



Test report No:
2640417R.703B

FCC TEST REPORT

Product Name	Barcode Scanner
Model and /or type reference	8680ic
Trademark	Honeywell
FCC ID	HD5-8680IC
Applicant's name / address	HONEYWELL INTERNATIONAL INC 9680 OLD BAILES RD FORT MILL SC 29707.USA
Test method requested, standard	47 CFR FCC Part 15 (Section 15.247) ANSI C63.10: 2020
Verdict Summary	IN COMPLIANCE
Documented by (name / position & signature)	Reyn Chen / Supervisor 
Approved by (name / position & signature)	Well Wei / Manager 
Date of issue	2026-06-05
Report Version	V1.0
Report template No	Template_FCC Part 15C-RF-V1.0

INDEX

	page
General conditions	4
Environmental conditions	5
Possible test case verdicts	5
Abbreviations.....	5
Document History.....	6
Remarks and Comments	6
Used Equipment.....	7
Uncertainty	9
1 General Information	10
1.1 General Description of the Item(s).....	10
1.2 Channel List.....	11
2 Description of Test Setup.....	12
2.1 Auxiliary equipment /Accessories/Test software for the EUT	12
2.2 Power setting in test	13
3 Verdict summary section.....	14
3.1 Standards	14
3.2 Deviation(s) from the Standard(s) / Test Specification(s).....	14
3.3 Overview of results	15
3.4 Test Facility.....	16
4 Test Items Of Limit/Setup/Procedure.....	17
4.1 DTS Bandwidth.....	17
4.1.1 Limit	17
4.1.2 Test Setup	17
4.1.3 Test Procedure	17
4.2 Occupied Channel Bandwidth	18
4.2.1 Limit	18
4.2.2 Test Setup	18
4.2.3 Test Procedure	18
4.3 Maximum Conducted Output Power.....	19
4.3.1 Limit	19
4.3.2 Test Setup	19
4.3.3 Test Procedure	20
4.4 Maximum Power Spectral Density.....	21

4.4.1	Limit	21
4.4.2	Test Setup	21
4.4.3	Test Procedure	21
4.5	Band Edge Measurements	22
4.5.1	Limit	22
4.5.2	Test Setup	22
4.5.3	Test Procedure	22
4.6	Conducted Spurious Emission	23
4.6.1	Limit	23
4.6.2	Test Setup	23
4.6.3	Test Procedure	23
4.7	Duty cycle	24
4.7.1	Limit	24
4.7.2	Test Setup	24
4.7.3	Test Procedure	24
4.8	Emissions in Restricted Bands	25
4.8.1	Limit	25
4.8.2	Test Setup	27
4.8.3	Test Procedure	28
4.9	AC Power Line Conducted Emission.....	29
4.9.1	Limit	29
4.9.2	Test Setup	29
4.9.3	Test Procedure	29
4.10	Antenna Requirement.....	30
4.10.1	Limit:	30
4.10.2	Antenna Connector Construction:	30
5	Test setup photo and EUT Photo	31
6	Test Result	32
	Appendix A: DTS Bandwidth.....	32
	Appendix B: Maximum conducted output power	35
	Appendix C: Maximum power spectral density.....	36
	Appendix D: Band edge measurements	39
	Appendix E: Conducted Spurious Emission	55
	Appendix F: Duty Cycle	66
	Appendix G: Emissions in Restricted Bands	69
	Appendix H: AC Power Line Conducted Emission	83

COMPETENCES AND GUARANTEES

DEKRA is a testing laboratory competent to carry out the tests described in this report.

In order to assure the traceability to other national and international laboratories, DEKRA has a calibration and maintenance program for its measurement equipment.

DEKRA guarantees the reliability of the data presented in this report, which is the result of the measurements and the tests performed to the item under test on the date and under the conditions stated in the report and it is based on the knowledge and technical facilities available at DEKRA at the time of performance of the test.

DEKRA is liable to the client for the maintenance of the confidentiality of all information related to the item under test and the results of the test.

The results presented in this Test Report apply only to the particular item under test established in this document.

IMPORTANT: No parts of this report may be reproduced or quoted out of context, in any form or by any means, except in full, without the previous written permission of DEKRA.

GENERAL CONDITIONS

Test Location	Room 101, 1st floor, No.7 building, Smart Science Park Phase 5, No. 8213, Fanhua Avenue, Economic and Technological Development District, Hefei, Anhui Province, 230091, China
Date(receive sample)	Apr. 16, 2026
Date (start test)	Apr. 17, 2026
Date (finish test)	May. 08, 2026

1. This report is only referred to the item that has undergone the test.
2. This report does not constitute or imply on its own an approval of the product by the Certification Bodies or Competent Authorities.
3. This document is only valid if complete; no partial reproduction can be made without previous written permission of DEKRA.
4. This test report cannot be used partially or in full for publicity and/or promotional purposes without previous written permission of DEKRA.

ENVIRONMENTAL CONDITIONS

The climatic conditions during the tests are within the limits specified by the manufacturer for the operation of the EUT and the test equipment. The climatic conditions during the tests were within the following limits:

Ambient temperature	15 °C – 35 °C
Relative Humidity air	30% - 60%

If explicitly required in the basic standard or applied product / product family standard the climatic values are recorded and documented separately in this test report.

POSSIBLE TEST CASE VERDICTS

Test case does not apply to test object	N/A
Test object does meet requirement	P (Pass) / PASS
Test object does not meet requirement	F (Fail) / FAIL
Not measured	N/M

ABBREVIATIONS

For the purposes of the present document, the following abbreviations apply:

EUT	: Equipment Under Test
QP	: Quasi-Peak
CAV	: CISPR Average
AV	: Average
CDN	: Coupling Decoupling Network
SAC	: Semi-Anechoic Chamber
OATS	: Open Area Test Site
BW	: Bandwidth
AM	: Amplitude Modulation
PM	: Pulse Modulation
HCP	: Horizontal Coupling Plane
VCP	: Vertical Coupling Plane
U_N	: Nominal voltage
Tx	: Transmitter
Rx	: Receiver
N/A	: Not Applicable
N/M	: Not Measured

DOCUMENT HISTORY

Report No.	Version	Description	Issued Date
2640417R.703B	V1.0	Initial issue of report.	2026-06-05

REMARKS AND COMMENTS

1. The equipment under test (EUT) does meet the essential requirements of the stated standard(s)/test(s).
2. These test results on a sample of the device are for the purpose of demonstrating Compliance with 47 CFR FCC Part 15 (Section 15.247).
3. The measurement result is considered in conformance with the requirement if it is within the prescribed limit, It is not necessary to account the uncertainty associated with the measurement result.
4. The test results presented in this report relate only to the object tested.
5. The test report shall not be reproduced without the written approval of DEKRA Testing and Certification (Suzhou) Co., Ltd.
6. This report will not be used for social proof function in China market.
7. DEKRA declines any responsibility with the following test data provided by customer that may affect the validity of result:
 - Chapter 1.1 General Description of the Item(s);
 - Chapter 1.2 Channel List.

USED EQUIPMENT

Conducted Test/ SR103

Equipment	Manufacturer	Model No.	Inventory No.	Cal Date	Cal Due Date	Firmware Version	Software Version
Wideband Radio Communication Tester	R&S	CMW 500	163864	2025.06.01	2026.05.31	V 4.0.60	N/A
Signal Generator	R&S	SMR 20	100654	2025.05.22	2026.05.21	N/A	N/A
MAX Signal Analyzer	Keysight	N9010A	MY55370495	2025.09.14	2026.09.13	A.14.03	N/A
Signal analyzer	R&S	FSV	101920	2025.05.12	2026.05.11	V3.6	N/A
Signal analyzer	R&S	FSV	101920	2026.05.07	2027.05.06	V3.6	N/A
RF Control Unit	Tonscend	JS0806-2	22G8060594	2025.06.16	2026.06.15	N/A	N/A
Frequency extender for EXG or MXG	Keysight	N5182BX07	MY59362500	2025.06.12	2026.06.11	N/A	N/A
MXG-B RF Vector Signal Generator	Keysight	N5182B	MY61252529	2025.06.12	2026.06.11	N/A	N/A
Test Software	Tonscend	TS1120	JS1120-3	N/A	N/A	N/A	V3.0.22
Cable	Yongyi	SFT205-SMSM-1M	512140-0013	2025.11.15	2026.11.14	N/A	N/A
Temperature/Humidity Meter	RITERS	RTS-8S	022	2025.08.25	2026.8.24	N/A	N/A

Radiated Emission(9KHz-1GHz) / AC102

Instrument	Manufacturer	Model No.	Serial No.	Cal. Date	Next Cal. Date	Firmware Version	Software version
semi-anechoic chamber	Maorui	9m*6m*6m	AC102	2023.08.23	2026.08.22	N/A	N/A
Bilog Antenna	TESEQ	CBL6112D	57867	2025.05.21	2026.05.20	N/A	N/A
Bilog Antenna	TESEQ	CBL6112D	57867	2026.05.11	2027.05.10	N/A	N/A
Loop Antenna	R&S	HFH2-Z2E	101181	2025.10.24	2026.10.23	N/A	N/A
EMI test receiver	R&S	ESR7	102753	2025.05.19	2026.05.18	V3.66SP1	
Temperature/ Humidity Meter	RTS-8S	RTS-8S	013	2025.08.29	2026.08.28	N/A	N/A
Temperature/ Humidity Meter	RTS-8S	RTS-8S	015	2025.08.25	2026.08.24	N/A	N/A
Dekra test software	Dekra	N/A	N/A	N/A	N/A	N/A	3

Radiated Emission (1GHz-40GHz) / AC103

Equipment	Manufacturer	Model No.	Inventory No.	Cal Date	Cal Due Date	Firmware Version	Software Version
Fully-anechoic chamber	Maorui	9m*6m*6m	AC103	2023.08.23	2026.08.22	N/A	N/A
MAX Signal Analyzer	Keysight	N9020B	MY63490118	2025.08.08	2026.08.07	A35.06	N/A
Horn Antenna	RF SPIN	DRH18-E	KV2D11A18ES	2025.10.19	2026.10.18	N/A	N/A
Low Noise Amplifier	Tonscend	TAP01018048S	AP23J8060307	2025.10.17	2026.10.16	N/A	N/A
Broad-Band Horn Antenna	Schwarzbeck	BBHA9170	01312	2025.10.18	2026.10.17	N/A	N/A
Low Noise Amplifier	ESE	LNA1840	LNA23070301	2025.10.17	2026.10.16	N/A	N/A
Temperature/Humidity Meter	RITERS	RTS-8S	029	2025.08.25	2026.08.24	N/A	N/A
Temperature/Humidity Meter	RITERS	RTS-8S	010	2025.08.25	2026.08.24	N/A	N/A
Test Software	Tonscend	J536	JS36-RSE	N/A	N/A	N/A	5.0.0

AC Power Line Conducted Emission / SR104

Equipment	Manufacturer	Model No.	Inventory No.	Cal Date	Cal Due Date	Firmware Version	Software Version
Shielded room	Maorui	9m*4m*4m	SR104	2023.08.23	2026.08.22	N/A	N/A
V-network	R&S	ENV216	101516	2025.05.19	2026.05.18	N/A	N/A
V-network	R&S	ENV216	101516	2026.05.10	2027.05.09	N/A	N/A
EMI test receiver	R&S	ESR3	103140	2025.05.18	2026.05.17	N/A	N/A
EMI test receiver	R&S	ESR3	103140	2026.05.08	2027.05.07	N/A	N/A
V-LISN	R&S	ENV4200	100748	2026.05.10	2027.05.09	N/A	N/A
cable	R&S	N/A	213	2026.05.10	2027.05.09	N/A	N/A
Dekra test software	Dekra	N/A	N/A	N/A	N/A	N/A	3

UNCERTAINTY

Uncertainties have been calculated according to the DEKRA internal document. The reported expanded uncertainties are based on a standard uncertainty multiplied by a coverage factor of $k=2$, providing a level of confidence of approximately 95% .

Test item	Uncertainty
AC Power Line Conducted Emission	9kHz~150kHz: 2.8 dB 150kHz~30MHz: 2.4 dB
Power Output	± 1.3 dB
Radiated Emission(30MHz~1GHz)	Horizontal: 30MHz~300MHz: 3.5 dB, 300MHz~1GHz: 3.6 dB Vertical: 30MHz~300MHz: 3.6 dB, 300MHz~1GHz: 3.5 dB
Radiated Emission(1GHz~40GHz)	Horizontal: 1GHz~40GHz: 5.0 dB Vertical: 1GHz~40GHz: 4.8 dB
RF antenna conducted test	± 1.3 dB
Radiated Emission Band Edge	± 3.9 dB
DTS Bandwidth	± 1.0 kHz
Occupied Bandwidth	± 1.0 kHz
Power Density	± 1.3 dB

1 GENERAL INFORMATION

1.1 General Description of the Item(s)

Product Name:	Barcode Scanner					
Model Name:	8680ic					
Trademark.:	Honeywell					
FCC ID:	HD5-8680IC					
Power Supply:	Input: 5Vdc 1A, Battery:3.60Vdc					
Hardware Version:	N/A					
Software Version:	N/A					
Manufacturer:	HONEYWELL INTERNATIONAL INC					
Manufacturer Address:	9680 OLD BAILES RD FORT MILL SC 29707.USA					
Test Matrix/ IMEI:	RF Conducted	#1				
	RSE	#2				
Wireless specification:	Bluetooth (LE)					
Operating frequency range(s):	2402~2480MHz					
Type of Modulation:	GFSK					
PHYs:	☒	LE 1M	☒	LE 2M	☐	LE Coded S=2/8
Data Rate:	☒	1Mbit/s	☒	2Mbit/s	☐	500/125 Kbit/s
Antenna Type:	Internal Antenna					
Antenna Gain:	4.30dBi					

Remark:

As above information is provided and confirmed by the applicant. DEKRA is not liable to the accuracy, suitability, reliability or/and integrity of the information.

1.2 Channel List

Bluetooth Working Frequency of Each Channel:							
Channel	Frequency	Channel	Frequency	Channel	Frequency	Channel	Frequency
00	2402 MHz	01	2404 MHz	02	2406 MHz	03	2408 MHz
04	2410 MHz	05	2412 MHz	06	2414 MHz	07	2416 MHz
08	2418 MHz	09	2420 MHz	10	2422 MHz	11	2424 MHz
12	2426 MHz	13	2428 MHz	14	2430 MHz	15	2432 MHz
16	2434 MHz	17	2436 MHz	18	2438 MHz	19	2440 MHz
20	2442 MHz	21	2444 MHz	22	2446 MHz	23	2448 MHz
24	2450 MHz	25	2452 MHz	26	2454 MHz	27	2456 MHz
28	2458 MHz	29	2460 MHz	30	2462 MHz	31	2464 MHz
32	2466 MHz	33	2468 MHz	34	2470 MHz	35	2472 MHz
36	2474 MHz	37	2476 MHz	38	2478 MHz	39	2480 MHz

Note: The General Description of the Item, Channel List in clause 1 are provided and confirmed by the client.

2 DESCRIPTION OF TEST SETUP

2.1 Auxiliary equipment /Accessories/Test software for the EUT

Auxiliary equipment	Type / Version	Manufacturer	Supplied by
(1) Notebook	Think pad x220	Lenovo	Adapter
(2) USB Control Cable	N/A	N/A	N/A
(3) USB Control Cable	N/A	N/A	N/A
software	Type / Version		
Putty	N/A		

Accessories Information	Cable		
	Length used during test [m]	Attached during test	Shielded
(2)USB Control Cable	1	☒	☒
(3)USB Control Cable	8	☒	☒

2.2 Power setting in test

Mode	Channel	Frequency (MHz)	Power setting
LE_1M	00	2402	default
	19	2440	default
	39	2480	default
LE_2M	00	2402	default
	19	2440	default
	39	2480	default

3 VERDICT SUMMARY SECTION

This chapter presents an overview of standards and results. Refer to the next chapters for details of measured test results and applied test levels.

3.1 Standards

Standard	Year	Description
CFR 47, FCC Part 15 C	2024	Operation within the bands 902–928 MHz, 2400–2483.5 MHz, and 5725–5850 MHz.
ANSI C63.10	2020	American National Standard of Procedures for Compliance Testing of Unlicensed Wireless Devices

3.2 Deviation(s) from the Standard(s) / Test Specification(s)

The following deviation(s) was / were made from the published requirements of the listed standards: N/A.
(Please define the deviations from the standard(s) if applicable)

3.3 Overview of results

Requirement – Test Item of FCC	Standard(s)	Verdict	Remark
DTS Bandwidth	FCC 15.247(a)(2)	PASS	Test data please refer to Appendix A
Maximum conducted output power	15.247 (b)(3)	PASS	Test data please refer to Appendix B
Maximum power spectral density	FCC 15.247(e)	PASS	Test data please refer to Appendix C
Band edge measurements	FCC 15.247(d) FCC 15.205 FCC 15.209	PASS	Test data please refer to Appendix D
Conducted Spurious Emission	FCC 15.247(d), FCC 15.209	PASS	Test data please refer to Appendix E
Duty cycle	ANSI C63.10:2020	PASS	Test data please refer to Appendix F
Emissions in Restricted Bands	FCC 15.205 FCC 15.209	PASS	Test data please refer to Appendix G
AC Power Line Conducted Emission	FCC 15.207	PASS	Test data please refer to Appendix H
Antenna Requirement	FCC 15.203	PASS	---
Note: The radiation measurement is pre tested under X, Y, and Z axis positioning to find the worst placement for final testing.			

3.4 Test Facility

Tset Location : FCC Designation Number: CN1321

4 TEST ITEMS OF LIMIT/SETUP/PROCEDURE

4.1 DTS Bandwidth

VERDICT: PASS

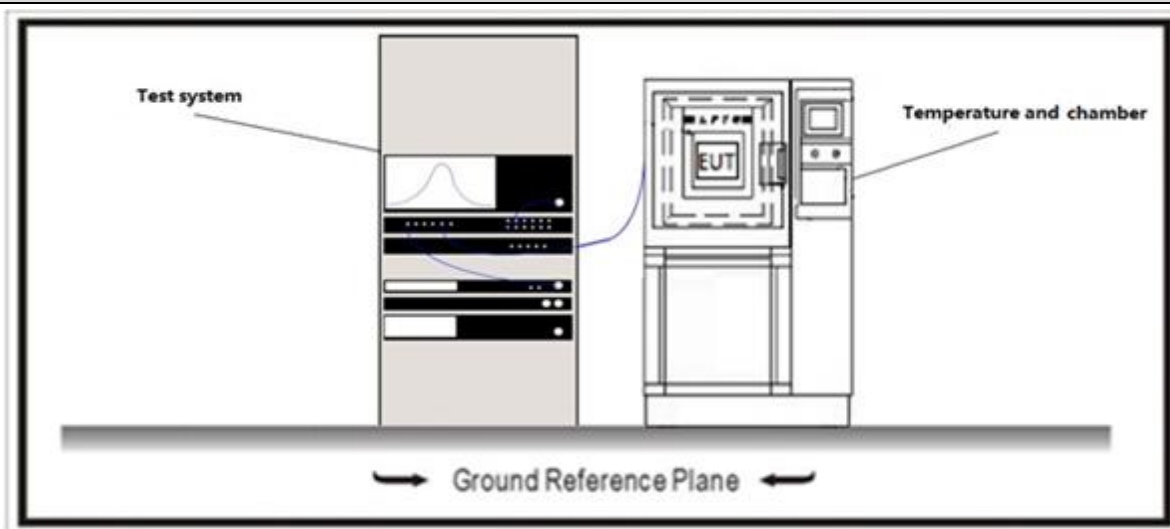
4.1.1 Limit

Standard

FCC Part 15 Subpart C Paragraph 15.247 (a)(2);

Systems using digital modulation techniques operate in the 2400-2483.5 MHz. The minimum 6 dB bandwidth shall be at least 500 kHz

4.1.2 Test Setup



4.1.3 Test Procedure

	Reference Rule	Chapter	Description
☒	ANSI C63.10	11.8	DTS bandwidth
☐	ANSI C63.10	11.8.1	Option 1
☒	ANSI C63.10	11.8.2	Option 2

4.2 Occupied Channel Bandwidth

VERDICT: PASS

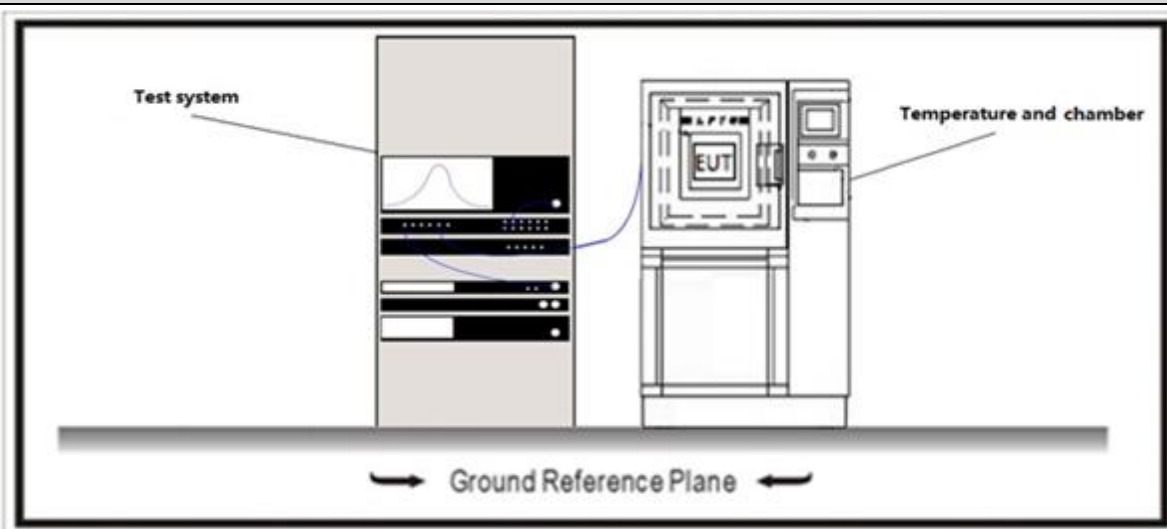
4.2.1 Limit

Standard

RSS-Gen Issue 5 Paragraph 6.7

The occupied bandwidth or the “99% emission bandwidth” is defined as the frequency range between two points, one above and the other below the carrier frequency, within which 99% of the total transmitted power of the fundamental transmitted emission is contained. The occupied bandwidth shall be reported for all equipment in addition to the specified bandwidth required in the applicable RSSs

4.2.2 Test Setup



4.2.3 Test Procedure

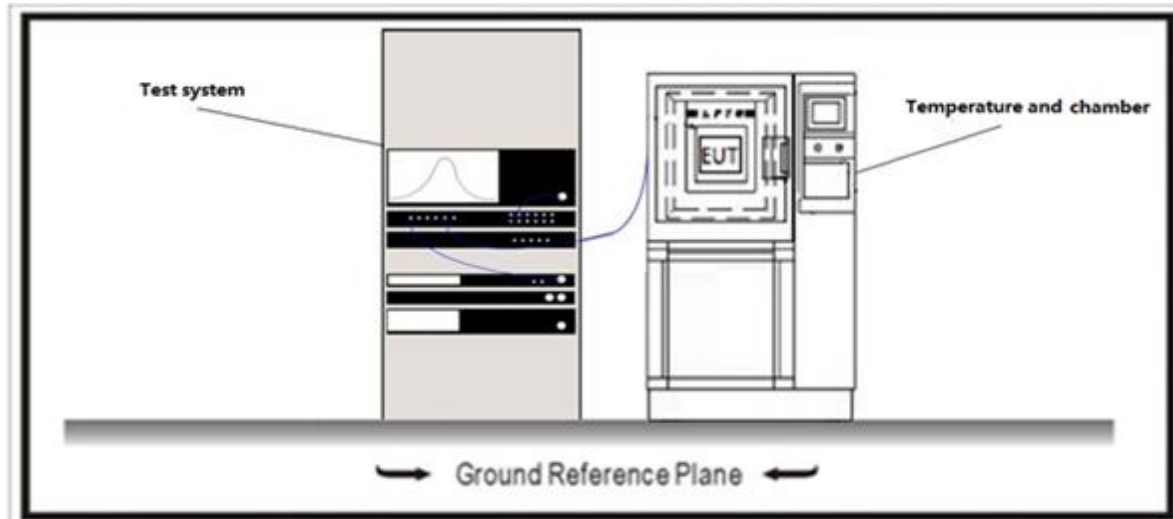
	Reference Rule	Chapter	Description
☒	ANSI C63.10	6.9	Occupied bandwidth tests
☐	ANSI C63.10	6.9.2	Option 1
☒	ANSI C63.10	6.9.3	Option 2

4.3 Maximum Conducted Output Power**VERDICT: PASS****4.3.1 Limit**

Standard		FCC Part 15 Subpart C Paragraph 15.247 (b)(3);
☒	GTX < 6dBi	Pout ≤ 30dBm
☐	GTX > 6dBi	
☐	Non-Fix point-point	Pout ≤ 30 - (GTX - 6)
☐	Fix point-point	Pout ≤ 30 - [(GTX - 6)]/3
☐	Point-to-multipoint	Pout ≤ 30 - (GTX - 6)
☐	Overlap Beams	Pout ≤ 30 - [(GTX - 6)]/3
☐	Aggregate power transmitted simultaneously on all beams	Pout ≤ 30 - [(GTX - 6)]/3
☐	single directional beam	Pout ≤ 30 - [(GTX - 6)]/3 + 8dB

Note 1 : GTX directional gain of transmitting antennas.

Note 2 : Pout is maximum peak conducted output power .

4.3.2 Test Setup

4.3.3 Test Procedure

	References Rule			Chapter	Description		
☒	ANSI C63.10			11.9	Fundamental emission output power		
	☒	ANSI C63.10			11.9.1	Maximum peak conducted output power	
	☐	☐	ANSI C63.10	11.9.1.1	RBW ≥ DTS bandwidth		
		☐	ANSI C63.10	11.9.1.2	Integrated band power method		
		☐	ANSI C63.10	11.9.1.3	PKPM1 Peak power meter method		
	☐	ANSI C63.10			11.9.2	Maximum conducted (average) output power	
	☐	☐	ANSI C63.10			11.9.2.2	Measurement using a spectrum analyzer (SA)
		☐	☐	ANSI C63.10	11.9.2.2.2	Method AVGSA-1(Duty cycle ≥98%)	
			☐	ANSI C63.10	11.9.2.2.3	Method AVGSA-1A(Duty cycle ≥98%)	
			☐	ANSI C63.10	11.9.2.2.4	Method AVGSA-2(Duty cycle ≤98%)	
			☐	ANSI C63.10	11.9.2.2.5	Method AVGSA-2A(Duty cycle ≤98%)	
			☐	ANSI C63.10	11.9.2.2.4	Method AVGSA-3	
			☐	ANSI C63.10	11.9.2.2.5	Method AVGSA-3A	
		☐	ANSI C63.10			11.9.2.3	Measurement using a power meter (PM)
	☐	☒	ANSI C63.10	11.9.2.3.1	Method AVGPM		
		☐	ANSI C63.10	11.9.2.3.2	Method AVGPM-G		

4.4 Maximum Power Spectral Density

VERDICT: PASS

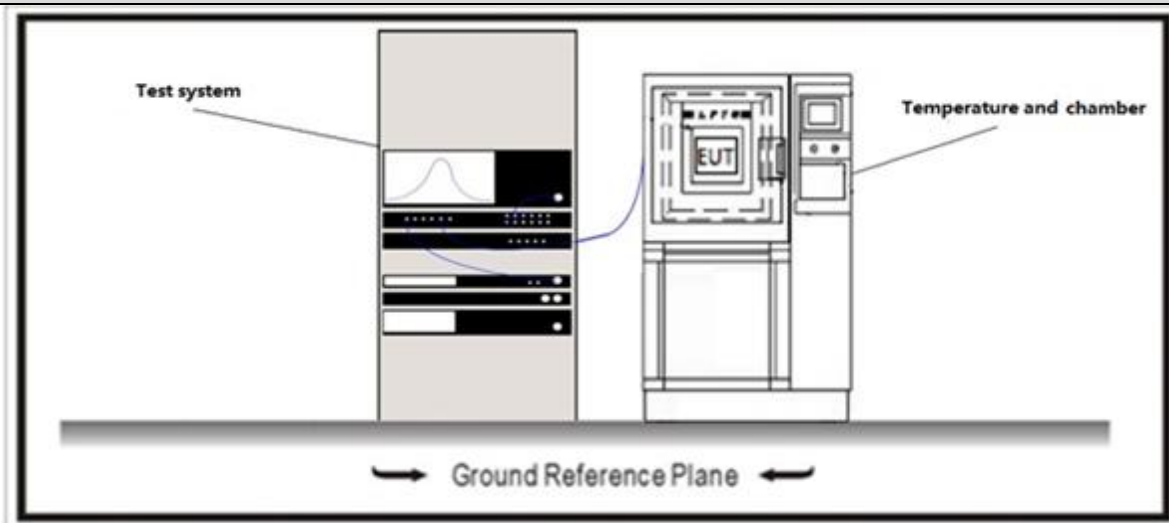
4.4.1 Limit

Standard

FCC Part 15 Subpart C Paragraph 15.247 (b)(3);

Power Spectral Density $\leq 8\text{dBm}/3\text{kHz}$

4.4.2 Test Setup



4.4.3 Test Procedure

	References Rule		Chapter	Description
☒	ANSI C63.10		11.10	Maximum power spectral density level in the fundamental emission
	☒	ANSI C63.10	11.10.2	Method PKPSD (peak PSD)
	☐	ANSI C63.10	11.10.3	Method AVGPSD-1(Duty cycle $\geq 98\%$)
	☐	ANSI C63.10	11.10.4	Method AVGPSD-1A(Duty cycle $\geq 98\%$)
	☐	ANSI C63.10	11.10.5	Method AVGPSD-2(Duty cycle $< 98\%$)
	☐	ANSI C63.10	11.10.6	Method AVGPSD-2A(Duty cycle $< 98\%$)
	☐	ANSI C63.10	11.10.7	Method AVGPSD-3
	☐	ANSI C63.10	11.10.8	Method AVGPSD-3A

4.5 Band Edge Measurements

VERDICT: PASS

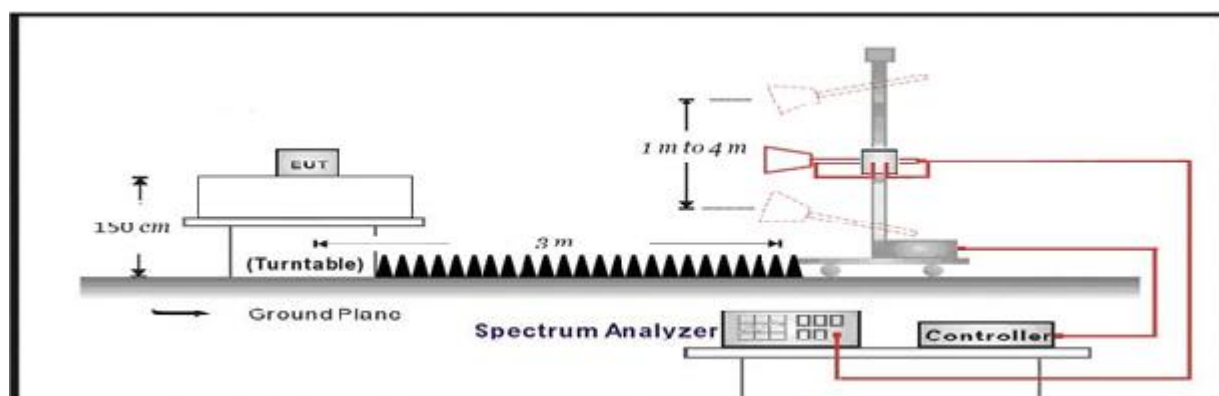
4.5.1 Limit

Standard		FCC Part 15 Subpart C Paragraph 15.247(d) , 15.209;		
Frequency bands (MHz)	Detector	Limit (dB μ V/m)	RBW (MHz)	Distance (m)
2310-2390	PK	74	1	3
2483.5-2500	AV	54	1	3

Note: The field strength of emissions appearing within these frequency bands shall not exceed the limits.

4.5.2 Test Setup

Above 1GHz Test Setup:



4.5.3 Test Procedure

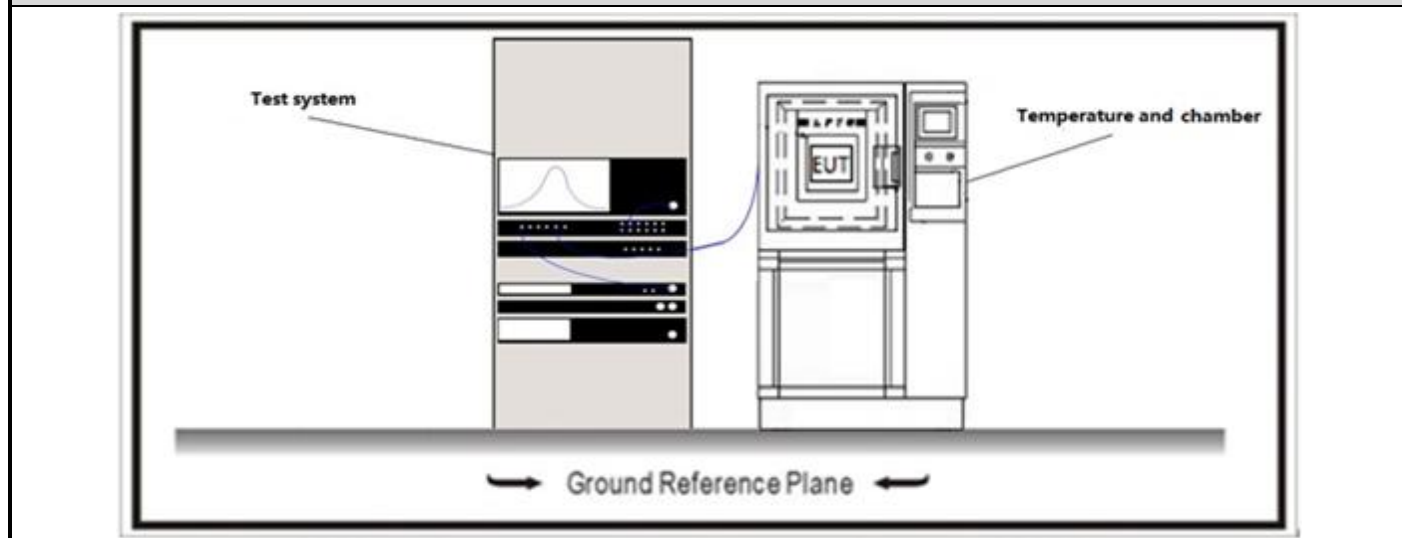
	References Rule	Chapter	Description
☒	ANSI C63.10	6.10	Band-edge testing
☒	ANSI C63.10	6.10.5	Restricted-band band-edge measurements
☐	ANSI C63.10	6.10.6	Marker-delta method
☒	ANSI C63.10	11.12	Emissions in restricted frequency bands
☒	ANSI C63.10	11.12.1	Radiated emission measurements
☒	ANSI C63.10	11.12.2.7	Radiated spurious emission test
☐	ANSI C63.10	6.4	Radiated emissions from unlicensed wireless devices below 30 MHz
☐	ANSI C63.10	6.5	Radiated emissions from unlicensed wireless devices in the frequency range of 30 MHz to 1000 MHz
☒	ANSI C63.10	6.6	Radiated emissions from unlicensed wireless devices above 1 GHz

4.6 Conducted Spurious Emission**VERDICT: PASS****4.6.1 Limit**

Standard	FCC Part 15 Subpart C Paragraph 15.247(d);
RF Output power (Detection methods)	Limit(dB)
RF Output power(Average detector)	30dBc(Note1)
RF Output power(PK detector)	20dBc(Note2)

Note 1: If maximum conducted (average) output power was used to demonstrate compliance as described in 9.2, then the peak power in any 100 kHz bandwidth outside of the authorized frequency band shall be attenuated by at least 30 dB relative to the maximum in-band peak PSD level in 100 kHz (i.e., 30 dBc).

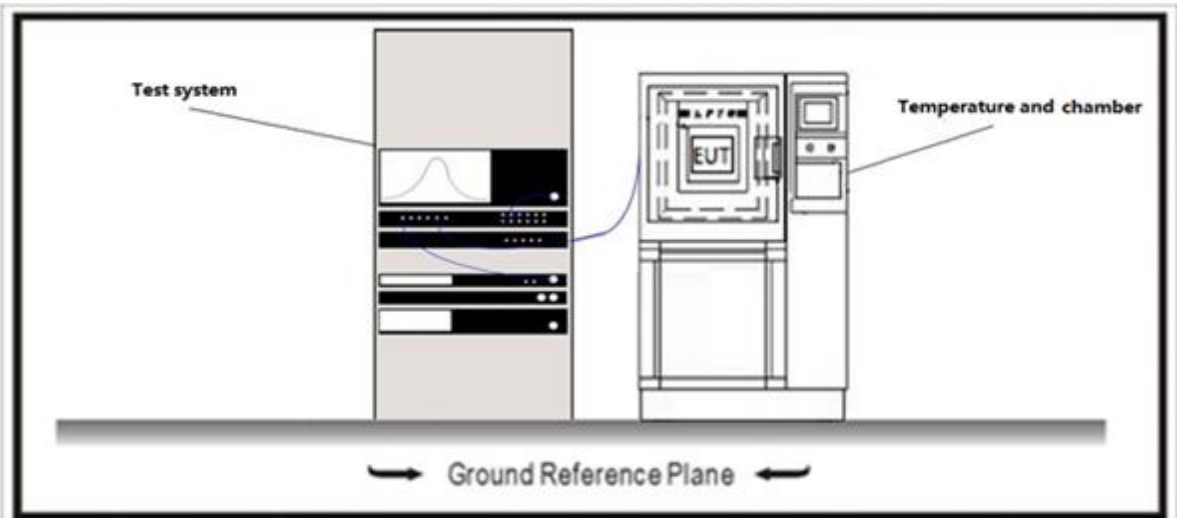
Note 2: If the maximum peak conducted output power procedure was used, then the peak output power measured in any 100 kHz bandwidth outside of the authorized frequency band shall be attenuated by at least 20 dB relative to the maximum in-band peak PSD level in 100 kHz (i.e., 20 dBc).

4.6.2 Test Setup**4.6.3 Test Procedure**

References Rule	Chapter	Description
☒ ANSI C63.10	11.11	Emissions in non-restricted frequency bands
☒ ANSI C63.10	11.11.1	General
☒ ANSI C63.10	11.11.2	Reference level measurement
☒ ANSI C63.10	11.11.3	Emission level measurement

4.7 Duty cycle	VERDICT: PASS
----------------	---------------

4.7.1 Limit
N/A

4.7.2 Test Setup


4.7.3 Test Procedure			
References Rule		Chapter	Description
☒	ANSI C63.10	11.6	Duty cycle (D), transmission duration (T), and maximum power control level

4.8 Emissions in Restricted Bands**VERDICT: PASS****4.8.1 Limit****Standard**

FCC Part 15 Subpart C Paragraph 15.205

Restricted Bands of operation

Frequency (MHz)	Frequency (MHz)	Frequency (MHz)	Frequency (GHz)
0.090 – 0.110	16.42 – 16.423	399.9 – 410	4.5 – 5.15
0.495 – 0.505	16.69475 – 16.69525	608 – 614	5.35 – 5.46
2.1735 – 2.1905	16.80425 – 16.80475	960 – 1240	7.25 – 7.75
4.125 – 4.128	25.5 – 25.67	1300 – 1427	8.025 – 8.5
4.17725 – 4.17775	37.5 – 38.25	1435 – 1626.5	9.0 – 9.2
4.20725 – 4.20775	73 – 74.6	1645.5 – 1646.5	9.3 – 9.5
6.215 – 6.218	74.8 – 75.2	1660 – 1710	10.6 – 12.7
6.26775 – 6.26825	108 – 121.94	1718.8 – 1722.2	13.25 – 13.4
6.31175 – 6.31225	123 – 138	2200 – 2300	14.47 – 14.5
8.291 – 8.294	149.9 – 150.05	2310 – 2390	15.35 – 16.2
8.362 – 8.366	156.52475 – 156.52525	2483.5 – 2500	17.7 – 21.4
8.37625 – 8.38675	156.7 – 156.9	2690 – 2900	22.01 – 23.12
8.81425 – 8.81475	162.0125 – 167.17	3260 – 3267	23.6 – 24.0
12.29 – 12.293	167.72 – 173.2	3332 – 3339	31.2 – 31.8
12.51975–12.52025	240 – 285	3345.8 – 3358	36.43 – 36.5
12.57675–12.57725	322 – 335.4	3600 – 4400	
13.36 – 13.41			

Restricted Band Emissions Limit

FCC Part 15 Subpart C Paragraph 15.209

Frequency (MHz)	Field strength (μV/m)	Field strength (dBμV/m)	Measurement distance (m)
0.009 - 0.49	2400/F(kHz)	48.5 – 13.8	300 _(Note 1)
0.49 - 1.705	24000/F(kHz)	33.8 - 23	30 _(Note 1)
1.705 - 30	30	29.5	30 _(Note 1)
30 - 88	100	40	3 _(Note 2)
88 - 216	150	43.5	3 _(Note 2)
216 - 960	200	46	3 _(Note 2)
Above 960	500	54	3 _(Note 2)

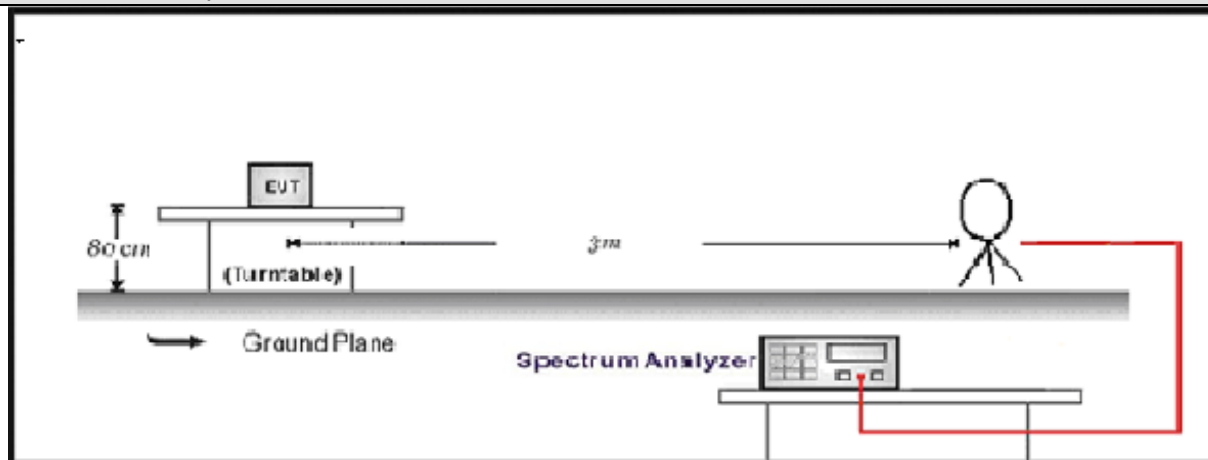
Note 1: At frequencies below 30 MHz, measurements may be performed at a distance closer than that specified in the regulations; however, an attempt should be made to avoid making measurements in the near field. Pending the development of an appropriate measurement procedure for measurements performed below 30 MHz, when performing measurements at a closer distance than specified, the results shall be extrapolated to the specified distance by either making measurements at a minimum of two distances on at least one radial to determine the proper extrapolation factor or by using the square of an inverse linear distance extrapolation factor (40 dB/decade).

Note 2: At frequencies at or above 30 MHz, measurements may be performed at a distance other than what is specified provided: measurements are not made in the near field except where it can be shown that near field measurements are appropriate due to the characteristics of the device; and it can be demonstrated that the signal levels needed to be measured at the distance employed can be detected by the measurement equipment. Measurements shall not be

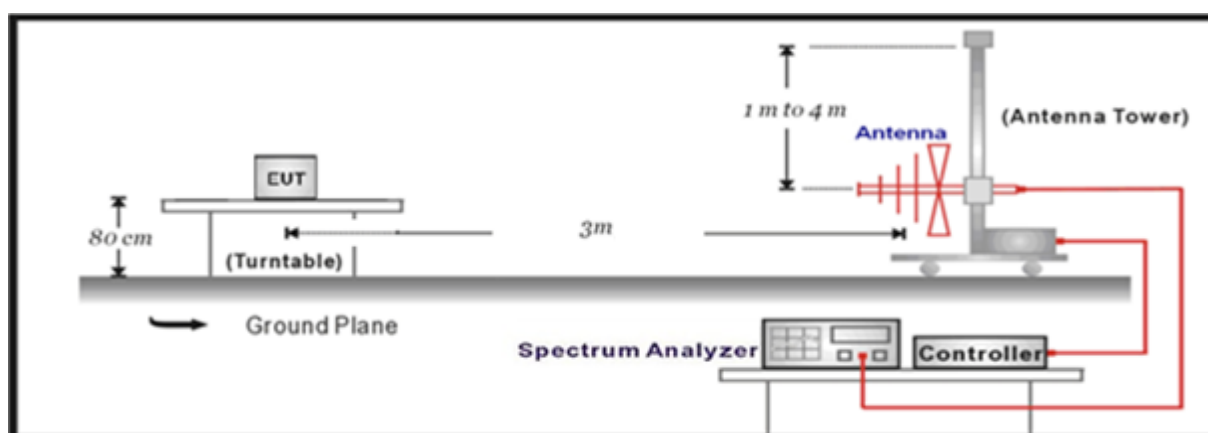
performed at a distance greater than 30 meters unless it can be further demonstrated that measurements at a distance of 30 meters or less are impractical. When performing measurements at a distance other than that specified, the results shall be extrapolated to the specified distance using an extrapolation factor of 20 dB/decade (inverse linear-distance for field strength measurements; inverse-linear-distance-squared for power density measurements).

4.8.2 Test Setup

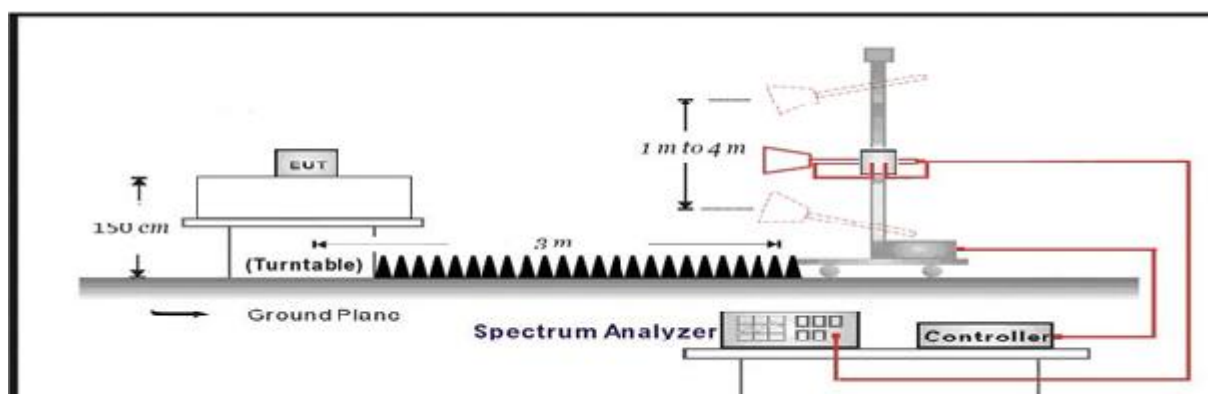
Below 30MHz Test Setup:



30MHz-1GHz Test Setup:



Above 1GHz Test Setup:



4.8.3 Test Procedure

	References Rule		Chapter	Description
☒	ANSI C63.10		11.12	Emissions in restricted frequency bands
	☒	ANSI C63.10	11.12.1	Radiated emission measurements
	☒	ANSI C63.10	11.12.2.7	Radiated spurious emission test
	☒	ANSI C63.10	6.4	Radiated emissions from unlicensed wireless devices below 30 MHz
	☒	ANSI C63.10	6.5	Radiated emissions from unlicensed wireless devices in the frequency range of 30 MHz to 1000 MHz
	☒	ANSI C63.10	6.6	Radiated emissions from unlicensed wireless devices above 1 GHz

4.9 AC Power Line Conducted Emission

VERDICT: PASS

4.9.1 Limit

Standard	FCC Part 15 Subpart C Paragraph 15.207 ;	
Frequency range [MHz]	Limit: QP [dB(μV) ¹⁾]	Limit: AV [dB(μV) ¹⁾]
0,15 - 0,50	66 - 56 ²⁾	56 - 46 ²⁾
0,50 - 5,0	56	46
5,0 - 30	60	50

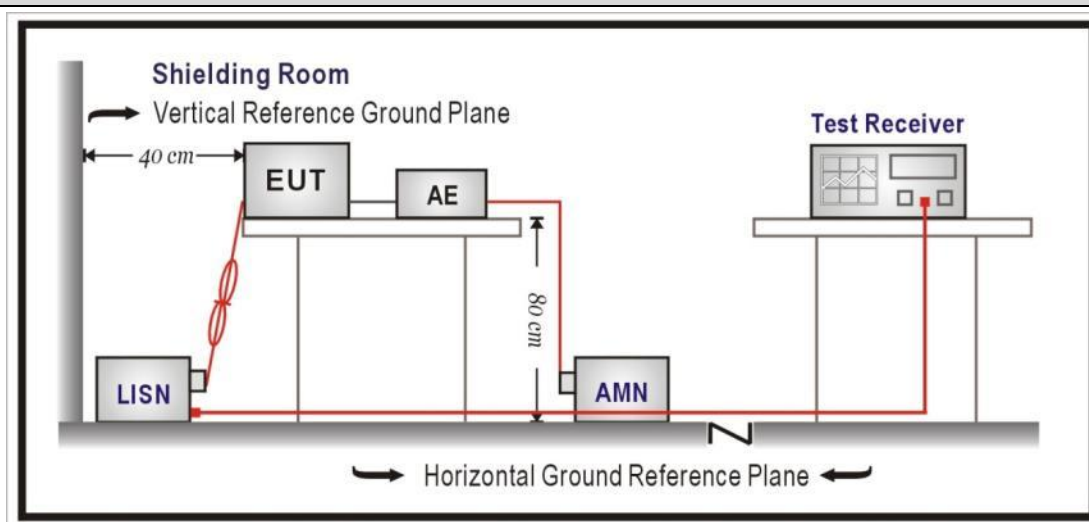
¹⁾ At the transition frequency, the lower limit applies.

²⁾ The limit decreases linearly with the logarithm of the frequency.

NOTE 1: The exclusion band for transmitters shall be considered for transmitters operating at frequencies below 30 MHz.

NOTE 2: Where the AC output port is directly connected (or via a circuit breaker) to the AC power input port of the EUT the AC power output port need not to be tested.

4.9.2 Test Setup



4.9.3 Test Procedure

	References Rule	Chapter	Item
☒	ANSI C63.10	6.2	Standard test method for ac power-line conducted emissions from unlicensed wireless devices

4.10 Antenna Requirement**VERDICT: PASS****4.10.1 Limit:****Standard**

FCC Part 15 Subpart C Paragraph 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. The manufacturer may design the unit so that a broken antenna can be replaced by the user, but the use of a standard antenna jack or electrical connector is prohibited. This requirement does not apply to carrier current devices or to devices operated under the provisions of §15.211, §15.213, §15.217, §15.219, or §15.221. Further, this requirement does not apply to intentional radiators that must be professionally installed, such as perimeter protection systems and some field disturbance sensors, or to other intentional radiators which, in accordance with §15.31(d), must be measured at the installation site. However, the installer shall be responsible for ensuring that the proper antenna is employed so that the limits in this part are not exceeded.

4.10.2 Antenna Connector Construction:

The use of a permanently attached antenna



The antenna use of a unique coupling to the intentional radiator



The use of a nonstandard antenna jack or electrical connector

Please refer to the attached document "Internal Photograph" to show the antenna connector.

5 TEST SETUP PHOTO AND EUT PHOTO

Remark: The test setup photo and EUT Photo please see appendix.

6 TEST RESULT

Appendix A: DTS Bandwidth

TestMode	Antenna	Frequency[MHz]	DTS BW [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
BLE_1M	Ant1	2402	0.676	2401.668	2402.344	0.5	PASS
BLE_1M	Ant1	2440	0.696	2439.652	2440.348	0.5	PASS
BLE_1M	Ant1	2480	0.668	2479.656	2480.324	0.5	PASS
BLE_2M	Ant1	2402	1.228	2401.368	2402.596	0.5	PASS
BLE_2M	Ant1	2440	1.224	2439.372	2440.596	0.5	PASS
BLE_2M	Ant1	2480	1.204	2479.332	2480.536	0.5	PASS



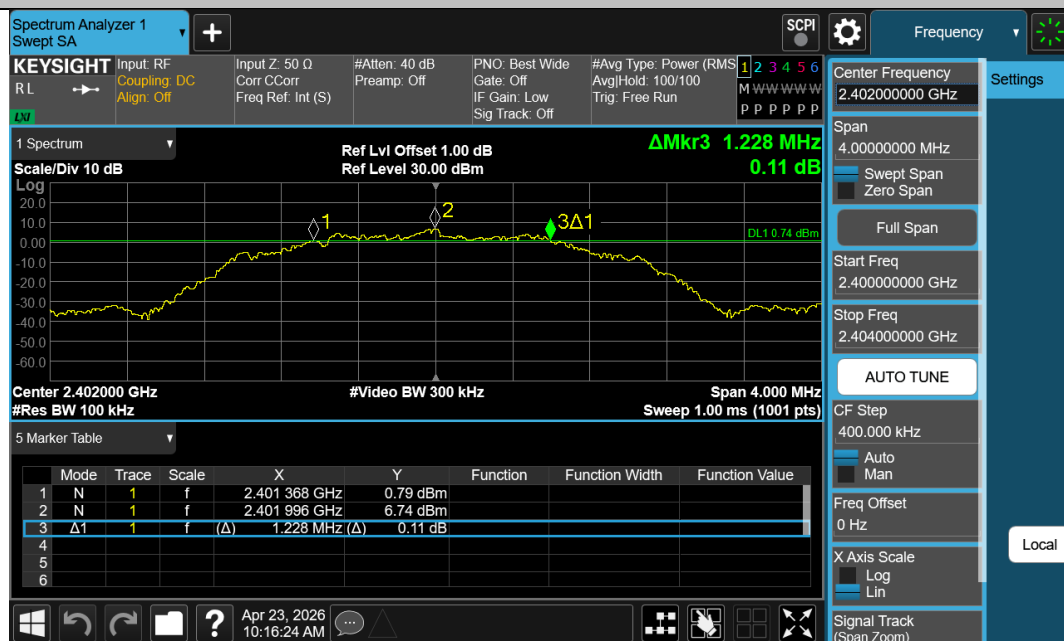
BLE 1M-Ant1-2402-PASS



BLE 1M-Ant1-2440-PASS



BLE_1M-Ant1-2480-PASS



BLE_2M-Ant1-2402-PASS



BLE_2M-Ant1-2440-PASS



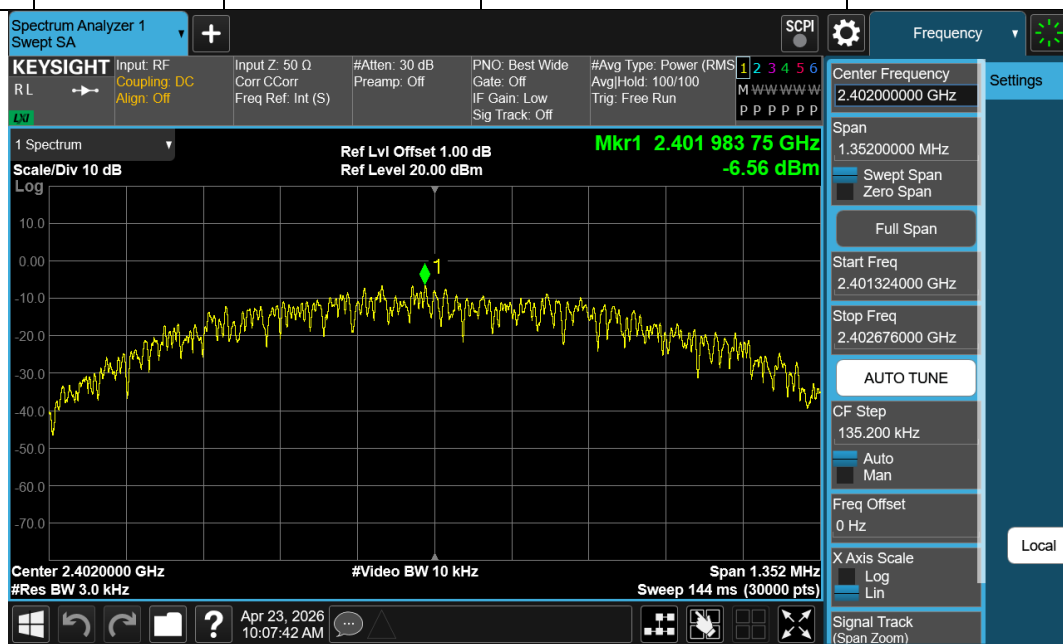
BLE_2M-Ant1-2480-PASS

Appendix B: Maximum conducted output power

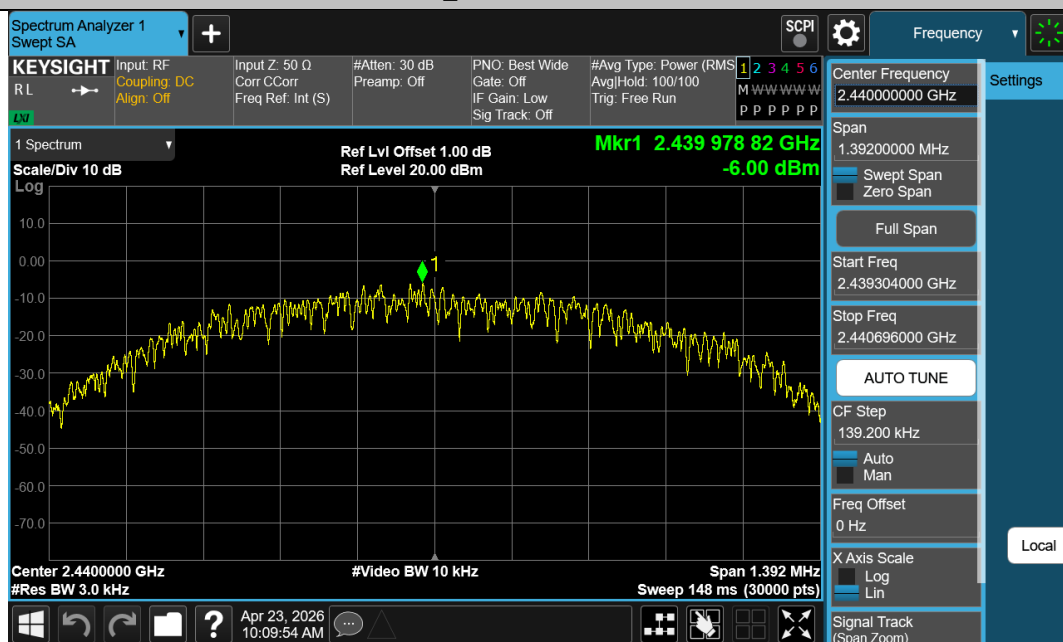
Test Mode	Frequency (MHz)	Measured Power (dBm)	Conducted Limit[dBm]
LE_1M	2402	8.04	≤ 30
	2440	8.35	≤ 30
	2480	8.56	≤ 30
LE_2M	2402	8.14	≤ 30
	2440	8.58	≤ 30
	2480	8.75	≤ 30

Appendix C: Maximum power spectral density

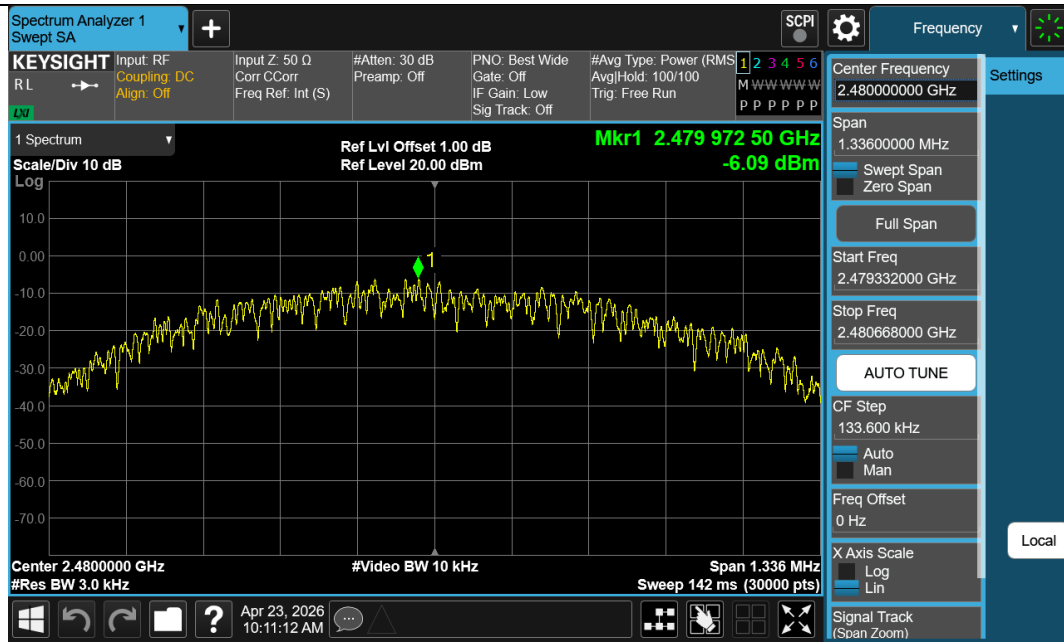
TestMode	Antenna	Frequency[MHz]	Result[dBm/3kHz]	Limit[dBm/3kHz]	Verdict
BLE_1M	Ant1	2402	-6.56	≤8.00	PASS
BLE_1M	Ant1	2440	-6.00	≤8.00	PASS
BLE_1M	Ant1	2480	-6.09	≤8.00	PASS
BLE_2M	Ant1	2402	-9.23	≤8.00	PASS
BLE_2M	Ant1	2440	-8.73	≤8.00	PASS
BLE_2M	Ant1	2480	-8.57	≤8.00	PASS



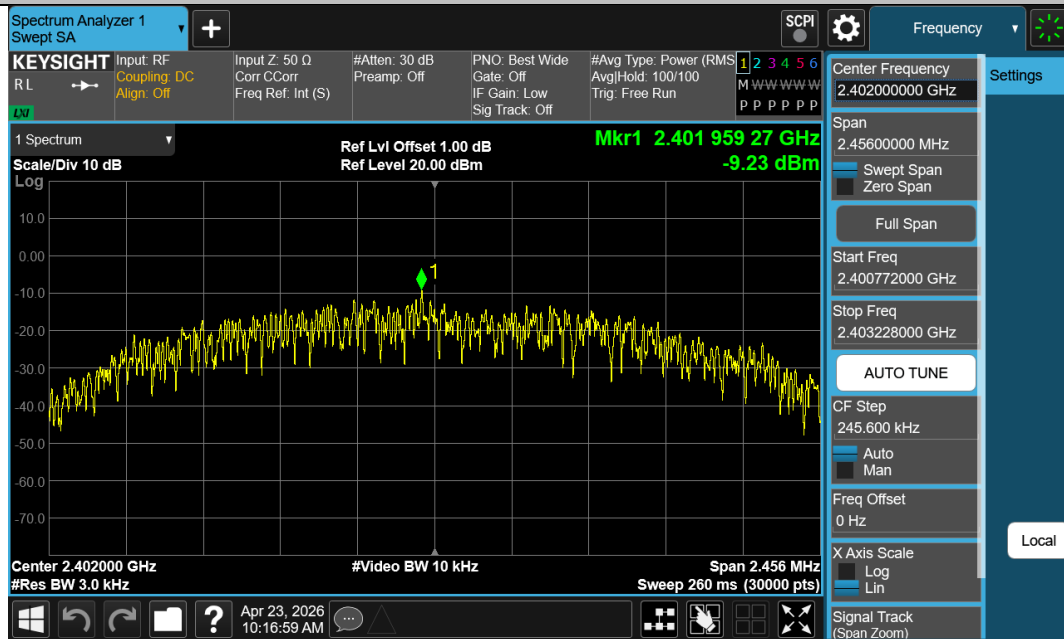
BLE_1M-Ant1-2402-PASS



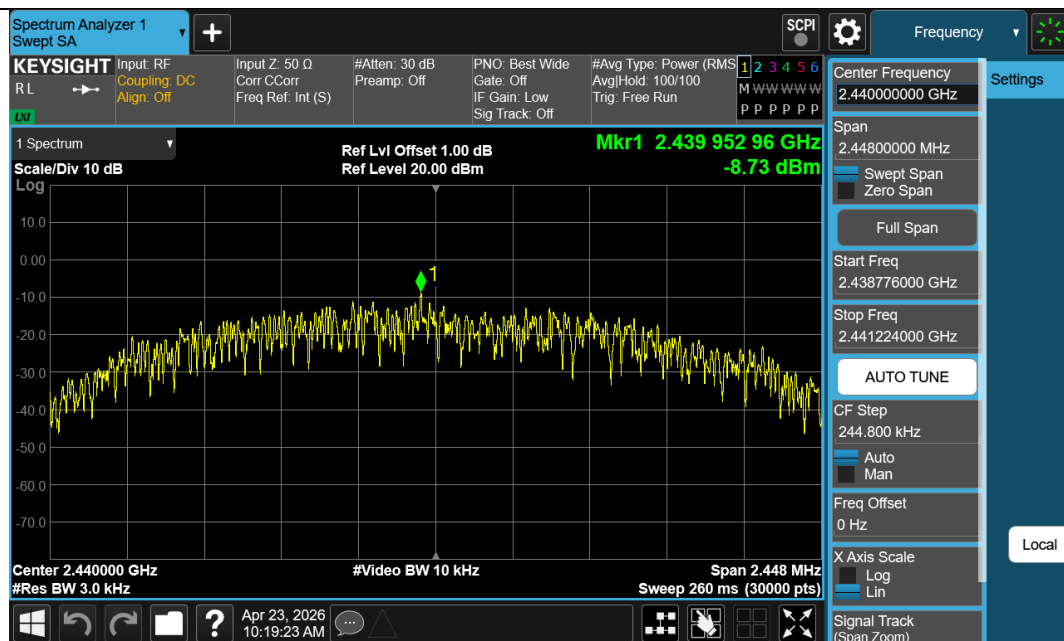
BLE_1M-Ant1-2440-PASS



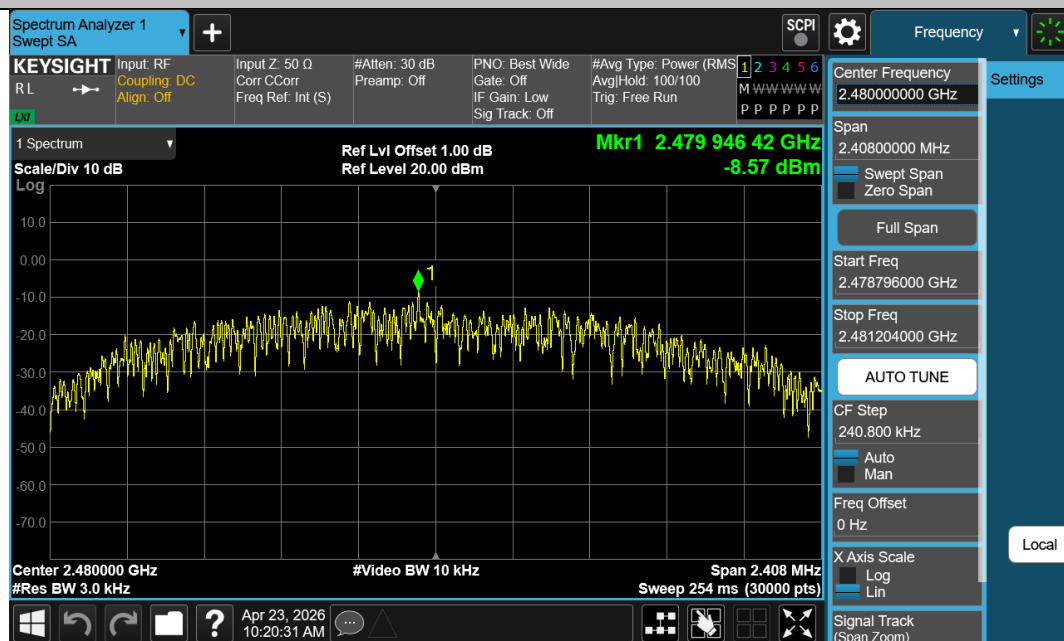
BLE_1M-Ant1-2480-PASS



BLE_2M-Ant1-2402-PASS



BLE_2M-Ant1-2440-PASS

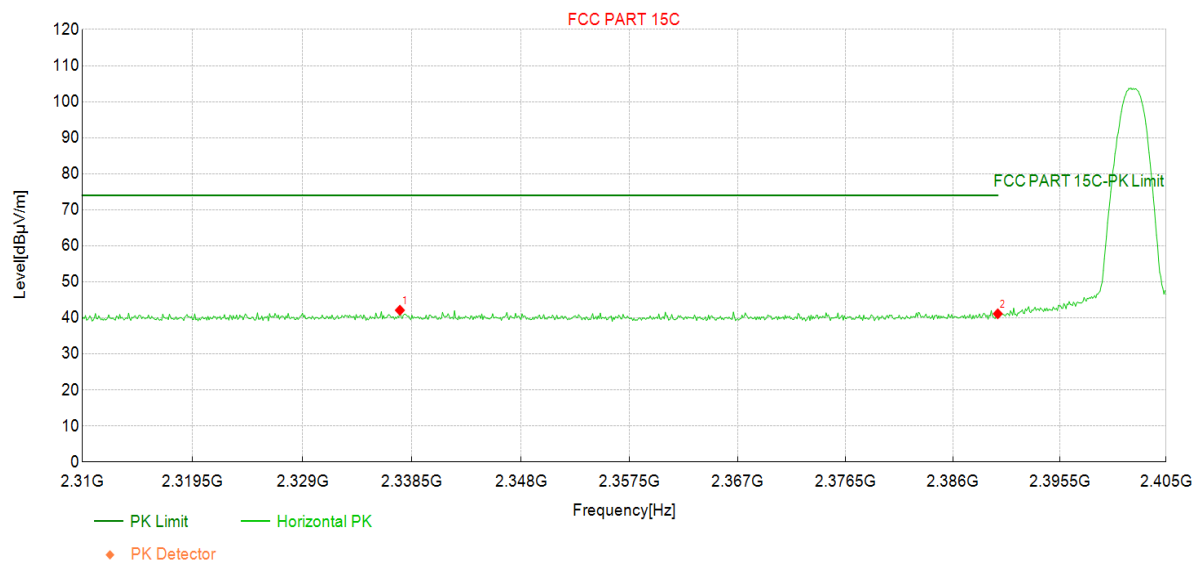


BLE_2M-Ant1-2480-PASS

Appendix D: Band edge measurements

Transmit at 2402MHz by LE_1Mbps

Test Graph

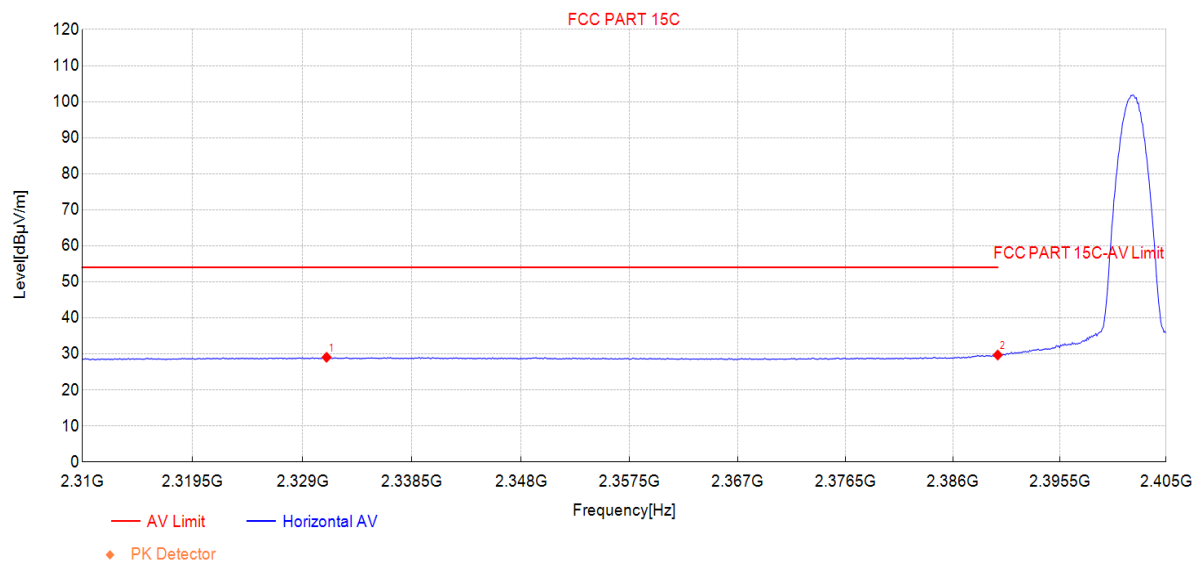


Data List

NO	Frequency [MHz]	Reading [dBμV]	Level [dBμV/m]	Factor [dB/m]	Limit [dBμV/m]	Margin [dB]	Det	Pol	Verdict
1	2337.46	42.3	42.12	-0.150	74.00	31.88	PK	Horizo	PASS
2	2390.00	41.2	41.14	-0.090	74.00	32.86	PK	Horizo	PASS

Transmit at 2402MHz by LE_1Mbps

Test Graph

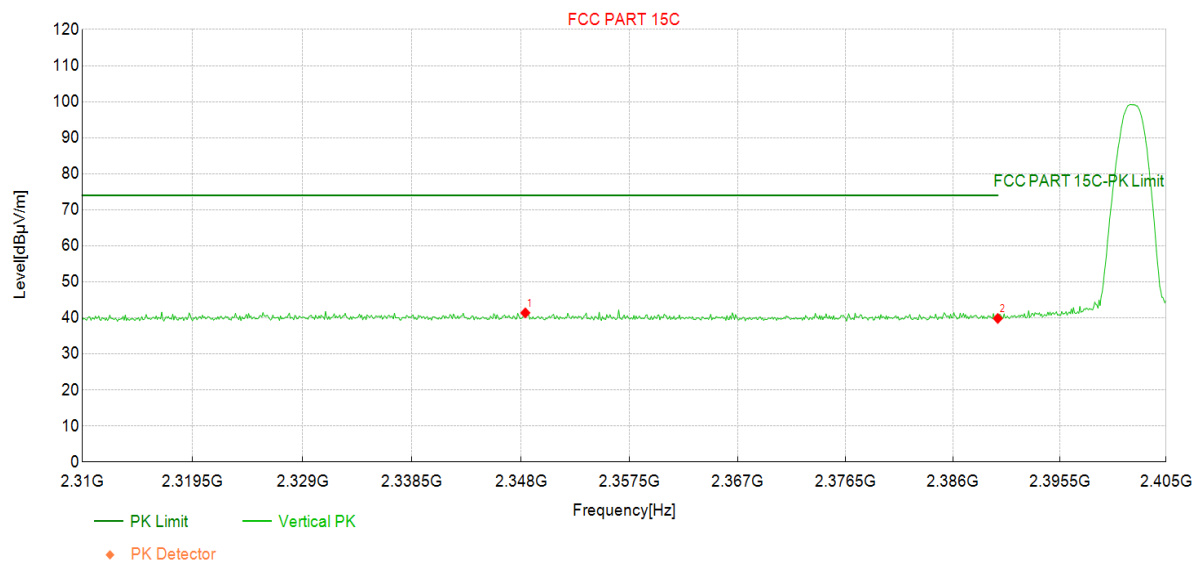


Data List

NO	Frequency [MHz]	Reading [dBμV]	Level [dBμV/m]	Factor [dB/m]	Limit [dBμV/m]	Margin [dB]	Det	Pol	Verdict
1	2331.09	29.2	29.07	-0.170	54.00	24.93	AV	Horizo	PASS
2	2390.00	29.8	29.70	-0.090	54.00	24.30	AV	Horizo	PASS

Transmit at 2402MHz by LE_1Mbps

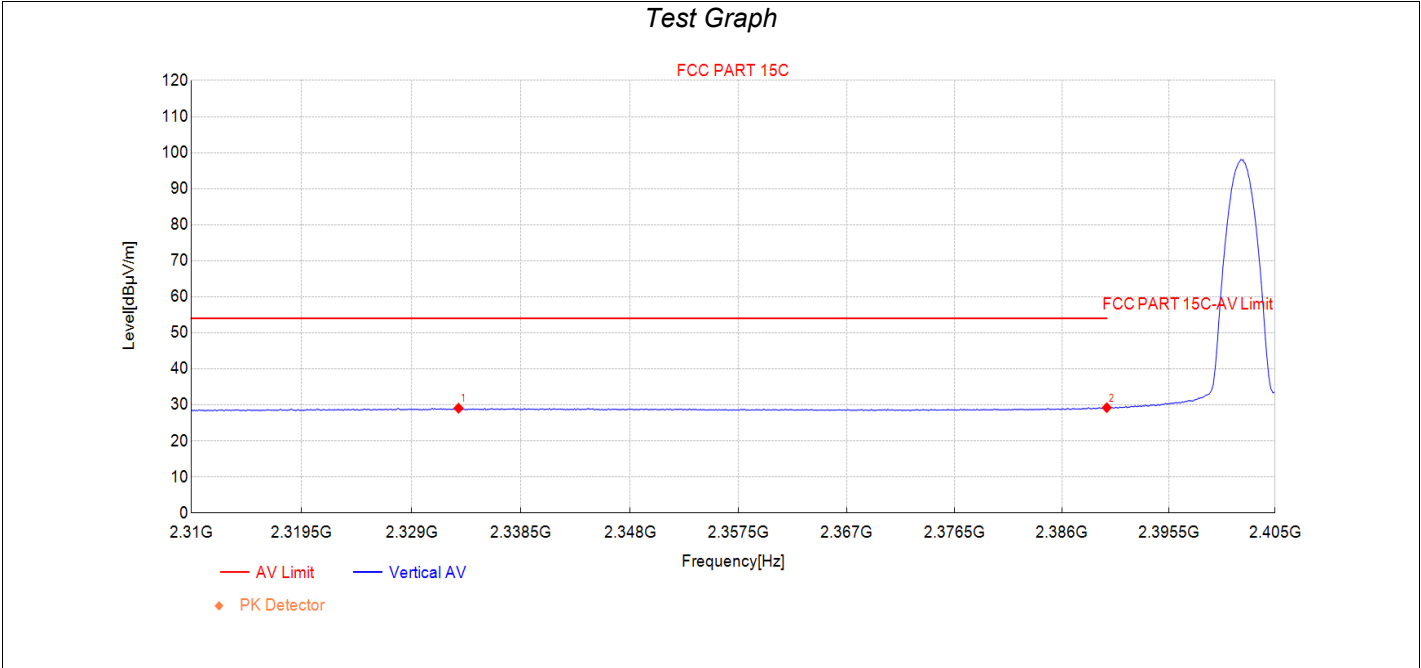
Test Graph



Data List

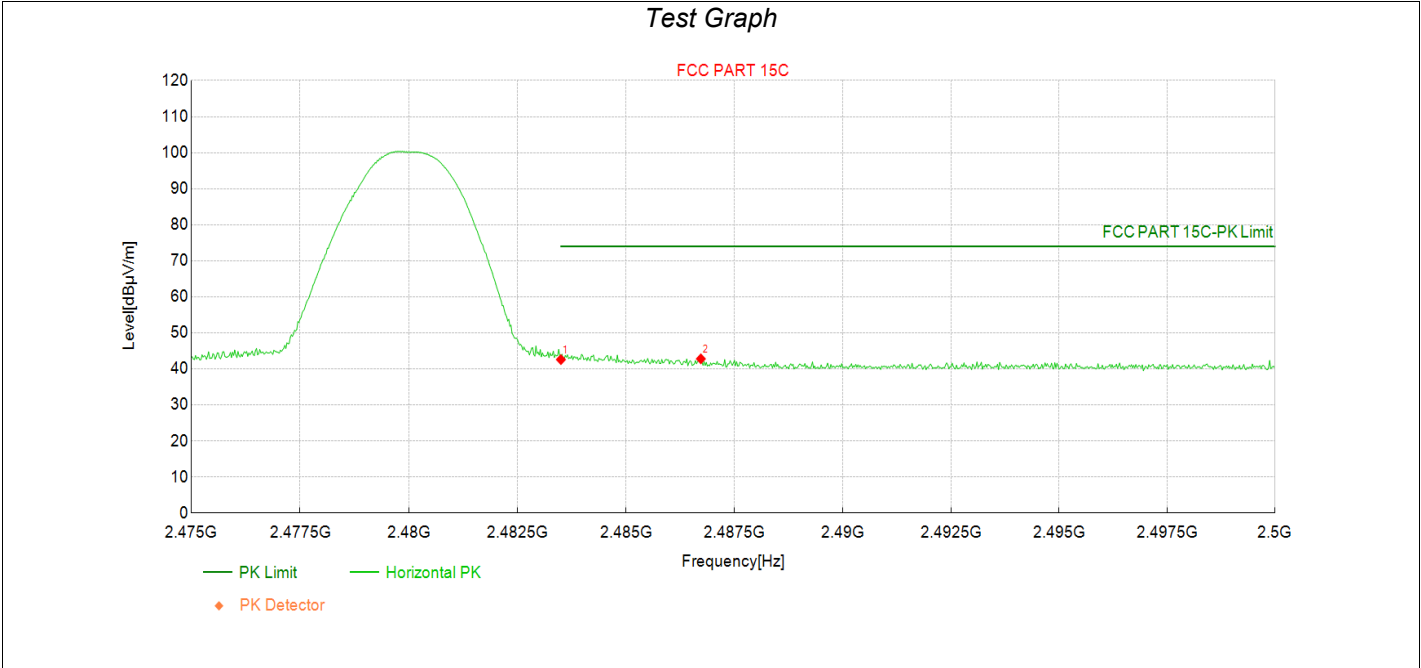
NO	Frequency [MHz]	Reading [dBμV]	Level [dBμV/m]	Factor [dB/m]	Limit [dBμV/m]	Margin [dB]	Det	Pol	Verdict
1	2348.38	41.5	41.40	-0.120	74.00	32.60	PK	Vertic	PASS
2	2390.00	39.9	39.84	-0.090	74.00	34.16	PK	Vertic	PASS

Transmit at 2402MHz by LE_1Mbps



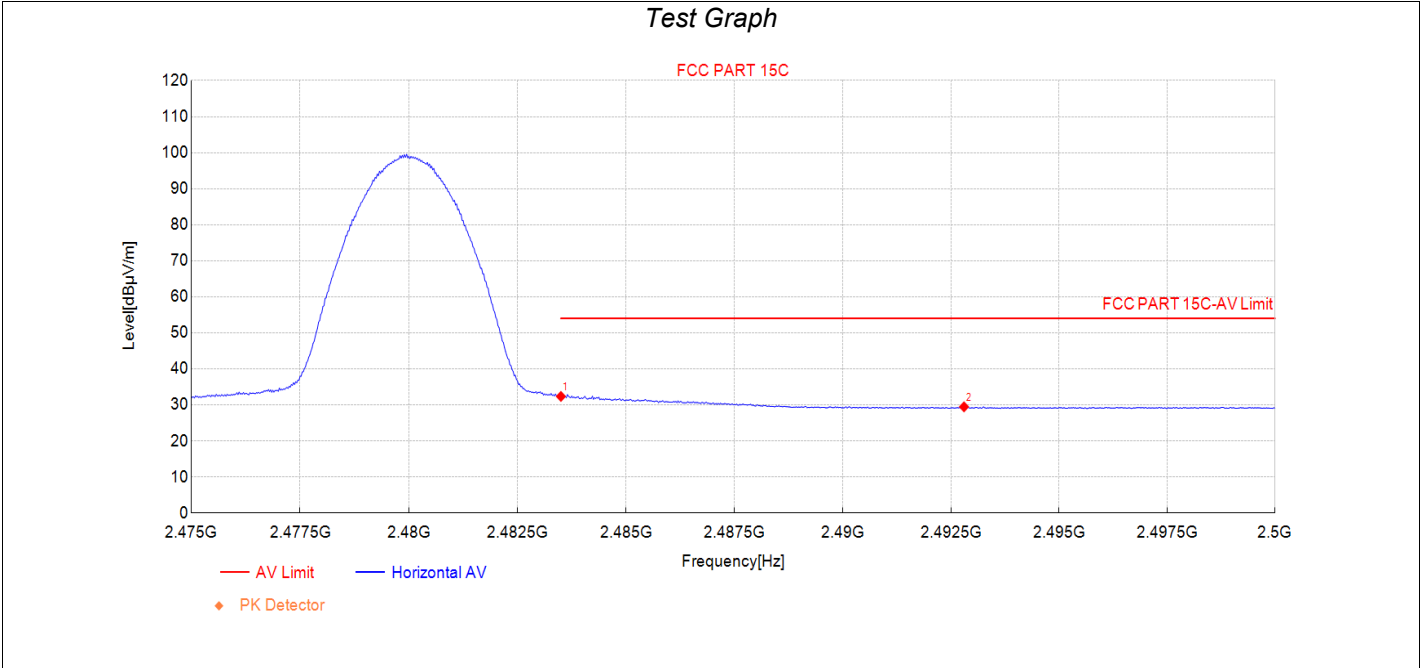
Data List									
NO	Frequency [MHz]	Reading [dBμV]	Level [dBμV/m]	Factor [dB/m]	Limit [dBμV/m]	Margin [dB]	Det	Pol	Verdict
1	2333.09	29.3	29.09	-0.160	54.00	24.91	AV	Vertic	PASS
2	2390.00	29.3	29.24	-0.090	54.00	24.76	AV	Vertic	PASS

Transmit at 2480MHz by LE_1Mbps



Data List									
NO	Frequency [MHz]	Reading [dBμV]	Level [dBμV/m]	Factor [dB/m]	Limit [dBμV/m]	Margin [dB]	Det	Pol	Verdict
1	2483.50	42.5	42.58	0.100	74.00	31.42	PK	Horizo	PASS
2	2486.73	42.7	42.79	0.110	74.00	31.21	PK	Horizo	PASS

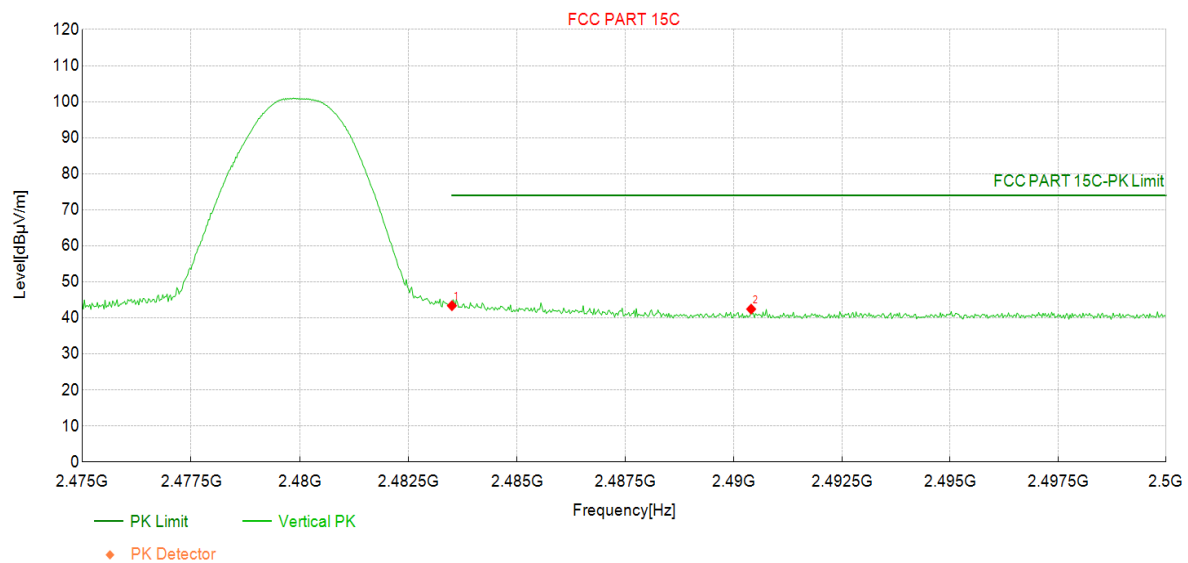
Transmit at 2480MHz by LE_1Mbps



Data List									
NO	Frequency [MHz]	Reading [dBμV]	Level [dBμV/m]	Factor [dB/m]	Limit [dBμV/m]	Margin [dB]	Det	Pol	Verdict
1	2483.50	32.3	32.37	0.100	54.00	21.63	AV	Horizo	PASS
2	2492.80	29.3	29.47	0.130	54.00	24.53	AV	Horizo	PASS

Transmit at 2480MHz by LE_1Mbps

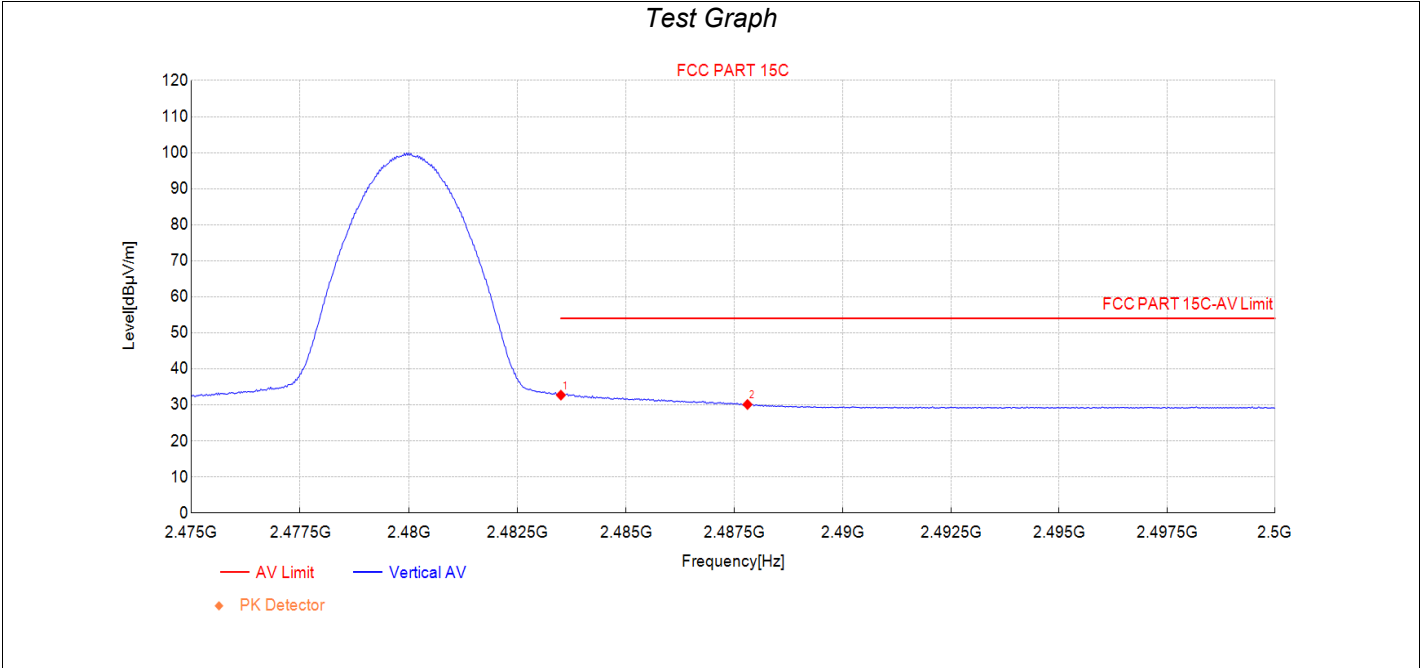
Test Graph



Data List

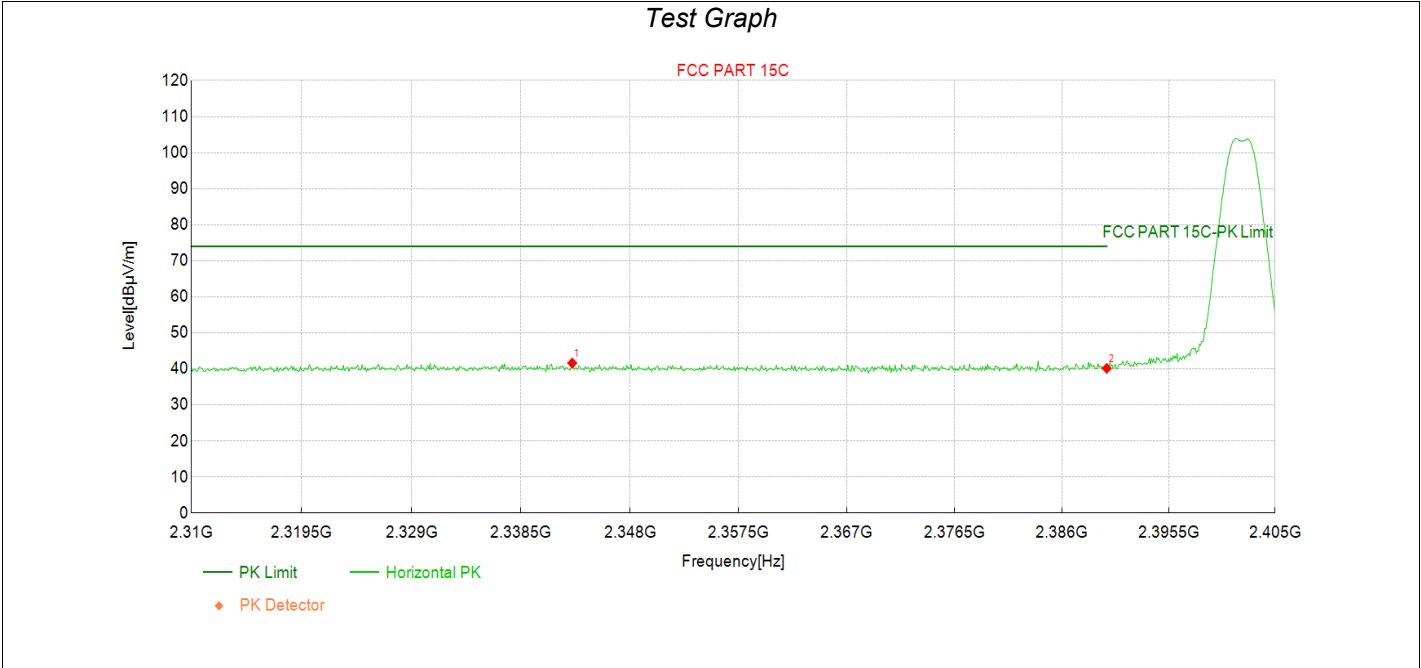
NO	Frequency [MHz]	Reading [dBμV]	Level [dBμV/m]	Factor [dB/m]	Limit [dBμV/m]	Margin [dB]	Det	Pol	Verdict
1	2483.50	43.3	43.38	0.100	74.00	30.62	PK	Vertic	PASS
2	2490.40	42.3	42.44	0.130	74.00	31.56	PK	Vertic	PASS

Transmit at 2480MHz by LE_1Mbps

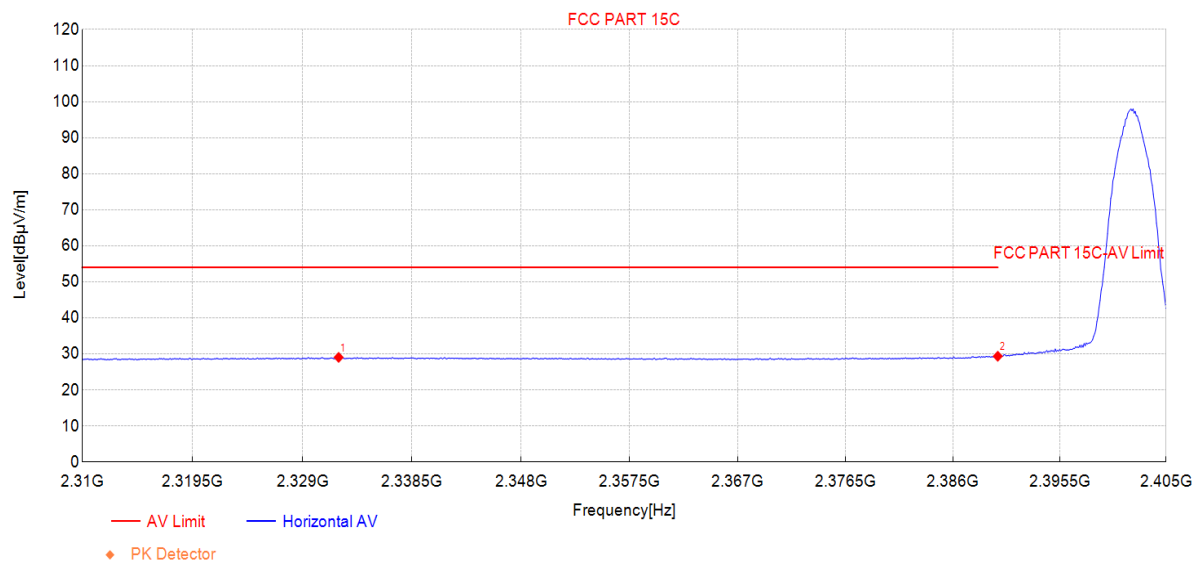


Data List									
NO	Freque ncy [MHz]	Reading [dBμV]	Level [dBμV/m]	Factor [dB/m]	Limit [dBμV/m]	Margin [dB]	Det	Pol	Verdi ct
1	2483.50	32.6	32.72	0.100	54.00	21.28	AV	Vertic	PASS
2	2487.80	30.0	30.13	0.120	54.00	23.87	AV	Vertic	PASS

Transmit at 2402MHz by LE_2Mbps

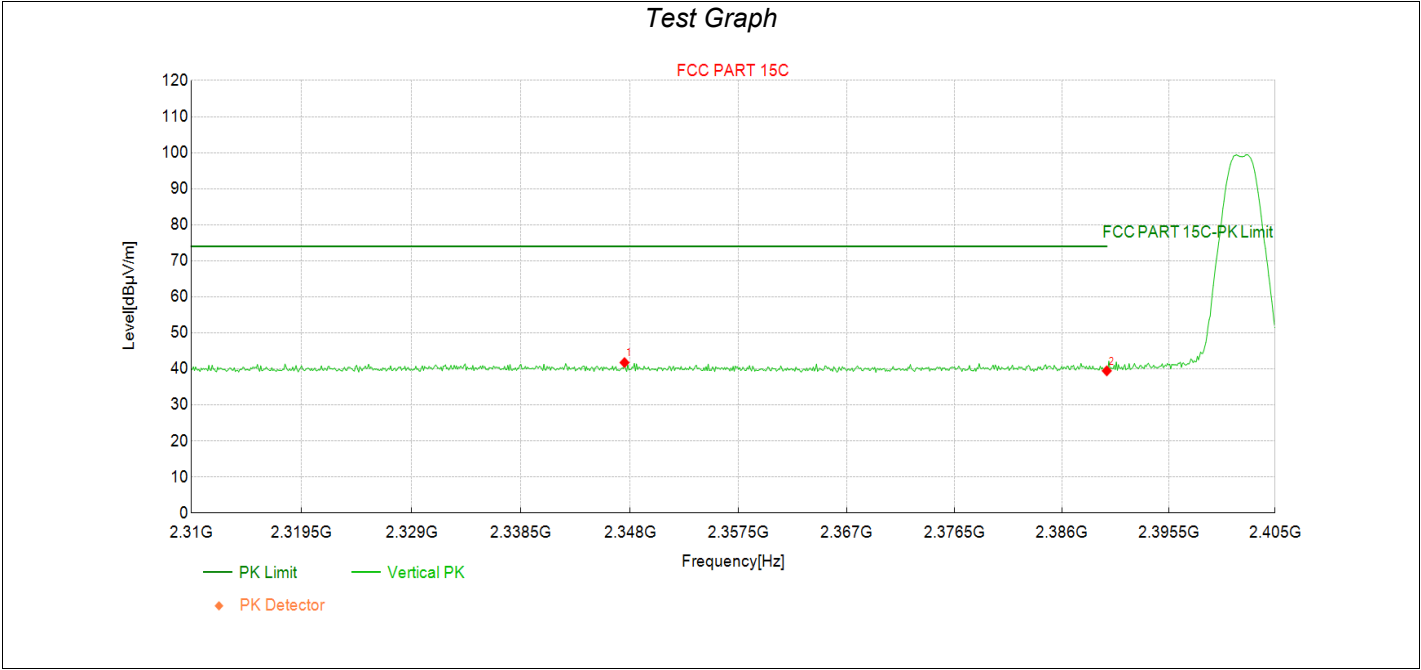


Data List									
NO	Frequency [MHz]	Reading [dBμV]	Level [dBμV/m]	Factor [dB/m]	Limit [dBμV/m]	Margin [dB]	Det	Pol	Verdict
1	2342.97	41.8	41.62	-0.140	74.00	32.38	PK	Horizo	PASS
2	2390.00	40.2	40.14	-0.090	74.00	33.86	PK	Horizo	PASS

Transmit at 2402MHz by LE_2Mbps*Test Graph***Data List**

NO	Frequency [MHz]	Reading [dBμV]	Level [dBμV/m]	Factor [dB/m]	Limit [dBμV/m]	Margin [dB]	Det	Pol	Verdict
1	2332.14	29.2	29.05	-0.170	54.00	24.95	AV	Horizo	PASS
2	2390.00	29.5	29.36	-0.090	54.00	24.64	AV	Horizo	PASS

Transmit at 2402MHz by LE_2Mbps

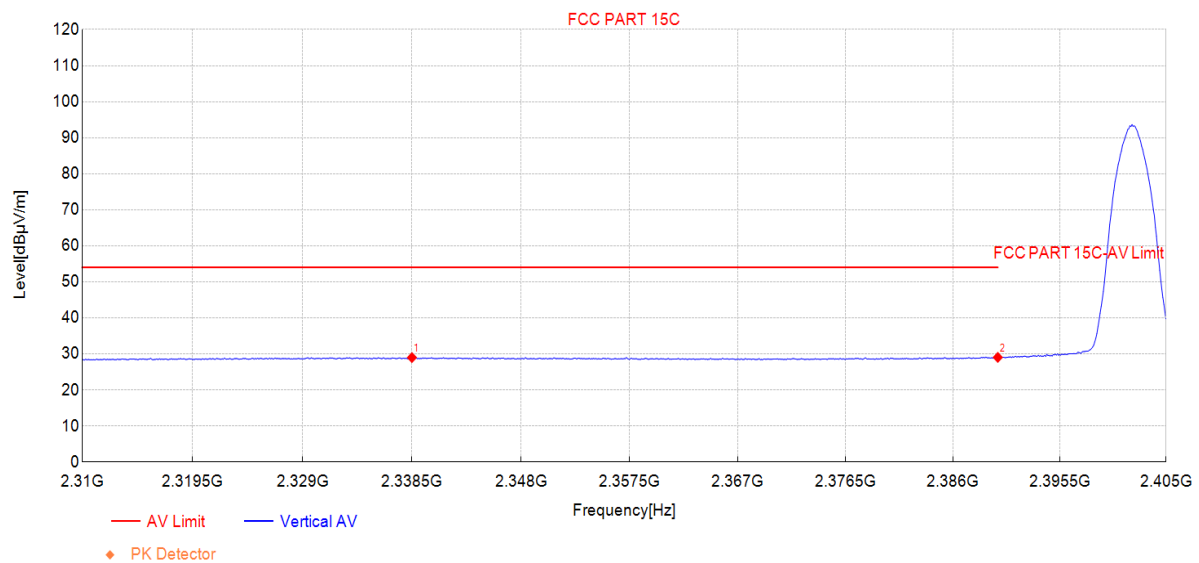


Data List

NO	Frequency [MHz]	Reading [dBμV]	Level [dBμV/m]	Factor [dB/m]	Limit [dBμV/m]	Margin [dB]	Det	Pol	Verdict
1	2347.53	41.9	41.76	-0.120	74.00	32.24	PK	Vertic	PASS
2	2390.00	39.5	39.45	-0.090	74.00	34.55	PK	Vertic	PASS

Transmit at 2402MHz by LE_2Mbps

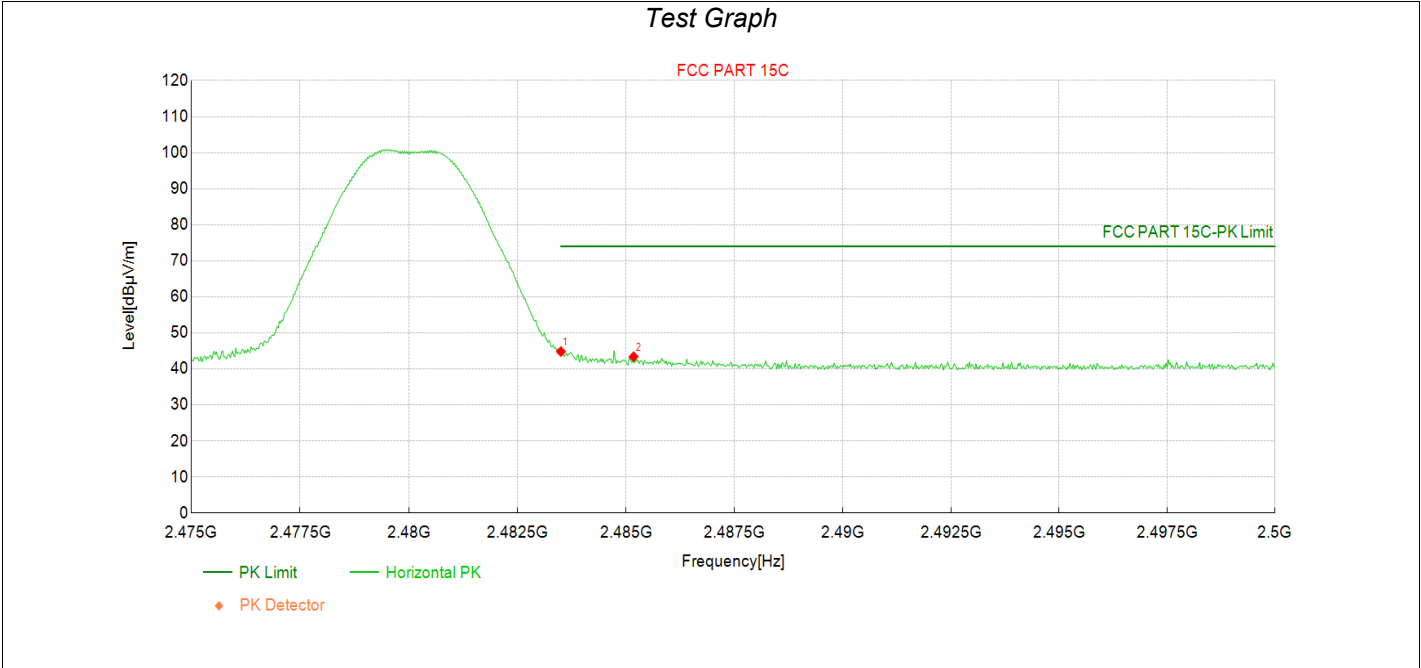
Test Graph



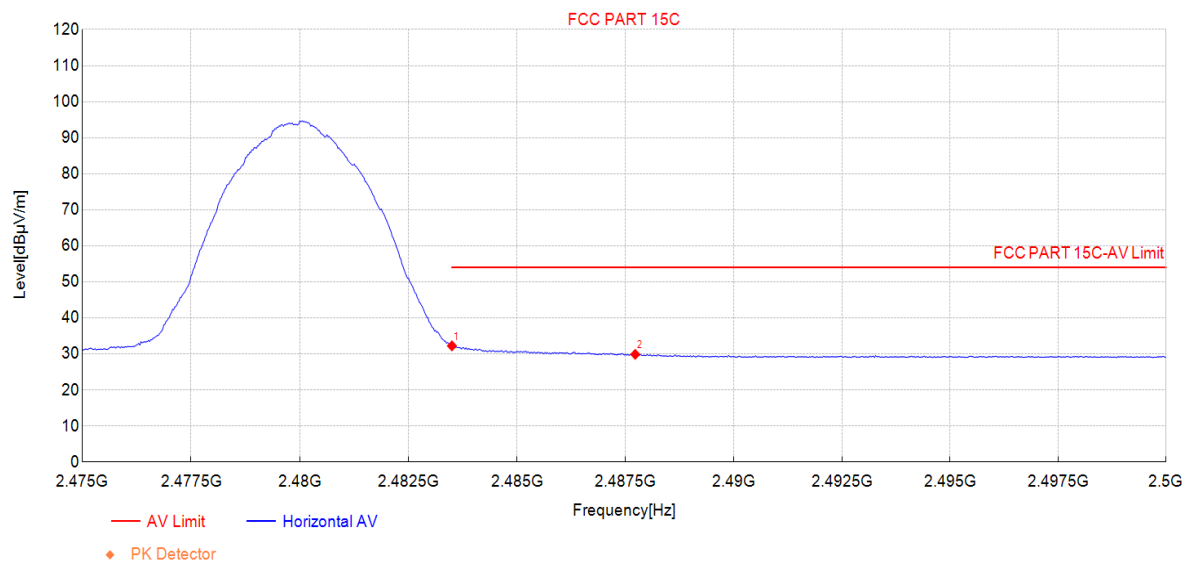
Data List

NO	Frequency [MHz]	Reading [dBμV]	Level [dBμV/m]	Factor [dB/m]	Limit [dBμV/m]	Margin [dB]	Det	Pol	Verdict
1	2338.50	29.1	28.99	-0.150	54.00	25.01	AV	Vertic	PASS
2	2390.00	29.1	29.04	-0.090	54.00	24.96	AV	Vertic	PASS

Transmit at 2480MHz by LE_2Mbps

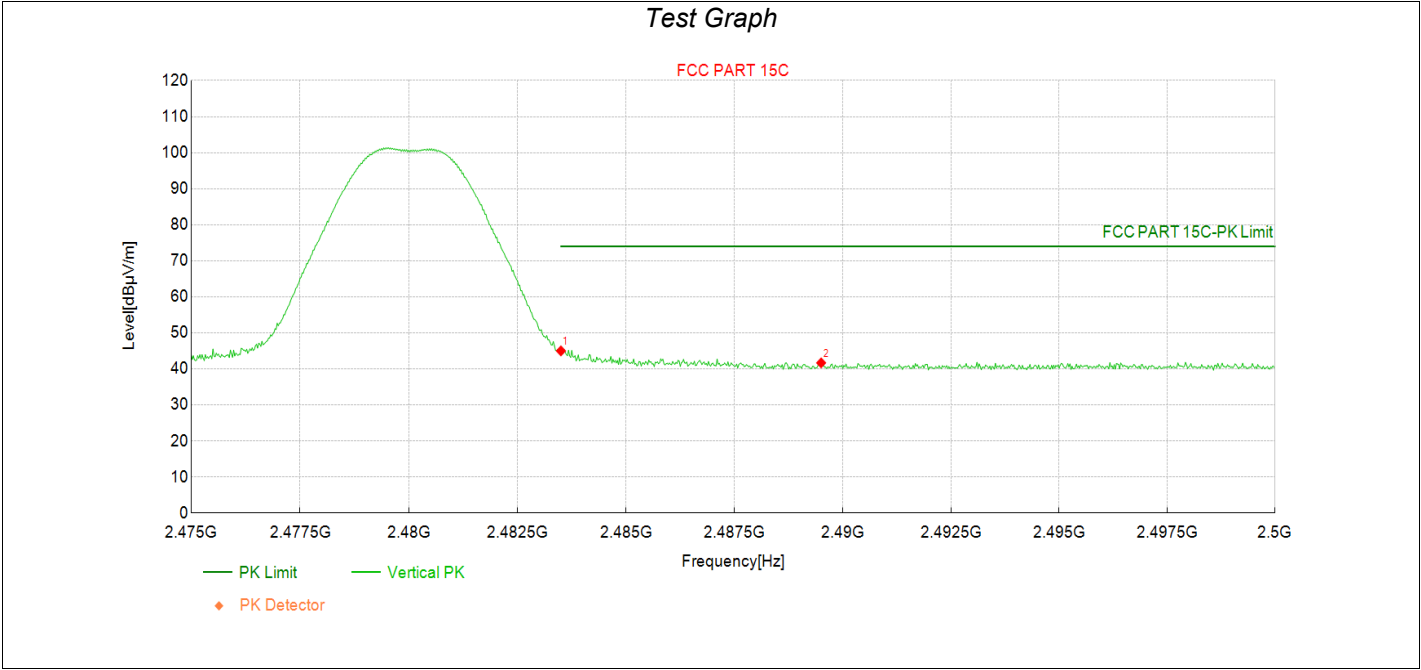


Data List									
NO	Frequency [MHz]	Reading [dBμV]	Level [dBμV/m]	Factor [dB/m]	Limit [dBμV/m]	Margin [dB]	Det	Pol	Verdict
1	2483.50	44.7	44.82	0.100	74.00	29.18	PK	Horizo	PASS
2	2485.18	43.3	43.37	0.110	74.00	30.63	PK	Horizo	PASS

Transmit at 2480MHz by LE_2Mbps*Test Graph***Data List**

NO	Frequency [MHz]	Reading [dBμV]	Level [dBμV/m]	Factor [dB/m]	Limit [dBμV/m]	Margin [dB]	Det	Pol	Verdict
1	2483.50	32.1	32.24	0.100	54.00	21.76	AV	Horizo	PASS
2	2487.73	29.8	29.88	0.120	54.00	24.12	AV	Horizo	PASS

Transmit at 2480MHz by LE_2Mbps

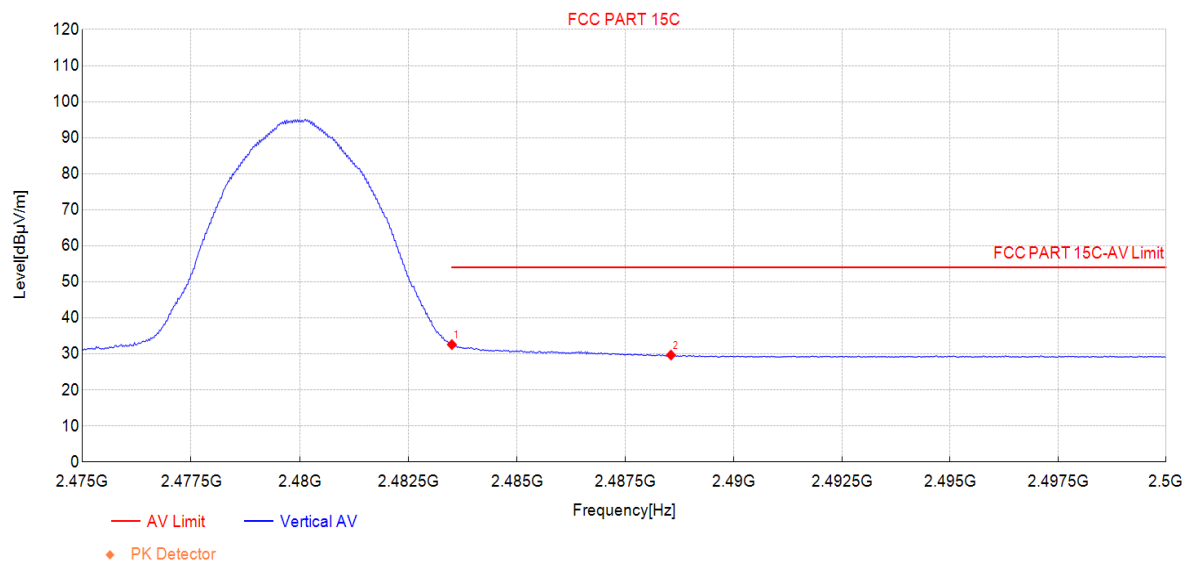


Data List

NO	Frequency [MHz]	Reading [dBμV]	Level [dBμV/m]	Factor [dB/m]	Limit [dBμV/m]	Margin [dB]	Det	Pol	Verdict
1	2483.50	44.9	45.00	0.100	74.00	29.00	PK	Vertic	PASS
2	2489.50	41.5	41.67	0.130	74.00	32.33	PK	Vertic	PASS

Transmit at 2480MHz by LE_2Mbps

Test Graph



Data List

NO	Frequency [MHz]	Reading [dBμV]	Level [dBμV/m]	Factor [dB/m]	Limit [dBμV/m]	Margin [dB]	Det	Pol	Verdict
1	2483.50	32.5	32.59	0.100	54.00	21.41	AV	Vertic	PASS
2	2488.55	29.6	29.69	0.120	54.00	24.31	AV	Vertic	PASS

Note:

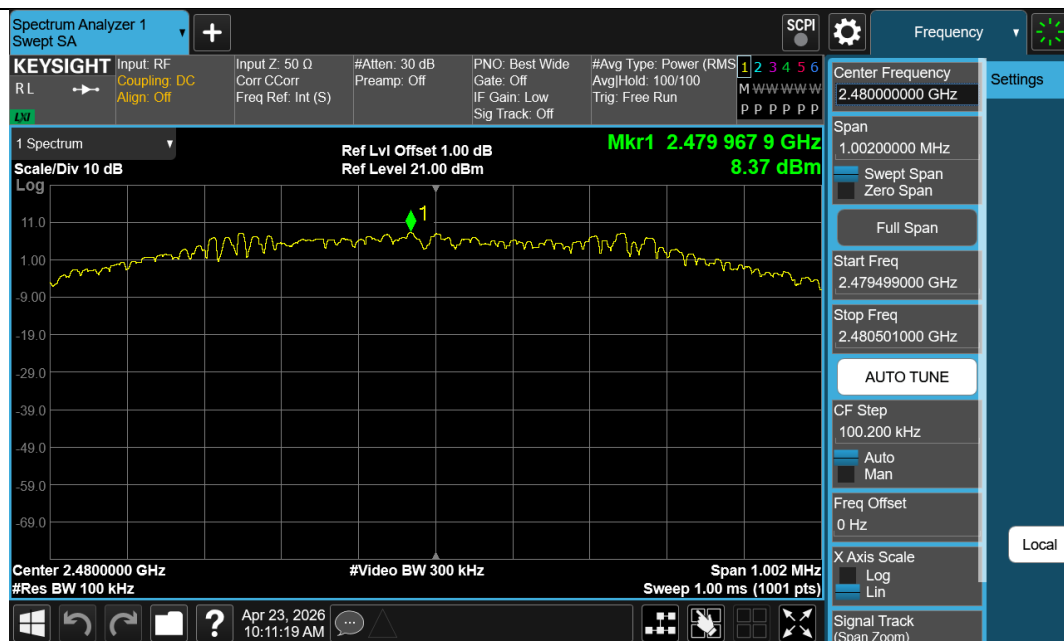
1. Level = Reading + Factor .

2. Margin = Limit - Level.

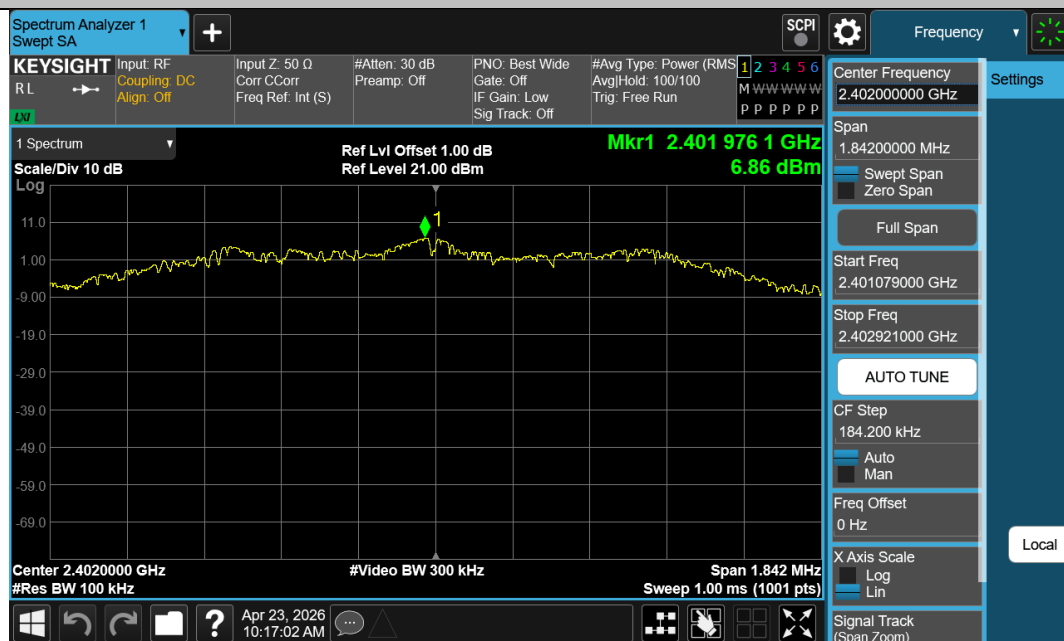
Appendix E: Conducted Spurious Emission

Reference level measurement :

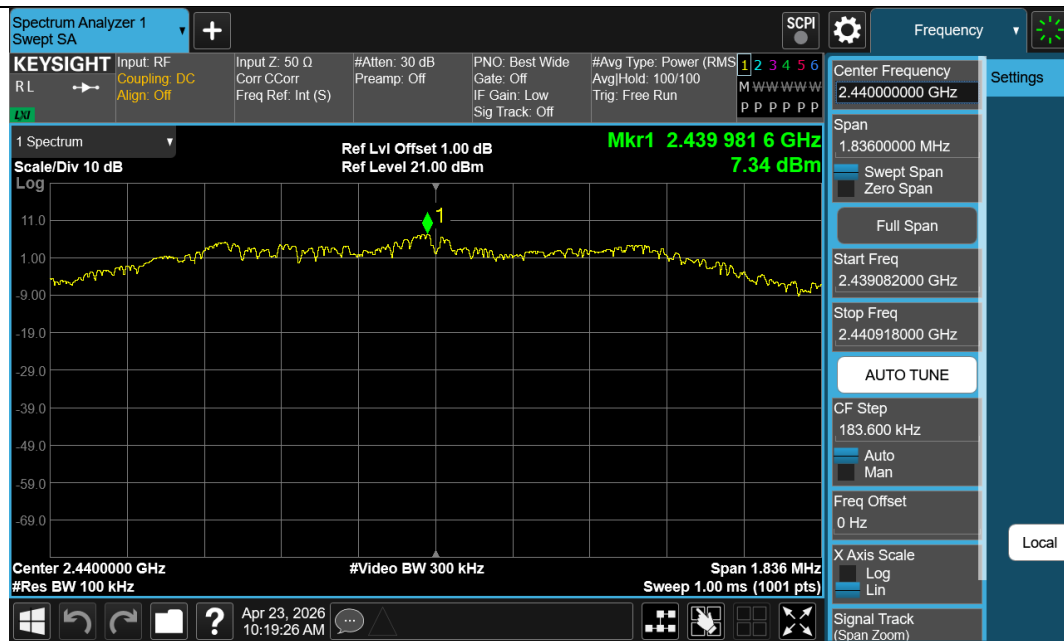




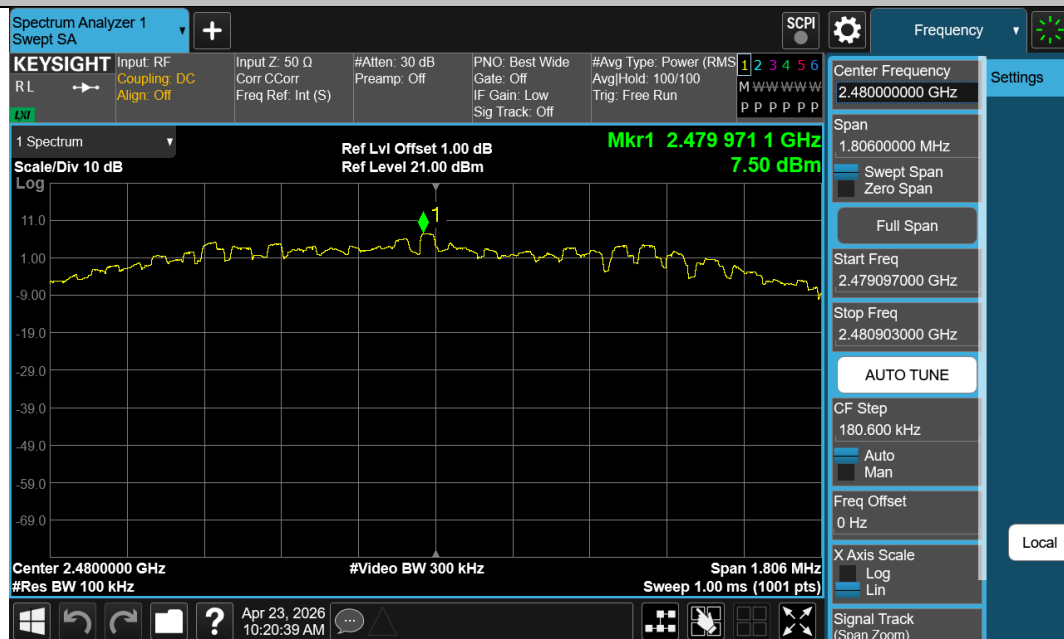
BLE_1M-Ant1-2480-PASS



BLE_2M-Ant1-2402-PASS

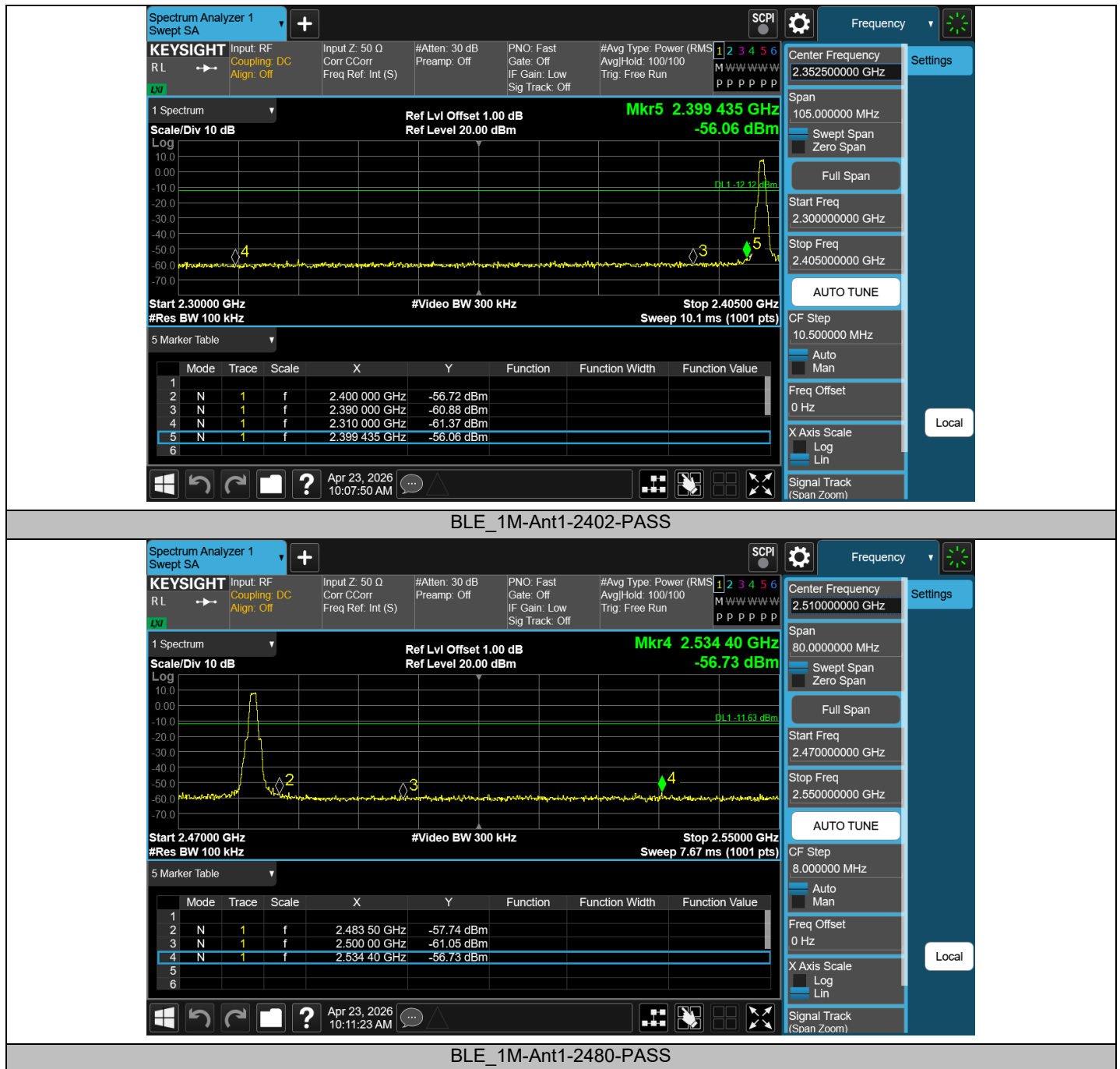


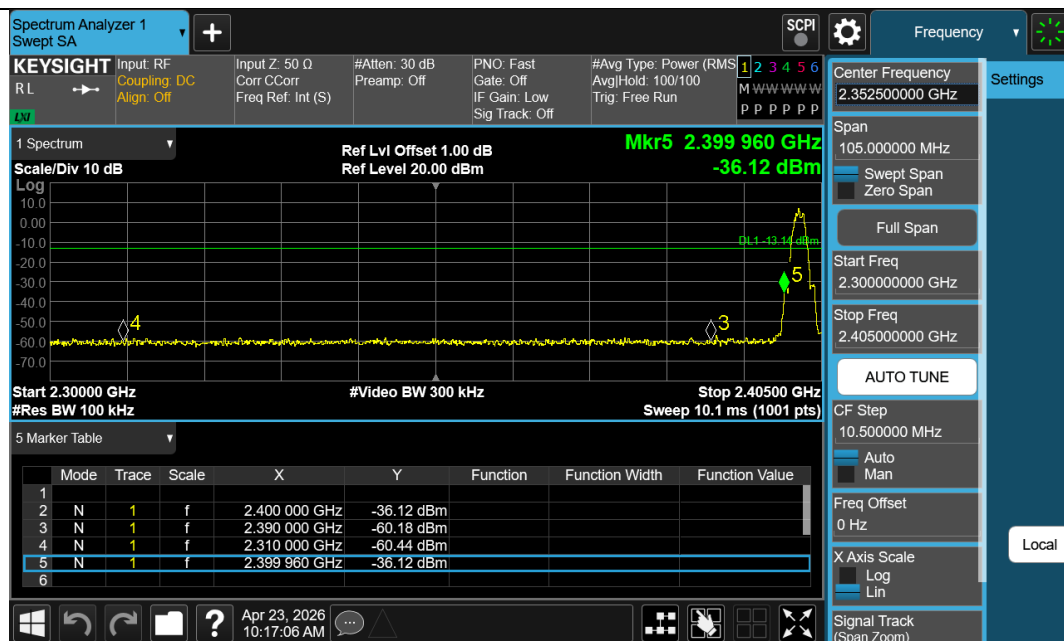
BLE_2M-Ant1-2440-PASS



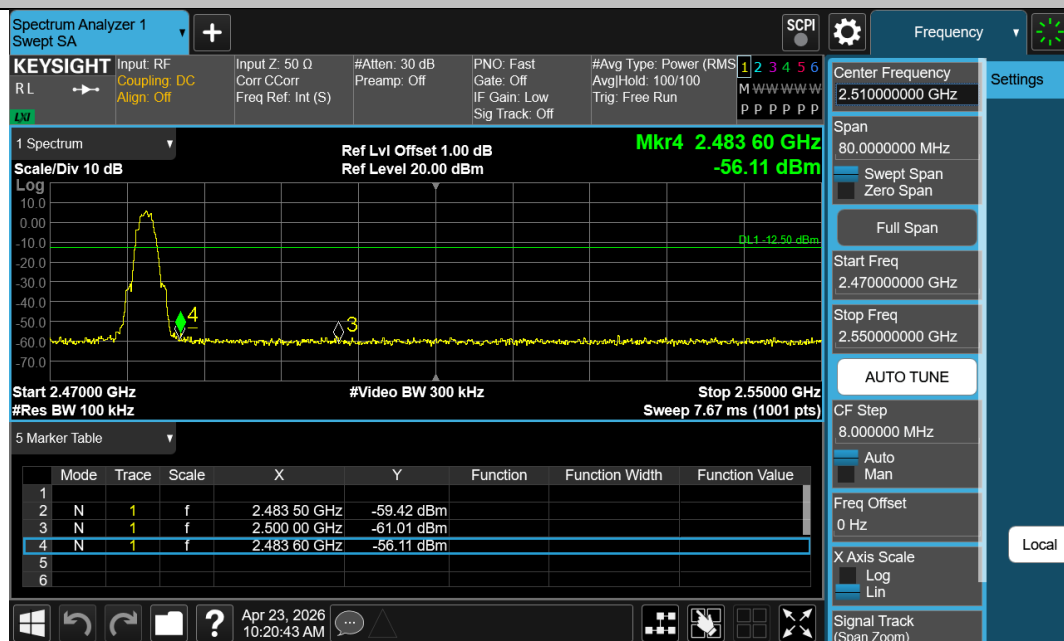
BLE_2M-Ant1-2480-PASS

Band edge measurements :



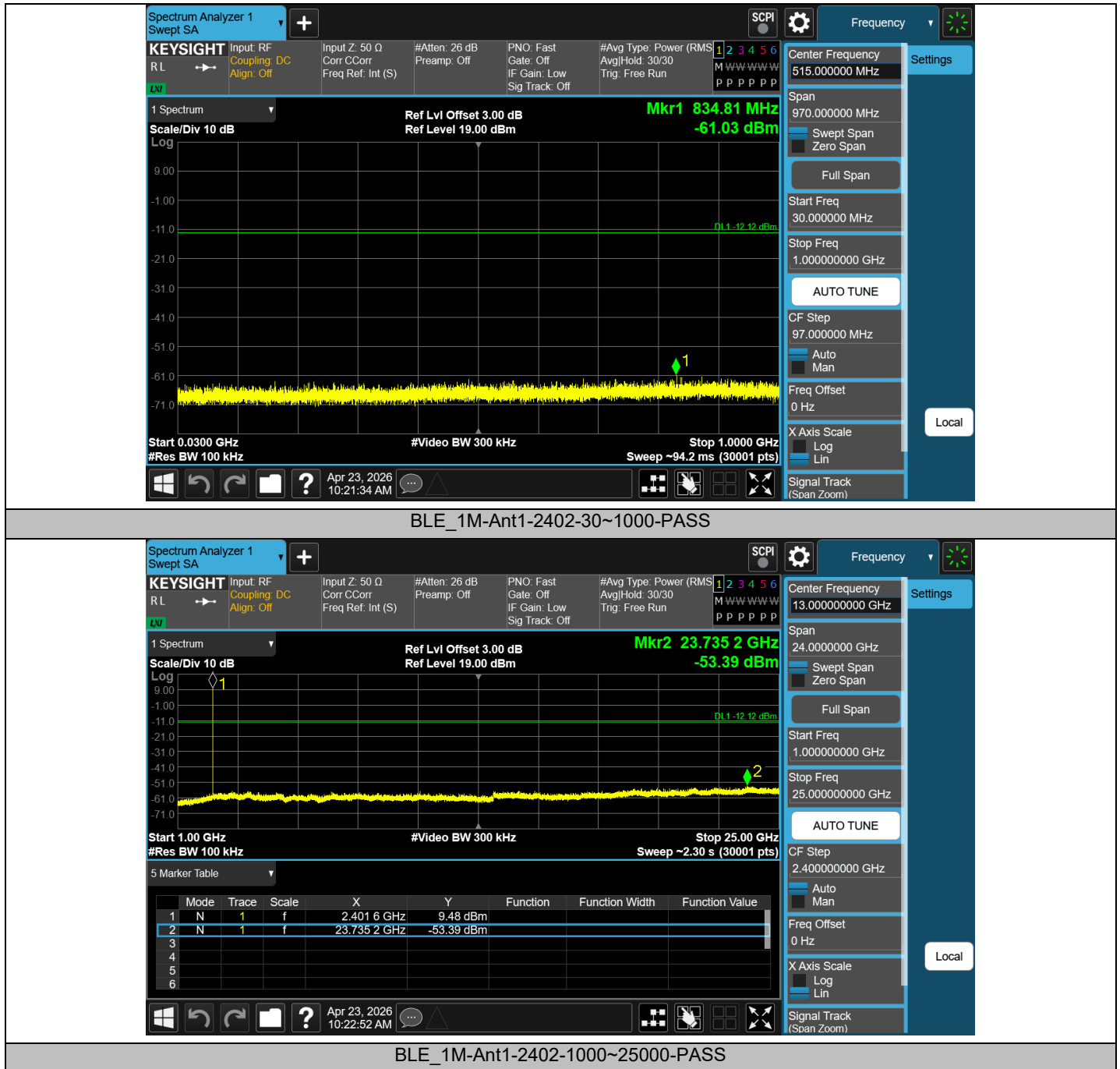


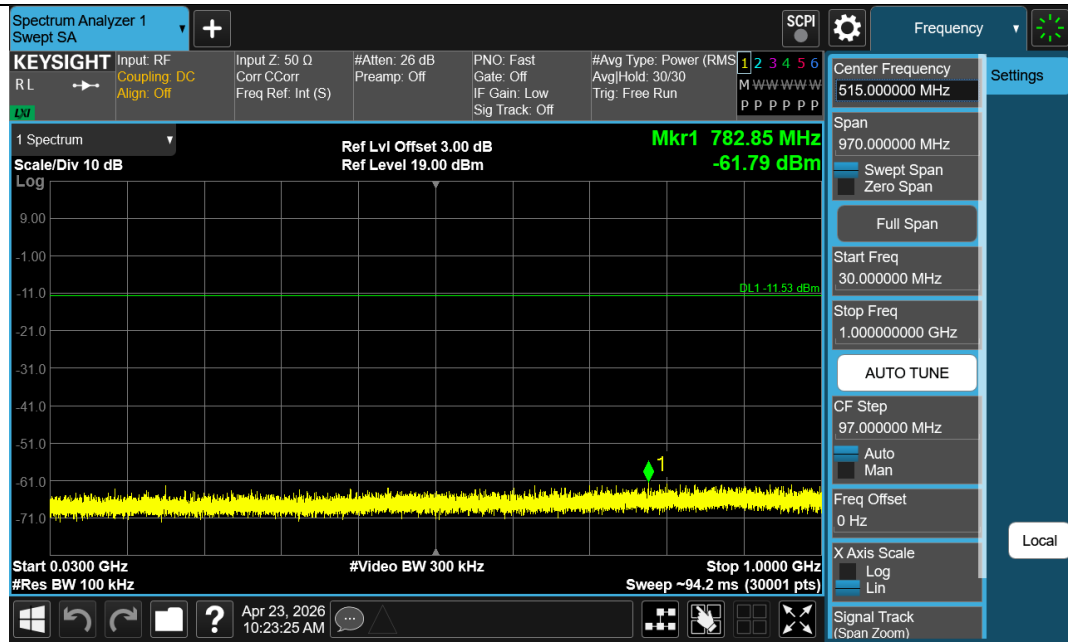
BLE_2M-Ant1-2402-PASS



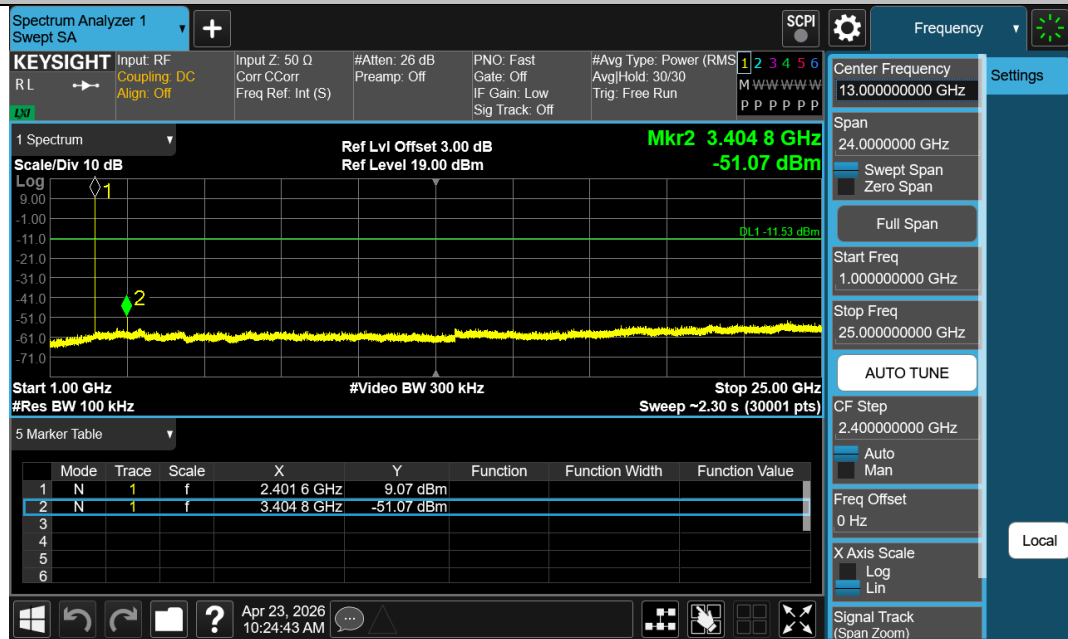
BLE_2M-Ant1-2480-PASS

Conducted Spurious Emission :

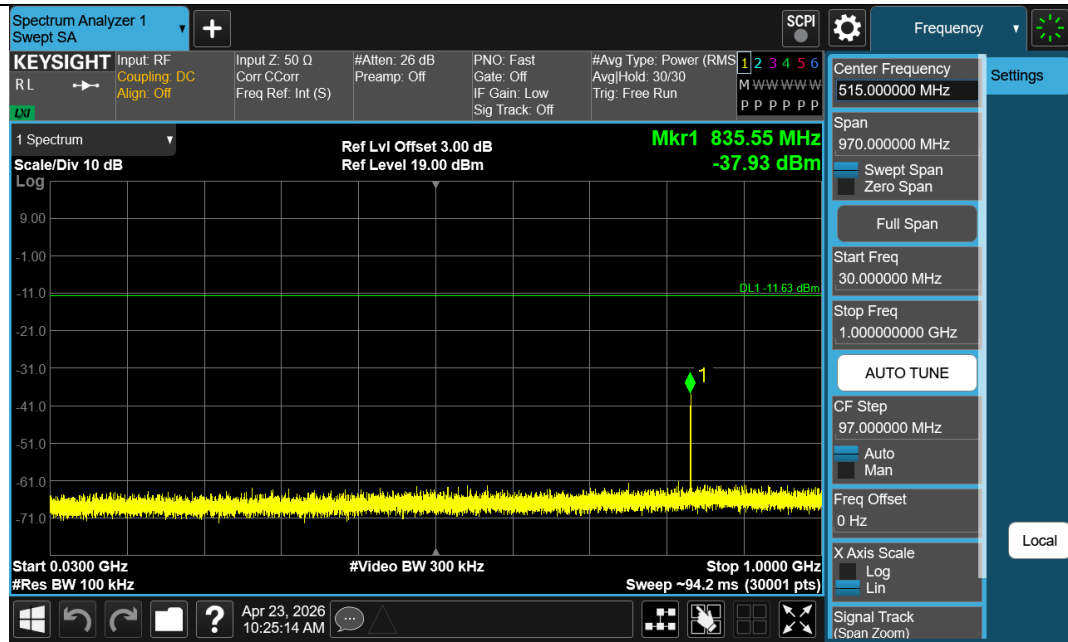




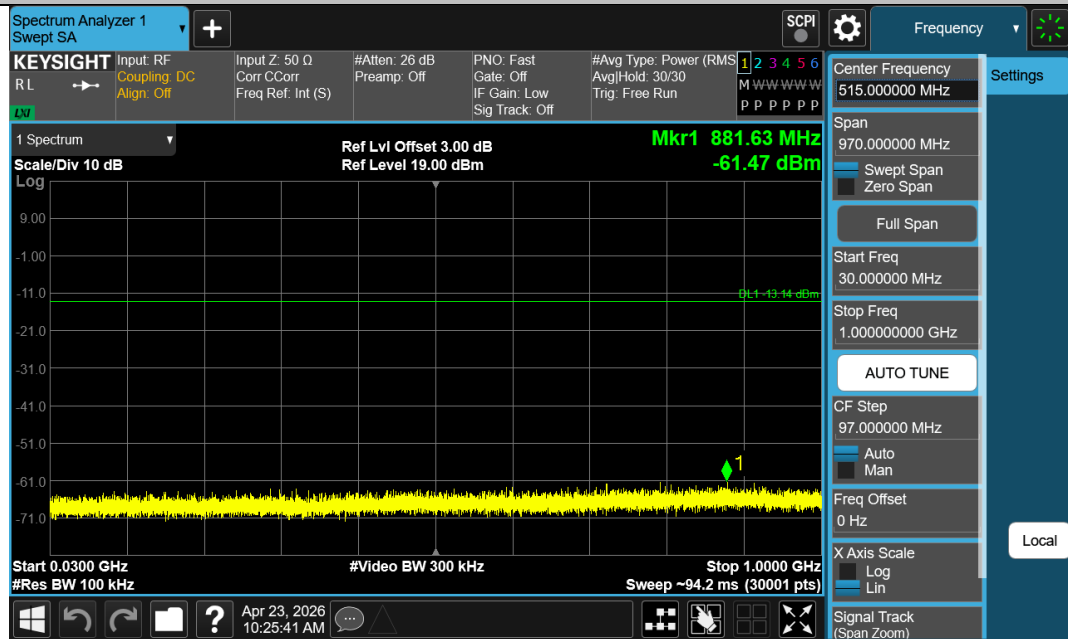
BLE_1M-Ant1-2440-30~1000-PASS



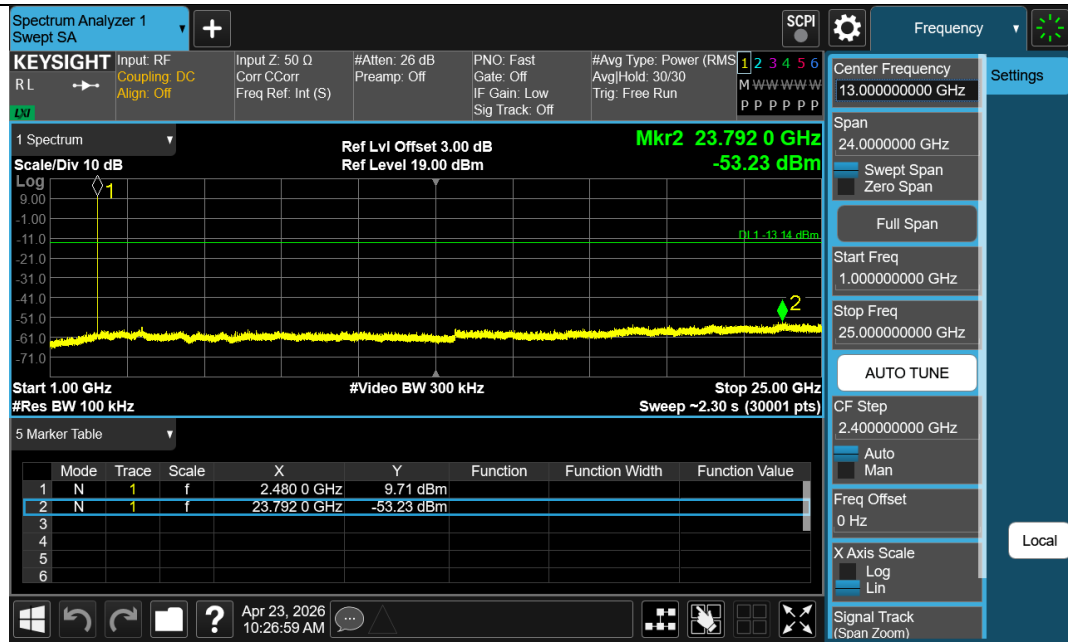
BLE_1M-Ant1-2440-1000~25000-PASS



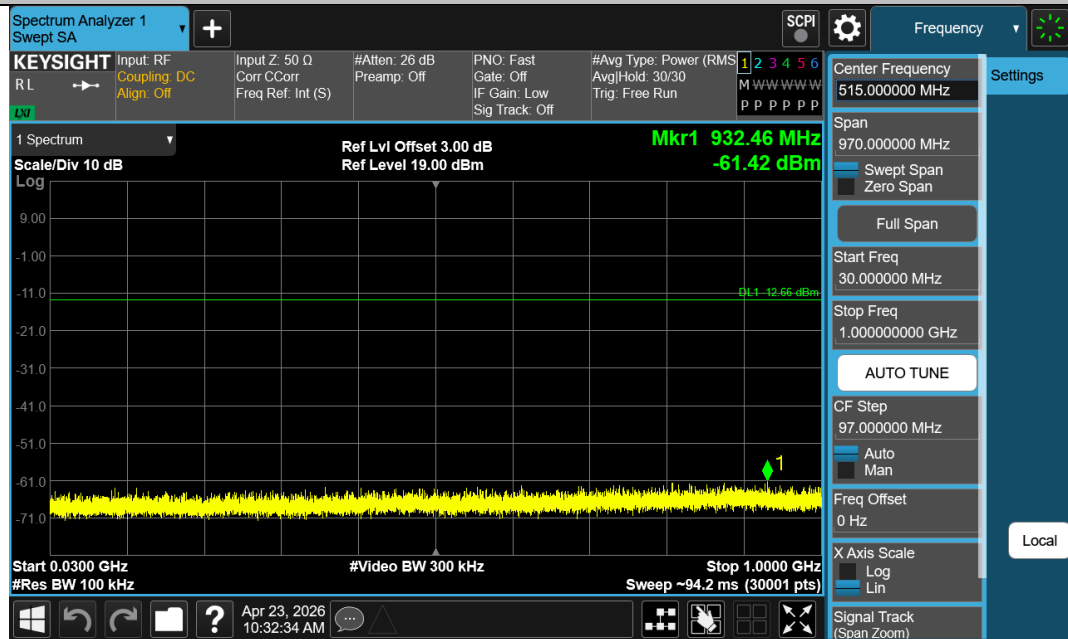
BLE_1M-Ant1-2480-30~1000-PASS



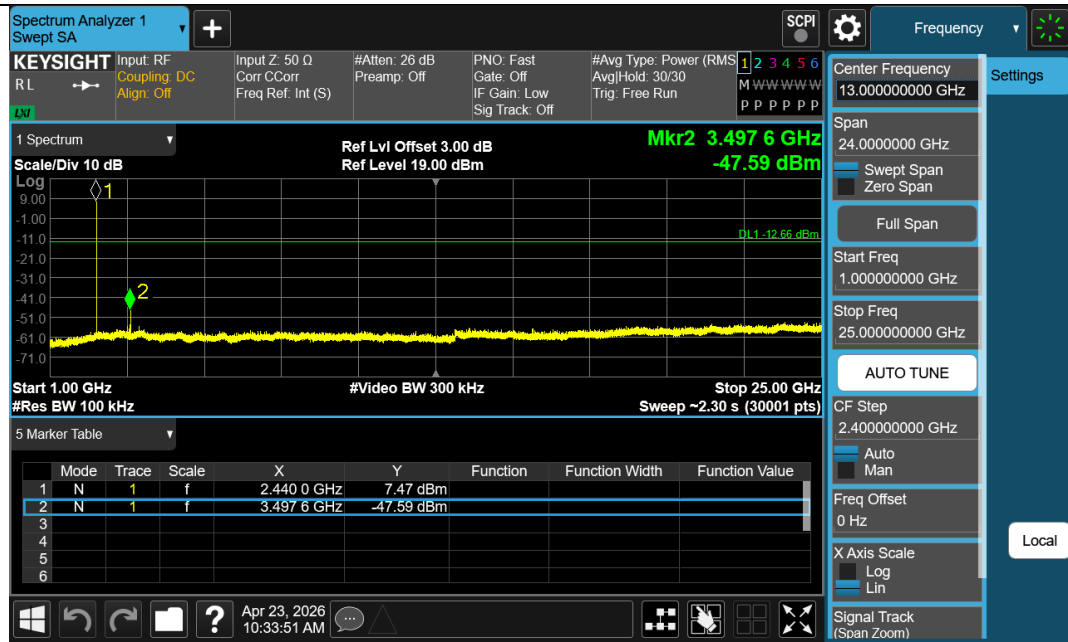
BLE_2M-Ant1-2402-30~1000-PASS



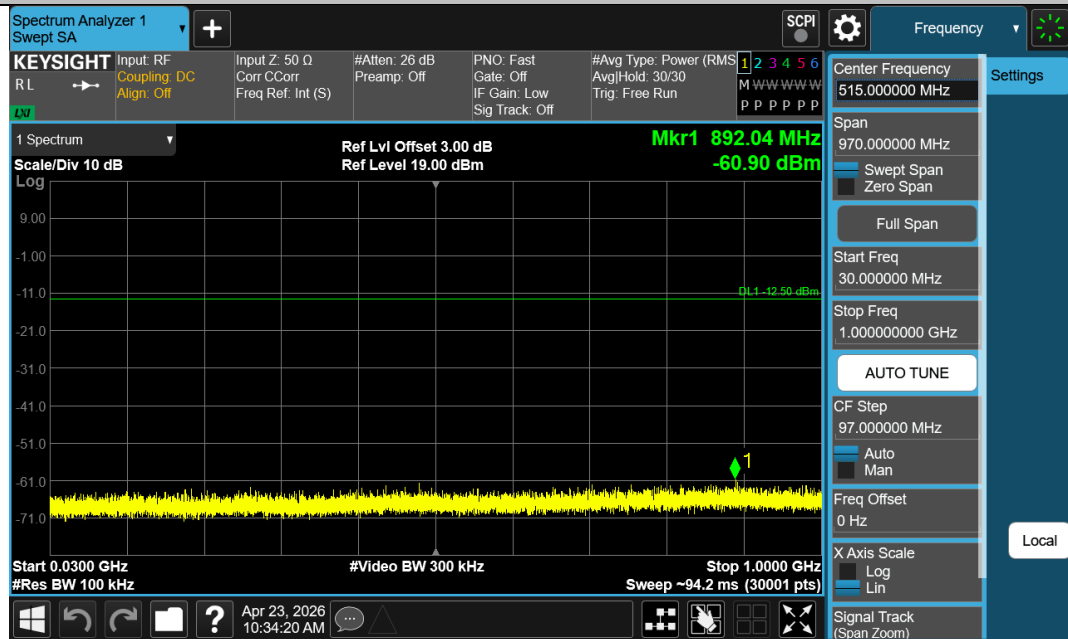
BLE_2M-Ant1-2402-1000~25000-PASS



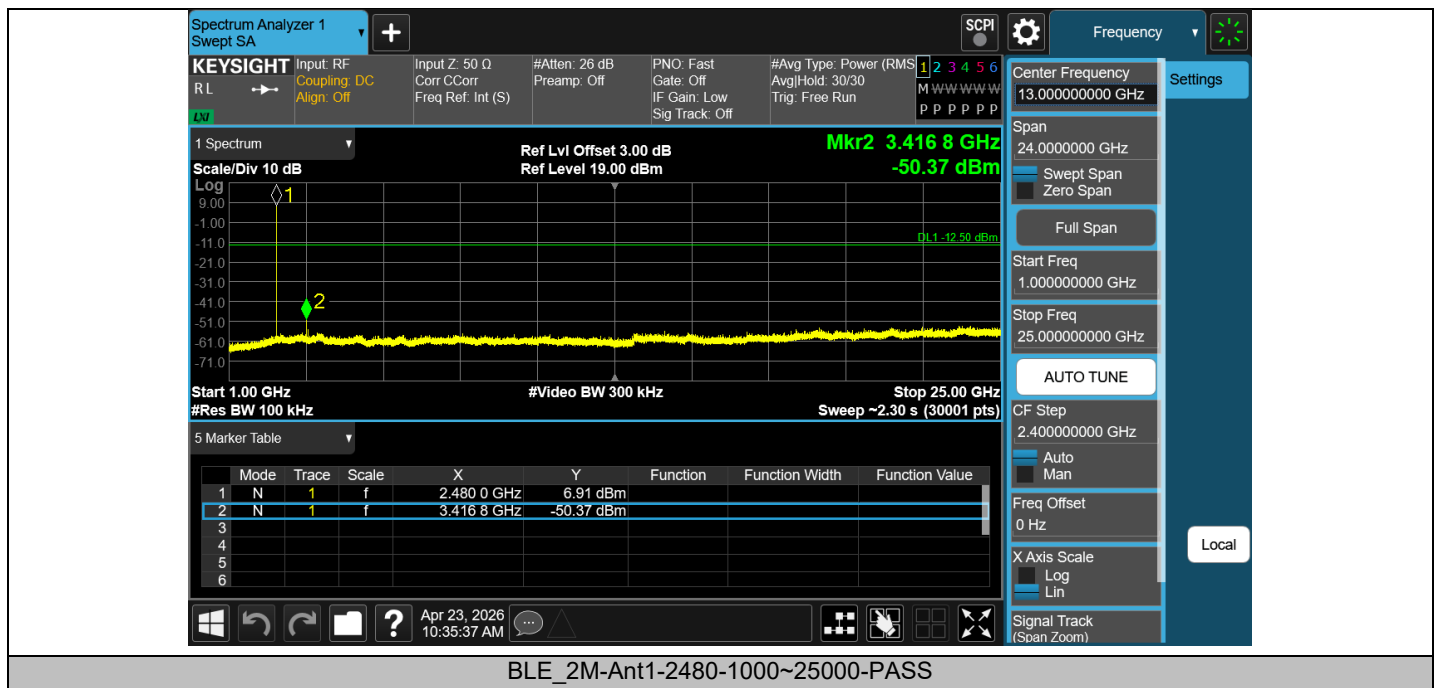
BLE_2M-Ant1-2440-30~1000-PASS



BLE_2M-Ant1-2440-1000~25000-PASS

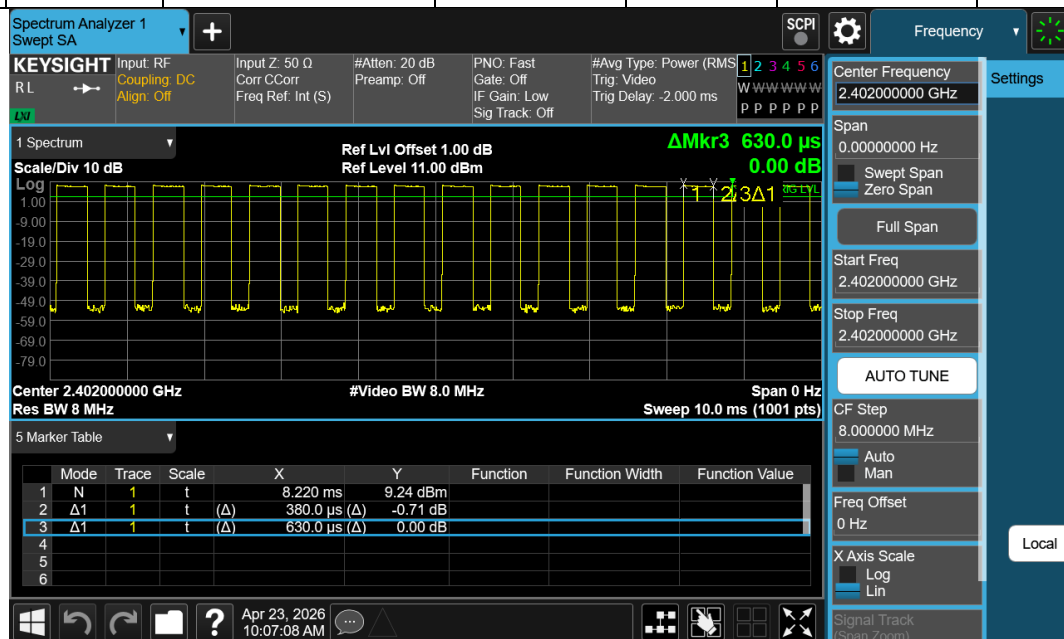


BLE_2M-Ant1-2480-30~1000-PASS

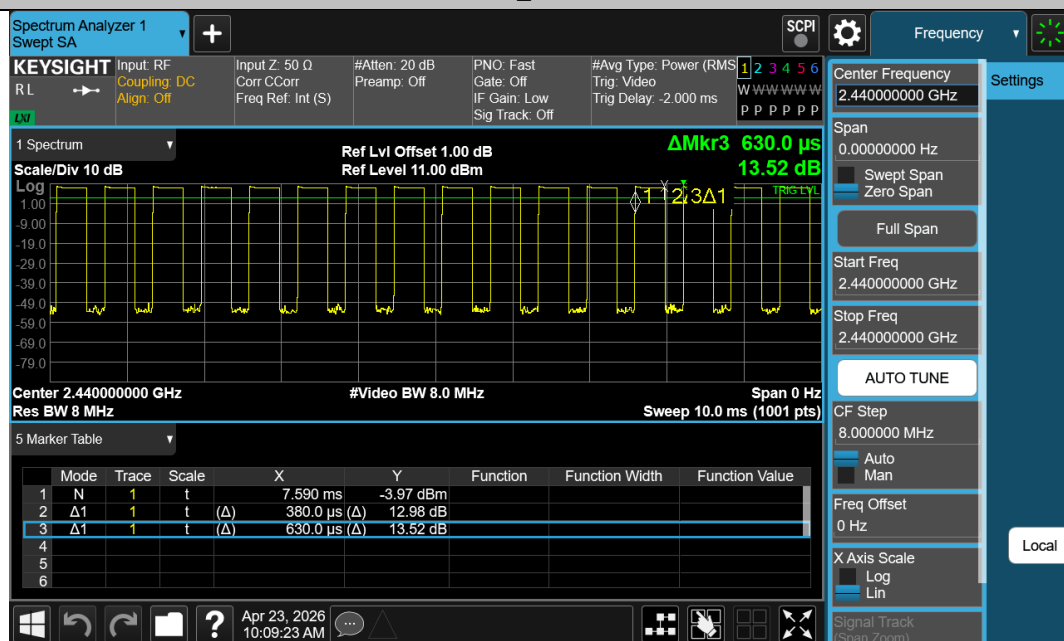


Appendix F: Duty Cycle

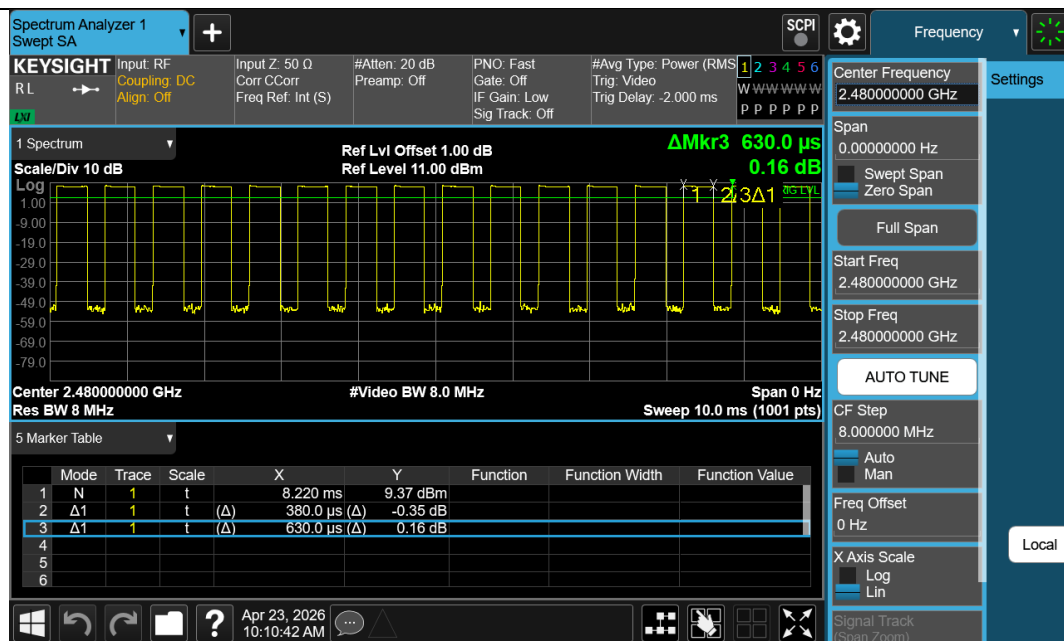
TestMode	Antenna	Frequency[MHz]	ON Time [ms]	Period [ms]	Duty Cycle [%]	Duty Cycle Factor[dB]
BLE_1M	Ant1	2402	0.38	0.63	60.32	2.20
BLE_1M	Ant1	2440	0.38	0.63	60.32	2.20
BLE_1M	Ant1	2480	0.38	0.63	60.32	2.20
BLE_2M	Ant1	2402	0.19	0.62	30.65	5.14
BLE_2M	Ant1	2440	0.19	0.62	30.65	5.14
BLE_2M	Ant1	2480	0.19	0.62	30.65	5.14



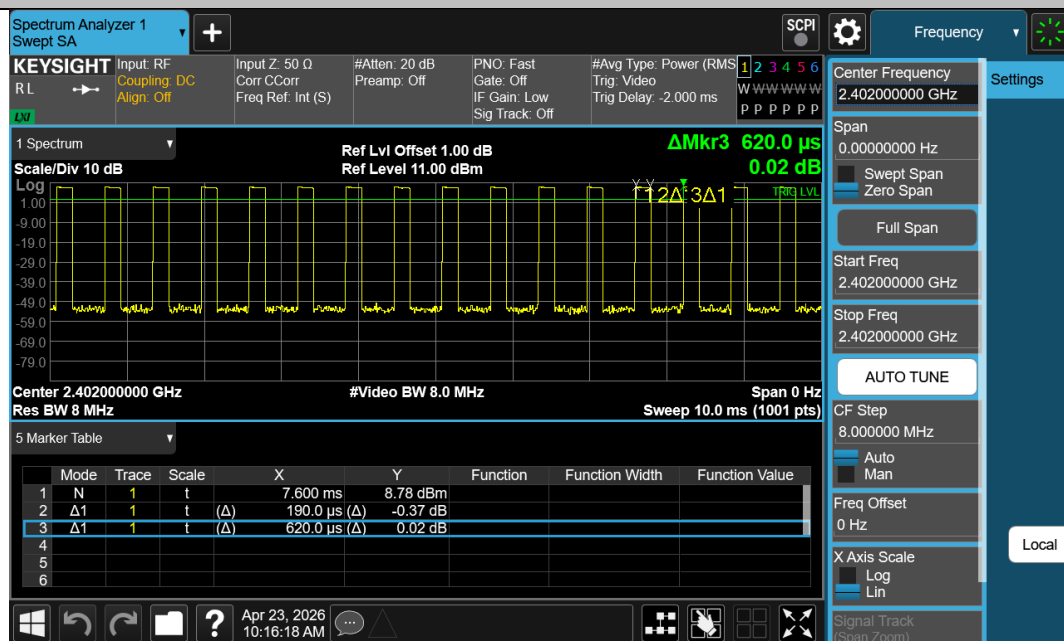
NTNV-BLE_1M-Ant1-2402



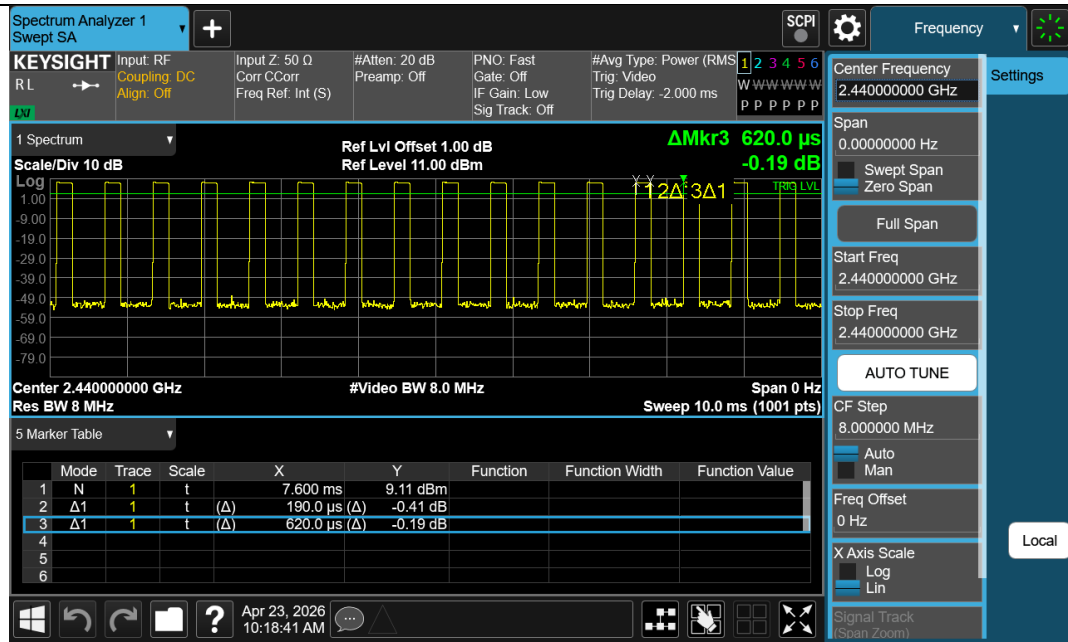
NTNV-BLE_1M-Ant1-2440



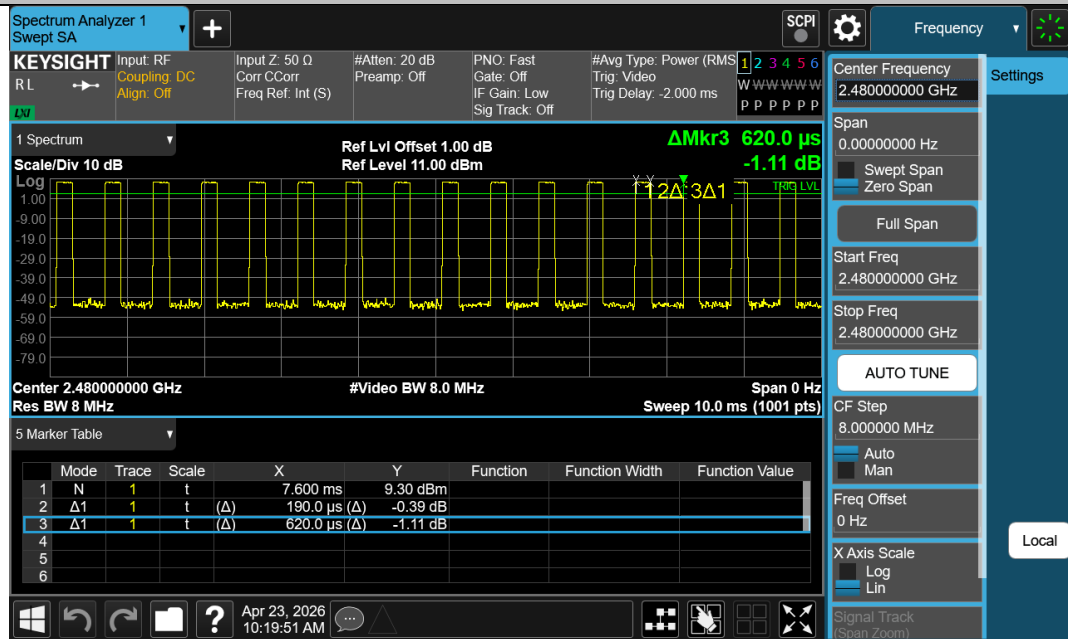
NTNV-BLE_1M-Ant1-2480



NTNV-BLE_2M-Ant1-2402



NTNV-BLE_2M-Ant1-2440

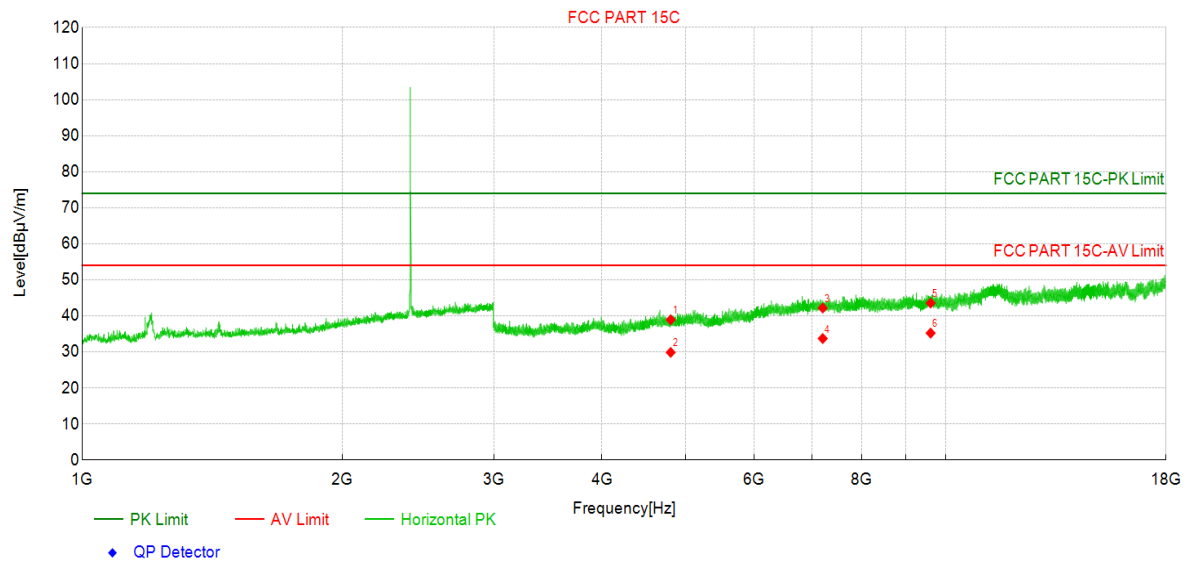


NTNV-BLE_2M-Ant1-2480

Appendix G: Emissions in Restricted Bands

Transmit at 2402MHz by LE_1Mbps

Test Graph

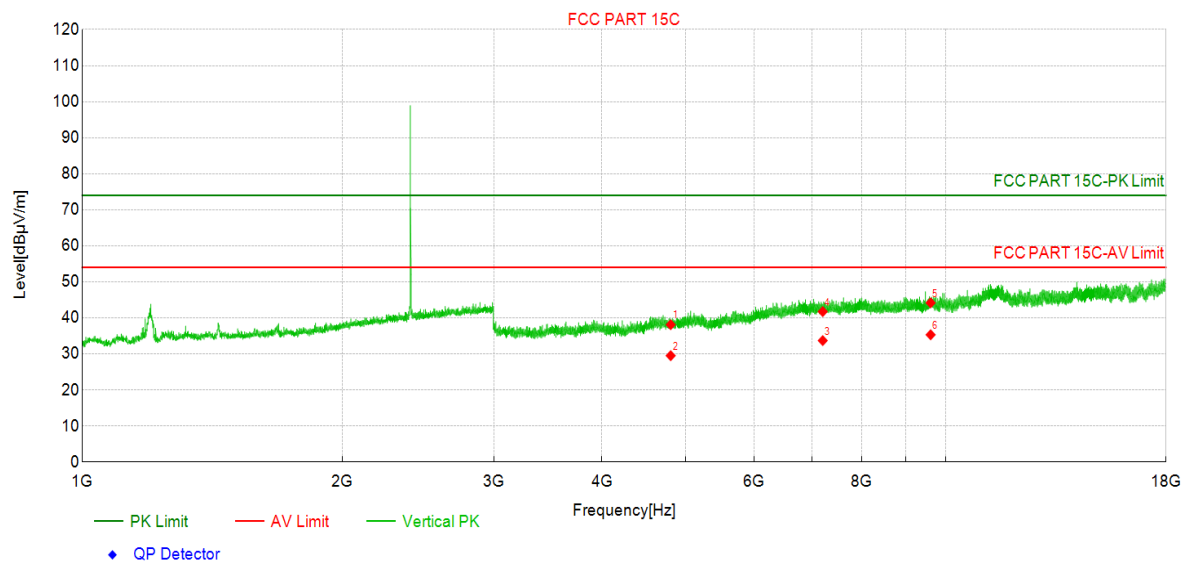


Data List

NO	Frequency [MHz]	Reading [dBμV]	Level [dBμV/m]	Factor [dB/m]	Limit [dBμV/m]	Margin [dB]	Det	Pol	Verdict
1	4804.00	47.9	38.94	-8.960	74.00	35.06	PK	Horizo	PASS
2	4804.00	38.8	29.87	-8.960	54.00	24.13	AV	Horizo	PASS
3	7206.00	44.3	42.20	-2.130	74.00	31.80	PK	Horizo	PASS
4	7206.00	35.8	33.71	-2.130	54.00	20.29	AV	Horizo	PASS
5	9608.00	42.8	43.55	0.760	74.00	30.45	PK	Horizo	PASS
6	9608.00	34.5	35.22	0.760	54.00	18.78	AV	Horizo	PASS

Transmit at 2402MHz by LE_1Mbps

Test Graph

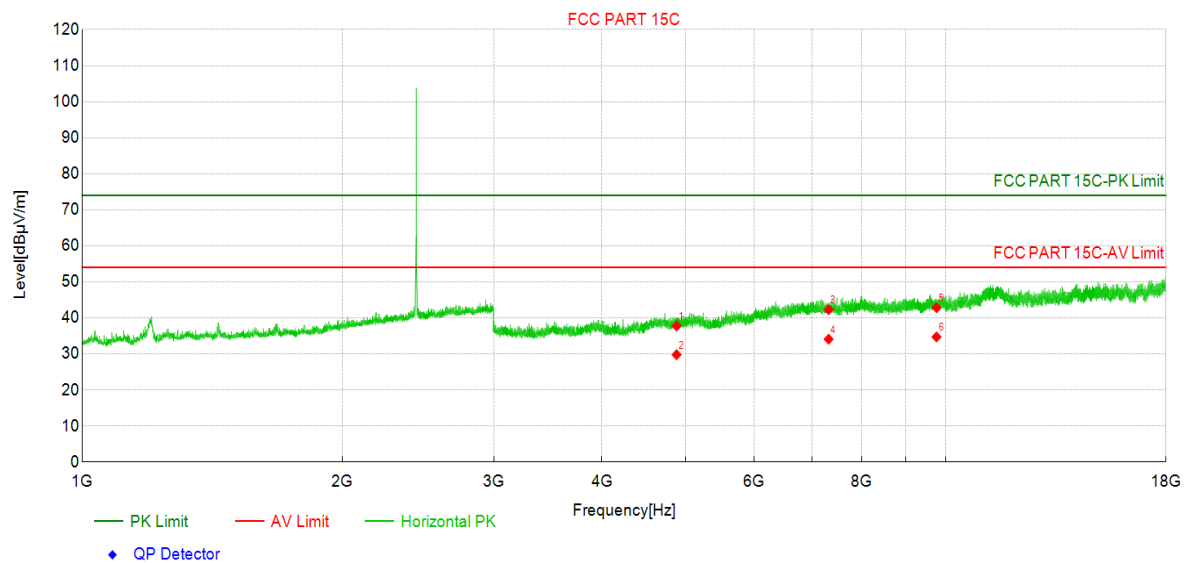


Data List

NO	Frequency [MHz]	Reading [dBμV]	Level [dBμV/m]	Factor [dB/m]	Limit [dBμV/m]	Margin [dB]	Det	Pol	Verdict
1	4804.00	47.1	38.12	-8.960	74.00	35.88	PK	Vertic	PASS
2	4804.00	38.5	29.51	-8.960	54.00	24.49	AV	Vertic	PASS
3	7206.00	35.8	33.70	-2.130	54.00	20.30	AV	Vertic	PASS
4	7206.00	43.9	41.75	-2.130	74.00	32.25	PK	Vertic	PASS
5	9608.00	43.4	44.17	0.760	74.00	29.83	PK	Vertic	PASS
6	9608.00	34.6	35.31	0.760	54.00	18.69	AV	Vertic	PASS

Transmit at 2440MHz by LE_1Mbps

Test Graph

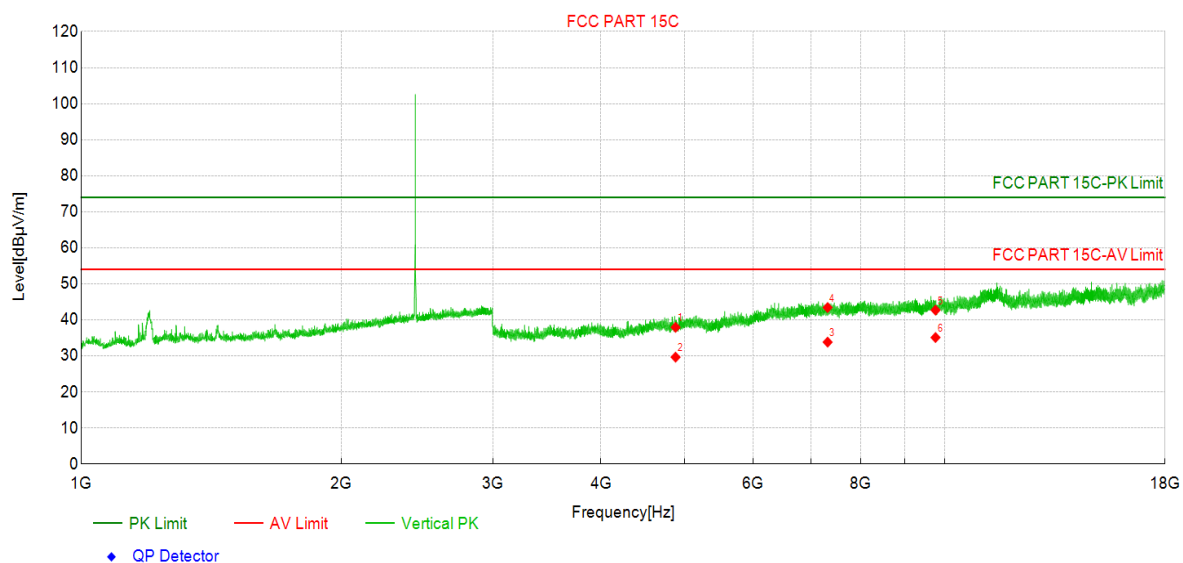


Data List

NO	Frequency [MHz]	Reading [dBμV]	Level [dBμV/m]	Factor [dB/m]	Limit [dBμV/m]	Margin [dB]	Det	Pol	Verdict
1	4880.00	46.3	37.74	-8.590	74.00	36.26	PK	Horizo	PASS
2	4880.00	38.4	29.79	-8.590	54.00	24.21	AV	Horizo	PASS
3	7320.00	44.2	42.30	-1.890	74.00	31.70	PK	Horizo	PASS
4	7320.00	36.0	34.09	-1.890	54.00	19.91	AV	Horizo	PASS
5	9760.00	42.0	42.83	0.830	74.00	31.17	PK	Horizo	PASS
6	9760.00	33.9	34.71	0.830	54.00	19.29	AV	Horizo	PASS

Transmit at 2440MHz by LE_1Mbps

Test Graph

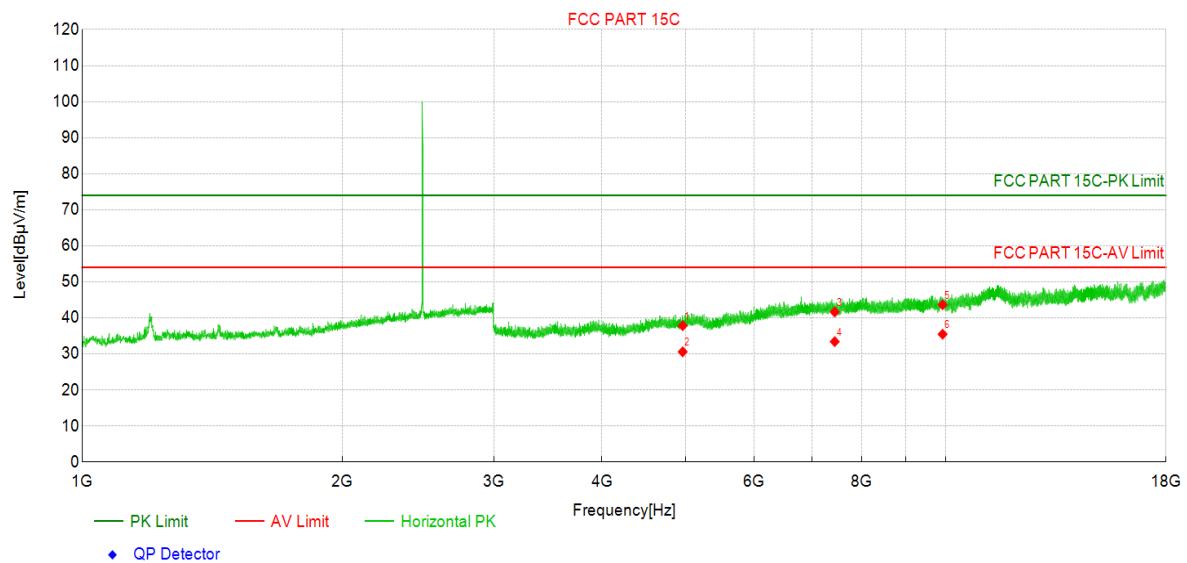


Data List

NO	Frequency [MHz]	Reading [dBμV]	Level [dBμV/m]	Factor [dB/m]	Limit [dBμV/m]	Margin [dB]	Det	Pol	Verdict
1	4880.00	46.5	37.94	-8.590	74.00	36.06	PK	Vertic	PASS
2	4880.00	38.3	29.66	-8.590	54.00	24.34	AV	Vertic	PASS
3	7320.00	35.7	33.83	-1.890	54.00	20.17	AV	Vertic	PASS
4	7320.00	45.3	43.44	-1.890	74.00	30.56	PK	Vertic	PASS
5	9760.00	41.9	42.70	0.830	74.00	31.30	PK	Vertic	PASS
6	9760.00	34.3	35.11	0.830	54.00	18.89	AV	Vertic	PASS

Transmit at 2480MHz by LE_1Mbps

Test Graph

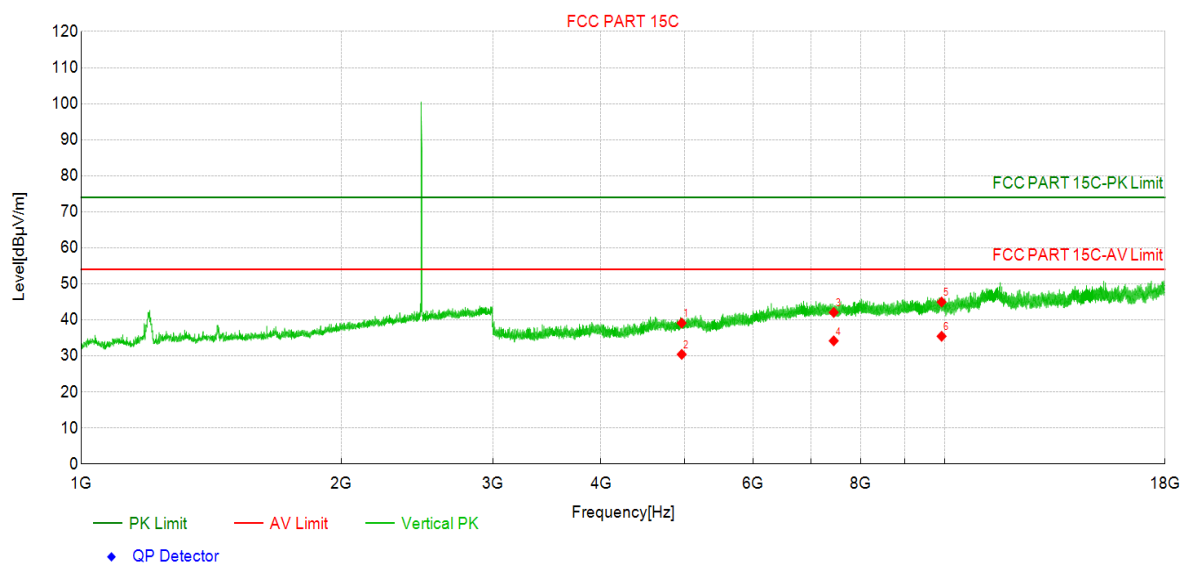


Data List

NO	Frequency [MHz]	Reading [dBμV]	Level [dBμV/m]	Factor [dB/m]	Limit [dBμV/m]	Margin [dB]	Det	Pol	Verdict
1	4960.00	46.1	37.83	-8.250	74.00	36.17	PK	Horizo	PASS
2	4960.00	38.8	30.59	-8.250	54.00	23.41	AV	Horizo	PASS
3	7440.00	43.3	41.65	-1.690	74.00	32.35	PK	Horizo	PASS
4	7440.00	35.1	33.42	-1.690	54.00	20.58	AV	Horizo	PASS
5	9920.00	42.0	43.66	1.690	74.00	30.34	PK	Horizo	PASS
6	9920.00	33.8	35.47	1.690	54.00	18.53	AV	Horizo	PASS

Transmit at 2480MHz by LE_1Mbps

Test Graph

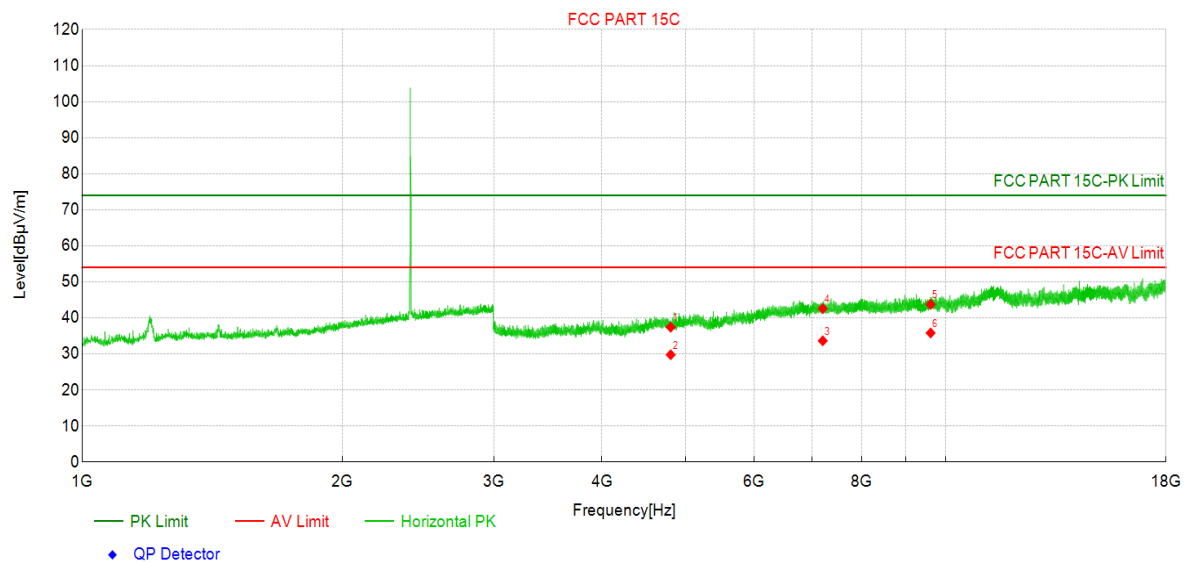


Data List

NO	Frequency [MHz]	Reading [dBμV]	Level [dBμV/m]	Factor [dB/m]	Limit [dBμV/m]	Margin [dB]	Det	Pol	Verdict
1	4960.00	47.4	39.13	-8.250	74.00	34.87	PK	Vertic	PASS
2	4960.00	38.7	30.43	-8.250	54.00	23.57	AV	Vertic	PASS
3	7440.00	43.8	42.07	-1.690	74.00	31.93	PK	Vertic	PASS
4	7440.00	35.9	34.19	-1.690	54.00	19.81	AV	Vertic	PASS
5	9920.00	43.3	44.96	1.690	74.00	29.04	PK	Vertic	PASS
6	9920.00	33.8	35.45	1.690	54.00	18.55	AV	Vertic	PASS

Transmit at 2402MHz by LE_2Mbps

Test Graph

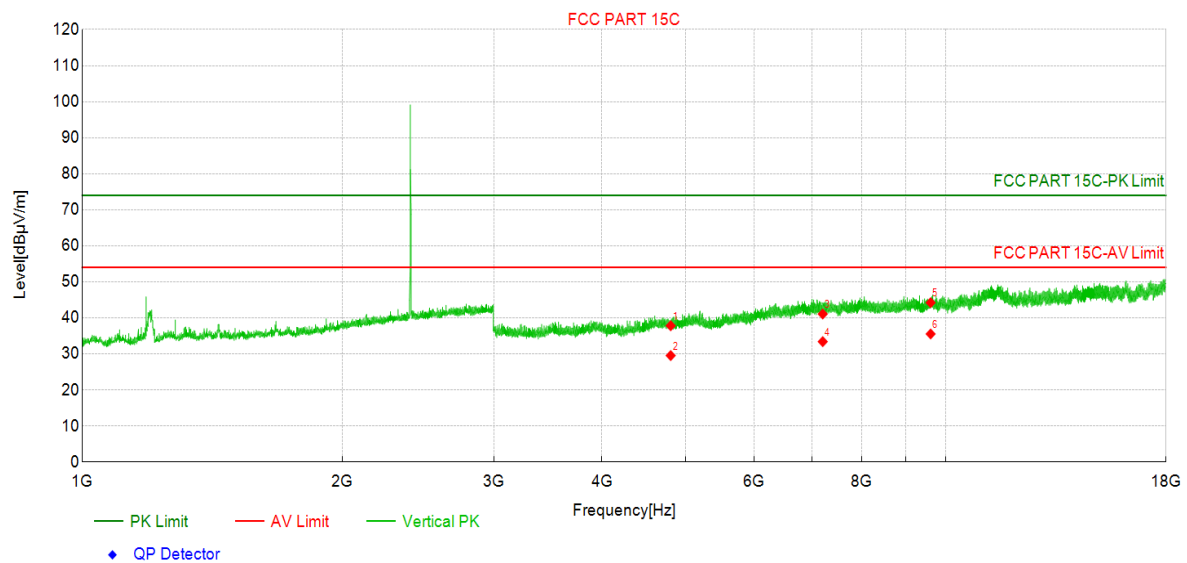


Data List

NO	Frequency [MHz]	Reading [dBμV]	Level [dBμV/m]	Factor [dB/m]	Limit [dBμV/m]	Margin [dB]	Det	Pol	Verdict
1	4804.00	46.4	37.43	-8.960	74.00	36.57	PK	Horizo	PASS
2	4804.00	38.7	29.78	-8.960	54.00	24.22	AV	Horizo	PASS
3	7206.00	35.8	33.64	-2.130	54.00	20.36	AV	Horizo	PASS
4	7206.00	44.7	42.59	-2.130	74.00	31.41	PK	Horizo	PASS
5	9608.00	43.0	43.75	0.760	74.00	30.25	PK	Horizo	PASS
6	9608.00	35.1	35.82	0.760	54.00	18.18	AV	Horizo	PASS

Transmit at 2402MHz by LE_2Mbps

Test Graph

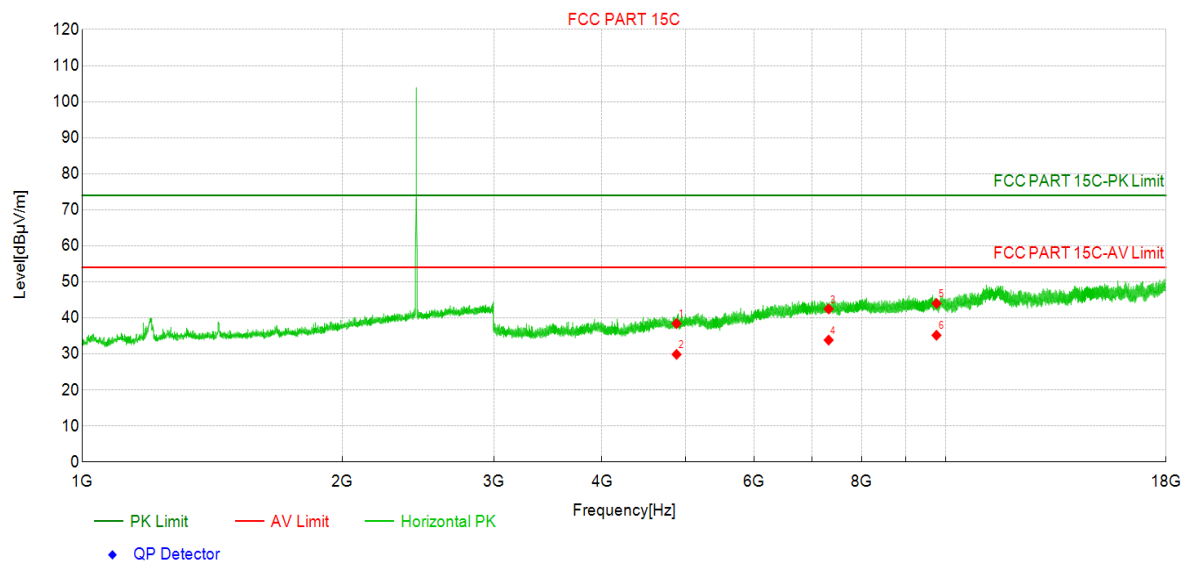


Data List

NO	Frequency [MHz]	Reading [dBμV]	Level [dBμV/m]	Factor [dB/m]	Limit [dBμV/m]	Margin [dB]	Det	Pol	Verdict
1	4804.00	46.8	37.83	-8.960	74.00	36.17	PK	Vertic	PASS
2	4804.00	38.5	29.55	-8.960	54.00	24.45	AV	Vertic	PASS
3	7206.00	43.2	41.09	-2.130	74.00	32.91	PK	Vertic	PASS
4	7206.00	35.6	33.42	-2.130	54.00	20.58	AV	Vertic	PASS
5	9608.00	43.5	44.22	0.760	74.00	29.78	PK	Vertic	PASS
6	9608.00	34.8	35.54	0.760	54.00	18.46	AV	Vertic	PASS

Transmit at 2440MHz by LE_2Mbps

Test Graph

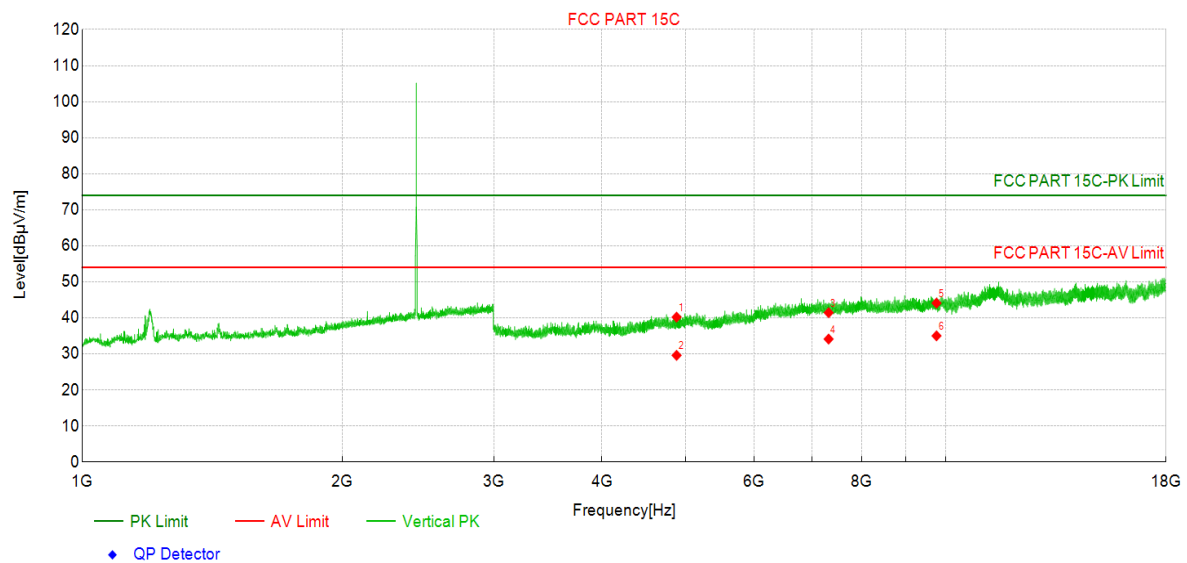


Data List

NO	Frequency [MHz]	Reading [dBμV]	Level [dBμV/m]	Factor [dB/m]	Limit [dBμV/m]	Margin [dB]	Det	Pol	Verdict
1	4880.00	47.0	38.42	-8.590	74.00	35.58	PK	Horizo	PASS
2	4880.00	38.5	29.87	-8.590	54.00	24.13	AV	Horizo	PASS
3	7320.00	44.4	42.48	-1.890	74.00	31.52	PK	Horizo	PASS
4	7320.00	35.7	33.84	-1.890	54.00	20.16	AV	Horizo	PASS
5	9760.00	43.2	44.01	0.830	74.00	29.99	PK	Horizo	PASS
6	9760.00	34.4	35.18	0.830	54.00	18.82	AV	Horizo	PASS

Transmit at 2440MHz by LE_2Mbps

Test Graph

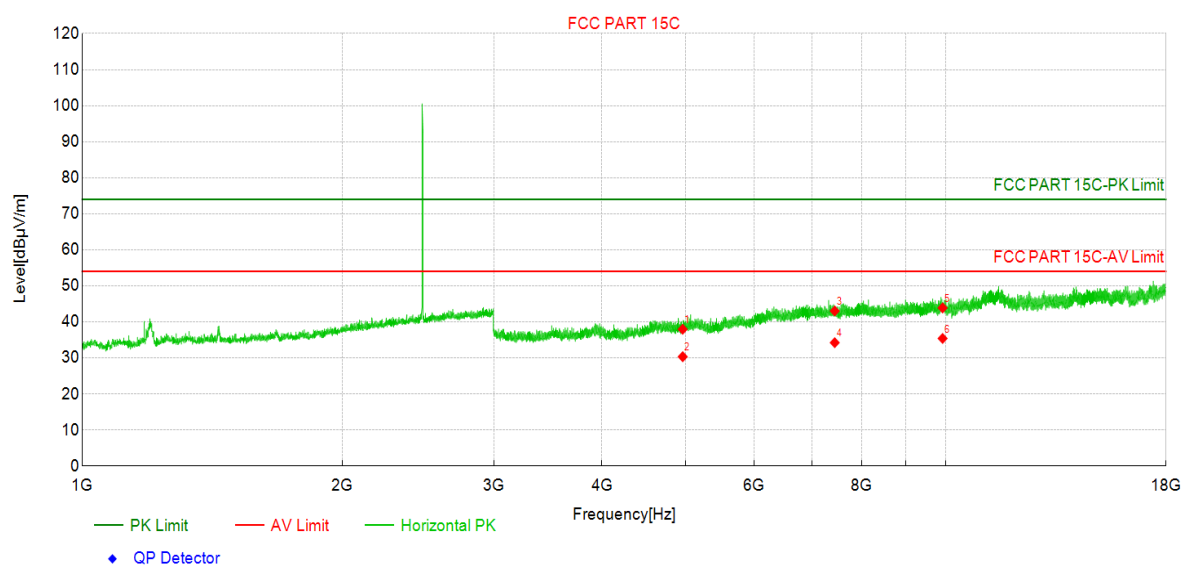


Data List

NO	Frequency [MHz]	Reading [dBμV]	Level [dBμV/m]	Factor [dB/m]	Limit [dBμV/m]	Margin [dB]	Det	Pol	Verdict
1	4880.00	48.8	40.21	-8.590	74.00	33.79	PK	Vertic	PASS
2	4880.00	38.2	29.61	-8.590	54.00	24.39	AV	Vertic	PASS
3	7320.00	43.3	41.44	-1.890	74.00	32.56	PK	Vertic	PASS
4	7320.00	36.0	34.13	-1.890	54.00	19.87	AV	Vertic	PASS
5	9760.00	43.3	44.11	0.830	74.00	29.89	PK	Vertic	PASS
6	9760.00	34.2	35.02	0.830	54.00	18.98	AV	Vertic	PASS

Transmit at 2480MHz by LE_2Mbps

Test Graph

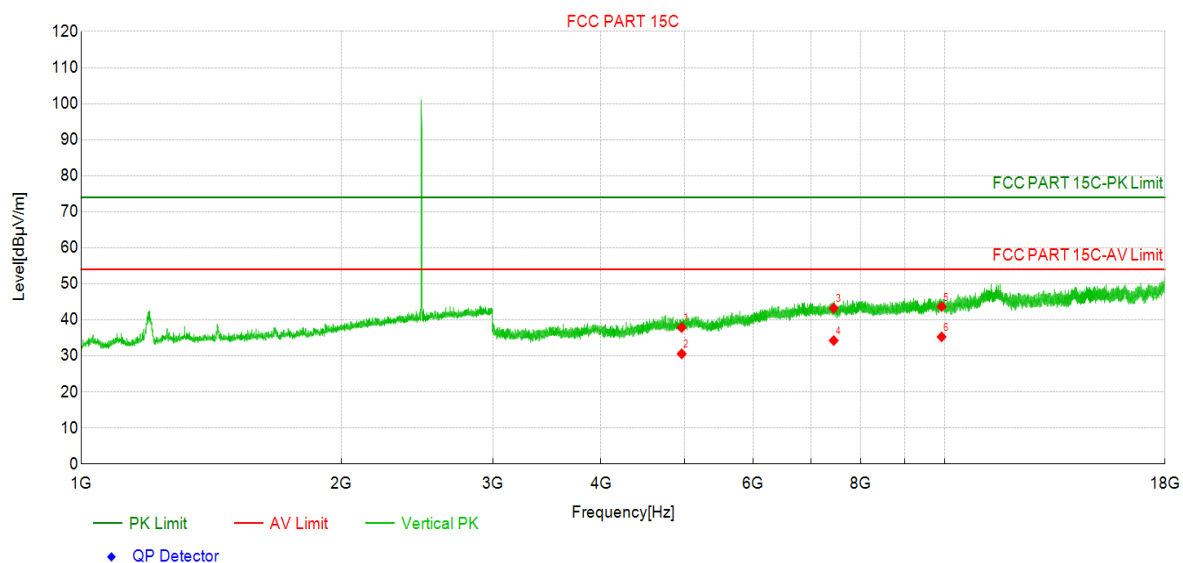


Data List

NO	Frequency [MHz]	Reading [dBμV]	Level [dBμV/m]	Factor [dB/m]	Limit [dBμV/m]	Margin [dB]	Det	Pol	Verdict
1	4960.00	46.2	37.96	-8.250	74.00	36.04	PK	Horizo	PASS
2	4960.00	38.6	30.34	-8.250	54.00	23.66	AV	Horizo	PASS
3	7440.00	44.7	43.04	-1.690	74.00	30.96	PK	Horizo	PASS
4	7440.00	35.9	34.23	-1.690	54.00	19.77	AV	Horizo	PASS
5	9920.00	42.2	43.89	1.690	74.00	30.11	PK	Horizo	PASS
6	9920.00	33.7	35.40	1.690	54.00	18.60	AV	Horizo	PASS

Transmit at 2480MHz by LE_2Mbps

Test Graph



Data List

NO	Frequency [MHz]	Reading [dBμV]	Level [dBμV/m]	Factor [dB/m]	Limit [dBμV/m]	Margin [dB]	Det	Pol	Verdict
1	4960.00	46.1	37.88	-8.250	74.00	36.12	PK	Vertic	PASS
2	4960.00	38.8	30.57	-8.250	54.00	23.43	AV	Vertic	PASS
3	7440.00	44.9	43.24	-1.690	74.00	30.76	PK	Vertic	PASS
4	7440.00	36.0	34.26	-1.690	54.00	19.74	AV	Vertic	PASS
5	9920.00	42.0	43.69	1.690	74.00	30.31	PK	Vertic	PASS
6	9920.00	33.6	35.28	1.690	54.00	18.72	AV	Vertic	PASS

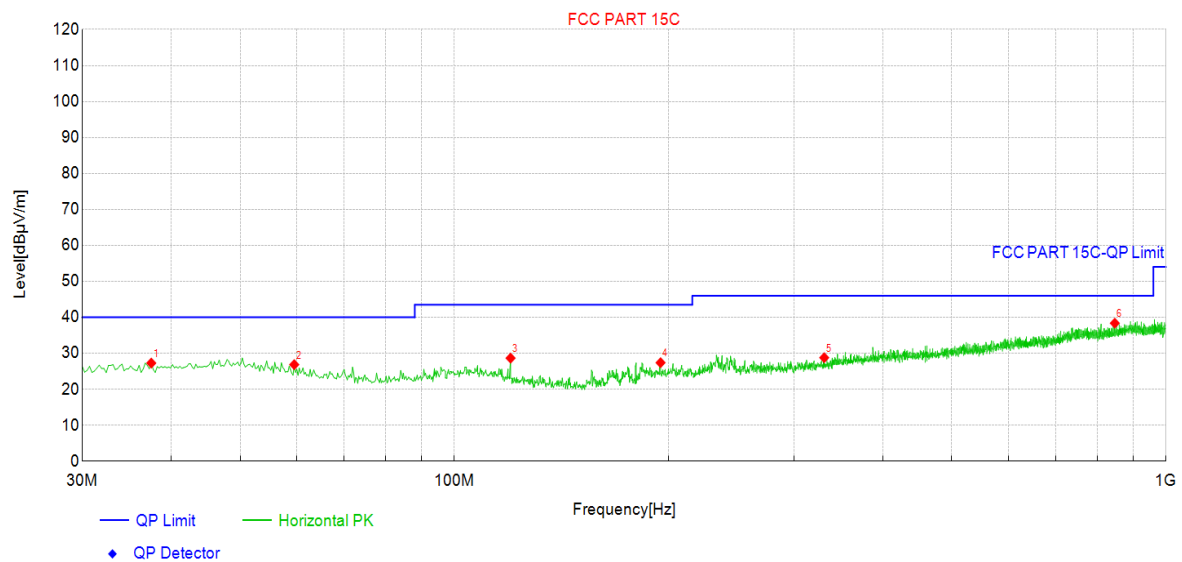
Note:

1. Level=Reading+Factor .

2. Margin=Limit-Level.

3. The test frequency range, 9kHz~30MHz, worst case are at least 20dB below the limits, therefore no data appear in the report.

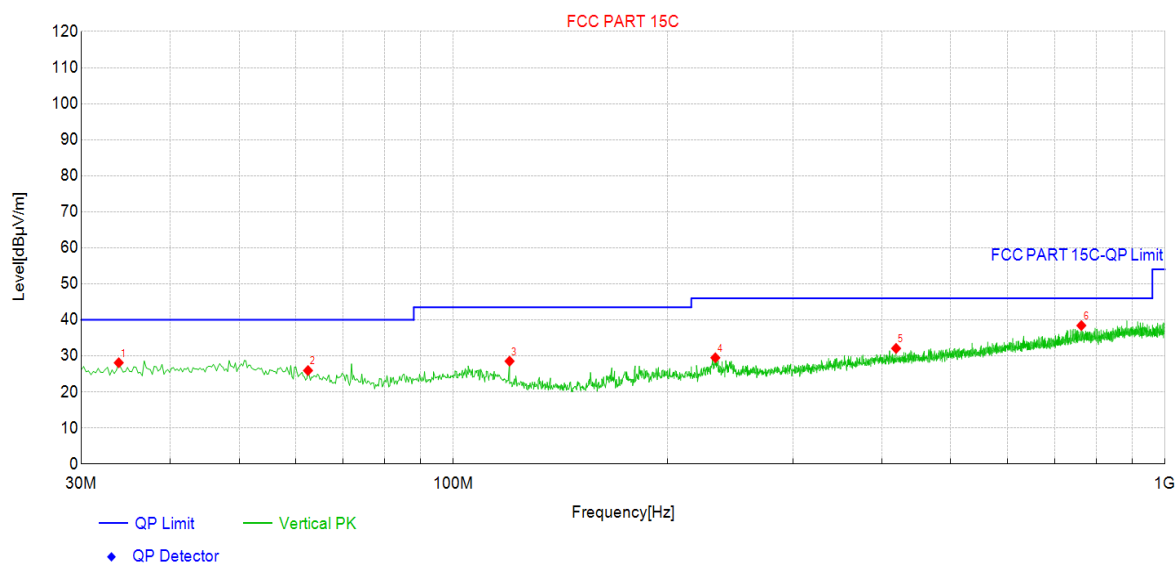
4. The test frequency range, 18GHz~26GHz test result on peak is lower than average limit, all is the noise base, therefore no data appear in the report.

The worst case of Radiated Emission below 1GHz :**Transmit at 2402MHz by LE_1Mbps***Test Graph***Data List**

NO	Frequency [MHz]	Reading [dBμV]	Level [dBμV/m]	Factor [dB/m]	Limit [dBμV/m]	Margin [dB]	Det	Pol	Verdict
1	37.52	13.8	27.29	13.460	40.00	12.71	PK	Horizo	PASS
2	59.59	14.0	26.86	12.890	40.00	13.14	PK	Horizo	PASS
3	119.97	17.8	28.66	10.840	43.50	14.84	PK	Horizo	PASS
4	194.90	15.9	27.39	11.480	43.50	16.11	PK	Horizo	PASS
5	330.94	13.9	28.78	14.870	46.00	17.22	PK	Horizo	PASS
6	847.23	16.3	38.38	22.060	46.00	7.62	PK	Horizo	PASS

Transmit at 2402MHz by LE_1Mbps

Test Graph



Data List

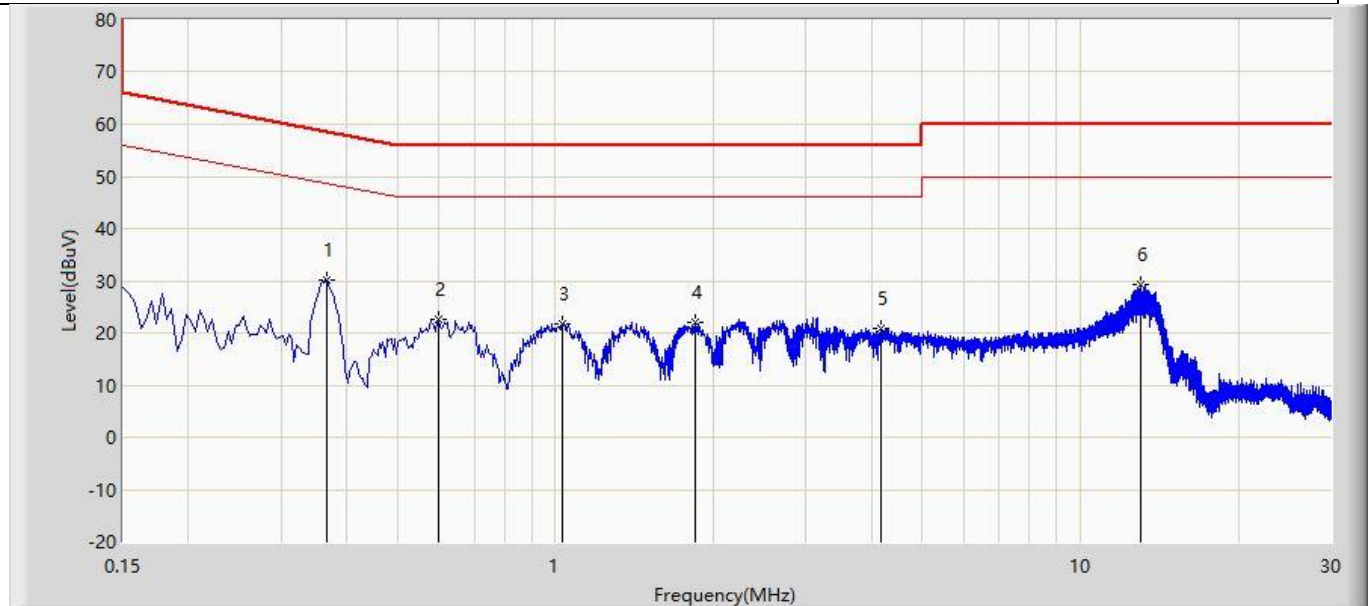
NO	Frequency [MHz]	Reading [dBμV]	Level [dBμV/m]	Factor [dB/m]	Limit [dBμV/m]	Margin [dB]	Det	Pol	Verdict
1	33.88	15.1	28.11	13.030	40.00	11.89	PK	Vertic	PASS
2	62.50	13.8	25.95	12.120	40.00	14.05	PK	Vertic	PASS
3	119.97	17.7	28.54	10.840	43.50	14.96	PK	Vertic	PASS
4	233.46	16.8	29.49	12.740	46.00	16.51	PK	Vertic	PASS
5	418.97	15.8	32.09	16.330	46.00	13.91	PK	Vertic	PASS
6	762.84	16.9	38.43	21.540	46.00	7.57	PK	Vertic	PASS

Note:

1. All Readings below 1GHz are PK, PK as an alternative to CISPR quasi-peak measurements or average measurements.
2. Level=Reading+Factor.

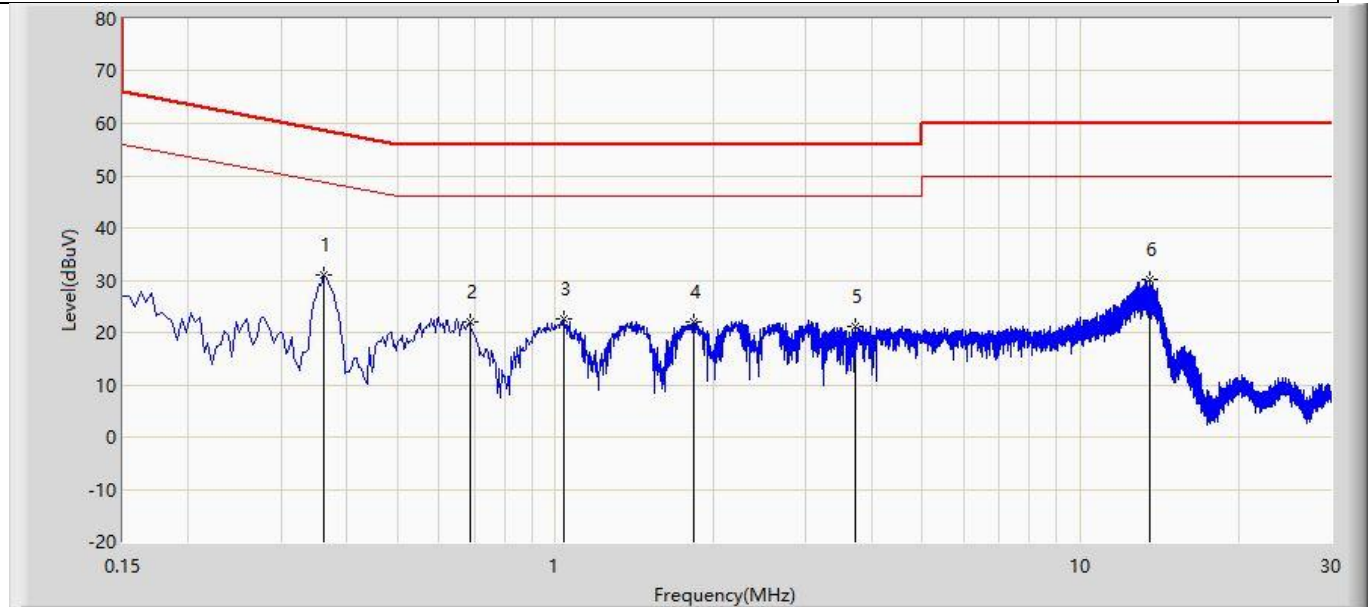
Appendix H: AC Power Line Conducted Emission

Limit: FCC_Part 15.207	Margin: 0
Probe: ENV216_101189(0.009-30MHz)	Polarity: Line
EUT: Barcode Scanner	Power: AC 120V/60Hz
Note: Transmit at 2402MHz by LE_1Mbps	



No	Mark	Frequency (MHz)	Measure Level (dBuV)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV)	Factor (dB)	Type
1	*	0.366	30.250	20.569	-28.341	58.591	9.682	QP
2		0.598	22.551	12.869	-33.449	56.000	9.683	QP
3		1.034	21.803	12.101	-34.197	56.000	9.702	QP
4		1.842	22.076	12.322	-33.924	56.000	9.754	QP
5		4.178	20.888	11.083	-35.112	56.000	9.805	QP
6		13.054	29.352	19.376	-30.648	60.000	9.976	QP

Limit: FCC_Part 15.207	Margin: 0
Probe: ENV216_101189(0.009-30MHz)	Polarity: Neutral
EUT: Barcode Scanner	Power: AC 120V/60Hz
Note: Transmit at 2402MHz by LE_1Mbps	



No	Mark	Frequency (MHz)	Measure Level (dBuV)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV)	Factor (dB)	Type
1	*	0.362	31.079	21.463	-27.603	58.682	9.616	QP
2		0.686	22.009	12.363	-33.991	56.000	9.647	QP
3		1.038	22.568	12.888	-33.432	56.000	9.680	QP
4		1.830	21.980	12.288	-34.020	56.000	9.692	QP
5		3.718	21.241	11.475	-34.759	56.000	9.766	QP
6		13.550	30.161	20.102	-29.839	60.000	10.060	QP

Note:

1. " * ", means this data is the worst emission level.

The End