

TEST REPORT

Application No.: KSCR2606001298HS
FCC ID: 2BU2S-ESPC3MINII
Applicant: Jingjie Xunhang (Suzhou) Technology Co., Ltd.
Address of Applicant: 10/F, Building B, No. 7 Qian Zhu Road, Taihu Street, Wuzhong District, Suzhou, Jiangsu Province, P.R.China
Manufacturer: Jingjie Xunhang (Suzhou) Technology Co., Ltd.
Address of Manufacturer: 10/F, Building B, No. 7 Qian Zhu Road, Taihu Street, Wuzhong District, Suzhou, Jiangsu Province, P.R.China
Factory: Huzhou Luxshare Precision Industry Co., Ltd
Address of Factory: 399 Shengsun Road, Zhili Town, Wuxing District, Huzhou City, Zhejiang Province, China
Equipment Under Test (EUT):
EUT Name: Window Cleaning Robot
Model No.: GTJZ2579
Trade Mark: MOVA
Standard(s) : 47 CFR Part 15, Subpart C 15.247
Date of Receipt: 2026-06-03
Date of Test: 2026-06-04 to 2026-06-08
Date of Issue: 2026-06-08

Test Result:	Pass*
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* In the configuration tested, the EUT complied with the standards specified above.

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Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 30 days only.

Revision Record			
Version	Description	Date	Remark
00	Original	2026-06-08	/

Authorized for issue by:			
Prepared By		 Micheal_Niu/Project Engineer	
Approved By		 Terry Hou /Reviewer	

2 Test Summary

Radio Spectrum Technical Requirement				
Item	Standard	Method	Requirement	Result
Antenna Requirement	47 CFR Part 15, Subpart C 15.247	N/A	47 CFR Part 15, Subpart C 15.203 & 15.247(b)(4)	Customer Declaration

Radio Spectrum Matter Part				
Item	Standard	Method	Requirement	Result
Conducted Emissions at AC Power Line (150kHz-30MHz)	47 CFR Part 15, Subpart C 15.247	ANSI C63.10 (2020) Section 6.2	47 CFR Part 15, Subpart C 15.207	Pass
Radiated Emissions which fall in the restricted bands		ANSI C63.10 (2020) Section 6.10.5 & 11.12	47 CFR Part 15, Subpart C 15.205 & 15.209	Pass
Radiated Spurious Emissions Below 1GHz		ANSI C63.10 (2020) Section 6.4,6.5	47 CFR Part 15, Subpart C 15.205 & 15.209	Pass
Radiated Spurious Emissions Above 1GHz		ANSI C63.10 (2020) Section 6.6 & 11.12	47 CFR Part 15, Subpart C 15.205 & 15.209	Pass
Maximum Conducted Output Power		ANSI C63.10 (2020) Section 11.9.1	47 CFR Part 15, Subpart C 15.247(b)(3)	Pass
Minimum 6dB Bandwidth		ANSI C63.10 (2020) Section 11.8.1	47 CFR Part 15, Subpart C 15.247a(2)	Pass
Power Spectral Density		ANSI C63.10 (2020) Section 11.10.3	47 CFR Part 15, Subpart C 15.247(e)	Pass
Conducted Band Edges Measurement		ANSI C63.10 (2020) Section 6.10.4	47 CFR Part 15, Subpart C 15.247(d)	Pass
Conducted Spurious Emissions		ANSI C63.10 (2020) Section 11.11	47 CFR Part 15, Subpart C 15.247(d)	Pass

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4 General Information

4.1 Details of E.U.T.

Power supply:	AC 100-240V~50/60Hz
Test voltage:	AC 120V 60Hz
Operation Frequency:	2402MHz to 2480MHz
Modulation Type:	GFSK
Number of Channels:	40
Channel Spacing:	2MHz
Antenna Type:	PCB Antenna
Antenna Gain:	2.44 dBi (Provided by manufacturer)

4.2 Description of Support Units

Description	Manufacturer	Model No.	Serial No.
Laptop	Lenovo	ThinkPad X100e	/
Serial port adapter plate	/	Test Plate 3	/

4.3 Power level setting using in test

Channel	Power setting
2402	9
2440	9
2480	9

4.4 Measurement Uncertainty

No.	Item	Measurement Uncertainty
1	Radio Frequency	8.4×10^{-8}
2	Timeout	2s
3	Duty Cycle	0.37%
4	Occupied Bandwidth	3%
5	RF Conducted Power	0.6dB
6	RF Power Density	2.9dB
7	Conducted Spurious Emissions	0.75dB
8	RF Radiated Power	5.2dB (Below 1GHz)
		5.9dB (Above 1GHz)
9	Radiated Spurious Emission Test	4.2dB (Below 30MHz)
		4.5dB (30MHz-1GHz)
		5.1dB (1GHz-18GHz)
		5.4dB (Above 18GHz)
10	Temperature Test	1°C
11	Humidity Test	3%
12	Supply Voltages	1.5%
13	Time	3%
Note: The measurement uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of k=2.		

4.5 Test Location

All tests were performed at:

Compliance Certification Services (Kunshan) Inc.

No.10 Weiye Rd, Innovation park, Eco&Tec, Development Zone, Kunshan City, Jiangsu, China.

Tel: +86 512 5735 5888 Fax: +86 512 5737 0818

No tests were sub-contracted.

Note:

1. SGS is not responsible for wrong test results due to incorrect information (e.g., max. internal working frequency, antenna gain, cable loss, etc) is provided by the applicant. (If applicable).
2. SGS is not responsible for the authenticity, integrity and the validity of the conclusion based on results of the data provided by applicant. (If applicable).
3. Sample source: sent by customer.

4.6 Test Facility

The test facility is recognized, certified, or accredited by the following organizations:

- **A2LA (Certificate No. 2541.01)**

Compliance Certification Services (Kunshan) Inc. is accredited by the American Association for Laboratory Accreditation (A2LA).

- **FCC (Designation Number: CN1172)**

Compliance Certification Services (Kunshan) Inc. has been recognized as an accredited testing laboratory.

- **ISED (CAB Identifier: CN0072)**

Compliance Certification Services (Kunshan) Inc. has been recognized by Innovation, Science and Economic Development Canada (ISED) as an accredited testing laboratory.

Company Number: 2324E

- **VCCI (Member No:1938)**

The 3m and 10m Semi-anechoic chamber and Shielded Room of Compliance Certification Services (Kunshan) Inc. has been registered in accordance with the Regulations for Voluntary Control Measures with Registration No.: R-20134, R-11600, C-11707, T-11499, G-10216 respectively.

4.7 Deviation from Standards

None

4.8 Abnormalities from Standard Conditions

None

5 Equipment List

Item	Equipment	Manufacturer	Model	Inventory No	Cal Date	Cal. Due Date
Conducted Emission at Mains Terminals						
1	EMI Test Receive	R&S	ESCI	KS301196	07/09/2025	07/08/2026
2	LISN	R&S	ENV216	KS301197	01/08/2026	01/07/2027
3	LISN	Schwarzbeck	NNLK 8129	KS301091	01/08/2026	01/07/2027
4	Pulse Limiter	R&S	ESH3-Z2	KUS1902E001	12/18/2025	12/17/2026
5	CE test Cable	Thermax	/	CZ301102	12/18/2025	12/17/2026
6	Software	Faratronic	E3	/	N.C.R	N.C.R
RF Conducted Test						
1	Spectrum Analyzer	Keysight	N9020A	KUS1911E004-2	07/09/2025	07/08/2026
2	Spectrum Analyzer	Keysight	N9020A	KUS2001M001-2	07/09/2025	07/08/2026
3	Spectrum Analyzer	Keysight	N9030B	KSEM021-1	12/17/2025	12/16/2026
4	Signal Generator	R&S	SMBV100B	KSEM032	12/17/2025	12/16/2026
5	Signal Generator	R&S	SMW200A	KSEM020-1	07/09/2025	07/08/2026
6	Signal Generator	Agilent	N5182A	KUS2001M001-1	07/08/2025	07/07/2026
7	Signal Generator	Agilent	E8257C	KS301066	07/22/2025	07/21/2026
8	Radio Communication Test Station	Anritsu	MT8000A	KSEM001-1	07/09/2025	07/08/2026
9	Radio Communication Analyzer	Anritsu	MT8821C	KSEM002-1	12/17/2025	12/16/2026
10	Universal Radio Communication Tester	R&S	CMW500	KUS1911E004-1	07/08/2025	07/07/2026
11	Switcher	TST	FY562	KUS2001M001-4	12/17/2025	12/16/2026
12	Conducted Test Cable	Thermax	RF01-RF04	CZ301111-CZ301120	12/17/2025	12/16/2026
13	Temp. / Humidity Chamber	TERCHY	MHK-120AK	KS301190	07/15/2025	07/14/2026
14	Temperature & Humidity Recorder	Renke Control	RS-WS-N01-6J	KSEM024-5	12/30/2025	12/29/2026
15	Software	BST	TST-PASS	/	NCR	NCR
RF Radiated Test						
1	Spectrum Analyzer	R&S	FSV40	KUS1806E003	07/09/2025	07/08/2026
2	Universal Radio Communication Tester	R&S	CMW500	KSEM009-1	12/17/2025	12/16/2026
3	Signal Generator	Agilent	E8257C	KS301066	07/22/2025	07/21/2026
4	Loop Antenna (9KHz-30MHz)	COM-POWER	AL-130R	KUS1806E001	07/11/2025	07/10/2026
5	Bilog Antenna (30MHz-1GHz)	TESEQ	CBL 6112D	KUS1806E005	07/12/2025	07/11/2026
6	Horn-antenna(1-18GHz)	Schwarzbeck	BBHA9120D	KS301079	01/11/2026	01/10/2028
7	Horn Antenna(18-40GHz)	Schwarzbeck	BBHA9170	CZ301058	01/11/2026	01/10/2028
8	Amplifier(30MHz~1GHz)	TST	LNA009100G30	KSEM061	12/18/2025	12/17/2026

9	Amplifier(400MHz~8GHz)	TST	LNA004080G30	KSEM062	12/18/2025	12/17/2026
10	Amplifier(1GHz~18GHz)	TST	LNA010180G45	KSEM039	07/09/2025	07/08/2026
11	Amplifier(18~40GHz)	TST	LNA180400G40	KSEM038	07/09/2025	07/08/2026
12	RF Test Cable	REBES MICROWAVE	A81-SMSM- 10M	CZ301097- CZ301100	11/14/2025	11/13/2026
13	Temperature & Humidity Recorder	Renke Control	RS-WS-N01-6J	KSEM024-4	12/30/2025	12/29/2026
14	Software	ESE	E3_V 6.111221a	/	NCR	NCR
15	Measurement Software	Tonscend	JS32-RE V5.0.0.1	/	NCR	NCR
16	Measurement Software	Tonscend	JS32-RSE V5.0.0.0	/	NCR	NCR

6 Radio Spectrum Technical Requirement

6.1 Antenna Requirement

6.1.1 Test Requirement:

47 CFR Part 15, Subpart C 15.203 & 15.247(b)(4)

6.1.2 Conclusion

Standard Requirement:

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, 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.

15.247(b) (4) requirement:

The conducted output power limit specified in paragraph (b) of this section is based on the use of antennas with directional gains that do not exceed 6 dBi. Except as shown in paragraph (c) of this section, if transmitting antennas of directional gain greater than 6 dBi are used, the conducted output power from the intentional radiator shall be reduced below the stated values in paragraphs (b)(1), (b)(2), and (b)(3) of this section, as appropriate, by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

EUT Antenna:

The antenna is PCB antenna and no consideration of replacement. The best case gain of the antenna is 2.44 dBi.

Antenna location: Refer to internal photo.

7 Radio Spectrum Matter Test Results

7.1 Conducted Emissions at AC Power Line (150kHz-30MHz)

Test Requirement 47 CFR Part 15, Subpart C 15.207

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

Limit:

Frequency of emission(MHz)	Conducted limit(dBμV)	
	Quasi-peak	Average
0.15-0.5	66 to 56*	56 to 46*
0.5-5	56	46
5-30	60	50
*Decreases with the logarithm of the frequency.		
Detector: Peak for pre-scan (9kHz resolution bandwidth) 0.15M to 30MHz		

7.1.1 E.U.T. Operation

Operating Environment:

Temperature: 26.8 °C

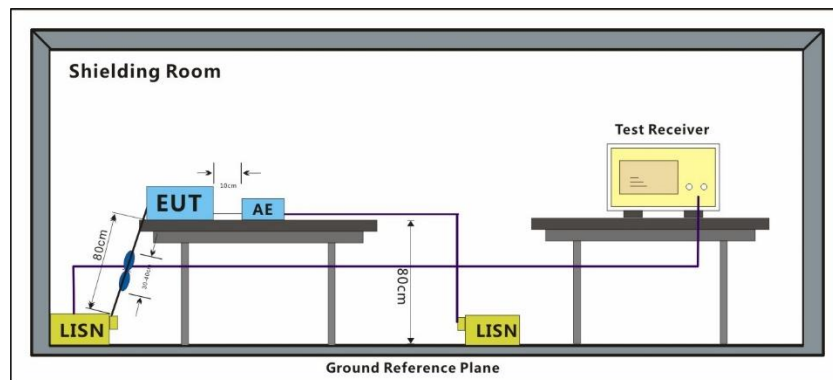
Humidity: 52.3 % RH

Atmospheric Pressure: 1010 mbar

7.1.2 Test Mode Description

Pre-scan / Final test	Mode Code	Description
Final test	00	TX mode(1Mbps)_Keep the EUT in continuously transmitting mode with GFSK modulation.
Pre-scan	01	TX mode(2Mbps)_Keep the EUT in continuously transmitting mode with GFSK modulation.

7.1.3 Test Setup Diagram

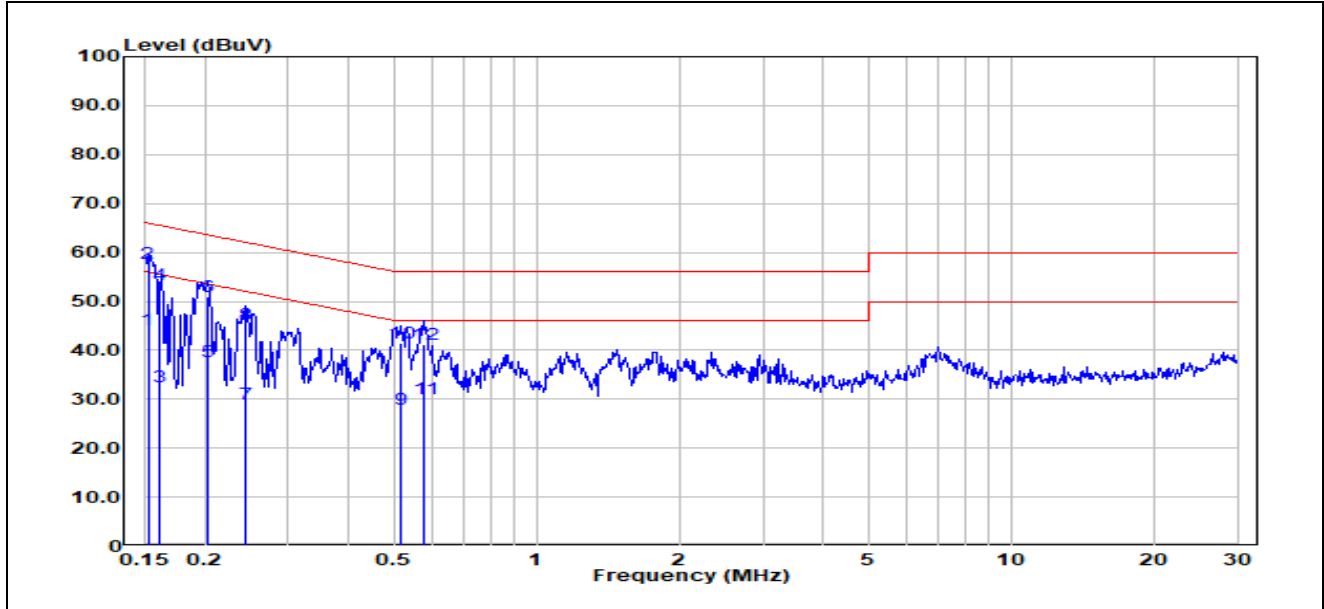


7.1.4 Measurement Procedure and Data

- 1) The mains terminal disturbance voltage test was conducted in a shielded room.
- 2) The EUT was connected to AC power source through a LISN 1 (Line Impedance Stabilization Network) which provides a 50ohm/50μH + 5ohm linear impedance. The power cables of all other units of the EUT were connected to a second LISN 2, which was bonded to the ground reference plane in the same way as the LISN 1 for the unit being measured. A multiple socket outlet strip was used to connect multiple power cables to a single LISN provided the rating of the LISN was not exceeded.
- 3) The tabletop EUT was placed upon a non-metallic table 0.8m above the ground reference plane. And for floor-standing arrangement, the EUT was placed on the horizontal ground reference plane.
- 4) The test was performed with a vertical ground reference plane. The rear of the EUT shall be 0.4 m from the vertical ground reference plane. The vertical ground reference plane was bonded to the horizontal ground reference plane. The LISN 1 was placed 0.8 m from the boundary of the unit under test and bonded to a ground reference plane for LISNs mounted on top of the ground reference plane. This distance was between the closest points of the LISN 1 and the EUT. All other units of the EUT and associated equipment was at least 0.8 m from the LISN 2.
- 5) In order to find the maximum emission, the relative positions of equipment and all of the interface cables must be changed according to ANSI C63.10 on conducted measurement.

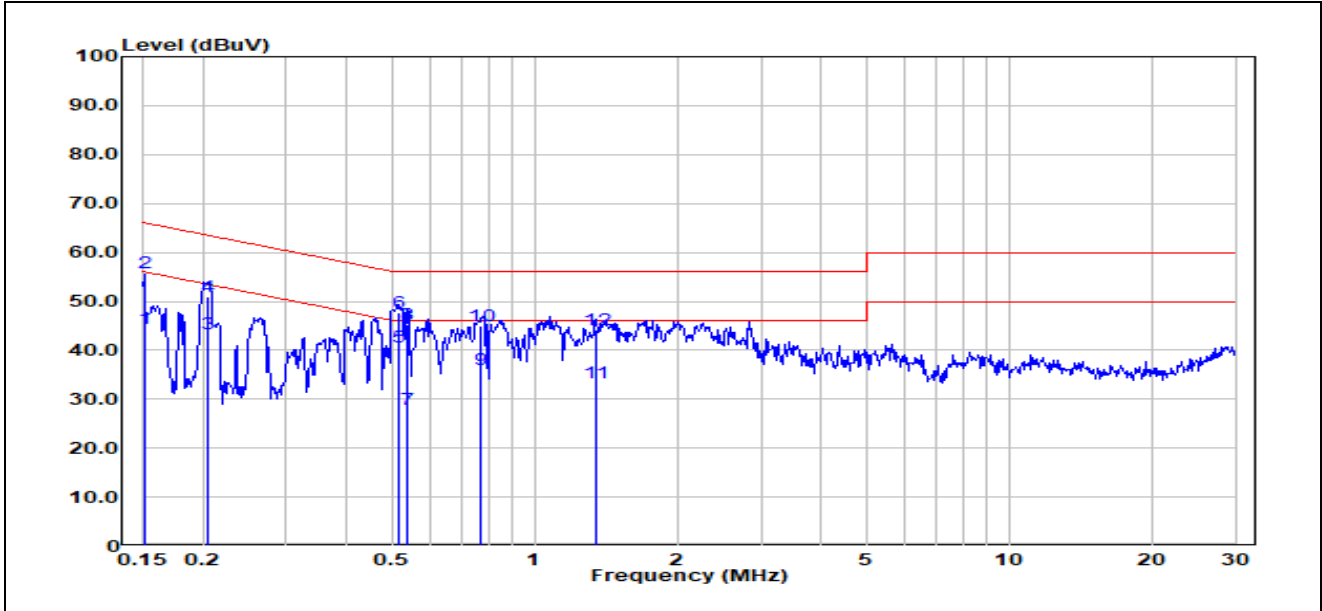
Remark: Level=Read Level+ Cable Loss+ LISN Factor

Test Mode: 00; Line: Live line



No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB)	Result (dBuV)	Limit (dBuV)	Margin (dB)	Remark
1	0.1517	23.77	20.38	44.15	55.91	-11.76	Average
2	0.1517	37.21	20.38	57.59	65.91	-8.32	QP
3	0.1606	12.28	20.34	32.62	55.43	-22.81	Average
4	0.1606	32.97	20.34	53.31	65.43	-12.12	QP
5	0.2023	17.44	20.25	37.69	53.52	-15.83	Average
6	0.2023	30.64	20.25	50.89	63.52	-12.63	QP
7	0.2427	9.00	20.12	29.12	52.00	-22.88	Average
8	0.2427	25.08	20.12	45.20	62.00	-16.80	QP
9	0.5170	7.72	20.21	27.93	46.00	-18.07	Average
10	0.5170	21.34	20.21	41.55	56.00	-14.45	QP
11	0.5800	9.82	20.20	30.02	46.00	-15.98	Average
12	0.5800	20.95	20.20	41.15	56.00	-14.85	QP

Test Mode: 00; Line: Neutral Line



No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB)	Result (dBuV)	Limit (dBuV)	Margin (dB)	Remark
1	0.1508	24.06	20.44	44.50	55.96	-11.46	Average
2	0.1508	35.37	20.44	55.81	65.96	-10.15	QP
3	0.2055	23.01	20.23	43.24	53.39	-10.15	Average
4	0.2055	30.70	20.23	50.93	63.39	-12.46	QP
5	0.5173	20.48	20.18	40.66	46.00	-5.34	Average
6	0.5173	27.45	20.18	47.63	56.00	-8.37	QP
7	0.5384	7.72	20.19	27.91	46.00	-18.09	Average
8	0.5384	25.03	20.19	45.22	56.00	-10.78	QP
9	0.7737	15.81	20.22	36.03	46.00	-9.97	Average
10	0.7737	24.86	20.22	45.08	56.00	-10.92	QP
11	1.3500	13.43	20.03	33.46	46.00	-12.54	Average
12	1.3500	24.24	20.03	44.27	56.00	-11.73	QP

7.2 Radiated Emissions which fall in the restricted bands

Test Requirement 47 CFR Part 15, Subpart C 15.205 & 15.209

Test Method: ANSI C63.10 (2020) Section 6.10.5 & 11.12

Measurement Distance: 3m

Limit:

Frequency(MHz)	Field strength(microvolts/meter)	Measurement distance(meters)
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

Remark: The emission limits shown in the above table are based on measurements employing a CISPR quasi-peak detector except for the frequency bands 9-90kHz, 110-490kHz and above 1000 MHz. Radiated emission limits in these three bands are based on measurements employing an average detector, the peak field strength of any emission shall not exceed the maximum permitted average limits specified above by more than 20 dB under any condition of modulation.

7.2.1 E.U.T. Operation

Operating Environment:

Temperature: 26.8 °C

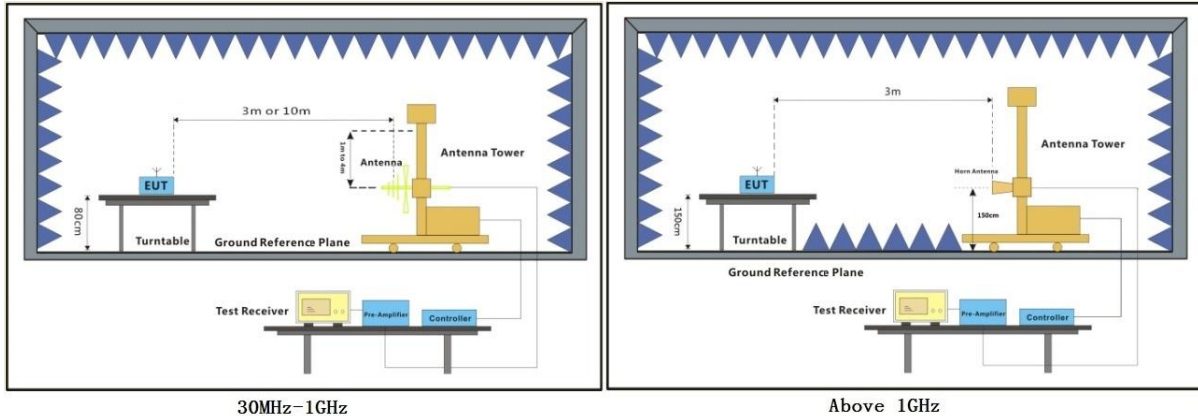
Humidity: 52.3 % RH

Atmospheric Pressure: 1010 mbar

7.2.2 Test Mode Description

Pre-scan / Final test	Mode Code	Description
Final test	00	TX mode(1Mbps)_Keep the EUT in continuously transmitting mode with GFSK modulation.
Final test	01	TX mode(2Mbps)_Keep the EUT in continuously transmitting mode with GFSK modulation.

7.2.3 Test Setup Diagram



7.2.4 Measurement Procedure and Data

- For below 1GHz, the EUT was placed on the top of a rotating table 0.8 meters above the ground at a 3 or 10 meter semi-anechoic chamber. The table was rotated 360 degrees to determine the position of the highest radiation.
- For above 1GHz, the EUT was placed on the top of a rotating table 1.5 meters above the ground at a 3 meter fully-anechoic chamber. The table was rotated 360 degrees to determine the position of the highest radiation.
- The EUT was set 3 or 10 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.
- The antenna height is varied from one meter to four meters above the ground to determine the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna are set to make the measurement.
- 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 (for the test frequency of below 30MHz, the antenna was tuned to heights 1 meter) and the rotatable table was turned from 0 degrees to 360 degrees to find the maximum reading.
- The test-receiver system was set to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode.
- If the emission level of the EUT in peak mode was 10dB lower than the limit specified, then testing could be stopped and the peak values of the EUT would be reported. Otherwise the emissions that did not have 10dB margin would be re-tested one by one using peak, quasi-peak or average method as specified and then reported in a data sheet.
- Test the EUT in the lowest channel, the middle channel, the Highest channel.
- The radiation measurements are performed in X, Y, Z axis positioning for Transmitting mode, and found the X axis positioning which it is the worst case.
- Repeat above procedures until all frequencies measured was complete.

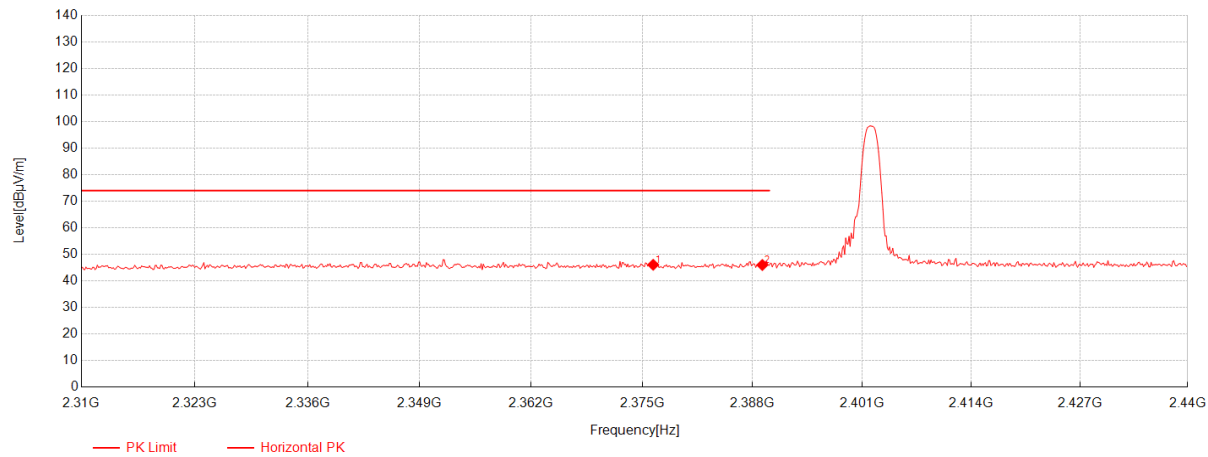
Remark 1: Level= Read Level+ Cable Loss+ Antenna Factor- Preamp Factor

Remark 2: For frequencies above 1GHz, the field strength limits are based on average limits. However, the peak field strength of any emission shall not exceed the maximum permitted average limits specified above by more than 20 dB under any condition of modulation. For the emissions whose peak level is lower than the average limit, only the peak measurement is shown in the report.

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

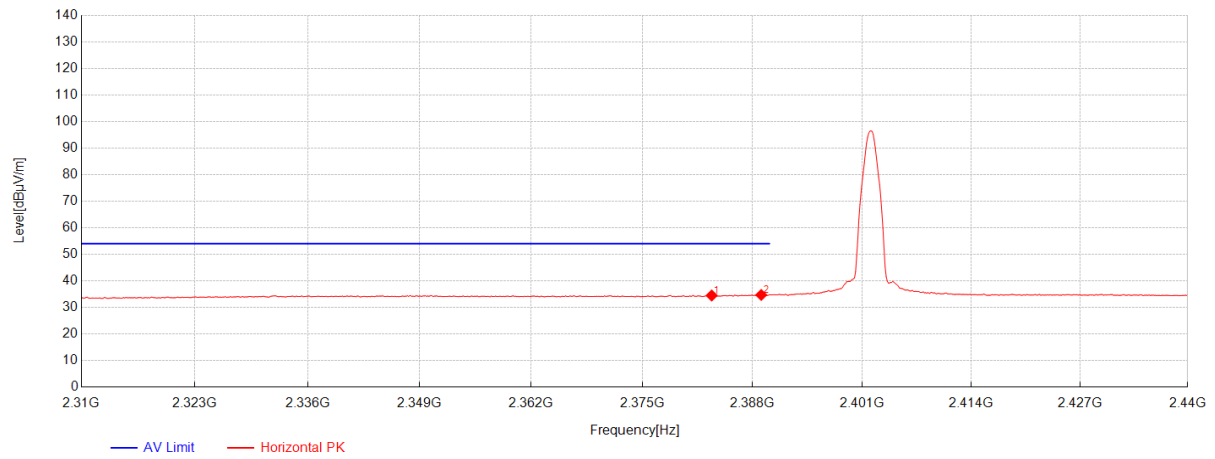
Remark 4: For fundamental and harmonic signal measurement, the resolution bandwidth of test receiver/spectrum analyzer is 1MHz and the video bandwidth is $\geq 1/T$ (Duty cycle $< 98\%$) or 10Hz (Duty cycle $\geq 98\%$) for Average detection (AV) at frequency above 1GHz.

BLE_1M_TX_CH_00_Horizontal_Peak



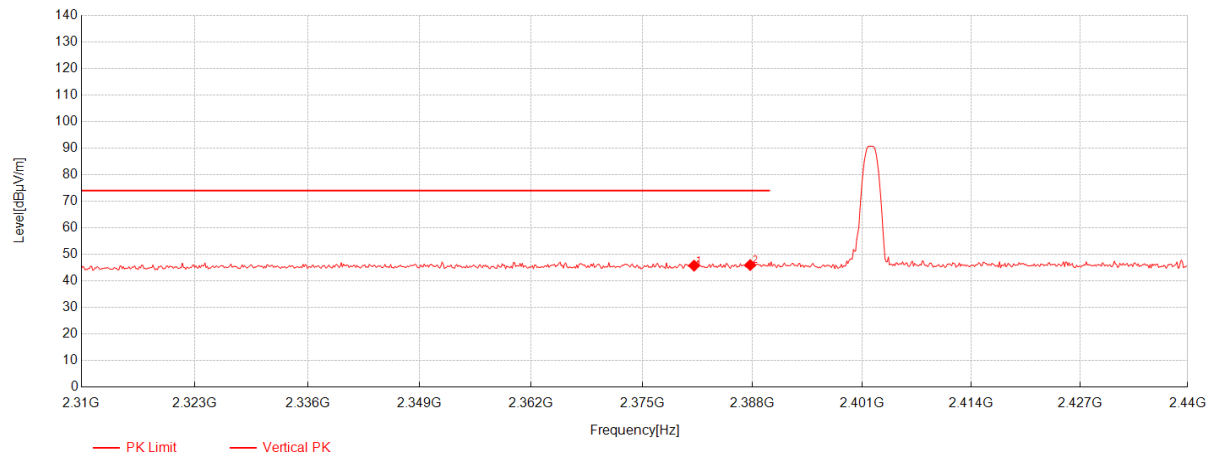
Data List								
NO.	Frequency [MHz]	Reading [dBµV]	AF [dB/m]	Factor [dB]	Level [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Polarity
1	2376.3	45.60	26.64	-26.19	46.05	74.00	27.95	Horizontal
2	2389.17	45.41	26.69	-26.13	45.97	74.00	28.03	Horizontal

BLE_1M_TX_CH_00_Horizontal_Average



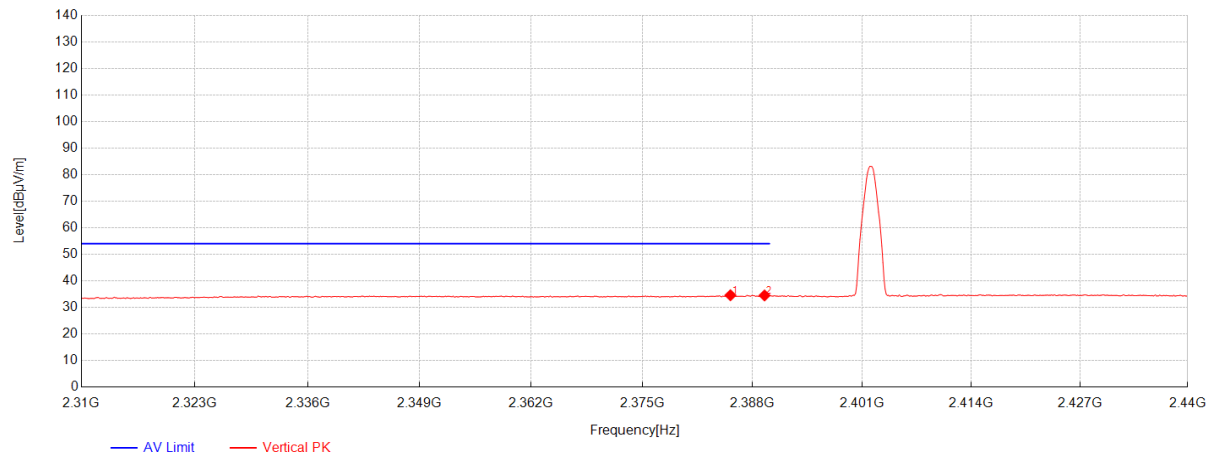
Data List								
NO.	Frequency [MHz]	Reading [dBμV]	AF [dB/m]	Factor [dB]	Level [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Polarity
1	2383.19	34.01	26.63	-26.16	34.48	54.00	19.52	Horizontal
2	2389.04	34.15	26.69	-26.13	34.71	54.00	19.29	Horizontal

BLE_1M_TX_CH_00_Vertical_Peak



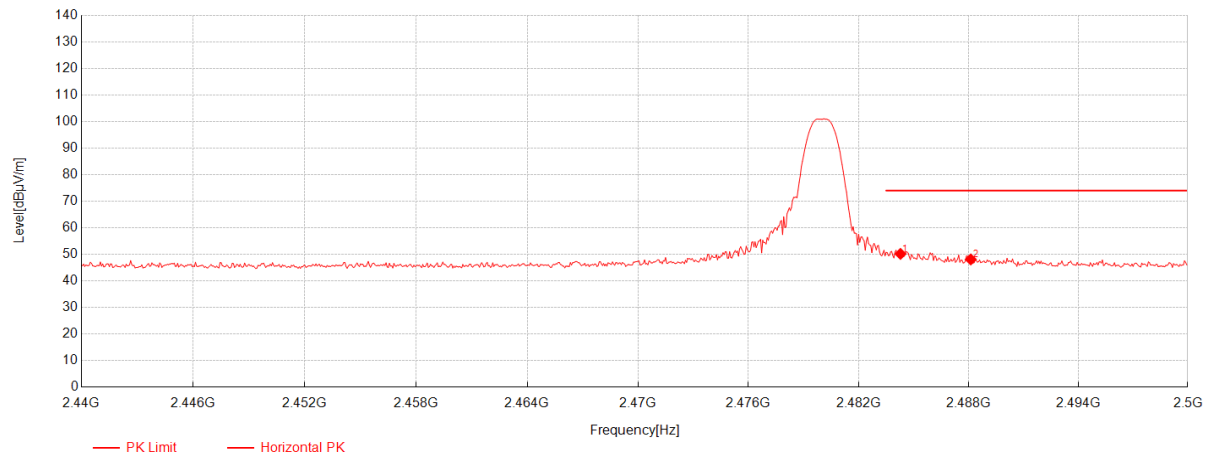
Data List								
NO.	Frequency [MHz]	Reading [dBμV]	AF [dB/m]	Factor [dB]	Level [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Polarity
1	2381.11	45.28	26.61	-26.17	45.72	74.00	28.28	Vertical
2	2387.74	45.42	26.68	-26.14	45.96	74.00	28.04	Vertical

BLE_1M_TX_CH_00_Vertical_Average



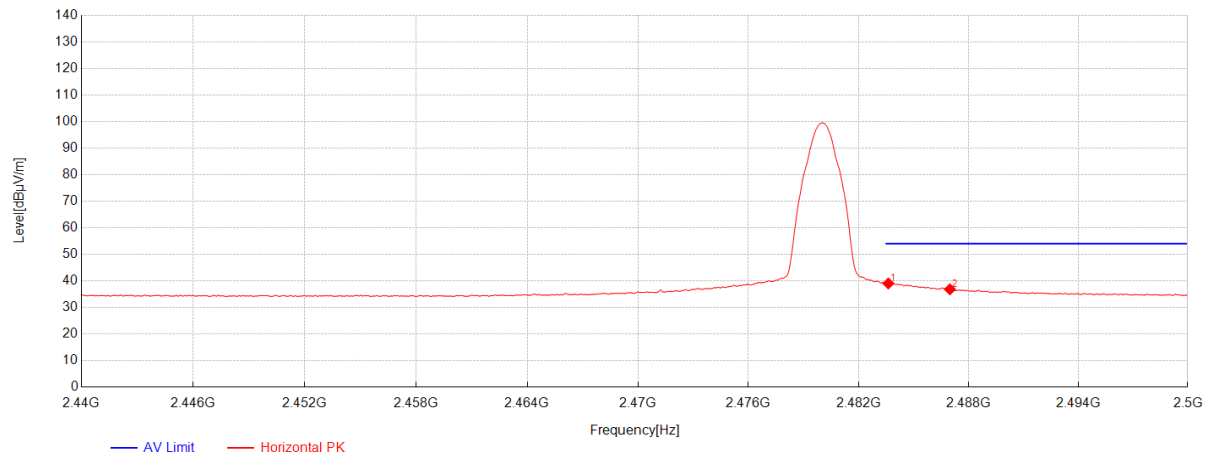
Data List								
NO.	Frequency [MHz]	Reading [dBμV]	AF [dB/m]	Factor [dB]	Level [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Polarity
1	2385.4	34.08	26.65	-26.15	34.58	54.00	19.42	Vertical
2	2389.43	33.95	26.69	-26.13	34.51	54.00	19.49	Vertical

BLE_1M_TX_CH_39_Horizontal



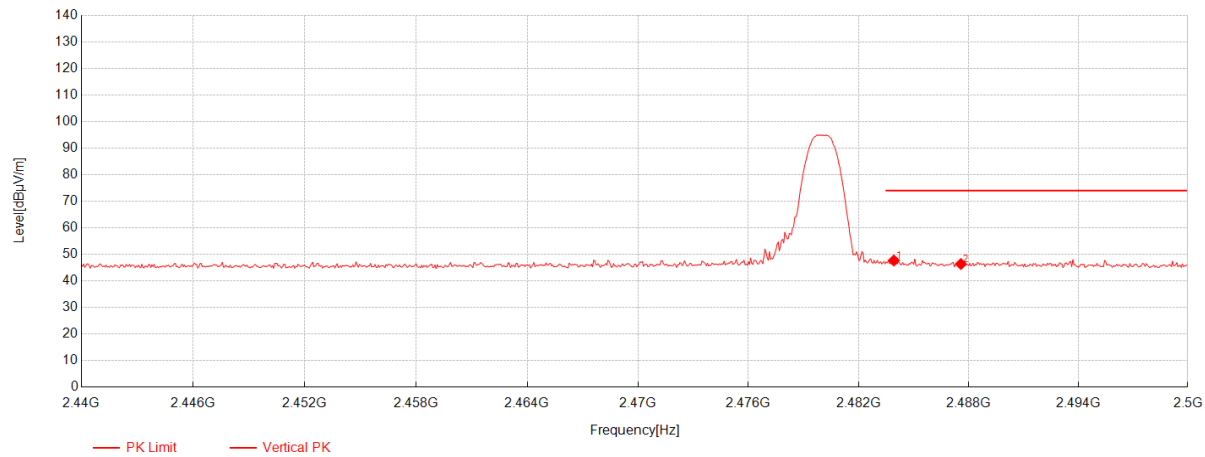
Data List								
NO.	Frequency [MHz]	Reading [dBμV]	AF [dB/m]	Factor [dB]	Level [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Polarity
1	2484.28	49.22	27.16	-26.24	50.14	74.00	23.86	Horizontal
2	2488.12	47.19	27.12	-26.25	48.06	74.00	25.94	Horizontal

BLE_1M_TX_CH_39_Horizontal_Average



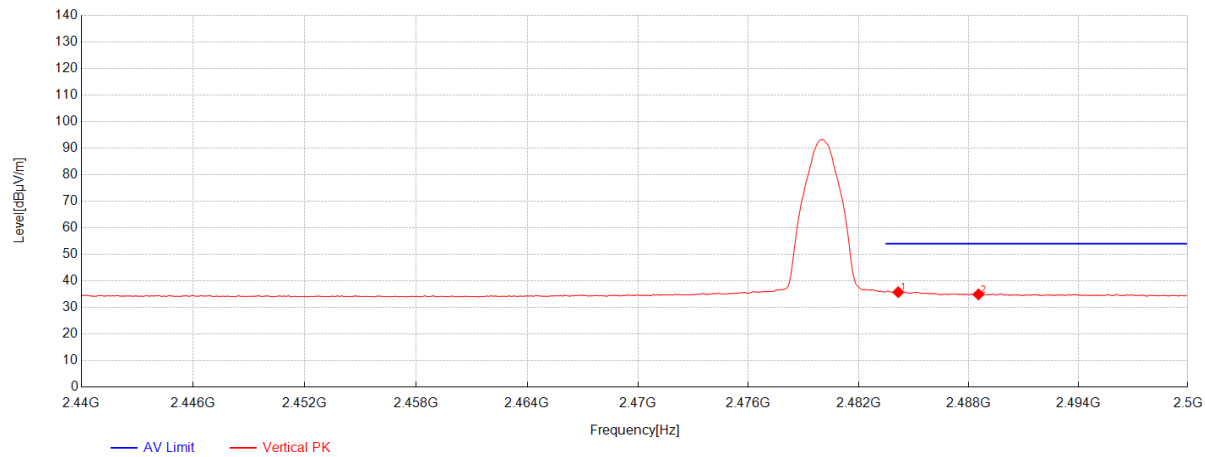
Data List								
NO.	Frequency [MHz]	Reading [dBµV]	AF [dB/m]	Factor [dB]	Level [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Polarity
1	2483.62	38.10	27.16	-26.24	39.02	54.00	14.98	Horizontal
2	2486.98	35.93	27.13	-26.25	36.81	54.00	17.19	Horizontal

BLE_1M_TX_CH_39_Veritical



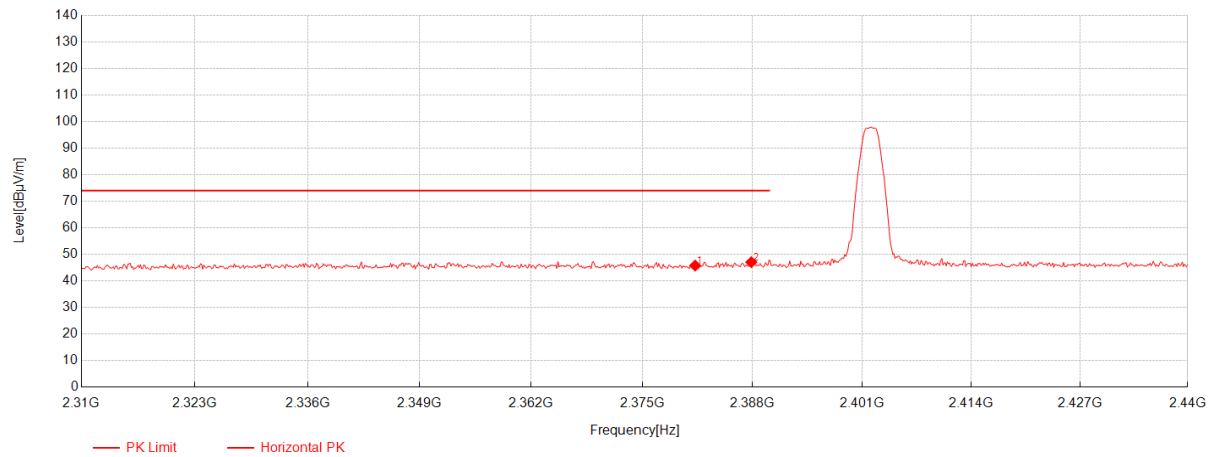
Data List								
NO.	Frequency [MHz]	Reading [dBµV]	AF [dB/m]	Factor [dB]	Level [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Polarity
1	2483.92	46.74	27.16	-26.24	47.66	74.00	26.34	Vertical
2	2487.58	45.46	27.12	-26.25	46.33	74.00	27.67	Vertical

BLE_1M_TX_CH_39_Veritical_Average



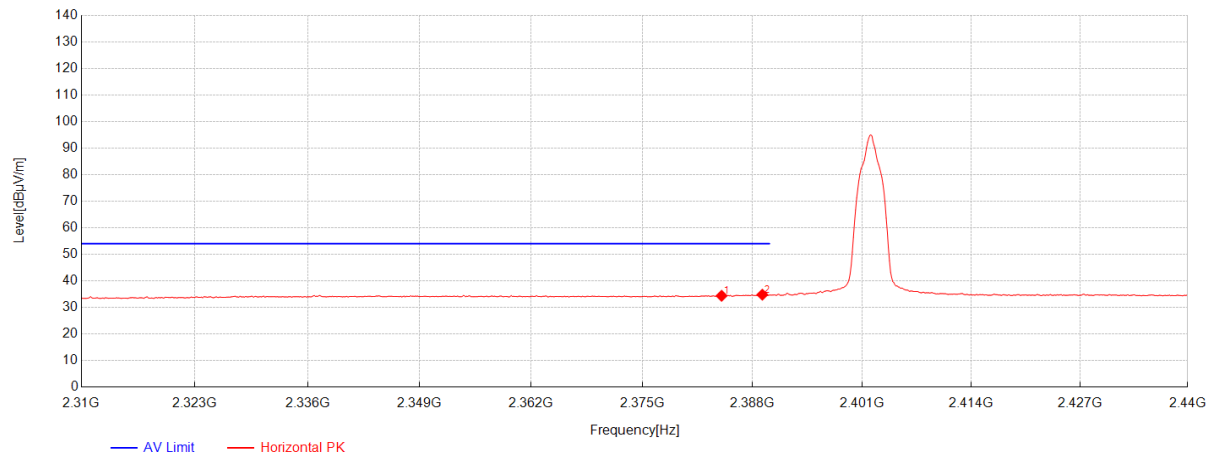
Data List								
NO.	Frequency [MHz]	Reading [dBμV]	AF [dB/m]	Factor [dB]	Level [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Polarity
1	2484.16	34.81	27.16	-26.24	35.73	54.00	18.27	Vertical
2	2488.54	34.04	27.11	-26.25	34.90	54.00	19.10	Vertical

BLE_2M_TX_CH_00_Horizontal_Peak



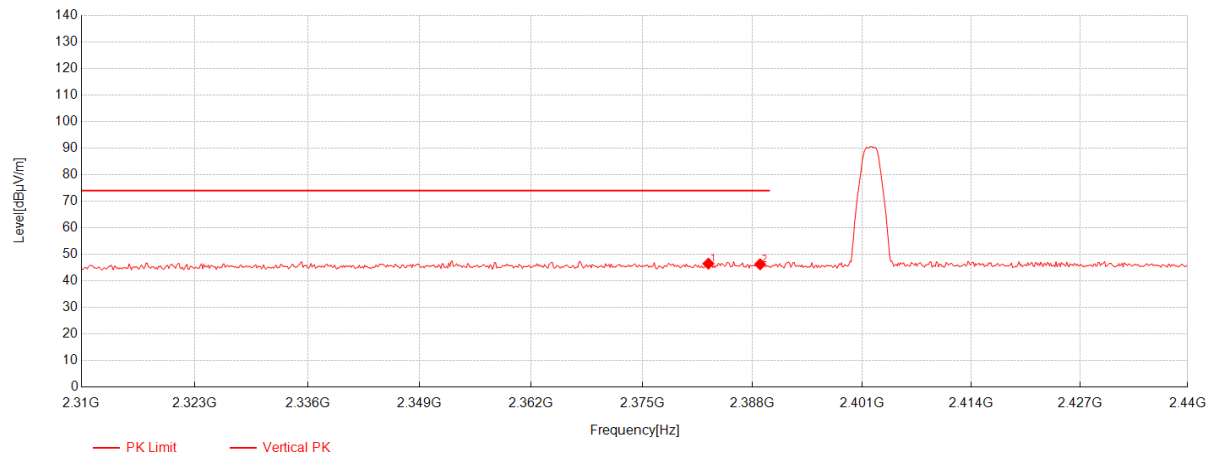
Data List								
NO.	Frequency [MHz]	Reading [dBμV]	AF [dB/m]	Factor [dB]	Level [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Polarity
1	2381.24	45.31	26.61	-26.17	45.75	74.00	28.25	Horizontal
2	2387.87	46.50	26.68	-26.14	47.04	74.00	26.96	Horizontal

BLE_2M_TX_CH_00_Horizontal_Average



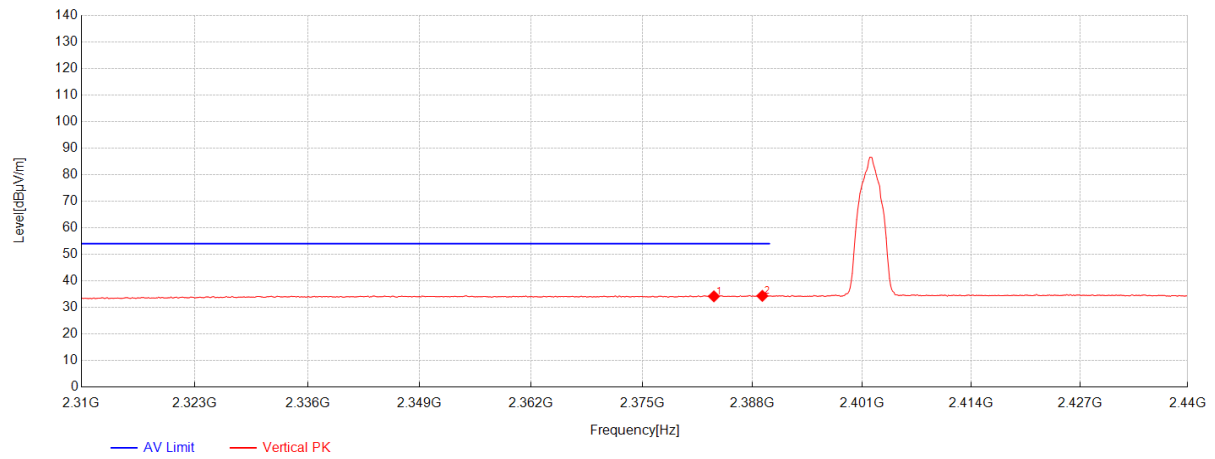
Data List								
NO.	Frequency [MHz]	Reading [dBμV]	AF [dB/m]	Factor [dB]	Level [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Polarity
1	2384.36	33.89	26.64	-26.15	34.38	54.00	19.62	Horizontal
2	2389.17	34.24	26.69	-26.13	34.80	54.00	19.20	Horizontal

BLE_2M_TX_CH_00_Vertical



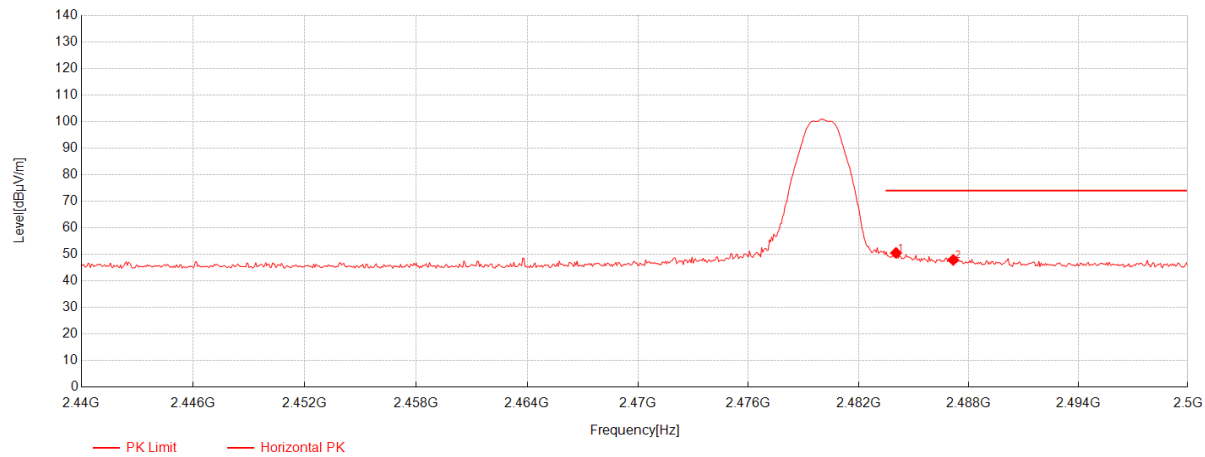
Data List								
NO.	Frequency [MHz]	Reading [dBμV]	AF [dB/m]	Factor [dB]	Level [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Polarity
1	2382.8	46.00	26.63	-26.16	46.47	74.00	27.53	Vertical
2	2388.91	45.65	26.69	-26.13	46.21	74.00	27.79	Vertical

BLE_2M_TX_CH_00_Vertical_Average



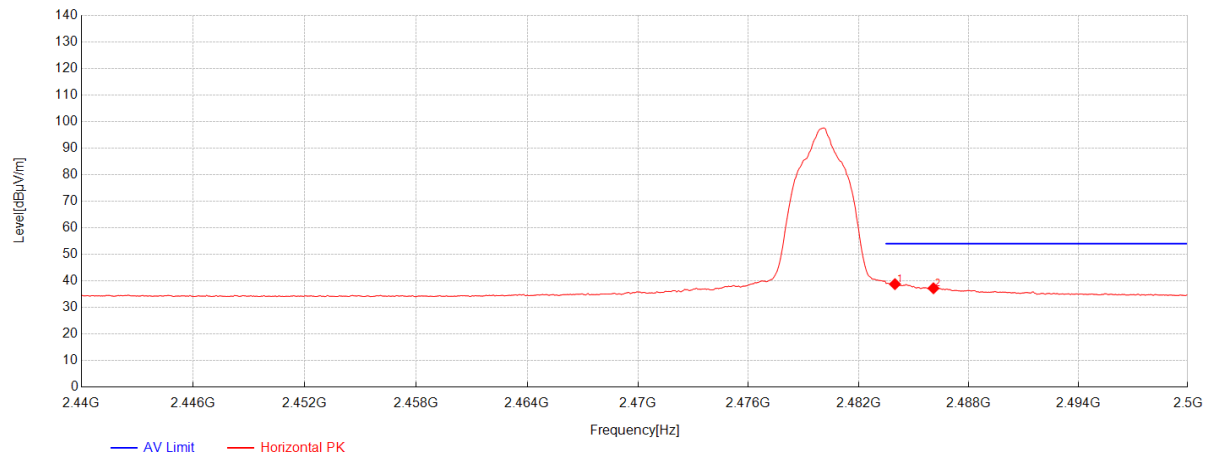
Data List								
NO.	Frequency [MHz]	Reading [dBμV]	AF [dB/m]	Factor [dB]	Level [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Polarity
1	2383.45	33.70	26.63	-26.16	34.17	54.00	19.83	Vertical
2	2389.17	33.79	26.69	-26.13	34.35	54.00	19.65	Vertical

BLE_2M_TX_CH_39_Horizontal_Peak



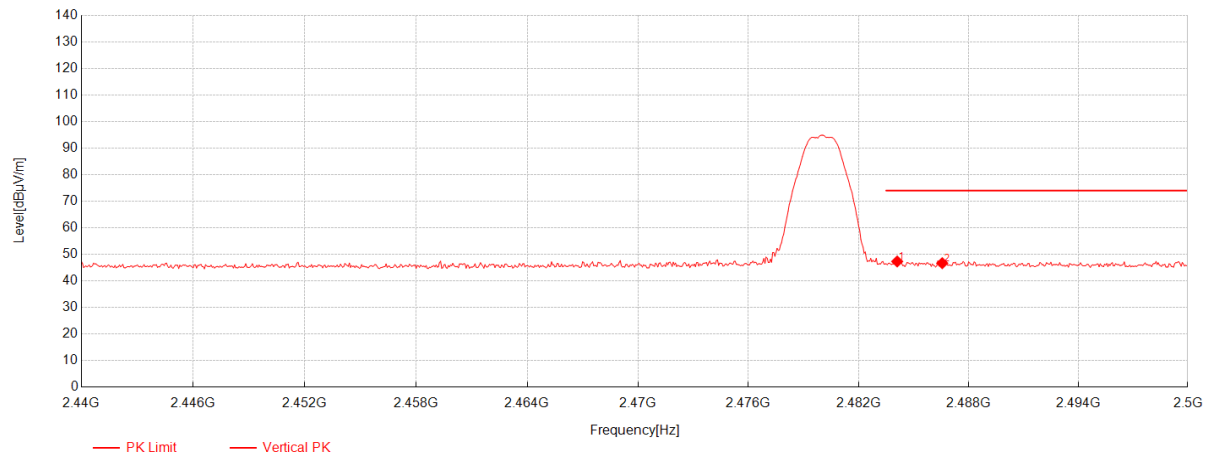
Data List								
NO.	Frequency [MHz]	Reading [dBµV]	AF [dB/m]	Factor [dB]	Level [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Polarity
1	2484.04	49.58	27.16	-26.24	50.50	74.00	23.50	Horizontal
2	2487.16	47.00	27.13	-26.25	47.88	74.00	26.12	Horizontal

BLE_2M_TX_CH_39_Horizontal_Average



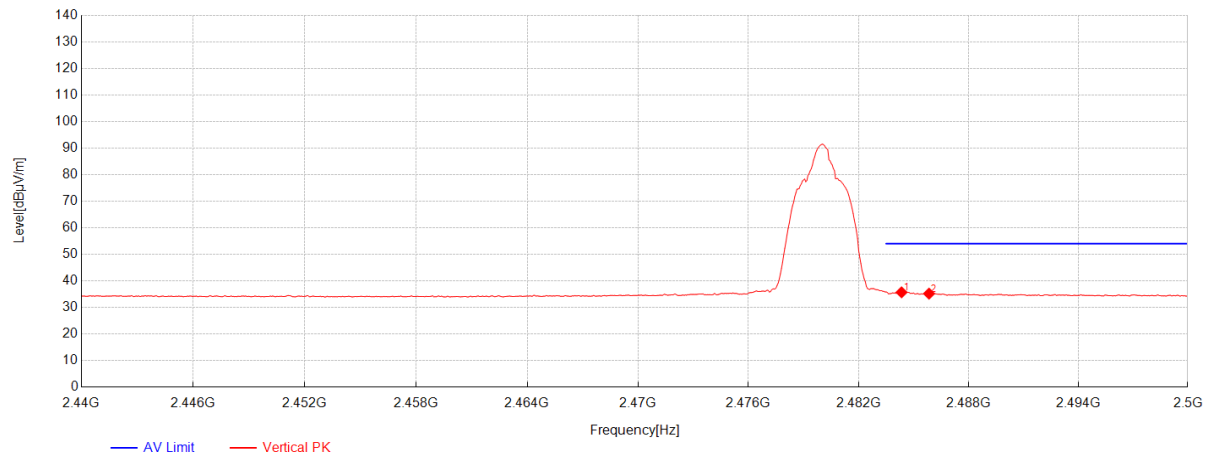
Data List								
NO.	Frequency [MHz]	Reading [dBμV]	AF [dB/m]	Factor [dB]	Level [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Polarity
1	2483.98	37.85	27.16	-26.24	38.77	54.00	15.23	Horizontal
2	2486.08	36.30	27.14	-26.24	37.20	54.00	16.80	Horizontal

BLE_2M_TX_CH_39_Verical



Data List								
NO.	Frequency [MHz]	Reading [dBμV]	AF [dB/m]	Factor [dB]	Level [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Polarity
1	2484.1	46.38	27.16	-26.24	47.30	74.00	26.70	Vertical
2	2486.56	45.77	27.13	-26.24	46.66	74.00	27.34	Vertical

BLE_2M_TX_CH_39_Veritical_Average



Data List								
NO.	Frequency [MHz]	Reading [dBμV]	AF [dB/m]	Factor [dB]	Level [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Polarity
1	2484.34	34.76	27.16	-26.24	35.68	54.00	18.32	Vertical
2	2485.84	34.29	27.14	-26.24	35.19	54.00	18.81	Vertical

7.3 Radiated Spurious Emissions Below 1GHz

Test Requirement 47 CFR Part 15, Subpart C 15.205 & 15.209

Test Method: ANSI C63.10 (2020) Section 6.4,6.5

Measurement Distance: 3m

Limit:

Frequency (MHz)	Field strength (microvolts/meter)	Measurement distance (meters)	Field strength (dBμV/m@3m)
0.009-0.490	2400/F(kHz)	300	128.5 to 93.8
0.490-1.705	24000/F(kHz)	30	73.8 to 62.9
1.705-30.0	30	30	69.60
30-88	100	3	40.0
88-216	150	3	43.5
216-960	200	3	46.0
960-1000	500	3	54.0

Note : The above table are based on measurements employing a CISPR quasi-peak detector except for the frequency bands 9-90 kHz, 110-490 kHz. Radiated emission limits in these two bands are based on measurements employing an average detector.

7.3.1 E.U.T. Operation

Operating Environment:

Temperature: 26.8 °C

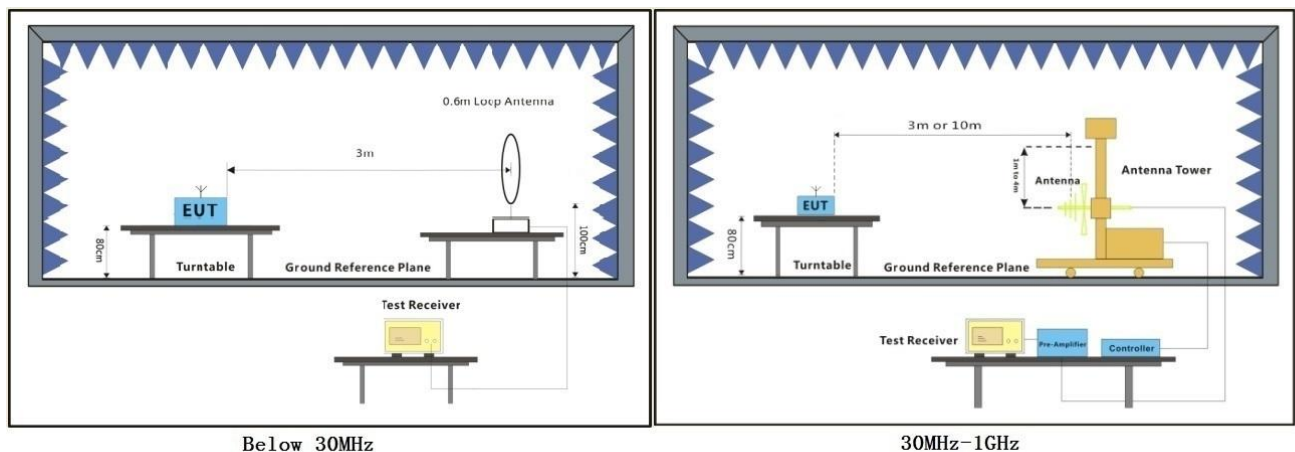
Humidity: 52.3 % RH

Atmospheric Pressure: 1010 mbar

7.3.2 Test Mode Description

Pre-scan / Final test	Mode Code	Description
Final test	00	TX mode(1Mbps)_Keep the EUT in continuously transmitting mode with GFSK modulation.
Pre-scan	01	TX mode(2Mbps)_Keep the EUT in continuously transmitting mode with GFSK modulation.

7.3.3 Test Setup Diagram



7.3.4 Measurement Procedure and Data

- a. For below 1GHz, the EUT was placed on the top of a rotating table 0.8m above the ground at a semi-anechoic chamber. The table was rotated 360 degrees to determine the position of the highest radiation.
- b. The EUT was set 3m or 10m away from the interference-receiving antenna, which was mounted on the variable-height antenna tower.
- c. The antenna height is varied from 1m to 4m 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 1m to 4m (for the test frequency of below 30MHz, the antenna was tuned to heights 1m) 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 Peak Detect Function and Specified Bandwidth with Maximum Hold Mode.
- f. If the emission level of the EUT in peak mode was 10dB lower than the limit specified, then testing could be stopped and the peak values of the EUT would be reported. Otherwise the emissions that did not have 10dB margin would be re-tested one by one using quasi-peak method as specified and then reported in a data sheet.
- g. Test the EUT in the lowest channel, the middle channel, the Highest channel.
- h. The radiation measurements are performed in X, Y, Z axis positioning for Transmitting mode, and found the X axis positioning which it is the worst case.
- i. Repeat above procedures until all frequencies measured was complete.

Remark:

1. At frequencies below 1GHz, measurements may be performed at a distance different to specified in the regulations.

Level= Read Level+ Cable Loss+ Antenna Factor- Preamp Factor+ Aux Factor (if applicable)

The aux factor needs to be added when measurements are performed at a distance other than the limit distance provided.

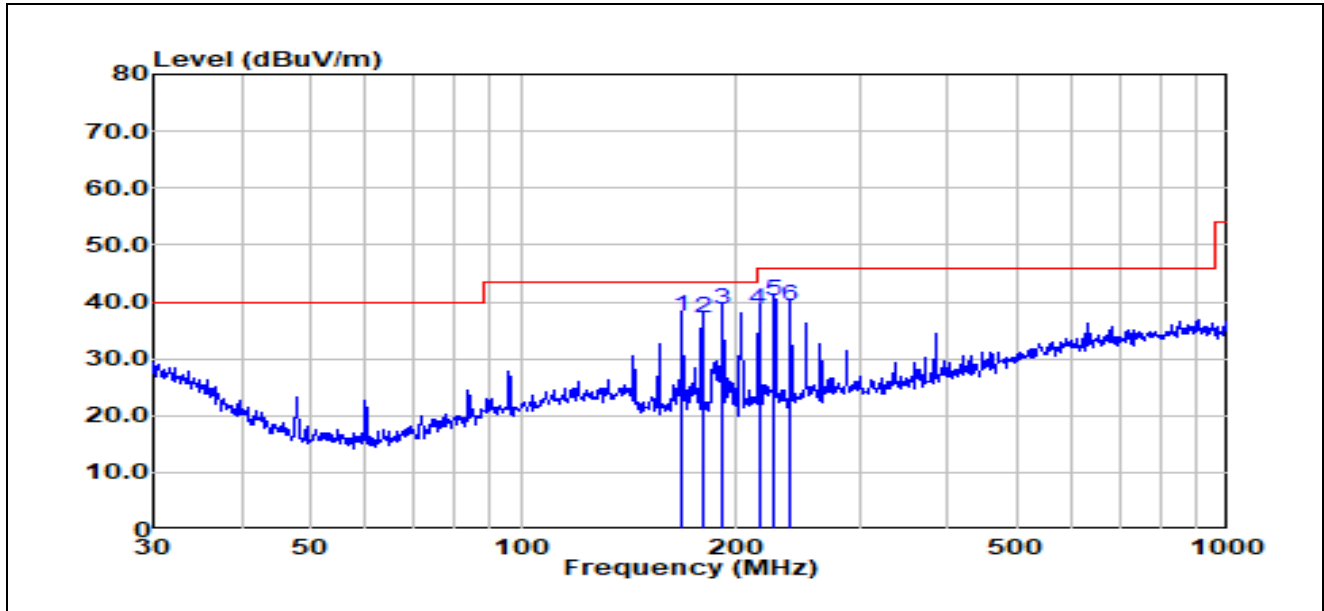
EX. Below 30MHz, Aux Factor = 40 dB/decade of distance, the aux factor is $40\log(3/300) = -80\text{dB}$ (for 3m test distance).

EX. Above 30MHz, Aux Factor = 20 dB/decade of distance, the aux factor is $20\log(10/3) = 10.46\text{dB}$ (for 10m test distance).

2. Scan from 9kHz to 30MHz, the disturbance below 30MHz was very low. The amplitude of spurious emissions from the radiator which are attenuated more than 20dB below the limit need not be reported.

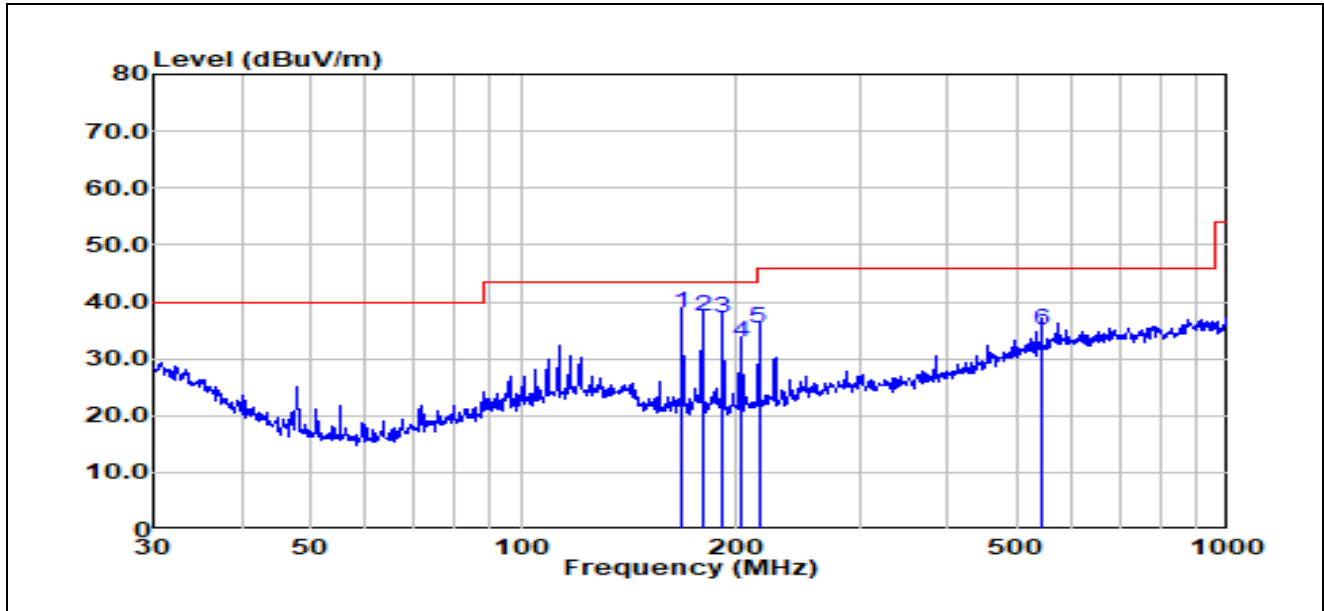
3. The disturbance below 1GHz was very low and the harmonics were the highest point could be found when testing, so only the worst-case test curve is displayed.

Test Mode: 00; Polarity: Horizontal



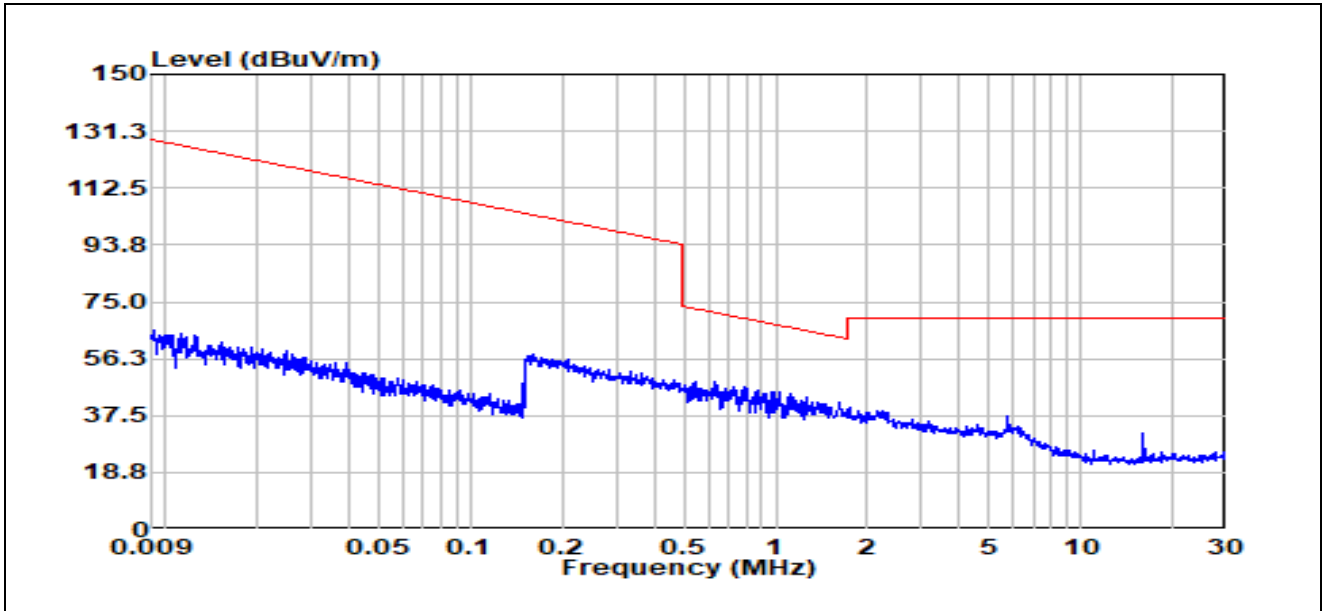
No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Degree (deg.)	Remark
1	167.82	20.45	17.02	37.47	43.50	-6.03	0	0	QP
2	180.02	19.16	17.95	37.11	43.50	-6.39	0	0	QP
3	192.42	21.04	17.59	38.63	43.50	-4.87	0	0	QP
4	216.02	20.50	18.09	38.59	46.00	-7.41	0	0	QP
5	227.69	21.61	18.59	40.20	46.00	-5.80	0	0	QP
6	239.99	19.80	19.42	39.22	46.00	-6.78	0	0	QP

Test Mode: 00; Polarity: Vertical

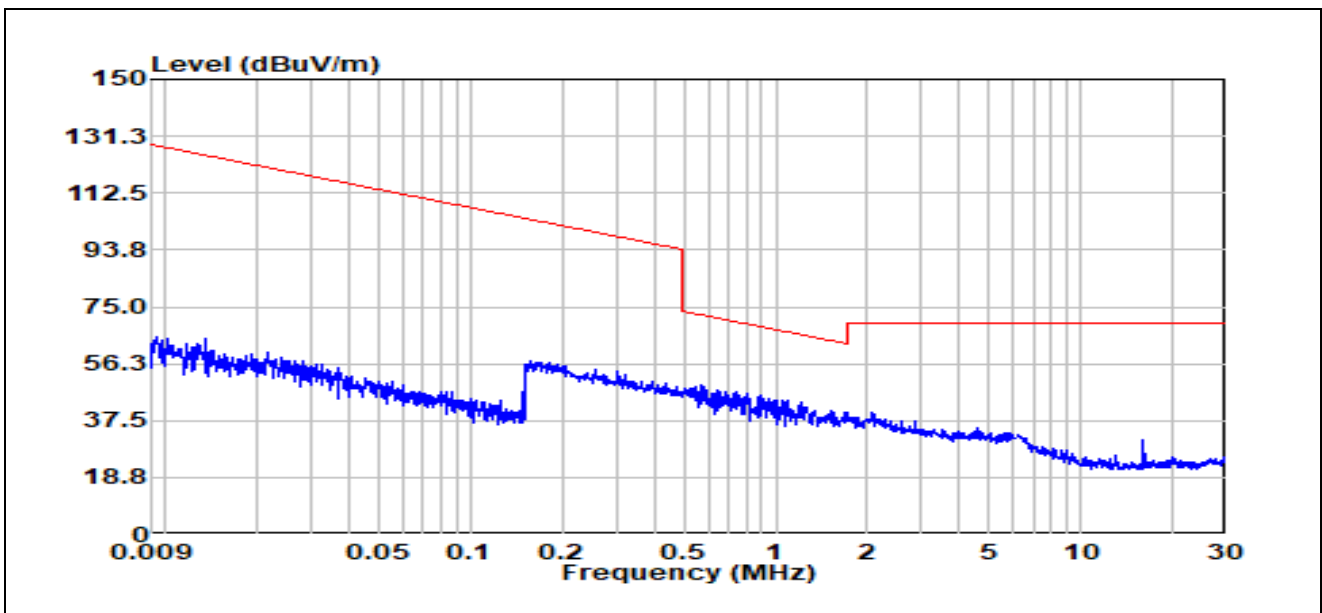


No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Degree (deg.)	Remark
1	167.82	20.88	17.02	37.90	43.50	-5.60	0	0	QP
2	180.02	19.59	17.95	37.54	43.50	-5.96	0	0	QP
3	191.75	19.59	17.58	37.17	43.50	-6.33	0	0	QP
4	204.24	15.64	17.30	32.94	43.50	-10.56	0	0	QP
5	216.02	17.12	18.09	35.21	46.00	-10.79	0	0	QP
6	543.27	7.52	27.64	35.16	46.00	-10.84	0	0	QP

Test Mode: 00; Polarity: Horizontal



Test Mode: 00; Polarity: Vertical



7.4 Radiated Spurious Emissions Above 1GHz

Test Requirement 47 CFR Part 15, Subpart C 15.205 & 15.209

Test Method: ANSI C63.10 (2020) Section 6.6 & 11.12

Measurement Distance: 3m

Limit:

Frequency (MHz)	Field strength (microvolts/meter)	Measurement distance(meters)
Above 1000	500	3

Note:

At Above 18GHz, measurements may be performed at a distance shorter than that specified in the regulations

Level= Read Level+ Cable Loss+ Antenna Factor- Preamp Factor+ Aux Factor (if applicable)

The aux factor needs to be added when measurements are performed at a distance other than the limit distance provided.

EX. Above 18GHz, Aux Factor = 20 dB/decade of distance, the aux factor is $20\log(1/3) = -9.54\text{dB}$ (for 1m test distance).

7.4.1 E.U.T. Operation

Operating Environment:

Temperature: 26.8 °C

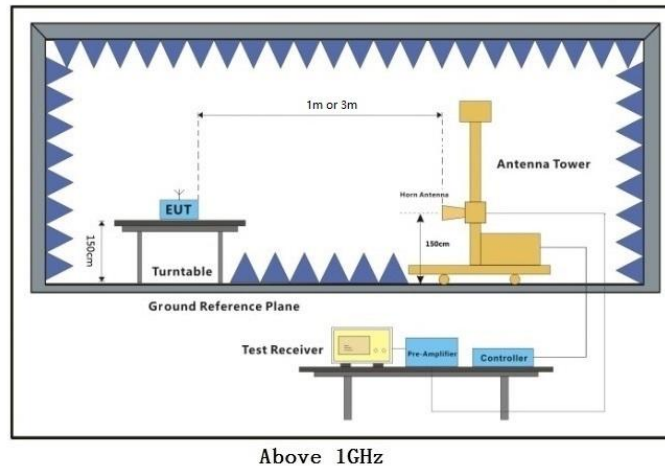
Humidity: 52.3 % RH

Atmospheric Pressure: 1010 mbar

7.4.2 Test Mode Description

Pre-scan / Final test	Mode Code	Description
Final test	00	TX mode(1Mbps)_Keep the EUT in continuously transmitting mode with GFSK modulation.
Final test	01	TX mode(2Mbps)_Keep the EUT in continuously transmitting mode with GFSK modulation.

7.4.3 Test Setup Diagram



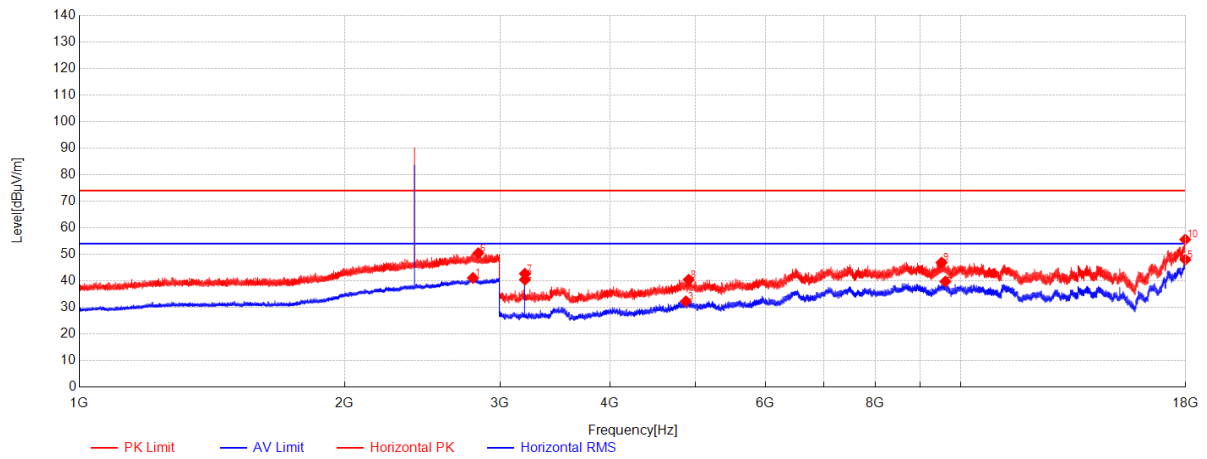
7.4.4 Measurement Procedure and Data

- a. For above 1GHz, the EUT was placed on the top of a rotating table 1.5m above the ground at a 3m fully-anechoic chamber. The table was rotated 360 degrees to determine the position of the highest radiation. The EUT was set 3m away from the interference-receiving antenna from 1GHz to 18GHz, and 1m away from the interference-receiving antenna above 18GHz.
- b. The interference-receiving antenna was mounted on the variable-height antenna tower, with its boresight facing the EUT throughout the test.
- c. The antenna height is varied from 1m to 4m 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 1m to 4m 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 Peak Detect Function and Specified Bandwidth with Maximum Hold Mode.
- f. Test the EUT in the lowest channel, the middle channel, the Highest channel.
- g. The radiation measurements are performed in X, Y, Z axis positioning for Transmitting mode, and found the X axis positioning which it is the worst case.
- h. Repeat above procedures until all frequencies measured was complete.

Remark:

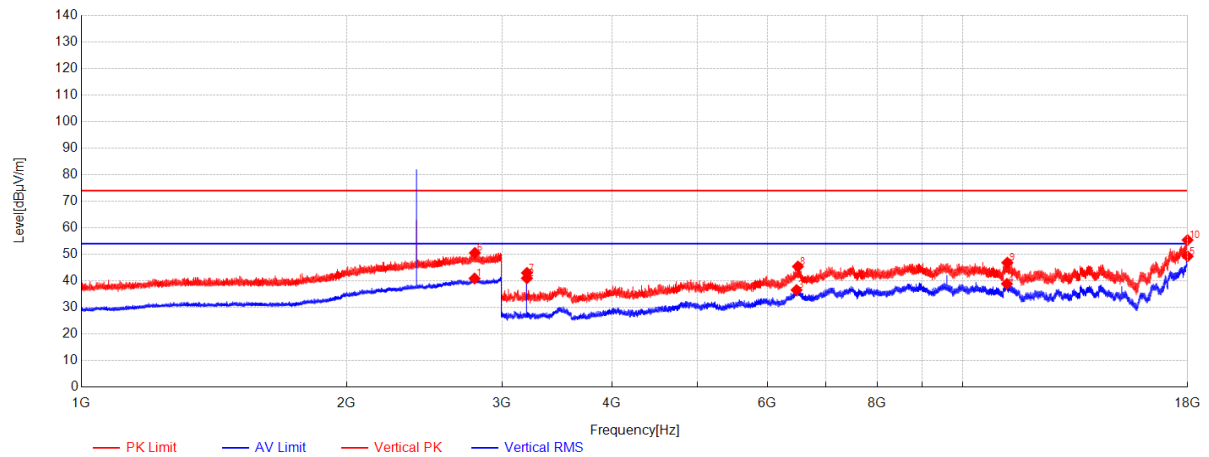
1. Scan from 1GHz to 10th harmonic of the highest frequency or 40 GHz, whichever is lower.
2. As shown in this section, for frequencies above 1GHz, the field strength limits are based on average limits. However, the peak field strength of any emission shall not exceed the maximum permitted average limits specified above by more than 20 dB under any condition of modulation. For the emissions whose peak level is lower than the average limit, only the peak measurement is shown in the report.
3. For the frequency above 18GHz, testing had been executed under all test modes, only the worst-case test curve is displayed in the report.
4. For devices with multiple operating modes, measurements on the middle channel is used to determine the worst-case mode(s).

BLE_1M_TX_CH_00_Horizontal



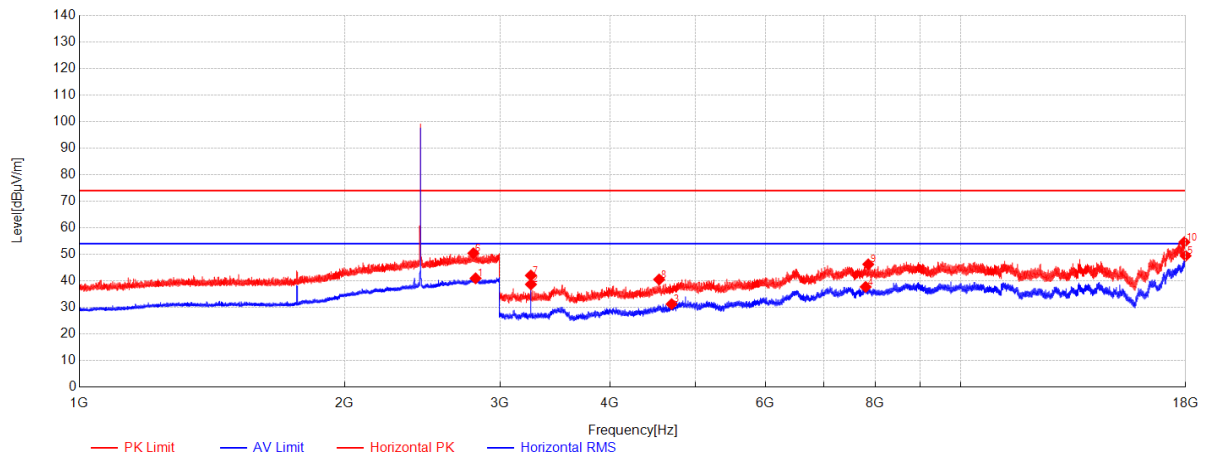
Data List								
NO.	Frequency [MHz]	Reading [dBμV]	AF [dB/m]	Factor [dB]	Level [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Polarity
1	2796.1667	38.72	27.34	-24.96	41.10	54.00	12.90	Horizontal
2	3203	65.83	28.10	-53.49	40.44	54.00	13.56	Horizontal
3	4876.5	51.41	31.45	-50.58	32.28	54.00	21.72	Horizontal
4	9608.5	47.24	38.53	-46.02	39.75	54.00	14.25	Horizontal
5	17985	46.21	43.20	-41.42	47.99	54.00	6.01	Horizontal
6	2835.3333	48.05	27.40	-25.04	50.41	74.00	23.59	Horizontal
7	3202.5	68.07	28.10	-53.49	42.68	74.00	31.32	Horizontal
8	4913	59.66	31.50	-50.74	40.42	74.00	33.58	Horizontal
9	9511.5	54.24	38.39	-45.76	46.87	74.00	27.13	Horizontal
10	17977.5	53.92	43.20	-41.55	55.57	74.00	18.43	Horizontal

BLE_1M_TX_CH_00_Verical



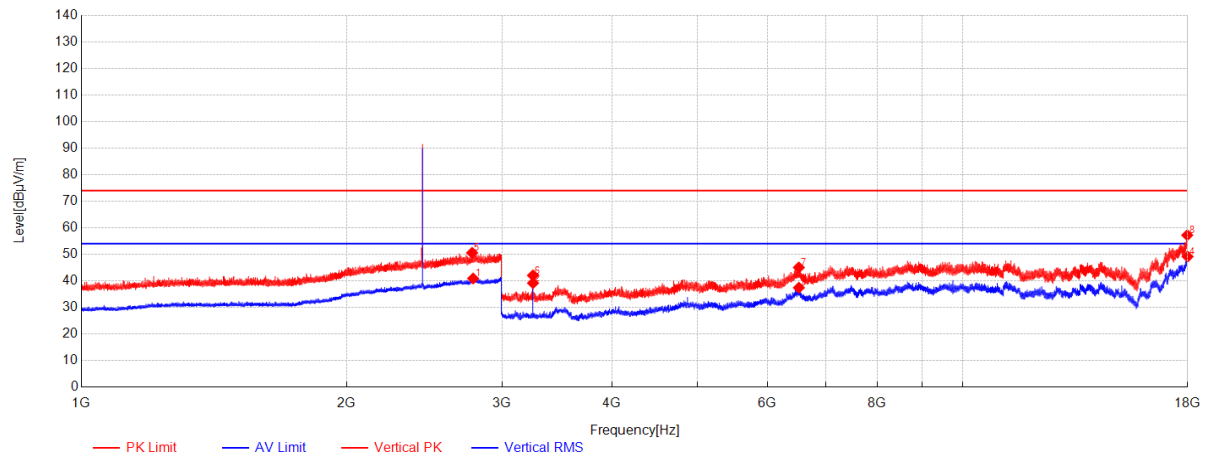
Data List								
NO.	Frequency [MHz]	Reading [dBμV]	AF [dB/m]	Factor [dB]	Level [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Polarity
1	2793.5	38.50	27.37	-24.99	40.88	54.00	13.12	Vertical
2	3203	66.37	28.10	-53.49	40.98	54.00	13.02	Vertical
3	6478.5	48.88	34.20	-46.52	36.56	54.00	17.44	Vertical
4	11224	43.59	39.55	-44.25	38.89	54.00	15.11	Vertical
5	17993.5	47.30	43.20	-41.27	49.23	54.00	4.77	Vertical
6	2795.5	48.15	27.35	-24.97	50.53	74.00	23.47	Vertical
7	3203	68.39	28.10	-53.49	43.00	74.00	31.00	Vertical
8	6501.5	57.38	34.22	-46.21	45.39	74.00	28.61	Vertical
9	11235.5	51.54	39.57	-44.27	46.84	74.00	27.16	Vertical
10	17993	53.45	43.20	-41.28	55.37	74.00	18.63	Vertical

BLE_1M_TX_CH_19_Horizontal



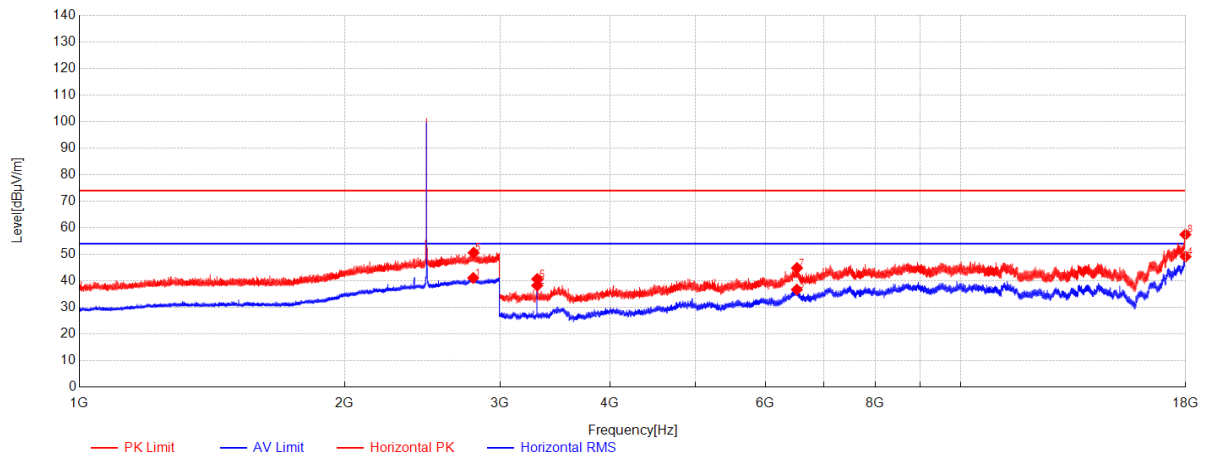
Data List								
NO.	Frequency [MHz]	Reading [dBμV]	AF [dB/m]	Factor [dB]	Level [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Polarity
1	2815.3333	38.68	27.25	-24.98	40.95	54.00	13.05	Horizontal
2	3253.5	63.99	28.09	-53.41	38.67	54.00	15.33	Horizontal
3	4698.5	50.97	31.29	-51.02	31.24	54.00	22.76	Horizontal
4	7800	48.82	36.60	-47.71	37.71	54.00	16.29	Horizontal
5	17994.5	47.47	43.20	-41.25	49.42	54.00	4.58	Horizontal
6	2799.1667	48.02	27.31	-24.94	50.39	74.00	23.61	Horizontal
7	3253	67.34	28.09	-53.41	42.02	74.00	31.98	Horizontal
8	4547.5	61.10	30.87	-51.46	40.51	74.00	33.49	Horizontal
9	7854	57.17	36.72	-47.67	46.22	74.00	27.78	Horizontal
10	17936.5	53.74	43.07	-42.25	54.56	74.00	19.44	Horizontal

BLE_1M_TX_CH_19_Verical



Data List								
NO.	Frequency [MHz]	Reading [dBμV]	AF [dB/m]	Factor [dB]	Level [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Polarity
1	2782.8333	38.50	27.47	-25.08	40.89	54.00	13.11	Vertical
2	3254	64.48	28.08	-53.41	39.15	54.00	14.85	Vertical
3	6517.5	49.67	34.38	-46.63	37.42	54.00	16.58	Vertical
4	17993.5	47.19	43.20	-41.27	49.12	54.00	4.88	Vertical
5	2775.3333	48.38	27.31	-25.15	50.54	74.00	23.46	Vertical
6	3253.5	67.36	28.09	-53.41	42.04	74.00	31.96	Vertical
7	6517	57.27	34.37	-46.62	45.02	74.00	28.98	Vertical
8	17978	55.53	43.20	-41.54	57.19	74.00	16.81	Vertical

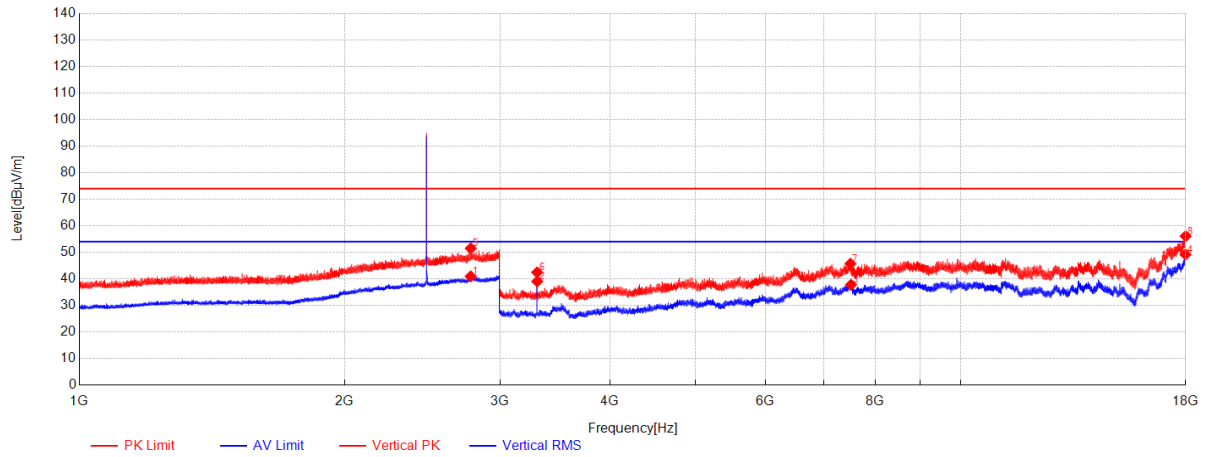
BLE_1M_TX_CH_39_Horizontal



Data List

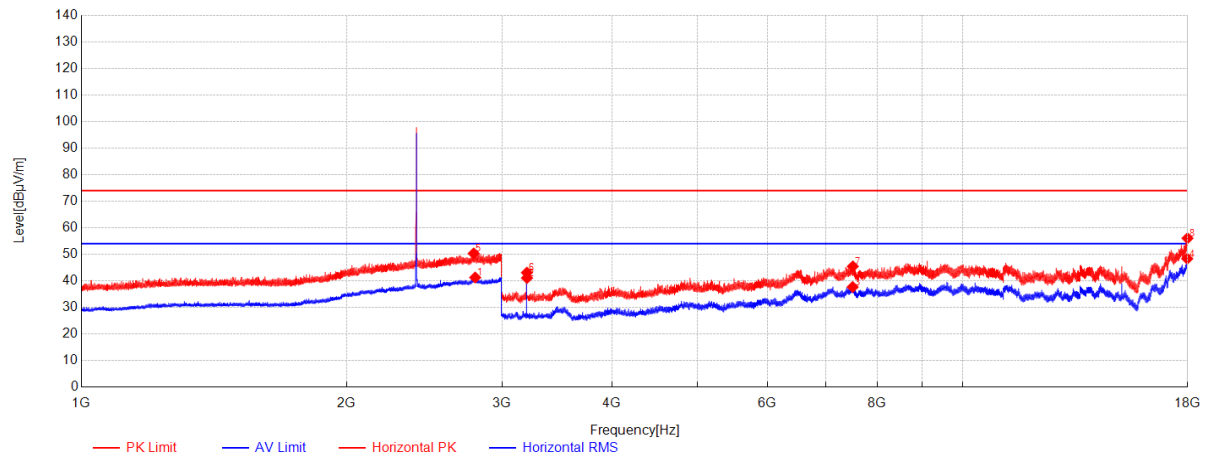
NO.	Frequency [MHz]	Reading [dBμV]	AF [dB/m]	Factor [dB]	Level [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Polarity
1	2798	38.72	27.32	-24.95	41.09	54.00	12.91	Horizontal
2	3307	63.61	27.94	-53.32	38.23	54.00	15.77	Horizontal
3	6517.5	48.96	34.38	-46.63	36.71	54.00	17.29	Horizontal
4	17991	47.22	43.20	-41.31	49.11	54.00	4.89	Horizontal
5	2800.6667	48.21	27.30	-24.93	50.58	74.00	23.42	Horizontal
6	3307	66.08	27.94	-53.32	40.70	74.00	33.30	Horizontal
7	6520	57.12	34.40	-46.70	44.82	74.00	29.18	Horizontal
8	17981.5	55.70	43.20	-41.48	57.42	74.00	16.58	Horizontal

BLE_1M_TX_CH_39_Verical



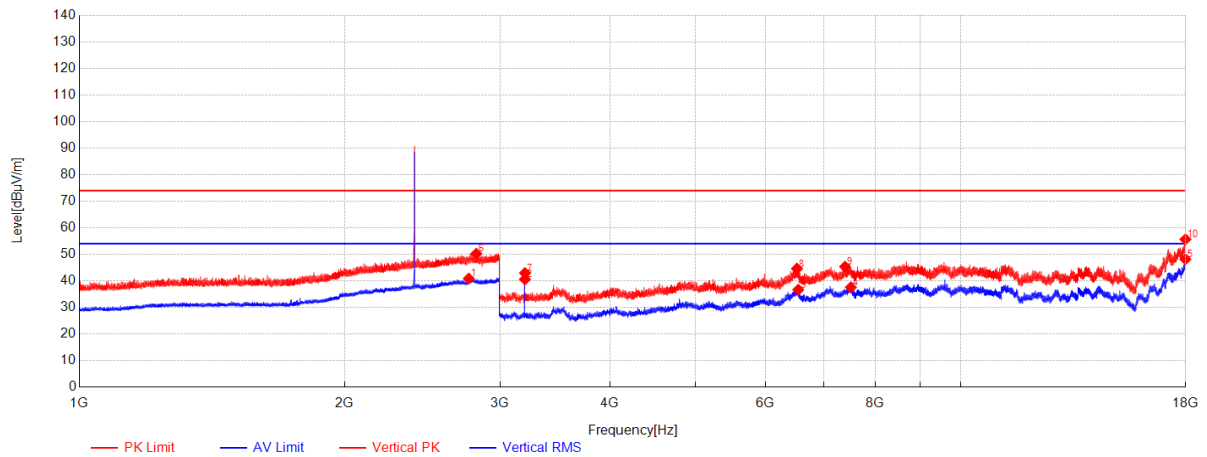
Data List								
NO.	Frequency [MHz]	Reading [dBμV]	AF [dB/m]	Factor [dB]	Level [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Polarity
1	2779.6667	38.54	27.49	-25.11	40.92	54.00	13.08	Vertical
2	3307	64.40	27.94	-53.32	39.02	54.00	14.98	Vertical
3	7506.5	48.16	36.54	-46.93	37.77	54.00	16.23	Vertical
4	17987	47.33	43.20	-41.38	49.15	54.00	4.85	Vertical
5	2780	49.08	27.50	-25.11	51.47	74.00	22.53	Vertical
6	3306.5	67.82	27.94	-53.32	42.44	74.00	31.56	Vertical
7	7495	56.02	36.56	-46.90	45.68	74.00	28.32	Vertical
8	17995	54.13	43.20	-41.25	56.08	74.00	17.92	Vertical

BLE_2M_TX_CH_00_Horizontal



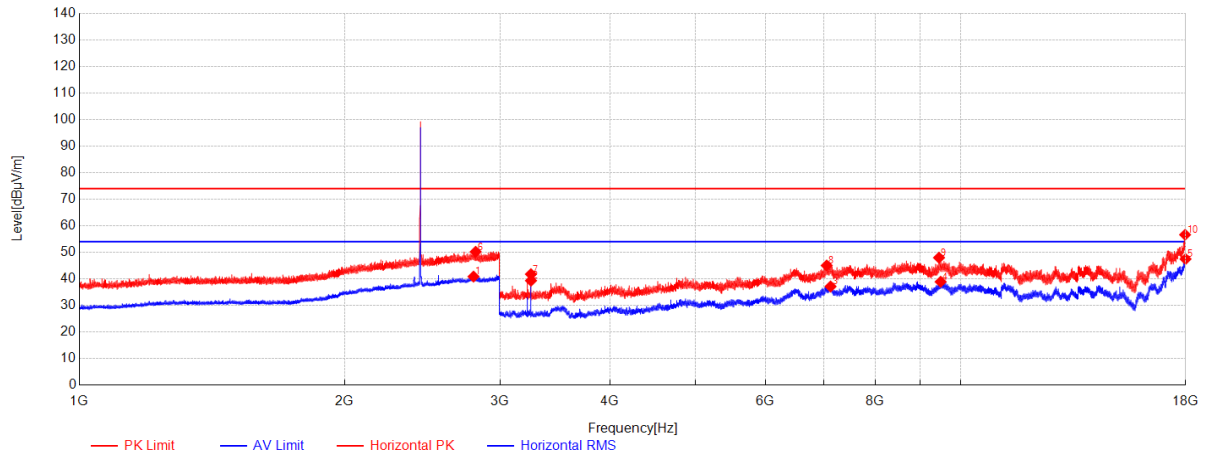
Data List								
NO.	Frequency [MHz]	Reading [dBμV]	AF [dB/m]	Factor [dB]	Level [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Polarity
1	2798	38.89	27.32	-24.95	41.26	54.00	12.74	Horizontal
2	3203	66.47	28.10	-53.49	41.08	54.00	12.92	Horizontal
3	7500.5	47.94	36.60	-46.86	37.68	54.00	16.32	Horizontal
4	17977	46.69	43.20	-41.56	48.33	54.00	5.67	Horizontal
5	2787.1667	47.92	27.43	-25.05	50.30	74.00	23.70	Horizontal
6	3202.5	68.47	28.10	-53.49	43.08	74.00	30.92	Horizontal
7	7503.5	55.75	36.57	-46.89	45.43	74.00	28.57	Horizontal
8	17988.5	54.18	43.20	-41.36	56.02	74.00	17.98	Horizontal

BLE_2M_TX_CH_00_Verical



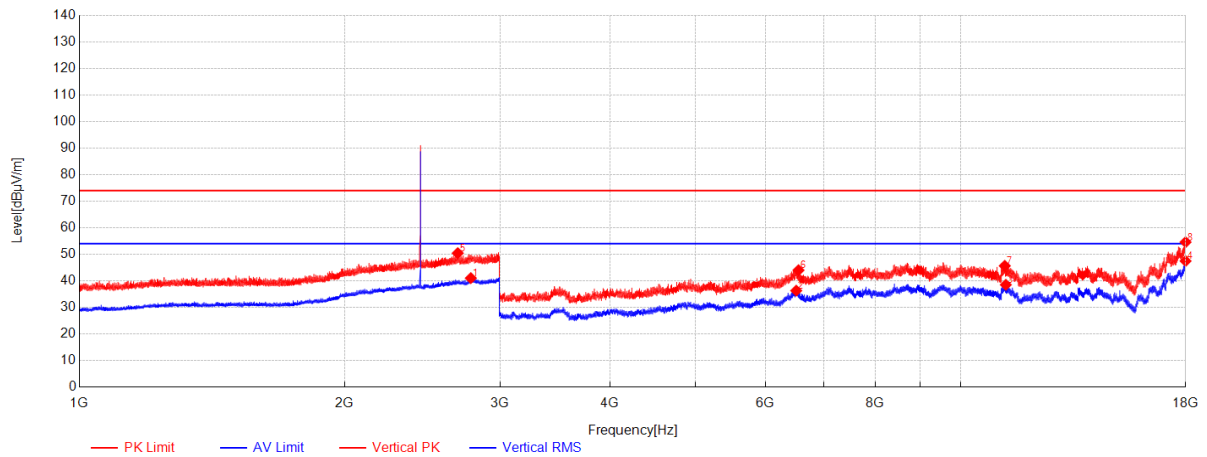
Data List								
NO.	Frequency [MHz]	Reading [dBμV]	AF [dB/m]	Factor [dB]	Level [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Polarity
1	2765.8333	39.00	27.10	-25.24	40.86	54.00	13.14	Vertical
2	3203	65.95	28.10	-53.49	40.56	54.00	13.44	Vertical
3	6542	49.32	34.62	-47.27	36.67	54.00	17.33	Vertical
4	7504.5	47.91	36.56	-46.91	37.56	54.00	16.44	Vertical
5	17986.5	46.31	43.20	-41.39	48.12	54.00	5.88	Vertical
6	2820.3333	48.00	27.21	-24.99	50.22	74.00	23.78	Vertical
7	3203	68.33	28.10	-53.49	42.94	74.00	31.06	Vertical
8	6518	56.84	34.38	-46.64	44.58	74.00	29.42	Vertical
9	7391	56.94	36.32	-47.94	45.32	74.00	28.68	Vertical
10	17987	53.82	43.20	-41.38	55.64	74.00	18.36	Vertical

BLE_2M_TX_CH_19_Horizontal



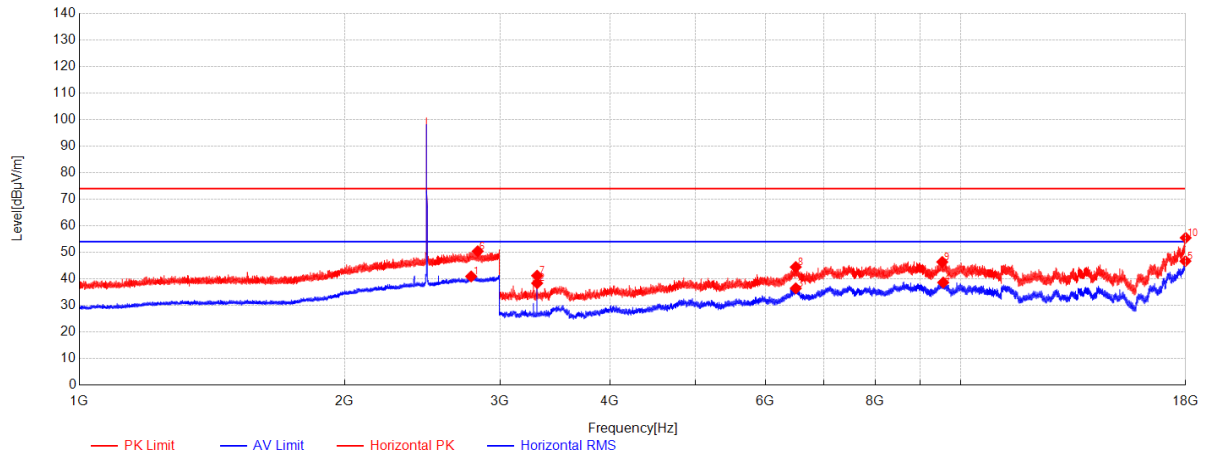
Data List								
NO.	Frequency [MHz]	Reading [dBμV]	AF [dB/m]	Factor [dB]	Level [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Polarity
1	2800.1667	38.49	27.30	-24.93	40.86	54.00	13.14	Horizontal
2	3254	64.66	28.08	-53.41	39.33	54.00	14.67	Horizontal
3	7117.5	48.07	35.90	-46.85	37.12	54.00	16.88	Horizontal
4	9488	46.41	38.37	-45.87	38.91	54.00	15.09	Horizontal
5	17991.5	45.55	43.20	-41.31	47.44	54.00	6.56	Horizontal
6	2815.6667	47.92	27.24	-24.98	50.18	74.00	23.82	Horizontal
7	3253.5	67.08	28.09	-53.41	41.76	74.00	32.24	Horizontal
8	7045	56.99	35.41	-47.38	45.02	74.00	28.98	Horizontal
9	9448.5	55.72	38.59	-46.34	47.97	74.00	26.03	Horizontal
10	17970	55.08	43.20	-41.68	56.60	74.00	17.40	Horizontal

BLE_2M_TX_CH_19_Vertical



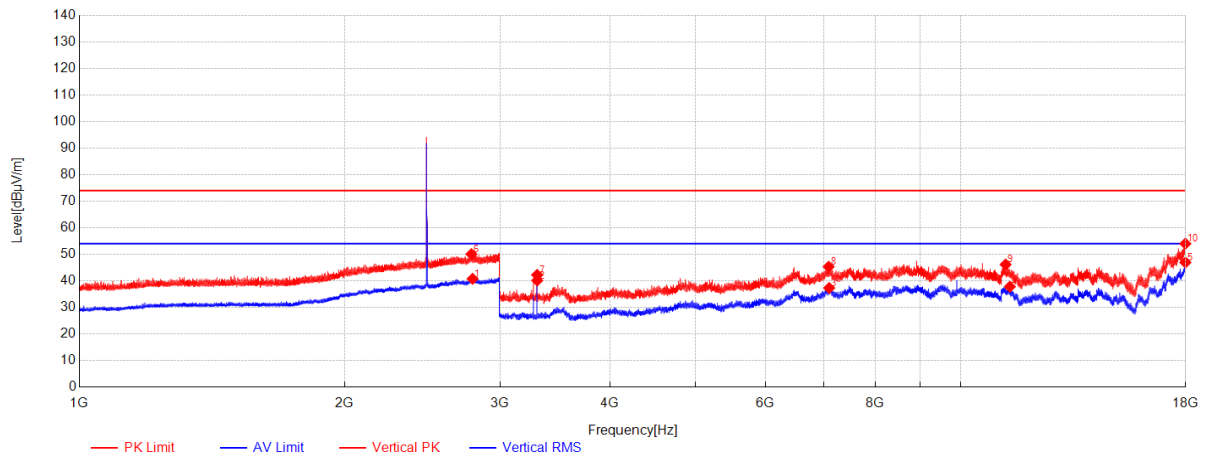
Data List								
NO.	Frequency [MHz]	Reading [dBμV]	AF [dB/m]	Factor [dB]	Level [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Polarity
1	2780.5	38.64	27.50	-25.11	41.03	54.00	12.97	Vertical
2	6506.5	48.38	34.27	-46.34	36.31	54.00	17.69	Vertical
3	11250	43.23	39.60	-44.30	38.53	54.00	15.47	Vertical
4	17993	45.53	43.20	-41.28	47.45	54.00	6.55	Vertical
5	2687.3333	49.06	27.19	-25.83	50.42	74.00	23.58	Vertical
6	6545	56.71	34.65	-47.35	44.01	74.00	29.99	Vertical
7	11218.5	50.35	39.54	-44.24	45.65	74.00	28.35	Vertical
8	17991.5	52.68	43.20	-41.31	54.57	74.00	19.43	Vertical

BLE_2M_TX_CH_39_Horizontal



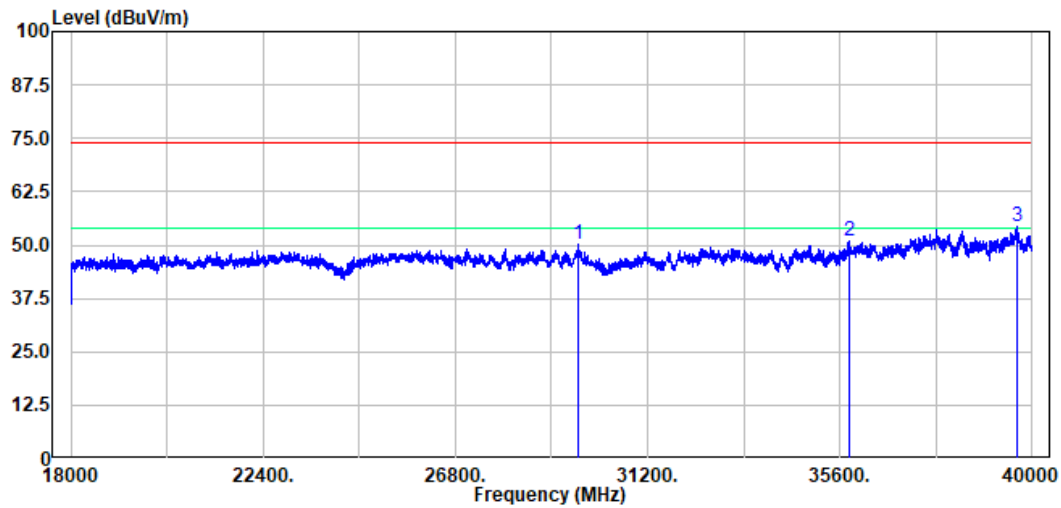
Data List								
NO.	Frequency [MHz]	Reading [dBμV]	AF [dB/m]	Factor [dB]	Level [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Polarity
1	2782.8333	38.51	27.47	-25.08	40.90	54.00	13.10	Horizontal
2	3307	63.74	27.94	-53.32	38.36	54.00	15.64	Horizontal
3	6498.5	48.42	34.20	-46.19	36.43	54.00	17.57	Horizontal
4	9551.5	45.85	38.69	-45.91	38.63	54.00	15.37	Horizontal
5	17986	44.87	43.20	-41.40	46.67	54.00	7.33	Horizontal
6	2831	48.00	27.40	-25.02	50.38	74.00	23.62	Horizontal
7	3306.5	66.58	27.94	-53.32	41.20	74.00	32.80	Horizontal
8	6498	56.44	34.20	-46.20	44.44	74.00	29.56	Horizontal
9	9528.5	53.66	38.53	-45.83	46.36	74.00	27.64	Horizontal
10	17997.5	53.45	43.20	-41.20	55.45	74.00	18.55	Horizontal

BLE_2M_TX_CH_39_Verical



Data List								
NO.	Frequency [MHz]	Reading [dBμV]	AF [dB/m]	Factor [dB]	Level [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Polarity
1	2793.5	38.38	27.37	-24.99	40.76	54.00	13.24	Vertical
2	3307	65.51	27.94	-53.32	40.13	54.00	13.87	Vertical
3	7091.5	48.12	35.82	-46.62	37.32	54.00	16.68	Vertical
4	11368	42.86	39.46	-44.52	37.80	54.00	16.20	Vertical
5	17986	45.11	43.20	-41.40	46.91	54.00	7.09	Vertical
6	2784.8333	47.66	27.45	-25.07	50.04	74.00	23.96	Vertical
7	3306.5	67.63	27.94	-53.32	42.25	74.00	31.75	Vertical
8	7081	56.38	35.71	-46.79	45.30	74.00	28.70	Vertical
9	11244	50.84	39.59	-44.28	46.15	74.00	27.85	Vertical
10	17984.5	52.22	43.20	-41.43	53.99	74.00	20.01	Vertical

BLE_1M_TX_CH_00_Horizontal

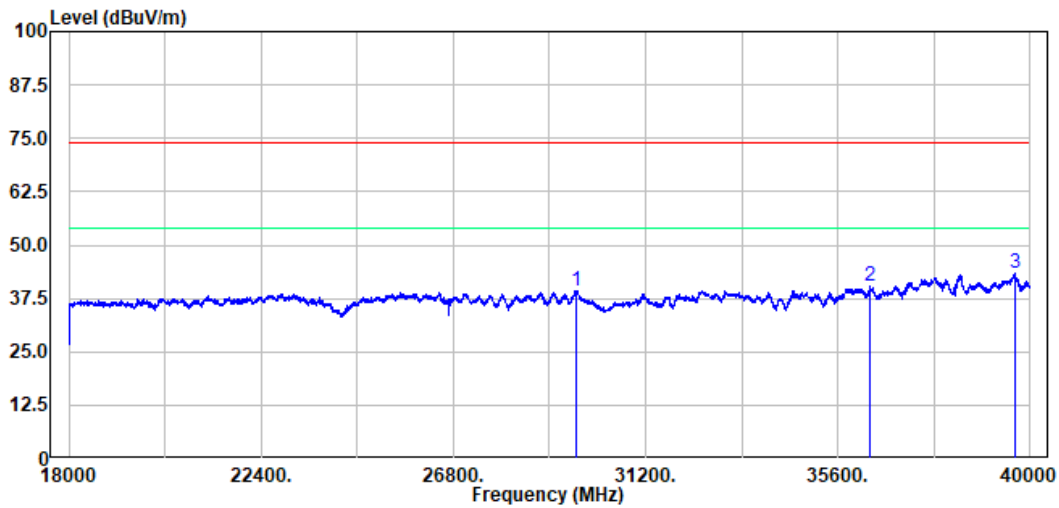


Antenna Polarity :Horizontal

No.	Freq	Read level	Antenna Factor	Cable Loss	Preamplifier Factor	Emission Level	Limit Line	Over Limit	Remark
	MHz	dBuv	dB/m	dB	dB	dBuv/m	dBuv/m	dB	
1	29605.12	54.21	40.11	11.48	55.59	50.21	74.00	-23.79	Peak
2	35832.37	51.45	41.76	13.25	55.57	50.89	74.00	-23.11	Peak
3	39661.13	51.49	43.68	14.95	55.72	54.40	74.00	-19.60	Peak

Notes: Emission Level=Read Level+Antenna Factor+Cable loss-Preamplifier Factor

BLE_1M_TX_CH_00_Horizontal

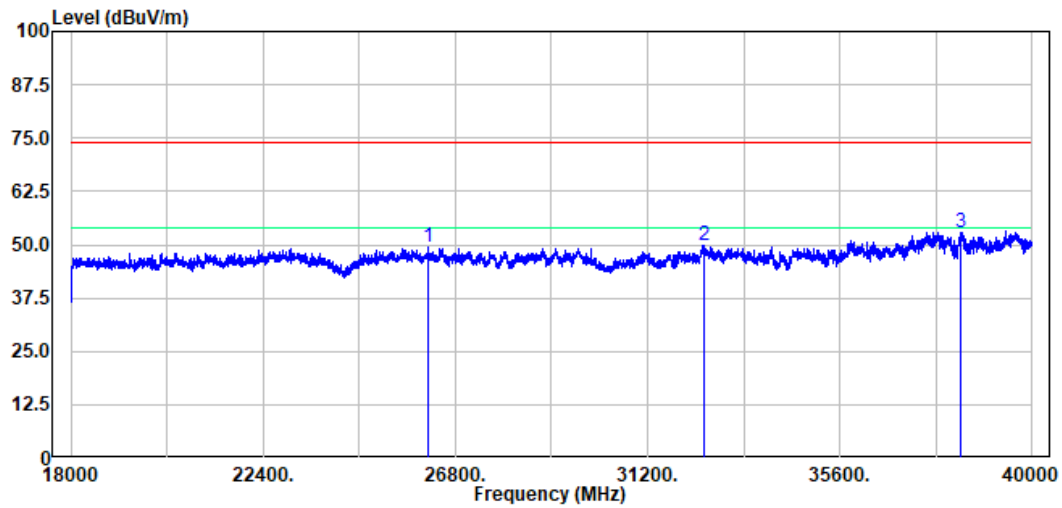


Antenna Polarity :Horizontal

No.	Freq	Read level	Antenna Factor	Cable Loss	Preamp Factor	Emission Level	Limit Line	Over Limit	Remark
	MHz	dBuv	dB/m	dB	dB	dBuv/m	dBuv/m	dB	
1	29618.32	43.41	40.11	11.49	55.58	39.43	54.00	-14.57	Average
2	36338.47	40.43	42.03	13.53	55.68	40.31	54.00	-13.69	Average
3	39647.93	40.45	43.68	14.91	55.67	43.37	54.00	-10.63	Average

Notes: Emission Level=Read Level+Antenna Factor+Cable loss-Preamp Factor

BLE_1M_TX_CH_00_Verical

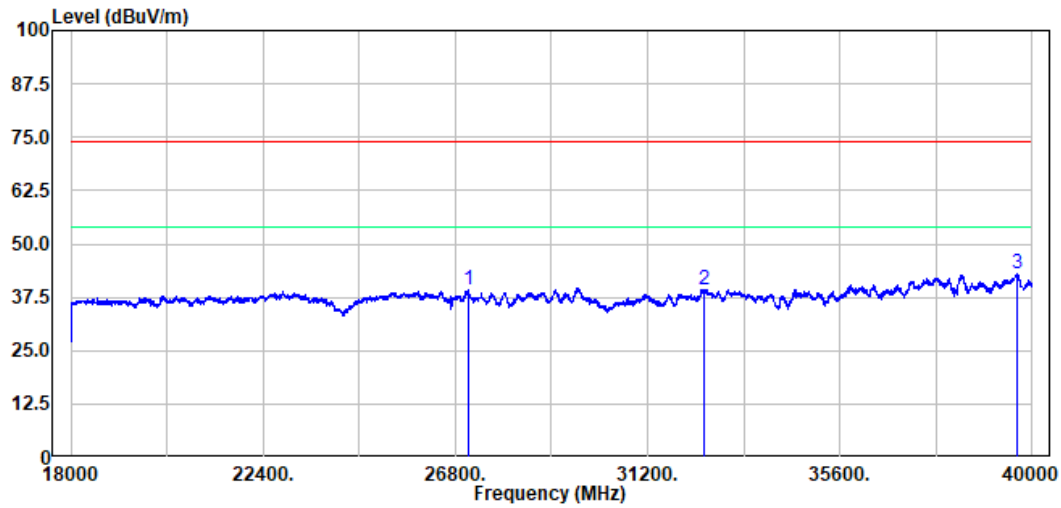


Antenna Polarity :Vertical

No.	Freq	Read level	Antenna Factor	Cable Loss	Preamplifier Factor	Emission Level	Limit Line	Over Limit	Remark
	MHz	dBuv	dB/m	dB	dB	dBuv/m	dBuv/m	dB	
1	26190.04	54.29	39.78	10.63	55.18	49.52	74.00	-24.48	Peak
2	32487.70	53.30	40.66	11.88	56.01	49.83	74.00	-24.17	Peak
3	38380.48	50.64	43.10	14.30	55.07	52.97	74.00	-21.03	Peak

Notes: Emission Level=Read Level+Antenna Factor+Cable loss-Preamplifier Factor

BLE_1M_TX_CH_00_Verical



Antenna Polarity :Vertical

No.	Freq	Read level	Antenna Factor	Cable Loss	Preamp Factor	Emission Level	Limit Line	Over Limit	Remark
	MHz	dBuv	dB/m	dB	dB	dBuv/m	dBuv/m	dB	
1	27087.82	43.24	39.88	11.01	54.82	39.31	54.00	-14.69	Average
2	32487.70	42.89	40.66	11.88	56.01	39.42	54.00	-14.58	Average
3	39652.33	40.16	43.68	14.92	55.69	43.07	54.00	-10.93	Average

Notes: Emission Level=Read Level+Antenna Factor+Cable loss-Preamp Factor

Note:For the frequency above 18GHz, testing has been executed under all test modes, and for the emissions whose peak level is lower than the average limit, only the worst-case test curve is displayed in the test report.

7.5 Maximum Conducted Output Power

Test Requirement 47 CFR Part 15, Subpart C 15.247(b)(3)

Test Method: ANSI C63.10 (2020) Section 11.9.1

Limit:

Frequency range(MHz)	Output power of the intentional radiator(watt)
902-928	1 for ≥ 50 hopping channels
	0.25 for $25 \leq$ hopping channels < 50
	1 for digital modulation
2400-2483.5	1 for ≥ 75 non-overlapping hopping channels
	0.125 for all other frequency hopping systems
	1 for digital modulation
5725-5850	1 for frequency hopping systems and digital modulation

7.5.1 E.U.T. Operation

Operating Environment:

Temperature: 26.8 °C

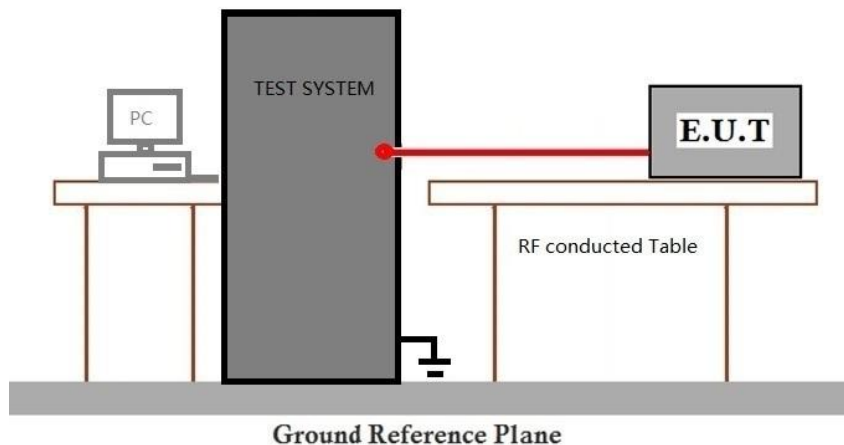
Humidity: 52.3 % RH

Atmospheric Pressure: 1010 mbar

7.5.2 Test Mode Description

Pre-scan / Final test	Mode Code	Description
Final test	00	TX mode(1Mbps)_Keep the EUT in continuously transmitting mode with GFSK modulation.
Final test	01	TX mode(2Mbps)_Keep the EUT in continuously transmitting mode with GFSK modulation.

7.5.3 Test Setup Diagram



7.5.4 Measurement Procedure and Data

Note: Since the verify power the same operating range bandwidth and smaller power can be covered by the higher power.



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Please Refer to Appendix for Details

7.6 Minimum 6dB Bandwidth

Test Requirement 47 CFR Part 15, Subpart C 15.247a(2)
 Test Method: ANSI C63.10 (2020) Section 11.8.1

Limit:
 ≥500 kHz

7.6.1 E.U.T. Operation

Operating Environment:

Temperature: 26.8 °C

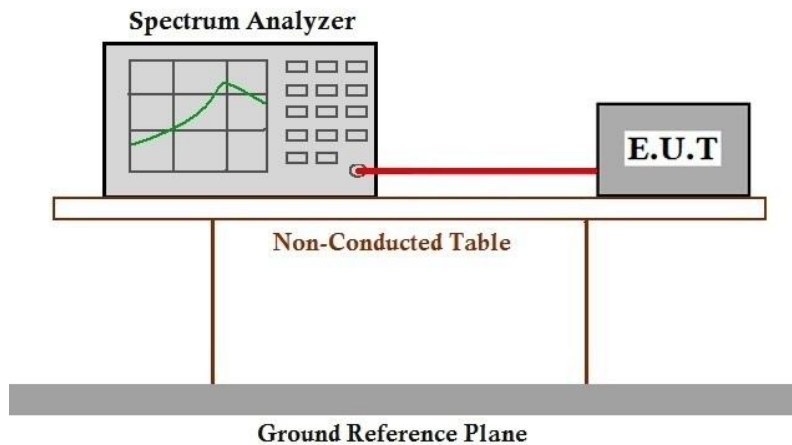
Humidity: 52.3 % RH

Atmospheric Pressure: 1010 mbar

7.6.2 Test Mode Description

Pre-scan / Final test	Mode Code	Description
Final test	00	TX mode(1Mbps)_Keep the EUT in continuously transmitting mode with GFSK modulation.
Final test	01	TX mode(2Mbps)_Keep the EUT in continuously transmitting mode with GFSK modulation.

7.6.3 Test Setup Diagram



7.6.4 Measurement Procedure and Data

Please Refer to Appendix for Details

7.7 Power Spectral Density

Test Requirement 47 CFR Part 15, Subpart C 15.247(e)

Test Method: ANSI C63.10 (2020) Section 11.10.3

Limit:

≤8dBm in any 3 kHz band during any time interval of continuous transmission

7.7.1 E.U.T. Operation

Operating Environment:

Temperature: 26.8 °C

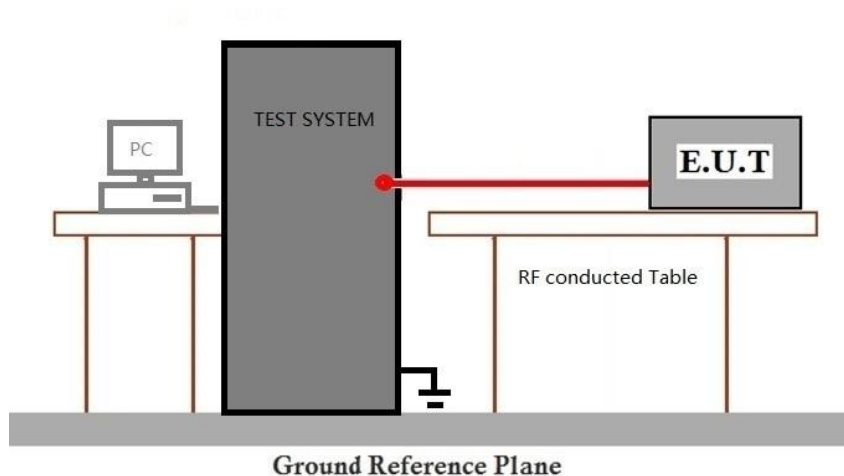
Humidity: 52.3 % RH

Atmospheric Pressure: 1010 mbar

7.7.2 Test Mode Description

Pre-scan / Final test	Mode Code	Description
Final test	00	TX mode(1Mbps)_Keep the EUT in continuously transmitting mode with GFSK modulation.
Final test	01	TX mode(2Mbps)_Keep the EUT in continuously transmitting mode with GFSK modulation.

7.7.3 Test Setup Diagram



7.7.4 Measurement Procedure and Data

Please Refer to Appendix for Details

7.8 Conducted Band Edges Measurement

Test Requirement 47 CFR Part 15, Subpart C 15.247(d)

Test Method: ANSI C63.10 (2020) Section 6.10.4

Limit:

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

7.8.1 E.U.T. Operation

Operating Environment:

Temperature: 26.8 °C

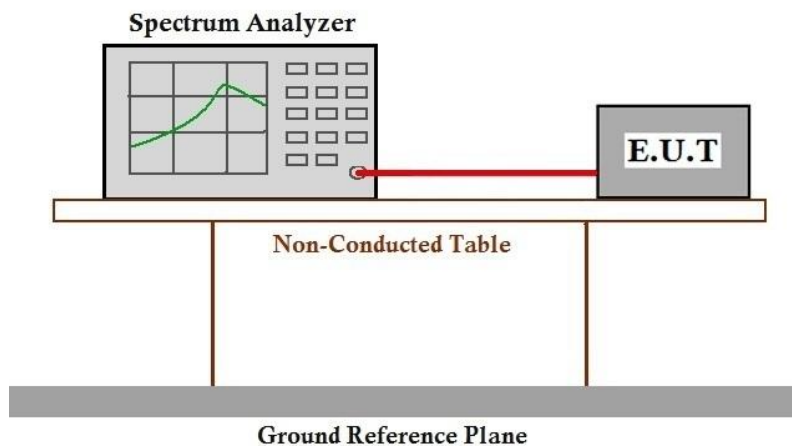
Humidity: 52.3 % RH

Atmospheric Pressure: 1010 mbar

7.8.2 Test Mode Description

Pre-scan / Final test	Mode Code	Description
Final test	00	TX mode(1Mbps)_Keep the EUT in continuously transmitting mode with GFSK modulation.
Final test	01	TX mode(2Mbps)_Keep the EUT in continuously transmitting mode with GFSK modulation.

7.8.3 Test Setup Diagram



7.8.4 Measurement Procedure and Data

Please Refer to Appendix for Details

7.9 Conducted Spurious Emissions

Test Requirement 47 CFR Part 15, Subpart C 15.247(d)

Test Method: ANSI C63.10 (2020) Section 11.11

Limit:

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

7.9.1 E.U.T. Operation

Operating Environment:

Temperature: 26.8 °C

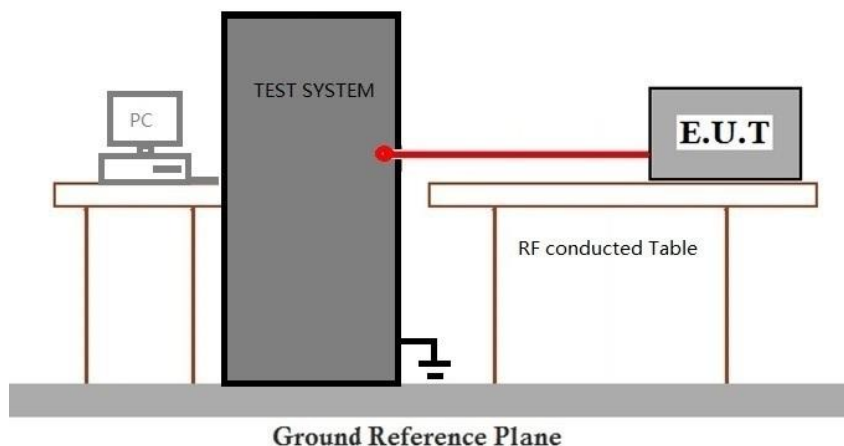
Humidity: 52.3 % RH

Atmospheric Pressure: 1010 mbar

7.9.2 Test Mode Description

Pre-scan / Final test	Mode Code	Description
Final test	00	TX mode(1Mbps)_Keep the EUT in continuously transmitting mode with GFSK modulation.
Final test	01	TX mode(2Mbps)_Keep the EUT in continuously transmitting mode with GFSK modulation.

7.9.3 Test Setup Diagram



7.9.4 Measurement Procedure and Data

Please Refer to Appendix for Details

8 Test Setup Photo

Refer to Appendix - Test Setup Photo for KSCR2606001298HS

9 EUT Constructional Details (EUT Photos)

Refer to Appendix_Photographs of EUT Constructional Details for KSCR2606001298HS

10 Appendix

1. Bandwidth

1.1 Test Result

1.1.1 OBW

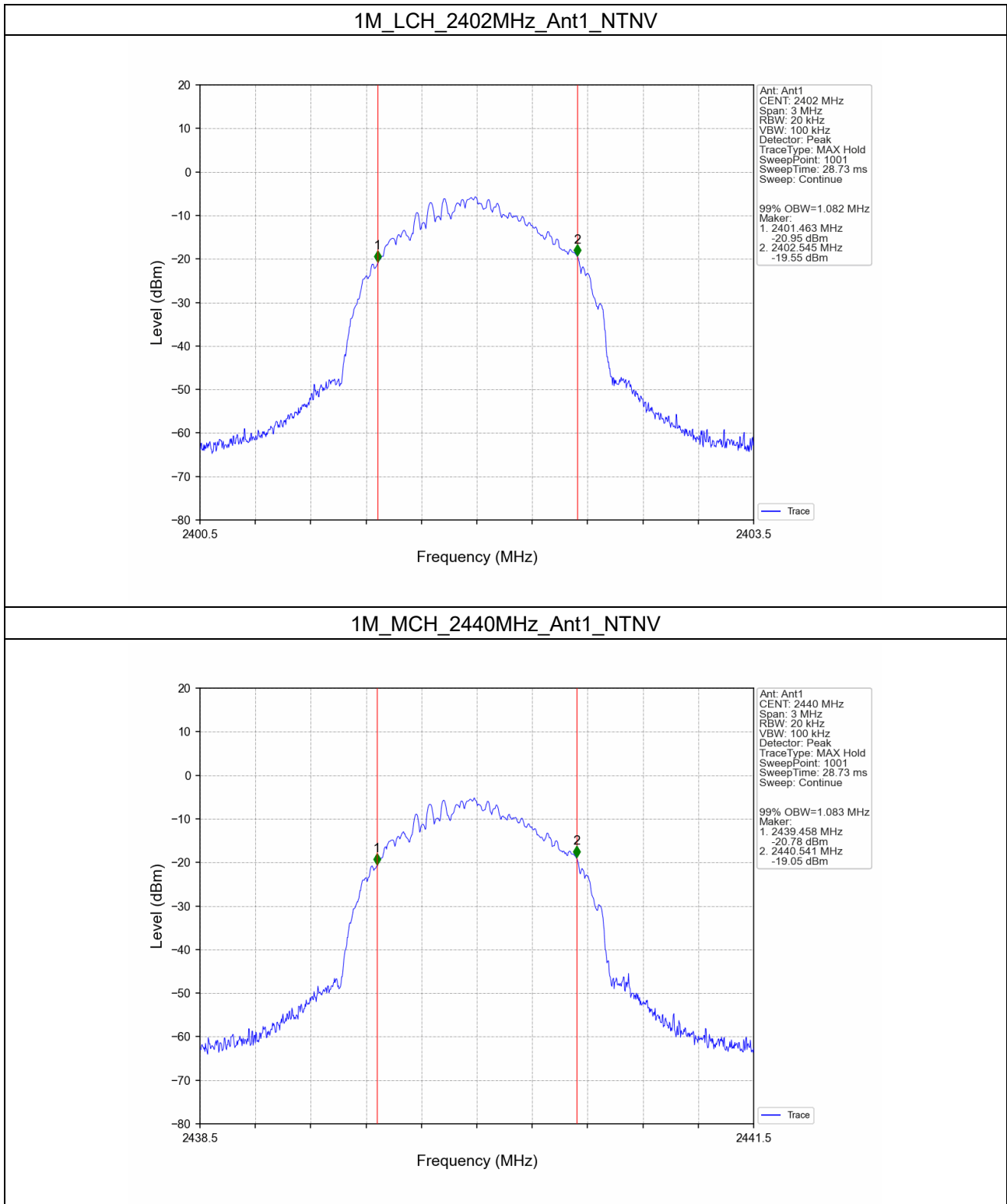
Mode	TX Type	Frequency (MHz)	ANT	99% Occupied Bandwidth (MHz)		Verdict
				Result	Limit	
1M	SISO	2402	1	1.082	/	Pass
		2440	1	1.083	/	Pass
		2480	1	1.083	/	Pass
2M	SISO	2402	1	2.117	/	Pass
		2440	1	2.116	/	Pass
		2480	1	2.117	/	Pass

1.1.2 6dB BW

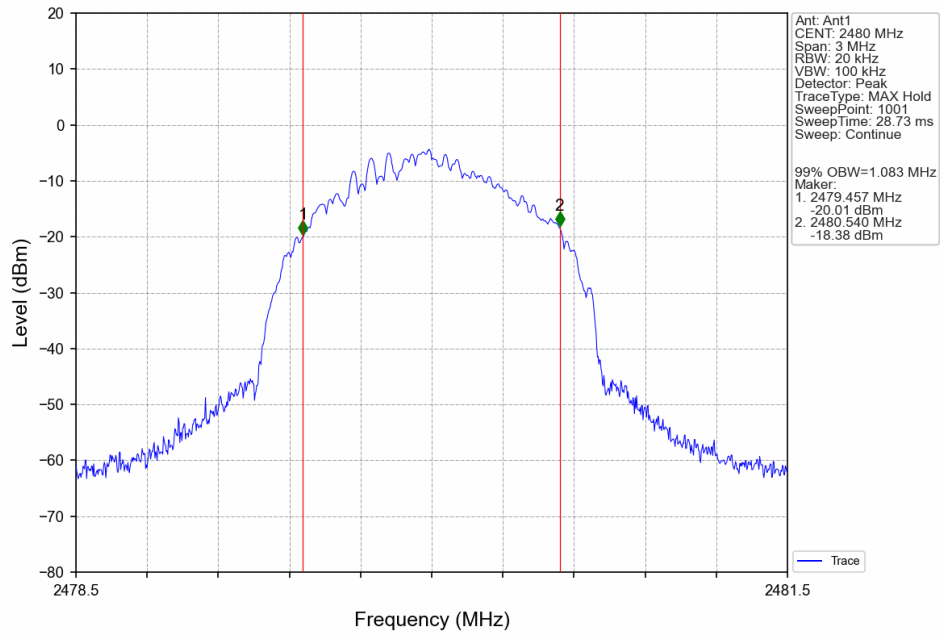
Mode	TX Type	Frequency (MHz)	ANT	6dB Bandwidth (MHz)		Verdict
				Result	Limit	
1M	SISO	2402	1	0.665	≥ 0.5	Pass
		2440	1	0.663	≥ 0.5	Pass
		2480	1	0.660	≥ 0.5	Pass
2M	SISO	2402	1	1.334	≥ 0.5	Pass
		2440	1	1.332	≥ 0.5	Pass
		2480	1	1.333	≥ 0.5	Pass

1.2 Test Graph

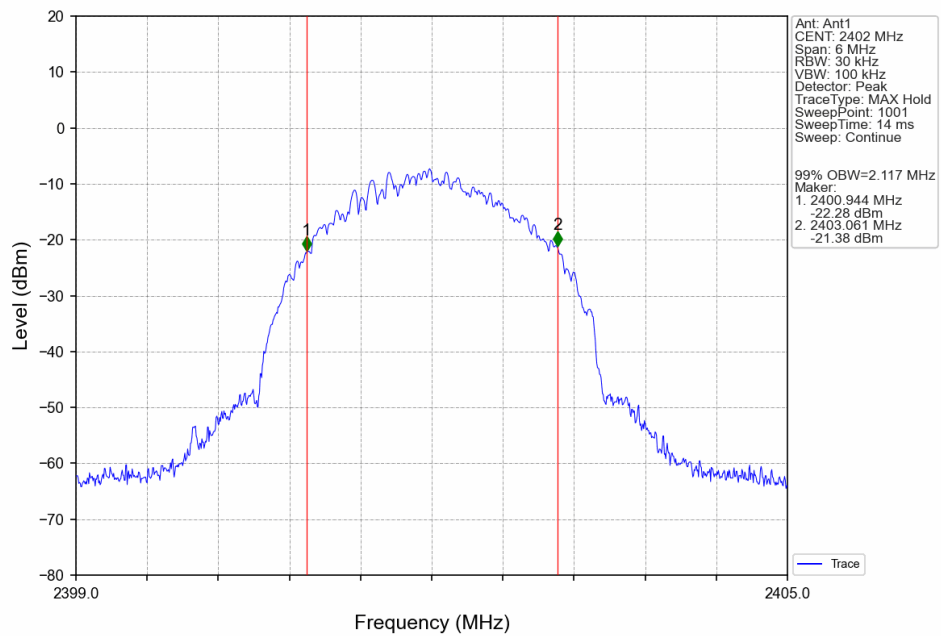
1.2.1 OBW



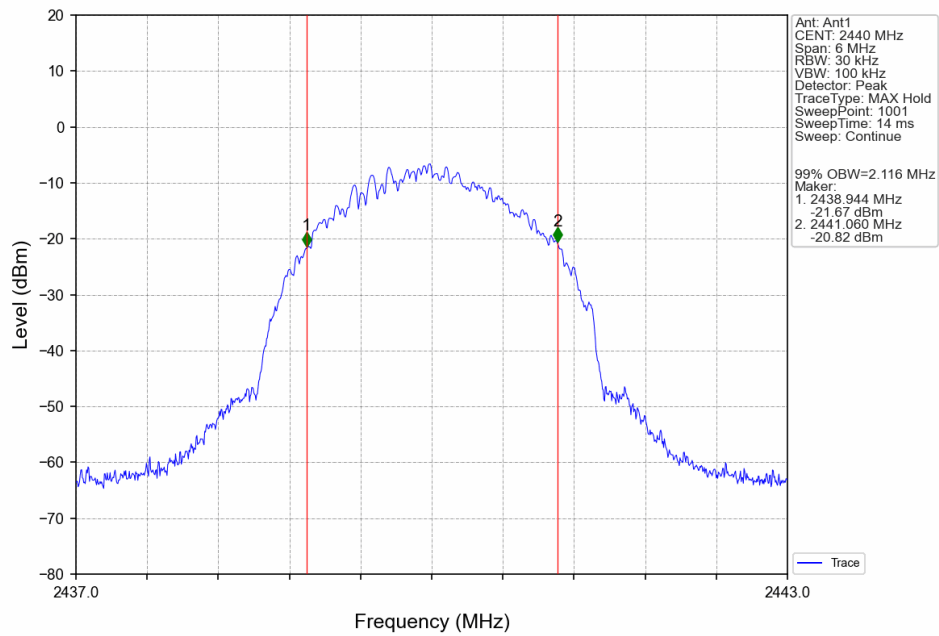
1M_HCH_2480MHz_Ant1_NTNV



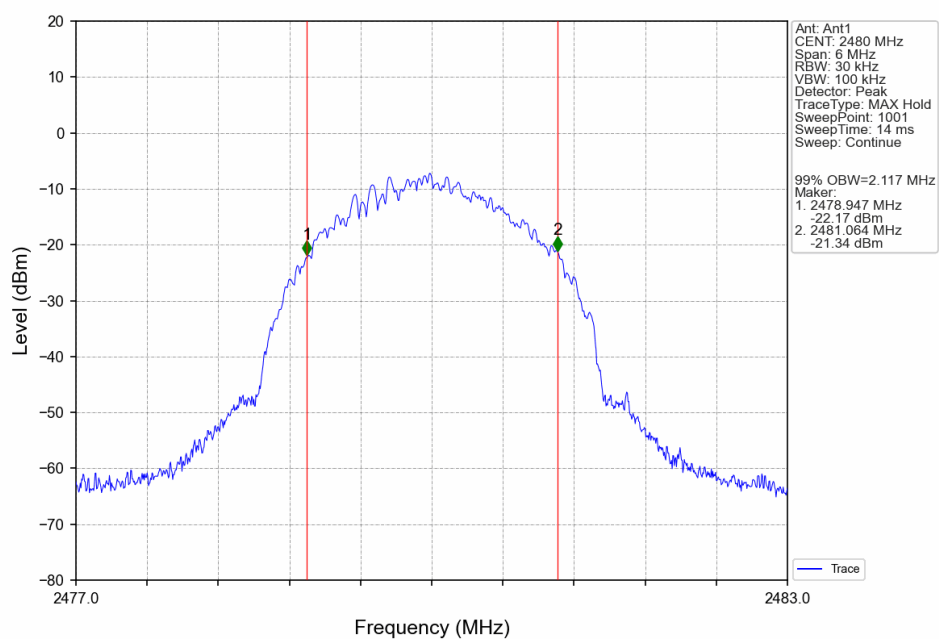
2M_LCH_2402MHz_Ant1_NTNV



2M_MCH_2440MHz_Ant1_NTNV

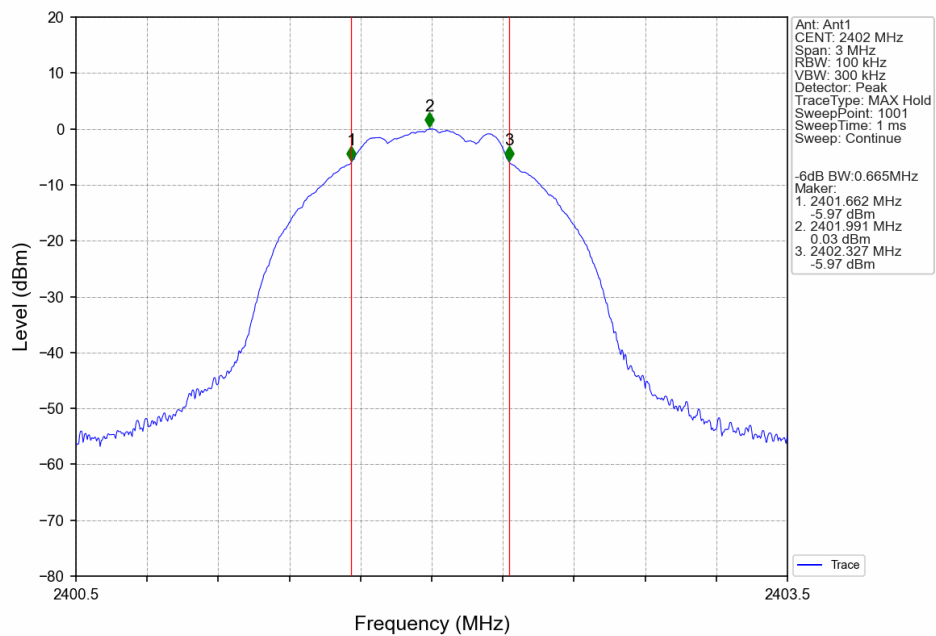


2M_HCH_2480MHz_Ant1_NTNV

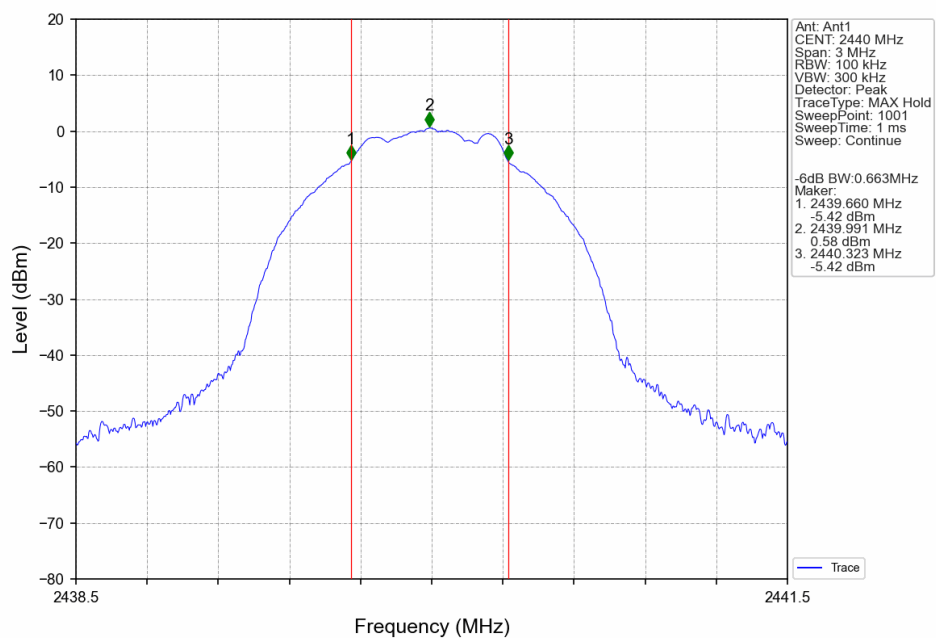


1.2.2 6dB BW

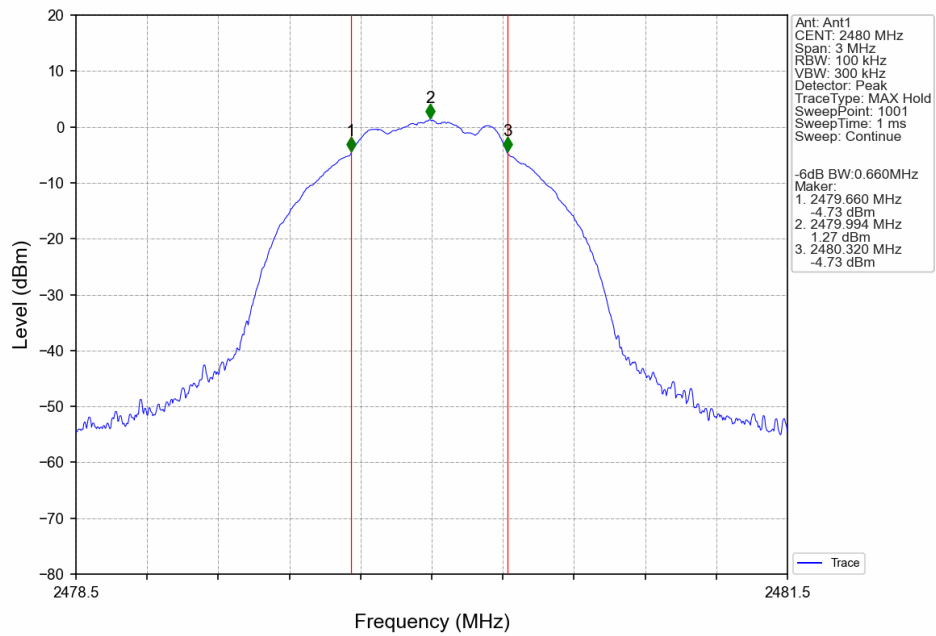
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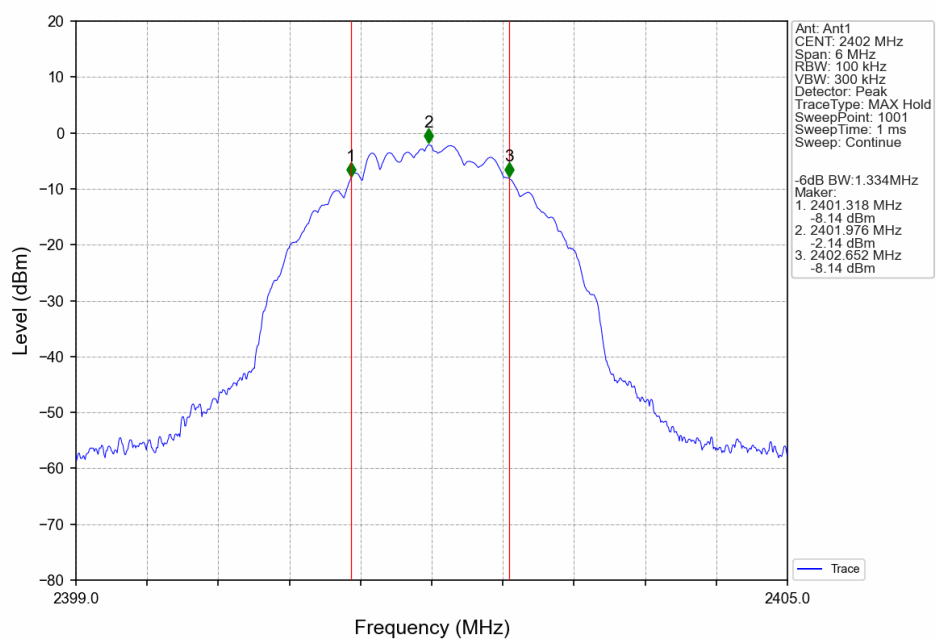
1M_MCH_2440MHz_Ant1_NTNV



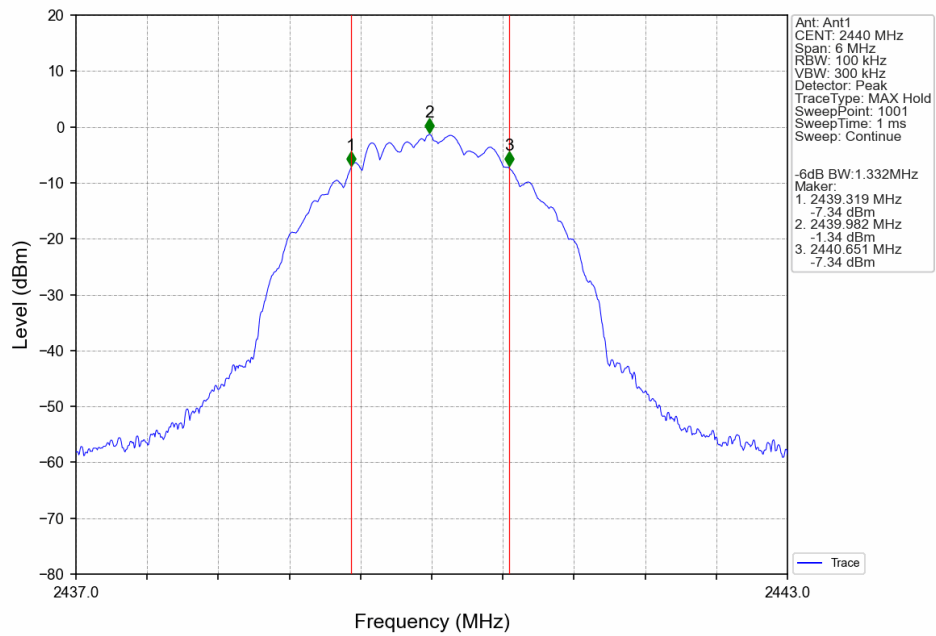
1M_HCH_2480MHz_Ant1_NTNV



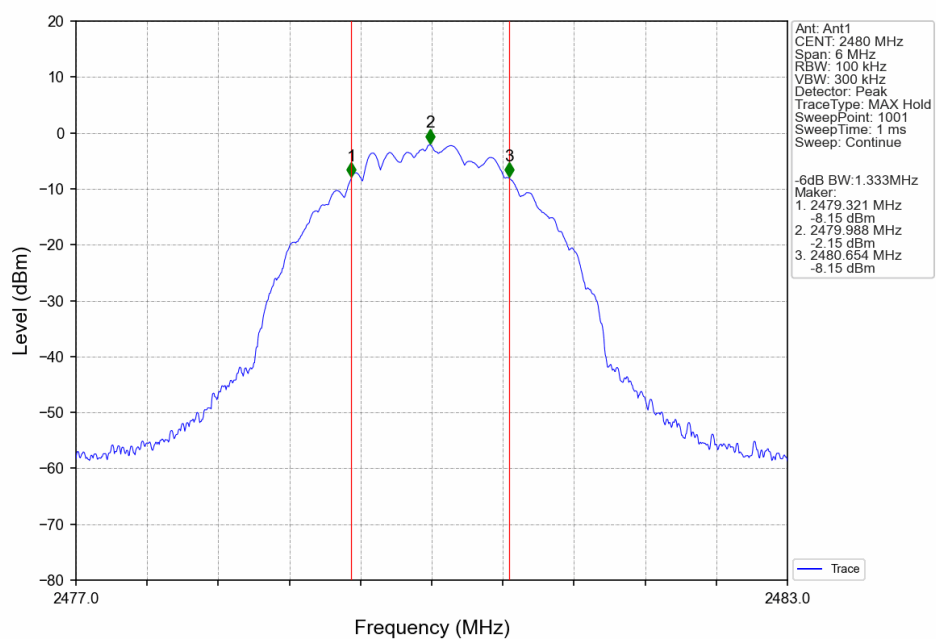
2M_LCH_2402MHz_Ant1_NTNV



2M_MCH_2440MHz_Ant1_NTNV



2M_HCH_2480MHz_Ant1_NTNV



2. Maximum Conducted Output Power

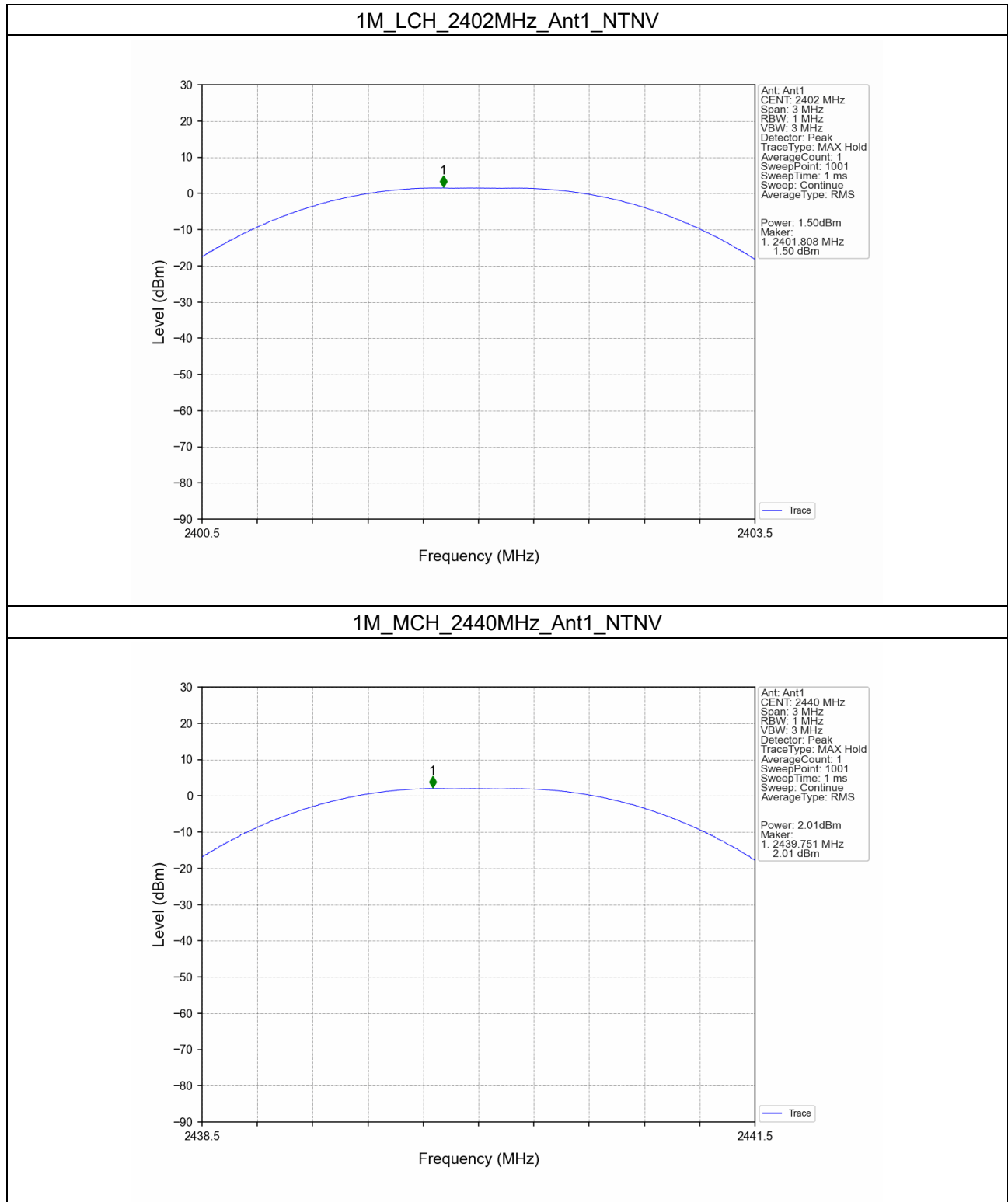
2.1 Test Result

2.1.1 Power

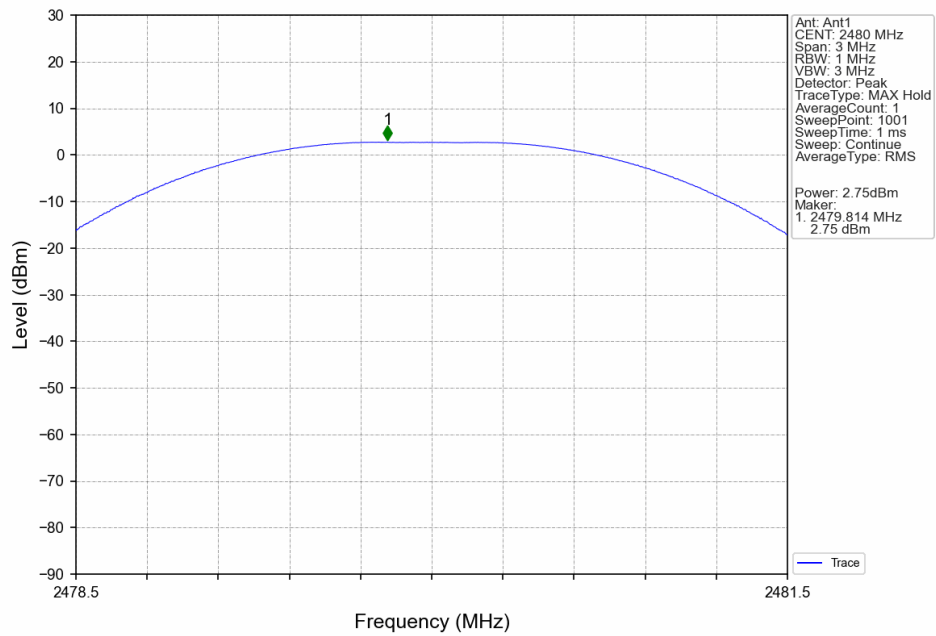
Mode	TX Type	Frequency (MHz)	Maximum Peak Conducted Output Power (dBm)		Verdict
			ANT1	Limit	
1M	SISO	2402	1.50	<=30	Pass
		2440	2.01	<=30	Pass
		2480	2.75	<=30	Pass
2M	SISO	2402	1.24	<=30	Pass
		2440	2.01	<=30	Pass
		2480	1.18	<=30	Pass
Note1: Antenna Gain: Ant1: 2.44dBi;					

2.2 Test Graph

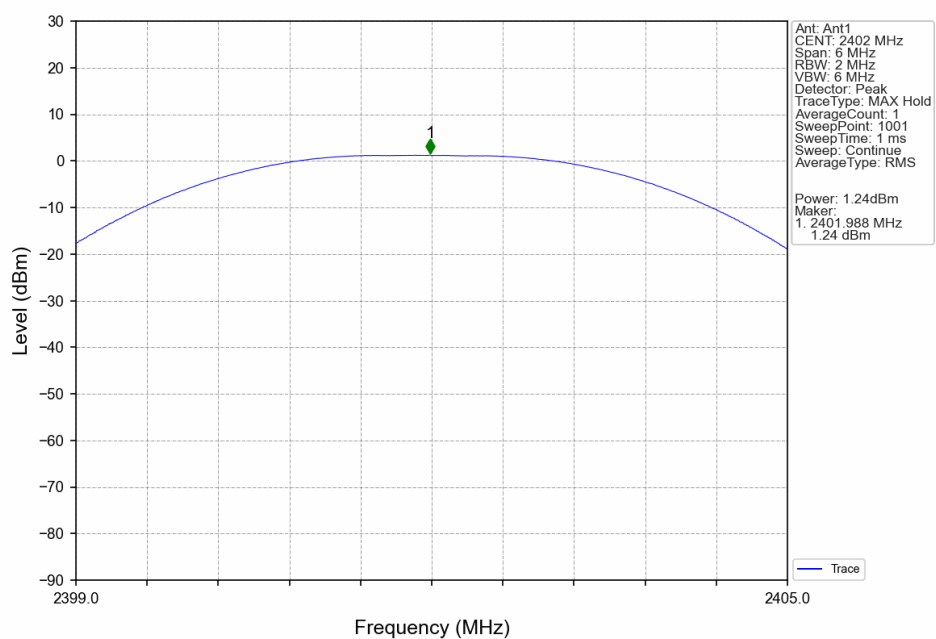
2.2.1 Power



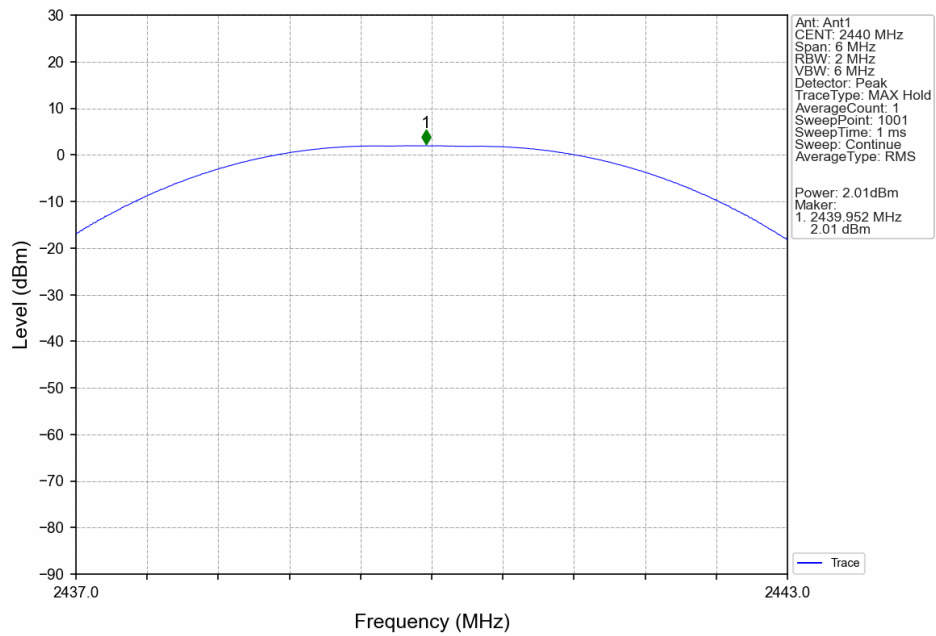
1M_HCH_2480MHz_Ant1_NTNV



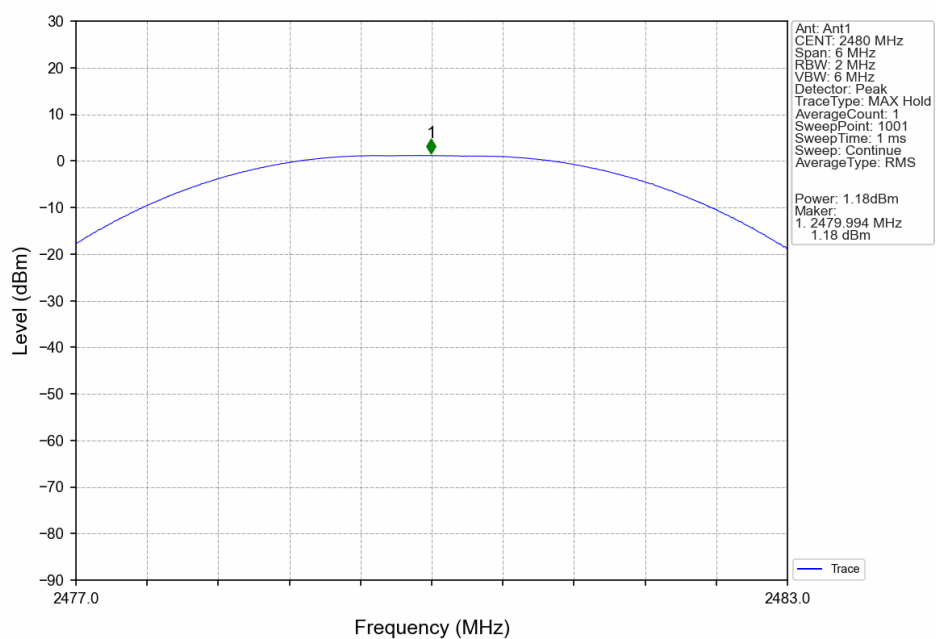
2M_LCH_2402MHz_Ant1_NTNV



2M_MCH_2440MHz_Ant1_NTNV



2M_HCH_2480MHz_Ant1_NTNV



3. Maximum Power Spectral Density

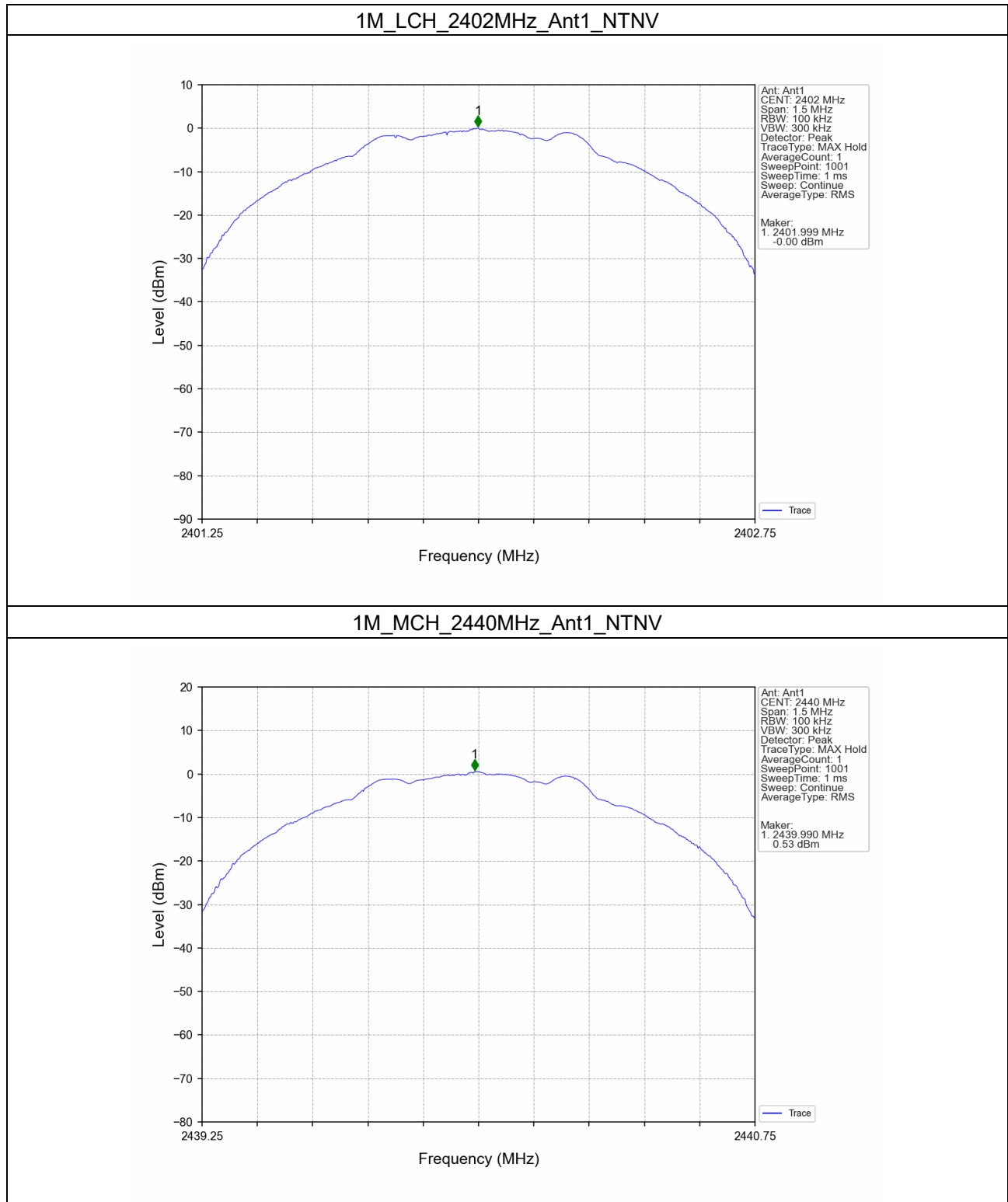
3.1 Test Result

3.1.1 PSD

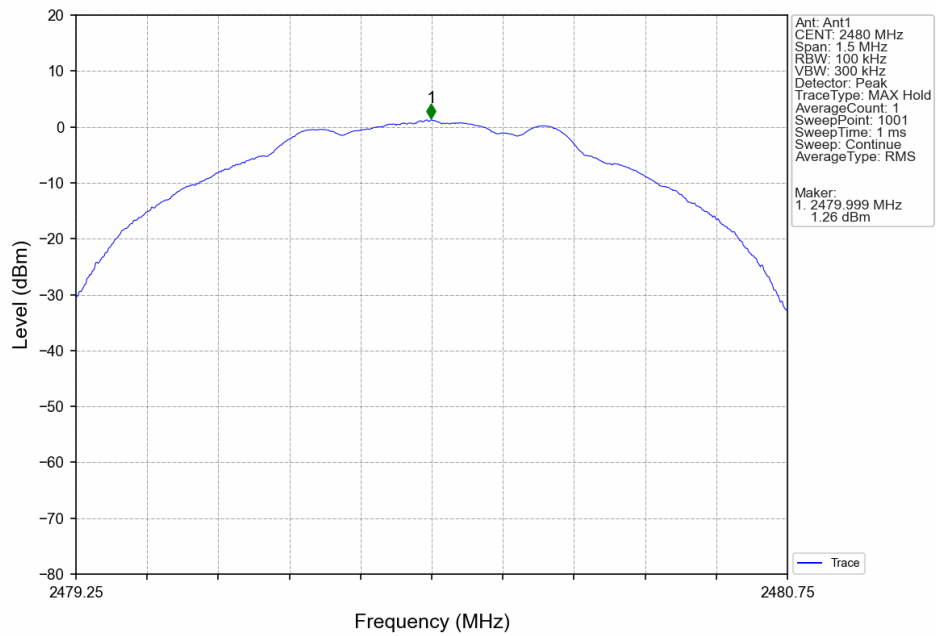
Mode	TX Type	Frequency (MHz)	Maximum PSD (dBm)		Verdict
			ANT1	Limit	
1M	SISO	2402	0.00	<=8	Pass
		2440	0.53	<=8	Pass
		2480	1.26	<=8	Pass
2M	SISO	2402	-2.24	<=8	Pass
		2440	-1.47	<=8	Pass
		2480	-2.33	<=8	Pass
Note1: Antenna Gain: Ant1: 2.44dBi;					

3.2 Test Graph

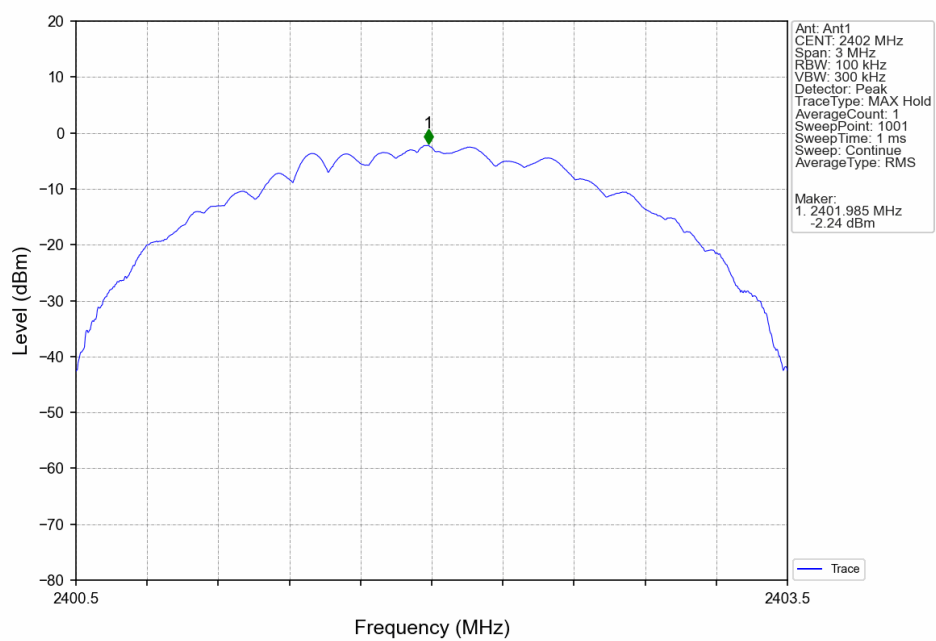
3.2.1 PSD



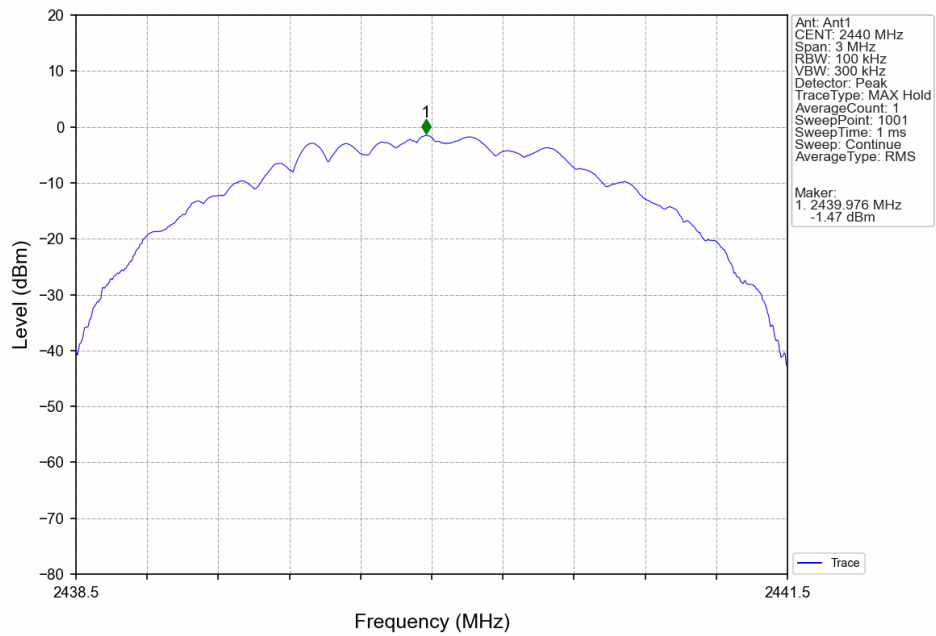
1M_HCH_2480MHz_Ant1_NTNV



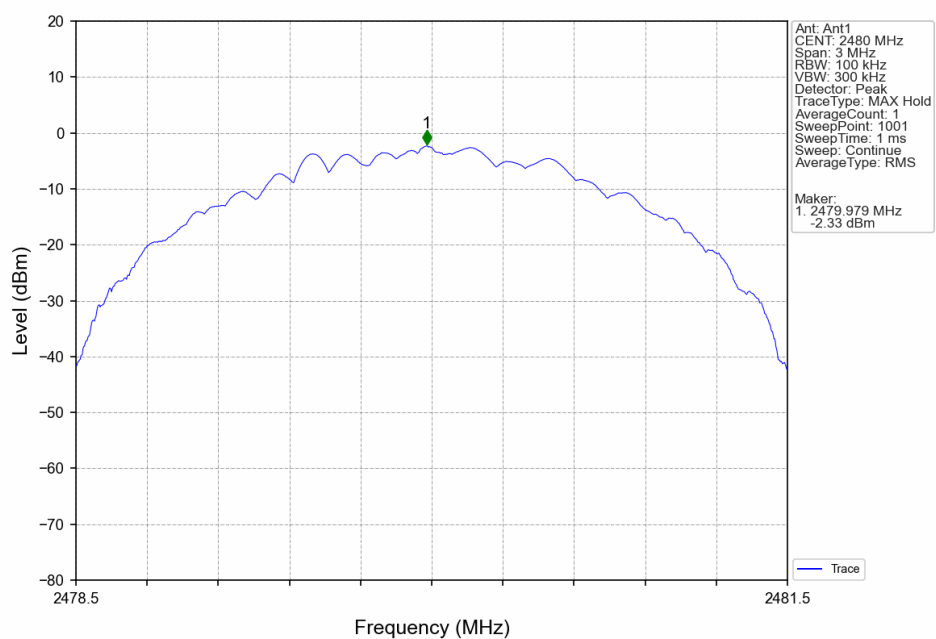
2M_LCH_2402MHz_Ant1_NTNV



2M_MCH_2440MHz_Ant1_NTNV



2M_HCH_2480MHz_Ant1_NTNV



4. Unwanted Emissions In Non-restricted Frequency Bands

4.1 Test Result

4.1.1 Ref

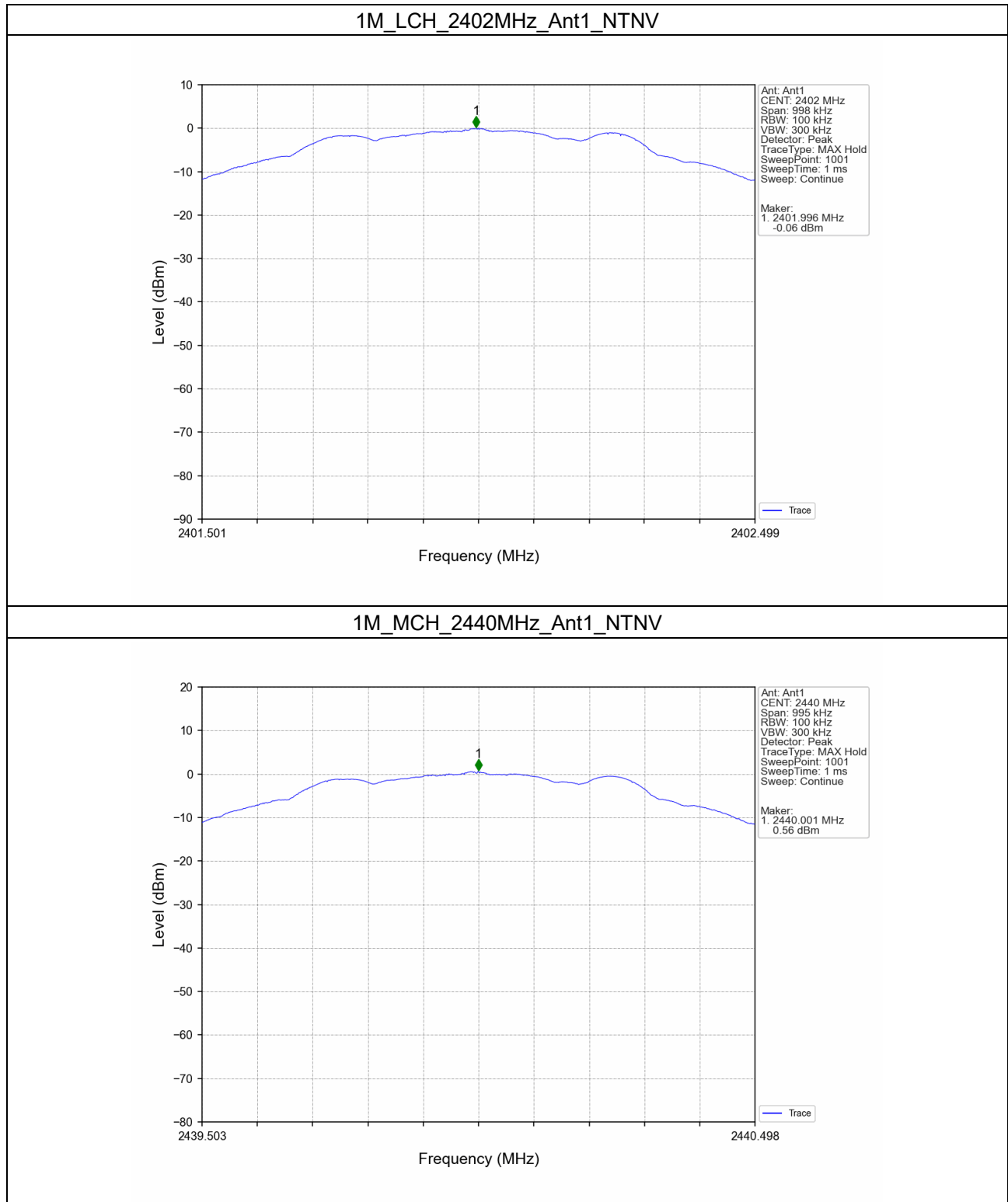
Mode	TX Type	Frequency (MHz)	ANT	Level of Reference (dBm)
1M	SISO	2402	1	-0.06
		2440	1	0.56
		2480	1	1.26
2M	SISO	2402	1	-2.24
		2440	1	-1.44
		2480	1	-2.42

4.1.2 CSE

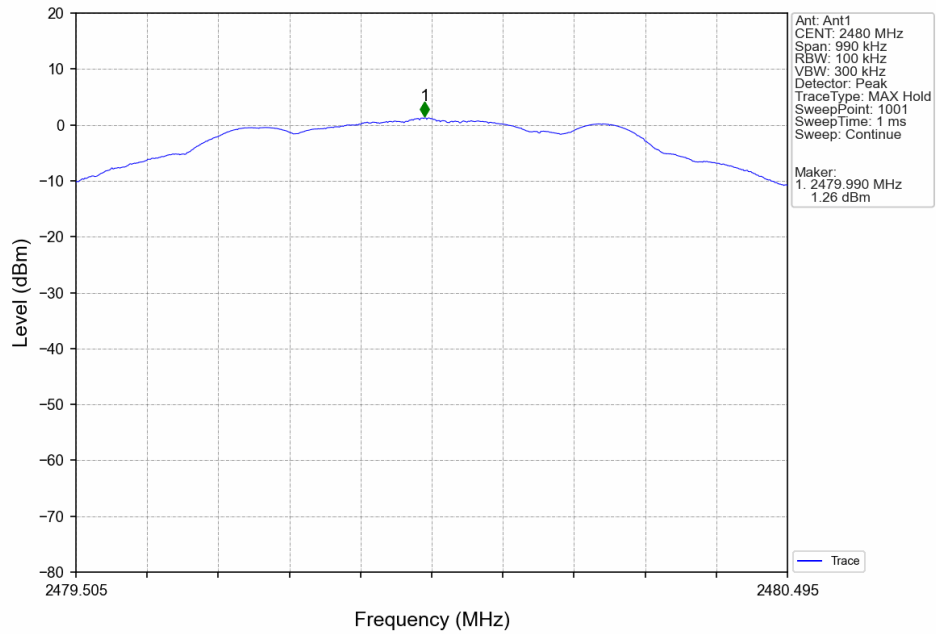
Mode	TX Type	Frequency (MHz)	ANT	Level of Reference (dBm)	Limit (dBm)	Verdict
1M	SISO	2402	1	1.26	-18.74	Pass
		2440	1	1.26	-18.74	Pass
		2480	1	1.26	-18.74	Pass
2M	SISO	2402	1	-1.44	-21.44	Pass
		2440	1	-1.44	-21.44	Pass
		2480	1	-1.44	-21.44	Pass

4.2 Test Graph

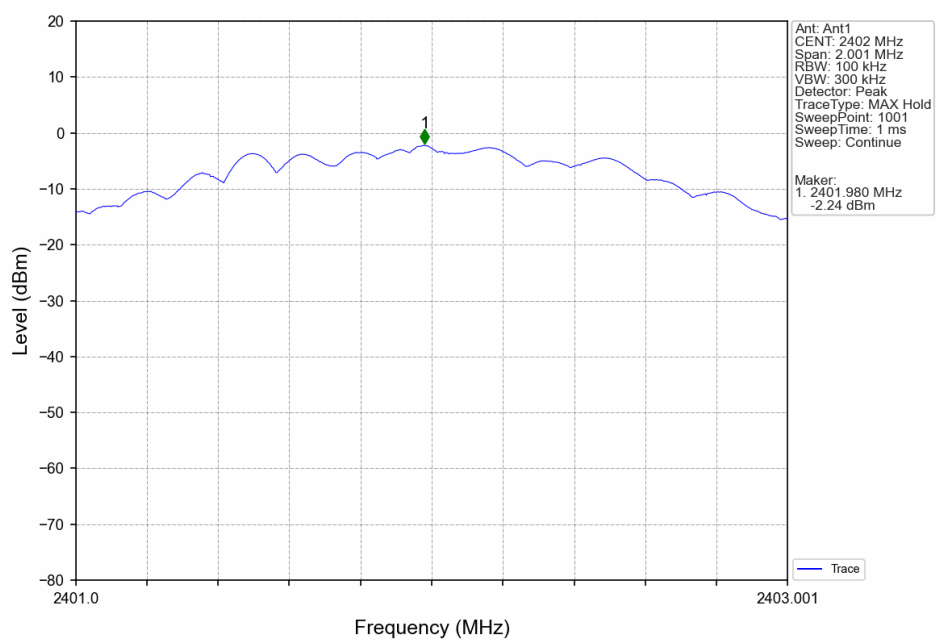
4.2.1 Ref



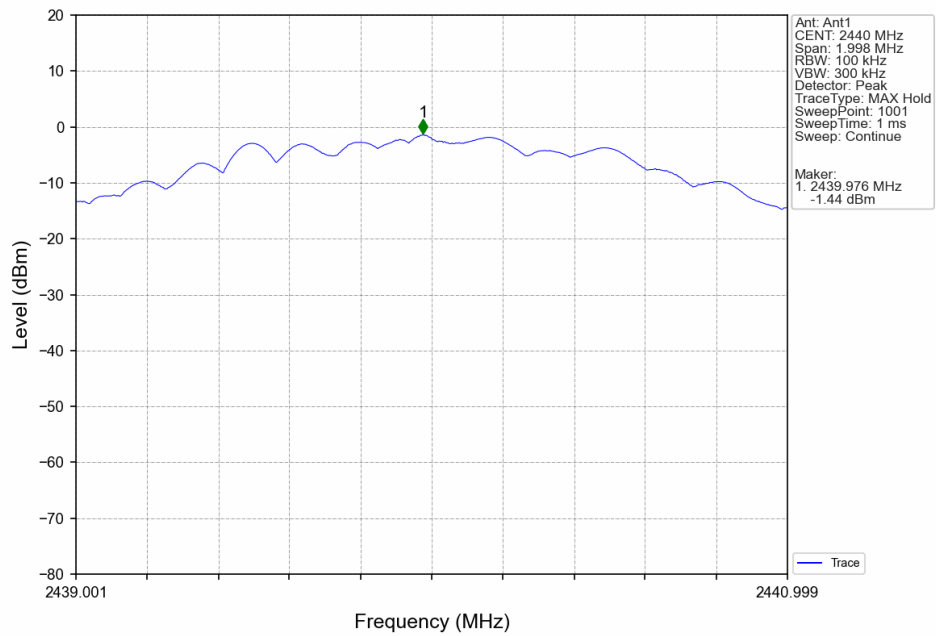
1M_HCH_2480MHz_Ant1_NTNV



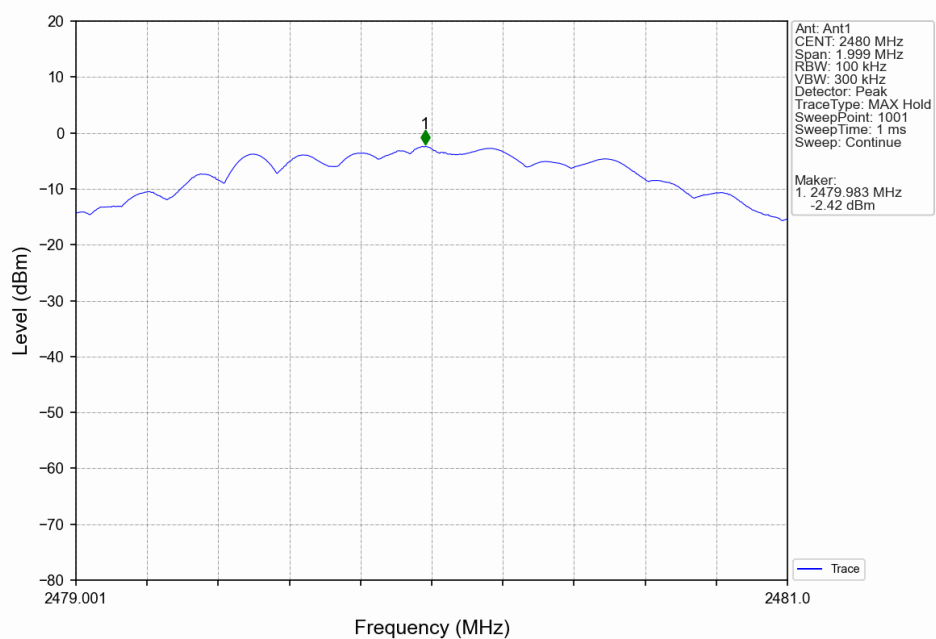
2M_LCH_2402MHz_Ant1_NTNV



2M_MCH_2440MHz_Ant1_NTNV

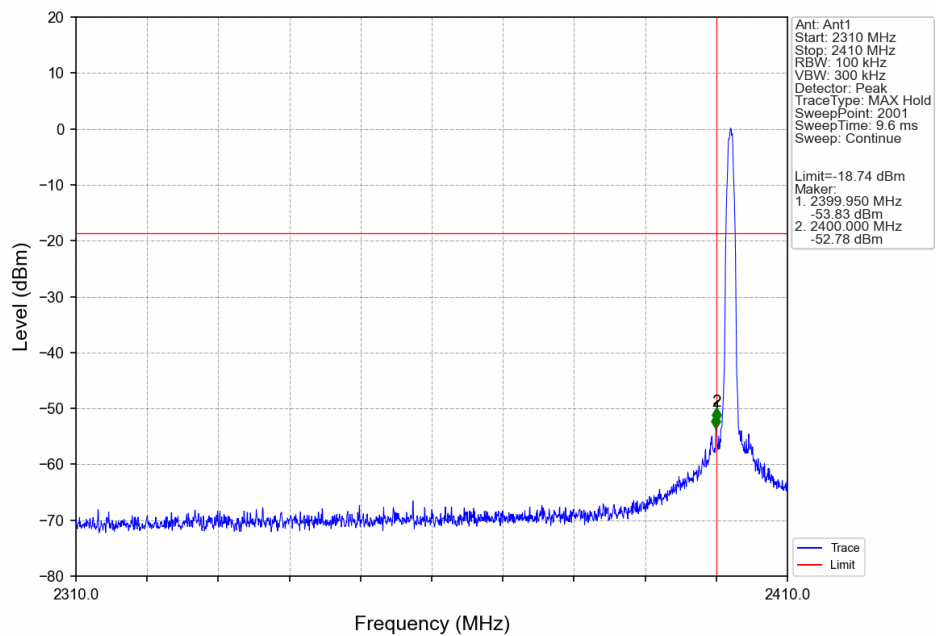


2M_HCH_2480MHz_Ant1_NTNV

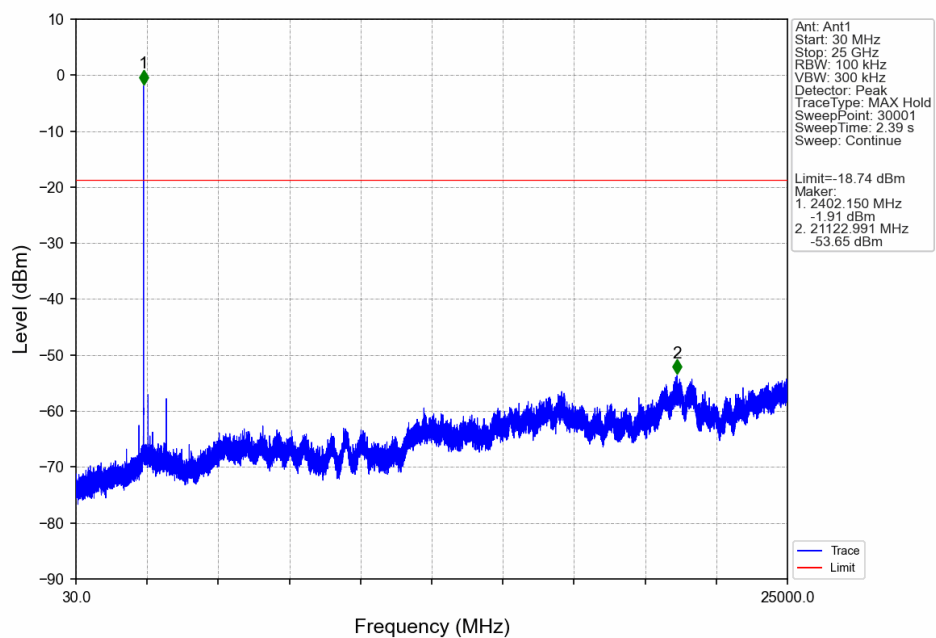


4.2.2 CSE

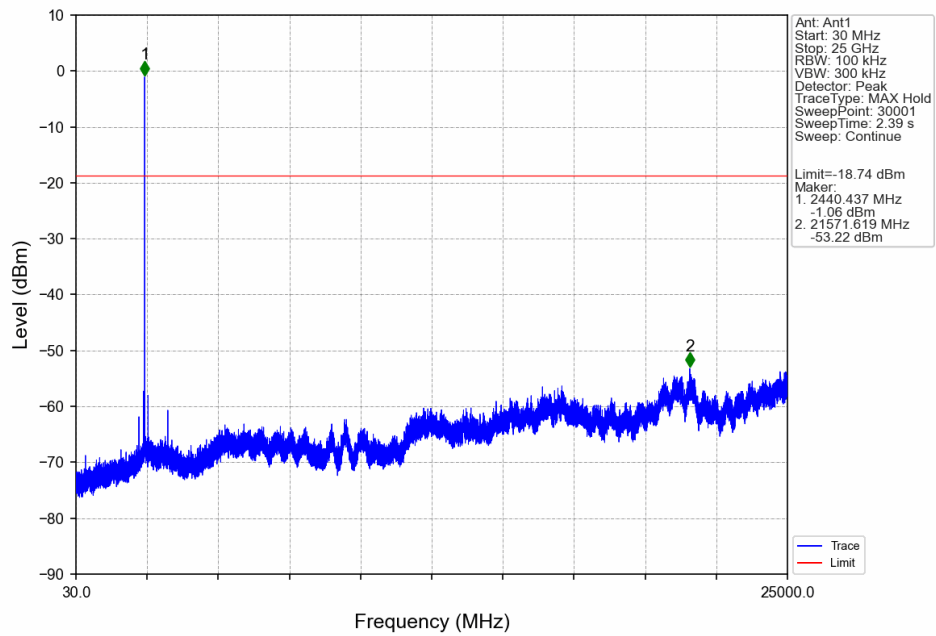
1M_LCH_2402MHz_Ant1_NTNV



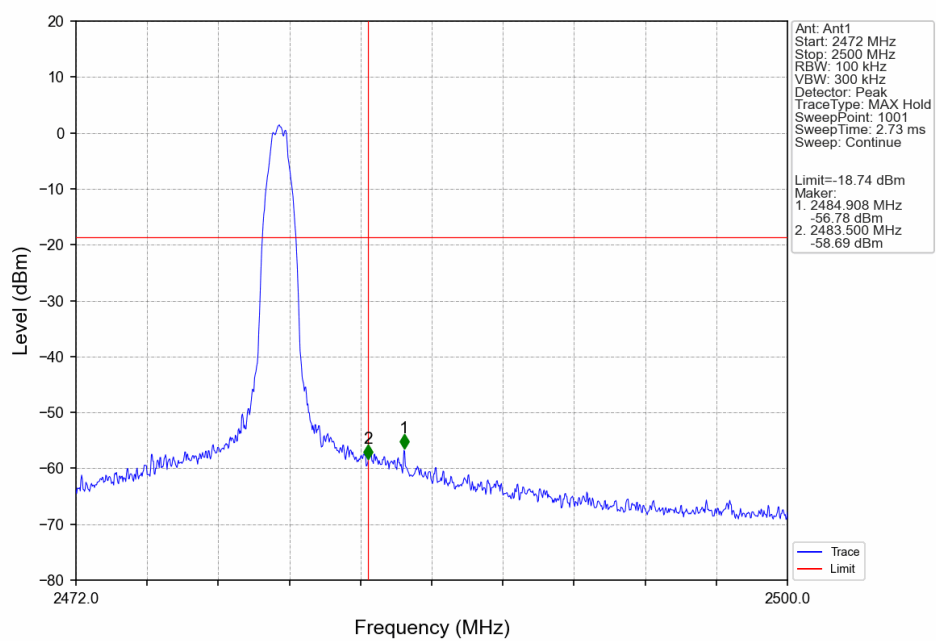
1M_LCH_2402MHz_Ant1_NTNV



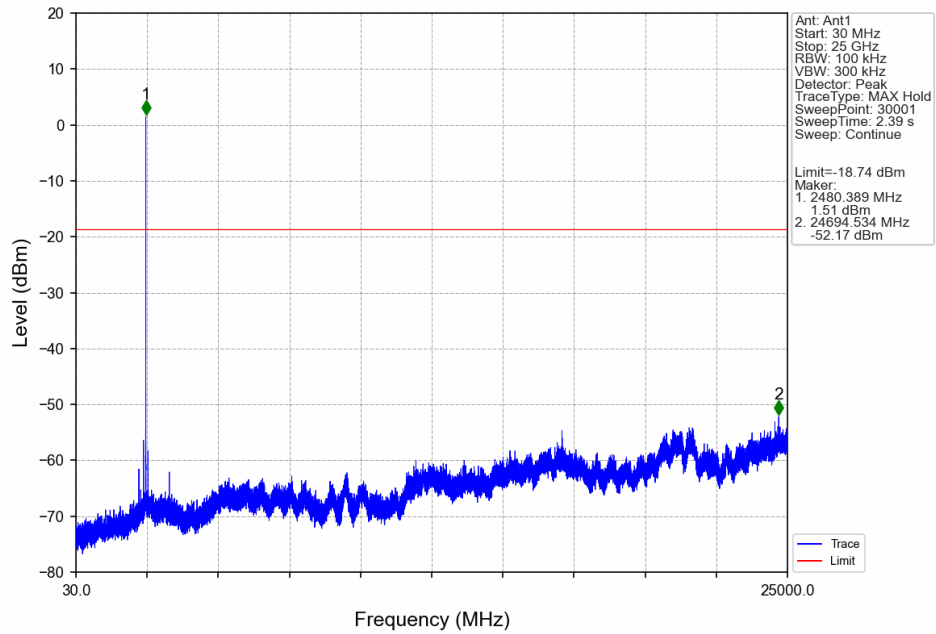
1M_MCH_2440MHz_Ant1_NTNV



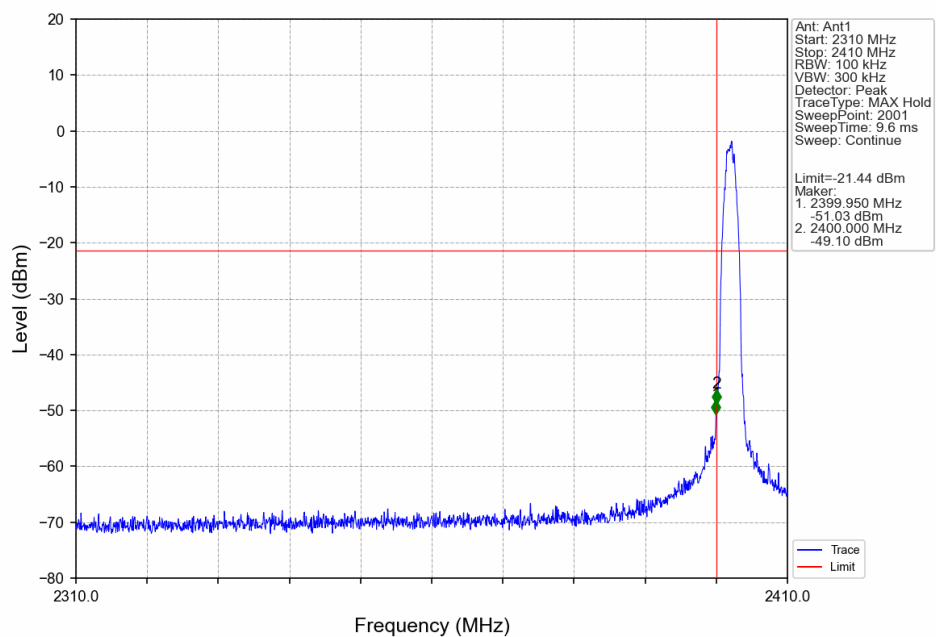
1M_HCH_2480MHz_Ant1_NTNV



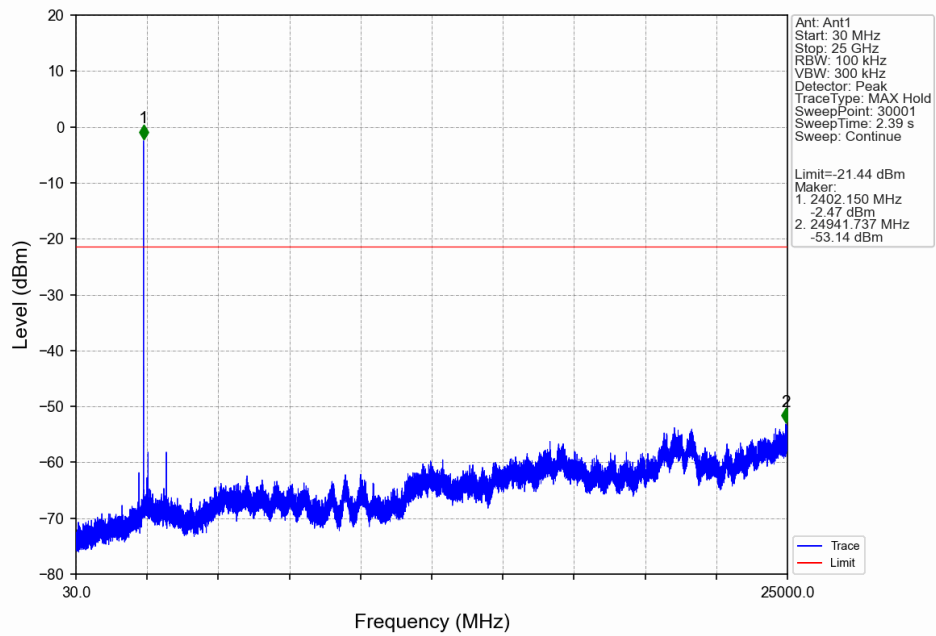
1M_HCH_2480MHz_Ant1_NTNV



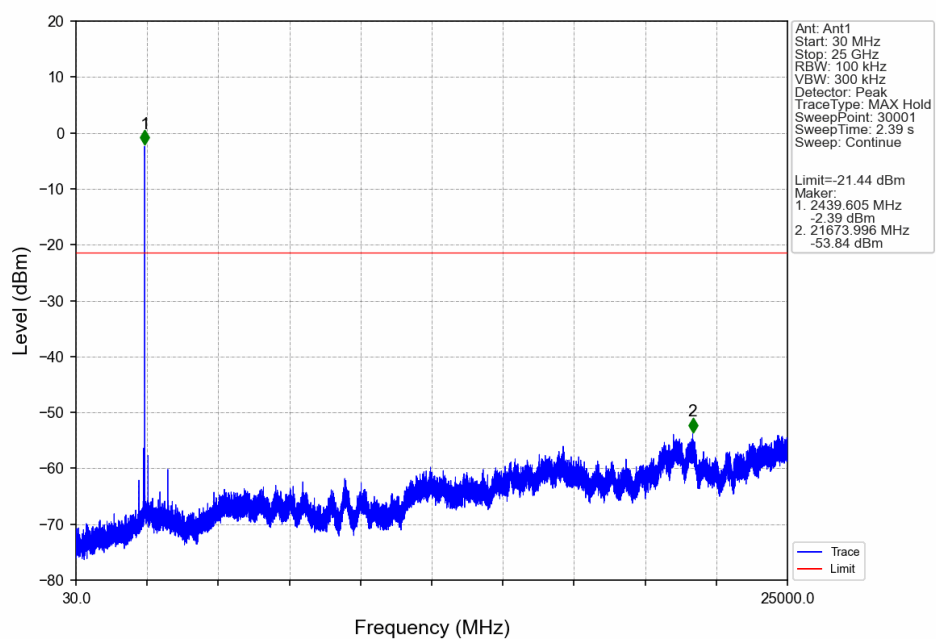
2M_LCH_2402MHz_Ant1_NTNV



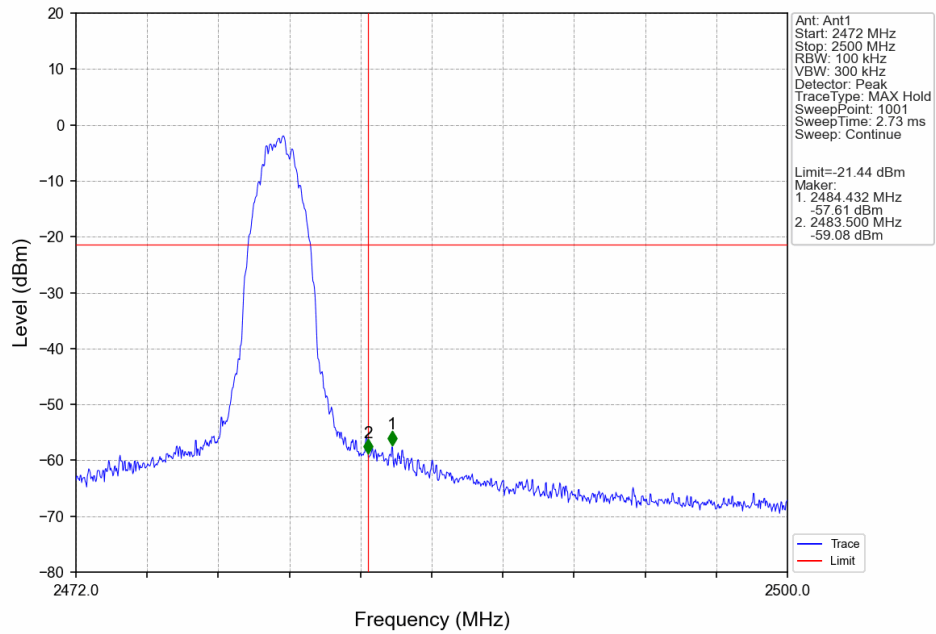
2M_LCH_2402MHz_Ant1_NTNV



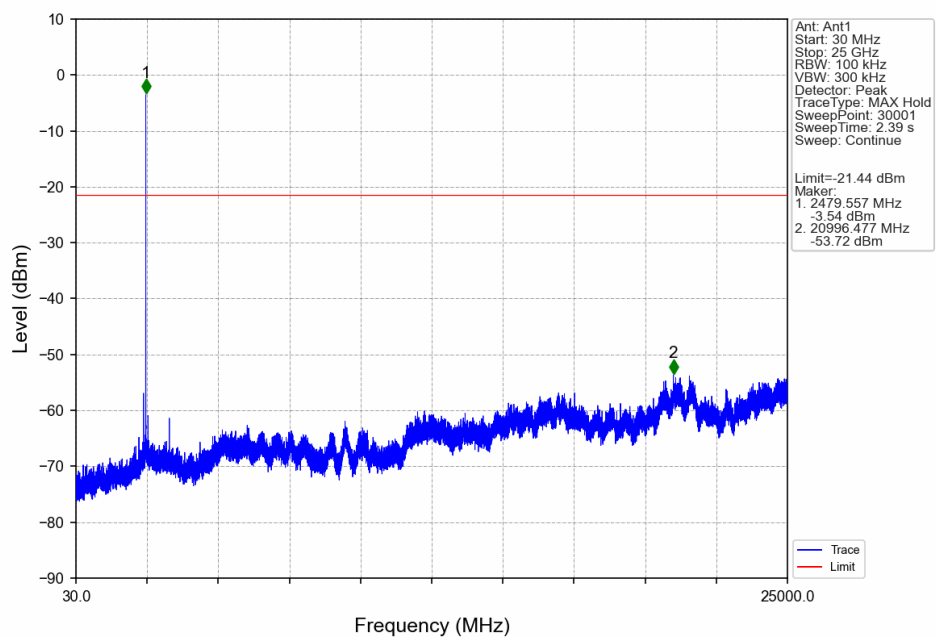
2M_MCH_2440MHz_Ant1_NTNV



2M_HCH_2480MHz_Ant1_NTNV



2M_HCH_2480MHz_Ant1_NTNV



- End of the Report -