



CTC Laboratories, Inc.

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TEST REPORT

Report No.: **CTC2024193202**

FCC ID.....: **2A22Z-C203**

Applicant.....: **Botslab Inc.**

Address.....: 919 North Market Street, Suite 950, Wilmington, New Castle, Delaware, USA

Manufacturer.....: Botslab Inc.

Address.....: 919 North Market Street, Suite 950, Wilmington, New Castle, Delaware, USA

Product Name.....: **Battery Camera**

Trade Mark.....: Botslab

Model/Type reference.....: BC-2401-M3

Listed Model(s): BC-2401-M3-V0,BC-2401-M3-V1,BC-2401-M3-V2,BC-2401-M3-V3,BC-2401-M3-V4,BC-2401-M3-V5,BC-2401-M3-V6,BC-2401-M3-V7,BC-2401-M3-V8,BC-2401-M3-V9

Standard.....: **FCC CFR Title 47 Part 15 Subpart C Section 15.247**

Date of receipt of test sample...: Aug. 07, 2024

Date of testing.....: Aug. 08, 2024 ~ Aug. 17, 2024

Date of issue.....: Sep. 18, 2024

Result.....: **PASS**

Compiled by:

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(Printed name+signature) Eric Zhang

Approved by:

(Printed name+signature) Totti Zhao

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1. TEST SUMMARY

1.1. Test Standards

The tests were performed according to following standards:

[FCC Rules Part 15.247](#): Operation within the bands of 902-928MHz, 2400-2483.5MHz, and 5725-5850MHz.

[ANSI C63.10-2013](#): American National Standard for Testing Unlicensed Wireless Devices.

1.2. Report Version

Revised No.	Report No.	Date of issue	Description
01	CTC2024193202	Sep. 18, 2024	Original

1.3. Test Description

FCC Part 15 Subpart C (15.247)			
Test Item	Standard Section	Result	Test Engineer
	FCC		
Antenna Requirement	15.203	Pass	Kyrie Ye
Conducted Emission	15.207	Pass	Cary
Band Edge Emissions	15.247(d)	Pass	Kyrie Ye
6dB Bandwidth	15.247(a)(2)	Pass	Kyrie Ye
Conducted Max Output Power	15.247(b)(3)	Pass	Kyrie Ye
Power Spectral Density	15.247(e)	Pass	Kyrie Ye
Transmitter Radiated Spurious	15.209&15.247(d)	Pass	Kyrie Ye

Note: The measurement uncertainty is not included in the test result.



1.4. Test Facility

CTC Laboratories, Inc.

Add: Room 101 of Building B, Room 107, 108, 207, 208 of Building A, No. 7, Lanqing 1st Road, Luhuhu Community, Guanhu Subdistrict, Longhua District, Shenzhen, Guangdong, China

Laboratory accreditation

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

A2LA-Lab Cert. No.: 4340.01

CTC Laboratories, Inc. EMC Laboratory has been accredited by A2LA for technical competence in the field of electrical testing, and proved to be in compliance with ISO/IEC 17025:2017 General Requirements for the Competence of Testing and Calibration Laboratories and any additional program requirements in the identified field of testing.

Industry Canada (Registration No.: 9783A, CAB Identifier: CN0029)

CTC Laboratories, Inc. EMC Laboratory has been registered by Certification and Engineer Bureau of Industry Canada for the performance of with Registration NO.: 9783A on Jan, 2016.

FCC (Registration No.: 951311, Designation Number CN1208)

CTC Laboratories, Inc. EMC Laboratory has been registered and fully described in a report filed with the (FCC) Federal Communications Commission. The acceptance letter from the FCC is maintained in our files. Registration 951311, Aug 26, 2017.

1.5. Measurement Uncertainty

The data and results referenced in this document are true and accurate. The reader is cautioned that there may be errors within the calibration limits of the equipment and facilities. The measurement uncertainty was calculated for all measurements listed in this test report acc. to TR-100028-01 "Electromagnetic compatibility and Radio spectrum Matters (ERM); Uncertainties in the measurement of mobile radio equipment characteristics; Part 1" and TR-100028-02 "Electromagnetic compatibility and Radio spectrum Matters (ERM); Uncertainties in the measurement of mobile radio equipment characteristics; Part 2" and is documented in the CTC Laboratories, Inc. quality system acc. to DIN EN ISO/IEC 17025. Furthermore, component and process variability of devices similar to that tested may result in additional deviation. The manufacturer has the sole responsibility of continued compliance of the device.

Below is the best measurement capability for CTC Laboratories, Inc.



Test Items	Measurement Uncertainty	Notes
Transmitter power conducted	0.42 dB	(1)
Transmitter power Radiated	2.14 dB	(1)
Conducted spurious emissions 9kHz~40GHz	1.60 dB	(1)
Radiated spurious emissions 9kHz~40GHz	2.20 dB	(1)
Conducted Emissions 9kHz~30MHz	3.20 dB	(1)
Radiated Emissions 30~1000MHz	4.70 dB	(1)
Radiated Emissions 1~18GHz	5.00 dB	(1)
Radiated Emissions 18~40GHz	5.54 dB	(1)
Occupied Bandwidth	-----	(1)

Note (1): This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of k=2.

1.6. Environmental Conditions

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

Temperature:	21°C~27°C
Relative Humidity:	40%~60%
Atmospheric Pressure:	101kPa



2. GENERAL INFORMATION

2.1. Client Information

Applicant:	Botslab Inc.
Address:	919 North Market Street, Suite 950, Wilmington, New Castle, Delaware, USA
Manufacturer:	Botslab Inc.
Address:	919 North Market Street, Suite 950, Wilmington, New Castle, Delaware, USA

2.2. General Description of EUT

Product Name:	Battery Camera
Trade Mark:	Botslab
Model/Type reference:	BC-2401-M3
Listed Model(s):	BC-2401-M3-V0,BC-2401-M3-V1,BC-2401-M3-V2,BC-2401-M3-V3,BC-2401-M3-V4,BC-2401-M3-V5,BC-2401-M3-V6,BC-2401-M3-V7,BC-2401-M3-V8,BC-2401-M3-V9
Model Difference:	All Listed Model(s) are same electrically identical as Tested Model Number. Only models name are different for market purpose.
Power supply:	DC5V 1A from AC/DC Adapter
Hardware version:	A60_BellCam_V3-1
Software version:	06.01.43/64

2.4G WIFI 802.11b/ g/ n(HT20)/ n(HT40)

Modulation:	802.11b: DSSS(CCK, DQPSK, DBPSK) 802.11g/n: OFDM(BPSK, QPSK, 16QAM, 64QAM)
Operation frequency:	802.11b/g/n(HT20): 2412MHz~2462MHz 802.11n(HT40): 2422MHz~2452MHz
Channel number:	802.11b/g/n(HT20): 11 channels 802.11n(HT40): 7 channels
Channel separation:	5MHz
Antenna type:	FPC
Antenna gain:	3.78dBi



2.3. Accessory Equipment Information

Equipment Information			
Name	Model	S/N	Manufacturer
Notebook	DESKTOP-SKJ3JH9	/	Lenovo
USB TO TTL	/	/	/
Cable Information			
Name	Shielded Type	Ferrite Core	Length
USB Cable	Unshielded	NO	100cm
Test Software Information			
Name	Version	/	/
sscom	5.13.1	/	/



2.4. Operation State

Operation Frequency List: The EUT has been tested under typical operating condition. The Applicant provides communication tools software to control the EUT for staying in continuous transmitting and receiving mode for testing.

Operation Frequency List:

Channel	Frequency (MHz)
01	2412
02	2417
03	2422
04	2427
05	2432
06	2437
07	2442
08	2447
09	2452
10	2457
11	2462

Note: CH 01~CH 11 for 802.11b/g/n(HT20), CH 03~CH 09 for 802.11n(HT40)

Data Rated

Preliminary tests were performed in different data rate, and found which the below bit rate is worst case mode, so only show data which it is a worst case mode.

Mode	Data rate (worst mode)
802.11b	1Mbps
802.11g	6Mbps
802.11n(HT20)	HT-MCS0
802.11n(HT40)	HT-MCS0

Test mode

For RF test items:
The engineering test program was provided and enabled to make EUT continuous transmit.
For AC power line conducted emissions:
The EUT was set to connect with the WLAN AP under large package sizes transmission.
For Radiated spurious emissions test item:
The engineering test program was provided and enabled to make EUT continuous transmit. The EUT in each of three orthogonal axis emissions had been tested, but only the worst case (X axis) data Recorded in the report.



2.5. Measurement Instruments List

RF Test System - SRD					
Item	Test Equipment	Manufacturer	Model No.	Serial No.	Calibrated Until
1	Spectrum Analyzer	R&S	FSV40-N	101331	Mar. 21, 2025
2	RF Control Unit	Tonscend	JS0806-2	/	Aug. 22, 2024
3	Test Software	Tonscend	JS1120-3	V2.6.88.0346	/

Radiated emission					
Item	Test Equipment	Manufacturer	Model No.	Serial No.	Calibrated Until
1	Trilog-Broadband Antenna	Schwarzbeck	VULB 9163	01026	Dec. 18, 2024
2	Horn Antenna	Schwarzbeck	BBHA 9120D	9120D-647	Sep. 25, 2025
3	Test Receiver	Keysight	N9038A	MY56400071	Dec. 12, 2024
4	Broadband Amplifier	SCHWARZBECK	BBV9743B	259	Dec. 12, 2024
5	Mirowave Broadband Amplifier	SCHWARZBECK	BBV9718C	111	Dec. 12, 2024
6	3m chamber 3	YIHENG	EE106	/	Aug. 28, 2026
7	Test Software	FARA	EZ-EMC	FA-03A2	/

Conducted emission					
Item	Test Equipment	Manufacturer	Model No.	Serial No.	Calibrated until
1	LISN	R&S	ENV216	101112	Dec. 12, 2024
2	LISN	R&S	ENV216	101113	Dec. 12, 2024
3	EMI Test Receiver	R&S	ESCS30	100353	Dec. 12, 2024
4	ISN CAT6	Schwarzbeck	NTFM 8158	CAT6-8158-0046	Dec. 12, 2024
5	ISN CAT5	Schwarzbeck	NTFM 8158	CAT5-8158-0046	Dec. 12, 2024
6	Test Software	R&S	EMC32	6.10.10	/

Note:

1. The Cal. Interval was one year.
2. The cable loss has calculated in test result which connection between each test instruments.

3. TEST ITEM AND RESULTS

3.1. Conducted Emission

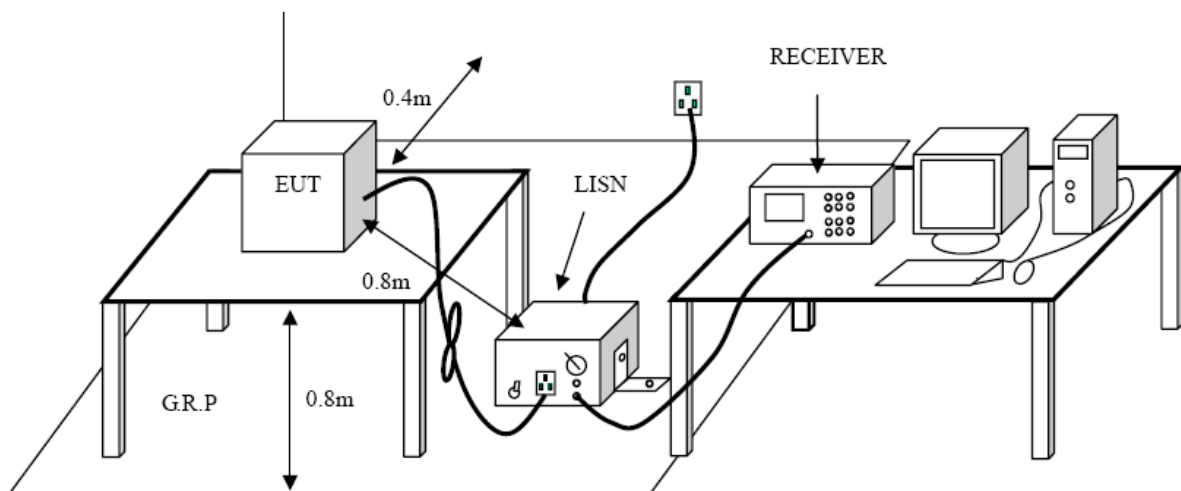
Limit

FCC CFR Title 47 Part 15 Subpart C Section 15.207:

Frequency range (MHz)	Limit (dBuV)	
	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.

Test Configuration



Test Procedure

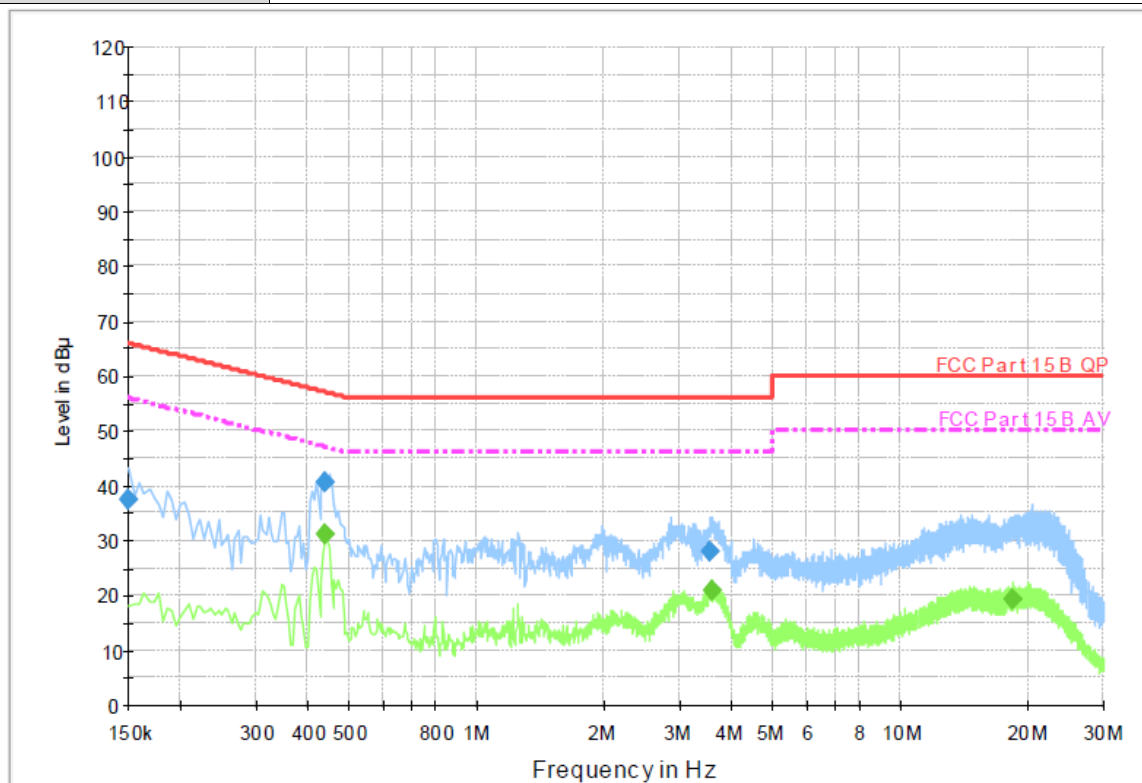
1. The EUT was setup according to ANSI C63.10:2013 requirements.
2. The EUT was placed on a platform of nominal size, 1 m by 1.5 m, raised 80 cm above the conducting ground plane. The vertical conducting plane was located 40 cm to the rear of the EUT. All other surfaces of EUT were at least 80 cm from any other grounded conducting surface.
3. The EUT and simulators are connected to the main power through a line impedances stabilization network (LISN). The LISN provides a 50ohm /50uH coupling impedance for the measuring equipment. The peripheral devices are also connected to the main power through a LISN. (Please refer to the block diagram of the test setup and photographs)
4. Each current-carrying conductor of the EUT power cord, except the ground (safety) conductor, was individually connected through a LISN to the input power source.
5. The excess length of the power cord between the EUT and the LISN receptacle were folded back and forth at the center of the lead to form a bundle not exceeding 40 cm in length.
6. Conducted Emissions were investigated over the frequency range from 0.15MHz to 30MHz using a receiver bandwidth of 9 kHz.
7. During the above scans, the emissions were maximized by cable manipulation.

**Test Mode:**

Please refer to the clause 2.4.

Test Results

Test Voltage:	AC 120V/60 Hz
Terminal:	Line
Remark:	Only worse case is reported.

**Final Measurement Detector 1**

Frequency (MHz)	QuasiPeak (dBμ V)	Meas. Time (ms)	Bandwidth (kHz)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBμ V)	Comment
0.150000	37.3	1000.00	9.000	On	L1	9.5	28.7	66.0	
0.438000	40.6	1000.00	9.000	On	L1	9.5	16.5	57.1	
3.520500	28.2	1000.00	9.000	On	L1	9.5	27.8	56.0	

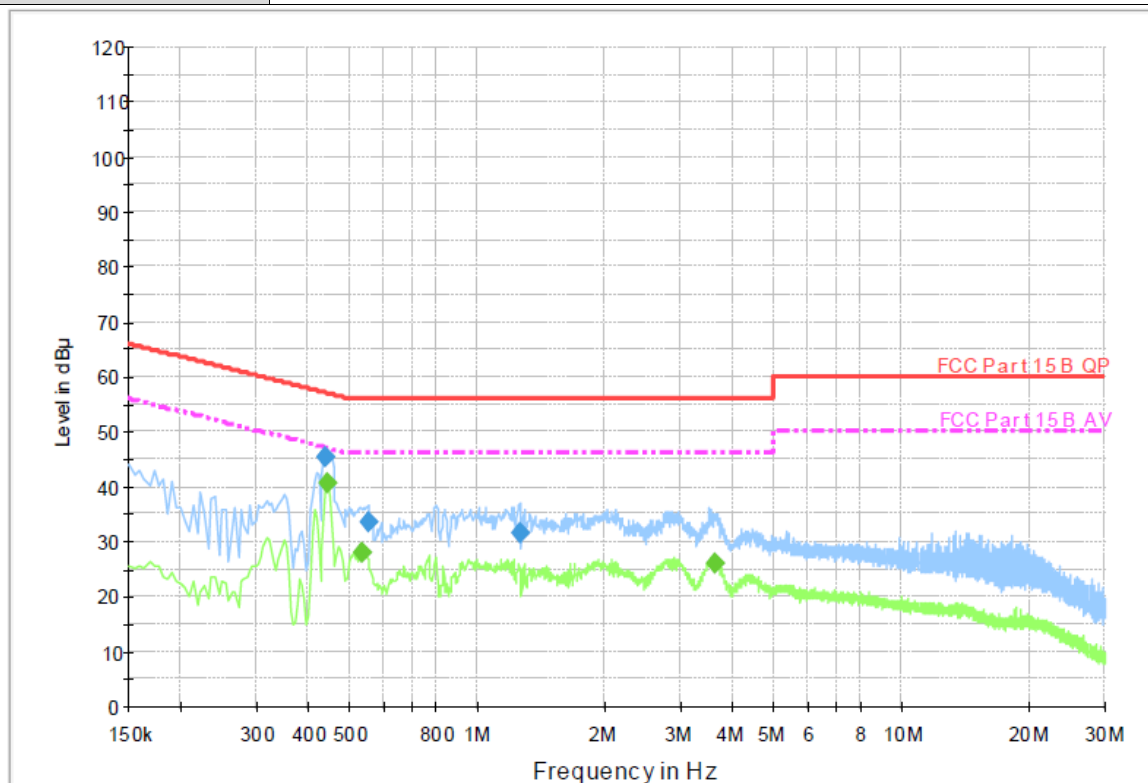
Final Measurement Detector 2

Frequency (MHz)	Average (dBμ V)	Meas. Time (ms)	Bandwidth (kHz)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBμ V)	Comment
0.438000	31.3	1000.00	9.000	On	L1	9.5	15.8	47.1	
3.592500	20.8	1000.00	9.000	On	L1	9.5	25.2	46.0	
18.285000	19.5	1000.00	9.000	On	L1	9.7	30.5	50.0	

Emission Level= Read Level+ Correct Factor



Test Voltage:	AC 120V/60 Hz
Terminal:	Neutral
Remark:	Only worse case is reported.



Final Measurement Detector 1

Frequency (MHz)	QuasiPeak (dBμ V)	Meas. Time (ms)	Bandwidth (kHz)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBμ V)	Comment
0.438000	45.2	1000.00	9.000	On	N	9.4	11.9	57.1	
0.550500	33.7	1000.00	9.000	On	N	9.4	22.3	56.0	
1.252500	31.5	1000.00	9.000	On	N	9.5	24.5	56.0	

Final Measurement Detector 2

Frequency (MHz)	Average (dBμ V)	Meas. Time (ms)	Bandwidth (kHz)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBμ V)	Comment
0.442500	40.5	1000.00	9.000	On	N	9.4	6.5	47.0	
0.532500	28.0	1000.00	9.000	On	N	9.4	18.0	46.0	
3.633000	26.0	1000.00	9.000	On	N	9.4	20.0	46.0	

Emission Level= Read Level+ Correct Factor



3.2. Radiated Emission

Limit

FCC CFR Title 47 Part 15 Subpart C Section 15.209:

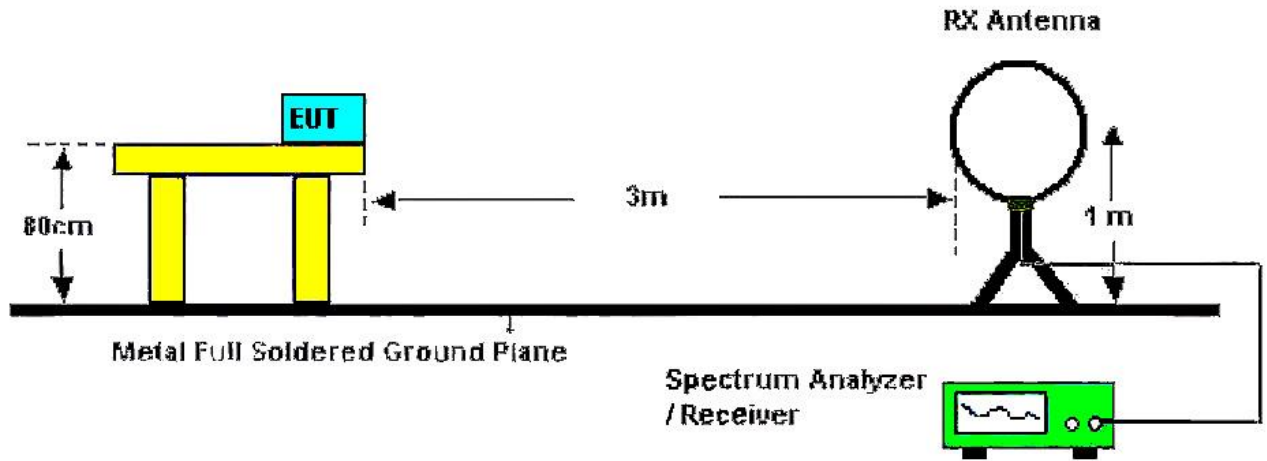
Frequency (MHz)	Field Strength (microvolts/meter)	Measurement Distance (meters)
0.009~0.490	2400/F(KHz)	300
0.490~1.705	24000/F(KHz)	30
1.705~30.0	30	30
30~88	100	3
88~216	150	3
216~960	200	3
960~1000	500	3

Frequency (MHz)	dB(uV/m) (at 3 meters)	
	Peak	Average
Above 1000	74	54

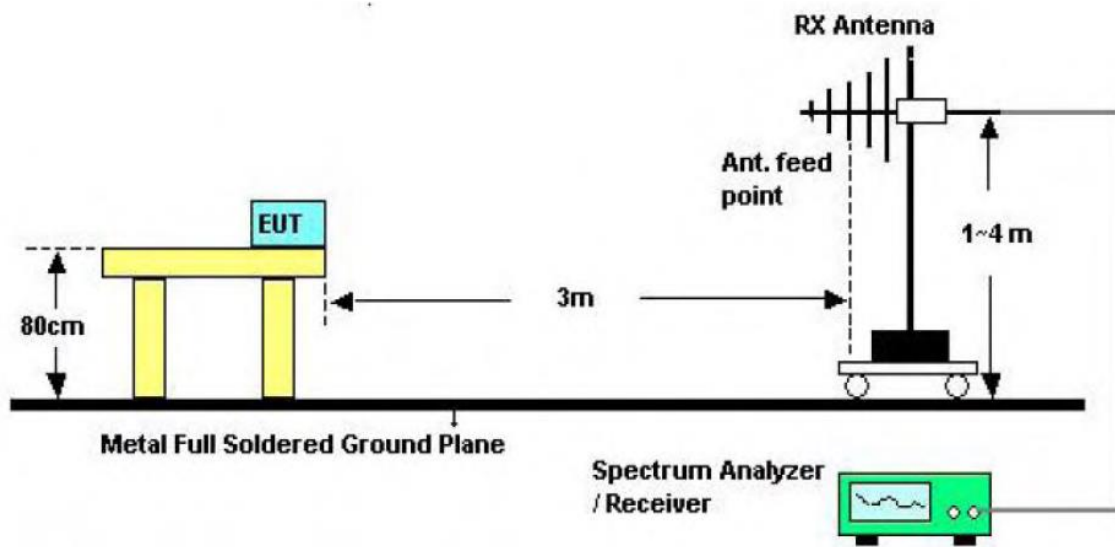
Note:

- (1) The tighter limit applies at the band edges.
- (2) Emission Level (dBuV/m)=20log Emission Level (uV/m).

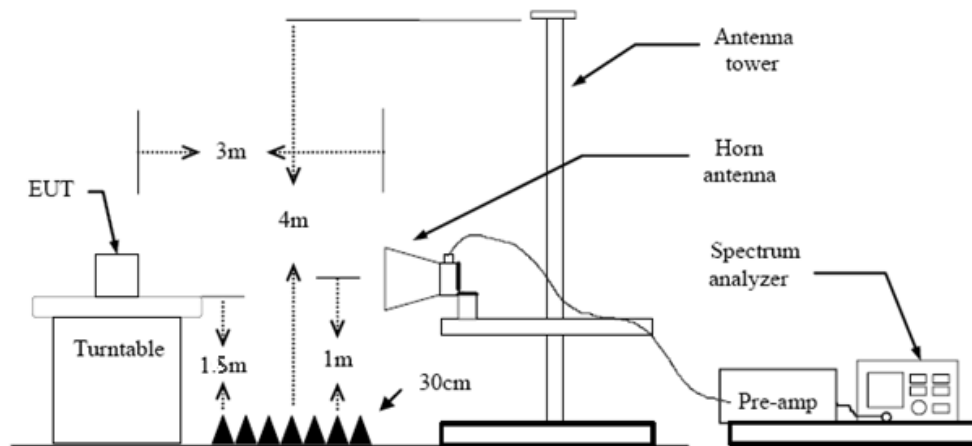
Test Configuration



Below 30MHz Test Setup



30-1000MHz Test Setup



Above 1GHz Test Setup

Test Procedure

1. The EUT was setup and tested according to ANSI C63.10:2013
2. The EUT is placed on a turn table which is 0.8 meter above ground for below 1 GHz, and 1.5 m for above 1 GHz. The turn table is rotated 360 degrees to determine the position of the maximum emission level.
3. The EUT was set 3 meters from the receiving antenna, which was mounted on the top of a variable height antenna tower.
4. For each suspected emission, the EUT was arranged to its worst case and then tune the Antenna tower (from 1 m to 4 m) and turntable (from 0 degree to 360 degrees) to find the maximum reading. A pre-amp and a high pass filter are used for the test in order to get better signal level to comply with the guidelines.
5. Set to the maximum power setting and enable the EUT transmit continuously.
6. Use the following spectrum analyzer settings
 - (1) Span shall wide enough to fully capture the emission being measured;
 - (2) Below 1 GHz:
RBW=120 kHz, VBW=300 kHz, Sweep=auto, Detector function=peak, Trace=max hold;
If the emission level of the EUT measured by the peak detector is 3 dB lower than the applicable limit, the peak emission level will be reported. Otherwise, the emission measurement will be repeated using the quasi-peak detector and reported.
 - (3) From 1 GHz to 10th harmonic:
RBW=1MHz, VBW=3MHz Peak detector for Peak value.
RBW=1MHz, VBW=3MHz RMS detector for Average value.

Test Mode

Please refer to the clause 2.4.

Test Result

9 KHz~30 MHz

From 9 KHz to 30 MHz: Conclusion: PASS

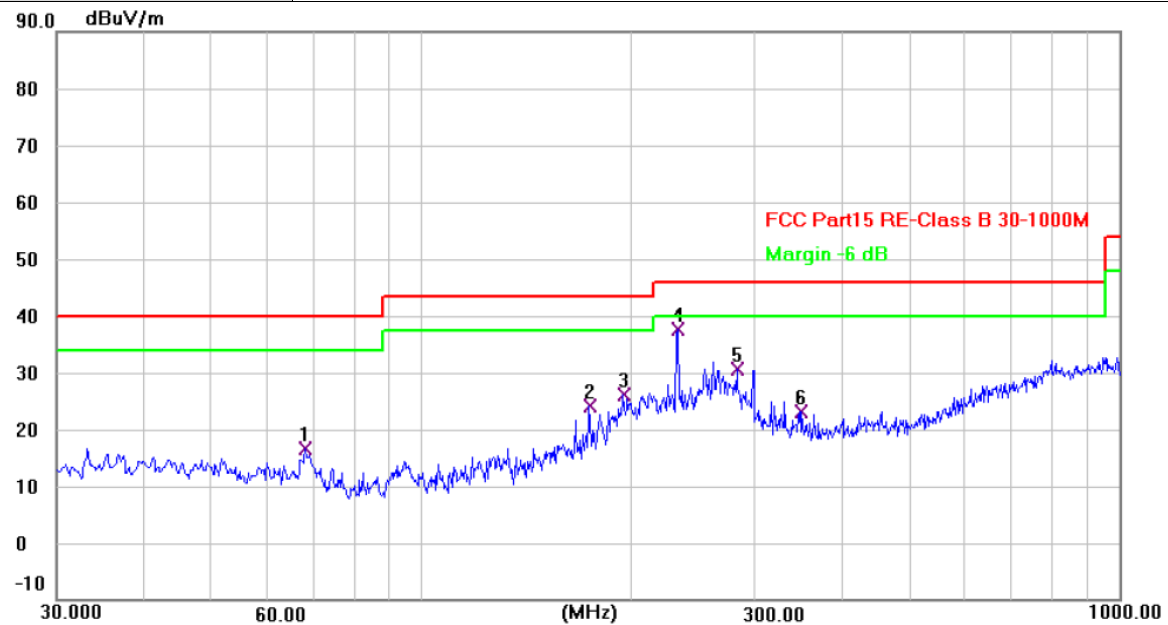
Note:

1. The amplitude of spurious emissions which are attenuated by more than 20dB below the permissible value has no need to be reported.
2. Pre-scan all antenna, only show the test data for worse case antenna on the test report.



30MHz-1GHz

Ant. Pol.	Horizontal
Test Mode:	ANT1 802.11b Mode 2412MHz
Remark:	Only worse case is reported.



No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1	68.1533	35.18	-18.50	16.68	40.00	-23.32	QP
2	174.2067	41.04	-17.00	24.04	43.50	-19.46	QP
3	194.5767	45.39	-19.17	26.22	43.50	-17.28	QP
4 *	232.7300	55.74	-18.22	37.52	46.00	-8.48	QP
5	283.4932	46.97	-16.31	30.66	46.00	-15.34	QP
6	348.8067	37.56	-14.38	23.18	46.00	-22.82	QP

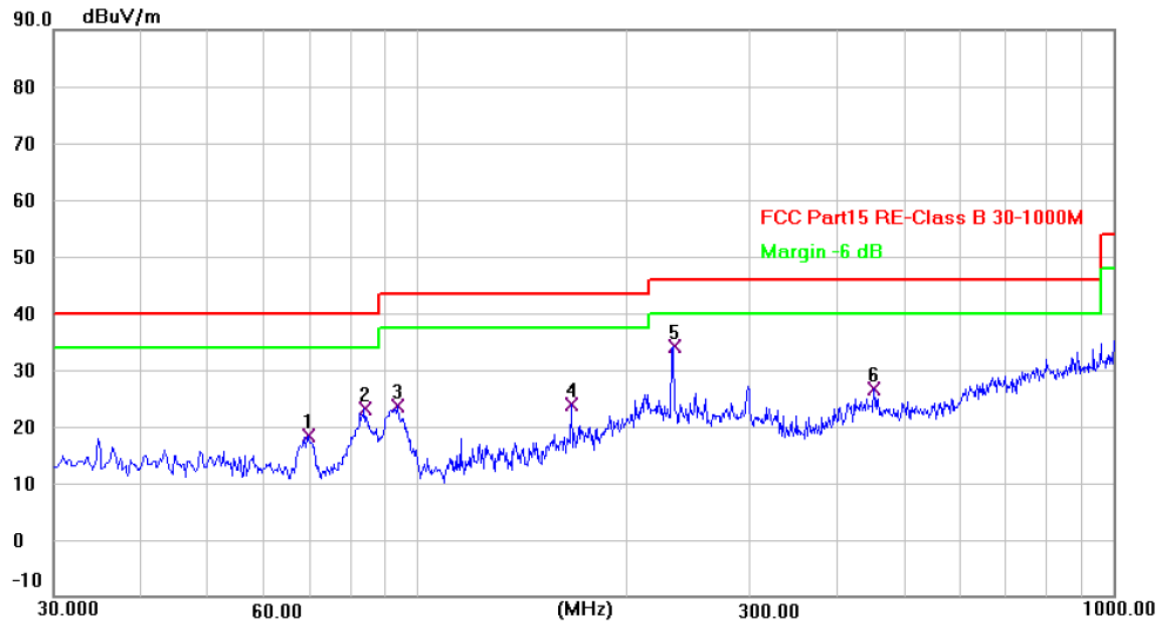
Remarks:

1.Factor (dB/m) = Antenna Factor (dB/m)+Cable Factor (dB)-Pre-amplifier Factor

2.Margin value = Level -Limit value



Ant. Pol.	Vertical
Test Mode:	ANT1 802.11b Mode 2412MHz
Remark:	Only worse case is reported.



No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1	69.7699	37.10	-18.78	18.32	40.00	-21.68	QP
2	83.9967	43.88	-20.75	23.13	40.00	-16.87	QP
3	93.6967	44.22	-20.48	23.74	43.50	-19.76	QP
4	166.4467	40.21	-16.31	23.90	43.50	-19.60	QP
5 *	233.3767	52.33	-18.19	34.14	46.00	-11.86	QP
6	452.9200	38.03	-11.35	26.68	46.00	-19.32	QP

Remarks:

1. Factor (dB/m) = Antenna Factor (dB/m) + Cable Factor (dB) - Pre-amplifier Factor

2. Margin value = Level - Limit value



Adobe 1GHz

Ant No.	ANT1
Ant. Pol.	Horizontal
Test Mode:	TX B Mode 2412MHz
Remark:	No report for the emission which more than 20 dB below the prescribed limit.

No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1 *	4823.603	26.55	2.02	28.57	54.00	-25.43	AVG
2	4824.274	40.07	2.02	42.09	74.00	-31.91	peak

Remarks:

- 1.Factor (dB/m) = Antenna Factor (dB/m)+Cable Factor (dB)-Pre-amplifier Factor
- 2.Margin value = Level -Limit value

Ant No.	ANT1
Ant. Pol.	Vertical
Test Mode:	TX B Mode 2412MHz
Remark:	No report for the emission which more than 20 dB below the prescribed limit.

No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1 *	4823.174	26.54	2.01	28.55	54.00	-25.45	AVG
2	4823.933	40.48	2.02	42.50	74.00	-31.50	peak

Remarks:

- 1.Factor (dB/m) = Antenna Factor (dB/m)+Cable Factor (dB)-Pre-amplifier Factor
- 2.Margin value = Level -Limit value



Ant No.	ANT1
Ant. Pol.	Horizontal
Test Mode:	TX B Mode 2437MHz
Remark:	No report for the emission which more than 20 dB below the prescribed limit.

No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1 *	4873.604	25.74	2.09	27.83	54.00	-26.17	AVG
2	4873.731	39.74	2.09	41.83	74.00	-32.17	peak

Remarks:

- 1.Factor (dB/m) = Antenna Factor (dB/m)+Cable Factor (dB)-Pre-amplifier Factor
- 2.Margin value = Level -Limit value

Ant No.	ANT1
Ant. Pol.	Vertical
Test Mode:	TX B Mode 2437MHz
Remark:	No report for the emission which more than 20 dB below the prescribed limit.

No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1	4873.975	41.21	2.09	43.30	74.00	-30.70	peak
2 *	4874.811	25.77	2.09	27.86	54.00	-26.14	AVG

Remarks:

- 1.Factor (dB/m) = Antenna Factor (dB/m)+Cable Factor (dB)-Pre-amplifier Factor
- 2.Margin value = Level -Limit value



Ant No.	ANT1
Ant. Pol.	Horizontal
Test Mode:	TX B Mode 2462MHz
Remark:	No report for the emission which more than 20 dB below the prescribed limit.

No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1	4924.315	40.29	2.16	42.45	74.00	-31.55	peak
2 *	4924.973	25.05	2.16	27.21	54.00	-26.79	AVG

Remarks:

- 1.Factor (dB/m) = Antenna Factor (dB/m)+Cable Factor (dB)-Pre-amplifier Factor
- 2.Margin value = Level -Limit value

Ant No.	ANT1
Ant. Pol.	Vertical
Test Mode:	TX B Mode 2462MHz
Remark:	No report for the emission which more than 20 dB below the prescribed limit.

No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1	4923.599	39.90	2.16	42.06	74.00	-31.94	peak
2 *	4924.878	24.95	2.16	27.11	54.00	-26.89	AVG

Remarks:

- 1.Factor (dB/m) = Antenna Factor (dB/m)+Cable Factor (dB)-Pre-amplifier Factor
- 2.Margin value = Level -Limit value



Ant No.	ANT1
Ant. Pol.	Horizontal
Test Mode:	TX G Mode 2412MHz
Remark:	No report for the emission which more than 20 dB below the prescribed limit.

No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1 *	4823.710	26.40	2.02	28.42	54.00	-25.58	AVG
2	4824.236	40.43	2.02	42.45	74.00	-31.55	peak

Remarks:

1.Factor (dB/m) = Antenna Factor (dB/m)+Cable Factor (dB)-Pre-amplifier Factor

2.Margin value = Level -Limit value

Ant No.	ANT1
Ant. Pol.	Vertical
Test Mode:	TX G Mode 2412MHz
Remark:	No report for the emission which more than 20 dB below the prescribed limit.

No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1 *	4823.893	26.28	2.02	28.30	54.00	-25.70	AVG
2	4824.107	41.04	2.02	43.06	74.00	-30.94	peak

Remarks:

1.Factor (dB/m) = Antenna Factor (dB/m)+Cable Factor (dB)-Pre-amplifier Factor

2.Margin value = Level -Limit value



Ant No.	ANT1
Ant. Pol.	Horizontal
Test Mode:	TX G Mode 2437MHz
Remark:	No report for the emission which more than 20 dB below the prescribed limit.

No.	Frequency (MHz)	Reading (dBUV)	Factor (dB/m)	Level (dBUV/m)	Limit (dBUV/m)	Margin (dB)	Detector
1	4873.793	39.84	2.09	41.93	74.00	-32.07	peak
2 *	4874.161	26.05	2.09	28.14	54.00	-25.86	AVG

Remarks:

- 1.Factor (dB/m) = Antenna Factor (dB/m)+Cable Factor (dB)-Pre-amplifier Factor
- 2.Margin value = Level -Limit value

Ant No.	ANT1
Ant. Pol.	Vertical
Test Mode:	TX G Mode 2437MHz
Remark:	No report for the emission which more than 20 dB below the prescribed limit.

No.	Frequency (MHz)	Reading (dBUV)	Factor (dB/m)	Level (dBUV/m)	Limit (dBUV/m)	Margin (dB)	Detector
1	4873.223	39.67	2.09	41.76	74.00	-32.24	peak
2 *	4874.622	25.95	2.09	28.04	54.00	-25.96	AVG

Remarks:

- 1.Factor (dB/m) = Antenna Factor (dB/m)+Cable Factor (dB)-Pre-amplifier Factor
- 2.Margin value = Level -Limit value



Ant No.	ANT1
Ant. Pol.	Horizontal
Test Mode:	TX G Mode 2462MHz
Remark:	No report for the emission which more than 20 dB below the prescribed limit.

No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1	4923.833	40.52	2.16	42.68	74.00	-31.32	peak
2 *	4924.165	25.34	2.16	27.50	54.00	-26.50	AVG

Remarks:

- 1.Factor (dB/m) = Antenna Factor (dB/m)+Cable Factor (dB)-Pre-amplifier Factor
- 2.Margin value = Level -Limit value

Ant No.	ANT1
Ant. Pol.	Vertical
Test Mode:	TX G Mode 2462MHz
Remark:	No report for the emission which more than 20 dB below the prescribed limit.

No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1	4923.001	40.97	2.15	43.12	74.00	-30.88	peak
2 *	4923.930	25.38	2.16	27.54	54.00	-26.46	AVG

Remarks:

- 1.Factor (dB/m) = Antenna Factor (dB/m)+Cable Factor (dB)-Pre-amplifier Factor
- 2.Margin value = Level -Limit value



Ant No.	ANT1
Ant. Pol.	Horizontal
Test Mode:	TX N20 Mode 2412MHz
Remark:	No report for the emission which more than 20 dB below the prescribed limit.

No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1 *	4823.487	26.47	2.02	28.49	54.00	-25.51	AVG
2	4824.678	41.22	2.02	43.24	74.00	-30.76	peak

Remarks:

1.Factor (dB/m) = Antenna Factor (dB/m)+Cable Factor (dB)-Pre-amplifier Factor

2.Margin value = Level -Limit value

Ant No.	ANT1
Ant. Pol.	Vertical
Test Mode:	TX N20 Mode 2412MHz
Remark:	No report for the emission which more than 20 dB below the prescribed limit.

No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1	4823.571	40.78	2.02	42.80	74.00	-31.20	peak
2 *	4824.134	26.32	2.02	28.34	54.00	-25.66	AVG

Remarks:

1.Factor (dB/m) = Antenna Factor (dB/m)+Cable Factor (dB)-Pre-amplifier Factor

2.Margin value = Level -Limit value



Ant No.	ANT1
Ant. Pol.	Horizontal
Test Mode:	TX N20 Mode 2437MHz
Remark:	No report for the emission which more than 20 dB below the prescribed limit.

No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1	4874.441	40.44	2.09	42.53	74.00	-31.47	peak
2 *	4874.903	25.98	2.09	28.07	54.00	-25.93	AVG

Remarks:

- 1.Factor (dB/m) = Antenna Factor (dB/m)+Cable Factor (dB)-Pre-amplifier Factor
- 2.Margin value = Level -Limit value

Ant No.	ANT1
Ant. Pol.	Vertical
Test Mode:	TX N20 Mode 2437MHz
Remark:	No report for the emission which more than 20 dB below the prescribed limit.

No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1	4873.644	40.10	2.09	42.19	74.00	-31.81	peak
2 *	4874.824	25.84	2.09	27.93	54.00	-26.07	AVG

Remarks:

- 1.Factor (dB/m) = Antenna Factor (dB/m)+Cable Factor (dB)-Pre-amplifier Factor
- 2.Margin value = Level -Limit value



Ant No.	ANT1
Ant. Pol.	Horizontal
Test Mode:	TX N20 Mode 2462MHz
Remark:	No report for the emission which more than 20 dB below the prescribed limit.

No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1	4924.473	40.91	2.16	43.07	74.00	-30.93	peak
2 *	4924.729	25.44	2.16	27.60	54.00	-26.40	AVG

Remarks:

- 1.Factor (dB/m) = Antenna Factor (dB/m)+Cable Factor (dB)-Pre-amplifier Factor
- 2.Margin value = Level -Limit value

Ant No.	ANT1
Ant. Pol.	Vertical
Test Mode:	TX N20 Mode 2462MHz
Remark:	No report for the emission which more than 20 dB below the prescribed limit.

No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1 *	4924.406	25.31	2.16	27.47	54.00	-26.53	AVG
2	4924.567	40.14	2.16	42.30	74.00	-31.70	peak

Remarks:

- 1.Factor (dB/m) = Antenna Factor (dB/m)+Cable Factor (dB)-Pre-amplifier Factor
- 2.Margin value = Level -Limit value



Ant No.	ANT1
Ant. Pol.	Horizontal
Test Mode:	TX N40 Mode 2422MHz
Remark:	No report for the emission which more than 20 dB below the prescribed limit.

No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1 *	4844.462	25.60	2.05	27.65	54.00	-26.35	AVG
2	4844.850	39.79	2.05	41.84	74.00	-32.16	peak

Remarks:

1.Factor (dB/m) = Antenna Factor (dB/m)+Cable Factor (dB)-Pre-amplifier Factor

2.Margin value = Level -Limit value

Ant No.	ANT1
Ant. Pol.	Vertical
Test Mode:	TX N40 Mode 2422MHz
Remark:	No report for the emission which more than 20 dB below the prescribed limit.

No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1	4844.580	40.41	2.05	42.46	74.00	-31.54	peak
2 *	4844.836	25.44	2.05	27.49	54.00	-26.51	AVG

Remarks:

1.Factor (dB/m) = Antenna Factor (dB/m)+Cable Factor (dB)-Pre-amplifier Factor

2.Margin value = Level -Limit value



Ant No.	ANT1
Ant. Pol.	Horizontal
Test Mode:	TX N40 Mode 2437MHz
Remark:	No report for the emission which more than 20 dB below the prescribed limit.

No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1 *	4874.289	25.90	2.09	27.99	54.00	-26.01	AVG
2	4874.739	40.59	2.09	42.68	74.00	-31.32	peak

Remarks:

1.Factor (dB/m) = Antenna Factor (dB/m)+Cable Factor (dB)-Pre-amplifier Factor

2.Margin value = Level -Limit value

Ant No.	ANT1
Ant. Pol.	Vertical
Test Mode:	TX N40 Mode 2437MHz
Remark:	No report for the emission which more than 20 dB below the prescribed limit.

No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1 *	4874.294	26.21	2.09	28.30	54.00	-25.70	AVG
2	4874.699	40.65	2.09	42.74	74.00	-31.26	peak

Remarks:

1.Factor (dB/m) = Antenna Factor (dB/m)+Cable Factor (dB)-Pre-amplifier Factor

2.Margin value = Level -Limit value



Ant No.	ANT1
Ant. Pol.	Horizontal
Test Mode:	TX N40 Mode 2452MHz
Remark:	No report for the emission which more than 20 dB below the prescribed limit.

No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1	4903.779	39.64	2.13	41.77	74.00	-32.23	peak
2 *	4904.993	25.41	2.13	27.54	54.00	-26.46	AVG

Remarks:

- 1.Factor (dB/m) = Antenna Factor (dB/m)+Cable Factor (dB)-Pre-amplifier Factor
- 2.Margin value = Level -Limit value

Ant No.	ANT1
Ant. Pol.	Vertical
Test Mode:	TX N40 Mode 2452MHz
Remark:	No report for the emission which more than 20 dB below the prescribed limit.

No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1	4904.226	39.79	2.13	41.92	74.00	-32.08	peak
2 *	4904.744	25.51	2.13	27.64	54.00	-26.36	AVG

Remarks:

- 1.Factor (dB/m) = Antenna Factor (dB/m)+Cable Factor (dB)-Pre-amplifier Factor
- 2.Margin value = Level -Limit value

3.3. Band Edge Emissions (Radiated)

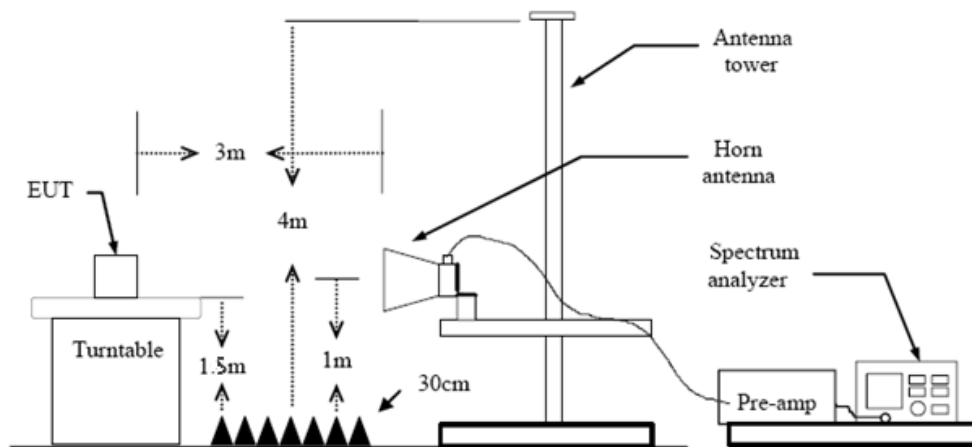
Limit

FCC CFR Title 47 Part 15 Subpart C Section 15.247 (d):

Restricted Frequency Band (MHz)	(dBuV/m)(at 3m)	
	Peak	Average
2310 ~2390	74	54
2483.5 ~2500	74	54

Conducted band edge limit: The highest point of the operating frequency waveform down 20dB

Test Configuration



Test Procedure

1. The EUT was setup and tested according to ANSI C63.10:2013 requirements.
2. The EUT is placed on a turn table which is 1.5 meter above ground. The turn table is rotated 360 degrees to determine the position of the maximum emission level.
3. The EUT was positioned such that the distance from antenna to the EUT was 3 meters.
4. The antenna is scanned from 1 meter to 4 meters to find out the maximum emission level. This is repeated for both horizontal and vertical polarization of the antenna. In order to find the maximum emission, all of the interface cables were manipulated according to ANSI C63.10:2013 on radiated measurement.
5. The receiver set as follow:
RBW=1MHz, VBW=3MHz Peak detector for Peak value.
RBW=1MHz, VBW see note 1 with Peak Detector for Average Value.

Note 1: For measurements above 1 GHz the resolution bandwidth is set to 1 MHz, then the video bandwidth is set to 3 MHz for peak measurements and 1 MHz resolution bandwidth with 1/T video bandwidth with peak detector for average measurements. For the Duty Cycle please refer to clause 3.8 Duty Cycle.

2: Duty Cycle> 98%, VBW=10Hz.

Test Mode

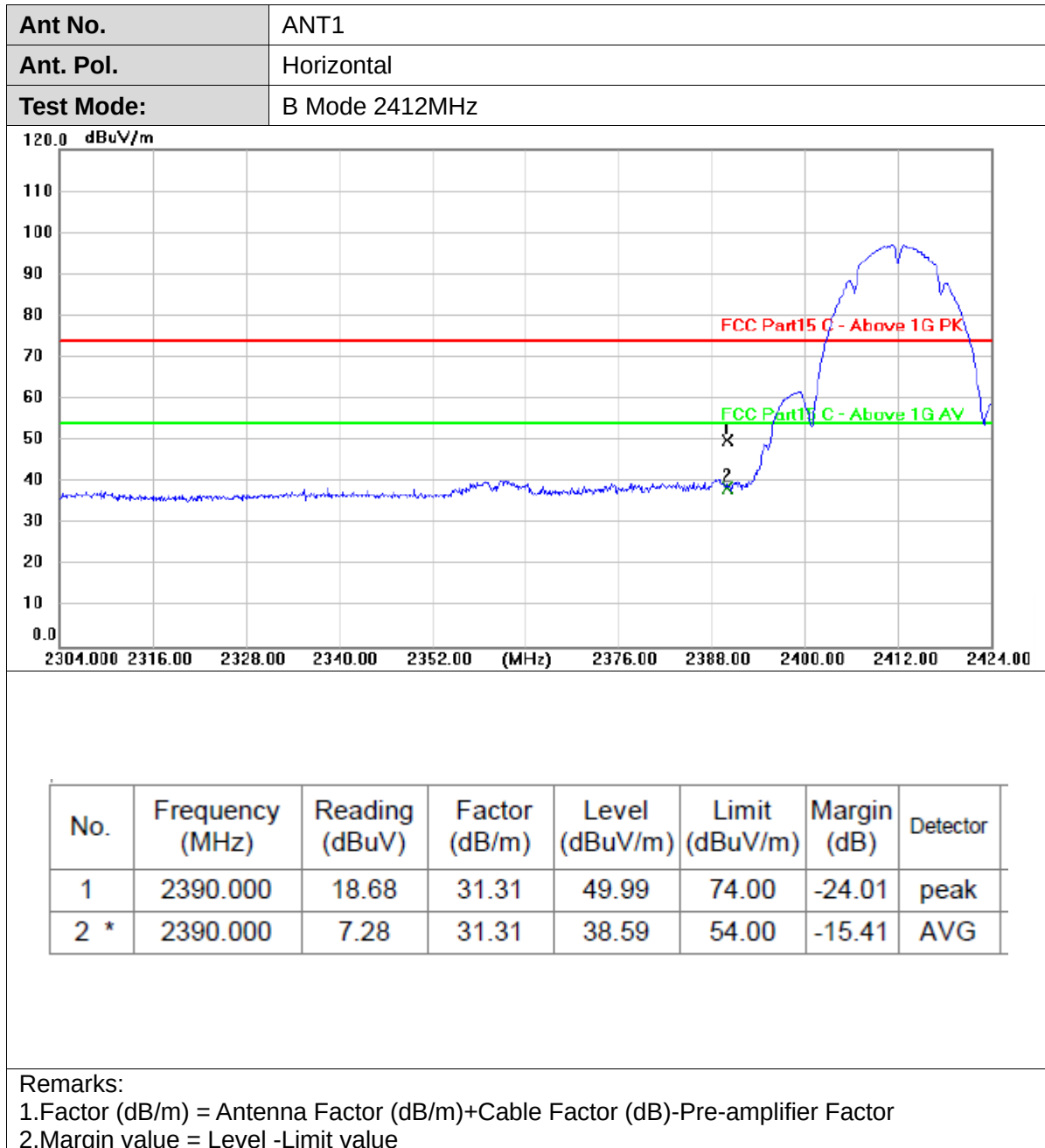
Please refer to the clause 2.4.

Test Results

Note: Pre-scan all antenna, only show the test data for worse case antenna on the test report.

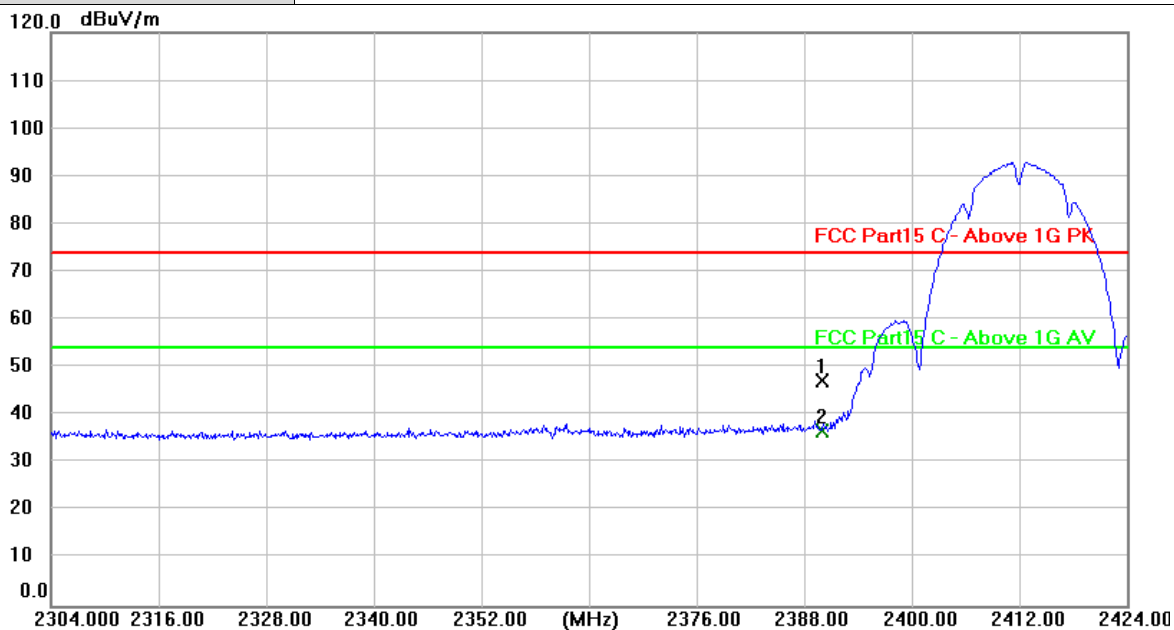


(1) Radiation Test





Ant No.	ANT1
Ant. Pol.	Vertical
Test Mode:	B Mode 2412MHz



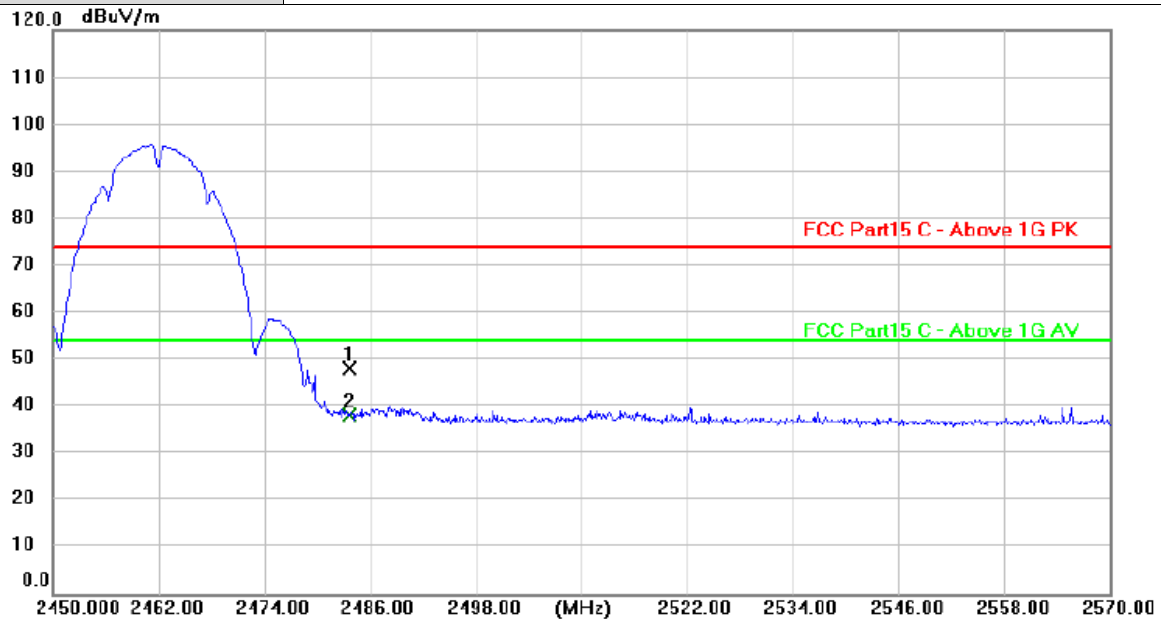
No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1	2390.000	15.90	31.31	47.21	74.00	-26.79	peak
2 *	2390.000	5.56	31.31	36.87	54.00	-17.13	AVG

Remarks:

- Factor (dB/m) = Antenna Factor (dB/m)+Cable Factor (dB)-Pre-amplifier Factor
- Margin value = Level -Limit value



Ant No.	ANT1
Ant. Pol.	Horizontal
Test Mode:	B Mode 2462 MHz



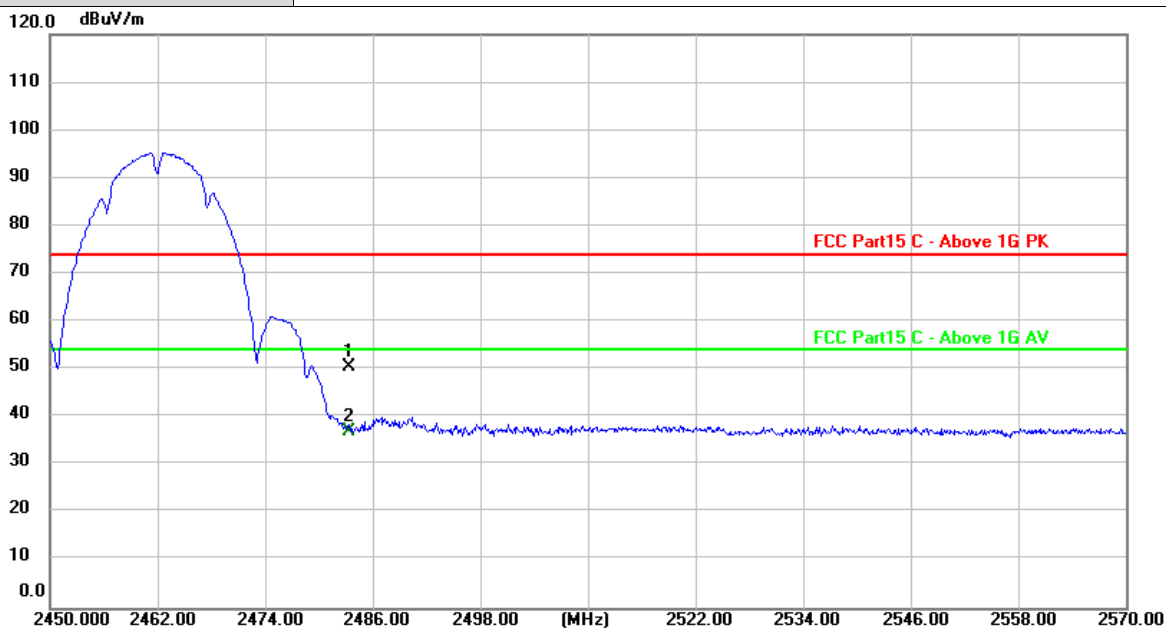
No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1	2483.500	16.55	31.48	48.03	74.00	-25.97	peak
2 *	2483.500	6.65	31.48	38.13	54.00	-15.87	AVG

Remarks:

1. Factor (dB/m) = Antenna Factor (dB/m) + Cable Factor (dB) - Pre-amplifier Factor
2. Margin value = Level - Limit value



Ant No.	ANT1
Ant. Pol.	Vertical
Test Mode:	B Mode 2462 MHz



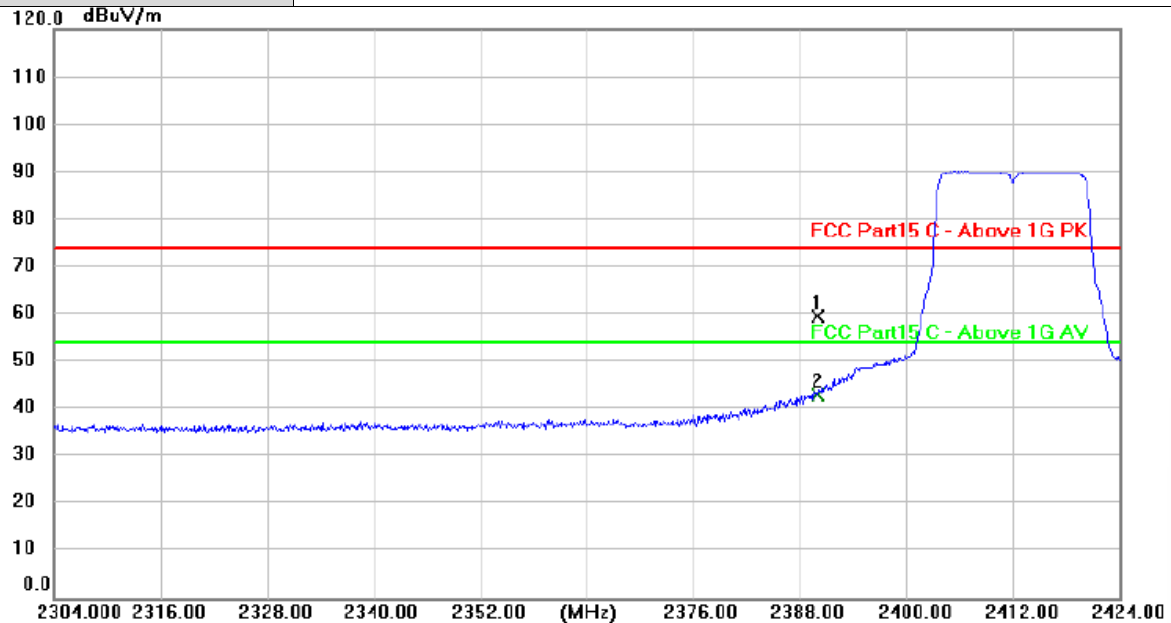
No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1	2483.500	19.15	31.48	50.63	74.00	-23.37	peak
2 *	2483.500	5.49	31.48	36.97	54.00	-17.03	AVG

Remarks:

1. Factor (dB/m) = Antenna Factor (dB/m) + Cable Factor (dB) - Pre-amplifier Factor
2. Margin value = Level - Limit value



Ant No.	ANT1
Ant. Pol.	Horizontal
Test Mode:	G Mode 2412MHz



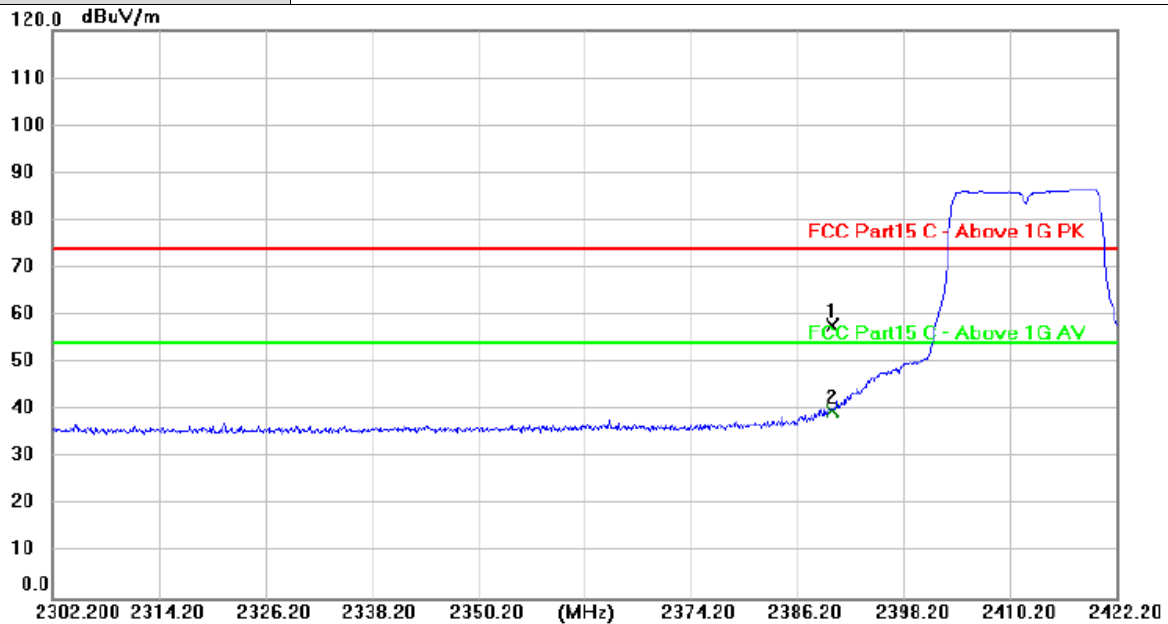
No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1	2390.000	28.19	31.31	59.50	74.00	-14.50	peak
2 *	2390.000	11.85	31.31	43.16	54.00	-10.84	AVG

Remarks:

1. Factor (dB/m) = Antenna Factor (dB/m) + Cable Factor (dB) - Pre-amplifier Factor
2. Margin value = Level - Limit value



Ant No.	ANT1
Ant. Pol.	Vertical
Test Mode:	G Mode 2412MHz



No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1	2390.000	26.39	31.31	57.70	74.00	-16.30	peak
2 *	2390.000	8.51	31.31	39.82	54.00	-14.18	AVG

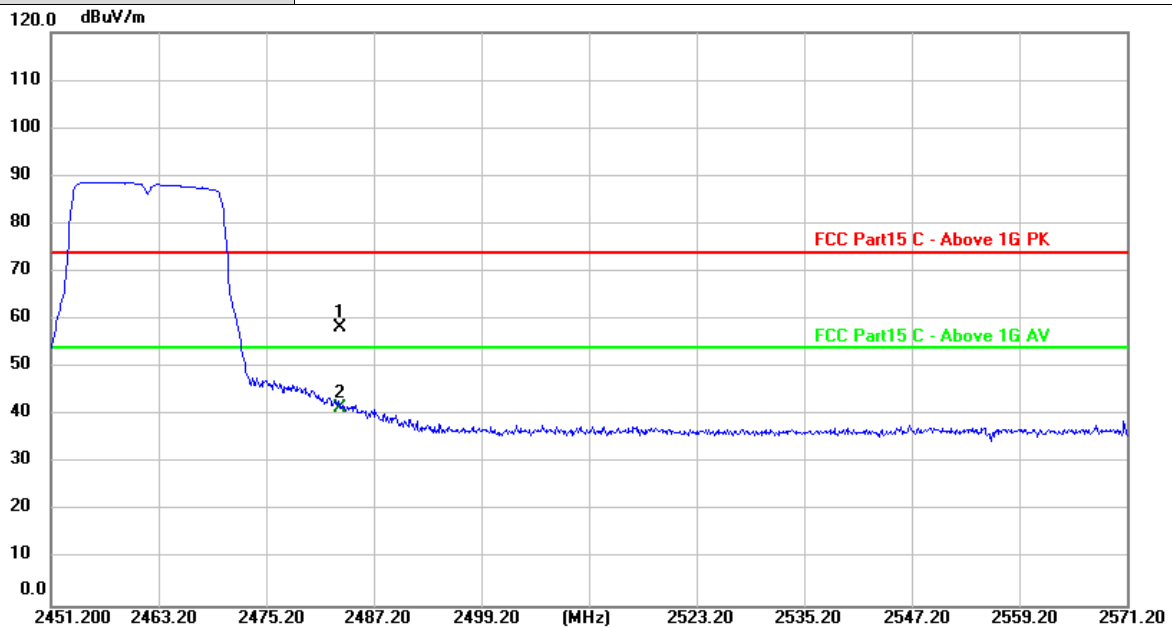
Remarks:

1. Factor (dB/m) = Antenna Factor (dB/m) + Cable Factor (dB) - Pre-amplifier Factor

2. Margin value = Level - Limit value



Ant No.	ANT1
Ant. Pol.	Horizontal
Test Mode:	G Mode 2462MHz



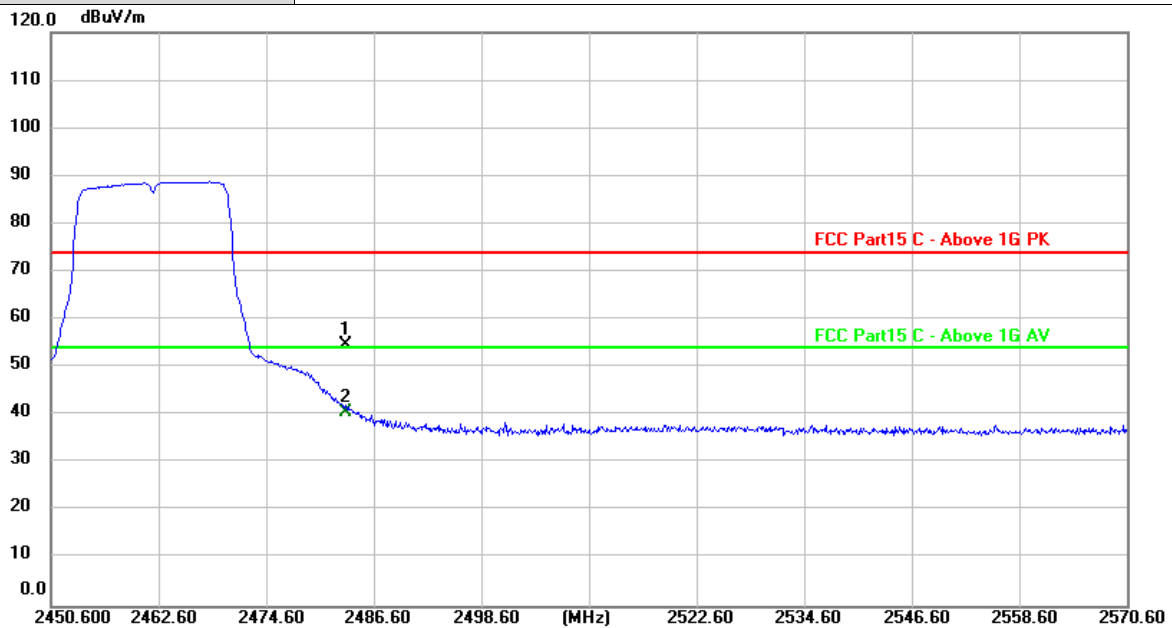
No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1	2483.500	26.86	31.48	58.34	74.00	-15.66	peak
2 *	2483.500	10.10	31.48	41.58	54.00	-12.42	AVG

Remarks:

- Factor (dB/m) = Antenna Factor (dB/m)+Cable Factor (dB)-Pre-amplifier Factor
- Margin value = Level -Limit value



Ant No.	ANT1
Ant. Pol.	Vertical
Test Mode:	G Mode 2462MHz



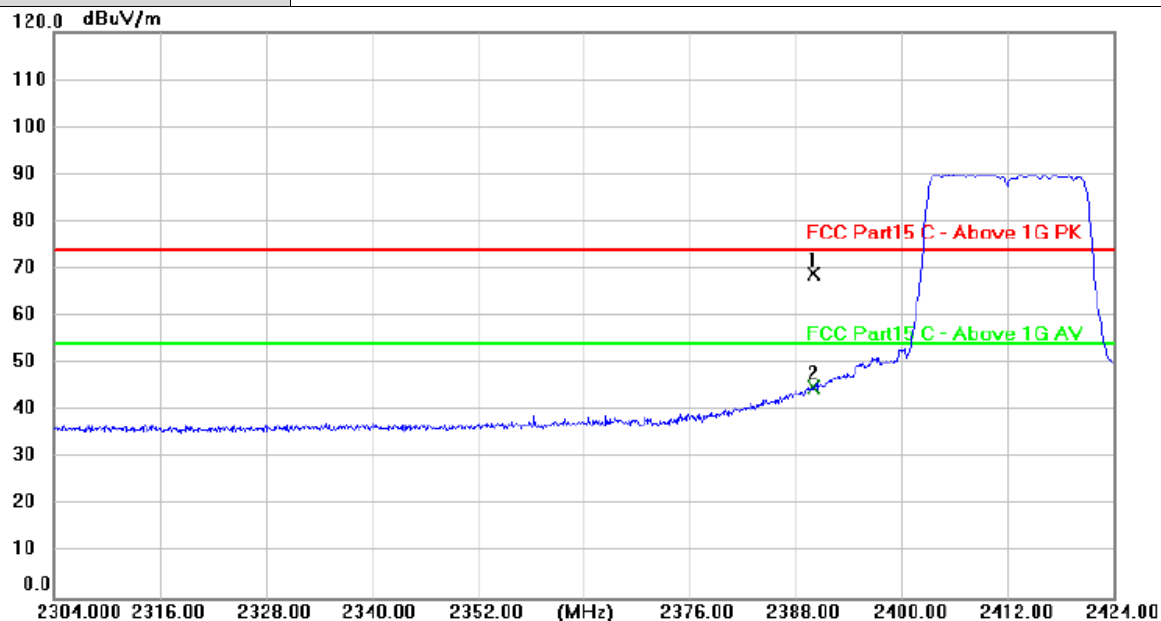
No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1	2483.500	23.25	31.48	54.73	74.00	-19.27	peak
2 *	2483.500	9.25	31.48	40.73	54.00	-13.27	AVG

Remarks:

1. Factor (dB/m) = Antenna Factor (dB/m) + Cable Factor (dB) - Pre-amplifier Factor
2. Margin value = Level - Limit value



Ant No.	ANT1
Ant. Pol.	Horizontal
Test Mode:	N(HT20) Mode 2412MHz



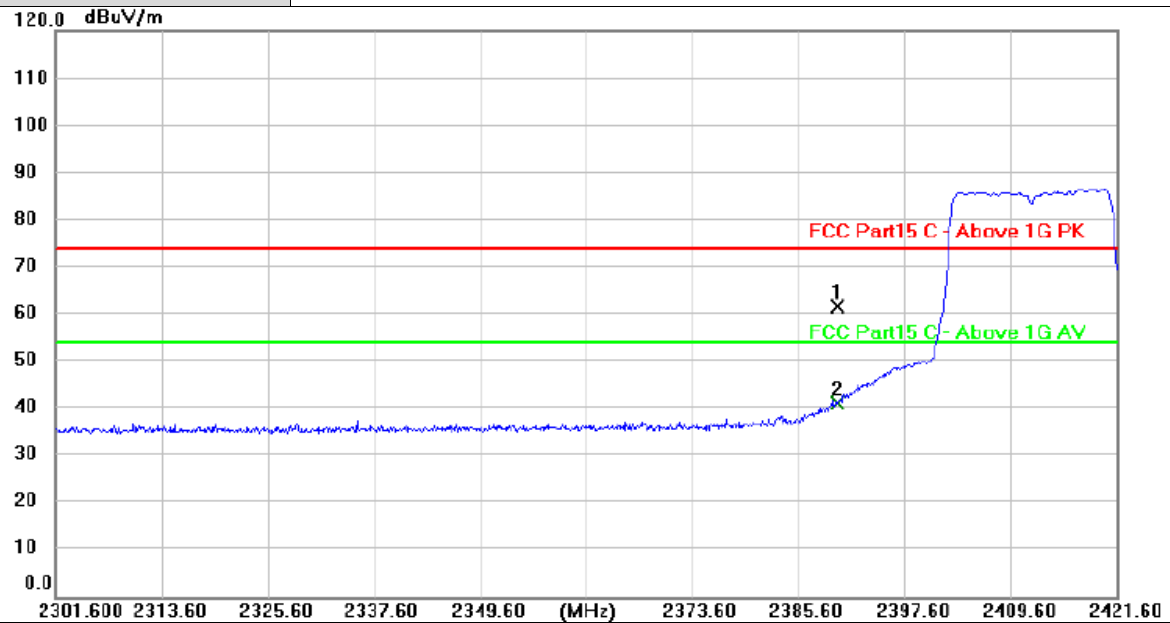
No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1 *	2390.000	37.67	31.31	68.98	74.00	-5.02	peak
2	2390.000	13.66	31.31	44.97	54.00	-9.03	AVG

Remarks:

- Factor (dB/m) = Antenna Factor (dB/m)+Cable Factor (dB)-Pre-amplifier Factor
- Margin value = Level -Limit value



Ant No.	ANT1
Ant. Pol.	Vertical
Test Mode:	N(HT20) Mode 2412MHz



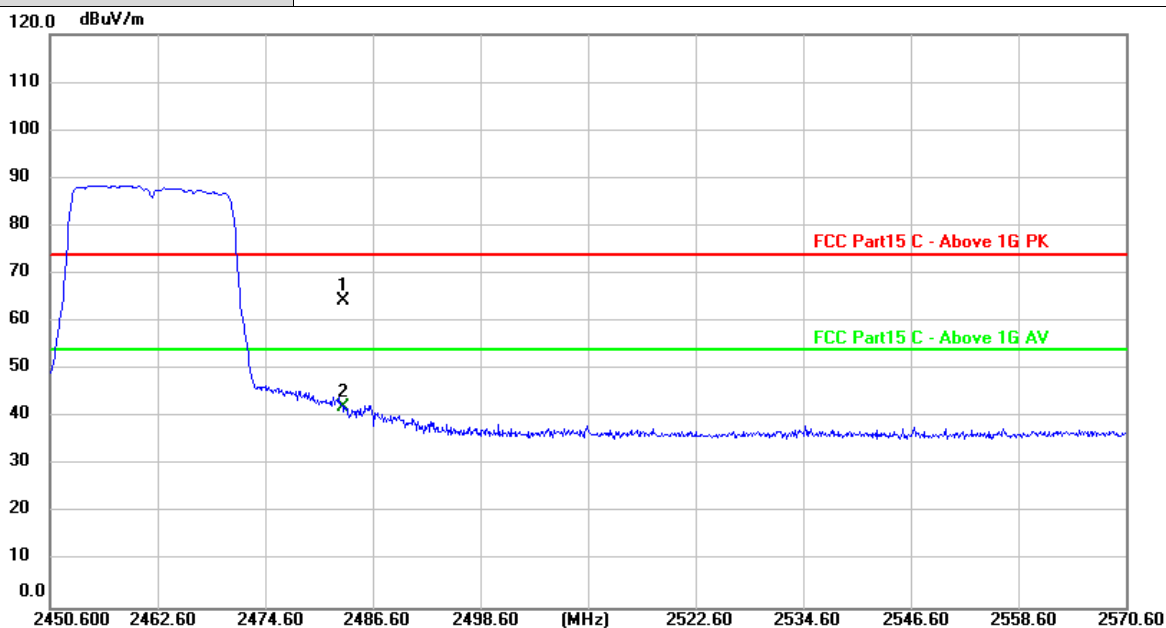
No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1 *	2390.000	30.43	31.31	61.74	74.00	-12.26	peak
2	2390.000	10.08	31.31	41.39	54.00	-12.61	AVG

Remarks:

1. Factor (dB/m) = Antenna Factor (dB/m) + Cable Factor (dB) - Pre-amplifier Factor
2. Margin value = Level - Limit value



Ant No.	ANT1
Ant. Pol.	Horizontal
Test Mode:	N(HT20) Mode 2462MHz



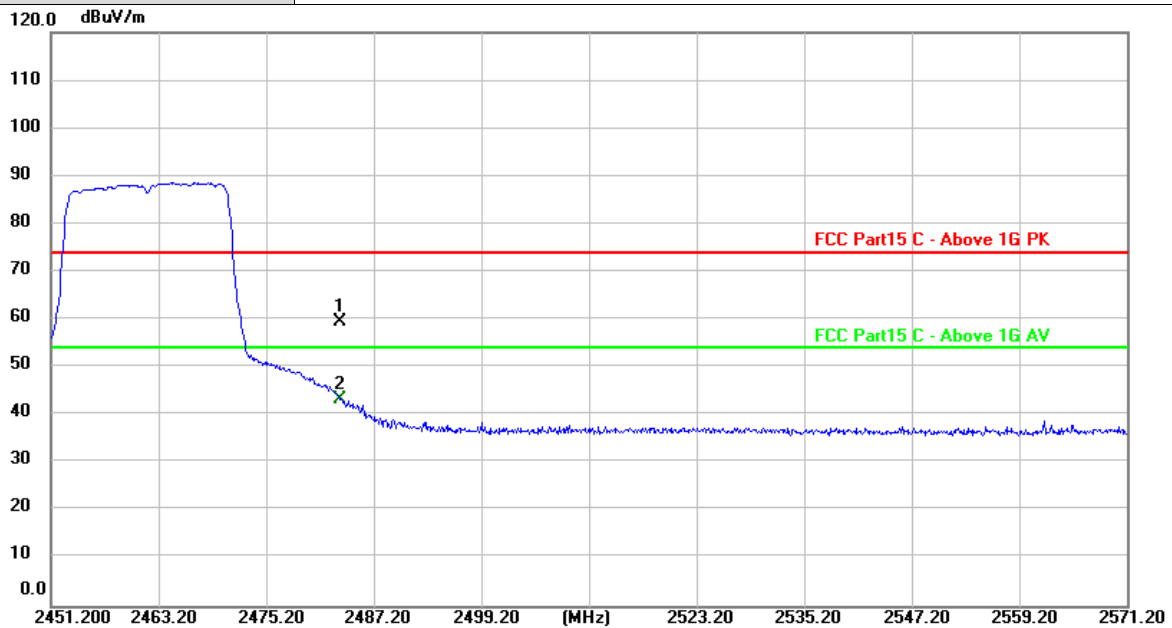
No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1 *	2483.500	32.83	31.48	64.31	74.00	-9.69	peak
2	2483.500	10.70	31.48	42.18	54.00	-11.82	AVG

Remarks:

1. Factor (dB/m) = Antenna Factor (dB/m) + Cable Factor (dB) - Pre-amplifier Factor
2. Margin value = Level - Limit value



Ant No.	ANT1
Ant. Pol.	Vertical
Test Mode:	N(HT20) Mode 2462MHz



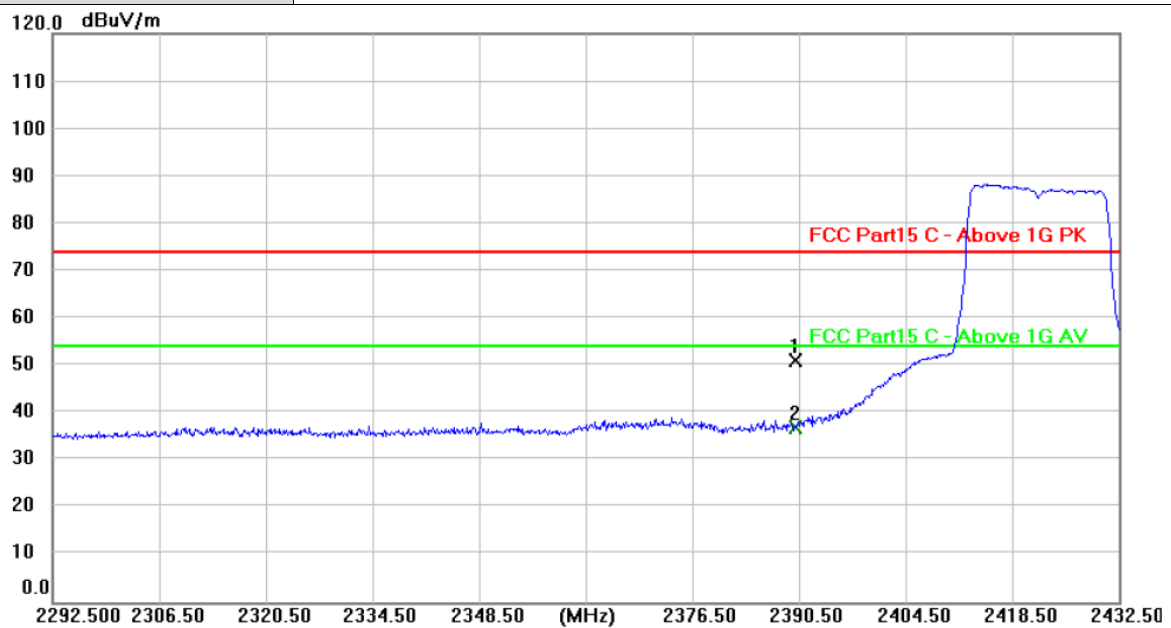
No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1	2483.500	28.01	31.48	59.49	74.00	-14.51	peak
2 *	2483.500	11.83	31.48	43.31	54.00	-10.69	AVG

Remarks:

1. Factor (dB/m) = Antenna Factor (dB/m) + Cable Factor (dB) - Pre-amplifier Factor
2. Margin value = Level - Limit value



Ant No.	ANT1
Ant. Pol.	Horizontal
Test Mode:	N(HT40) Mode 2422MHz



No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1	2390.000	19.86	31.31	51.17	74.00	-22.83	peak
2 *	2390.000	5.65	31.31	36.96	54.00	-17.04	AVG

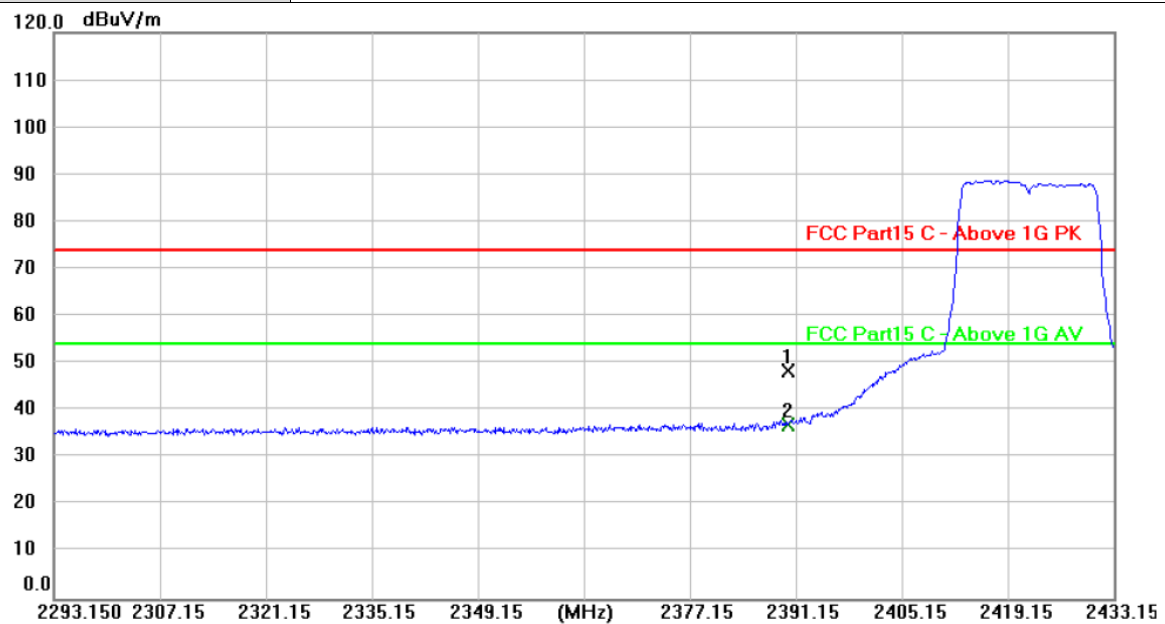
Remarks:

1. Factor (dB/m) = Antenna Factor (dB/m) + Cable Factor (dB) - Pre-amplifier Factor

2. Margin value = Level - Limit value



Ant No.	ANT1
Ant. Pol.	Vertical
Test Mode:	N(HT40) Mode 2422MHz



No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1	2390.000	17.28	31.31	48.59	74.00	-25.41	peak
2 *	2390.000	5.72	31.31	37.03	54.00	-16.97	AVG

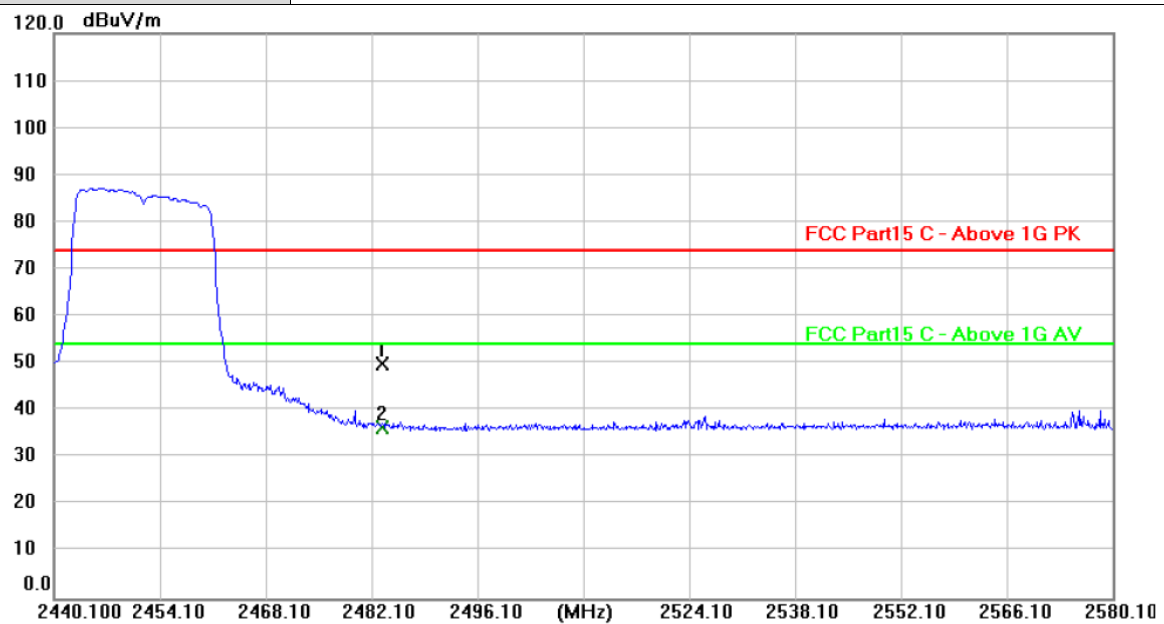
Remarks:

1.Factor (dB/m) = Antenna Factor (dB/m)+Cable Factor (dB)-Pre-amplifier Factor

2.Margin value = Level -Limit value



Ant No.	ANT1
Ant. Pol.	Horizontal
Test Mode:	N(HT40) Mode 2452MHz



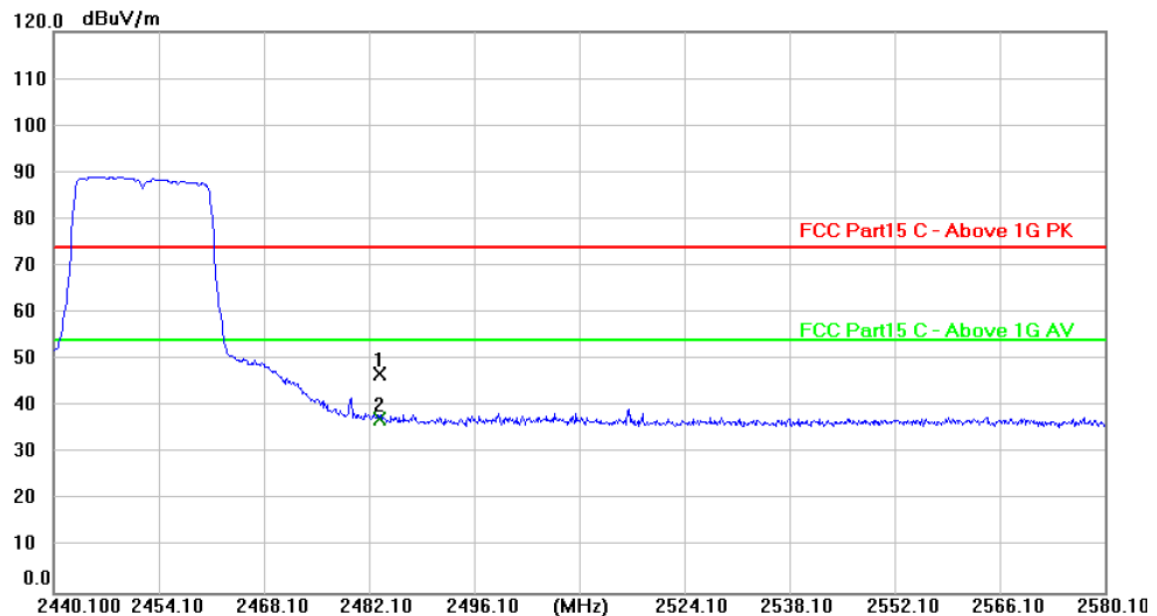
No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1	2483.500	18.54	31.48	50.02	74.00	-23.98	peak
2 *	2483.500	4.93	31.48	36.41	54.00	-17.59	AVG

Remarks:

1. Factor (dB/m) = Antenna Factor (dB/m) + Cable Factor (dB) - Pre-amplifier Factor
2. Margin value = Level - Limit value



Ant No.	ANT1
Ant. Pol.	Vertical
Test Mode:	N(HT40) Mode 2452MHz



No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1	2483.500	15.44	31.48	46.92	74.00	-27.08	peak
2 *	2483.500	5.98	31.48	37.46	54.00	-16.54	AVG

Remarks:

1. Factor (dB/m) = Antenna Factor (dB/m) + Cable Factor (dB) - Pre-amplifier Factor

2. Margin value = Level - Limit value

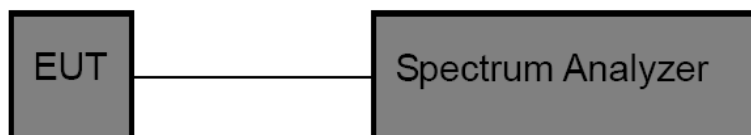


3.4. Band edge and Spurious Emissions (Conducted)

Limit

FCC CFR Title 47 Part 15 Subpart C Section 15.247 (d): 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 Configuration



Test Procedure

1. The transmitter output was connected to the spectrum analyzer through an attenuator, the path loss was compensated to the results for each measurement.
2. Set to the maximum power setting and enable the EUT transmit continuously
3. Use the following spectrum analyzer settings:
RBW = 100 kHz, VBW ≥ RBW, scan up through 10th harmonic.
Sweep = auto, Detector function = peak, Trace = max hold
4. Measure and record the results in the test report.

Test Mode

Please refer to the clause 2.4.

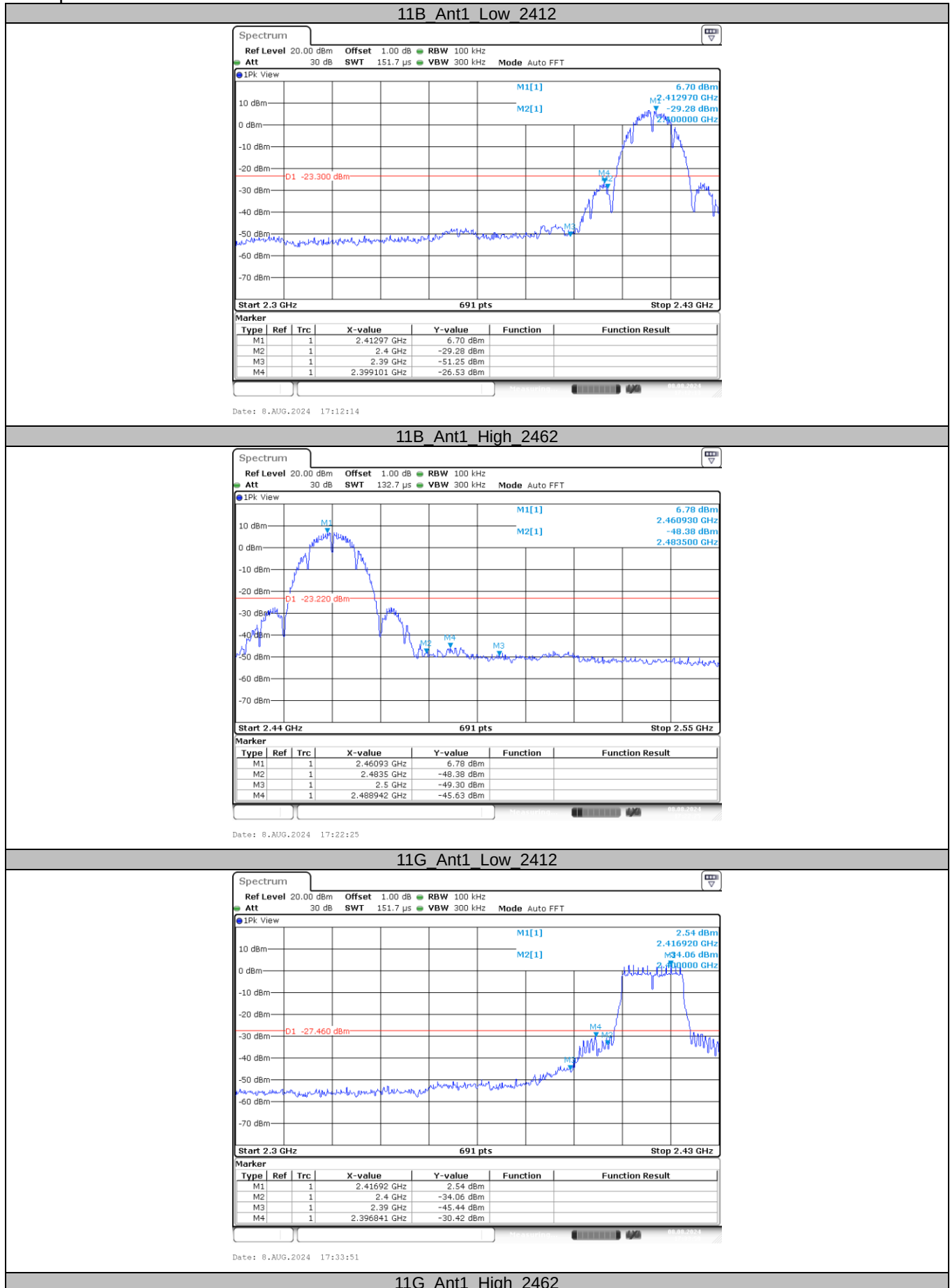
Test Results

(1) Band edge Conducted Test

TestMode	Antenna	ChName	Frequency [MHz]	RefLevel[dBm]	Result[dBm]	Limit[dBm]	Verdict
11B	Ant1	Low	2412	6.70	-26.53	≤-23.3	PASS
		High	2462	6.78	-45.63	≤-23.22	PASS
11G	Ant1	Low	2412	2.54	-30.42	≤-27.46	PASS
		High	2462	-0.55	-42.46	≤-30.55	PASS
11N20SISO	Ant1	Low	2412	1.60	-34.04	≤-28.4	PASS
		High	2462	-0.96	-39.05	≤-30.96	PASS
11N40SISO	Ant1	Low	2422	-3.08	-42.85	≤-33.08	PASS
		High	2452	-3.19	-48.22	≤-33.19	PASS



Test plot as follows:



CTC Laboratories, Inc.

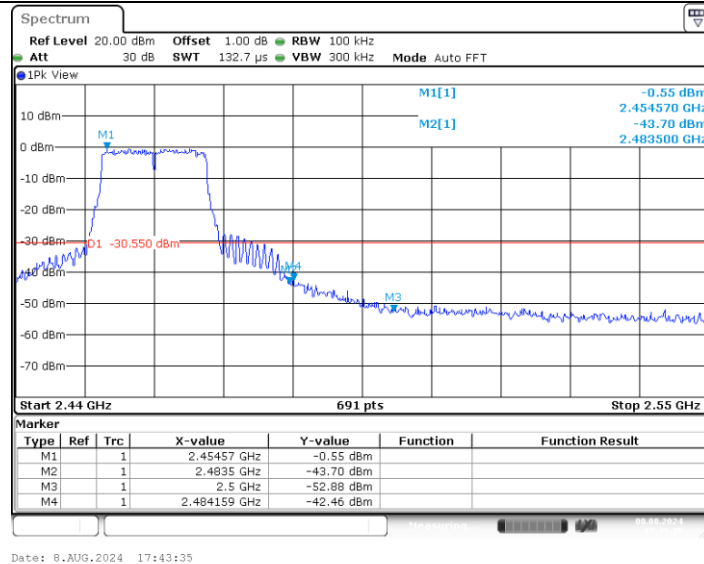
1-2/F., Building 2, Jiaquan Building, Guanlan High-Tech Park, Shenzhen, Guangdong, China

Tel.: (86)755-27521059

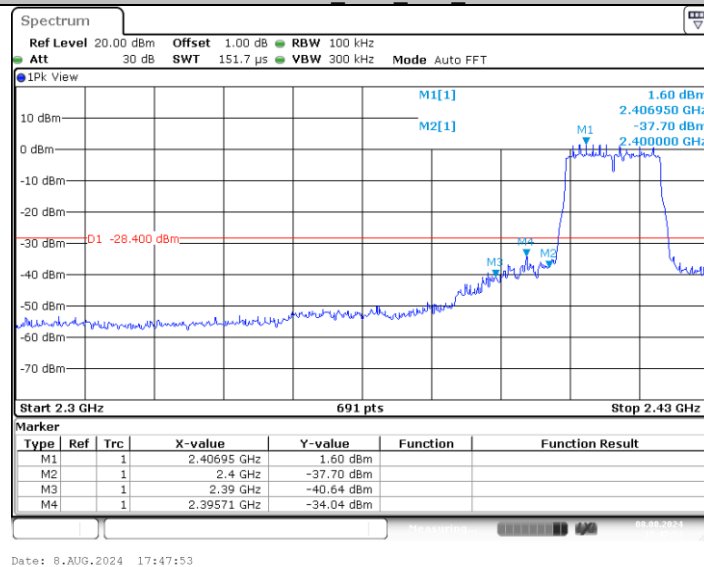
Fax: (86)755-27521011

Http://www.sz-ctc.org.cn

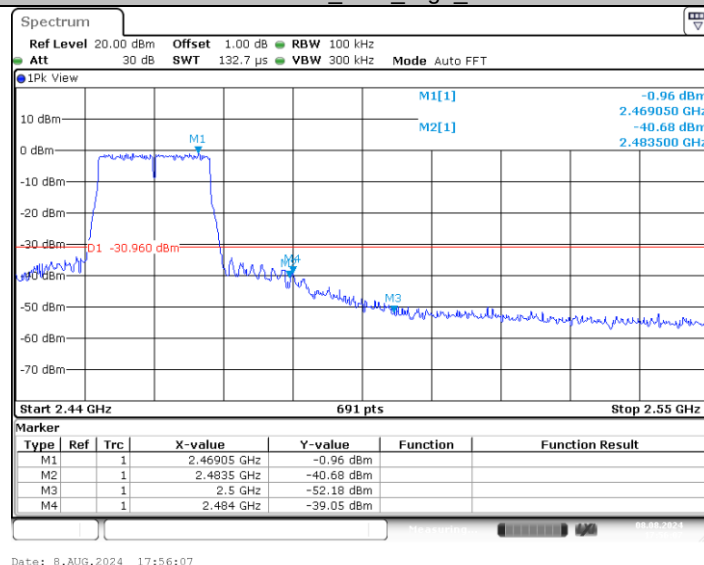
For anti-fake verification, please visit the official website of Certification and Accreditation Administration of the People's Republic of China : yz.cnca.cn



11N20SISO_Ant1_Low_2412



11N20SISO_Ant1_High_2462



11N40SISO_Ant1_Low_2422

CTC Laboratories, Inc.

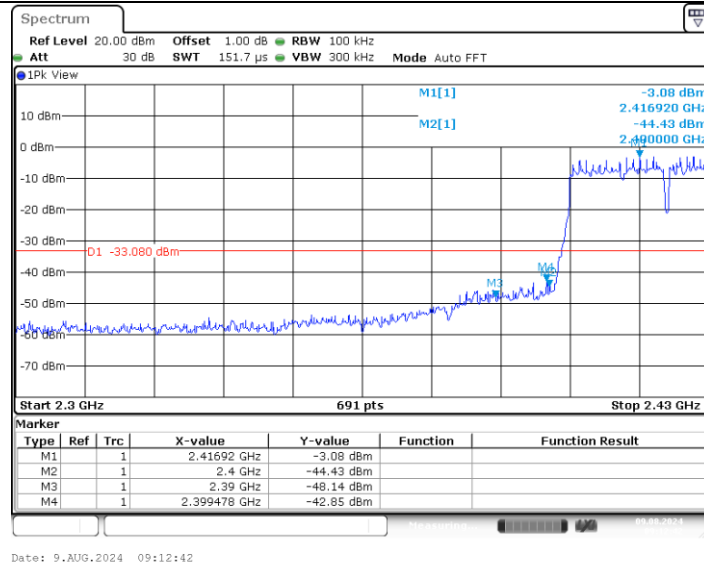
1-2/F, Building 2, Jiaquan Building, Guanlan High-Tech Park, Shenzhen, Guangdong, China

Tel.: (86)755-27521059

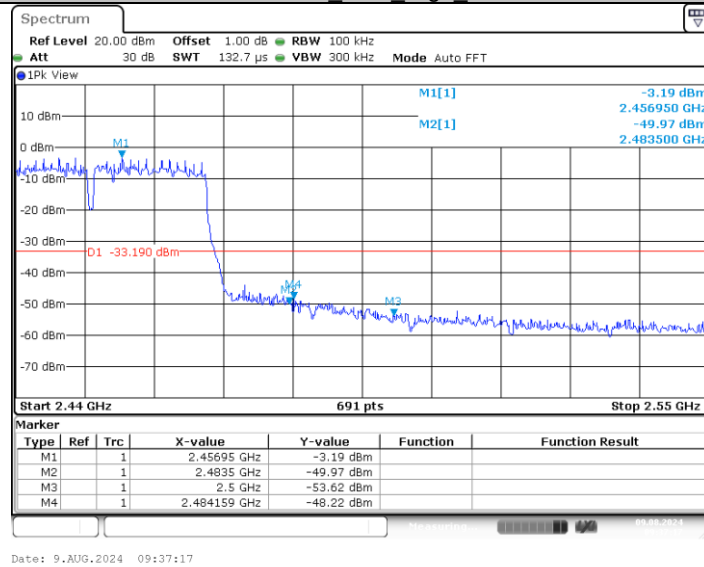
Fax: (86)755-27521011

Http://www.sz-ctc.org.cn

For anti-fake verification, please visit the official website of Certification and Accreditation Administration of the People's Republic of China : yz.cnca.cn



11N40SISO_Ant1_High_2452



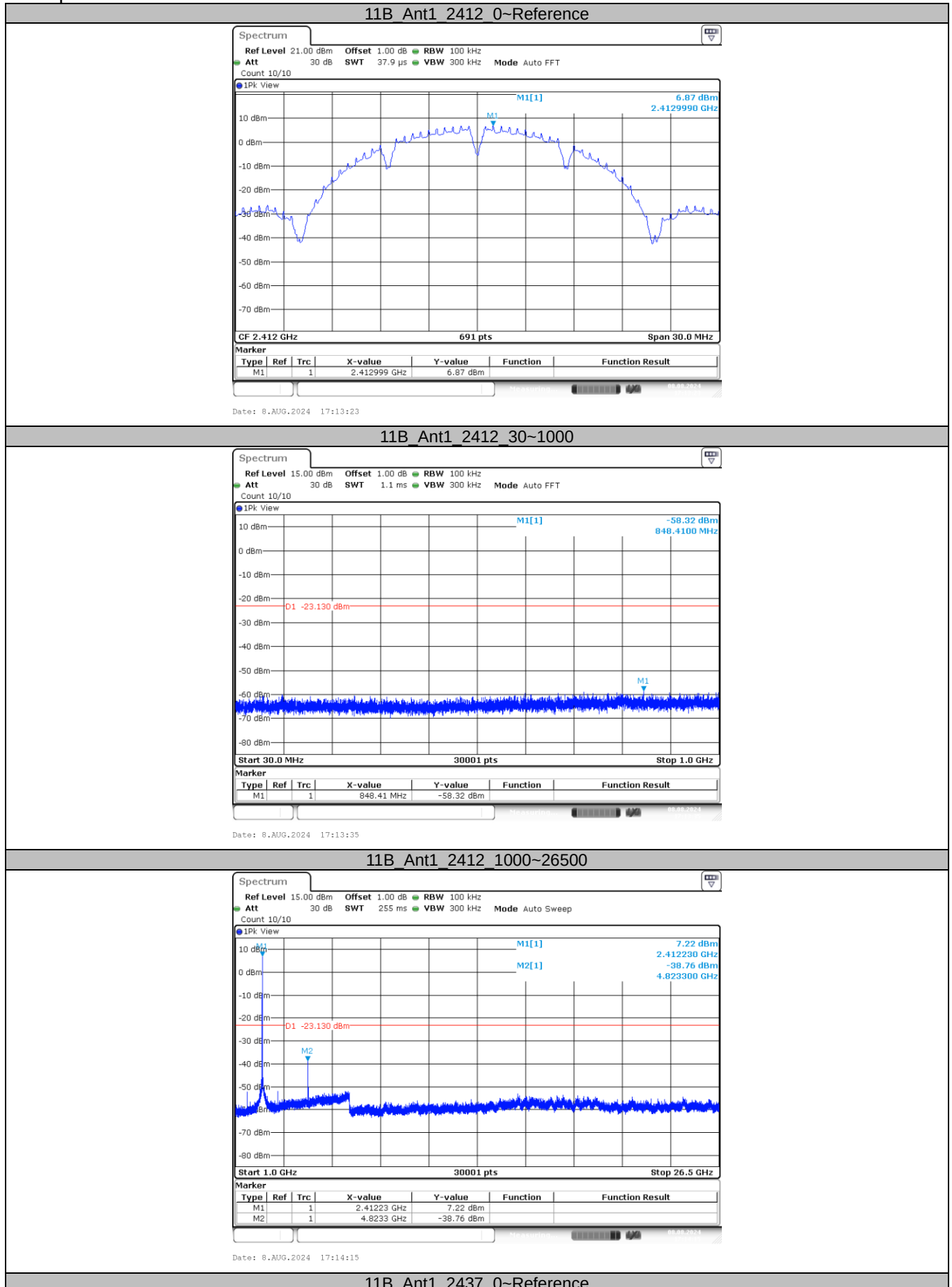


(2) Conducted Spurious Emissions Test

TestMode	Antenna	Frequency[MHz]	FreqRange [Mhz]	RefLevel [dBm]	Result [dBm]	Limit [dBm]	Verdict
11B	Ant1	2412	Reference	6.87	6.87	---	PASS
			30~1000	6.87	-58.32	≤-23.13	PASS
			1000~26500	6.87	-38.76	≤-23.13	PASS
		2437	Reference	7.10	7.10	---	PASS
			30~1000	7.10	-57.75	≤-22.9	PASS
			1000~26500	7.10	-40.62	≤-22.9	PASS
		2462	Reference	7.06	7.06	---	PASS
			30~1000	7.06	-59.17	≤-22.94	PASS
			1000~26500	7.06	-41.13	≤-22.94	PASS
11G	Ant1	2412	Reference	2.66	2.66	---	PASS
			30~1000	2.66	-58.93	≤-27.34	PASS
			1000~26500	2.66	-50.75	≤-27.34	PASS
		2437	Reference	2.83	2.83	---	PASS
			30~1000	2.83	-59.3	≤-27.17	PASS
			1000~26500	2.83	-50.55	≤-27.17	PASS
		2462	Reference	2.77	2.77	---	PASS
			30~1000	2.77	-58.33	≤-27.23	PASS
			1000~26500	2.77	-51.22	≤-27.23	PASS
11N20SISO	Ant1	2412	Reference	2.47	2.47	---	PASS
			30~1000	2.47	-58.59	≤-27.53	PASS
			1000~26500	2.47	-51.59	≤-27.53	PASS
		2437	Reference	0.86	0.86	---	PASS
			30~1000	0.86	-57.91	≤-29.14	PASS
			1000~26500	0.86	-51.09	≤-29.14	PASS
		2462	Reference	0.41	0.41	---	PASS
			30~1000	0.41	-58.47	≤-29.59	PASS
			1000~26500	0.41	-51.61	≤-29.59	PASS
11N40SISO	Ant1	2422	Reference	-3.03	-3.03	---	PASS
			30~1000	-3.03	-59.06	≤-33.03	PASS
			1000~26500	-3.03	-51.9	≤-33.03	PASS
		2437	Reference	-3.34	-3.34	---	PASS
			30~1000	-3.34	-58.8	≤-33.34	PASS
			1000~26500	-3.34	-52.03	≤-33.34	PASS
		2452	Reference	-4.36	-4.36	---	PASS
			30~1000	-4.36	-58.17	≤-34.36	PASS
			1000~26500	-4.36	-51.69	≤-34.36	PASS



Test plot as follows:



CTC Laboratories, Inc.

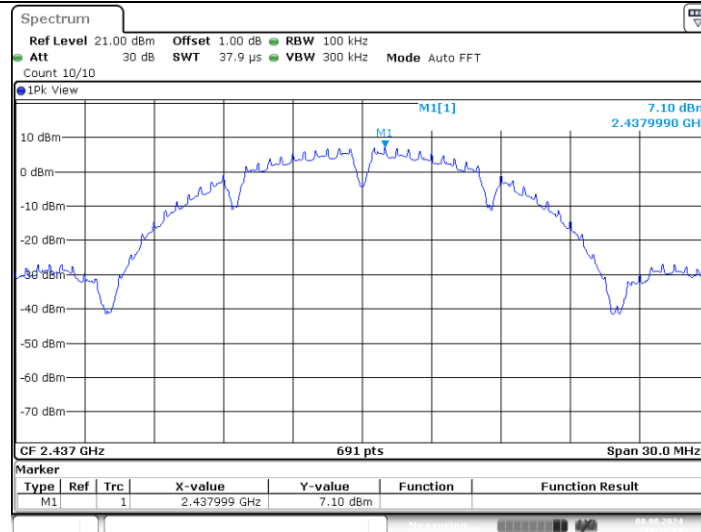
1-2/F, Building 2, Jiaquan Building, Guanlan High-Tech Park, Shenzhen, Guangdong, China

Tel.: (86)755-27521059

Fax: (86)755-27521011

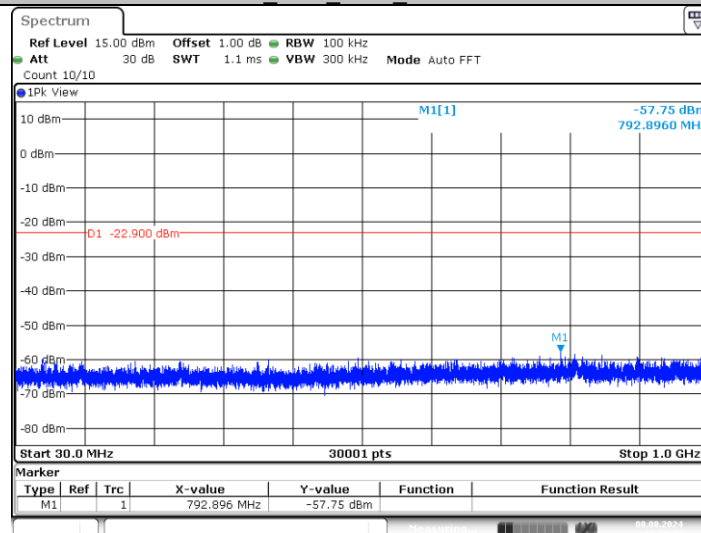
Http://www.sz-ctc.org.cn

For anti-fake verification, please visit the official website of Certification and Accreditation Administration of the People's Republic of China : yz.cnca.cn



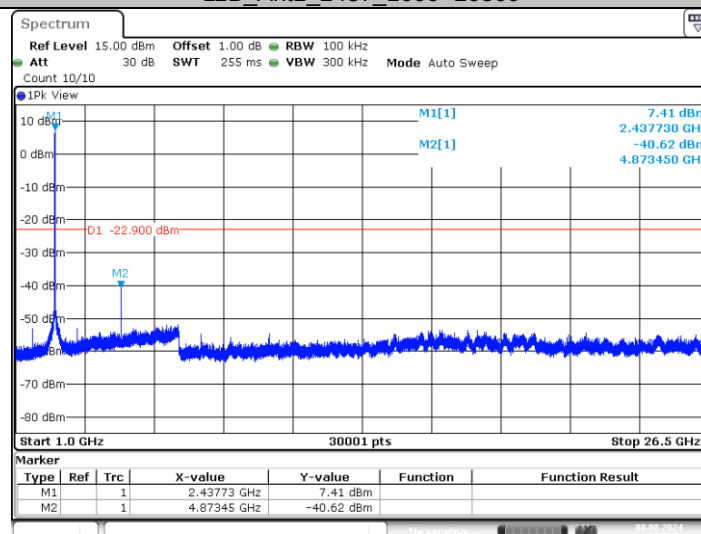
Date: 8.AUG.2024 17:19:23

11B_Ant1_2437_30~1000



Date: 8.AUG.2024 17:19:36

11B_Ant1_2437_1000~26500



Date: 8.AUG.2024 17:20:15

11B_Ant1_2462_0~Reference

CTC Laboratories, Inc.

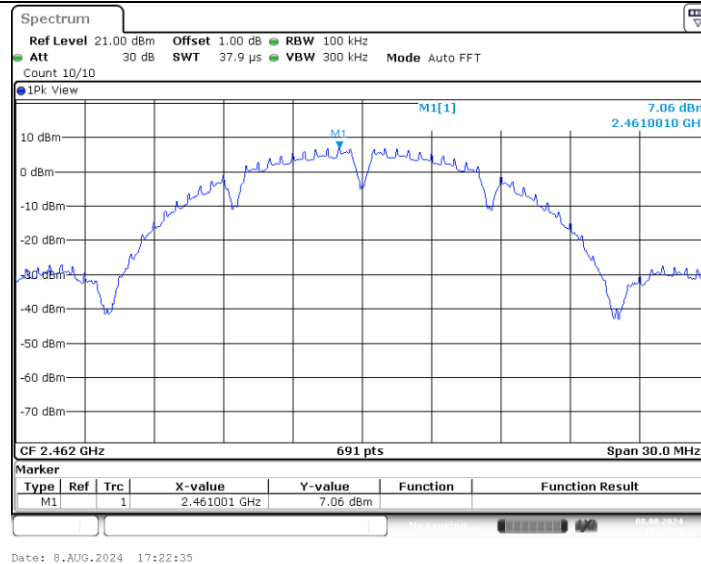
1-2/F., Building 2, Jiaquan Building, Guanlan High-Tech Park, Shenzhen, Guangdong, China

Tel.: (86)755-27521059

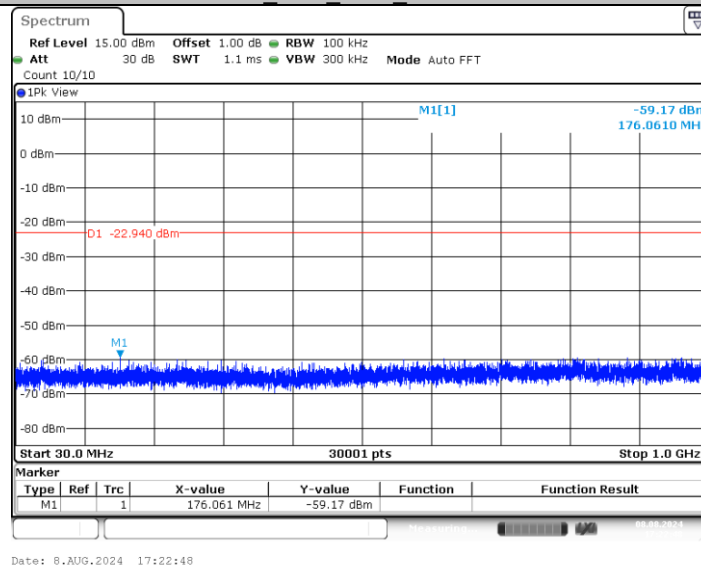
Fax: (86)755-27521011

Http://www.sz-ctc.org.cn

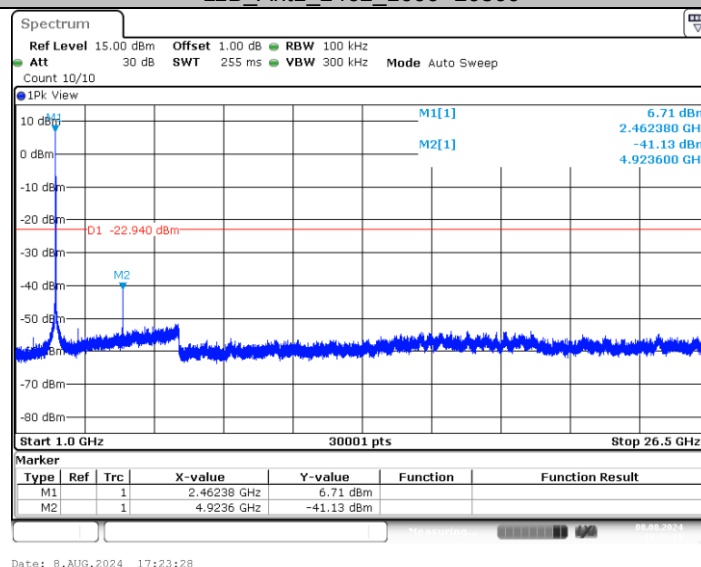
For anti-fake verification, please visit the official website of Certification and Accreditation Administration of the People's Republic of China : yz.cnca.cn



11B_Ant1_2462_30~1000



11B_Ant1_2462_1000~26500



11G_Ant1_2412_0~Reference

CTC Laboratories, Inc.

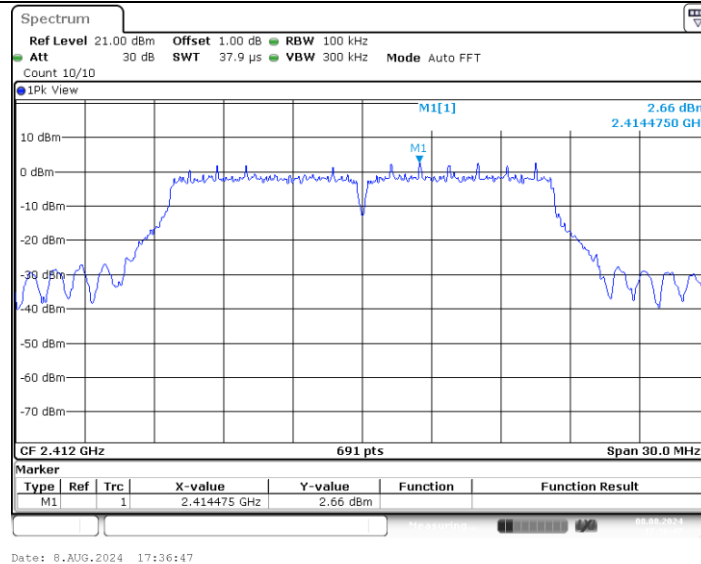
1-2/F, Building 2, Jiaquan Building, Guanlan High-Tech Park, Shenzhen, Guangdong, China

Tel.: (86)755-27521059

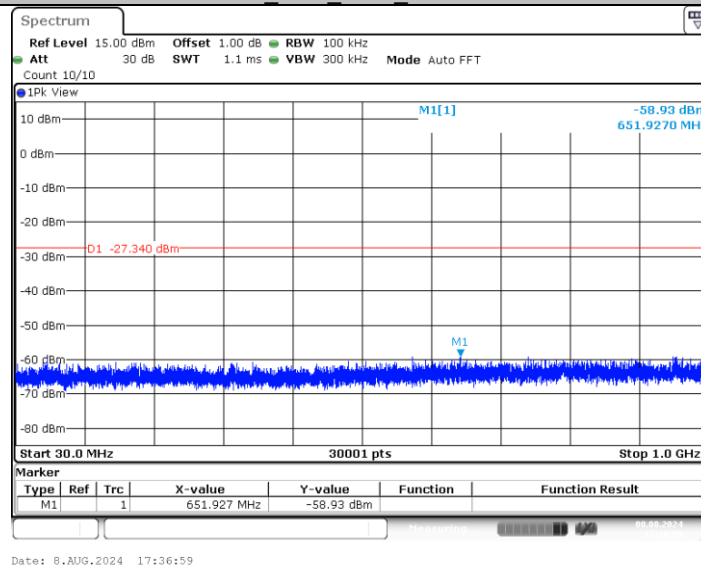
Fax: (86)755-27521011

Http://www.sz-ctc.org.cn

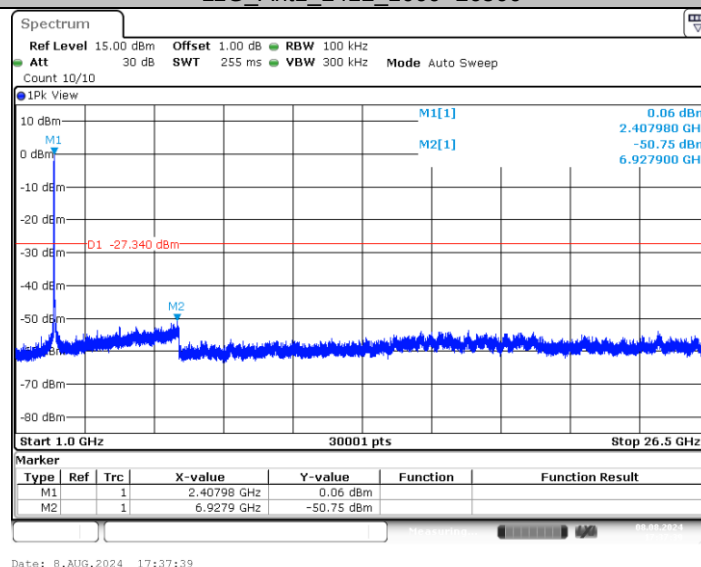
For anti-fake verification, please visit the official website of Certification and Accreditation Administration of the People's Republic of China : yz.cnca.cn



11G_Ant1_2412_30~1000



11G_Ant1_2412_1000~26500



11G_Ant1_2437_0~Reference

CTC Laboratories, Inc.

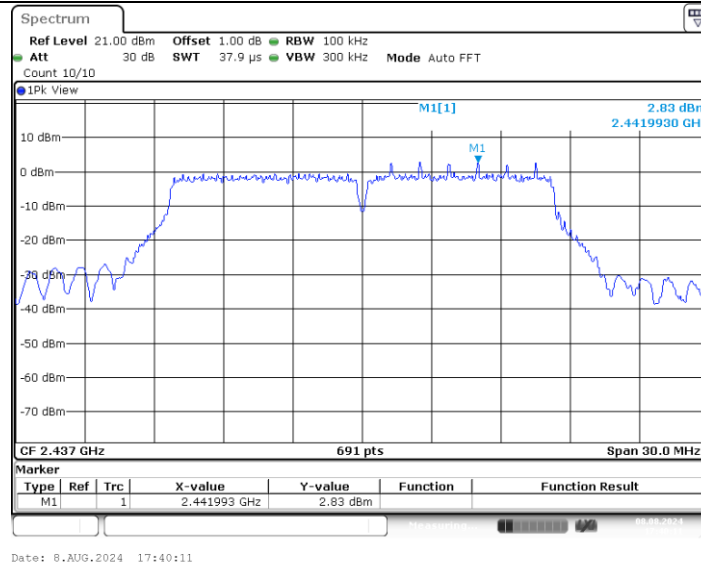
1-2/F., Building 2, Jiaquan Building, Guanlan High-Tech Park, Shenzhen, Guangdong, China

Tel.: (86)755-27521059

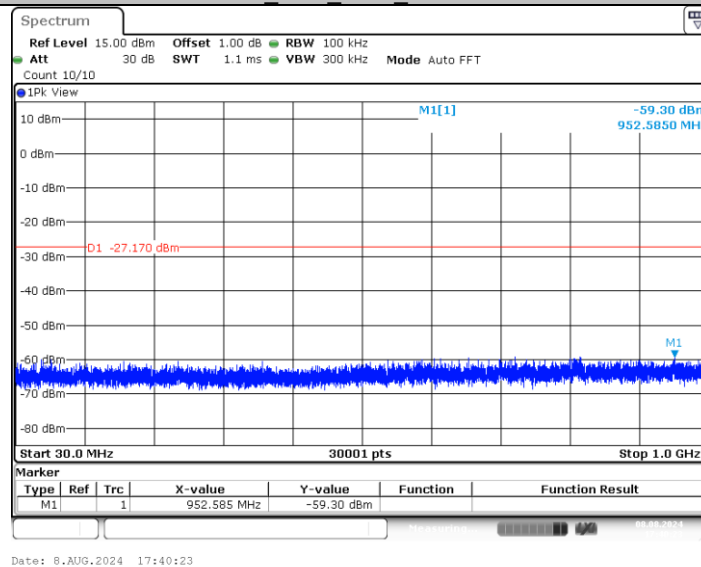
Fax: (86)755-27521011

Http://www.sz-ctc.org.cn

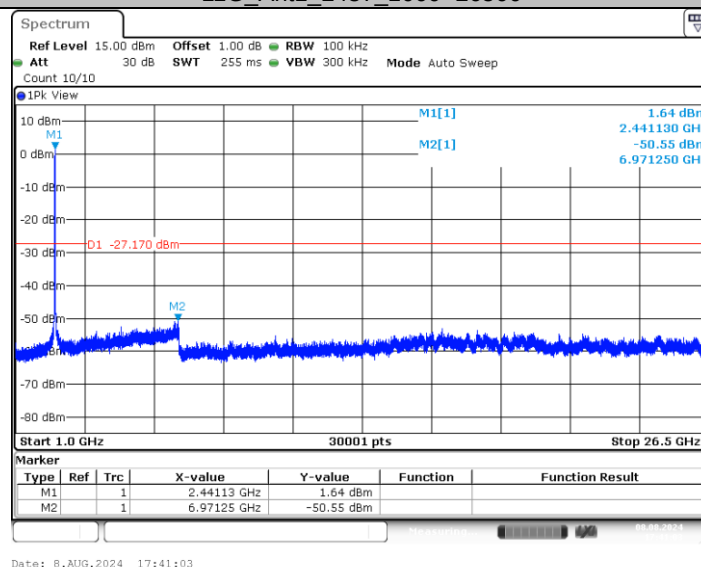
For anti-fake verification, please visit the official website of Certification and Accreditation Administration of the People's Republic of China : yz.cnca.cn



11G_Ant1_2437_30~1000



11G_Ant1_2437_1000~26500



11G_Ant1_2462_0~Reference

CTC Laboratories, Inc.

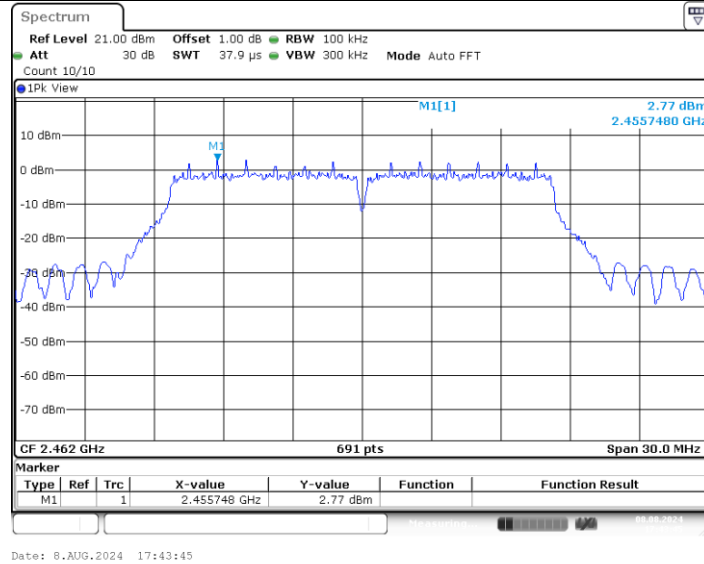
1-2/F., Building 2, Jiaquan Building, Guanlan High-Tech Park, Shenzhen, Guangdong, China

Tel.: (86)755-27521059

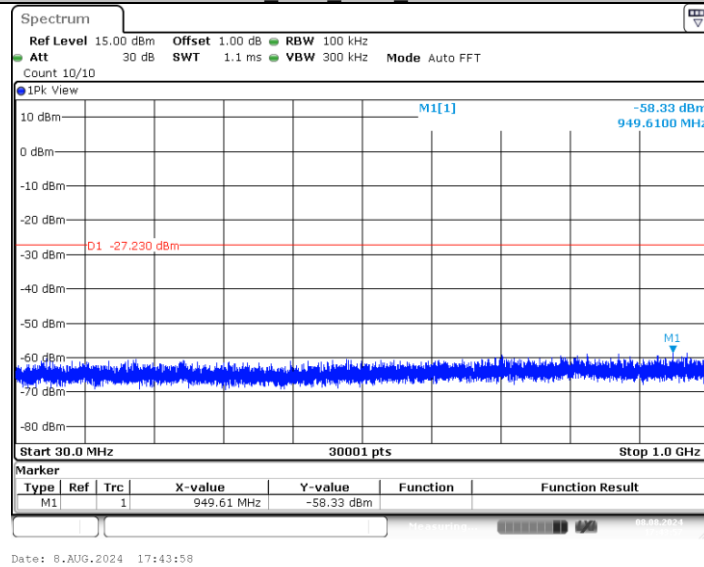
Fax: (86)755-27521011

Http://www.sz-ctc.org.cn

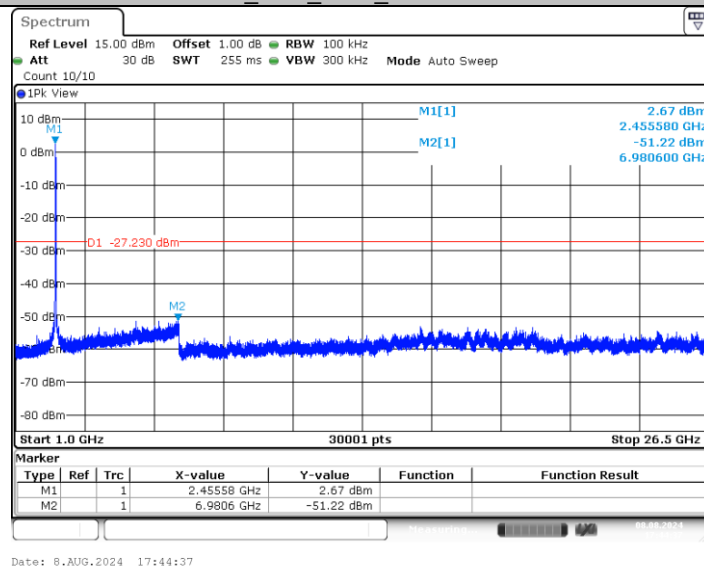
For anti-fake verification, please visit the official website of Certification and Accreditation Administration of the People's Republic of China : yz.cnca.cn



11G_Ant1_2462_30~1000



11G_Ant1_2462_1000~26500



11N20SISO_Ant1_2412_0~Reference

CTC Laboratories, Inc.

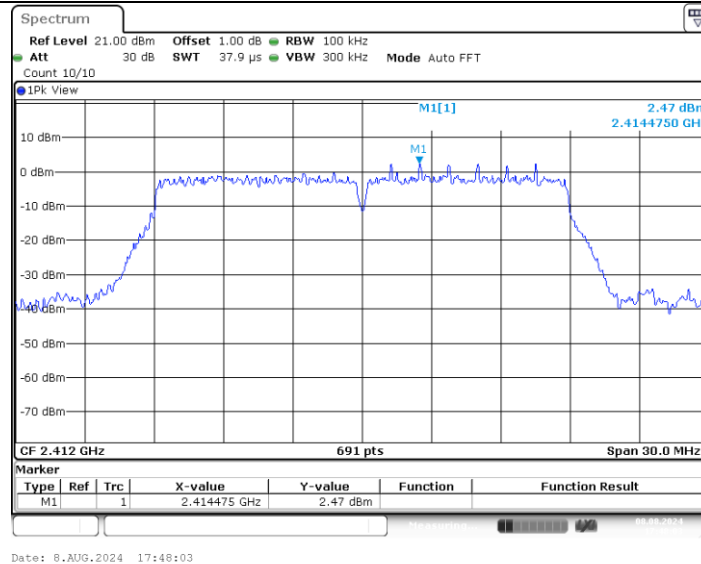
1-2/F, Building 2, Jiaquan Building, Guanlan High-Tech Park, Shenzhen, Guangdong, China

Tel.: (86)755-27521059

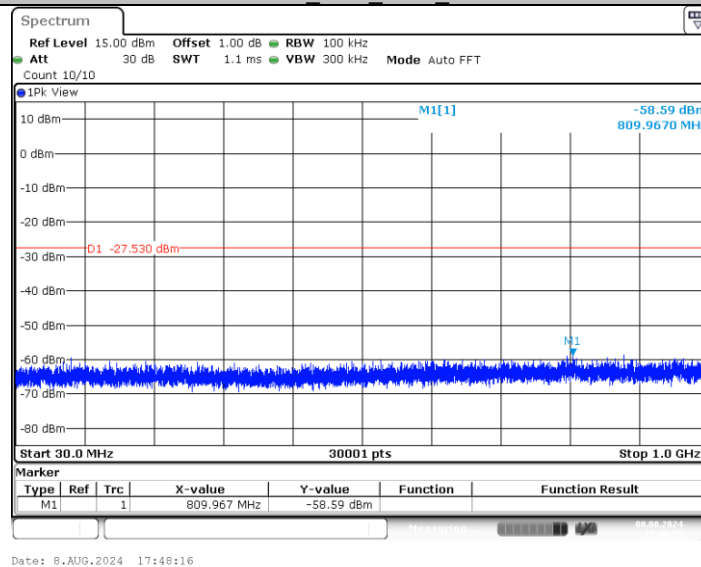
Fax: (86)755-27521011

Http://www.sz-ctc.org.cn

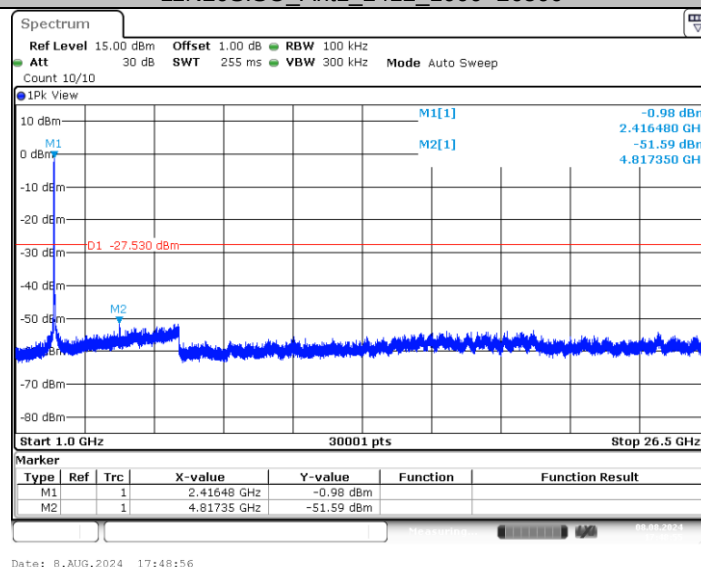
For anti-fake verification, please visit the official website of Certification and Accreditation Administration of the People's Republic of China : yz.cnca.cn



11N20SISO_Ant1_2412_30~1000



11N20SISO_Ant1_2412_1000~26500



11N20SISO_Ant1_2437_0~Reference

CTC Laboratories, Inc.

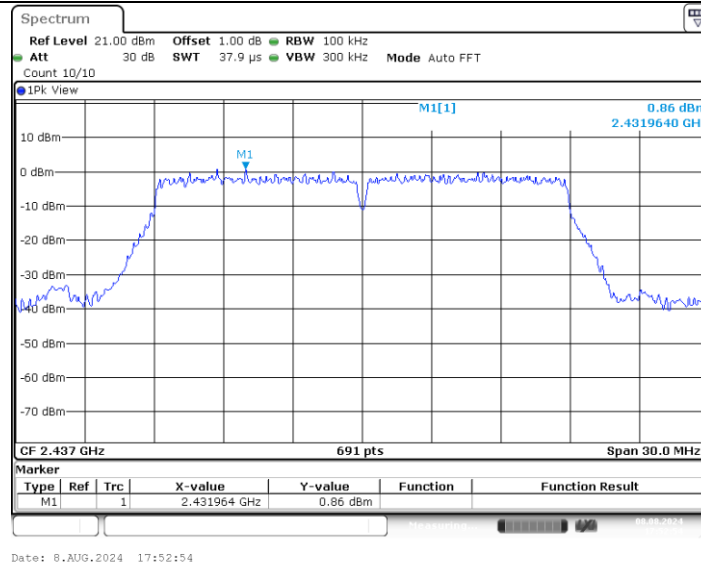
1-2/F., Building 2, Jiaquan Building, Guanlan High-Tech Park, Shenzhen, Guangdong, China

Tel.: (86)755-27521059

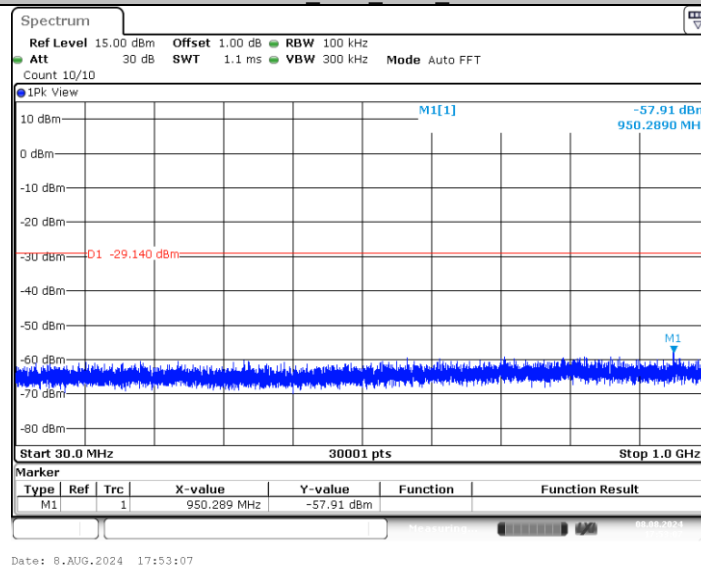
Fax: (86)755-27521011

Http://www.sz-ctc.org.cn

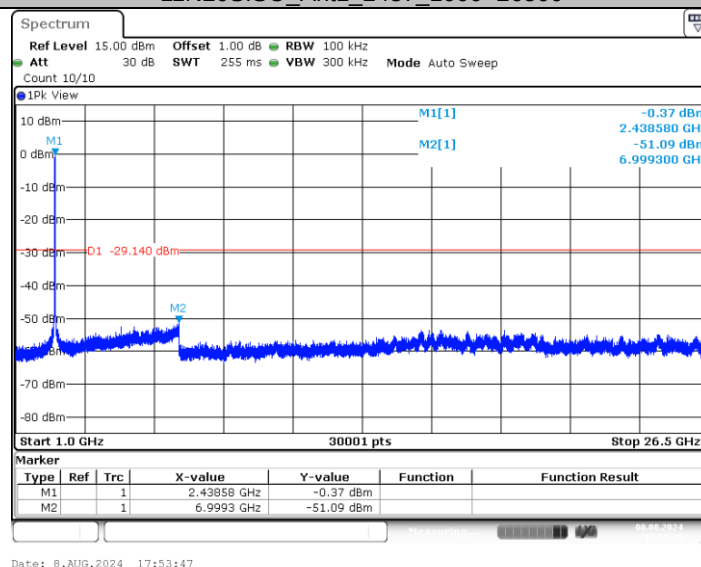
For anti-fake verification, please visit the official website of Certification and Accreditation Administration of the People's Republic of China : yz.cnca.cn



11N20SISO_Ant1_2437_30~1000



11N20SISO_Ant1_2437_1000~26500



11N20SISO_Ant1_2462_0~Reference

CTC Laboratories, Inc.

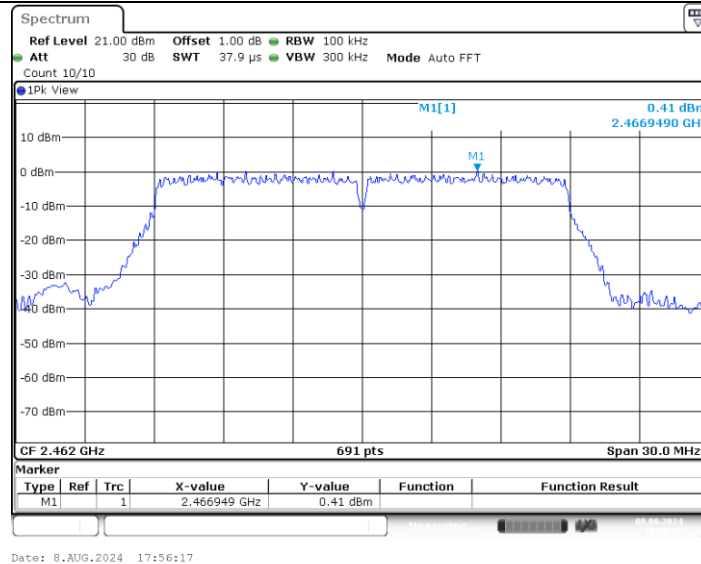
1-2/F., Building 2, Jiaquan Building, Guanlan High-Tech Park, Shenzhen, Guangdong, China

Tel.: (86)755-27521059

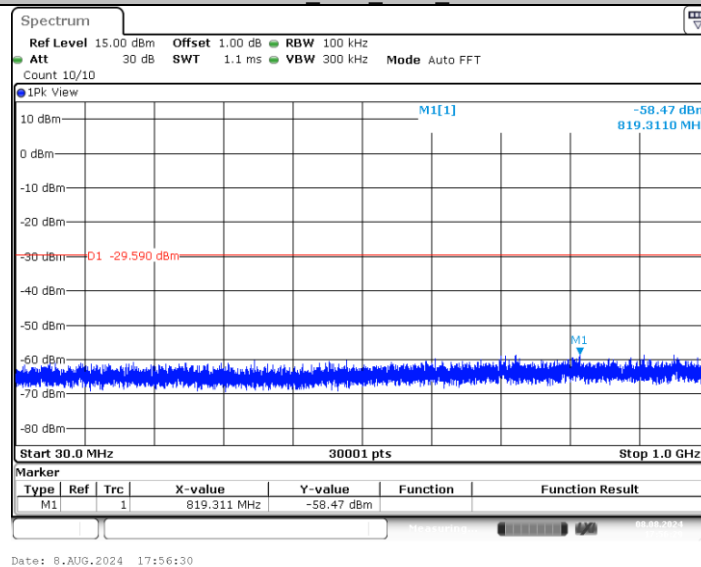
Fax: (86)755-27521011

Http://www.sz-ctc.org.cn

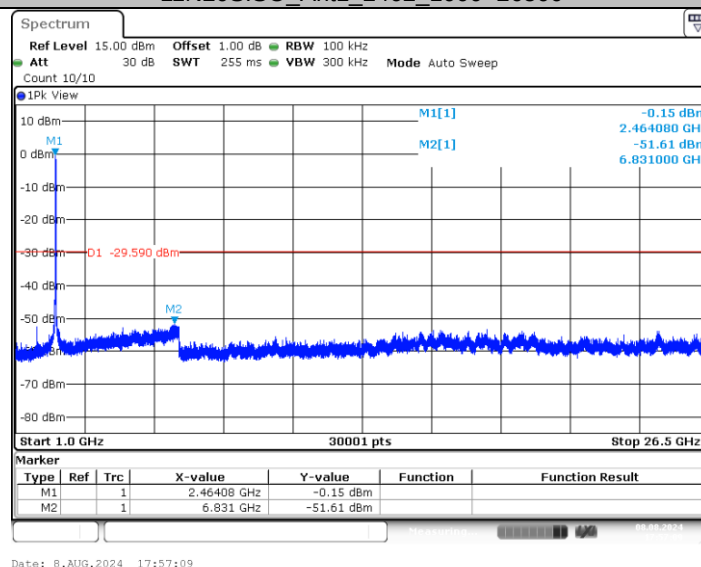
For anti-fake verification, please visit the official website of Certification and Accreditation Administration of the People's Republic of China : yz.cnca.cn



11N20SISO_Ant1_2462_30~1000



11N20SISO_Ant1_2462_1000~26500



11N40SISO_Ant1_2422_0~Reference

CTC Laboratories, Inc.

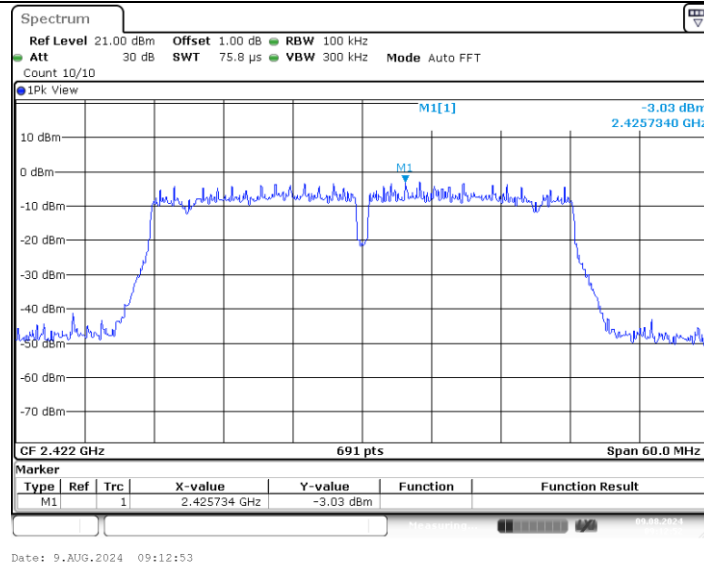
1-2/F., Building 2, Jiaquan Building, Guanlan High-Tech Park, Shenzhen, Guangdong, China

Tel.: (86)755-27521059

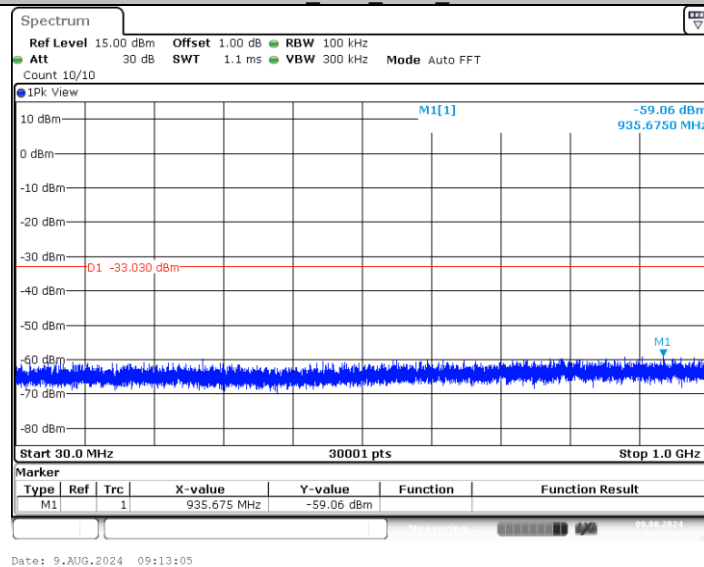
Fax: (86)755-27521011

Http://www.sz-ctc.org.cn

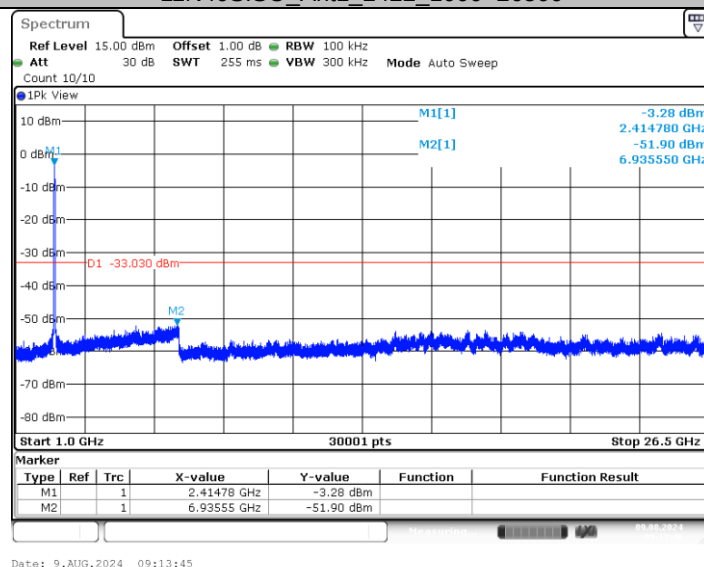
For anti-fake verification, please visit the official website of Certification and Accreditation Administration of the People's Republic of China : yz.cnca.cn



11N40SISO_Ant1_2422_30~1000



11N40SISO_Ant1_2422_1000~26500



11N40SISO_Ant1_2437_0~Reference

CTC Laboratories, Inc.

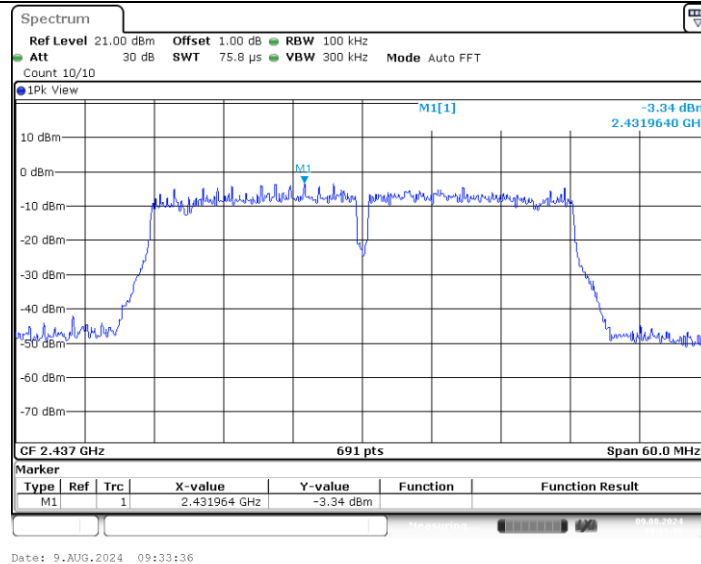
1-2/F, Building 2, Jiaquan Building, Guanlan High-Tech Park, Shenzhen, Guangdong, China

Tel.: (86)755-27521059

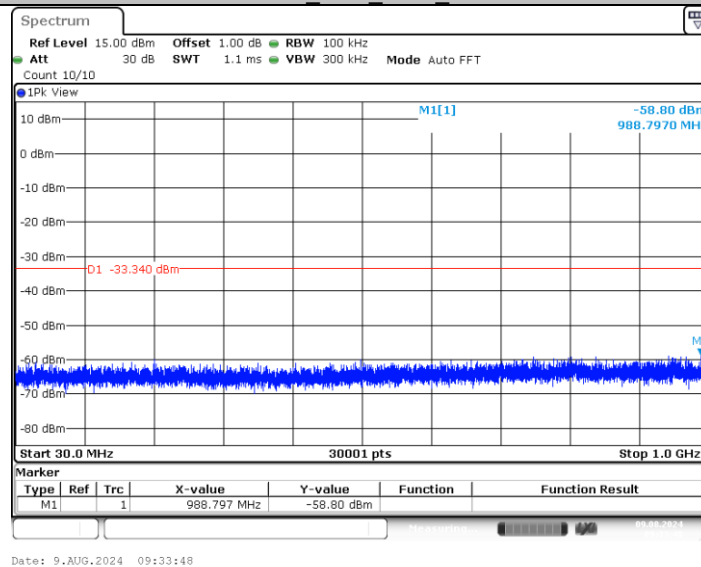
Fax: (86)755-27521011

Http://www.sz-ctc.org.cn

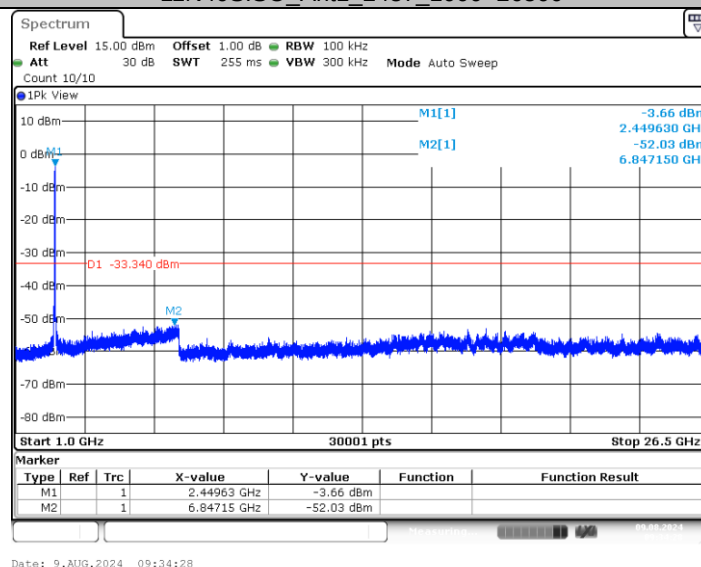
For anti-fake verification, please visit the official website of Certification and Accreditation Administration of the People's Republic of China : yz.cnca.cn



11N40SISO_Ant1_2437_30~1000



11N40SISO_Ant1_2437_1000~26500



11N40SISO_Ant1_2452_0~Reference

CTC Laboratories, Inc.

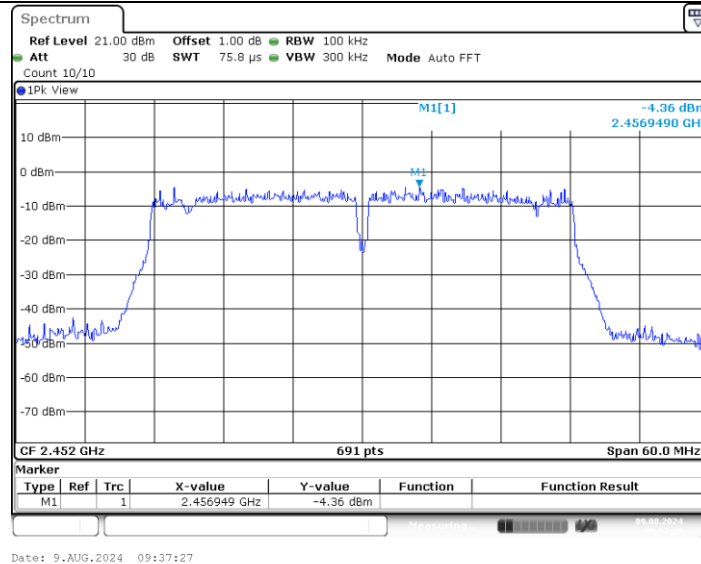
1-2/F, Building 2, Jiaquan Building, Guanlan High-Tech Park, Shenzhen, Guangdong, China

Tel.: (86)755-27521059

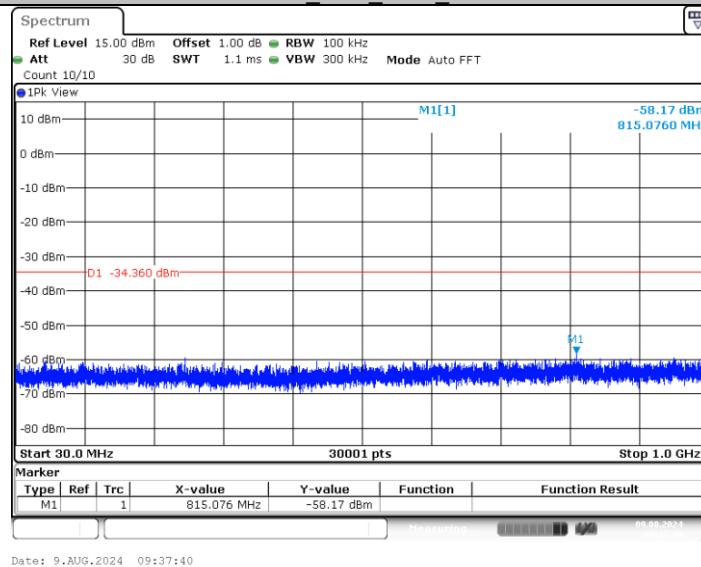
Fax: (86)755-27521011

Http://www.sz-ctc.org.cn

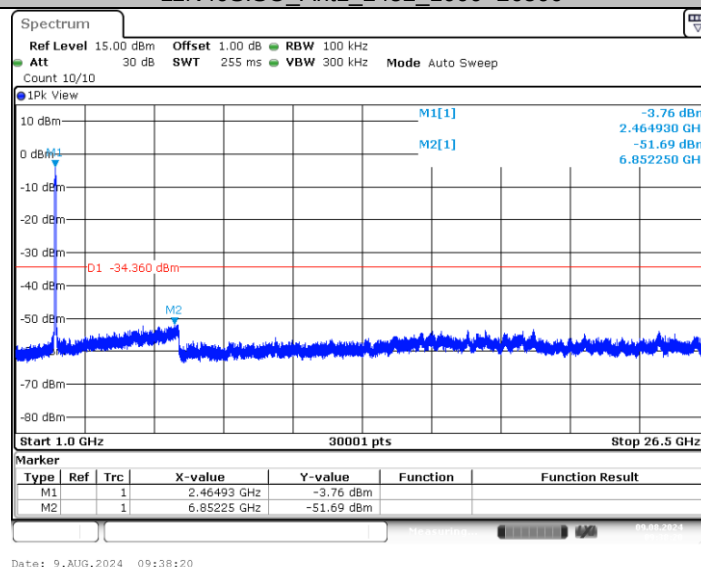
For anti-fake verification, please visit the official website of Certification and Accreditation Administration of the People's Republic of China : yz.cnca.cn



11N40SISO_Ant1_2452_30~1000



11N40SISO_Ant1_2452_1000~26500



CTC Laboratories, Inc.

1-2/F, Building 2, Jiaquan Building, Guanlan High-Tech Park, Shenzhen, Guangdong, China

Tel.: (86)755-27521059

Fax: (86)755-27521011

Http://www.sz-ctc.org.cn

For anti-fake verification, please visit the official website of Certification and Accreditation Administration of the People's Republic of China : yz.cnca.cn



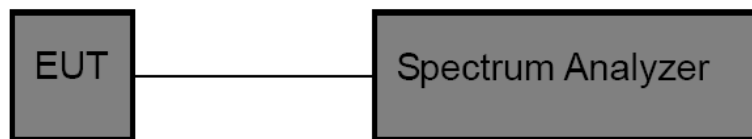
3.5. Bandwidth

Limit

FCC CFR Title 47 Part 15 Subpart C Section 15.247 (a)(2):

Test Item	Limit	Frequency Range(MHz)
DTS Bandwidth	≥ 500 KHz (6dB bandwidth)	2400~2483.5

Test Configuration



Test Procedure

1. The EUT was directly connected to the spectrum analyzer and antenna output port as show in the block diagram above.

2. DTS Spectrum Setting:

- (1) Set RBW = 100 kHz.
- (2) Set the video bandwidth (VBW) ≥ 3 RBW.
- (3) Detector = Peak.
- (4) Trace mode = Max hold.
- (5) Sweep = Auto couple.

OCB Spectrum Setting:

- (1) Set RBW = 1% ~ 5% occupied bandwidth.
- (2) Set the video bandwidth (VBW) ≥ 3 RBW.
- (3) Detector = Peak.
- (4) Trace mode = Max hold.
- (5) Sweep = Auto couple.

NOTE: The EUT was set to continuously transmitting in each mode and low, Middle and high channel for the test.

Test Mode

Please refer to the clause 2.4.

**Test Results**

Test Mode	Antenna	Frequency (MHz)	OCB [MHz]	DTS BW [MHz]	Limit[MHz]	Verdict
11B	Ant1	2412	15.105	10.04	0.5	PASS
	Ant1	2437	15.065	10.04	0.5	PASS
	Ant1	2462	15.025	9.56	0.5	PASS
11G	Ant1	2412	17.223	16.32	0.5	PASS
	Ant1	2437	17.782	16.36	0.5	PASS
	Ant1	2462	17.143	16.60	0.5	PASS
11N20SISO	Ant1	2412	18.262	17.60	0.5	PASS
	Ant1	2437	18.262	17.76	0.5	PASS
	Ant1	2462	18.182	17.64	0.5	PASS
11N40SISO	Ant1	2422	36.523	36.40	0.5	PASS
	Ant1	2437	36.204	35.92	0.5	PASS
	Ant1	2452	36.683	36.48	0.5	PASS