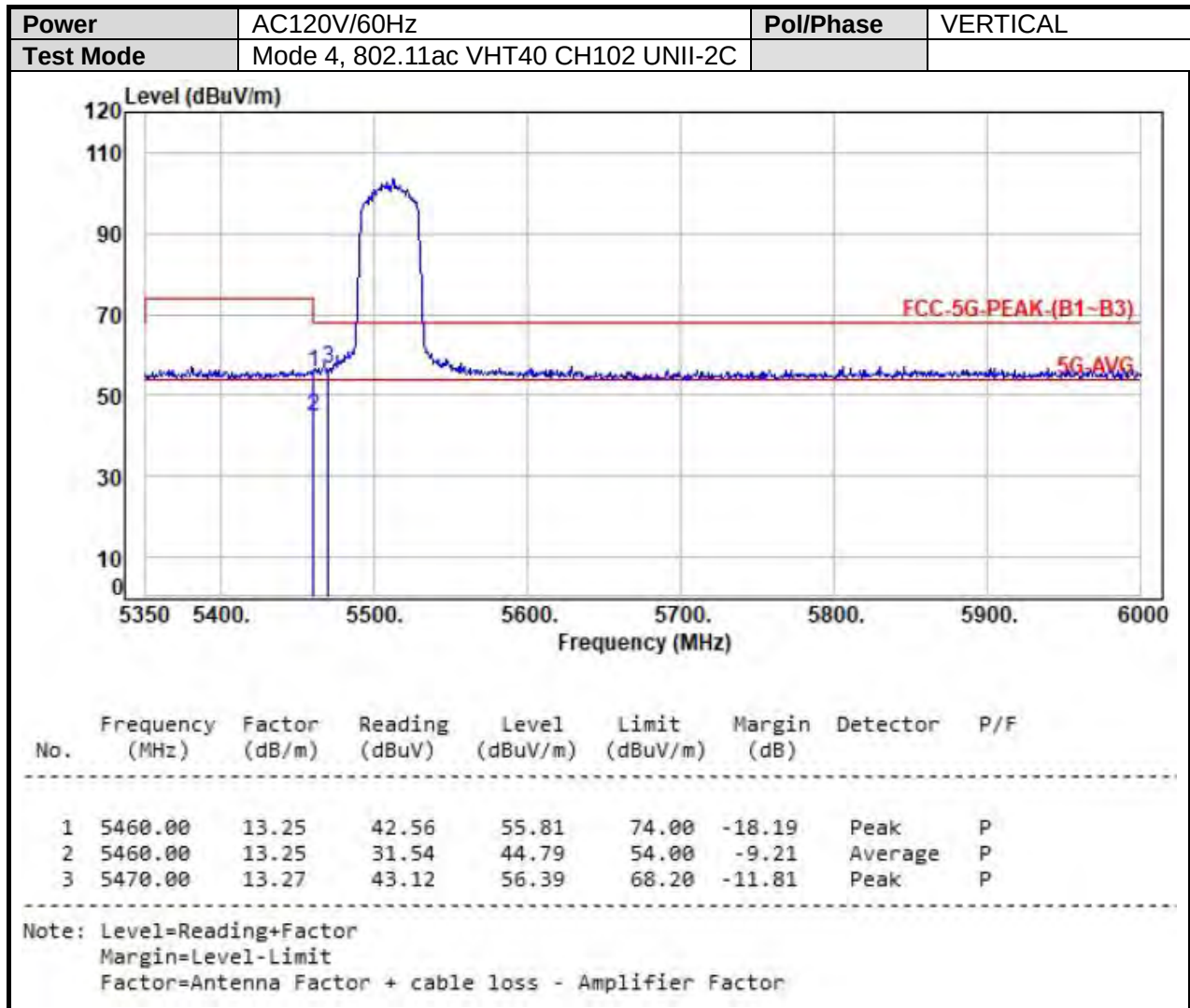
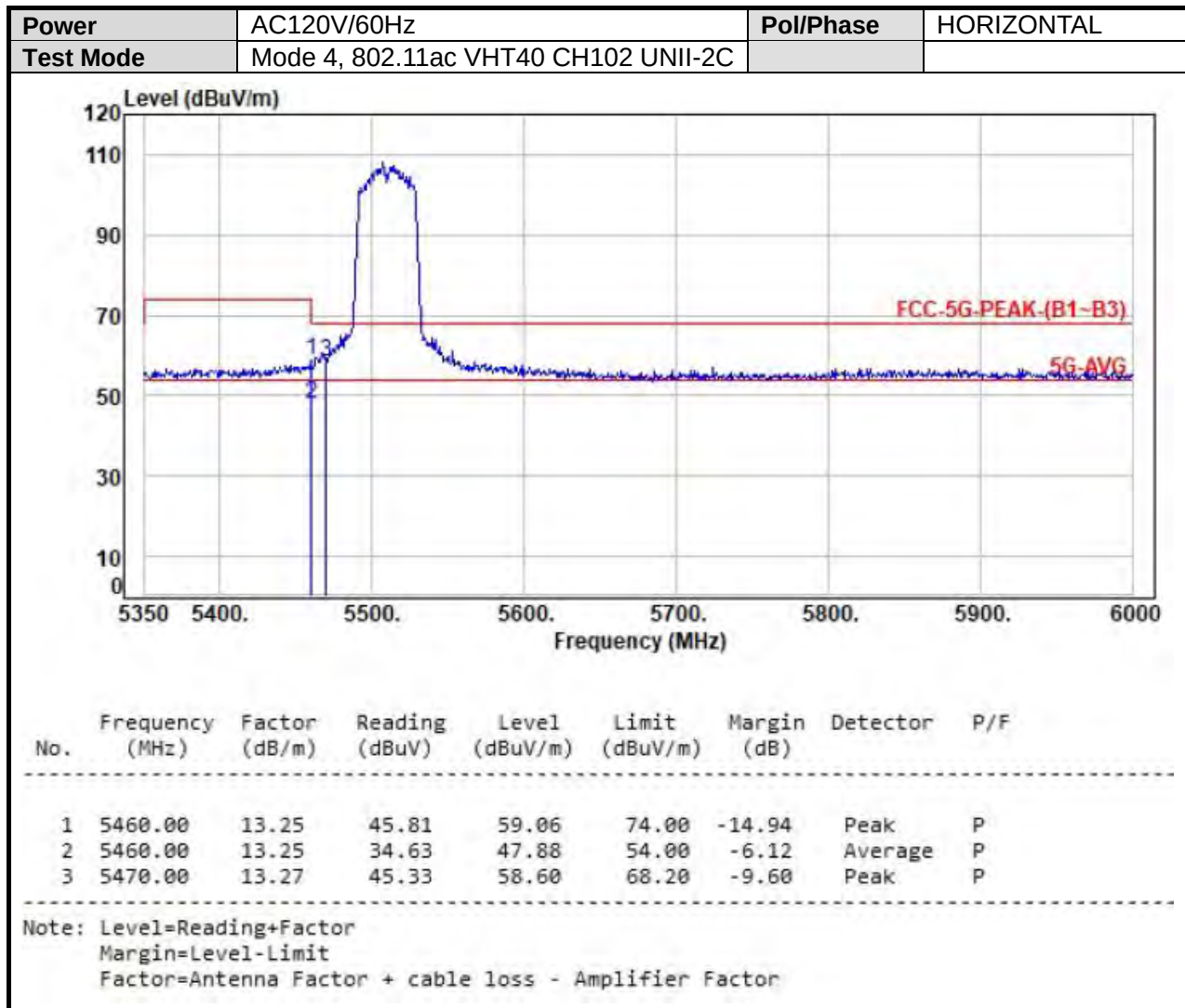
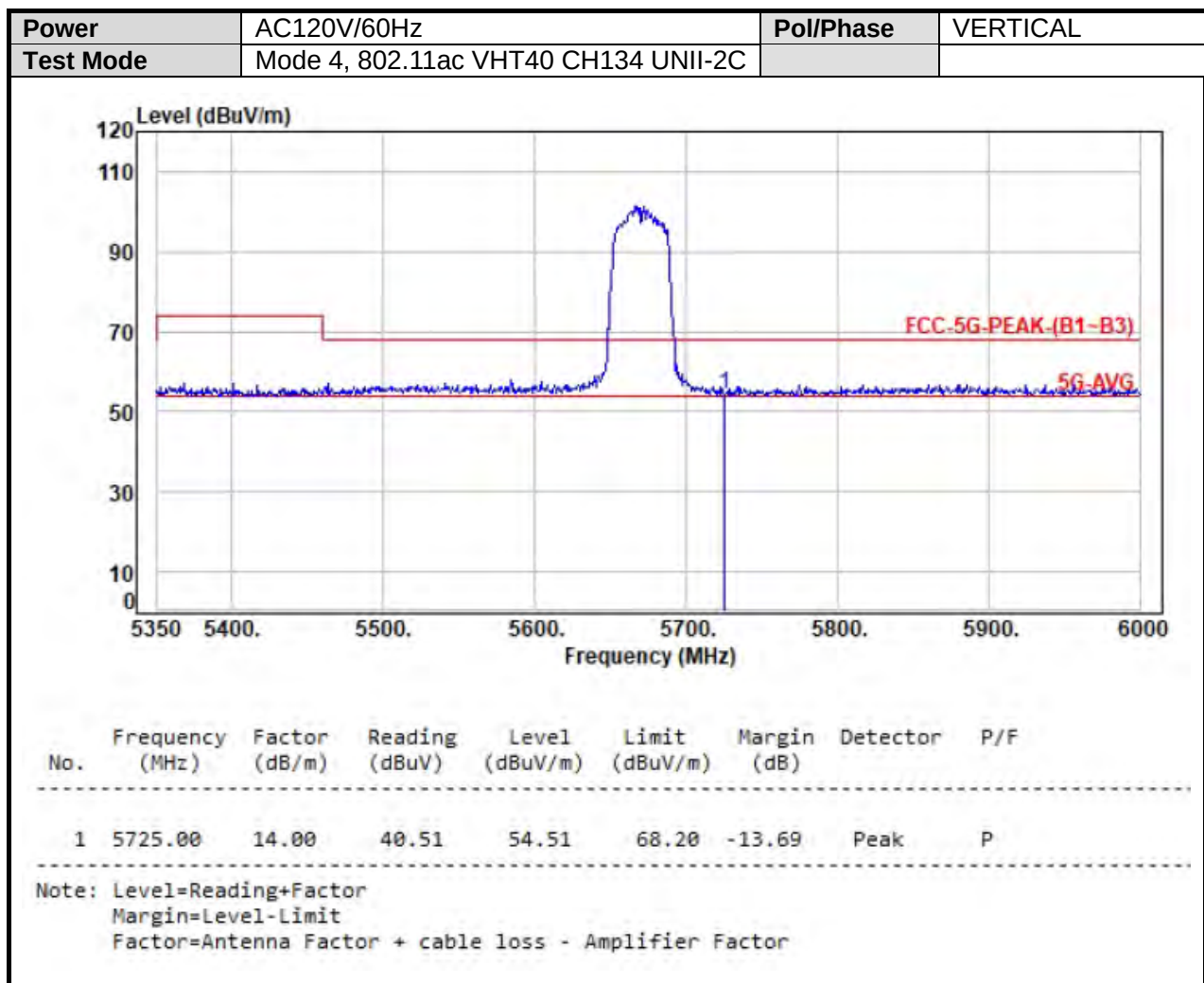
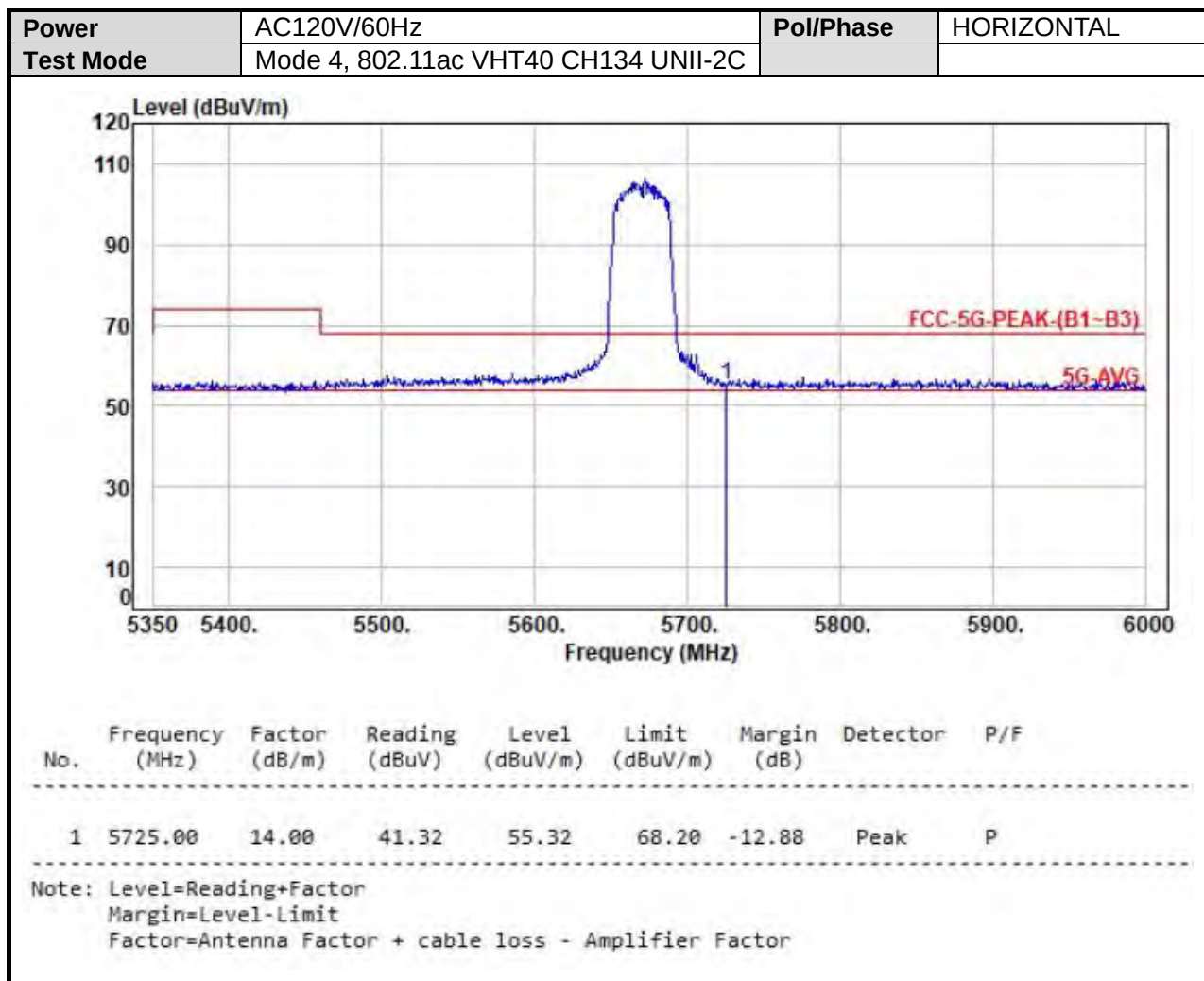
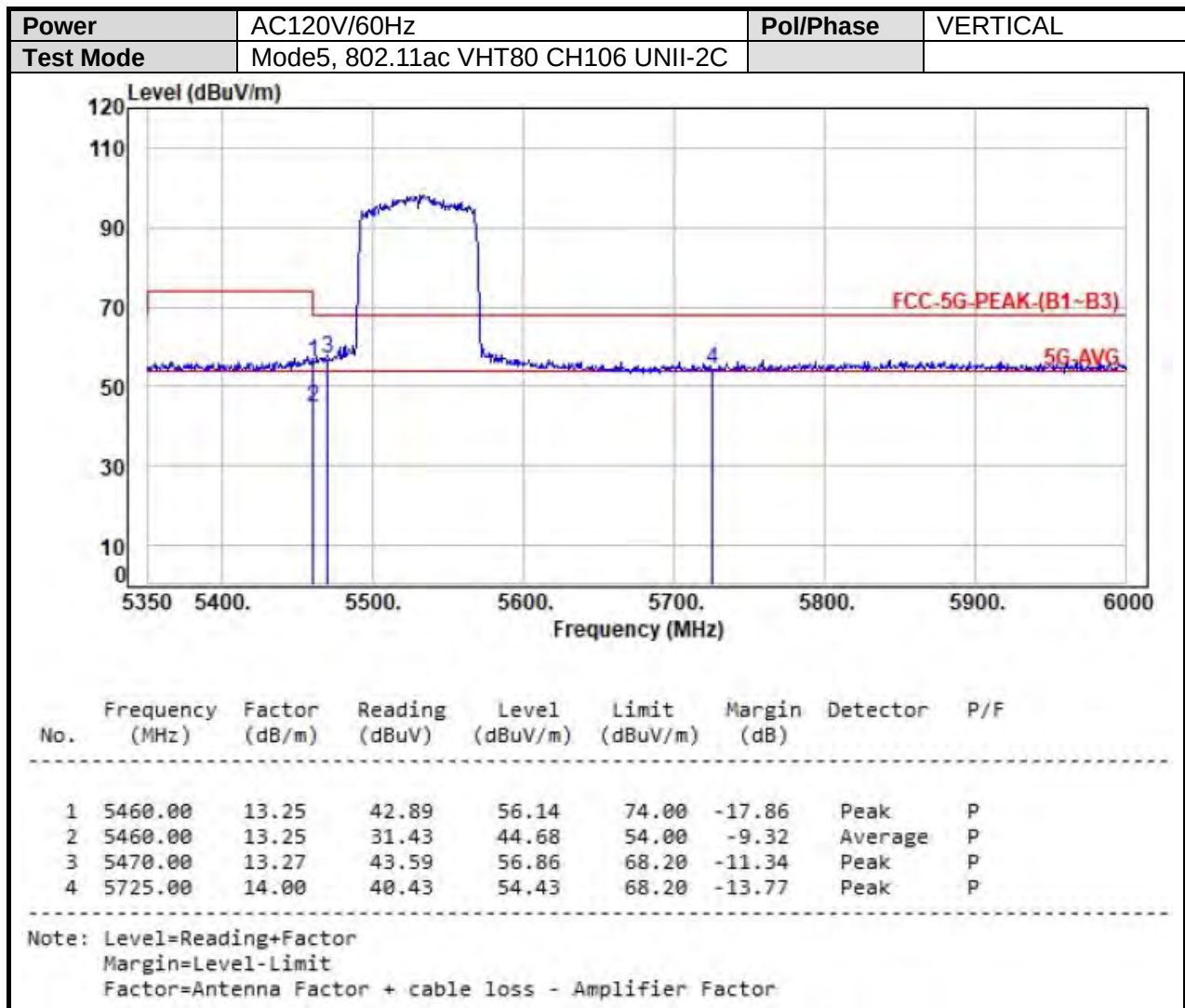


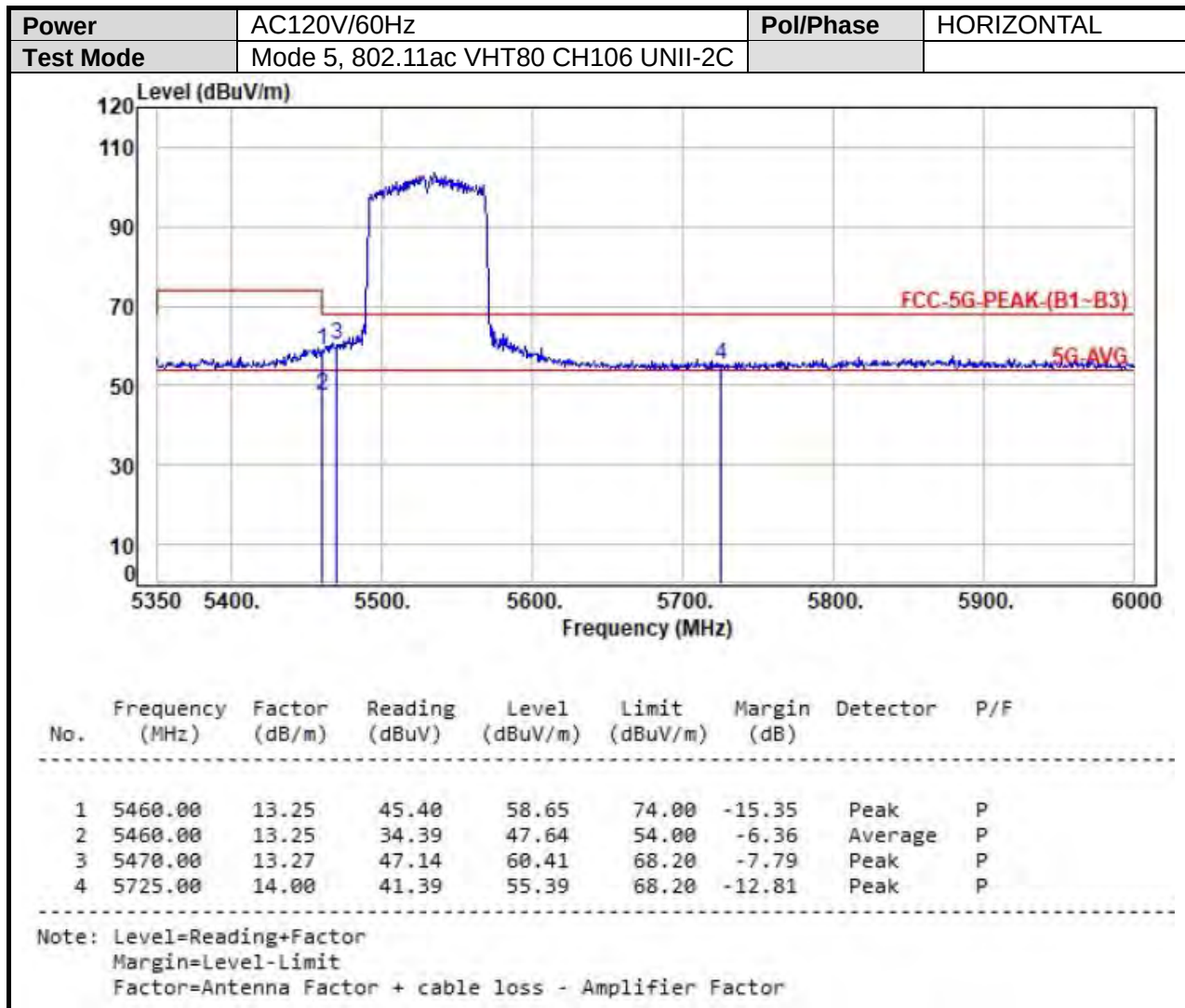


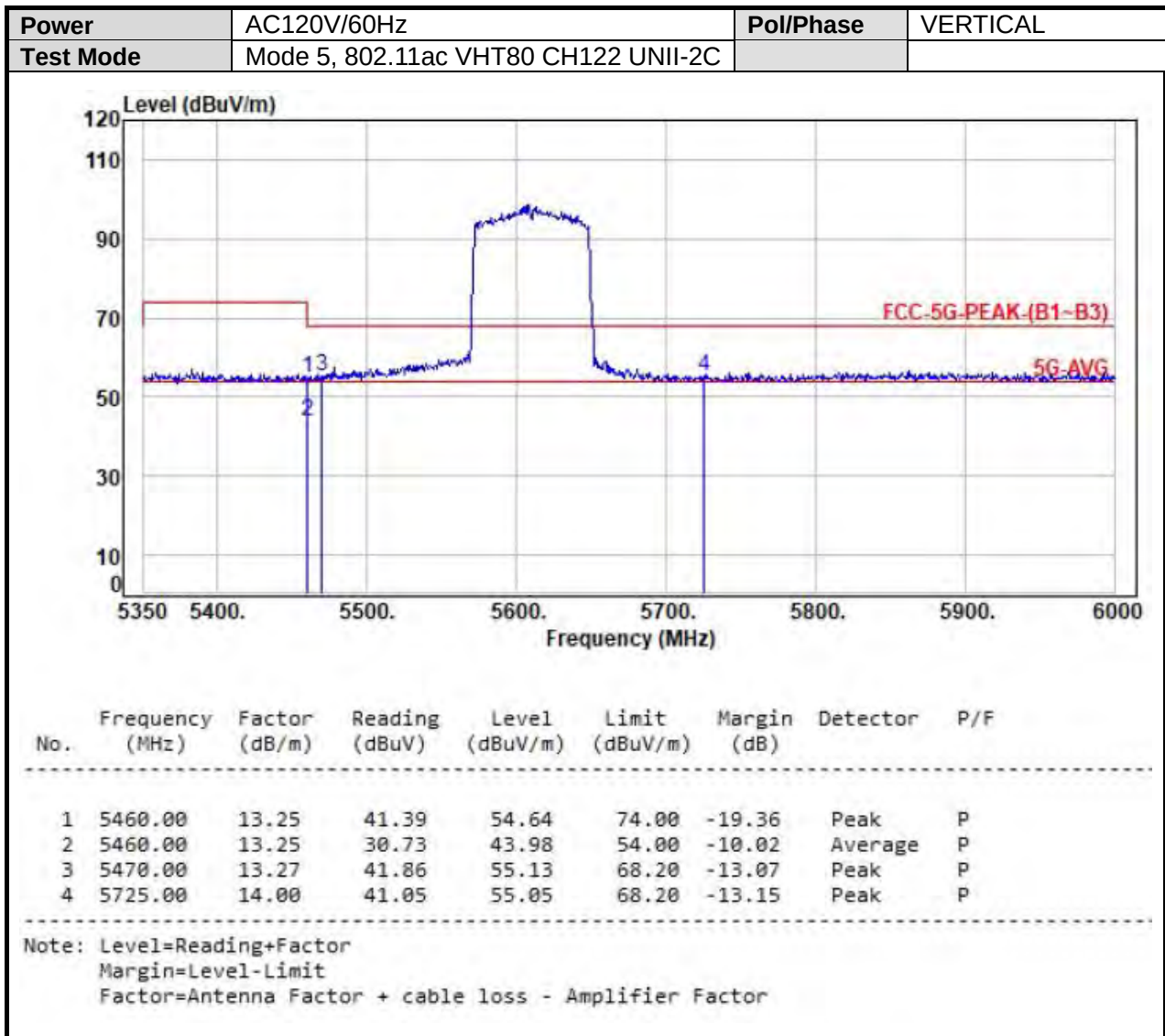


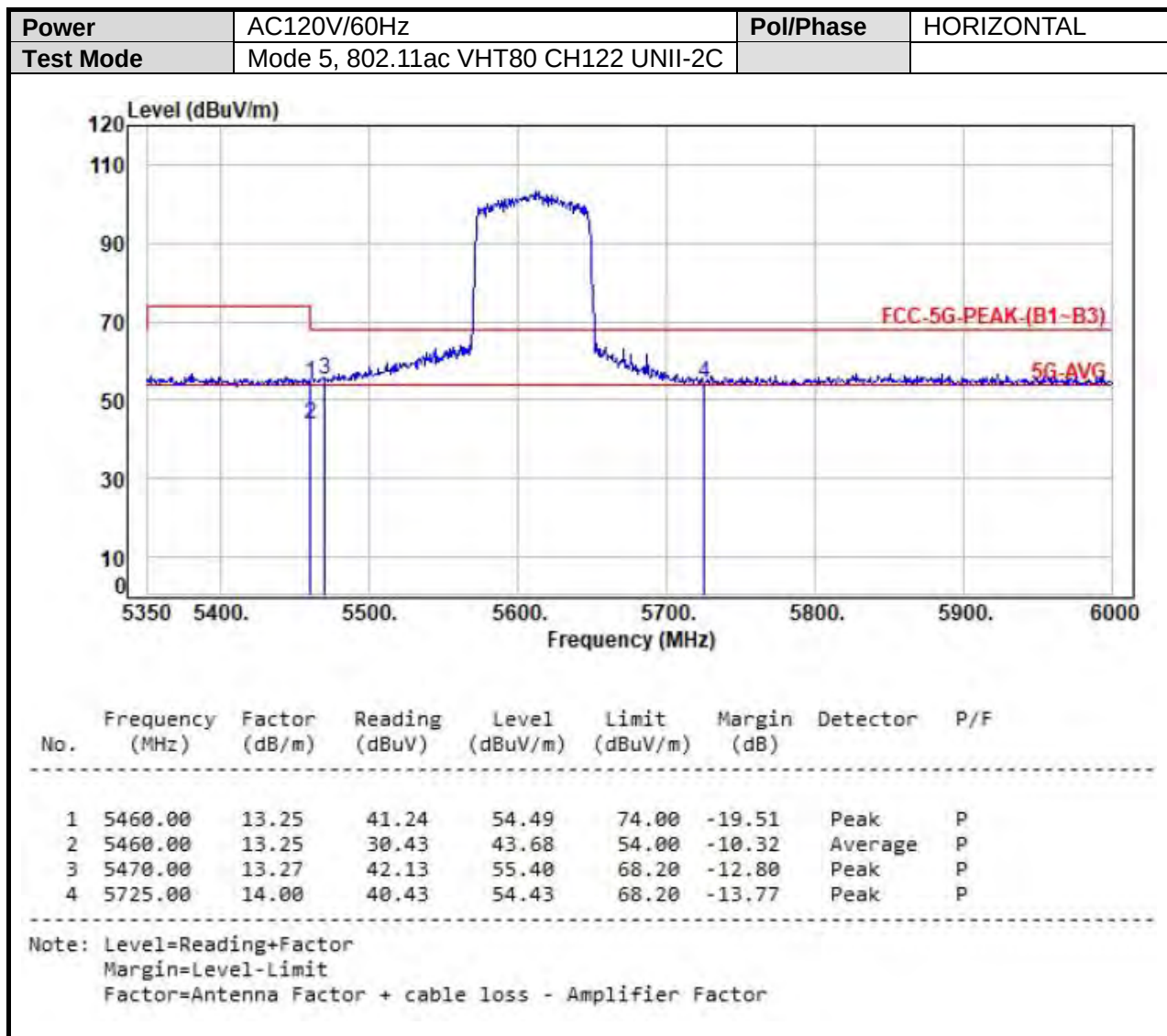


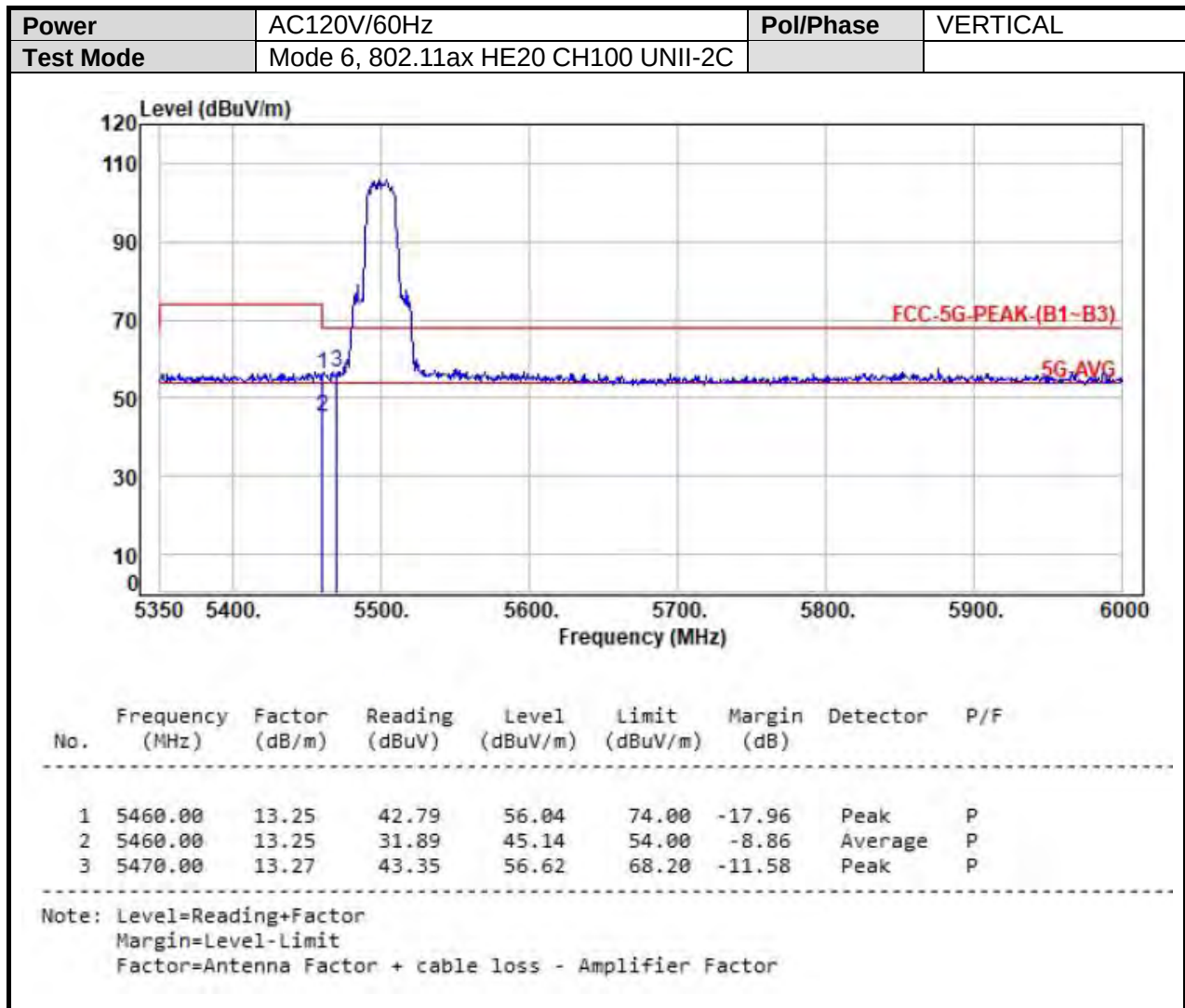


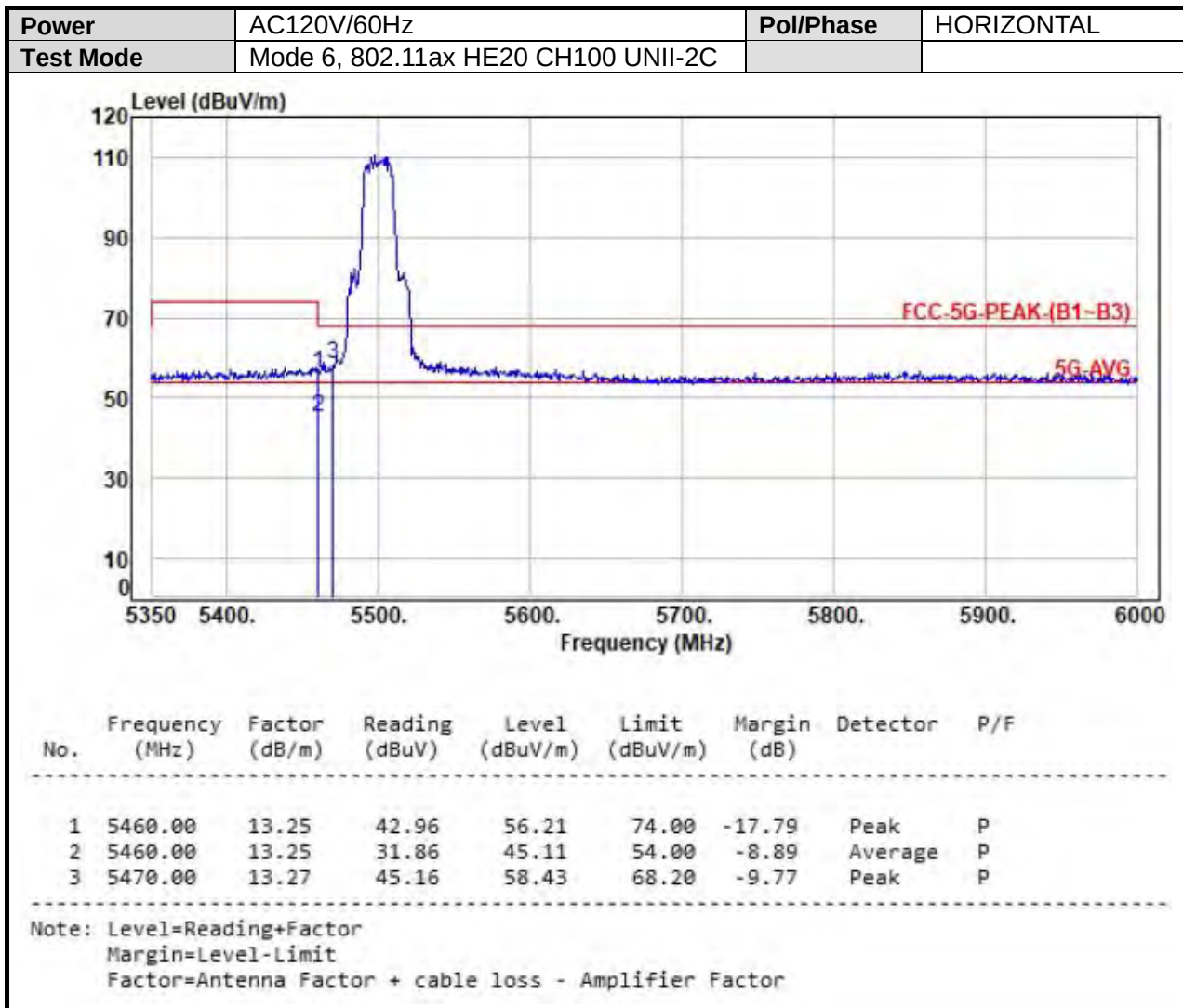


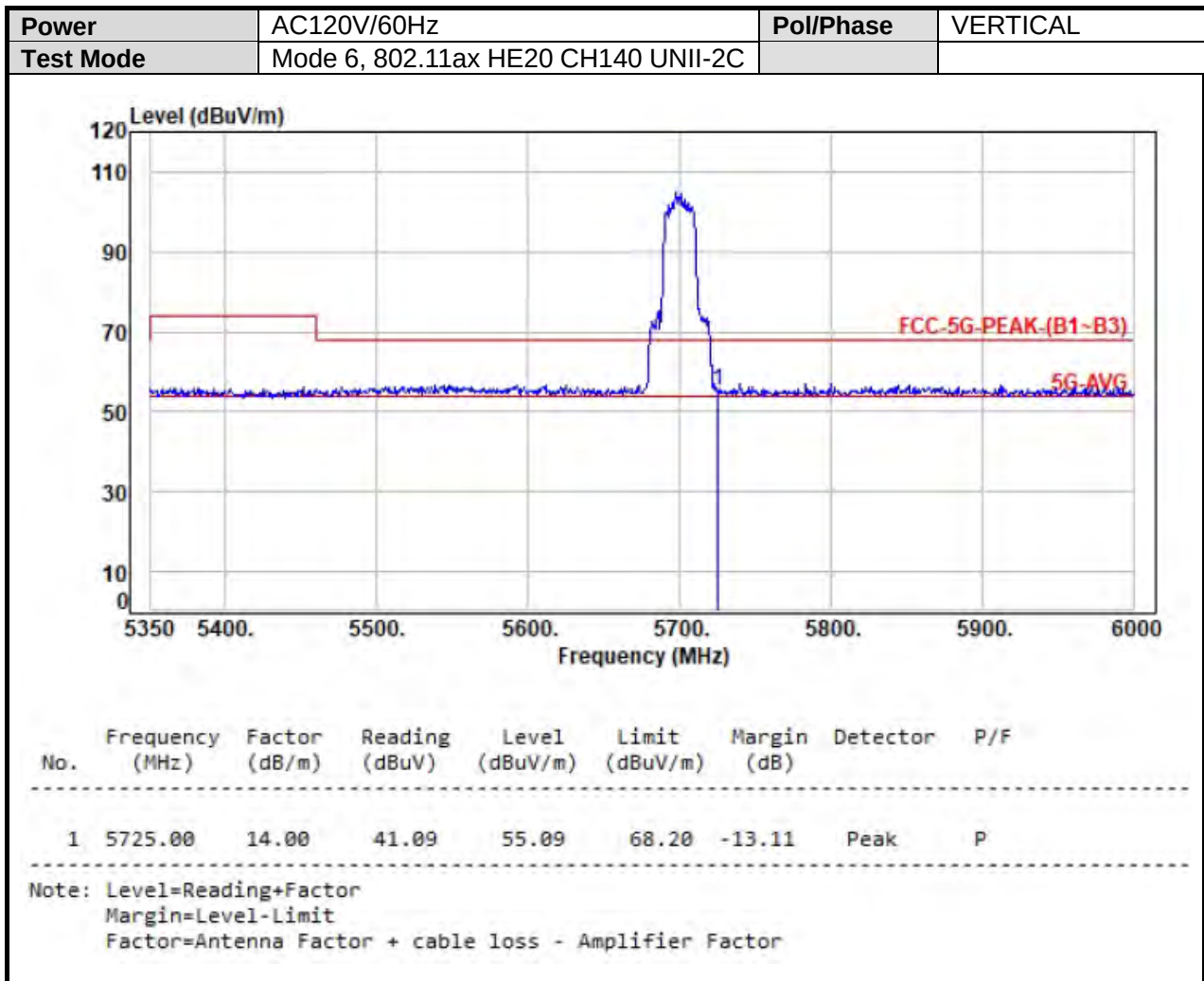


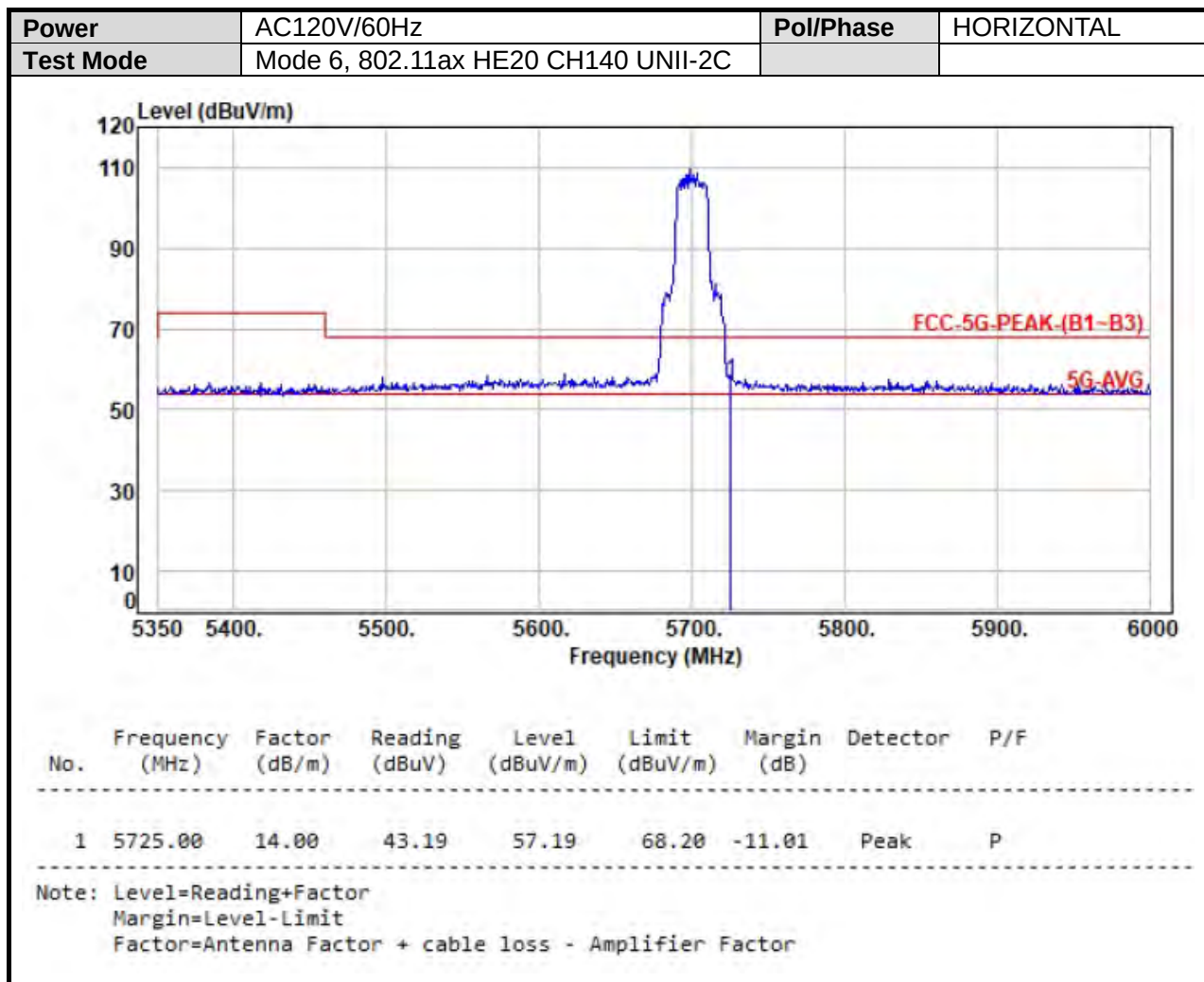


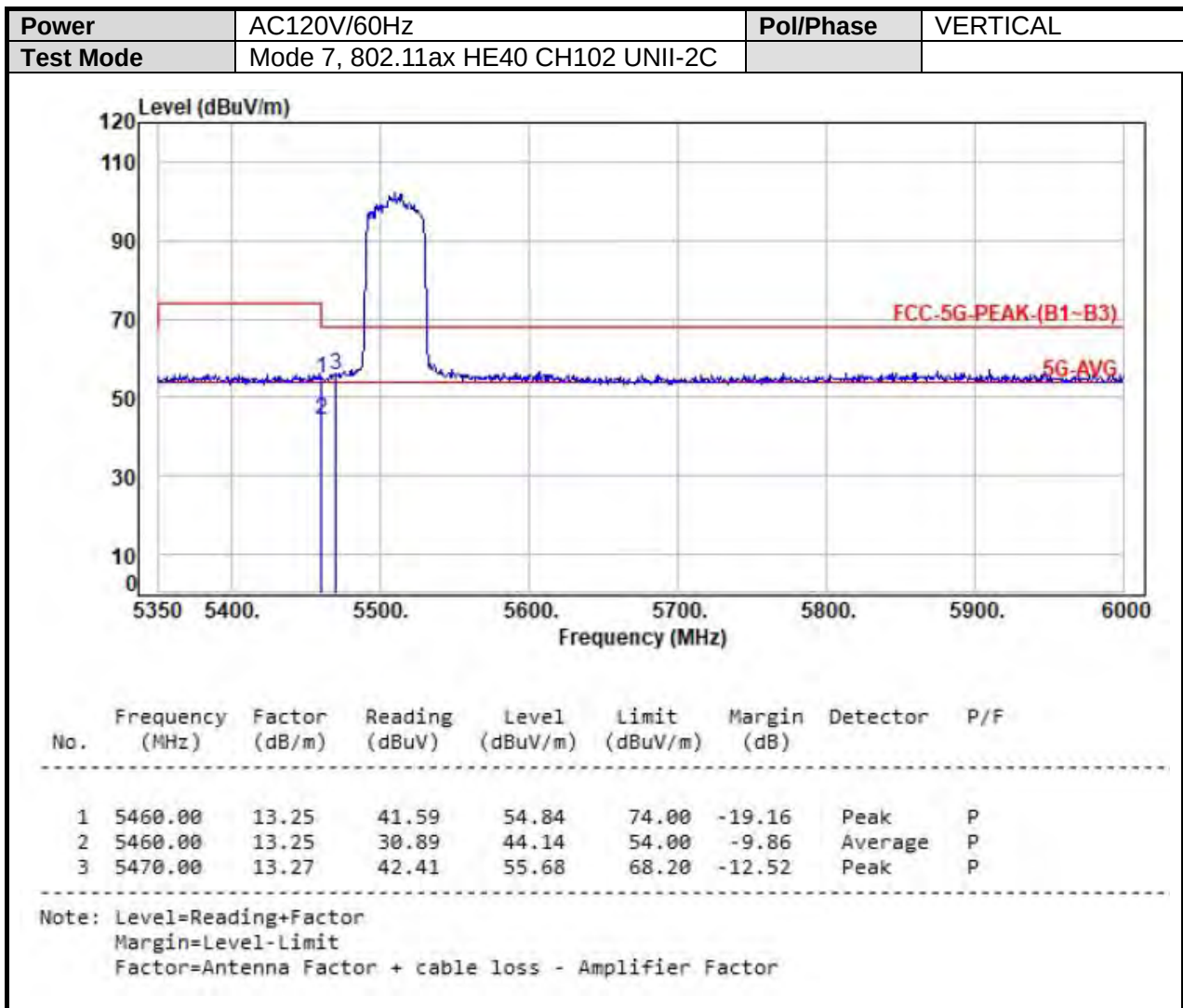


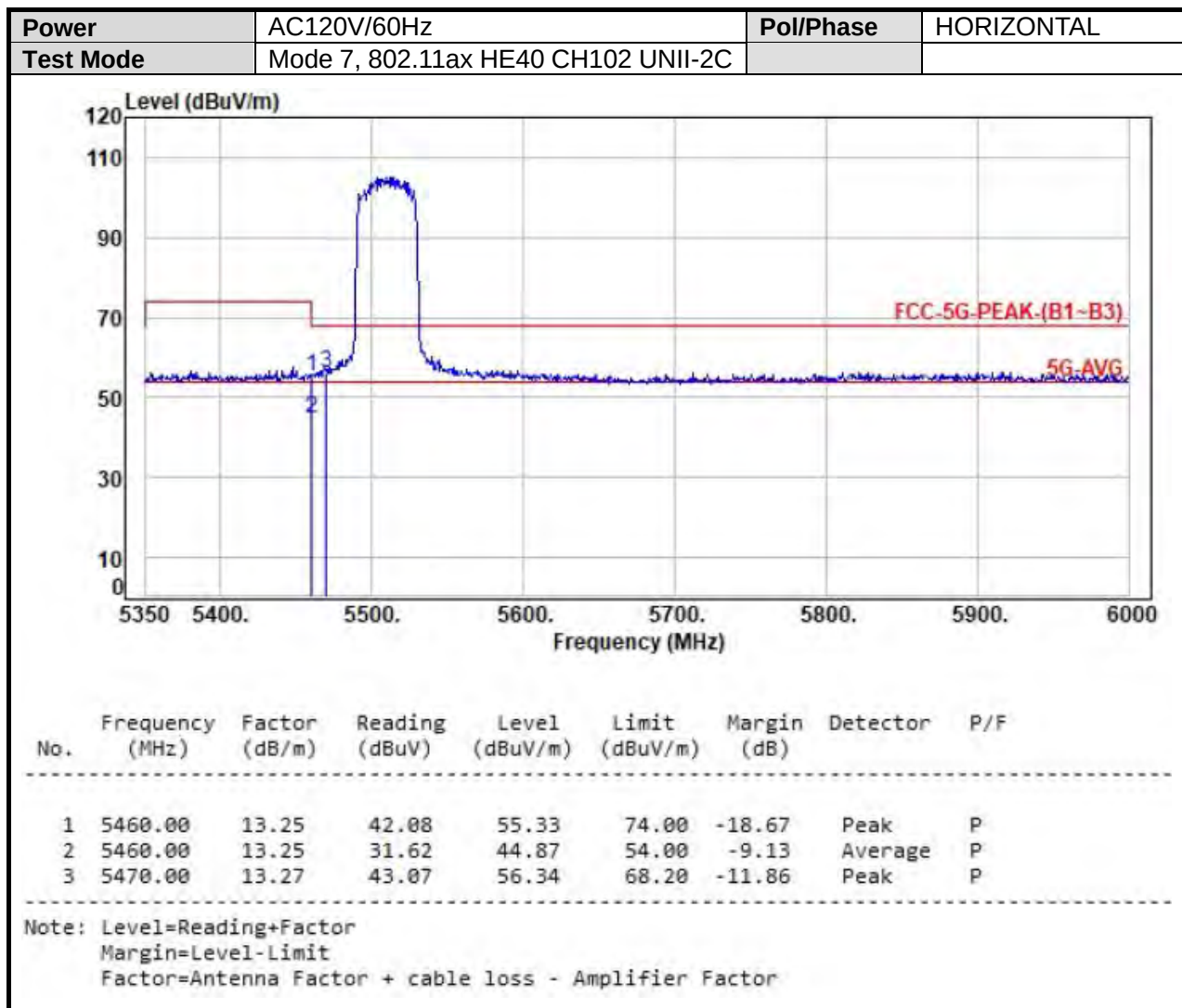


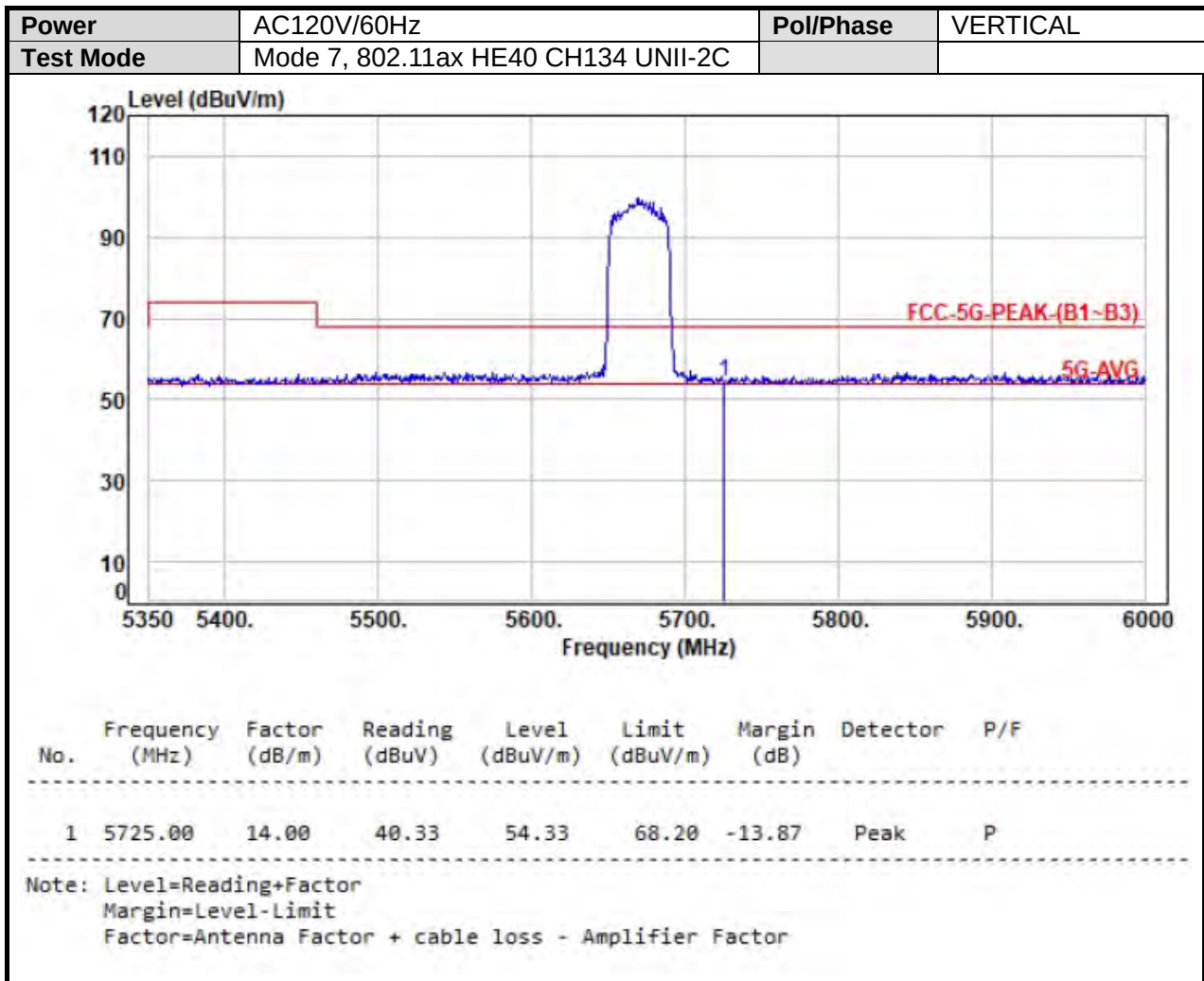


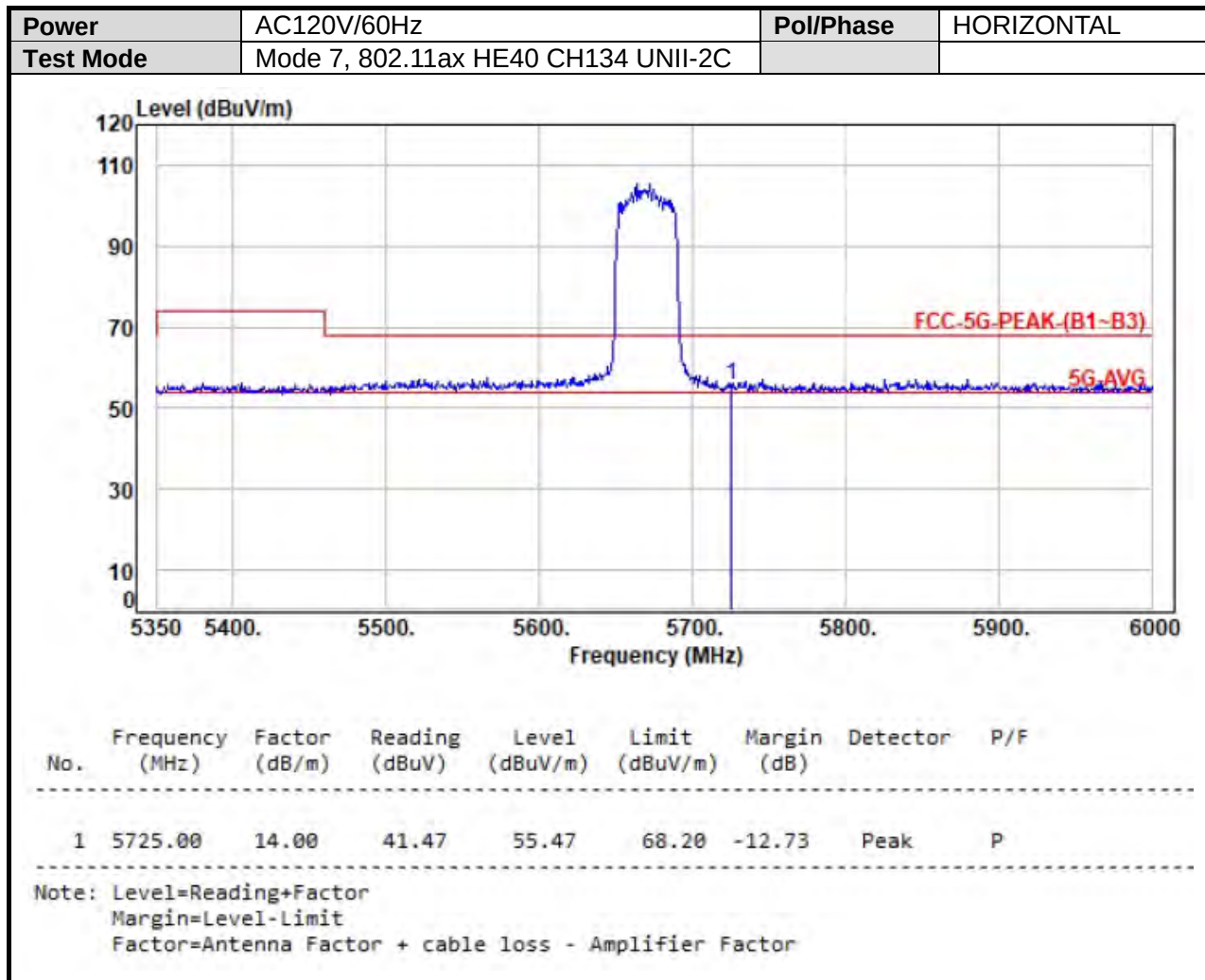


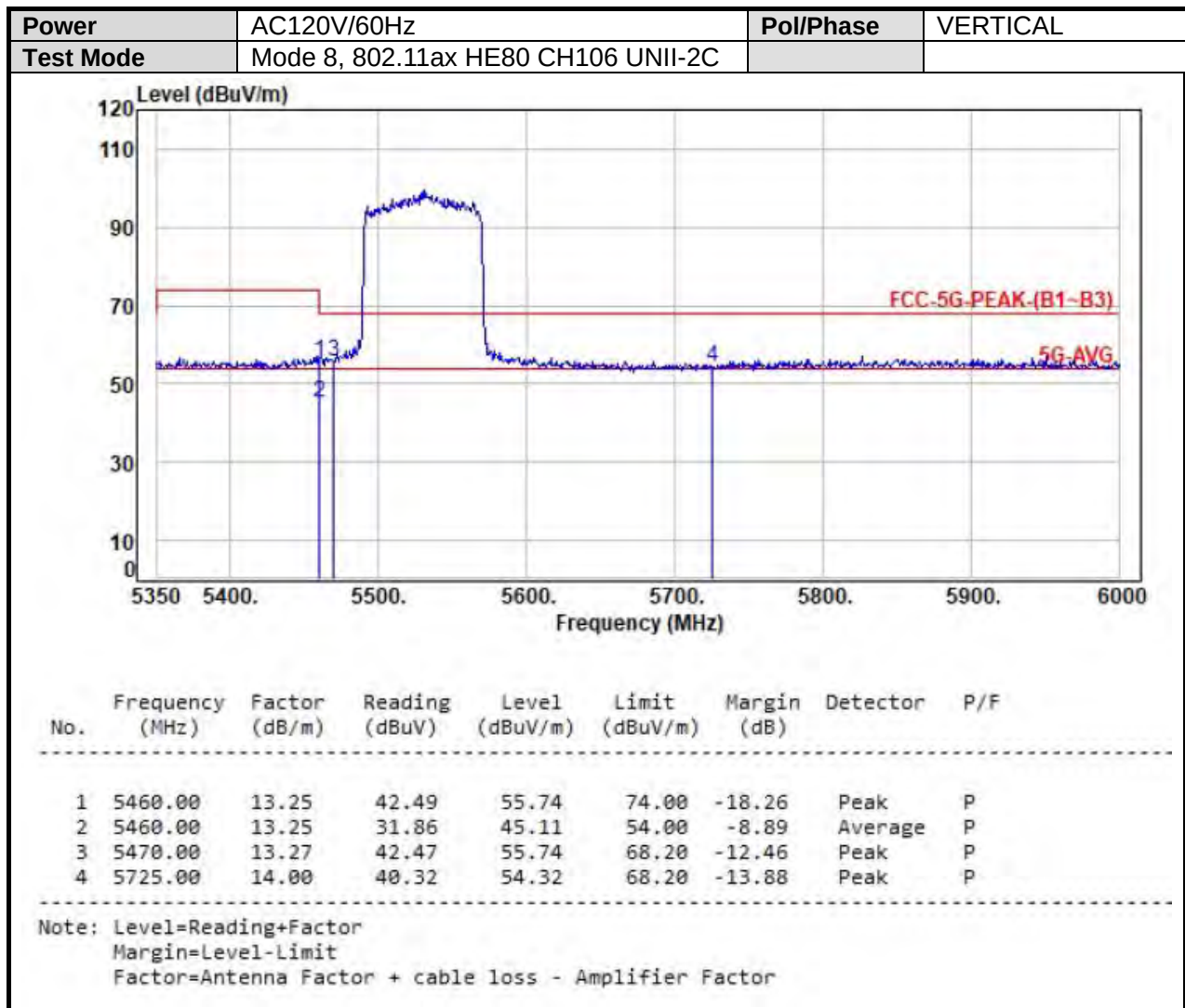


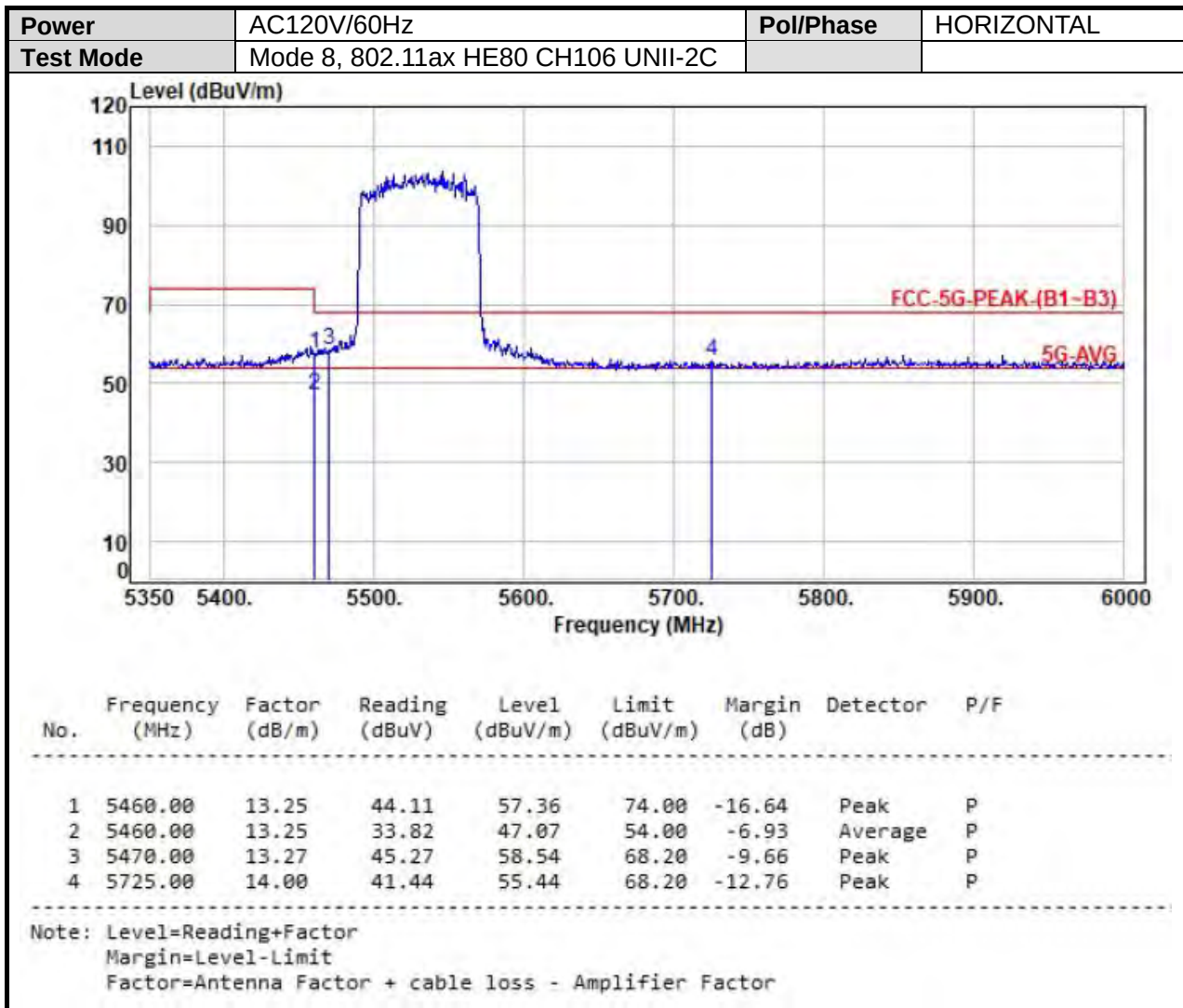


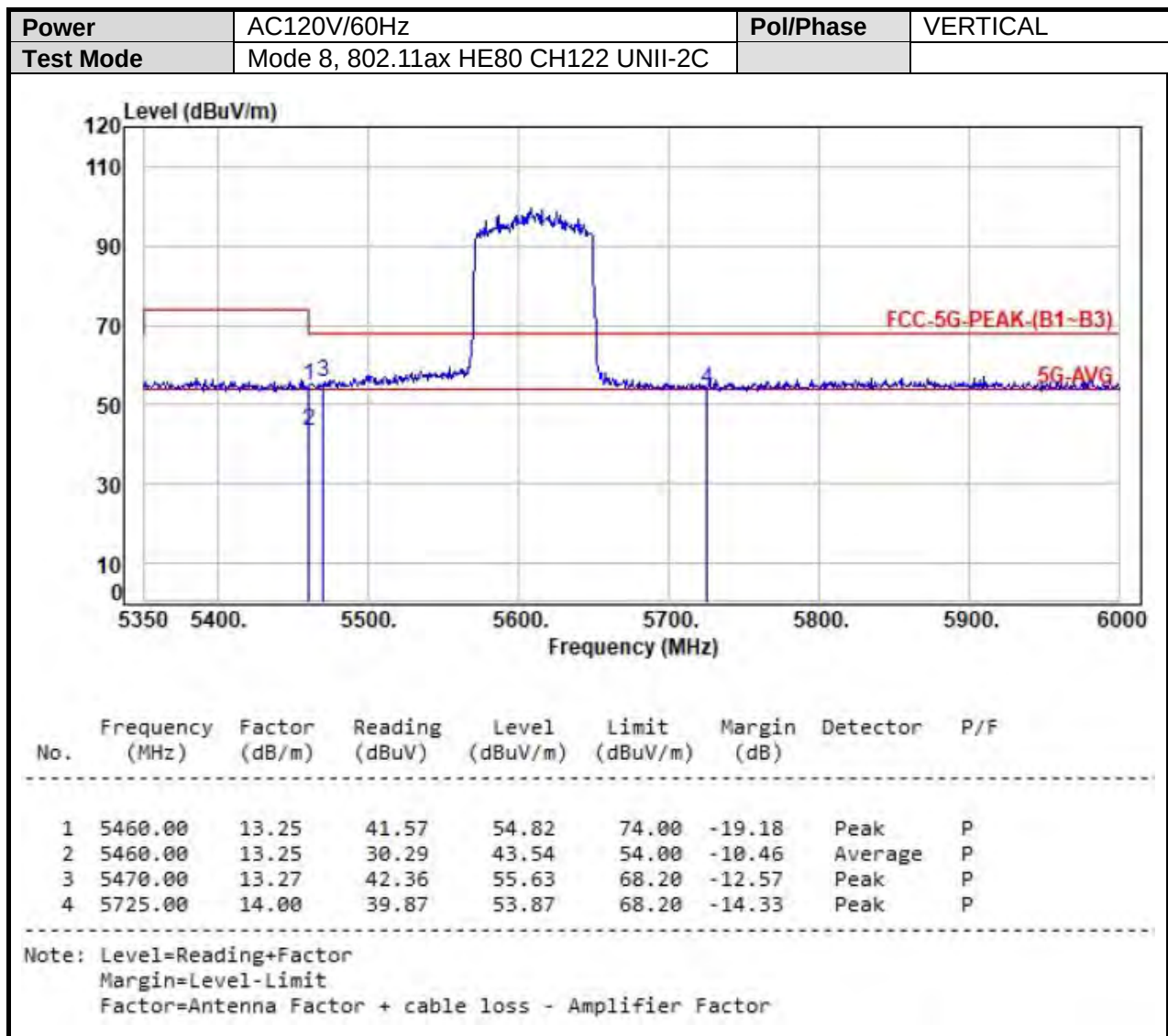


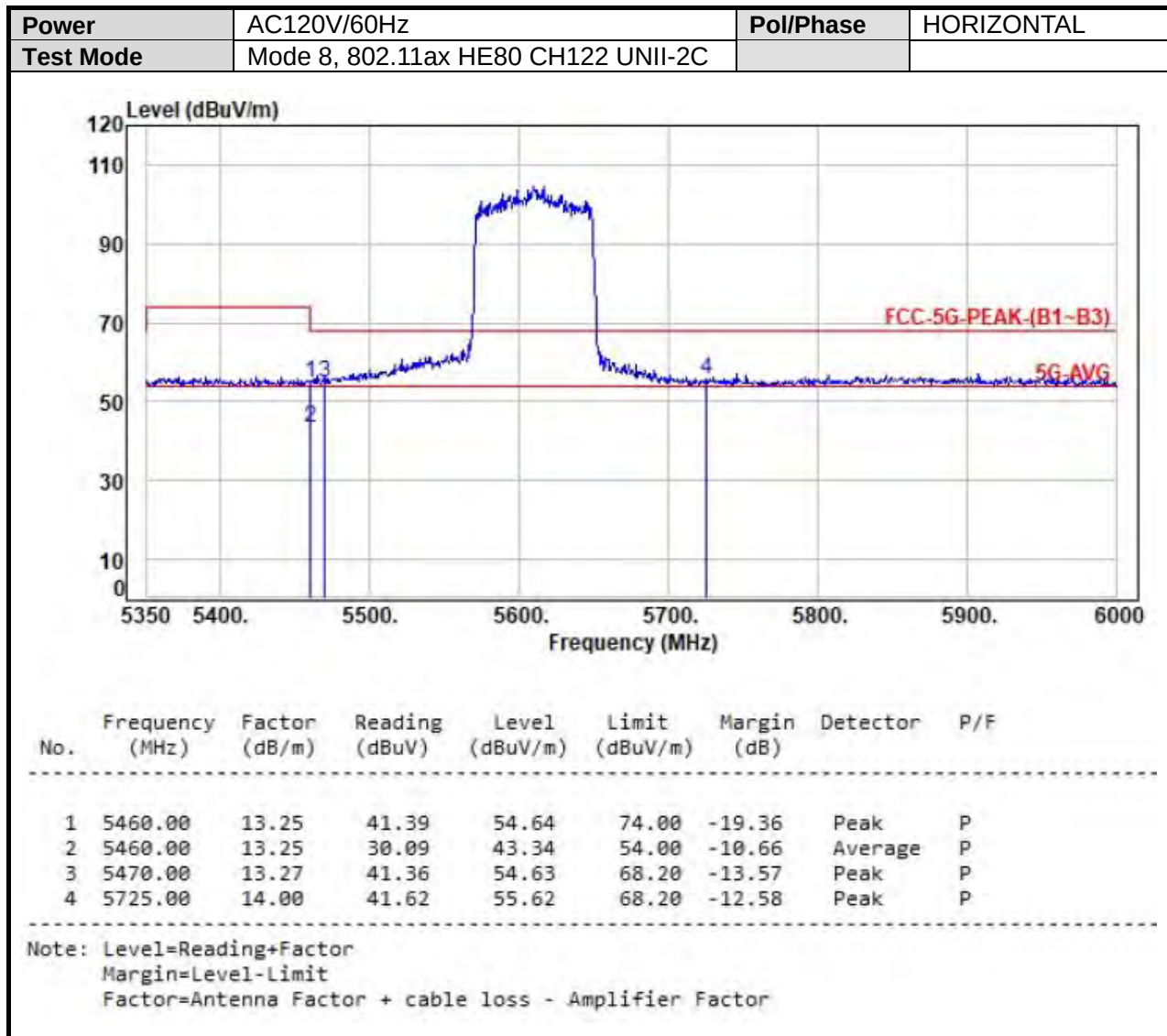








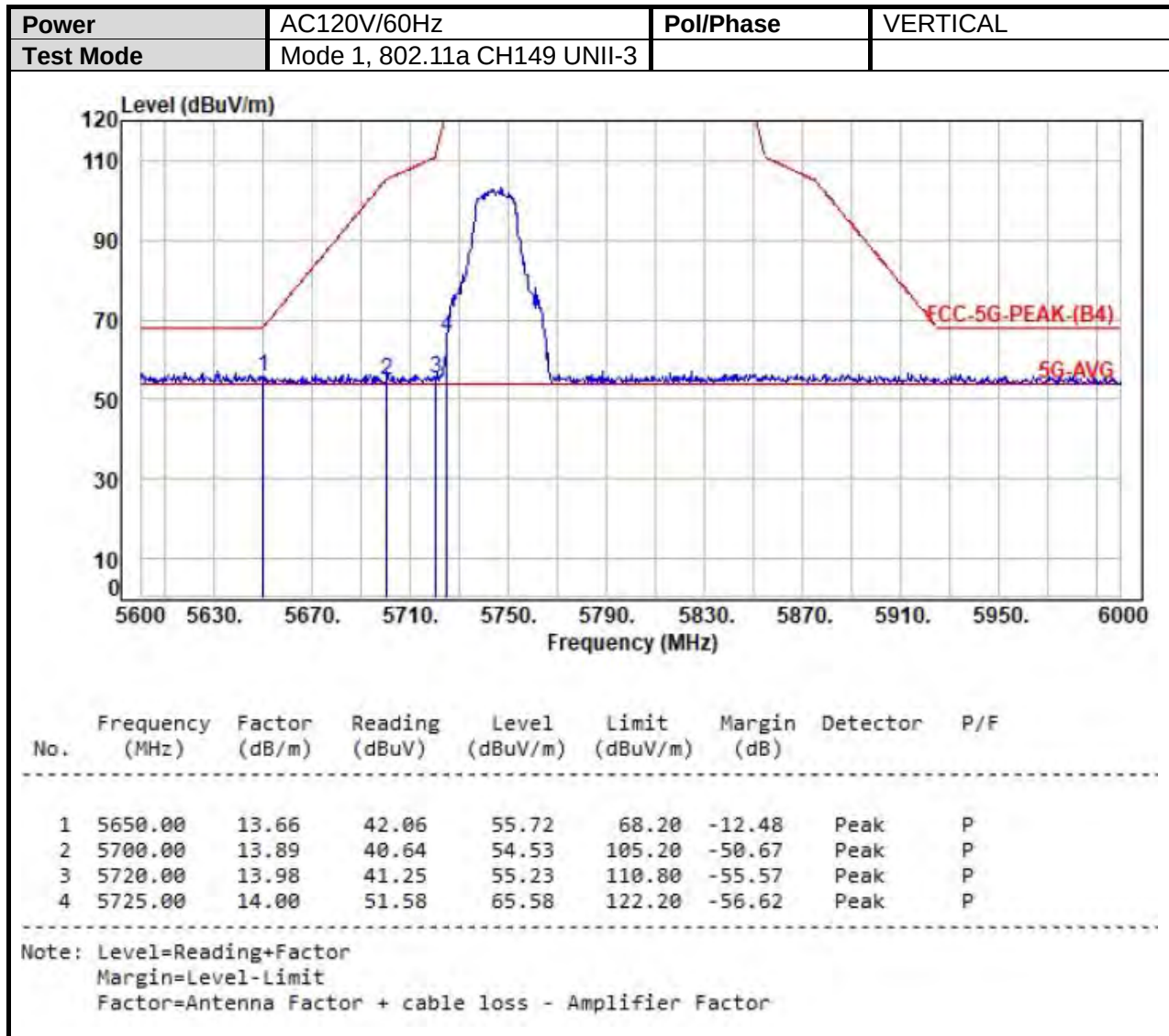


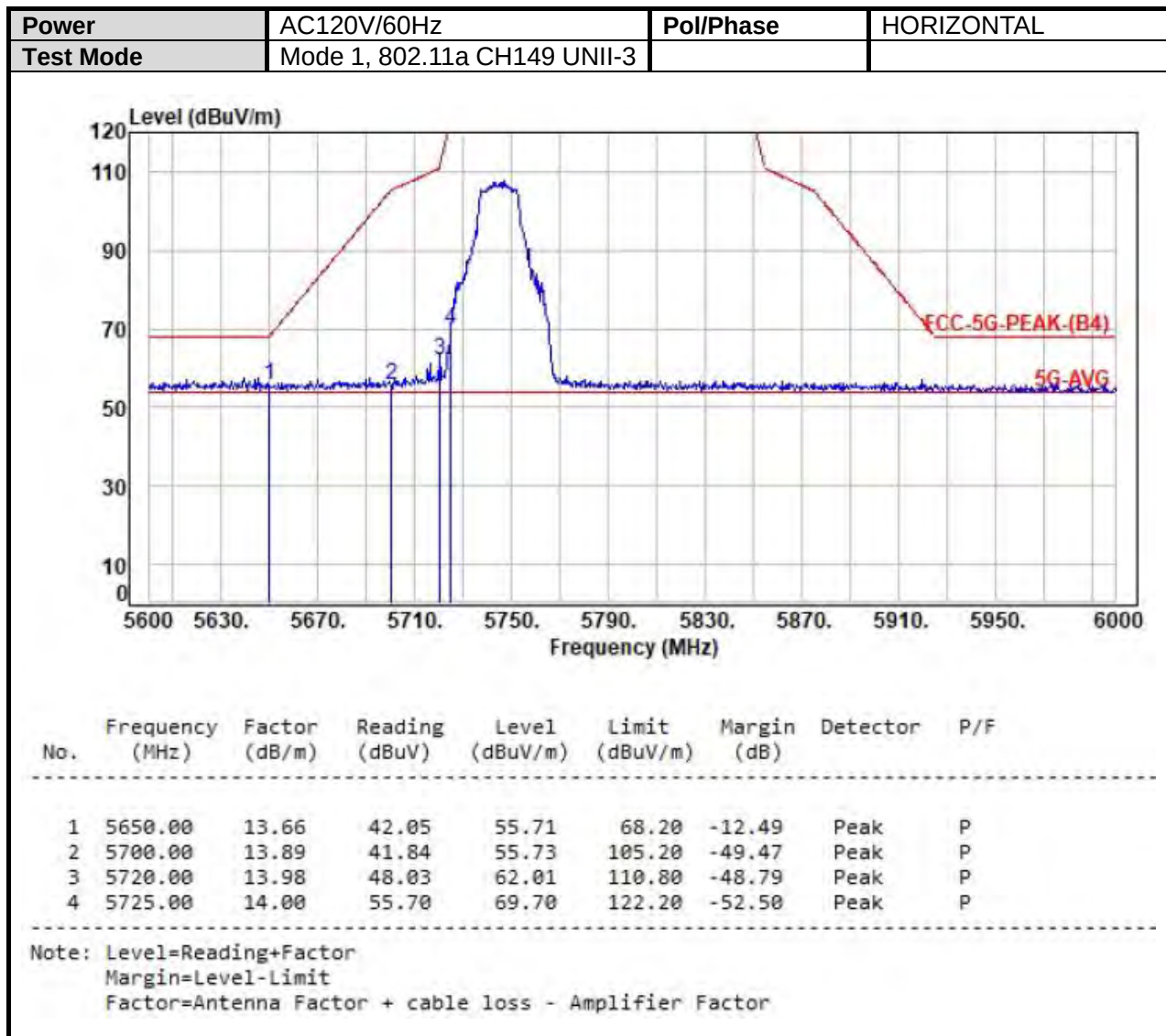


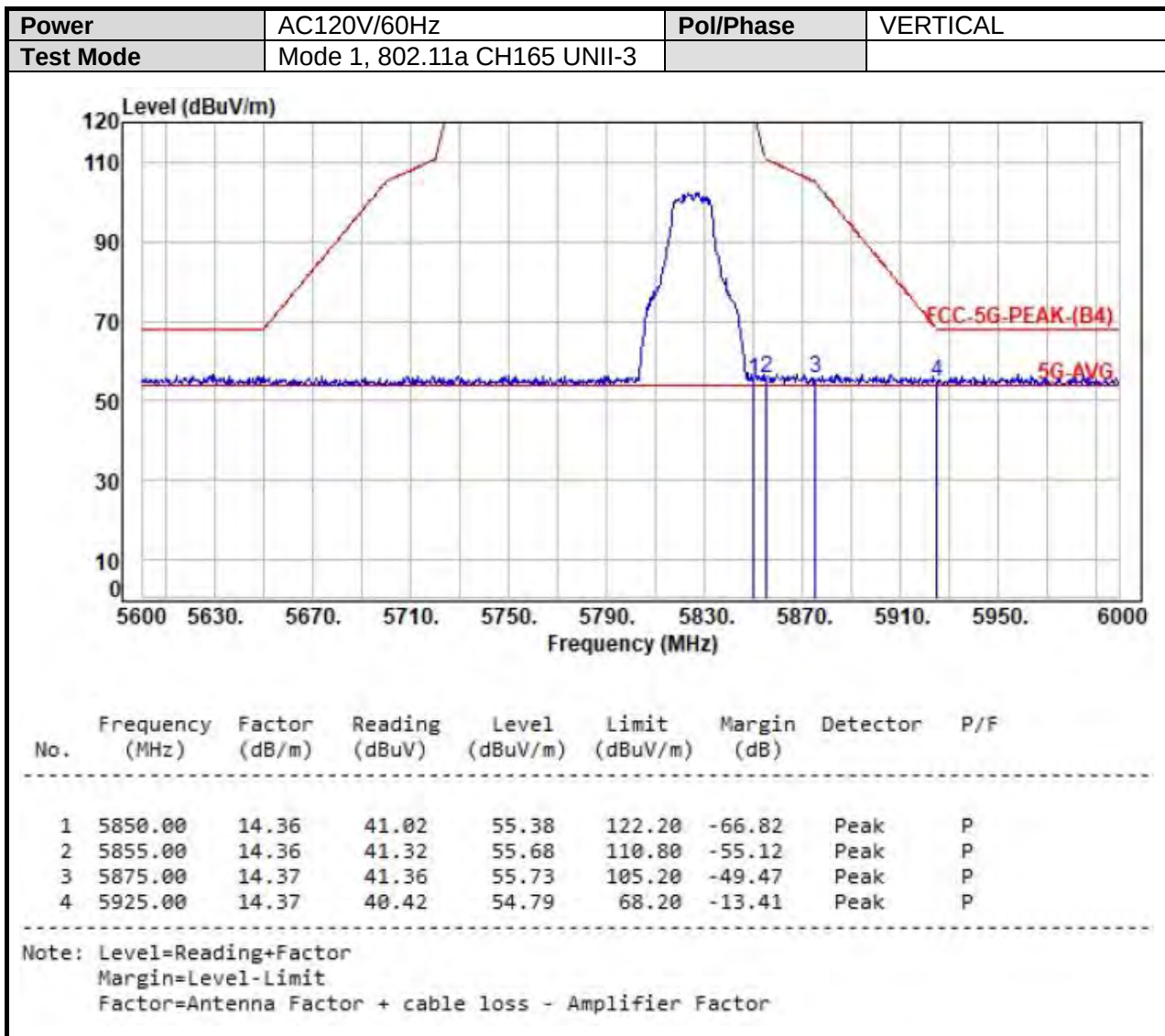


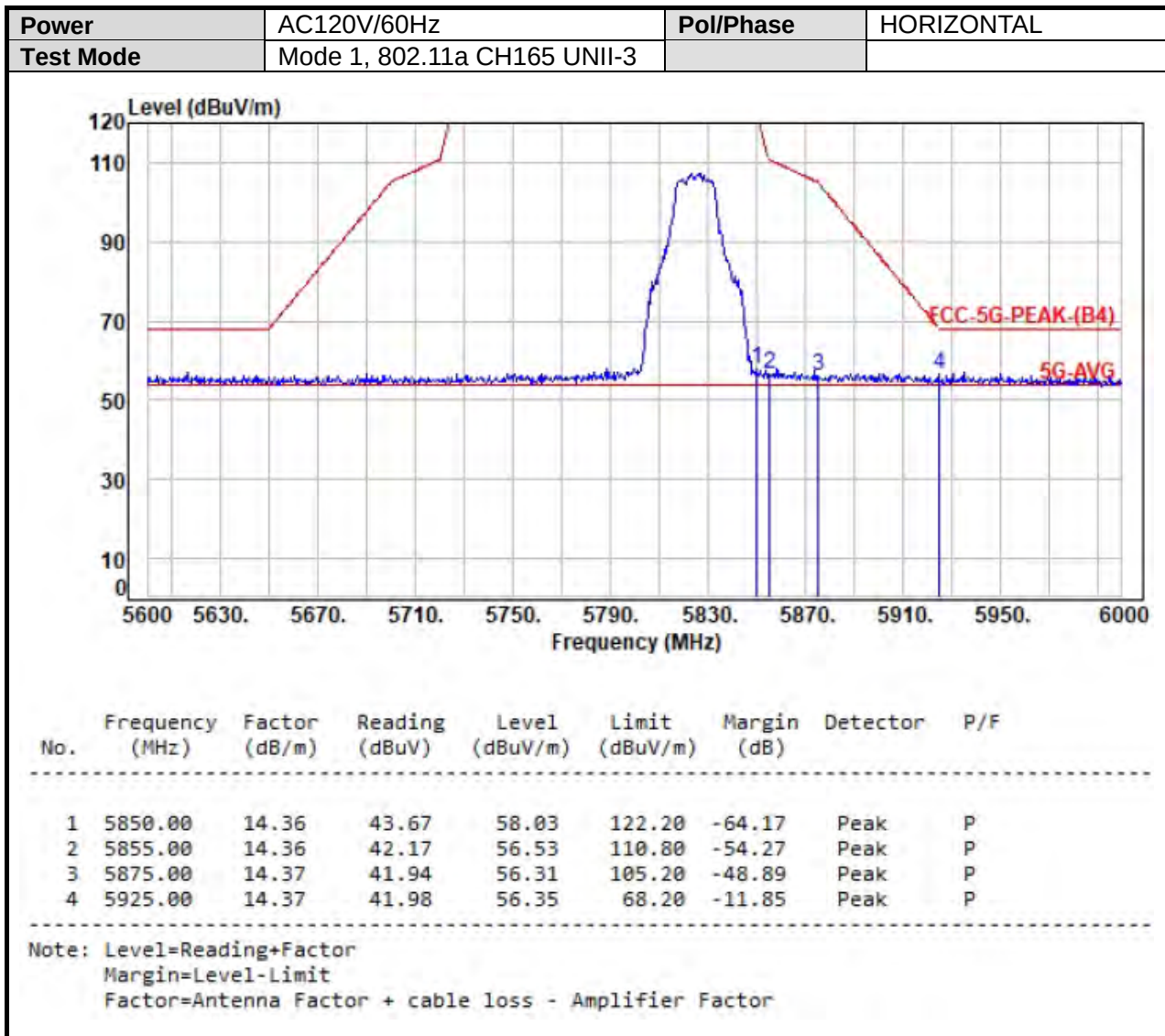
SISO-Ant B

UNII-3



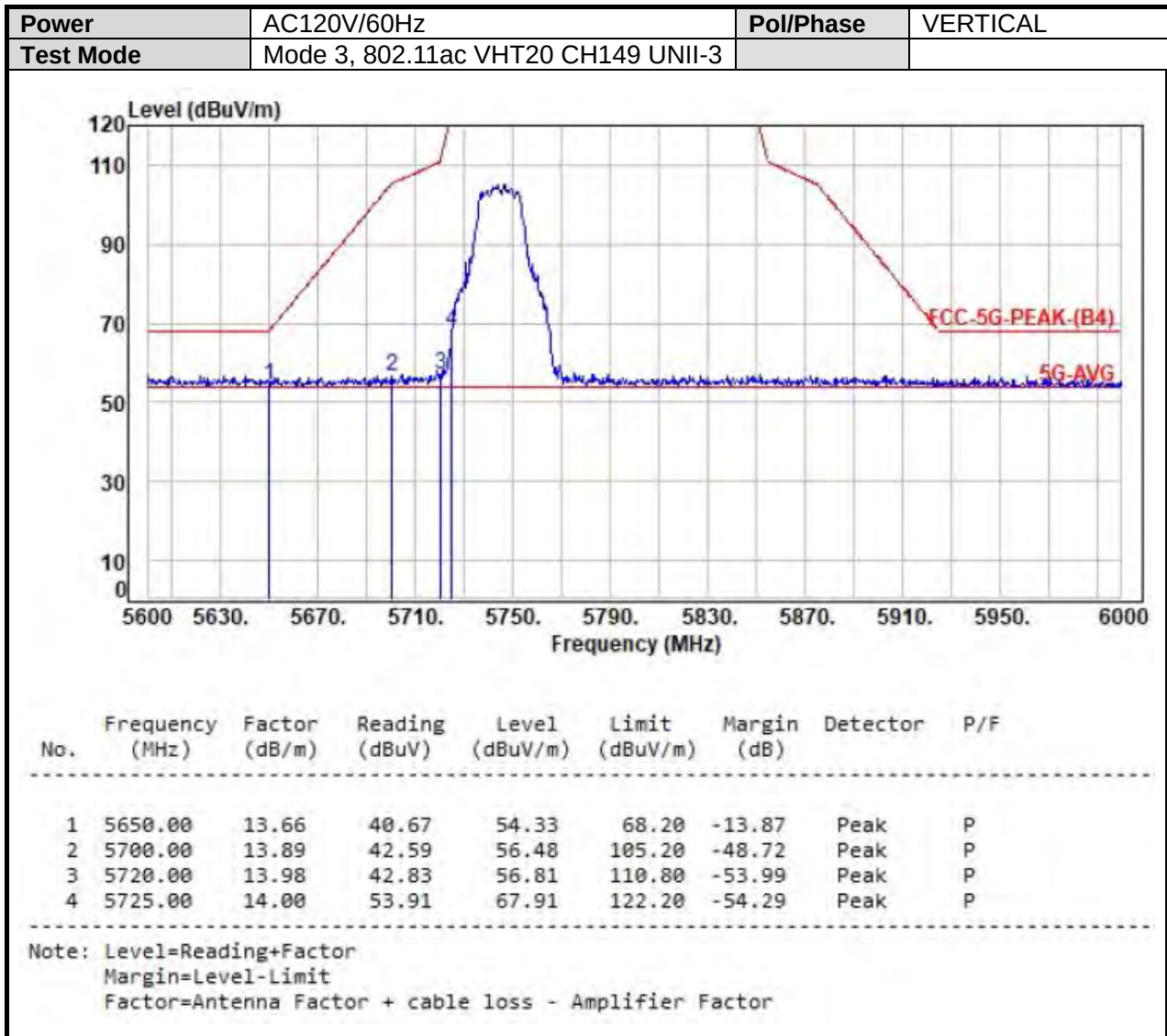


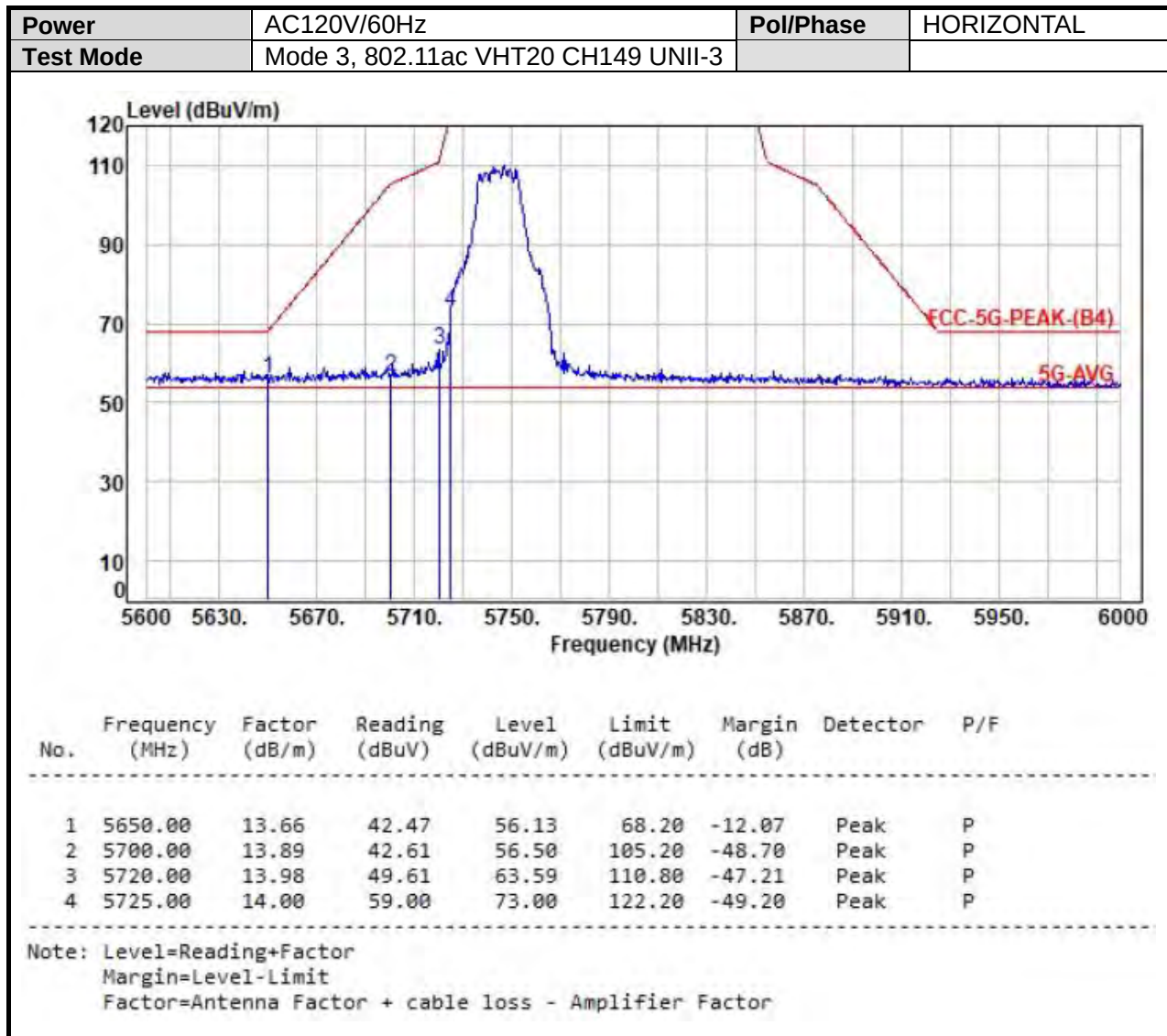


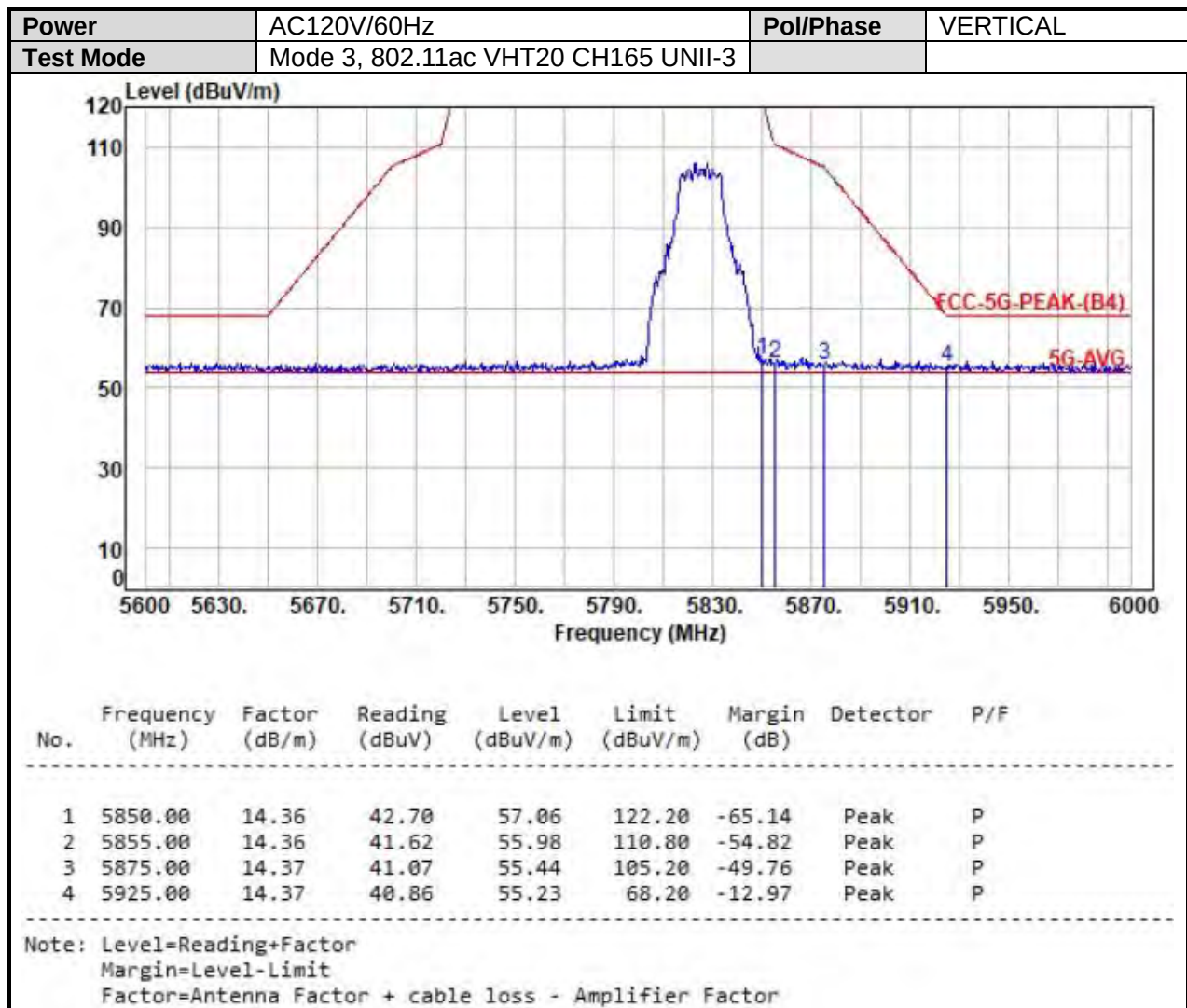


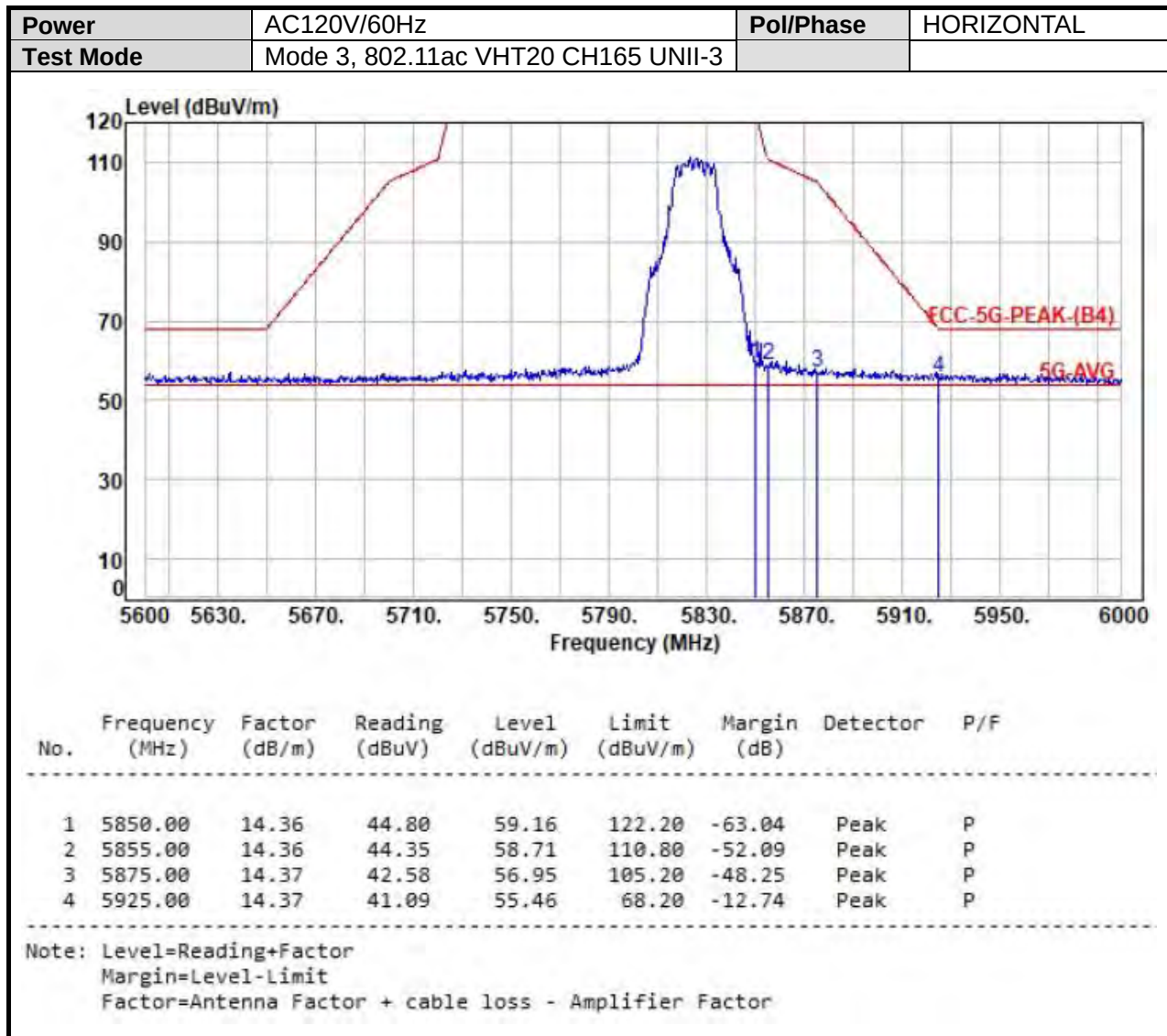


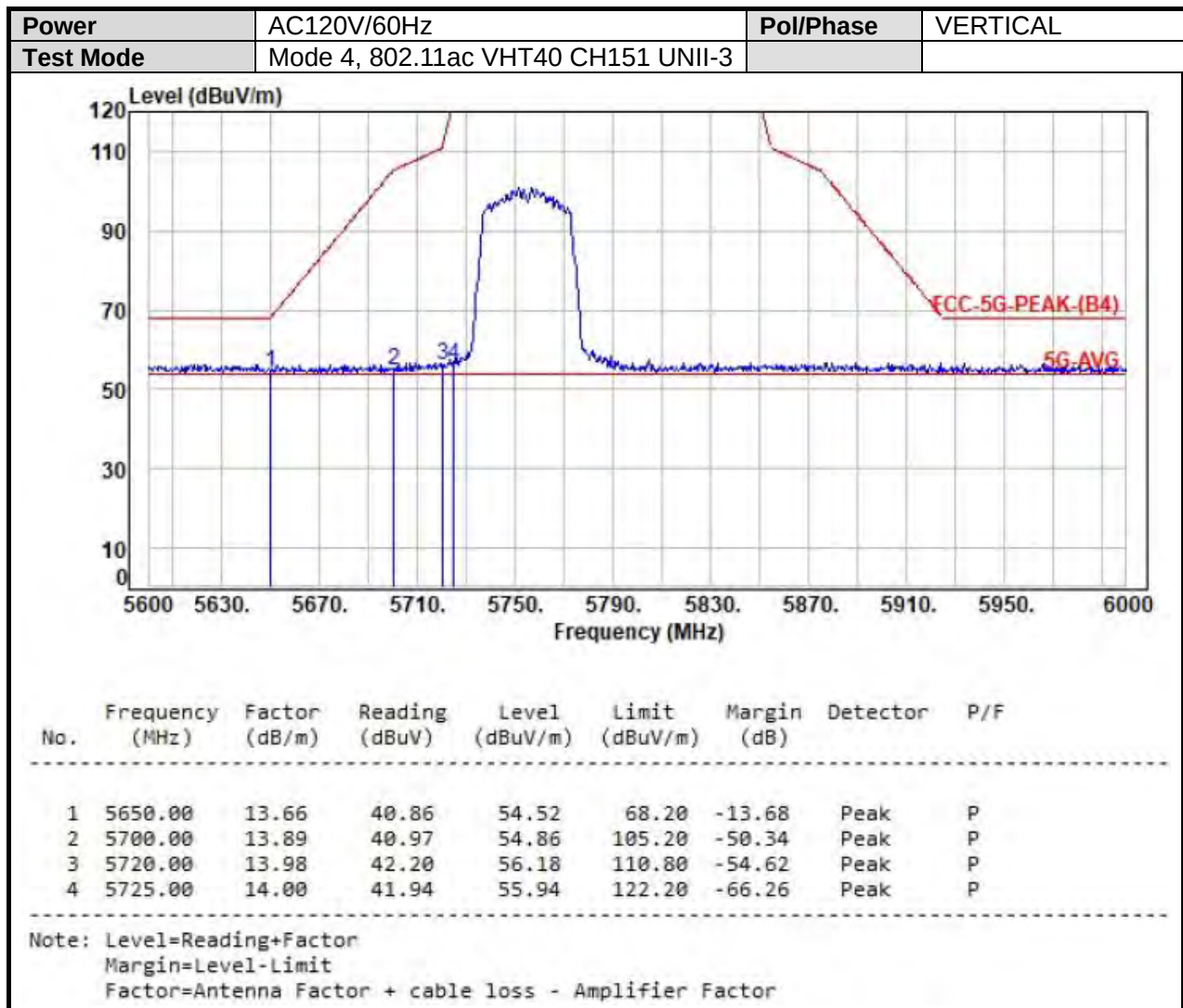
MIMO-UNII-3

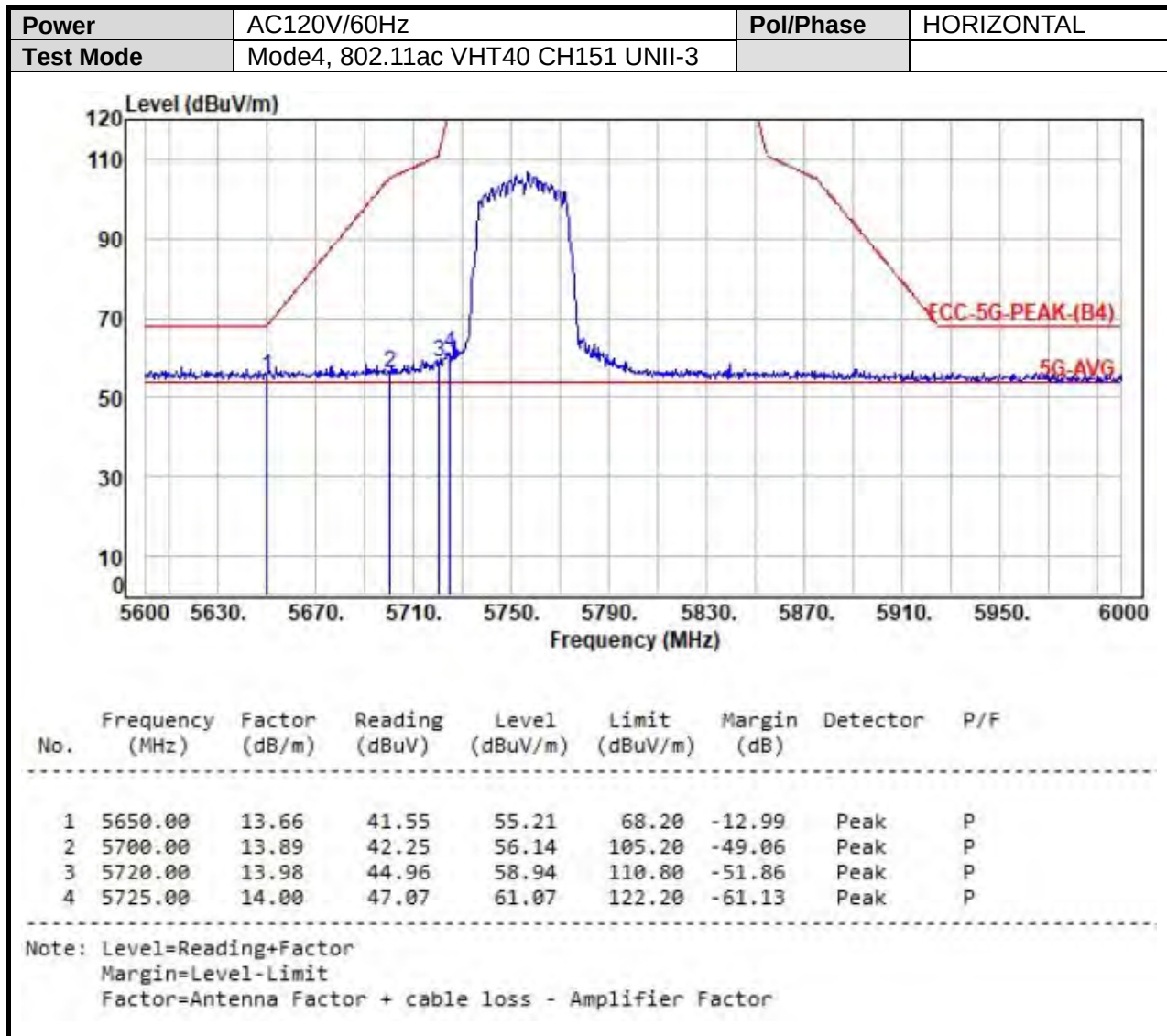


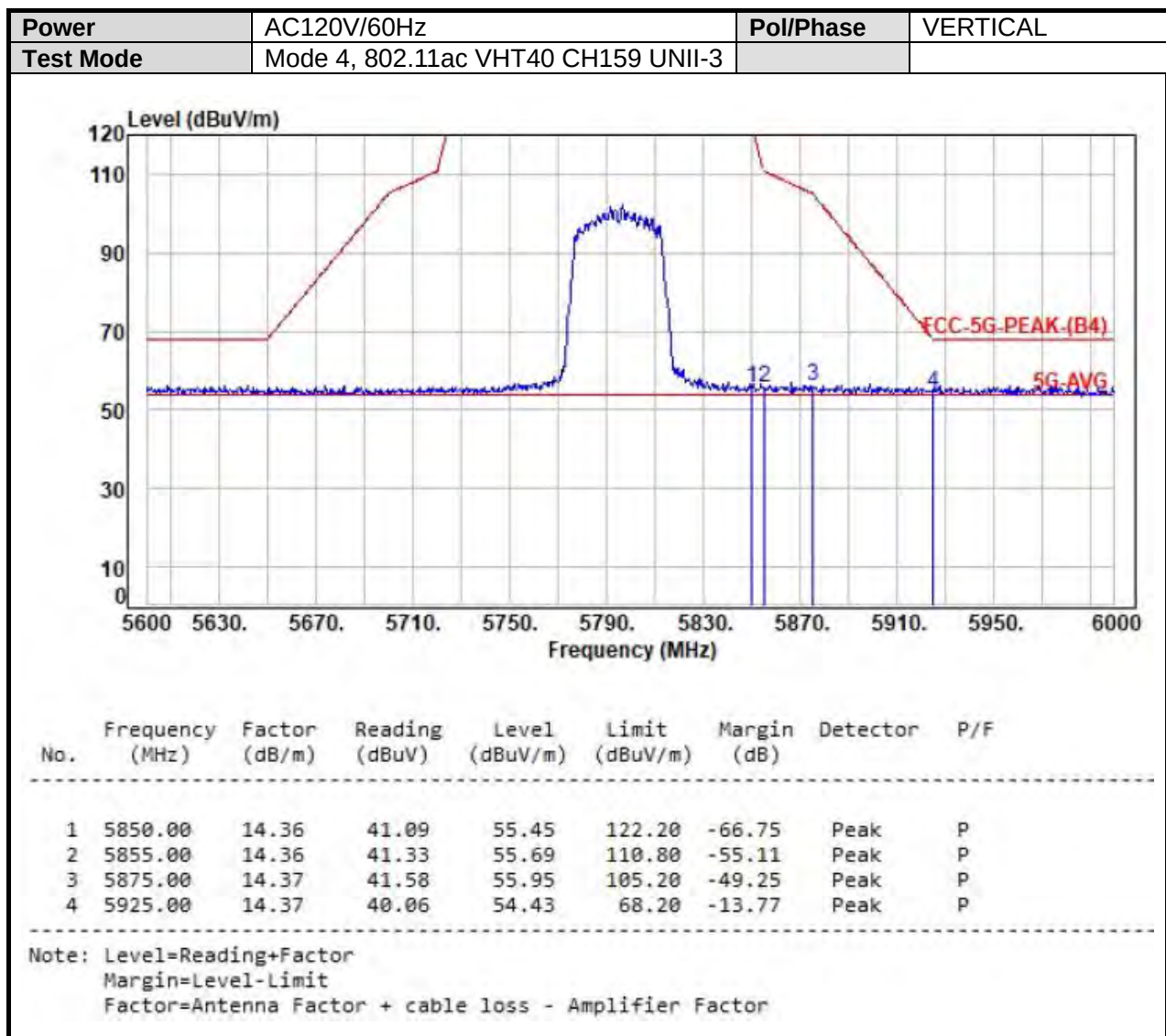


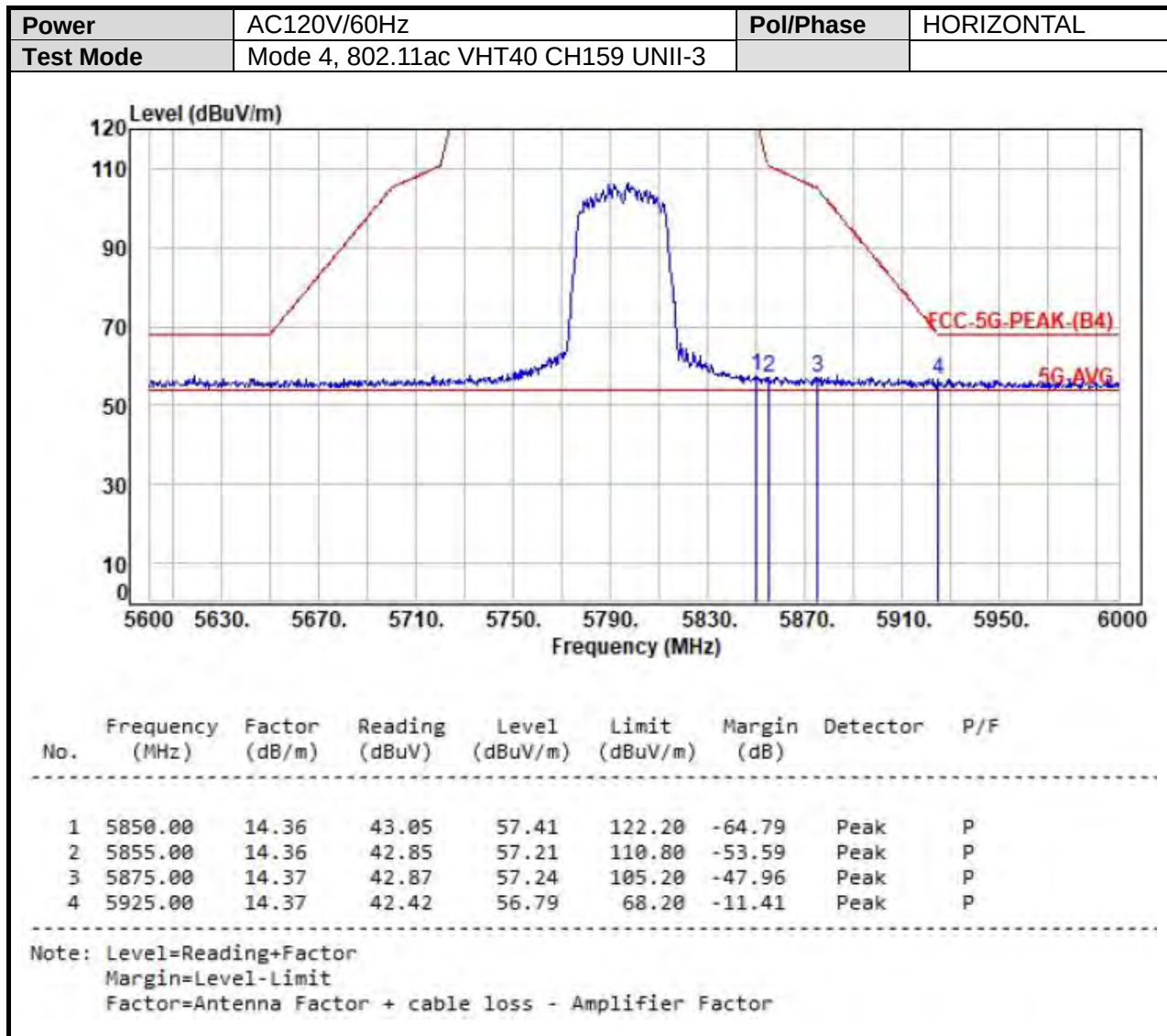


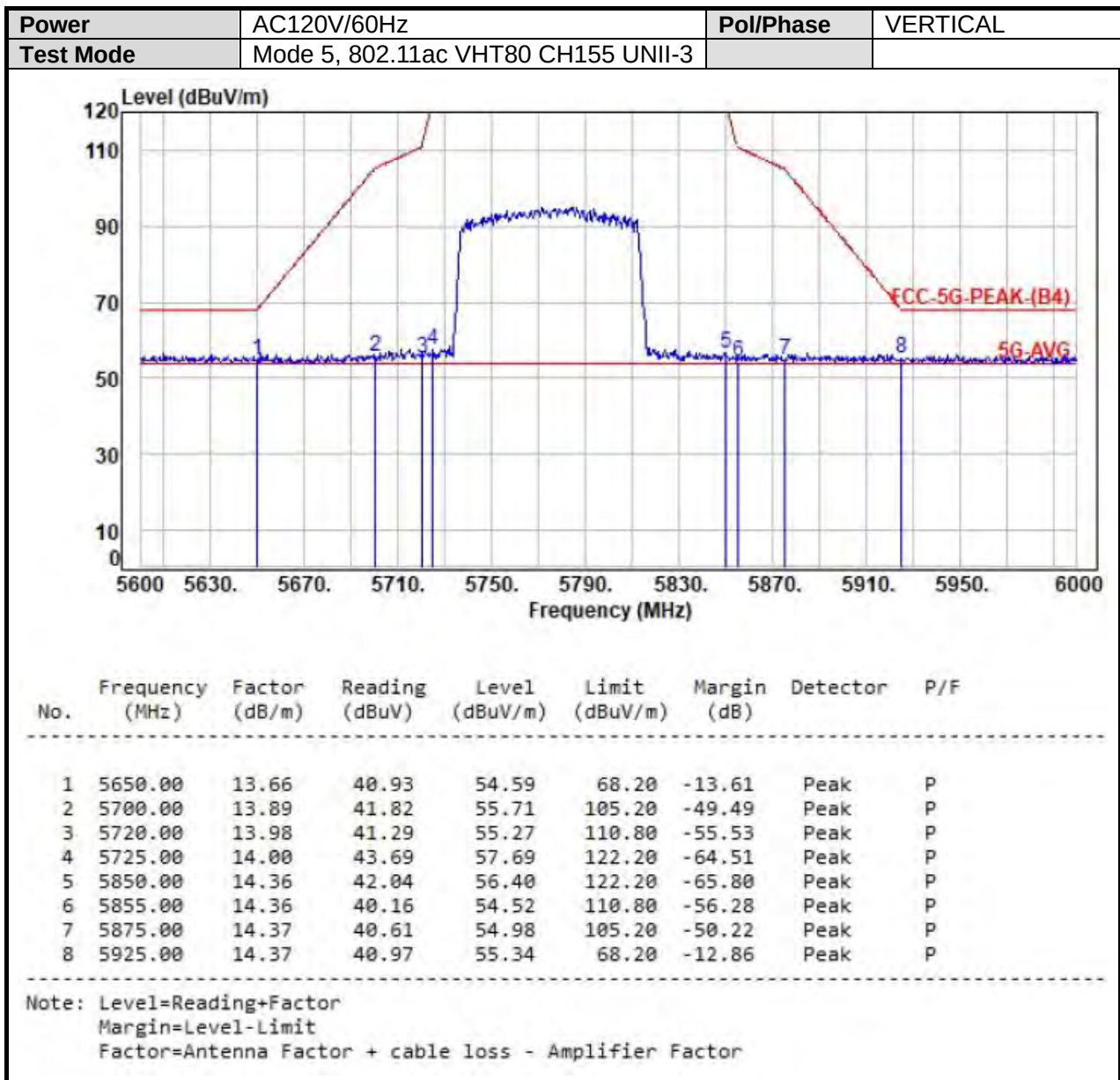


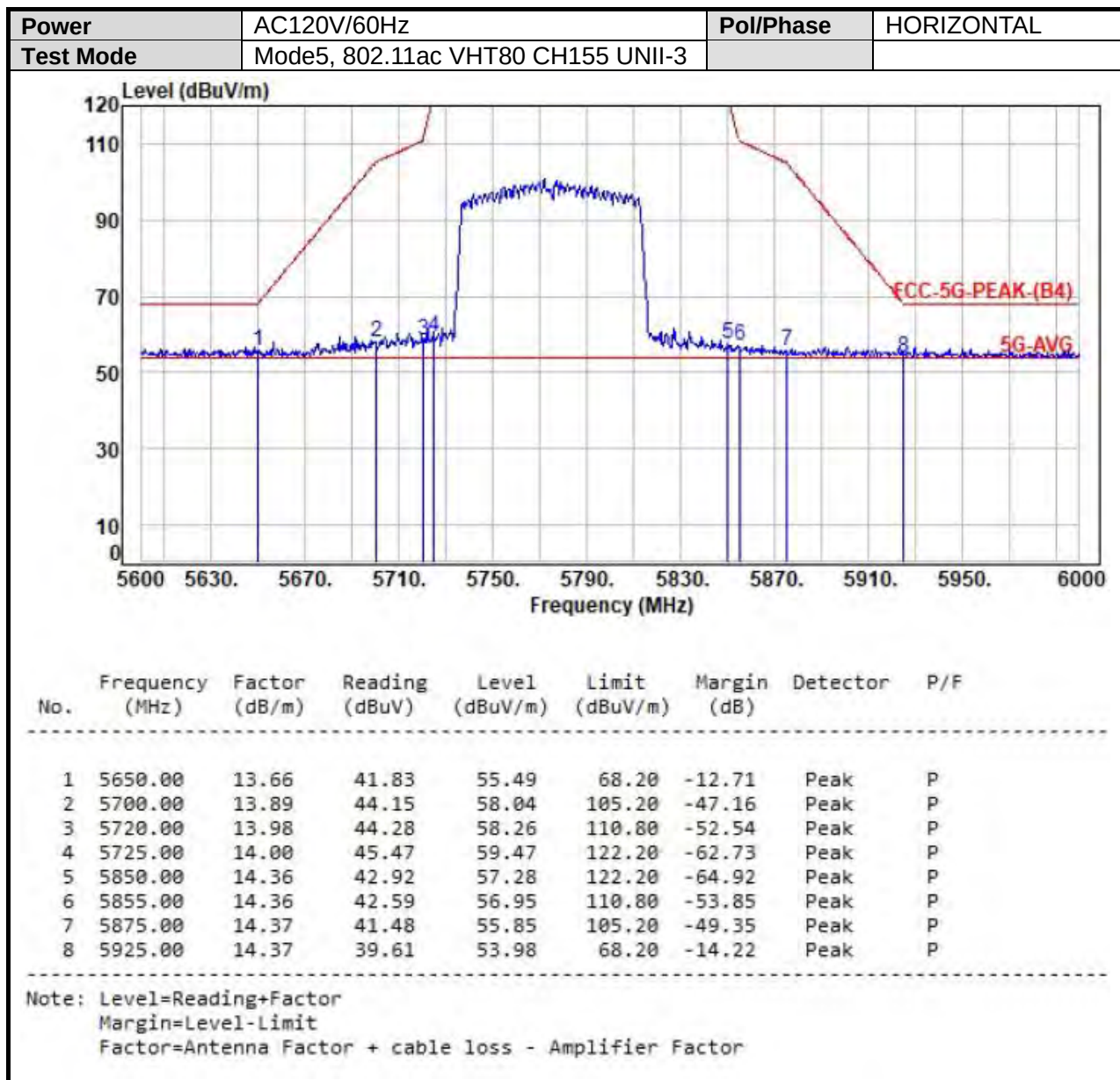


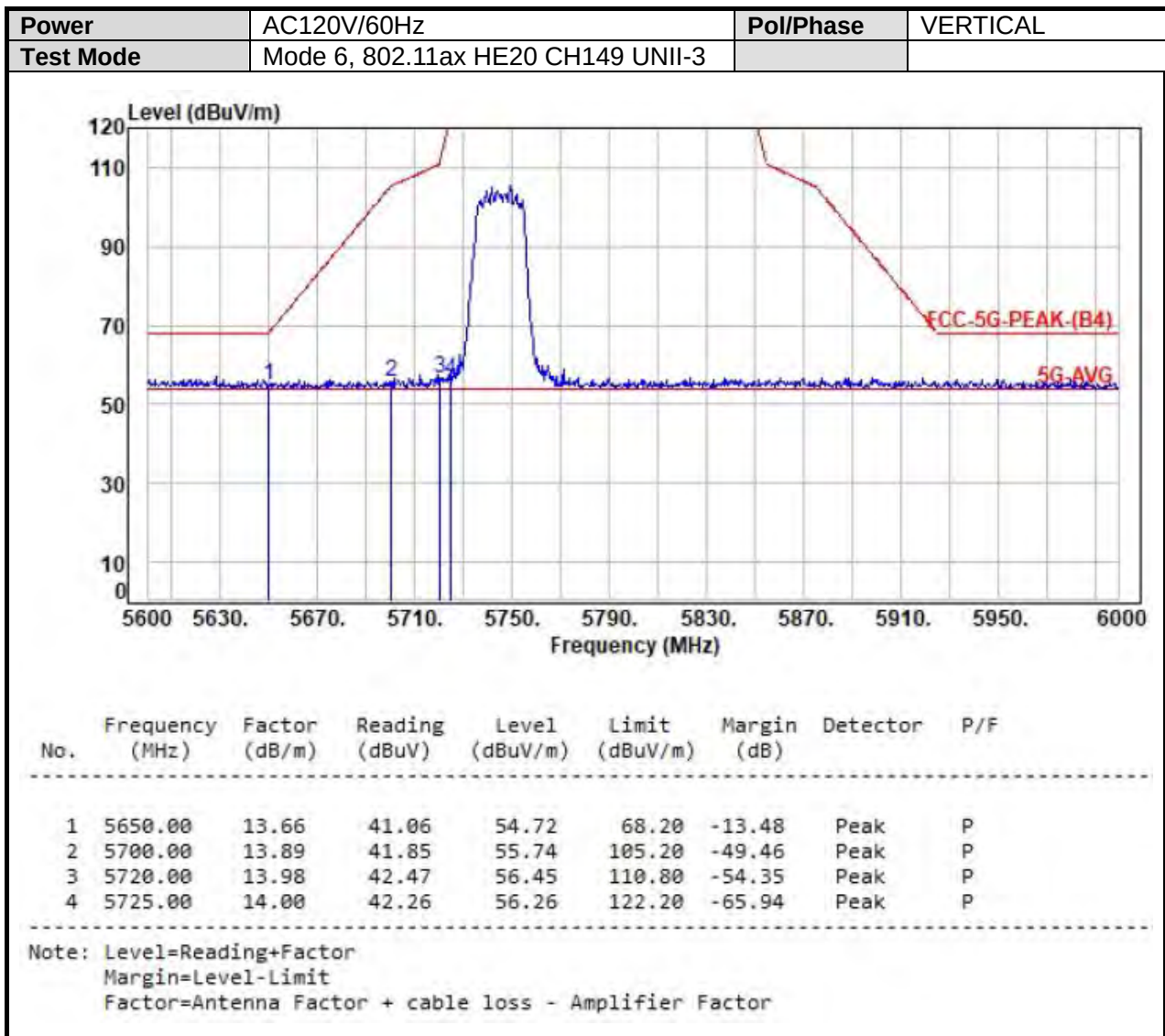


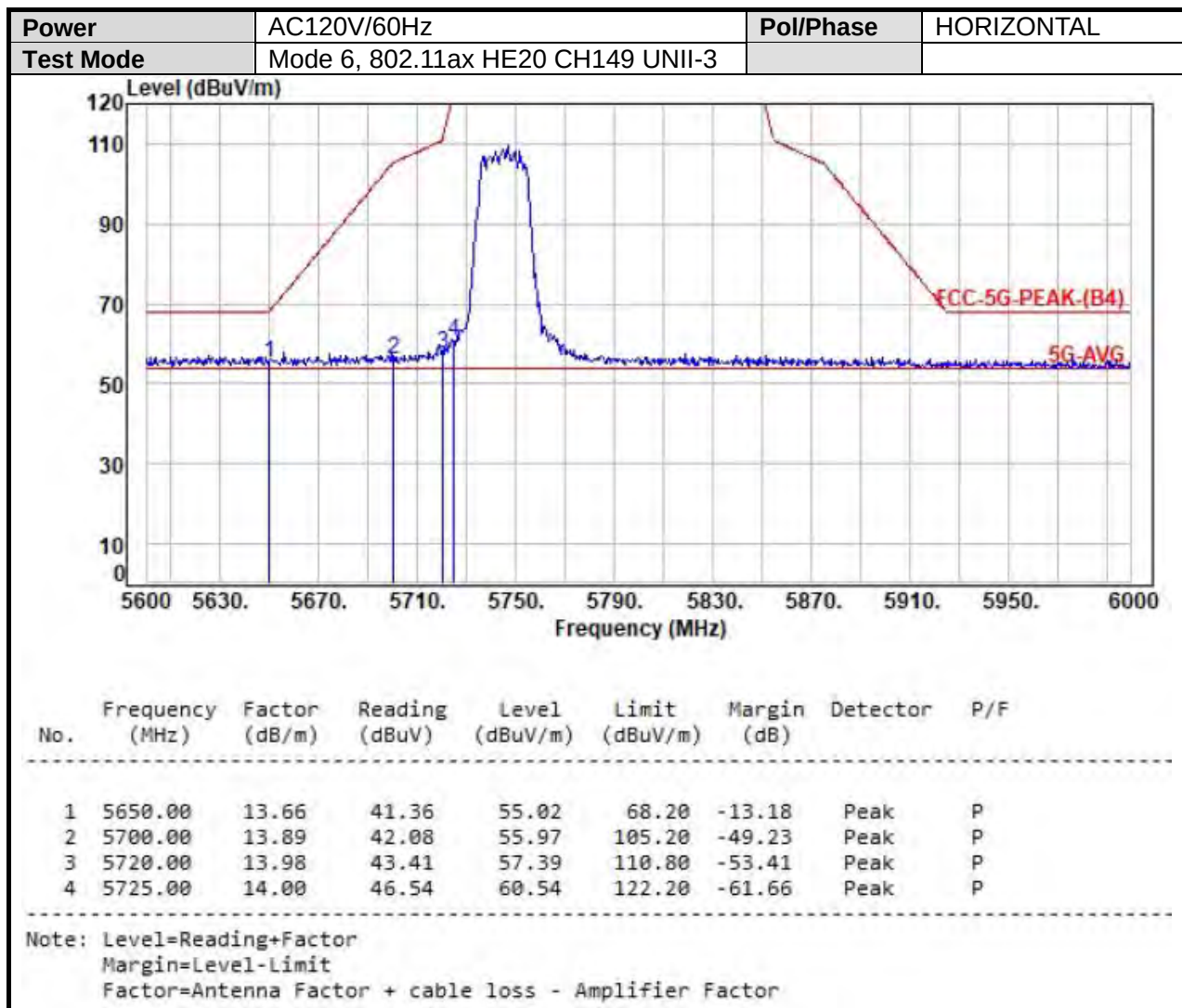


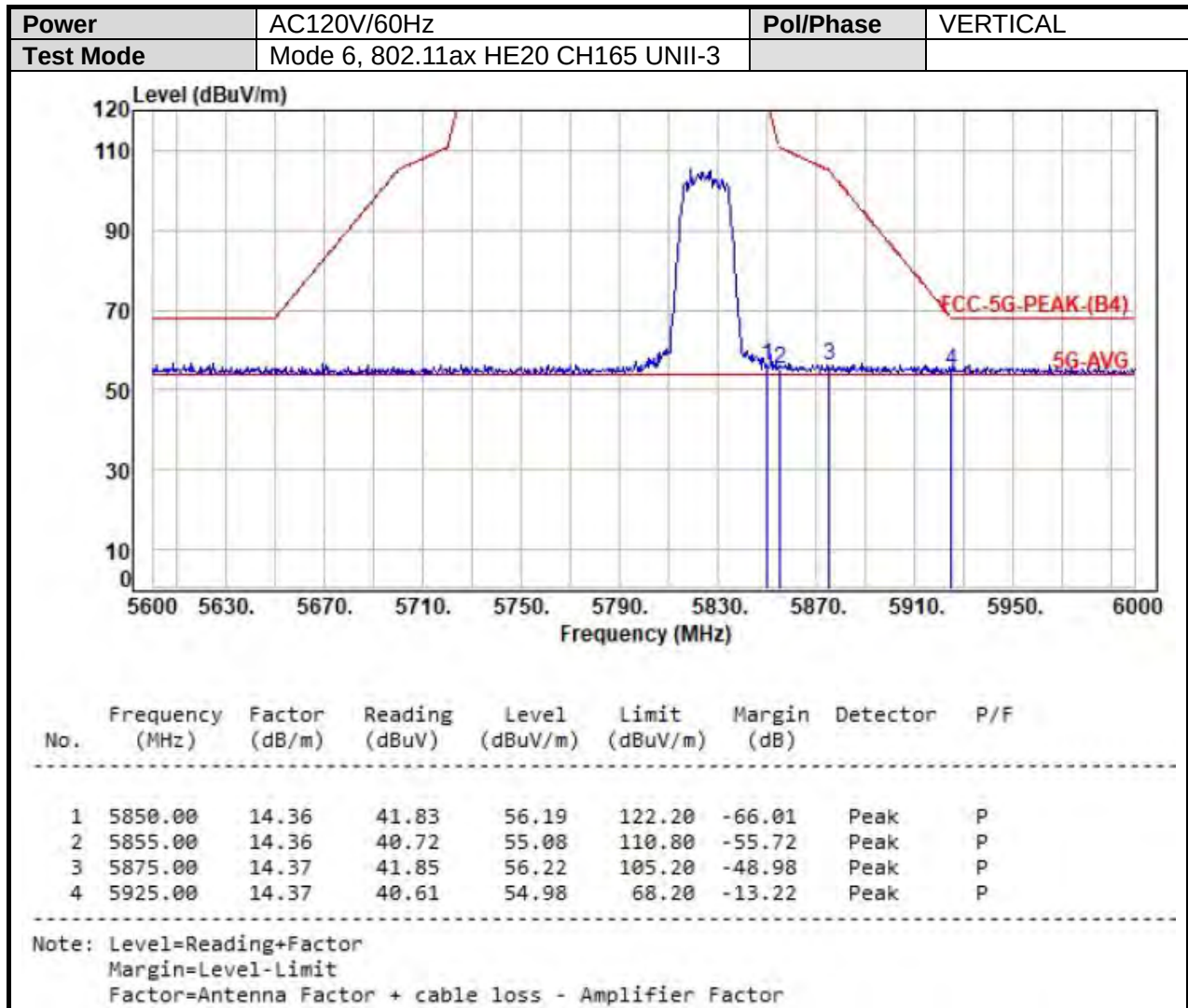


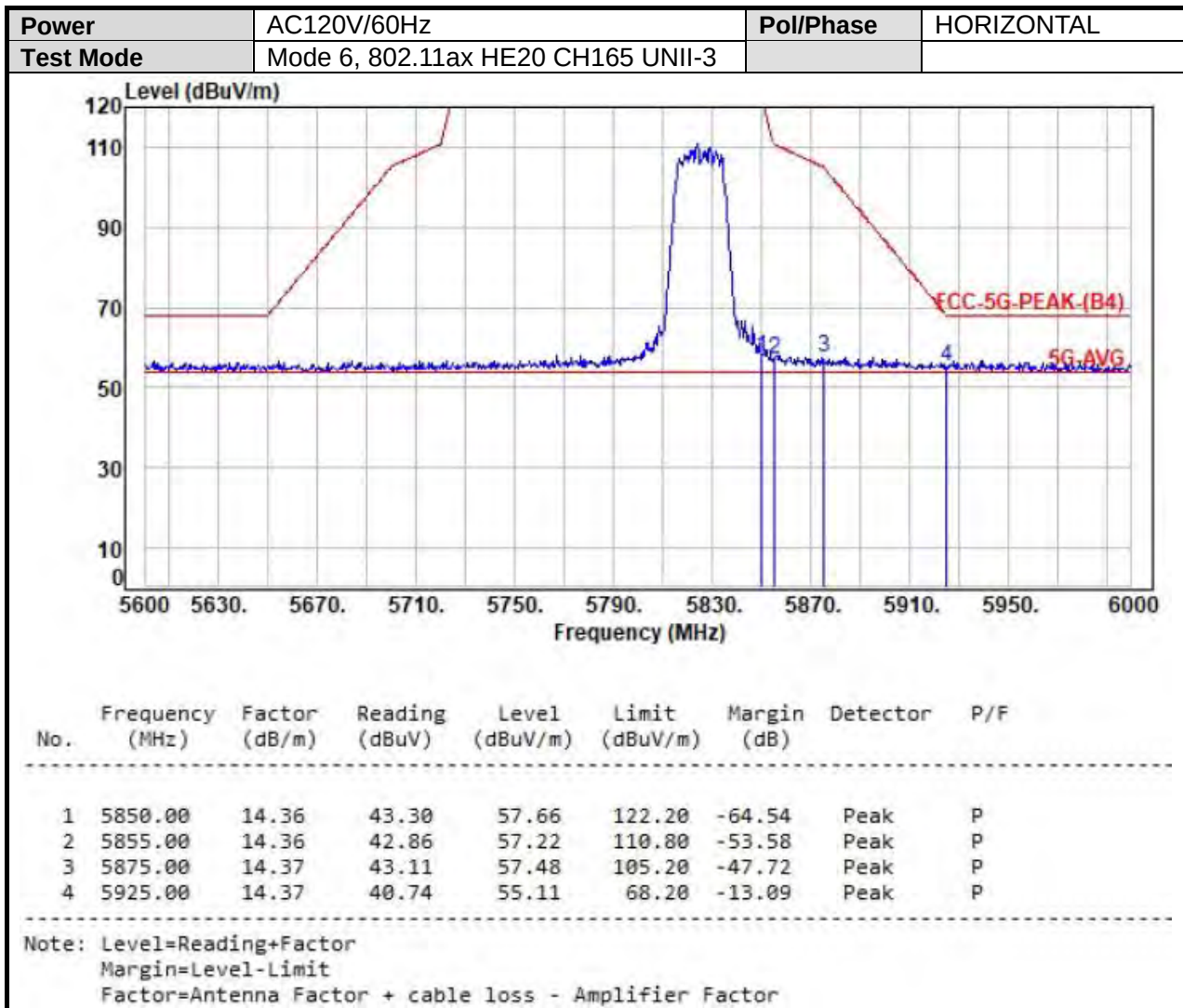


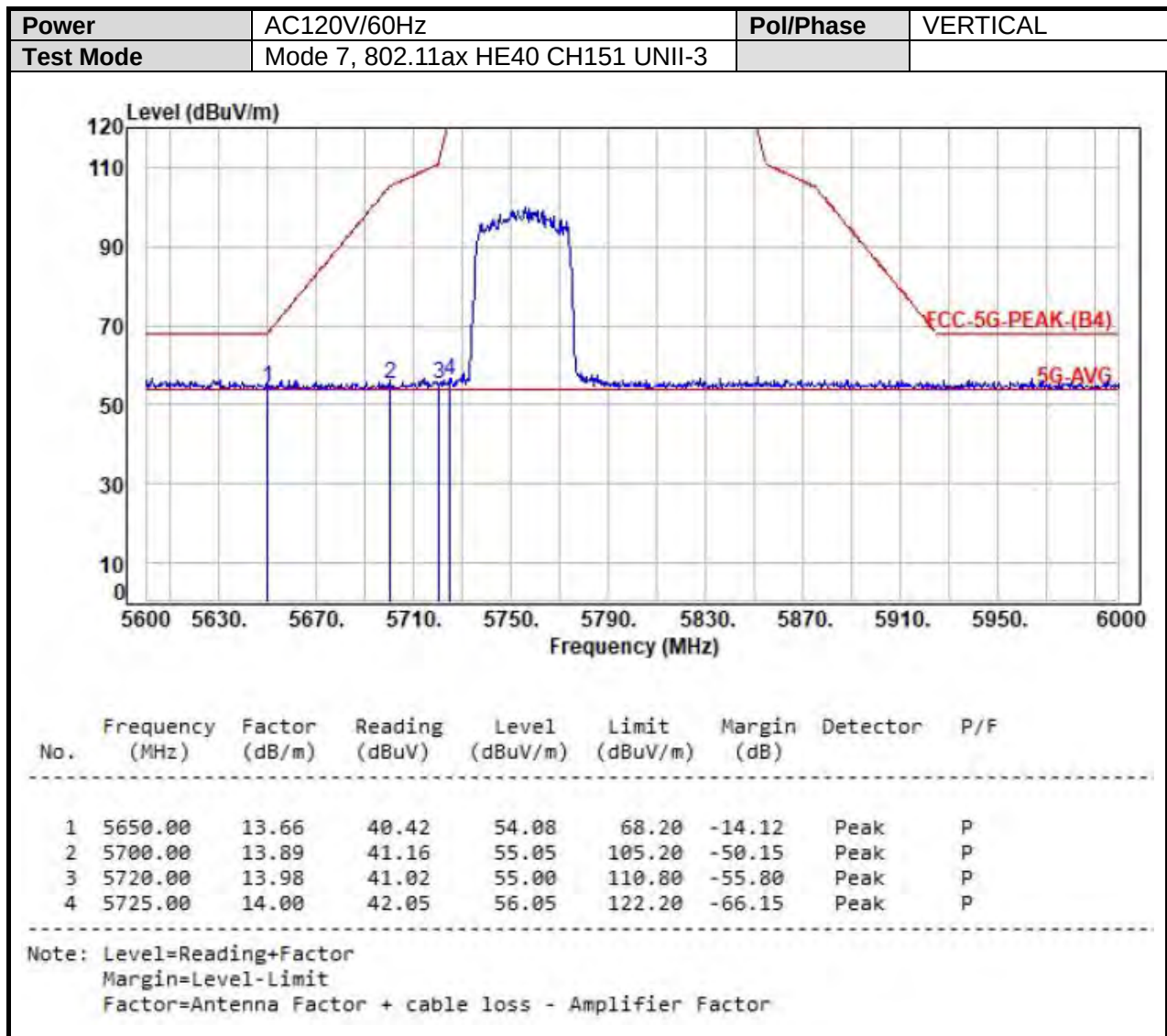


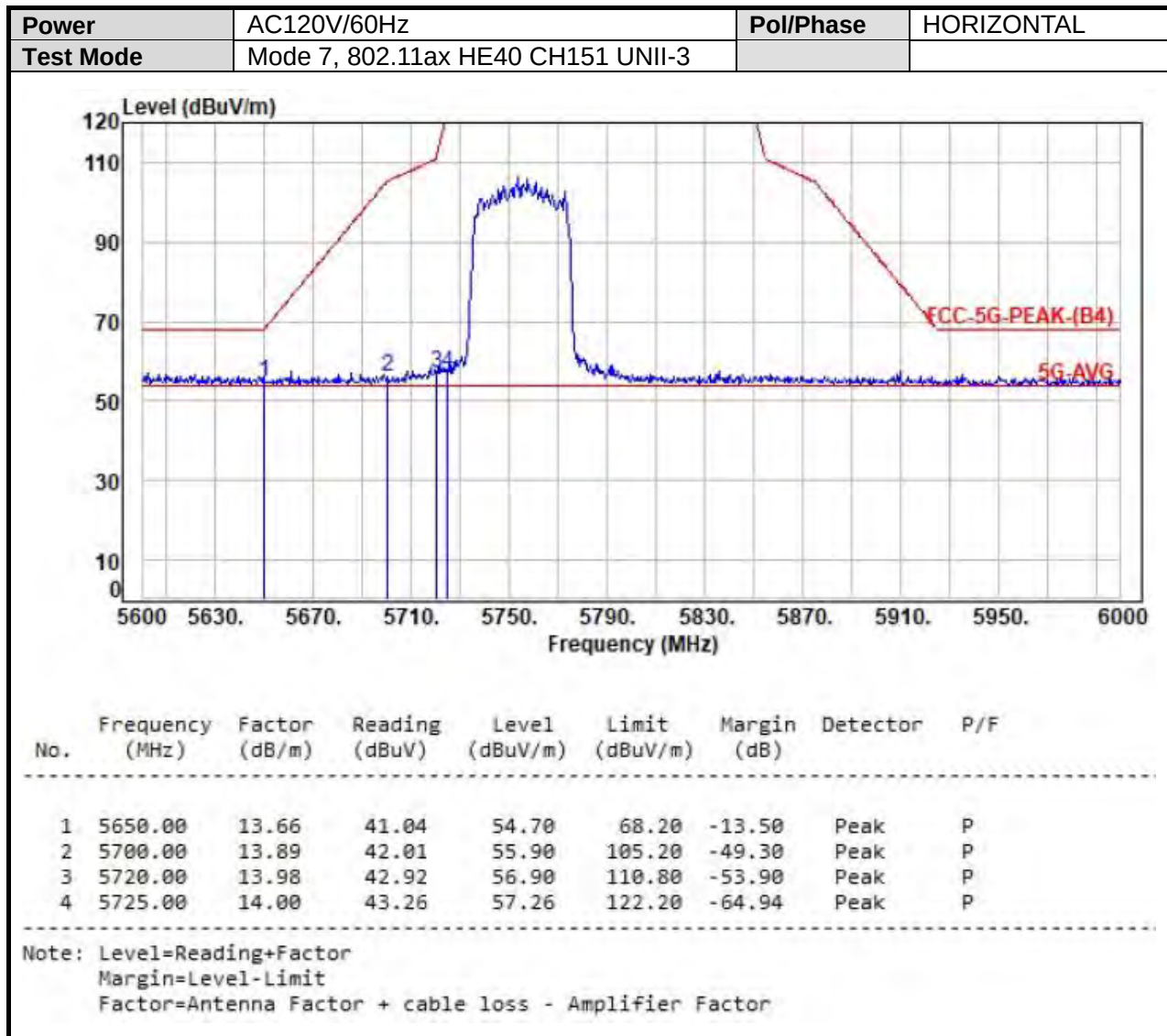


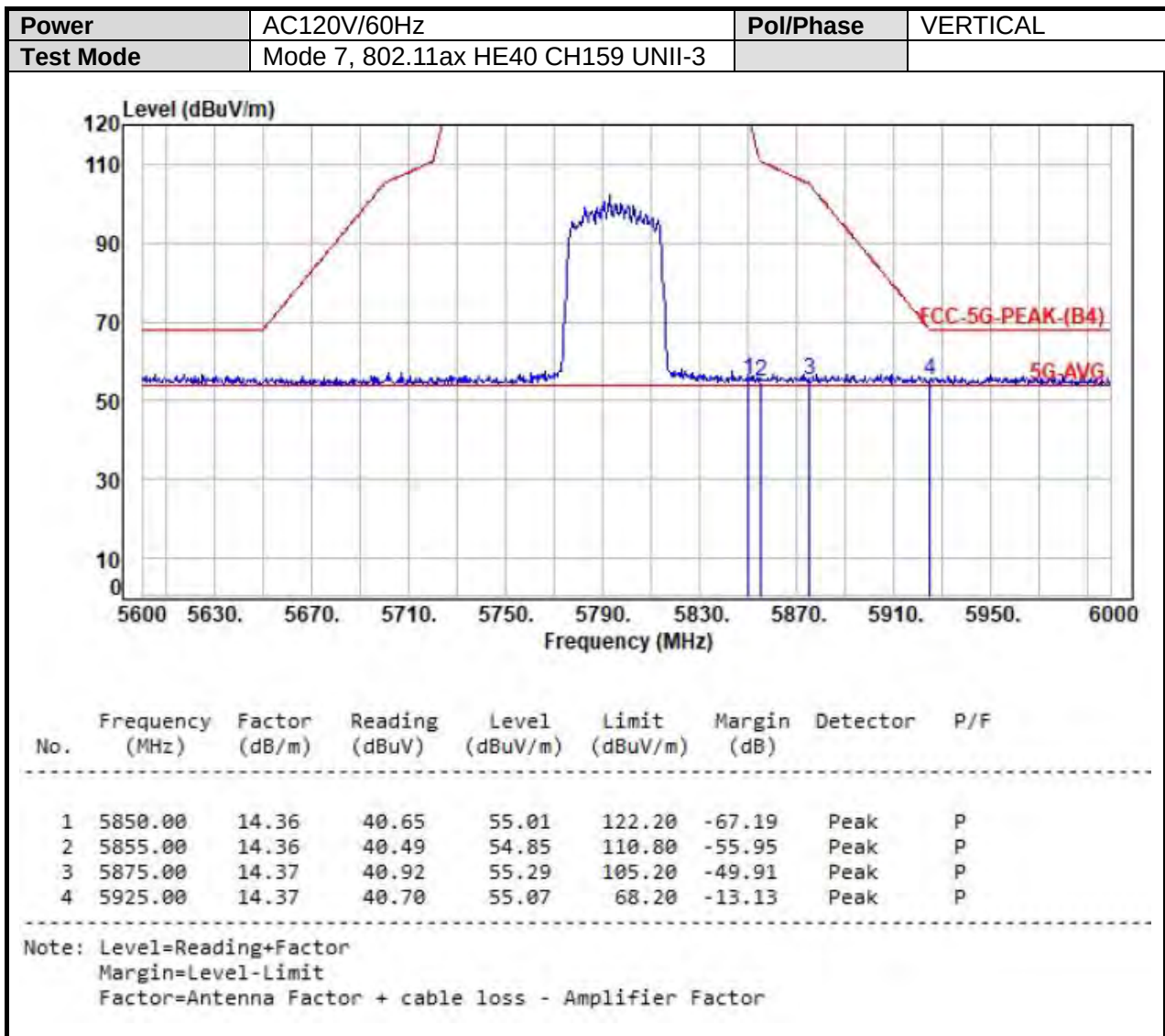


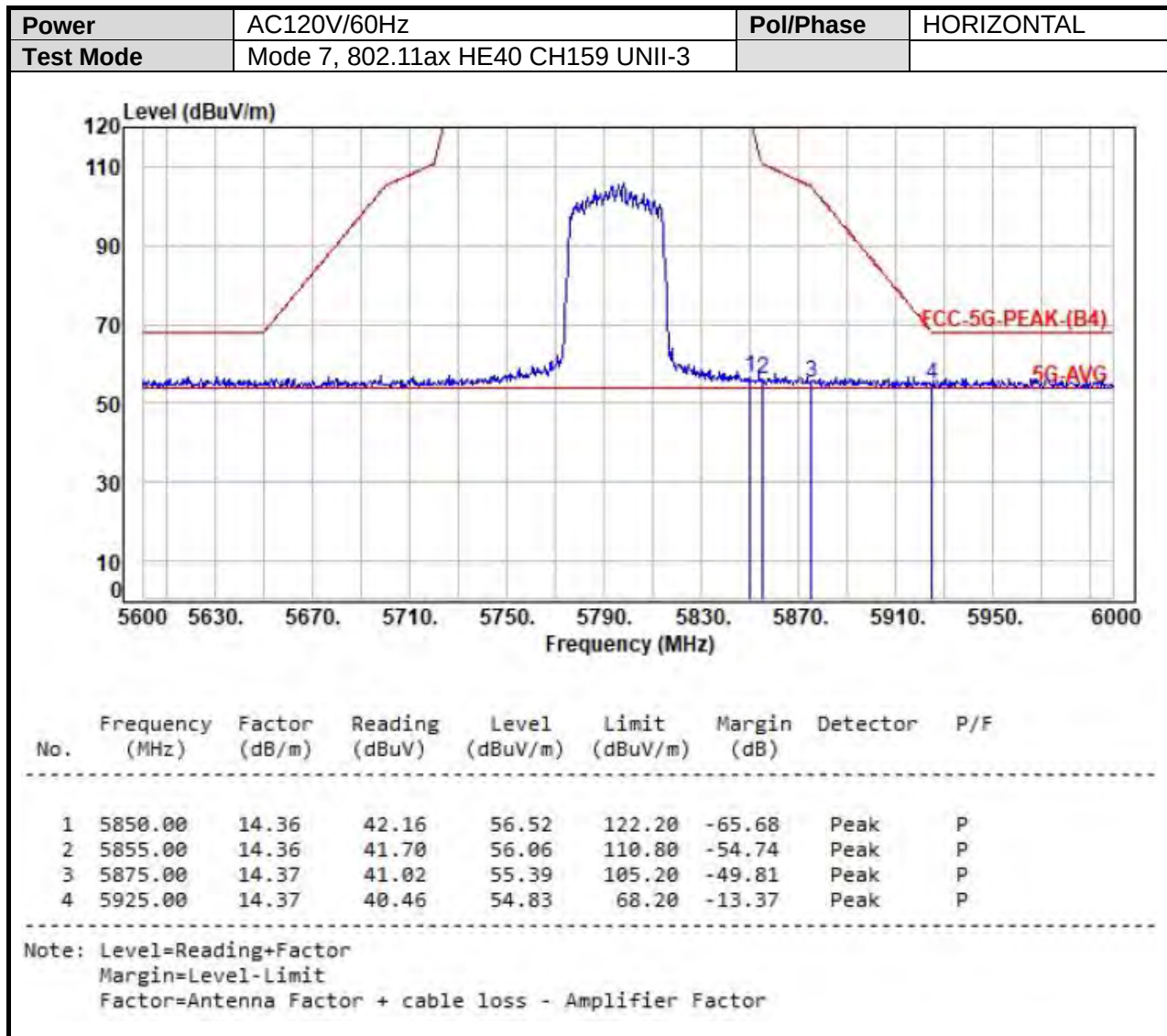


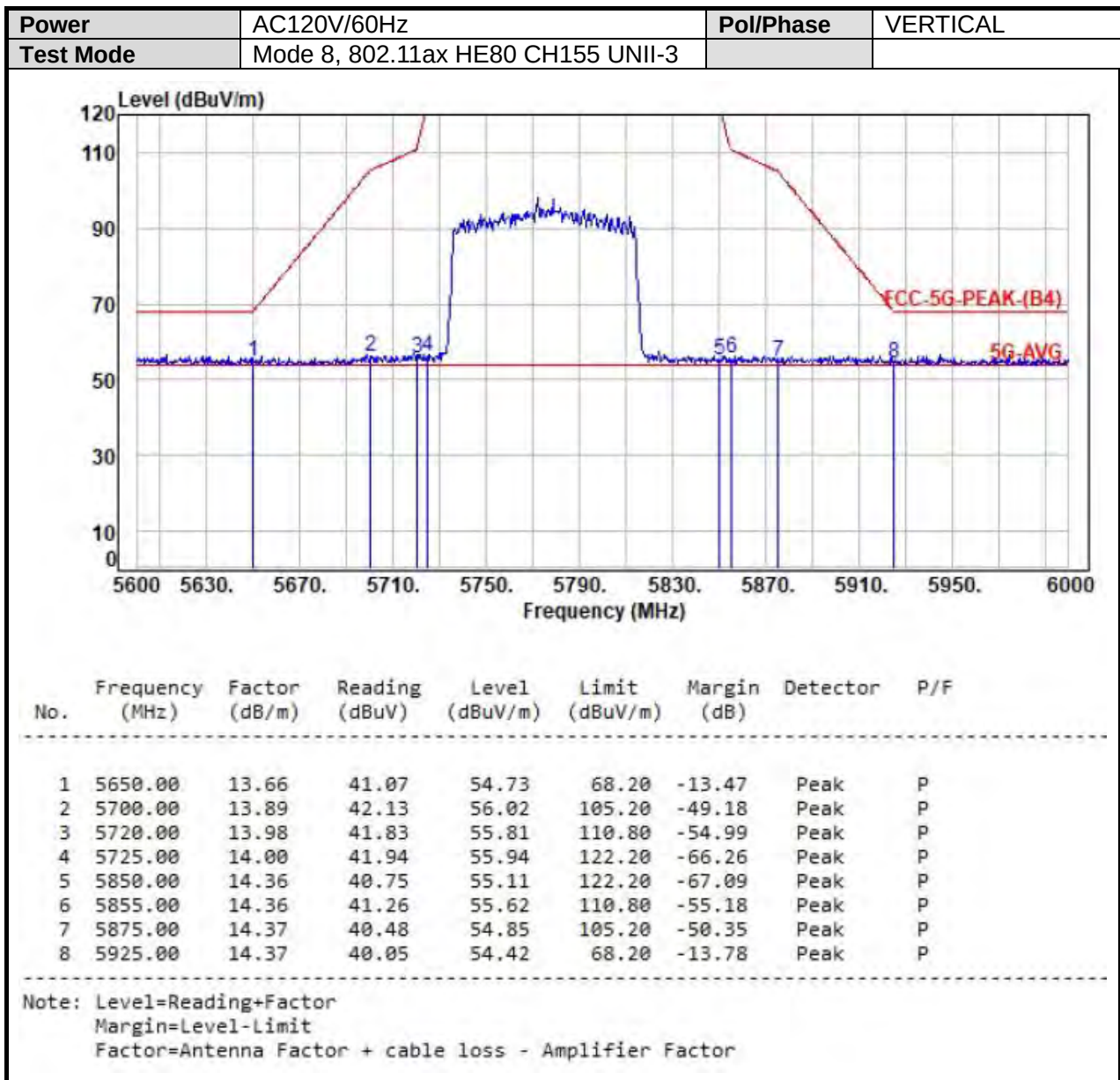


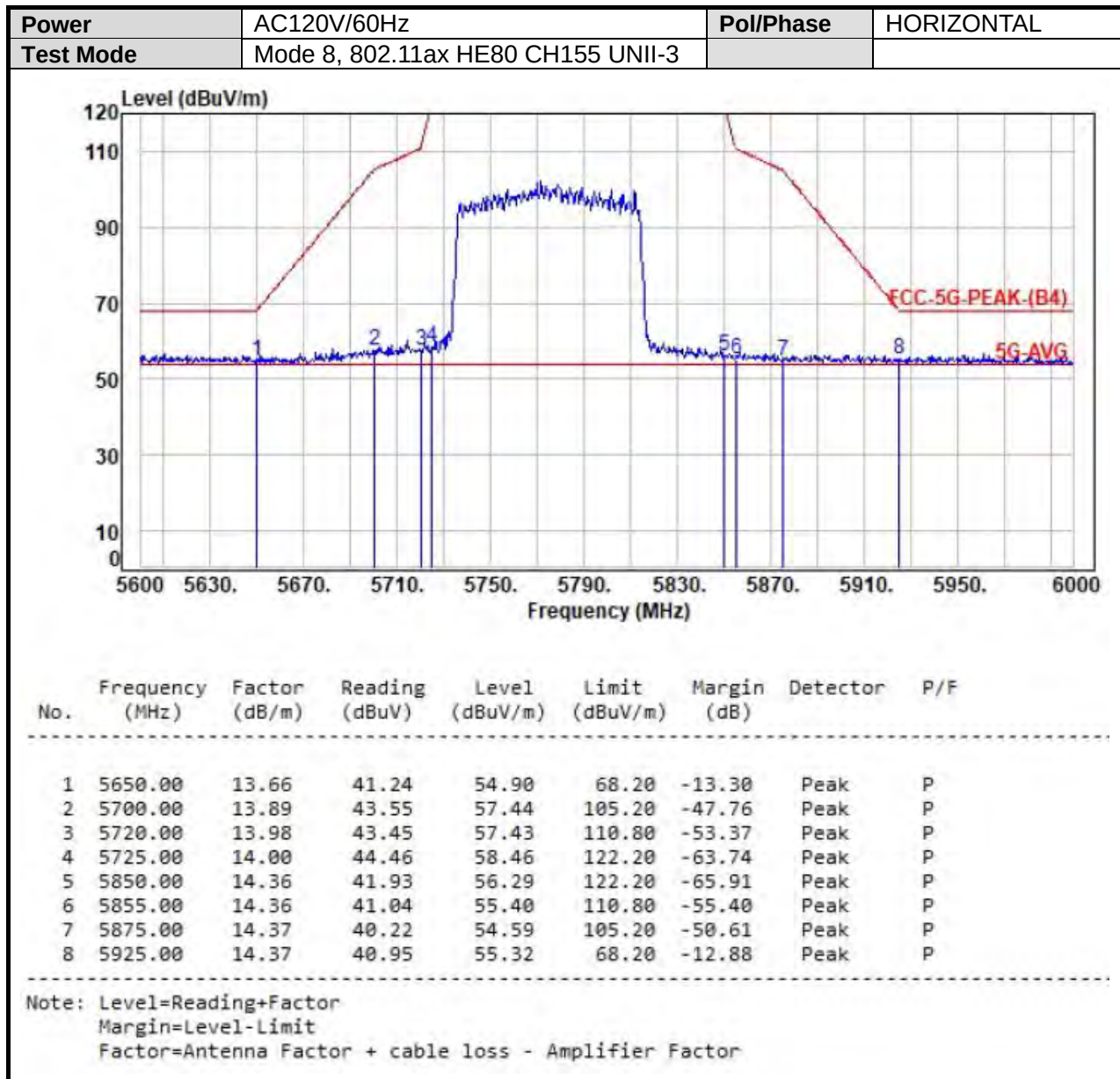














7. On Time, Duty Cycle and Measurement methods

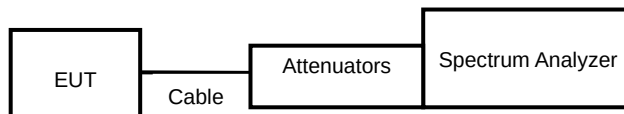
7.1. Test Limit

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

1TX

Modulation Mode	On Time (msec)	Period Time (msec)	Duty Cycle (%)
802.11a	100.000	100.000	100.00%

2TX

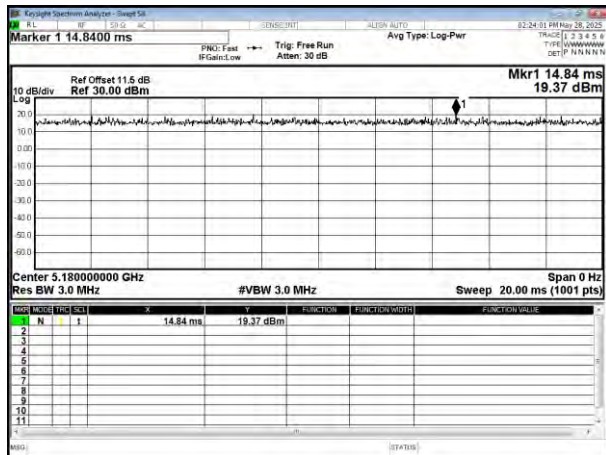
Modulation Mode	On Time (msec)	Period Time (msec)	Duty Cycle (%)
802.11ac VHT20	100.000	100.000	100.00%
802.11ac VHT40	100.000	100.000	100.00%
802.11ac VHT80	100.000	100.000	100.00%
802.11ax HE20	100.000	100.000	100.00%
802.11ax HE40	100.000	100.000	100.00%
802.11ax HE80	100.000	100.000	100.00%

7.5. Measurement Methods

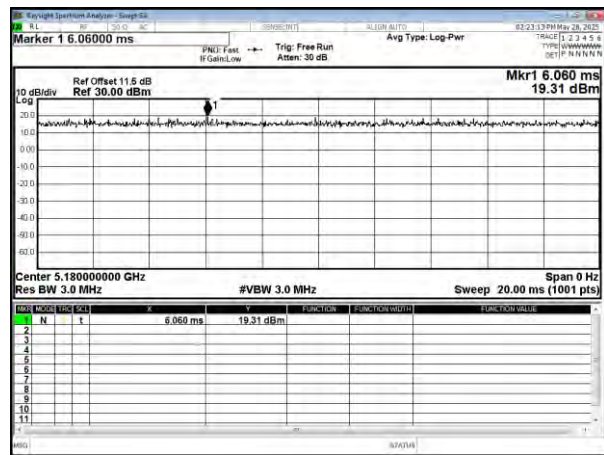
26 dB and 6dB Emission BW	KDB 789033 v02r01, Section C
99% Occupied BW	KDB 789033 v02r01, Section D
Conducted Output Power	KDB 789033 v02r01, Section E.2.d and E.3.b (Method PM-G)
Power Spectral Density	KDB 789033 v02r01, Section F
Unwanted emissions in restricted bands	KDB 789033 v02r01, Sections G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



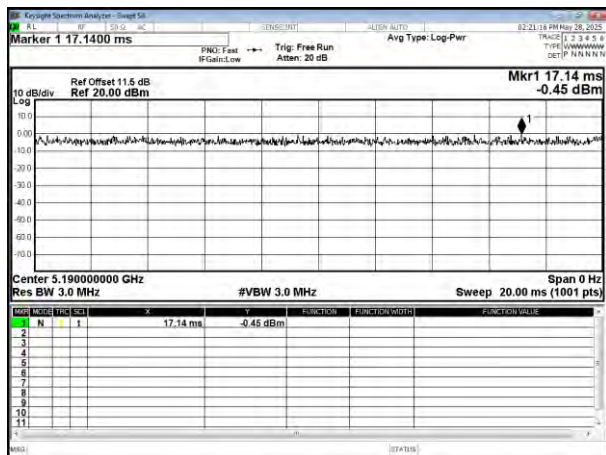
Modulation Type: 802.11a



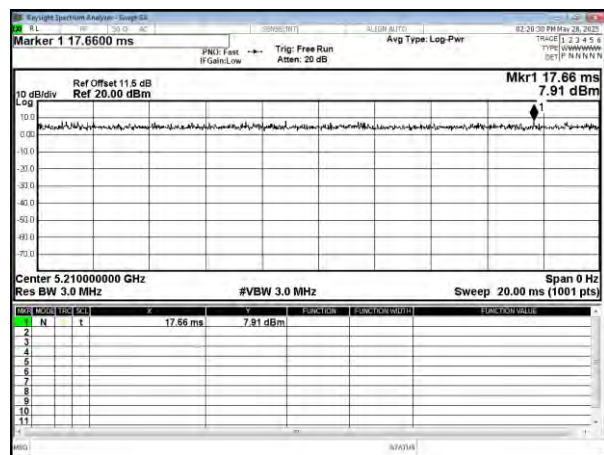
Modulation Type: 802.11ac VHT20



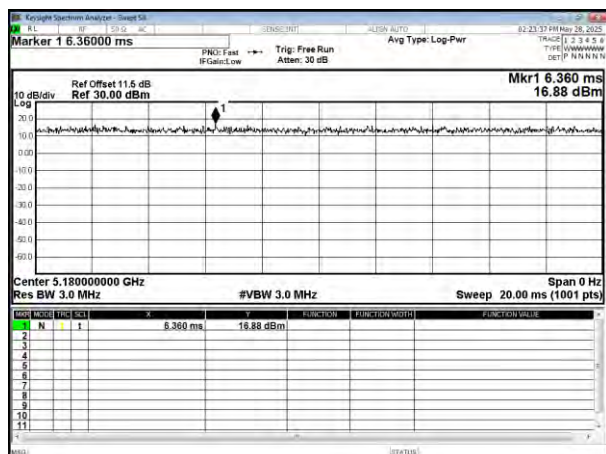
Modulation Type: 802.11ac VHT40



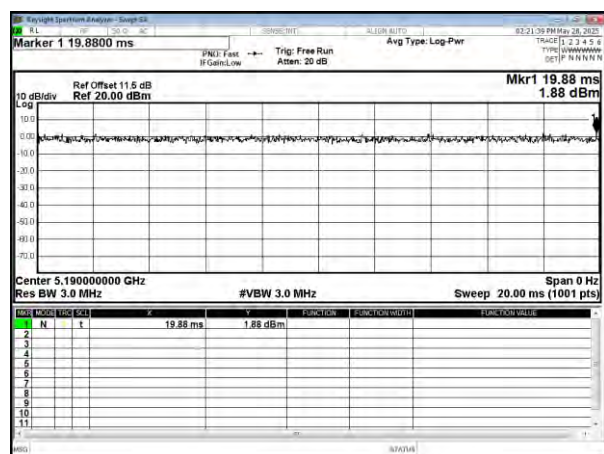
Modulation Type: 802.11ac VHT80



Modulation Type: 802.11ax HE20

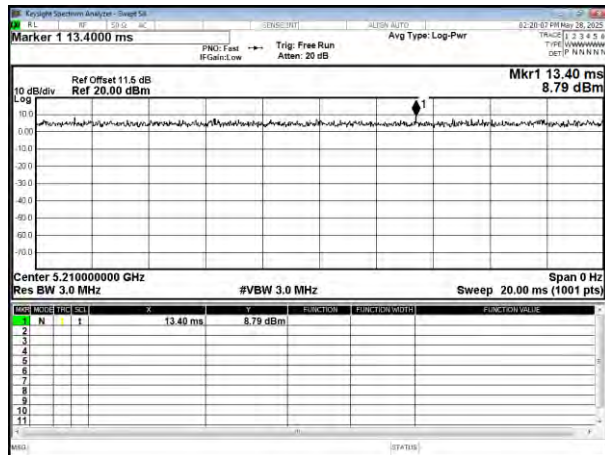


Modulation Type: 802.11ax HE40





Modulation Type: 802.11ax HE80





8. 6dB Bandwidth & 99% Occupied Bandwidth

8.1. Test Limit

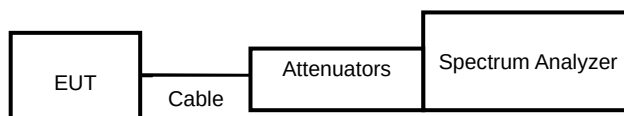
FCC §15.407

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

8.2. Test Procedure

Reference to 789033 v02r01 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

SISO

Mode	Channel	Frequency (MHz)	6dB Bandwidth (MHz)		Minimum Limit (MHz)
			ANT A	ANT B	
802.11a	149	5745	16.37	16.10	0.50
	157	5785	15.70	15.78	0.50
	165	5825	16.04	15.85	0.50

MIMO

Mode	Channel	Frequency (MHz)	6dB Bandwidth (MHz)		Minimum Limit (MHz)
			ANT A	ANT B	
802.11ac VHT20	149	5745	17.26	17.31	0.50
	157	5785	16.94	17.17	0.50
	165	5825	16.08	17.58	0.50
802.11ac VHT40	155	5755	35.08	33.85	0.50
	159	5795	35.11	35.08	0.50
802.11ac VHT80	155	5775	75.13	73.89	0.50
802.11ax HE20	149	5745	18.45	17.66	0.50
	157	5785	17.91	17.43	0.50
	165	5825	17.87	17.57	0.50
802.11ax HE40	155	5755	35.83	35.09	0.50
	159	5795	35.16	35.13	0.50
802.11ax HE80	155	5775	75.18	75.10	0.50

**8.5. Test Result and Data (99% Occupied Bandwidth)****In the 5.8GHz Band****SISO**

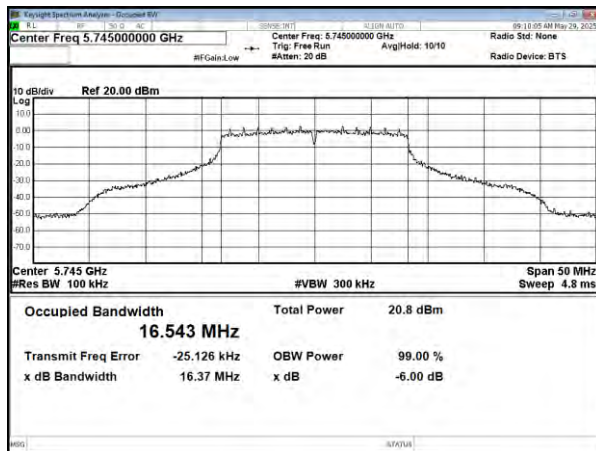
Mode	Channel	Frequency (MHz)	99% Bandwidth(MHz)	
			ANT A	ANT B
802.11a	149	5745	16.75	16.77
	157	5785	16.90	16.82
	165	5825	16.83	16.84

MIMO

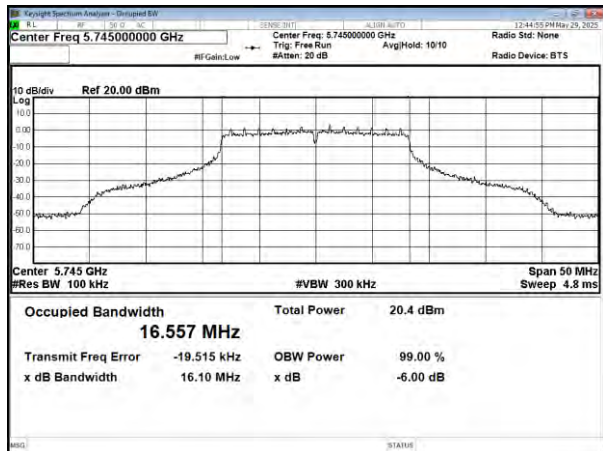
Mode	Channel	Frequency (MHz)	99% Bandwidth(MHz)	
			ANT A	ANT B
802.11ac VHT20	149	5745	18.00	17.97
	157	5785	18.04	17.91
	165	5825	18.04	17.88
802.11ac VHT40	155	5755	35.88	35.77
	159	5795	35.81	35.82
802.11ac VHT80	155	5775	75.13	75.06
802.11ax HE20	149	5745	18.99	18.99
	157	5785	19.01	19.01
	165	5825	18.97	19.00
802.11ax HE40	155	5755	37.40	37.35
	159	5795	37.53	37.54
802.11ax HE80	155	5775	76.64	76.53



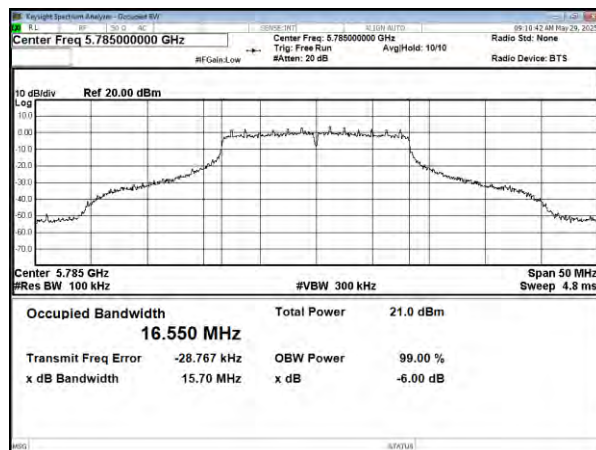
6dB Bandwidth
SISO-ANT A
Modulation Type: 802.11a
CH149



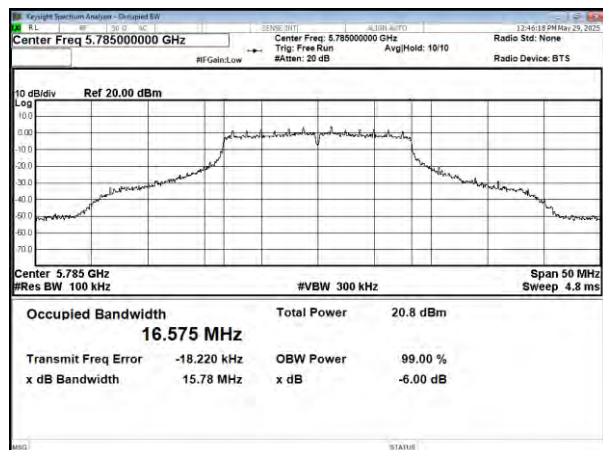
SISO-ANT B
Modulation Type: 802.11a
CH149



CH157



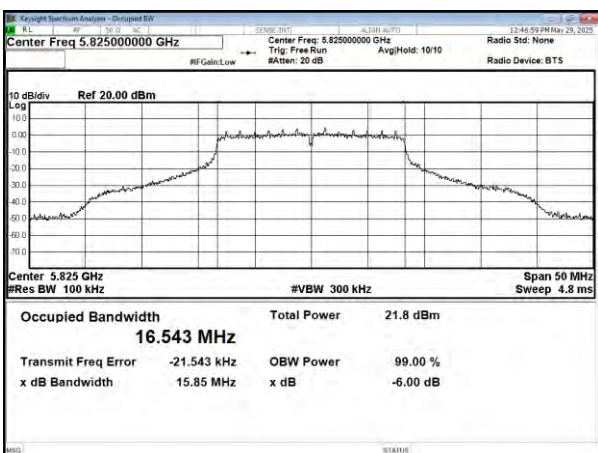
CH157



CH165



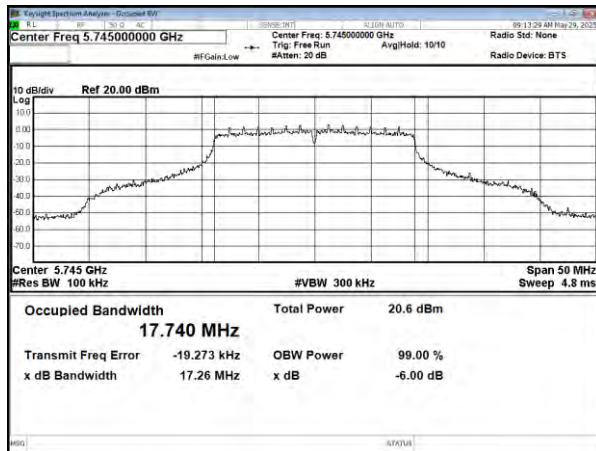
CH165



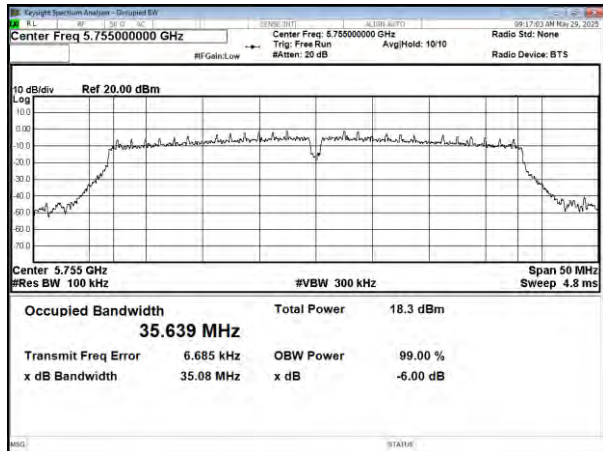


MIMO (ANT A)

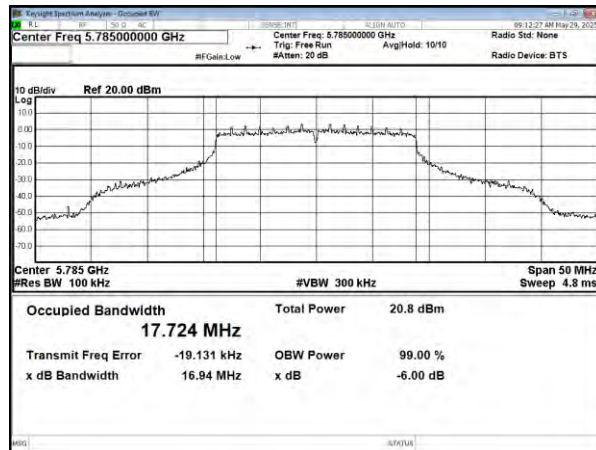
Modulation Type: 802.11ac, VHT20
CH149



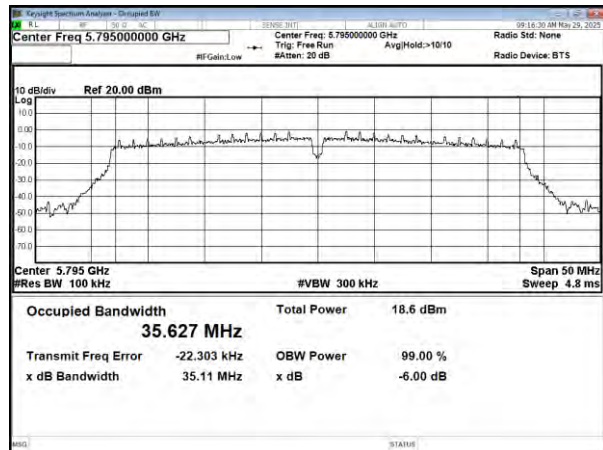
Modulation Type: 802.11ac, VHT40
CH151



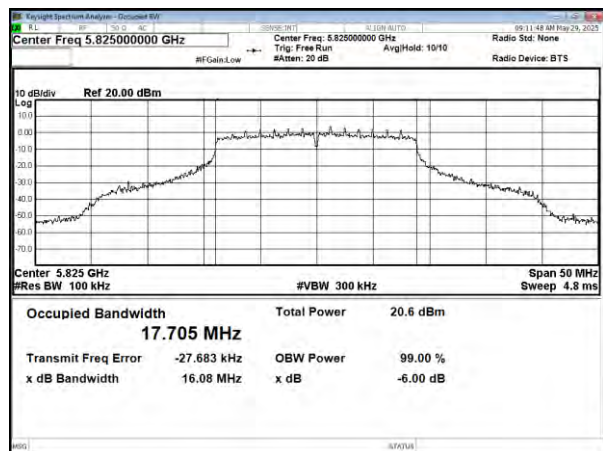
CH157



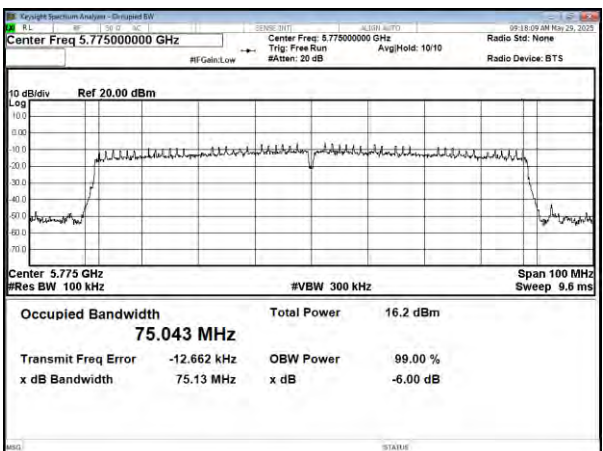
CH159



CH165

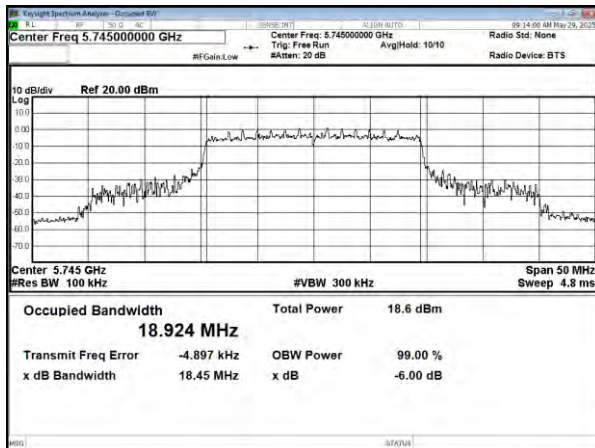


Modulation Type: 802.11ac, VHT80
CH155

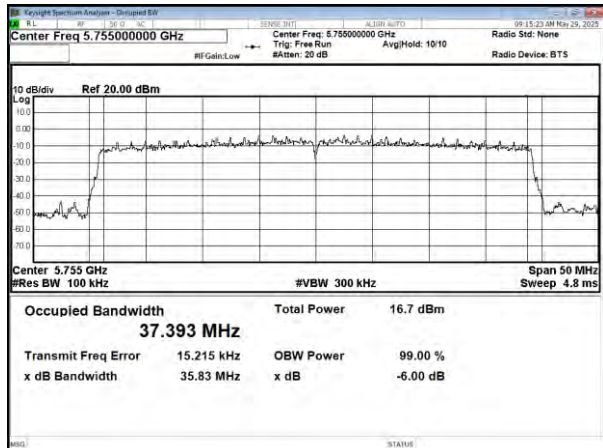




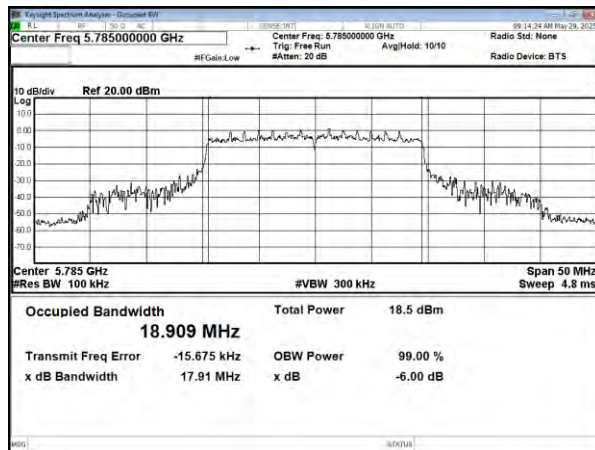
Modulation Type: 802.11ax, HE20
CH149



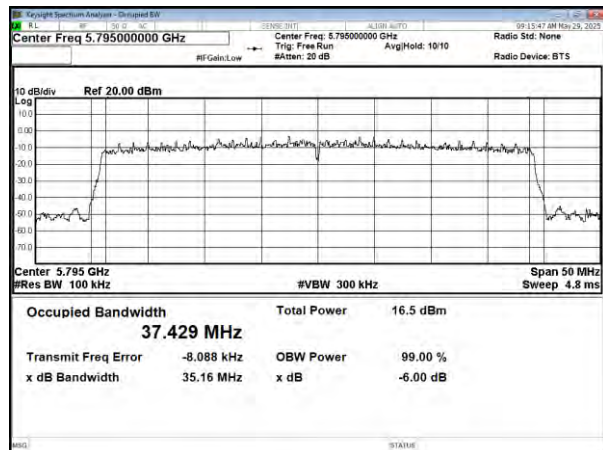
Modulation Type: 802.11ax, HE40
CH151



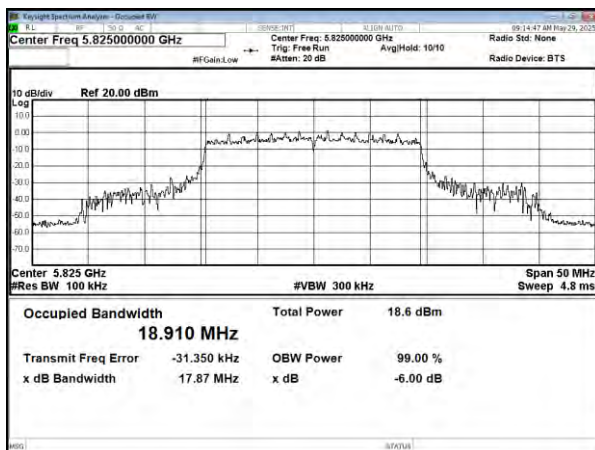
CH157



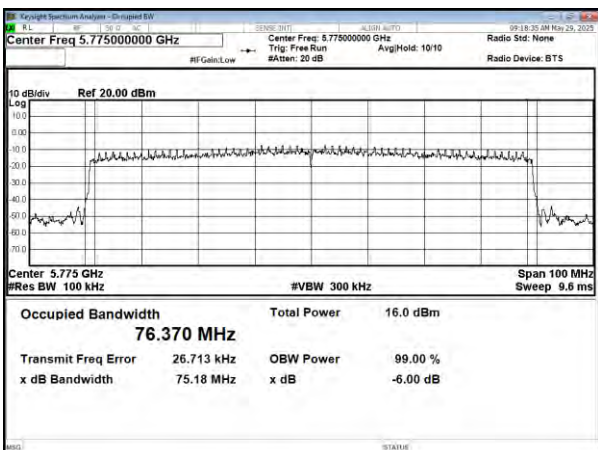
CH159



CH165

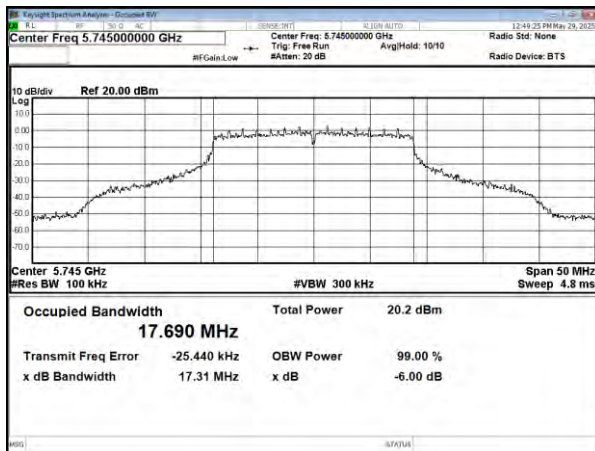
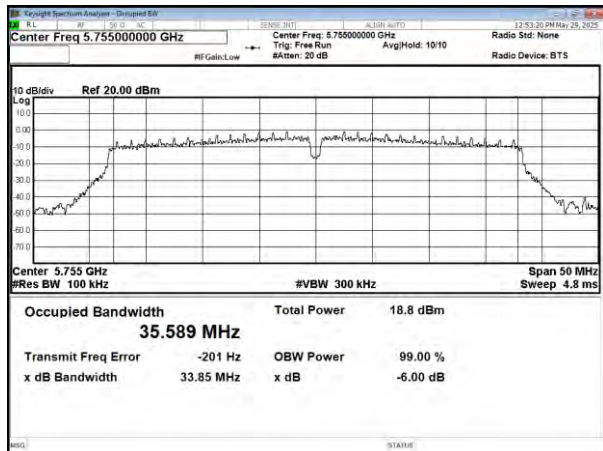


Modulation Type: 802.11ax, HE80
CH155

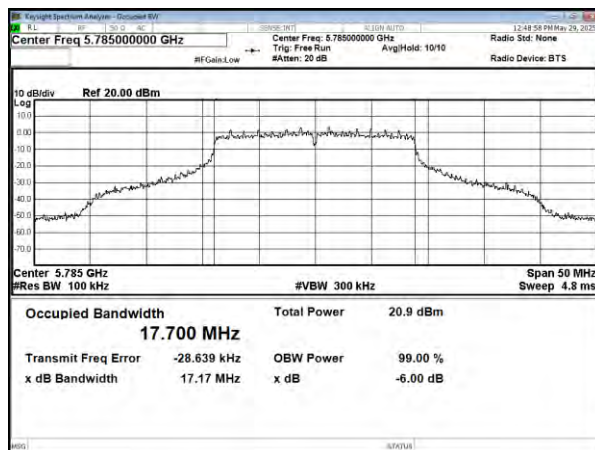




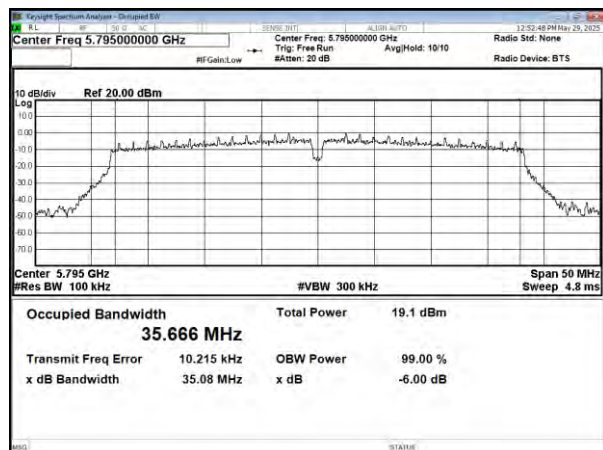
MIMO (ANT B)

Modulation Type: 802.11ac, VHT20
CH149Modulation Type: 802.11ac, VHT40
CH151

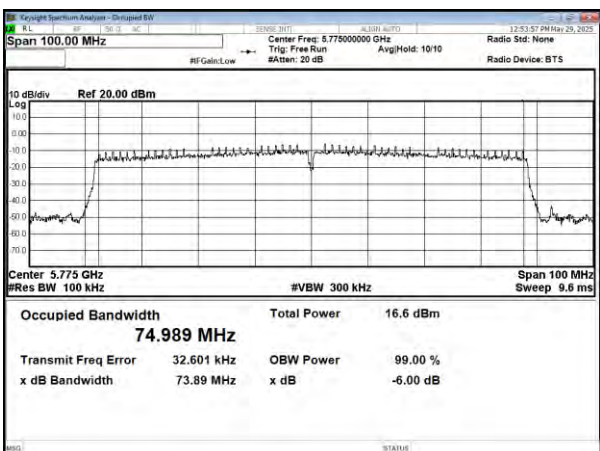
CH157



CH159



CH165

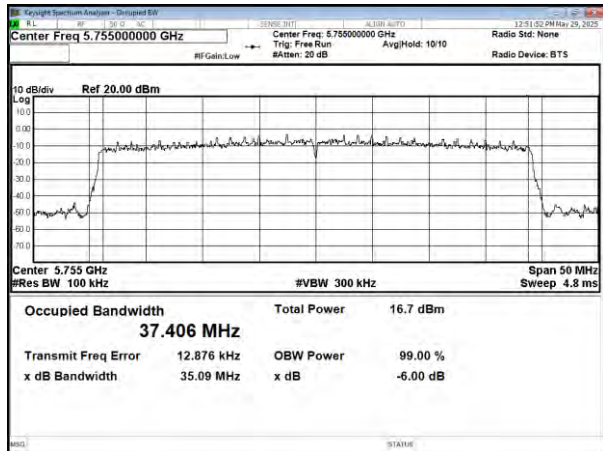
Modulation Type: 802.11ac, VHT80
CH155



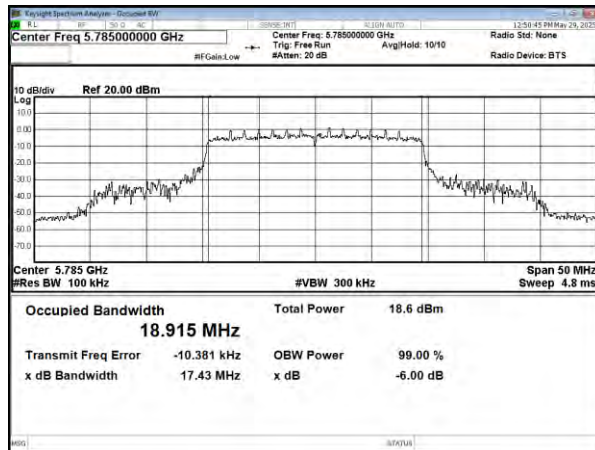
Modulation Type: 802.11ax, HE20
CH149



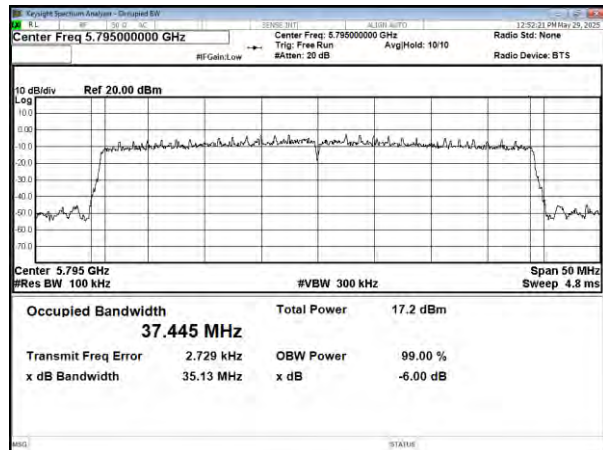
Modulation Type: 802.11ax, HE40
CH151



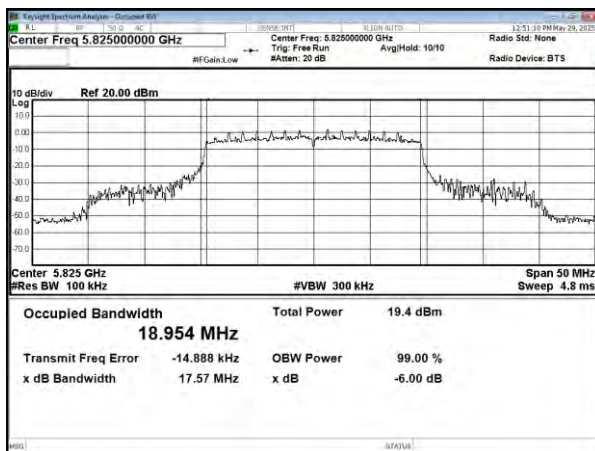
CH157



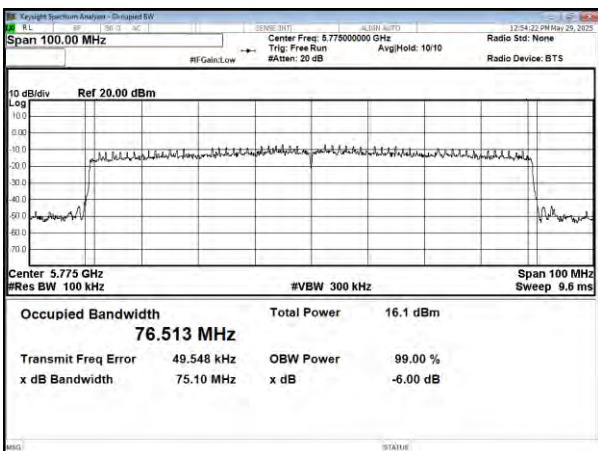
CH159



CH165

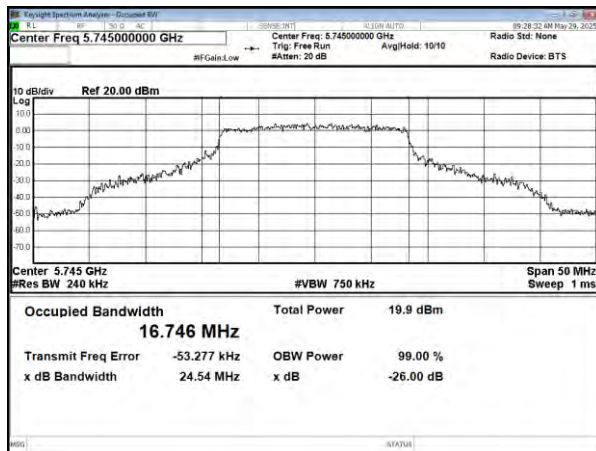


Modulation Type: 802.11ax, HE80
CH155

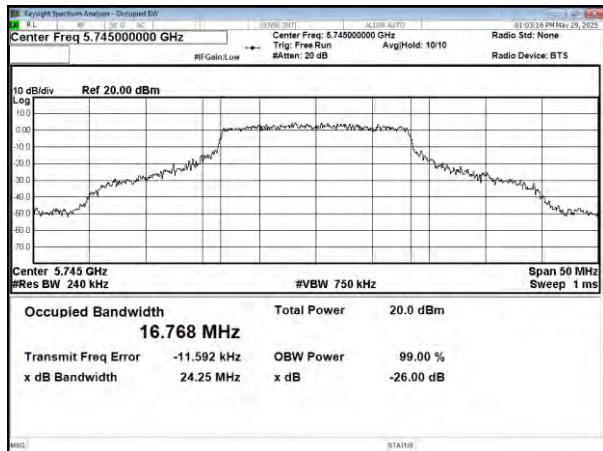




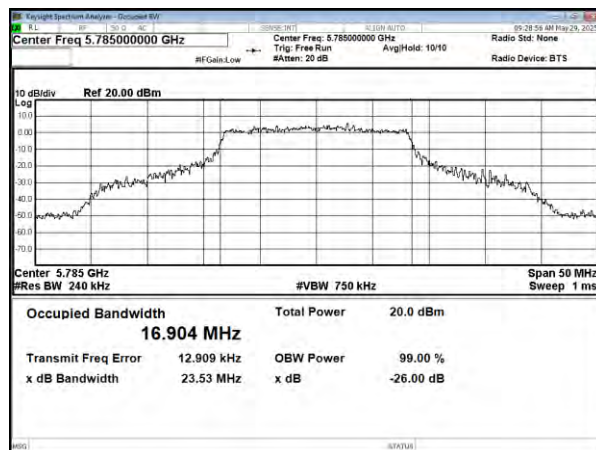
99% Occupied Bandwidth
SISO-ANT A
Modulation Type: 802.11a
CH149



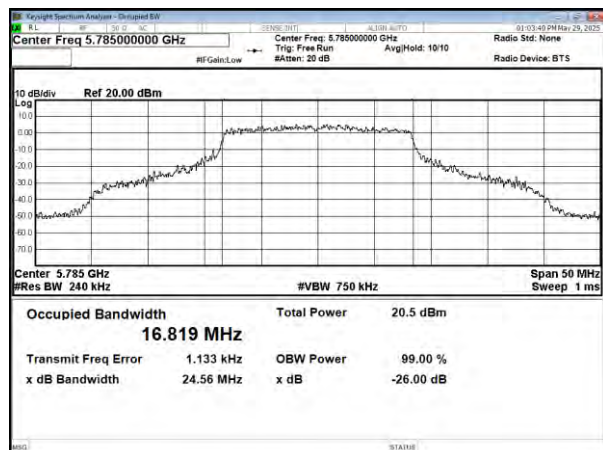
SISO-ANT B
Modulation Type: 802.11a
CH149



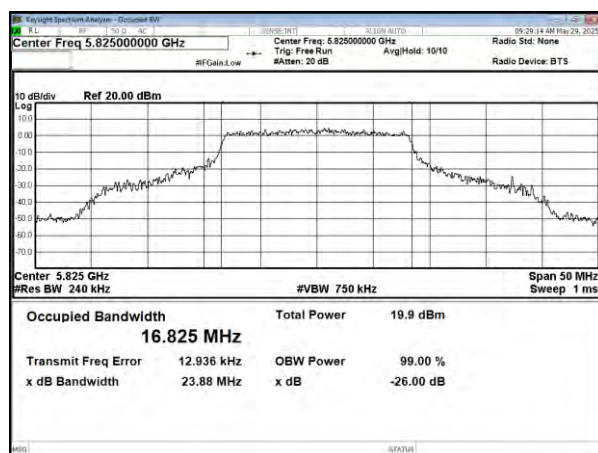
CH157



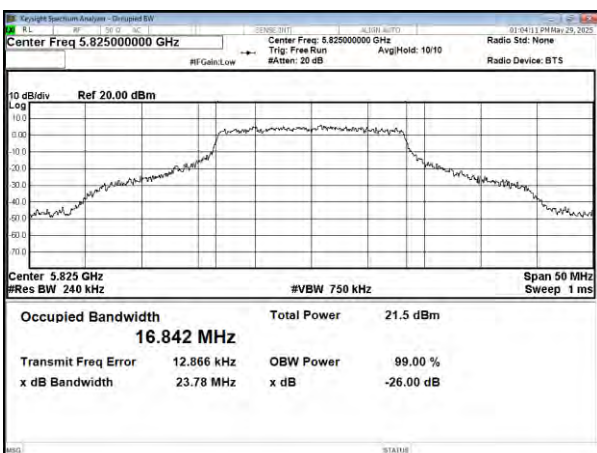
CH157



CH165



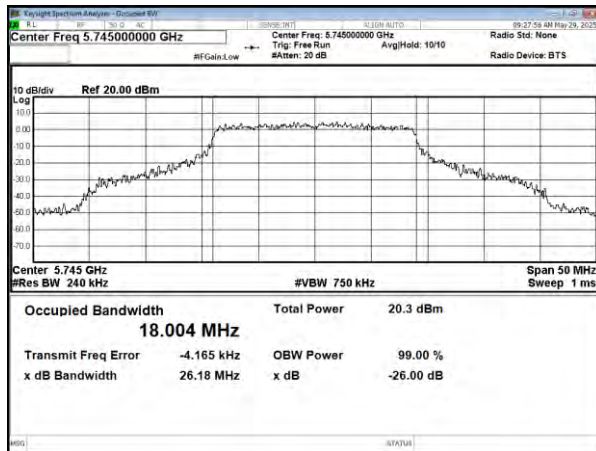
CH165



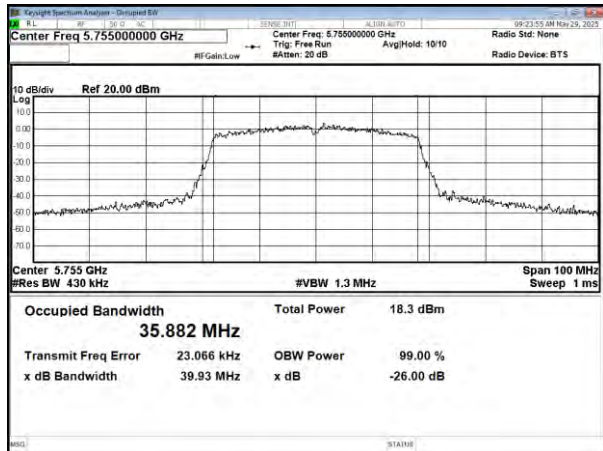


MIMO (ANT A)

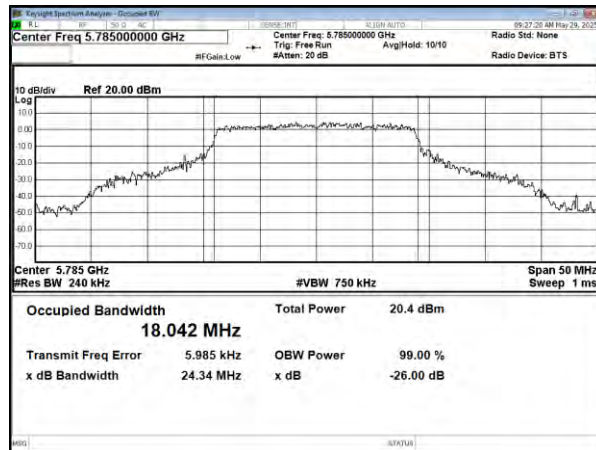
Modulation Type: 802.11ac, VHT20
CH149



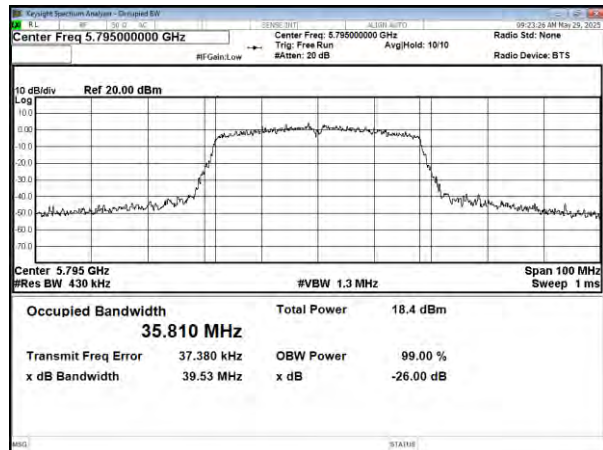
Modulation Type: 802.11ac, VHT40
CH151



CH157



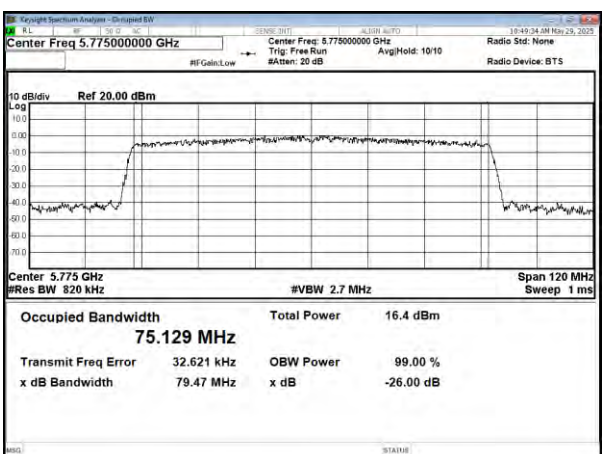
CH159



CH165

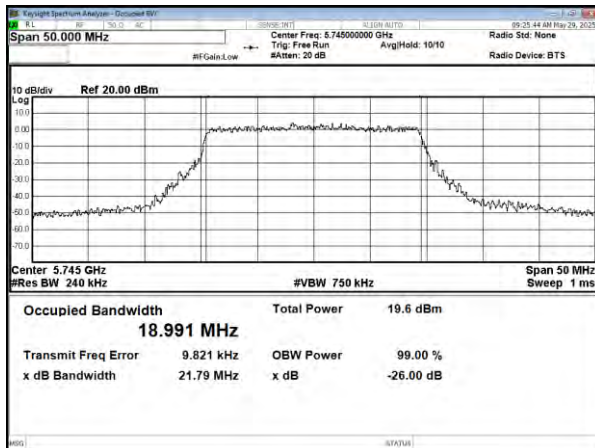


Modulation Type: 802.11ac, VHT80
CH155

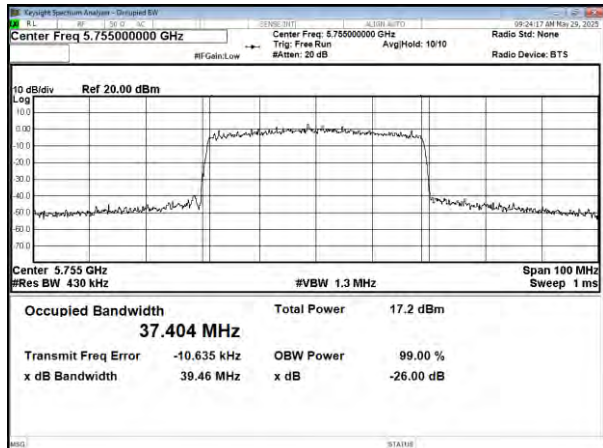




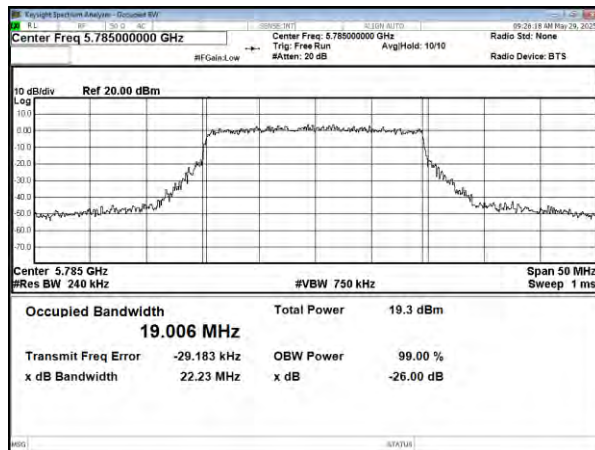
Modulation Type: 802.11ax, HE20
CH149



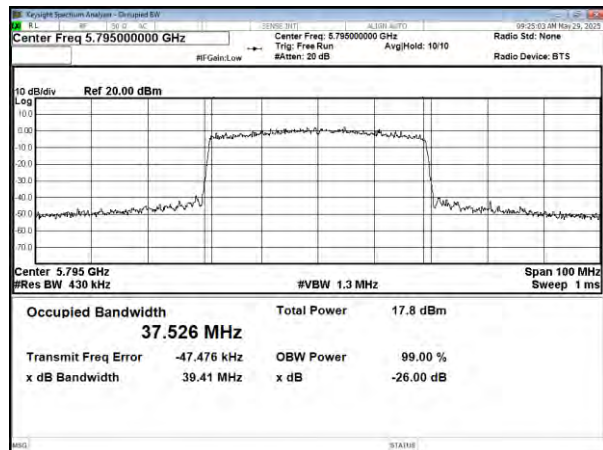
Modulation Type: 802.11ax, HE40
CH151



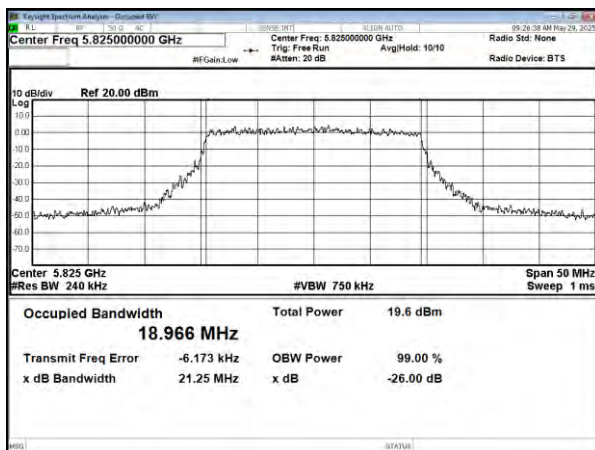
CH157



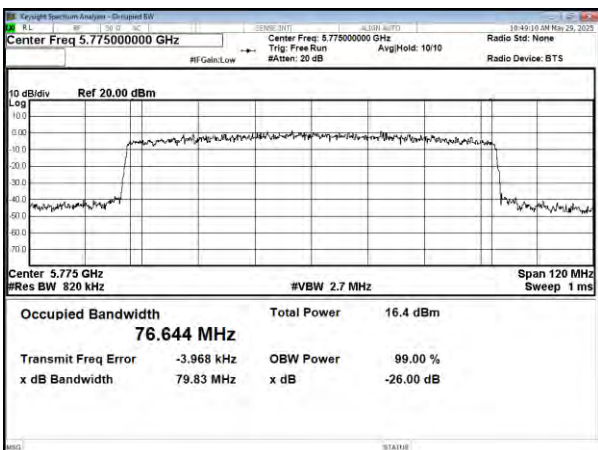
CH159



CH165

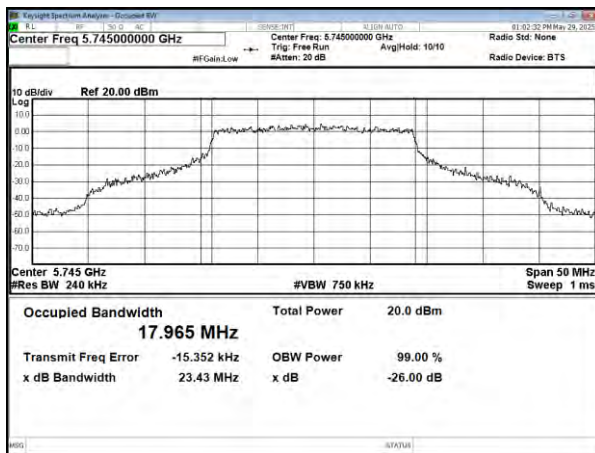
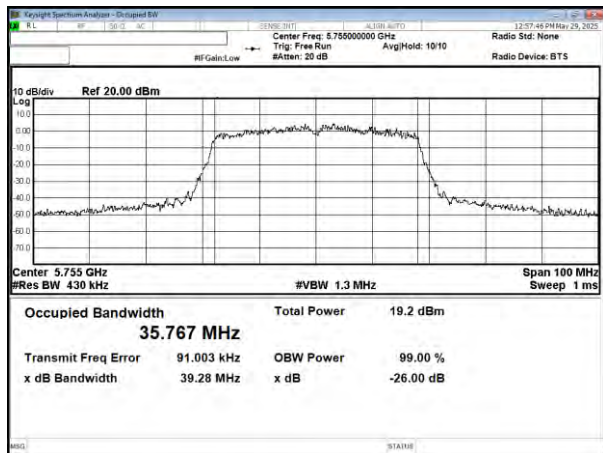


Modulation Type: 802.11ax, HE80
CH155

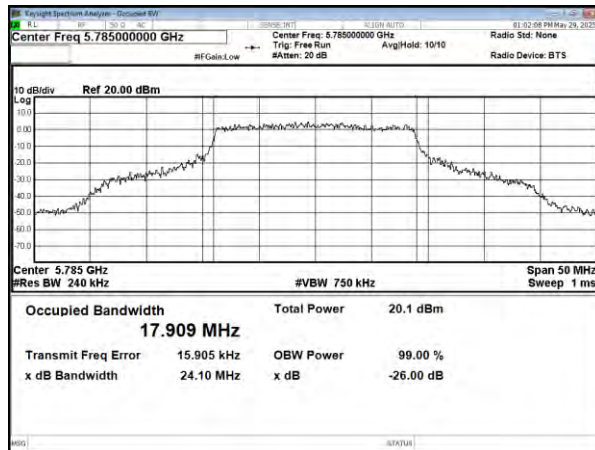




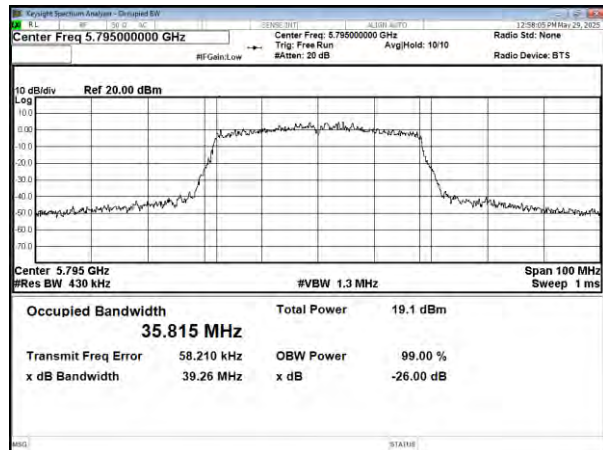
MIMO (ANT B)

Modulation Type: 802.11ac, VHT20
CH149Modulation Type: 802.11ac, VHT40
CH151

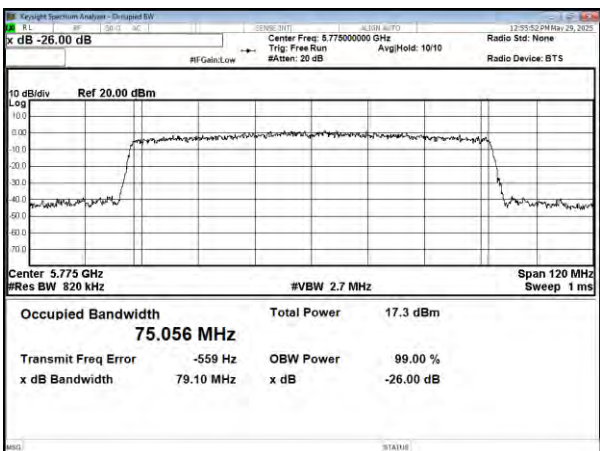
CH157



CH159

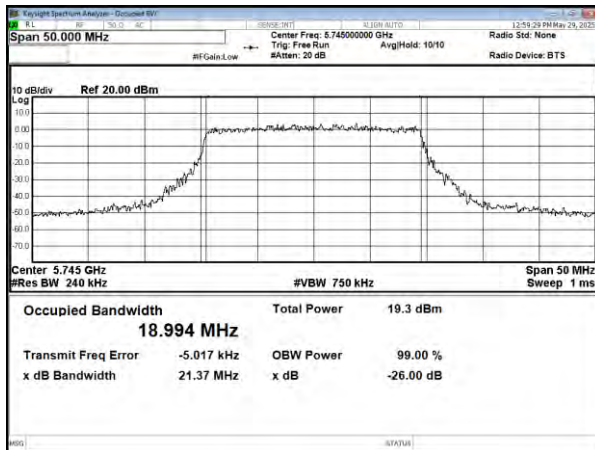


CH165

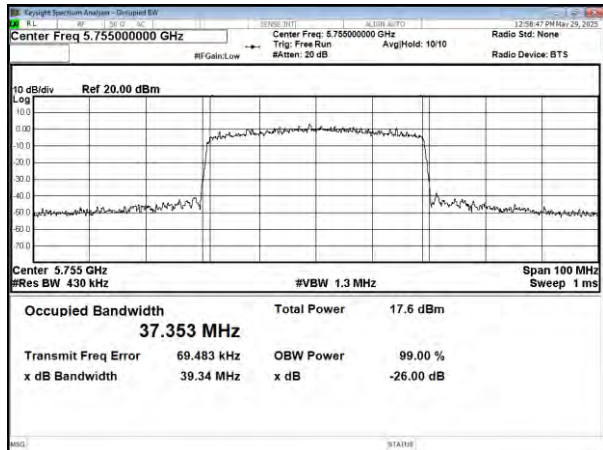
Modulation Type: 802.11ac, VHT80
CH155



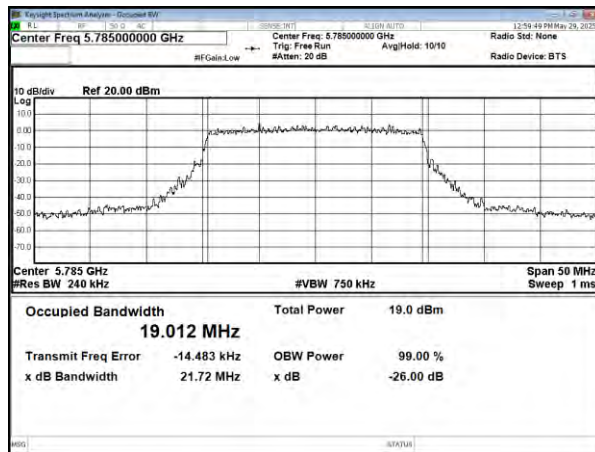
Modulation Type: 802.11ax, HE20
CH149



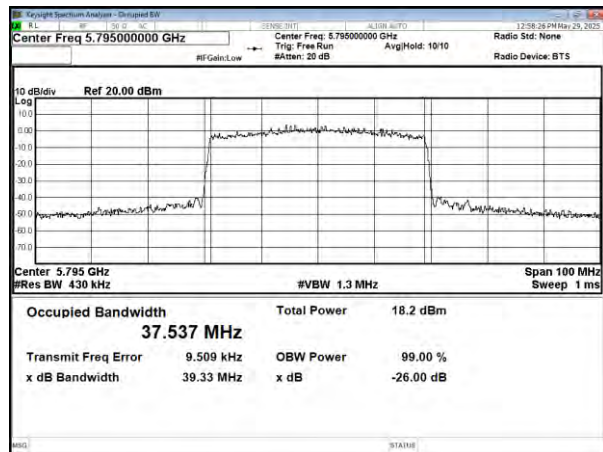
Modulation Type: 802.11ax, HE40
CH151



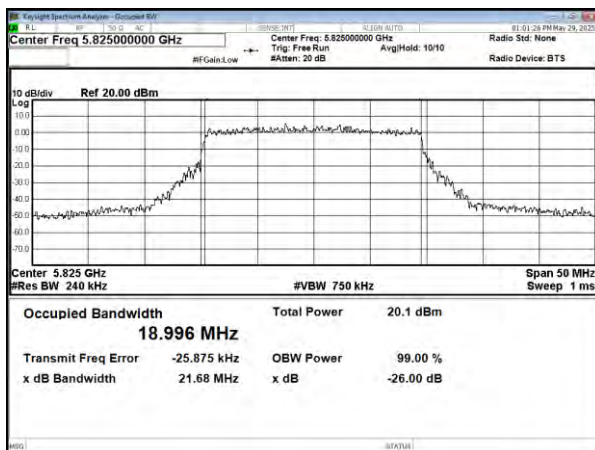
CH157



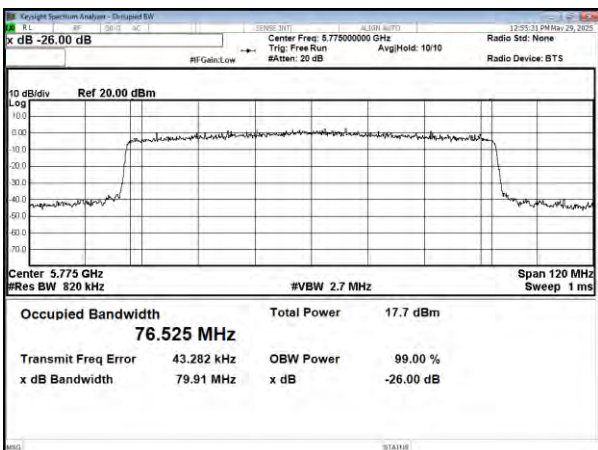
CH159



CH165



Modulation Type: 802.11ax, HE80
CH155





9. 26dB Bandwidth & 99% Occupied Bandwidth

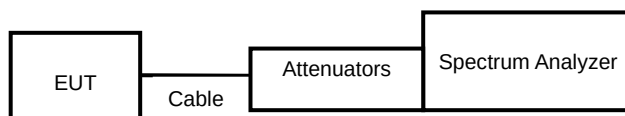
9.1. Test Limit

None; for reporting purposes only.

9.2. Test Procedure

Reference to 789033 v02r01 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)****SISO****In the 5.2G Band**

Mode	Channel	Frequency (MHz)	26dB Bandwidth (MHz)	
			ANT A	ANT B
802.11a	36	5180	24.83	25.23
	44	5220	23.58	24.03
	48	5240	19.93	19.72

In the 5.3G Band

Mode	Channel	Frequency (MHz)	26dB Bandwidth (MHz)	
			ANT A	ANT B
802.11a	52	5260	23.89	24.80
	60	5300	24.66	25.70
	64	5320	24.4	24.46

In the 5.5G Band

Mode	Channel	Frequency (MHz)	26dB Bandwidth (MHz)	
			ANT A	ANT B
802.11a	100	5500	25.67	23.42
	116	5580	23.72	25.51
	140	5700	24.82	26.38

**MIMO**
In the 5.2G Band

Mode	Channel	Frequency (MHz)	26dB Bandwidth (MHz)	
			ANT A	ANT B
802.11ac VHT20	36	5180	23.86	24.31
	44	5220	22.86	24.49
	48	5240	19.56	20.14
802.11ac VHT40	38	5190	39.38	39.46
	46	5230	40.04	39.8
802.11ac VHT80	42	5210	79.23	79.13
802.11ax HE20	36	5180	21.08	21.64
	44	5220	21.83	21.46
	48	5240	20.01	19.88
802.11ax HE40	38	5190	39.7	39.46
	46	5230	39.33	39.36
802.11ax HE80	42	5210	79.82	79.88

In the 5.3G Band

Mode	Channel	Frequency (MHz)	26dB Bandwidth (MHz)	
			ANT A	ANT B
802.11ac VHT20	52	5260	24.41	24.01
	60	5300	23.9	24.83
	64	5320	24.32	24.41
802.11ac VHT40	54	5270	39.33	38.73
	62	5310	39.86	39.1
802.11ac VHT80	58	5290	79.5	79.2
802.11ax HE20	52	5260	21.67	20.9
	60	5300	22.38	21.4
	64	5320	21.85	21.98
802.11ax HE40	54	5270	39.09	39.32
	62	5310	39.21	39.36
802.11ax HE80	58	5290	79.73	79.86

**In the 5.5G Band**

Mode	Channel	Frequency (MHz)	26dB Bandwidth (MHz)	
			ANT A	ANT B
802.11ac VHT20	100	5500	24.71	23.8
	116	5580	24.19	25.07
	140	5700	24.02	25.19
802.11ac VHT40	102	5510	40.34	39.66
	118	5590	40.35	38.89
	134	5670	39.38	39.32
802.11ac VHT80	106	5530	79.18	79.14
	122	5610	79.52	79.23
802.11ax HE20	100	5500	21.59	21.76
	116	5580	21.91	21.71
	140	5700	21.83	21.76
802.11ax HE40	102	5510	39.16	39.43
	118	5590	39.58	39.33
	134	5670	39.44	39.3
802.11ax HE80	106	5530	79.85	79.63
	122	5610	79.8	79.6

**9.5. Test Result and Data (99% Occupied Bandwidth)****SISO****In the 5.2G Band**

Mode	Channel	Frequency (MHz)	99% Occupied Bandwidth (MHz)	
			ANT A	ANT B
802.11a	36	5180	16.86	16.96
	44	5220	16.80	16.86
	48	5240	16.42	16.55

In the 5.3G Band

Mode	Channel	Frequency (MHz)	99% Occupied Bandwidth (MHz)	
			ANT A	ANT B
802.11a	52	5260	16.76	16.74
	60	5300	17.01	16.98
	64	5320	16.85	16.86

In the 5.5G Band

Mode	Channel	Frequency (MHz)	99% Occupied Bandwidth (MHz)	
			ANT A	ANT B
802.11a	100	5500	16.91	16.90
	116	5580	16.81	16.82
	140	5700	16.88	16.89

**MIMO
In the 5.2G Band**

Mode	Channel	Frequency (MHz)	99% Occupied Bandwidth (MHz)	
			ANT A	ANT B
802.11ac VHT20	36	5180	16.85	17.94
	44	5220	16.76	17.96
	48	5240	16.44	17.60
802.11ac VHT40	38	5190	35.86	35.83
	46	5230	35.87	35.72
802.11ac VHT80	42	5210	75.04	75.02
802.11ax HE20	36	5180	19.00	19.00
	44	5220	18.94	18.99
	48	5240	18.87	18.88
802.11ax HE40	38	5190	37.48	37.46
	46	5230	37.57	37.50
802.11ax HE80	42	5210	76.61	76.57

In the 5.3G Band

Mode	Channel	Frequency (MHz)	99% Occupied Bandwidth (MHz)	
			ANT A	ANT B
802.11ac VHT20	52	5260	16.88	17.81
	60	5300	16.91	17.96
	64	5320	16.85	17.96
802.11ac VHT40	54	5270	35.82	35.81
	62	5310	35.86	35.88
802.11ac VHT80	58	5290	75.07	74.95
802.11ax HE20	52	5260	19.00	18.96
	60	5300	19.00	19.04
	64	5320	18.96	19.01
802.11ax HE40	54	5270	37.50	37.45
	62	5310	37.45	37.51
802.11ax HE80	58	5290	76.48	76.73

**In the 5.5G Band**

Mode	Channel	Frequency (MHz)	99% Occupied Bandwidth (MHz)	
			ANT A	ANT B
802.11ac VHT20	100	5500	16.92	17.99
	116	5580	16.77	18.01
	140	5700	16.95	17.98
802.11ac VHT40	102	5510	35.73	35.95
	118	5590	35.80	35.89
	134	5670	35.80	35.88
802.11ac VHT80	106	5530	75.05	75.12
	122	5610	74.93	75.01
802.11ax HE20	100	5500	18.99	18.99
	116	5580	19.00	19.00
	140	5700	18.98	18.92
802.11ax HE40	102	5510	37.50	37.46
	118	5590	37.48	37.53
	134	5670	37.51	37.51
802.11ax HE80	106	5530	76.60	76.71
	122	5610	76.78	76.63

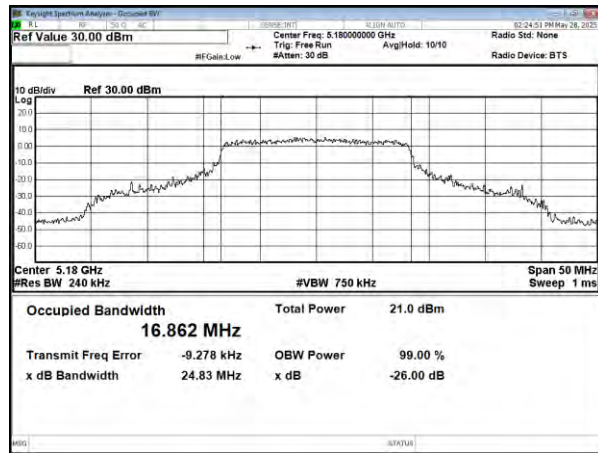


26dB Bandwidth & 99% Occupied Bandwidth, UNII-1

SISO-ANT A

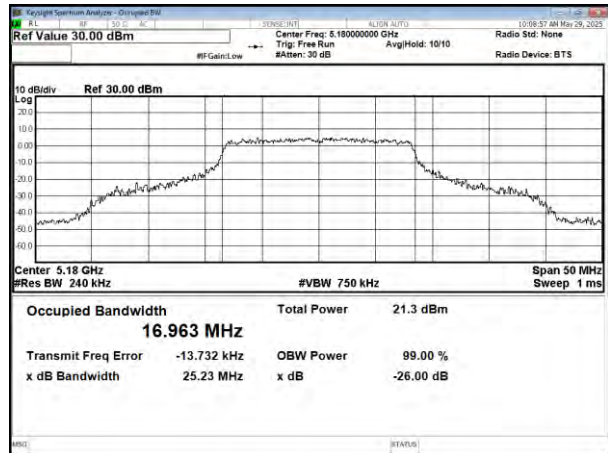
Modulation Standard: 802.11a

CH36

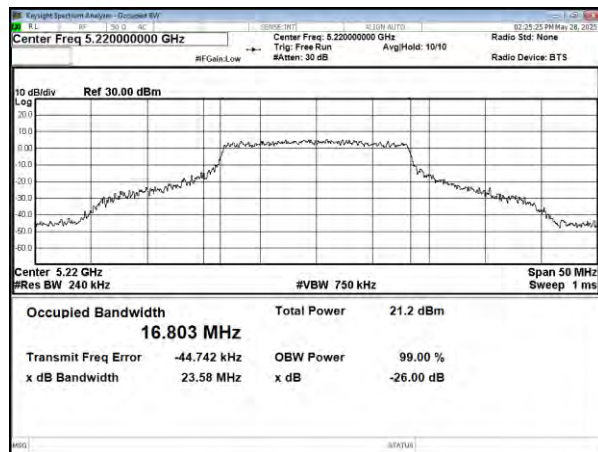
**SISO-ANT B**

Modulation Standard: 802.11a

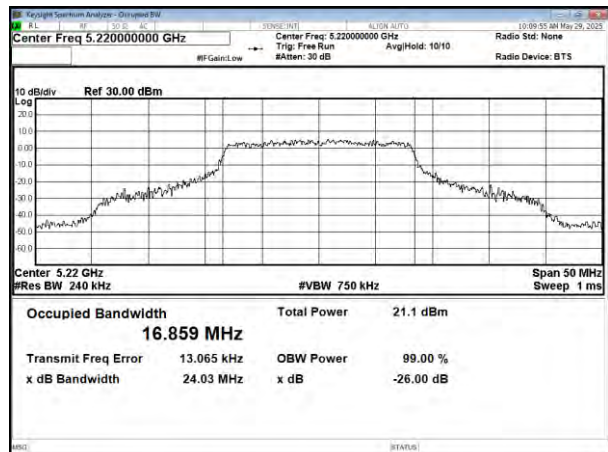
CH36



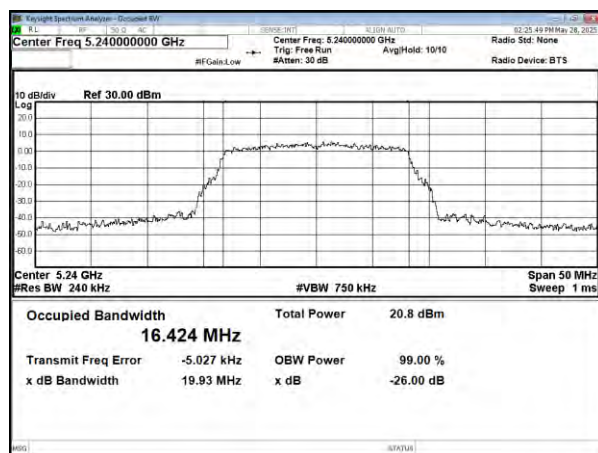
CH44



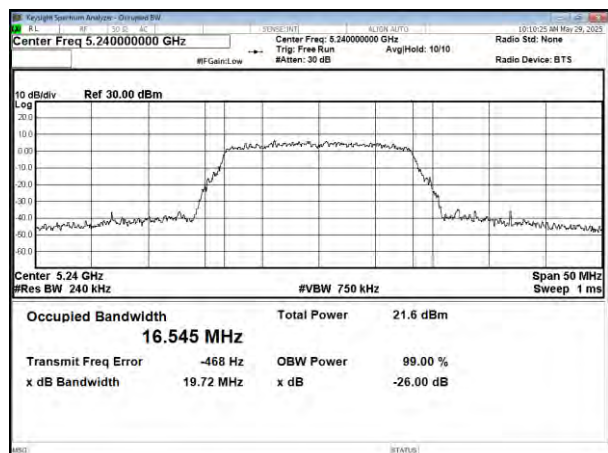
CH44



CH48

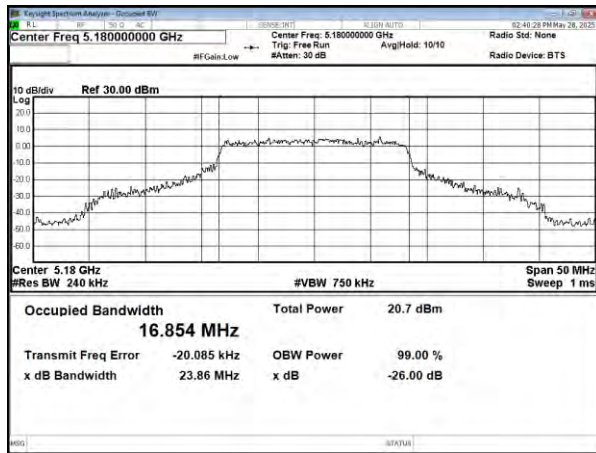


CH48

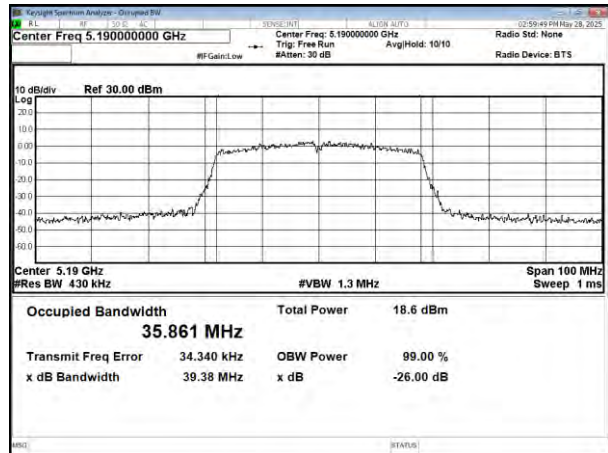
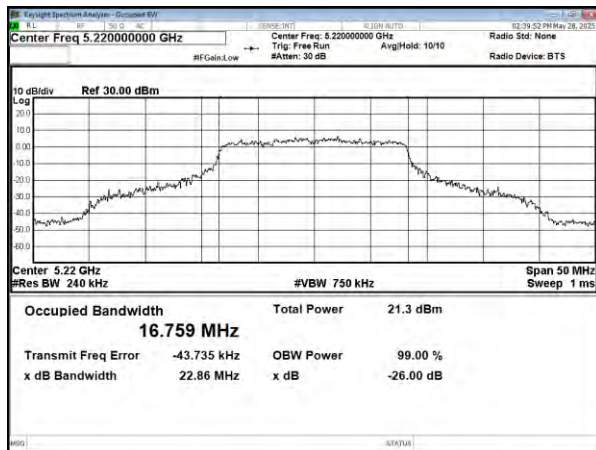
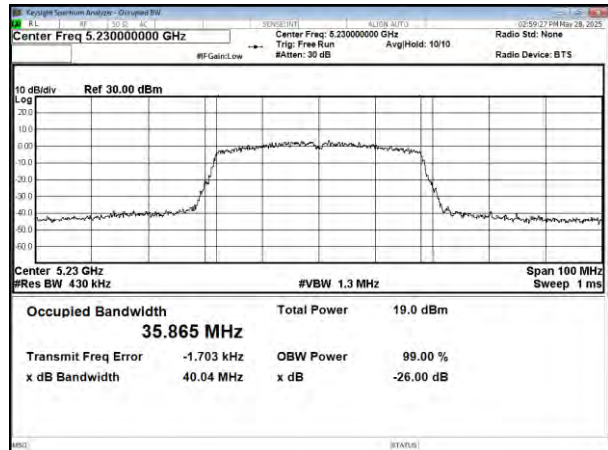
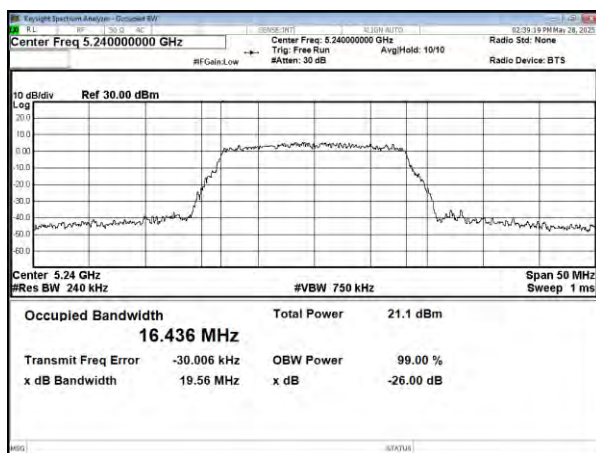


**MIMO-ANT A**

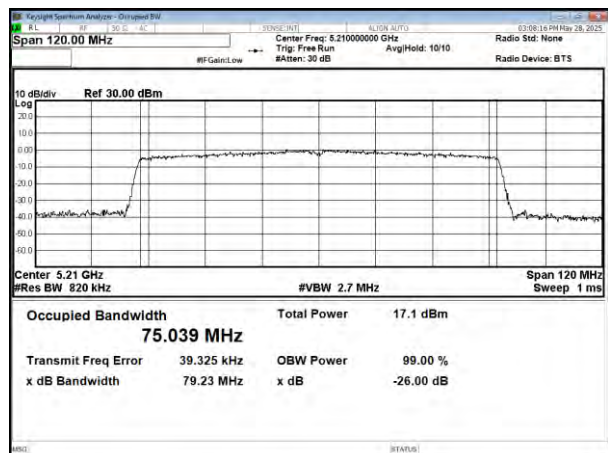
Modulation Standard: 802.11ac VHT20
CH36



Modulation Standard: 802.11ac VHT40
CH38

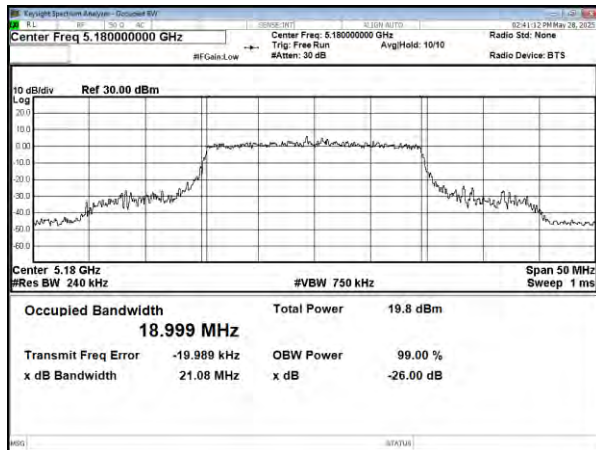
**CH44****CH46****CH48**

Modulation Standard: 802.11ac VHT80
CH42

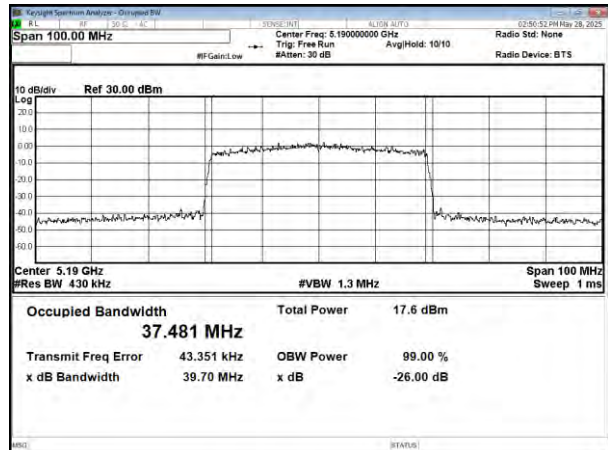




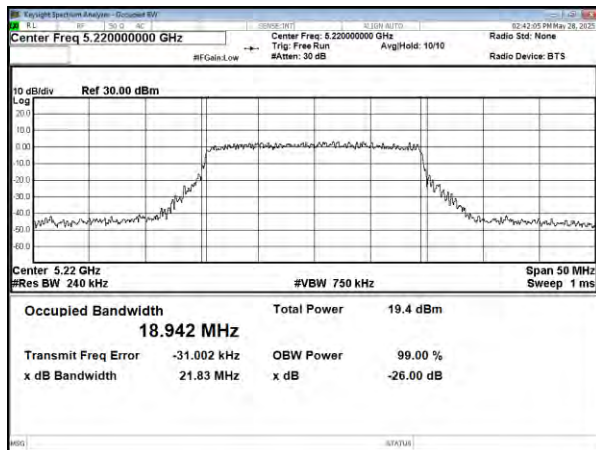
Modulation Standard: 802.11 ax HE20
CH36



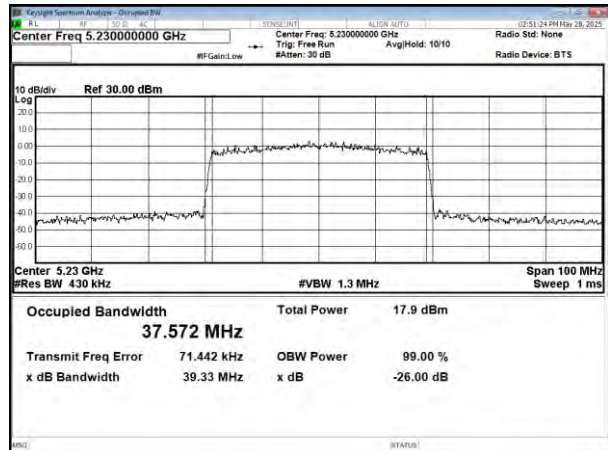
Modulation Standard: 802.11 ax HE40
CH38



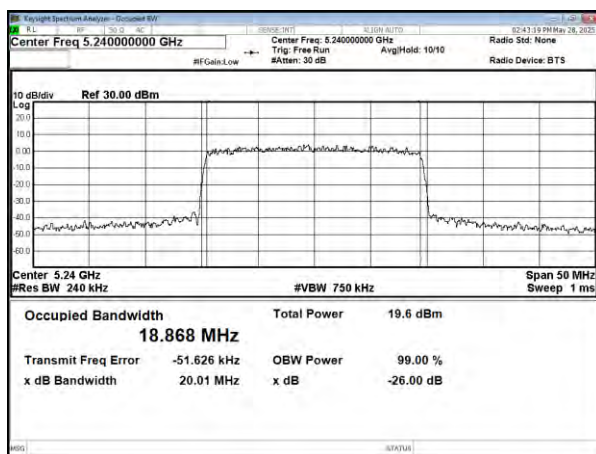
CH44



CH46



CH48



Modulation Standard: 802.11 ax HE80

CH42

