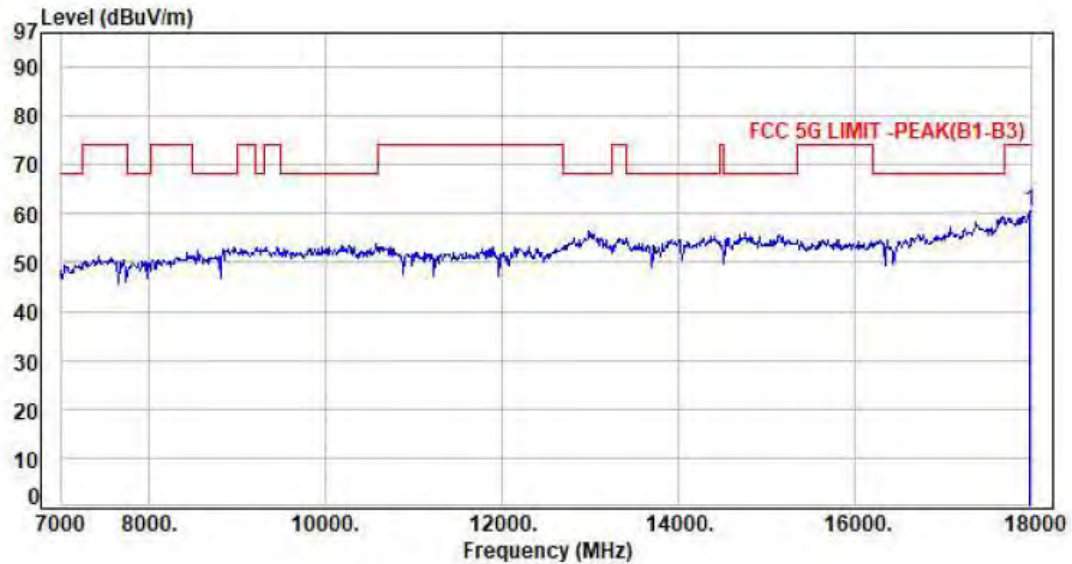




6.8. Test Result and Data (7GHz ~ 18GHz)

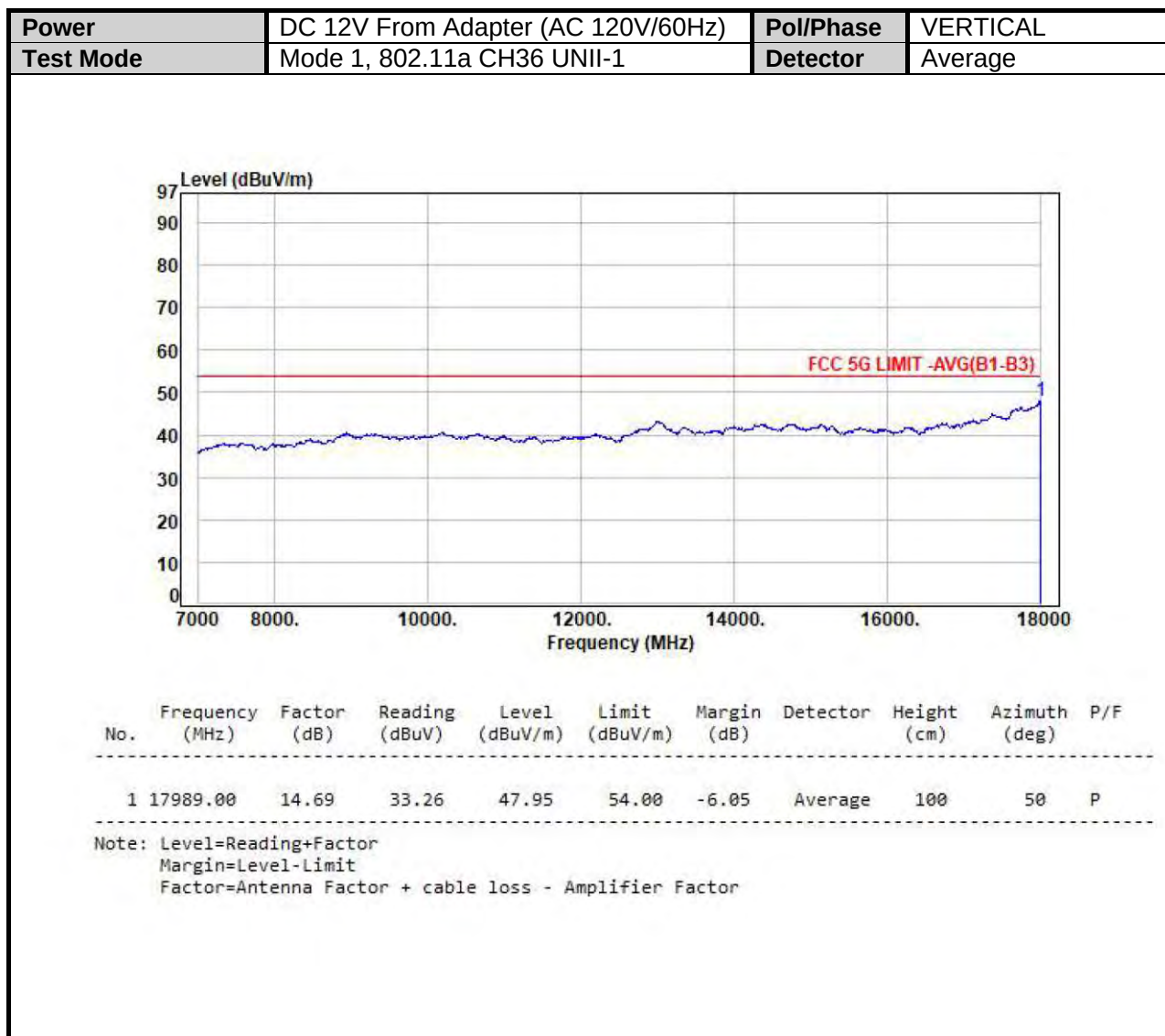
UNII-1

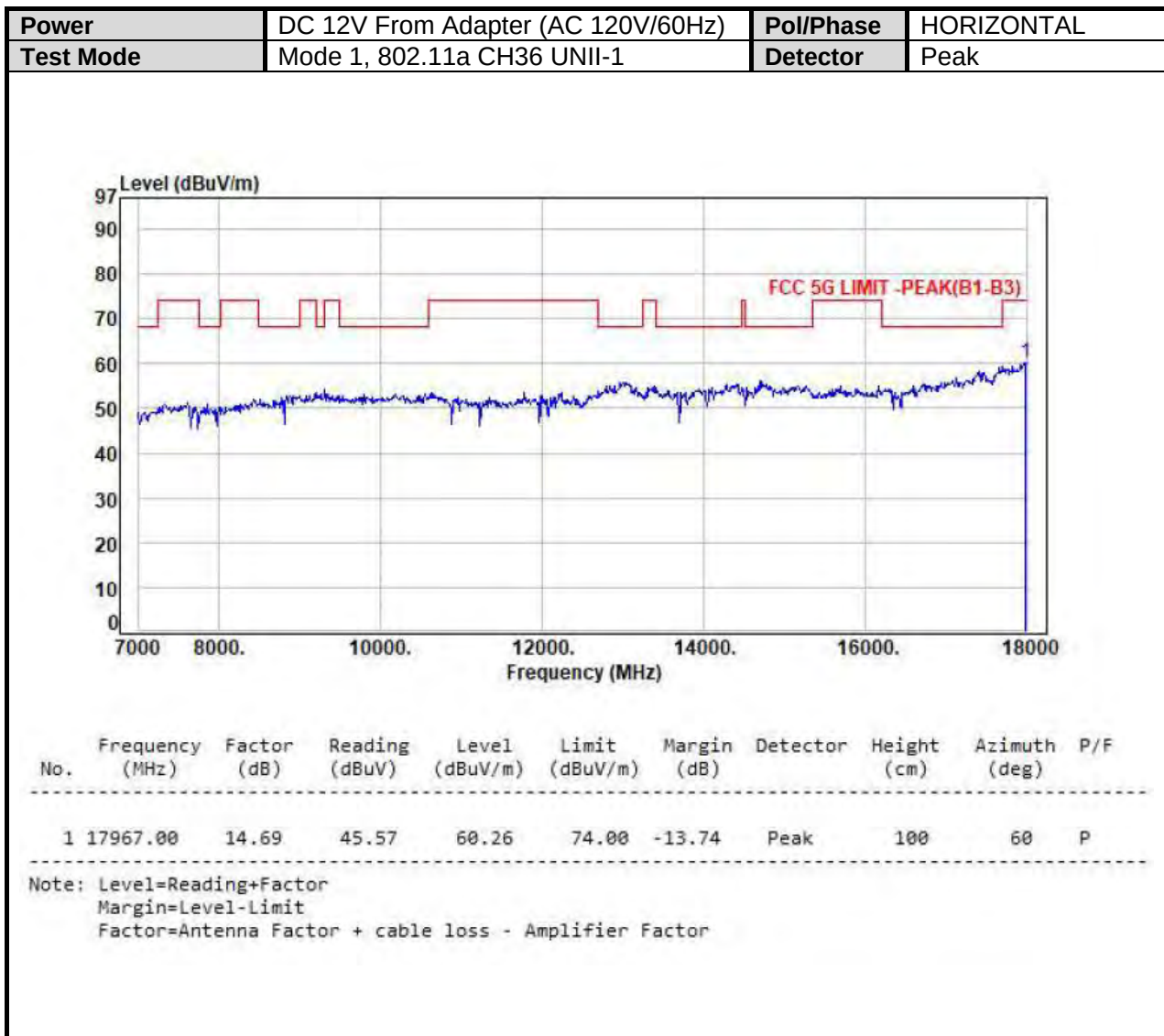
Power	DC 12V From Adapter (AC 120V/60Hz)	Pol/Phase	VERTICAL
Test Mode	Mode 1, 802.11a CH36 UNII-1	Detector	Peak

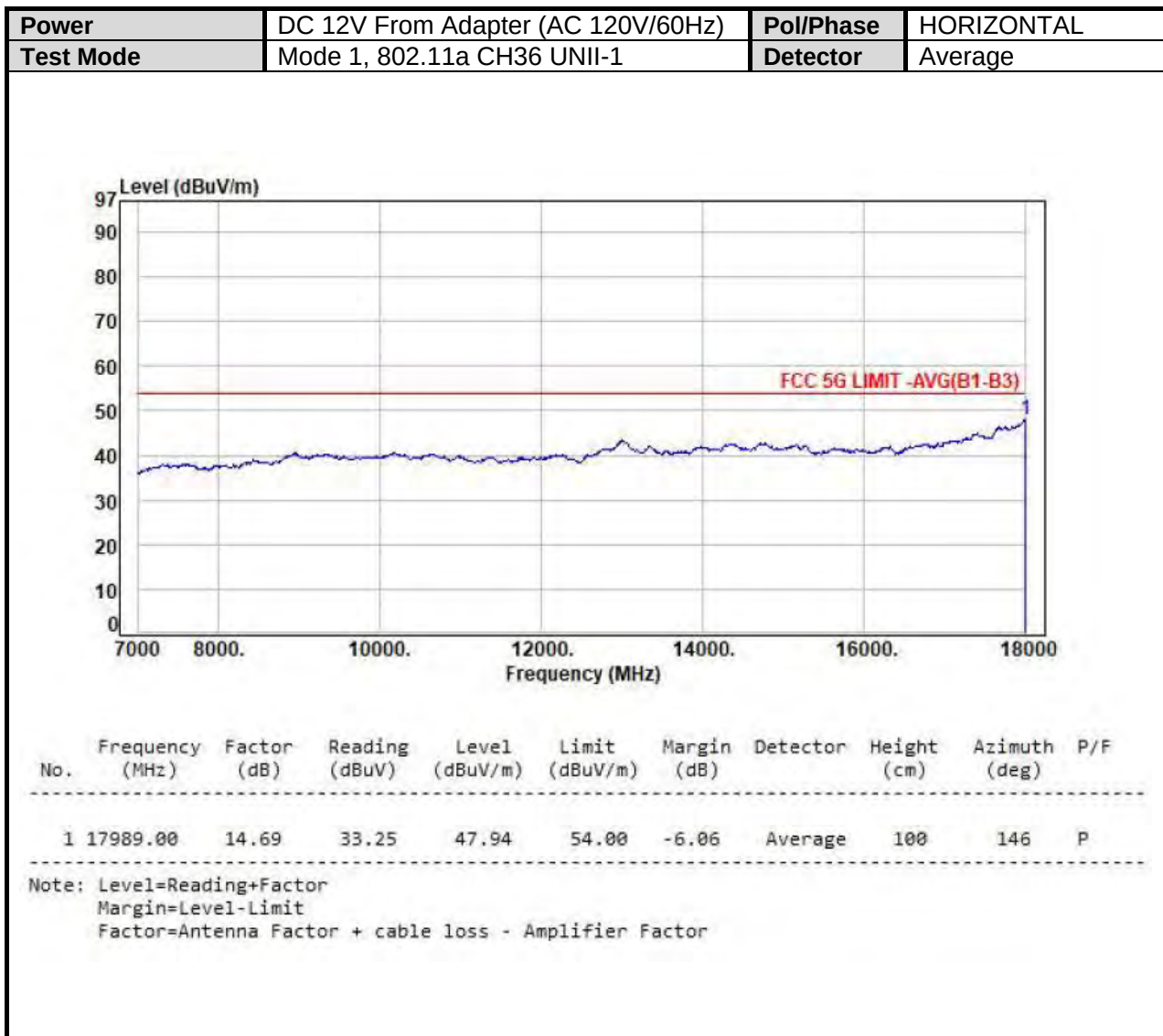


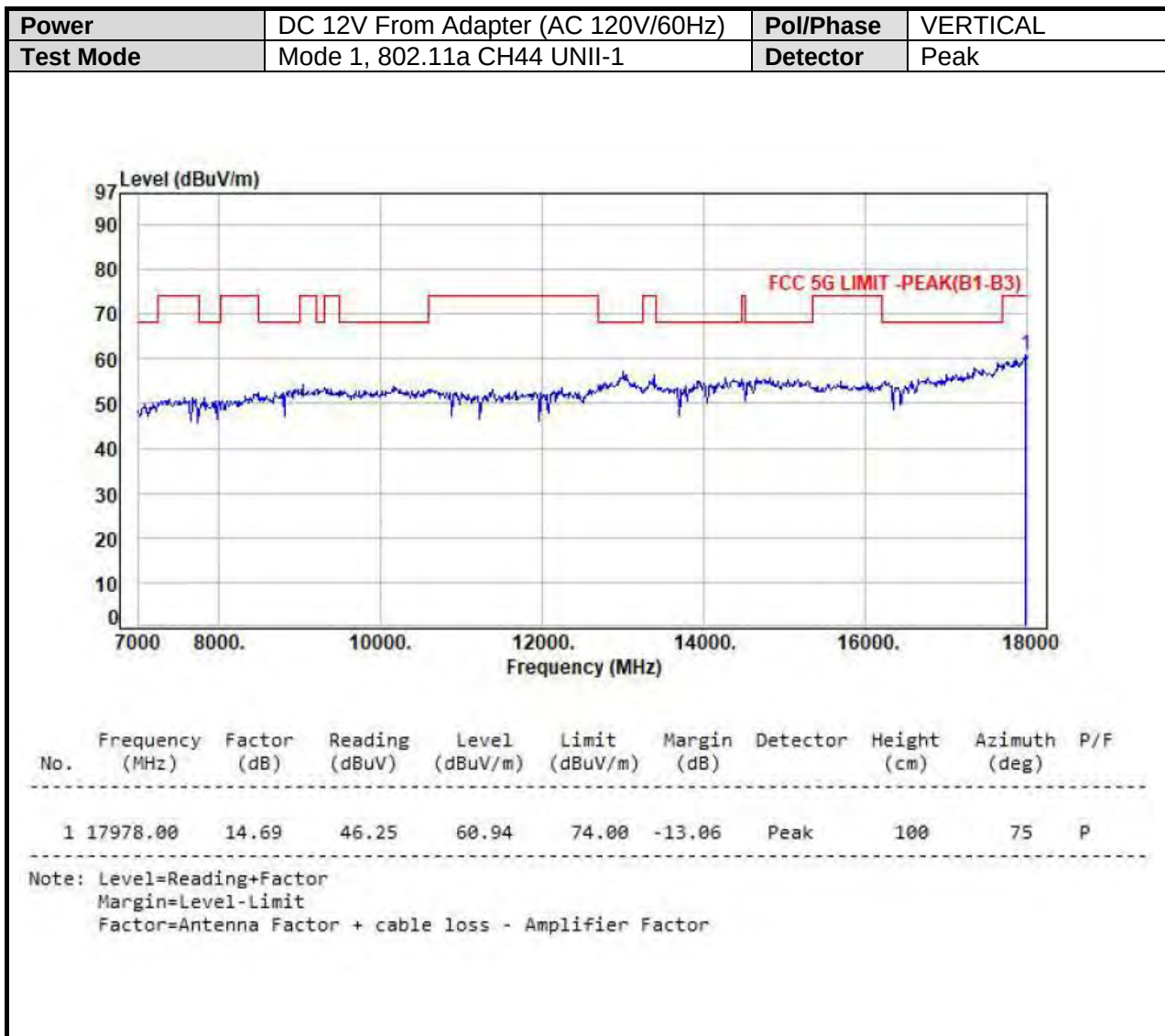
No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	17978.00	14.69	45.92	60.61	74.00	-13.39	Peak	100	141	P

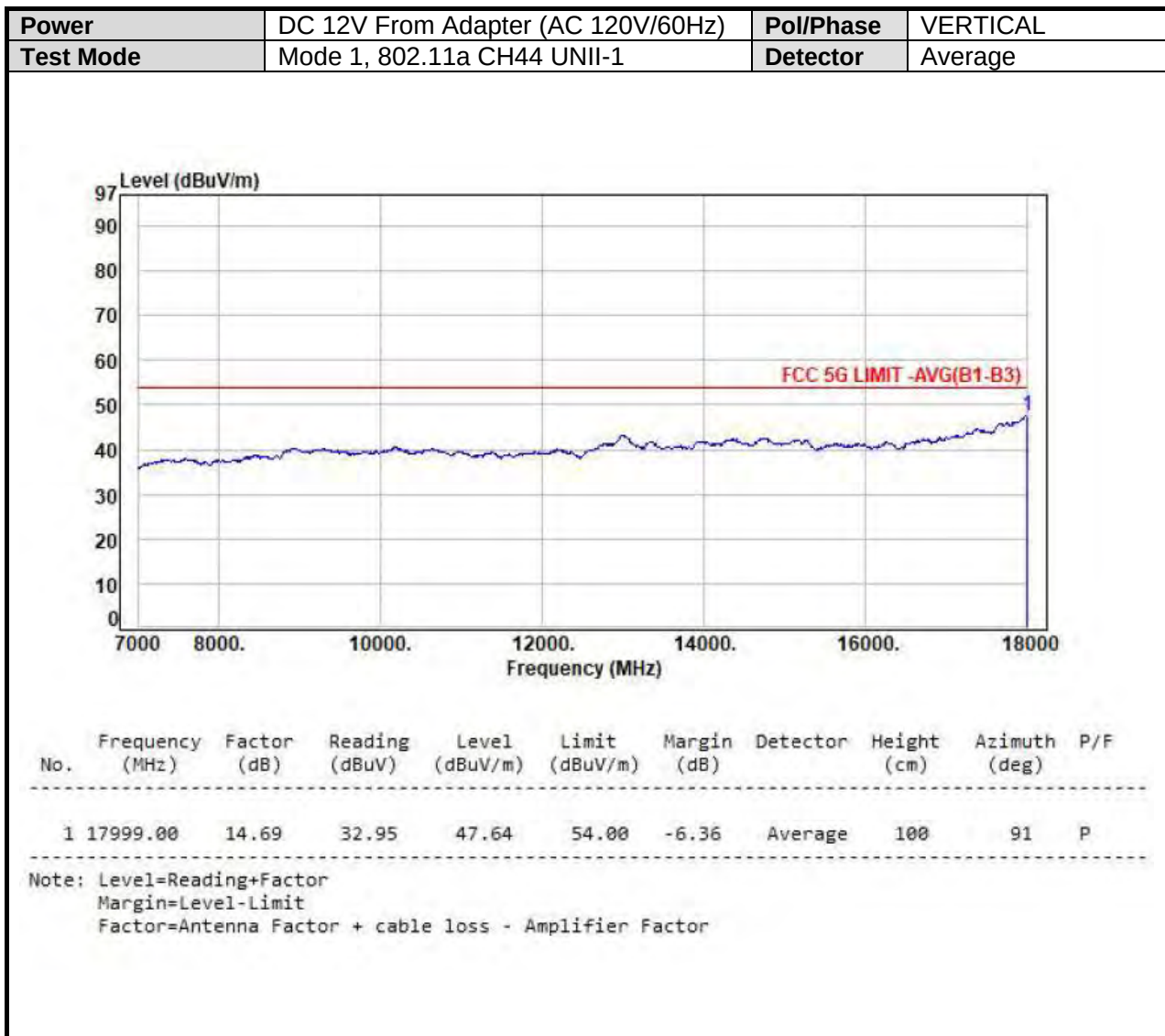
Note: Level=Reading+Factor
Margin=Level-Limit
Factor=Antenna Factor + cable loss - Amplifier Factor

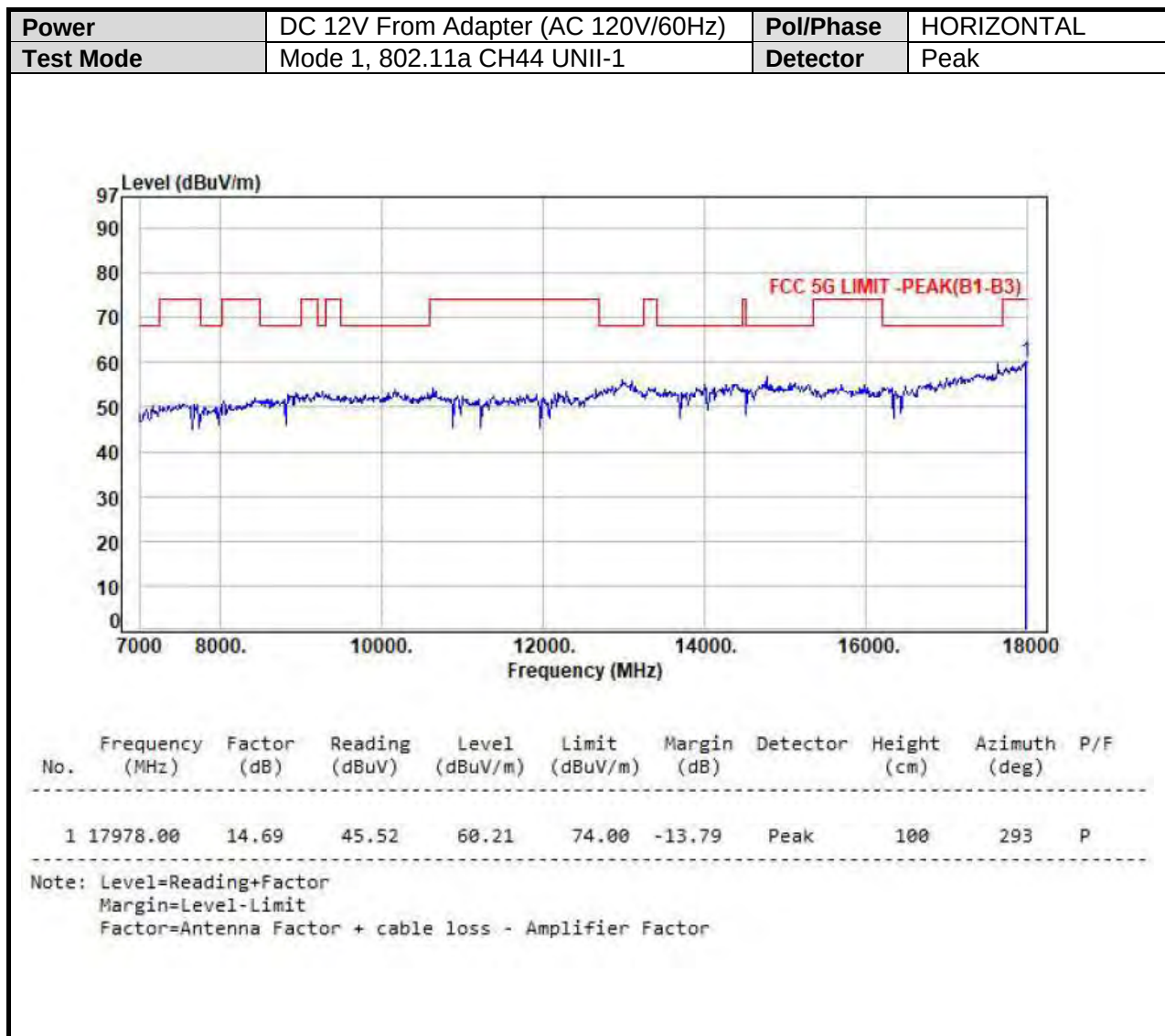


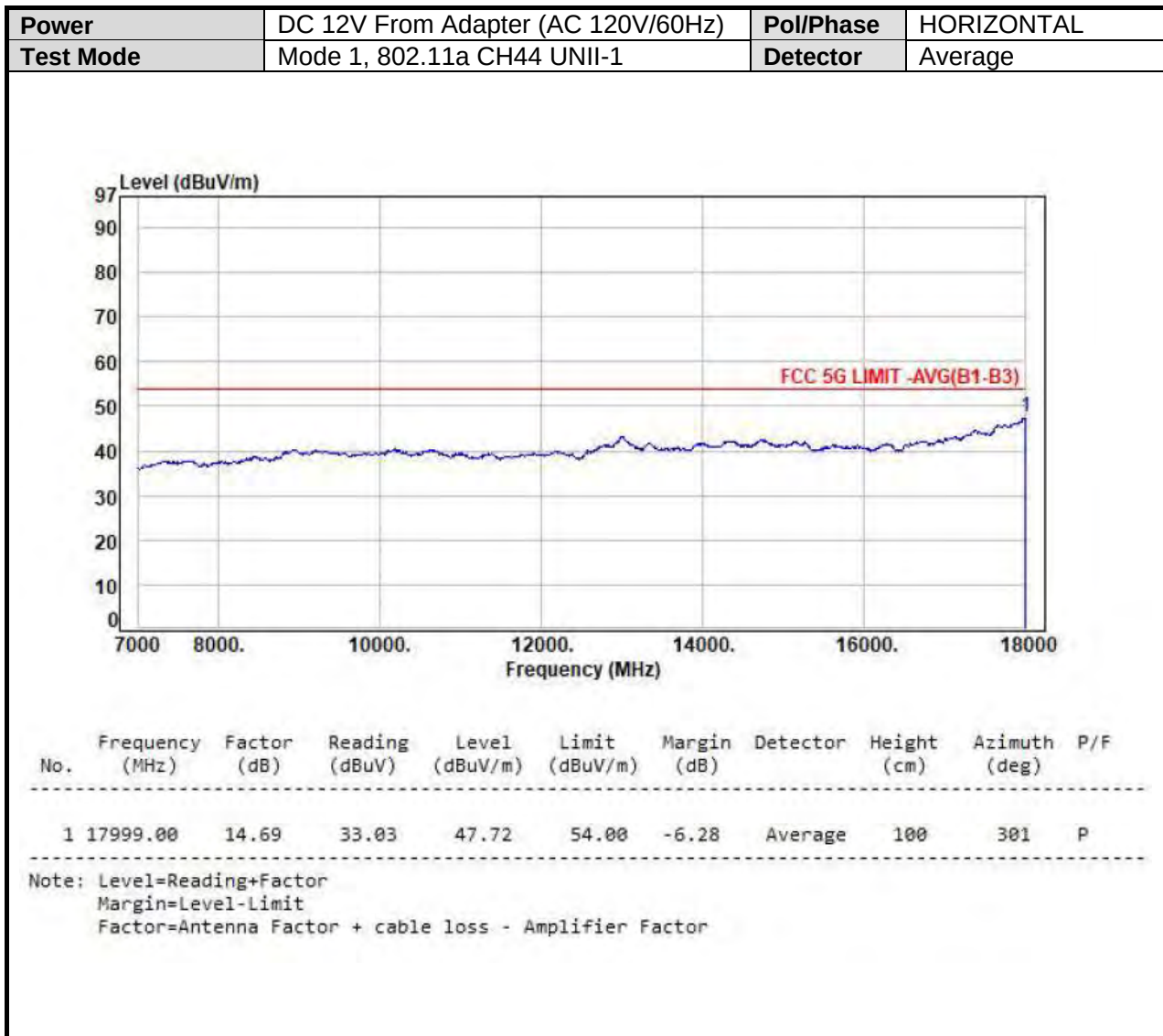


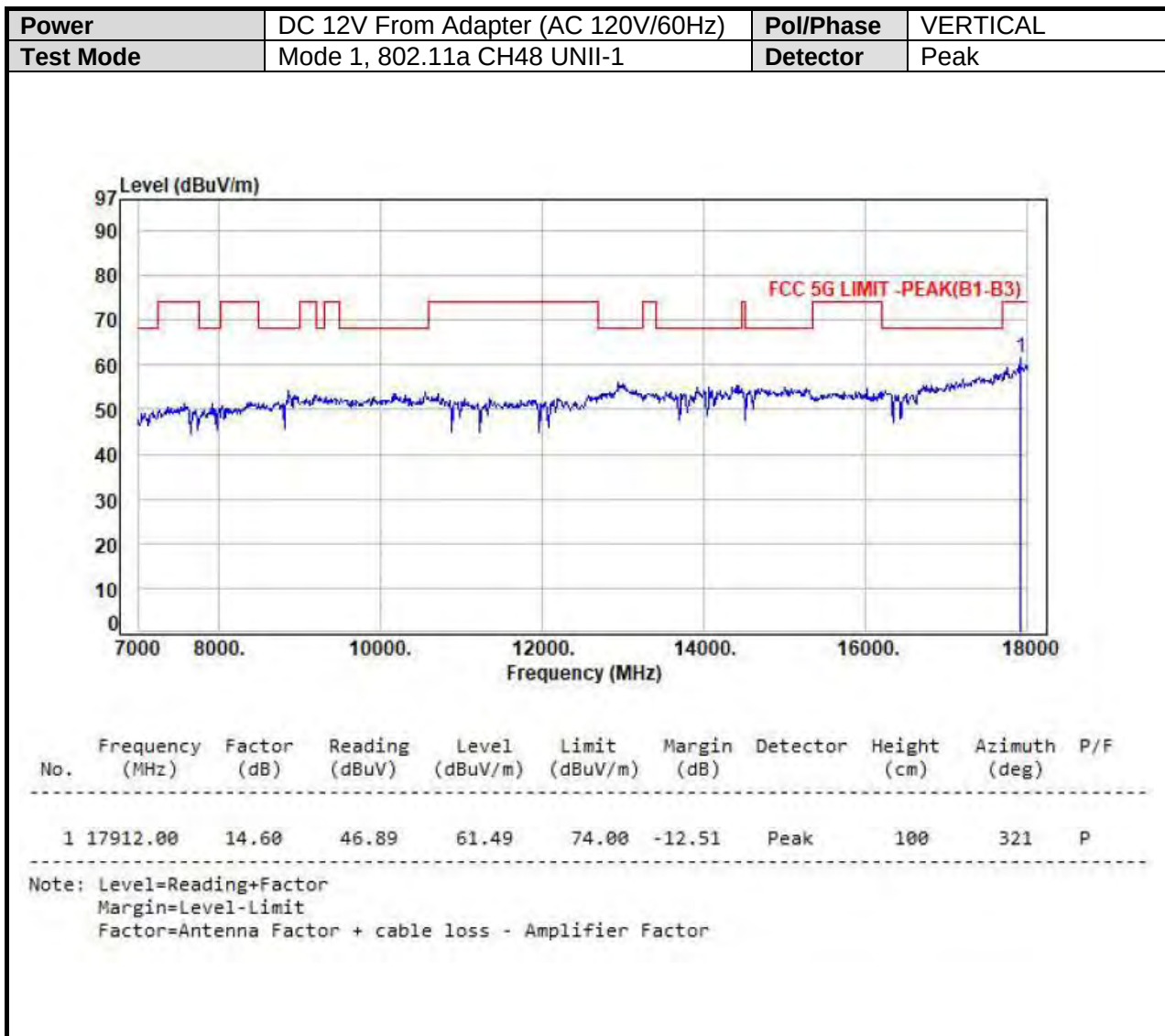


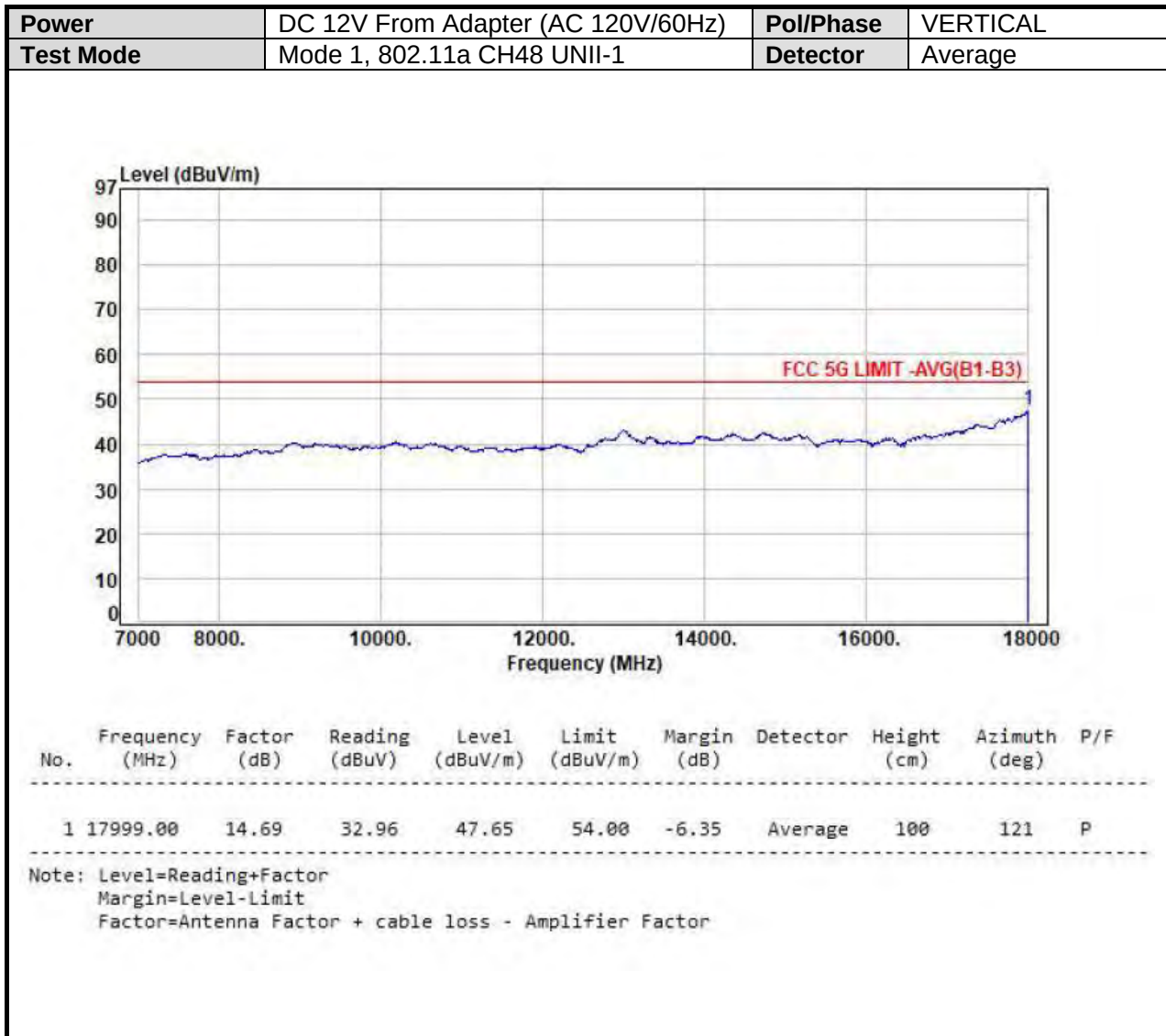


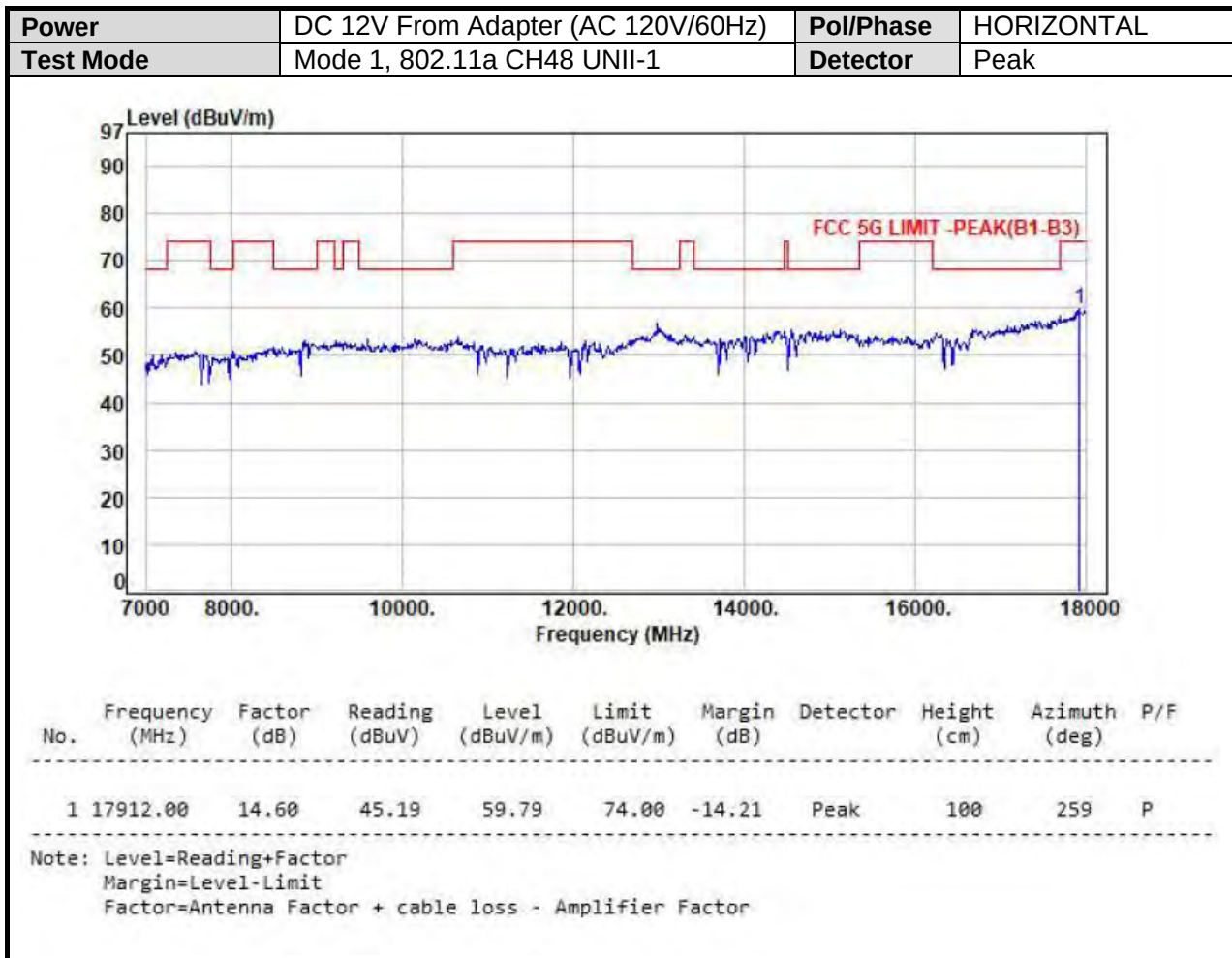


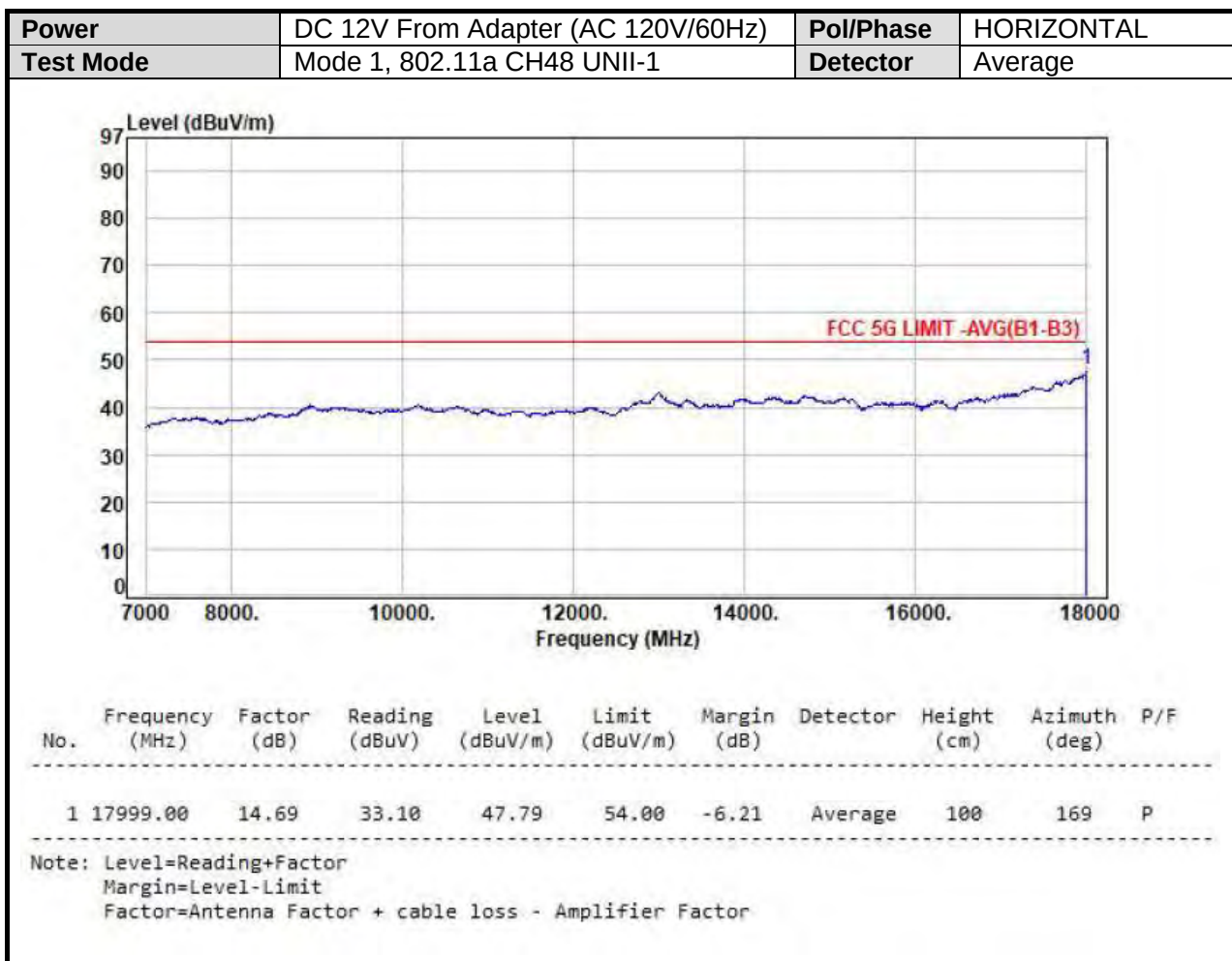


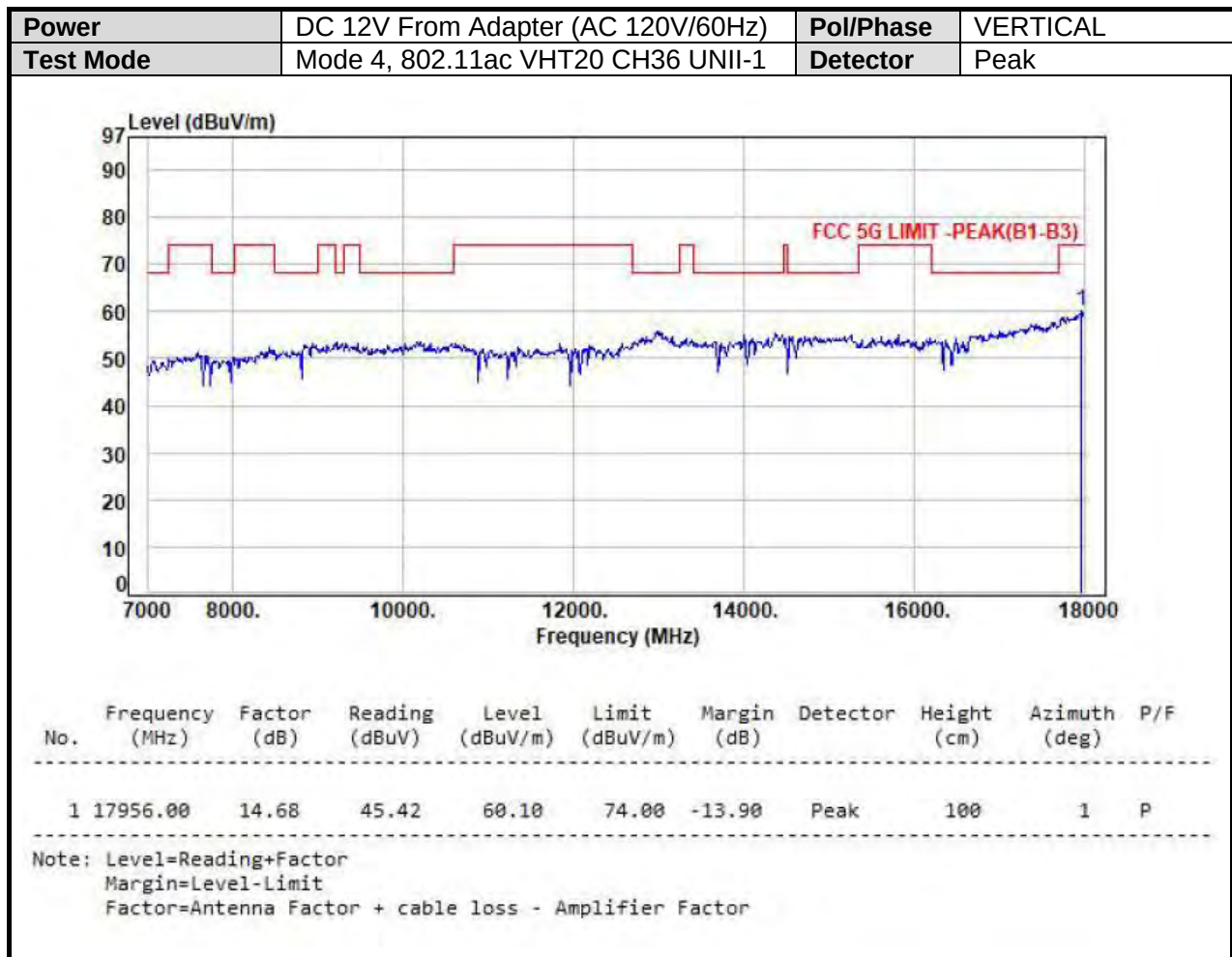


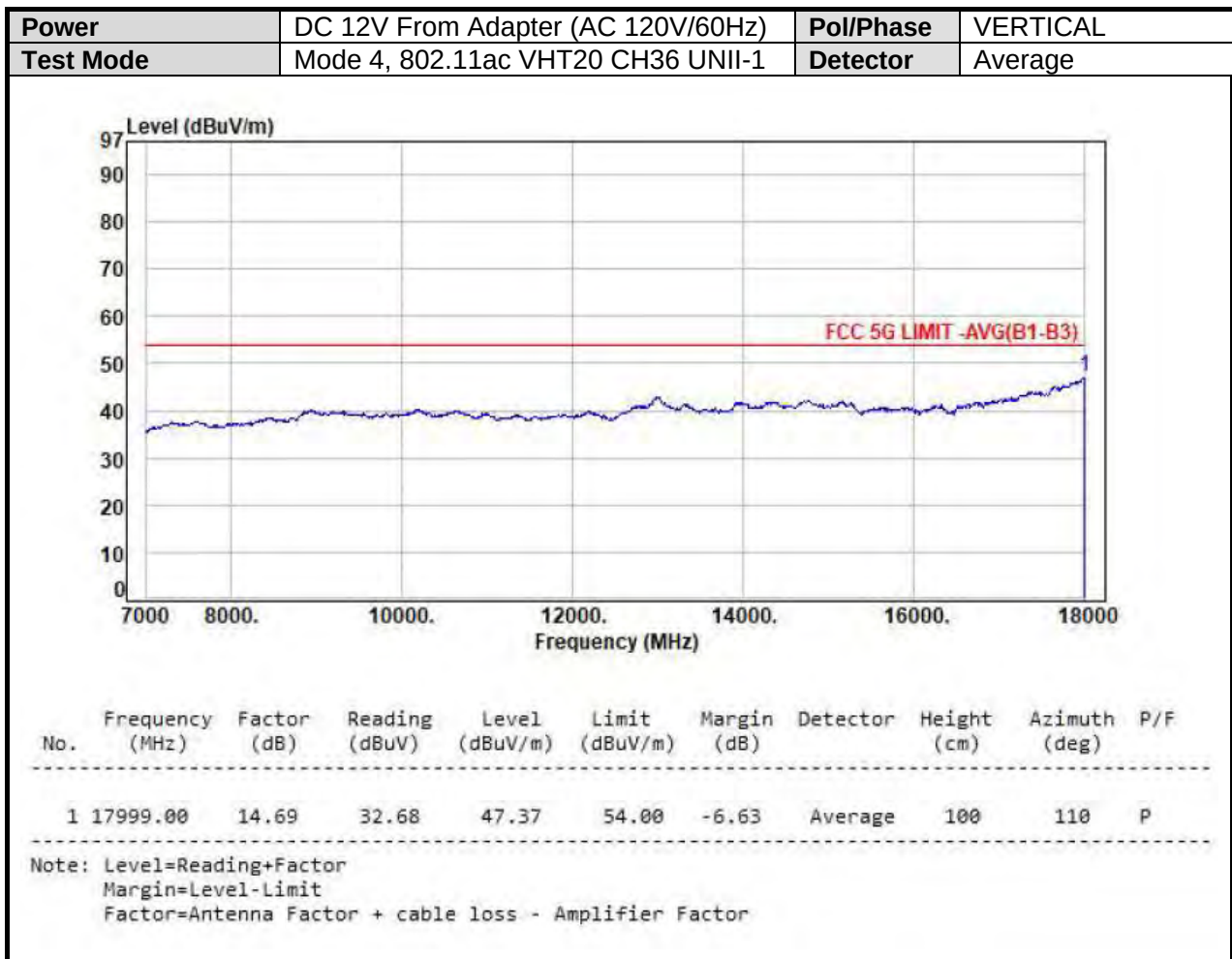


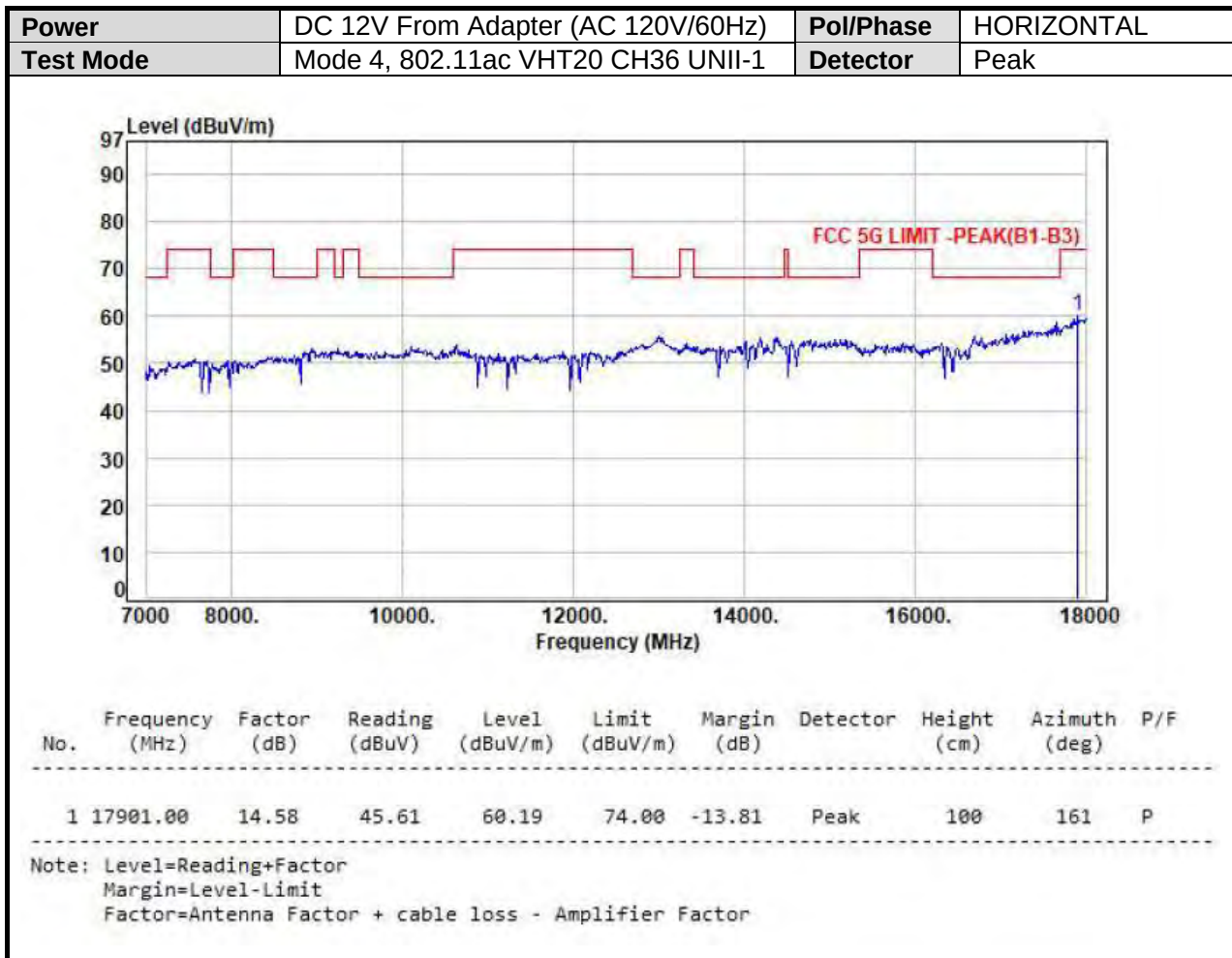


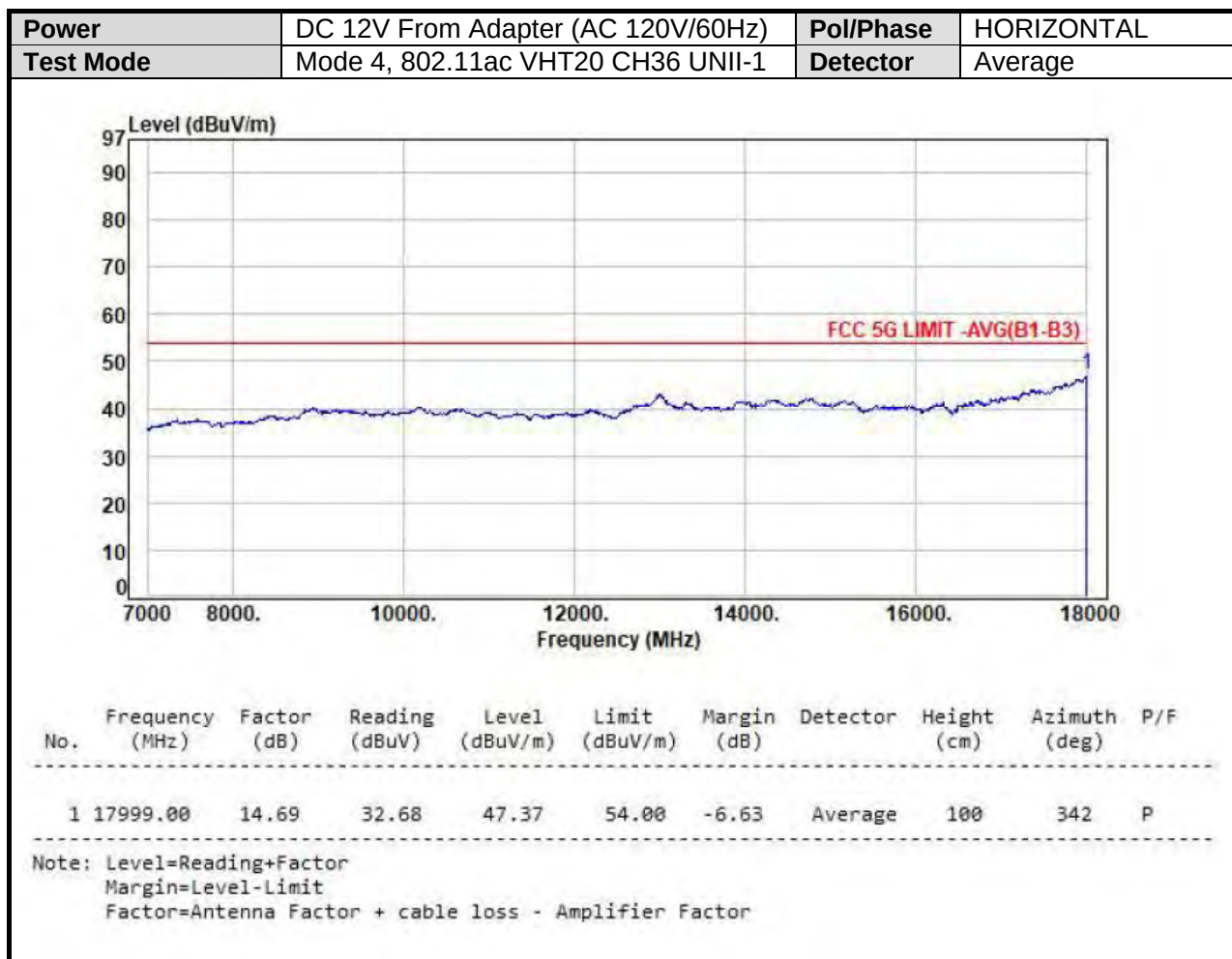


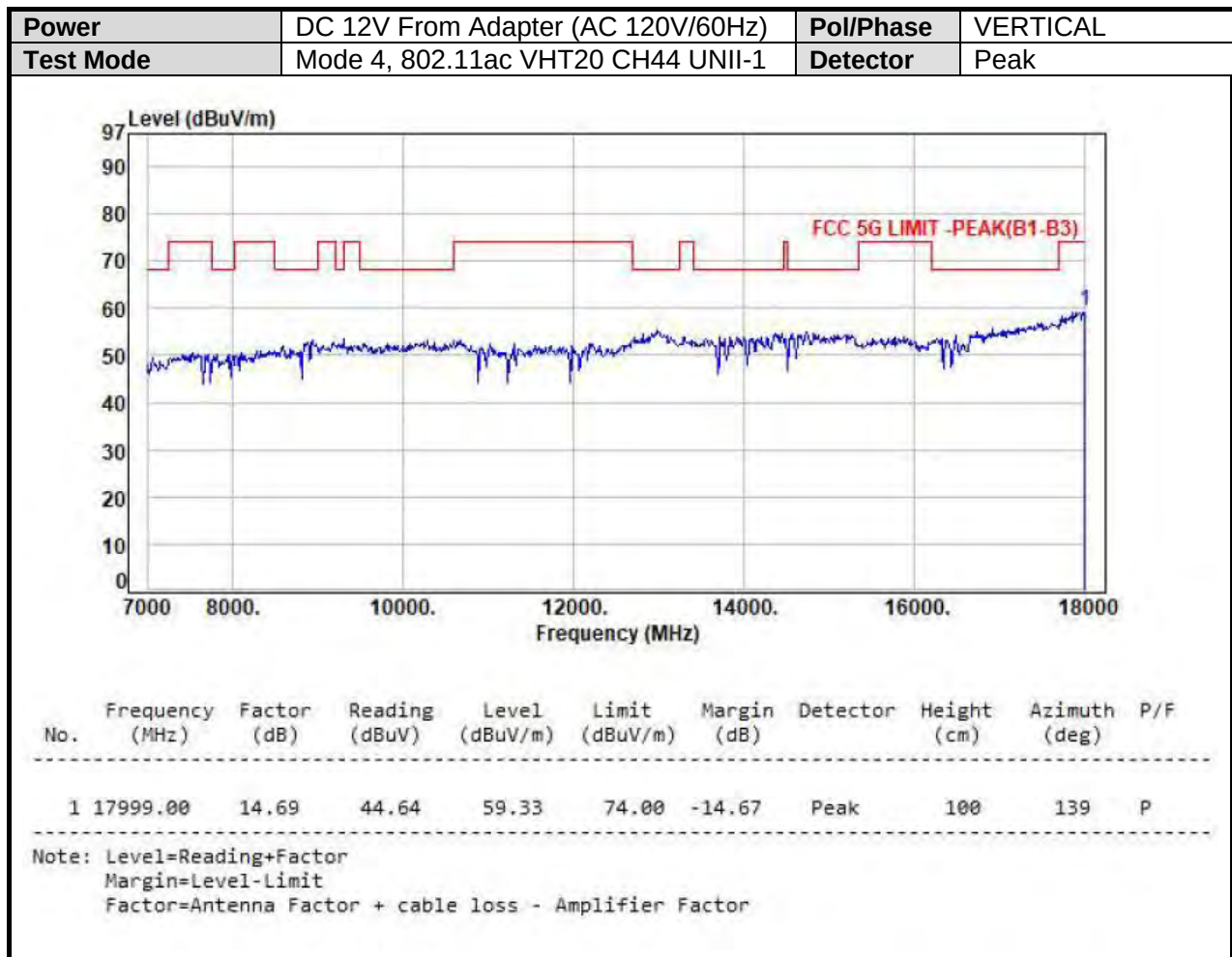


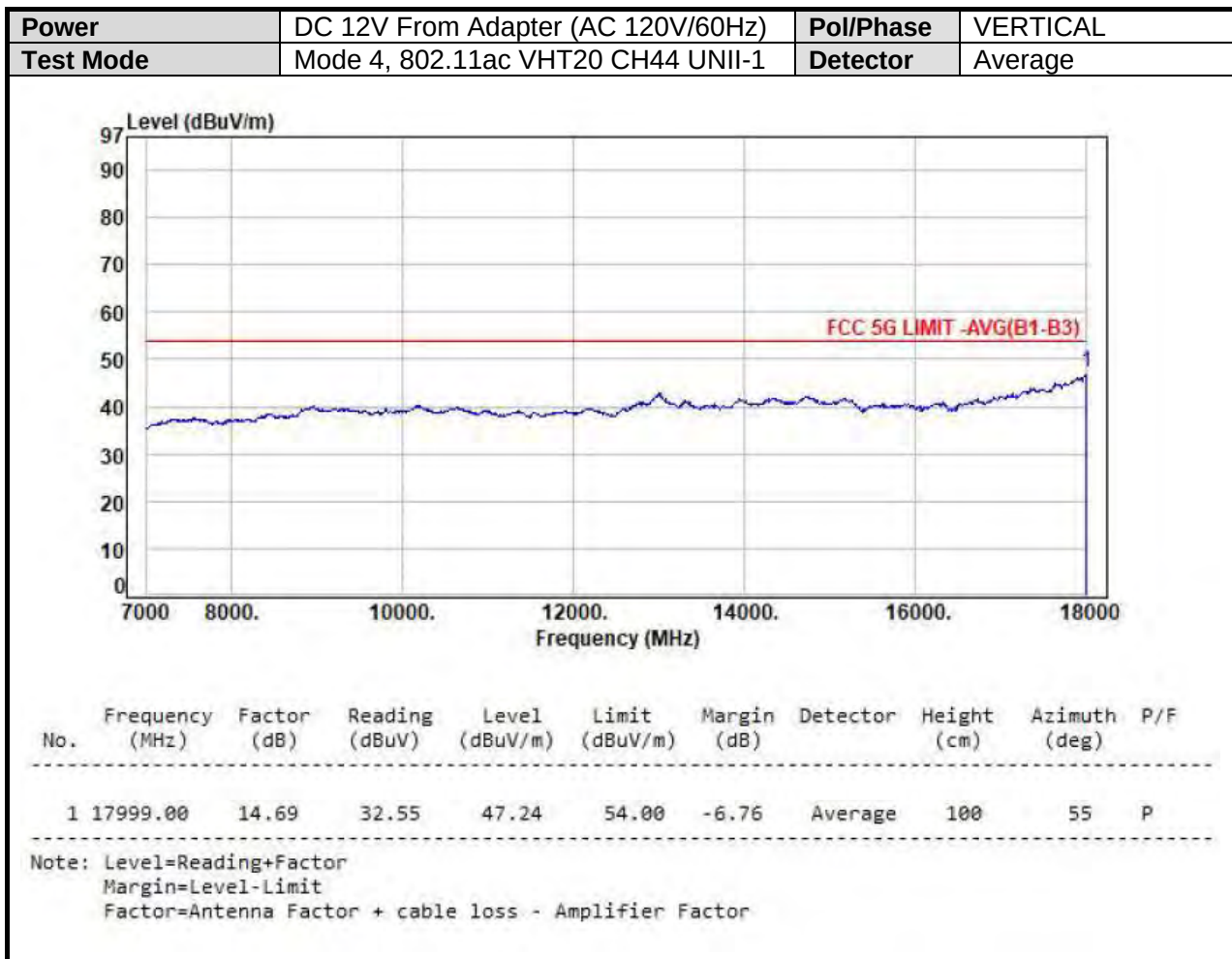


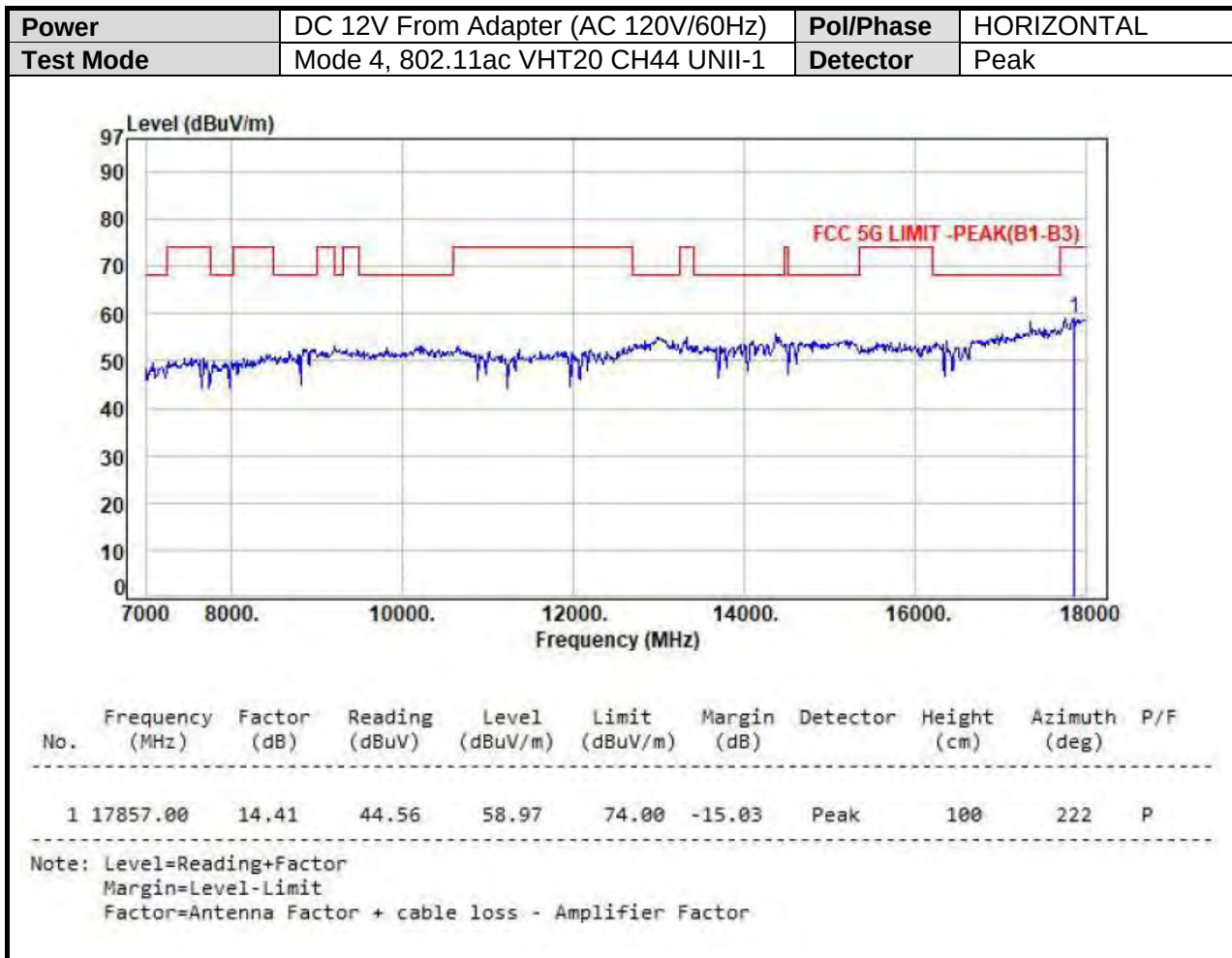


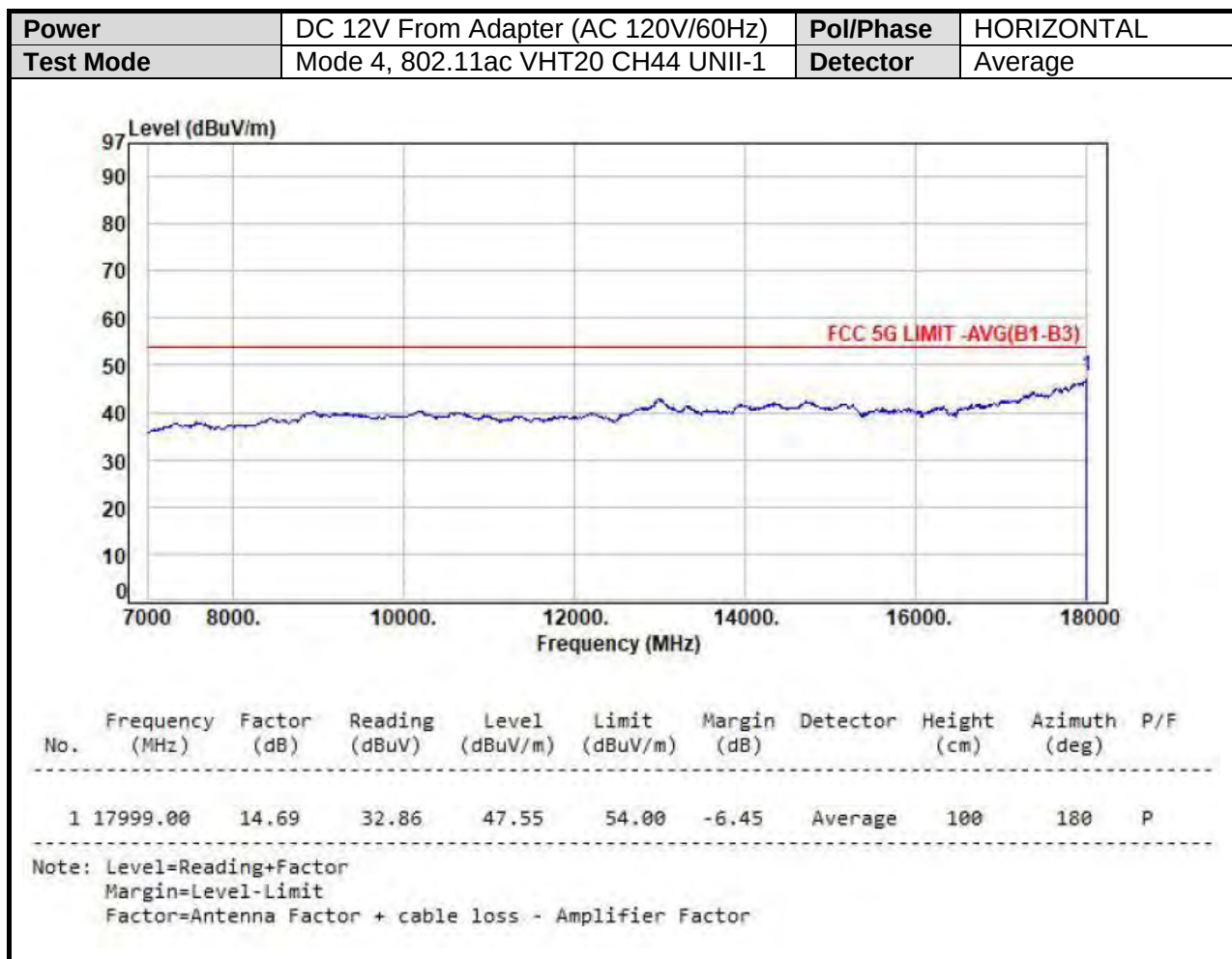


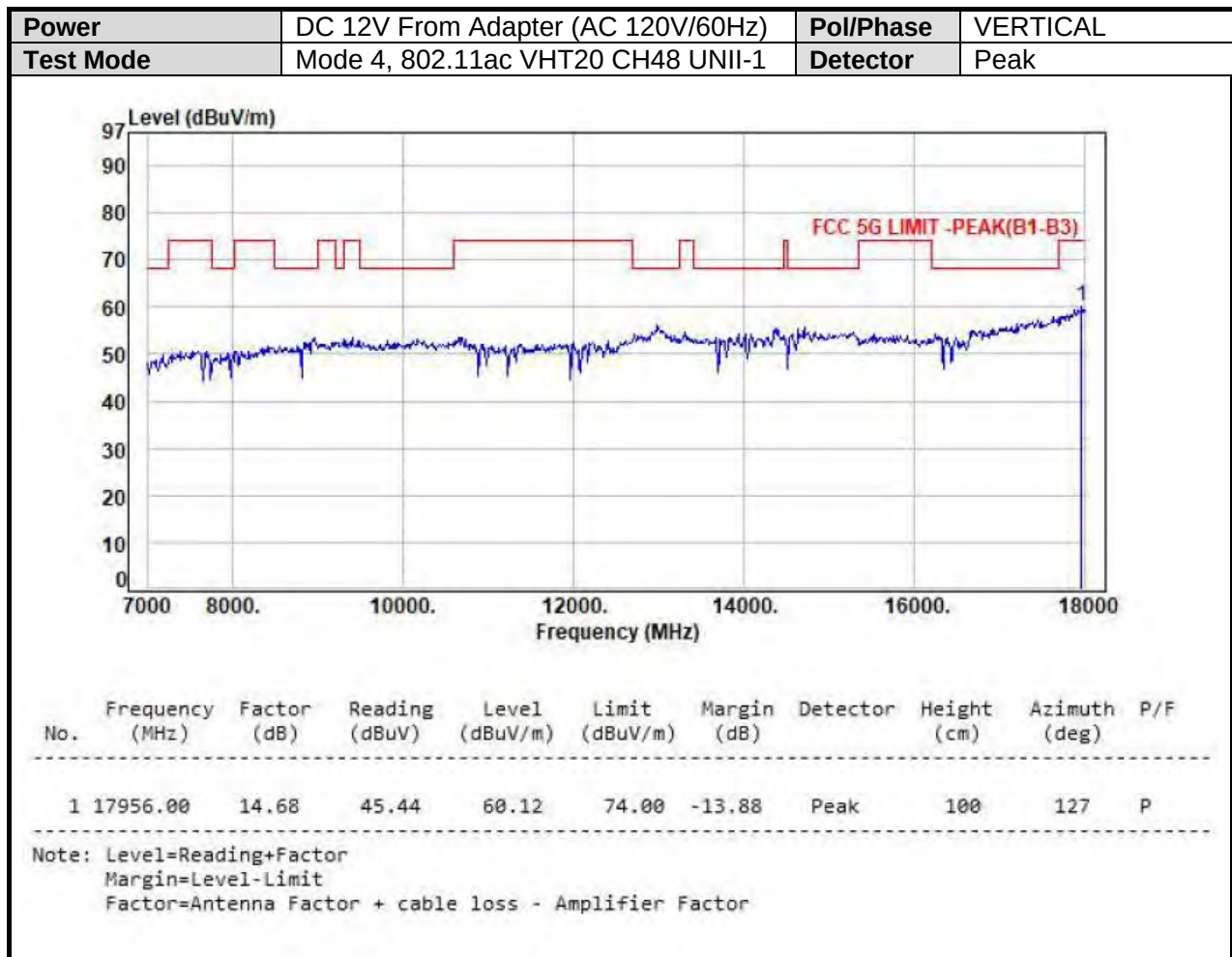


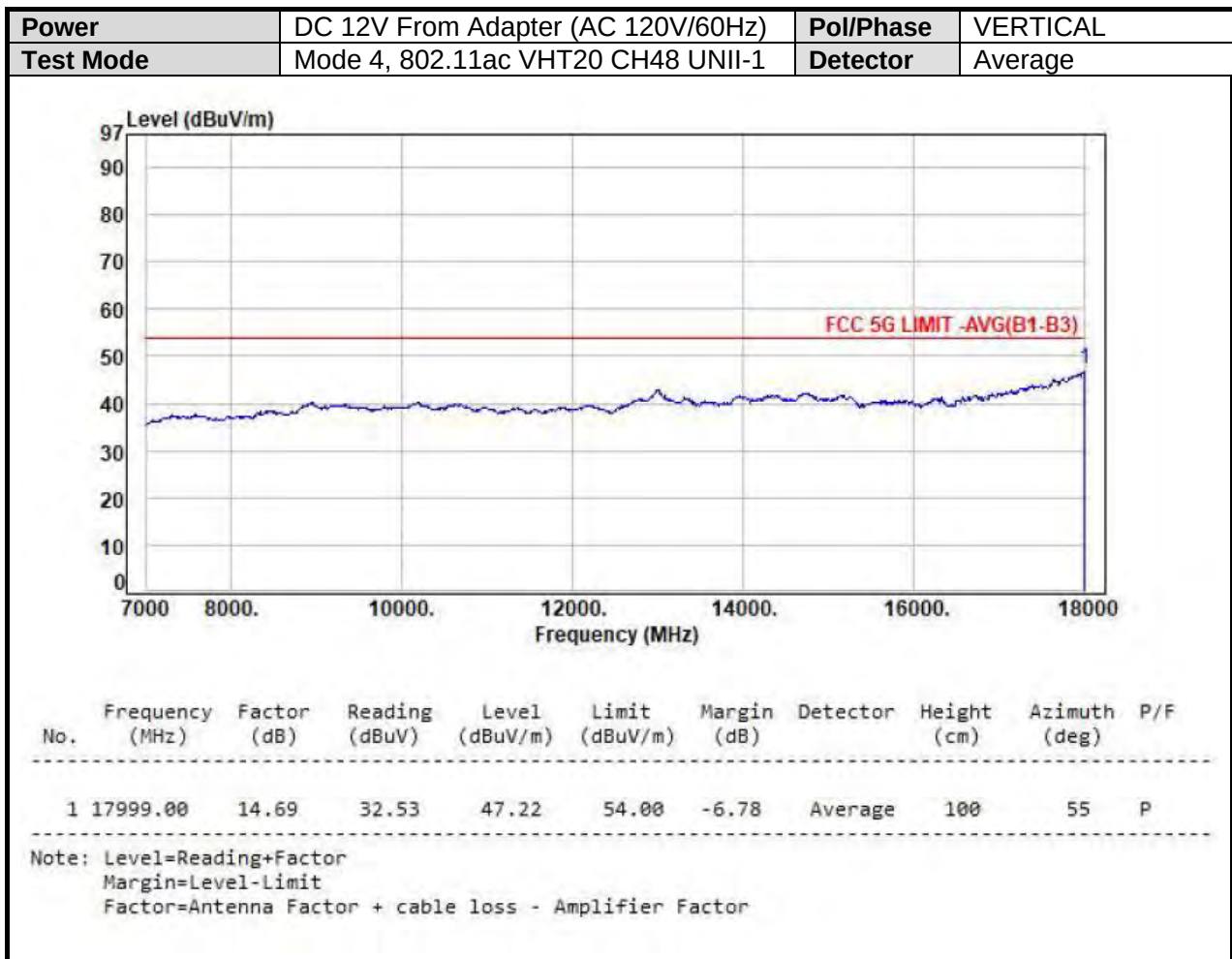


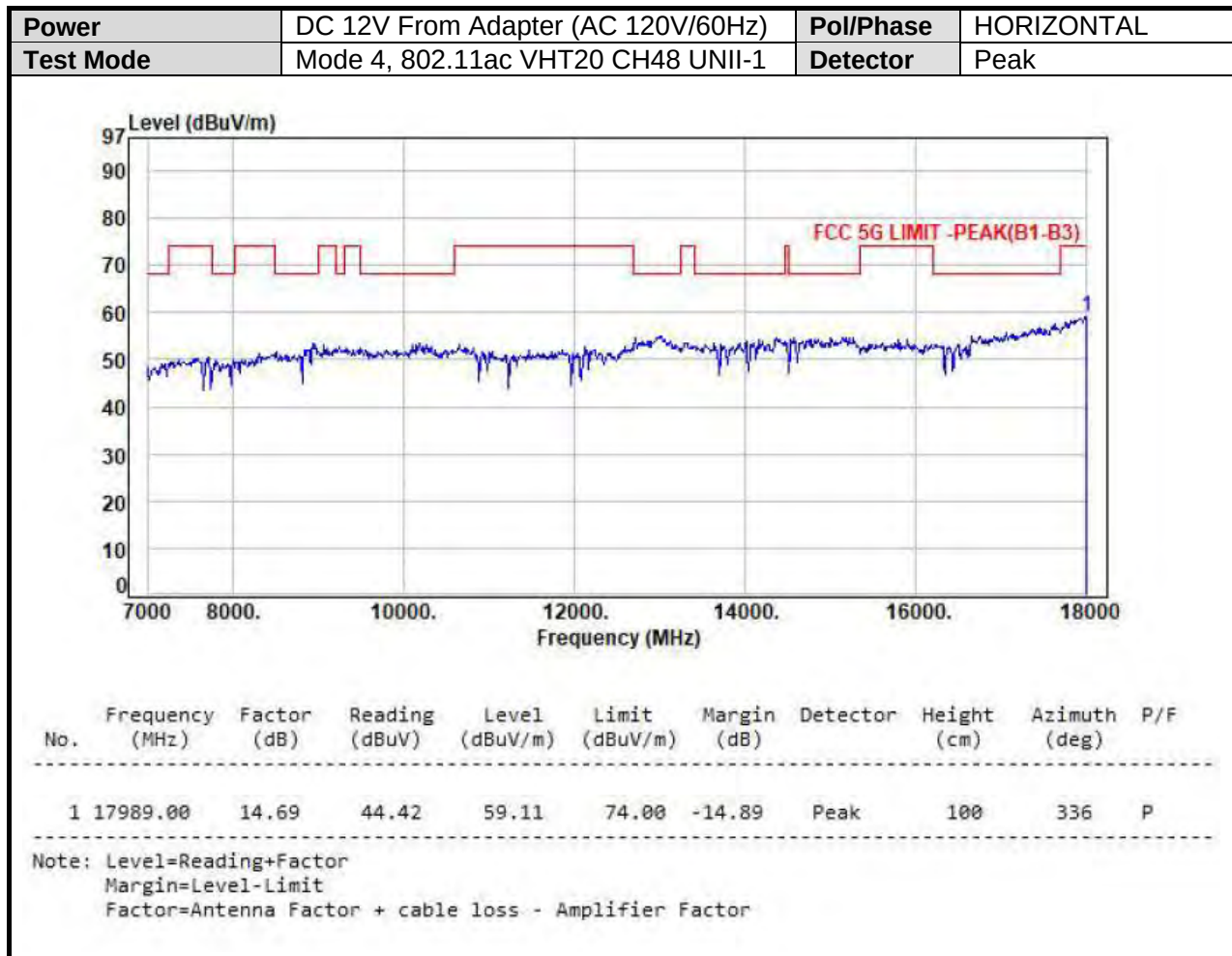


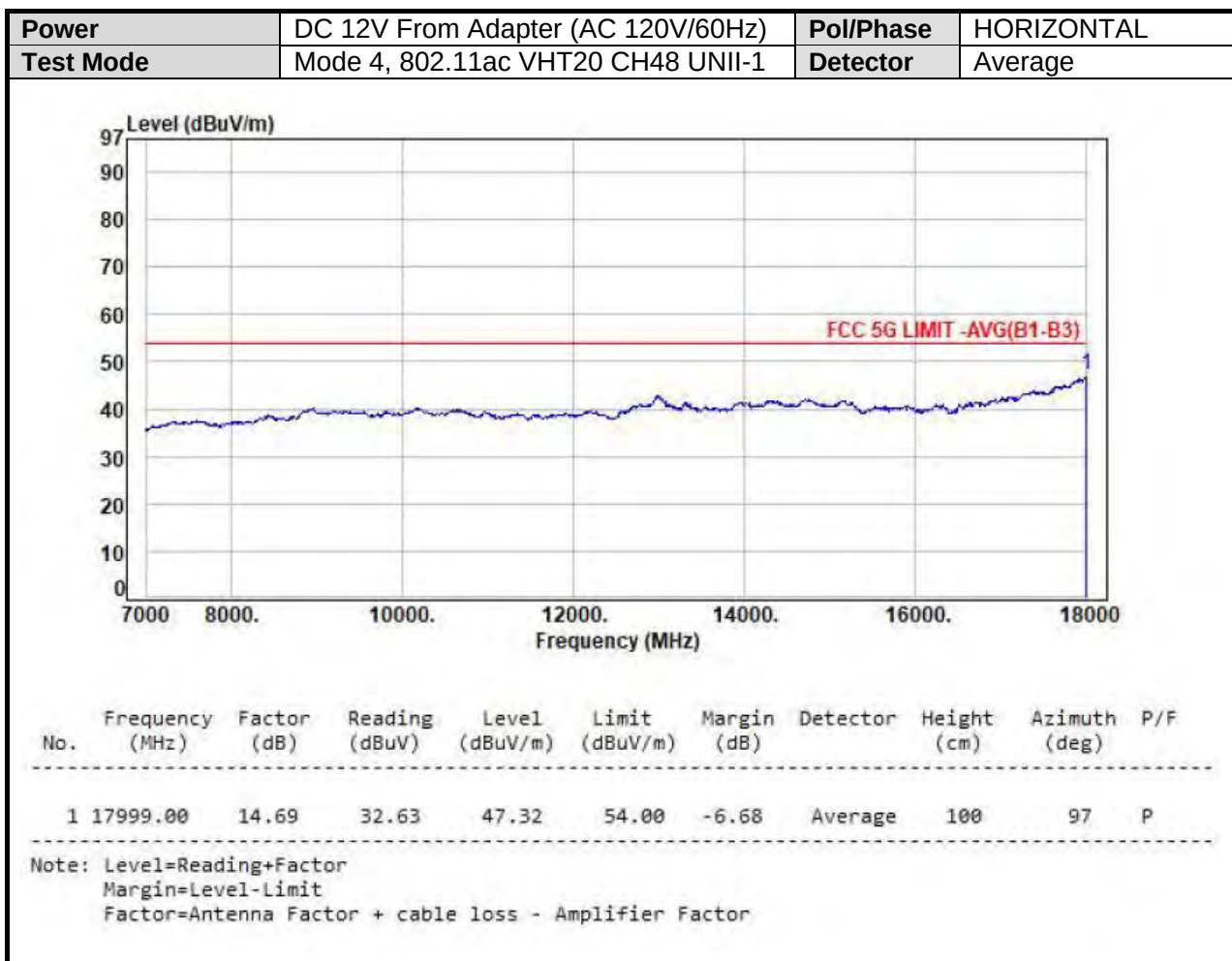




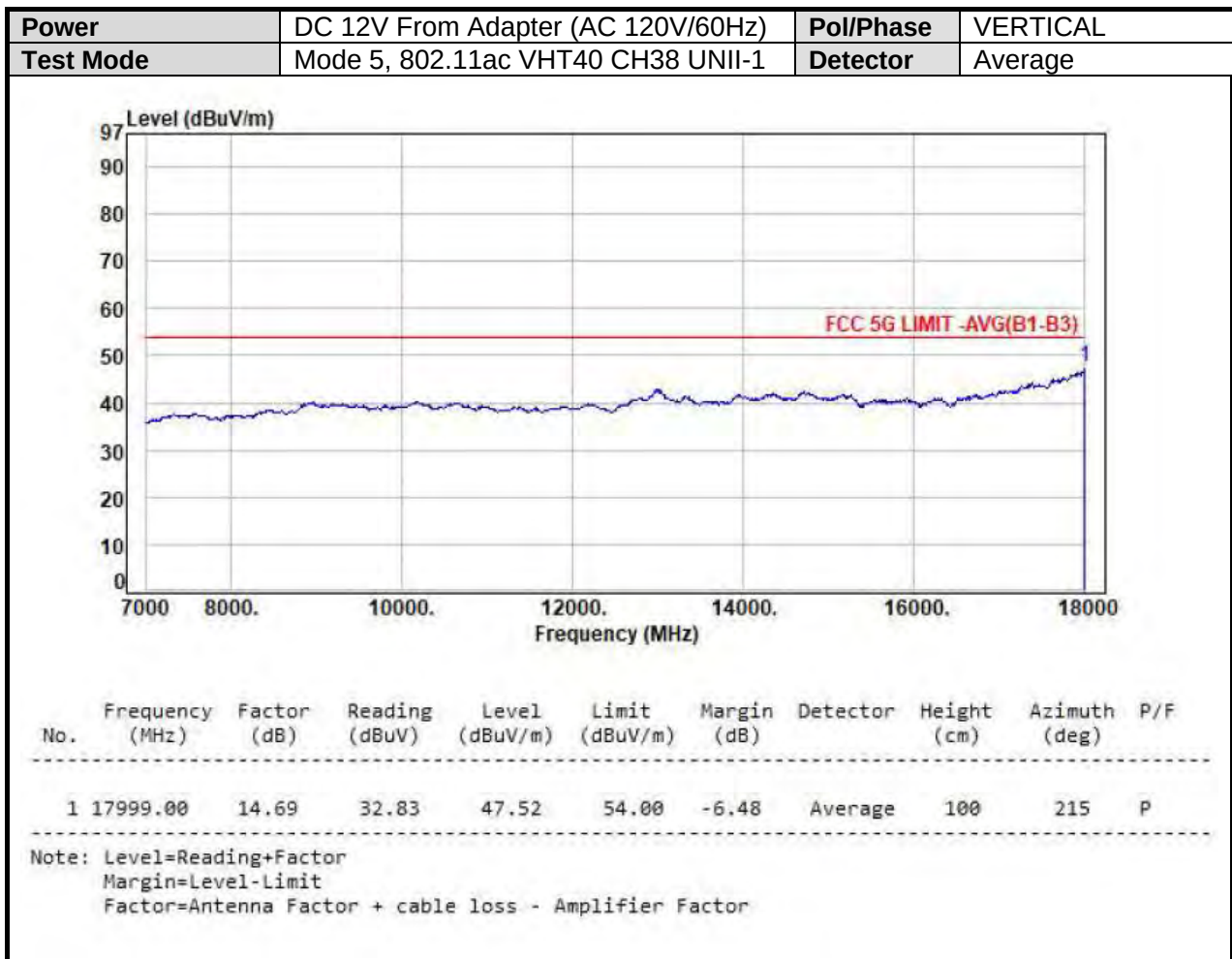


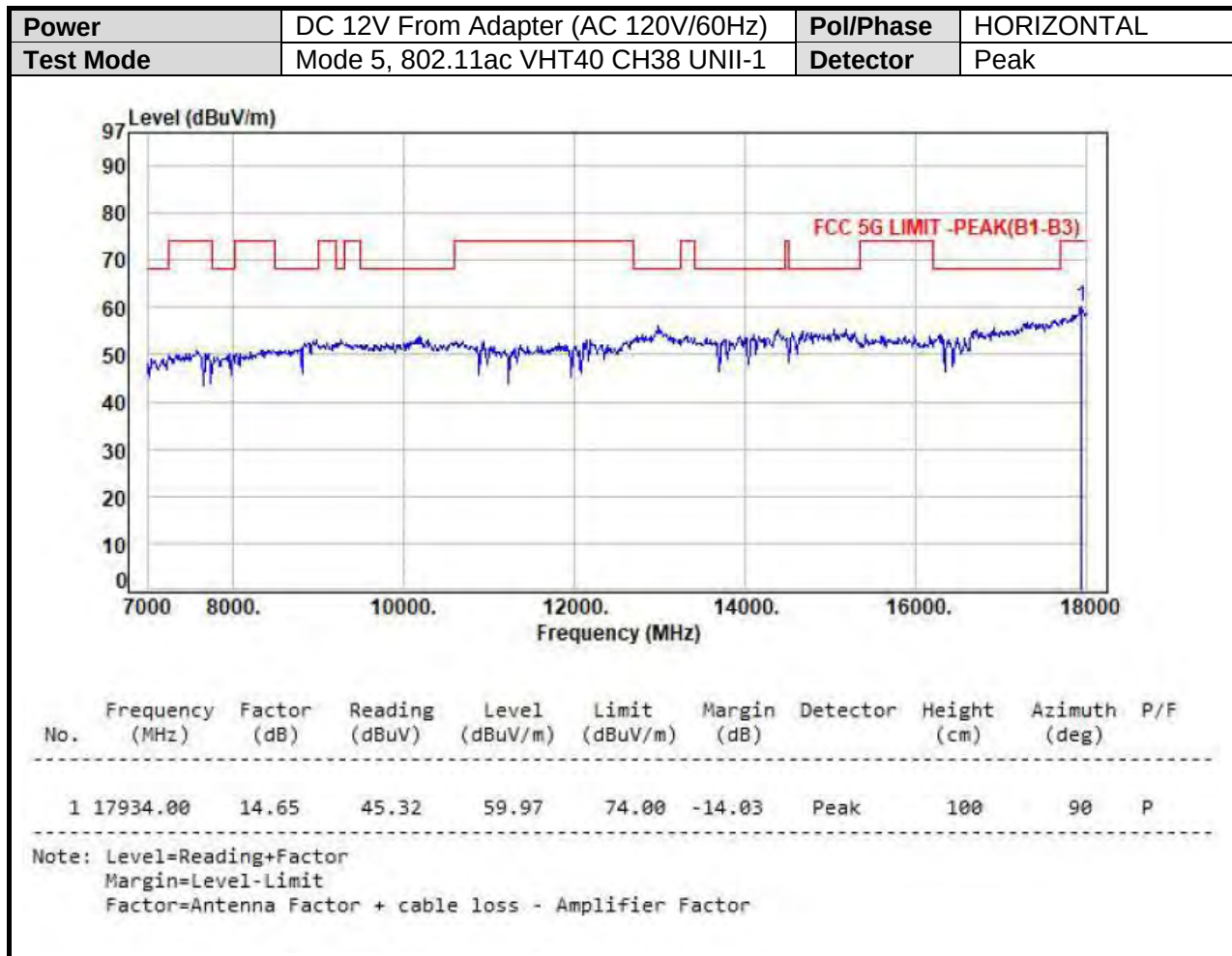


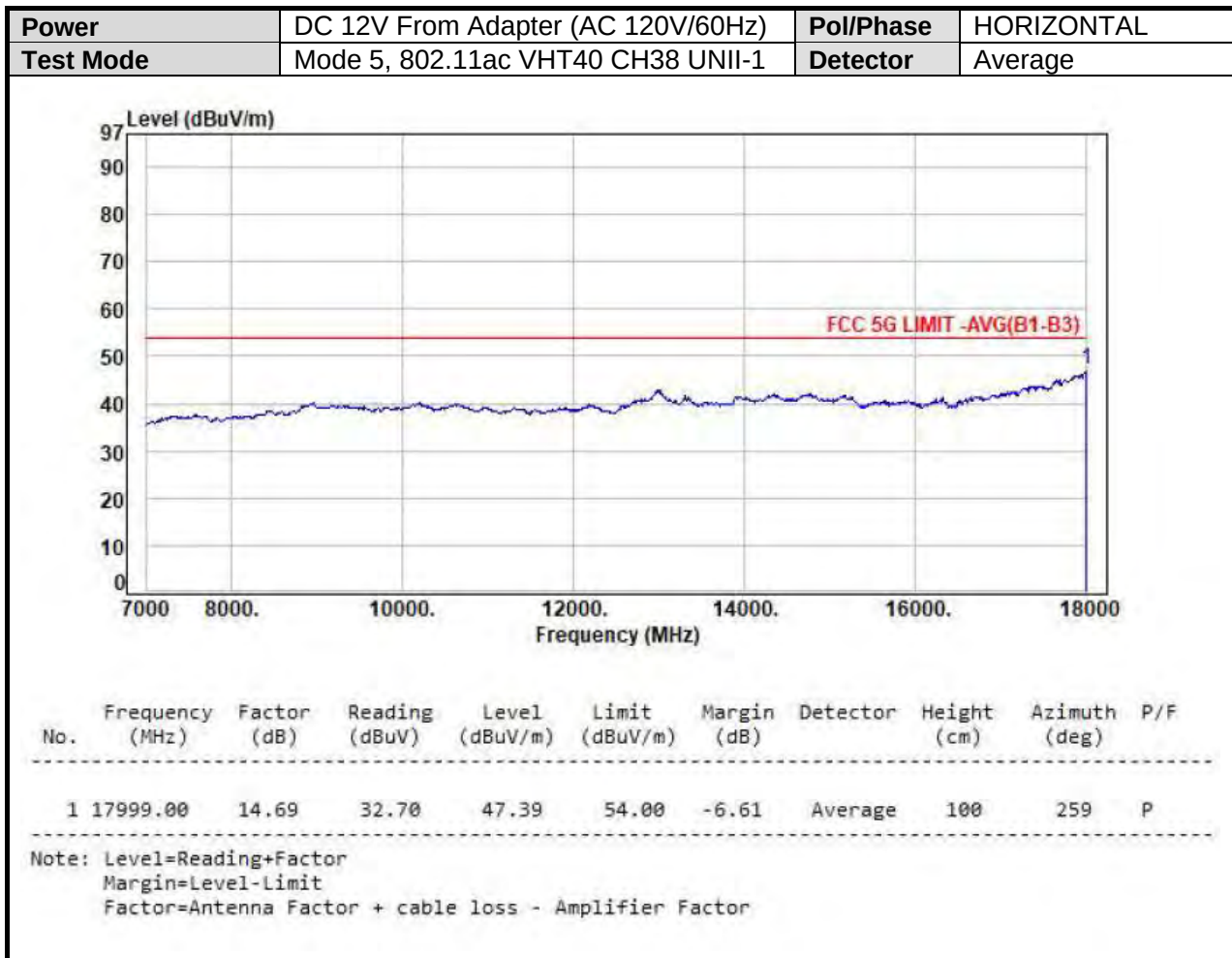


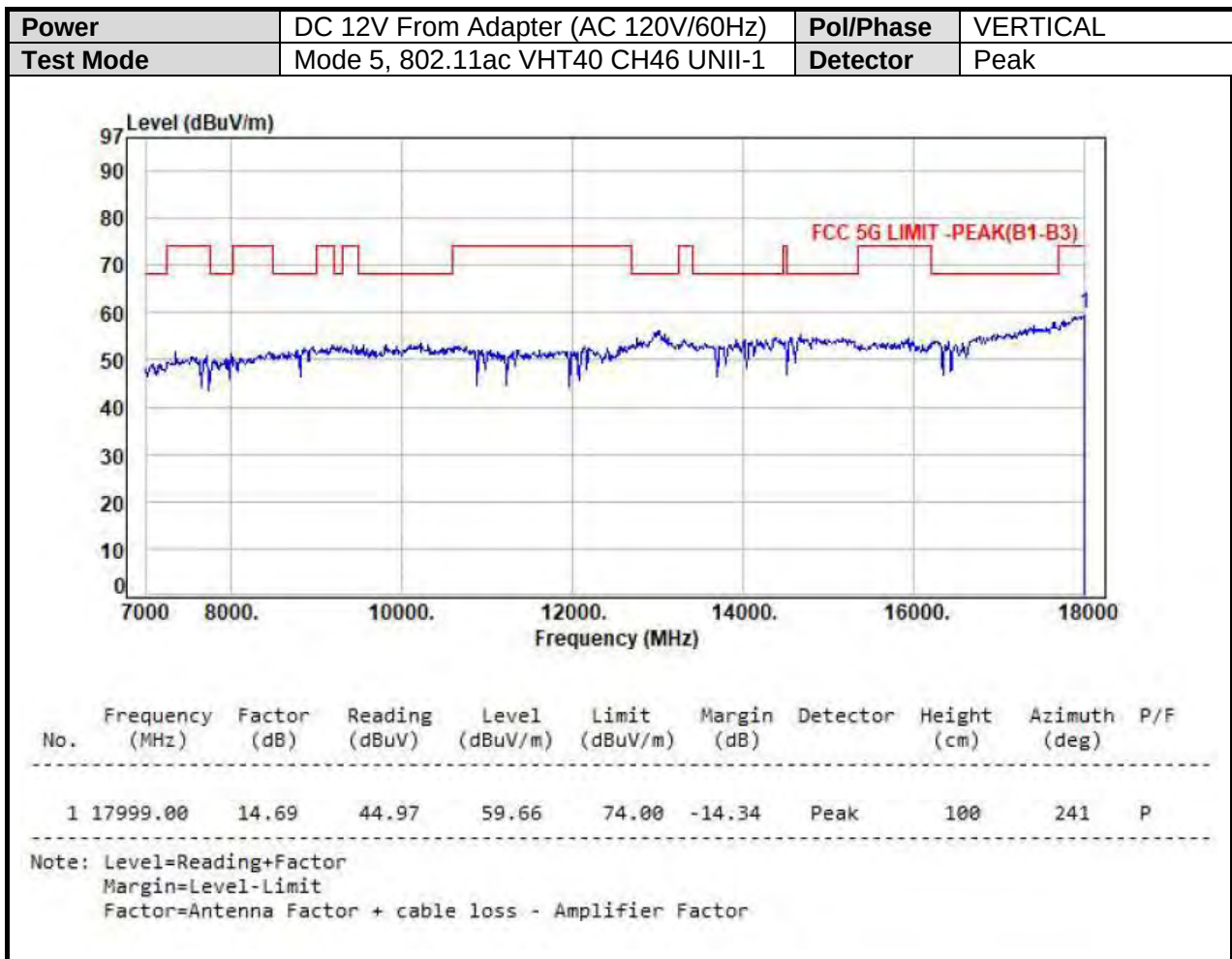


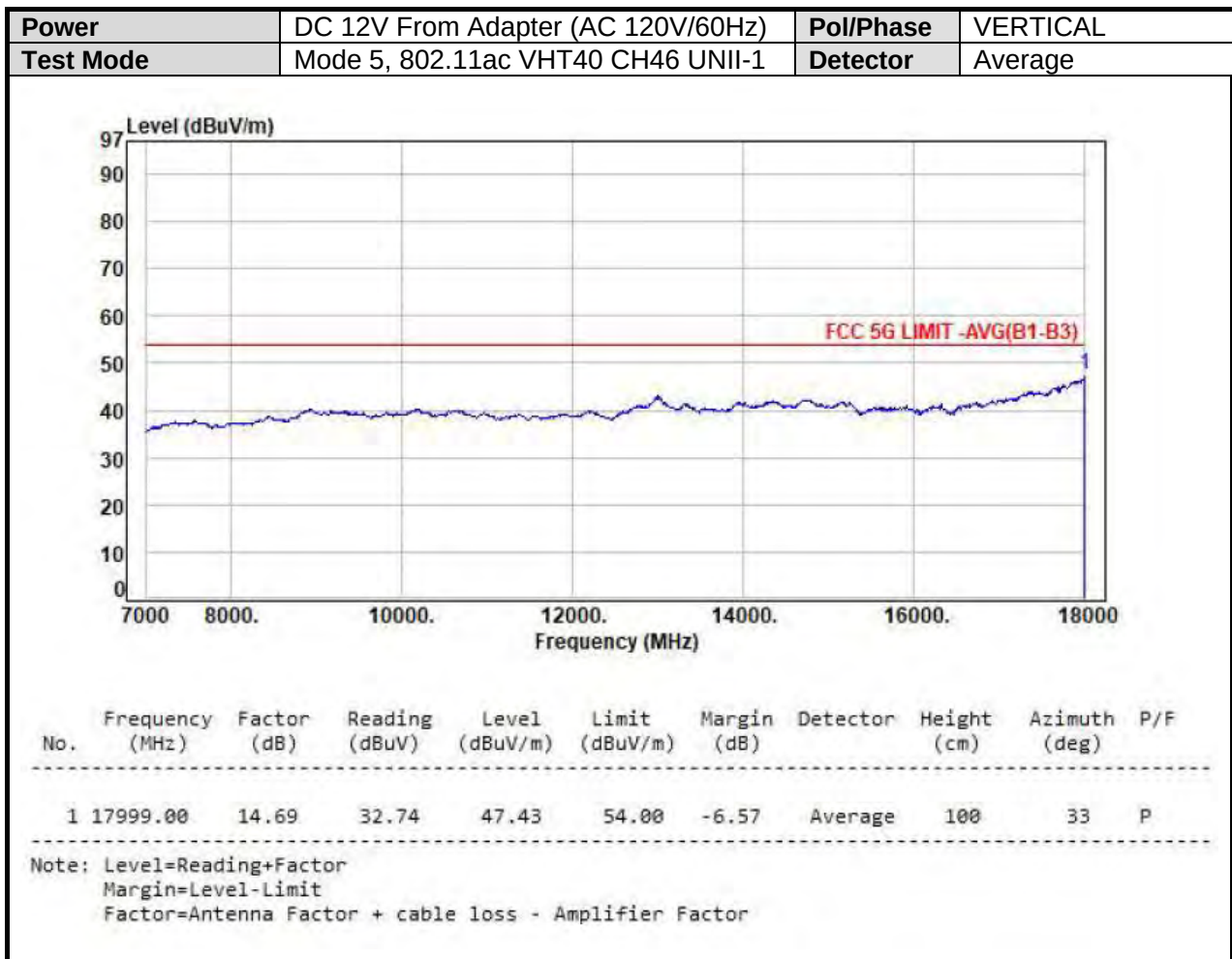


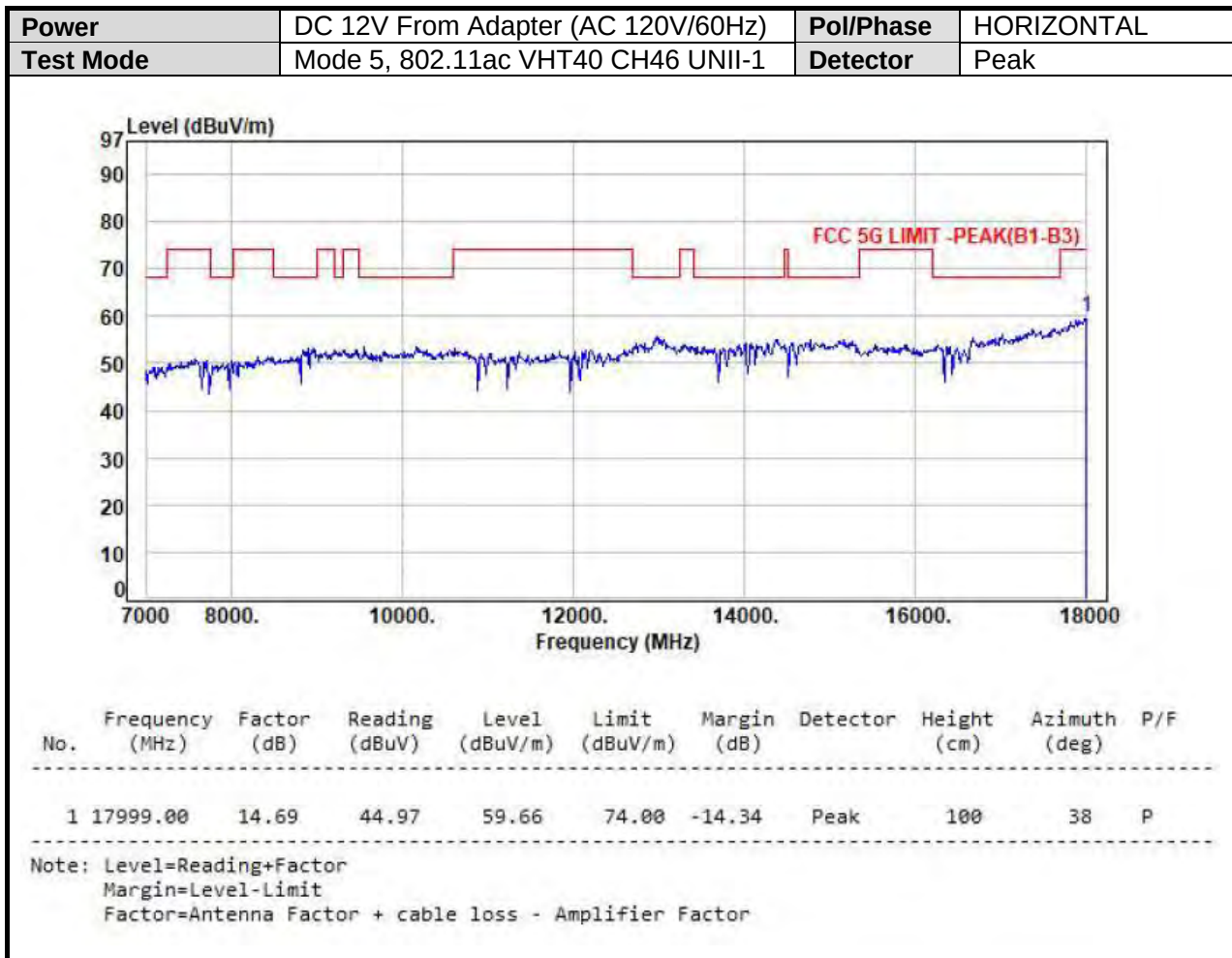


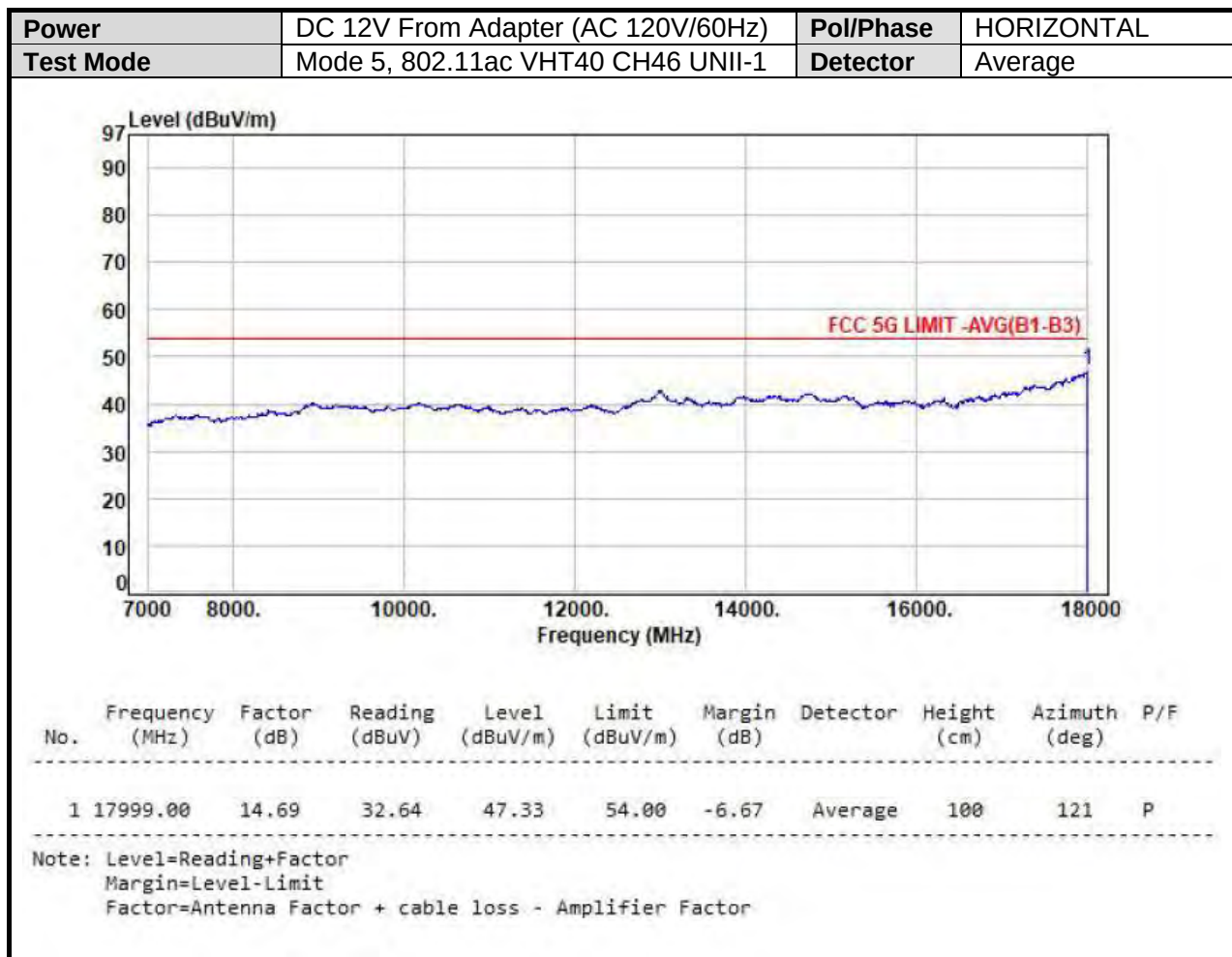


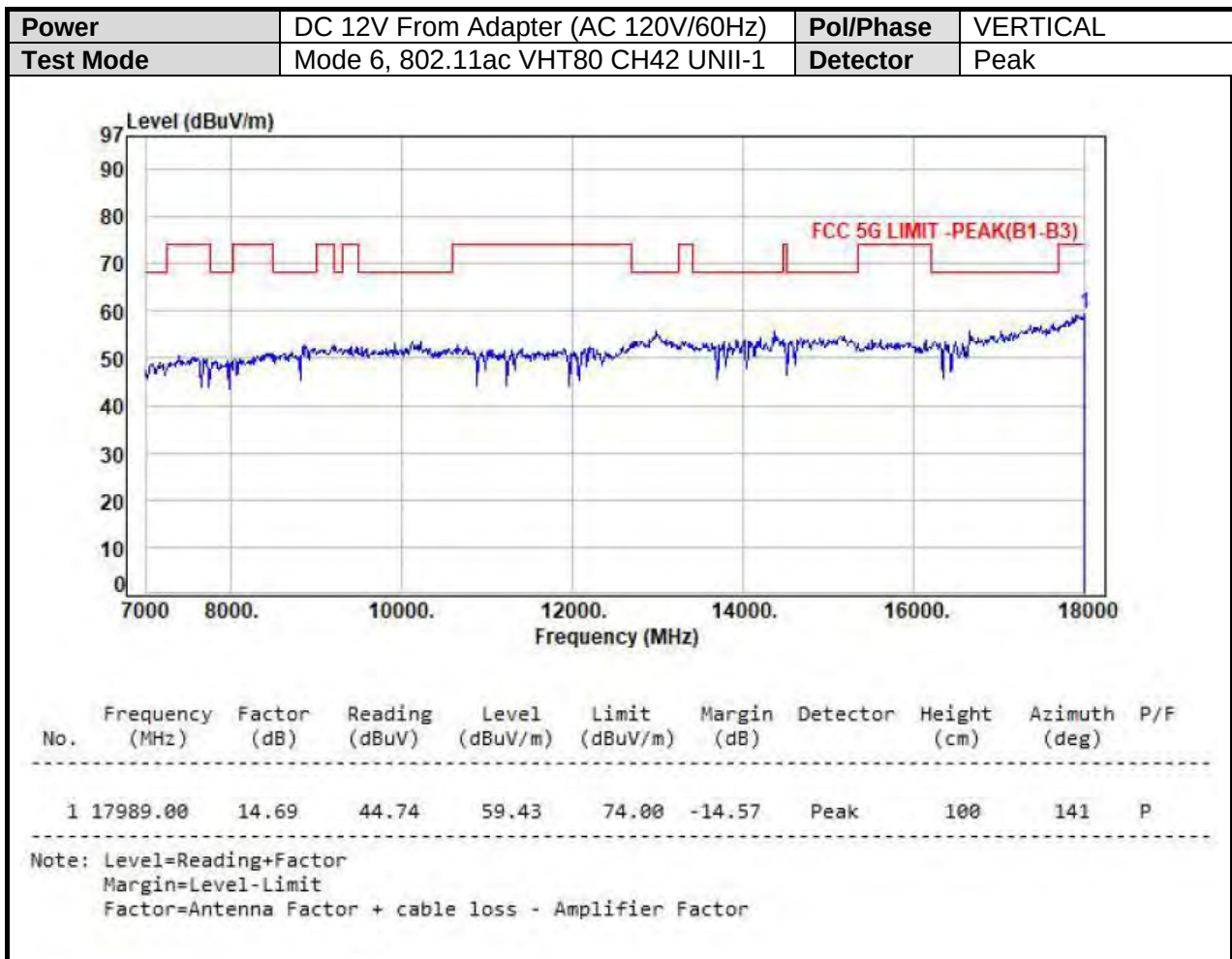


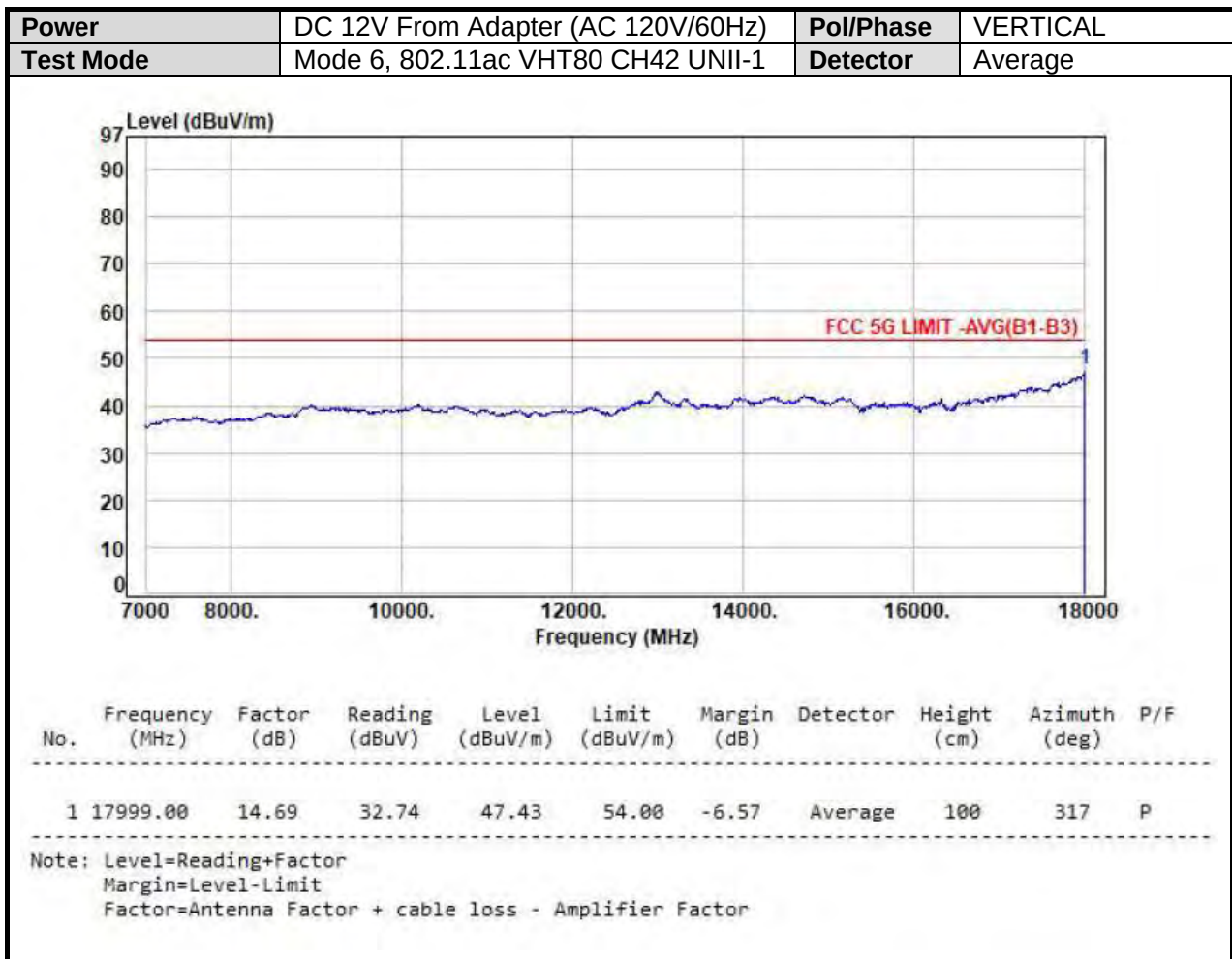


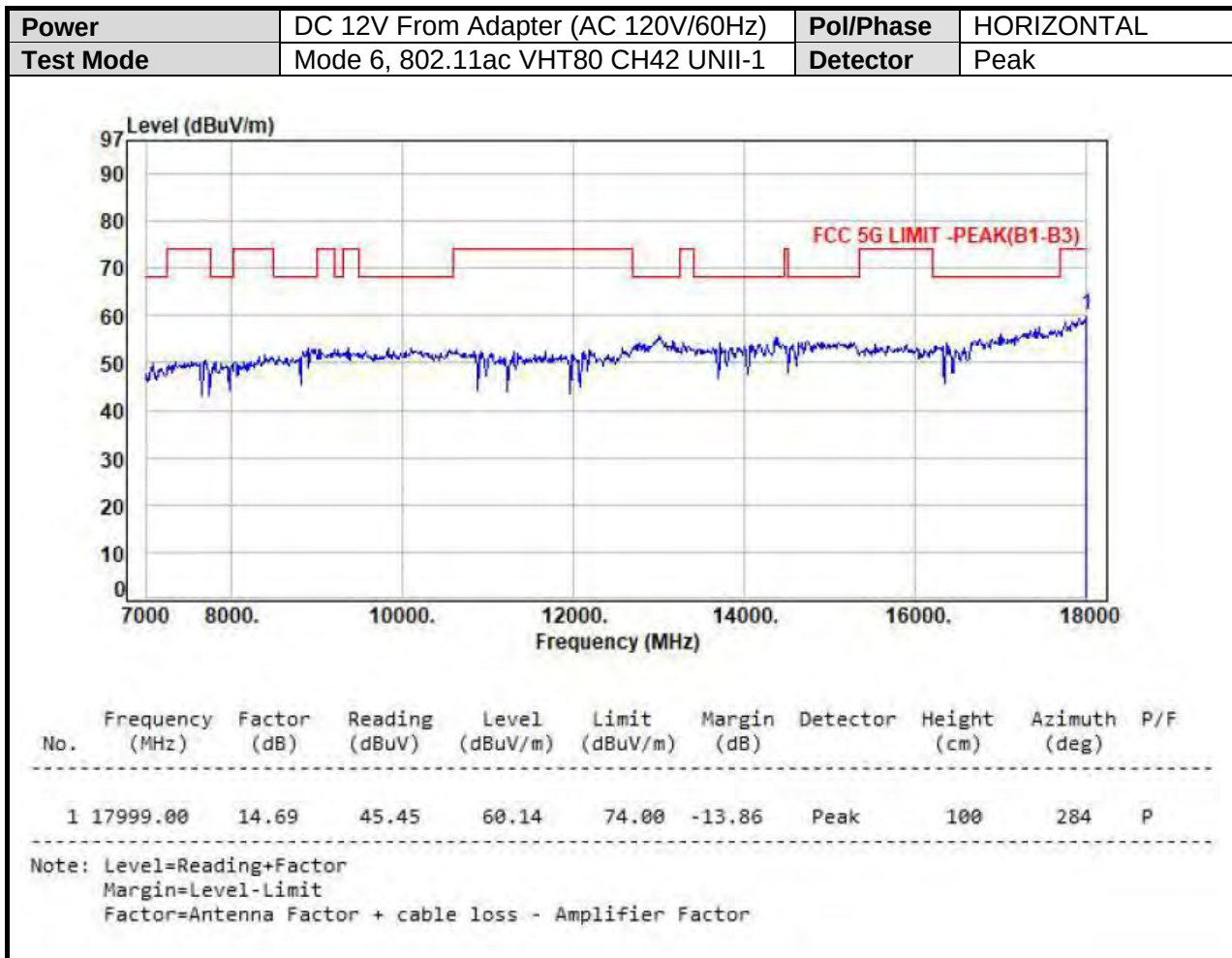


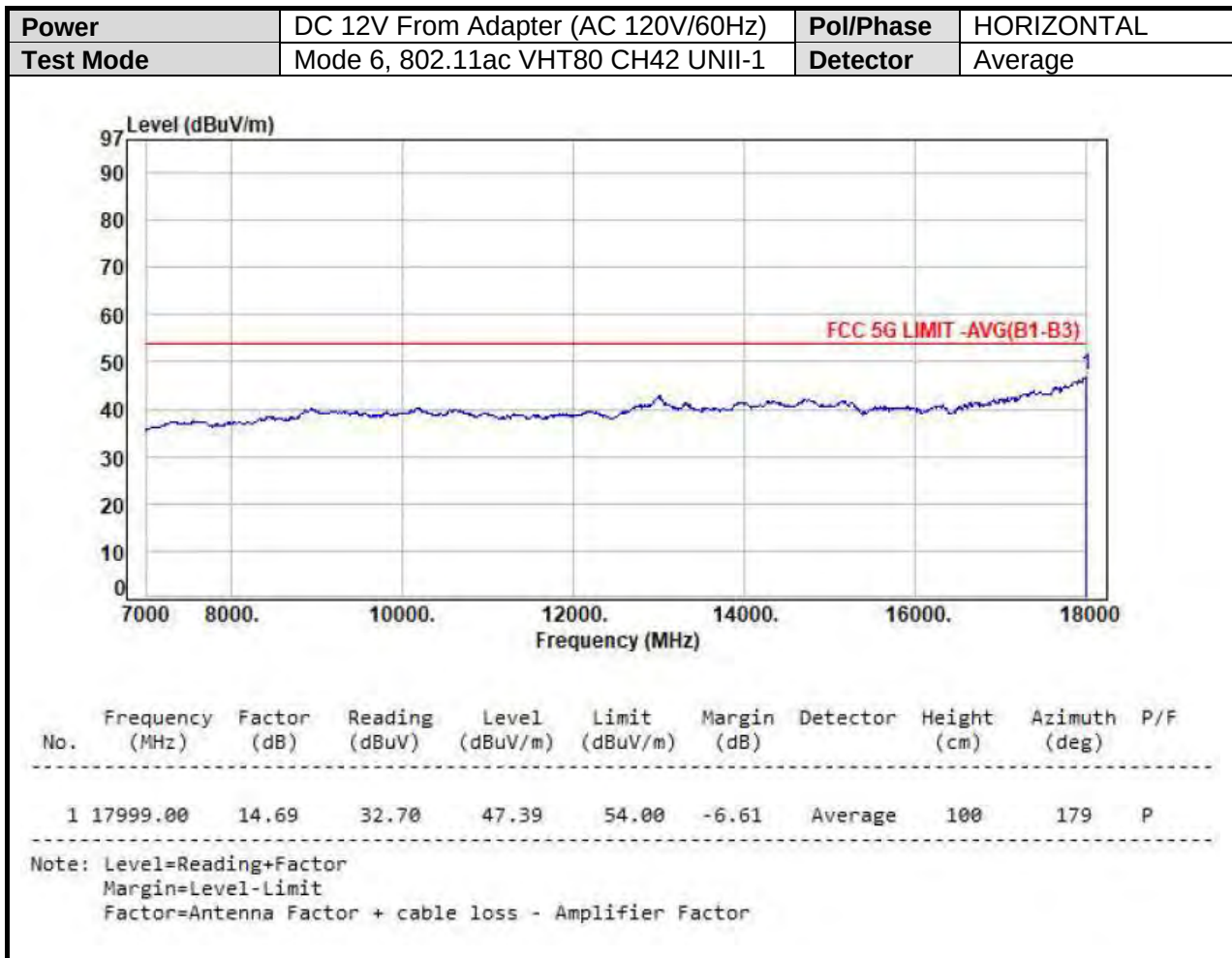






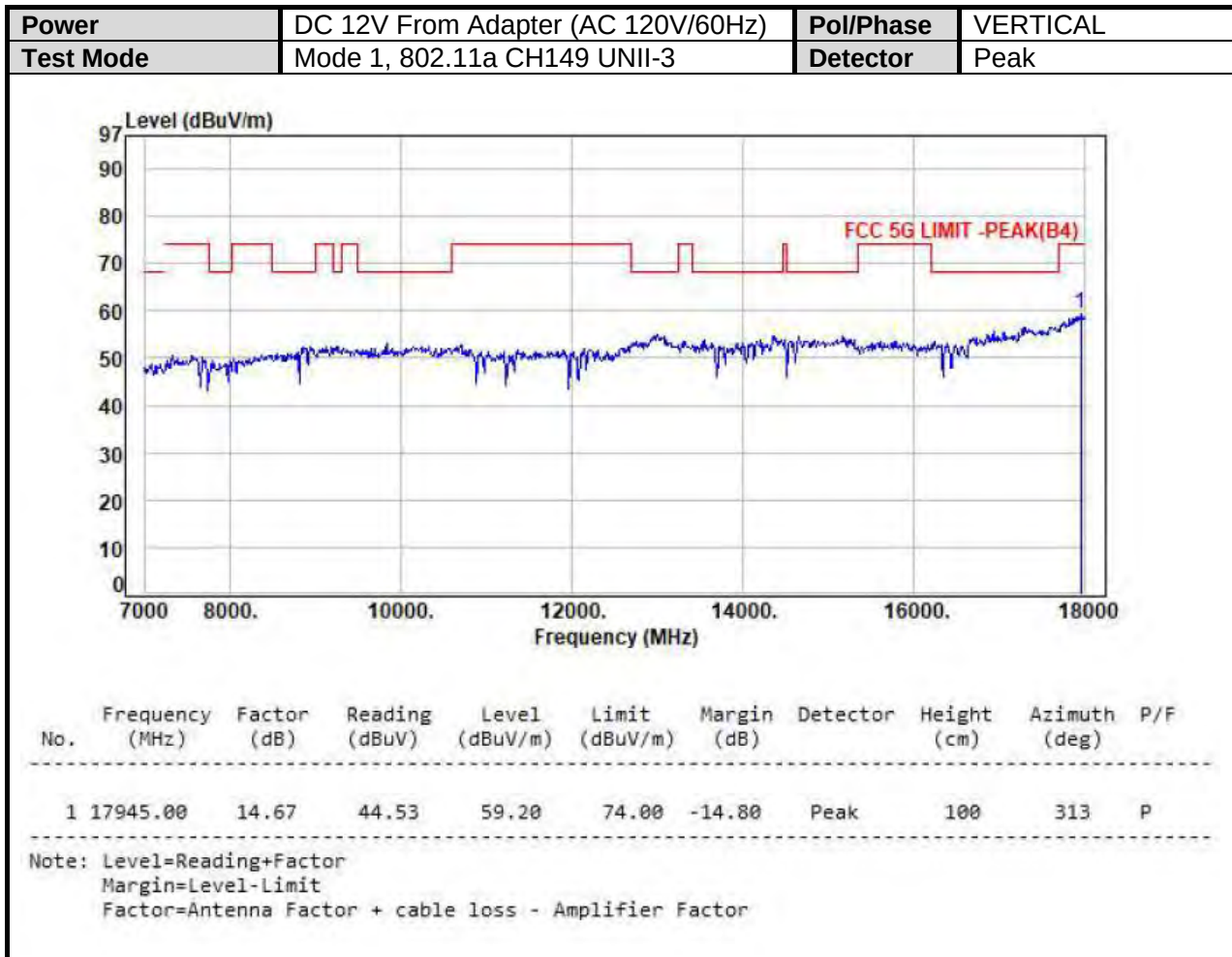


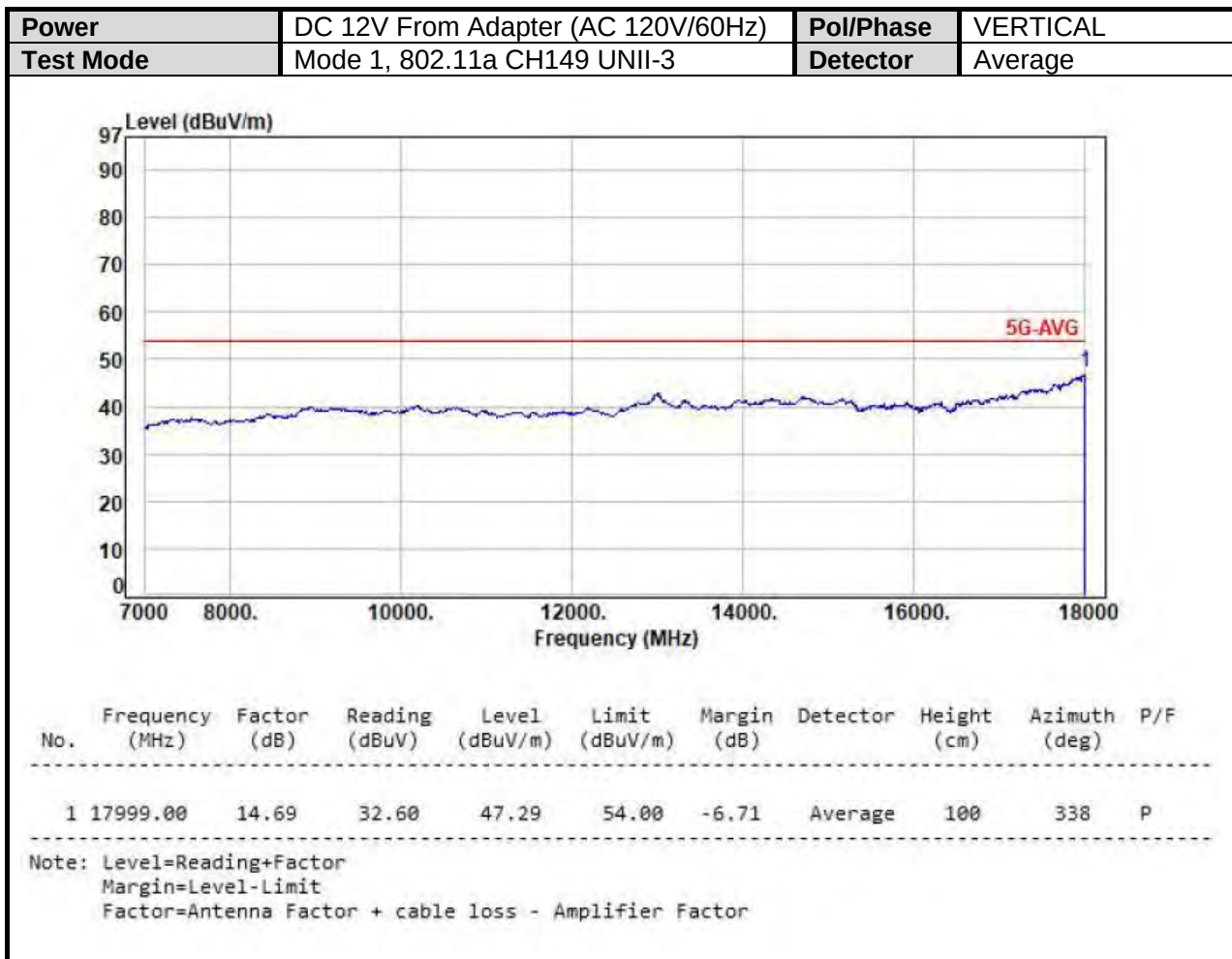


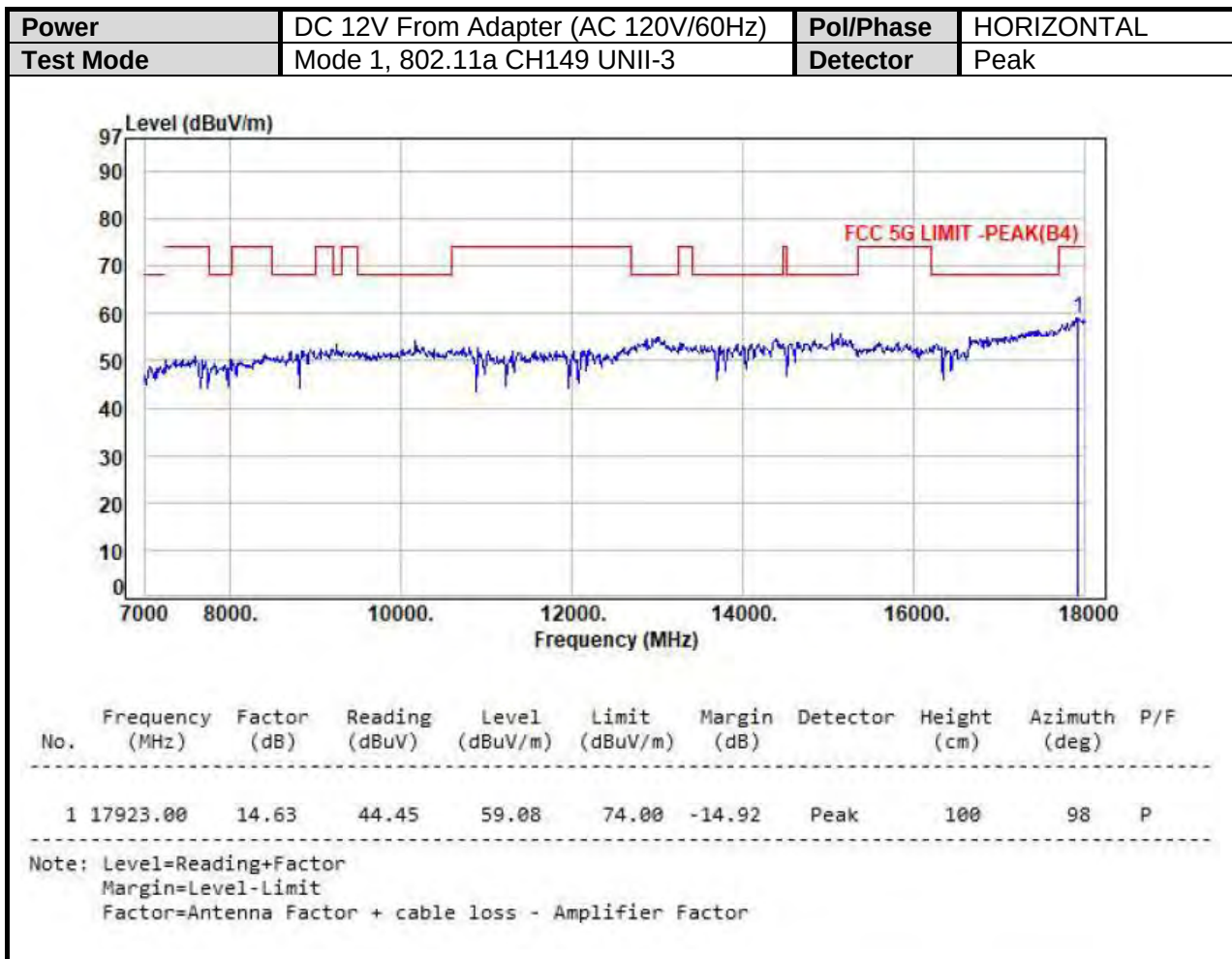


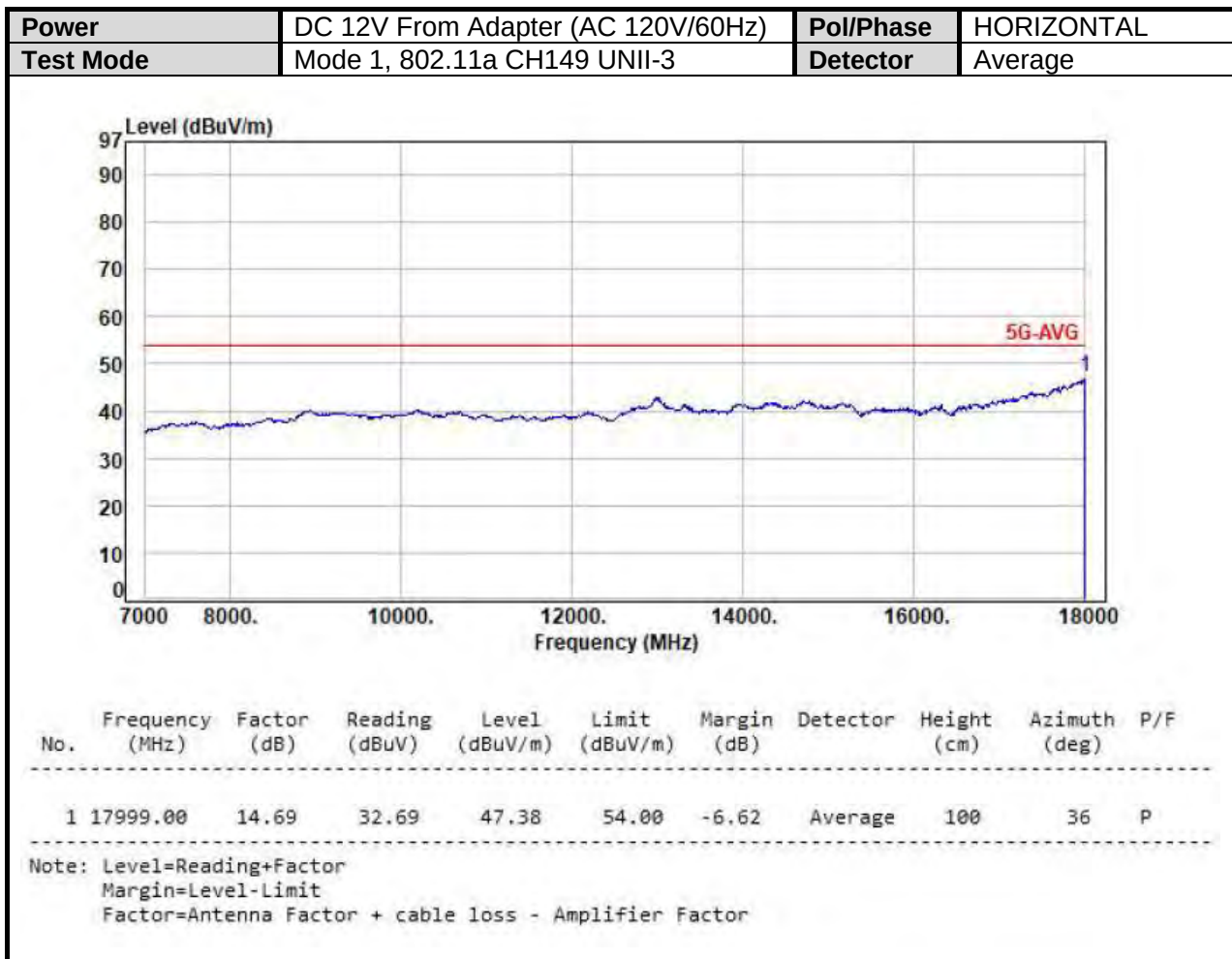


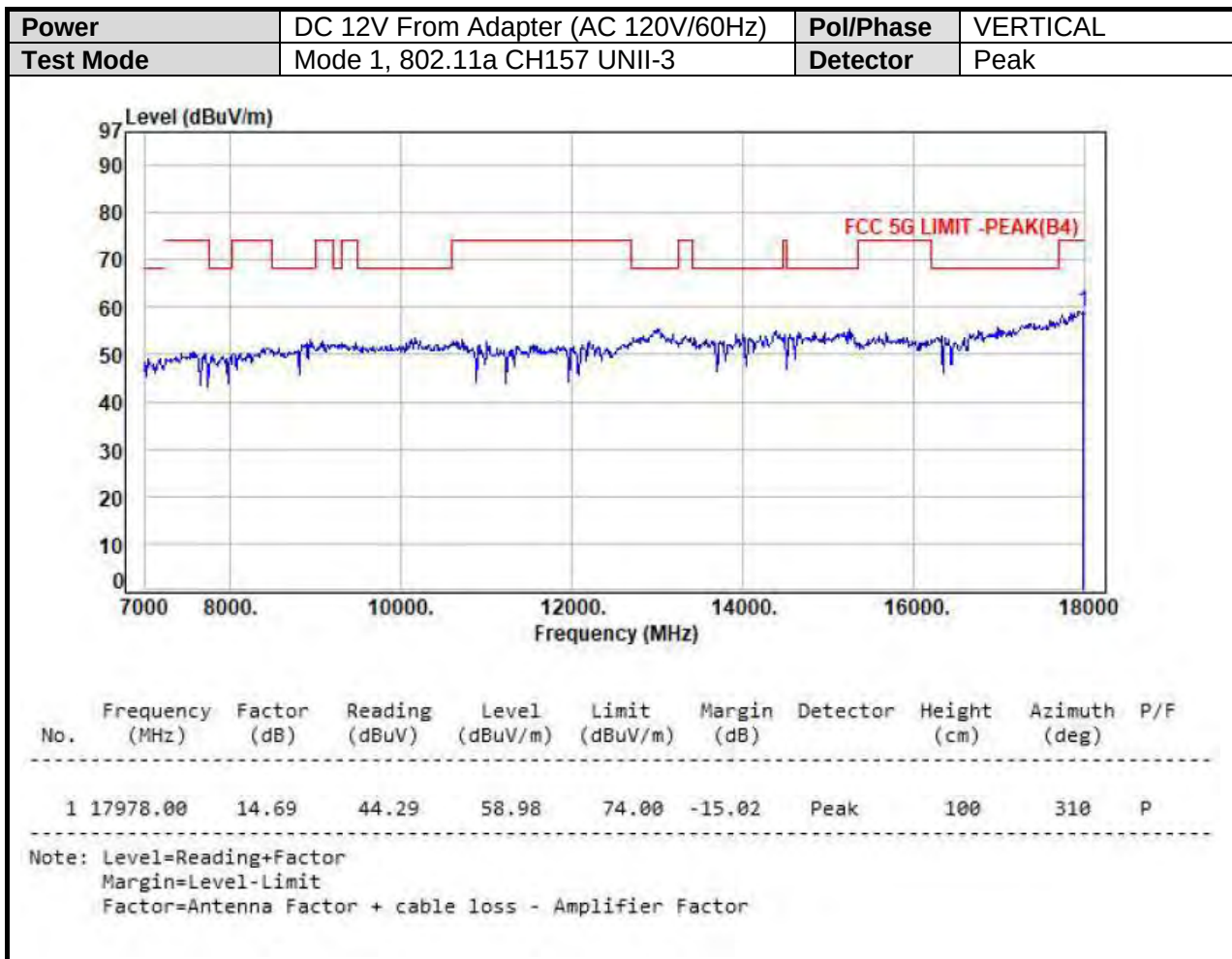
UNII-3

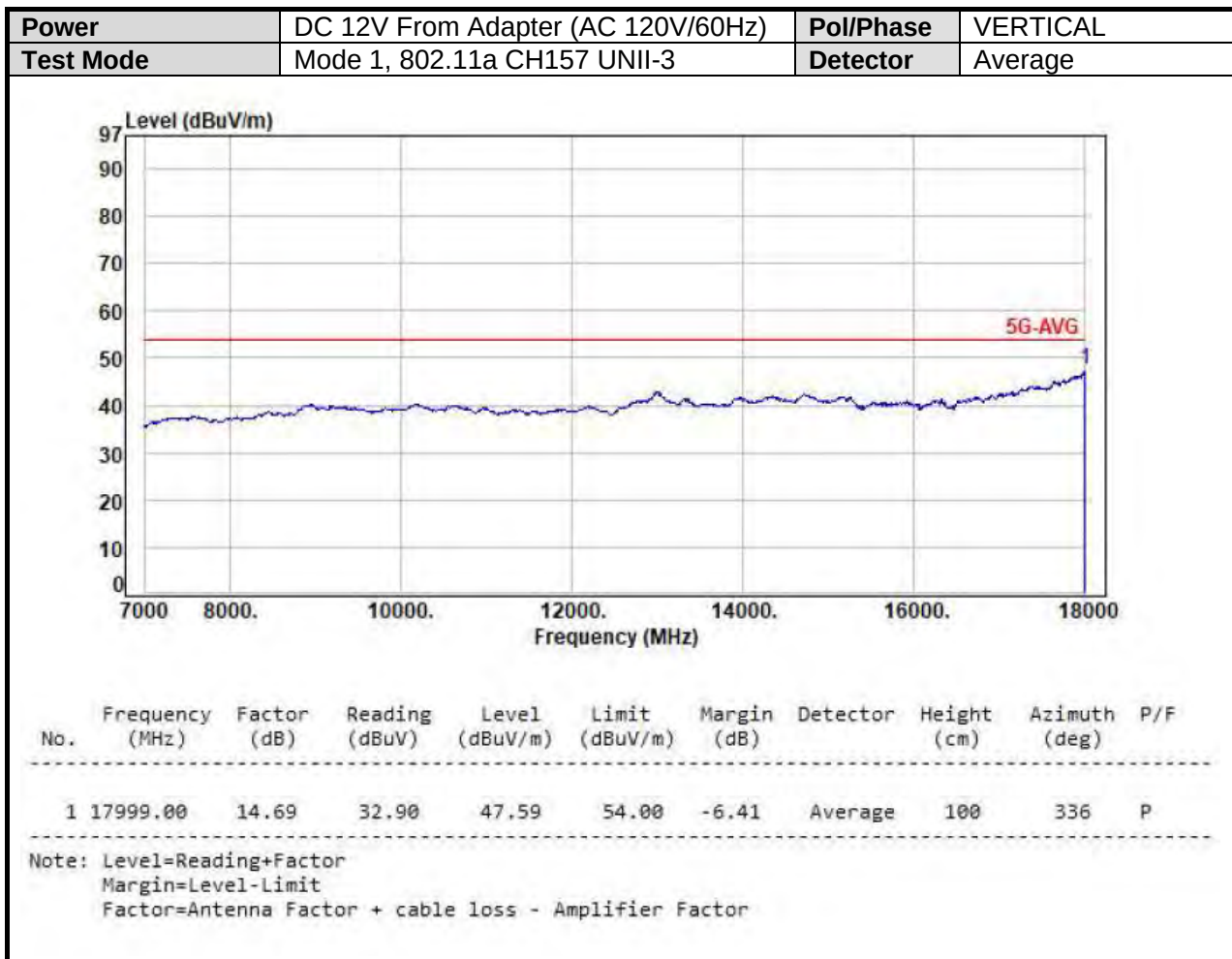


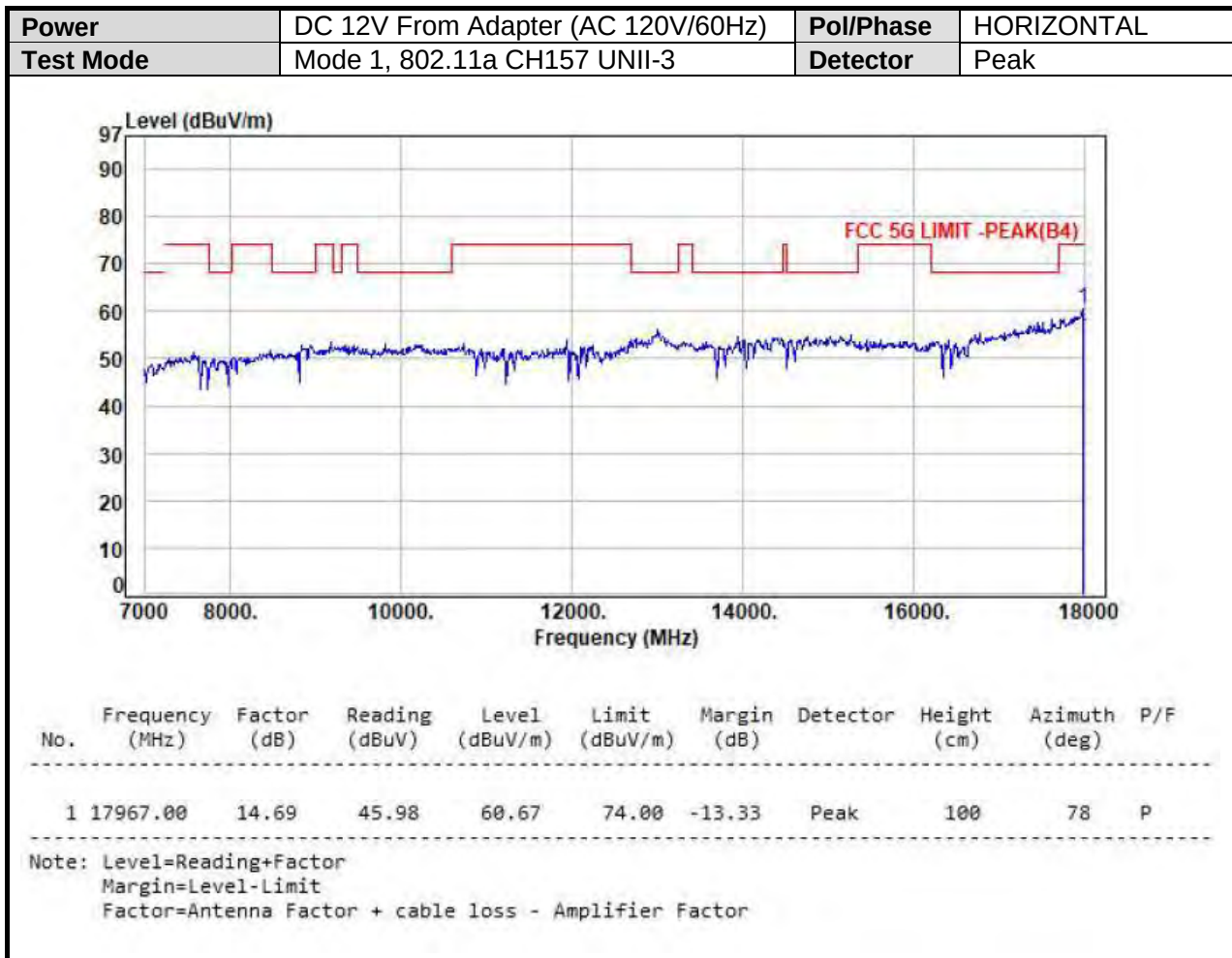


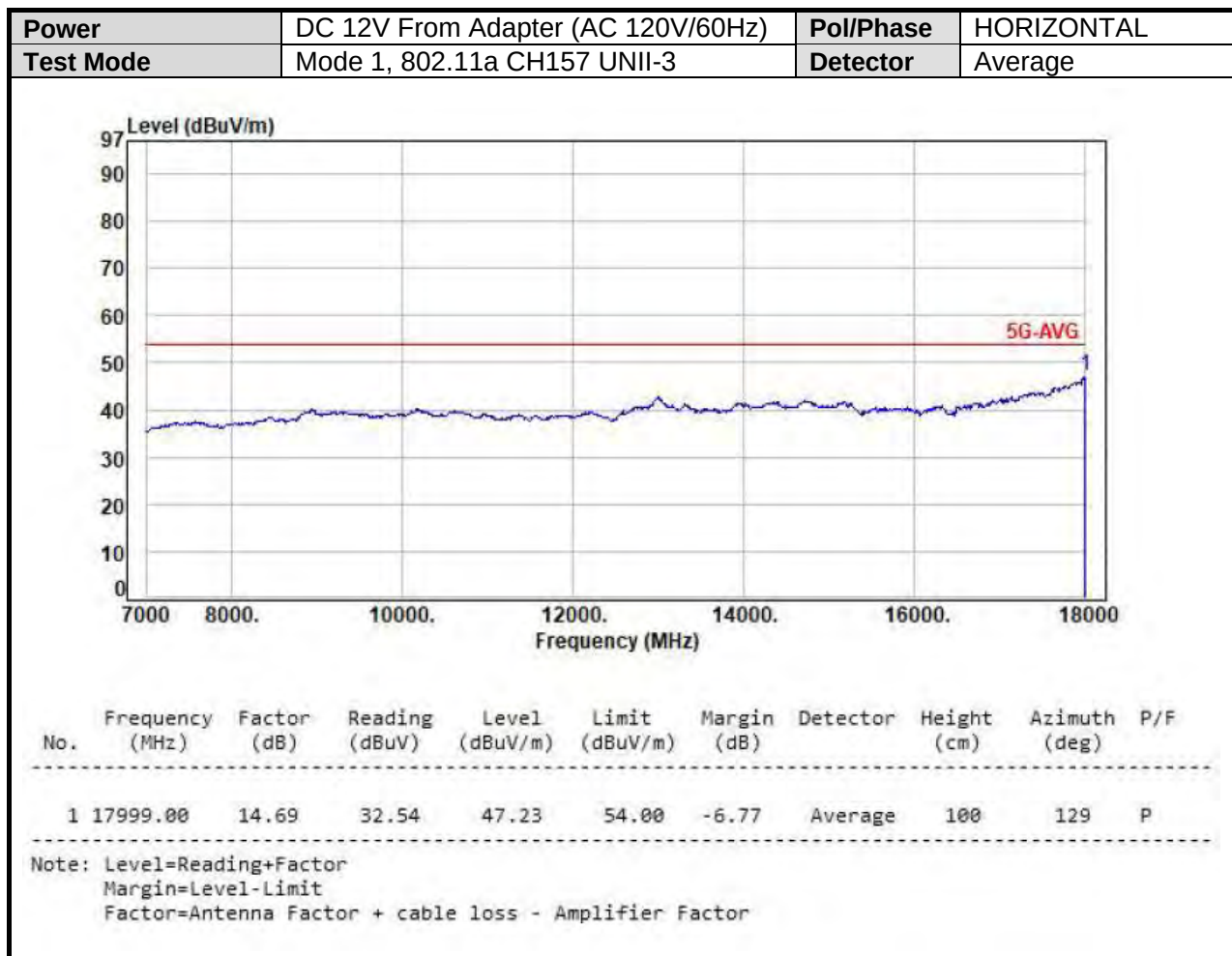


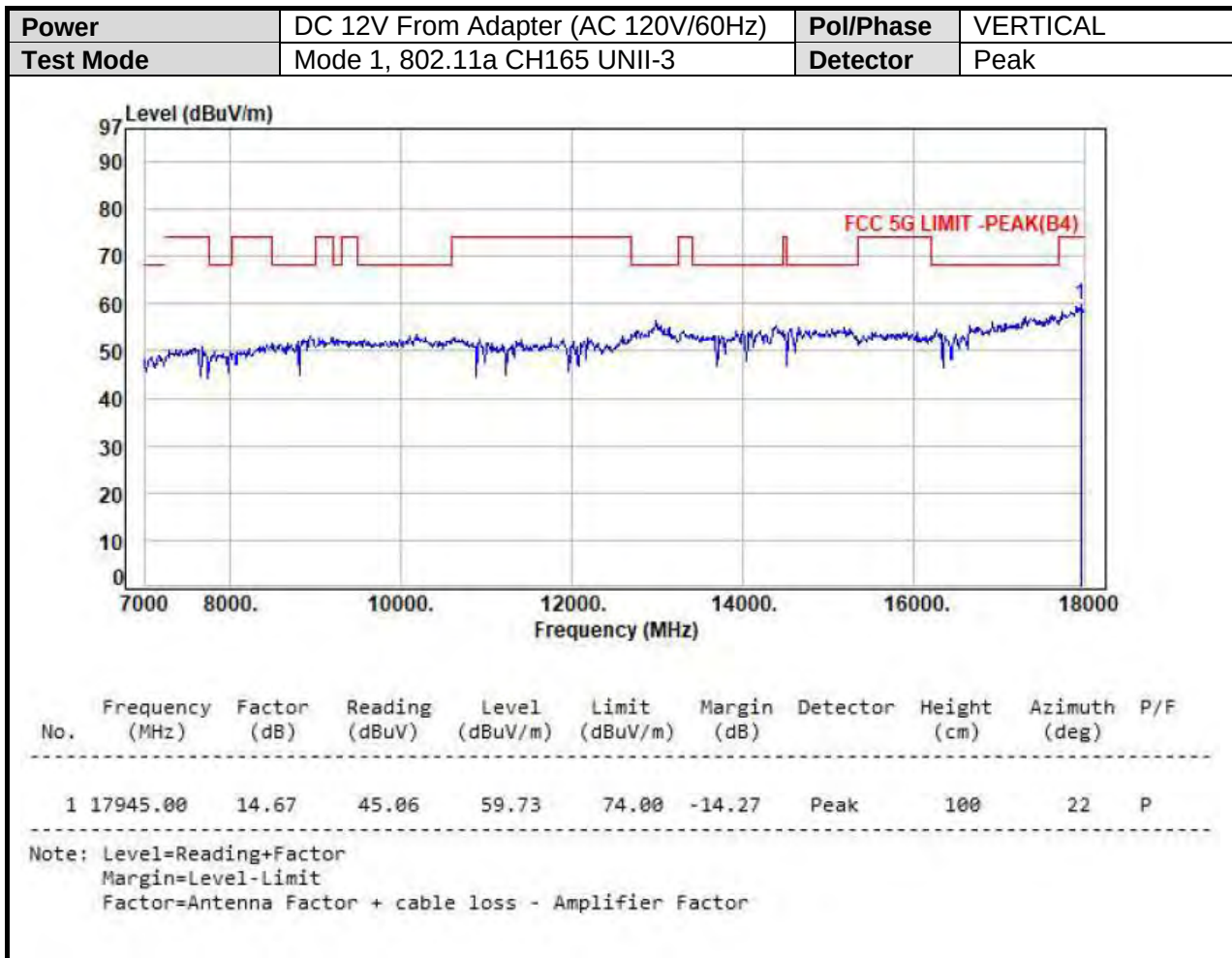


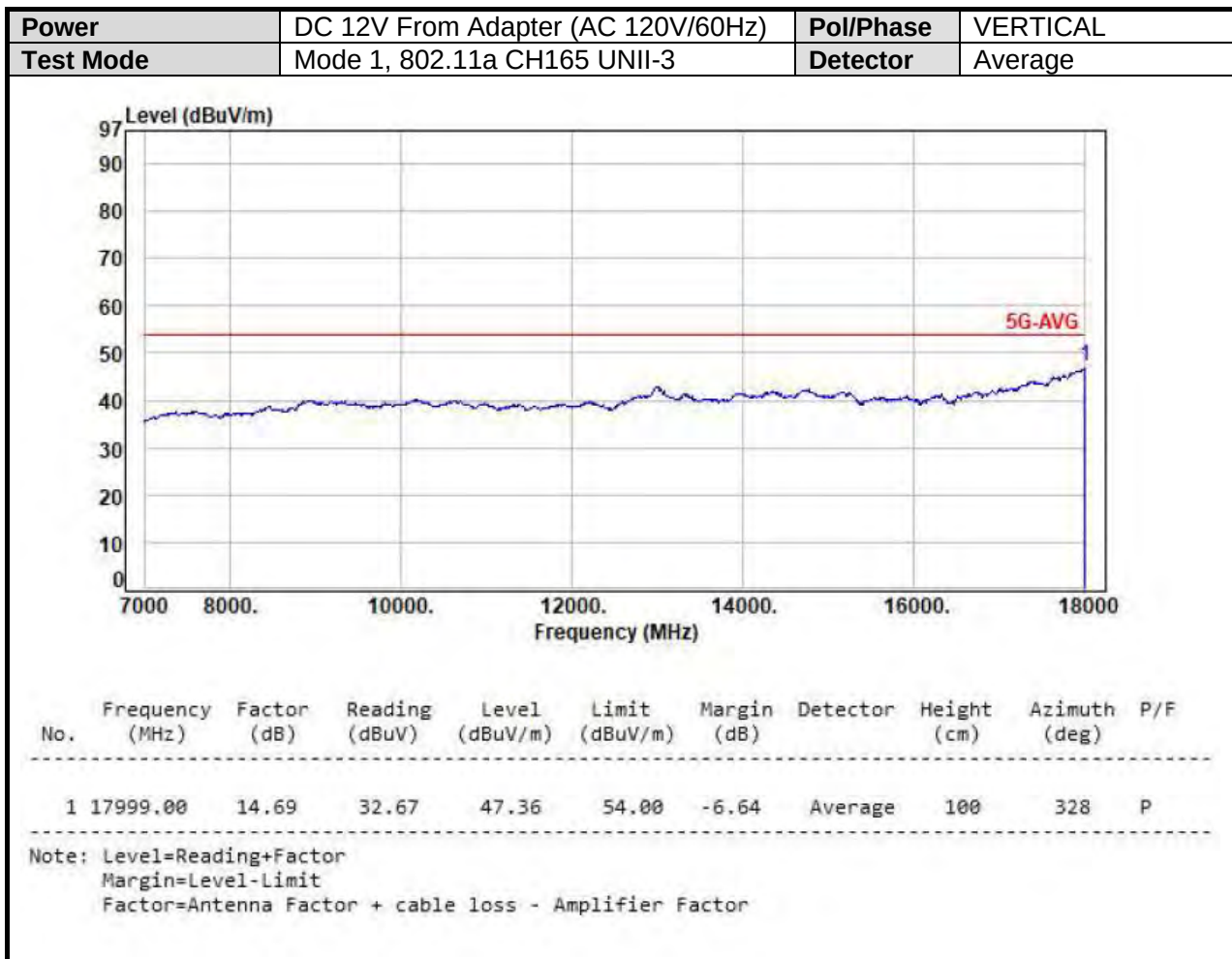


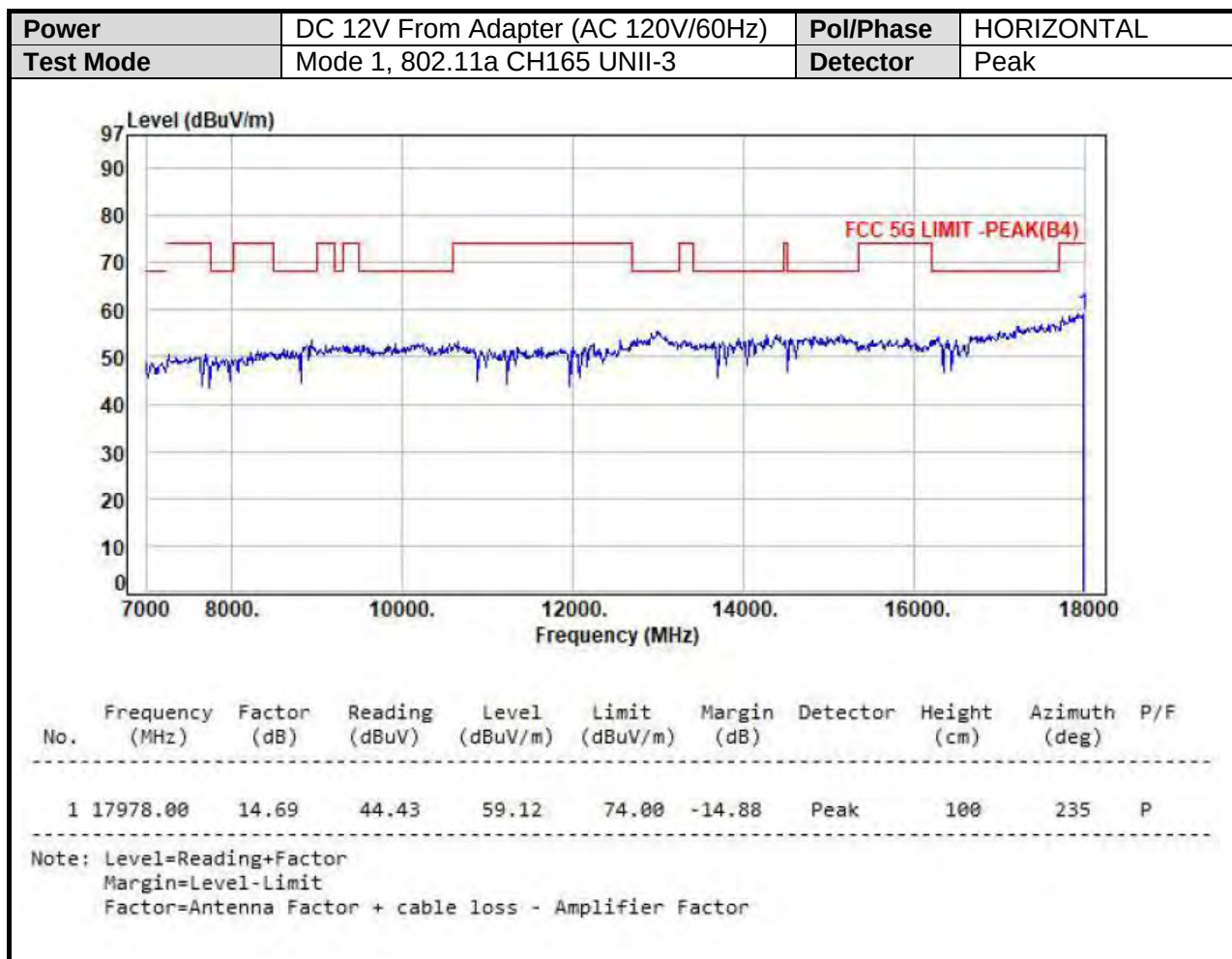


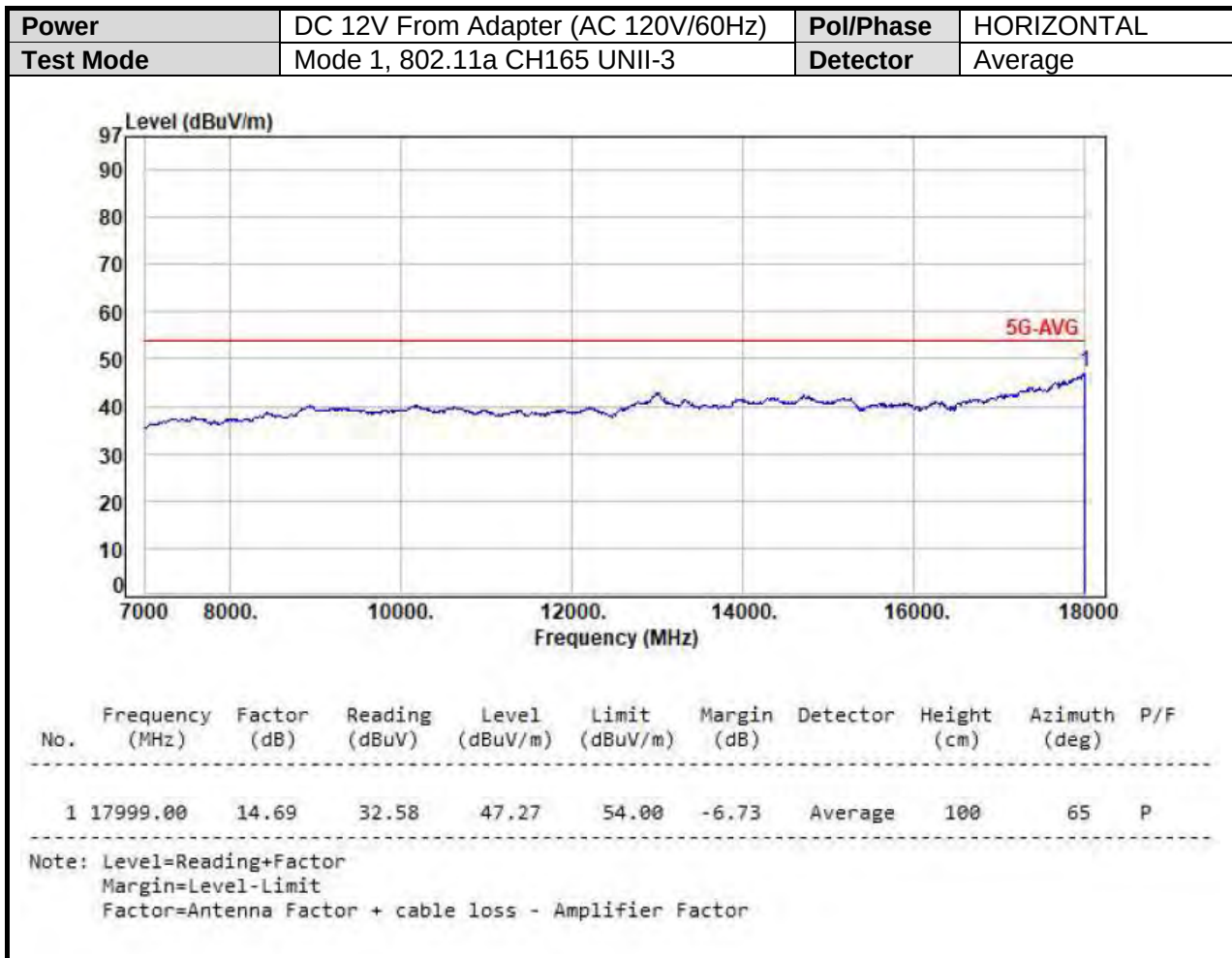


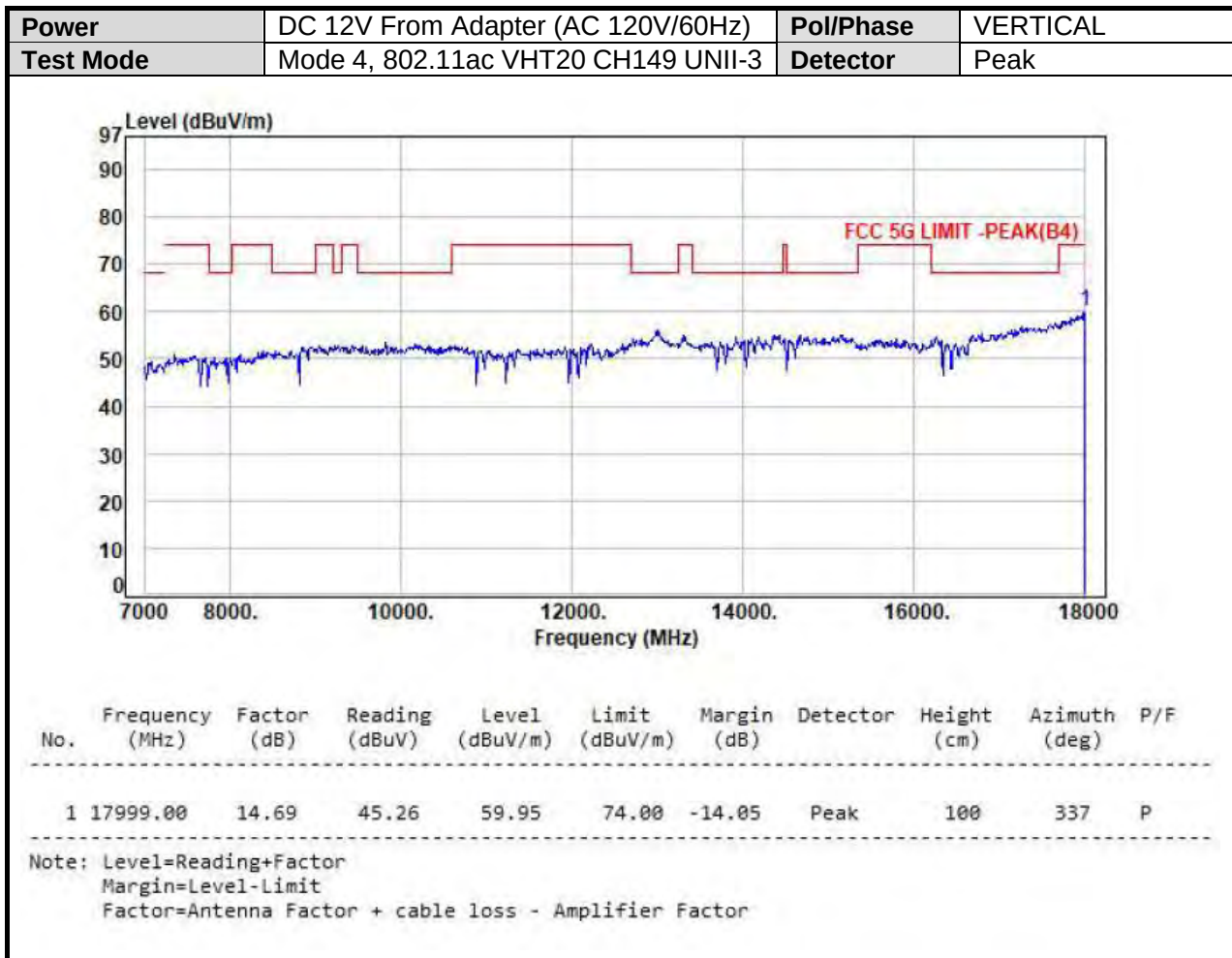


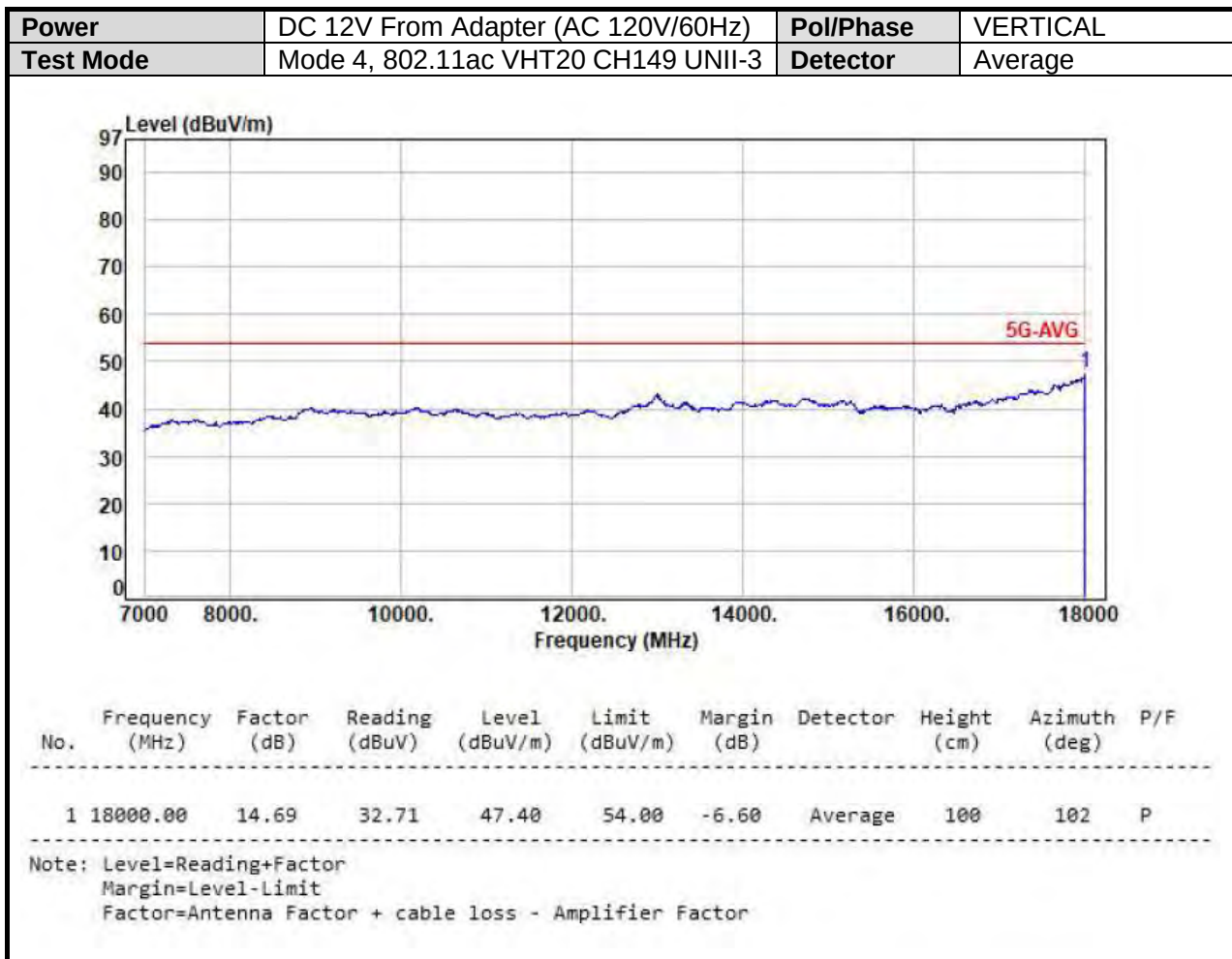


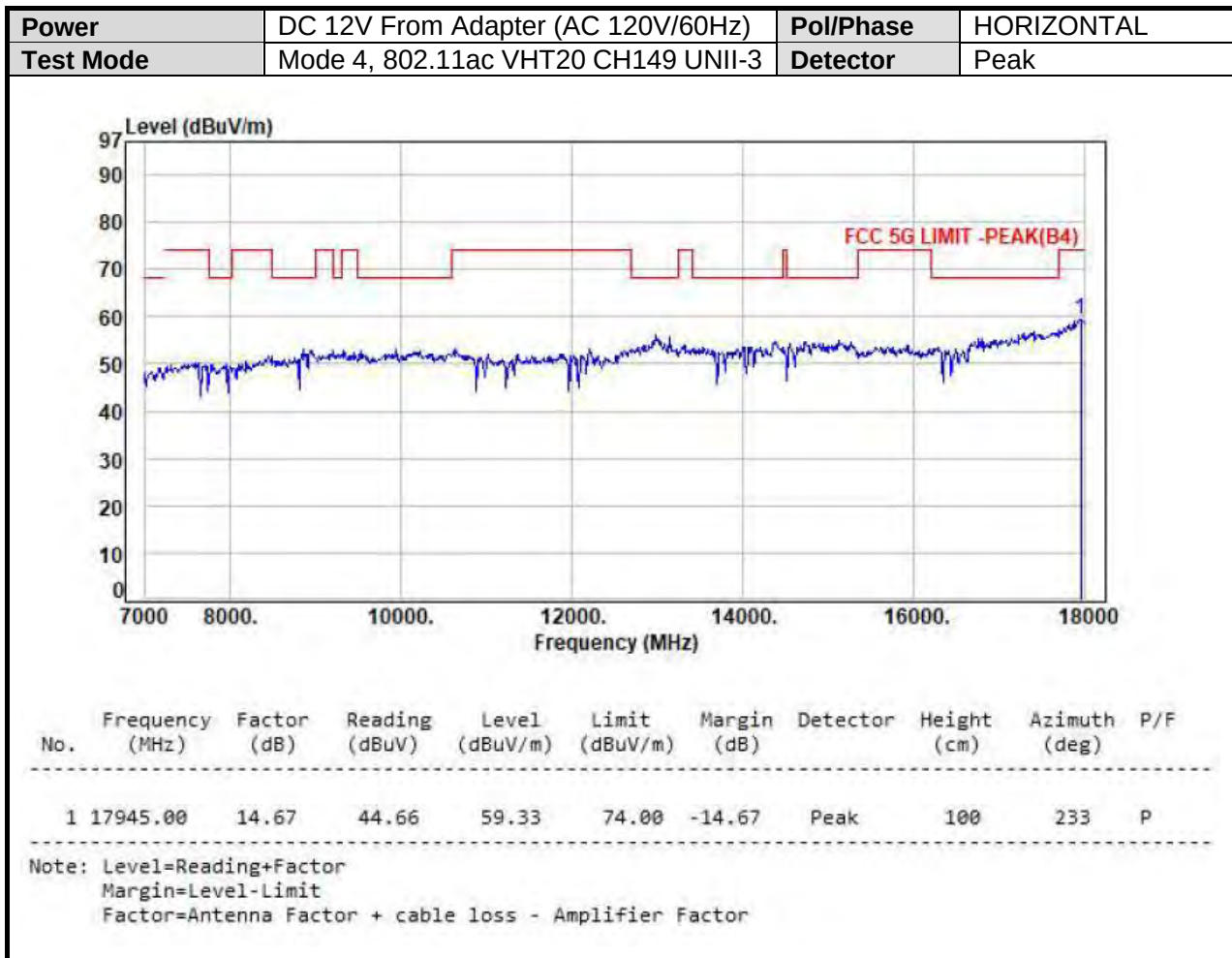


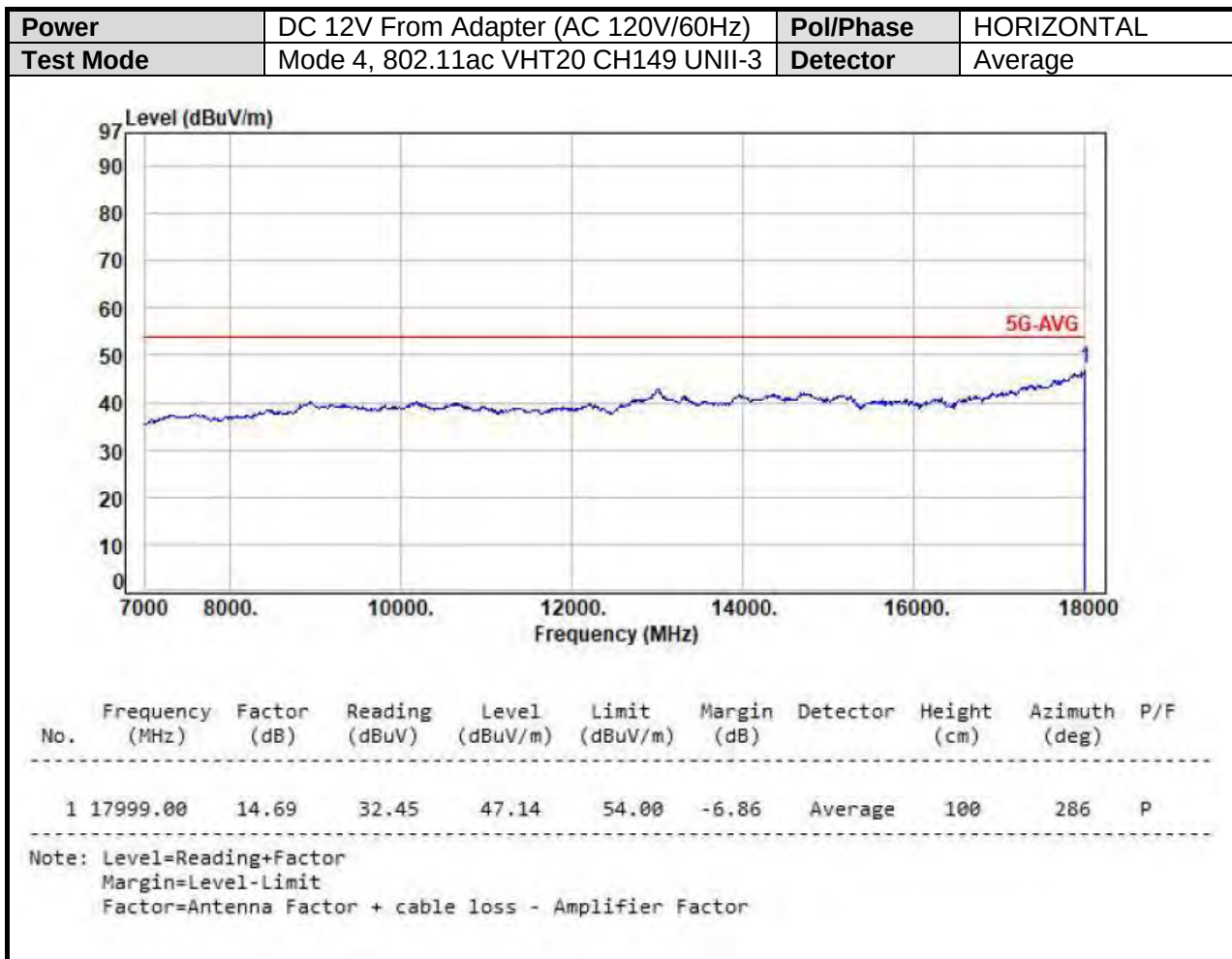


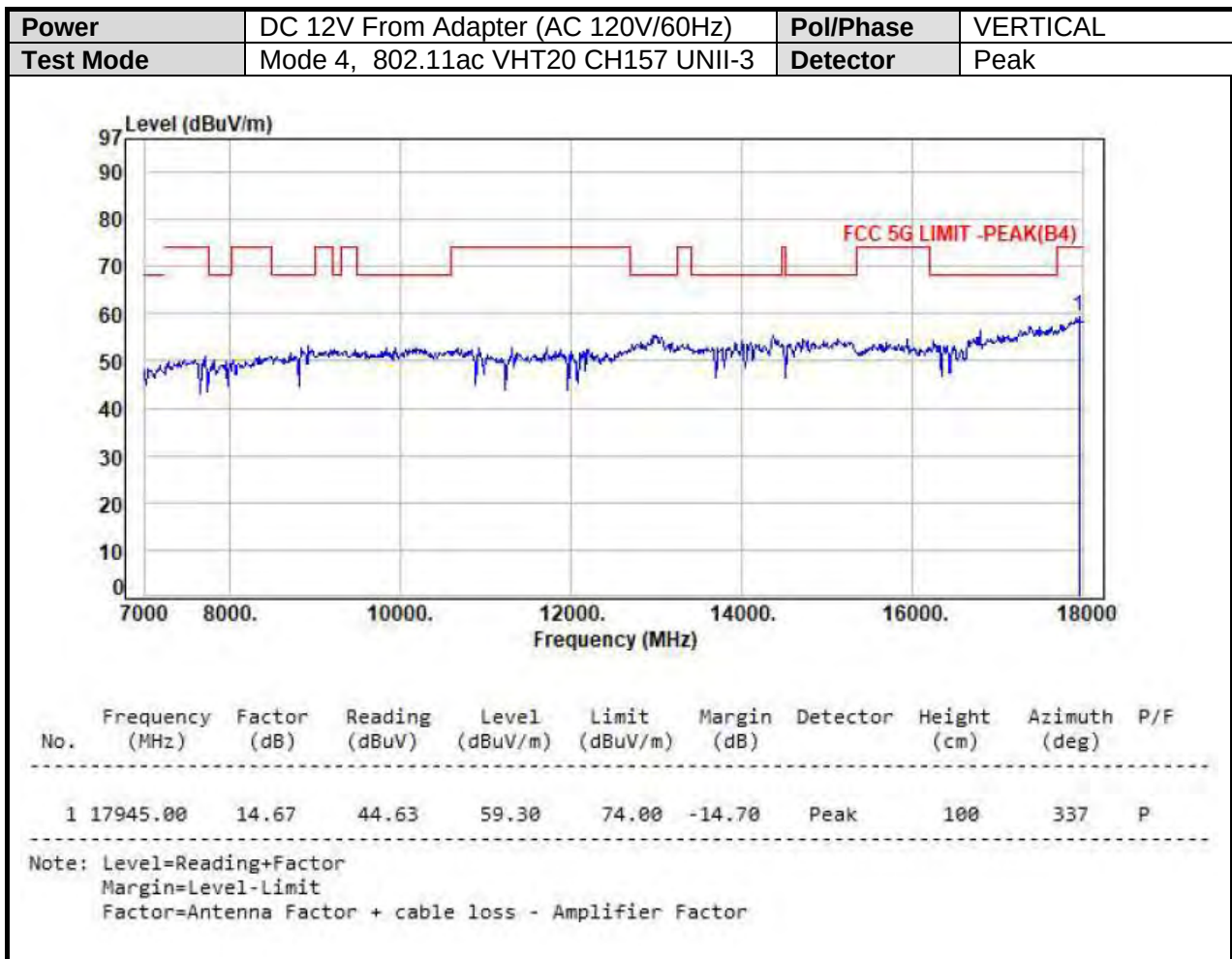


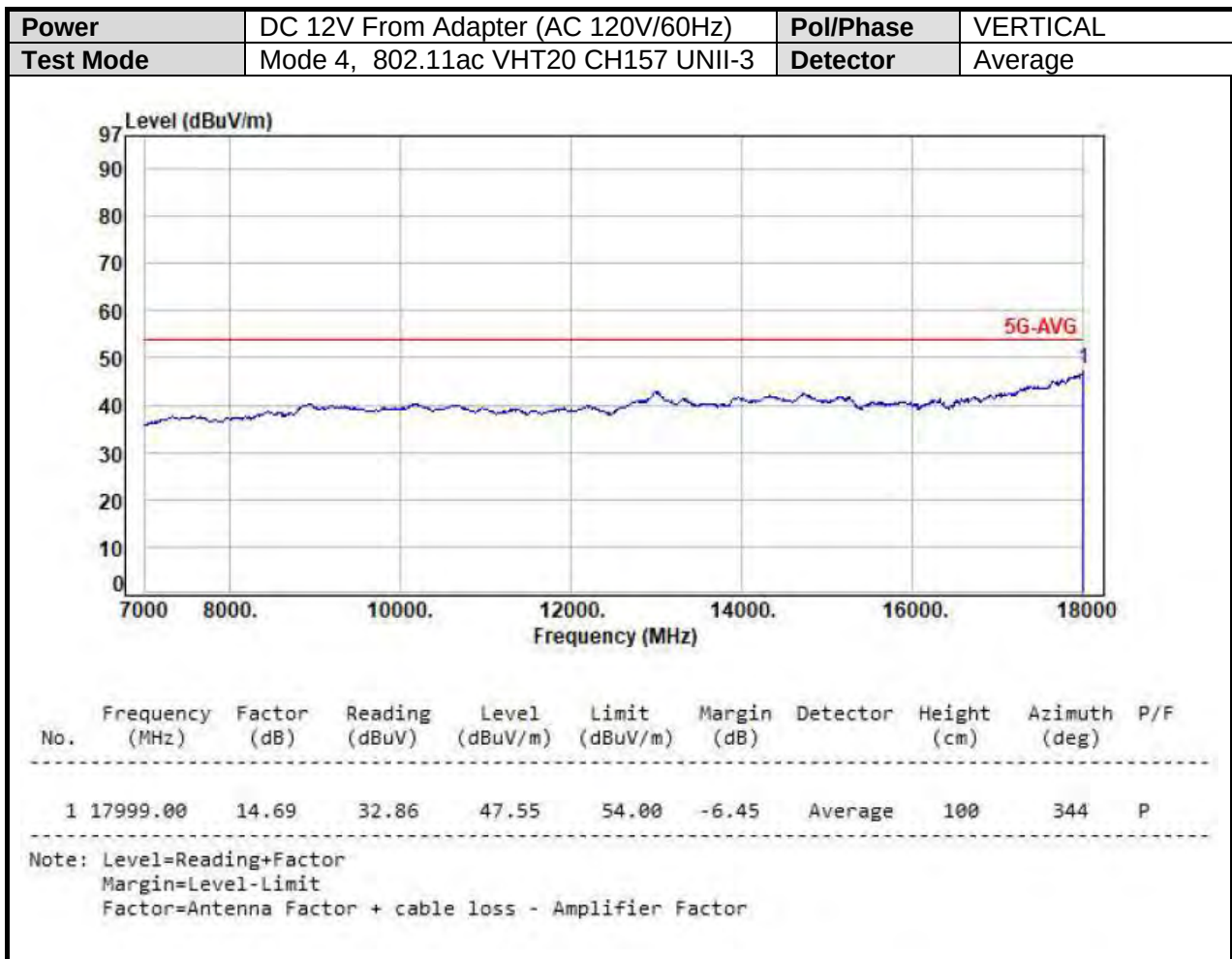


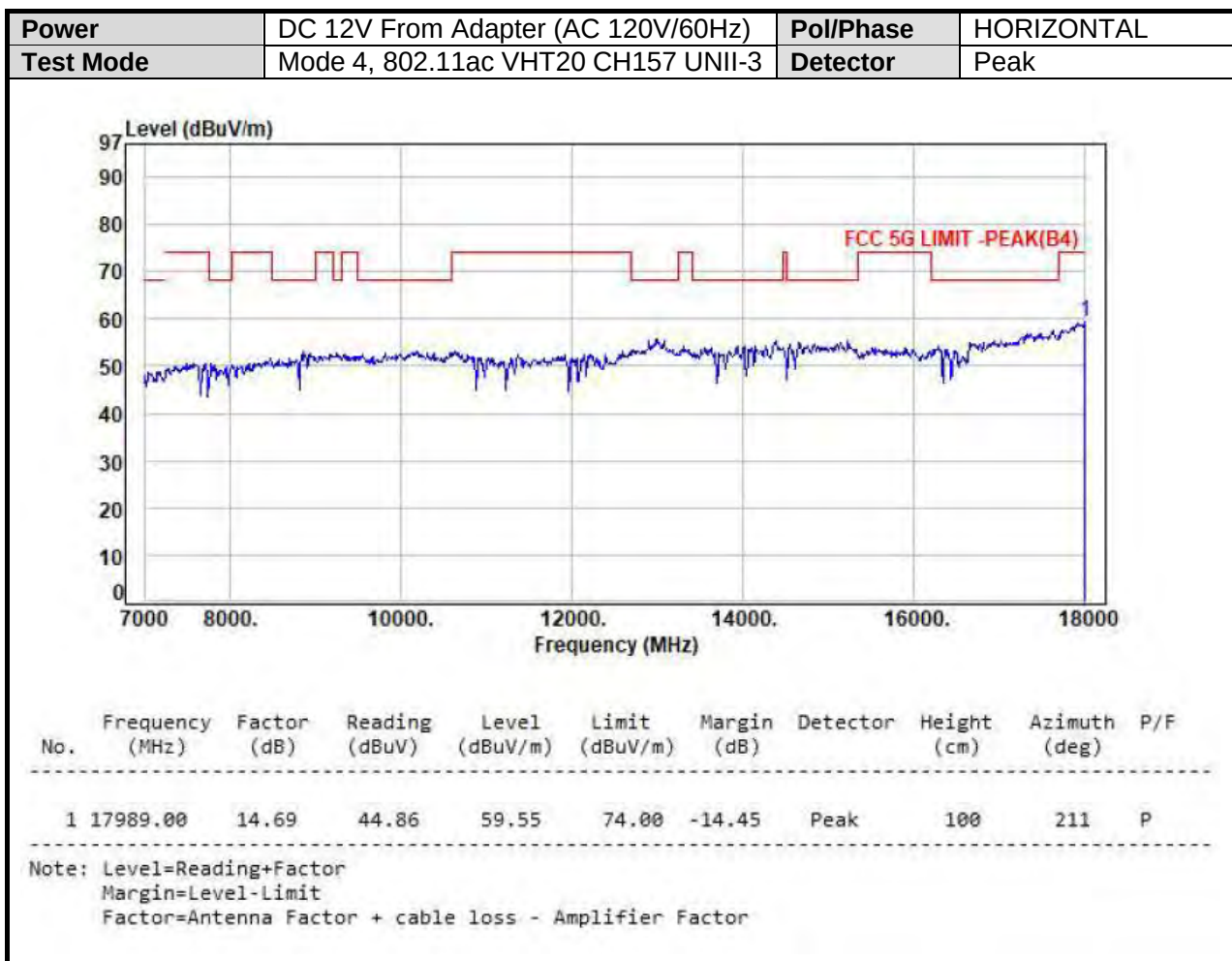


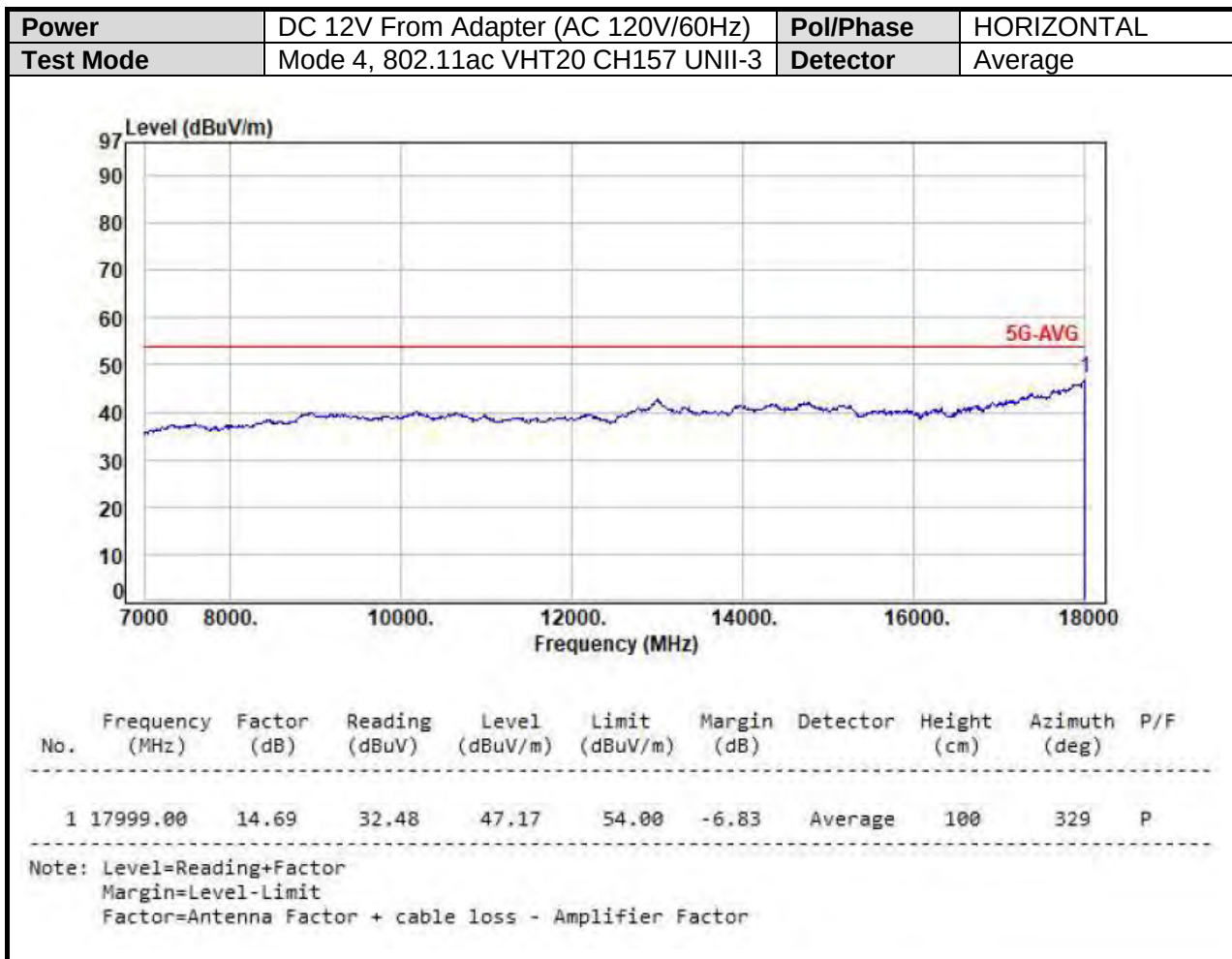


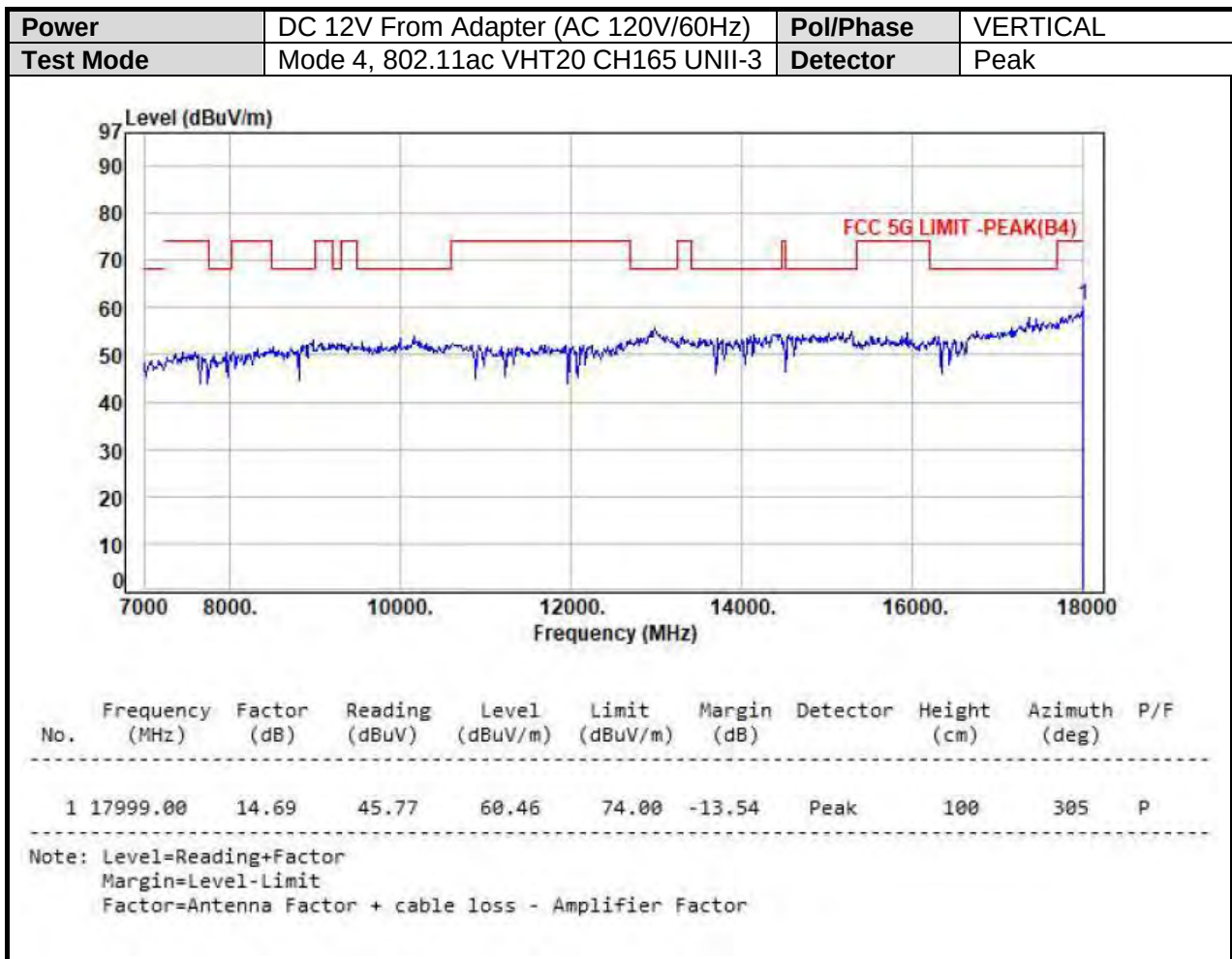


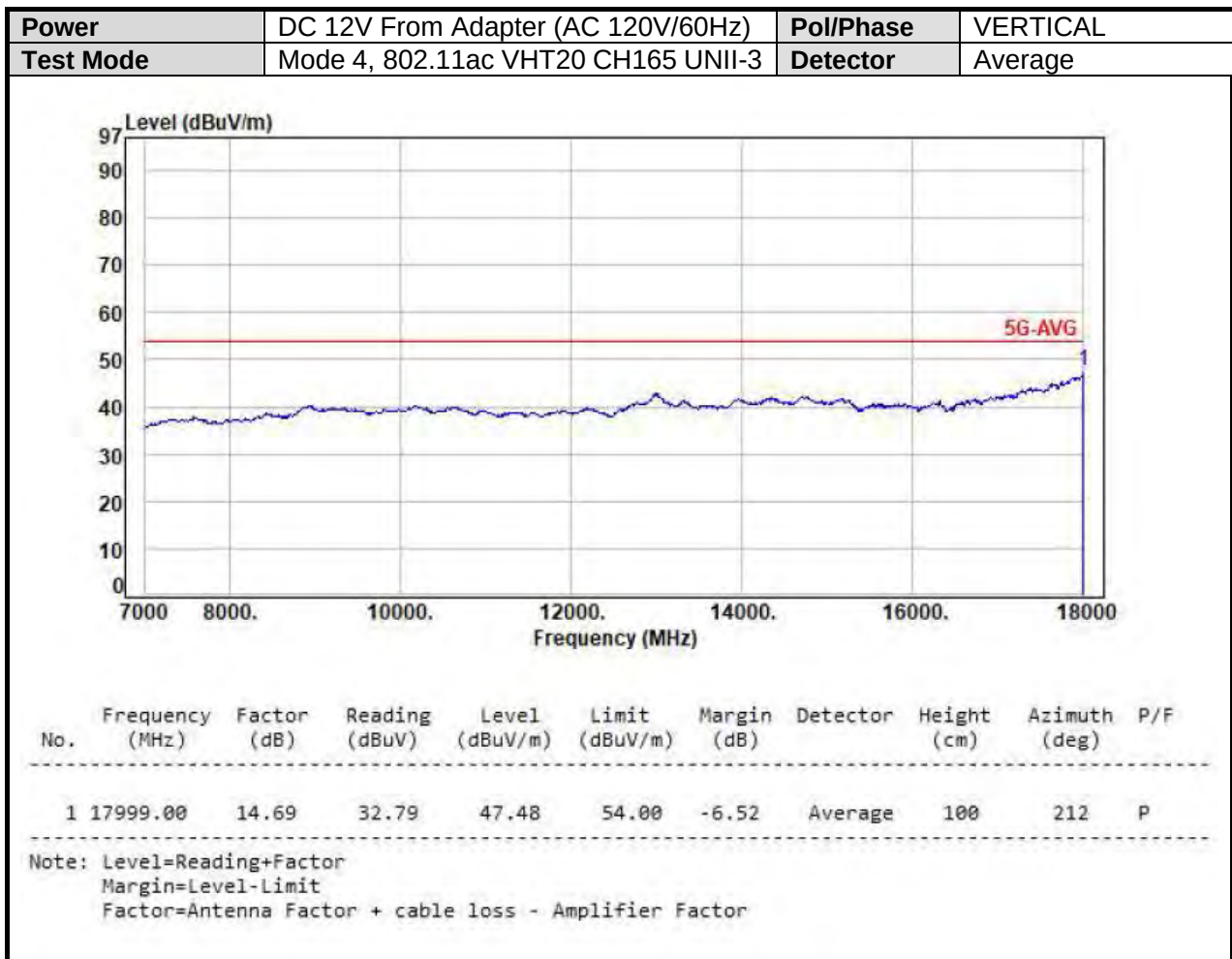


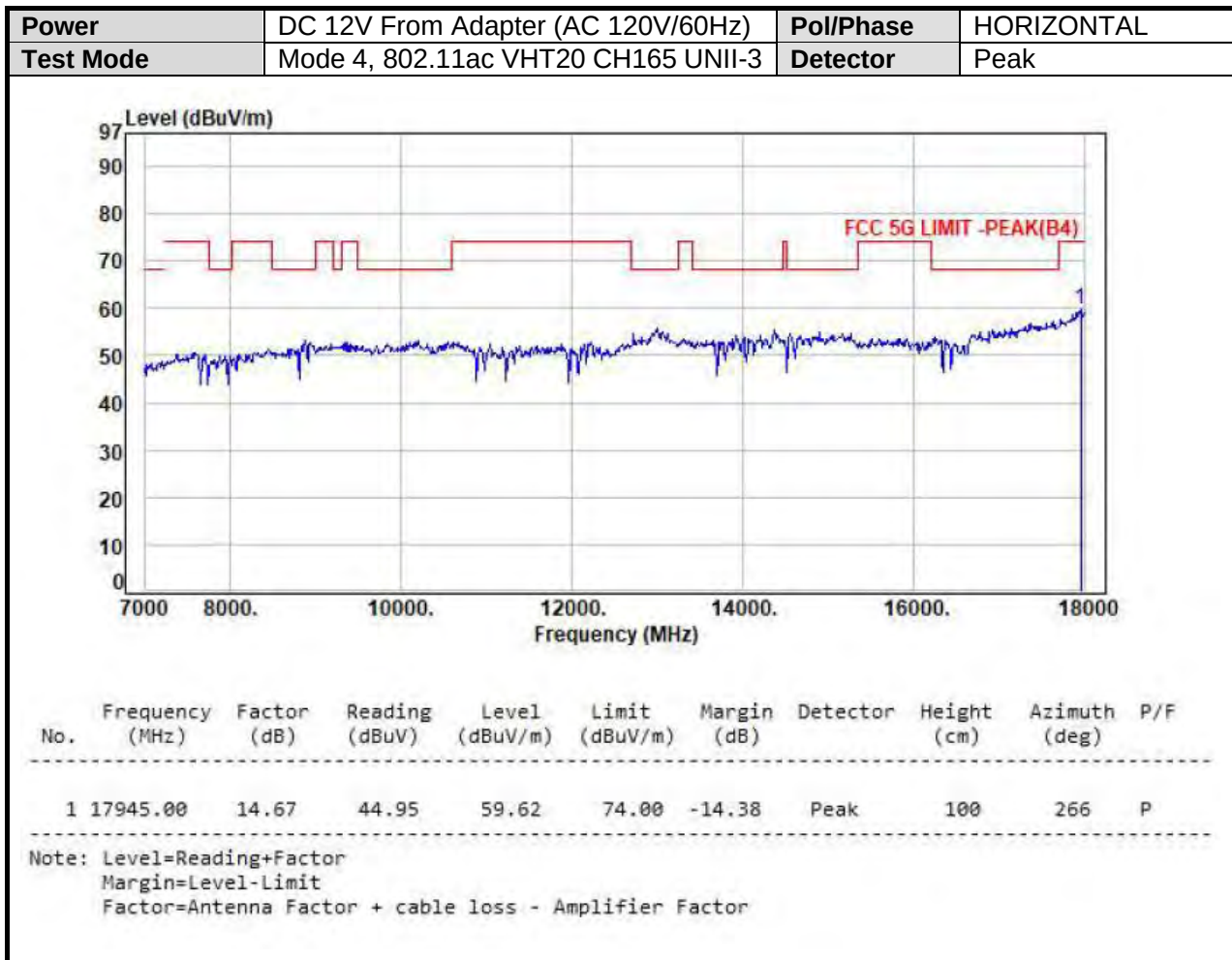


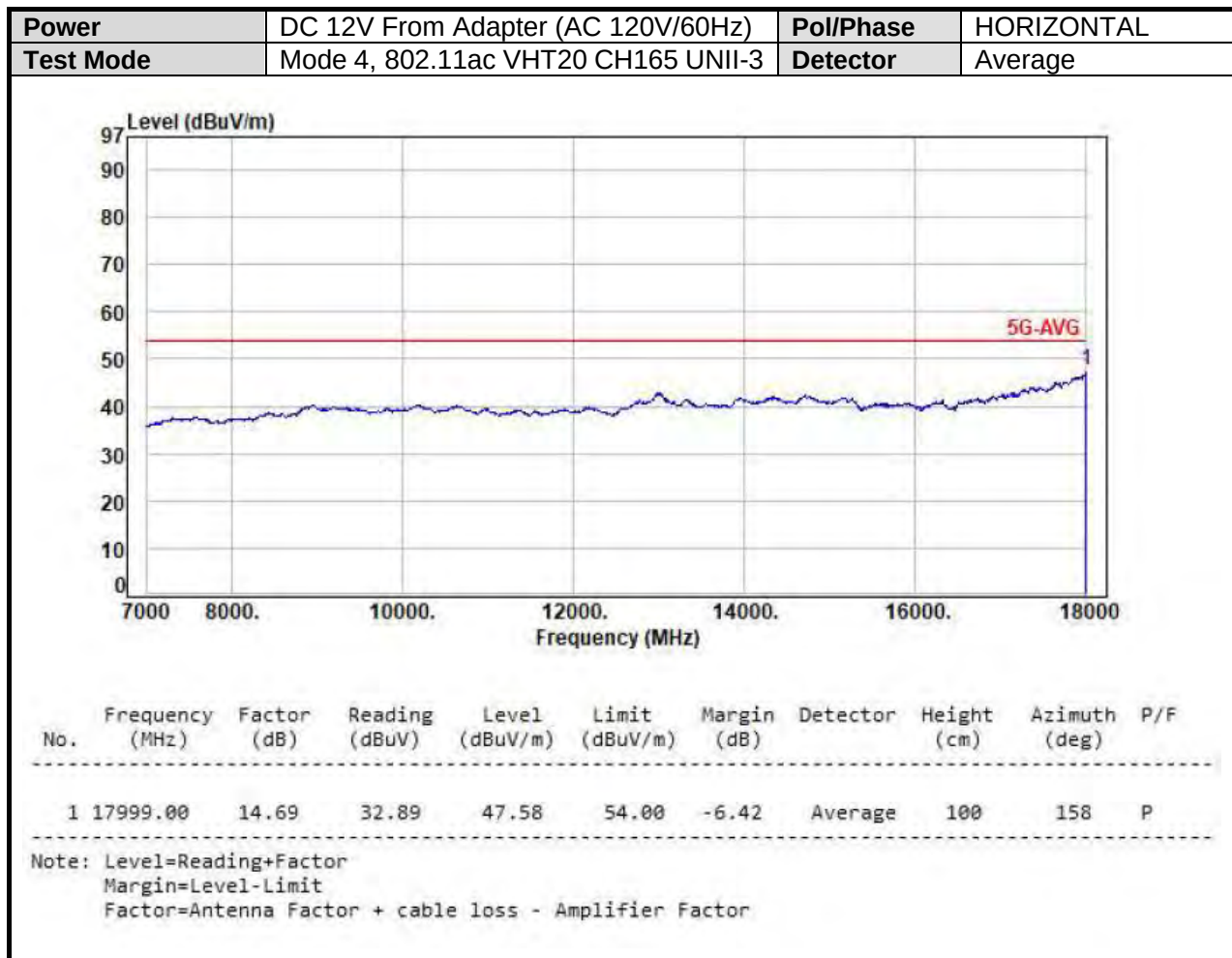


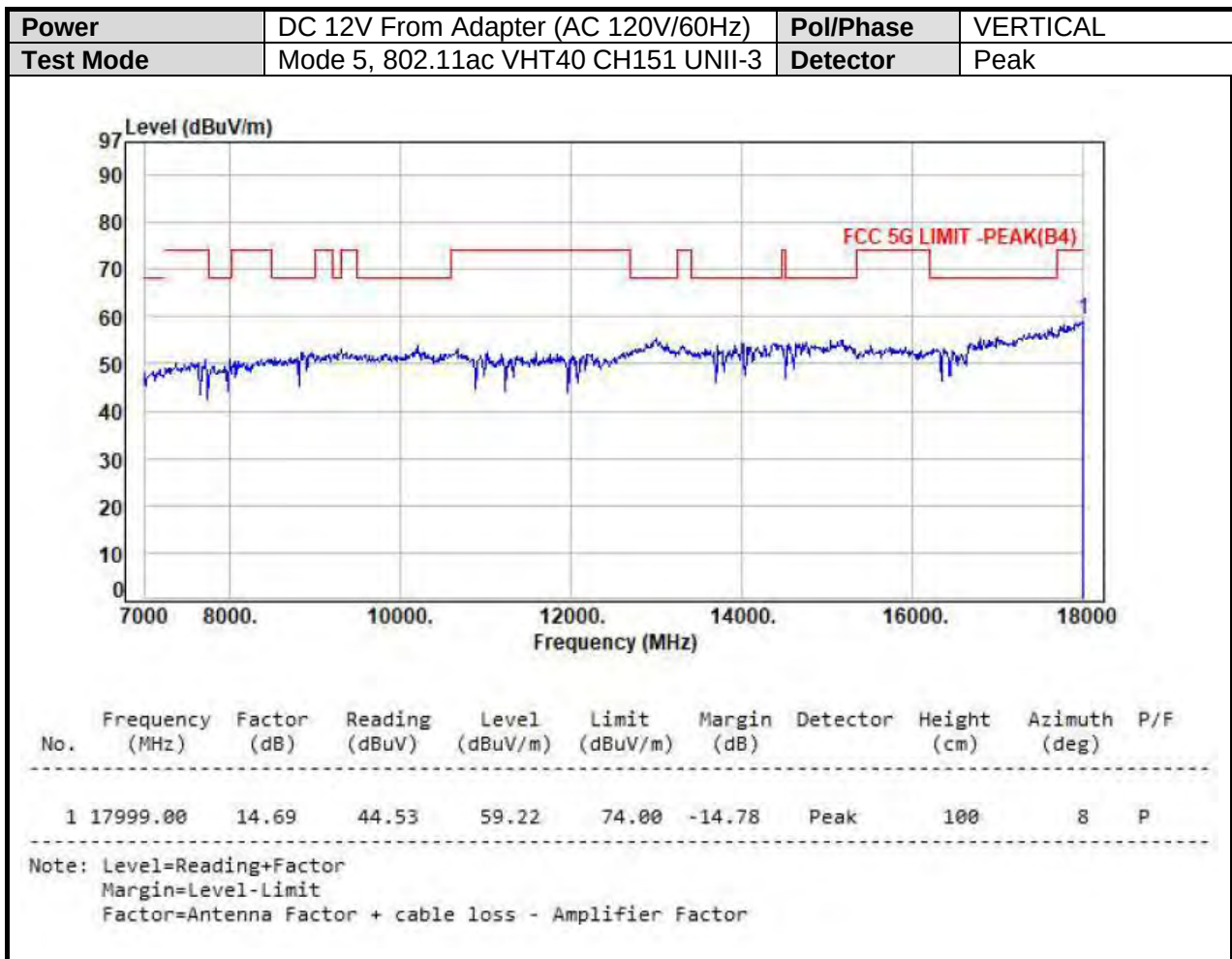


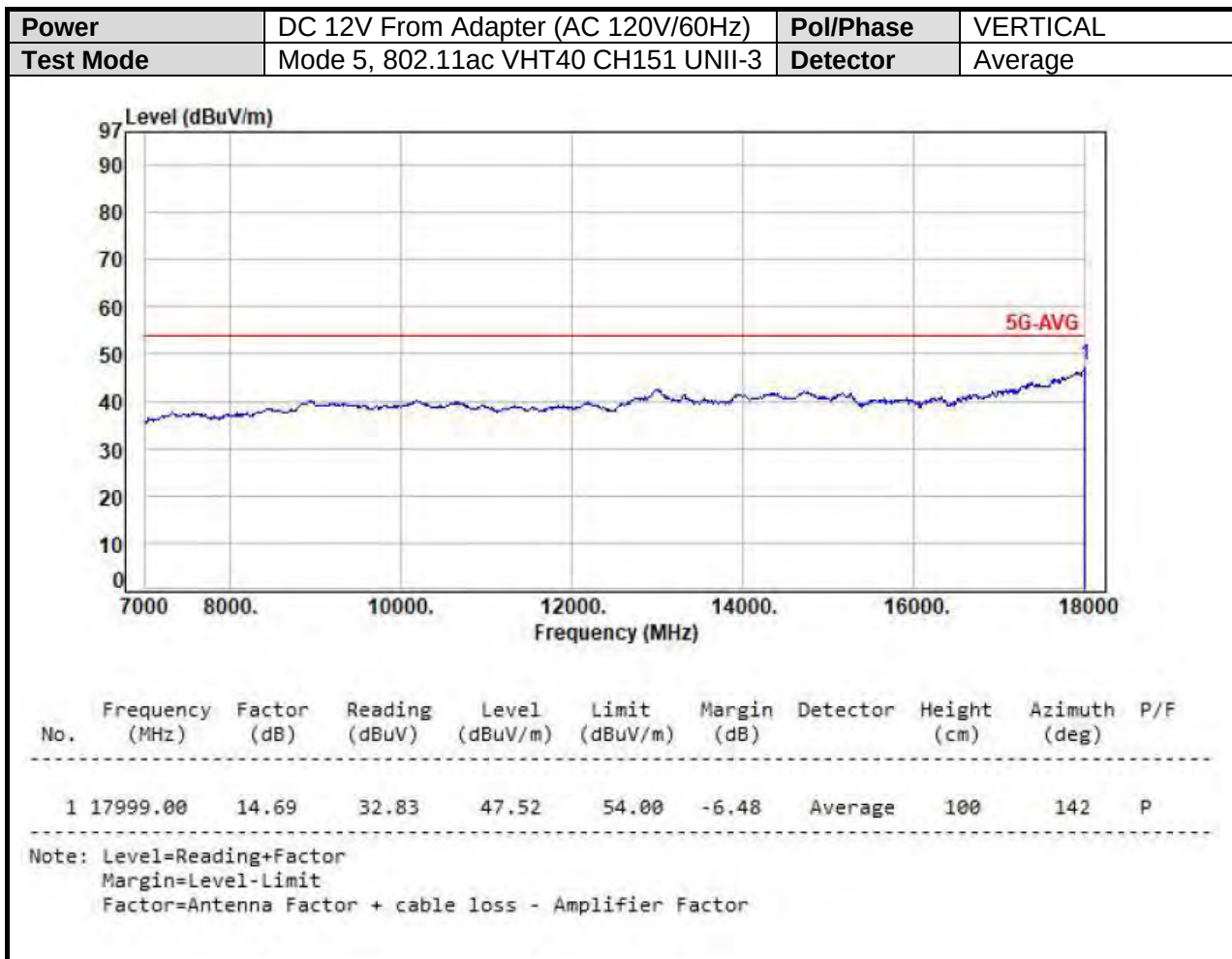


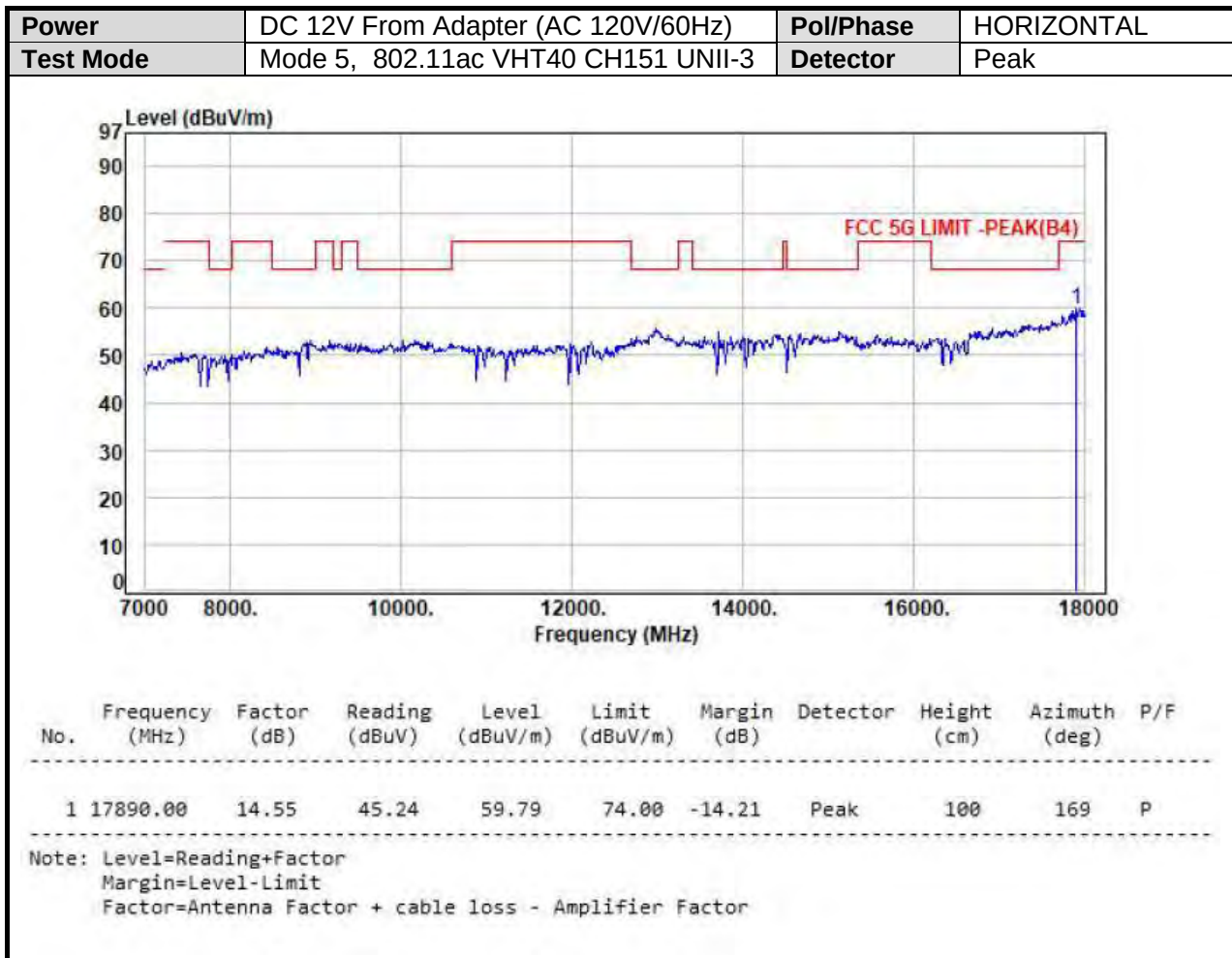


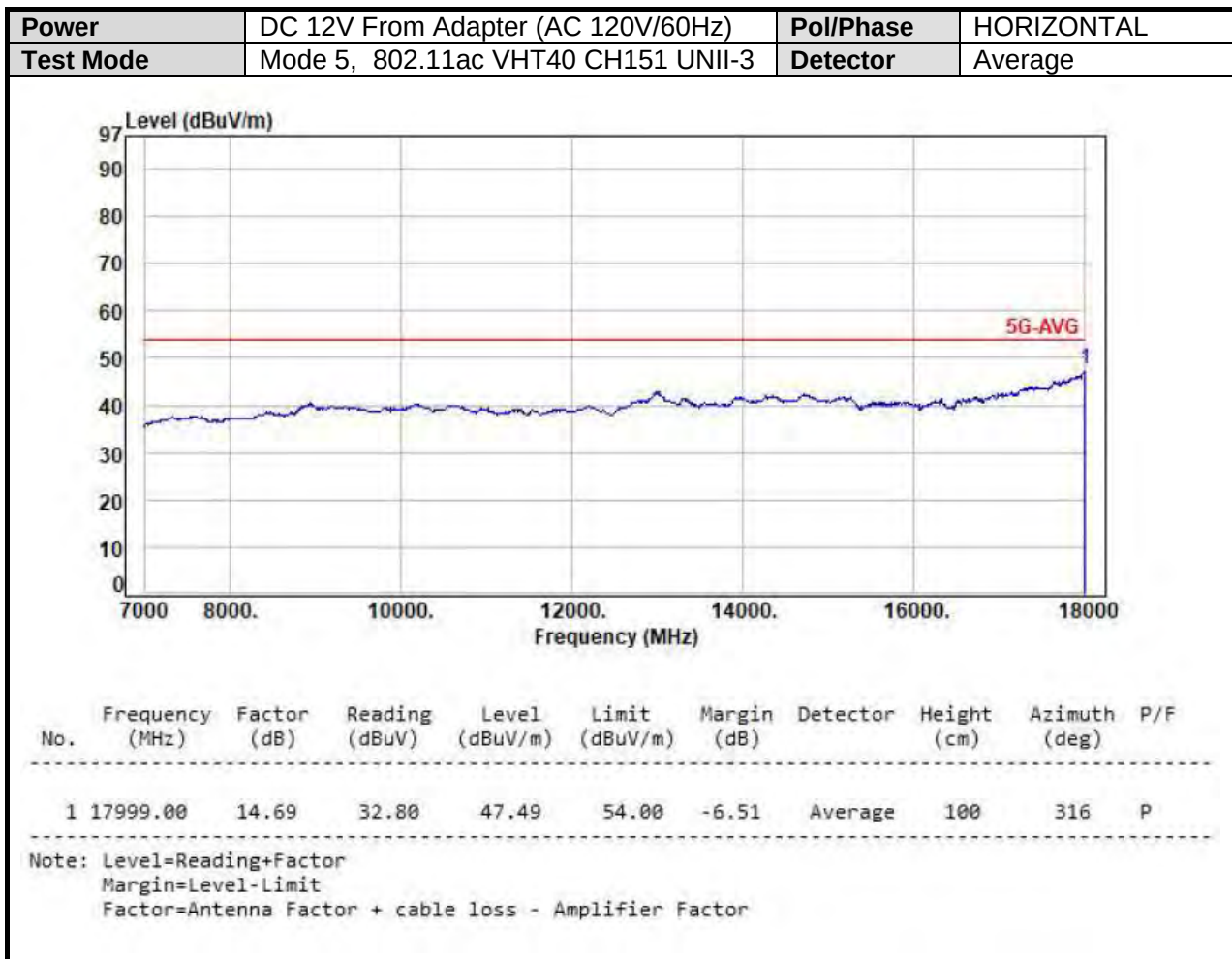


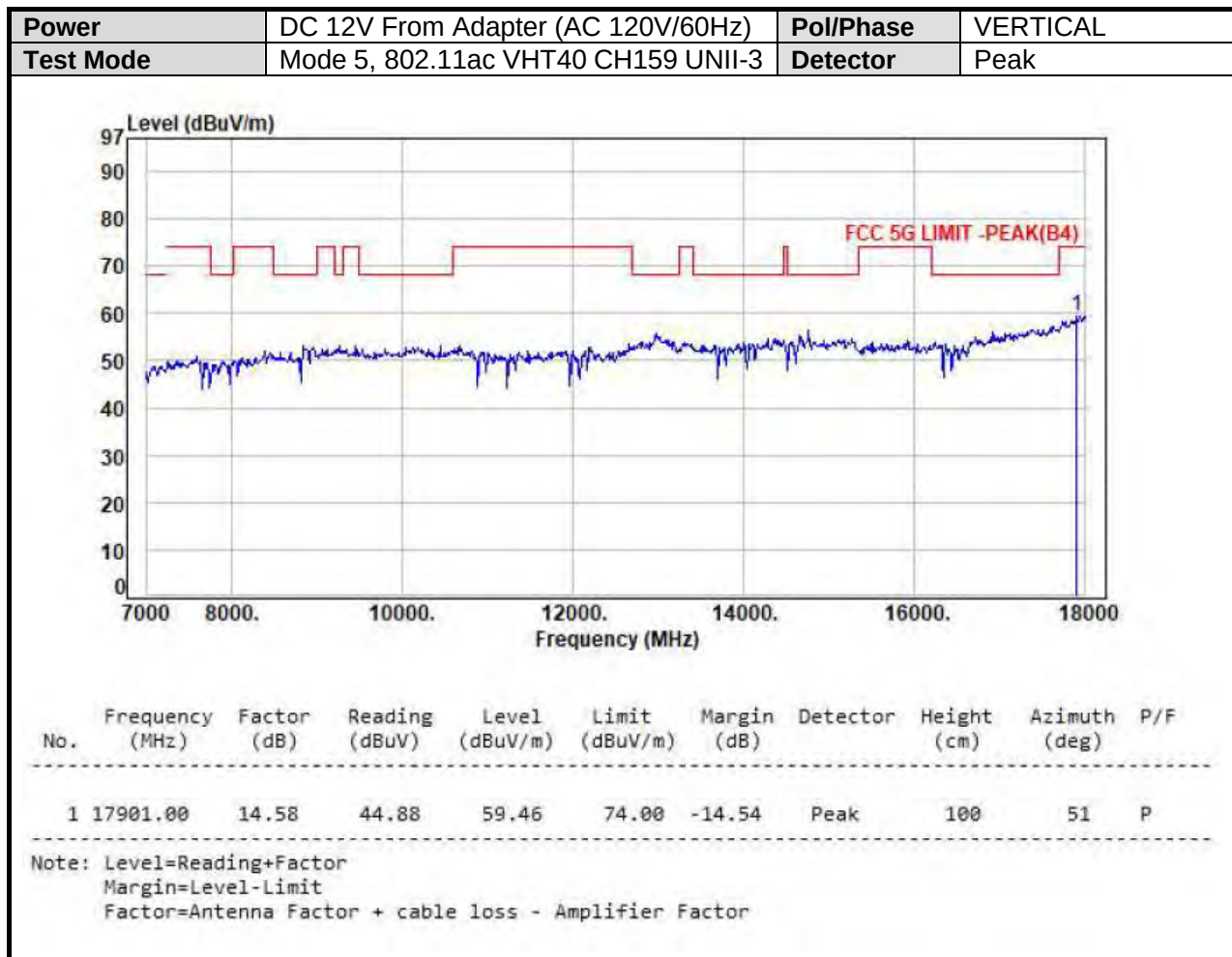


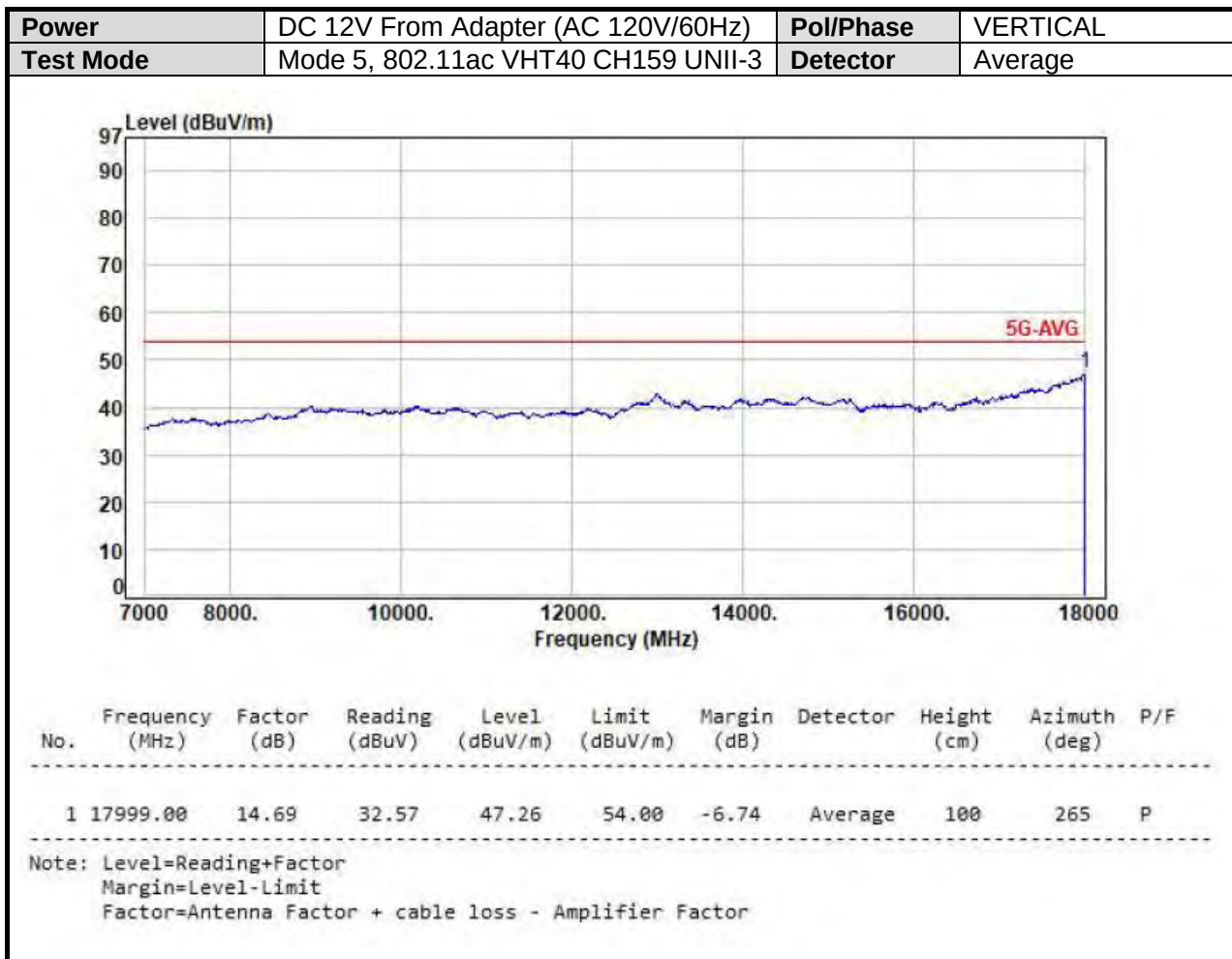


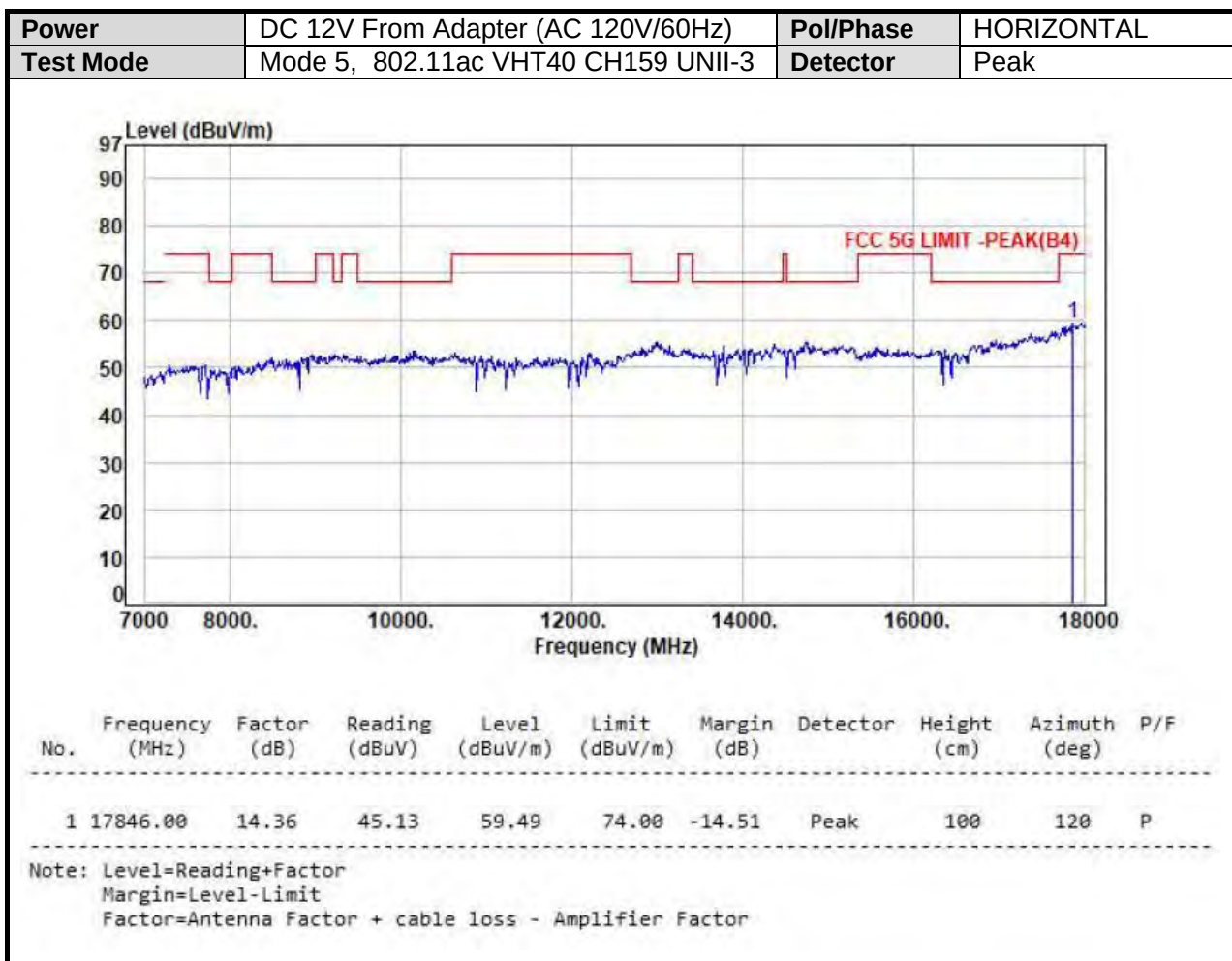


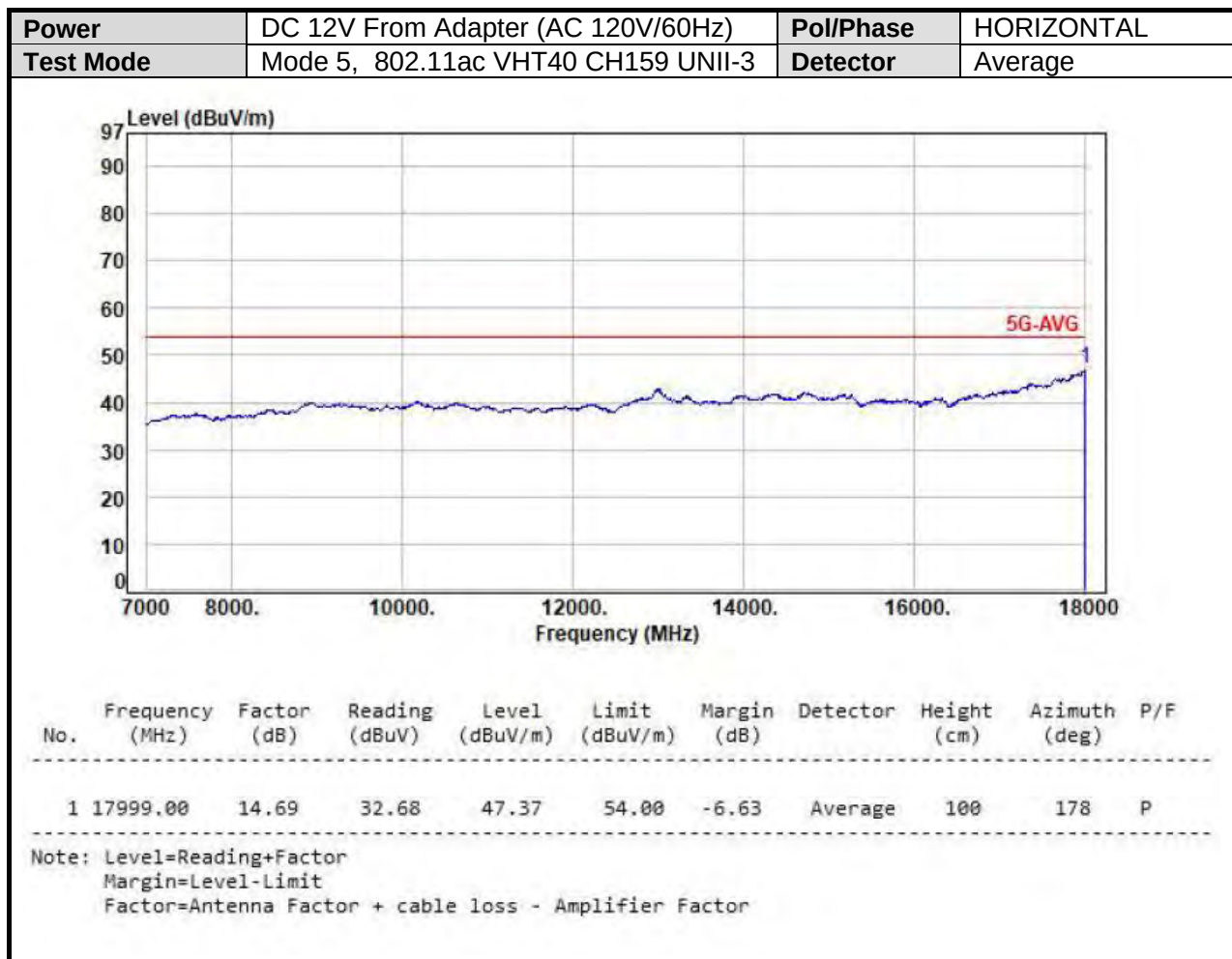


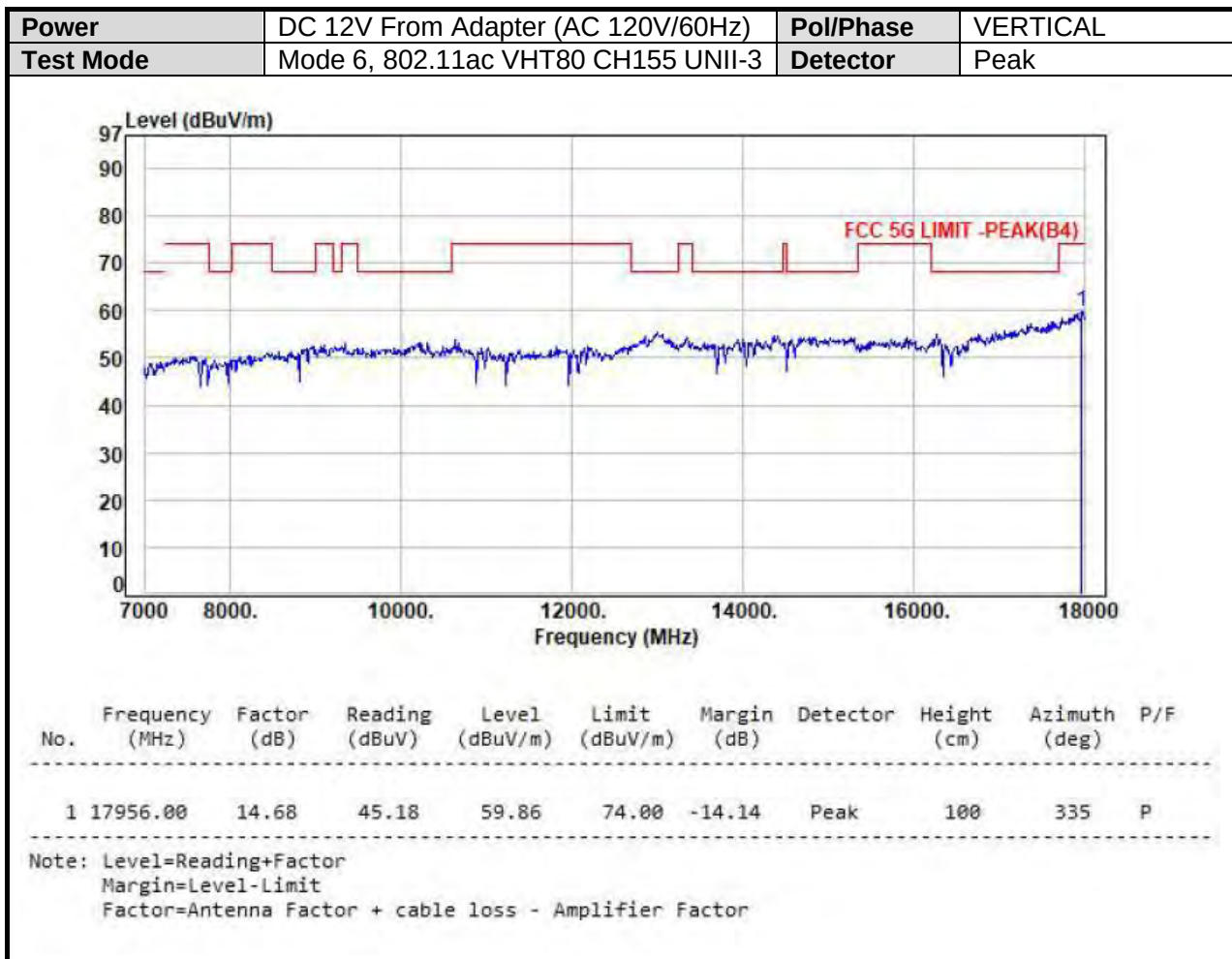


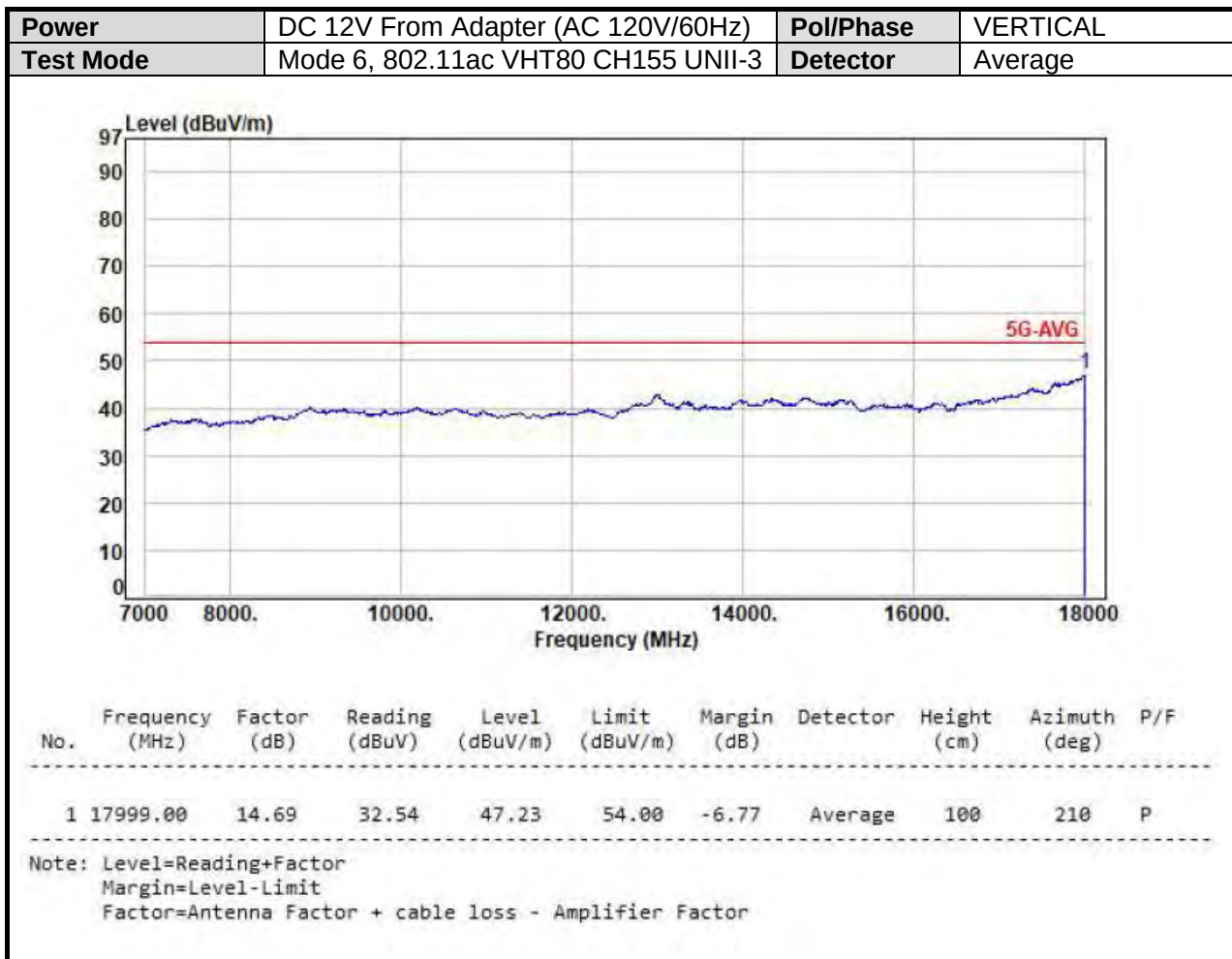


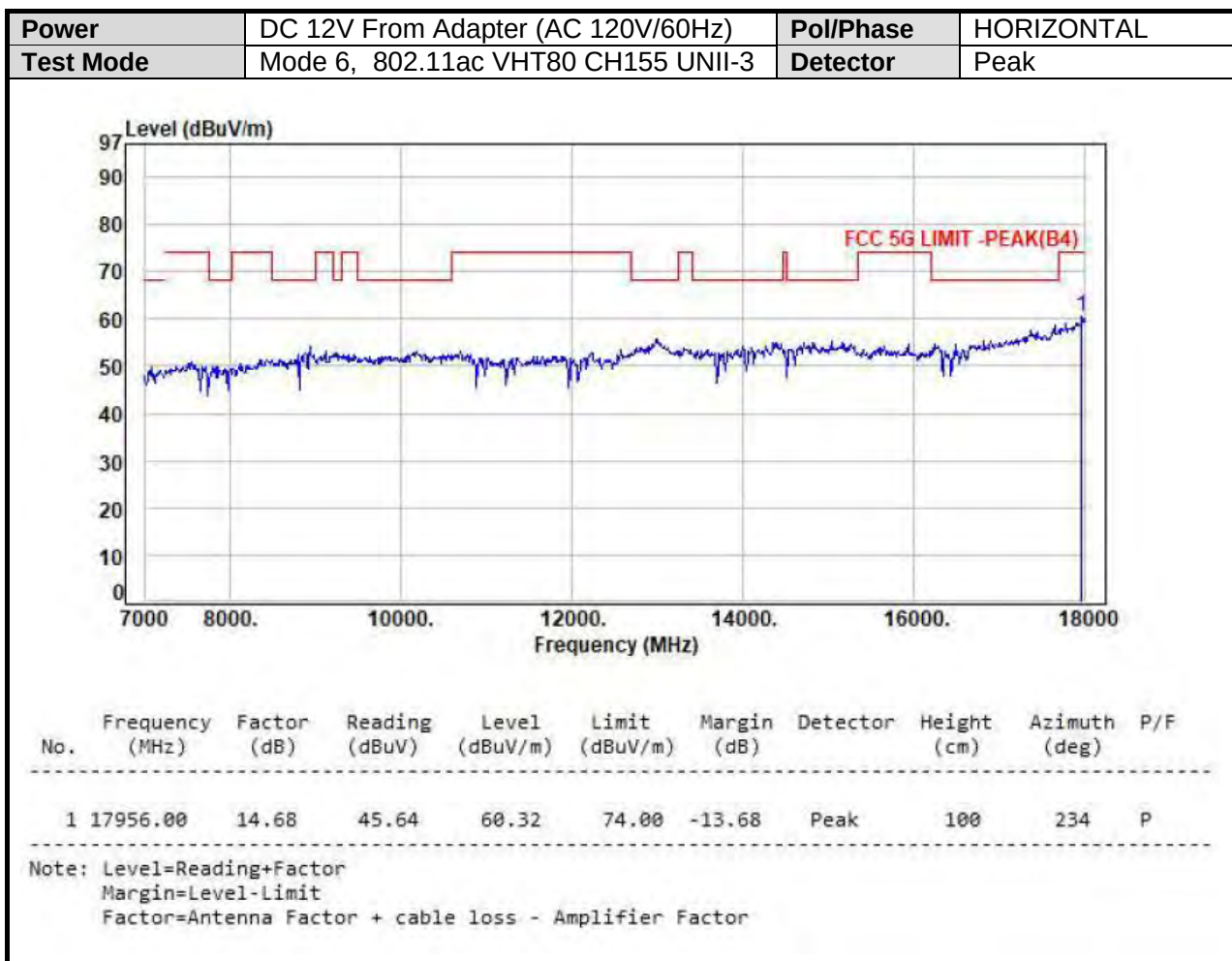


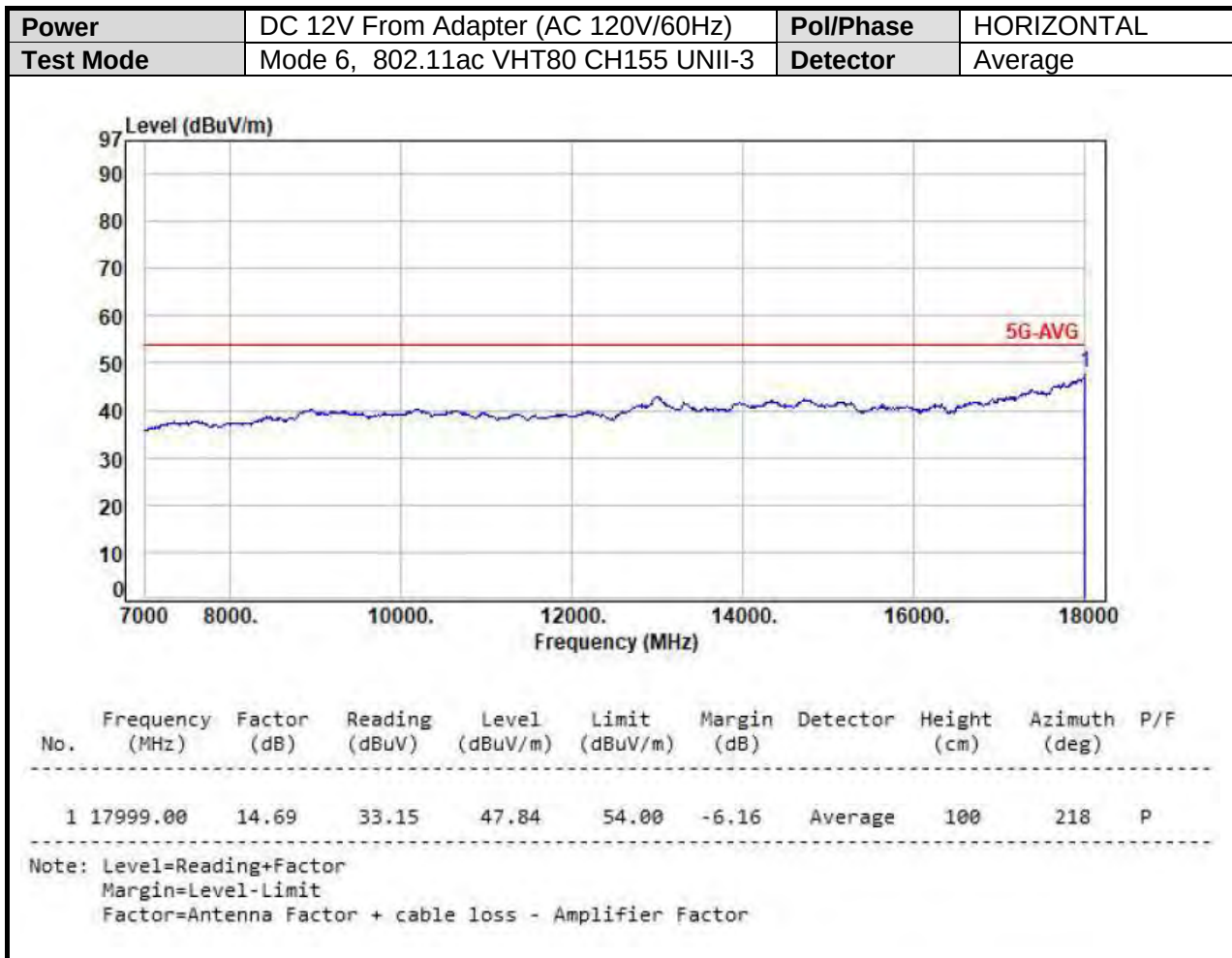






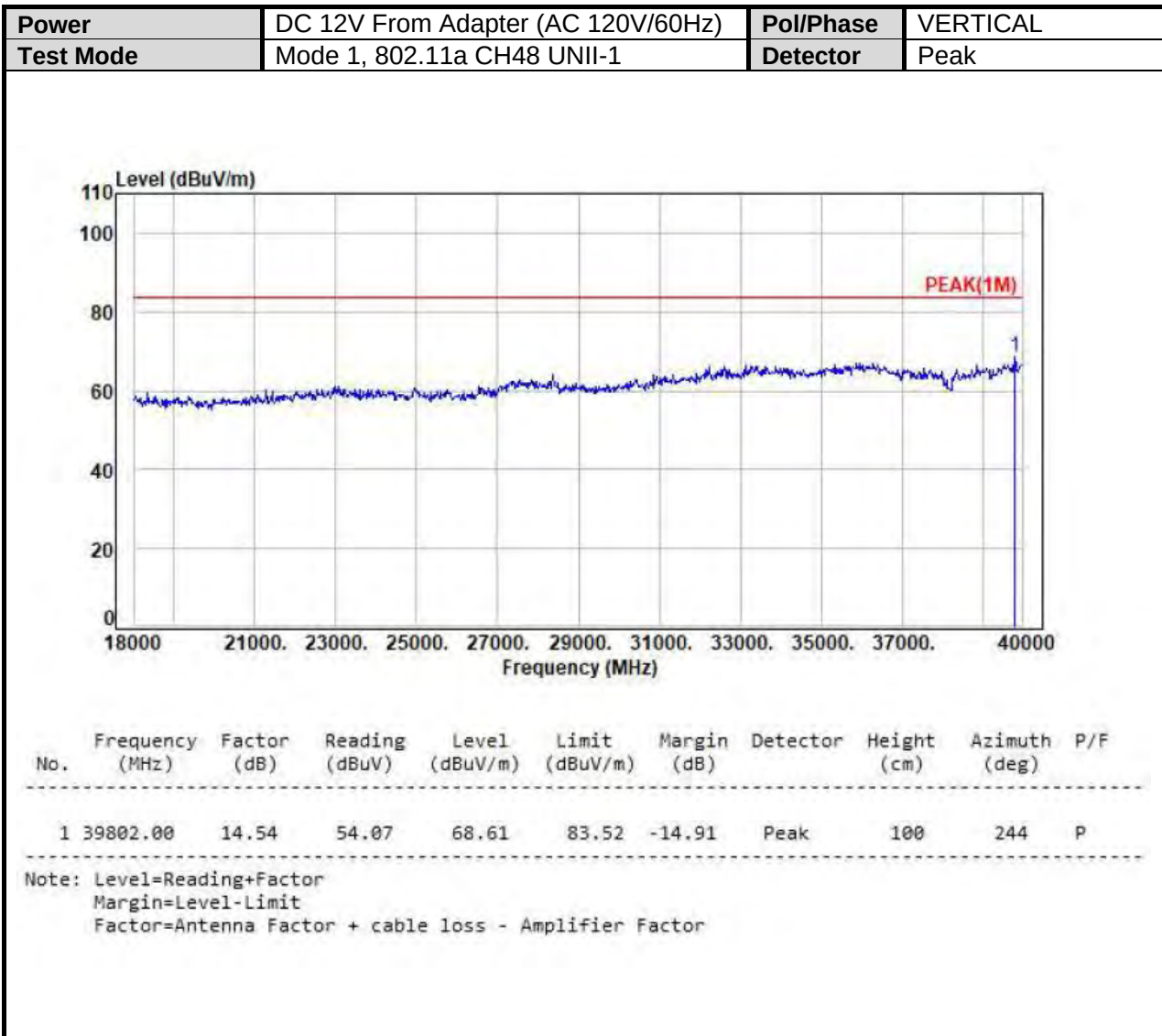




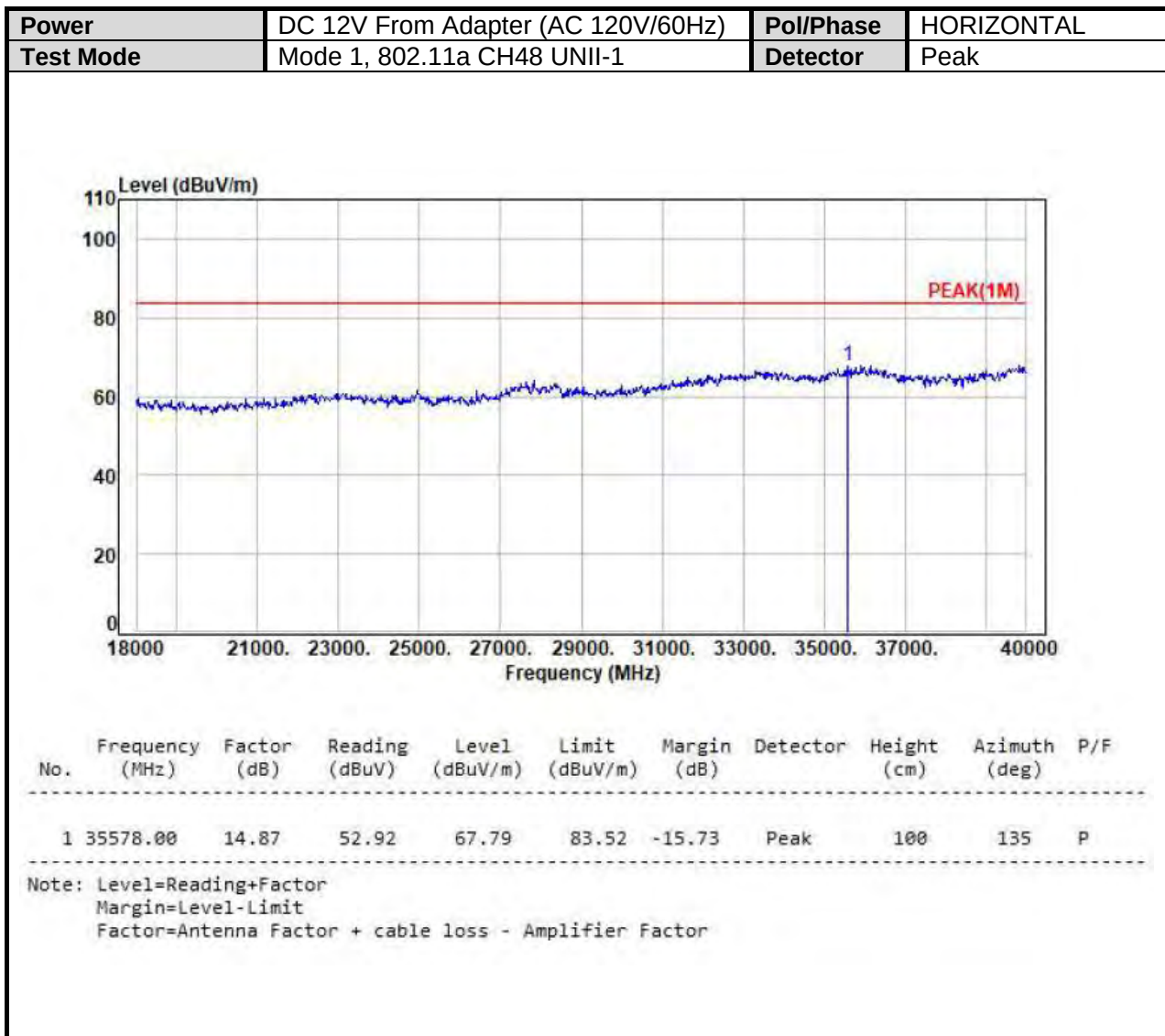




6.9. Test Result and Data (18GHz ~ 40GHz)









**6.10.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



7. On Time, Duty Cycle and Measurement methods

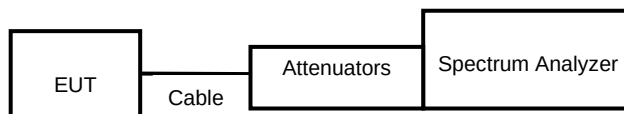
7.1. Test Limit

None; for reporting purposes only.

7.2. Test Procedure

KDB 789033 Zero-Span Spectrum Analyzer Method.

7.3. Test Setup Layout



7.4. Test Result and Data

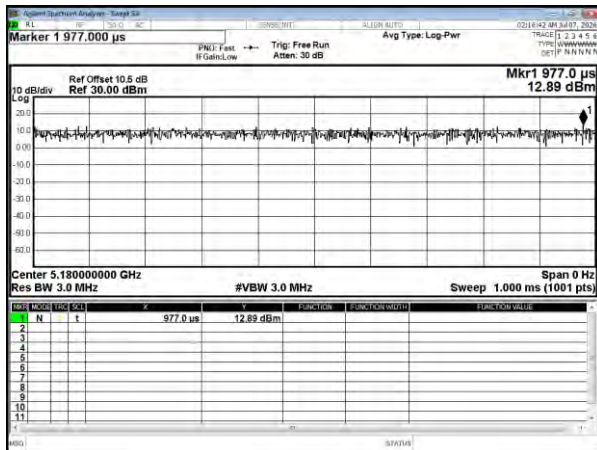
Modulation Type	On Time (ms)	Period Time (ms)	Duty Cycle (%)
802.11a	100.000	100.000	100.00%
802.11ac VHT20	100.000	100.000	100.00%
802.11ac VHT40	100.000	100.000	100.00%
802.11ac VHT80	100.000	100.000	100.00%

7.5. Measurement Methods

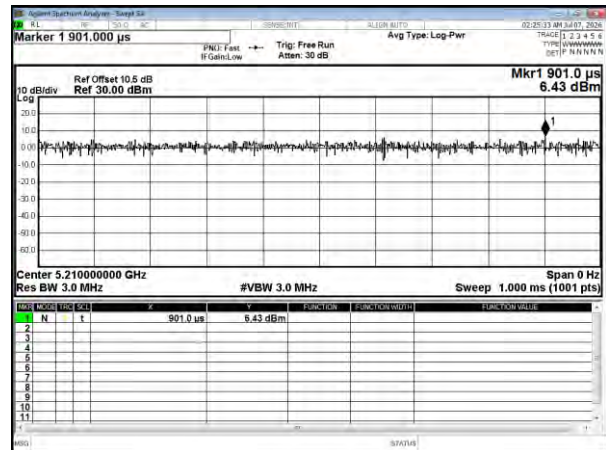
26 dB and 6dB Emission BW	KDB 789033 D02 v02r01, Section C
99% Occupied BW	KDB 789033 D02 v02r01, Section D
Conducted Output Power	KDB 789033 D02 v02r01, Section E.2.d and E.3.b (Method PM-G)
Power Spectral Density	KDB 789033 D02 v02r01, Section F
Unwanted emissions in restricted bands	KDB 789033 D02 v02r01, Sections G and H
Unwanted emissions in non-restricted bands	KDB 789033 D02 v02r01, Sections G and H



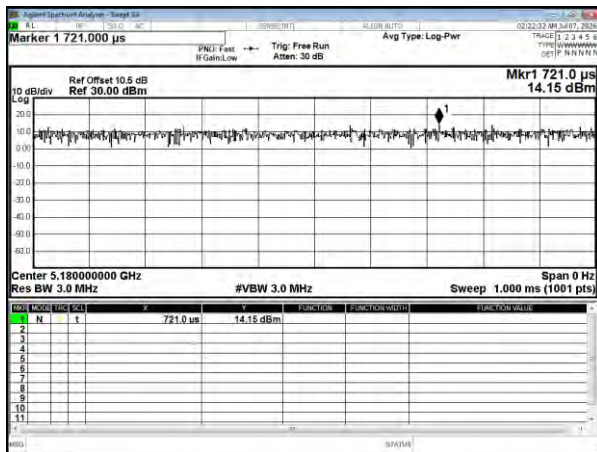
Modulation Type: 802.11a



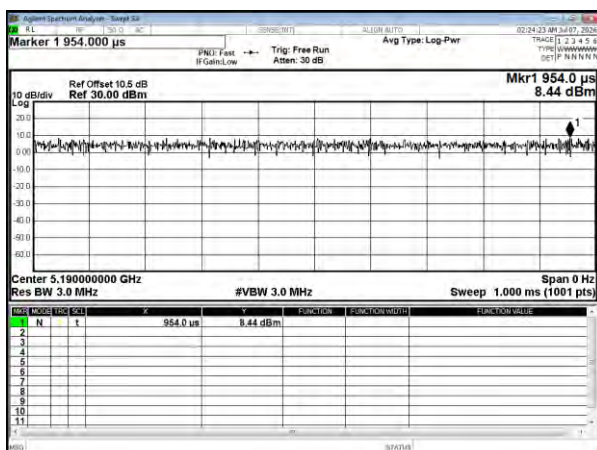
Modulation Type: 802.11ac VHT80



Modulation Type: 802.11ac VHT20



Modulation Type: 802.11ac VHT40





8. 6dB Bandwidth & 99% Occupied Bandwidth

8.1. Test Limit

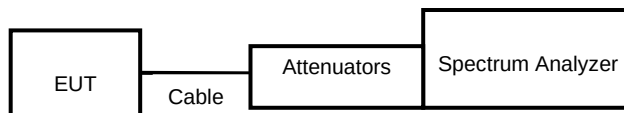
FCC §15.407

The minimum 6 dB bandwidth shall be at least 500 kHz.

8.2. Test Procedure

Reference to 789033 D02 General UNII Test Procedures New Rules v01: The transmitter output is connected to a spectrum analyzer with the RBW set to 100kHz, the VBW $\geq 3 \times$ RBW, peak detector and max hold.

8.3. Test Setup Layout





8.4. Test Result and Data

6dB Bandwidth

In the 5.8GHz Band

Mode	Channel	Frequency (MHz)	6dB Bandwidth (MHz)	Minimum Limit (MHz)
802.11a	149	5745	16.36	0.50
	157	5785	16.43	0.50
	165	5825	16.40	0.50
802.11ac VHT20	149	5745	17.63	0.50
	157	5785	17.62	0.50
	165	5825	17.62	0.50
802.11ac VHT40	151	5755	36.09	0.50
	159	5795	36.08	0.50
802.11ac VHT80	155	5775	75.81	0.50

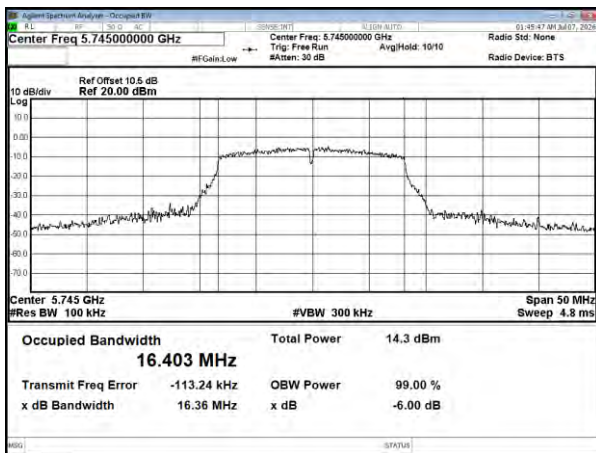
99% Bandwidth

In the 5.8GHz Band

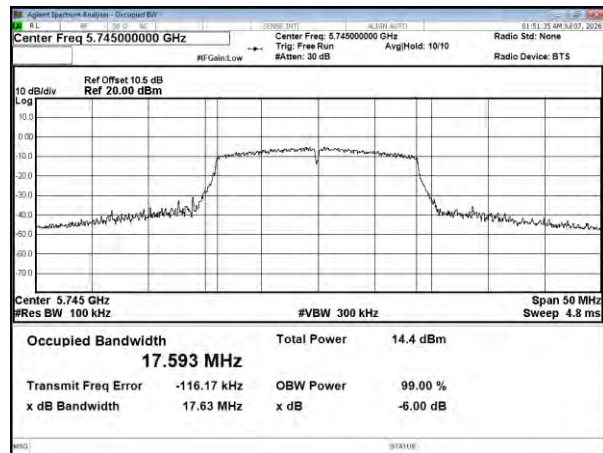
Mode	Channel	Frequency (MHz)	99% Bandwidth(MHz)
802.11a	149	5745	16.512
	157	5785	16.569
	165	5825	16.590
802.11ac VHT20	149	5745	17.625
	157	5785	17.610
	165	5825	17.661
802.11ac VHT40	151	5755	36.084
	159	5795	36.057
802.11ac VHT80	155	5775	75.146



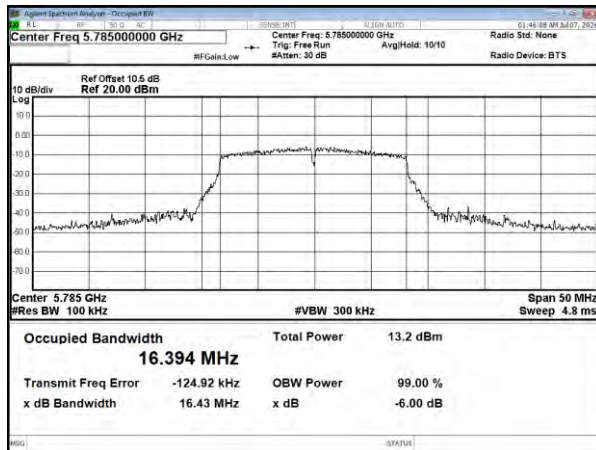
6dB Bandwidth
Modulation Type: 802.11a
CH149



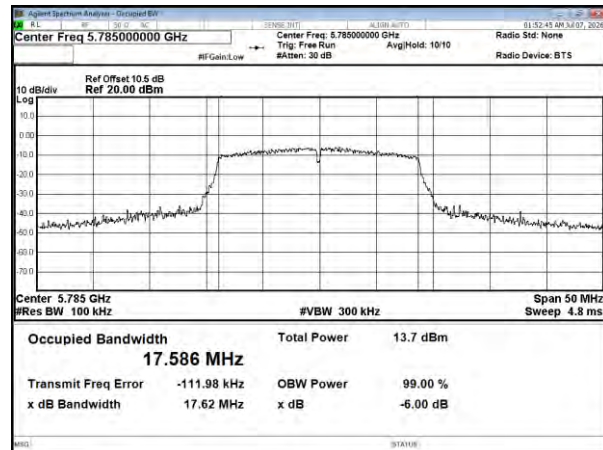
Modulation Type: 802.11ac VHT20
CH149



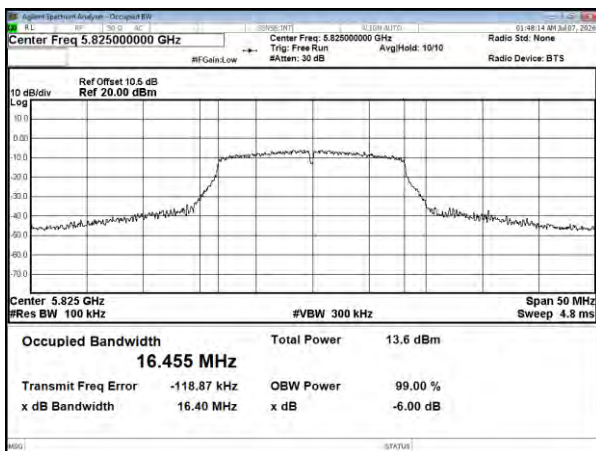
CH157



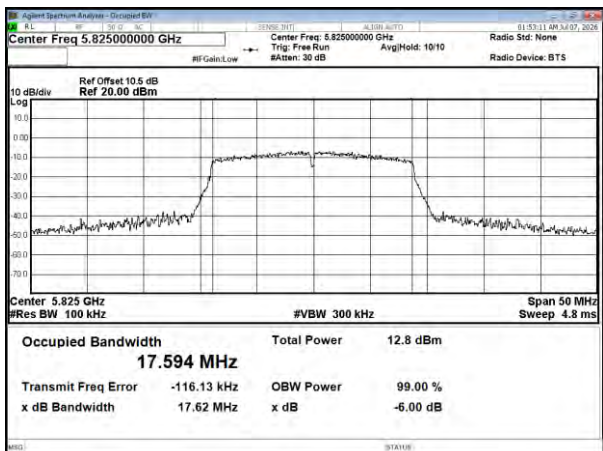
CH157



CH165

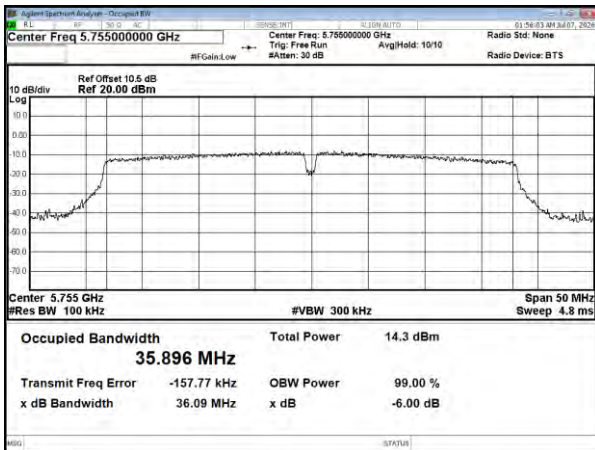


CH165

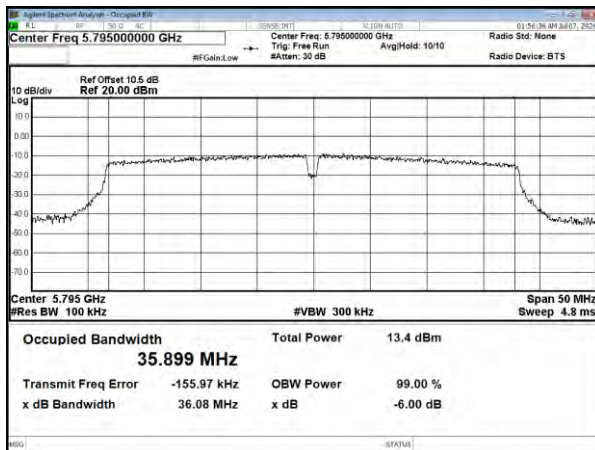




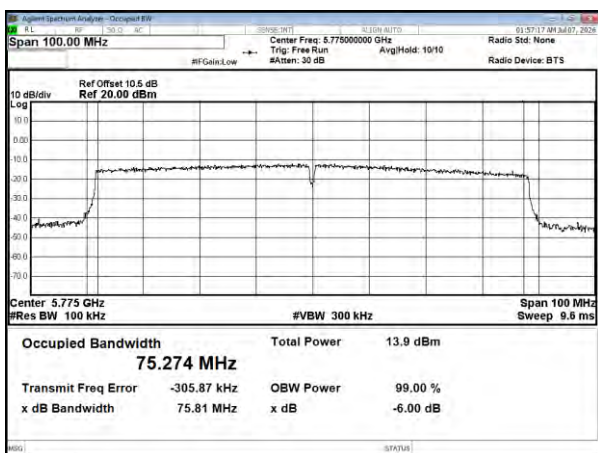
Modulation Type: 802.11ac VHT40
CH151



CH159

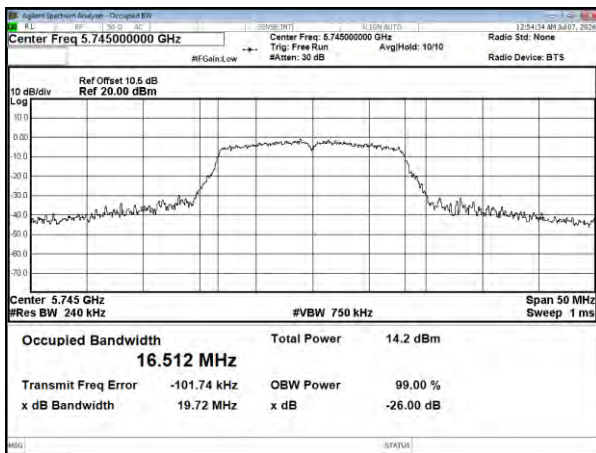


Modulation Type: 802.11ac VHT80
CH155

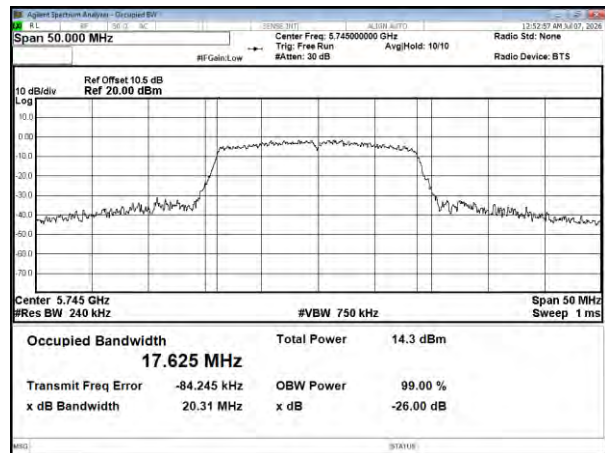




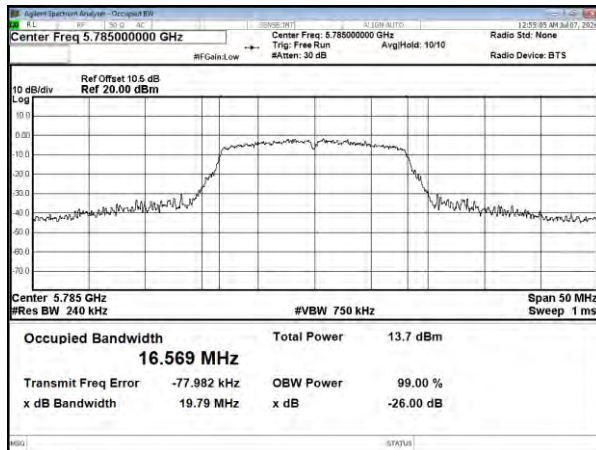
99% Occupied Bandwidth
Modulation Type: 802.11a
CH149



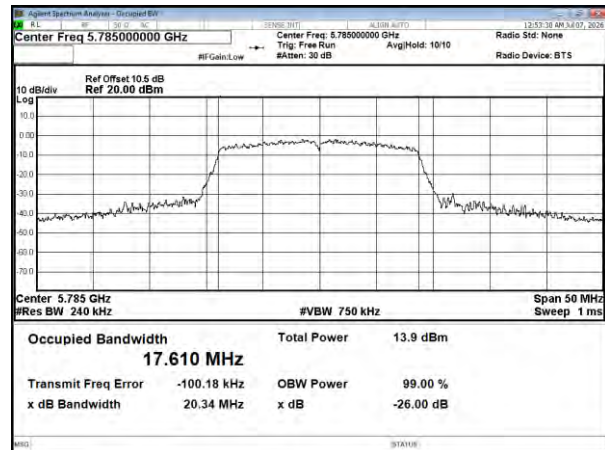
Modulation Type: 802.11ac VHT20
CH149



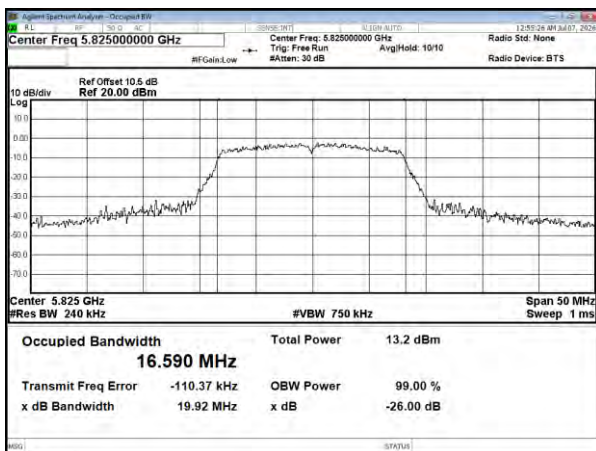
CH157



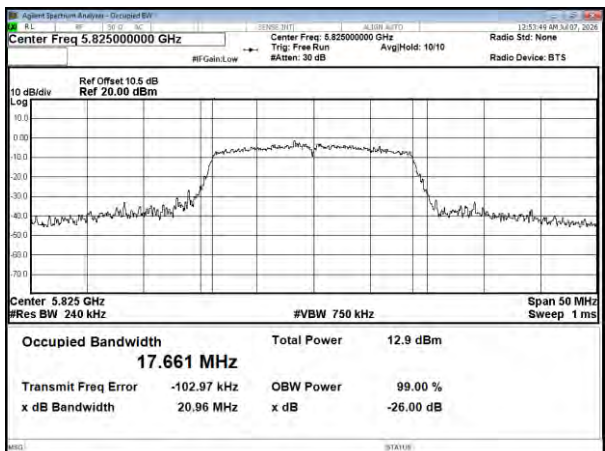
CH157



CH165

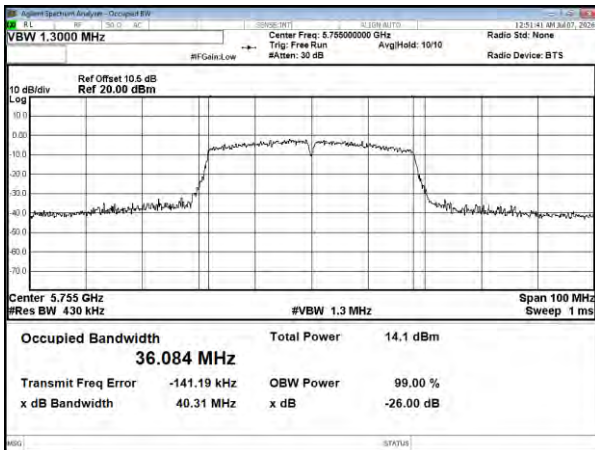


CH165

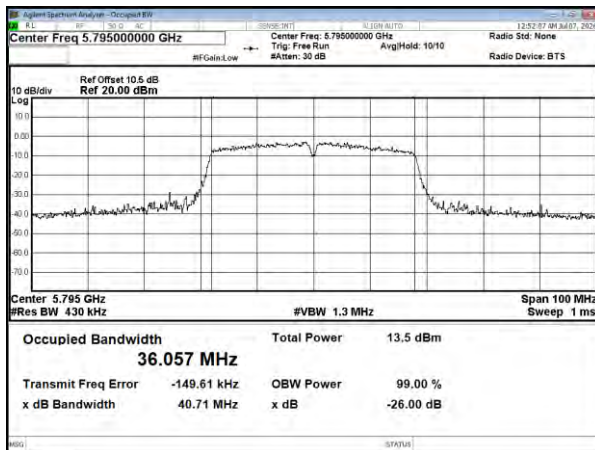




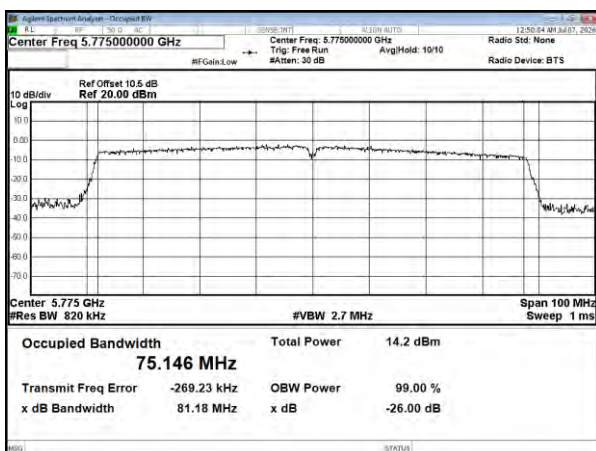
Modulation Type: 802.11ac VHT40
CH151



CH159



Modulation Type: 802.11ac VHT80
CH155





9. 26dB Bandwidth & 99% Occupied Bandwidth

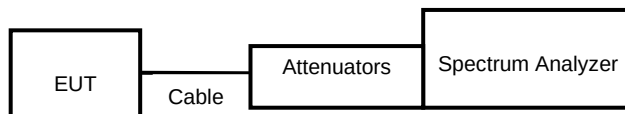
9.1. Test Limit

None; for reporting purposes only.

9.2. Test Procedure

Reference to 789033 D02 General UNII Test Procedures New Rules v01: The transmitter output is connected to a spectrum analyzer with the RBW = approximately 1% of the emission bandwidth, the VBW $\geq 3 \times$ RBW, peak detector and max hold.

9.3. Test Setup Layout



**9.4. Test Result and Data****26dB Bandwidth
In the 5.2G Band**

Mode	Channel	Frequency (MHz)	26dB Bandwidth (MHz)
802.11a	36	5180	19.87
	44	5220	19.89
	48	5240	20.07
802.11ac VHT20	36	5180	20.18
	44	5220	20.40
	48	5240	20.12
802.11ac VHT40	38	5190	40.44
	46	5230	40.18
802.11ac VHT80	42	5210	80.36

**99% Bandwidth
In the 5.2G Band**

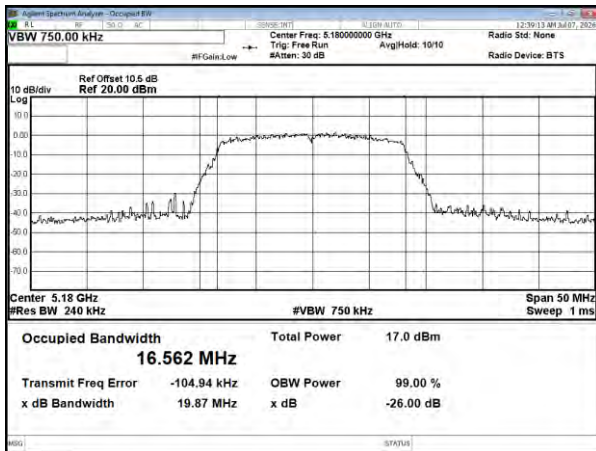
Mode	Channel	Frequency (MHz)	99% Bandwidth(MHz)
802.11a	36	5180	16.562
	44	5220	16.542
	48	5240	16.604
802.11ac VHT20	36	5180	17.622
	44	5220	17.638
	48	5240	17.627
802.11ac VHT40	38	5190	36.068
	46	5230	36.018
802.11ac VHT80	42	5210	75.186



26dB Bandwidth & 99% Occupied Bandwidth, UNII-1

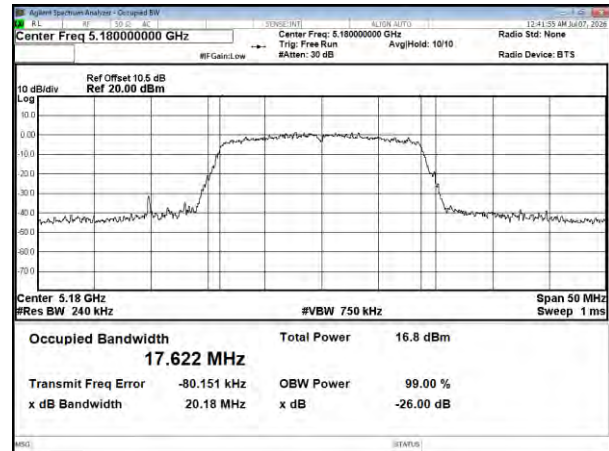
Modulation Standard: 802.11a

CH36

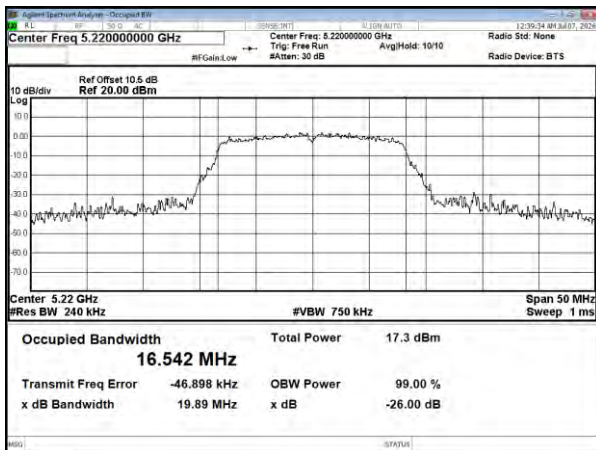


Modulation Standard: 802.11ac VHT20

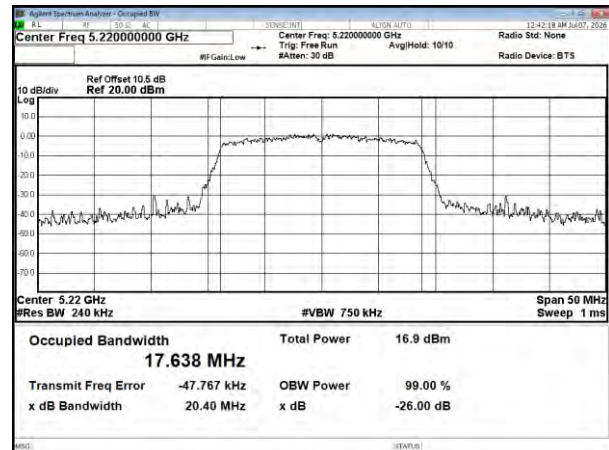
CH36



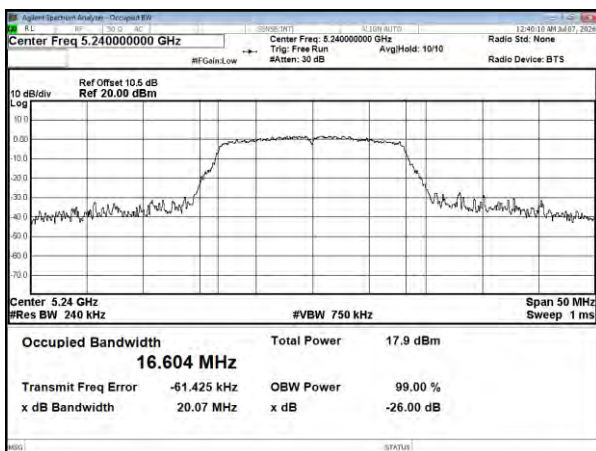
CH44



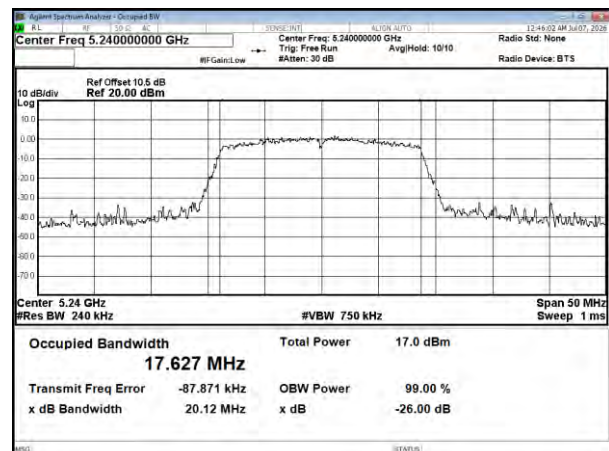
CH44



CH48

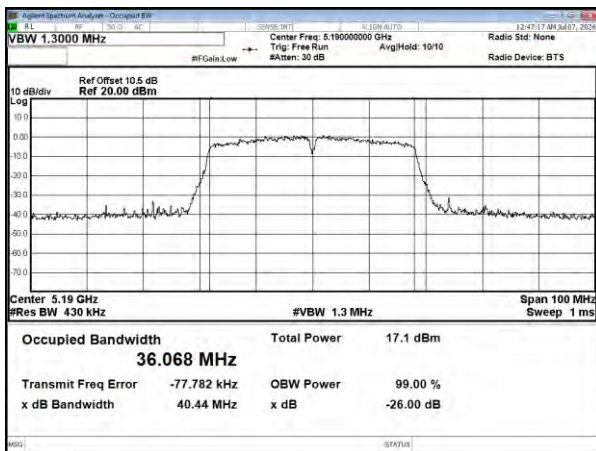


CH48

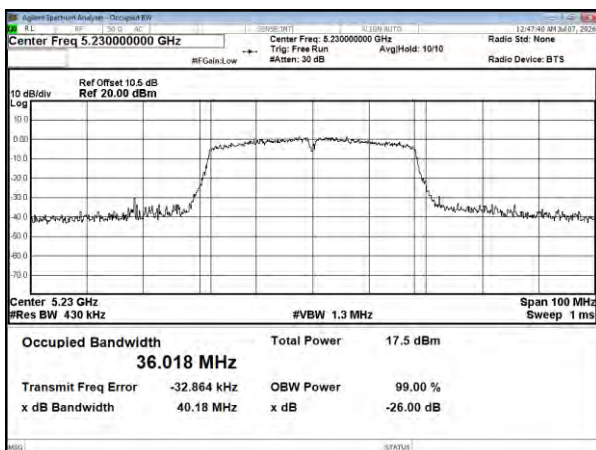




Modulation Standard: 802.11ac VHT40
CH38

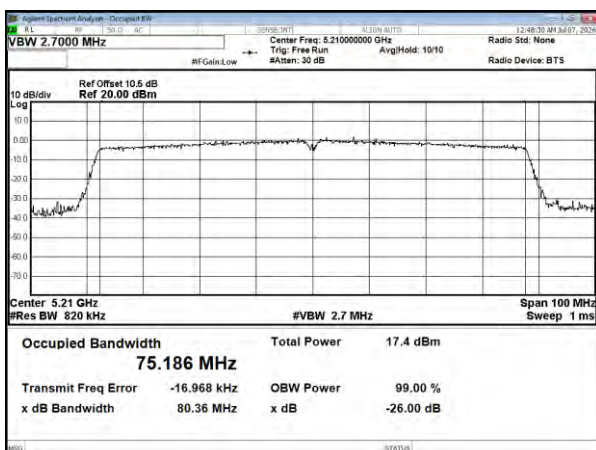


CH46



Modulation Standard: 802.11ac VHT80

CH42





10. Average Power

10.1. Test Limit

Output Power:

Frequency Band		Limit
☒	5.15~5.25GHz	
	Operating Mode	
☐	Outdoor access point	The maximum conducted output power over the frequency band of operation shall not exceed 1 W (30dBm) provided the maximum antenna gain does not exceed 6 dBi. If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi. The maximum e.i.r.p. at any elevation angle above 30degrees as measured from the horizon must not exceed 125 mW (21 dBm).
☐	Indoor access point	The maximum conducted output power over the frequency band of operation shall not exceed 1 W (30dBm) provided the maximum antenna gain does not exceed 6 dBi. If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.
☐	Fixed point-to-point access points	The maximum conducted output power over the frequency band of operation shall not exceed 1 W (30dBm). Fixed point-to-point U-NII devices may employ antennas with directional gain up to 23 dBi without any corresponding reduction in the maximum conducted output power or maximum power spectral density. For fixed point-to-point transmitters that employ a directional antenna gain greater than 23 dBi, a 1 dB reduction in maximum conducted output power and maximum power spectral density is required for each 1 dB of antenna gain in excess of 23 dBi.
☒	client devices	The maximum conducted output power over the frequency band of operation shall not exceed 250 mW (24dBm) provided the maximum antenna gain does not exceed 6 dBi. If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.



Frequency Band		Limit
☐	5.25-5.35 GHz	The maximum conducted output power over the frequency bands of operation shall not exceed the lesser of 250 mW (24dBm) or 11 dBm 10 log B, where B is the 26 dB emission bandwidth in megahertz. If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.
☐	5.470-5.725 GHz	
☒	5.725~5.85 GHz	The maximum conducted output power over the frequency band of operation shall not exceed 1 W (30dBm). If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi. However, fixed point-to-point U-NII devices operating in this band may employ transmitting antennas with directional gain greater than 6 dBi without any corresponding reduction in transmitter conducted power.

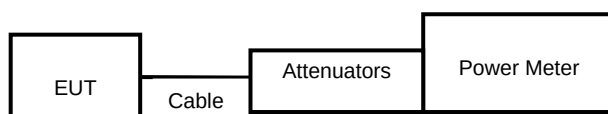
10.2.Test Procedure

According to the methods defined in ANSI C63.10-2020+Cor.1-2023 and ANSI C63.10a-2024 Section 12.4

The transmitter output is connected to a power meter.

The cable assembly insertion loss of 11 dB (including 10 dB pad and 1 dB cable) was entered as an offset in the power meter to allow for direct reading of power.

10.3.Test Setup Layout



**10.4. Test Result and Data****In the 5.2G Band**

Power Setting	Modulation Type	Data Rate	Channel	Frequency (MHz)	Measured value of each antenna port (dBm)	Total power (mW)	FCC Limit (dBm)
Default	11a	6 Mbps	36	5180	10.710	11.776	24.00
Default	11a	6 Mbps	44	5220	10.940	12.417	24.00
Default	11a	6 Mbps	48	5240	10.980	12.531	24.00
Default	11n HT20	MCS 0	36	5180	10.256	10.607	24.00
Default	11n HT20	MCS 0	44	5220	10.354	10.849	24.00
Default	11n HT20	MCS 0	48	5240	10.775	11.954	24.00
Default	11n HT40	MCS 0	38	5190	10.304	10.725	24.00
Default	11n HT40	MCS 0	46	5230	10.687	11.714	24.00
Default	11ac VHT20	NSS1-MCS0	36	5180	10.440	11.066	24.00
Default	11ac VHT20	NSS1-MCS0	44	5220	10.530	11.298	24.00
Default	11ac VHT20	NSS1-MCS0	48	5240	10.810	12.050	24.00
Default	11ac VHT40	NSS1-MCS0	38	5190	10.430	11.041	24.00
Default	11ac VHT40	NSS1-MCS0	46	5230	10.860	12.190	24.00
Default	11ac VHT80	NSS1-MCS0	42	5210	10.530	11.298	24.00

**In the 5.8G Band**

Power Setting	Modulation Type	Data Rate	Channel	Frequency (MHz)	Measured value of each antenna port (dBm)	Total power (mW)	FCC Limit (dBm)
Default	11a	6 Mbps	149	5745	8.000	6.310	30.00
Default	11a	6 Mbps	157	5785	7.270	5.333	30.00
Default	11a	6 Mbps	165	5825	6.940	4.943	30.00
Default	11n HT20	MCS 0	149	5745	7.685	5.868	30.00
Default	11n HT20	MCS 0	157	5785	6.921	4.922	30.00
Default	11n HT20	MCS 0	165	5825	6.543	4.511	30.00
Default	11n HT40	MCS 0	151	5755	7.446	5.554	30.00
Default	11n HT40	MCS 0	159	5795	7.020	5.035	30.00
Default	11ac VHT20	NSS1-MCS0	149	5745	7.820	6.053	30.00
Default	11ac VHT20	NSS1-MCS0	157	5785	7.060	5.082	30.00
Default	11ac VHT20	NSS1-MCS0	165	5825	6.750	4.732	30.00
Default	11ac VHT40	NSS1-MCS0	151	5755	7.590	5.741	30.00
Default	11ac VHT40	NSS1-MCS0	159	5795	7.070	5.093	30.00
Default	11ac VHT80	NSS1-MCS0	155	5775	7.080	5.105	30.00



11. Power Spectral Density

11.1. Test Limit

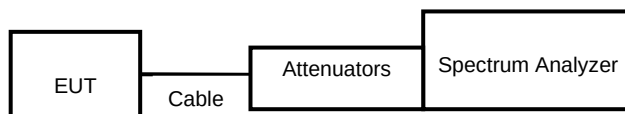
PSD:

Frequency Band		Limit
☒	5.15~5.25GHz	
	Operating Mode	
☐	Outdoor access point	17 dBm/MHz
☐	Indoor access point	17 dBm/MHz
☐	Fixed point-to-point access points	17 dBm/MHz
☒	client devices	11 dBm/MHz
☐	5.250~5.350 GHz	11 dBm/MHz
☐	5.470~5.725 GHz	11 dBm/MHz
☒	5.725~5.85 GHz	30 dBm/500kHz

11.2. Test Procedure

Reference to KDB789033 D02 General UNII Test Procedures New Rules v02r01

11.3. Test Setup Layout



**11.4. Test Result and Data****In the 5.2G Band**

Modulation Type	CH	Freq. (MHz)	Meas PSD (dBm/MHz)	Duty Cycle CF(dB)	Total Cond PSD (dBm/MHz)	PPD Limit (dBm/MHz)
11a	36	5180	0.450	0.00	0.45	11.00
11a	44	5220	1.335	0.00	1.34	11.00
11a	48	5240	1.064	0.00	1.06	11.00
11ac VHT20	36	5180	0.147	0.00	0.15	11.00
11ac VHT20	44	5220	0.328	0.00	0.33	11.00
11ac VHT20	48	5240	0.765	0.00	0.77	11.00
11ac VHT40	38	5190	-2.833	0.00	-2.83	11.00
11ac VHT40	46	5230	-2.321	0.00	-2.32	11.00
11ac VHT80	42	5210	-6.115	0.00	-6.12	11.00

In the 5.8G Band

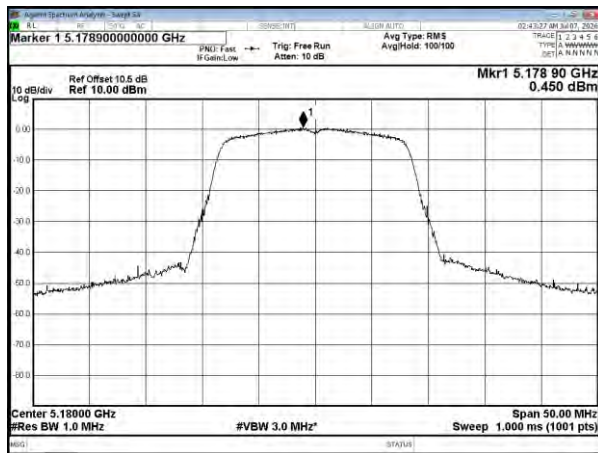
Modulation Type	CH	Freq. (MHz)	Meas PSD (dBm/MHz)	Duty Cycle CF(dB)	10log (500kHz/RBW) CF (dB)	Total Cond PSD (dBm/500kHz)	PSD Limit (dBm/500kHz)
11a	149	5745	-2.034	0.00	-3.01	-5.04	30.00
11a	157	5785	-2.450	0.00	-3.01	-5.46	30.00
11a	165	5825	-3.223	0.00	-3.01	-6.23	30.00
11ac VHT20	149	5745	-2.505	0.00	-3.01	-5.52	30.00
11ac VHT20	157	5785	-3.288	0.00	-3.01	-6.30	30.00
11ac VHT20	165	5825	-3.621	0.00	-3.01	-6.63	30.00
11ac VHT40	151	5755	-5.239	0.00	-3.01	-8.25	30.00
11ac VHT40	159	5795	-6.532	0.00	-3.01	-9.54	30.00
11ac VHT80	155	5775	-9.047	0.00	-3.01	-12.06	30.00



UNII-1

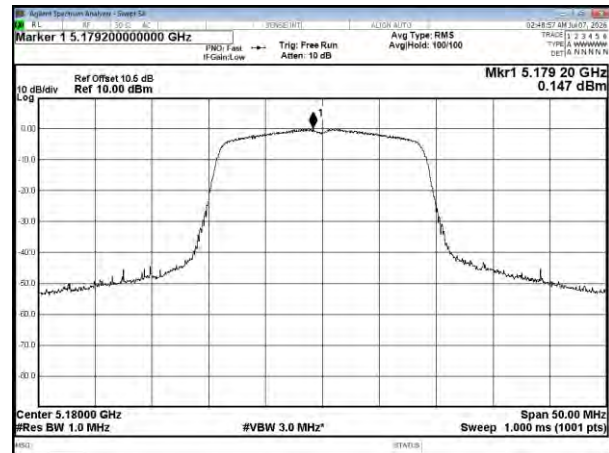
Modulation Standard: 802.11a

CH36

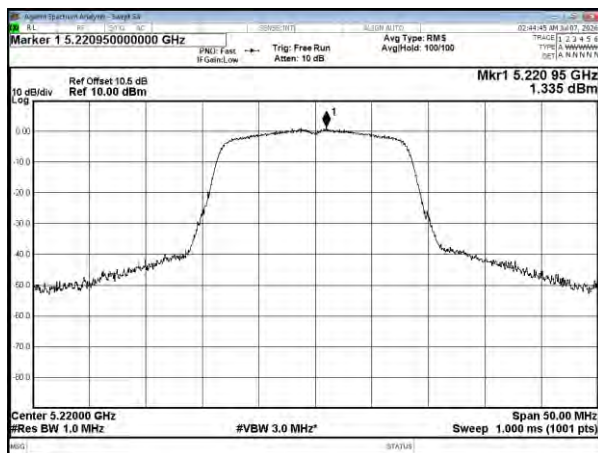


Modulation Standard: 802.11ac VHT20

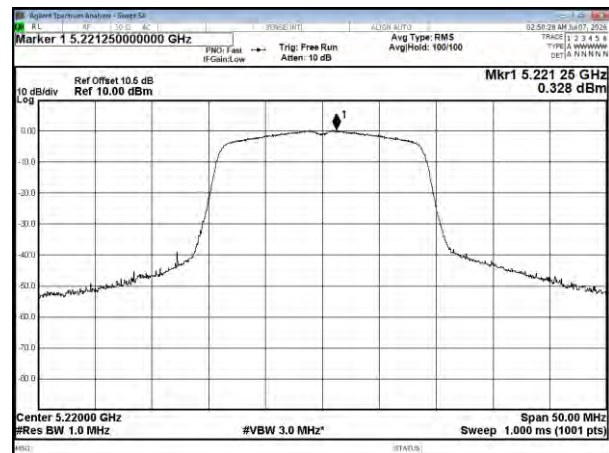
CH36



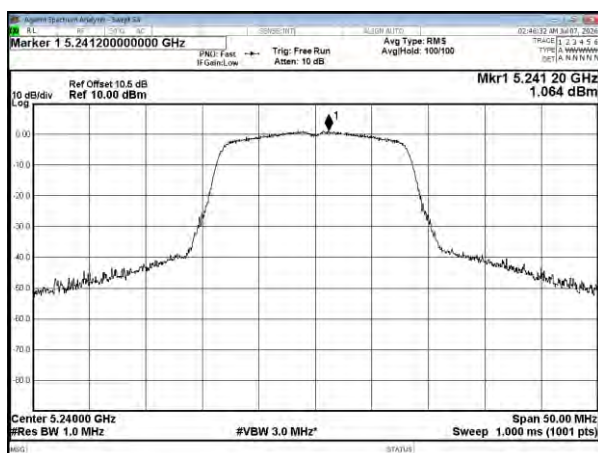
CH44



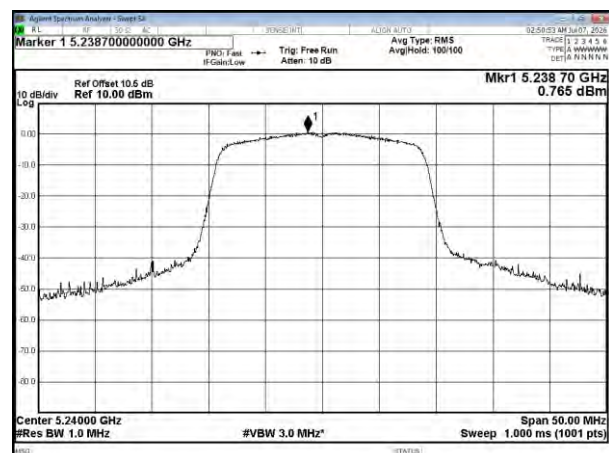
CH44



CH48

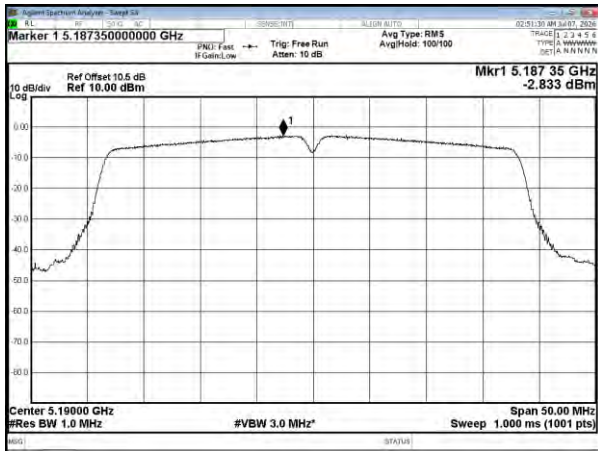


CH48

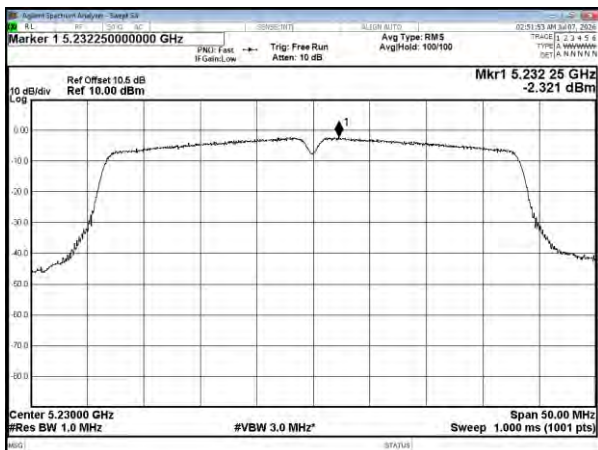




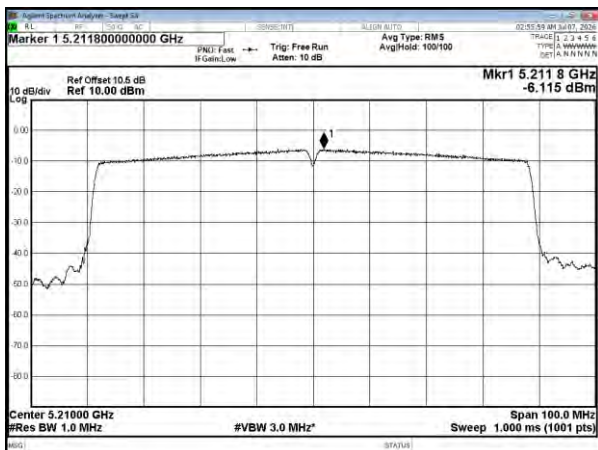
Modulation Standard: 802.11ac VHT40
CH38



CH46

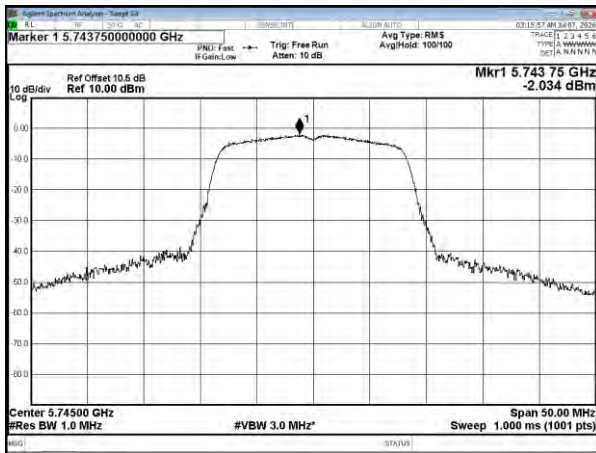
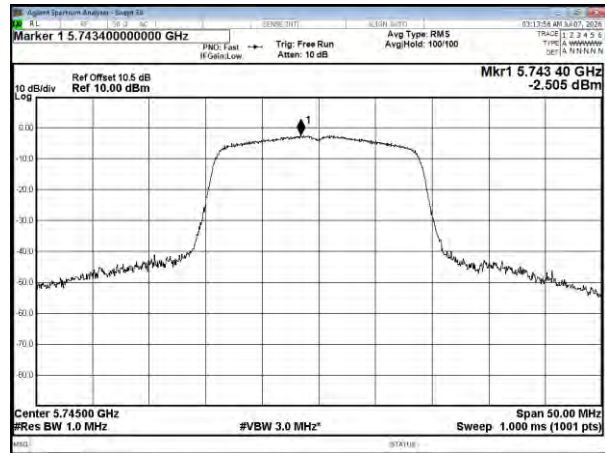


Modulation Standard: 802.11ac VHT80
CH42

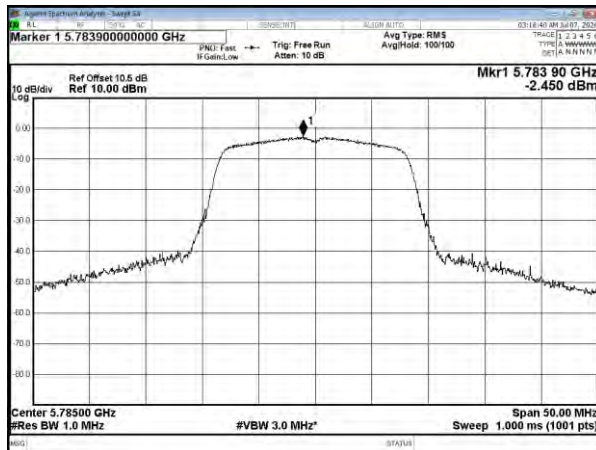




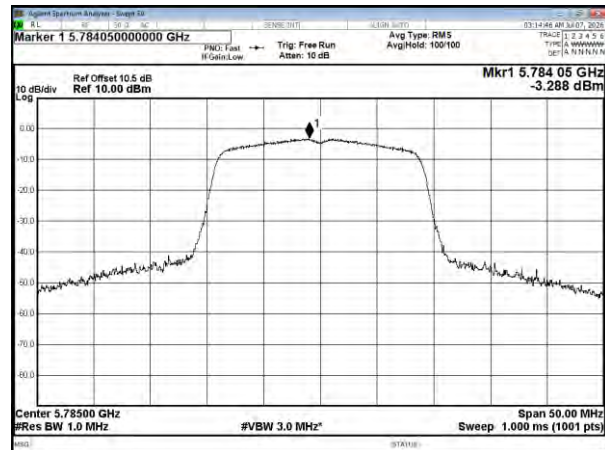
UNII-3

Modulation Type: 802.11a
CH149Modulation Standard: 802.11ac VHT20
CH149

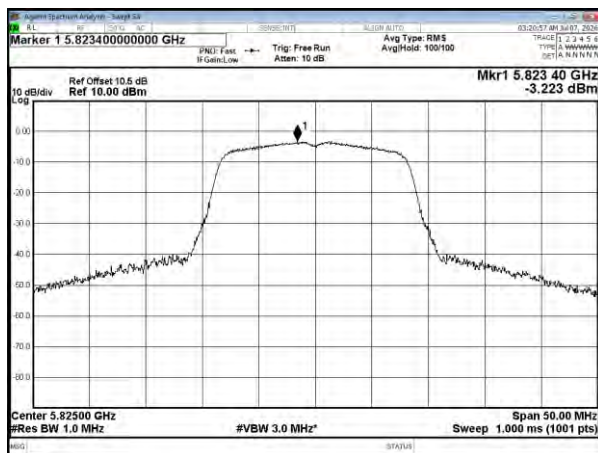
CH157



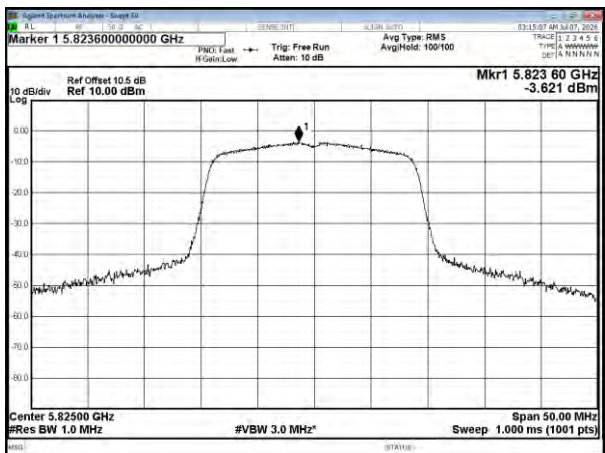
CH157



CH165

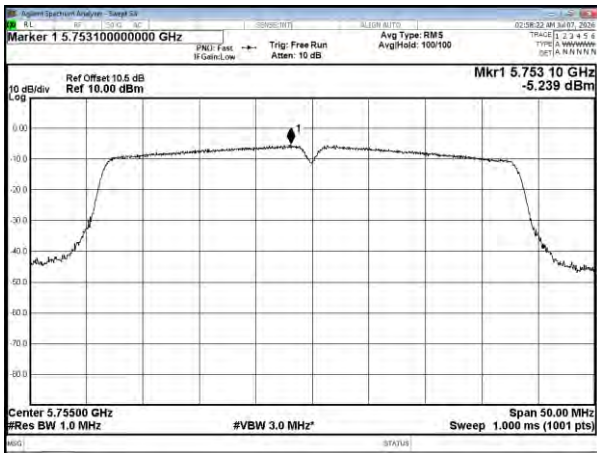


CH165

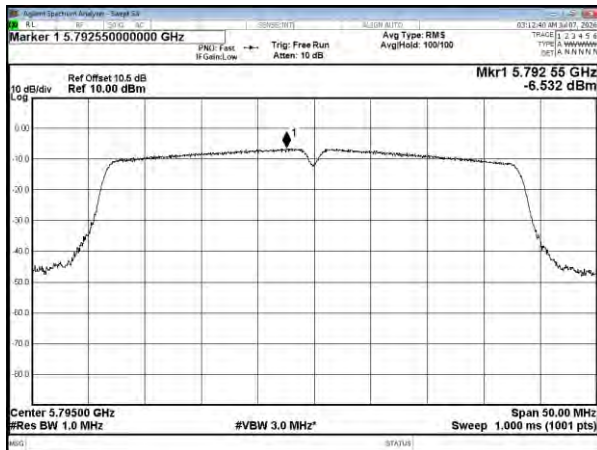




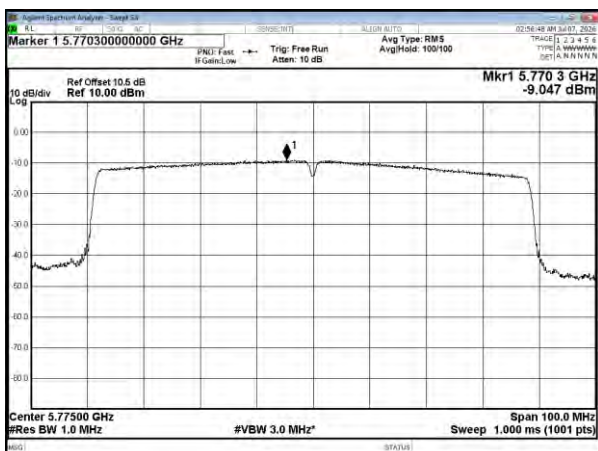
Modulation Standard: 802.11ac VHT40
CH151



CH159



Modulation Standard: 802.11ac VHT80
CH155



-----THE END OF REPORT-----