



FCC RADIO TEST REPORT

Applicant : Shenzhen Holatek Co., Ltd.

Address : #12,Building 1,Chongwen Park, Nanshan Zhiyuan,3370
Liuxian Ave, Nanshan District, Shenzhen, China.

Equipment : Smart projector

Model No. : J61-7K5, J61-7K6, J61-7K7, J61-7K8, J61-7KR,
J61-7KS, J61-7KT, J61-7KU, J61-7KV, J61-7KW,
J61-7KX, J61-7KY, J61-7KZ

Trade Name : JMGO

FCC ID : SMC-7K5

Standard : FCC part 15 Subpart E §15.407

I HEREBY CERTIFY THAT:

The sample was received on Sept. 09, 2024 and the testing was completed on Sept. 18, 2024 at CerpPASS Technology Corp. The test result refers exclusively to the test presented test model / sample. Without written approval of CerpPASS Technology Corp., the test report shall not be reproduced except in full.

Approved by:



Leevin Li /Supervisor



CONTENTS

FCC RADIO TEST REPORT	1
1. Summary of Test Procedure and Test Results	4
1.1. Applicable Standards	4
2. Test Configuration of Equipment under Test	5
2.1. Feature of Equipment under Test	5
2.2. Carrier Frequency of Channels	6
2.3. Test Mode and Test Software	8
2.5. Description of Test System	13
2.6. General Information of Test	14
2.7. Measurement Uncertainty	14
3. Test Equipment and Ancillaries Used for Tests	15
4. Antenna Requirements	16
4.1. Standard Applicable	16
4.2. Antenna Construction and Directional Gain	16
5. Test of AC Power Line Conducted Emission	17
5.1. Test Limit	17
5.2. Test Procedures	17
5.3. Typical Test Setup	17
5.4. Test Result and Data	18
6. Test of Spurious Emission (Radiated)	20
6.1. Test Limit	20
6.2. Test Procedures	20
6.3. Typical Test Setup	21
6.4. Test Result and Data (9kHz ~ 30MHz)	22
6.5. Test Result and Data (30MHz ~ 1GHz)	22
6.6. Test Result and Data (1GHz ~ 40GHz)	24
6.7. Restricted Bands of Operation	100



History of this test report

Version No.	Report No	Date	Description
Rev.01	24060213-DRFCC05	Jul. 22, 2024	Initial Issue
Rev.02	24080464-DRFCC04	Sept. 20, 2024	1. The FPC antenna layout was changed.



1. Summary of Test Procedure and Test Results

1.1. Applicable Standards

ANSI C63.10:2013

FCC Rules and Regulations Part 15 Subpart E §15.407

FCC KDB 789033 D02 General U-NII Test Procedures New Rules v02r01

FCC Rule	Description of Test	Result
15.203	Antenna Requirement	PASS
15.207(a)	AC Power Line Conducted Emission	PASS
15.407(b) 15.209	Radiated Spurious Emission	PASS
Note: Deviations Yes ☐ No ☒		
*The lab has reduced the uncertainty risk factor from test equipment, environment and staff technicians which according to the standard on contract. Therefore, the test result will only be determined by standard requirement.		
This is an amended report application based on CerpPASS Report No.: 24060213-DRFCC05. The details as below: 1. The FPC antenna layout was changed. After engineering evaluation, Conducted Emission and Radiated Spurious Emission need to be retested and shown in this report.		



2. Test Configuration of Equipment under Test

2.1. Feature of Equipment under Test

Equipment	Smart projector
Model Name	J61-7K5, J61-7K6, J61-7K7, J61-7K8, J61-7KR, J61-7KS, J61-7KT, J61-7KU, J61-7KV, J61-7KW, J61-7KX, J61-7KY, J61-7KZ
Model Discrepancy	All models are identical to each other except for appearance color. Model J61-7K5 is the representative for final test.
Frequency Range	BT/BLE/ WIFI 2.4G: 2400MHz-2483.5MHz WIFI 5G: 5150MHz-5250MHz, 5250MHz-5350MHz, 5470MHz -5725MHz, 5725MHz -5850MHz
Modulation Type	BT: GFSK, $\pi/4$ -DQPSK, 8DPSK BLE: GFSK 2.4GHz 802.11b: CCK, DQPSK, DBPSK 802.11g/n: BPSK, QPSK, 16QAM, 64QAM 5GHz 802.11a/n: BPSK, QPSK, 16QAM, 64QAM 802.11ac: BPSK, QPSK, 16QAM, 64QAM, 256QAM
Data Rate	BT: GFSK: 1Mbps, $\pi/4$ -DQPSK: 2Mbps, 8DPSK: 3Mbps BLE: GFSK: 1Mbps, 2Mbps, 125kbps, 500kbps WIFI 2.4GHz: 802.11b: 1, 2, 5.5, 11Mbps 802.11g: 6, 9, 12, 18, 24, 36, 48, 54Mbps 802.11n: MCS0-MCS15, HT20/HT40 WIFI 5GHz: 802.11a: 6, 9, 12, 18, 24, 36, 48, 54Mbps 802.11n: MCS0-MCS15, HT20/HT40 802.11ac: MCS0-MCS9, VHT20/40/80
Working Temperature	0°C to 35°C
EUT Power Rating:	DC 20V supplied by adapter DC 7.3V from Battery
Adapter Spec.	Mode: XY-PD065U75 Input: 100-240V~ 50/60Hz 1.5A Max Output: 5V =3A, 9V =3A, 12V =3A, 15V =3A, 20V =3.25A 65.0W

Note:

1. The EUT not support TPC Function.
2. EUT support Client mode without radar detection.
3. For more details, please refer to the User's manual of the EUT.



2.2. Carrier Frequency of Channels

Band: 5150MHz-5250MHz

802.11a, 802.11n HT20, 802.11ac VHT20

Channel	Frequency(MHz)	Channel	Frequency(MHz)
*36	5180	*44	5220
40	5200	*48	5240

802.11n HT40, 802.11ac VHT40

Channel	Frequency(MHz)	Channel	Frequency(MHz)
*38	5190	*46	5230

802.11ac VHT80

Channel	Frequency(MHz)
*42	5210

Band: 5250MHz-5350MHz

802.11a, 802.11n HT20, 802.11ac VHT20

Channel	Frequency(MHz)	Channel	Frequency(MHz)
*52	5260	*60	5300
56	5280	*64	5320

802.11n HT40, 802.11ac VHT40

Channel	Frequency(MHz)	Channel	Frequency(MHz)
*54	5270	*62	5310

802.11ac VHT80

Channel	Frequency(MHz)
*58	5290

Band: 5470MHz-5725MHz

802.11a, 802.11n HT20, 802.11ac VHT20

Channel	Frequency(MHz)	Channel	Frequency(MHz)
*100	5500	124	5620
104	5520	128	5640
108	5540	132	5660
112	5560	136	5680
*116	5580	*140	5700
120	5600		

802.11n HT40, 802.11ac VHT40

Channel	Frequency(MHz)	Channel	Frequency(MHz)
*102	5510	126	5630
110	5550	*134	5670
*118	5590		

802.11ac VHT80

Channel	Frequency(MHz)	Channel	Frequency(MHz)
*106	5530	*122	5610



Band: 5725MHz-5850MHz

802.11a, 802.11n HT20, 802.11ac VHT20

Channel	Frequency(MHz)	Channel	Frequency(MHz)
*149	5745	161	5805
153	5765	*165	5825
*157	5785		

802.11n HT40, 802.11ac VHT40

Channel	Frequency(MHz)	Channel	Frequency(MHz)
*151	5755	*159	5795

802.11ac VHT80

Channel	Frequency(MHz)
*155	5775

Note: Channels remarked * are selected to perform test.



2.3. Test Mode and Test Software

- During testing, the interface cables and equipment positions were varied according to ANSI C63.10.
- The complete test system included support unit and EUT for RF test.
- An executive program, "SecureCRT.exe (Ver.: 6.2.3.313)" under Windows 10 system was executed to transmit and receive data via WLAN.
- The following test modes were performed for the test:

Conducted Emissions from the AC mains power ports	
Test Mode	Operating Description
1	802.11a for 120V
2	802.11n HT20 for 120V
3	802.11n HT40 for 120V
4	802.11ac VHT20 for 120V
5	802.11ac VHT40 for 120V
6	802.11ac VHT80 for 120V
7	802.11ac VHT20 for 240V

caused "Test Mode 4 at CH157:5785MHz" generated the worst case, it was reported as the final data.

Radiation Emissions (Below 1GHz)	
Test Mode	Operating Description
1	802.11a (6Mbps)
2	802.11n HT20 (6.5Mbps)
3	802.11n HT20 (13.5Mbps)
4	802.11ac VHT20 (6.5Mbps)
5	802.11ac VHT40 (13.5Mbps)
6	802.11ac VHT80 (29.3Mbps)

caused "Test Mode 4 at CH157:5785MHz" generated the worst case, it was reported as the final data.

Radiation Emissions (1GHz ~ 40GHz) for 1TX	
Test Mode	Operating Description
1	802.11a (6Mbps)

caused "Test Mode 1 for Ant A" generated the worst case, it was reported as the final data.

Radiation Emissions (1GHz ~ 40GHz) for 2TX	
Test Mode	Operating Description
1	802.11n HT20 (6.5Mbps)
2	802.11n HT20 (13.5Mbps)
3	802.11ac VHT20 (6.5Mbps)
4	802.11ac VHT40 (13.5Mbps)
5	802.11ac VHT80 (29.3Mbps)

caused "Test Mode 3~5" generated the worst case, it was reported as the final data.

Modulation Type	TX CONFIGURATION
802.11a	1TX
802.11n HT20	2TX
802.11n HT40	2TX
802.11ac VHT20	2TX
802.11ac VHT40	2TX
802.11ac VHT80	2TX
* VHT20/VHT40 covers HT20/HT40, due to same modulation. 802.11ac mode is the worst case for final tests except RF output power test after pretesting all modulation type.	

**2.4. Power Parameter Value of the test software**

Band: 5150MHz-5250MHz					
Mode	Frequency (MHz)	Setting level			
		Ant 1	Ant 2	Ant 1+2	
				Ant 1	Ant 2
802.11a	5180	15	15	N/A	N/A
	5220	15	15	N/A	N/A
	5240	15	15	N/A	N/A
802.11n HT20	5180	N/A	N/A	13	13
	5220	N/A	N/A	13	13
	5240	N/A	N/A	13	13
802.11n HT40	5190	N/A	N/A	13	13
	5230	N/A	N/A	13	13
802.11ac VHT20	5180	N/A	N/A	13	13
	5220	N/A	N/A	13	13
	5240	N/A	N/A	13	13
802.11ac VHT40	5190	N/A	N/A	13	13
	5230	N/A	N/A	13	13
802.11ac VHT80	5210	N/A	N/A	13	13



Band: 5250MHz-5350MHz					
Mode	Frequency (MHz)	Setting level			
		Ant 1	Ant 2	Ant 1+2	
				Ant 1	Ant 2
802.11a	5260	15	15	N/A	N/A
	5300	15	15	N/A	N/A
	5320	15	15	N/A	N/A
802.11n HT20	5260	N/A	N/A	13	13
	5300	N/A	N/A	13	13
	5320	N/A	N/A	13	13
802.11n HT40	5270	N/A	N/A	13	13
	5310	N/A	N/A	13	13
802.11ac VHT20	5260	N/A	N/A	13	13
	5300	N/A	N/A	13	13
	5320	N/A	N/A	13	13
802.11ac VHT40	5270	N/A	N/A	13	13
	5310	N/A	N/A	13	13
802.11ac VHT80	5290	N/A	N/A	13	13



Band: 5470MHz -5725MHz					
Mode	Frequency (MHz)	Setting level			
		Ant 1	Ant 2	Ant 1+2	
				Ant 1	Ant 2
802.11a	5500	15	15	N/A	N/A
	5580	15	15	N/A	N/A
	5700	15	15	N/A	N/A
802.11n HT20	5500	N/A	N/A	13	13
	5580	N/A	N/A	13	13
	5700	N/A	N/A	13	13
802.11n HT40	5510	N/A	N/A	13	13
	5590	N/A	N/A	13	13
	5670	N/A	N/A	13	13
802.11ac VHT20	5500	N/A	N/A	13	13
	5580	N/A	N/A	13	13
	5700	N/A	N/A	13	13
802.11ac VHT40	5510	N/A	N/A	13	13
	5590	N/A	N/A	13	13
	5670	N/A	N/A	13	13
802.11ac VHT80	5530	N/A	N/A	13	13
	5610	N/A	N/A	13	13



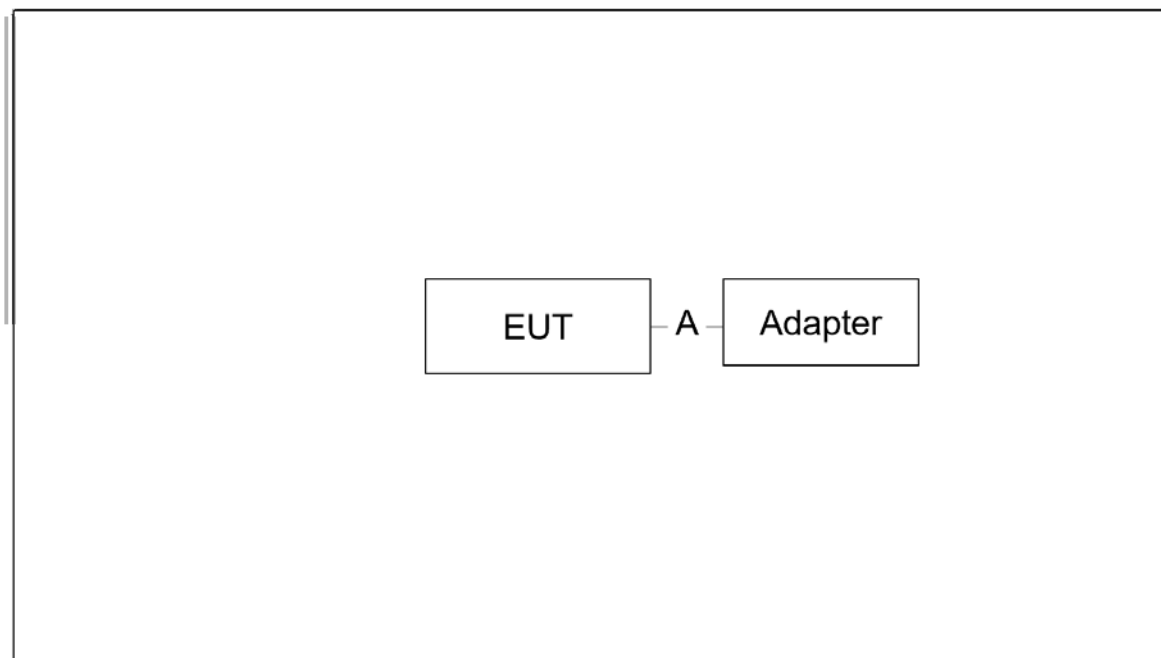
Band: 5725MHz -5850MHz					
Mode	Frequency (MHz)	Setting level			
		Ant 1	Ant 2	Ant 1+2	
				Ant 1	Ant 2
802.11a	5745	15	15	N/A	N/A
	5785	15	15	N/A	N/A
	5825	15	15	N/A	N/A
802.11n HT20	5745	N/A	N/A	13	13
	5785	N/A	N/A	13	13
	5825	N/A	N/A	13	13
802.11n HT40	5755	N/A	N/A	13	13
	5795	N/A	N/A	13	13
802.11ac VHT20	5745	N/A	N/A	13	13
	5785	N/A	N/A	13	13
	5825	N/A	N/A	13	13
802.11ac VHT40	5755	N/A	N/A	13	13
	5795	N/A	N/A	13	13
802.11ac VHT80	5775	N/A	N/A	13	13



2.5. Description of Test System

Product	Manufacturer	Model No.	Serial No.	Power Cord
1 Notebook	Dell	Latitude 5530	GFXJML3	Non-Shielded, 1.8m
2 Adapter	XuYuan	XY-PD065U75	N/A	1.0m NonShielding with one Core

Connection Diagram



Signal Cable Type		Quantity	Signal cable Description
A	DC Cable	1	1.0m NonShielding with one Core



2.6. General Information of Test

Test Site	Cerpass Technology Corporation(Cerpass Laboratory) Address: Room 102, No. 5, Xing'an Road, Chang'an Town, Dongguan City, Guangdong Province Tel: +86-769-8547-1212 Fax: +86-769-8547-1912
FCC Designation No.:	CN1288
Frequency Range Investigated:	Conducted: from 150kHz to 30 MHz Radiation: from 9kHz to 40,000MHz
Test Distance:	The test distance of radiated emission from antenna to EUT is 3 M.

Test Item	Test Site	Test period	Environmental Conditions	Tested By
Radiated Emissions	3M01-DG	2024/09/11~2024/09/18	24~26℃ / 57~58%	Amos Zhang
AC Power Line Conducted Emission	CON01-DG	2024/09/13	26℃ / 55%	Amos Zhang

2.7. Measurement Uncertainty

ISO/IEC 17025 requires that an estimate of the measurement uncertainties associated with the emissions test results be included in the report. The measurement uncertainties given below are based on a 95% confidence level (based on a coverage factor (k=2)).

Measurement Item	Uncertainty
AC Power Line Conduction(150K~30MHz)	±2.52dB
Radiated Spurious Emission(9KHz~30MHz)	±4.10dB
Radiated Spurious Emission(30MHz~1GHz)	±4.23dB
Radiated Spurious Emission(1GHz~18GHz)	±5.49dB
Radiated Spurious Emission(18GHz~40GHz)	±4.39dB
6dB Bandwidth&26dB Bandwidth	±5.2%
Occupied Bandwidth	±4.5%
Peak Output Power(Conducted Power Meter)	±0.90dB
Power Spectral Density	±0.89dB
Frequency Stability	±78.5Hz



3. Test Equipment and Ancillaries Used for Tests

AC Power Line Conducted Emission					
Test Site	CON01-DG				
Instrument/Ancillary	Manufacturer	Model No.	Serial No.	Calibration Date	Valid Date.
Test Receiver	R&S	ESCI	100564	2024/01/03	2025/01/02
LISN	SCHWARZBECK	NSLK 8127	8127749	2024/08/01	2025/07/31
LISN	R&S	ENV216	100024	2024/01/03	2025/01/02
Cable	Aoda	RG214	Cable-06	2024/01/03	2025/01/02
Pulse Limiter with 10dB Attenuation	SCHWARZBECK	VTSD 9561-F	9561-F106	2024/01/03	2025/01/02
Temperature/ Humidity Meter	GEMLEAD	STH200A	N/A	2024/08/02	2025/08/01
Software	AUDIX	E3	Version: 8.14806b	N/A	N/A

Radiated Emissions					
Test Site	3M01-DG				
Instrument	Manufacturer	Model No.	Serial No.	Calibration Date	Valid Date
EMI Test Receiver	R&S	ESCI	100565	2024/08/01	2025/07/31
Amplifier	EMCI	EMC330	980082	2024/01/03	2025/01/02
Loop Antenna	R&S	HFH2-Z2	100150	2024/01/03	2026/01/02
Bilog Antenna	Sunol Science	JB1	A072414-3	2023/06/18	2025/06/17
Preamplifier	Agilent	8449B	3008A02342	2024/08/01	2025/07/31
Preamplifier	COM-POWER	PA-840	711885	2024/01/03	2025/01/02
Broad-Band Horn Antenna	Schwarzbeck	BBHA9120 D	9120D-619	2024/01/03	2026/01/02
Standard Gain Horn Antenna	TRC	HA-2640	18050	2024/01/03	2026/01/02
Standard Gain Horn Antenna	TRC	HA-1726	18051	2024/01/03	2026/01/02
FSQ Signal Analyzer	R&S	FSQ40	200012	2024/01/03	2025/01/02
Cable	EMCI	EM104-NM SM-8.5M	Cable-03	2024/08/01	2025/07/31
Cable	Jiuzhoubona	T-SMA	SMA48AL-70 00	2024/08/01	2025/07/31
Cable	CH-CoDesign	CCXA81-S MAMNM-1 M	Cable-05	2024/08/01	2025/07/31
Cable	CH-CoDesign	CCXA40-2.92-2.92-1M	21071954	2024/08/02	2025/08/01
Cable	CH-CoDesign	CCX40-2.92 M-2.92M-9 M	21070892	2024/08/02	2025/08/01
Temperature/ Humidity Meter	GEMLEAD	STH200A	N/A	2024/08/02	2025/08/01
Software	AUDIX	E3	Version: 8.14806b	N/A	N/A



4. Antenna Requirements

4.1. Standard Applicable

For intentional device, according to FCC 47 CFR 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.

And according to FCC 47 CFR Section 15.407 (a), if transmitting antennas of directional gain greater than 6dBi are used, the power shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6dBi.

4.2. Antenna Construction and Directional Gain

Antenna Type	FPC Antenna
Antenna Gain	5150MHz - 5250MHz: ANT A:3.0dBi; ANT B:2.9dBi 5250MHz - 5350MHz: ANT A: 3.2dBi; ANT B:2.93dBi 5450MHz - 5700MHz: ANT A: 3.17dBi; ANT B:3.0dBi 5750MHz - 5850MHz: ANT A:3.5dBi; ANT B:3.1dBi

(Non-Beamforming)

For 2TX

5150MHz - 5250MHz
For Power/PSD directional gain = $10 \log[(10G1/20 + 10G2/20 + \dots + 10GN/20)^2 / NANT]$ = 5.96 (dBi)
5250MHz-5350MHz
For Power/PSD directional gain = $10 \log[(10G1/20 + 10G2/20 + \dots + 10GN/20)^2 / NANT]$ = 6.08(dBi)
5470MHz -5725MHz
For Power/PSD directional gain = $10 \log[(10G1/20 + 10G2/20 + \dots + 10GN/20)^2 / NANT]$ = 6.10 (dBi)
5725MHz -5850MHz
For Power/PSD directional gain = $10 \log[(10G1/20 + 10G2/20 + \dots + 10GN/20)^2 / NANT]$ = 6.31 (dBi)

5. Test of AC Power Line Conducted Emission

5.1. Test Limit

Conducted Emissions were measured from 150 kHz to 30 MHz with a bandwidth of 9 KHz, according to the methods defined in ANSI C63.10-2013. The EUT was placed on a nonmetallic stand in a shielded room 0.8 meters above the ground plane. The interface cables and equipment positioning were varied within limits of reasonable applications to determine the position produced maximum conducted emissions.

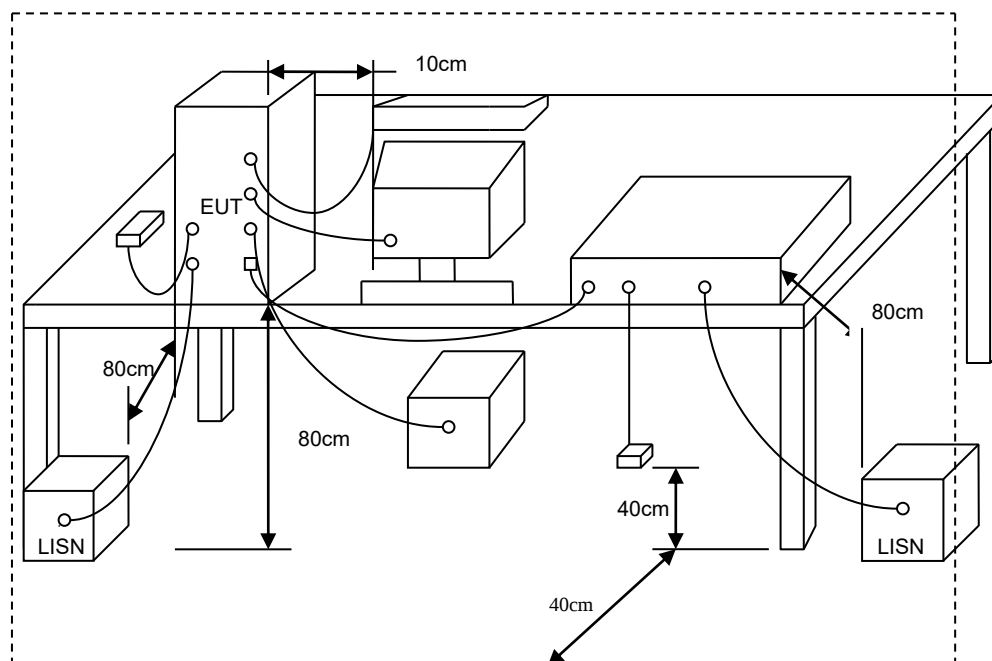
Frequency (MHz)	Quasi Peak (dBμV)	Average (dBμV)
0.15 – 0.5	66-56*	56-46*
0.5 – 5.0	56	46
5.0 – 30.0	60	50

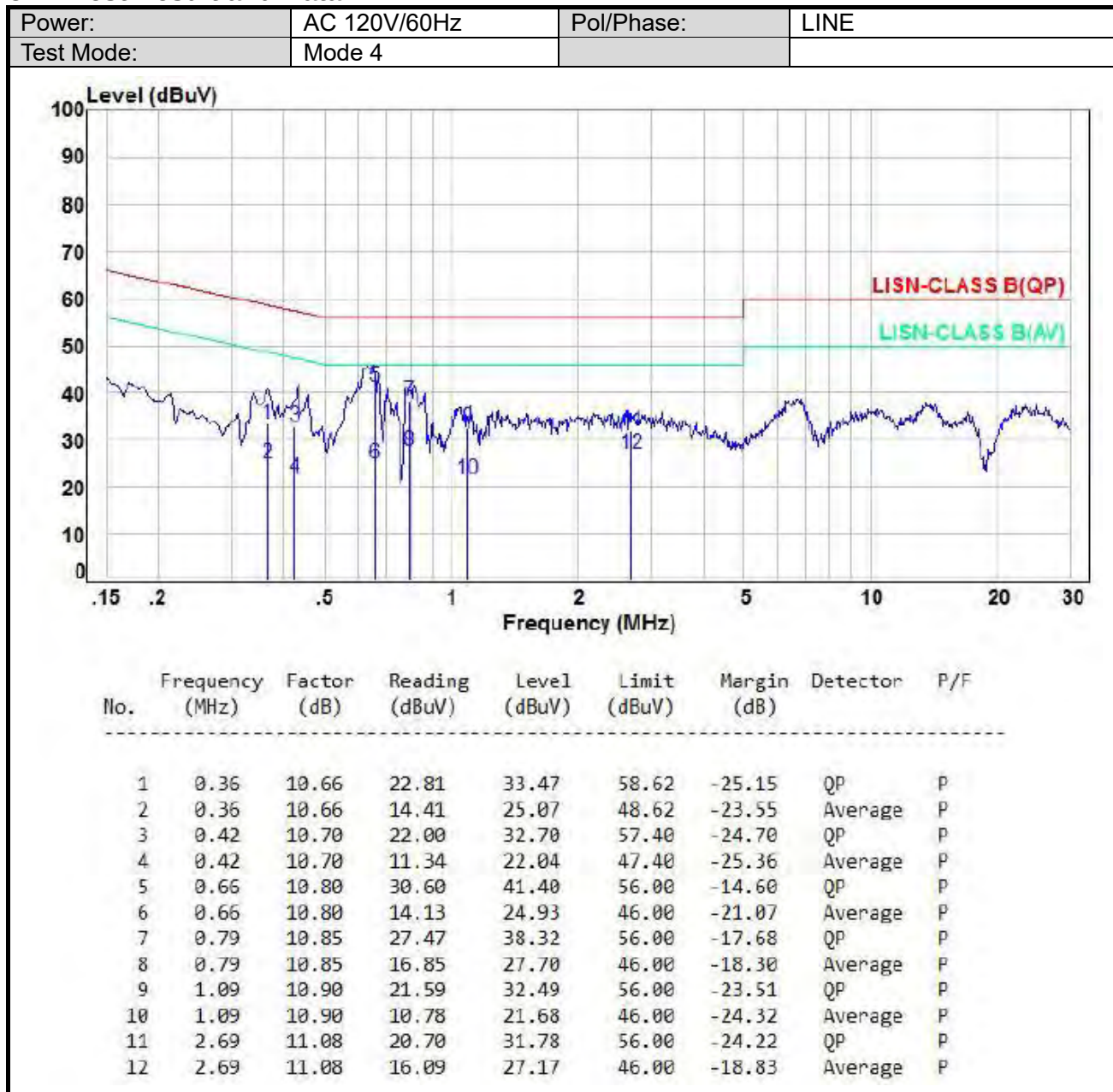
*Decreases with the logarithm of the frequency.

5.2. Test Procedures

- The EUT was placed 0.4 meter from the conducting wall of the shielding room was kept at least 80 centimeters from any other grounded conducting surface.
- Connect EUT to the power mains through a line impedance stabilization network (LISN).
- All the support units are connecting to the other LISN.
- The LISN provides 50 ohm coupling impedance for the measuring instrument.
- The FCC states that a 50 ohm, 50 micro-Henry LISN should be used.
- Both sides of AC line were checked for maximum conducted interference.
- The frequency range from 150 kHz to 30 MHz was searched.
- Set the test-receiver system to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode.

5.3. Typical Test Setup

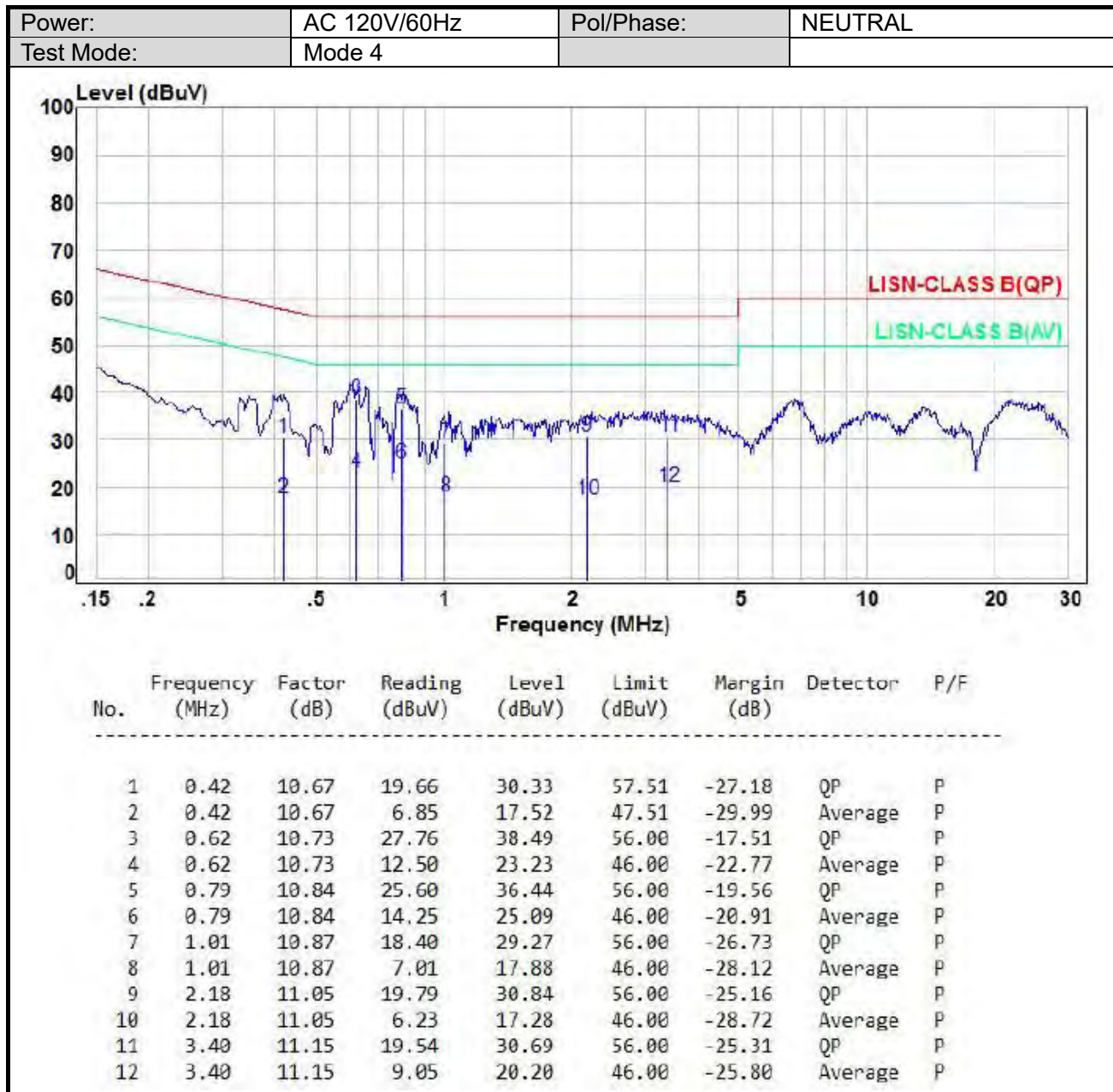


**5.4. Test Result and Data**

Note: Level = Reading + Factor

Margin = Level – Limit

Factor = (LISN or ISN or PLC or Current Probe) Factor + Cable Loss + Attenuator



Note: Level = Reading + Factor

Margin = Level – Limit

Factor = (LISN or ISN or PLC or Current Probe) Factor + Cable Loss + Attenuator



6. Test of Spurious Emission (Radiated)

6.1. Test Limit

Undesirable emission limits. Except as shown in paragraph 15.407(b)(9)(10) of this section, the maximum emissions outside of the frequency bands of operation shall be attenuated in accordance with the following limits:

- (1) For transmitters operating in the 5.15-5.25 GHz band: All emissions outside of the 5.15-5.35 GHz band shall not exceed an e.i.r.p. of -27 dBm/MHz.
- (2) For transmitters operating in the 5.25-5.35 GHz band: All emissions outside of the 5.15-5.35 GHz band shall not exceed an e.i.r.p. of -27 dBm/MHz.
- (3) For transmitters operating in the 5.47-5.725 GHz band: All emissions outside of the 5.47-5.725 GHz band shall not exceed an e.i.r.p. of -27 dBm/MHz.
- (4) For transmitters operating in the 5.725-5.85 GHz band:
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.
- (5) The emission measurements shall be performed using a minimum resolution bandwidth of 1 MHz. A lower resolution bandwidth may be employed near the band edge, when necessary, provided the measured energy is integrated to show the total power over 1 MHz.
- (6) Unwanted emissions below 1 GHz must comply with the general field strength limits set forth in §15.209. Further, any U-NII devices using an AC power line are required to comply also with the conducted limits set forth in §15.207.
- (7) The provisions of §15.205 apply to intentional radiators operating under this section.
- (8) When measuring the emission limits, the nominal carrier frequency shall be adjusted as close to the upper and lower frequency band edges as the design of the equipment permits.

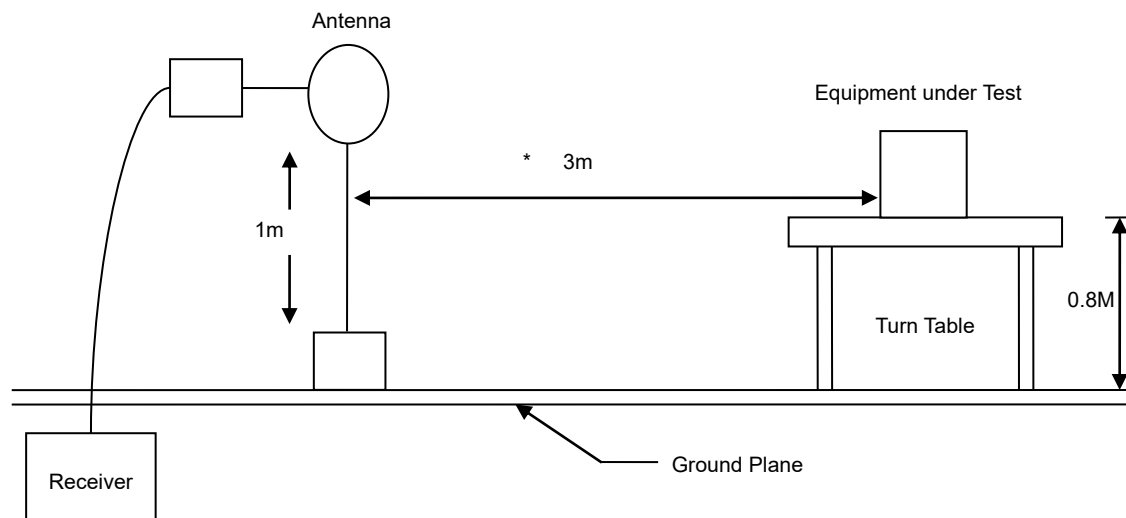
6.2. Test Procedures

- a. The EUT was placed on a rotatable table top 0.8 meter above ground.
- b. The EUT was set 3 meters from the interference receiving antenna which was mounted on the top of a variable height antenna tower.
- c. The table was rotated 360 degrees to determine the position of the highest radiation.
- d. The antenna is a broadband antenna and its height is varied between one meter and four meters above ground to find the maximum value of the field strength both horizontal polarization and vertical polarization of the antenna are set to make the measurement.
- e. 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 turn table (from 0 degree to 360 degrees) to find the maximum reading.
- f. Set the test-receiver system to Peak or CISPR quasi-peak Detect Function and specified bandwidth with Maximum Hold Mode.
- g. If the emission level of the EUT in peak mode was 3 dB lower than the limit specified, then testing will be stopped and peak values of EUT will be reported, otherwise, the emissions which do not have 3 dB margin will be repeated one by one using the quasi-peak method and reported.
- h. For testing above 1GHz, the emission level of the EUT in peak mode was 20dB lower than average limit (that means the emission level in peak mode also complies with the limit in average mode), then testing will be stopped and peak values of EUT will be reported, otherwise, the emissions will be measured in average mode again and reported.
- i. "Cone of radiation" has been considered to be 3dB bandwidth of the measurement antenna.
Note: The supporting fixture shall permit orientation of the EUT in each of three orthogonal axis positions sch that emissions from the EUT are maximized.(X-AXIS is the worst.)

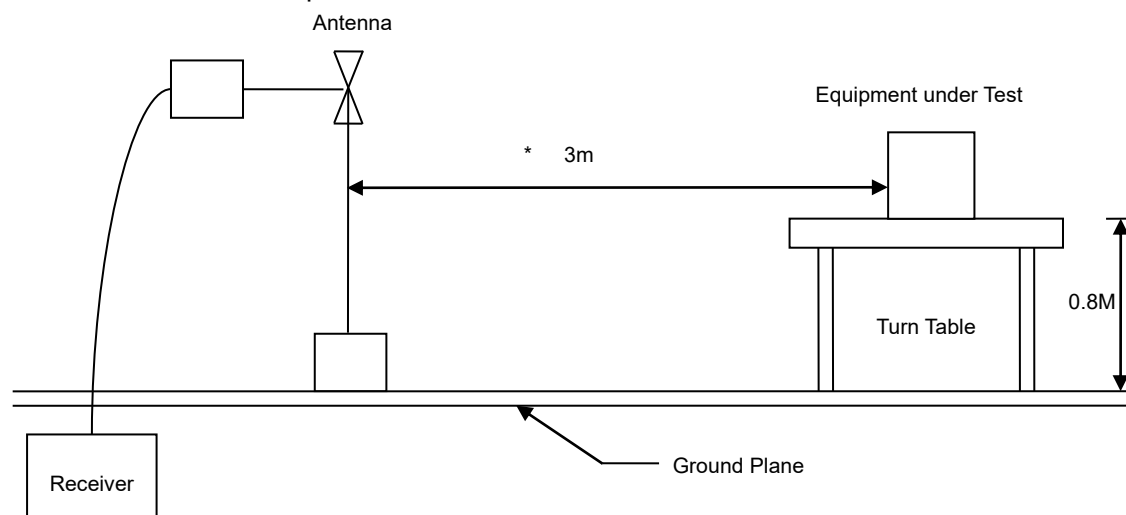


6.3. Typical Test Setup

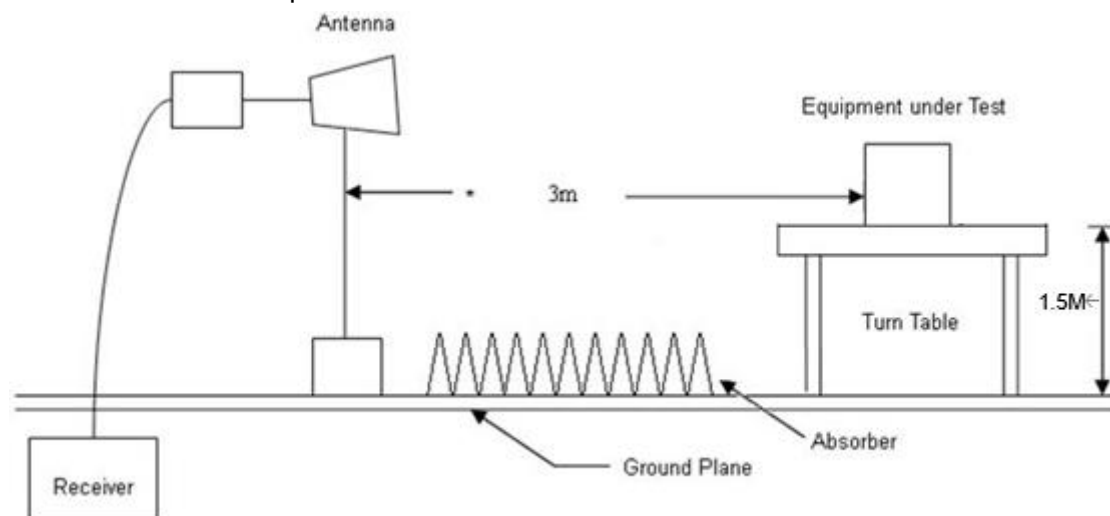
Below 30MHz test setup



30MHz- 1GHz Test Setup



Above 1GHz Test Setup





6.4. Test Result and Data (9kHz ~ 30MHz)

The 9kHz - 30MHz spurious emission is under limit 20dB more.

6.5. Test Result and Data (30MHz ~ 1GHz)

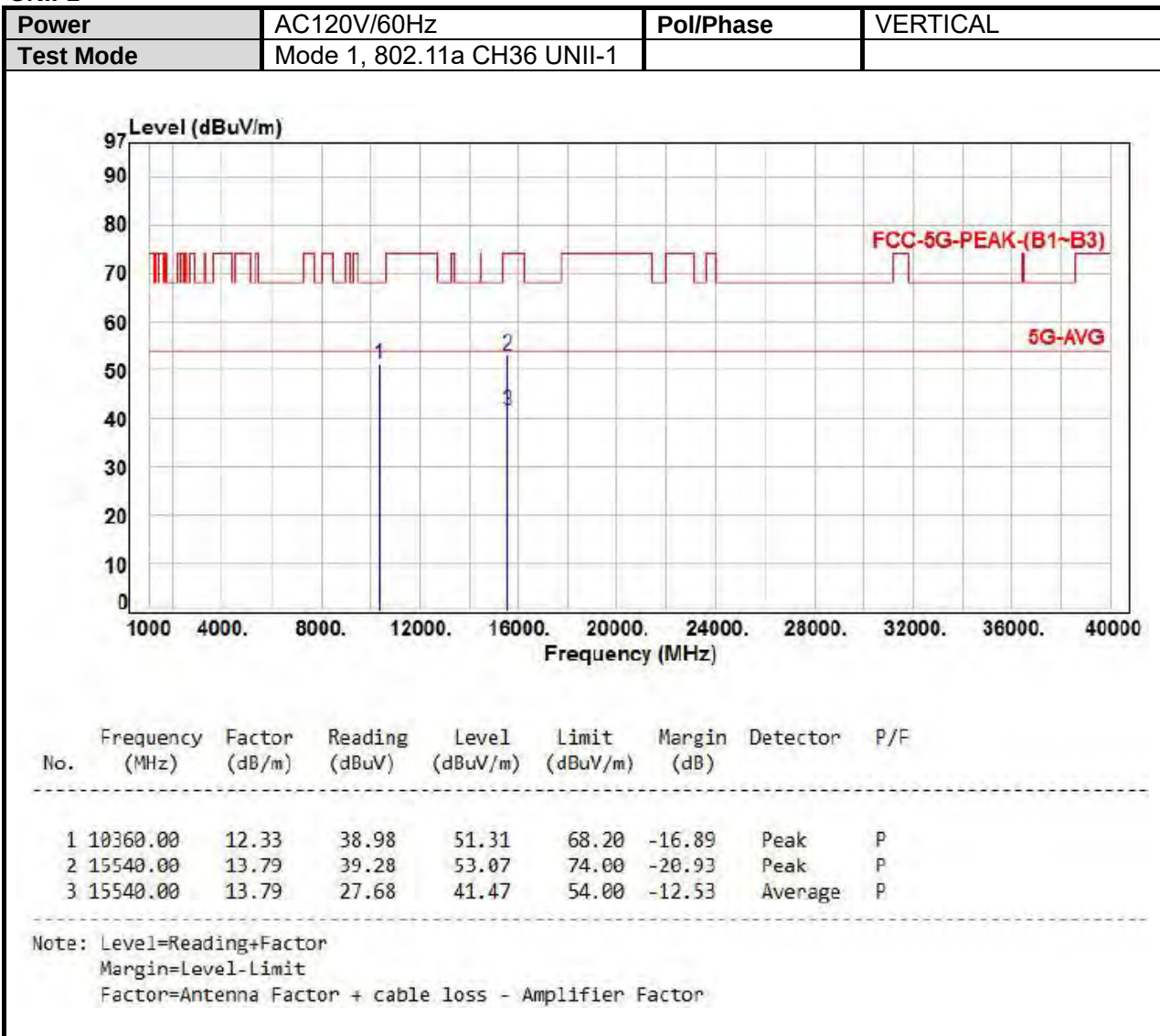


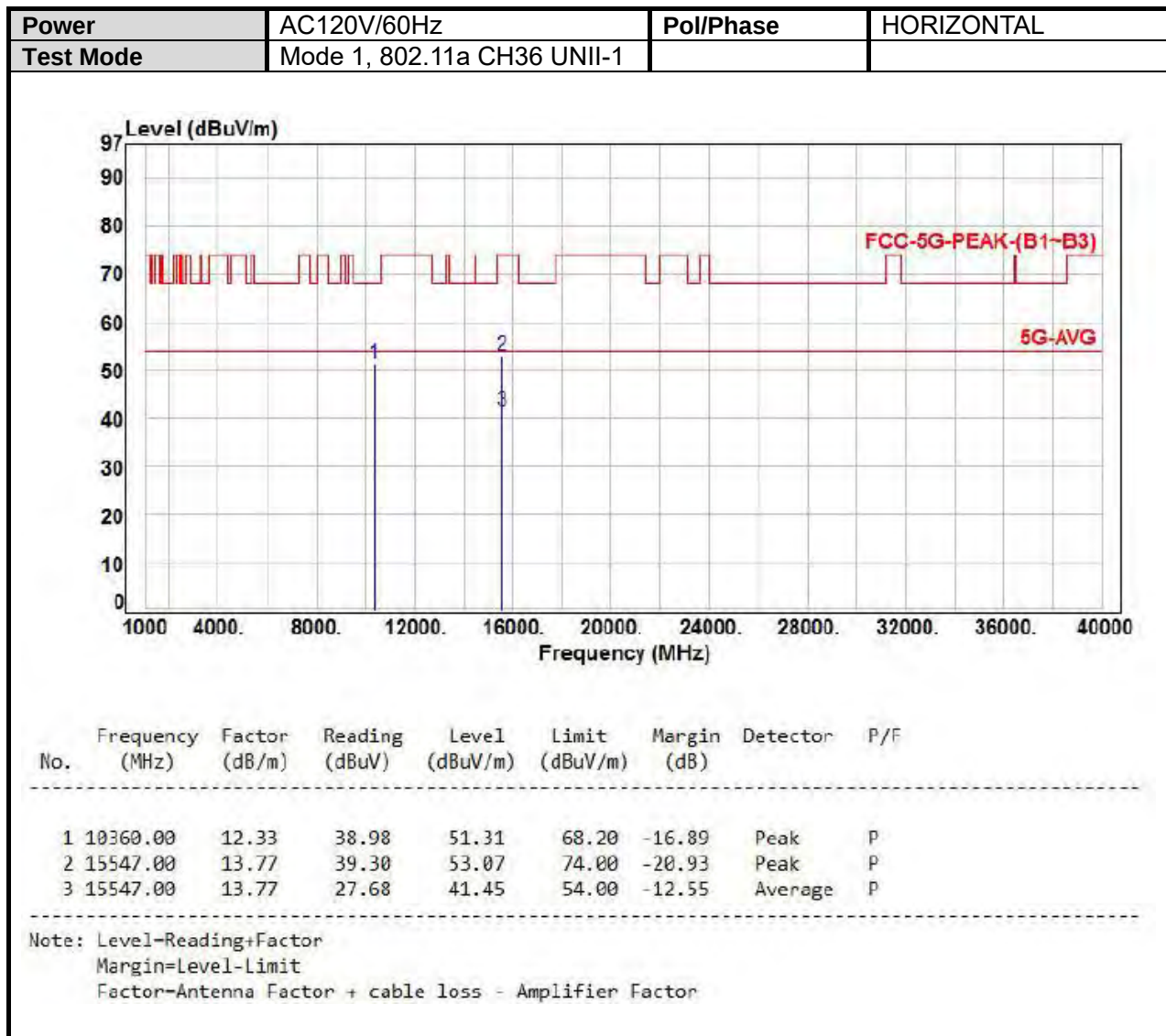


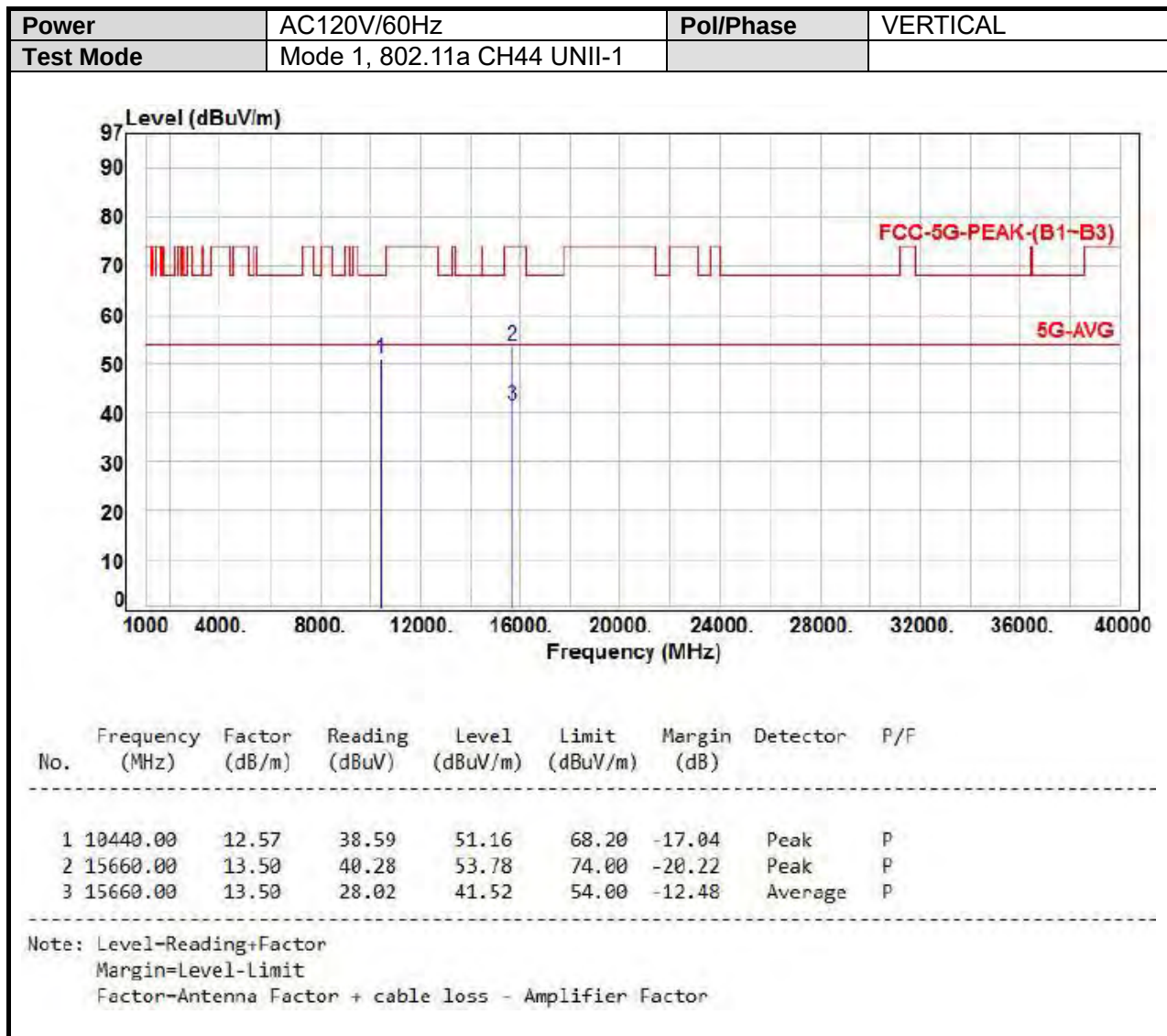


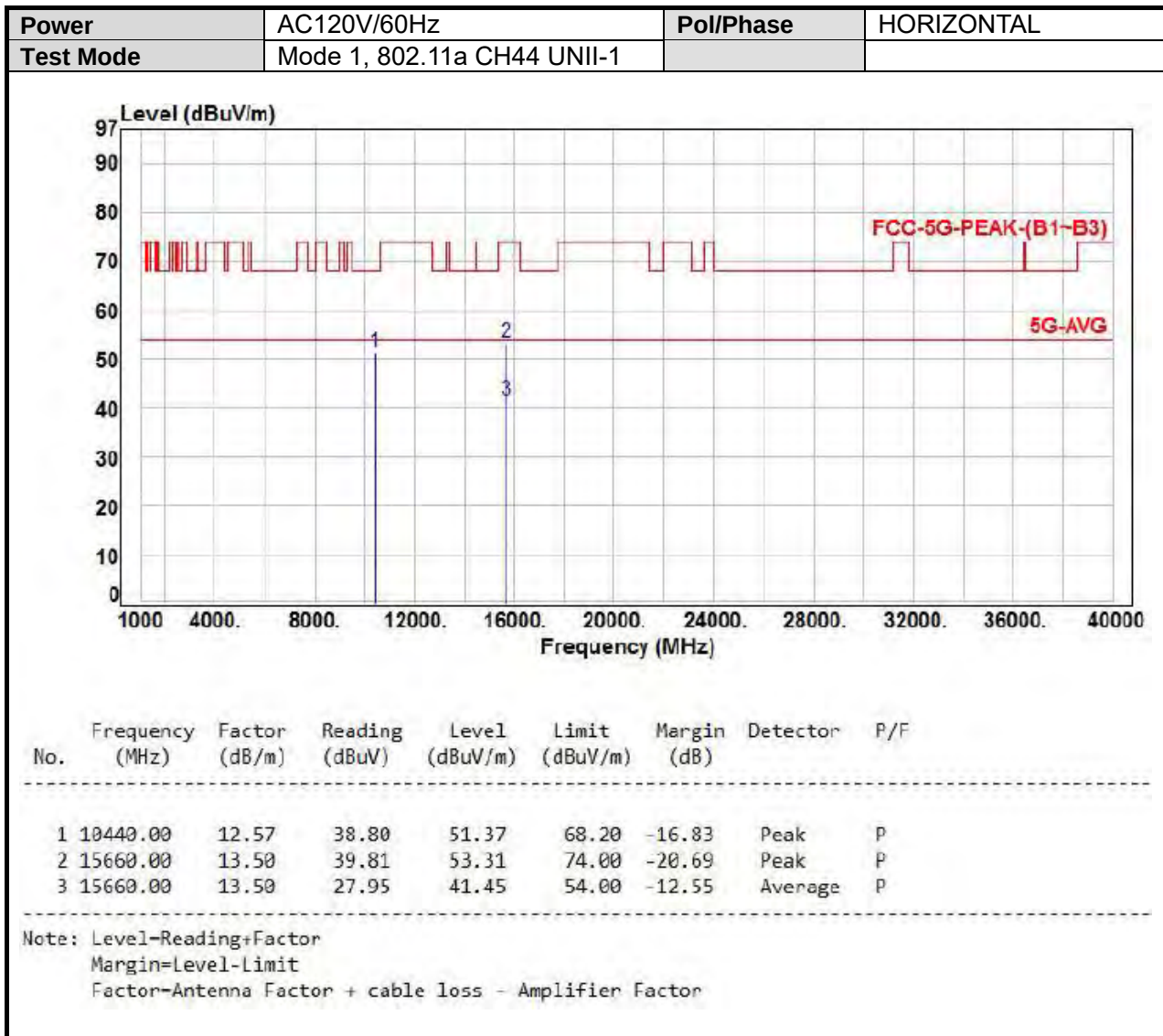
6.6. Test Result and Data (1GHz ~ 40GHz)

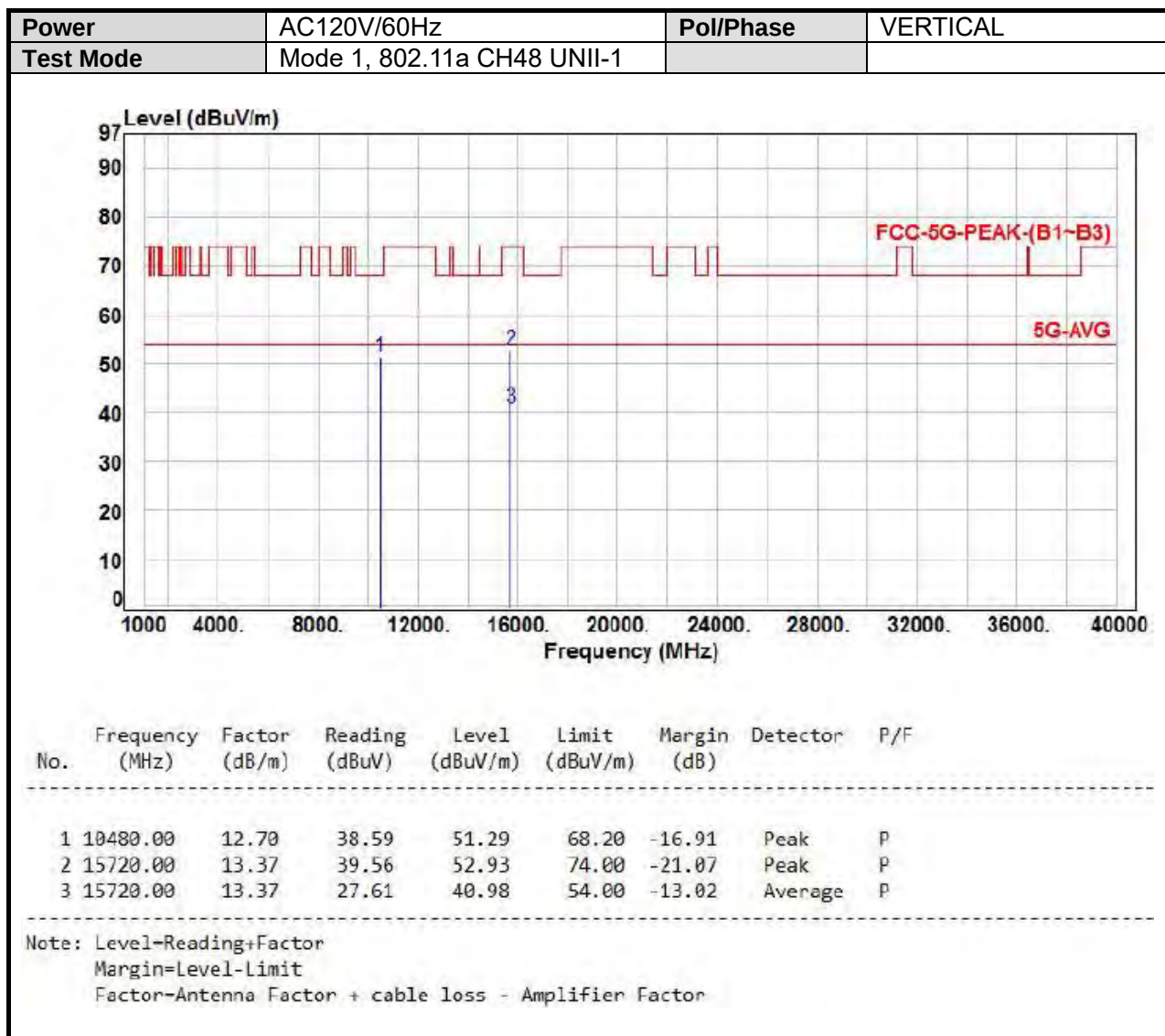
SISO-Ant A
UNII-1

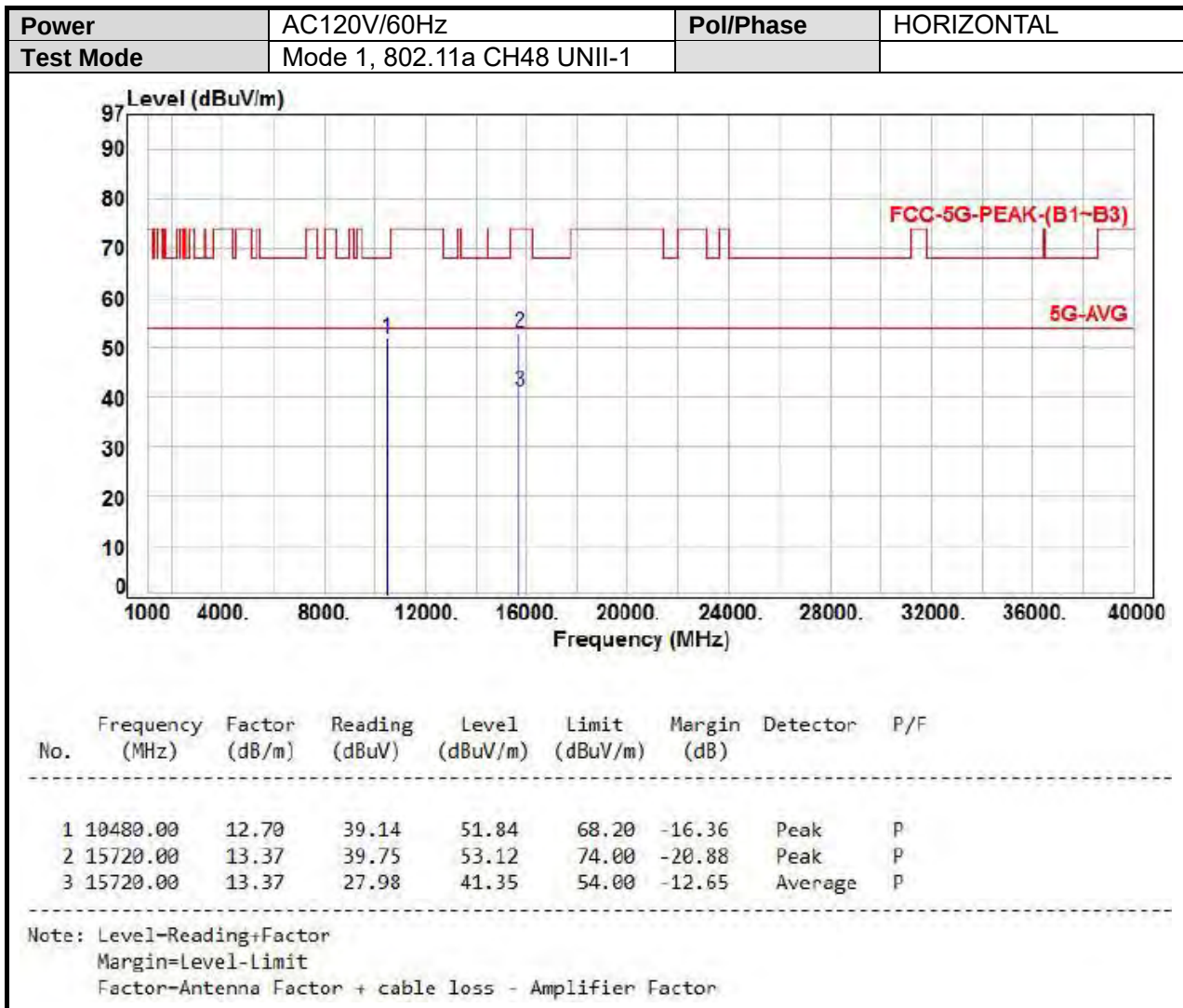


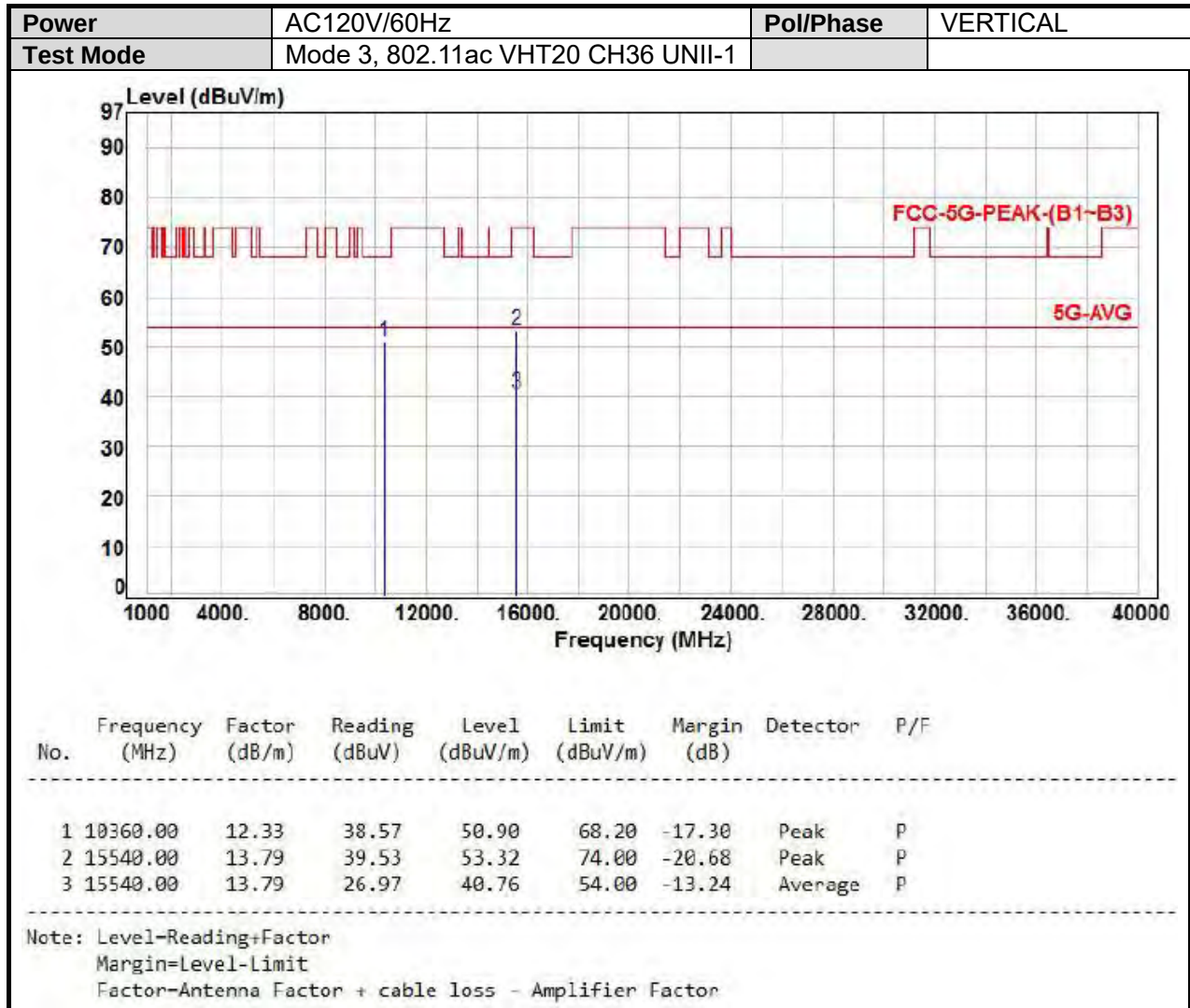


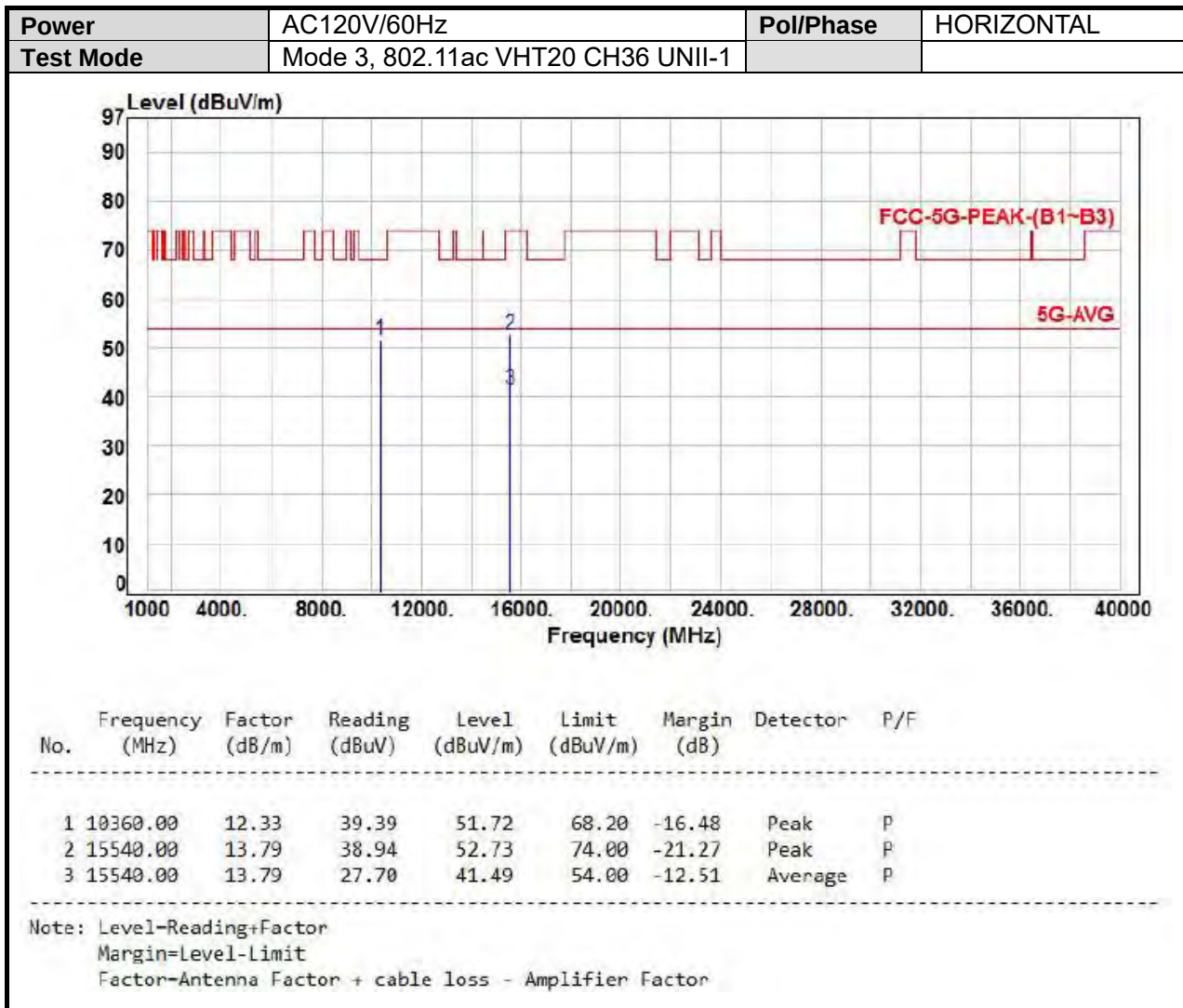


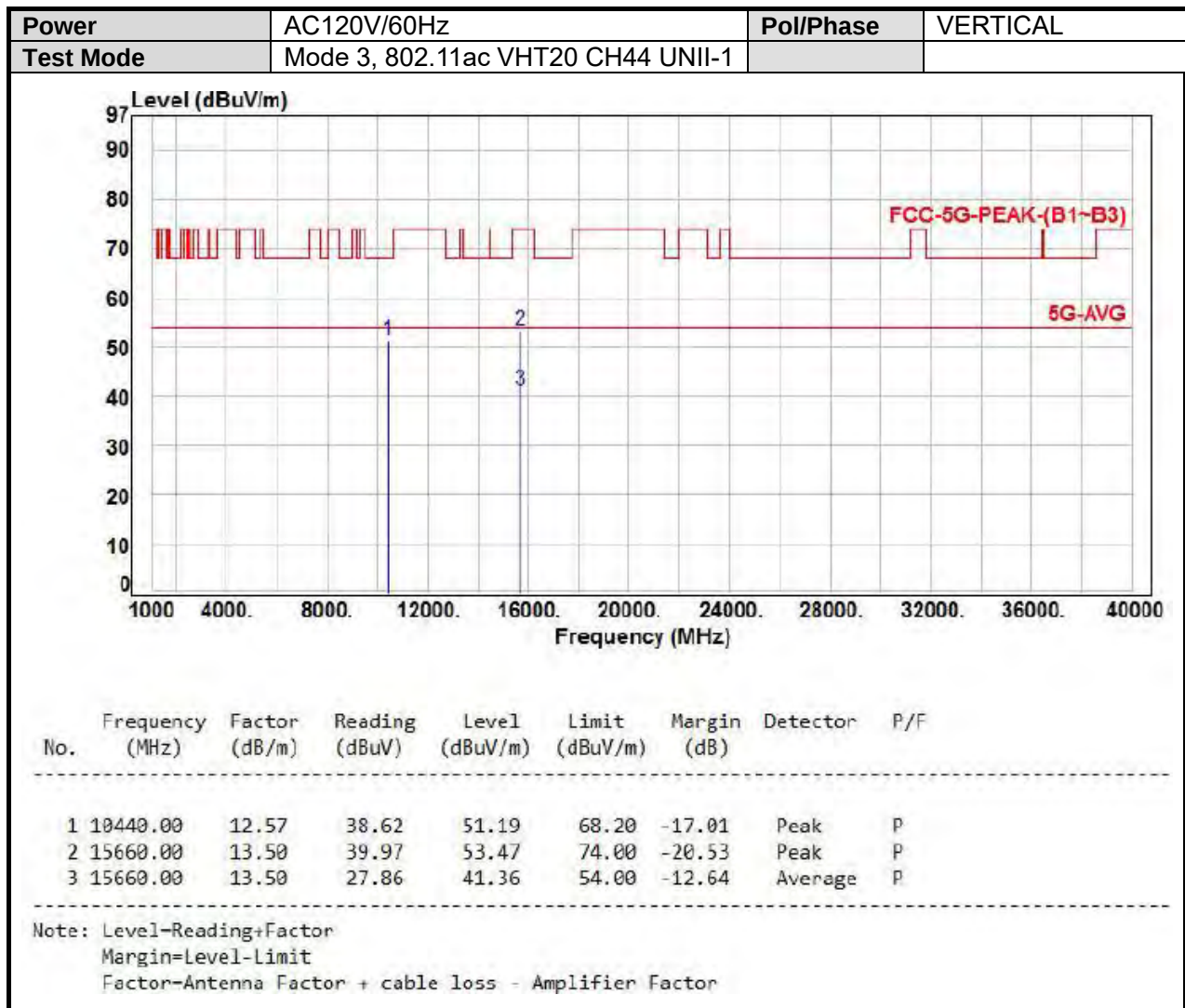


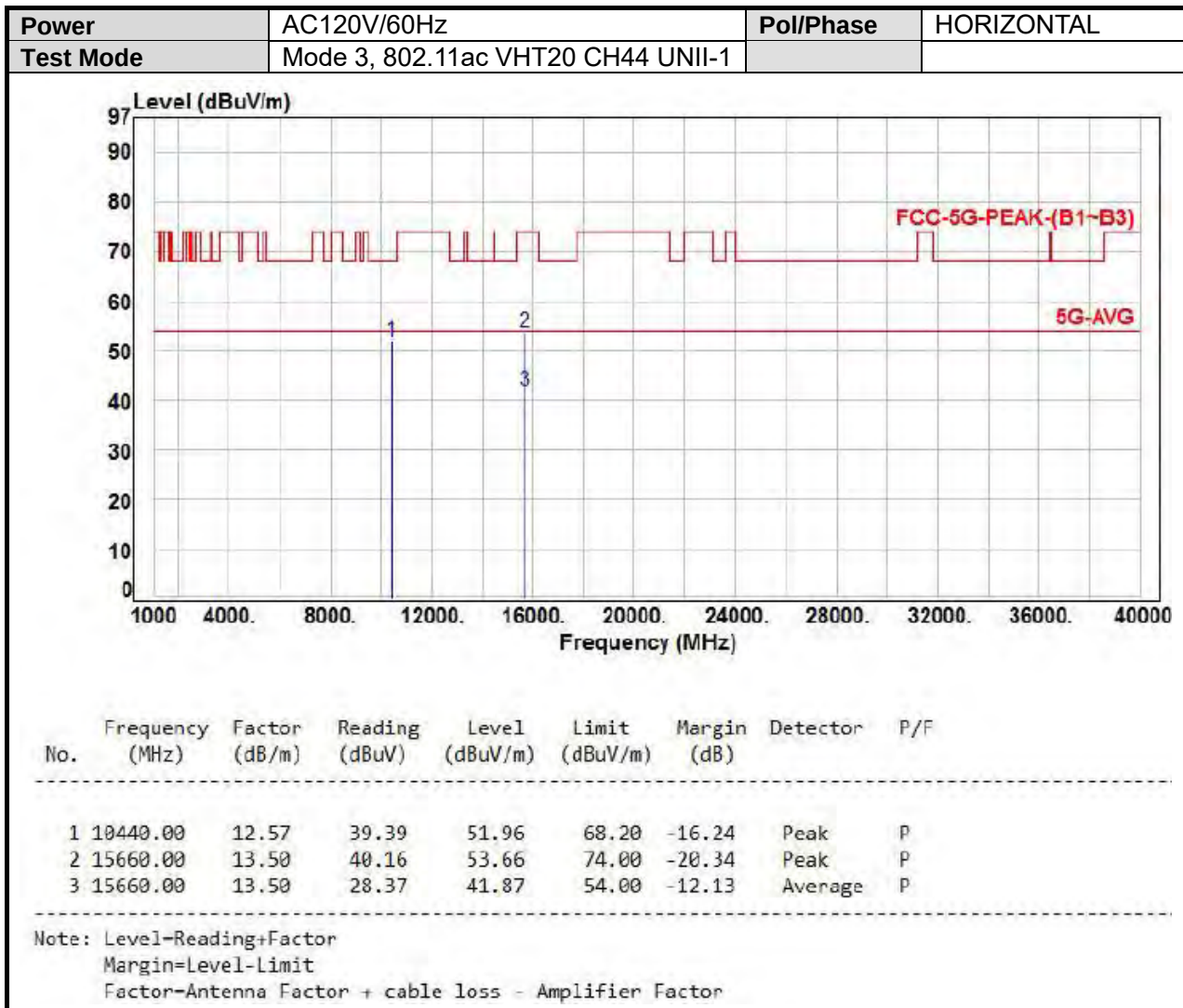


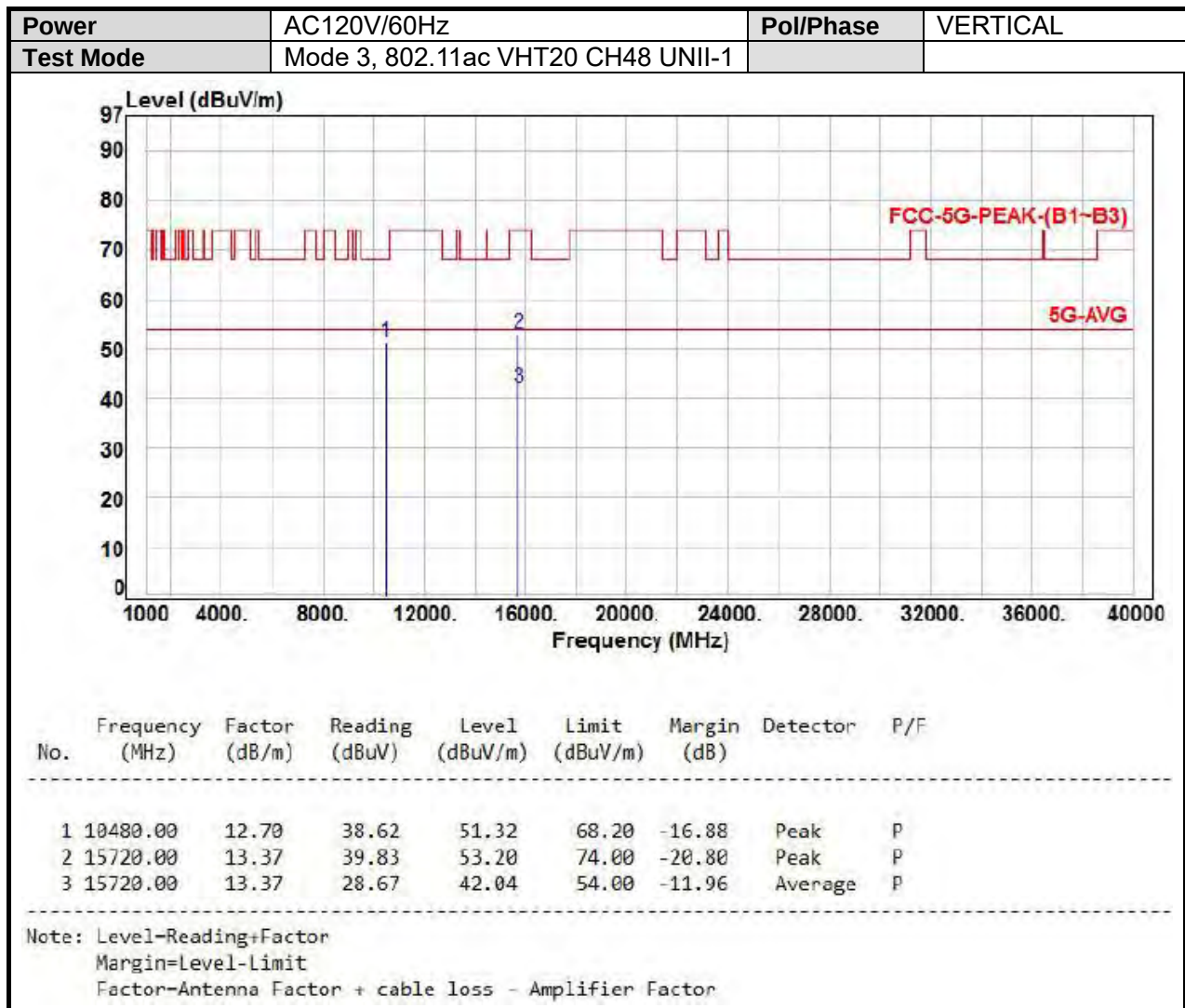


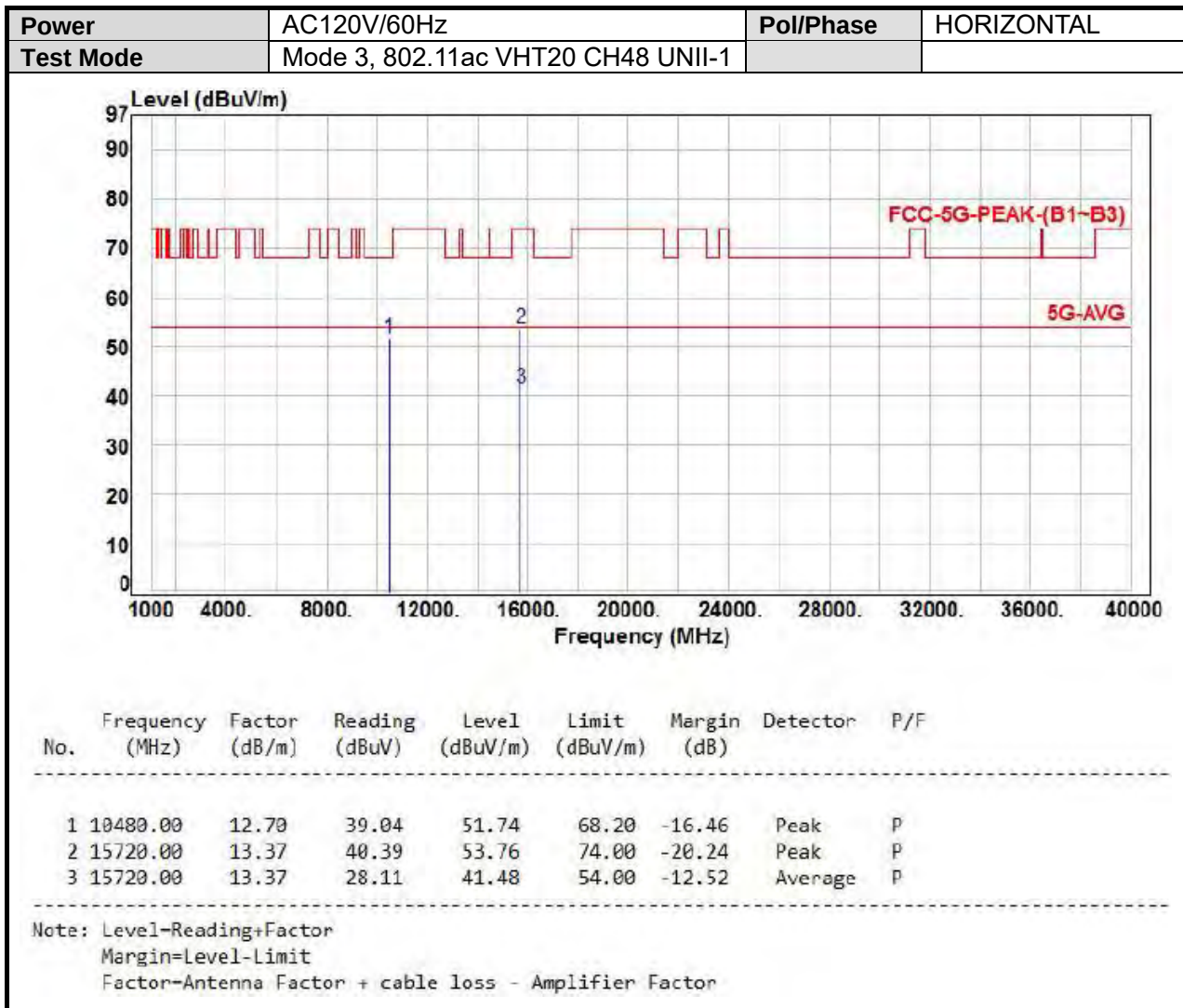
MIMO
UNII-1

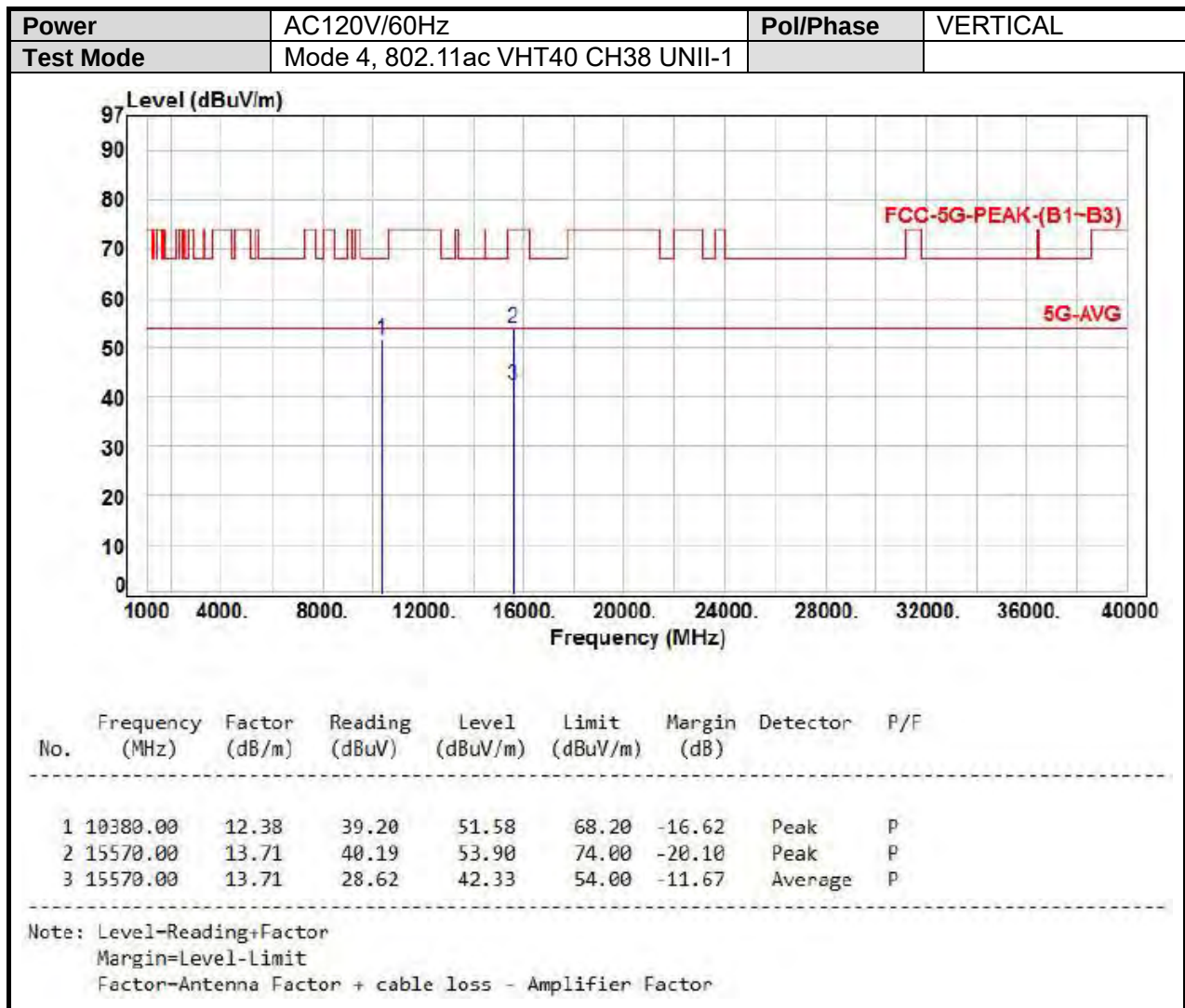


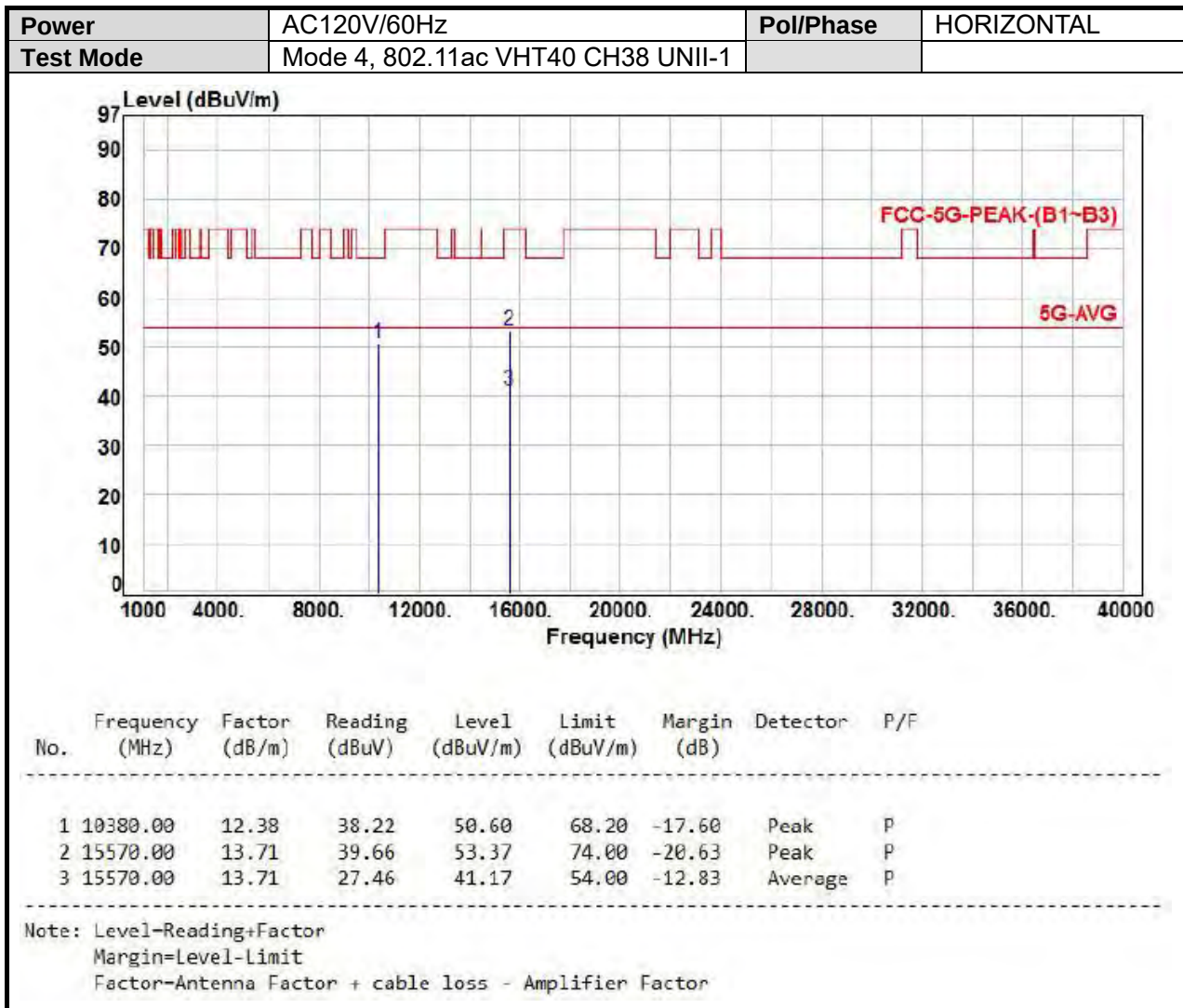


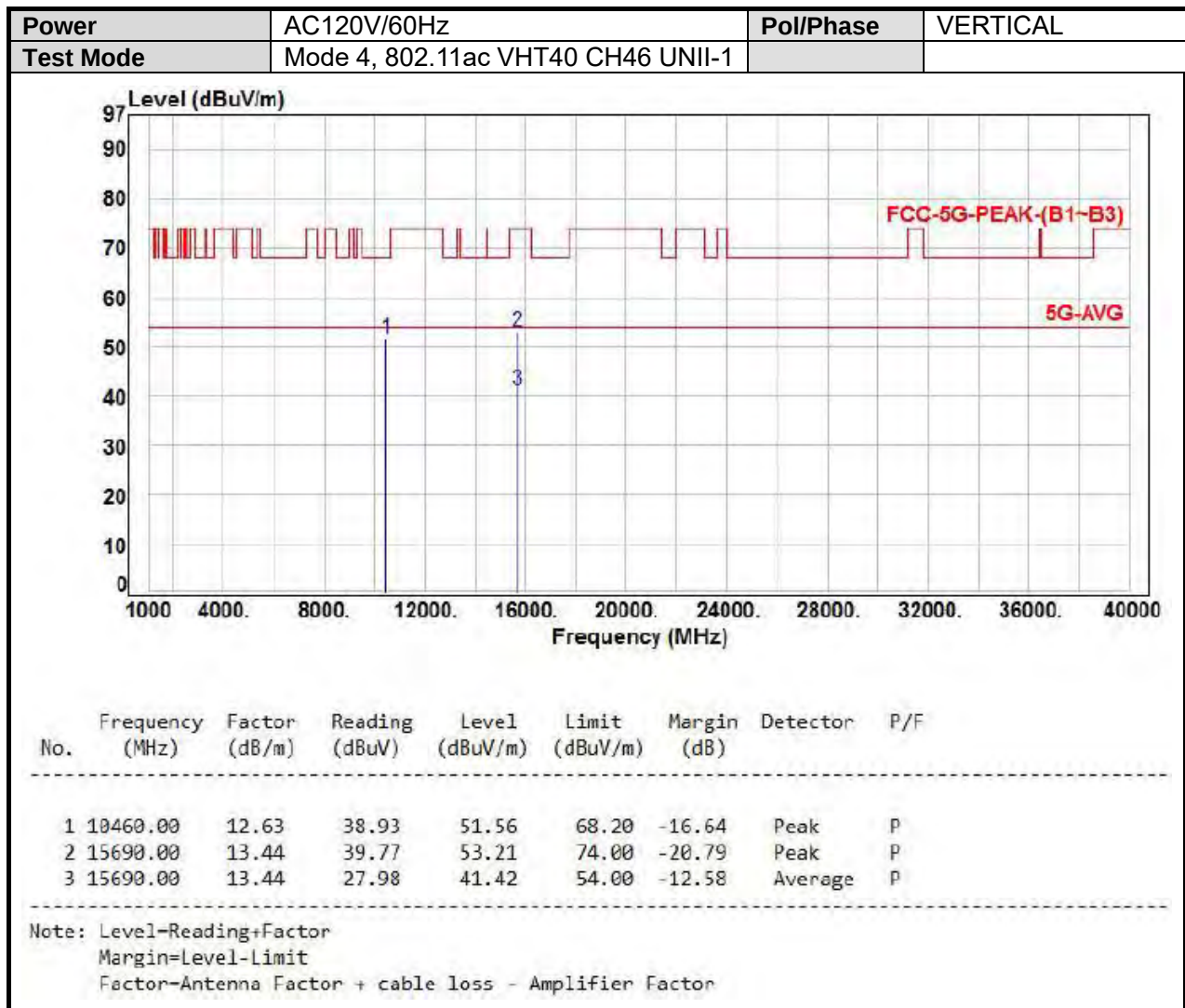


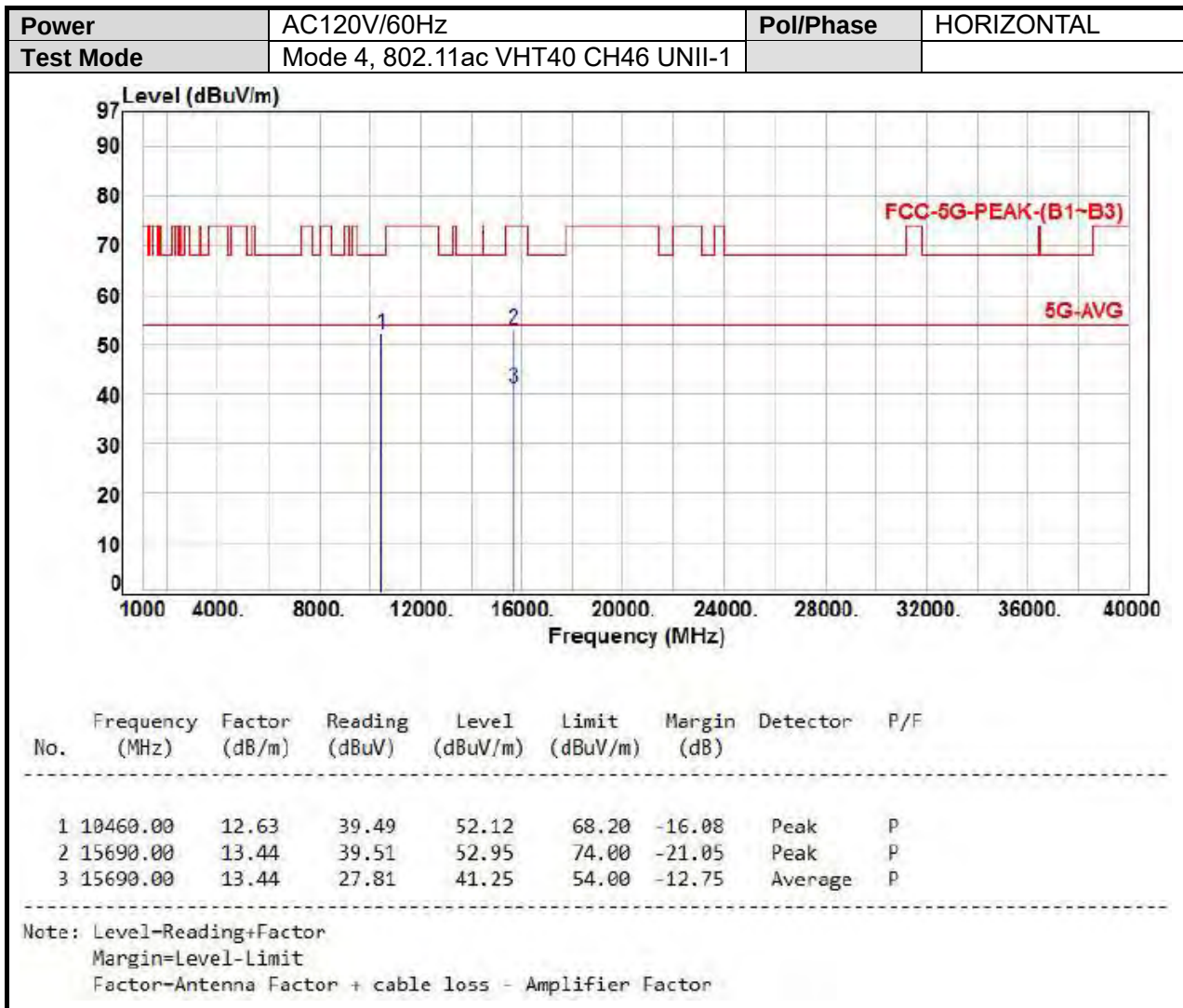


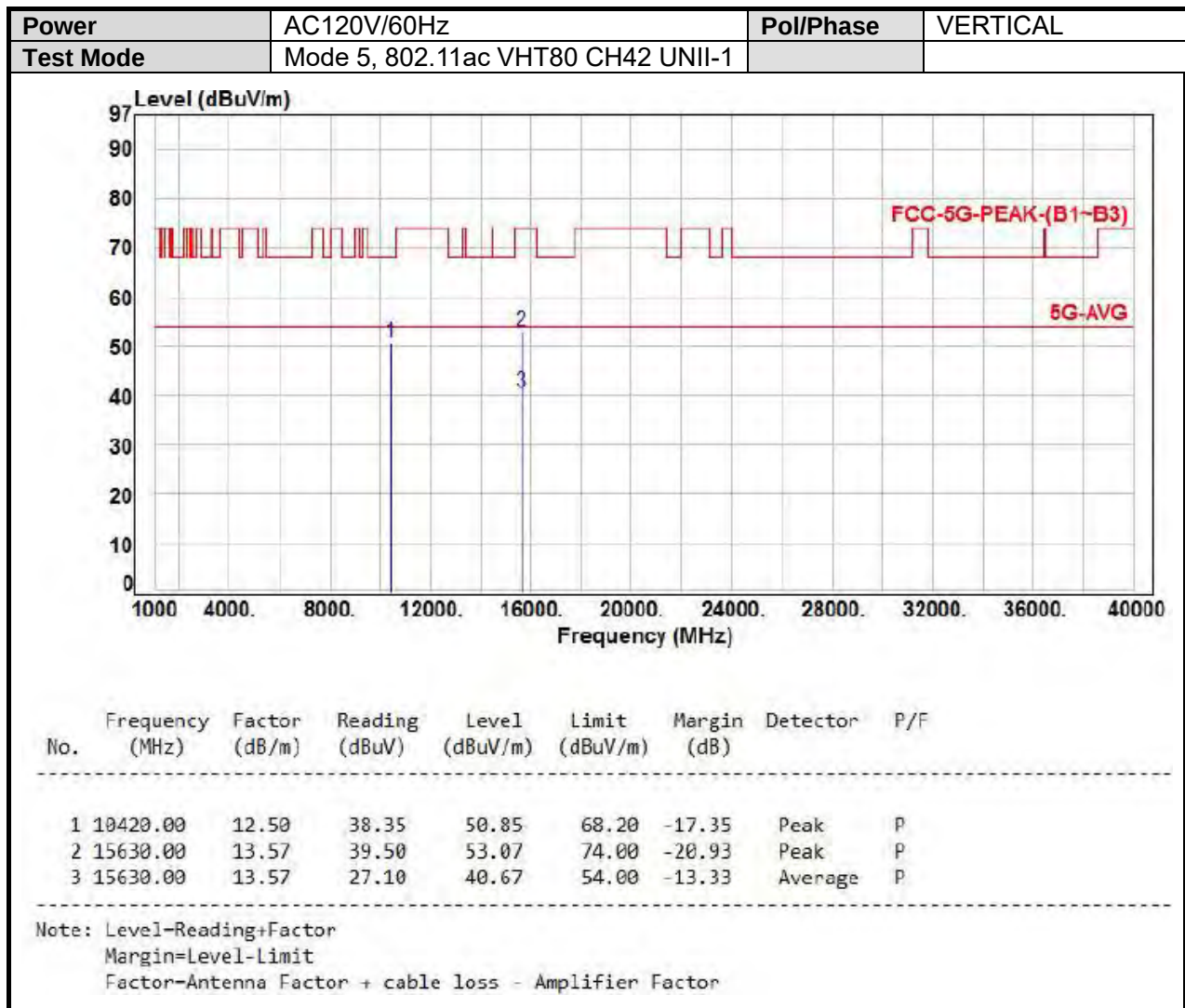


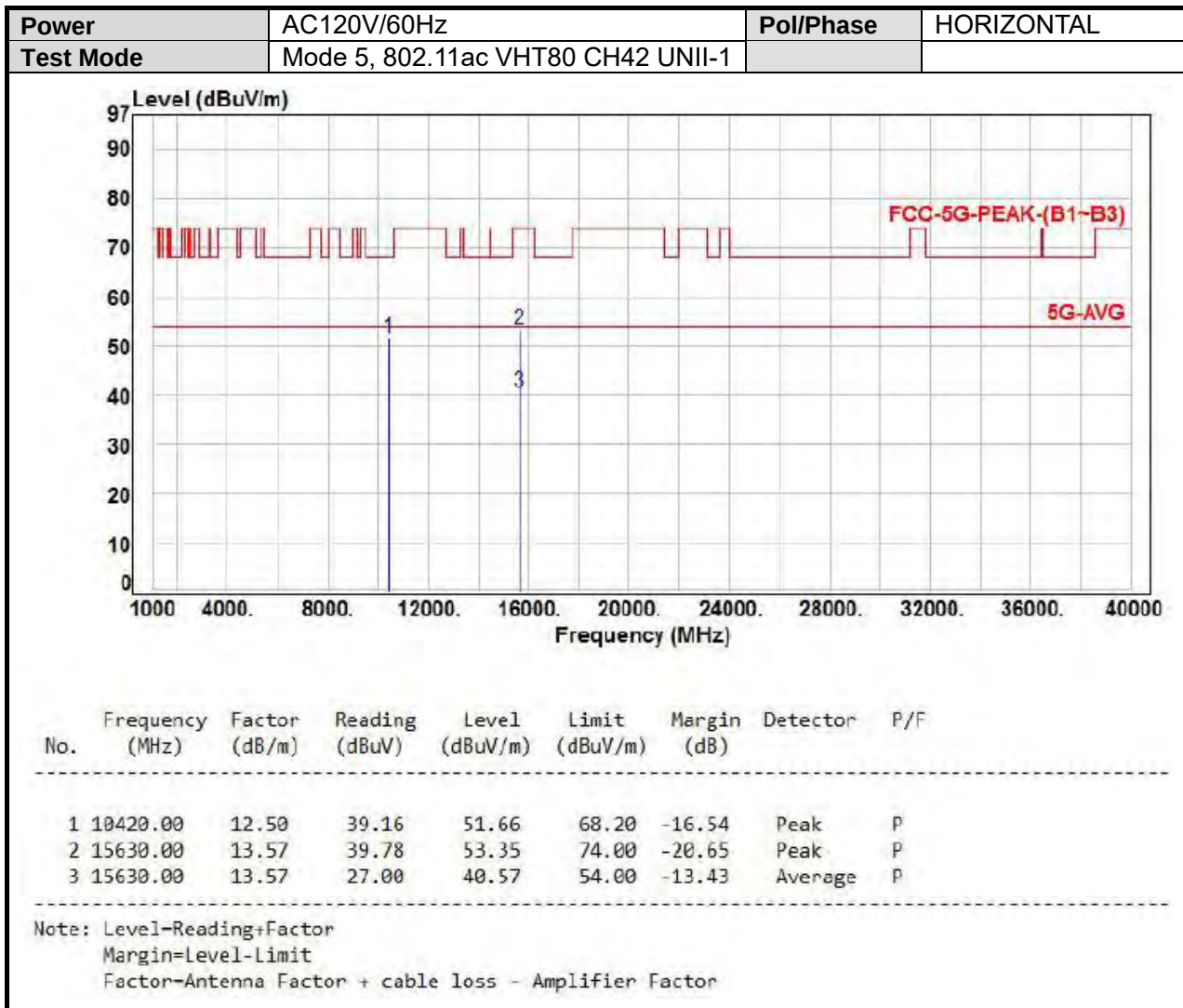








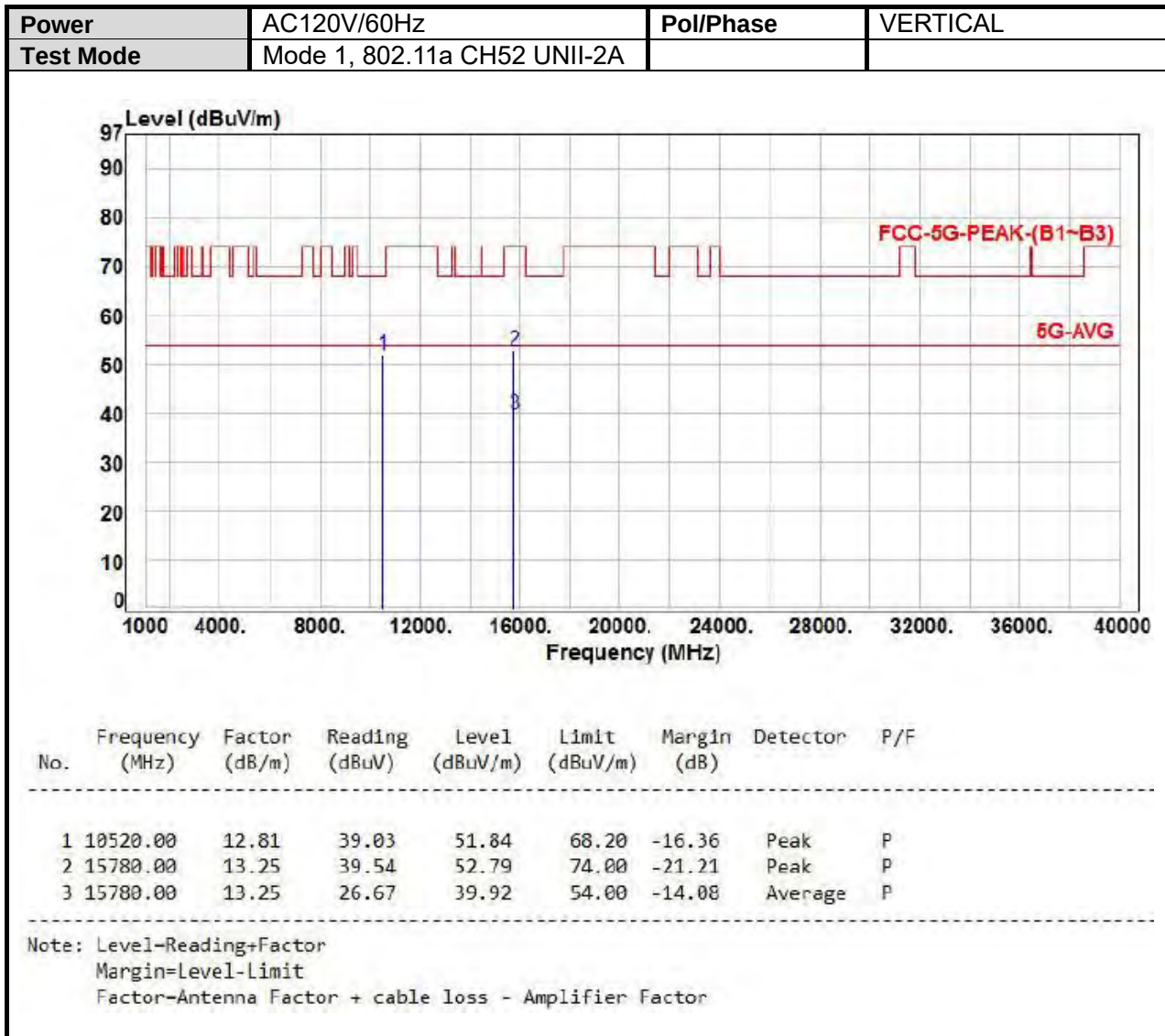


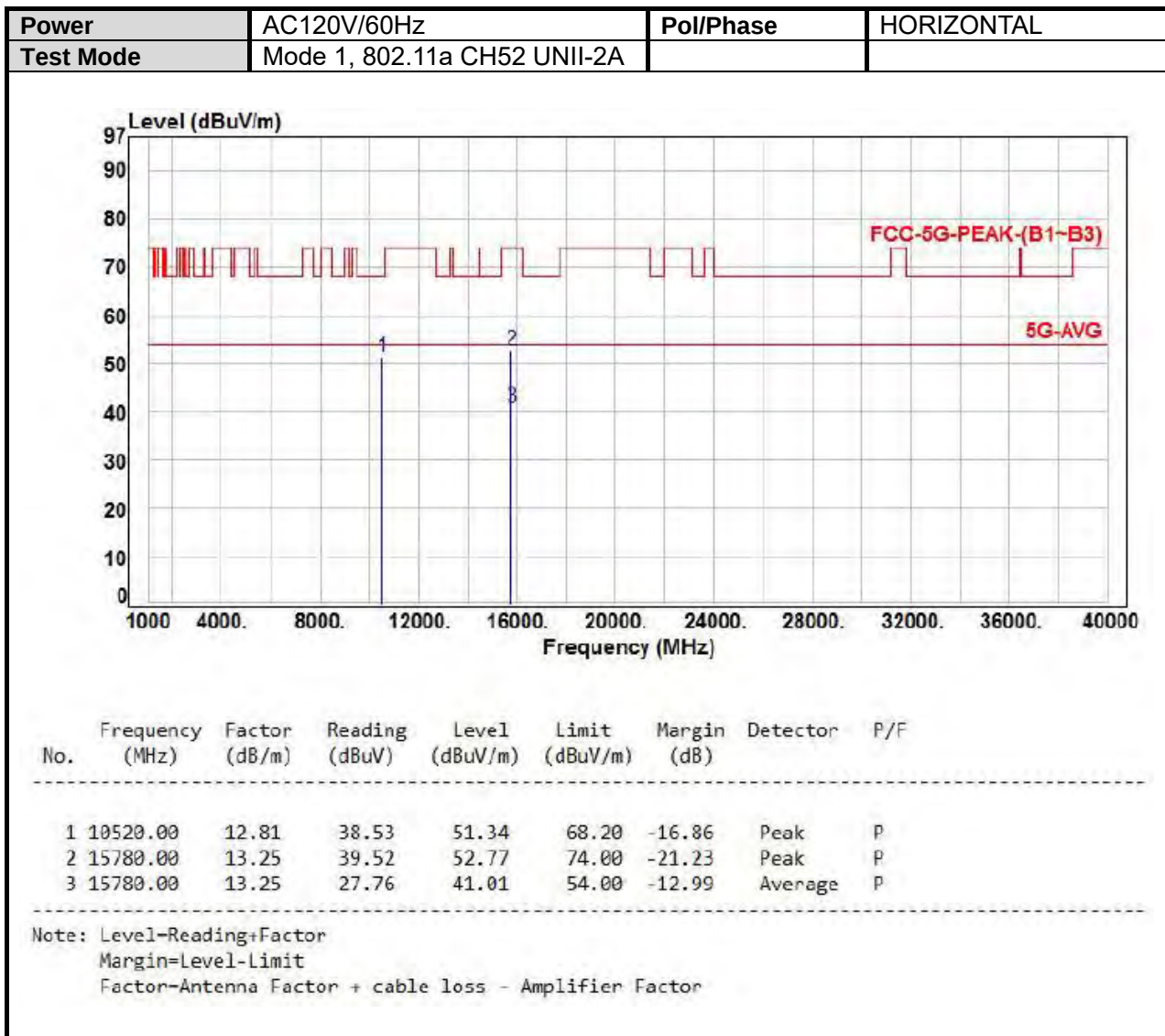


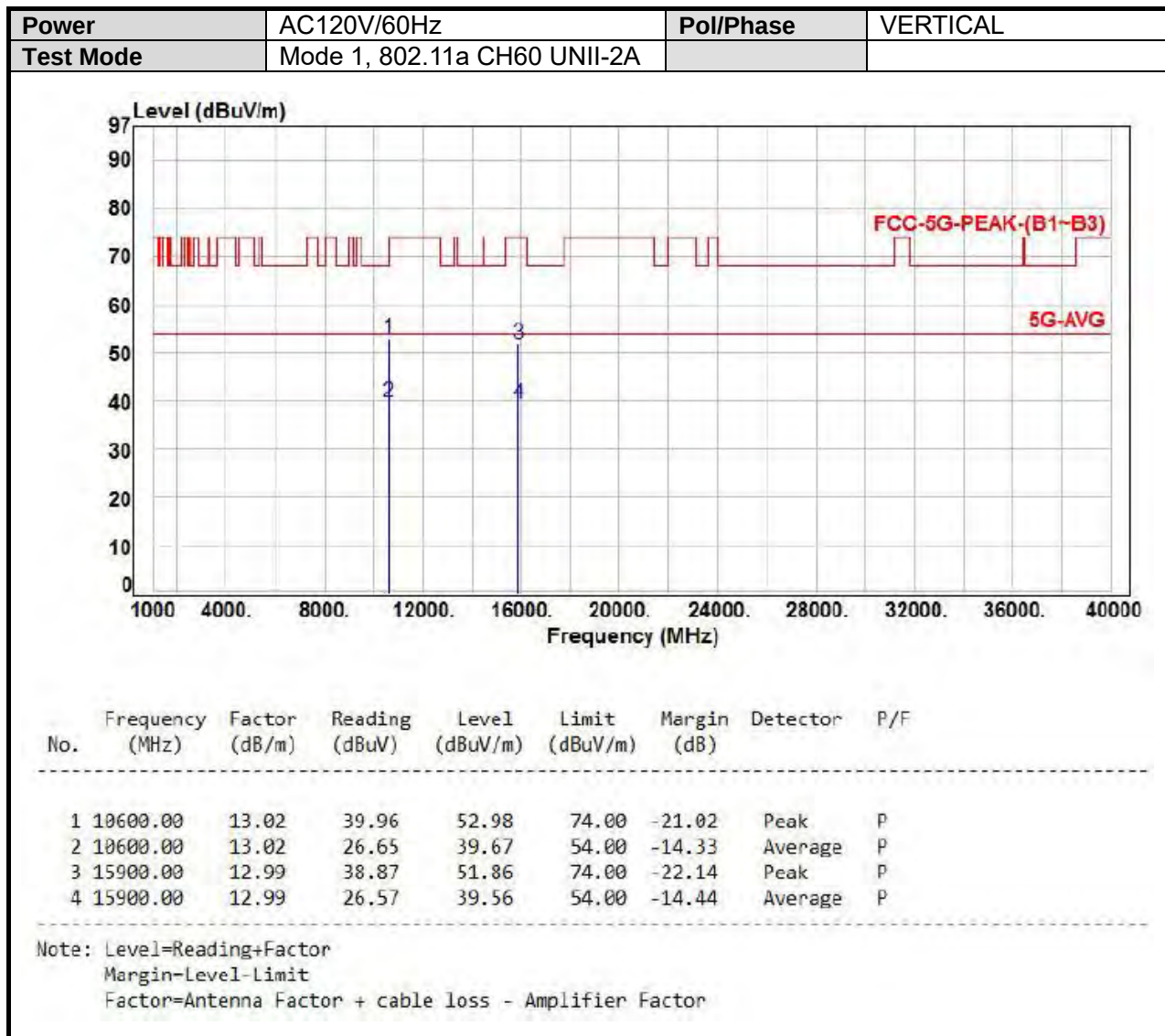


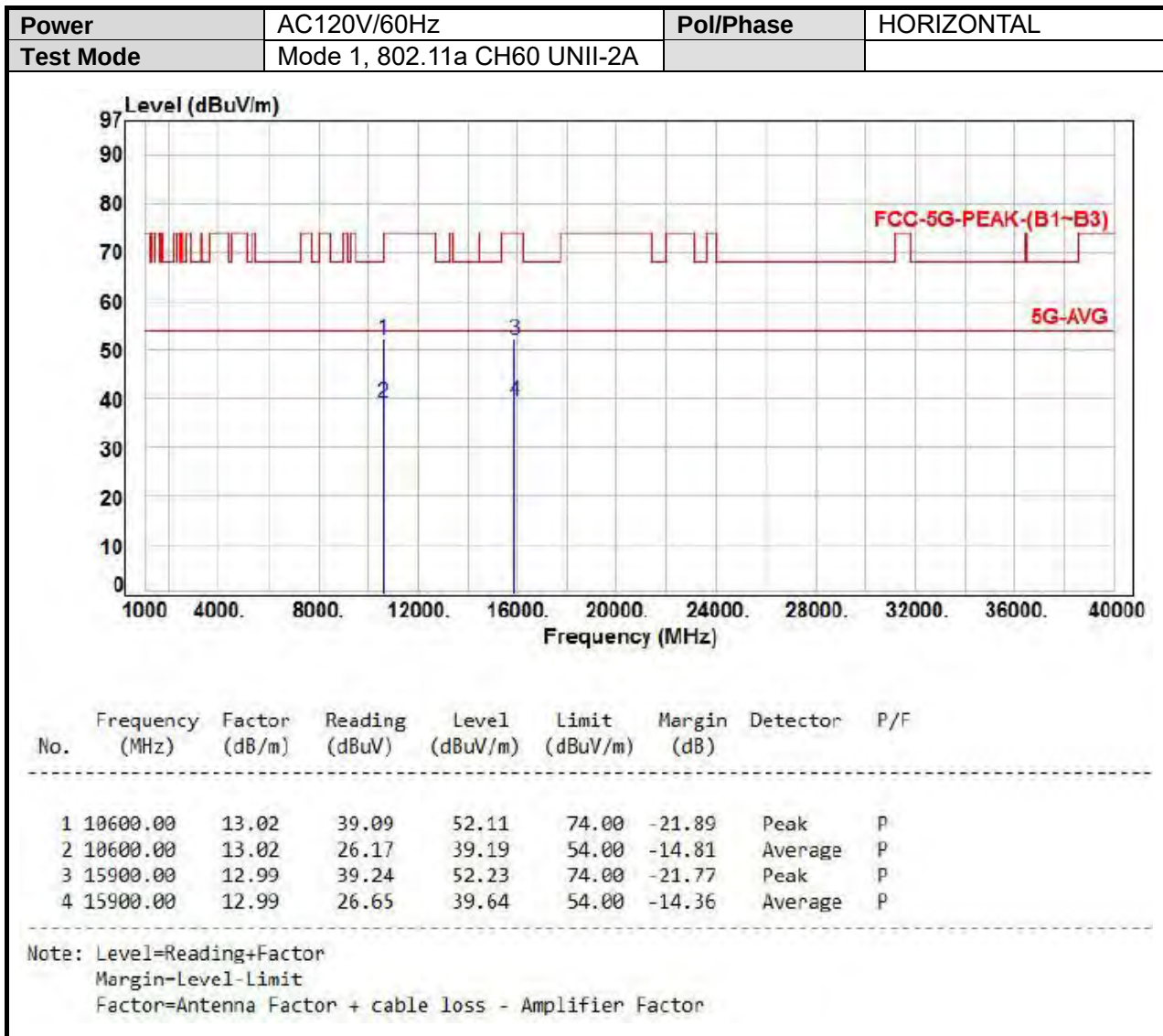
SISO-Ant A

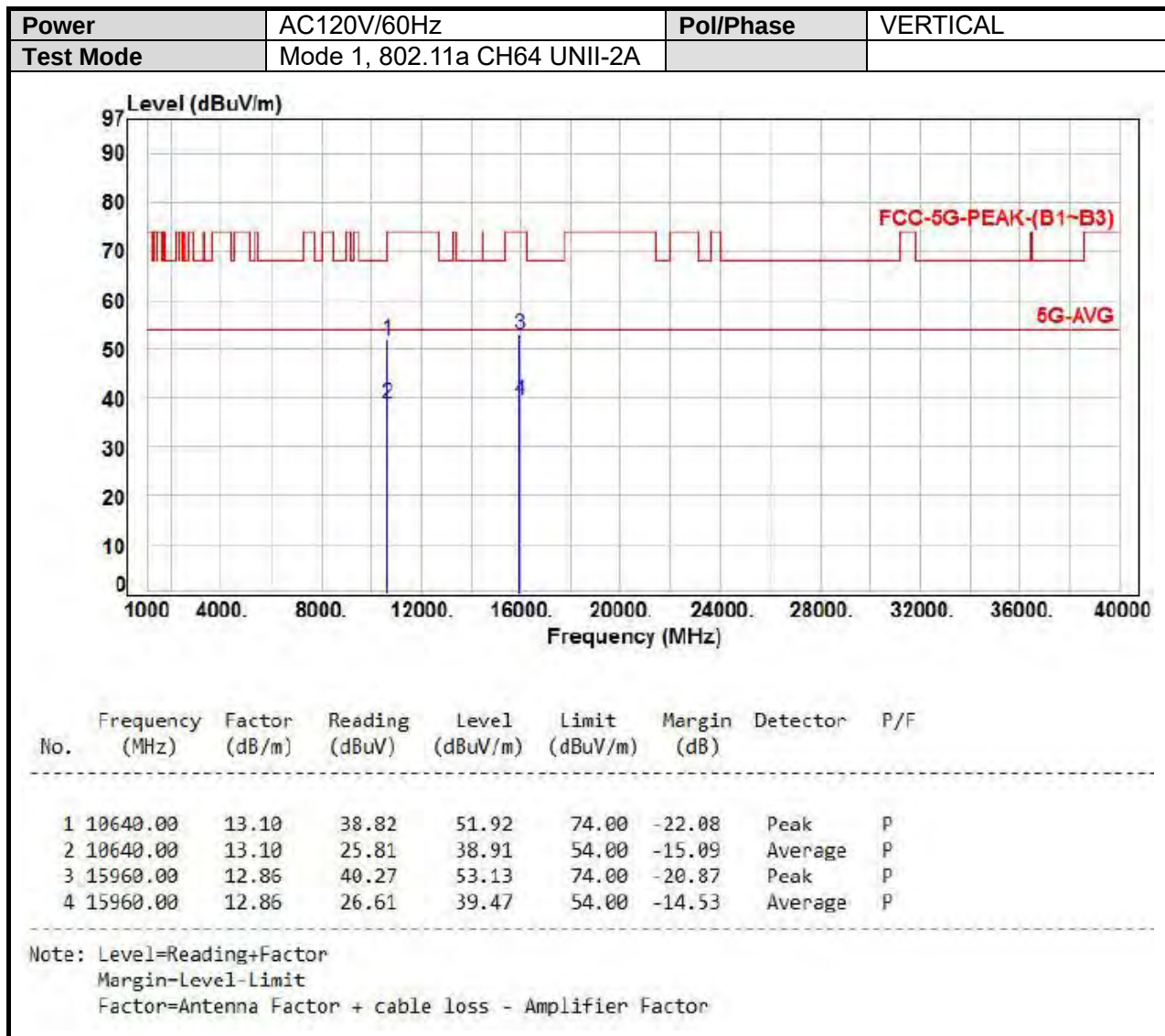
UNII-2A

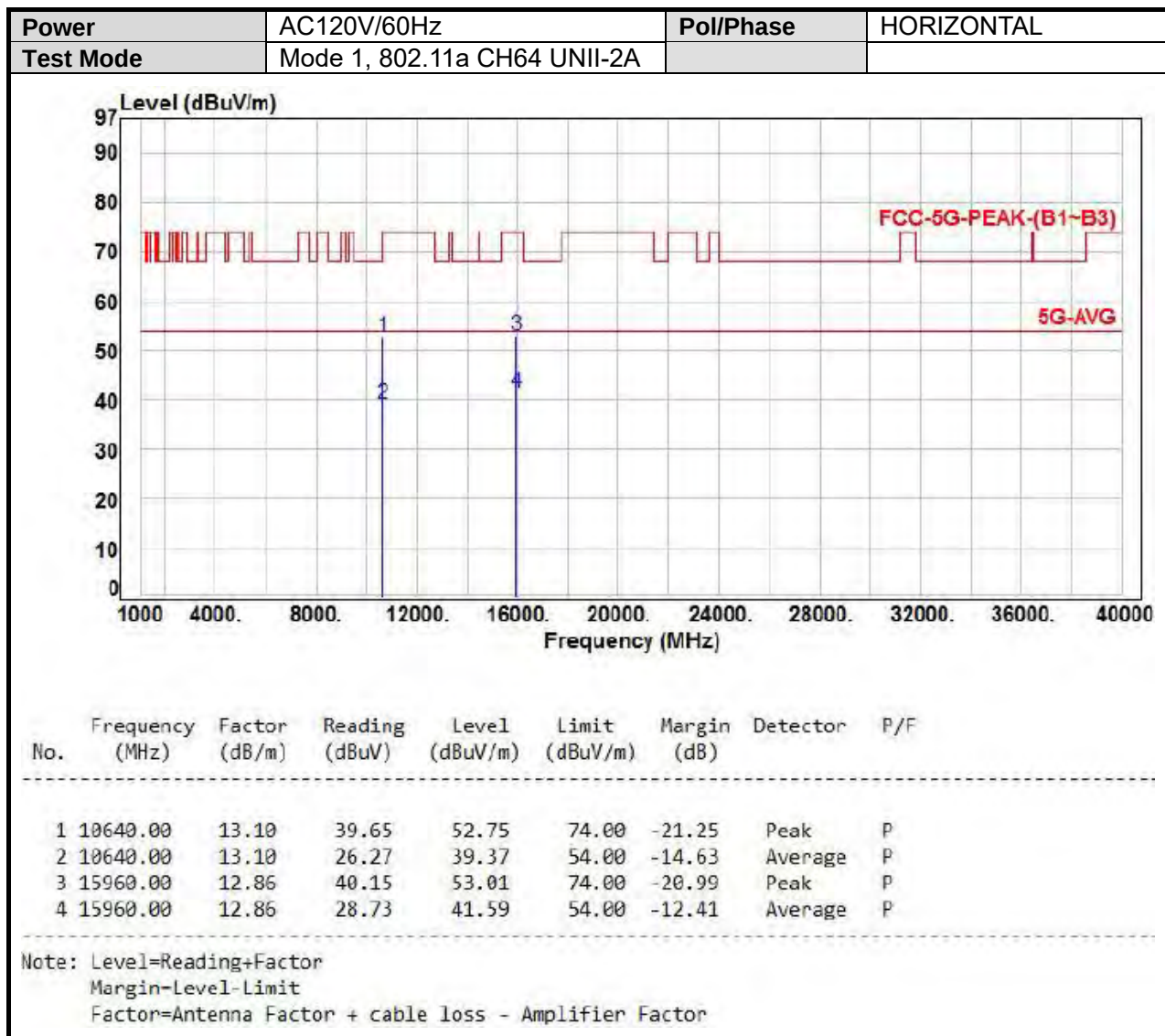






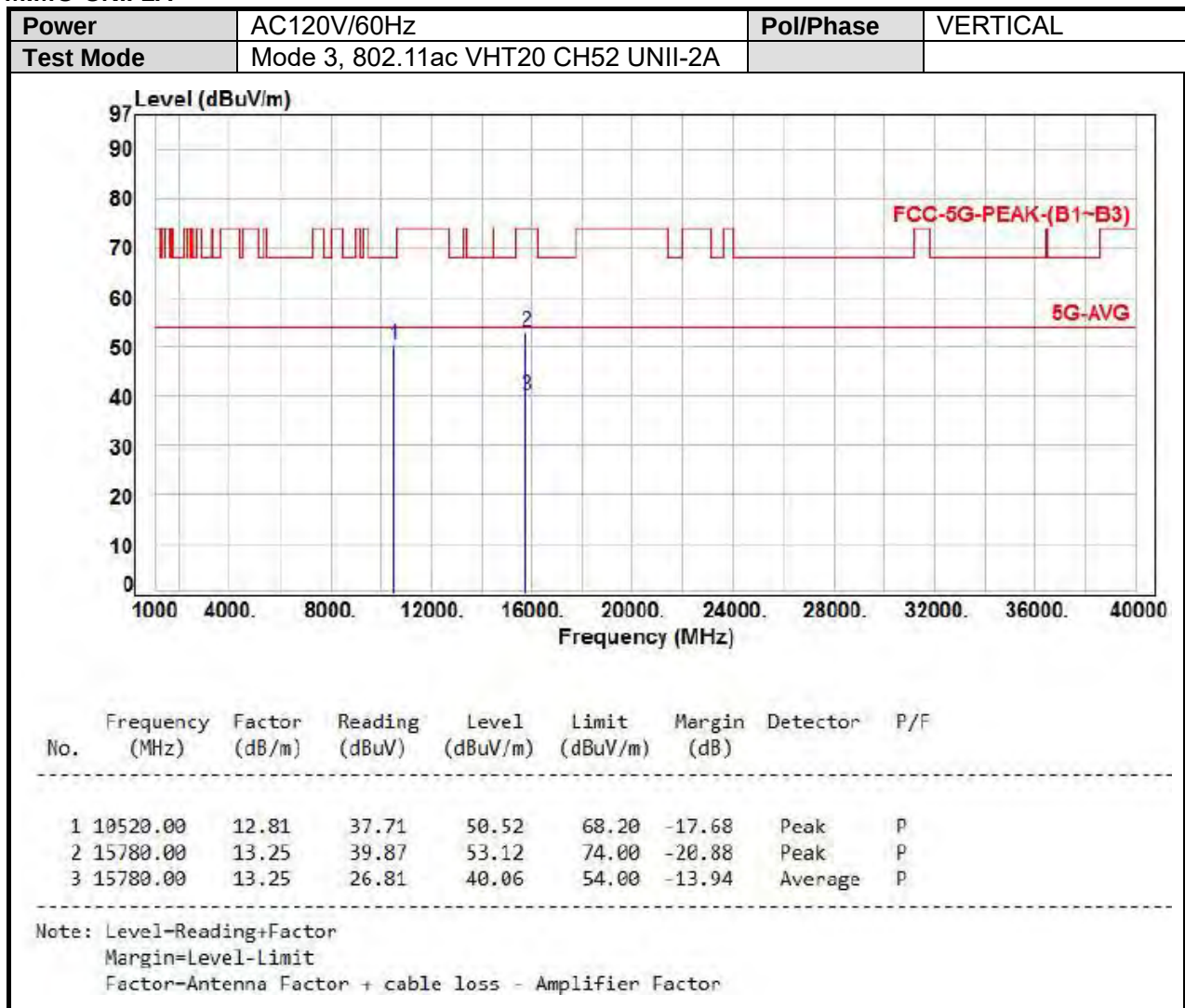


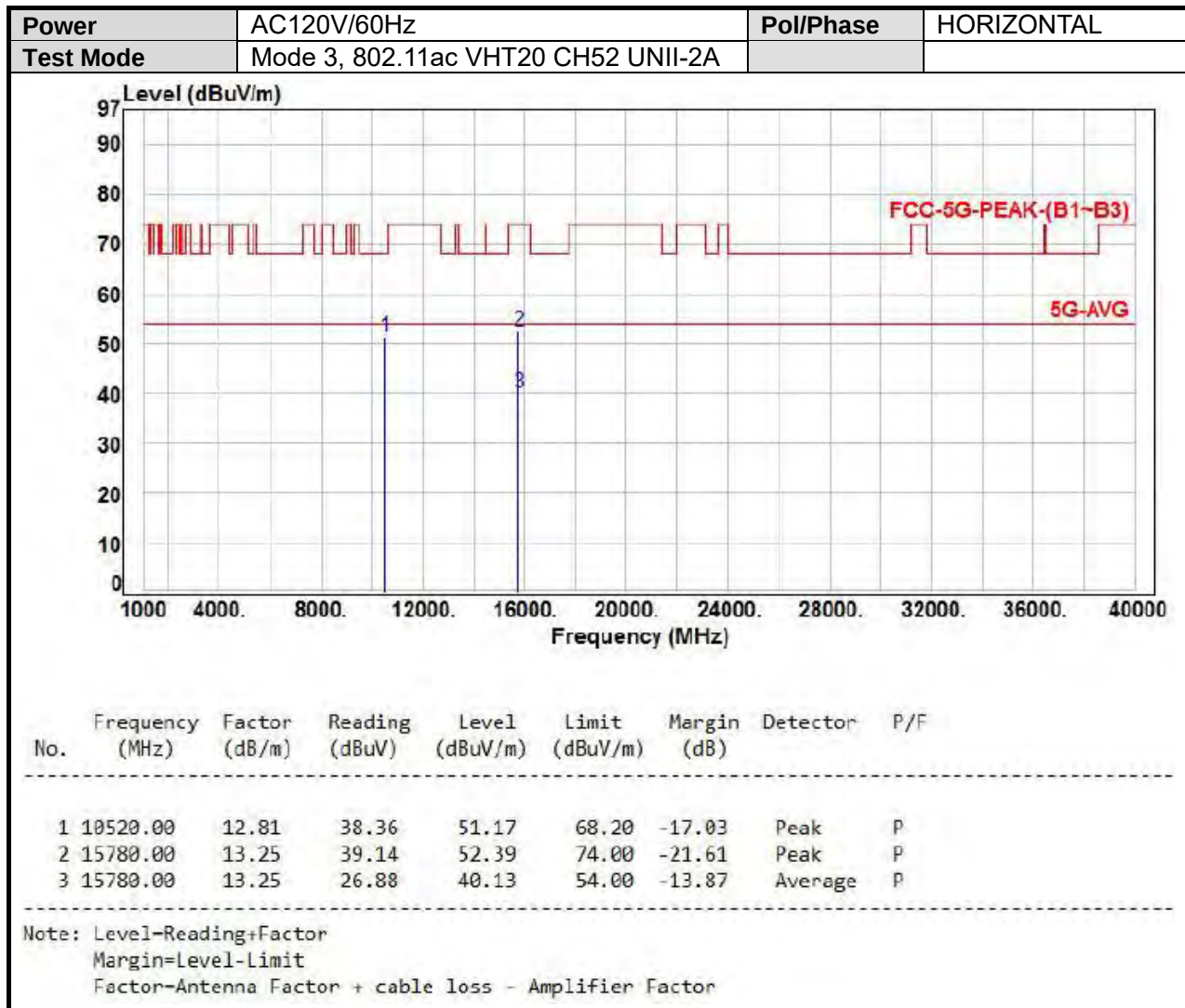


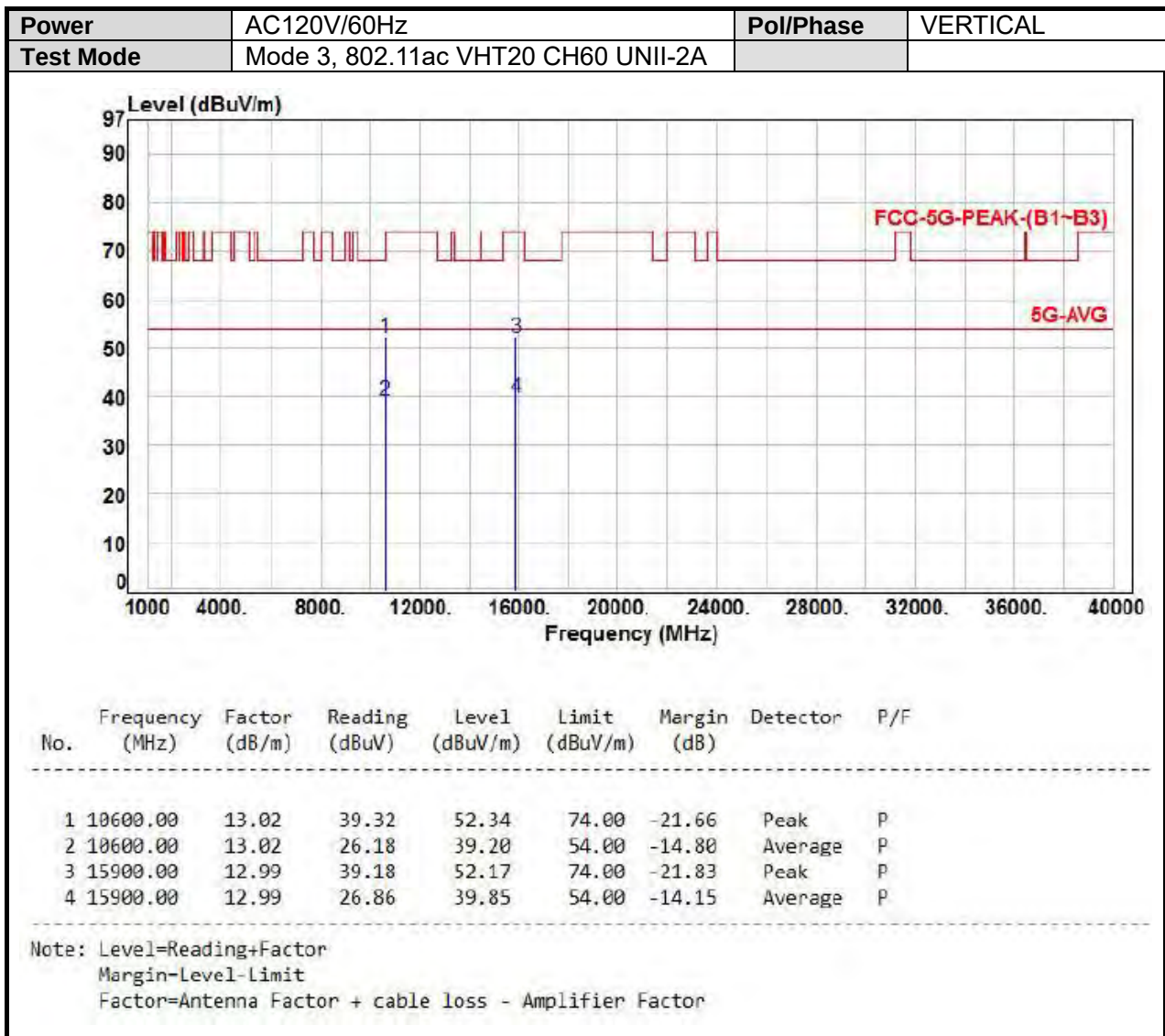


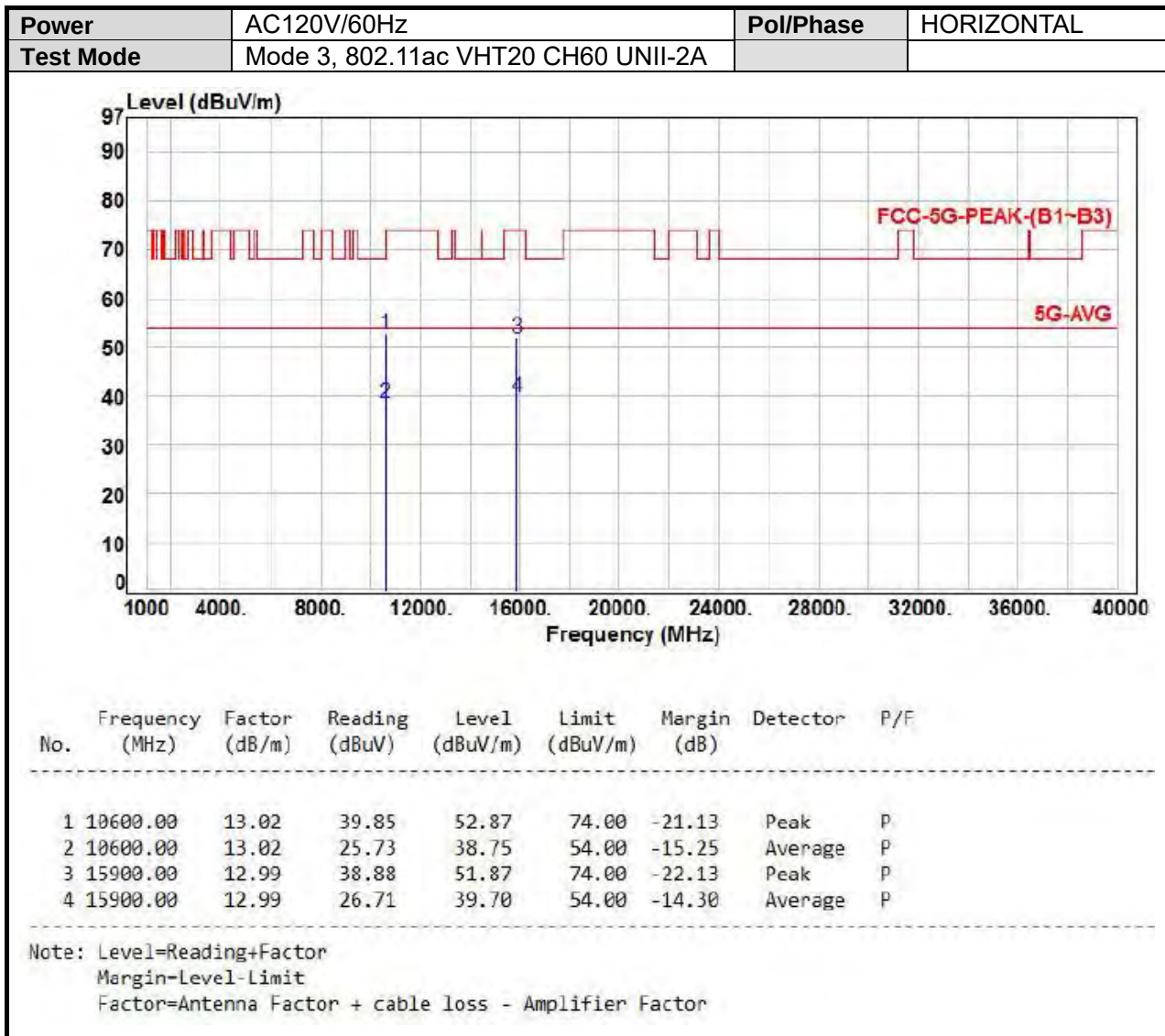


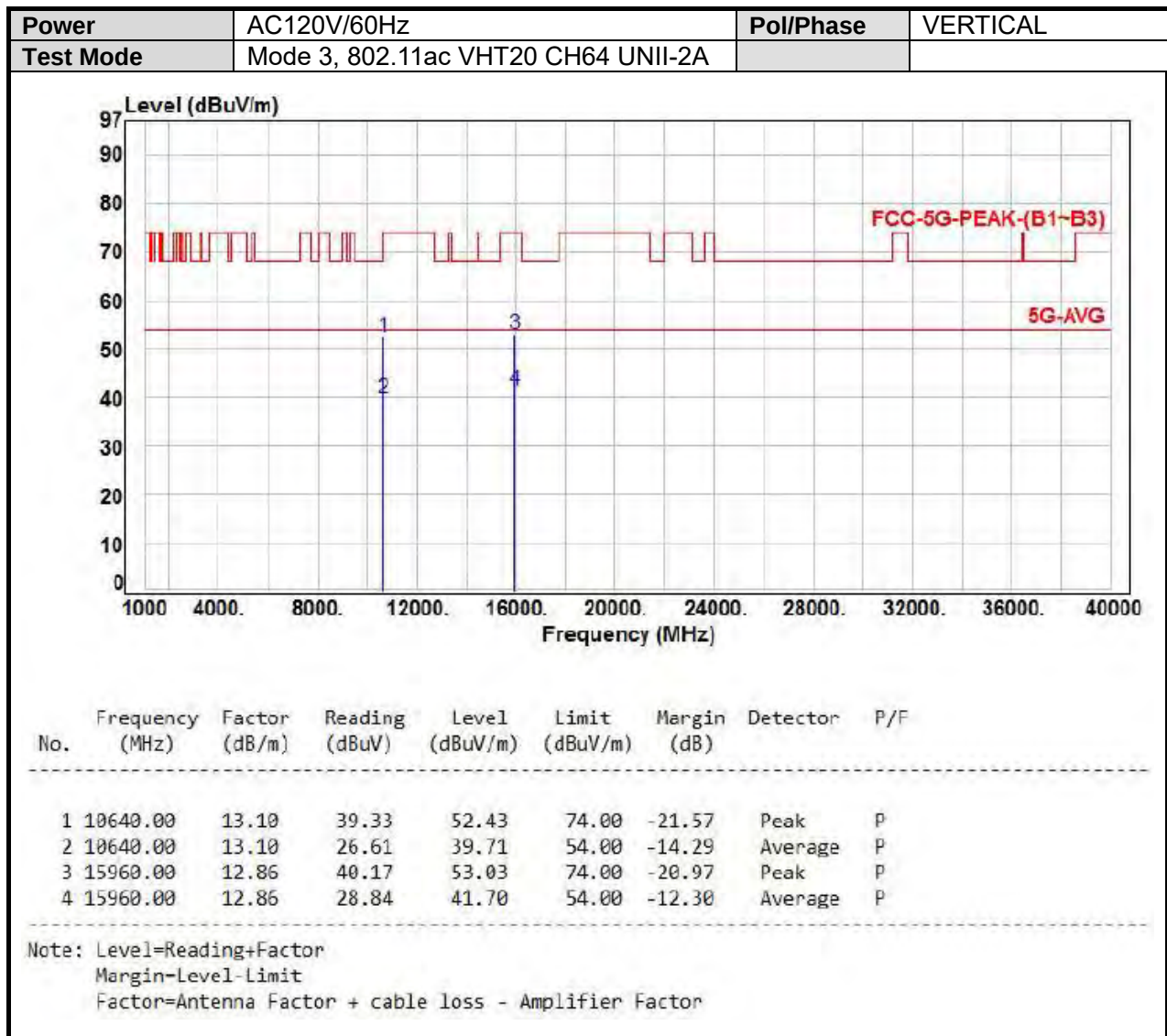
MIMO-UNII-2A

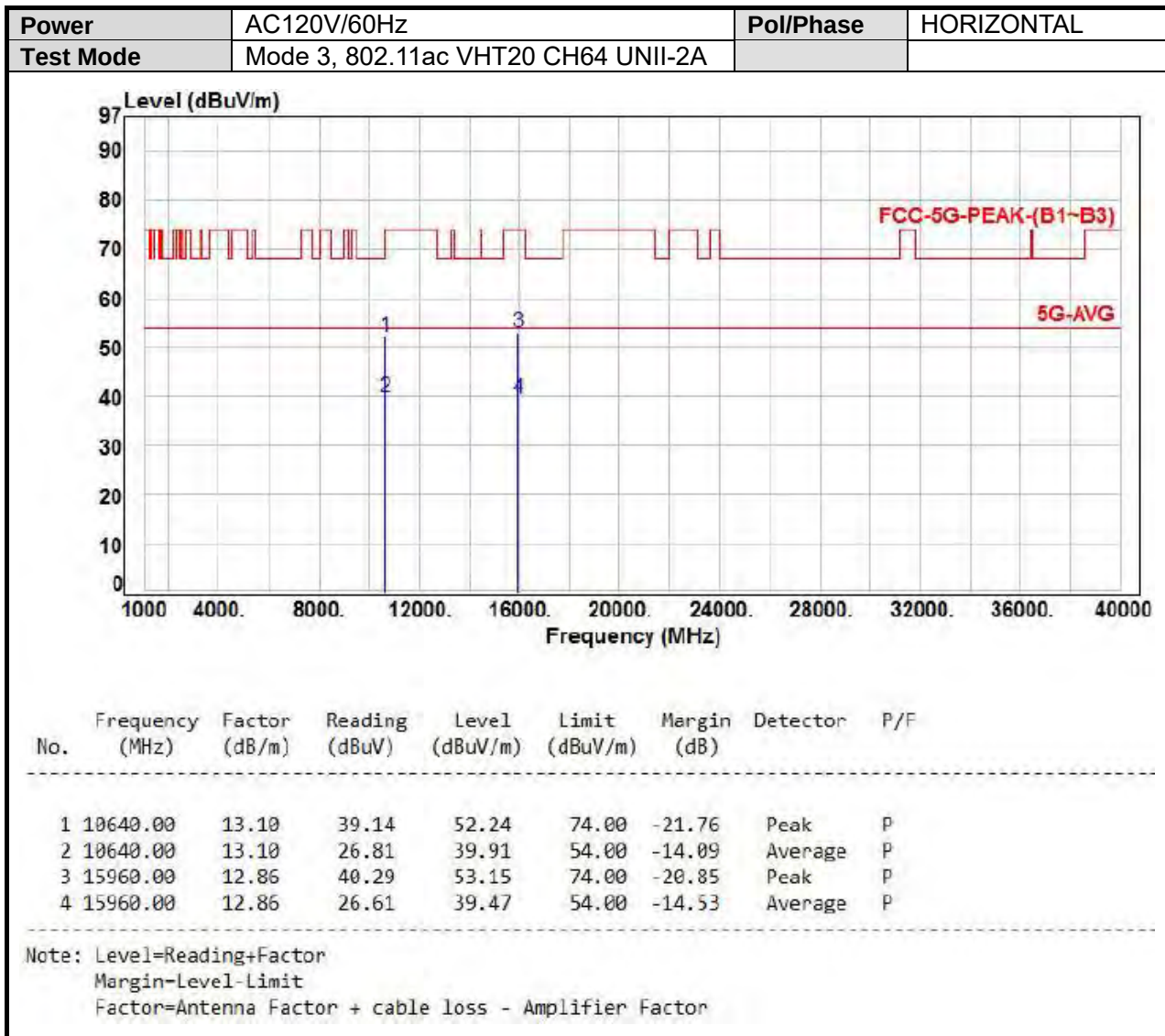


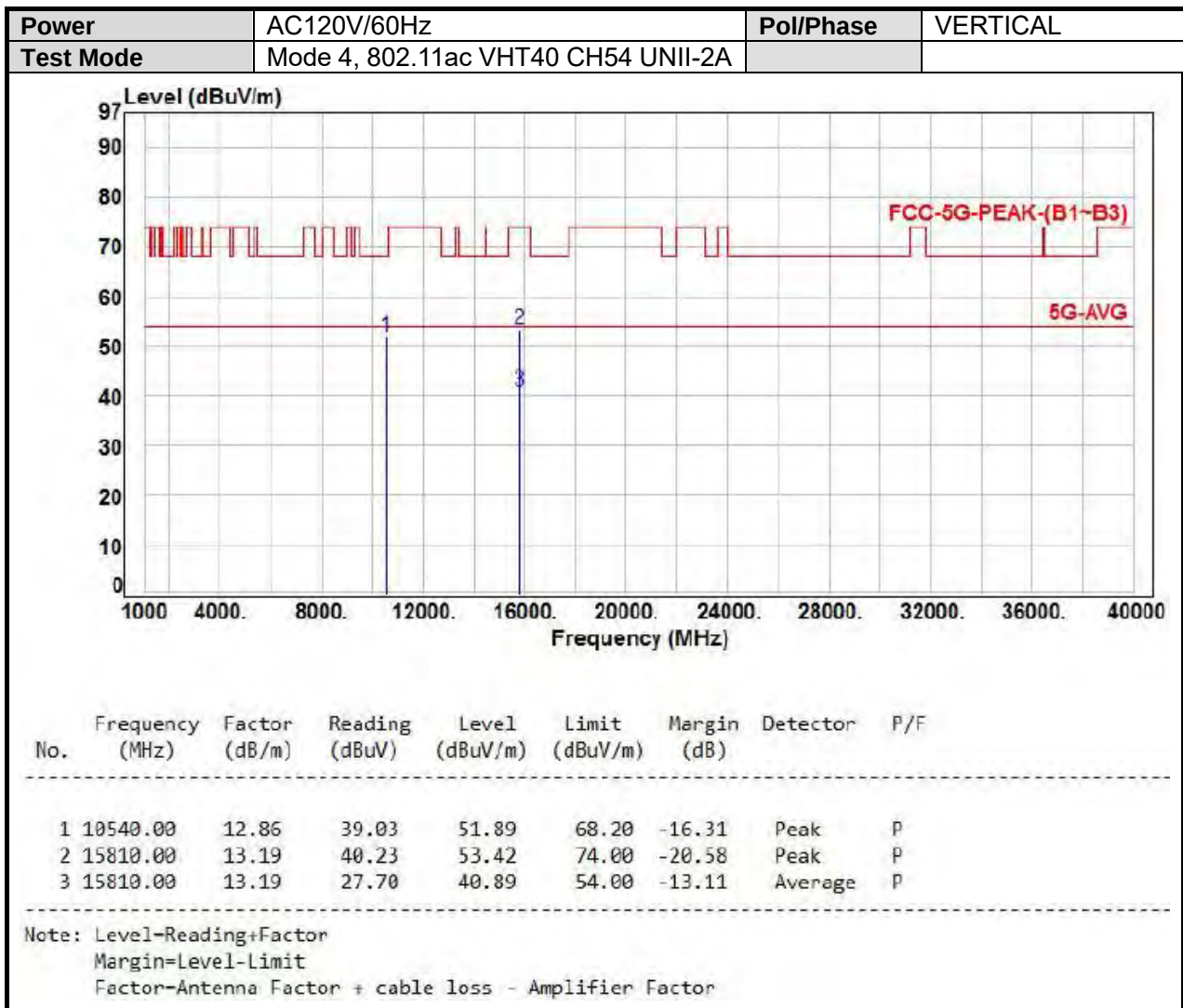


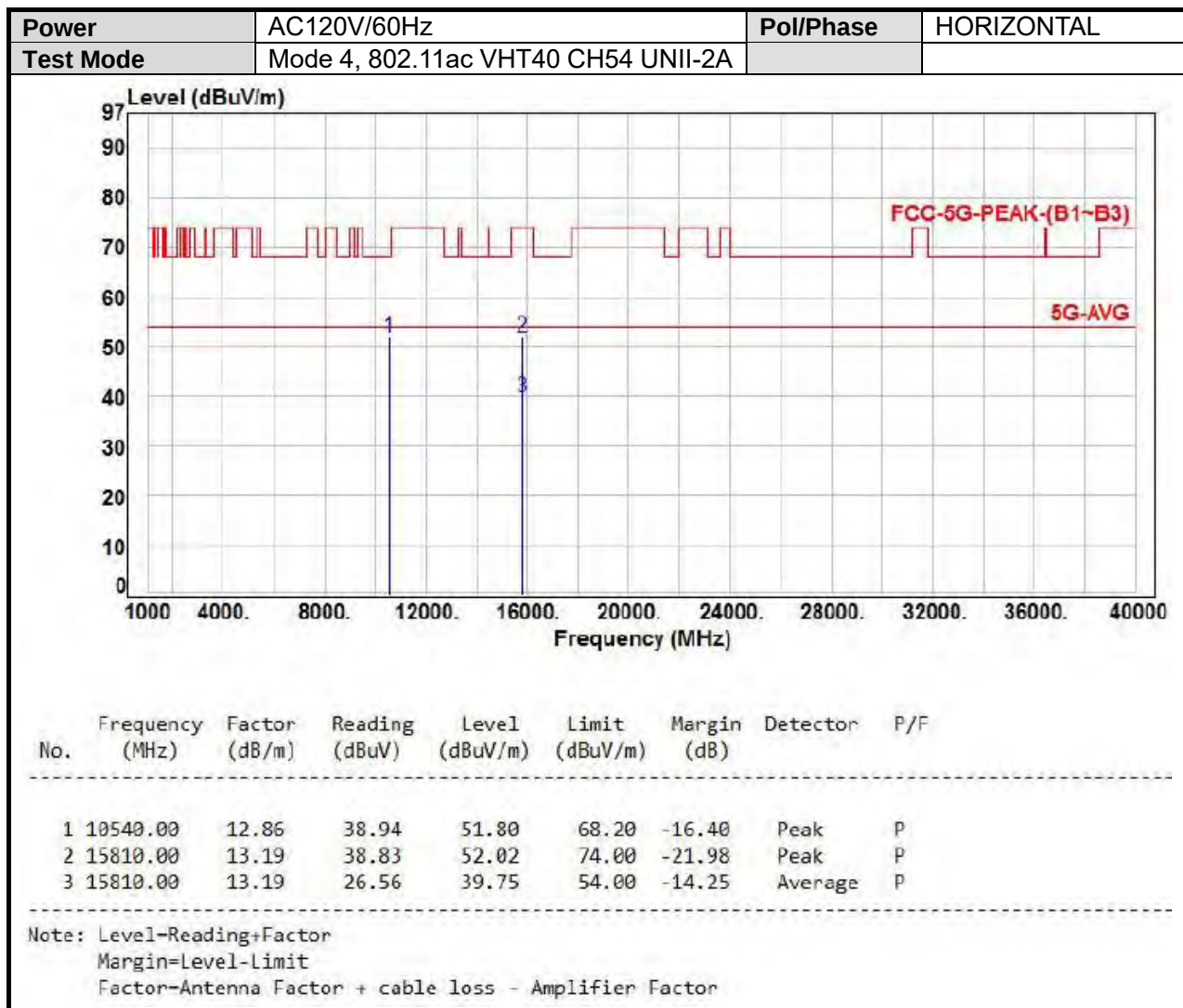


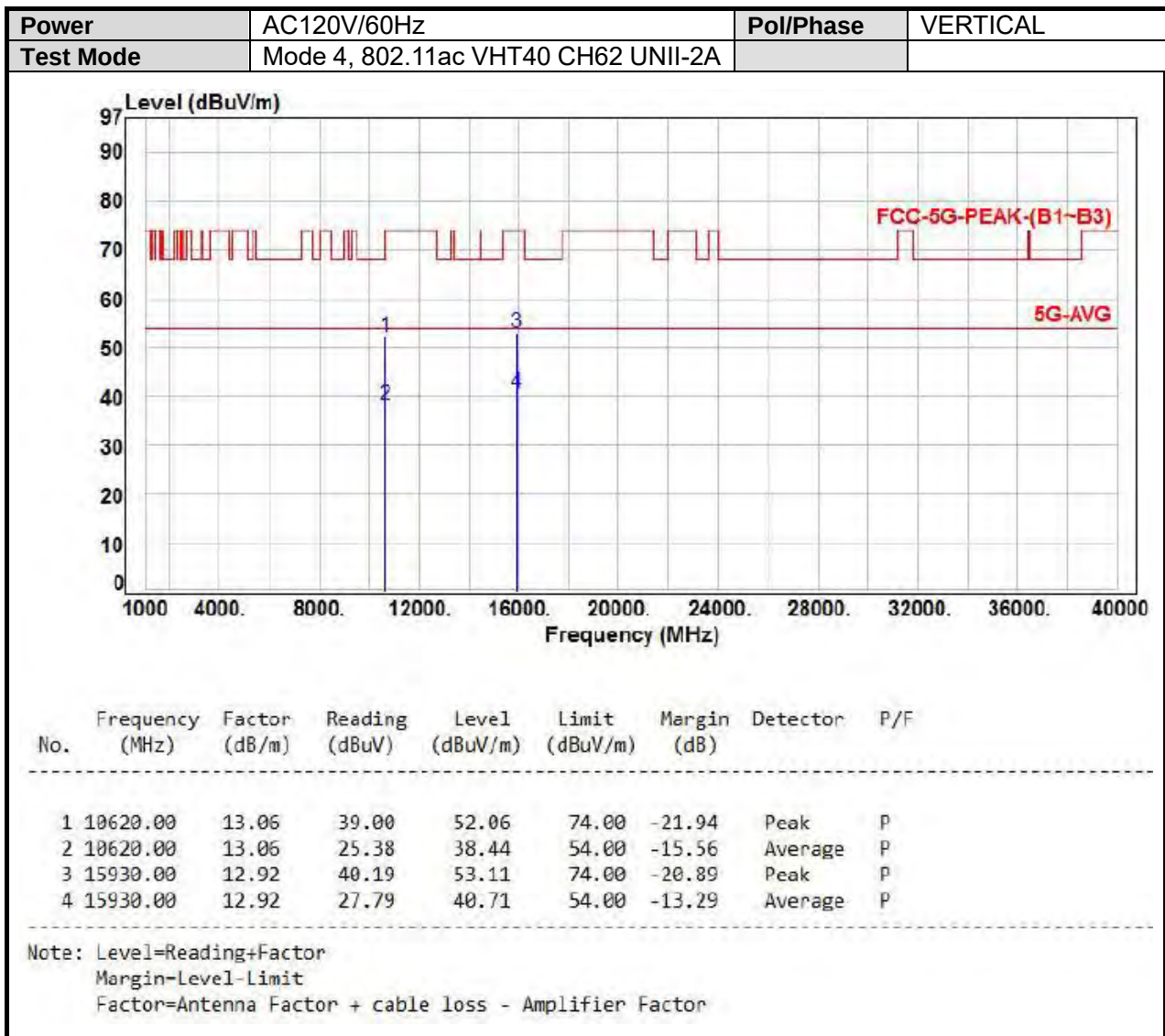


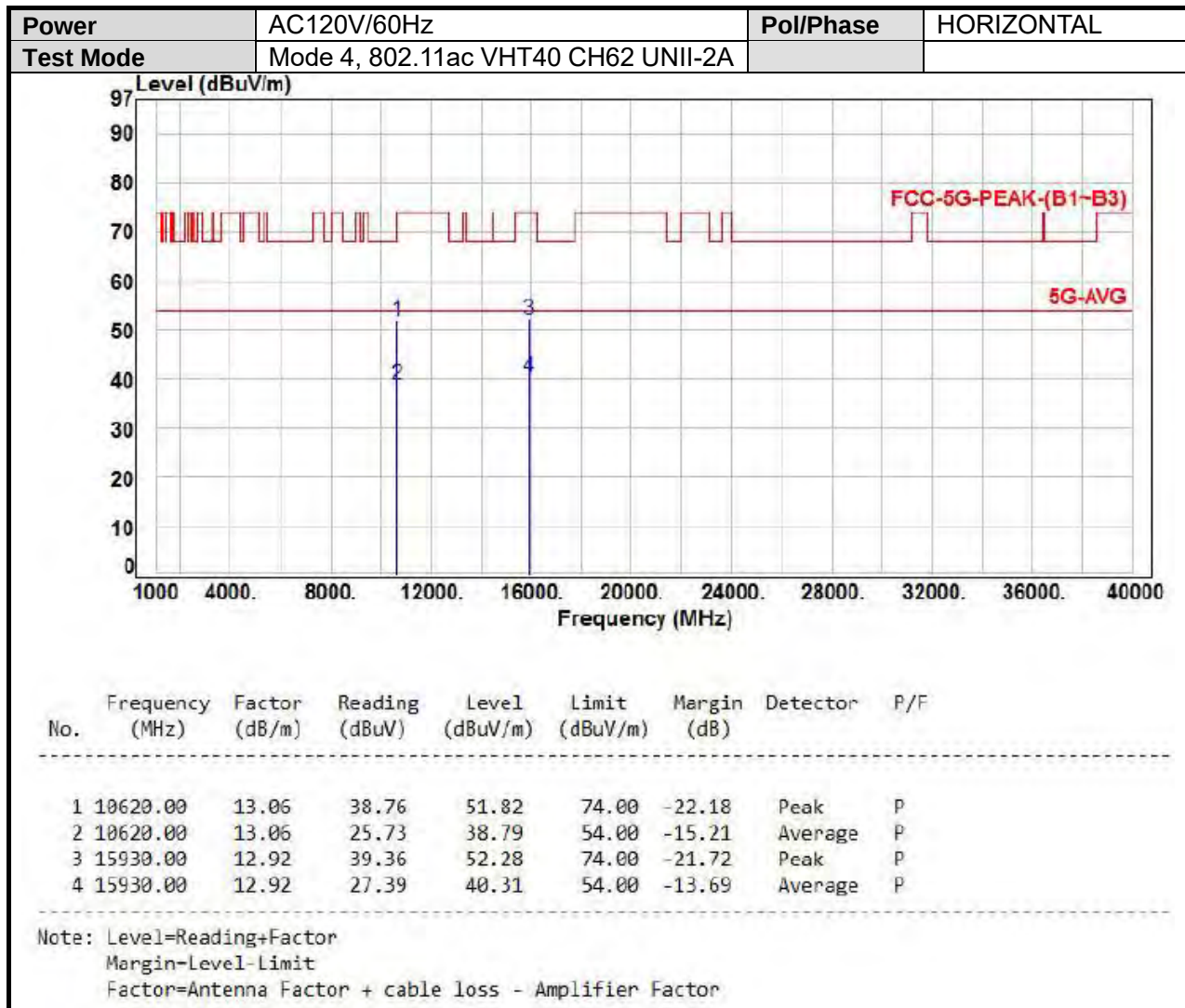


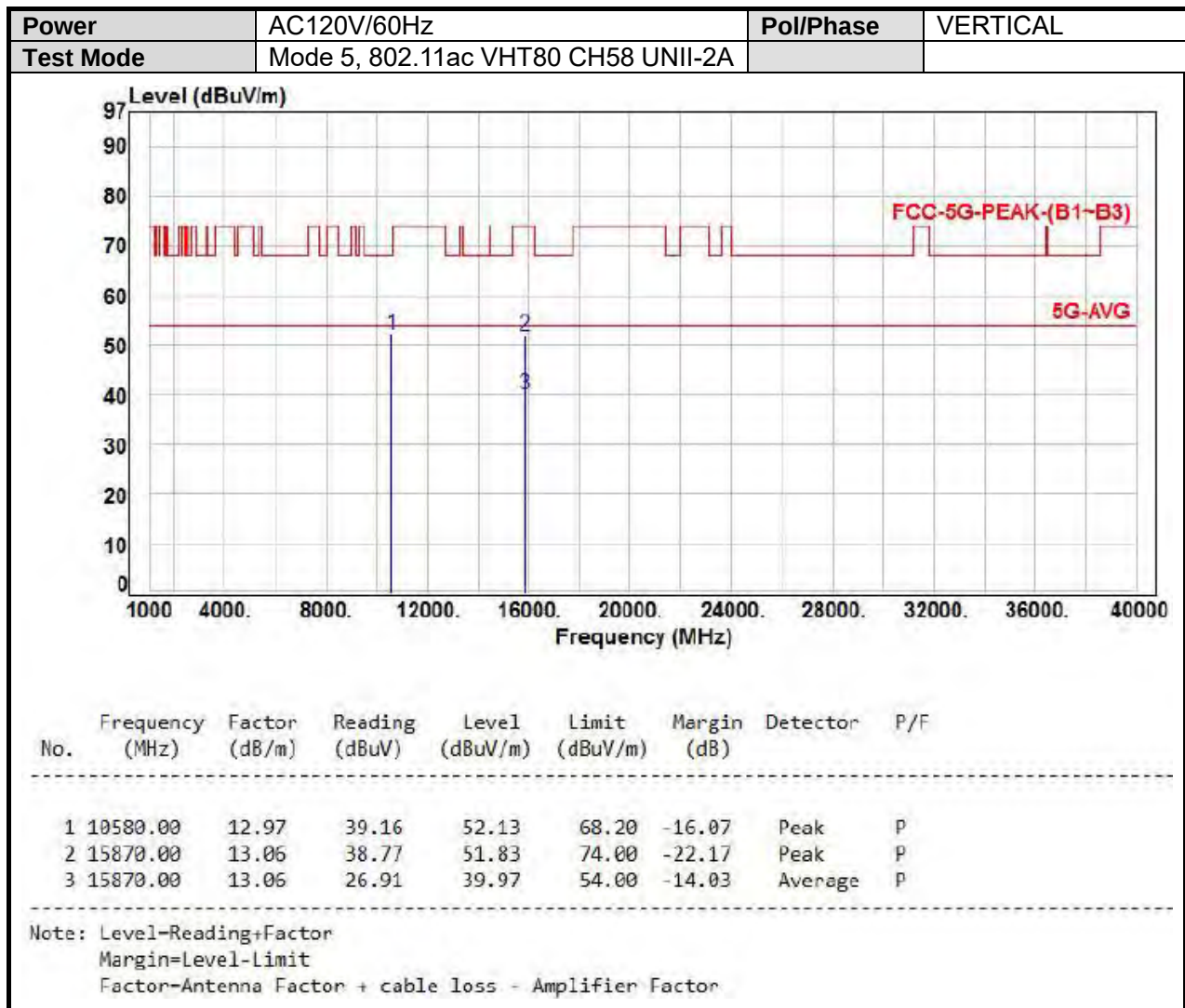


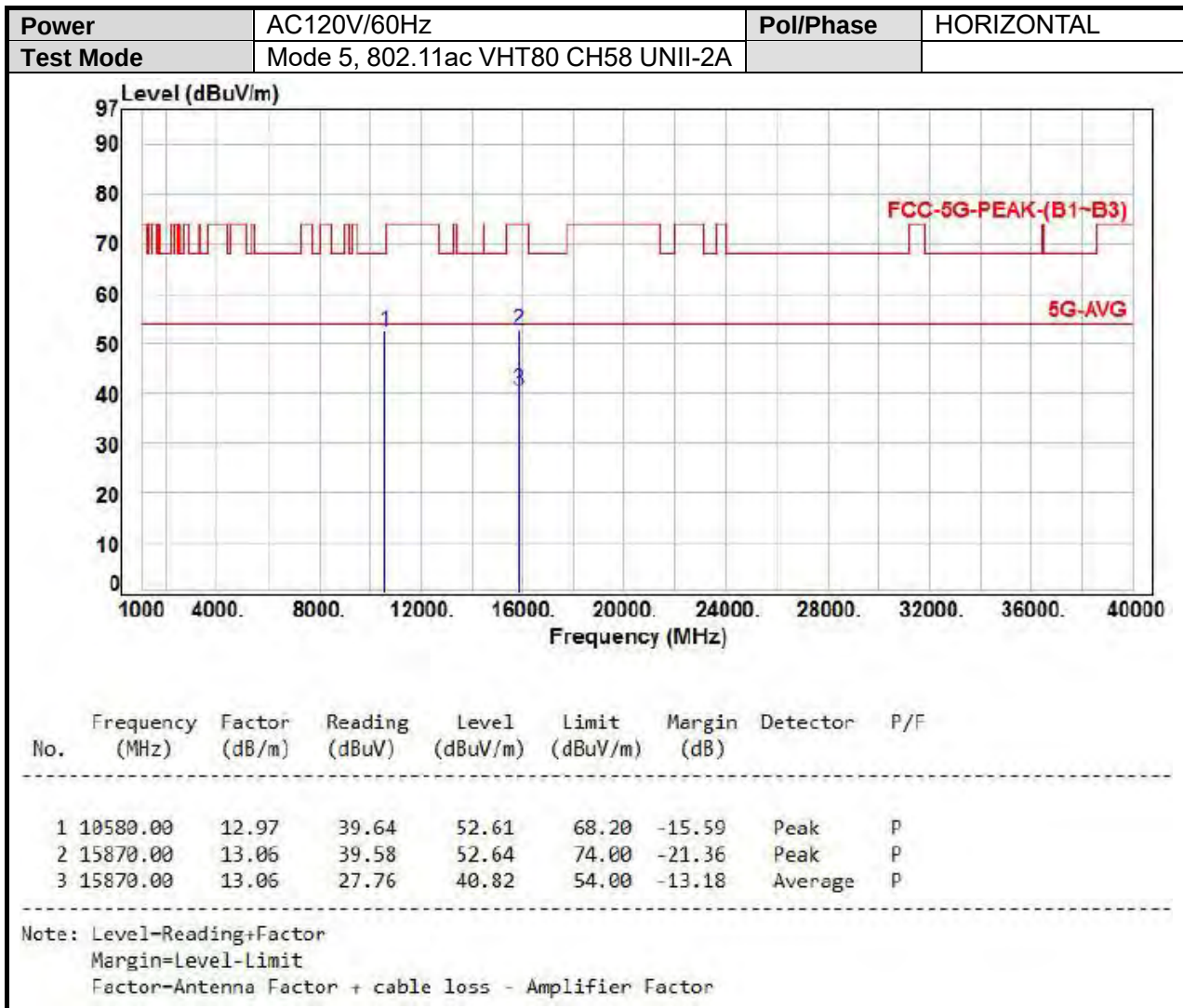








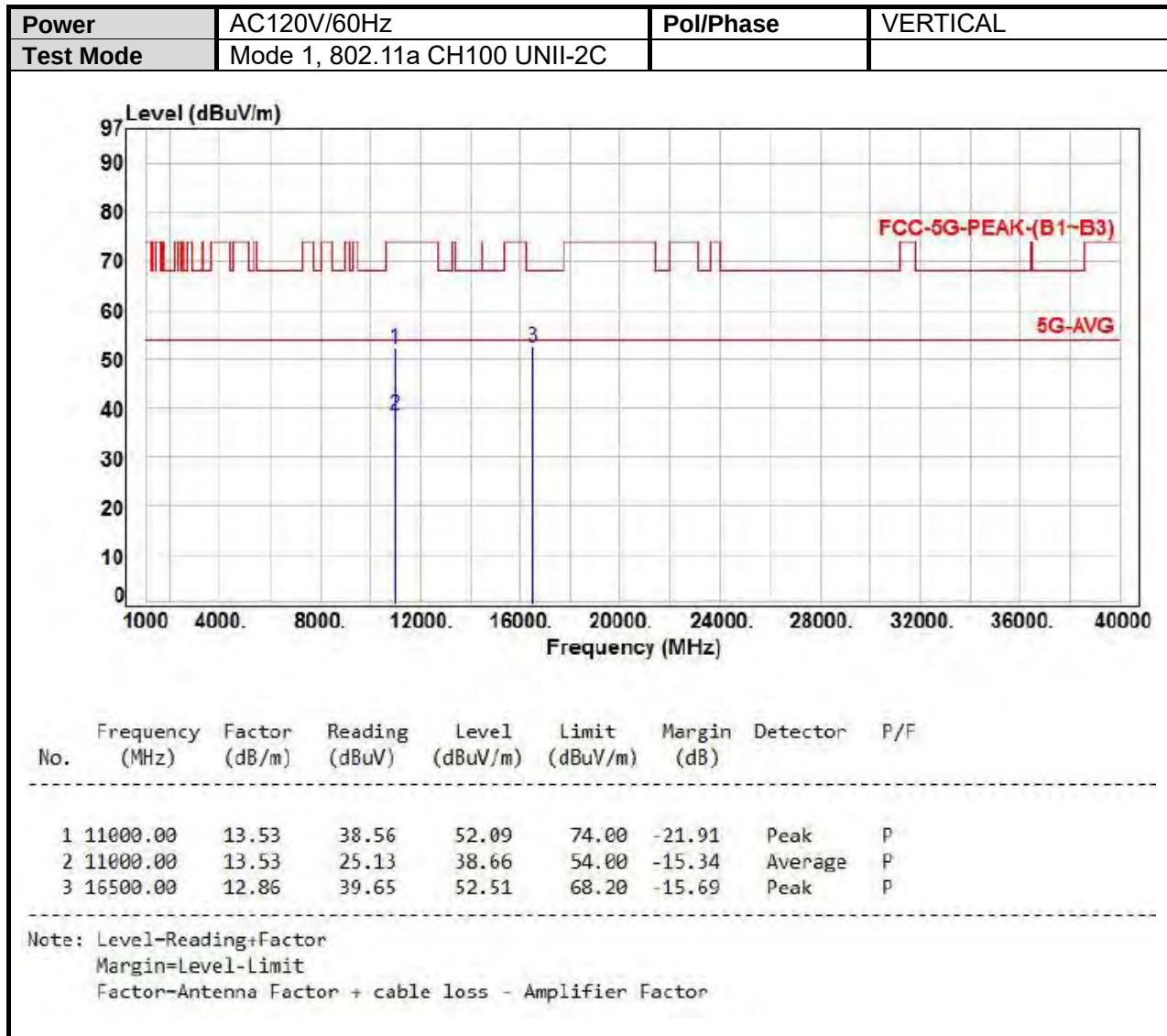


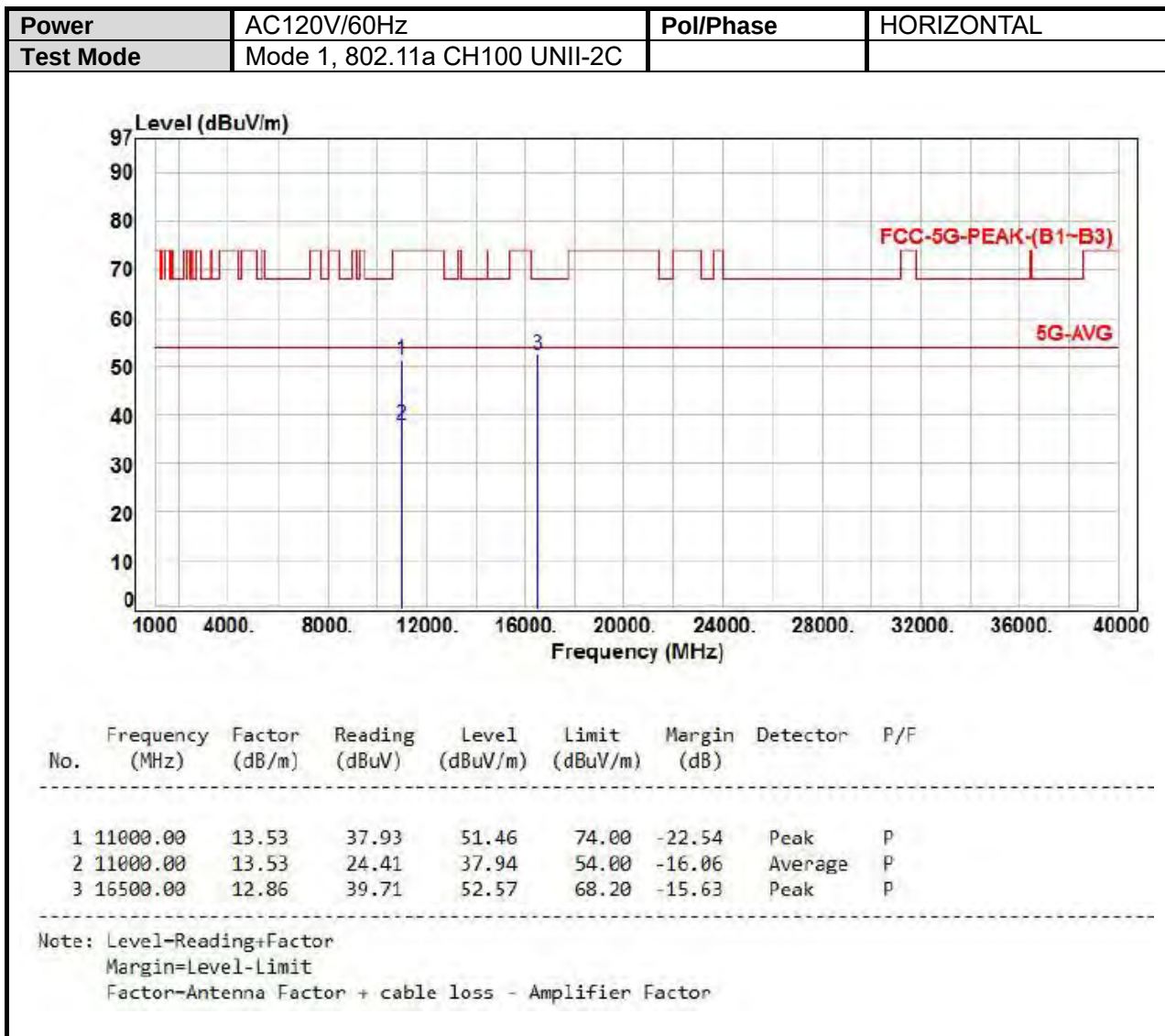


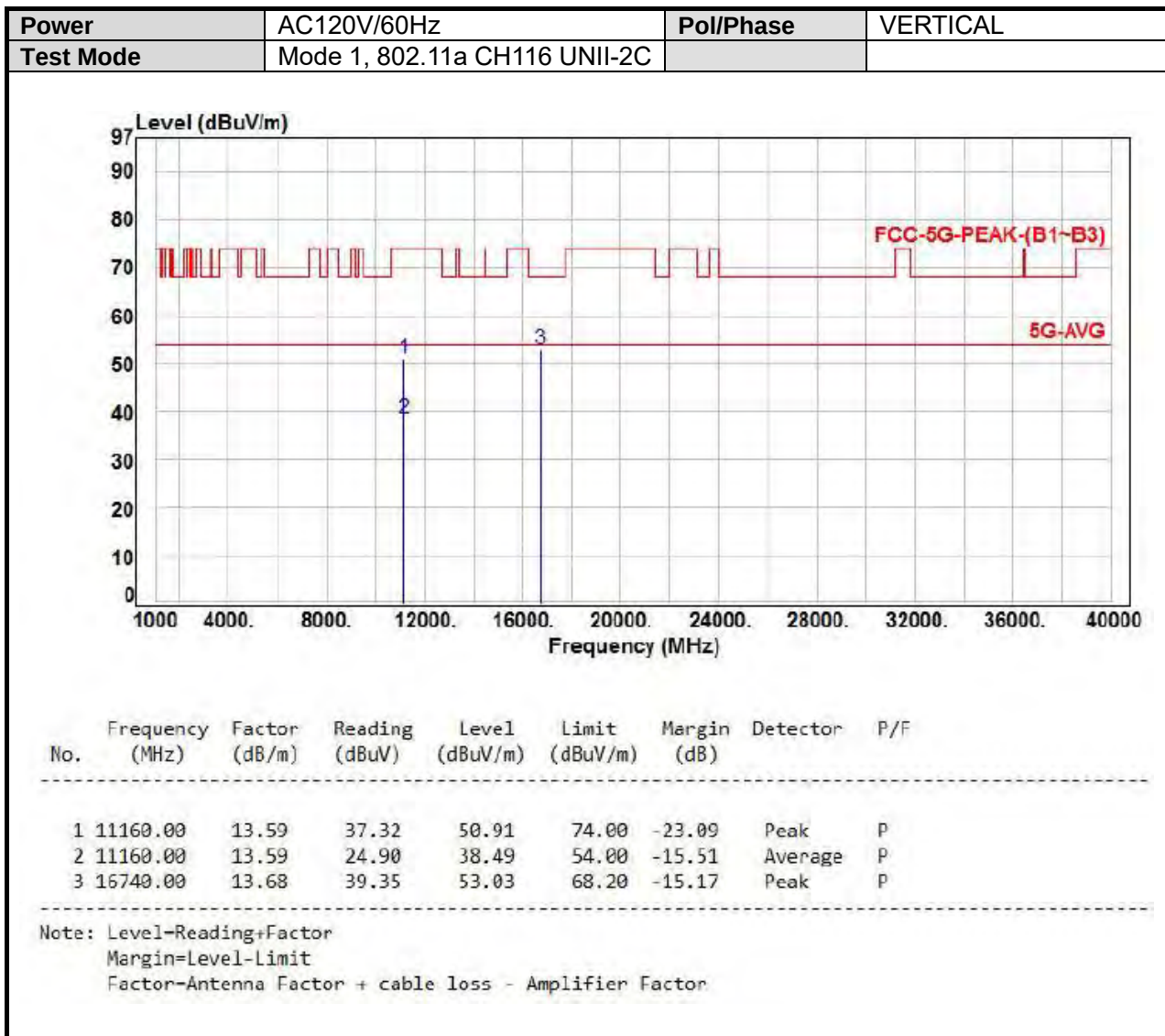


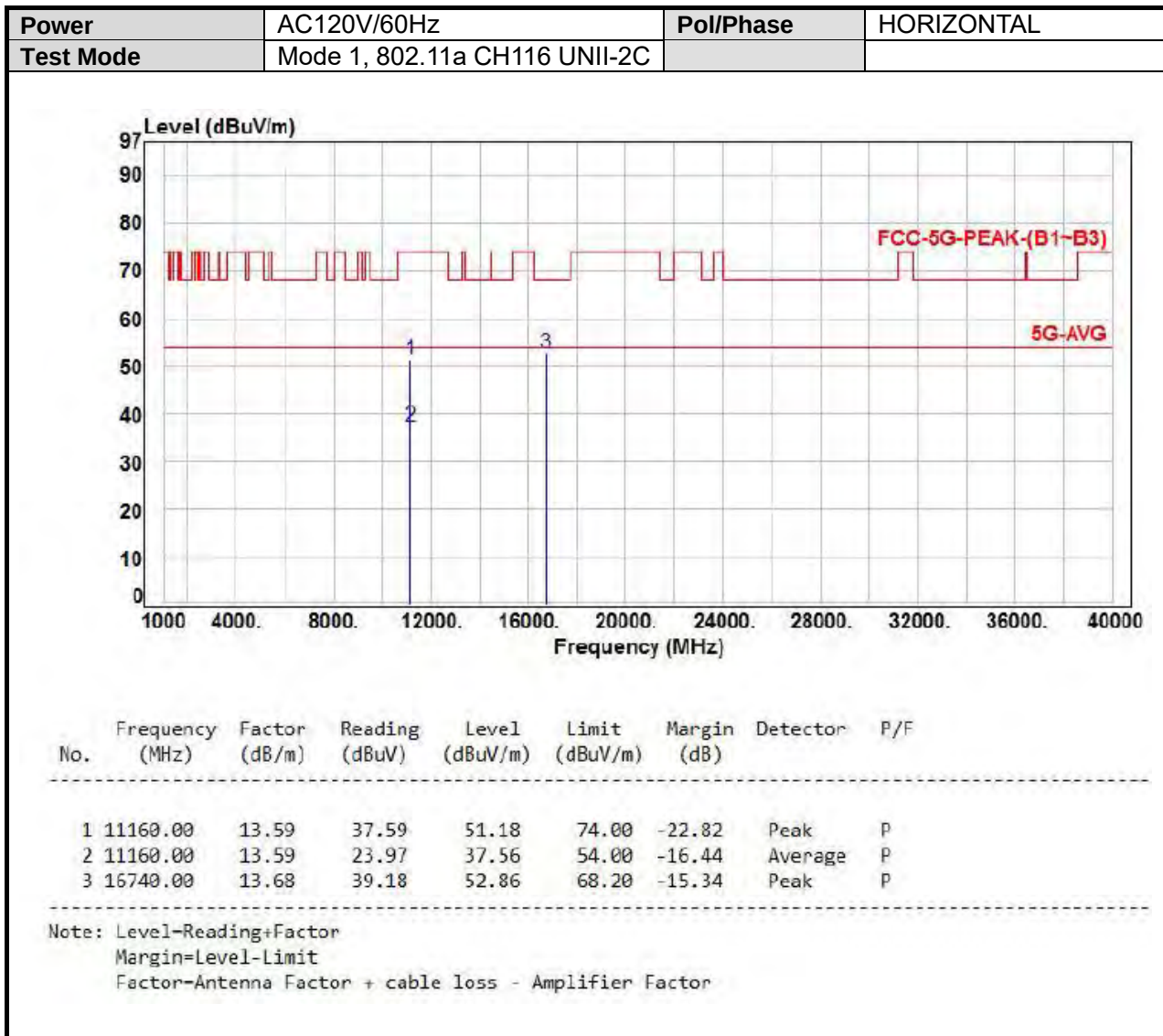
SISO-Ant A

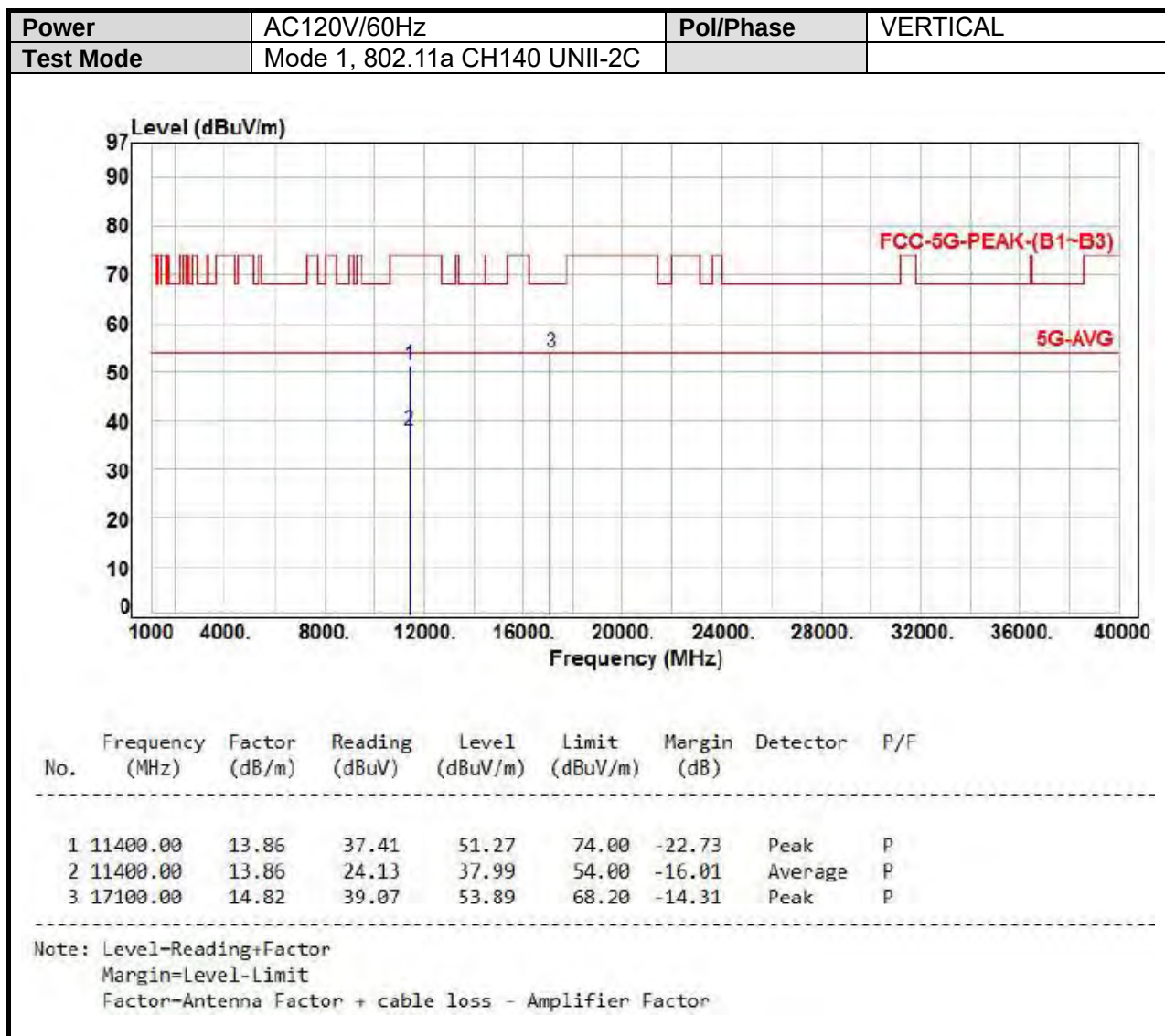
UNII-2C

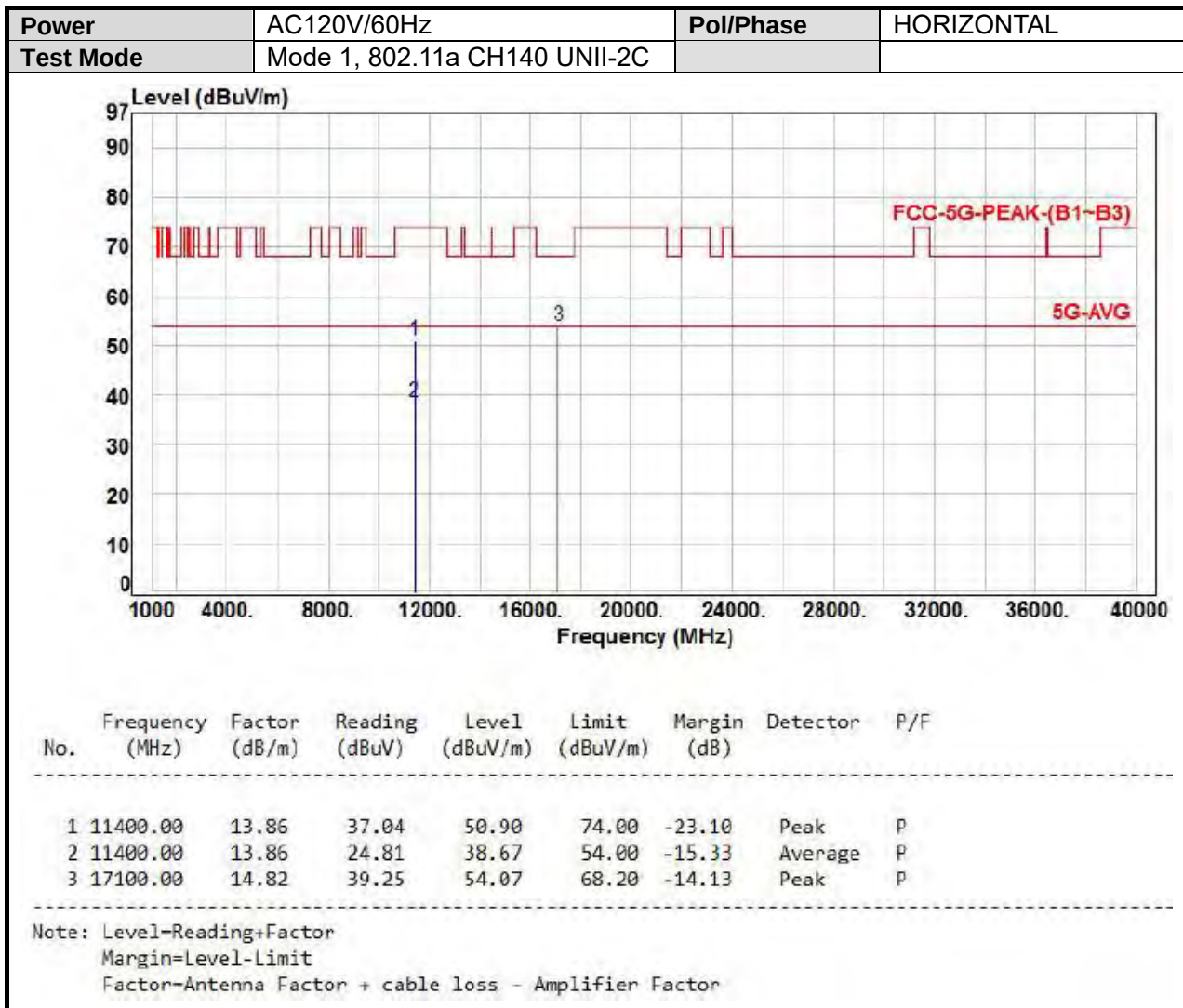






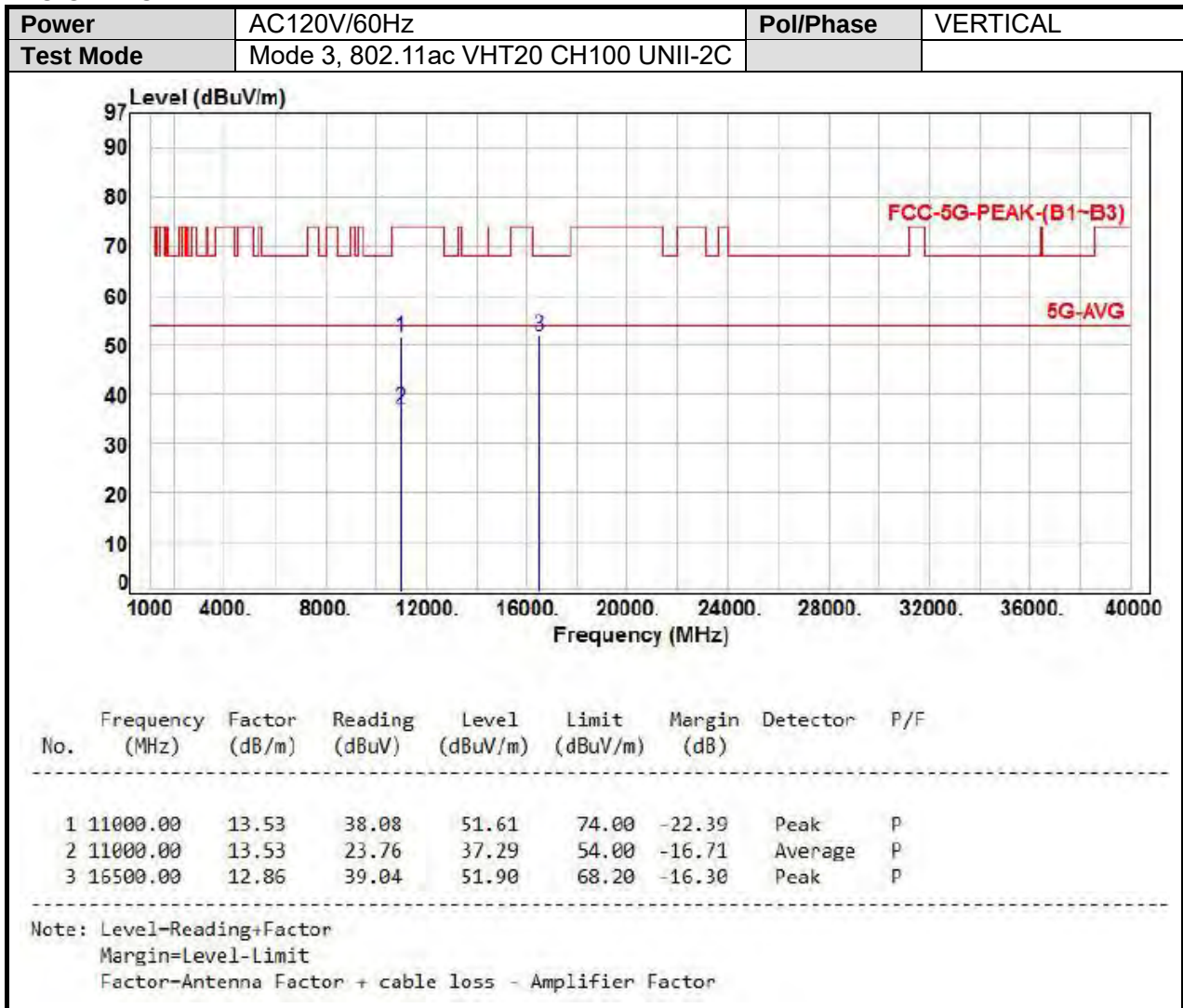


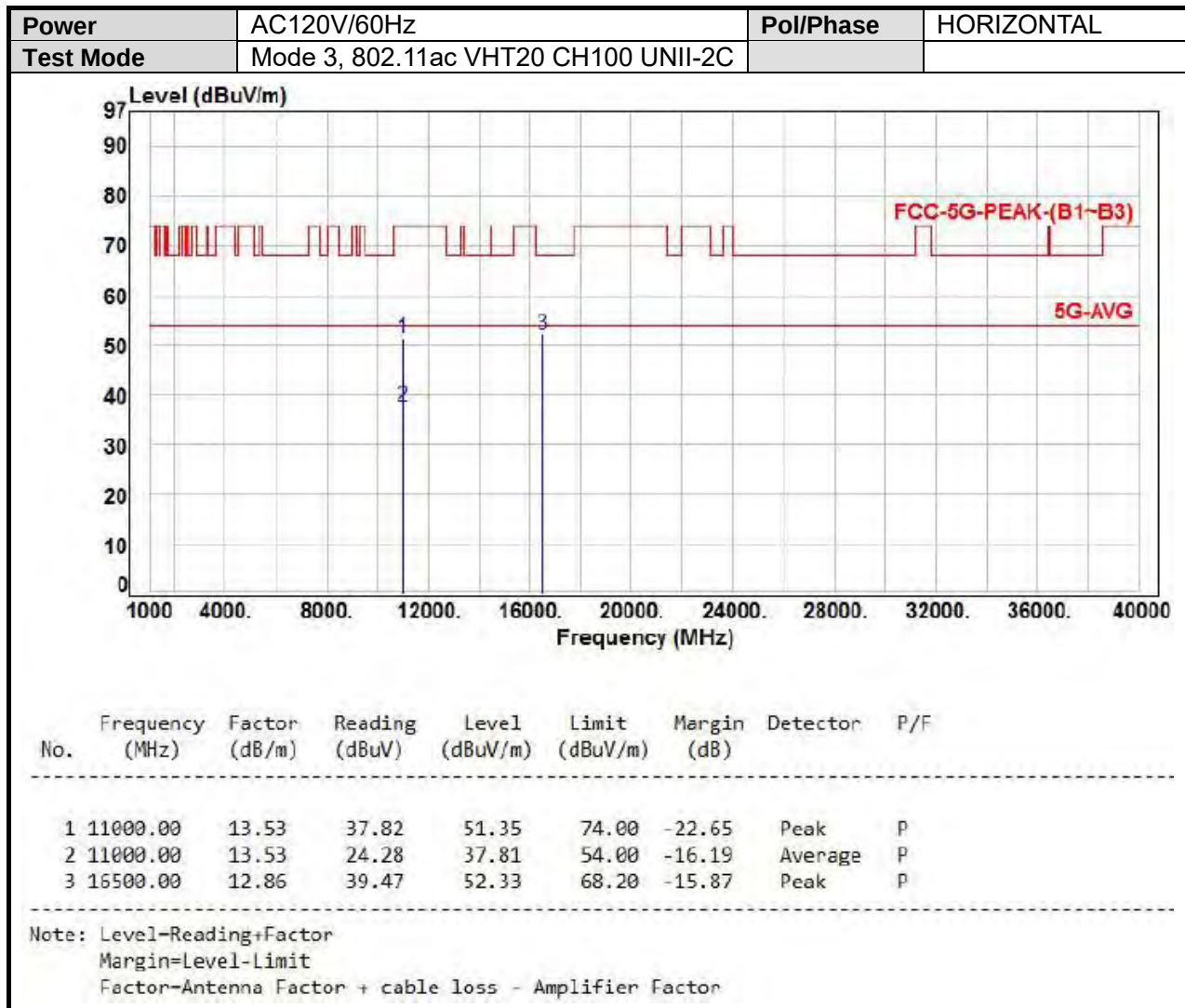


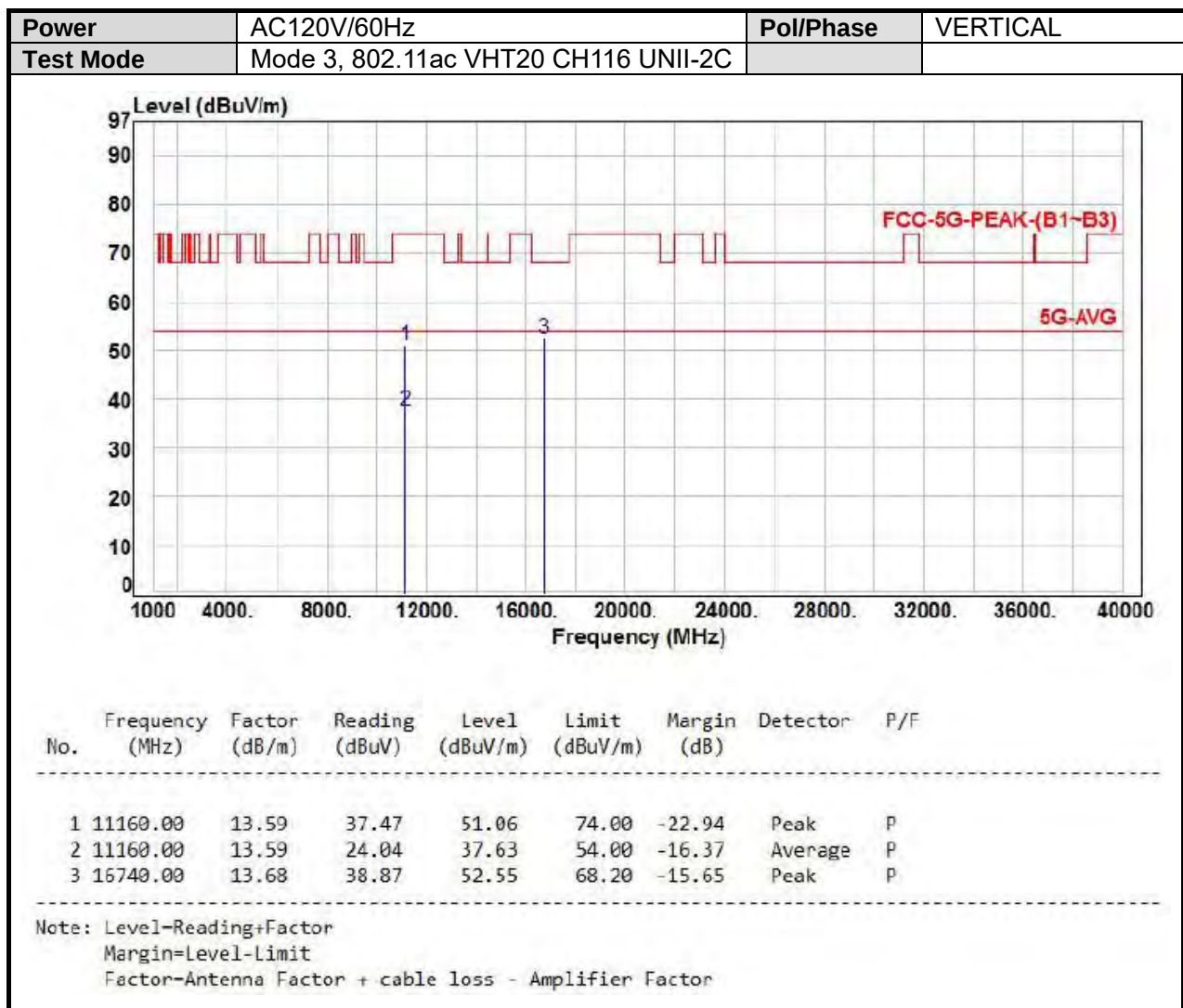


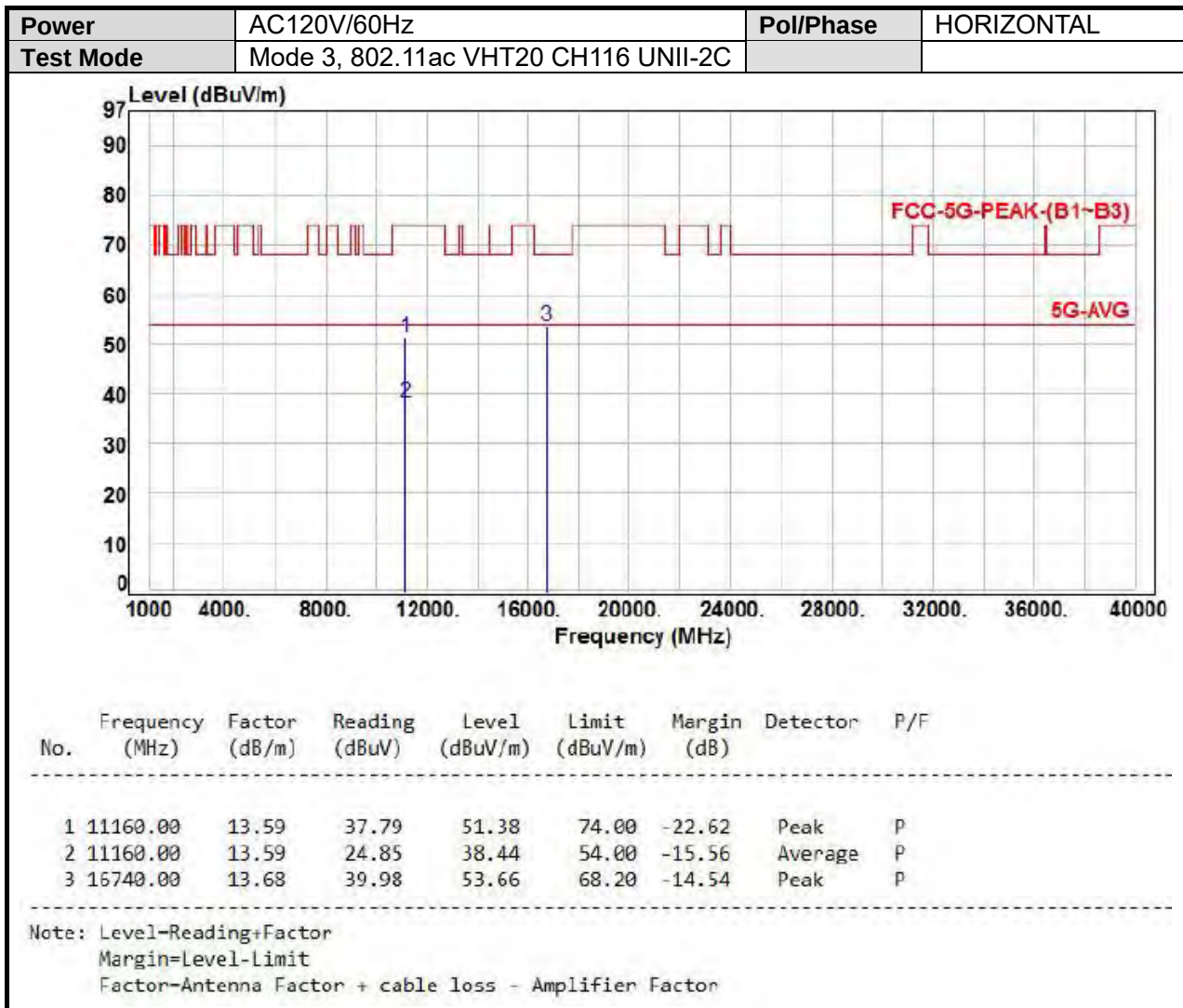


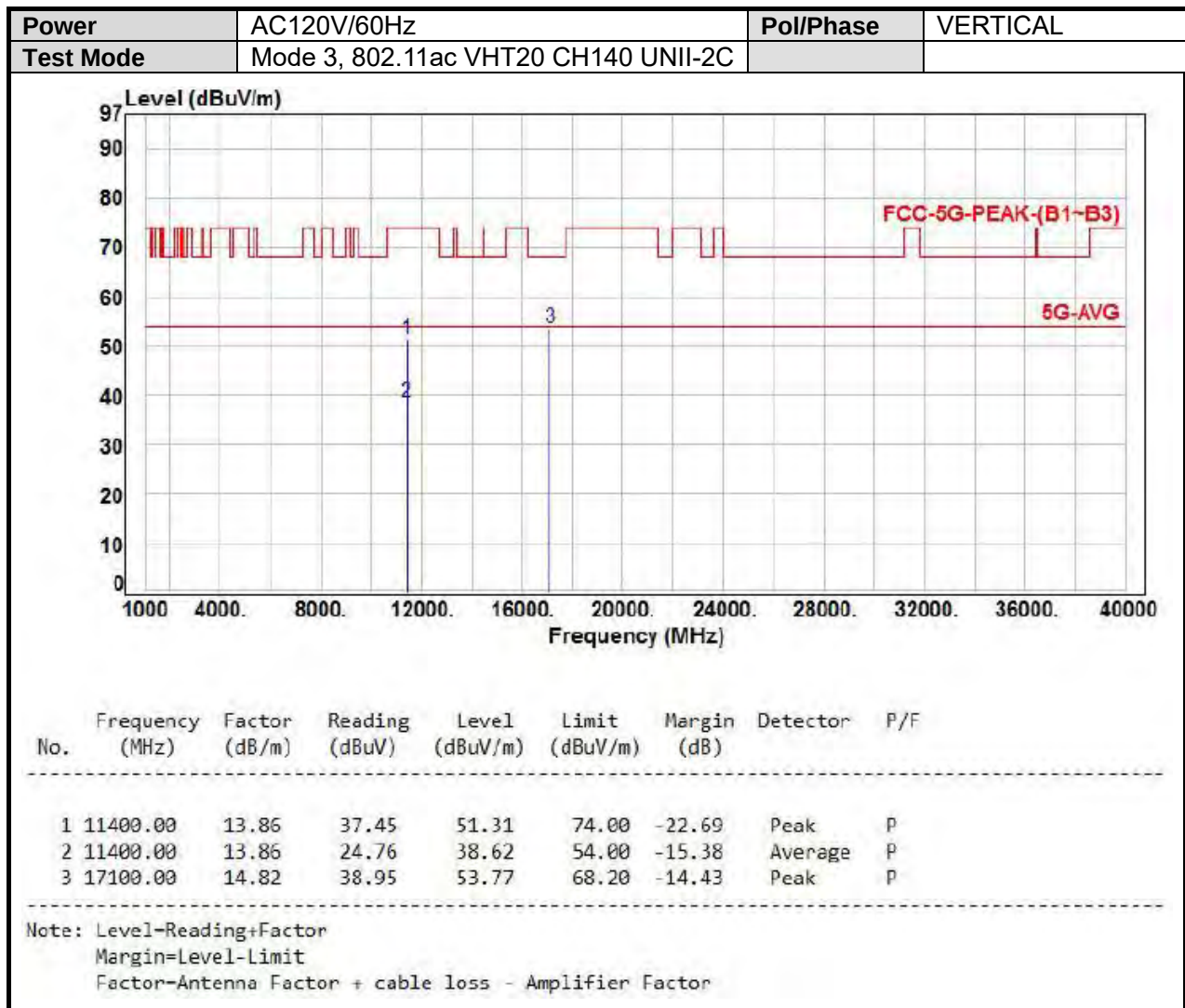
MIMO-UNII-2C

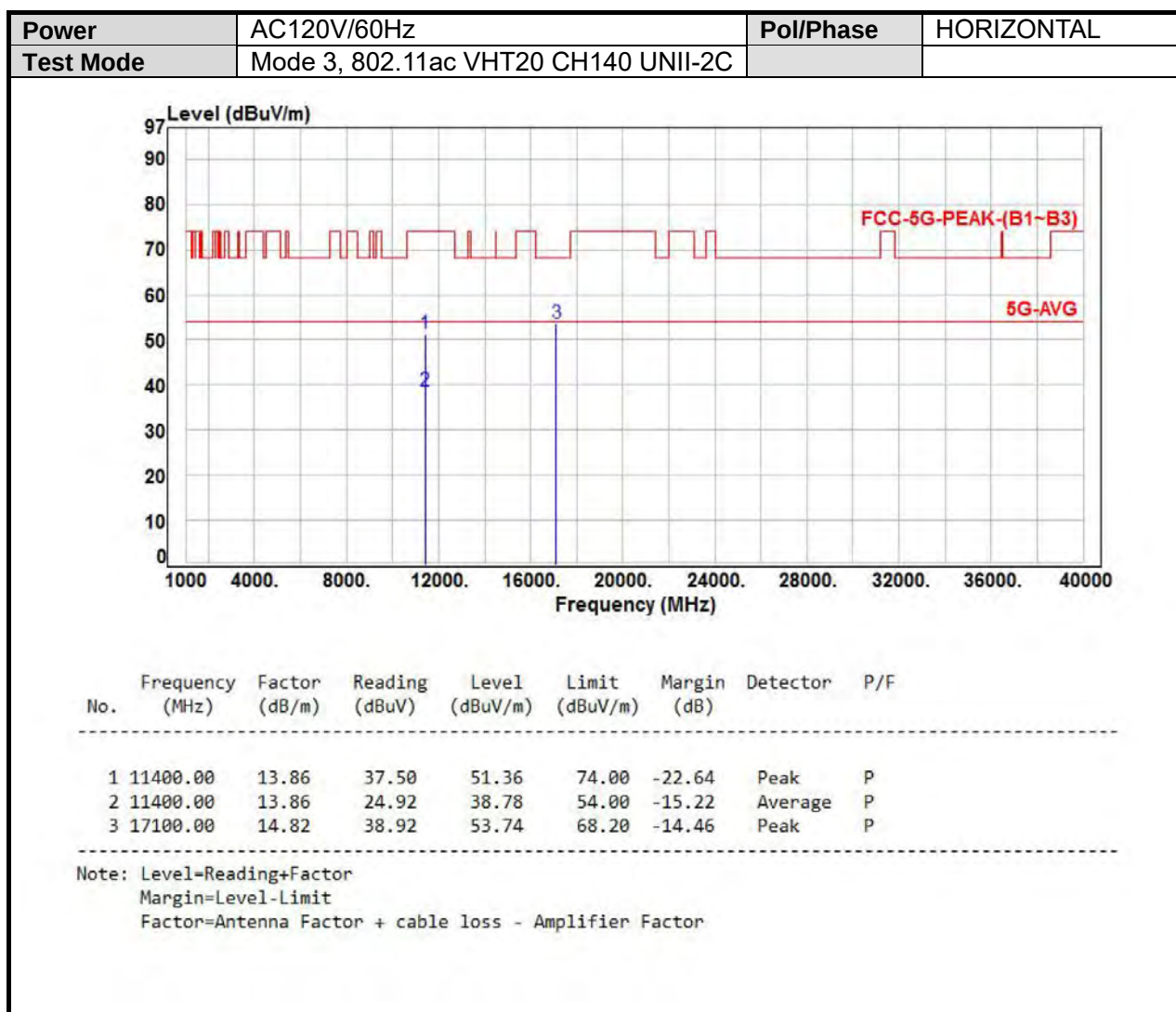


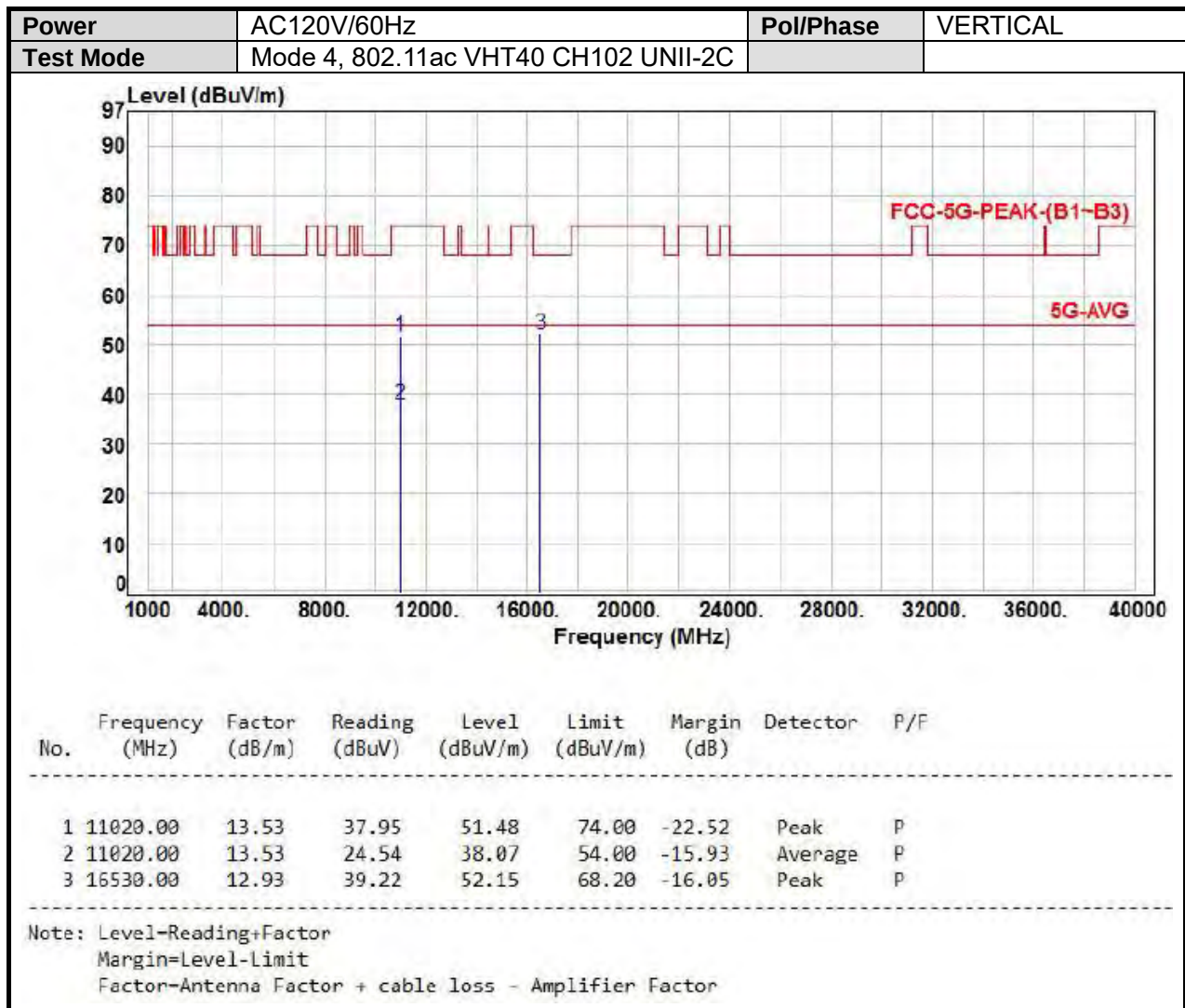


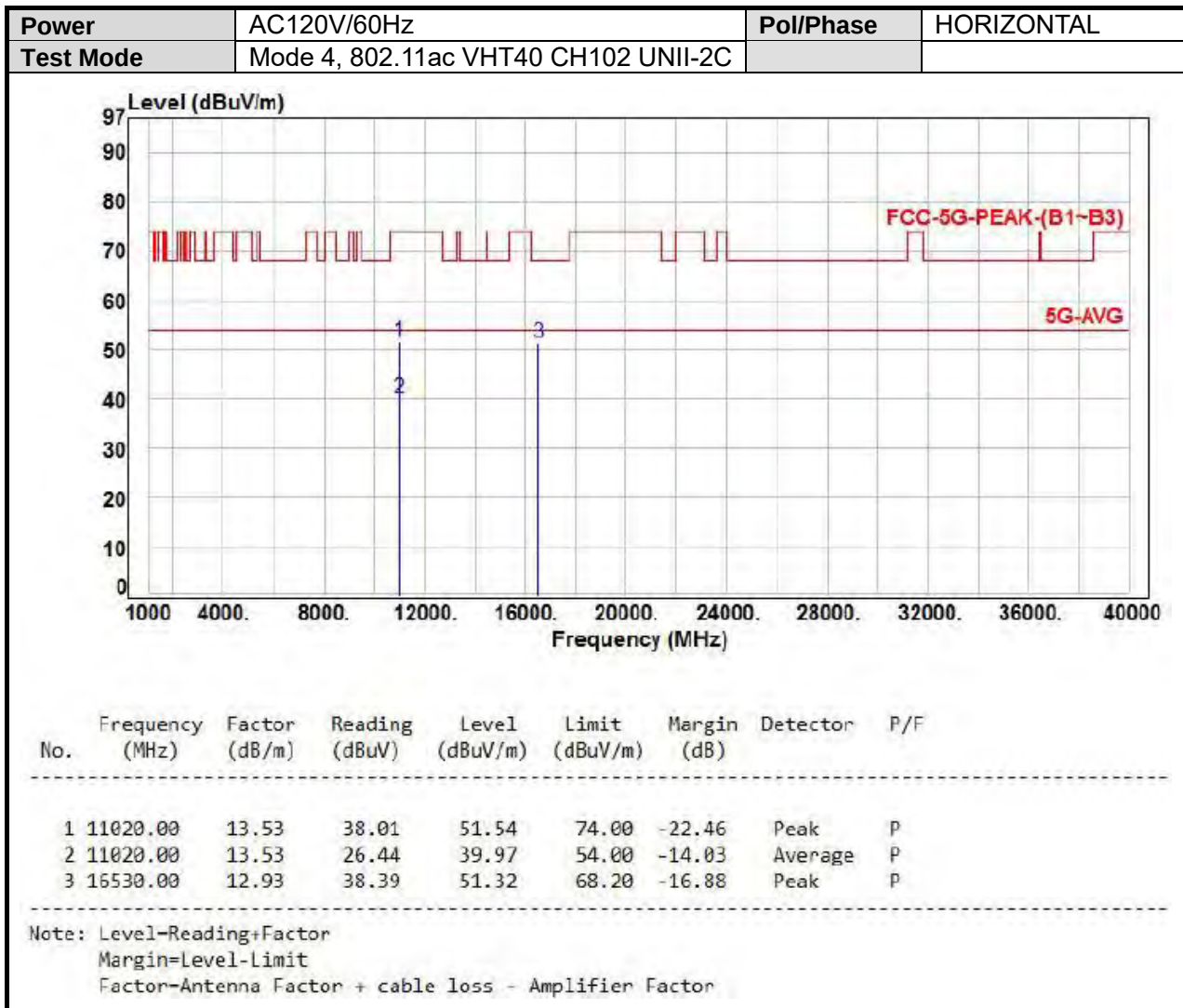


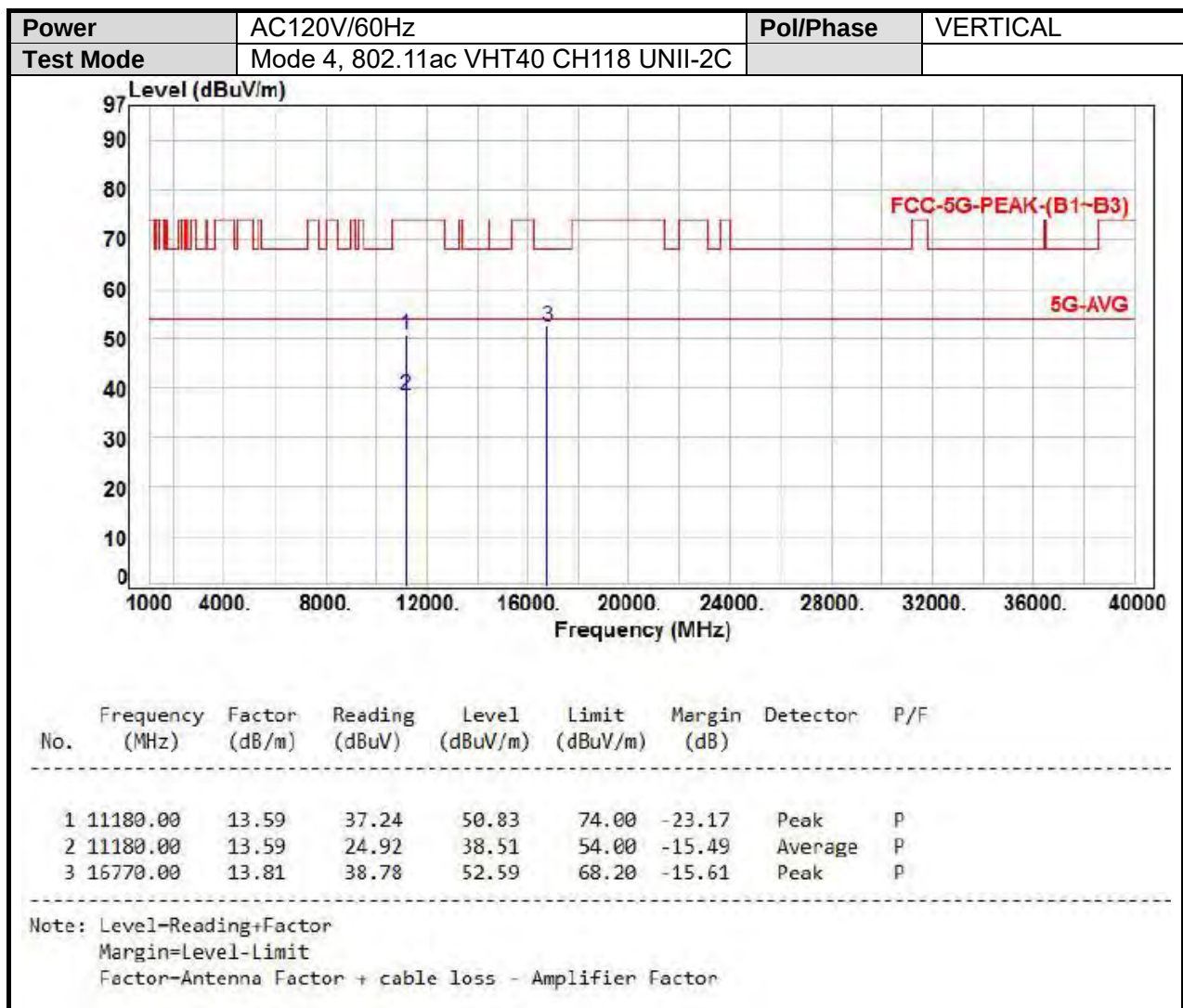


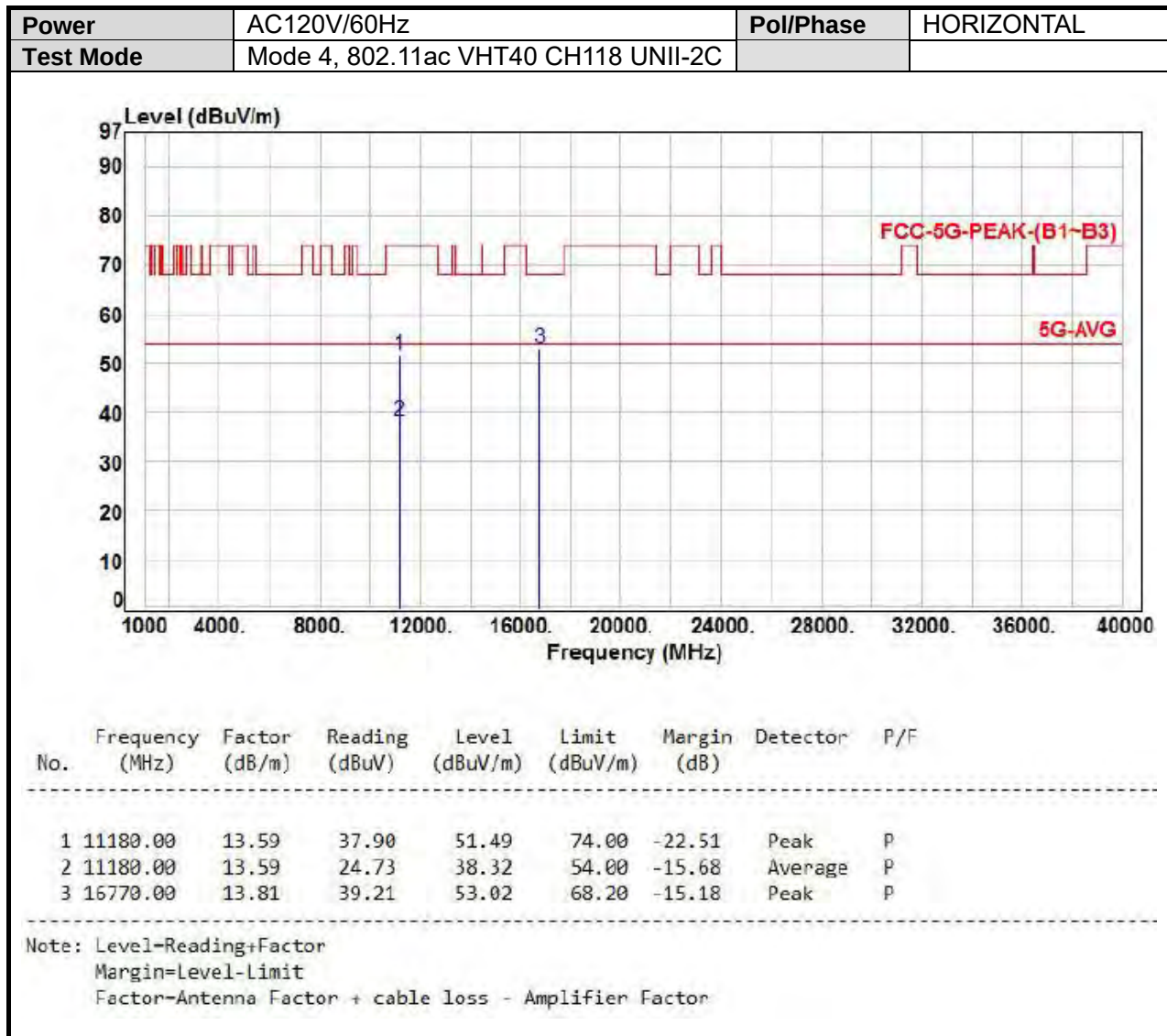


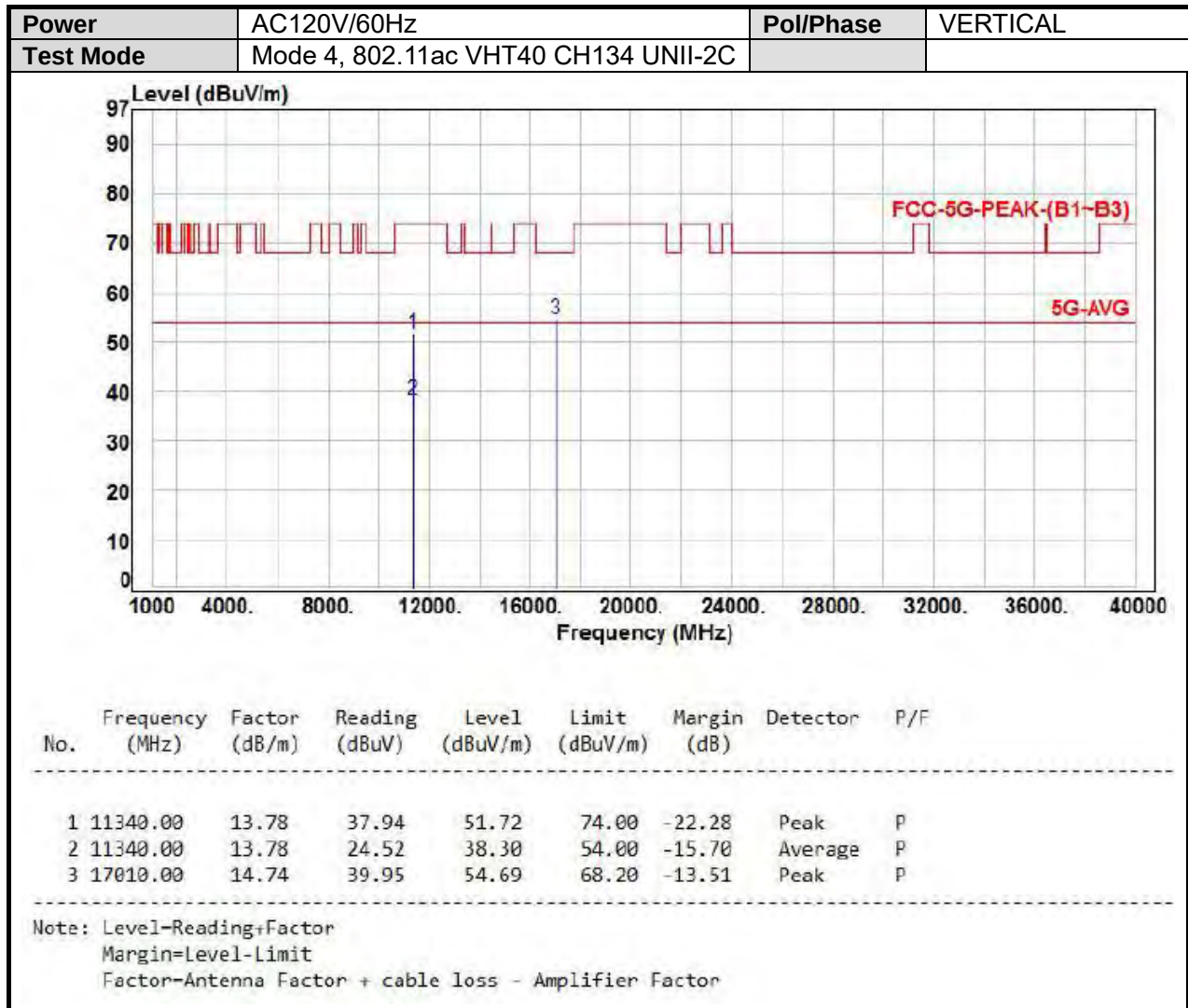


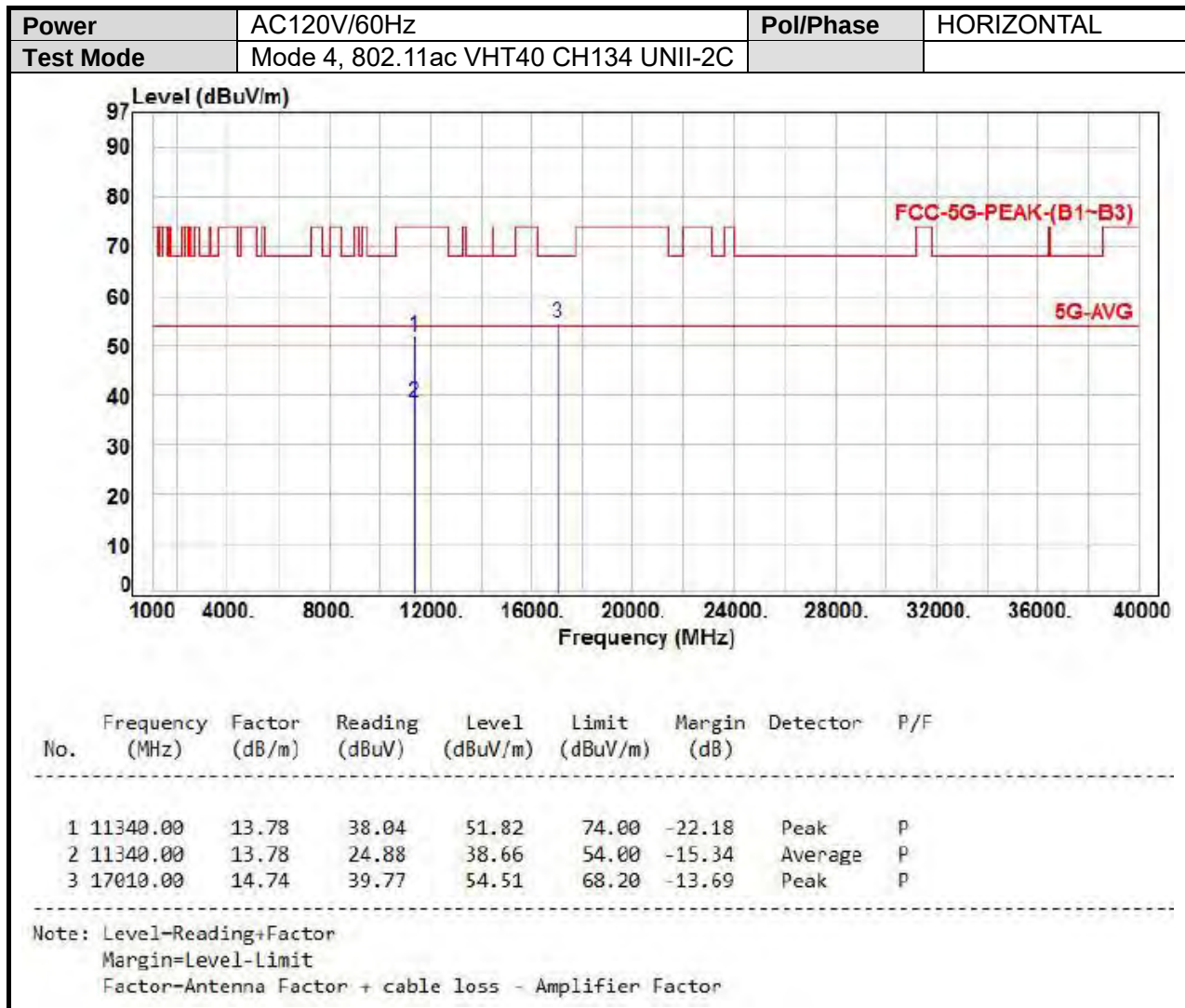


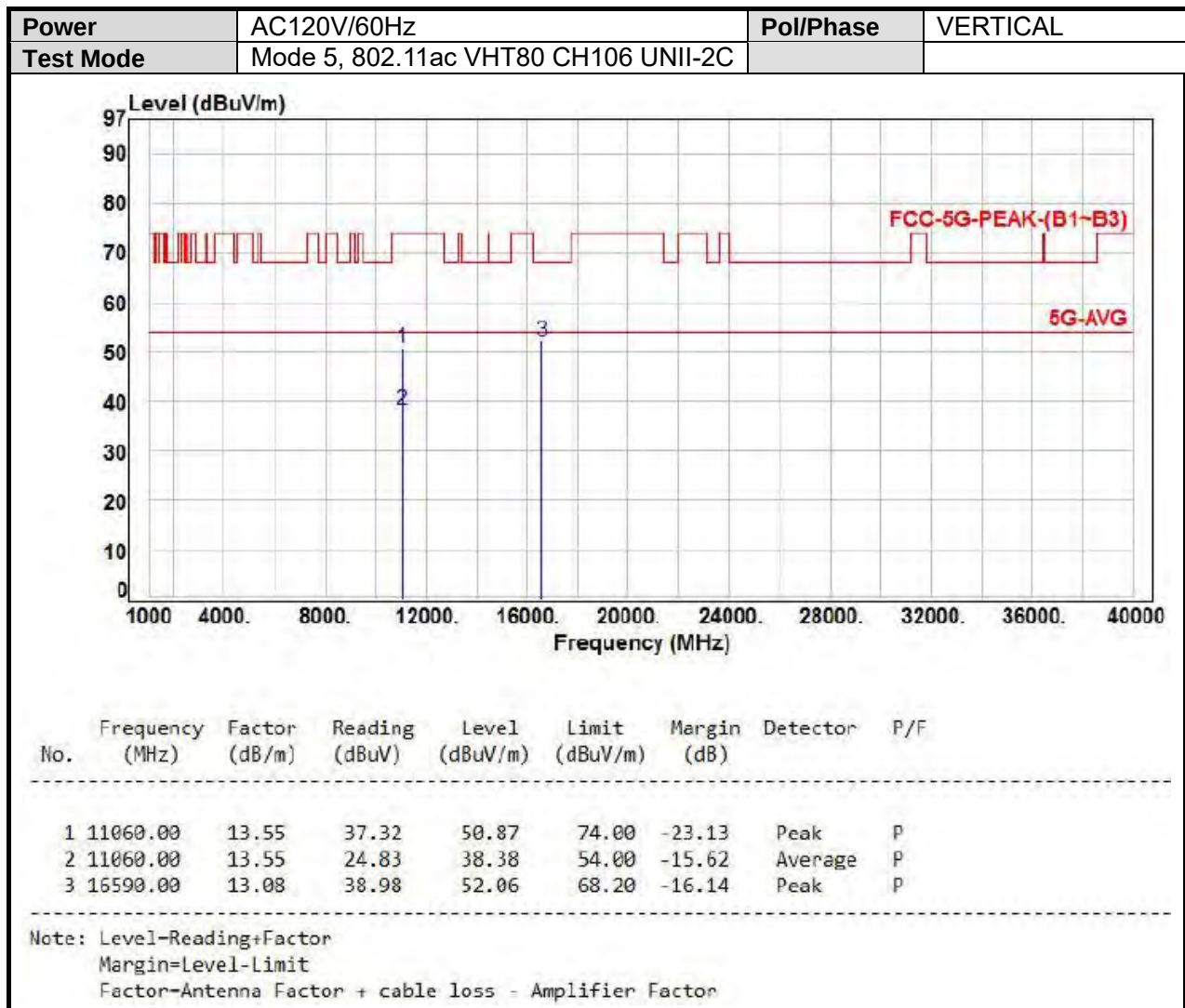


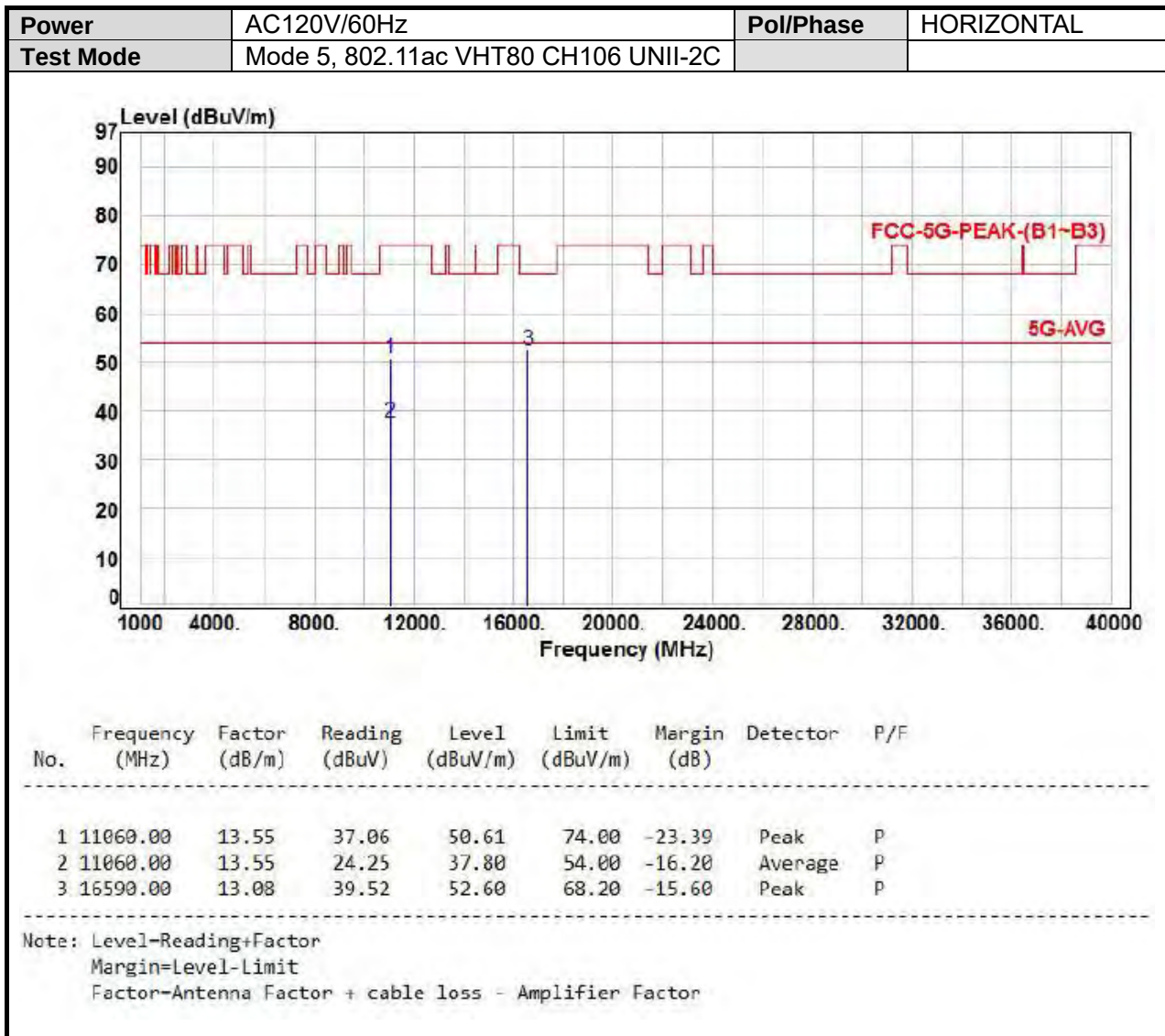


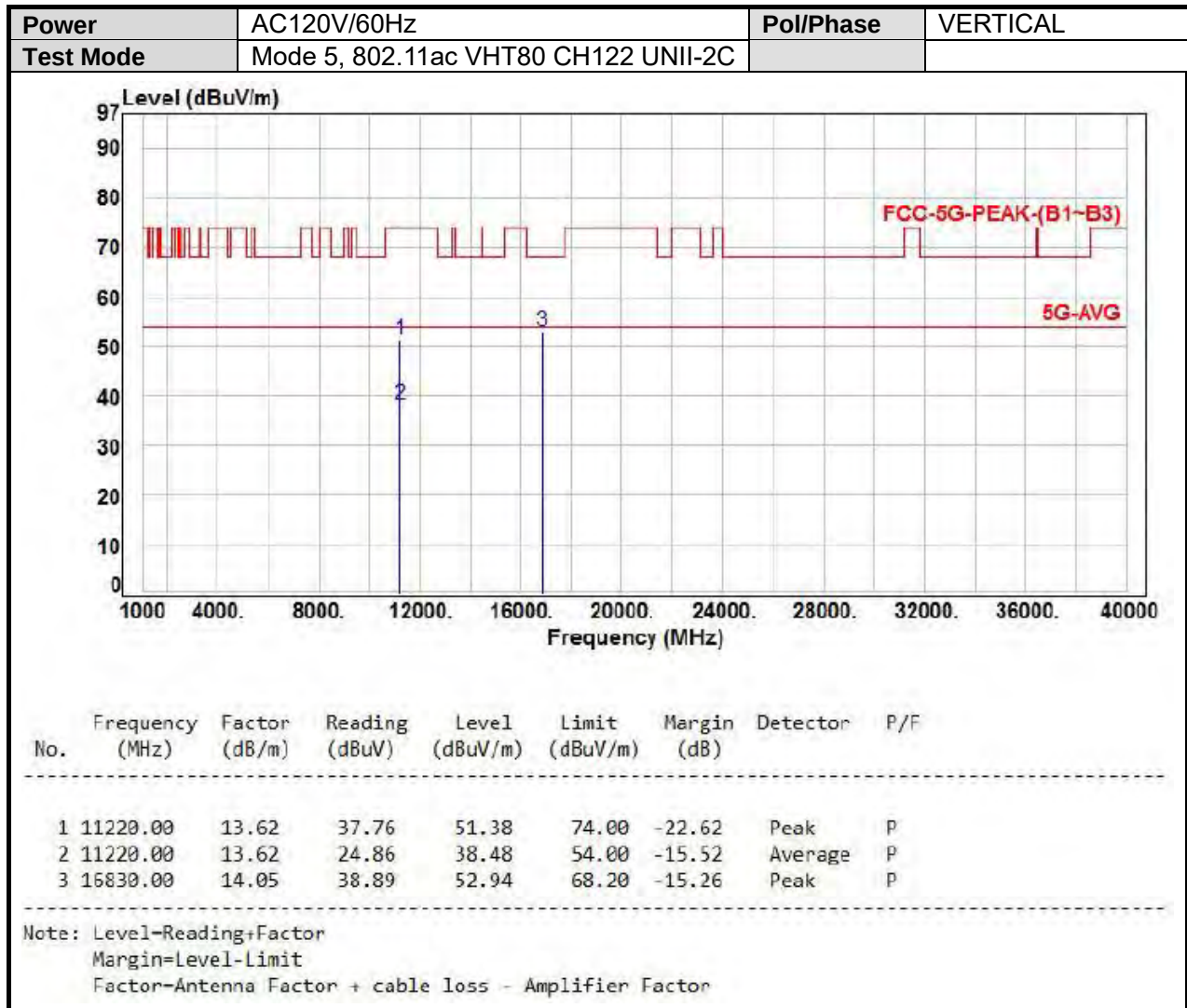


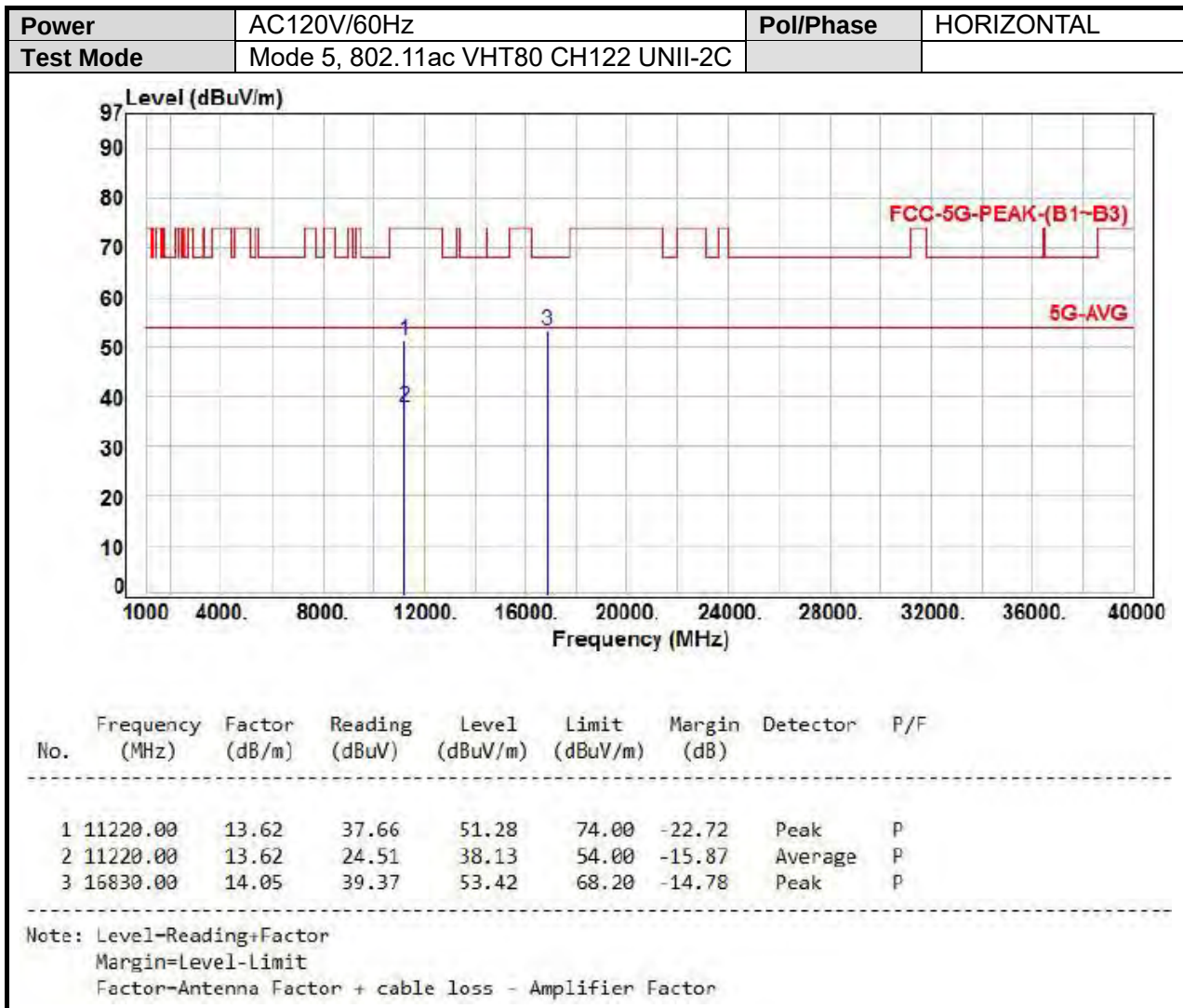








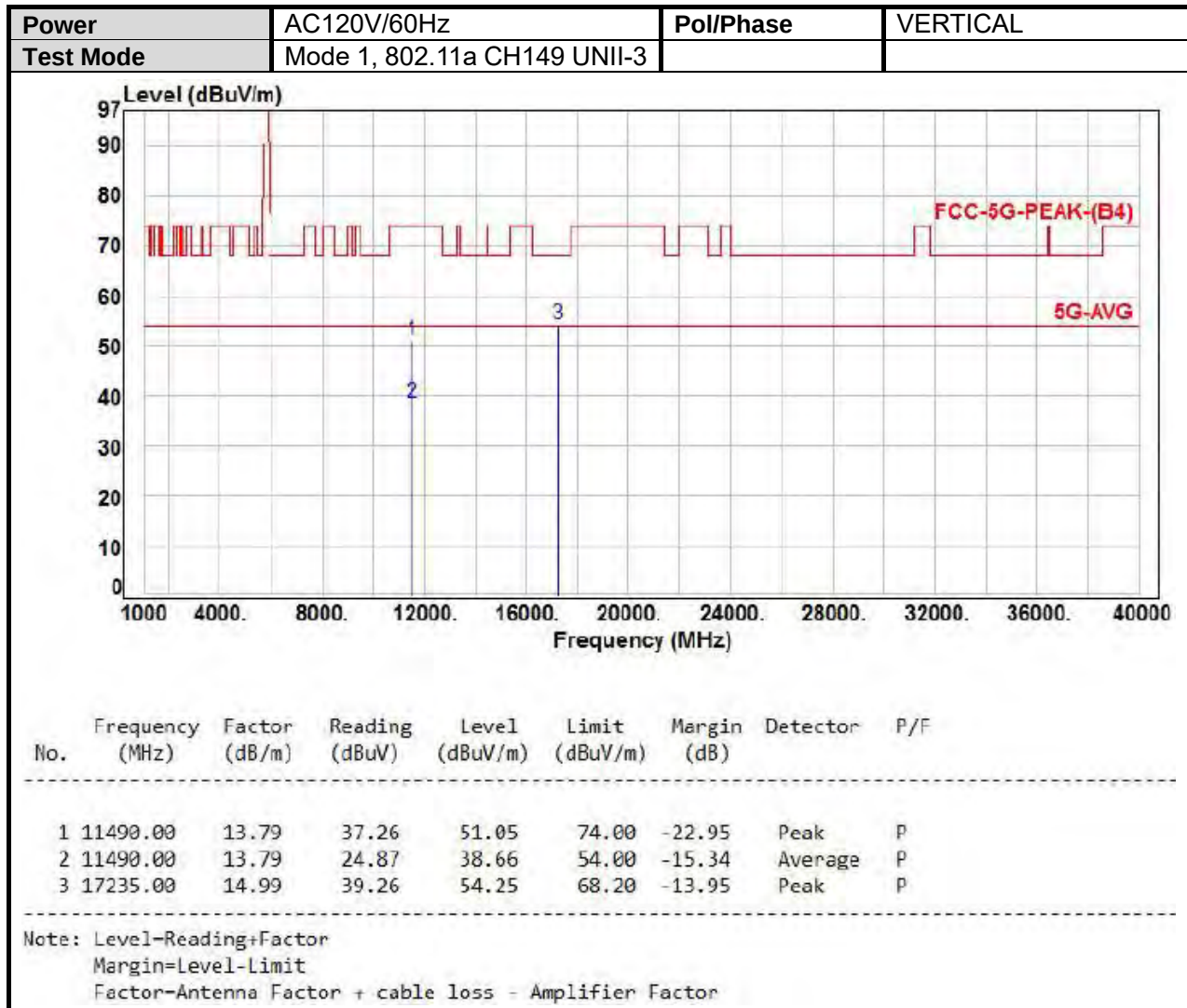


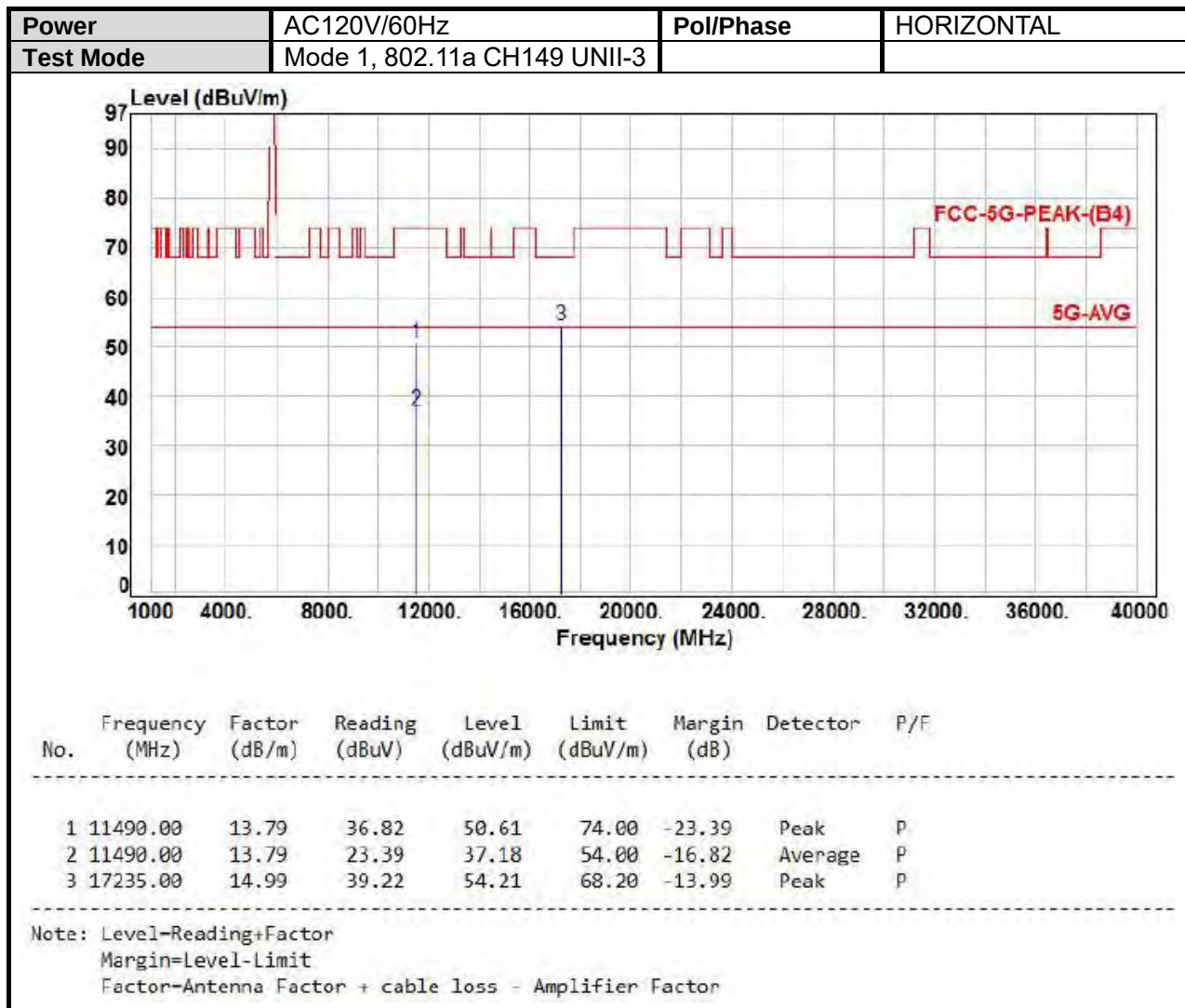


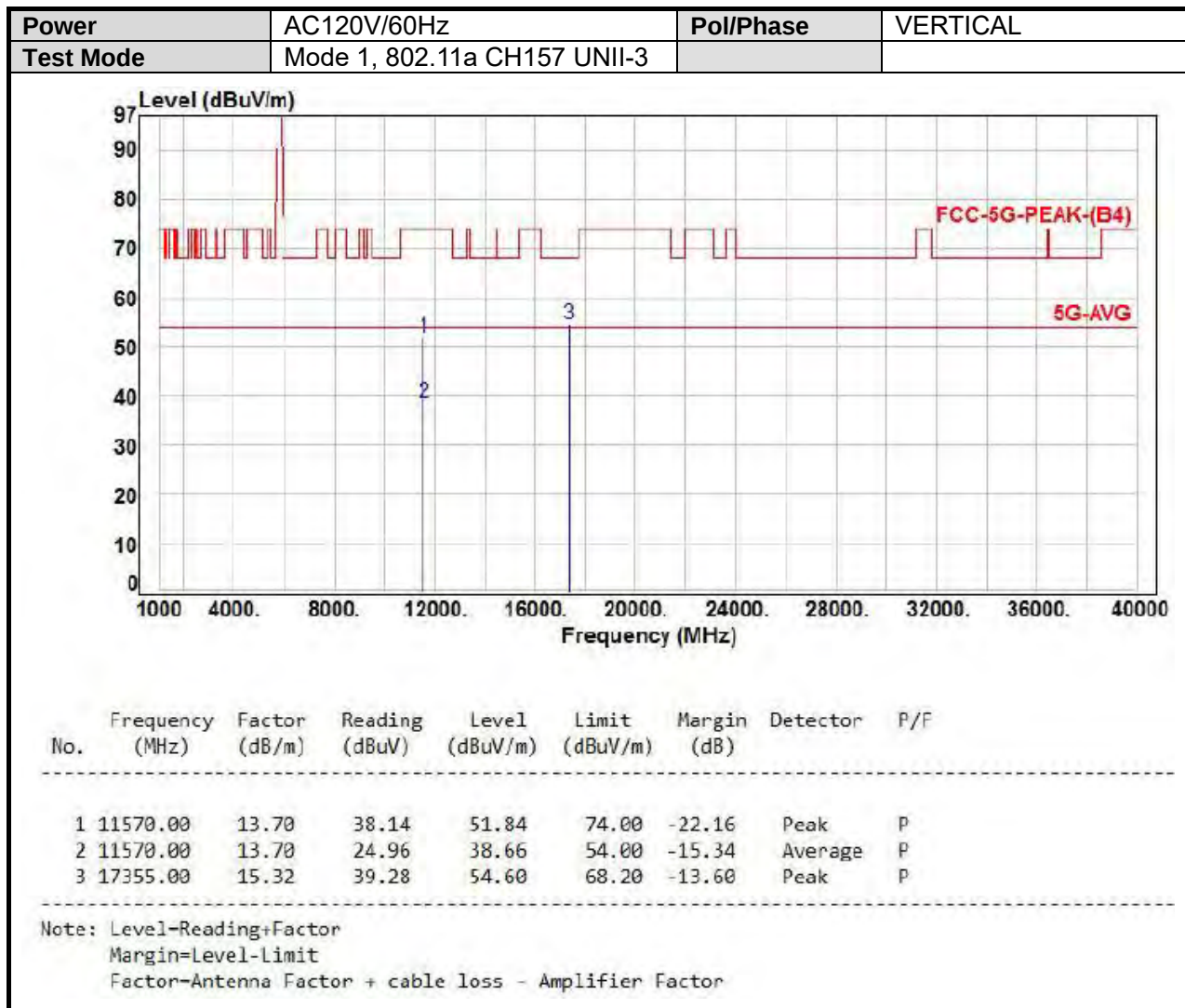


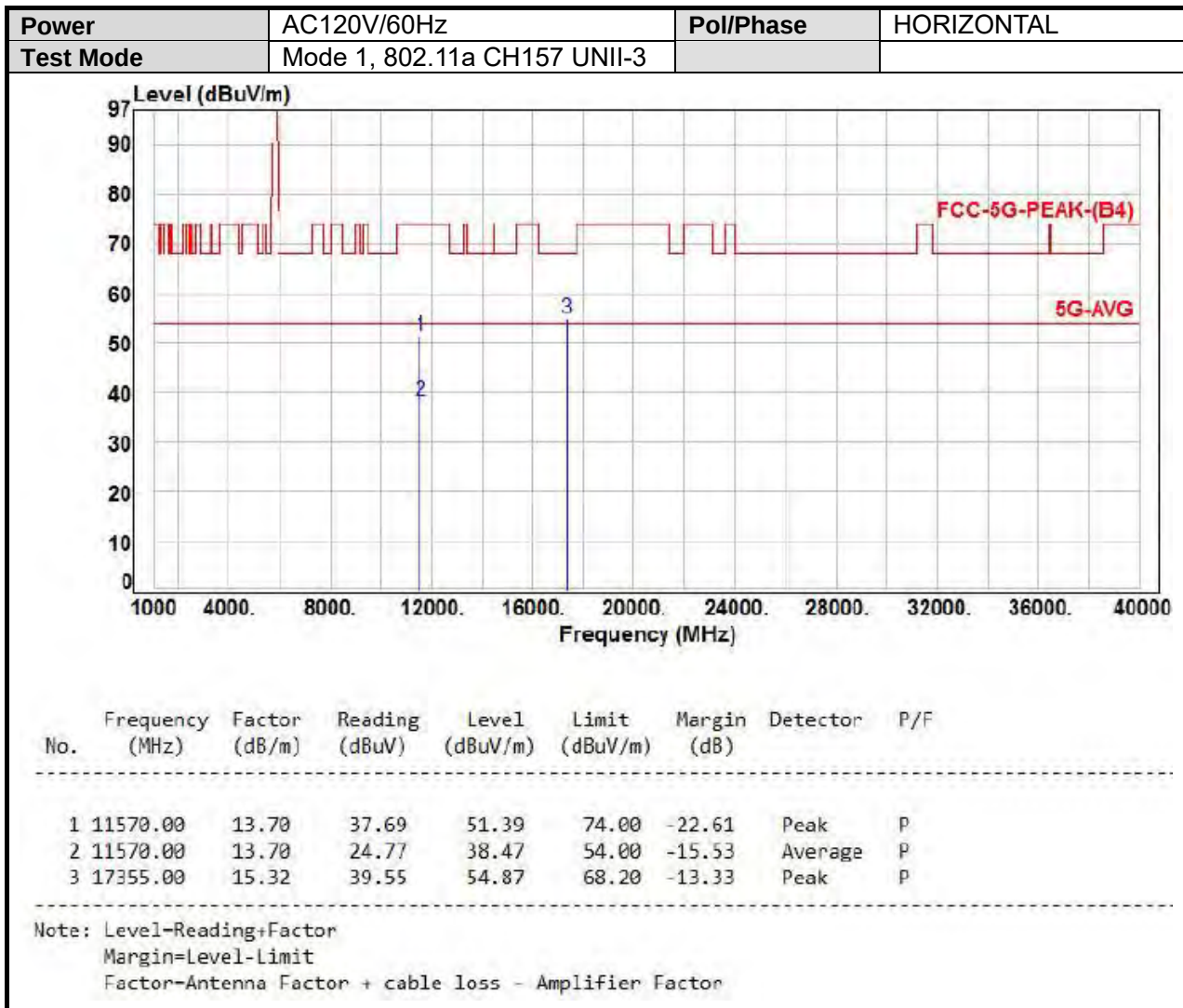
SISO-Ant A

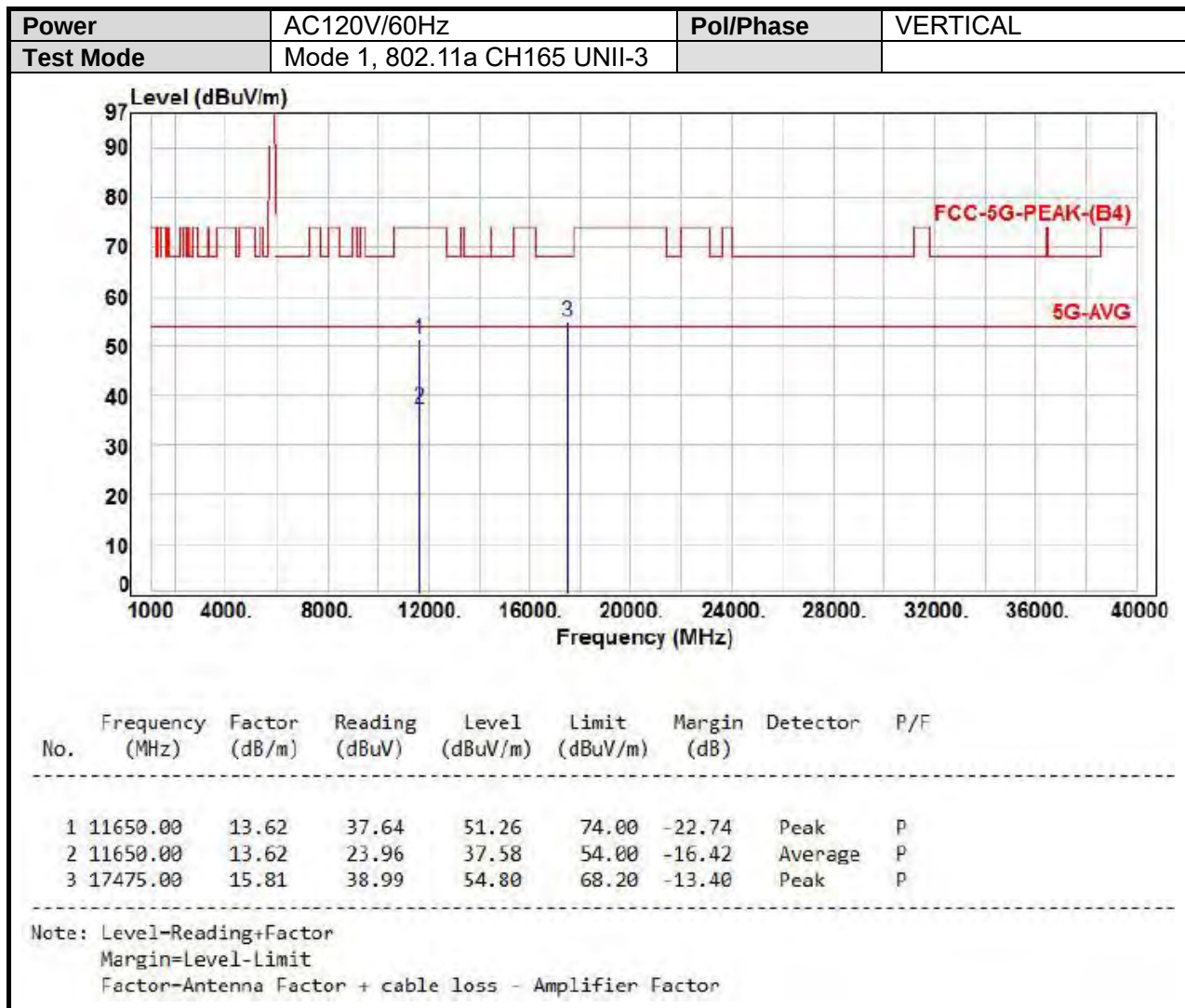
UNII-3

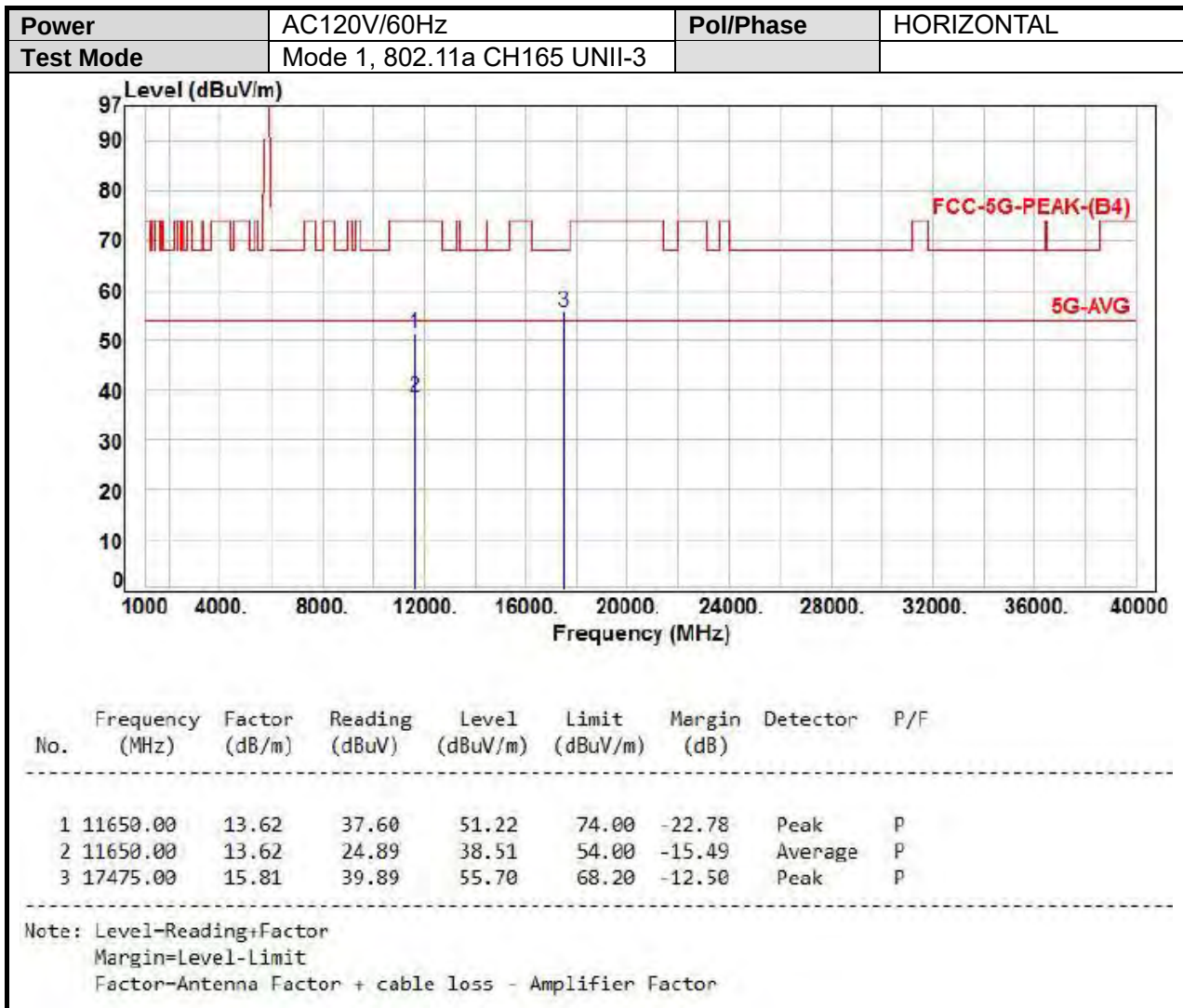






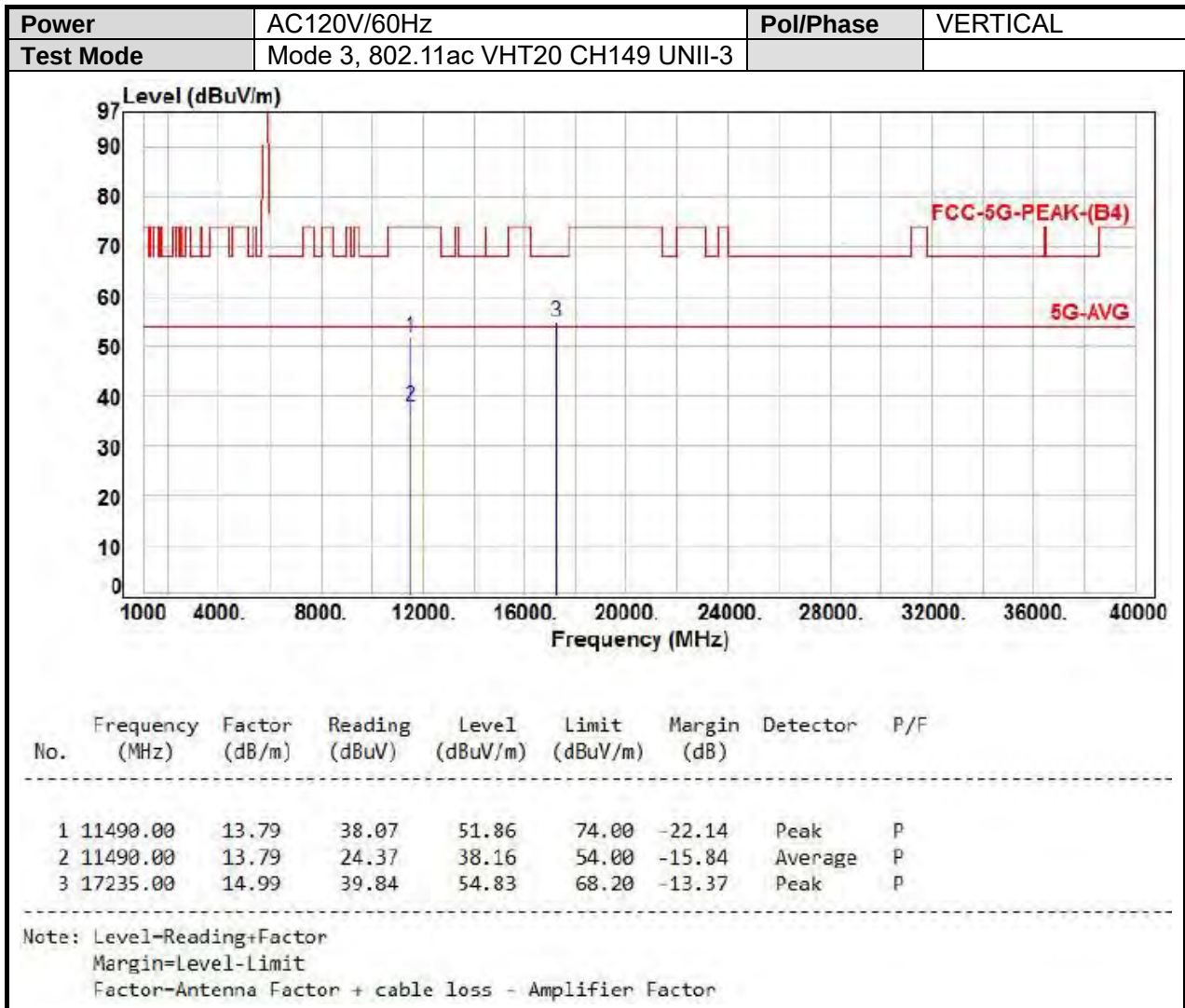


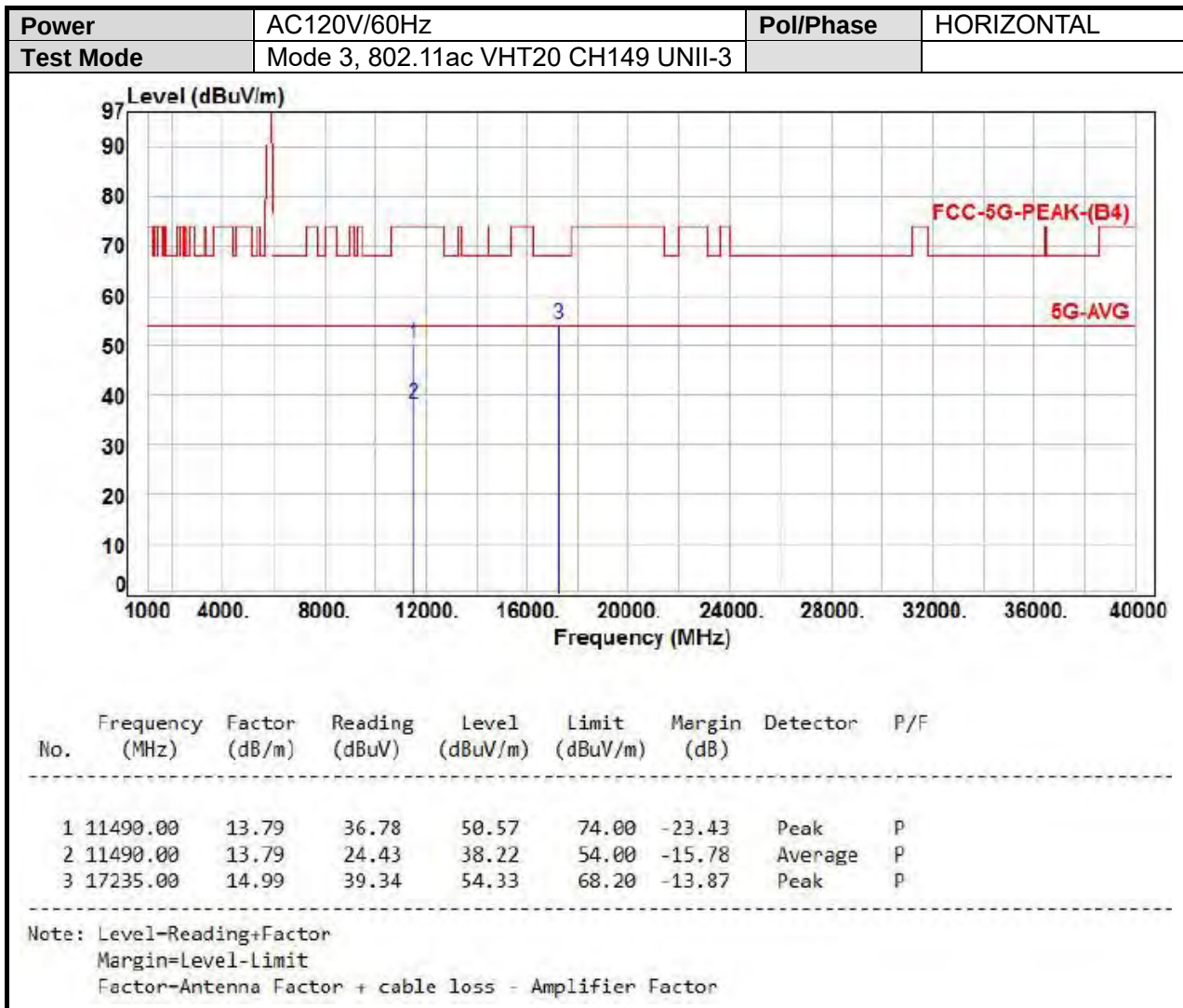


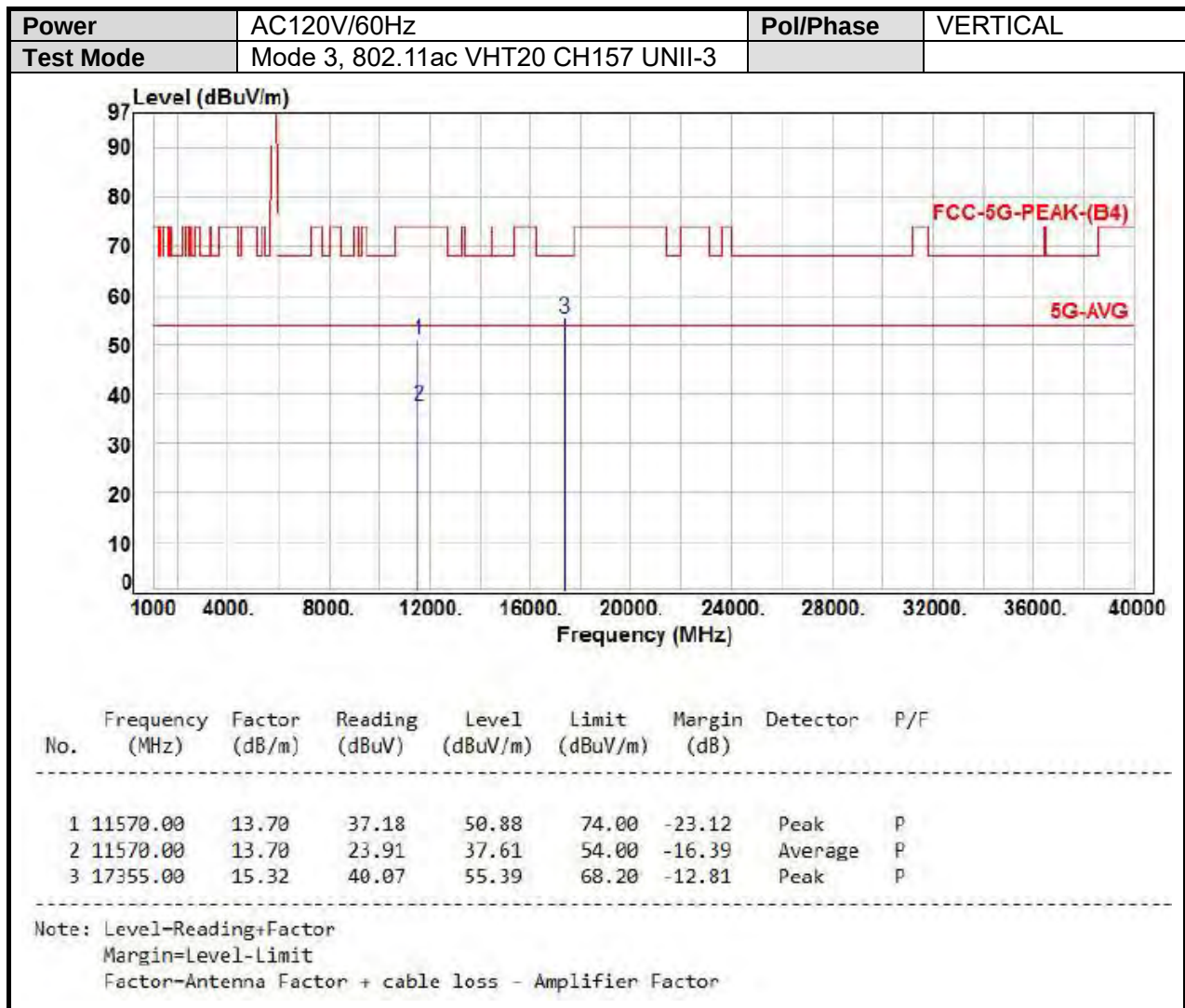


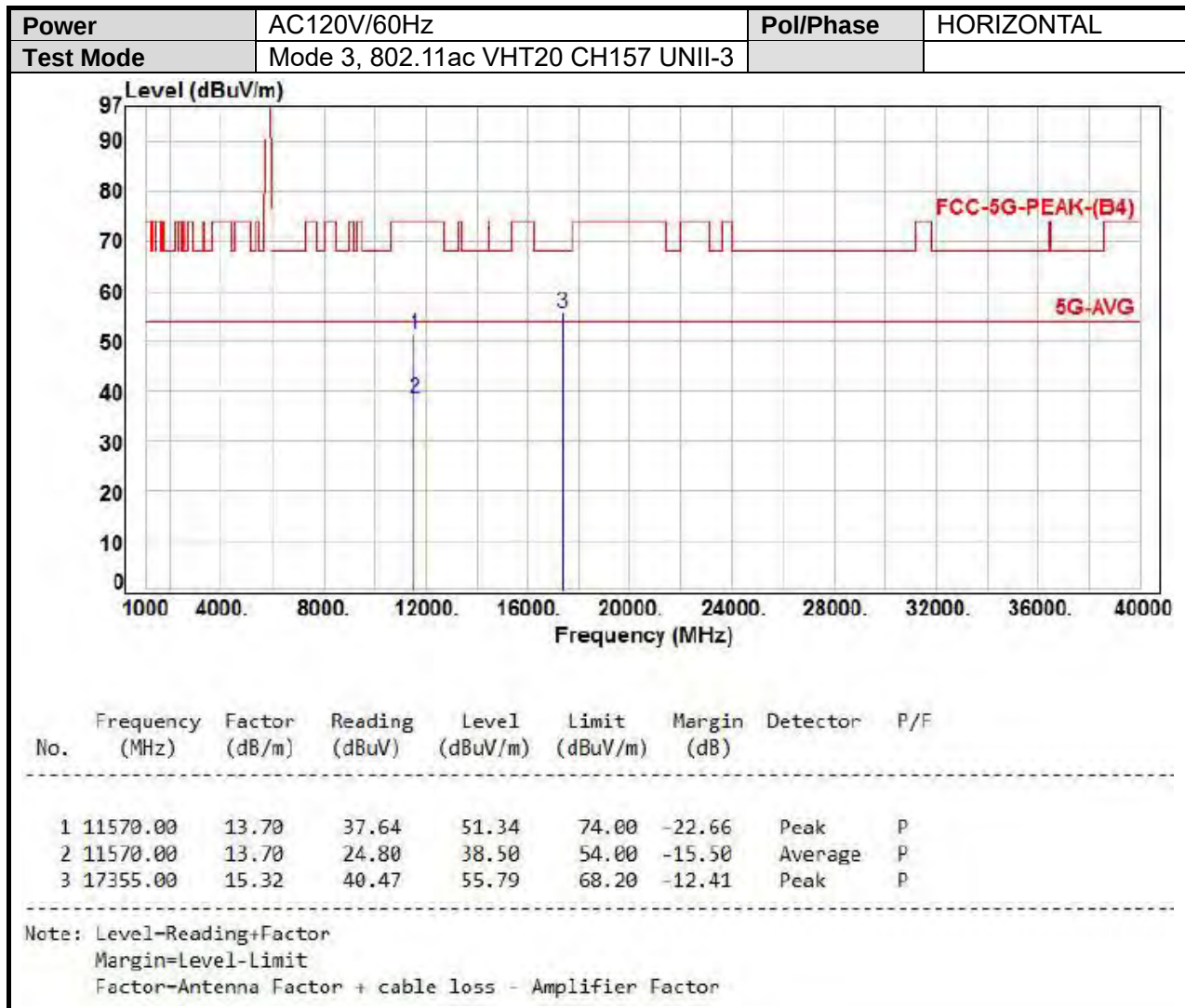


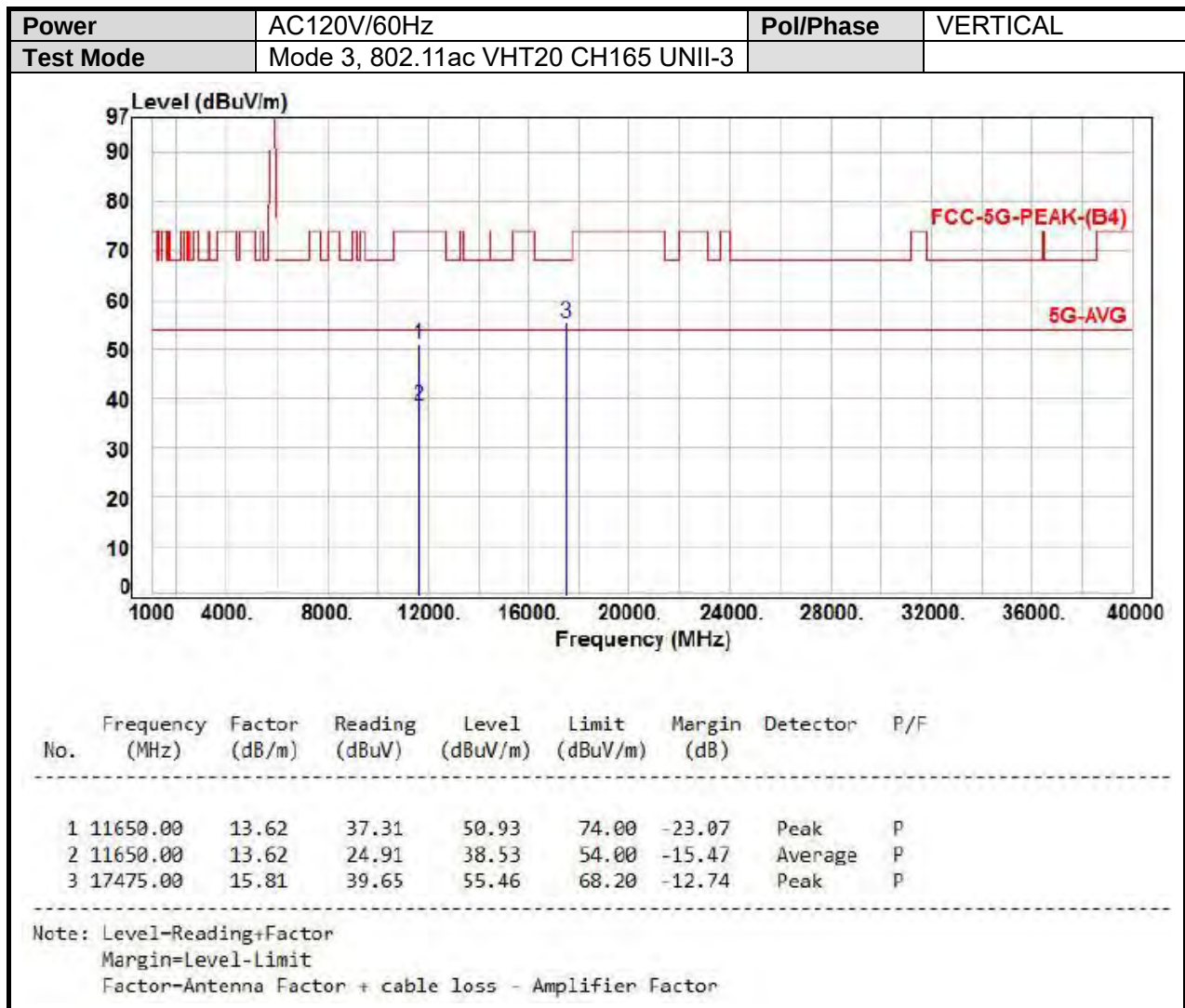
MIMO-UNII-3

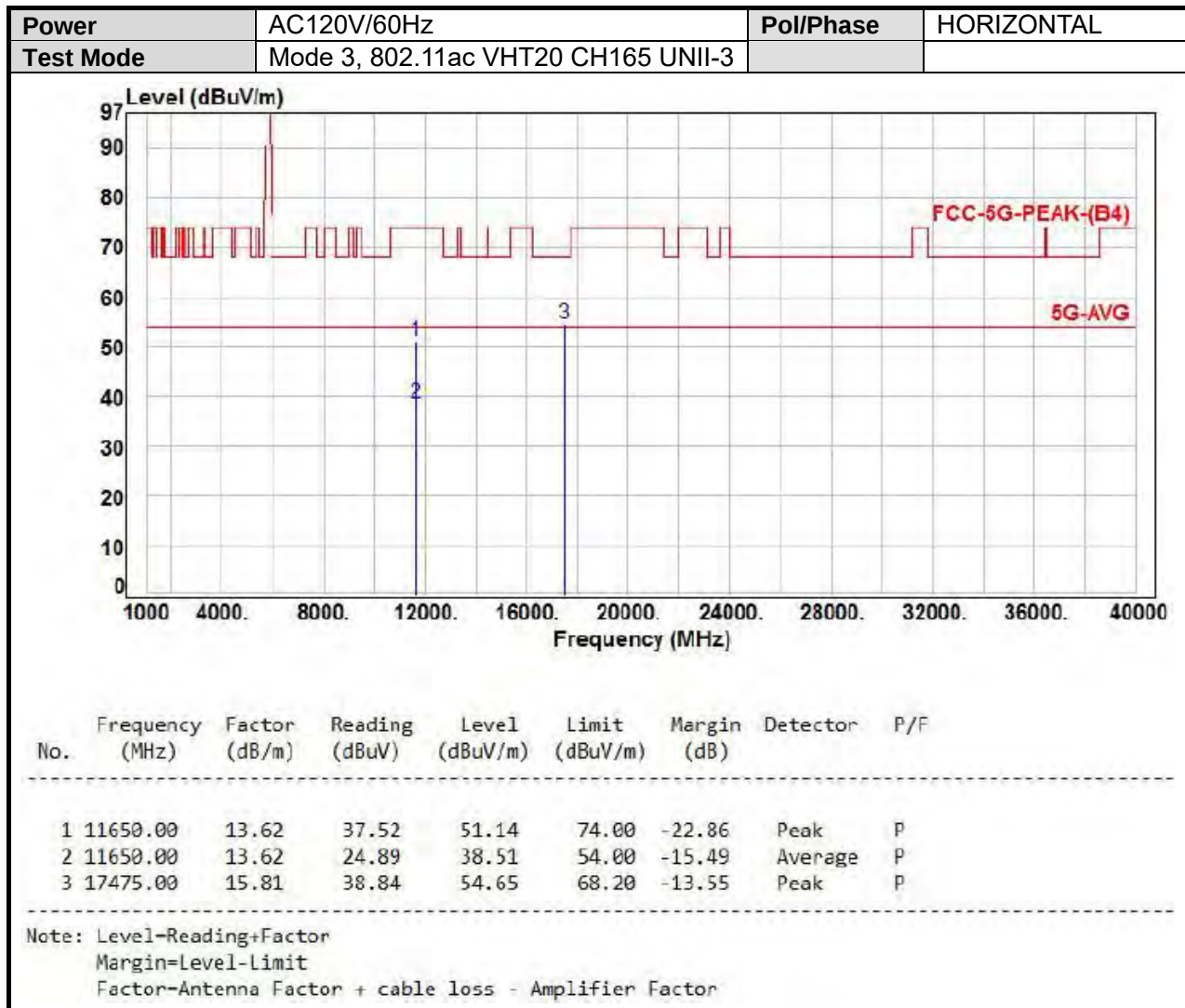


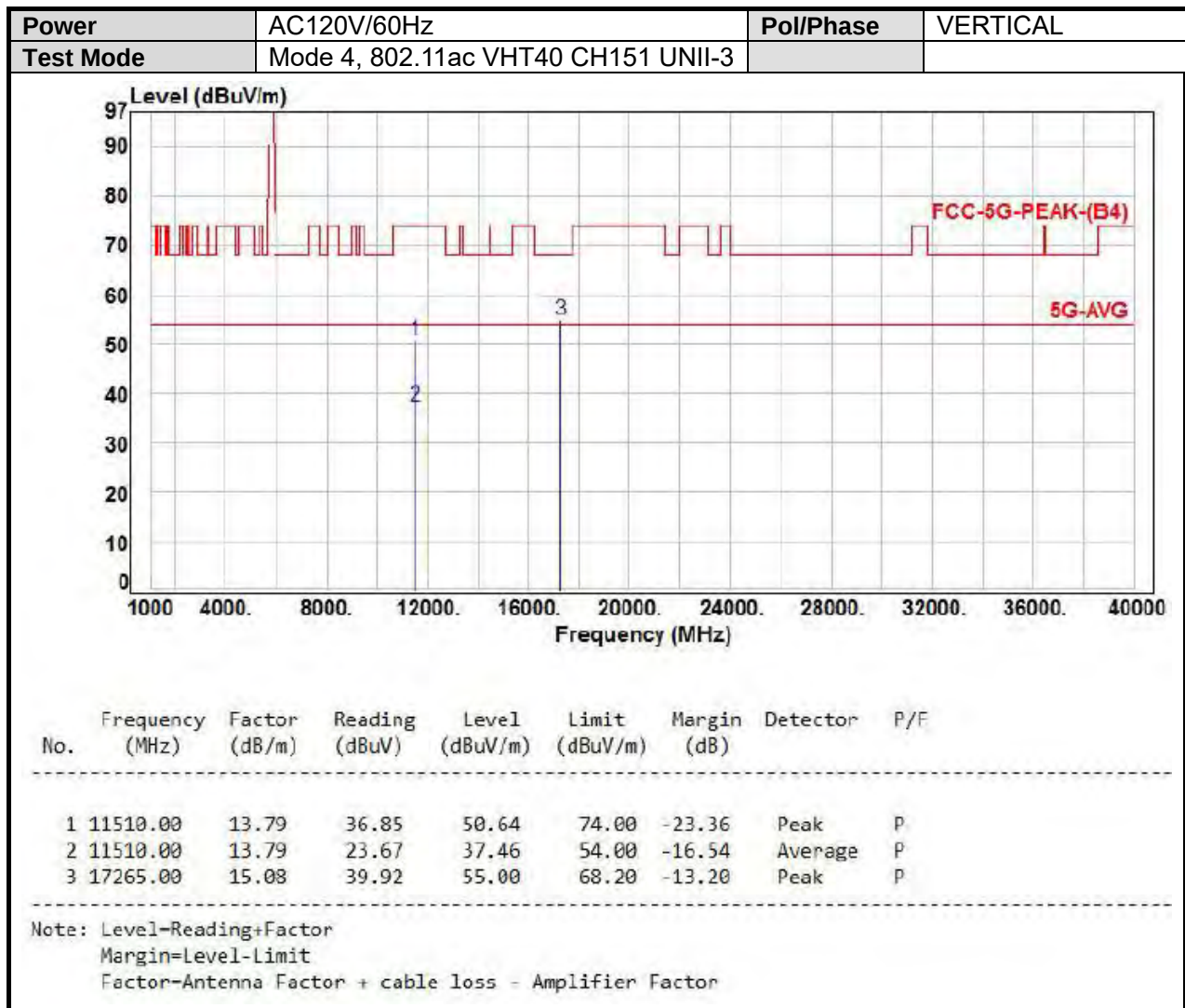


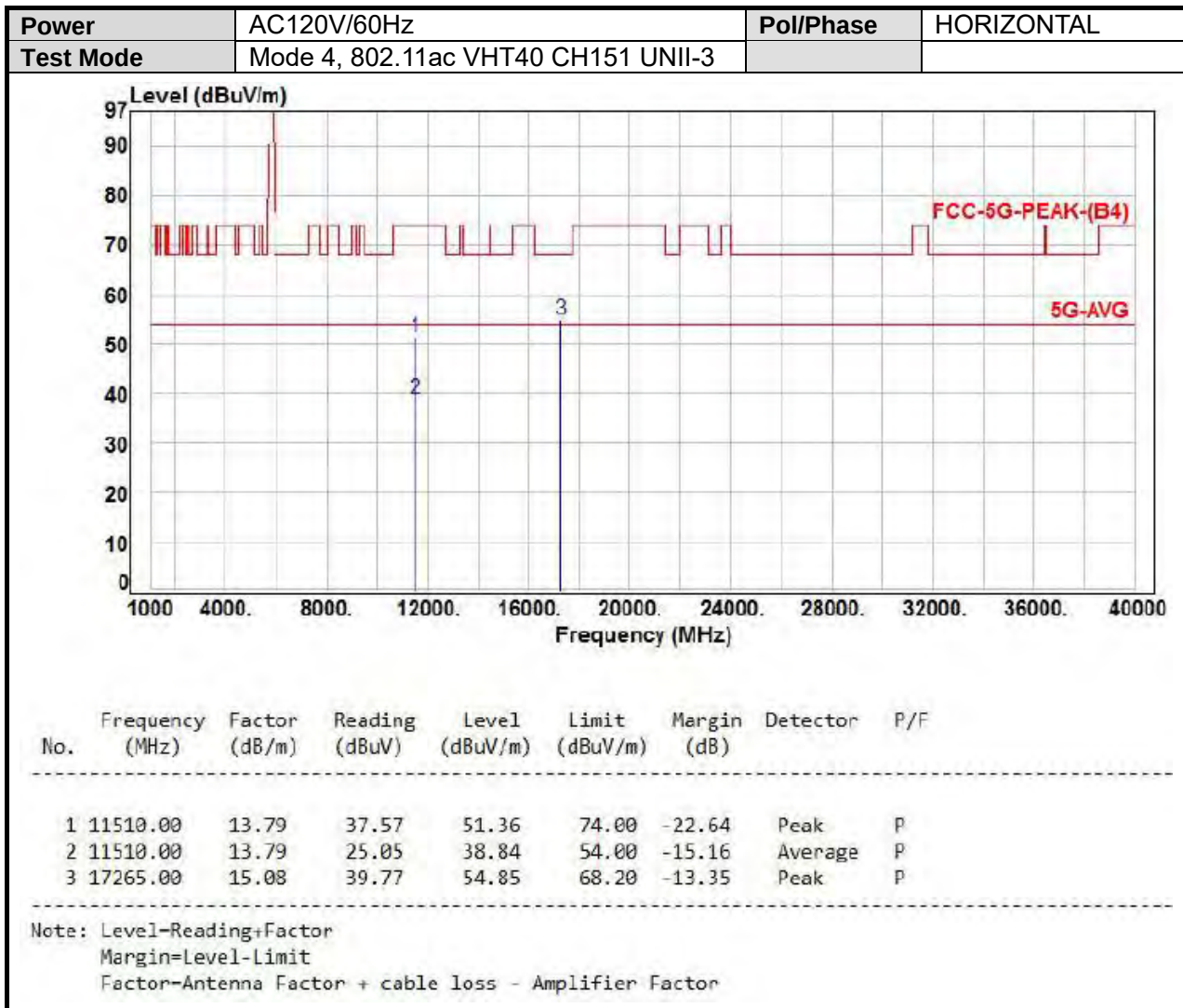


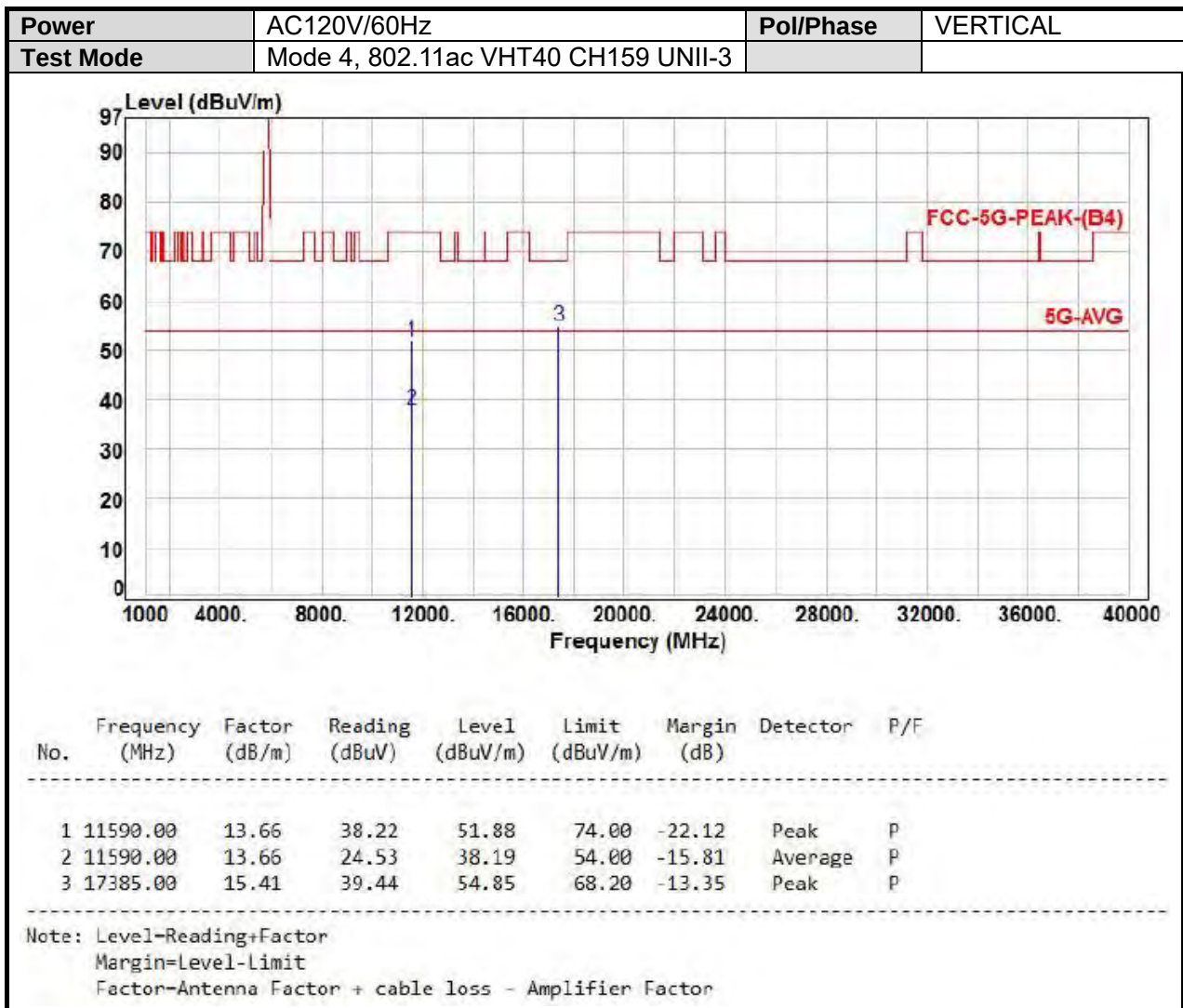


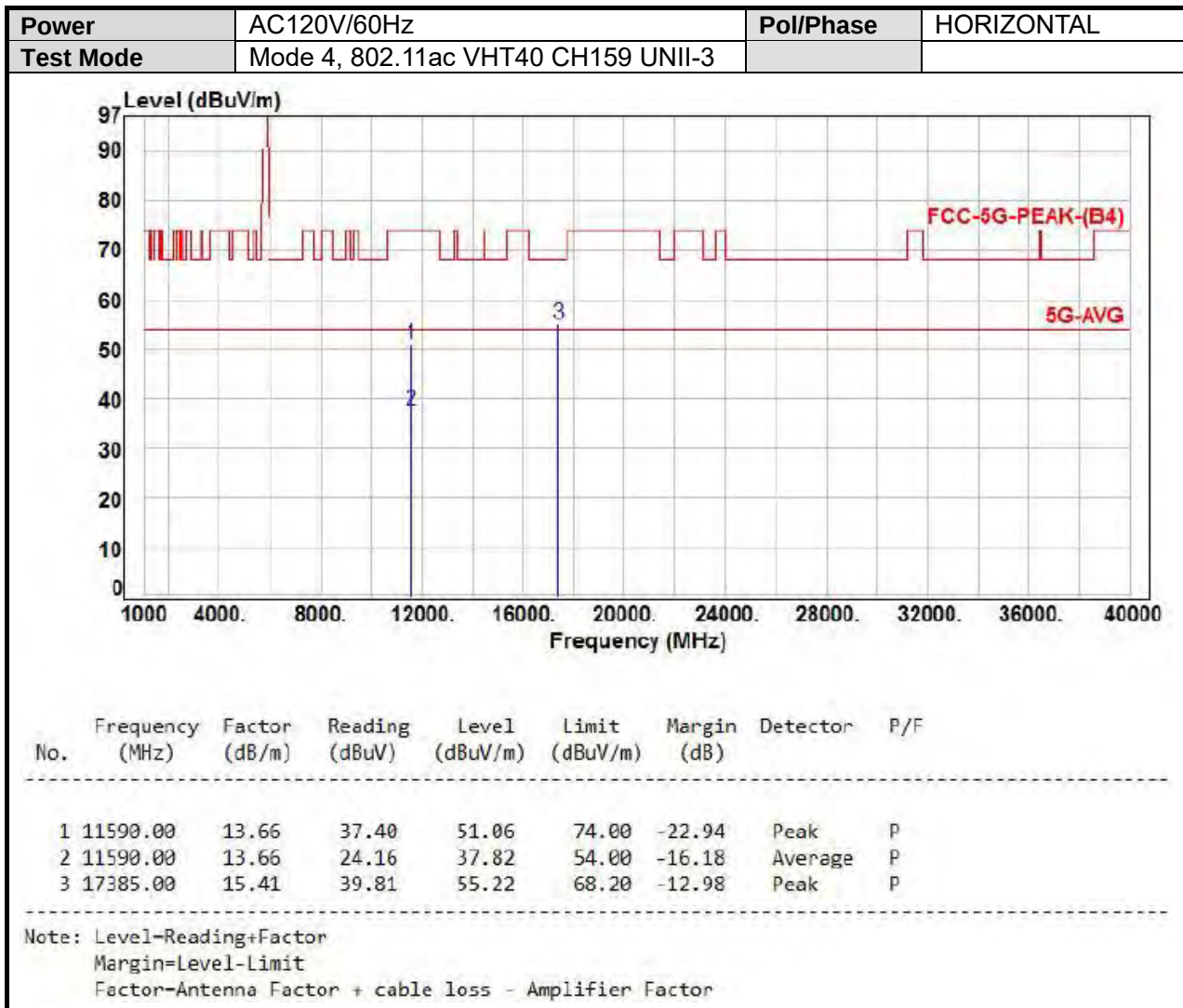


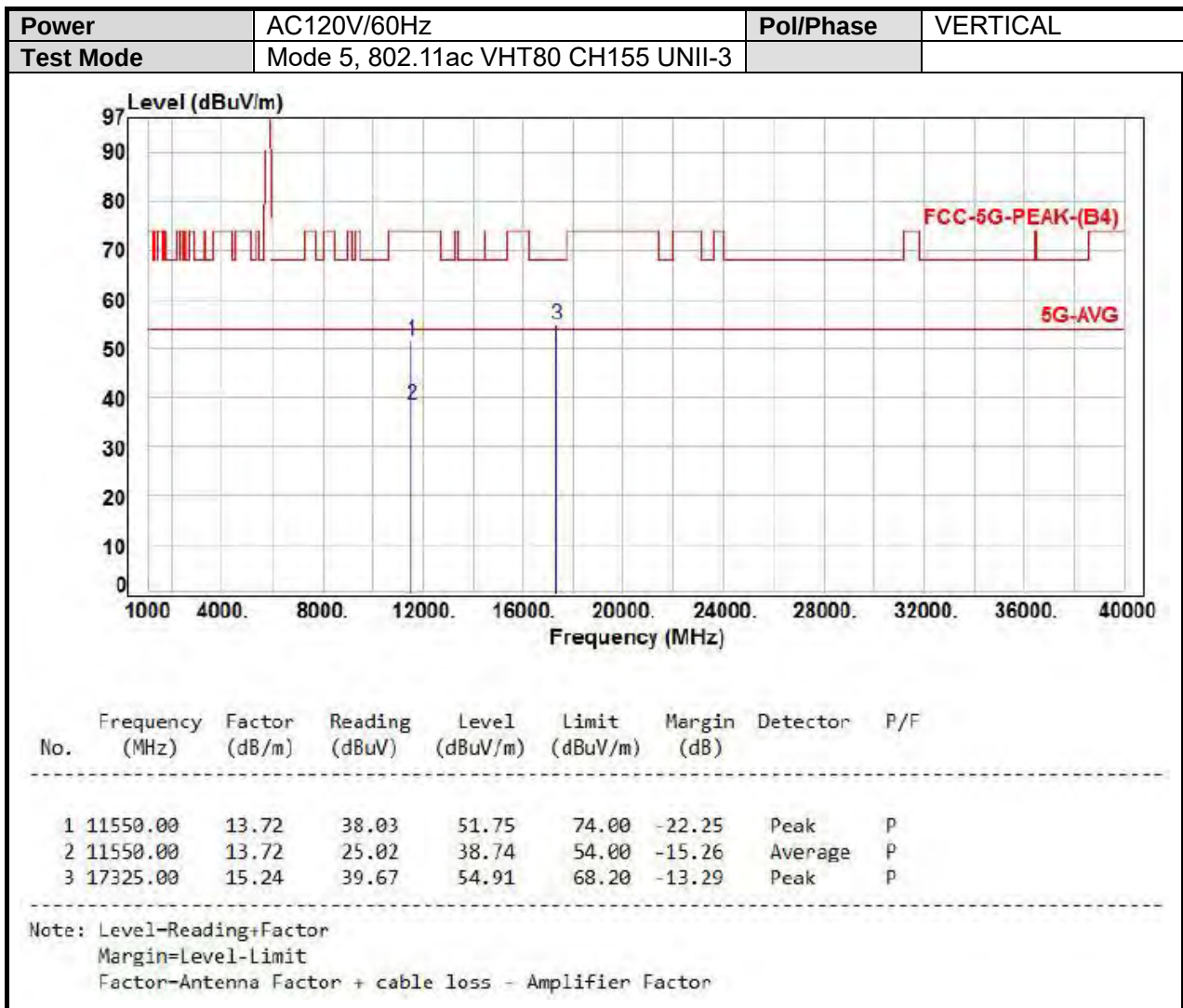


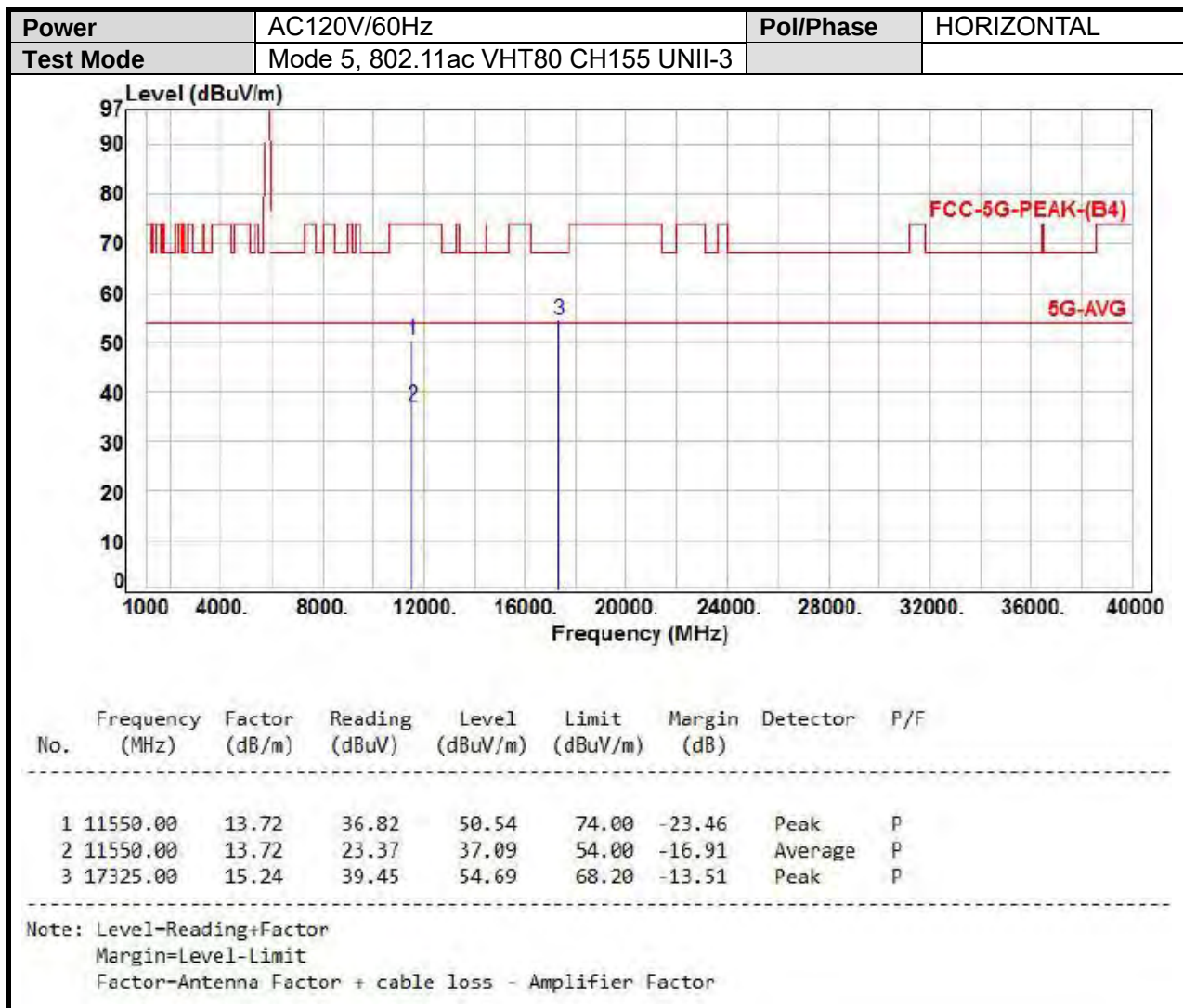














6.7. Restricted Bands of Operation

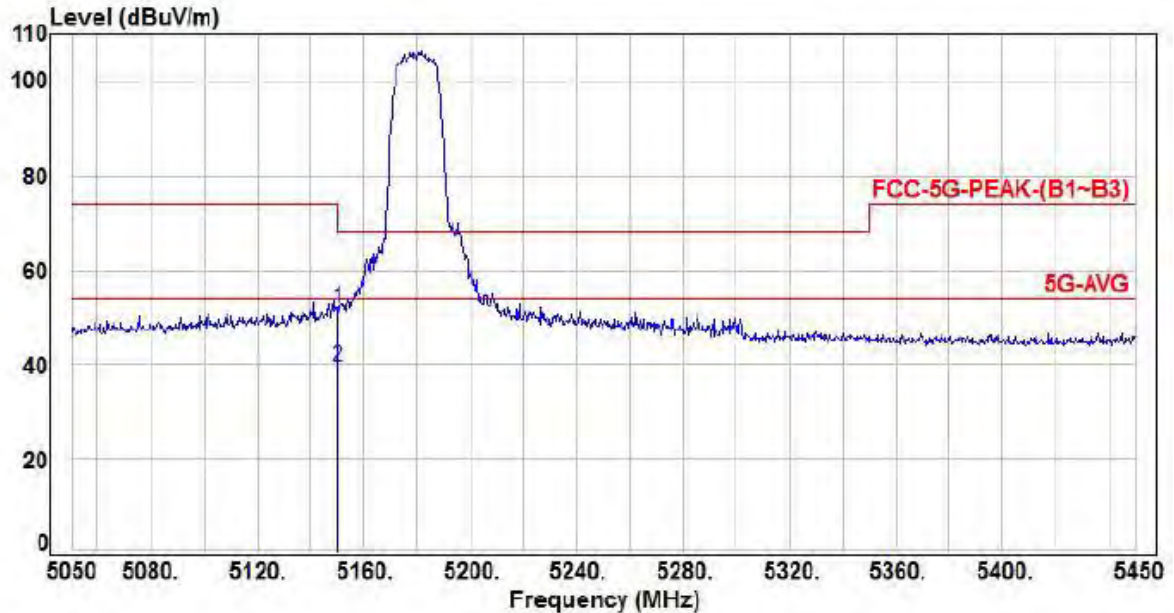
Only spurious emissions are permitted in any of the frequency bands listed below:

MHz	MHz	MHz	GHz
0.09000 – 0.11000	16.42000 – 16.42300	399.9 – 410.0	4.500 – 5.150
0.49500 – 0.505**	16.69475 – 16.69525	608.0 – 614.0	5.350 – 5.460
2.17350 – 2.19050	16.80425 – 16.80475	960.0 – 1240.0	7.250 – 7.750
4.12500 – 4.12800	25.50000 – 25.67000	1300.0 – 1427.0	8.025 – 8.500
4.17725 – 4.17775	37.50000 – 38.25000	1435.0 – 1626.5	9.000 – 9.200
4.20725 – 4.20775	73.00000 – 74.60000	1645.5 – 1646.5	9.300 – 9.500
6.21500 – 6.21800	74.80000 – 75.20000	1660.0 – 1710.0	10.600 – 12.700
6.26775 – 6.26825	108.00000 – 121.94000	1718.8 – 1722.2	13.250 – 13.400
6.31175 – 6.31225	123.00000 – 138.00000	2200.0 – 2300.0	14.470 – 14.500
8.29100 – 8.29400	149.90000 – 150.05000	2310.0 – 2390.0	15.350 – 16.200
8.36200 – 8.36600	156.52475 – 156.52525	2483.5 – 2500.0	17.700 – 21.400
8.37625 – 8.38675	156.70000 – 156.90000	2655.0 – 2900.0	22.010 – 23.120
8.41425 – 8.41475	162.01250 – 167.17000	3260.0 – 3267.0	23.600 – 24.000
12.29000 – 12.29300	167.72000 – 173.20000	3332.0 – 3339.0	31.200 – 31.800
12.51975 – 12.52025	240.00000 – 285.00000	3345.8 – 3358.0	36.430 – 36.500
12.57675 – 12.57725	322.00000 – 335.40000	3600.0 – 4400.0	Above 38.6
13.36000 – 13.41000			

** : Until February 1, 1999, this restricted band shall be 0.490-0.510 MHz

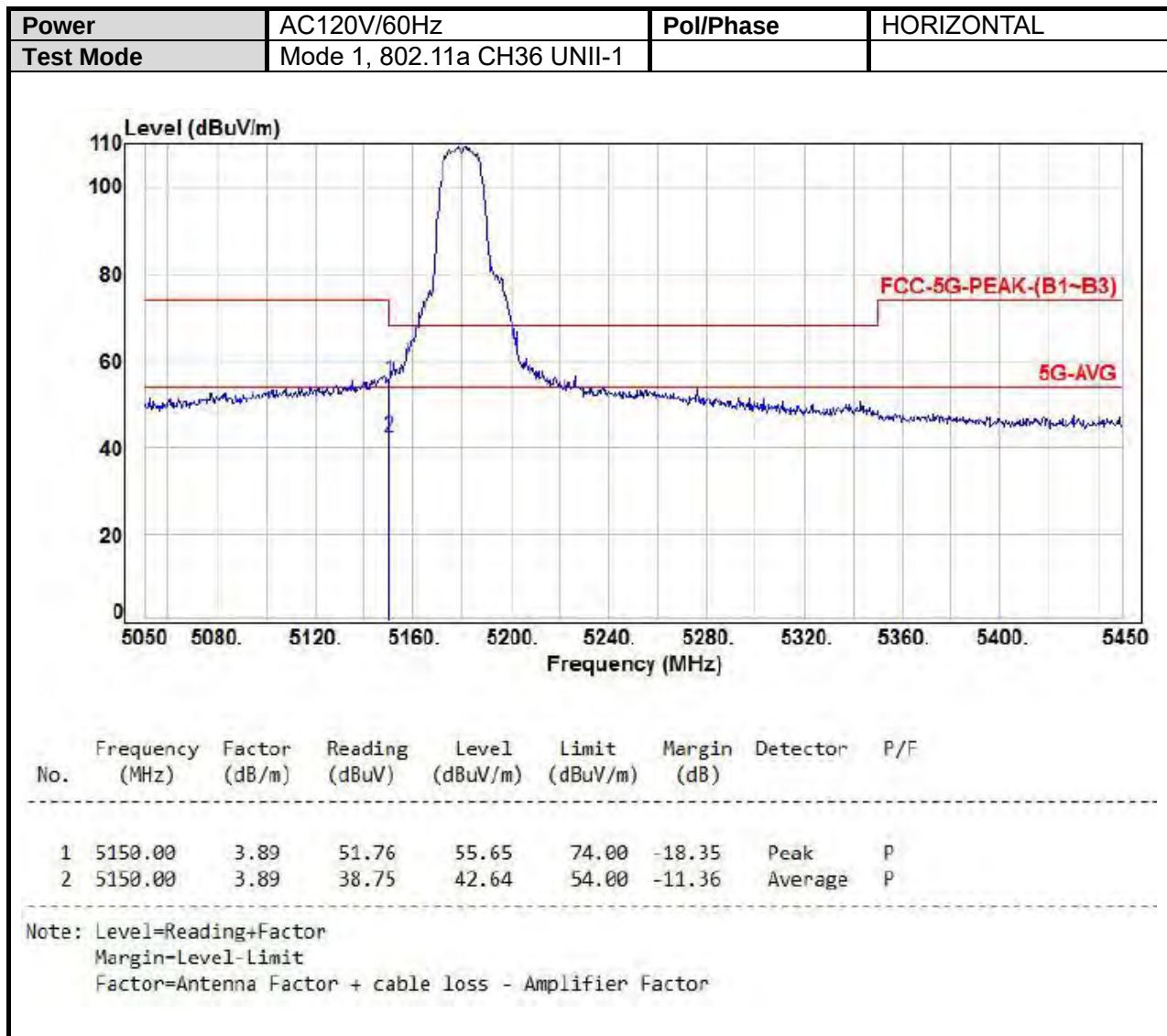
SISO-Ant A
UNII-1

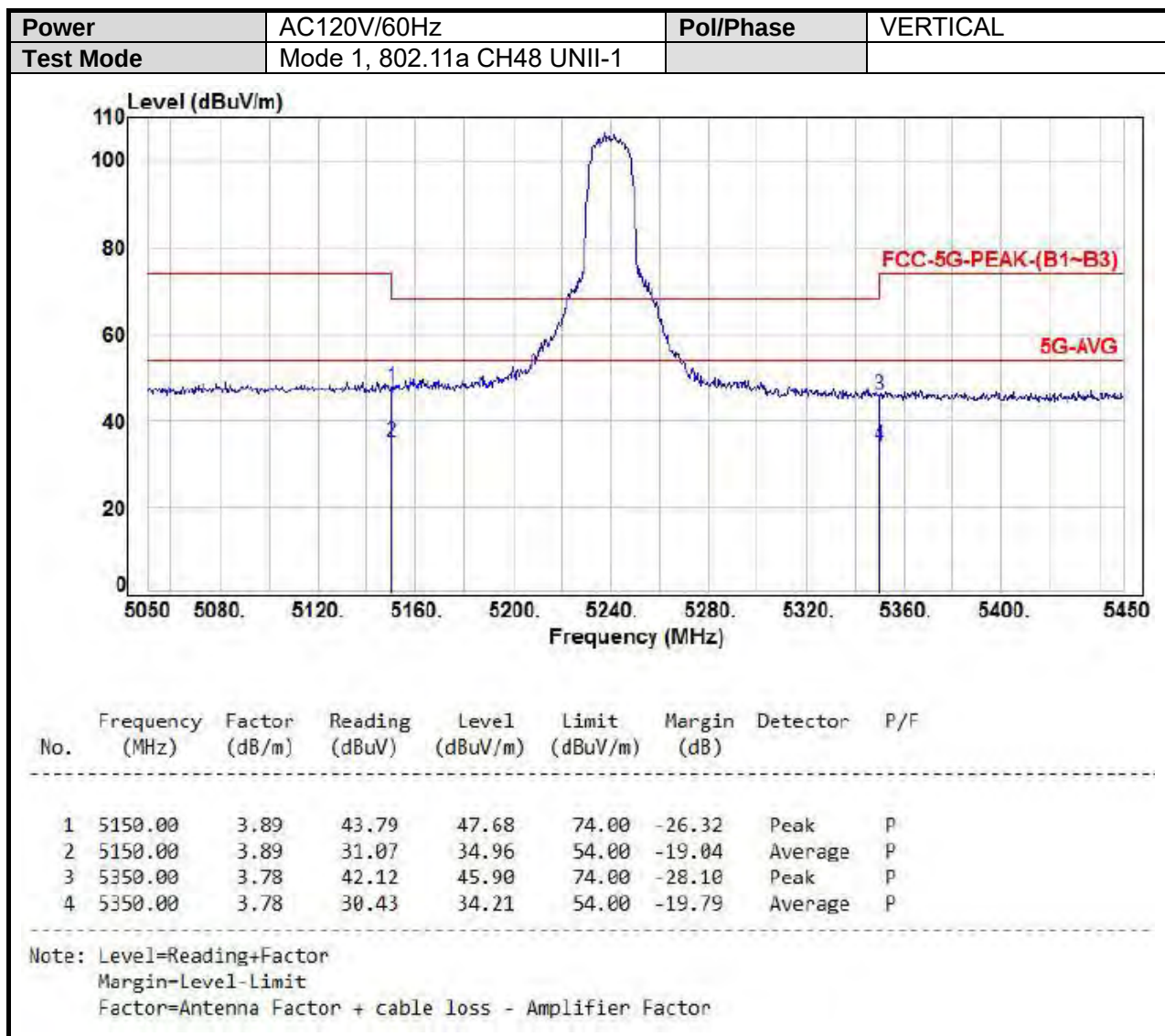
Power	AC120V/60Hz	Pol/Phase	VERTICAL
Test Mode	Mode 1, 802.11a CH36 UNII-1		

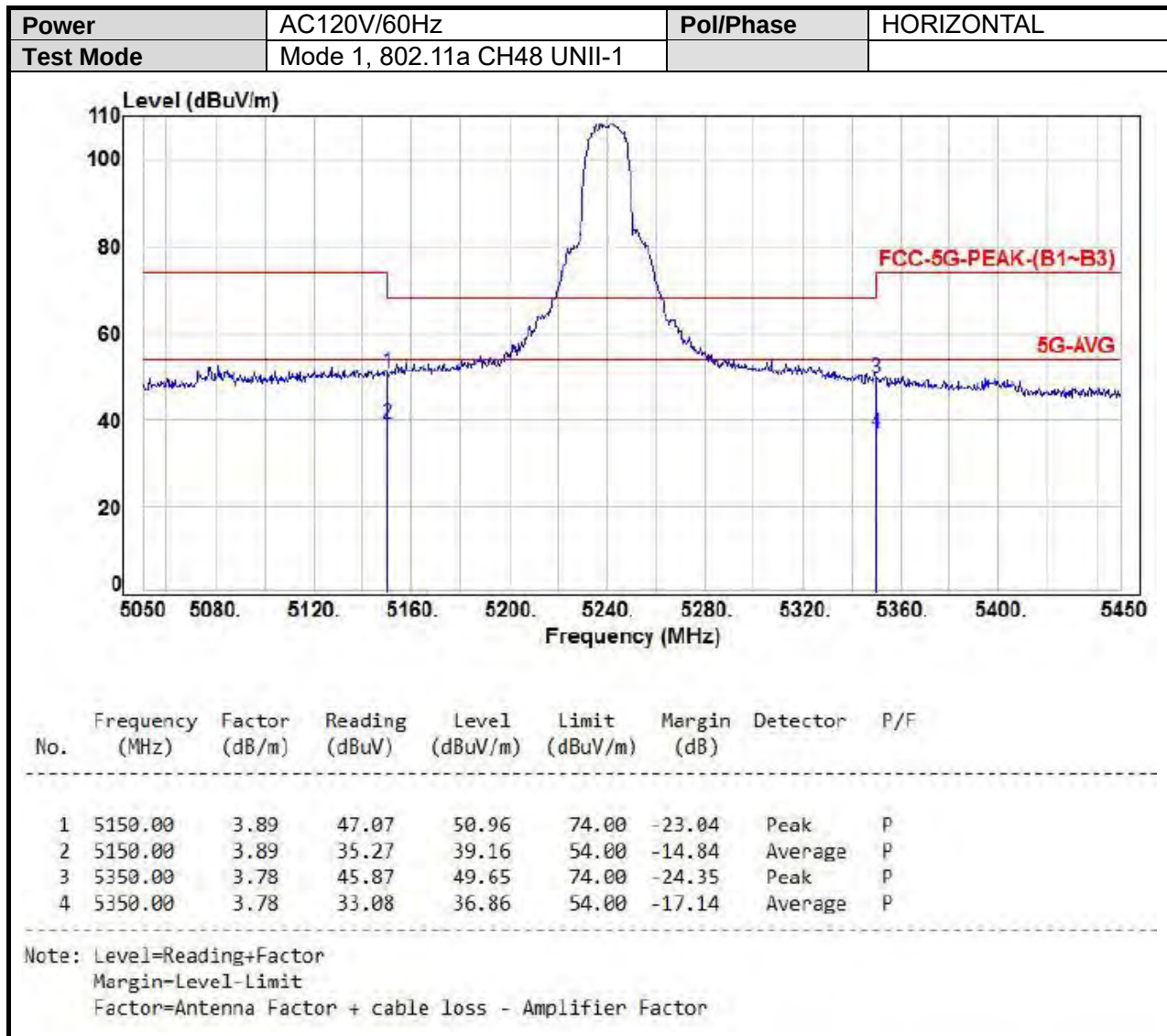


No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	P/F
1	5150.00	3.89	47.97	51.86	74.00	-22.14	Peak	P
2	5150.00	3.89	35.50	39.39	54.00	-14.61	Average	P

Note: Level=Reading+Factor
Margin=Level-Limit
Factor=Antenna Factor + cable loss - Amplifier Factor

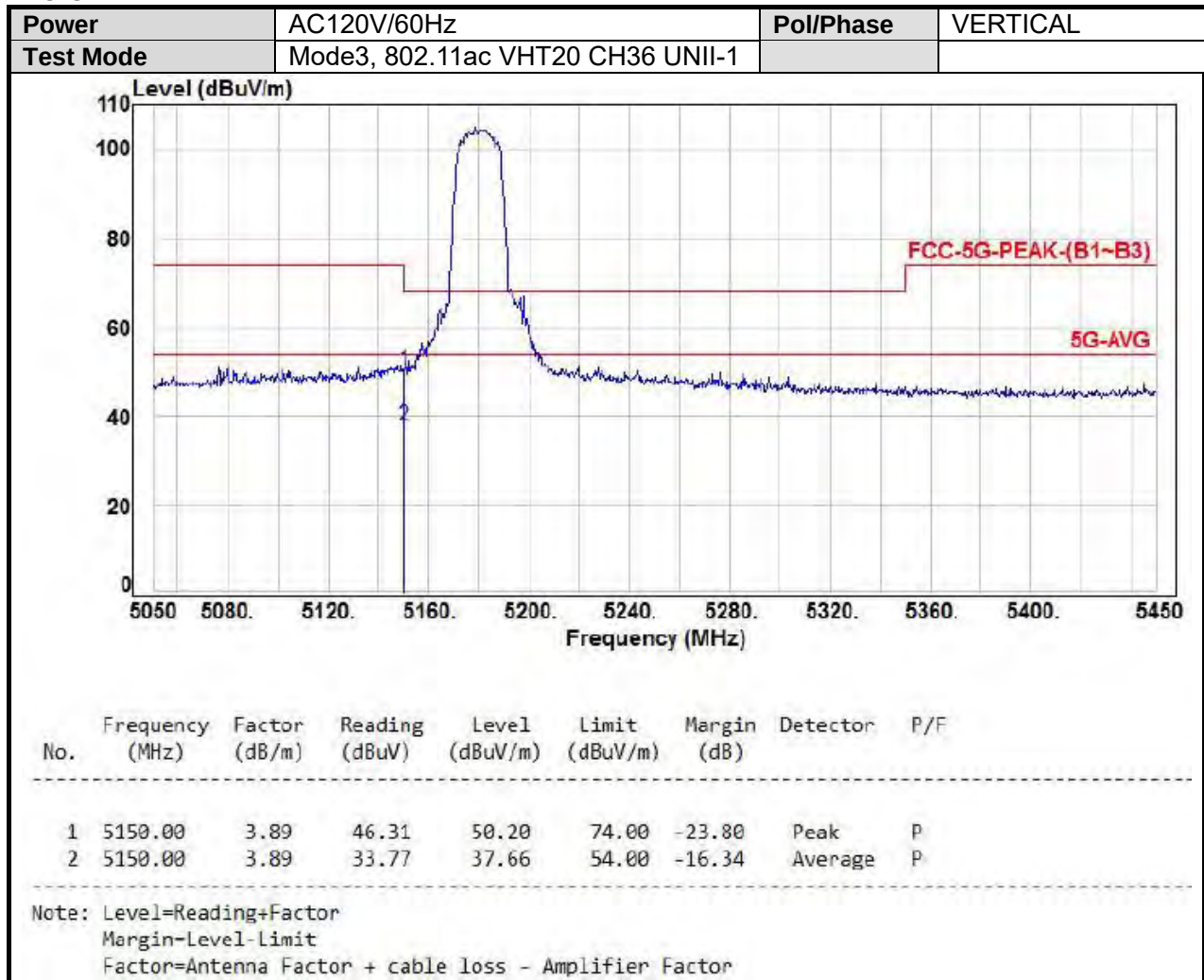


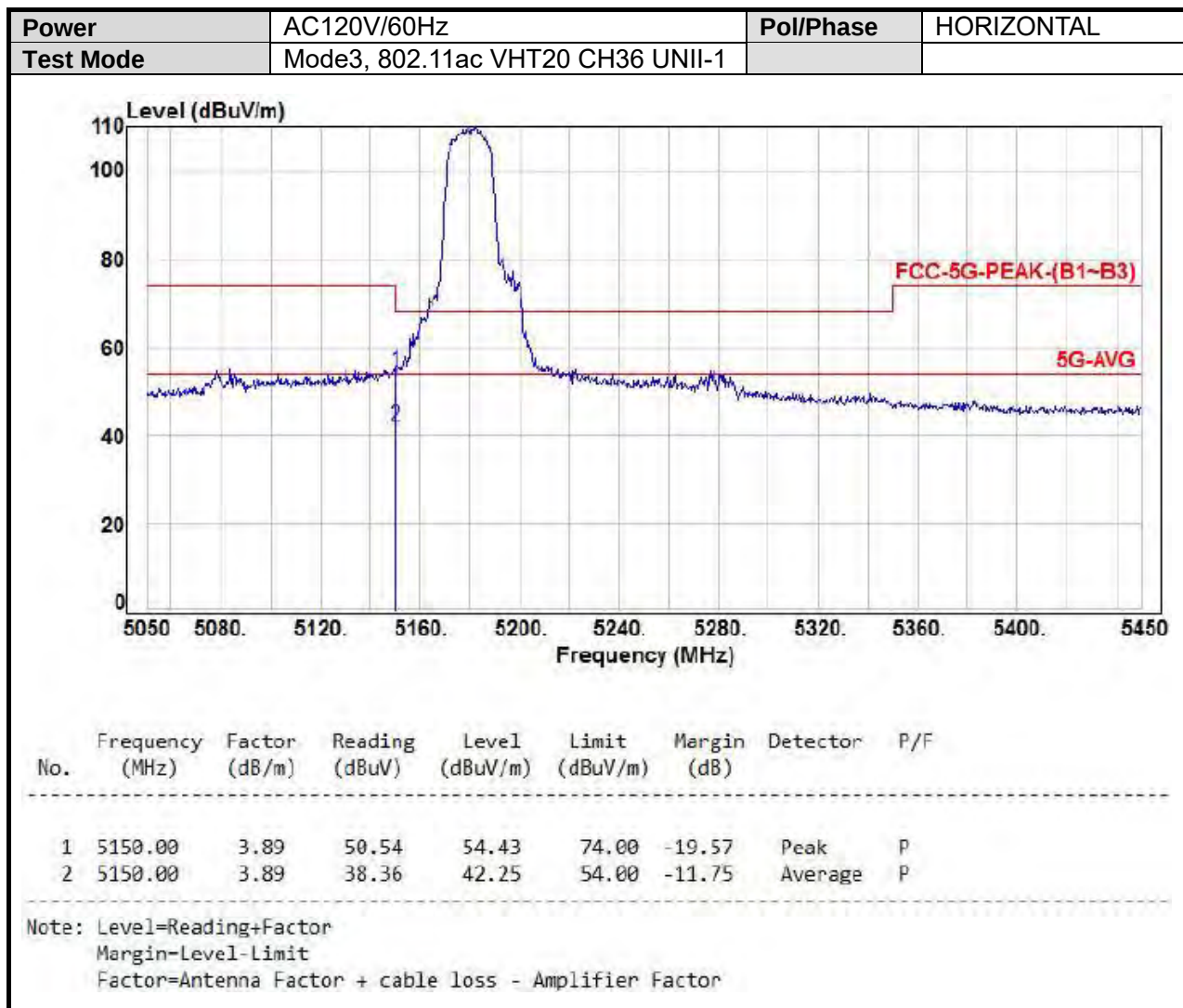


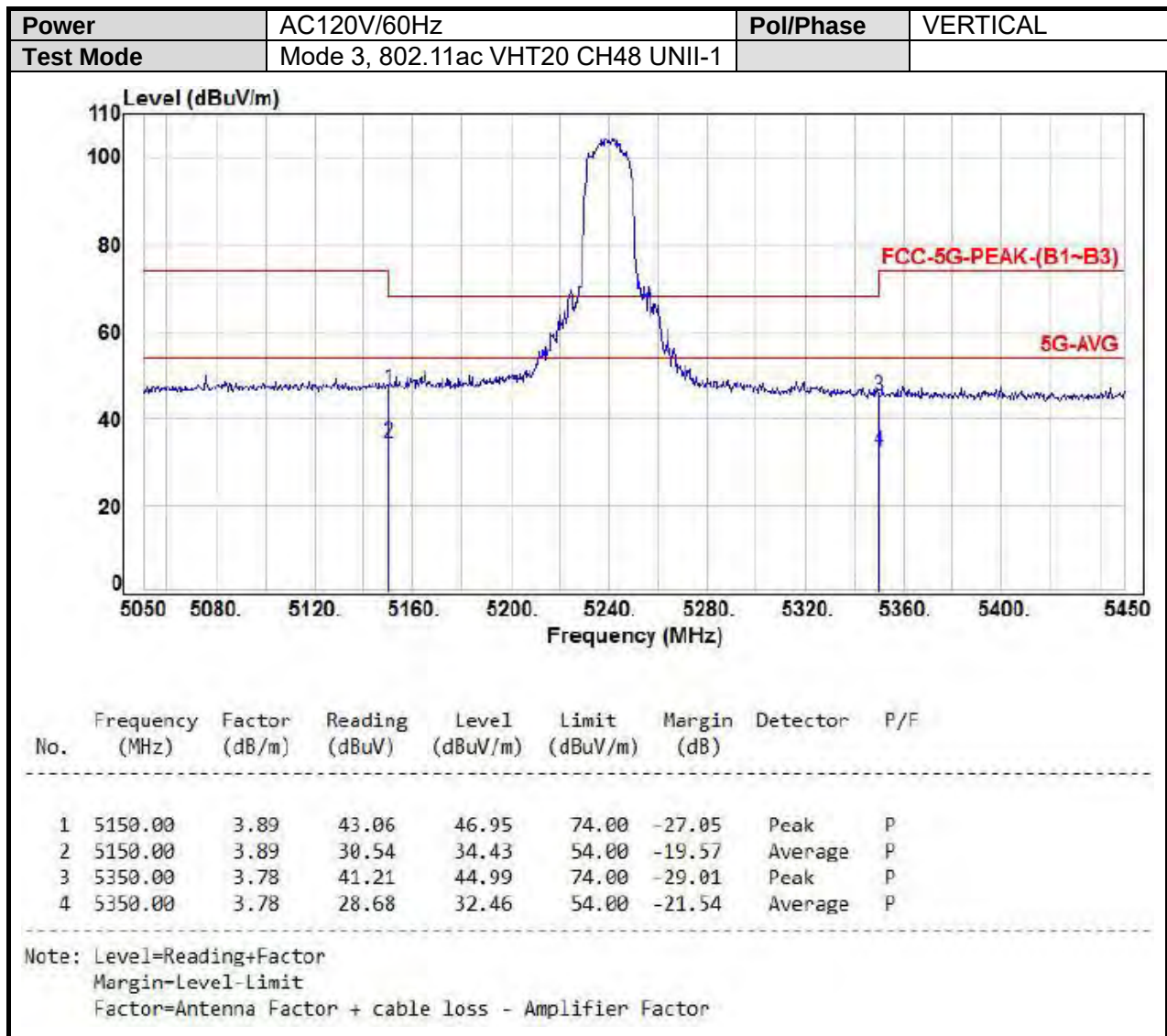


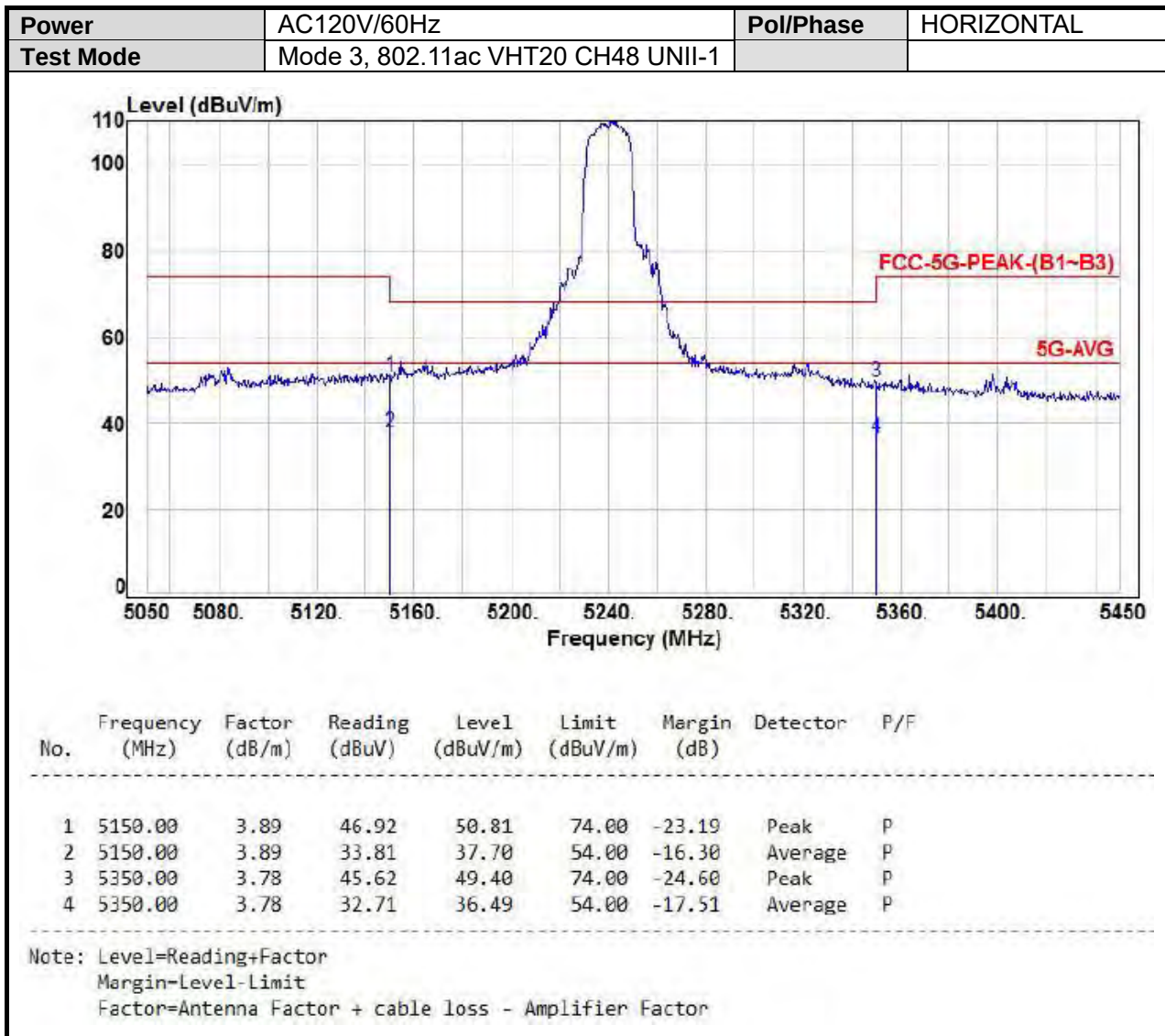


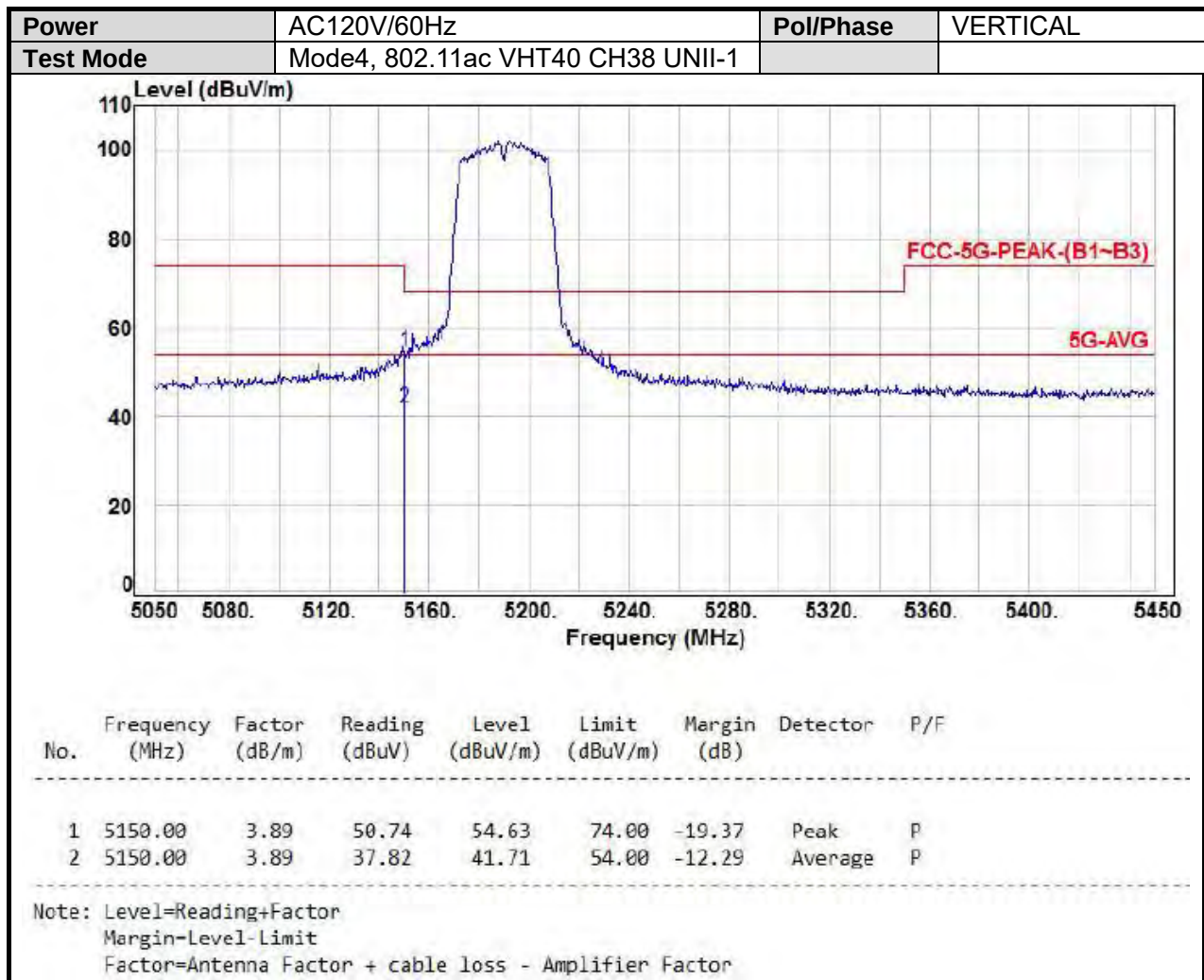
MIMO-UNII-1

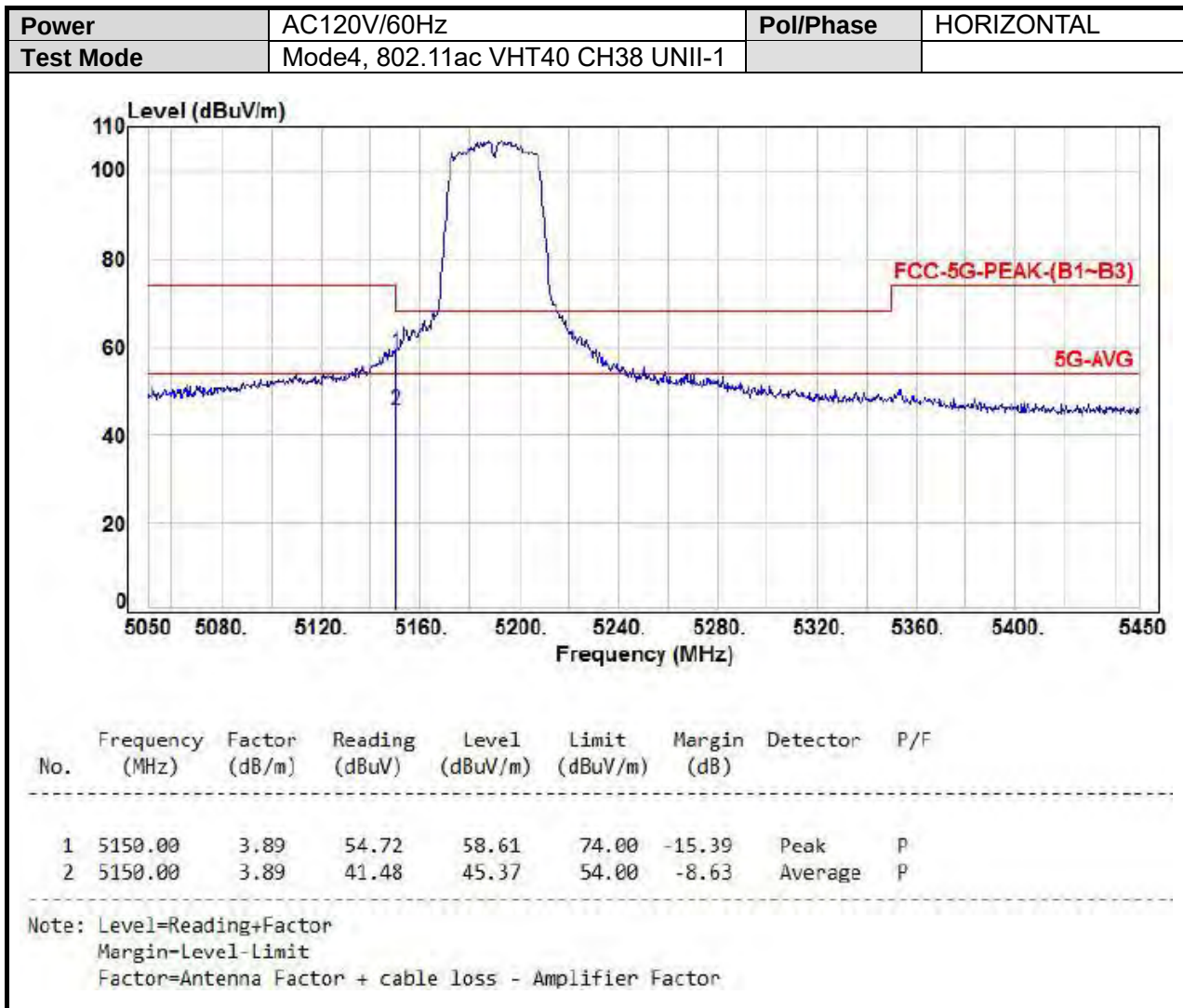


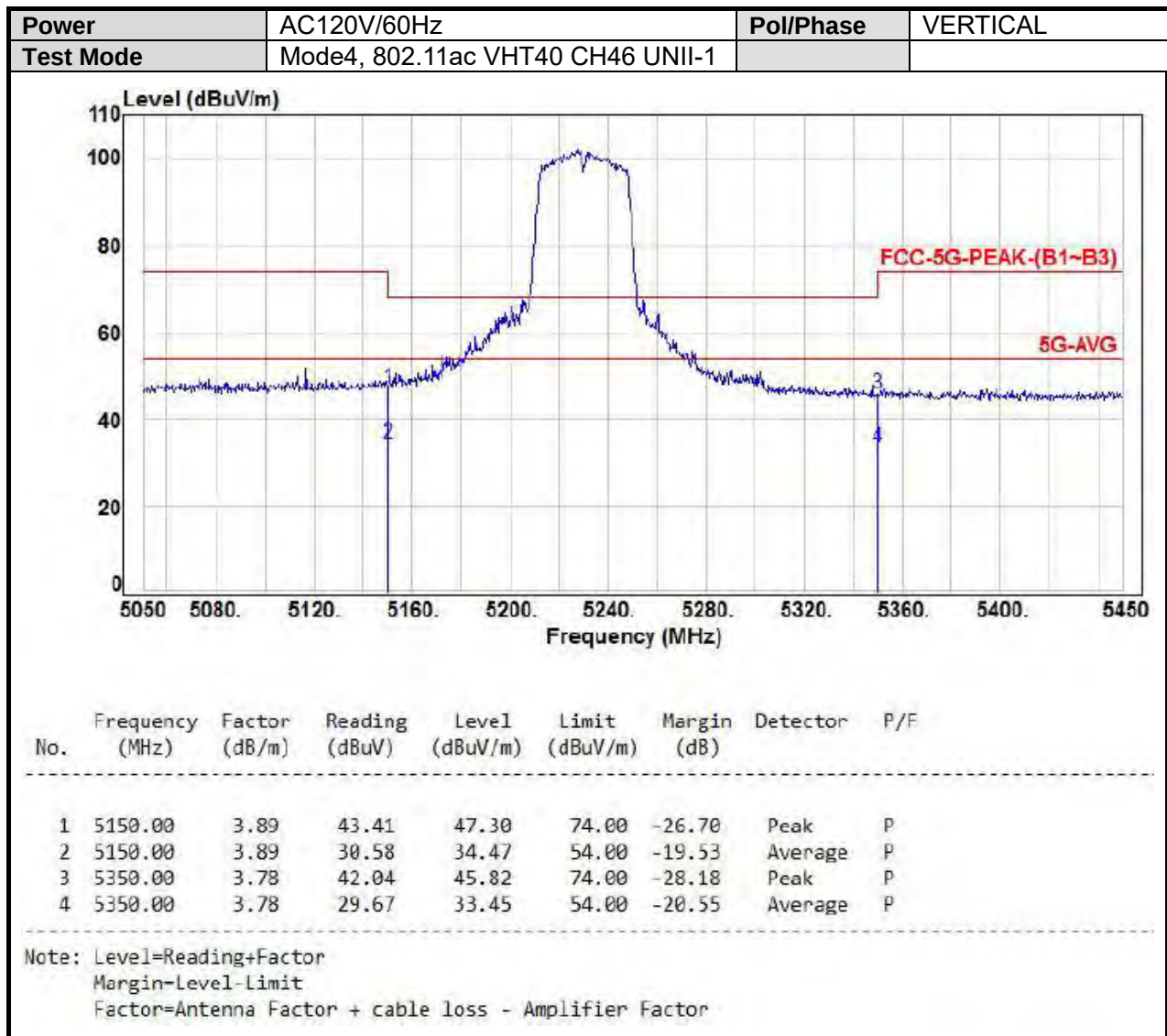


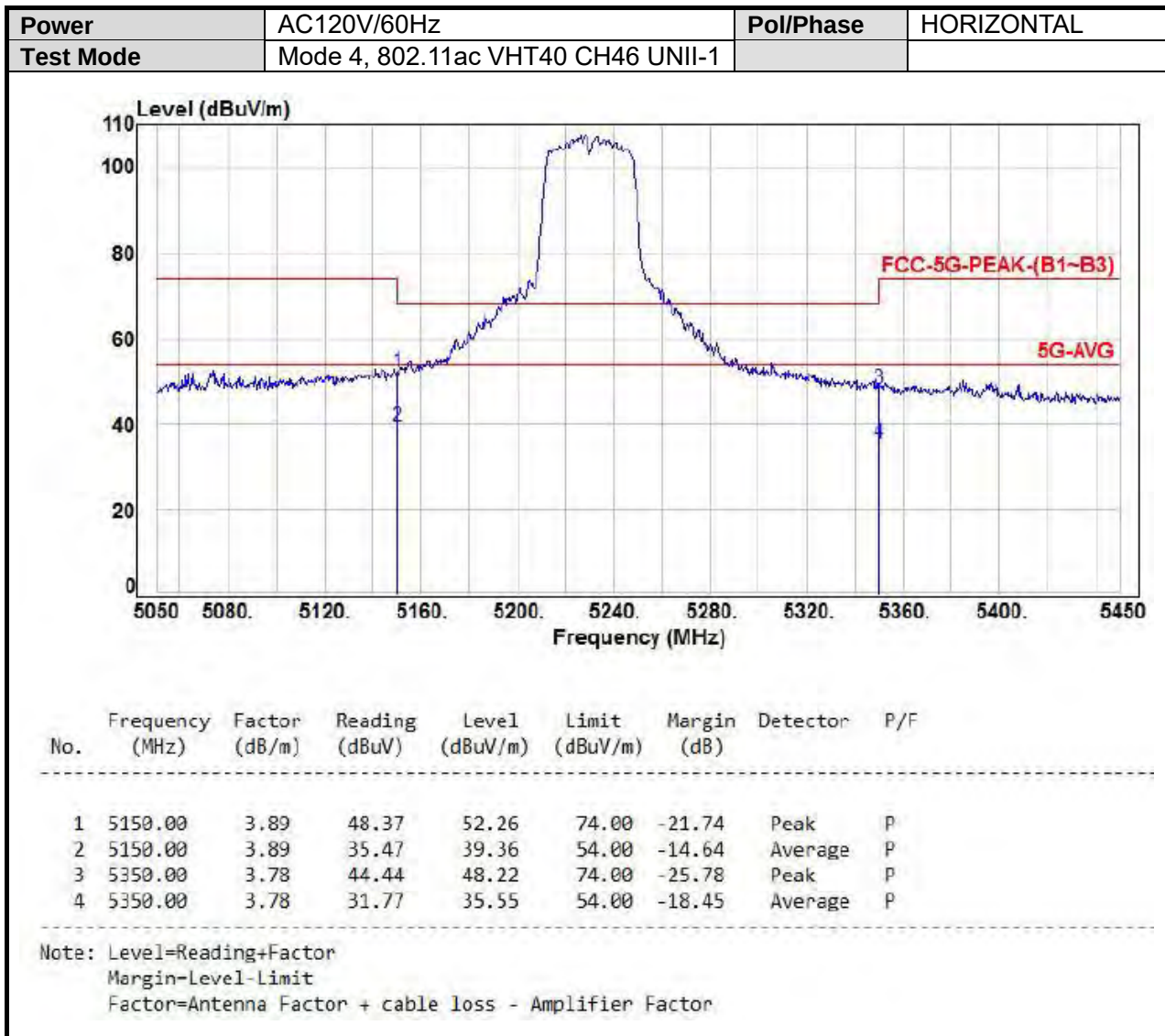


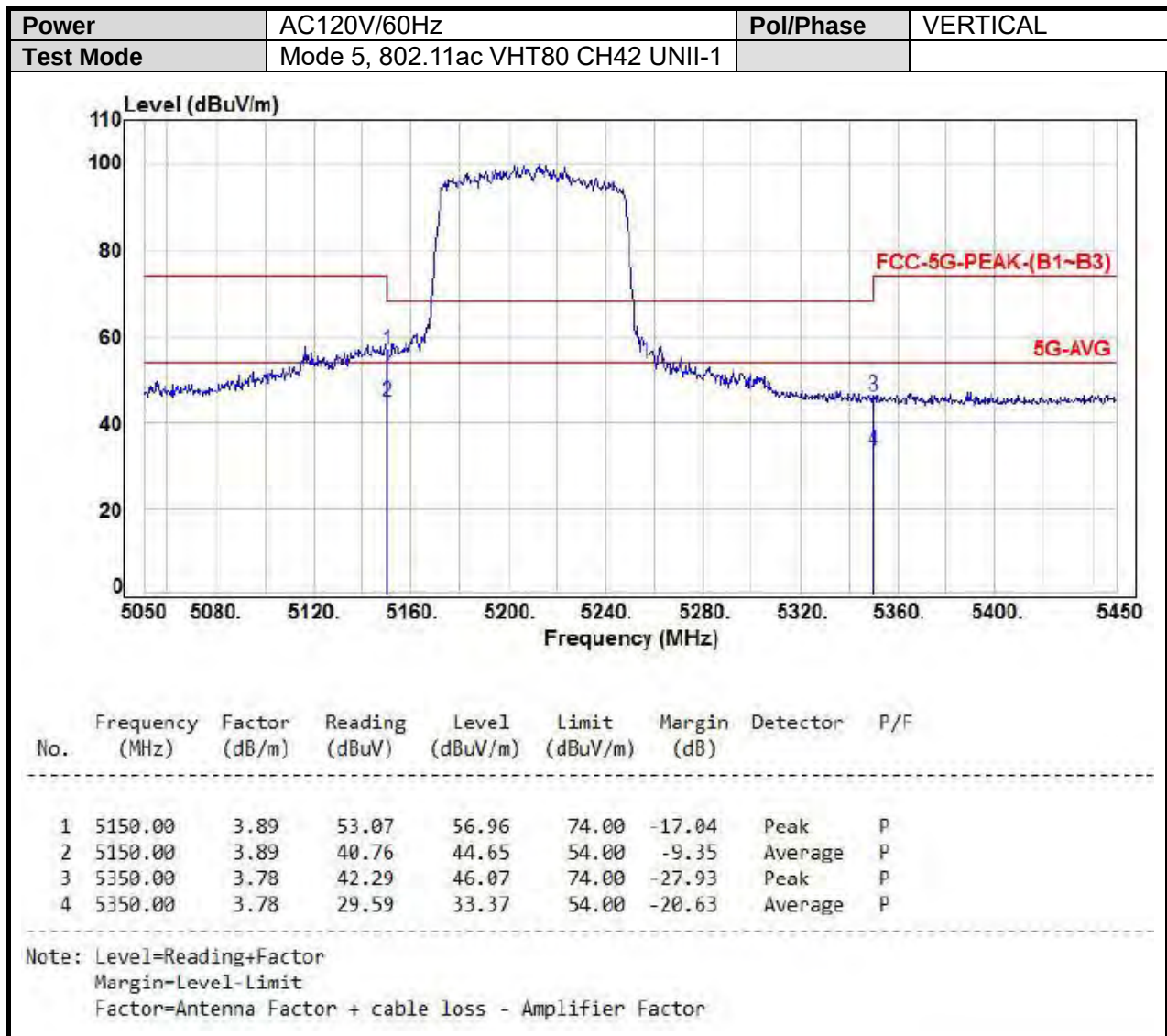


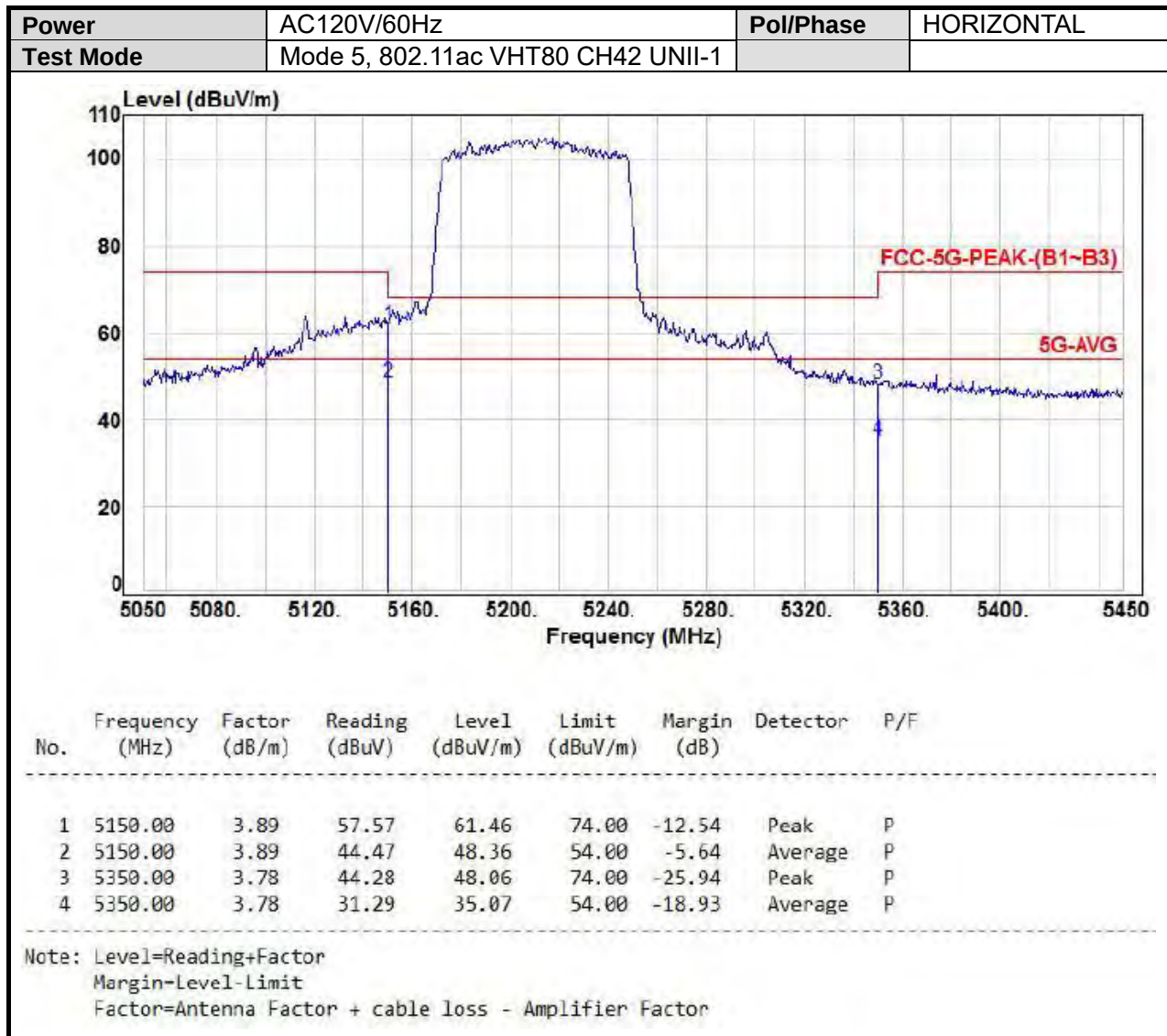










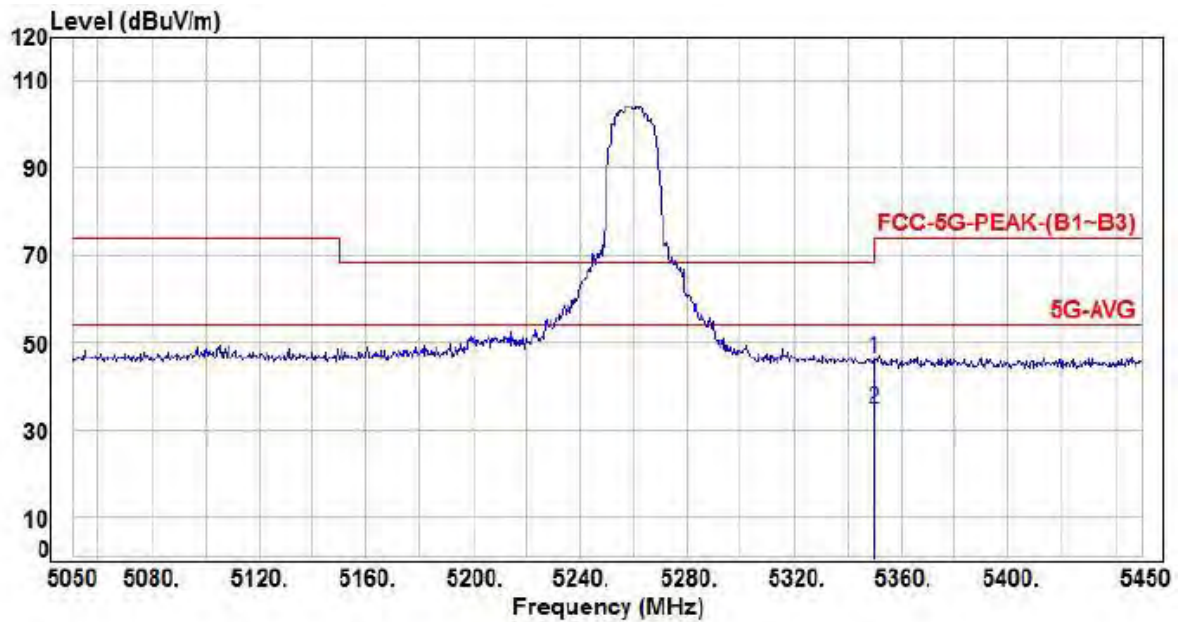




SISO-Ant A

UNII-2A

Power	AC120V/60Hz	Pol/Phase	VERTICAL
Test Mode	Mode 1, 802.11a CH52 UNII-2A		

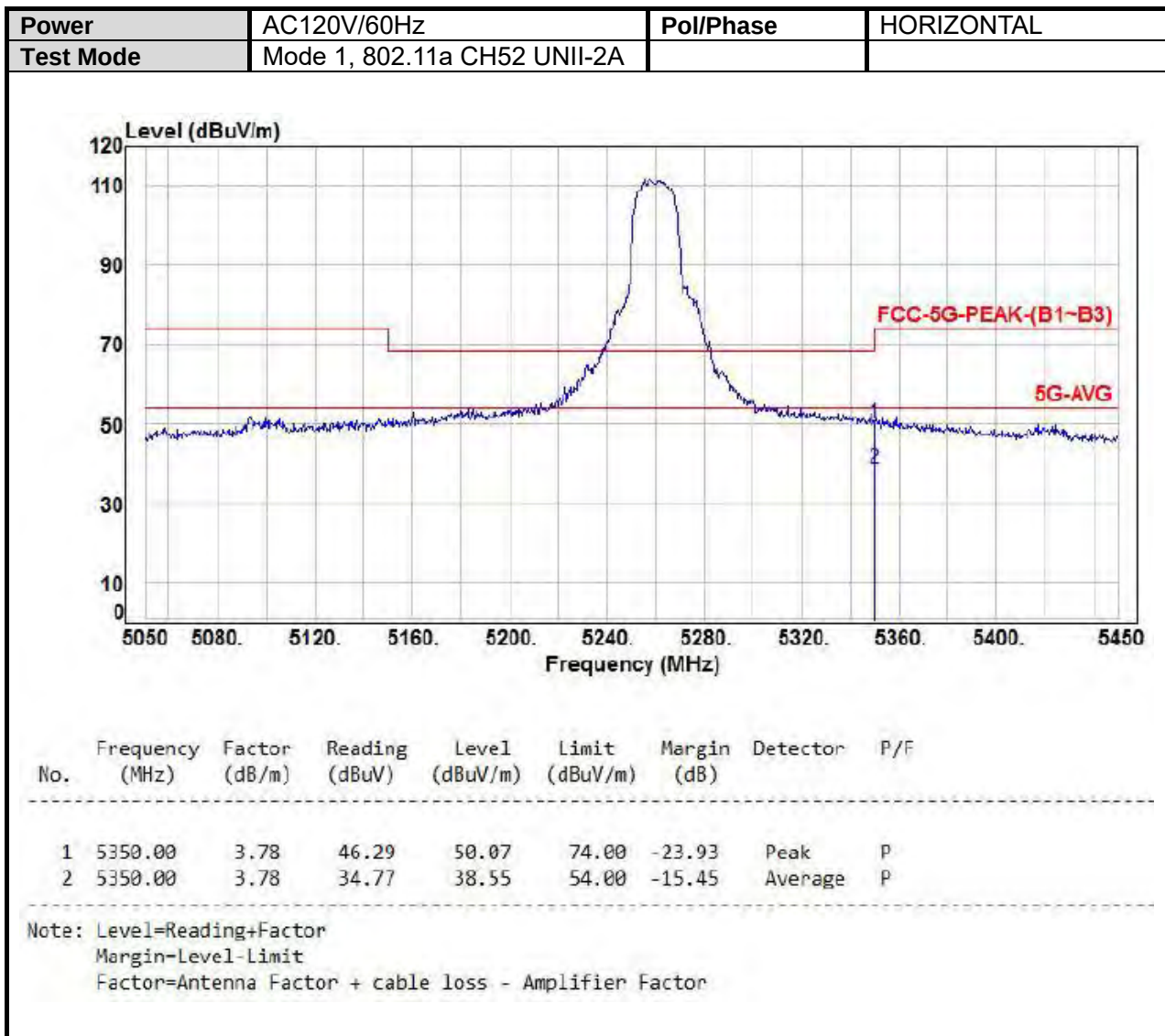


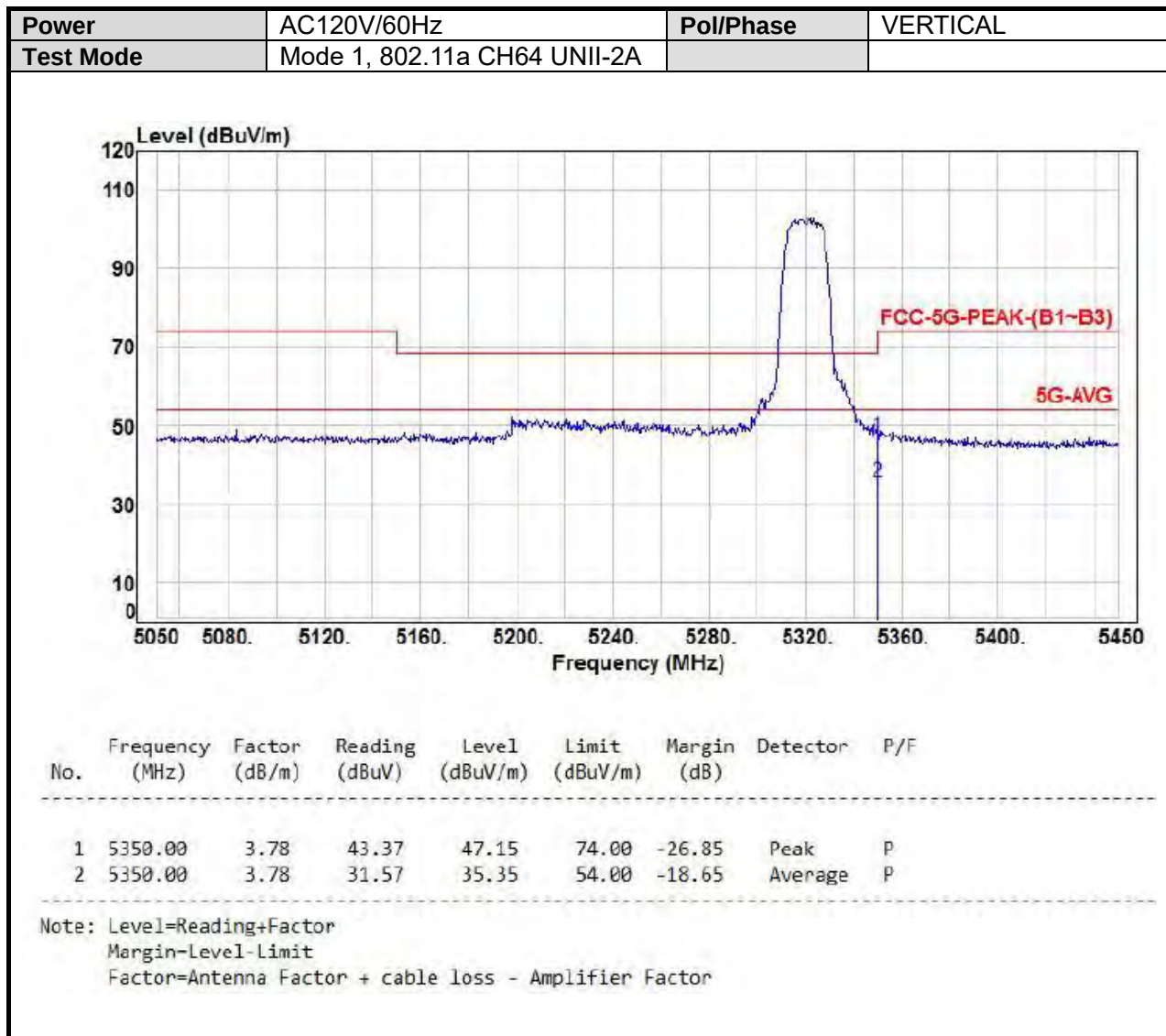
No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	P/F
1	5350.00	3.78	42.65	46.43	74.00	-27.57	Peak	P
2	5350.00	3.78	30.94	34.72	54.00	-19.28	Average	P

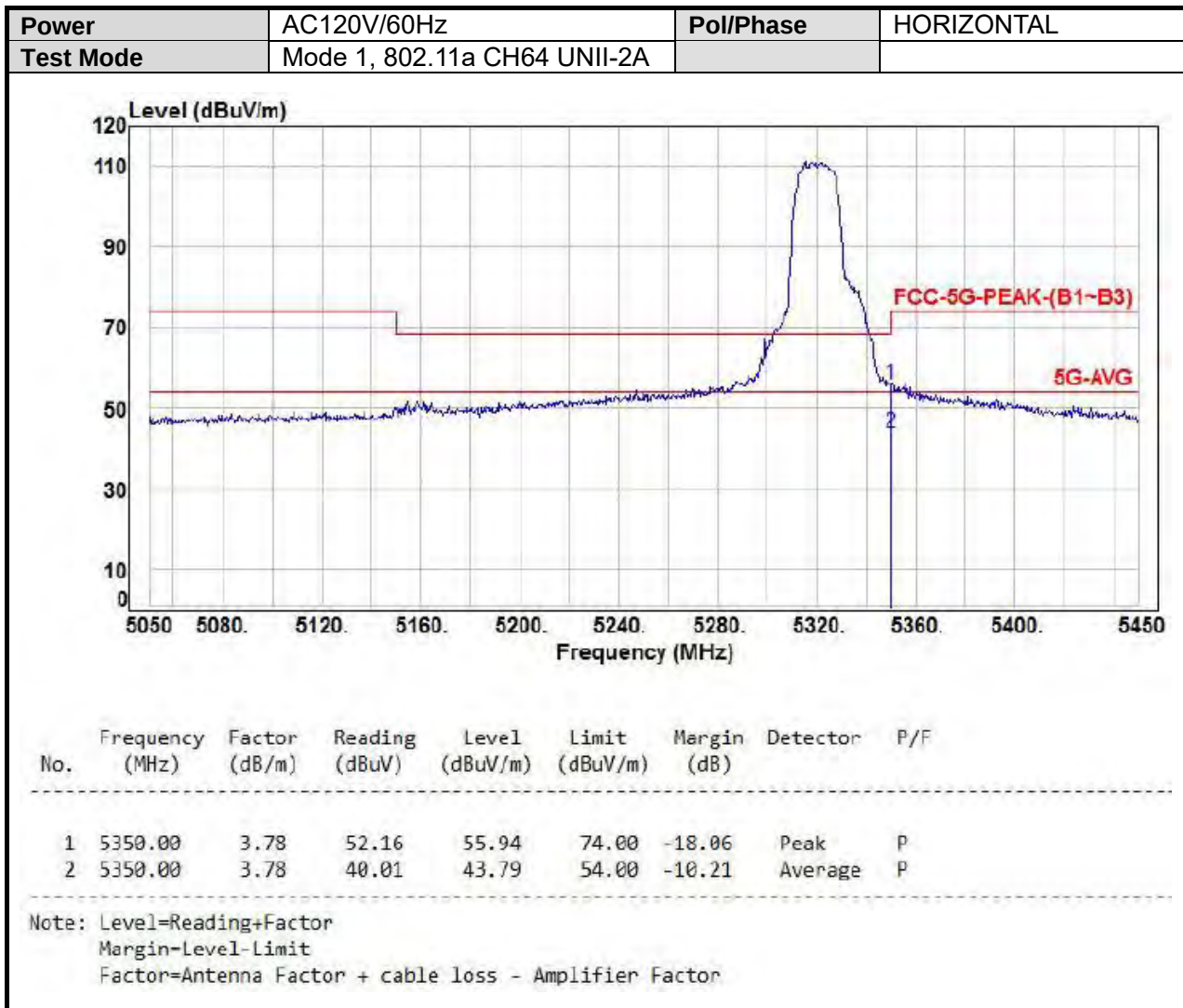
Note: Level=Reading+Factor

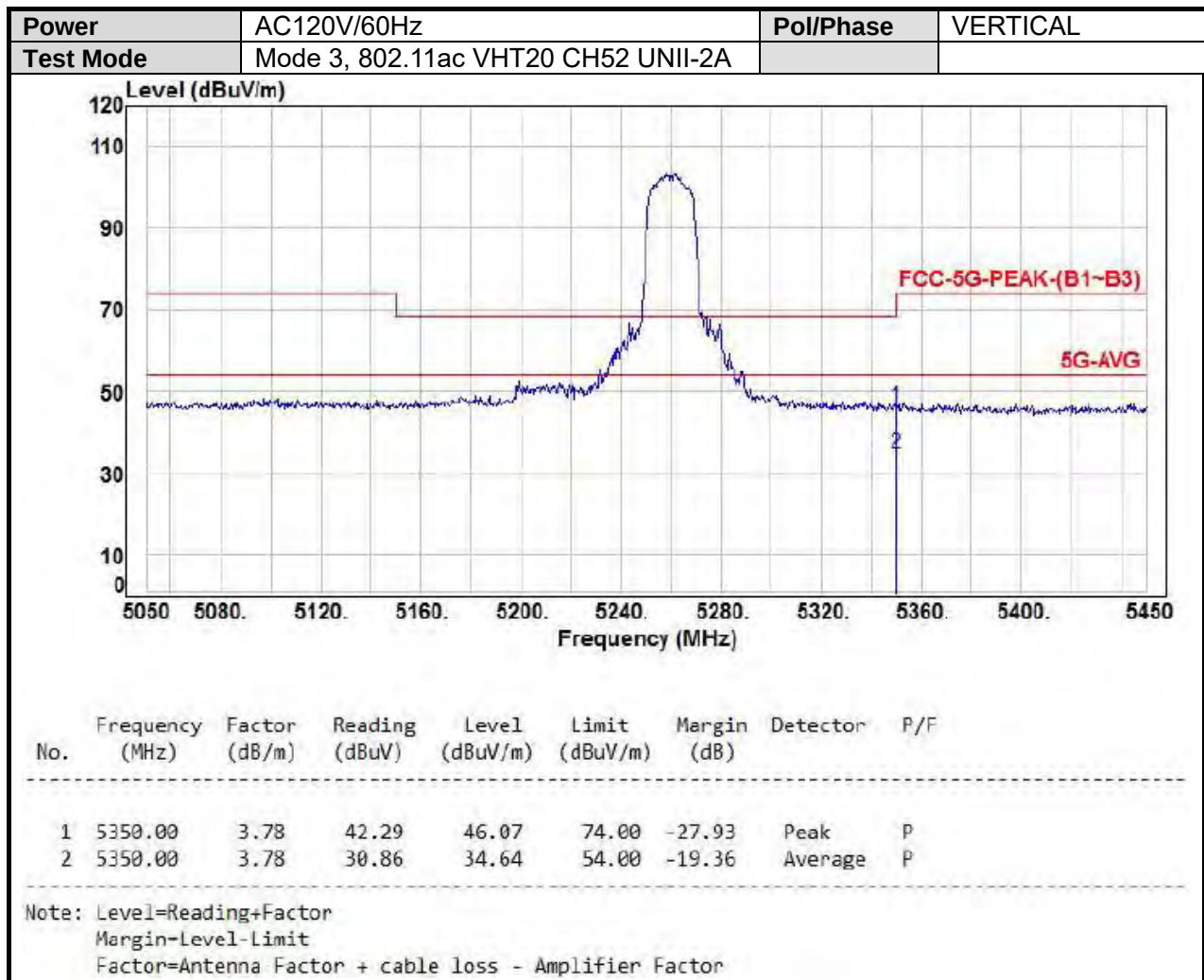
Margin=Level-limit

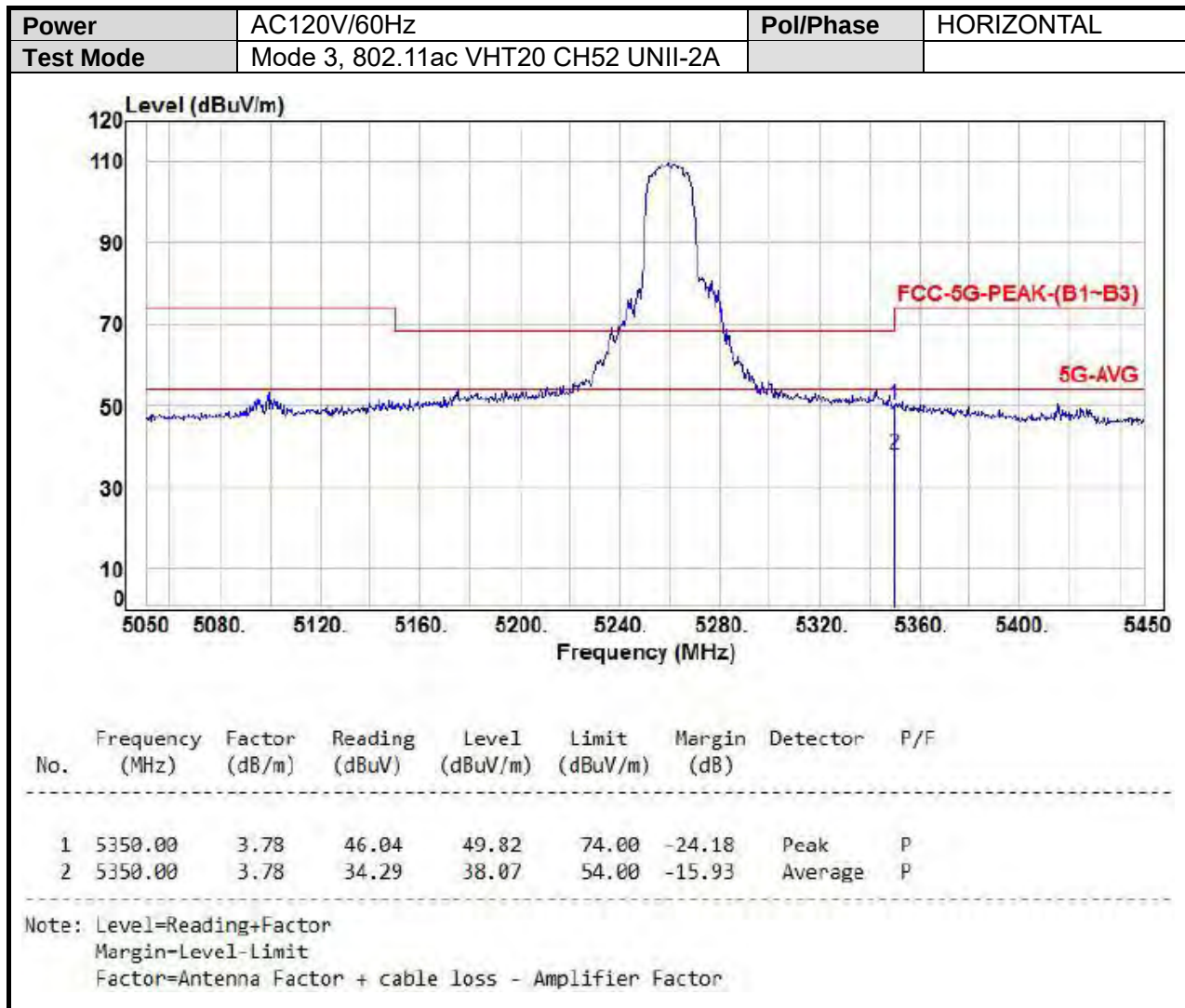
Factor=Antenna Factor + cable loss - Amplifier Factor

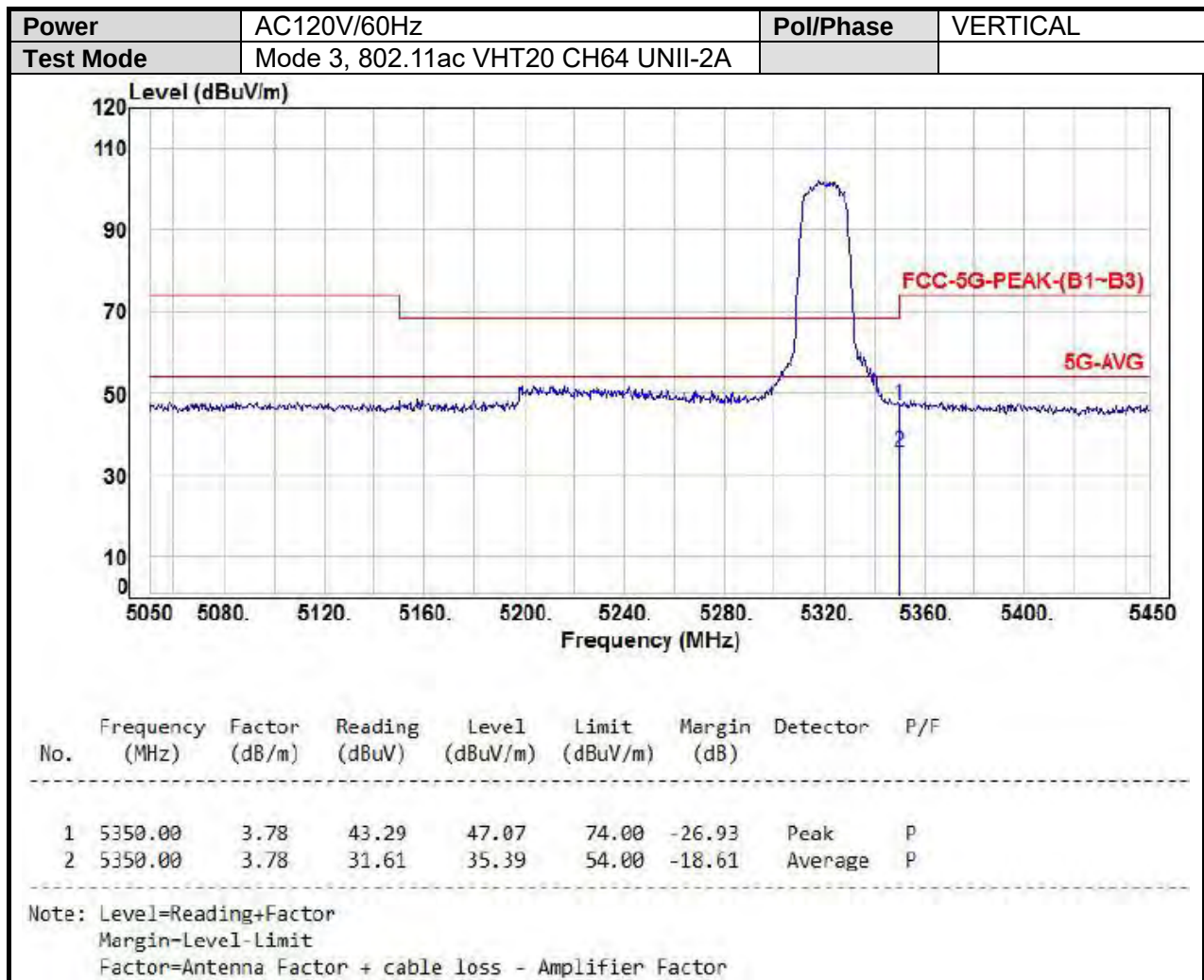


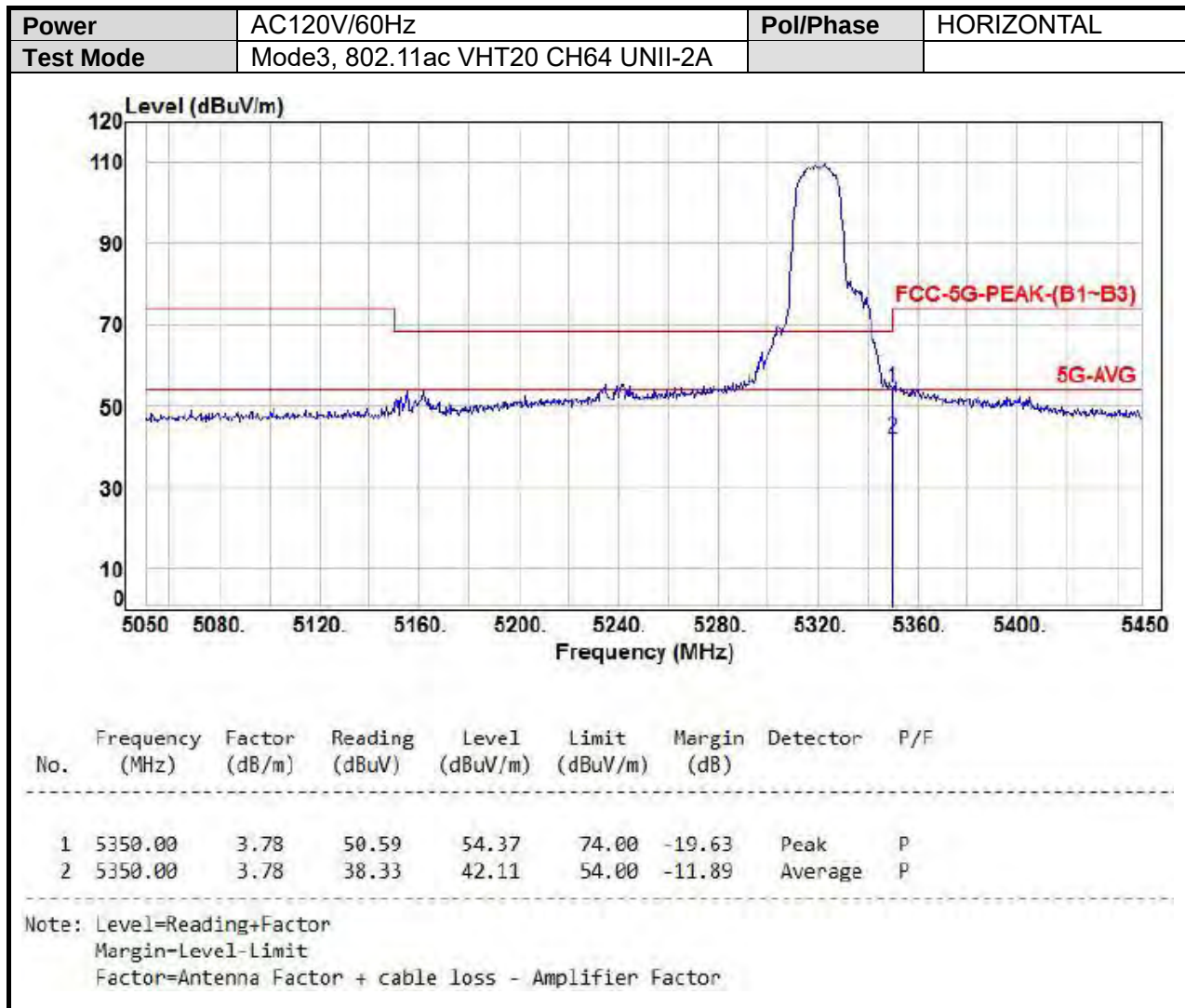


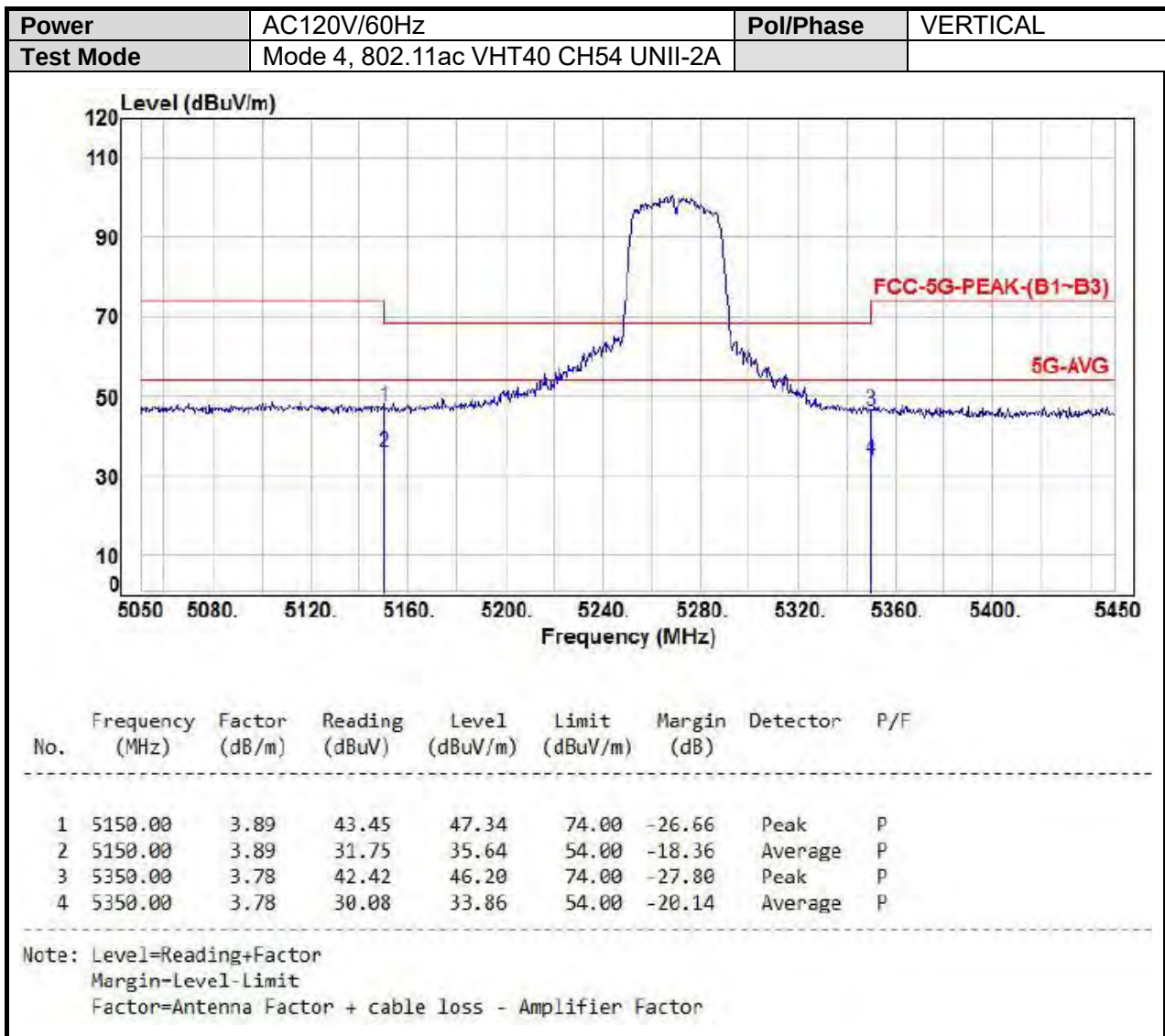


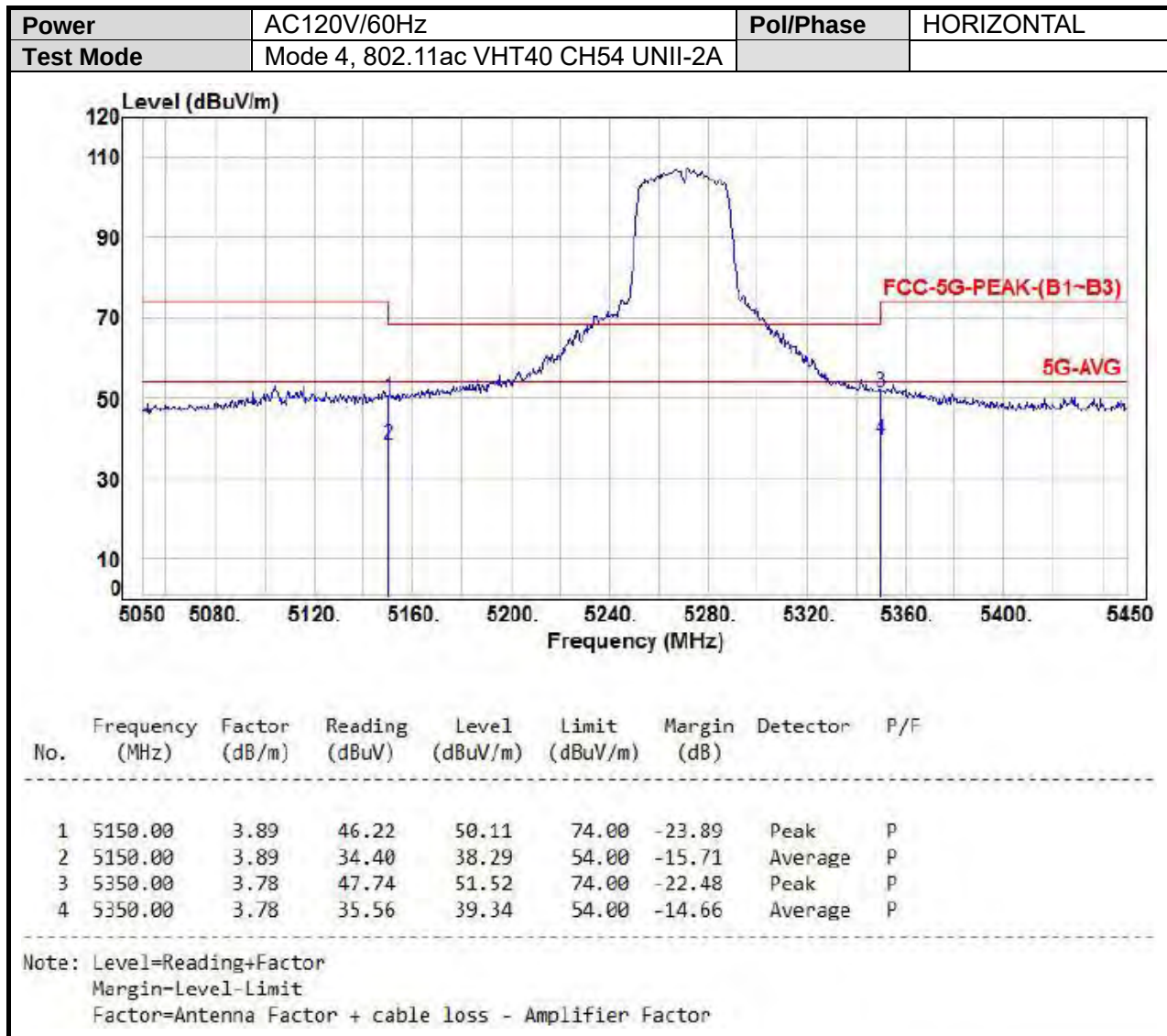


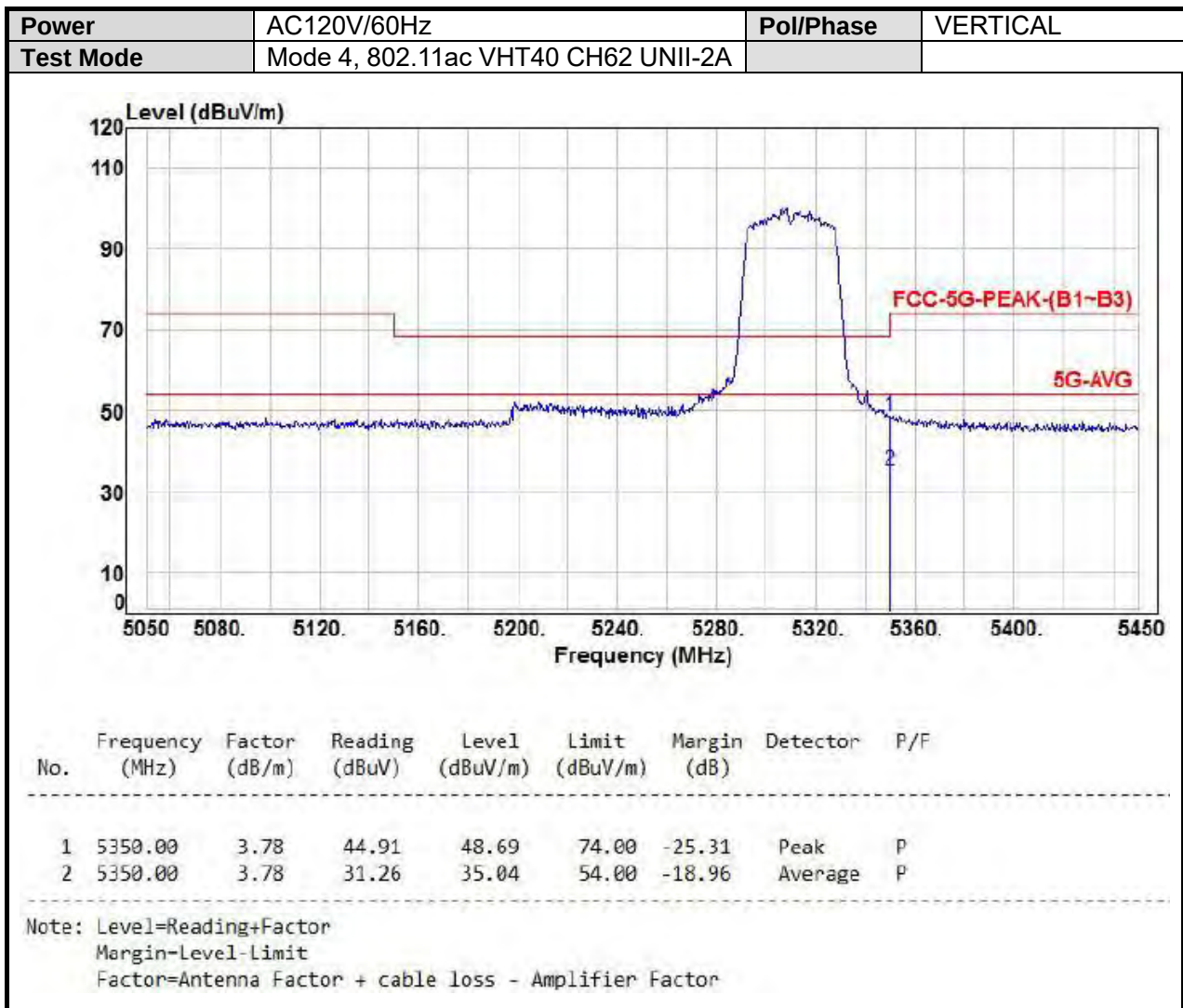


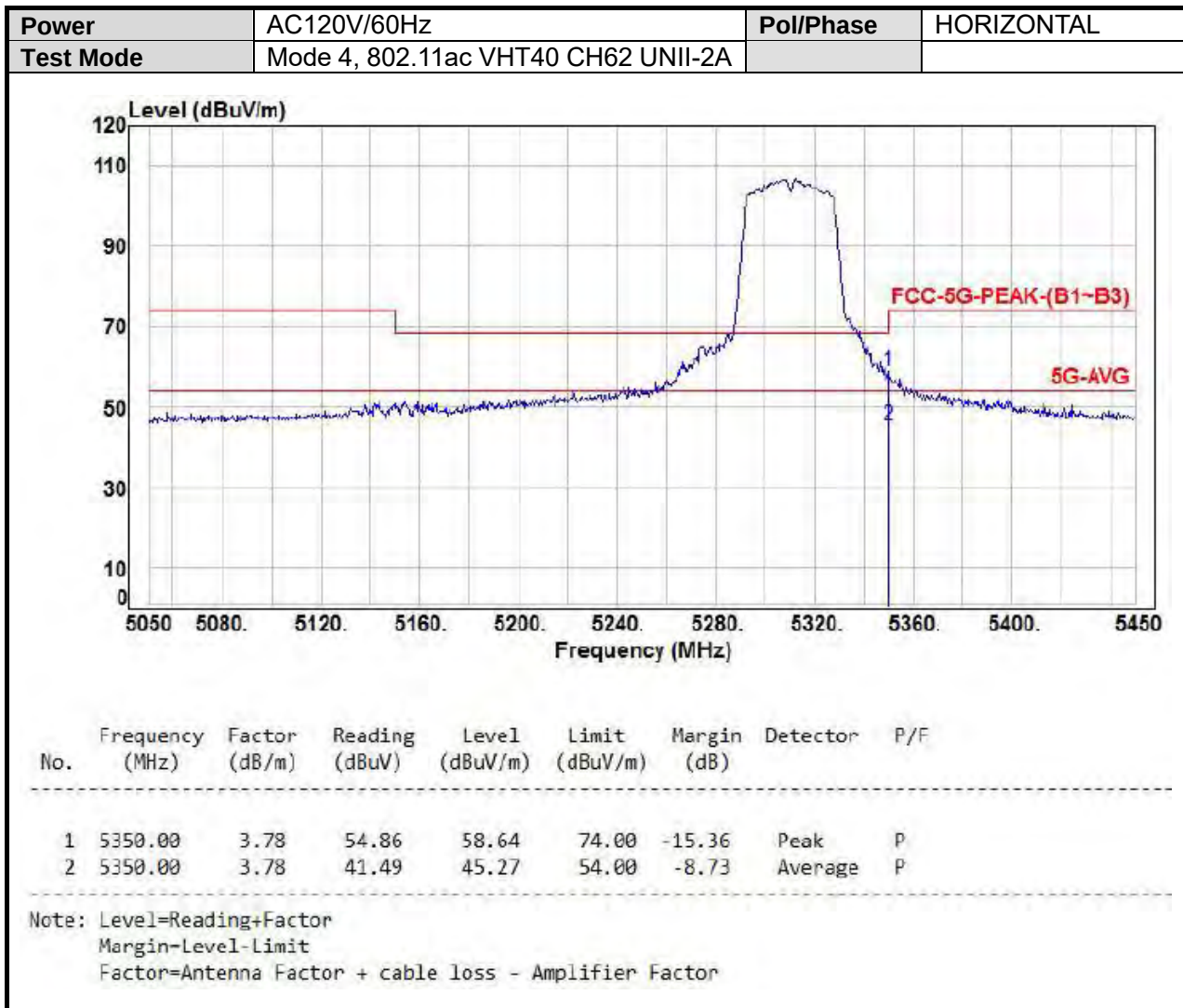


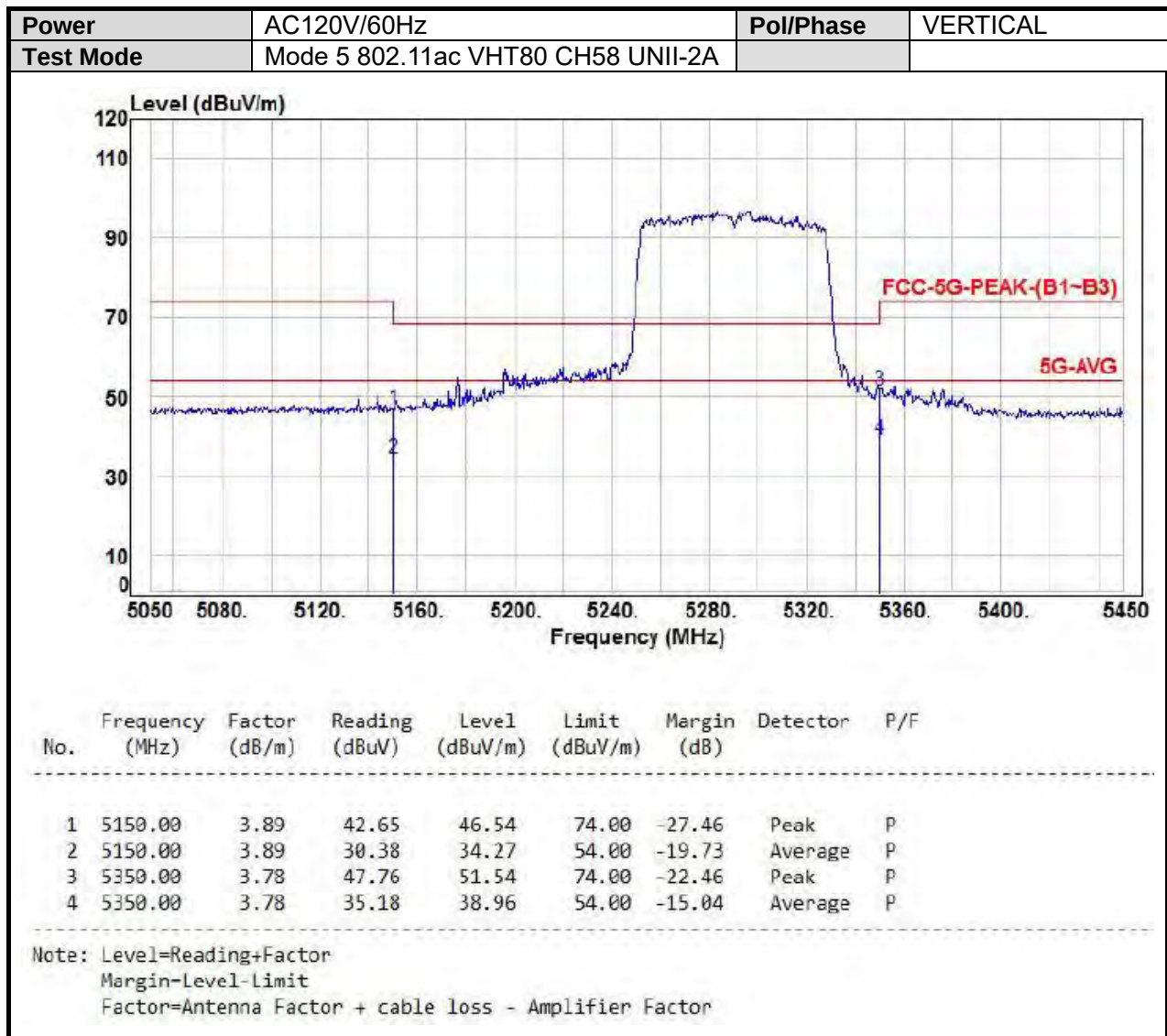


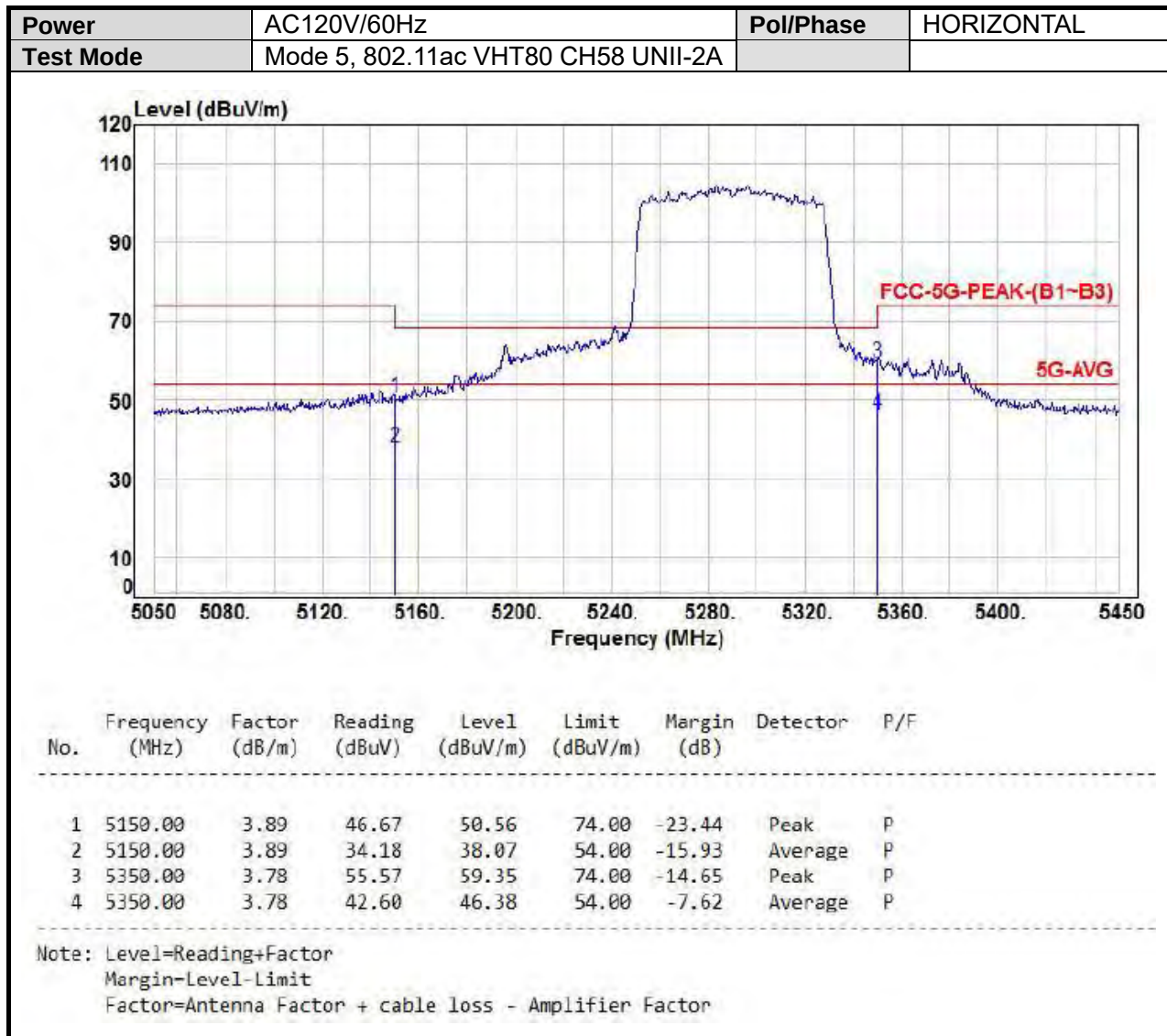








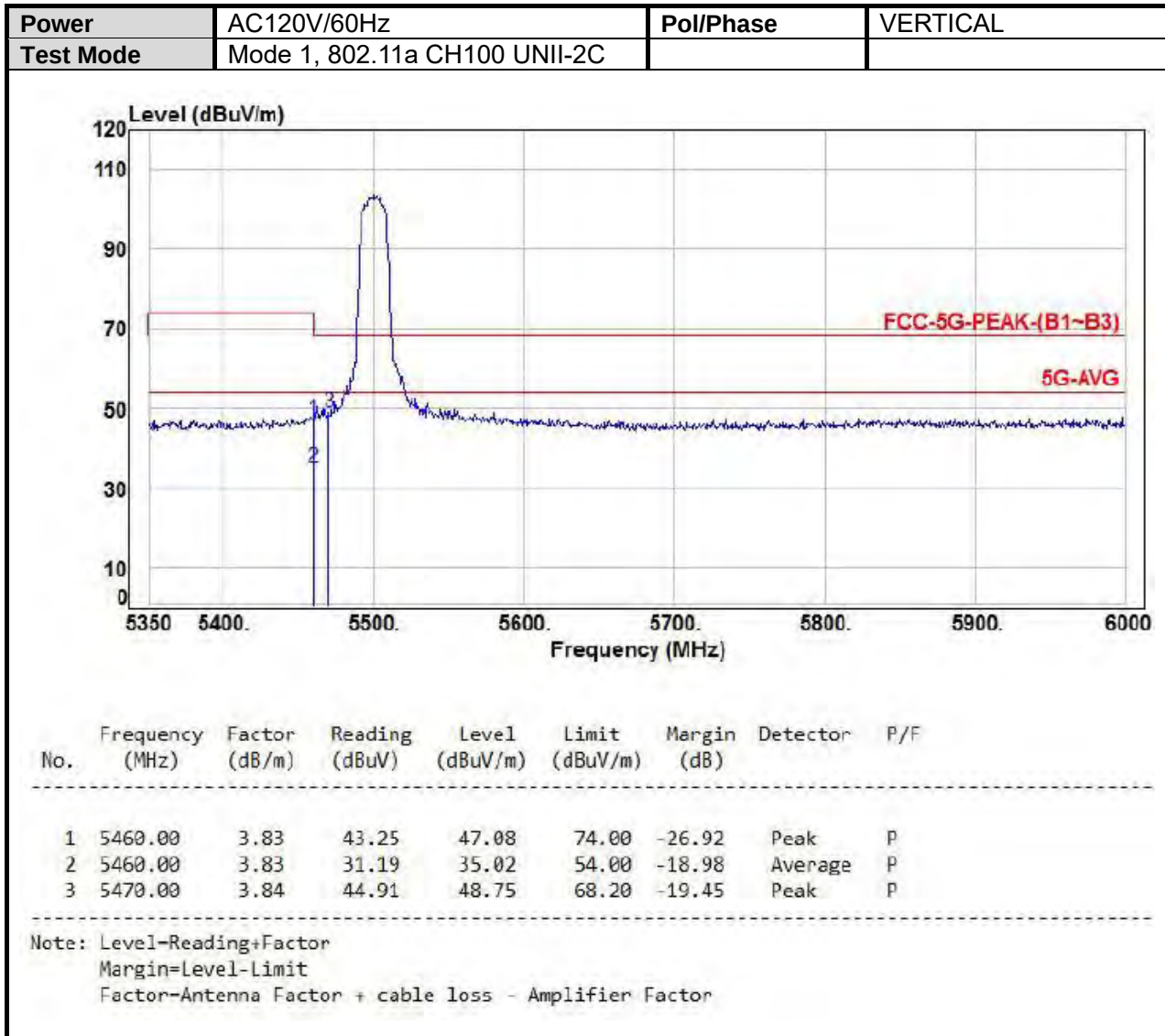


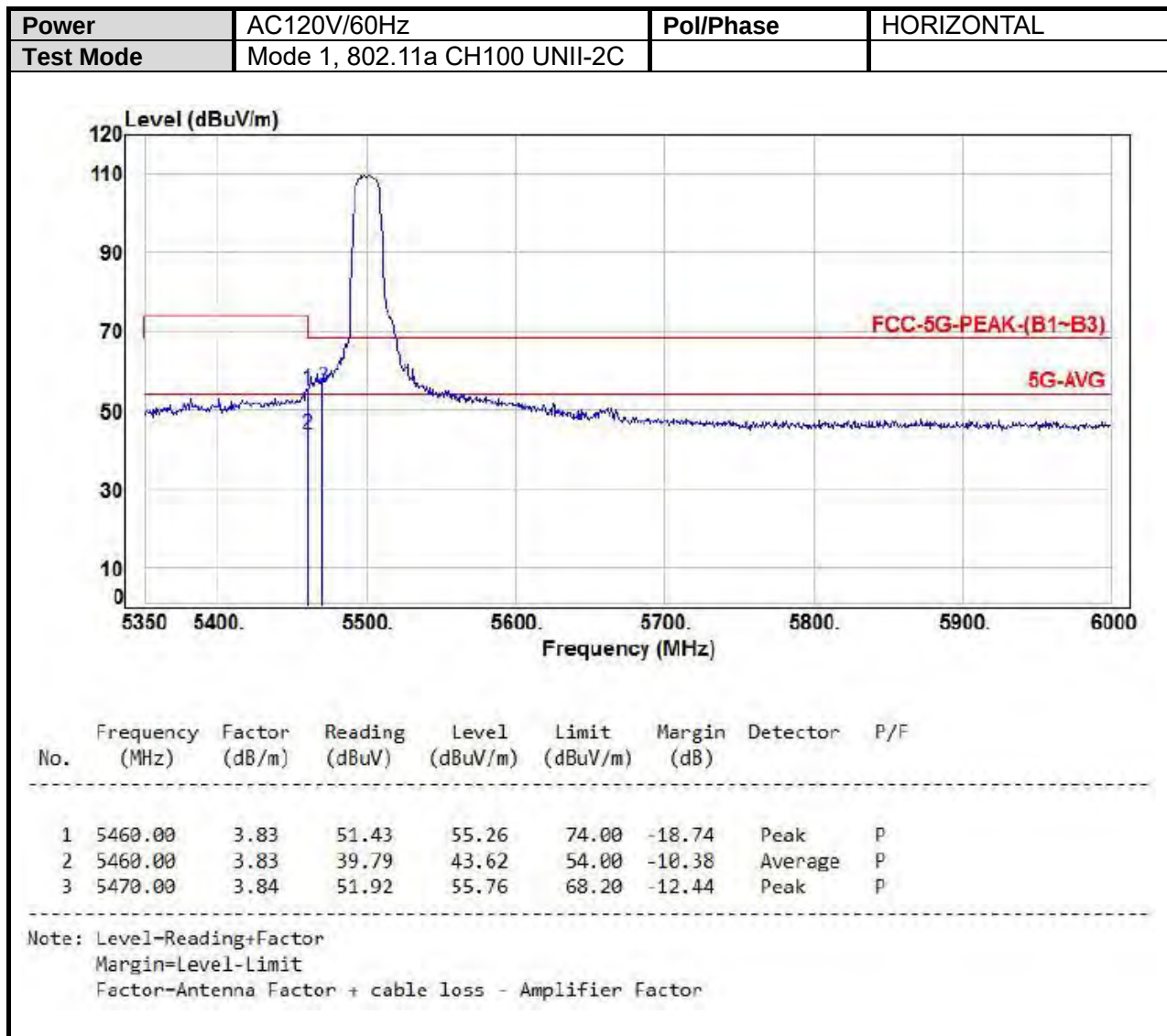


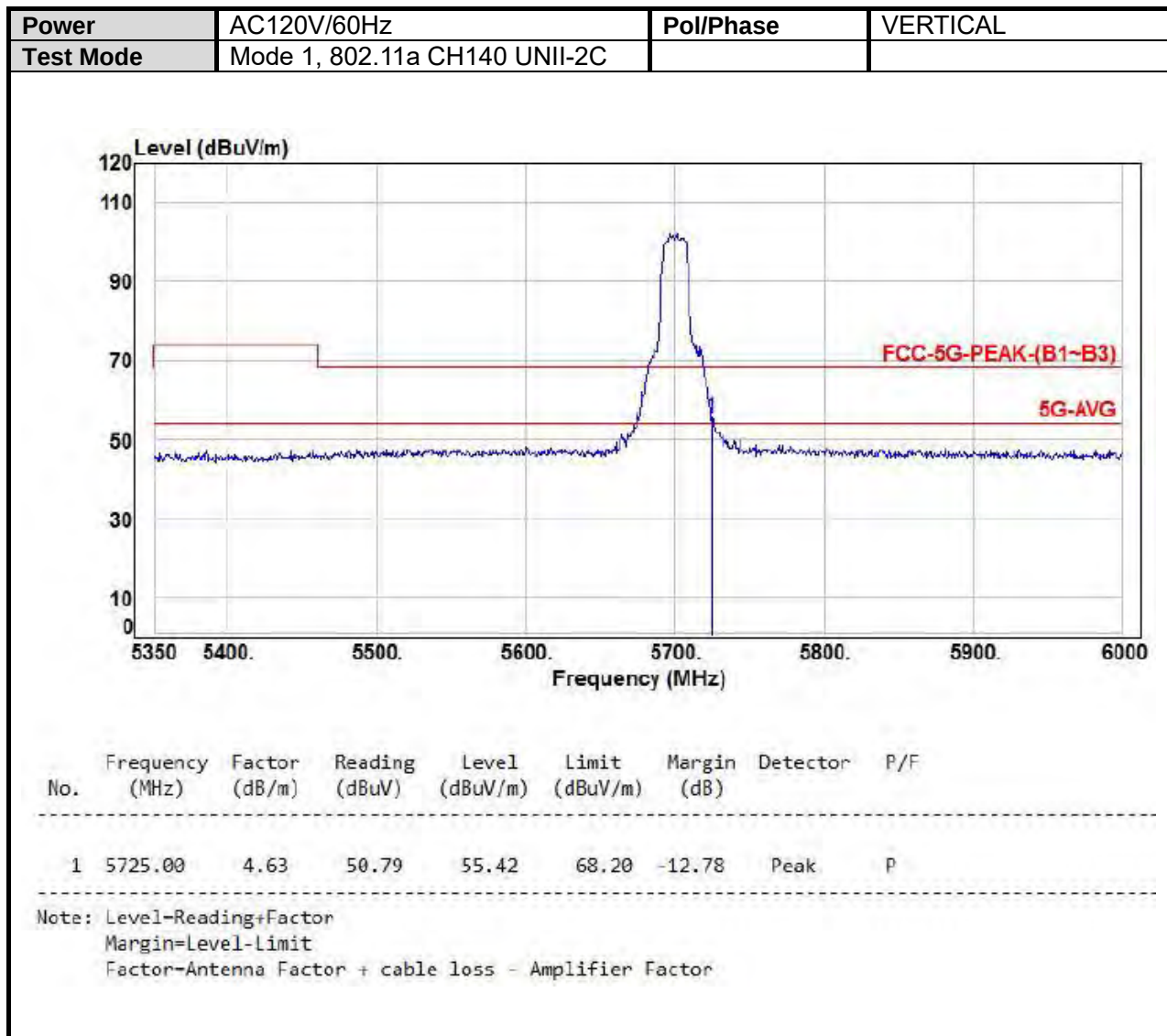


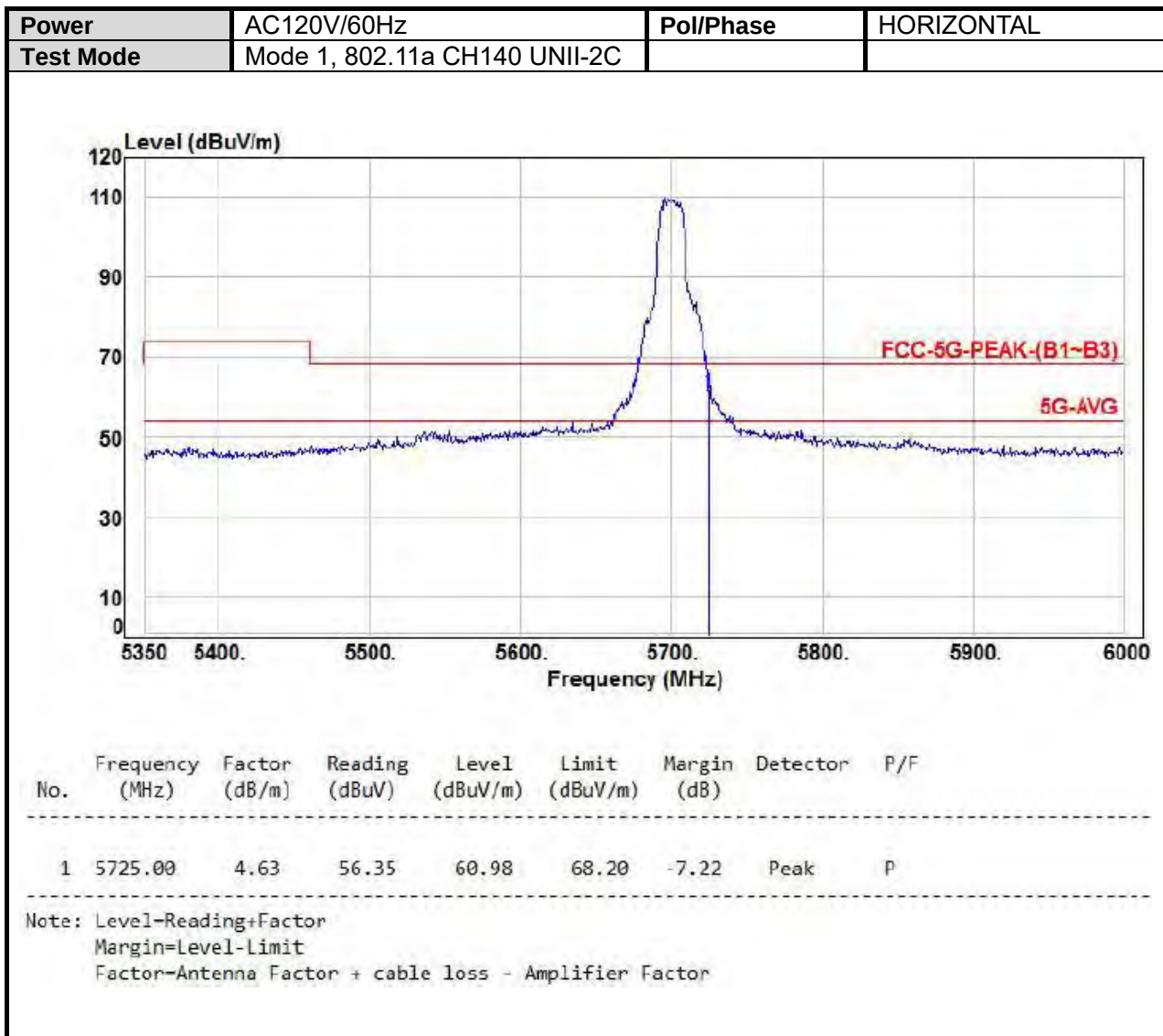
SISO-Ant A

UNII-2C





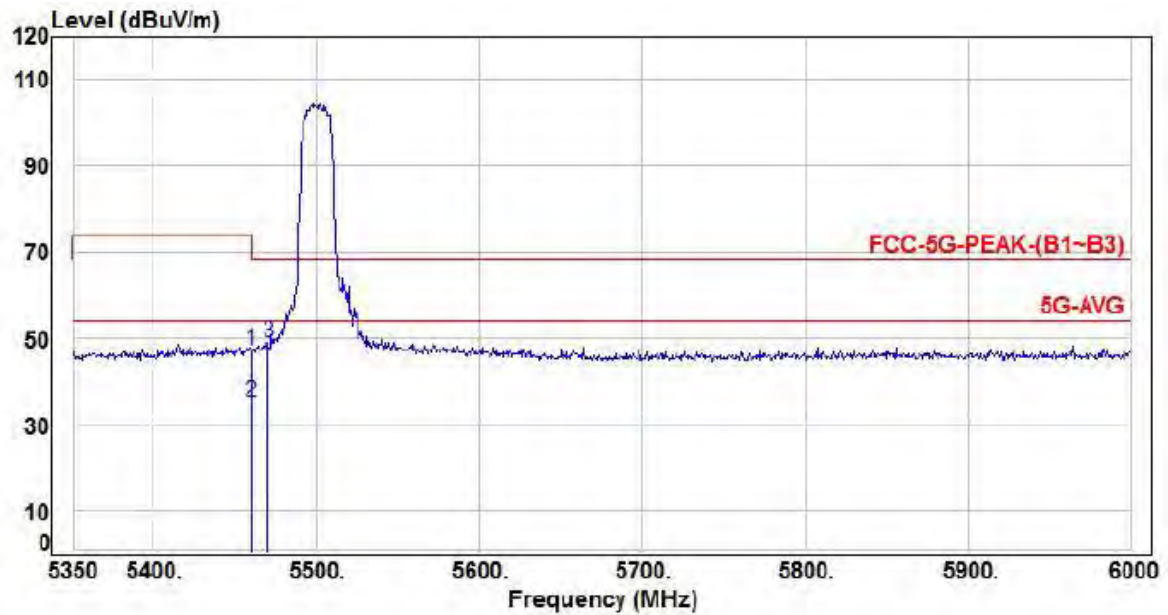






MIMO-UNII-2C

Power	AC120V/60Hz	Pol/Phase	VERTICAL
Test Mode	Mode 3, 802.11ac VHT20 CH100 UNII-2C		

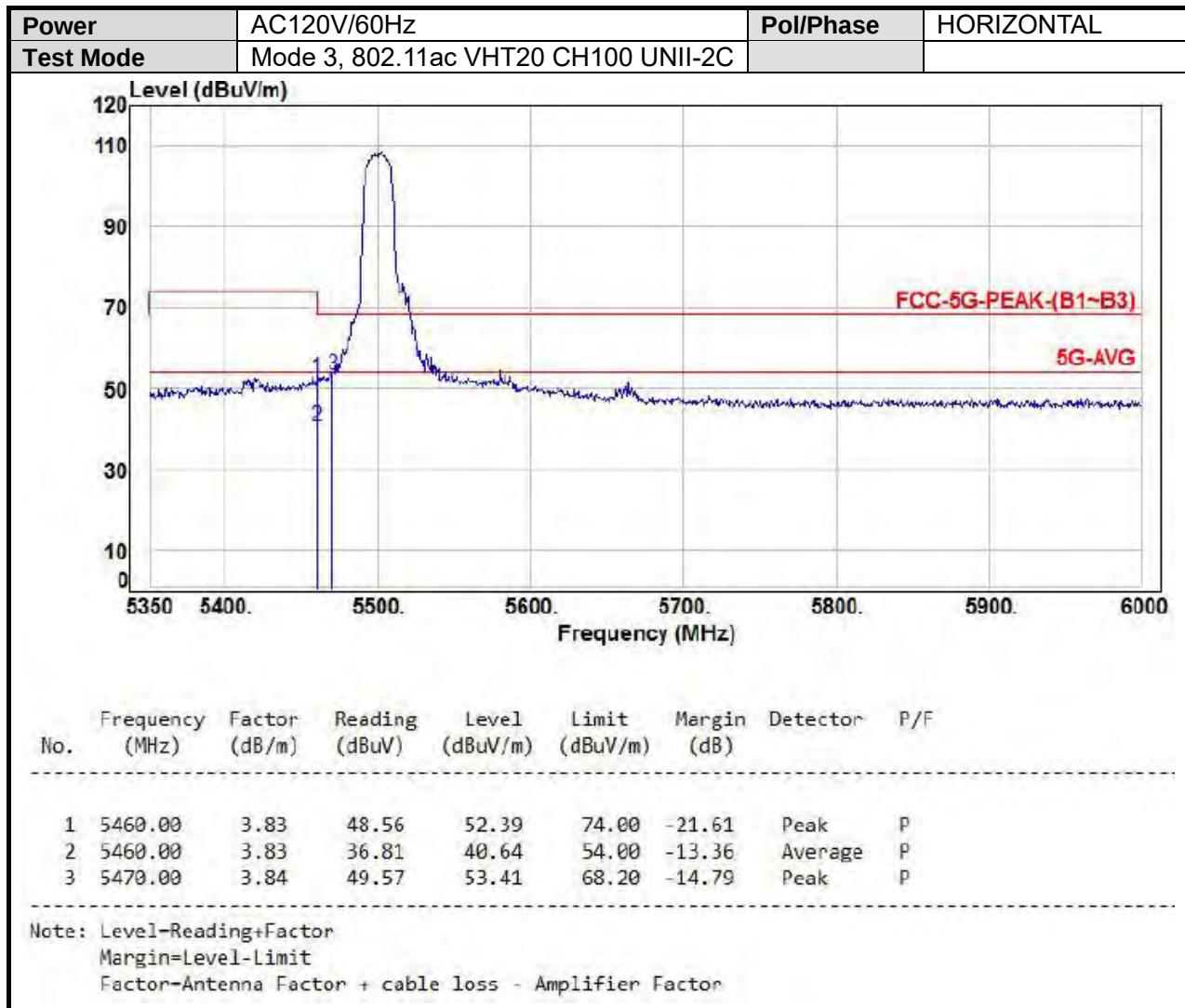


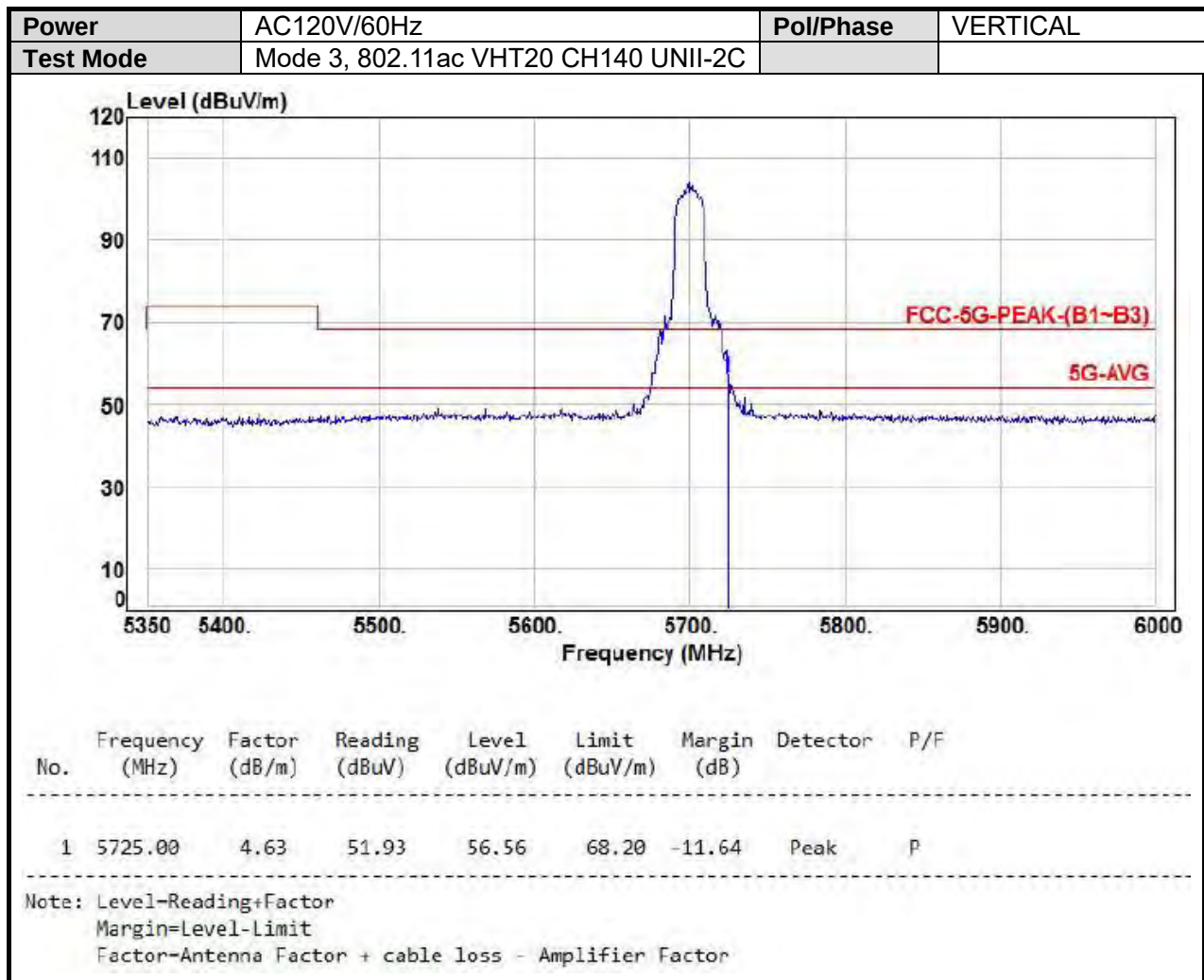
No.	Frequency (MHz)	Factor (dB/m)	Reading (dBUV)	Level (dBUV/m)	Limit (dBUV/m)	Margin (dB)	Detector	P/F
1	5460.00	3.83	43.20	47.03	74.00	-26.97	Peak	P
2	5460.00	3.83	31.02	34.85	54.00	-19.15	Average	P
3	5470.00	3.84	45.12	48.96	68.20	-19.24	Peak	P

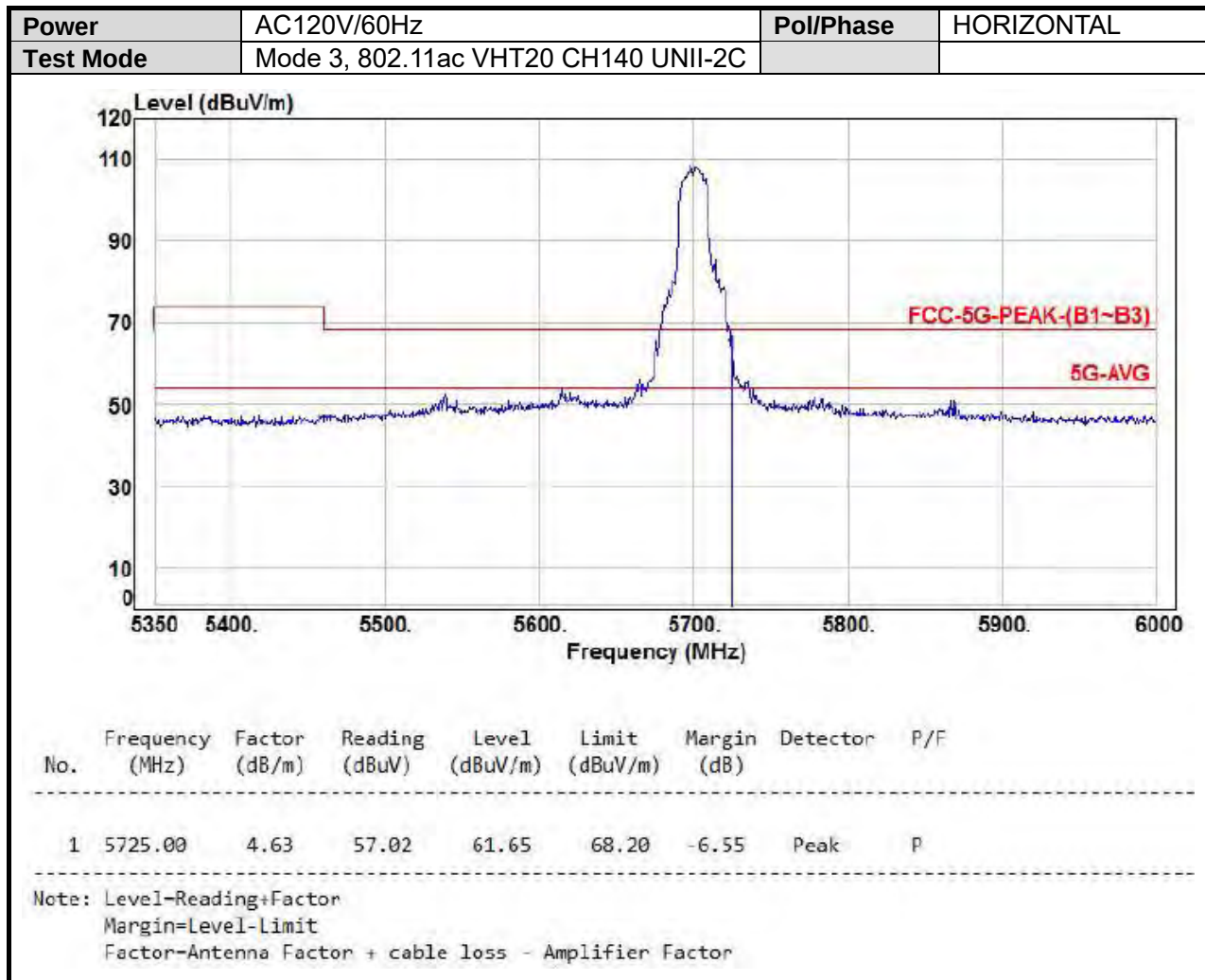
Note: Level=Reading+Factor

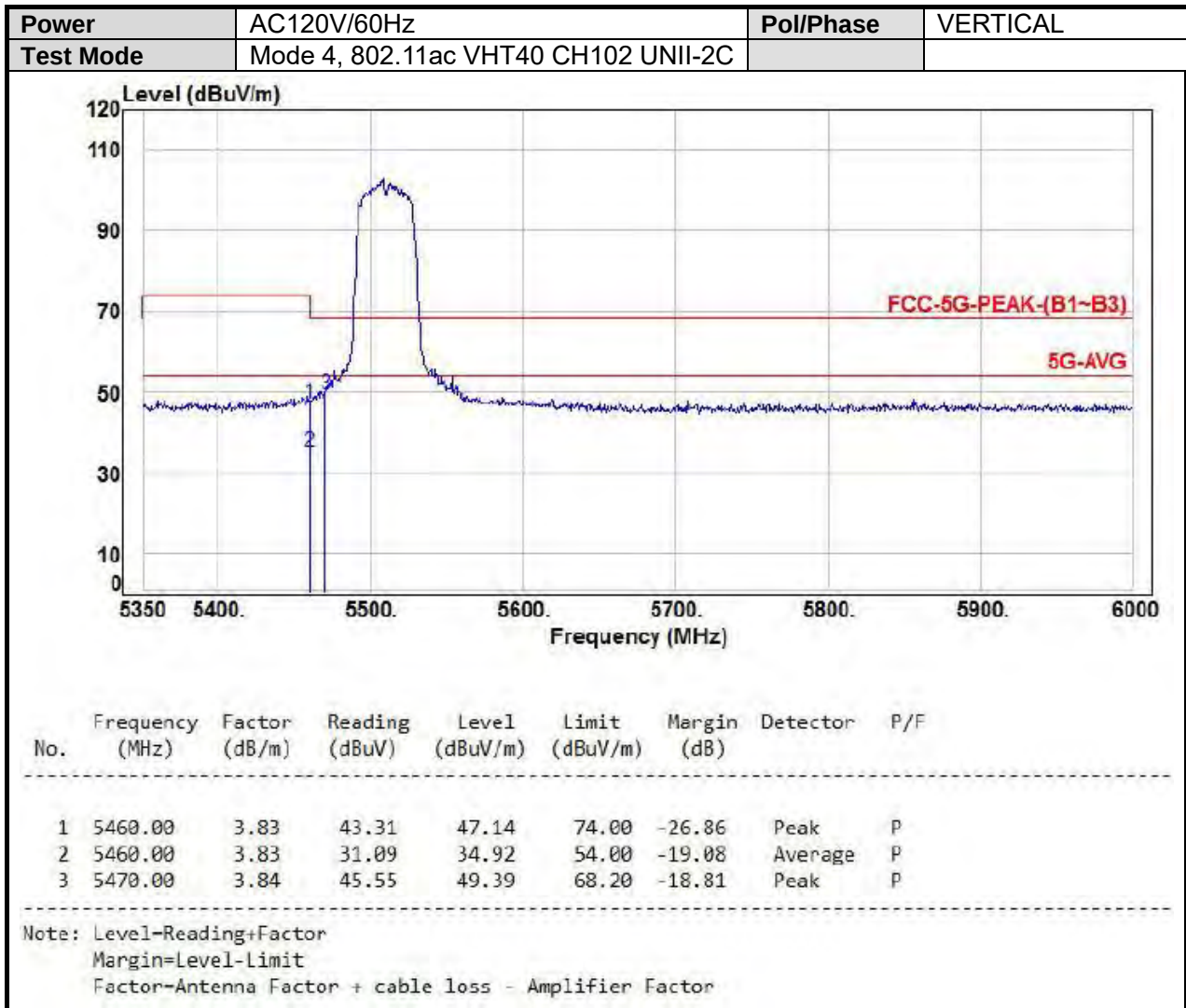
Margin=Level-Limit

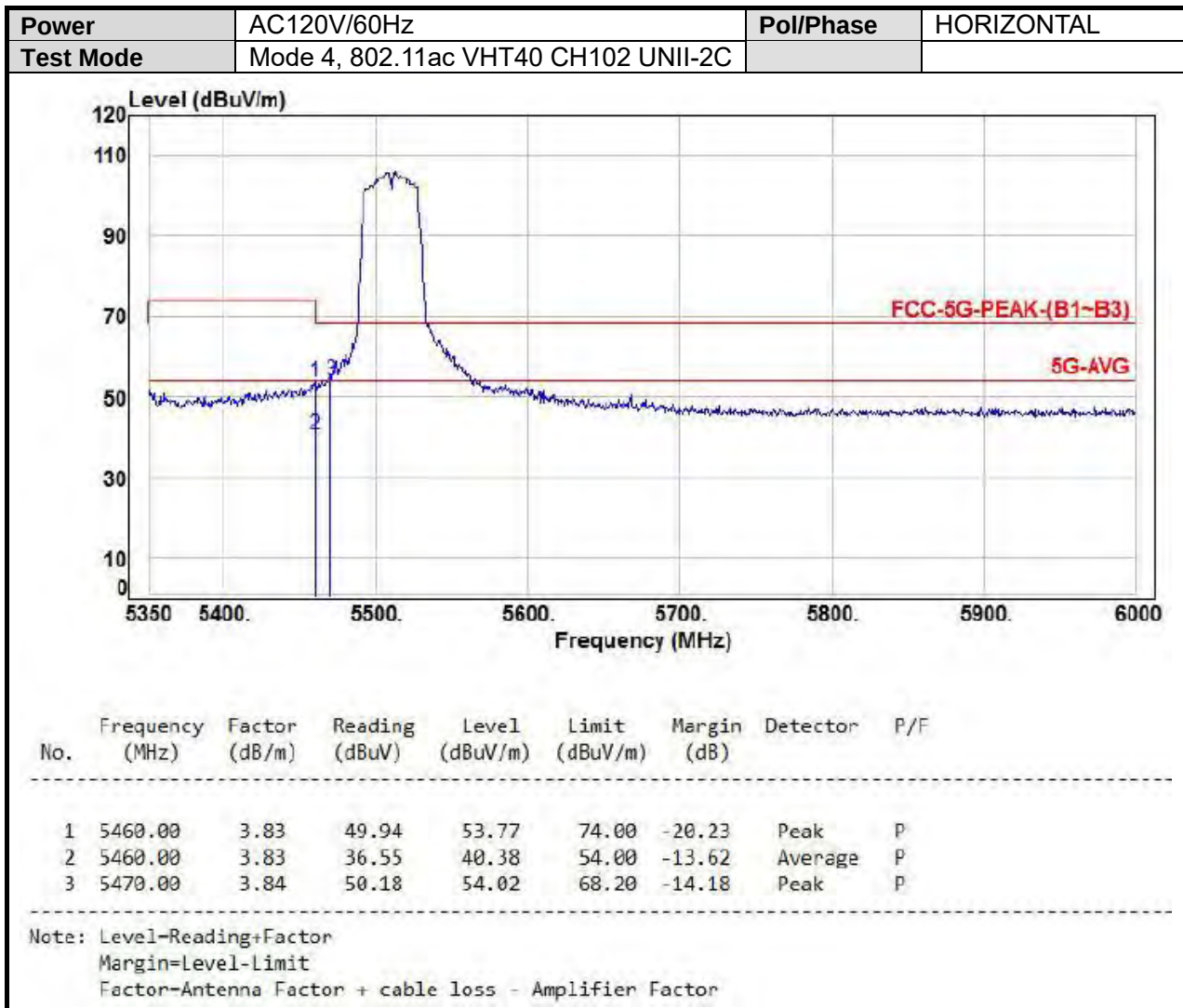
Factor=Antenna Factor + cable loss - Amplifier Factor

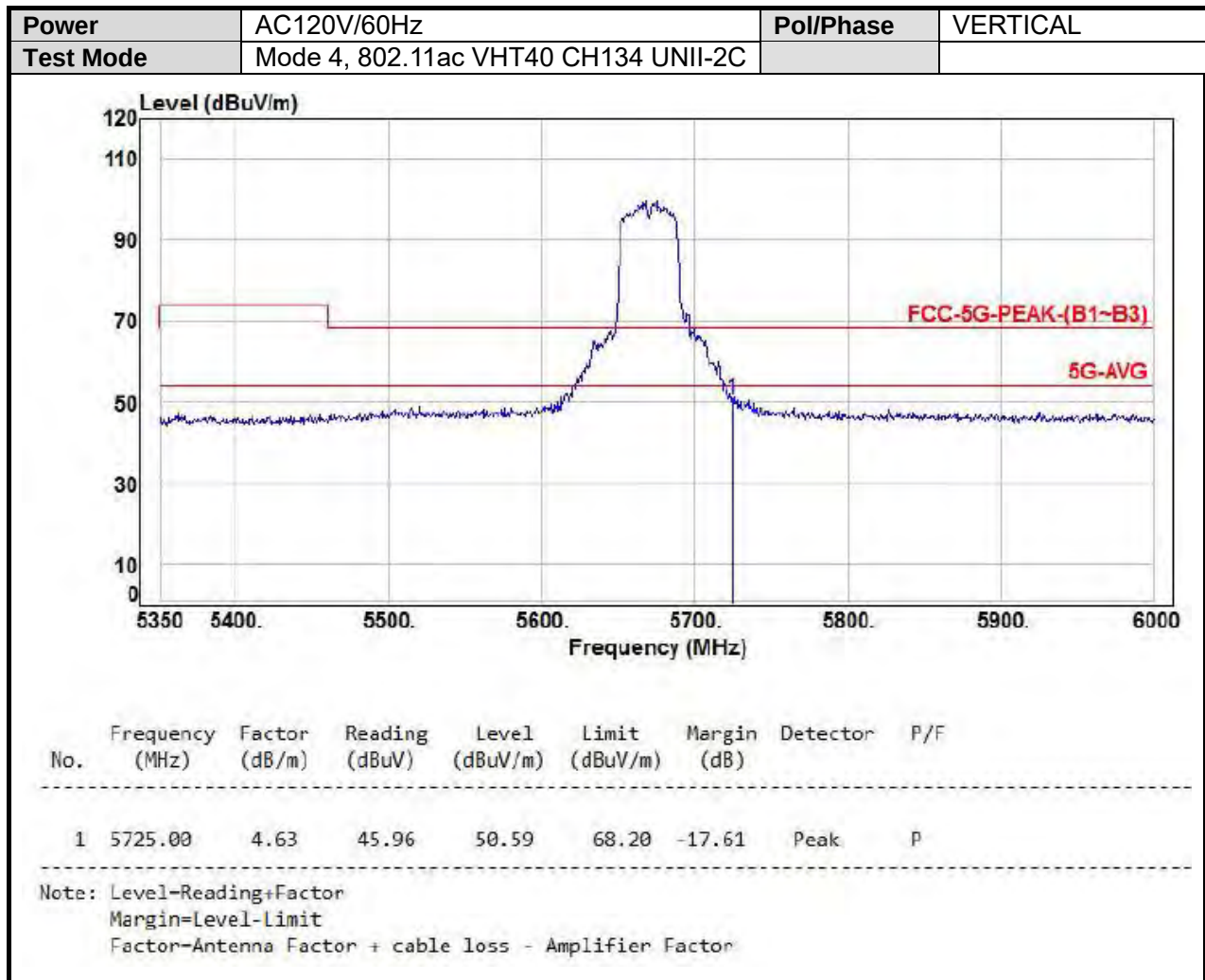


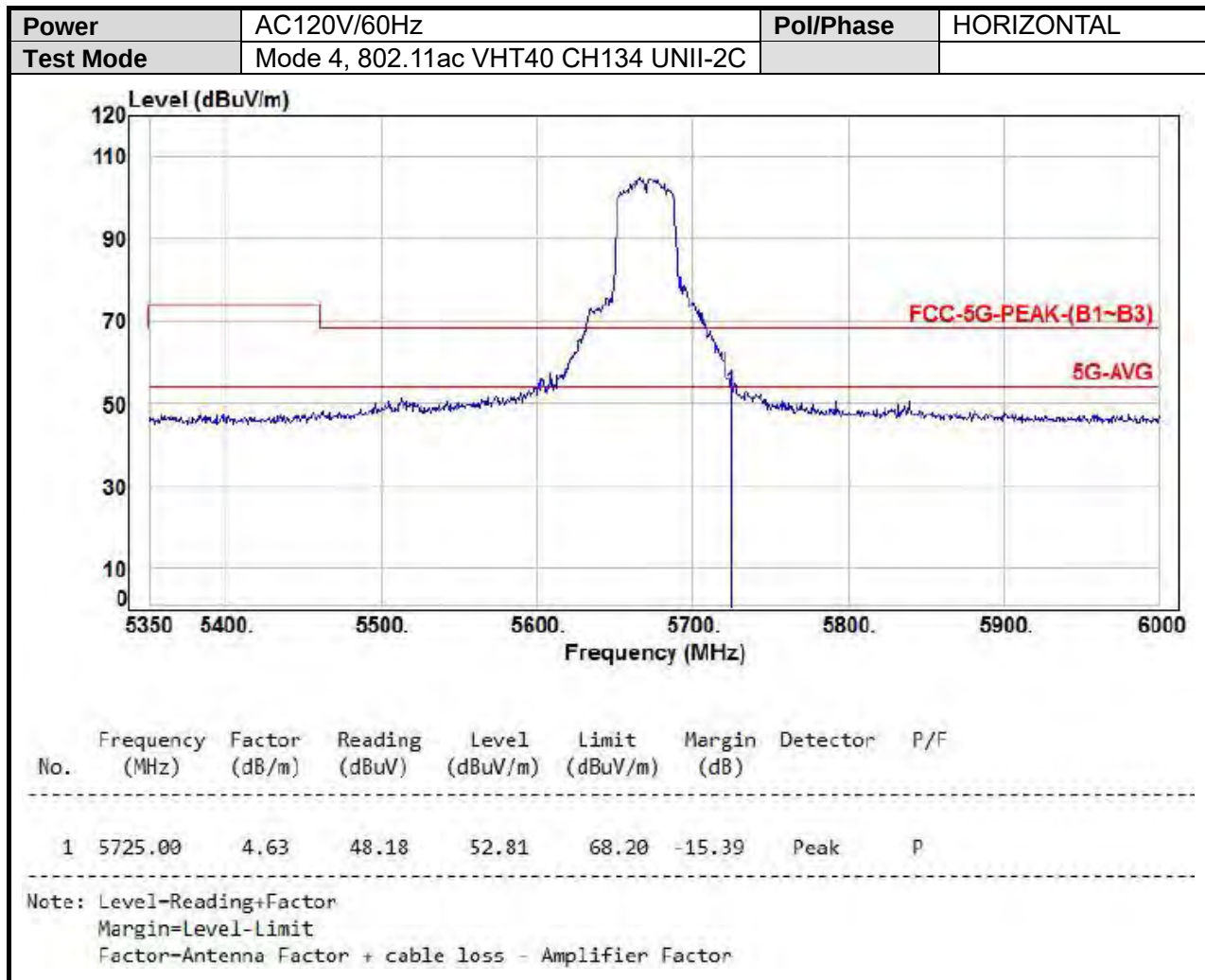


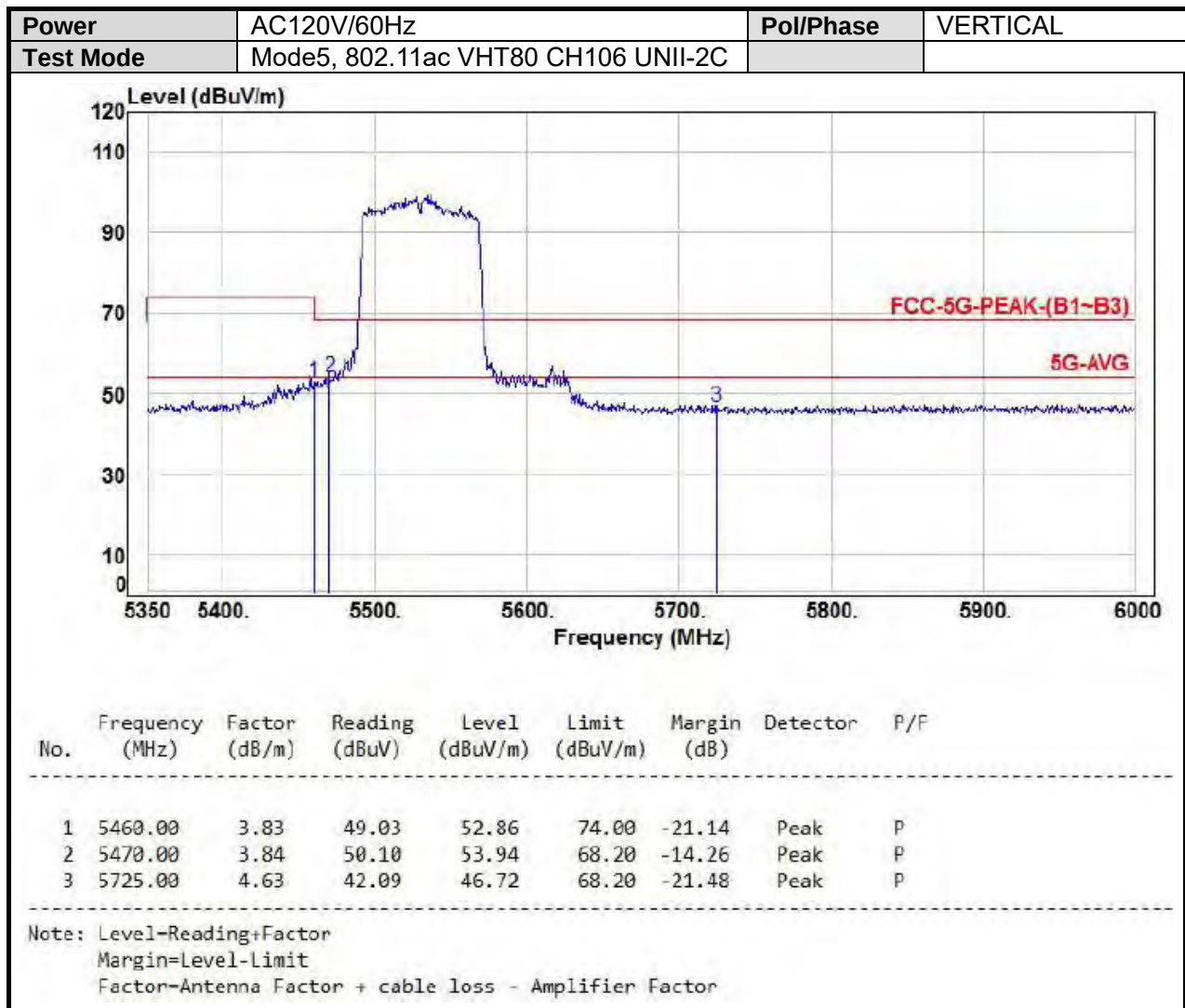


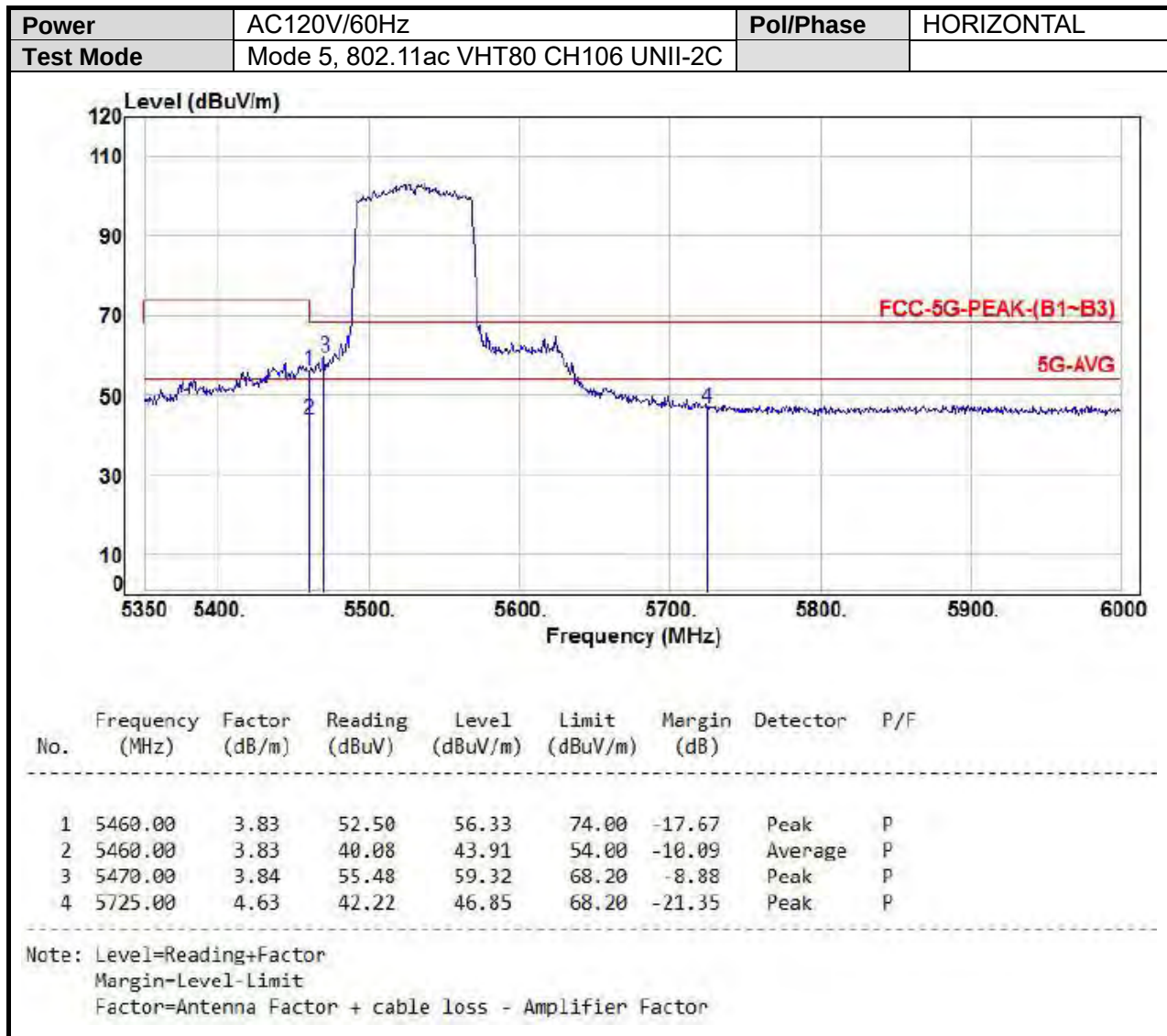


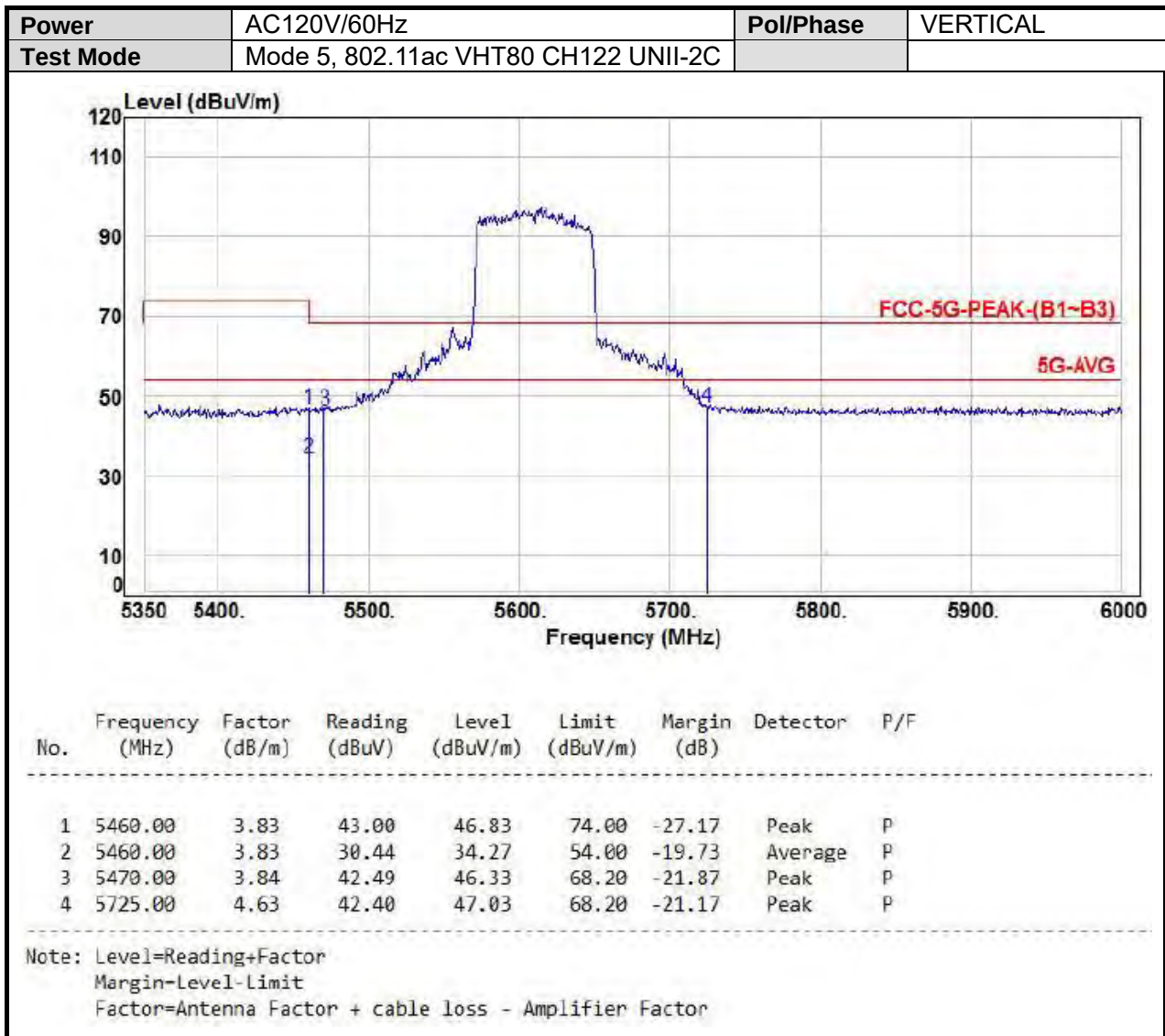


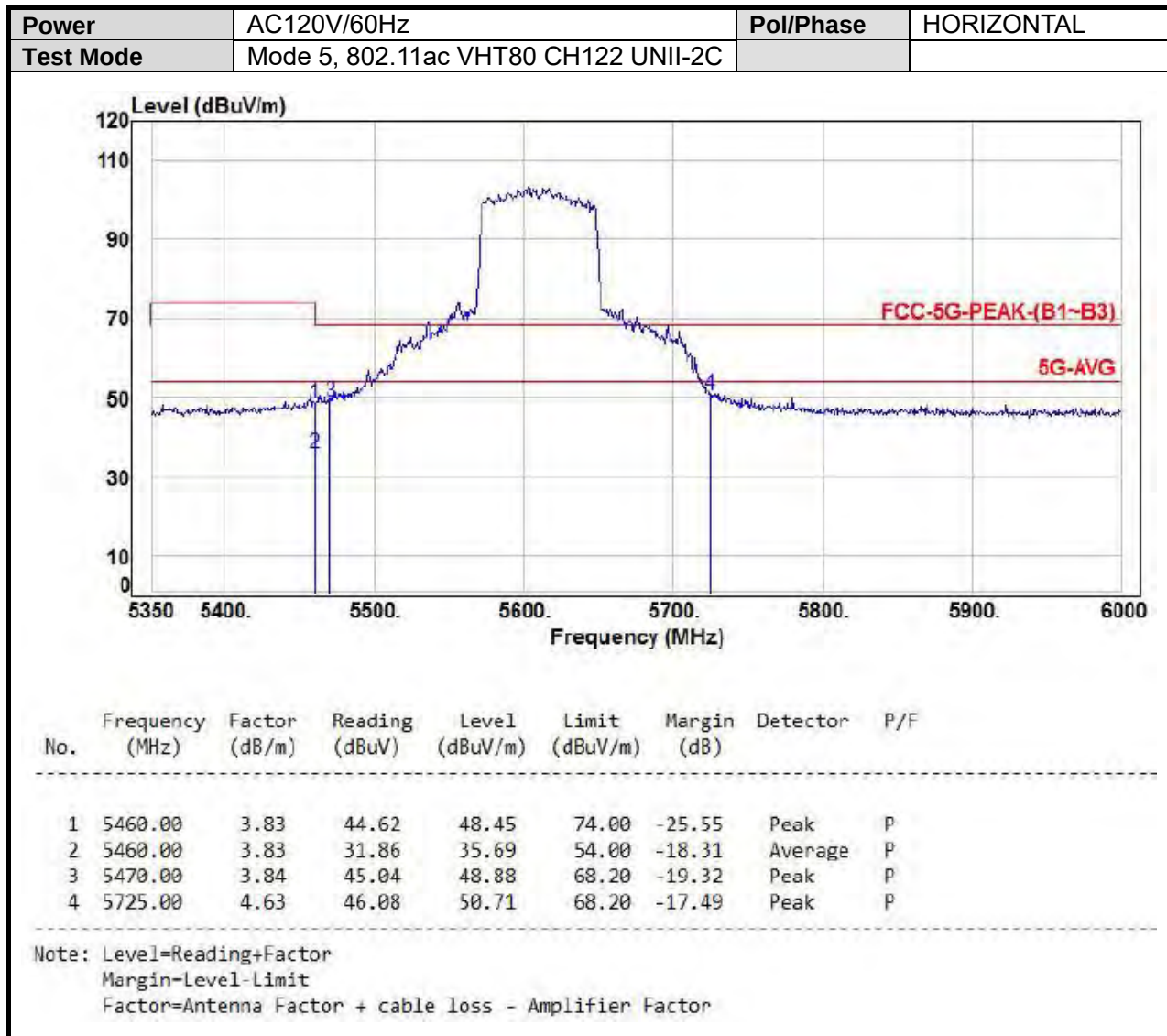








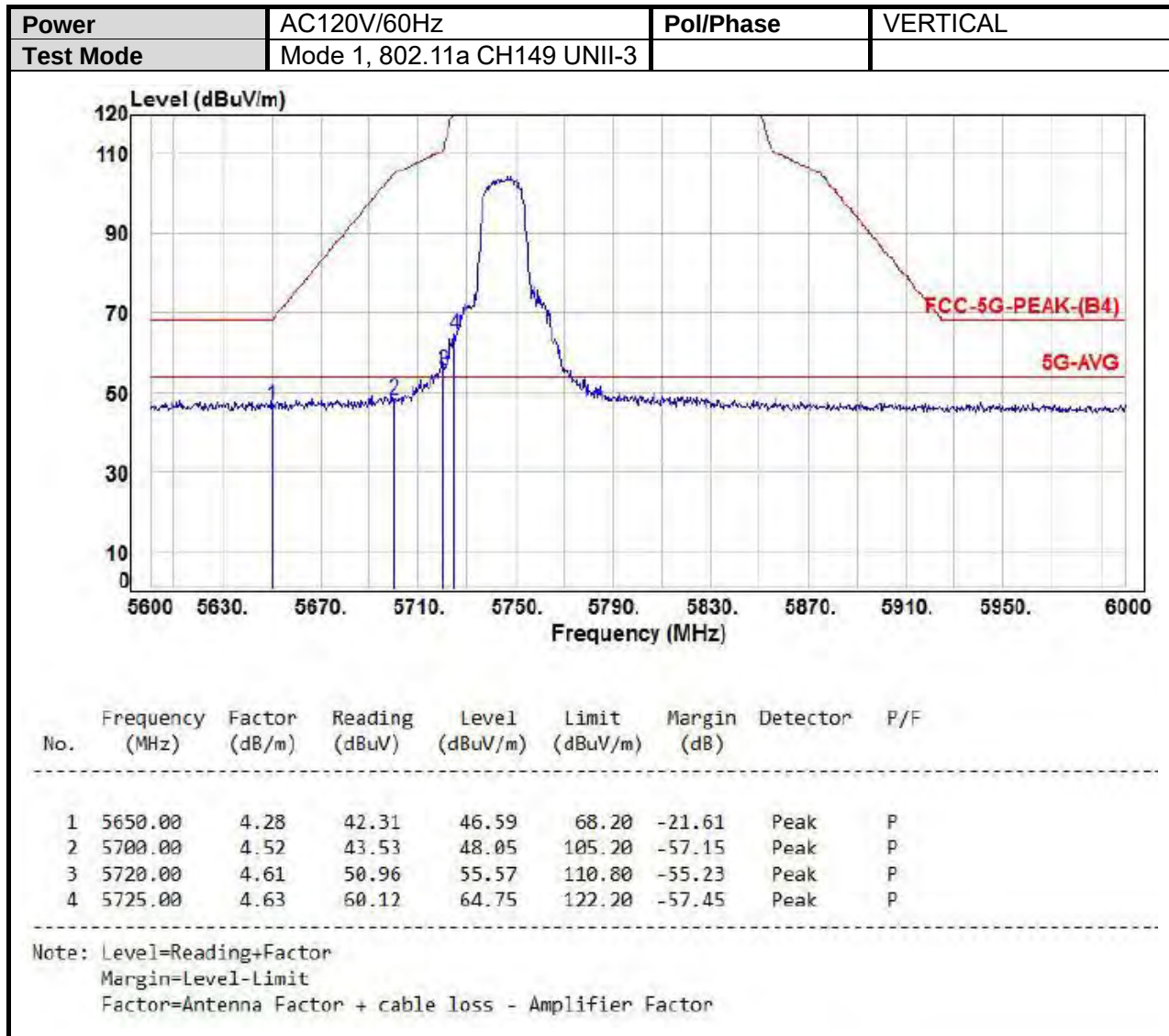


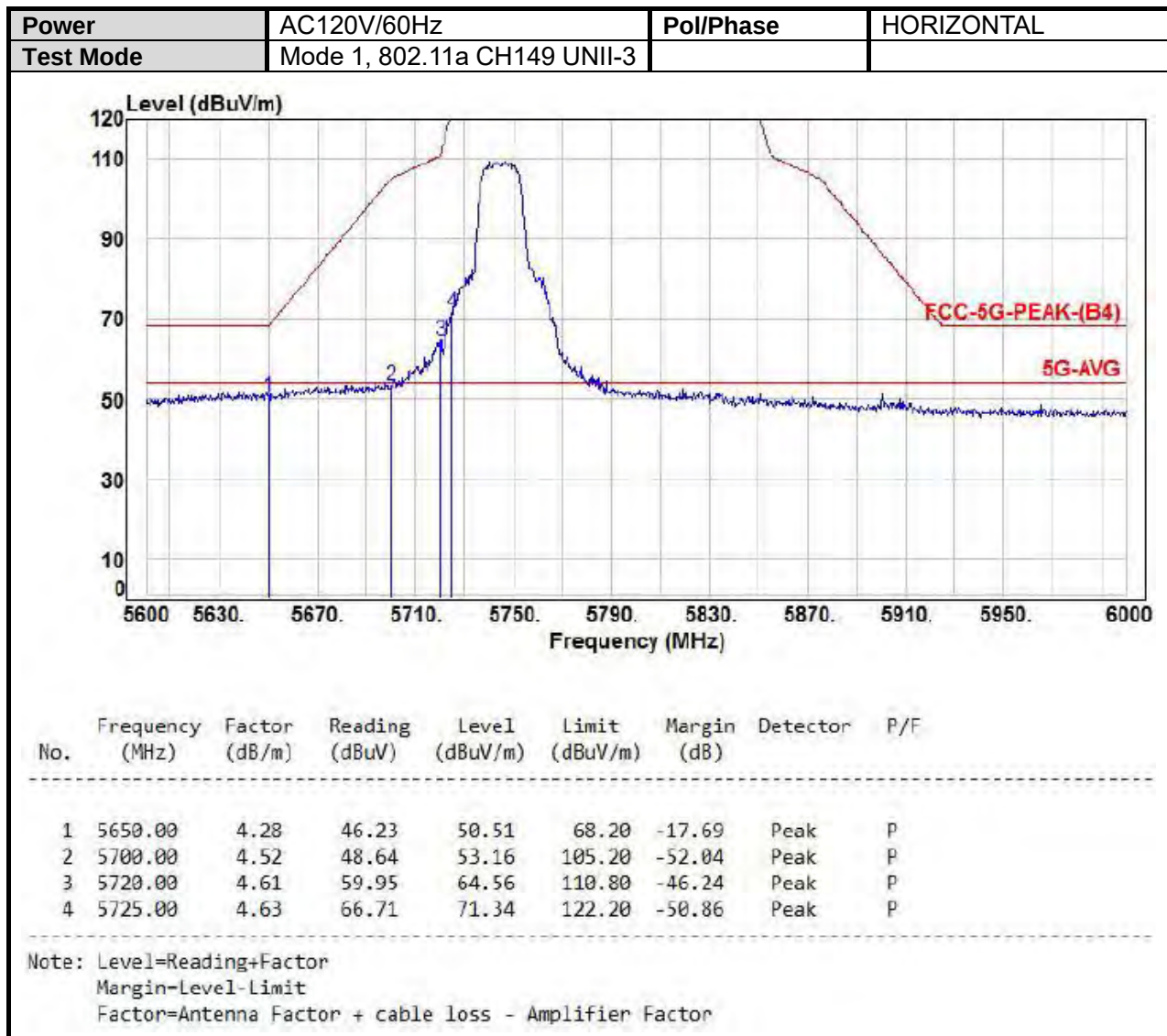


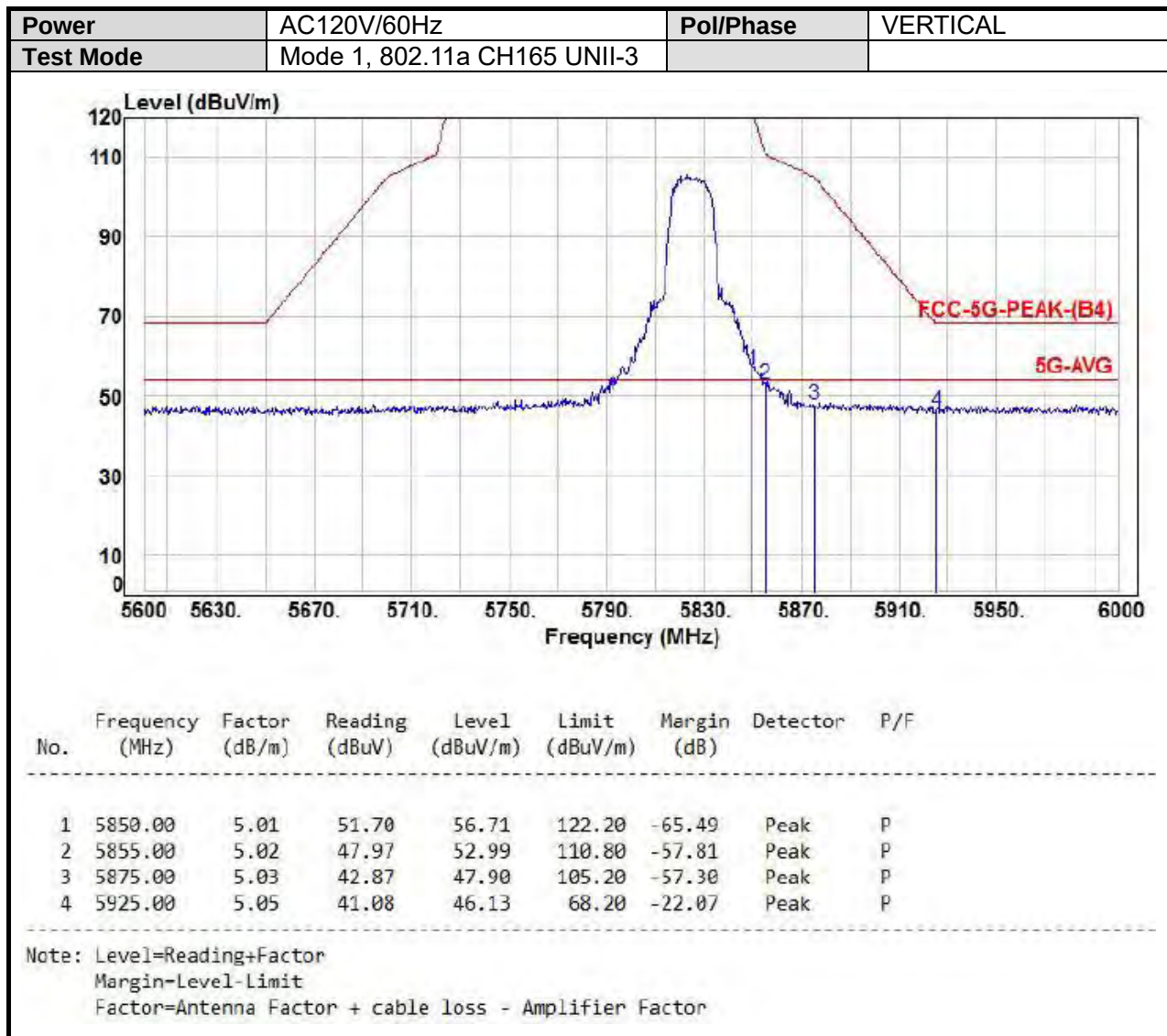


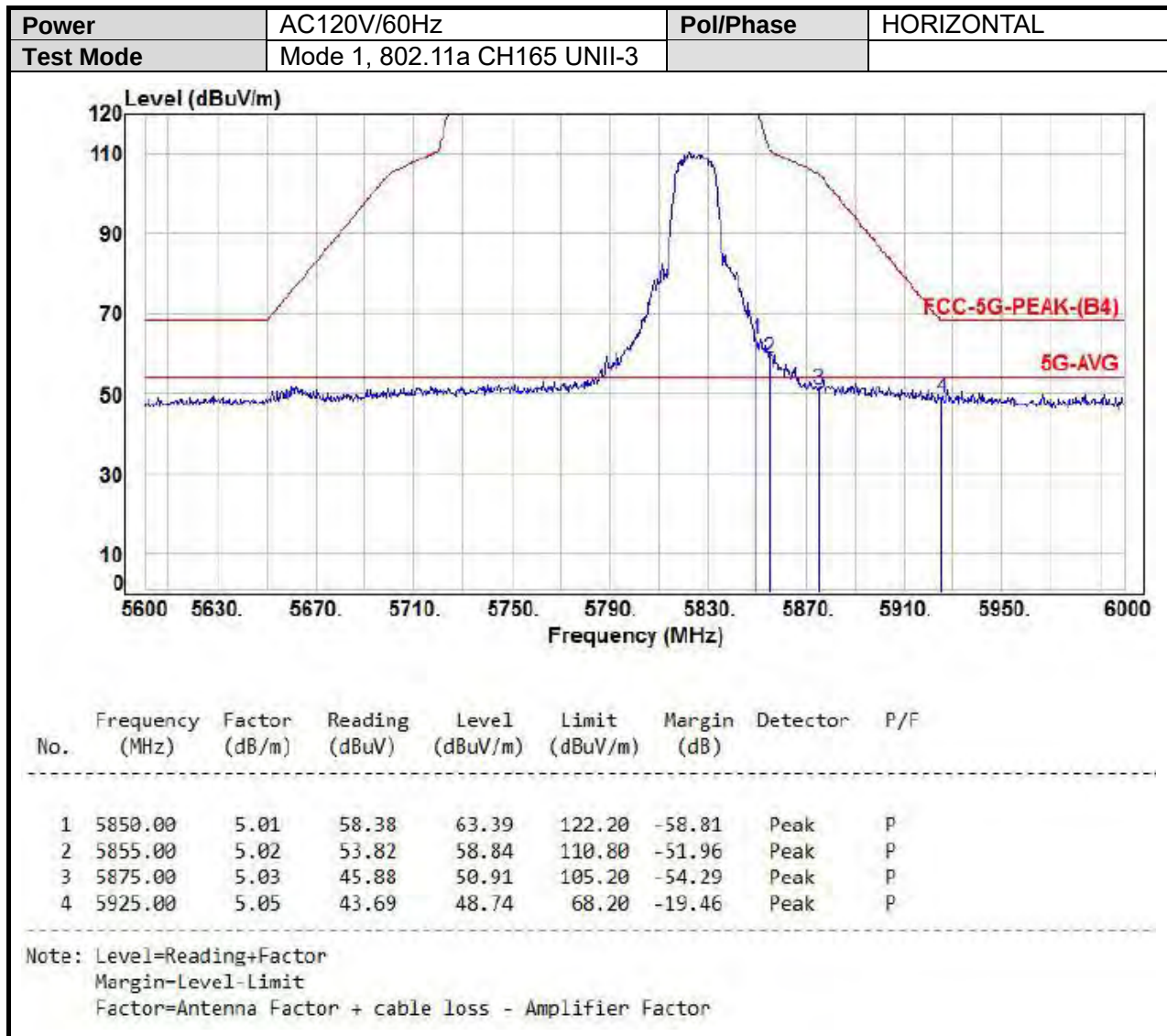
SISO-Ant A

UNII-3



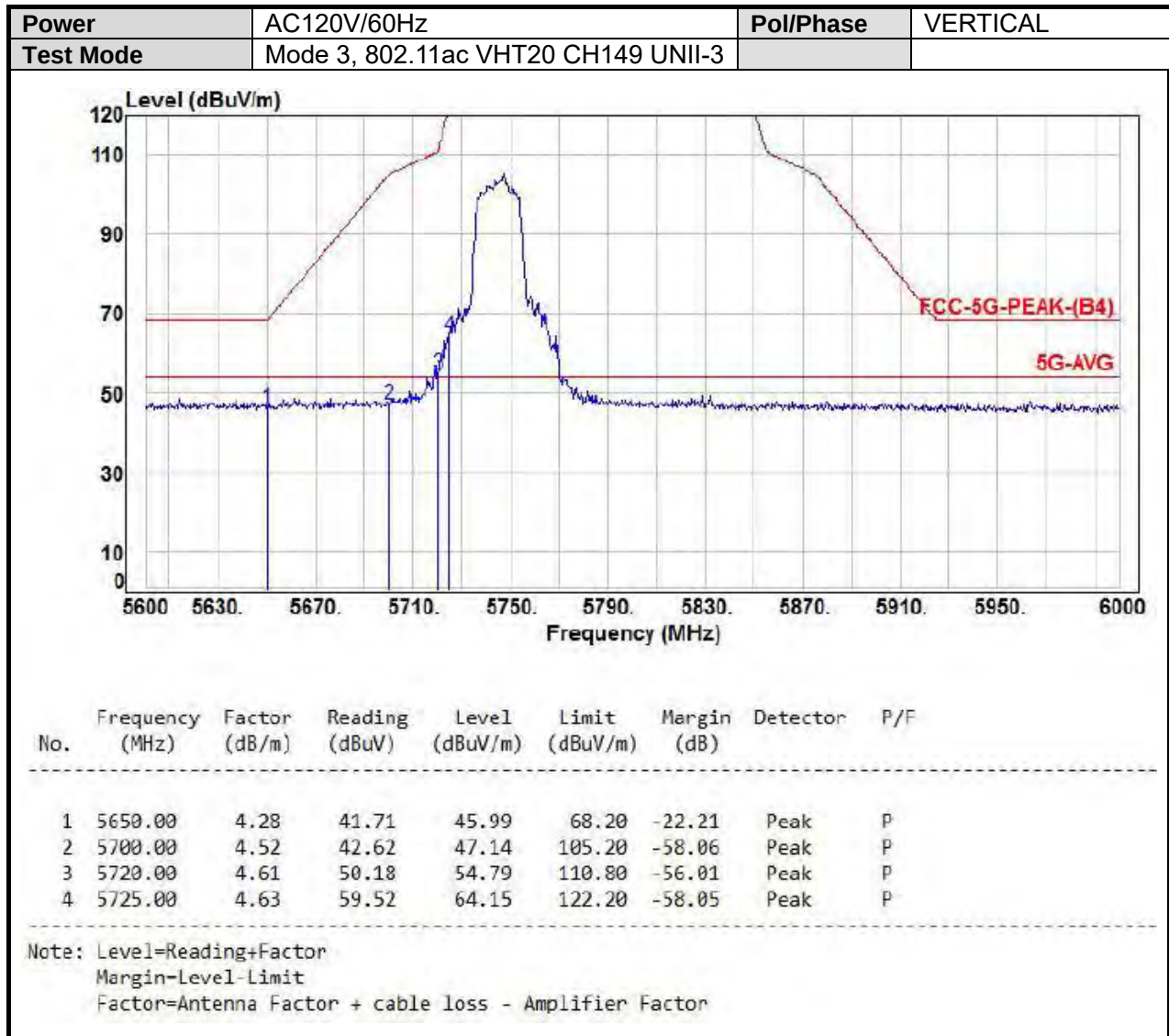


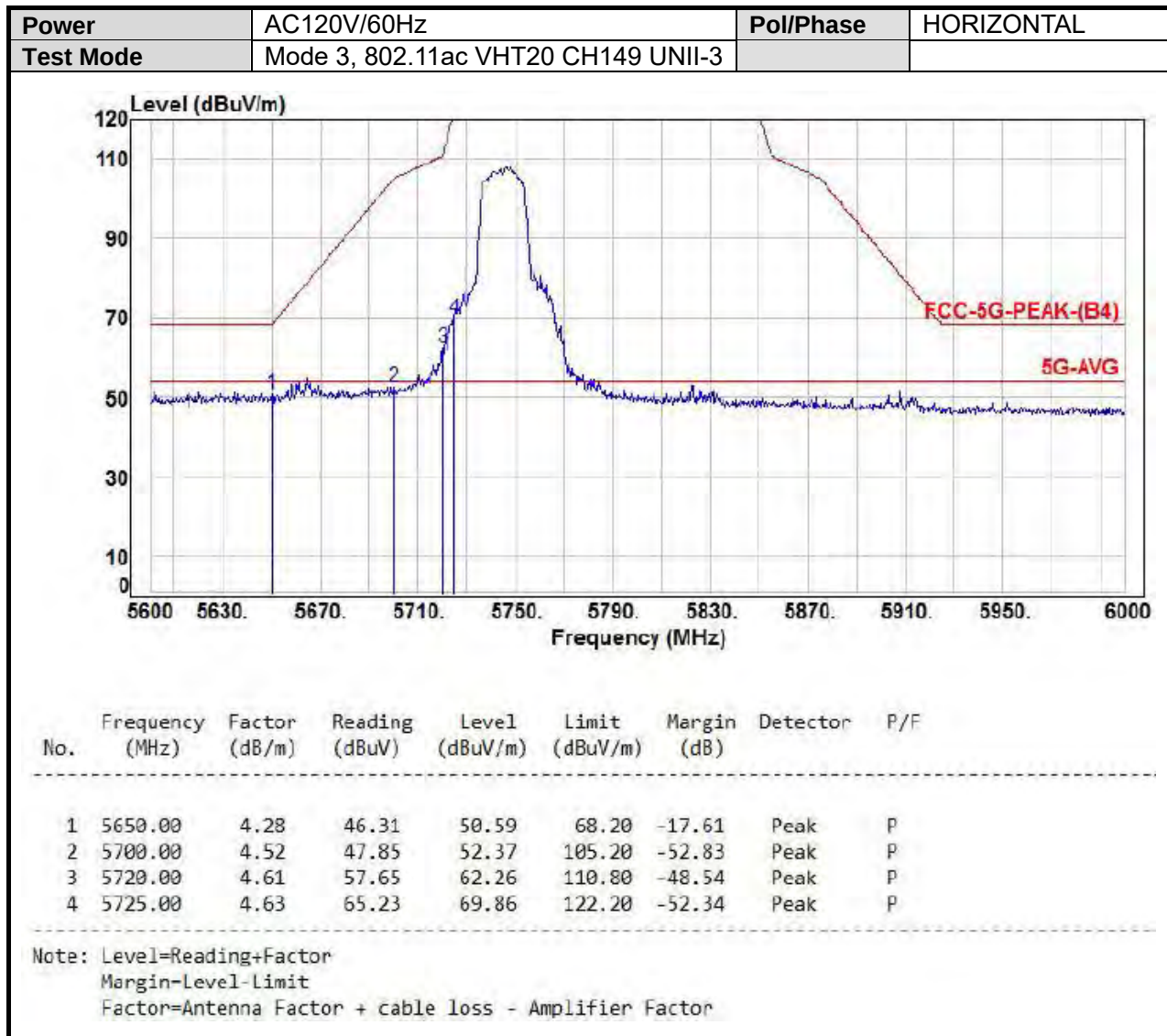


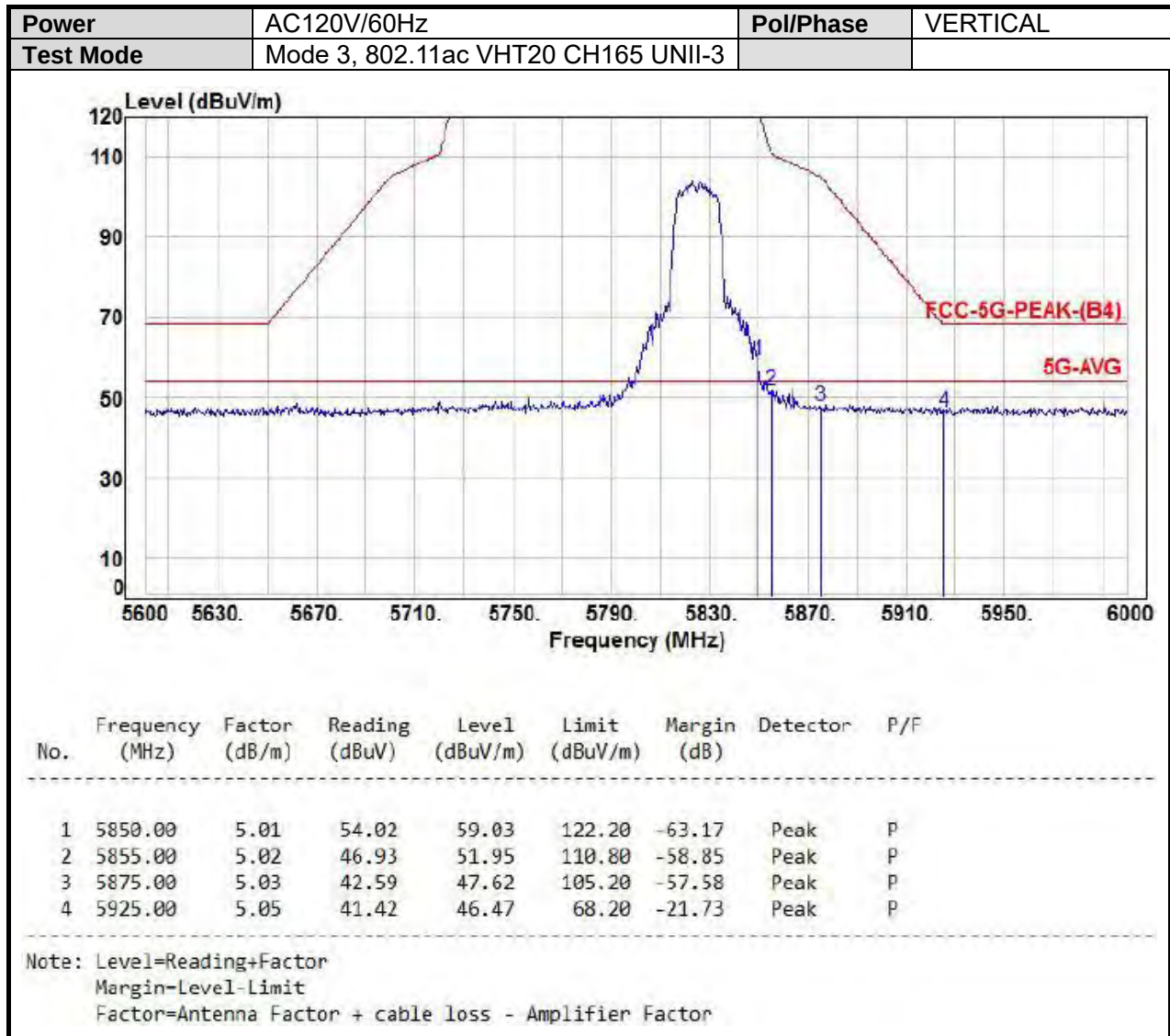


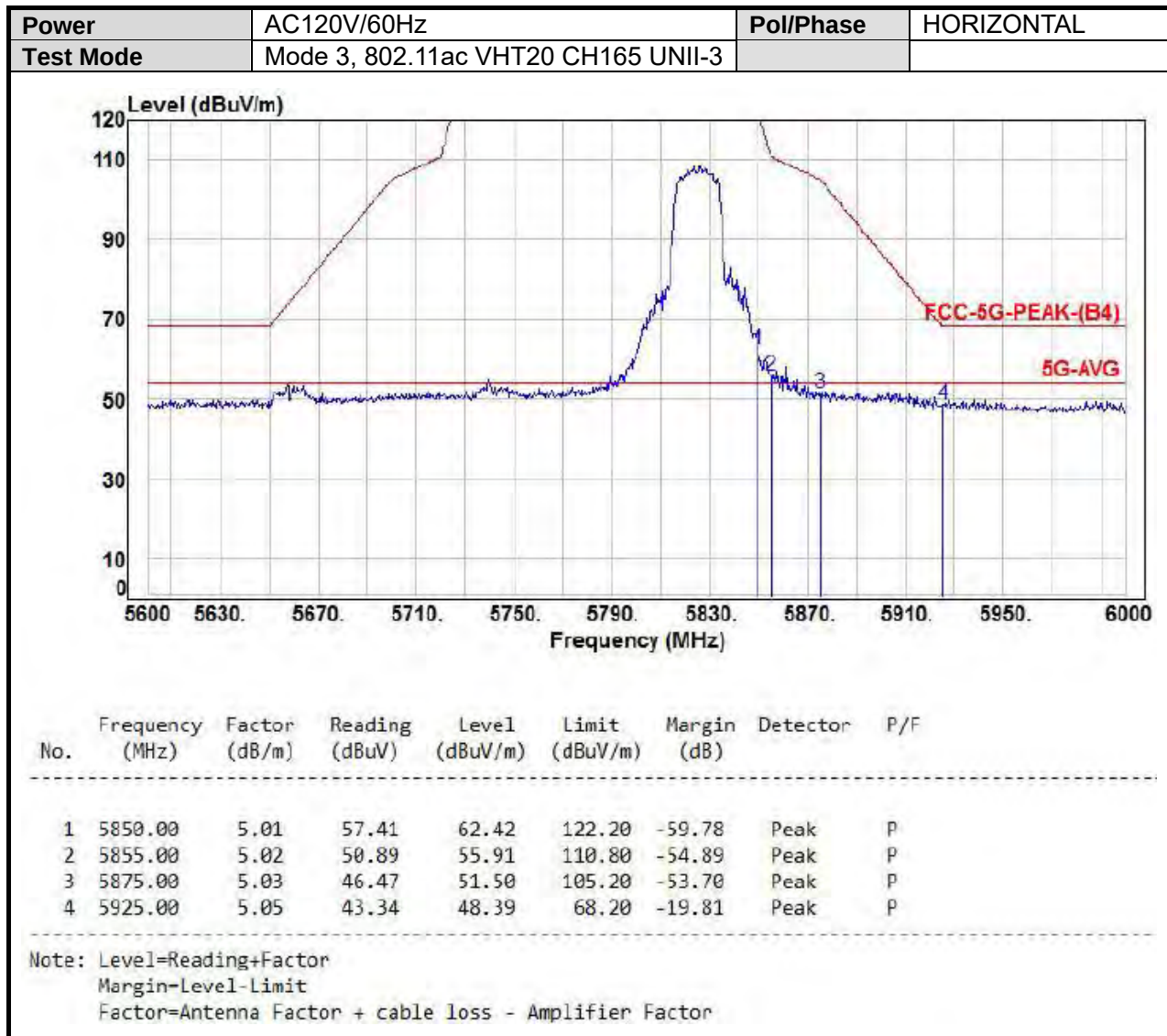


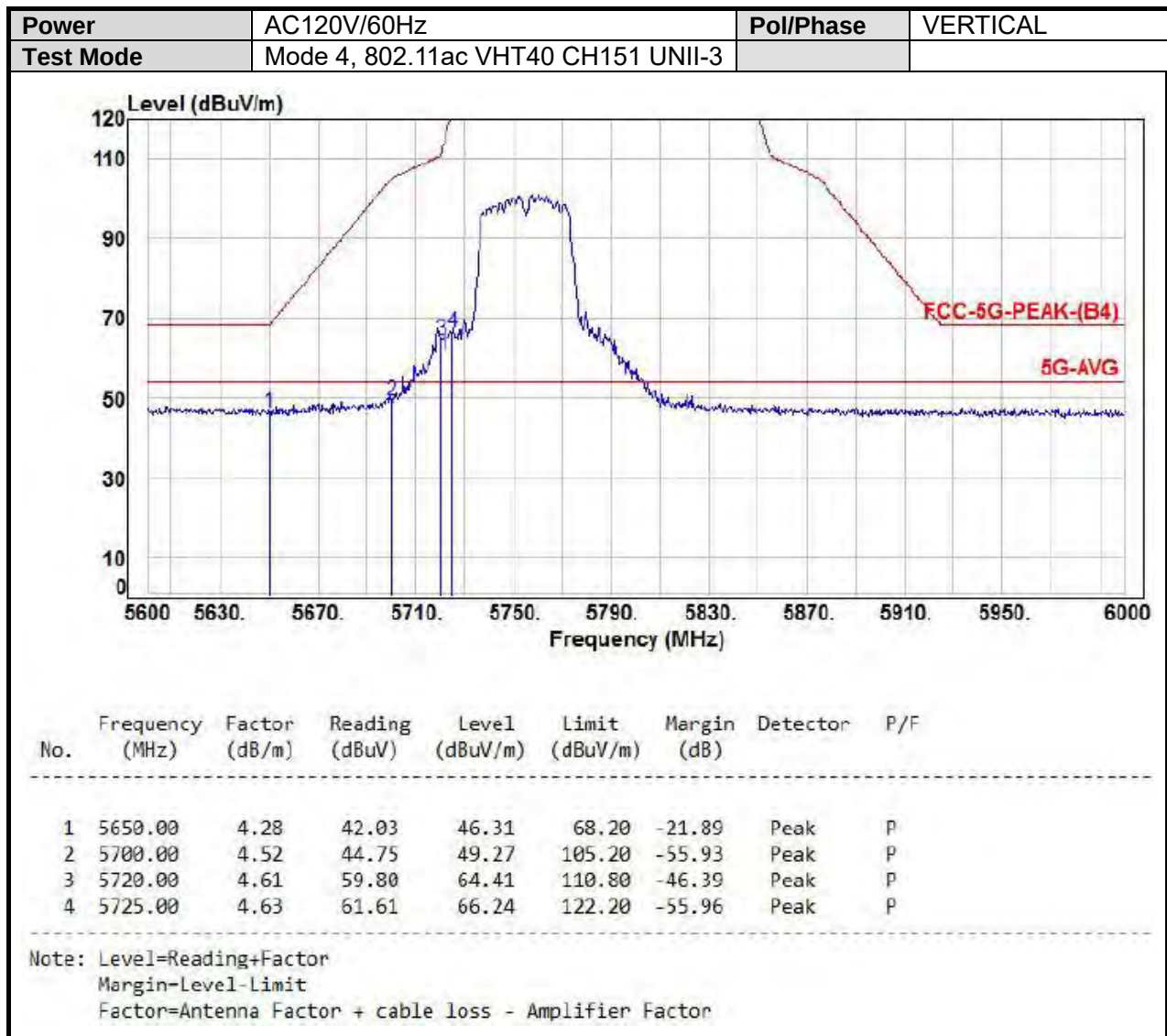
MIMO-UNII-3

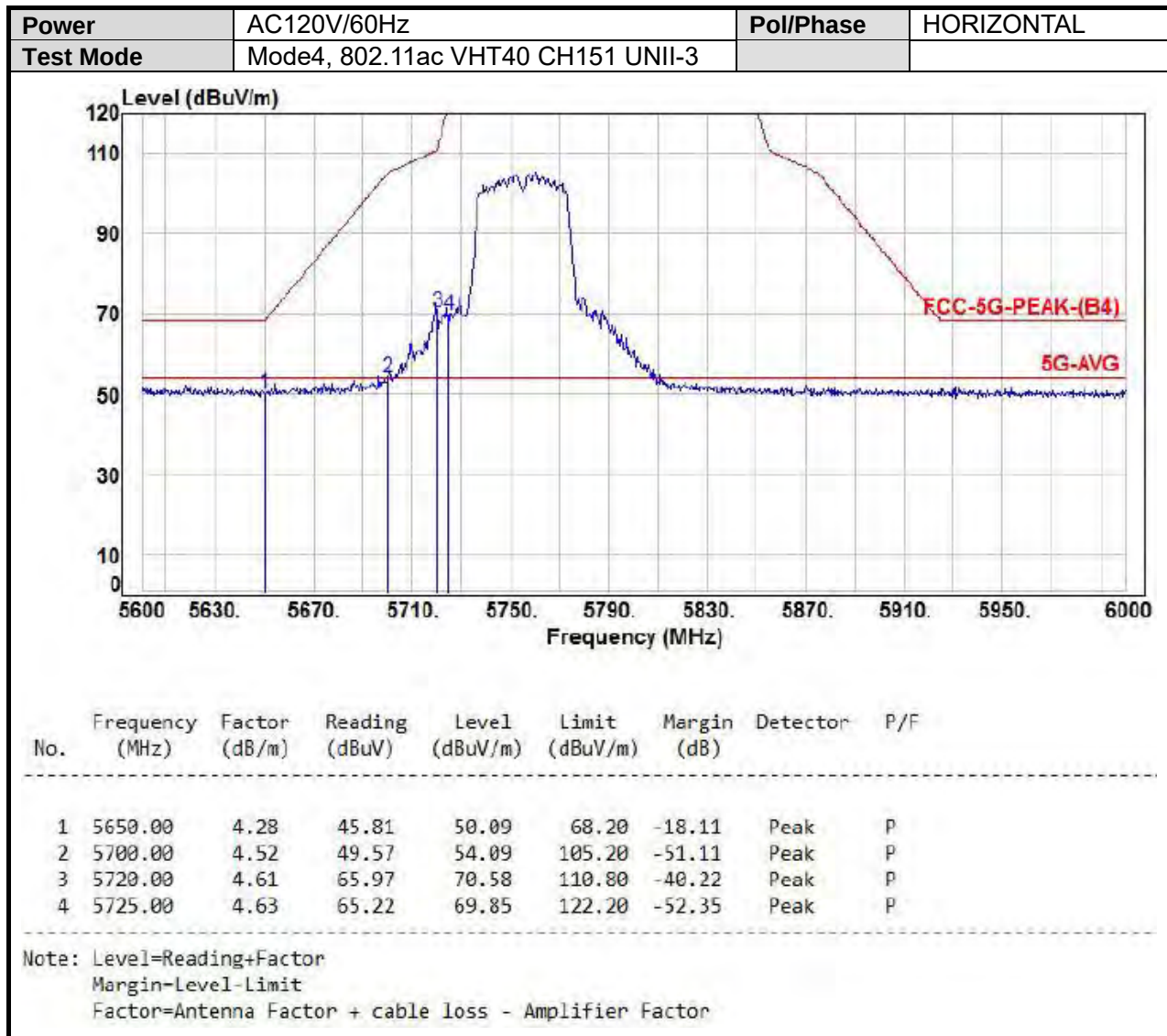


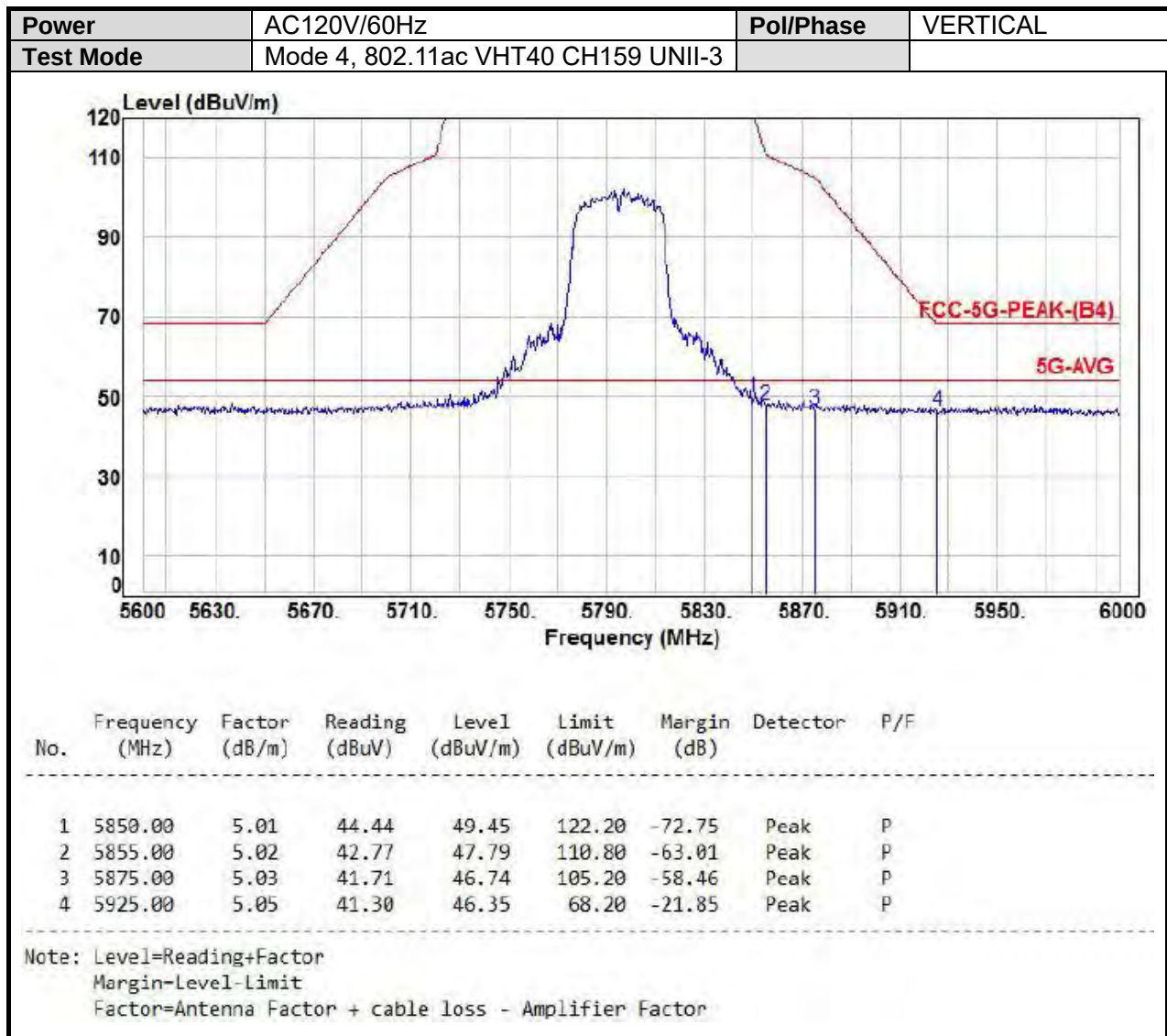


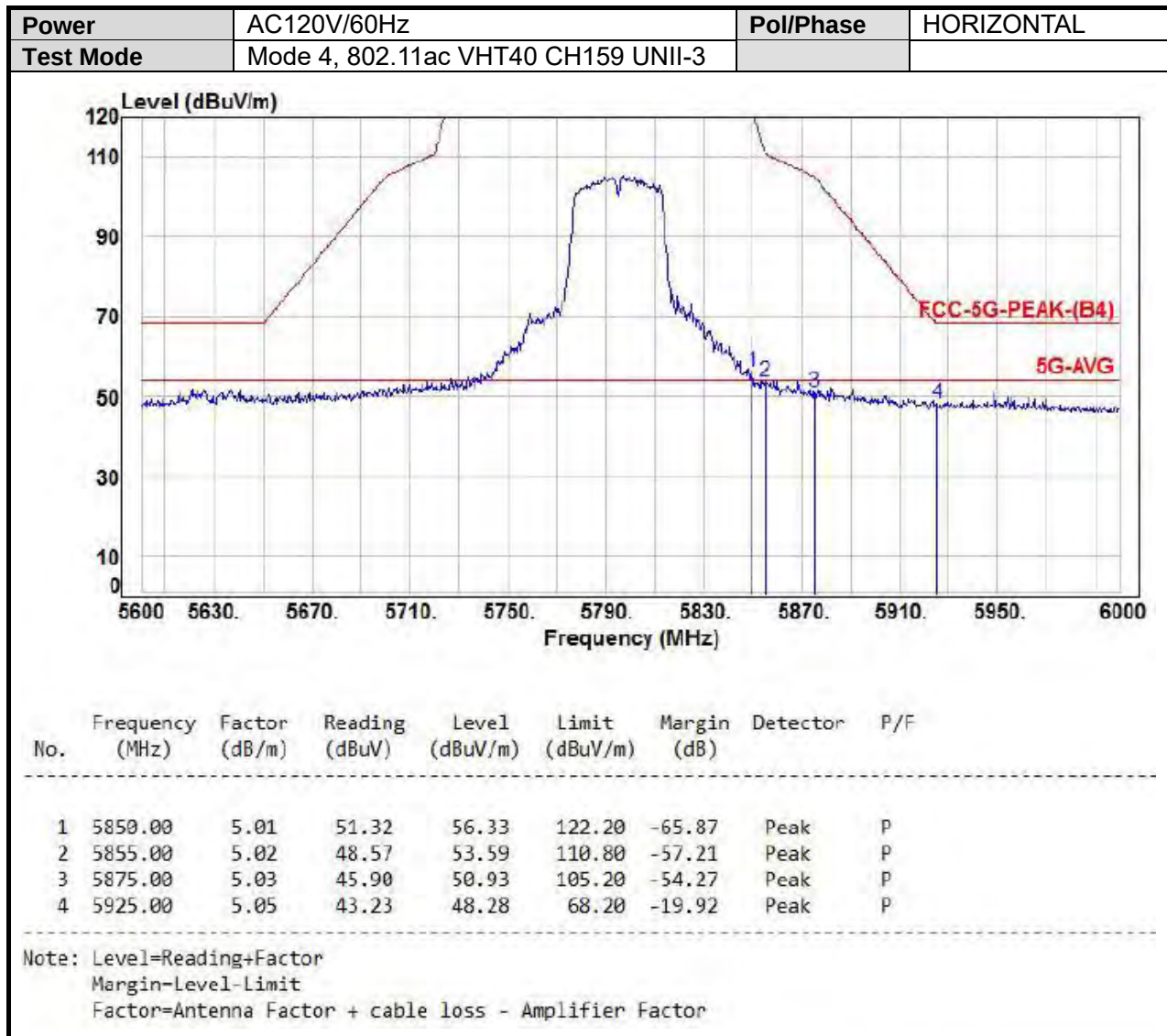


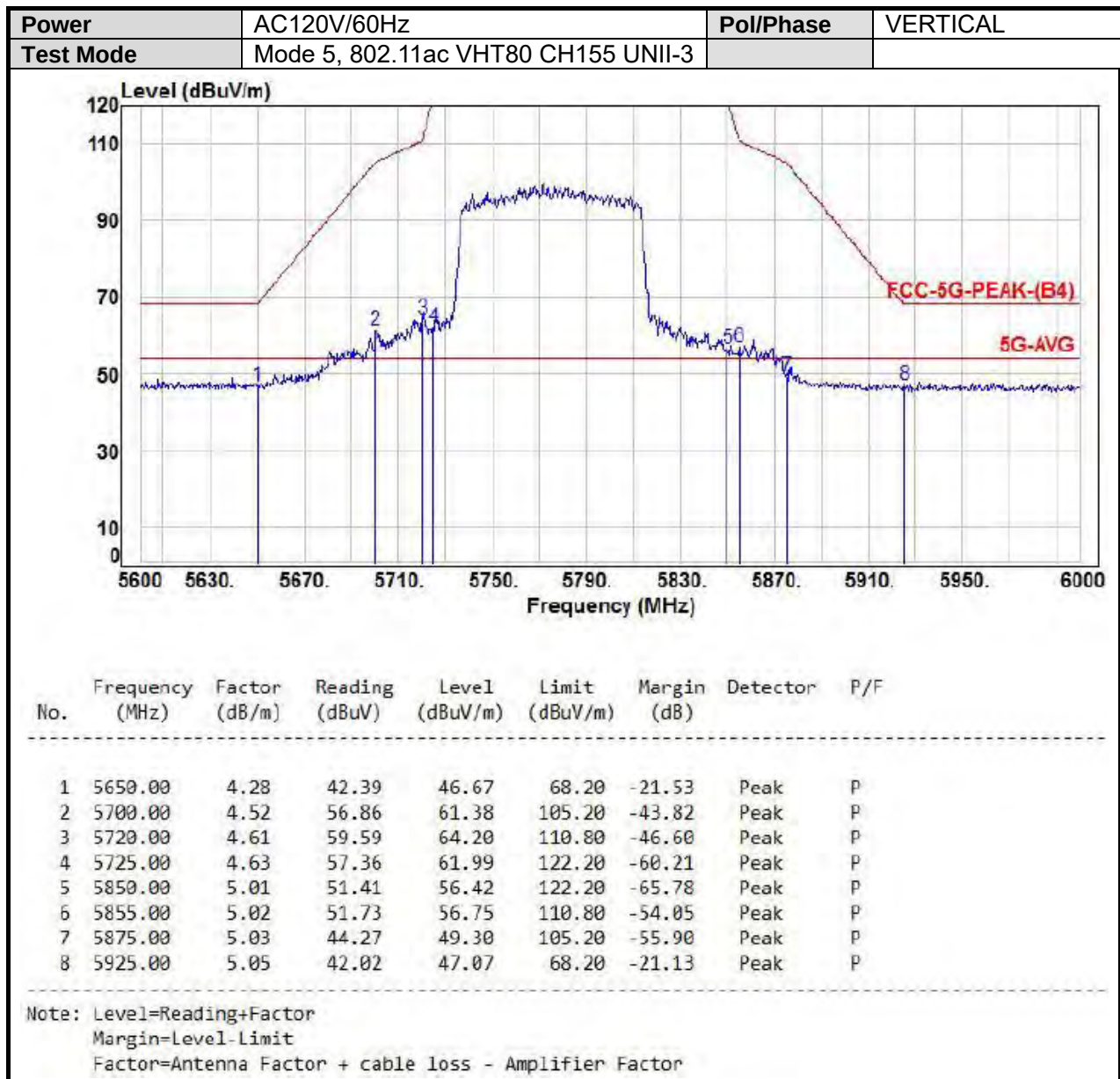














-----End of the report -----