



TEST REPORT

Report No.: CTC2025034612
FCC ID.....: PADWF157
IC: 10563A-WF157
FCC Applicant/Manufacturer.....: Wahoo Fitness LLC
Address.....: 90 W. Wieuca Road #110, Atlanta, GA 30342, United States
ISED Applicant/Manufacturer.....: Wahoo Fitness
Address.....: 90 West Wieuca Road Suite 110, Atlanta, GA 30342, United States
Product Name: Bike Computer
Trade Mark: WAHOO FITNESS
Model/Type reference.....: WF157
Listed Model(s): /
Standard: FCC CFR Title 47 Part 15 Subpart E Section 15.407
RSS-247 Issue 3
Test Report Form No: CTC-TR-062_A1
Master TRF.....: Dated 2024-09-20
Date of receipt of test sample.....: Jan. 17, 2025
Date of testing.....: Jan. 17, 2025 ~ Mar. 20, 2025
Date of issue.....: Mar. 28, 2025
Result.....: PASS

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1. TEST SUMMARY

1.1. Test Standards

The tests were performed according to following standards:

[FCC Rules Part 15.407](#): for 802.11a/n/ac/ax, the test procedure follows the FCC KDB 789033 D02 General UNII Test Procedures New Rules V02r01.

[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	CTC2025034612	Mar. 28, 2025	Original



1.3. Test Description

FCC Part 15 Subpart E (15.407) / 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
Band Edge Emissions	15.407(b)	RSS-247 6.2	Pass	Jim Jiang
26dB Bandwidth & 99% Bandwidth	15.407(a)	RSS-247 6.2.1.2	Pass	Jim Jiang
6dB Bandwidth (only for UNII-3)	15.407(e)	RSS-247 6.2.4.1	Pass	Jim Jiang
Peak Output Power	15.407(a)	RSS-247 6.2	Pass	Jim Jiang
Power Spectral Density	15.407(a)	RSS-247 6.2	Pass	Jim Jiang
Transmitter Radiated Spurious Emission	15.407(b) & 15.209	RSS-Gen 8.9 RSS-247 6.2	Pass	Jim Jiang
Frequency Stability	15.407(g)	RSS-Gen 6.11	Pass	Jim Jiang
Dynamic Frequency Selection (DFS)	15.407(h)	RSS-247 6.3	Pass	Jim Jiang
Automatically Discontinue Transmission	15.407(c)	RSS-247 6.4(a)	Pass	Note 3

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.
3. During no any information transmission, the EUT can automatically discontinue transmission and become standby mode for power saving. the EUT can detect the controlling signal of ACK message transmitting from remote device and verify whether it shall resend or discontinue transmission.



1.4. Test Facility

Address of the report laboratory

CTC Laboratories, Inc.

Add: Room 101 of Building B, Room 107, 108, 207, 208 of Building A, 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
Emission Bandwidth	$\pm 0.0196\%$	(1)
Maximum Conduct Output Power	$\pm 0.766\text{dB}$	(1)
Power Spectral Density	$\pm 1.22\text{dB}$	(1)
Band Edge Measurements	$\pm 1.328\text{dB}$	(1)
Unwanted Emissions Measurement	9kHz-1GHz: $\pm 0.746\text{dB}$ 1GHz-26GHz: $\pm 1.328\text{dB}$	(1)
Frequency Stability	$\pm 2.76\%$	(1)
Conducted Emissions 9kHz~30MHz	$\pm 3.08\text{ dB}$	(1)
Radiated Emissions 30~1000MHz	$\pm 4.51\text{ dB}$	(1)
Radiated Emissions 1~18GHz	$\pm 5.84\text{ dB}$	(1)
Radiated Emissions 18~40GHz	$\pm 6.12\text{ dB}$	(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

Normal Condition	Temperature	15 °C to 35 °C
	Relative Humidity	20 % to 75 %
	Air Pressure	101 kPa
	Voltage	The normal test voltage for the equipment shall be the nominal voltage for which the equipment was designed.
Extreme Condition	Temperature	Measurements shall be made over the extremes of the operating temperature range as declared by the manufacturer.
	Voltage	Measurements shall be made over the extremes of the operating temperature range as declared by the manufacturer.

Normal Condition	T_N =Normal Temperature	25 °C
Extreme Condition	T_L =Lower Temperature	0 °C
	T_H =Higher Temperature	40 °C



2. GENERAL INFORMATION

2.1. Client Information

FCC Applicant/ Manufacturer:	Wahoo Fitness LLC
Address:	90 W. Wieuca Road #110, Atlanta, GA 30342, United States
IC Applicant/ Manufacturer:	Wahoo Fitness
Address:	90 West Wieuca Road Suite 110, Atlanta, GA 30342, United States

2.2. General Description of EUT

Product Name:	Bike Computer
Trade Mark:	WAHOO FITNESS
Model/Type reference:	WF157
Listed Model(s):	/
Model Difference:	/
Sample ID:	CTC241119-010-S002, CTC241119-010-S003
Power Supply:	5Vdc from USB Cable, 3.85Vdc from 2050mAh Li-ion Battery
Hardware Version:	Queen 2.0 DVT
Software Version:	QUEEN-userdebug-(0019)



5G Wi-Fi					
Operation Band:	☒ U-NII-1	☒ U-NII-2A	☒ U-NII-2C	☒ U-NII-3	
Operation Frequency:	U-NII-1	5180MHz~5240MHz			
	U-NII-2A	5260MHz~5320MHz			
	U-NII-2C	5500MHz~5700MHz			
	U-NII-3	5745MHz~5825MHz			
Support Bandwidth:	802.11a	☒ 20MHz			
	802.11n	☒ 20MHz	☒ 40MHz		
	802.11ac	☒ 20MHz	☒ 40MHz	☒ 80MHz	☐ 160MHz
Modulation:	802.11a/n: OFDM (BPSK, QPSK, 16QAM, 64QAM) 802.11ac: OFDM (BPSK, QPSK, 16QAM, 64QAM, 256QAM)				
Antenna Type:	PIFA Antenna				
Antenna Gain:	2.5dBi				



2.3. Accessory Equipment Information

Equipment Information			
Name	Model	S/N	Manufacturer
Notebook	ThinkPad T460s	MP246QDR	Lenovo
Adapter	A2167	/	Apple
GPON ONU, GPON ONT	GN630V (FCC ID: WNA-GN630V)	/	Skyworth
Cable Information			
Name	Shielded Type	Ferrite Core	Length
USB Cable	Unshielded	NO	100cm
Test Software Information			
Name	Version	/	/
QRCT4	V 4.0-00201	/	/



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.

Operation Frequency List:

Operating Band	20MHz Bandwidth		40MHz Bandwidth		80MHz Bandwidth	
	Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)
U-NII-1	36	5180	38	5190	42	5210
	40	5200				
	44	5220	46	5230		
	48	5240				
U-NII-2A	52	5260	54	5270	58	5290
	56	5280				
	60	5300	62	5310		
	64	5320				
U-NII-2C	100	5500	102	5510	106	5530
	104	5520				
	108	5540	110	5550		
	112	5560				
	116	5580	118	5590	122	5610
	120	5600				
	124	5620	126	5630		
	128	5640				
	132	5660	134	5670		
	136	5680				
	140	5700				
U-NII-3	149	5745	151	5755	155	5775
	153	5765				
	157	5785	159	5795		
	161	5805				
	165	5825				



Test channel is below:

Operating Band	Test Channel	20MHz Bandwidth		40MHz Bandwidth		80MHz Bandwidth	
		Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)
U-NII-1	CH _L	36	5180	38	5190	/	/
	CH _M	40	5200	/	/	42	5210
	CH _H	48	5240	46	5230	/	/
U-NII-2A	CH _L	52	5260	54	5270	/	/
	CH _M	56	5280	/	/	58	5290
	CH _H	64	5320	62	5310	/	/
U-NII-2C	CH _L	100	5500	102	5510	106	5530
	CH _M	116	5580	110	5550	/	/
	CH _H	140	5700	134	5670	122	5610
U-NII-3	CH _L	149	5745	151	5755	/	/
	CH _M	157	5785	/	/	155	5775
	CH _H	165	5825	159	5795	/	/

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)
802.11a	6Mbps
802.11n(HT20)/ 802.11n(HT40)	HT-MCS0
802.11ac(VHT20)/ 802.11ac(VHT40)/ 802.11ac(VHT80)	VHT-MCS0



Test Mode:

For RF test items:
1. The engineering test program was provided and enabled to make EUT continuous transmit. 2. The measurements for Output Power are tested, the worst case is IEEE 802.11a mode, IEEE 802.11ac(VHT20) mode, IEEE 802.11ac(VHT40) mode, IEEE 802.11ac(VHT80) mode, only the worst cases are documented for other test items.
For AC power line conducted emissions:
The EUT charges through the adapter, and 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.
For DFS test items:
The EUT has been tested under test mode condition. The Applicant provides software to control the EUT for staying in DFS mode for testing.



2.5. Measurement Instruments List

RF Test System - SRD					
Item	Test Equipment	Manufacturer	Model No.	Serial No.	Calibrated Until
1	Spectrum Analyzer	R&S	FSV40-N	101331	Mar. 21, 2025
2	MXA Signal Analyzer	Keysight	N9020A	MY46471737	Dec. 12, 2025
3	MXG Vector Signal Generator	Agilent	N5182A	MY47420864	Dec. 12, 2025
4	PSG Analog Signal Generator	Agilent	E8257D	MY46521908	Dec. 12, 2025
5	EXG Analog Signal Generator	Keysight	N5173B	MY59100842	Dec. 12, 2025
6	MXG Vector Signal Generator	Keysight	N5182B	MY59100212	Dec. 12, 2025
7	USB Wideband Power Sensor	Keysight	U2021XA	MY55130004	Mar. 21, 2025
8	USB Wideband Power Sensor	Keysight	U2021XA	MY55130006	Mar. 21, 2025
9	Wideband Radio Communication Tester	R&S	CMW500	102414	Dec. 12, 2025
10	High and low temperature test chamber	ESPEC	MT3035	/	Mar. 21, 2025
11	RF Control Unit	Tonscend	JS0806-2	/	Aug. 21, 2025

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	ESCS30	100353	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.

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TRF No: CTC-TR-062_A1

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

3. TEST ITEM AND RESULTS

3.1. Conducted Emission

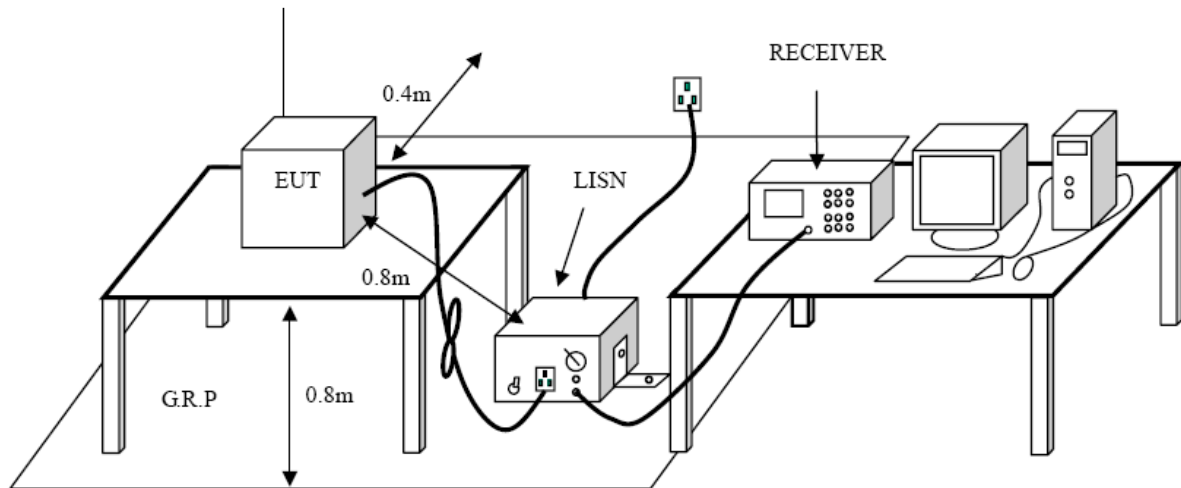
Limit

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

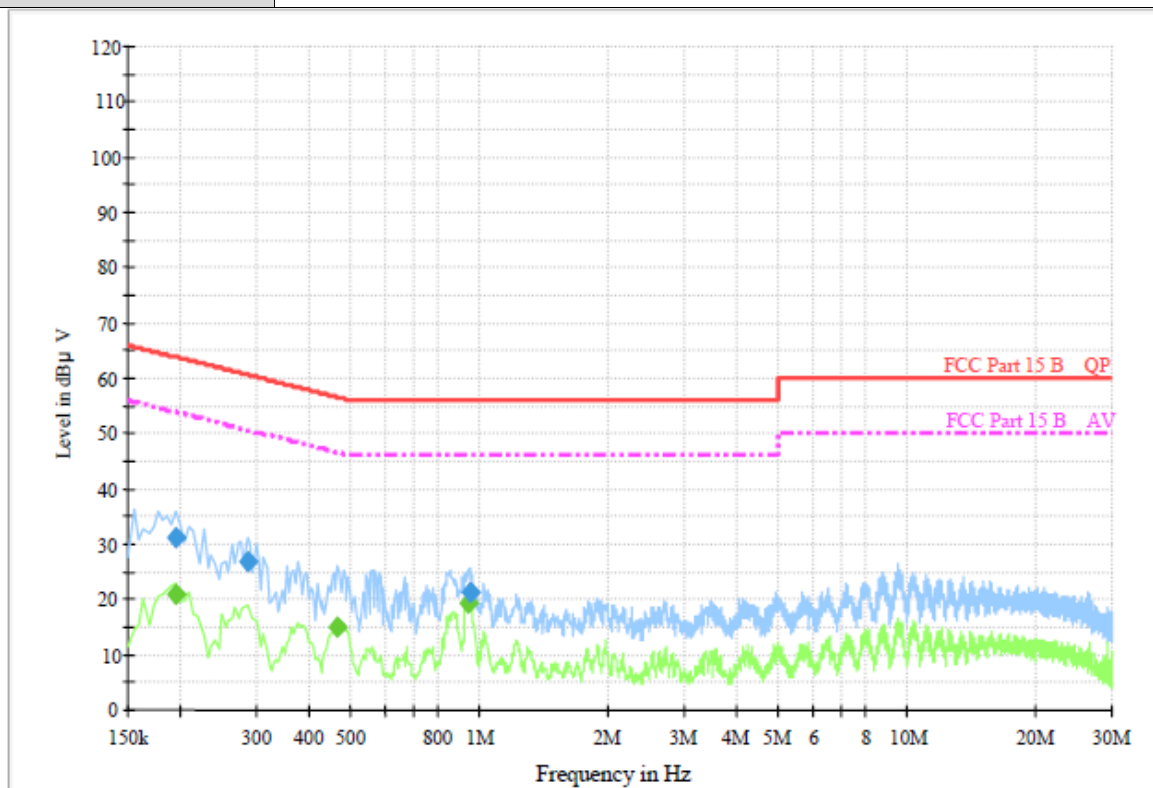
1. The EUT was setup according to ANSI C63.10:2013 requirements.
2. The EUT was placed on a platform of nominal size, 1 m by 1.5 m, raised 80 cm above the conducting ground plane. The vertical conducting plane was located 40 cm to the rear of the EUT. All other surfaces of EUT were at least 80 cm from 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 (dBμ V)	Meas. Time (ms)	Bandwidth (kHz)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBμ V)	Comment
0.195000	31.0	1000.00	9.000	On	L1	9.5	32.8	63.8	
0.285000	26.7	1000.00	9.000	On	L1	9.5	34.0	60.7	
0.946500	21.4	1000.00	9.000	On	L1	9.6	34.6	56.0	

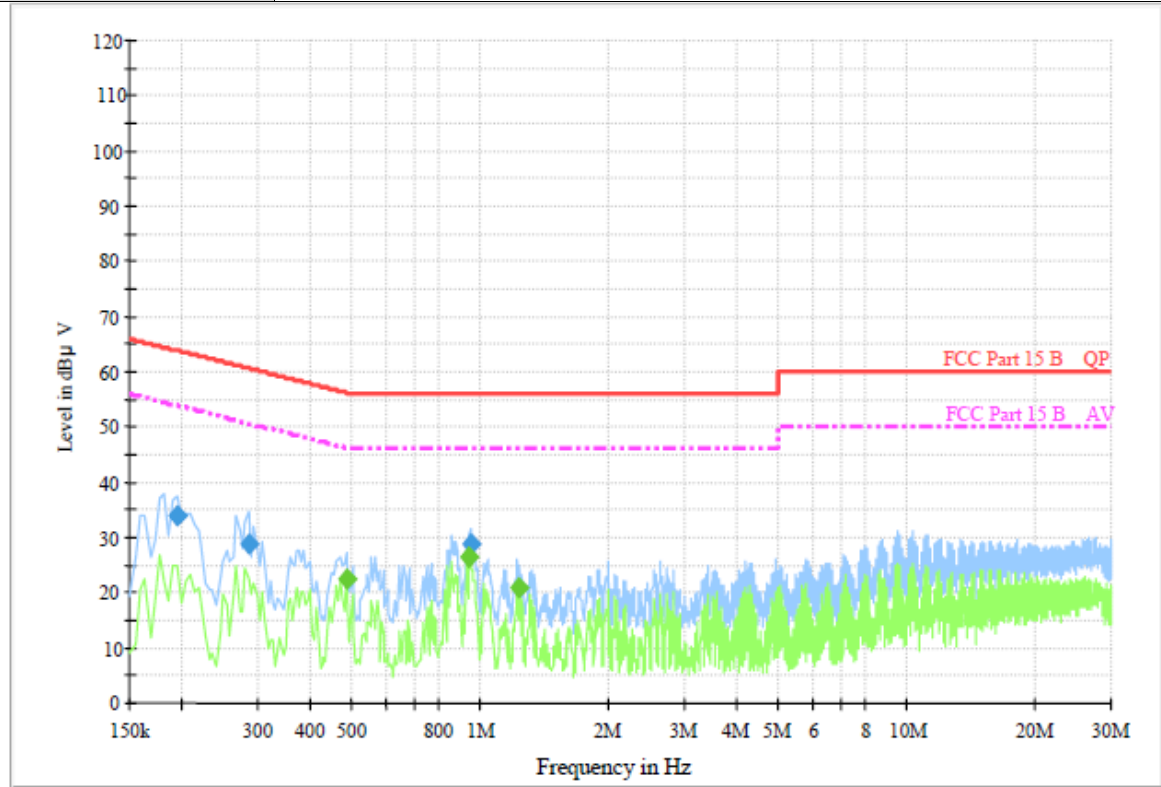
Final Measurement Detector 2

Frequency (MHz)	Average (dBμ V)	Meas. Time (ms)	Bandwidth (kHz)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBμ V)	Comment
0.195000	21.1	1000.00	9.000	On	L1	9.5	32.7	53.8	
0.465000	15.0	1000.00	9.000	On	L1	9.4	31.6	46.6	
0.942000	19.3	1000.00	9.000	On	L1	9.6	26.7	46.0	

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 (dBµV)	Meas. Time (ms)	Bandwidth (kHz)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)	Comment
0.195000	34.0	1000.00	9.000	On	N	9.3	29.8	63.8	
0.285000	28.9	1000.00	9.000	On	N	9.4	31.8	60.7	
0.946500	28.8	1000.00	9.000	On	N	9.5	27.2	56.0	

Final Measurement Detector 2

Frequency (MHz)	Average (dBµV)	Meas. Time (ms)	Bandwidth (kHz)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)	Comment
0.483000	22.4	1000.00	9.000	On	N	9.6	23.9	46.3	
0.942000	26.5	1000.00	9.000	On	N	9.5	19.5	46.0	
1.234500	20.8	1000.00	9.000	On	N	9.6	25.2	46.0	

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)	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).

Limits of unwanted emission out of the restricted bands

FCC CFR Title 47 Part 15 Subpart E Section 15. 407(b) / RSS-247 6.2

Frequency (MHz)	EIRP Limits (dBm)	Equivalent Field Strength at 3m (dBμV/m)
5150~5250	-27	68.2
5250~5350	-27	68.2
5470~5725	-27	68.2
5725~5825	-27 (Note 2)	68.2
	10 (Note 2)	105.2
	15.6 (Note 2)	110.8
	27 (Note 2)	122.2

Note:

1. The following formula is used to convert the equipment isotropic radiated power (eirp) to field

strength: $E = \frac{1000000\sqrt{30P}}{3} \mu\text{V/m}$, where P is the eirp (Watts).

2. According to FCC 16-24, all emissions shall be limited to a level of -27 dBm/MHz at 75 MHz or more above or below the band edge increasing linearly to 10 dBm/MHz at 25 MHz above or below the band edge, and from 25MHz above or below the band edge increasing linearly to a level of 15.6 dBm/MHz at 5 MHz above or below the band edge, and from 5 MHz above or below the band edge increasing linearly to a level of 27dBm/MHz at the band edge.

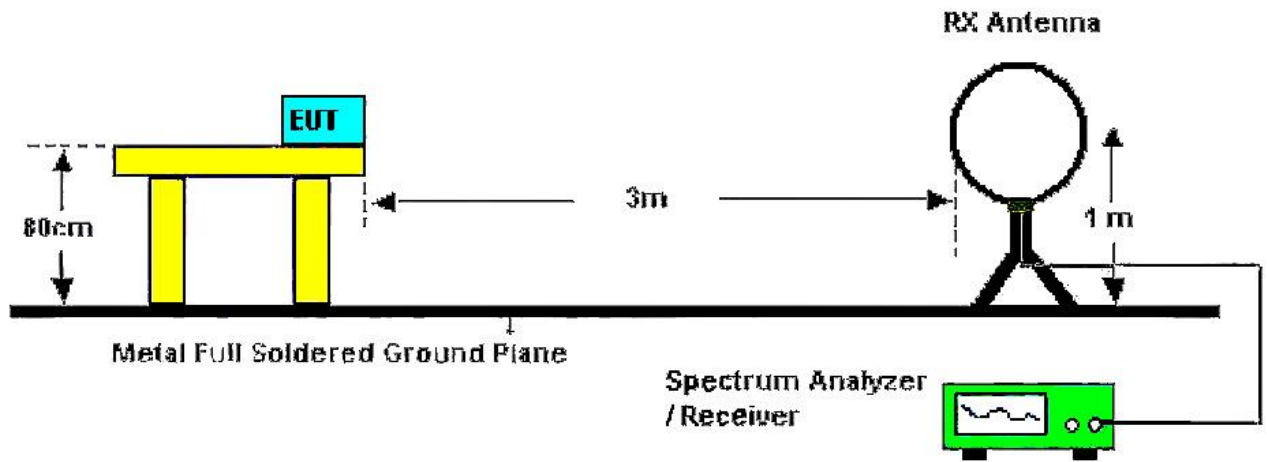
Test Configuration

CTC Laboratories, Inc.

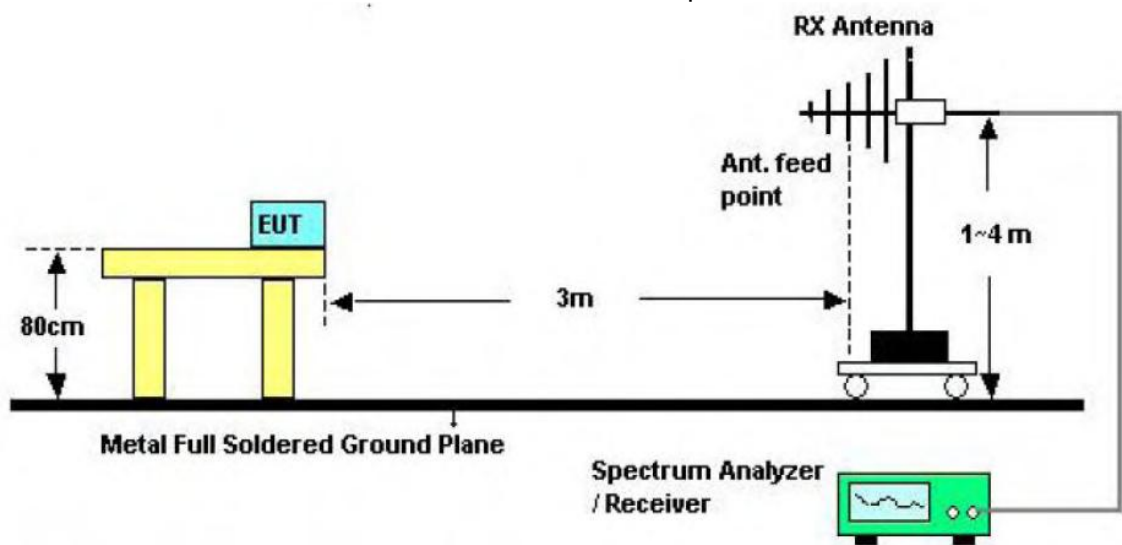
Room 101 Building B, No. 7, Lanqing 1st Road, Luhu Community, Guanhu Subdistrict, Longhua District, Shenzhen, Guangdong, China
Tel.: (86)755-27521059 Fax: (86)755-27521011 Http://www.sz-ctc.org.cn

TRF No: CTC-TR-062_A1

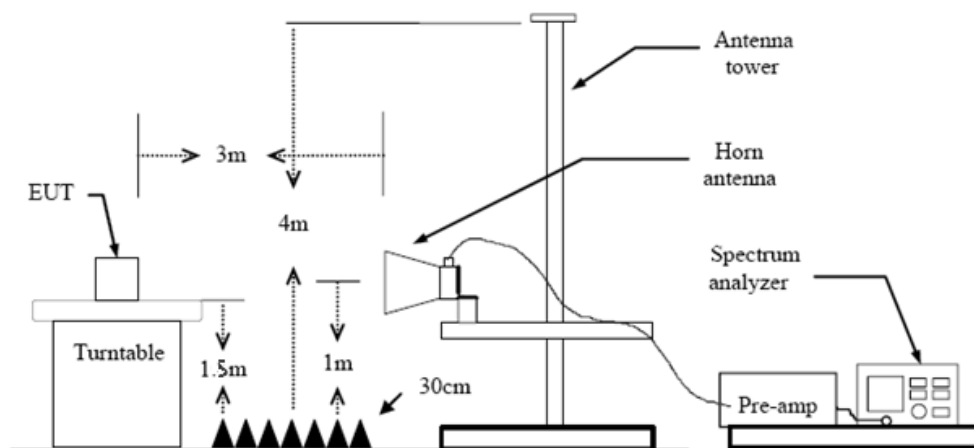
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Below 30MHz Test Setup



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 holdIf 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 1GHz to 40GHz:
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 Duty Cycle.

Test Mode

Please refer to the clause 2.4.

Test Result

9 kHz~30 MHz

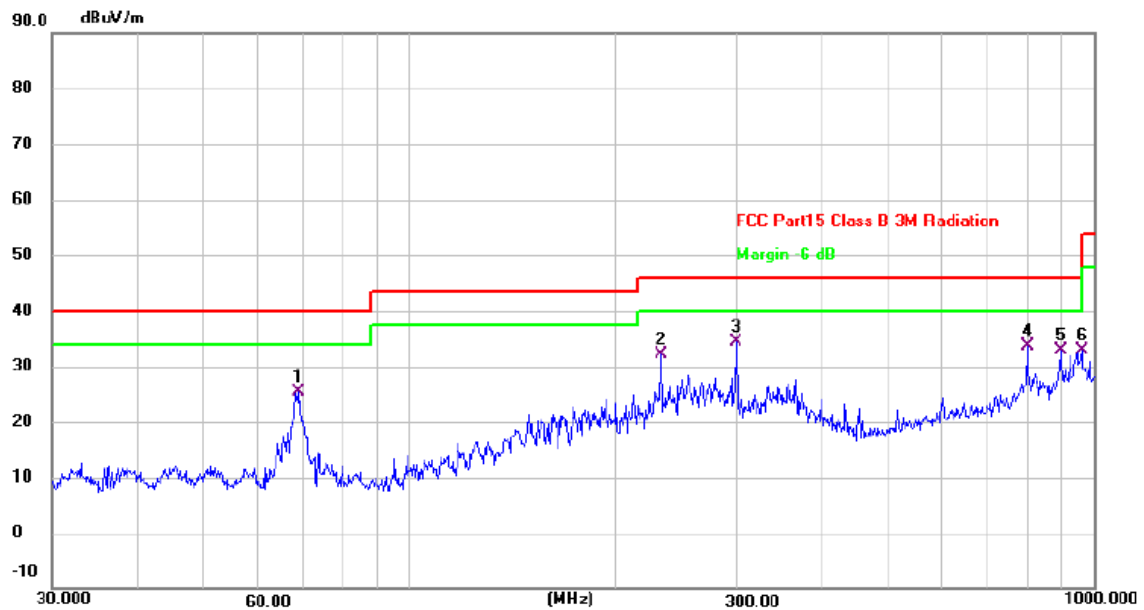
From 9 kHz to 30 MHz: The conclusion is PASS.

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 802.11a Mode 5180MHz (U-NII-1)
Remark:	Only worse case is reported.



No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1	68.8721	42.80	-17.42	25.38	40.00	-14.62	QP
2	233.3486	48.97	-16.76	32.21	46.00	-13.79	QP
3 *	300.3672	48.28	-13.96	34.32	46.00	-11.68	QP
4	798.9796	36.16	-2.54	33.62	46.00	-12.38	QP
5	893.8565	34.96	-2.12	32.84	46.00	-13.16	QP
6	958.7943	33.36	-0.55	32.81	46.00	-13.19	QP

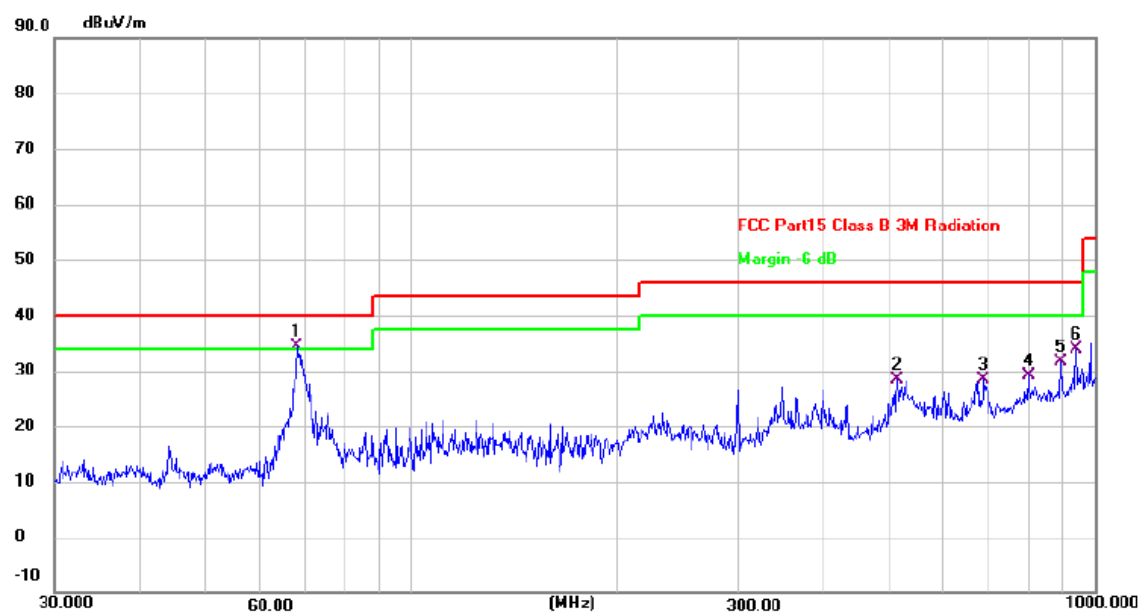
Remarks:

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

2.Margin value = Level -Limit value



Ant. Pol.	Vertical
Test Mode:	TX 802.11a Mode 5180MHz (U-NII-1)
Remark:	Only worse case is reported.



No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1 *	68.1512	51.74	-17.29	34.45	40.00	-5.55	QP
2	513.6331	36.83	-8.37	28.46	46.00	-17.54	QP
3	687.1506	34.09	-5.65	28.44	46.00	-17.56	QP
4	798.9796	31.74	-2.54	29.20	46.00	-16.80	QP
5	890.7277	33.68	-2.11	31.57	46.00	-14.43	QP
6	938.8324	34.95	-1.04	33.91	46.00	-12.09	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 802.11a Mode 5180MHz (U-NII-1)						
Remark:	No report for the emission which more than 20 dB below the prescribed limit.						

Ant. Pol.	Vertical
Test Mode:	TX 802.11a Mode 5180MHz (U-NII-1)
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	10360.105	41.08	13.60	54.68	74.00	-19.32	peak
2 *	10360.188	29.59	13.60	43.19	54.00	-10.81	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 802.11a Mode 5200MHz (U-NII-1)
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	10399.785	40.30	13.67	53.97	74.00	-20.03	peak
2 *	10400.243	28.96	13.67	42.63	54.00	-11.37	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 802.11a Mode 5200MHz (U-NII-1)
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 *	10400.129	30.13	13.67	43.80	54.00	-10.20	AVG
2	10400.160	40.36	13.67	54.03	74.00	-19.97	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 802.11a Mode 5240MHz (U-NII-1)
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 *	10479.801	29.26	13.80	43.06	54.00	-10.94	AVG
2	10480.210	40.13	13.80	53.93	74.00	-20.07	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 802.11a Mode 5240MHz (U-NII-1)
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 *	10479.991	29.04	13.80	42.84	54.00	-11.16	AVG
2	10480.007	39.97	13.80	53.77	74.00	-20.23	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 802.11ac(VHT20) Mode 5180MHz (U-NII-1)
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 *	10359.908	28.42	13.60	42.02	54.00	-11.98	AVG
2	10360.083	39.02	13.60	52.62	74.00	-21.38	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 802.11ac(VHT20) Mode 5180MHz (U-NII-1)
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	10359.841	39.39	13.60	52.99	74.00	-21.01	peak
2 *	10359.864	27.96	13.60	41.56	54.00	-12.44	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 802.11ac(VHT20) Mode 5200MHz (U-NII-1)
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 *	10399.924	28.86	13.67	42.53	54.00	-11.47	AVG
2	10400.156	39.16	13.67	52.83	74.00	-21.17	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 802.11ac(VHT20) Mode 5200MHz (U-NII-1)
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	10399.917	39.63	13.67	53.30	74.00	-20.70	peak
2 *	10400.090	27.60	13.67	41.27	54.00	-12.73	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 802.11ac(VHT20) Mode 5240MHz (U-NII-1)
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 *	10479.990	28.45	13.80	42.25	54.00	-11.75	AVG
2	10480.302	39.28	13.80	53.08	74.00	-20.92	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 802.11ac(VHT20) Mode 5240MHz (U-NII-1)
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	10479.804	39.46	13.80	53.26	74.00	-20.74	peak
2 *	10480.153	27.93	13.80	41.73	54.00	-12.27	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 802.11ac(VHT40) Mode 5190MHz (U-NII-1)
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	10379.827	39.30	13.63	52.93	74.00	-21.07	peak
2 *	10380.120	28.13	13.63	41.76	54.00	-12.24	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 802.11ac(VHT40) Mode 5190MHz (U-NII-1)
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 *	10380.126	27.72	13.63	41.35	54.00	-12.65	AVG
2	10380.127	38.87	13.63	52.50	74.00	-21.50	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 802.11ac(VHT40) Mode 5230MHz (U-NII-1)
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 *	10460.127	28.19	13.77	41.96	54.00	-12.04	AVG
2	10460.515	39.28	13.77	53.05	74.00	-20.95	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 802.11ac(VHT40) Mode 5230MHz (U-NII-1)
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	10459.880	38.75	13.77	52.52	74.00	-21.48	peak
2 *	10460.055	27.42	13.77	41.19	54.00	-12.81	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 802.11ac(VHT80) Mode 5210MHz (U-NII-1)
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	10419.872	39.21	13.70	52.91	74.00	-21.09	peak
2 *	10420.230	27.85	13.70	41.55	54.00	-12.45	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 802.11ac(VHT80) Mode 5210MHz (U-NII-1)
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 *	10419.721	28.40	13.70	42.10	54.00	-11.90	AVG
2	10419.753	39.49	13.70	53.19	74.00	-20.81	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 802.11a Mode 5260MHz (U-NII-2A)						
Remark:	No report for the emission which more than 20 dB below the prescribed limit.						

Ant. Pol.	Vertical
Test Mode:	TX 802.11a Mode 5260MHz (U-NII-2A)
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	10519.815	39.97	13.89	53.86	74.00	-20.14	peak
2 *	10520.069	27.82	13.89	41.71	54.00	-12.29	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 802.11a Mode 5280MHz (U-NII-2A)						
Remark:	No report for the emission which more than 20 dB below the prescribed limit.						

Ant. Pol.	Vertical
Test Mode:	TX 802.11a Mode 5280MHz (U-NII-2A)
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 *	10559.766	28.04	13.97	42.01	54.00	-11.99	AVG
2	10560.044	39.87	13.97	53.84	74.00	-20.16	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 802.11a Mode 5320MHz (U-NII-2A)						
Remark:	No report for the emission which more than 20 dB below the prescribed limit.						

Ant. Pol.	Vertical						
Test Mode:	TX 802.11a Mode 5320MHz (U-NII-2A)						
Remark:	No report for the emission which more than 20 dB below the prescribed limit.						



Ant. Pol.	Horizontal						
Test Mode:	TX 802.11ac(VHT20) Mode 5260MHz (U-NII-2A)						
Remark:	No report for the emission which more than 20 dB below the prescribed limit.						

Ant. Pol.	Vertical						
Test Mode:	TX 802.11ac(VHT20) Mode 5260MHz (U-NII-2A)						
Remark:	No report for the emission which more than 20 dB below the prescribed limit.						



Ant. Pol.	Horizontal																														
Test Mode:	TX 802.11ac(VHT20) Mode 5280MHz (U-NII-2A)																														
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>10560.235</td><td>28.40</td><td>13.97</td><td>42.37</td><td>54.00</td><td>-11.63</td><td>AVG</td></tr><tr><td>2</td><td>10560.274</td><td>39.09</td><td>13.97</td><td>53.06</td><td>74.00</td><td>-20.94</td><td>peak</td></tr></table>								No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	1 *	10560.235	28.40	13.97	42.37	54.00	-11.63	AVG	2	10560.274	39.09	13.97	53.06	74.00	-20.94	peak
No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector																								
1 *	10560.235	28.40	13.97	42.37	54.00	-11.63	AVG																								
2	10560.274	39.09	13.97	53.06	74.00	-20.94	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 802.11ac(VHT20) Mode 5280MHz (U-NII-2A)																														
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>10560.028</td><td>38.89</td><td>13.97</td><td>52.86</td><td>74.00</td><td>-21.14</td><td>peak</td></tr><tr><td>2 *</td><td>10561.103</td><td>26.78</td><td>13.98</td><td>40.76</td><td>54.00</td><td>-13.24</td><td>AVG</td></tr></table>								No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	1	10560.028	38.89	13.97	52.86	74.00	-21.14	peak	2 *	10561.103	26.78	13.98	40.76	54.00	-13.24	AVG
No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector																								
1	10560.028	38.89	13.97	52.86	74.00	-21.14	peak																								
2 *	10561.103	26.78	13.98	40.76	54.00	-13.24	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 802.11ac(VHT20) Mode 5320MHz (U-NII-2A)						
Remark:	No report for the emission which more than 20 dB below the prescribed limit.						

Ant. Pol.	Vertical						
Test Mode:	TX 802.11ac(VHT20) Mode 5320MHz (U-NII-2A)						
Remark:	No report for the emission which more than 20 dB below the prescribed limit.						



Ant. Pol.	Horizontal						
Test Mode:	TX 802.11ac(VHT40) Mode 5270MHz (U-NII-2A)						
Remark:	No report for the emission which more than 20 dB below the prescribed limit.						

Ant. Pol.	Vertical						
Test Mode:	TX 802.11ac(VHT40) Mode 5270MHz (U-NII-2A)						
Remark:	No report for the emission which more than 20 dB below the prescribed limit.						



Ant. Pol.	Horizontal						
Test Mode:	TX 802.11ac(VHT40) Mode 5310MHz (U-NII-2A)						
Remark:	No report for the emission which more than 20 dB below the prescribed limit.						

Ant. Pol.	Vertical
Test Mode:	TX 802.11ac(VHT40) Mode 5310MHz (U-NII-2A)
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	10619.864	38.92	14.11	53.03	74.00	-20.97	peak
2 *	10619.886	26.43	14.11	40.54	54.00	-13.46	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 802.11ac(VHT80) Mode 5290MHz (U-NII-2A)						
Remark:	No report for the emission which more than 20 dB below the prescribed limit.						

Ant. Pol.	Vertical						
Test Mode:	TX 802.11ac(VHT80) Mode 5290MHz (U-NII-2A)						
Remark:	No report for the emission which more than 20 dB below the prescribed limit.						
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Ant. Pol.	Horizontal						
Test Mode:	TX 802.11a Mode 5500MHz (U-NII-2C)						
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 *	10999.899	26.79	14.97	41.76	54.00	-12.24	AVG
2	11000.126	37.66	14.97	52.63	74.00	-21.37	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 802.11a Mode 5500MHz (U-NII-2C)
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	10999.952	38.70	14.97	53.67	74.00	-20.33	peak
2 *	11000.155	25.92	14.97	40.89	54.00	-13.11	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 802.11a Mode 5580MHz (U-NII-2C)						
Remark:	No report for the emission which more than 20 dB below the prescribed limit.						

Ant. Pol.	Vertical						
Test Mode:	TX 802.11a Mode 5580MHz (U-NII-2C)						
Remark:	No report for the emission which more than 20 dB below the prescribed limit.						



Ant. Pol.	Horizontal						
Test Mode:	TX 802.11a Mode 5700MHz (U-NII-2C)						
Remark:	No report for the emission which more than 20 dB below the prescribed limit.						

Ant. Pol.	Vertical
Test Mode:	TX 802.11a Mode 5700MHz (U-NII-2C)
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	11399.878	38.06	14.99	53.05	74.00	-20.95	peak
2 *	11400.480	25.39	14.99	40.38	54.00	-13.62	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 802.11ac(VHT20) Mode 5500MHz (U-NII-2C)																														
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>10999.930</td><td>27.88</td><td>14.97</td><td>42.85</td><td>54.00</td><td>-11.15</td><td>AVG</td></tr><tr><td>2</td><td>11000.155</td><td>38.56</td><td>14.97</td><td>53.53</td><td>74.00</td><td>-20.47</td><td>peak</td></tr></table>								No.	Frequency (MHz)	Reading (dBUV)	Factor (dB/m)	Level (dBUV/m)	Limit (dBUV/m)	Margin (dB)	Detector	1 *	10999.930	27.88	14.97	42.85	54.00	-11.15	AVG	2	11000.155	38.56	14.97	53.53	74.00	-20.47	peak
No.	Frequency (MHz)	Reading (dBUV)	Factor (dB/m)	Level (dBUV/m)	Limit (dBUV/m)	Margin (dB)	Detector																								
1 *	10999.930	27.88	14.97	42.85	54.00	-11.15	AVG																								
2	11000.155	38.56	14.97	53.53	74.00	-20.47	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 802.11ac(VHT20) Mode 5500MHz (U-NII-2C)						
Remark:	No report for the emission which more than 20 dB below the prescribed limit.						



Ant. Pol.	Horizontal						
Test Mode:	TX 802.11ac(VHT20) Mode 5580MHz (U-NII-2C)						
Remark:	No report for the emission which more than 20 dB below the prescribed limit.						

Ant. Pol.	Vertical						
Test Mode:	TX 802.11ac(VHT20) Mode 5580MHz (U-NII-2C)						
Remark:	No report for the emission which more than 20 dB below the prescribed limit.						



Ant. Pol.	Horizontal						
Test Mode:	TX 802.11ac(VHT20) Mode 5700MHz (U-NII-2C)						
Remark:	No report for the emission which more than 20 dB below the prescribed limit.						

Ant. Pol.	Vertical																														
Test Mode:	TX 802.11ac(VHT20) Mode 5700MHz (U-NII-2C)																														
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>11399.951</td><td>25.33</td><td>14.99</td><td>40.32</td><td>54.00</td><td>-13.68</td><td>AVG</td></tr><tr><td>2</td><td>11400.060</td><td>38.59</td><td>14.99</td><td>53.58</td><td>74.00</td><td>-20.42</td><td>peak</td></tr></table>								No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	1 *	11399.951	25.33	14.99	40.32	54.00	-13.68	AVG	2	11400.060	38.59	14.99	53.58	74.00	-20.42	peak
No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector																								
1 *	11399.951	25.33	14.99	40.32	54.00	-13.68	AVG																								
2	11400.060	38.59	14.99	53.58	74.00	-20.42	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 802.11ac(VHT40) Mode 5510MHz (U-NII-2C)																														
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>11019.936</td><td>38.60</td><td>14.97</td><td>53.57</td><td>74.00</td><td>-20.43</td><td>peak</td></tr><tr><td>2 *</td><td>11020.144</td><td>27.30</td><td>14.97</td><td>42.27</td><td>54.00</td><td>-11.73</td><td>AVG</td></tr></table>								No.	Frequency (MHz)	Reading (dBUV)	Factor (dB/m)	Level (dBUV/m)	Limit (dBUV/m)	Margin (dB)	Detector	1	11019.936	38.60	14.97	53.57	74.00	-20.43	peak	2 *	11020.144	27.30	14.97	42.27	54.00	-11.73	AVG
No.	Frequency (MHz)	Reading (dBUV)	Factor (dB/m)	Level (dBUV/m)	Limit (dBUV/m)	Margin (dB)	Detector																								
1	11019.936	38.60	14.97	53.57	74.00	-20.43	peak																								
2 *	11020.144	27.30	14.97	42.27	54.00	-11.73	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 802.11ac(VHT40) Mode 5510MHz (U-NII-2C)
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	11020.150	38.33	14.97	53.30	74.00	-20.70	peak
2 *	11020.618	26.30	14.97	41.27	54.00	-12.73	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 802.11ac(VHT40) Mode 5550MHz (U-NII-2C)						
Remark:	No report for the emission which more than 20 dB below the prescribed limit.						

Ant. Pol.	Vertical						
Test Mode:	TX 802.11ac(VHT40) Mode 5550MHz (U-NII-2C)						
Remark:	No report for the emission which more than 20 dB below the prescribed limit.						



Ant. Pol.	Horizontal						
Test Mode:	TX 802.11ac(VHT40) Mode 5670MHz (U-NII-2C)						
Remark:	No report for the emission which more than 20 dB below the prescribed limit.						

Ant. Pol.	Vertical						
Test Mode:	TX 802.11ac(VHT40) Mode 5670MHz (U-NII-2C)						
Remark:	No report for the emission which more than 20 dB below the prescribed limit.						



Ant. Pol.	Horizontal						
Test Mode:	TX 802.11ac(VHT80) Mode 5530MHz (U-NII-2C)						
Remark:	No report for the emission which more than 20 dB below the prescribed limit.						

Ant. Pol.	Vertical						
Test Mode:	TX 802.11ac(VHT80) Mode 5530MHz (U-NII-2C)						
Remark:	No report for the emission which more than 20 dB below the prescribed limit.						



Ant. Pol.	Horizontal						
Test Mode:	TX 802.11ac(VHT80) Mode 5610MHz (U-NII-2C)						
Remark:	No report for the emission which more than 20 dB below the prescribed limit.						

Ant. Pol.	Vertical						
Test Mode:	TX 802.11ac(VHT80) Mode 5610MHz (U-NII-2C)						
Remark:	No report for the emission which more than 20 dB below the prescribed limit.						



Ant. Pol.	Horizontal						
Test Mode:	TX 802.11a Mode 5745MHz (U-NII-3)						
Remark:	No report for the emission which more than 20 dB below the prescribed limit.						

Ant. Pol.	Vertical
Test Mode:	TX 802.11a Mode 5745MHz (U-NII-3)
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	11489.980	38.16	15.00	53.16	74.00	-20.84	peak
2 *	11490.005	26.20	15.01	41.21	54.00	-12.79	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 802.11a Mode 5785MHz (U-NII-3)																														
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>11569.937</td><td>27.03</td><td>15.06</td><td>42.09</td><td>54.00</td><td>-11.91</td><td>AVG</td></tr><tr><td>2</td><td>11570.075</td><td>37.36</td><td>15.07</td><td>52.43</td><td>74.00</td><td>-21.57</td><td>peak</td></tr></table>								No.	Frequency (MHz)	Reading (dBUV)	Factor (dB/m)	Level (dBUV/m)	Limit (dBUV/m)	Margin (dB)	Detector	1 *	11569.937	27.03	15.06	42.09	54.00	-11.91	AVG	2	11570.075	37.36	15.07	52.43	74.00	-21.57	peak
No.	Frequency (MHz)	Reading (dBUV)	Factor (dB/m)	Level (dBUV/m)	Limit (dBUV/m)	Margin (dB)	Detector																								
1 *	11569.937	27.03	15.06	42.09	54.00	-11.91	AVG																								
2	11570.075	37.36	15.07	52.43	74.00	-21.57	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 802.11a Mode 5785MHz (U-NII-3)
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 *	11570.031	25.87	15.07	40.94	54.00	-13.06	AVG
2	11570.207	37.72	15.07	52.79	74.00	-21.21	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 802.11a Mode 5825MHz (U-NII-3)						
Remark:	No report for the emission which more than 20 dB below the prescribed limit.						

Ant. Pol.	Vertical
Test Mode:	TX 802.11a Mode 5825MHz (U-NII-3)
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	11649.865	38.57	15.13	53.70	74.00	-20.30	peak
2 *	11650.242	25.38	15.14	40.52	54.00	-13.48	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 802.11ac(VHT20) Mode 5745MHz (U-NII-3)						
Remark:	No report for the emission which more than 20 dB below the prescribed limit.						

Ant. Pol.	Vertical						
Test Mode:	TX 802.11ac(VHT20) Mode 5745MHz (U-NII-3)						
Remark:	No report for the emission which more than 20 dB below the prescribed limit.						



Ant. Pol.	Horizontal						
Test Mode:	TX 802.11ac(VHT20) Mode 5785MHz (U-NII-3)						
Remark:	No report for the emission which more than 20 dB below the prescribed limit.						

Ant. Pol.	Vertical						
Test Mode:	TX 802.11ac(VHT20) Mode 5785MHz (U-NII-3)						
Remark:	No report for the emission which more than 20 dB below the prescribed limit.						



Ant. Pol.	Horizontal						
Test Mode:	TX 802.11ac(VHT20) Mode 5825MHz (U-NII-3)						
Remark:	No report for the emission which more than 20 dB below the prescribed limit.						

Ant. Pol.	Vertical
Test Mode:	TX 802.11ac(VHT20) Mode 5825MHz (U-NII-3)
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	11650.179	38.69	15.14	53.83	74.00	-20.17	peak
2 *	11650.404	25.48	15.14	40.62	54.00	-13.38	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 802.11ac(VHT40) Mode 5755MHz (U-NII-3)
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 *	11510.214	27.45	15.01	42.46	54.00	-11.54	AVG
2	11510.239	38.19	15.01	53.20	74.00	-20.80	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 802.11ac(VHT40) Mode 5755MHz (U-NII-3)
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	11510.180	38.71	15.01	53.72	74.00	-20.28	peak
2 *	11510.318	25.59	15.01	40.60	54.00	-13.40	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 802.11ac(VHT40) Mode 5795MHz (U-NII-3)						
Remark:	No report for the emission which more than 20 dB below the prescribed limit.						

Ant. Pol.	Vertical						
Test Mode:	TX 802.11ac(VHT40) Mode 5795MHz (U-NII-3)						
Remark:	No report for the emission which more than 20 dB below the prescribed limit.						



Ant. Pol.	Horizontal						
Test Mode:	TX 802.11ac(VHT80) Mode 5775MHz (U-NII-3)						
Remark:	No report for the emission which more than 20 dB below the prescribed limit.						

Ant. Pol.	Vertical
Test Mode:	TX 802.11ac(VHT80) Mode 5775MHz (U-NII-3)
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	11550.031	38.66	15.05	53.71	74.00	-20.29	peak
2 *	11550.304	26.15	15.05	41.20	54.00	-12.80	AVG

Remarks:

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

2.Margin value = Level -Limit value

3.3. Band Edge Emissions

Limit

Limits of unwanted emission out of the restricted bands

FCC CFR Title 47 Part 15 Subpart E Section 15. 407(b) / RSS-247 6.2

Frequency (MHz)	EIRP Limits (dBm)	Equivalent Field Strength at 3m (dBμV/m)
5150~5250	-27	68.2
5250~5350	-27	68.2
5470~5725	-27	68.2
5725~5825	-27 (Note 2)	68.2
	10 (Note 2)	105.2
	15.6 (Note 2)	110.8
	27 (Note 2)	122.2

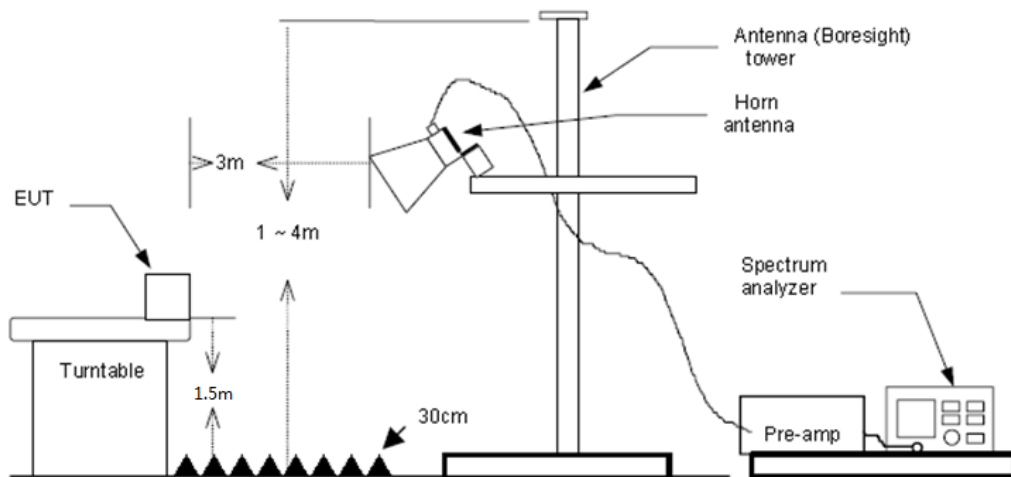
Note:

1. The following formula is used to convert the equipment isotropic radiated power (eirp) to field

strength: $E = \frac{1000000\sqrt{30P}}{3} \mu\text{V/m}$, where P is the eirp (Watts).

2. According to FCC 16-24, all emissions shall be limited to a level of -27 dBm/MHz at 75 MHz or more above or below the band edge increasing linearly to 10 dBm/MHz at 25 MHz above or below the band edge, and from 25MHz above or below the band edge increasing linearly to a level of 15.6 dBm/MHz at 5 MHz above or below the band edge, and from 5 MHz above or below the band edge increasing linearly to a level of 27dBm/MHz at the band edge.

Test Configuration





Test Procedure

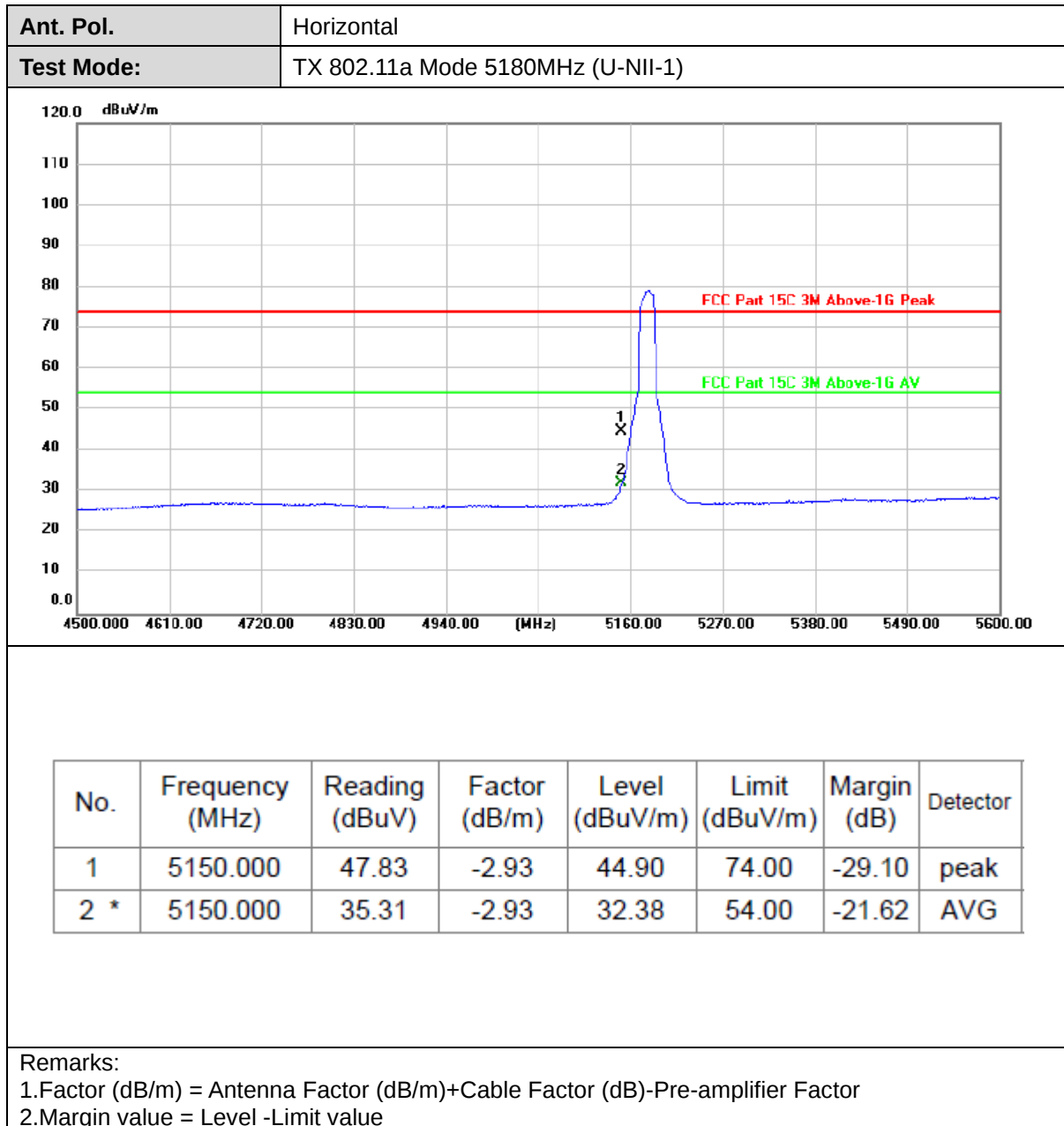
1. The EUT was setup and tested according to ANSI C63.10:2013 requirements.
2. The EUT is placed on a turn table which is 1.5 meter above ground. The turn table is rotated 360 degrees to determine the position of the maximum emission level.
3. The EUT was positioned such that the distance from antenna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

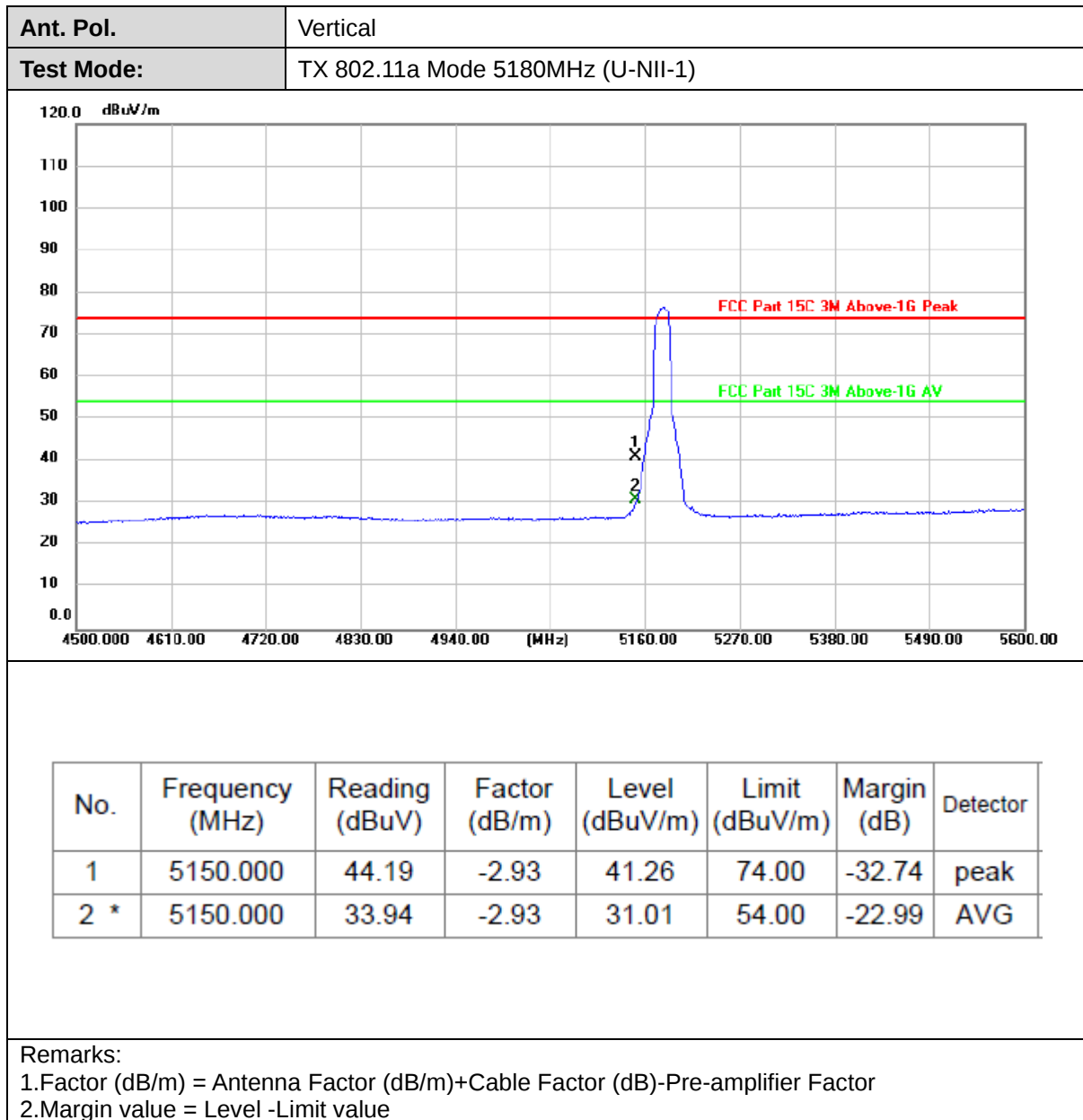
Note 1: For measurements above 1 GHz the resolution bandwidth is set to 1 MHz, then the video bandwidth is set to 3 MHz for peak measurements and 1 MHz resolution bandwidth with 1/T video bandwidth with peak detector for average measurements. For the Duty Cycle please refer to clause Duty Cycle.

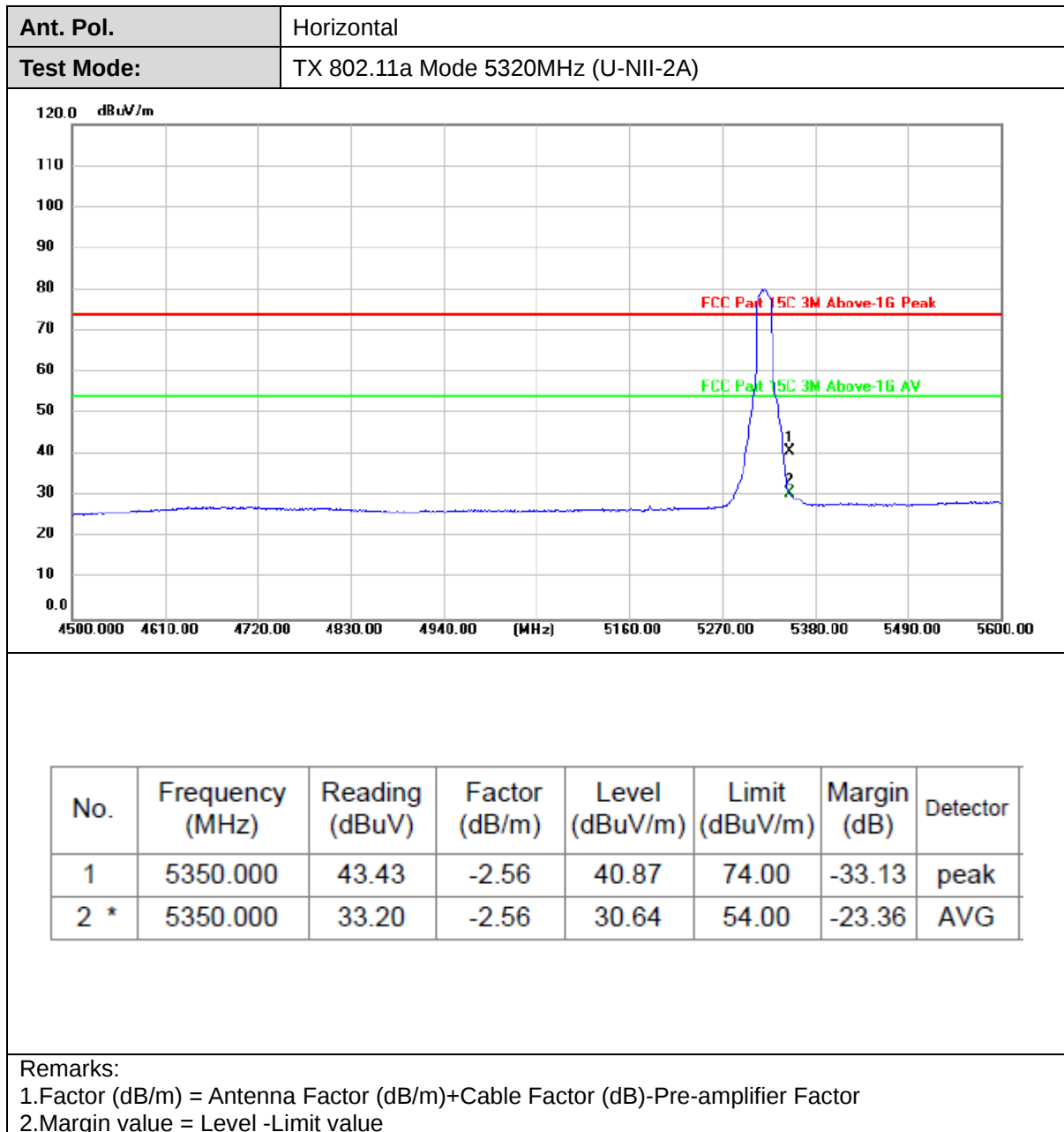
Test Mode

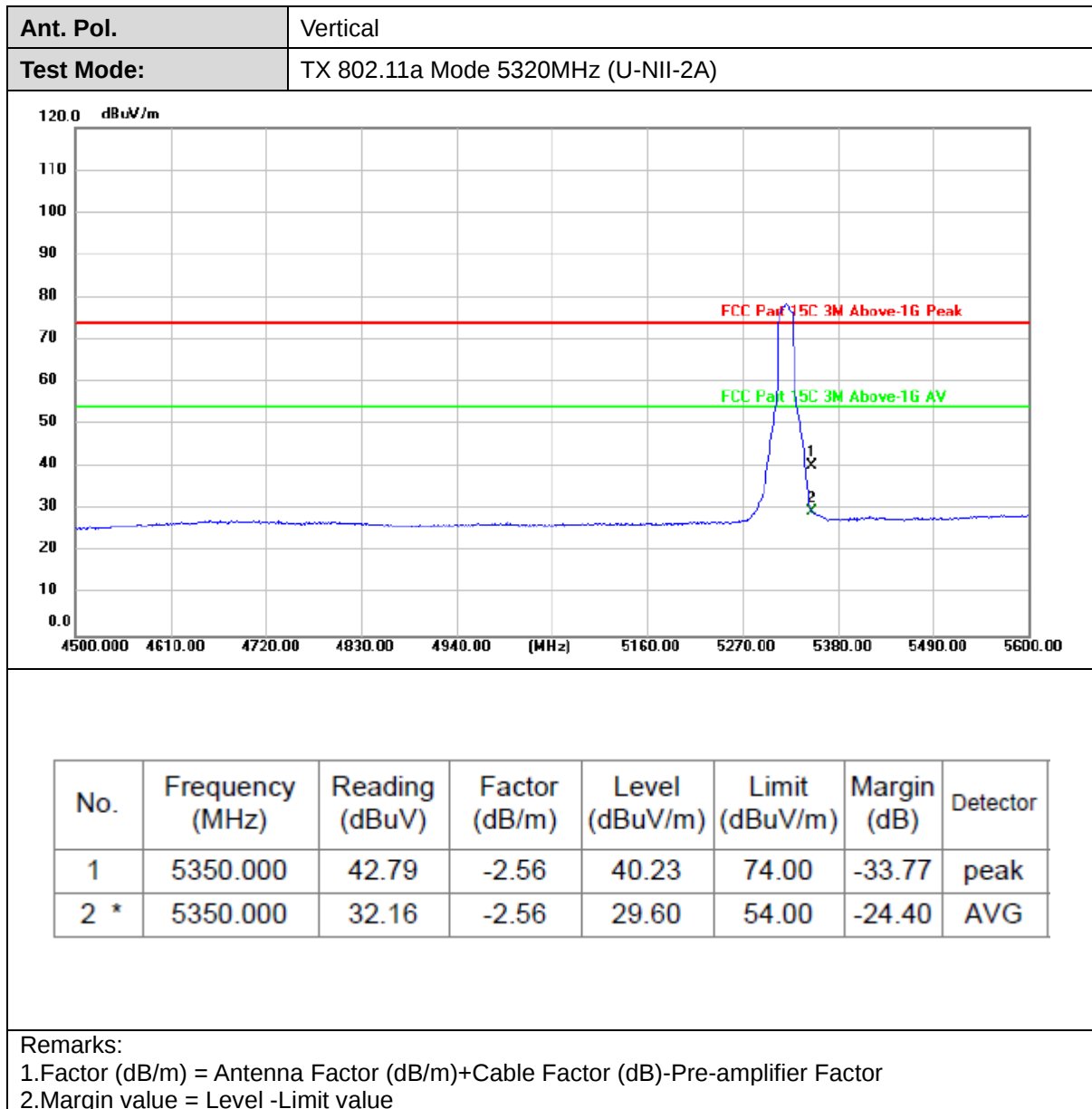
Please refer to the clause 2.4.

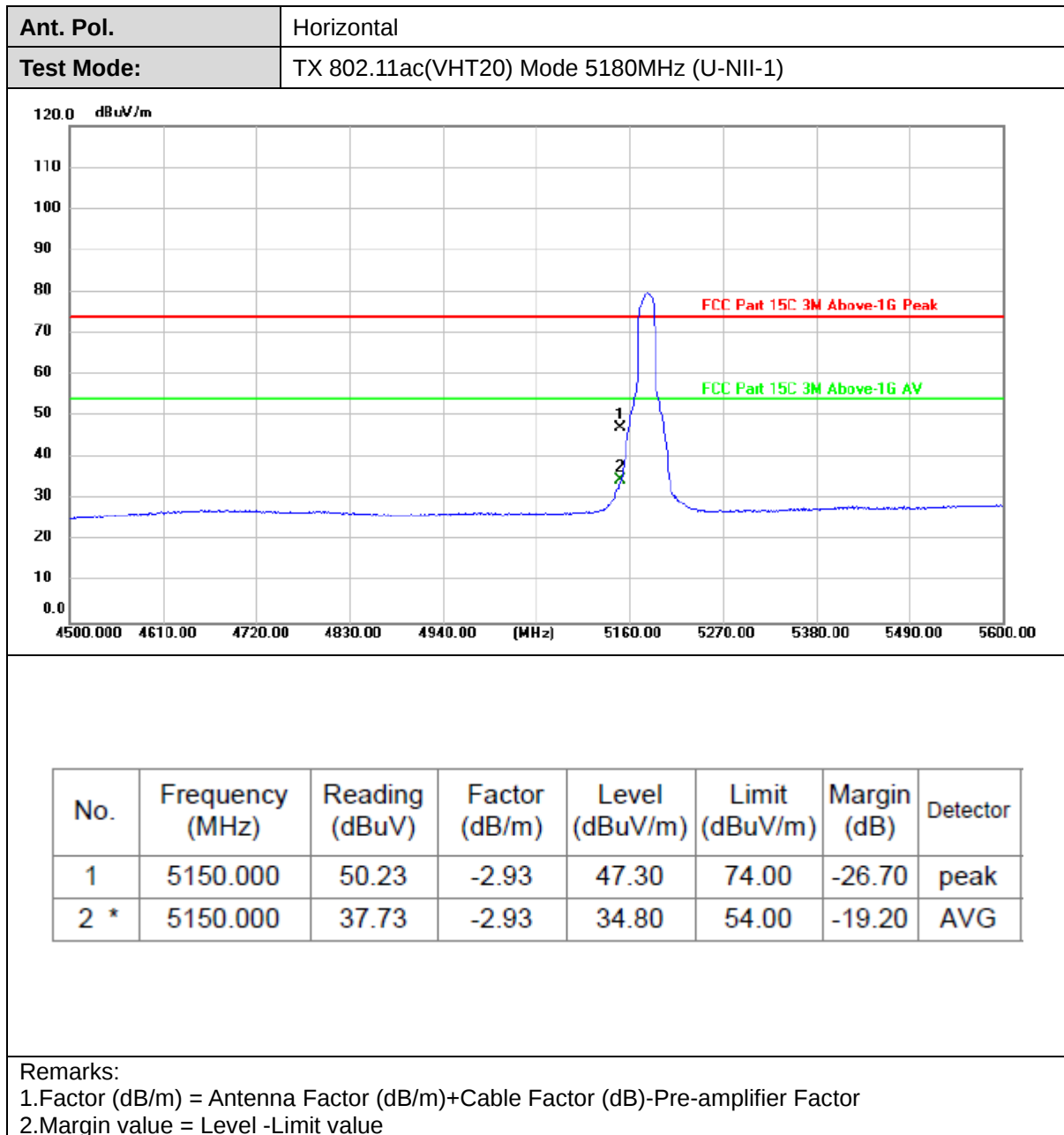
Test Result

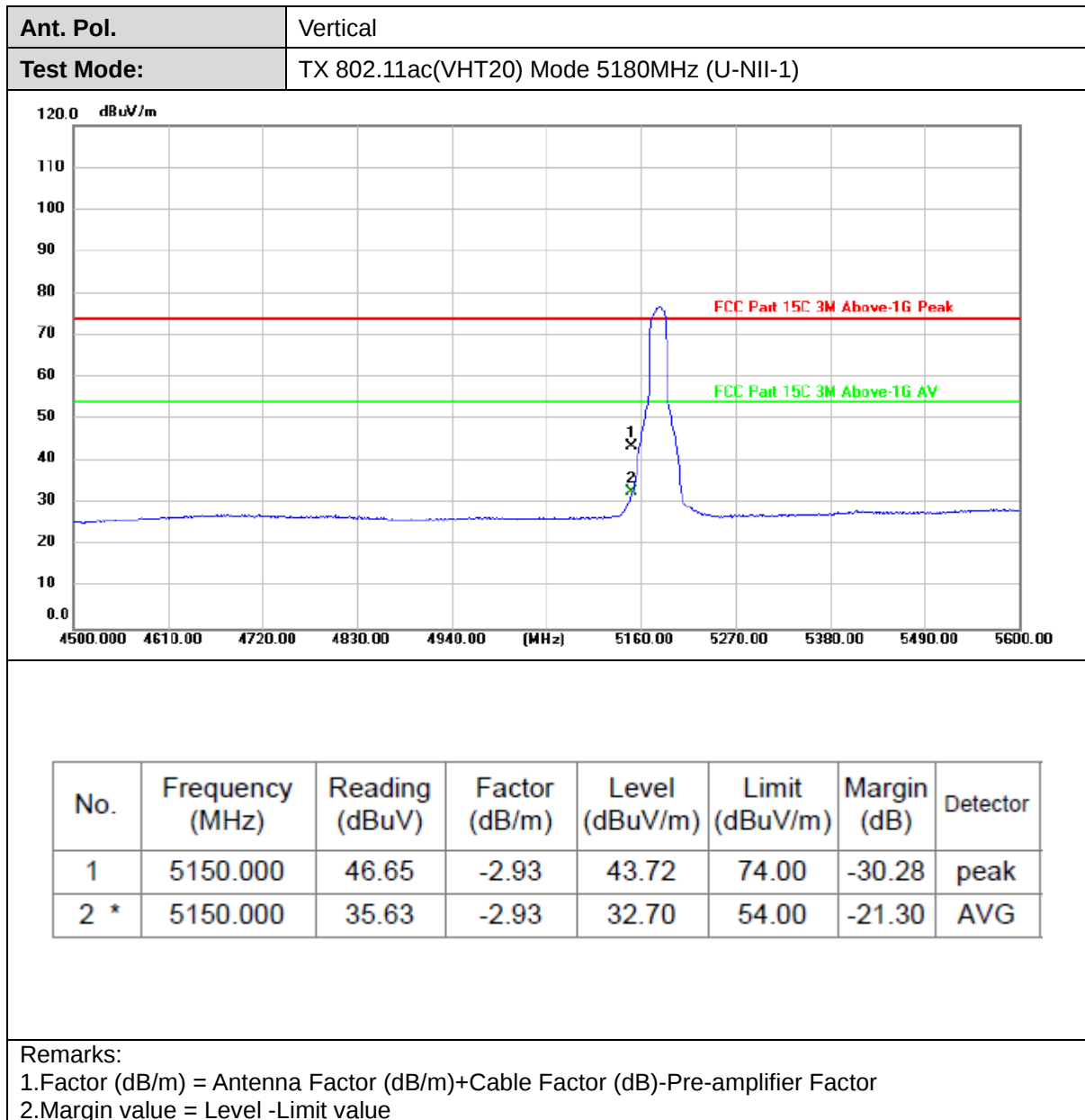


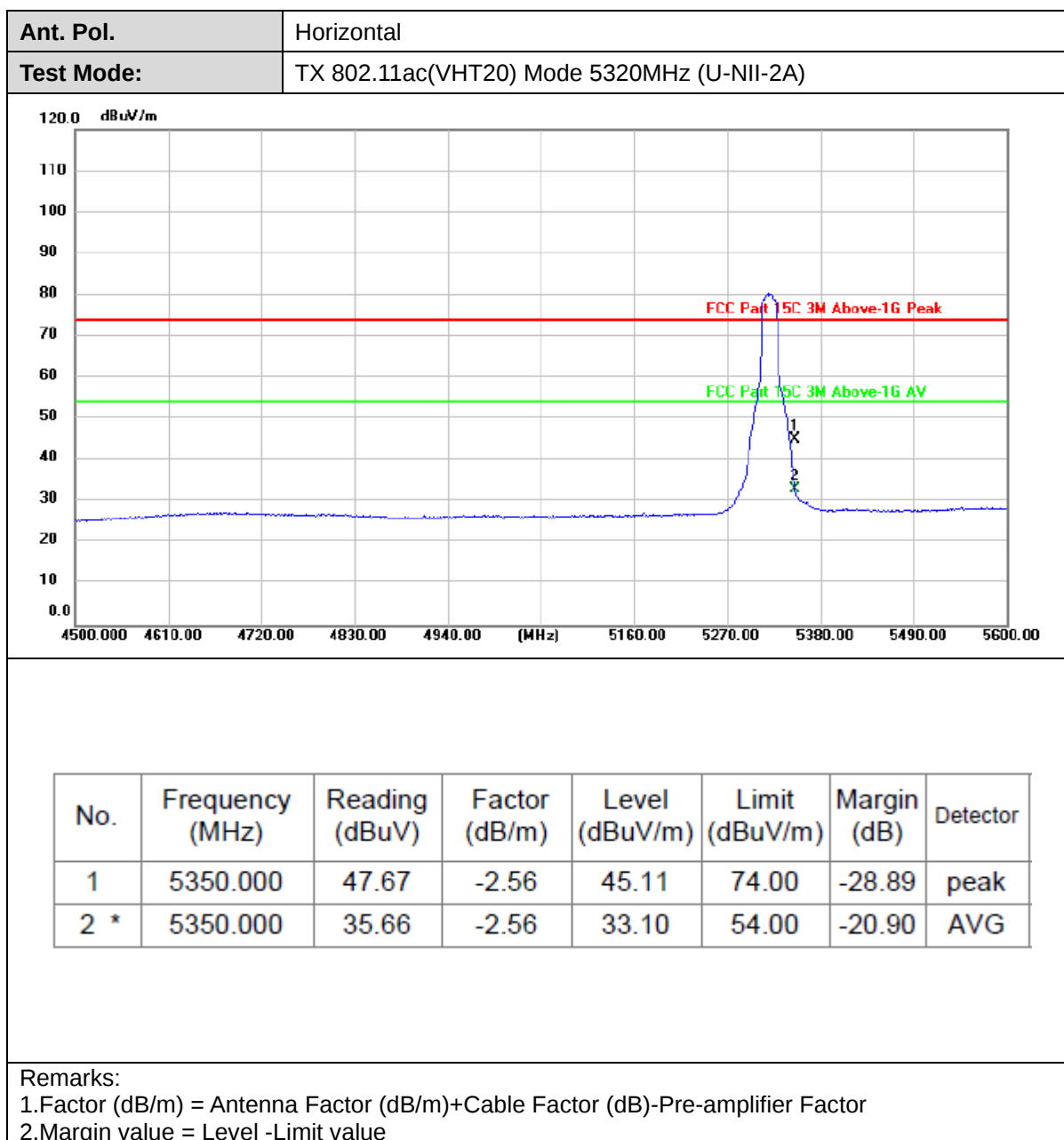


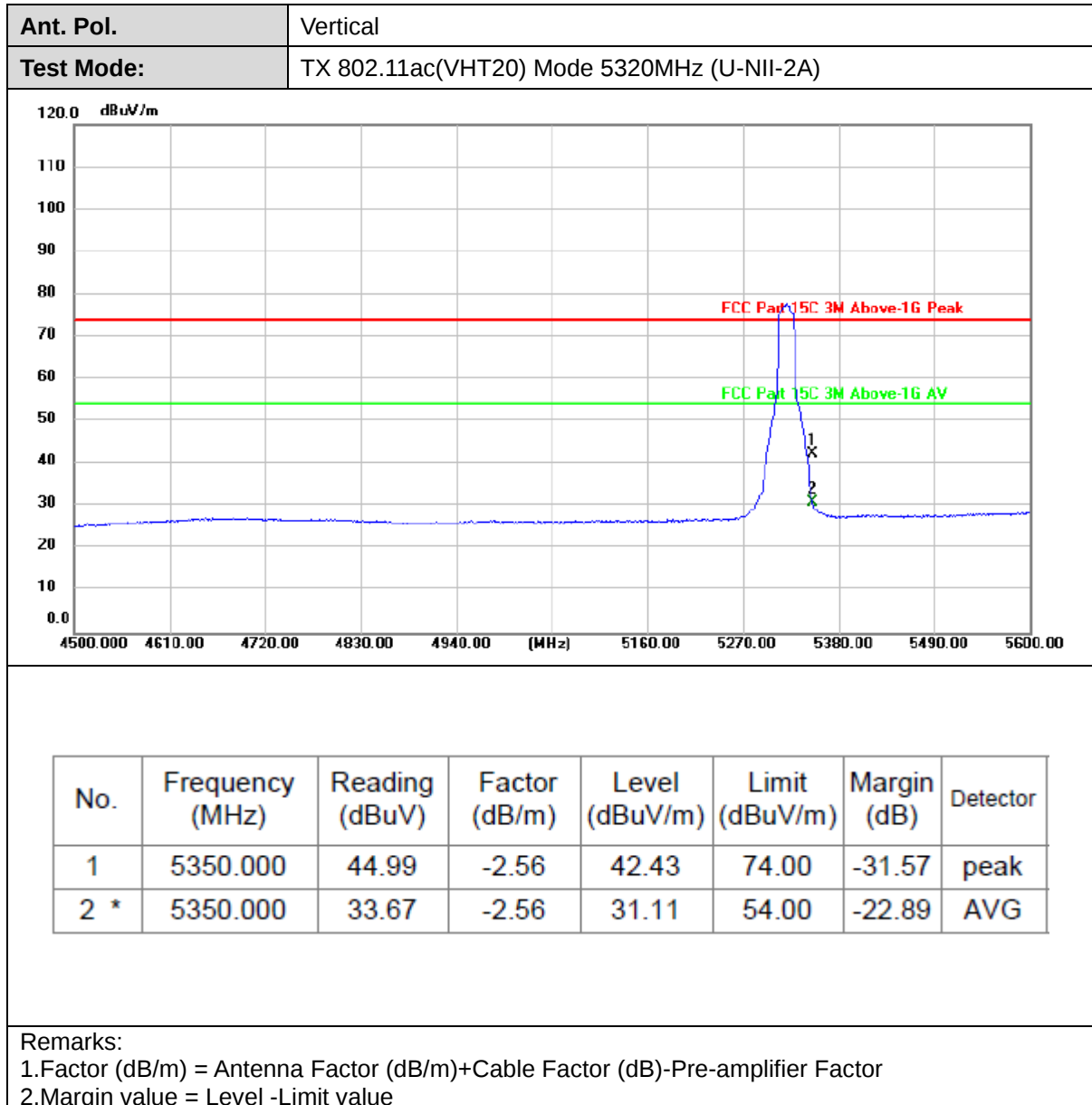


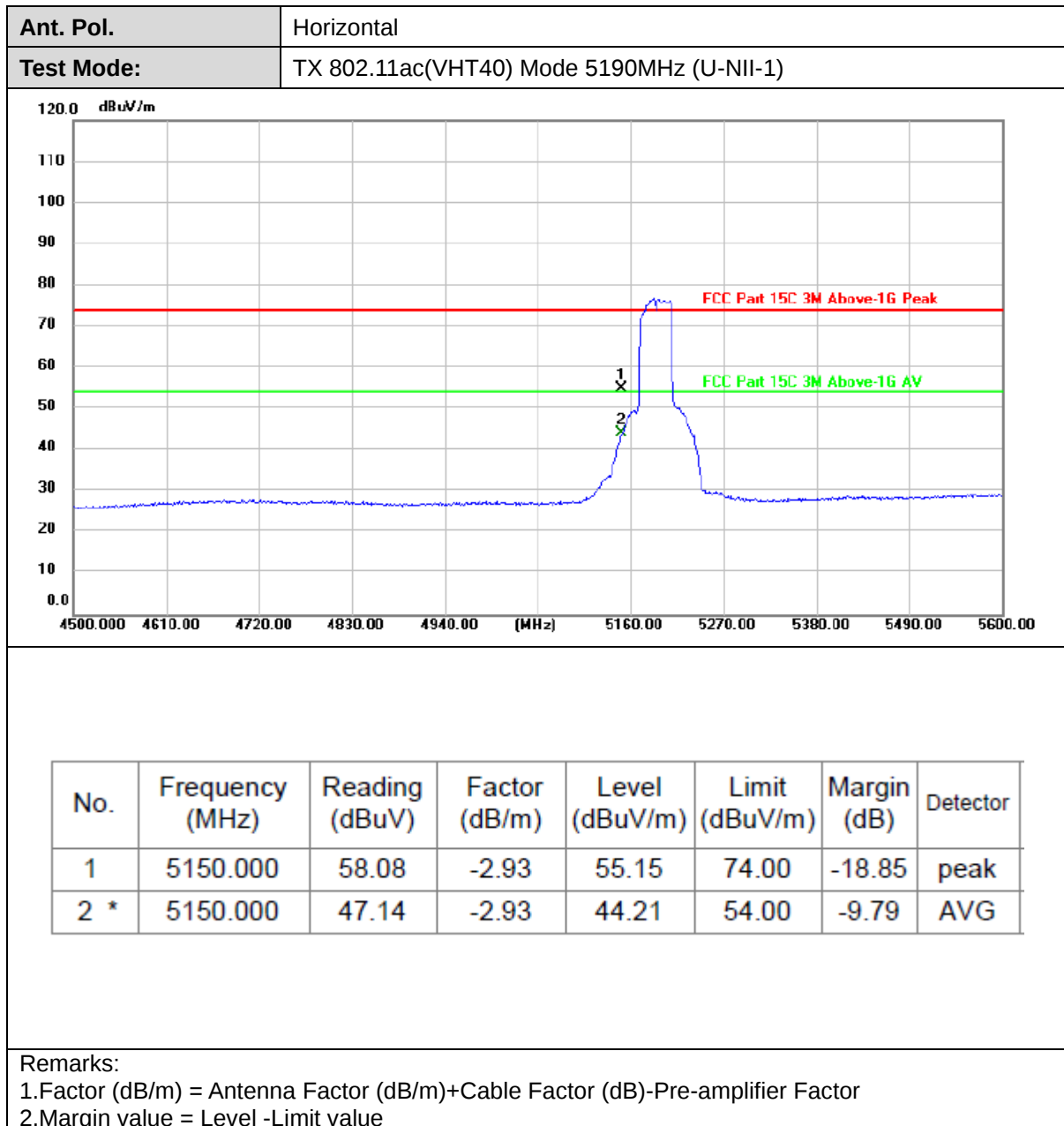


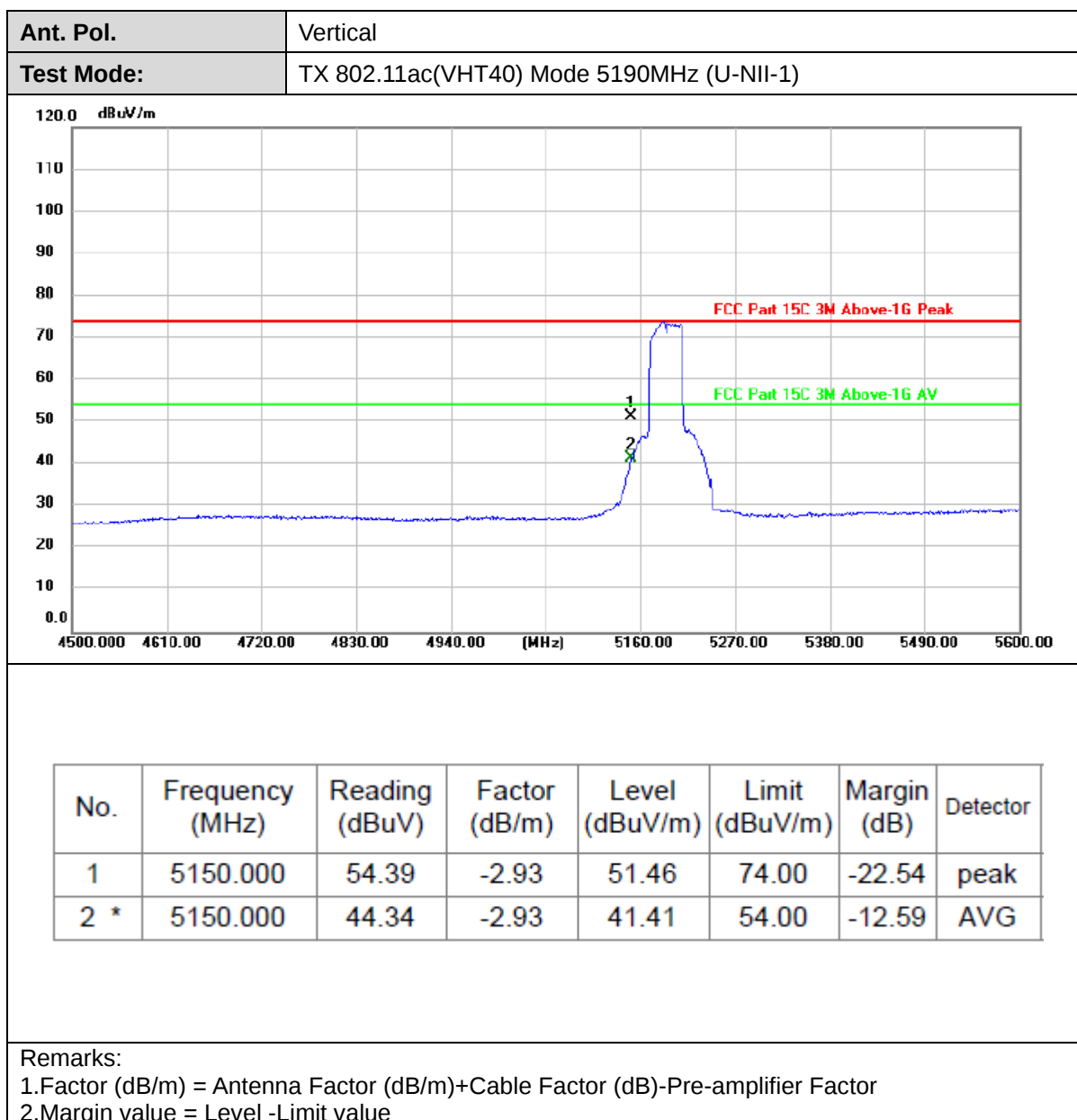


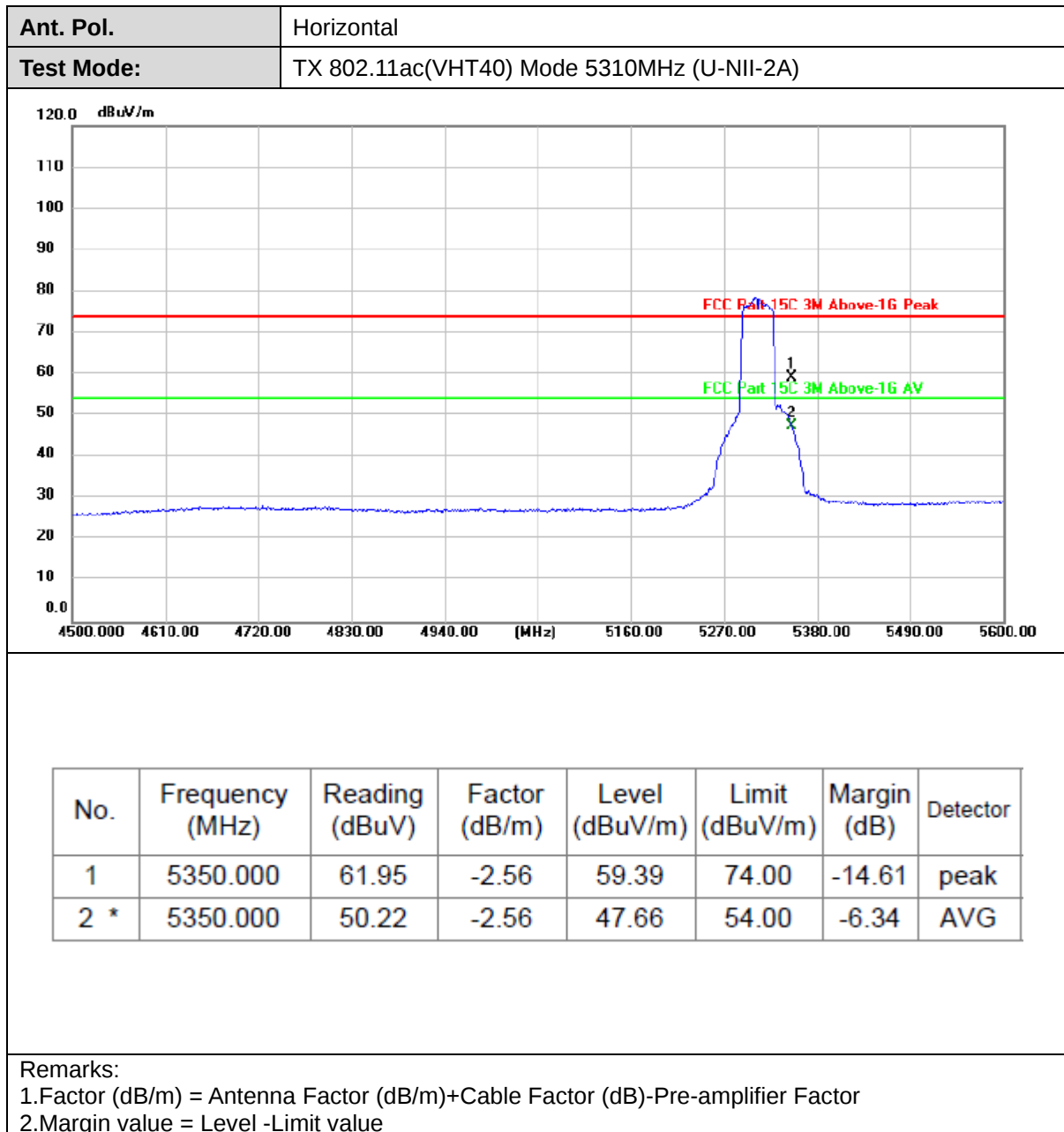


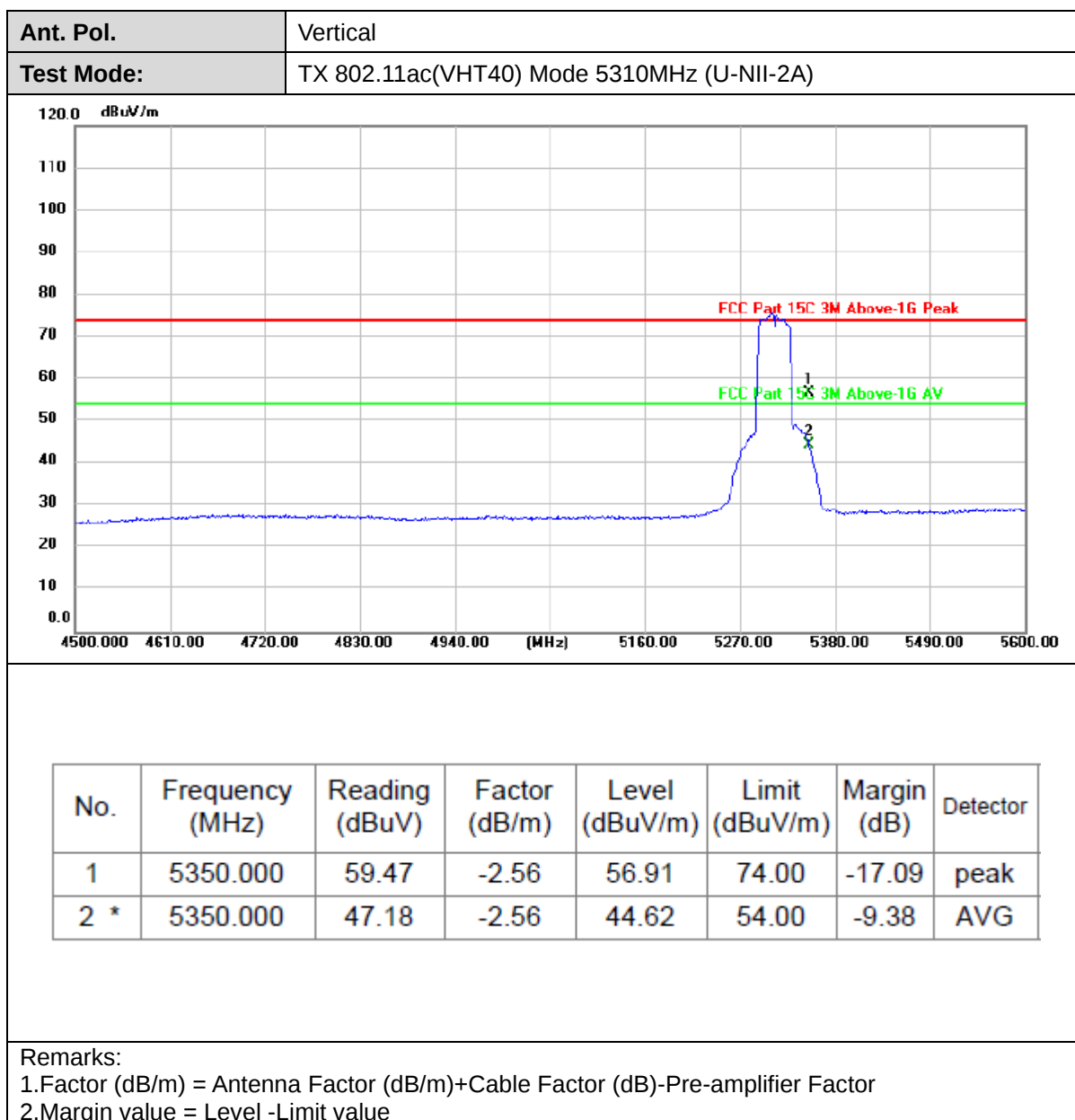


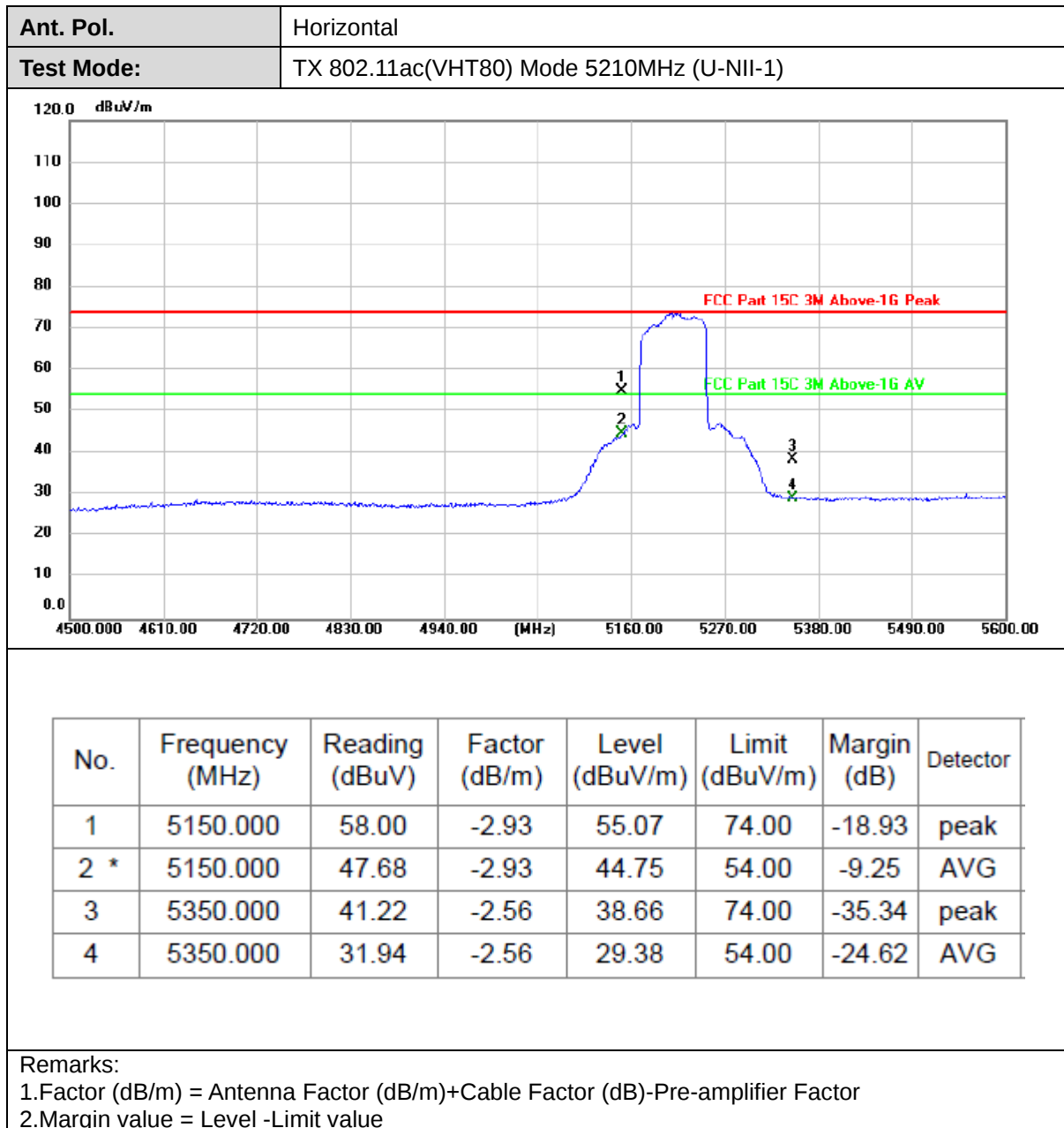


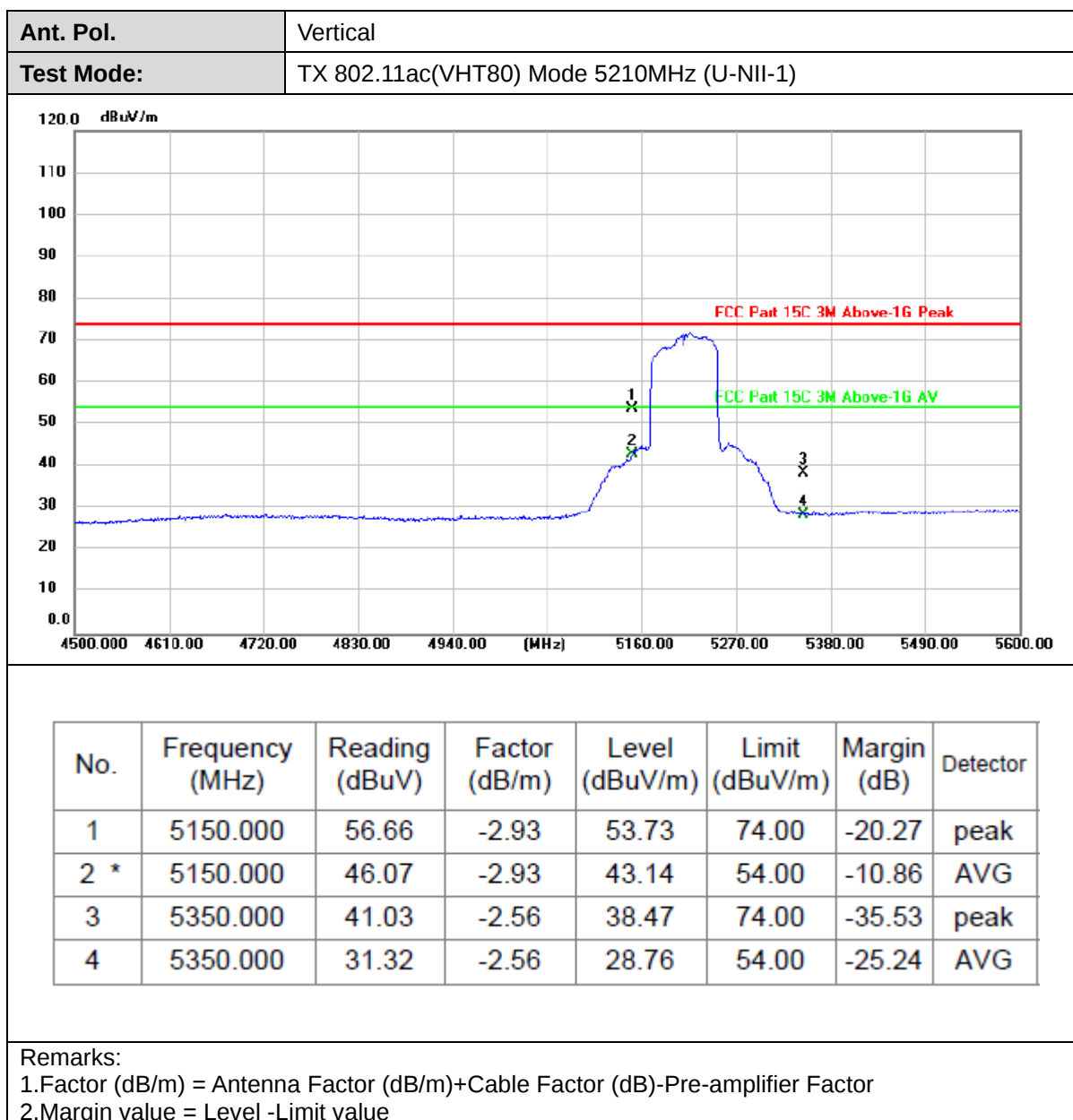


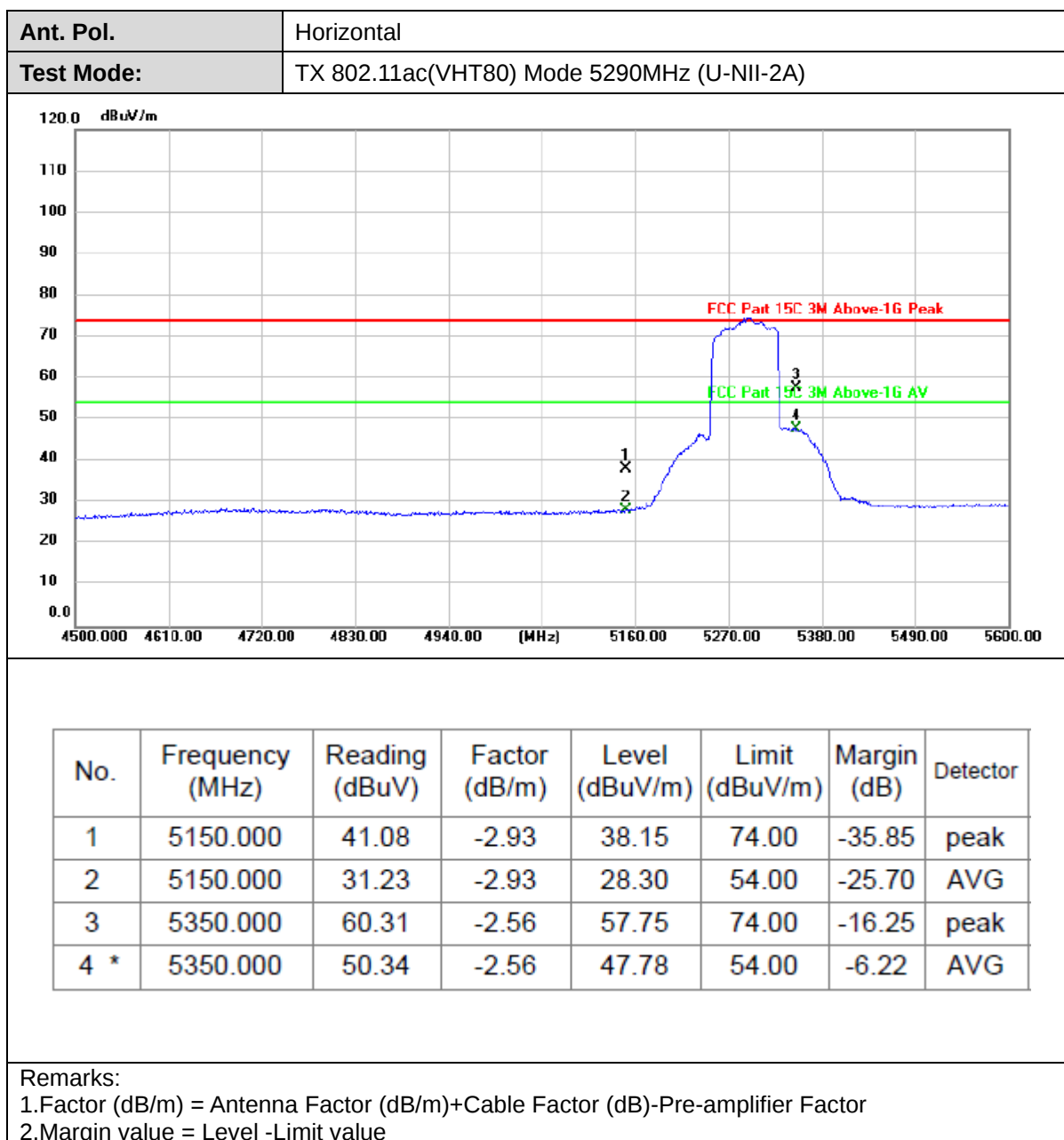


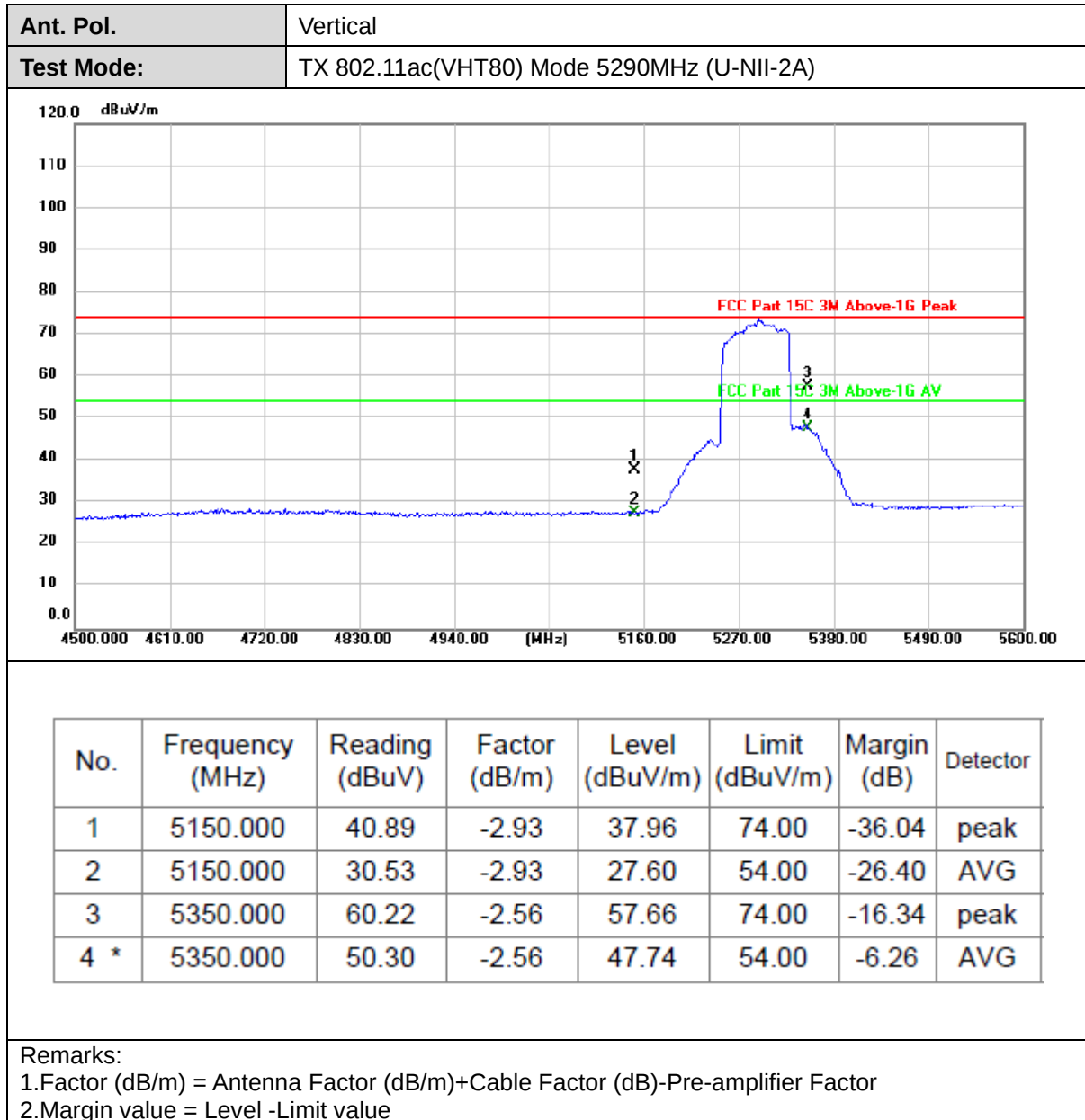


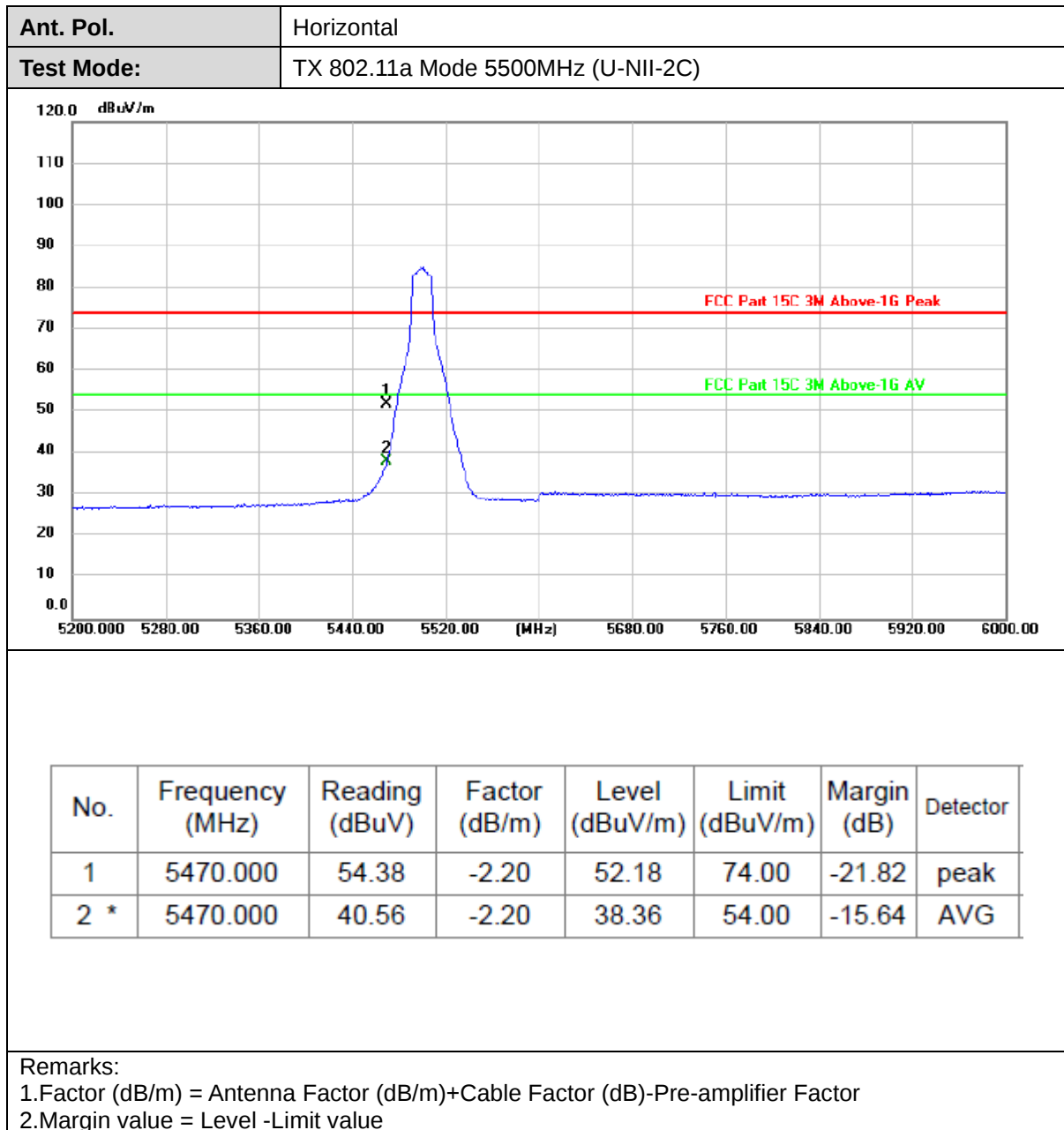


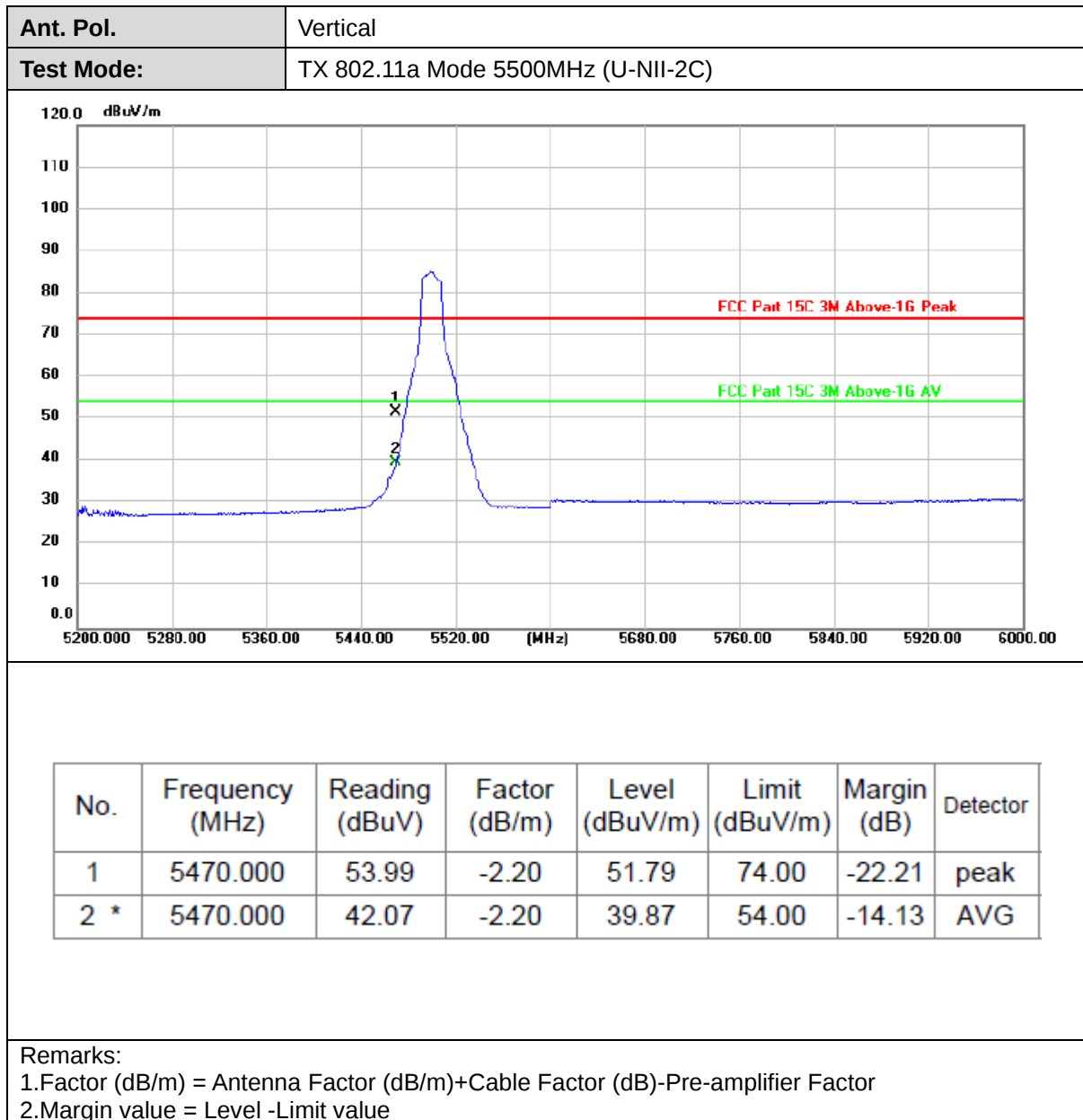


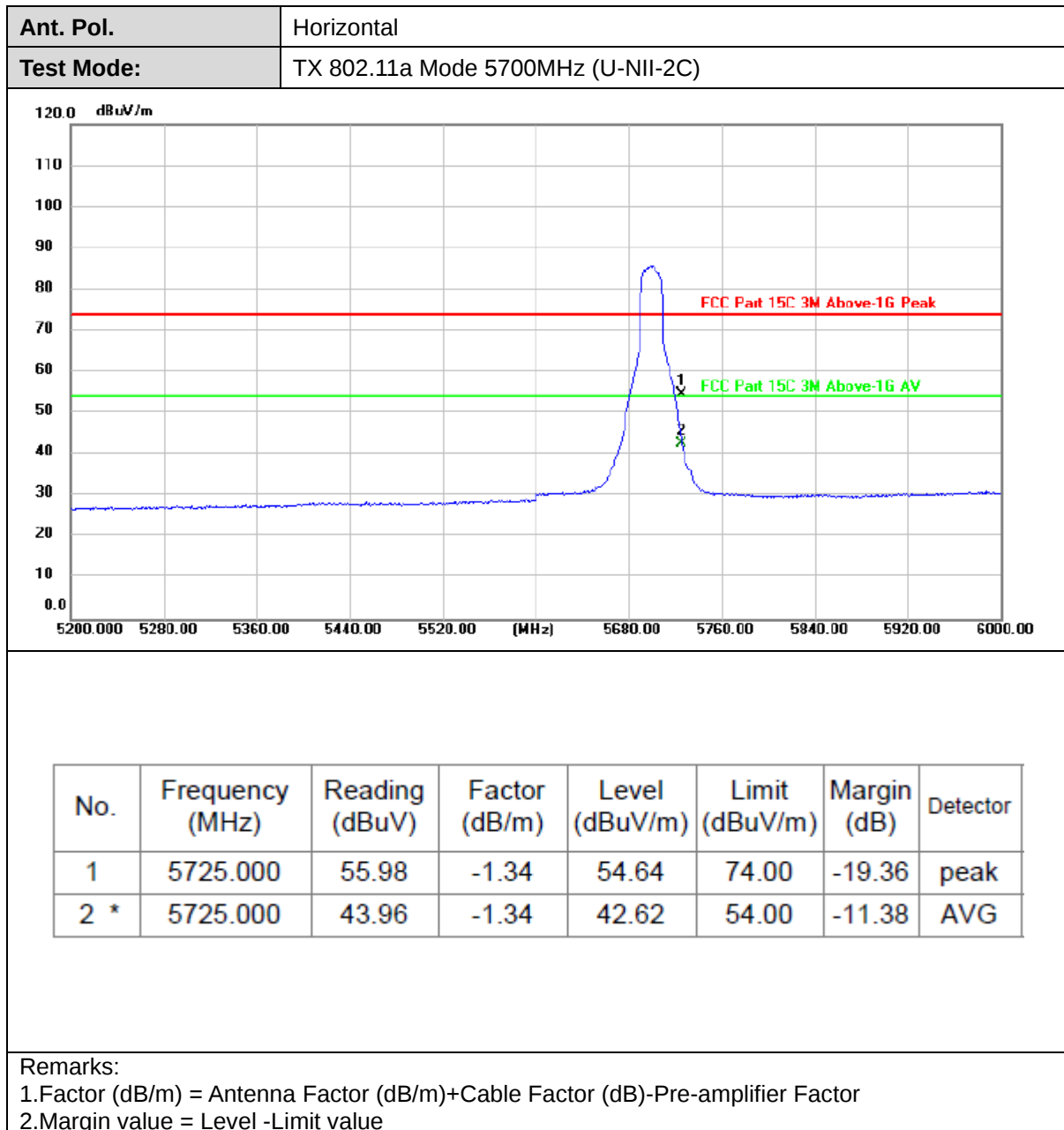


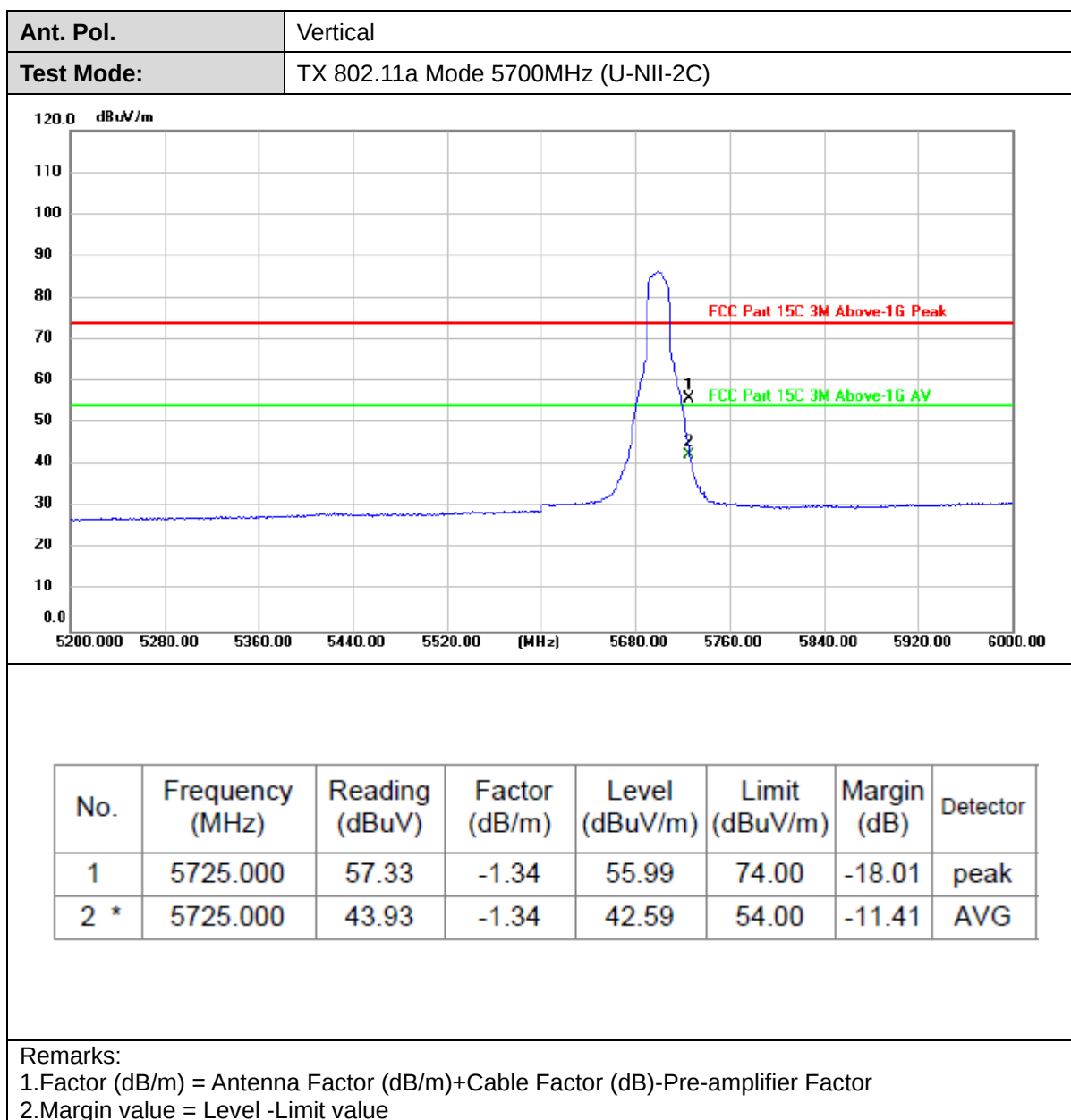


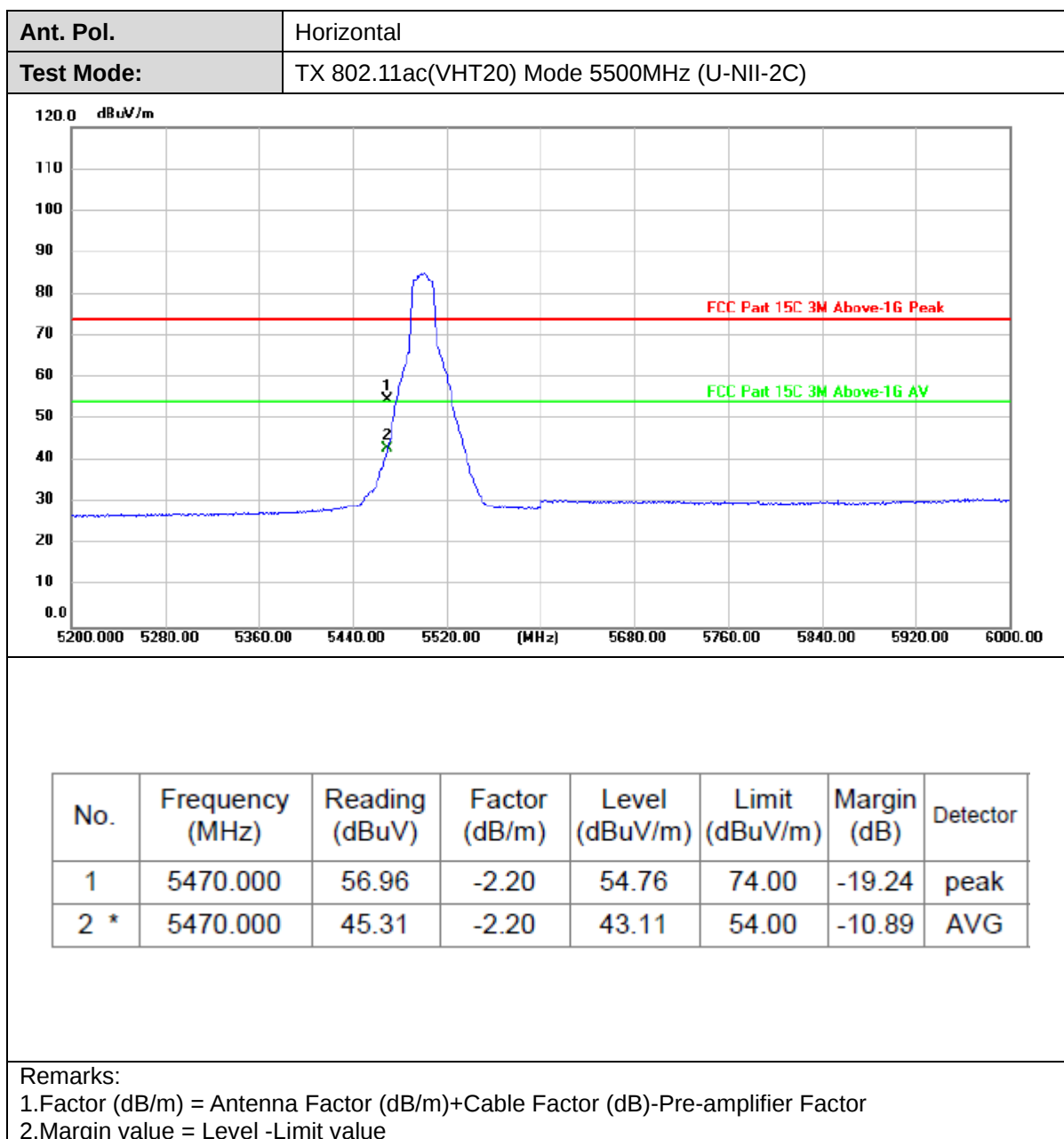


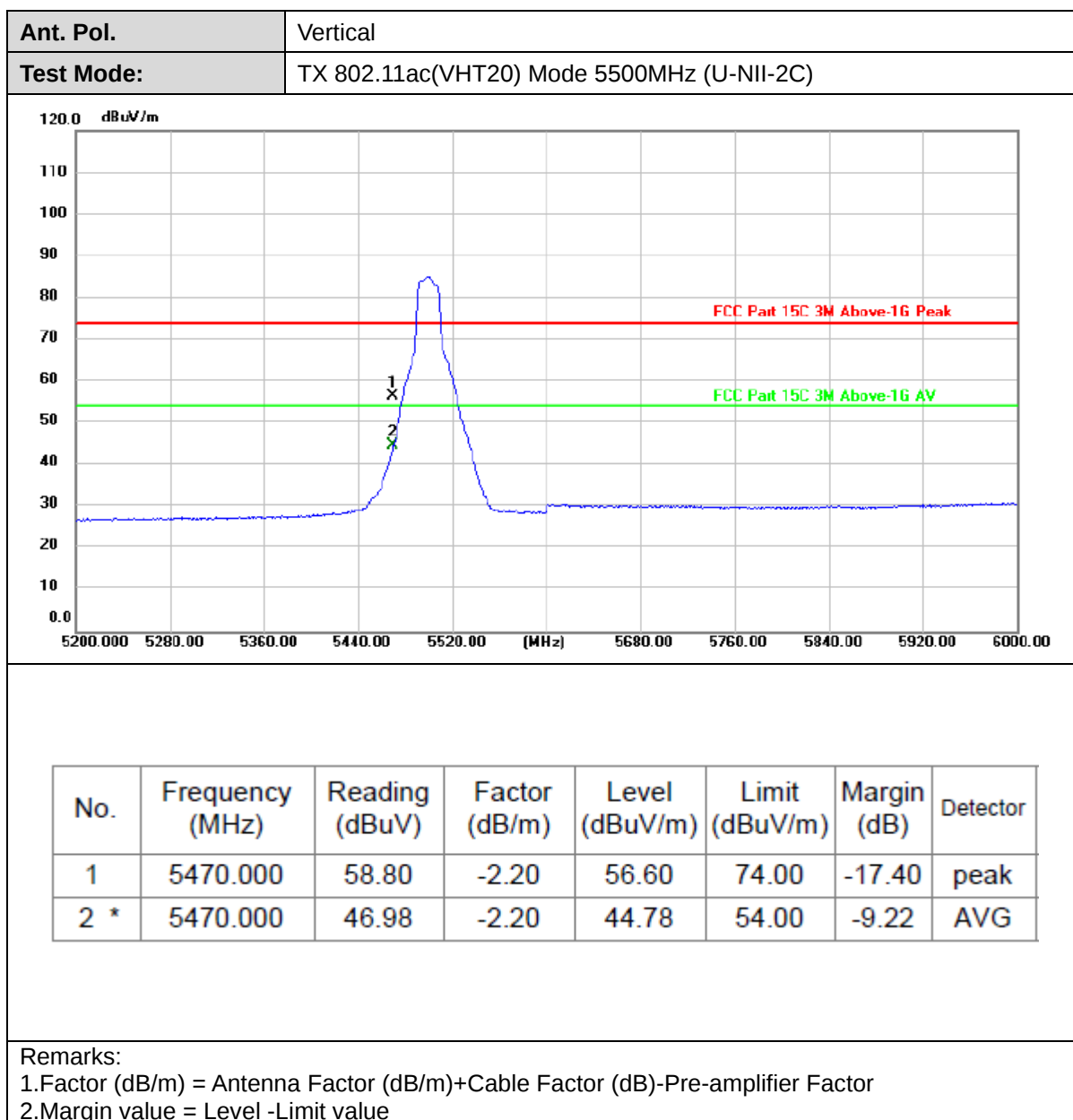


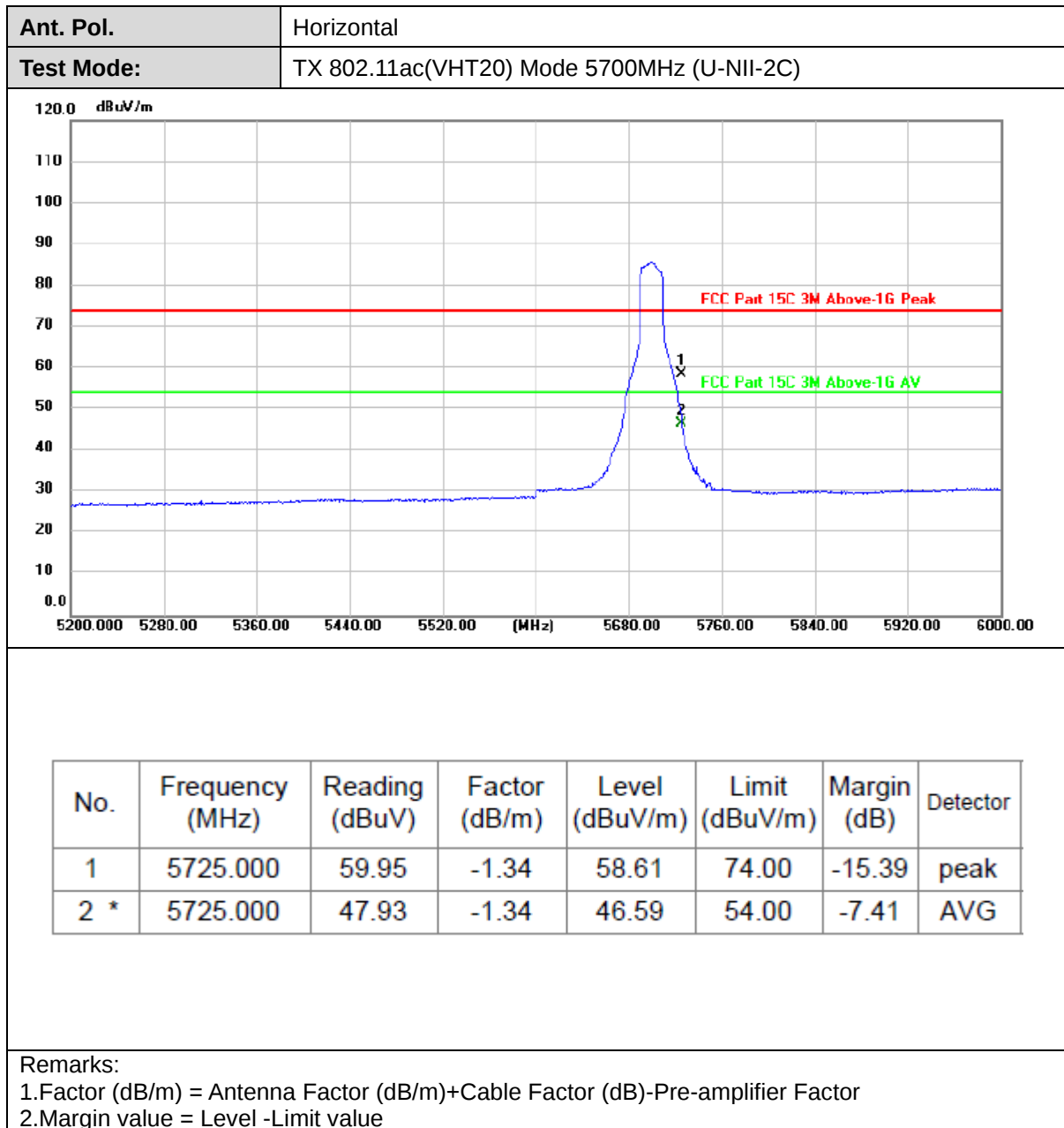


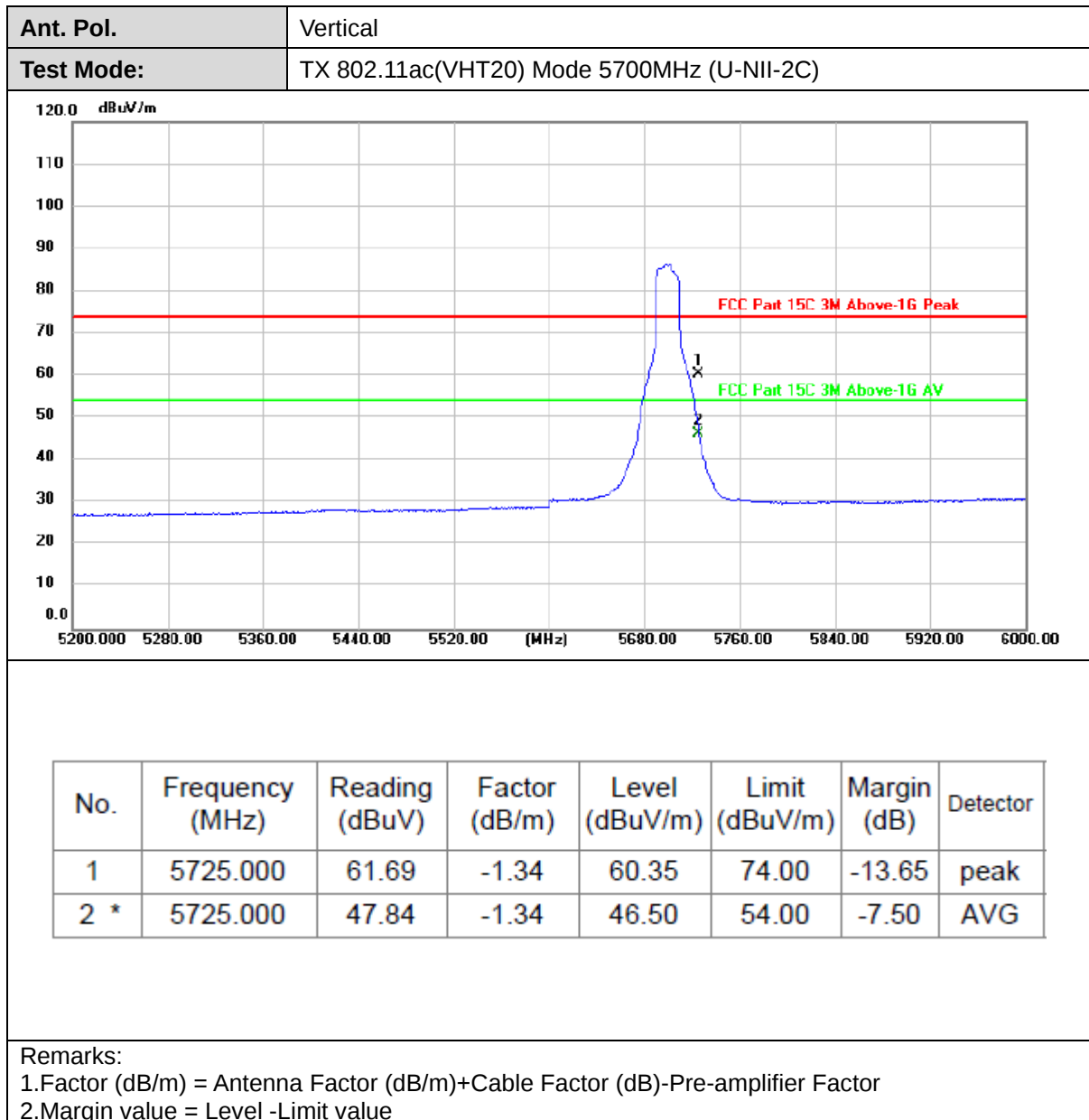


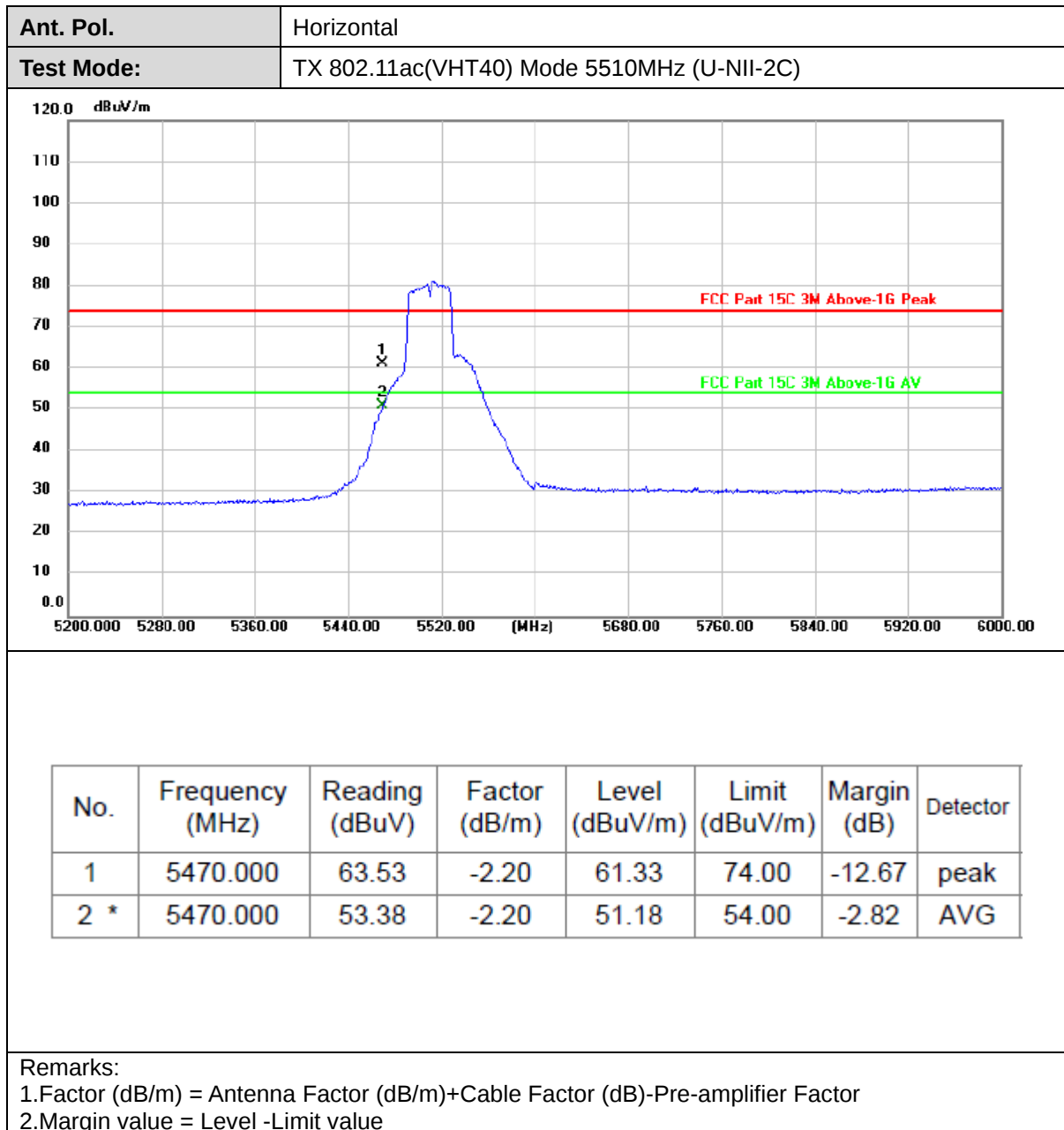


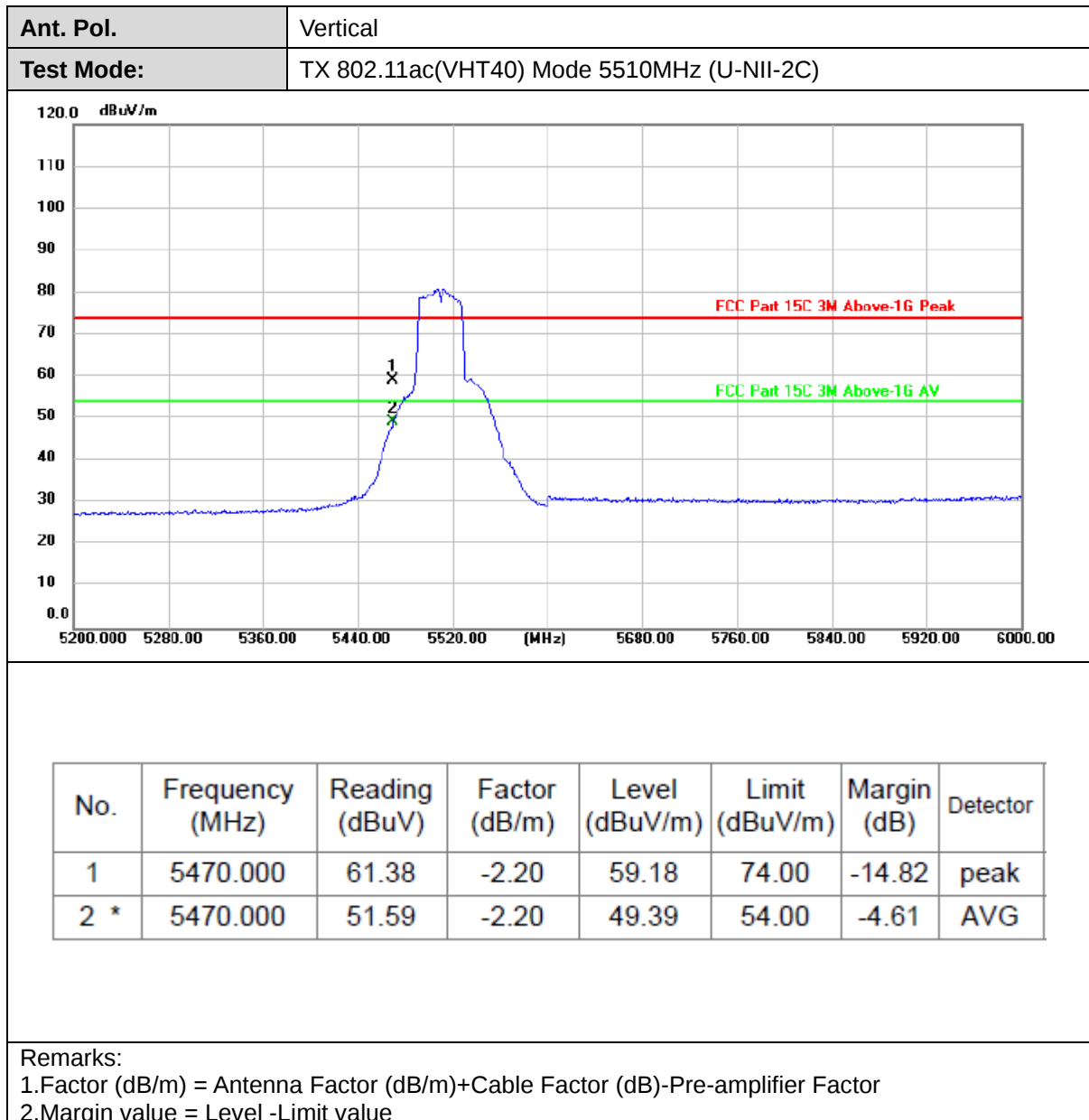


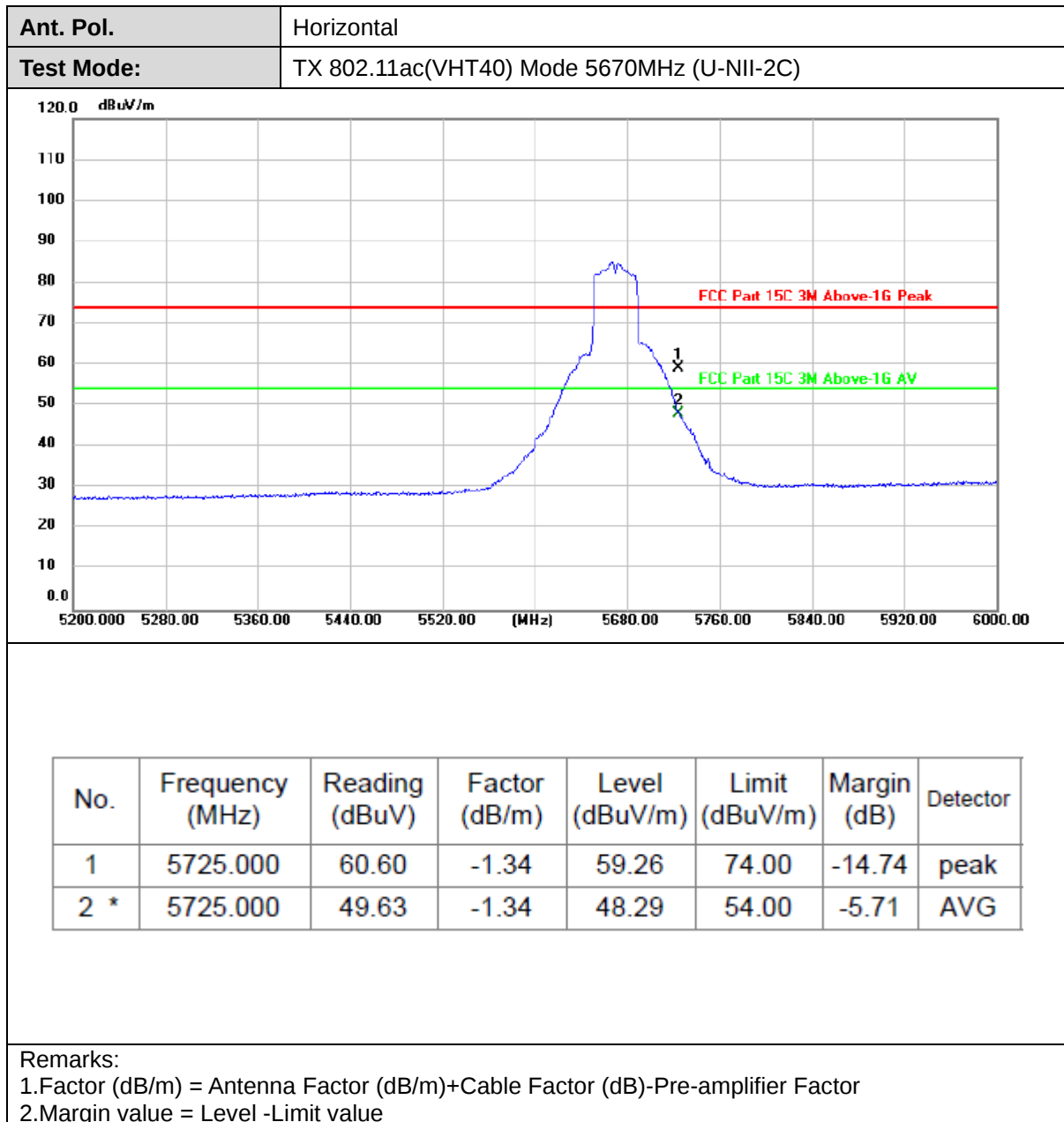


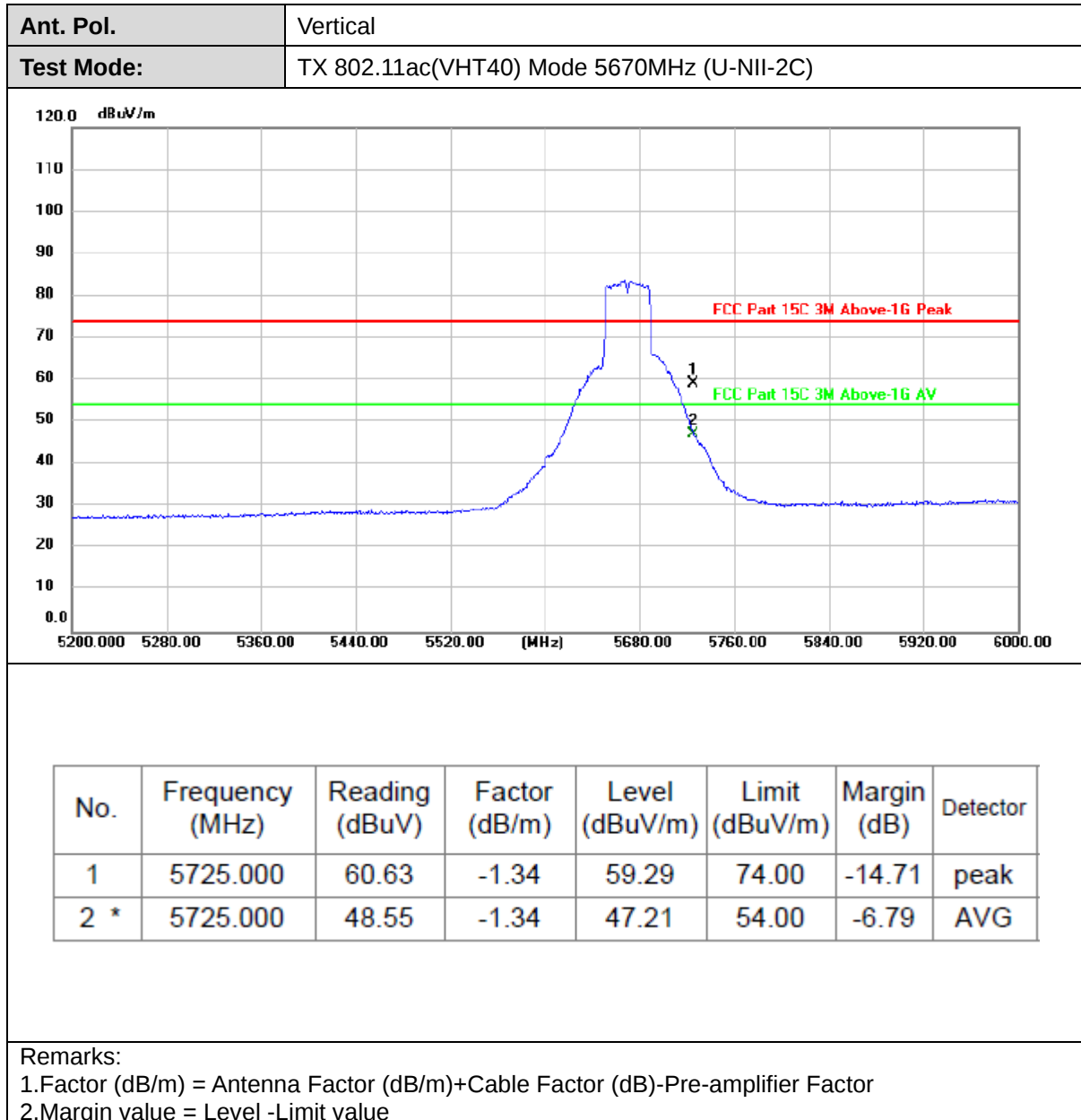


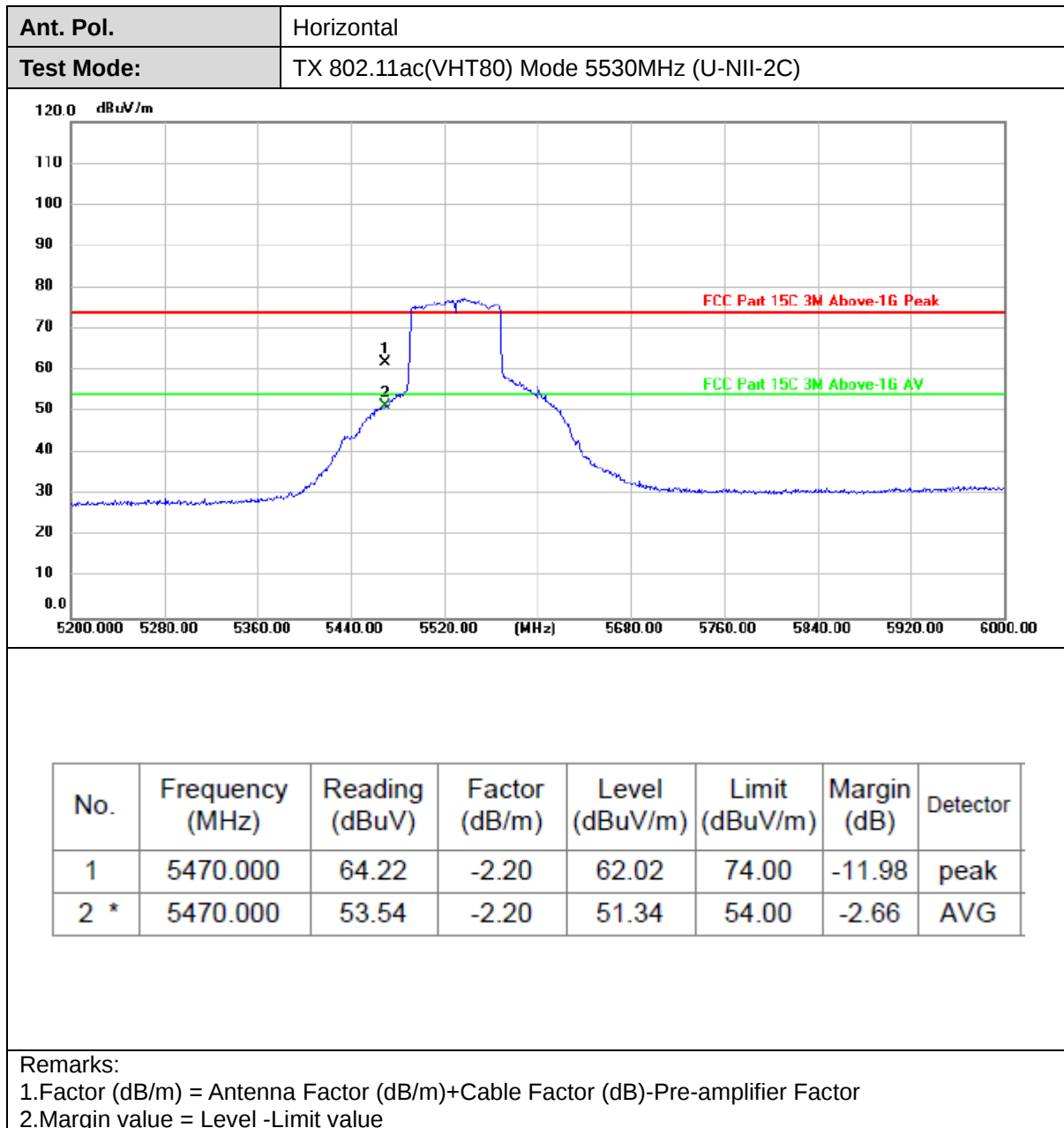


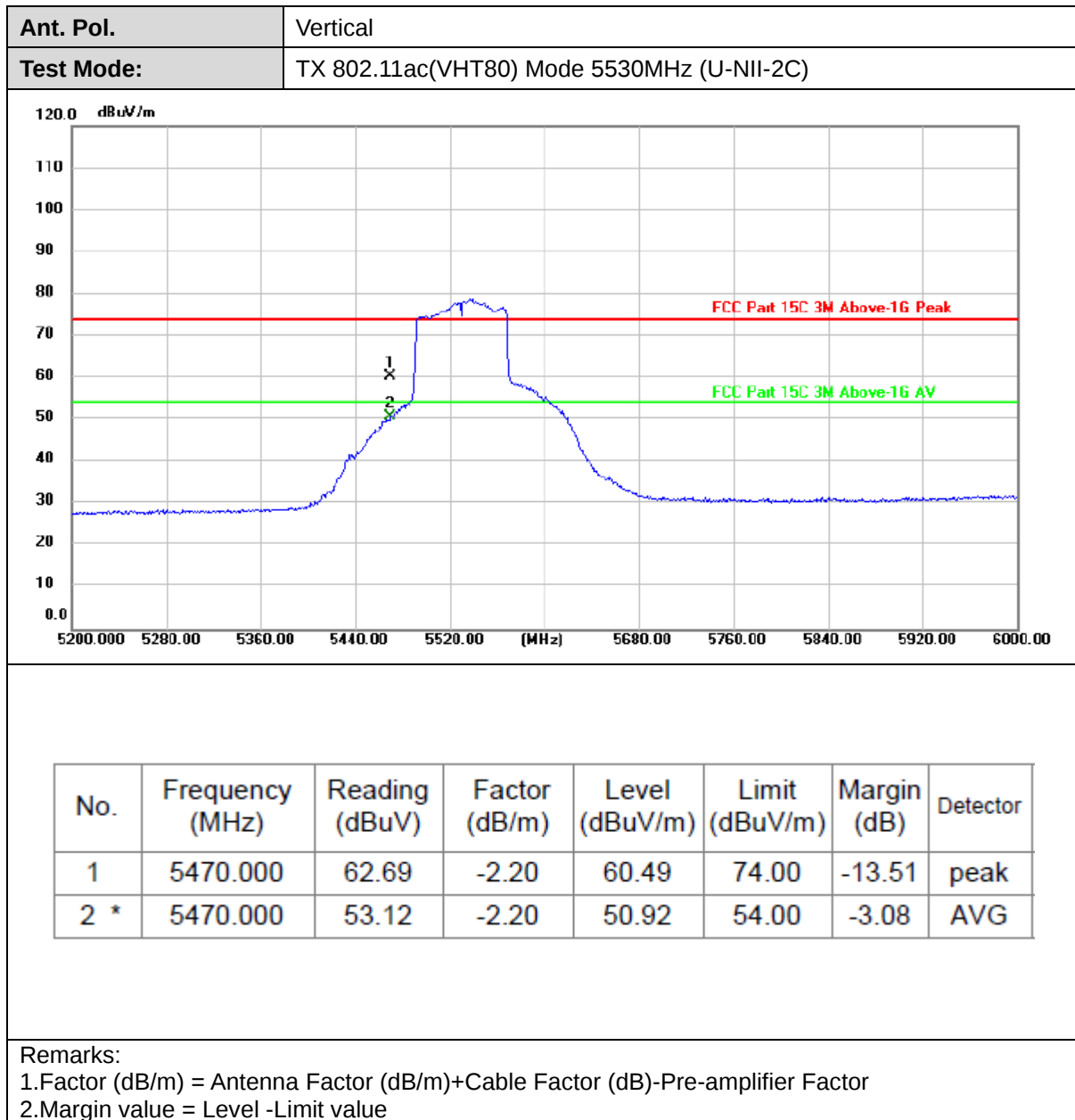


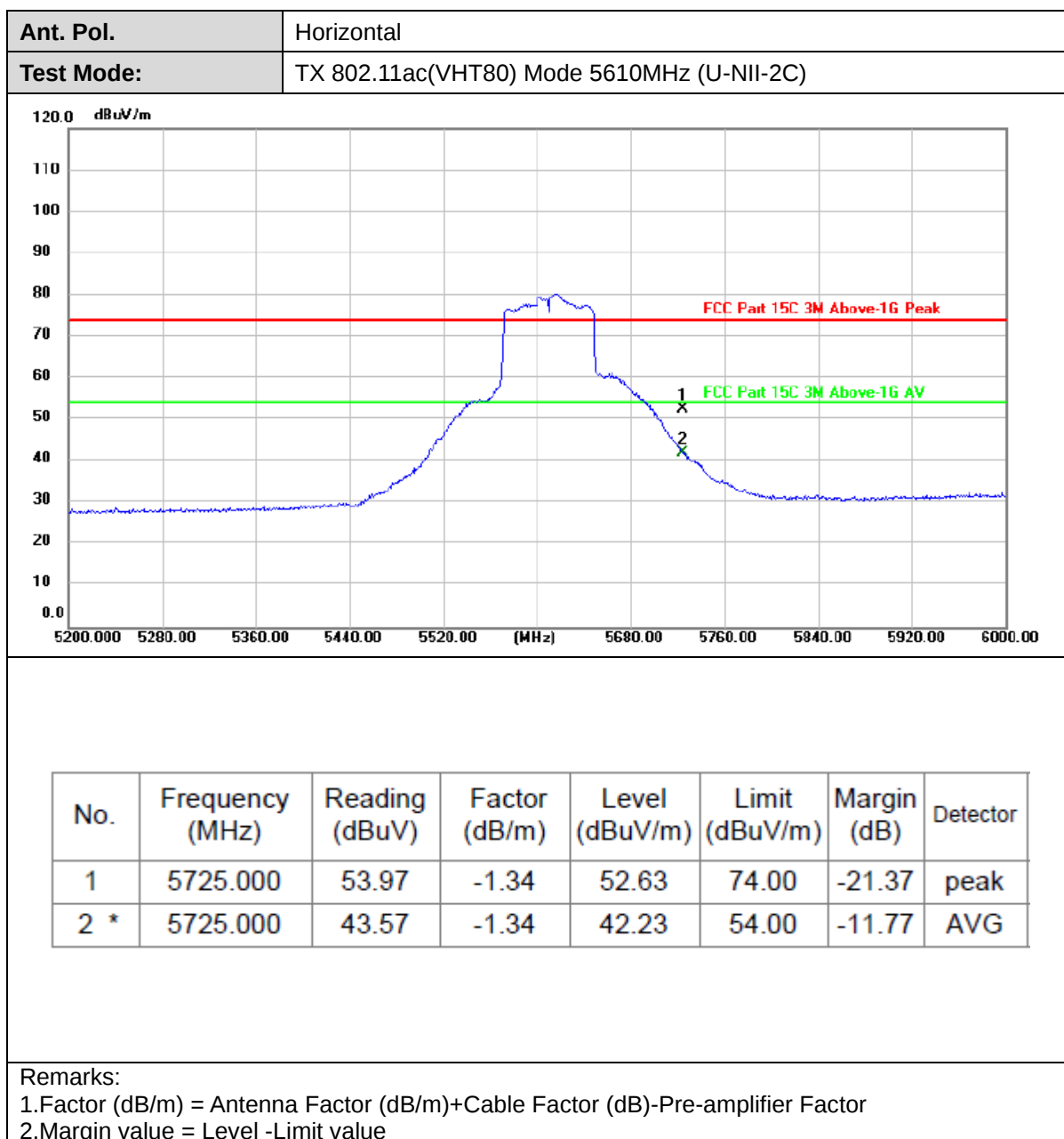


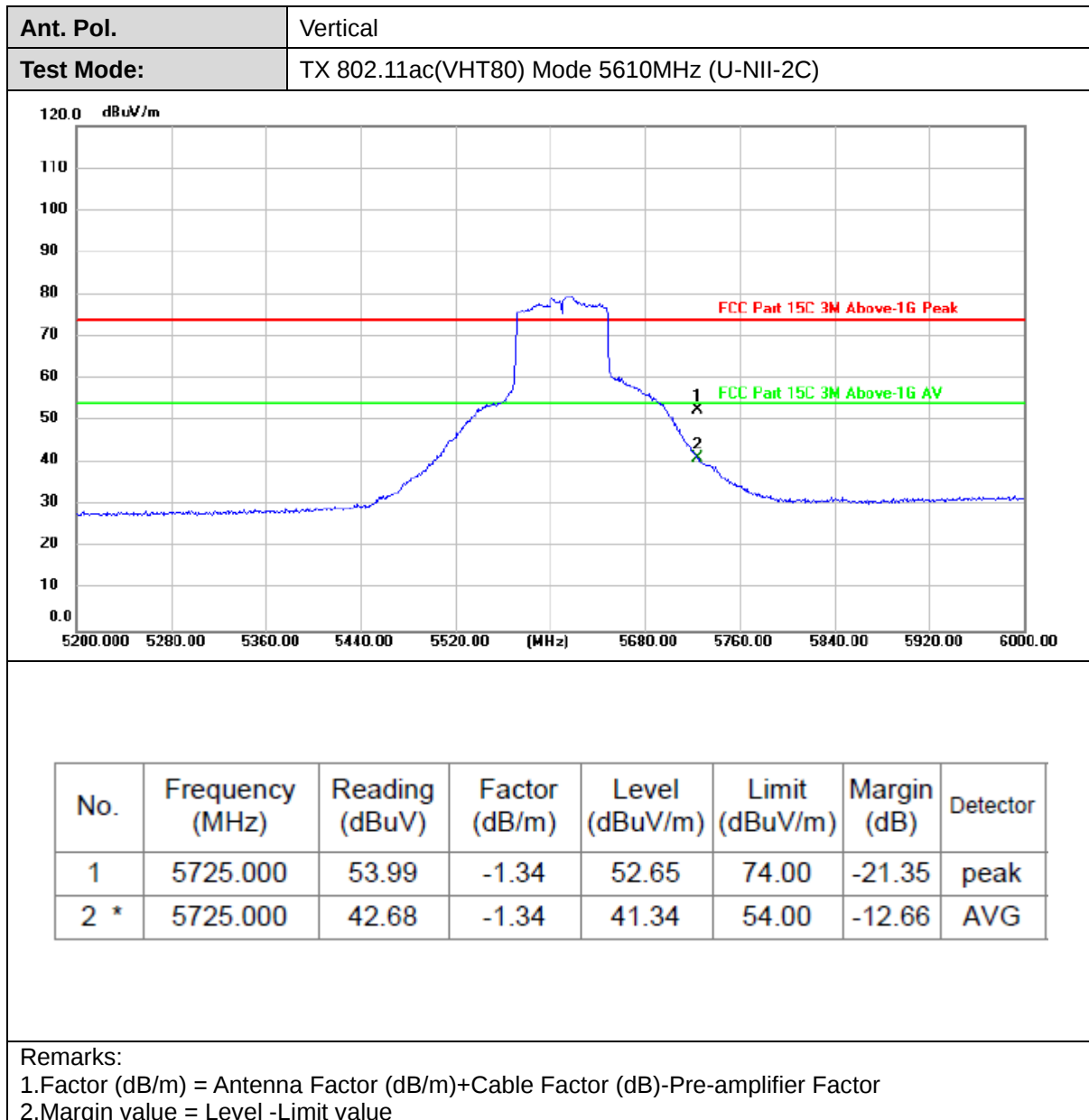


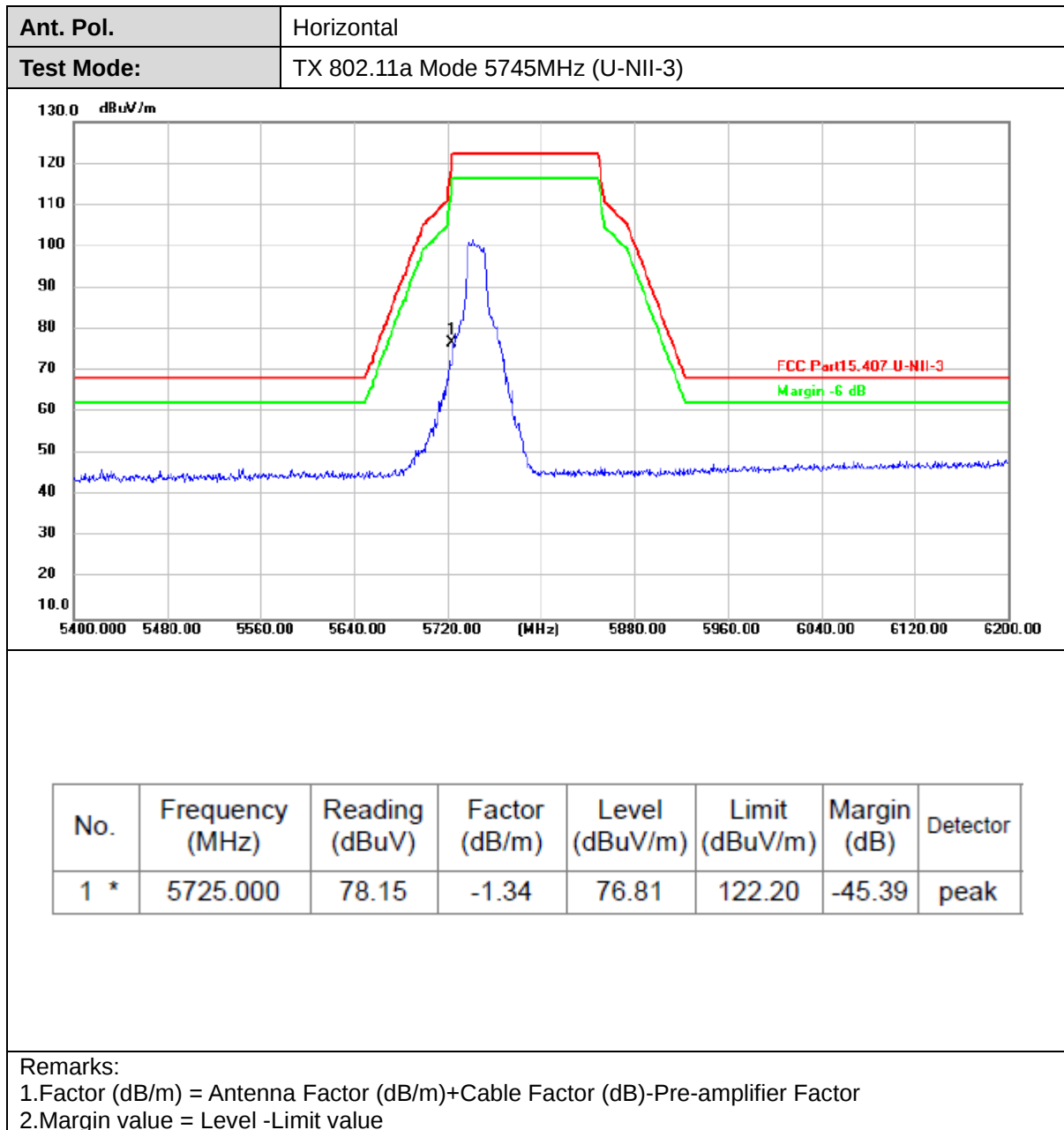


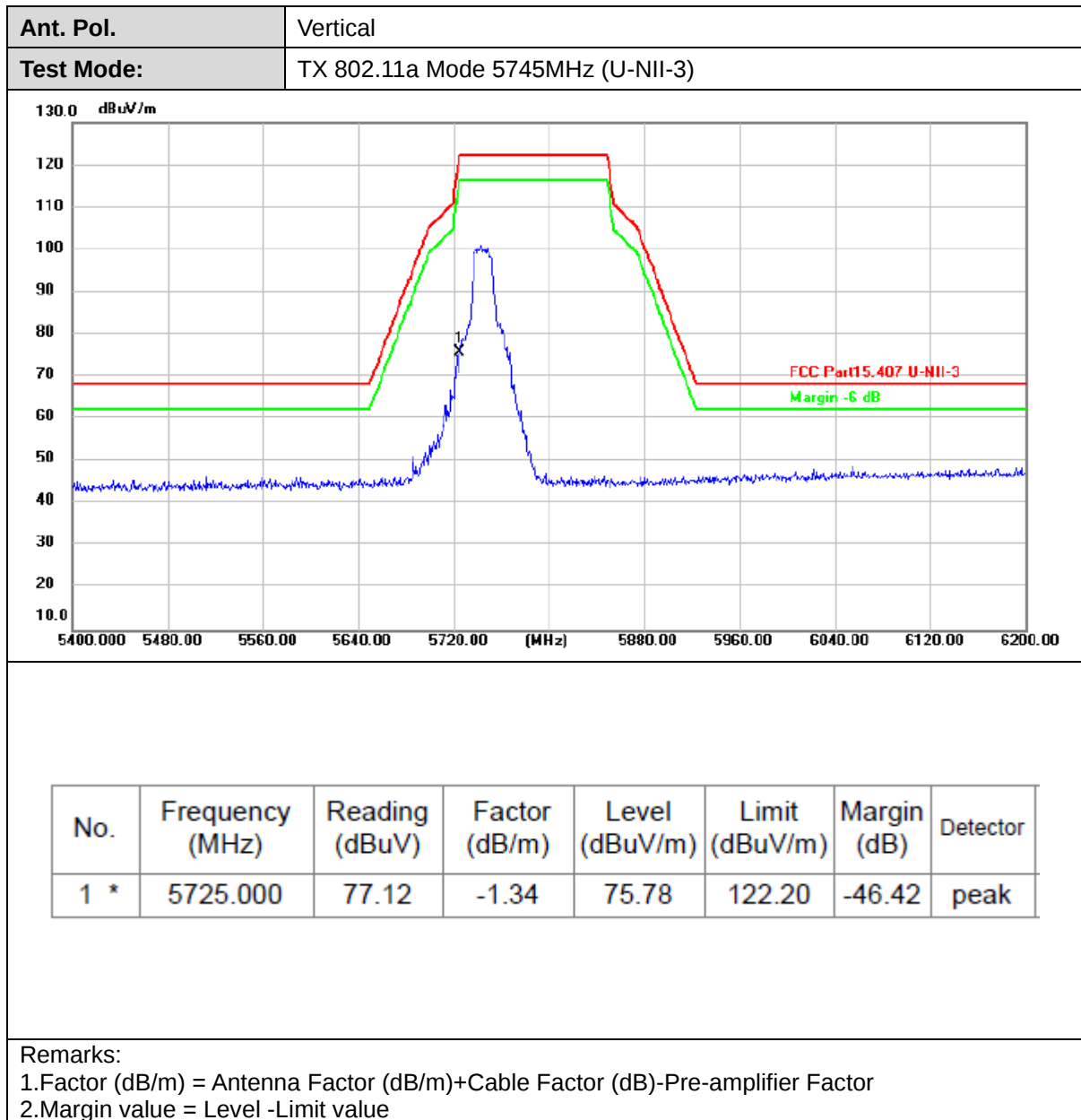


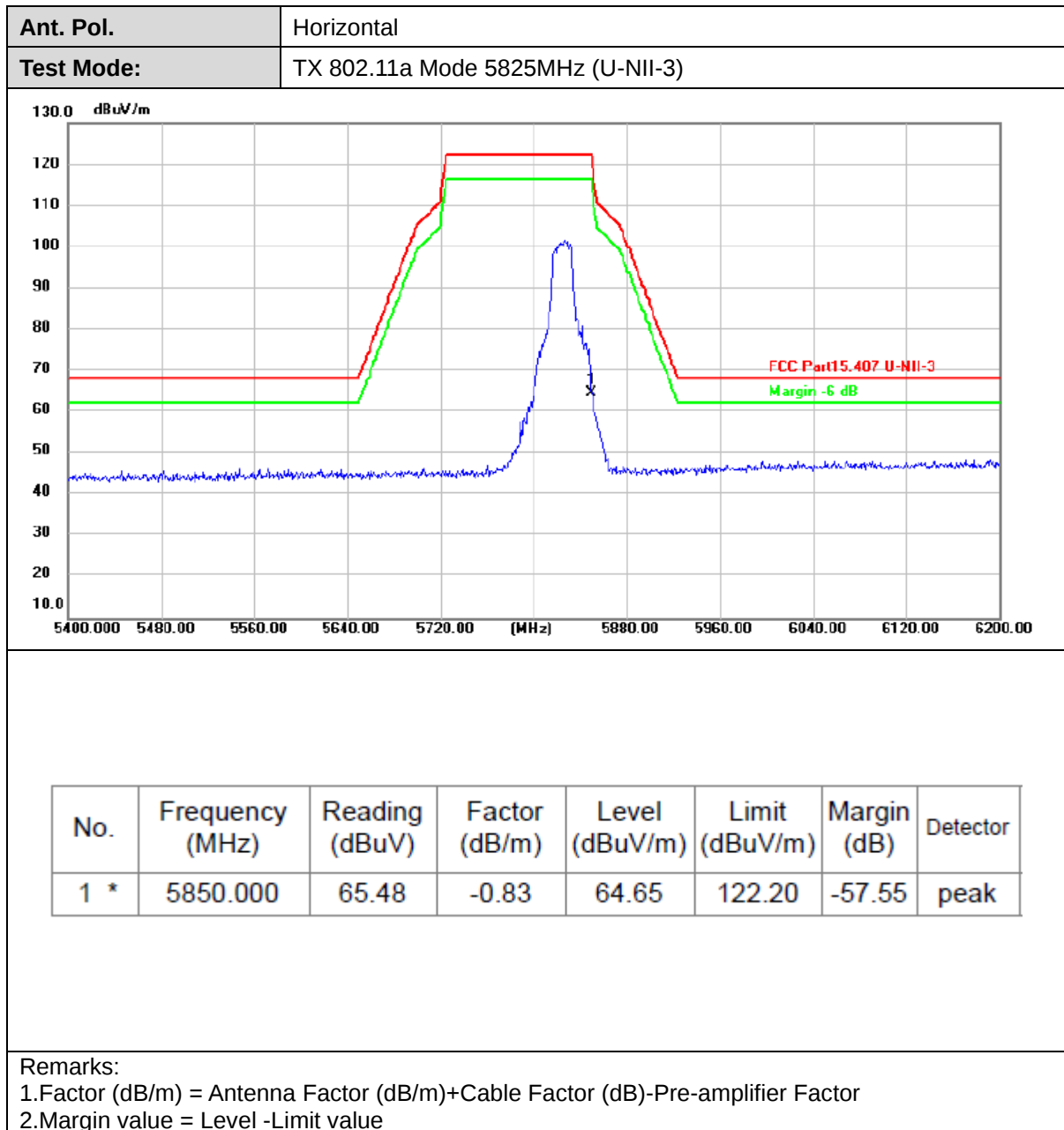


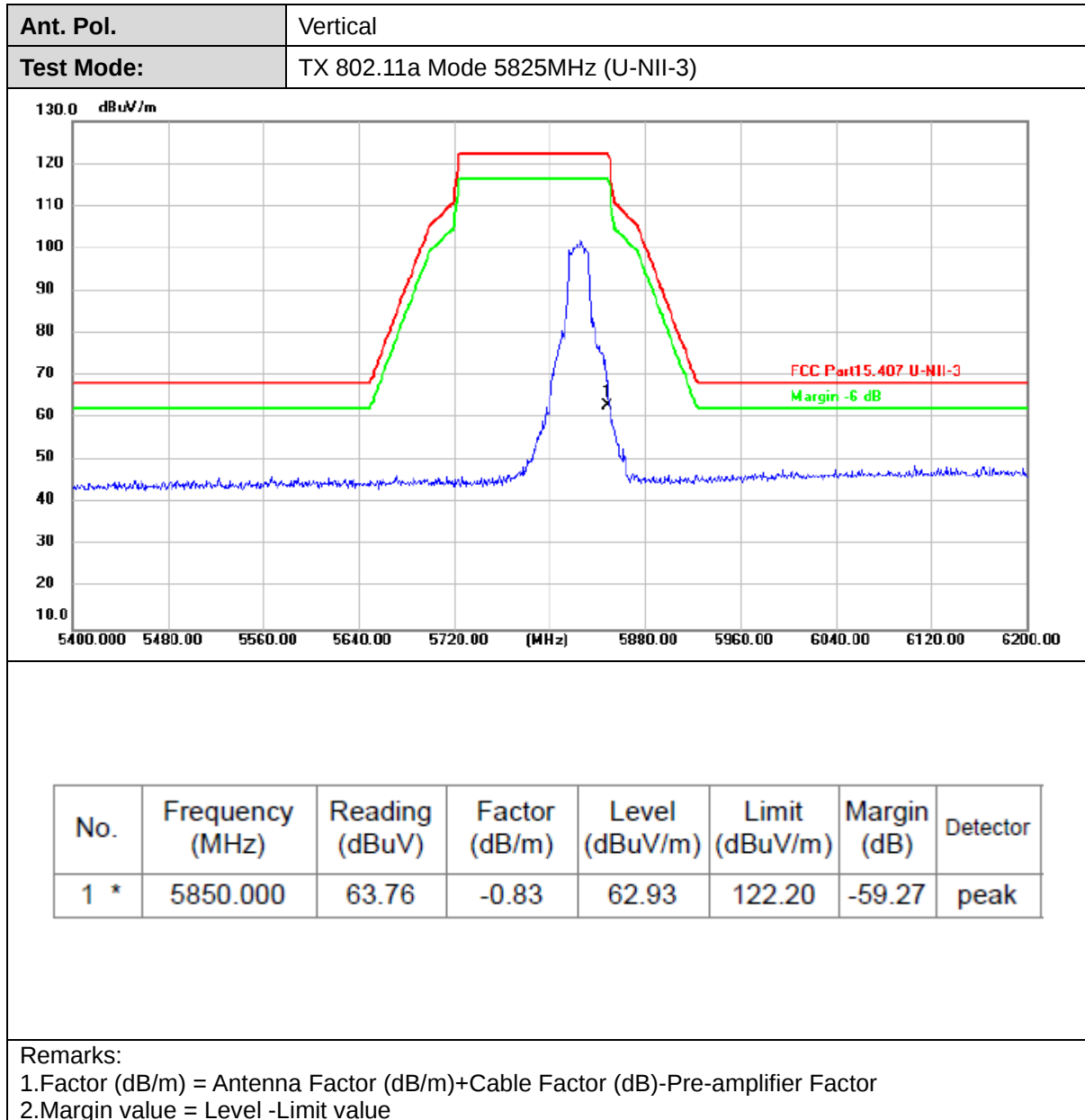


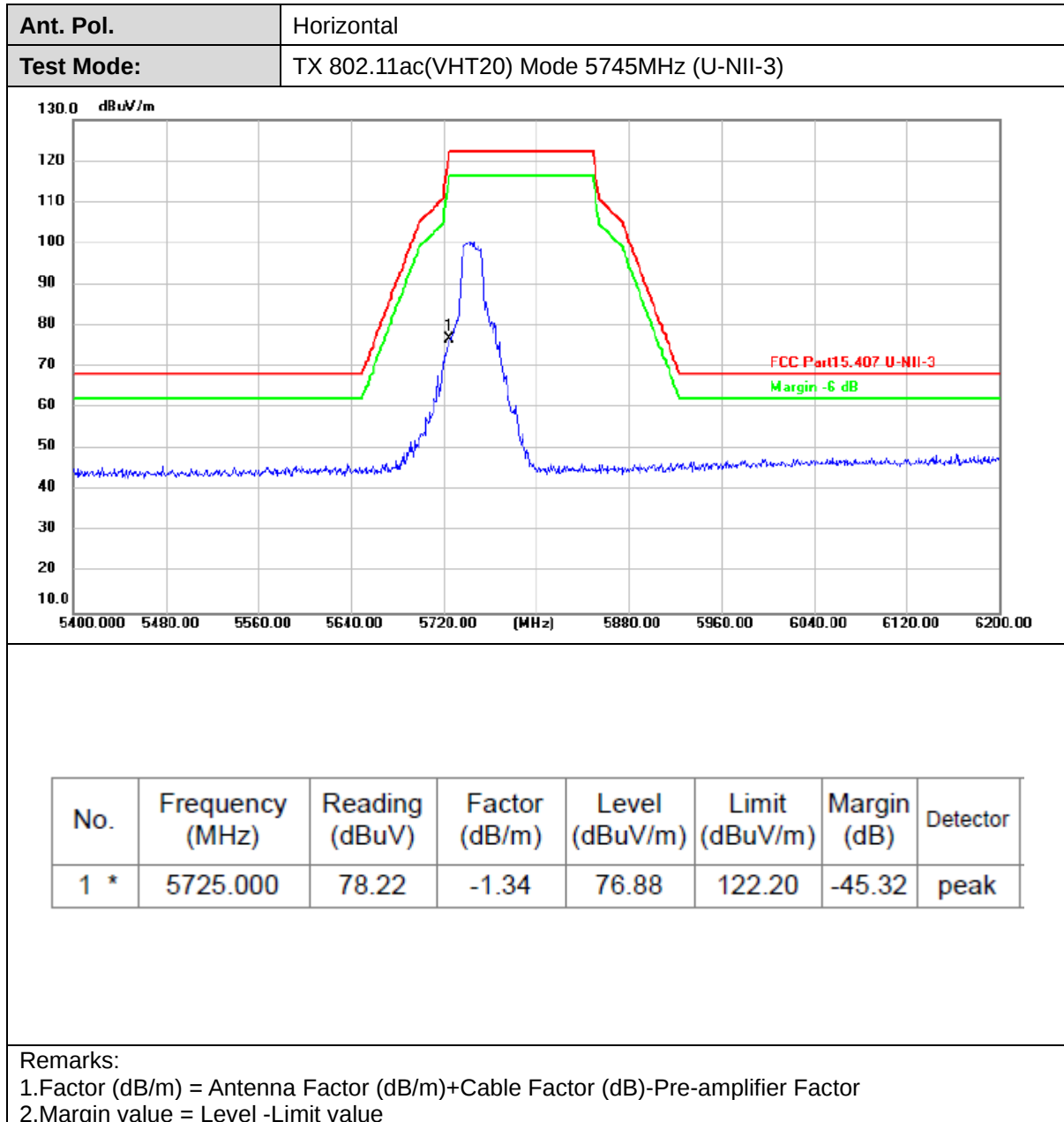


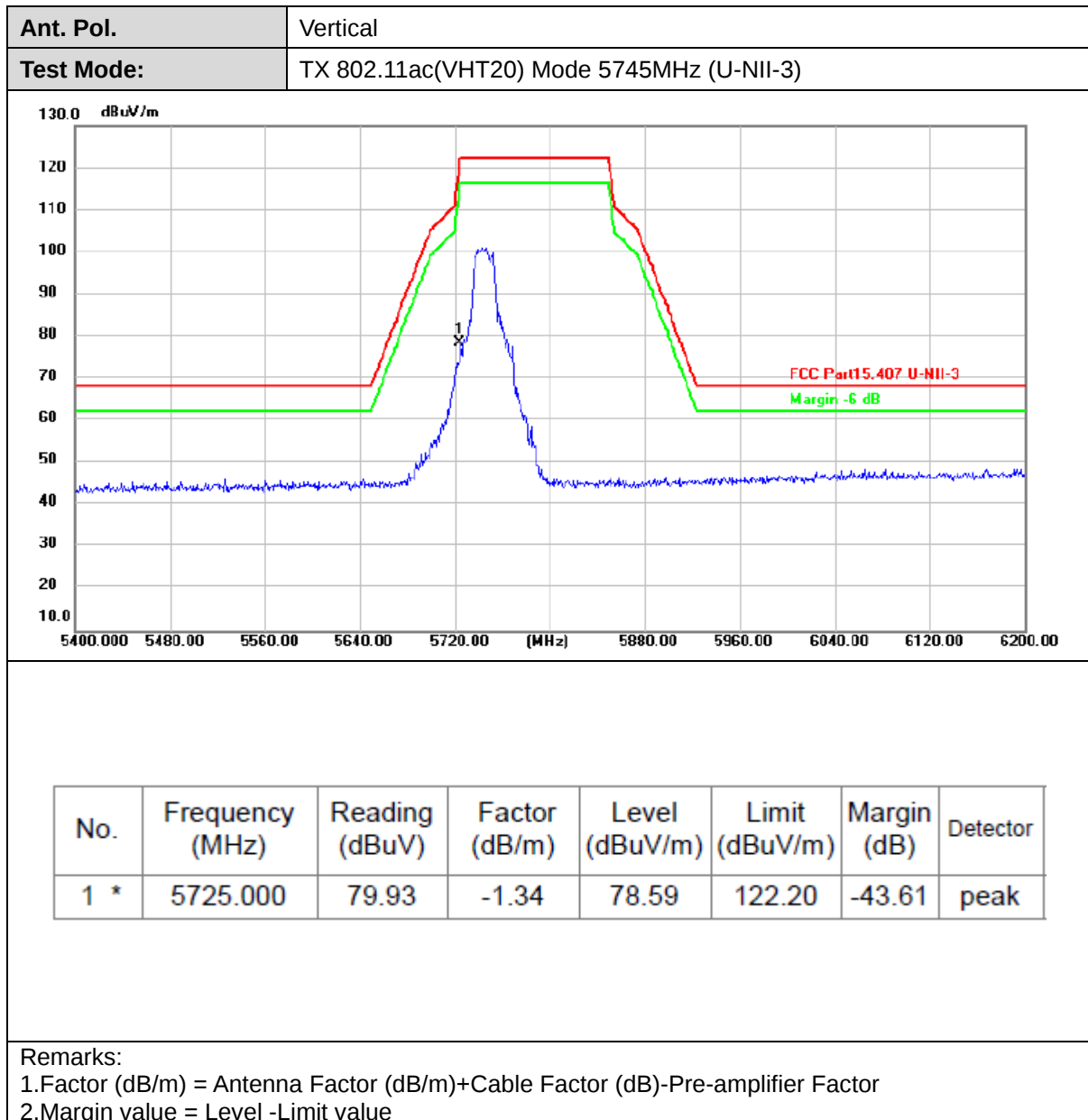


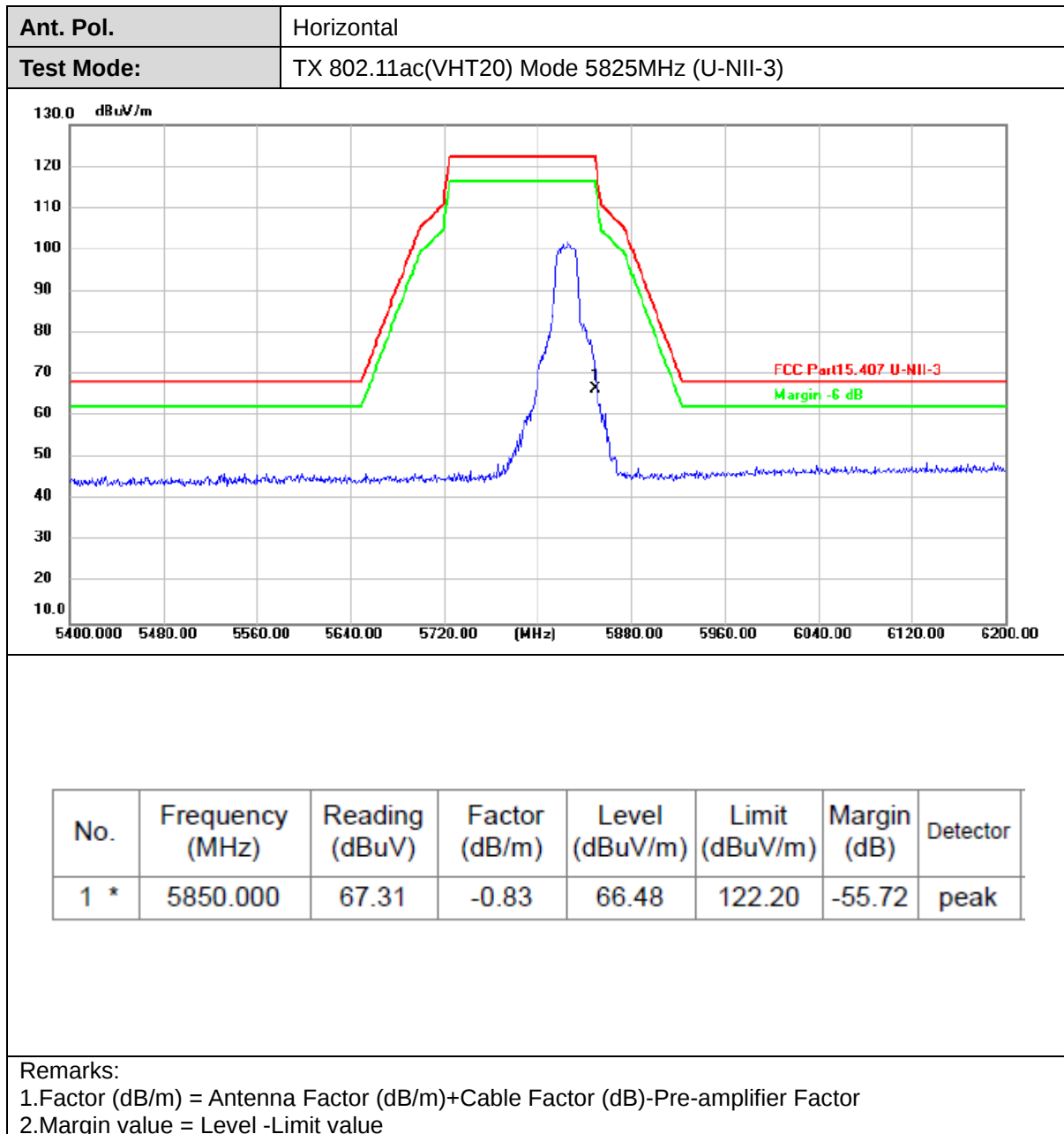


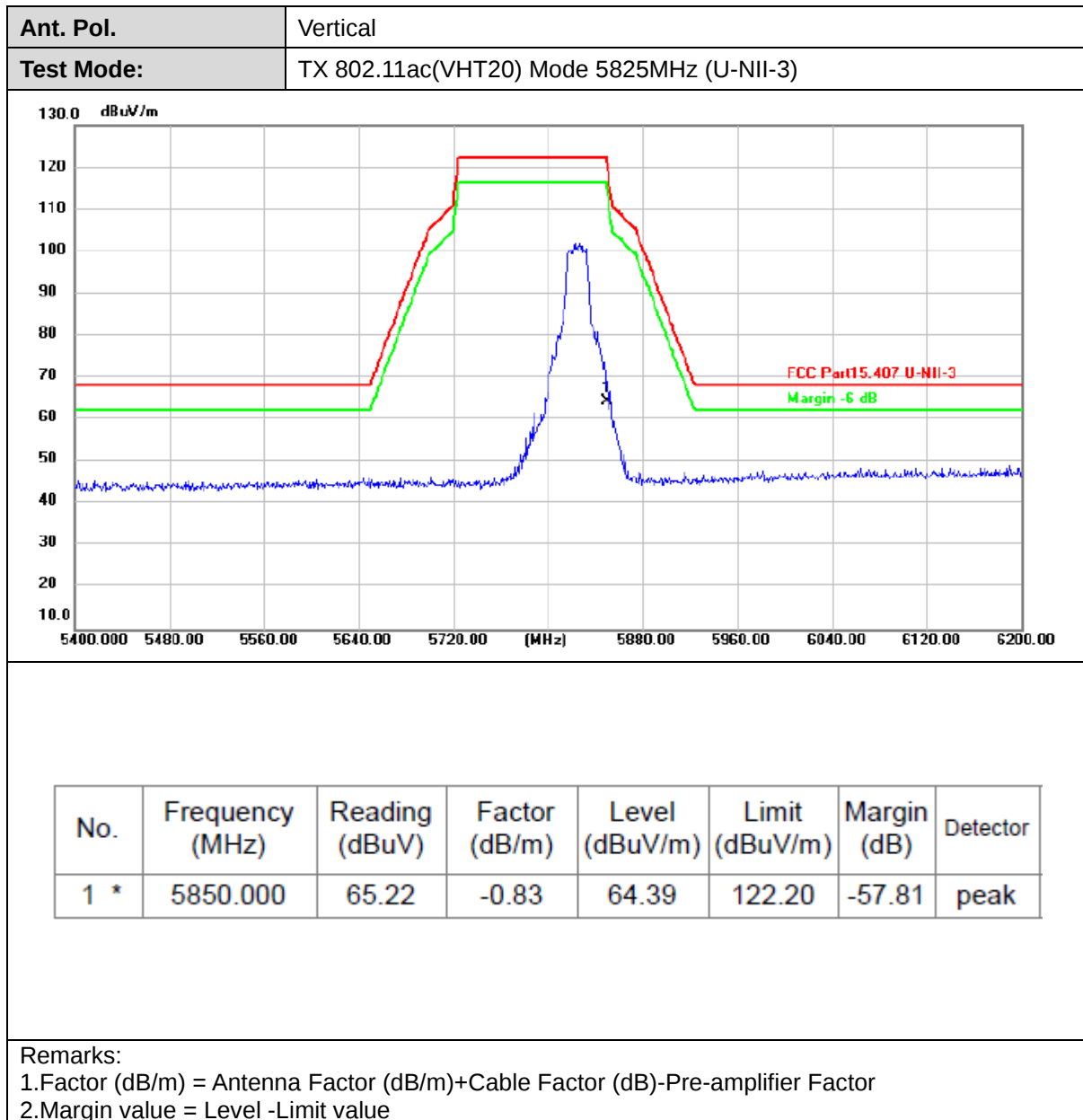


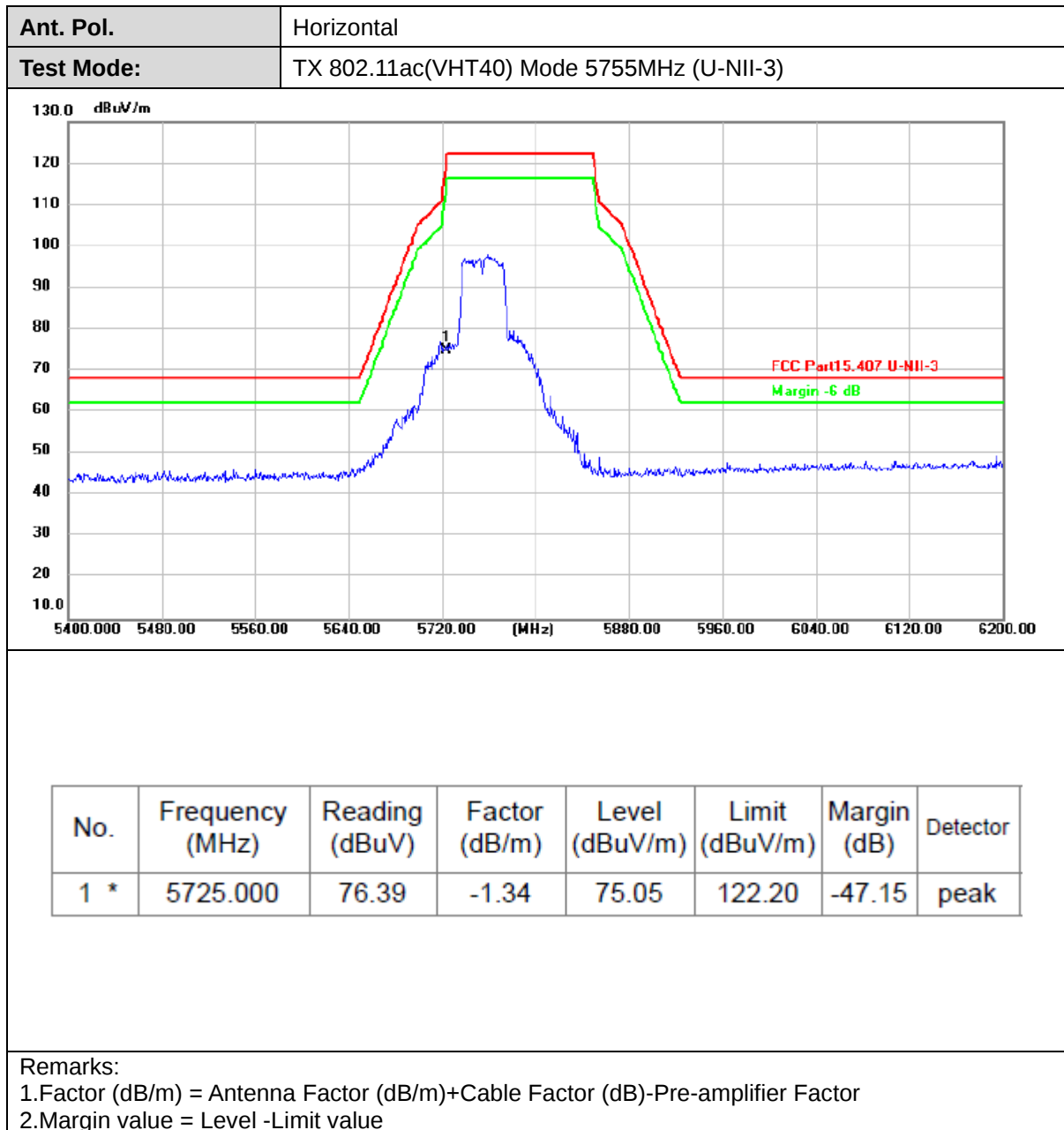


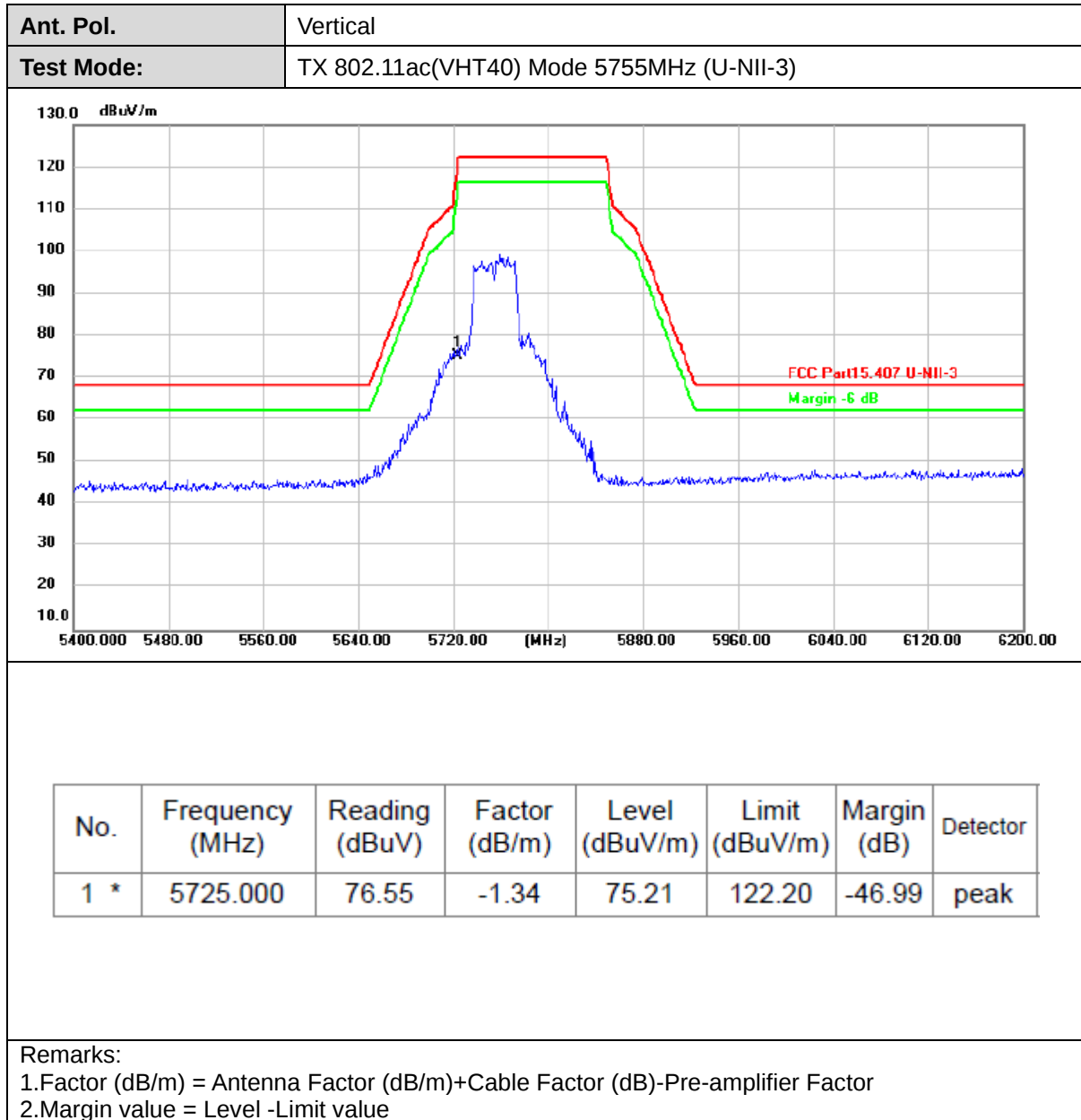


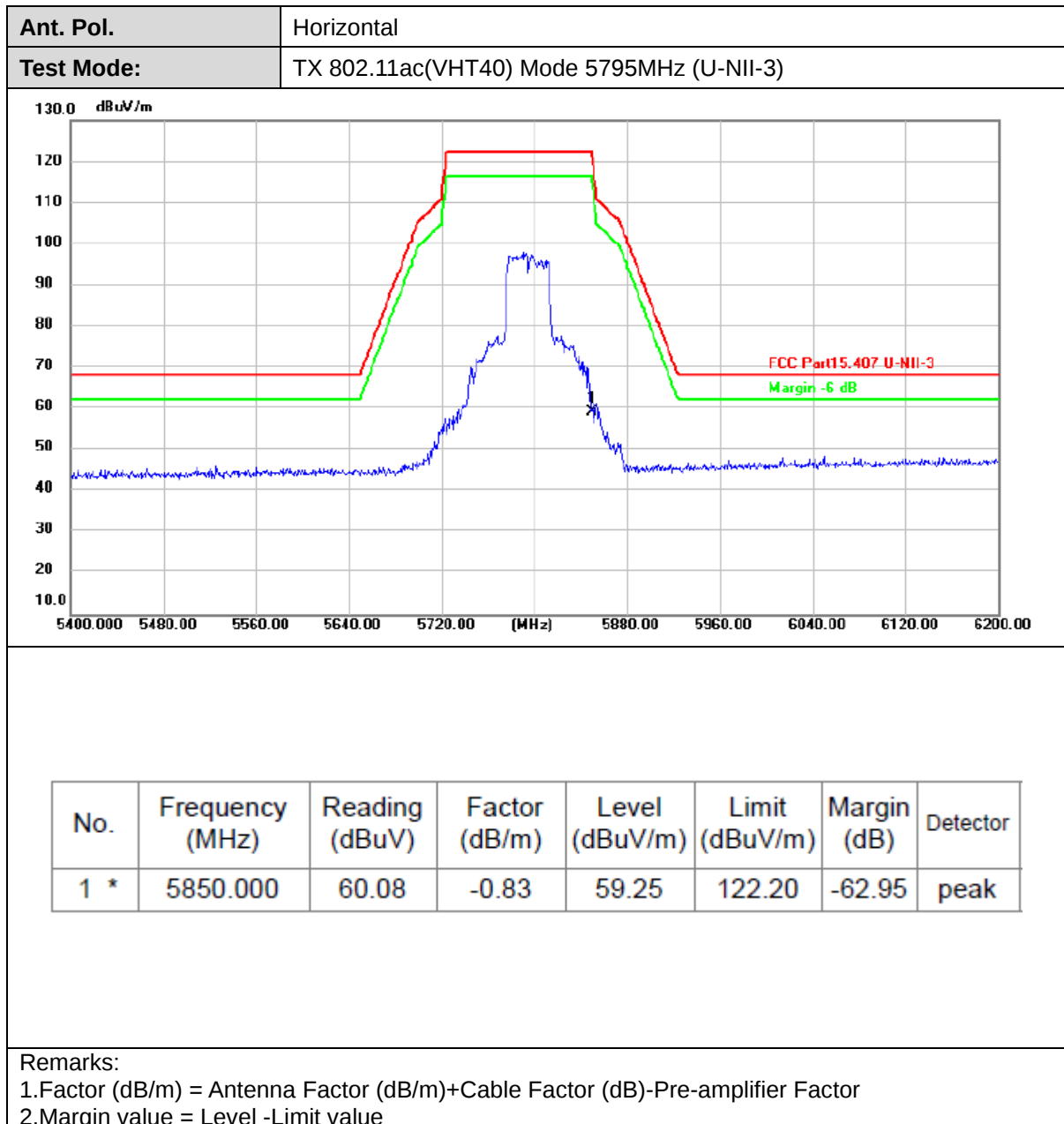


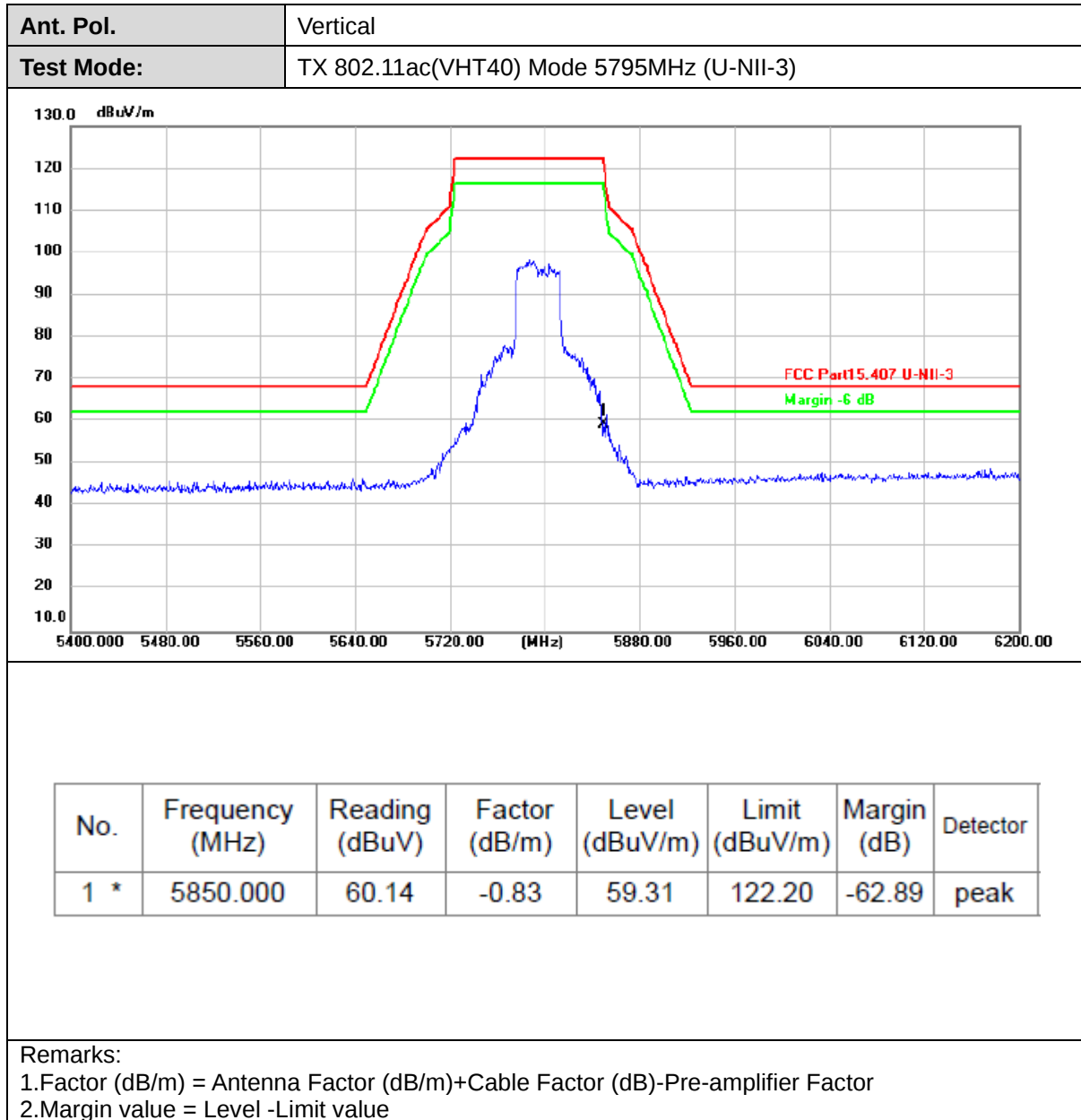


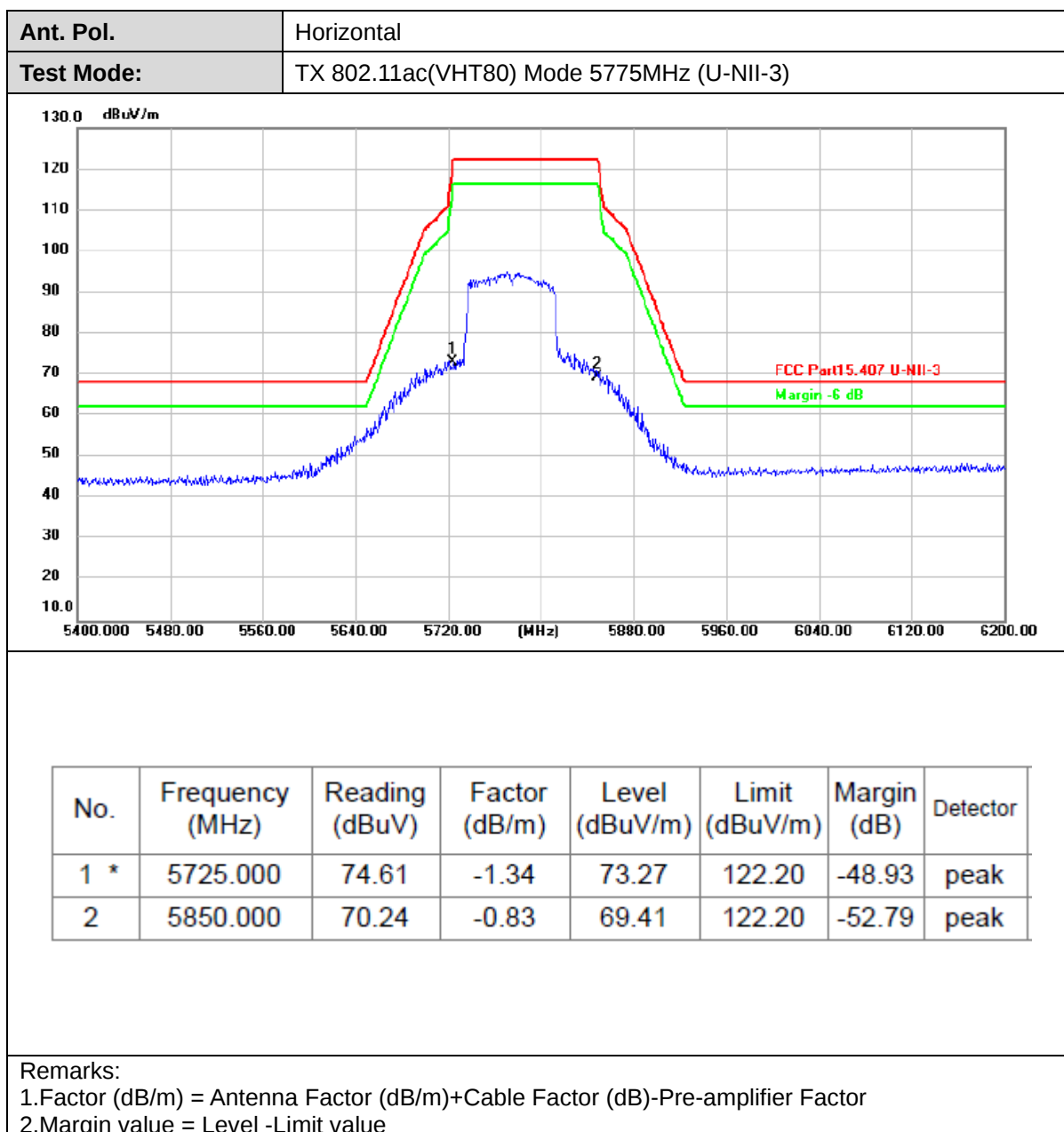


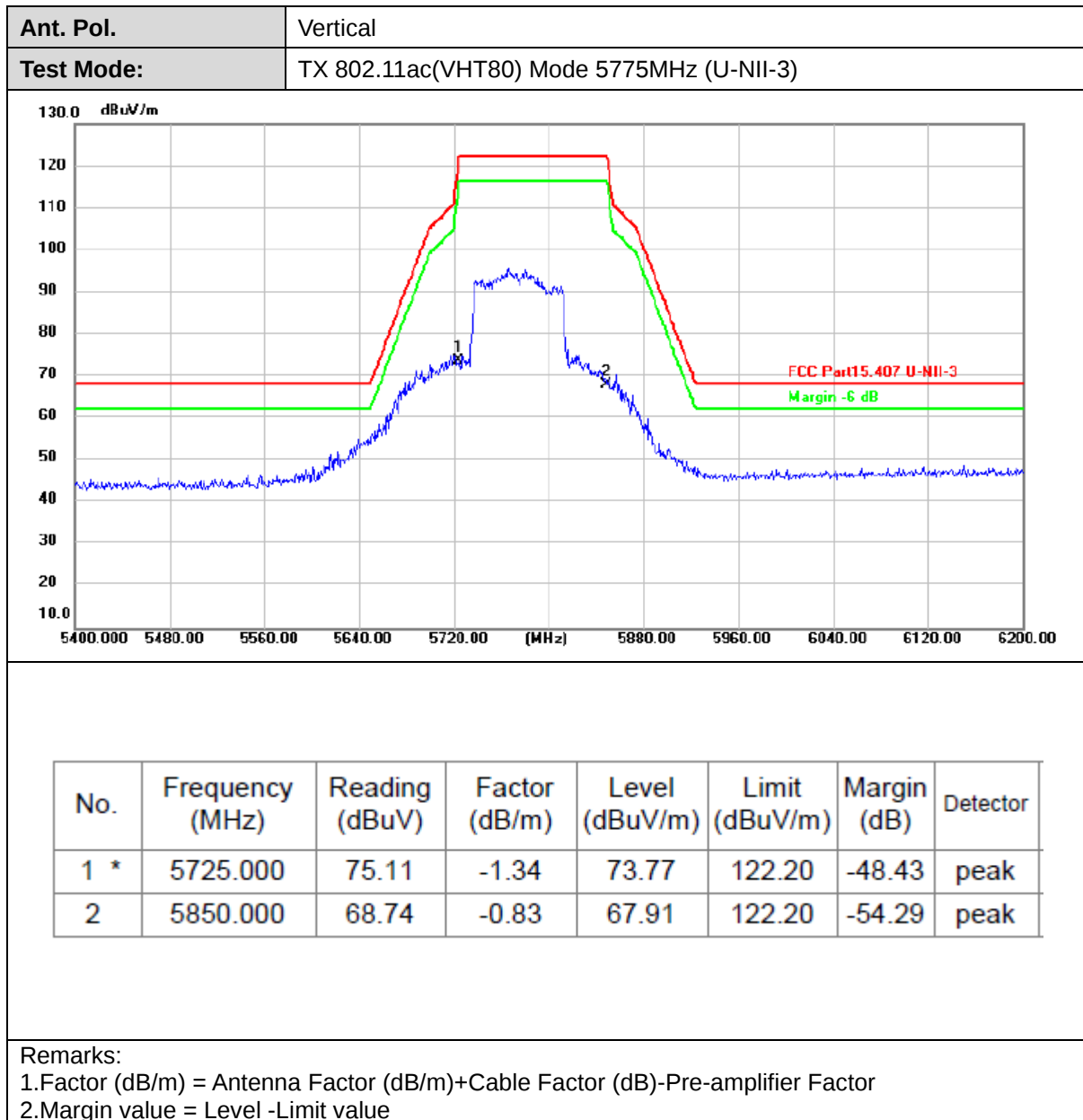














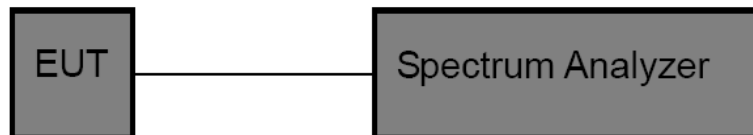
3.4. Bandwidth

Limit

FCC CFR Title 47 Part 15 Subpart E Section 15.407(a) & (e) / RSS-247 6.2.1.2 & 6.2.4.1

Test Item	Limit	Frequency Range (MHz)
26dB Bandwidth& 99% Bandwidth	N/A	5150~5250
		5250~5350
		5500~5700
6 dB Bandwidth	≥500 kHz	5725~5850

Test Configuration



Test Procedure

Please refer to KDB789033 D02 for the measurement methods.

The setting of the spectrum analyzer as below:

26dB Bandwidth Test	
Spectrum Parameters	Setting
Attenuation	Auto
Span	>26 dB Bandwidth
RBW	Approximately 1% of the emission bandwidth
VBW	>RBW
Detector	Peak
Trace	Max Hold
Sweep Time	Auto



6dB Bandwidth Test	
Spectrum Parameters	Setting
Attenuation	Auto
Span	>6 dB Bandwidth
RBW	100 kHz
VBW	$\geq 3 \times \text{RBW}$
Detector	Peak
Trace	Max Hold
Sweep Time	Auto
99% Occupied Bandwidth Test	
Spectrum Parameters	Setting
Attenuation	Auto
RBW	1% to 5% of the OBW
VBW	$\geq 3 \times \text{RBW}$
Detector	Peak
Trace	Max Hold

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****99% Bandwidth**

Test Mode	Freq(MHz)	OCB [MHz]	Limit[MHz]	Verdict
11A	5180	17.943	---	---
	5200	17.935	---	---
	5240	18.134	---	---
	5260	17.805	---	---
	5280	17.984	---	---
	5320	18.068	---	---
	5500	18.353	---	---
	5580	18.657	---	---
	5700	19.611	---	---
	5745	19.112	---	---
	5785	19.360	---	---
11AC20SISO	5825	19.297	---	---
	5180	19.285	---	---
	5200	19.412	---	---
	5240	19.657	---	---
	5260	18.692	---	---
	5280	19.088	---	---
	5320	18.758	---	---
	5500	19.791	---	---
	5580	19.197	---	---
	5700	20.300	---	---
	5745	20.485	---	---
11AC40SISO	5785	19.755	---	---
	5825	19.771	---	---
	5190	36.634	---	---
	5230	36.655	---	---
	5270	36.679	---	---
	5310	36.609	---	---
	5510	36.807	---	---
	5550	36.673	---	---
	5670	36.873	---	---
11AC80SISO	5755	36.919	---	---
	5795	36.889	---	---
	5210	76.207	---	---
	5290	76.222	---	---
	5530	76.210	---	---
	5610	76.252	---	---
	5775	76.412	---	---

**26dB Bandwidth**

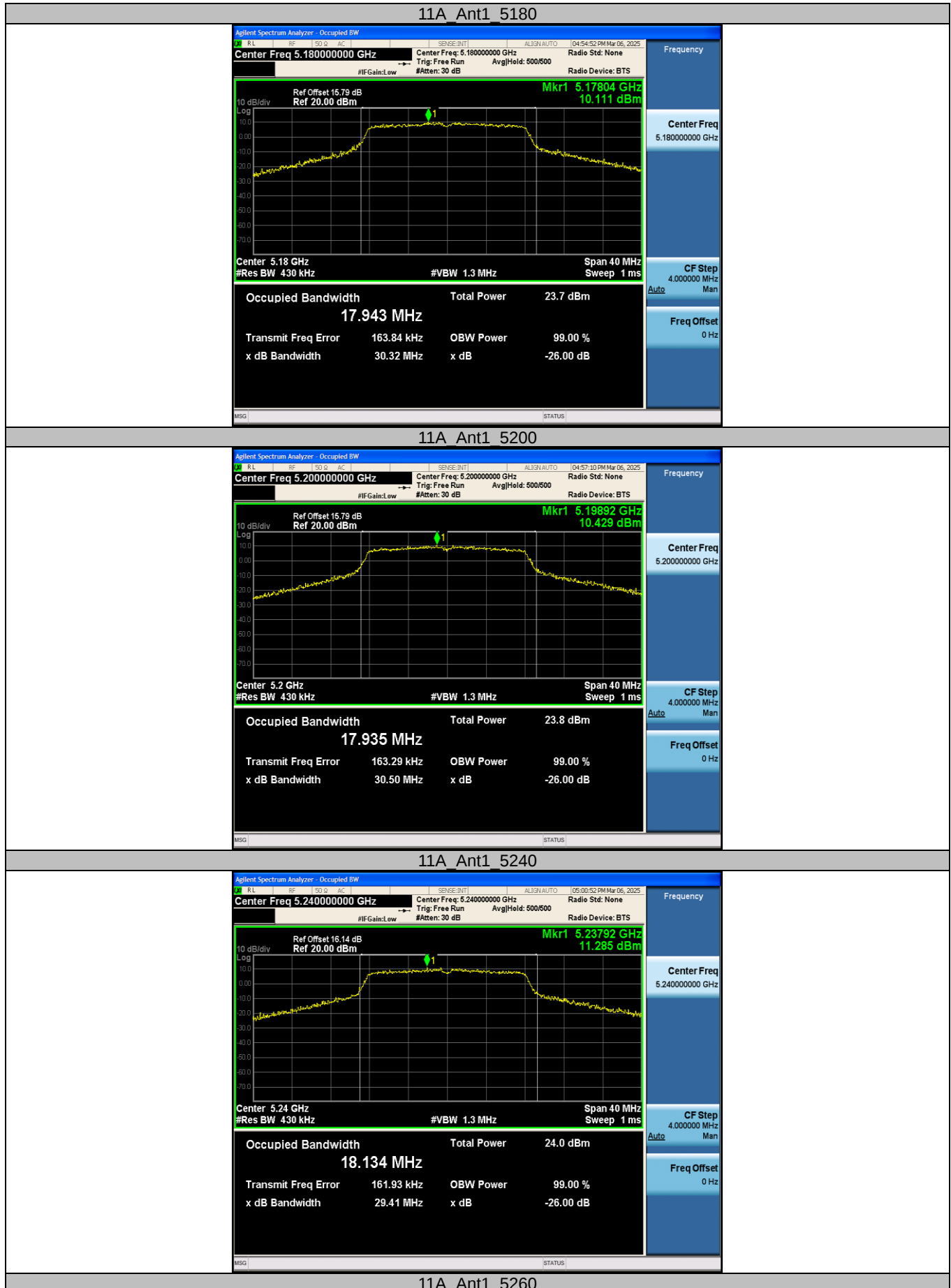
Test Mode	Freq(MHz)	26dB Bandwidth [MHz]	Limit[MHz]	Verdict
11A	5180	28.320	---	---
	5200	30.440	---	---
	5240	30.840	---	---
	5260	26.400	---	---
	5280	27.960	---	---
	5320	30.200	---	---
	5500	30.720	---	---
	5580	31.720	---	---
	5700	32.280	---	---
	5745	30.160	---	---
	5785	32.800	---	---
11AC20SISO	5825	32.680	---	---
	5180	30.920	---	---
	5200	30.920	---	---
	5240	29.800	---	---
	5260	28.400	---	---
	5280	29.640	---	---
	5320	30.040	---	---
	5500	33.560	---	---
	5580	29.960	---	---
	5700	31.960	---	---
	5745	33.360	---	---
11AC40SISO	5785	29.800	---	---
	5825	32.400	---	---
	5190	48.320	---	---
	5230	49.520	---	---
	5270	48.480	---	---
	5310	40.960	---	---
	5510	57.520	---	---
	5550	51.200	---	---
	5670	51.920	---	---
11AC80SISO	5755	54.000	---	---
	5795	52.560	---	---
	5210	118.880	---	---
	5290	95.840	---	---
	5530	95.040	---	---
	5610	96.160	---	---
	5775	122.400	---	---

6dB Bandwidth

Test Mode	Freq(MHz)	6dB Bandwidth [MHz]	Limit[MHz]	Verdict
11A	5745	15.680	≥0.5	PASS
	5785	16.320	≥0.5	PASS
	5825	16.080	≥0.5	PASS
11AC20SISO	5745	14.640	≥0.5	PASS
	5785	17.000	≥0.5	PASS
	5825	16.920	≥0.5	PASS
11AC40SISO	5755	35.040	≥0.5	PASS
	5795	35.840	≥0.5	PASS
11AC80SISO	5775	73.920	≥0.5	PASS



99% Bandwidth:

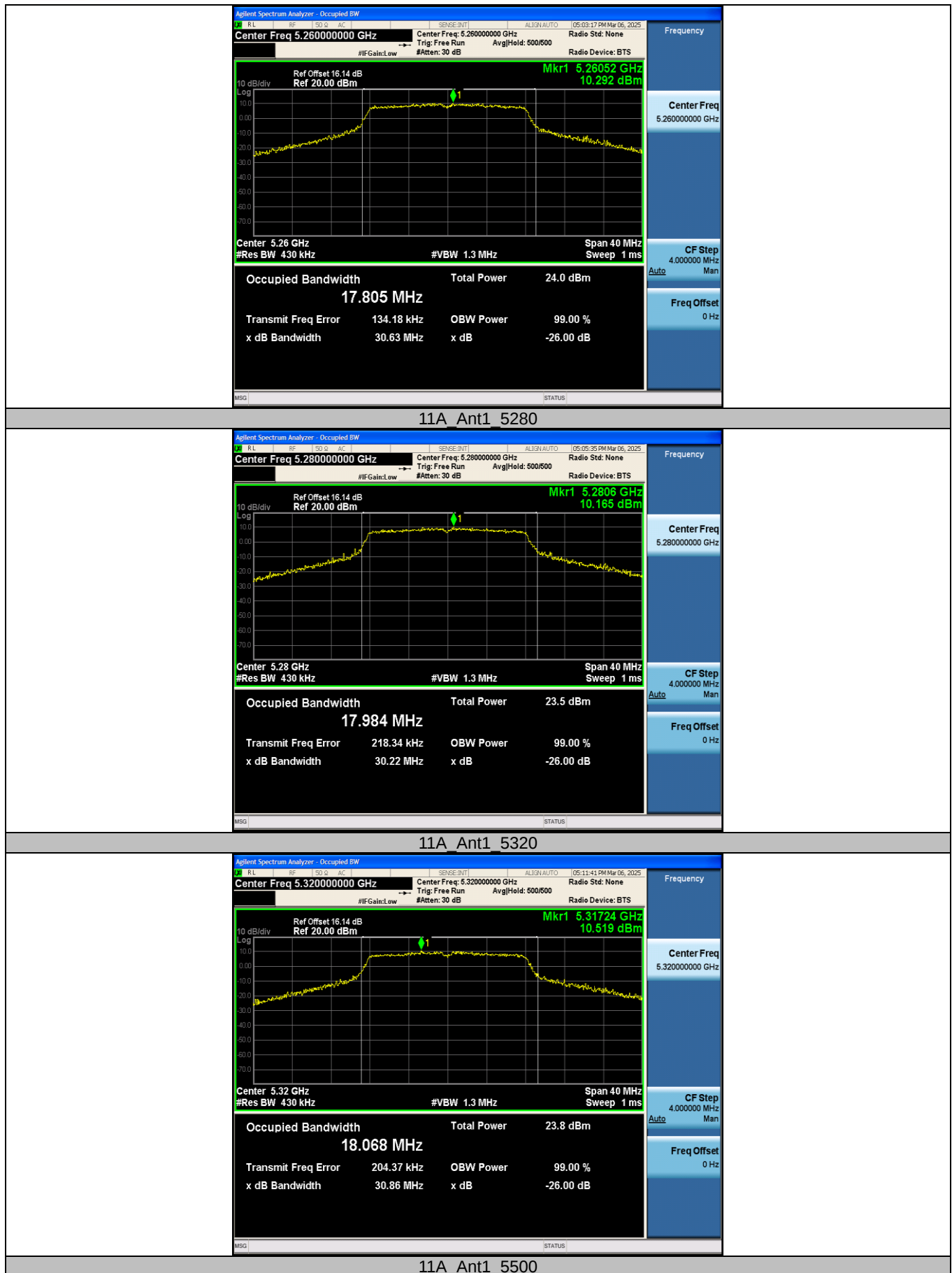


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