



TEST REPORT

FCC ID: 2A8UI-CBTMN10

IC ID:29411-CBTMN10

Date of Test..... Sep. 09, 2022 to Sep. 16, 2022

Date of issue.....: Sep. 16, 2022

Total number of pages..... 45

Test Result.....: PASS

Testing Laboratory.....: Shenzhen ZKT Technology Co., Ltd.

Address: 1/F, No. 101, Building B, No. 6, Tangwei Community Industrial Avenue, Fuhai Street, Bao'an District, Shenzhen, China

Applicant's name: CWD LIMITED

Address: 439 Kalbadevi Road,Mumbai 400002.India

Manufacturer's name: CWD LIMITED.

Address: 439 Kalbadevi Road,Mumbai 400002.India

Test specification:Standard.....: FCC CFR Title 47 Part 15 Subpart C Section 15.247
RSS-247 Issue 2, February 2017
RSS-Gen Issue 5, Amendment 1, February 2021

Test procedure.....: /

Non-standard test method: N/A

Test Report Form No.....: TRF-EL-110_V0**Test Report Form(s) Originator.....: ZKT Testing****Master TRF: Dated: 2020-01-06**

This device described above has been tested by ZKT, and the test results show that the equipment under test (EUT) is in compliance with the FCC and IC requirements. And it is applicable only to the tested sample identified in the report.

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Product name.....: CBTMN10 BLE Module

Trademark: N/A

Model/Type reference.....: CBTMN10

Ratings.....: DC 3.3V



Testing procedure and testing location:

Testing Laboratory.....: Shenzhen ZKT Technology Co., Ltd.

**Address.....: 1/F, No. 101, Building B, No. 6, Tangwei Community
Industrial Avenue, Fuhai Street, Bao'an District,
Shenzhen, China**

Tested by (name + signature).....: Jim Liu

Jim Liu

Reviewer (name + signature).....: Tom Zou

Tom Zou

Approved (name + signature).....: Lake Xie

Lake Xie





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1.Version

Report No.	Version	Description	Approved
ZKT-2200915L6896E-1	Rev.01	Initial issue of report	Sep. 16, 2022



2. Test Summary

FCC Part 15.247, Subpart C RSS-247 Issue 2		
Test Item	Standard	Result
Antenna Requirement	15.203/15.247 (c) RSS-Gen 6.8	Pass
AC Power Line Conducted Emission	15.207 RSS-Gen 8.8	N/A
Conducted Peak Output Power	15.247 (b)(1) RSS-247 5.4 d)	Pass
Occupied Bandwidth	15.247 (a)(1) RSS-Gen 6.7 RSS-247 5.2 a)	Pass
Radiated Emission	15.205/15.209 RSS-Gen 8.9/8.10	Pass
Band Edge	15.247(d) RSS-247 5.5 RSS-Gen 8.9/8.10	Pass
Power Spectral Density	15.247 (e) RSS-247 5.2 b)	Pass

NOTE:

(1)" N/A" denotes test is not applicable in this Test Report



2.1 TEST FACILITY

Shenzhen ZKT Technology Co., Ltd.

Add. : 1/F, No. 101, Building B, No. 6, Tangwei Community Industrial Avenue, Fuhai Street,
Bao'an District, Shenzhen, China

FCC Test Firm Registration Number: 692225

Designation Number: CN1299

IC Registered No.: 27033

CAB identifier: CN0110

2.2 MEASUREMENT UNCERTAINTY

The reported uncertainty of measurement $y \pm U$, where expended uncertainty U is based on a standard uncertainty multiplied by a coverage factor of $k=2$, providing a level of confidence of approximately 95 %.

No.	Item	Uncertainty
1	3m chamber Radiated spurious emission(9KHz-30MHz)	U=4.5dB
2	3m chamber Radiated spurious emissio(30MHz-1GHz)	U=4.8dB
3	3m chamber Radiated spurious emission(1GHz-6GHz)	U=4.9dB
4	3m chamber Radiated spurious emission(6GHz-40GHz)	U=5.0dB
5	Conducted disturbance	U=3.2dB
6	RF Band Edge	U=1.68dB
7	RF power conducted	U=1.86dB
8	RF conducted Spurious Emission	U=2.2dB
9	RF Occupied Bandwidth	U=1.8dB
10	RF Power Spectral Density	U=1.75dB
11	humidity uncertainty	U=5.3%
12	Temperature uncertainty	U=0.59℃



3. General Information

3.1 General Description of EUT

Product Name:	CBTMN10 BLE Module
Model No.:	CBTMN10
Operation Frequency:	2402-2480MHz
Channel numbers:	40
Channel separation:	2MHz
Modulation type:	GFSK
Antenna Type:	PCB antenna
Antenna gain:	1.627dBi
Power supply:	DC 3.3V



Operation Frequency each of channel							
Channel	Frequency	Channel	Frequency	Channel	Frequency	Channel	Frequency
1	2402 MHz	11	2422 MHz	21	2442 MHz	31	2462 MHz
2	2404 MHz	12	2424 MHz	22	2444 MHz	32	2464 MHz
3	2406 MHz	13	2426 MHz	23	2446 MHz	33	2466 MHz
4	2408 MHz	14	2428 MHz	24	2448 MHz	34	2468 MHz
5	2410 MHz	15	2430 MHz	25	2450 MHz	35	2470 MHz
6	2412 MHz	16	2432 MHz	26	2452 MHz	36	2472 MHz
7	2414 MHz	17	2434 MHz	27	2454 MHz	37	2474 MHz
8	2416 MHz	18	2436 MHz	28	2456 MHz	38	2476 MHz
9	2418 MHz	19	2438 MHz	29	2458 MHz	39	2478 MHz
10	2420 MHz	20	2440 MHz	30	2460 MHz	40	2480 MHz

Note:

In section 15.31(m), regards to the operating frequency range over 10 MHz, the Lowest frequency, the middle frequency, and the highest frequency of channel were selected to perform the test, and the selected channel see below:

Channel	Frequency
The lowest channel	2402MHz
The middle channel	2440MHz
The Highest channel	2480MHz

Note: Software PuTTY Configuration used to tested and power level is dafault.



3.2 Test mode

Transmitting mode	Keep the EUT in continuously transmitting mode.
<i>Remark: During the test, the test voltage was tuned from 85% to 115% of the nominal rated supply voltage, and found that the worst case was under the nominal rated supply condition. So the report just shows that condition's data.</i>	

3.3 Test Setup Configuration

Radiated Emission

EUT

Conducted Spurious

EUT

3.4 Support Equipment

The EUT has been tested as an independent unit together with other necessary accessories or support units. The following support units or accessories were used to form a representative test configuration during the tests.

Item	Equipment	Mfr/Brand	Model/Type No.	Series No.	Note
E-1	CBTMN10 BLE Module	N/A	CBTMN10	N/A	EUT
A-1	PC	HP	8770W	N/A	AE

Item	Shielded Type	Ferrite Core	Length	Note

Note:

- (1) The support equipment was authorized by Declaration of Confirmation.
- (2) For detachable type I/O cable should be specified the length in cm in 『Length』 column.



3.5 Test Instruments list

Radiation Test equipment

Item	Equipment	Manufacturer	Type No.	Serial No.	Last calibration	Calibrated until
1	Spectrum Analyzer (9kHz-26.5GHz)	KEYSIGHT	9020A	MY45109572	Sep. 22, 2021	Sep. 21, 2022
2	Spectrum Analyzer (1GHz-40GHz)	Agilent	E4446A	100363	Sep. 22, 2021	Sep. 21, 2022
3	Test Receiver (9kHz-7GHz)	R&S	ESCI7	101169	Sep. 22, 2021	Sep. 21, 2022
4	Bilog Antenna (30MHz-1400MHz)	Schwarzbeck	VULB9168	00877	Sep. 22, 2021	Sep. 21, 2022
5	Horn Antenna (1GHz-18GHz)	SCHWARZBEC K	BBHA9120D	1541	Sep. 22, 2021	Sep. 21, 2022
6	Horn Antenna (18GHz-40GHz)	A.H. System	SAS-574	588	Sep. 22, 2021	Sep. 21, 2022
7	Amplifier (30-1000MHz)	EM Electronics	EM330 Amplifier	N/A	Sep. 22, 2021	Sep. 21, 2022
8	Amplifier (1GHz-40GHz)	全聚达	DLE-161	097	Sep. 22, 2021	Sep. 21, 2022
9	Loop Antenna (9KHz-30MHz)	SCHWARZBEC K	FMZB1519B	014	Sep. 22, 2021	Sep. 21, 2022
10	RF cables1 (9kHz-30MHz)	N/A	9kHz-30MHz	N/A	Sep. 22, 2021	Sep. 21, 2022
11	RF cables2 (30MHz-1GHz)	N/A	30MHz-1GHz	N/A	Sep. 22, 2021	Sep. 21, 2022
12	RF cables3 (1GHz-40GHz)	N/A	1GHz-40GHz	N/A	Sep. 22, 2021	Sep. 21, 2022
13	CMW500 Test	R&S	CMW500	106504	Sep. 22, 2021	Sep. 21, 2022
14	ESG Signal Generator	Agilent	E4421B	GB40051203	Sep. 22, 2021	Sep. 21, 2022
15	Signal Generator	Agilent	N5182A	MY47420215	Sep. 22, 2021	Sep. 21, 2022
16	D.C. Power Supply	LongWei	TPR-6405D	\	\	\
17	Software	Frad	EZ-EMC	FA-03A2 RE	\	\

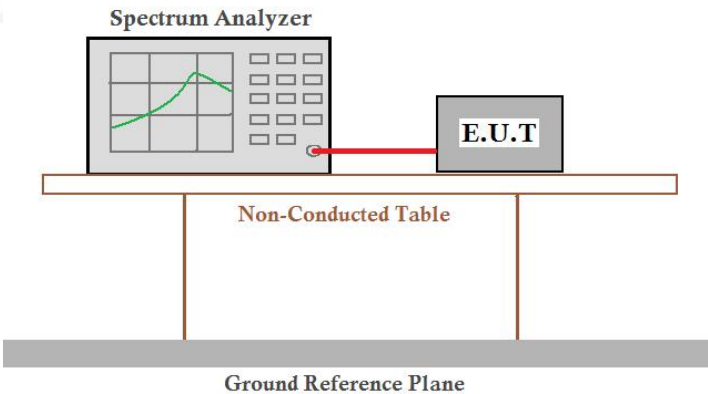
Conduction Test equipment

Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Last calibration	Calibrated until
1	LISN	R&S	ENV216	101471	Sep. 22, 2021	Sep. 21, 2022
2	LISN	CYBERTEK	EM5040A	E1850400149	Sep. 22, 2021	Sep. 21, 2022
3	Test Cable	N/A	C01	N/A	Sep. 22, 2021	Sep. 21, 2022
4	Test Cable	N/A	C02	N/A	Sep. 22, 2021	Sep. 21, 2022
5	EMI Test Receiver	R&S	ESRP3	101946	Sep. 22, 2021	Sep. 21, 2022
6	Absorbing Clamp	DZ	ZN23201	N/A	Sep. 22, 2021	Sep. 21, 2022



4 Test Items for DTS

4.1 Conducted Peak Output Power

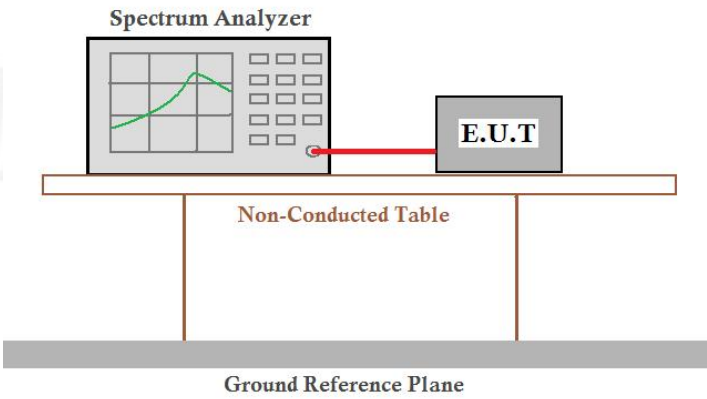
Test Requirement:	FCC Part15 C Section 15.247 (b)(3) RSS-247 § 5.4(d)
Test Method:	ANSI C63.10:2013 and KDB558074 D01 DTS Meas Guidance v05r02
Limit:	For DTSs employing digital modulation techniques operating in the bands 902-928 MHz and 2400-2483.5 MHz, the maximum peak conducted output power shall not exceed 1 W. The e.i.r.p. shall not exceed 4 W, except as provided in section 5.4(e).
Test setup:	
Test Instruments:	Refer to section 3.5 for details
Test mode:	TX mode
Test results:	Pass

Measurement Data

Please refer to the Appendix A



4.2 Channel Bandwidth

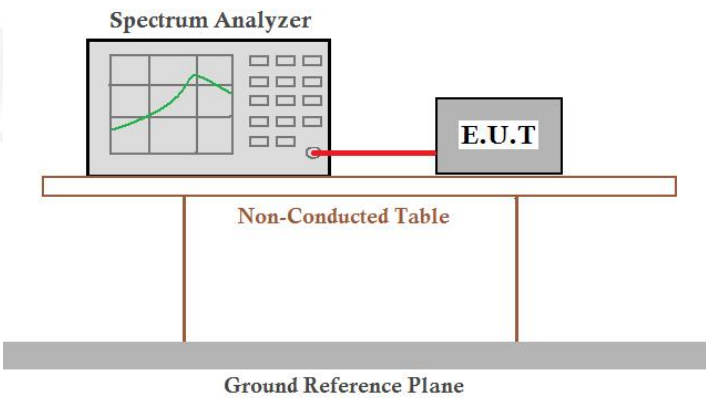
Test Requirement:	FCC Part15 C Section 15.247 (a)(2) RSS- Gen§6.7 , RSS-247 § 5.2 (a)
Test Method:	ANSI C63.10:2013 and KDB558074 D01 DTS Meas Guidance v05r02
Limit:	>500KHz
Test setup:	
Test Instruments:	Refer to section 3.5 for details
Test mode:	TX mode
Test results:	Pass

Measurement Data

Please refer to the Appendix A



4.3 Power Spectral Density

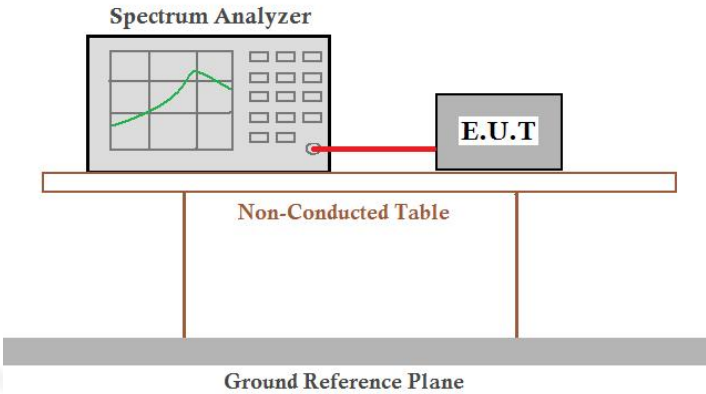
Test Requirement:	FCC Part15 C Section 15.247 (e) RSS-247 § 5.2 (b)
Test Method:	ANSI C63.10:2013 and KDB558074 D01 DTS Meas Guidance v05r02
Limit:	8dBm/3kHz
Test setup:	
Test Instruments:	Refer to section 3.5 for details
Test mode:	TX mode
Test results:	Pass

Measurement Data

Please refer to the Appendix A



4.4 Band edges

Test Requirement:	FCC Part15 C Section 15.247 (d) RSS-247 5.5
Test Method:	ANSI C63.10:2013 and KDB558074 D01 DTS Meas Guidance v05r02
Limit:	In any 100 kHz bandwidth outside the frequency band in which the spread spectrum 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.
Test setup:	
Test Instruments:	Refer to section 3.5 for details
Test mode:	TX mode
Test results:	Pass

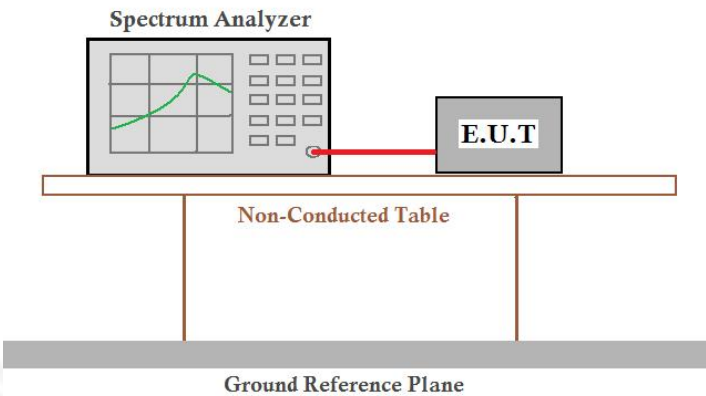
Measurement Data

Please refer to the Appendix A



4.5 Spurious Emission

Conducted Emission Method

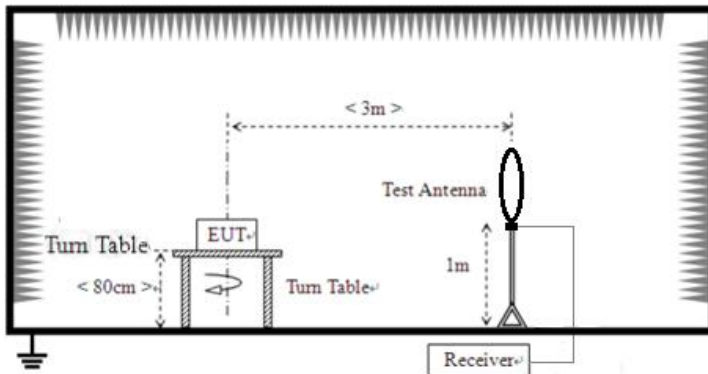
Test Requirement:	FCC Part15 C Section 15.247 (d) RSS-Gen 8.8
Test Method:	ANSI C63.10:2013 and KDB558074 D01 DTS Meas Guidance v05r02
Limit:	In any 100 kHz bandwidth outside the frequency band in which the spread spectrum intentional radiator is operating, the radio frequency power that is produced 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.
Test setup:	
Test Instruments:	Refer to section 3.5 for details
Test mode:	TX mode
Test results:	Pass

Measurement Data

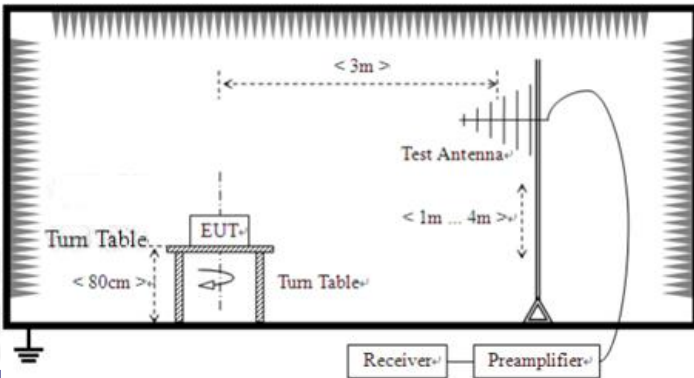
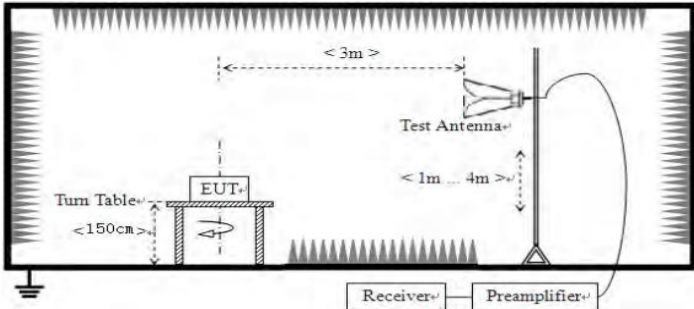
Please refer to the Appendix A



Radiated Emission Method

Test Requirement:	FCC Part15 C Section 15.209 RSS-GEN § 8.10 & RSS-247 § 5.5				
Test Method:	ANSI C63.10:2013				
Test Frequency Range:	9kHz to 25GHz				
Test site:	Measurement Distance: 3m				
Receiver setup:	Frequency	Detector	RBW	VBW	Value
	9KHz-150KHz	Quasi-peak	200Hz	600Hz	Quasi-peak
	150KHz-30MHz	Quasi-peak	9KHz	30KHz	Quasi-peak
	30MHz-1GHz	Quasi-peak	120KHz	300KHz	Quasi-peak
	Above 1GHz	Peak	1MHz	3MHz	Peak
		Peak	1MHz	10Hz	Average
Limit:	Frequency	Limit (uV/m)	Value	Measurement Distance	
	0.009MHz-0.490MHz	2400/F(KHz)	QP	300m	
	0.490MHz-1.705MHz	24000/F(KHz)	QP	30m	
	1.705MHz-30MHz	30	QP	30m	
	30MHz-88MHz	100	QP	3m	
	88MHz-216MHz	150	QP		
	216MHz-960MHz	200	QP		
	960MHz-1GHz	500	QP		
	Above 1GHz	500	Average		
		5000	Peak		
Test setup:	For radiated emissions from 9kHz to 30MHz				
					



	For radiated emissions from 30MHz to1GHz  For radiated emissions above 1GHz 					
Test Procedure:	1. The EUT was placed on the top of a rotating table (0.8m for below 1G and 1.5m for above 1G) above the ground at a 3 meter camber. The table was rotated 360 degrees to determine the position of the highest radiation. 2. The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower. 1. 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. 2. For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights from 1 meter to 4 meters and the rota table was turned from 0 degrees to 360 degrees to find the maximum reading. 3. The test-receiver system was set to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode. 4. 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 Instruments:	Refer to section 3.5 for details					
Test mode:	TX mode					
Test environment:	Temp.:	25 °C	Humid.:	52%	Press.:	1012mbar
Test results:	Pass					

Measurement data:



Remark:

Pre-scan all kind of the place mode (X-axis, Y-axis, Z-axis), and found the Y-axis which it is worse case.

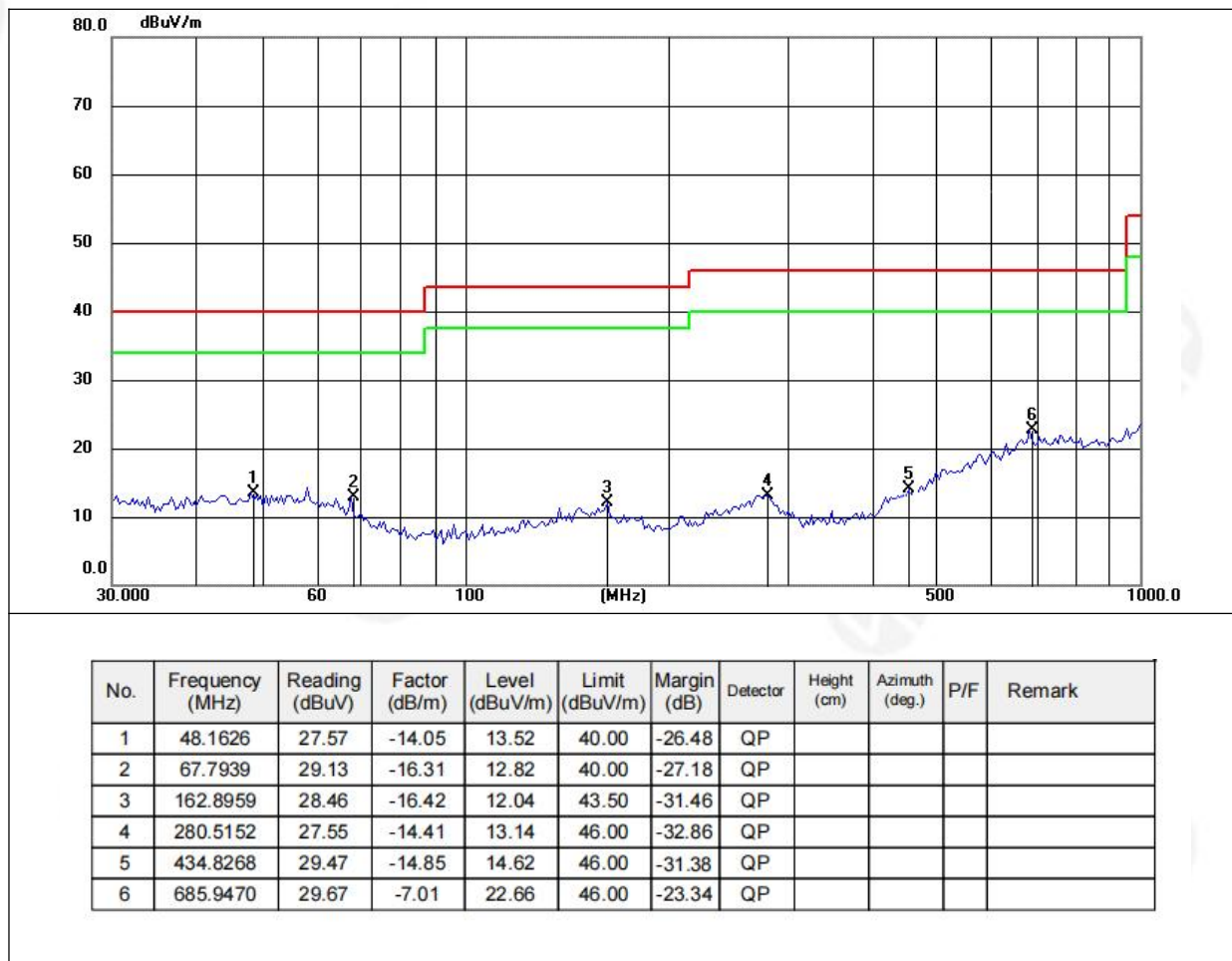
■ **9kHz~30MHz**

The low frequency, which started from 9 kHz to 30 MHz, was pre-scanned and the result which was 20 dB lower than the limit line per 15.31(o) was not reported.



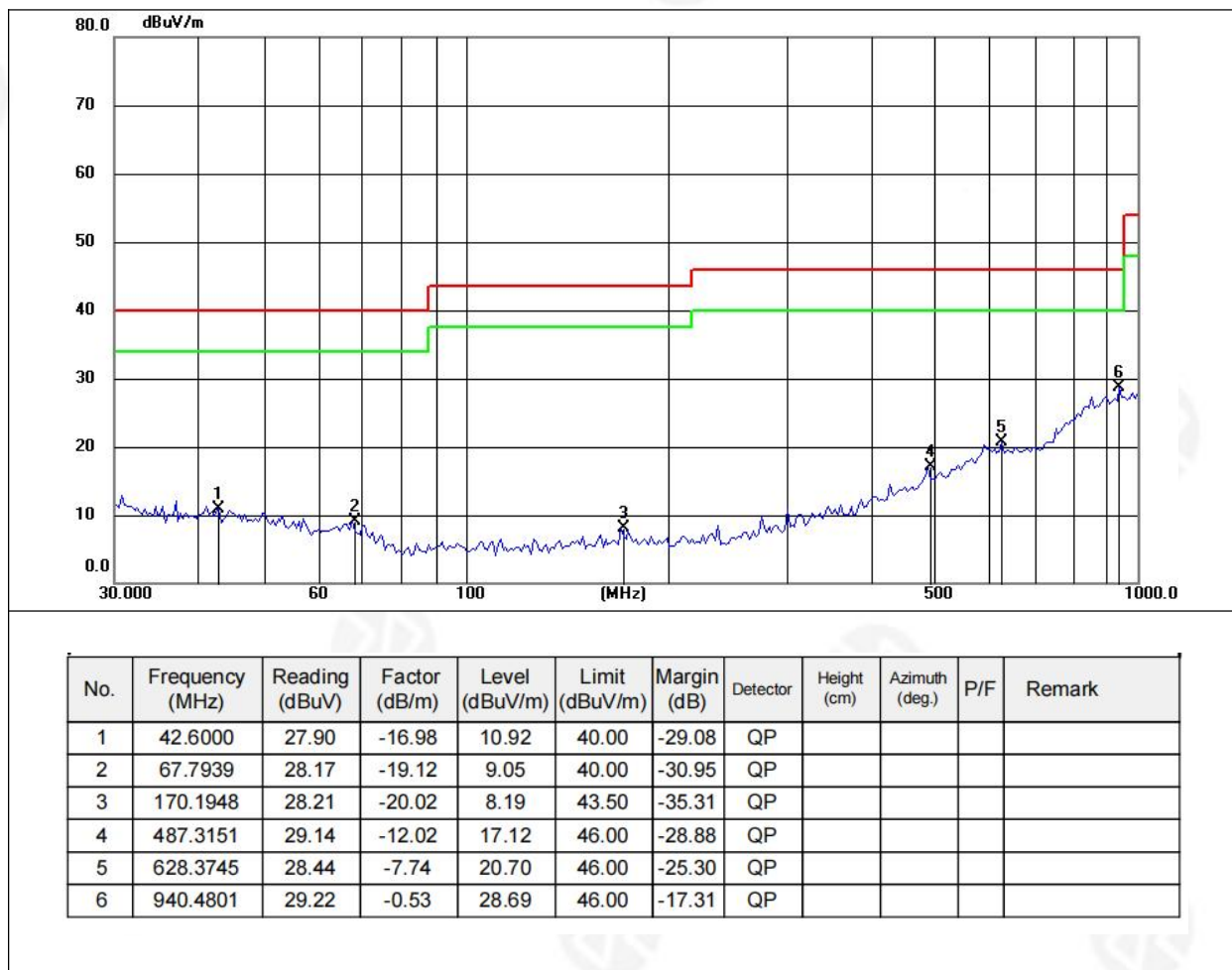
Between 30MHz – 1GHz

Temperature:	26℃	Relative Humidity:	54%
Pressure:	101 kPa	Polarization:	Horizontal
Test Voltage:	DC 3.3V		





Temperature:	26℃	Relative Humidity:	54%
Pressure:	101kPa	Polarization:	Vertical
Test Voltage:	DC 3.3V		



Remarks:

- 1.Final Level =Receiver Read level + Antenna Factor + Cable Loss – Preamplifier Factor
- 2.The emission levels of other frequencies are very lower than the limit and not show in test report.
- 3.The test data shows only the worst case GFSK mode



1GHz~25GHz

Polar (H/V)	Frequency	Meter Reading	Pre- amplifier	Cable Loss	Antenna Factor	Emission Level	Limits	Margin	Detector Type
	(MHz)	(dBuV)	(dB)	(dB)	(dB)	(dBuV/m)	(dBuV/m)	(dB)	
Low Channel:2402MHz									
V	4804.00	55.36	30.55	5.77	24.66	55.24	74.00	-18.76	Pk
V	4804.00	47.52	30.55	5.77	24.66	47.40	54.00	-6.60	AV
V	7206.00	51.63	30.33	6.32	27.32	54.94	74.00	-19.06	Pk
V	7206.00	42.05	30.33	6.32	27.32	45.36	54.00	-8.64	AV
V	9608.00	46.96	30.85	7.45	28.69	52.25	74.00	-21.75	Pk
V	9608.00	37.59	30.85	7.45	28.69	42.88	54.00	-11.12	AV
V	12010.00	43.29	31.02	8.99	29.87	51.13	74.00	-22.87	Pk
V	12010.00	33.21	31.02	8.99	29.87	41.05	54.00	-12.95	AV
H	4804.00	55.36	30.55	5.77	24.66	55.24	74.00	-18.76	Pk
H	4804.00	44.19	30.55	5.77	24.66	44.07	54.00	-9.93	AV
H	7206.00	51.31	30.33	6.32	27.32	54.62	74.00	-19.38	Pk
H	7206.00	40.02	30.33	6.32	27.32	43.33	54.00	-10.67	AV
H	9608.00	46.31	30.85	7.45	28.69	51.60	74.00	-22.40	Pk
H	9608.00	38.19	30.85	7.45	28.69	43.48	54.00	-10.52	AV
H	12010.00	43.27	31.02	8.99	29.87	51.11	74.00	-22.89	Pk
H	12010.00	36.13	31.02	8.99	29.87	43.97	54.00	-10.03	AV
Middle Channel:2440MHz									
V	4880.00	56.24	30.55	5.77	24.69	56.15	74.00	-17.85	Pk
V	4880.00	45.12	30.55	5.77	24.69	45.03	54.00	-8.97	AV
V	7320.00	49.63	30.33	6.32	27.58	53.20	74.00	-20.80	Pk
V	7320.00	39.13	30.33	6.32	27.58	42.70	54.00	-11.30	AV
V	9760.00	46.01	30.85	7.45	28.80	51.41	74.00	-22.59	Pk
V	9760.00	36.66	30.85	7.45	28.80	42.06	54.00	-11.94	AV
V	12200.00	42.47	31.02	8.99	30.71	51.15	74.00	-22.85	Pk
V	12200.00	33.16	31.02	8.99	30.71	41.84	54.00	-12.16	AV
H	4880.00	55.32	30.55	5.77	24.69	55.23	74.00	-18.77	Pk
H	4880.00	46.01	30.55	5.77	24.69	45.92	54.00	-8.08	AV
H	7320.00	44.47	30.33	6.32	27.58	48.04	74.00	-25.96	Pk
H	7320.00	39.16	30.33	6.32	27.58	42.73	54.00	-11.27	AV
H	9760.00	45.16	30.85	7.45	28.80	50.56	74.00	-23.44	Pk
H	9760.00	37.01	30.85	7.45	28.80	42.41	54.00	-11.59	AV
H	12200.00	42.47	31.02	8.99	29.95	50.39	74.00	-23.61	Pk
H	12200.00	33.69	31.02	8.99	29.95	41.61	54.00	-12.39	AV
High Channel:2480MHz									
V	4960.00	55.47	30.55	5.77	24.73	55.42	74.00	-18.58	Pk
V	4960.00	44.16	30.55	5.77	24.73	44.11	54.00	-9.89	AV
V	7440.00	50.14	30.33	6.32	27.76	53.89	74.00	-20.11	Pk
V	7440.00	40.19	30.33	6.32	27.76	43.94	54.00	-10.06	AV
V	9920.00	47.10	30.85	7.45	28.90	52.60	74.00	-21.40	Pk
V	9920.00	37.16	30.85	7.45	28.90	42.66	54.00	-11.34	AV
V	12400.00	43.47	31.02	8.99	30.06	51.50	74.00	-22.50	Pk
V	12400.00	35.00	31.02	8.99	30.06	43.03	54.00	-10.97	AV
H	4960.00	50.37	30.55	5.77	24.73	50.32	74.00	-23.68	Pk
H	4960.00	42.10	30.55	5.77	24.73	42.05	54.00	-11.95	AV
H	7440.00	51.26	30.33	6.32	27.76	55.01	74.00	-18.99	Pk
H	7440.00	41.97	30.33	6.32	27.76	45.72	54.00	-8.28	AV
H	9920.00	47.47	30.85	7.45	28.90	52.97	74.00	-21.03	Pk



H	9920.00	37.15	30.85	7.45	28.90	42.65	54.00	-11.35	AV
H	12400.00	44.44	31.02	8.99	30.06	52.47	74.00	-21.53	Pk
H	12400.00	35.36	31.02	8.99	30.06	43.39	54.00	-10.61	AV

Remark:

1. Emission Level = Meter Reading + Antenna Factor + Cable Loss – Pre-amplifier,
Margin= Emission Level - Limit
2. If peak below the average limit, the average emission was no test.
3. The amplitude of spurious emissions which are attenuated by more than 20dB below the permissible value has no need to be reported.



RADIATED Band EMISSION

	Polar (H/V)	Frequenc y (MHz)	Meter Reading (dBuV)	Pre- amplifier (dB)	Cable Loss (dB)	Antenna Factor (dB/m)	Emission level (dBuV/m)	Limit (dBuV /m)	Detec tor Type	Result
GFSK	Low Channel: 2402MHz									
	H	2390.00	52.16	30.22	4.85	23.98	50.77	74.00	PK	PASS
	H	2390.00	43.29	30.22	4.85	23.98	41.90	54.00	AV	PASS
	H	2400.00	54.21	30.22	4.85	23.98	52.82	74.00	PK	PASS
	H	2400.00	43.52	30.22	4.85	23.98	42.13	54.00	AV	PASS
	V	2390.00	53.29	30.22	4.85	23.98	51.90	74.00	PK	PASS
	V	2390.00	43.28	30.22	4.85	23.98	41.89	54.00	AV	PASS
	V	2400.00	53.41	30.22	4.85	23.98	52.02	74.00	PK	PASS
	V	2400.00	44.19	30.22	4.85	23.98	42.80	54.00	AV	PASS
	High Channel: 2480MHz									
	H	2483.50	54.36	30.22	4.85	23.98	52.97	74.00	PK	PASS
	H	2483.50	43.96	30.22	4.85	23.98	42.57	54.00	AV	PASS
	H	2500.00	53.98	30.22	4.85	23.98	52.59	74.00	PK	PASS
	H	2500.00	44.20	30.22	4.85	23.98	42.81	54.00	AV	PASS
	V	2483.50	53.03	30.22	4.85	23.98	51.64	74.00	PK	PASS
	V	2483.50	43.85	30.22	4.85	23.98	42.46	54.00	AV	PASS
	V	2500.00	52.41	30.22	4.85	23.98	51.02	74.00	PK	PASS
	V	2500.00	43.26	30.22	4.85	23.98	41.87	54.00	AV	PASS
Remark: 1. Emission Level = Meter Reading + Antenna Factor + Cable Loss – Pre-amplifier, Margin= Emission Level - Limit										



5. Antenna Requirement

Standard requirement:	FCC Part15 C Section 15.203 /247(c) RSS-Gen 6.8
15.203 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(c) (1)(i) requirement: (i) Systems operating in the 2400-2483.5 MHz band that is used exclusively for fixed. Point-to-point operations may employ transmitting antennas with directional gain greater than 6dBi provided the maximum conducted output power of the intentional radiator is reduced by 1 dB for every 3 dB that the directional gain of the antenna exceeds 6dBi.	
EUT Antenna:	
The antenna is PCB antenna, the best case gain of the antennas is 1.627dBi, reference to the appendix II for details	



6. Test Setup Photo

Reference to the appendix I for details.

7. EUT Constructional Details

Reference to the appendix II for details.



8. Appendix A

8.1 Bandwidth

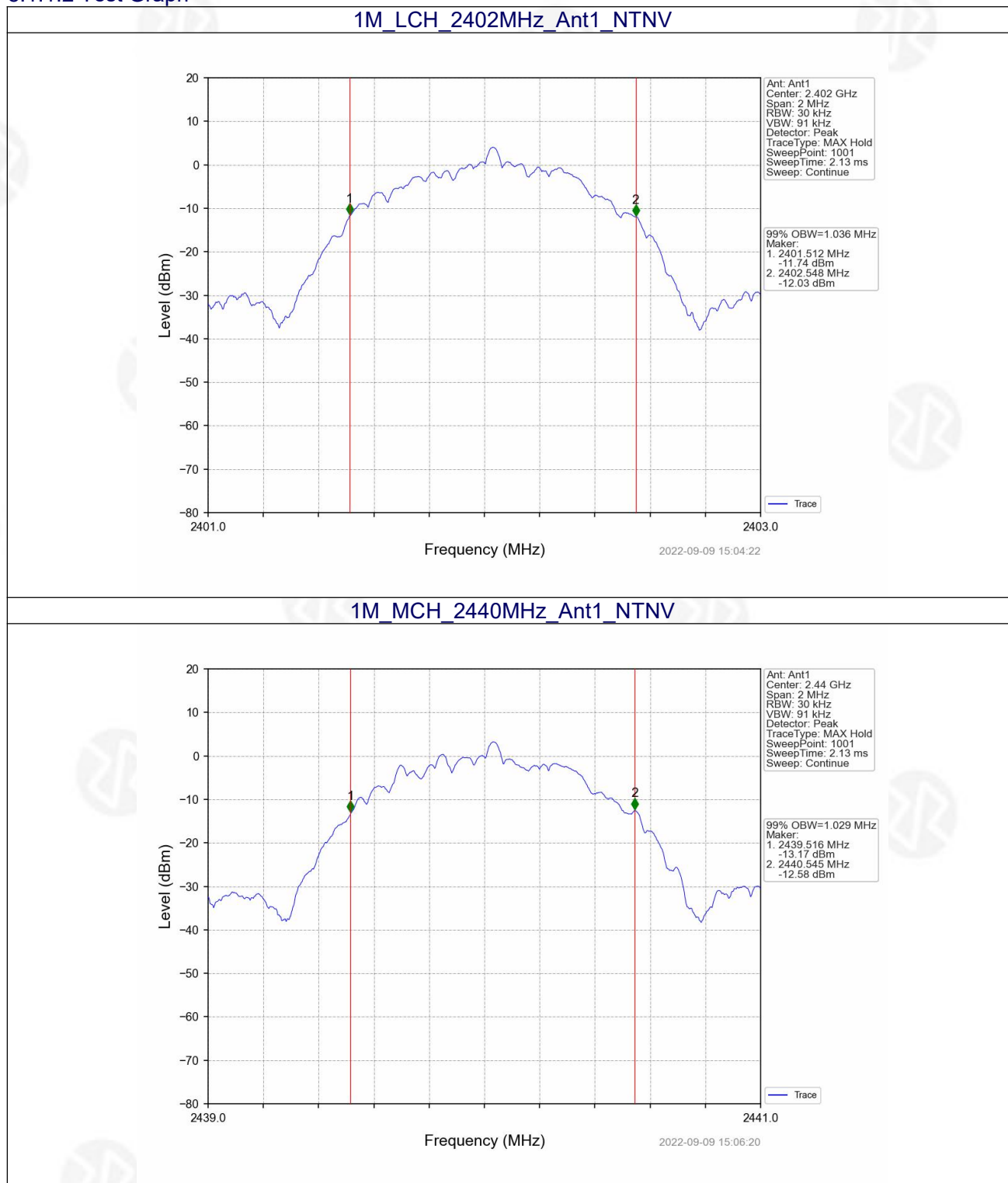
8.1.1 OBW

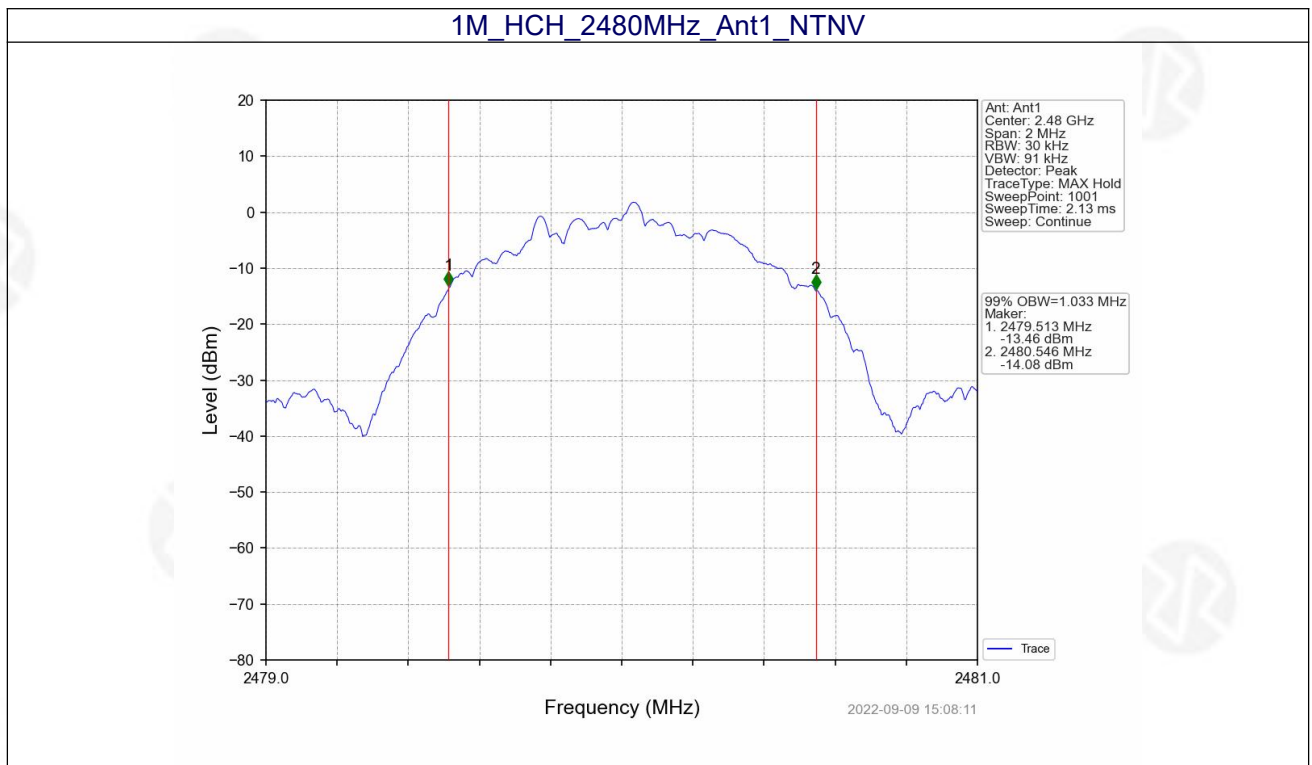
8.1.1.1 Test Result

Mode	TX Type	Frequency (MHz)	ANT	99% Occupied Bandwidth (MHz)	Verdict
				Result	
1M	SISO	2402	1	1.036	Pass
		2440	1	1.029	Pass
		2480	1	1.033	Pass



8.1.1.2 Test Graph







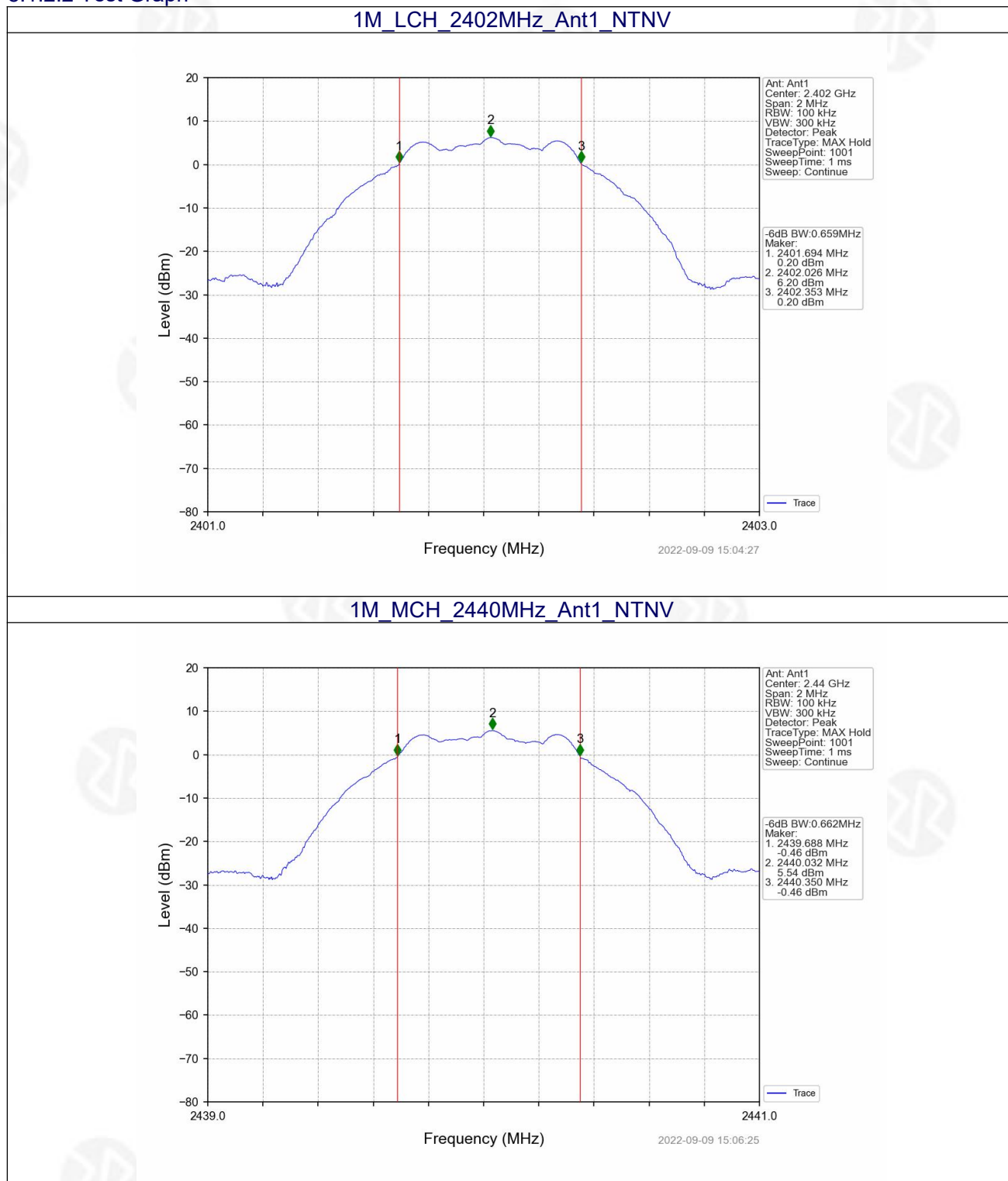
8.1.2 6dB BW

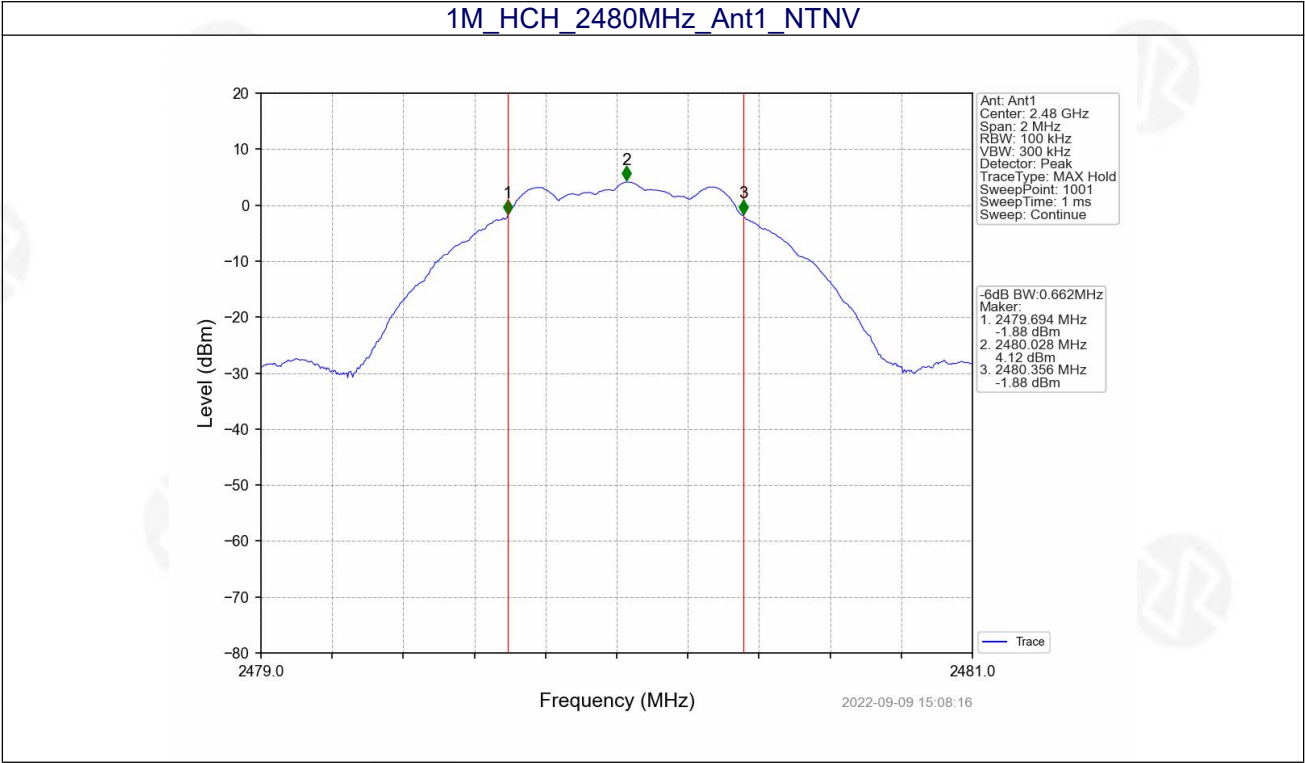
8.1.2.1 Test Result

Mode	TX Type	Frequency (MHz)	ANT	6dB Bandwidth (MHz)		Verdict
				Result	Limit	
1M	SISO	2402	1	0.659	≥ 0.5	Pass
		2440	1	0.662	≥ 0.5	Pass
		2480	1	0.662	≥ 0.5	Pass



8.1.2.2 Test Graph







8.2 Maximum Conducted Output Power

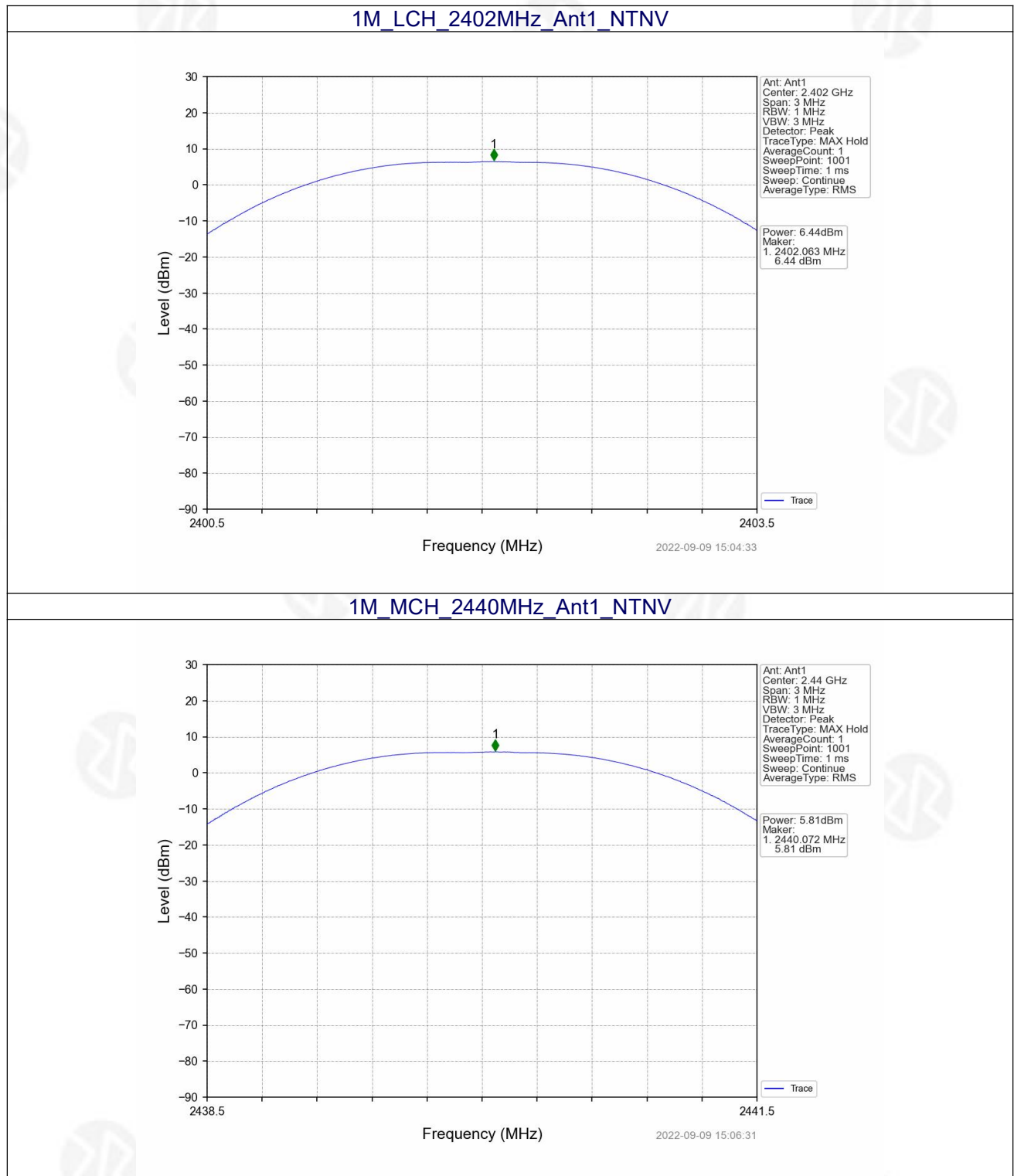
8.2.1 Power

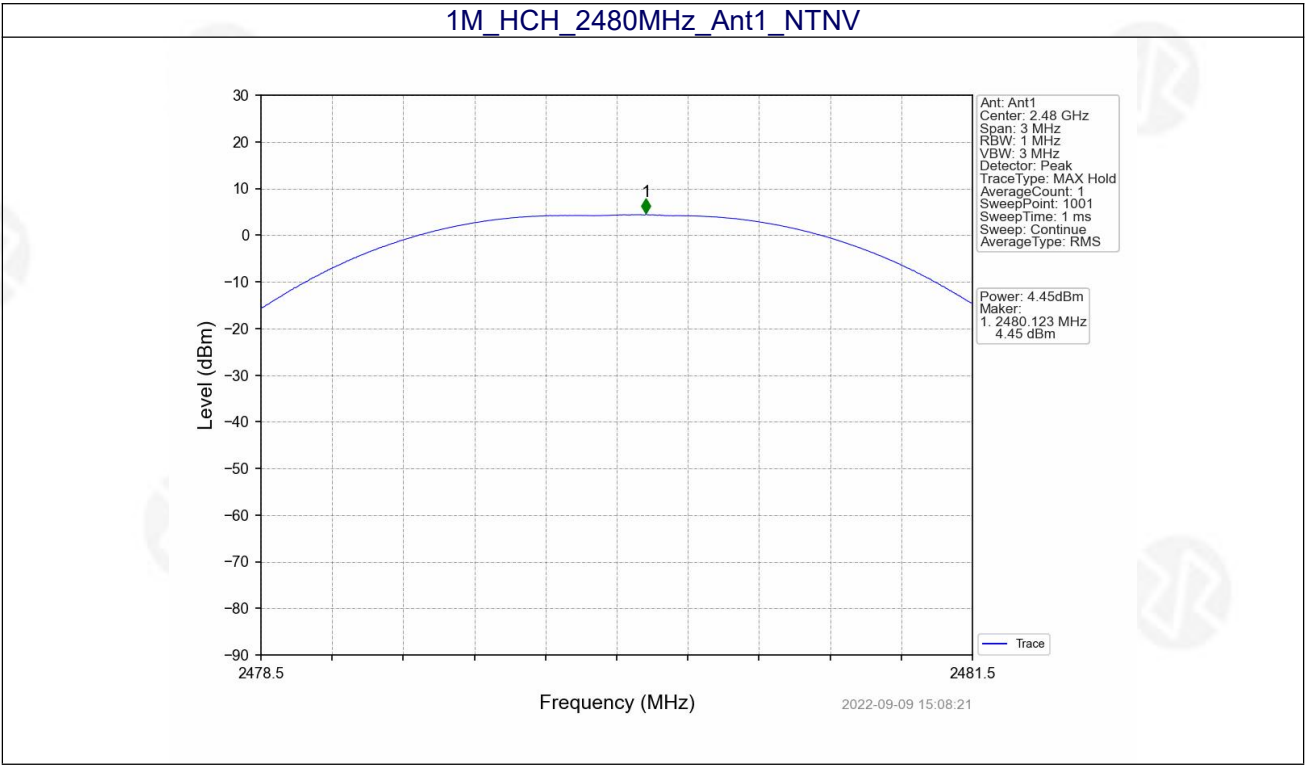
8.2.1.1 Test Result

Mode	TX Type	Frequency (MHz)	Maximum Peak Conducted Output Power (dBm)		Verdict
			ANT1	Limit	
1M	SISO	2402	6.44	<=30	Pass
		2440	5.81	<=30	Pass
		2480	4.45	<=30	Pass
Note1: Antenna Gain: Ant1: 1.6270dBi:					



8.2.1.2 Test Graph







8.3 EIRP

8.3.1 Test Result

Mode	TX Type	Frequency (MHz)	E.I.R.P (dBm)		Verdict
			ANT1	Limit	
1M	SISO	2402	8.067	<=36.02	Pass
		2440	7.437	<=36.02	Pass
		2480	6.077	<=36.02	Pass
Note1: Antenna Gain: Ant1: 1.627dBi; Note2: E.I.R.P = Measured Power + Antenna Gain					



8.4 Maximum Power Spectral Density

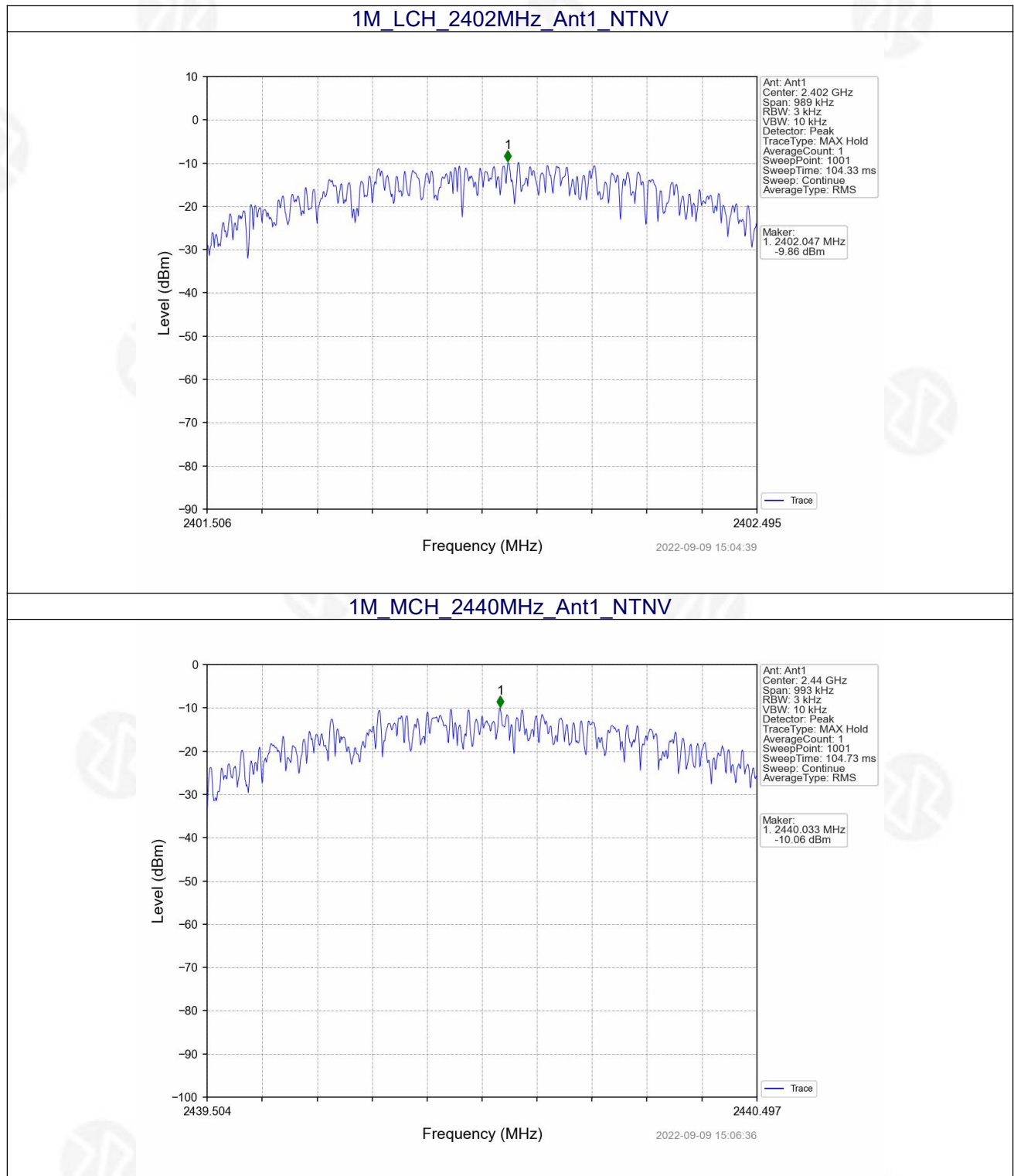
8.4.1 PSD

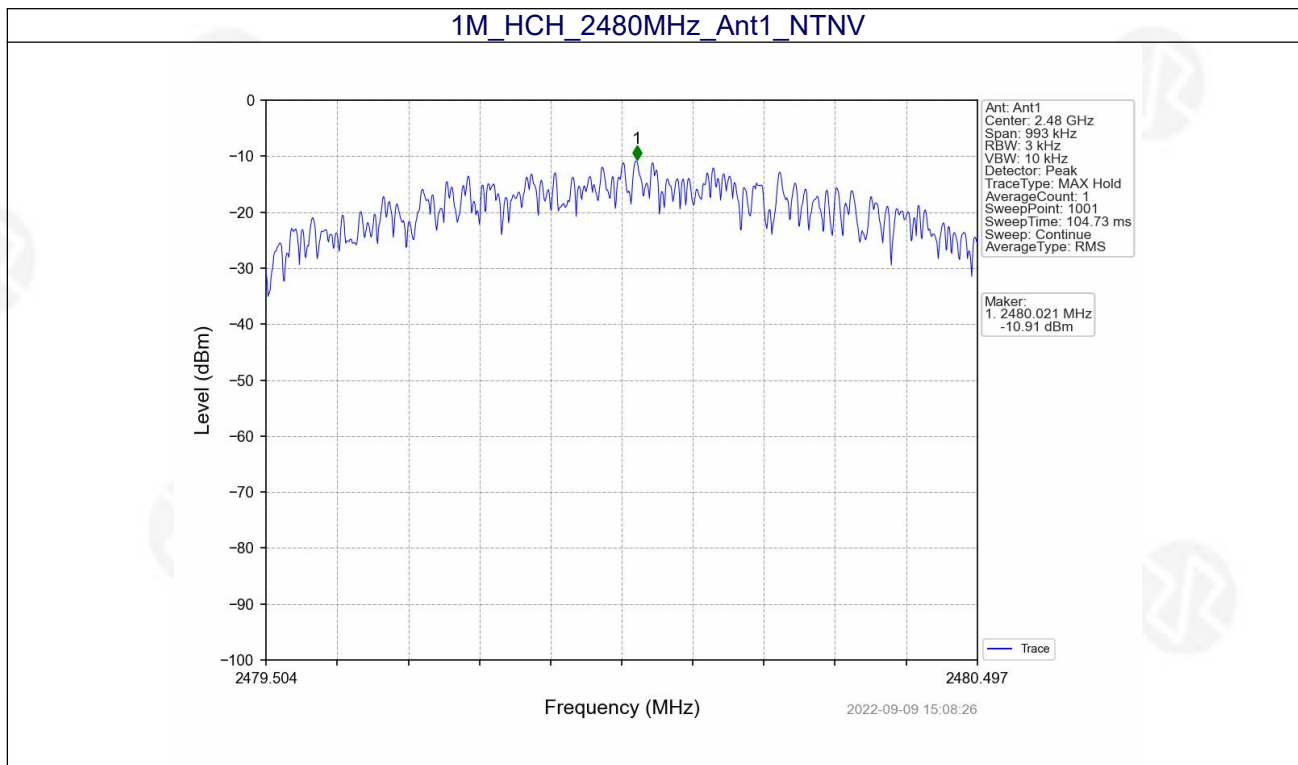
8.4.1.1 Test Result

Mode	TX Type	Frequency (MHz)	Maximum PSD (dBm/3kHz)		Verdict
			ANT1	Limit	
1M	SISO	2402	-9.86	<=8	Pass
		2440	-10.06	<=8	Pass
		2480	-10.91	<=8	Pass
Note1: Antenna Gain: Ant1: 1.627dBi:					



8.4.1.2 Test Graph







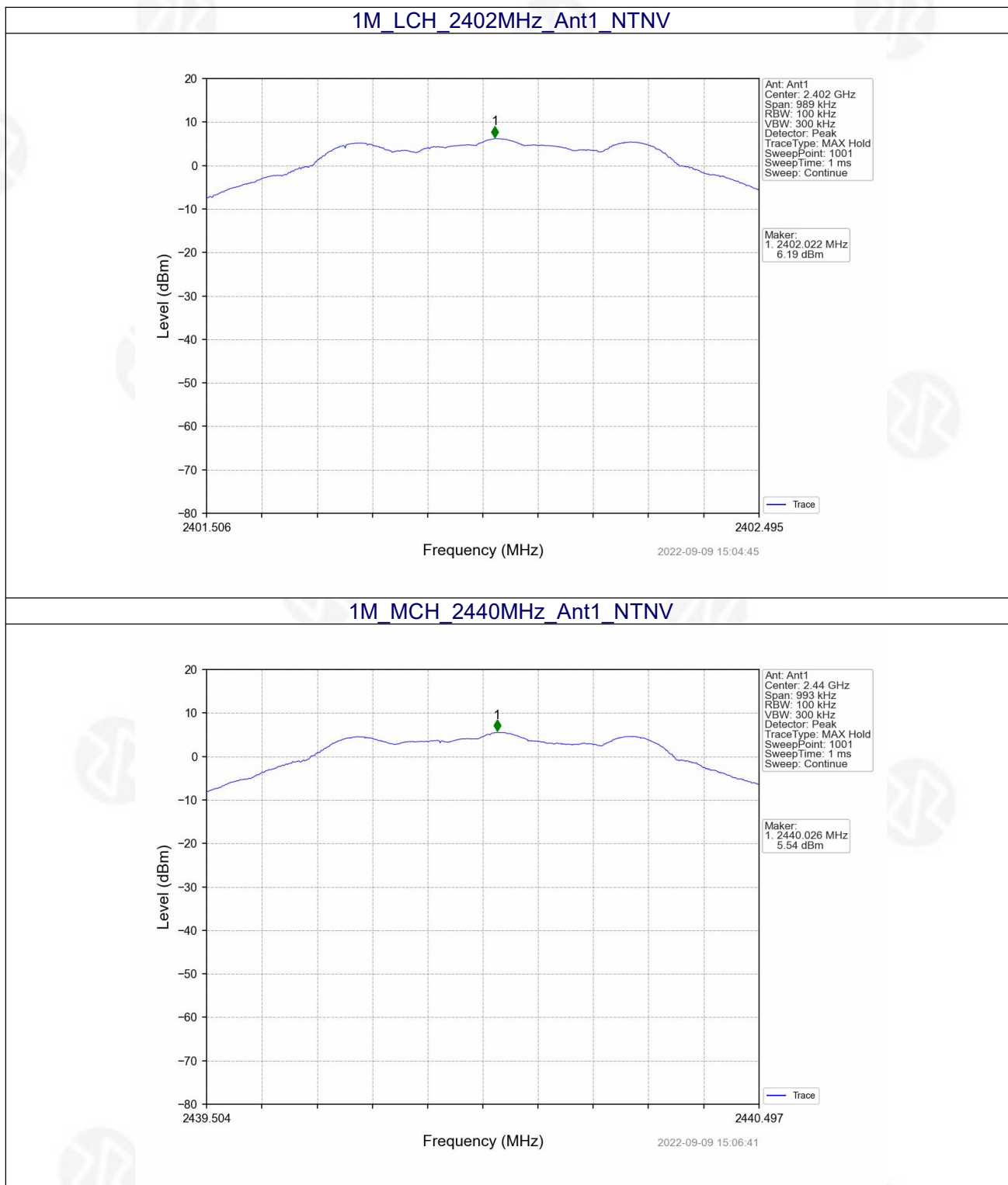
8.5 Unwanted Emissions InStandard Non-restricted Frequency Bands

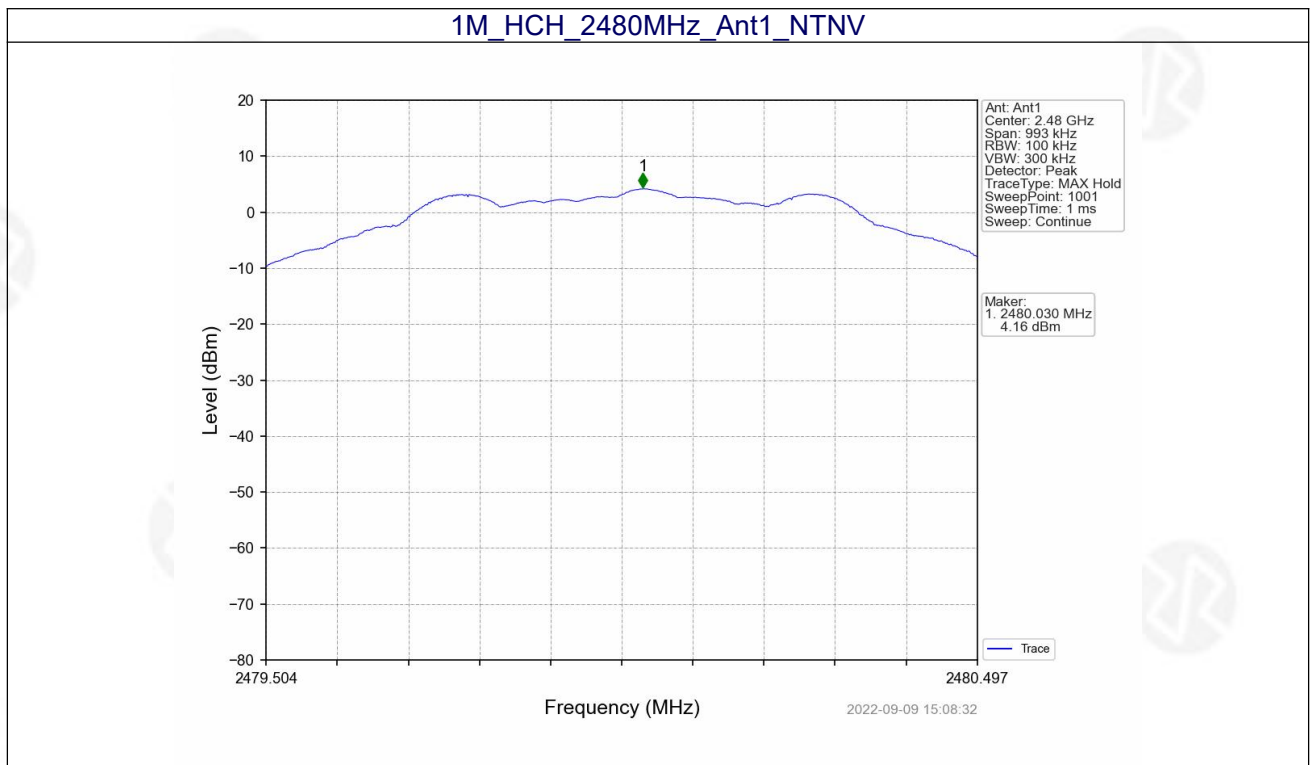
8.5.1.1 Test Result

Mode	TX Type	Frequency (MHz)	ANT	Level of Reference (dBm)
1M	SISO	2402	1	6.19
		2440	1	5.54
		2480	1	4.16
Note1: Refer to RSS-247 Issue 2 section 5.5 and ANSI C63.10-2013, the channel contains the maximum PSD level was used to establish the reference level. Note2: RBW = 1MHz was used during the pre-test. The final test will be performed at RBW=100kHz while the margin is less than 3dB.				



8.5.1.2 Test Graph







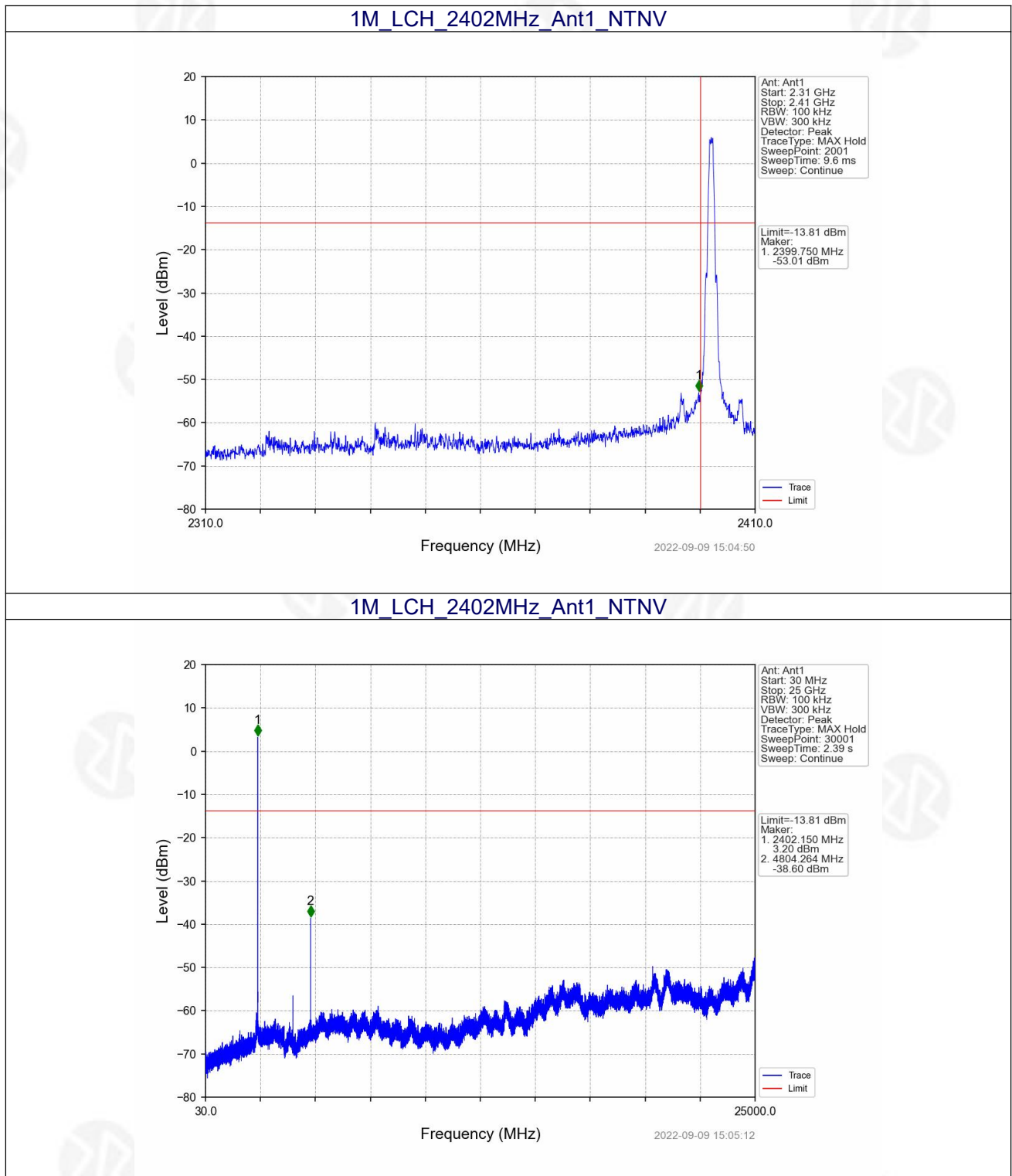
8.6 Conducted BAND EDGE and Spurious Emission

8.6.1 Test Result

Mode	TX Type	Frequency (MHz)	ANT	Level of Reference (dBm)	Limit (dBm)	Verdict
1M	SISO	2402	1	6.19	-13.81	Pass
		2440	1	6.19	-13.81	Pass
		2480	1	6.19	-13.81	Pass
Note1: Refer to RSS-247 Issue 2 section 5.5 and ANSI C63.10-2013, the channel contains the maximum PSD level was used to establish the reference level.						
Note2: RBW = 1MHz was used during the pre-test. The final test will be performed at RBW=100kHz while the margin is less than 3dB.						

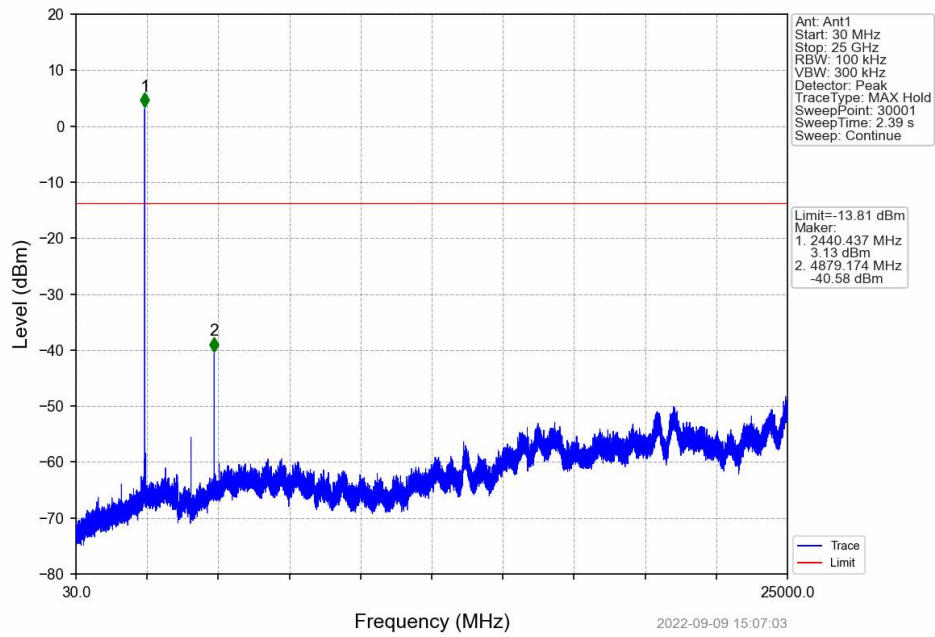


8.6.2 Test Graph

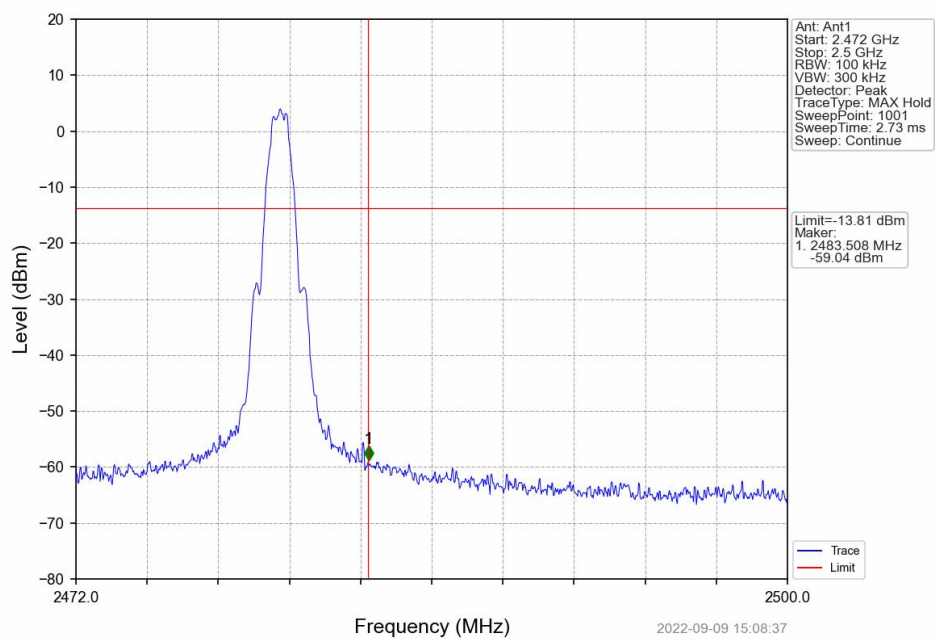


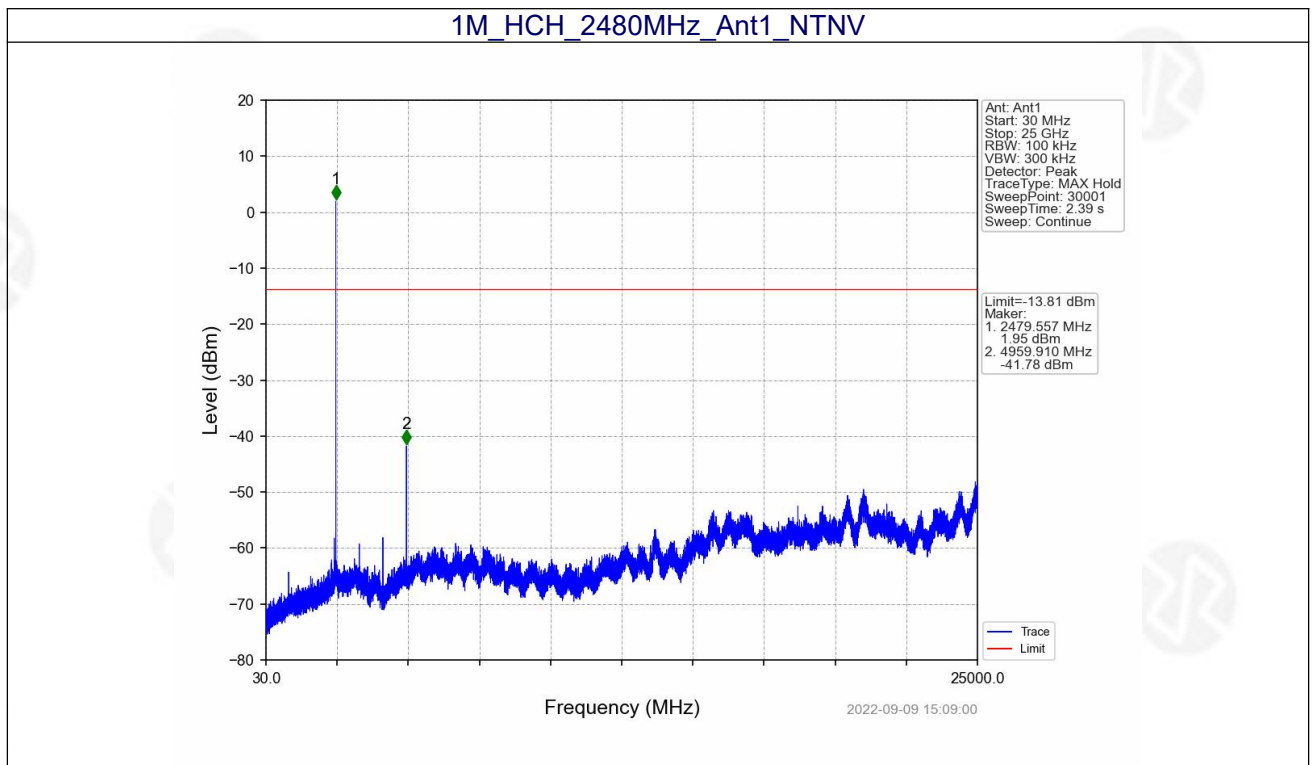


1M_MCH_2440MHz_Ant1_NTNV



1M_HCH_2480MHz_Ant1_NTNV





***** END OF REPORT *****