

TEST REPORT

Application No.: SHCR2601000140ME
FCC ID: 2AK5E-11368793A
Applicant: Siemens Shanghai Medical Equipment Ltd.
Address of Applicant: No. 278, Zhou Zhu Highway, Pudong new Area, Shanghai P.R. China
Manufacturer: Siemens Shanghai Medical Equipment Ltd.
Address of Manufacturer: No. 278, Zhou Zhu Highway, Pudong new Area, Shanghai P.R. China
Factory: 1, Shenyang Torch-BigTide Digital Technology Co., Ltd.
2, Hangzhou Beacon Display Co., Ltd.
Address of Factory: 1, No. 18-6B, Yaoyang Road, Huishan Economic Development Area, Shenbei New District, Shenyang City, Liaoning Province, China. 110164
2, 3F, Building 8-9, No. 1831-25, Gangcheng Avenue, Nanyang Street, Xiaoshan District, Hangzhou City, Zhejiang Province, 311227, China

Equipment Under Test (EUT):

EUT Name: Wireless remote control
Model No.: 11368793
Standard(s) : 47 CFR Part 15, Subpart C 15.247
Date of Receipt: 2026-01-15
Date of Test: 2026-01-22 to 2026-01-30
Date of Issue: 2026-02-03

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.

Member of the SGS Group (SGS SA)



SGS-CSTC Standards Technical Services (Shanghai) Co., Ltd.

SHEM-TRF-001 Rev. 02 Sep01, 2023

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Revision Record			
Version	Description	Date	Remark
00	Original	2026-02-03	/

Authorized for issue by:				
Tested By		Wade Zhang		
		Wade Zhang/Project Engineer		
Approved By		Parlam Zhan		
		Parlam Zhan / 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)	Pass

Radio Spectrum Matter Part				
Item	Standard	Method	Requirement	Result
Maximum Conducted Output Power	47 CFR Part 15, Subpart C 15.247	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 11.10.2	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
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

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4 General Information

4.1 Details of E.U.T.

Power supply:	DC 2.4V (2*Ni-MH battery)
Test voltage:	DC 2.4V
Operation Frequency:	2402MHz to 2480MHz
Modulation Type:	GFSK
Number of Channels:	40
Channel Spacing:	2MHz
Antenna Type:	PCB Antenna
Antenna Gain:	5.3dBi (Provided by manufacturer)
Antenna Number:	1

4.2 Description of Support Units

Description	Manufacturer	Model No.	Serial No.
--	--	--	--
The EUT has been tested as an independent unit.			

4.3 Power level setting using in test

Channel	Power setting
2402	Default
2440	Default
2480	Default

4.4 Measurement Uncertainty

No.	Item	Measurement Uncertainty
1	Radio Frequency	8.4×10^{-8}
2	Timeout	2s
3	Duty cycle	0.4%
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-6GHz)
		5.4dB (6GHz-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:

SGS-CSTC Standards Technical Services (Shanghai) Co., Ltd. E&E Lab
588 West Jindu Road, Xinqiao, Songjiang, 201612 Shanghai, China

Tel: +86 21 6191 5666 Fax: +86 21 6191 5678

No tests were sub-contracted.

Note:

1. SGS is not responsible for wrong test results due to incorrect information (e.g. max. clock frequency, highest internal 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. 6332.01)**

SGS-CSTC Standards Technical Services (Shanghai) Co., Ltd. is accredited by the American Association for Laboratory Accreditation(A2LA).

- **FCC (Designation Number: CN1301)**

SGS-CSTC Standards Technical Services (Shanghai) Co., Ltd. has been recognized as an accredited testing laboratory.

- **ISED (CAB Identifier: CN0020)**

SGS-CSTC Standards Technical Services (Shanghai) Co., Ltd. EMC Laboratory has been recognized by Innovation, Science and Economic Development Canada (ISED) as an accredited testing laboratory.
Company Number: 8617A

- **VCCI (Member No.: 3061)**

The 3m Semi-anechoic chamber and Shielded Room of SGS-CSTC Standards Technical Services (Shanghai) Co., Ltd. has been registered in accordance with the Regulations for Voluntary Control Measures with Registration No.: R-13868, C-14336, T-12221, G-10830 respectively.

4.7 Deviation from Standards

None

4.8 Abnormalities from Standard Conditions

None

5 Equipment List

Equipment	Manufacturer	Model No	Inventory No	Cal Date	Cal Due Date
RF Conducted Test					
Spectrum Analyzer	Keysight	N9020B	SHEM241-1	2025/12/17	2026/12/16
Spectrum Analyzer	Agilent	N9020A	SHEM181-1	2025/04/30	2026/04/29
Signal Generator	R&S	SMR20	SHEM006-1	2025/07/30	2026/07/29
Signal Generator	Agilent	N5182A	SHEM182-1	2025/07/30	2026/07/29
Communication Tester	R&S	CMW270	SHEM183-1	2025/04/30	2026/04/29
Communication Tester	R&S	CMW500	SHEM268-1	2025/04/30	2026/04/29
Power Sensor	Keysight	U2021XA * 4	SHEM293-1	2025/07/30	2026/07/29
Splitter	Anritsu	MA1612A	SHEM185-1	/	/
Coupler	e-meca	803-S-1	SHEM186-1	/	/
High-low Temp Cabinet	Suzhou Zhihe	TL-40	SHEM087-1	2024/11/05	2026/11/04
AC Power Stabilizer	APC	KDF-31020T-V0-F0	SHEM216-1	2025/12/17	2026/12/16
DC Power Supply	HP	6010A	SHEM222-1	2025/12/17	2026/12/16
Conducted test Cable	/	RF01~RF04	/	2025/12/17	2026/12/16
Switcher	Tonscend	JS0806	SHEM293-1	2025/07/30	2026/07/29
Test software	Tonscend	JS Tonscend BT/WIFI System	Version: 2.6	/	/
Switcher+Power Sensor	TST	TSPS2023R	SHEM263-1	2025/07/30	2026/07/29
Test software	TST	TST PASS	Version: 2.0	/	/
RF Radiated Test					
Spectrum Analyzer	Keysight	N9010A	SHEM181-2	2025/04/30	2026/04/29
Communication Tester	R&S	CMW500	SHEM268-1	2025/04/30	2026/04/29
Loop Antenna (9kHz-30MHz)	Schwarzbeck	FMZB1519	SHEM135-1	2025/12/17	2026/12/16
Antenna (25MHz-2GHz)	Schwarzbeck	VULB9168	SHEM048-1	2025/08/31	2027/08/30
Antenna (25MHz-2GHz)	Schwarzbeck	VULB9168	SHEM202-1	2025/04/12	2027/04/11
Horn Antenna (1-18GHz)	Schwarzbeck	HF906	SHEM009-1	2024/08/05	2026/08/04
Horn Antenna (1-18GHz)	Schwarzbeck	BBHA9120D	SHEM050-1	2025/08/31	2027/08/30
Horn Antenna (14-40GHz)	Schwarzbeck	BBHA 9170	SHEM049-1	2025/08/31	2027/08/30
Pre-Amplifier	HP	8447D	SHEM236-1	2025/12/17	2026/12/16
High-amplifier (14-40GHz)	Schwarzbeck	10001	SHEM049-2	2025/12/17	2026/12/16
Band Filter	LORCH	9BRX-875/X150	SHEM156-1	/	/
Band Filter	LORCH	13BRX-1950/X500	SHEM083-2	/	/
Band Filter	LORCH	5BRX-2400/X200	SHEM155-1	/	/
Band Filter	LORCH	5BRX-5500/X1000	SHEM157-2	/	/
High pass Filter	Wainwright	WHK3.0/18G	SHEM157-1	/	/
High pass Filter	Wainwright	WHKS1700	SHEM157-3	/	/
Semi/Fully Anechoic	ST	11*6*6M	SHEM078-2	2023/05/06	2026/05/05
RE test Cable	/	PT18-NMMN-10M	SHEM217-2	2025/07/30	2026/07/29
Test software	ESE	E3	Version: 6.111221a	/	/

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 5.3 dBi.

Antenna location: Refer to internal photo.

7 Radio Spectrum Matter Test Results

7.1 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

7.1.1 E.U.T. Operation

Operating Environment:

Temperature: 20.5 °C

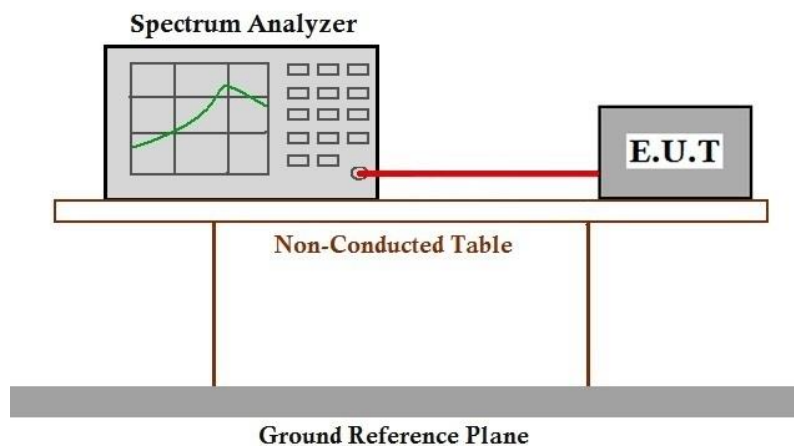
Humidity: 27.2 % RH

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.
Final test	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

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

Please Refer to Appendix for Details

7.2 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

7.2.1 E.U.T. Operation

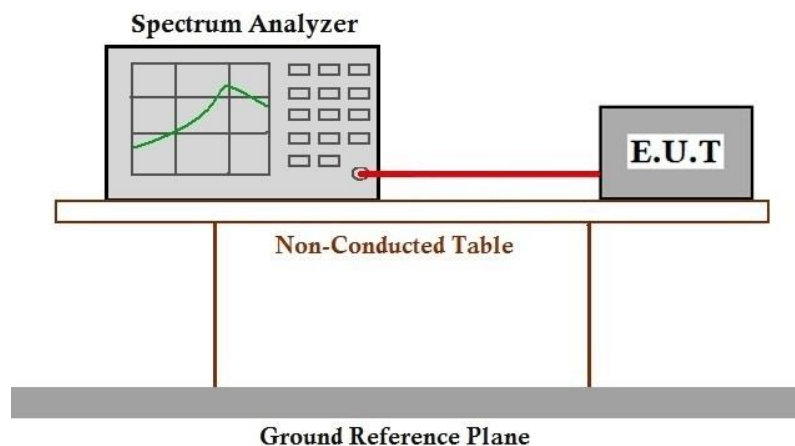
Operating Environment:

Temperature: 20.5 °C Humidity: 27.1 % RH Atmospheric Pressure: 1031 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

Please Refer to Appendix for Details

7.3 Power Spectral Density

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

Test Method: ANSI C63.10 (2020) Section 11.10.2

Limit:

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

7.3.1 E.U.T. Operation

Operating Environment:

Temperature: 20.5 °C

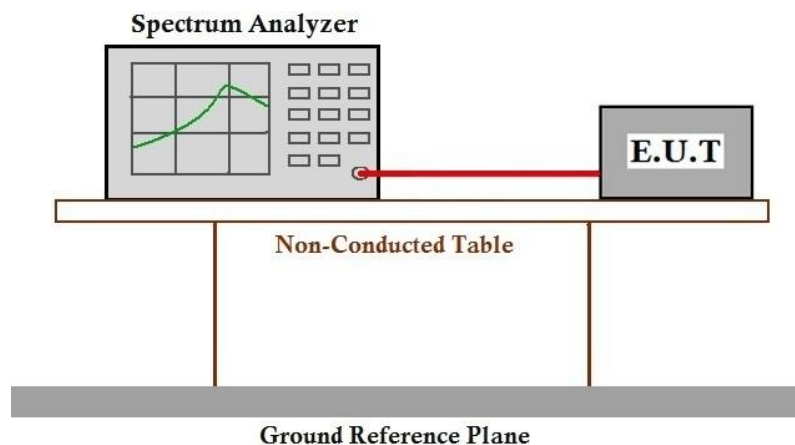
Humidity: 27.0 % RH

Atmospheric Pressure: 1031 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.
Final test	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

Please Refer to Appendix for Details

7.4 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)).

7.4.1 E.U.T. Operation

Operating Environment:

Temperature: 20.2 °C

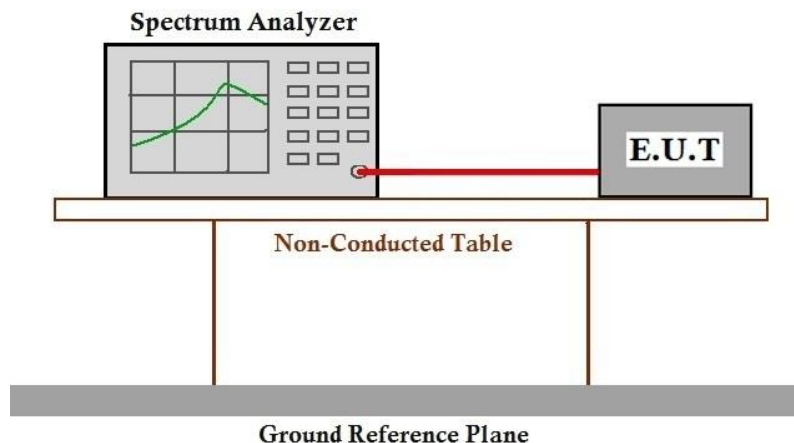
Humidity: 27.1 % RH

Atmospheric Pressure: 1031 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

Please Refer to Appendix for Details

7.5 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)).

7.5.1 E.U.T. Operation

Operating Environment:

Temperature: 20.2 °C

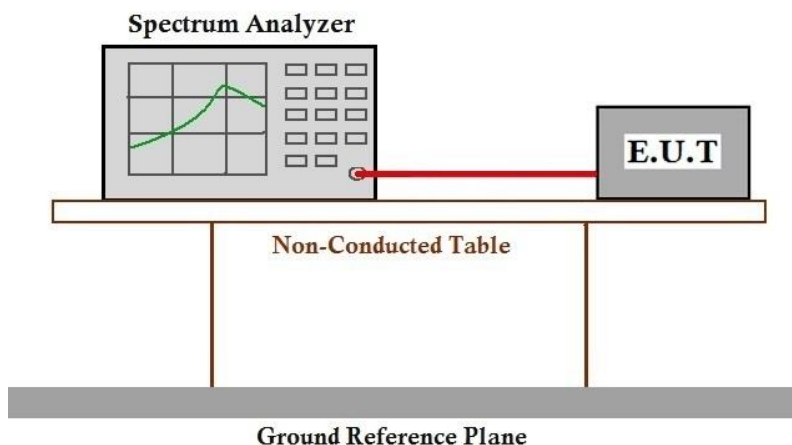
Humidity: 27.6 % RH

Atmospheric Pressure: 1031 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

Please Refer to Appendix for Details

7.6 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.

7.6.1 E.U.T. Operation

Operating Environment:

Temperature: 20.2 °C

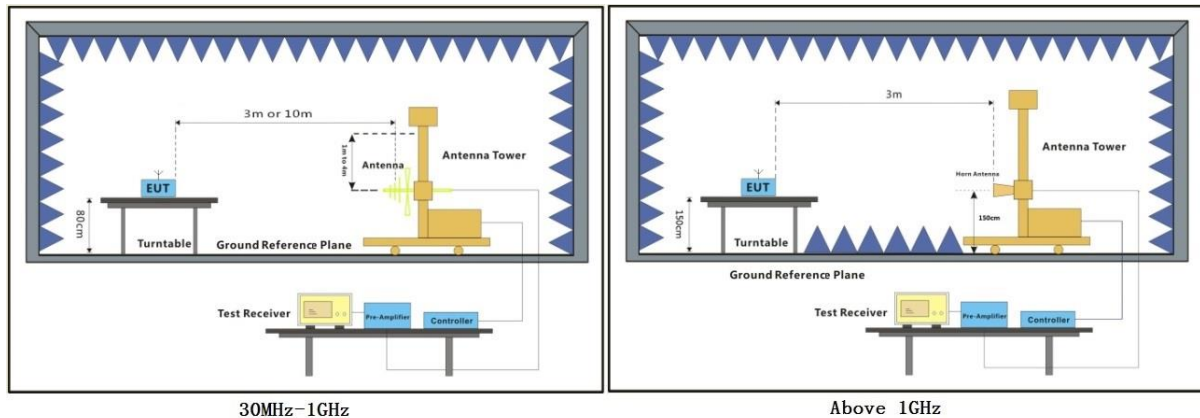
Humidity: 27.3 % RH

Atmospheric Pressure: 1031 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



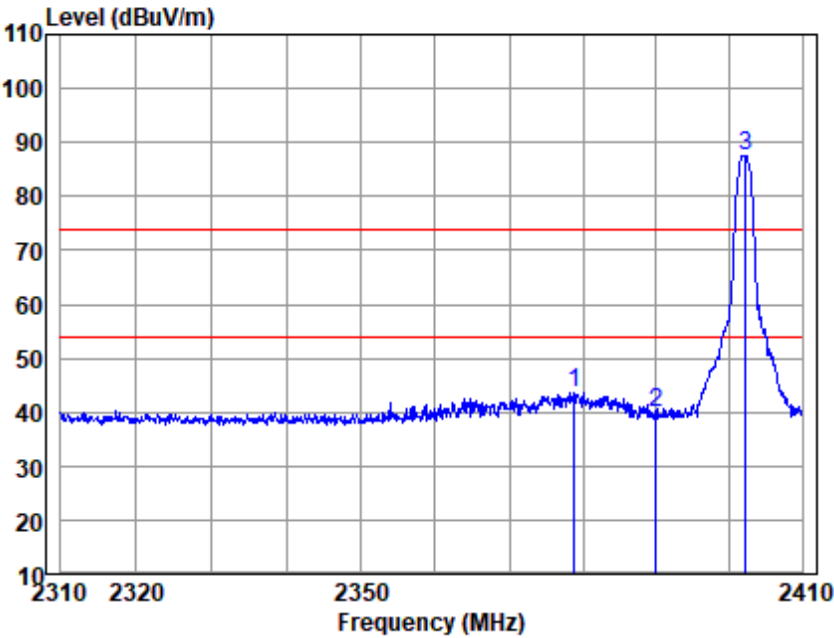
7.6.4 Measurement Procedure and Data

- 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.

Test Mode: 00; Polarity: Horizontal; Modulation:GFSK; Channel:Low

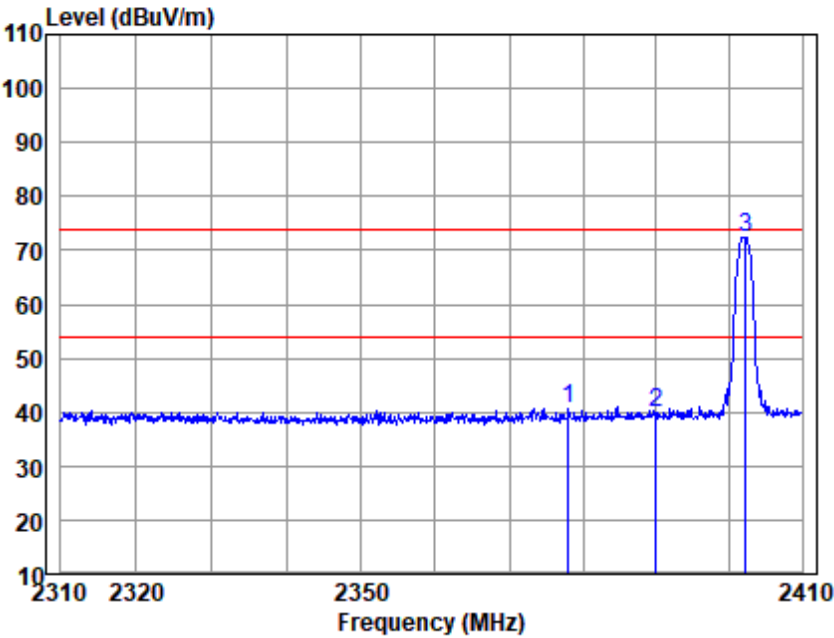


Antenna Polarity :HORIZONTAL
EUT/Project :0140ME

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	
2378.848	46.68	28.76	3.32	35.17	43.59	74.00	-30.41	Peak
2390.000	42.76	28.80	3.33	35.18	39.71	74.00	-34.29	Peak
2402.250	90.64	28.85	3.34	35.19	87.64	74.00	13.64	Peak

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

Test Mode: 00; Polarity: Vertical; Modulation:GFSK; Channel:Low

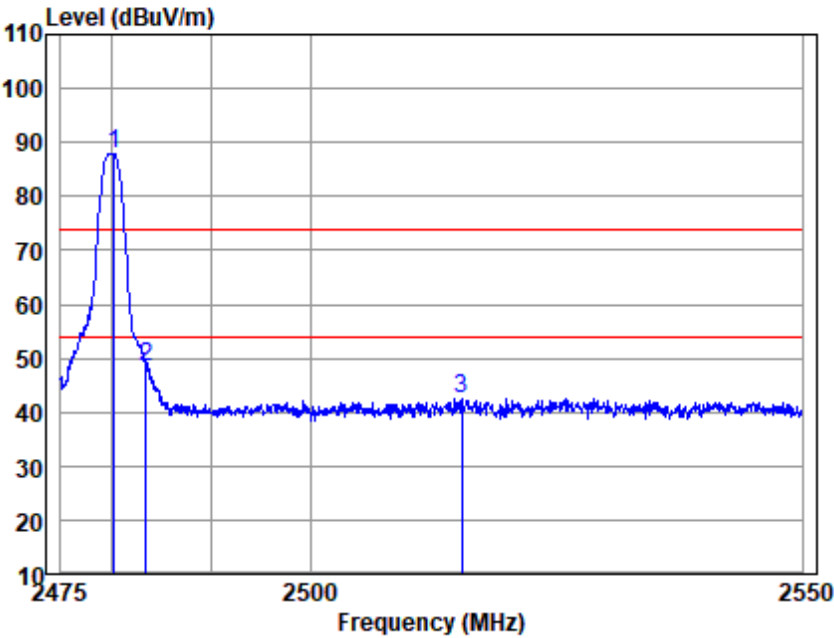


Antenna Polarity :VERTICAL
EUT/Project :0140ME

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	
2378.042	43.82	28.76	3.32	35.17	40.73	74.00	-33.27	Peak
2390.000	42.88	28.80	3.33	35.18	39.83	74.00	-34.17	Peak
2402.250	75.34	28.85	3.34	35.19	72.34	74.00	-1.66	Peak

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

Test Mode: 00; Polarity: Horizontal; Modulation:GFSK; Channel:High

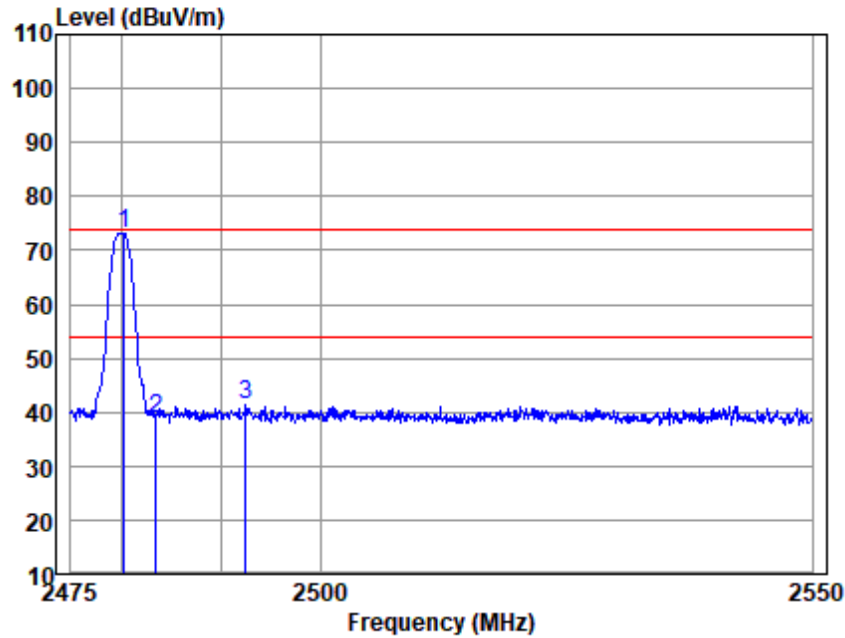


Antenna Polarity :HORIZONTAL
EUT/Project :0140ME

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	
2480.325	90.61	29.08	3.40	35.25	87.84	74.00	13.84	Peak
2483.500	51.06	29.09	3.41	35.26	48.30	74.00	-25.70	Peak
2515.297	45.29	29.13	3.43	35.29	42.56	74.00	-31.44	Peak

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

Test Mode: 00; Polarity: Vertical; Modulation:GFSK; Channel:High



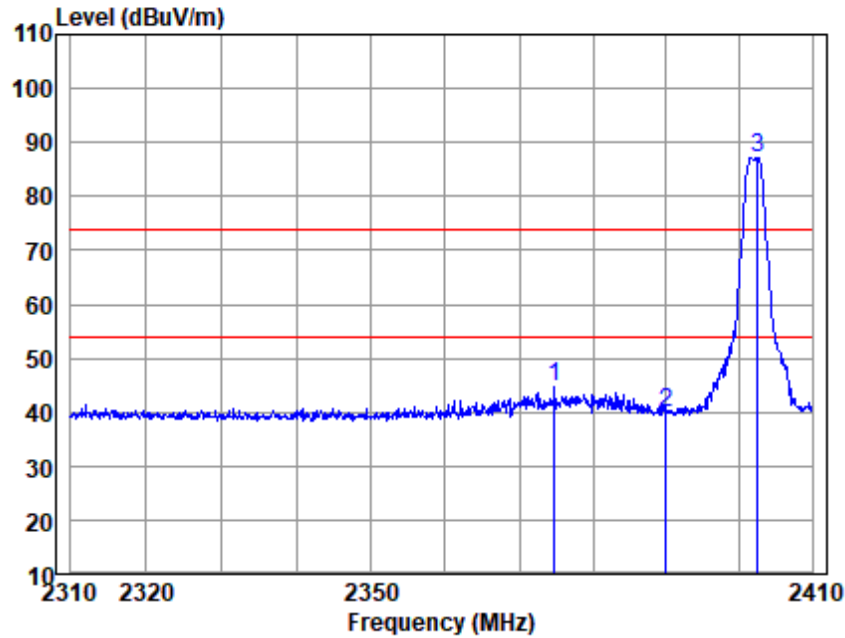
Antenna Polarity :VERTICAL

EUT/Project :0140ME

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	
2480.325	75.88	29.08	3.40	35.25	73.11	74.00	-0.89	Peak
2483.500	41.49	29.09	3.41	35.26	38.73	74.00	-35.27	Peak
2492.499	44.09	29.10	3.41	35.26	41.34	74.00	-32.66	Peak

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

Test Mode: 01; Polarity: Horizontal; Modulation:GFSK; Channel:Low

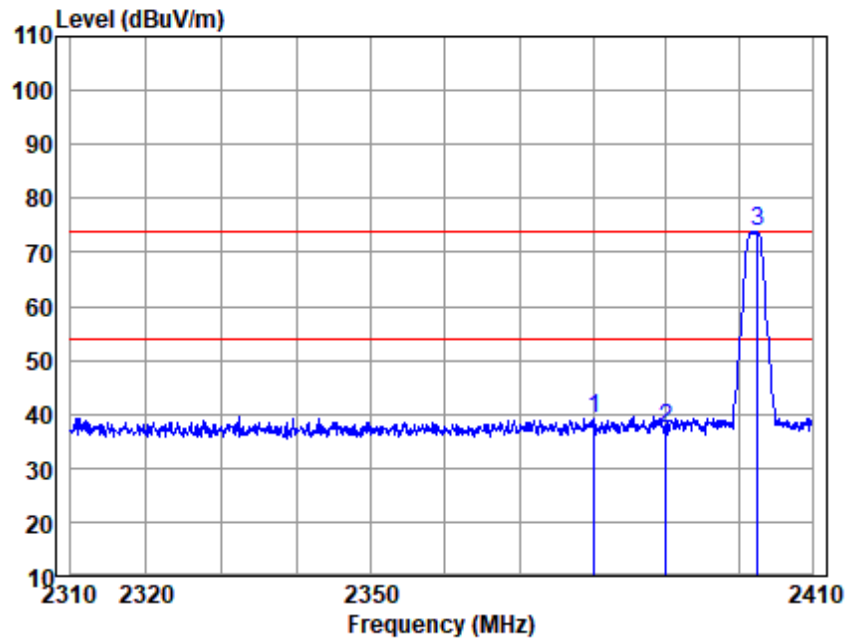


Antenna Polarity :HORIZONTAL
EUT/Project :0140ME

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	
2374.819	47.68	28.71	3.32	35.17	44.54	74.00	-29.46	Peak
2390.000	42.93	28.80	3.33	35.18	39.88	74.00	-34.12	Peak
2402.454	90.31	28.85	3.34	35.19	87.31	74.00	13.31	Peak

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

Test Mode: 01; Polarity: Vertical; Modulation:GFSK; Channel:Low

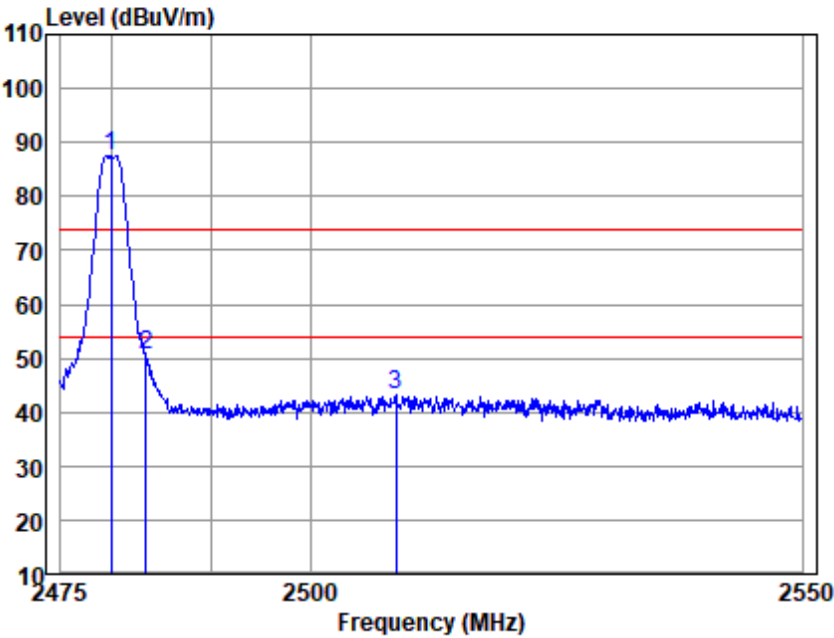


Antenna Polarity :VERTICAL
EUT/Project :0140ME

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	
2380.159	42.14	28.76	3.32	35.17	39.05	74.00	-34.95	Peak
2390.000	40.34	28.80	3.33	35.18	37.29	74.00	-36.71	Peak
2402.454	76.83	28.85	3.34	35.19	73.83	74.00	-0.17	Peak

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

Test Mode: 01; Polarity: Horizontal; Modulation:GFSK; Channel:High

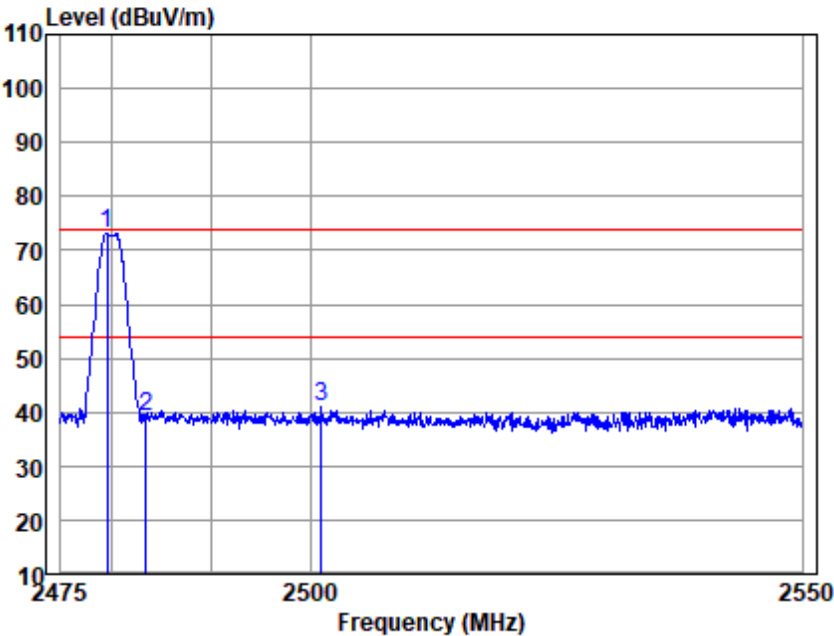


Antenna Polarity :HORIZONTAL
EUT/Project :0140ME

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	
2480.029	90.22	29.08	3.40	35.25	87.45	74.00	13.45	Peak
2483.500	53.41	29.09	3.41	35.26	50.65	74.00	-23.35	Peak
2508.623	45.89	29.13	3.43	35.28	43.17	74.00	-30.83	Peak

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

Test Mode: 01; Polarity: Vertical; Modulation:GFSK; Channel:High



Antenna Polarity :VERTICAL
EUT/Project :0140ME

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	
2479.585	75.96	29.08	3.40	35.25	73.19	74.00	-0.81	Peak
2483.500	41.87	29.09	3.41	35.26	39.11	74.00	-34.89	Peak
2501.145	43.75	29.12	3.42	35.27	41.02	74.00	-32.98	Peak

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

7.7 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

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
960-1000	500	3

7.7.1 E.U.T. Operation

Operating Environment:

Temperature: 21.1 °C

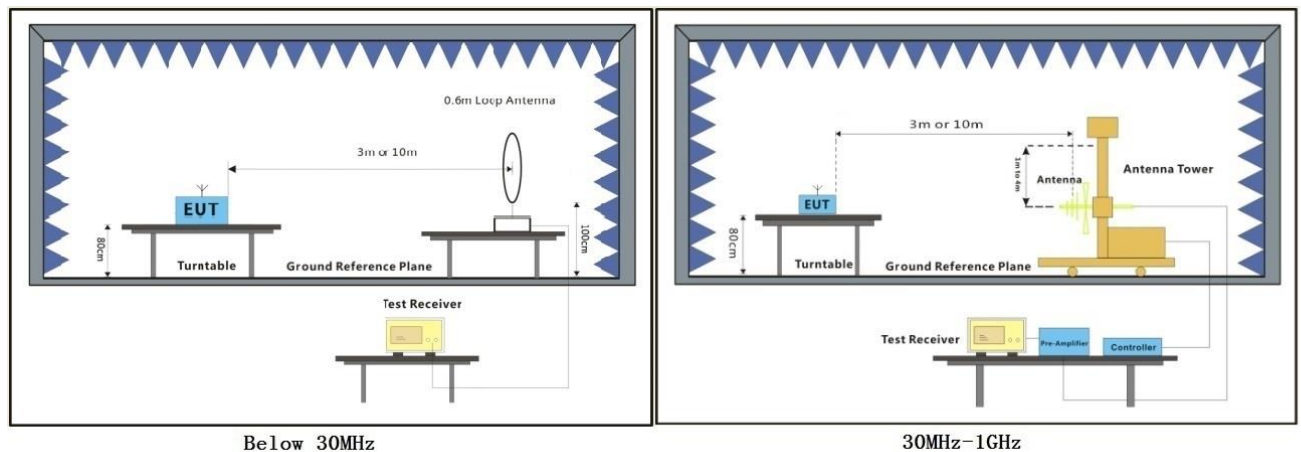
Humidity: 52.4 % RH

Atmospheric Pressure: 1030 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.
Pre-scan	01	TX mode(2Mbps)_Keep the EUT in continuously transmitting mode with GFSK modulation.

7.7.3 Test Setup Diagram



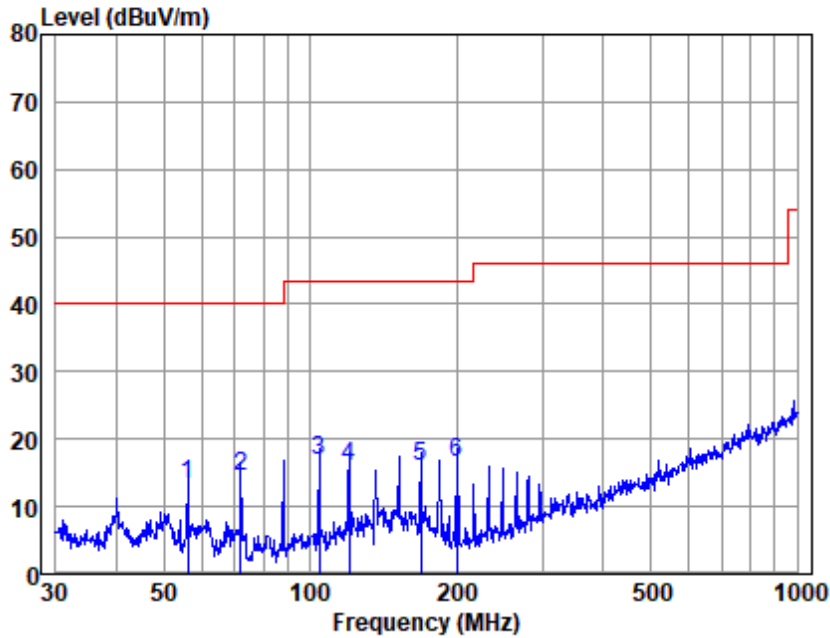
7.7.4 Measurement Procedure and Data

- 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 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. Scan from 9kHz to 30MHz, the disturbance below 30MHz was very low. The points marked on above plots are the highest emissions could be found when testing, so only below points had been displayed. The amplitude of spurious emissions from the radiator which are attenuated more than 20dB below the limit need not be reported.
2. 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

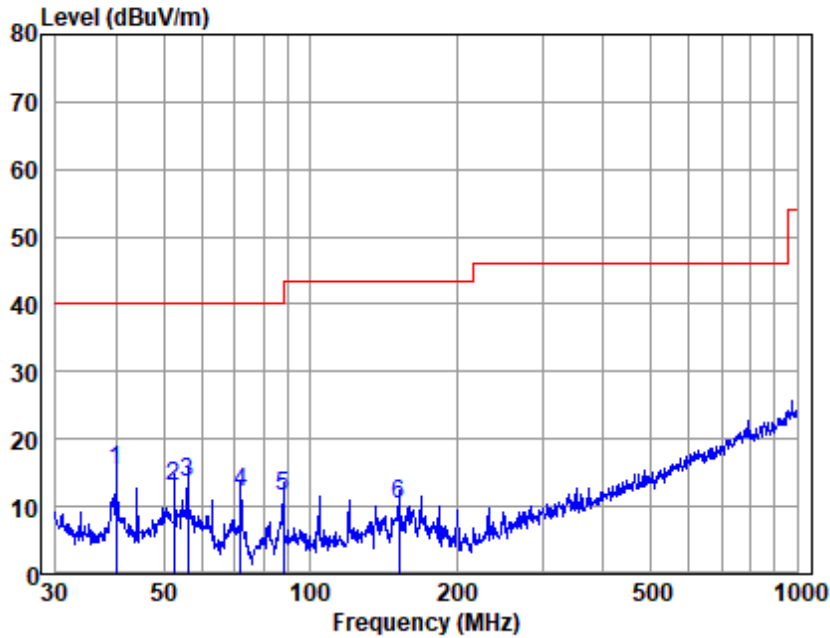


Antenna Polarity :HORIZONTAL
EUT/Project :0140ME
Test mode :00

	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	56.001	32.35	12.50	1.50	33.14	13.21	40.00	-26.79	QP
2	72.084	35.83	10.10	1.71	33.10	14.54	40.00	-25.46	QP
3	104.170	38.43	9.30	2.05	33.09	16.69	43.50	-26.81	QP
4	120.277	35.62	11.10	2.24	33.05	15.91	43.50	-27.59	QP
5	168.414	33.59	12.60	2.69	32.96	15.92	43.50	-27.58	QP
6	199.986	37.27	9.20	2.90	32.90	16.47	43.50	-27.03	QP

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

Test Mode: 00; Polarity: Vertical



Antenna Polarity :VERTICAL
EUT/Project :0140ME
Test mode :00

	Freq	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Emission Level	Limit	Over Limit	Remark
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB	
1	39.994	33.71	13.70	1.27	33.20	15.48	40.00	-24.52	QP
2	52.575	31.28	13.30	1.44	33.17	12.85	40.00	-27.15	QP
3	56.001	32.85	12.50	1.50	33.14	13.71	40.00	-26.29	QP
4	72.084	33.27	10.10	1.71	33.10	11.98	40.00	-28.02	QP
5	88.033	34.12	8.60	1.88	33.10	11.50	43.50	-32.00	QP
6	152.130	28.41	12.50	2.55	33.00	10.46	43.50	-33.04	QP

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

7.8 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

7.8.1 E.U.T. Operation

Operating Environment:

Temperature: 20.2 °C

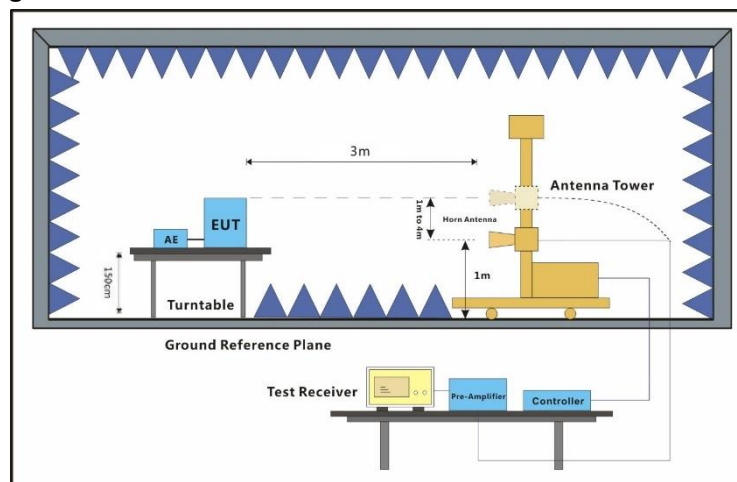
Humidity: 27.0 % RH

Atmospheric Pressure: 1031 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



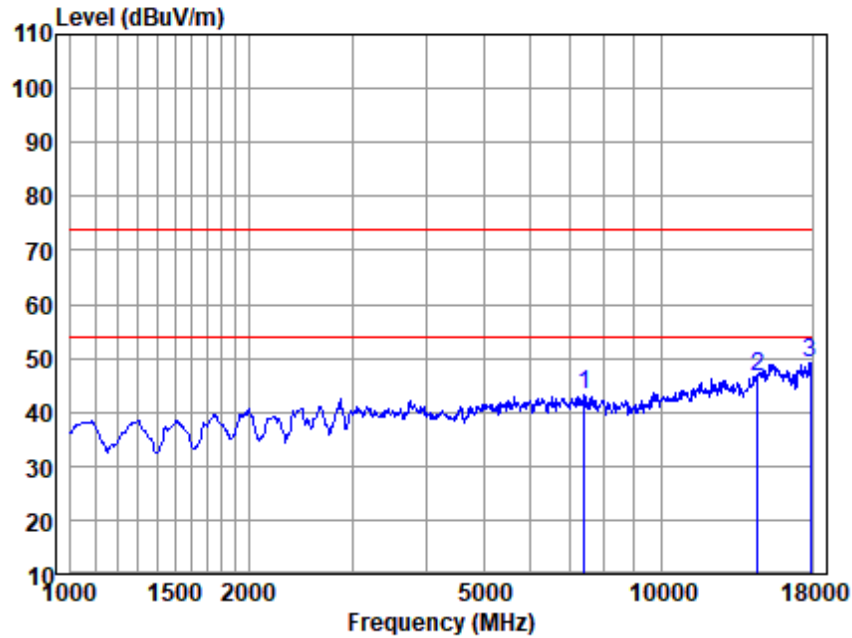
7.8.4 Measurement Procedure and Data

- 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 18GHz 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). Only the worst-case mode with the highest output power and the mode with the highest output power spectral density for each modulation family (e.g., OFDM and direct sequence spread spectrum) is recorded in the test report.
5. 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.
6. 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.

Test Mode: 00; Polarity: Horizontal; Modulation:GFSK; Channel:Low



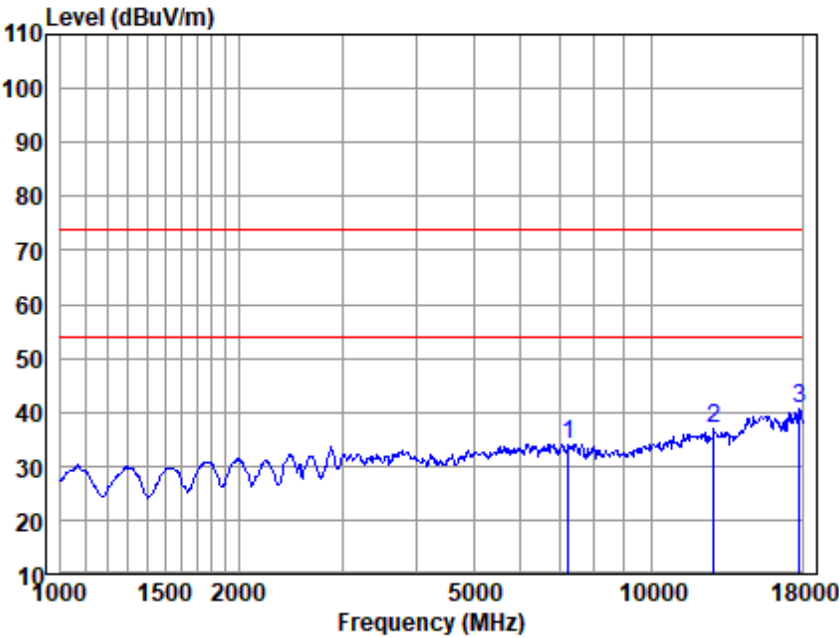
Antenna Polarity :HORIZONTAL

EUT/Project :0140ME

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	
7411.461	36.77	36.34	7.51	37.35	43.27	74.00	-30.73	Peak
14533.910	34.89	41.62	11.73	41.63	46.61	74.00	-27.39	Peak
17896.250	32.91	43.04	13.82	40.51	49.26	74.00	-24.74	Peak

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

Test Mode: 00; Polarity: Horizontal; Modulation:GFSK; Channel:Low

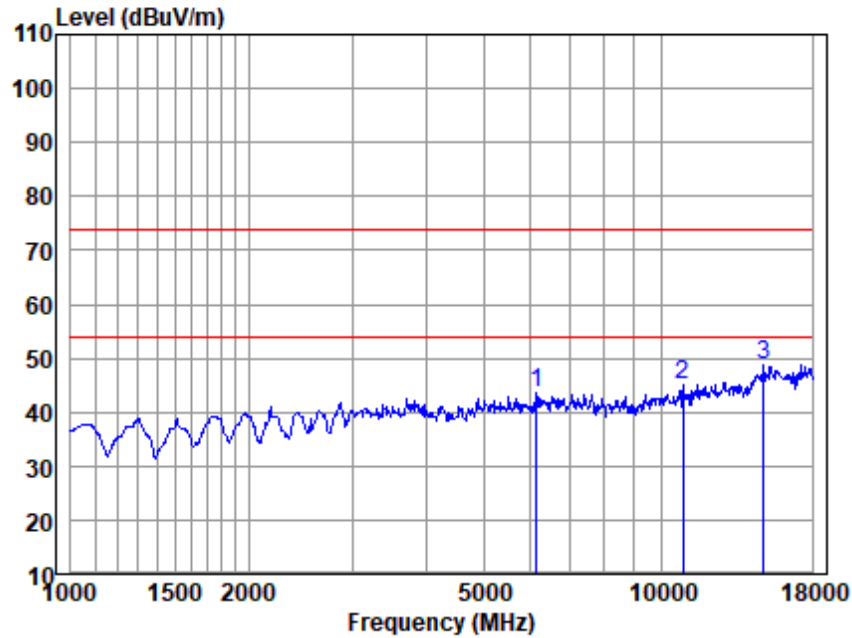


Antenna Polarity :HORIZONTAL
EUT/Project :0140ME

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	
7242.052	28.00	36.29	7.36	37.50	34.15	54.00	-19.85	Average
12761.300	26.81	39.01	10.52	39.54	36.80	54.00	-17.20	Average
17844.590	24.31	42.99	13.79	40.57	40.52	54.00	-13.48	Average

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

Test Mode: 00; Polarity: Vertical; Modulation:GFSK; Channel:Low



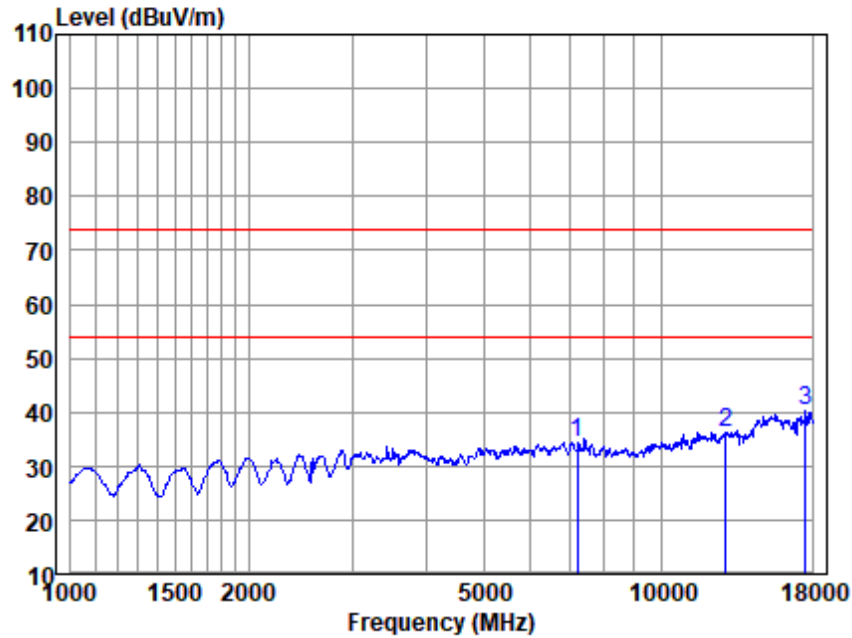
Antenna Polarity :VERTICAL

EUT/Project :0140ME

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	
6142.019	38.83	35.39	6.32	36.86	43.68	74.00	-30.32	Peak
10885.670	34.45	38.28	9.26	36.84	45.15	74.00	-28.85	Peak
14916.940	35.11	42.65	11.97	40.99	48.74	74.00	-25.26	Peak

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

Test Mode: 00; Polarity: Vertical; Modulation:GFSK; Channel:Low



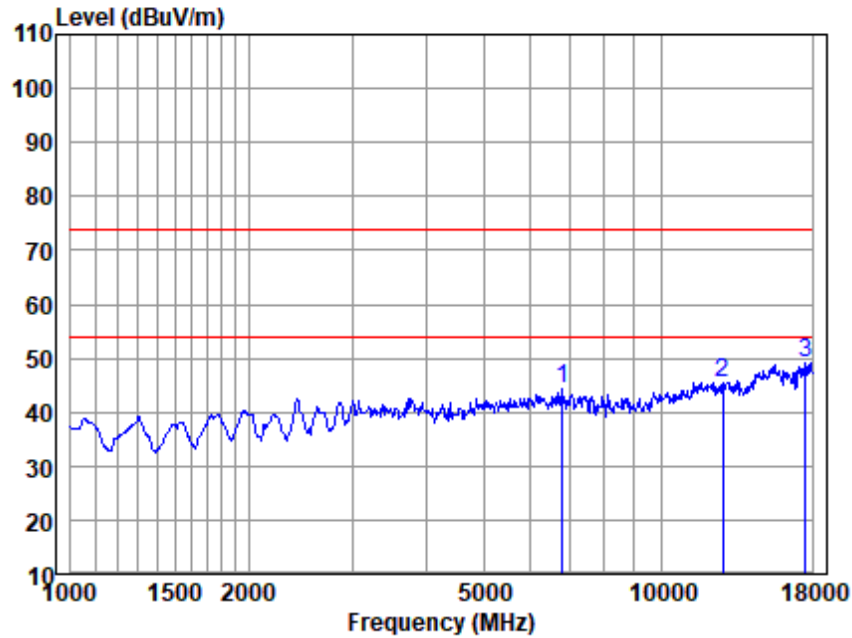
Antenna Polarity :VERTICAL

EUT/Project :0140ME

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	
7221.150	28.35	36.26	7.34	37.51	34.44	54.00	-19.56	Average
12835.290	26.21	39.05	10.57	39.52	36.31	54.00	-17.69	Average
17537.800	24.36	42.28	13.60	39.98	40.26	54.00	-13.74	Average

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

Test Mode: 00; Polarity: Horizontal; Modulation:GFSK; Channel:middle



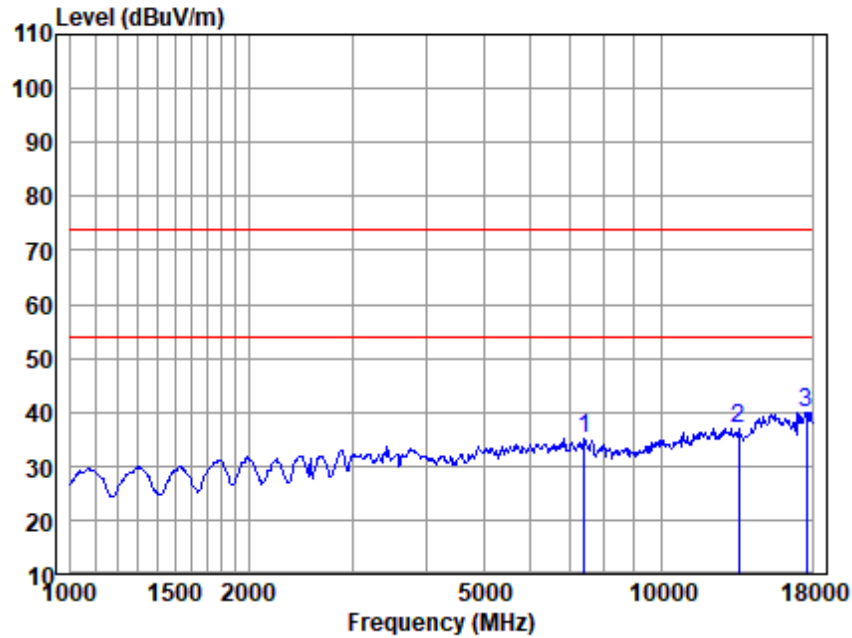
Antenna Polarity :HORIZONTAL

EUT/Project :0140ME

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	
6795.879	38.28	35.88	6.96	36.96	44.16	74.00	-29.84	Peak
12724.470	35.54	39.00	10.49	39.54	45.49	74.00	-28.51	Peak
17537.800	33.17	42.28	13.60	39.98	49.07	74.00	-24.93	Peak

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

Test Mode: 00; Polarity: Horizontal; Modulation:GFSK; Channel:middle



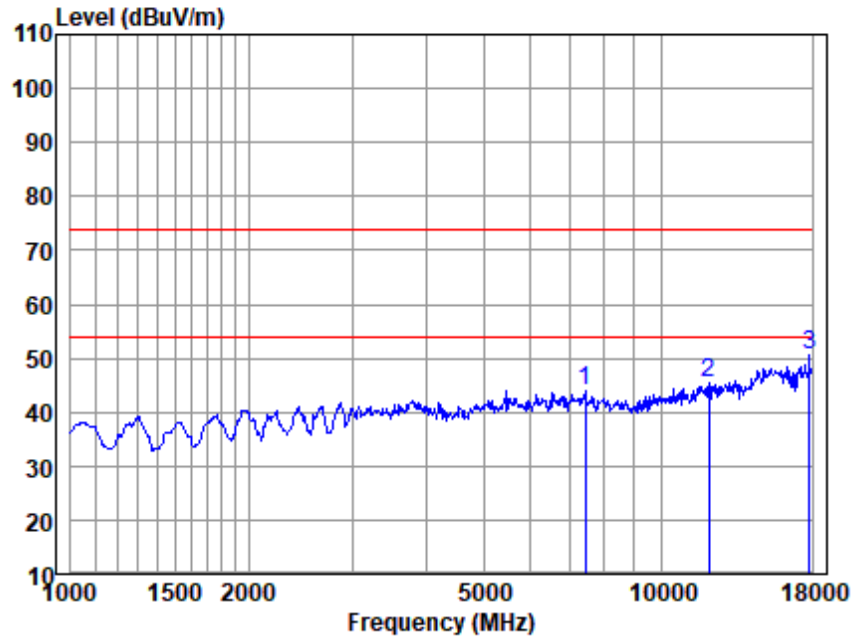
Antenna Polarity :HORIZONTAL

EUT/Project :0140ME

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	
7411.461	28.56	36.34	7.51	37.35	35.06	54.00	-18.94	Average
13520.740	26.43	39.65	11.05	40.07	37.06	54.00	-16.94	Average
17639.470	24.72	42.53	13.66	40.85	40.06	54.00	-13.94	Average

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

Test Mode: 00; Polarity: Vertical; Modulation:GFSK; Channel:middle



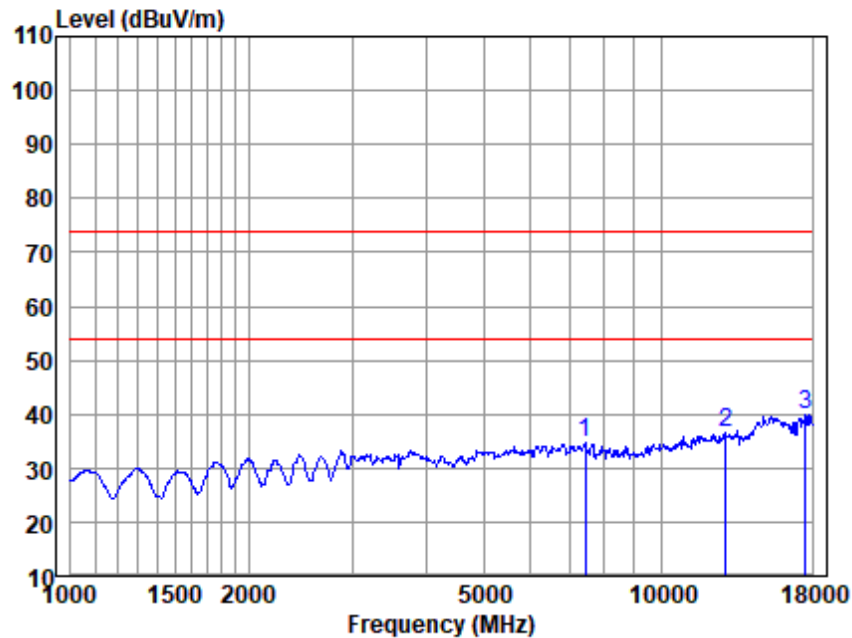
Antenna Polarity :VERTICAL

EUT/Project :0140ME

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	
7432.914	37.48	36.31	7.53	37.34	43.98	74.00	-30.02	Peak
12044.520	35.76	38.35	9.98	38.69	45.40	74.00	-28.60	Peak
17793.090	34.42	42.90	13.75	40.64	50.43	74.00	-23.57	Peak

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

Test Mode: 00; Polarity: Vertical; Modulation:GFSK; Channel:middle



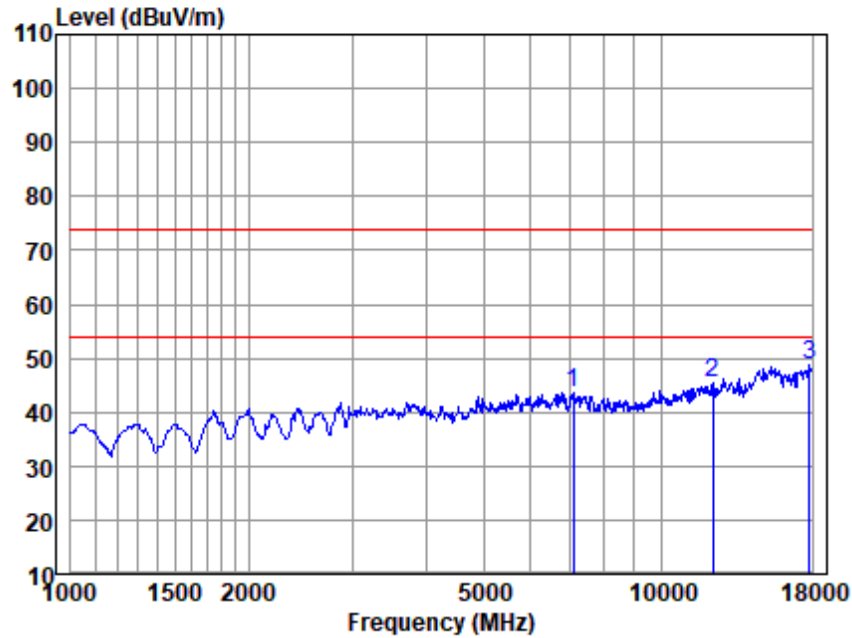
Antenna Polarity :VERTICAL

EUT/Project :0140ME

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	
7432.914	28.15	36.31	7.53	37.34	34.65	54.00	-19.35	Average
12872.440	26.37	39.07	10.60	39.51	36.53	54.00	-17.47	Average
17537.800	24.04	42.28	13.60	39.98	39.94	54.00	-14.06	Average

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

Test Mode: 00; Polarity: Horizontal; Modulation:GFSK; Channel:High



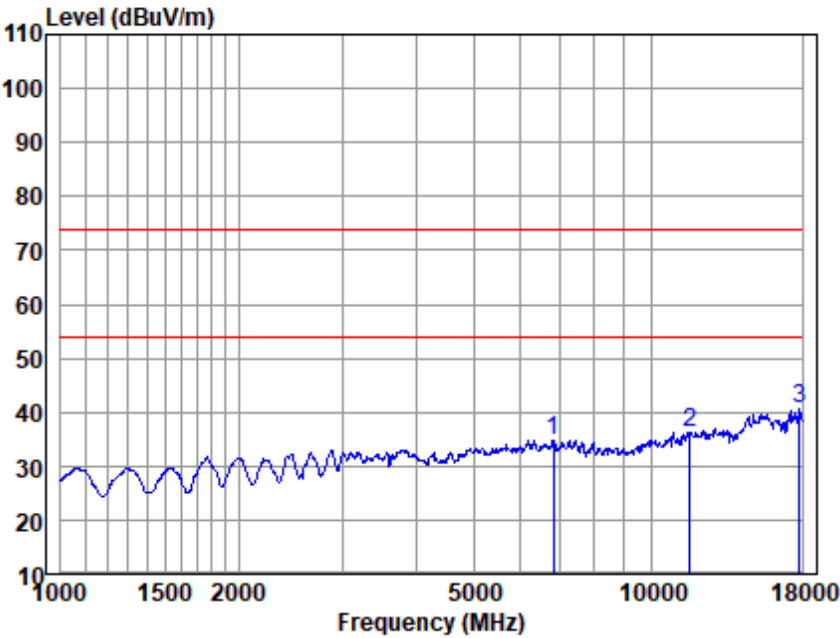
Antenna Polarity :HORIZONTAL

EUT/Project :0140ME

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	
7096.999	37.83	36.11	7.23	37.62	43.55	74.00	-30.45	Peak
12219.850	35.27	38.60	10.11	38.65	45.33	74.00	-28.67	Peak
17844.590	32.64	42.99	13.79	40.57	48.85	74.00	-25.15	Peak

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

Test Mode: 00; Polarity: Horizontal; Modulation:GFSK; Channel:High

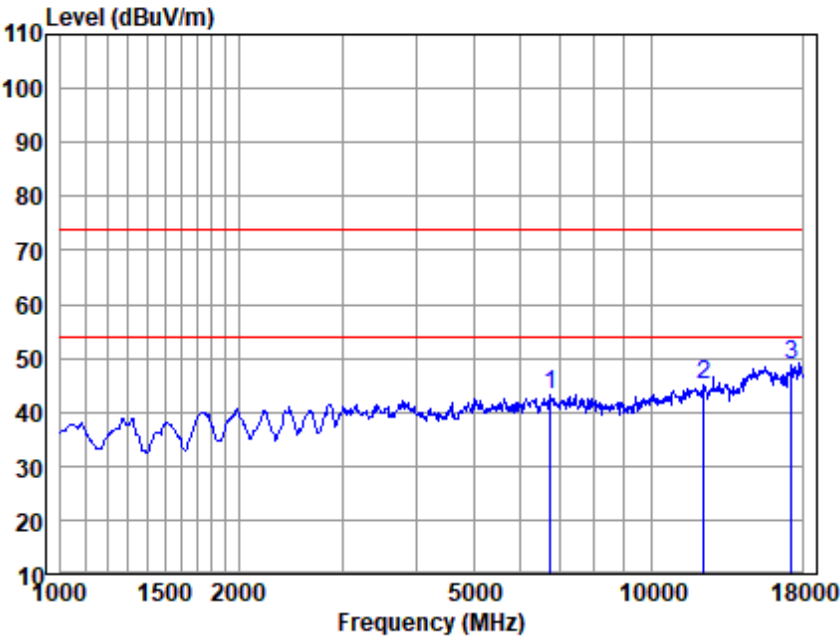


Antenna Polarity :HORIZONTAL
EUT/Project :0140ME

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	
6815.551	28.88	35.91	6.98	36.94	34.83	54.00	-19.17	Average
11633.930	25.64	38.29	9.66	37.31	36.28	54.00	-17.72	Average
17844.590	24.32	42.99	13.79	40.57	40.53	54.00	-13.47	Average

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

Test Mode: 00; Polarity: Vertical; Modulation:GFSK; Channel:High

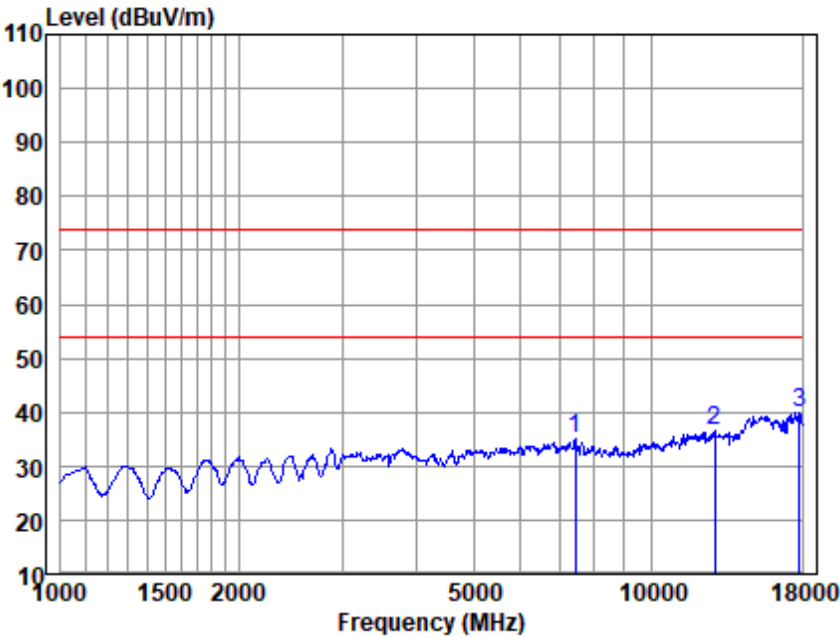


Antenna Polarity :VERTICAL
EUT/Project :0140ME

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	
6737.207	37.55	35.81	6.90	37.04	43.22	74.00	-30.78	Peak
12255.220	34.80	38.62	10.14	38.65	44.91	74.00	-29.09	Peak
17286.170	33.74	42.05	13.44	40.32	48.91	74.00	-25.09	Peak

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

Test Mode: 00; Polarity: Vertical; Modulation:GFSK; Channel:High

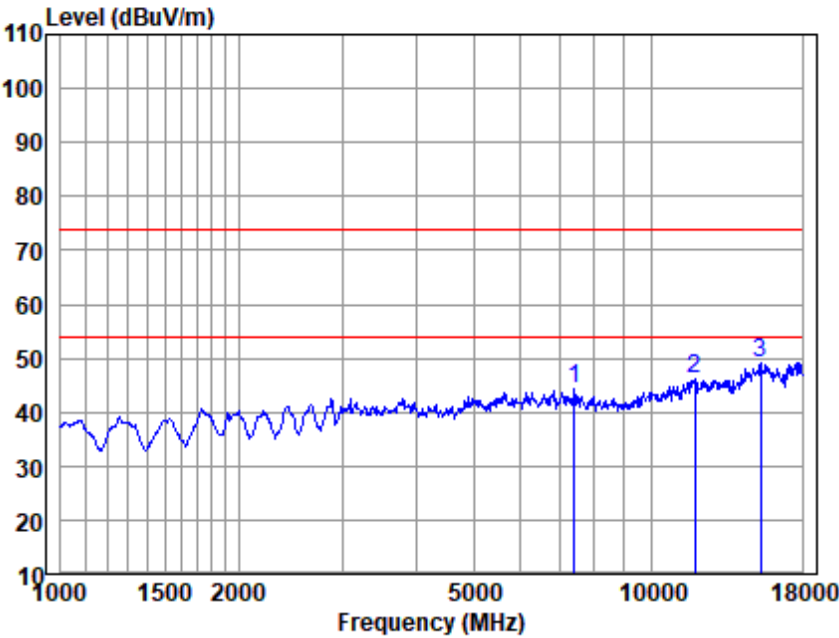


Antenna Polarity :VERTICAL
EUT/Project :0140ME

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	
7432.914	28.46	36.31	7.53	37.34	34.96	54.00	-19.04	Average
12798.240	26.58	39.02	10.54	39.53	36.61	54.00	-17.39	Average
17844.590	23.64	42.99	13.79	40.57	39.85	54.00	-14.15	Average

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

Test Mode: 01; Polarity: Horizontal; Modulation:GFSK; Channel:Low

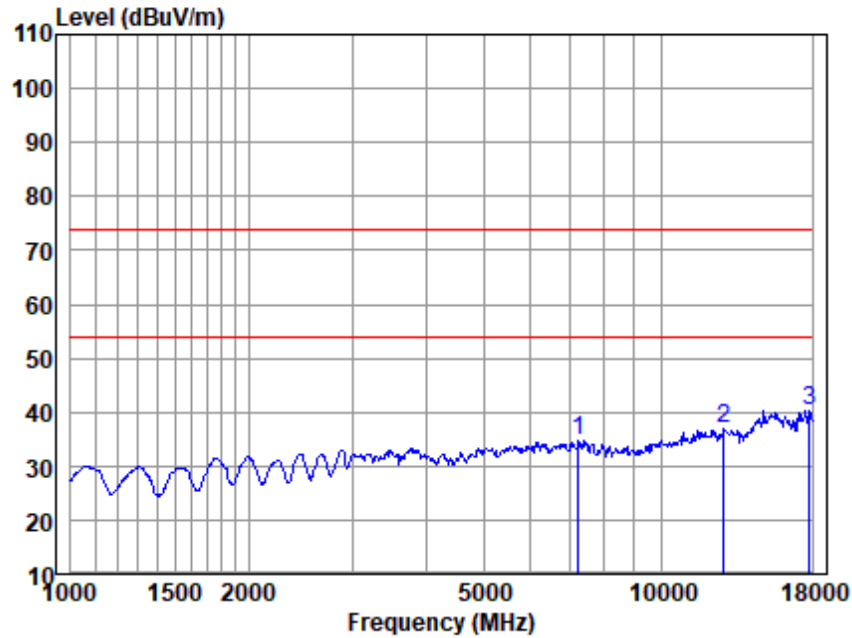


Antenna Polarity :HORIZONTAL
EUT/Project :0140ME

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	
7411.461	37.81	36.34	7.51	37.35	44.31	74.00	-29.69	Peak
11837.450	36.21	38.18	9.82	38.07	46.14	74.00	-27.86	Peak
15310.070	35.27	43.48	12.21	41.83	49.13	74.00	-24.87	Peak

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

Test Mode: 01; Polarity: Horizontal; Modulation:GFSK; Channel:Low



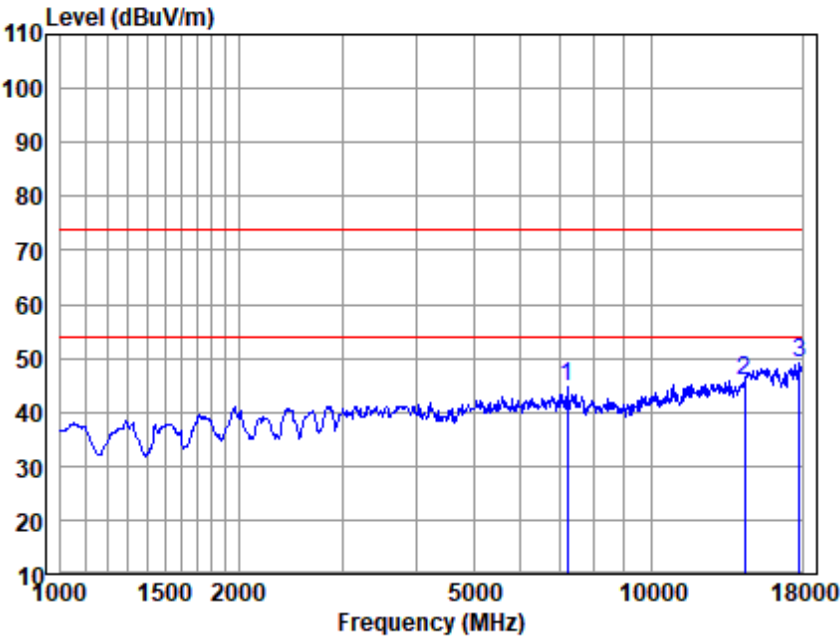
Antenna Polarity :HORIZONTAL

EUT/Project :0140ME

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	
7242.052	28.58	36.29	7.36	37.50	34.73	54.00	-19.27	Average
12761.300	26.98	39.01	10.52	39.54	36.97	54.00	-17.03	Average
17844.590	24.14	42.99	13.79	40.57	40.35	54.00	-13.65	Average

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

Test Mode: 01; Polarity: Vertical; Modulation:GFSK; Channel:Low

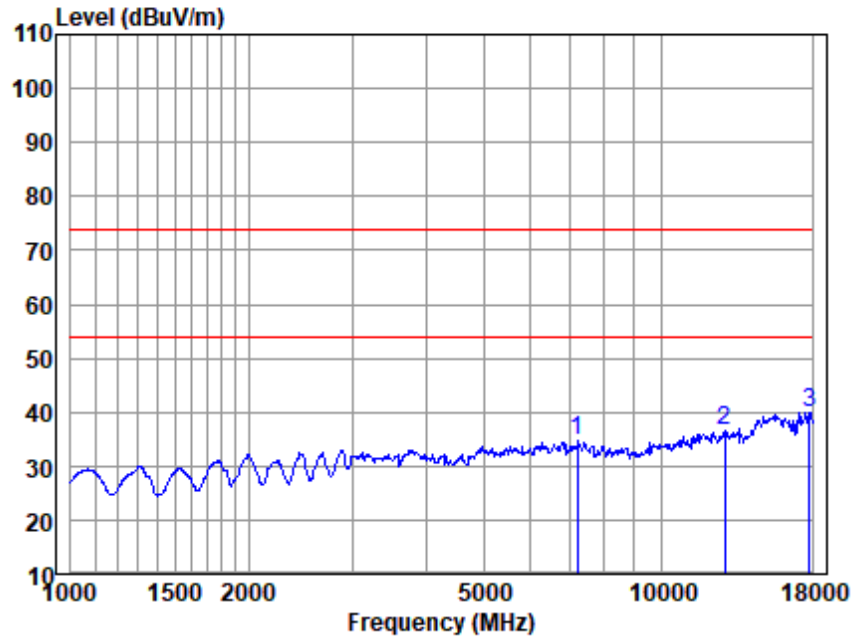


Antenna Polarity :VERTICAL
EUT/Project :0140ME

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	
7200.309	38.74	36.24	7.33	37.53	44.78	74.00	-29.22	Peak
14366.840	35.23	40.92	11.62	41.92	45.85	74.00	-28.15	Peak
17844.590	32.81	42.99	13.79	40.57	49.02	74.00	-24.98	Peak

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

Test Mode: 01; Polarity: Vertical; Modulation:GFSK; Channel:Low



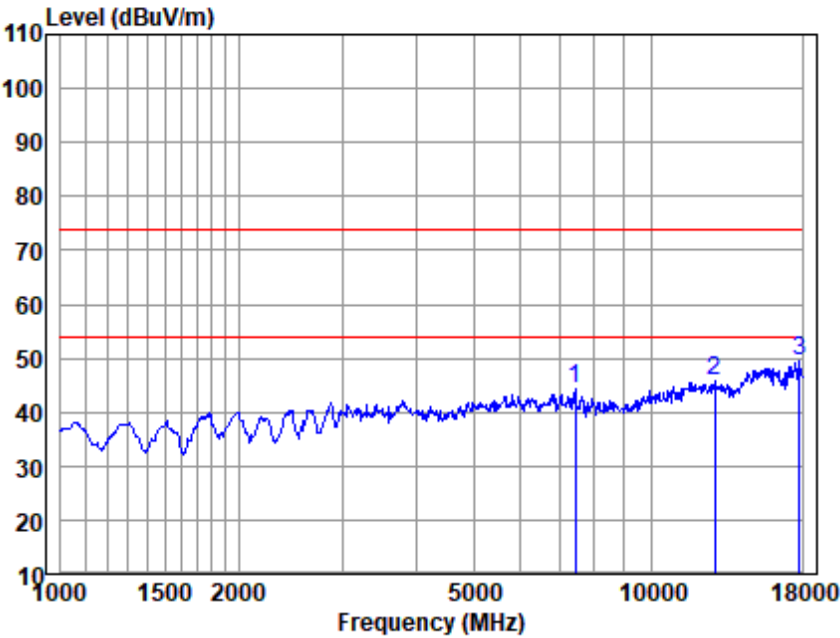
Antenna Polarity :VERTICAL

EUT/Project :0140ME

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	
7221.150	28.59	36.26	7.34	37.51	34.68	54.00	-19.32	Average
12798.240	26.36	39.02	10.54	39.53	36.39	54.00	-17.61	Average
17844.590	23.78	42.99	13.79	40.57	39.99	54.00	-14.01	Average

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

Test Mode: 01; Polarity: Horizontal; Modulation:GFSK; Channel:middle

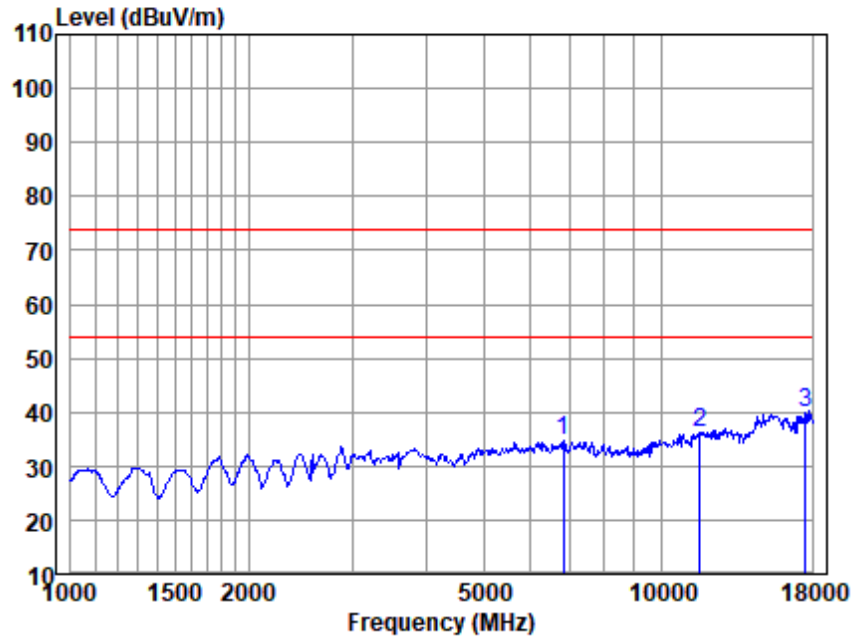


Antenna Polarity :HORIZONTAL
EUT/Project :0140ME

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	
7432.914	37.76	36.31	7.53	37.34	44.26	74.00	-29.74	Peak
12798.240	35.70	39.02	10.54	39.53	45.73	74.00	-28.27	Peak
17793.090	33.38	42.90	13.75	40.64	49.39	74.00	-24.61	Peak

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

Test Mode: 01; Polarity: Horizontal; Modulation:GFSK; Channel:middle



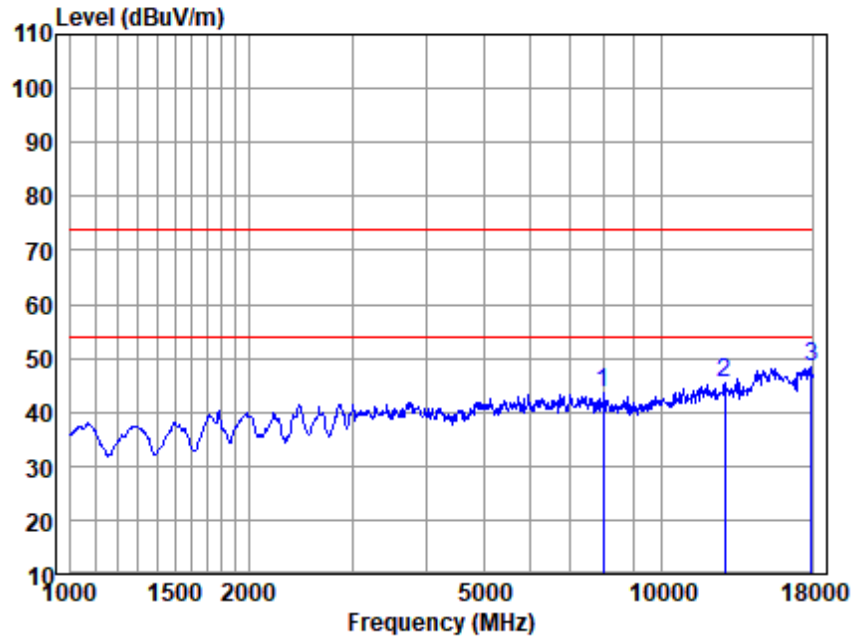
Antenna Polarity :HORIZONTAL

EUT/Project :0140ME

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	
6815.551	28.71	35.91	6.98	36.94	34.66	54.00	-19.34	Average
11633.930	25.72	38.29	9.66	37.31	36.36	54.00	-17.64	Average
17537.800	23.89	42.28	13.60	39.98	39.79	54.00	-14.21	Average

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

Test Mode: 01; Polarity: Vertical; Modulation:GFSK; Channel:middle



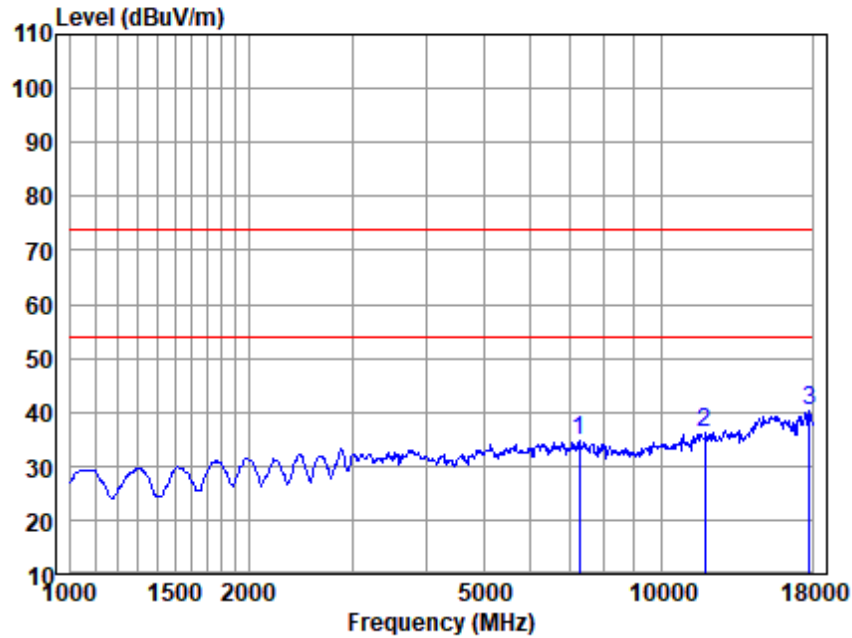
Antenna Polarity :VERTICAL

EUT/Project :0140ME

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	
7989.893	36.62	36.75	7.97	37.89	43.45	74.00	-30.55	Peak
12798.240	35.48	39.02	10.54	39.53	45.51	74.00	-28.49	Peak
17948.050	32.17	42.88	13.85	40.44	48.46	74.00	-25.54	Peak

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

Test Mode: 01; Polarity: Vertical; Modulation:GFSK; Channel:middle



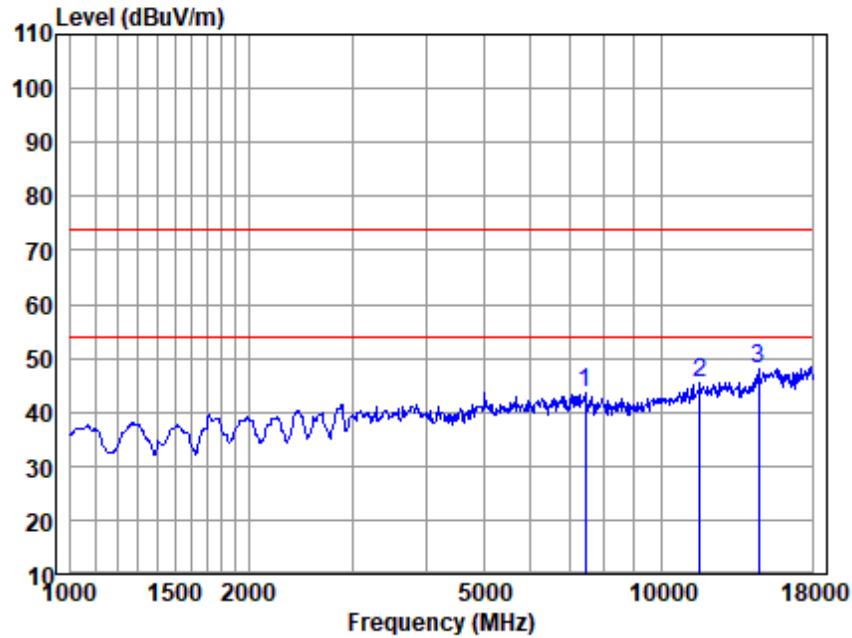
Antenna Polarity :VERTICAL

EUT/Project :0140ME

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	
7263.015	28.47	36.30	7.38	37.48	34.67	54.00	-19.33	Average
11871.710	26.33	38.18	9.84	38.19	36.16	54.00	-17.84	Average
17844.590	23.95	42.99	13.79	40.57	40.16	54.00	-13.84	Average

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

Test Mode: 01; Polarity: Horizontal; Modulation:GFSK; Channel:High



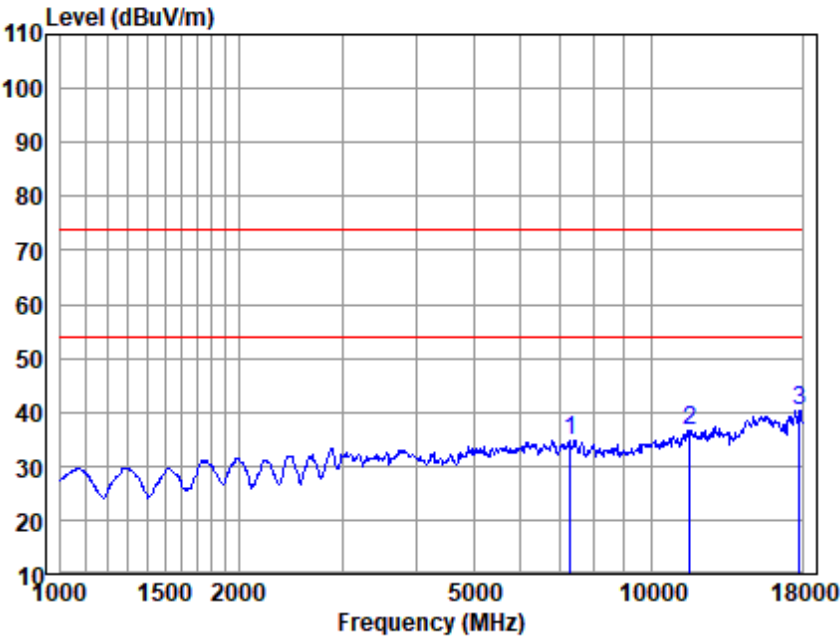
Antenna Polarity :HORIZONTAL

EUT/Project :0140ME

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	
7432.914	36.97	36.31	7.53	37.34	43.47	74.00	-30.53	Peak
11633.930	34.81	38.29	9.66	37.31	45.45	74.00	-28.55	Peak
14618.170	36.19	41.70	11.78	41.49	48.18	74.00	-25.82	Peak

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

Test Mode: 01; Polarity: Horizontal; Modulation:GFSK; Channel:High

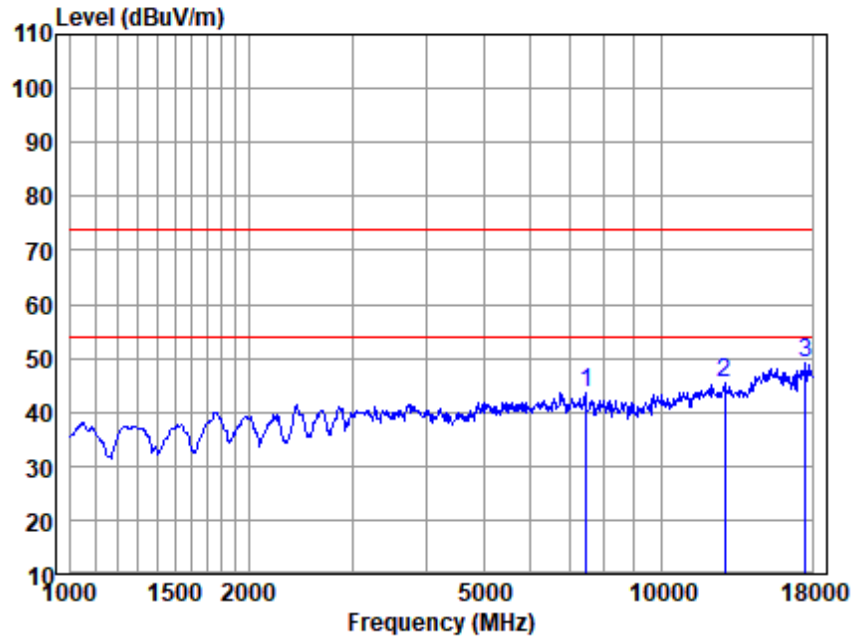


Antenna Polarity :HORIZONTAL
EUT/Project :0140ME

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	
7305.122	28.50	36.32	7.42	37.44	34.80	54.00	-19.20	Average
11633.930	26.05	38.29	9.66	37.31	36.69	54.00	-17.31	Average
17844.590	24.11	42.99	13.79	40.57	40.32	54.00	-13.68	Average

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

Test Mode: 01; Polarity: Vertical; Modulation:GFSK; Channel:High



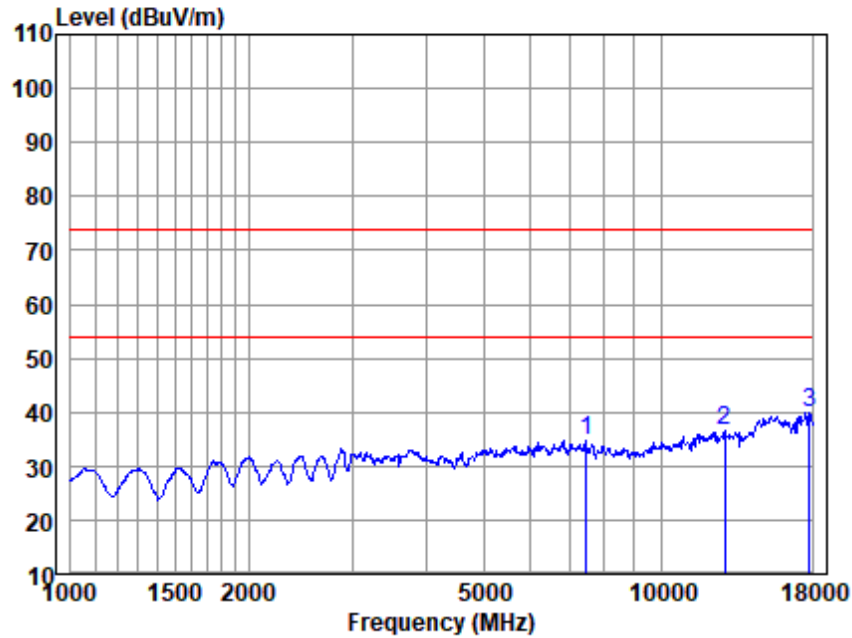
Antenna Polarity :VERTICAL

EUT/Project :0140ME

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	
7454.429	37.12	36.29	7.55	37.32	43.64	74.00	-30.36	Peak
12798.240	35.22	39.02	10.54	39.53	45.25	74.00	-28.75	Peak
17537.800	33.15	42.28	13.60	39.98	49.05	74.00	-24.95	Peak

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

Test Mode: 01; Polarity: Vertical; Modulation:GFSK; Channel:High



Antenna Polarity :VERTICAL

EUT/Project :0140ME

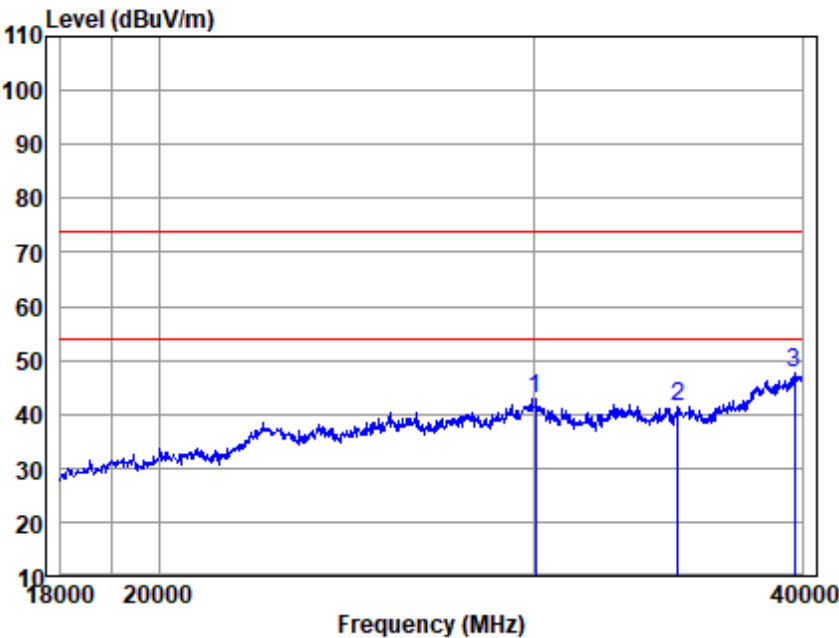
Freq	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Emission Level	Limit Line	Over Limit	Remark
MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB	
7454.429	28.08	36.29	7.55	37.32	34.60	54.00	-19.40	Average
12798.240	26.43	39.02	10.54	39.53	36.46	54.00	-17.54	Average
17844.590	23.83	42.99	13.79	40.57	40.04	54.00	-13.96	Average

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

For 18-40G:

Note: For the emissions whose peak level is lower than the average limit, only the worst peak measurement is shown in the report.

Test Mode: 00; Polarity: Horizontal; Modulation:GFSK; Channel:Low

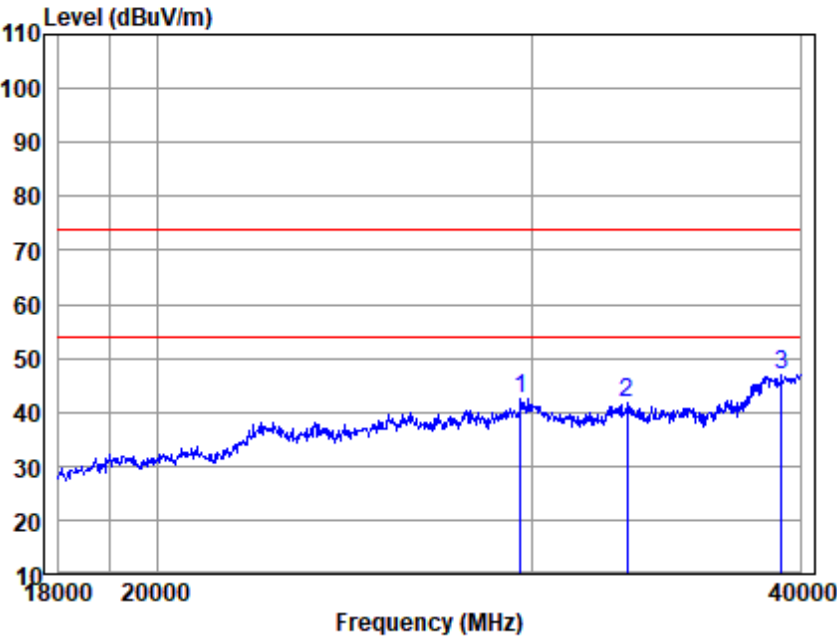


Antenna Polarity :HORIZONTAL
EUT/Project :0140ME

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	
30030.550	52.52	40.49	4.00	54.25	42.76	74.00	-31.24	Peak
35006.320	52.84	41.90	3.92	57.40	41.26	74.00	-32.74	Peak
39681.870	54.88	43.67	4.88	55.95	47.48	74.00	-26.52	Peak

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

Test Mode: 00; Polarity: Vertical; Modulation:GFSK; Channel:Low



Antenna Polarity :VERTICAL
EUT/Project :0140ME

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	
29602.000	53.56	40.18	3.98	55.33	42.39	74.00	-31.61	Peak
33209.210	53.08	41.54	3.77	56.58	41.81	74.00	-32.19	Peak
39209.410	55.15	43.62	4.74	56.52	46.99	74.00	-27.01	Peak

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



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8 Test Setup Photo

Refer to Appendix - Test Setup Photo for SHCR2601000140ME

9 EUT Constructional Details (EUT Photos)

Refer to Appendix_Photographs of EUT Constructional Details for SHCR2601000140ME

10 Appendix

1. Bandwidth

1.1 Test Result

1.1.1 OBW

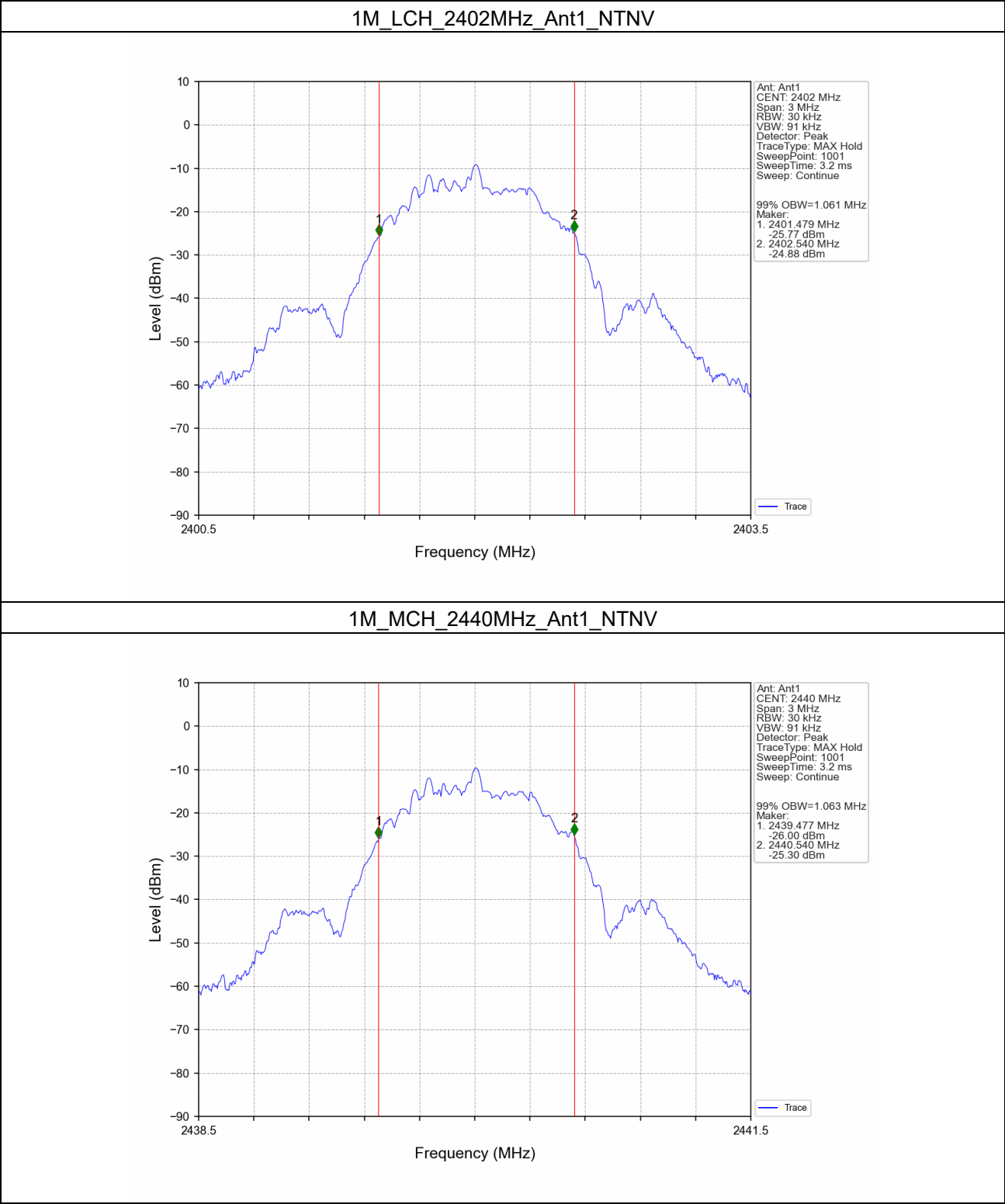
Mode	TX Type	Frequency (MHz)	ANT	99% Occupied Bandwidth (MHz)		Verdict
				Result	Limit	
1M	SISO	2402	1	1.061	/	Pass
		2440	1	1.063	/	Pass
		2480	1	1.062	/	Pass
2M	SISO	2402	1	2.075	/	Pass
		2440	1	2.072	/	Pass
		2480	1	2.080	/	Pass

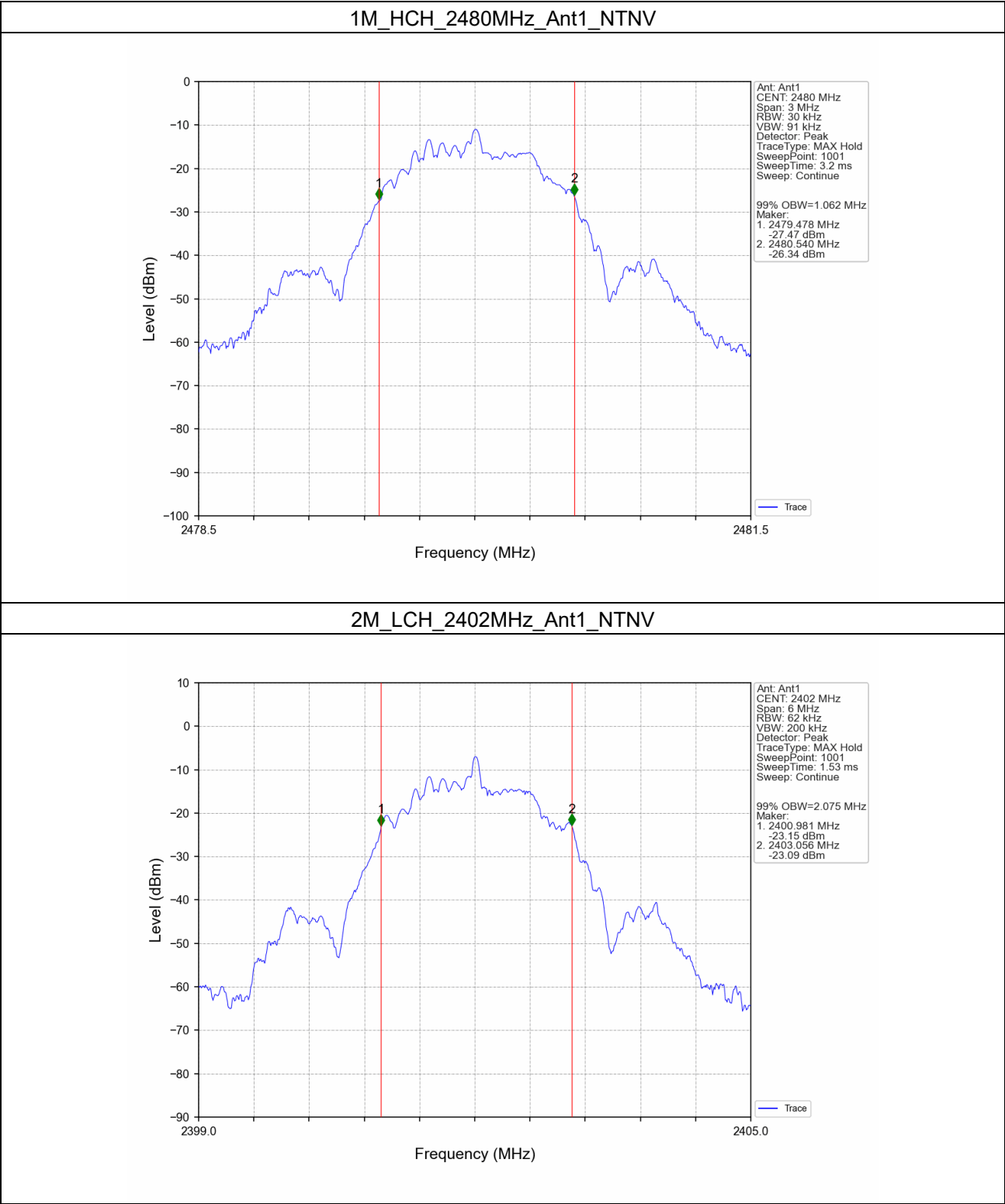
1.1.2 6dB BW

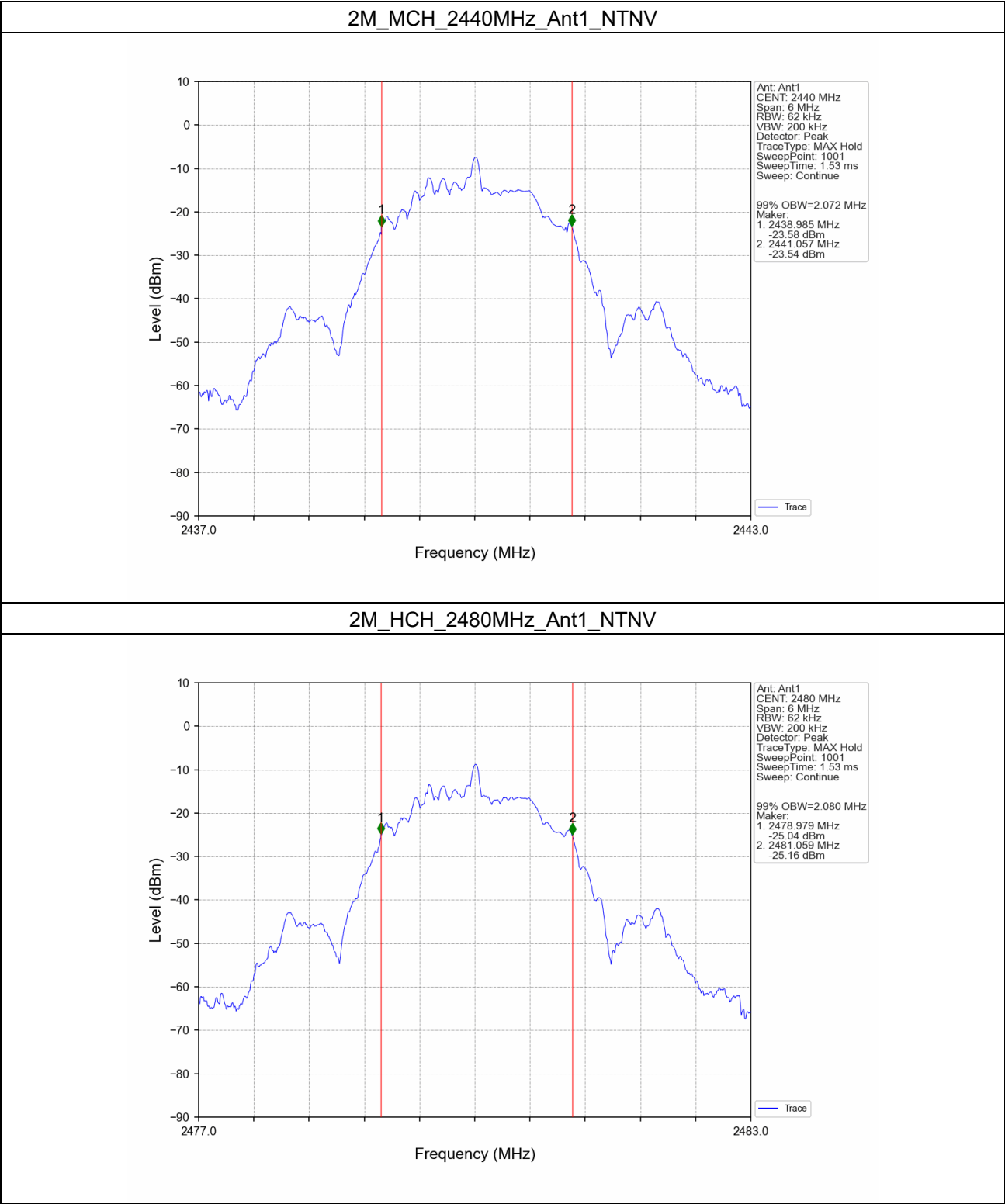
Mode	TX Type	Frequency (MHz)	ANT	6dB Bandwidth (MHz)		Verdict
				Result	Limit	
1M	SISO	2402	1	0.690	≥ 0.5	Pass
		2440	1	0.692	≥ 0.5	Pass
		2480	1	0.694	≥ 0.5	Pass
2M	SISO	2402	1	1.148	≥ 0.5	Pass
		2440	1	1.147	≥ 0.5	Pass
		2480	1	1.138	≥ 0.5	Pass

1.2 Test Graph

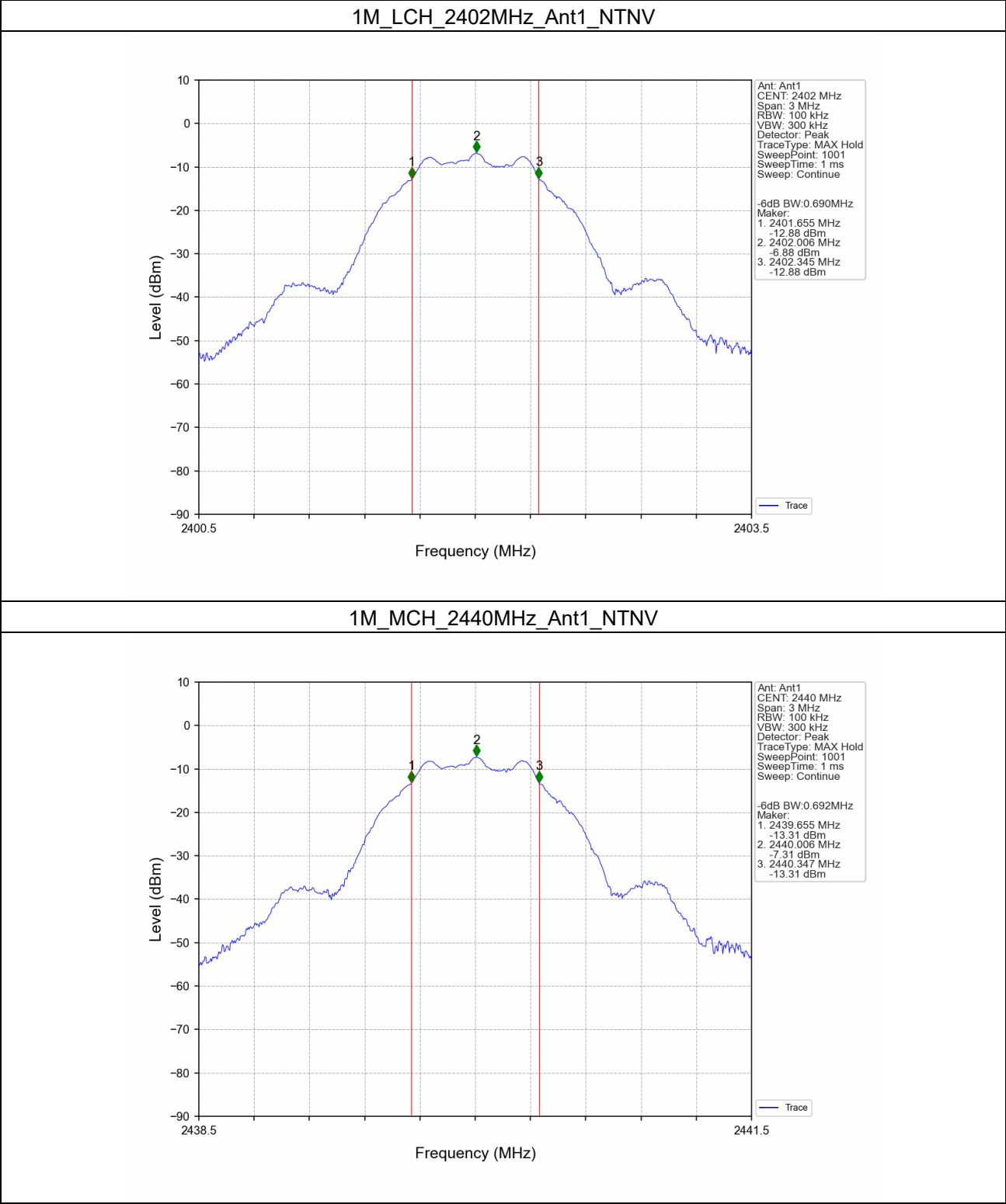
1.2.1 OBW

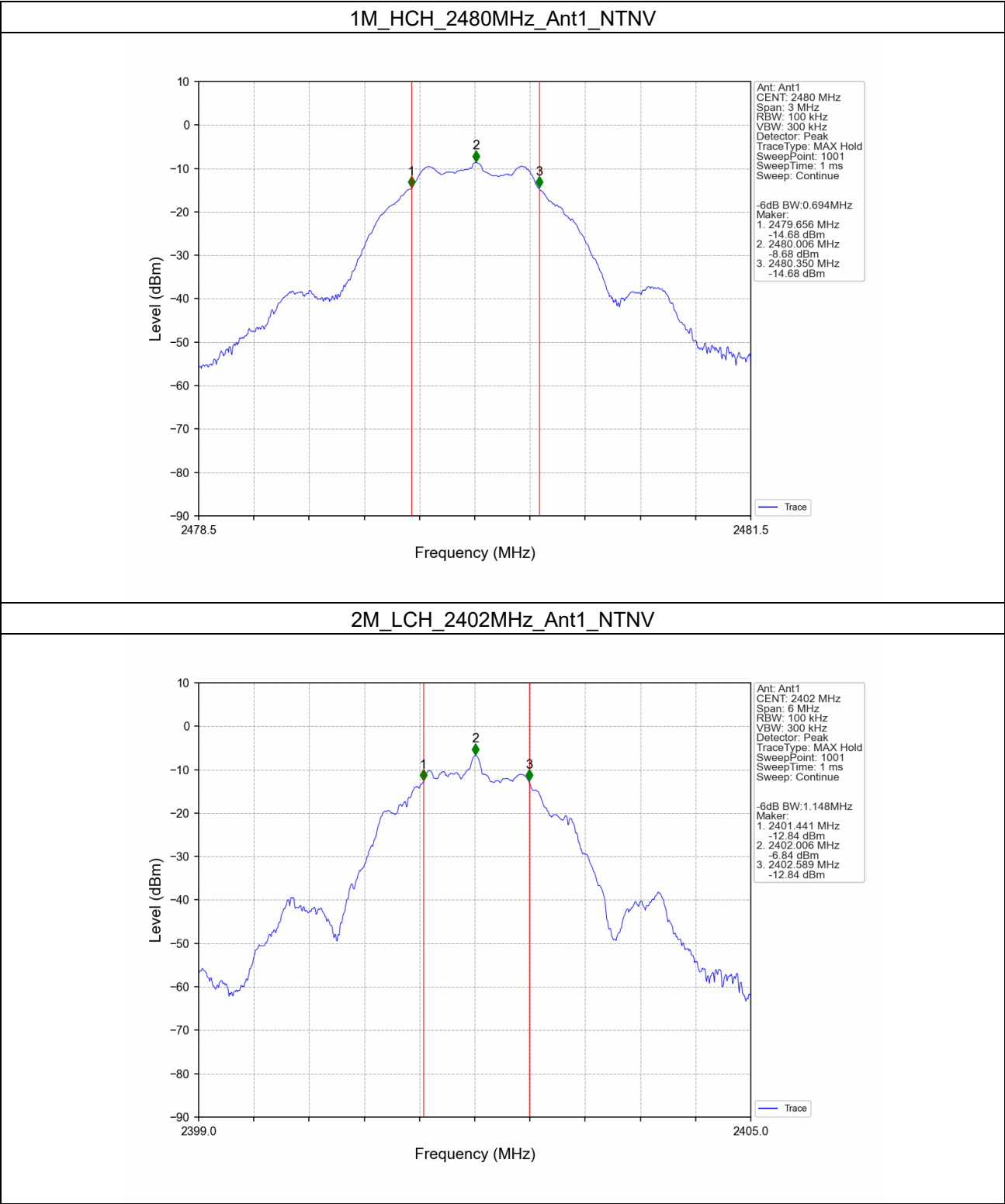




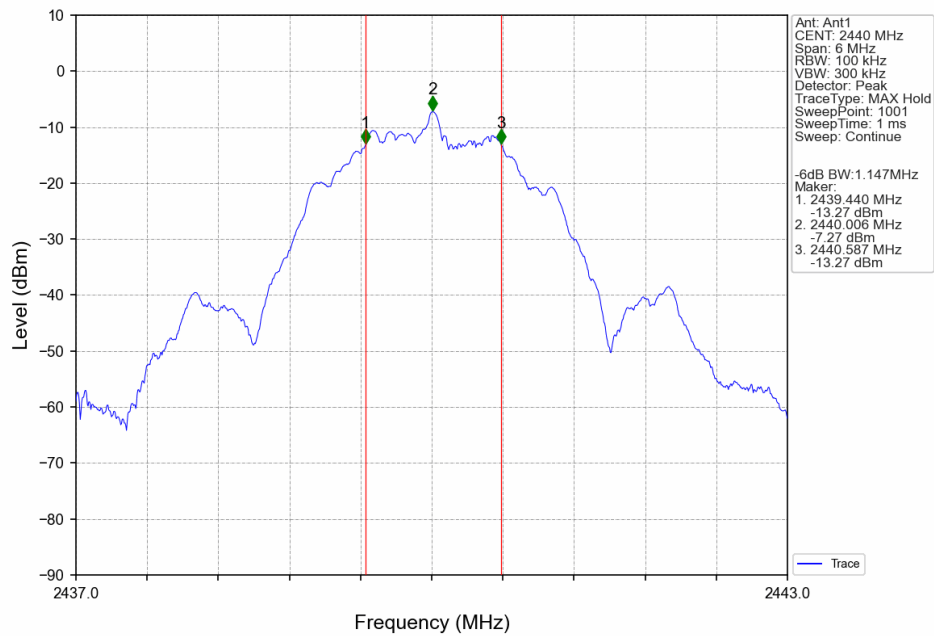


1.2.2 6dB BW

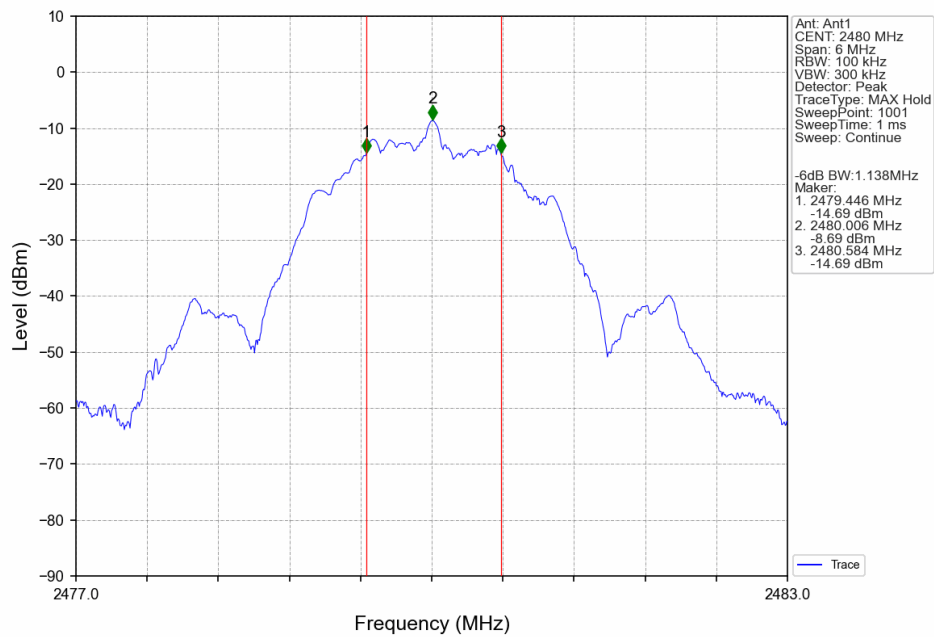




2M_MCH_2440MHz_Ant1_NTNV



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	-6.87	<=30	Pass
		2440	-7.30	<=30	Pass
		2480	-8.66	<=30	Pass
2M	SISO	2402	-6.86	<=30	Pass
		2440	-7.29	<=30	Pass
		2480	-8.66	<=30	Pass

Note1: Antenna Gain: Ant1: 5.30dBi;

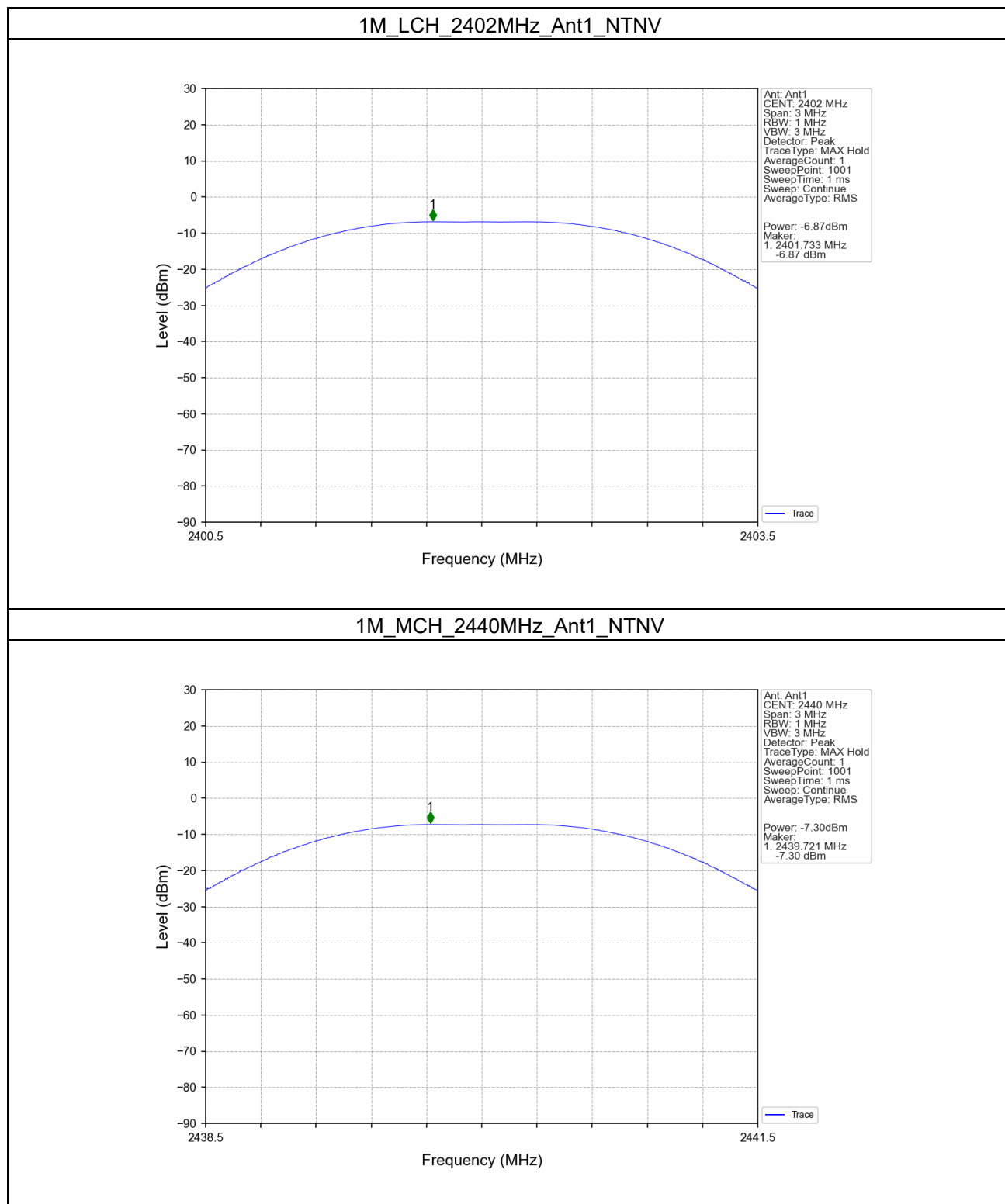
2.1.2 EIRP

Mode	TX Type	Frequency (MHz)	E.I.R.P (dBm)		Verdict
			ANT1	Limit	
1M	SISO	2402	-1.57	<=36.02	Pass
		2440	-2.00	<=36.02	Pass
		2480	-3.36	<=36.02	Pass
2M	SISO	2402	-1.56	<=36.02	Pass
		2440	-1.99	<=36.02	Pass
		2480	-3.36	<=36.02	Pass

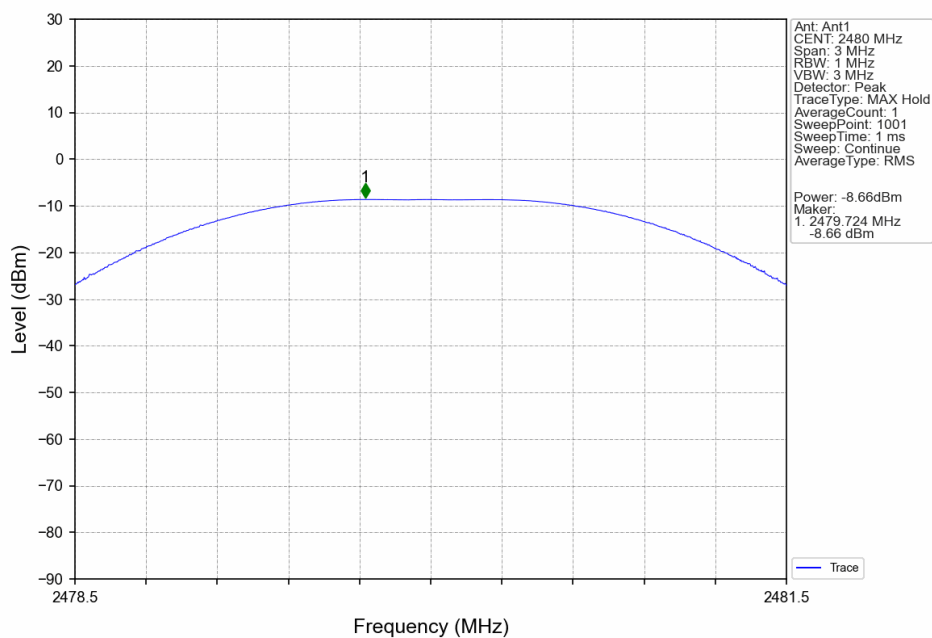
Note1: Antenna Gain: Ant1: 5.30dBi;
Note2: E.I.R.P = Measured Power + Antenna Gain

2.2 Test Graph

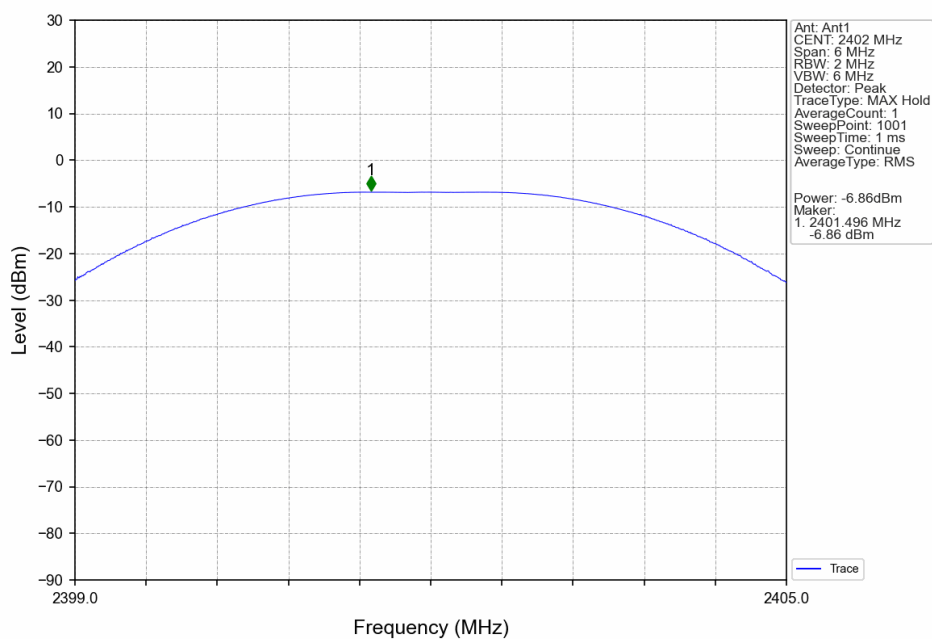
2.2.1 Power



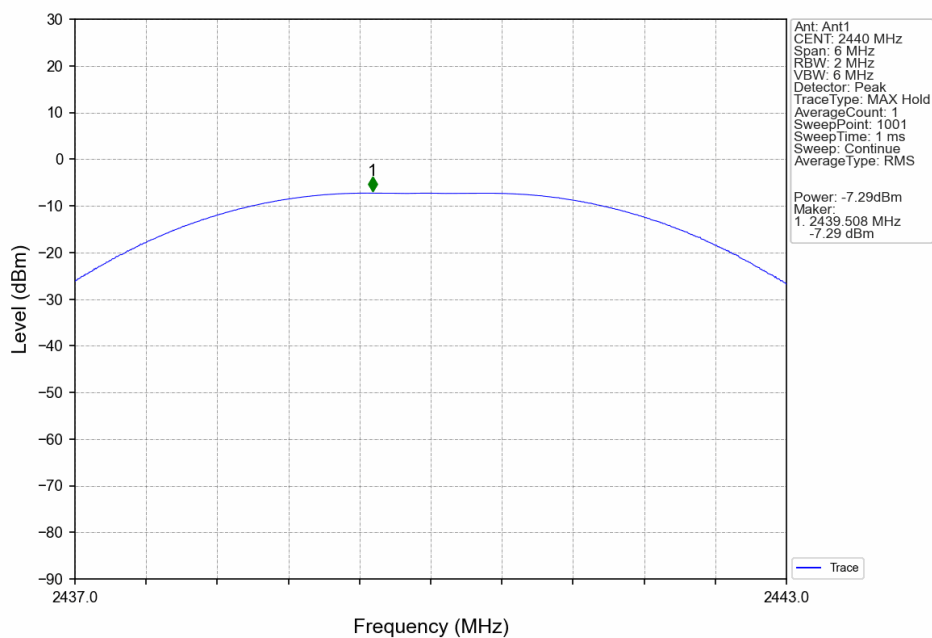
1M_HCH_2480MHz_Ant1_NTNV



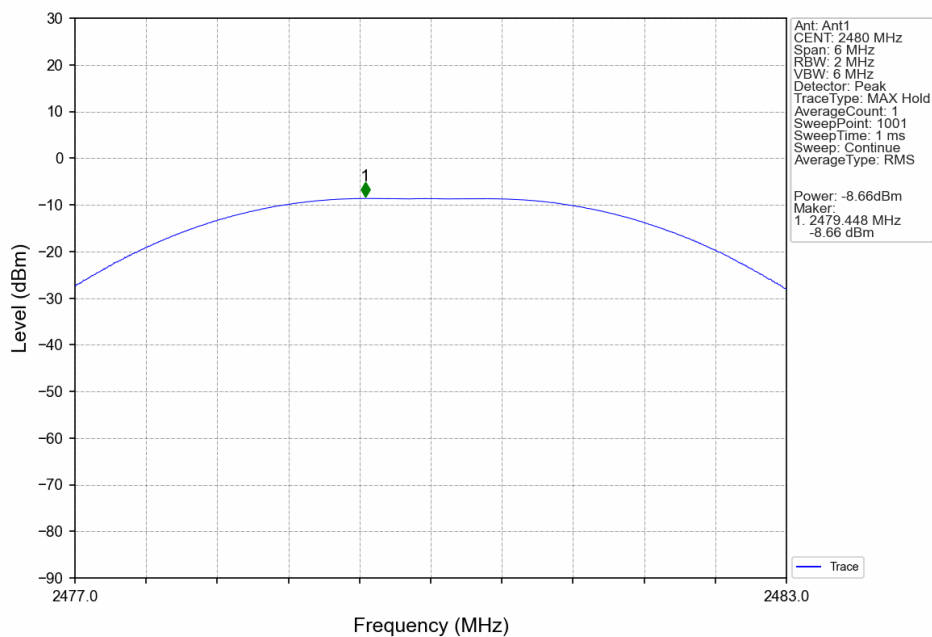
2M_LCH_2402MHz_Ant1_NTNV



2M_MCH_2440MHz_Ant1_NTNV



2M_HCH_2480MHz_Ant1_NTNV





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3. Maximum Power Spectral Density

3.1 Test Result

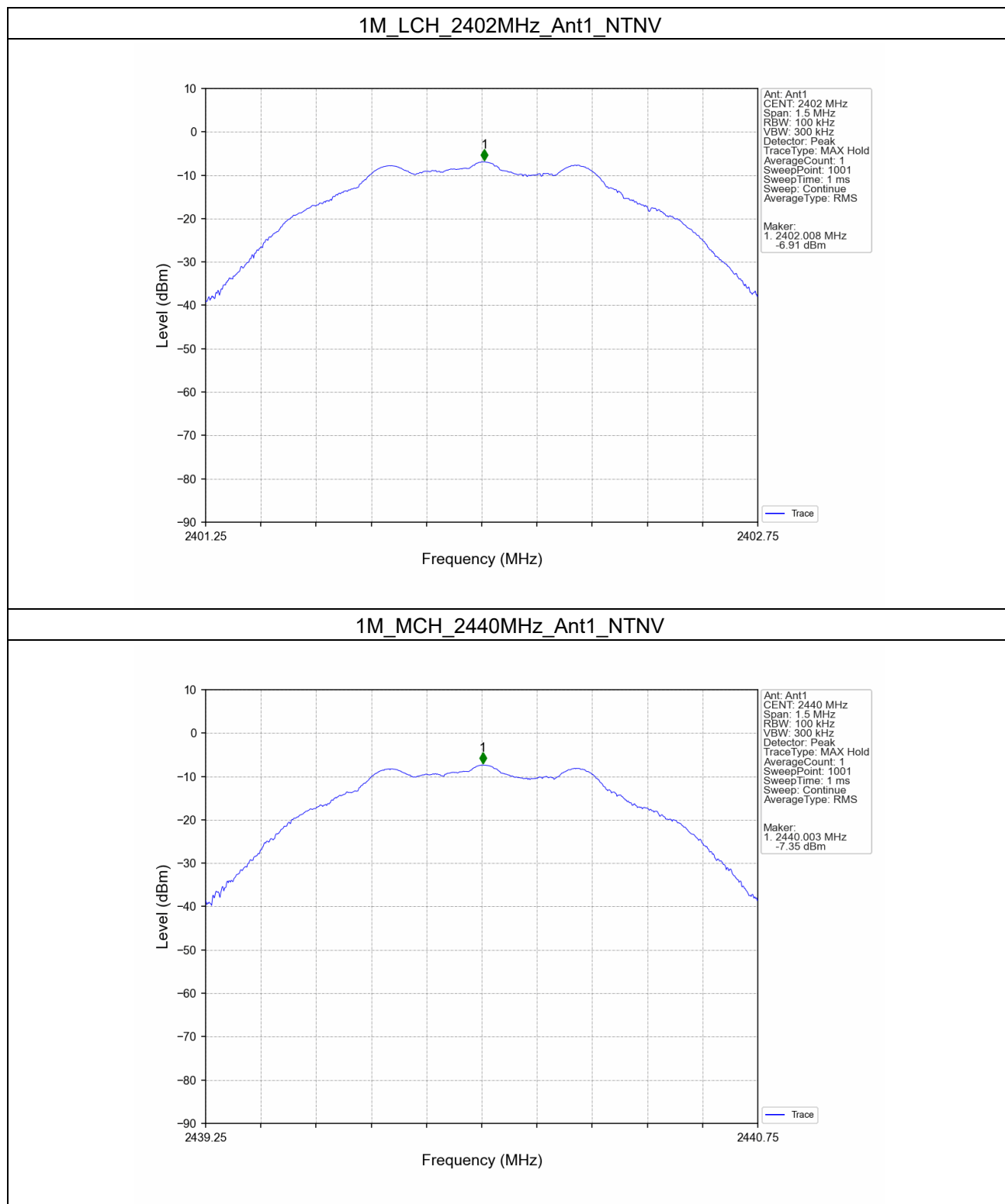
3.1.1 PSD

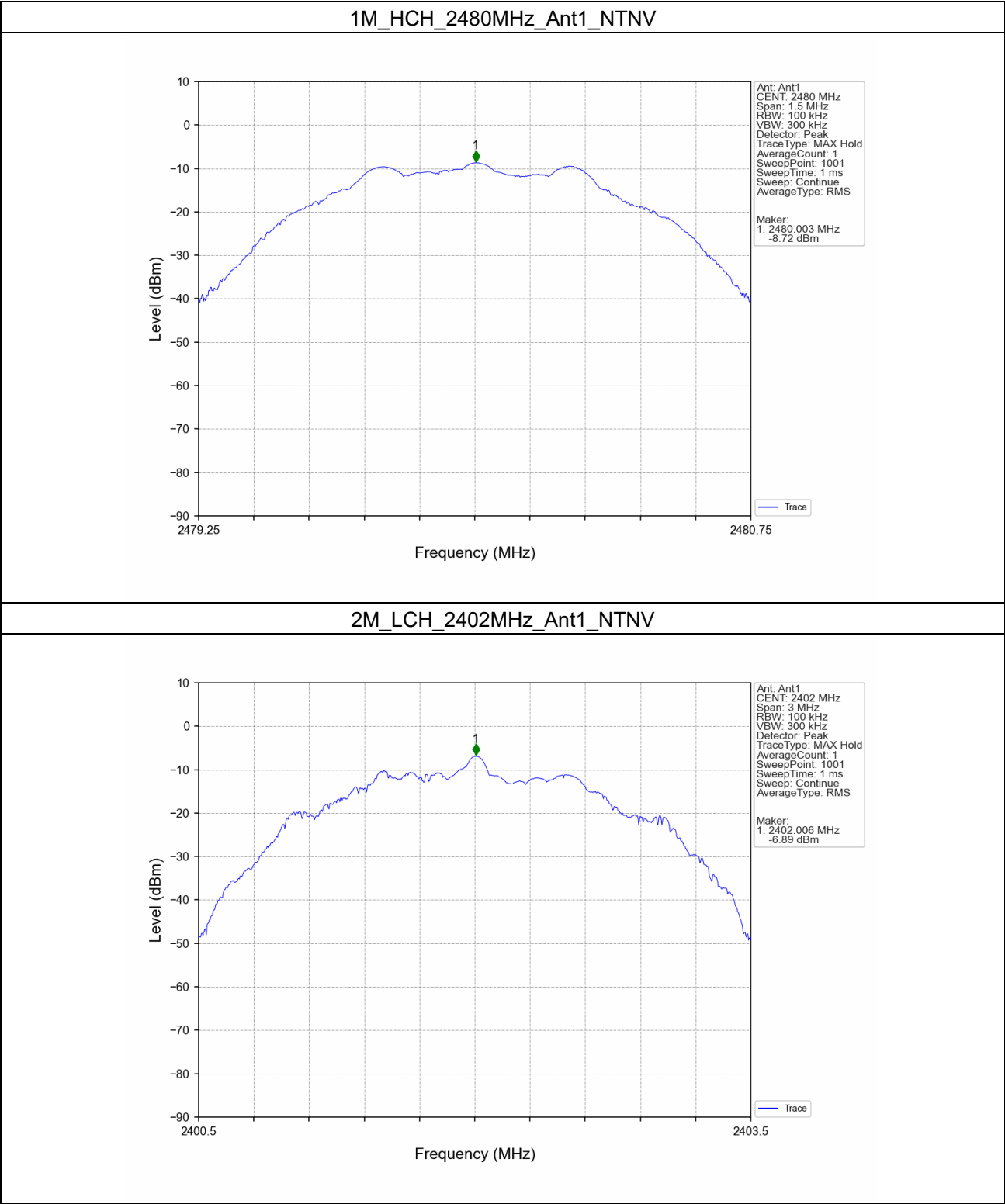
Mode	TX Type	Frequency (MHz)	Maximum PSD (dBm)		Verdict
			ANT1	Limit	
1M	SISO	2402	-6.91	<=8	Pass
		2440	-7.35	<=8	Pass
		2480	-8.72	<=8	Pass
2M	SISO	2402	-6.89	<=8	Pass
		2440	-7.54	<=8	Pass
		2480	-8.73	<=8	Pass

Note1: Antenna Gain: Ant1: 5.30dBi;

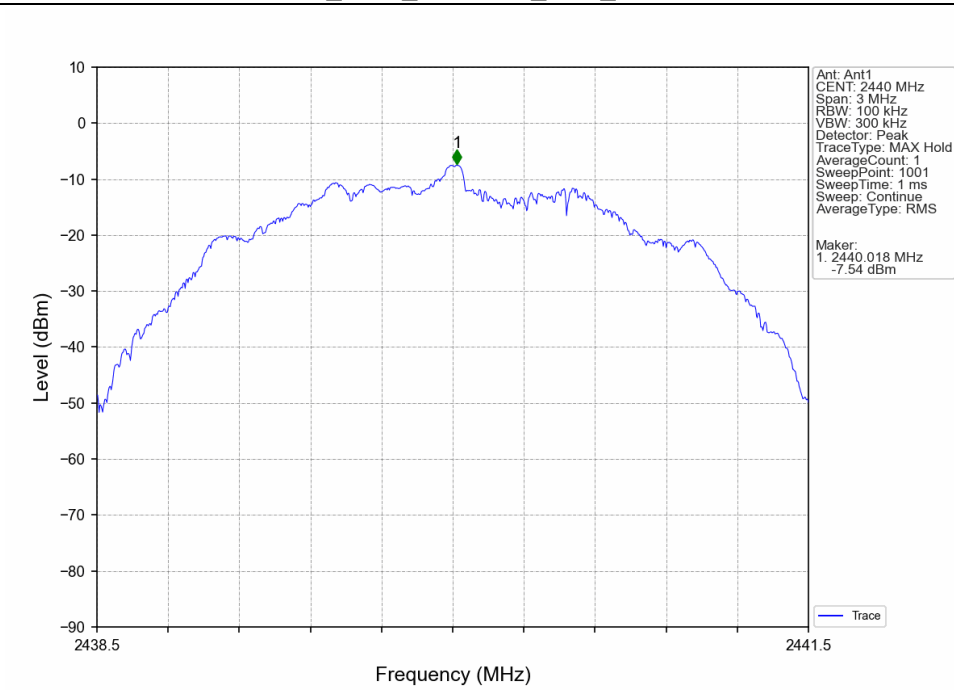
3.2 Test Graph

3.2.1 PSD

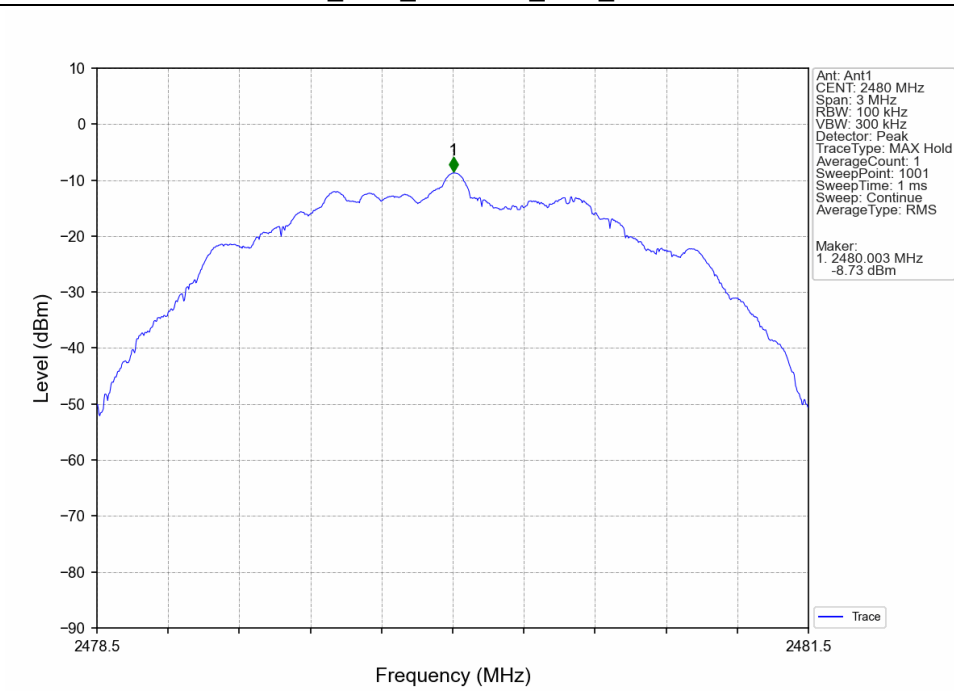




2M_MCH_2440MHz_Ant1_NTNV



2M_HCH_2480MHz_Ant1_NTNV



4. Unwanted Emissions In Non-restricted Frequency Bands

4.1 Test Result

4.1.1 Ref

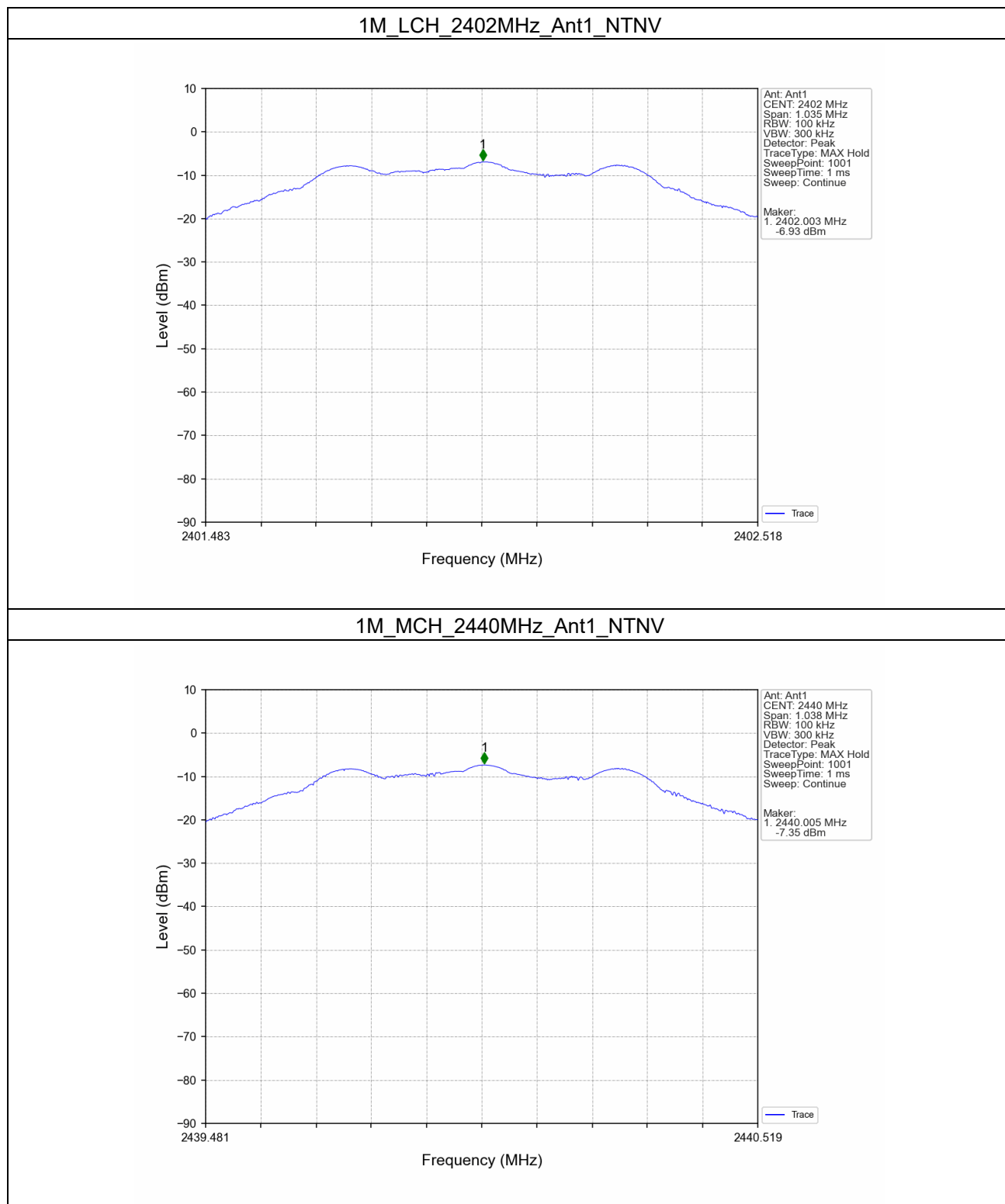
Mode	TX Type	Frequency (MHz)	ANT	Level of Reference (dBm)
1M	SISO	2402	1	-6.93
		2440	1	-7.35
		2480	1	-8.72
2M	SISO	2402	1	-6.92
		2440	1	-7.37
		2480	1	-8.75

4.1.2 CSE

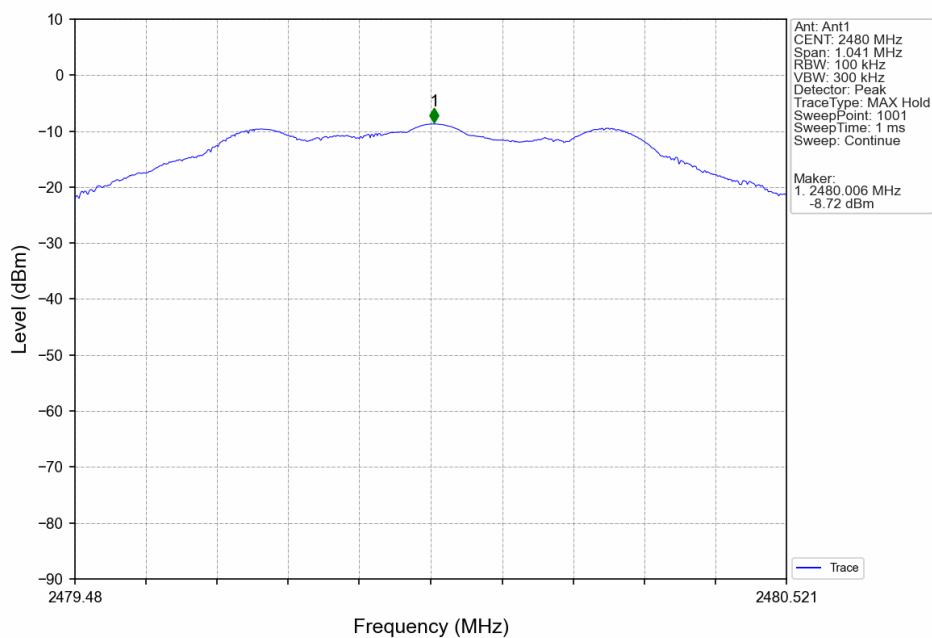
Mode	TX Type	Frequency (MHz)	ANT	Level of Reference (dBm)	Limit (dBm)	Verdict
1M	SISO	2402	1	-6.93	-26.93	Pass
		2440	1	-6.93	-26.93	Pass
		2480	1	-6.93	-26.93	Pass
2M	SISO	2402	1	-6.92	-26.92	Pass
		2440	1	-6.92	-26.92	Pass
		2480	1	-6.92	-26.92	Pass

4.2 Test Graph

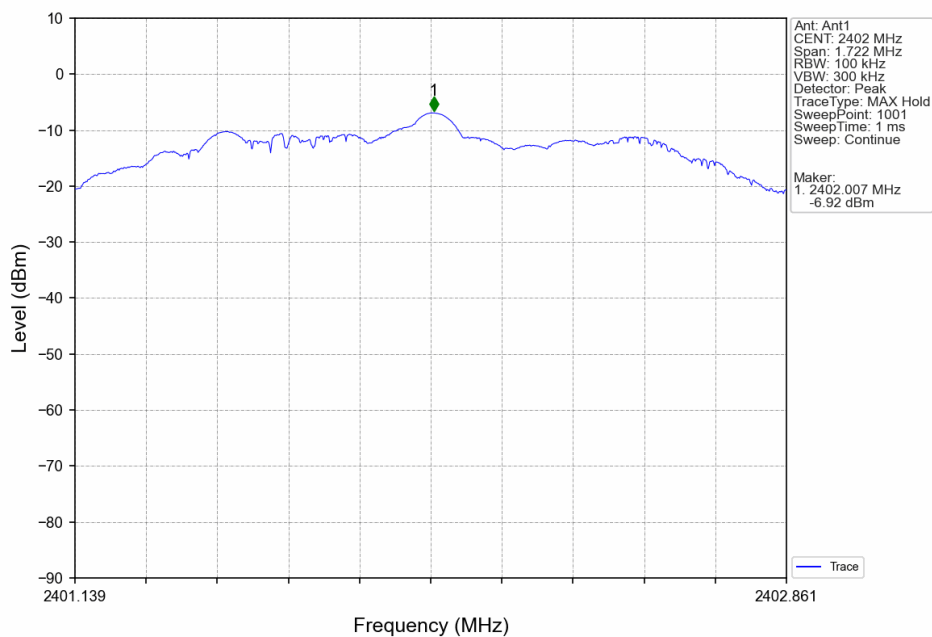
4.2.1 Ref



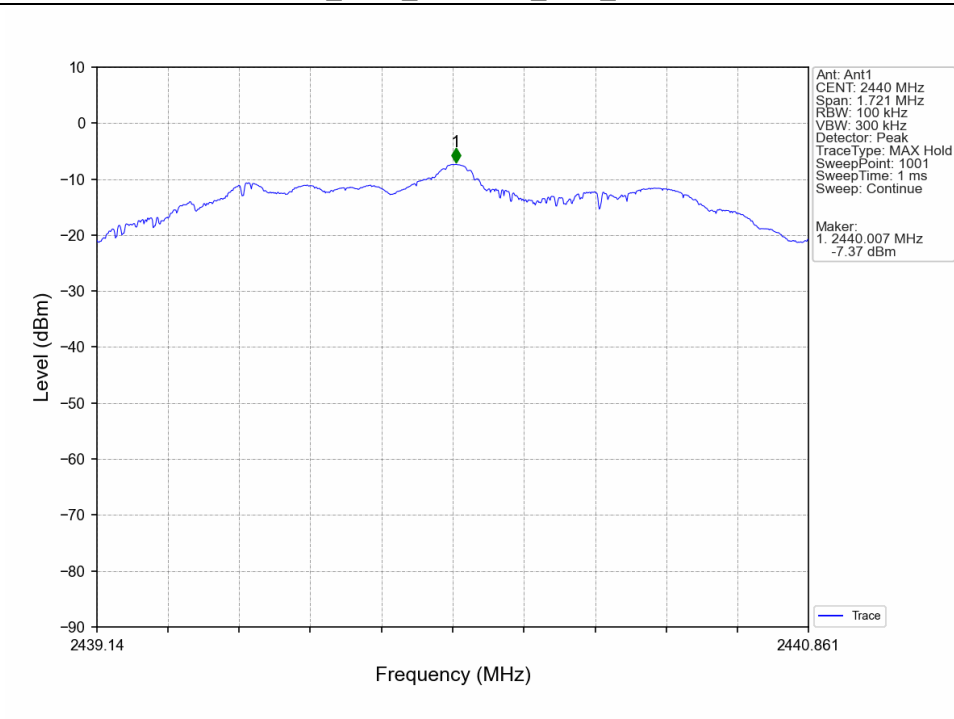
1M_HCH_2480MHz_Ant1_NTNV



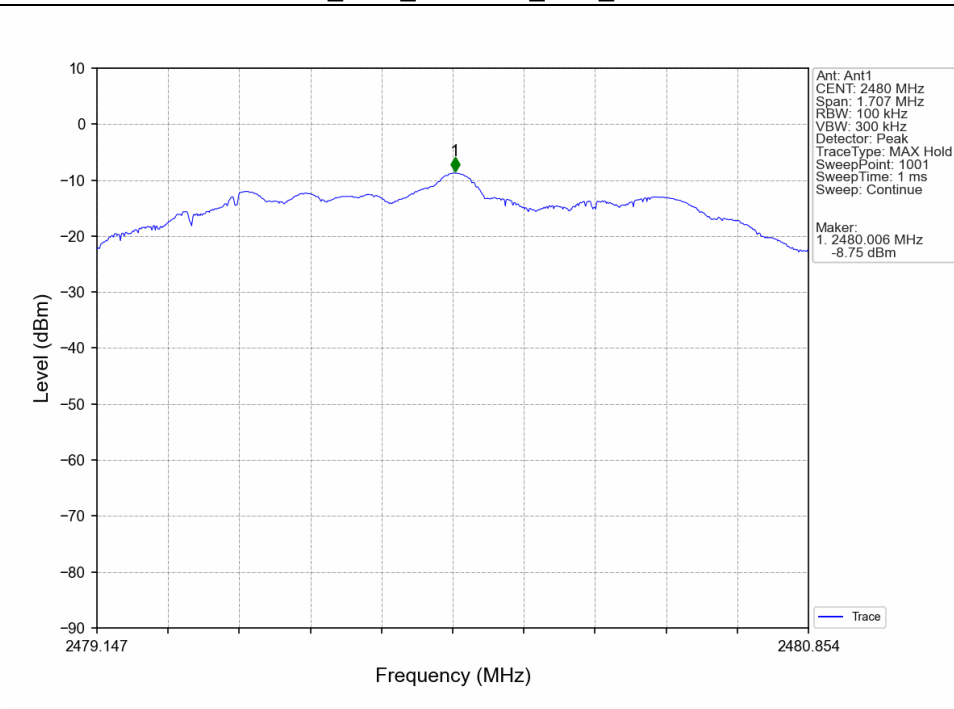
2M_LCH_2402MHz_Ant1_NTNV



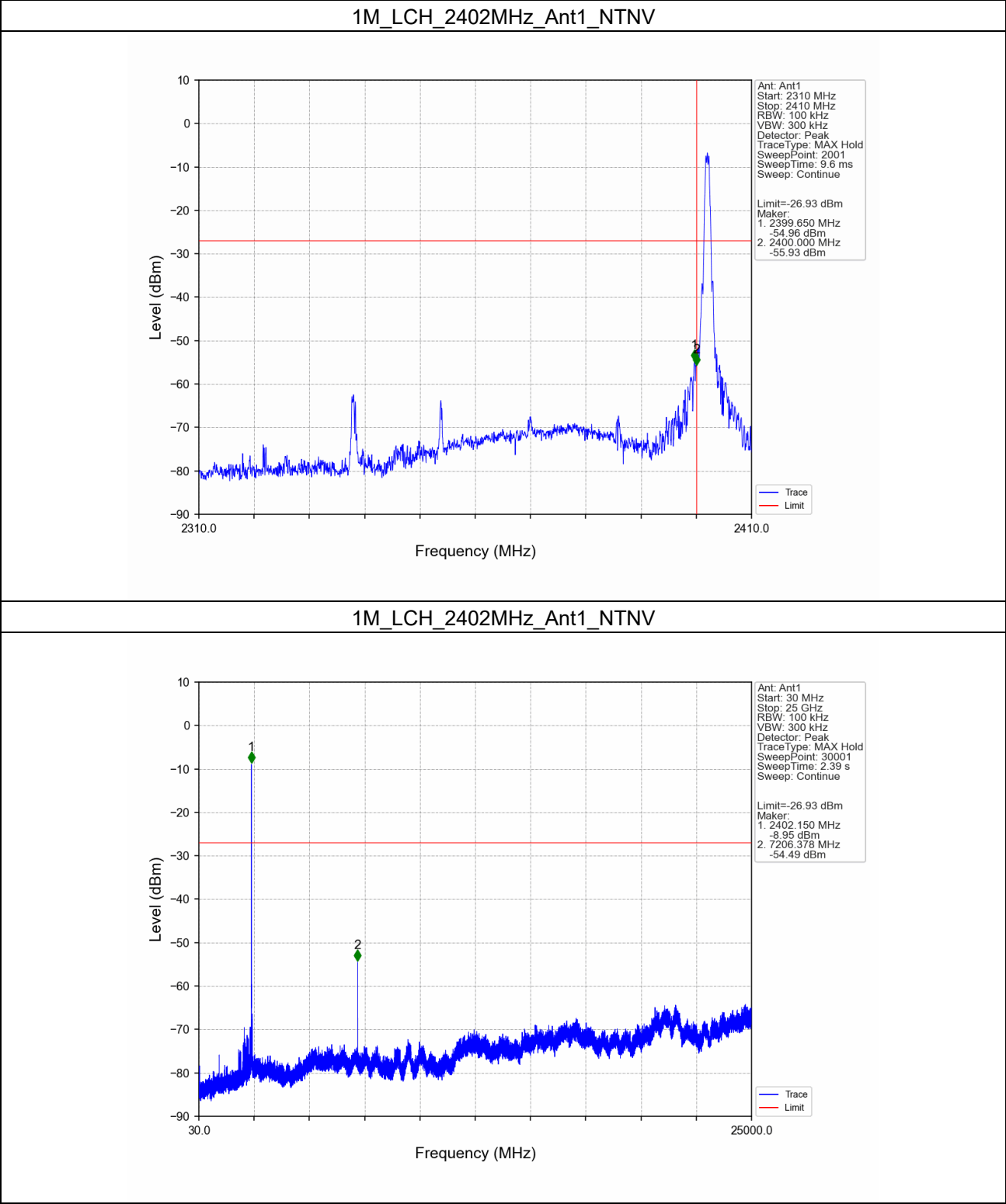
2M_MCH_2440MHz_Ant1_NTNV

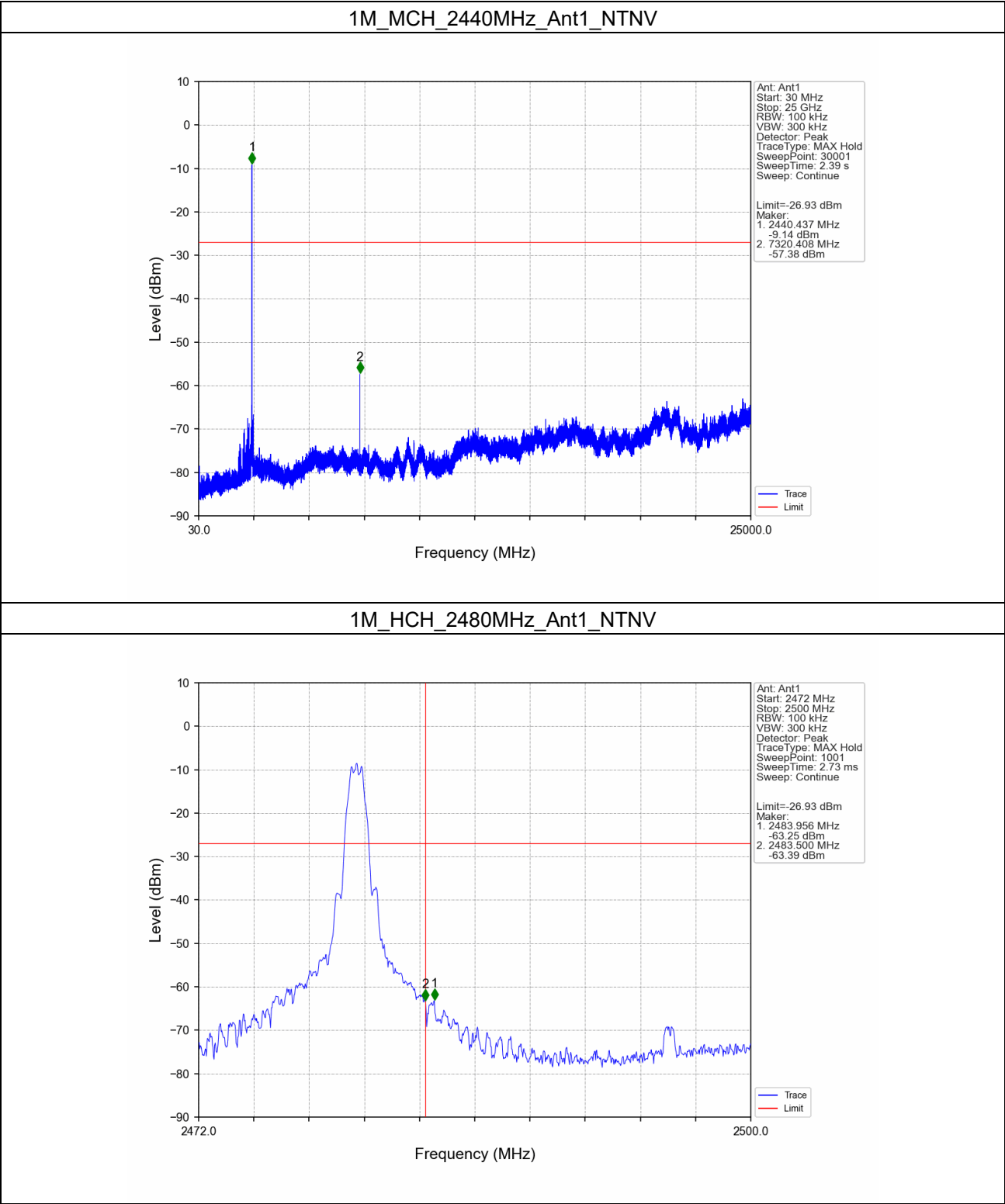


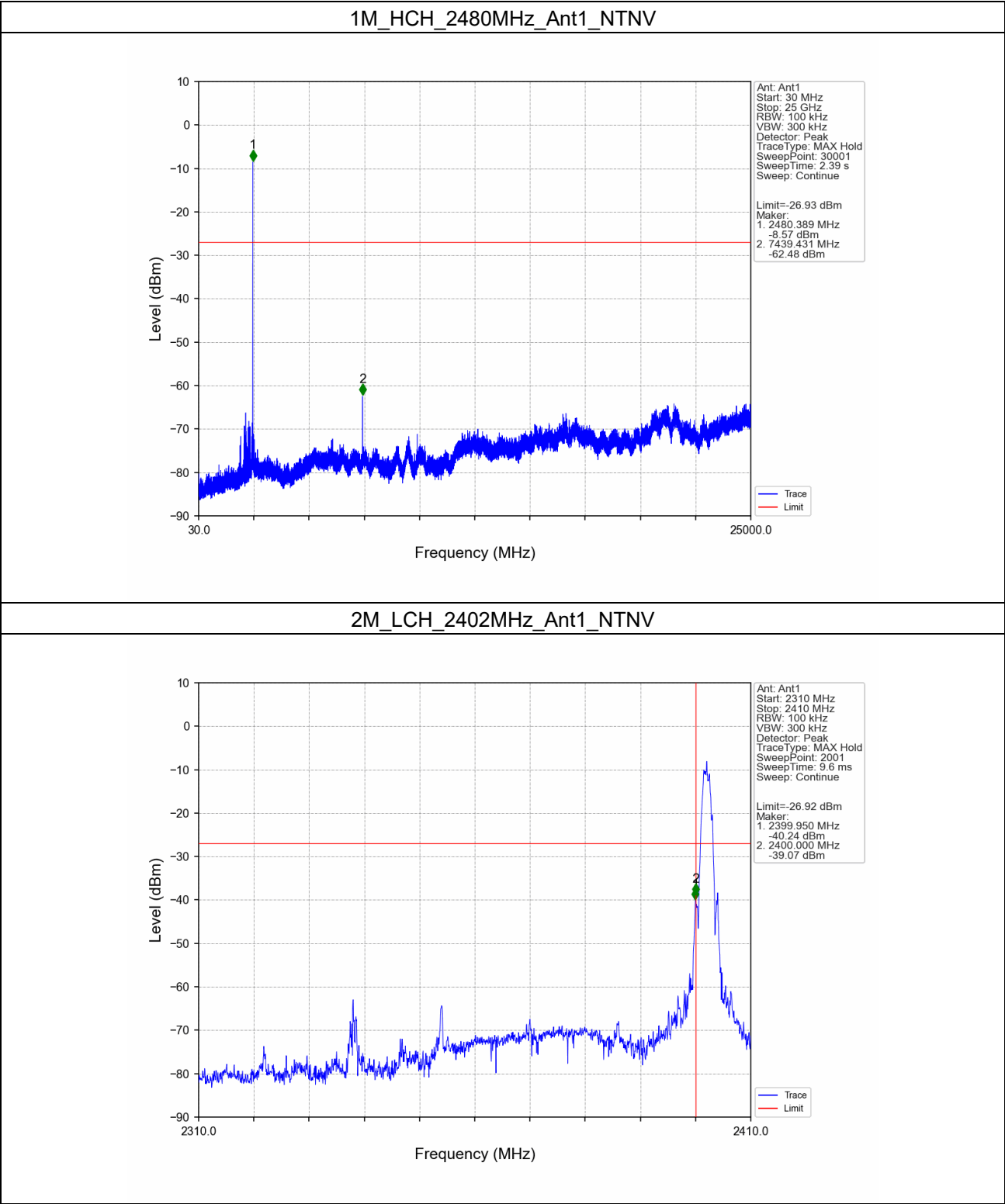
2M_HCH_2480MHz_Ant1_NTNV



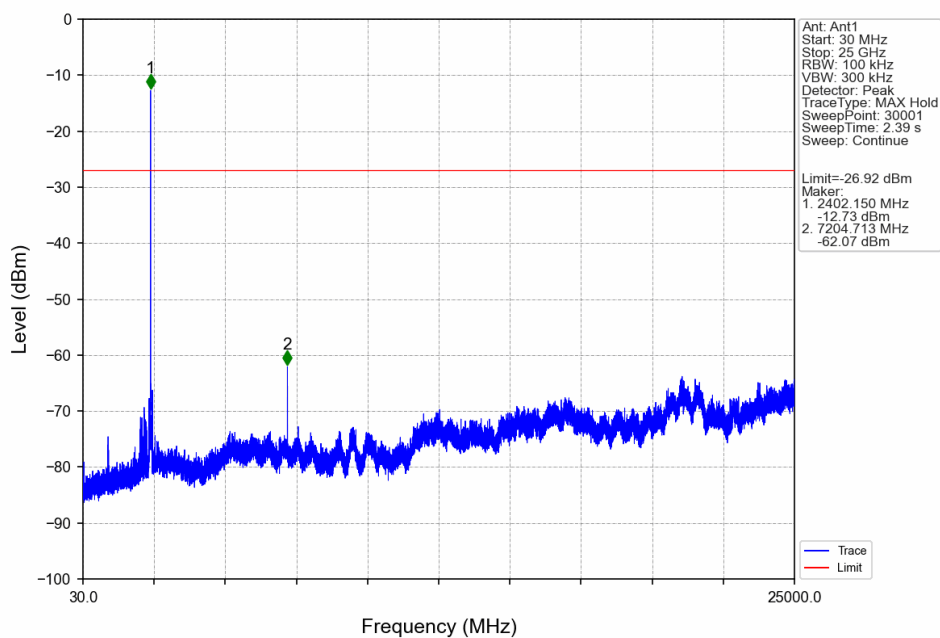
4.2.2 CSE



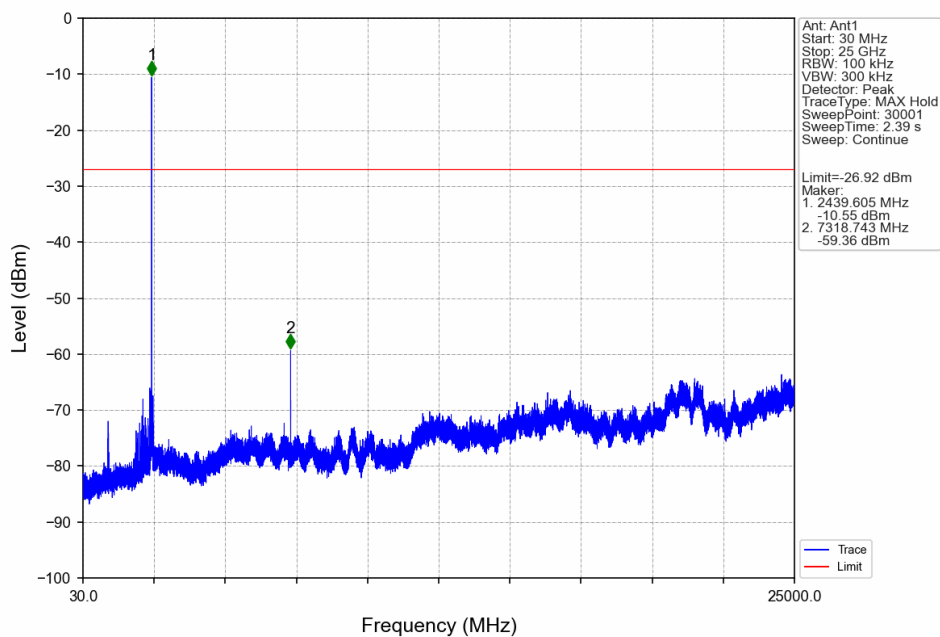




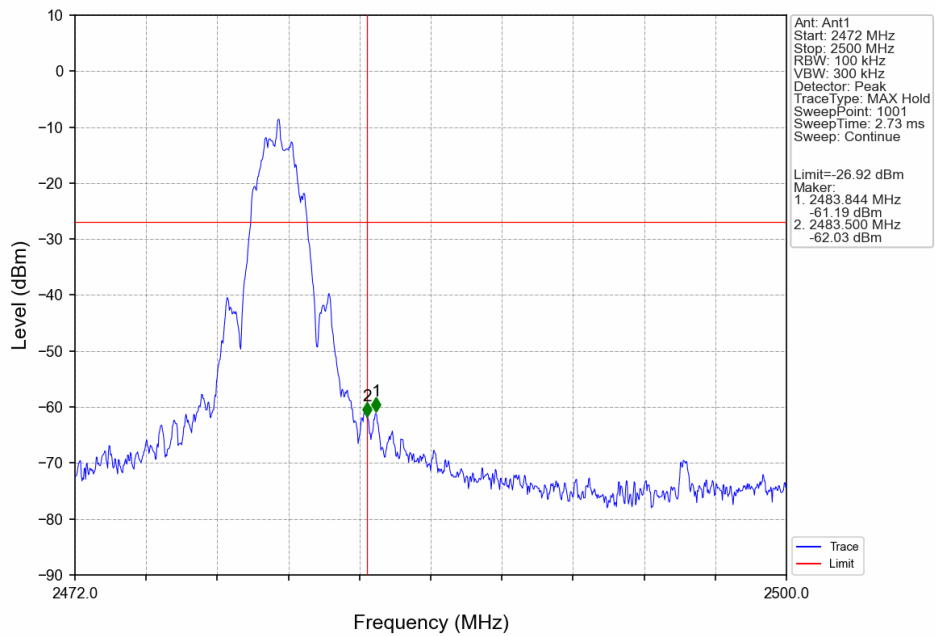
2M_LCH_2402MHz_Ant1_NTNV



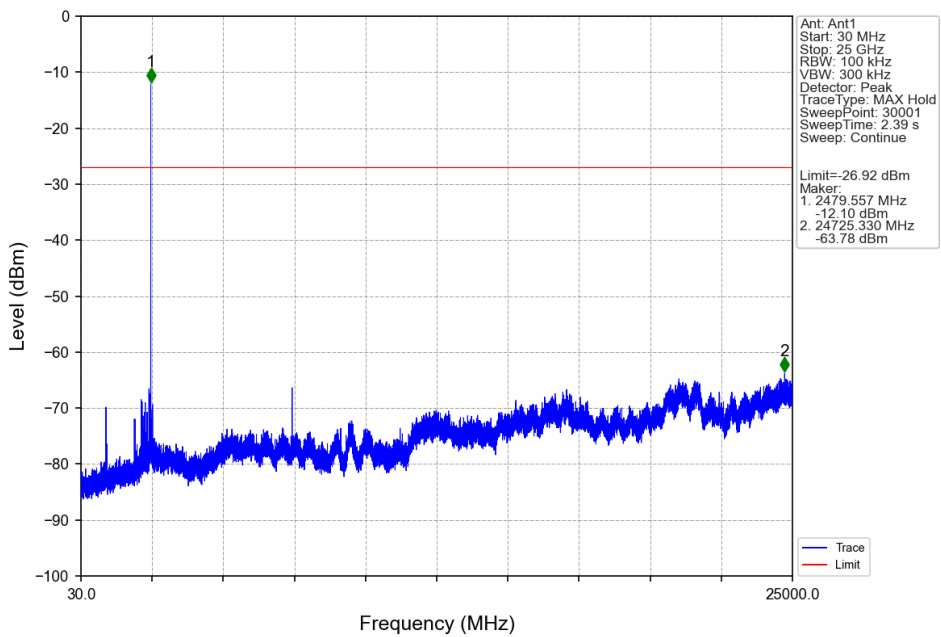
2M_MCH_2440MHz_Ant1_NTNV



2M_HCH_2480MHz_Ant1_NTNV



2M_HCH_2480MHz_Ant1_NTNV



5. Frequency Error

5.1 Test Result

5.1.1 Ant1

Ant1						
Mode	TX Type	Frequency (MHz)	Temperature Voltage	Measured Frequency (MHz)	Limit (MHz)	Verdict
1M	SISO	2402	NTLV	2402.005	2401.576 to 2402.424	Pass
			NTNV	2401.998	2401.576 to 2402.424	Pass
			NTHV	2402.000	2401.576 to 2402.424	Pass
			LTNV	2402.005	2401.576 to 2402.424	Pass
			HTNV	2402.002	2401.576 to 2402.424	Pass
		2440	NTLV	2439.998	2439.575 to 2440.425	Pass
			NTNV	2440.006	2439.575 to 2440.425	Pass
			NTHV	2440.000	2439.575 to 2440.425	Pass
			LTNV	2440.001	2439.575 to 2440.425	Pass
			HTNV	2440.001	2439.575 to 2440.425	Pass
		2480	NTLV	2480.004	2479.575 to 2480.425	Pass
			NTNV	2480.004	2479.575 to 2480.425	Pass
			NTHV	2480.000	2479.575 to 2480.425	Pass
			LTNV	2480.001	2479.575 to 2480.425	Pass
			HTNV	2480.001	2479.575 to 2480.425	Pass
2M	SISO	2402	NTLV	2402.000	2401.17 to 2402.83	Pass
			NTNV	2401.998	2401.17 to 2402.83	Pass
			NTHV	2402.000	2401.17 to 2402.83	Pass
			LTNV	2402.000	2401.17 to 2402.83	Pass
			HTNV	2402.000	2401.17 to 2402.83	Pass
		2440	NTLV	2439.998	2439.171 to 2440.829	Pass
			NTNV	2439.996	2439.171 to 2440.829	Pass
			NTHV	2440.000	2439.171 to 2440.829	Pass
			LTNV	2439.998	2439.171 to 2440.829	Pass
			HTNV	2439.994	2439.171 to 2440.829	Pass
		2480	NTLV	2479.994	2479.168 to 2480.832	Pass
			NTNV	2479.994	2479.168 to 2480.832	Pass
			NTHV	2480.000	2479.168 to 2480.832	Pass
			LTNV	2479.994	2479.168 to 2480.832	Pass
			HTNV	2480.000	2479.168 to 2480.832	Pass

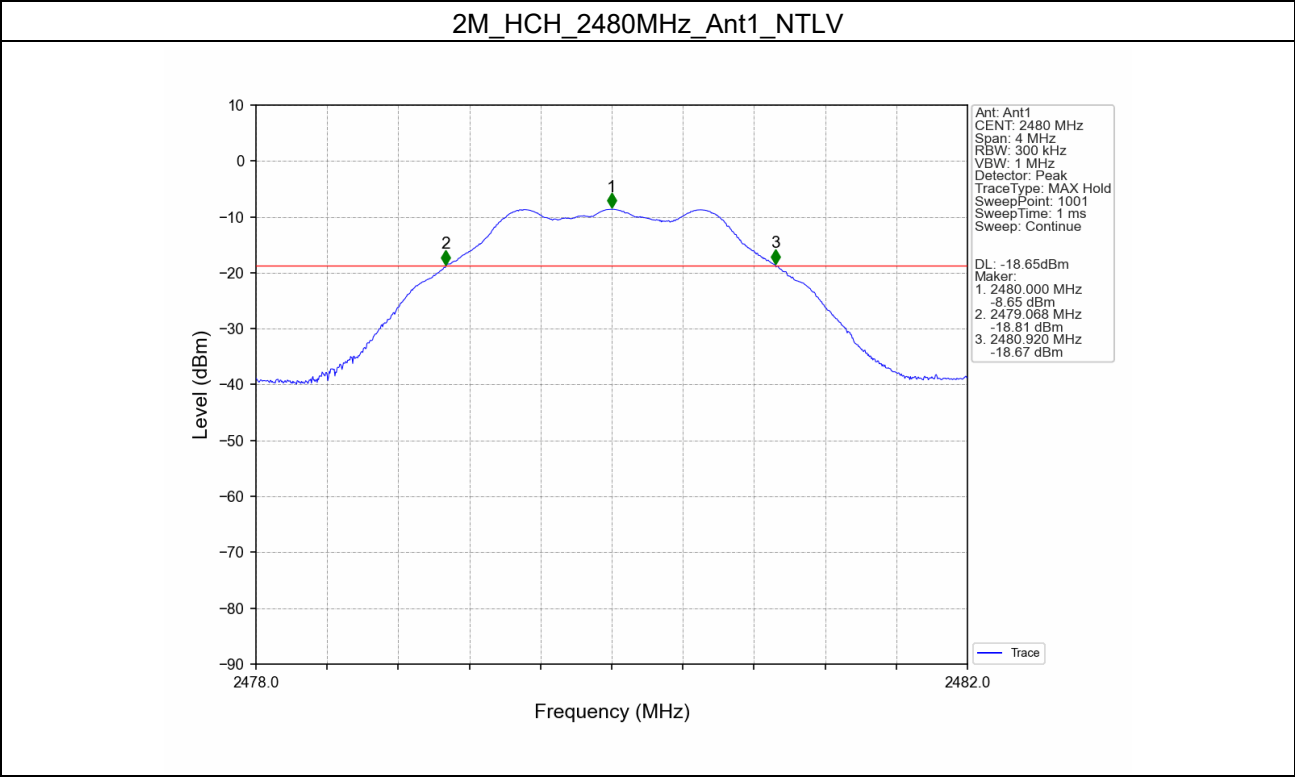
Note:

NT: 20 °C, LT: -20°C, HT: 50°C

NV: 2.4V DC, LV: 2.04V DC, HV:2.76V DC

5.2 Test Graph

5.2.1 Ant1



- End of the Report -