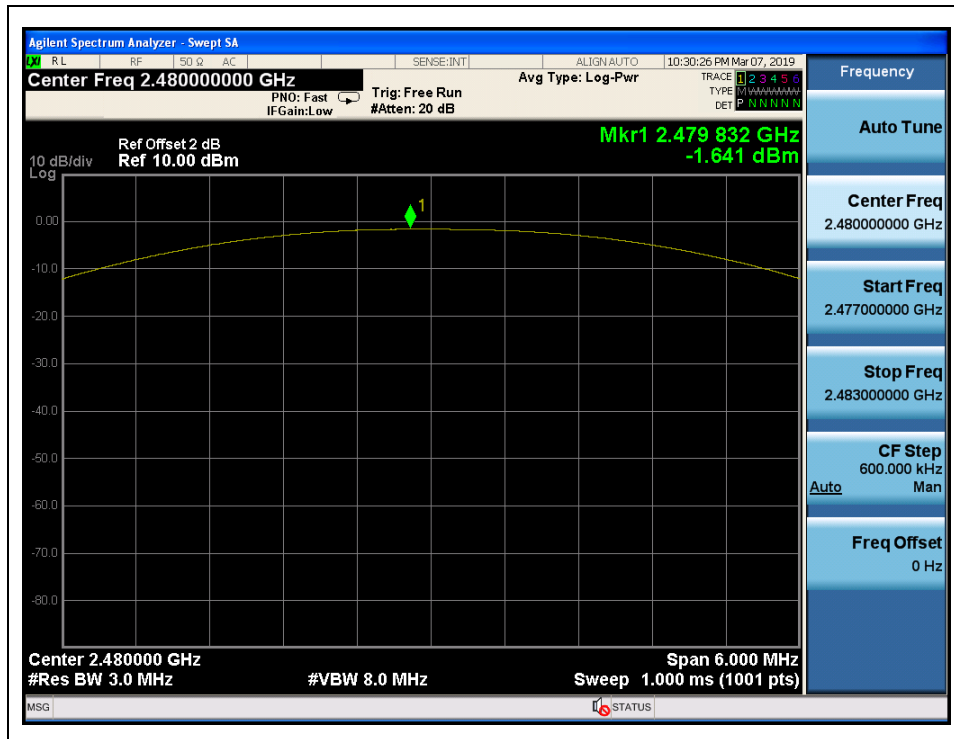
(Bluetooth 5.0 LE 2M PHY Channel 39, 2480MHz)



(Bluetooth 5.0 LE Code Channel 0, 2402MHz)



(Bluetooth 5.0 LE Code Channel 19, 2440MHz)



(Bluetooth 5.0 LE Code Channel 39, 2480MHz)

2.3.6dB Bandwidth

2.3.1. Requirement

According to FCC section 15.247(a) (2), 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.

2.3.2. Test Description

A. Test Set:



The EUT (Equipment under the test) is coupled to the Spectrum analyzer; the RF load attached to the EUT antenna terminal is 50Ohm; the path loss as the factor is calibrated to correct the reading, all test result in Spectrum analyzer.

B. Equipments List:

Please refer ANNEX B(4).

2.3.3. Test procedure

The steps for the first option are as follows:

- (1) Set analyzer center frequency to channel center frequency.
 - a) Set RBW=100kHz
 - b) Set the VBW=300 kHz
 - c) Detector=peak
 - d) Trace mode=max hold.
 - e) Sweep = auto couple
 - f) Allow trace to fully stabilize.
 - g) Measure the maximum width of the emission that is constrained by the frequencies associated with the two outermost amplitude points (upper and lower frequencies) that are attenuated by 6 dB relative to the maximum level measured in the fundamental emission.



- (2) The automatic bandwidth measurement capability of an instrument may be employed using the X dB bandwidth mode with X set to 6 dB, if the functionality described in 11.8.1(i.e. RBW=100 kHz, VBW \geq 3 X RBW, and peak detector with maximum hold) is implemented by the instrumentation function. When using this capability, care shall be taken so that bandwidth measurement is not influenced by any intermediate power nulls in the fundamental emission that might be \geq 6dB.

2.3.4. Test Result

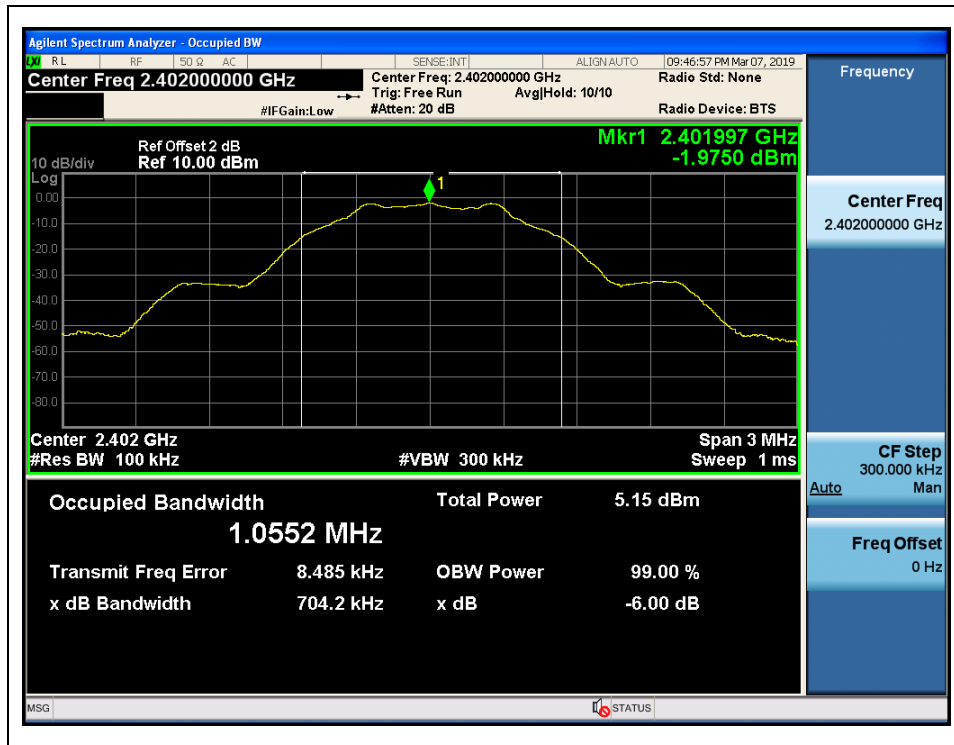
The lowest, middle and highest channels are selected to perform testing to record the 6 dB bandwidth of the module.

A. Test Verdict:

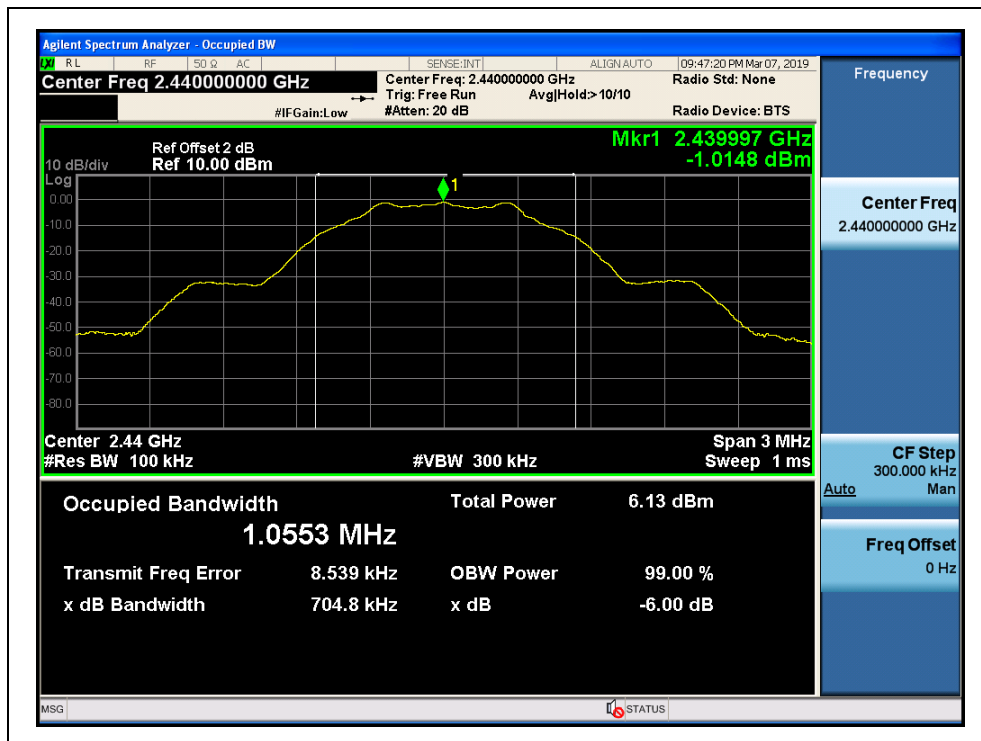
Mode	Channel	Frequency (MHz)	6 dB Bandwidth (MHz)	Limits(kHz)	Result
1M PHY	0	2402	0.704	\geq 500	PASS
	19	2440	0.705	\geq 500	PASS
	39	2480	0.705	\geq 500	PASS
2M PHY	0	2402	1.176	\geq 500	PASS
	19	2440	1.195	\geq 500	PASS
	39	2480	1.234	\geq 500	PASS
Code	0	2402	0.670	\geq 500	PASS
	19	2440	0.667	\geq 500	PASS
	39	2480	0.662	\geq 500	PASS



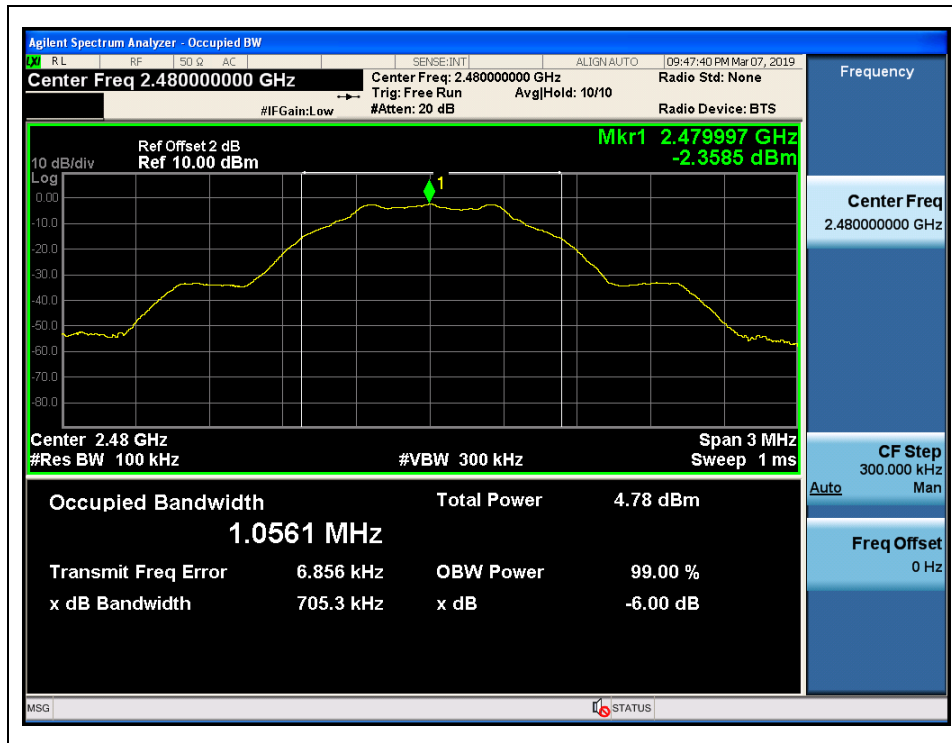
B. Test Plots



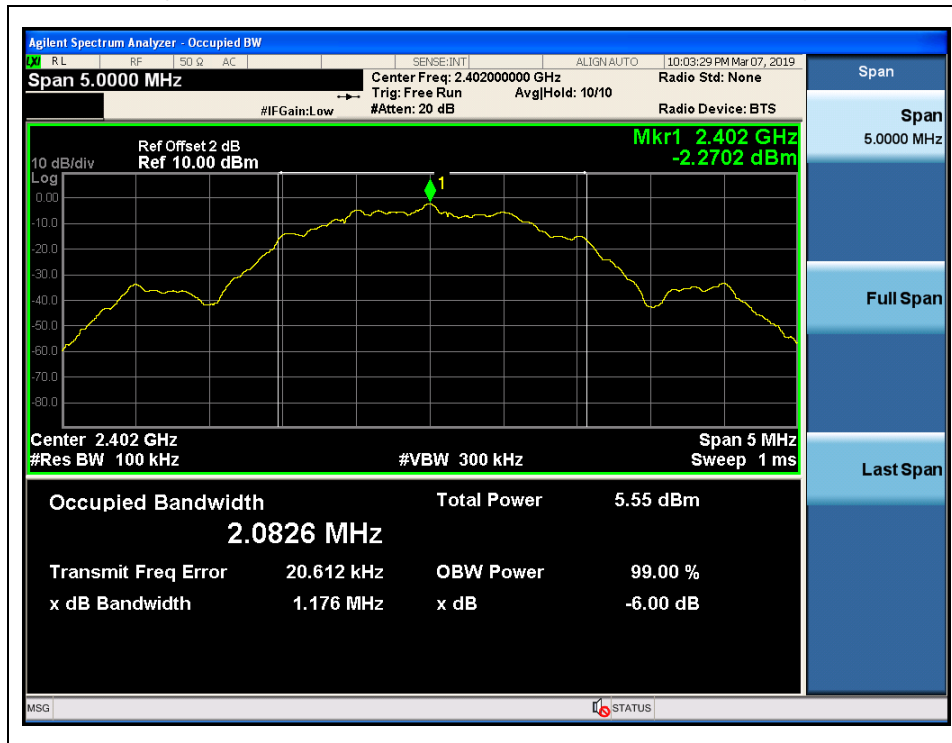
(Bluetooth 5.0 LE 1M PHY Channel 0: 2402MHz)



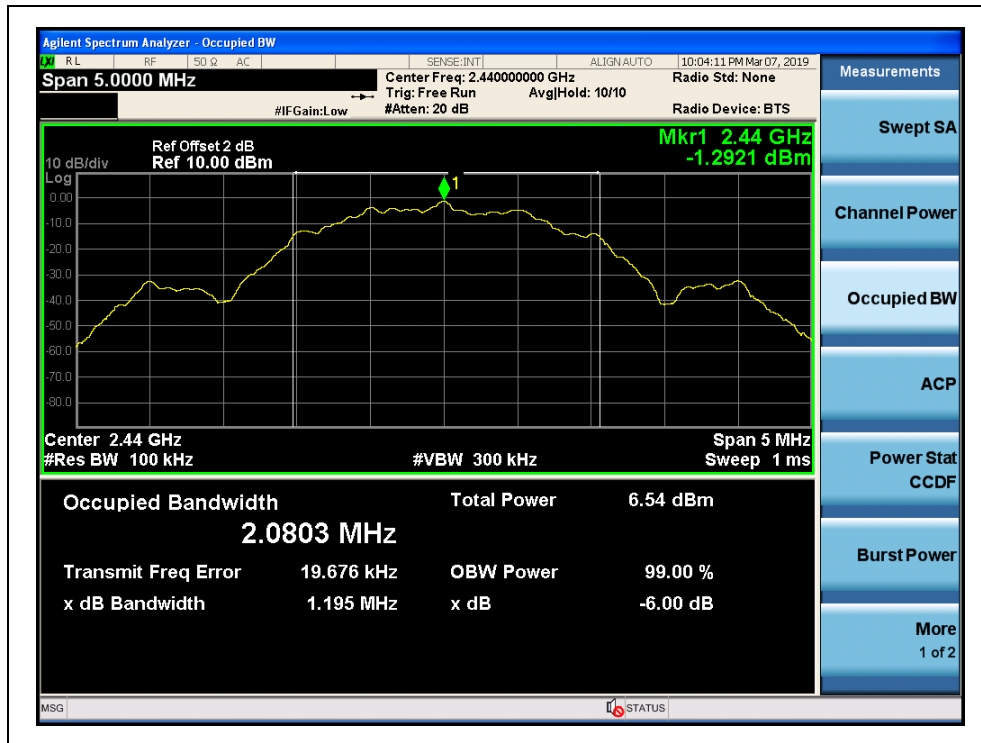
(Bluetooth 5.0 LE 1M PHY Channel 19: 2440 MHz)



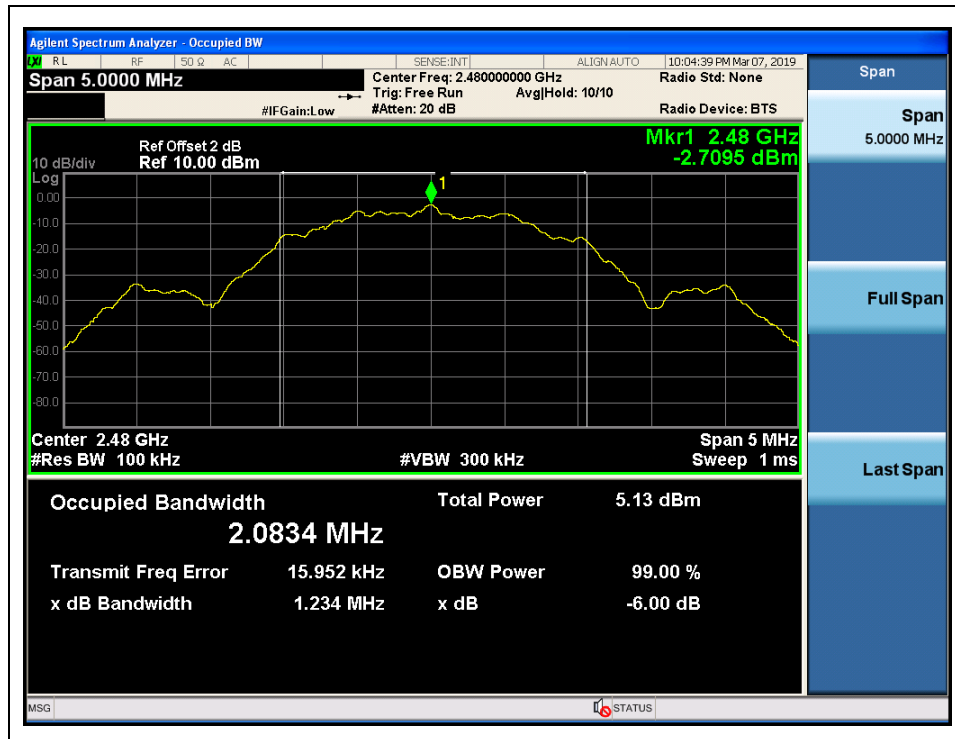
(Bluetooth 5.0 LE 1M PHY Channel 39: 2480MHz)



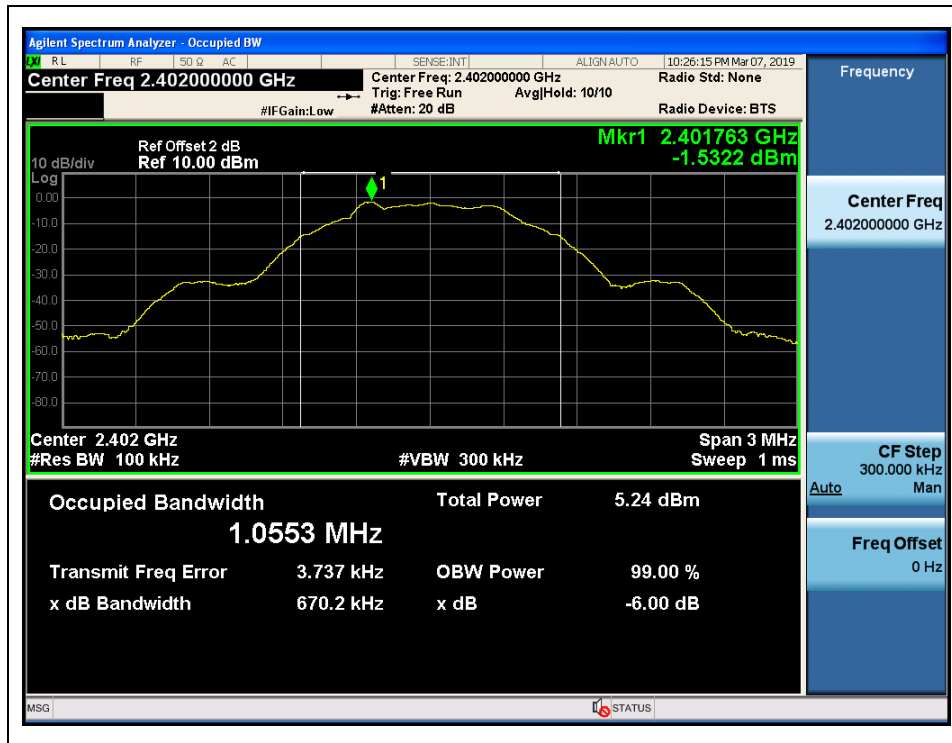
(Bluetooth 5.0 LE 2M PHY Channel 0: 2402MHz)



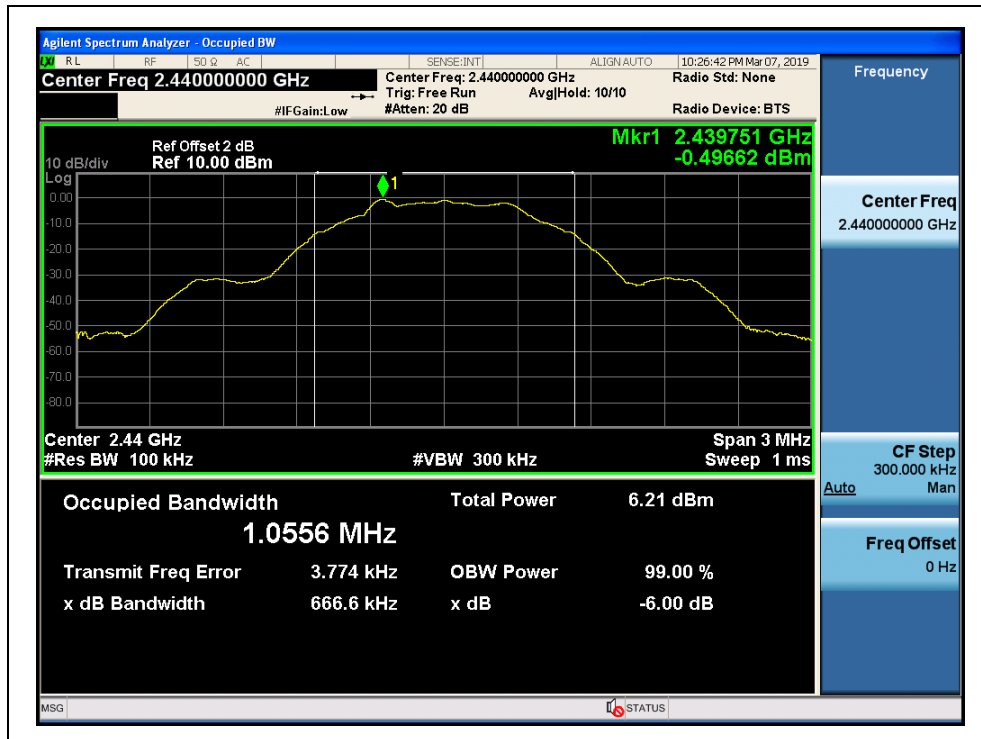
(Bluetooth 5.0 LE 2M PHY Channel 19: 2440 MHz)



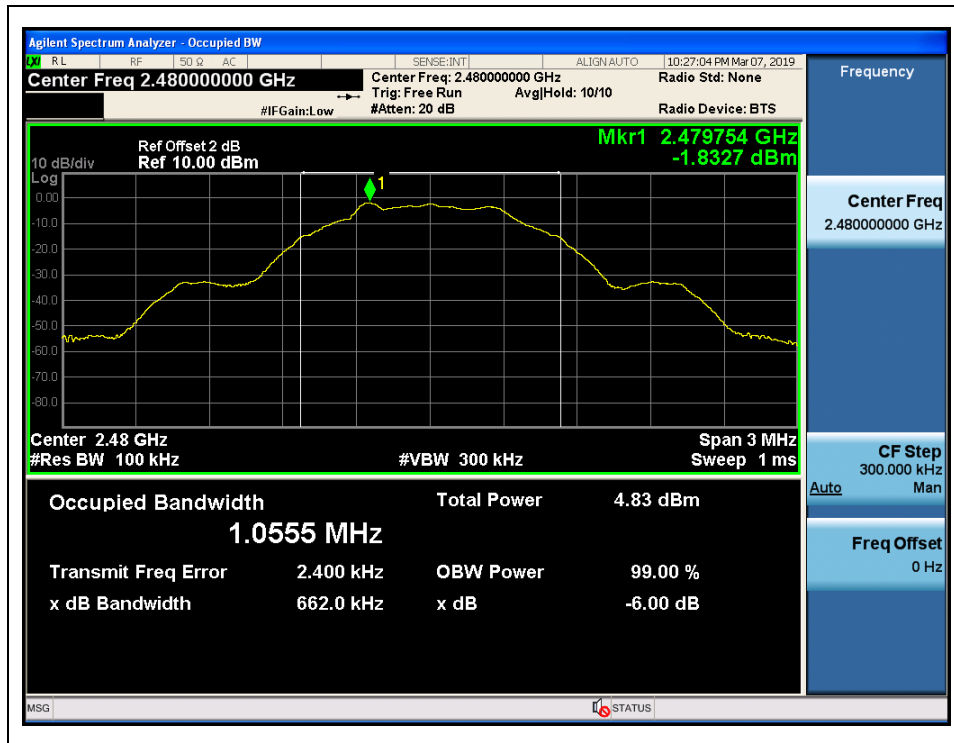
(Bluetooth 5.0 LE 2M PHY Channel 39: 2480MHz)



(Bluetooth 5.0 LE Code Channel 0: 2402MHz)



(Bluetooth 5.0 LE Code Channel 19: 2440 MHz)



(Bluetooth 5.0 LE Code Channel 39: 2480MHz)

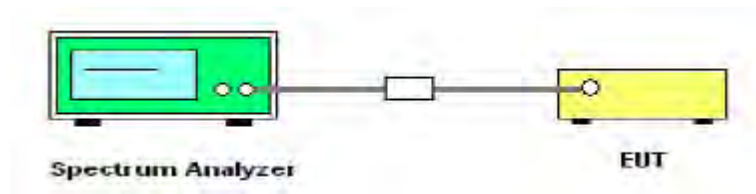
2.4. Conducted Spurious Emissions and Band Edge

2.4.1. Requirement

According to FCC section 15.247(d), in any 100kHz 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 100kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement.

2.4.2. Test Description

A. Test Set:



The EUT (Equipment under the test) is coupled to the Spectrum analyzer; the RF load attached to the EUT antenna terminal is 50Ohm; the path loss as the factor is calibrated to correct the reading, all test result in Spectrum analyzer.

B. Equipments List:

Please refer ANNEX B (4).

2.4.3. Test Procedure

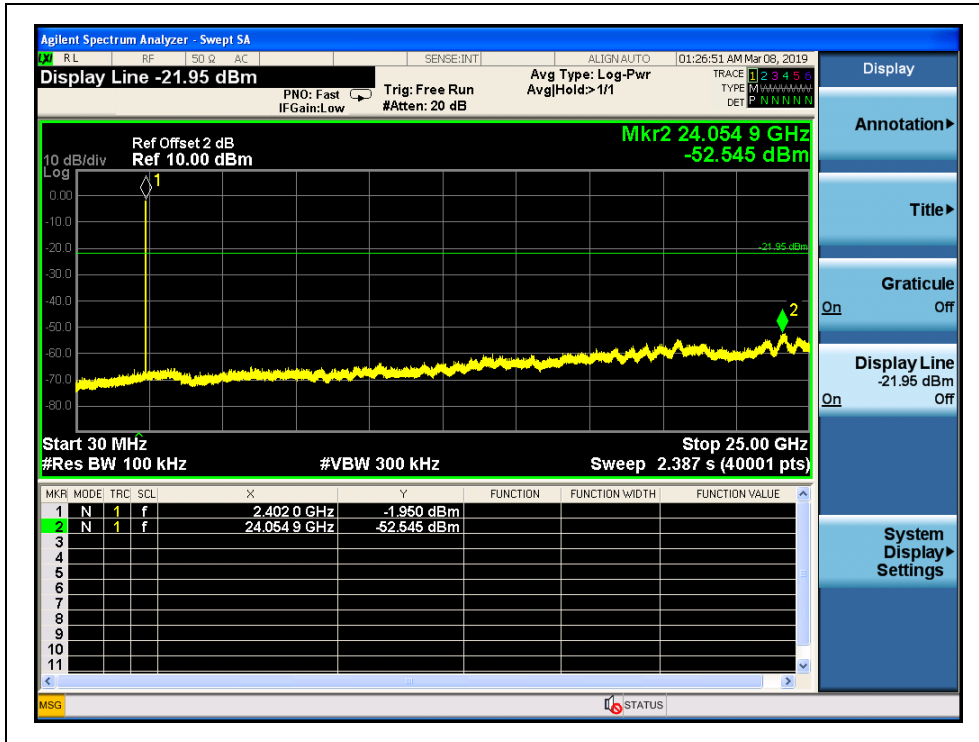
The transmitter output was connected to the spectrum analyzer via a low lose cable. Set both RBW and VBW of spectrum analyzer to 100kHz and 300kHz with suitable frequency span including 100 MHz bandwidth from band edge. The band edges was measured and recorded.

2.4.4. Test Result

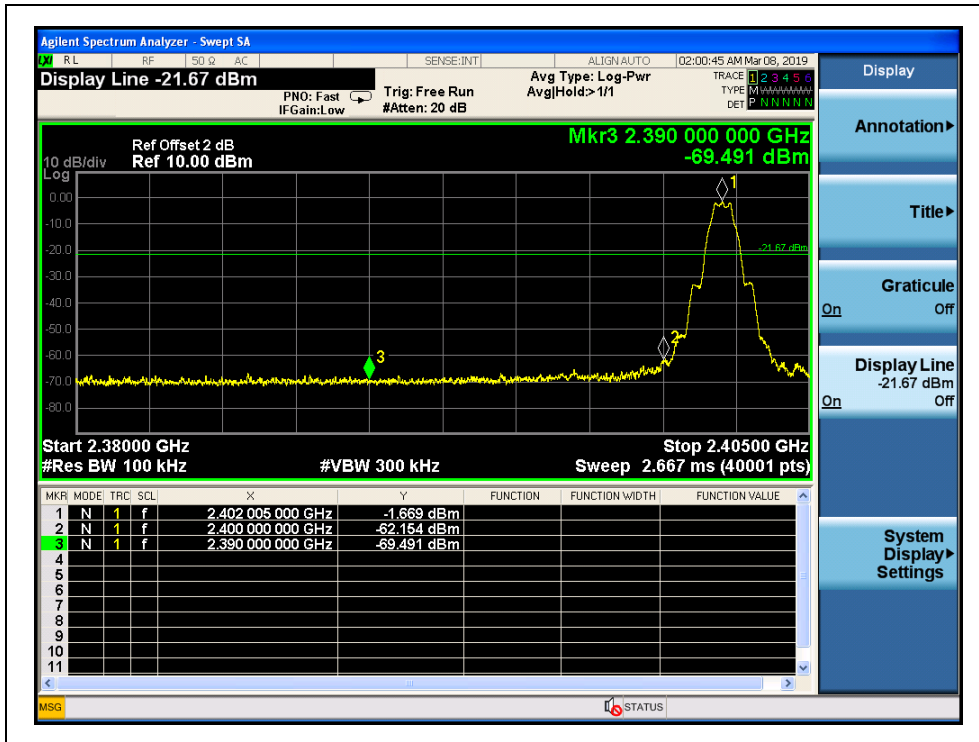
The measurement frequency range is from 30MHz to the 10th harmonic of the fundamental frequency. The lowest, middle and highest channels are tested to verify the spurious emissions.

A. Test Plots:

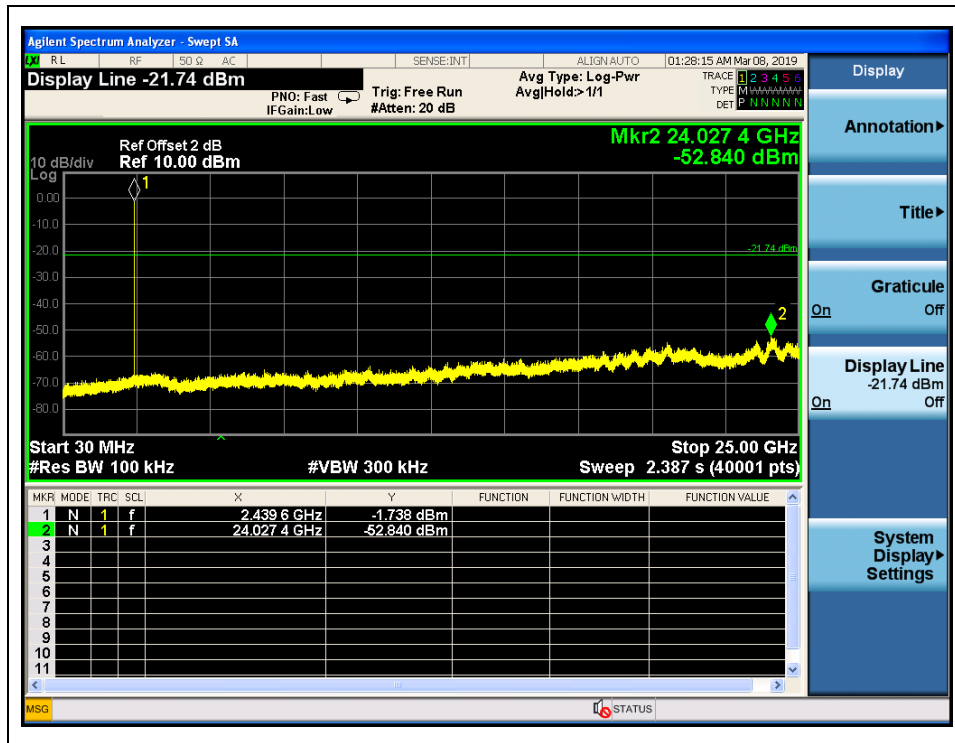
Note: the power of the Module transmitting frequency should be ignored.



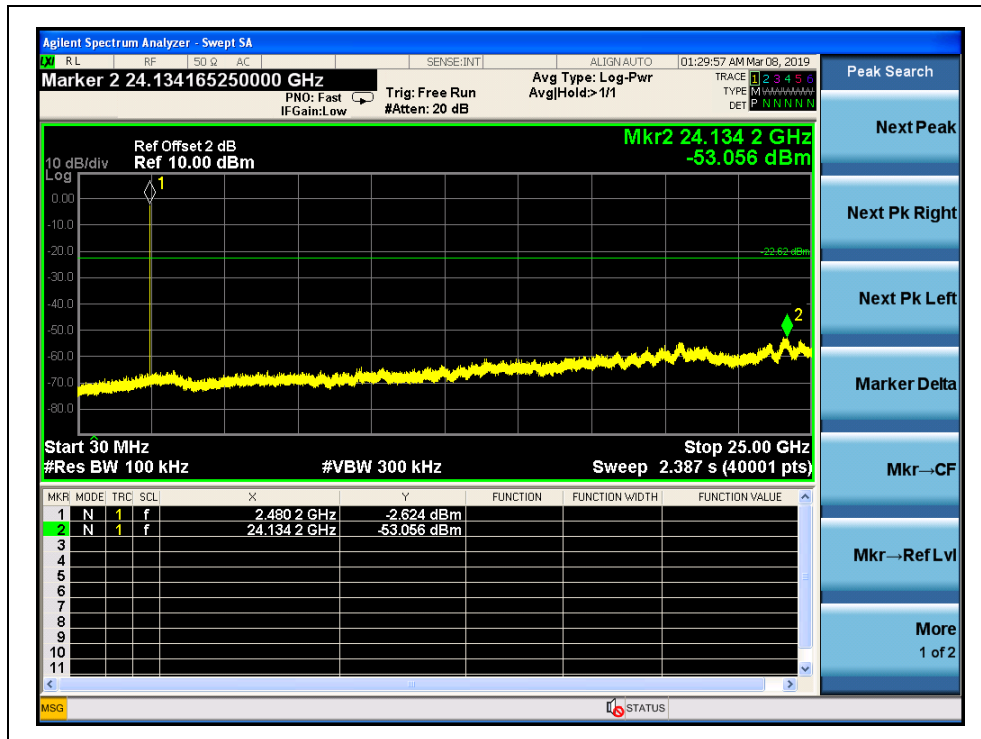
(LE 1M PHY _ Conducted Spurious Emissions _ Channel = 0, 30MHz to 25GHz)



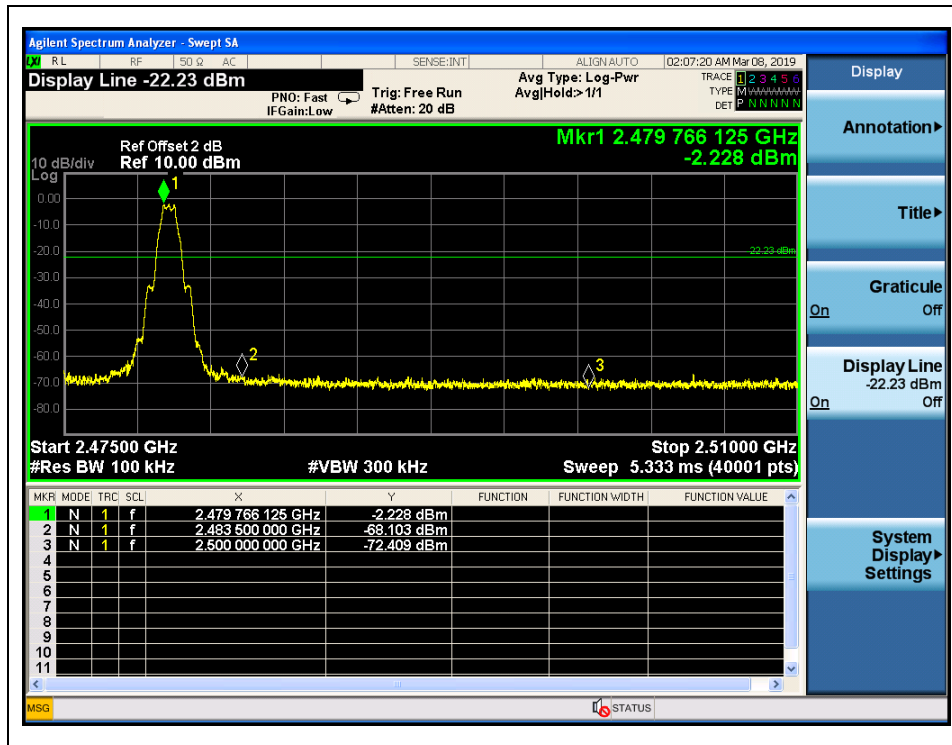
(LE 1M PHY _ Bandedge, Channel = 0)



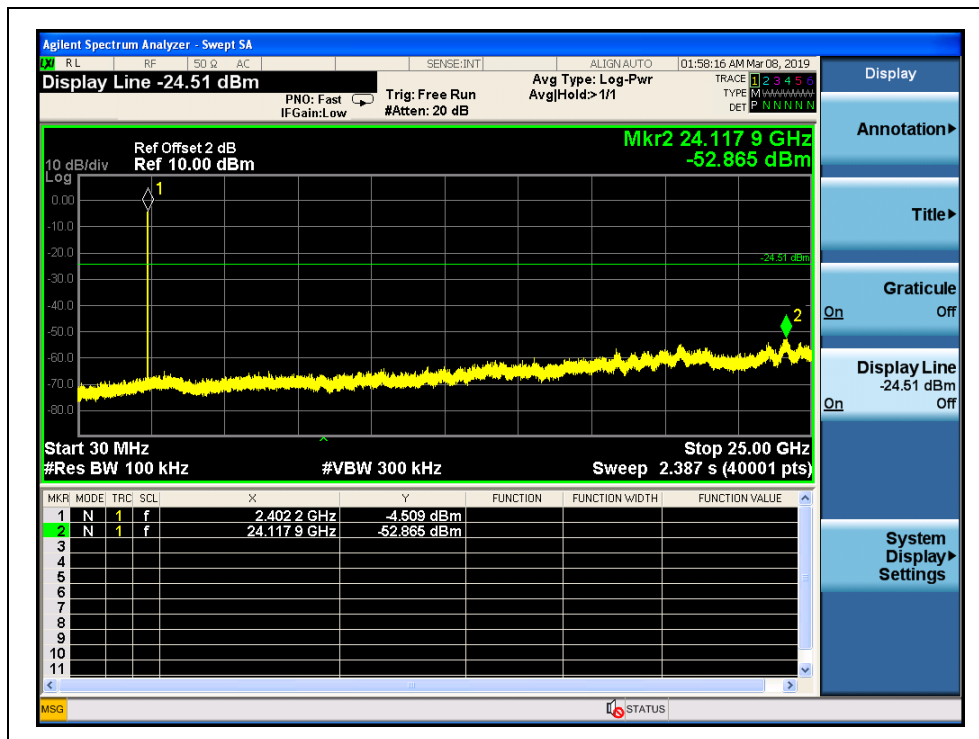
(LE 1M PHY _ Conducted Spurious Emissions _ Channel = 19, 30MHz to 25GHz)



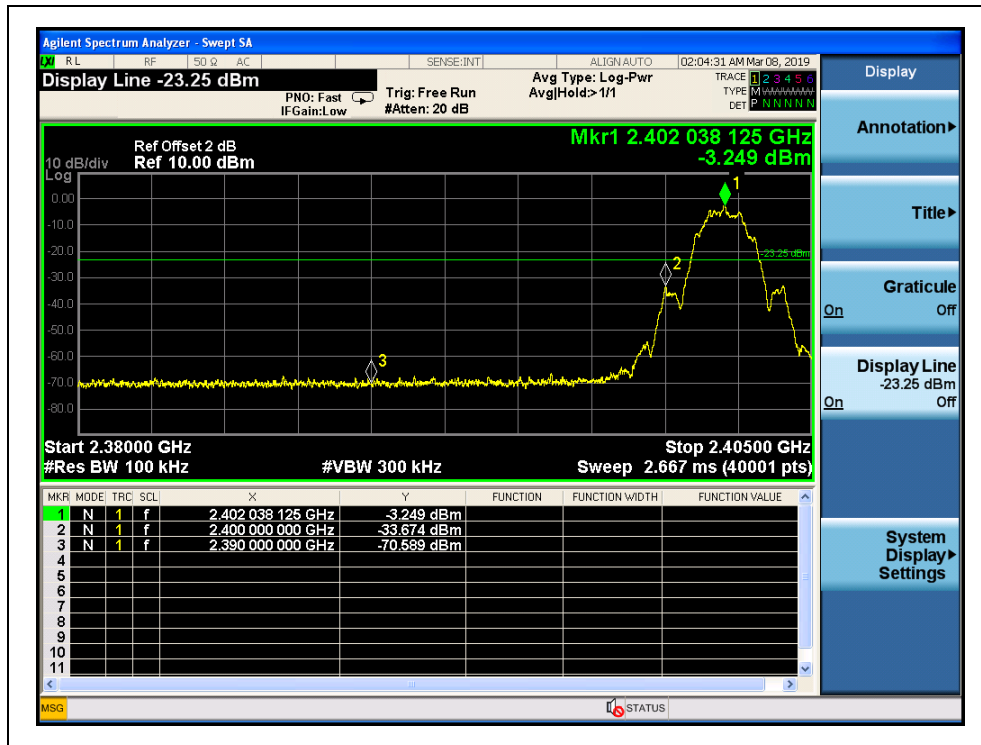
(LE 1M PHY _ Conducted Spurious Emissions _ Channel = 39, 30MHz to 25GHz)



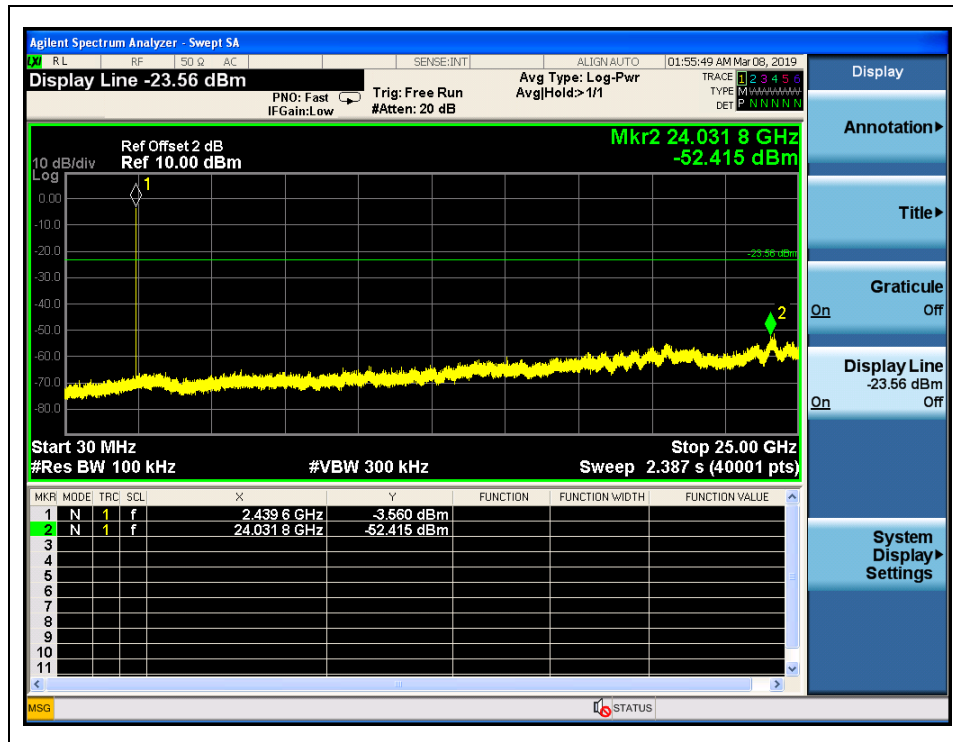
(LE 1M PHY _ Bandedge, Channel = 39)



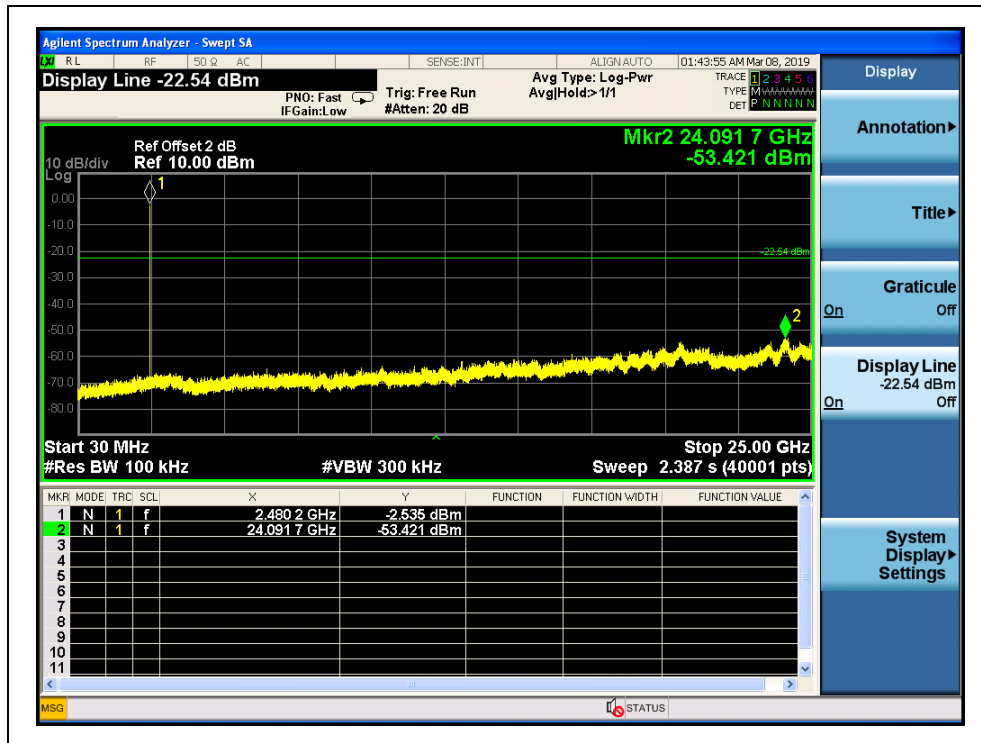
(LE 2M PHY _ Conducted Spurious Emissions _ Channel = 0, 30MHz to 25GHz)



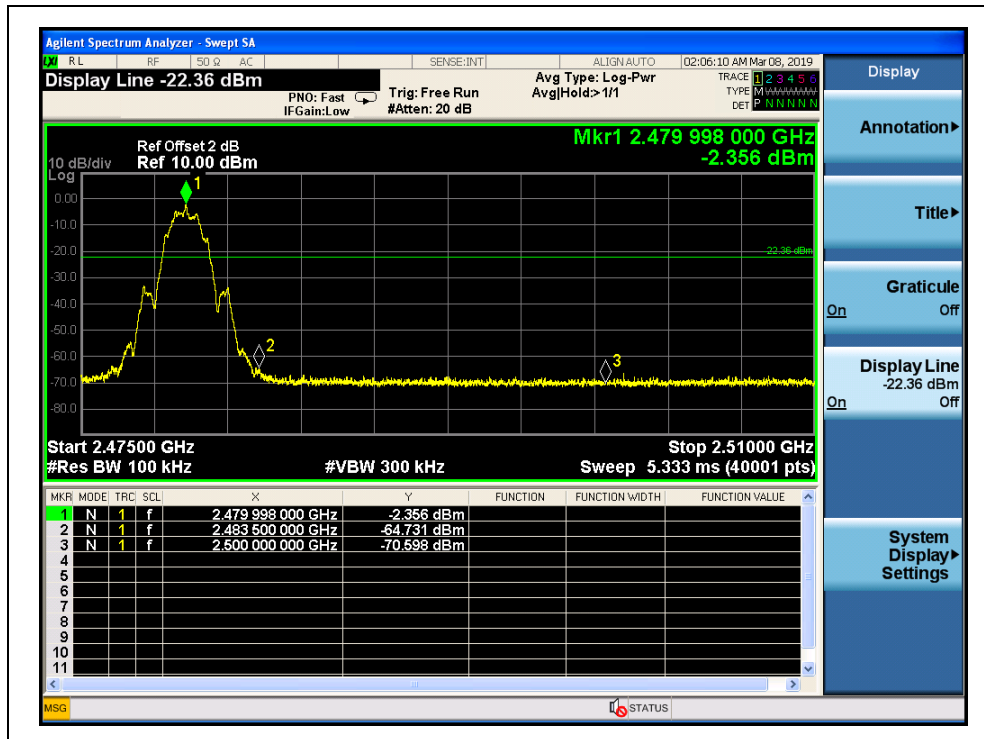
(LE 2M PHY _ Bandedge, Channel = 0)



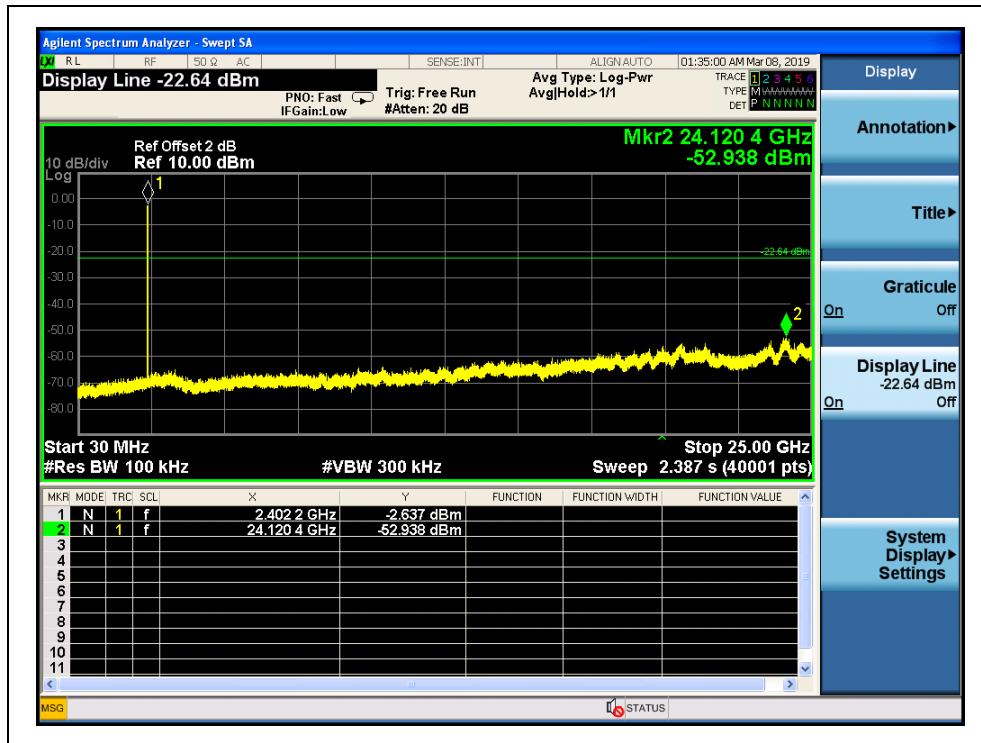
(LE 2M PHY _ Conducted Spurious Emissions _ Channel = 19, 30MHz to 25GHz)



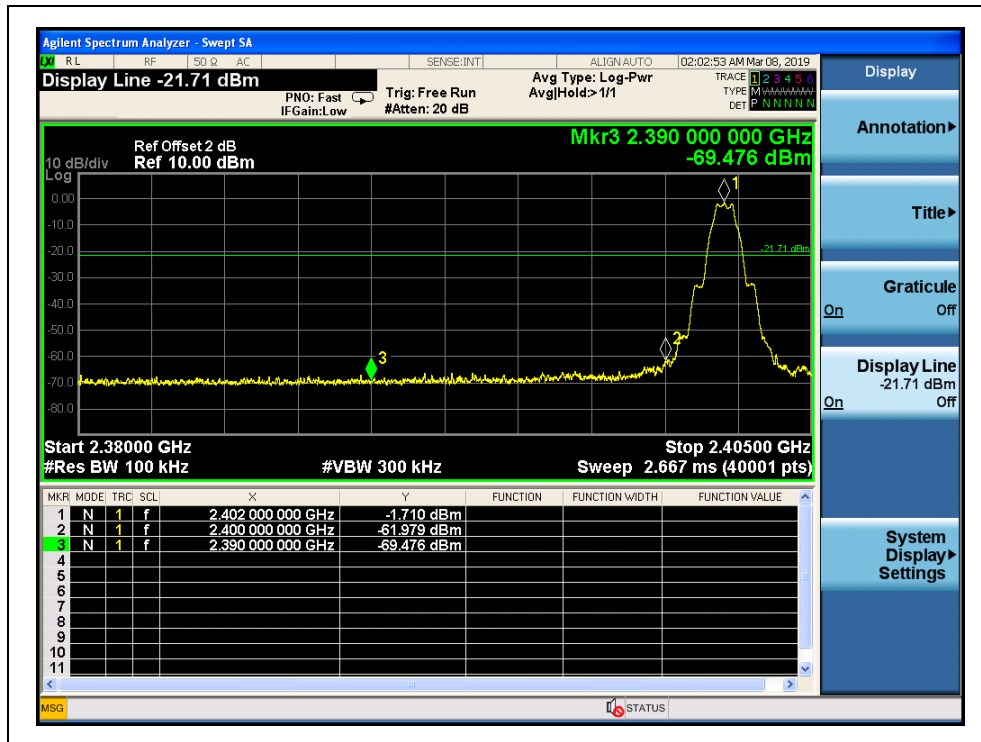
(LE 2M PHY _ Conducted Spurious Emissions _ Channel = 39, 30MHz to 25GHz)



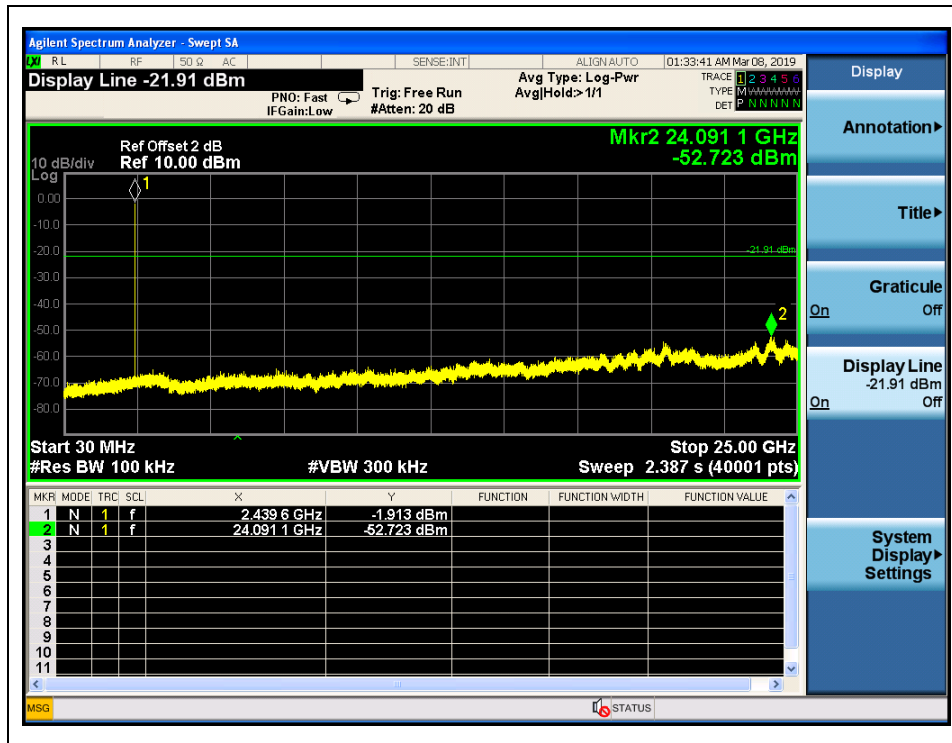
(LE 2M PHY_ Bandedge, Channel = 39)



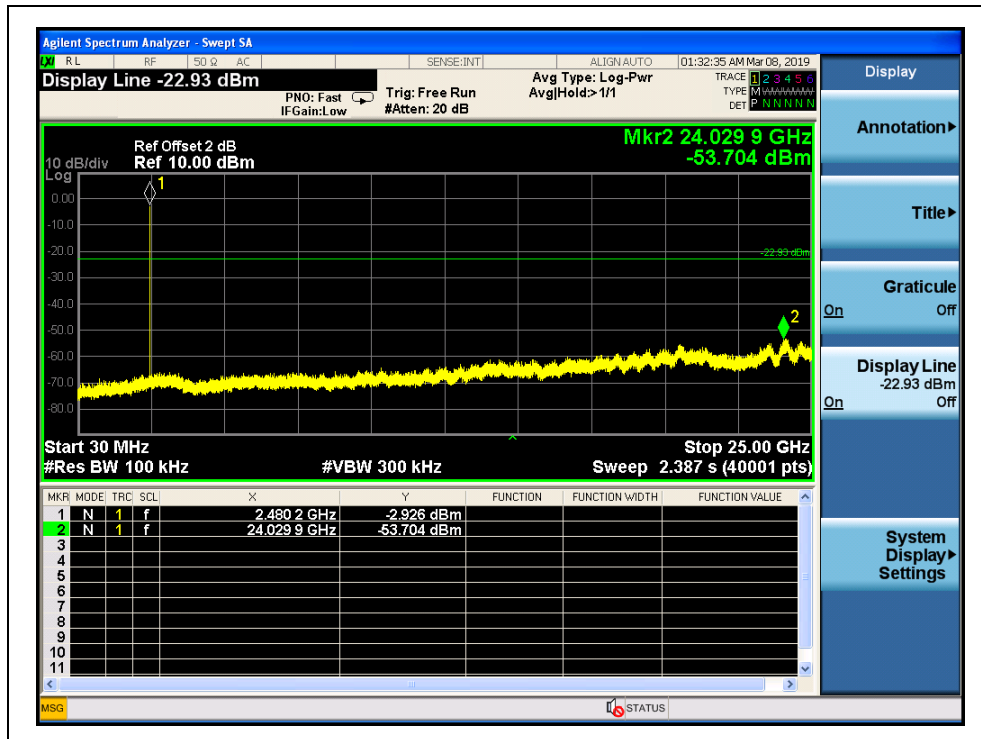
(LE Code _ Conducted Spurious Emissions _ Channel = 0, 30MHz to 25GHz)



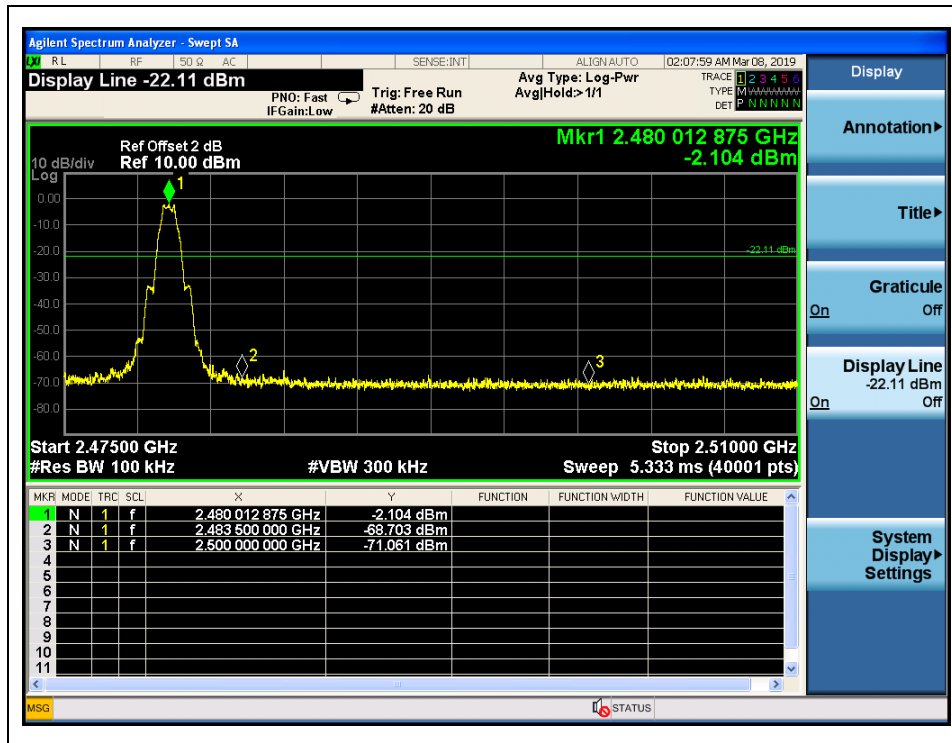
(LE Code_ Bandedge, Channel = 0)



(LE Code _ Conducted Spurious Emissions _ Channel = 19, 30MHz to 25GHz)



(LE Code _ Conducted Spurious Emissions _ Channel = 39, 30MHz to 25GHz)



(LE Code _ Bandedge Channel = 39)

2.5. Power spectral density (PSD)

2.5.1. Requirement

For digitally modulated systems, the power spectral density conducted from the intentional radiator to the antenna shall not be greater than 8dBm in any 3 kHz band during any time interval of continuous transmission. This power spectral density shall be determined in accordance with the provisions of paragraph (b) of this section. The same method of determining the conducted output power shall be used to determine the power spectral density.

2.5.2. Test Description

A. Test Set:



The EUT (Equipment under the test) is coupled to the Spectrum analyzer; the RF load attached to the EUT antenna terminal is 50Ohm; the path loss as the factor is calibrated to correct the reading, all test result in Spectrum analyzer.

B. Equipments List:

Please refer ANNEX B (4).

2.5.3. Test procedure

The measured power spectral density was calculated by the reading of the spectrum analyzer and calibration. Following is the test procedure for PSD test:

- a) Set analyzer center frequency to channel center frequency.
- b) Set the span to 1.5 times DTS
- c) Set the RBW to 3 kHz
- d) Set VBW to 10 kHz
- e) Sweep time to auto couple.
- f) Detector = peak.
- g) Trace mode=max hold.
- h) Allow trace to fully stabilize.
- i) Use peak marker function to determine the maximum amplitude within the RBW.



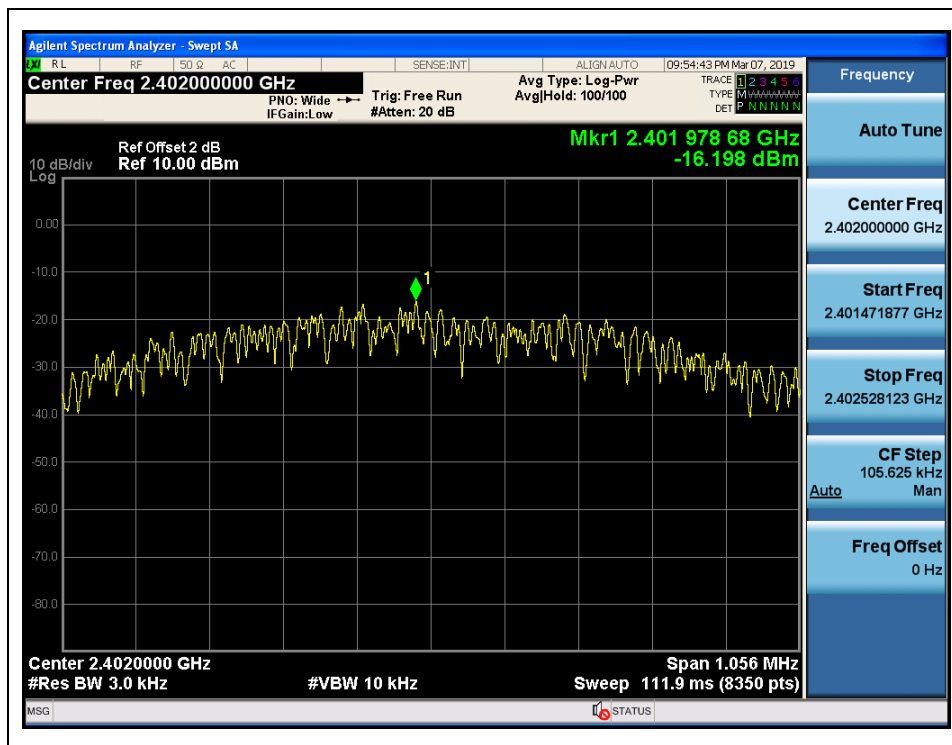
2.5.4. Test Result

The lowest, middle and highest channels are tested.

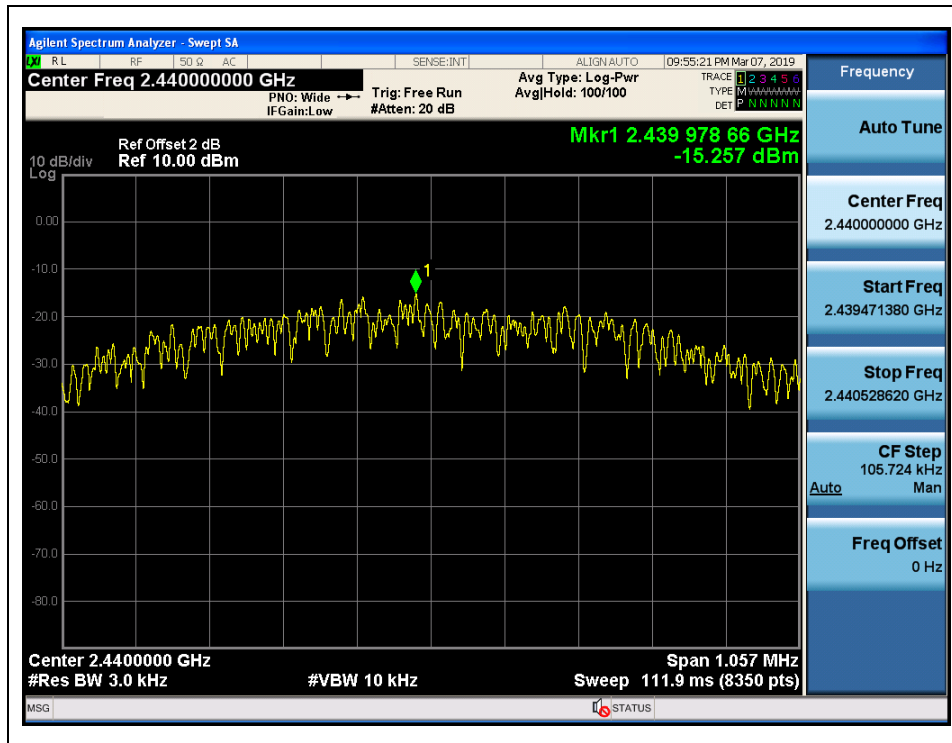
A. Test Verdict:

Mode	Channel	Frequency (MHz)	Measured PSD (dBm/3kHz)	Limit (dBm/3kHz)	Verdict
1M PHY	0	2402	-16.198	8	PASS
	19	2440	-15.257	8	PASS
	39	2480	-16.596	8	PASS
2M PHY	0	2402	-18.393	8	PASS
	19	2440	-17.399	8	PASS
	39	2480	-18.769	8	PASS
Code	0	2402	-7.646	8	PASS
	19	2440	-6.641	8	PASS
	39	2480	-8.018	8	PASS

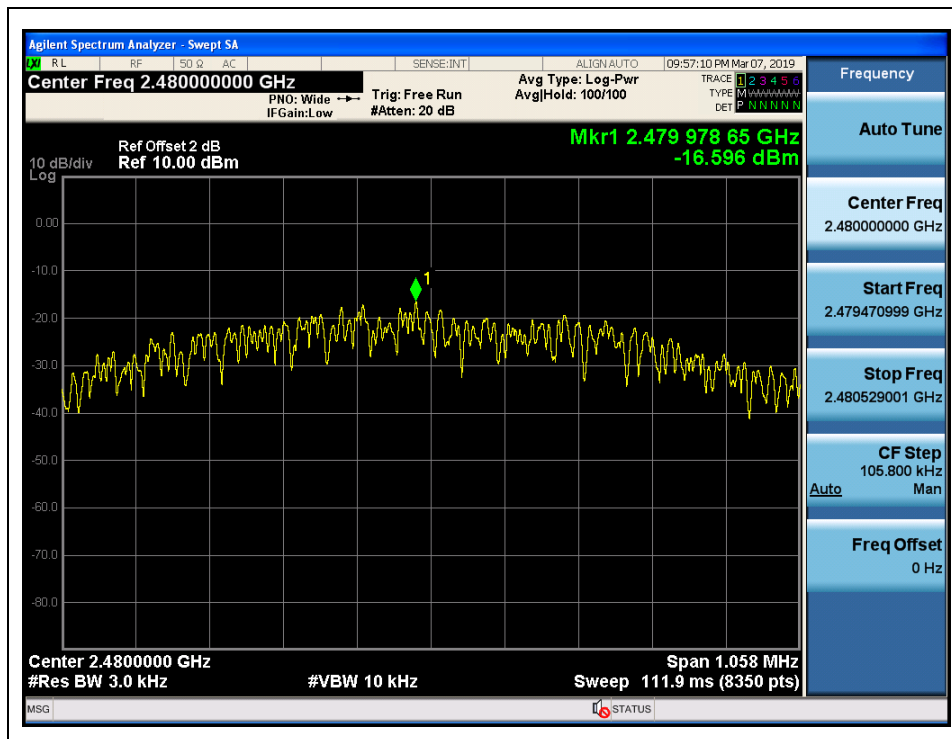
B. Test Plots



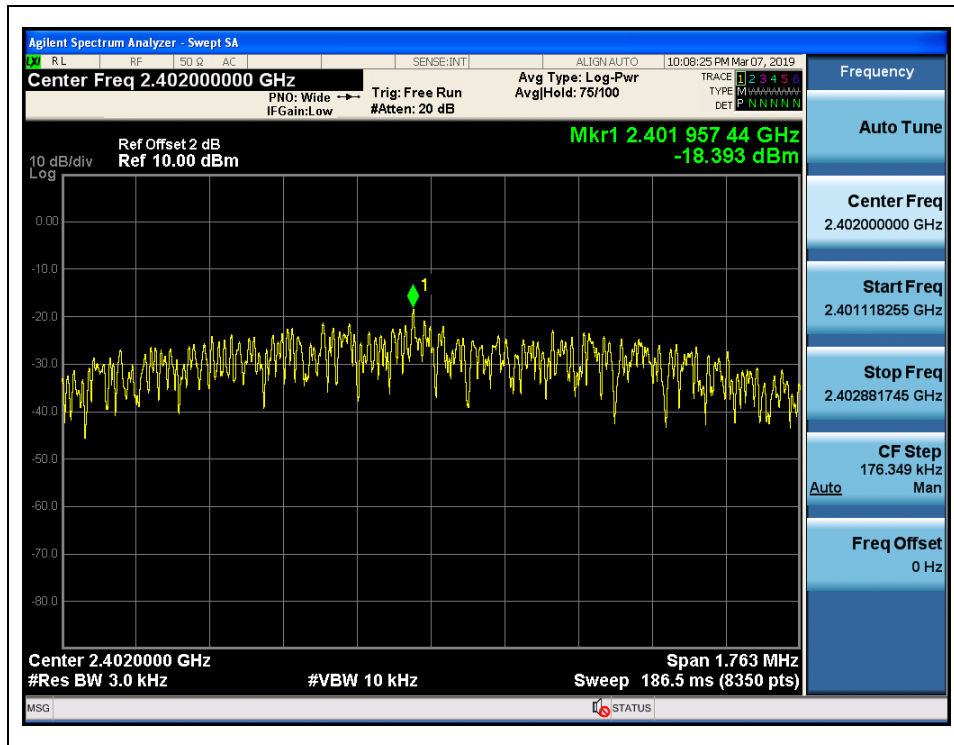
(LE 1M PHY _ Channel = 0, 2402MHz)



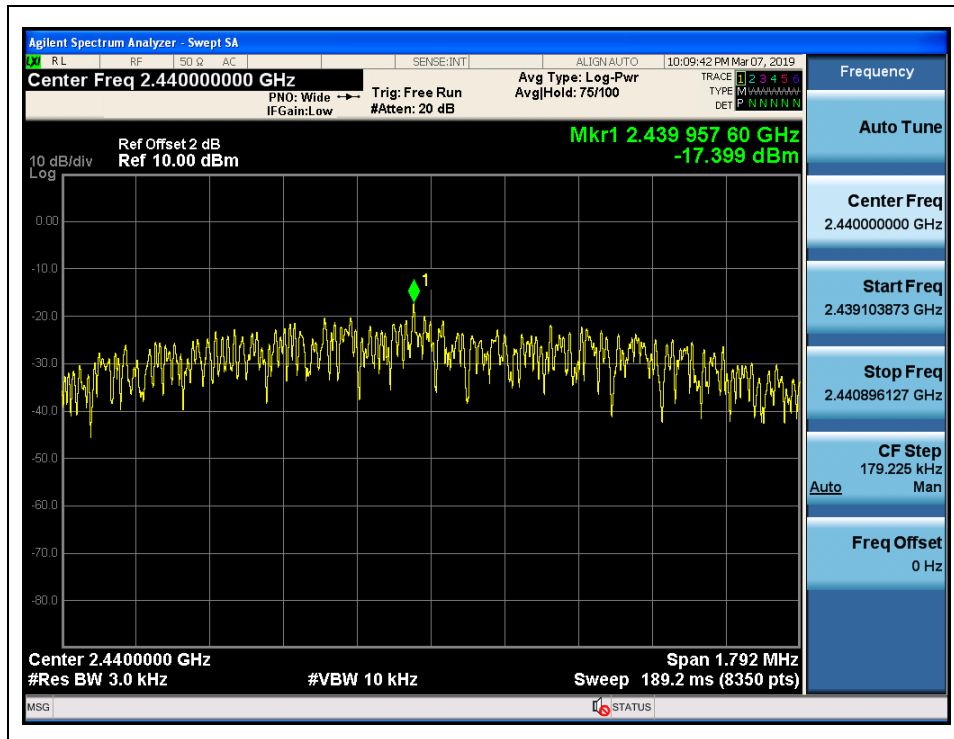
(LE 1M PHY_ Channel = 19, 2440MHz)



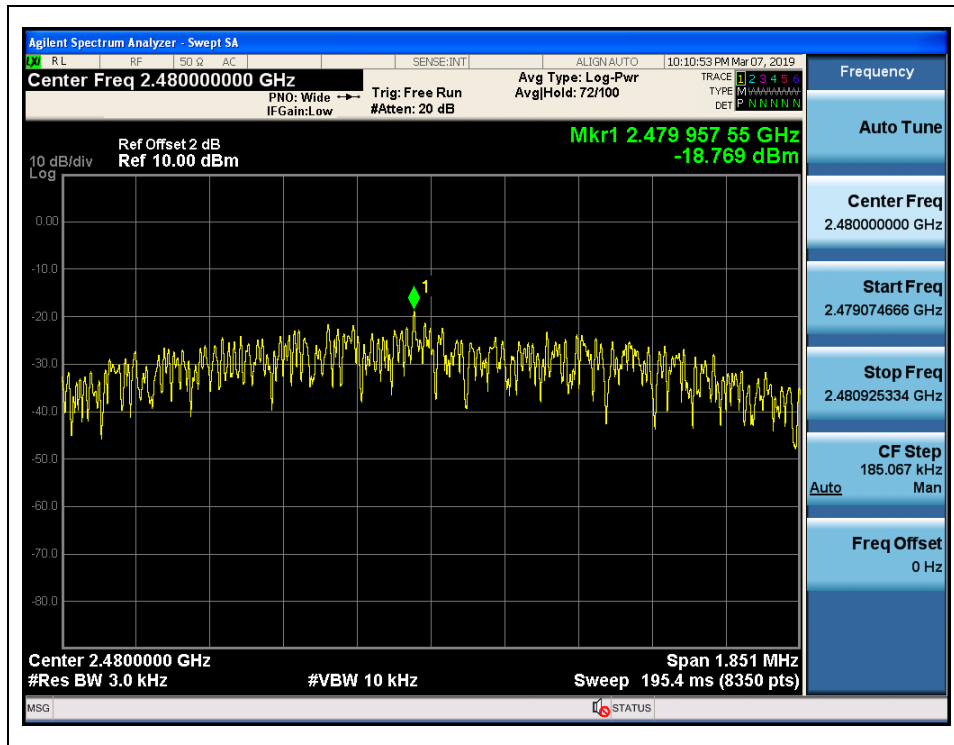
(LE 1M PHY _ Channel = 39, 2480MHz)



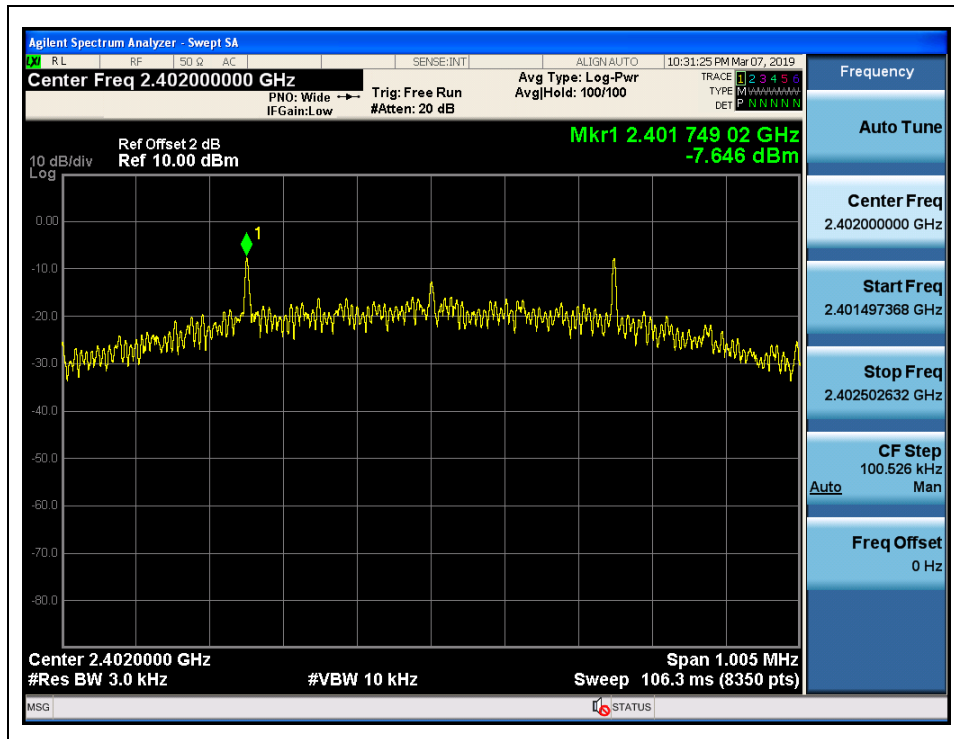
(LE 2M PHY_ Channel = 0, 2402MHz)



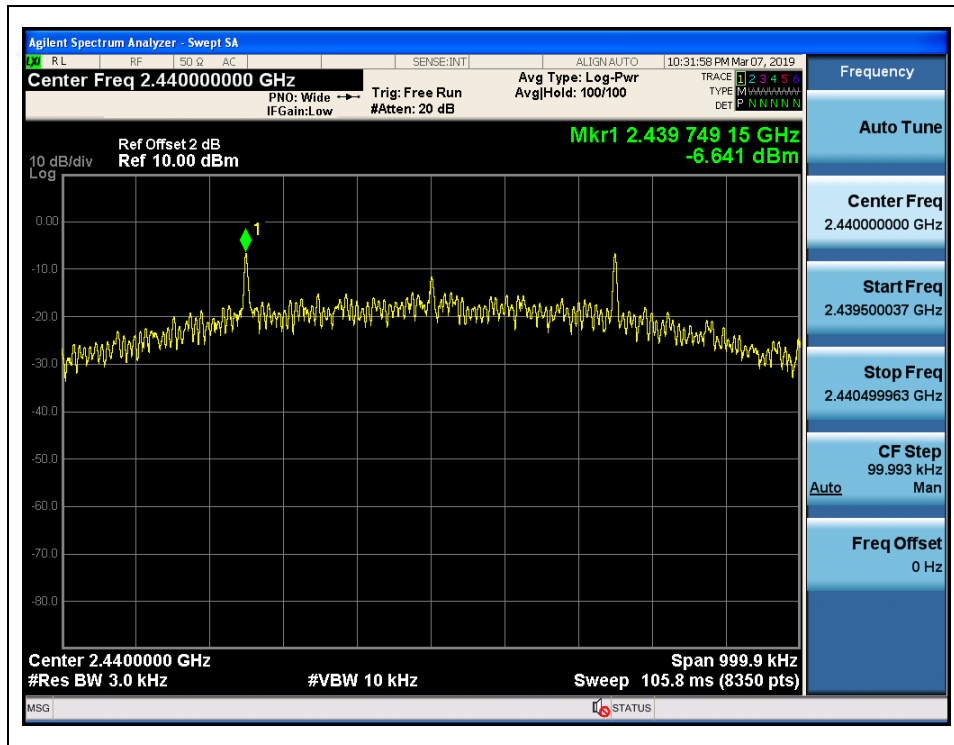
(LE 2M PHY_ Channel = 19, 2440MHz)



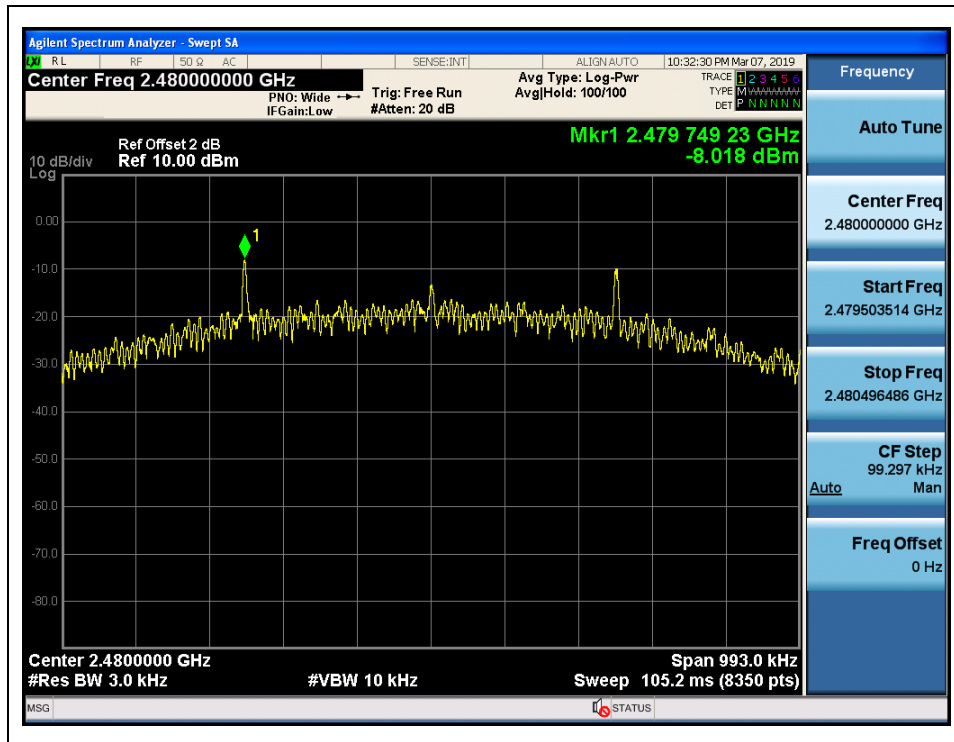
(LE 2M PHY_ Channel = 39, 2480MHz)



(LE Code_ Channel = 0, 2402MHz)



(LE Code_ Channel = 19, 2440MHz)



(LE Code_ Channel = 39, 2480MHz)

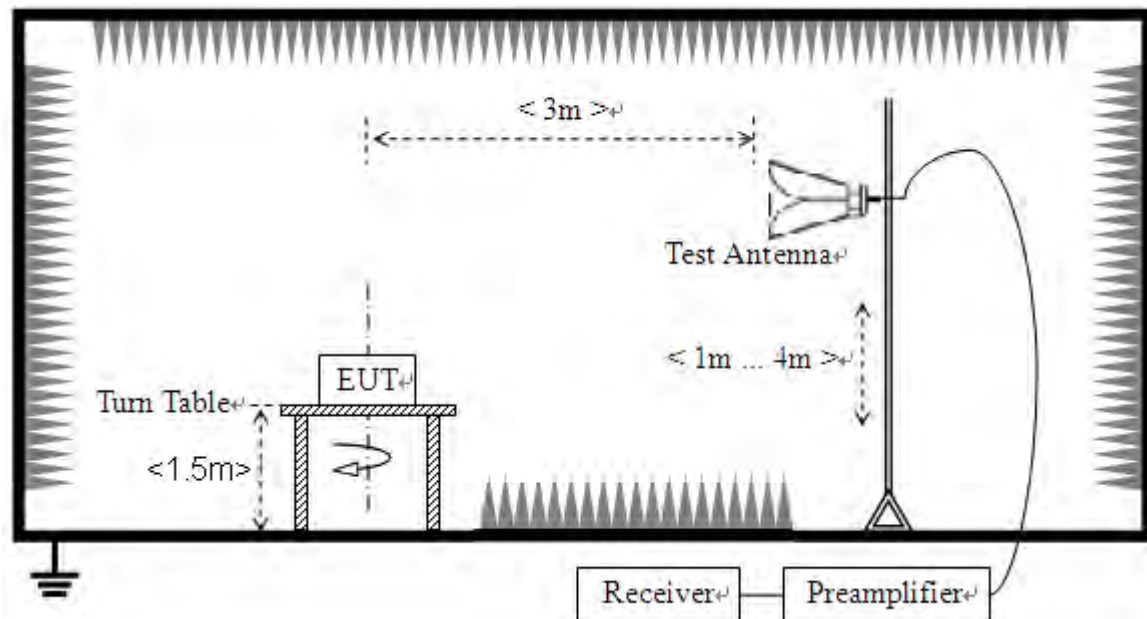
2.6. Restricted Frequency Bands

2.6.1. Requirement

According to FCC section 15.247(d), in any 100kHz 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 100kHz bandwidth within the band that contains the highest level of the desired power, 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).

2.6.2. Test Description

A. Test Setup



- The EUT was placed on the top of a rotating table 0.8 meters (for 30MHz ~ 1GHz) / 1.5 meters (for above 1GHz) above the ground at 3 meter chamber room for test. The table was rotated 360 degrees to determine the position of the highest radiation.
- The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.
- The height of antenna 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 set to make the measurement.



d. For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights from 1 meter to 4 meters and the rotatable table was turned from 0 degrees to 360 degrees to find the maximum reading.

e. The test-receiver system was set to quasi-peak detect function and specified bandwidth with maximum hold mode when the test frequency is below 1 GHz.

f. The test-receiver system was set to peak and average detect function and specified bandwidth with maximum hold mode when the test frequency is above 1 GHz. If the peak reading value also meets average limit, measurement with the average detector is unnecessary.

Note:

1. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 120kHz for Quasipeak detection (QP) at frequency below 1GHz.

2. The resolution bandwidth of test receiver/spectrum analyzer is 1 MHz and the video bandwidth is 3 MHz for Peak detection (PK) at frequency above 1GHz.

3. The resolution bandwidth of test receiver/spectrum analyzer is 1MHz and the video bandwidth is $\geq 1/T$ (Duty cycle < 98%) or 10Hz (Duty cycle $\geq 98\%$) for Average detection (AV) at frequency above 1GHz.

4. All modes of operation were investigated and the worst-case emissions are reported.

B. Equipments List:

Please refer ANNEX B(4).



2.6.3. Test Result

The lowest and highest channels are tested to verify Restricted Frequency Bands.

The measurement results are obtained as below:

$$E [\text{dB}\mu\text{V}/\text{m}] = U_R + A_T + A_{\text{Factor}} [\text{dB}]; A_T = L_{\text{Cable loss}} [\text{dB}] - G_{\text{preamp}} [\text{dB}]$$

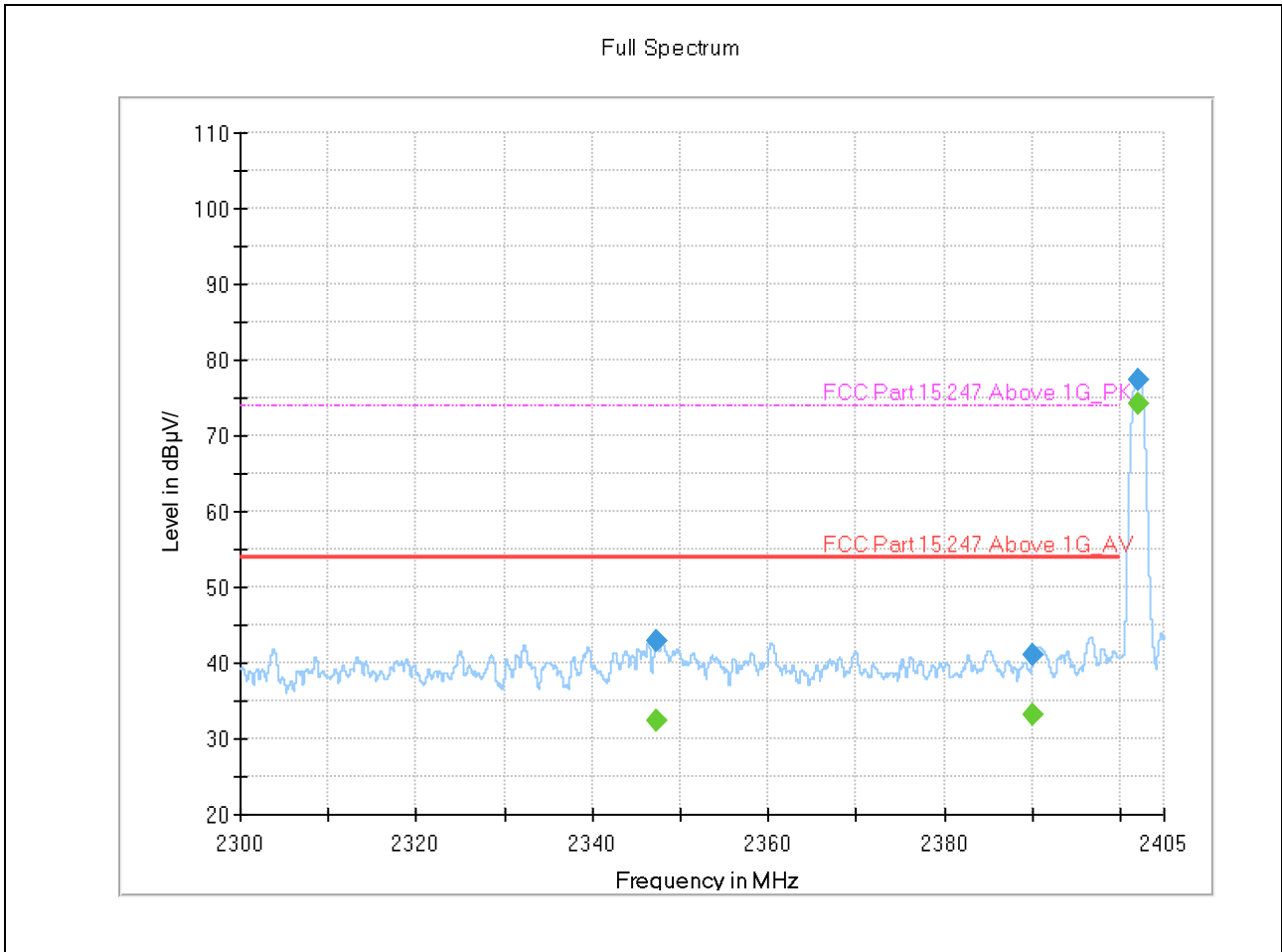
A_T : Total correction Factor except Antenna

U_R : Receiver Reading

G_{preamp} : Preampifier Gain

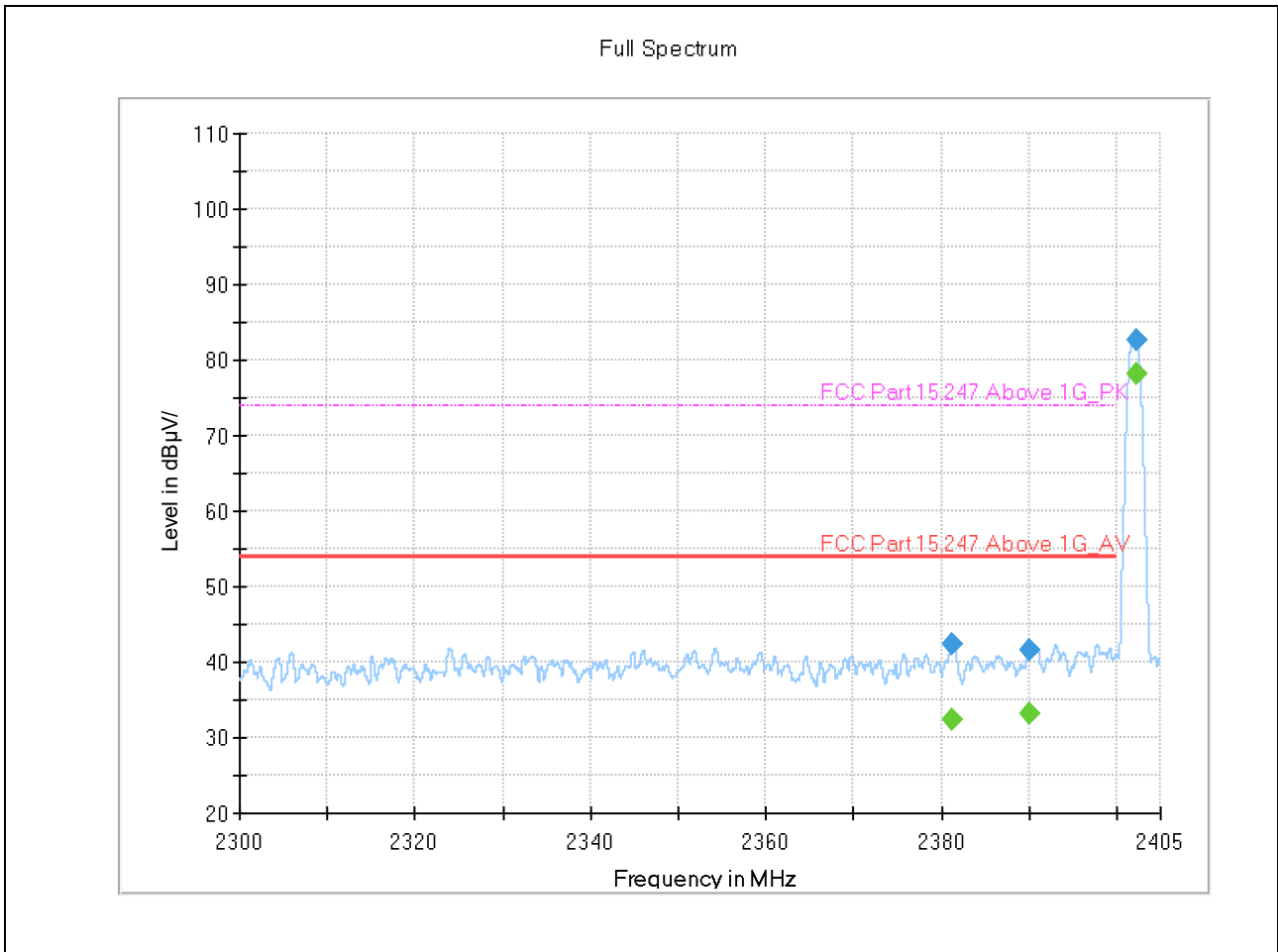
A_{Factor} : Antenna Factor at 3m

Test Plots:



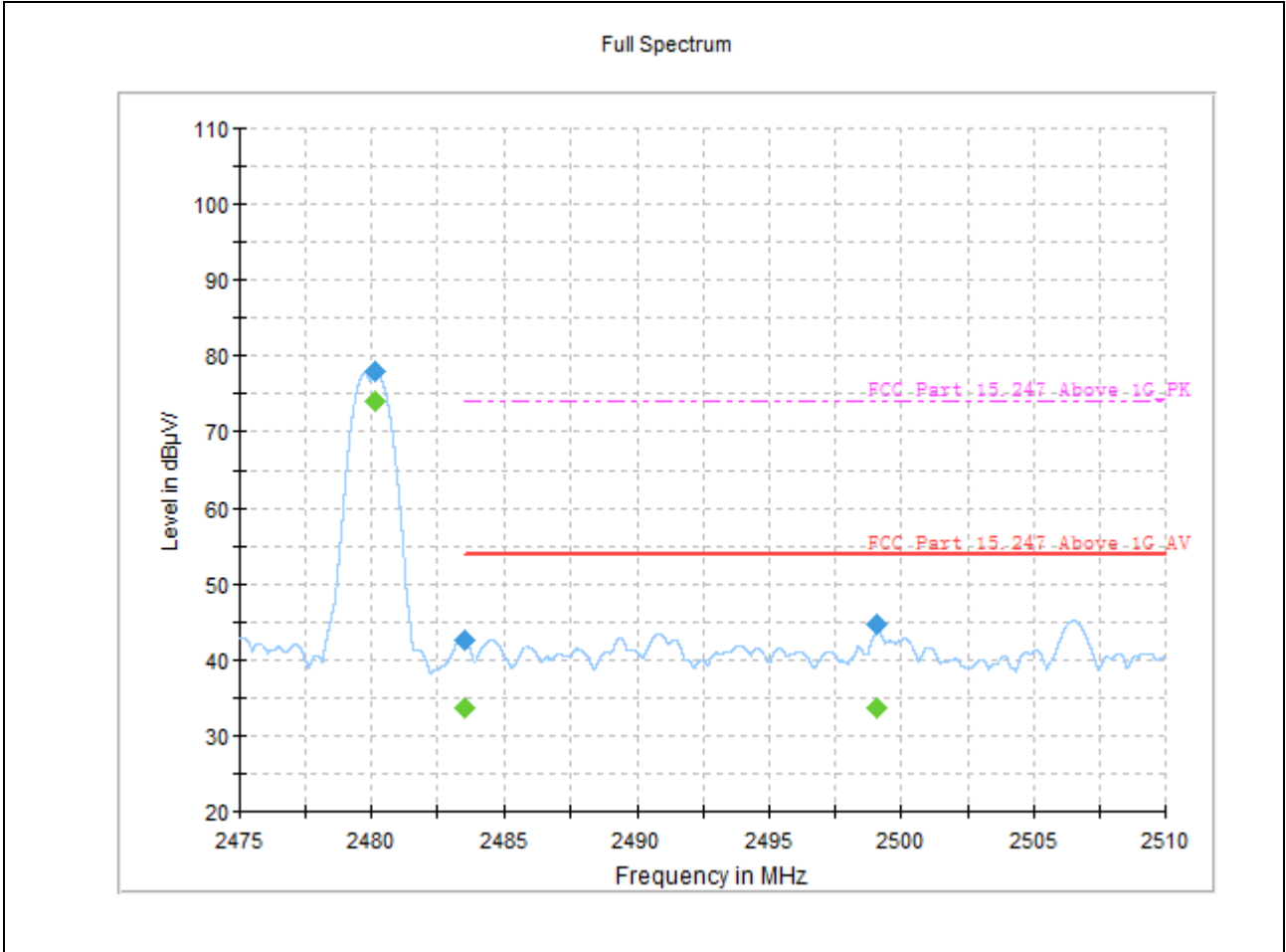
(LE 1M PHY_2402MHz, Antenna Horizontal)

Frequency (MHz)	MaxPeak (dBµV/m)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Pol	Corr. (dB/m)
2347.285000	---	32.40	74.00	41.60	H	7.7
2347.285000	42.82	---	54.00	11.18	H	7.7
2390.002500	41.16	---	54.00	12.84	H	8.0
2390.002500	---	33.14	74.00	40.86	H	8.0
2402.060000	77.42	---	---	---	H	8.7
2402.060000	---	74.21	---	---	H	8.7



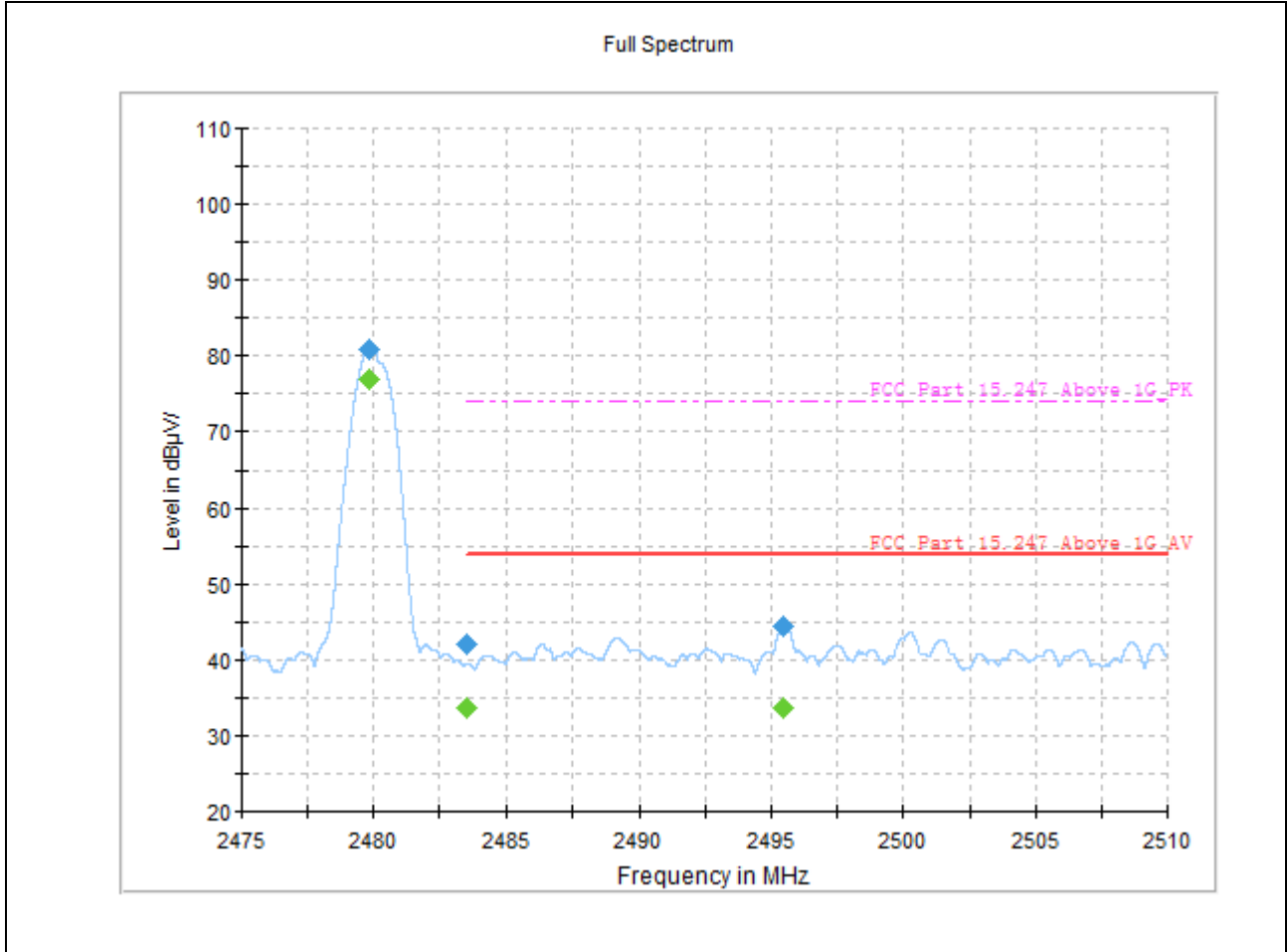
(LE 1M PHY_2402MHz, Antenna Vertical)

Frequency (MHz)	MaxPeak (dBµV/m)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Pol	Corr. (dB/m)
2381.322500	---	32.29	74.00	41.71	V	7.4
2381.322500	42.44	---	54.00	11.56	V	7.4
2390.025833	---	33.13	74.00	40.87	V	8.0
2390.025833	41.52	---	54.00	12.48	V	8.0
2402.252500	---	78.26	---	---	V	8.7
2402.252500	82.71	---	---	---	V	8.7



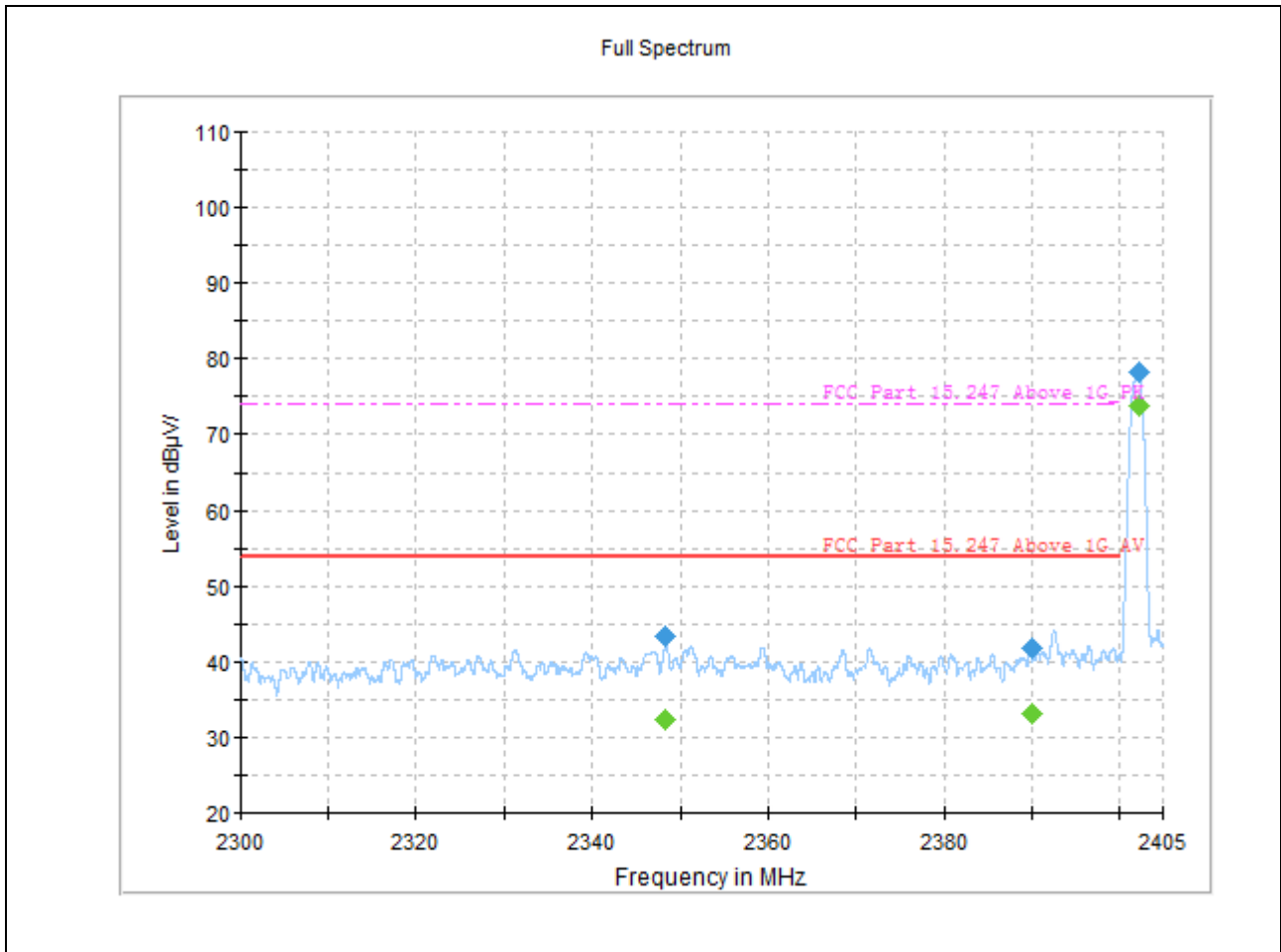
(LE 1M PHY_2480MHz, Antenna Horizontal)

Frequency (MHz)	MaxPeak (dBµV/m)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Pol	Corr. (dB/m)
2480.156667	---	73.85	---	---	H	8.2
2480.156667	77.79	---	---	---	H	8.2
2483.508889	42.60	---	54.00	11.40	H	8.3
2483.508889	---	33.71	74.00	40.29	H	8.3
2499.099445	44.85	---	54.00	9.15	H	8.4
2499.099445	---	33.66	74.00	40.34	H	8.4



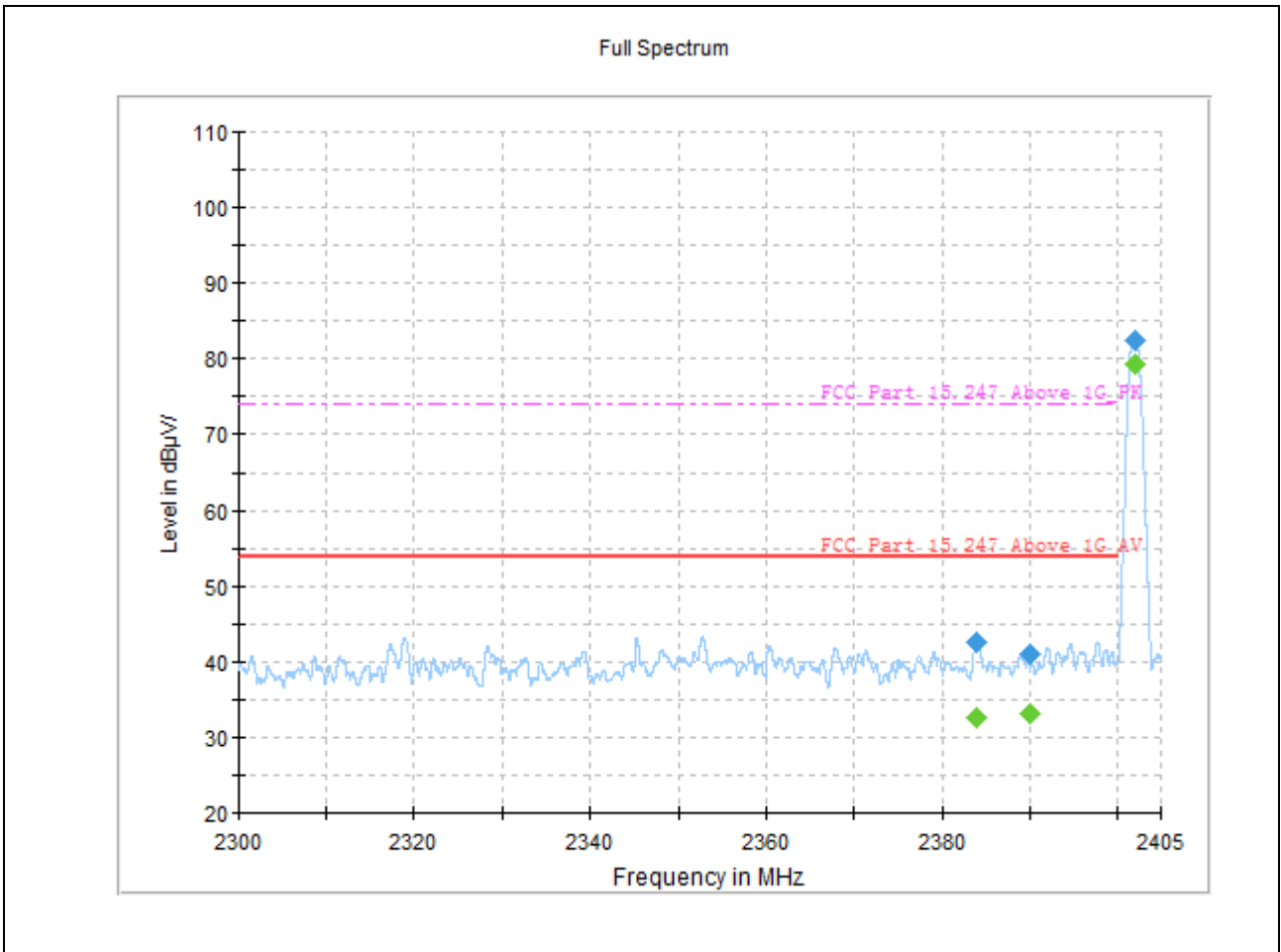
(LE 1M PHY_2480MHz, Antenna Vertical)

Frequency (MHz)	MaxPeak (dBµV/m)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Pol	Corr. (dB/m)
2479.865000	80.78	---	---	---	V	8.2
2479.865000	---	76.73	---	---	V	8.2
2483.501111	---	33.73	74.00	40.27	V	8.3
2483.501111	42.20	---	54.00	11.80	V	8.3
2495.478889	44.38	---	54.00	9.62	V	8.4
2495.478889	---	33.78	74.00	40.22	V	8.4



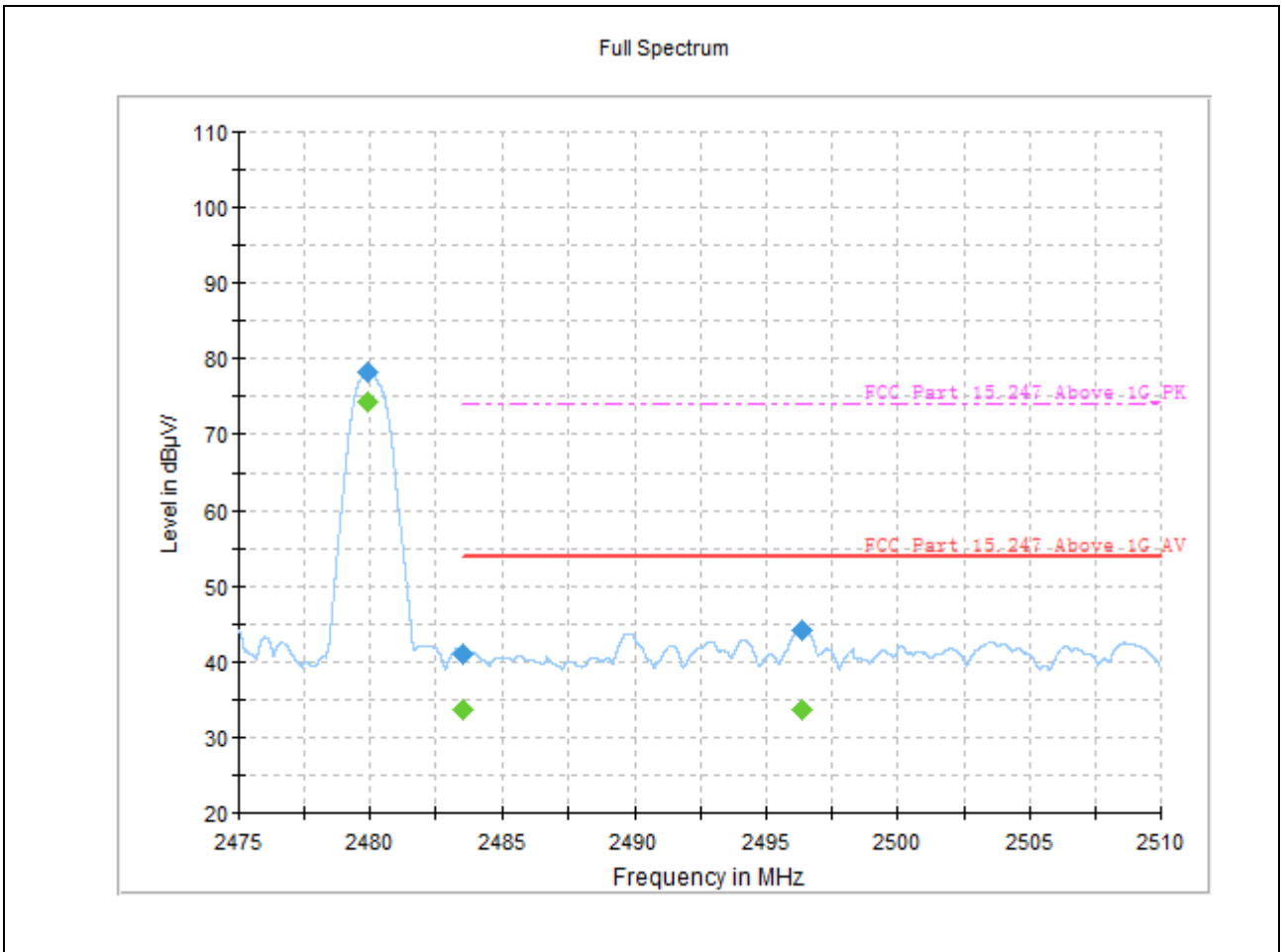
(LE 2M PHY_2402MHz, Antenna Horizontal)

Frequency (MHz)	MaxPeak (dBµV/m)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Pol	Corr. (dB/m)
2348.294167	43.52	---	54.00	10.48	H	7.7
2348.294167	---	32.38	74.00	41.62	H	7.7
2390.002500	41.80	---	54.00	12.20	H	8.0
2390.002500	---	33.15	74.00	40.85	H	8.0
2402.235000	---	73.72	---	---	H	8.7
2402.235000	78.17	---	---	---	H	8.7



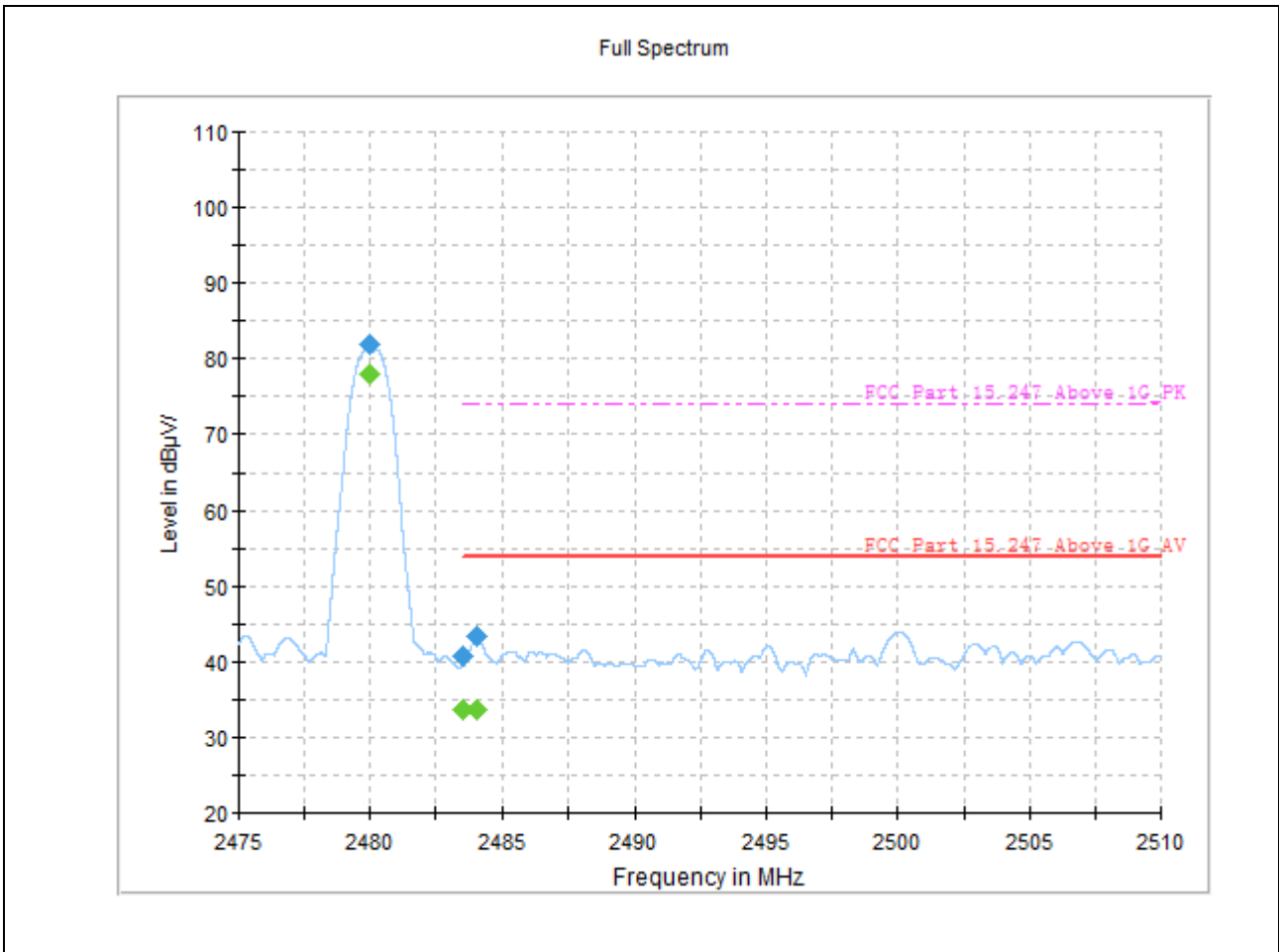
(LE 2M PHY_2402MHz, Antenna Vertical)

Frequency (MHz)	MaxPeak (dBµV/m)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Pol	Corr. (dB/m)
2384.040833	---	32.56	74.00	41.44	V	7.6
2384.040833	42.68	---	54.00	11.32	V	7.6
2390.002500	---	33.16	74.00	40.84	V	8.0
2390.002500	41.11	---	54.00	12.89	V	8.0
2402.054167	---	79.27	---	---	V	8.7
2402.054167	82.43	---	---	---	V	8.7



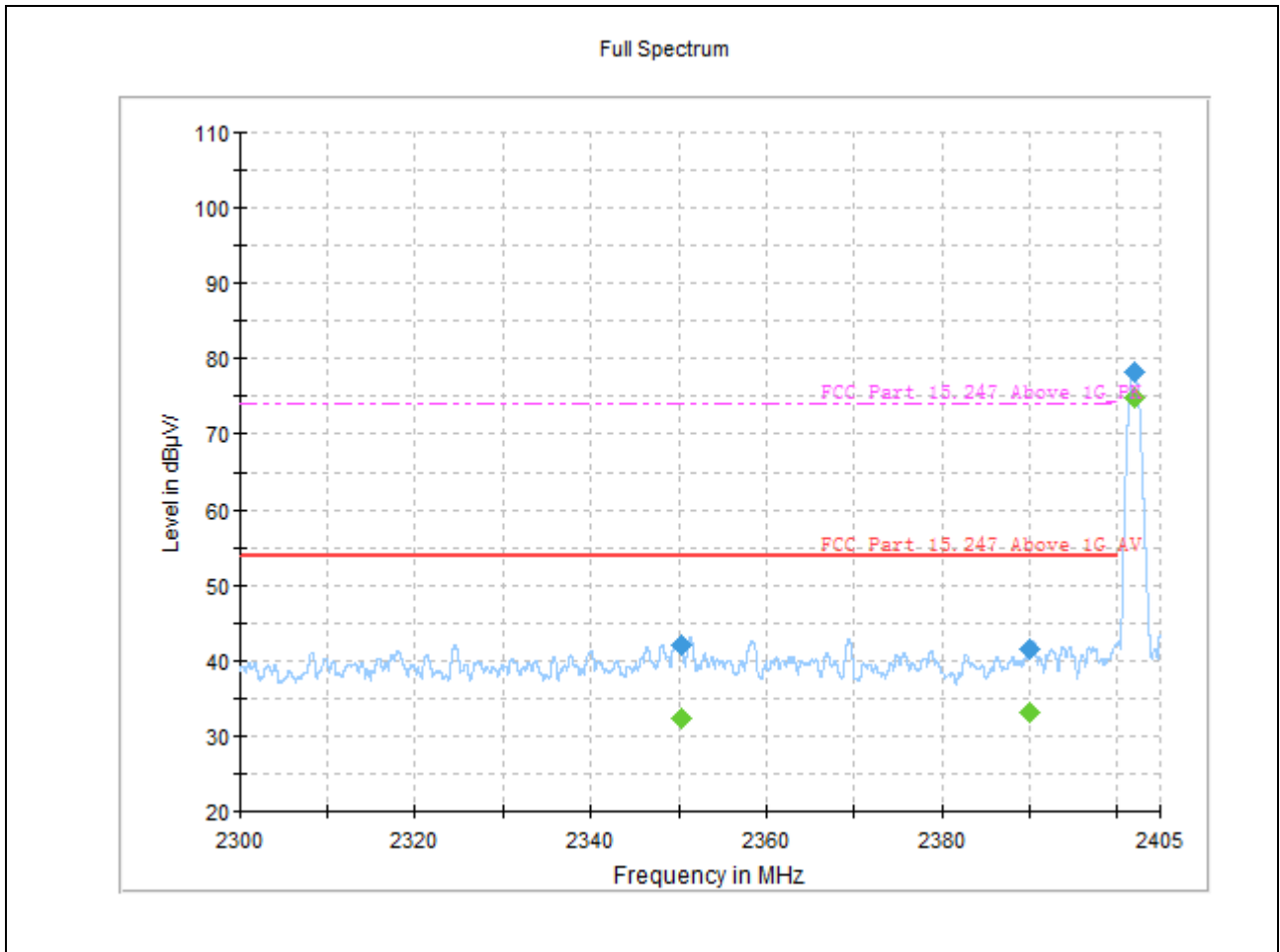
(LE 2M PHY_2480MHz, Antenna Horizontal)

Frequency (MHz)	MaxPeak (dBµV/m)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Pol	Corr. (dB/m)
2479.884445	78.08	---	---	---	H	8.2
2479.884445	---	74.11	---	---	H	8.2
2483.501111	41.02	---	54.00	12.98	H	8.3
2483.501111	---	33.72	74.00	40.28	H	8.3
2496.369445	---	33.76	74.00	40.24	H	8.4
2496.369445	44.21	---	54.00	9.79	H	8.4



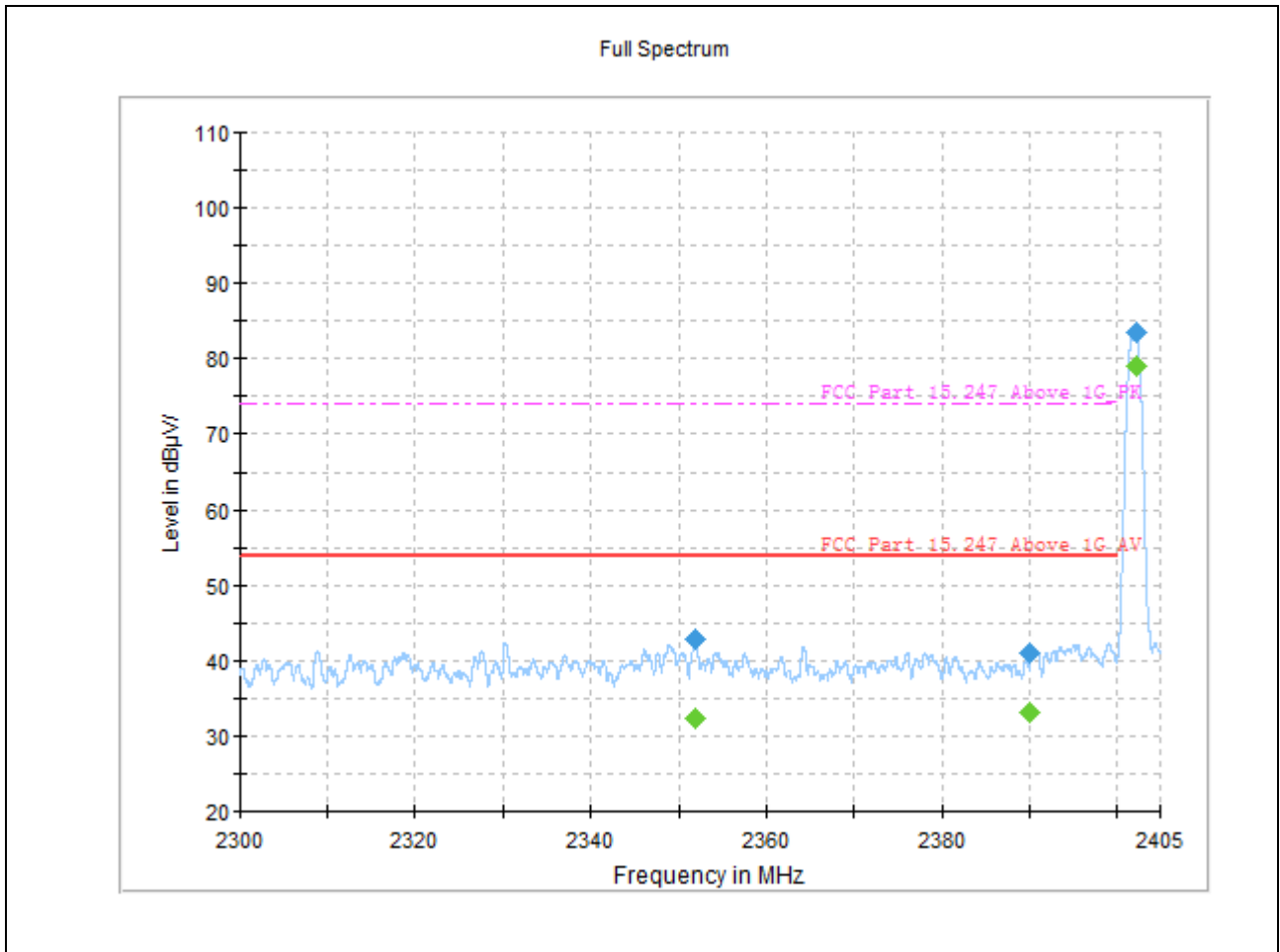
(LE 2M PHY_2480MHz, Antenna Vertical)

Frequency (MHz)	MaxPeak (dBµV/m)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Pol	Corr. (dB/m)
2479.950556	---	77.92	---	---	V	8.2
2479.950556	81.83	---	---	---	V	8.2
2483.501111	40.84	---	54.00	13.16	V	8.3
2483.501111	---	33.72	74.00	40.28	V	8.3
2484.051389	43.35	---	54.00	10.65	V	8.3
2484.051389	---	33.70	74.00	40.30	V	8.3



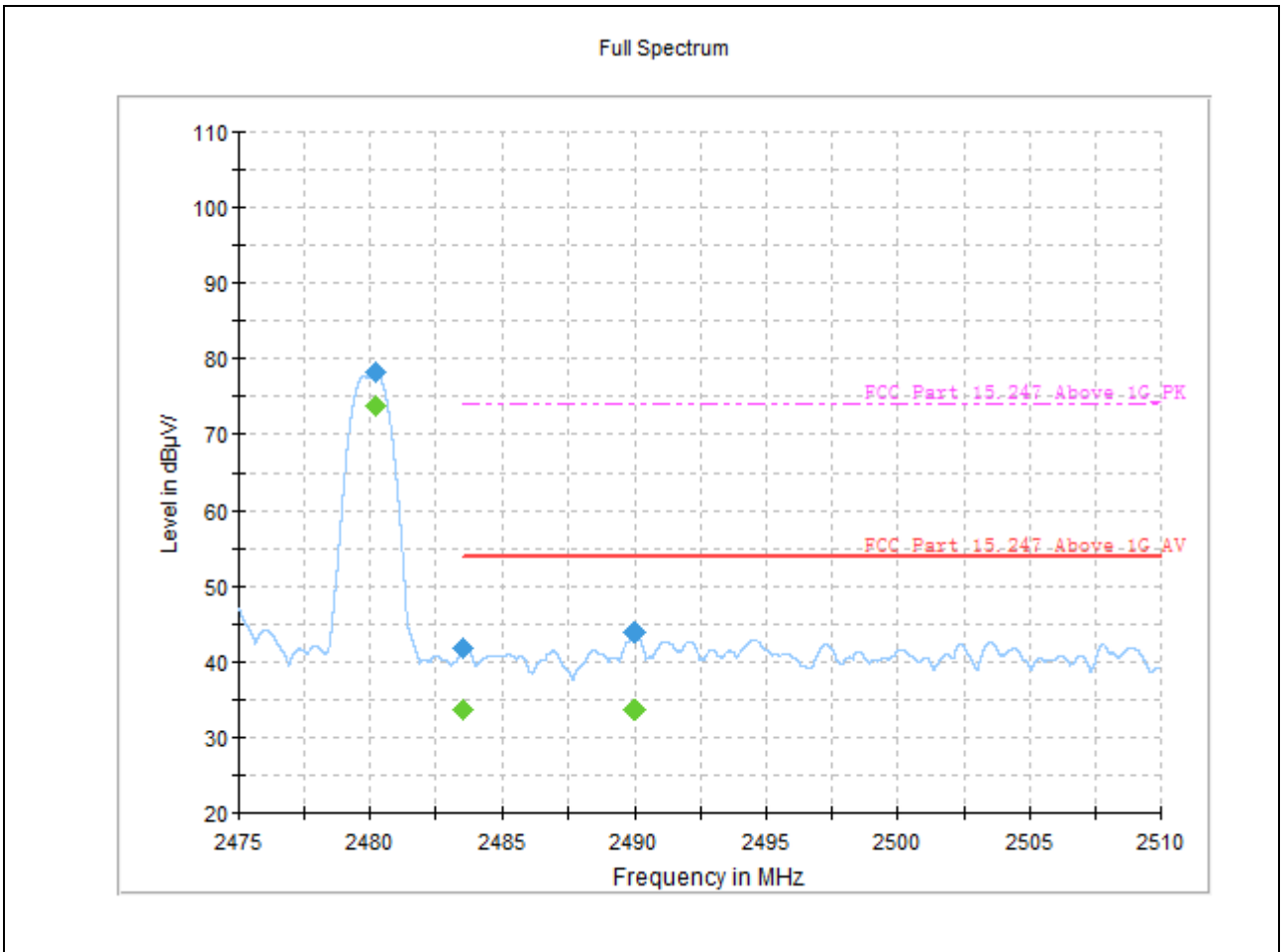
(LE Code_2402MHz, Antenna Horizontal)

Frequency (MHz)	MaxPeak (dBµV/m)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Pol	Corr. (dB/m)
2350.125833	---	32.36	74.00	41.64	H	7.7
2350.125833	42.19	---	54.00	11.81	H	7.7
2390.002500	41.47	---	54.00	12.53	H	8.0
2390.002500	---	33.15	74.00	40.85	H	8.0
2402.130000	---	74.63	---	---	H	8.7
2402.130000	78.17	---	---	---	H	8.7



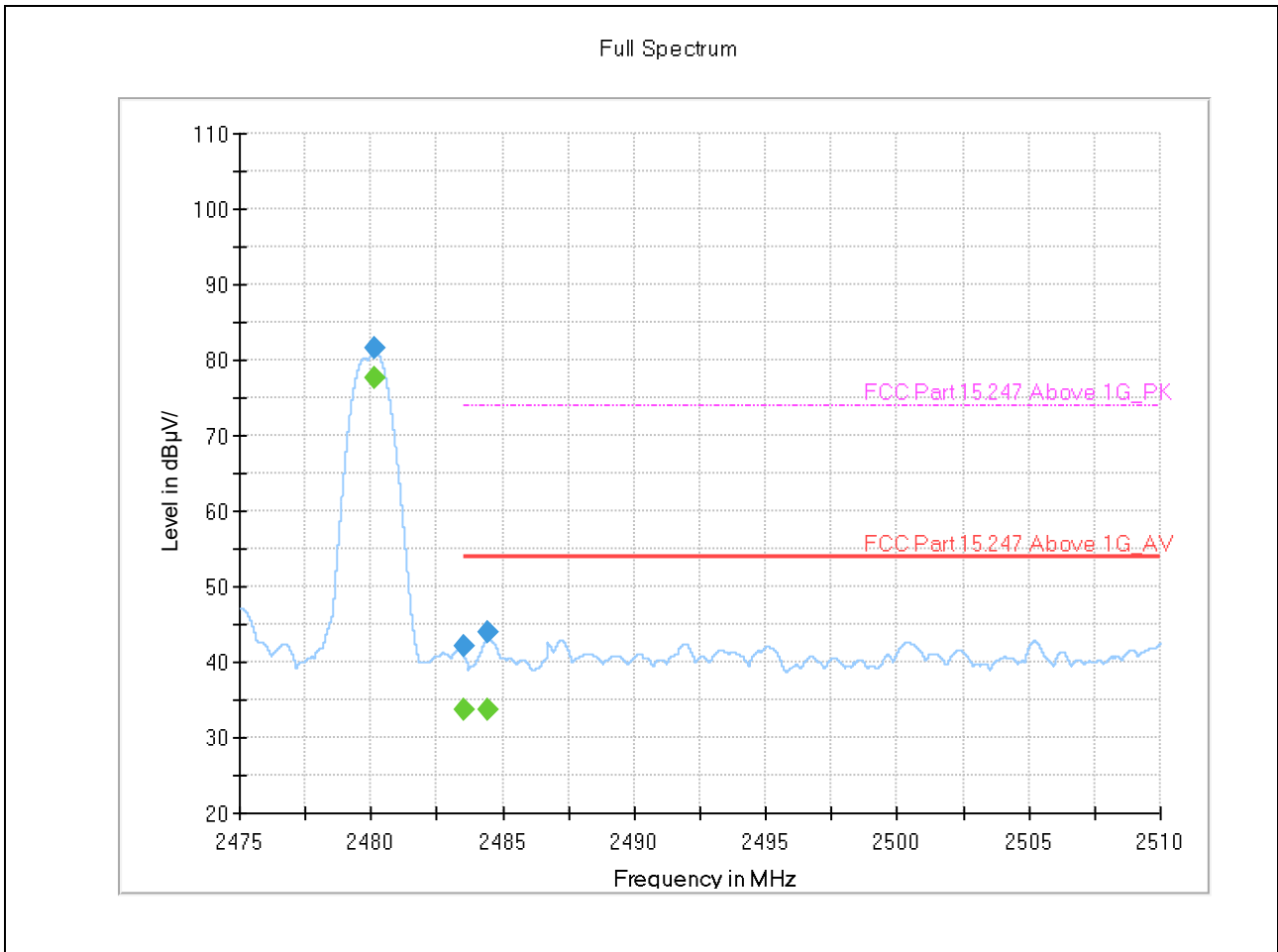
(LE Code_2402MHz, Antenna Vertical)

Frequency (MHz)	MaxPeak (dBµV/m)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Pol	Corr. (dB/m)
2351.776667	---	32.37	74.00	41.63	V	7.7
2351.776667	42.97	---	54.00	11.03	V	7.7
2390.002500	---	33.14	74.00	40.86	V	8.0
2390.002500	41.08	---	54.00	12.92	V	8.0
2402.246667	---	78.90	---	---	V	8.7
2402.246667	83.30	---	---	---	V	8.7



(LE Code_2480MHz, Antenna Horizontal)

Frequency (MHz)	MaxPeak (dBµV/m)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Pol	Corr. (dB/m)
2480.185833	---	73.79	---	---	H	8.2
2480.185833	78.12	---	---	---	H	8.2
2483.505000	41.78	---	54.00	12.22	H	8.3
2483.505000	---	33.71	74.00	40.29	H	8.3
2490.005278	43.92	---	54.00	10.08	H	8.4
2490.005278	---	33.77	74.00	40.23	H	8.4



(LE Code_2480MHz, Antenna Vertical)

Frequency (MHz)	MaxPeak (dBµV/m)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Pol	Corr. (dB/m)
2480.137222	---	77.56	---	---	V	8.2
2480.137222	81.60	---	---	---	V	8.2
2483.503056	42.14	---	54.00	11.86	V	8.3
2483.503056	---	33.72	74.00	40.28	V	8.3
2484.459722	43.93	---	54.00	10.07	V	8.3
2484.459722	---	33.67	74.00	40.33	V	8.3

2.7. Conducted Emission

2.7.1. Requirement

According to FCC section 15.207, 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 within the band 150kHz to 30MHz shall not exceed the limits in the following table, as measured using a 50 μ H/50 Ω line impedance stabilization network (LISN).

Frequency range (MHz)	Conducted Limit (dB μ V)	
	Quai-peak	Average
0.15 - 0.50	66 to 56	56 to 46
0.50 - 5	56	46
5 - 30	60	50

NOTE:

- The lower limit shall apply at the band edges.
- The limit decreases linearly with the logarithm of the frequency in the range 0.15 - 0.50MHz.

2.7.2. Test Description

A. Test Setup:



The Table-top EUT was placed upon a non-metallic table 0.8m above the horizontal metal reference ground plane. EUT was connected to LISN and LISN was connected to reference Ground Plane. EUT was 80cm from LISN. The set-up and test methods were according to ANSI C63.10: 2013.



B. Equipments List:

Please refer ANNEX B(4).

2.7.3. Test Result

The maximum conducted interference is searched using Peak (PK), if the emission levels more than the AV and QP limits, and that have narrow margins from the AV and QP limits will be re-measured with AV and QP detectors. Tests for both L phase and N phase lines of the power mains connected to the EUT are performed. Refer to recorded points and plots below.

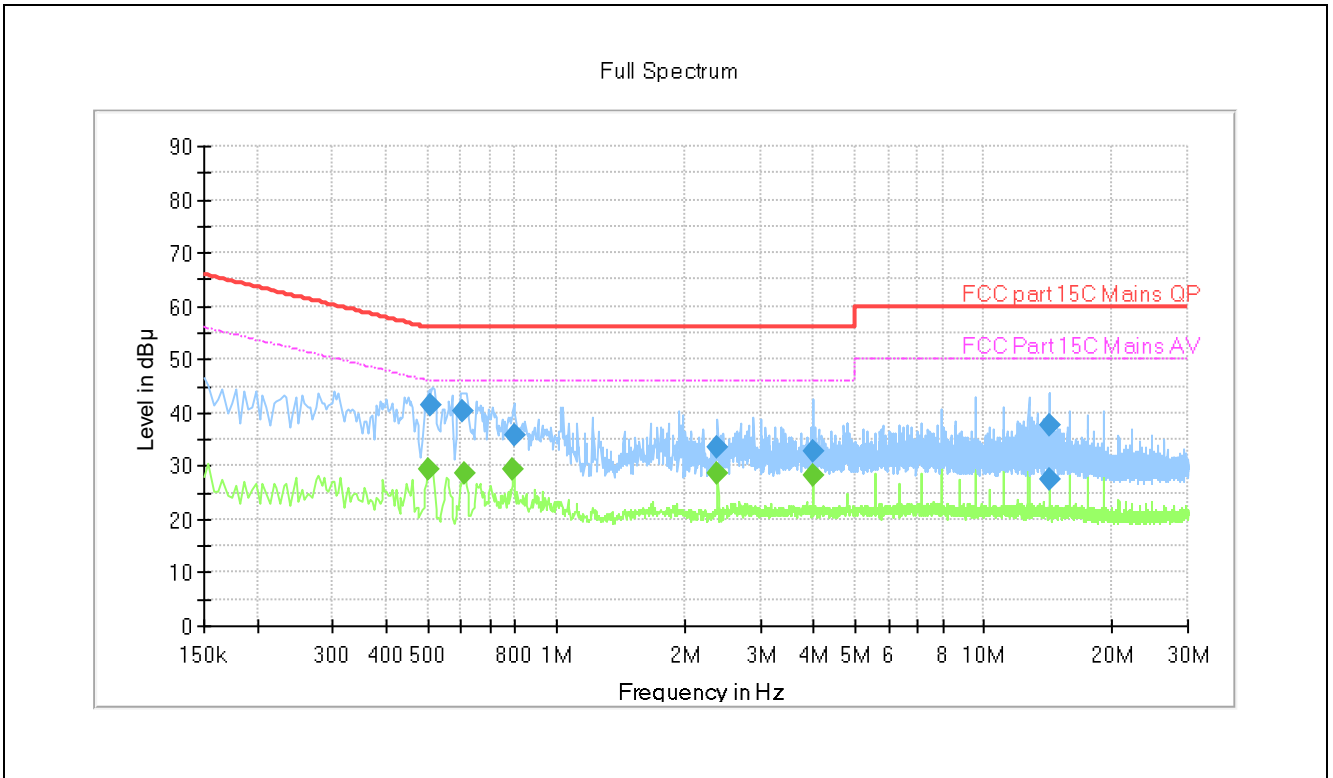
Note: Both of the test voltage AC 120V/60Hz and AC 230V/50Hz were considered and tested respectively, only the results of the worst case AC 120V/60Hz were recorded in this report.

A. Test setup:

The EUT configuration of the emission tests is Charging +BLE Link.

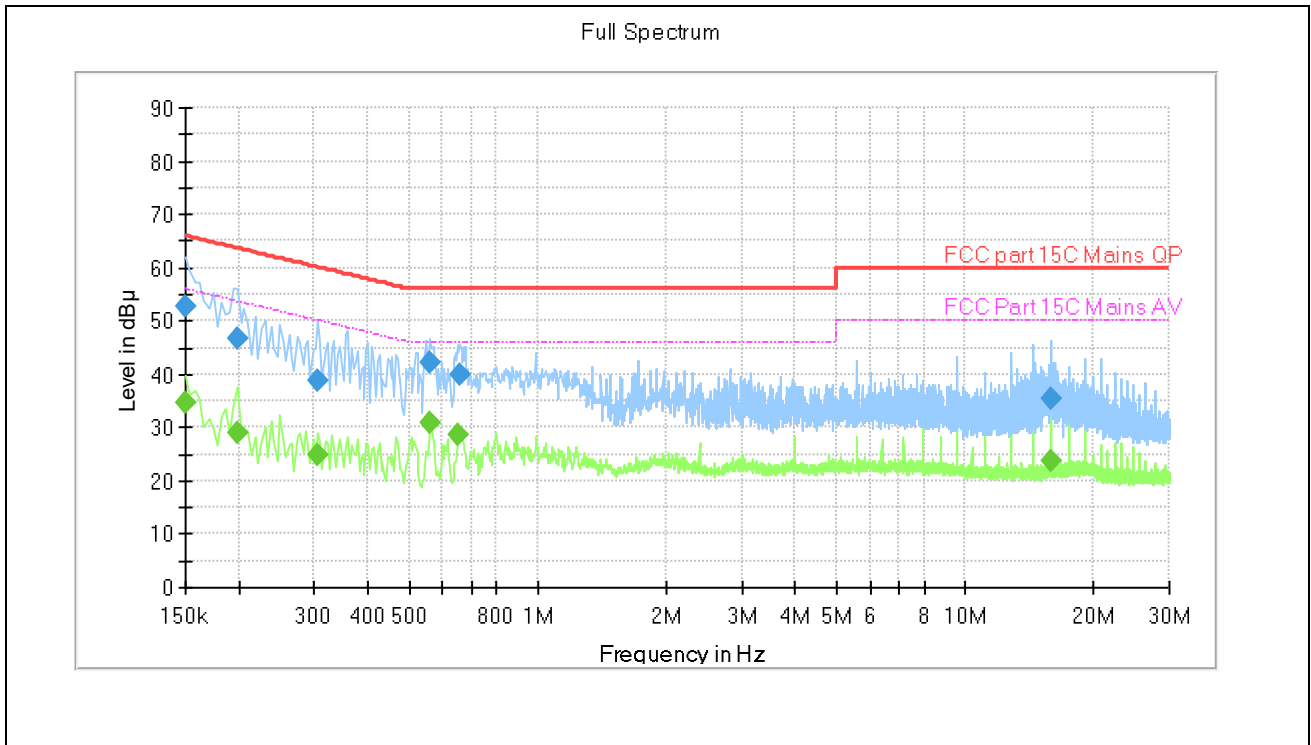
Note: The test voltage is AC 120V/60Hz.

B. Test Plots:



(Plot A: L Phase)

Frequency (MHz)	QuasiPeak (dBμV)	Average (dBμV)	Limit (dBμV)	Margin (dB)	Line	Corr. (dB)
0.502000	---	29.39	46.00	16.61	L	10.2
0.506000	41.53	---	56.00	14.47	L	10.2
0.602000	40.34	---	56.00	15.66	L	10.2
0.610000	---	28.77	46.00	17.23	L	10.2
0.794000	---	29.26	46.00	16.74	L	10.2
0.798000	35.63	---	56.00	20.37	L	10.2
2.386000	33.59	---	56.00	22.41	L	10.3
2.386000	---	28.71	46.00	17.29	L	10.3
3.974000	---	28.34	46.00	17.66	L	10.4
3.978000	32.80	---	56.00	23.20	L	10.4
14.218000	27.44	---	60.00	32.56	L	10.7
14.310000	37.75	---	60.00	22.25	L	10.7



(Plot A: N Phase)

Frequency (MHz)	QuasiPeak (dBµV)	Average (dBµV)	Limit (dBµV)	Margin (dB)	Line	Corr. (dB)
0.150000	---	34.68	56.00	21.32	N	10.2
0.150000	52.67	---	66.00	13.33	N	10.2
0.198000	---	29.12	53.69	24.58	N	10.2
0.198000	46.62	---	63.69	17.07	N	10.2
0.306000	---	24.86	50.08	25.22	N	10.2
0.306000	38.64	---	60.08	21.44	N	10.2
0.558000	42.11	---	56.00	13.89	N	10.2
0.562000	---	30.79	46.00	15.21	N	10.2
0.654000	---	28.67	46.00	17.33	N	10.2
0.658000	40.00	---	56.00	16.00	N	10.2
15.942000	---	23.77	50.00	26.23	N	10.7
15.942000	35.53	---	60.00	24.47	N	10.7



2.8. Radiated Emission

2.8.1. Requirement

According to FCC section 15.247(d), radiated emission outside the frequency band attenuation below the general limits specified in FCC section 15.209(a) is not required. In addition, radiated emissions which fall in the restricted bands, as defined in FCC section 15.205(a), must also comply with the radiated emission limits specified in FCC section 15.209(a).

According to FCC section 15.209 (a), except as provided elsewhere in this subpart, the emissions from an intentional radiator shall not exceed the field strength levels specified in the following table:

Frequency (MHz)	Field Strength ($\mu\text{V}/\text{m}$)	Measurement Distance (m)
0.009 - 0.490	2400/F(kHz)	300
0.490 - 1.705	24000/F(kHz)	30
1.705 - 30.0	30	30
30 - 88	100	3
88 - 216	150	3
216 - 960	200	3
Above 960	500	3

Note:

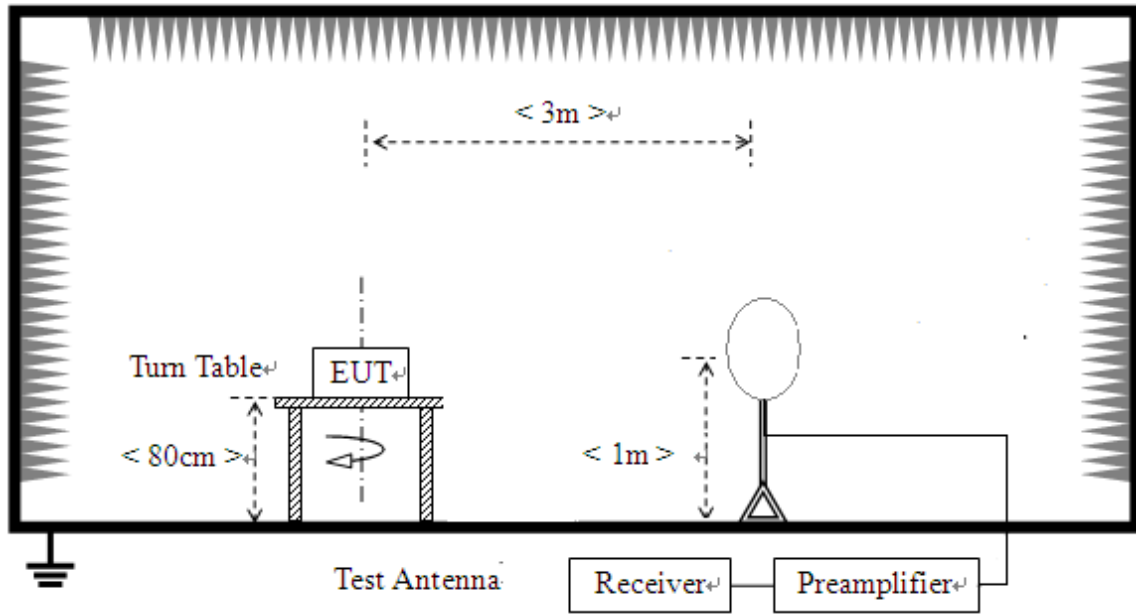
1. For Above 1000MHz, the emission limit in this paragraph is based on measurement instrumentation employing an average detector, measurement using instrumentation with a peak detector function, corresponding to 20dB above the maximum permitted average limit.
2. For above 1000MHz, limit field strength of harmonics: 54dBuV/m@3m (AV) and 74dBuV/m@3m (PK)

In addition, radiated emissions which fall in the restricted bands, as defined in Section 15.205(a), also should comply with the radiated emission limits specified in Section 15.209(a)(above table)

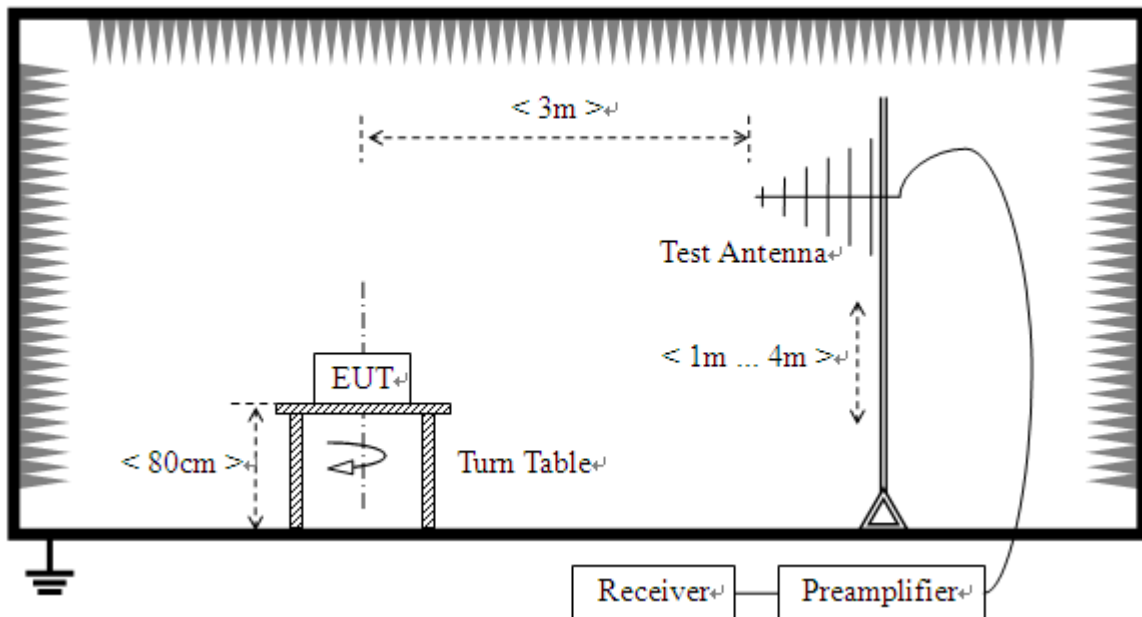
2.8.2. Test Description

A. Test Setup:

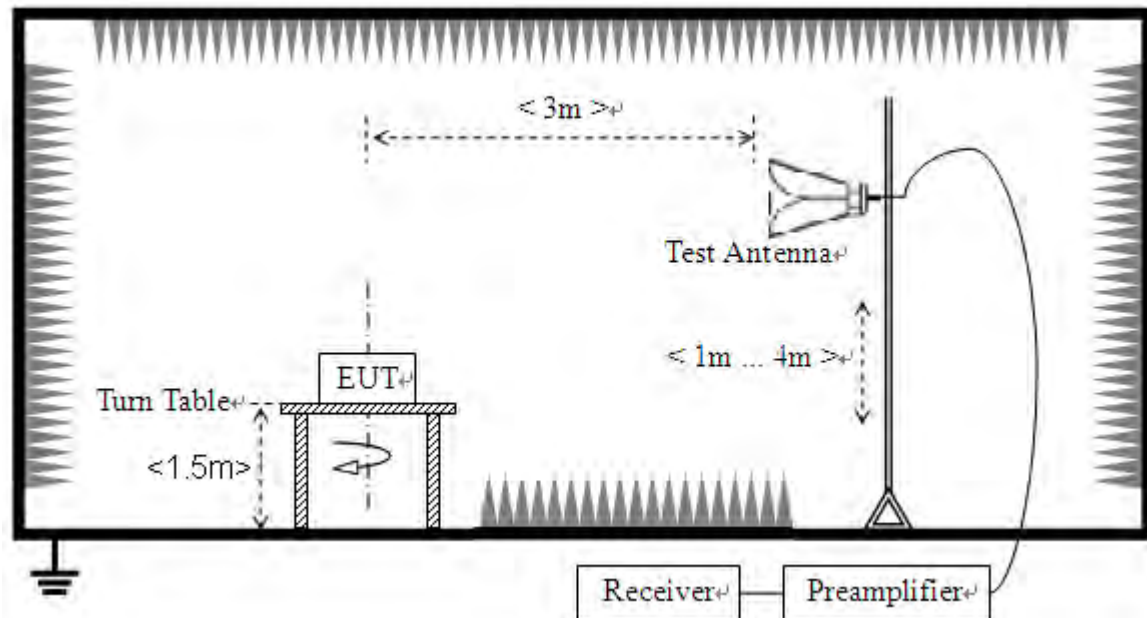
- 1) For radiated emissions from 9kHz to 30MHz



- 2) For radiated emissions from 30MHz to 1GHz



3) For radiated emissions above 1GHz



The RF absorbing material used on the reference ground plane and on the turntable have a maximum height (thickness) of 30 cm (12 in) and have a minimum-rated attenuation of 20 dB at all frequencies from 1 GHz to 18 GHz. Test site have a minimum area of the ground plane covered with RF absorbing material as specified in Figure 6 of ANSI C63.4: 2014.

The test site semi-anechoic chamber has met the requirement of NSA tolerance 4dB according to the standards: ANSI C63.10:2013. For radiated emissions below or equal to 1GHz, The EUT was set-up on insulator 80cm above the Ground Plane, For radiated emissions above 1GHz, The EUT was set-up on insulator 150cm above the Ground Plane. The set-up and test methods were according to ANSI C63.10:2013.

For Radiated emission below 30MHz:

- The EUT was placed on the top of a rotating table 0.8 meters above the ground at a 3 meter chamber room. The table was rotated 360 degrees to determine the position of the highest radiation.
- The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.
- Parallel, perpendicular, and ground-parallel orientations of the antenna are set to make the measurement.
- For each suspected emission, the EUT was arranged to its worst case and the rotatable table was turned from 0 degrees to 360 degrees to find the maximum reading.
- The test-receiver system was set to Quasi-Peak Detect Function and Specified Bandwidth with



Maximum Hold Mode.

NOTE:

1. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 9kHz at frequency below 30MHz.

For Radiated emission above 30MHz:

a. The EUT was placed on the top of a rotating table 0.8 meters (for 30MHz ~ 1GHz) / 1.5 meters (for above 1GHz) above the ground at 3 meter chamber room for test. The table was rotated 360 degrees to determine the position of the highest radiation.

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 height of antenna 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 set to make the measurement.

d. For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights from 1 meter to 4 meters and the rotatable table was turned from 0 degrees to 360 degrees to find the maximum reading.

e. The test-receiver system was set to quasi-peak detect function and specified bandwidth with maximum hold mode when the test frequency is below 1 GHz.

f. The test-receiver system was set to peak and average detect function and specified bandwidth with maximum hold mode when the test frequency is above 1 GHz. If the peak reading value also meets average limit, measurement with the average detector is unnecessary.

Note:

1. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 120kHz for Quasipeak detection (QP) at frequency below 1GHz.

2. The resolution bandwidth of test receiver/spectrum analyzer is 1 MHz and the video bandwidth is 3 MHz for Peak detection (PK) at frequency above 1GHz.

3. The resolution bandwidth of test receiver/spectrum analyzer is 1MHz and the video bandwidth is $\geq 1/T$ (Duty cycle < 98%) or 10Hz (Duty cycle $\geq 98\%$) for Average detection (AV) at frequency above 1GHz.

4. All modes of operation were investigated and the worst-case emissions are reported.

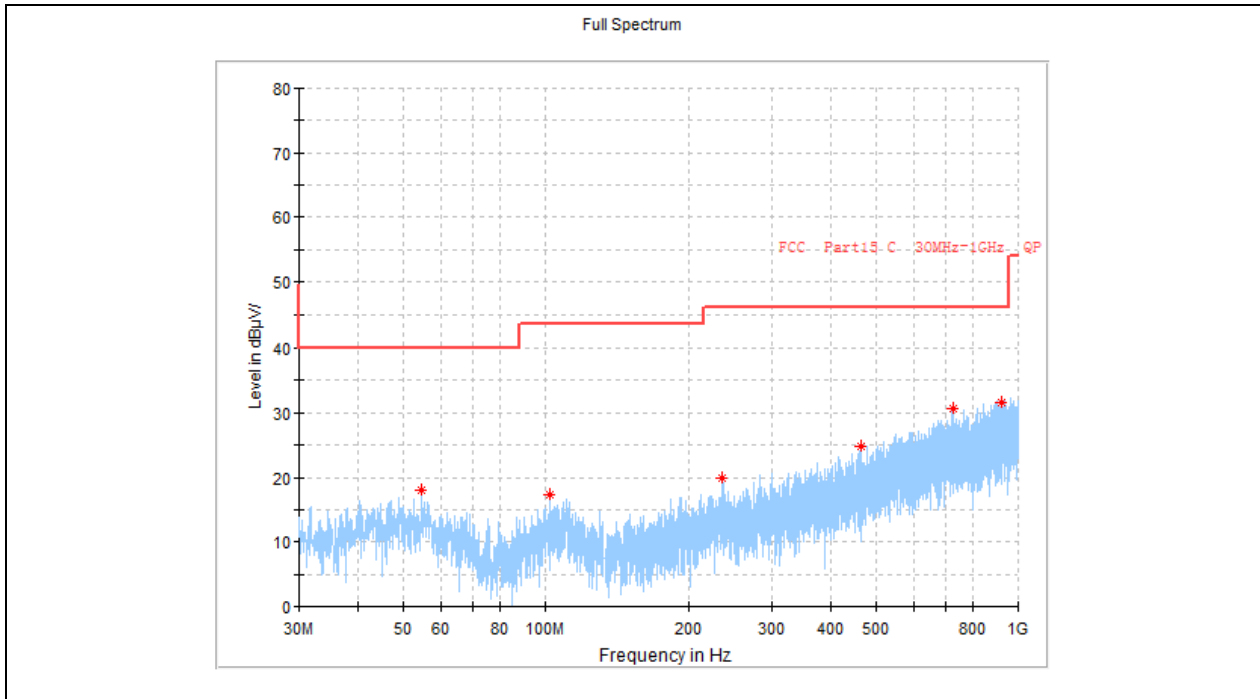
B. Equipments List:

Please refer ANNEX B(4).

2.8.3. Test Result

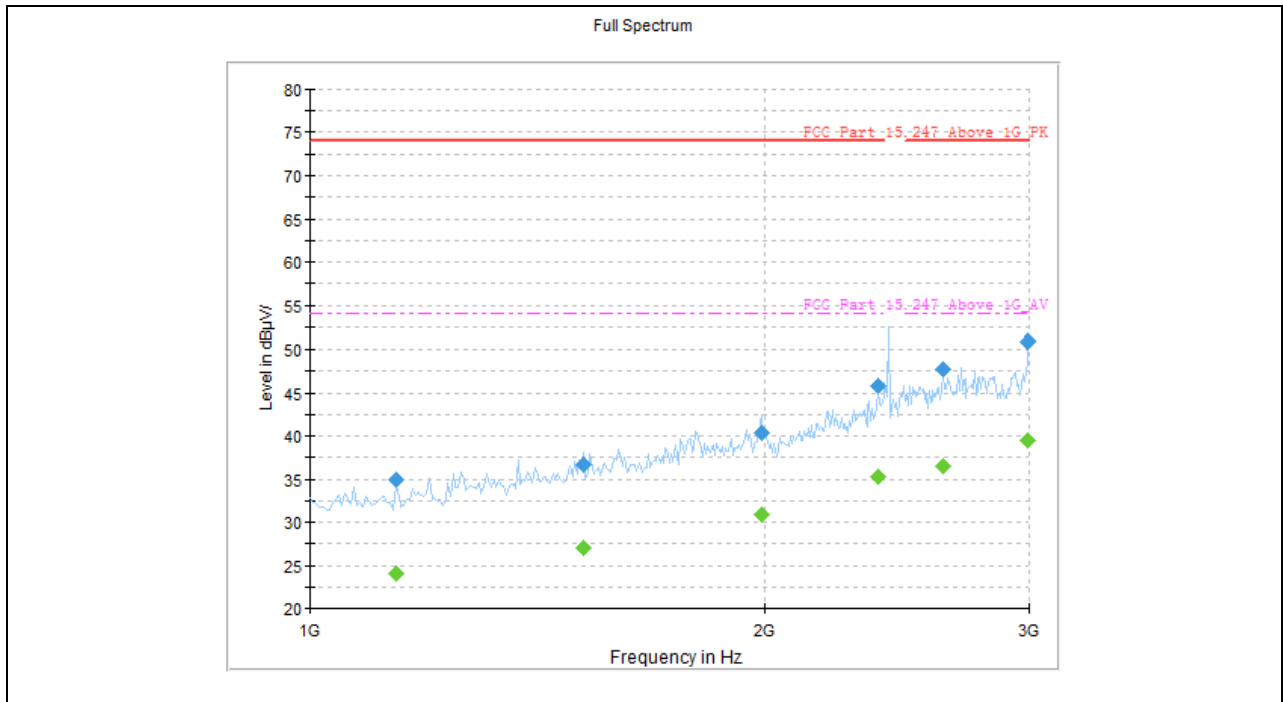
Note1: For the frequency, which started from 9 kHz to 30MHz, was pre-scanned and the result which was 20dB lower than the limit was not recorded.

Note2: For the frequency, which started from 18GHz to 40GHz, was pre-scanned and the result which was 10dB lower than the limit was not recorded.



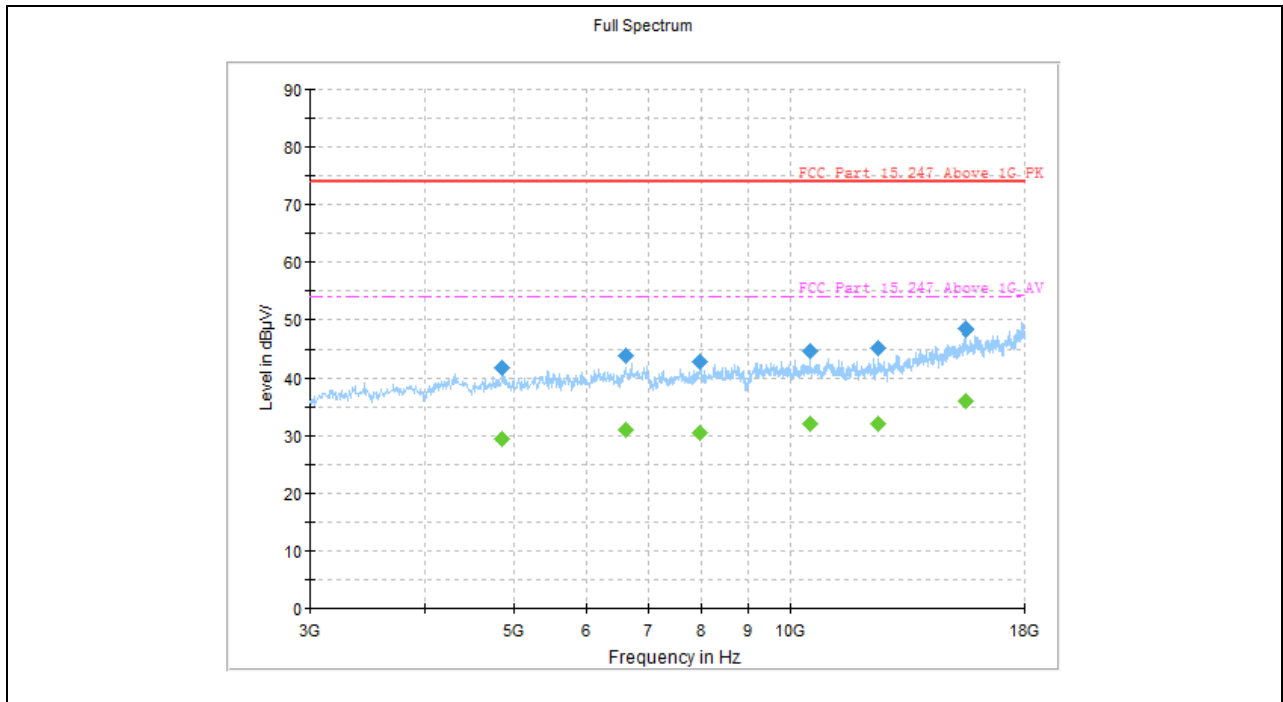
(LE 1M PHY_2402MHz, Antenna Horizontal, 30MHz to 1GHz)

Frequency (MHz)	MaxPeak (dBµV/m)	QuasiPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Pol	Corr. (dB/m)
54.452083	17.99	---	40.00	22.01	H	15.3
102.103333	17.34	---	43.50	26.16	H	14.7
236.084583	19.88	---	46.00	26.12	H	14.7
462.579583	24.73	---	46.00	21.27	H	20.8
729.531667	30.57	---	46.00	15.43	H	25.4
924.420833	31.64	---	46.00	14.36	H	28.0



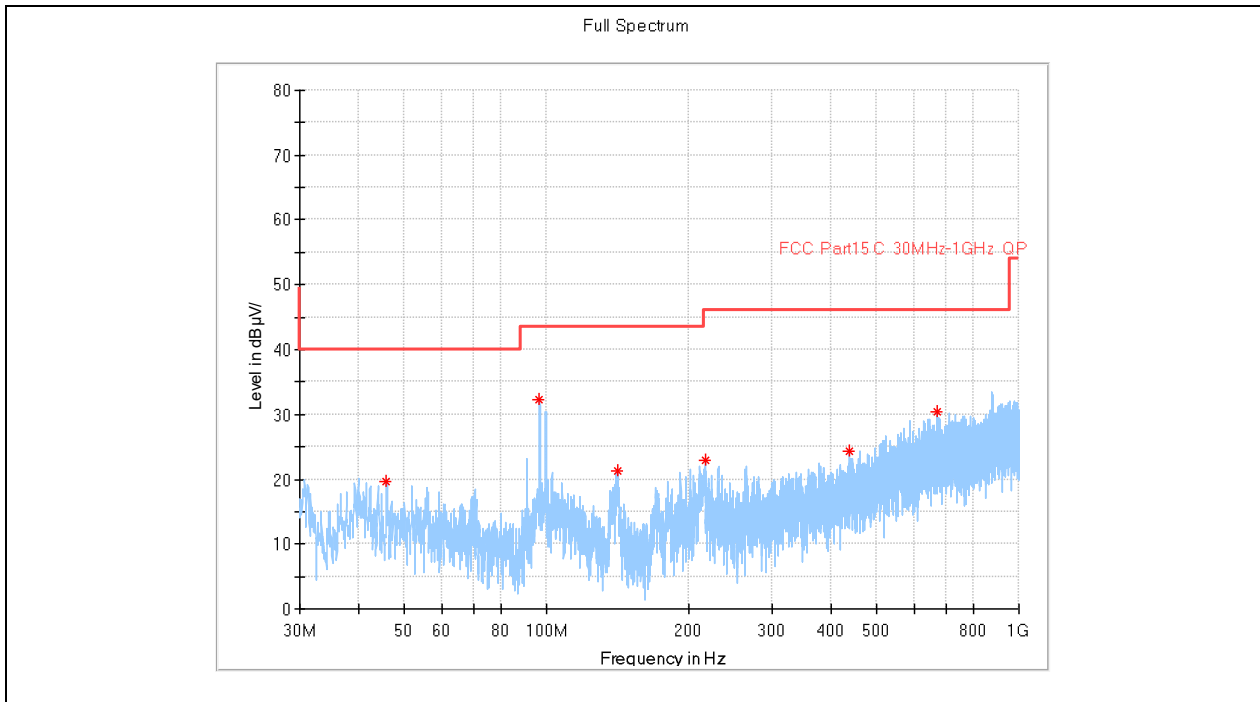
(LE 1M PHY _2402MHz, Antenna Horizontal, 1GHz to 3GHz)

Frequency (MHz)	MaxPeak (dBµV/m)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Pol	Corr. (dB/m)
1140.000000	34.90	---	74.00	39.10	H	-1.9
1140.000000	---	24.04	54.00	29.96	H	-1.9
1520.000000	---	26.97	54.00	27.03	H	2.2
1520.000000	36.70	---	74.00	37.30	H	2.2
1990.000000	---	30.85	54.00	23.15	H	7.3
1990.000000	40.36	---	74.00	33.64	H	7.3
2380.000000	45.75	---	74.00	28.25	H	12.0
2380.000000	---	35.18	54.00	18.82	H	12.0
2630.000000	47.74	---	74.00	26.26	H	14.6
2630.000000	---	36.54	54.00	17.46	H	14.6
2995.000000	50.91	---	74.00	23.09	H	17.9
2995.000000	---	39.50	54.00	14.50	H	17.9



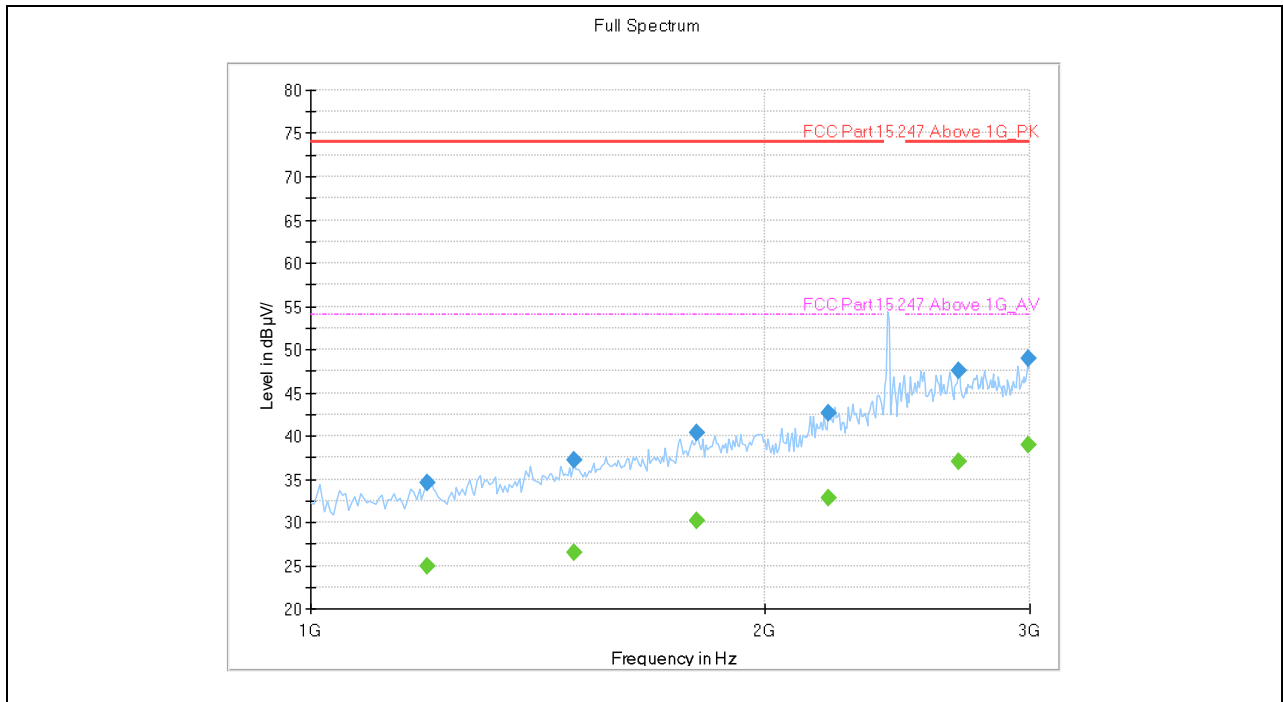
(LE 1M PHY _2402MHz, Antenna Horizontal, 3GHz to 18GHz)

Frequency (MHz)	MaxPeak (dBµV/m)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Pol	Corr. (dB/m)
1050.000000	29.64	---	74.00	44.36	H	-16.9
1060.000000	---	22.55	54.00	31.45	H	-16.6
1805.000000	42.01	---	74.00	31.99	H	-14.7
1805.000000	---	29.91	54.00	24.09	H	-14.7
2895.000000	33.99	---	74.00	40.01	H	-10.2
2895.000000	---	26.20	54.00	27.80	H	-10.2
3610.000000	41.42	---	74.00	32.58	H	-6.8
3610.000000	---	31.71	54.00	22.29	H	-6.8
4325.000000	36.81	---	74.00	37.19	H	-4.3
4355.000000	---	30.72	54.00	23.28	H	-4.2
5400.000000	---	30.33	54.00	23.67	H	-3.7
5420.000000	36.83	---	74.00	37.17	H	-3.6



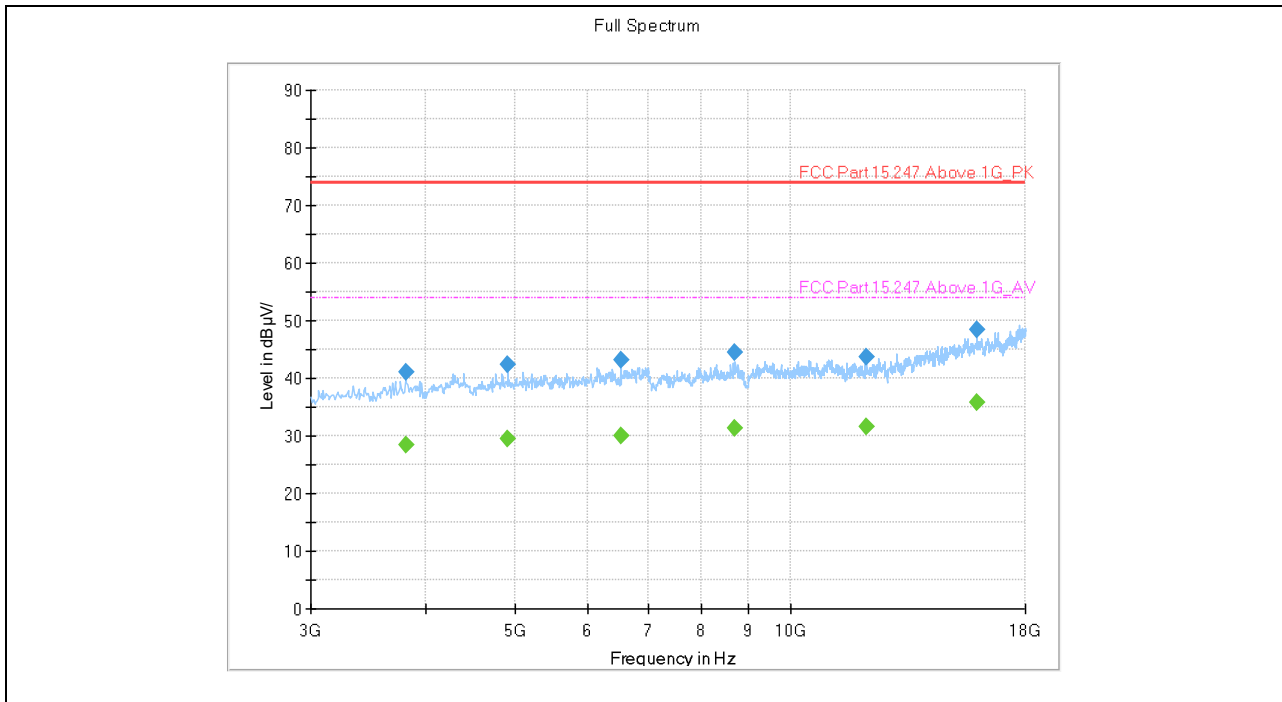
(LE 1M PHY _2402MHz, Antenna Vertical, 30MHz to 1GHz)

Frequency (MHz)	MaxPeak (dBµV/m)	QuasiPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Pol	Corr. (dB/m)
45.843333	19.67	---	40.00	20.33	V	15.5
96.647083	32.27	---	40.00	11.23	V	13.3
141.469167	21.20	---	43.50	22.30	V	11.6
216.199583	22.85	---	46.00	23.15	V	13.8
438.895417	24.39	---	46.00	21.61	V	20.4
672.827083	30.44	---	46.00	15.56	V	24.6



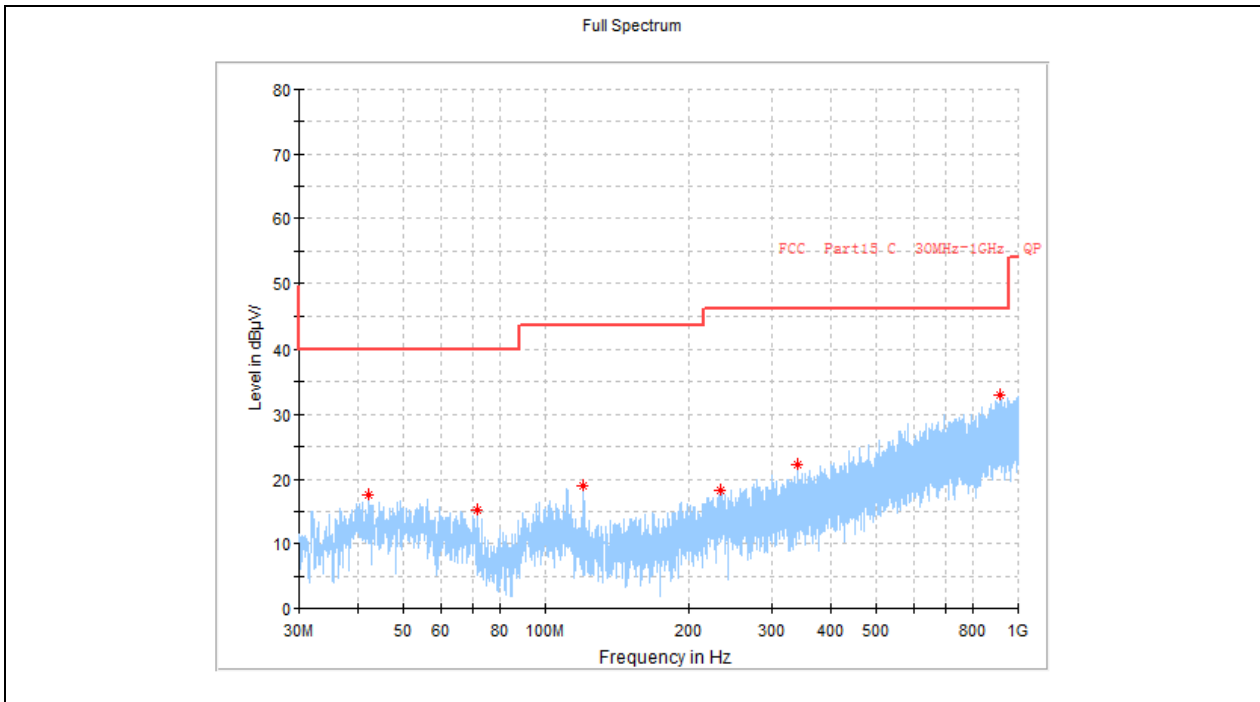
(LE 1M PHY _2402MHz, Antenna Vertical , 1GHz to 3GHz)

Frequency (MHz)	MaxPeak (dBµV/m)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Pol	Corr. (dB/m)
1195.000000	34.60	---	74.00	39.40	V	-0.6
1195.000000	---	24.96	54.00	29.04	V	-0.6
1495.000000	37.26	---	74.00	36.74	V	1.9
1495.000000	---	26.54	54.00	27.46	V	1.9
1805.000000	40.36	---	74.00	33.64	V	6.4
1805.000000	---	30.16	54.00	23.84	V	6.4
2205.000000	---	32.74	54.00	21.26	V	9.4
2205.000000	42.70	---	74.00	31.30	V	9.4
2690.000000	---	37.00	54.00	17.00	V	14.8
2690.000000	47.55	---	74.00	26.45	V	14.8
2990.000000	48.96	---	74.00	25.04	V	17.4
2990.000000	---	39.03	54.00	14.97	V	17.4



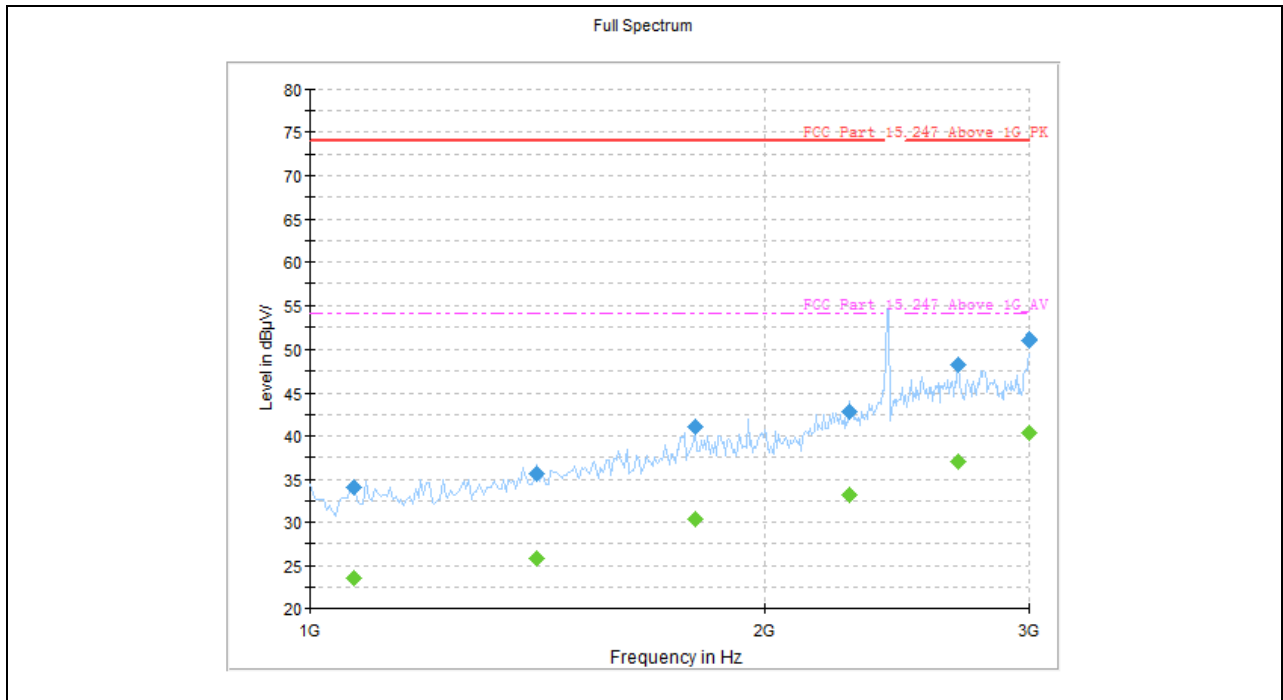
(LE 1M PHY _2402MHz, Antenna Vertical, 3GHz to 18GHz)

Frequency (MHz)	MaxPeak (dBµV/m)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Pol	Corr. (dB/m)
3810.000000	41.10	---	74.00	32.90	V	-5.0
3810.000000	---	28.33	54.00	25.67	V	-5.0
4912.500000	42.31	---	74.00	31.69	V	-2.7
4912.500000	---	29.51	54.00	24.49	V	-2.7
6525.000000	43.14	---	74.00	30.86	V	-1.4
6525.000000	---	30.00	54.00	24.00	V	-1.4
8700.000000	44.48	---	74.00	29.52	V	1.3
8700.000000	---	31.34	54.00	22.66	V	1.3
12090.000000	---	31.66	54.00	22.34	V	4.0
12090.000000	43.78	---	74.00	30.22	V	4.0
15937.500000	---	35.77	54.00	18.23	V	11.2
15937.500000	48.53	---	74.00	25.47	V	11.2



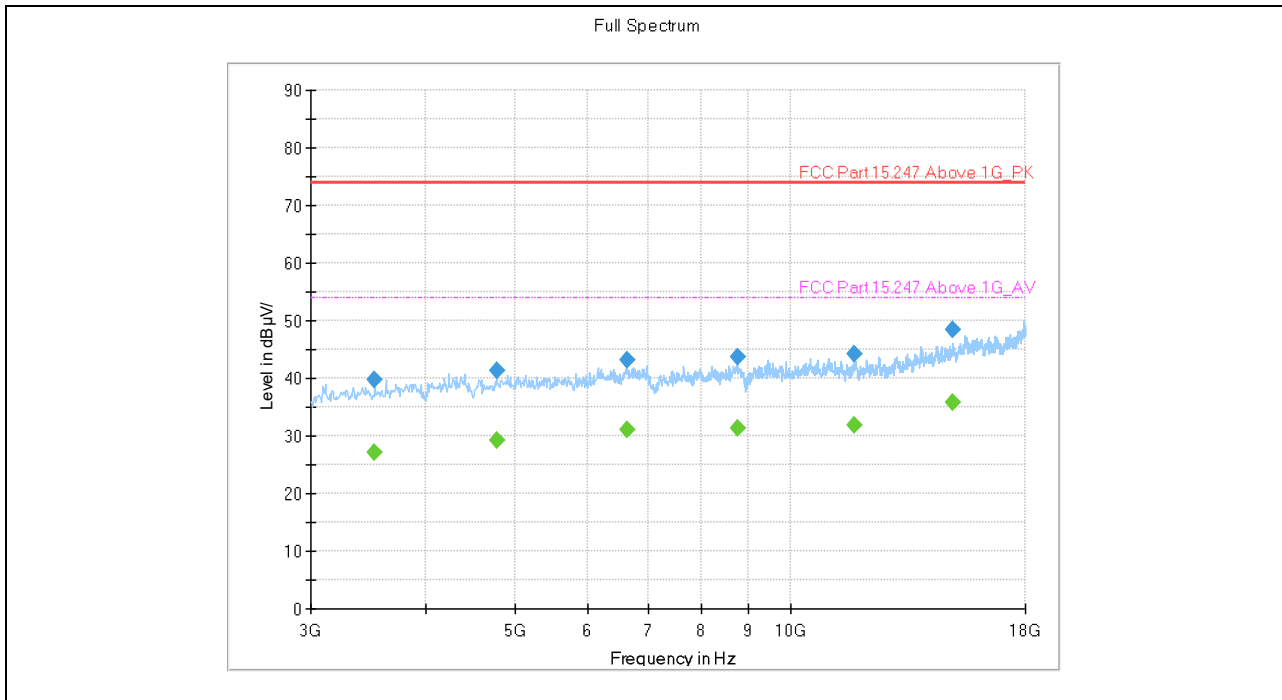
(LE 1M PHY _2440MHz, Antenna Horizontal, 30MHz to 1GHz)

Frequency (MHz)	MaxPeak (dBµV/m)	QuasiPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Pol	Corr. (dB/m)
42.205833	17.60	---	40.00	21.57	H	15.1
71.507917	15.11	---	40.00	25.48	H	10.9
120.573750	18.87	---	43.50	25.06	H	12.9
232.932083	18.15	---	46.00	17.18	H	14.5
341.248750	22.13	---	46.00	17.05	H	18.2
915.529167	32.99	---	46.00	16.67	H	28.0



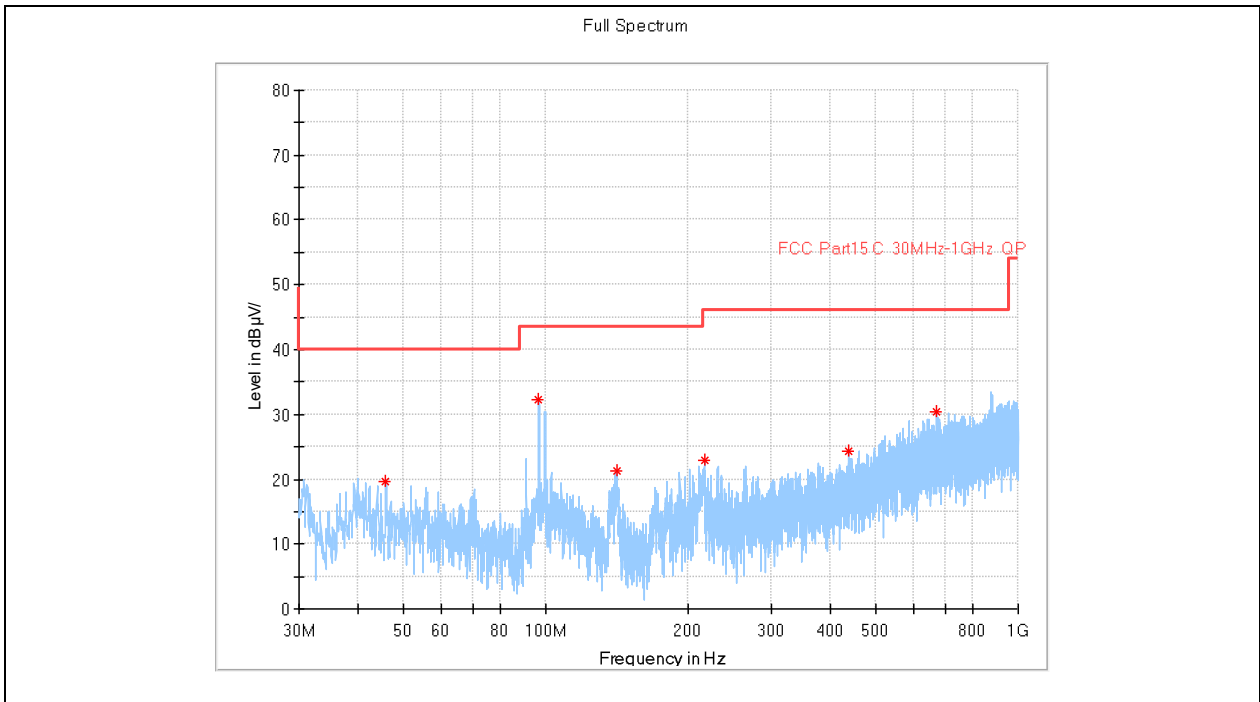
(LE 1M PHY _2440MHz, Antenna Horizontal, 1GHz to 3GHz)

Frequency (MHz)	MaxPeak (dBµV/m)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Pol	Corr. (dB/m)
1070.000000	33.98	---	74.00	40.02	H	-2.6
1070.000000	---	23.47	54.00	30.53	H	1.1
1415.000000	---	25.83	54.00	28.17	H	1.1
1415.000000	35.67	---	74.00	38.33	H	6.7
1800.000000	41.13	---	74.00	32.87	H	6.7
1800.000000	---	30.42	54.00	23.58	H	10.2
2280.000000	42.73	---	74.00	31.27	H	10.2
2280.000000	---	33.12	54.00	20.88	H	14.8
2690.000000	48.16	---	74.00	25.84	H	14.8
2690.000000	---	36.94	54.00	17.06	H	18.4
3000.000000	---	40.43	54.00	13.57	H	18.4
3000.000000	51.08	---	74.00	22.92	H	-2.6



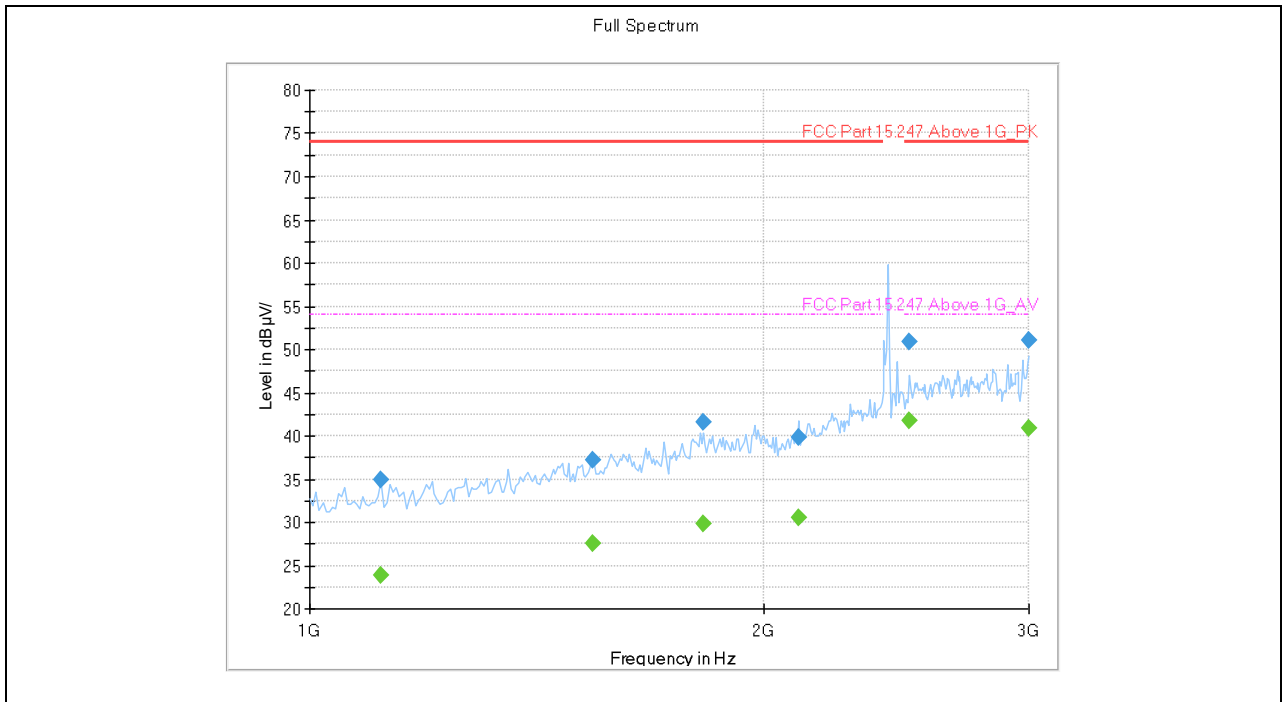
(LE 1M PHY _2440MHz, Antenna Horizontal, 3GHz to 18GHz)

Frequency (MHz)	MaxPeak (dBµV/m)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Pol	Corr. (dB/m)
3525.000000	39.80	---	74.00	34.20	H	-6.5
3525.000000	---	27.12	54.00	26.88	H	-6.5
4785.000000	---	29.14	54.00	24.86	H	-3.4
4785.000000	41.25	---	74.00	32.75	H	-3.4
6630.000000	---	30.95	54.00	23.05	H	-0.6
6630.000000	43.06	---	74.00	30.94	H	-0.6
8737.500000	43.61	---	74.00	30.39	H	1.4
8737.500000	---	31.27	54.00	22.73	H	1.4
11707.500000	44.25	---	74.00	29.75	H	4.0
11707.500000	---	31.73	54.00	22.27	H	4.0
15000.000000	48.37	---	74.00	25.63	H	10.6
15000.000000	---	35.70	54.00	18.30	H	10.6



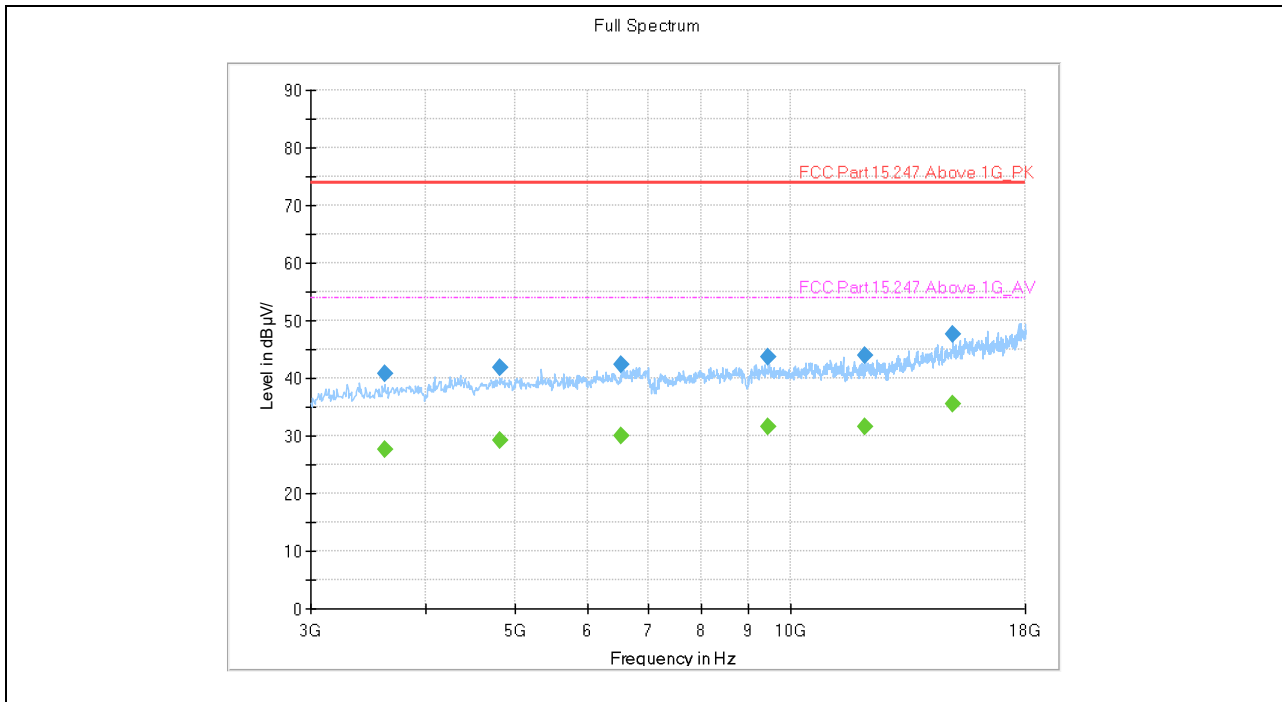
(LE 1M PHY _2440MHz, Antenna Vertical, 30MHz to 1GHz)

Frequency (MHz)	MaxPeak (dBµV/m)	QuasiPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Pol	Corr. (dB/m)
45.843333	19.67	---	40.00	20.33	V	15.5
96.647083	32.27	---	43.50	11.23	V	13.3
141.469167	21.20	---	43.50	22.30	V	11.6
216.199583	22.85	---	46.00	23.15	V	13.8
438.895417	24.39	---	46.00	21.61	V	20.4
672.827083	30.44	---	46.00	15.56	V	24.6



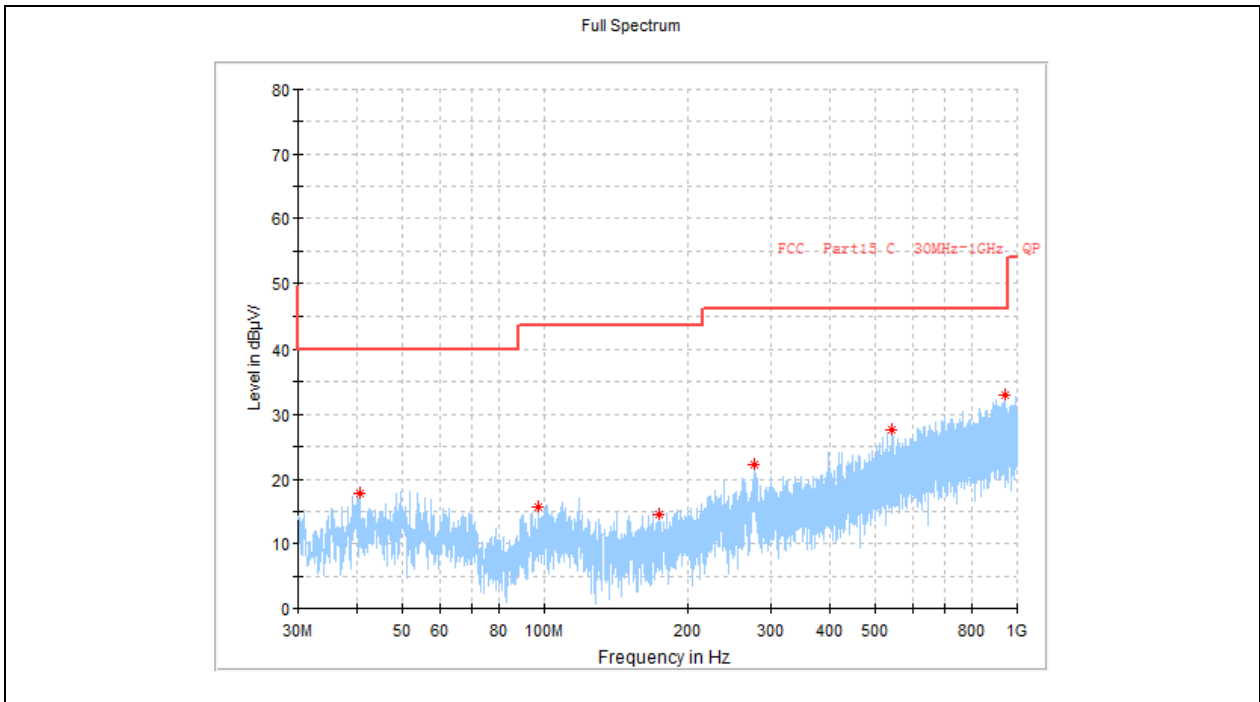
(LE 1M PHY _2440MHz, Antenna Vertical , 1GHz to 3GHz)

Frequency (MHz)	MaxPeak (dBµV/m)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Pol	Corr. (dB/m)
1115.000000	---	23.94	54.00	30.06	V	-2.0
1115.000000	34.91	---	74.00	39.09	V	-2.0
1540.000000	37.16	---	74.00	36.84	V	2.8
1540.000000	---	27.53	54.00	26.47	V	2.8
1825.000000	---	29.78	54.00	24.22	V	5.7
1825.000000	41.61	---	74.00	32.39	V	5.7
2110.000000	39.88	---	74.00	34.12	V	7.9
2110.000000	---	30.45	54.00	23.55	V	7.9
2500.000000	50.86	---	74.00	23.14	V	13.2
2500.000000	---	41.71	54.00	12.29	V	13.2
3000.000000	51.04	---	74.00	22.96	V	18.4
3000.000000	---	40.85	54.00	13.15	V	18.4



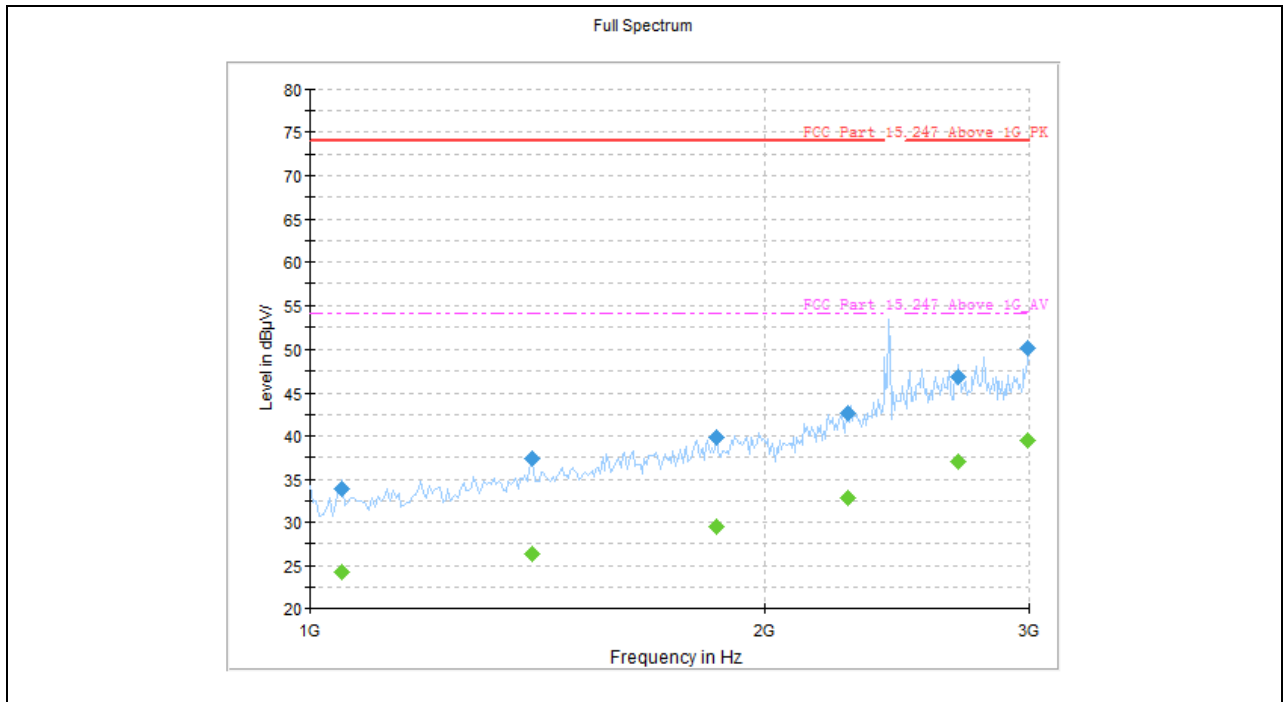
(LE 1M PHY _2440MHz, Antenna Vertical, 3GHz to 18GHz)

Frequency (MHz)	MaxPeak (dBµV/m)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Pol	Corr. (dB/m)
3607.500000	40.87	---	74.00	33.13	V	-5.8
3607.500000	---	27.70	54.00	26.30	V	-5.8
4822.500000	41.90	---	74.00	32.10	V	-3.2
4822.500000	---	29.26	54.00	24.75	V	-3.2
6540.000000	---	29.99	54.00	24.01	V	-1.3
6540.000000	42.45	---	74.00	31.55	V	-1.3
9457.500000	---	31.51	54.00	22.49	V	1.8
9457.500000	43.69	---	74.00	30.31	V	1.8
12052.500000	---	31.66	54.00	22.34	V	4.4
12052.500000	44.04	---	74.00	29.96	V	4.4
15007.500000	---	35.48	54.00	18.52	V	10.7
15007.500000	47.76	---	74.00	26.24	V	10.7



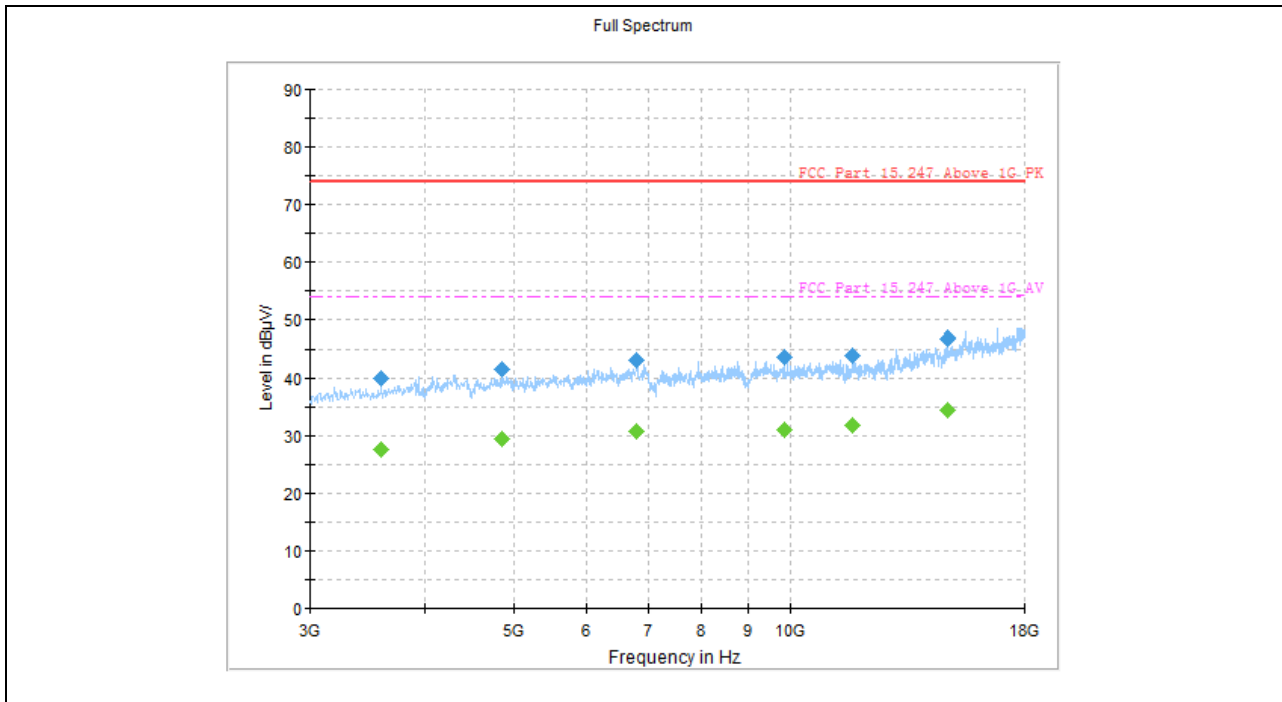
(LE 1M PHY _2480MHz, Antenna Horizontal, 30MHz to 1GHz)

Frequency (MHz)	MaxPeak (dBµV/m)	QuasiPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Pol	Corr. (dB/m)
40.629583	17.83	---	40.00	22.17	H	15.1
96.768333	15.73	---	43.50	27.77	H	13.3
173.600417	14.55	---	43.50	28.95	H	11.7
277.592500	22.25	---	46.00	23.75	H	16.1
540.866667	27.59	---	46.00	18.41	H	22.4
942.527500	33.09	---	46.00	12.91	H	28.4



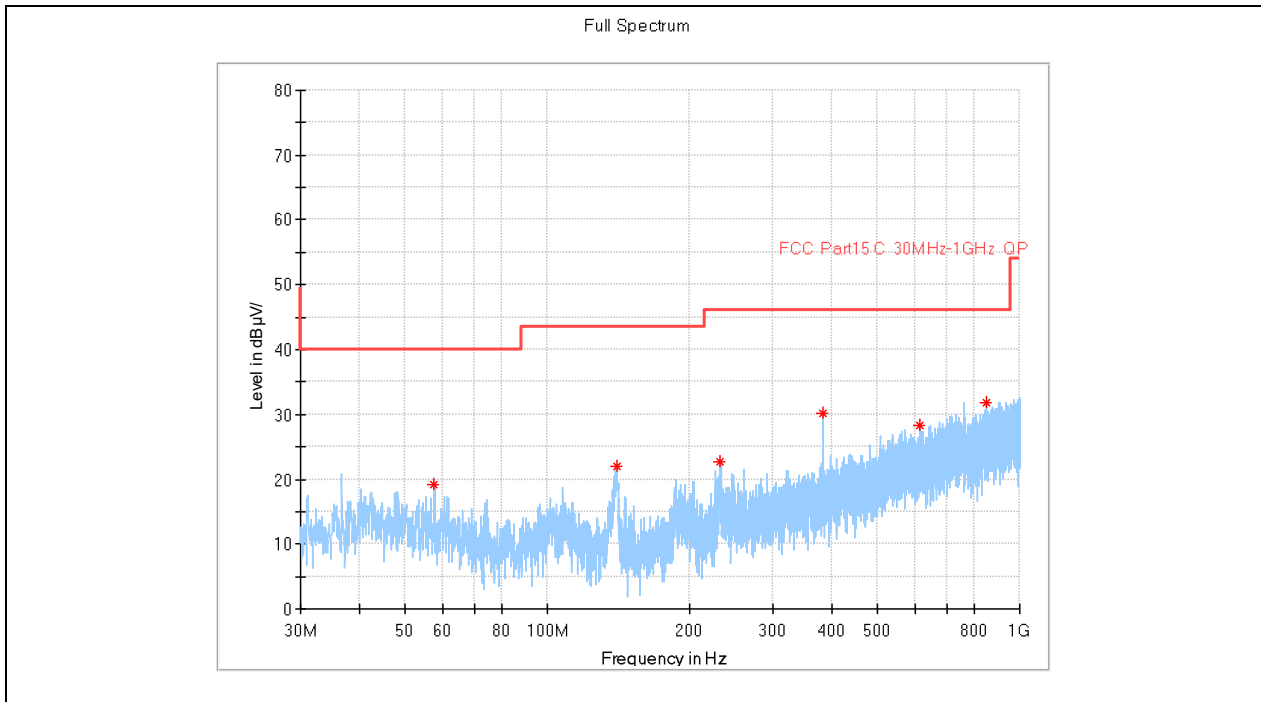
(LE 1M PHY _2480MHz, Antenna Horizontal, 1GHz to 3GHz)

Frequency (MHz)	MaxPeak (dBµV/m)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Pol	Corr. (dB/m)
1050.000000	33.89	---	74.00	40.11	H	-1.9
1050.000000	---	24.23	54.00	29.77	H	-1.9
1405.000000	37.44	---	74.00	36.56	H	1.5
1405.000000	---	26.38	54.00	27.62	H	1.5
1860.000000	---	29.42	54.00	24.58	H	5.8
1860.000000	39.89	---	74.00	34.11	H	5.8
2275.000000	---	32.84	54.00	21.16	H	10.1
2275.000000	42.60	---	74.00	31.40	H	10.1
2690.000000	46.81	---	74.00	27.19	H	14.8
2690.000000	---	36.95	54.00	17.05	H	14.8
2995.000000	50.18	---	74.00	23.82	H	17.9
2995.000000	---	39.55	54.00	14.45	H	17.9



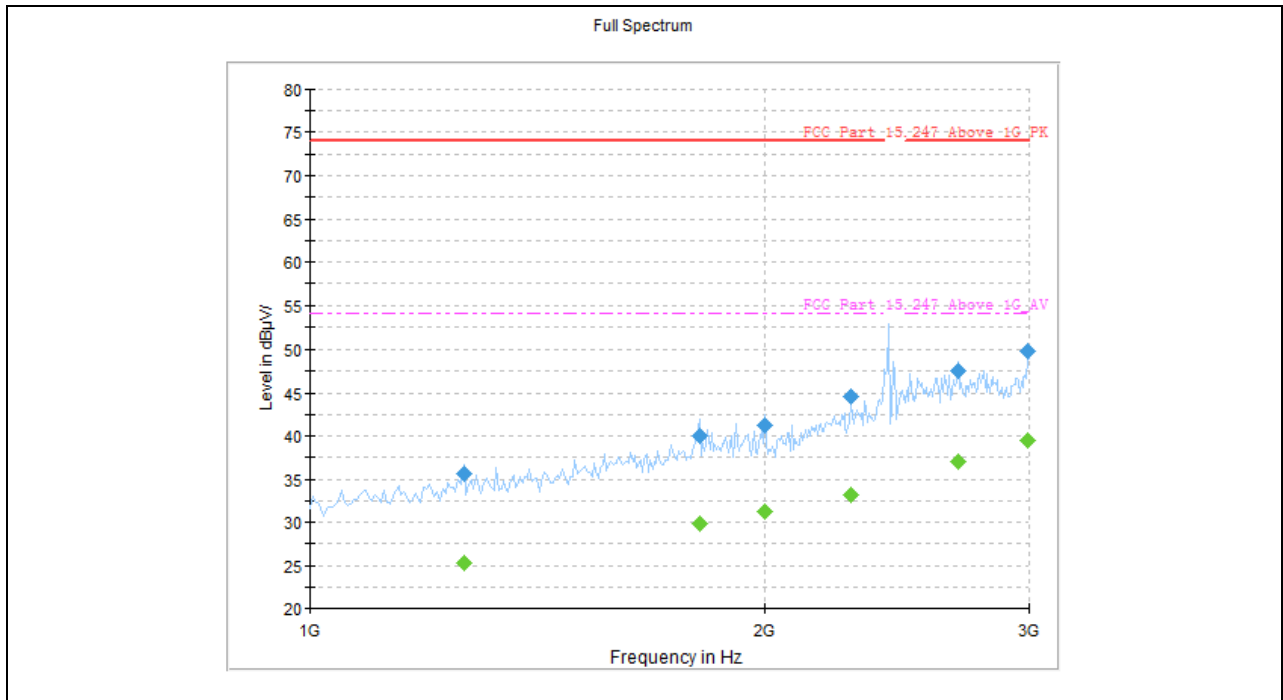
(LE 1M PHY _2480MHz, Antenna Horizontal, 3GHz to 18GHz)

Frequency (MHz)	MaxPeak (dBµV/m)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Pol	Corr. (dB/m)
3592.500000	40.01	---	74.00	33.99	H	-5.7
3592.500000	---	27.69	54.00	26.31	H	-5.7
4867.500000	---	29.40	54.00	24.60	H	-2.9
4867.500000	41.68	---	74.00	32.32	H	-2.9
6795.000000	43.07	---	74.00	30.93	H	-1.1
6795.000000	---	30.86	54.00	23.14	H	-1.1
9847.500000	---	31.16	54.00	22.84	H	1.8
9847.500000	43.64	---	74.00	30.36	H	1.8
11692.500000	---	31.83	54.00	22.17	H	4.0
11692.500000	44.00	---	74.00	30.00	H	4.0
14842.500000	---	34.46	54.00	19.54	H	9.0
14842.500000	46.76	---	74.00	27.24	H	9.0



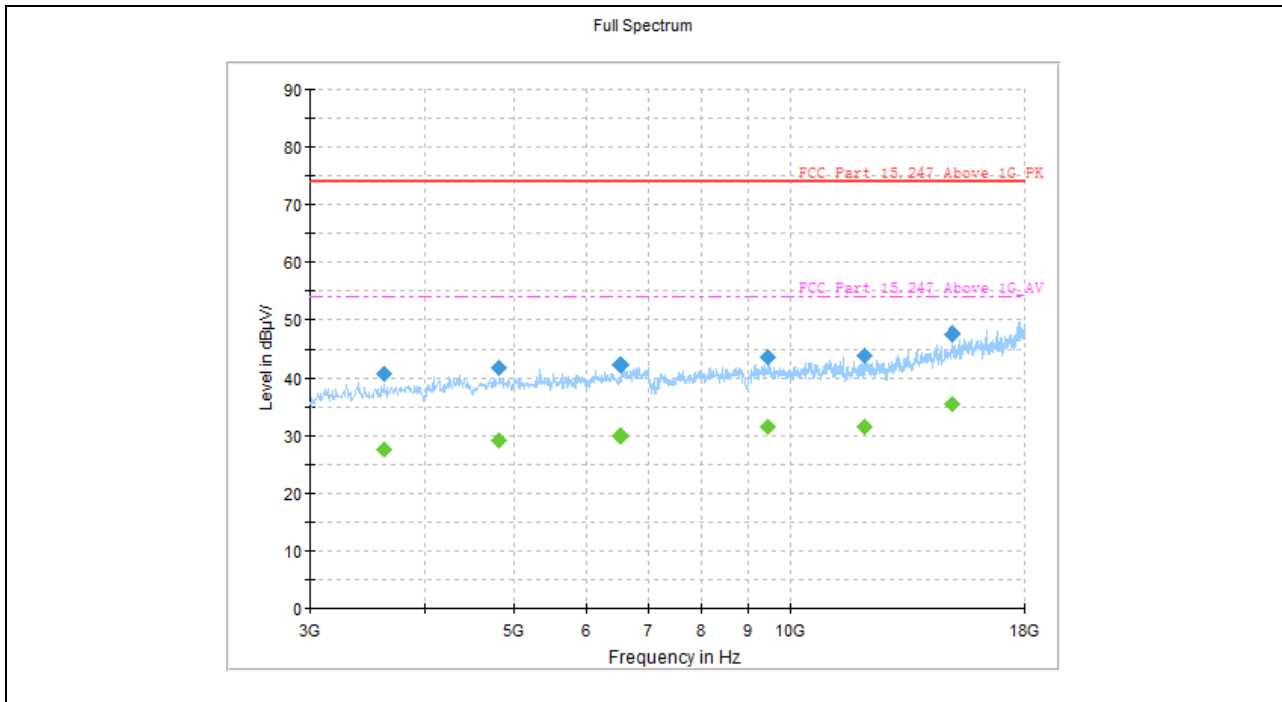
(LE 1M PHY _2480MHz, Antenna Vertical, 30MHz to 1GHz)

Frequency (MHz)	MaxPeak (dBµV/m)	QuasiPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Pol	Corr. (dB/m)
57.645000	19.18	---	40.00	20.82	V	14.4
140.418333	22.10	---	43.50	21.40	V	11.9
232.042917	22.73	---	46.00	23.27	V	14.4
384.009583	30.28	---	46.00	15.72	V	18.7
616.324583	28.23	---	46.00	17.77	V	23.6
849.003333	31.71	---	46.00	14.29	V	26.8



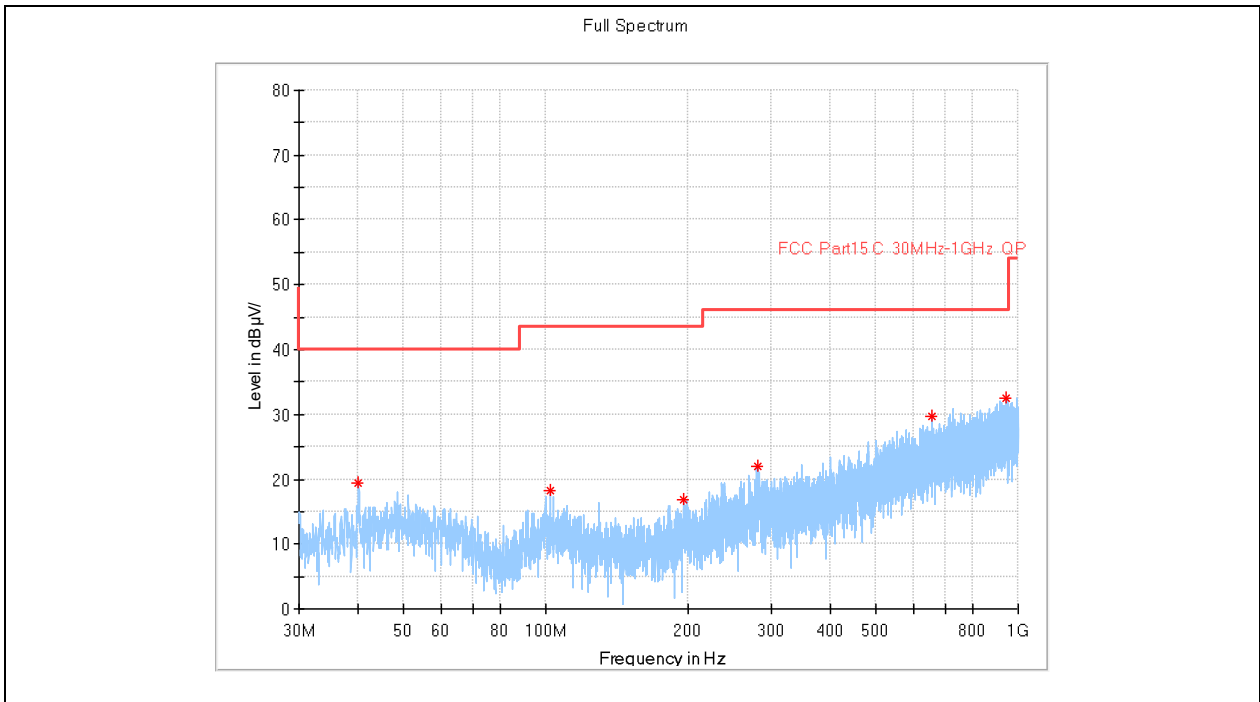
(LE 1M PHY _2480MHz, Antenna Vertical , 1GHz to 3GHz)

Frequency (MHz)	MaxPeak (dBµV/m)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Pol	Corr. (dB/m)
1265.000000	---	25.30	54.00	28.70	V	-0.1
1265.000000	35.64	---	74.00	38.36	V	-0.1
1810.000000	40.01	---	74.00	33.99	V	6.0
1810.000000	---	29.84	54.00	24.16	V	6.0
2000.000000	---	31.30	54.00	22.70	V	7.5
2000.000000	41.28	---	74.00	32.72	V	7.5
2285.000000	---	33.13	54.00	20.87	V	10.2
2285.000000	44.56	---	74.00	29.44	V	10.2
2690.000000	---	36.96	54.00	17.04	V	14.8
2690.000000	47.56	---	74.00	26.44	V	14.8
2995.000000	49.85	---	74.00	24.15	V	17.9
2995.000000	---	39.54	54.00	14.46	V	17.9



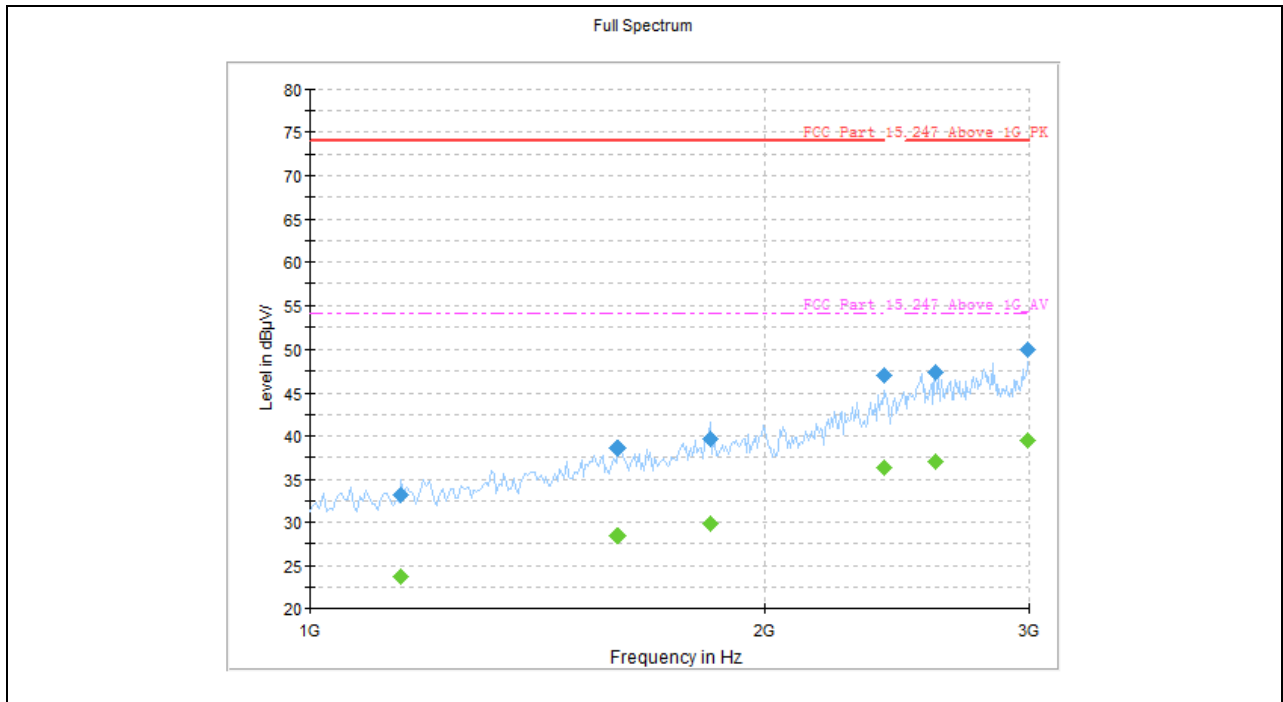
(LE 1M PHY _2480MHz, Antenna Vertical, 3GHz to 18GHz)

Frequency (MHz)	MaxPeak (dBµV/m)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Pol	Corr. (dB/m)
3607.500000	40.87	---	74.00	33.13	V	-5.8
3607.500000	---	27.70	54.00	26.30	V	-5.8
4822.500000	41.90	---	74.00	32.10	V	-3.2
4822.500000	---	29.26	54.00	24.75	V	-3.2
6540.000000	---	29.99	54.00	24.01	V	-1.3
6540.000000	42.45	---	74.00	31.55	V	-1.3
9457.500000	---	31.51	54.00	22.49	V	1.8
9457.500000	43.69	---	74.00	30.31	V	1.8
12052.500000	---	31.66	54.00	22.34	V	4.4
12052.500000	44.04	---	74.00	29.96	V	4.4
15007.500000	---	35.48	54.00	18.52	V	10.7
15007.500000	47.76	---	74.00	26.24	V	10.7



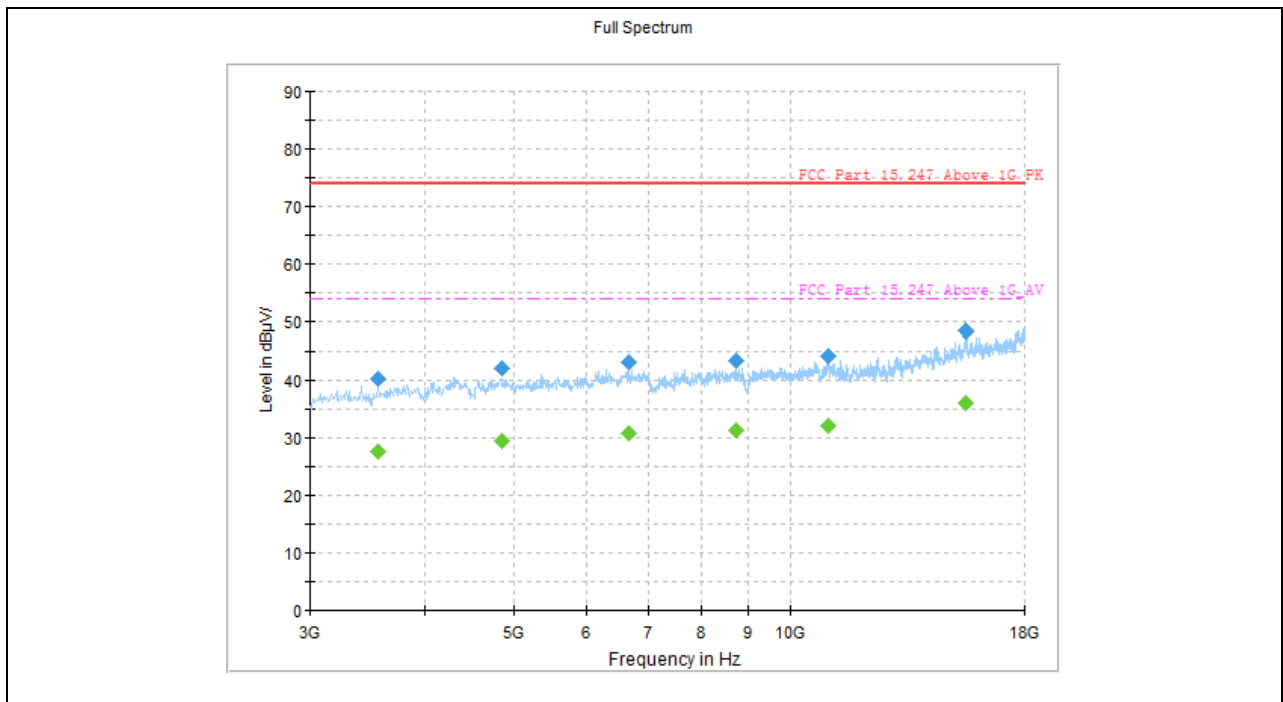
(LE 2M PHY_2402MHz, Antenna Horizontal, 30MHz to 1GHz)

Frequency (MHz)	MaxPeak (dBµV/m)	QuasiPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Pol	Corr. (dB/m)
40.144583	19.38	---	40.00	20.62	H	15.6
101.941667	18.20	---	43.50	25.30	H	14.8
195.991250	16.82	---	43.50	26.68	H	13.5
280.421667	21.95	---	46.00	24.05	H	16.7
658.842917	29.82	---	46.00	16.18	H	24.3
940.304583	32.62	---	46.00	13.38	H	28.4



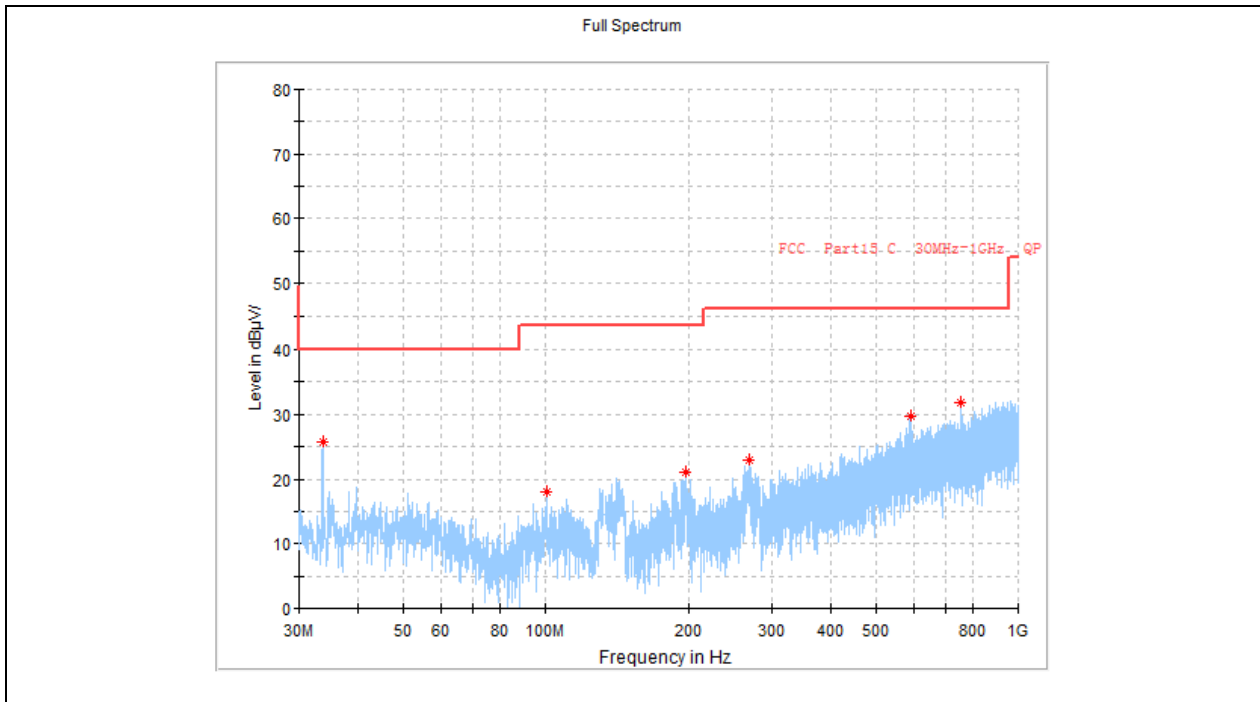
(LE 2M PHY _2402MHz, Antenna Horizontal, 1GHz to 3GHz)

Frequency (MHz)	MaxPeak (dBµV/m)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Pol	Corr. (dB/m)
1150.000000	33.20	---	74.00	40.80	H	-2.0
1150.000000	---	23.75	54.00	30.25	H	-2.0
1600.000000	---	28.44	54.00	25.56	H	3.8
1600.000000	38.60	---	74.00	35.40	H	3.8
1840.000000	39.73	---	74.00	34.27	H	5.9
1840.000000	---	29.77	54.00	24.23	H	5.9
2400.000000	---	36.34	54.00	17.66	H	13.5
2400.000000	47.08	---	74.00	26.92	H	13.5
2600.000000	47.33	---	74.00	26.67	H	15.2
2600.000000	---	37.07	54.00	16.93	H	15.2
2995.000000	50.06	---	74.00	23.94	H	17.9
2995.000000	---	39.50	54.00	14.50	H	17.9



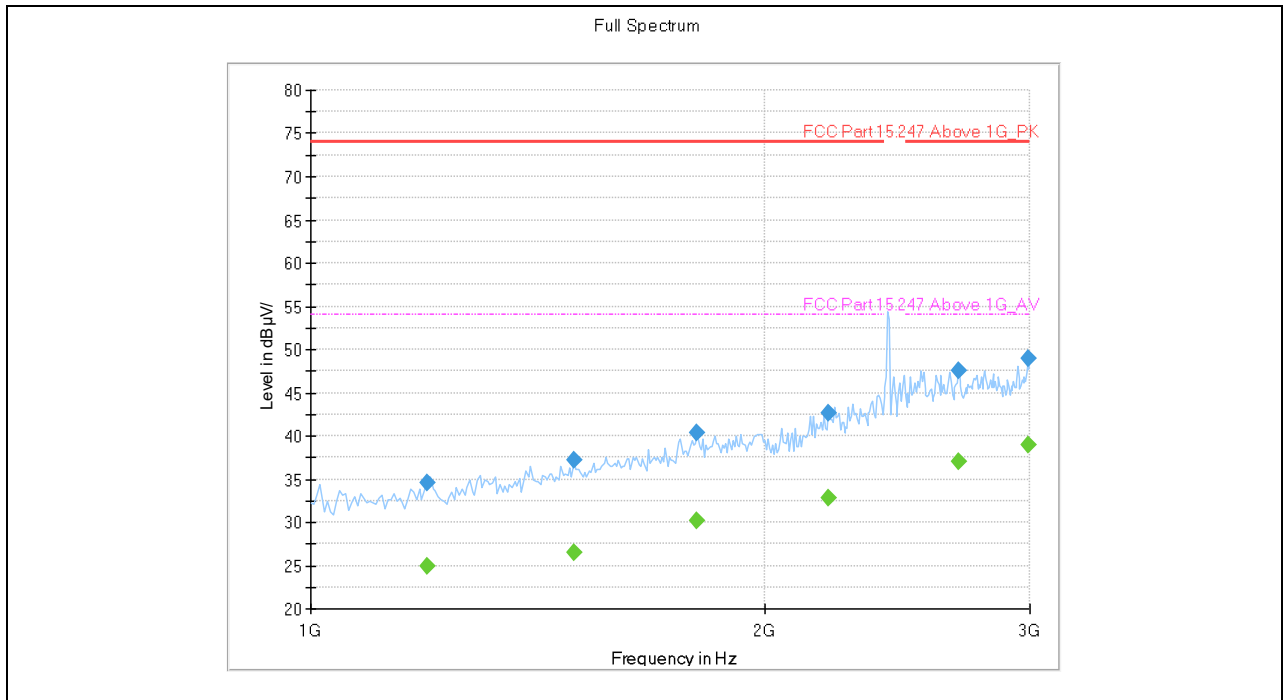
(LE 2M PHY _2402MHz, Antenna Horizontal, 3GHz to 18GHz)

Frequency (MHz)	MaxPeak (dBµV/m)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Pol	Corr. (dB/m)
3562.500000	---	27.67	54.00	26.33	H	-5.7
3562.500000	40.19	---	74.00	33.81	H	-5.7
4860.000000	---	29.36	54.00	24.64	H	-3.0
4860.000000	42.02	---	74.00	31.98	H	-3.0
6667.500000	---	30.66	54.00	23.34	H	-0.5
6667.500000	43.27	---	74.00	30.73	H	-0.5
8715.000000	43.44	---	74.00	30.56	H	1.3
8715.000000	---	31.33	54.00	22.67	H	1.3
10995.000000	44.27	---	74.00	29.73	H	3.4
10995.000000	---	32.15	54.00	21.85	H	3.4
15510.000000	---	36.15	54.00	17.85	H	11.3
15510.000000	48.46	---	74.00	25.54	H	11.3



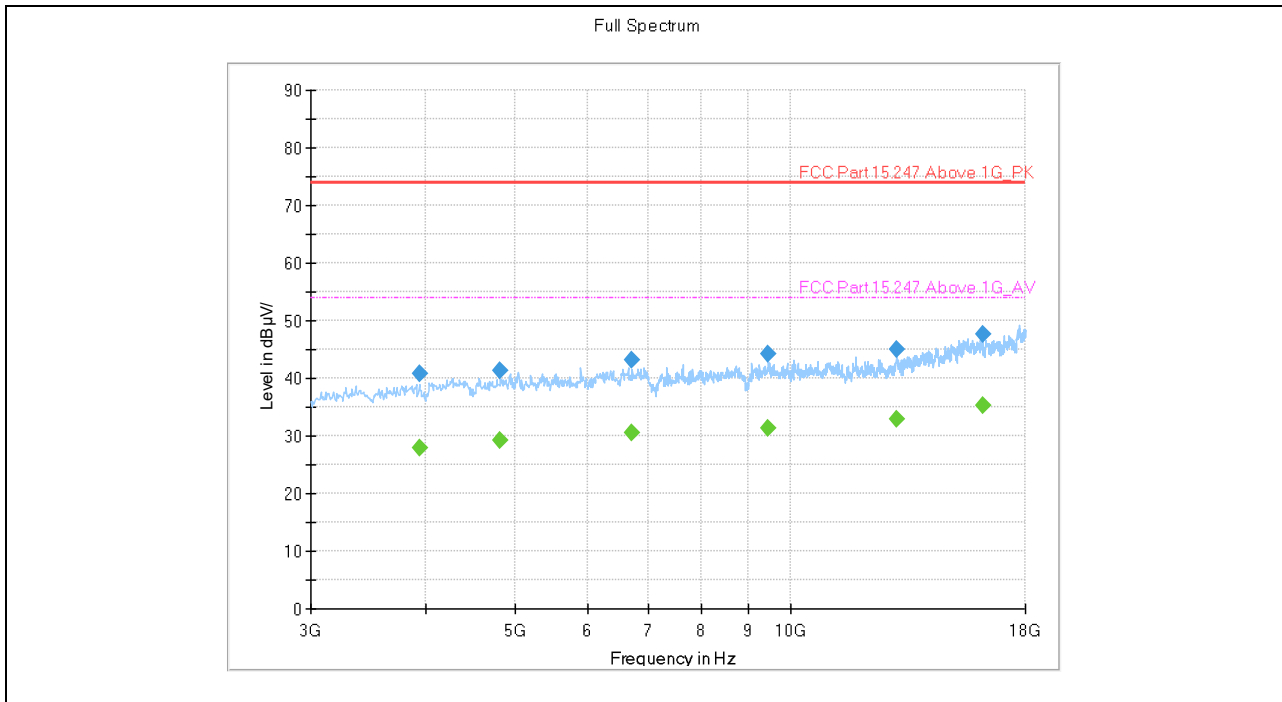
(LE 2M PHY _2402MHz, Antenna Vertical, 30MHz to 1GHz)

Frequency (MHz)	MaxPeak (dBµV/m)	QuasiPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Pol	Corr. (dB/m)
33.637500	25.63	---	40.00	14.37	V	12.5
100.486667	18.08	---	43.50	25.42	V	15.1
196.840000	21.11	---	43.50	22.39	V	13.7
268.620000	22.85	---	46.00	23.15	V	15.2
591.427917	29.82	---	46.00	16.18	V	23.3
754.590000	31.77	---	46.00	14.23	V	26.1



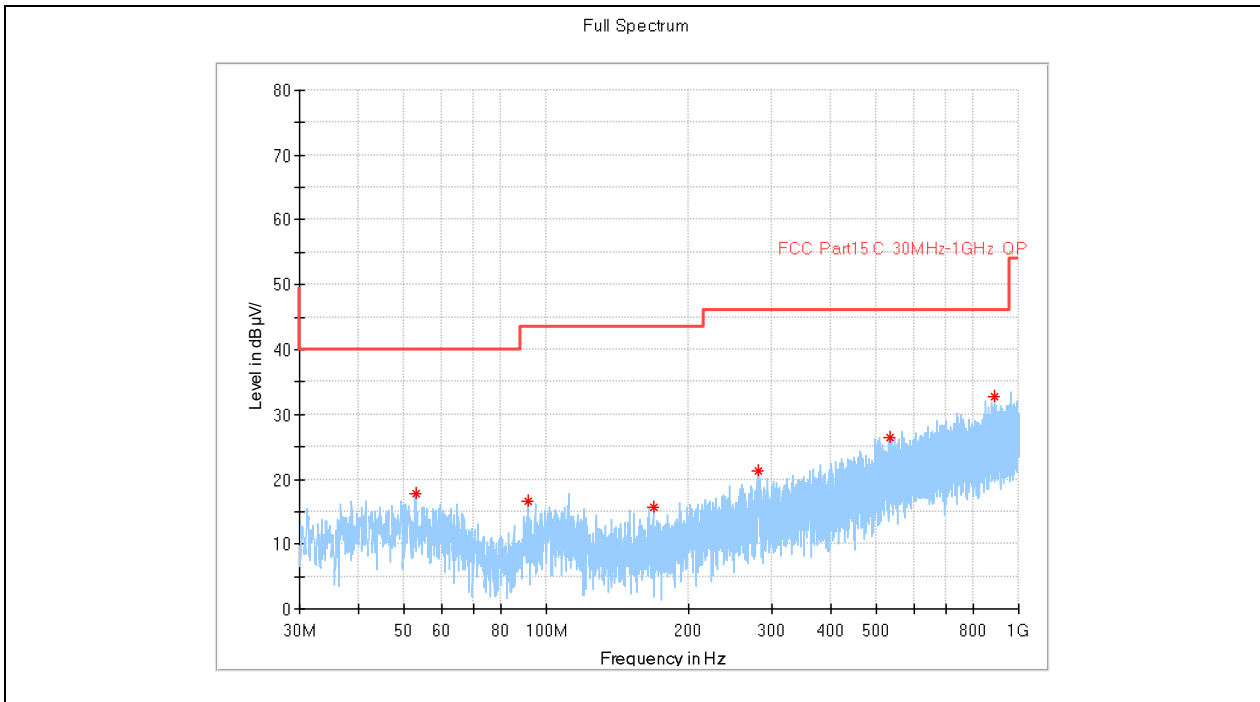
(LE 2M PHY _2402MHz, Antenna Vertical , 1GHz to 3GHz)

Frequency (MHz)	MaxPeak (dBµV/m)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Pol	Corr. (dB/m)
1190.000000	---	24.88	54.00	29.12	V	-0.8
1190.000000	36.59	---	74.00	37.41	V	-0.8
1475.000000	37.40	---	74.00	36.60	V	1.7
1475.000000	---	26.68	54.00	27.32	V	1.7
1795.000000	41.09	---	74.00	32.91	V	6.4
1795.000000	---	30.02	54.00	23.98	V	6.4
2155.000000	---	31.58	54.00	22.42	V	8.3
2155.000000	42.35	---	74.00	31.65	V	8.3
2500.000000	50.06	---	74.00	23.94	V	13.2
2500.000000	---	40.76	54.00	13.24	V	13.2
2690.000000	47.22	---	74.00	26.78	V	14.8
2690.000000	---	37.01	54.00	16.99	V	14.8



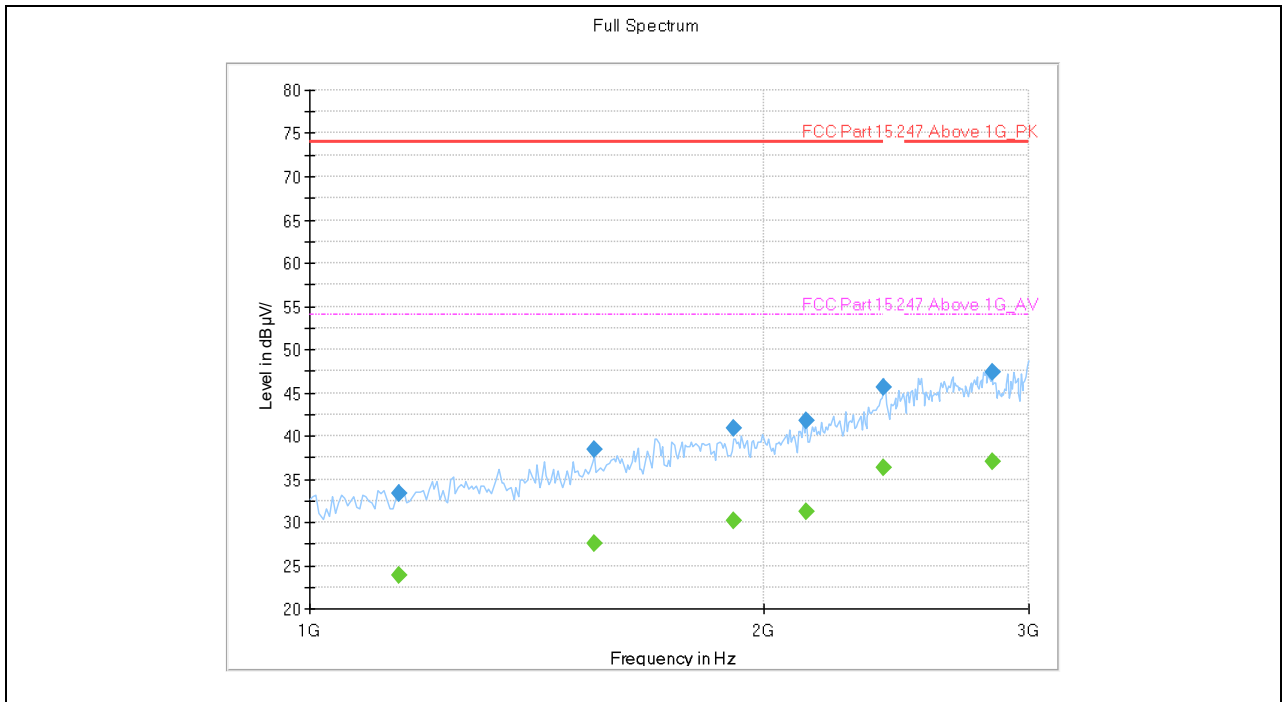
(LE 2M PHY _2402MHz, Antenna Vertical, 3GHz to 18GHz)

Frequency (MHz)	MaxPeak (dBµV/m)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Pol	Corr. (dB/m)
3937.500000	40.74	---	74.00	33.26	V	-5.2
3937.500000	---	27.98	54.00	26.02	V	-5.2
4830.000000	41.39	---	74.00	32.61	V	-3.2
4830.000000	---	29.19	54.00	24.81	V	-3.2
6720.000000	43.22	---	74.00	30.78	V	-1.0
6720.000000	---	30.63	54.00	23.37	V	-1.0
9457.500000	---	31.41	54.00	22.59	V	1.8
9457.500000	44.20	---	74.00	29.80	V	1.8
13027.50000	---	33.01	54.00	20.99	V	6.2
13027.50000	45.11	---	74.00	28.89	V	6.2
16162.50000	47.70	---	74.00	26.30	V	10.7
16162.50000	---	35.23	54.00	18.77	V	10.7



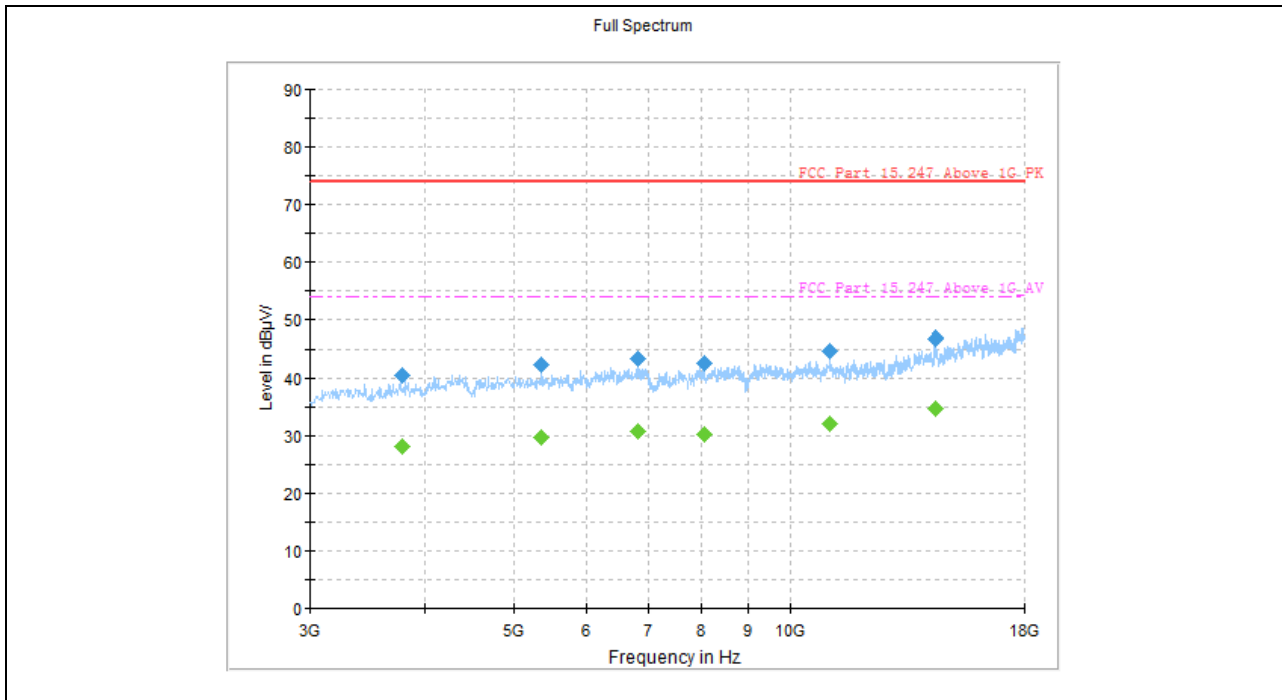
(LE 2M PHY _2440MHz, Antenna Horizontal, 30MHz to 1GHz)

Frequency (MHz)	MaxPeak (dBµV/m)	QuasiPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Pol	Corr. (dB/m)
52.795000	17.79	---	40.00	22.21	H	15.4
91.271667	16.64	---	43.50	26.86	H	12.8
168.225000	15.66	---	43.50	27.84	H	12.0
281.351250	21.21	---	46.00	24.79	H	16.5
532.702500	26.40	---	46.00	19.60	H	22.2
891.279167	32.84	---	46.00	13.16	H	27.9



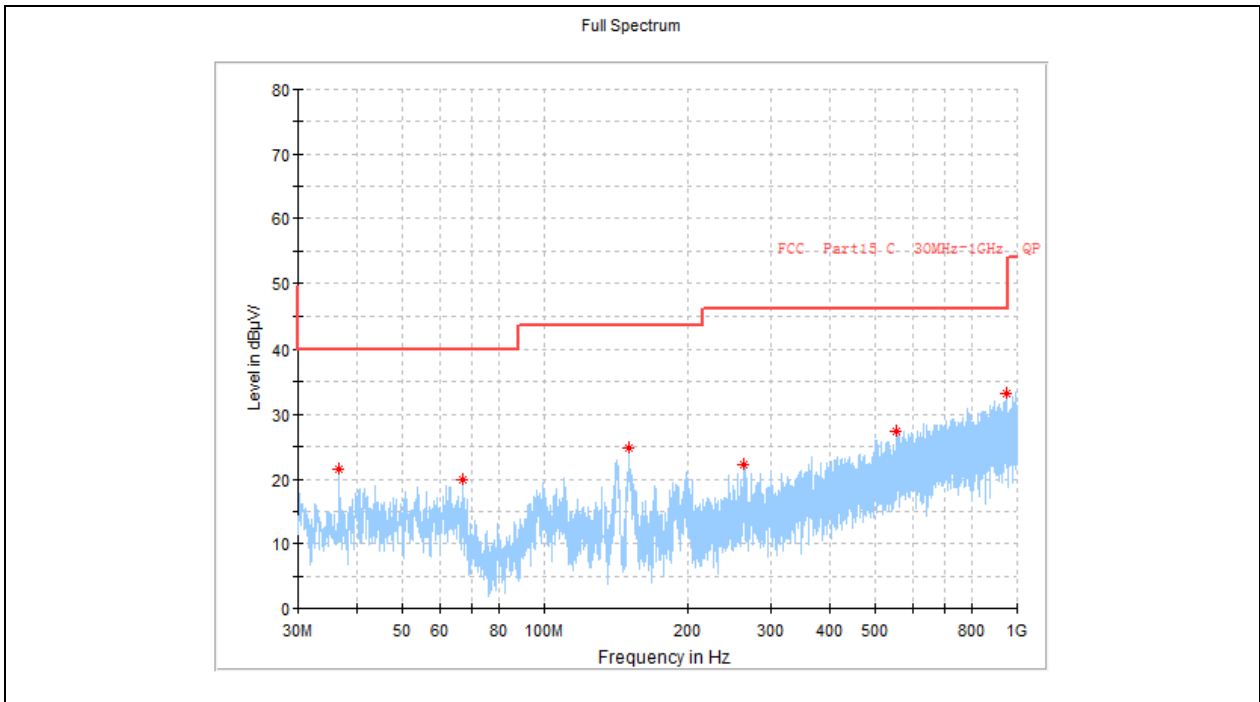
(LE 2M PHY _2440MHz, Antenna Horizontal, 1GHz to 3GHz)

Frequency (MHz)	MaxPeak (dBµV/m)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Pol	Corr. (dB/m)
1145.000000	---	23.86	54.00	30.14	H	-2.0
1145.000000	33.29	---	74.00	40.71	H	-2.0
1545.000000	---	27.60	54.00	26.40	H	2.8
1545.000000	38.43	---	74.00	35.57	H	2.8
1910.000000	40.84	---	74.00	33.16	H	6.2
1910.000000	---	30.12	54.00	23.88	H	6.2
2135.000000	---	31.25	54.00	22.75	H	8.2
2135.000000	41.74	---	74.00	32.26	H	8.2
2400.000000	---	36.35	54.00	17.65	H	13.5
2400.000000	45.65	---	74.00	28.35	H	13.5
2835.000000	47.31	---	74.00	26.69	H	15.4
2835.000000	---	37.04	54.00	16.96	H	15.4



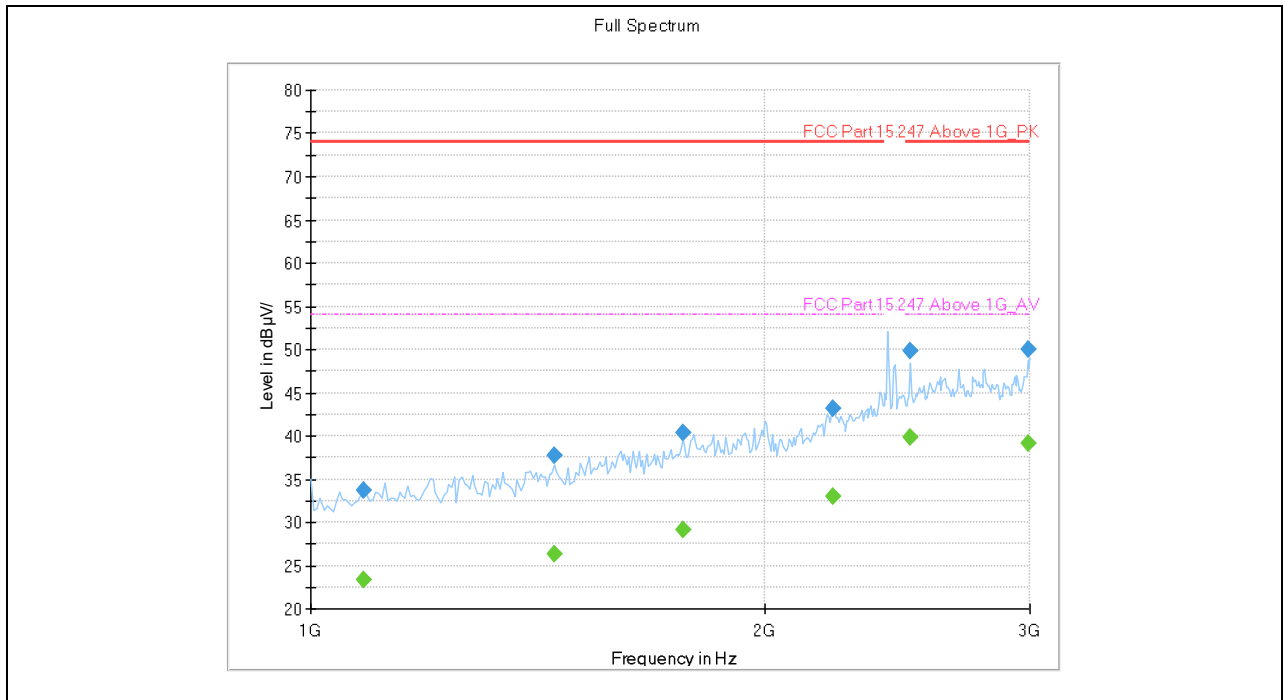
(LE 2M PHY _2440MHz, Antenna Horizontal, 3GHz to 18GHz)

Frequency (MHz)	MaxPeak (dBµV/m)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Pol	Corr. (dB/m)
3780.000000	40.44	---	74.00	33.56	H	-5.0
3780.000000	---	28.05	54.00	25.95	H	-5.0
5362.500000	42.24	---	74.00	31.76	H	-2.4
5362.500000	---	29.73	54.00	24.27	H	-2.4
6802.500000	---	30.72	54.00	23.28	H	-1.0
6802.500000	43.30	---	74.00	30.70	H	-1.0
8040.000000	---	30.17	54.00	23.83	H	0.4
8040.000000	42.73	---	74.00	31.27	H	0.4
11040.000000	---	32.02	54.00	21.98	H	3.5
11040.000000	44.70	---	74.00	29.30	H	3.5
14407.500000	---	34.62	54.00	19.38	H	9.4
14407.500000	46.92	---	74.00	27.08	H	9.4



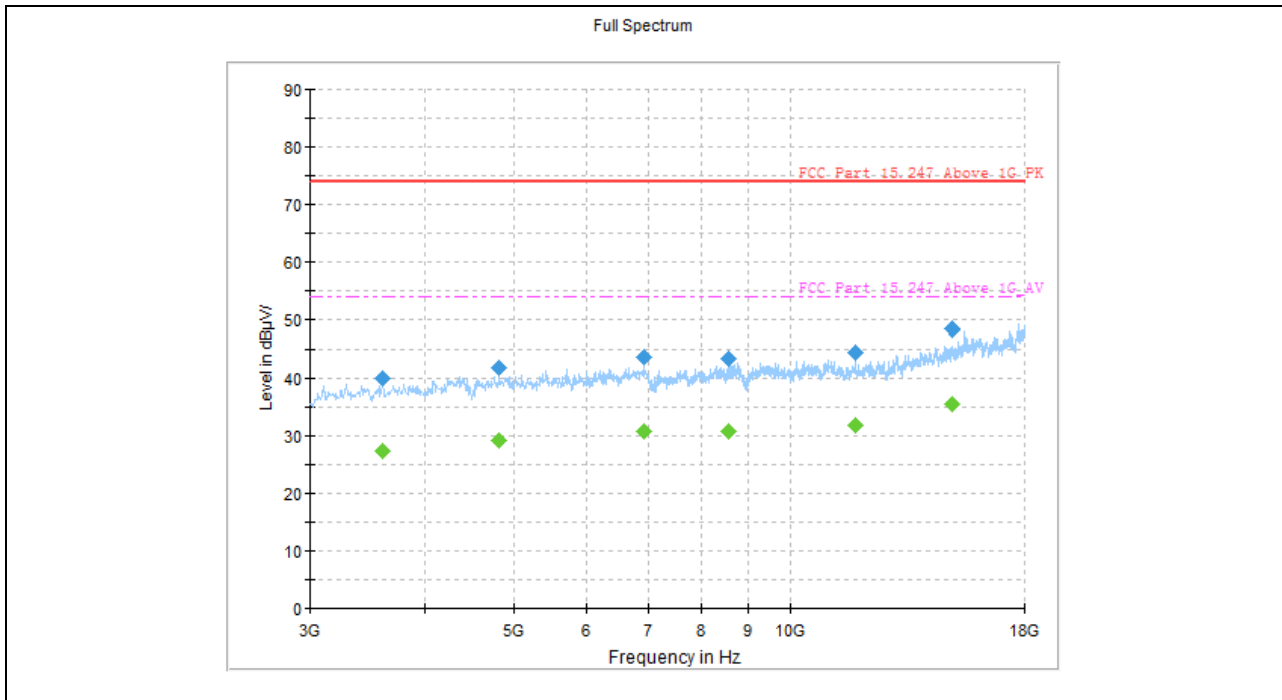
(LE 2M PHY _2440MHz, Antenna Vertical, 30MHz to 1GHz)

Frequency (MHz)	MaxPeak (dBµV/m)	QuasiPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Pol	Corr. (dB/m)
36.668750	21.45	---	40.00	18.55	V	13.4
66.940833	19.93	---	40.00	20.07	V	12.8
149.997083	24.88	---	43.50	18.62	V	11.7
263.729583	22.23	---	46.00	23.77	V	15.4
554.163750	27.36	---	46.00	18.64	V	22.7
950.772500	33.19	---	46.00	12.81	V	28.3



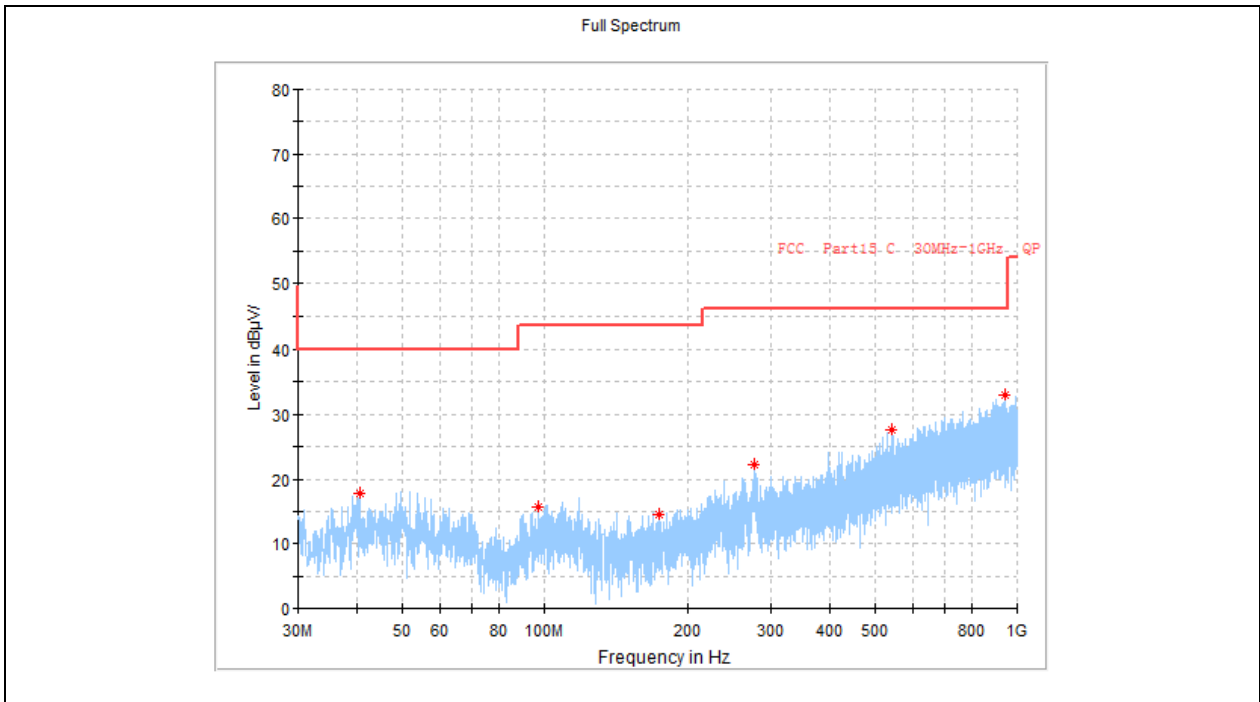
(LE 2M PHY _2440MHz, Antenna Vertical , 1GHz to 3GHz)

Frequency (MHz)	MaxPeak (dBµV/m)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Pol	Corr. (dB/m)
1085.000000	33.69	---	74.00	40.31	V	-2.5
1085.000000	---	23.38	54.00	30.62	V	-2.5
1450.000000	---	26.31	54.00	27.69	V	1.2
1450.000000	37.80	---	74.00	36.20	V	1.2
1765.000000	---	29.20	54.00	24.80	V	5.1
1765.000000	40.35	---	74.00	33.65	V	5.1
2220.000000	---	32.95	54.00	21.05	V	9.6
2220.000000	43.09	---	74.00	30.91	V	9.6
2500.000000	---	39.76	54.00	14.24	V	13.2
2500.000000	49.78	---	74.00	24.22	V	13.2
2990.000000	50.07	---	74.00	23.93	V	17.4
2990.000000	---	39.07	54.00	14.93	V	17.4



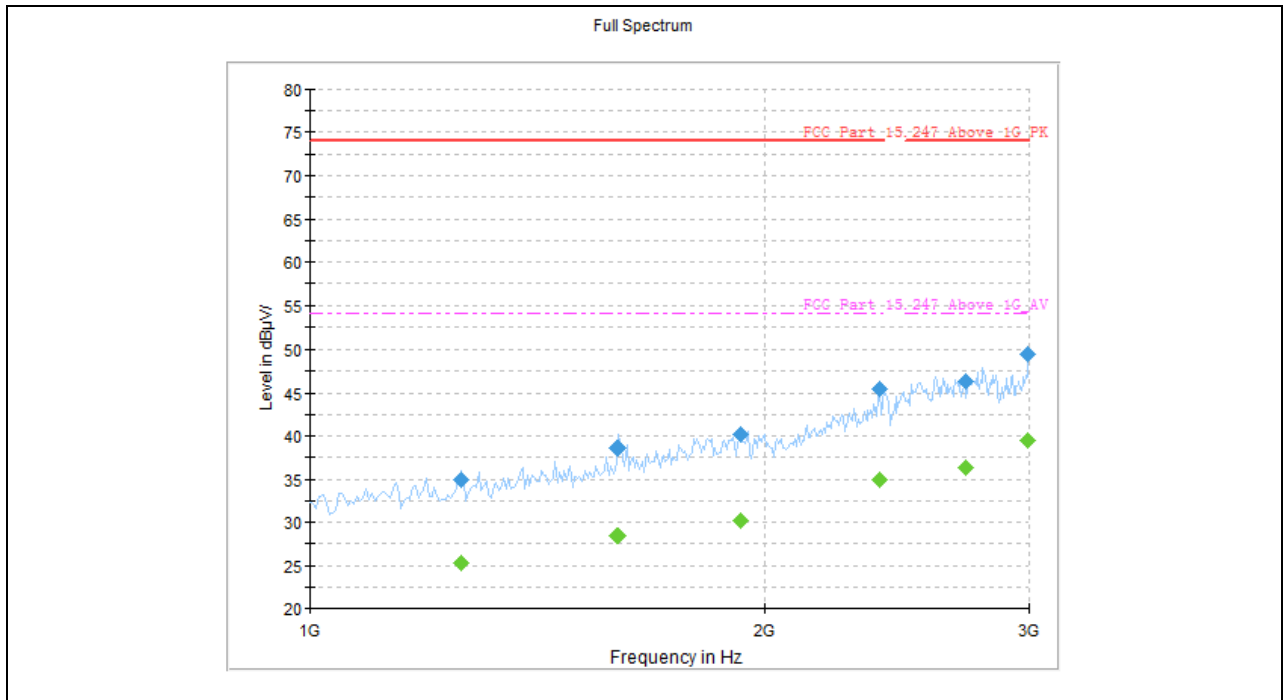
(LE 2M PHY _2440MHz, Antenna Vertical, 3GHz to 18GHz)

Frequency (MHz)	MaxPeak (dBµV/m)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Pol	Corr. (dB/m)
3600.000000	40.07	---	74.00	33.93	V	-5.8
3600.000000	---	27.50	54.00	26.50	V	-5.8
4822.500000	41.90	---	74.00	32.10	V	-3.2
4822.500000	---	29.25	54.00	24.75	V	-3.2
6922.500000	43.62	---	74.00	30.38	V	-0.7
6922.500000	---	30.71	54.00	23.29	V	-0.7
8550.000000	---	30.70	54.00	23.30	V	1.1
8550.000000	43.39	---	74.00	30.61	V	1.1
11767.50000	---	31.94	54.00	22.06	V	3.7
11767.50000	44.59	---	74.00	29.41	V	3.7
15030.00000	48.37	---	74.00	25.63	V	10.6
15030.00000	---	35.46	54.00	18.54	V	10.6



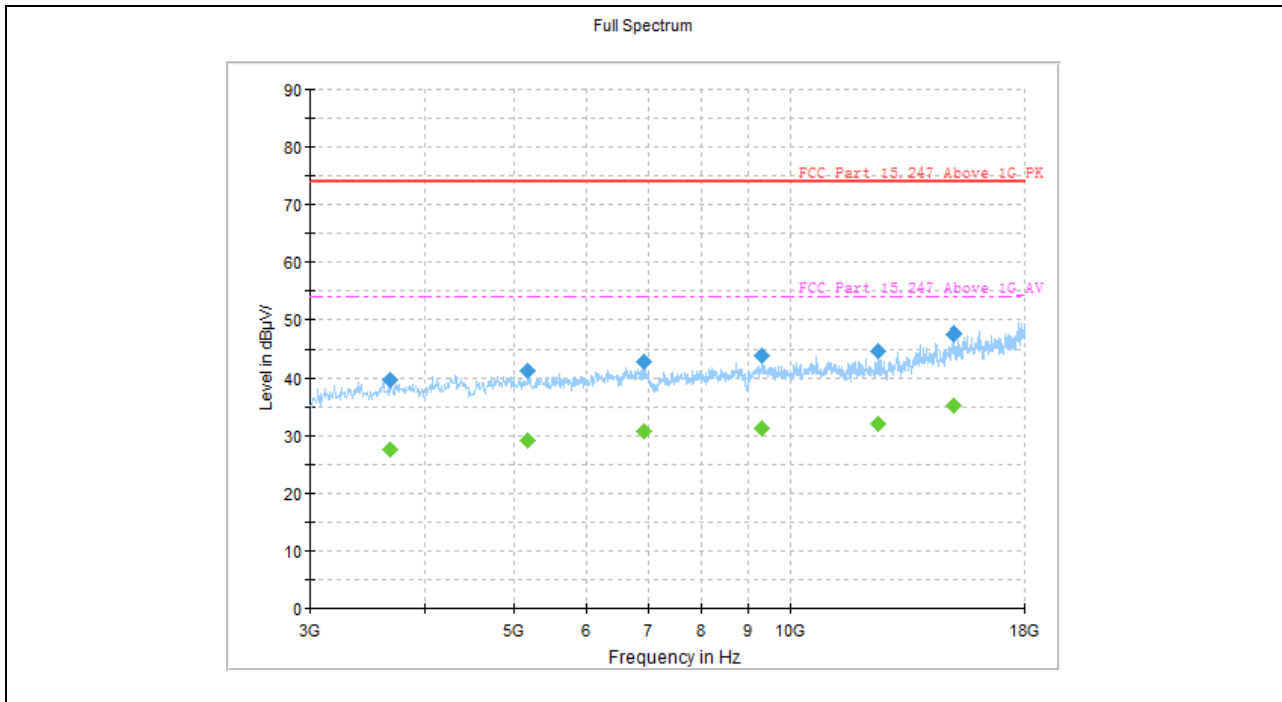
(LE 2M PHY _2480MHz, Antenna Horizontal, 30MHz to 1GHz)

Frequency (MHz)	MaxPeak (dBµV/m)	QuasiPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Pol	Corr. (dB/m)
41.478333	19.32	---	40.00	20.68	H	14.9
100.163333	18.52	---	43.50	24.98	H	15.2
140.216250	23.09	---	43.50	20.41	H	12.0
232.487500	22.67	---	46.00	23.33	H	14.4
518.273750	27.32	---	46.00	18.68	H	22.1
907.688333	32.79	---	46.00	13.21	H	28.1



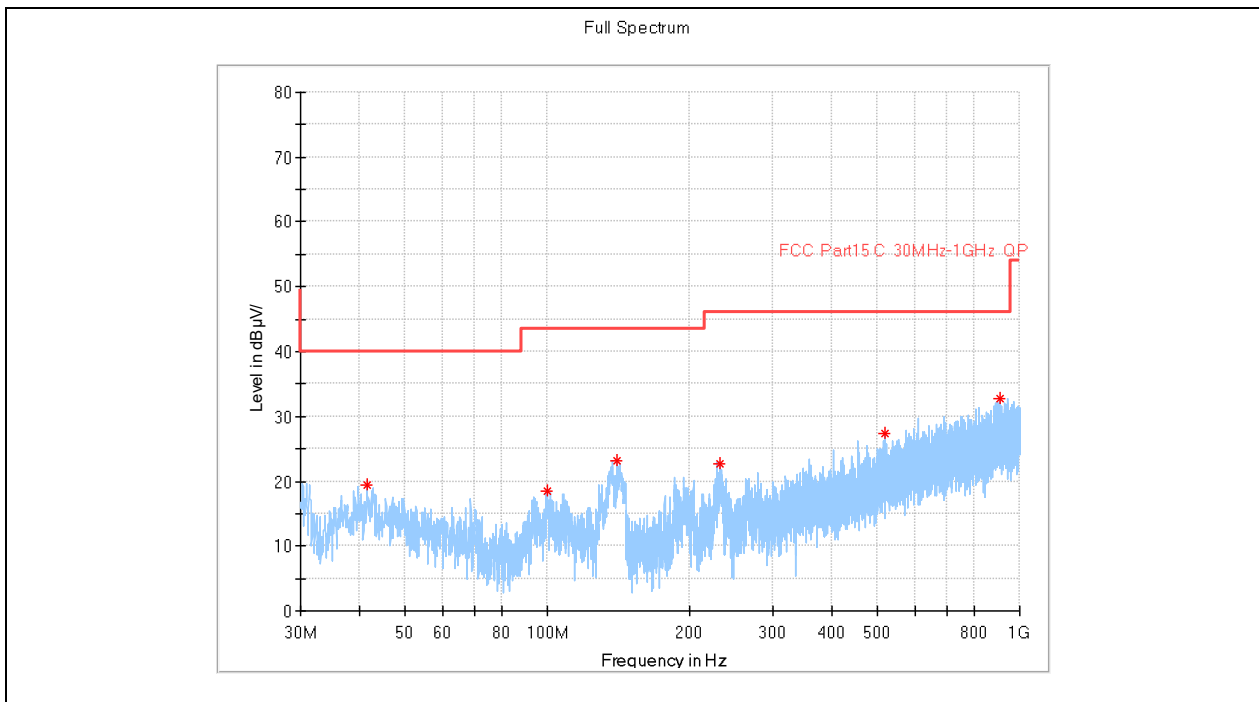
(LE 2M PHY _2480MHz, Antenna Horizontal, 1GHz to 3GHz)

Frequency (MHz)	MaxPeak (dBµV/m)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Pol	Corr. (dB/m)
1260.000000	34.96	---	74.00	39.04	H	-0.1
1260.000000	---	25.21	54.00	28.79	H	-0.1
1600.000000	---	28.44	54.00	25.56	H	3.8
1600.000000	38.59	---	74.00	35.41	H	3.8
1930.000000	40.17	---	74.00	33.83	H	6.3
1930.000000	---	30.14	54.00	23.86	H	6.3
2385.000000	45.42	---	74.00	28.58	H	12.3
2385.000000	---	34.90	54.00	19.10	H	12.3
2720.000000	46.24	---	74.00	27.76	H	14.3
2720.000000	---	36.30	54.00	17.70	H	14.3
2995.000000	---	39.49	54.00	14.51	H	17.9
2995.000000	49.45	---	74.00	24.55	H	17.9



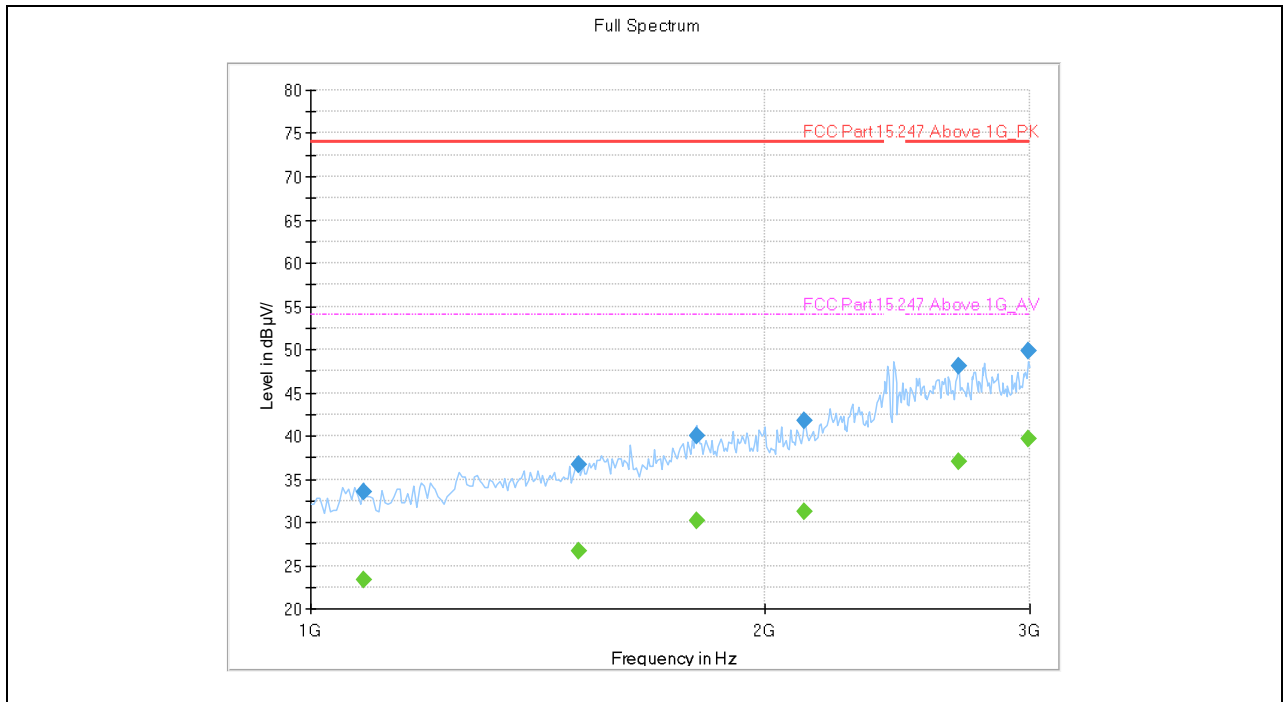
(LE 2M PHY _2480MHz, Antenna Horizontal, 3GHz to 18GHz)

Frequency (MHz)	MaxPeak (dBµV/m)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Pol	Corr. (dB/m)
3592.500000	40.01	---	74.00	33.99	H	-5.7
3592.500000	---	27.69	54.00	26.31	H	-5.7
4867.500000	---	29.40	54.00	24.60	H	-2.9
4867.500000	41.68	---	74.00	32.32	H	-2.9
6795.000000	43.07	---	74.00	30.93	H	-1.1
6795.000000	---	30.86	54.00	23.14	H	-1.1
9847.500000	---	31.16	54.00	22.84	H	1.8
9847.500000	43.64	---	74.00	30.36	H	1.8
11692.500000	---	31.83	54.00	22.17	H	4.0
11692.500000	44.00	---	74.00	30.00	H	4.0
14842.500000	---	34.46	54.00	19.54	H	9.0
14842.500000	46.76	---	74.00	27.24	H	9.0



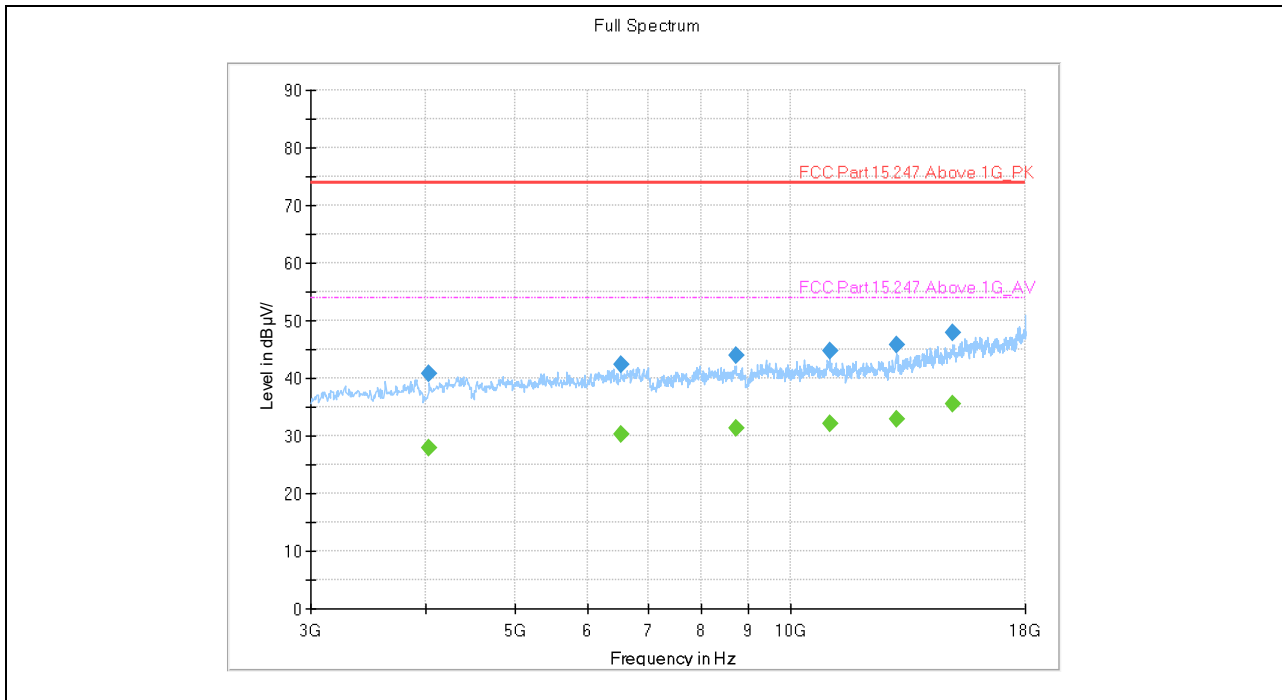
(LE 2M PHY _2480MHz, Antenna Vertical, 30MHz to 1GHz)

Frequency (MHz)	MaxPeak (dBµV/m)	QuasiPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Pol	Corr. (dB/m)
41.478333	19.32	---	40.00	20.68	V	14.9
100.163333	18.52	---	43.50	24.98	V	15.2
140.216250	23.09	---	43.50	20.41	V	12.0
232.487500	22.67	---	46.00	23.33	V	14.4
518.273750	27.32	---	46.00	18.68	V	22.1
907.688333	32.79	---	46.00	13.21	V	28.1



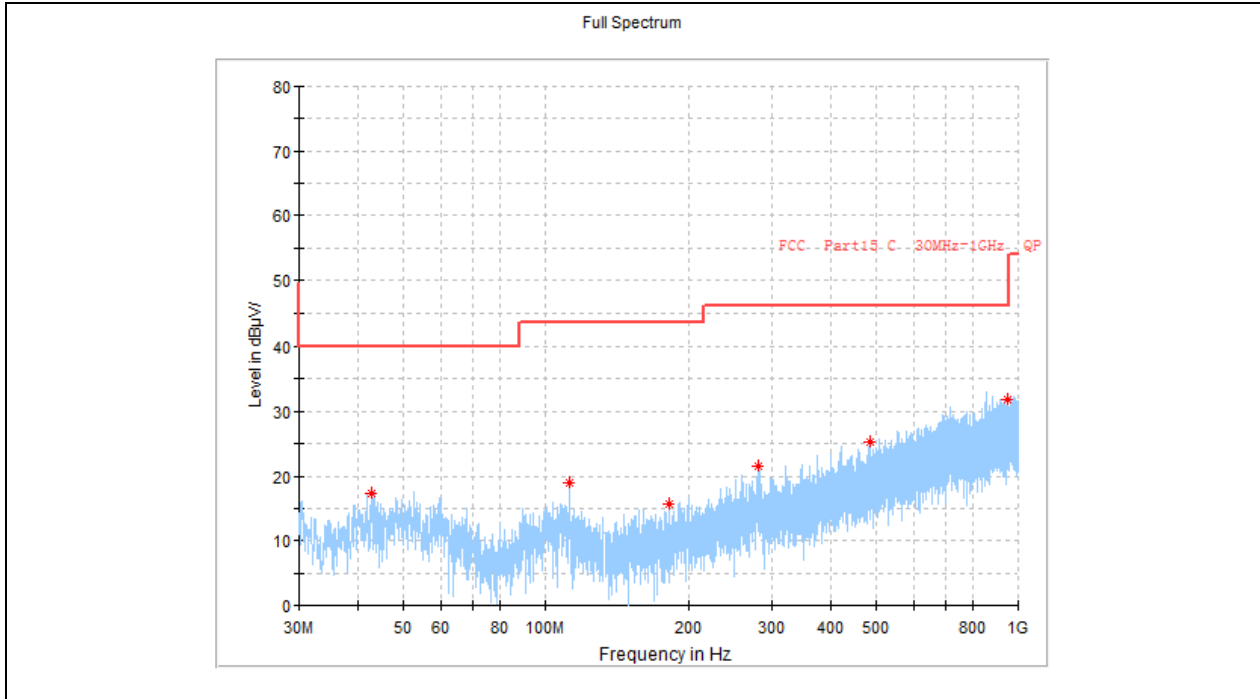
(LE 2M PHY _2480MHz, Antenna Vertical , 1GHz to 3GHz)

Frequency (MHz)	MaxPeak (dBµV/m)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Pol	Corr. (dB/m)
1085.000000	---	23.35	54.00	30.65	V	-2.5
1085.000000	33.47	---	74.00	40.53	V	-2.5
1505.000000	36.74	---	74.00	37.26	V	2.0
1505.000000	---	26.74	54.00	27.26	V	2.0
1805.000000	---	30.17	54.00	23.83	V	6.4
1805.000000	40.03	---	74.00	33.97	V	6.4
2125.000000	---	31.20	54.00	22.80	V	8.2
2125.000000	41.76	---	74.00	32.24	V	8.2
2690.000000	47.99	---	74.00	26.01	V	14.8
2690.000000	---	37.02	54.00	16.98	V	14.8
2995.000000	---	39.60	54.00	14.40	V	17.9
2995.000000	49.75	---	74.00	24.25	V	17.9



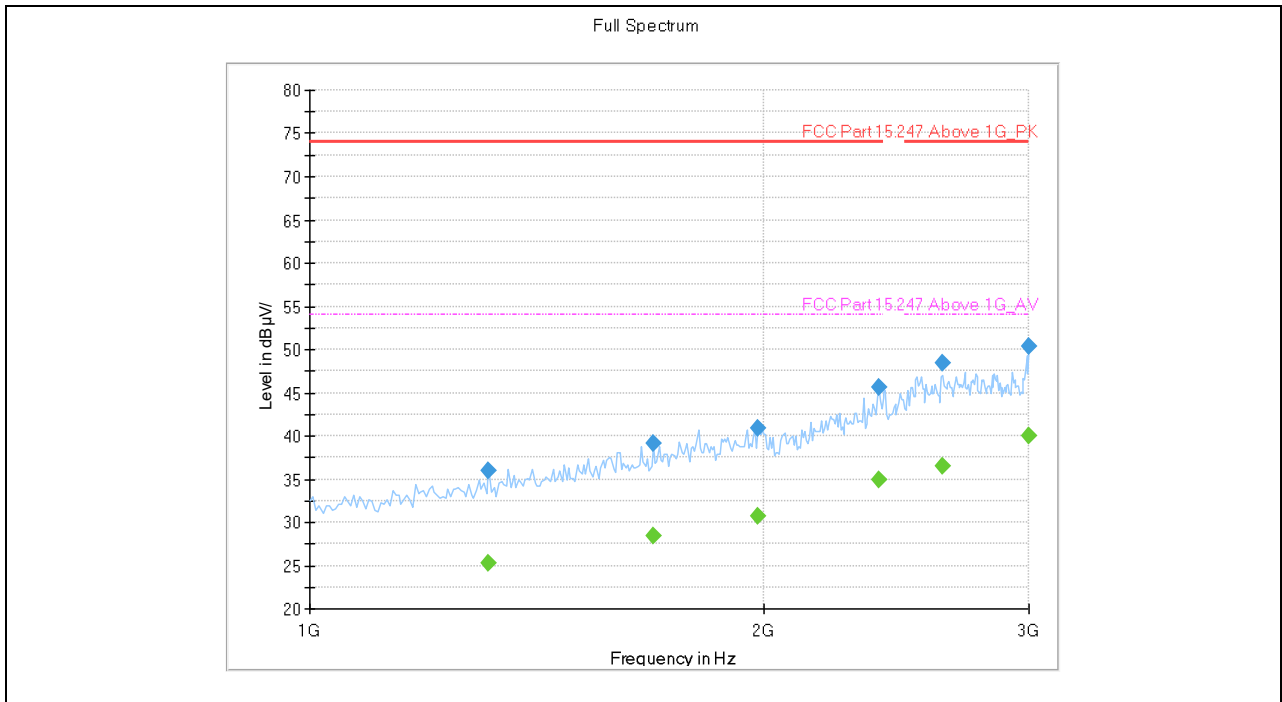
(LE 1M PHY _2480MHz, Antenna Vertical, 3GHz to 18GHz)

Frequency (MHz)	MaxPeak (dBµV/m)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Pol	Corr. (dB/m)
4035.000000	40.79	---	74.00	33.21	V	-4.8
4035.000000	---	27.93	54.00	26.07	V	-4.8
6532.500000	---	30.15	54.00	23.85	V	-1.3
6532.500000	42.34	---	74.00	31.66	V	-1.3
8715.000000	---	31.36	54.00	22.64	V	1.3
8715.000000	43.87	---	74.00	30.13	V	1.3
11040.000000	---	32.13	54.00	21.87	V	3.5
11040.000000	44.83	---	74.00	29.17	V	3.5
13035.000000	45.77	---	74.00	28.23	V	6.3
13035.000000	---	32.99	54.00	21.01	V	6.3
15022.500000	---	35.59	54.00	18.41	V	10.8
15022.500000	47.92	---	74.00	26.08	V	10.8



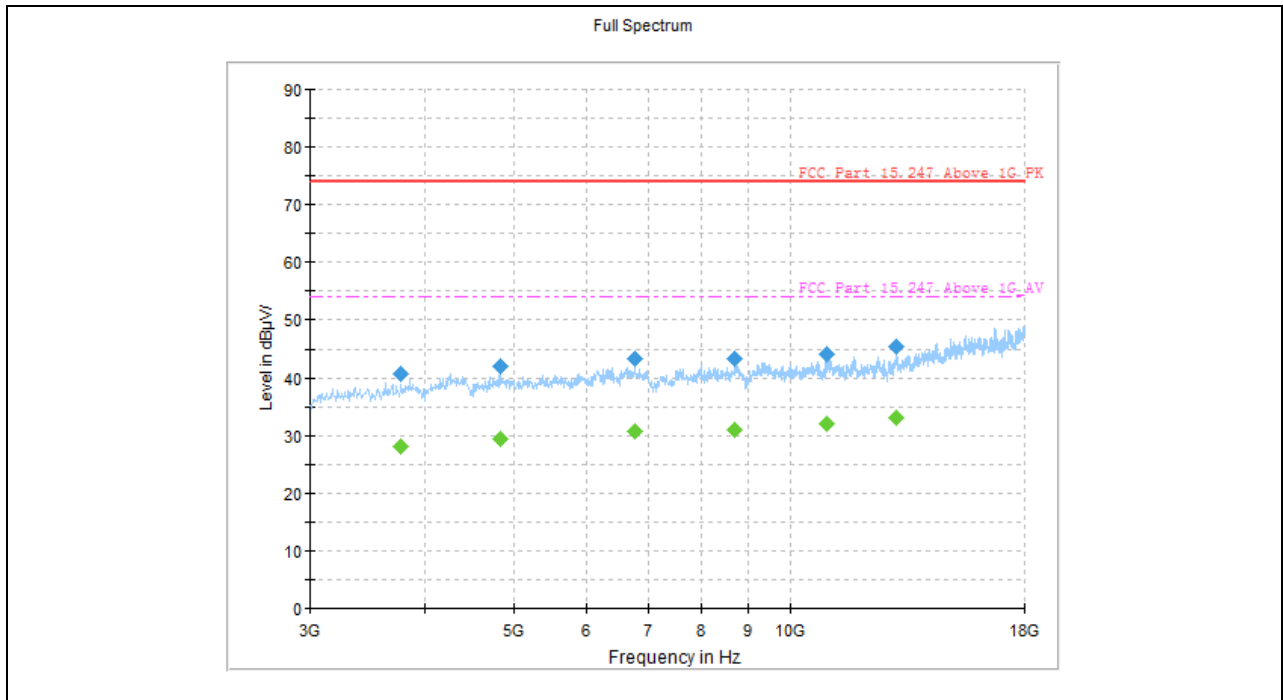
(LE code_2402MHz, Antenna Horizontal, 30MHz to 1GHz)

Frequency (MHz)	MaxPeak (dBµV/m)	QuasiPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Pol	Corr. (dB/m)
42.892917	17.42	---	40.00	22.58	H	15.3
112.611667	18.84	---	43.50	24.66	H	14.0
181.602917	15.66	---	43.50	27.84	H	12.6
280.381250	21.49	---	46.00	24.51	H	16.7
485.293750	25.16	---	46.00	20.84	H	20.8
947.741250	31.88	---	46.00	14.12	H	28.3



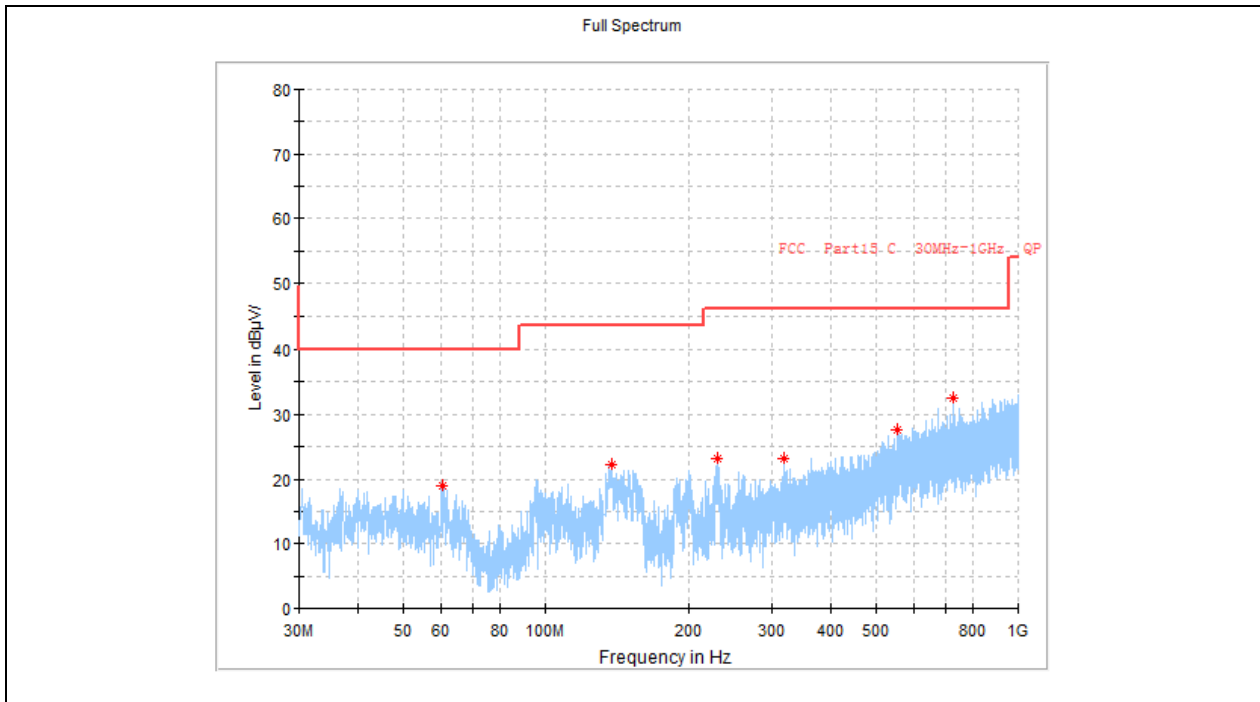
(LE Code _2402MHz, Antenna Horizontal, 1GHz to 3GHz)

Frequency (MHz)	MaxPeak (dBµV/m)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Pol	Corr. (dB/m)
1315.000000	35.96	---	74.00	38.04	H	0.0
1315.000000	---	25.21	54.00	28.79	H	0.0
1690.000000	---	28.34	54.00	25.66	H	3.7
1690.000000	39.13	---	74.00	34.87	H	3.7
1985.000000	---	30.64	54.00	23.36	H	7.1
1985.000000	40.94	---	74.00	33.06	H	7.1
2385.000000	45.56	---	74.00	28.44	H	12.3
2385.000000	---	34.92	54.00	19.08	H	12.3
2630.000000	48.39	---	74.00	25.61	H	14.6
2630.000000	---	36.54	54.00	17.46	H	14.6
3000.000000	50.35	---	74.00	23.65	H	18.4
3000.000000	---	40.04	54.00	13.96	H	18.4



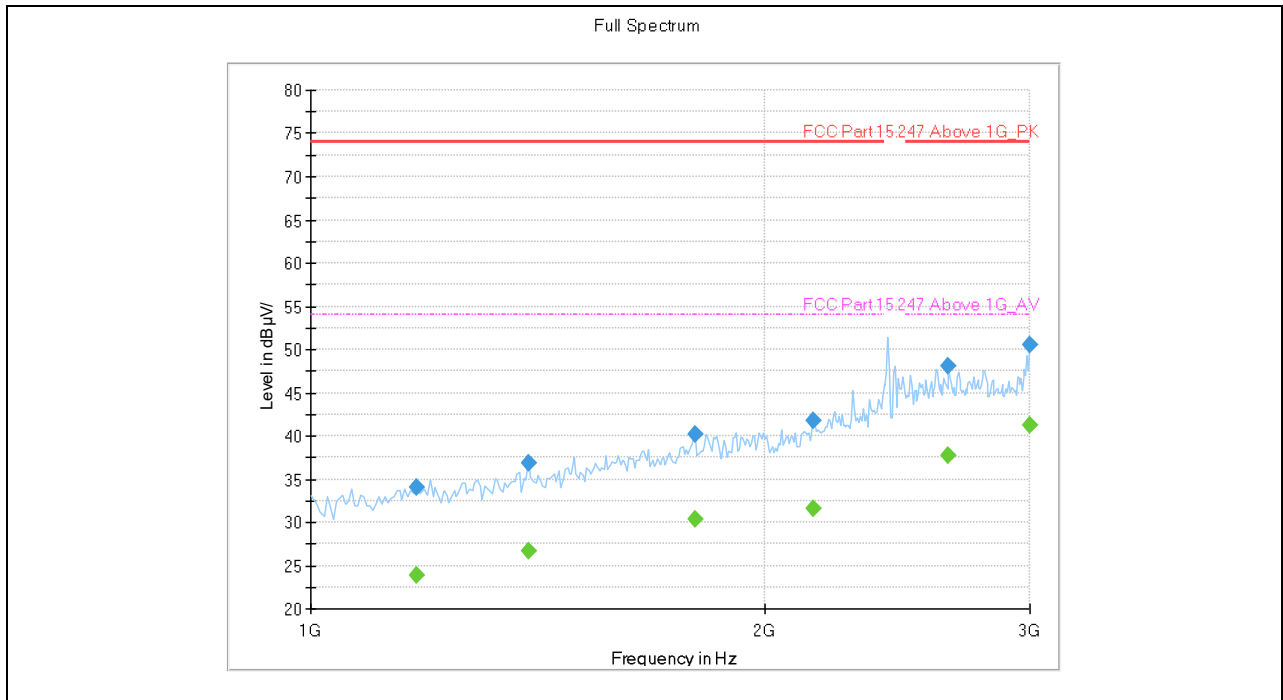
(LE Code _2402MHz, Antenna Horizontal, 3GHz to 18GHz)

Frequency (MHz)	MaxPeak (dBµV/m)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Pol	Corr. (dB/m)
3772.500000	40.66	---	74.00	33.34	H	-5.0
3772.500000	---	28.15	54.00	25.85	H	-5.0
4845.000000	---	29.35	54.00	24.65	H	-3.1
4845.000000	42.03	---	74.00	31.97	H	-3.1
6765.000000	43.37	---	74.00	30.63	H	-1.2
6765.000000	---	30.81	54.00	23.19	H	-1.2
8677.500000	43.46	---	74.00	30.54	H	1.3
8677.500000	---	31.10	54.00	22.90	H	1.3
10927.500000	44.21	---	74.00	29.79	H	3.3
10927.500000	---	32.09	54.00	21.91	H	3.3
13050.000000	---	33.12	54.00	20.88	H	6.5
13050.000000	45.63	---	74.00	28.37	H	6.5



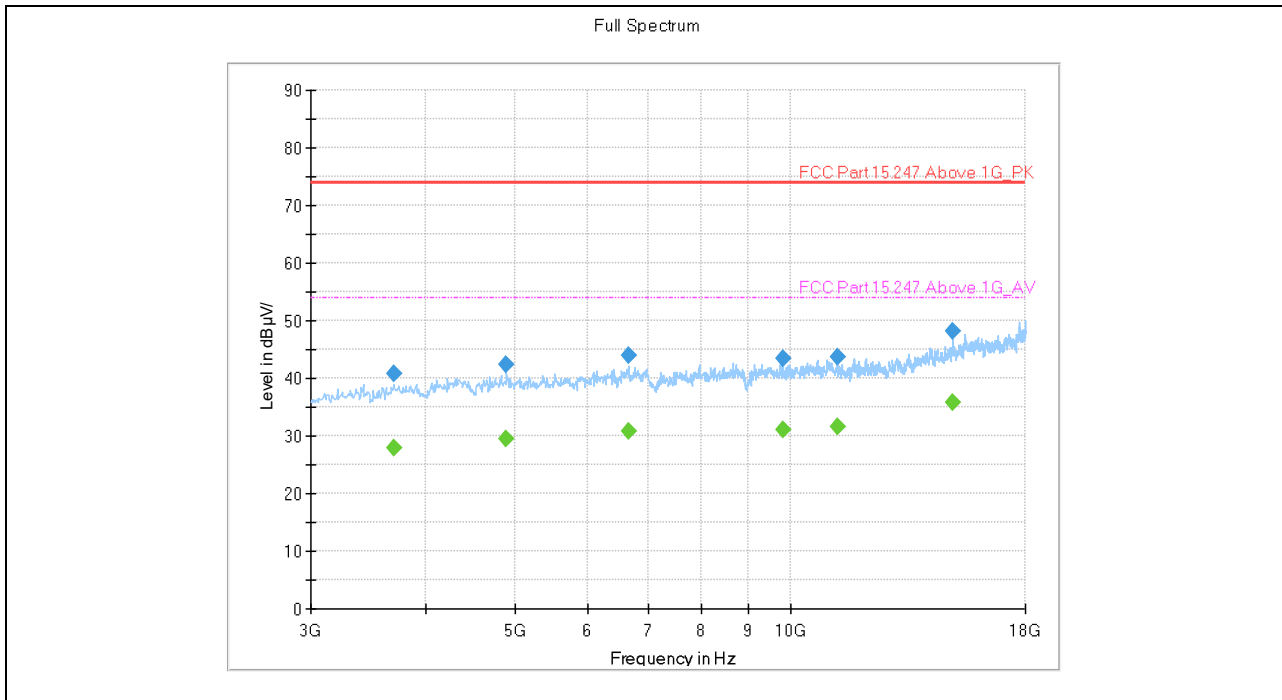
(LE Code _2402MHz, Antenna Vertical, 30MHz to 1GHz)

Frequency (MHz)	MaxPeak (dBµV/m)	QuasiPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Pol	Corr. (dB/m)
60.514583	18.90	---	40.00	21.10	V	14.5
136.902083	22.29	---	43.50	21.21	V	11.1
229.900833	23.15	---	46.00	22.85	V	14.4
318.696250	23.14	---	46.00	22.86	V	17.8
555.255000	27.69	---	46.00	18.31	V	22.7
729.814583	32.46	---	46.00	13.54	V	25.4



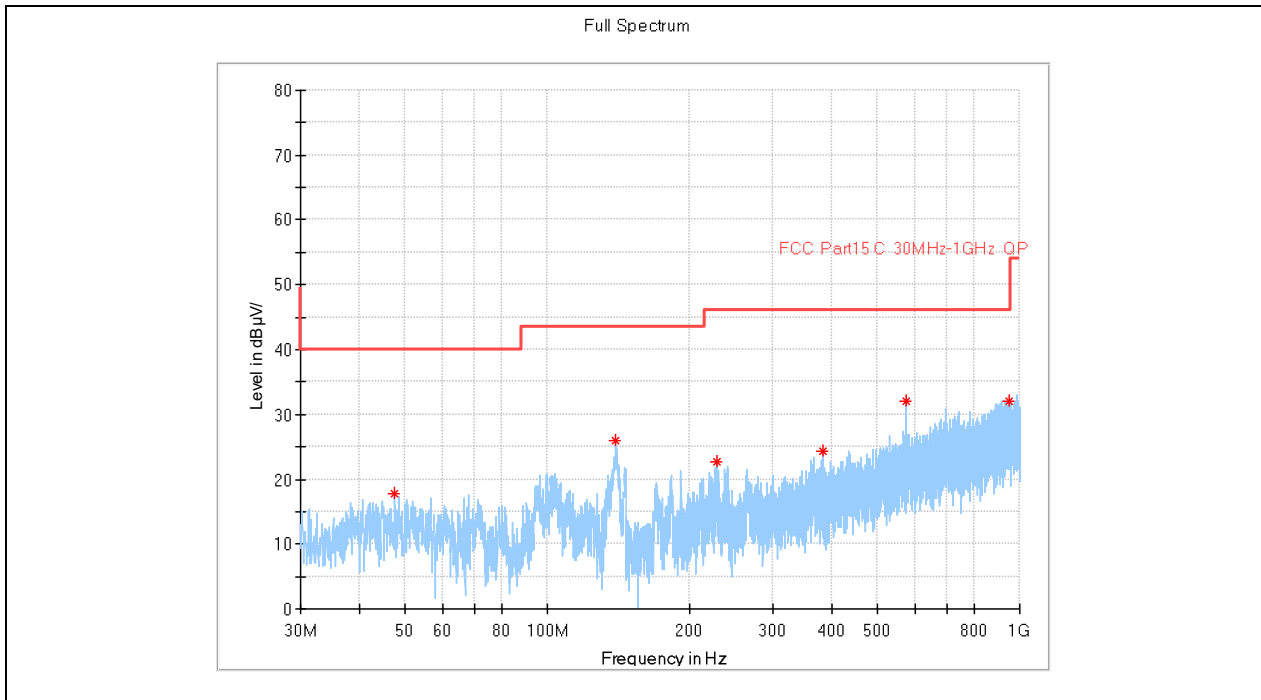
(LE Code_2402MHz, Antenna Vertical , 1GHz to 3GHz)

Frequency (MHz)	MaxPeak (dBµV/m)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Pol	Corr. (dB/m)
1175.000000	34.00	---	74.00	40.00	V	-1.6
1175.000000	---	23.94	54.00	30.06	V	-1.6
1395.000000	36.79	---	74.00	37.21	V	1.5
1395.000000	---	26.64	54.00	27.36	V	1.5
1800.000000	40.19	---	74.00	33.81	V	6.7
1800.000000	---	30.41	54.00	23.59	V	6.7
2155.000000	---	31.61	54.00	22.39	V	8.3
2155.000000	41.75	---	74.00	32.25	V	8.3
2650.000000	48.08	---	74.00	25.92	V	15.6
2650.000000	---	37.66	54.00	16.34	V	15.6
3000.000000	---	41.22	54.00	12.78	V	18.4
3000.000000	50.58	---	74.00	23.42	V	18.4



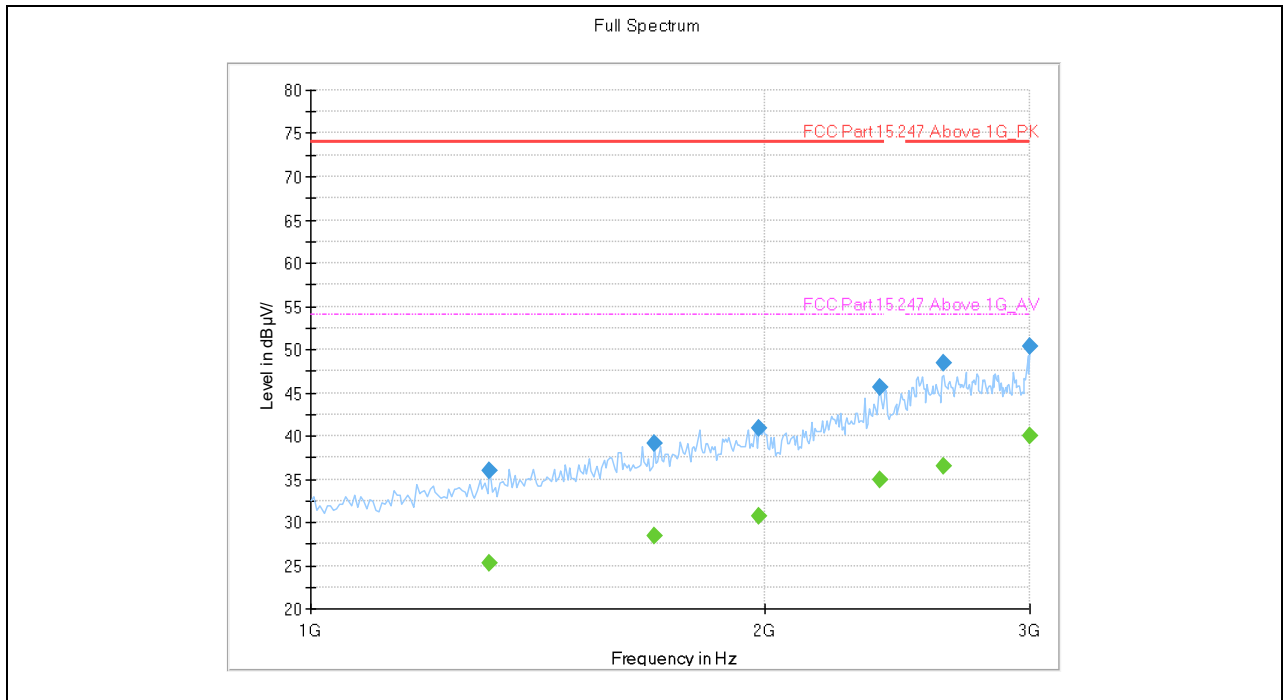
(LE Code_2402MHz, Antenna Vertical, 3GHz to 18GHz)

Frequency (MHz)	MaxPeak (dBµV/m)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Pol	Corr. (dB/m)
3690.000000	40.88	---	74.00	33.12	V	-5.3
3690.000000	---	27.79	54.00	26.21	V	-5.3
4897.500000	42.33	---	74.00	31.67	V	-2.7
4897.500000	---	29.46	54.00	24.54	V	-2.7
6660.000000	---	30.70	54.00	23.30	V	-0.4
6660.000000	43.89	---	74.00	30.11	V	-0.4
9795.000000	---	31.06	54.00	22.94	V	1.6
9795.000000	43.47	---	74.00	30.53	V	1.6
11227.50000	---	31.56	54.00	22.44	V	3.1
11227.50000	43.67	---	74.00	30.33	V	3.1
14992.50000	---	35.66	54.00	18.34	V	10.4
14992.50000	48.23	---	74.00	25.77	V	10.4



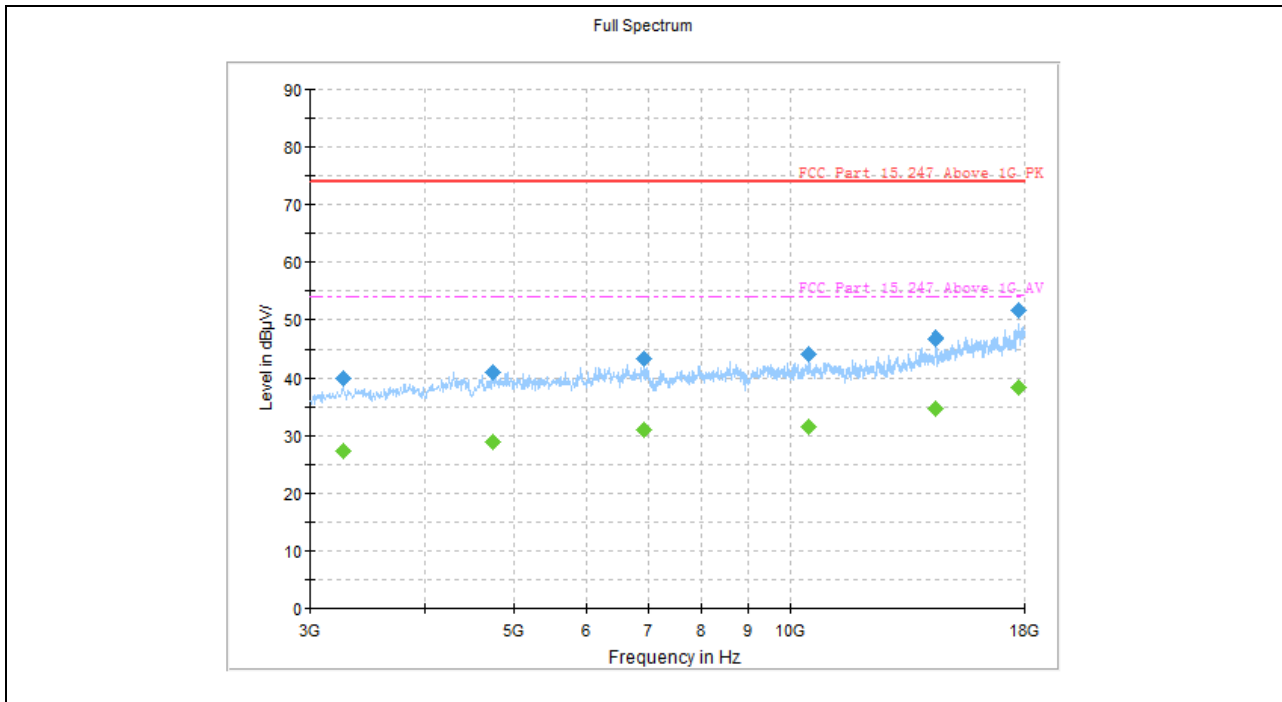
(LE Code_2440MHz, Antenna Horizontal, 30MHz to 1GHz)

Frequency (MHz)	MaxPeak (dBµV/m)	QuasiPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Pol	Corr. (dB/m)
47.540833	17.75	---	40.00	22.25	H	15.5
139.731250	25.98	---	43.50	17.52	H	12.0
227.718333	22.73	---	46.00	23.27	H	14.2
384.009583	24.29	---	46.00	21.71	H	18.7
575.988750	32.14	---	46.00	13.86	H	23.0
946.892500	31.93	---	46.00	14.07	H	28.3



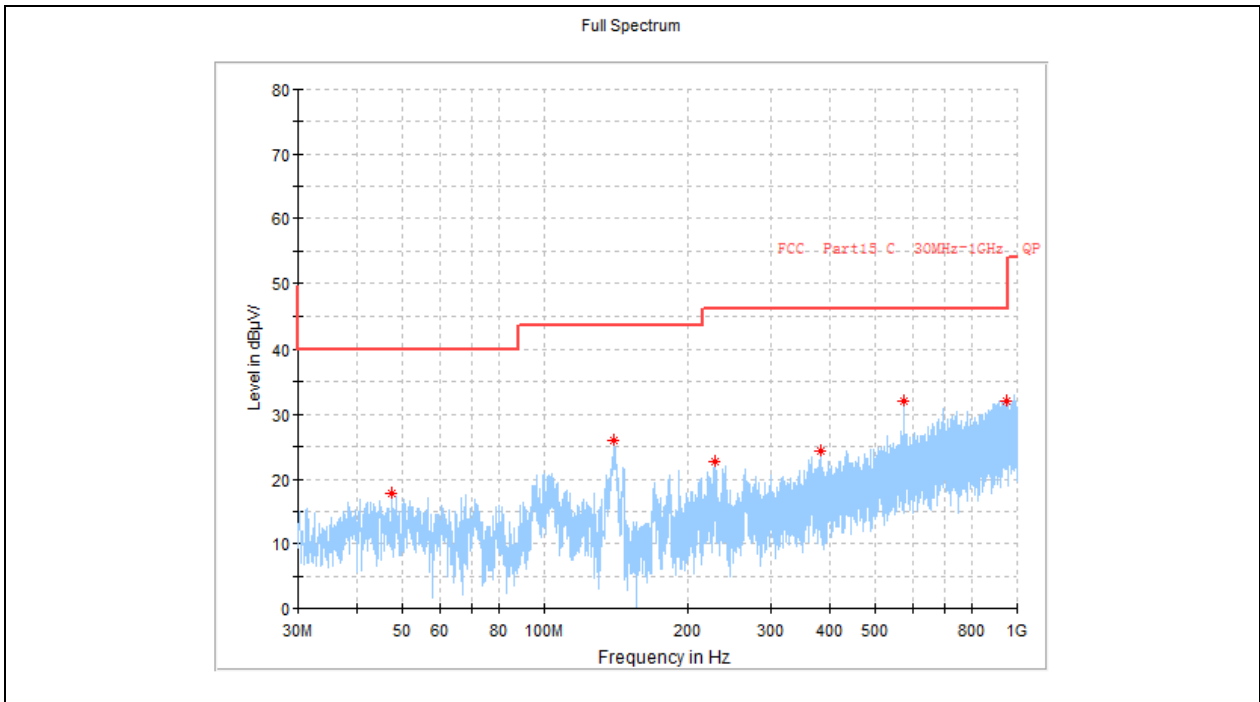
(LE Code _2440MHz, Antenna Horizontal, 1GHz to 3GHz)

Frequency (MHz)	MaxPeak (dBµV/m)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Pol	Corr. (dB/m)
1315.000000	35.96	---	74.00	38.04	H	0.0
1315.000000	---	25.21	54.00	28.79	H	0.0
1690.000000	---	28.34	54.00	25.66	H	3.7
1690.000000	39.13	---	74.00	34.87	H	3.7
1985.000000	---	30.64	54.00	23.36	H	7.1
1985.000000	40.94	---	74.00	33.06	H	7.1
2385.000000	45.56	---	74.00	28.44	H	12.3
2385.000000	---	34.92	54.00	19.08	H	12.3
2630.000000	48.39	---	74.00	25.61	H	14.6
2630.000000	---	36.54	54.00	17.46	H	14.6
3000.000000	50.35	---	74.00	23.65	H	18.4
3000.000000	---	40.04	54.00	13.96	H	18.4



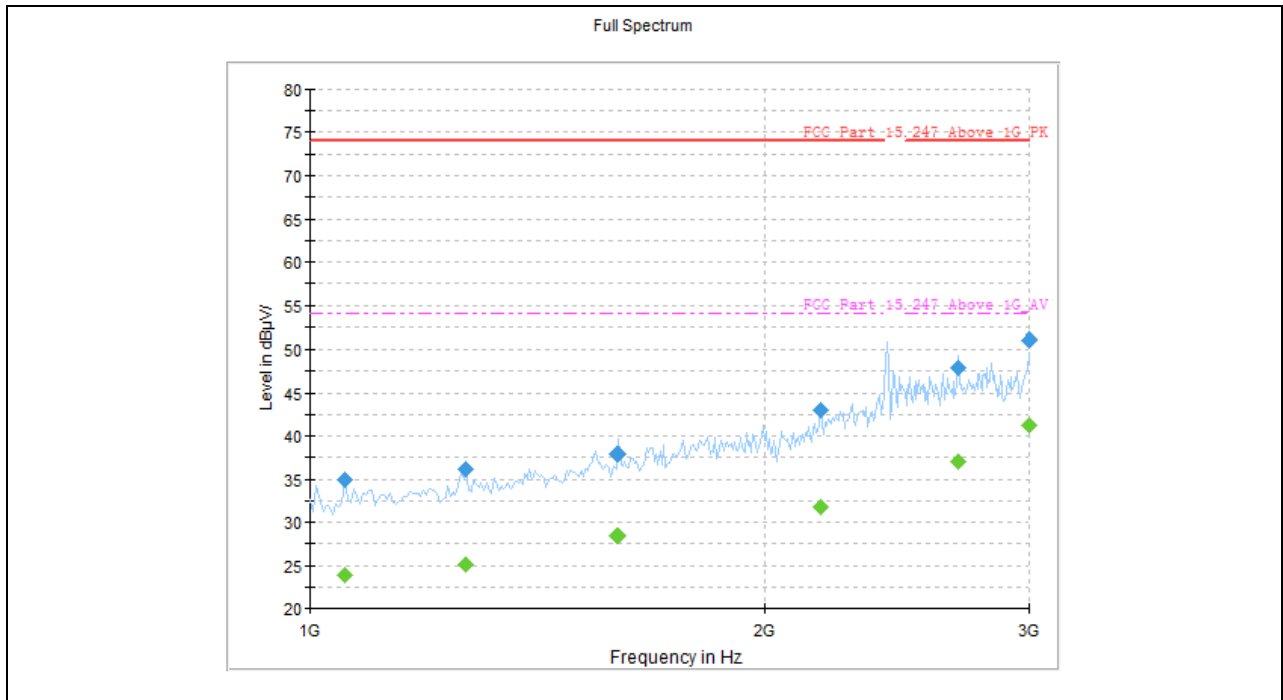
(LE Code _2440MHz, Antenna Horizontal, 3GHz to 18GHz)

Frequency (MHz)	MaxPeak (dBµV/m)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Pol	Corr. (dB/m)
3262.500000	40.01	---	74.00	33.99	H	-5.8
3262.500000	---	27.36	54.00	26.64	H	-5.8
4755.000000	41.07	---	74.00	32.93	H	-3.3
4755.000000	---	28.97	54.00	25.03	H	-3.3
6915.000000	---	30.95	54.00	23.05	H	-0.8
6915.000000	43.42	---	74.00	30.58	H	-0.8
10447.50000	---	31.63	54.00	22.37	H	2.8
10447.50000	44.25	---	74.00	29.75	H	2.8
14407.50000	46.93	---	74.00	27.07	H	9.4
14407.50000	---	34.62	54.00	19.38	H	9.4
17707.50000	51.50	---	74.00	22.50	H	14.4
17707.50000	---	38.38	54.00	15.62	H	14.4



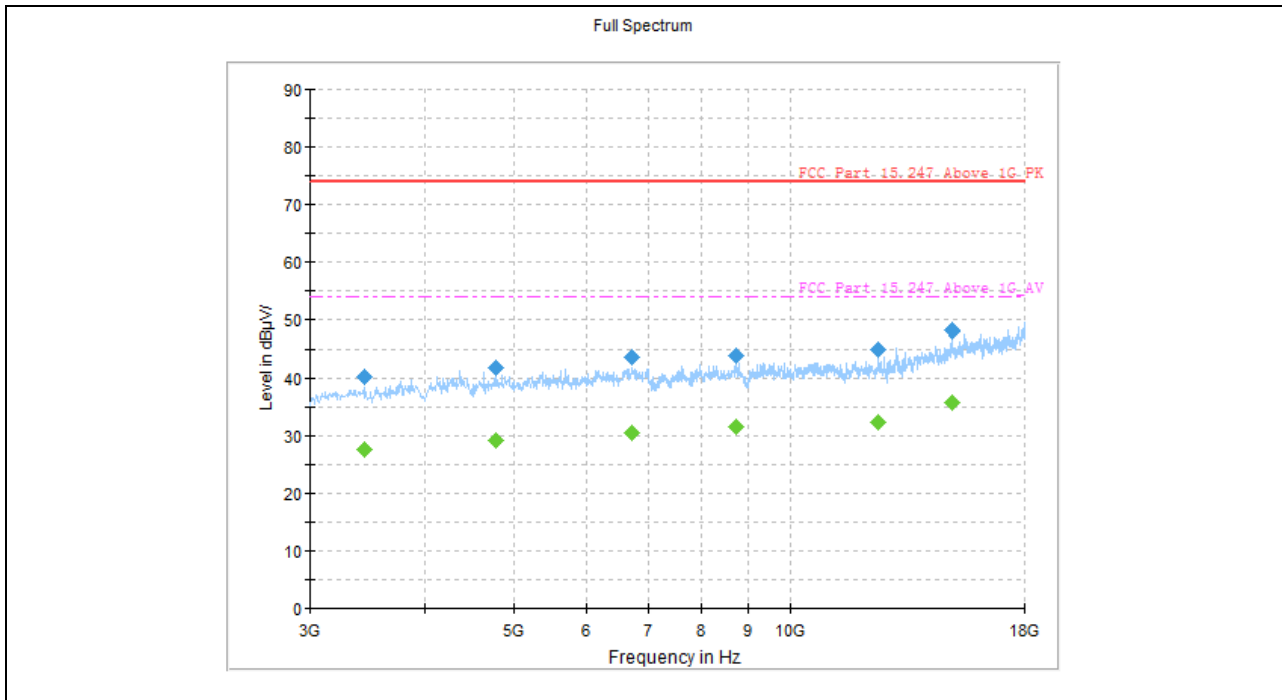
(LE Code _2440MHz, Antenna Vertical, 30MHz to 1GHz)

Frequency (MHz)	MaxPeak (dBµV/m)	QuasiPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Pol	Corr. (dB/m)
47.540833	17.75	---	40.00	22.25	V	15.5
139.731250	25.98	---	43.50	17.52	V	12.0
227.718333	22.73	---	46.00	23.27	V	14.2
384.009583	24.29	---	46.00	21.71	V	18.7
575.988750	32.14	---	46.00	13.86	V	23.0
946.892500	31.93	---	46.00	14.07	V	28.3



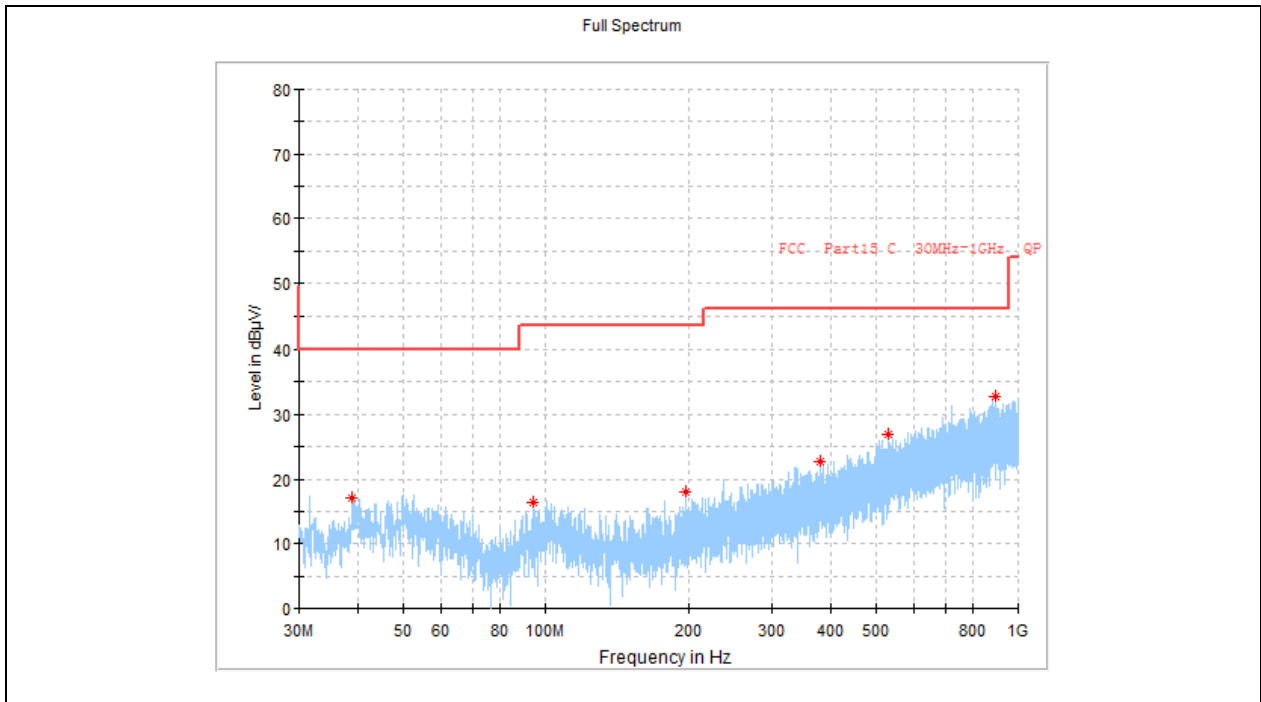
(LE Code _2440MHz, Antenna Vertical , 1GHz to 3GHz)

Frequency (MHz)	MaxPeak (dBµV/m)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Pol	Corr. (dB/m)
1055.000000	34.92	---	74.00	39.08	V	-2.2
1055.000000	---	23.83	54.00	30.17	V	-2.2
1270.000000	---	25.11	54.00	28.89	V	-0.1
1270.000000	36.19	---	74.00	37.81	V	-0.1
1600.000000	---	28.49	54.00	25.51	V	3.8
1600.000000	37.91	---	74.00	36.09	V	3.8
2180.000000	43.00	---	74.00	31.00	V	9.0
2180.000000	---	31.83	54.00	22.17	V	9.0
2690.000000	47.95	---	74.00	26.05	V	14.8
2690.000000	---	37.03	54.00	16.97	V	14.8
3000.000000	51.10	---	74.00	22.90	V	18.4
3000.000000	---	41.14	54.00	12.86	V	18.4



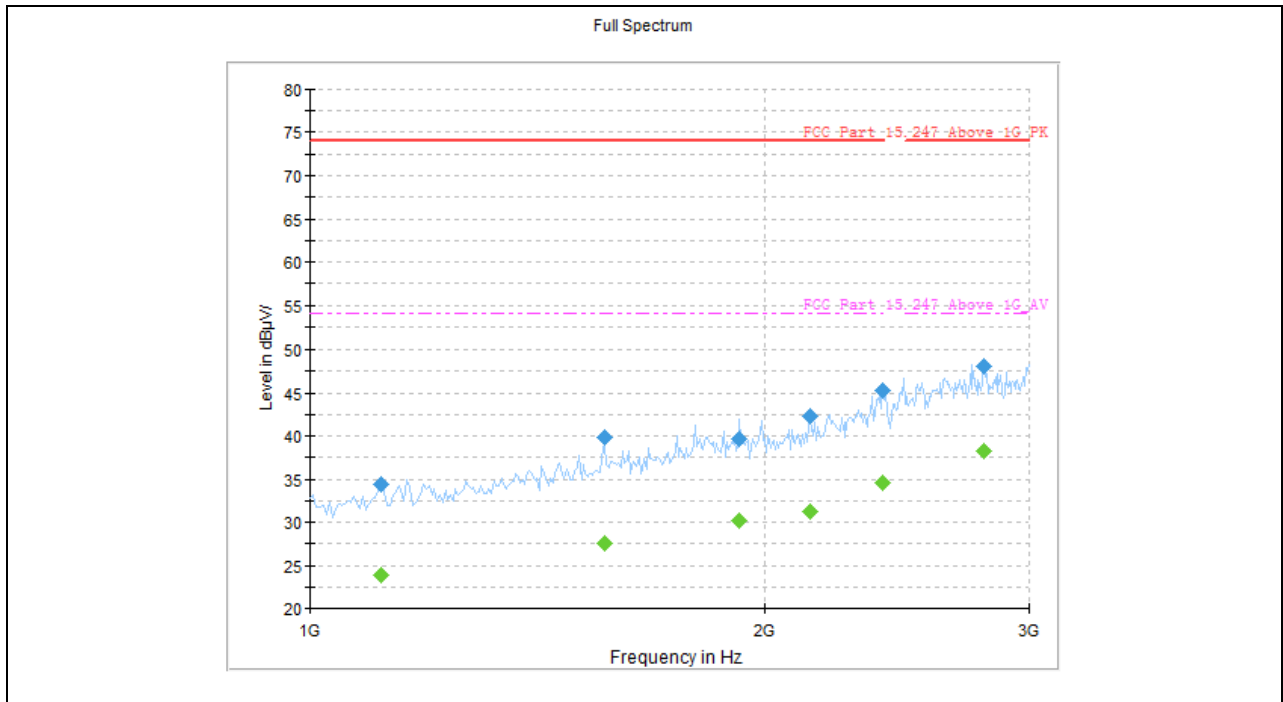
(LE Code _2440MHz, Antenna Vertical, 3GHz to 18GHz)

Frequency (MHz)	MaxPeak (dBµV/m)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Pol	Corr. (dB/m)
3435.000000	40.29	---	74.00	33.71	V	-5.8
3435.000000	---	27.62	54.00	26.38	V	-5.8
4792.500000	41.74	---	74.00	32.26	V	-3.4
4792.500000	---	29.23	54.00	24.77	V	-3.4
6712.500000	43.58	---	74.00	30.42	V	-1.0
6712.500000	---	30.51	54.00	23.49	V	-1.0
8707.500000	43.88	---	74.00	30.12	V	1.3
8707.500000	---	31.53	54.00	22.47	V	1.3
12472.500000	44.97	---	74.00	29.03	V	4.9
12472.500000	---	32.27	54.00	21.73	V	4.9
15000.000000	48.19	---	74.00	25.81	V	10.6
15000.000000	---	35.72	54.00	18.28	V	10.6



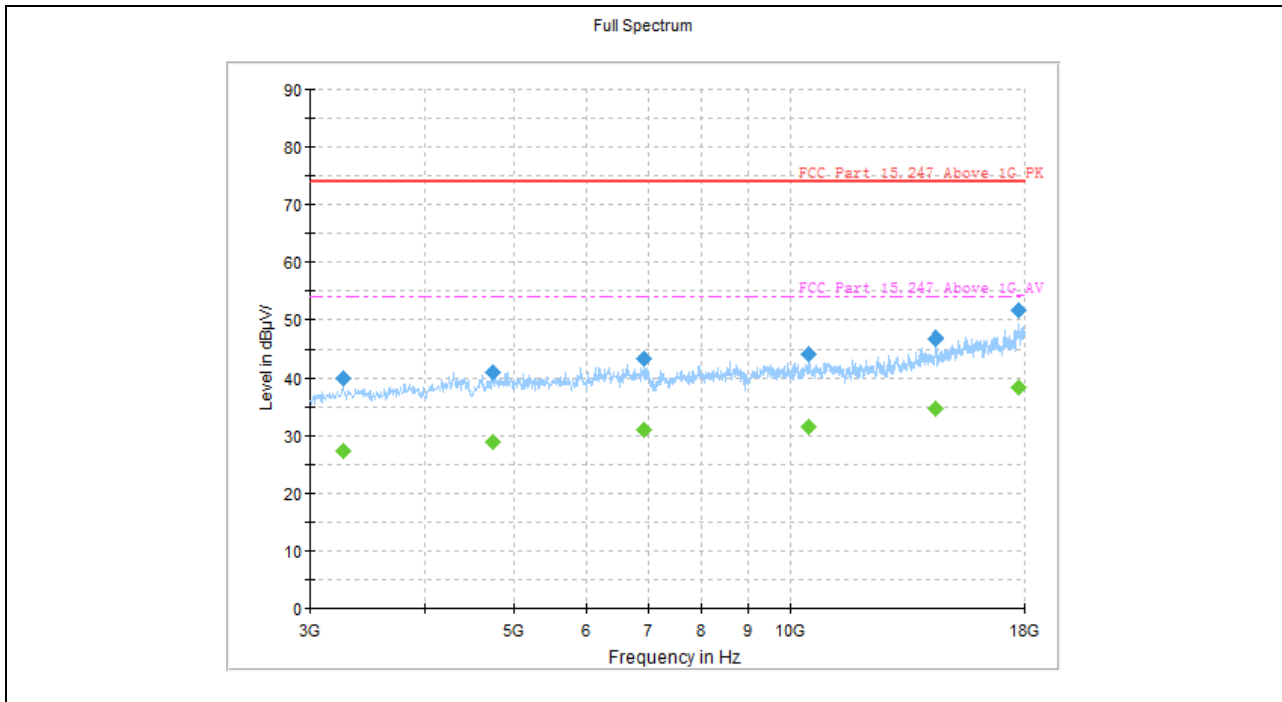
(LE Code _2480MHz, Antenna Horizontal, 30MHz to 1GHz)

Frequency (MHz)	MaxPeak (dBµV/m)	QuasiPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Pol	Corr. (dB/m)
38.972500	17.07	---	40.00	22.93	H	14.2
93.939167	16.34	---	43.50	27.16	H	12.9
197.203750	18.04	---	43.50	25.46	H	13.8
379.119167	22.76	---	46.00	23.24	H	19.1
529.832917	26.79	---	46.00	19.21	H	22.2
893.138333	32.70	---	46.00	13.30	H	27.9



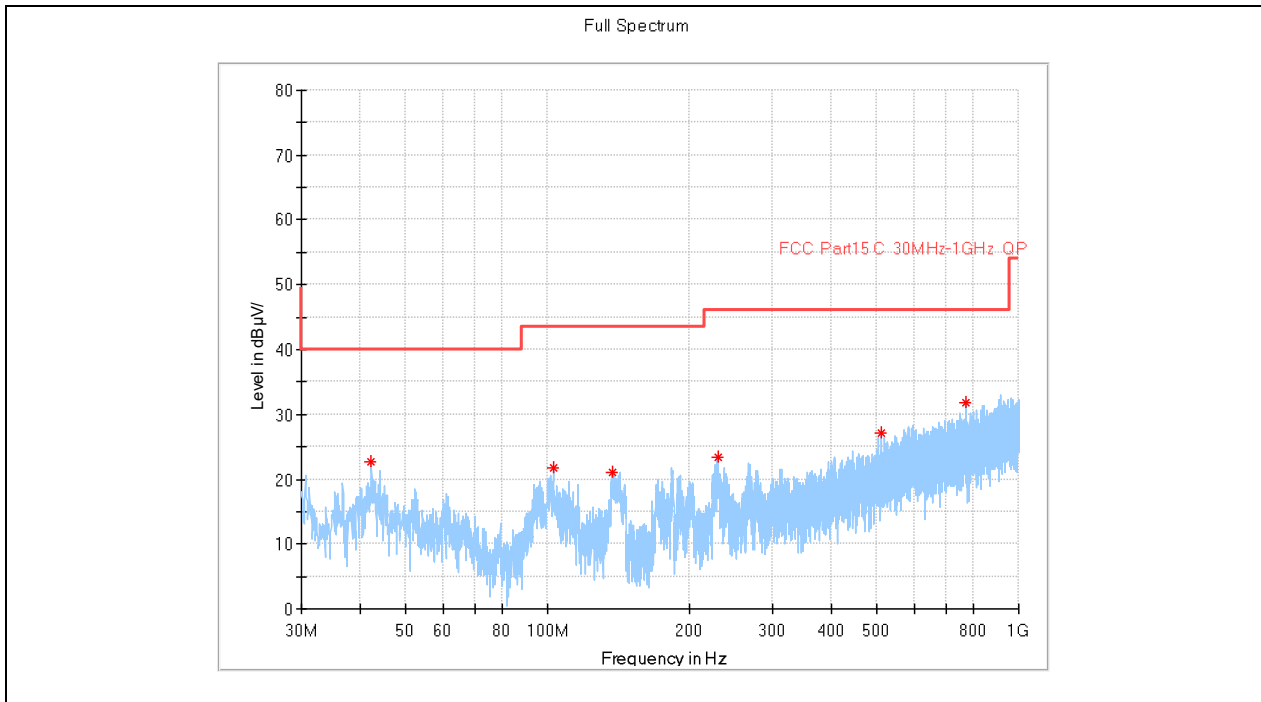
(LE Code _2480MHz, Antenna Horizontal, 1GHz to 3GHz)

Frequency (MHz)	MaxPeak (dBµV/m)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Pol	Corr. (dB/m)
1115.000000	34.39	---	74.00	39.61	H	-2.0
1115.000000	---	23.92	54.00	30.08	H	-2.0
1570.000000	---	27.58	54.00	26.42	H	3.0
1570.000000	39.77	---	74.00	34.23	H	3.0
1925.000000	39.58	---	74.00	34.42	H	6.1
1925.000000	---	30.14	54.00	23.86	H	6.1
2145.000000	42.31	---	74.00	31.69	H	8.2
2145.000000	---	31.22	54.00	22.78	H	8.2
2395.000000	---	34.58	54.00	19.42	H	13.1
2395.000000	45.23	---	74.00	28.77	H	13.1
2800.000000	48.15	---	74.00	25.85	H	16.5
2800.000000	---	38.27	54.00	15.73	H	16.5



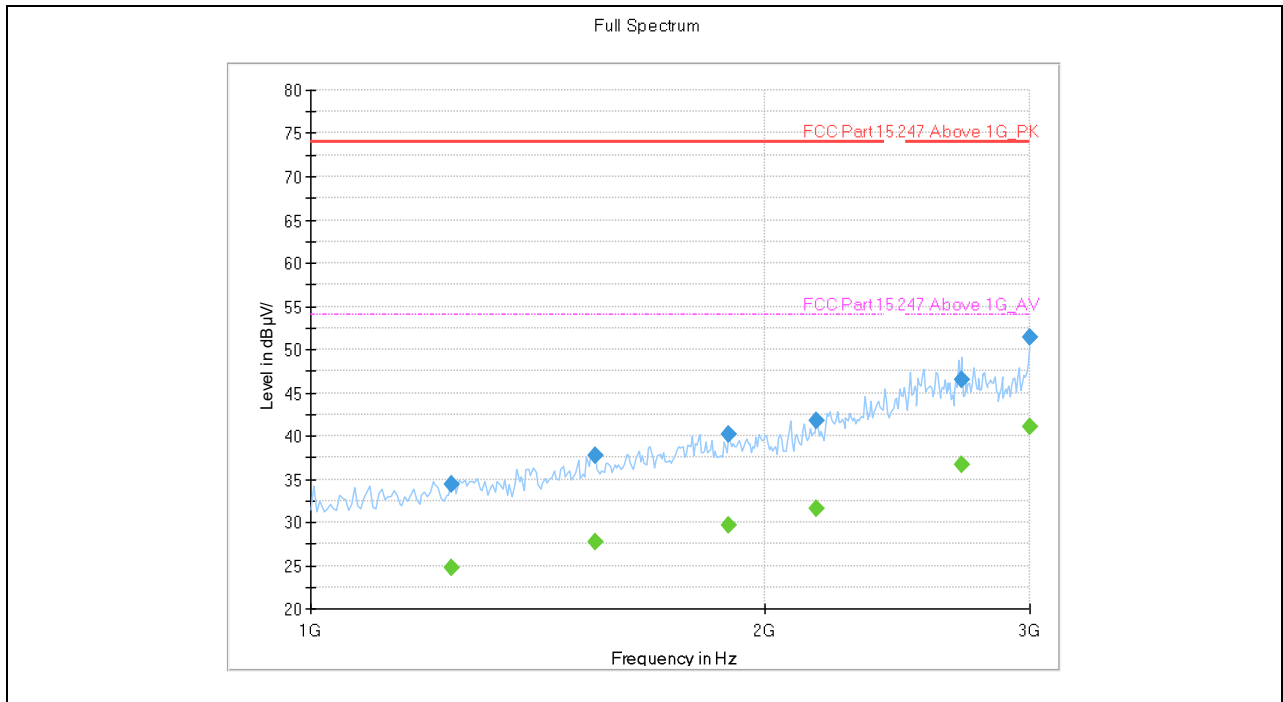
(LE Code _2480MHz, Antenna Horizontal, 3GHz to 18GHz)

Frequency (MHz)	MaxPeak (dBµV/m)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Pol	Corr. (dB/m)
3262.500000	40.01	---	74.00	33.99	H	-5.8
3262.500000	---	27.36	54.00	26.64	H	-5.8
4755.000000	41.07	---	74.00	32.93	H	-3.3
4755.000000	---	28.97	54.00	25.03	H	-3.3
6915.000000	---	30.95	54.00	23.05	H	-0.8
6915.000000	43.42	---	74.00	30.58	H	-0.8
10447.500000	---	31.63	54.00	22.37	H	2.8
10447.500000	44.25	---	74.00	29.75	H	2.8
14407.500000	46.93	---	74.00	27.07	H	9.4
14407.500000	---	34.62	54.00	19.38	H	9.4
17707.500000	51.50	---	74.00	22.50	H	14.4
17707.500000	---	38.38	54.00	15.62	H	14.4



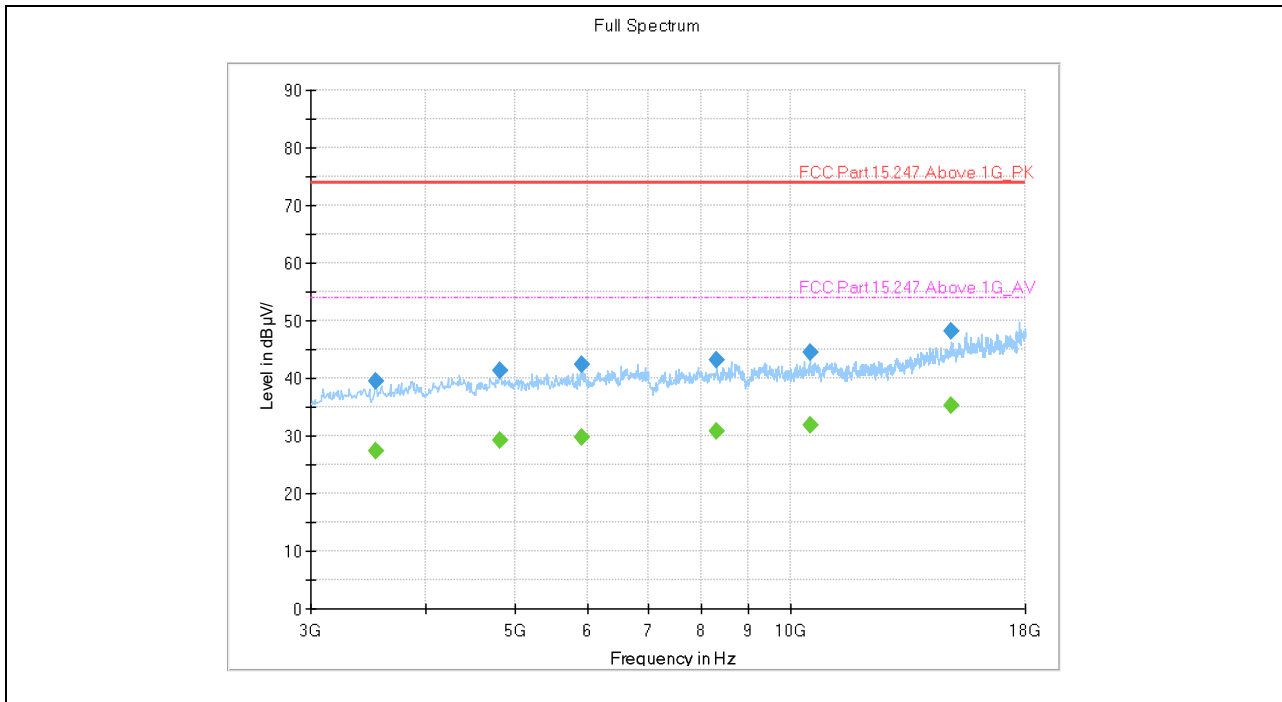
(LE Code _2480MHz, Antenna Vertical, 30MHz to 1GHz)

Frequency (MHz)	MaxPeak (dBµV/m)	QuasiPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Pol	Corr. (dB/m)
42.205833	22.76	---	40.00	17.24	V	15.1
102.790417	21.78	---	43.50	21.72	V	14.5
136.780833	21.17	---	43.50	22.33	V	11.1
229.658333	23.50	---	46.00	22.50	V	14.4
512.292083	27.13	---	46.00	18.87	V	22.0
772.898750	31.92	---	46.00	14.08	V	26.1



(LE Code _2480MHz, Antenna Vertical , 1GHz to 3GHz)

Frequency (MHz)	MaxPeak (dBµV/m)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Pol	Corr. (dB/m)
1240.000000	---	24.67	54.00	29.33	V	-0.9
1240.000000	34.30	---	74.00	39.70	V	-0.9
1545.000000	37.70	---	74.00	36.30	V	2.8
1545.000000	---	27.67	54.00	26.33	V	2.8
1895.000000	---	29.68	54.00	24.32	V	6.1
1895.000000	40.21	---	74.00	33.79	V	6.1
2165.000000	---	31.61	54.00	22.39	V	8.5
2165.000000	41.68	---	74.00	32.32	V	8.5
2705.000000	46.45	---	74.00	27.55	V	14.5
2705.000000	---	36.59	54.00	17.41	V	14.5
3000.000000	---	41.02	54.00	12.98	V	18.4
3000.000000	51.38	---	74.00	22.62	V	18.4



(LE Code _2480MHz, Antenna Vertical, 3GHz to 18GHz)

Frequency (MHz)	MaxPeak (dBµV/m)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Pol	Corr. (dB/m)
3532.500000	39.51	---	74.00	34.49	V	-6.3
3532.500000	---	27.37	54.00	26.63	V	-6.3
4822.500000	41.40	---	74.00	32.60	V	-3.2
4822.500000	---	29.25	54.00	24.75	V	-3.2
5925.000000	---	29.77	54.00	24.23	V	-1.9
5925.000000	42.33	---	74.00	31.67	V	-1.9
8295.000000	---	30.79	54.00	23.21	V	1.0
8295.000000	43.17	---	74.00	30.83	V	1.0
10485.000000	44.37	---	74.00	29.63	V	2.7
10485.000000	---	31.90	54.00	22.10	V	2.7
14970.000000	48.11	---	74.00	25.89	V	10.0
14970.000000	---	35.37	54.00	18.63	V	10.0



Annex A Test Uncertainty

Where relevant, the following measurement uncertainty levels have been estimated for test performed on the EUT as specified in CISPR 16-1-2:

Test items	Uncertainty
Peak Output Power	$\pm 2.22\text{dB}$
Power spectral density (PSD)	$\pm 2.22\text{dB}$
Bandwidth	$\pm 5\%$
Conducted Spurious Emission	$\pm 2.77\text{ dB}$
Restricted Frequency Bands	$\pm 5\%$
Radiated Emission	$\pm 3.1\text{dB}$
Conducted Emission	$\pm 1.8\text{dB}$

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



Annex B Testing Laboratory Information

1. Identification of the Responsible Testing Laboratory

Company Name:	Kehu-Morlab Test Laboratory
Address:	Unit 101, No.1732 Gangzhong Road, Xiamen Area, Pilot Free Trade Zone (Fujian), P.R. China
Responsible Test Lab Manager:	Mr. Di Dehai
Telephone:	+86-592-5612050
Facsimile:	+86-592-5612095

2. Identification of the Responsible Testing Location

Name:	Kehu-Morlab Test Laboratory
Address:	Unit 101, No.1732 Gangzhong Road, Xiamen Area, Pilot Free Trade Zone (Fujian), P.R. China

3. Facilities and Accreditations

All measurement facilities used to collect the measurement data are located at Unit 101, No.1732 Gangzhong Road, Xiamen Area, Pilot Free Trade Zone (Fujian), P.R. China.

The test site is constructed in conformance with the requirements of ANSI C63.10-2013 and CISPR Publication 22; the FCC designation number is CN1249.

4. Test Equipments Utilized

4.1 Conducted Test Equipments

No	Equipment Name	Serial No.	Model No.	Manufacturer	Cal.Date	Cal.Due Date
1	MXA Signal Analyzer	MY53421845	N9020A	Keysight	2019.01.05	2020.01.04
2	RF cable (30MHz-26.5GHz)	RF01	N/A	Morlab	2019.01.05	2020.01.04
3	Coaxial cable	RF02	N/A	Morlab	2019.01.05	2020.01.04
4	SMA connector	RF03	N/A	Xingbo	2019.01.05	2020.01.04

Software Version: Eagle 2.0



4.2 Conducted Emission Test Equipments

No	Equipment Name	Serial No.	Model No.	Manufacturer	Cal.Date	Cal.Due Date
1	EMI Receiver	102174	ESR3	ESR3	2019.01.08	2020.01.07
2	LISN	101338	ENV432	ENV432	2019.01.14	2020.01.13
3	Pulse Limiter (10dB)	317	VTSD 9561 F	VTSD 9561 F	2019.01.14	2020.01.13
4	Coaxial cable(BNC) (30MHz-3GHz)	EMC01	N/A	Morlab	2019.01.14	2020.01.13

4.3 List of Software Used

No	Model	Version Number	Producer	Test Item
1	EMC32	V10.00.00	Rode&Schwarz	RE
2	EMC32	V10.20.01	Rode&Schwarz	CE

4.4 Radiated Test Equipments

RSE Test System						
No.	Equipment Name	Serial No.	Model No.	Manufacturer	Cal. Date	Cal.Due Date
1	Anechoic Chamber	N/A	9m*6m*6m	ETS-Lindgren	2017.07.21	2020.07.20
2	Signal Analyzer	101294	FSV40	R&S	2019.01.04	2020.01.03
3	Active Ring Antenna	FMZB 1513 #269	FMZB 1513	Schwarzbeck	2019.01.12	2020.01.11
4	Linear Log Periodic Broad Band Antenna	949	VULB 9163	Schwarzbeck	2018.09.25	2019.09.24
5	Ultra-Wideband Horn Antenna	102615	HF907	R&S	2019.01.19	2020.01.18
6	Steatite Antennas	17868	QSH-SL-1 8-26-S-20	Seibersdorf	2019.01.12	2020.01.11
7	RF Switch and Control Platform	N/A	RSC	CDSI	N/A	N/A
8	Coaxial cable (N male) (9kHz -3GHz)	EMC02	N/A	Morlab	2019.01.04	2020.01.03
9	Coaxial cable (N male) (9kHz -3GHz)	EMC03	N/A	Morlab	2019.01.04	2020.01.03



10	Coaxial cable (N male) (1GHz-26.5GHz)	EMC04	N/A	Morlab	2019.01.04	2020.01.03
11	Coaxial cable (N male) (1GHz-26.5GHz)	EMC05	N/A	Morlab	2019.01.04	2020.01.03
12	Pre-amplifier (1GHz-18GHz)	8810011	PAP-1G18	CDSI	2019.01.04	2020.01.03
13	Pre-amplifier (18GHz-40GHz)	17021-17024	PAP-1840	CDSI	2018.07.05	2019.07.04
14	Band stop Filter	EMC19	BJF2400/2 485-60	CDSI	2019.01.04	2020.01.03
15	High Pass Filter	EMC22	HFP-3.0/1 8G-60	CDSI	2019.01.04	2020.01.03

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