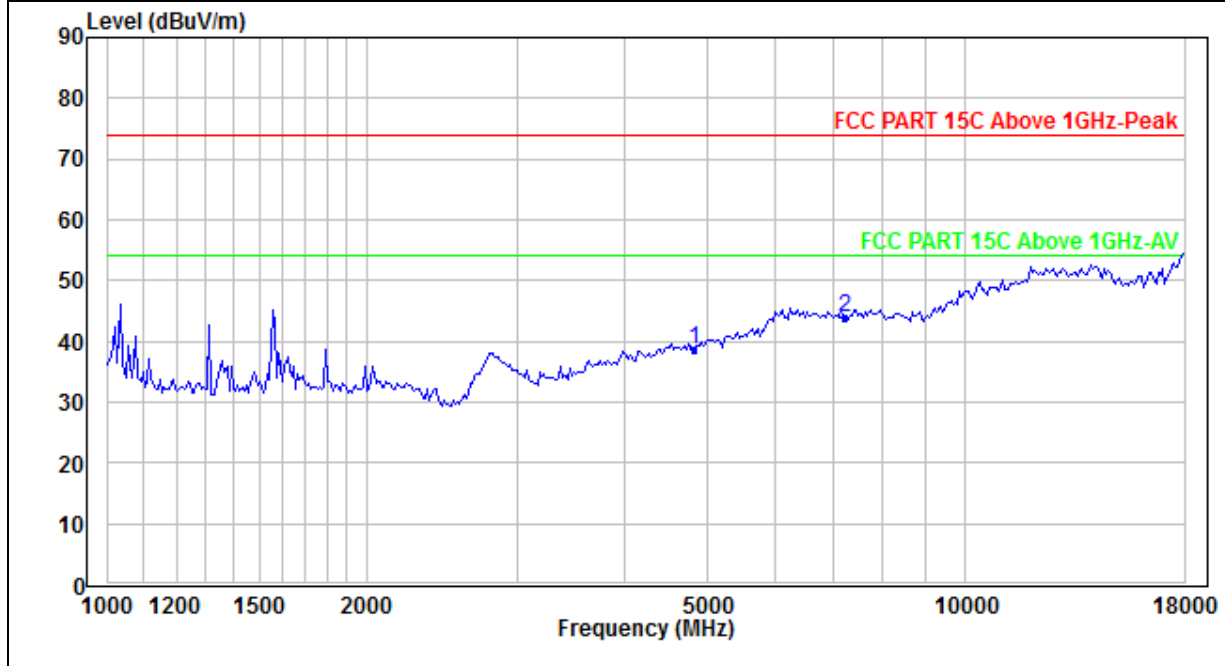
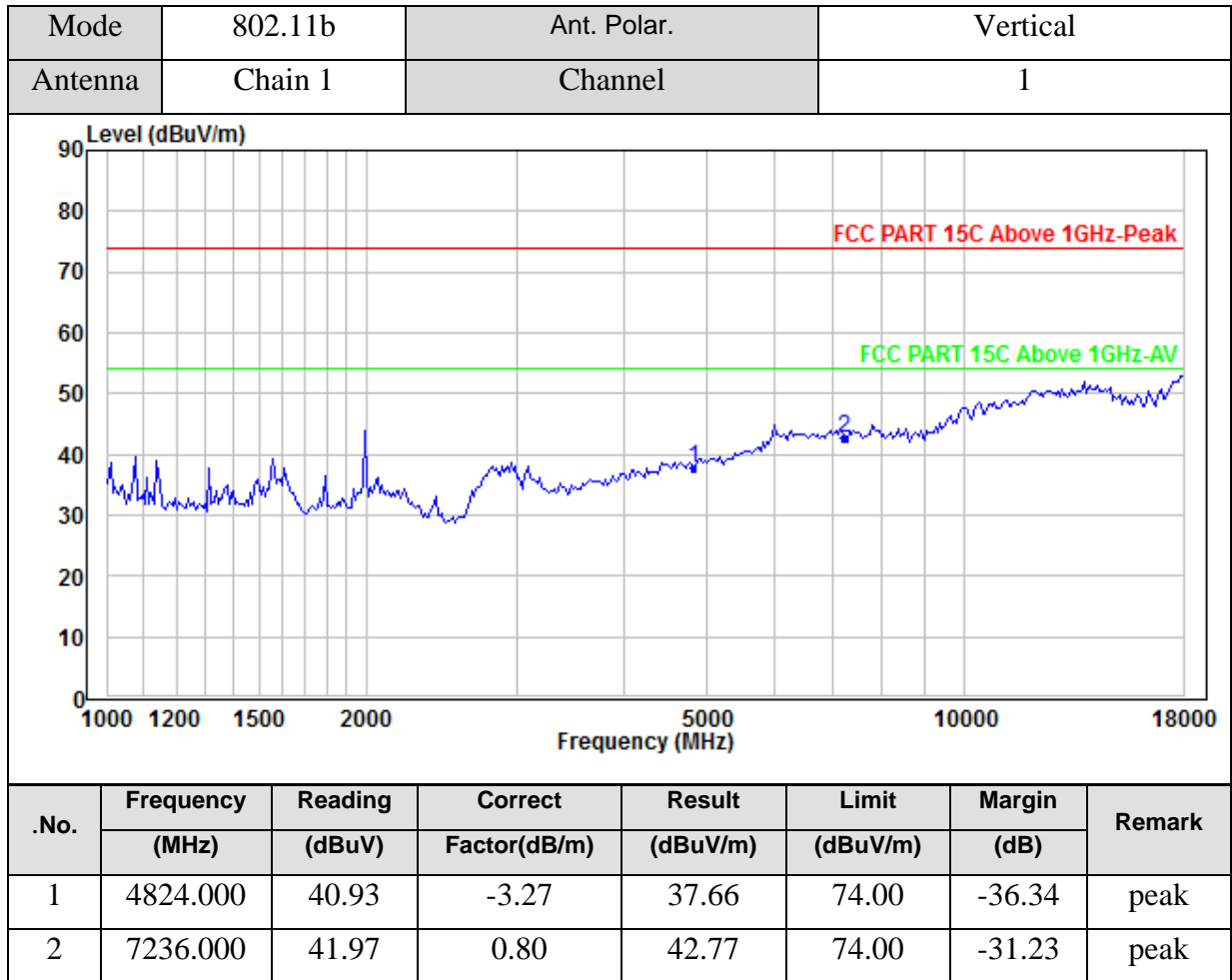


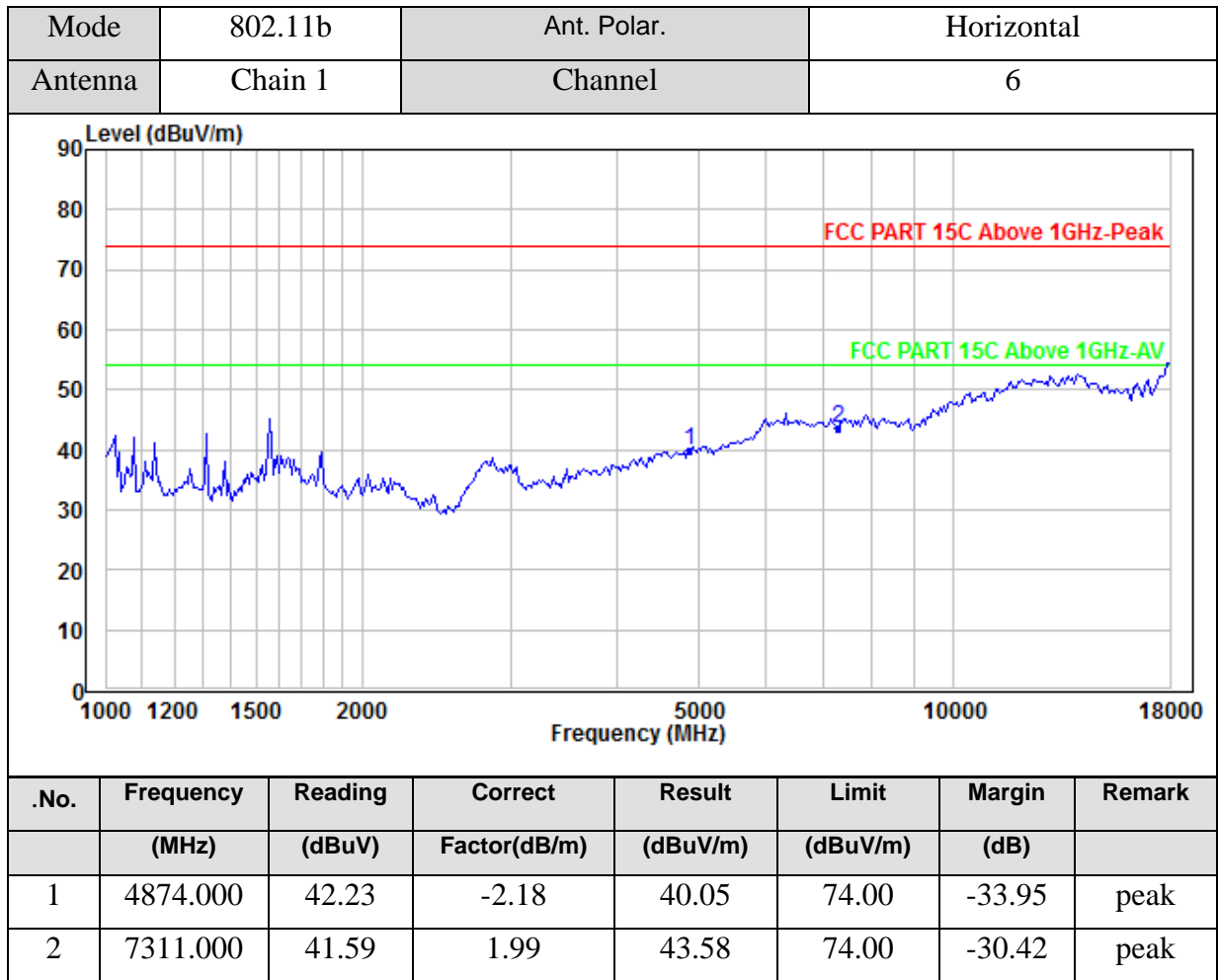
Radiated Emission Test Data (Above 1GHz)

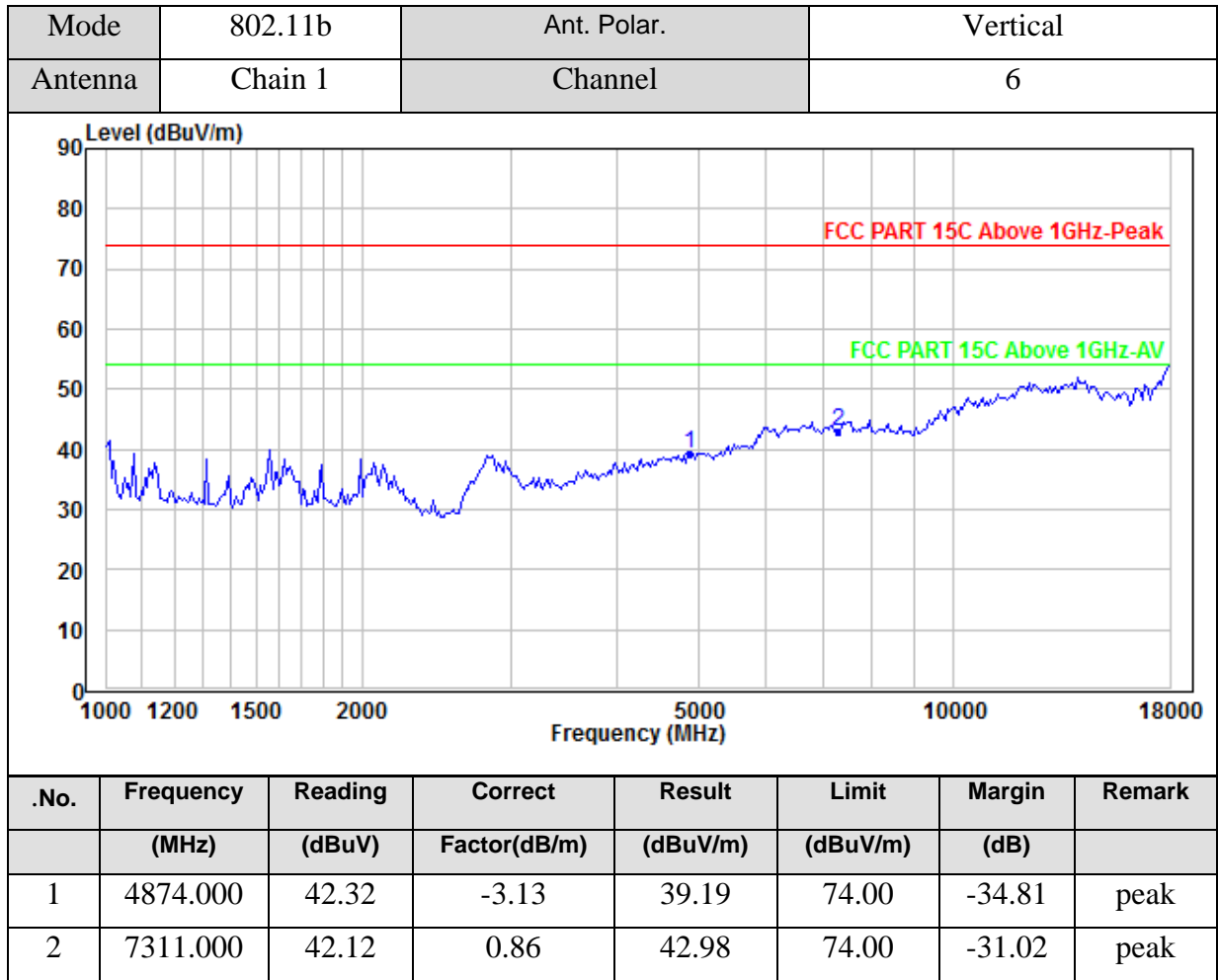
Mode	802.11b	Ant. Polar.	Horizontal
Antenna	Chain 1	Channel	1

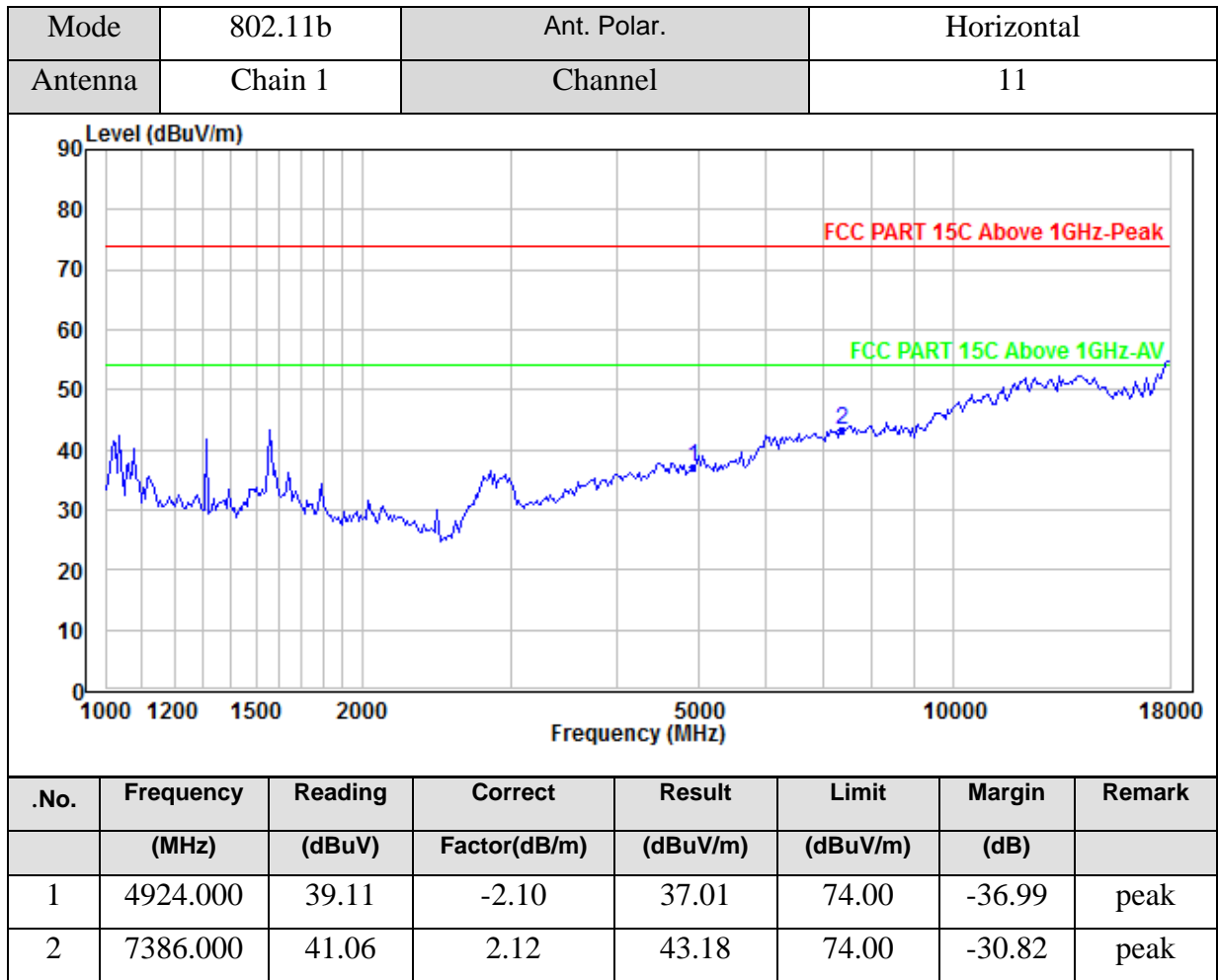


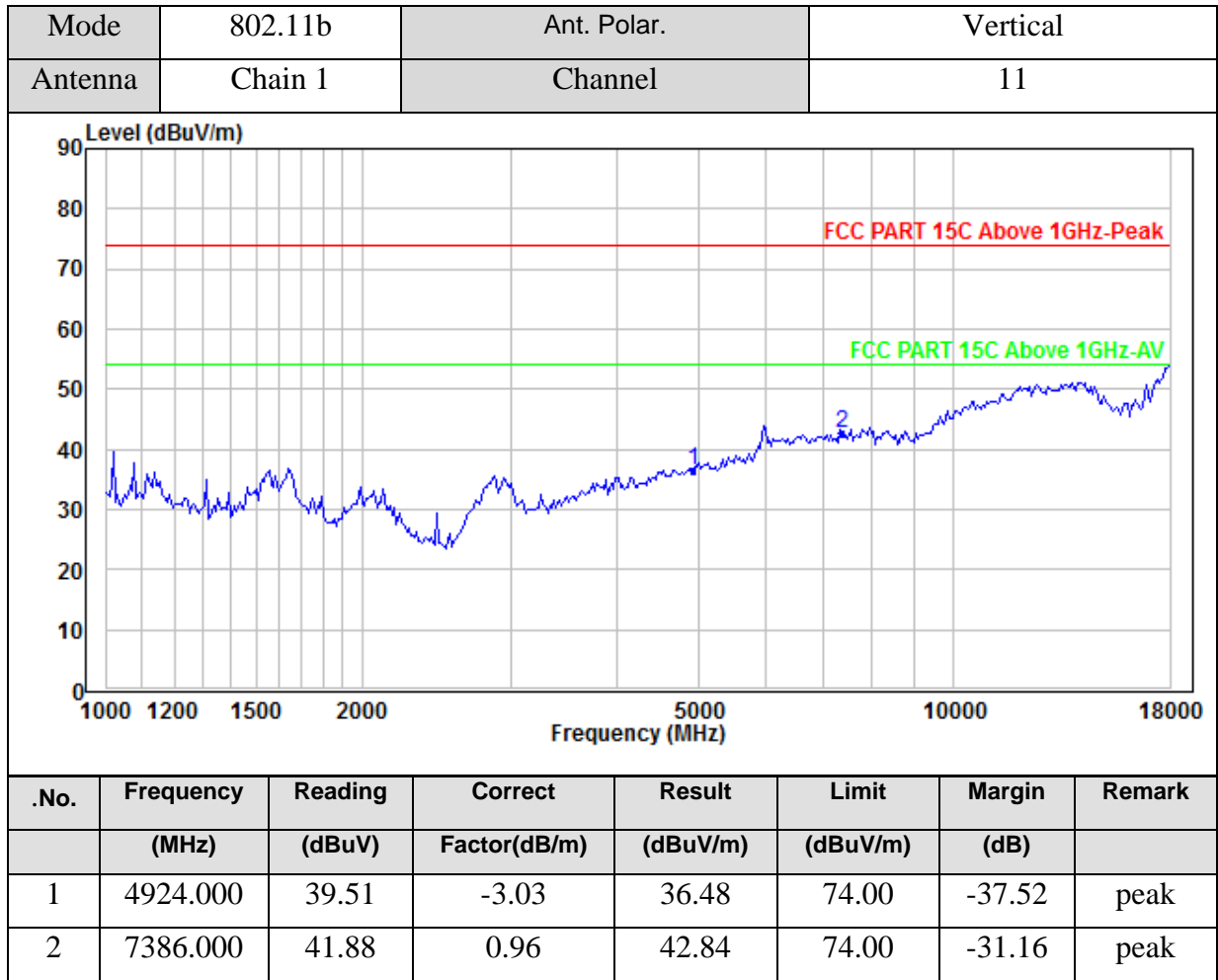
.No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	Factor(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	4824.000	41.03	-2.30	38.73	74.00	-35.27	peak
2	7236.000	42.06	1.90	43.96	74.00	-30.04	peak

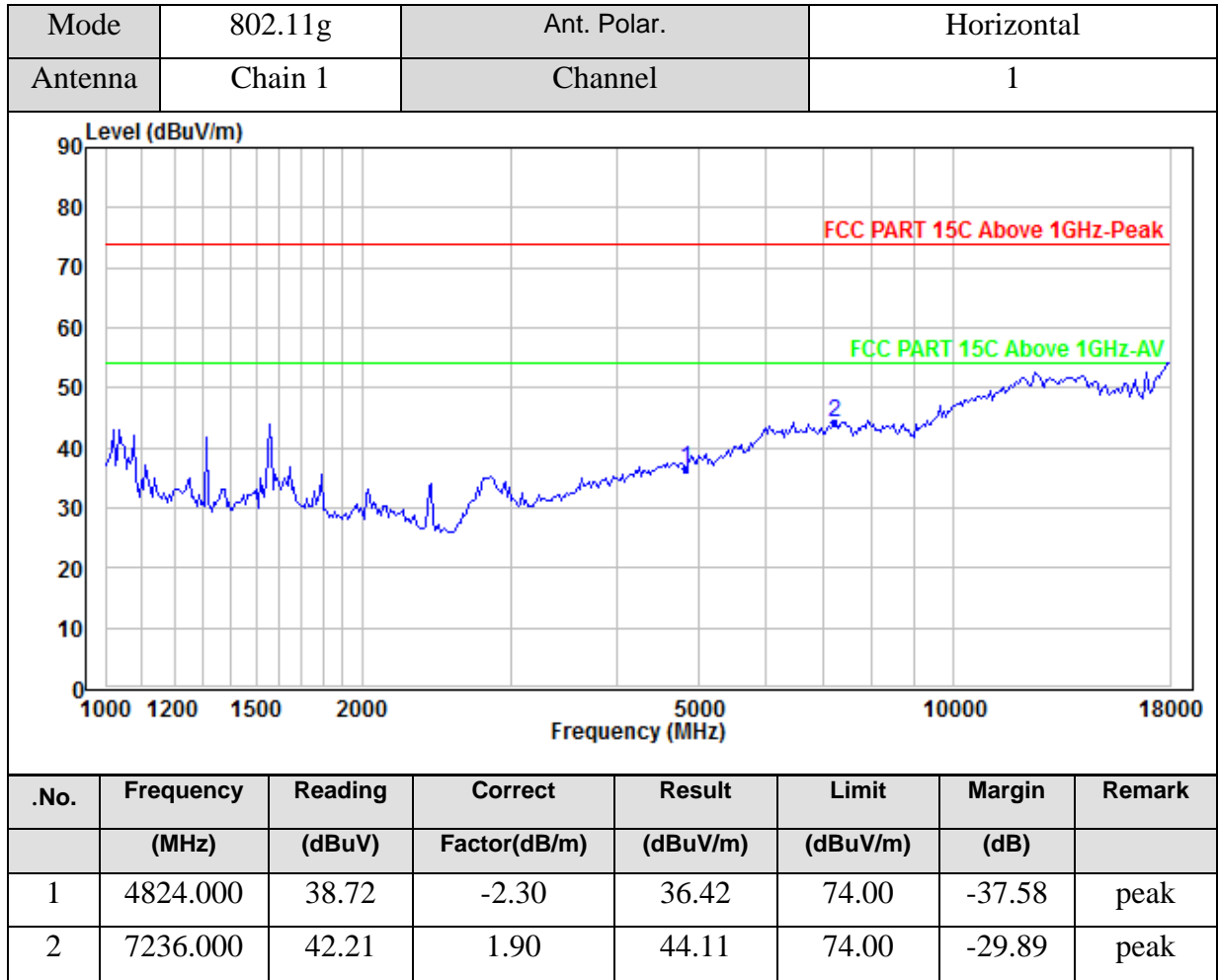


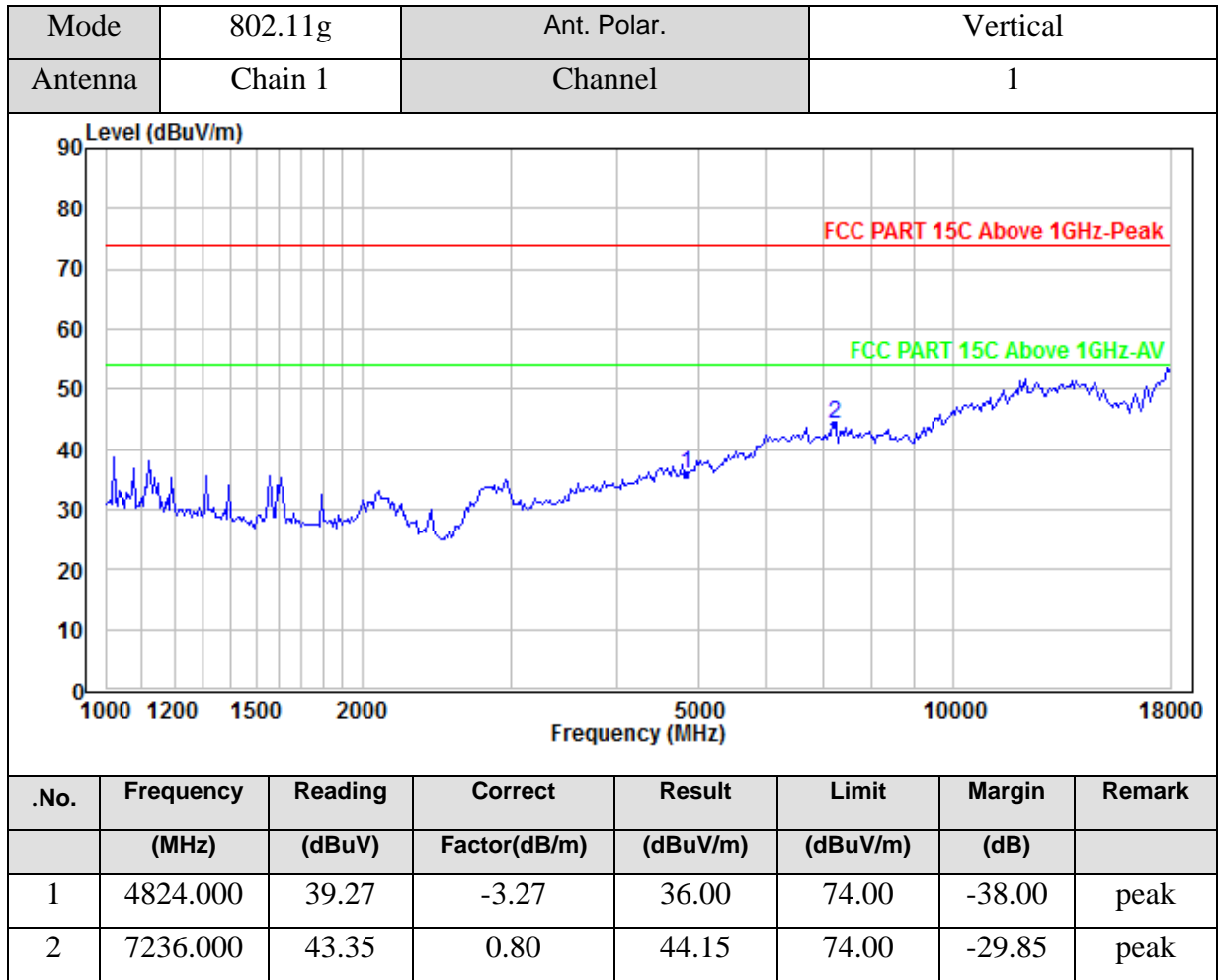


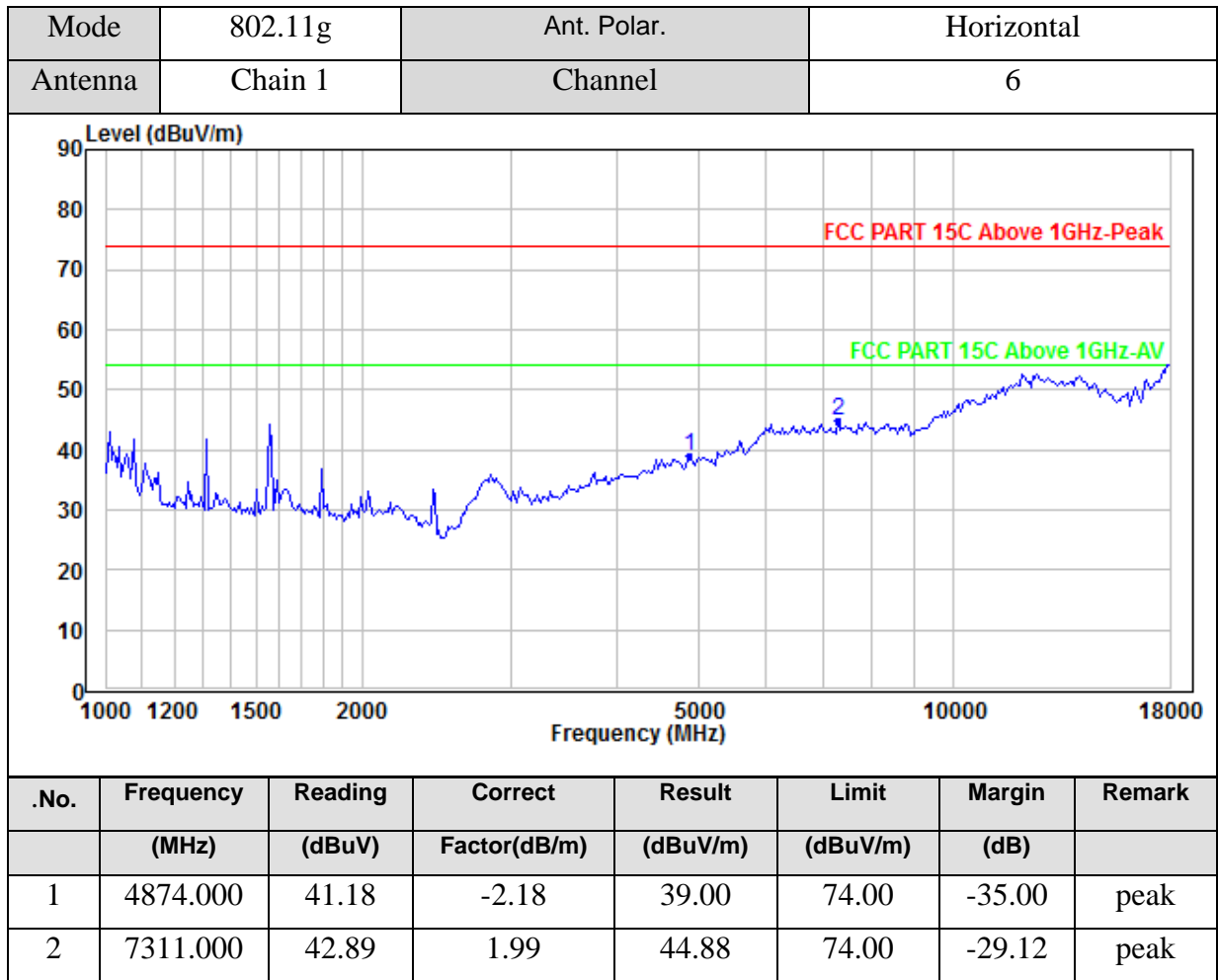


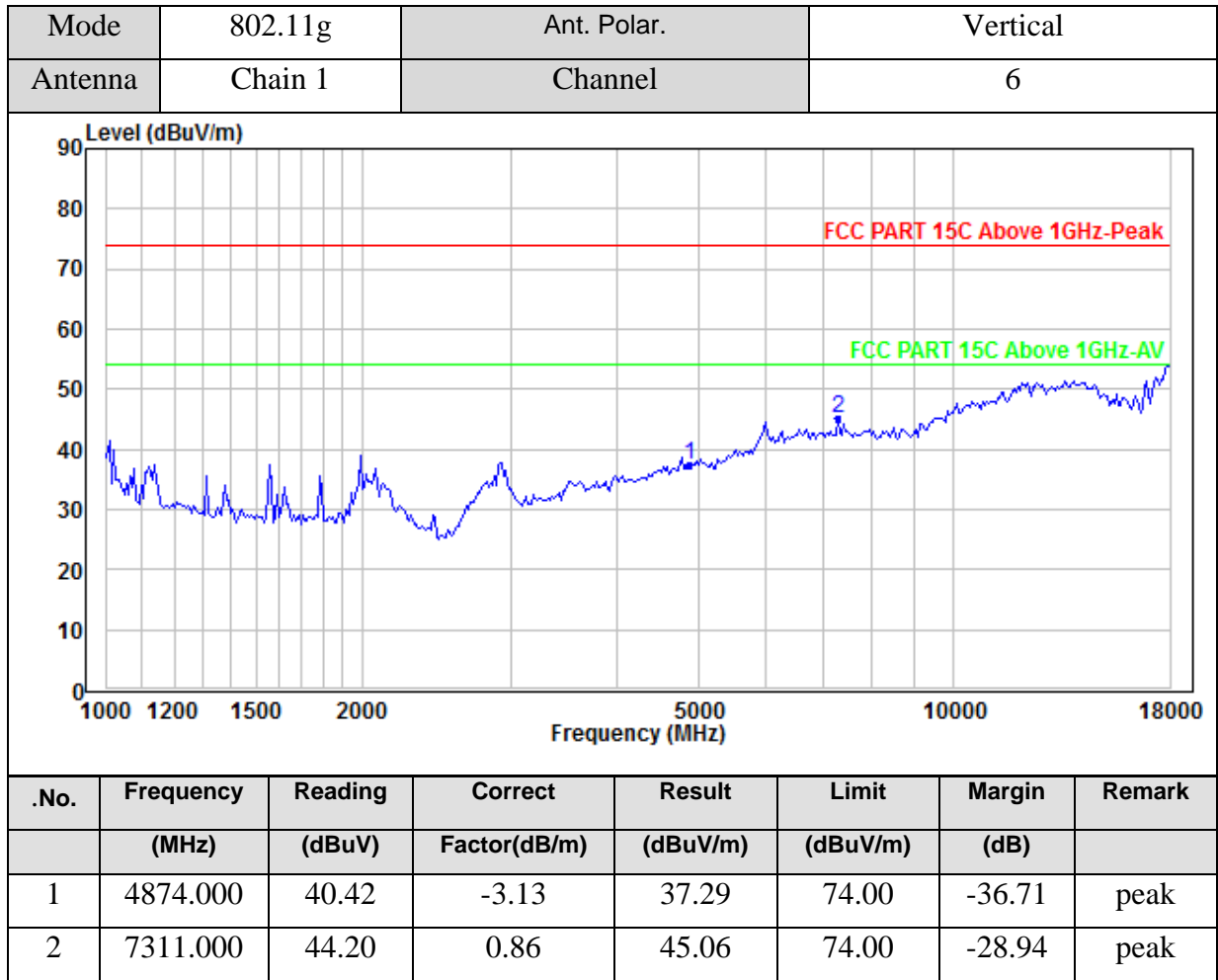


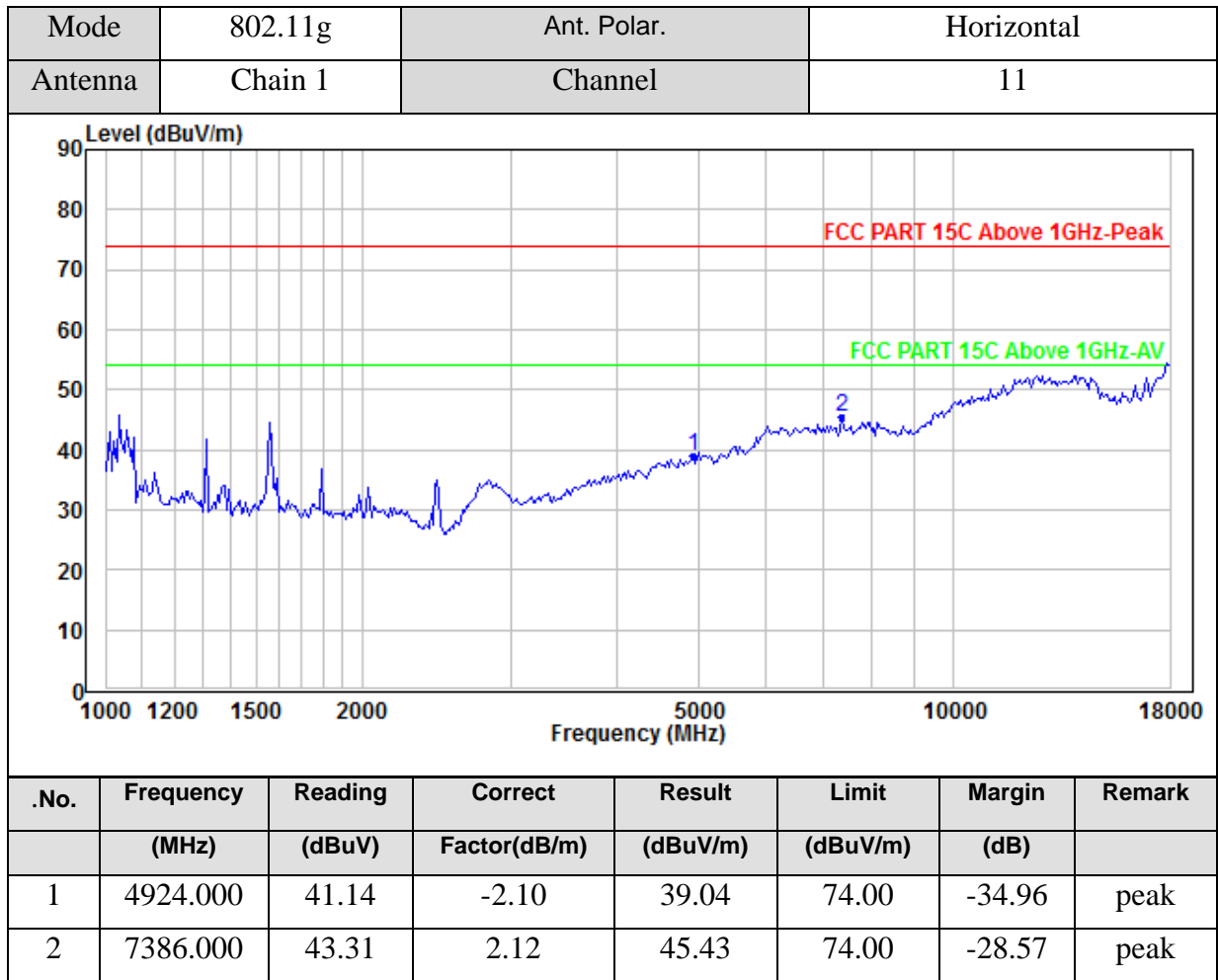


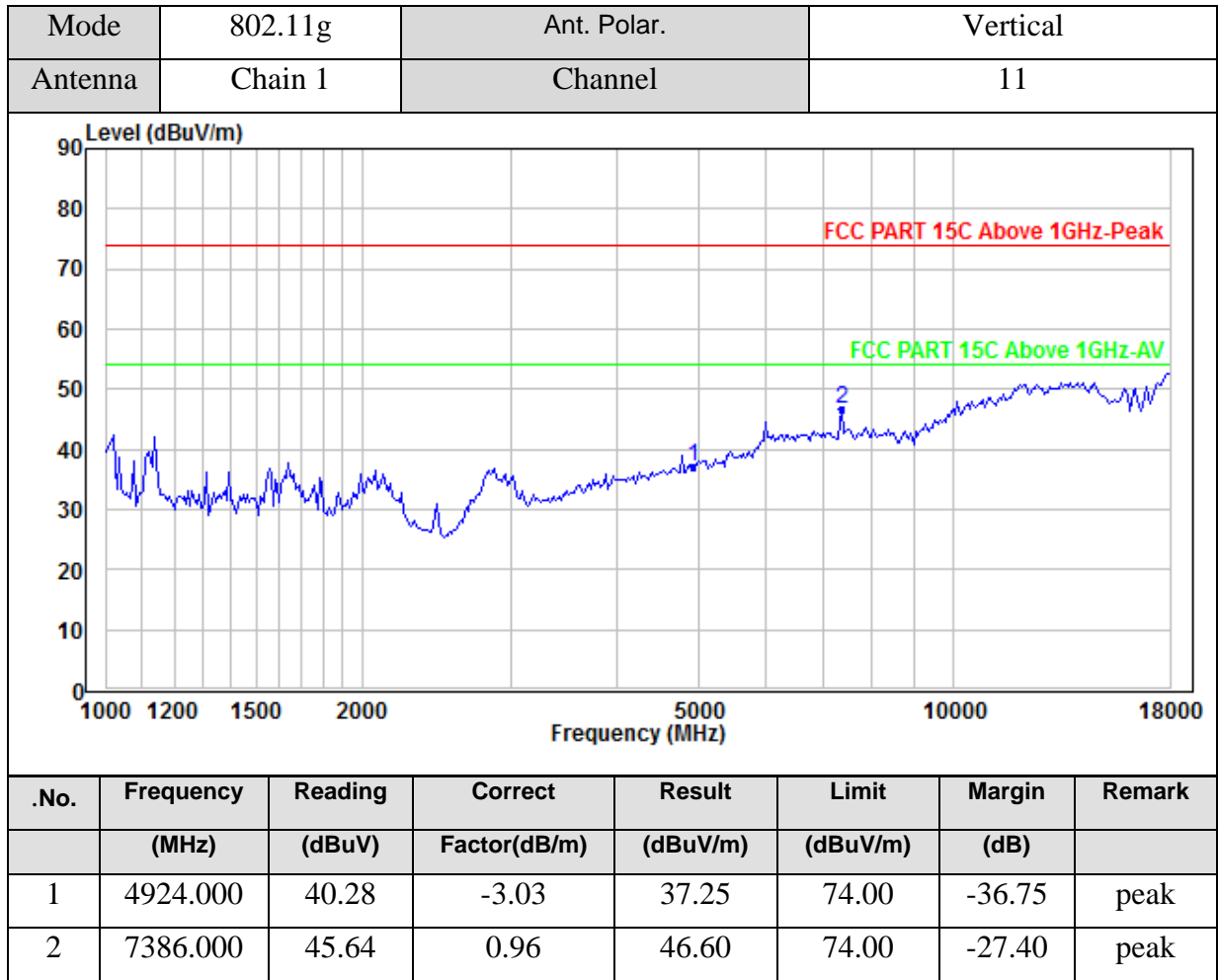


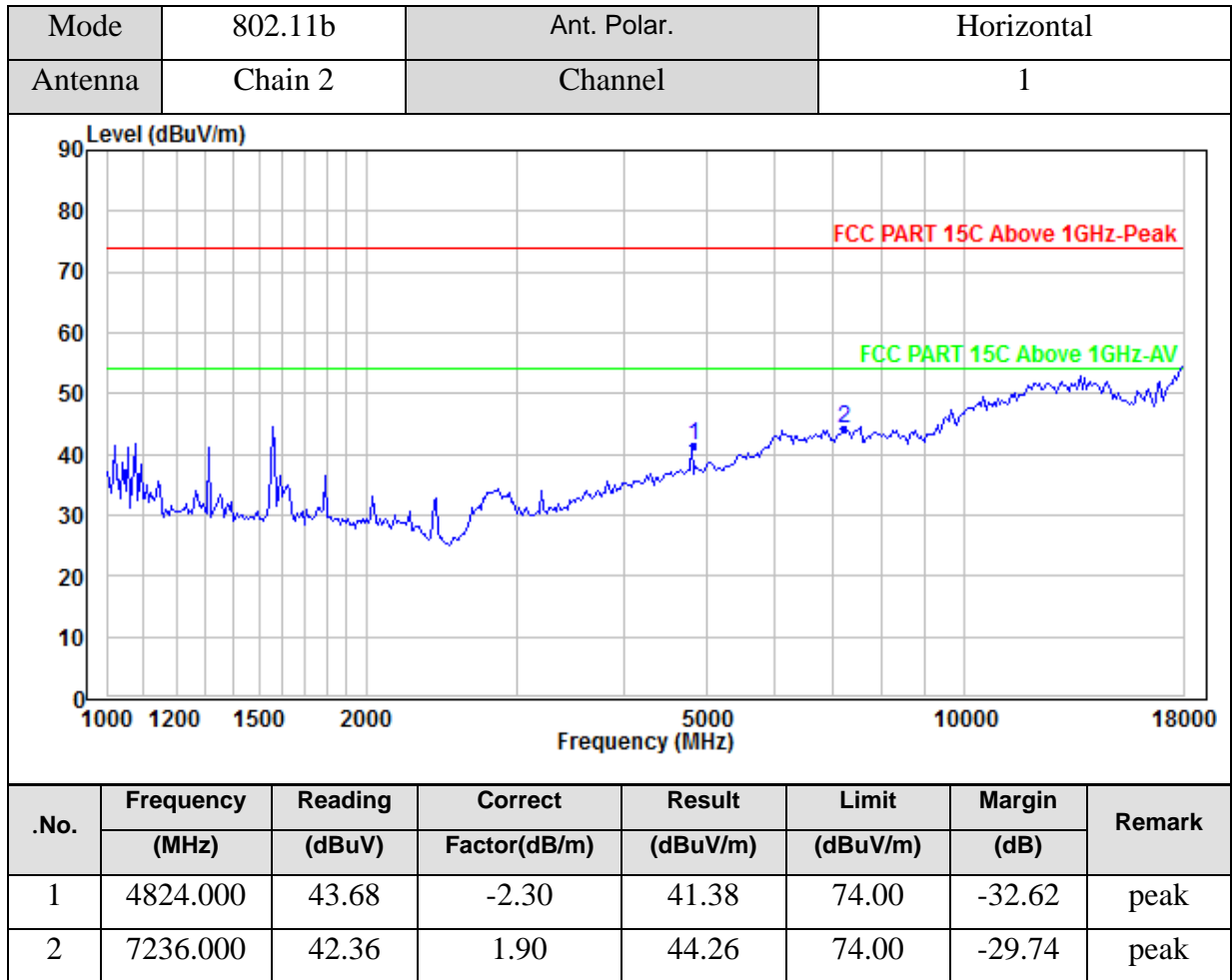


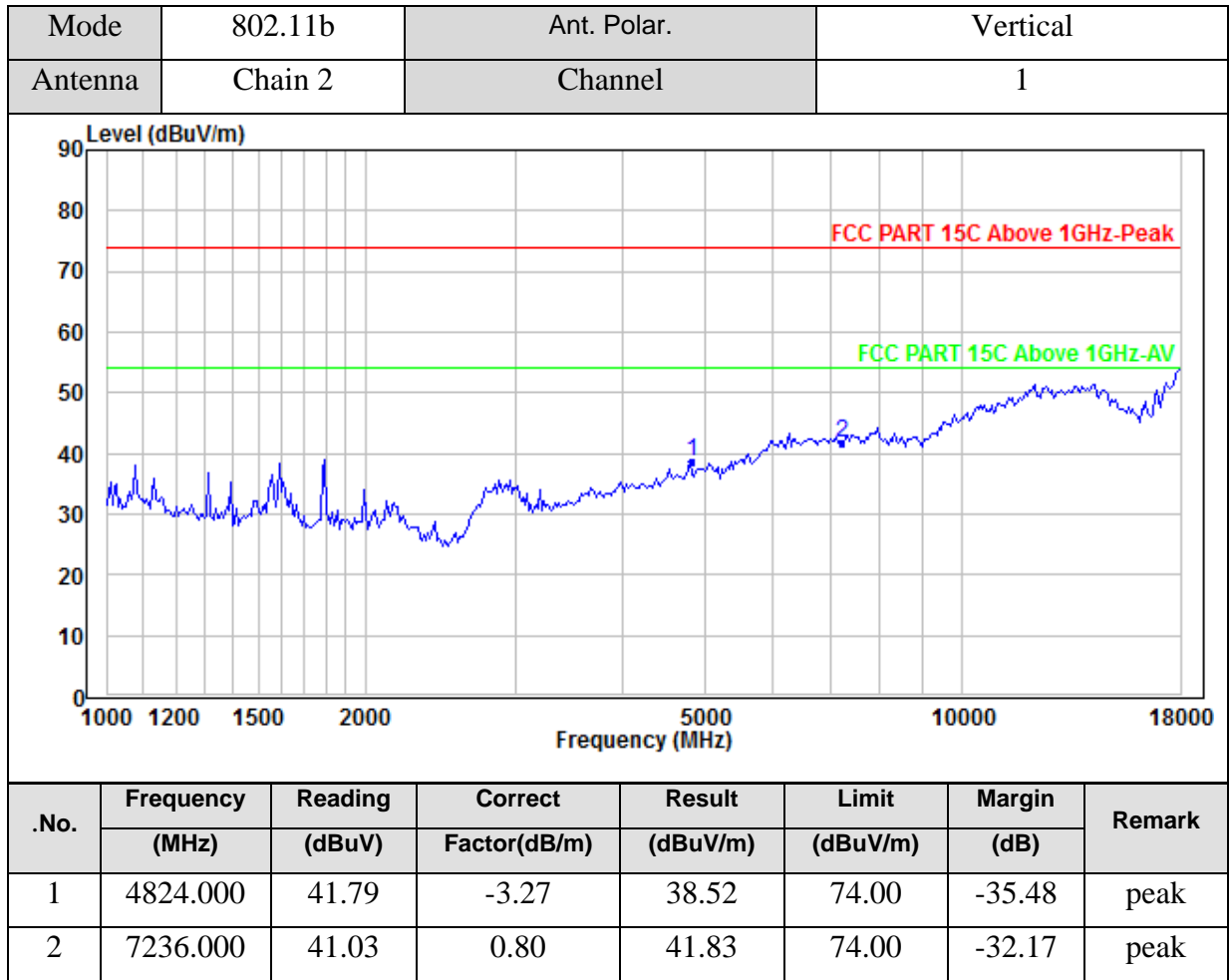


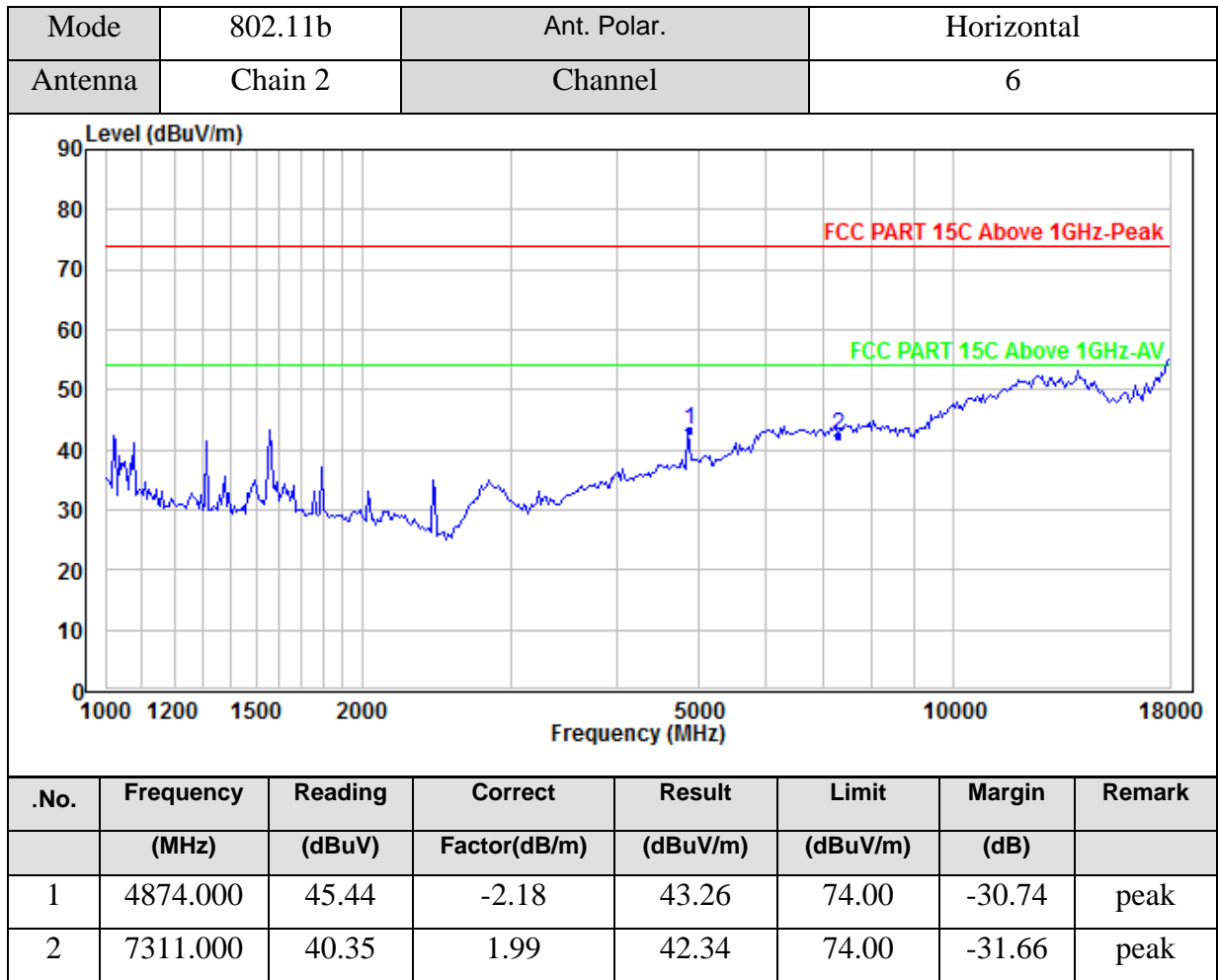


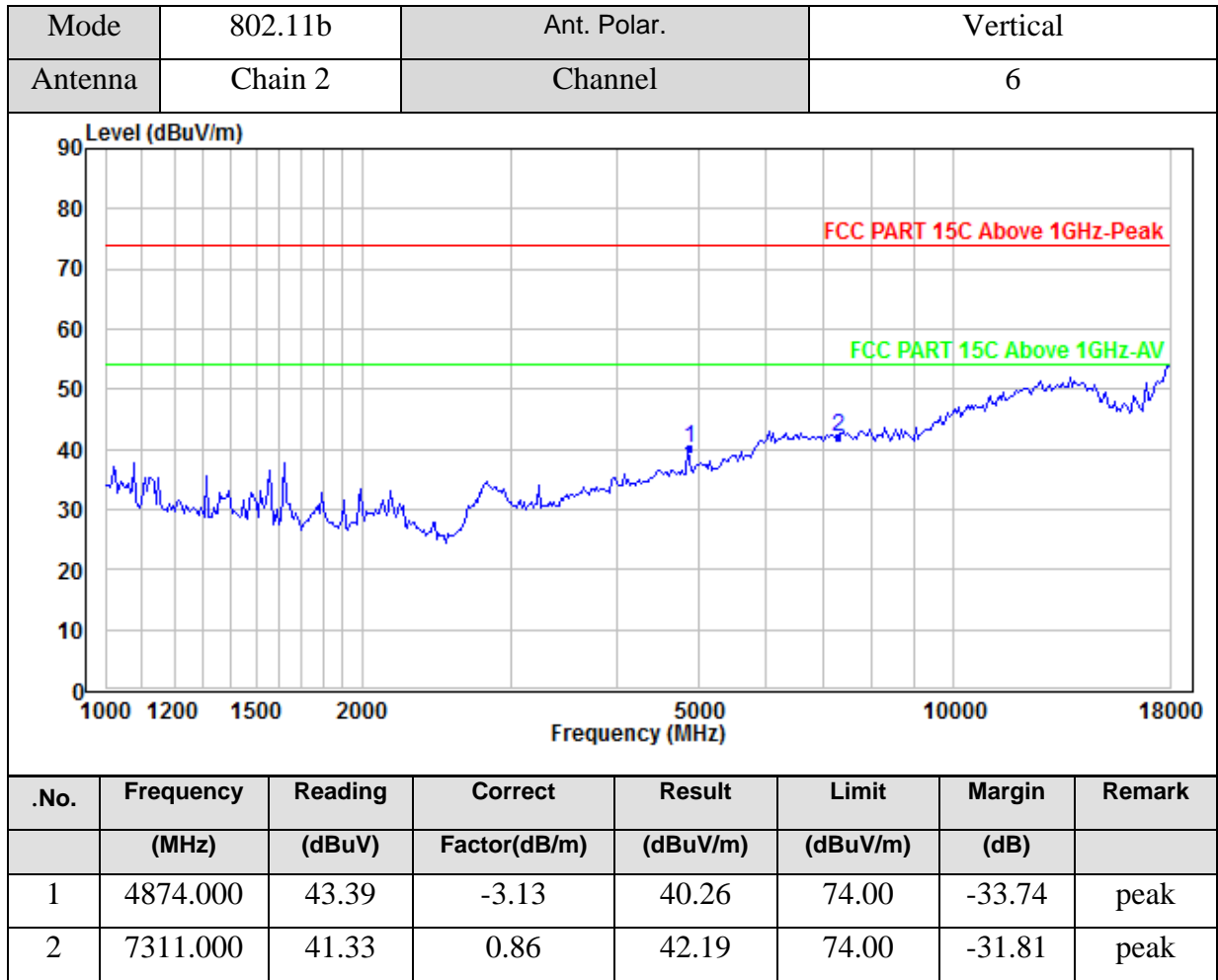


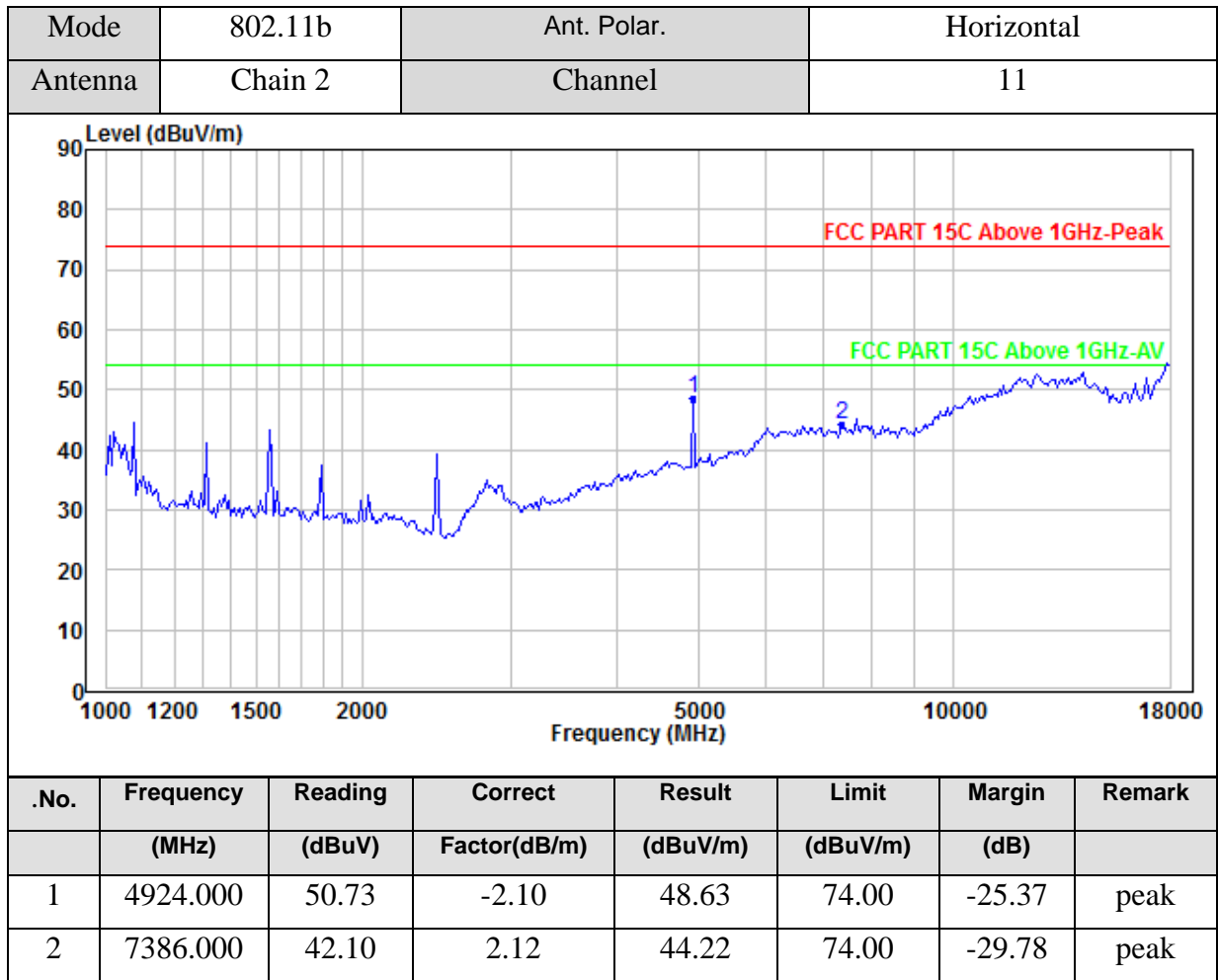


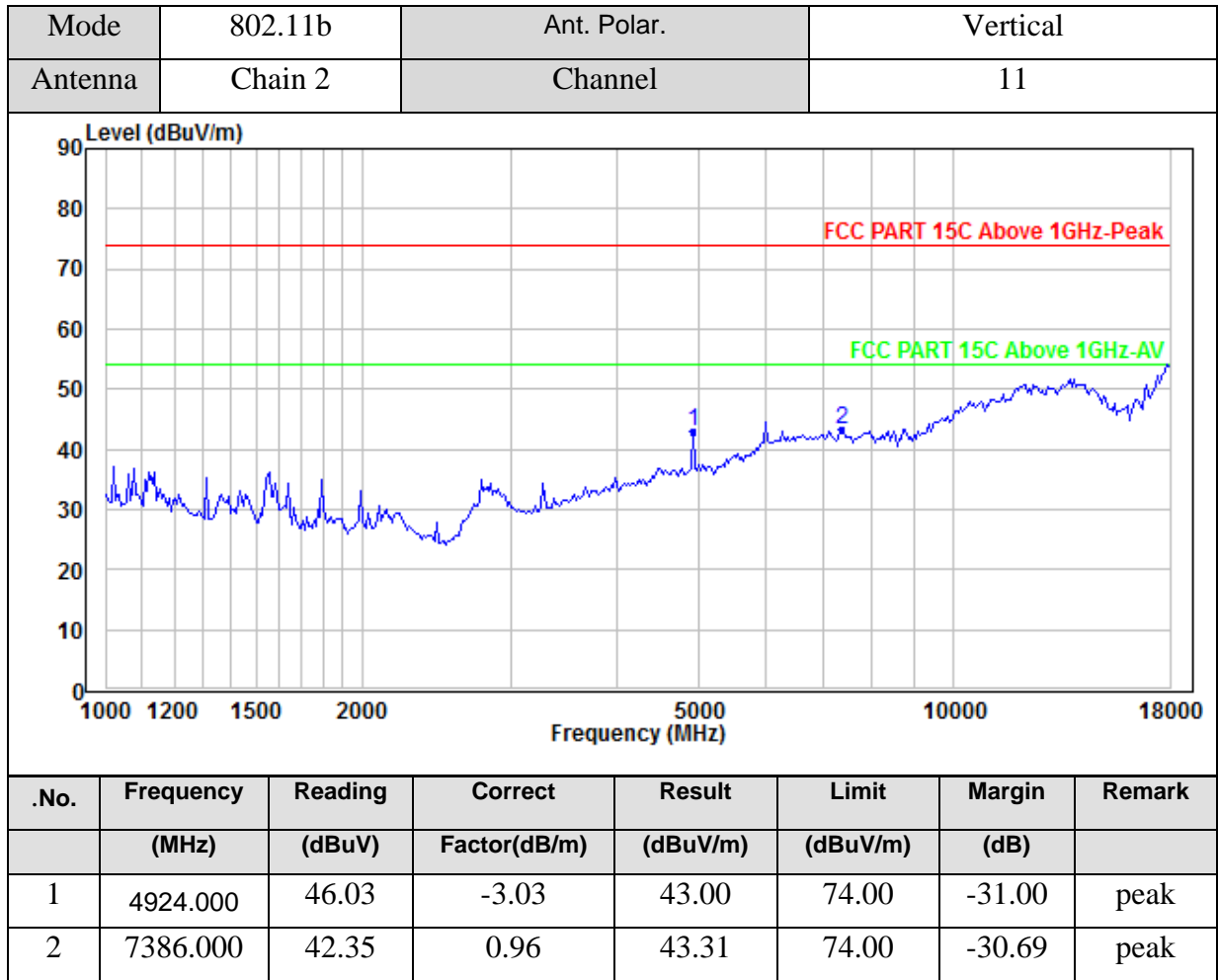


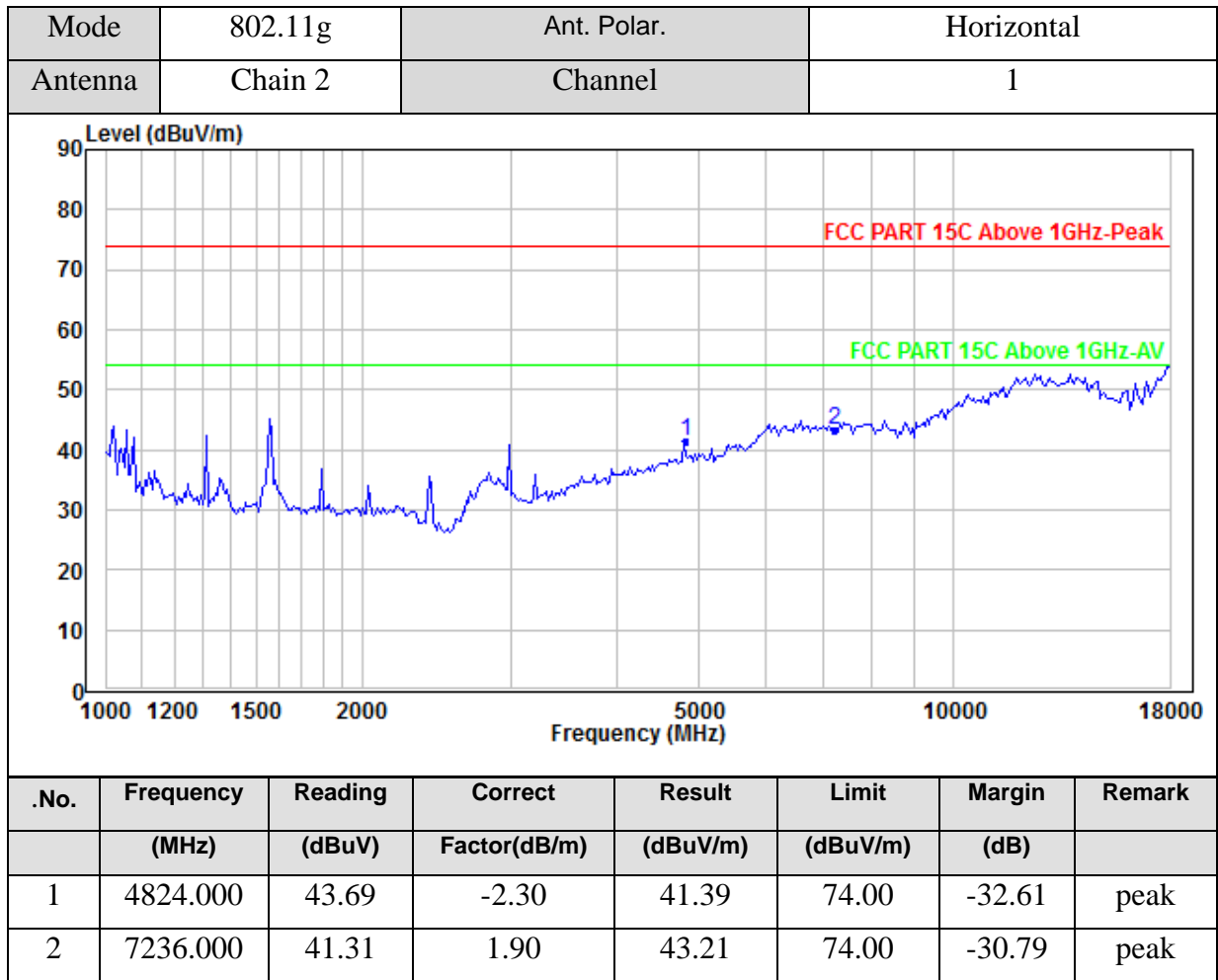


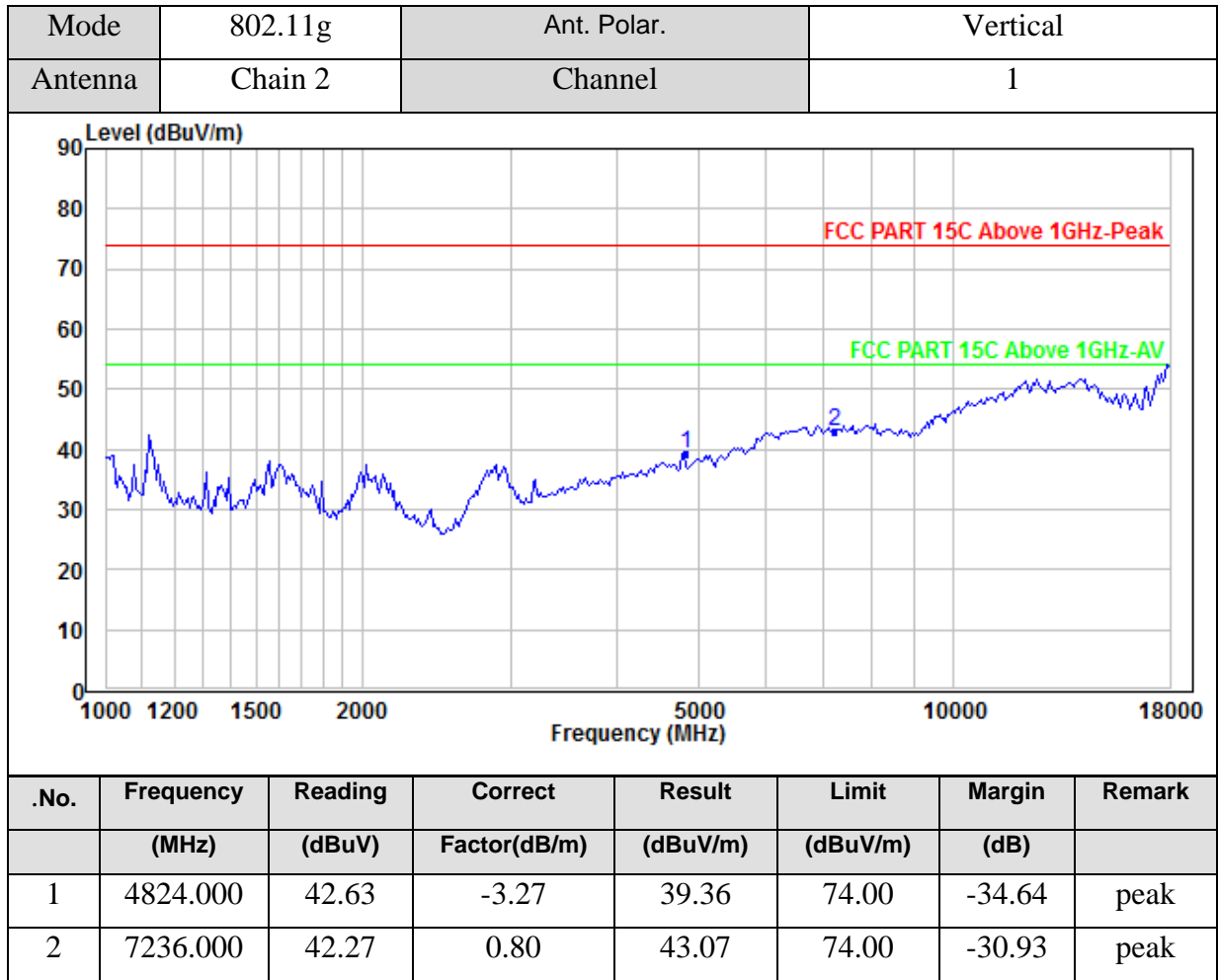


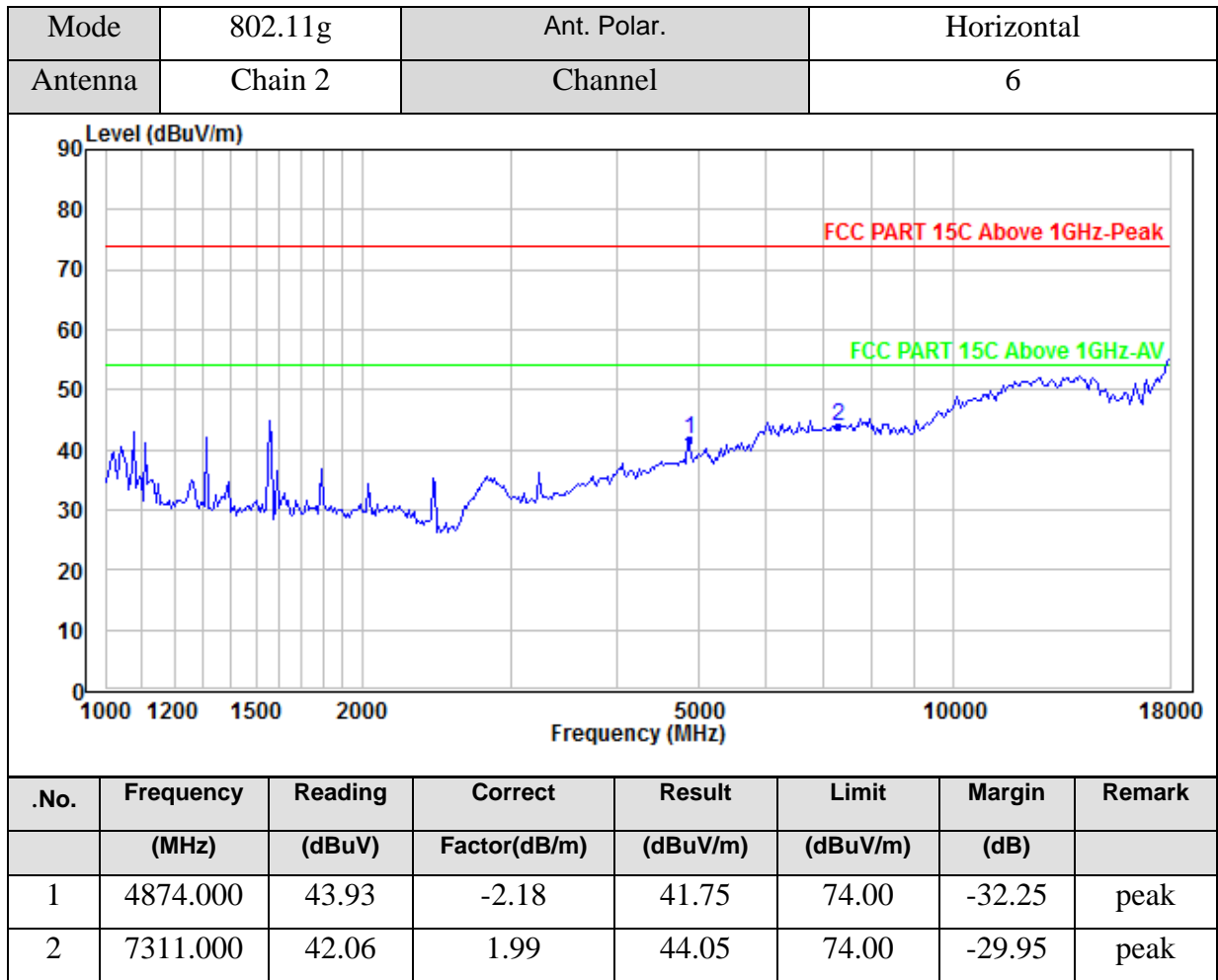


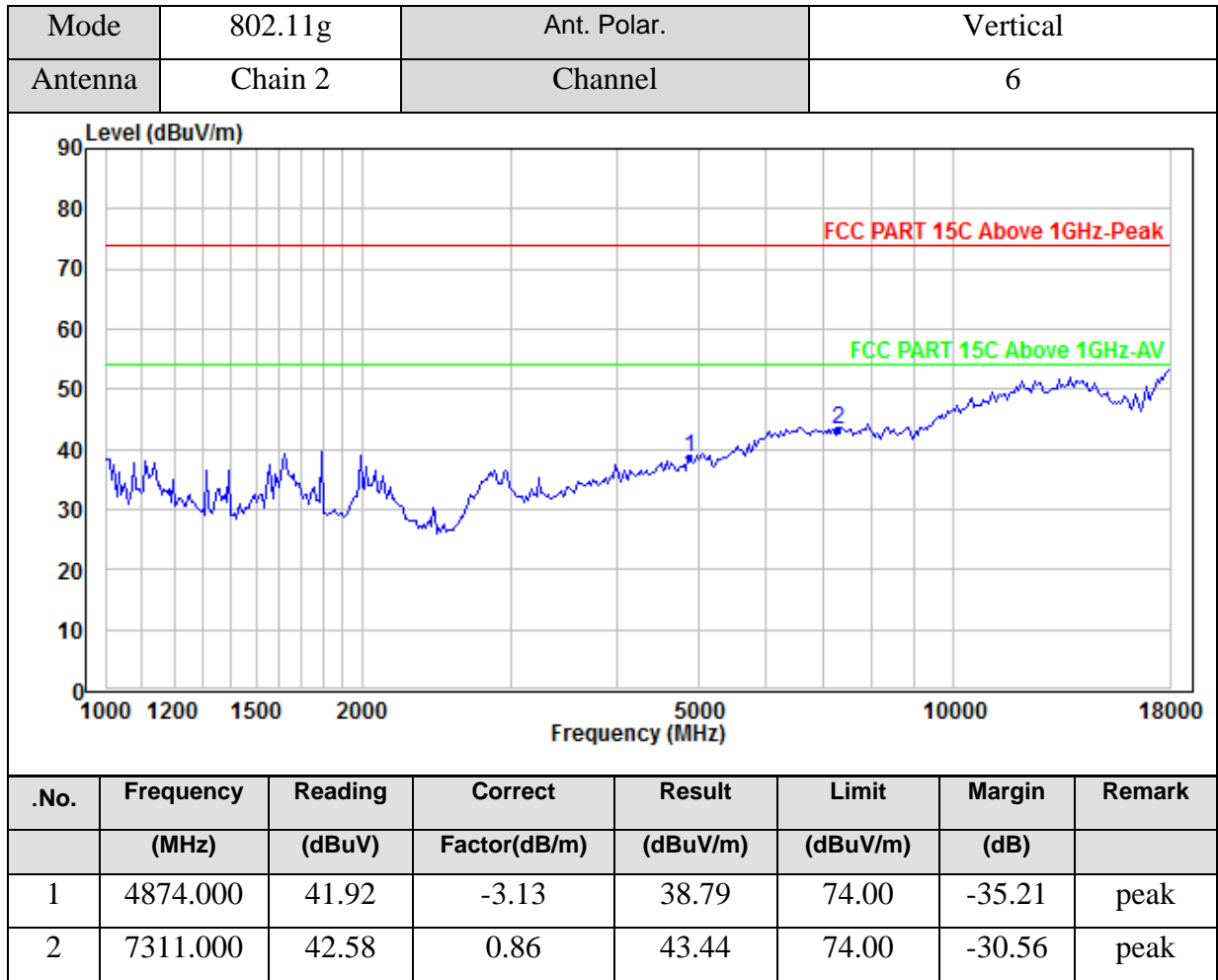


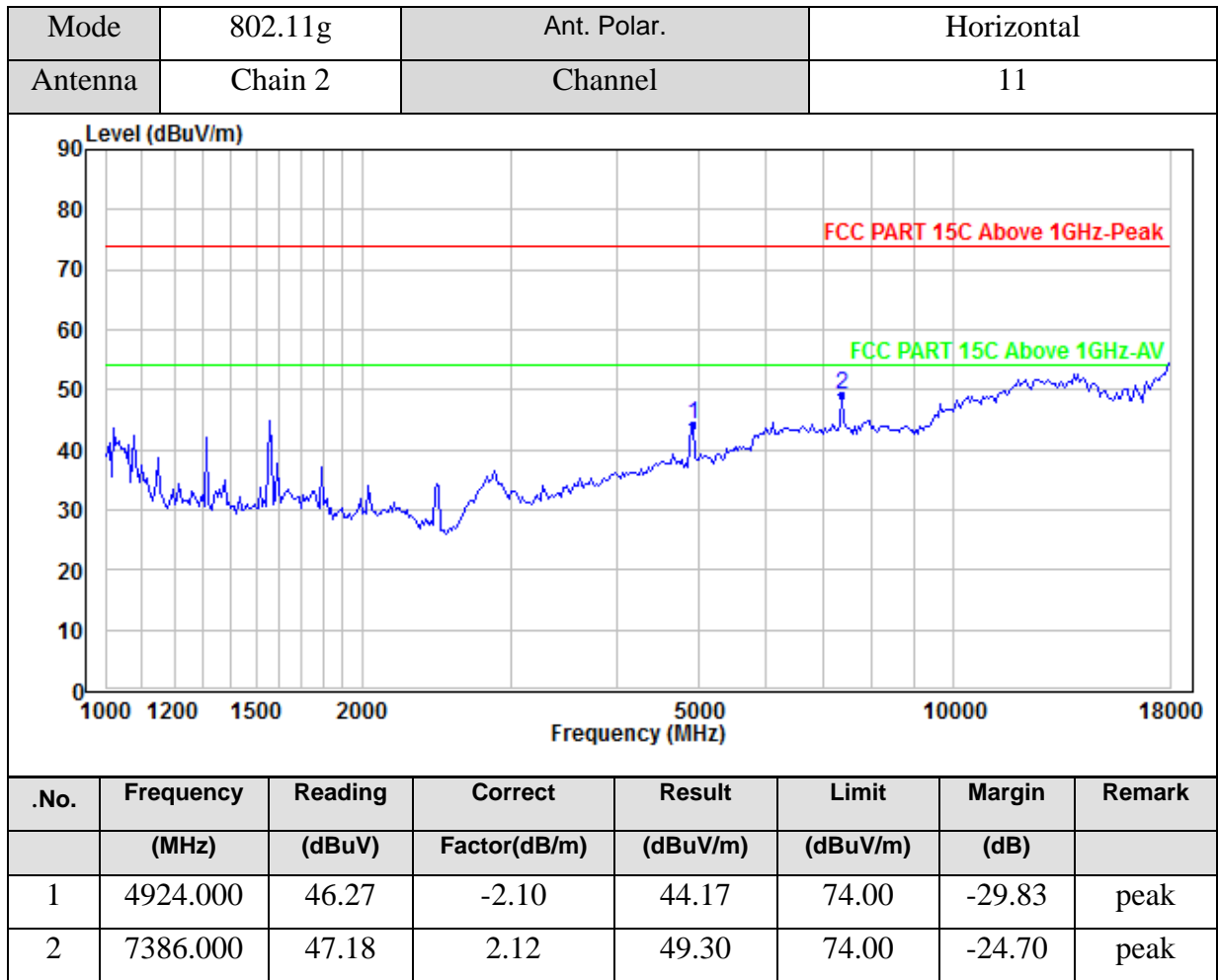


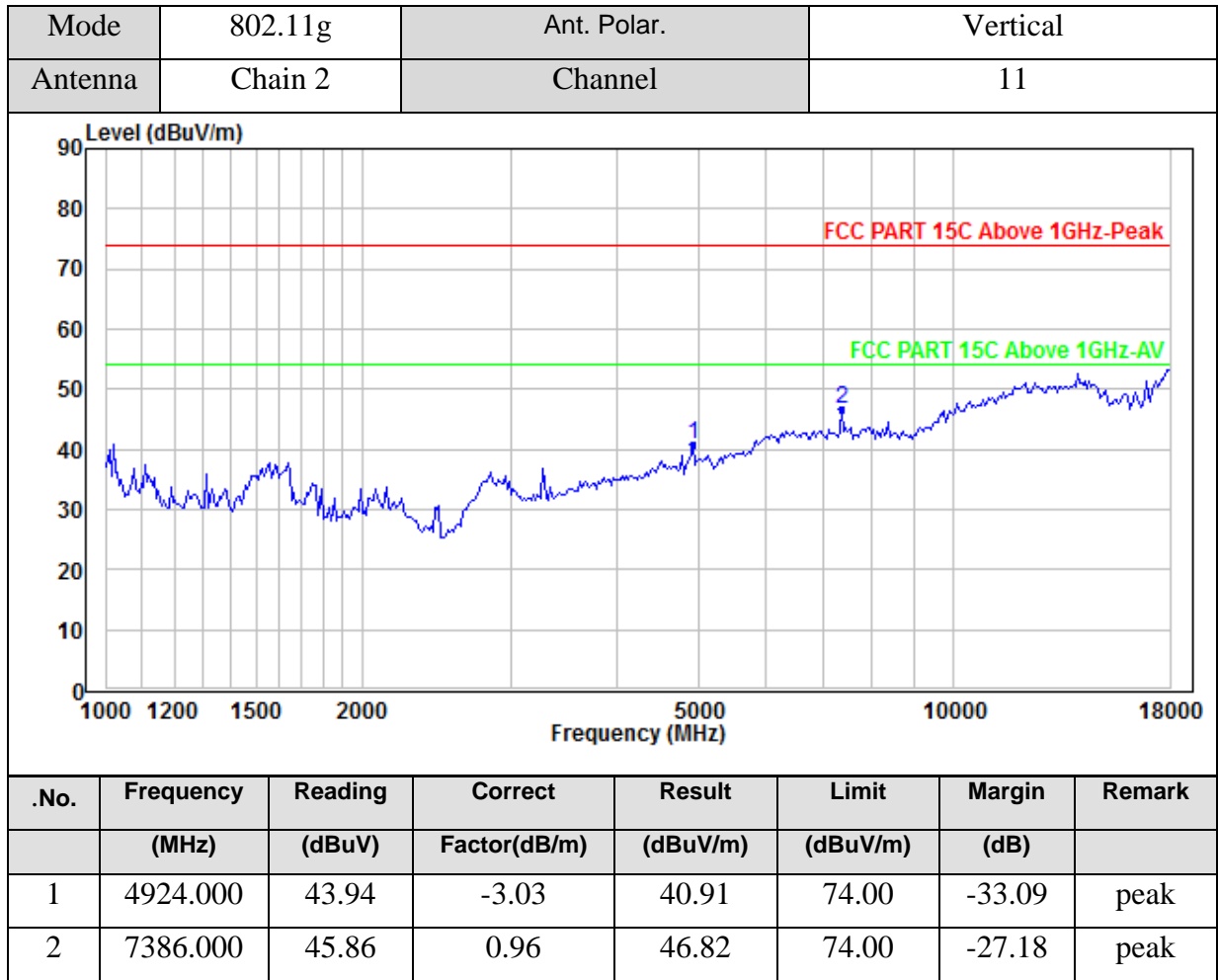


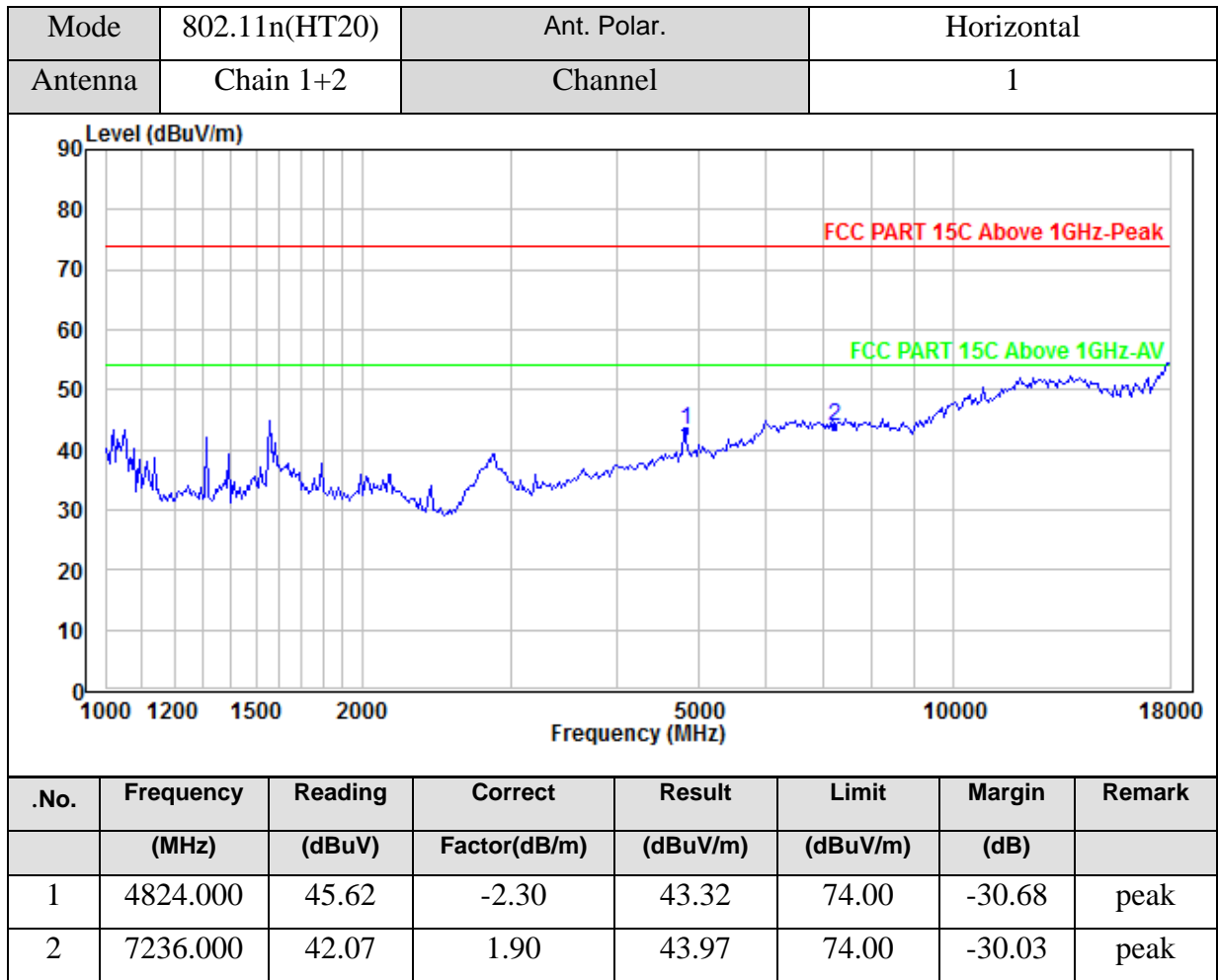


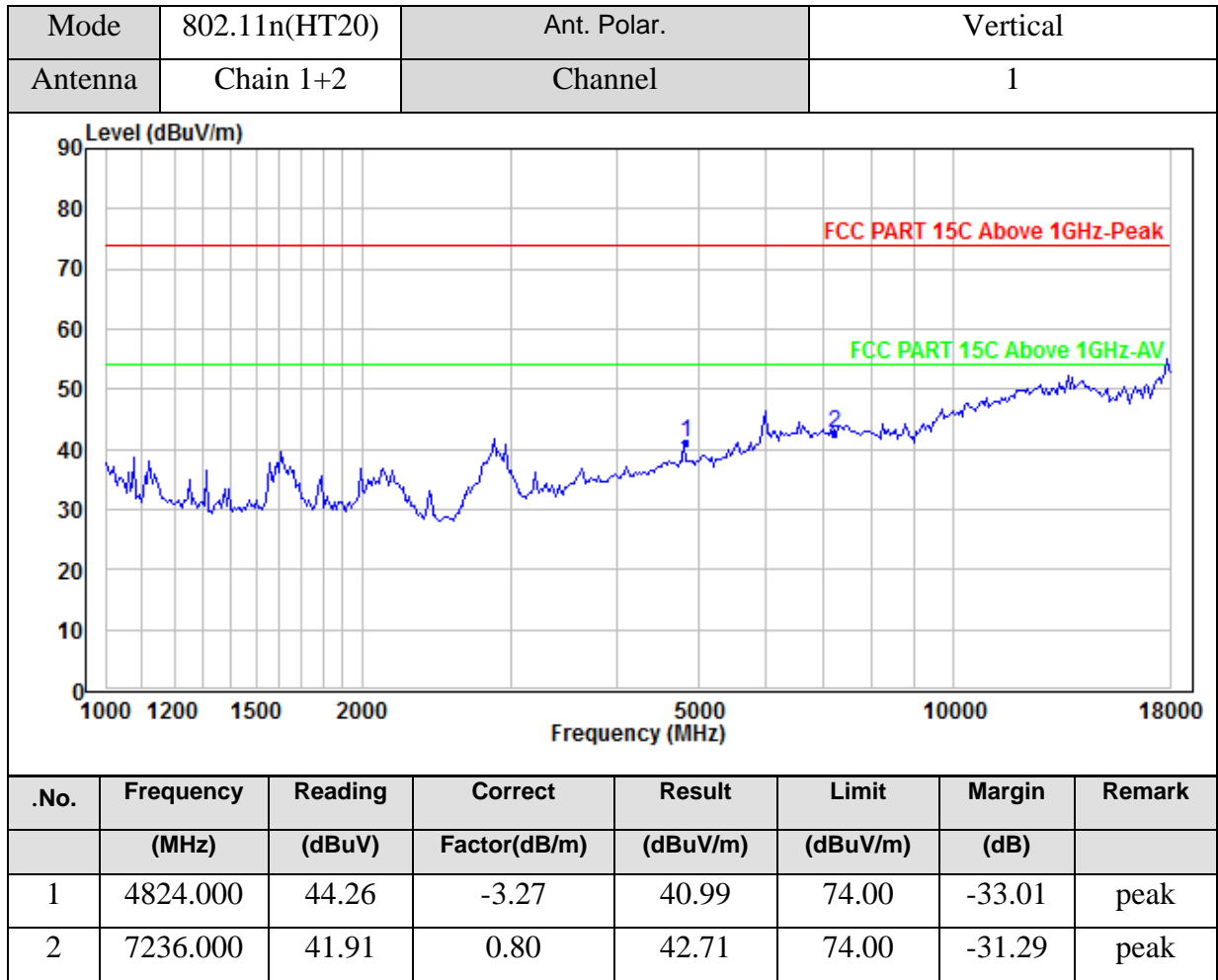


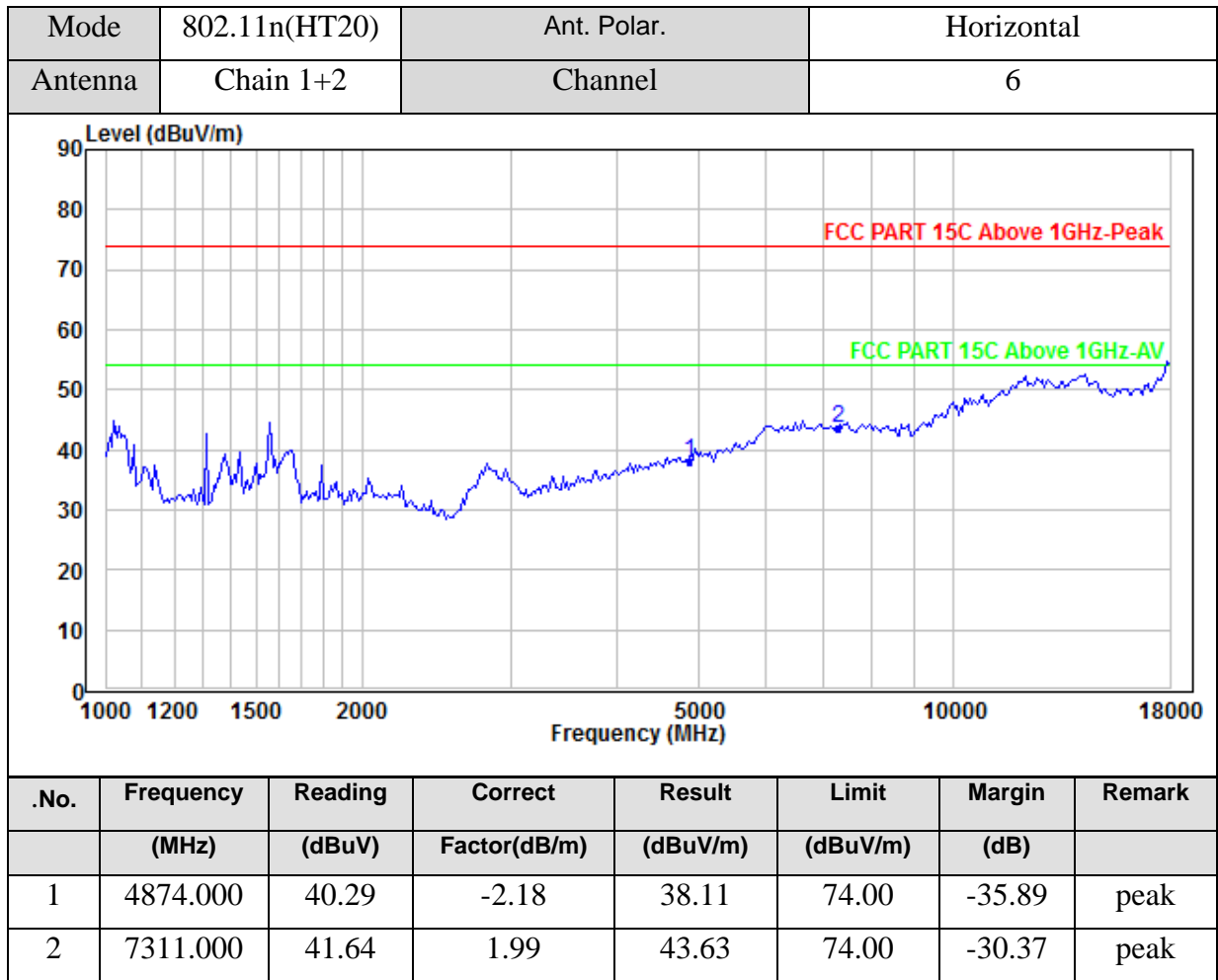


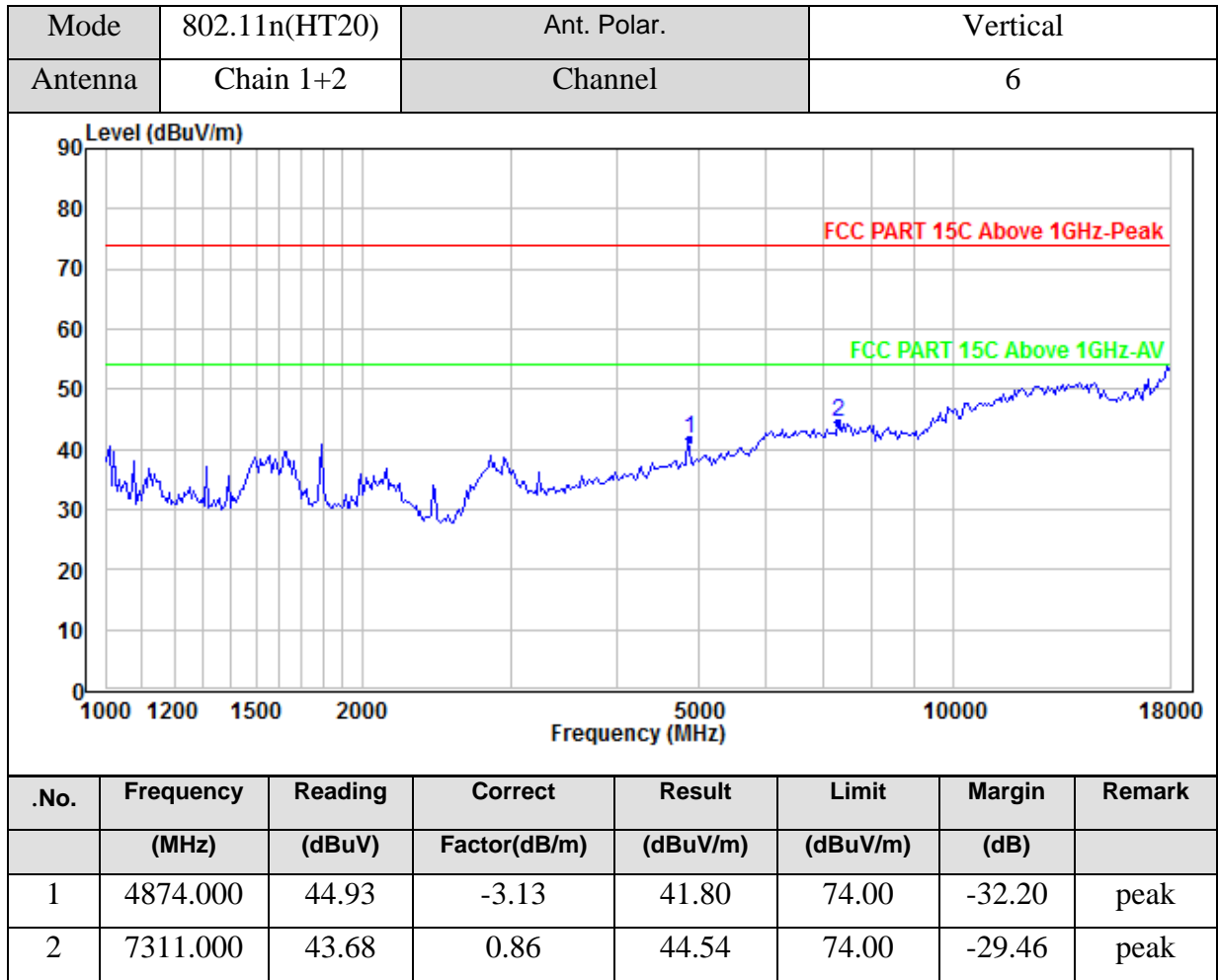


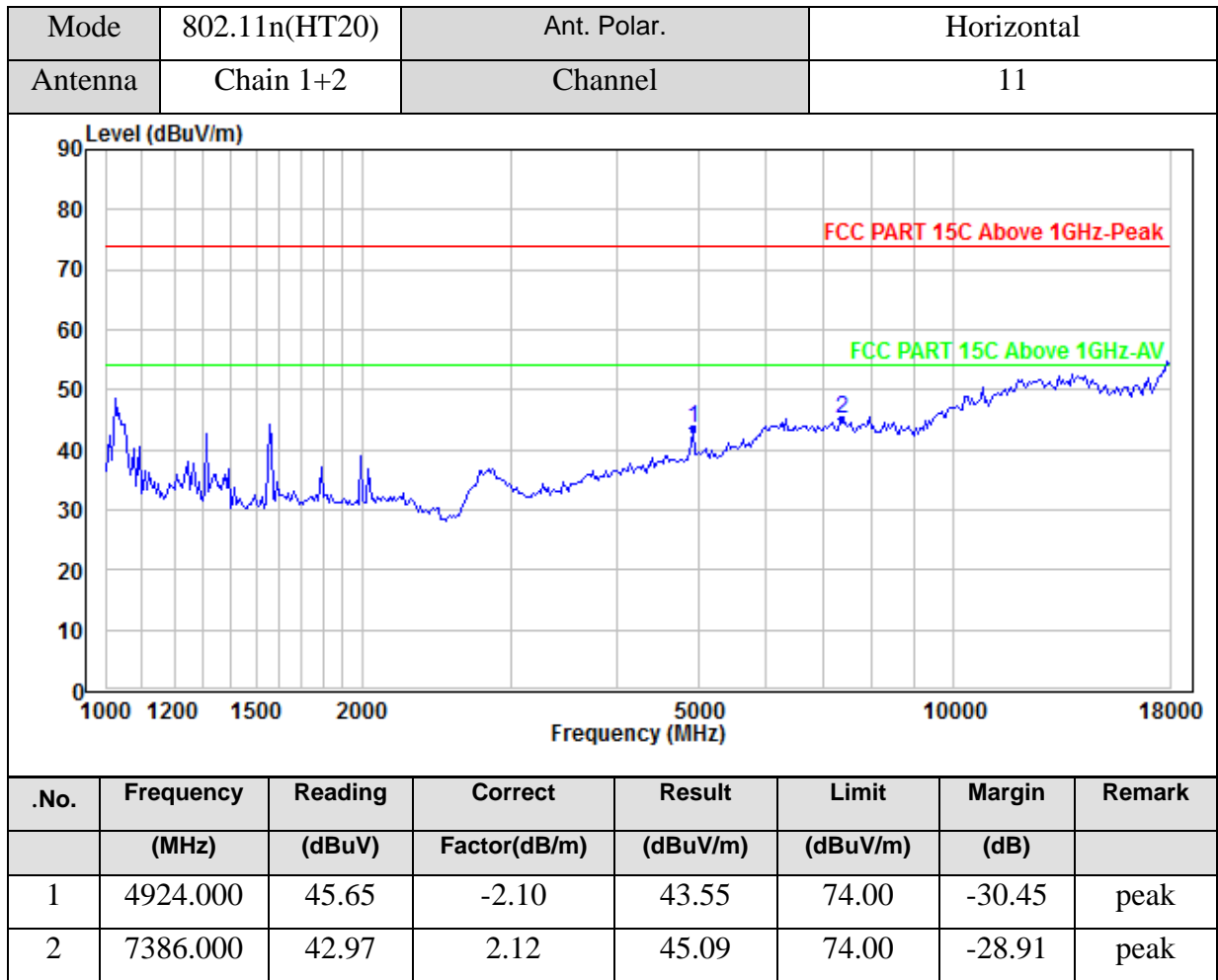


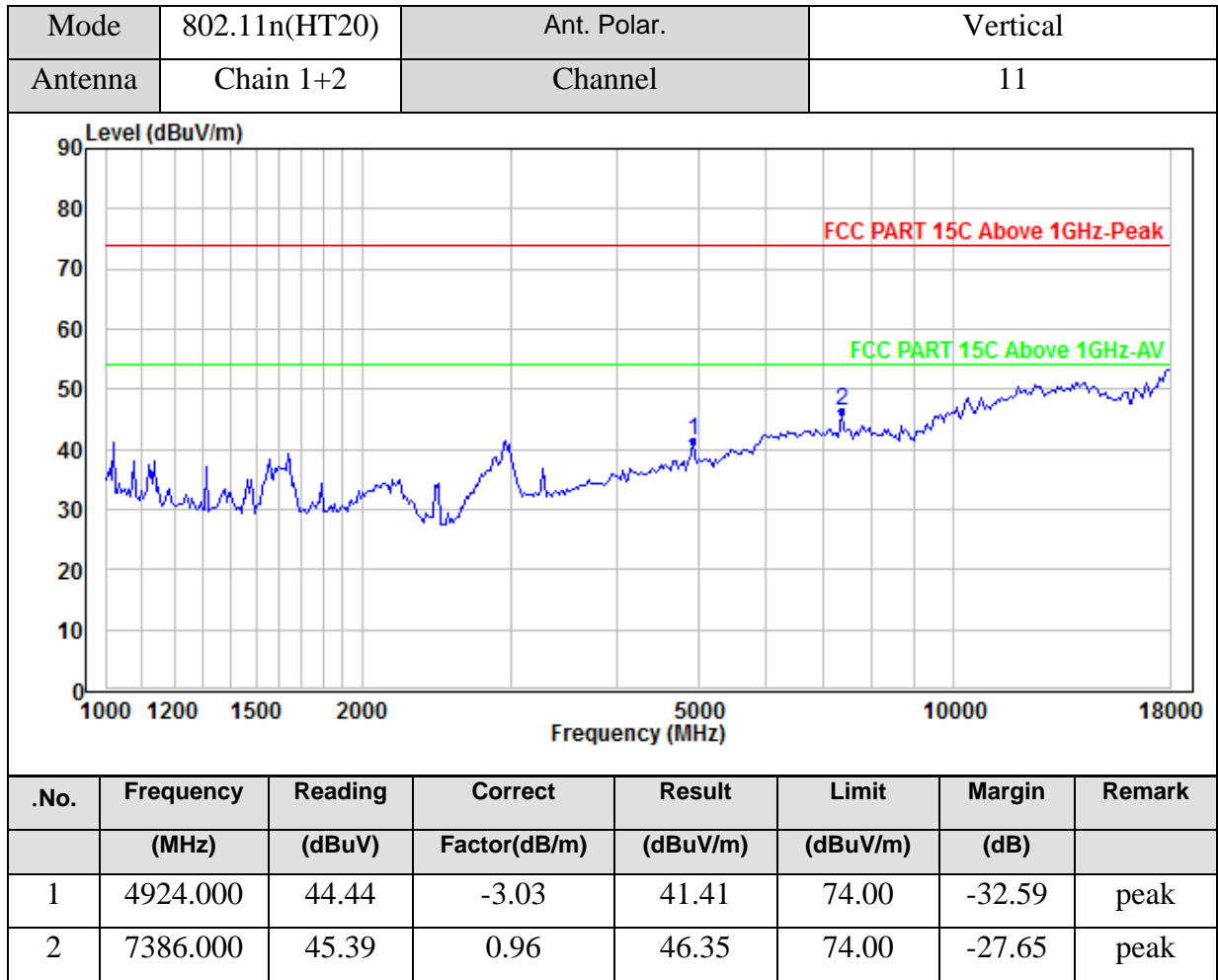


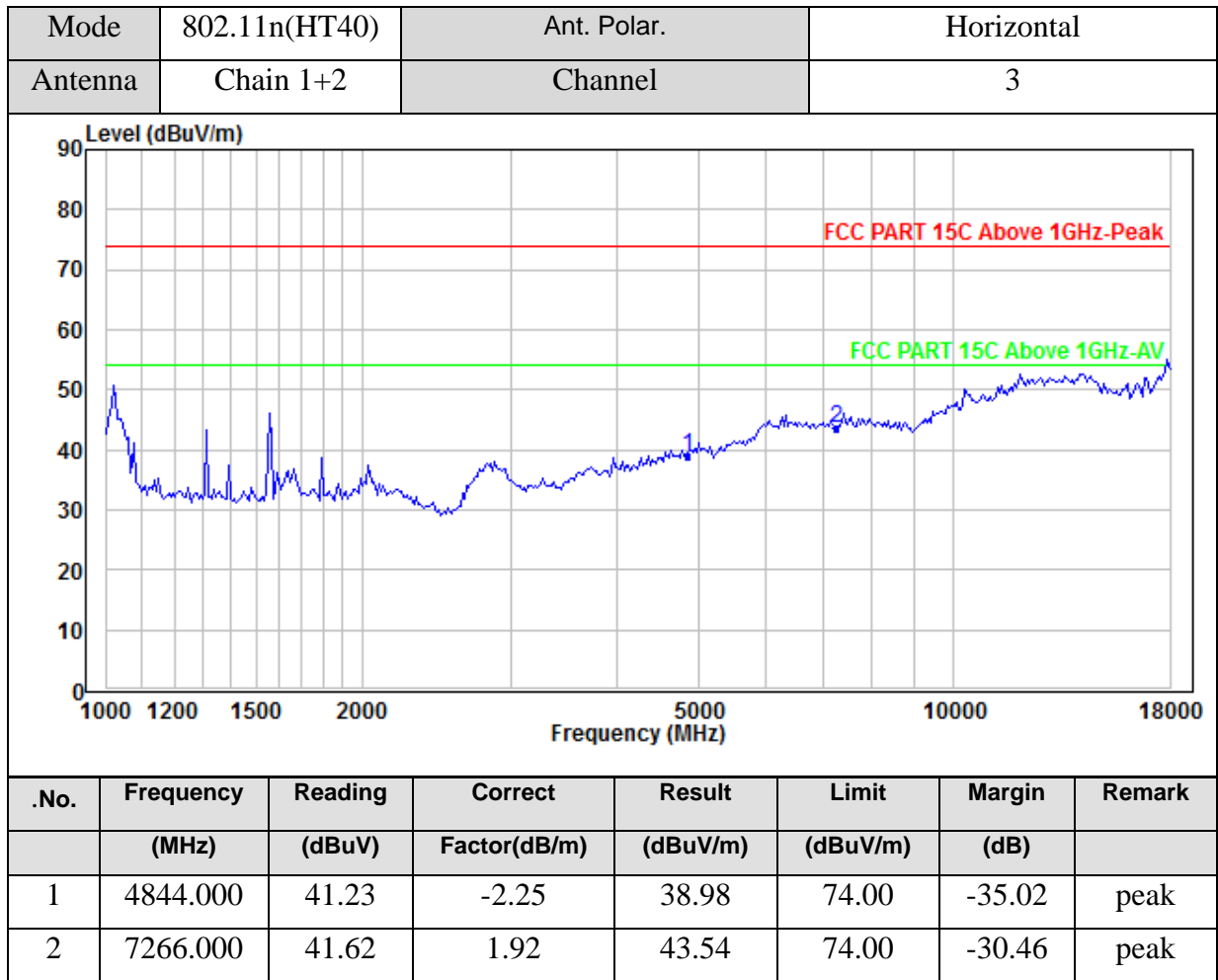


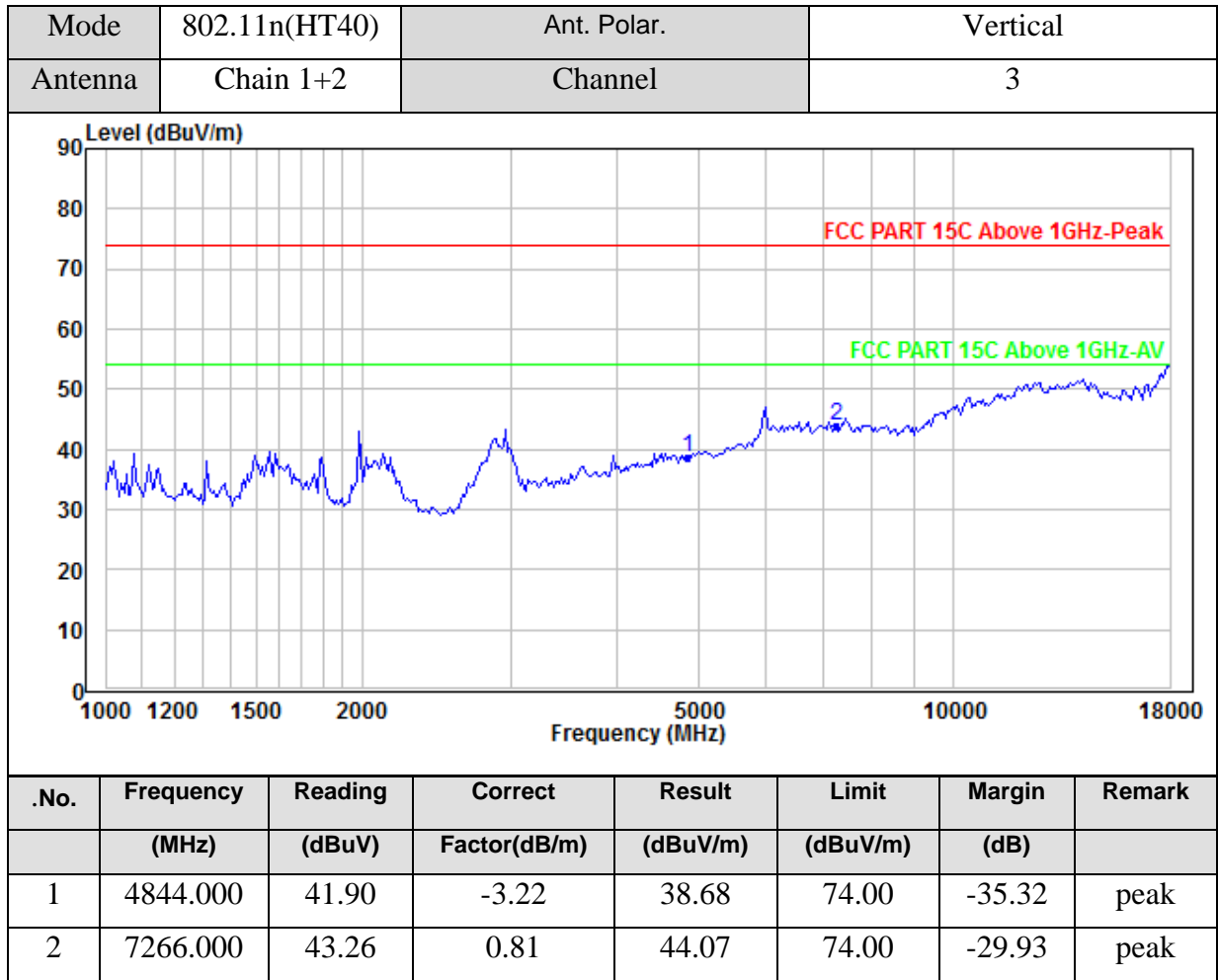


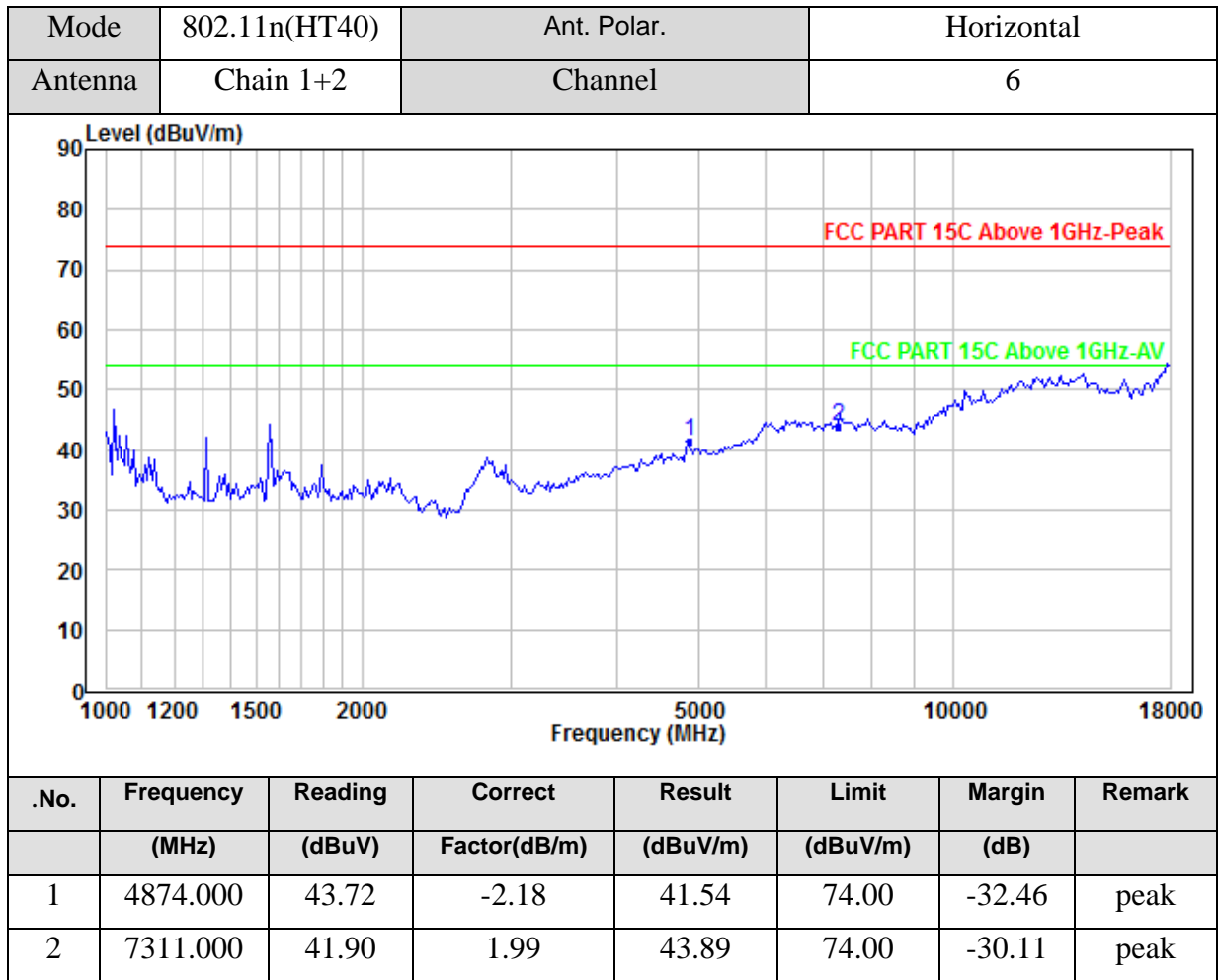


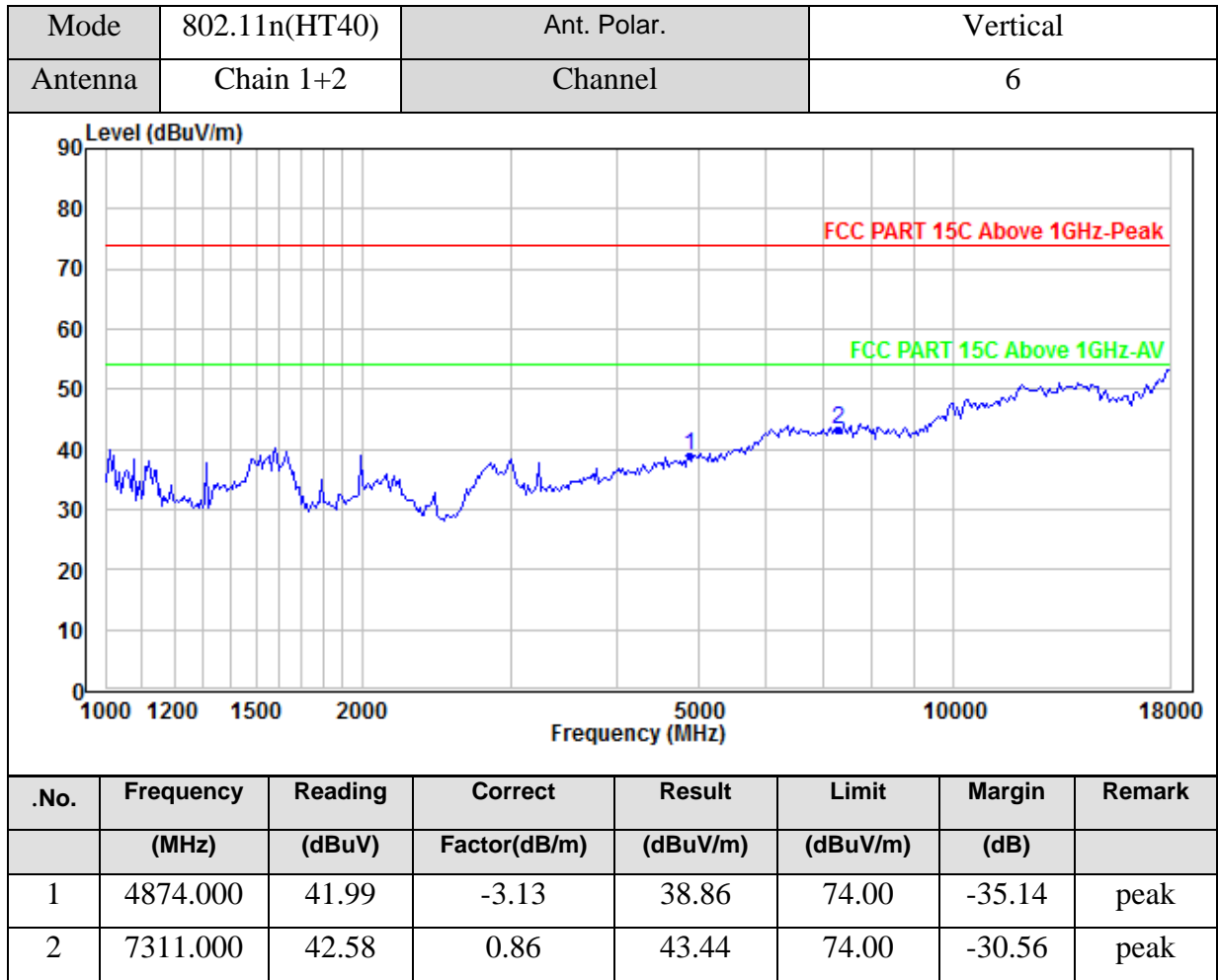


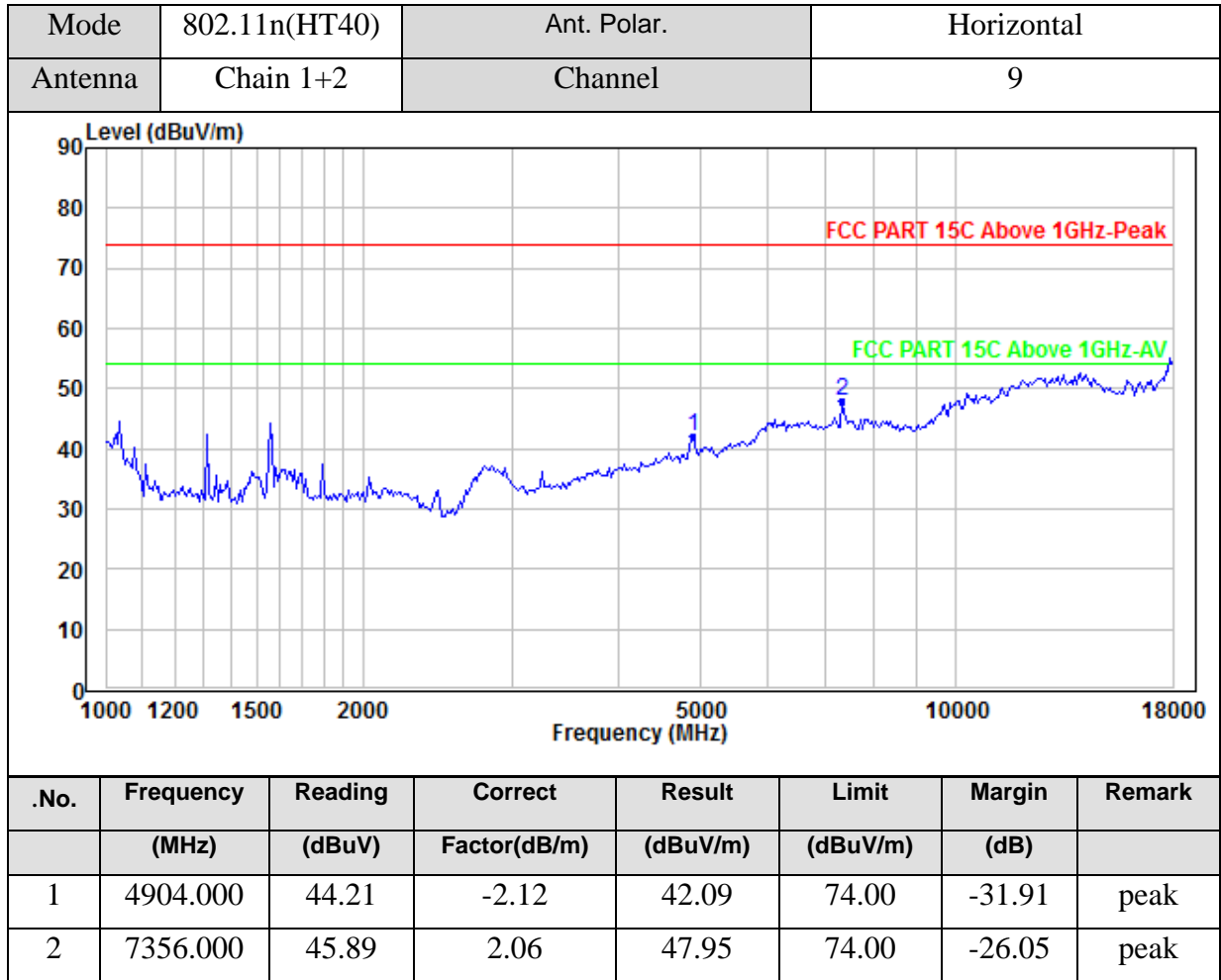


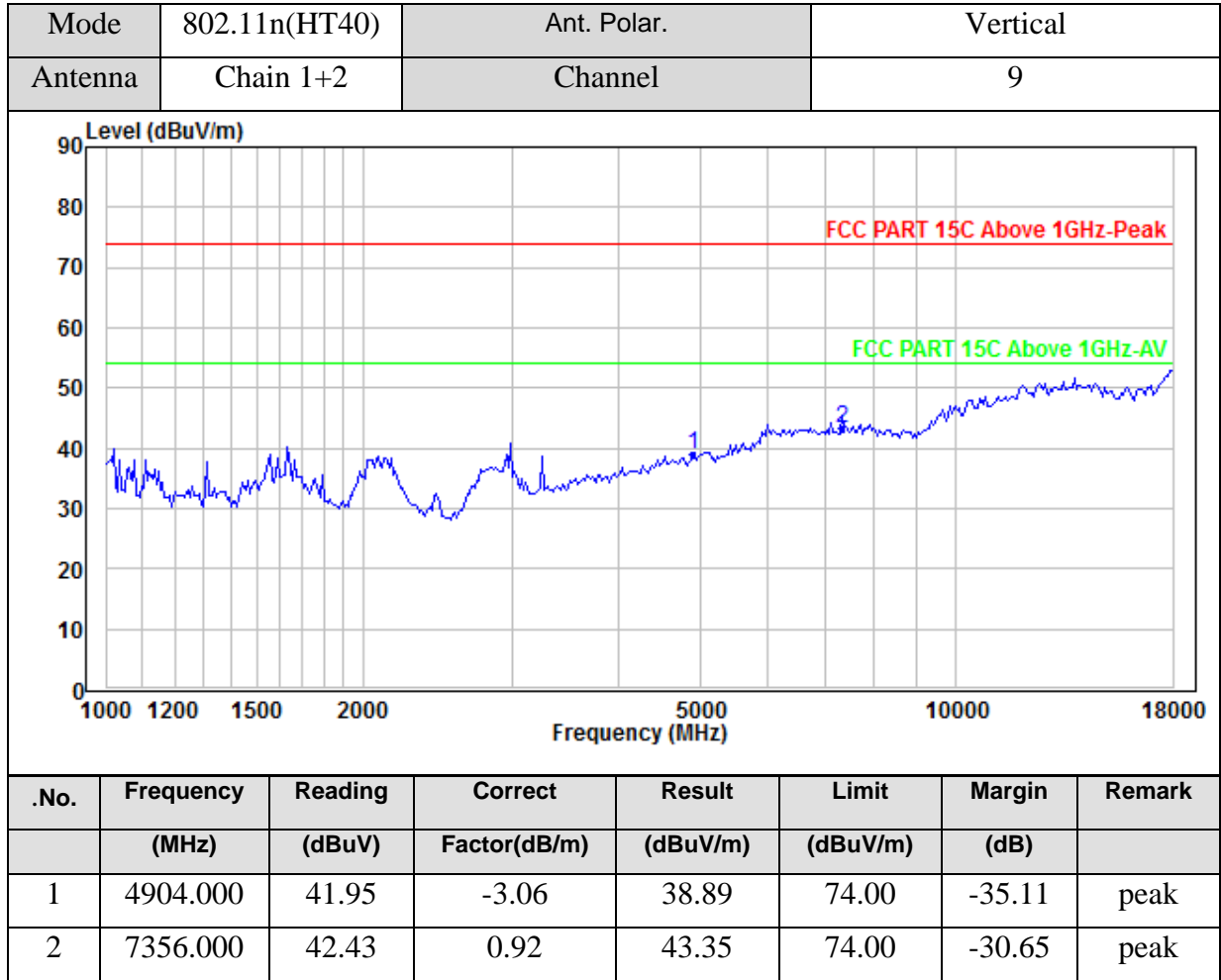












Remark: As shown in this section, for frequencies above 1GHz, the field strength limits are based on average limits. However, the peak field strength of any emission shall not exceed the maximum permitted average limits specified above by more than 20 dB under any condition of modulation. So, only the peak measurements were shown in the report.

6.5 Conducted Out of Band Emission

6.5.1 Limits

In any 100kHz bandwidth outside the frequency bands in which the spread spectrum intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20dB below that in the 100kHz bandwidth within the band that contains the highest level of the desired power.

6.5.2 Test Procedure(KDB 558074 D01 v04, Section 11)

Measurement Procedure REF

- a) Set instrument center frequency to DTS channel center frequency.
- b) Set the span to ≥ 1.5 times the DTS bandwidth.
- c) Set the RBW = 100 kHz.
- d) Set the VBW $\geq 3 \times$ RBW.
- e) Detector = peak.
- f) Sweep time = auto couple.
- g) Trace mode = max hold.
- h) Allow trace to fully stabilize.
- i) Use the peak marker function to determine the maximum PSD level.

Note that the channel found to contain the maximum PSD level can be used to establish the reference level.

Measurement Procedure OOB

- a) Set RBW = 100 kHz.
- b) Set VBW ≥ 300 kHz.
- c) Detector = peak.
- d) Sweep = auto couple.
- e) Trace Mode = max hold.
- f) Allow trace to fully stabilize.

Use the peak marker function to determine the maximum amplitude level.

6.5.3 Test Data

The EUT complied with the ISED RSS-247 Conducted band edge emissions requirements.

Table 10 provides the test results for Conducted band edge emissions. (All the data attached was use the worst case data rate as in table 6)

6.5.4 Areas of Concern

None.

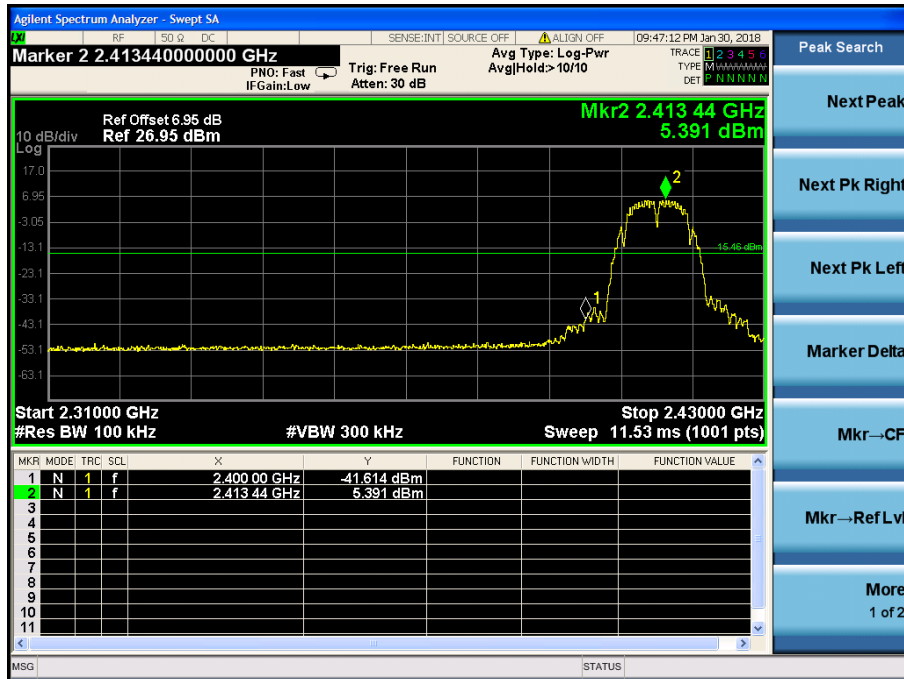
Table 10: Conducted Out of Band Emission

Chain 1-Test plot as follows

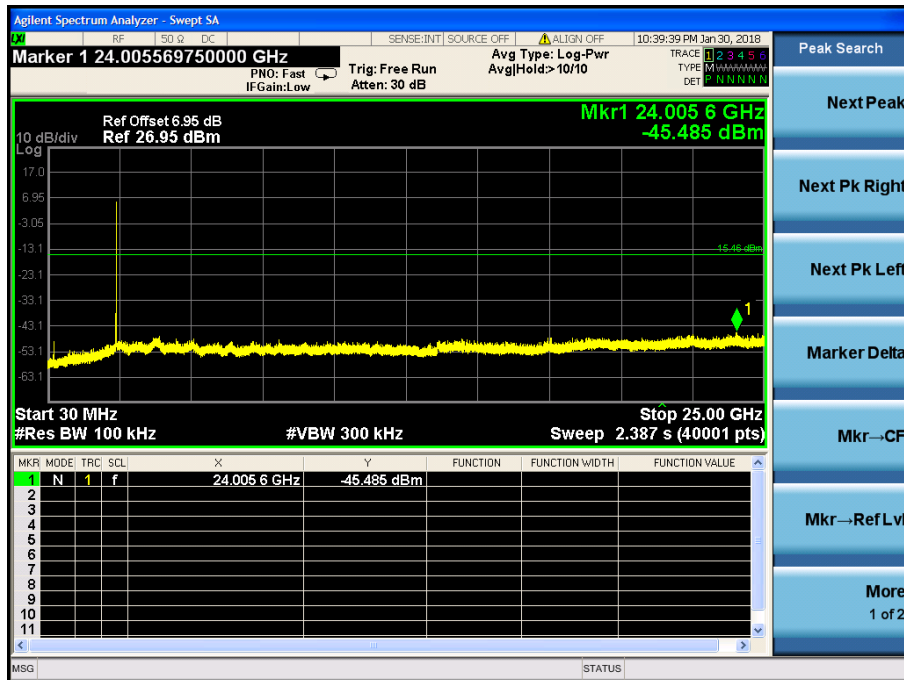
Test Mode: IEEE 802.11b TX

Test CH1: 2412MHz

In-Band Reference Level



Out of Band Emission

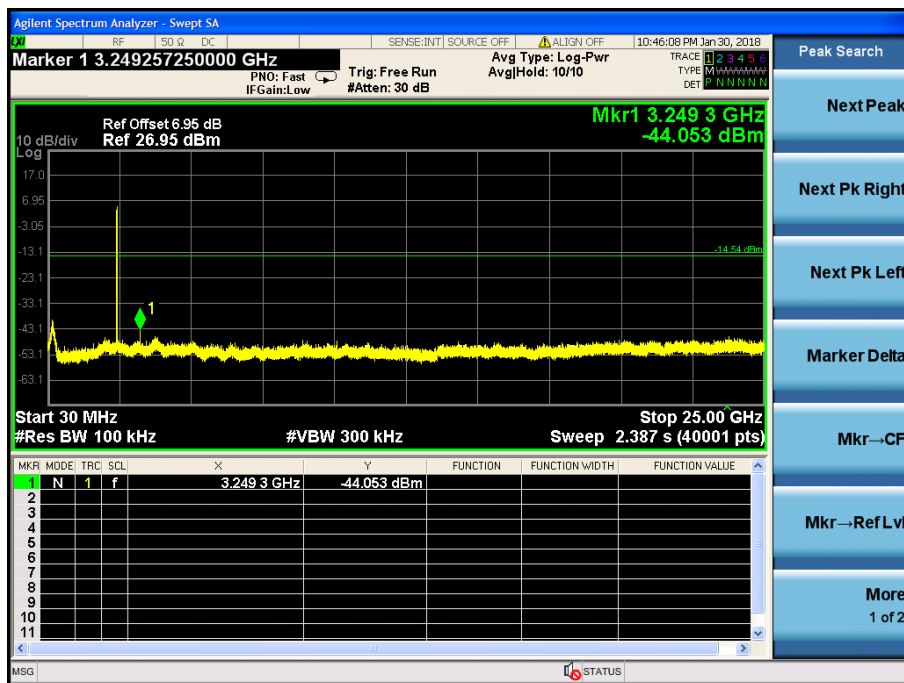


Test CH11: 2437MHz

In-Band Reference Level



Out of Band Emission

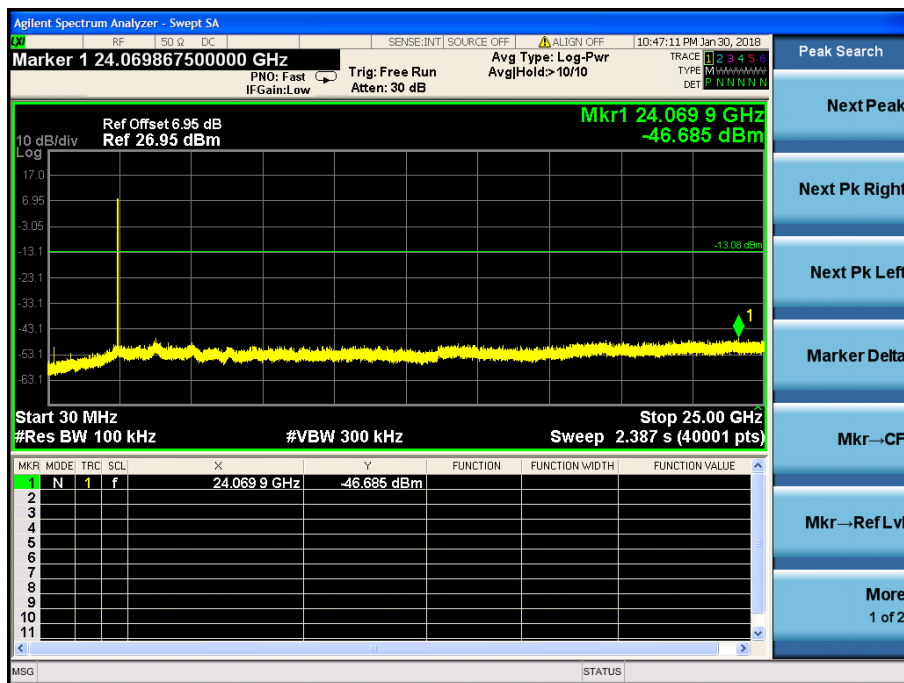


Test CH11: 2462MHz

In-Band Reference Level



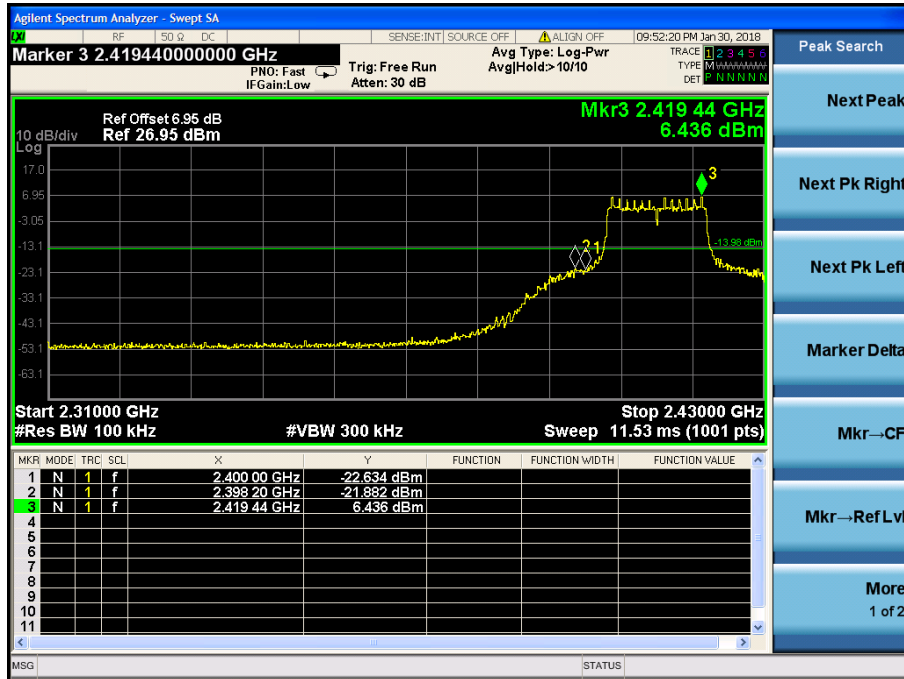
Out of Band Emission



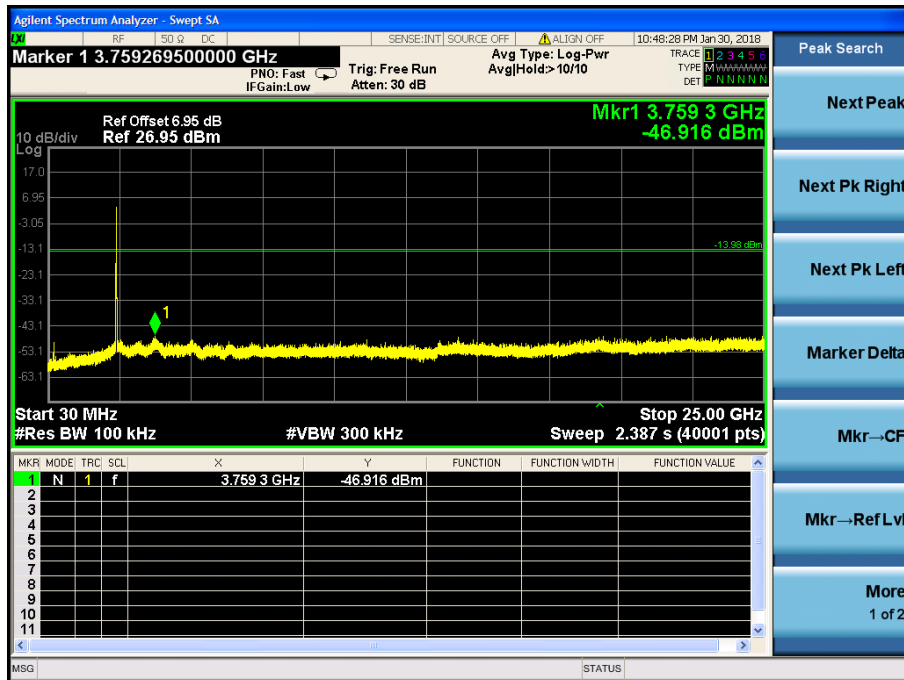
Test Mode: IEEE 802.11g TX

Test CH1: 2412MHz

In-Band Reference Level

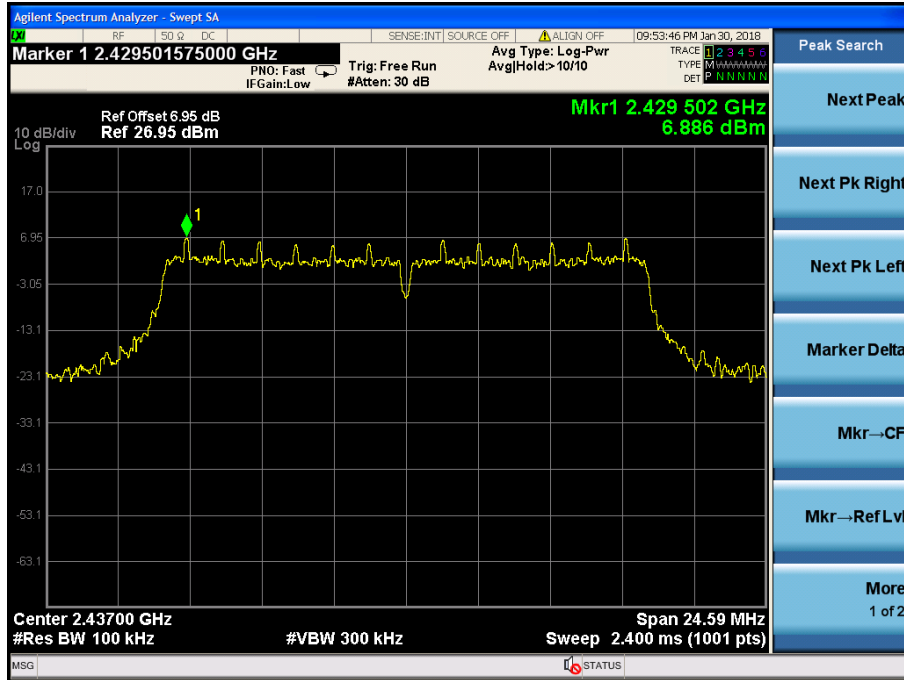


Out of Band Emission

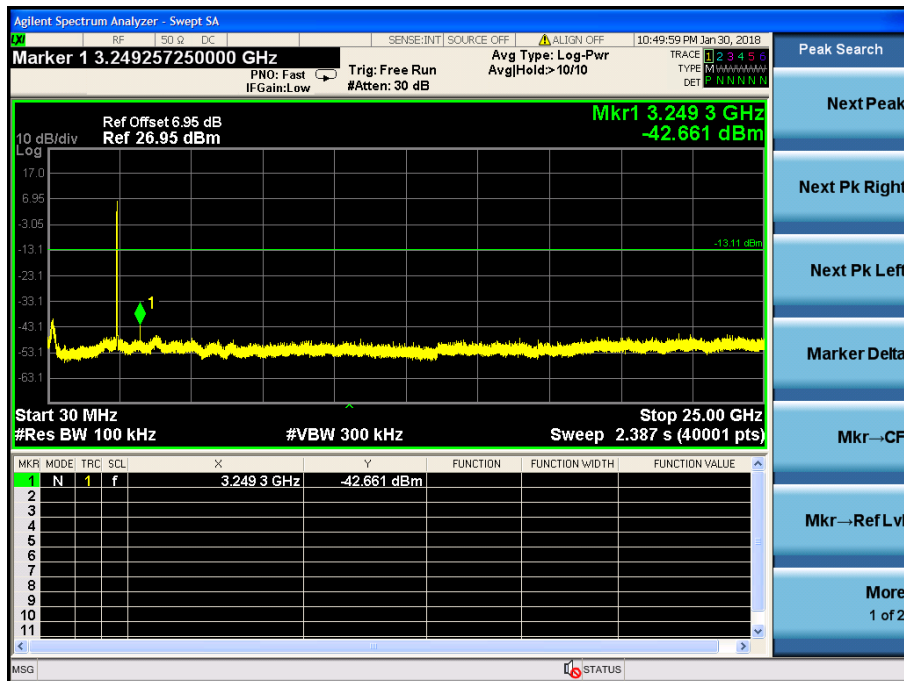


Test CH11: 2437MHz

In-Band Reference Level



Out of Band Emission

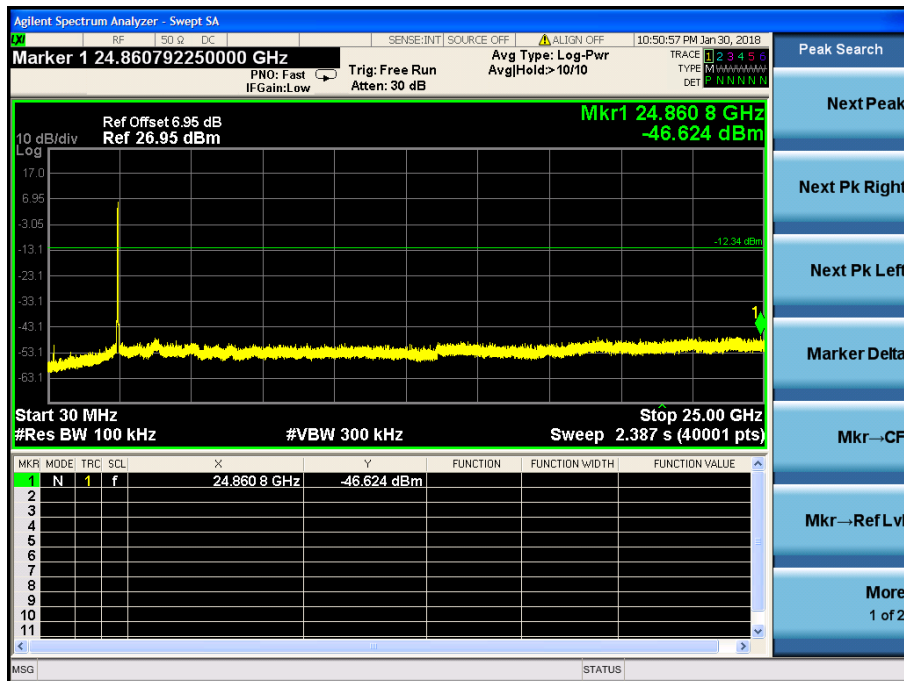


Test CH11: 2462MHz

In-Band Reference Level



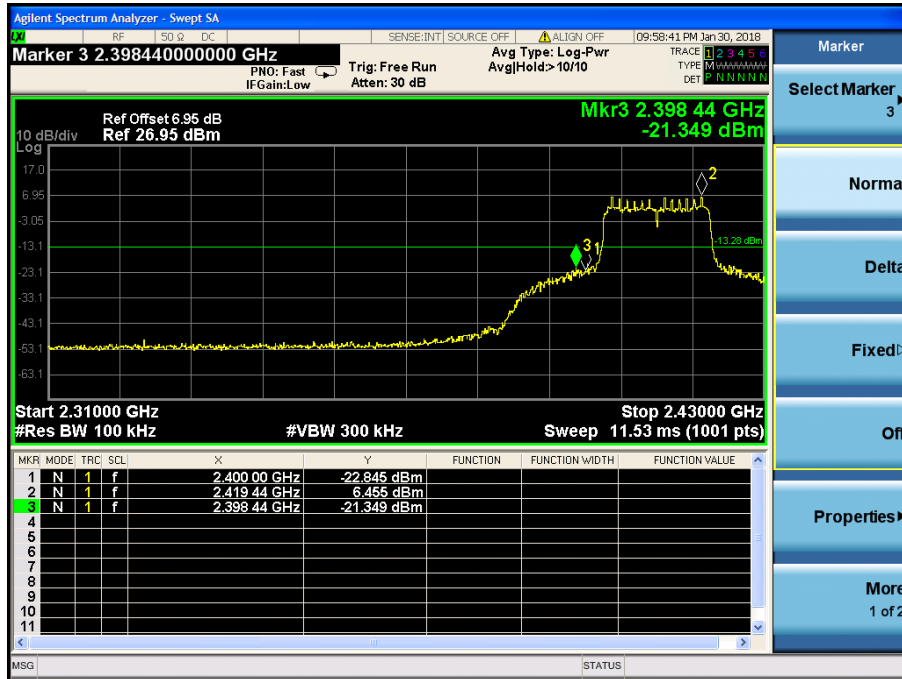
Out of Band Emission



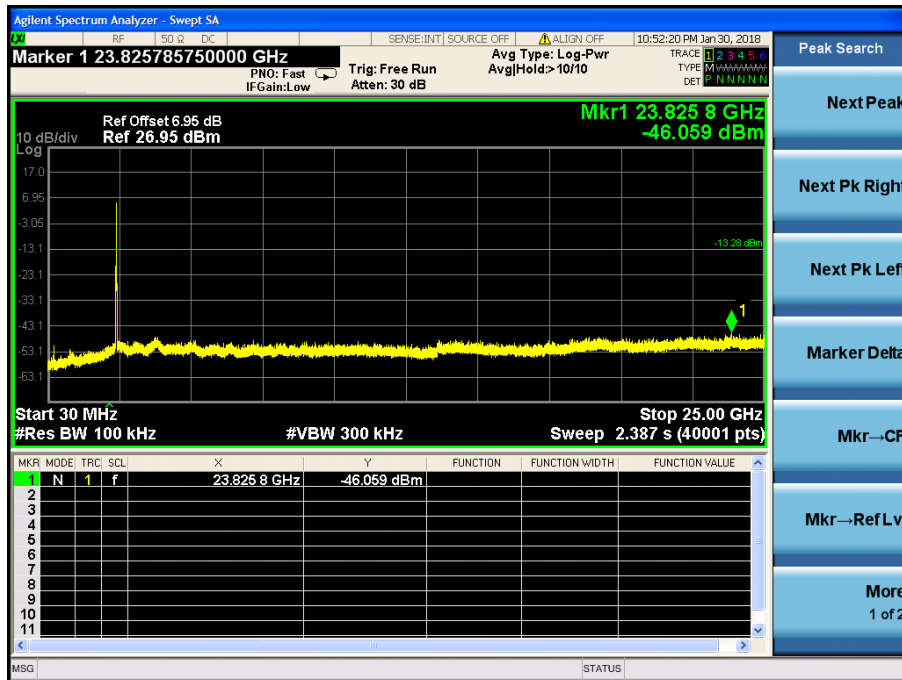
Test Mode: IEEE 802.11n (HT20) TX

Test CH1: 2412MHz

In-Band Reference Level

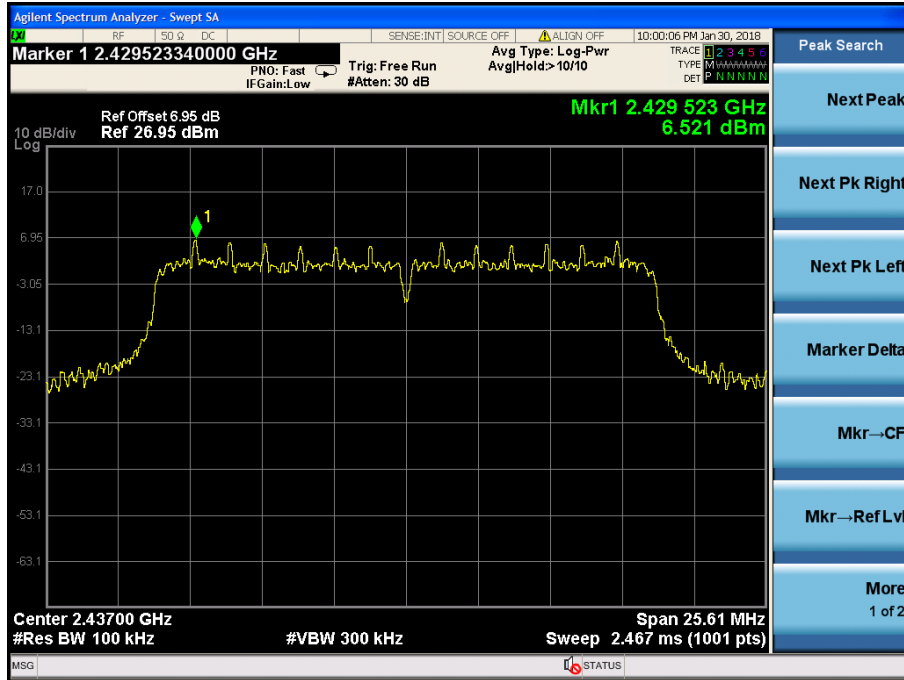


Out of Band Emission

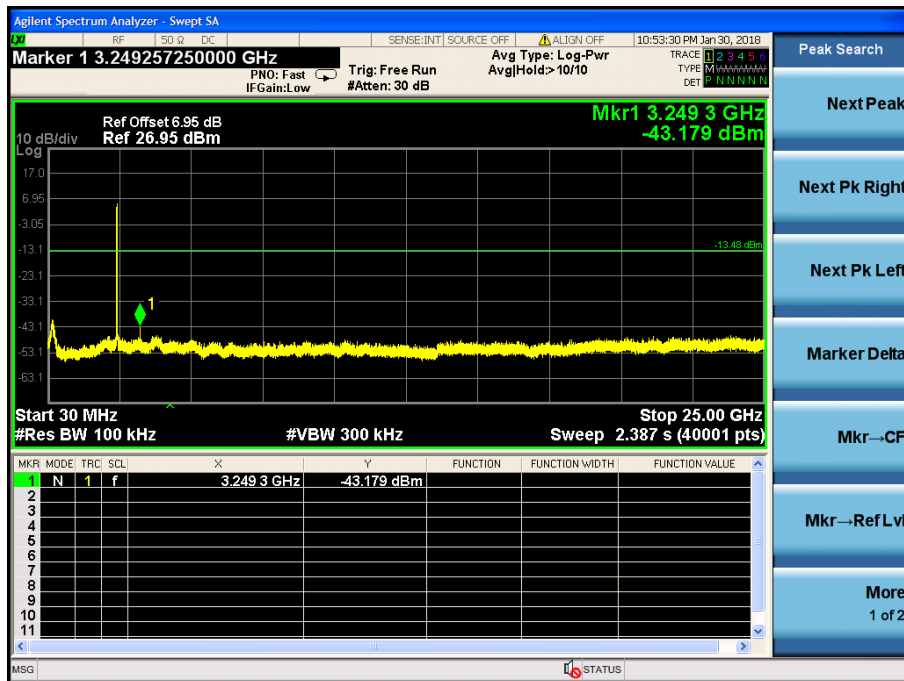


Test CH11: 2437MHz

In-Band Reference Level



Out of Band Emission

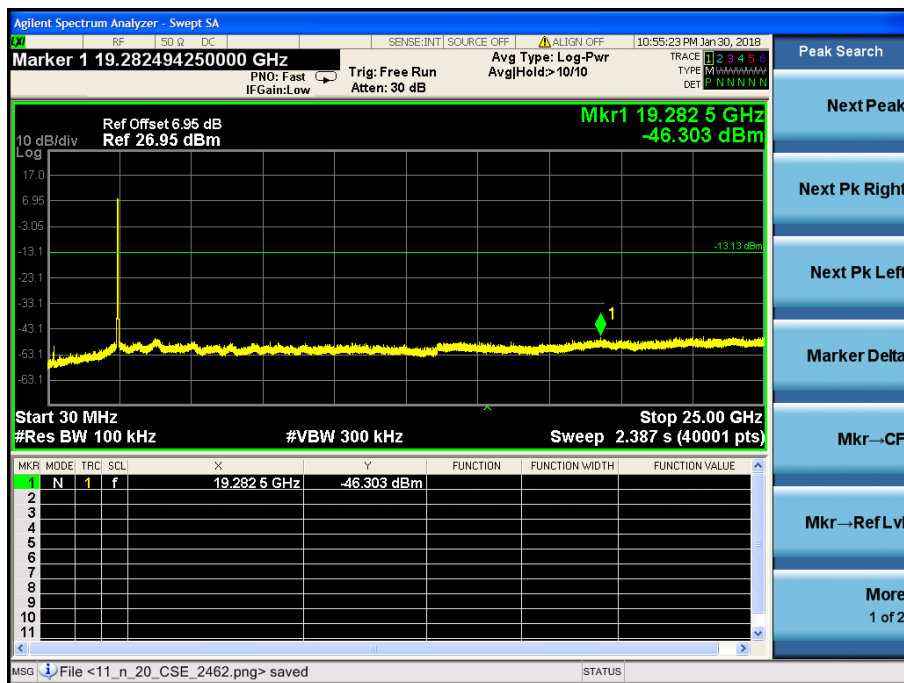


Test CH11: 2462MHz

In-Band Reference Level



Out of Band Emission



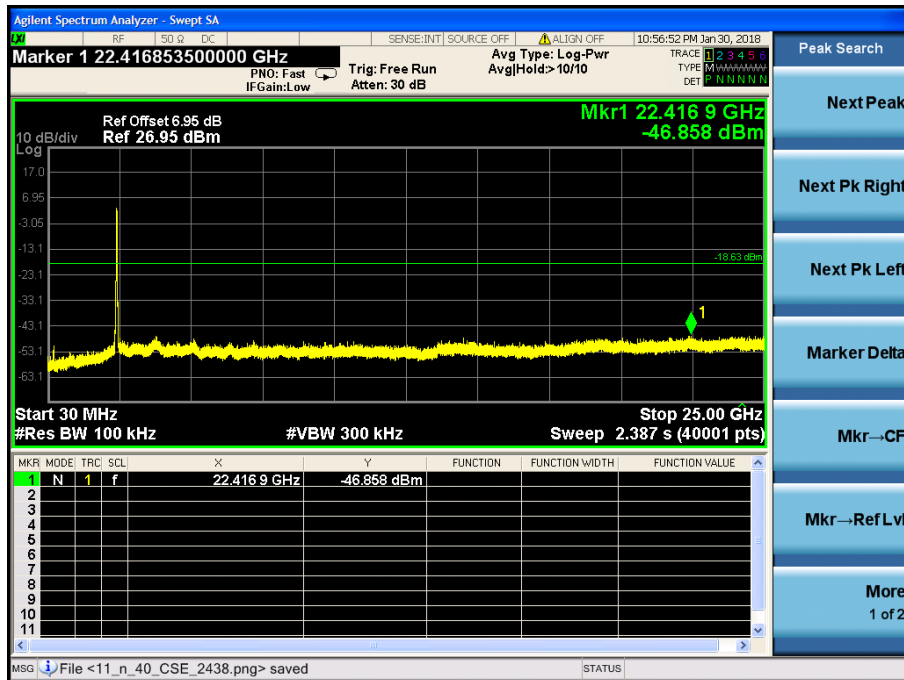
Test Mode: IEEE 802.11n (HT40) TX

Test CH3: 2422MHz

In-Band Reference Level

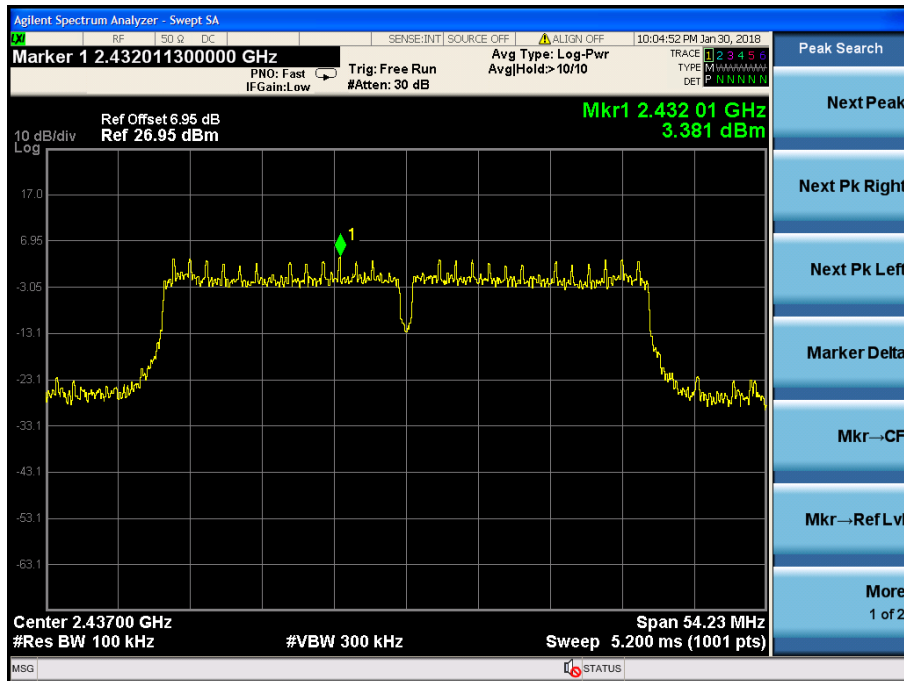


Out of Band Emission

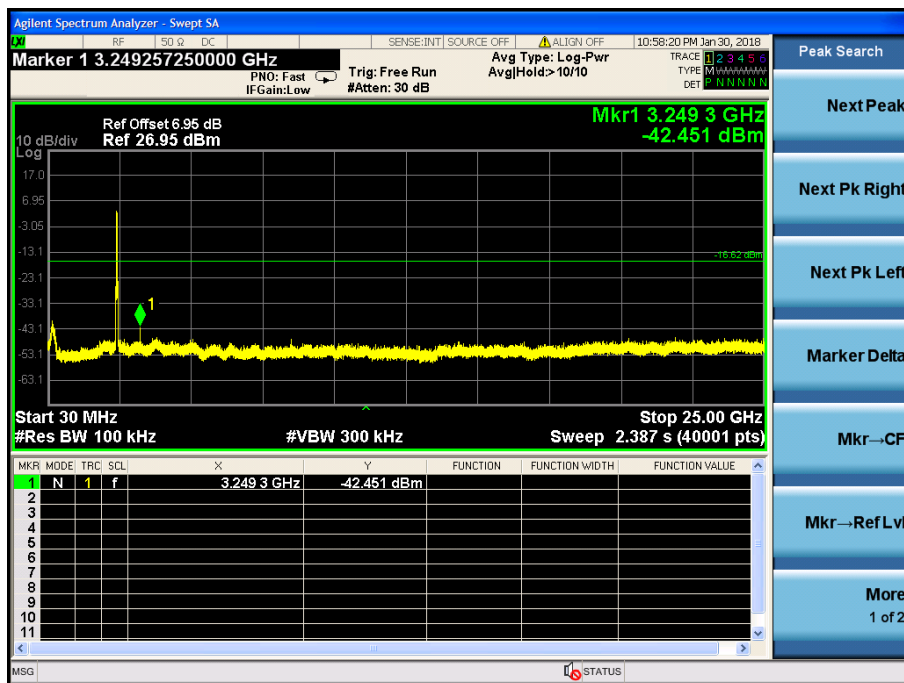


Test CH11: 2437MHz

In-Band Reference Level

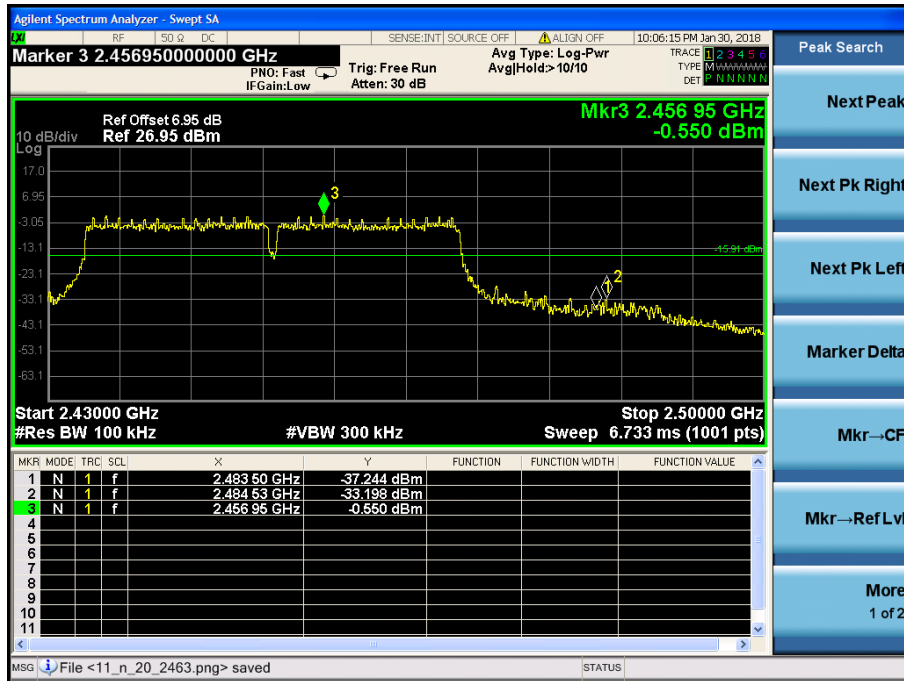


Out of Band Emission

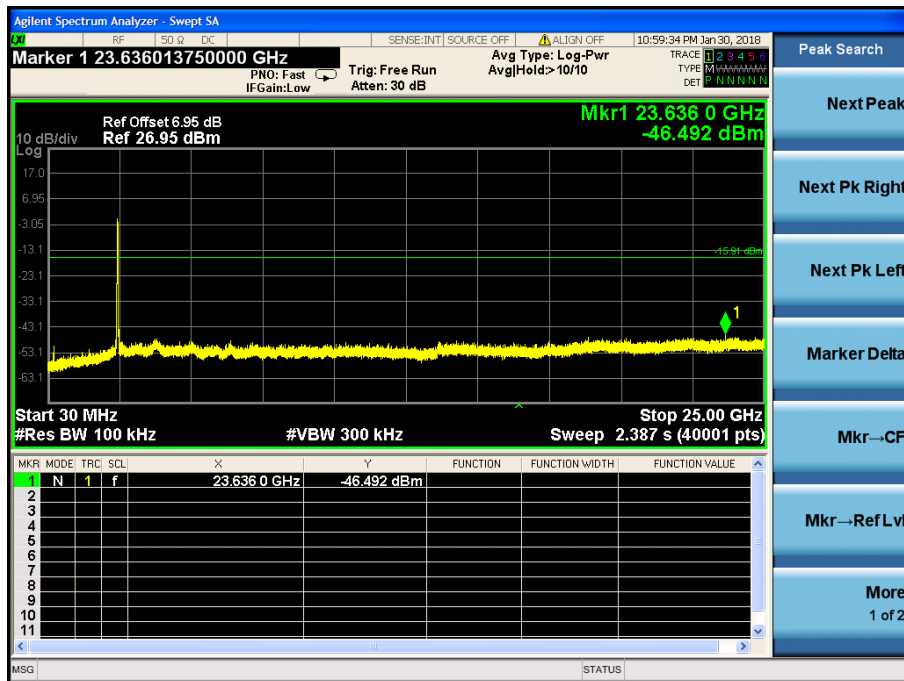


Test CH9: 2452MHz

In-Band Reference Level



Out of Band Emission

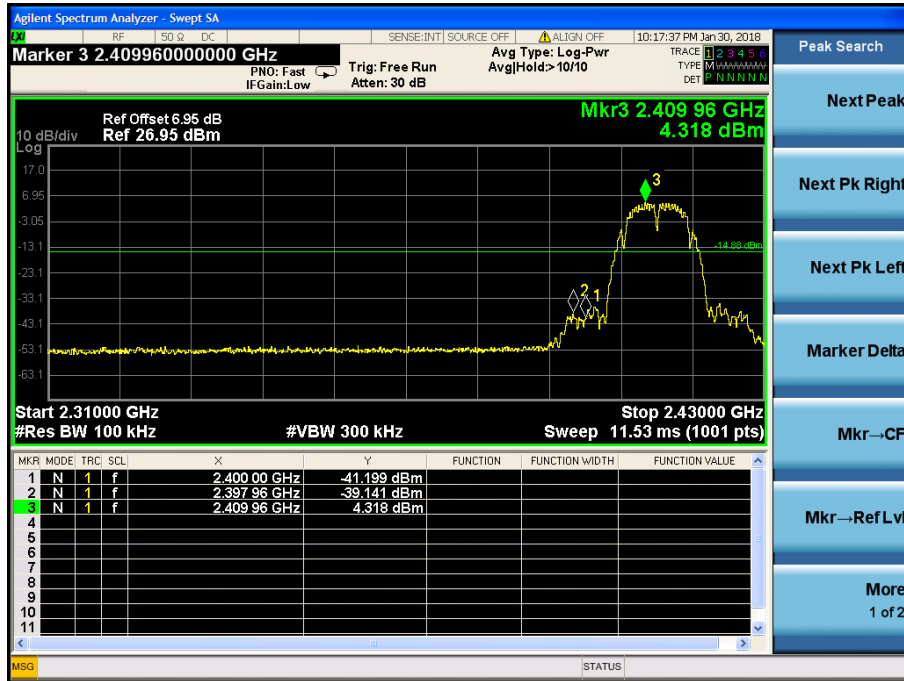


Chain 2-Test plot as follows

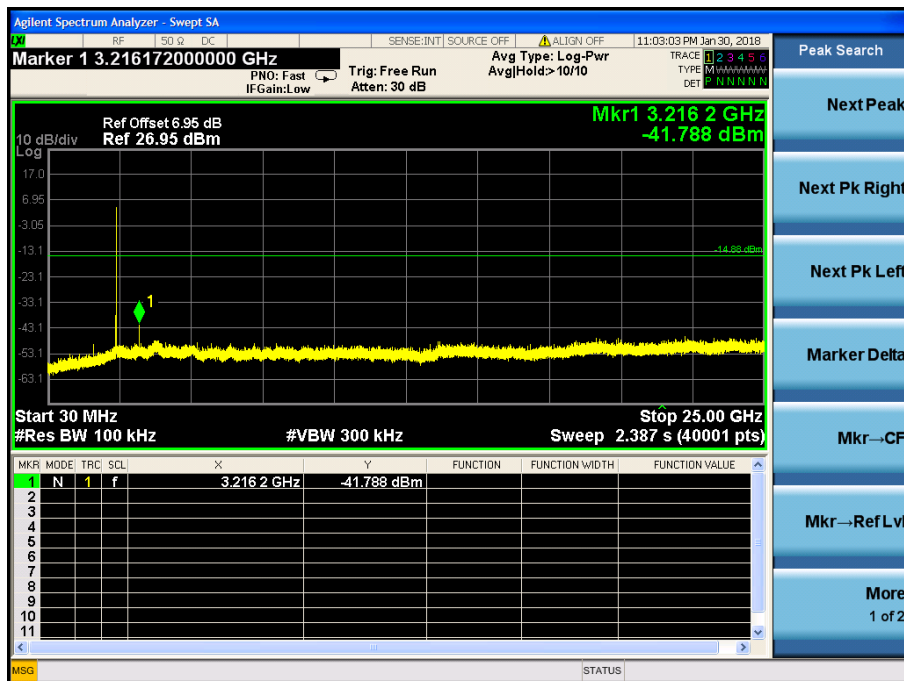
Test Mode: IEEE 802.11b TX

Test CH1: 2412MHz

In-Band Reference Level

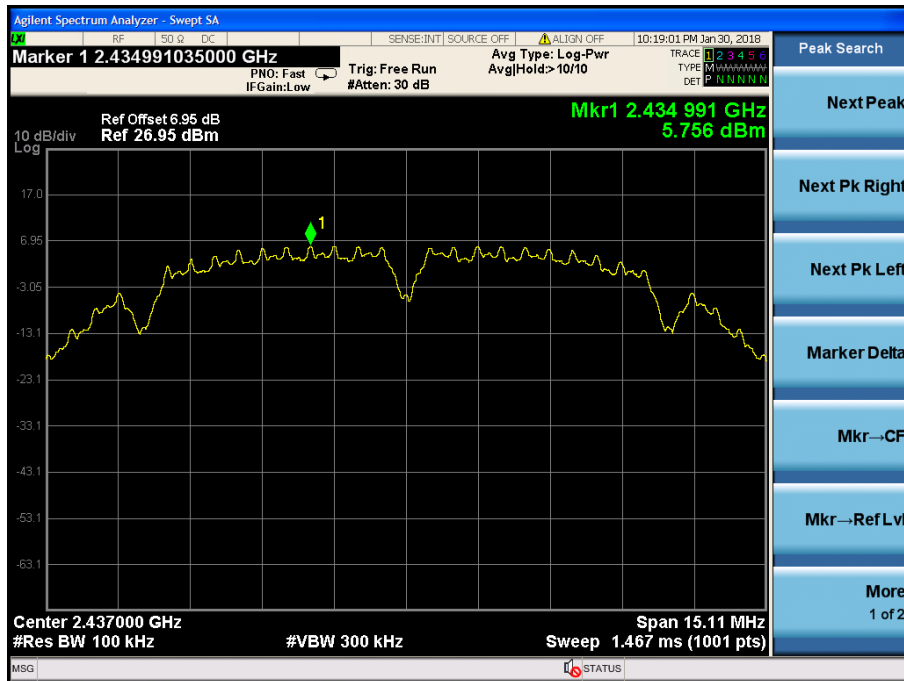


Out of Band Emission

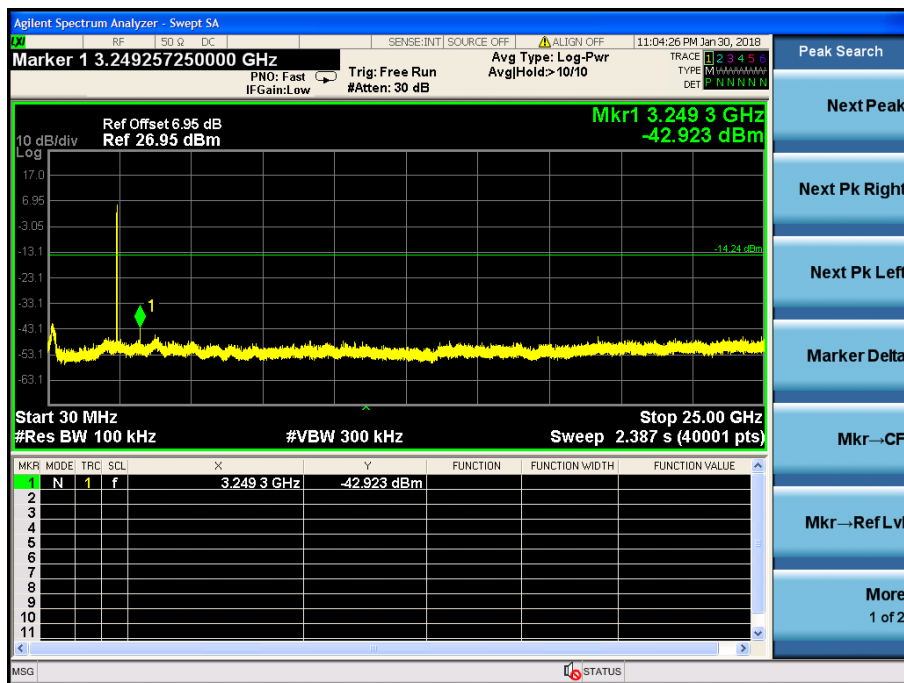


Test CH11: 2437MHz

In-Band Reference Level



Out of Band Emission

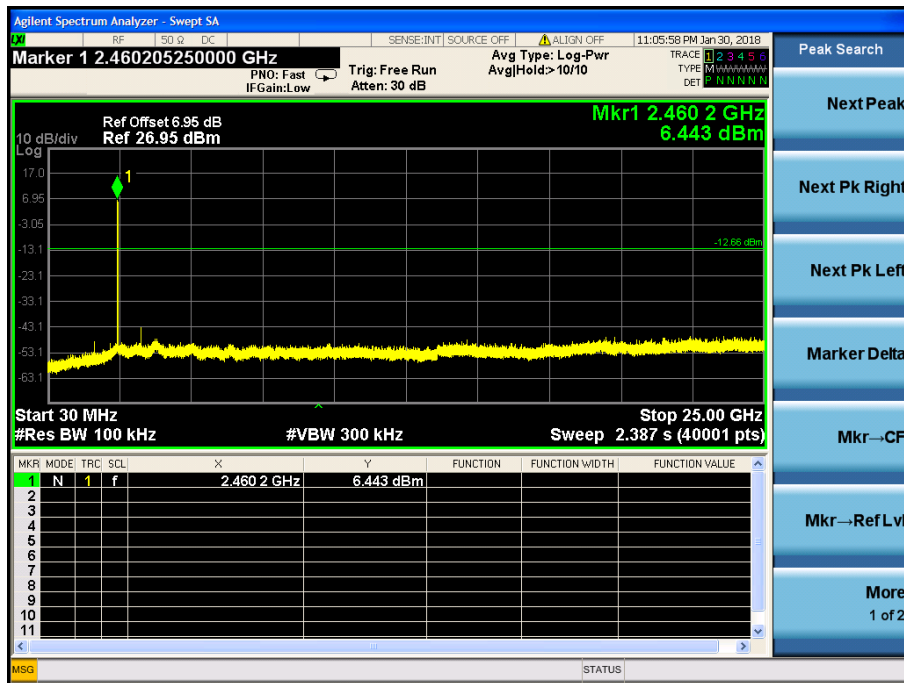


Test CH11: 2462MHz

In-Band Reference Level



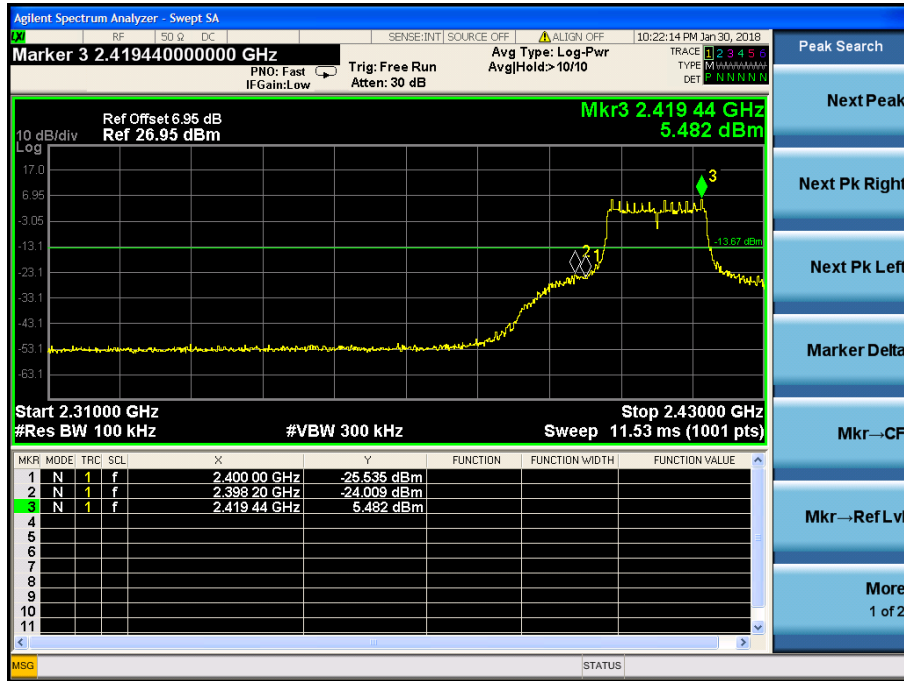
Out of Band Emission



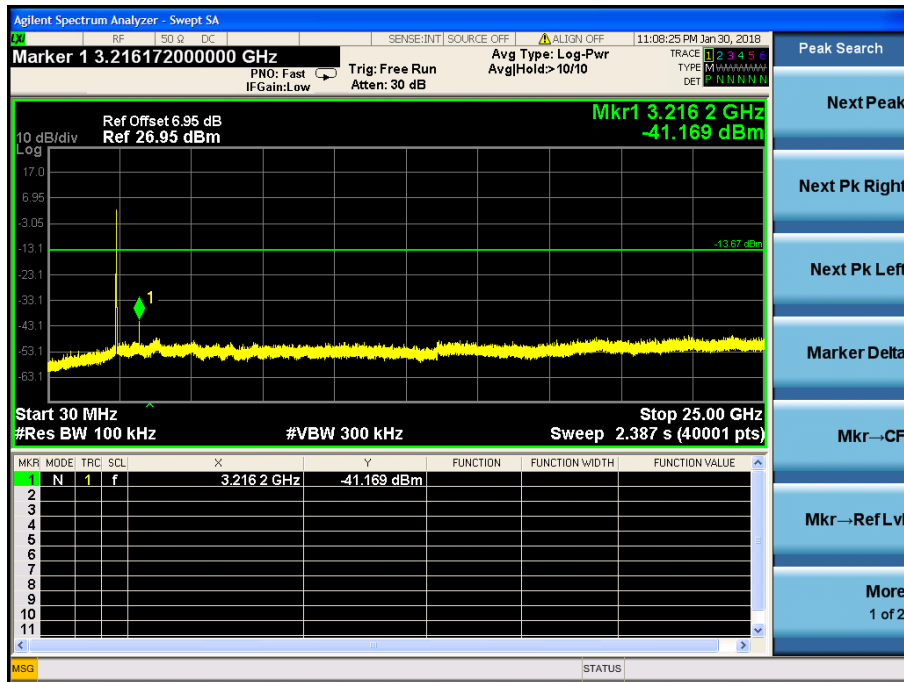
Test Mode: IEEE 802.11g TX

Test CH1: 2412MHz

In-Band Reference Level

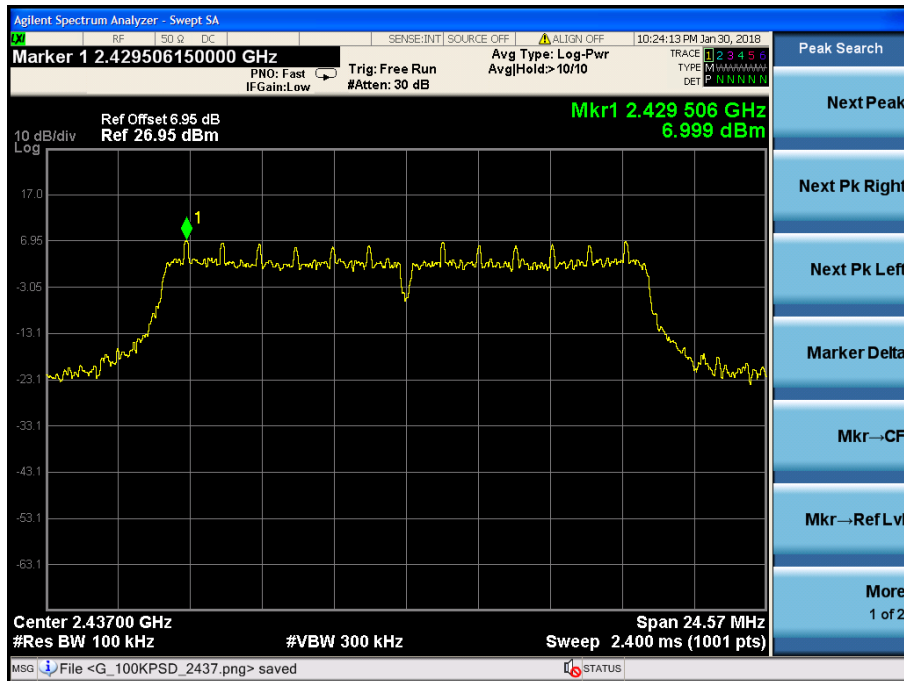


Out of Band Emission

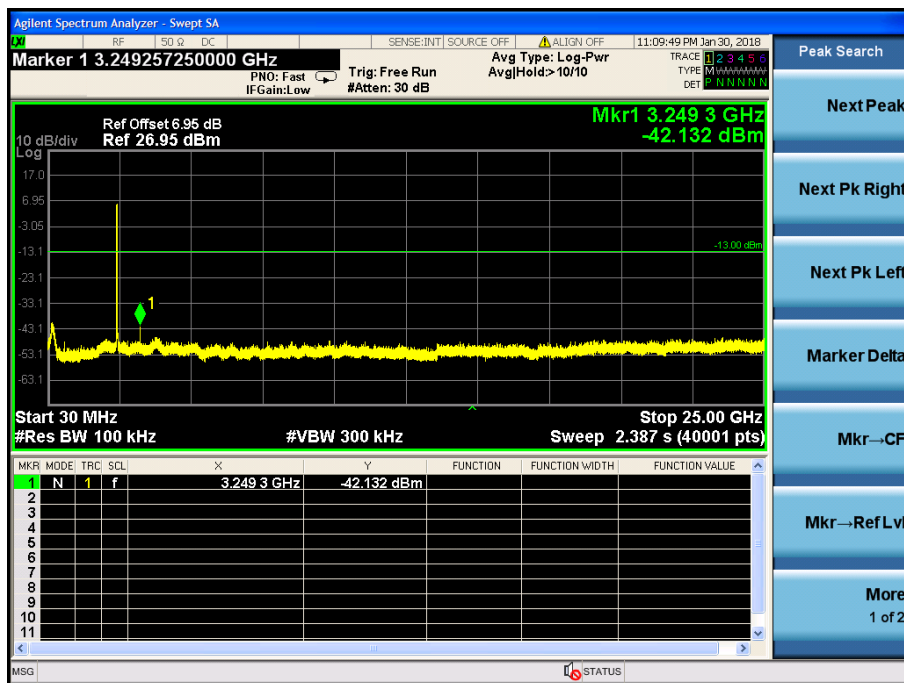


Test CH11: 2437MHz

In-Band Reference Level



Out of Band Emission

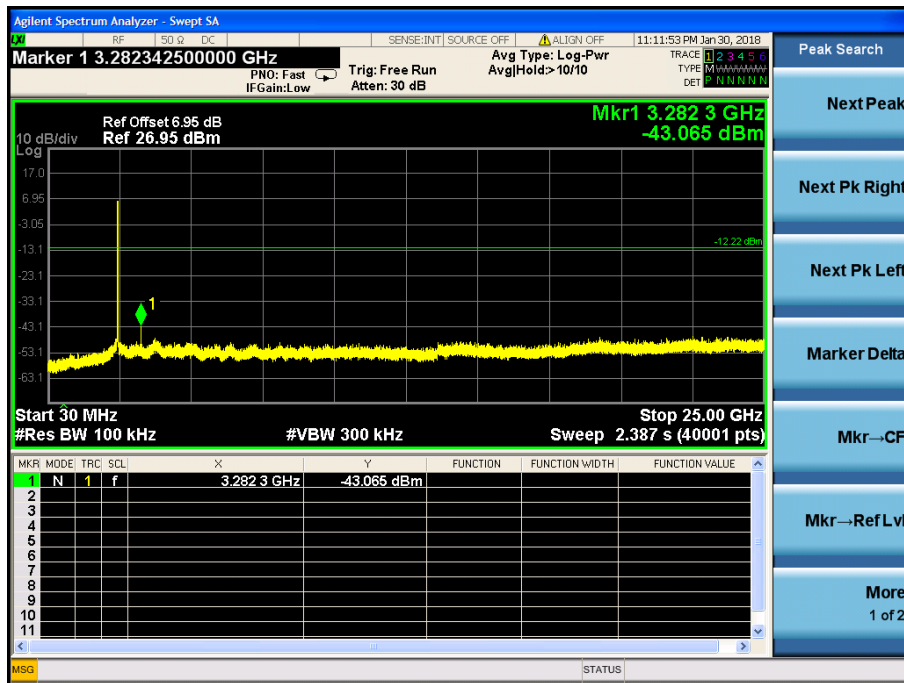


Test CH11: 2462MHz

In-Band Reference Level



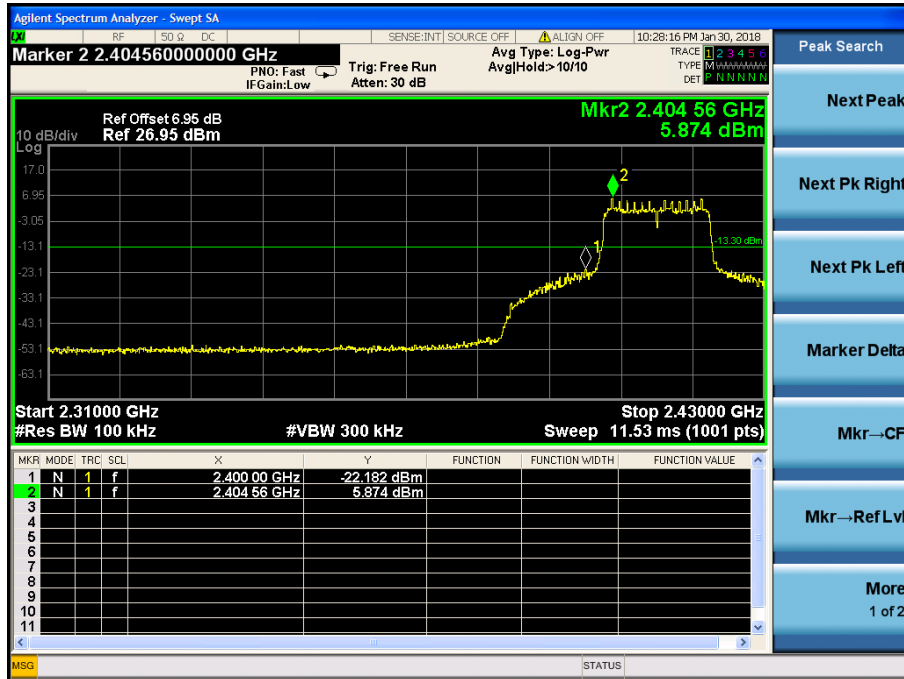
Out of Band Emission



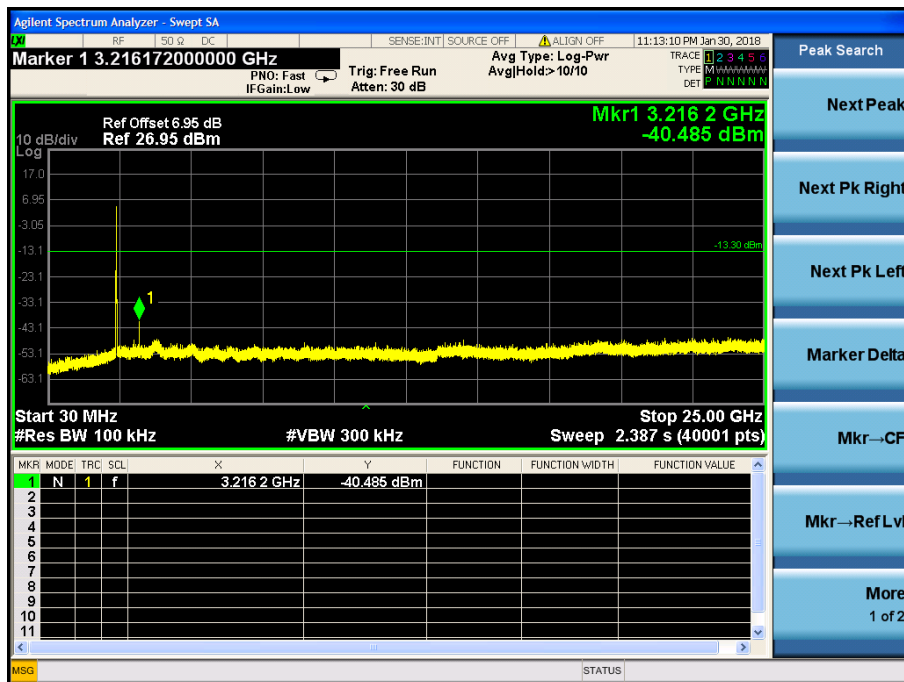
Test Mode: IEEE 802.11n (HT20) TX

Test CH1: 2412MHz

In-Band Reference Level

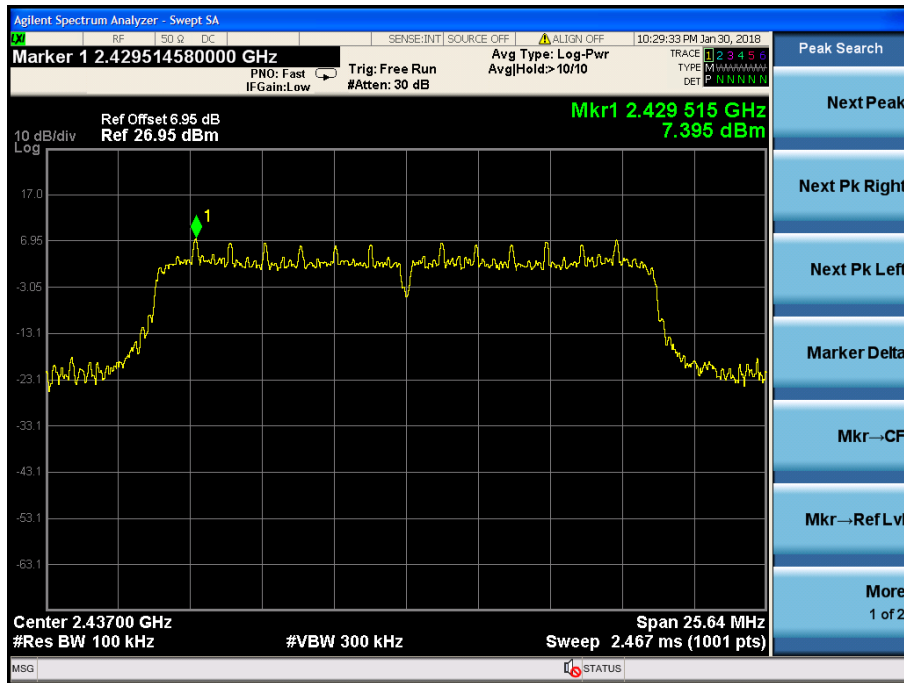


Out of Band Emission

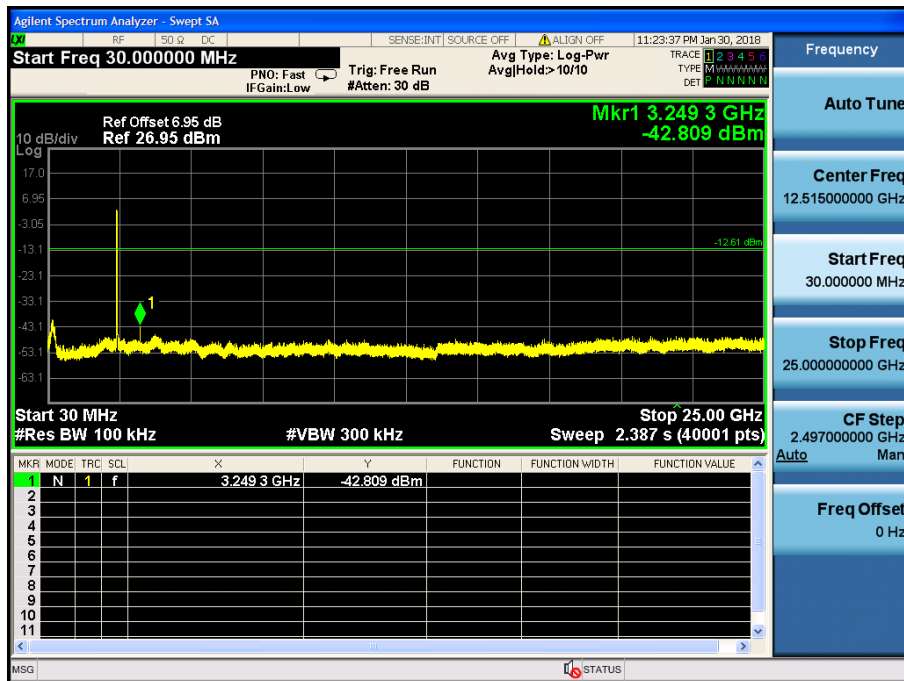


Test CH11: 2437MHz

In-Band Reference Level



Out of Band Emission

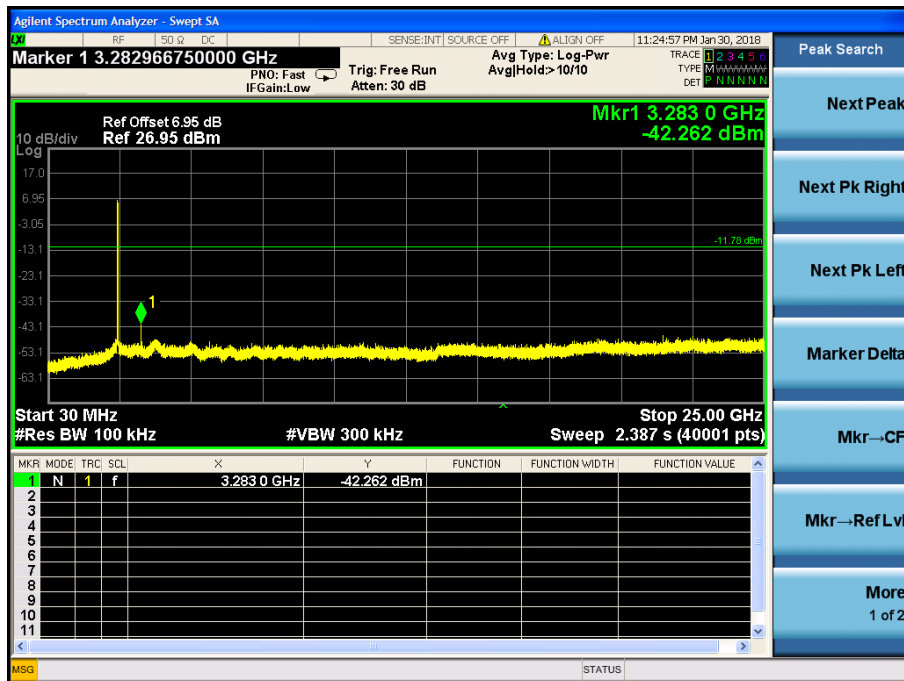


Test CH11: 2462MHz

In-Band Reference Level



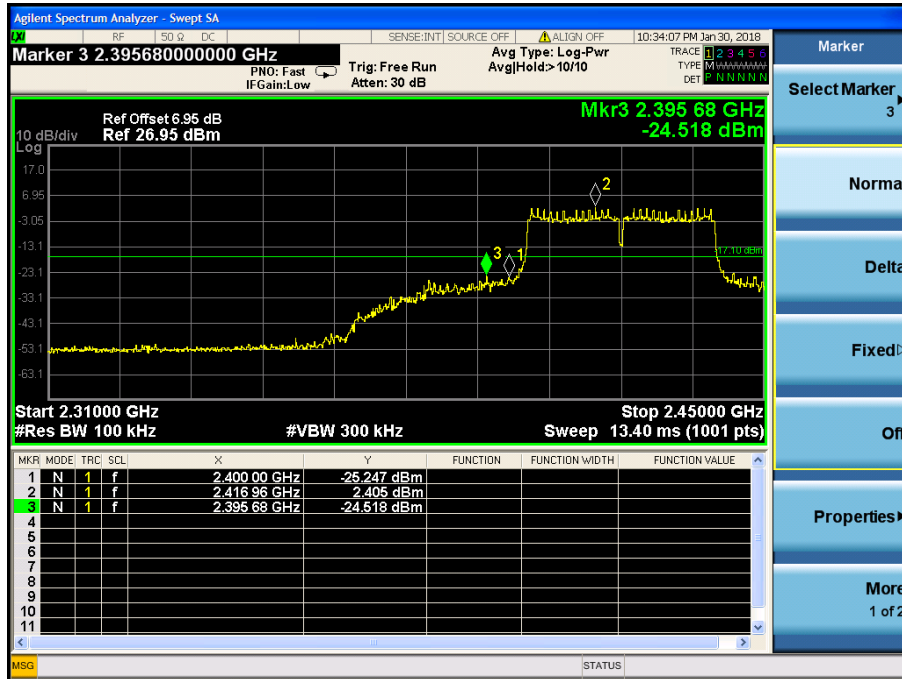
Out of Band Emission



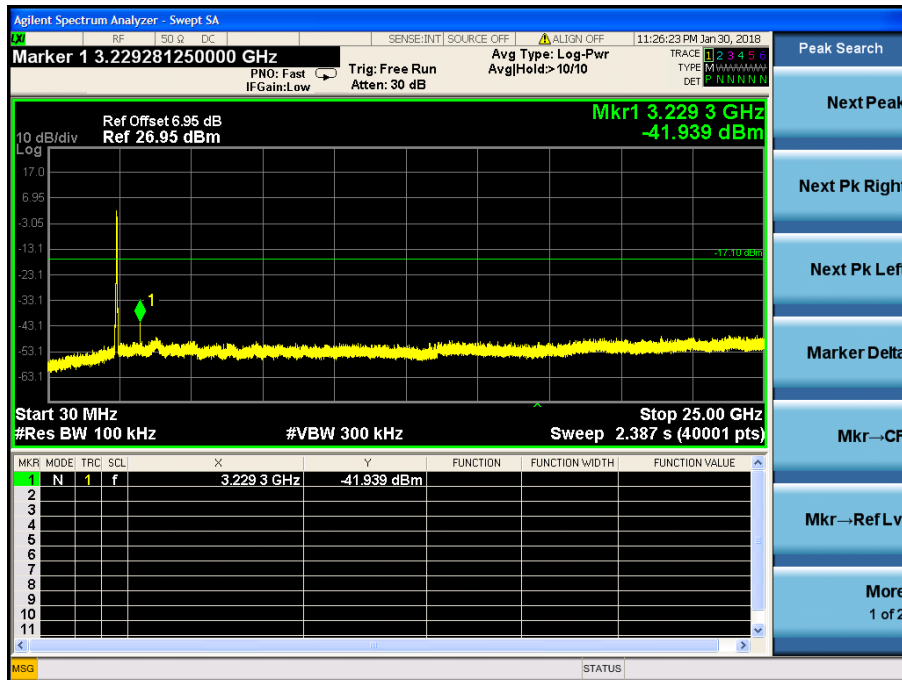
Test Mode: IEEE 802.11n (HT40) TX

Test CH3: 2422MHz

In-Band Reference Level

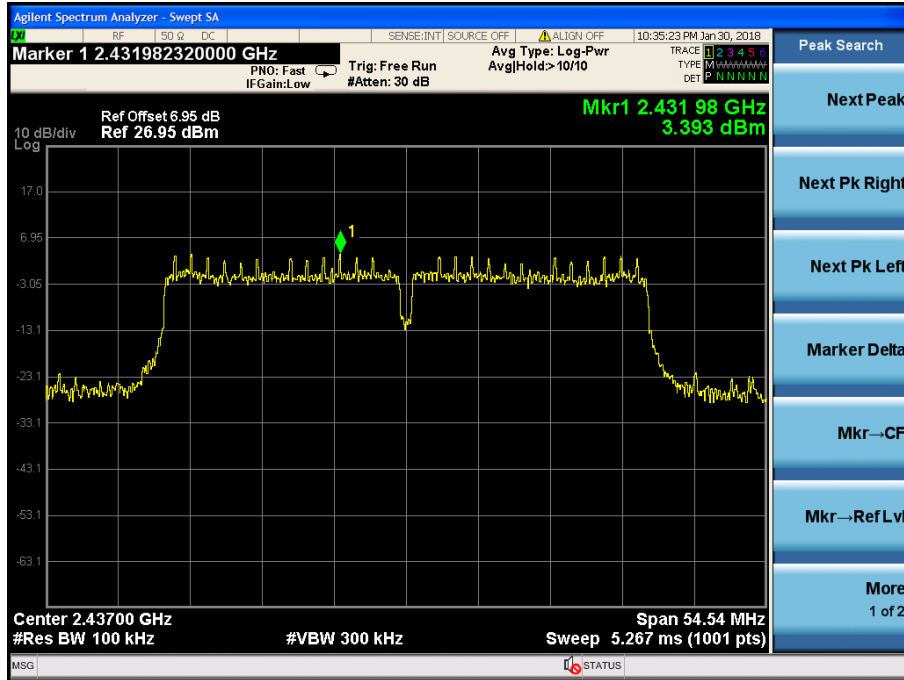


Out of Band Emission

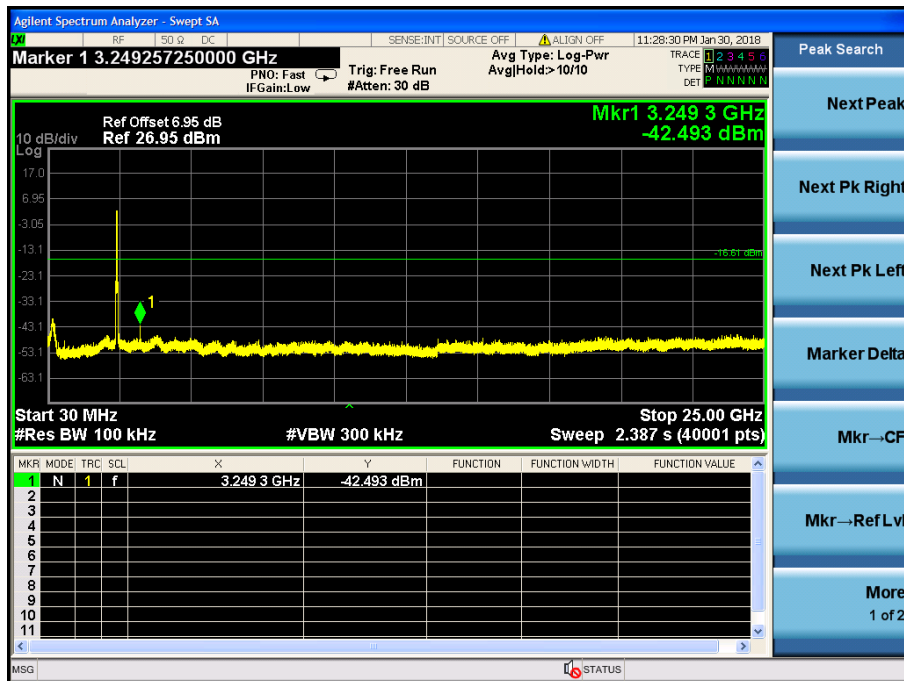


Test CH11: 2437MHz

In-Band Reference Level

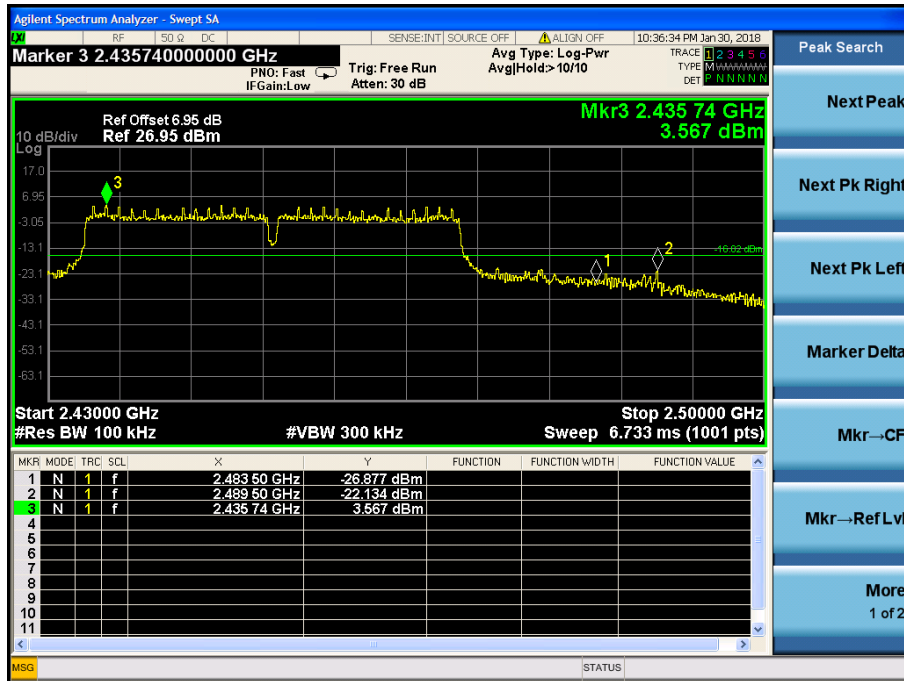


Out of Band Emission

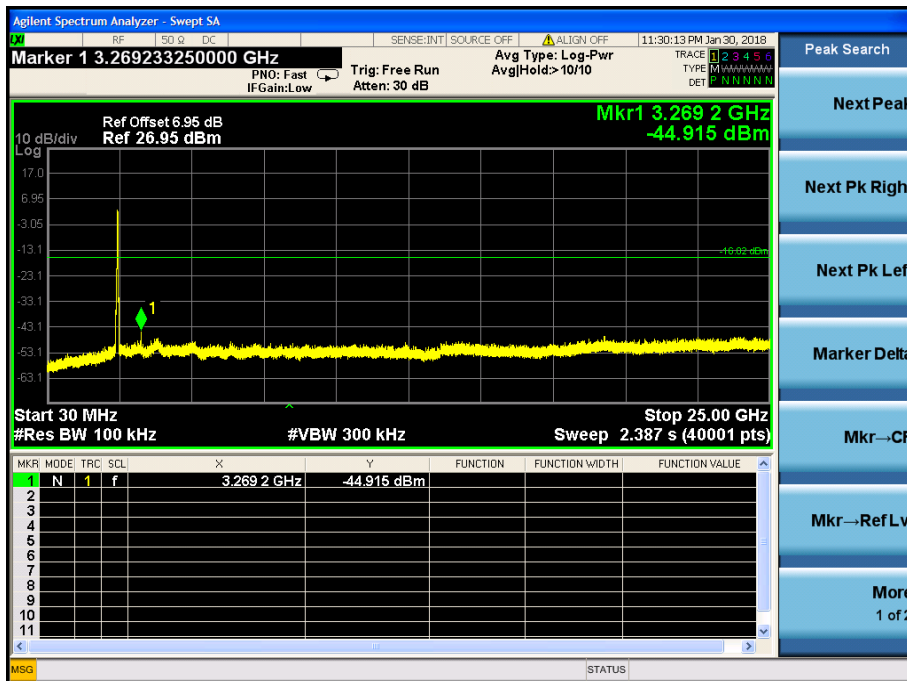


Test CH9: 2452MHz

In-Band Reference Level



Out of Band Emission



6.6 Band Edge Measurements (Radiated)

Radiated band edge measurements at 2390MHz and 2483MHz were made with the unit transmitting in the low end of the channel range and the high end closest to the restricted bands respectively. The emissions were made on the 966 Semi-Chamber. Use (resolution bandwidth (RBW) = 1 MHz, video bandwidth (VBW) = 1 MHz for peak levels and RBW = 1 MHz and VBW = 10 Hz or 1/T for average levels).

6.6.1 Limits

In any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement, provided the transmitter demonstrates compliance with the peak conducted power limits. If the transmitter complies with the conducted power limits based on the use of RMS averaging over a time interval, as permitted under paragraph (b)(3) of this section, the attenuation required under this paragraph shall be 30 dB instead of 20 dB. Attenuation below the general limits specified in §15.209(a) is not required. In addition, radiated emissions which fall in the restricted bands, as defined in §15.205(a), must also comply with the radiated emission limits specified in §15.209(a).

6.6.2 Test Procedure(KDB 558074 D01 v04, Section 12.1)

1. Use radiated spurious emission test procedure described in 4.5.2 clause. The transmitter output (antenna port) was connected to the test receiver.
2. Set the PK and AV limit line.
3. Record the fundamental emission and emissions out of the band edge.
4. Determine band-edge compliance as required.

6.6.3 Test Data

The EUT complied with the ISED RSS-247 Radiated band edge emissions requirements.

Table 11 provides the test results for Radiated band edge emissions. (All the data attached was use the worst case data rate as in table 6)

6.6.4 Areas of Concern

None.

Table 11: Band Edge Measurements (Radiated)

Mode	802.11b	Ant. Polar.	Horizontal		
Antenna	Chain 1	Channel	1		
Frequency (MHz)	Peak level (dBuV/m)	Peak Limit (dBuV/m)	AV level (dBuV/m)	AV Limit (dBuV/m)	Conclusion
2390.000	49.21	74	35.51	54	Pass

Mode	802.11b	Ant. Polar.	Vertical		
Antenna	Chain 1	Channel	1		
Frequency (MHz)	Peak level (dBuV/m)	Peak Limit (dBuV/m)	AV level (dBuV/m)	AV Limit (dBuV/m)	Conclusion
2390.000	48.18	74	34.76	54	Pass

Mode	802.11b	Ant. Polar.	Horizontal		
Antenna	Chain 1	Channel	11		
Frequency (MHz)	Peak level (dBuV/m)	Peak Limit (dBuV/m)	AV level (dBuV/m)	AV Limit (dBuV/m)	Conclusion
2483.500	51.78	74	36.99	54	Pass

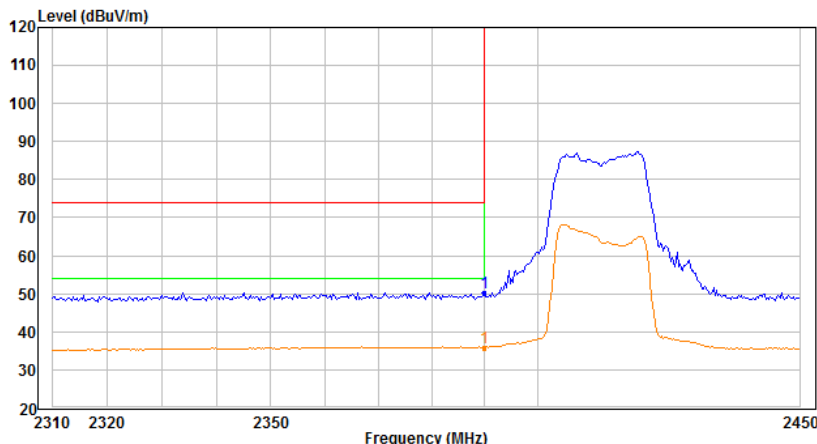
Mode	802.11b	Ant. Polar.	Vertical		
Antenna	Chain 1	Channel	11		
Frequency (MHz)	Peak level (dBuV/m)	Peak Limit (dBuV/m)	AV level (dBuV/m)	AV Limit (dBuV/m)	Conclusion
2483.500	50.74	74	36.41	54	Pass

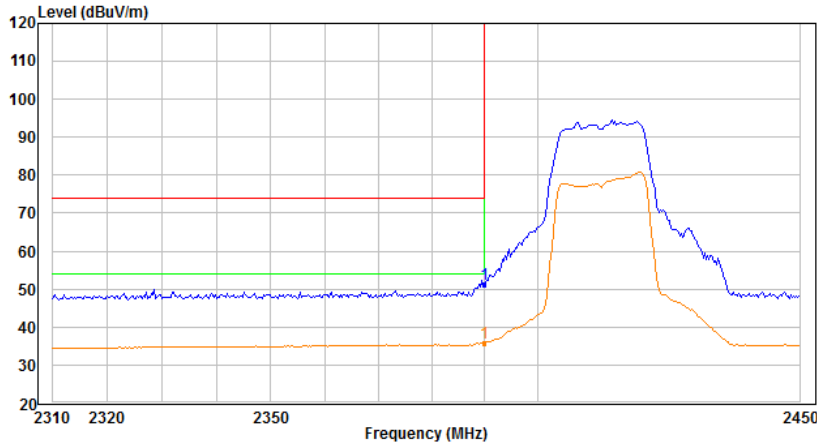
Mode	802.11b	Ant. Polar.	Horizontal		
Antenna	Chain 2	Channel	1		
Frequency (MHz)	Peak level (dBuV/m)	Peak Limit (dBuV/m)	AV level (dBuV/m)	AV Limit (dBuV/m)	Conclusion
2390.000	49.33	74	35.54	54	Pass

Mode	802.11b	Ant. Polar.	Vertical		
Antenna	Chain 2	Channel	1		
Frequency (MHz)	Peak level (dBuV/m)	Peak Limit (dBuV/m)	AV level (dBuV/m)	AV Limit (dBuV/m)	Conclusion
2390.000	50.07	74	36.29	54	Pass

Mode	802.11b	Ant. Polar.	Horizontal		
Antenna	Chain 2	Channel	11		
Frequency (MHz)	Peak level (dBuV/m)	Peak Limit (dBuV/m)	AV level (dBuV/m)	AV Limit (dBuV/m)	Conclusion
2483.500	51.64	74	37.00	54	Pass

Mode	802.11b	Ant. Polar.	Vertical		
Antenna	Chain 2	Channel	11		
Frequency (MHz)	Peak level (dBuV/m)	Peak Limit (dBuV/m)	AV level (dBuV/m)	AV Limit (dBuV/m)	Conclusion
2483.500	50.02	74	36.45	54	Pass

Mode	802.11g	Ant. Polar.	Horizontal		
Antenna	Chain 1	Channel	1		
					
Frequency (MHz)	Peak level (dBuV/m)	Peak Limit (dBuV/m)	AV level (dBuV/m)	AV Limit (dBuV/m)	Conclusion
2390.000	50.23	74	36.96	54	Pass

Mode	802.11g	Ant. Polar.	Vertical		
Antenna	Chain 1	Channel	1		
					
Frequency (MHz)	Peak level (dBuV/m)	Peak Limit (dBuV/m)	AV level (dBuV/m)	AV Limit (dBuV/m)	Conclusion
2390.000	51.35	74	35.81	54	Pass

Mode	802.11g	Ant. Polar.	Horizontal		
Antenna	Chain 1	Channel	11		
Frequency (MHz)	Peak level (dBuV/m)	Peak Limit (dBuV/m)	AV level (dBuV/m)	AV Limit (dBuV/m)	Conclusion
2483.500	53.81	74	36.12	54	Pass
2484.669	55.23	74	35.88	54	Pass

Mode	802.11g	Ant. Polar.	Vertical		
Antenna	Chain 1	Channel	11		
Frequency (MHz)	Peak level (dBuV/m)	Peak Limit (dBuV/m)	AV level (dBuV/m)	AV Limit (dBuV/m)	Conclusion
2483.500	60.32	74	41.81	54	Pass
2483.768	60.41	74	41.37	54	Pass

Mode	802.11g	Ant. Polar.	Horizontal		
Antenna	Chain 2	Channel	1		
Frequency (MHz)	Peak level (dBuV/m)	Peak Limit (dBuV/m)	AV level (dBuV/m)	AV Limit (dBuV/m)	Conclusion
2390.000	48.97	74	35.94	54	Pass

Mode	802.11g	Ant. Polar.	Vertical		
Antenna	Chain 2	Channel	1		
Frequency (MHz)	Peak level (dBuV/m)	Peak Limit (dBuV/m)	AV level (dBuV/m)	AV Limit (dBuV/m)	Conclusion
2389.399	54.72	74	/	54	Pass
2390.000	51.59	74	37.47	54	Pass

Mode	802.11g	Ant. Polar.	Horizontal		
Antenna	Chain 2	Channel	11		
Frequency (MHz)	Peak level (dBuV/m)	Peak Limit (dBuV/m)	AV level (dBuV/m)	AV Limit (dBuV/m)	Conclusion
2483.500	54.54	74	38.25	54	Pass
2484.469	55.76	74	37.26	54	Pass

Mode	802.11g	Ant. Polar.	Vertical		
Antenna	Chain 2	Channel	11		
Frequency (MHz)	Peak level (dBuV/m)	Peak Limit (dBuV/m)	AV level (dBuV/m)	AV Limit (dBuV/m)	Conclusion
2483.500	61.26	74	43.59	54	Pass
2483.667	66.40	74	43.22	54	Pass

Mode	802.11n(HT20)	Ant. Polar.	Horizontal		
Antenna	Chain 1+2	Channel	1		
Frequency (MHz)	Peak level (dBuV/m)	Peak Limit (dBuV/m)	AV level (dBuV/m)	AV Limit (dBuV/m)	Conclusion
2389.118	52.81	74	36.21	54	Pass
2390.000	49.82	74	36.27	54	Pass

Mode	802.11n(HT20)	Ant. Polar.	Vertical		
Antenna	Chain 1+2	Channel	1		
Frequency (MHz)	Peak level (dBuV/m)	Peak Limit (dBuV/m)	AV level (dBuV/m)	AV Limit (dBuV/m)	Conclusion
2389.679	59.89	74	39.11	54	Pass
2390.000	57.97	74	39.51	54	Pass

Mode	802.11n(HT20)	Ant. Polar.	Horizontal		
Antenna	Chain 1+2	Channel	11		
Frequency (MHz)	Peak level (dBuV/m)	Peak Limit (dBuV/m)	AV level (dBuV/m)	AV Limit (dBuV/m)	Conclusion
2483.500	56.93	74	40.98	54	Pass
2483.768	58.33	74	40.90	54	Pass

Mode	802.11n(HT20)	Ant. Polar.	Vertical		
Antenna	Chain 1+2	Channel	11		
Frequency (MHz)	Peak level (dBuV/m)	Peak Limit (dBuV/m)	AV level (dBuV/m)	AV Limit (dBuV/m)	Conclusion
2483.500	65.48	74	49.18	54	Pass
2485.768	66.35	74	48.73	54	Pass

Mode	802.11n(HT40)	Ant. Polar.	Horizontal		
Antenna	Chain 1+2	Channel	3		
Frequency (MHz)	Peak level (dBuV/m)	Peak Limit (dBuV/m)	AV level (dBuV/m)	AV Limit (dBuV/m)	Conclusion
2387.154	56.00	74	36.82	54	Pass
2390.000	52.59	74	37.37	54	Pass

Mode	802.11n(HT40)	Ant. Polar.	Vertical		
Antenna	Chain 1+2	Channel	3		
Frequency (MHz)	Peak level (dBuV/m)	Peak Limit (dBuV/m)	AV level (dBuV/m)	AV Limit (dBuV/m)	Conclusion
2387.154	63.53	74	43.63	54	Pass
2390.000	61.53	74	44.16	54	Pass

Mode	802.11n(HT40)	Ant. Polar.	Horizontal		
Antenna	Chain 1+2	Channel	9		
Frequency (MHz)	Peak level (dBuV/m)	Peak Limit (dBuV/m)	AV level (dBuV/m)	AV Limit (dBuV/m)	Conclusion
2483.500	58.36	74	44.02	54	Pass
2484.970	61.72	74	43.26	54	Pass

Mode	802.11n(HT40)	Ant. Polar.	Vertical		
Antenna	Chain 1+2	Channel	9		
Frequency (MHz)	Peak level (dBuV/m)	Peak Limit (dBuV/m)	AV level (dBuV/m)	AV Limit (dBuV/m)	Conclusion
2483.500	66.78	74	52.54	54	Pass
2485.471	70.19	74	52.03	54	Pass

6.7 Conducted Emissions – AC Mains Port Interface

6.7.1 Limits

Radiated emissions that fall in the restricted bands must comply with the general emissions limits in RSS-Gen Issue 4, Section 8.8 as below table.

Frequency(MHz)	Conducted Limit (dB μ V)	
	Quasi-Peak	Average**
0.15-0.5	66 to 56 *	56 to 46*
0.5-5	56	46
5-30	60	50

* The level decreases linearly with the logarithm of the frequency.

** A linear average detector is required.

6.7.2 Test Procedure(ANSI C63.10-2013 Section 6.2)

The EUT was placed on a non-metallic table, 80cm above the ground plane. The EUT Power connected to the power mains through a line impedance stabilization network (L.I.S.N. 1#). This provided a 50-ohm coupling impedance for the EUT (Please refer to the block diagram of the test setup and photographs). Both sides of power line were checked for maximum conducted interference. In order to find the maximum emission, the relative positions of equipments and all of the interface cables were changed according to ANSI C63.4: 2014 on conducted Emission test.

The bandwidth of test receiver (R & S ESR7) is set at 9 kHz.

The frequency range from 150 kHz to 30MHz is checked.

6.7.3 Test Data

The EUT complied with the RSS-Gen Issue 4 AC Power Line Conducted Emissions requirements.

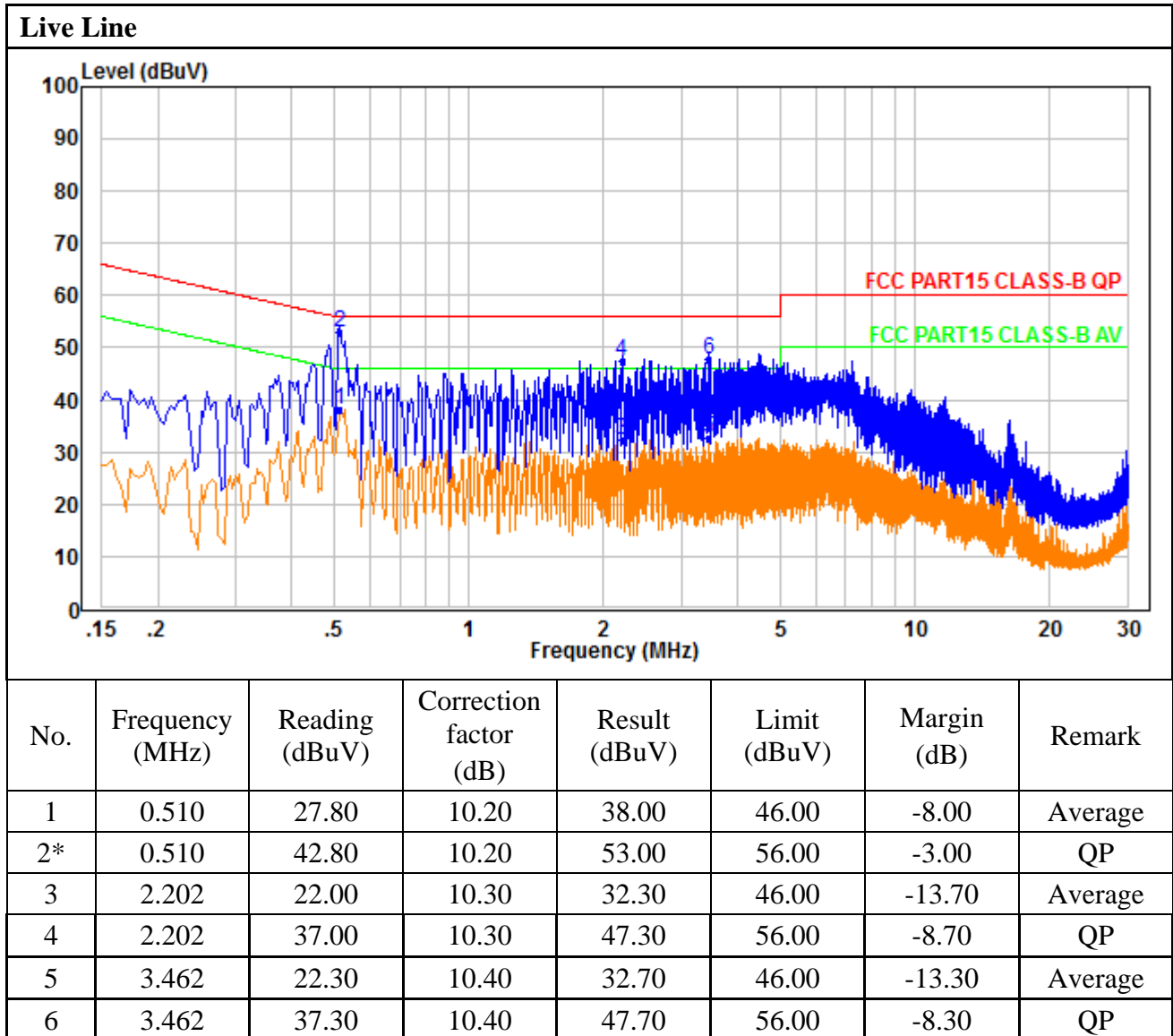
Table 12 provides the test results for Conducted emissions.

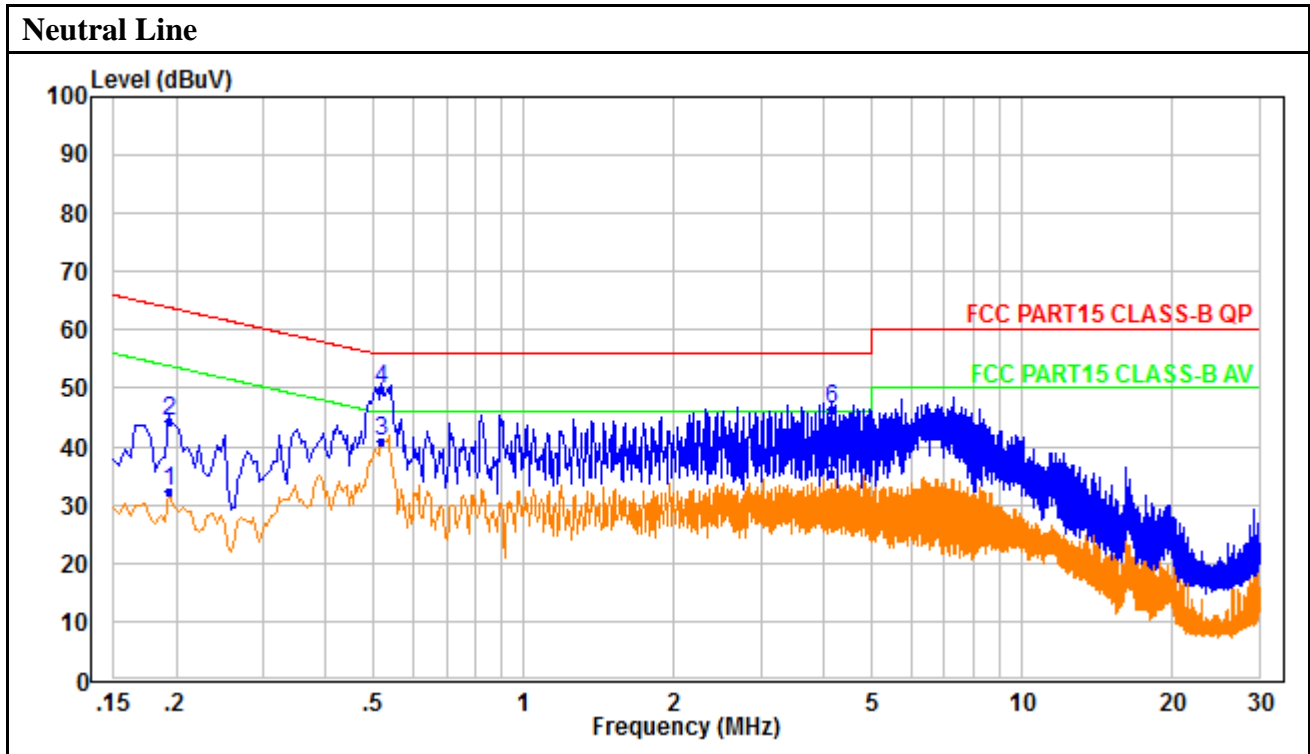
6.7.4 Areas of Concern

None.

Table 12: Conducted Emission Test Data AC Mains

Quasi Peak and Average:





No.	Frequency (MHz)	Reading (dBuV)	Correction factor (dB)	Result (dBuV)	Limit (dBuV)	Margin (dB)	Remark
1	0.194	22.20	10.20	32.40	53.90	-21.50	Average
2	0.194	34.20	10.20	44.40	63.90	-19.50	QP
3*	0.518	30.50	10.40	40.90	46.00	-5.10	Average
4	0.518	39.50	10.40	49.90	56.00	-6.10	QP
5	4.158	25.00	10.60	35.60	46.00	-10.40	Average
6	4.158	36.00	10.60	46.60	56.00	-9.40	QP

Remark:

1. Margin(dB)= Result – Limit.

END of TEST REPORT