



TEST REPORT

Report No. : **CTC2024283516**

FCC ID..... : **2AR24-X4K-BOX**

Applicant : **Shenzhen Absen Optoelectronic Co., Ltd**

Address..... : 18-20/F, Tower A, Building 3, Phase I, Tian An Cloud Park,
NO.2018, Xuegang Rd, Bantian, Longgang District, Shenzhen,
Guangdong, P.R. China

Manufacturer..... : Shenzhen Absen Optoelectronic Co., Ltd

Address..... : 18-20/F, Tower A, Building 3, Phase I, Tian An Cloud Park,
NO.2018, Xuegang Rd, Bantian, Longgang District, Shenzhen,
Guangdong, P.R. China

Product Name : **LED Multimedia Processor**

Trade Mark : **Abesen**

Model/Type reference..... : Absen X4K-BOX

Listed Model(s) : /

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

Test Report Form No : CTC-TR-057_A2

Master TRF : Dated 2025-05-12

Date of receipt of test sample..... : Dec. 20, 2024

Date of testing..... : Jan. 14, 2025 ~ Mar. 19, 2025

Date of issue..... : Jul. 02, 2025

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

Compiled by:

(Printed name+signature)

Lucy Lan

Supervised by:

(Printed name+signature)

Eric Zhang

Approved by:

(Printed name+signature)

Totti Zhao

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**Table of Contents****Page**

1. TEST SUMMARY	3
1.1. TEST STANDARDS	3
1.2. REPORT VERSION	3
1.3. TEST DESCRIPTION.....	3
1.4. TEST FACILITY	4
1.5. MEASUREMENT UNCERTAINTY.....	5
1.6. ENVIRONMENTAL CONDITIONS	5
2. GENERAL INFORMATION	6
2.1. CLIENT INFORMATION.....	6
2.2. GENERAL DESCRIPTION OF EUT	6
2.3. ACCESSORY EQUIPMENT INFORMATION.....	7
2.4. OPERATION STATE	8
2.5. MEASUREMENT INSTRUMENTS LIST	10
3. TEST ITEM AND RESULTS	11
3.1. CONDUCTED EMISSION	11
3.2. RADIATED EMISSION	14
3.3. BAND EDGE EMISSIONS (RADIATED)	37
3.4. BAND EDGE AND SPURIOUS EMISSIONS (CONDUCTED)	62
3.5. DTS BANDWIDTH.....	98
3.6. PEAK OUTPUT POWER.....	124
3.7. POWER SPECTRAL DENSITY	127
3.8. DUTY CYCLE	141
3.9. ANTENNA REQUIREMENT	155

CTC Laboratories, Inc.

Room 107, 108, 207, 208, 303 of Building A, Room 101 of Building B, No.7, Lanqing 1st Road, Luhu Community, Guanhu Subdistrict,
Longhua District, Shenzhen, Guangdong, China Tel.: (86)755-27521059 Fax: (86)755-27521011 Http://www.sz-ctc.org.cn

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Society : yz.cncaq.com

TRF No: CTC-TR-057_A2



1. TEST SUMMARY

1.1. Test Standards

The tests were performed according to following standards:

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

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

1.2. Report Version

Revised No.	Report No.	Date of issue	Description
01	CTC2024283516	Jul. 02, 2025	Original

1.3. Test Description

FCC Part 15 Subpart C (15.247)			
Test Item	Standard Section	Result	Test Engineer
Antenna Requirement	15.203	Pass	Marrow
Conducted Emission	15.207	Pass	Marrow
Conducted Band Edge and Spurious Emissions	15.247(d)	Pass	Marrow
Radiated Band Edge and Spurious Emissions	15.205&15.209&15.247(d)	Pass	Marrow
6dB Bandwidth	15.247(a)(2)	Pass	Marrow
Conducted Max Output Power	15.247(b)(3)	Pass	Marrow
Power Spectral Density	15.247(e)	Pass	Marrow
Transmitter Radiated Spurious	15.209&15.247(d)	Pass	Marrow

Note:

1. The measurement uncertainty is not included in the test result.
2. N/A: means this test item is not applicable for this device according to the technology characteristic of device.



1.4. Test Facility

Address of the report laboratory

CTC Laboratories, Inc.

Add: Room 107, 108, 207, 208, 303 of Building A, Room 101 of Building B, No.7, Lanqing 1st Road, Luhu 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
DTS Bandwidth	$\pm 0.0196\%$	(1)
Maximum Conducted Output Power	± 0.686 dB	(1)
Maximum Power Spectral Density Level	± 0.743 dB	(1)
Band-edge Compliance	± 1.328 dB	(1)
Unwanted Emissions In Non-restricted Freq Bands	9kHz-1GHz: ± 0.746 dB 1GHz-26GHz: ± 1.328 dB	(1)
Conducted Emissions 9kHz~30MHz	± 3.08 dB	(1)
Radiated Emissions 30~1000MHz	± 4.51 dB	(1)
Radiated Emissions 1~18GHz	± 5.84 dB	(1)
Radiated Emissions 18~40GHz	± 6.12 dB	(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:	15 °C to 35 °C
Relative Humidity:	20 % to 75 %
Air Pressure:	101 kPa



2. GENERAL INFORMATION

2.1. Client Information

Applicant:	Shenzhen Absen Optoelectronic Co., Ltd
Address:	18-20/F, Tower A, Building 3, Phase I, Tian An Cloud Park, NO.2018, Xuegang Rd, Bantian, Longgang District, Shenzhen, Guangdong, P.R. China
Manufacturer:	Shenzhen Absen Optoelectronic Co., Ltd
Address:	18-20/F, Tower A, Building 3, Phase I, Tian An Cloud Park, NO.2018, Xuegang Rd, Bantian, Longgang District, Shenzhen, Guangdong, P.R. China
Factory:	Huizhou Absen Optoelectronic Limited.
Address:	No. 03, Donghua South road, Dongjiang Hi-tech Industry Park, Huizhou. Guangdong, China

2.2. General Description of EUT

Product Name:	LED Multimedia Processor
Trade Mark:	absen
Model/Type reference:	Absen X4K-BOX
Listed Model(s):	/
Model Difference:	/
Sample ID:	CTC241127-005-S002
RF module:	FRX-M79AU-21
Power Supply:	INPUT: 100-240V~50/60Hz 11.5A
Hardware Version:	/
Software Version:	/
2.4G Wi-Fi	
Modulation:	802.11b: DSSS (CCK, DQPSK, DBPSK) 802.11g/ n: OFDM (BPSK, QPSK, 16QAM, 64QAM) 802.11ax: OFDMA (BPSK, QPSK, 16QAM, 64QAM, 256QAM, 1024QAM)
Operation Frequency:	802.11b/ g/ n(HT20)/ ax(HE20): 2412MHz~2462MHz 802.11n(HT40)/ ax(HE40): 2422MHz~2452MHz
Channel Number:	802.11b/ g/ n(HT20)/ ax(HE20): 11 channels 802.11n(HT40)/ ax(HE40): 7 channels
Channel Separation:	5MHz
Antenna Type:	PCB Antenna
Antenna Gain:	ANT1:1.73dBi ANT2: 0.22dBi



2.3. Accessory Equipment Information

Equipment Information			
Name	Model	S/N	Manufacturer
Notebook	ThinkPad T460s	/	Lenovo
Cable Information			
Name	Shielded Type	Ferrite Core	Length
USB Cable	Unshielded	NO	150cm
Test Software Information			
Name	Version	/	/
QATool_Dbg	/	/	/



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)/ax(HE20), CH 03~CH 09 for 802.11n(HT40)/ax(HE40).

Antenna Specification:

Ant.	Brand	Model Name	Antenna Type	Connector	Gain(dBi)
1	NA	NA	External Antenna	IPEX	1.73
2	NA	NA	External Antenna	IPEX	0.22

For 2.4G, this EUT supports MIMO 2X2 with the unequal antenna gain, and any transmit signals are correlated with each other.

According to KDB 662911 D01, Directional Gain = $10 \log[(10^{G1/20} + 10^{G2/20} + \dots + 10^{GN/20})^2 / N]$ dBi, that is Directional Gain = $10 \log[((10^{1.73/20} + 10^{0.22/20})^2) / 2] = 4.02$ dBi.

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.

Test Mode	Data Rate (worst mode)
802.11b	1Mbps
802.11g	6Mbps
802.11n(HT20)/ (HT40)	HT-MCS0
802.11ax(HE20)/ (HE40)	HE-MCS0

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TRF No: CTC-TR-057_A2



Test Mode:

For RF test items:
1.The engineering test program was provided and enabled to make EUT continuous transmit.
2.IEEE 802.11ax mode only supports full RU, so only the full RU is evaluated and measured inside report
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	101654	Aug. 06, 2025
2	EXG Analog Signal Generator	Keysight	N5173B	MY59100842	Dec. 12, 2025
3	MXG Vector Signal Generator	Keysight	N5182B	MY59100212	Dec. 12, 2025
4	Wideband Radio Communication Tester	R&S	CMW500	102257	May 24, 2025
5	RF Control Unit	Tonscend	JS0806-2	/	Aug. 21, 2025
6	High and low temperature test chamber	ESPEC	MT3035	/	Mar. 21, 2025
7	Test Software	Tonscend	JS1120-3	V3.3.38	/

Radiated emission					
Item	Test Equipment	Manufacturer	Model No.	Serial No.	Calibrated Until
1	Trilog-Broadband Antenna	Schwarzbeck	VULB 9163	01026	Dec. 24, 2025
2	Horn Antenna	Schwarzbeck	BBHA 9120D	9120D-647	Sep. 25, 2025
3	Test Receiver	Keysight	N9038A	MY56400071	Dec. 12, 2025
4	Broadband Amplifier	Schwarzbeck	BBV9743B	259	Dec. 12, 2025
5	Mirowave Broadband Amplifier	Schwarzbeck	BBV9718C	111	Dec. 12, 2025
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, 2025
2	LISN	R&S	ENV216	101113	Dec. 12, 2025
3	EMI Test Receiver	R&S	ESCI	100524	Dec. 12, 2025
4	ISN CAT6	Schwarzbeck	NTFM 8158	CAT6-8158-0046	Dec. 12, 2025
5	ISN CAT5	Schwarzbeck	NTFM 8158	CAT5-8158-0046	Dec. 12, 2025
6	Test Software	R&S	EMC32	6.10.10	/

Note: 1. The Cal. Interval was one year.

2. The Cal. Interval was three years of the antenna.

3. The cable loss has been calculated in test result which connection between each test instruments.

3. TEST ITEM AND RESULTS

3.1. Conducted Emission

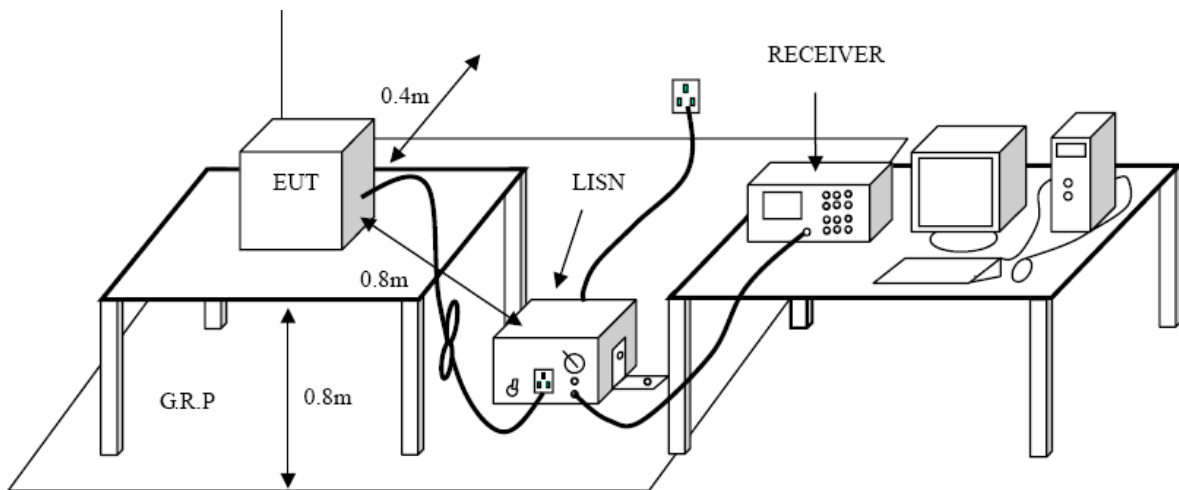
Limit

FCC CFR Title 47 Part 15 Subpart C Section 15.207

Frequency (MHz)	Conducted Limit (dBμV)	
	Quasi-peak	Average
0.15 - 0.5	66 to 56 *	56 to 46 *
0.5 - 5	56	46
5 - 30	60	50

* Decreases with the logarithm of the frequency.

Test Configuration



Test Procedure

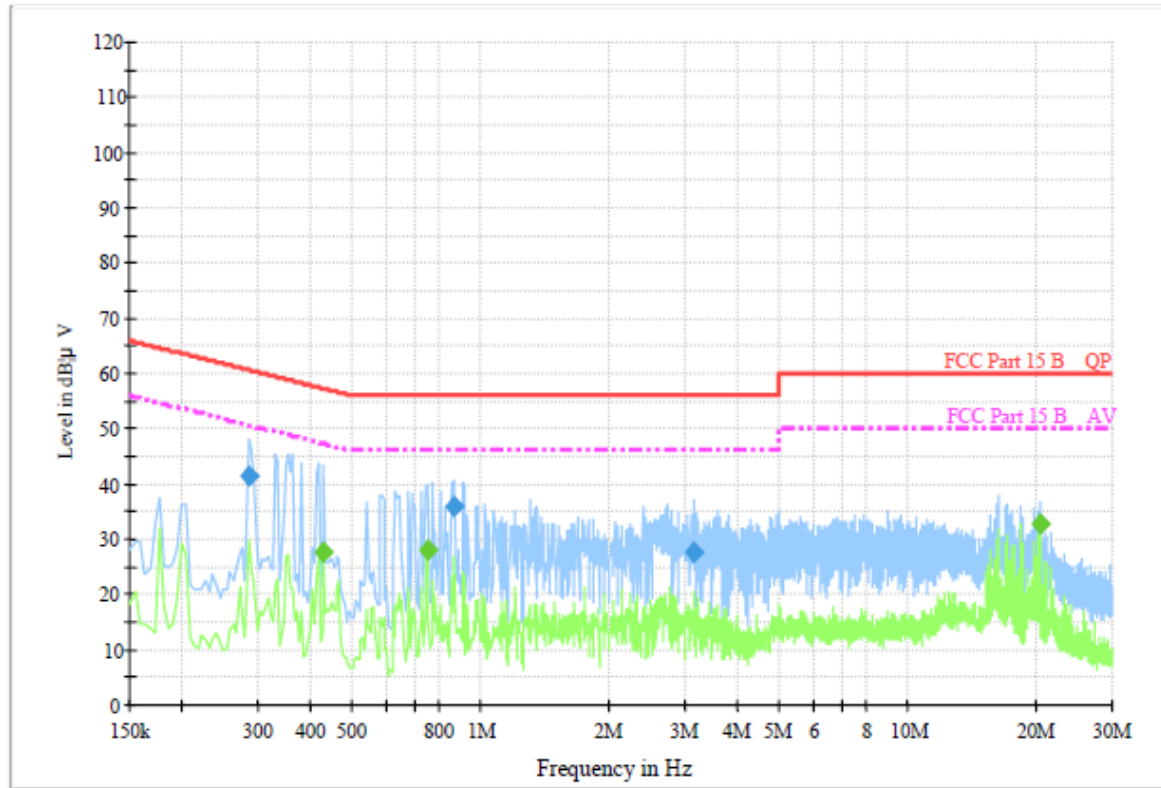
1. The EUT was setup according to ANSI C63.10:2013 requirements.
2. The EUT was placed on a platform of nominal size, 1 m by 1.5 m, raised 80 cm above the conducting ground plane. The vertical conducting plane was located 40 cm to the rear of the EUT. All other surfaces of EUT were at least 80 cm from any other grounded conducting surface.
3. The EUT and simulators are connected to the main power through a line impedance stabilization network (LISN). The LISN provides a 50 ohm / 50 μH coupling impedance for the measuring equipment.
4. 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)
5. 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.
6. 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.
7. Conducted emissions were investigated over the frequency range from 0.15MHz to 30MHz using a receiver bandwidth of 9 kHz.
8. During the above scans, the emissions were maximized by cable manipulation.

Test Mode

Please refer to the clause 2.4.

**Test Result**

Test Voltage:	AC 120V/60Hz
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
0.285000	41.6	1000.00	9.000	On	L1	9.5	19.1	60.7	
0.865500	36.1	1000.00	9.000	On	L1	9.6	19.9	56.0	
3.151500	27.5	1000.00	9.000	On	L1	9.5	28.5	56.0	

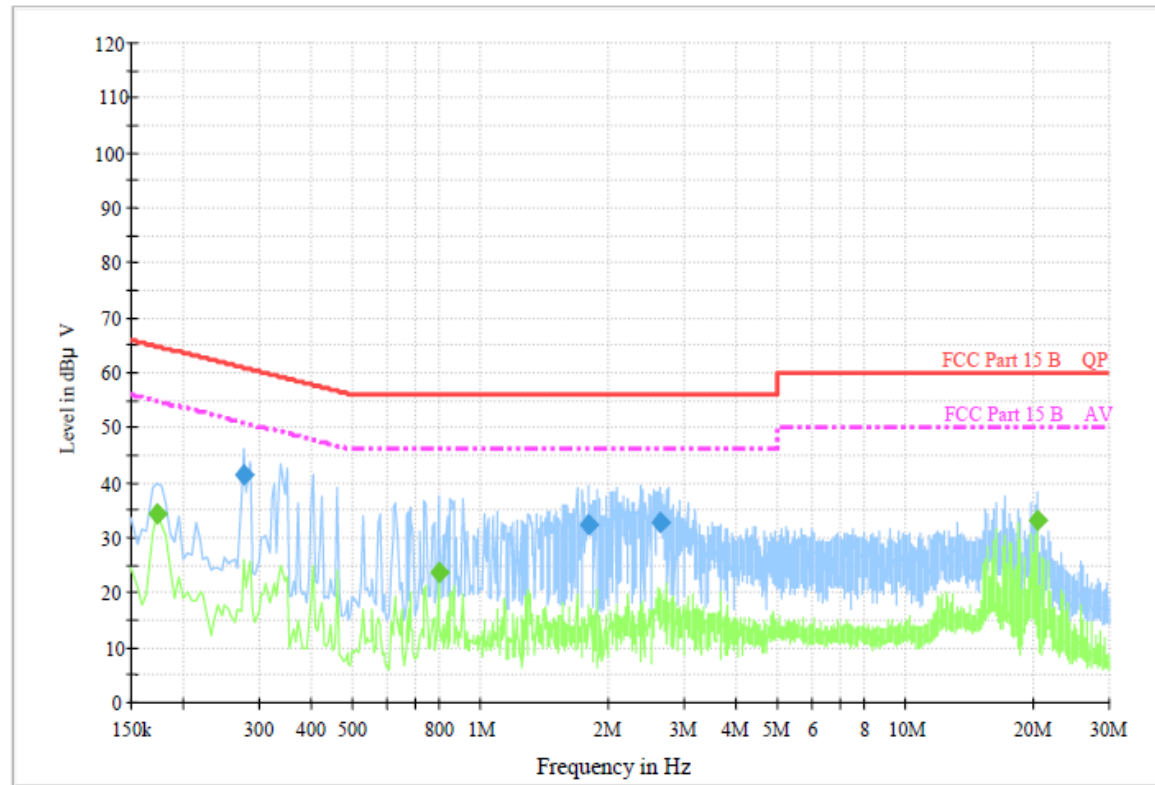
Final Measurement Detector 2

Frequency (MHz)	Average (dBµ V)	Meas. Time (ms)	Bandwidth (kHz)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBµ V)	Comment
0.429000	27.4	1000.00	9.000	On	L1	9.4	19.9	47.3	
0.748500	28.2	1000.00	9.000	On	L1	9.6	17.8	46.0	
20.260500	32.7	1000.00	9.000	On	L1	9.8	17.3	50.0	

Emission Level = Read Level + Correct Factor



Test Voltage:	AC 120V/60Hz
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
0.276000	41.5	1000.00	9.000	On	N	9.4	19.4	60.9	
1.788000	32.5	1000.00	9.000	On	N	9.5	23.5	56.0	
2.638500	32.6	1000.00	9.000	On	N	9.5	23.4	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
0.172500	34.2	1000.00	9.000	On	N	9.4	20.6	54.8	
0.793500	23.5	1000.00	9.000	On	N	9.4	22.5	46.0	
20.260500	33.2	1000.00	9.000	On	N	9.6	16.8	50.0	

Emission Level = Read Level + Correct Factor

3.2. Radiated Emission

Limit

FCC CFR Title 47 Part 15 Subpart C Section 15.209

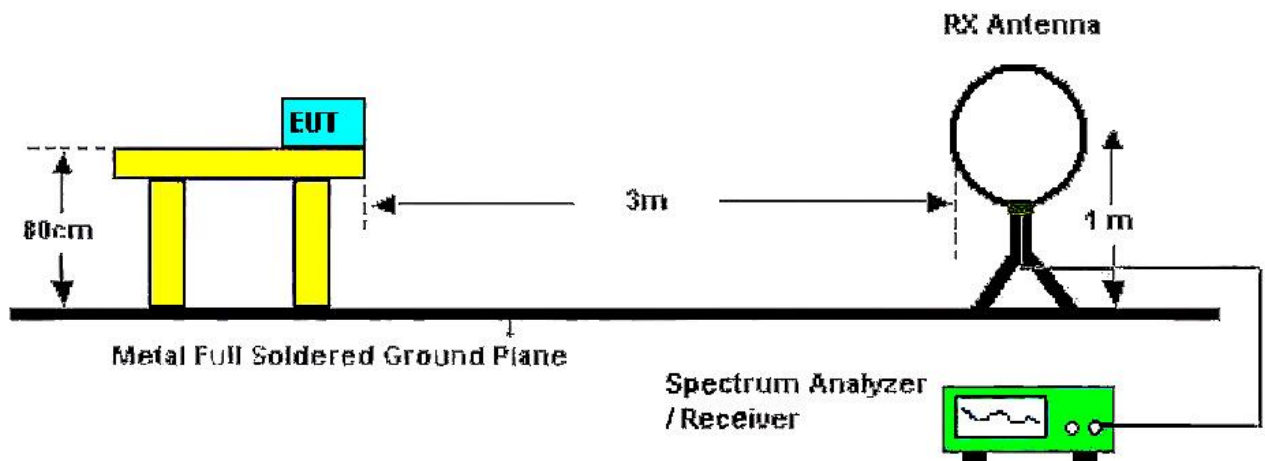
Frequency (MHz)	Field Strength (microvolts/meter)	Measurement Distance (meters)
0.009~0.490	2400/F (kHz)	300
0.490~1.705	24000/F (kHz)	30
1.705~30.0	30	30
30~88	100	3
88~216	150	3
216~960	200	3
960~1000	500	3

Frequency Range (MHz)	dBμV/m (at 3 meters)	
	Peak	Average
Above 1000	74	54

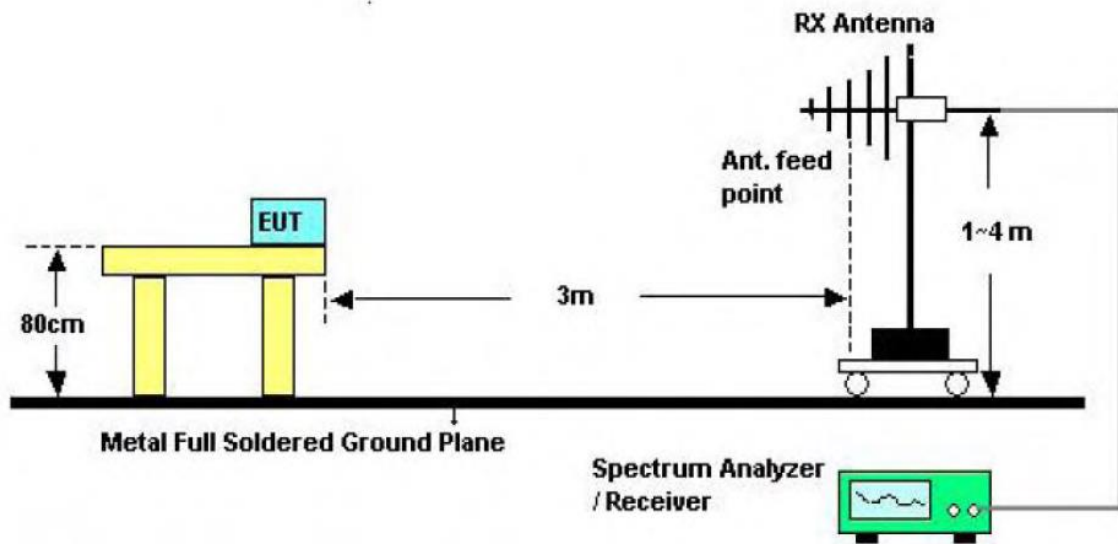
Note:

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

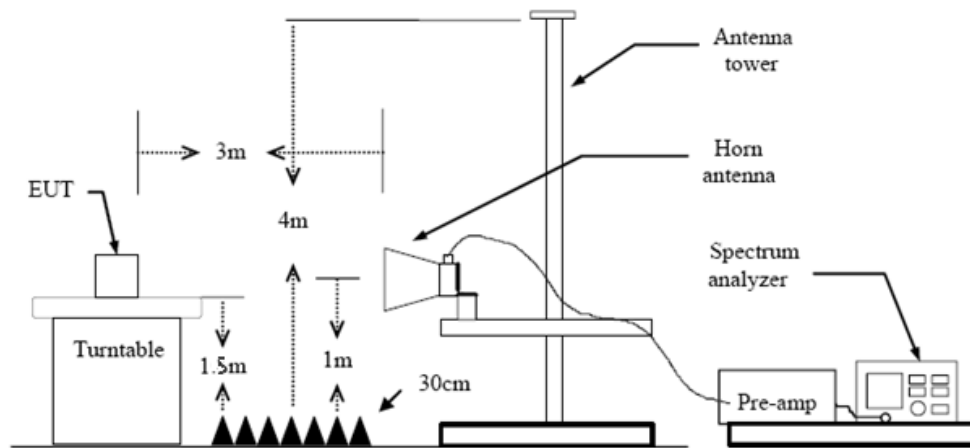
Test Configuration



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) 9k – 150kHz:
RBW=300 Hz, VBW=1 kHz, Sweep=auto, Detector function=peak, Trace=max hold
 - (3) 0.15M – 30MHz:
RBW=10 kHz, VBW=30 kHz, Sweep=auto, Detector function=peak, Trace=max hold
 - (4) 30M - 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.

(5) From 1 GHz to 10th harmonic:

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.

Test Mode

Please refer to the clause 2.4.

Test Result

9 kHz~30 MHz

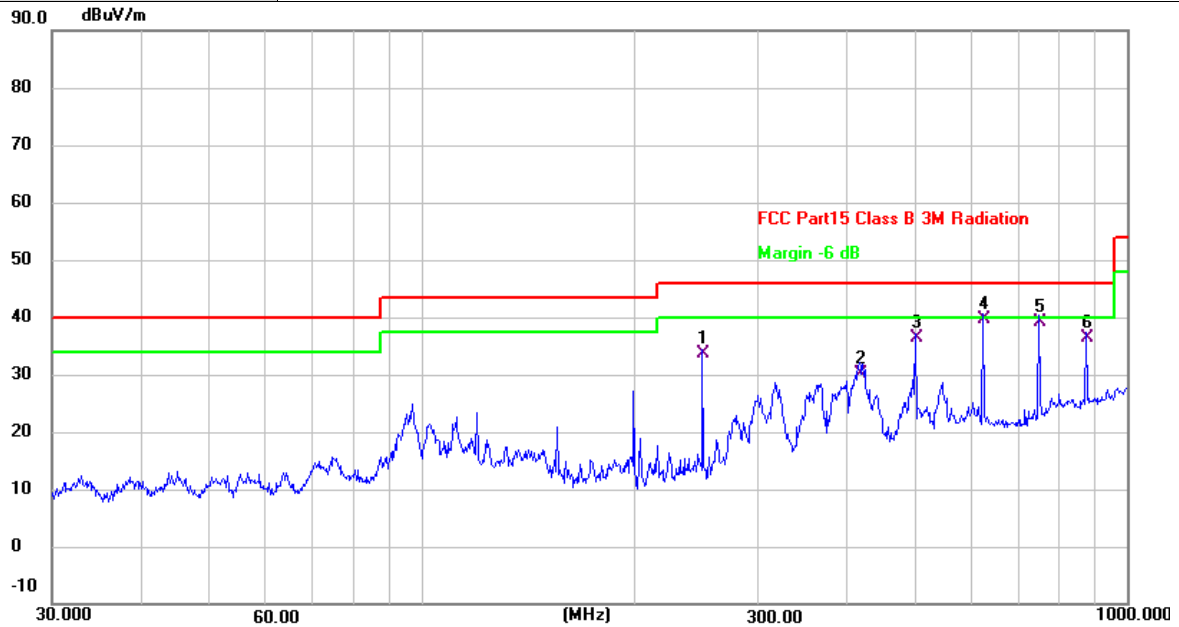
From 9 kHz to 30 MHz: The conclusion is PASS.

Note: The amplitude of spurious emissions which are attenuated by more than 20dB below the permissible value has no need to be reported.



30MHz-1GHz

Ant. No.	Ant 1
Ant. Pol.	Horizontal
Test Mode:	TX 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	250.3012	49.75	-16.05	33.70	46.00	-12.30	QP
2	417.6411	41.15	-11.05	30.10	46.00	-15.90	QP
3	501.1790	45.15	-8.65	36.50	46.00	-9.50	QP
4 *	625.0780	45.63	-5.93	39.70	46.00	-6.30	QP
5	750.1083	43.37	-4.17	39.20	46.00	-6.80	QP
6	875.2470	38.80	-2.30	36.50	46.00	-9.50	QP

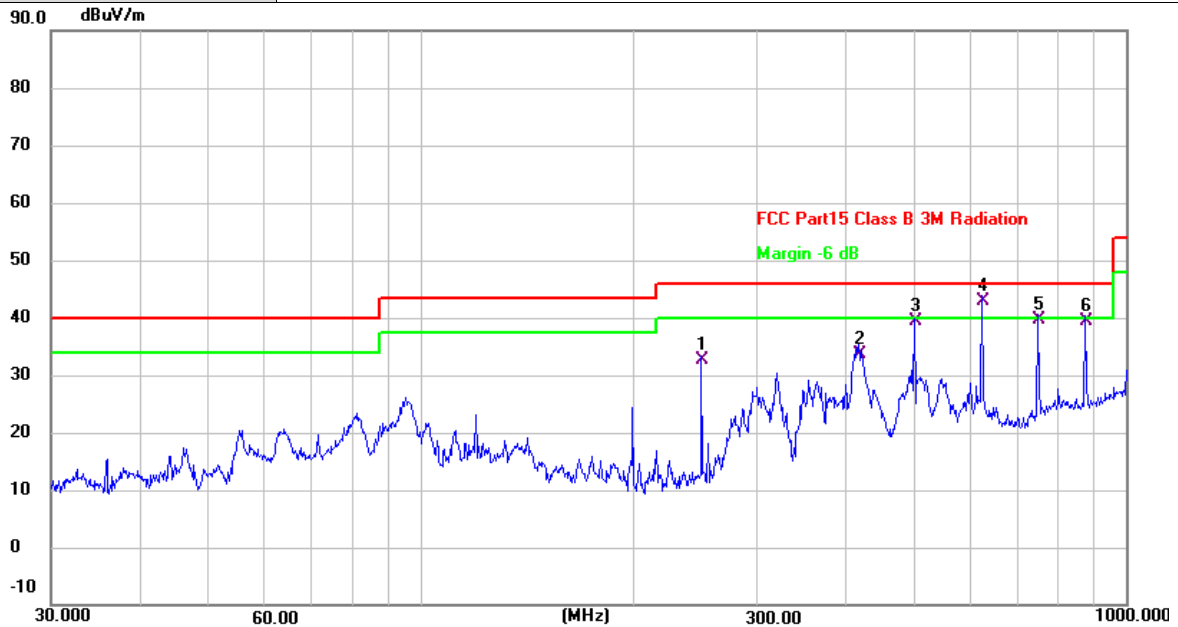
Remarks:

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

2. Margin value = Level -Limit value



Ant. No.	Ant 1
Ant. Pol.	Vertical
Test Mode:	TX 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	250.3012	48.65	-16.05	32.60	46.00	-13.40	QP
2	417.6411	44.65	-11.05	33.60	46.00	-12.40	QP
3	501.1790	48.05	-8.65	39.40	46.00	-6.60	QP
4 *	625.0780	48.83	-5.93	42.90	46.00	-3.10	QP
5	750.1083	43.87	-4.17	39.70	46.00	-6.30	QP
6	875.2470	41.80	-2.30	39.50	46.00	-6.50	QP

Remarks:

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

2. Margin value = Level - Limit value



Above 1GHz

Ant. No.	Ant 1						
Ant. Pol.	Horizontal						
Test Mode:	TX 802.11b 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	4823.869	43.11	1.87	44.98	74.00	-29.02	peak
2 *	4823.971	35.26	1.87	37.13	54.00	-16.87	AVG
Remarks: 1.Factor (dB/m) = Antenna Factor (dB/m)+Cable Factor (dB)-Pre-amplifier Factor 2.Margin value = Level -Limit value							

Ant. No.	Ant 1						
Ant. Pol.	Vertical						
Test Mode:	TX 802.11b 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 *	4823.970	35.72	1.87	37.59	54.00	-16.41	AVG
2	4824.171	43.30	1.87	45.17	74.00	-28.83	peak
Remarks: 1.Factor (dB/m) = Antenna Factor (dB/m)+Cable Factor (dB)-Pre-amplifier Factor 2.Margin value = Level -Limit value							



Ant. No.	Ant 1						
Ant. Pol.	Horizontal						
Test Mode:	TX 802.11b 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 *	4873.890	33.96	1.95	35.91	54.00	-18.09	AVG
2	4874.041	42.51	1.95	44.46	74.00	-29.54	peak
Remarks: 1.Factor (dB/m) = Antenna Factor (dB/m)+Cable Factor (dB)-Pre-amplifier Factor 2.Margin value = Level -Limit value							

Ant. No.	Ant 1						
Ant. Pol.	Vertical						
Test Mode:	TX 802.11b 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 *	4874.010	35.40	1.95	37.35	54.00	-16.65	AVG
2	4874.018	43.73	1.95	45.68	74.00	-28.32	peak
Remarks: 1.Factor (dB/m) = Antenna Factor (dB/m)+Cable Factor (dB)-Pre-amplifier Factor 2.Margin value = Level -Limit value							



Ant. No.	Ant 1						
Ant. Pol.	Horizontal						
Test Mode:	TX 802.11b 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	4923.644	40.74	2.04	42.78	74.00	-31.22	peak
2 *	4923.983	29.27	2.04	31.31	54.00	-22.69	AVG
Remarks: 1.Factor (dB/m) = Antenna Factor (dB/m)+Cable Factor (dB)-Pre-amplifier Factor 2.Margin value = Level -Limit value							

Ant. No.	Ant 1						
Ant. Pol.	Vertical						
Test Mode:	TX 802.11b 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	4923.583	41.26	2.04	43.30	74.00	-30.70	peak
2 *	4923.912	29.96	2.04	32.00	54.00	-22.00	AVG
Remarks: 1.Factor (dB/m) = Antenna Factor (dB/m)+Cable Factor (dB)-Pre-amplifier Factor 2.Margin value = Level -Limit value							



Ant. No.	Ant 1						
Ant. Pol.	Horizontal						
Test Mode:	TX 802.11g 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	4823.043	40.22	1.87	42.09	74.00	-31.91	peak
2 *	4823.127	26.51	1.87	28.38	54.00	-25.62	AVG
Remarks: 1.Factor (dB/m) = Antenna Factor (dB/m)+Cable Factor (dB)-Pre-amplifier Factor 2.Margin value = Level -Limit value							

Ant. No.	Ant 1						
Ant. Pol.	Vertical						
Test Mode:	TX 802.11g 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	4823.481	40.31	1.87	42.18	74.00	-31.82	peak
2 *	4824.599	26.66	1.87	28.53	54.00	-25.47	AVG
Remarks: 1.Factor (dB/m) = Antenna Factor (dB/m)+Cable Factor (dB)-Pre-amplifier Factor 2.Margin value = Level -Limit value							



Ant. No.	Ant 1						
Ant. Pol.	Horizontal						
Test Mode:	TX 802.11g 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 *	4874.593	25.73	1.95	27.68	54.00	-26.32	AVG
2	4874.893	40.94	1.95	42.89	74.00	-31.11	peak
Remarks: 1.Factor (dB/m) = Antenna Factor (dB/m)+Cable Factor (dB)-Pre-amplifier Factor 2.Margin value = Level -Limit value							

Ant. No.	Ant 1						
Ant. Pol.	Vertical						
Test Mode:	TX 802.11g 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	4873.191	40.48	1.95	42.43	74.00	-31.57	peak
2 *	4873.329	25.84	1.95	27.79	54.00	-26.21	AVG
Remarks: 1.Factor (dB/m) = Antenna Factor (dB/m)+Cable Factor (dB)-Pre-amplifier Factor 2.Margin value = Level -Limit value							



Ant. No.	Ant 1						
Ant. Pol.	Horizontal						
Test Mode:	TX 802.11g 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 *	4923.742	26.05	2.04	28.09	54.00	-25.91	AVG
2	4924.679	39.49	2.04	41.53	74.00	-32.47	peak
Remarks: 1.Factor (dB/m) = Antenna Factor (dB/m)+Cable Factor (dB)-Pre-amplifier Factor 2.Margin value = Level -Limit value							

Ant. No.	Ant 1						
Ant. Pol.	Vertical						
Test Mode:	TX 802.11g 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	4923.240	39.65	2.04	41.69	74.00	-32.31	peak
2 *	4924.192	25.31	2.04	27.35	54.00	-26.65	AVG
Remarks: 1.Factor (dB/m) = Antenna Factor (dB/m)+Cable Factor (dB)-Pre-amplifier Factor 2.Margin value = Level -Limit value							



Ant. No.	Ant 1 + Ant 2						
Ant. Pol.	Horizontal						
Test Mode:	TX 802.11n(HT20) 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	4823.414	40.52	1.87	42.39	74.00	-31.61	peak
2 *	4823.739	25.99	1.87	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.	Ant 1 + Ant 2						
Ant. Pol.	Vertical						
Test Mode:	TX 802.11n(HT20) 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	4823.081	40.87	1.87	42.74	74.00	-31.26	peak
2 *	4824.022	26.63	1.87	28.50	54.00	-25.50	AVG
Remarks: 1.Factor (dB/m) = Antenna Factor (dB/m)+Cable Factor (dB)-Pre-amplifier Factor 2.Margin value = Level -Limit value							



Ant. No.	Ant 1 + Ant 2						
Ant. Pol.	Horizontal						
Test Mode:	TX 802.11n(HT20) 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 *	4873.261	25.97	1.95	27.92	54.00	-26.08	AVG
2	4874.153	39.67	1.95	41.62	74.00	-32.38	peak
Remarks: 1.Factor (dB/m) = Antenna Factor (dB/m)+Cable Factor (dB)-Pre-amplifier Factor 2.Margin value = Level -Limit value							

Ant. No.	Ant 1 + Ant 2						
Ant. Pol.	Vertical						
Test Mode:	TX 802.11n(HT20) 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	4873.036	40.38	1.95	42.33	74.00	-31.67	peak
2 *	4874.947	25.67	1.95	27.62	54.00	-26.38	AVG
Remarks: 1.Factor (dB/m) = Antenna Factor (dB/m)+Cable Factor (dB)-Pre-amplifier Factor 2.Margin value = Level -Limit value							



Ant. No.	Ant 1 + Ant 2						
Ant. Pol.	Horizontal						
Test Mode:	TX 802.11n(HT20) 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 *	4923.843	24.96	2.04	27.00	54.00	-27.00	AVG
2	4923.895	40.37	2.04	42.41	74.00	-31.59	peak
Remarks: 1.Factor (dB/m) = Antenna Factor (dB/m)+Cable Factor (dB)-Pre-amplifier Factor 2.Margin value = Level -Limit value							

Ant. No.	Ant 1 + Ant 2						
Ant. Pol.	Vertical						
Test Mode:	TX 802.11n(HT20) 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 *	4923.224	25.28	2.04	27.32	54.00	-26.68	AVG
2	4924.879	41.51	2.04	43.55	74.00	-30.45	peak
Remarks: 1.Factor (dB/m) = Antenna Factor (dB/m)+Cable Factor (dB)-Pre-amplifier Factor 2.Margin value = Level -Limit value							



Ant. No.	Ant 1 + Ant 2						
Ant. Pol.	Horizontal						
Test Mode:	TX 802.11n(HT40) 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	4843.394	39.82	1.90	41.72	74.00	-32.28	peak
2 *	4844.041	25.84	1.90	27.74	54.00	-26.26	AVG
Remarks: 1.Factor (dB/m) = Antenna Factor (dB/m)+Cable Factor (dB)-Pre-amplifier Factor 2.Margin value = Level -Limit value							

Ant. No.	Ant 1 + Ant 2						
Ant. Pol.	Vertical						
Test Mode:	TX 802.11n(HT40) 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 *	4844.492	25.68	1.90	27.58	54.00	-26.42	AVG
2	4844.900	39.73	1.90	41.63	74.00	-32.37	peak
Remarks: 1.Factor (dB/m) = Antenna Factor (dB/m)+Cable Factor (dB)-Pre-amplifier Factor 2.Margin value = Level -Limit value							



Ant. No.	Ant 1 + Ant 2						
Ant. Pol.	Horizontal						
Test Mode:	TX 802.11n(HT40) 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 *	4874.253	26.03	1.95	27.98	54.00	-26.02	AVG
2	4874.611	40.54	1.95	42.49	74.00	-31.51	peak
Remarks: 1.Factor (dB/m) = Antenna Factor (dB/m)+Cable Factor (dB)-Pre-amplifier Factor 2.Margin value = Level -Limit value							

Ant. No.	Ant 1 + Ant 2						
Ant. Pol.	Vertical						
Test Mode:	TX 802.11n(HT40) 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	4873.725	41.13	1.95	43.08	74.00	-30.92	peak
2 *	4874.595	25.87	1.95	27.82	54.00	-26.18	AVG
Remarks: 1.Factor (dB/m) = Antenna Factor (dB/m)+Cable Factor (dB)-Pre-amplifier Factor 2.Margin value = Level -Limit value							



Ant. No.	Ant 1 + Ant 2						
Ant. Pol.	Horizontal						
Test Mode:	TX 802.11n(HT40) 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	4903.492	39.23	2.00	41.23	74.00	-32.77	peak
2 *	4903.527	25.32	2.00	27.32	54.00	-26.68	AVG
Remarks: 1.Factor (dB/m) = Antenna Factor (dB/m)+Cable Factor (dB)-Pre-amplifier Factor 2.Margin value = Level -Limit value							

Ant. No.	Ant 1 + Ant 2						
Ant. Pol.	Vertical						
Test Mode:	TX 802.11n(HT40) 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	4904.096	39.85	2.00	41.85	74.00	-32.15	peak
2 *	4904.340	24.76	2.00	26.76	54.00	-27.24	AVG
Remarks: 1.Factor (dB/m) = Antenna Factor (dB/m)+Cable Factor (dB)-Pre-amplifier Factor 2.Margin value = Level -Limit value							



Ant. No.	Ant 1 + Ant 2						
Ant. Pol.	Horizontal						
Test Mode:	TX 802.11ax(HE20) 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	4823.499	40.32	1.87	42.19	74.00	-31.81	peak
2 *	4823.723	26.08	1.87	27.95	54.00	-26.05	AVG
Remarks: 1.Factor (dB/m) = Antenna Factor (dB/m)+Cable Factor (dB)-Pre-amplifier Factor 2.Margin value = Level -Limit value							

Ant. No.	Ant 1 + Ant 2						
Ant. Pol.	Vertical						
Test Mode:	TX 802.11ax(HE20) 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 *	4824.065	26.50	1.87	28.37	54.00	-25.63	AVG
2	4824.887	40.08	1.87	41.95	74.00	-32.05	peak
Remarks: 1.Factor (dB/m) = Antenna Factor (dB/m)+Cable Factor (dB)-Pre-amplifier Factor 2.Margin value = Level -Limit value							



Ant. No.	Ant 1 + Ant 2						
Ant. Pol.	Horizontal						
Test Mode:	TX 802.11ax(HE20) 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 *	4873.756	26.03	1.95	27.98	54.00	-26.02	AVG
2	4874.734	39.66	1.95	41.61	74.00	-32.39	peak
Remarks: 1.Factor (dB/m) = Antenna Factor (dB/m)+Cable Factor (dB)-Pre-amplifier Factor 2.Margin value = Level -Limit value							

Ant. No.	Ant 1 + Ant 2						
Ant. Pol.	Vertical						
Test Mode:	TX 802.11ax(HE20) 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	39.48	1.95	41.43	74.00	-32.57	peak
2 *	4873.406	25.94	1.95	27.89	54.00	-26.11	AVG
Remarks: 1.Factor (dB/m) = Antenna Factor (dB/m)+Cable Factor (dB)-Pre-amplifier Factor 2.Margin value = Level -Limit value							



Ant. No.	Ant 1 + Ant 2						
Ant. Pol.	Horizontal						
Test Mode:	TX 802.11ax(HE20) 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	4923.933	39.35	2.04	41.39	74.00	-32.61	peak
2 *	4924.220	25.27	2.04	27.31	54.00	-26.69	AVG
Remarks: 1.Factor (dB/m) = Antenna Factor (dB/m)+Cable Factor (dB)-Pre-amplifier Factor 2.Margin value = Level -Limit value							

Ant. No.	Ant 1 + Ant 2						
Ant. Pol.	Vertical						
Test Mode:	TX 802.11ax(HE20) 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	4923.036	39.43	2.04	41.47	74.00	-32.53	peak
2 *	4924.219	25.25	2.04	27.29	54.00	-26.71	AVG
Remarks: 1.Factor (dB/m) = Antenna Factor (dB/m)+Cable Factor (dB)-Pre-amplifier Factor 2.Margin value = Level -Limit value							



Ant. No.	Ant 1 + Ant 2						
Ant. Pol.	Horizontal						
Test Mode:	TX 802.11ax(HE40) 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 *	4843.055	25.93	1.90	27.83	54.00	-26.17	AVG
2	4844.292	41.14	1.90	43.04	74.00	-30.96	peak
Remarks: 1.Factor (dB/m) = Antenna Factor (dB/m)+Cable Factor (dB)-Pre-amplifier Factor 2.Margin value = Level -Limit value							

Ant. No.	Ant 1 + Ant 2						
Ant. Pol.	Vertical						
Test Mode:	TX 802.11ax(HE40) 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 *	4843.402	26.12	1.90	28.02	54.00	-25.98	AVG
2	4844.148	39.60	1.90	41.50	74.00	-32.50	peak
Remarks: 1.Factor (dB/m) = Antenna Factor (dB/m)+Cable Factor (dB)-Pre-amplifier Factor 2.Margin value = Level -Limit value							



Ant. No.	Ant 1 + Ant 2						
Ant. Pol.	Horizontal						
Test Mode:	TX 802.11ax(HE40) 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 *	4873.470	25.90	1.95	27.85	54.00	-26.15	AVG
2	4873.790	40.81	1.95	42.76	74.00	-31.24	peak
Remarks: 1.Factor (dB/m) = Antenna Factor (dB/m)+Cable Factor (dB)-Pre-amplifier Factor 2.Margin value = Level -Limit value							

Ant. No.	Ant 1 + Ant 2						
Ant. Pol.	Vertical						
Test Mode:	TX 802.11ax(HE40) 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	4873.337	40.07	1.95	42.02	74.00	-31.98	peak
2 *	4873.923	25.57	1.95	27.52	54.00	-26.48	AVG
Remarks: 1.Factor (dB/m) = Antenna Factor (dB/m)+Cable Factor (dB)-Pre-amplifier Factor 2.Margin value = Level -Limit value							



Ant. No.	Ant 1 + Ant 2						
Ant. Pol.	Horizontal						
Test Mode:	TX 802.11ax(HE40) 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 *	4903.144	25.03	2.00	27.03	54.00	-26.97	AVG
2	4903.445	40.62	2.00	42.62	74.00	-31.38	peak
Remarks: 1.Factor (dB/m) = Antenna Factor (dB/m)+Cable Factor (dB)-Pre-amplifier Factor 2.Margin value = Level -Limit value							

Ant. No.	Ant 1 + Ant 2						
Ant. Pol.	Vertical						
Test Mode:	TX 802.11ax(HE40) 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 *	4903.667	25.09	2.00	27.09	54.00	-26.91	AVG
2	4904.237	39.27	2.00	41.27	74.00	-32.73	peak
Remarks: 1.Factor (dB/m) = Antenna Factor (dB/m)+Cable Factor (dB)-Pre-amplifier Factor 2.Margin value = Level -Limit value							

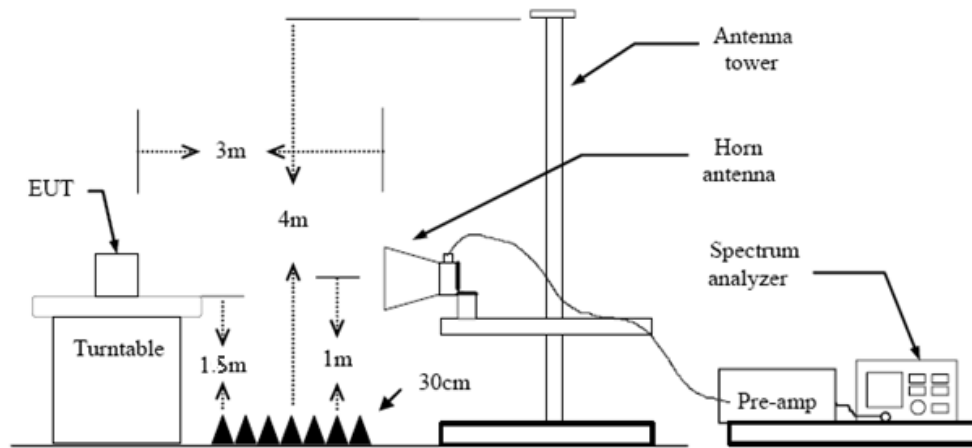
3.3. Band Edge Emissions (Radiated)

Limit

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

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

Test Configuration



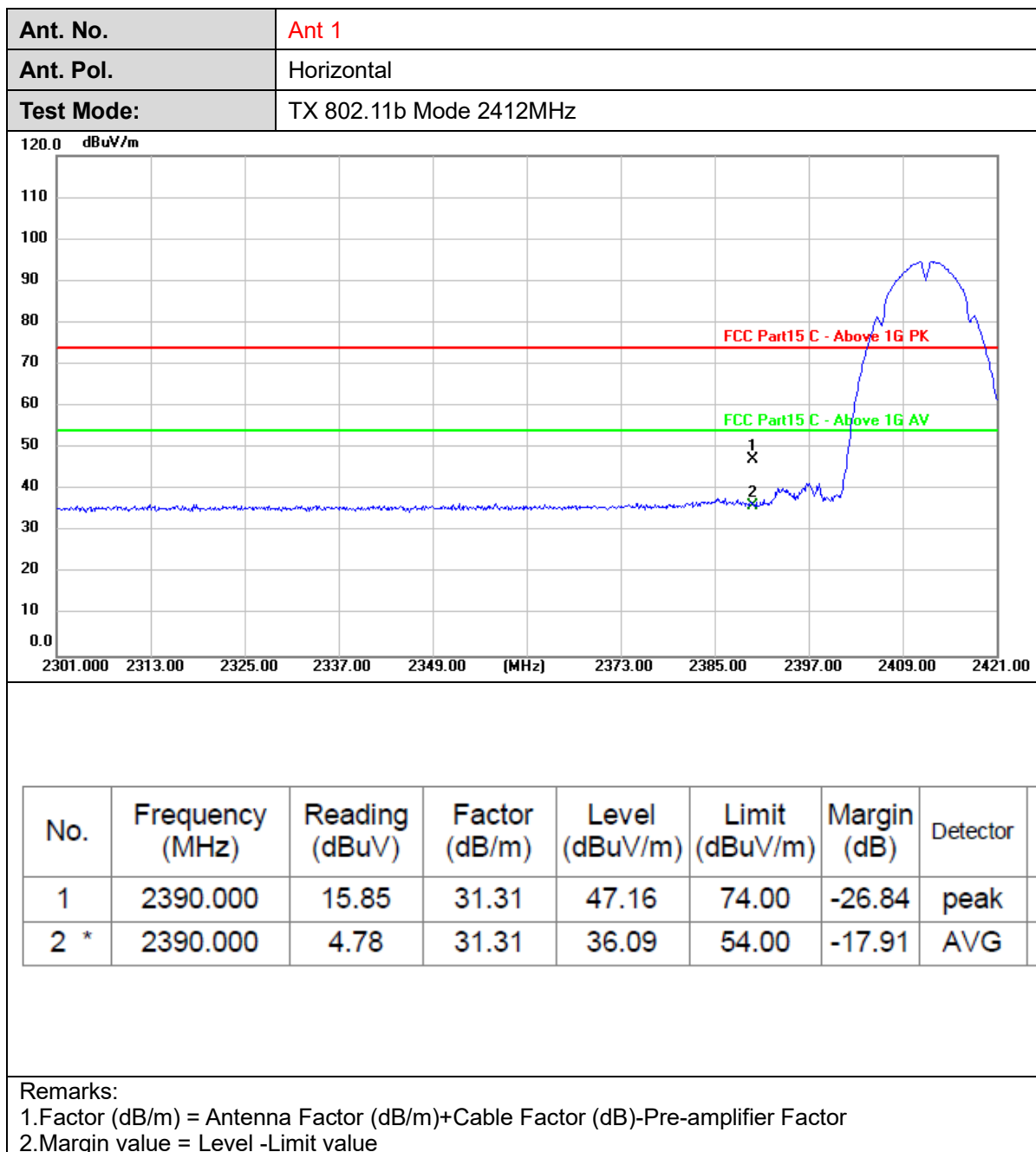
Test Procedure

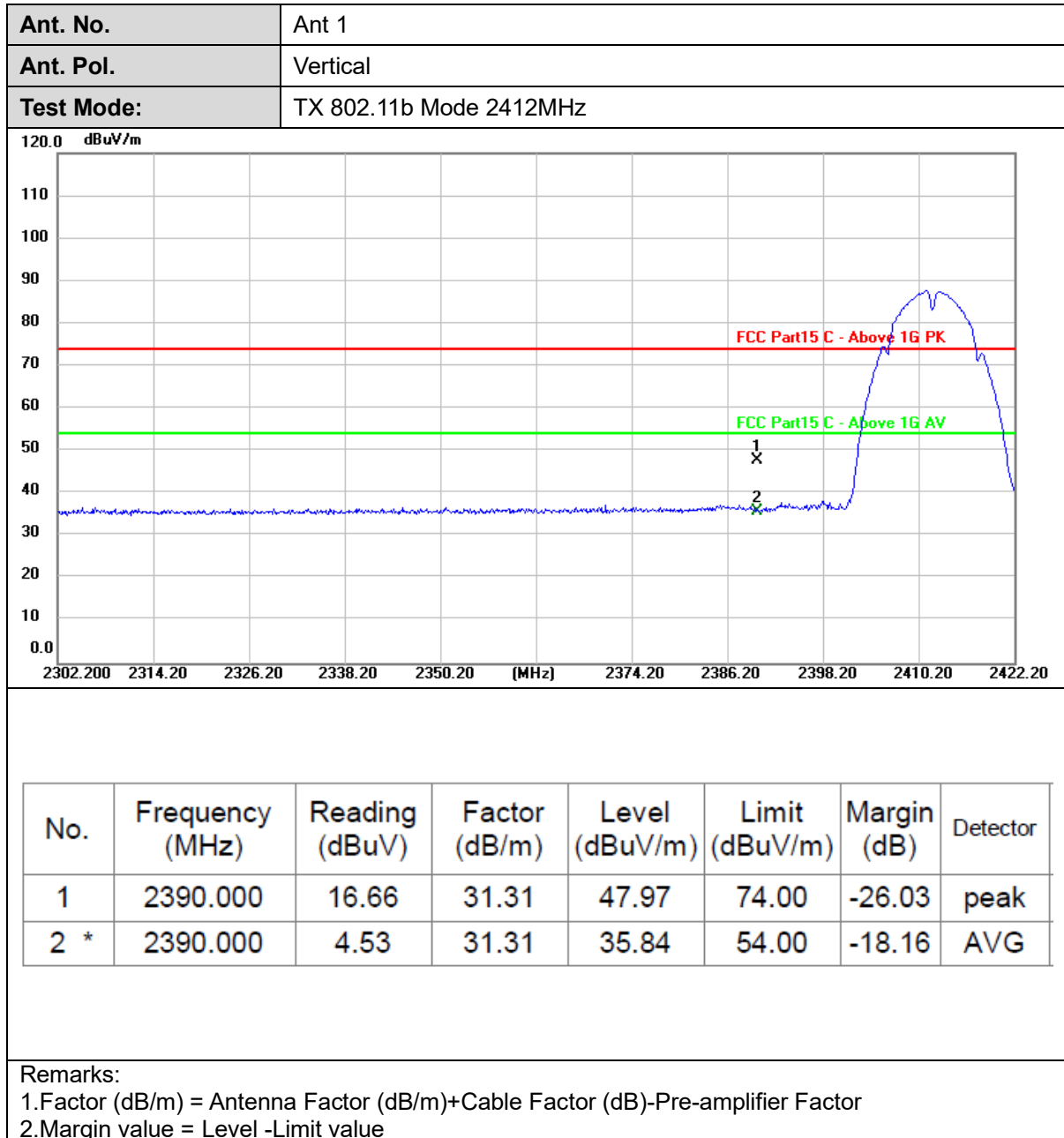
1. The EUT was setup and tested according to ANSI C63.10:2013 requirements.
2. The EUT is placed on a turn table which is 1.5 meter above ground. The turn table is rotated 360 degrees to determine the position of the maximum emission level.
3. The EUT was positioned such that the distance from antenna 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.

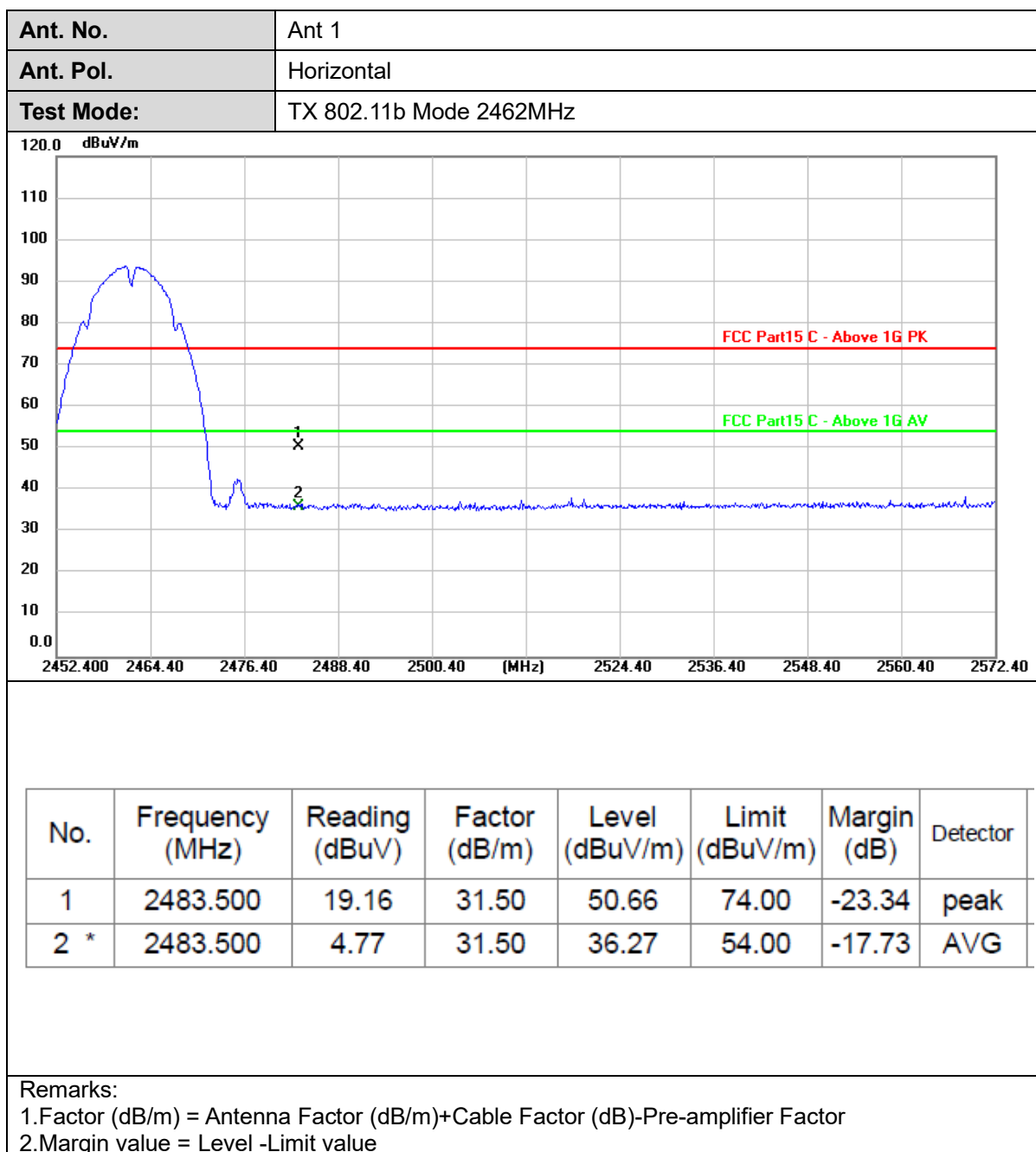
Note 1: For measurements above 1 GHz the resolution bandwidth is set to 1 MHz, then the video bandwidth is set to 3 MHz for peak measurements and 1 MHz resolution bandwidth with 1/T video bandwidth with peak detector for average measurements. For the Duty Cycle please refer to clause 3.8 Duty Cycle.

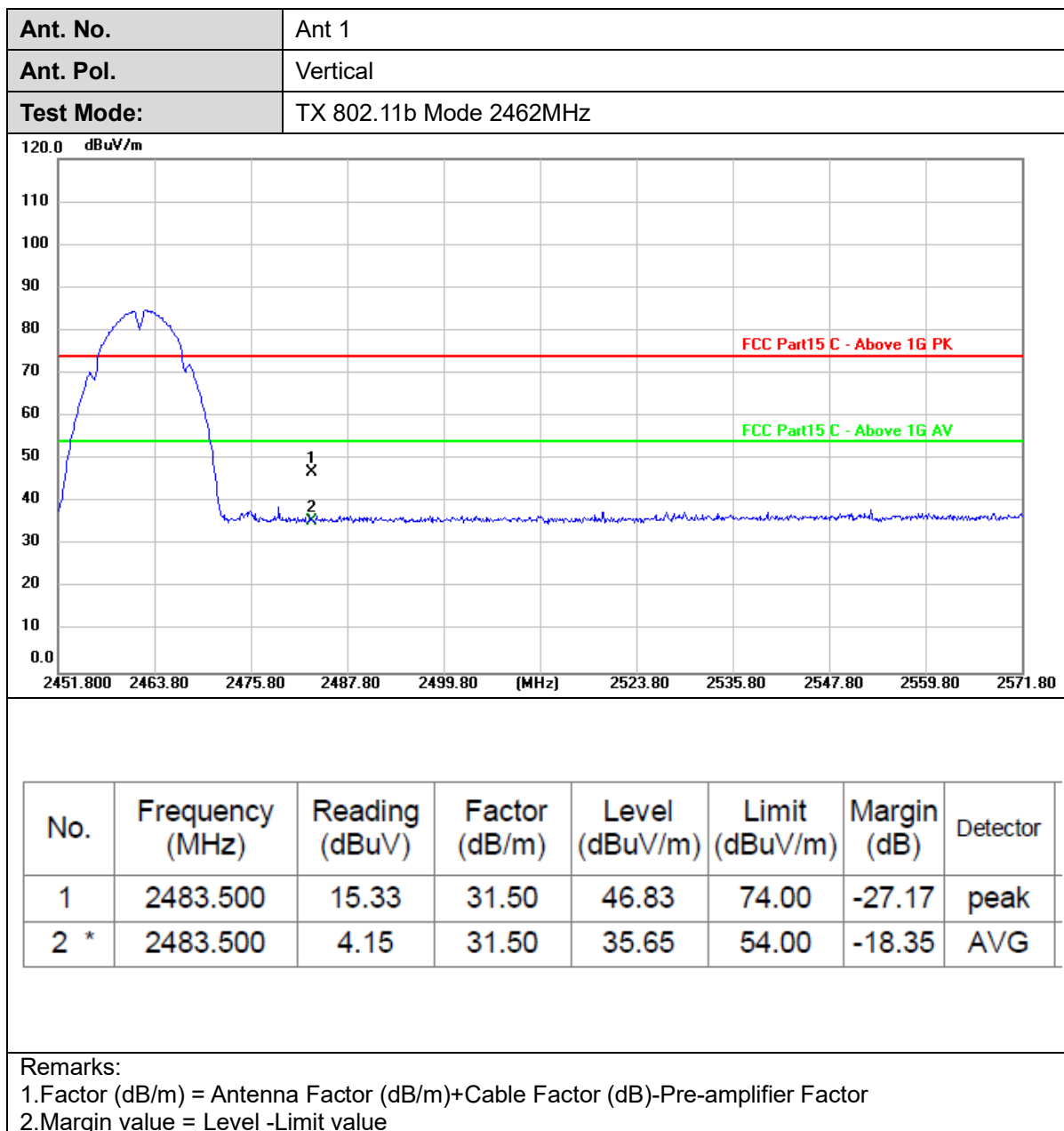
Test Mode

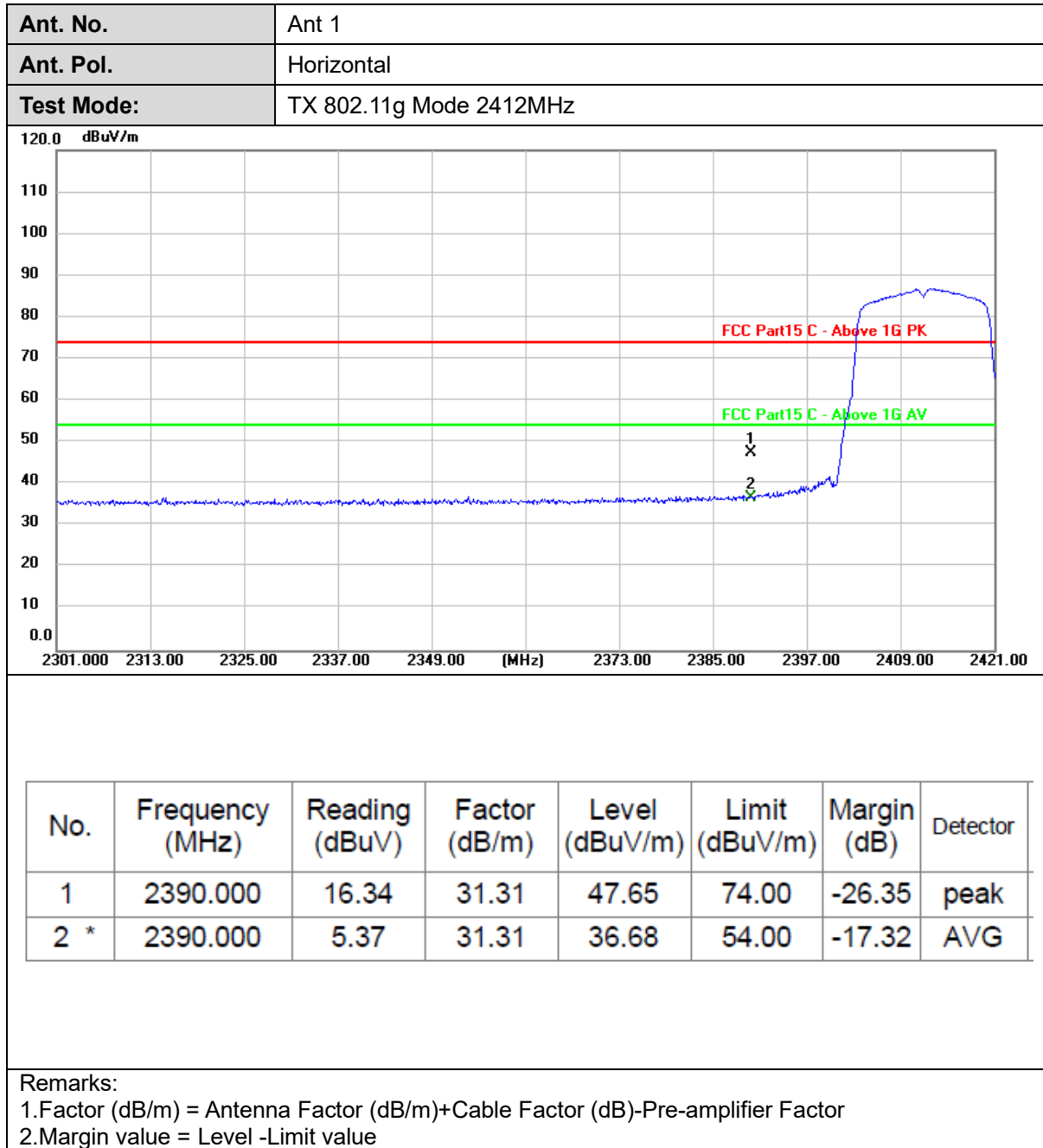
Please refer to the clause 2.4.

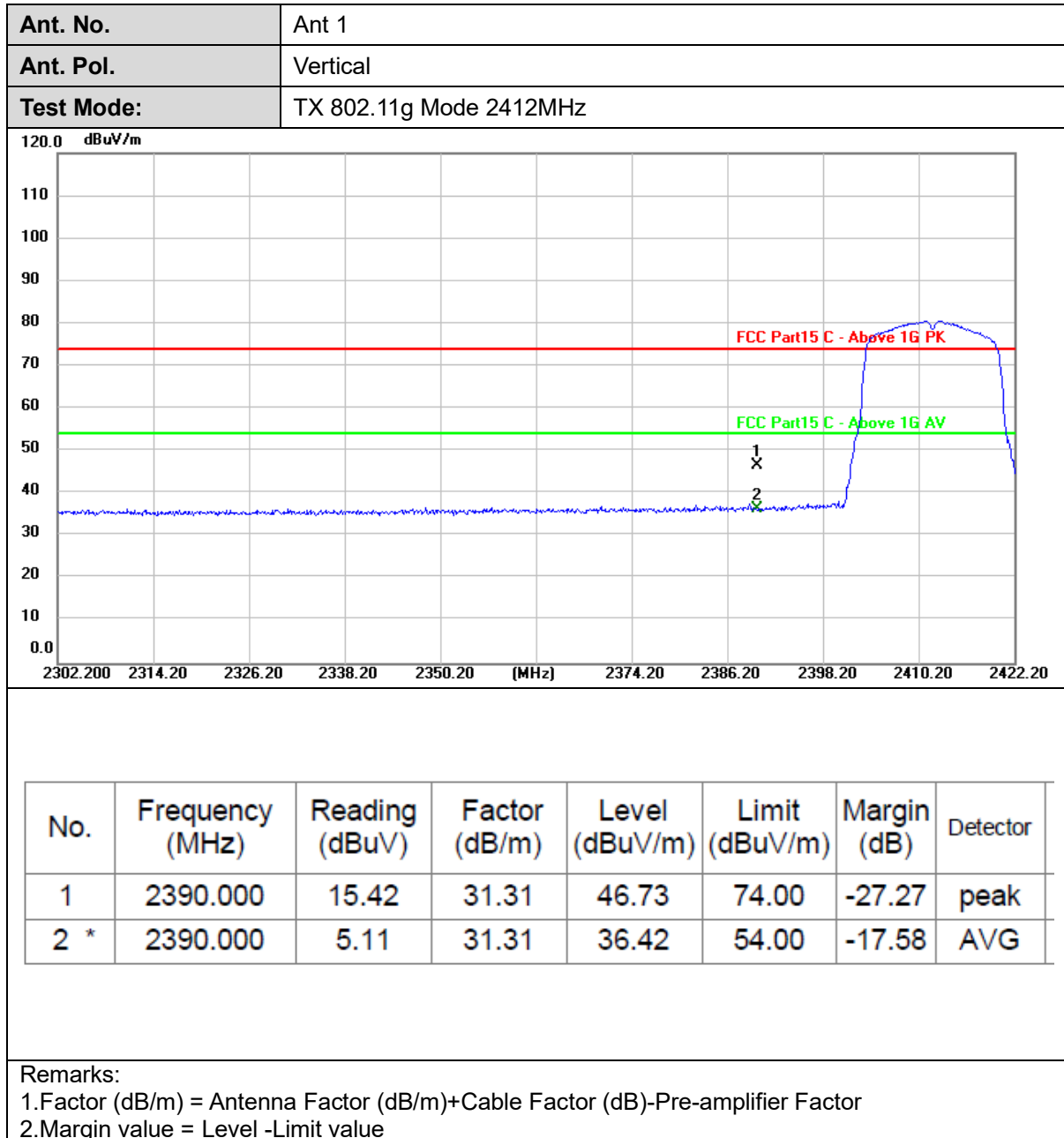
**Test Result**

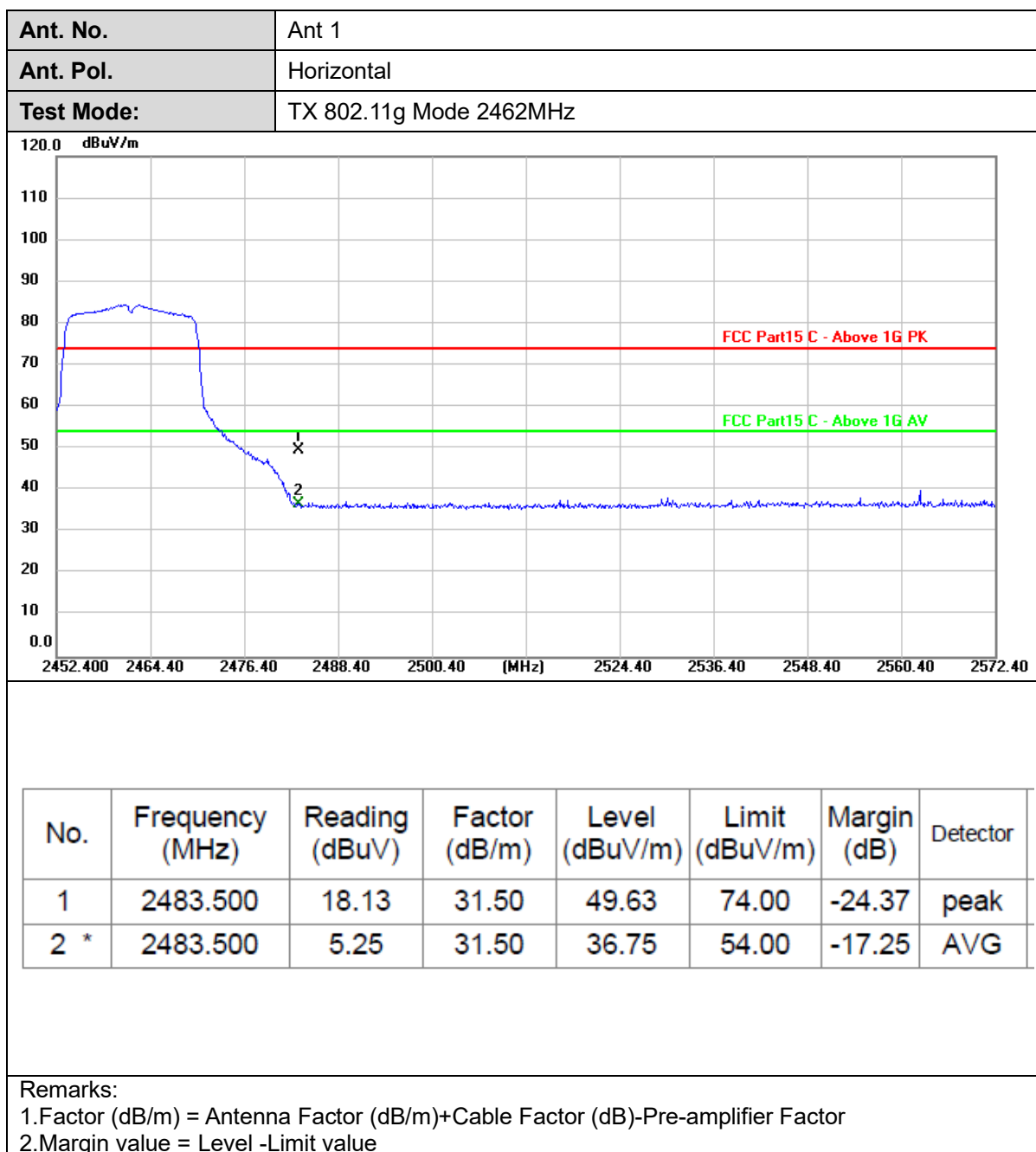


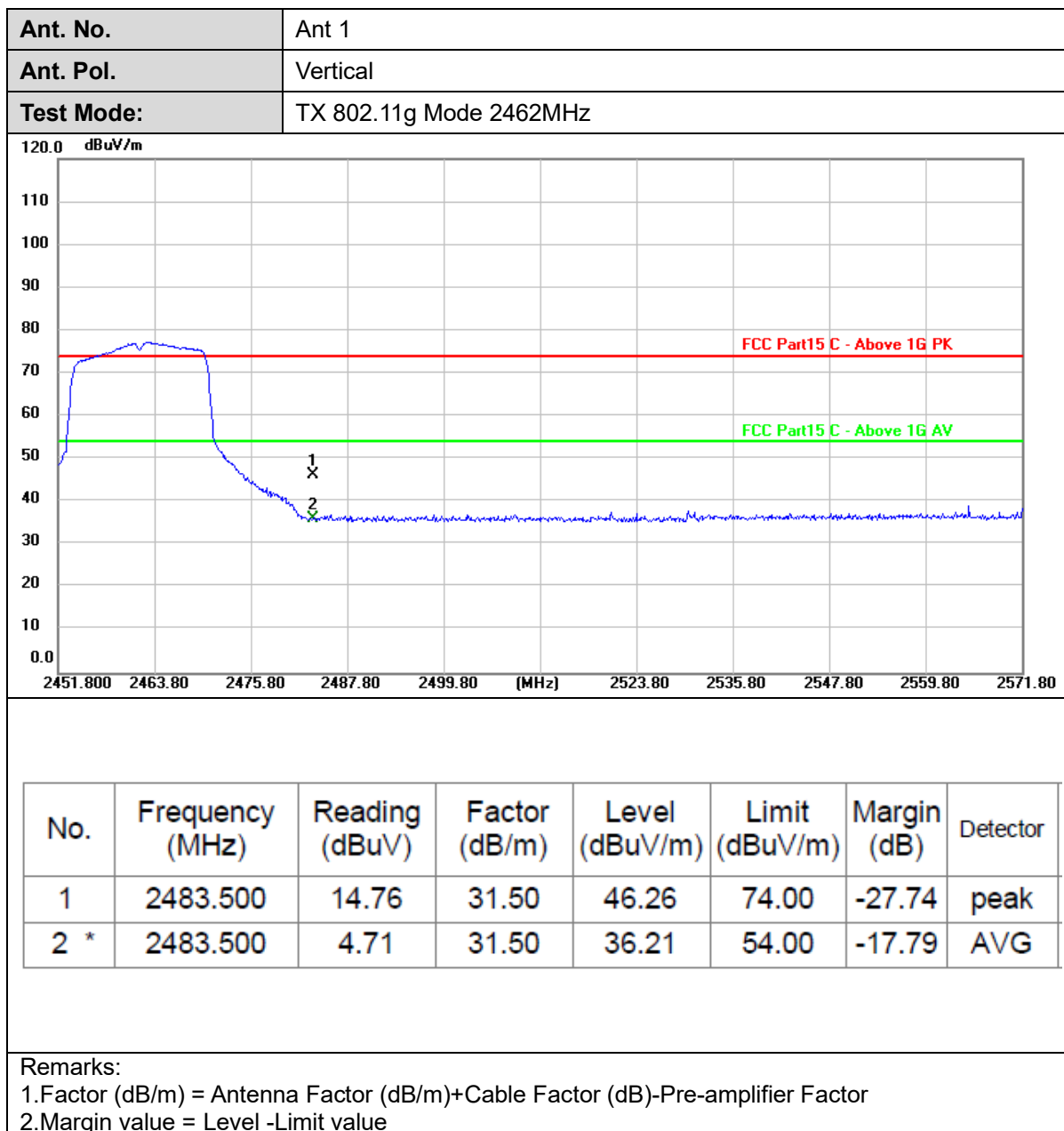


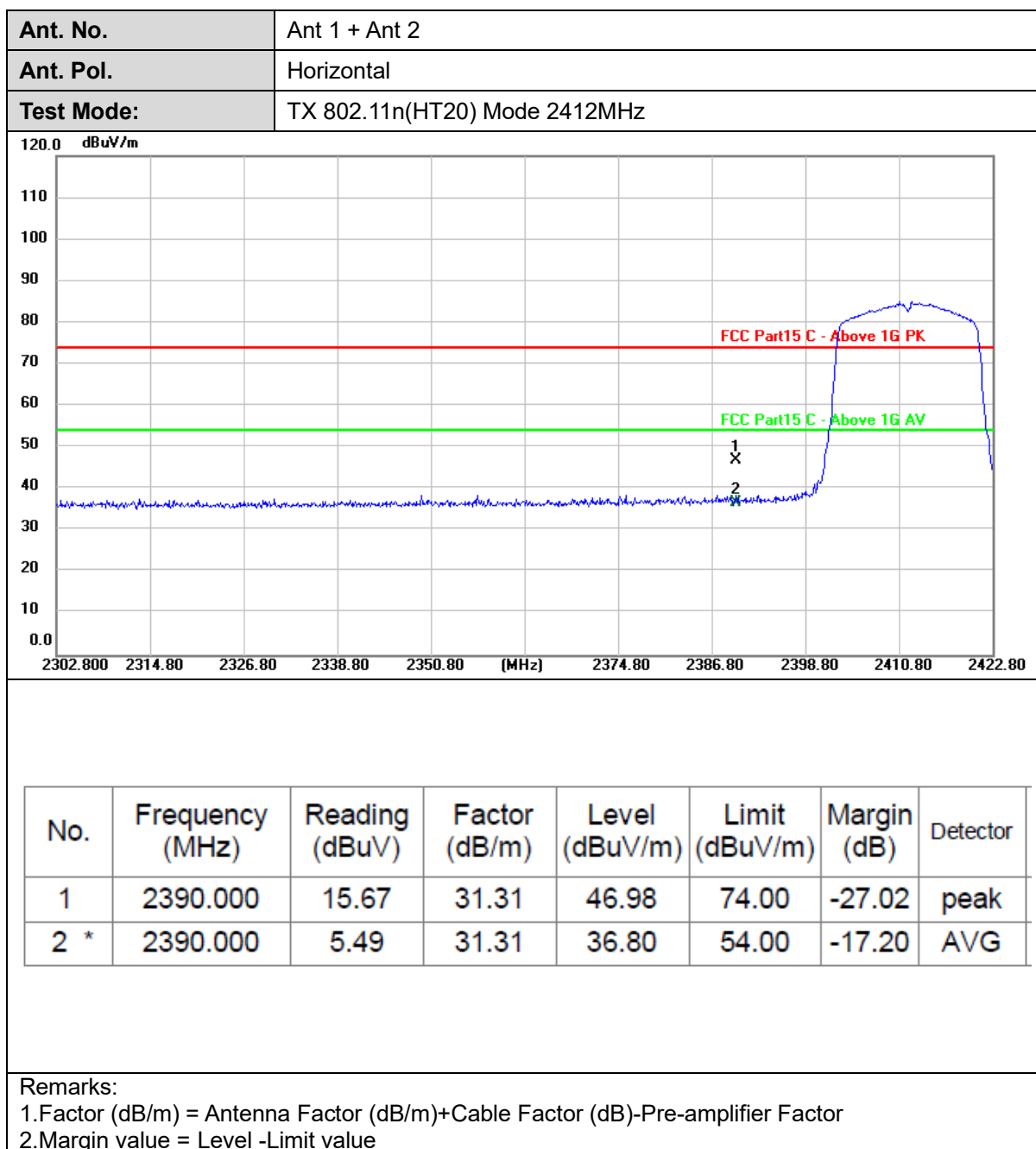


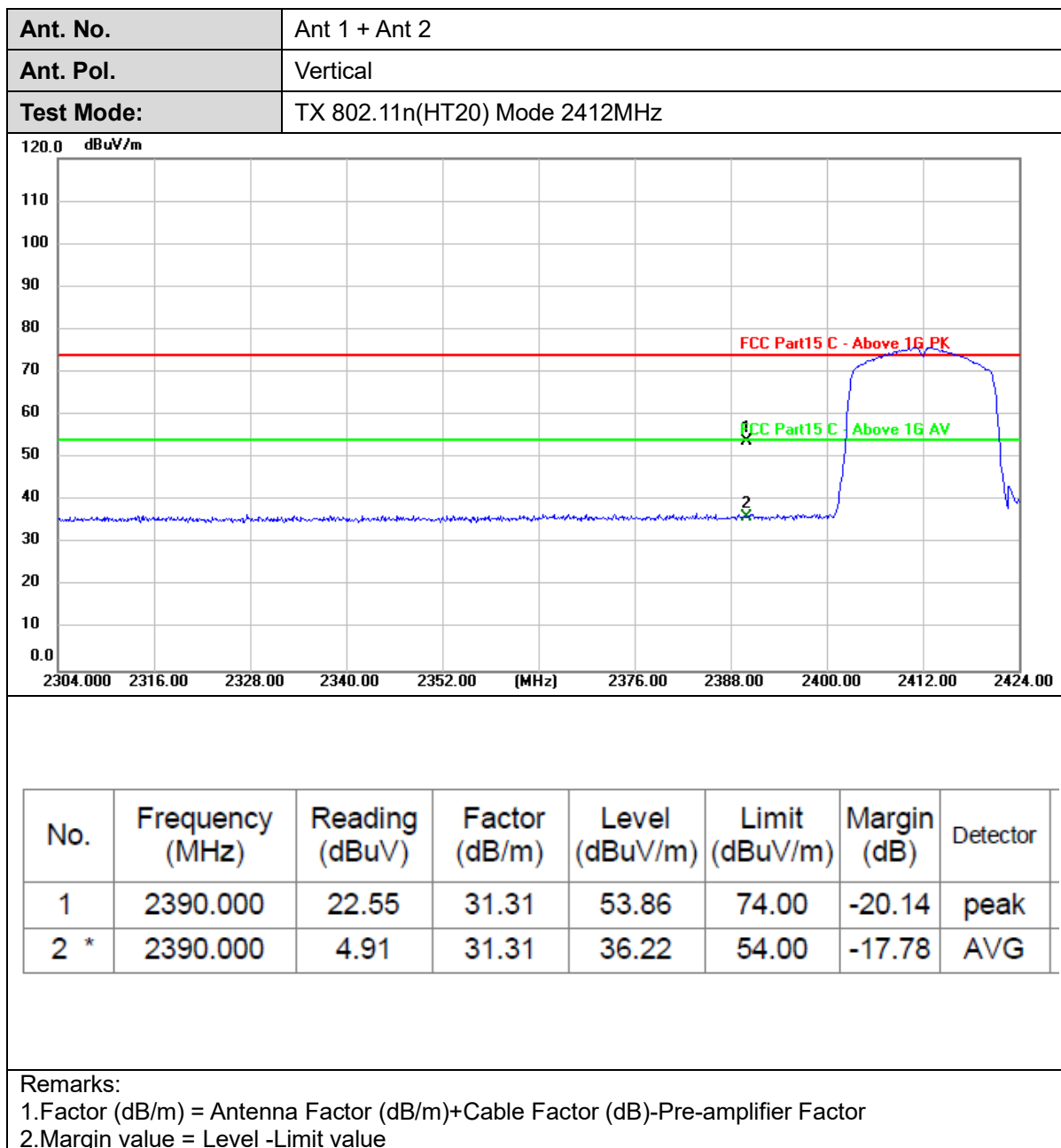


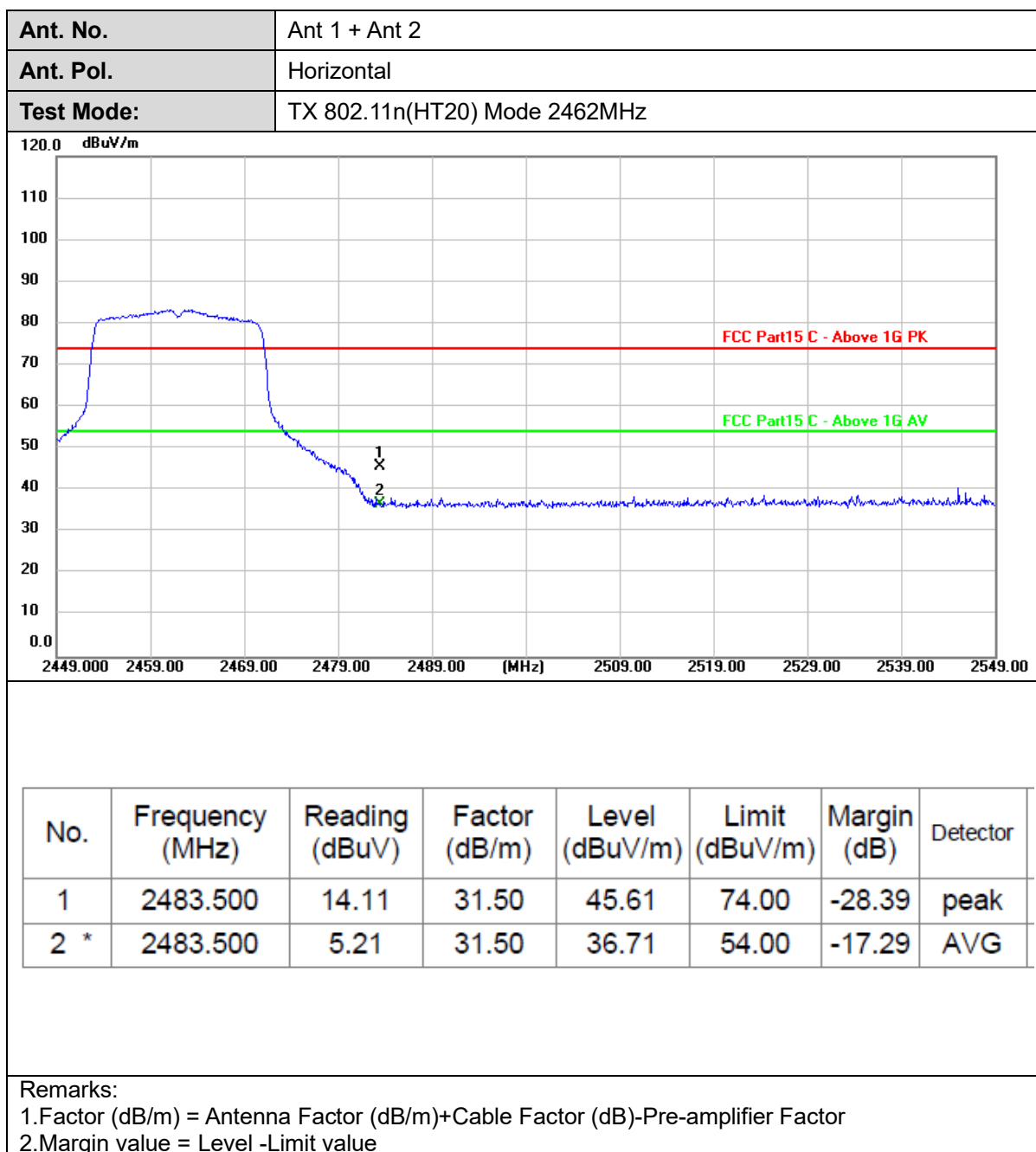


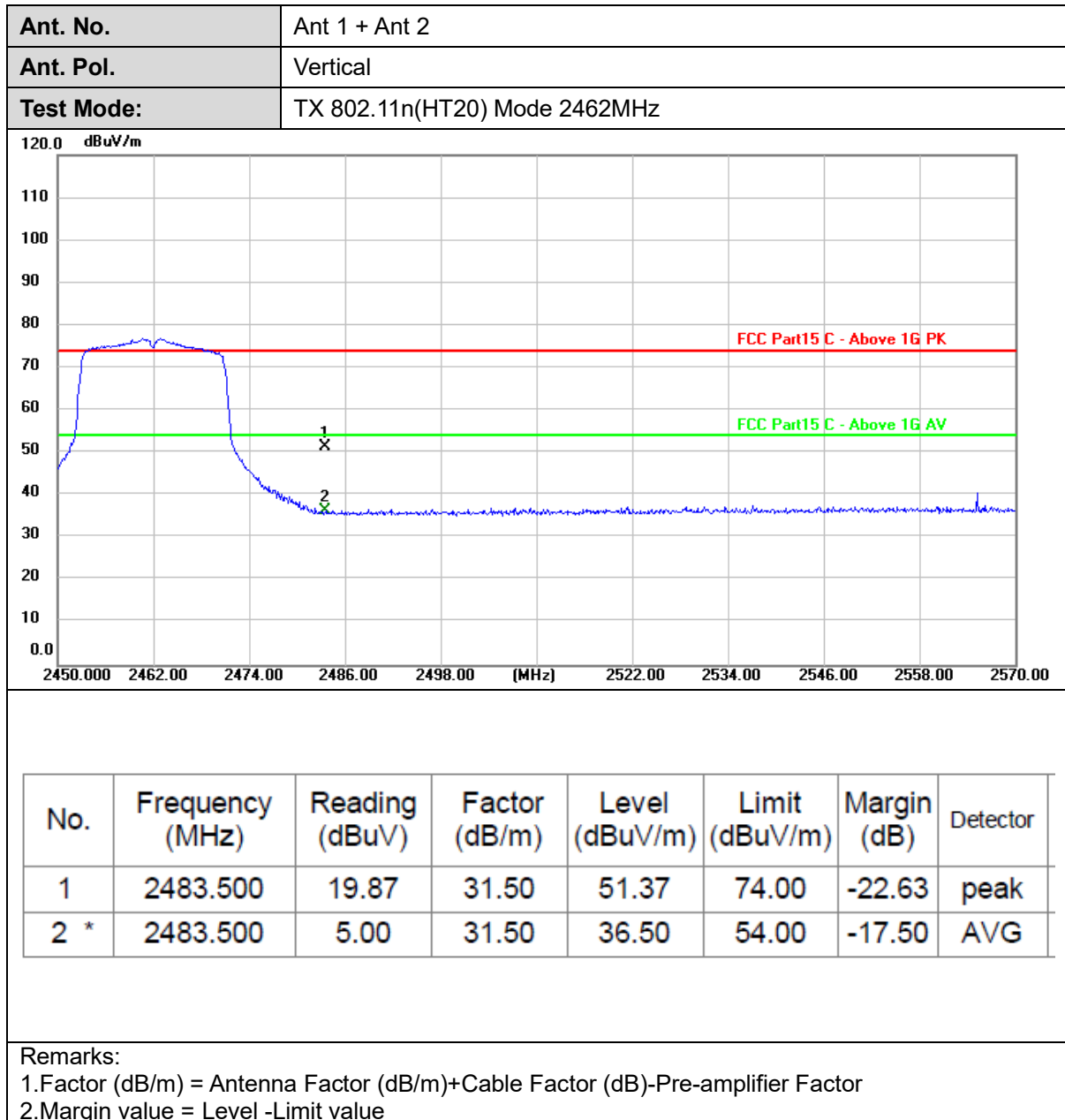


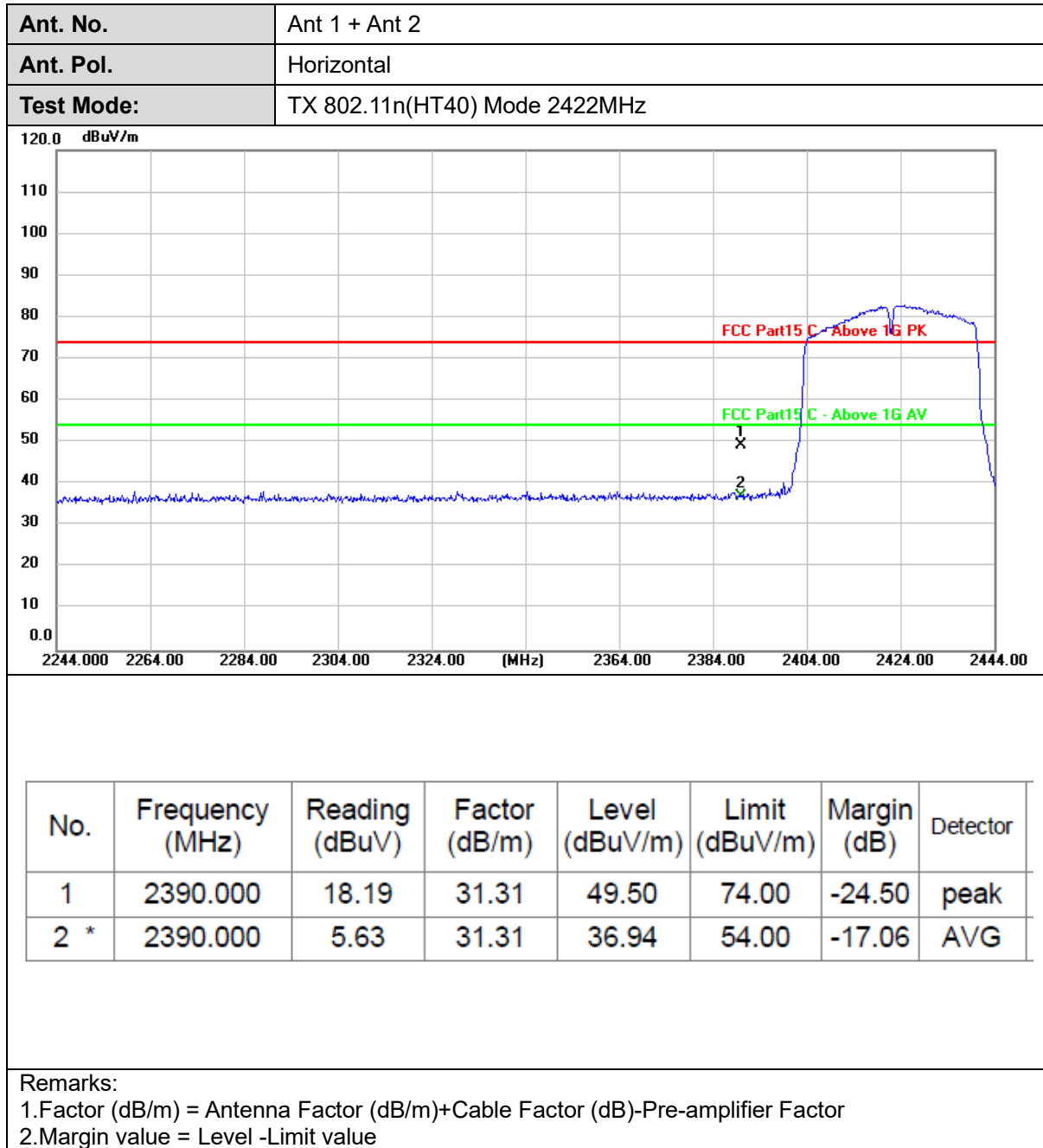


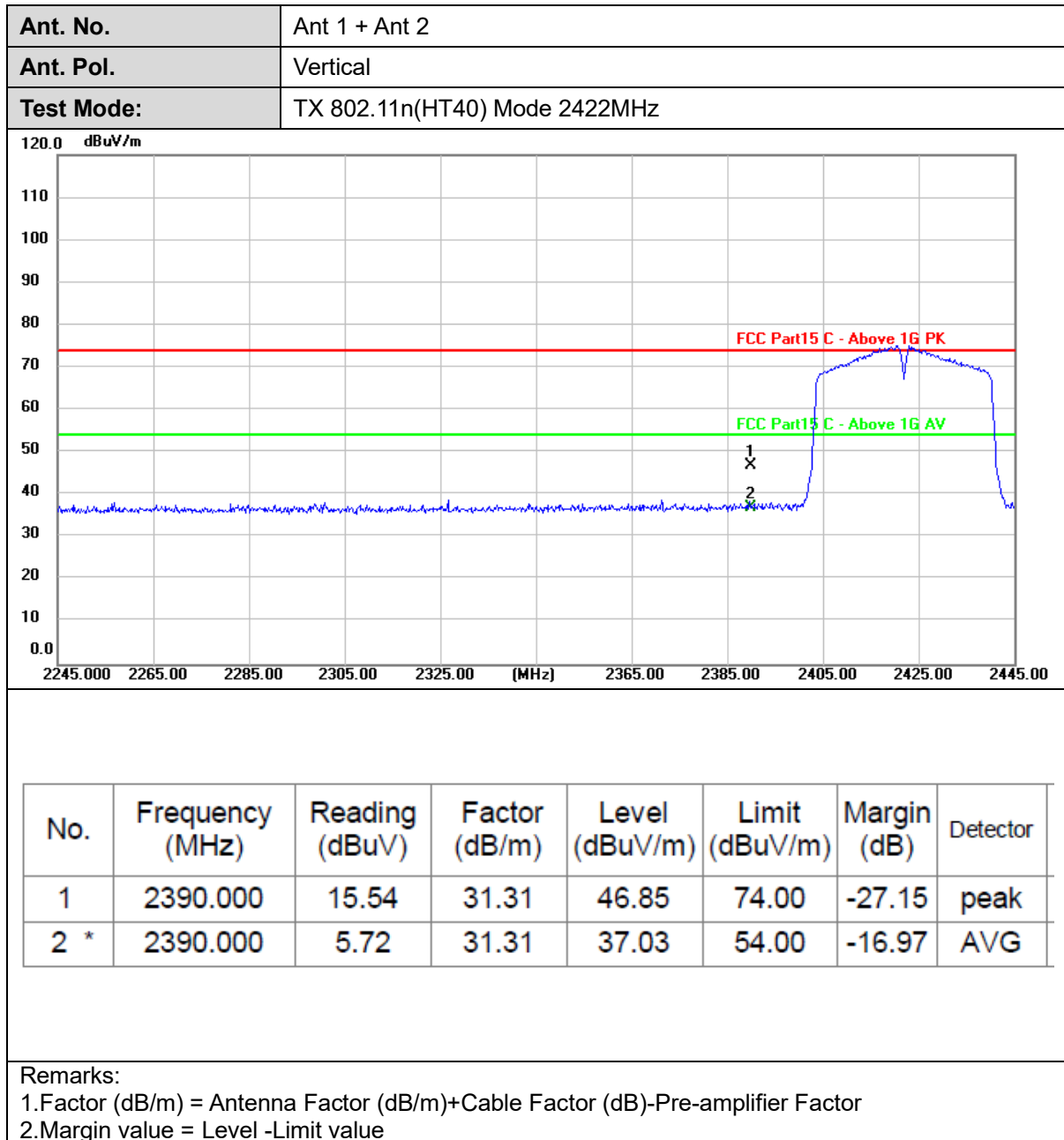


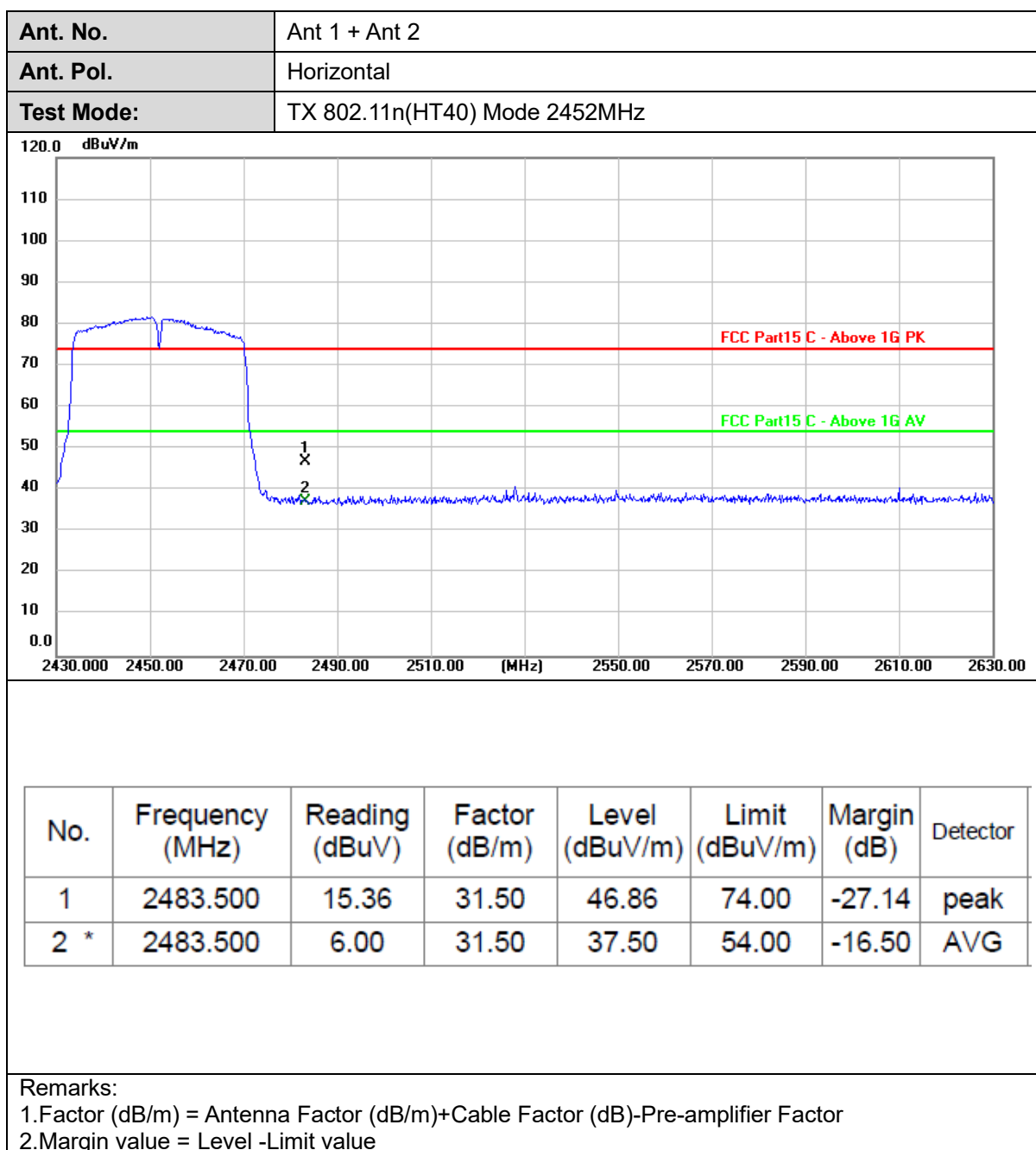


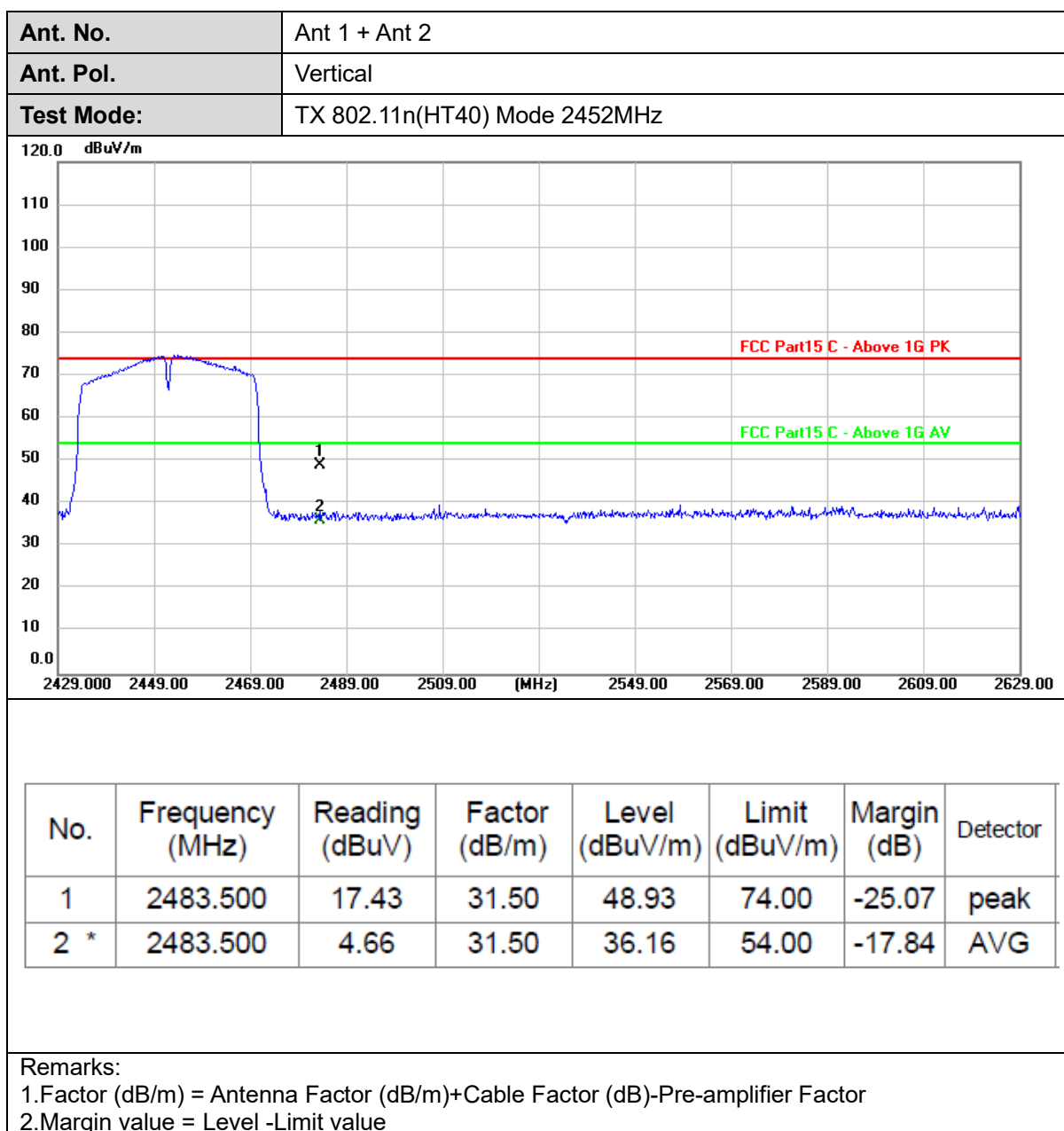


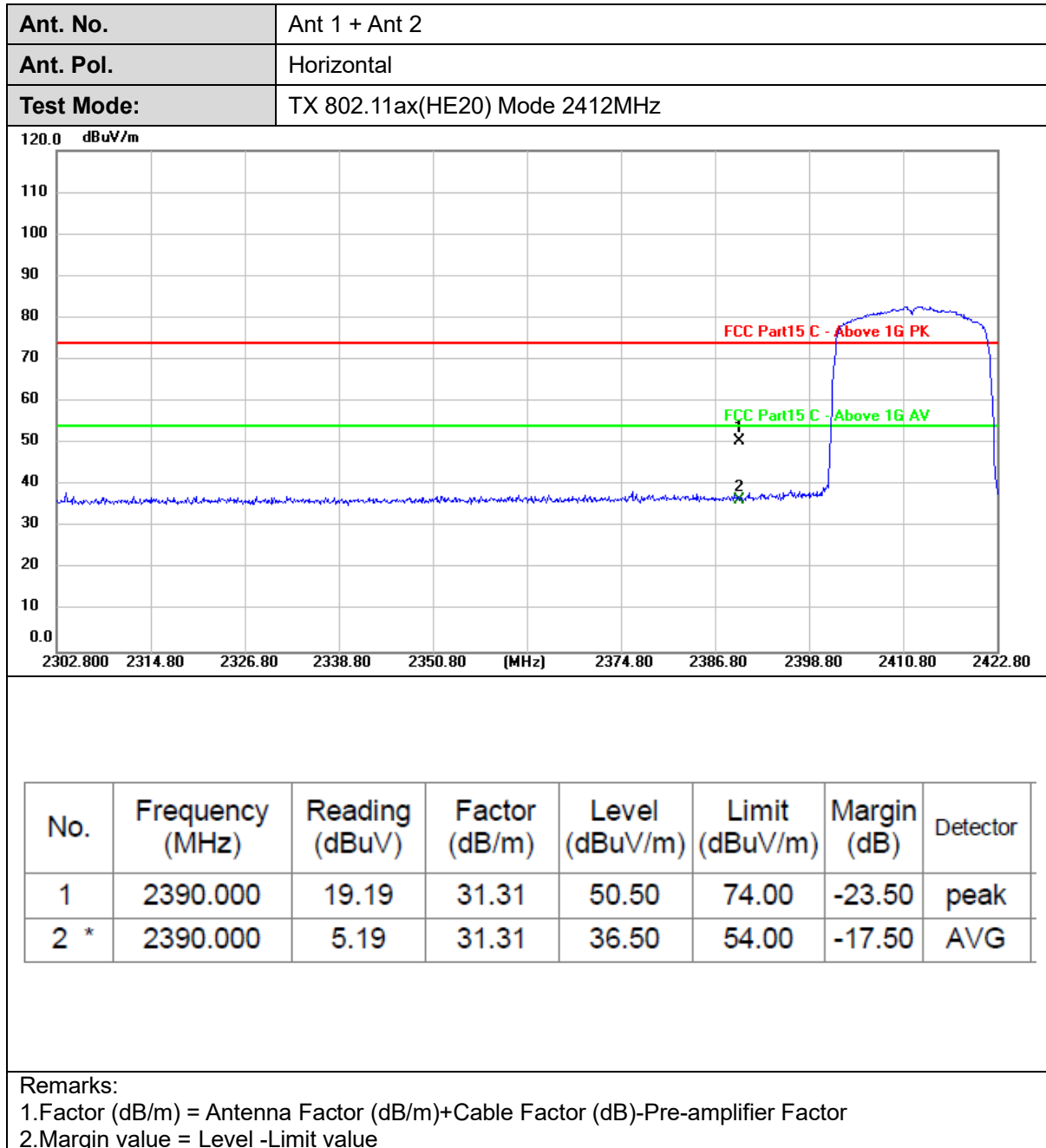


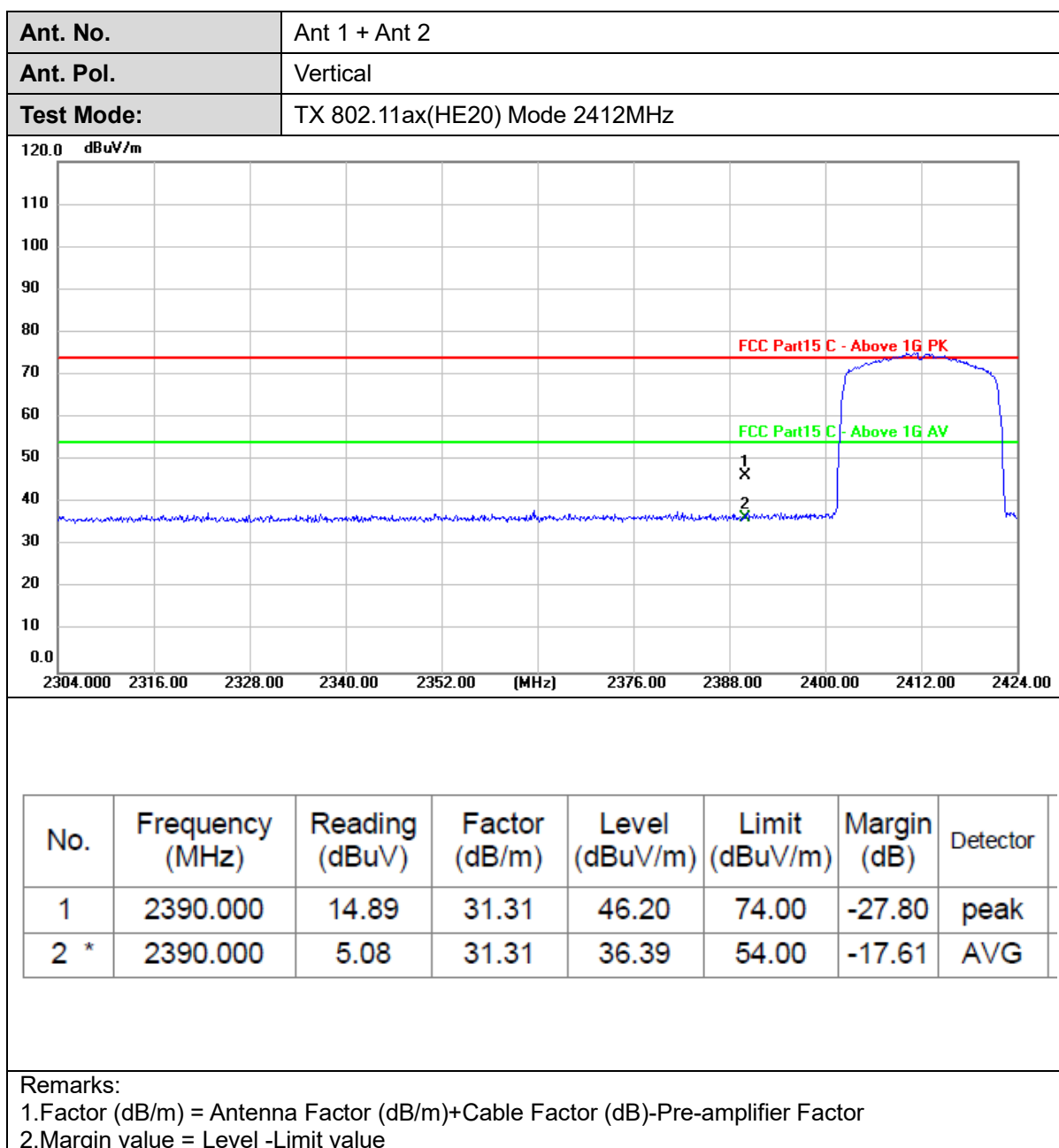


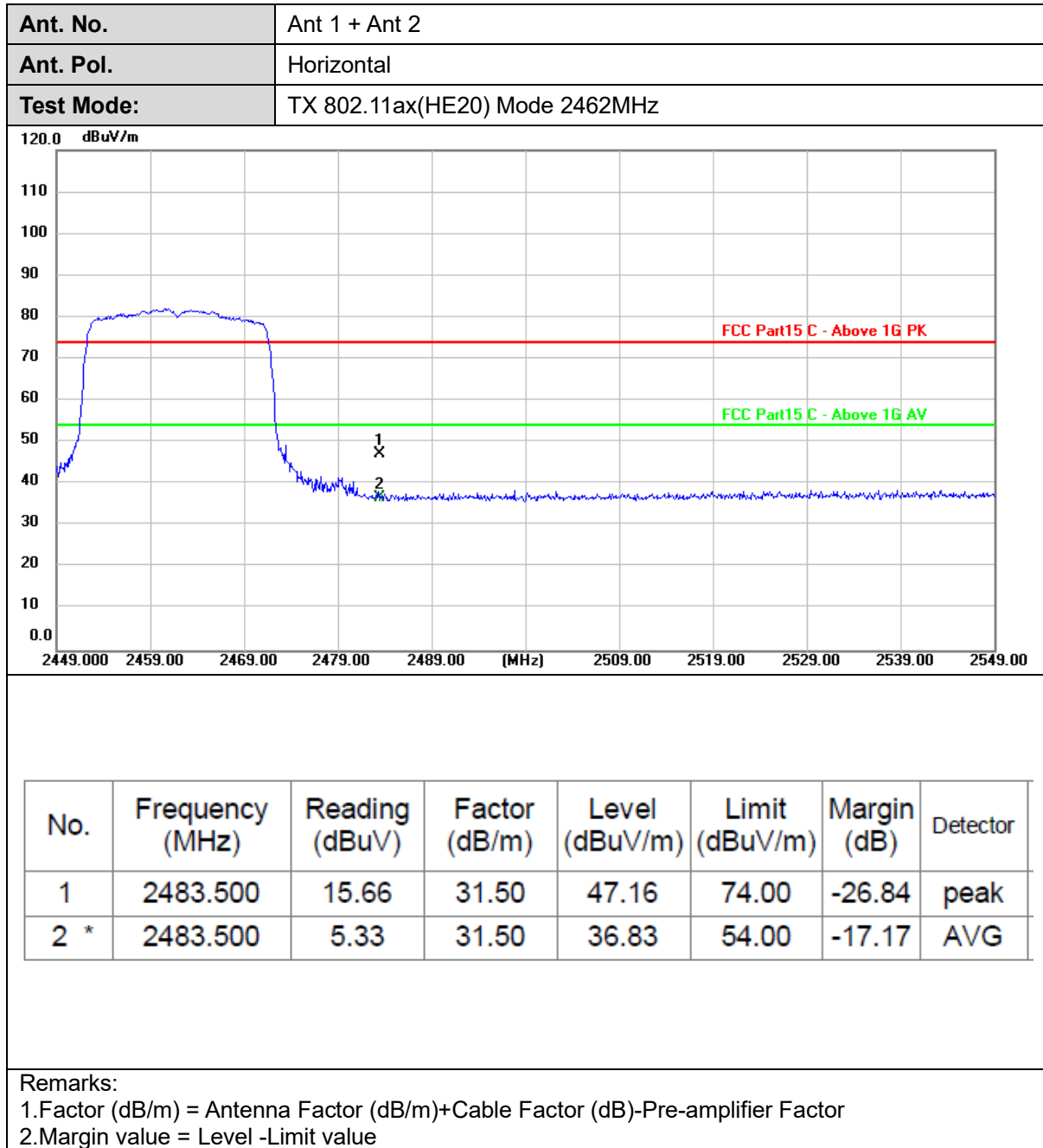


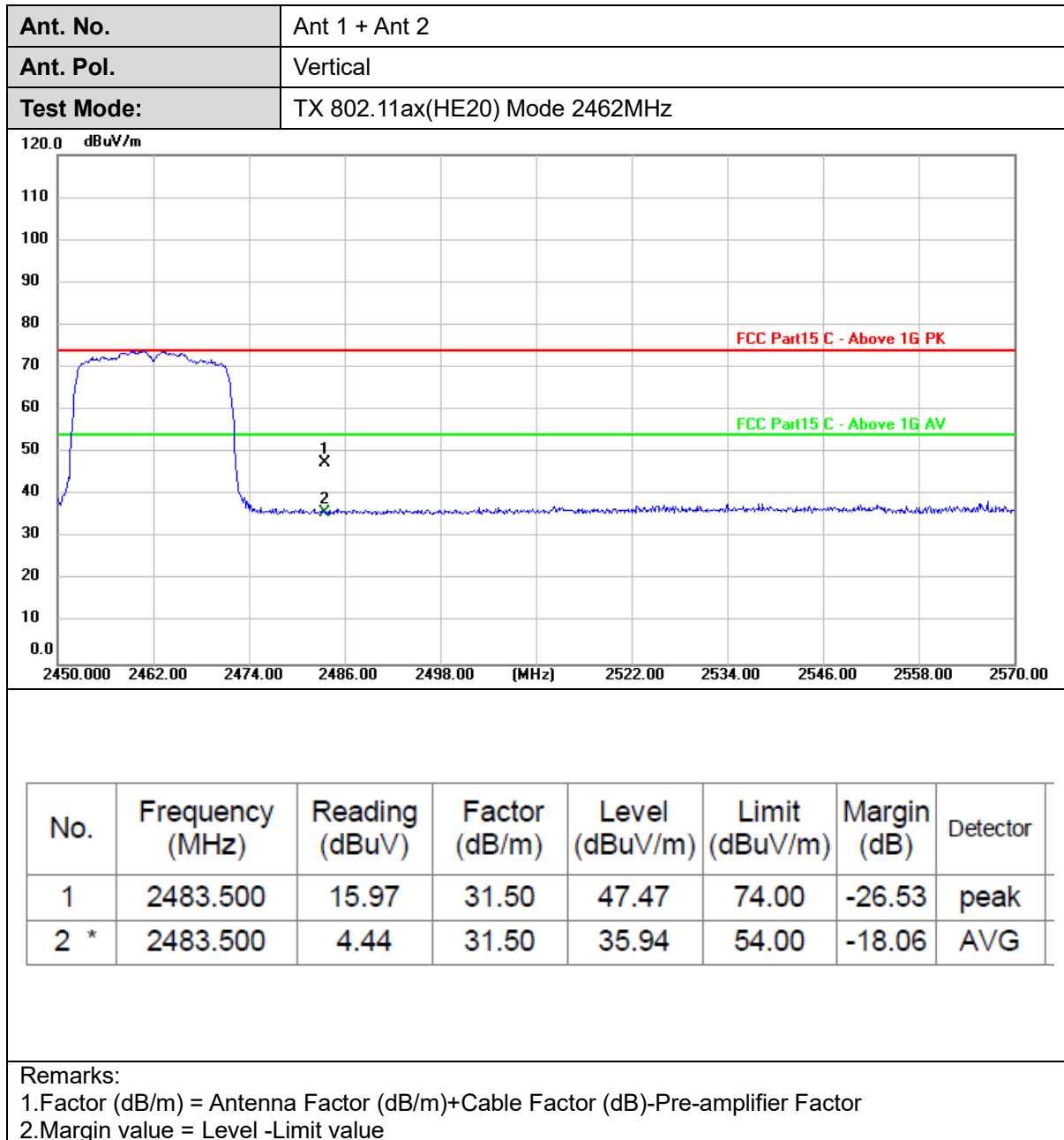


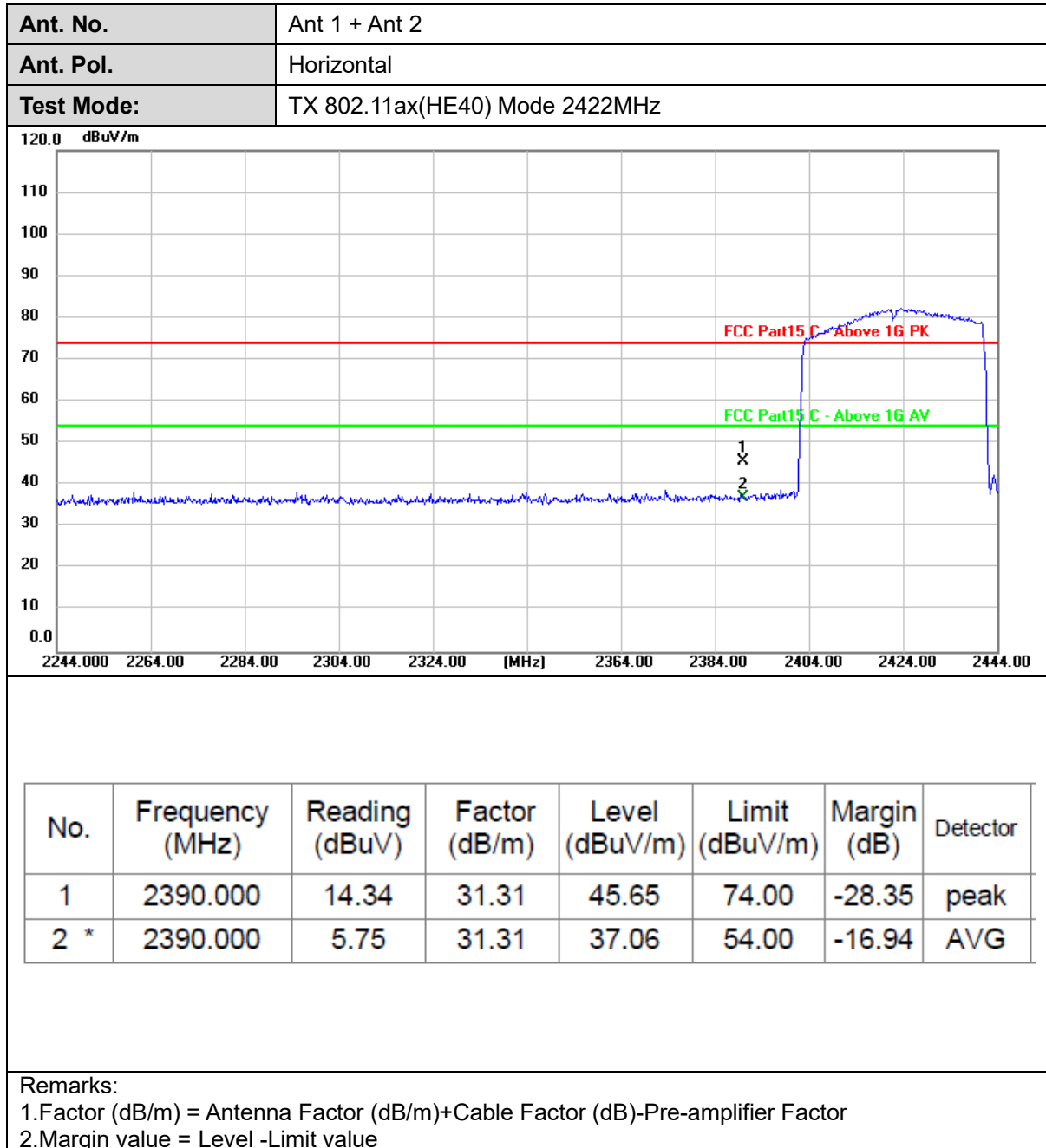


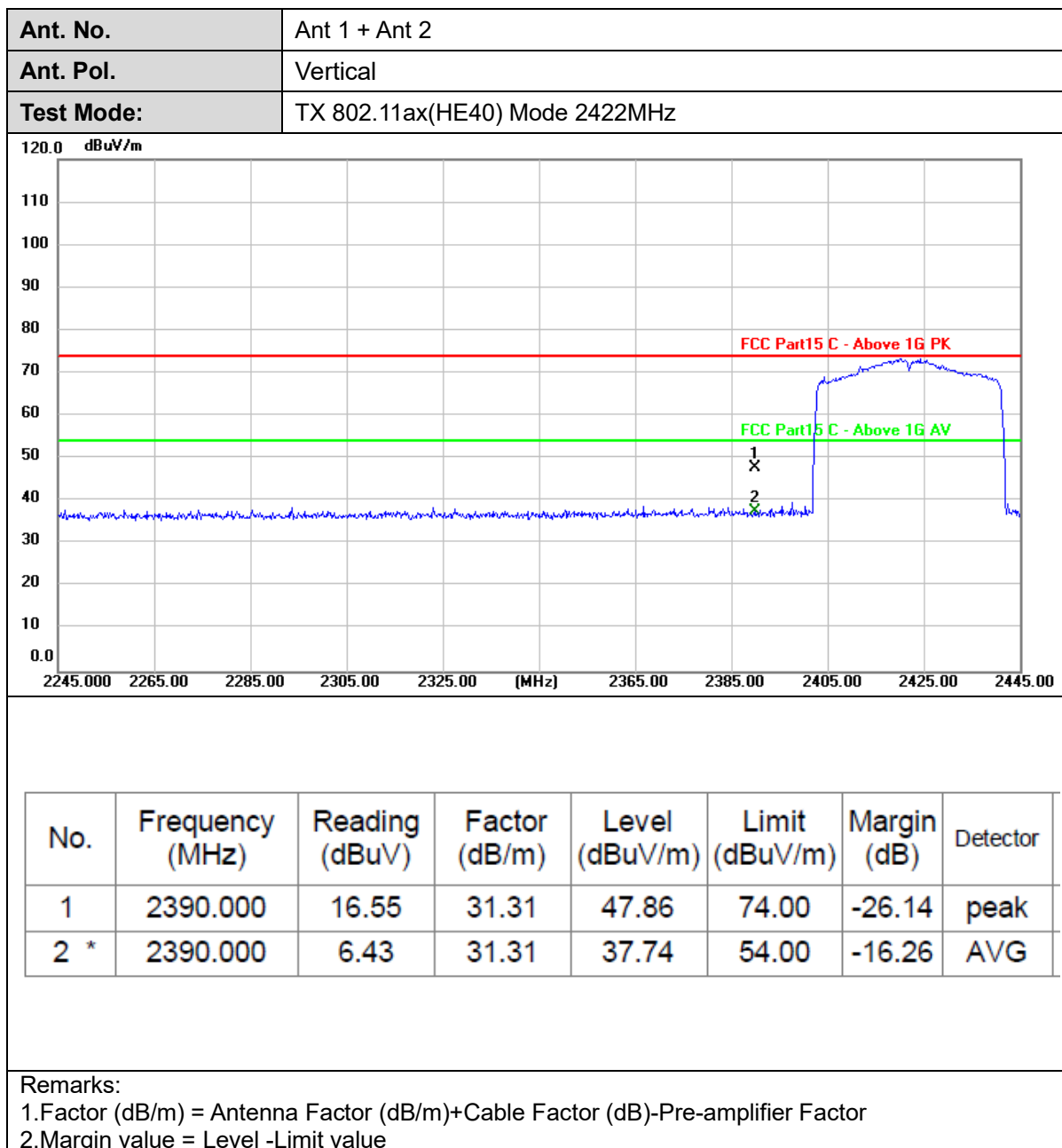


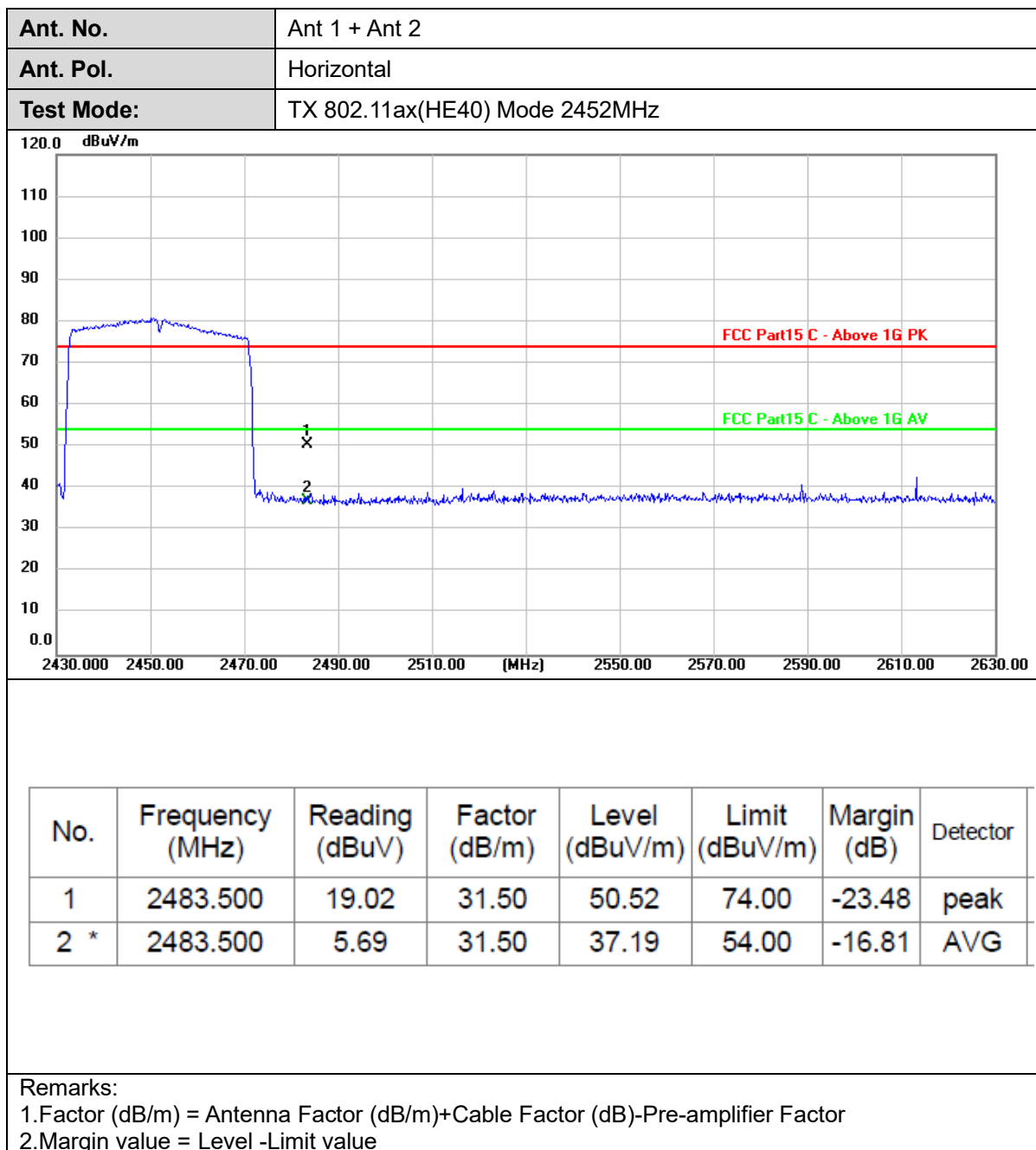


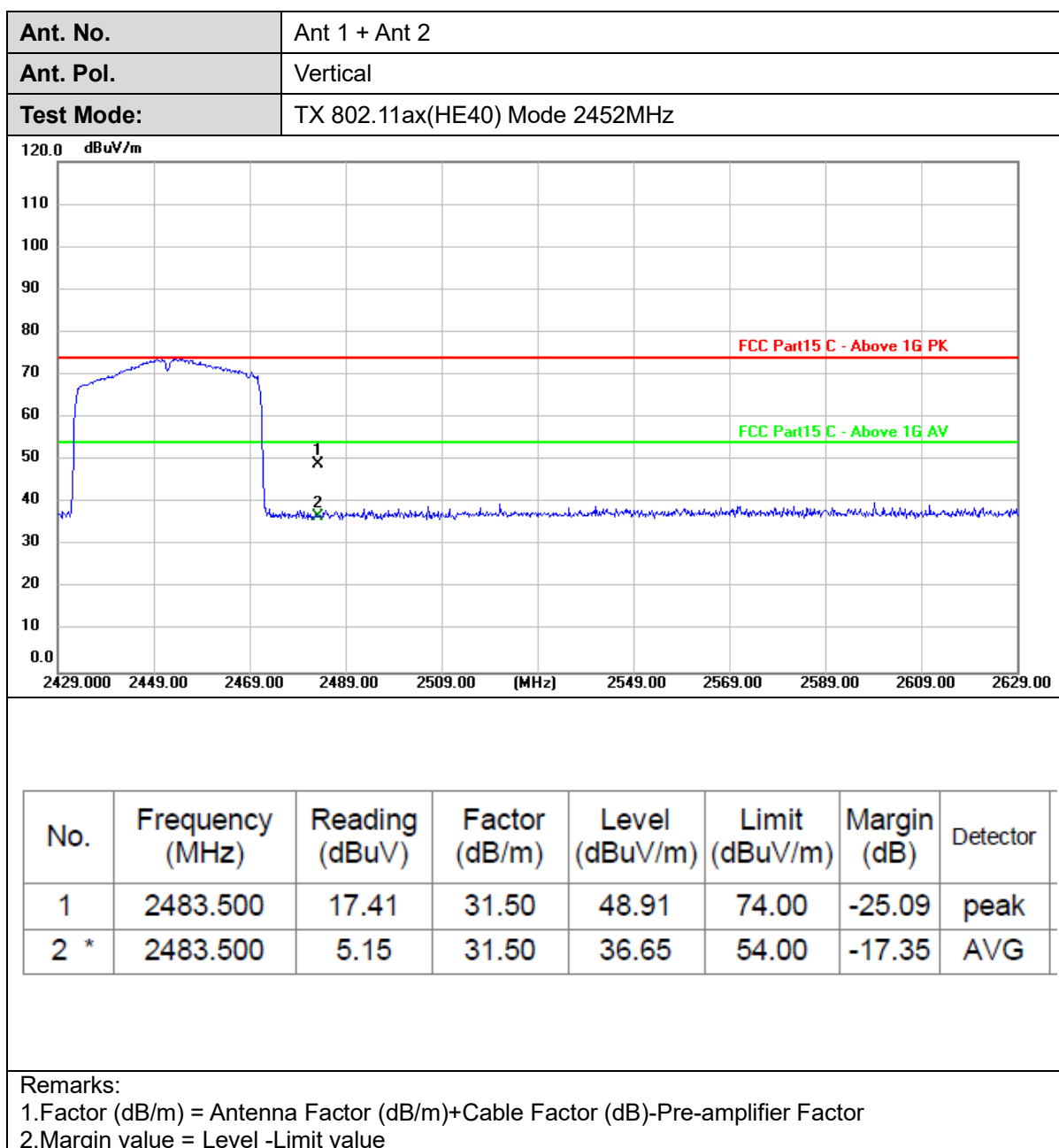














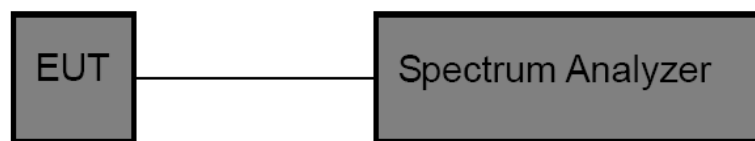
3.4. Band Edge and Spurious Emissions (Conducted)

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, 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.

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 $\geq$ 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

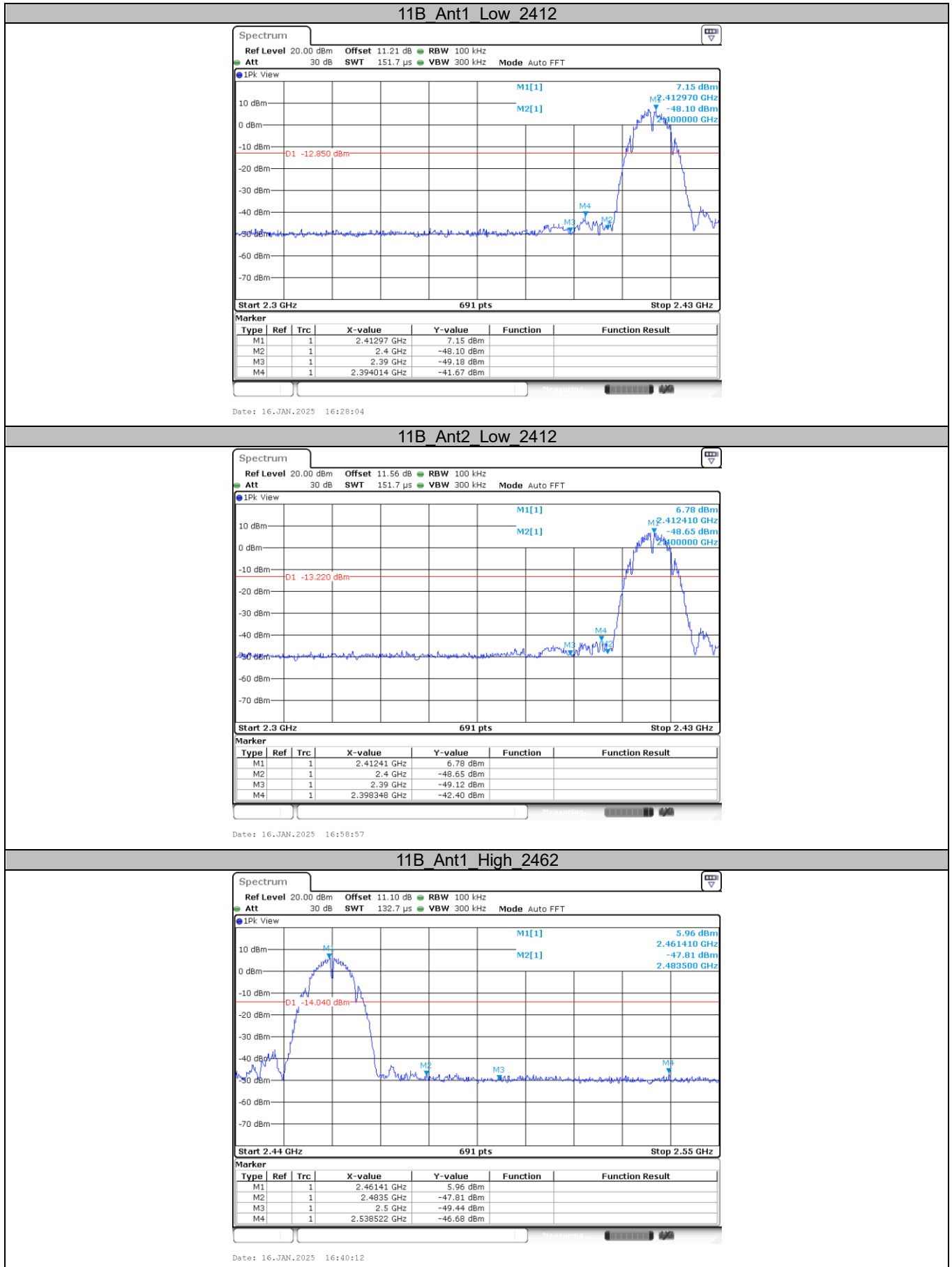
Please refer to the clause 2.4.

**Test Result****(1) Band Edge Conducted Test**

TestMode	Antenna	ChName	Frequency[MHz]	RefLevel[dBm]	Result[dBm]	Limit[dBm]	Verdict
11B	Ant1	Low	2412	7.15	-41.67	≤-12.85	PASS
	Ant2	Low	2412	6.78	-42.4	≤-13.22	PASS
	Ant1	High	2462	5.96	-46.68	≤-14.04	PASS
	Ant2	High	2462	7.73	-46.5	≤-12.27	PASS
11G	Ant1	Low	2412	-2.19	-42.82	≤-22.19	PASS
	Ant2	Low	2412	0.52	-41.88	≤-19.48	PASS
	Ant1	High	2462	-2.84	-46.93	≤-22.84	PASS
	Ant2	High	2462	-2.85	-45.73	≤-22.85	PASS
11N20MIMO	Ant1	Low	2412	-4.03	-46.06	≤-24.03	PASS
	Ant2	Low	2412	-3.80	-45.42	≤-23.8	PASS
	Ant1	High	2462	-4.38	-46.91	≤-24.38	PASS
	Ant2	High	2462	-4.48	-45.63	≤-24.48	PASS
11N40MIMO	Ant1	Low	2422	-6.77	-45.69	≤-26.77	PASS
	Ant2	Low	2422	-7.50	-45.51	≤-27.5	PASS
	Ant1	High	2452	-8.07	-47.06	≤-28.07	PASS
	Ant2	High	2452	-6.33	-46.8	≤-26.33	PASS
11AX40MIMO	Ant1	Low	2422	-7.10	-44.58	≤-27.1	PASS
	Ant2	Low	2422	-7.50	-45.74	≤-27.5	PASS
	Ant1	High	2452	-8.47	-46.99	≤-28.47	PASS
	Ant2	High	2452	-8.28	-45.05	≤-28.28	PASS



Test plot as follows:



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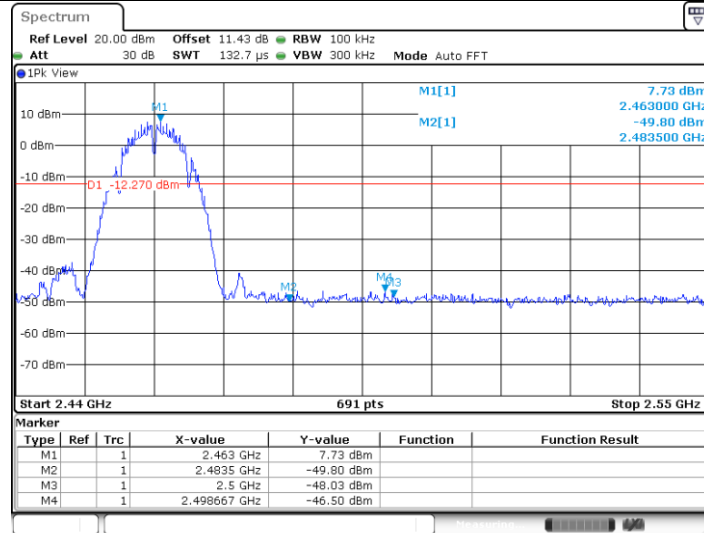
Room 107, 108, 207, 208, 303 of Building A, Room 101 of Building B, No.7, Lanqing 1st Road, Luhu Community, Guanhu Subdistrict, Longhua District, Shenzhen, Guangdong, China Tel.: (86)755-27521059 Fax: (86)755-27521011 Http://www.sz-ctc.org.cn

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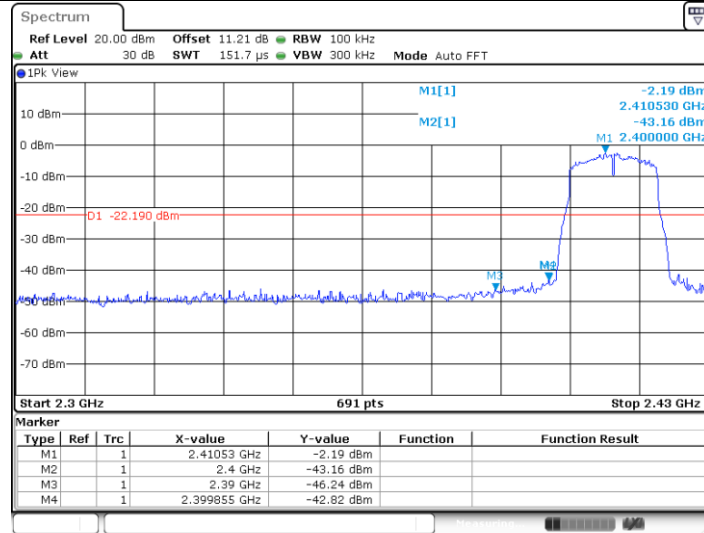
TRF No: CTC-TR-057_A2



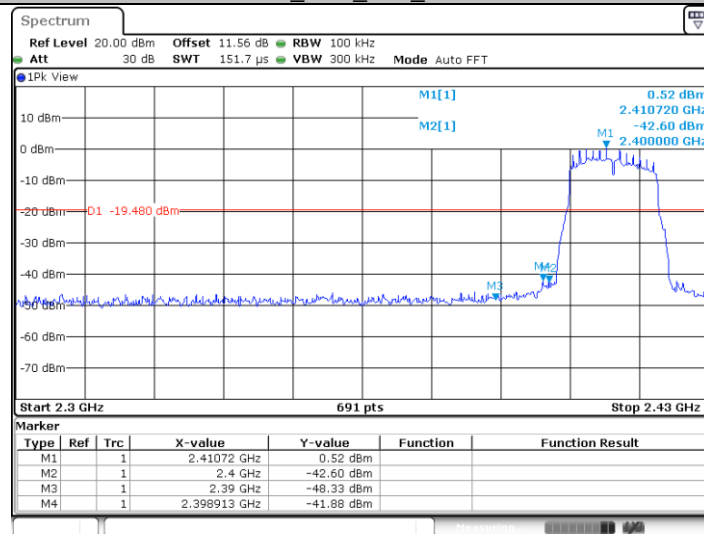
11B Ant2 High 2462



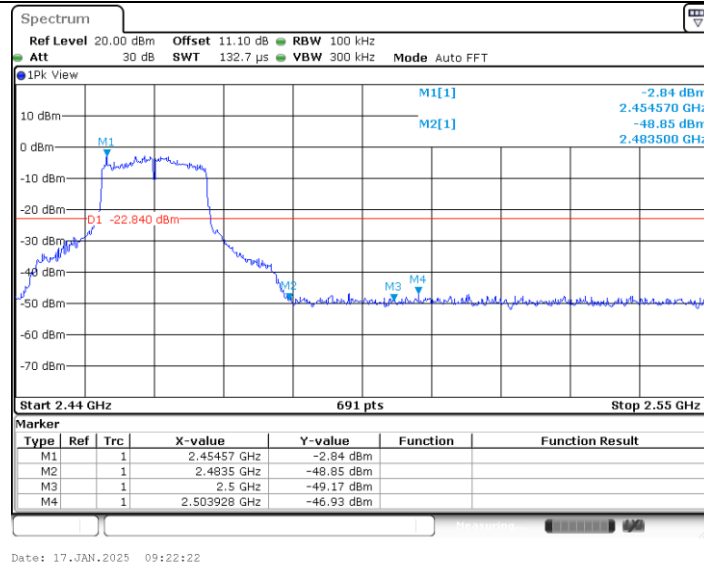
11G Ant1 Low 2412



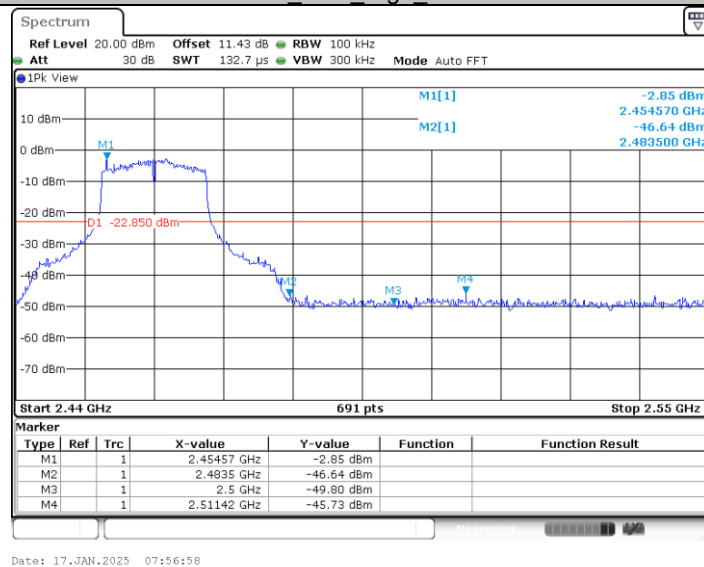
11G Ant2 Low 2412



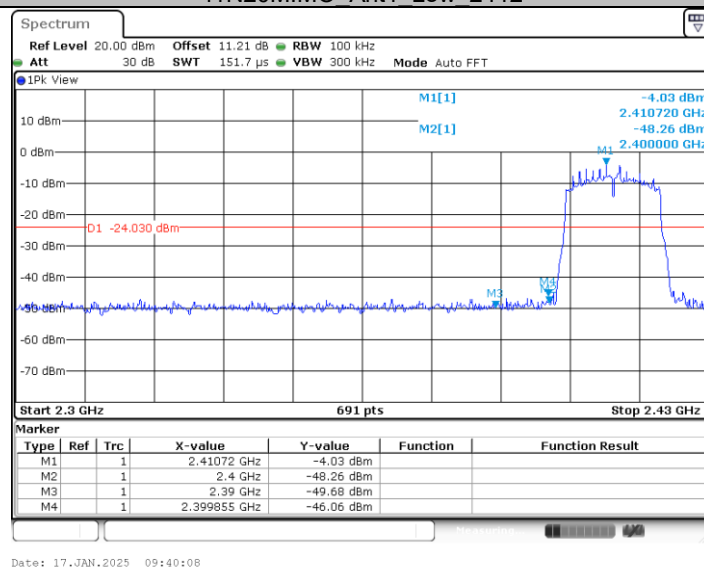
11G Ant1 High 2462



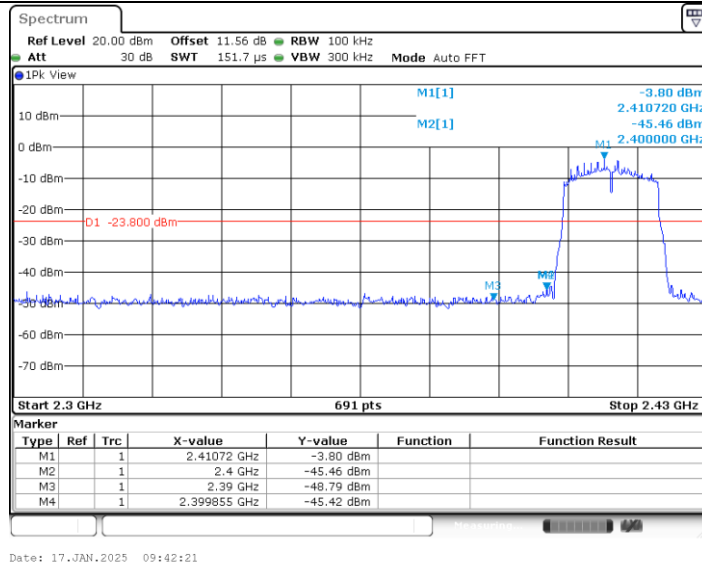
11G Ant2 High 2462



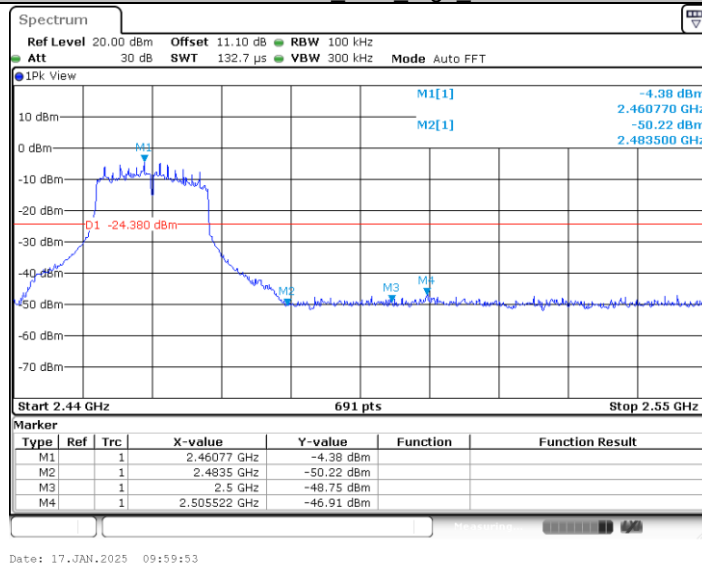
11N20MIMO Ant1 Low 2412



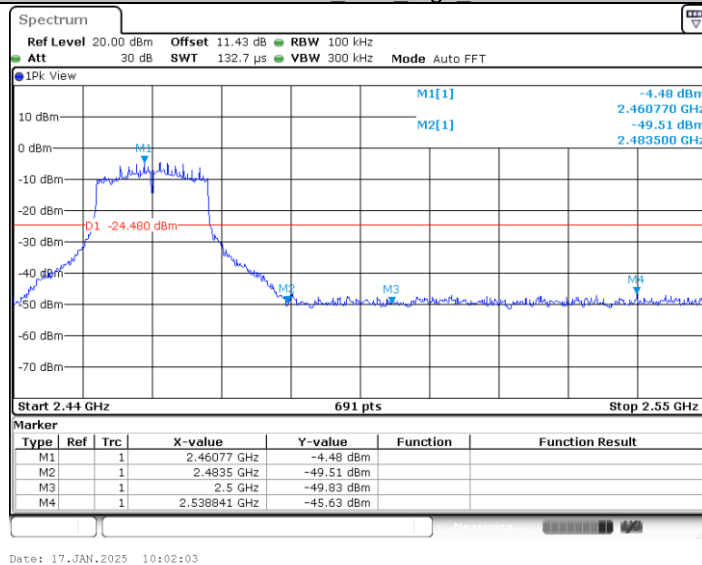
11N20MIMO Ant2 Low 2412



11N20MIMO_Ant1_High_2462



11N20MIMO_Ant2_High_2462



11N40MIMO_Ant1_Low_2422

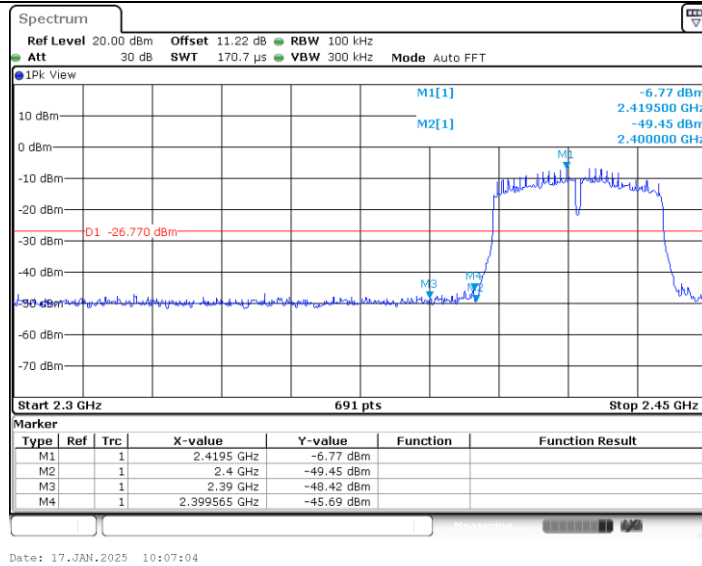
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Longhua District, Shenzhen, Guangdong, China Tel.: (86)755-27521059 Fax: (86)755-27521011 Http://www.sz-ctc.org.cn

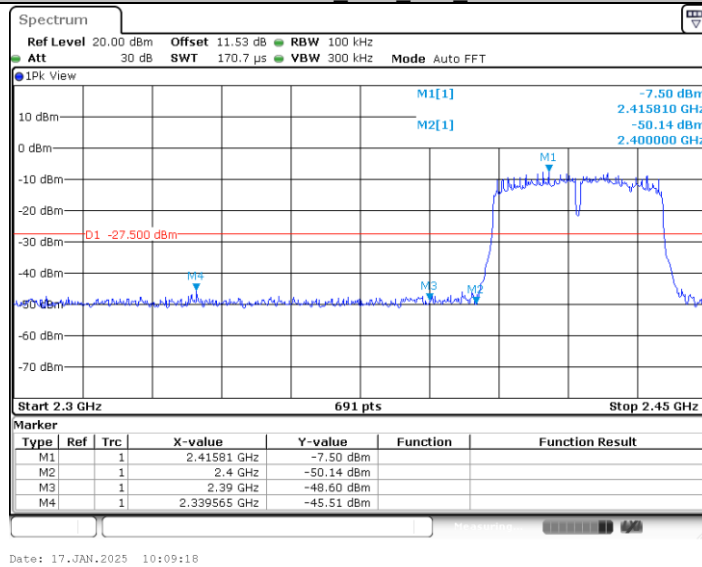
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TRF No: CTC-TR-057_A2

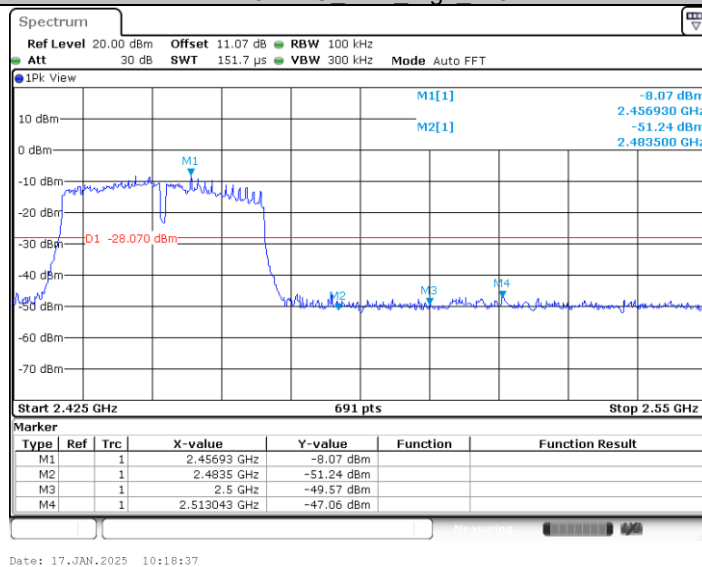
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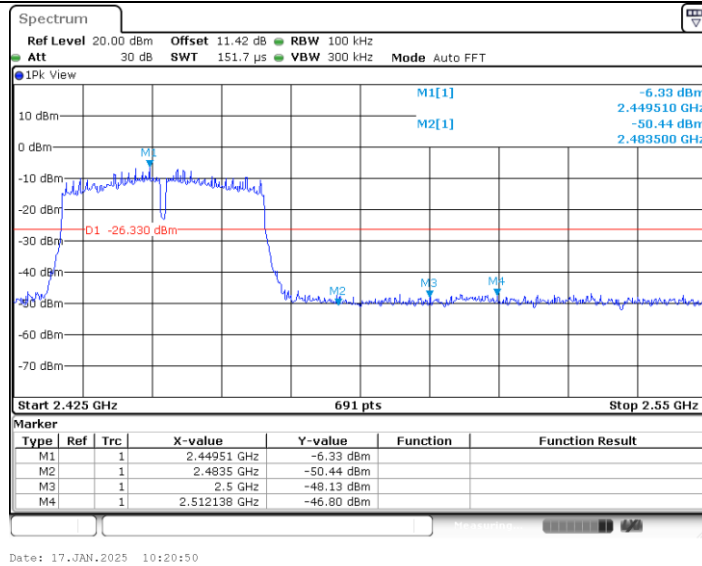
11N40MIMO_Ant2_Low_2422



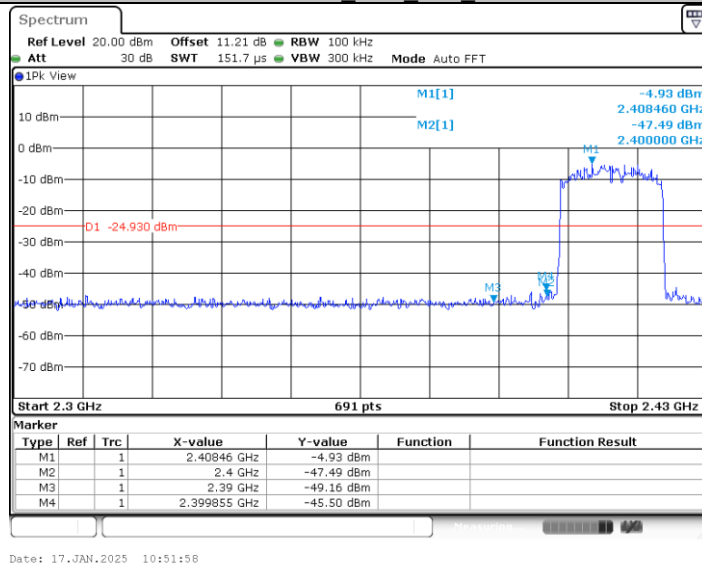
11N40MIMO_Ant1_High_2452



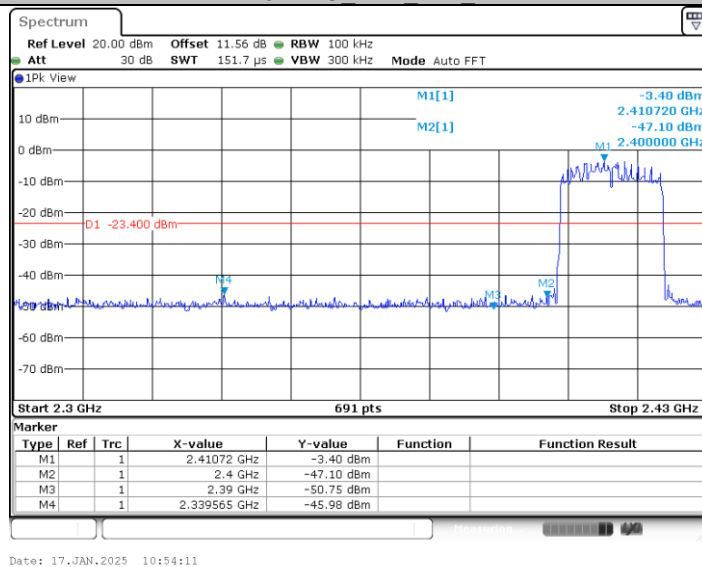
11N40MIMO_Ant2_High_2452



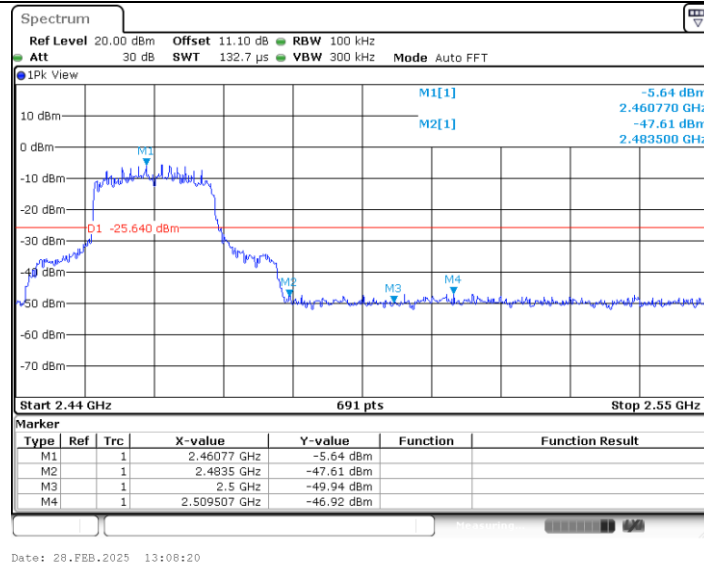
11AX20MIMO Ant1 Low 2412



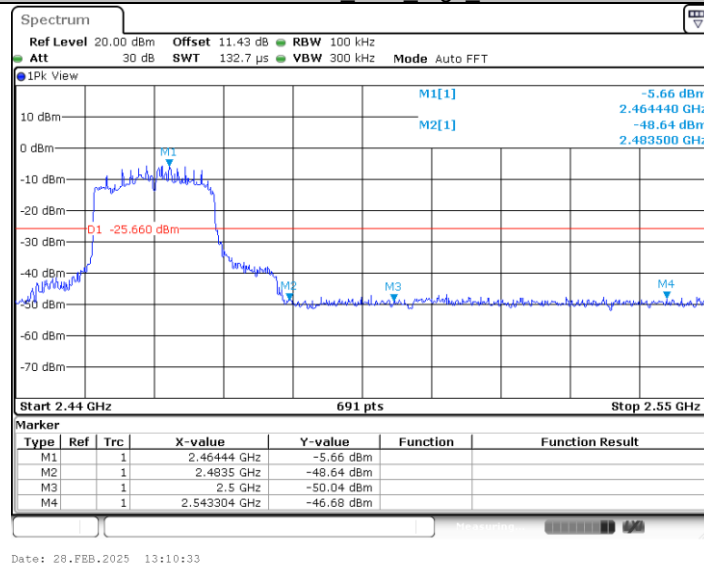
11AX20MIMO Ant2 Low 2412



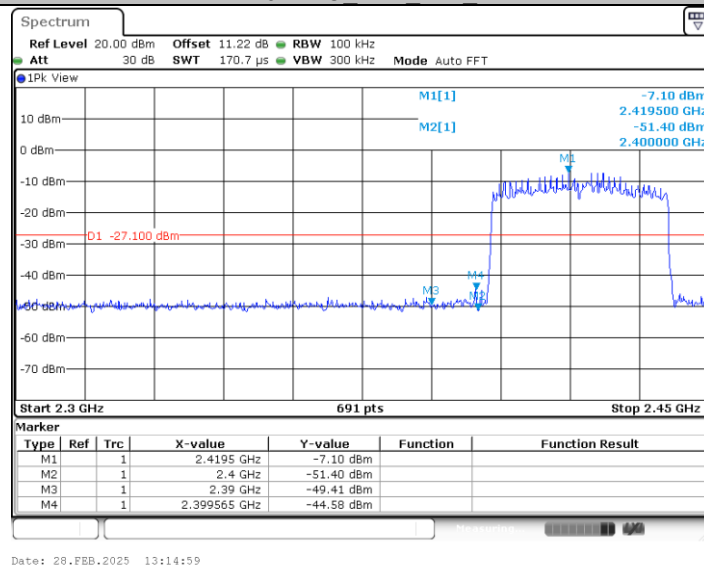
11AX20MIMO Ant1 High 2462



11AX20MIMO Ant2 High 2462



11AX40MIMO Ant1 Low 2422



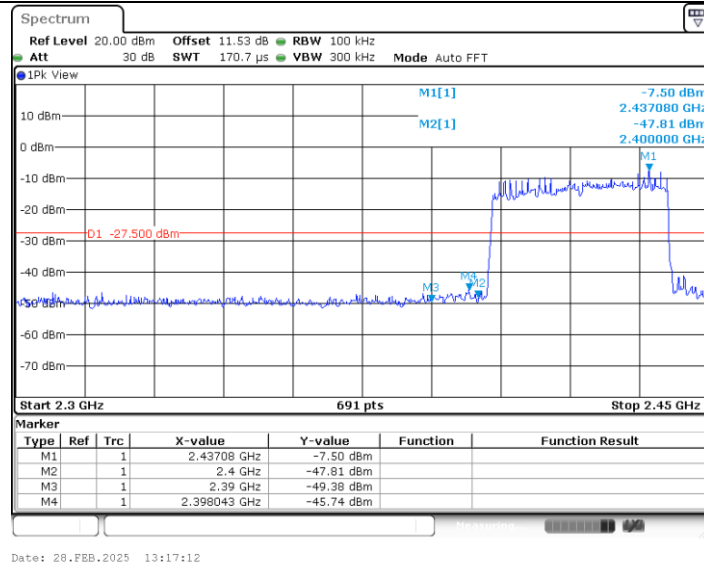
11AX40MIMO Ant2 Low 2422

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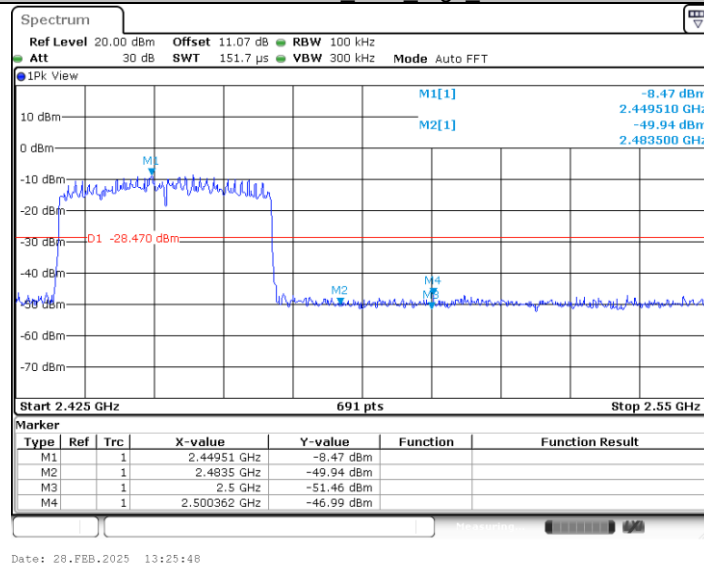
Room 107, 108, 207, 208, 303 of Building A, Room 101 of Building B, No.7, Lanqing 1st Road, Luhu Community, Guanhu Subdistrict, Longhua District, Shenzhen, Guangdong, China Tel.: (86)755-27521059 Fax: (86)755-27521011 Http://www.sz-ctc.org.cn

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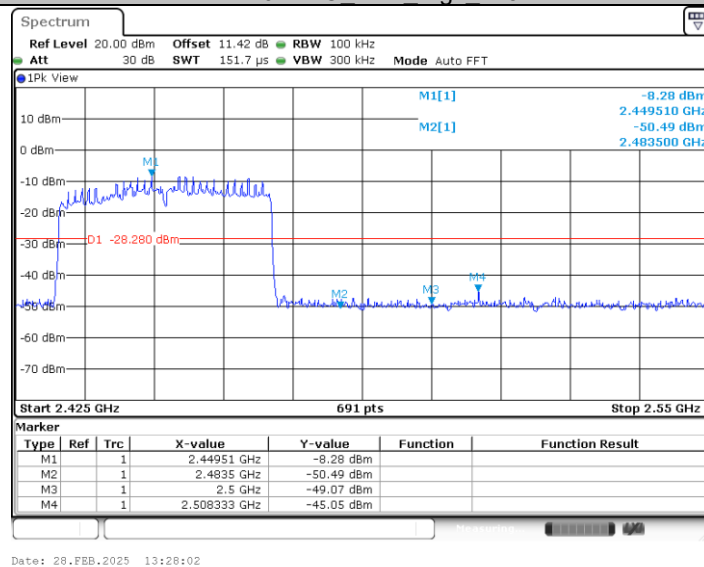
TRF No: CTC-TR-057_A2



11AX40MIMO Ant1 High 2452



11AX40MIMO Ant2 High 2452



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**Conducted Spurious Emissions Test**

TestMode	Antenna	Frequency[MHz]	FreqRange [Mhz]	RefLevel [dBm]	Result [dBm]	Limit [dBm]	Verdict
11B	Ant1	2412	30~1000	8.25	-48.2	≤-11.75	PASS
			1000~26500	8.25	-40.63	≤-11.75	PASS
	Ant2	2412	30~1000	8.14	-48.07	≤-11.86	PASS
			1000~26500	8.14	-39.73	≤-11.86	PASS
	Ant1	2437	30~1000	7.91	-47.76	≤-12.09	PASS
			1000~26500	7.91	-41.51	≤-12.09	PASS
	Ant2	2437	30~1000	8.03	-47.25	≤-11.97	PASS
			1000~26500	8.03	-40.28	≤-11.97	PASS
	Ant1	2462	30~1000	7.62	-48.4	≤-12.38	PASS
			1000~26500	7.62	-41.88	≤-12.38	PASS
	Ant2	2462	30~1000	7.89	-47.92	≤-12.11	PASS
			1000~26500	7.89	-40.66	≤-12.11	PASS
11G	Ant1	2412	30~1000	-0.02	-48.26	≤-20.02	PASS
			1000~26500	-0.02	-41.08	≤-20.02	PASS
	Ant2	2412	30~1000	0.44	-47.68	≤-19.56	PASS
			1000~26500	0.44	-40.48	≤-19.56	PASS
	Ant1	2437	30~1000	-0.32	-48.13	≤-20.32	PASS
			1000~26500	-0.32	-41.3	≤-20.32	PASS
	Ant2	2437	30~1000	0.33	-46.98	≤-19.67	PASS
			1000~26500	0.33	-41.21	≤-19.67	PASS
	Ant1	2462	30~1000	-0.46	-48.21	≤-20.46	PASS
			1000~26500	-0.46	-40.13	≤-20.46	PASS
	Ant2	2462	30~1000	0.06	-47.44	≤-19.94	PASS
			1000~26500	0.06	-40.99	≤-19.94	PASS
11N20MIMO	Ant1	2412	30~1000	-3.98	-47.71	≤-23.98	PASS
			1000~26500	-3.98	-40.46	≤-23.98	PASS
	Ant2	2412	30~1000	-3.54	-47.29	≤-23.54	PASS
			1000~26500	-3.54	-40.5	≤-23.54	PASS
	Ant1	2437	30~1000	-2.39	-48.59	≤-22.39	PASS
			1000~26500	-2.39	-41.37	≤-22.39	PASS
	Ant2	2437	30~1000	-3.75	-48.07	≤-23.75	PASS
			1000~26500	-3.75	-40.71	≤-23.75	PASS
	Ant1	2462	30~1000	-4.64	-48.15	≤-24.64	PASS
			1000~26500	-4.64	-41.62	≤-24.64	PASS
	Ant2	2462	30~1000	-4.28	-46.84	≤-24.28	PASS

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			1000~26500	-4.28	-40.93	≤-24.28	PASS
11N40MIMO	Ant1	2422	30~1000	-7.19	-48.34	≤-27.19	PASS
			1000~26500	-7.19	-40.65	≤-27.19	PASS
	Ant2	2422	30~1000	-6.13	-47.28	≤-26.13	PASS
			1000~26500	-6.13	-40.94	≤-26.13	PASS
	Ant1	2437	30~1000	-7.20	-48.13	≤-27.2	PASS
			1000~26500	-7.20	-41.57	≤-27.2	PASS
	Ant2	2437	30~1000	-6.01	-47.87	≤-26.01	PASS
			1000~26500	-6.01	-40.51	≤-26.01	PASS
	Ant1	2452	30~1000	-6.87	-48.31	≤-26.87	PASS
			1000~26500	-6.87	-40.72	≤-26.87	PASS
11AX20MIMO	Ant1	2412	30~1000	-3.52	-47.21	≤-23.52	PASS
			1000~26500	-3.52	-41.14	≤-23.52	PASS
	Ant2	2412	30~1000	-3.05	-46.74	≤-23.05	PASS
			1000~26500	-3.05	-40.56	≤-23.05	PASS
	Ant1	2437	30~1000	-5.01	-48.11	≤-25.01	PASS
			1000~26500	-5.01	-39.57	≤-25.01	PASS
	Ant2	2437	30~1000	-5.08	-47.38	≤-25.08	PASS
			1000~26500	-5.08	-40.24	≤-25.08	PASS
	Ant1	2462	30~1000	-5.33	-47.38	≤-25.33	PASS
			1000~26500	-5.33	-41.1	≤-25.33	PASS
11AX40MIMO	Ant1	2422	30~1000	-7.10	-47.93	≤-27.1	PASS
			1000~26500	-7.10	-40.68	≤-27.1	PASS
	Ant2	2422	30~1000	-7.20	-46.13	≤-27.2	PASS
			1000~26500	-7.20	-40.77	≤-27.2	PASS
	Ant1	2437	30~1000	-7.31	-47.59	≤-27.31	PASS
			1000~26500	-7.31	-40.85	≤-27.31	PASS
	Ant2	2437	30~1000	-7.73	-47.23	≤-27.73	PASS
			1000~26500	-7.73	-41.02	≤-27.73	PASS
	Ant1	2452	30~1000	-7.91	-48.36	≤-27.91	PASS
			1000~26500	-7.91	-41.55	≤-27.91	PASS
	Ant2	2452	30~1000	-8.13	-47.72	≤-28.13	PASS
			1000~26500	-8.13	-40.6	≤-28.13	PASS

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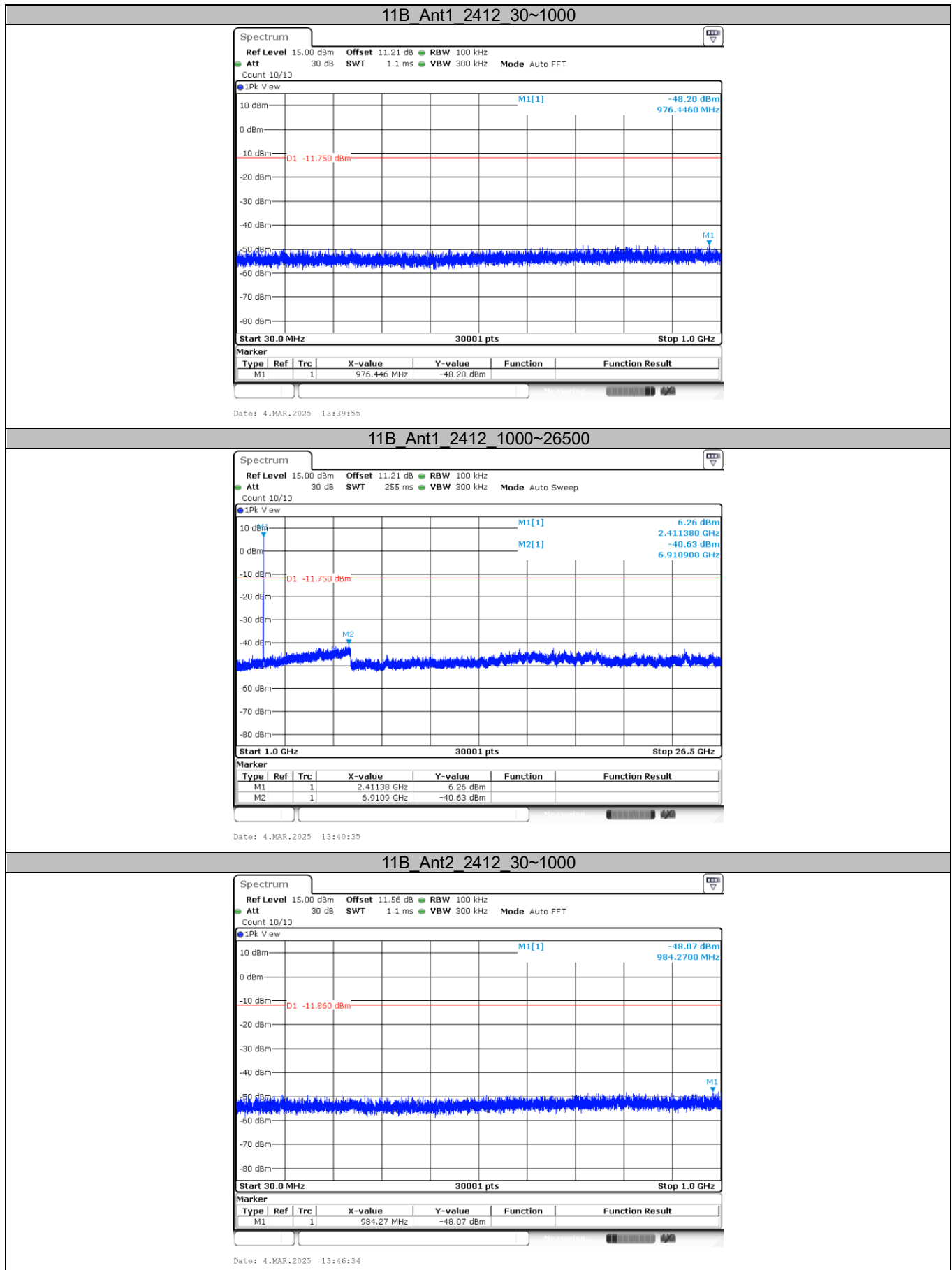
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Test plot as follows:



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Room 107, 108, 207, 208, 303 of Building A, Room 101 of Building B, No.7, Lanqing 1st Road, Luhua Community, Guanhu Subdistrict,
Longhua District, Shenzhen, Guangdong, China Tel.: (86)755-27521059 Fax: (86)755-27521011 Http://www.sz-ctc.org.cn

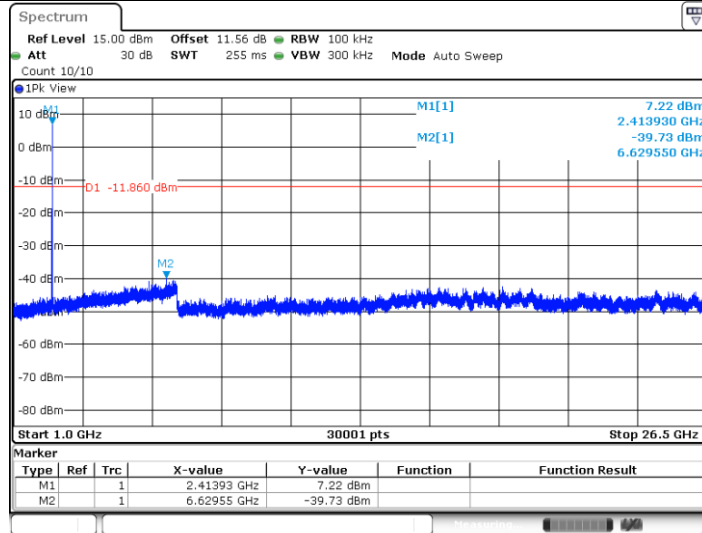
For anti-fake verification, please visit the official website of China Inspection And Testing

Society : yz.cncaq.com

TRF No: CTC-TR-057_A2

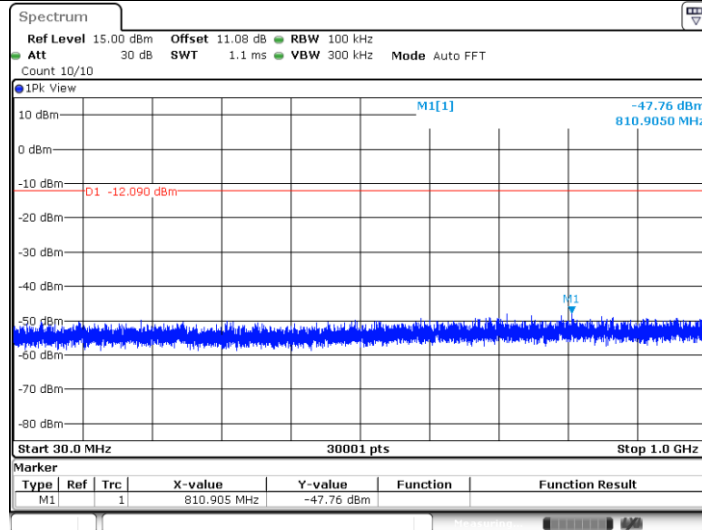


11B_Ant2_2412_1000~26500



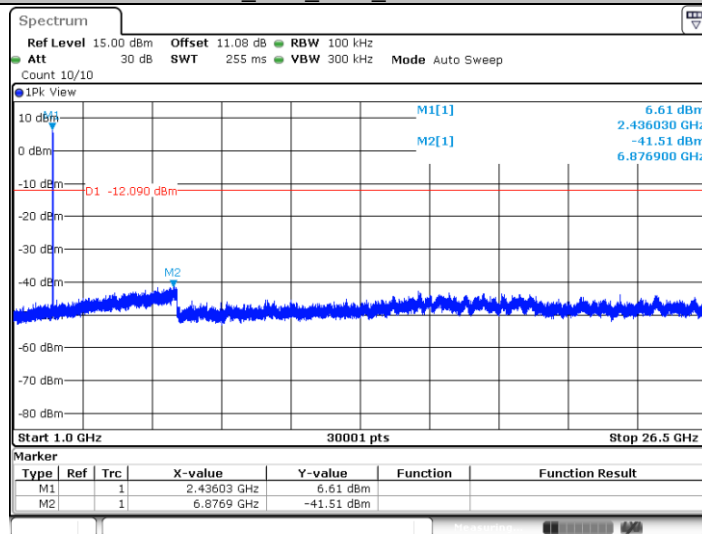
Date: 4.MAR.2025 13:47:13

11B_Ant1_2437_30~1000



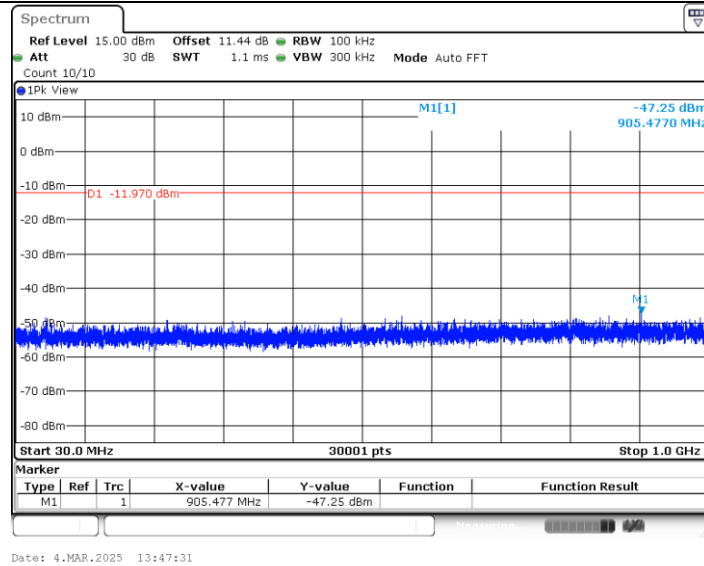
Date: 4.MAR.2025 13:41:15

11B_Ant1_2437_1000~26500

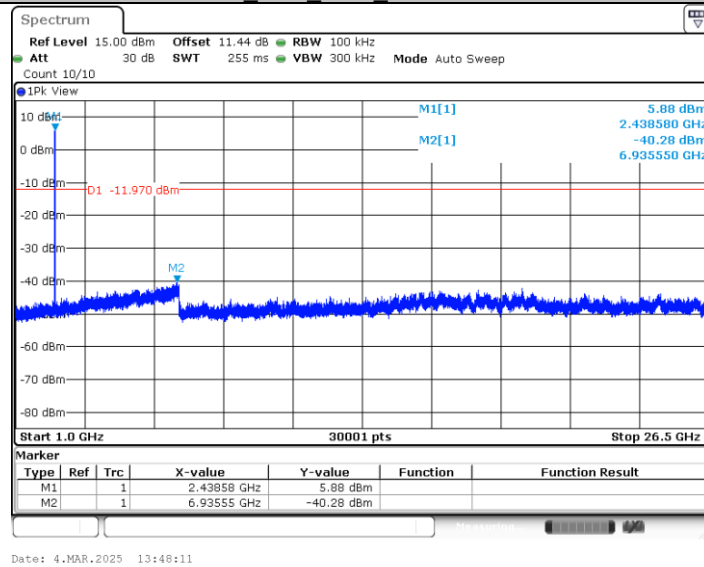


Date: 4.MAR.2025 13:41:55

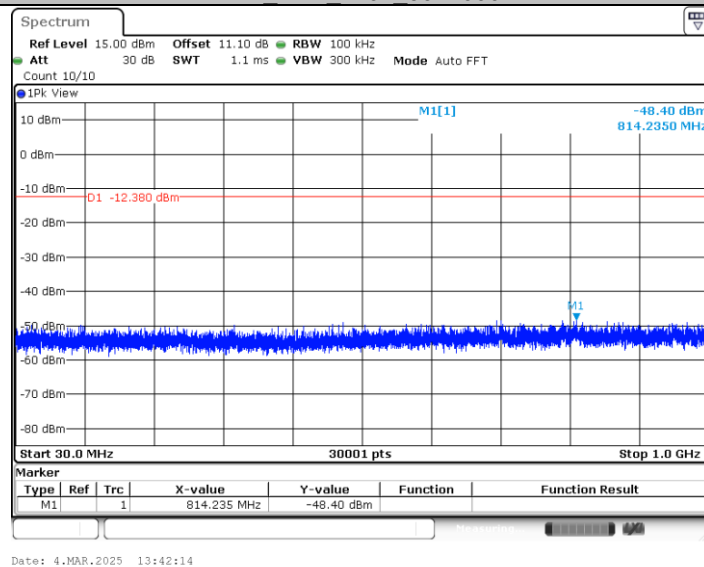
11B_Ant2_2437_30~1000



11B_Ant2_2437_1000~26500



11B_Ant1_2462_30~1000



11B_Ant1_2462_1000~26500