



TEST REPORT

Report No.: CTC2025510501
FCC ID.....: 2BB6E-GLMD25A01
Applicant: UCLOUDLINK (SINGAPORE) PTE.LTD
Address.....: 80 ROBINSON ROAD #02-00 SINGAPORE(068898)
Manufacturer.....: UCLOUDLINK (SINGAPORE) PTE.LTD
Address.....: 80 ROBINSON ROAD #02-00 SINGAPORE(068898)
Product Name: 4G Wireless Data Terminal
Trade Mark: GlocalMe
Model/Type reference.....: GLMD25A01
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.....: Aug. 11, 2025
Date of testing.....: Aug. 11, 2025 ~ Aug. 27, 2025
Date of issue.....: Aug. 28, 2025
Result.....: PASS

Compiled by:

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Jim Jiang

Jim Jiang

Supervised by:

(Printed name+signature)

Eric Zhang

Eric Zhang

Approved by:

(Printed name+signature)

Totti Zhao

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 902–928MHz, 2400–2483.5MHz, and 5725–5850MHz.

[RSS-247 Issue 3](#): Digital Transmission Systems (DTSs), Frequency Hopping Systems (FHSs) and Licence-Exempt Local Area Network (LE-LAN) Devices.

[RSS-Gen Issue 5](#): General Requirements for Compliance of Radio Apparatus.

[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	CTC2025510501	Aug. 28, 2025	Original



1.3. Test Description

FCC Part 15 Subpart C (15.247) / RSS-247 Issue 3				
Test Item	Standard Section		Result	Test Engineer
	FCC	ISED		
Antenna Requirement	15.203	RSS-Gen 6.8	Pass	Jim Jiang
Conducted Emission	15.207	RSS-Gen 8.8	Pass	Jim Jiang
Conducted Band Edge and Spurious Emissions	15.247(d)	RSS-247 5.5	Pass	Jim Jiang
Radiated Band Edge and Spurious Emissions	15.205&15.209&15.247(d)	RSS-247 5.5	Pass	Jim Jiang
6dB Bandwidth	15.247(a)(2)	RSS-247 5.2 (a)	Pass	Jim Jiang
Occupied Bandwidth	/	RSS-Gen 6.7	Pass	Jim Jiang
Conducted Max Output Power	15.247(b)(3)	RSS-247 5.4 (d)	Pass	Jim Jiang
Power Spectral Density	15.247(e)	RSS-247 5.2 (b)	Pass	Jim Jiang
Transmitter Radiated Spurious	15.209&15.247(d)	RSS-247 5.5&RSS-Gen 8.9	Pass	Jim Jiang

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, Luh 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:	UCLLOUDLINK (SINGAPORE) PTE.LTD
Address:	80 ROBINSON ROAD #02-00 SINGAPORE(068898)
Manufacturer:	UCLLOUDLINK (SINGAPORE) PTE.LTD
Address:	80 ROBINSON ROAD #02-00 SINGAPORE(068898)

2.2. General Description of EUT

Product Name:	4G Wireless Data Terminal
Trade Mark:	GlocalMe
Model/Type reference:	GLMD25A01
Listed Model(s):	/
Model Difference:	/
Sample ID:	CTC250801-004-S001
Power Supply:	Input: 5Vdc 2A
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:	FPC Antenna
Antenna Gain:	-0.3dBi



2.3. Accessory Equipment Information

Equipment Information			
Name	Model	S/N	Manufacturer
Notebook	ThinkPad T460s	MP246QDR	Lenovo
Adapter	A1401	/	Apple
Cable Information			
Name	Shielded Type	Ferrite Core	Length
/	/	/	/
Test Software Information			
Name	Version	/	/
SSCOM	V5.13.1	/	/



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

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 the 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

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 is powered by an adapter, use mobile phone to connect to GlocalMe WiFi.
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.

Note: IEEE 802.11ax mode only supports full RU, so only the full RU is evaluated and measured inside report.



2.5. Measurement Instruments List

RF Test System – SRD						
Item	Test Equipment	Manufacturer	Model No.	Serial No.	Cal. Date	Calibrated Until
1	Spectrum Analyzer	R&S	FSV40-N	101331	Mar. 23, 2025	Mar. 24, 2026
2	MXA Signal Analyzer	Keysight	N9020A	MY52091402	Dec. 13, 2024	Dec. 12, 2025
3	MXG Vector Signal Generator	Agilent	N5182A	MY47420864	Dec. 13, 2024	Dec. 12, 2025
4	PSG Analog Signal Generator	Agilent	E8257D	MY46521908	Dec. 13, 2024	Dec. 12, 2025
5	USB Wideband Power Sensor	Keysight	U2021XA	MY55130004	Mar. 25, 2025	Mar. 24, 2026
6	USB Wideband Power Sensor	Keysight	U2021XA	MY55130006	Mar. 25, 2025	Mar. 24, 2026
7	Wideband Radio Communication Tester	R&S	CMW500	102414	Dec. 13, 2024	Dec. 12, 2025
8	RF Control Unit	Tonscend	JS0806-2	/	Mar. 25, 2025	Mar. 24, 2026
9	High and low temperature test chamber	ESPEC	MT3035	/	Mar. 25, 2025	Mar. 24, 2026
10	RF Cable	HUBER+SUHNER	SUCOFLEX101PE	RF-08	Apr. 15, 2025	Apr. 16, 2026
Test Software						
Name		Manufacturer			Software Version	
JS1120-3		Tonscend			V2.6.88.0346	



Radiated emission						
Item	Test Equipment	Manufacturer	Model No.	Serial No.	Cal. Date	Calibrated Until
1	Trilog-Broadband Antenna	Schwarzbeck	VULB 9163	01026	Dec. 25, 2024	Dec. 24, 2025
2	Horn Antenna	Schwarzbeck	BBHA 9120D	9120D-647	Sep. 26, 2024	Sep. 25, 2025
3	Test Receiver	Keysight	N9038A	MY56400071	Dec. 13, 2024	Dec. 12, 2025
4	Broadband Amplifier	Schwarzbeck	BBV9743B	259	Dec. 13, 2024	Dec. 12, 2025
5	Mirowave Broadband Amplifier	Schwarzbeck	BBV9718C	111	Dec. 13, 2024	Dec. 12, 2025
6	RE33L-001	COMM	/	014 (9kHz-1GHz)	Feb. 09, 2025	Feb. 08, 2026
7	RE33L-002	COMM	/	015 (9kHz-1GHz)	Feb. 09, 2025	Feb. 08, 2026
8	RE33H-001	SUHB SUCOFLEX	/	016 (1GHz-18GHz)	Feb. 09, 2025	Feb. 08, 2026
9	RE33H-002	HUBENR	/	017 (1GHz-18GHz)	Feb. 09, 2025	Feb. 08, 2026
10	RE33H-003	HUBENR	/	018 (1GHz-18GHz)	Feb. 09, 2025	Feb. 08, 2026
11	RE33H-003	HUBENR	/	019 (18GHz-40GHz)	Feb. 09, 2025	Feb. 08, 2026
12	3m chamber 3	YIHENG	EE106	/	Aug. 29, 2023	Aug. 28, 2026
13	SHF-EHF Horn Antenna	Schwarzbeck	BBHA 9170	013551	Dec. 13, 2024	Dec. 12, 2025
14	Low noise Amplifier	Tonscend	TAP180040048	AP24C8060348	Dec. 13, 2024	Dec. 12, 2025
Test Software						
Name		Manufacturer		Software Version		
EZ-EMC		FARA		FA-03A2		

Conducted emission						
Item	Test Equipment	Manufacturer	Model No.	Serial No.	Cal. Date	Calibrated until
1	LISN	R&S	ENV216	101112	Dec. 13, 2024	Dec. 12, 2025
2	LISN	R&S	ENV216	101113	Dec. 13, 2024	Dec. 12, 2025
3	EMI Test Receiver	R&S	ESCI	100524	Dec. 13, 2024	Dec. 12, 2025
4	ISN CAT6	Schwarzbeck	NTFM 8158	CAT6-8158-0046	Dec. 13, 2024	Dec. 12, 2025
5	ISN CAT5	Schwarzbeck	NTFM 8158	CAT5-8158-0046	Dec. 13, 2024	Dec. 12, 2025
6	CE-001	COMM	/	001	Feb. 09, 2025	Feb. 08, 2026
Test Software						
Name		Manufacturer		Software Version		
EMC32		R&S		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

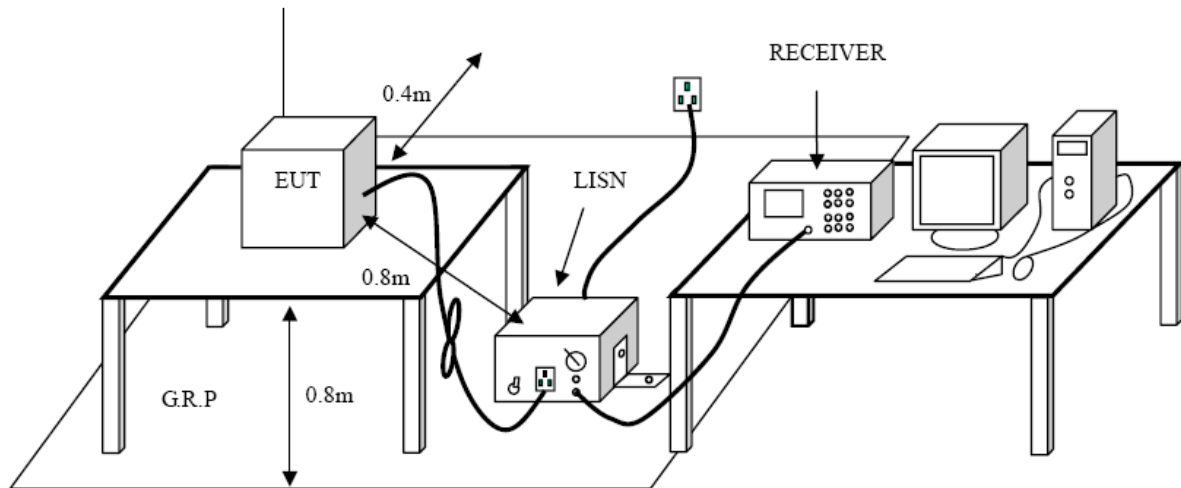
Limit

FCC CFR Title 47 Part 15 Subpart C Section 15.207 / RSS-Gen 8.8

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

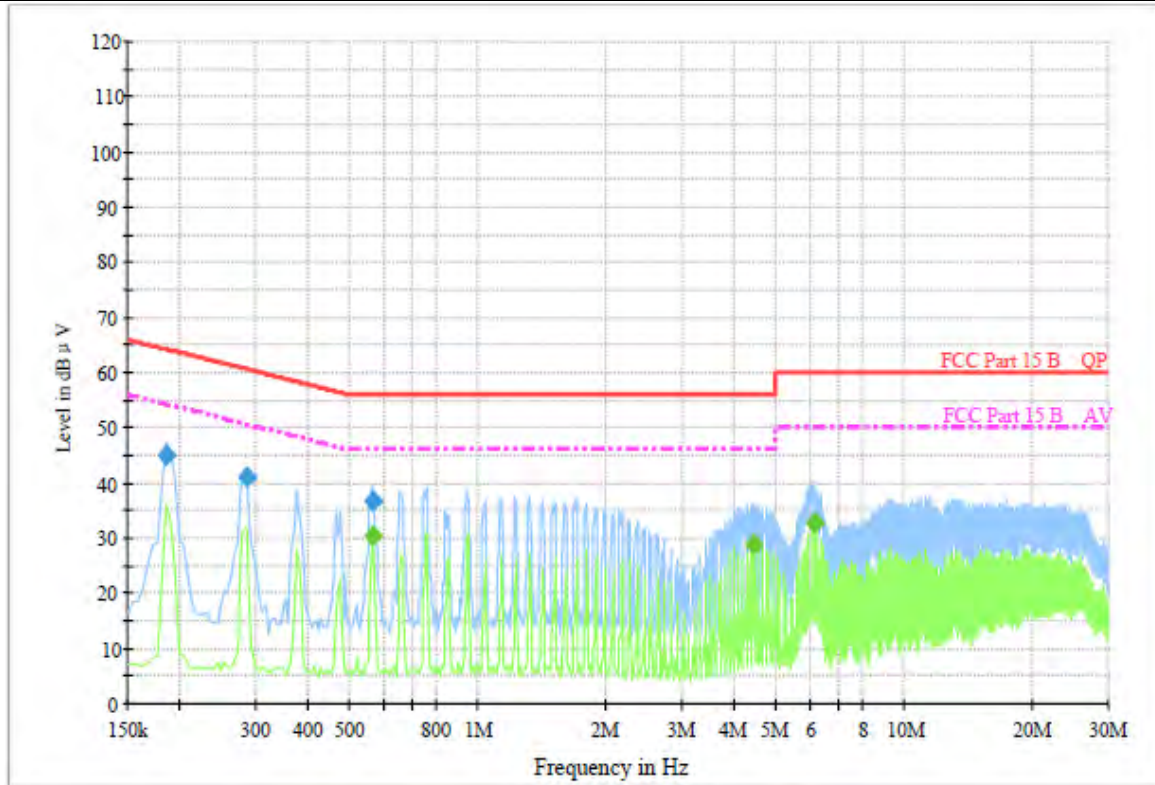
1. The EUT was setup according to ANSI C63.10:2013 requirements.
2. The EUT was placed on a platform of nominal size, 1 m by 1.5 m, raised 80 cm above the conducting ground plane. The vertical conducting plane was located 40 cm to the rear of the EUT. All other surfaces of EUT were at least 80 cm from 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 (dB μV)	Meas. Time (ms)	Bandwidth (kHz)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dB μV)	Comment
0.186000	45.2	1000.00	9.000	On	L1	9.5	19.0	64.2	
0.285000	41.0	1000.00	9.000	On	L1	9.5	19.7	60.7	
0.564000	36.7	1000.00	9.000	On	L1	9.5	19.3	56.0	

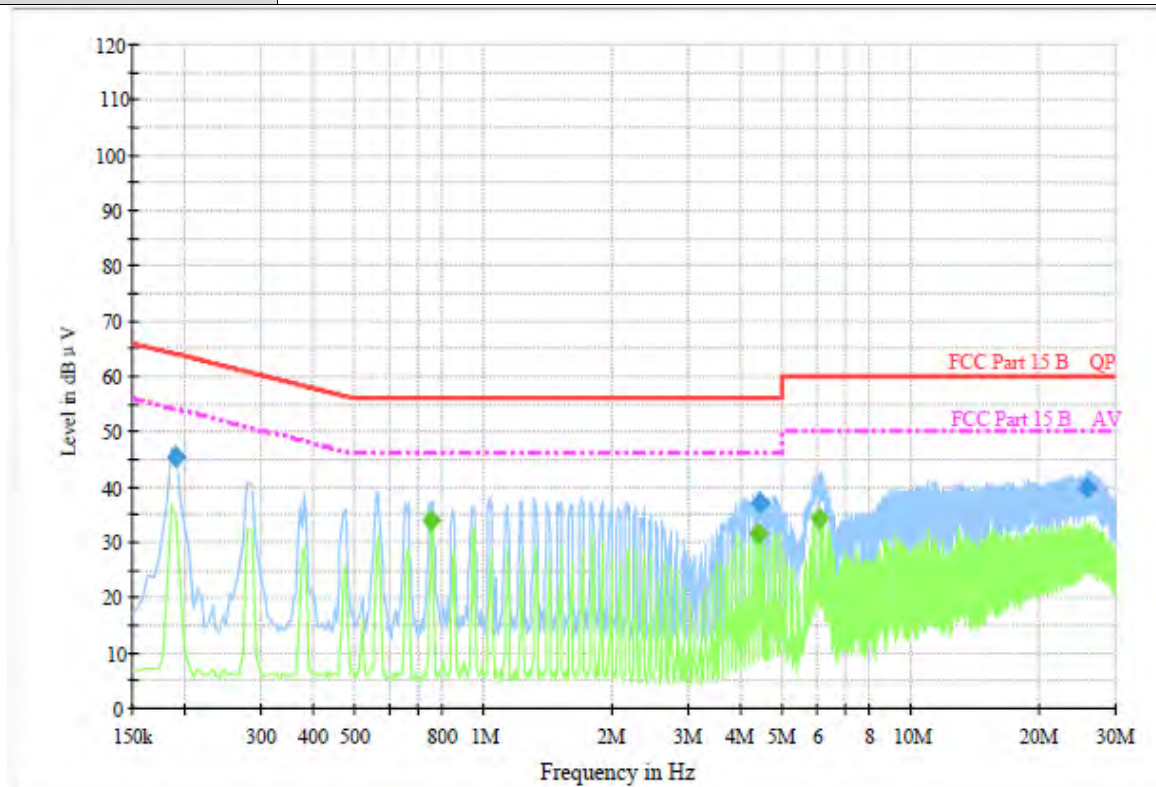
Final Measurement Detector 2

Frequency (MHz)	Average (dB μV)	Meas. Time (ms)	Bandwidth (kHz)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dB μV)	Comment
0.564000	30.4	1000.00	9.000	On	L1	9.5	15.6	46.0	
4.438500	28.8	1000.00	9.000	On	L1	9.4	17.2	46.0	
6.139500	32.8	1000.00	9.000	On	L1	9.6	17.2	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 (dB μV)	Meas. Time (ms)	Bandwidth (kHz)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dB μV)	Comment
0.190500	45.5	1000.00	9.000	On	N	9.3	18.5	64.0	
4.443000	37.3	1000.00	9.000	On	N	9.5	18.7	56.0	
25.795500	39.9	1000.00	9.000	On	N	9.6	20.1	60.0	

Final Measurement Detector 2

Frequency (MHz)	Average (dB μV)	Meas. Time (ms)	Bandwidth (kHz)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dB μV)	Comment
0.753000	33.8	1000.00	9.000	On	N	9.3	12.2	46.0	
4.348500	31.4	1000.00	9.000	On	N	9.5	14.6	46.0	
6.049500	34.4	1000.00	9.000	On	N	9.4	15.6	50.0	

Emission Level = Read Level + Correct Factor

3.2. Radiated Emission

Limit

FCC CFR Title 47 Part 15 Subpart C Section 15.209 / RSS-Gen 8.9

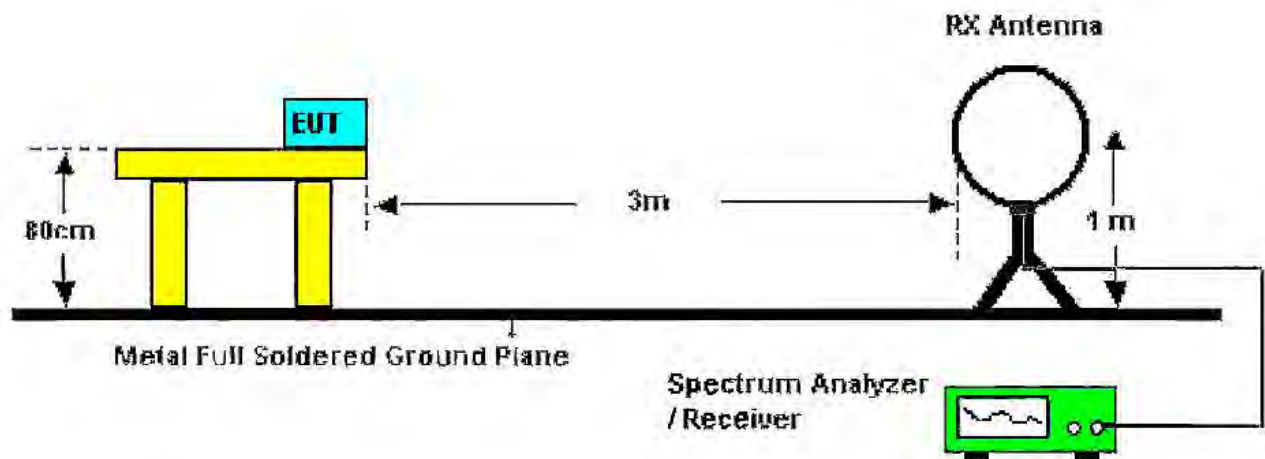
Frequency (MHz)	Field Strength (microvolts/meter)	Measurement Distance (meters)
0.009~0.490	2400/F (kHz)	300
0.490~1.705	24000/F (kHz)	30
1.705~30.0	30	30
30~88	100	3
88~216	150	3
216~960	200	3
960~1000	500	3

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

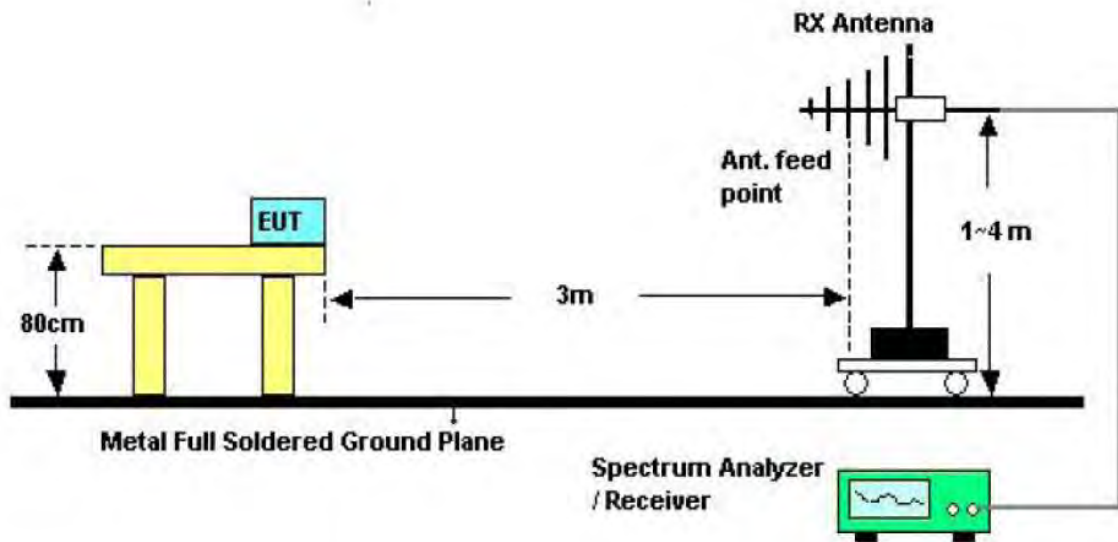
Note:

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

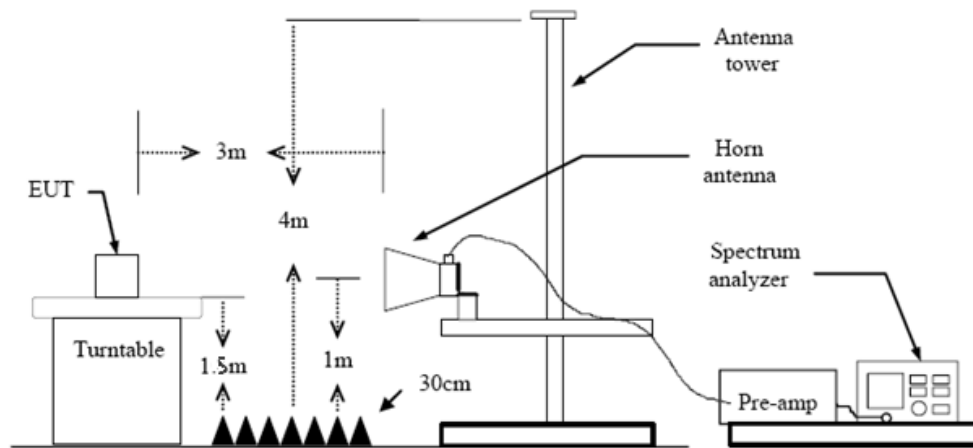
Test Configuration



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

CTC Laboratories, Inc.

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



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

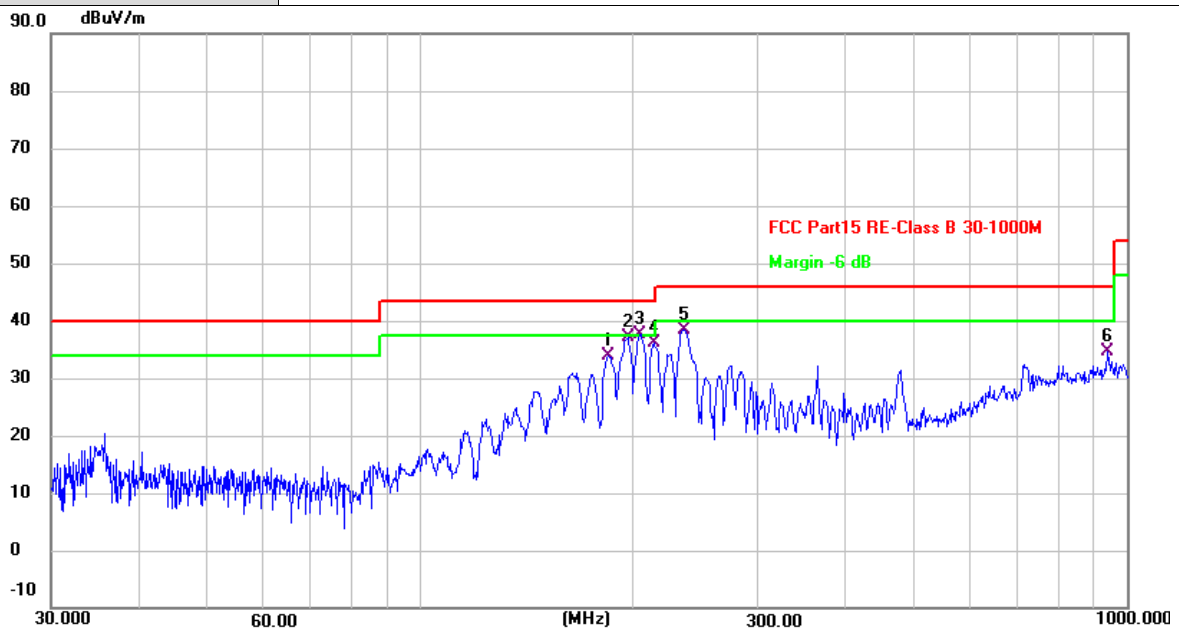
From 9 kHz to 30 MHz: The conclusion is PASS.

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

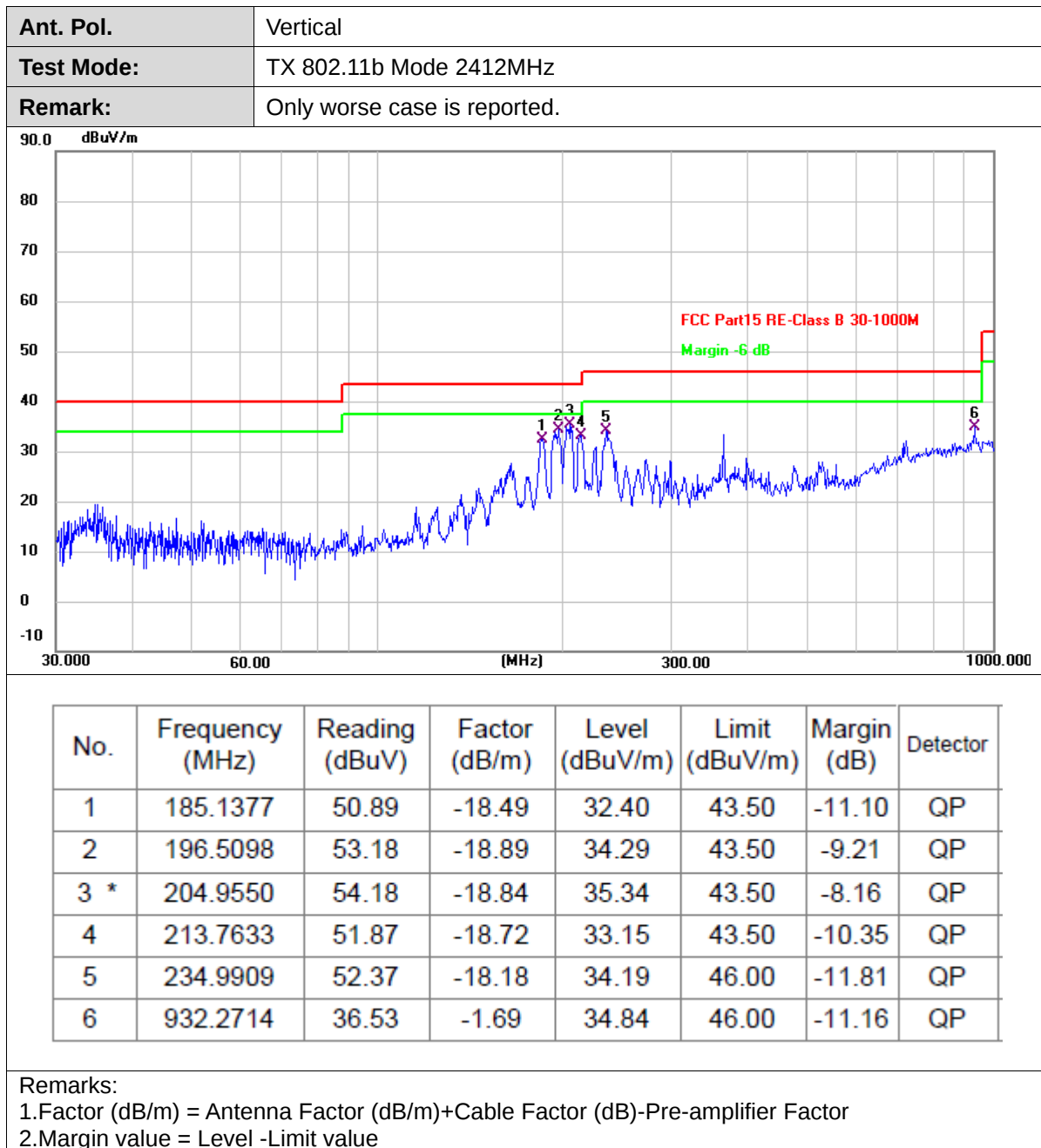
Ant. Pol.	Horizontal
Test Mode:	TX 802.11b Mode 2412MHz
Remark:	Only worse case is reported.



No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1	184.4898	52.34	-18.49	33.85	43.50	-9.65	QP
2	196.5098	55.94	-18.89	37.05	43.50	-6.45	QP
3 *	204.2376	56.57	-18.84	37.73	43.50	-5.77	QP
4	213.7633	54.74	-18.72	36.02	43.50	-7.48	QP
5	236.6447	56.52	-18.11	38.41	46.00	-7.59	QP
6	938.8325	36.21	-1.57	34.64	46.00	-11.36	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. 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 *	4823.849	32.03	1.87	33.90	54.00	-20.10	AVG
2	4823.868	45.62	1.87	47.49	74.00	-26.51	peak

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:	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	4823.799	43.66	1.87	45.53	74.00	-28.47	peak
2 *	4823.808	29.97	1.87	31.84	54.00	-22.16	AVG

Remarks:

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



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 *	4873.883	31.82	1.95	33.77	54.00	-20.23	AVG
2	4873.971	45.46	1.95	47.41	74.00	-26.59	peak

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:	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	4873.829	43.27	1.95	45.22	74.00	-28.78	peak
2 *	4873.857	29.57	1.95	31.52	54.00	-22.48	AVG

Remarks:

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

2.Margin value = Level -Limit value



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 *	4923.796	30.88	2.04	32.92	54.00	-21.08	AVG
2	4923.850	44.85	2.04	46.89	74.00	-27.11	peak

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:	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 *	4923.758	29.11	2.04	31.15	54.00	-22.85	AVG
2	4923.803	43.48	2.04	45.52	74.00	-28.48	peak

Remarks:

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

2.Margin value = Level -Limit value



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	4823.799	42.45	1.87	44.32	74.00	-29.68	peak
2 *	4824.151	29.24	1.87	31.11	54.00	-22.89	AVG

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:	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 *	4823.873	28.22	1.87	30.09	54.00	-23.91	AVG
2	4823.897	41.68	1.87	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. 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 *	4873.764	29.03	1.95	30.98	54.00	-23.02	AVG
2	4874.021	42.01	1.95	43.96	74.00	-30.04	peak

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:	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	4873.719	41.73	1.95	43.68	74.00	-30.32	peak
2 *	4874.221	28.37	1.95	30.32	54.00	-23.68	AVG

Remarks:

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

2.Margin value = Level -Limit value



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	4923.790	41.85	2.04	43.89	74.00	-30.11	peak
2 *	4923.917	28.78	2.04	30.82	54.00	-23.18	AVG

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:	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	4923.810	41.15	2.04	43.19	74.00	-30.81	peak
2 *	4924.135	28.28	2.04	30.32	54.00	-23.68	AVG

Remarks:

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

2.Margin value = Level -Limit value



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.						

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.						



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 *	4873.816	28.88	1.95	30.83	54.00	-23.17	AVG
2	4874.122	42.07	1.95	44.02	74.00	-29.98	peak

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:	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 *	4874.213	27.72	1.95	29.67	54.00	-24.33	AVG
2	4874.225	41.42	1.95	43.37	74.00	-30.63	peak

Remarks:

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

2.Margin value = Level -Limit value



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.						

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.						



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.						

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.						



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.						

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.						



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	4904.209	41.74	2.00	43.74	74.00	-30.26	peak
2 *	4904.213	28.04	2.00	30.04	54.00	-23.96	AVG
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:	TX 802.11n(HT40) Mode 2452MHz																														
Remark:	No report for the emission which more than 20 dB below the prescribed limit.																														
<table><tr><th>No.</th><th>Frequency (MHz)</th><th>Reading (dBuV)</th><th>Factor (dB/m)</th><th>Level (dBuV/m)</th><th>Limit (dBuV/m)</th><th>Margin (dB)</th><th>Detector</th></tr><tr><td>1</td><td>4903.816</td><td>41.06</td><td>2.00</td><td>43.06</td><td>74.00</td><td>-30.94</td><td>peak</td></tr><tr><td>2 *</td><td>4904.031</td><td>27.39</td><td>2.00</td><td>29.39</td><td>54.00</td><td>-24.61</td><td>AVG</td></tr></table>								No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	1	4903.816	41.06	2.00	43.06	74.00	-30.94	peak	2 *	4904.031	27.39	2.00	29.39	54.00	-24.61	AVG
No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector																								
1	4903.816	41.06	2.00	43.06	74.00	-30.94	peak																								
2 *	4904.031	27.39	2.00	29.39	54.00	-24.61	AVG																								
Remarks: 1.Factor (dB/m) = Antenna Factor (dB/m)+Cable Factor (dB)-Pre-amplifier Factor 2.Margin value = Level -Limit value																															



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.						

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.						



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.						

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.						



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.						

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.						



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.						

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.						



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.						

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.						



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 *	4903.900	28.19	2.00	30.19	54.00	-23.81	AVG
2	4903.969	41.82	2.00	43.82	74.00	-30.18	peak
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:	TX 802.11ax(HE40) Mode 2452MHz						
Remark:	No report for the emission which more than 20 dB below the prescribed limit.						

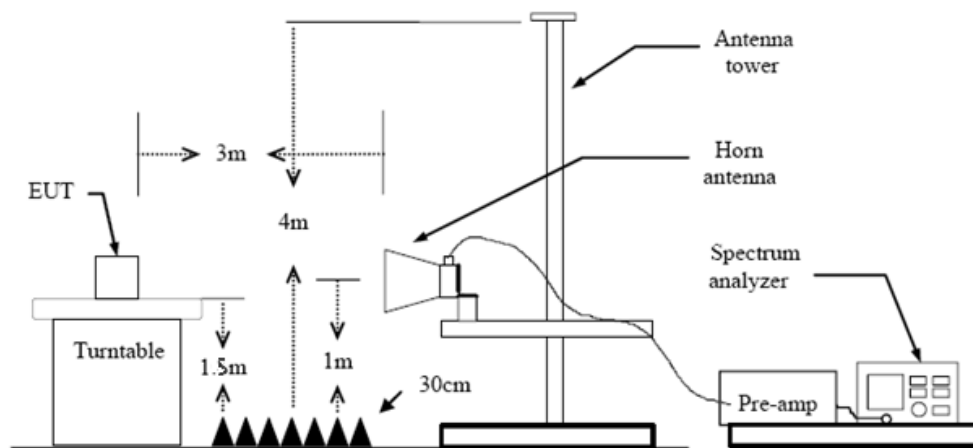
3.3. Band Edge Emissions (Radiated)

Limit

FCC CFR Title 47 Part 15 Subpart C Section 15.247 (d) / RSS-247 5.5

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:

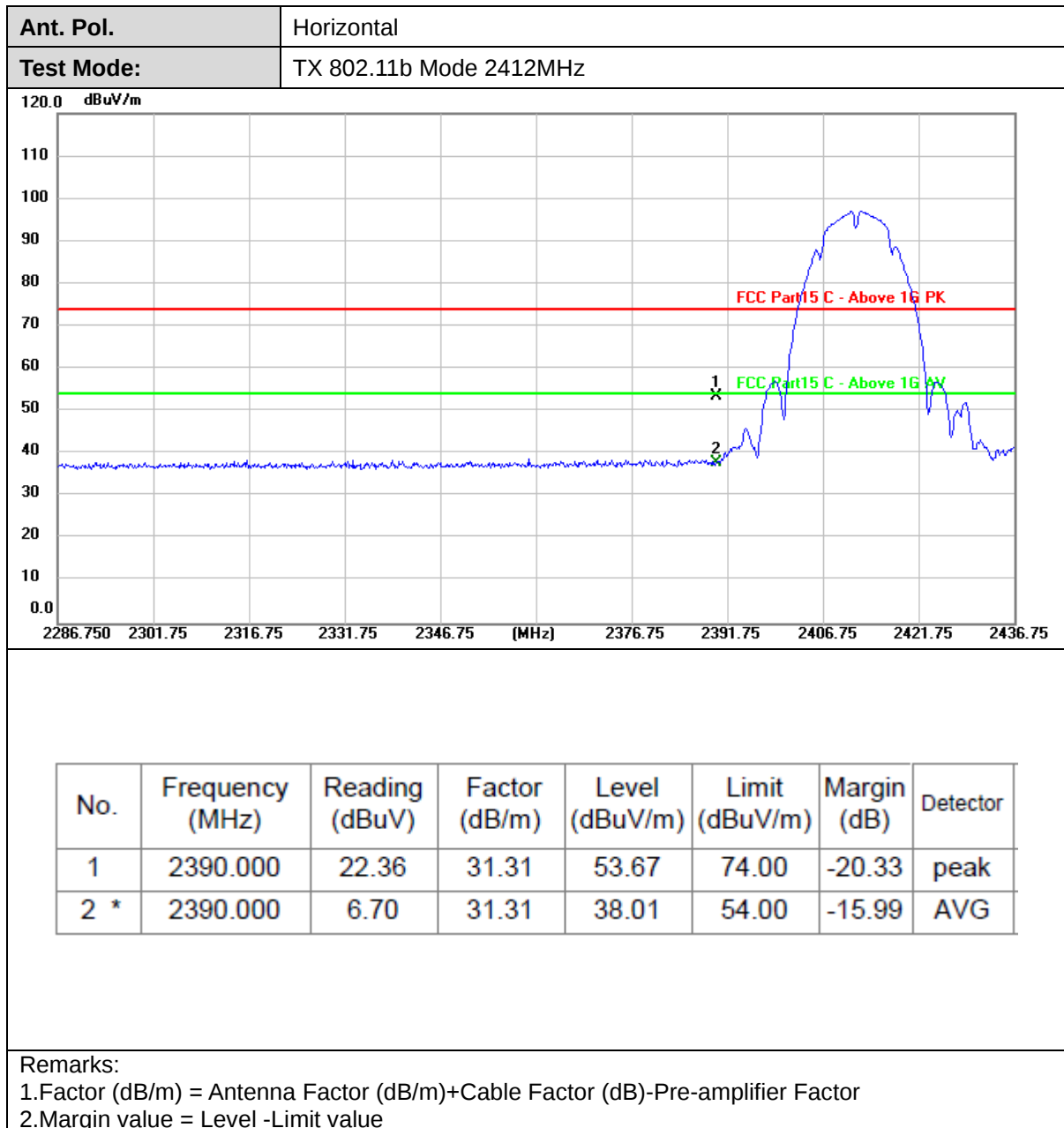
RBW=1MHz, VBW=3MHz Peak detector for Peak value.

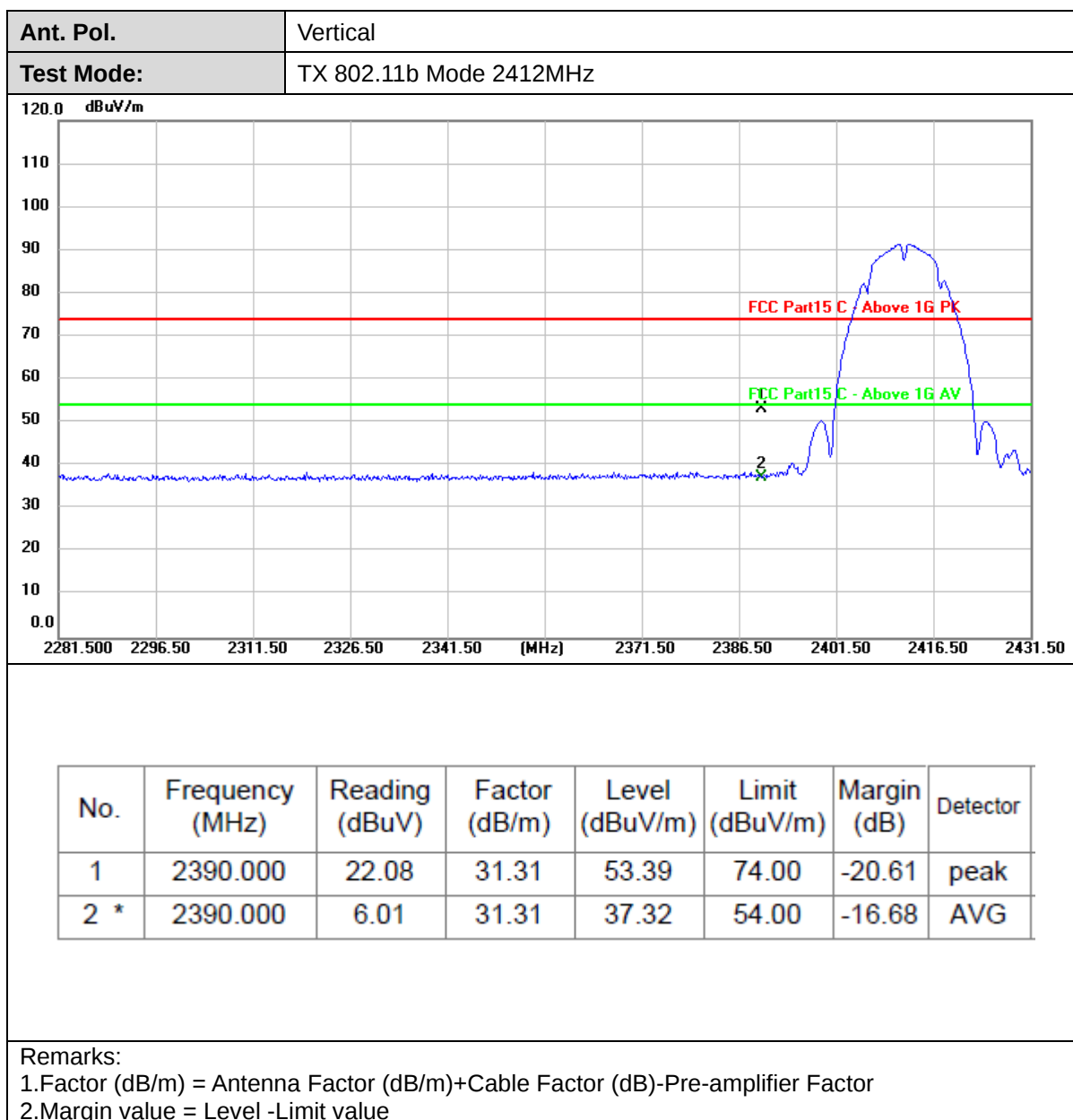
RBW=1MHz, VBW see note 1 with Peak Detector for Average Value.

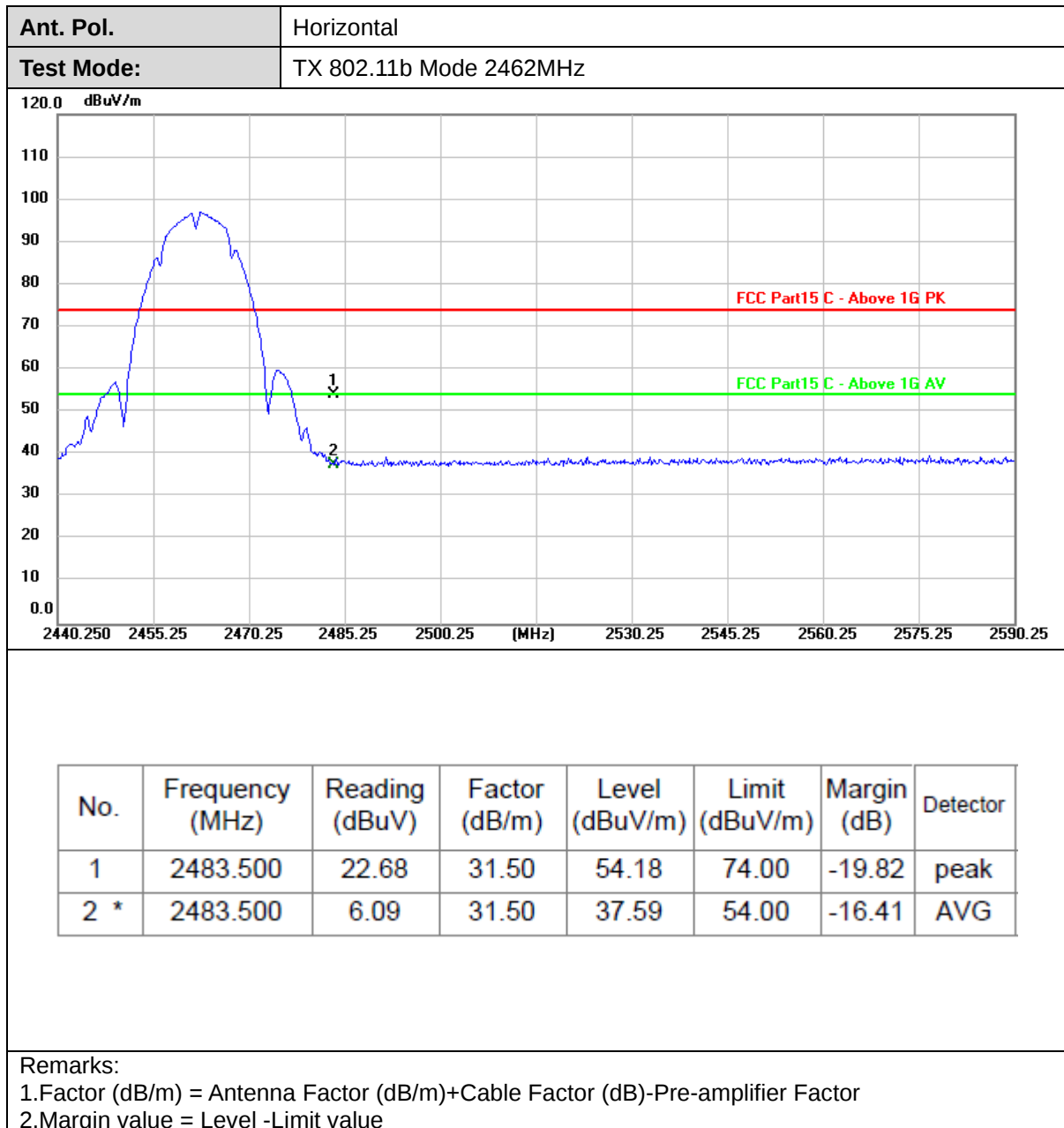
Note 1: For measurements above 1 GHz the resolution bandwidth is set to 1 MHz, then the video bandwidth is set to 3 MHz for peak measurements and 1 MHz resolution bandwidth with 1/T video bandwidth with peak detector for average measurements. For the Duty Cycle please refer to clause 3.8 Duty Cycle.

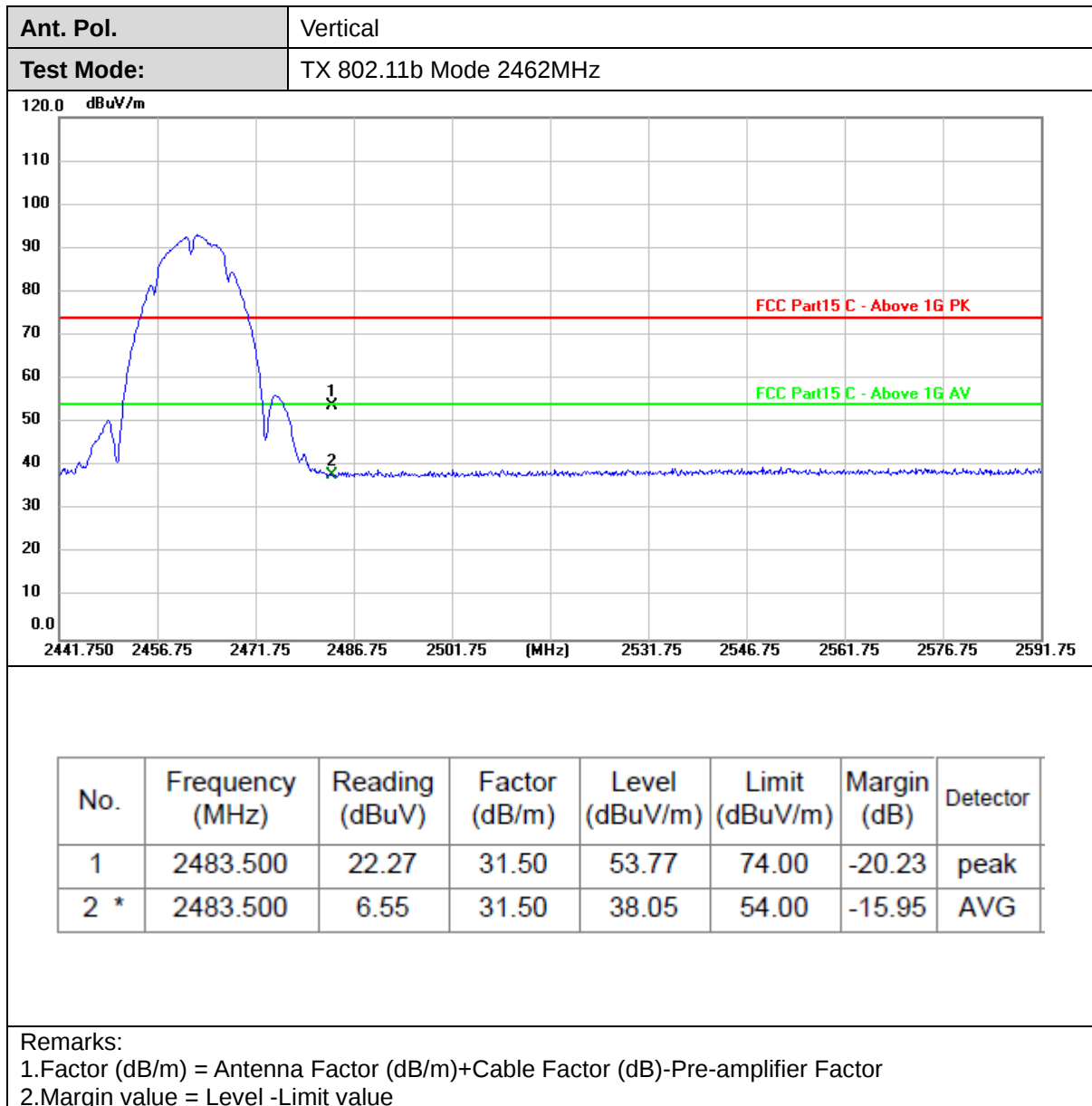
Test Mode

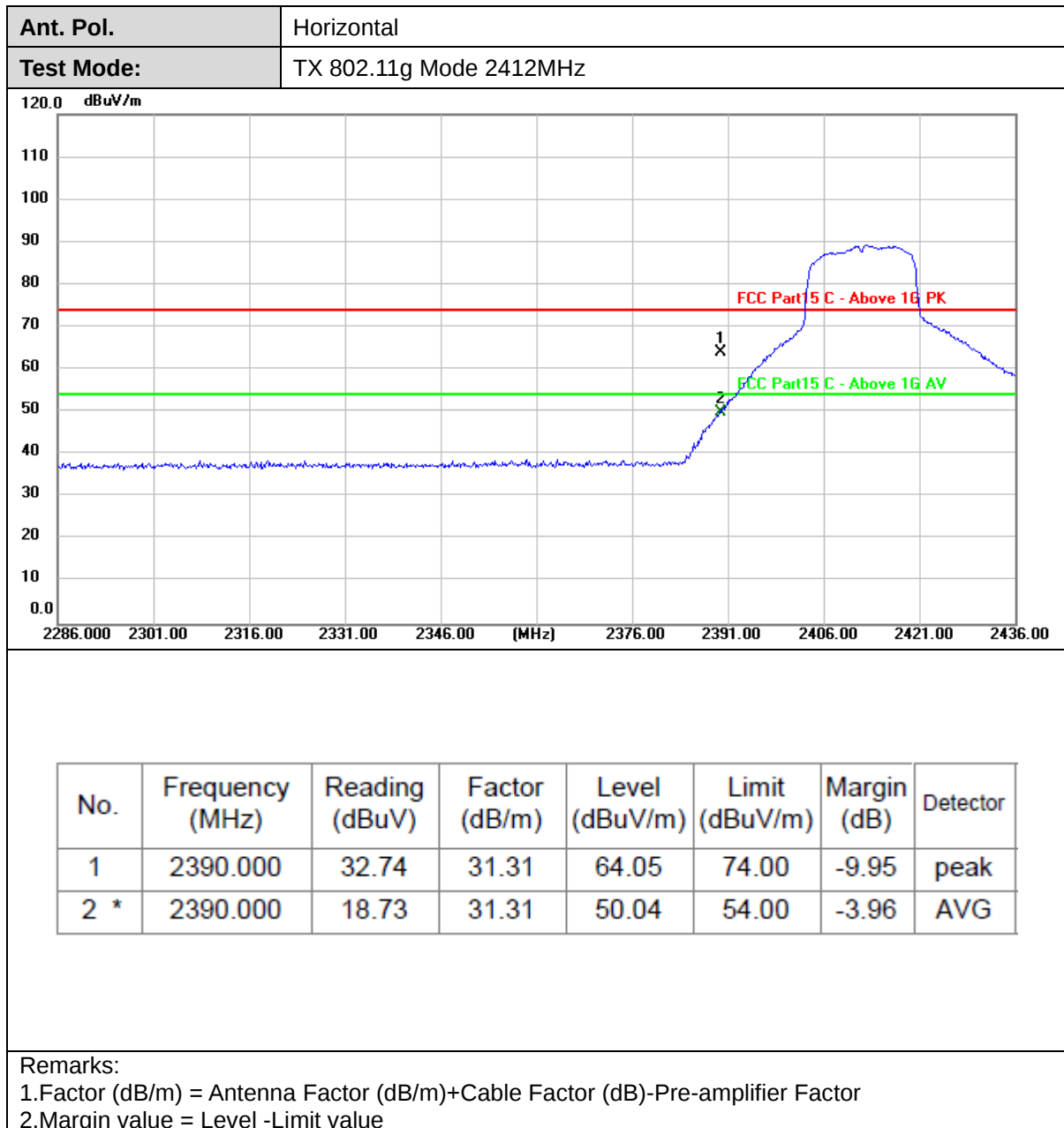
Please refer to the clause 2.4.

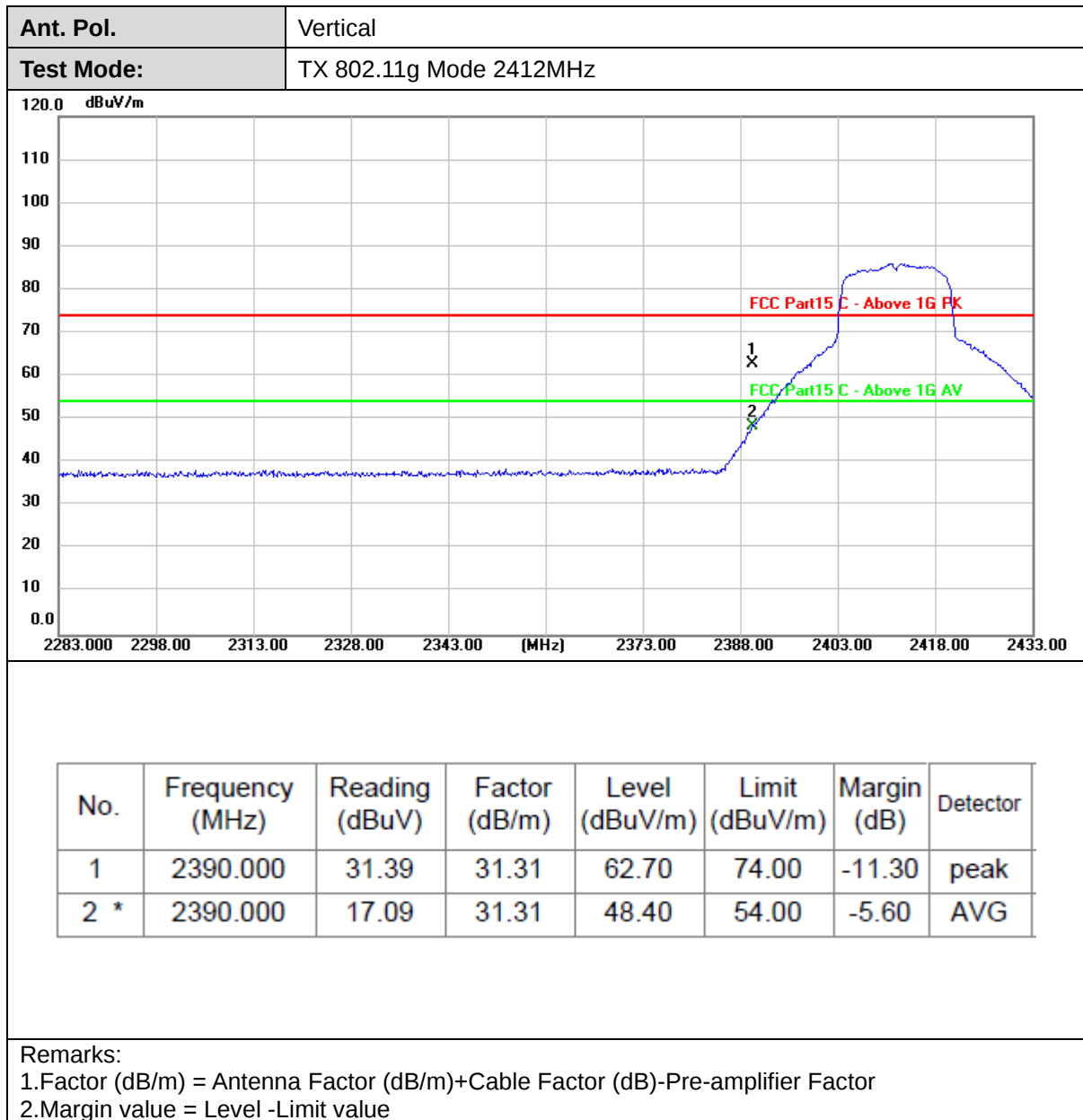
**Test Result**

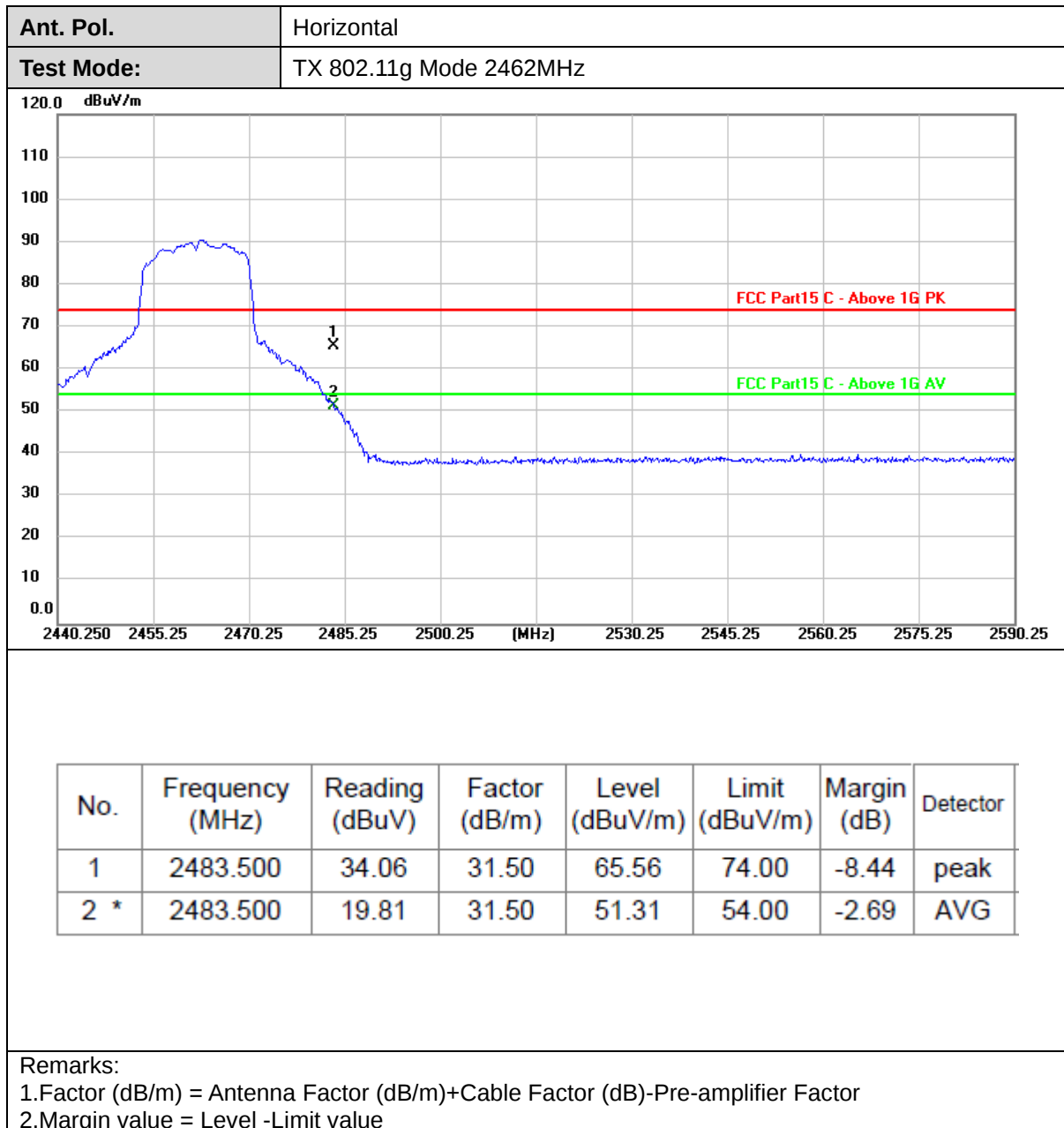


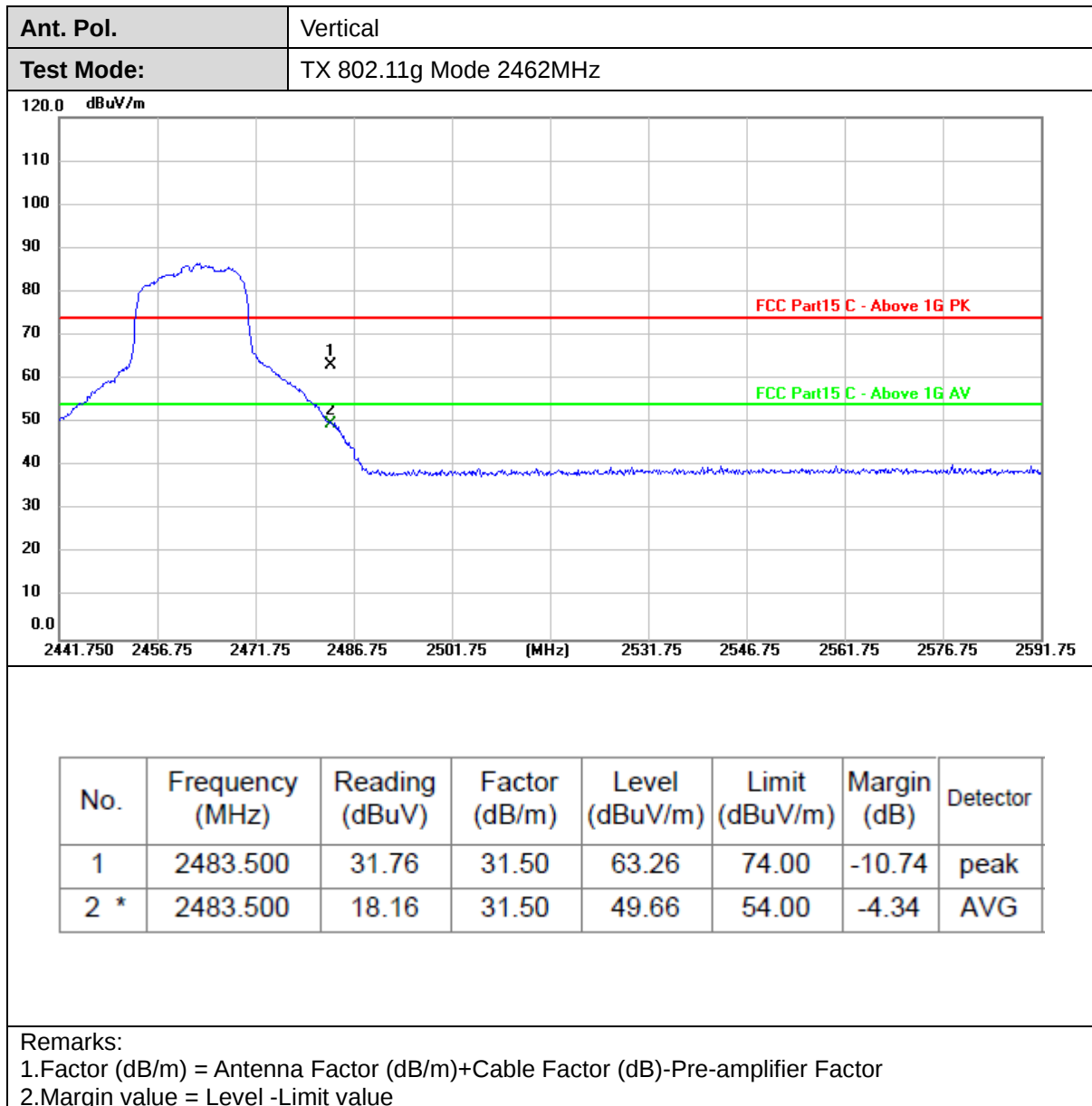


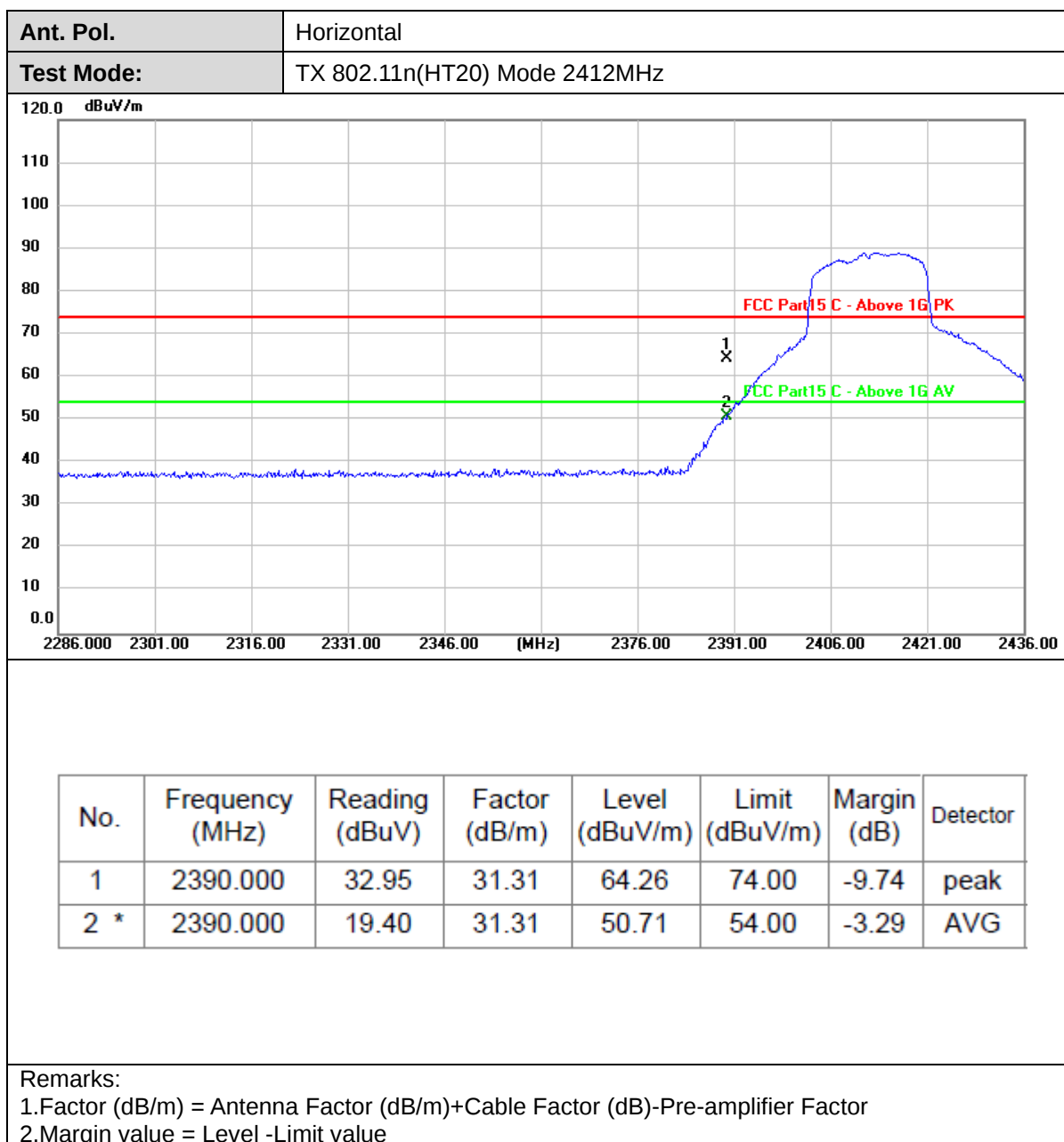


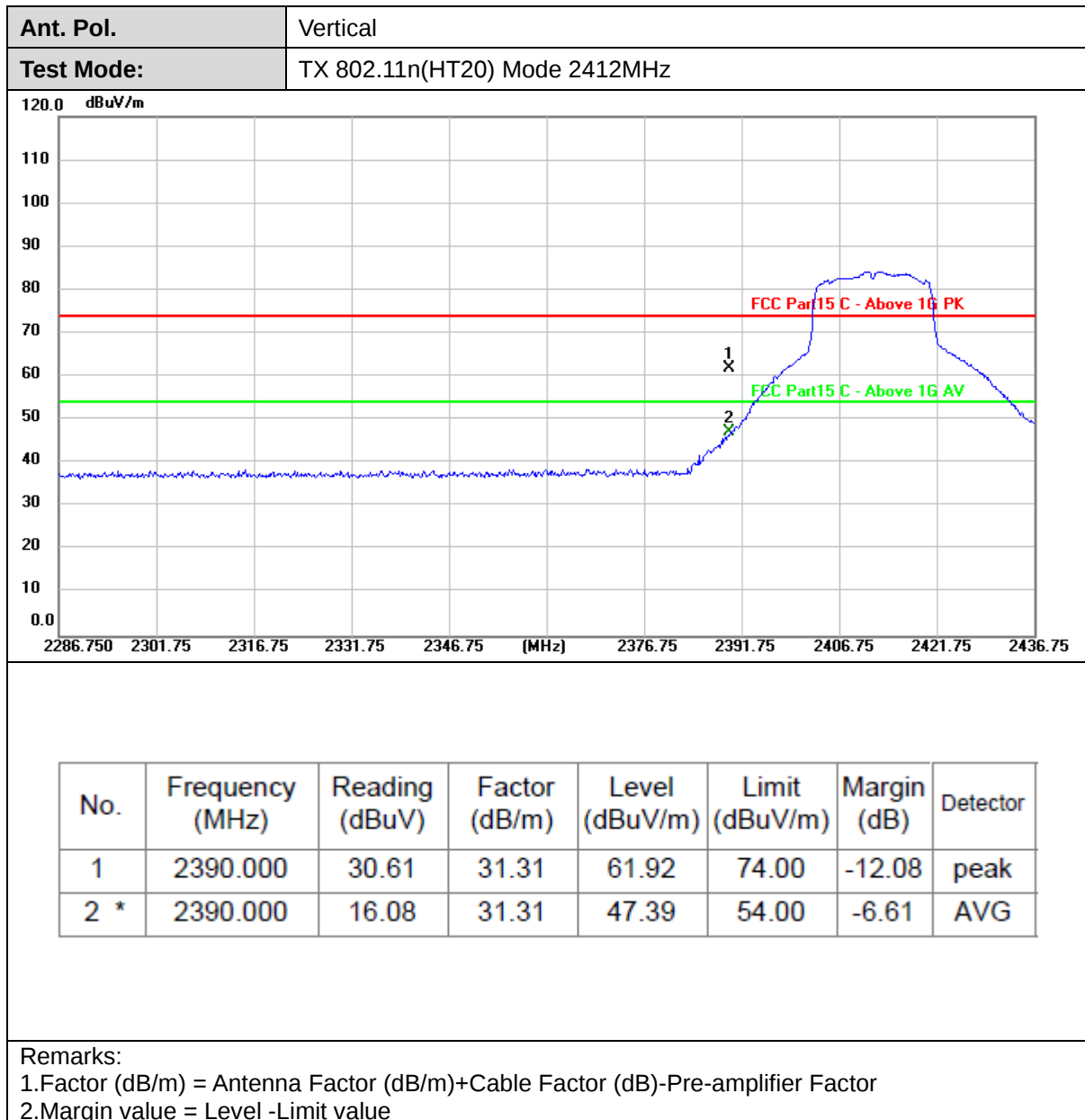


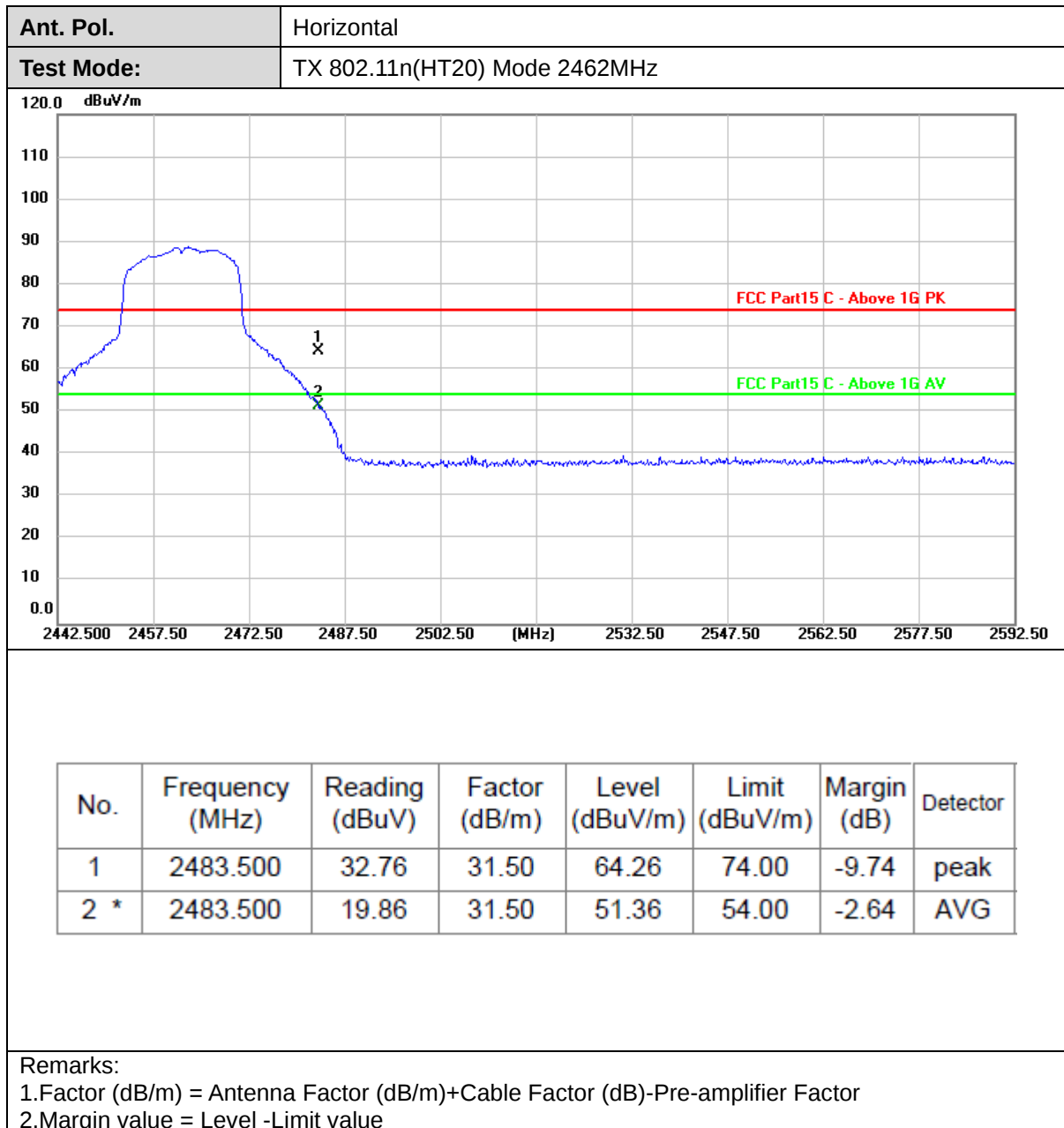


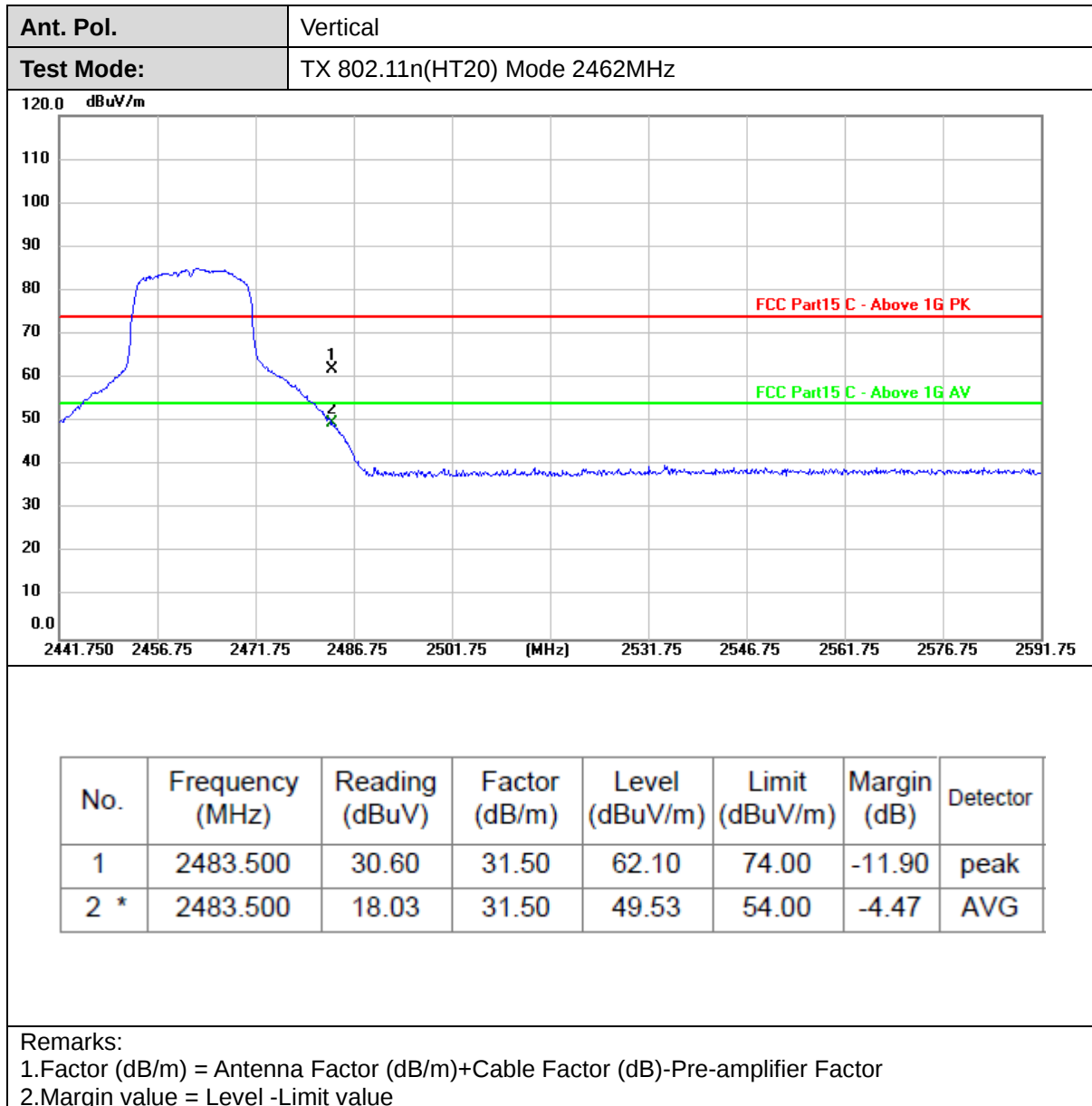


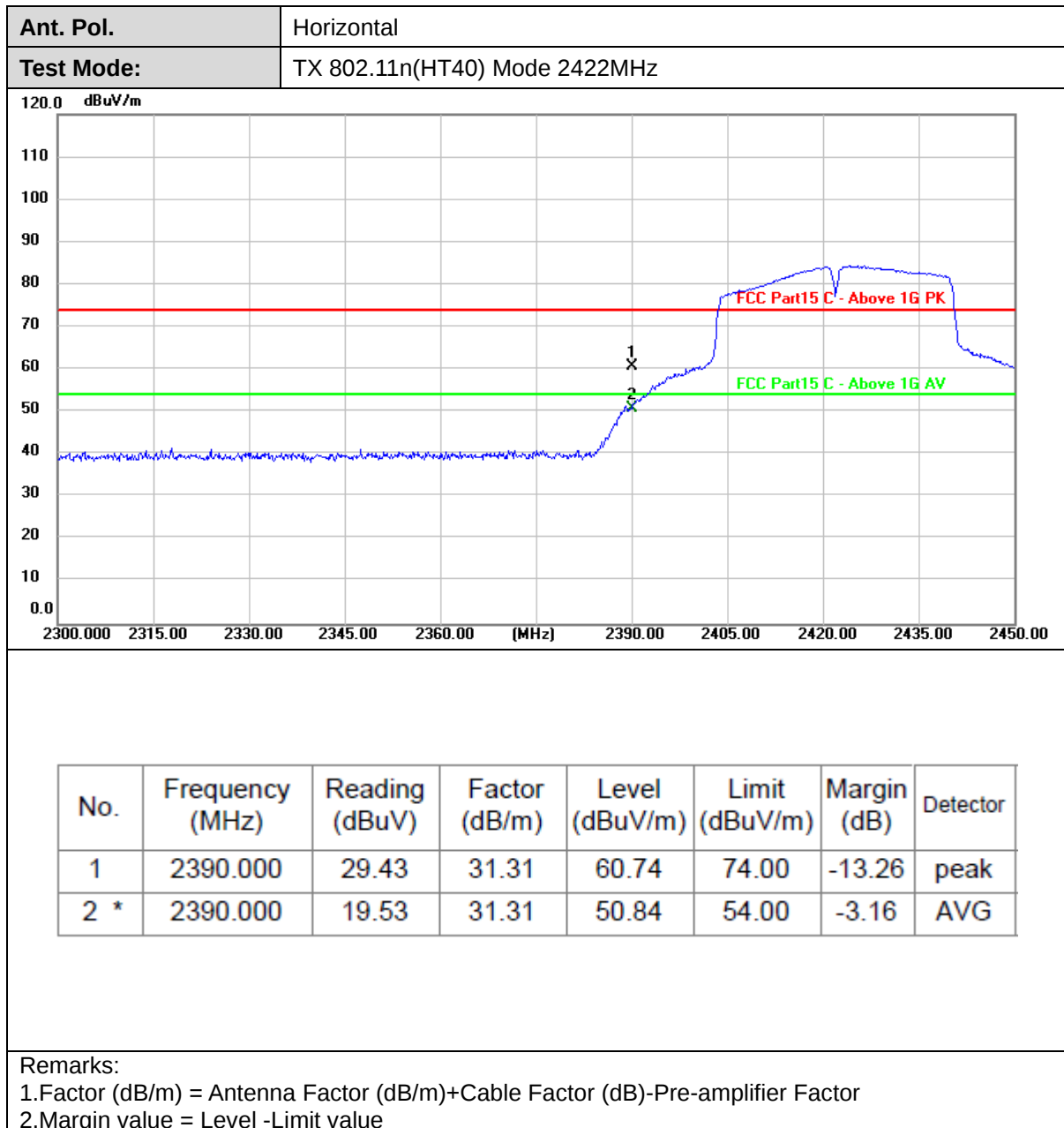


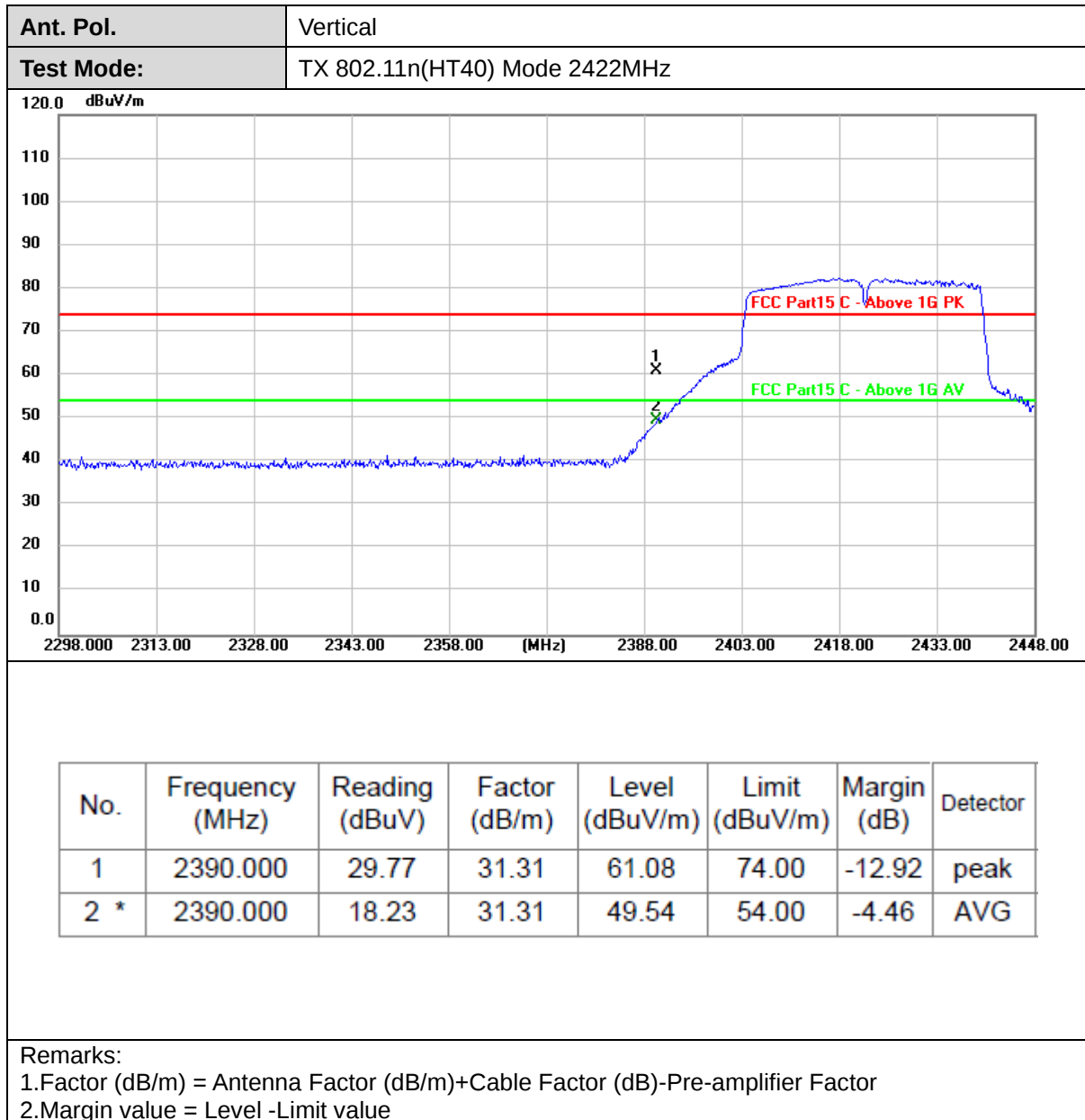


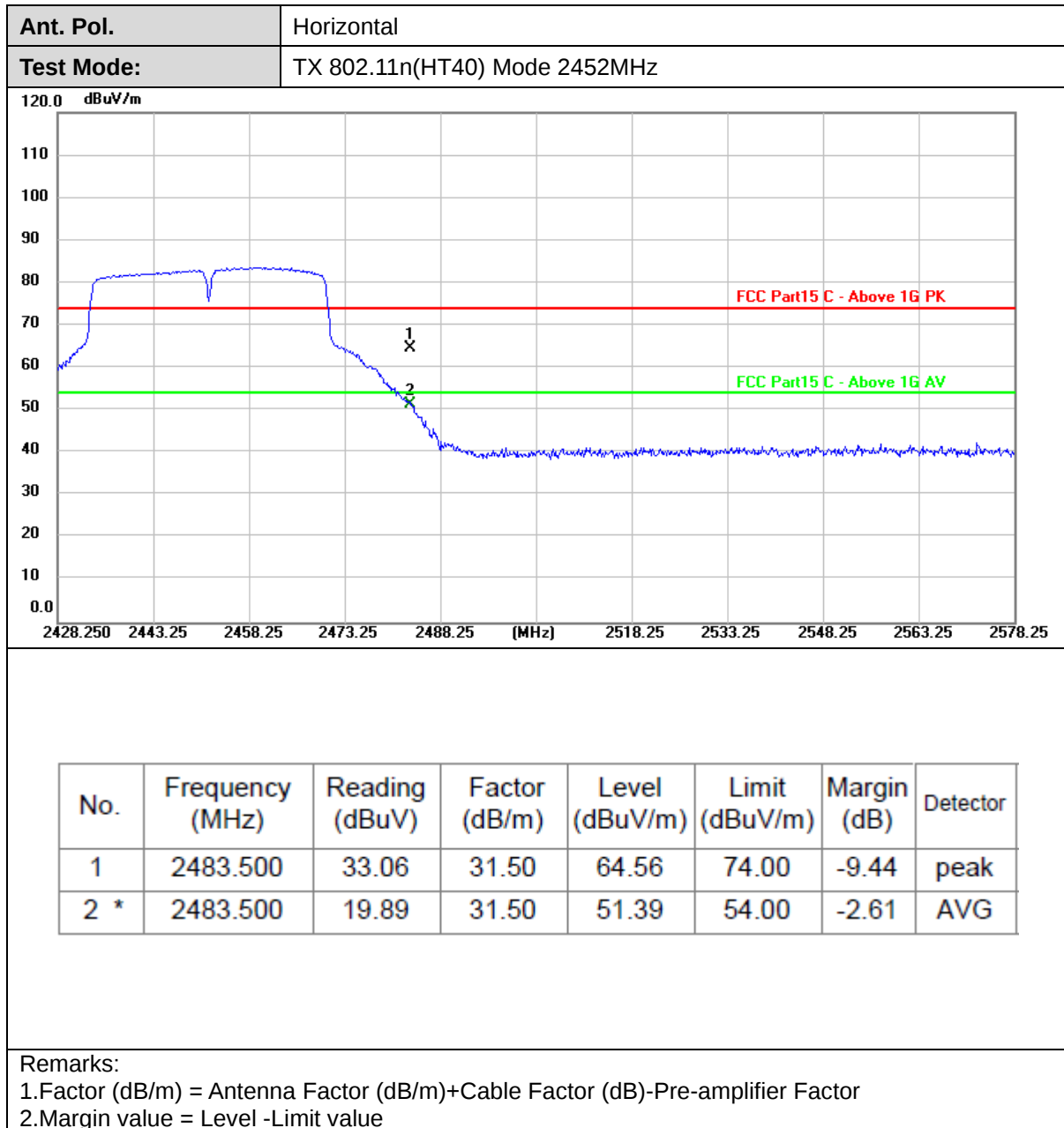


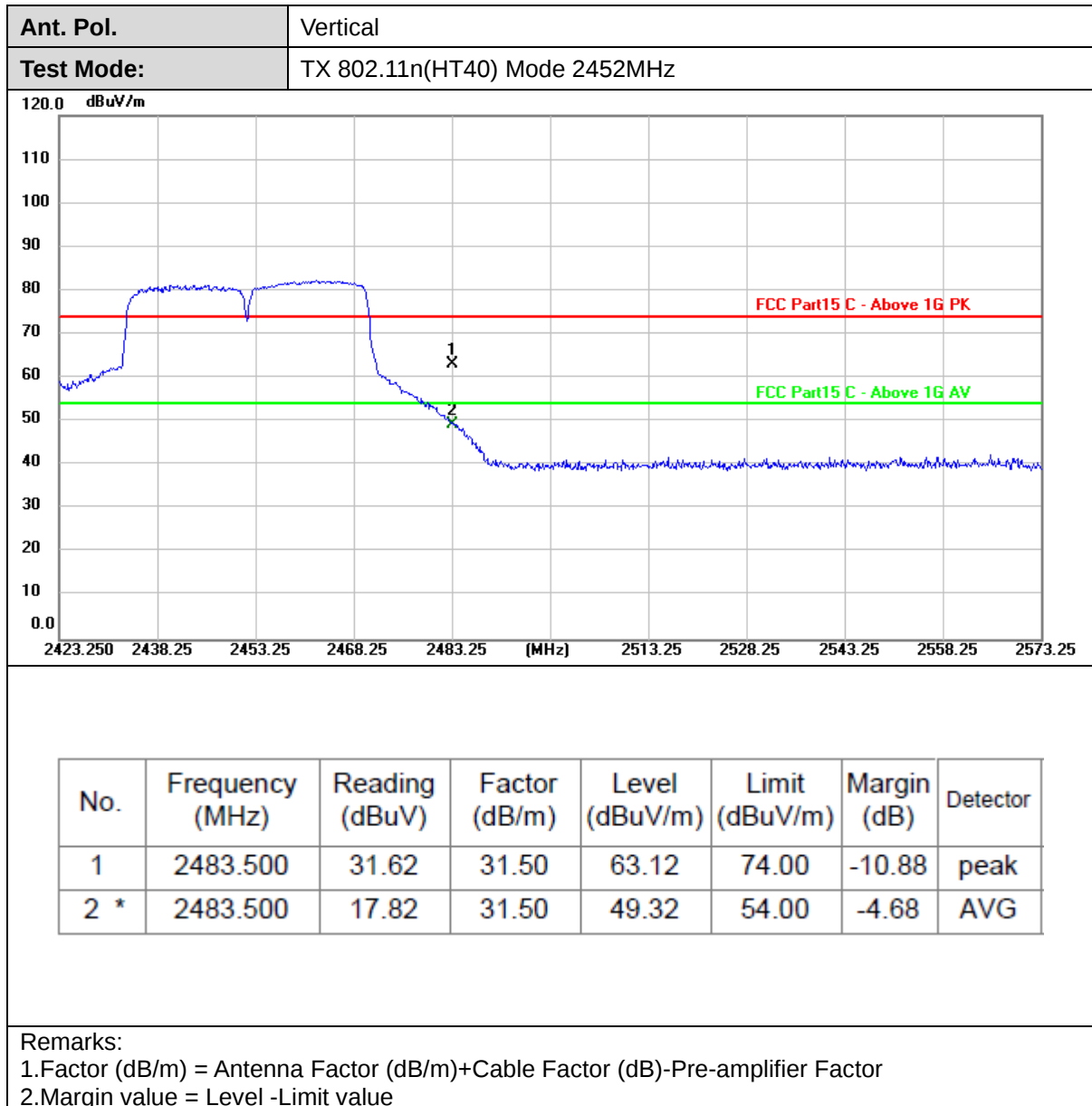


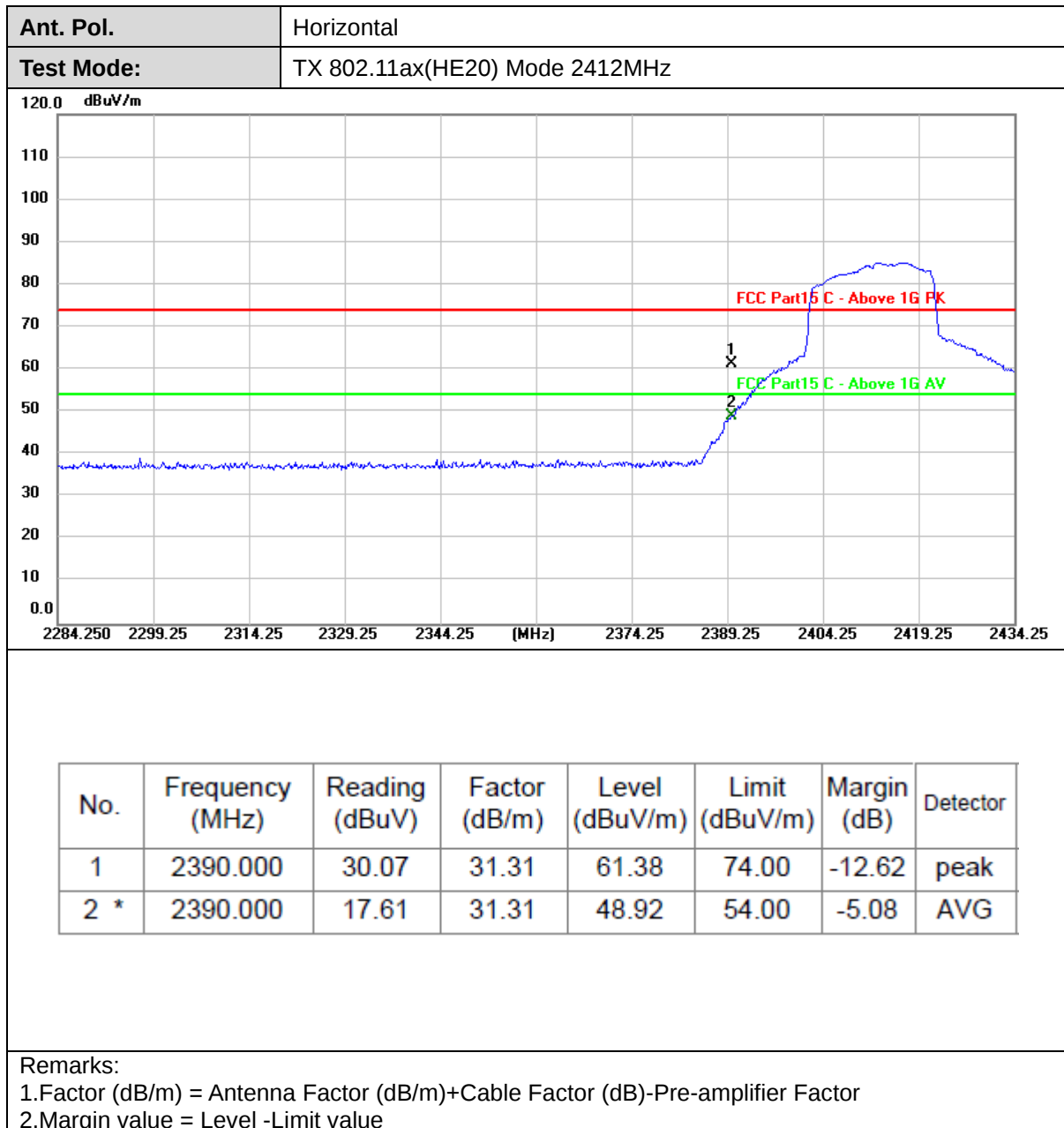


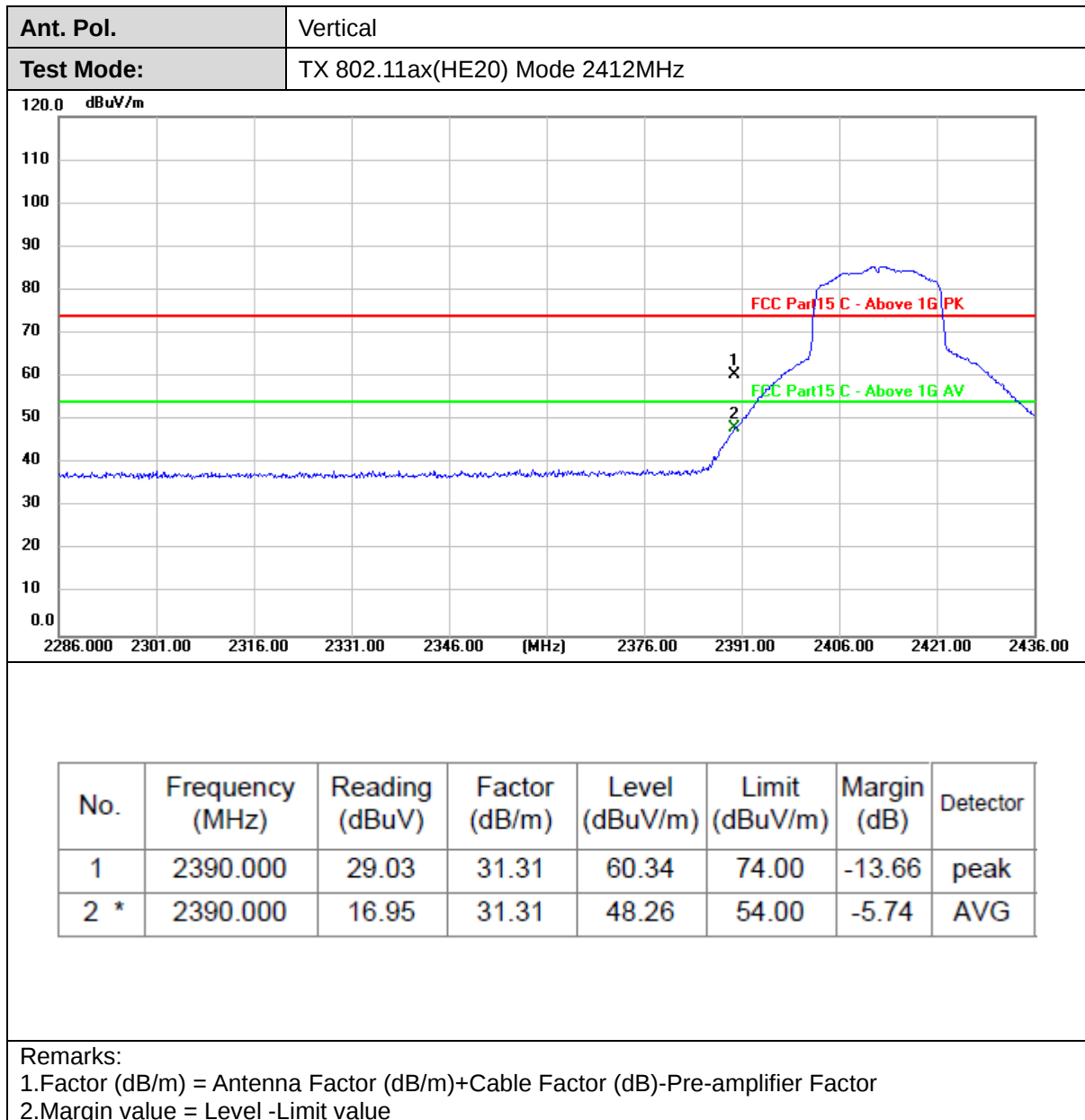


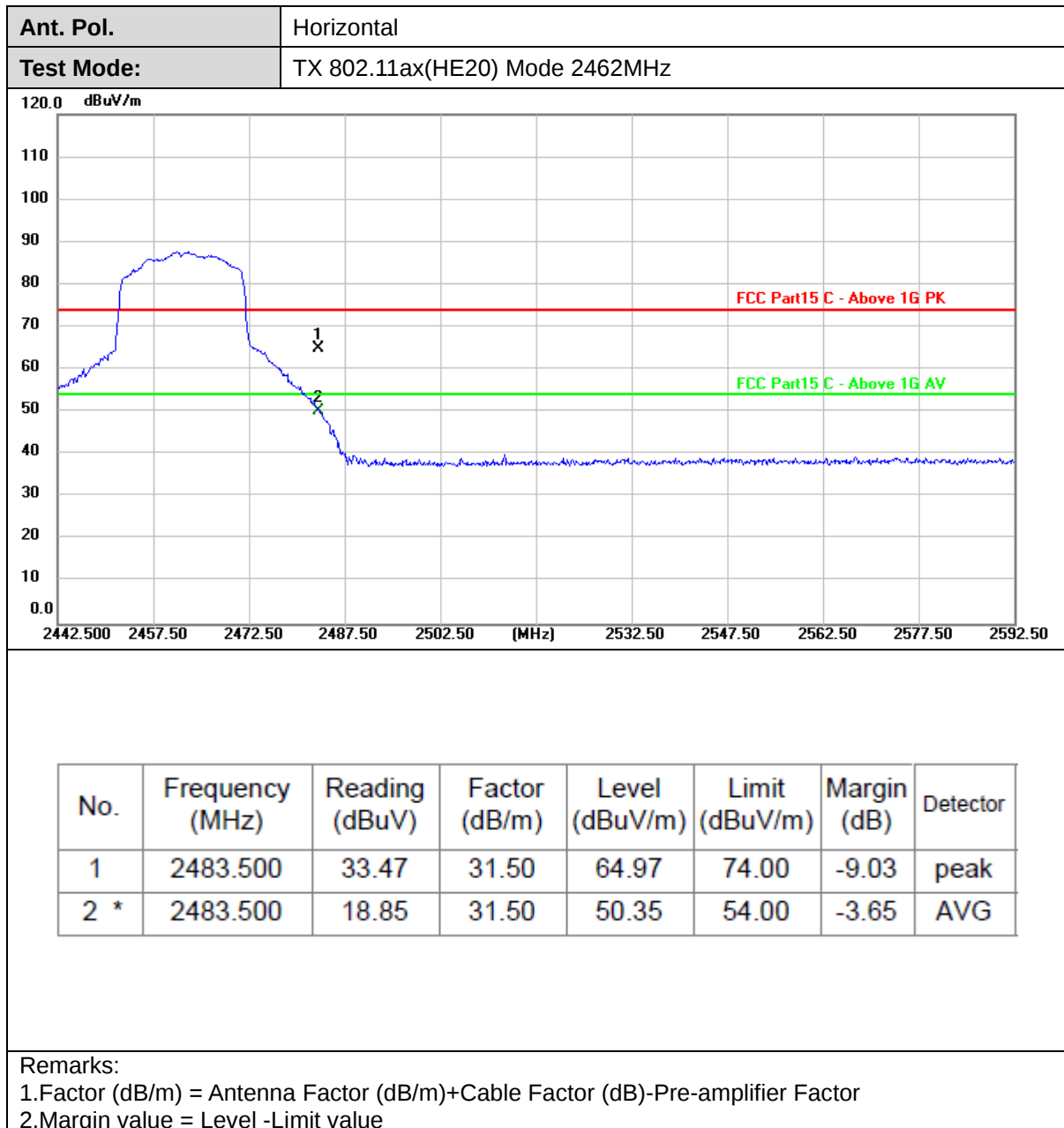


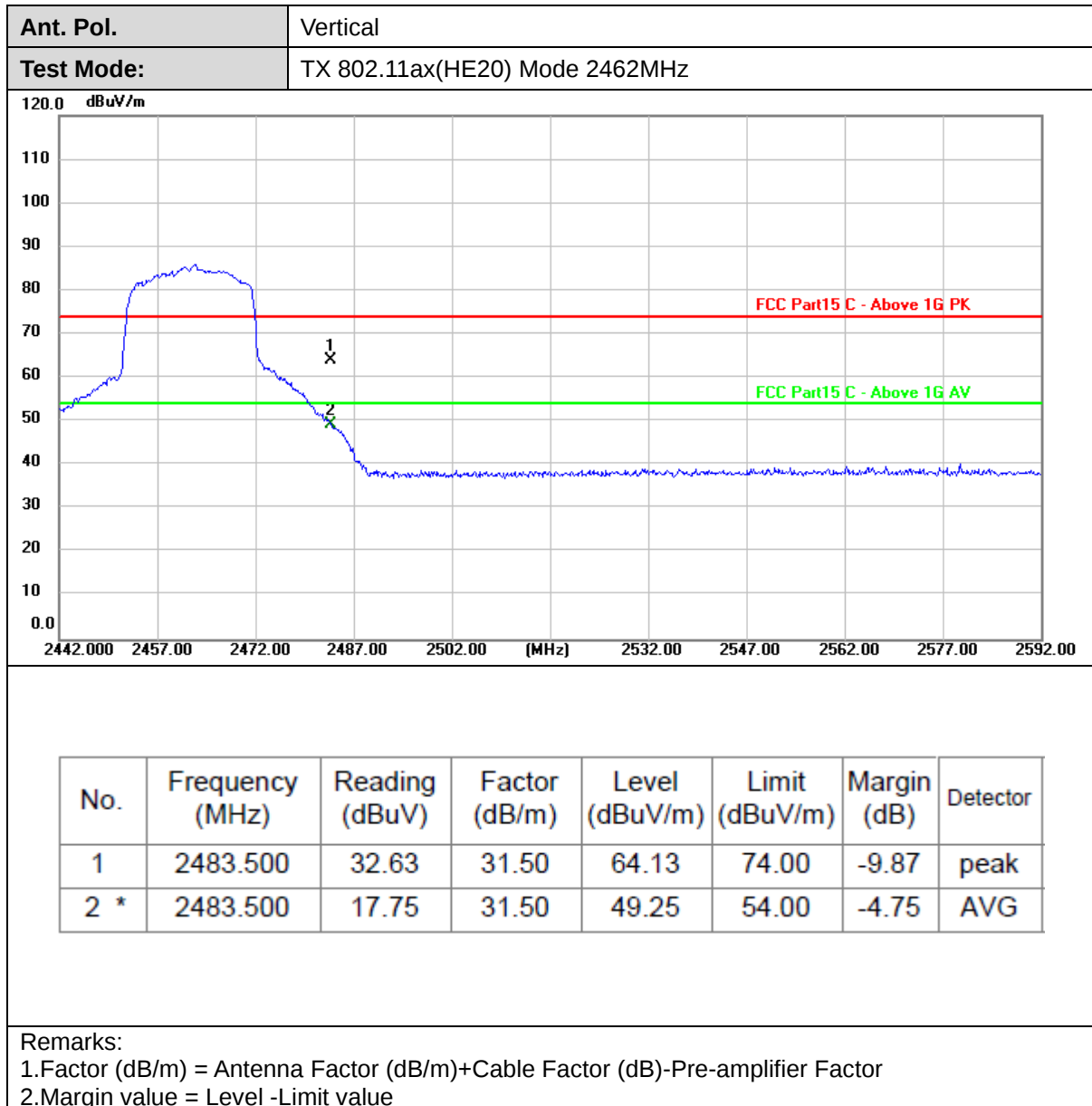


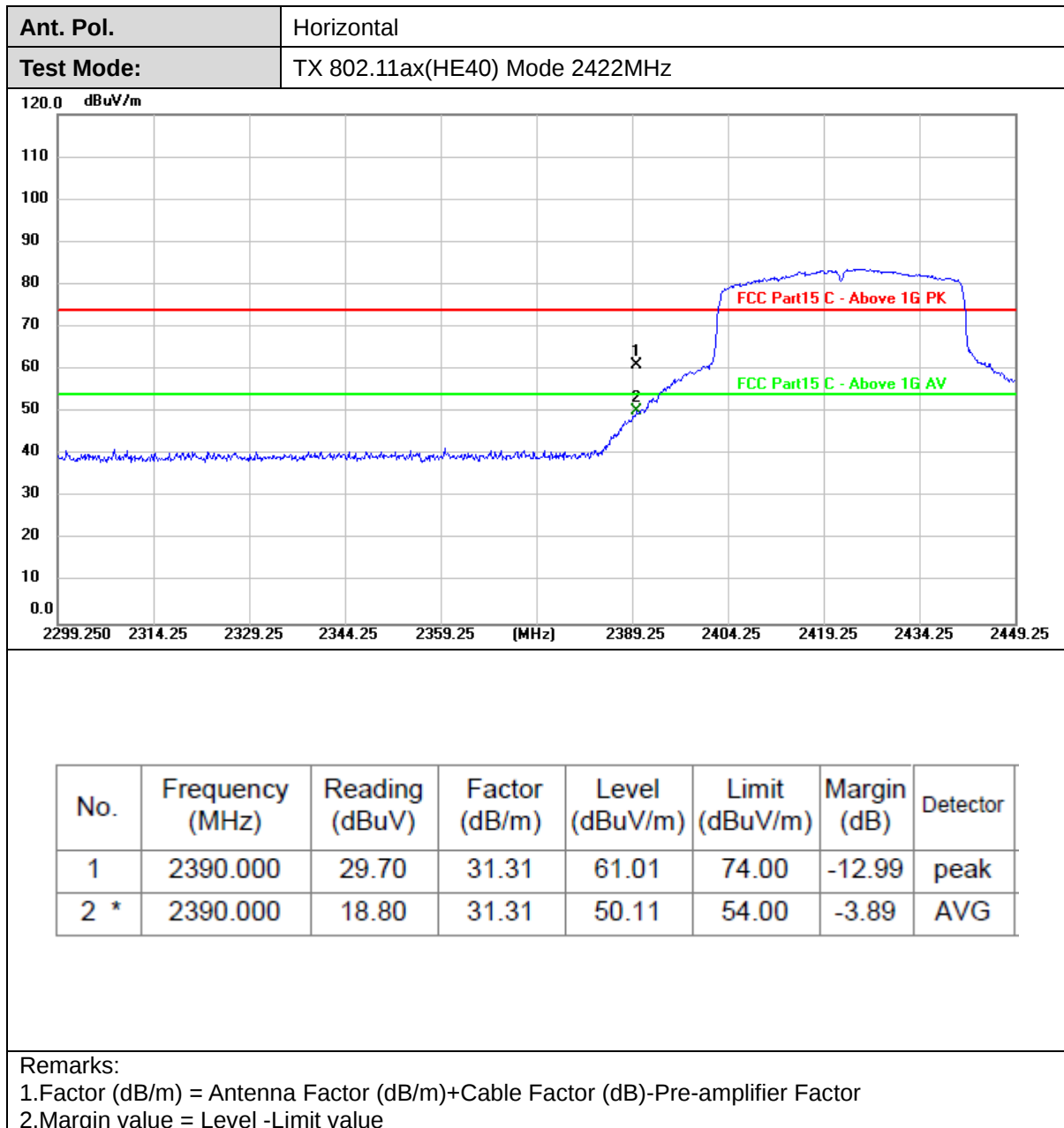


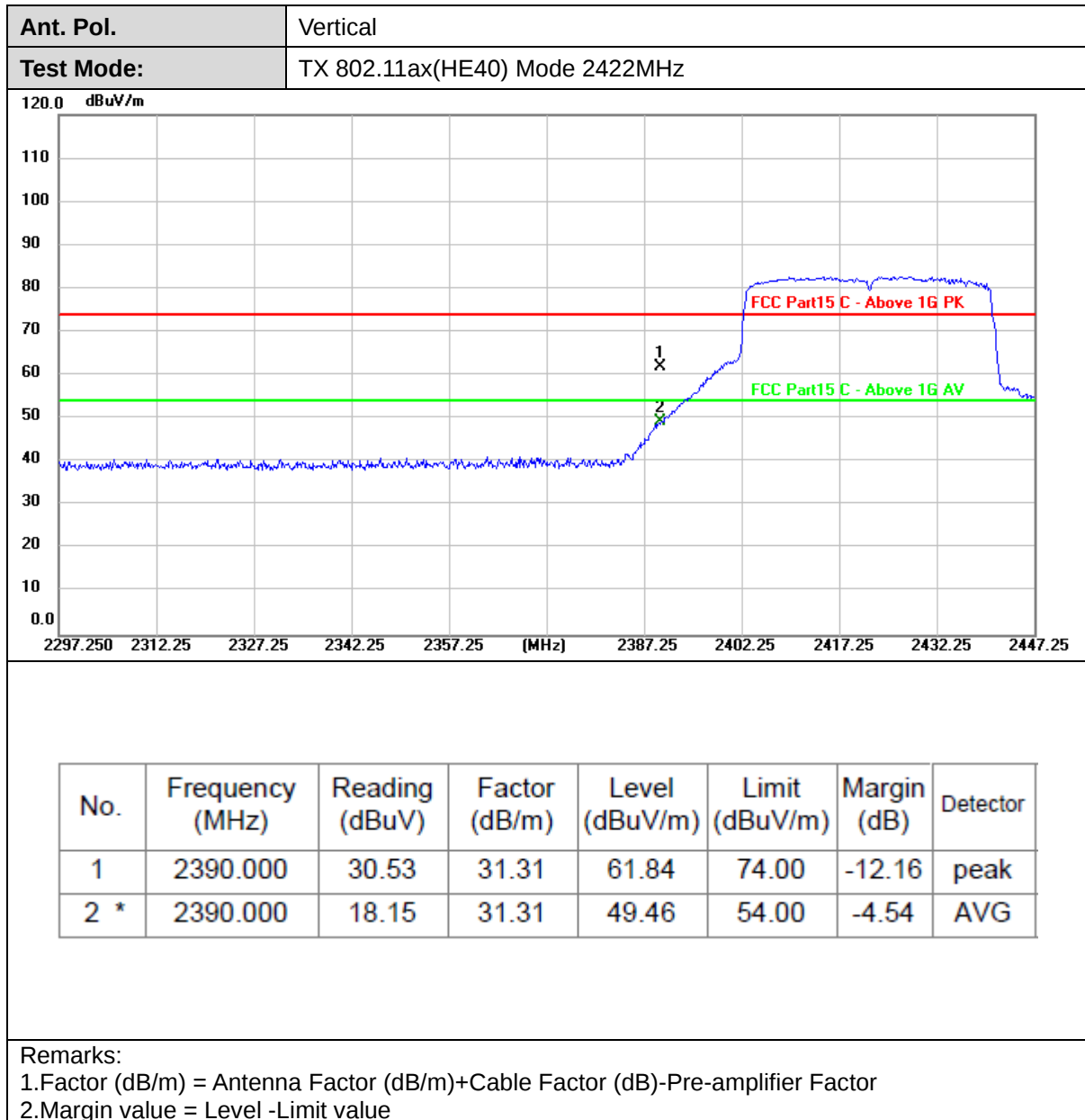


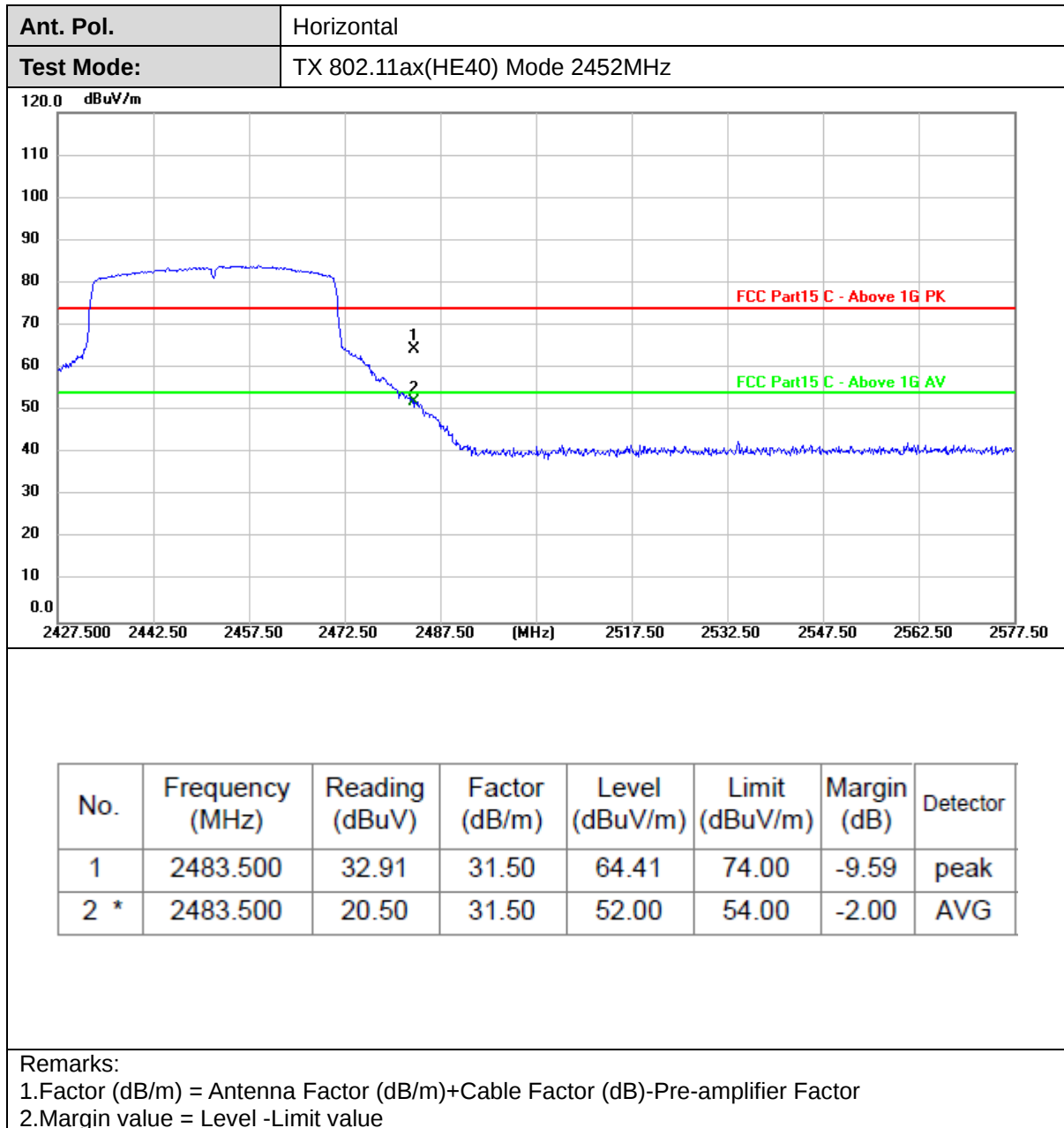


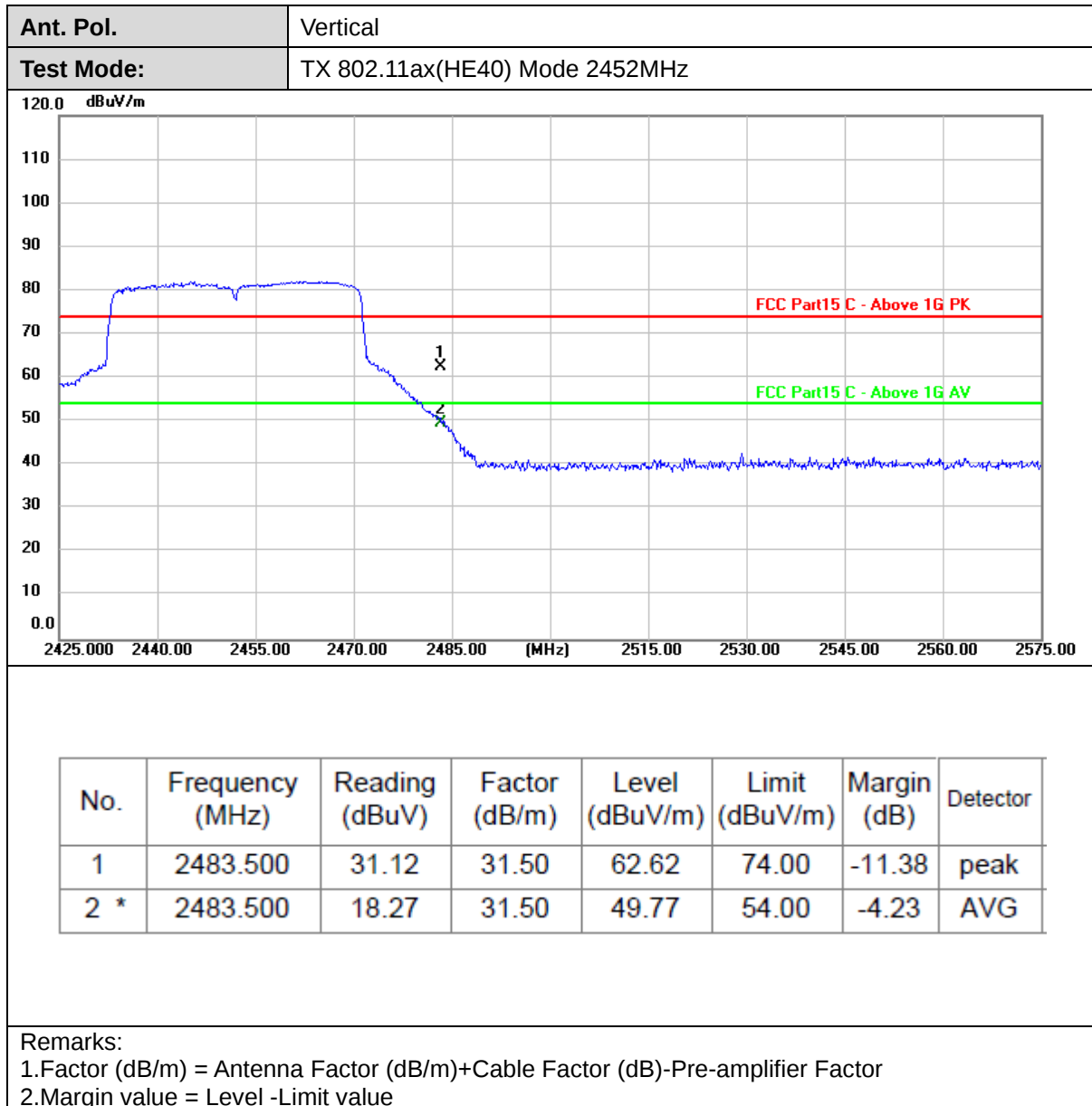












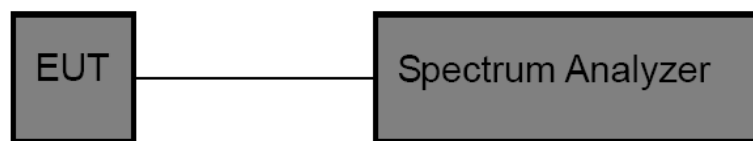
3.4. Band Edge and Spurious Emissions (Conducted)

Limit

FCC CFR Title 47 Part 15 Subpart C Section 15.247 (d) / RSS-247 5.5

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

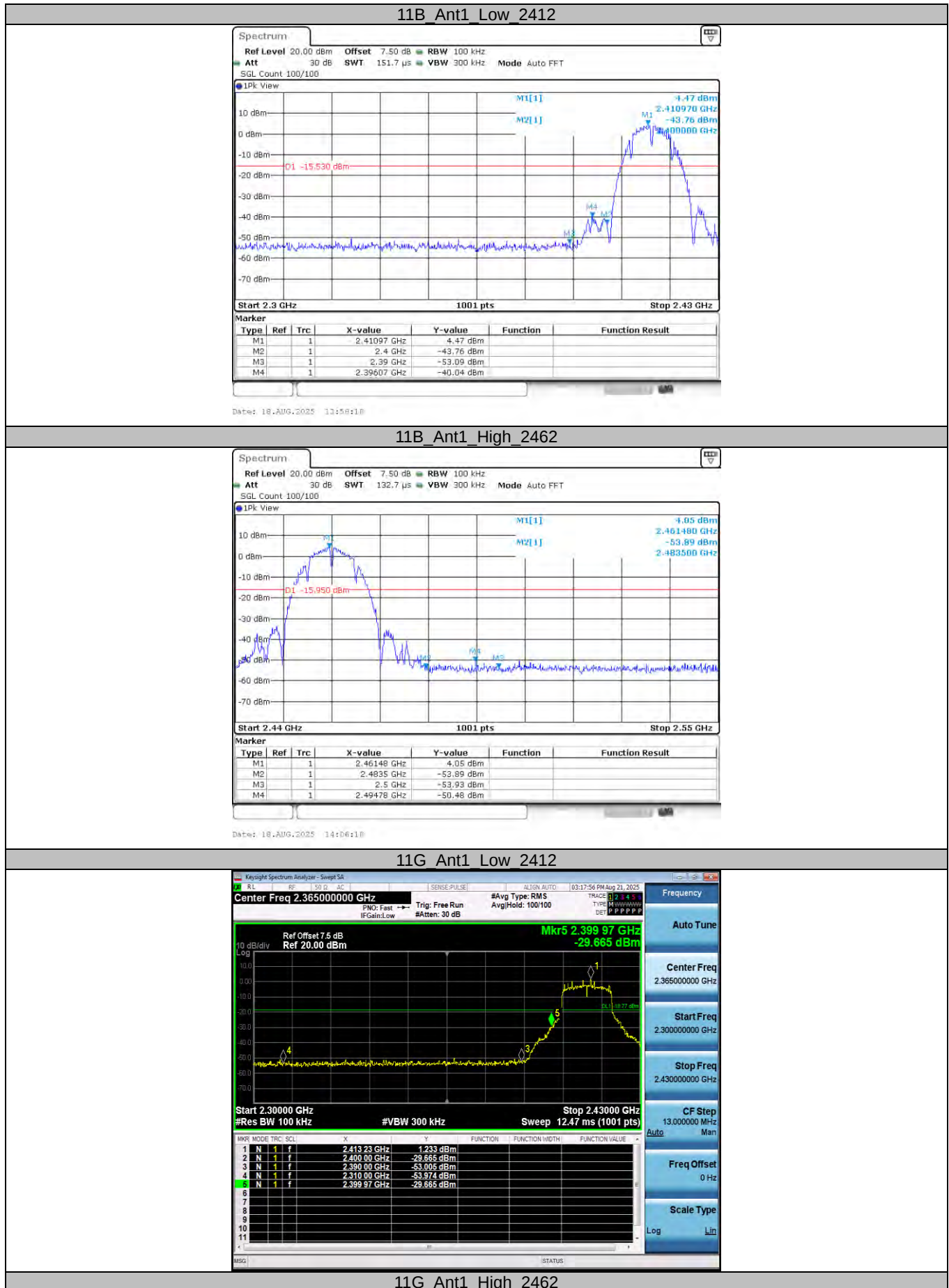
Please refer to the clause 2.4.

**Test Result****Band edge measurements**

Test Mode	Antenna	ChName	Frequency[MHz]	RefLevel[dBm]	Result[dBm]	Limit[dBm]	Verdict
11B	Ant1	Low	2412	4.47	-40.04	≤-15.53	PASS
		High	2462	4.05	-50.48	≤-15.95	PASS
11G	Ant1	Low	2412	1.23	-29.67	≤-18.77	PASS
		High	2462	-2.79	-50.54	≤-22.79	PASS
11N20SISO	Ant1	Low	2412	-3.41	-31.72	≤-23.41	PASS
		High	2462	-3.72	-51.14	≤-23.72	PASS
11N40SISO	Ant1	Low	2422	-6.52	-32.95	≤-26.52	PASS
		High	2452	-7.01	-47.93	≤-27.01	PASS
11AX20SISO	Ant1	Low	2412	-2.89	-34.71	≤-22.89	PASS
		High	2462	-2.95	-45.48	≤-22.95	PASS
11AX40SISO	Ant1	Low	2422	-7.42	-40.34	≤-27.42	PASS
		High	2452	-6.04	-47.50	≤-26.04	PASS



Test Graphs



CTC Laboratories, Inc.

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

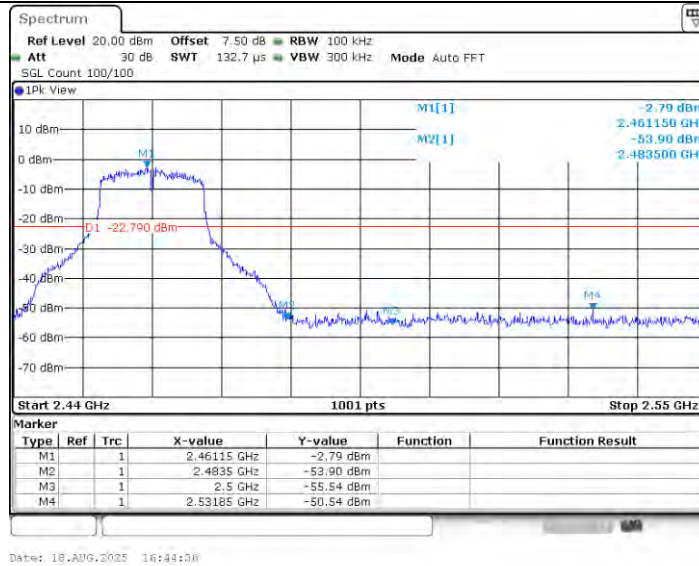
Tel.: (86)755-27521059

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

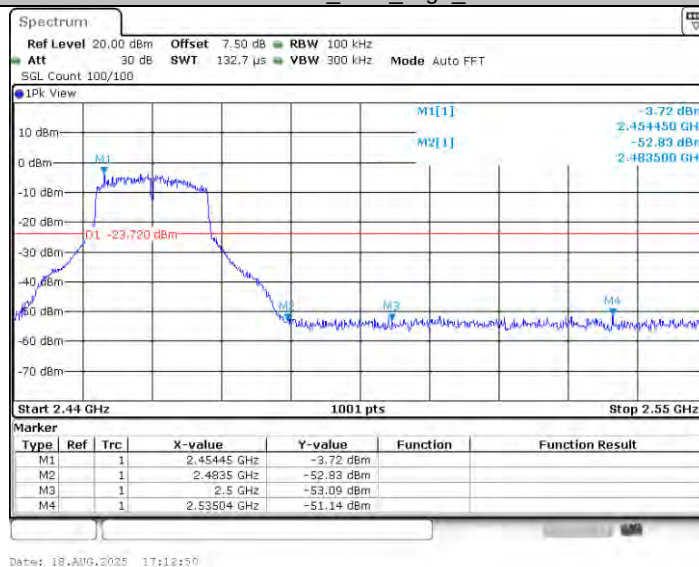
TRF No: CTC-TR-057_A2



11N20SISO_Ant1_Low_2412



11N20SISO_Ant1_High_2462



11N40SISO_Ant1_Low_2422

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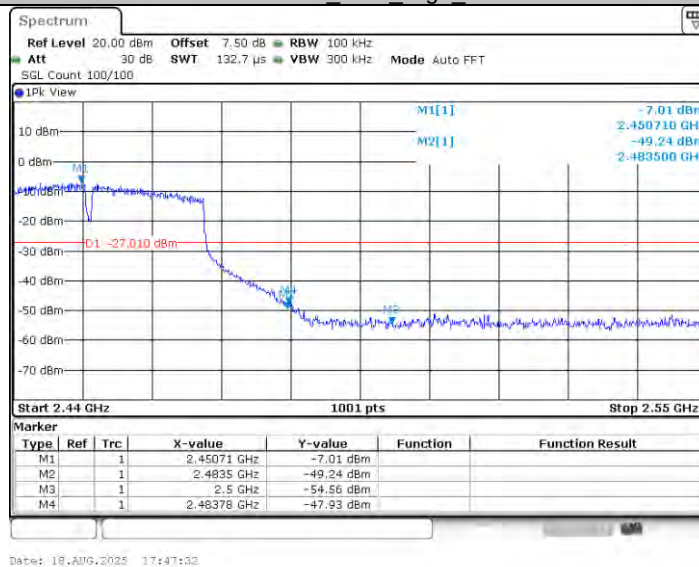
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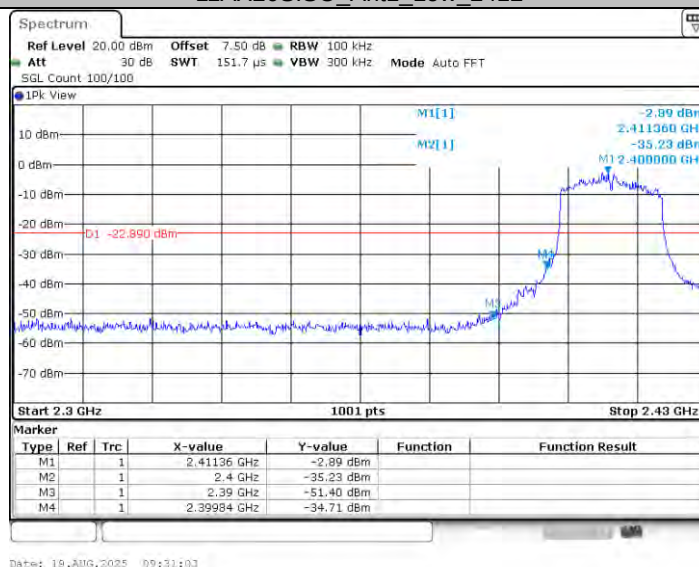
TRF No: CTC-TR-057_A2



11N40SISO_Ant1_High_2452



11AX20SISO_Ant1_Low_2412



11AX20SISO_Ant1_High_2462

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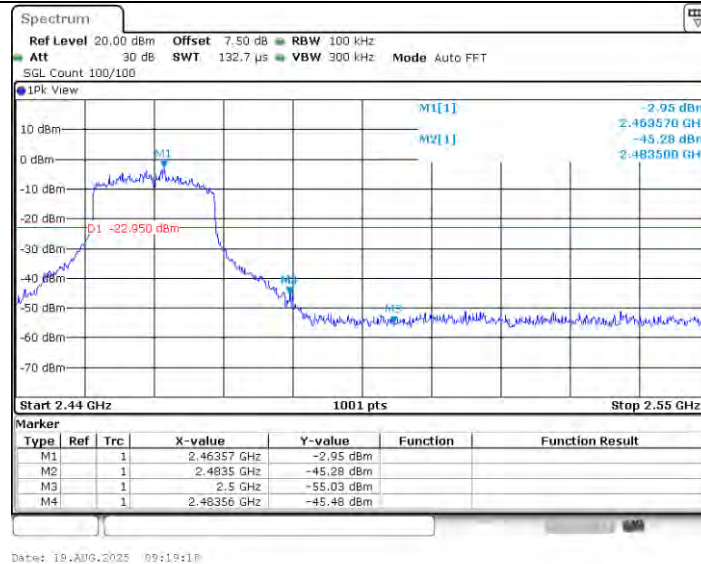
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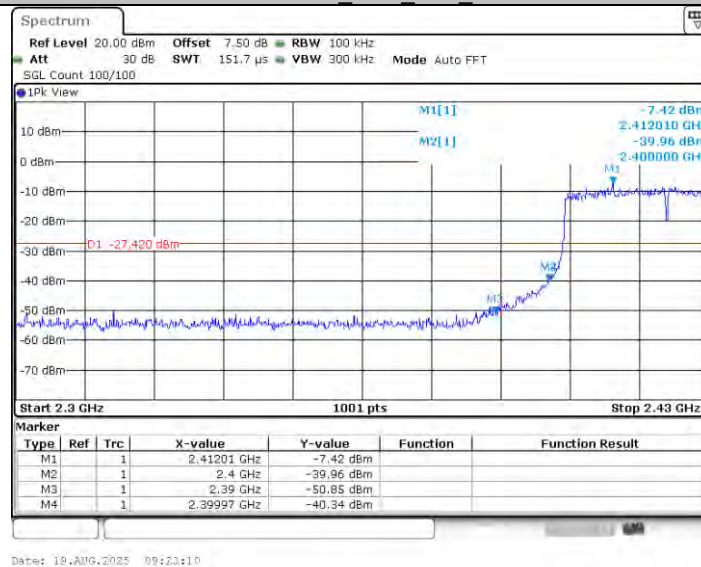
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TRF No: CTC-TR-057_A2



11AX40SISO_Ant1_Low_2422



11AX40SISO_Ant1_High_2452

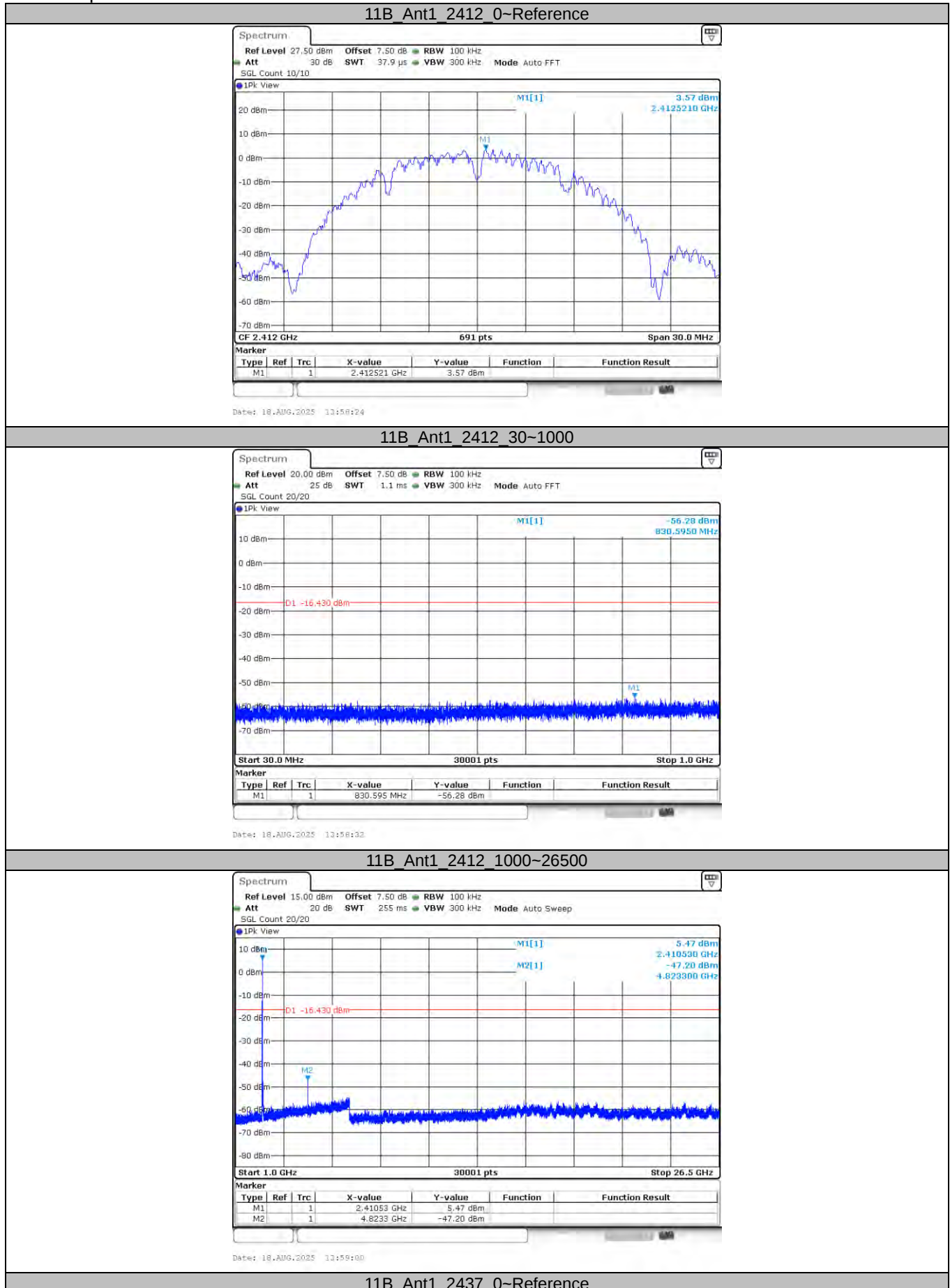


**Conducted Spurious Emission**

Test Mode	Antenna	Frequency[MHz]	FreqRange [Mhz]	RefLevel [dBm]	Result [dBm]	Limit [dBm]	Verdict
11B	Ant1	2412	Reference	3.57	3.57	---	PASS
			30~1000	3.57	-56.28	≤-16.43	PASS
			1000~26500	3.57	-47.20	≤-16.43	PASS
		2437	Reference	2.51	2.51	---	PASS
			30~1000	2.51	-56.33	≤-17.49	PASS
			1000~26500	2.51	-48.70	≤-17.49	PASS
		2462	Reference	6.54	6.54	---	PASS
			30~1000	6.54	-55.73	≤-13.46	PASS
			1000~26500	6.54	-44.85	≤-13.46	PASS
11G	Ant1	2412	Reference	-2.69	-2.69	---	PASS
			30~1000	-2.69	-56.01	≤-22.69	PASS
			1000~26500	-2.69	-47.30	≤-22.69	PASS
		2437	Reference	-3.30	-3.30	---	PASS
			30~1000	-3.30	-56.49	≤-23.30	PASS
			1000~26500	-3.30	-55.02	≤-23.30	PASS
		2462	Reference	-3.28	-3.28	---	PASS
			30~1000	-3.28	-55.37	≤-23.28	PASS
			1000~26500	-3.28	-55.13	≤-23.28	PASS
11N20SISO	Ant1	2412	Reference	-3.58	-3.58	---	PASS
			30~1000	-3.58	-56.33	≤-23.58	PASS
			1000~26500	-3.58	-54.79	≤-23.58	PASS
		2437	Reference	-4.62	-4.62	---	PASS
			30~1000	-4.62	-56.24	≤-24.62	PASS
			1000~26500	-4.62	-55.28	≤-24.62	PASS
		2462	Reference	-4.46	-4.46	---	PASS
			30~1000	-4.46	-56.10	≤-24.46	PASS
			1000~26500	-4.46	-55.28	≤-24.46	PASS
11N40SISO	Ant1	2422	Reference	-8.73	-8.73	---	PASS
			30~1000	-8.73	-54.37	≤-28.73	PASS
			1000~26500	-8.73	-55.54	≤-28.73	PASS
		2437	Reference	-8.28	-8.28	---	PASS
			30~1000	-8.28	-55.91	≤-28.28	PASS
			1000~26500	-8.28	-55.15	≤-28.28	PASS
		2452	Reference	-7.31	-7.31	---	PASS
			30~1000	-7.31	-56.22	≤-27.31	PASS
			1000~26500	-7.31	-55.21	≤-27.31	PASS
11AX20SISO	Ant1	2412	Reference	-4.80	-4.80	---	PASS
			30~1000	-4.80	-56.13	≤-24.80	PASS
			1000~26500	-4.80	-55.24	≤-24.80	PASS
		2437	Reference	-5.05	-5.05	---	PASS
			30~1000	-5.05	-55.66	≤-25.05	PASS
			1000~26500	-5.05	-54.67	≤-25.05	PASS
		2462	Reference	-4.11	-4.11	---	PASS
			30~1000	-4.11	-56.50	≤-24.11	PASS
			1000~26500	-4.11	-55.31	≤-24.11	PASS
11AX40SISO	Ant1	2422	Reference	-8.13	-8.13	---	PASS
			30~1000	-8.13	-55.27	≤-28.13	PASS
			1000~26500	-8.13	-54.56	≤-28.13	PASS
		2437	Reference	-7.96	-7.96	---	PASS
			30~1000	-7.96	-55.79	≤-27.96	PASS
			1000~26500	-7.96	-54.49	≤-27.96	PASS
		2452	Reference	-7.93	-7.93	---	PASS
			30~1000	-7.93	-55.32	≤-27.93	PASS
			1000~26500	-7.93	-55.07	≤-27.93	PASS



Test Graphs



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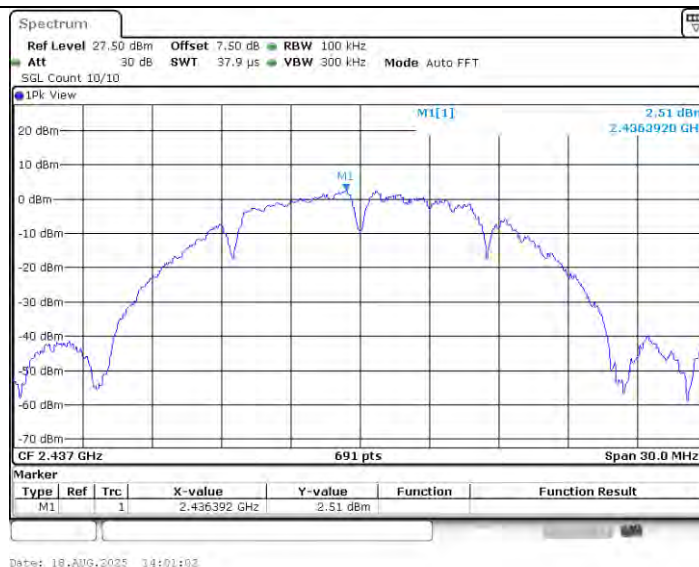
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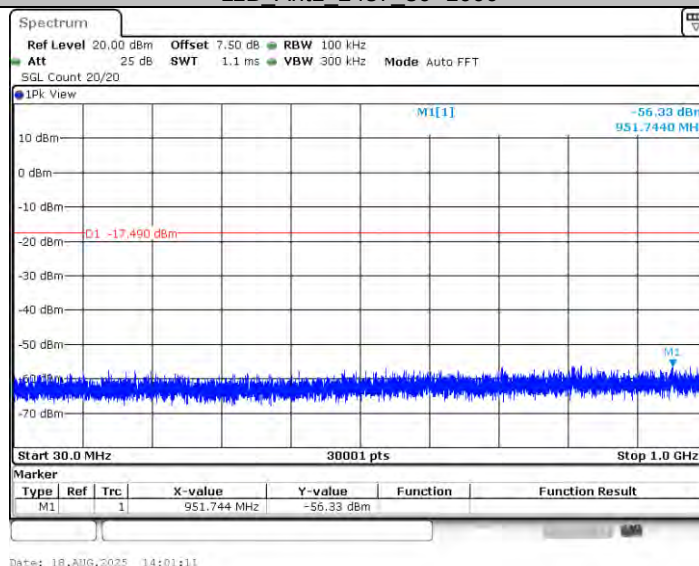
Http://www.sz-ctc.org.cn

TRF No: CTC-TR-057_A2

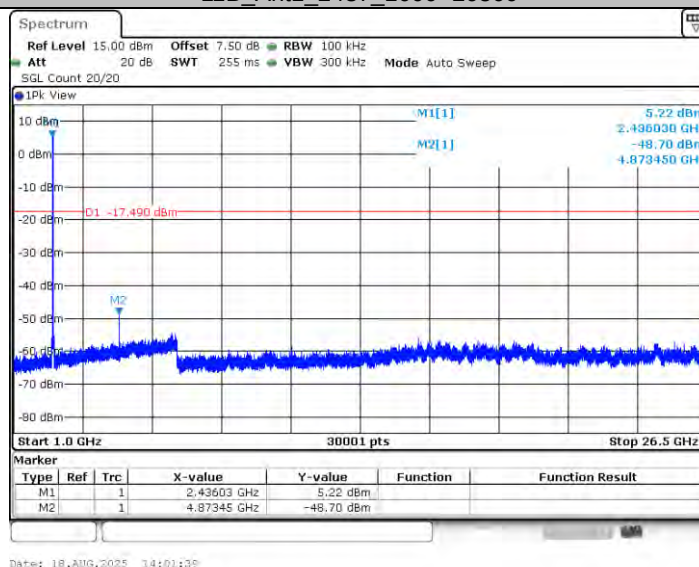
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11B_Ant1_2437_30~1000



11B_Ant1_2437_1000~26500



11B_Ant1_2462_0-Reference

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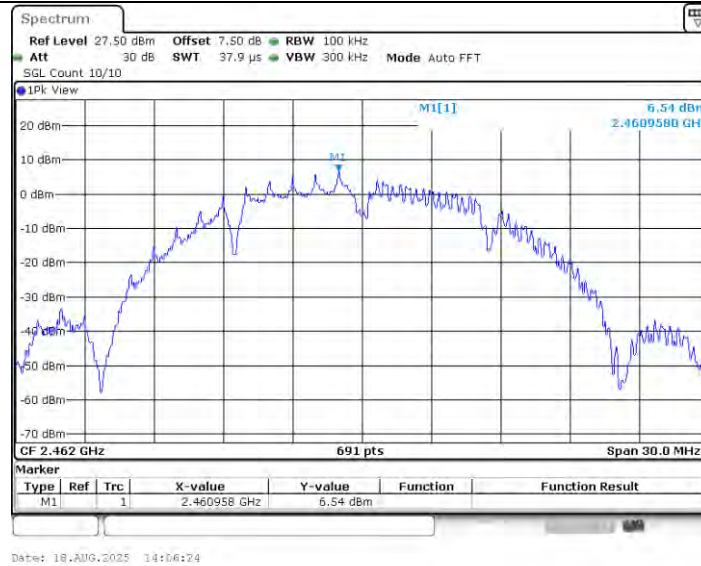
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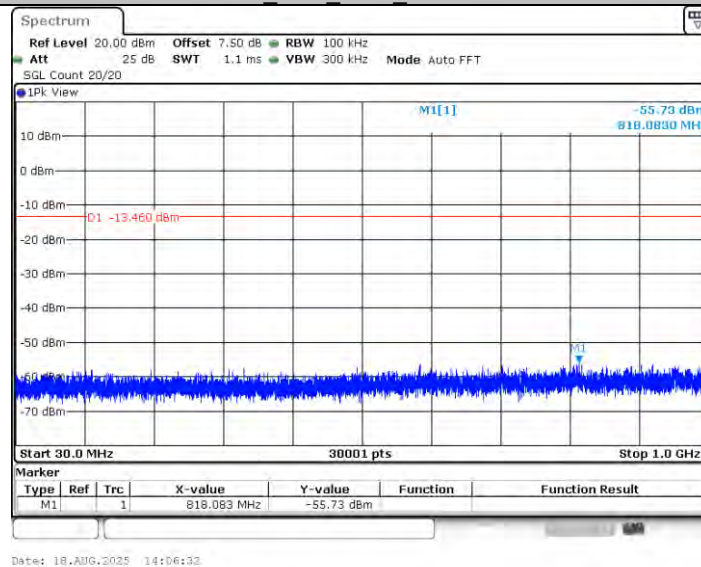
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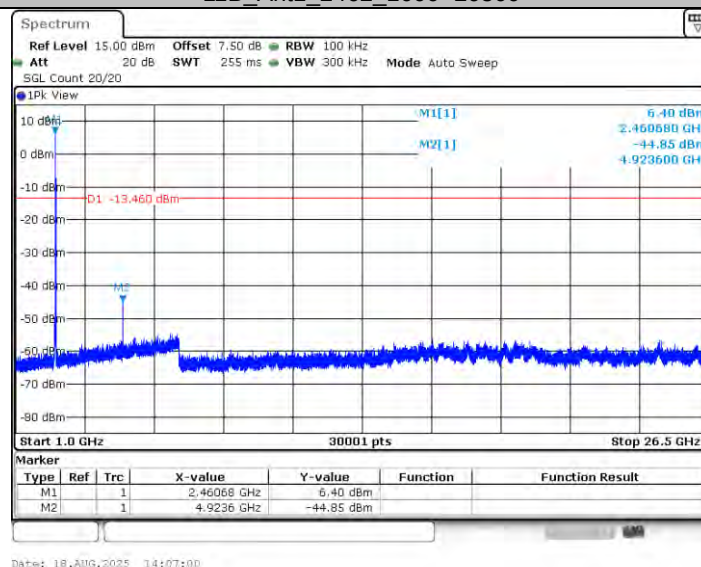
TRF No: CTC-TR-057_A2



11B_Ant1_2462_30~1000



11B_Ant1_2462_1000~26500



11G_Ant1_2412_0~Reference

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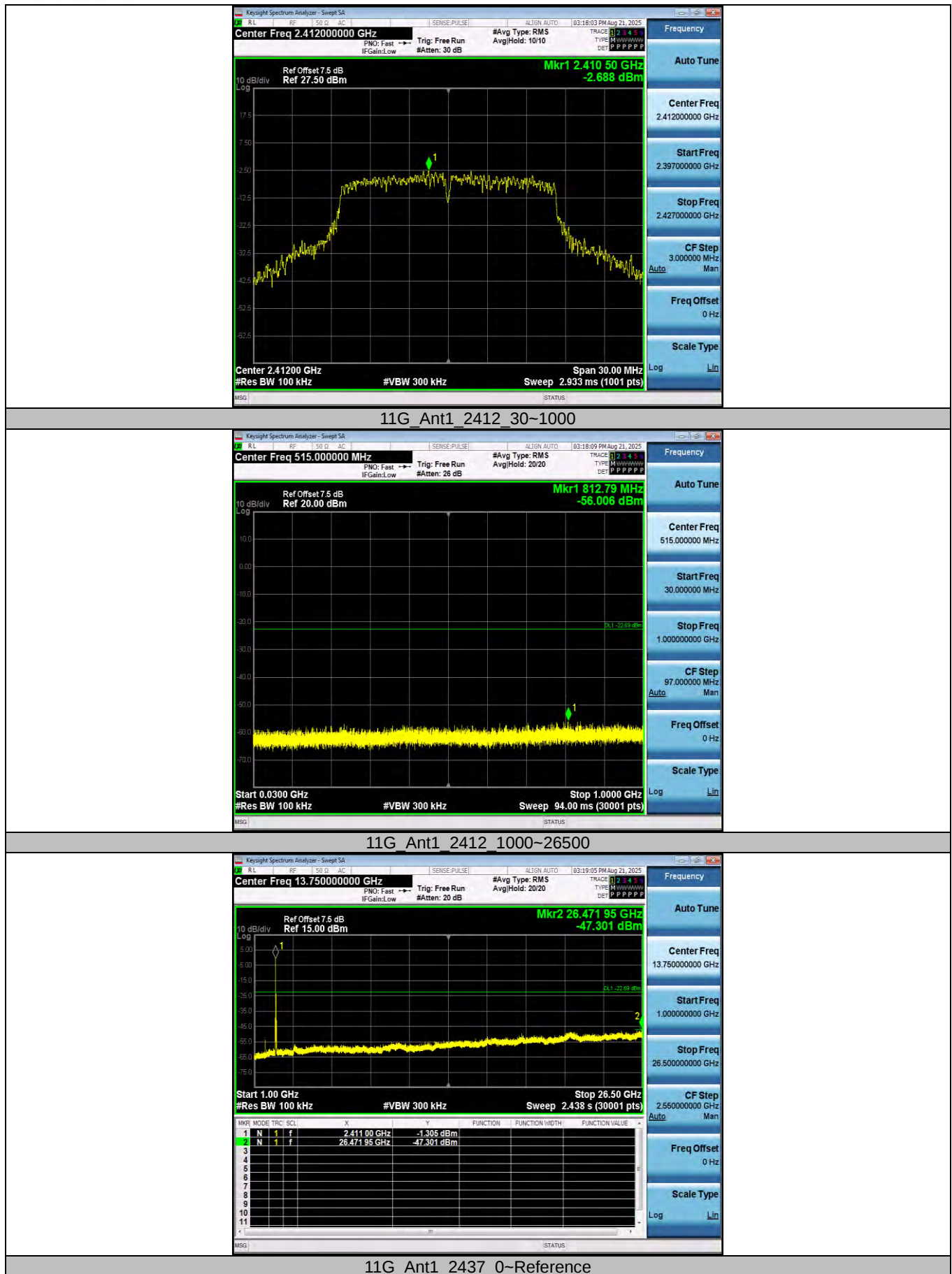
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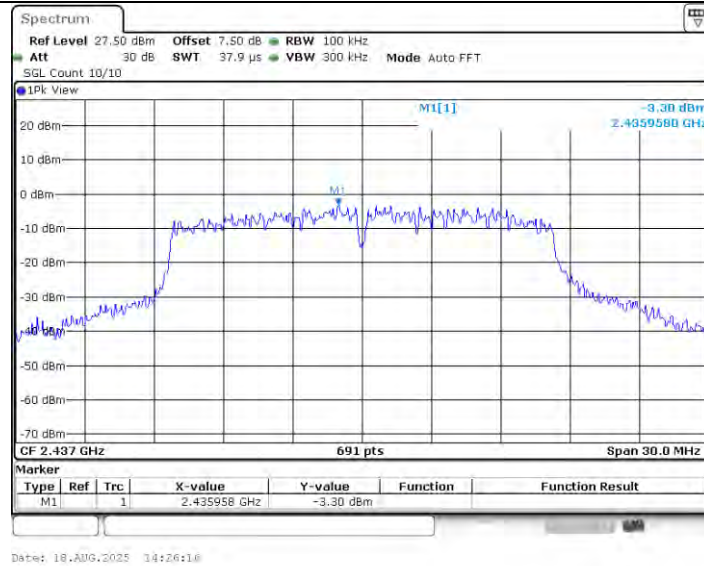
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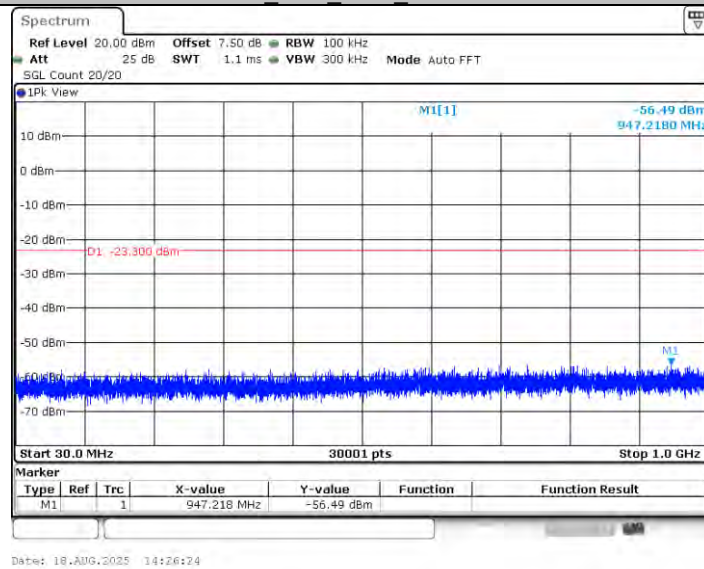
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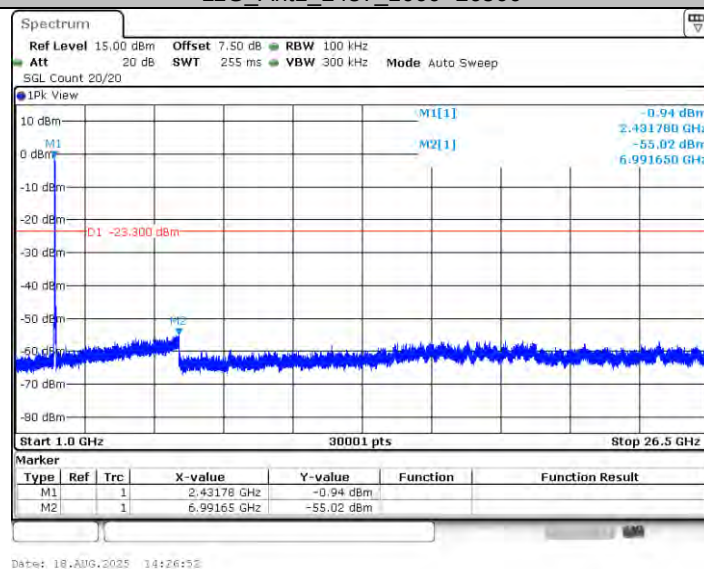
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11G_Ant1_2437_30~1000



11G_Ant1_2437_1000~26500



11G_Ant1_2462_0~Reference

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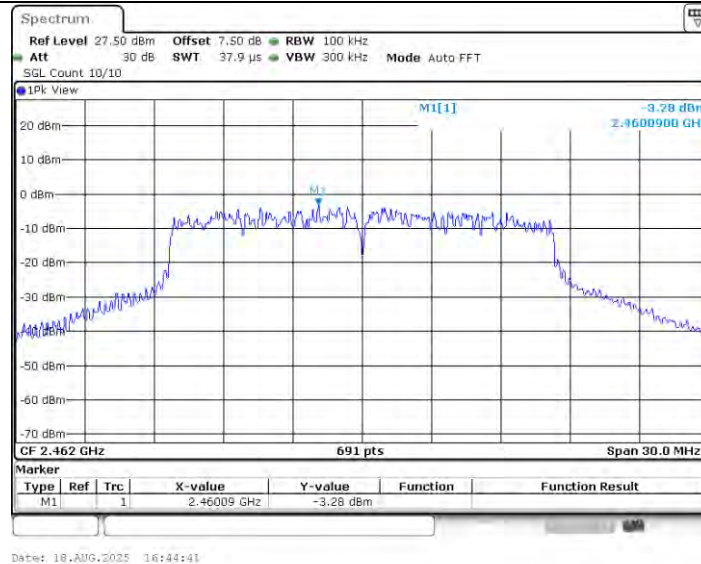
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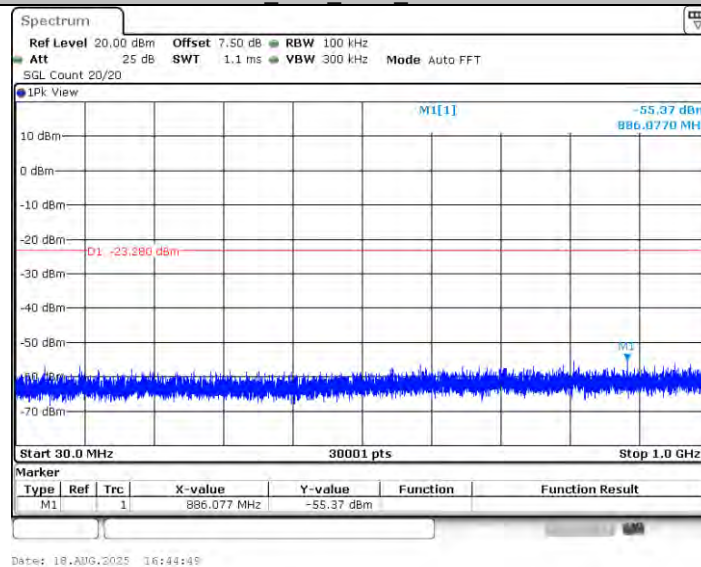
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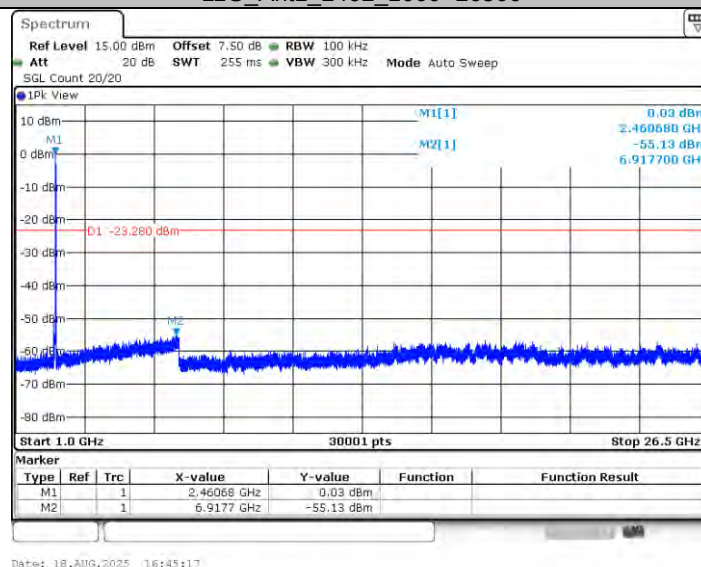
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11G_Ant1_2462_30~1000



11G_Ant1_2462_1000~26500



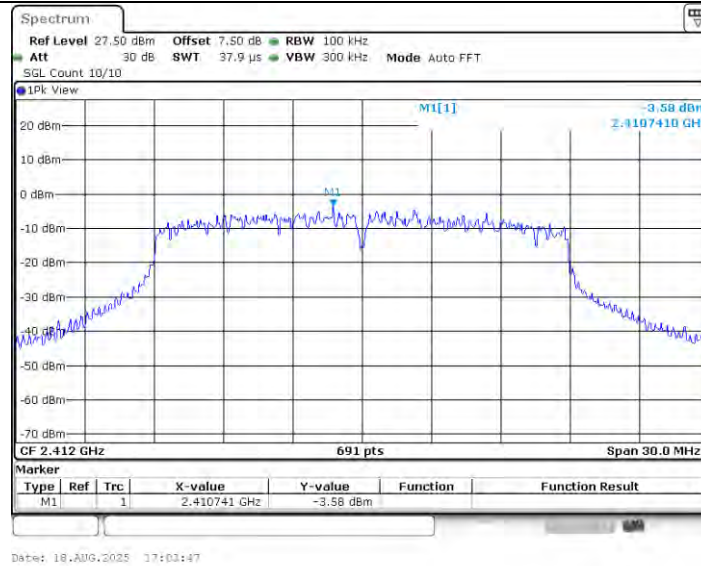
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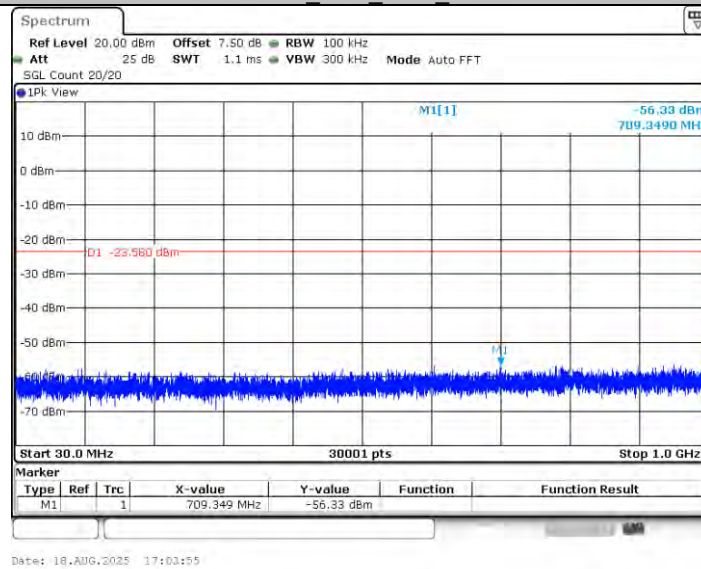
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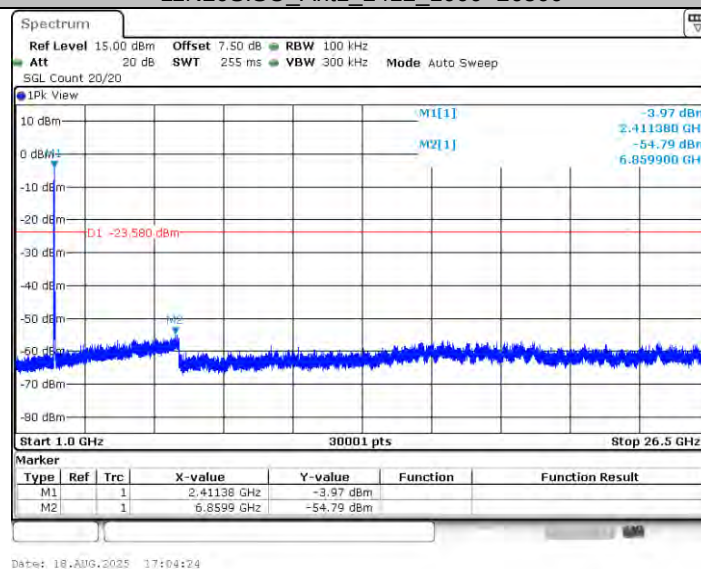
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11N20SISO_Ant1_2412_30~1000



11N20SISO_Ant1_2412_1000~26500



11N20SISO_Ant1_2437_0~Reference

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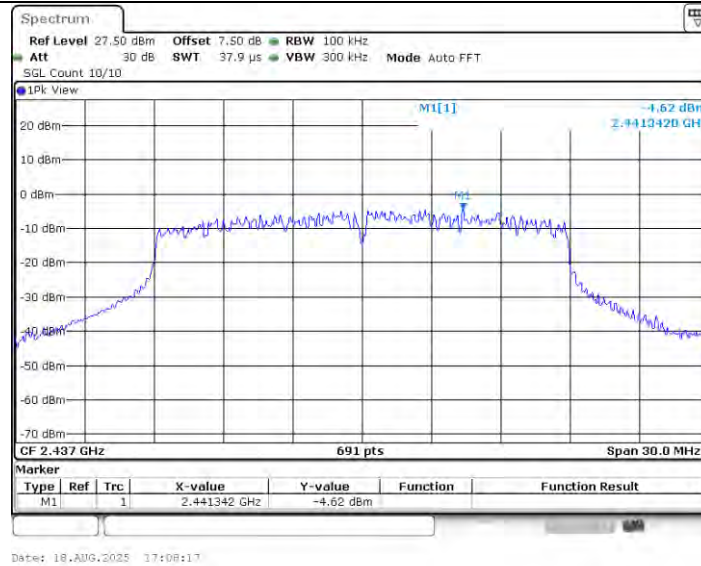
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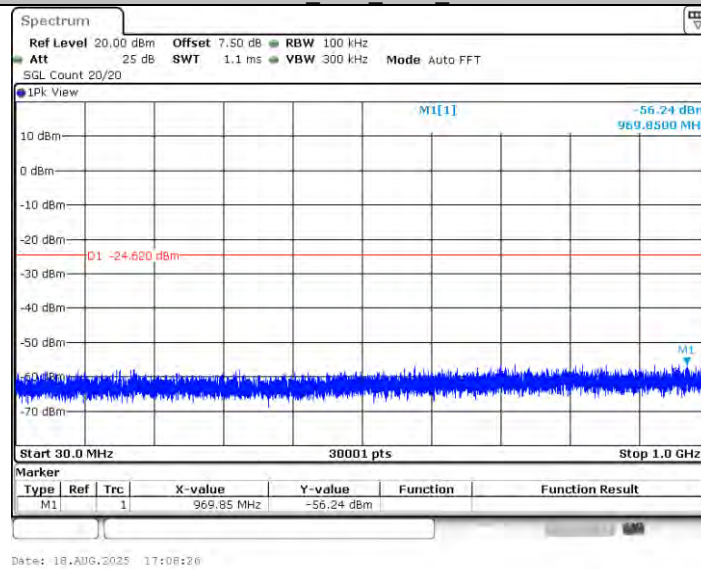
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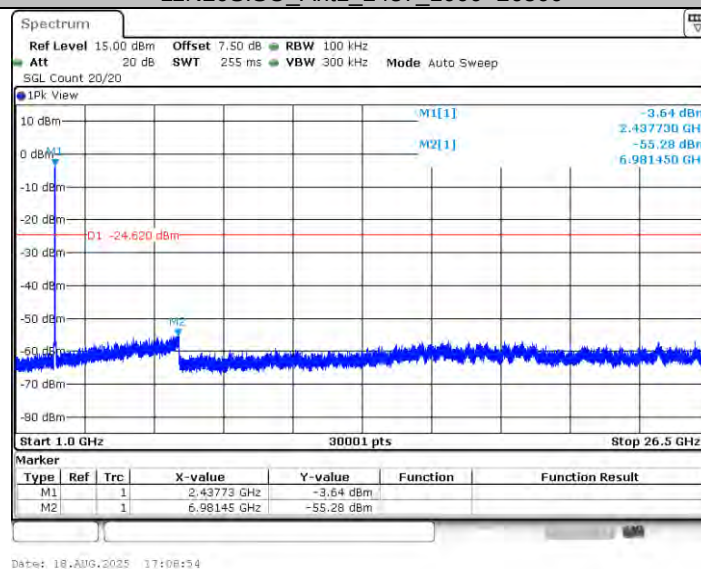
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11N20SISO_Ant1_2437_1000~26500



11N20SISO_Ant1_2462_0~Reference

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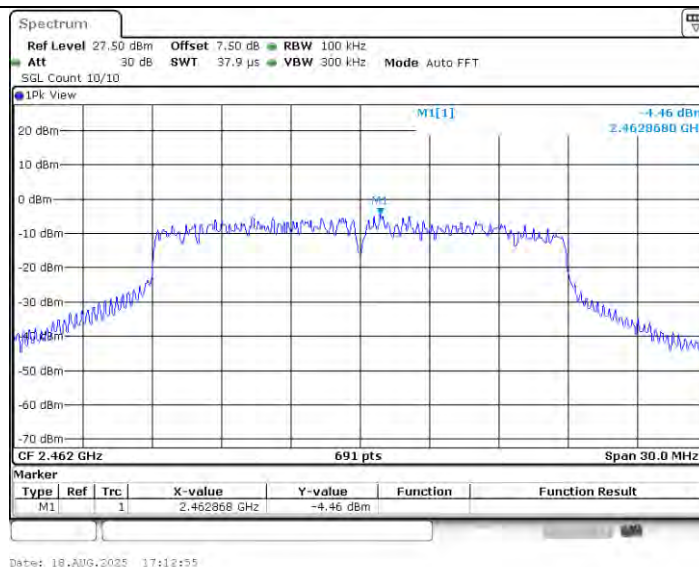
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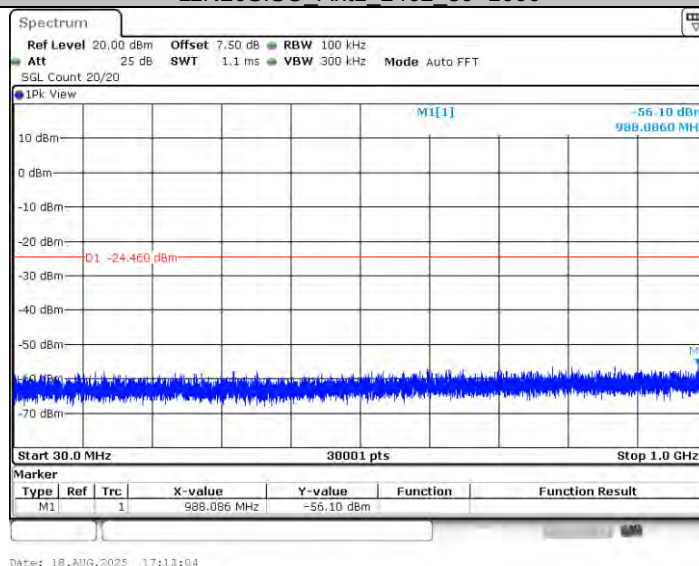
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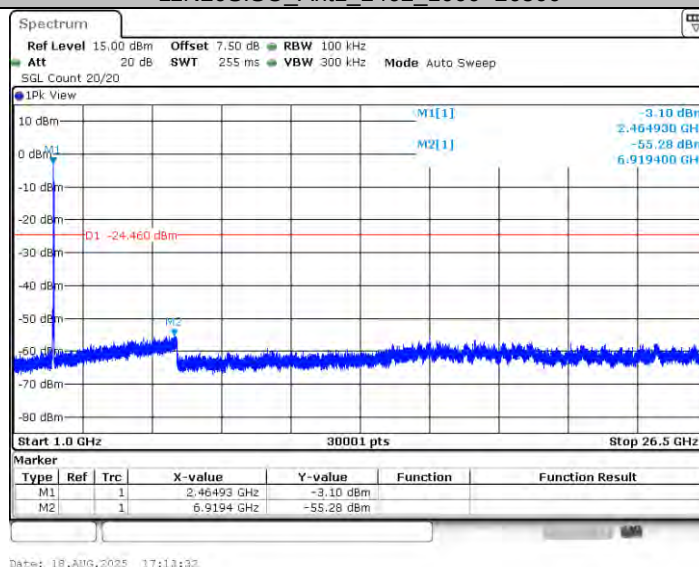
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11N20SISO_Ant1_2462_30~1000



11N20SISO_Ant1_2462_1000~26500



11N40SISO_Ant1_2422_0~Reference

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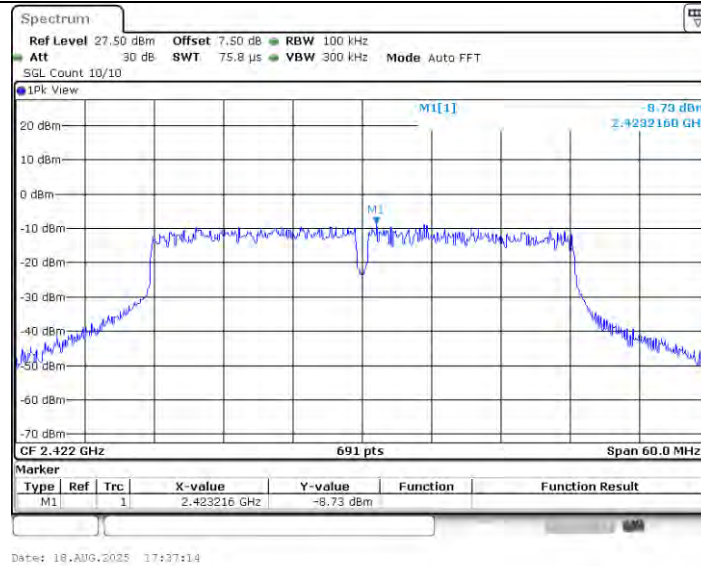
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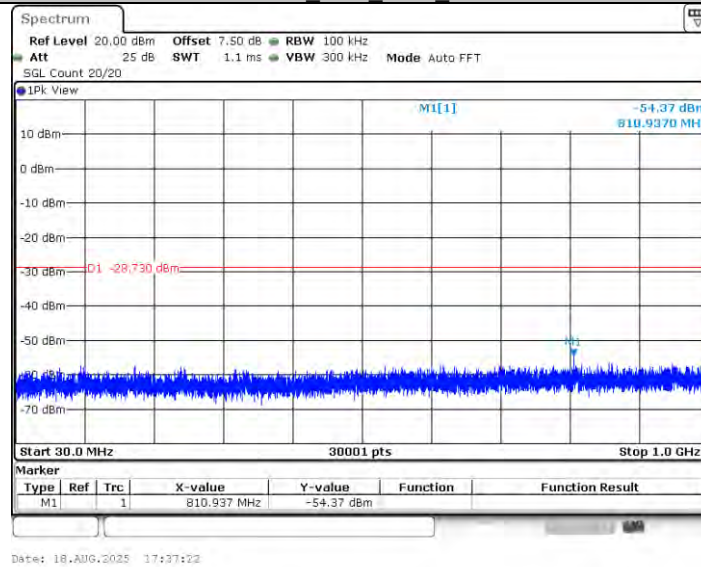
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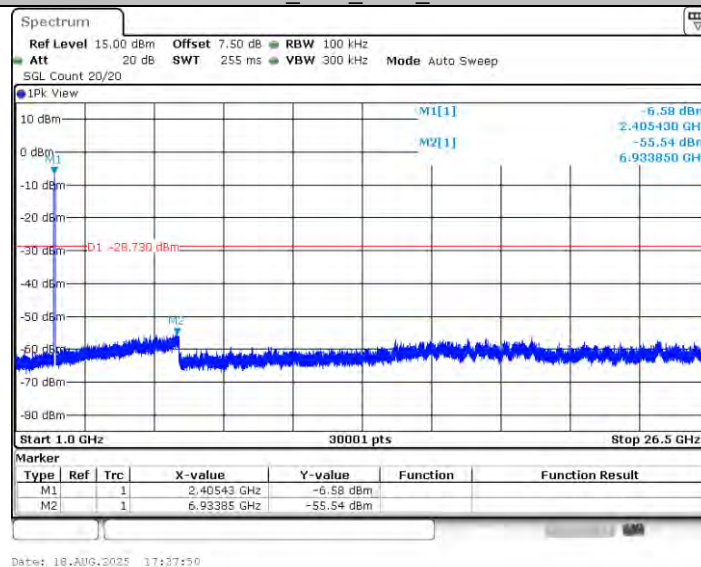
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11N40SISO_Ant1_2422_30~1000



11N40SISO_Ant1_2422_1000~26500



11N40SISO_Ant1_2437_0~Reference

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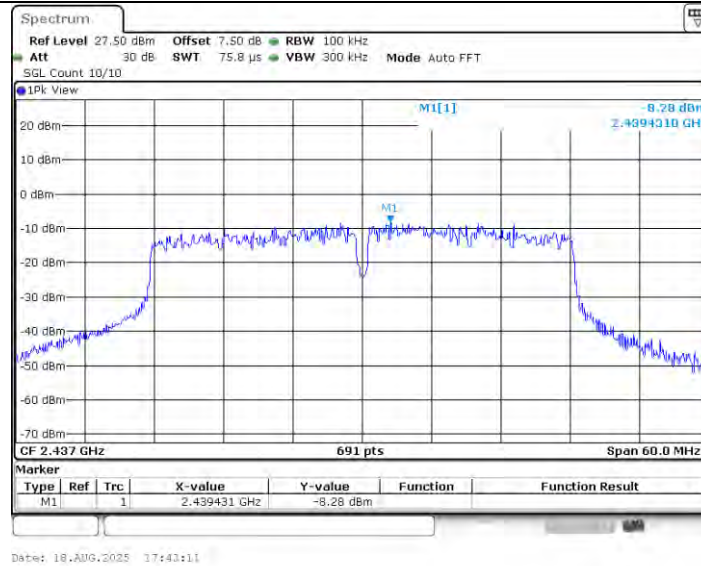
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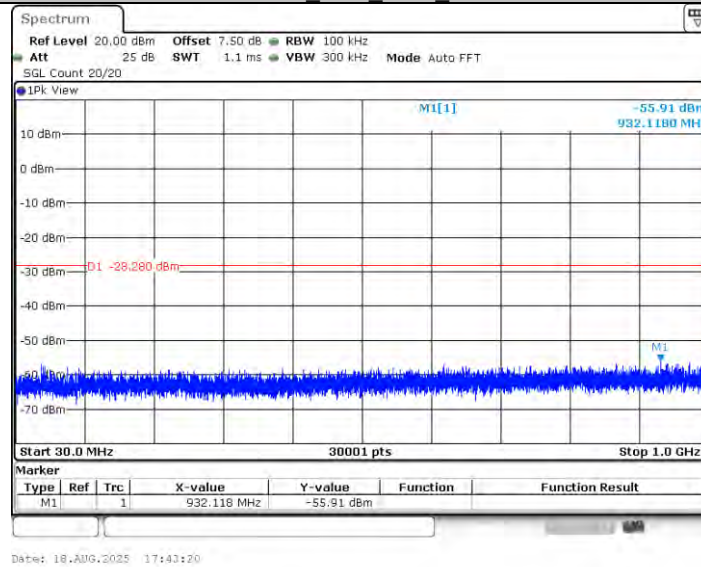
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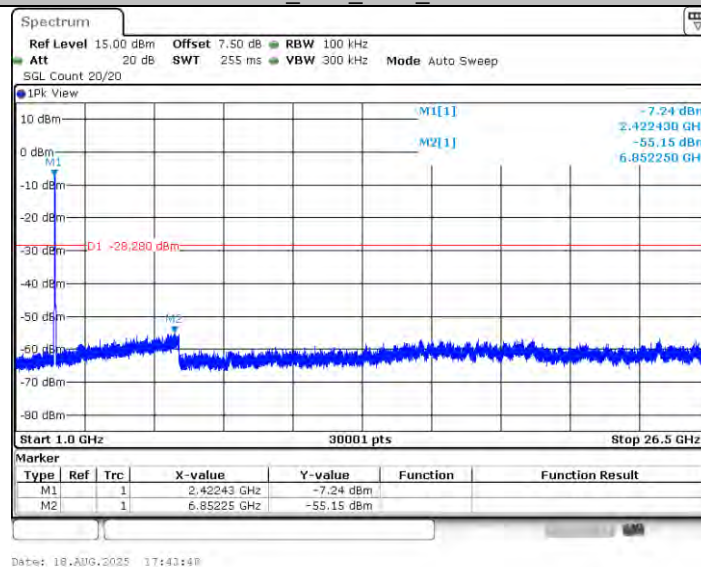
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11N40SISO_Ant1_2437_30~1000



11N40SISO_Ant1_2437_1000~26500



11N40SISO_Ant1_2452_0~Reference

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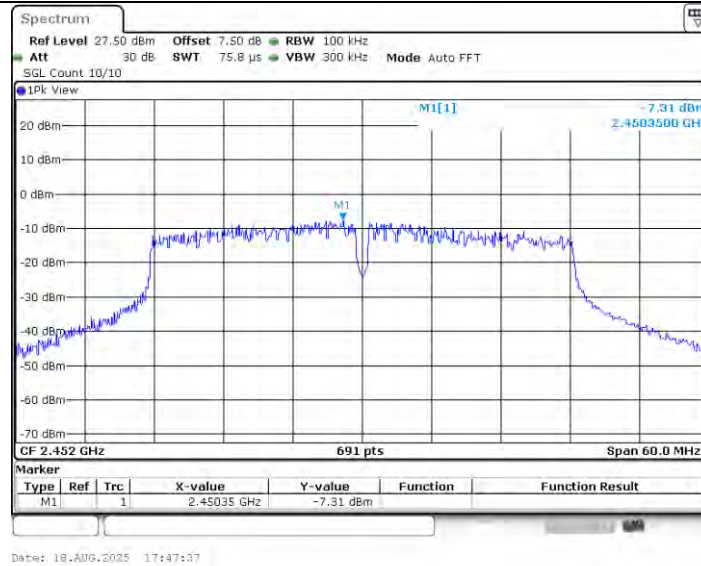
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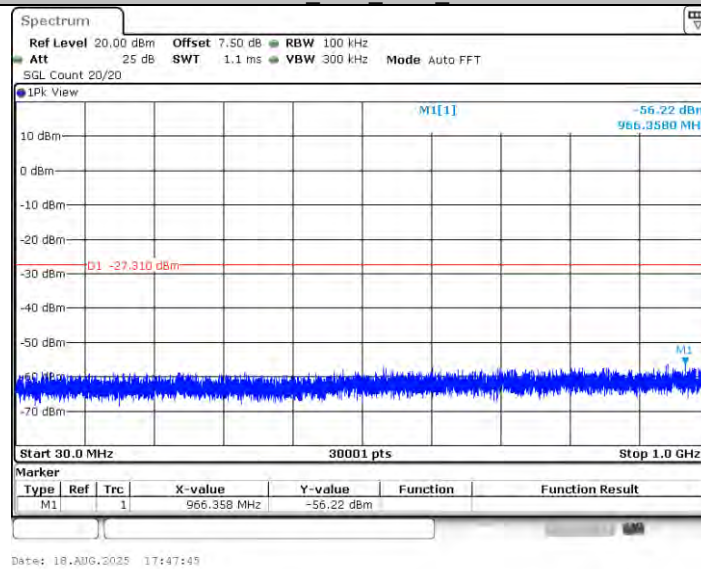
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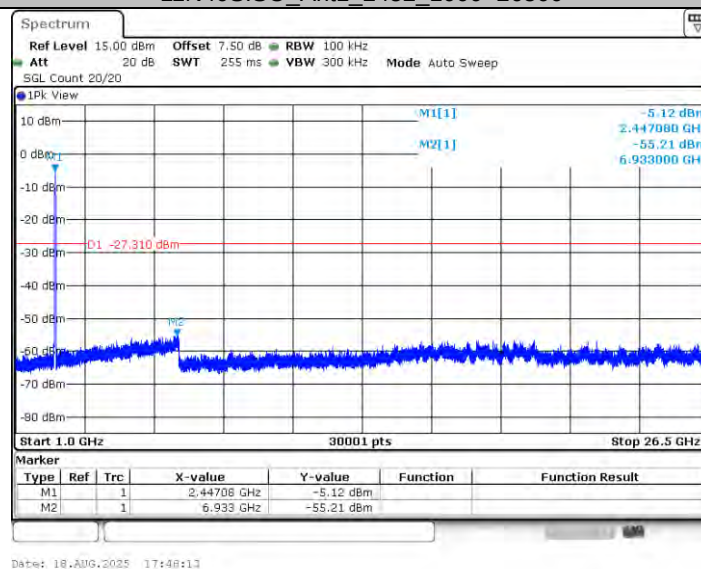
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11N40SISO_Ant1_2452_30~1000



11N40SISO_Ant1_2452_1000~26500



11AX20SISO_Ant1_2412_0~Reference

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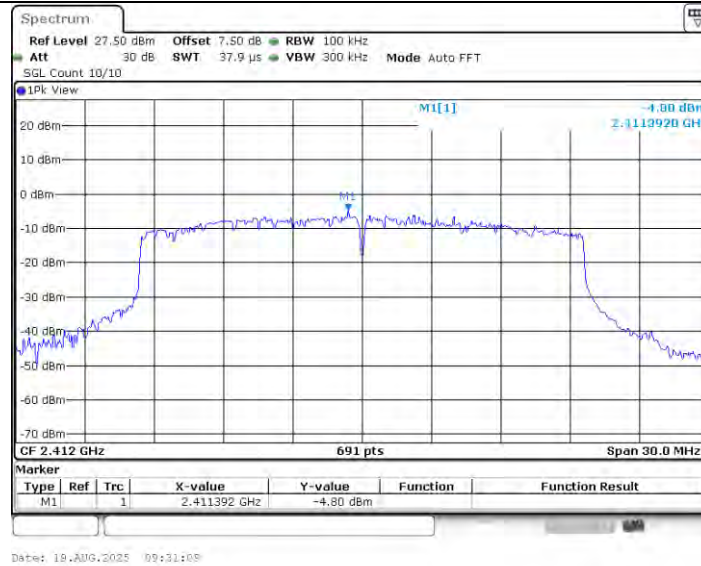
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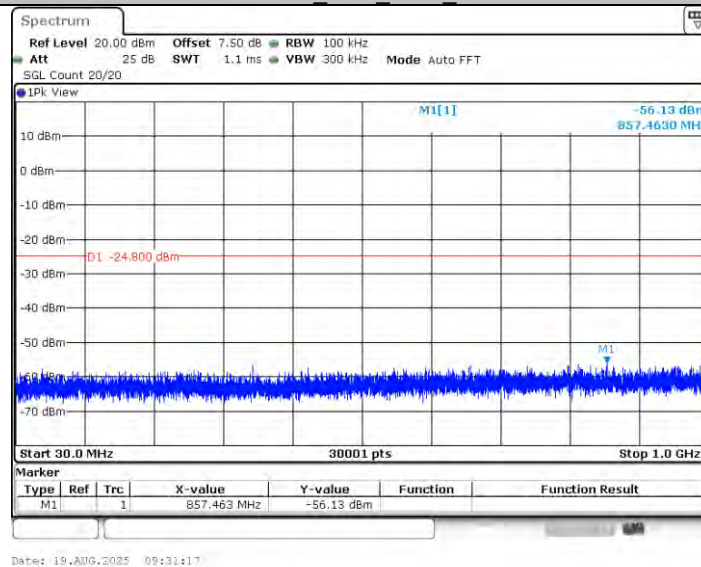
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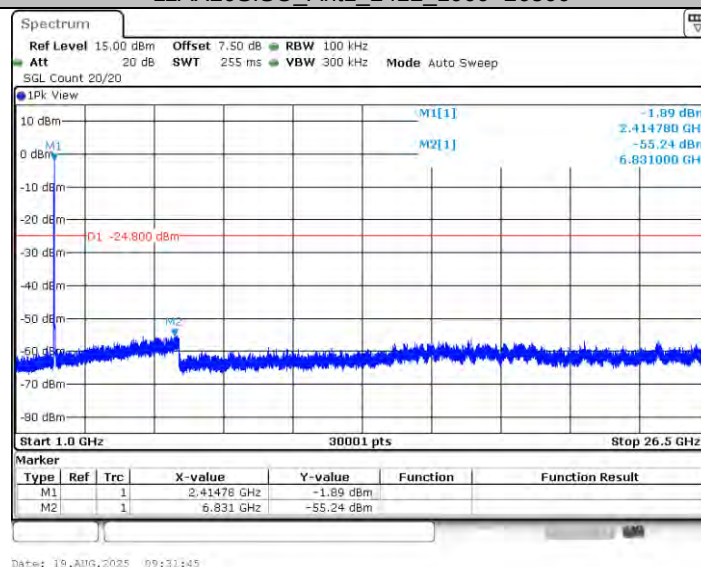
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11AX20SISO_Ant1_2412_30~1000



11AX20SISO_Ant1_2412_1000~26500



11AX20SISO_Ant1_2437_0~Reference

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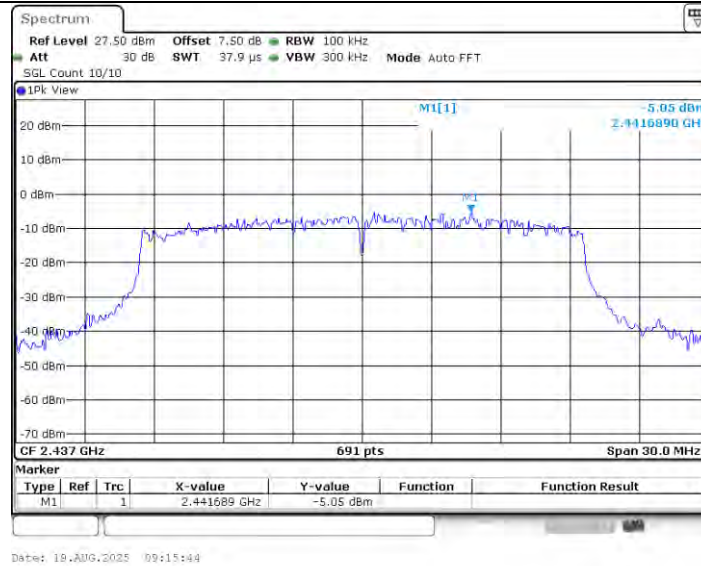
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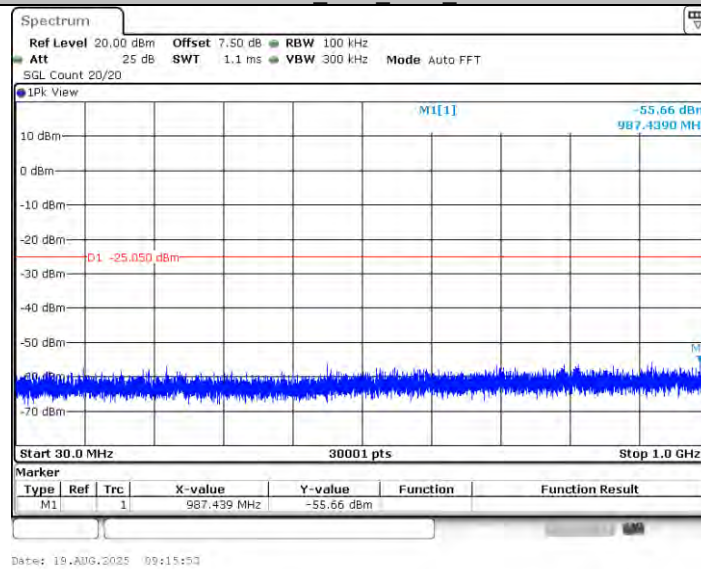
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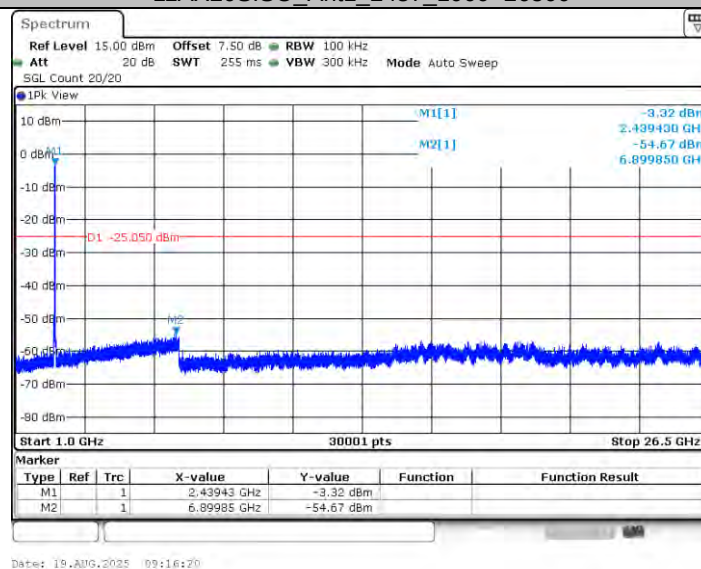
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11AX20SISO_Ant1_2437_30~1000



11AX20SISO_Ant1_2437_1000~26500



11AX20SISO_Ant1_2462_0~Reference

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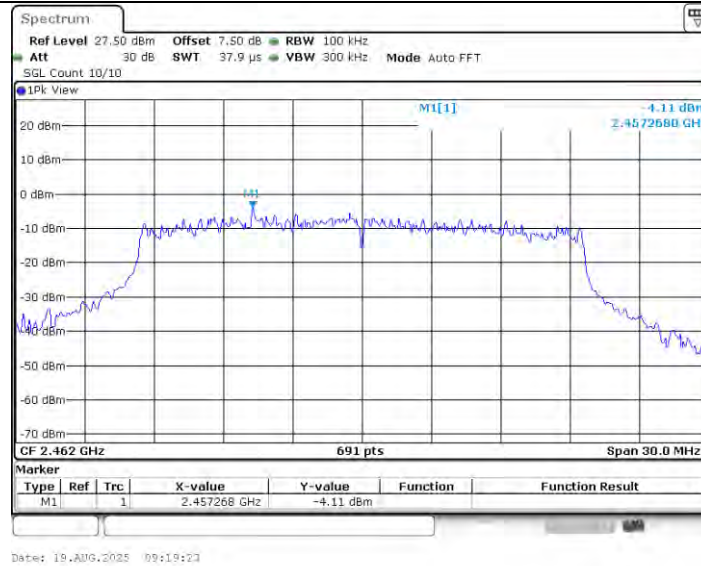
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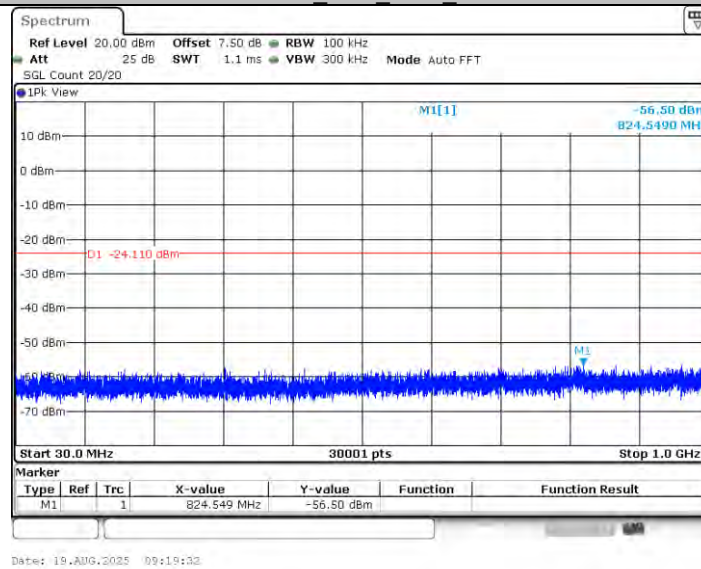
Http://www.sz-ctc.org.cn

For anti-fake verification, please visit the official website of China Inspection And Testing Society : yz.cncaq.com

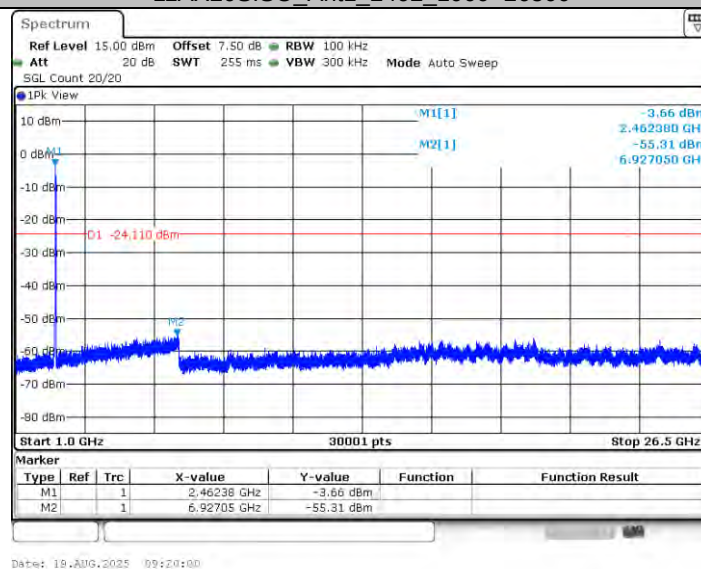
TRF No: CTC-TR-057_A2



11AX20SISO_Ant1_2462_30~1000



11AX20SISO_Ant1_2462_1000~26500



11AX40SISO_Ant1_2422_0~Reference

CTC Laboratories, Inc.

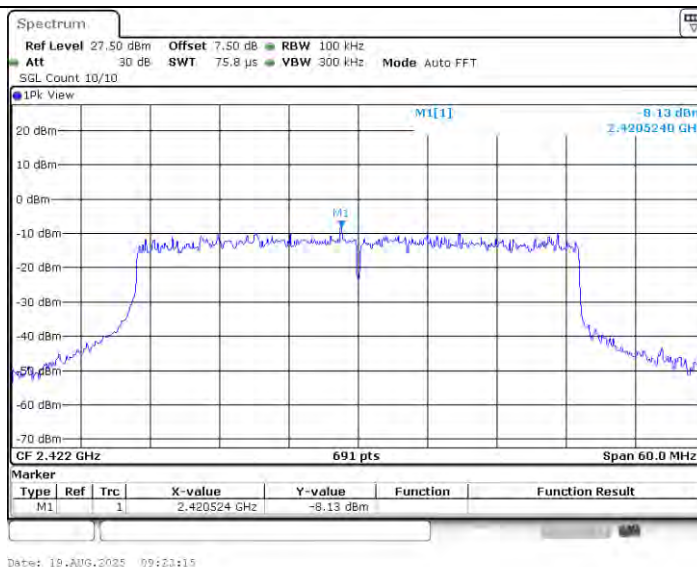
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Tel.: (86)755-27521059 Fax: (86)755-27521011

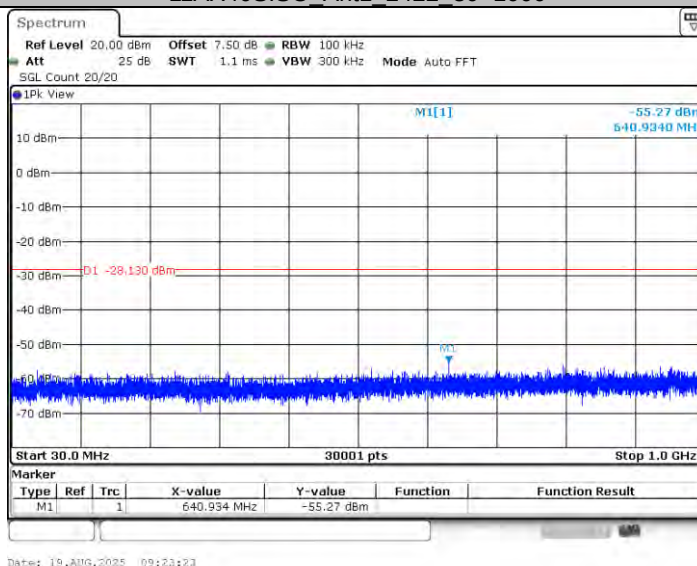
Http://www.sz-ctc.org.cn

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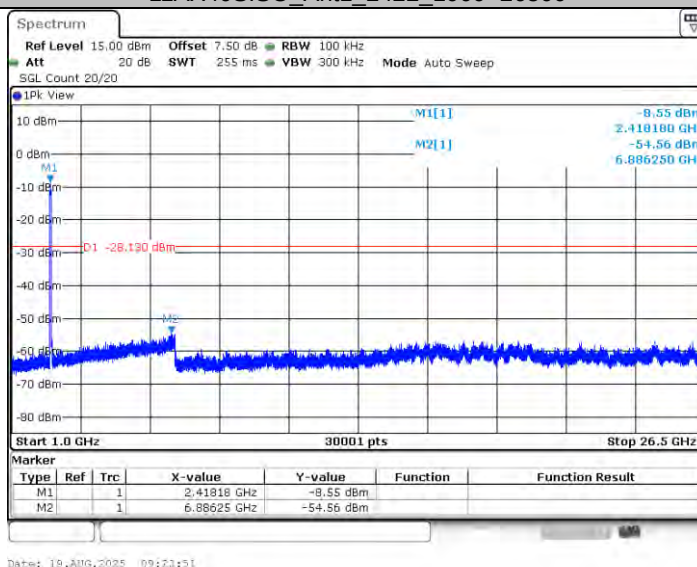
TRF No: CTC-TR-057_A2



11AX40SISO_Ant1_2422_30~1000



11AX40SISO_Ant1_2422_1000~26500



11AX40SISO_Ant1_2437_0~Reference

CTC Laboratories, Inc.

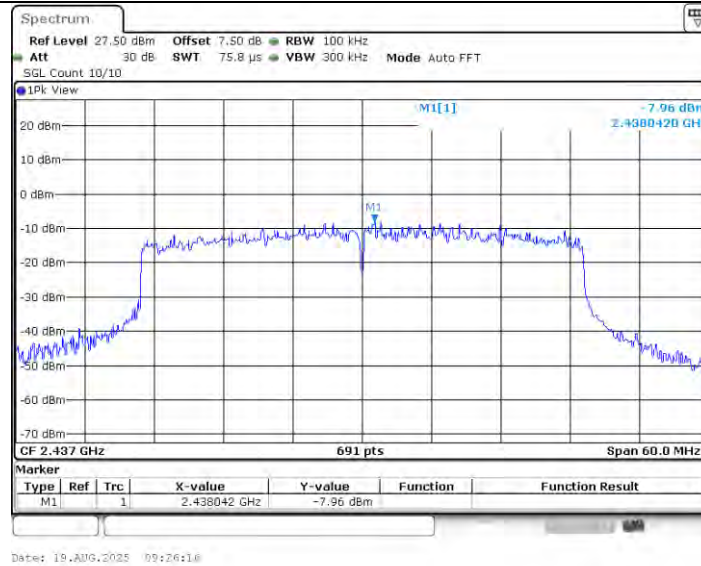
Room 107, 108, 207, 208, 303 of Building A, Room 101 of Building B, No.7, Lanqing 1st Road, Luhua Community, Guanhu Subdistrict, Longhua District, Shenzhen, Guangdong, China

Tel.: (86)755-27521059 Fax: (86)755-27521011

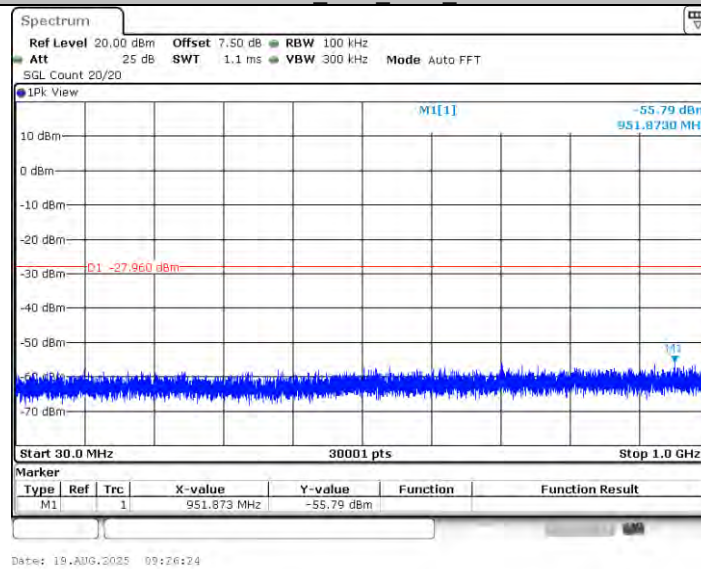
Http://www.sz-ctc.org.cn

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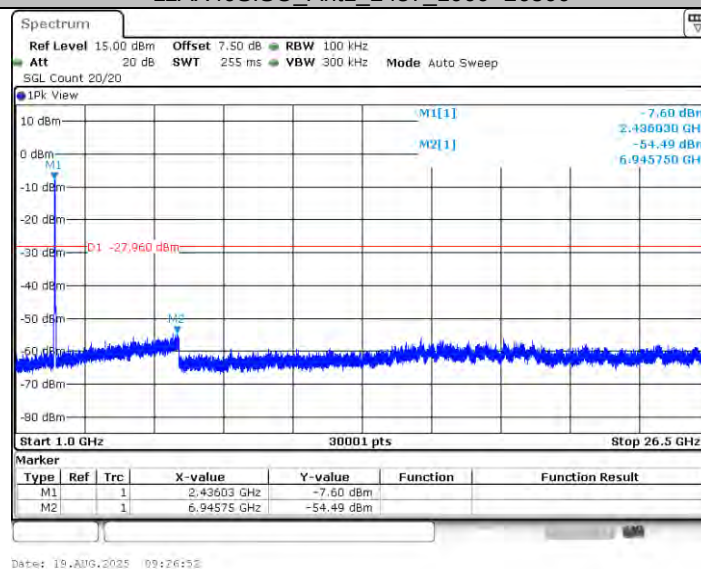
TRF No: CTC-TR-057_A2



11AX40SISO_Ant1_2437_30~1000



11AX40SISO_Ant1_2437_1000~26500



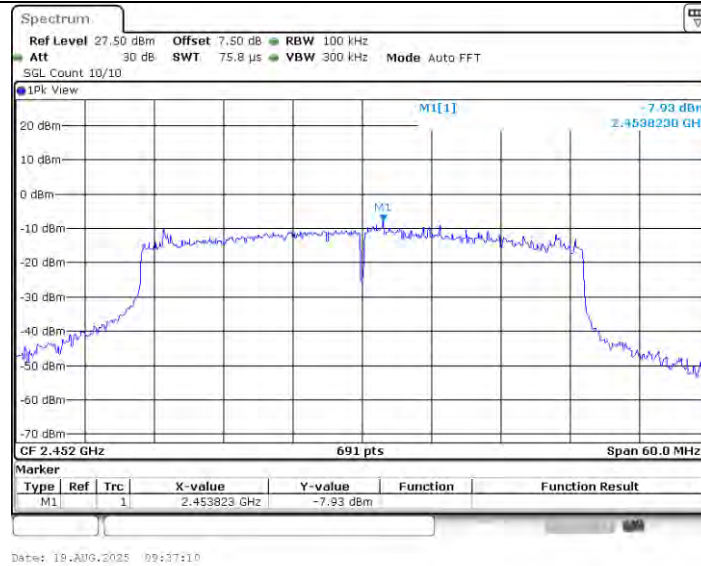
11AX40SISO_Ant1_2452_0~Reference

CTC Laboratories, Inc.

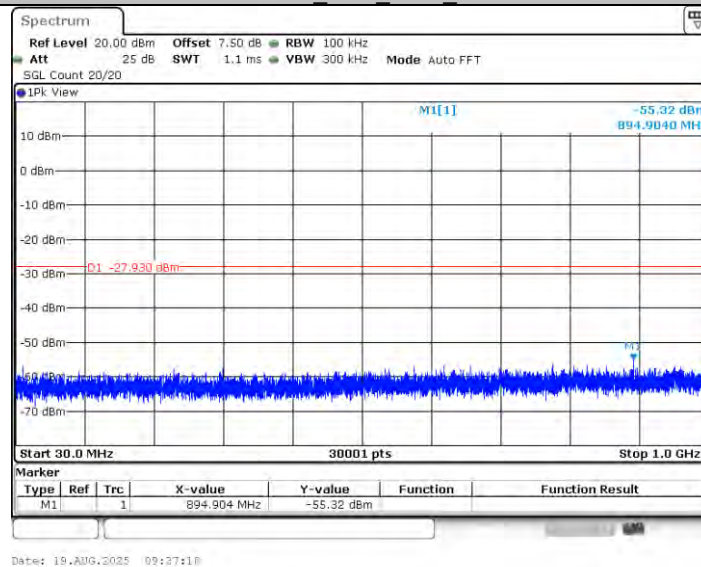
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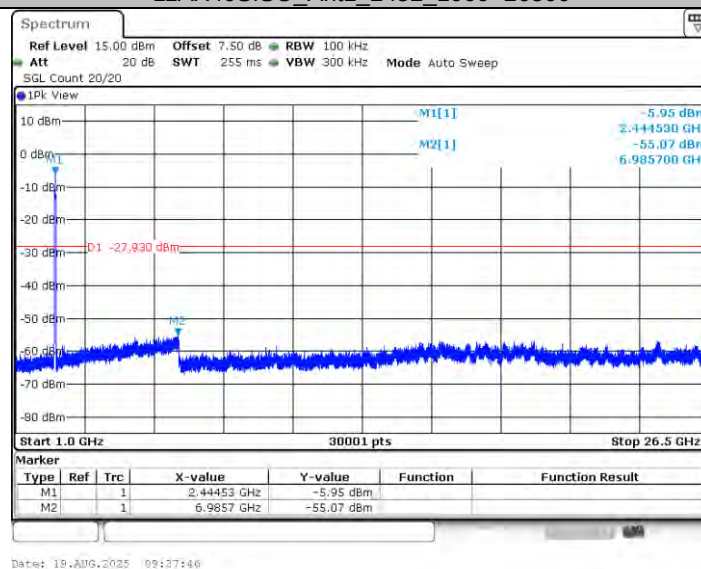
TRF No: CTC-TR-057_A2



11AX40SISO_Ant1_2452_30~1000



11AX40SISO_Ant1_2452_1000~26500



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TRF No: CTC-TR-057_A2



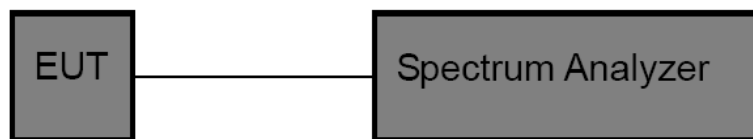
3.5. DTS Bandwidth

Limit

FCC CFR Title 47 Part 15 Subpart C Section 15.247 (a)(2) / RSS-247 5.2 a

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.

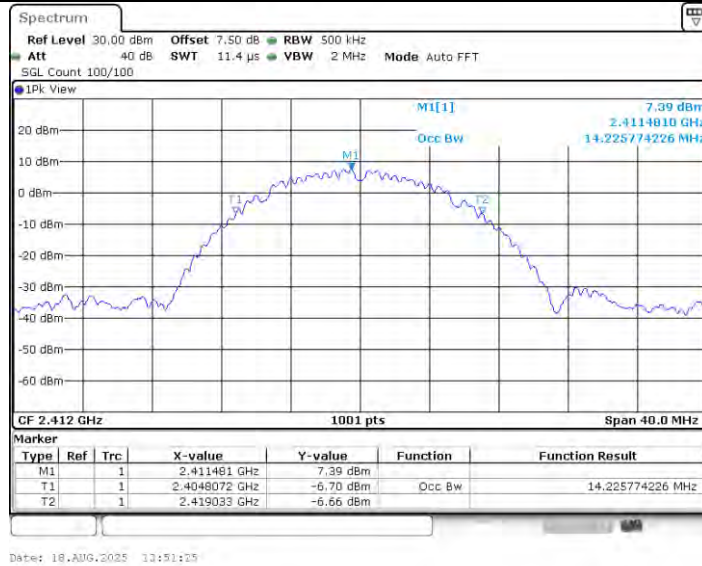
**Test Result**

Test Mode	Channel Frequency[MHz]	OCB [MHz]	DTS BW [MHz]	Limit[MHz]	Verdict
11B	2412	14.226	9.08	≥0.5	PASS
	2437	14.466	9.08		
	2462	14.705	9.24		
11G	2412	17.251	13.760		
	2437	17.143	15.16		
	2462	17.023	14.20		
11N20SISO	2412	18.941	17.28		
	2437	18.781	17.52		
	2462	18.821	17.60		
11N40SISO	2422	37.403	36.08		
	2437	36.523	36.32		
	2452	36.523	36.40		
11AX20SISO	2412	19.061	12.64		
	2437	19.181	17.04		
	2462	19.101	18.96		
11AX40SISO	2422	38.362	38.16		
	2437	38.282	25.12		
	2452	37.802	36.72		

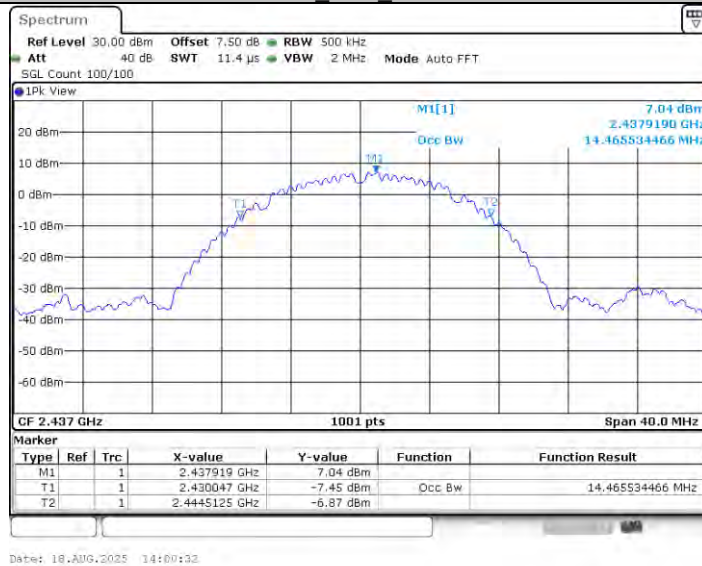


99% Bandwidth:

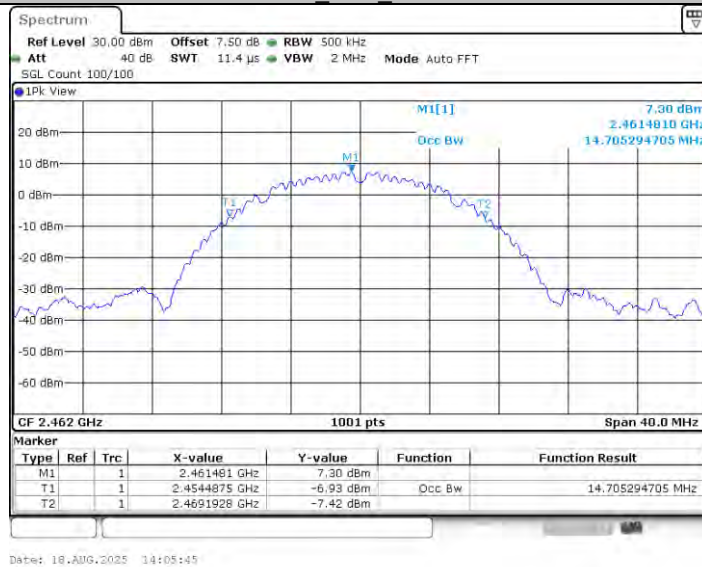
11B Ant1 2412



11B Ant1 2437



11B Ant1 2462



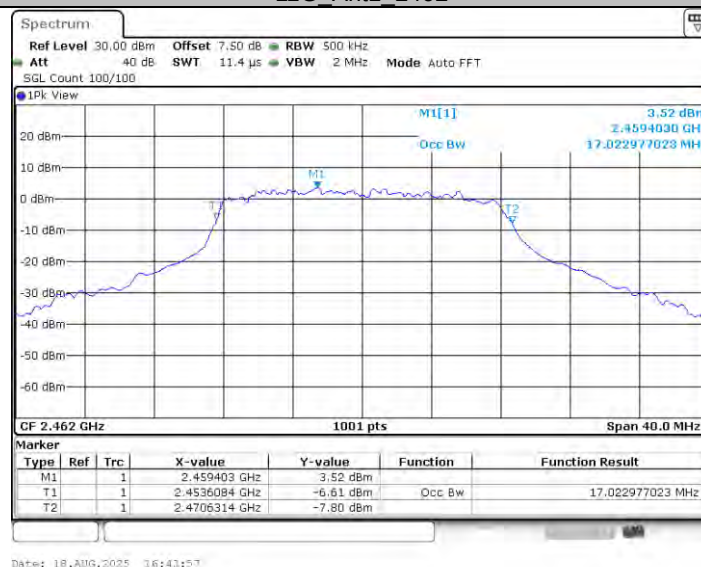
11G Ant1 2412



11G_Ant1_2437



11G_Ant1_2462



11N20SISO_Ant1_2412

CTC Laboratories, Inc.

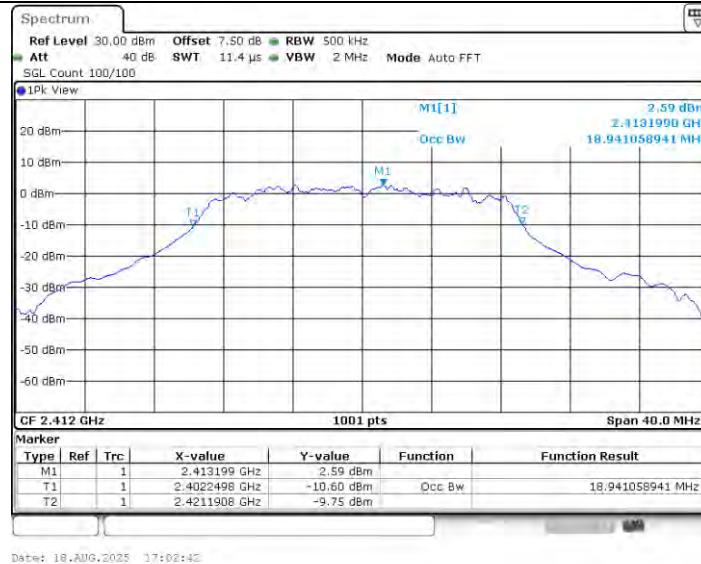
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Tel.: (86)755-27521059 Fax: (86)755-27521011

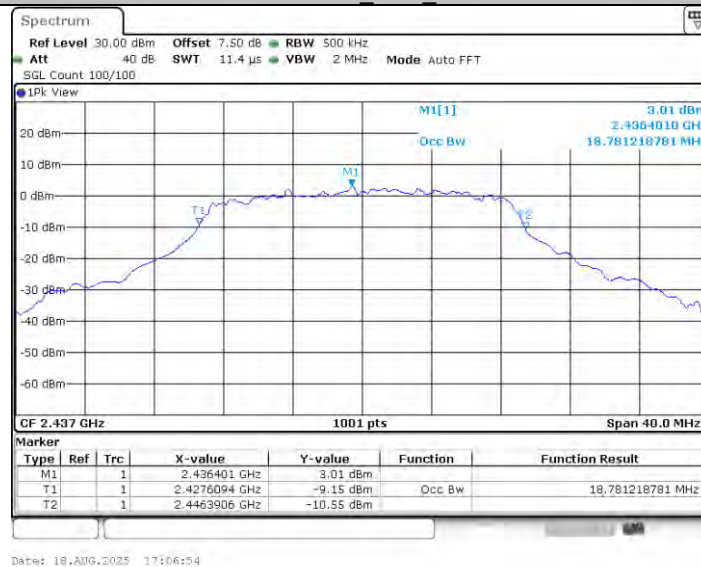
Http://www.sz-ctc.org.cn

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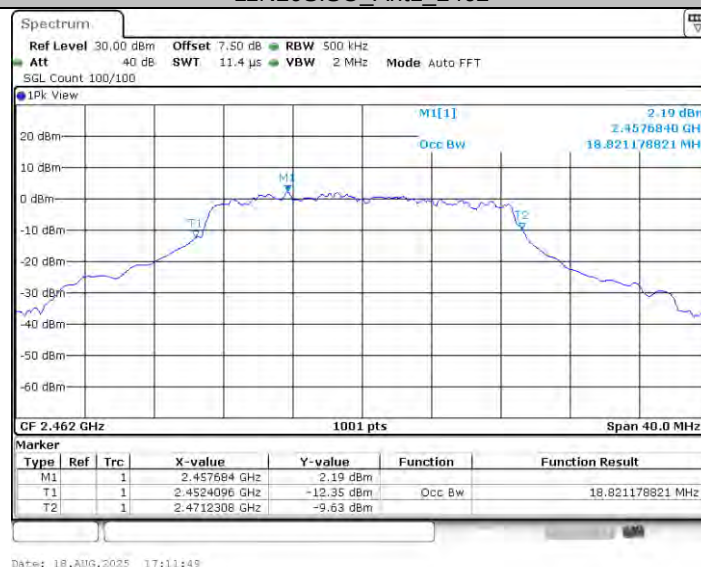
TRF No: CTC-TR-057_A2



11N20SISO_Ant1_2437



11N20SISO_Ant1_2462



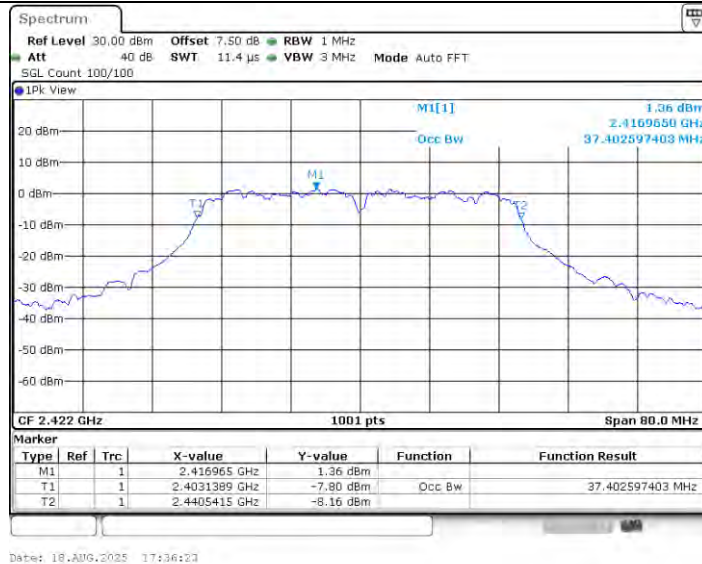
11N40SISO_Ant1_2422

CTC Laboratories, Inc.

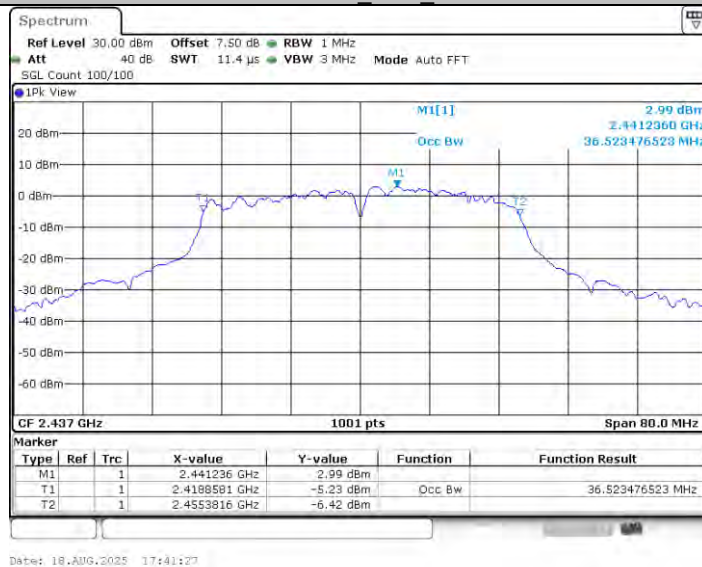
Room 107, 108, 207, 208, 303 of Building A, Room 101 of Building B, No.7, Lanqing 1st Road, Luhua Community, Guanhu Subdistrict, Longhua District, Shenzhen, Guangdong, China Tel.: (86)755-27521059 Fax: (86)755-27521011 Http://www.sz-ctc.org.cn

TRF No: CTC-TR-057_A2

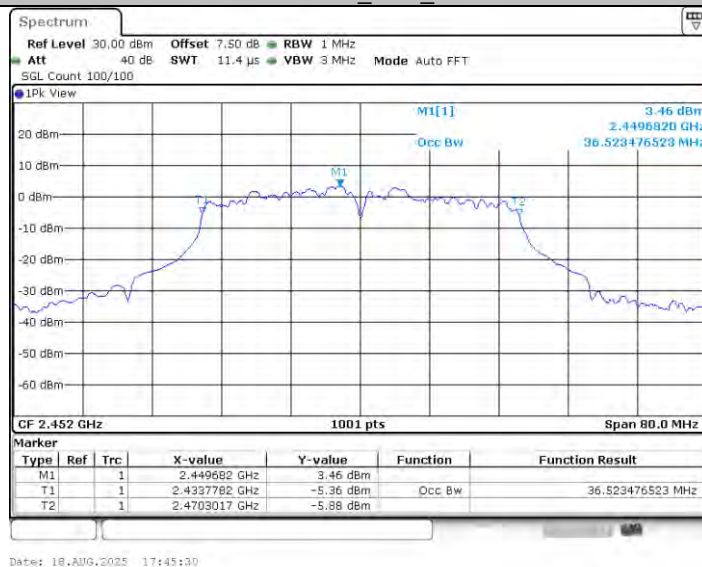
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11N40SISO_Ant1_2437



11N40SISO_Ant1_2452



11AX20SISO_Ant1_2412

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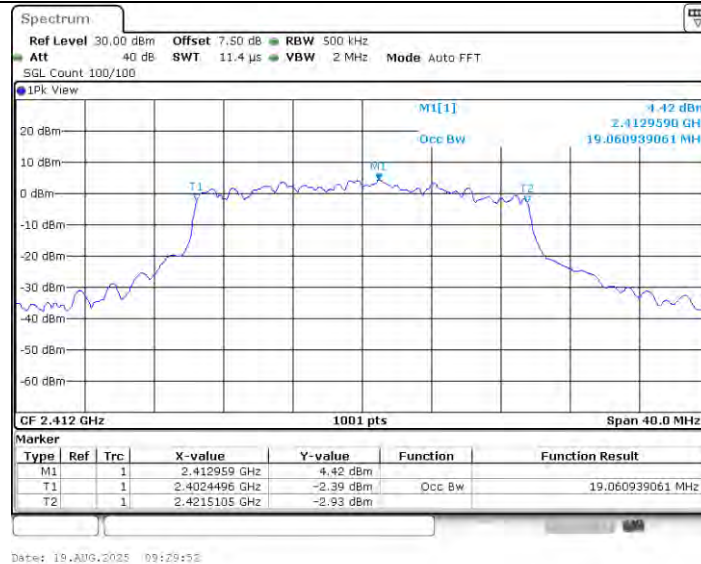
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TRF No: CTC-TR-057_A2



11AX20SISO_Ant1_2437



11AX20SISO_Ant1_2462



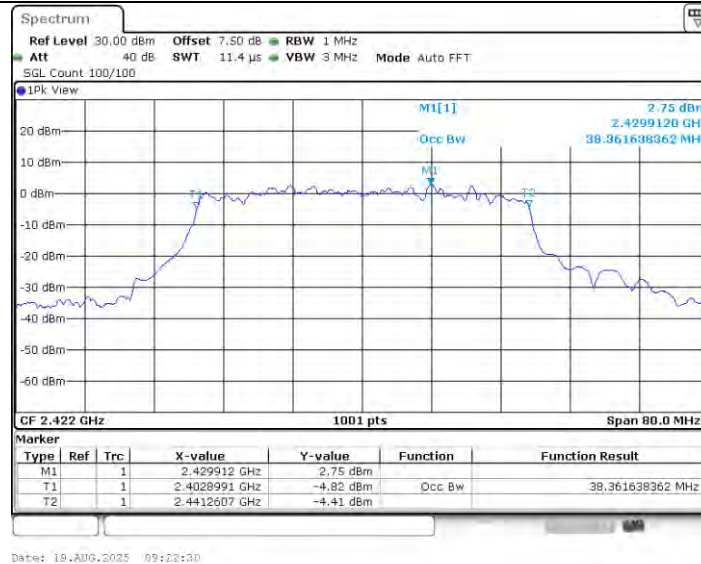
11AX40SISO_Ant1_2422

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TRF No: CTC-TR-057_A2



11AX40SISO_Ant1_2437



11AX40SISO_Ant1_2452



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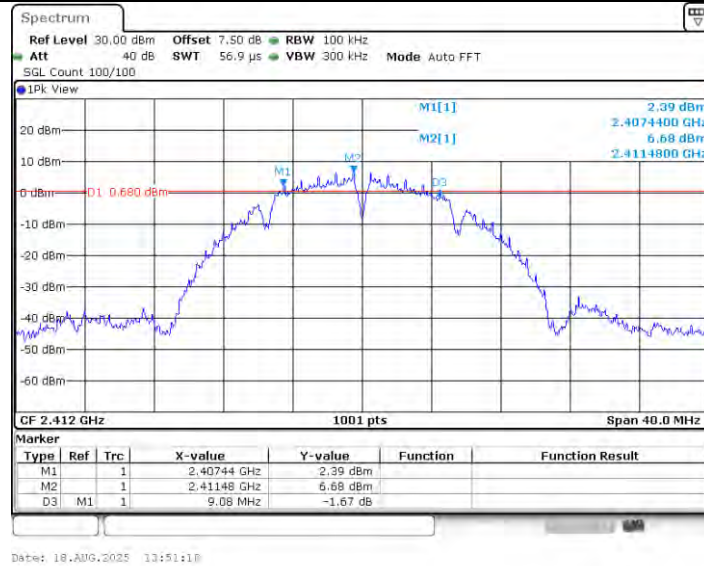
For anti-fake verification, please visit the official website of China Inspection And Testing Society : yz.cncaq.com

TRF No: CTC-TR-057_A2

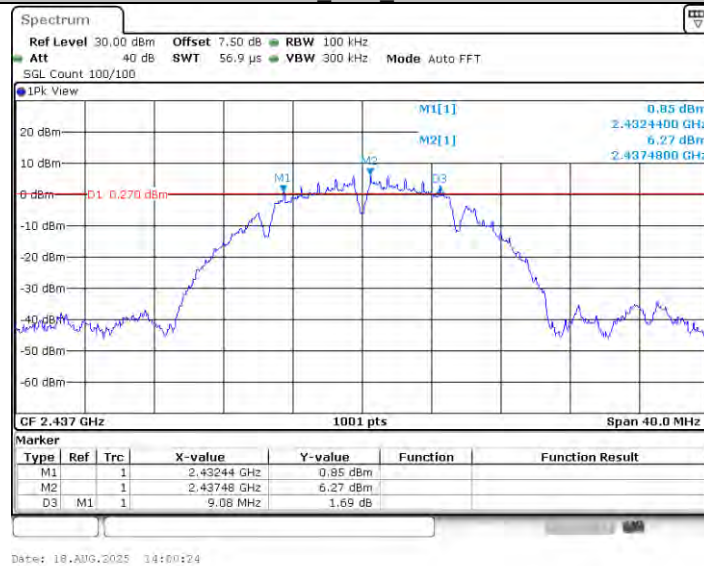


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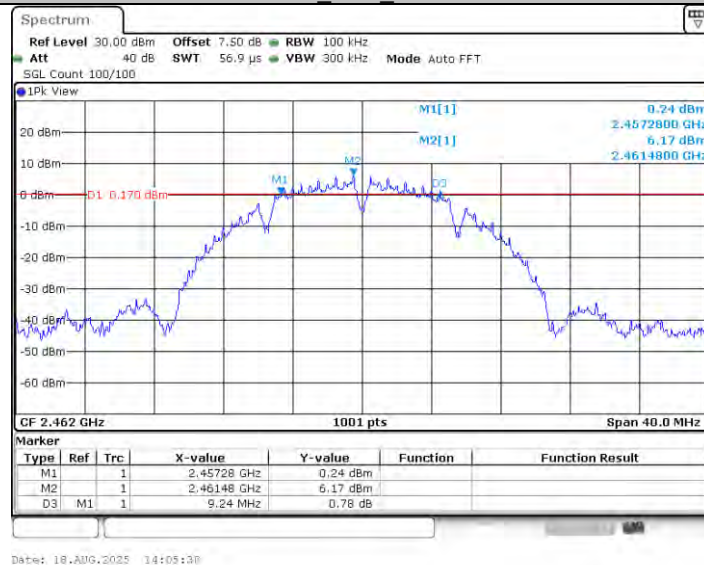
11B_Ant1_2412



11B_Ant1_2437



11B_Ant1_2462



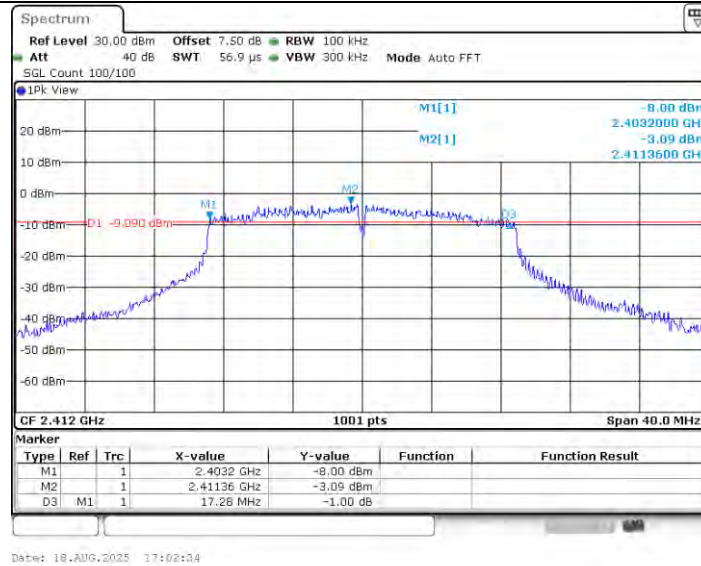
11G_Ant1_2412

CTC Laboratories, Inc.

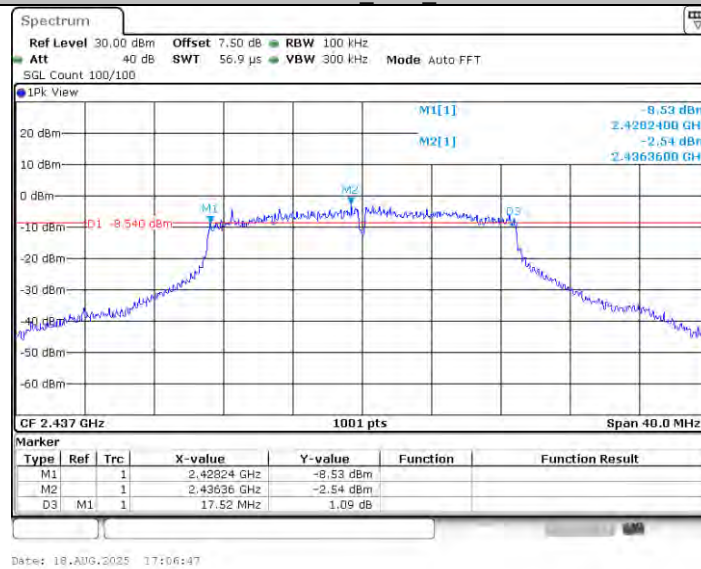
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Longhua District, Shenzhen, Guangdong, China Tel.: (86)755-27521059 Fax: (86)755-27521011 Http://www.sz-ctc.org.cn

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Society : yz.cncaq.com

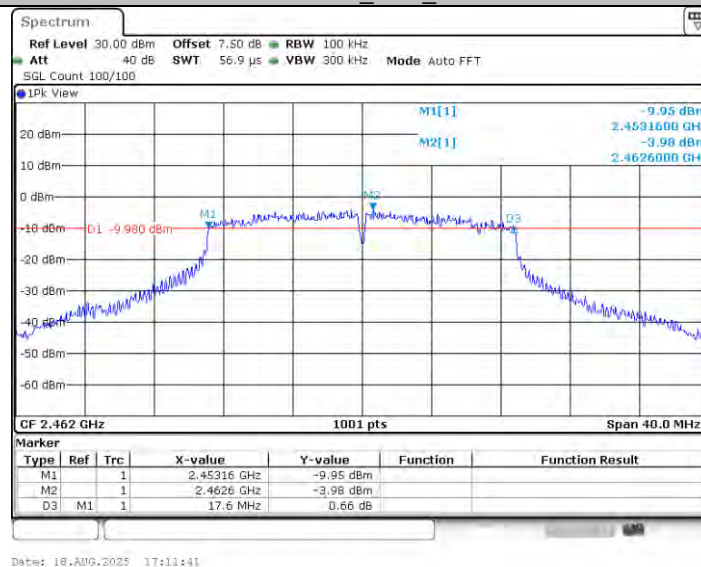
TRF No: CTC-TR-057_A2



11N20SISO_Ant1_2437



11N20SISO_Ant1_2462



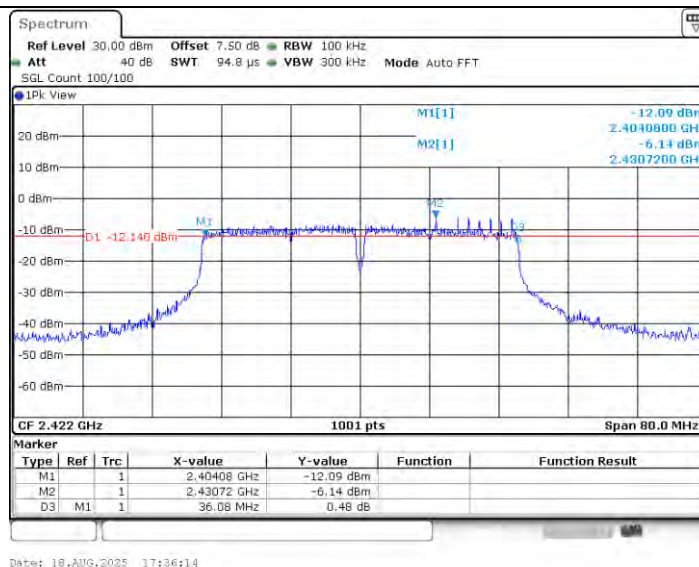
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CTC Laboratories, Inc.

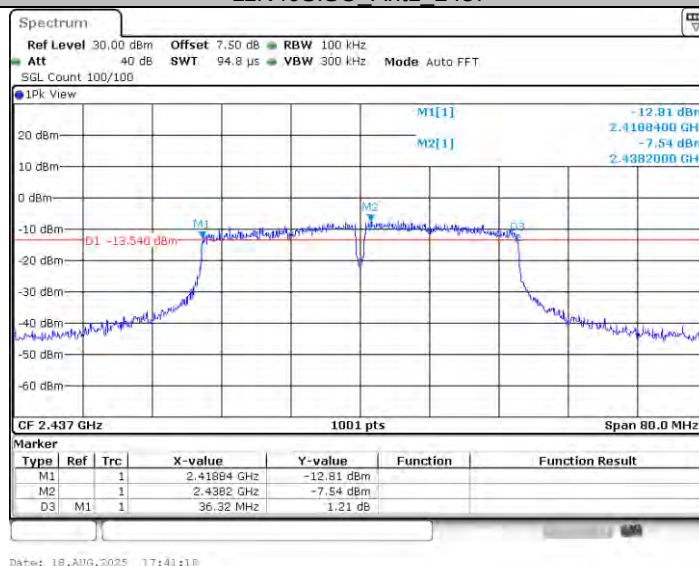
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TRF No: CTC-TR-057_A2

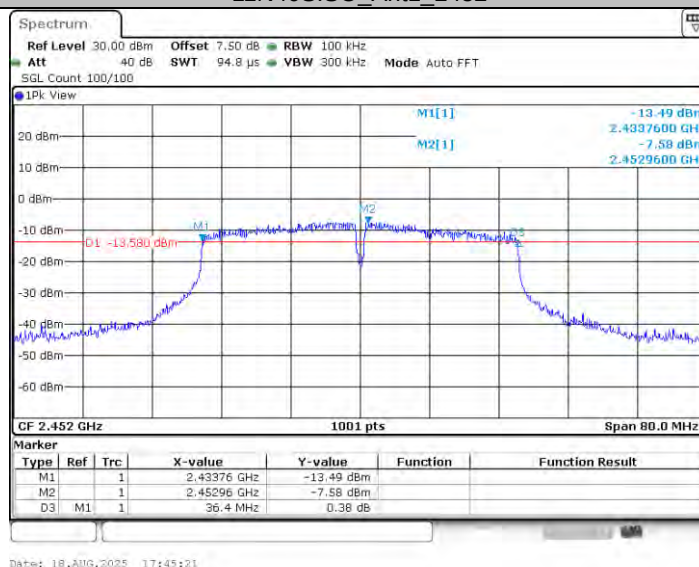
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11N40SISO_Ant1_2437



11N40SISO_Ant1_2452



11AX20SISO_Ant1_2412

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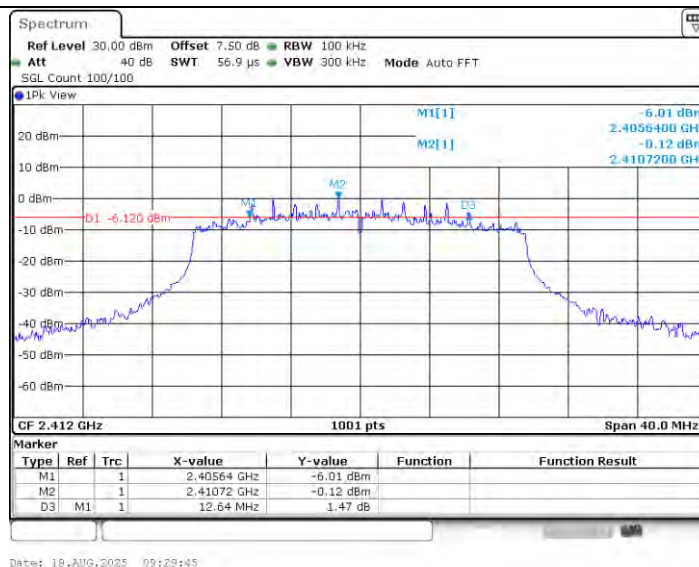
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Tel.: (86)755-27521059 Fax: (86)755-27521011

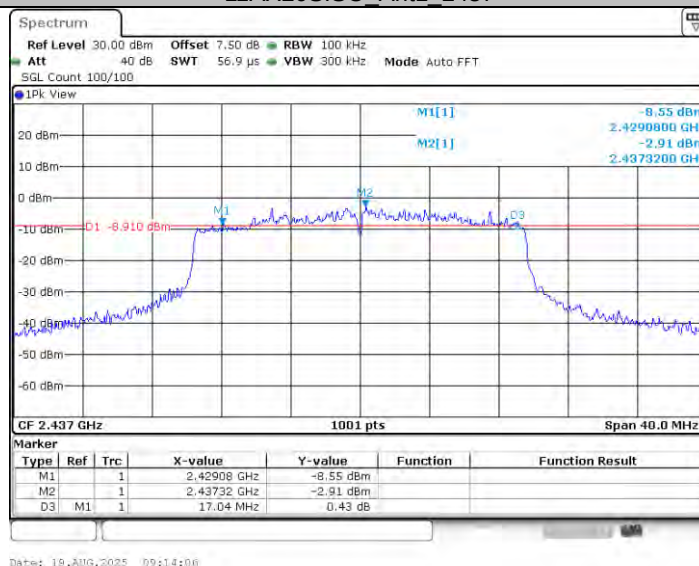
Http://www.sz-ctc.org.cn

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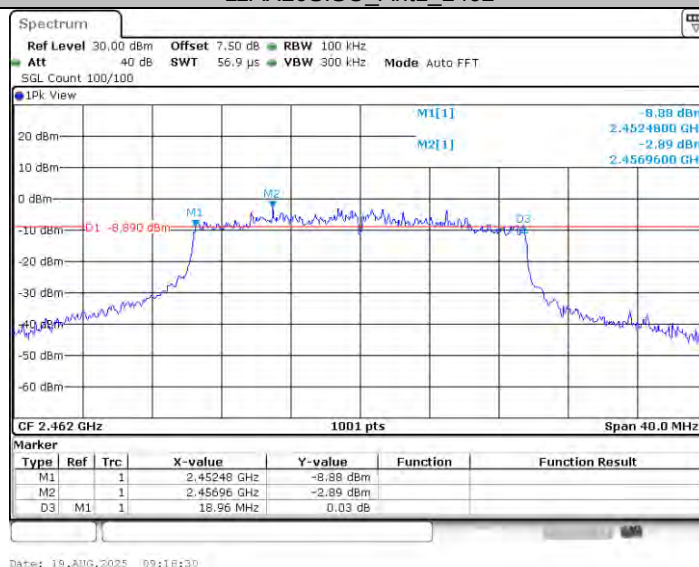
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11AX20SISO_Ant1_2437



11AX20SISO_Ant1_2462



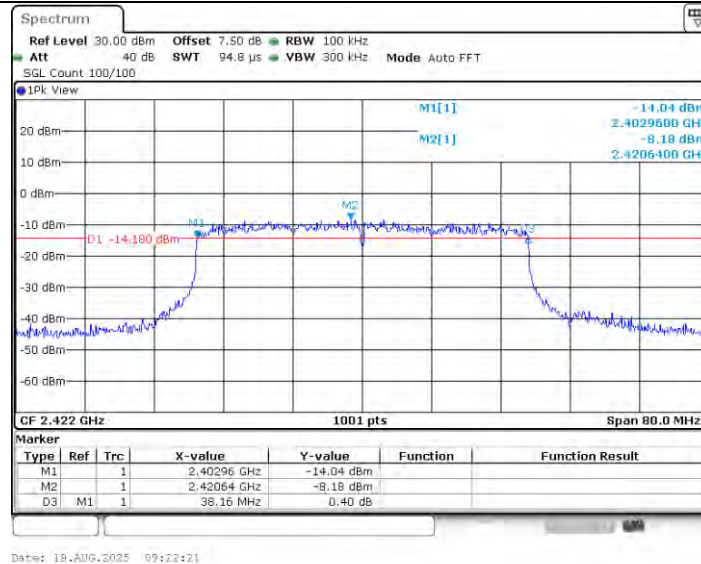
11AX40SISO_Ant1_2422

CTC Laboratories, Inc.

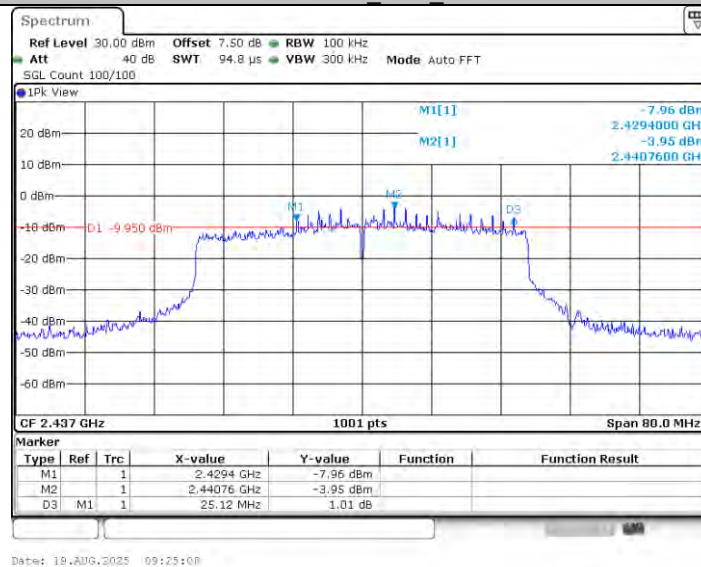
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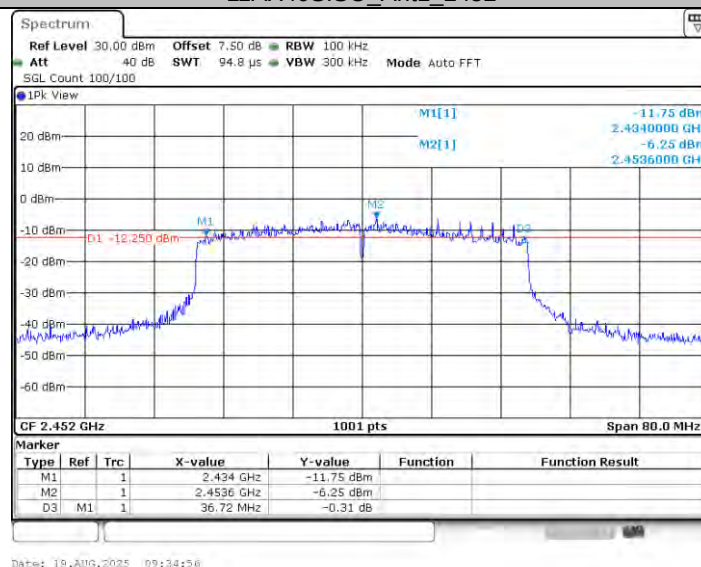
TRF No: CTC-TR-057_A2



11AX40SISO_Ant1_2437



11AX40SISO_Ant1_2452





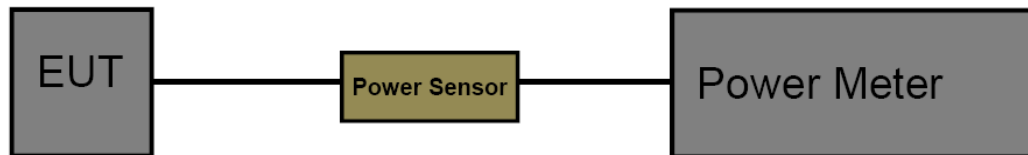
3.6. Peak Output Power

Limit

FCC CFR Title 47 Part 15 Subpart C Section 15.247 (b)(3) / RSS-247 5.4 d

Section	Test Item	Limit	Frequency Range (MHz)
FCC CFR 47 Part 15.247 (b)(3)	Maximum Conducted Output Power	1 Watt or 30dBm	2400~2483.5
ISED RSS-247 5.4 d	Maximum Conducted Output Power	1 Watt or 30dBm	2400~2483.5
	EIRP	4 Watt or 36dBm	2400~2483.5

Test Configuration



Test Procedure

1. The maximum conducted output power may be measured using a broadband RF power meter.
2. Power measurements were performed only when the EUT was transmitting at its maximum power control level using a broadband power meter with a pulse sensor.
3. The power meter implemented triggering and gating capabilities which were set up such that power measurements were recorded only during the ON time of the transmitter.
4. Record the measurement data.

Test Mode

Please refer to the clause 2.4.

**Test Result**

Test Mode	Frequency [MHz]	Conducted Peak Power[dBm]	Conducted Limit[dBm]	Verdict
11B	2412	18.01	≤30.00	PASS
	2437	17.66	≤30.00	PASS
	2462	18.04	≤30.00	PASS
11G	2412	17.95	≤30.00	PASS
	2437	18.15	≤30.00	PASS
	2462	17.49	≤30.00	PASS
11N20SISO	2412	17.43	≤30.00	PASS
	2437	17.49	≤30.00	PASS
	2462	16.88	≤30.00	PASS
11N40SISO	2422	16.09	≤30.00	PASS
	2437	16.51	≤30.00	PASS
	2452	16.64	≤30.00	PASS
11AX20SISO	2412	16.93	≤30.00	PASS
	2437	17.89	≤30.00	PASS
	2462	17.53	≤30.00	PASS
11AX40SISO	2422	16.73	≤30.00	PASS
	2437	15.85	≤30.00	PASS
	2452	17.00	≤30.00	PASS



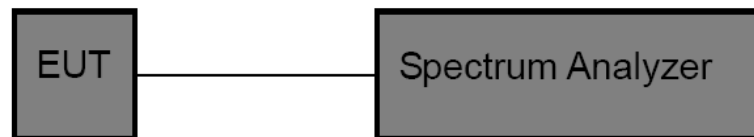
3.7. Power Spectral Density

Limit

FCC CFR Title 47 Part 15 Subpart C Section 15.247 (e) / RSS-247 5.2 b

Test Item	Limit	Frequency Range (MHz)
Power Spectral Density	8 dBm (in any 3 kHz)	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. The EUT was directly connected to the Spectrum Analyzer and antenna output port as show in the block diagram above. The measurement according to section 10.2 of KDB 558074 D01 DTS Meas Guidance v05r02.
3. Spectrum Setting:
Set analyzer center frequency to DTS channel center frequency.
Set span to at least 1.5 times the OBW.
Set RBW to: $3 \text{ kHz} \leq \text{RBW} \leq 100 \text{ kHz}$.
Set VBW $\geq [3 \times \text{RBW}]$.
Detector = power averaging (rms) or sample detector (when rms not available).
Ensure that the number of measurement points in the sweep $\geq [2 \times \text{span} / \text{RBW}]$.
Sweep time = auto couple.
Employ trace averaging (rms) mode over a minimum of 100 traces.
Use the peak marker function to determine the maximum amplitude level.
If the measured value exceeds requirement, then reduce RBW (but no less than 3 kHz) and repeat (note that this may require zooming in on the emission of interest and reducing the span to meet the minimum measurement point requirement as the RBW is reduced).

Test Mode

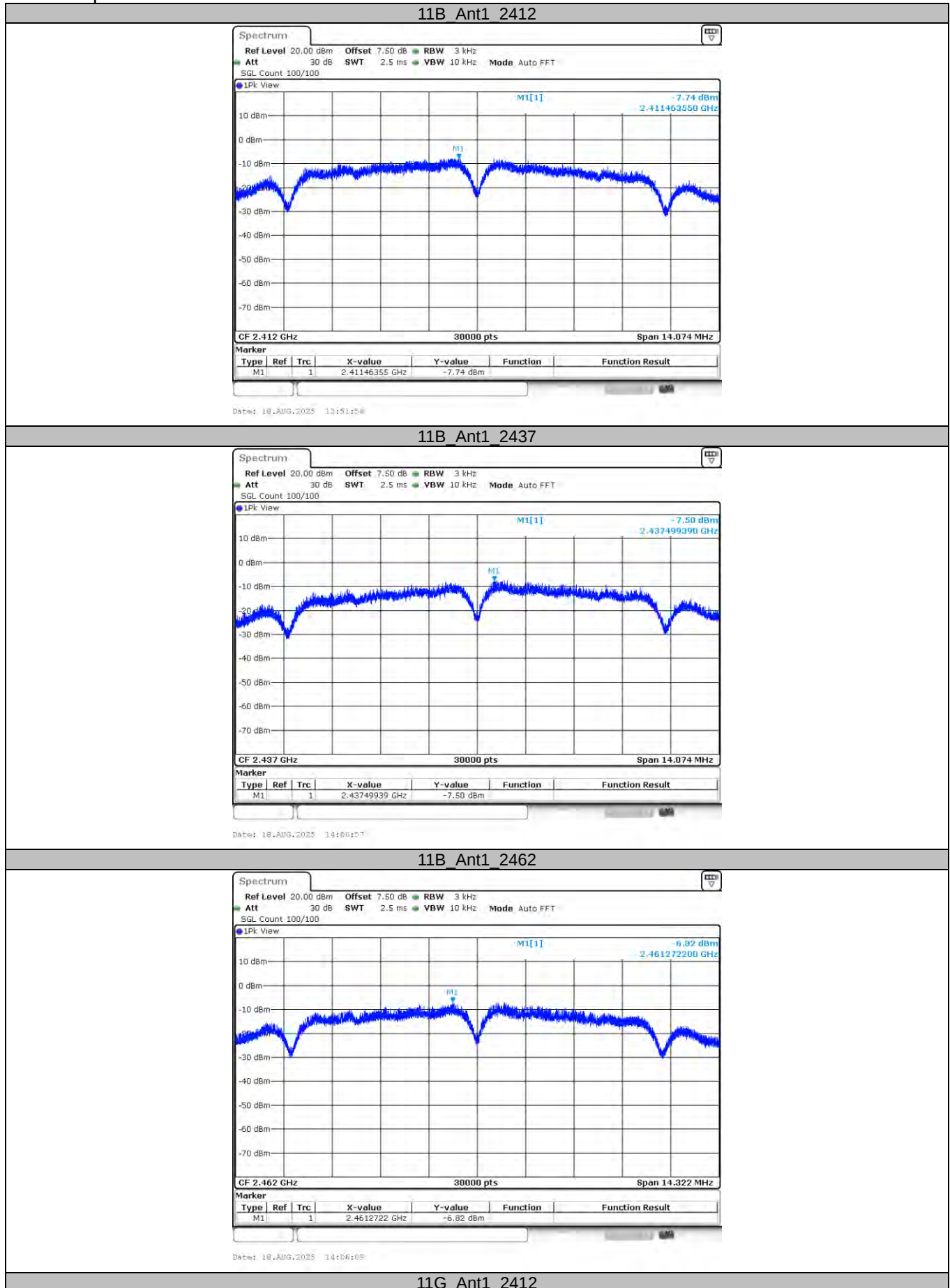
Please refer to the clause 2.4.

**Test Result**

Test Mode	Frequency[MHz]	Result[dBm/3kHz]	Limit[dBm/3kHz]	Verdict
11B	2412	-7.74	≤8.00	PASS
	2437	-7.50	≤8.00	PASS
	2462	-6.82	≤8.00	PASS
11G	2412	-12.23	≤8.00	PASS
	2437	-13.63	≤8.00	PASS
	2462	-13.89	≤8.00	PASS
11N20SISO	2412	-13.88	≤8.00	PASS
	2437	-14.35	≤8.00	PASS
	2462	-14.71	≤8.00	PASS
11N40SISO	2422	-18.65	≤8.00	PASS
	2437	-17.53	≤8.00	PASS
	2452	-17.67	≤8.00	PASS
11AX20SISO	2412	-14.16	≤8.00	PASS
	2437	-14.56	≤8.00	PASS
	2462	-14.88	≤8.00	PASS
11AX40SISO	2422	-19.27	≤8.00	PASS
	2437	-18.86	≤8.00	PASS
	2452	-18.11	≤8.00	PASS



Test Graphs



CTC Laboratories, Inc.

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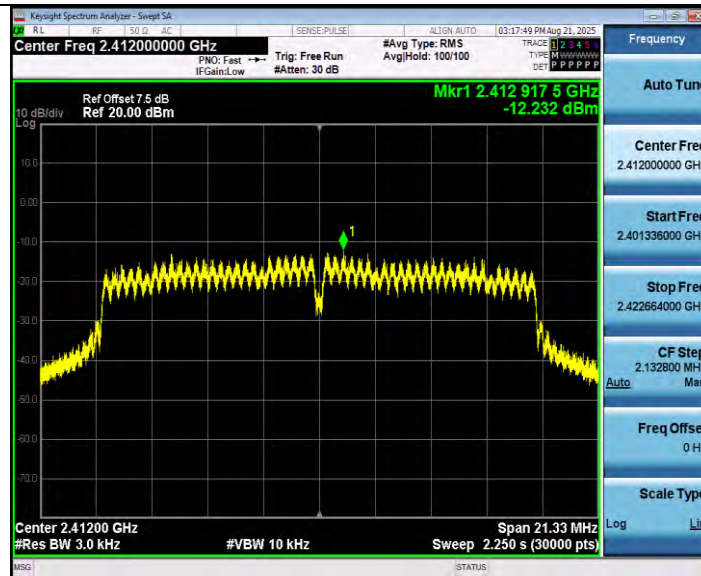
Tel.: (86)755-27521059

Fax: (86)755-27521011

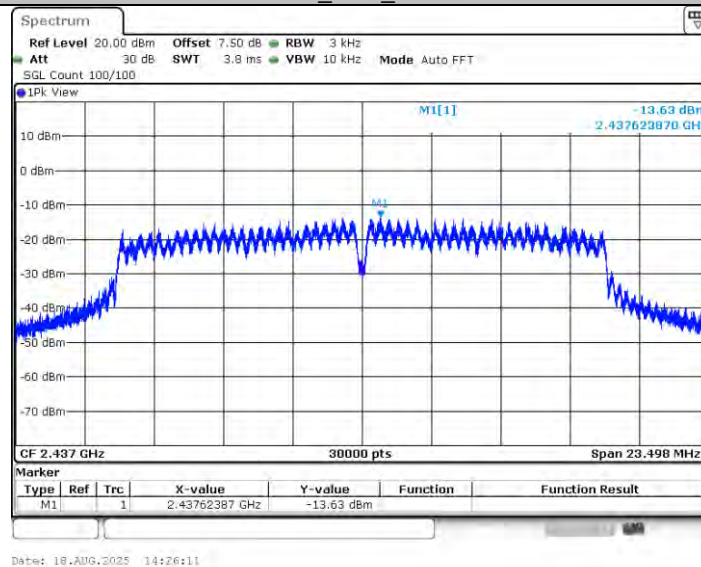
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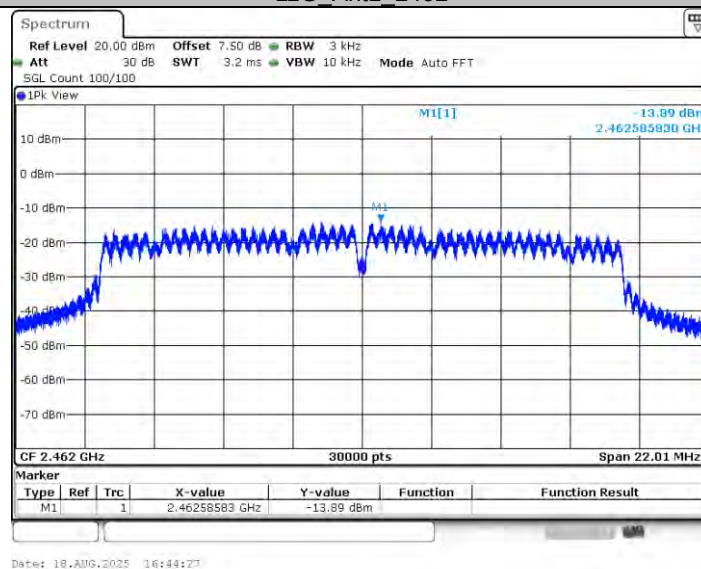
TRF No: CTC-TR-057_A2



11G_Ant1_2437



11G_Ant1_2462



11N20SISO_Ant1_2412

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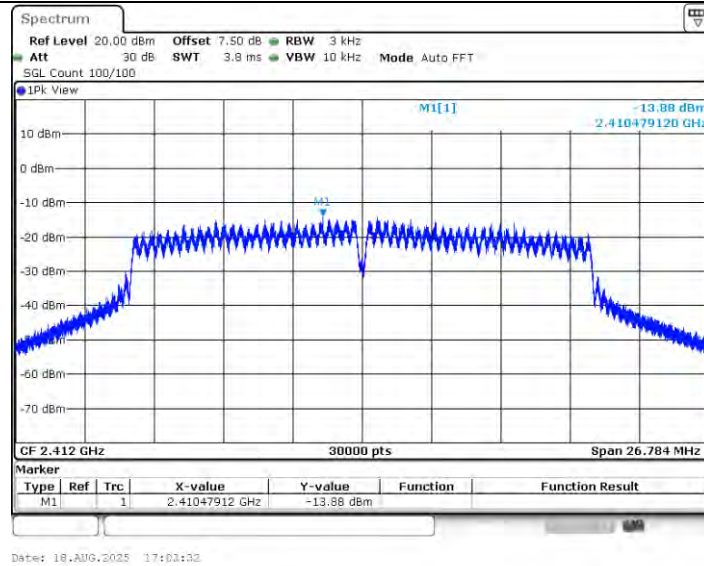
Room 107, 108, 207, 208, 303 of Building A, Room 101 of Building B, No.7, Lanqing 1st Road, Luhua Community, Guanhu Subdistrict, Longhua District, Shenzhen, Guangdong, China

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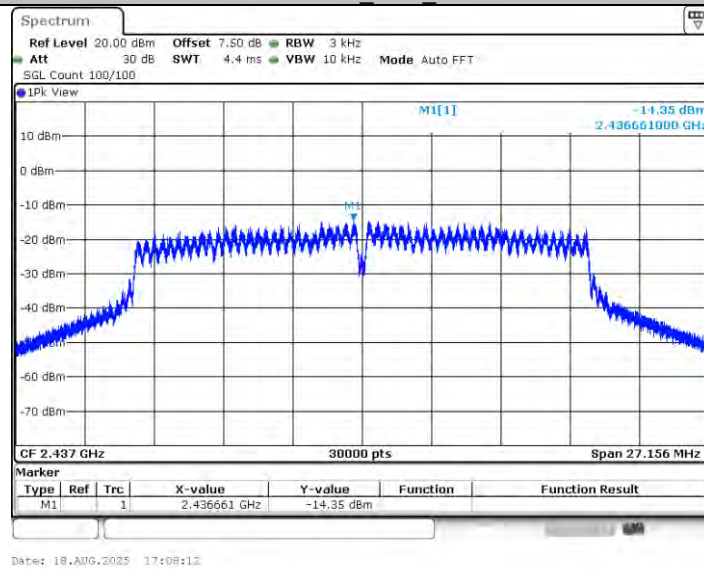
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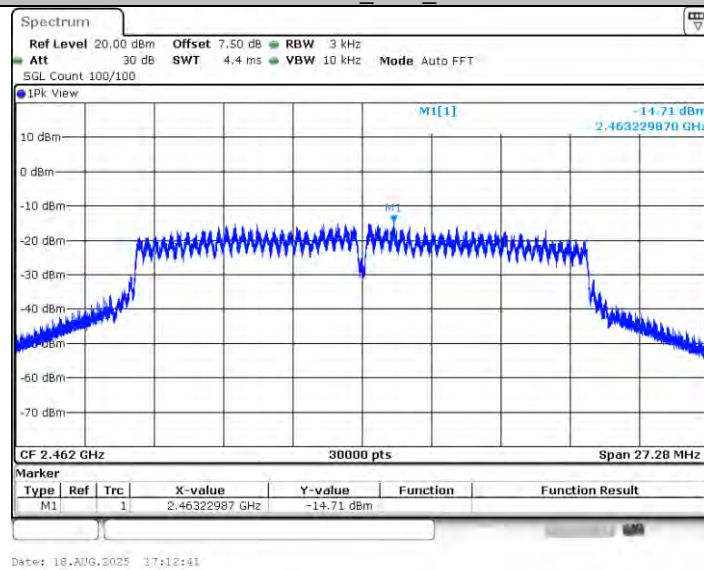
TRF No: CTC-TR-057_A2



11N20SISO_Ant1_2437



11N20SISO_Ant1_2462



11N40SISO_Ant1_2422

CTC Laboratories, Inc.

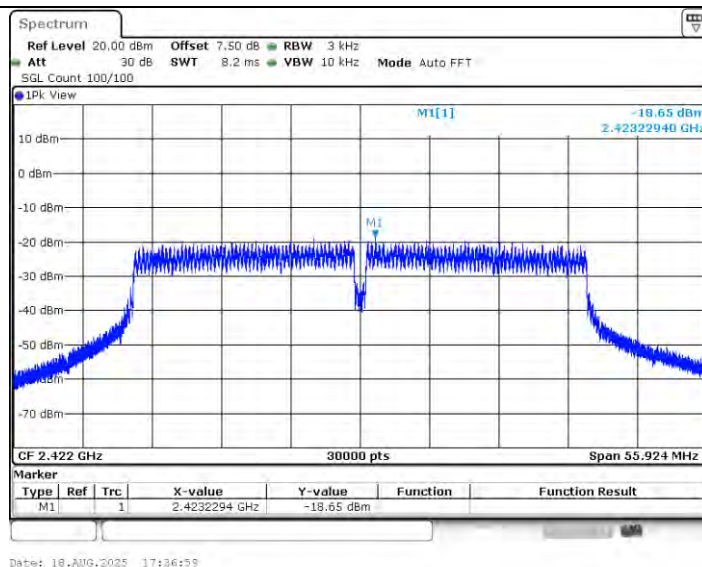
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Tel.: (86)755-27521059 Fax: (86)755-27521011

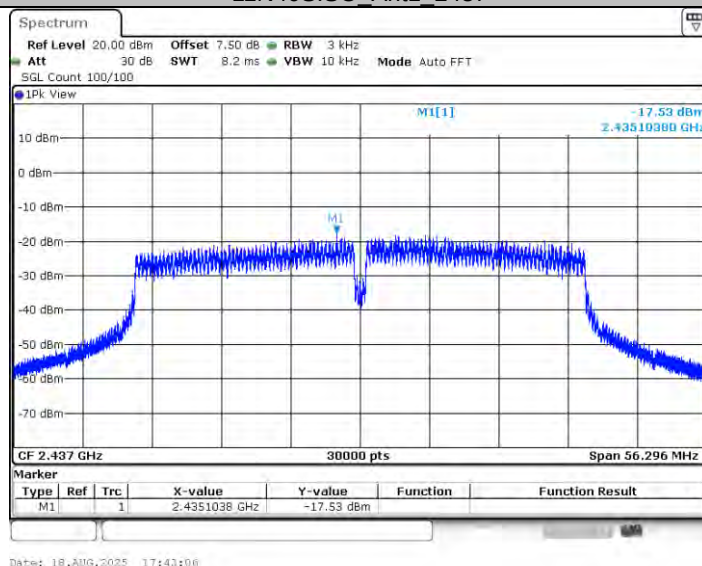
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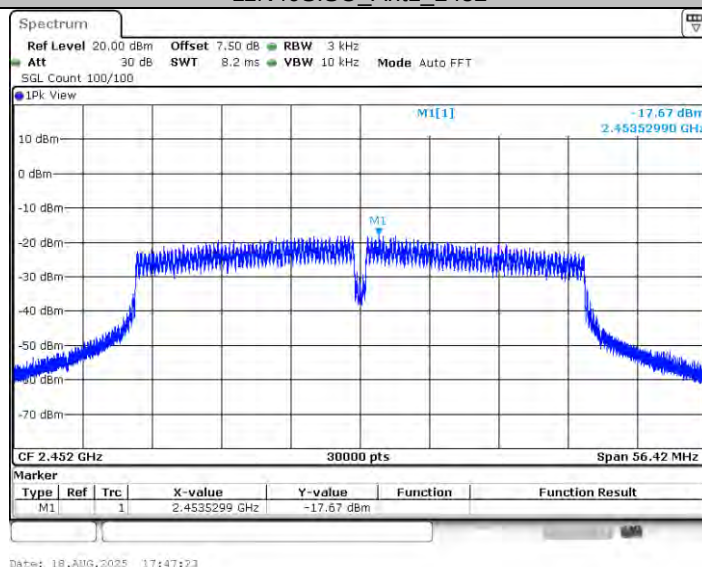
TRF No: CTC-TR-057_A2



11N40SISO_Ant1_2437



11N40SISO_Ant1_2452



11AX20SISO_Ant1_2412

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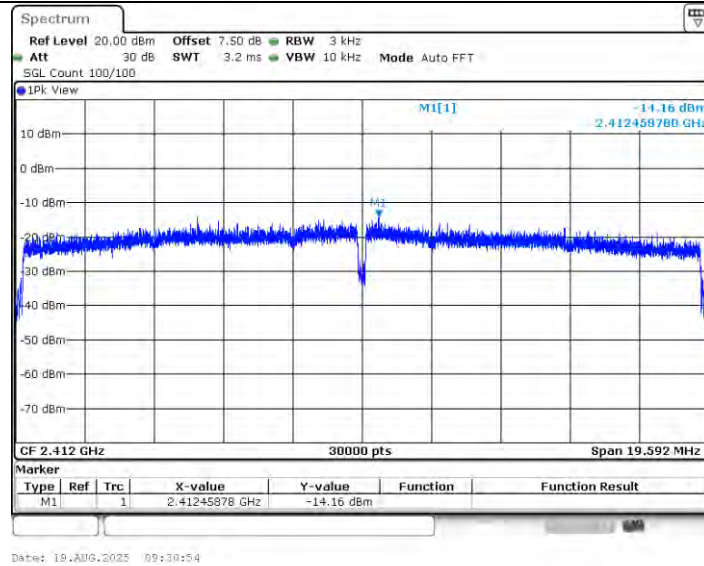
Room 107, 108, 207, 208, 303 of Building A, Room 101 of Building B, No.7, Lanqing 1st Road, Luhua Community, Guanhu Subdistrict, Longhua District, Shenzhen, Guangdong, China

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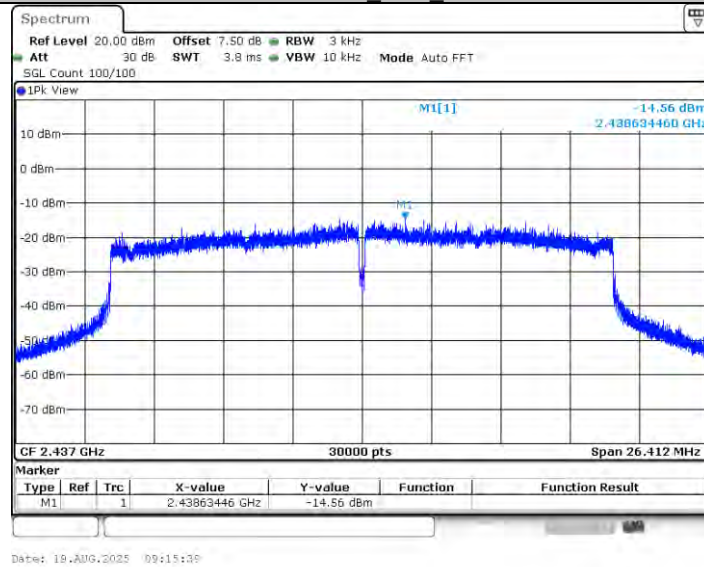
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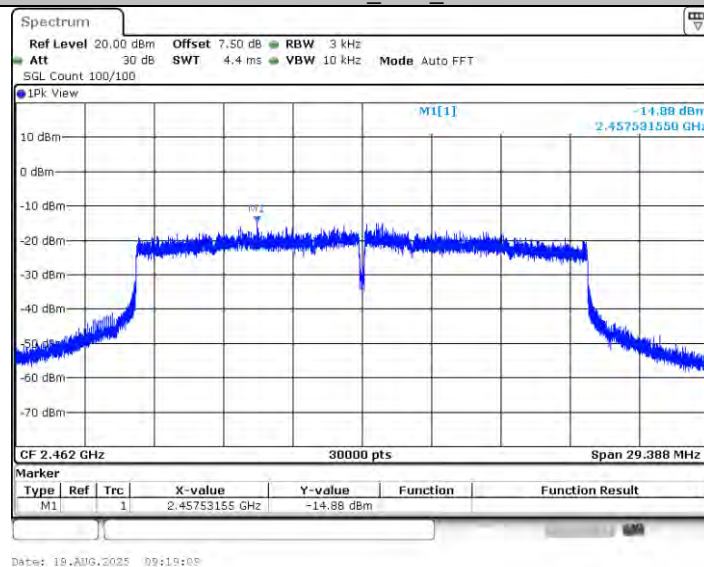
TRF No: CTC-TR-057_A2



11AX20SISO_Ant1_2437



11AX20SISO_Ant1_2462



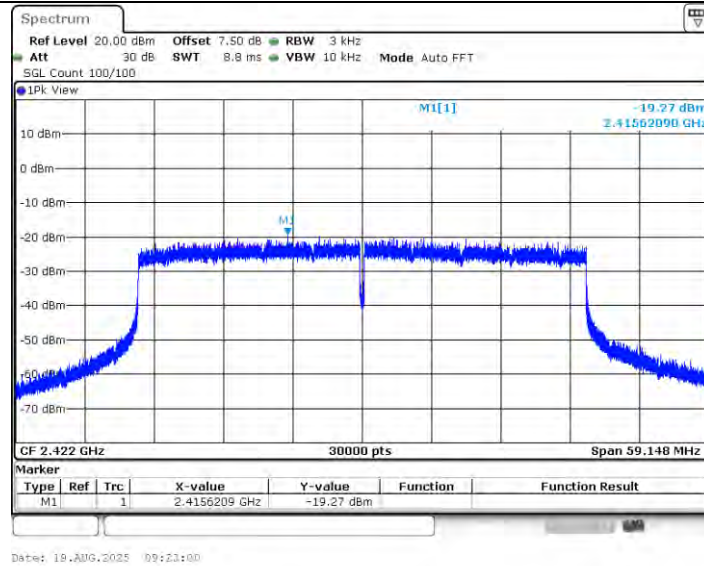
11AX40SISO_Ant1_2422

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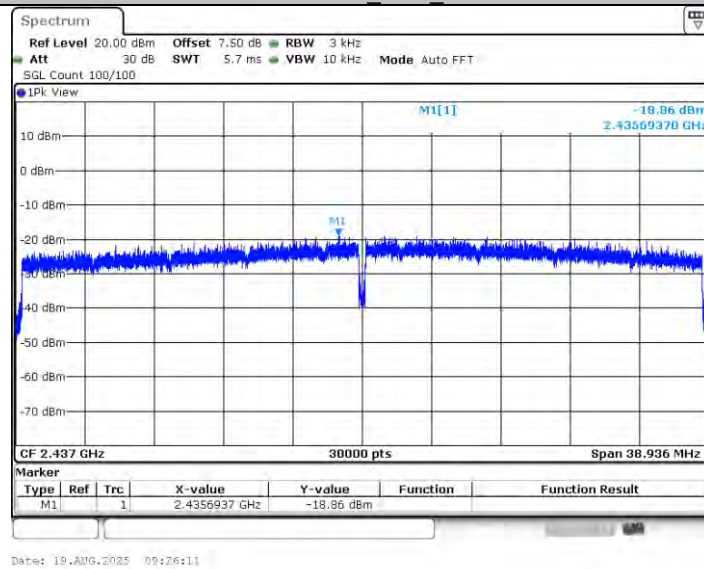
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TRF No: CTC-TR-057_A2

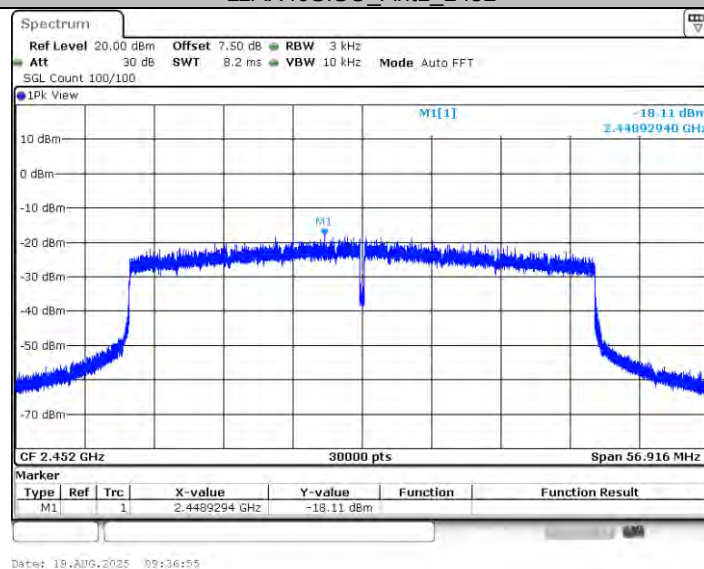
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11AX40SISO_Ant1_2437



11AX40SISO_Ant1_2452



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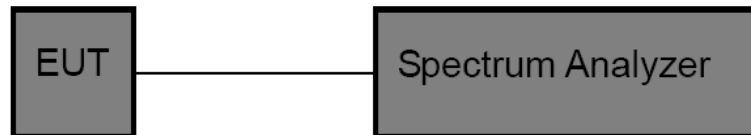
TRF No: CTC-TR-057_A2

3.8. Duty Cycle

Limit

None, for report purposes only.

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. The EUT was directly connected to the Spectrum Analyzer and antenna output port as show in the block diagram above. The measurement according to section 10.2 of KDB 558074 D01 DTS Meas Guidance v05r02.
3. Spectrum Setting:
Set analyzer center frequency to test channel center frequency.
Set the span to 0Hz.
Set the RBW to 10MHz.
Set the VBW to 10MHz.
Detector: Peak.
Sweep time: Auto.
Allow trace to fully stabilize. Then use the peak marker function to determine the maximum amplitude level.

Test Mode

Please refer to the clause 2.4.

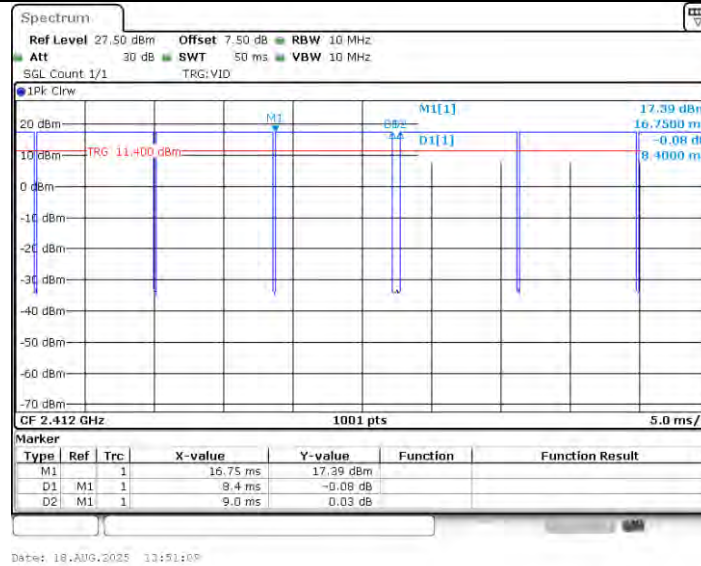
**Test Result**

Test Mode	Frequency [MHz]	Transmission Duration [ms]	Transmission Period [ms]	DC [%]	1/T Minimum VBW (kHz)	Final Setting for VBW (kHz)
11B	2412	8.40	9.00	93.33	0.12	1
	2437	8.40	9.30	90.32	0.12	1
	2462	8.40	8.60	97.67	0.12	1
11G	2412	1.39	1.58	87.97	0.72	1
	2437	1.39	1.58	87.97	0.72	1
	2462	1.39	1.58	87.97	0.72	1
11N20SISO	2412	5.10	5.46	93.41	0.20	1
	2437	5.07	5.52	91.85	0.20	1
	2462	5.07	5.43	93.37	0.20	1
11N40SISO	2422	2.46	2.82	87.23	0.41	1
	2437	2.46	2.91	84.54	0.41	1
	2452	2.46	2.82	87.23	0.41	1
11AX20SISO	2412	3.87	4.23	91.49	0.26	1
	2437	3.90	4.35	89.66	0.26	1
	2462	3.87	4.23	91.49	0.26	1
11AX40SISO	2422	3.87	4.23	91.49	0.26	1
	2437	3.87	4.23	91.49	0.26	1
	2452	3.87	4.23	91.49	0.26	1

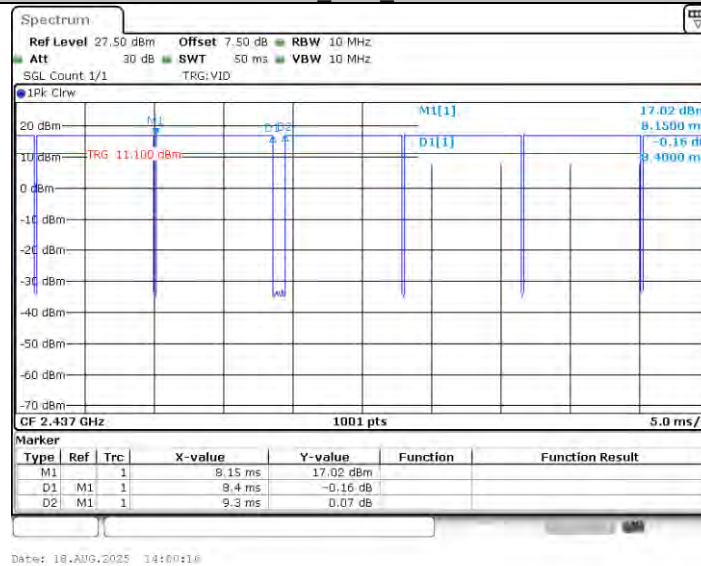


Test Graphs

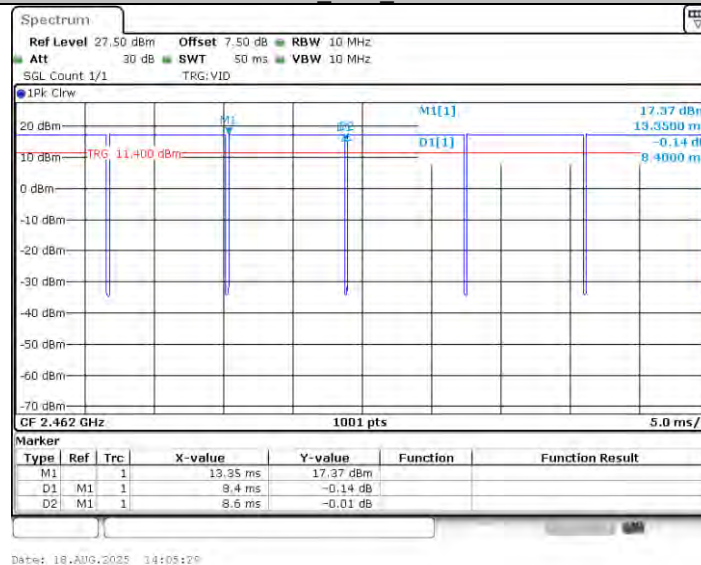
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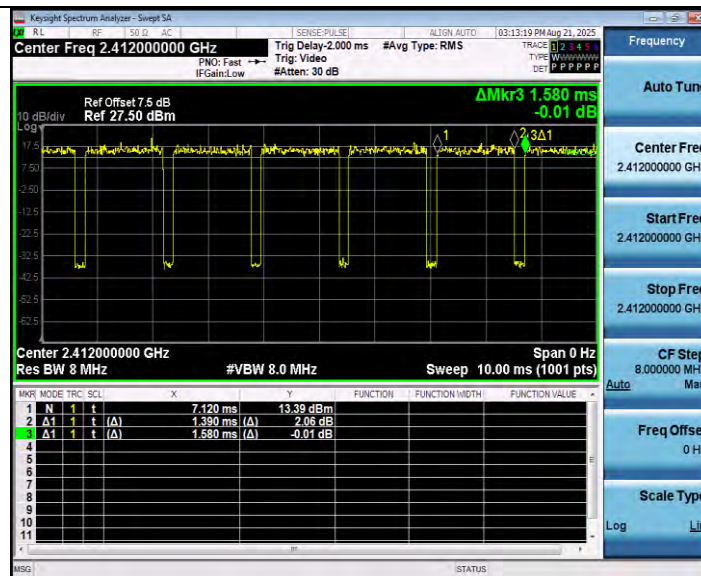
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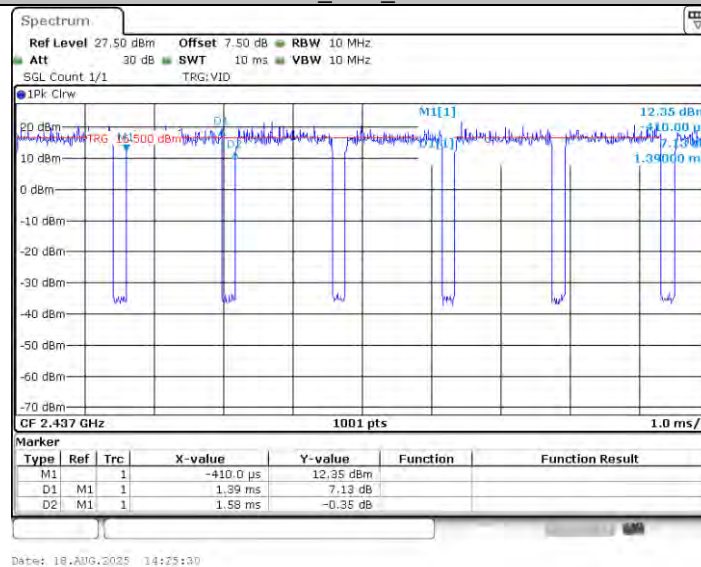
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11G_Ant1_2412

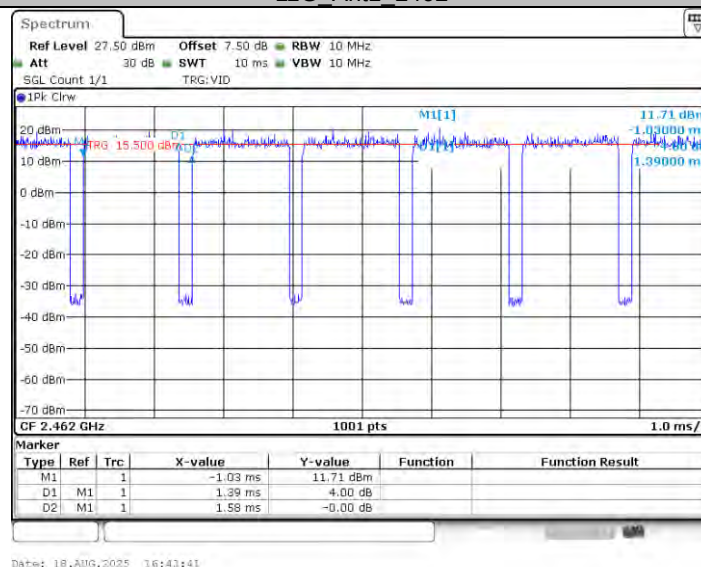


11G_Ant1_2437



Date: 18.AUG.2025 14:25:10

11G_Ant1_2462



Date: 18.AUG.2025 16:43:41

11N20SISO_Ant1_2412

CTC Laboratories, Inc.

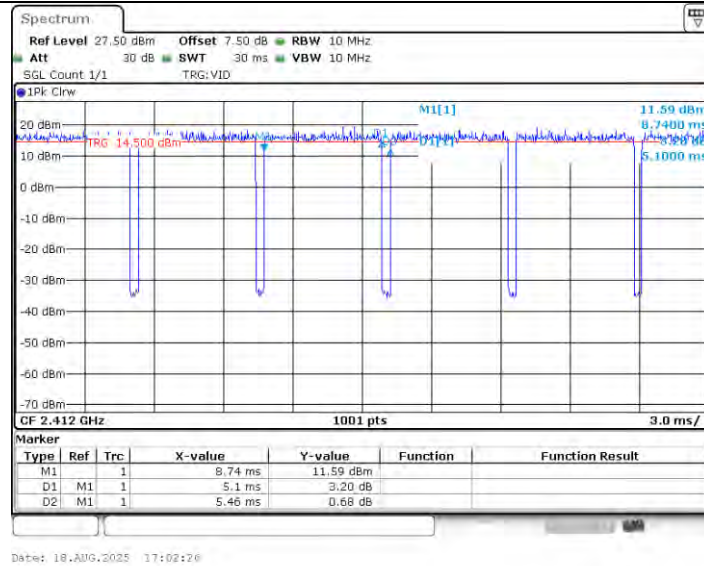
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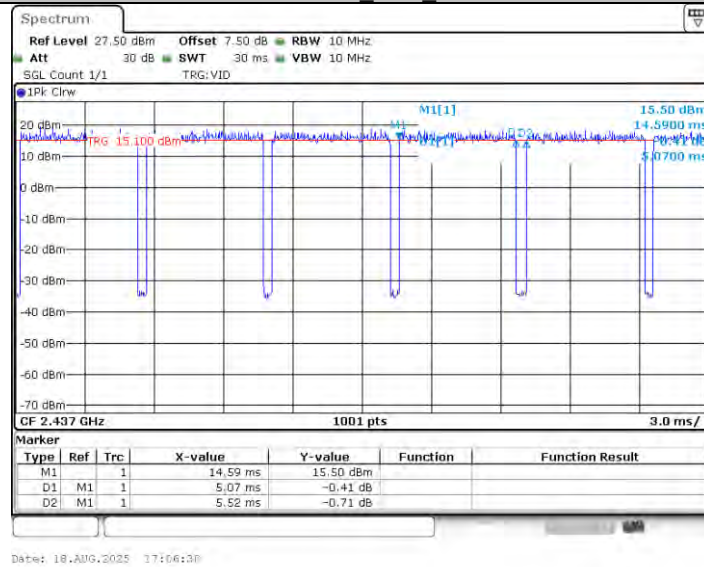
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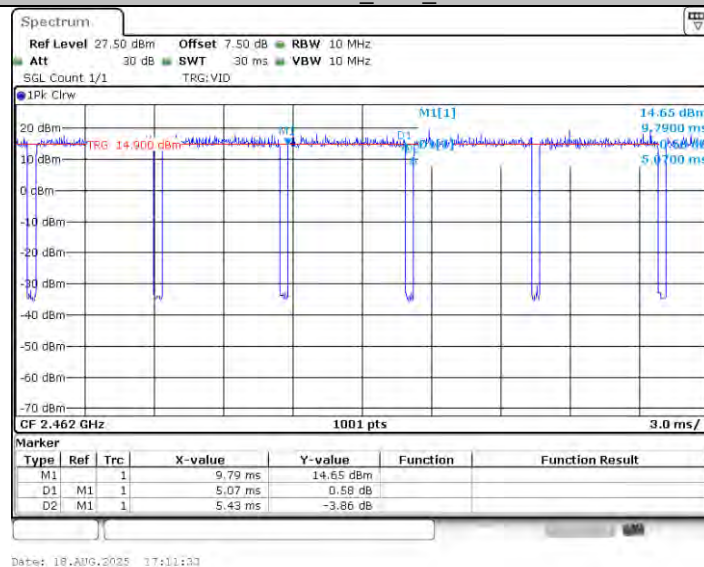
TRF No: CTC-TR-057_A2



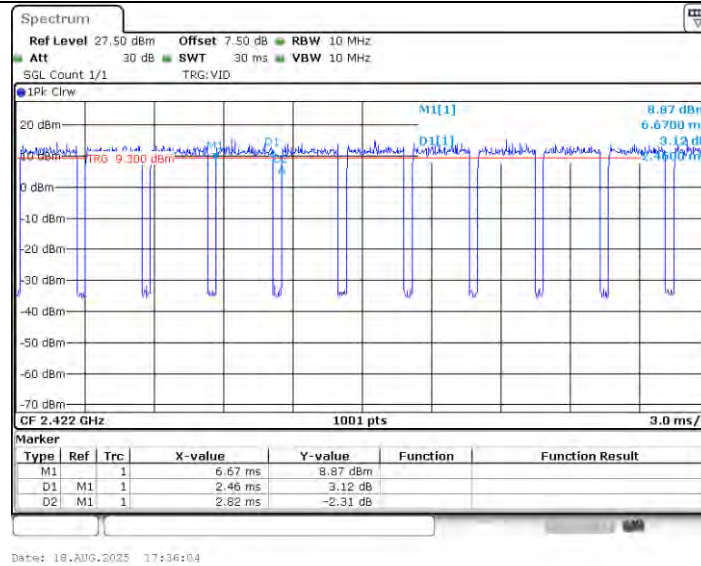
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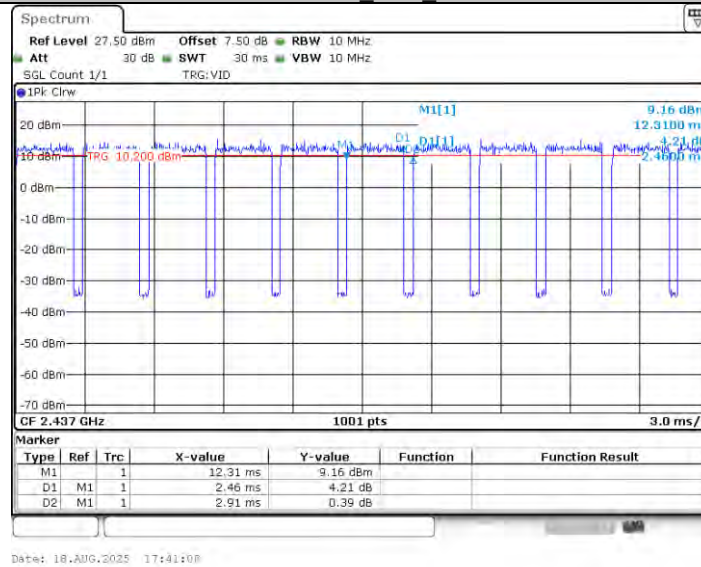
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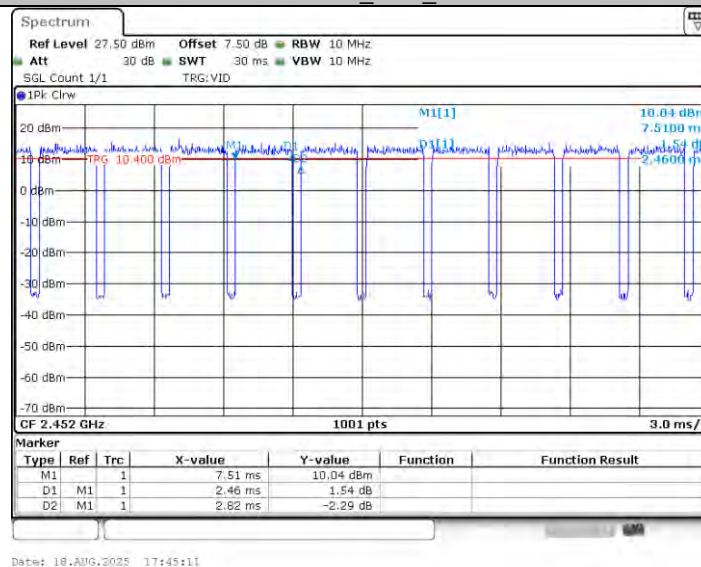
11N40SISO_Ant1_2422



11N40SISO_Ant1_2437



11N40SISO_Ant1_2452



11AX20SISO_Ant1_2412

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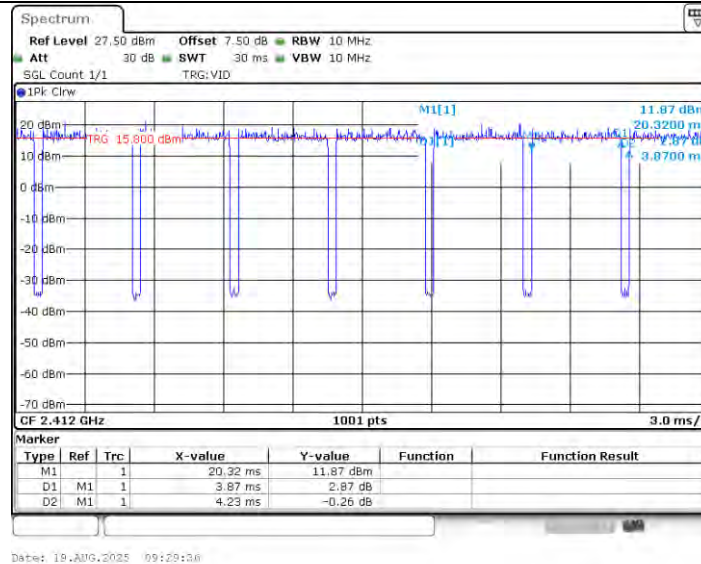
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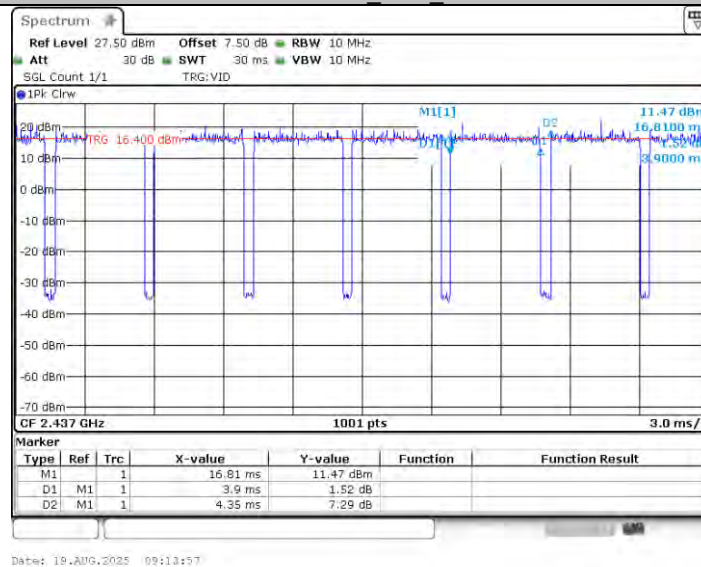
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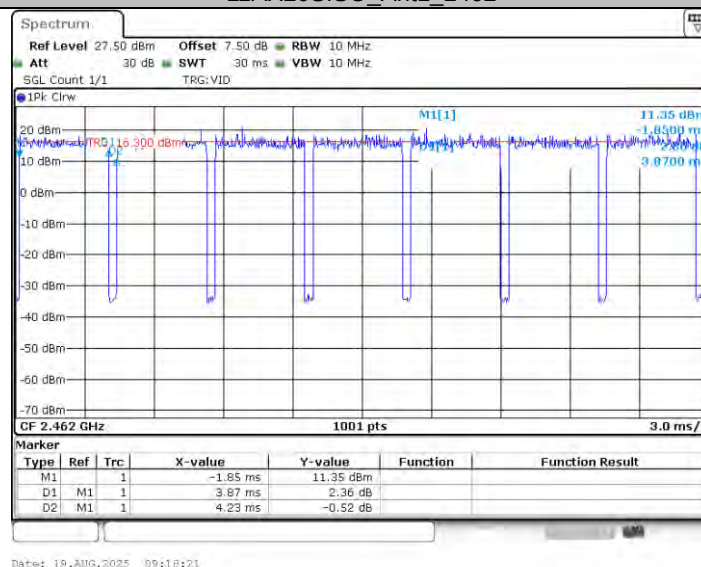
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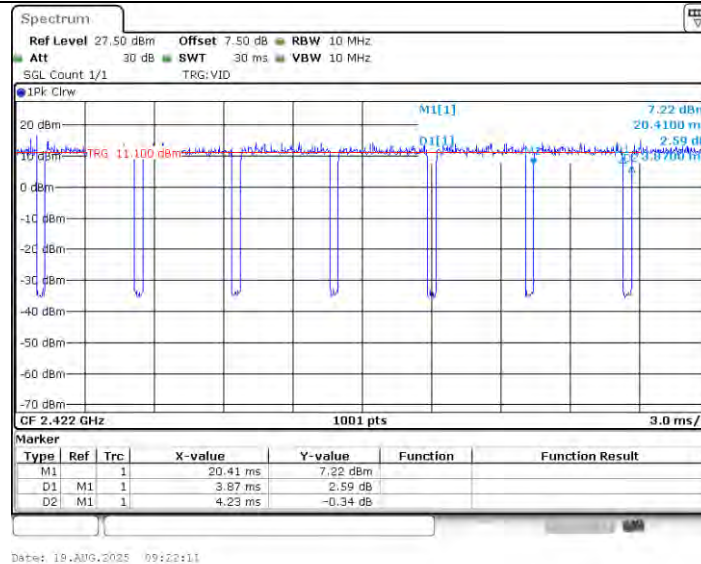
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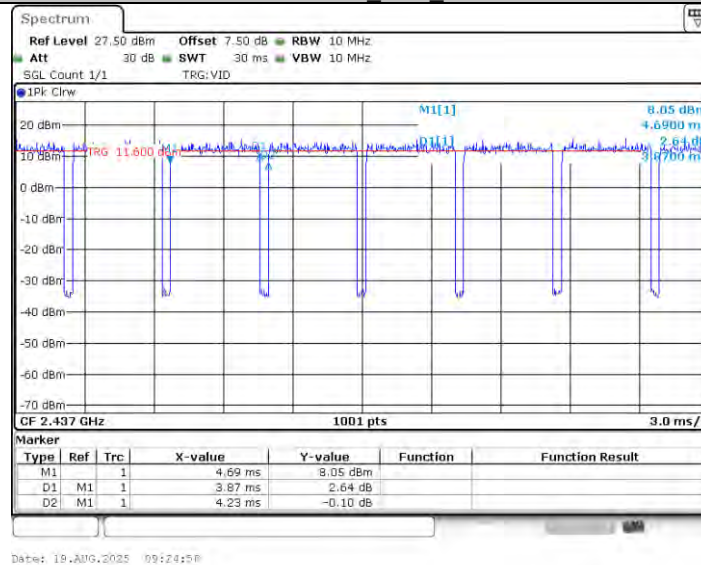
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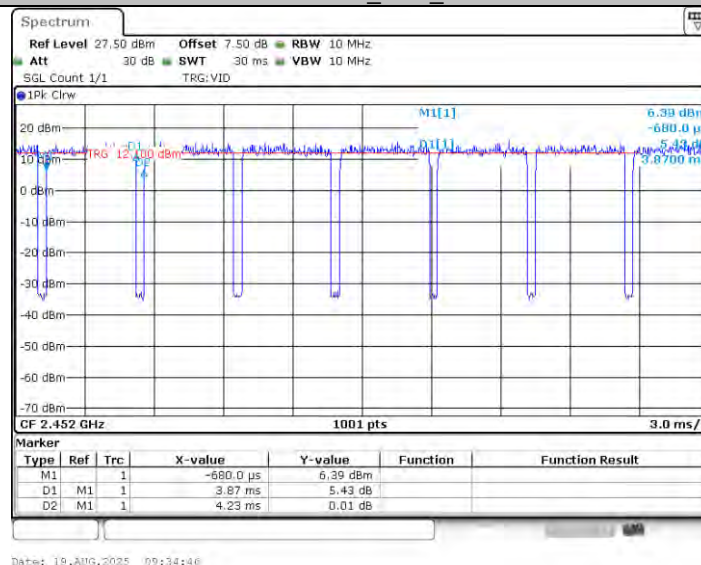
11AX40SISO_Ant1_2422



11AX40SISO_Ant1_2437



11AX40SISO_Ant1_2452





3.9. Antenna Requirement

Requirement

FCC CFR Title 47 Part 15 Subpart C Section 15.203

An intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device. The use of a permanently attached antenna or of antenna that uses a unique coupling to the intentional radiator, the manufacturer may design the unit so that a broken antenna can be replaced by the user, but the use of a standard antenna jack or electrical connector is prohibited.

FCC CFR Title 47 Part 15 Subpart C Section 15.247(c) (1)(i)

(i) Systems operating in the 2400~2483.5 MHz band that is used exclusively for fixed. Point-to-point operations may employ transmitting antennas with directional gain greater than 6dBi provided the maximum conducted output power of the intentional radiator is reduced by 1 dB for every 3 dB that the directional gain of the antenna exceeds 6dBi.

Test Result

The directional gain of the antenna is less than 6dBi, please refer to the EUT internal photographs antenna photo.

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