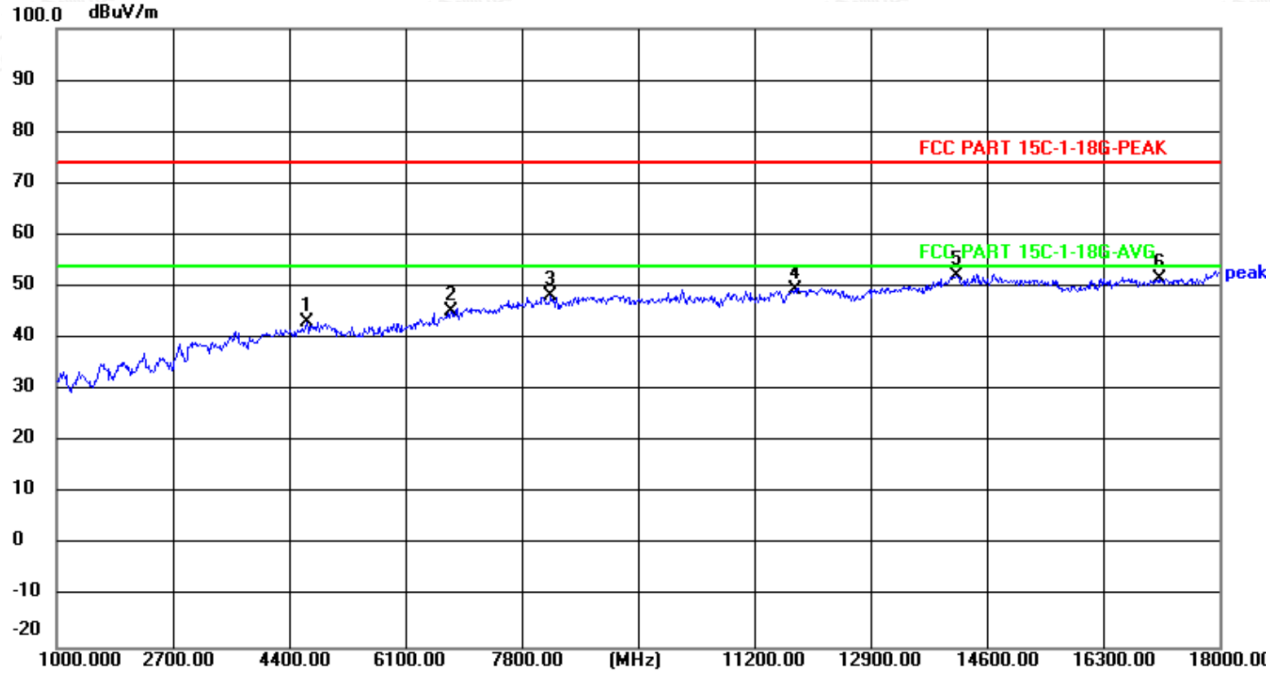
Horizontal



No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1	4655.000	49.00	-5.82	43.18	74.00	-30.82	peak
2	6763.000	46.04	-0.79	45.25	74.00	-28.75	peak
3	8225.000	47.22	1.11	48.33	74.00	-25.67	peak
4	11795.000	43.01	6.41	49.42	74.00	-24.58	peak
5	14158.000	42.72	9.31	52.03	74.00	-21.97	peak
6	17116.000	39.52	12.06	51.58	74.00	-22.42	peak

Notes:

1. Worst case data at 6Mbps at IEEE 802.11g; 6.5Mbps at IEEE 802.11n HT20;
2. Measured Level = Reading Level + Factor, Margin = Level – Limit,
Factor = Antenna Factor + Cable Loss - Preamp Factor

5.3. Maximum Peak Conducted Output Power Measurement

5.3.1. Standard Applicable

According to §15.247(b): For systems using digital modulation in the 2400-2483.5 MHz and 5725-5850 MHz band, the limit for maximum peak conducted output power is 30dBm. The limited has to be reduced by the amount in dB that the gain of the antenna exceeds 6dBi. In case of point-to-point operation, the limit has to be reduced by 1dB for every 3dB that the directional gain of the antenna exceeds 6dBi.

Systems operating in the 5725-5850 MHz band that are used exclusively for fixed, point-to-point operations may employ transmitting antennas with directional gain greater than 6dBi without any corresponding reduction in transmitter peak output power.

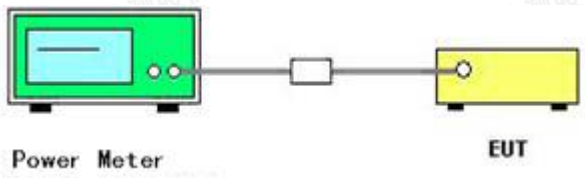
5.3.2. Measuring Instruments and Setting

Please refer to equipment's list in this report. The following table is the setting of the power meter.

5.3.3. Test Procedures

According to KDB558074 D01 15.247 Meas Guidance v05r02 Section 9.1 Maximum peak conducted output power, 9.1.3 the maximum peak conducted output power may be measured using a broadband peak RF power meter. The power meter shall have a video bandwidth that is greater than or equal to the DTS bandwidth and shall utilize a fast-responding diode detector.

5.3.4. Test Setup Layout



5.3.5. EUT Operation during Test

1) The EUT is configured to transmit continuously.
2) At all times when the EUT is transmitting, it shall be transmitting at its maximum power control level.
3) The integration period of the power meter exceeds the repetition period of the transmitted signal by at least a factor of five.

5.3.6. Test Result of Maximum Peak Conducted Output Power

Limit

Mode	Antenna 0 Gain (dBi)	Antenna 1 Gain (dBi)	Directional Gain (dBi)	FCC Power Limit (dBm)
g	2.2	2.2	5.21	30
n	2.2	2.2	5.21	30

PASS

Please refer to Appendix A.3

Remark:

1). Measured output power at difference data rate for each mode and recorded worst case for each mode.

2). Test results including cable loss;

3). Worst case data at 6Mbps at IEEE 802.11g; 6.5Mbps at IEEE 802.11n HT20;

4). Peak power only for report.

5). For power measurements on IEEE 802.11 devices;

Array Gain = 0 dB (i.e., no array gain) for NANT ≤ 4;

Array Gain = 0 dB (i.e., no array gain) for channel widths ≥ 40 MHz for any NANT;

Array Gain = 5 log (NANT/NSS) dB or 3 dB, whichever is less, for 20-MHz channel widths with NANT ≥ 5.

5.4. Power Spectral Density Measurement

5.4.1. Standard Applicable

According to §15.247(e): For digitally modulated systems, the power spectral density conducted from the intentional radiator to the antenna shall not be greater than 8dBm in any 3 kHz band during any time interval of continuous transmission.

5.4.2. Measuring Instruments and Setting

Please refer to equipment's list in this report. The following table is the setting of Spectrum Analyzer.

5.4.3. Test Procedures

1. Use this procedure when the maximum peak conducted output power in the fundamental emission is used to demonstrate compliance.

2. The power was monitored at the coupler port with a Spectrum Analyzer. The power level was set to the maximum level.

3. Set the RBW = 3 kHz.

4. Set the VBW ≥ 3*RBW

5. Set the span to 1.5 times the DTS channel bandwidth.

6. Detector = peak.

7. Sweep time = auto couple.

8. Trace mode = max hold.

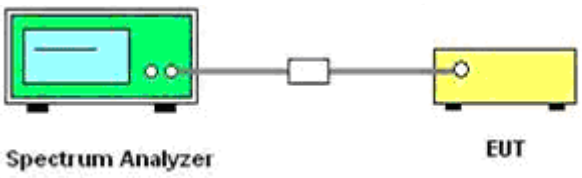
9. Allow trace to fully stabilize.

10. Use the peak marker function to determine the maximum power level.

11. If measured value exceeds limit, reduce RBW (no less than 3 kHz) and repeat.

12. The resulting peak PSD level shall not be greater than 8dBm in any 3 kHz.

5.4.4. Test Setup Layout



5.4.5. EUT Operation during Test

The EUT was programmed to be in continuously transmitting mode.

5.4.6. Test Result of Power Spectral Density

Limit

Mode	Antenna 0 Gain (dBi)	Antenna 1 Gain (dBi)	Directional Gain (dBi)	FCC PSD Limit (dBm/3KHz)
IEEE 802.11 g	2.2	2.2	5.21	8
IEEE 802.11 n	2.2	2.2	5.21	8

PASS

Please refer to Appendix A.4

Remark:

1). Measured power spectrum density at difference data rate for each mode and recorded worst case for each mode.

2). Test results including cable loss;

3). Worst case data at 6Mbps at IEEE 802.11g; 6.5Mbps at IEEE 802.11n HT20;

5.5. Band Edge Measurements and Conducted Spurious Emissions Test

5.5.1. Standard Applicable

According to §15.247 (d): 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. Attenuation below the general limits specified in Section 15.209(a) is not required. In addition, radiated emissions which fall in the restricted bands, as defined in Section 15.205(a), must also comply with the radiated emission limits specified in Section 15.209(a) (see Section 15.205(c)).

5.5.2. Measuring Instruments and Setting

Please refer to equipment list in this report. The following table is the setting of the spectrum analyzer.

Spectrum Parameter	Setting
Detector	Peak
Attenuation	Auto
RB / VB (Emission in restricted band)	100KHz/300KHz
RB / VB (Emission in non-restricted band)	100KHz/300KHz

5.5.3. Test Procedures

The transmitter output is connected to a spectrum analyzer. The resolution bandwidth is set to 100 KHz. The video bandwidth is set to 300 KHz

The spectrum from 9 KHz to 26.5 GHz is investigated with the transmitter set to the lowest, middle, and highest channels.

5.5.4. Test Setup Layout

This test setup layout is the same as that shown in section 5.4.4.

5.5.5. EUT Operation during Test

The EUT was programmed to be in continuously transmitting mode.

5.5.6. Test Results of Conducted Spurious Emissions

PASS

Please refer to Appendix A.5 for Band Edge Measurements;

Please refer to Appendix A.6 for Conducted Spurious Emissions.

Remark:
1). Measured RF conducted spurious emission at difference data rate for each mode and recorded worst case for each mode.
2). Test results including cable loss;
3). Worst case data at 6Mbps at IEEE 802.11g; 6.5Mbps at IEEE 802.11n HT20;
4). "---"means that the fundamental frequency not for 15.209 limits requirement.
5). Not recorded emission from 9 KHz to 30 MHz as emission level at least 20dBc lower than emission limit.

5.6. On Time and Duty Cycle

5.6.1. Standard Applicable

None: for reporting purpose only.

5.6.2. Measuring Instruments and Setting

Please refer to equipment's list in this report. The following table is the setting of the spectrum analyzer.

5.6.3. Test Procedures

1. Set the centre frequency of the spectrum analyzer to the transmitting frequency;
2. Set the span=0MHz, RBW=8.0MHz, VBW=8.0MHz, Sweep time=Auto
3. Detector = peak;
4. Trace mode = Single hold.

5.6.4. Test Setup Layout

5.6.5. EUT Operation during Test

The EUT was programmed to be in continuously transmitting mode.

5.6.6. Test result

For reporting purpose only.

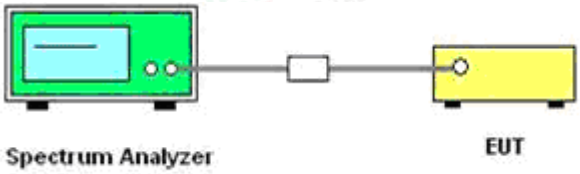
Please refer to Appendix A.7

5.7. Emissions in Restricted Bands

5.7.1 Standard Applicable

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 20dB 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 20dB. 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) (see §15.205(c)).

5.7.2. Test Setup Layout



5.7.3. Measuring Instruments and Setting

Please refer to equipment list in this report. The following table is the setting of Spectrum Analyzer.

5.7.4. Test Procedures

According to KDB558074 D01 15.247 Meas Guidance v05r02 for Antenna-port conducted measurement. Antenna-port conducted measurements may also be used as an alternative to radiated measurements for demonstrating compliance in the restricted frequency bands. If conducted measurements are performed, then proper impedance matching must be ensured and an additional radiated test for cabinet/case spurious emissions is required.
1). Check the calibration of the measuring instrument using either an internal calibrator or a known signal from an external generator.
2). Remove the antenna from the EUT and then connect to a low loss RF cable from the antenna port to an EMI test receiver, then turn on the EUT and make it operate in transmitting mode. Then set it to Low Channel and High Channel within its operating range, and make sure the instrument is operated in its linear range.
3). Set both RBW and VBW of spectrum analyzer to 100 kHz with a convenient frequency span including 100kHz bandwidth from band edge, for Radiated emissions restricted band RBW=1MHz, VBW=3MHz for peak detector and RBW=1MHz, VBW=1/B for AV detector.
4). Measure the highest amplitude appearing on spectral display and set it as a reference level. Plot the graph with marking the highest point and edge frequency.
5). Repeat above procedures until all measured frequencies were complete.
6). Measure the conducted output power (in dBm) using the detector specified by the appropriate regulatory agency (see 12.2.2, 12.2.3, and 12.2.4 for guidance regarding measurement procedures for determining quasi-peak, peak, and average conducted output power, respectively).
7). Add the maximum transmit antenna gain (in dBi) to the measured output power level to determine the EIRP level (see 12.2.5 for guidance on determining the applicable antenna gain)
8). Add the appropriate maximum ground reflection factor to the EIRP level (6 dB for frequencies ≤ 30 MHz, 4.7 dB for frequencies between 30 MHz and 1000 MHz, inclusive and 0 dB for frequencies > 1000 MHz).
9). For devices with multiple antenna-ports, measure the power of each individual chain and sum the EIRP of all chains in linear terms (e.g., Watts, mW).
10). Convert the resultant EIRP level to an equivalent electric field strength using the following relationship:

$E = EIRP – 20\log D + 104.8 = EIRP + 95.26$

Where:
E = electric field strength in dBμV/m,
EIRP = equivalent isotropic radiated power in dBm
D = specified measurement distance in meters.
11). Since the out-of-band characteristics of the EUT transmit antenna will often be unknown, the use of a conservative antenna gain value is necessary. Thus, when determining the EIRP based on the measured conducted power, the upper bound on antenna gain for a device with a single RF output shall be selected as the maximum in-band gain of the antenna across all operating bands, or 2 dBi, whichever is greater. However, for devices that operate in multiple frequency bands while using the same transmit antenna, the highest gain of the antenna within the operating band nearest in frequency to the restricted band emission being measured may be used in lieu of the overall highest gain when the emission is at a frequency that is within 20 percent of the nearest band edge frequency, but in no case shall a value less than 2 dBi be used.
12). Compare the resultant electric field strength level to the applicable regulatory limit.
13). Perform radiated spurious emission test duress until all measured frequencies were complete.

5.7.5. Field Strength Calculation

The field strength is calculated by adding the Antenna Factor and Cable Factor and subtracting the Amplifier Gain and Duty Cycle Correction Factor (if any) from the measured reading. The basic equation with a sample calculation is as follows:

FS (dBuV/m) = RA (dBuV) + AF (dB/m) + CL (dB) – AG (dB)

Where	FS = Field Strength	CL = Cable Attenuation Factor (Cable Loss)
	RA = Reading Amplitude	AG = Amplifier Gain
	AF = Antenna Factor	

5.7.6 Test Results

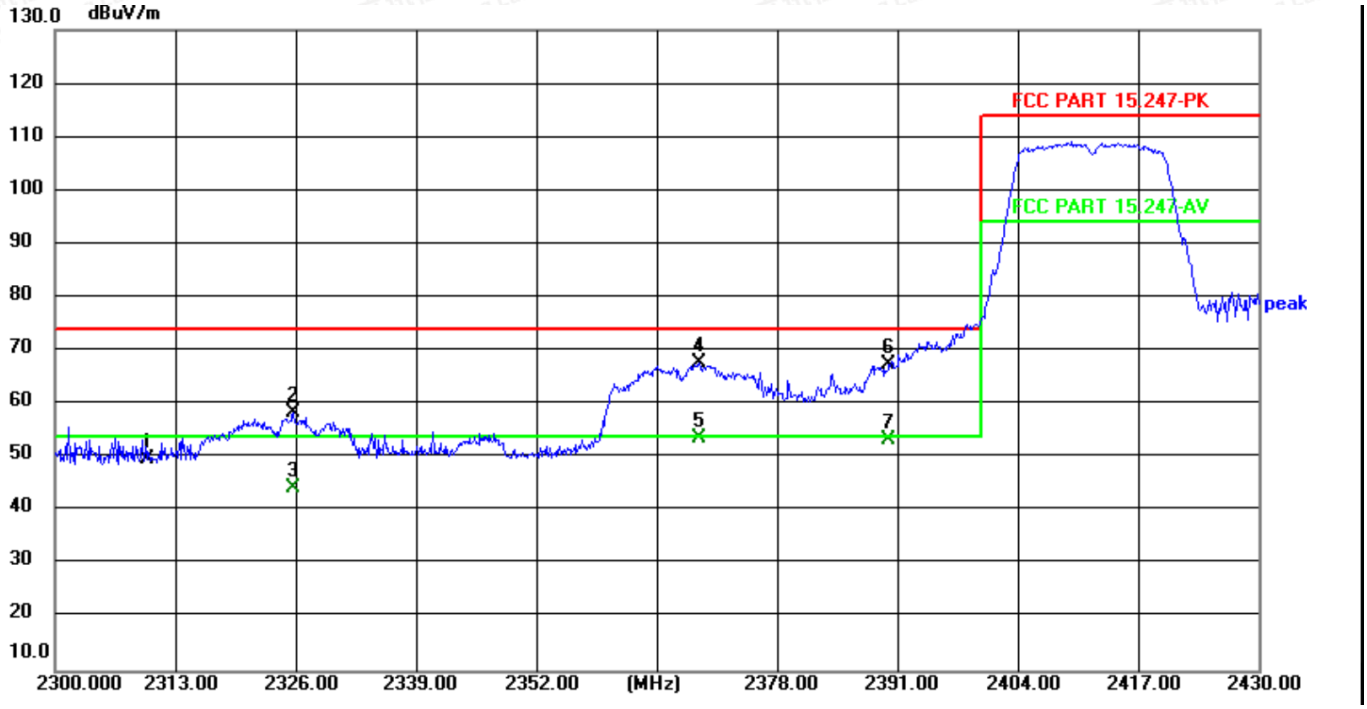
Temperature	23.5℃	Humidity	52.1%
Test Engineer	Taylor Hu	Configurations	IEEE 802.11g/n

PASS.

The test data please refer to following page.

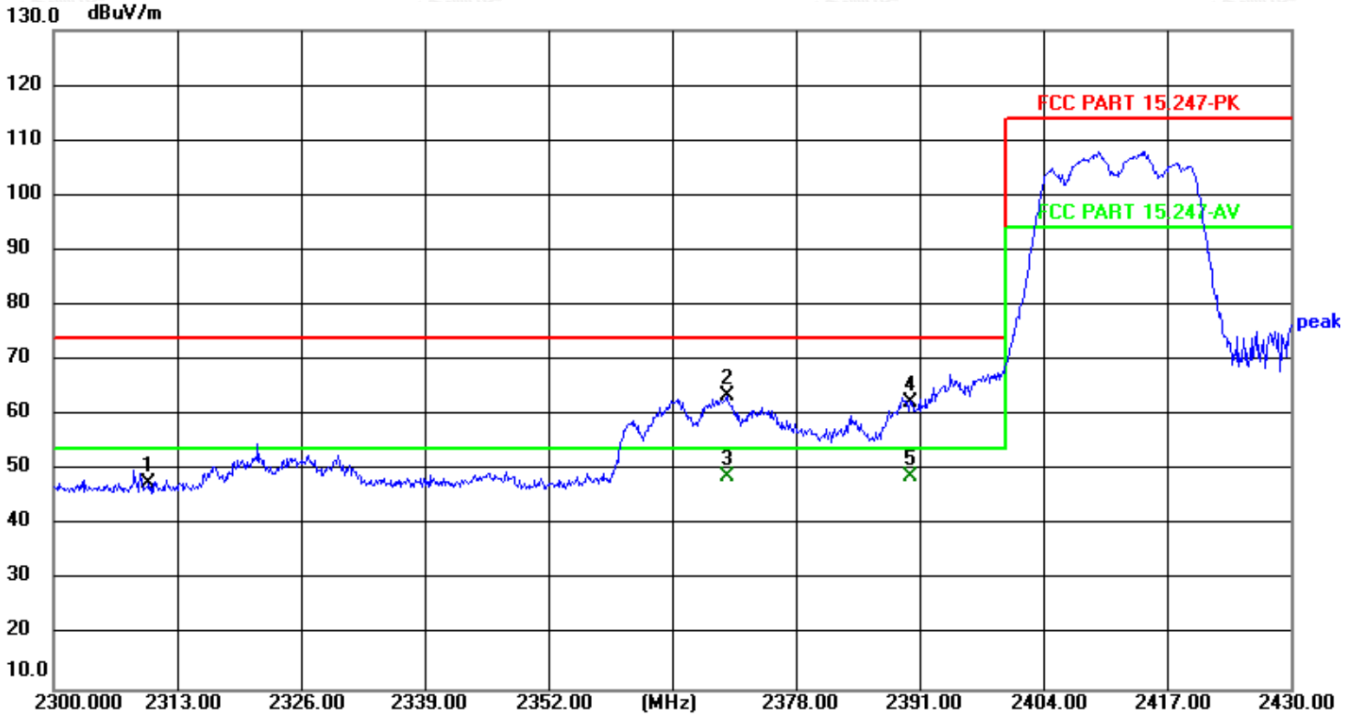
IEEE 802.11g 2412 MHz 20M

Vertical



No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1	2310.000	51.85	-2.02	49.83	74.00	-24.17	peak
2	2325.740	60.36	-1.96	58.40	74.00	-15.60	peak
3	2325.740	46.20	-1.96	44.24	54.00	-9.76	AVG
4	2369.550	69.54	-1.80	67.74	74.00	-6.26	peak
5	2369.550	55.33	-1.80	53.53	54.00	-0.47	AVG
6	2390.000	69.28	-1.73	67.55	74.00	-6.45	peak
7	2390.000	55.00	-1.73	53.27	54.00	-0.73	AVG

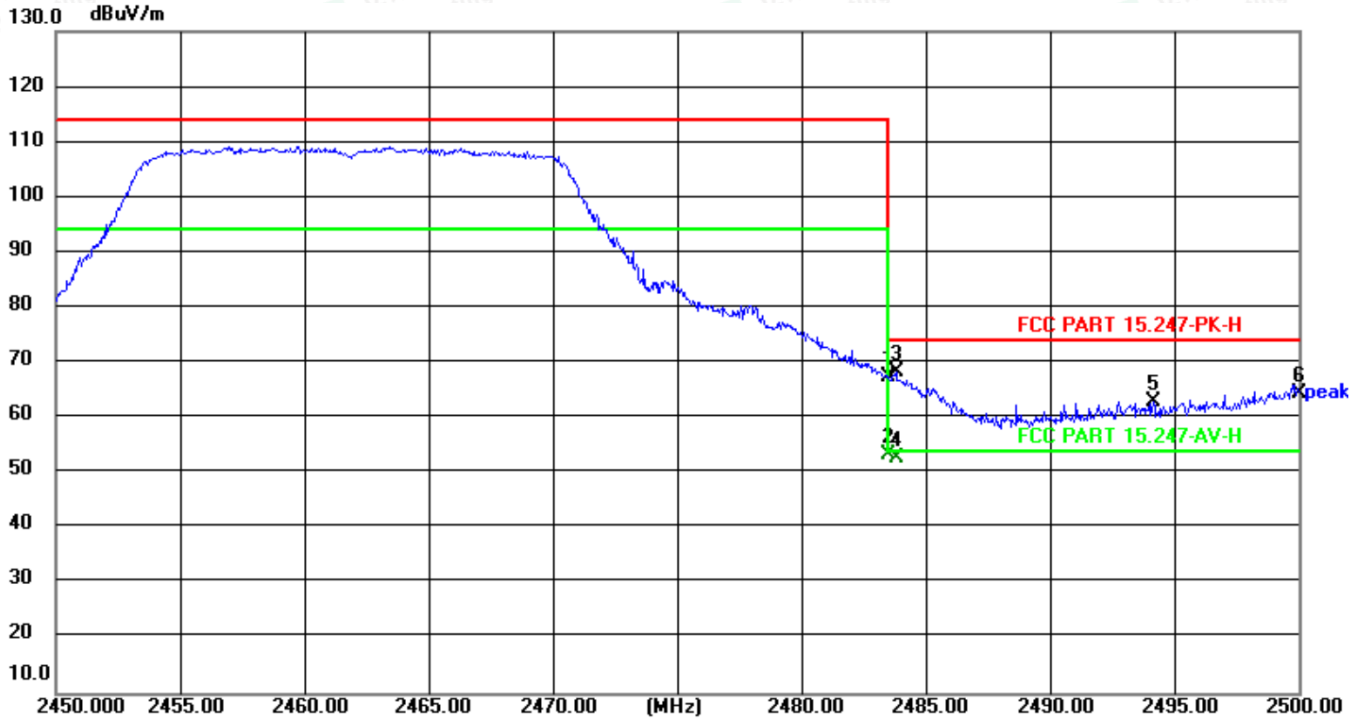
Horizontal



No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1	2310.000	49.56	-2.02	47.54	74.00	-26.46	peak
2	2370.720	65.28	-1.79	63.49	74.00	-10.51	peak
3	2370.720	50.74	-1.79	48.95	54.00	-5.05	AVG
4	2390.000	64.13	-1.73	62.40	74.00	-11.60	peak
5	2390.000	50.61	-1.73	48.88	54.00	-5.12	AVG

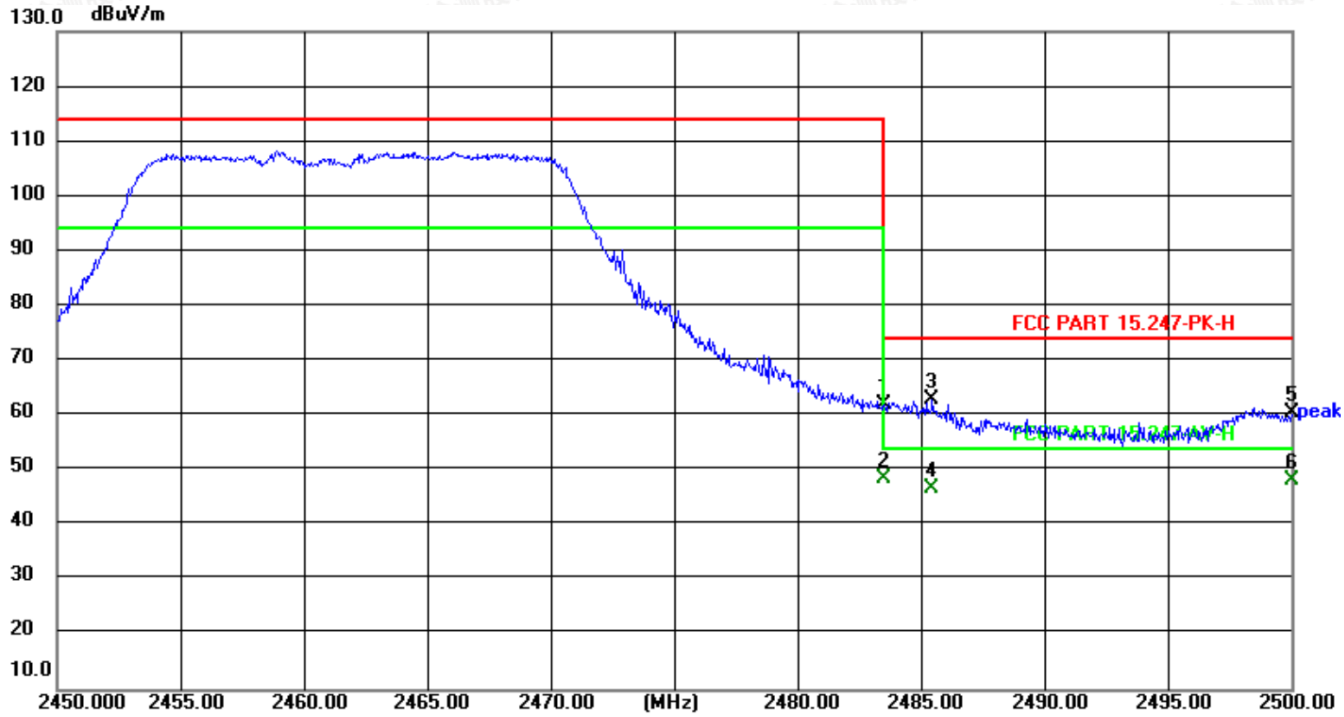
IEEE 802.11g 2462 MHz 20M

Vertical



No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1	2483.500	68.96	-1.40	67.56	74.00	-6.44	peak
2	2483.500	54.72	-1.40	53.32	54.00	-0.68	AVG
3	2483.800	69.65	-1.40	68.25	74.00	-5.75	peak
4	2483.800	54.10	-1.40	52.70	54.00	-1.30	AVG
5	2494.150	64.45	-1.36	63.09	74.00	-10.91	peak
6	2500.000	65.67	-1.34	64.33	74.00	-9.67	peak

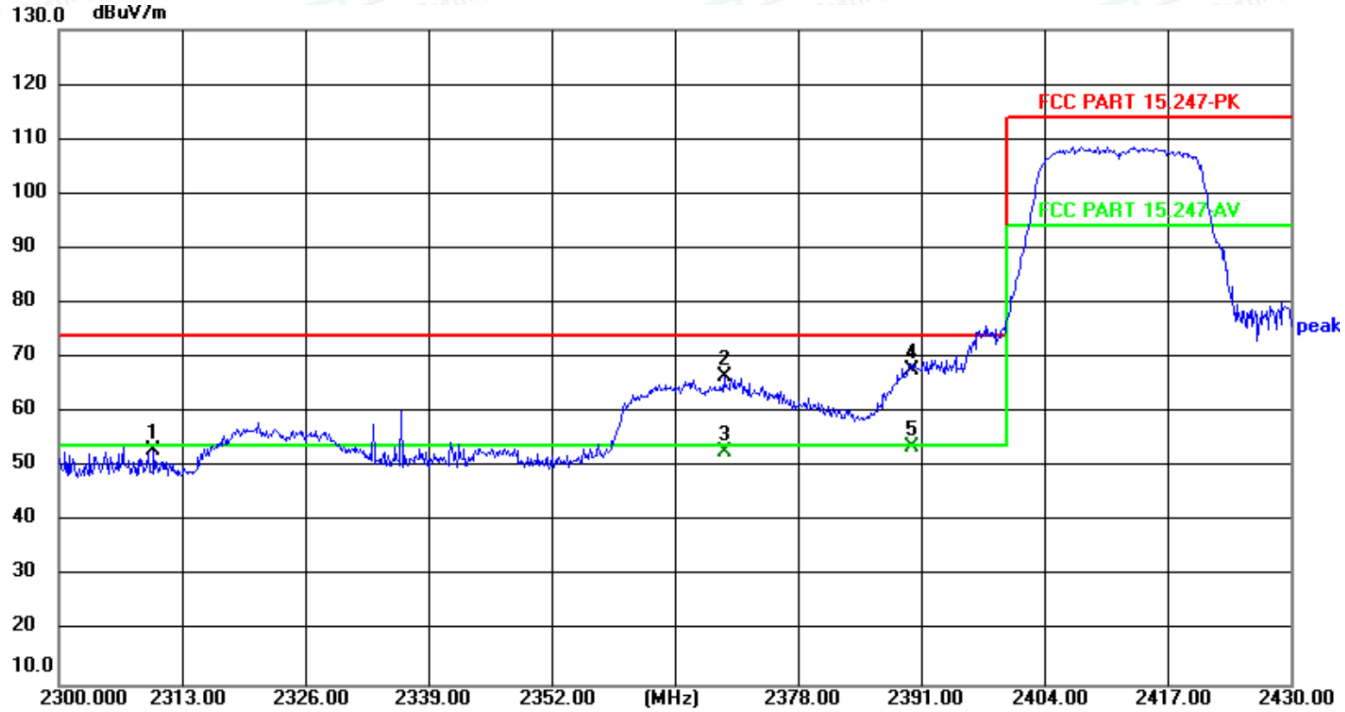
Horizontal



No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1	2483.500	63.38	-1.40	61.98	74.00	-12.02	peak
2	2483.500	49.94	-1.40	48.54	54.00	-5.46	AVG
3	2485.450	64.29	-1.40	62.89	74.00	-11.11	peak
4	2485.450	48.22	-1.40	46.82	54.00	-7.18	AVG
5	2500.000	61.90	-1.34	60.56	74.00	-13.44	peak
6	2500.000	49.45	-1.34	48.11	54.00	-5.89	AVG

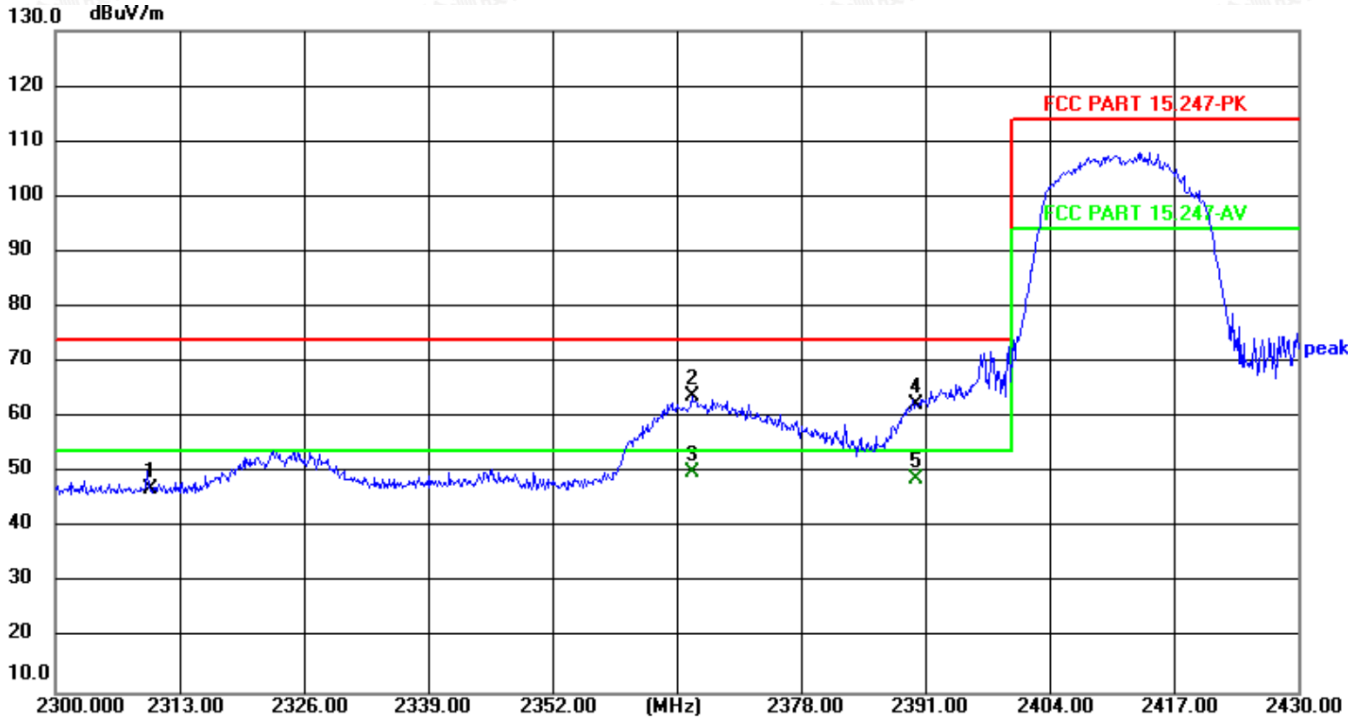
IEEE 802.11n2412 MHz 20M

Vertical



No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1	2310.000	55.18	-2.02	53.16	74.00	-20.84	peak
2	2370.200	68.29	-1.79	66.50	74.00	-7.50	peak
3	2370.200	54.55	-1.79	52.76	54.00	-1.24	AVG
4	2390.000	69.53	-1.73	67.80	74.00	-6.20	peak
5	2390.000	55.51	-1.73	53.78	54.00	-0.22	AVG

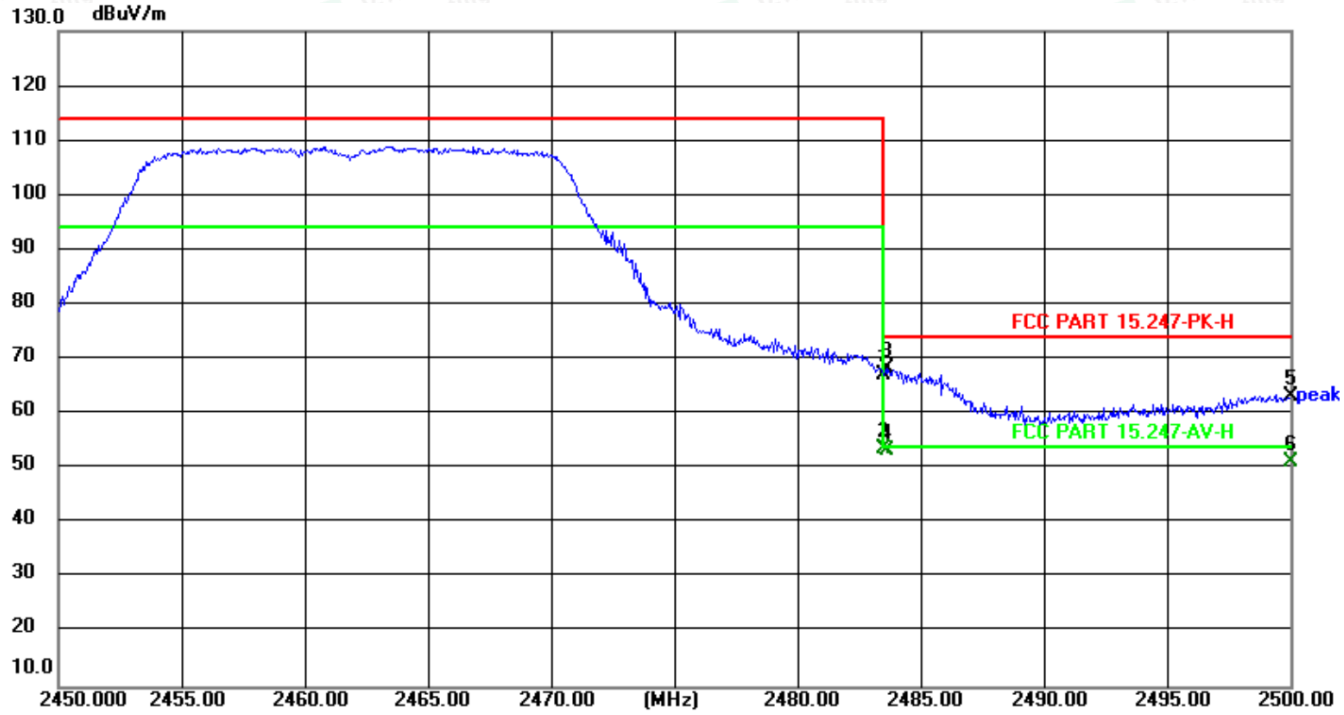
Horizontal



No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1	2310.000	48.99	-2.02	46.97	74.00	-27.03	peak
2	2366.560	65.63	-1.81	63.82	74.00	-10.18	peak
3	2366.560	51.72	-1.81	49.91	54.00	-4.09	AVG
4	2390.000	64.01	-1.73	62.28	74.00	-11.72	peak
5	2390.000	50.66	-1.73	48.93	54.00	-5.07	AVG

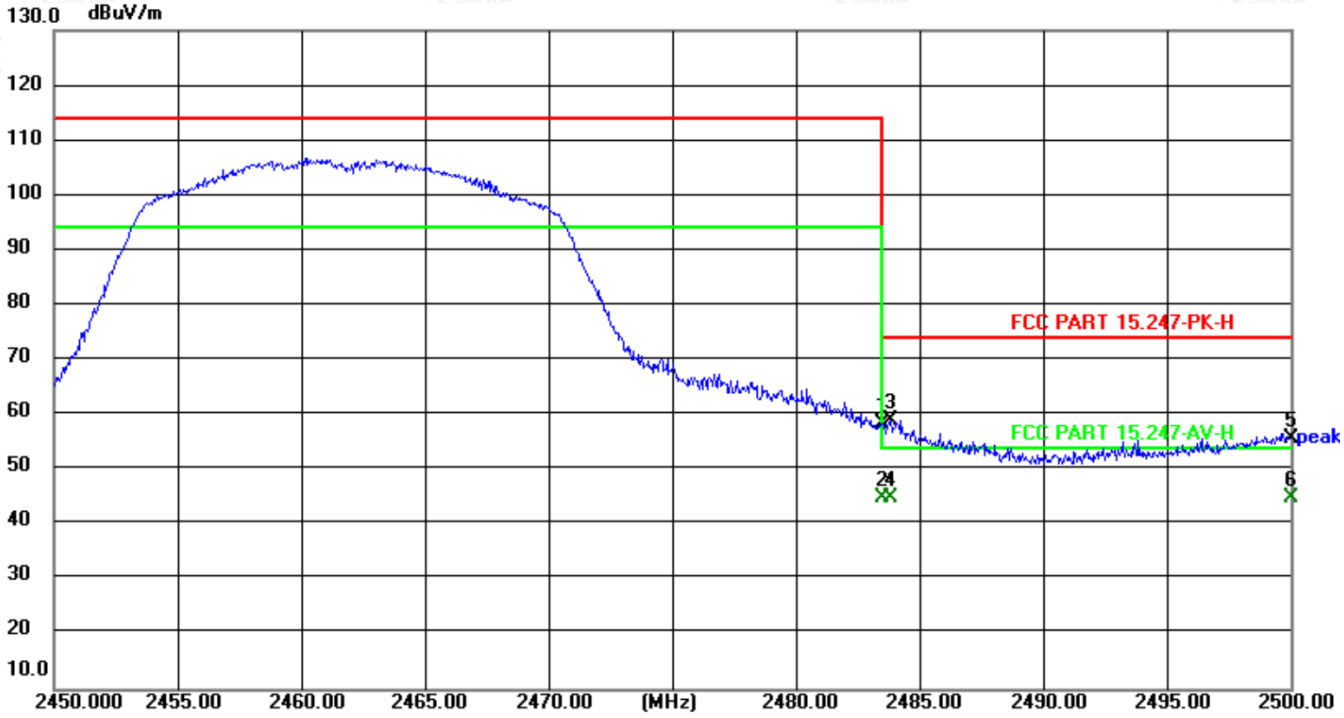
IEEE 802.11n 2462 MHz 20M

Vertical



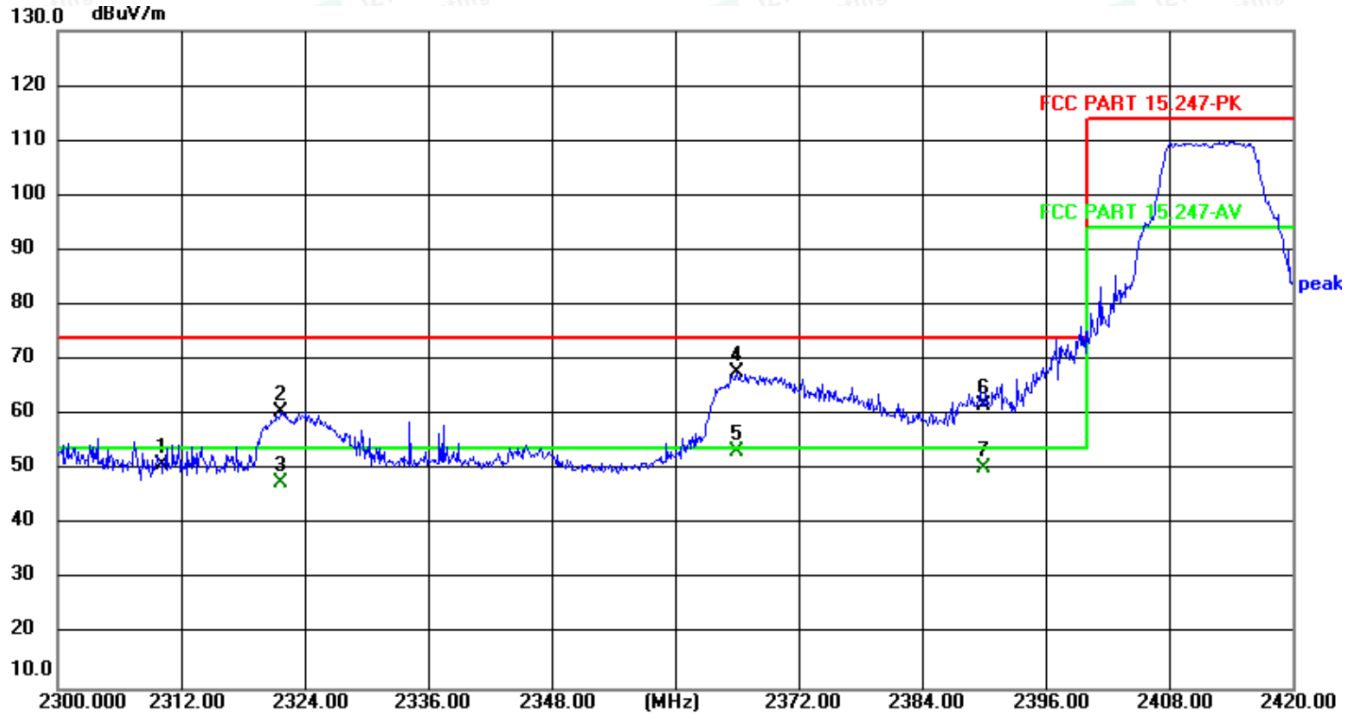
No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1	2483.500	68.66	-1.40	67.26	74.00	-6.74	peak
2	2483.500	55.03	-1.40	53.63	54.00	-0.37	AVG
3	2483.600	69.71	-1.40	68.31	74.00	-5.69	peak
4	2483.600	54.76	-1.40	53.36	54.00	-0.64	AVG
5	2500.000	64.57	-1.34	63.23	74.00	-10.77	peak
6	2500.000	52.71	-1.34	51.37	54.00	-2.63	AVG

Horizontal



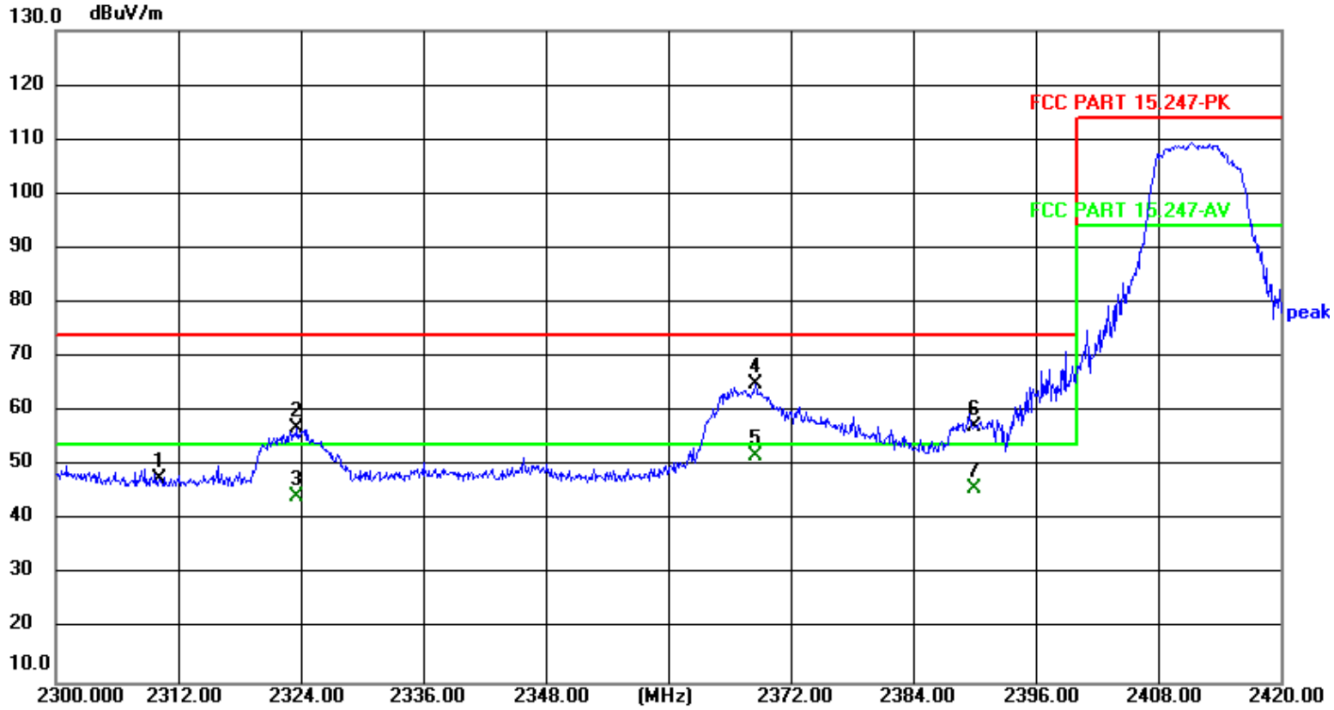
No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1	2483.500	59.88	-1.40	58.48	74.00	-15.52	peak
2	2483.500	46.43	-1.40	45.03	54.00	-8.97	AVG
3	2483.850	60.41	-1.40	59.01	74.00	-14.99	peak
4	2483.850	46.30	-1.40	44.90	54.00	-9.10	AVG
5	2500.000	57.15	-1.34	55.81	74.00	-18.19	peak
6	2500.000	46.36	-1.34	45.02	54.00	-8.98	AVG

IEEE 802.11n 2412 MHz 10M
Vertical



No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1	2310.000	53.08	-2.02	51.06	74.00	-22.94	peak
2	2321.720	62.52	-1.98	60.54	74.00	-13.46	peak
3	2321.720	49.76	-1.98	47.78	54.00	-6.22	AVG
4	2366.000	69.50	-1.81	67.69	74.00	-6.31	peak
5	2366.000	55.28	-1.81	53.47	54.00	-0.53	AVG
6	2390.000	63.39	-1.73	61.66	74.00	-12.34	peak
7	2390.000	52.07	-1.73	50.34	54.00	-3.66	AVG

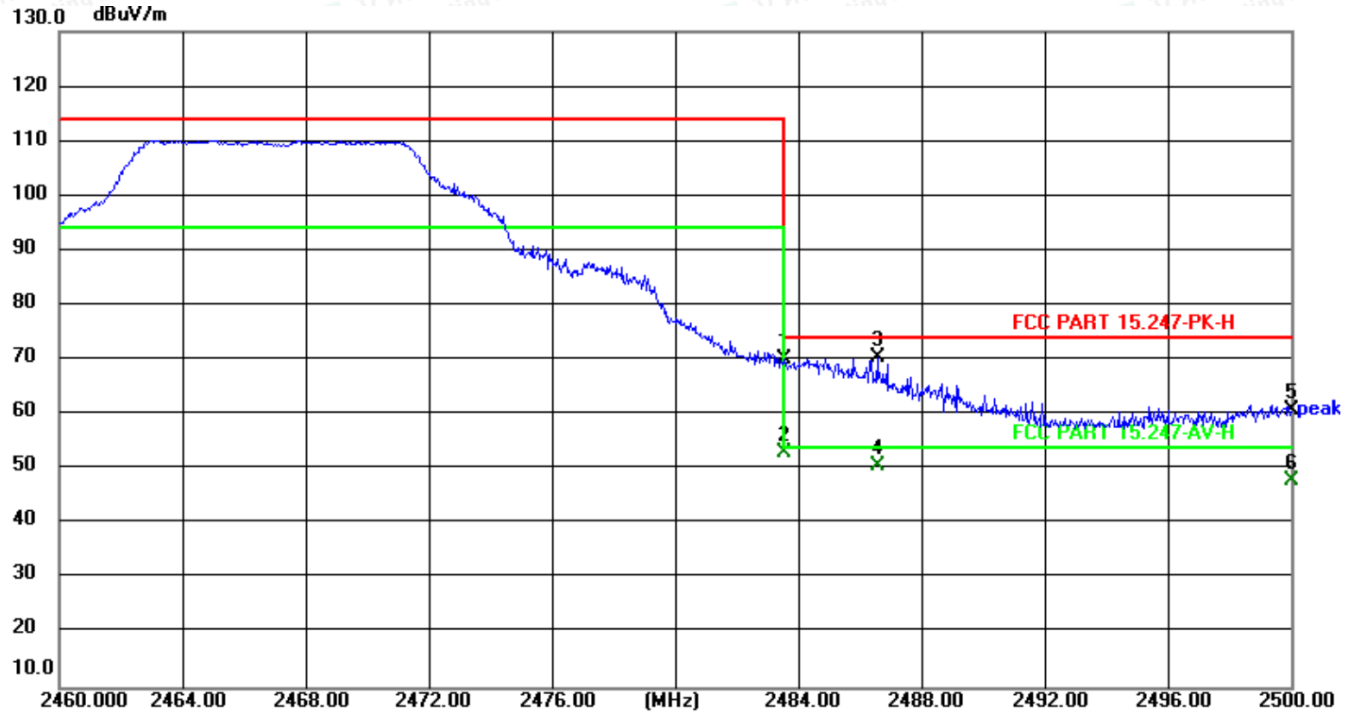
Horizontal



No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1	2310.000	49.53	-2.02	47.51	74.00	-26.49	peak
2	2323.640	58.77	-1.96	56.81	74.00	-17.19	peak
3	2323.640	46.41	-1.96	44.45	54.00	-9.55	AVG
4	2368.520	66.73	-1.81	64.92	74.00	-9.08	peak
5	2368.520	53.58	-1.81	51.77	54.00	-2.23	AVG
6	2390.000	58.97	-1.73	57.24	74.00	-16.76	peak
7	2390.000	47.65	-1.73	45.92	54.00	-8.08	AVG

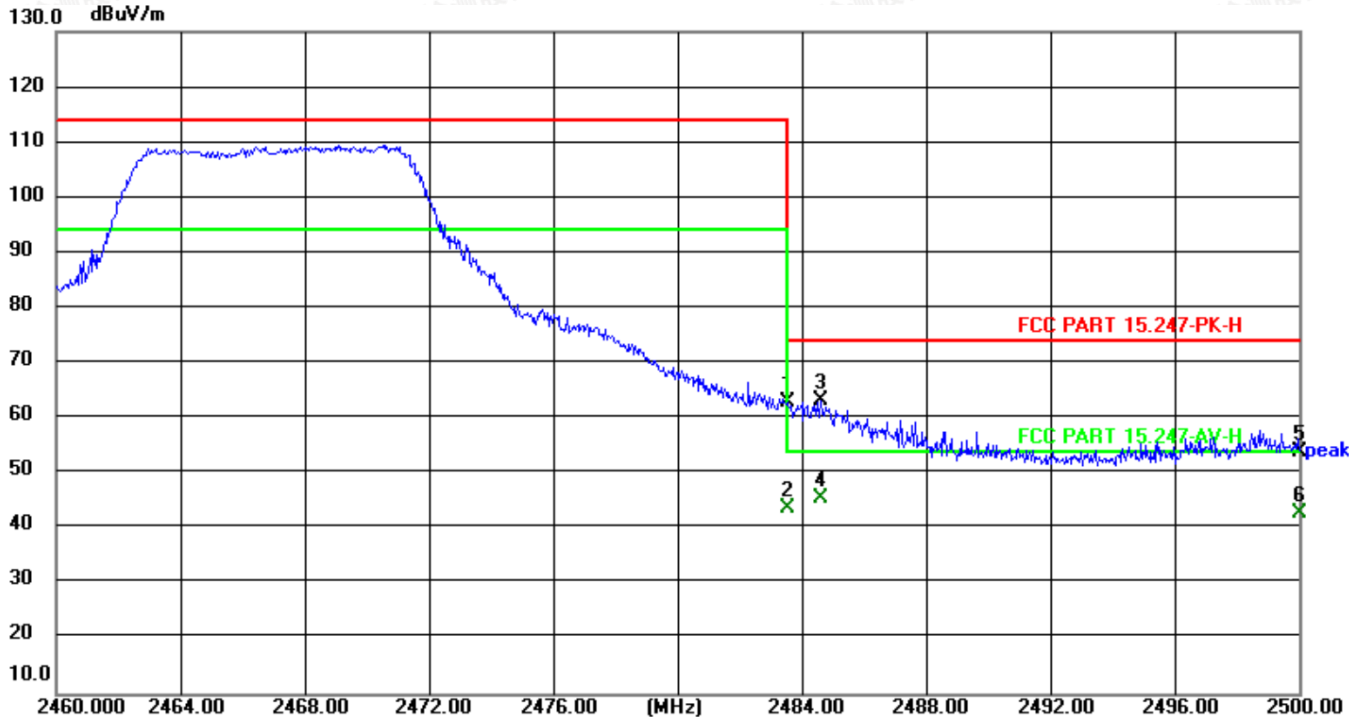
IEEE 802.11n 2467 MHz 10M

Vertical



No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1	2483.500	71.51	-1.40	70.11	74.00	-3.89	peak
2	2483.500	54.59	-1.40	53.19	54.00	-0.81	AVG
3	2486.560	71.90	-1.39	70.51	74.00	-3.49	peak
4	2486.560	52.05	-1.39	50.66	54.00	-3.34	AVG
5	2500.000	62.14	-1.34	60.80	74.00	-13.20	peak
6	2500.000	49.37	-1.34	48.03	54.00	-5.97	AVG

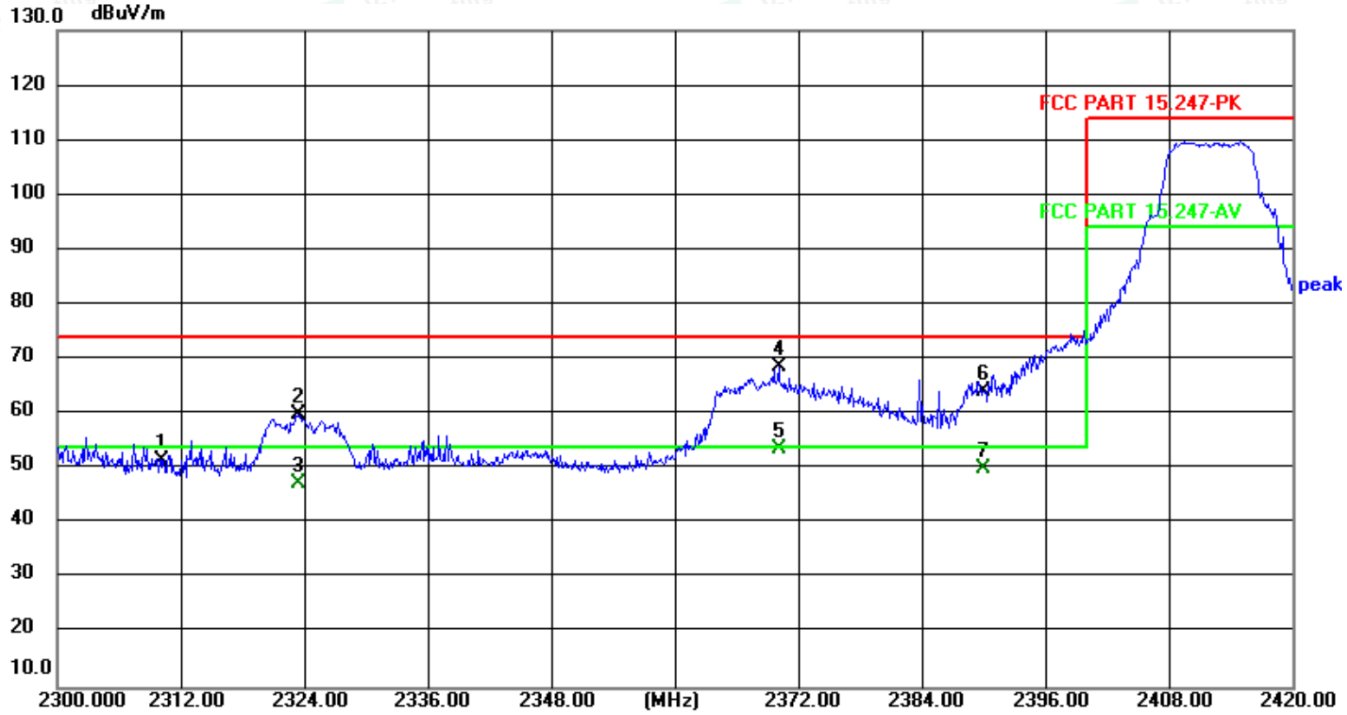
Horizontal



No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1	2483.500	64.28	-1.40	62.88	74.00	-11.12	peak
2	2483.500	45.26	-1.40	43.86	54.00	-10.14	AVG
3	2484.600	64.69	-1.40	63.29	74.00	-10.71	peak
4	2484.600	47.02	-1.40	45.62	54.00	-8.38	AVG
5	2500.000	55.41	-1.34	54.07	74.00	-19.93	peak
6	2500.000	44.11	-1.34	42.77	54.00	-11.23	AVG

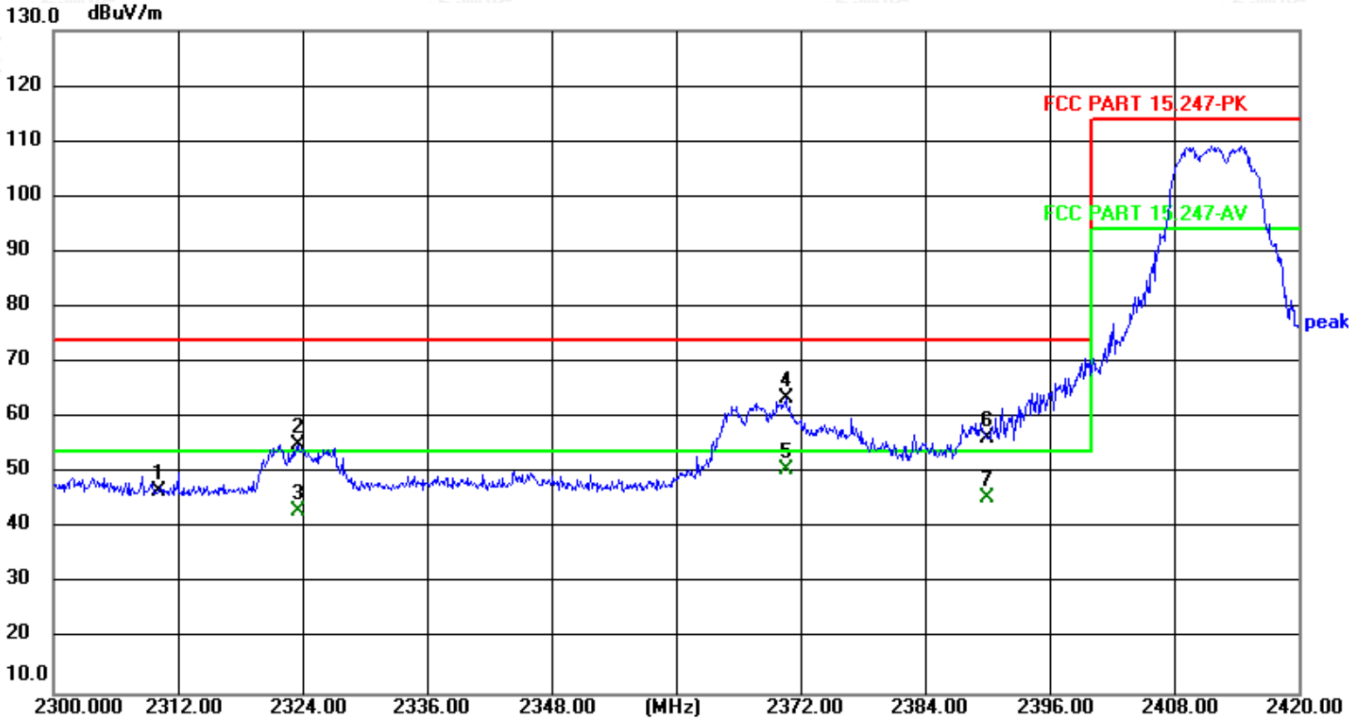
IEEE 802.11g 2412 MHz 10M

Vertical



No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1	2310.000	53.59	-2.02	51.57	74.00	-22.43	peak
2	2323.400	61.83	-1.97	59.86	74.00	-14.14	peak
3	2323.400	49.23	-1.97	47.26	54.00	-6.74	AVG
4	2370.080	70.36	-1.80	68.56	74.00	-5.44	peak
5	2370.080	55.59	-1.80	53.79	54.00	-0.21	AVG
6	2390.000	65.82	-1.73	64.09	74.00	-9.91	peak
7	2390.000	51.92	-1.73	50.19	54.00	-3.81	AVG

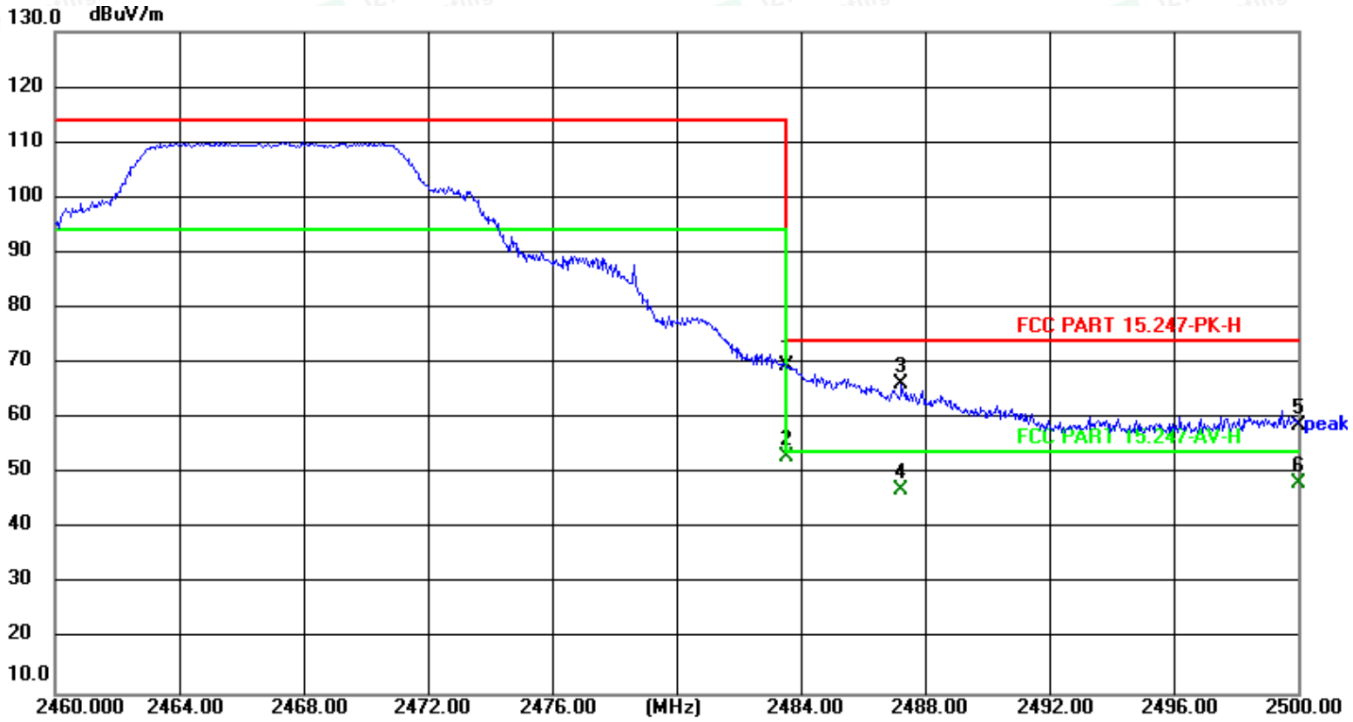
Horizontal



No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1	2310.000	48.71	-2.02	46.69	74.00	-27.31	peak
2	2323.520	57.14	-1.96	55.18	74.00	-18.82	peak
3	2323.520	45.18	-1.96	43.22	54.00	-10.78	AVG
4	2370.560	65.22	-1.79	63.43	74.00	-10.57	peak
5	2370.560	52.57	-1.79	50.78	54.00	-3.22	AVG
6	2390.000	57.95	-1.73	56.22	74.00	-17.78	peak
7	2390.000	47.32	-1.73	45.59	54.00	-8.41	AVG

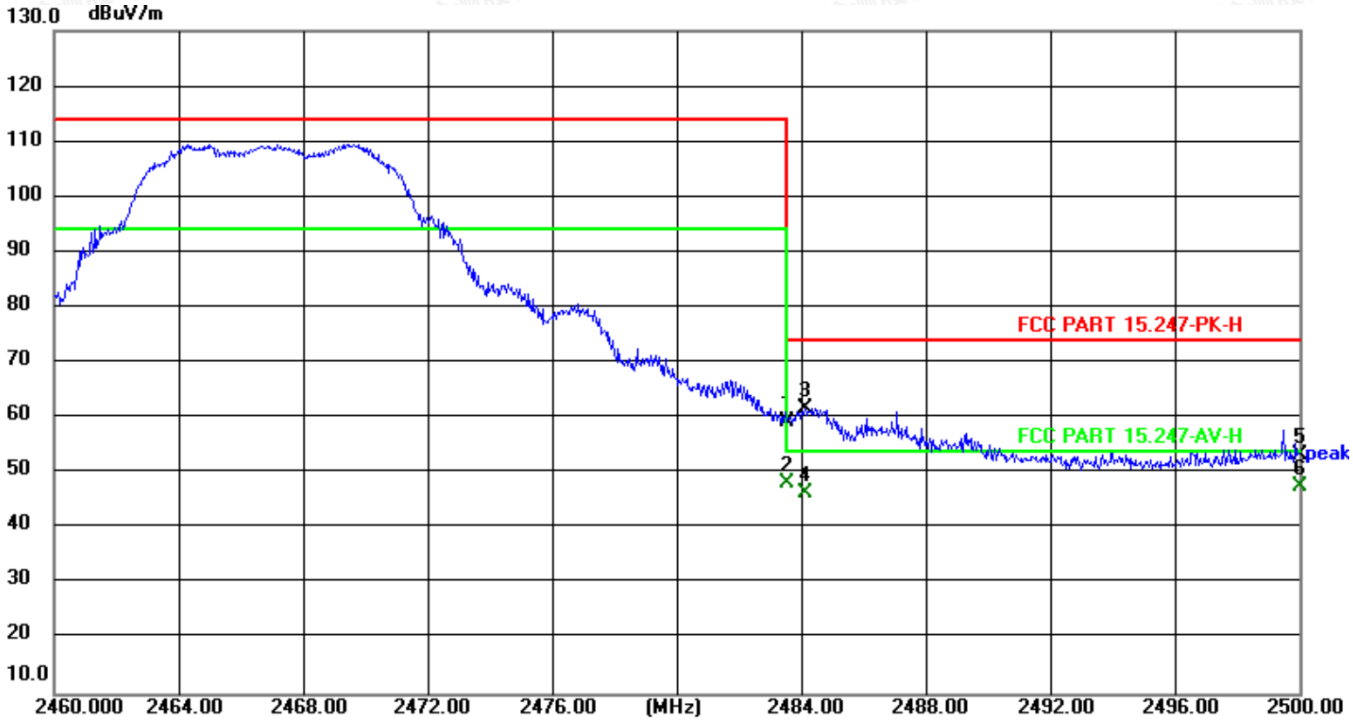
IEEE 802.11g 2467 MHz 10M

Vertical



No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1	2483.500	71.05	-1.40	69.65	74.00	-4.35	peak
2	2483.500	54.53	-1.40	53.13	54.00	-0.87	AVG
3	2487.240	67.73	-1.39	66.34	74.00	-7.66	peak
4	2487.240	48.49	-1.39	47.10	54.00	-6.90	AVG
5	2500.000	60.11	-1.34	58.77	74.00	-15.23	peak
6	2500.000	49.74	-1.34	48.40	54.00	-5.60	AVG

Horizontal



No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1	2483.500	60.73	-1.40	59.33	74.00	-14.67	peak
2	2483.500	49.74	-1.40	48.34	54.00	-5.66	AVG
3	2484.120	63.21	-1.40	61.81	74.00	-12.19	peak
4	2484.120	47.78	-1.40	46.38	54.00	-7.62	AVG
5	2500.000	54.57	-1.34	53.23	74.00	-20.77	peak
6	2500.000	49.08	-1.34	47.74	54.00	-6.26	AVG

Remark:

1). Measured Band edge measurement for radiated emission at difference data rate for each mode and recorded worst case for each mode.

2). Test results including cable loss;

3). Worst case data at 6Mbps at IEEE 802.11g; 6.5Mbps at IEEE 802.11n HT20;

4) Testing done in MIMO mode.

5.8. AC Power line conducted emissions

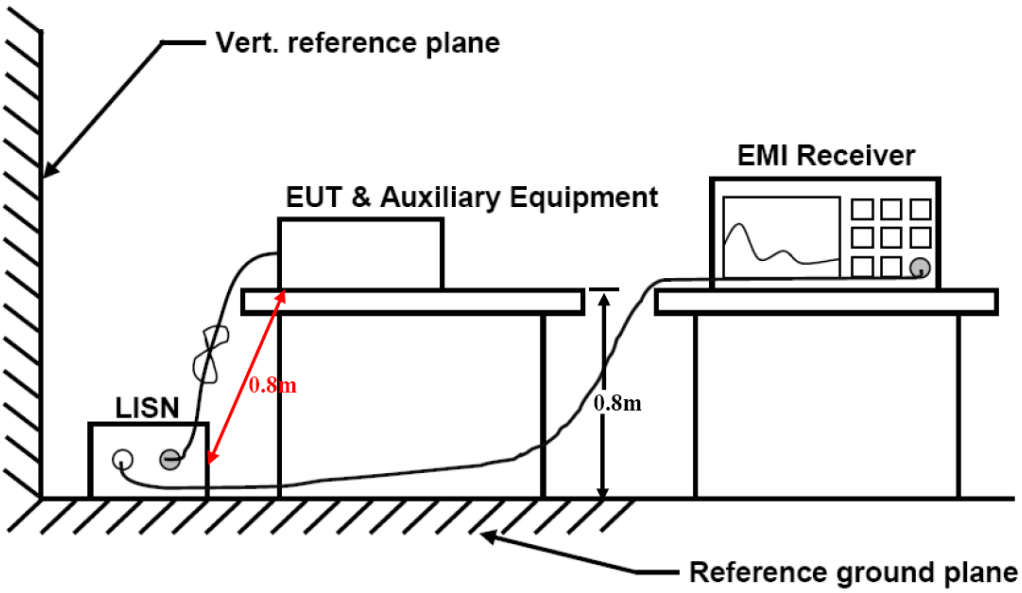
5.8.1 Standard Applicable

According to §15.207 (a): For an intentional radiator which is designed to be connected to the public utility (AC) power line, the radio frequency voltage that is conducted back onto the AC power line on any frequency or frequencies within the band 150 kHz to 30 MHz shall not exceed 250 microvolts (The limit decreases linearly with the logarithm of the frequency in the range 0.15 MHz to 0.50 MHz). The limits at specific frequency range are listed as follows:

Frequency Range (MHz)	Limits (dBμV)	
	Quasi-peak	Average
0.15 to 0.50	66 to 56	56 to 46
0.50 to 5	56	46
5 to 30	60	50

* Decreasing linearly with the logarithm of the frequency

5.8.2 Block Diagram of Test Setup



5.8.3. Disturbance Calculation

The AC mains conducted disturbance is calculated by adding the 10dB Pulse Limiter and Cable Factor and Duty Cycle Correction Factor (if any) from the measured reading. The basic equation with a sample calculation is as follows:

CD (dBuV) = RA (dBuV) + PL (dB) + CL (dB)

Where	CD = Conducted Disturbance	CL = Cable Attenuation Factor (Cable Loss)
	RA = Reading Amplitude	PL = 10 dB Pulse Limiter Factor

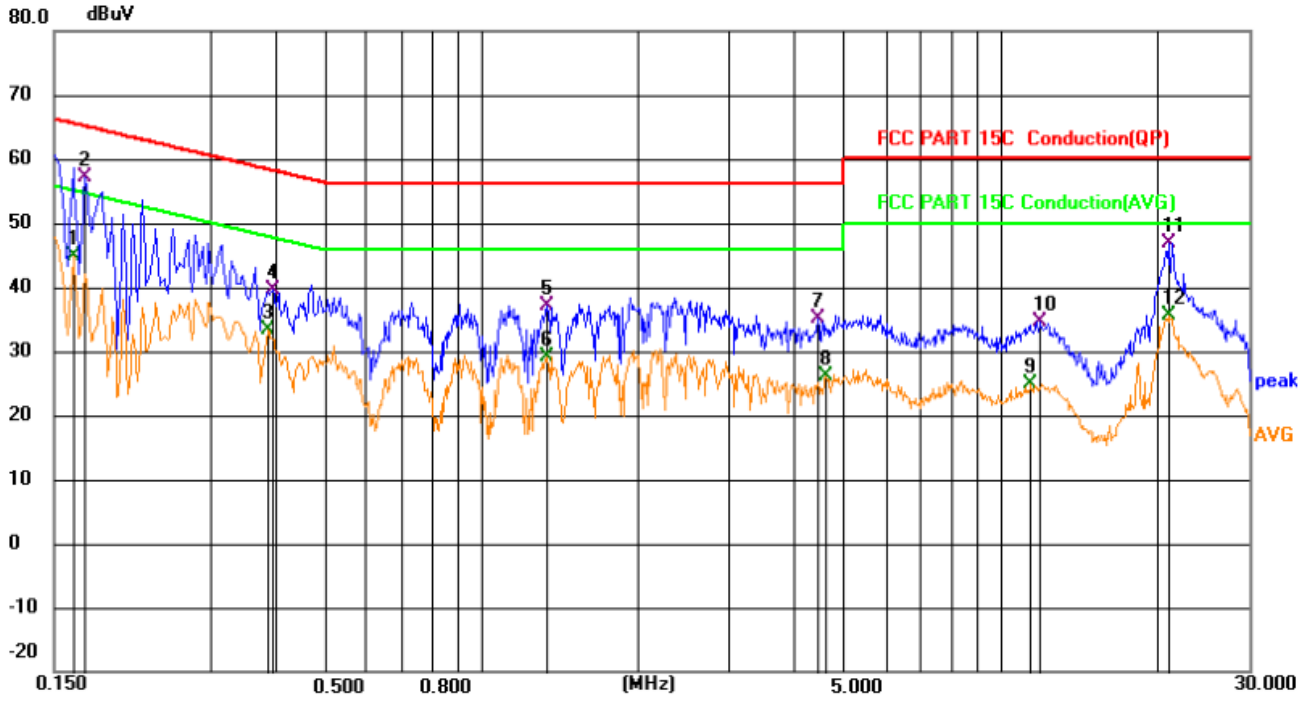
5.8.4 Test Results

The test data please refer to following page.

Temperature	23.8℃	Humidity	52.1%
Test Engineer	Taylor Hu	Configurations	IEEE 802.11g/n

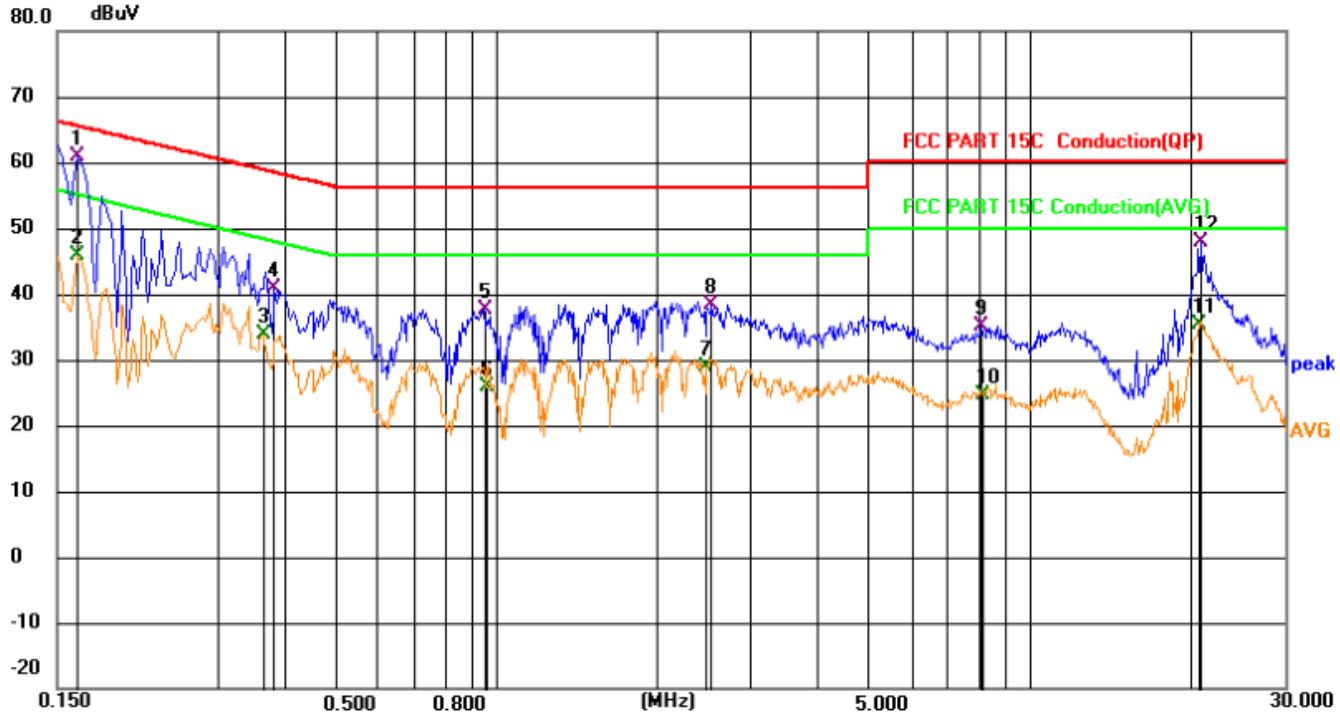
AC Power Line Conducted Emission (Power input to adapter @ AC 120V/60Hz (Worst Case))

Line



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Margin	
		MHz	dBuV	dB	dBuV	dBuV	dB	Detector
1		0.1635	25.17	19.63	44.80	55.28	-10.48	AVG
2	*	0.1726	37.49	19.63	57.12	64.83	-7.71	QP
3		0.3886	13.80	19.63	33.43	48.09	-14.66	AVG
4		0.3976	19.92	19.63	39.55	57.90	-18.35	QP
5		1.3334	17.42	19.66	37.08	56.00	-18.92	QP
6		1.3334	9.57	19.66	29.23	46.00	-16.77	AVG
7		4.4340	15.41	19.70	35.11	56.00	-20.89	QP
8		4.6096	6.43	19.70	26.13	46.00	-19.87	AVG
9		11.3955	5.13	19.85	24.98	50.00	-25.02	AVG
10		11.9131	14.78	19.84	34.62	60.00	-25.38	QP
11		20.9446	26.75	20.15	46.90	60.00	-13.10	QP
12		20.9446	15.58	20.15	35.73	50.00	-14.27	AVG

Neutral



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Margin	
		MHz	dBuV	dB	dBuV	dBuV	dB	Detector
1	*	0.1636	41.24	19.63	60.87	65.28	-4.41	QP
2		0.1636	26.37	19.63	46.00	55.28	-9.28	AVG
3		0.3661	14.34	19.63	33.97	48.59	-14.62	AVG
4		0.3840	21.18	19.63	40.81	58.19	-17.38	QP
5		0.9466	18.06	19.65	37.71	56.00	-18.29	QP
6		0.9556	6.17	19.65	25.82	46.00	-20.18	AVG
7		2.4766	9.28	19.70	28.98	46.00	-17.02	AVG
8		2.5306	18.58	19.71	38.29	56.00	-17.71	QP
9		8.1016	15.28	19.84	35.12	60.00	-24.88	QP
10		8.1871	4.79	19.84	24.63	50.00	-25.37	AVG
11		20.7420	15.20	20.16	35.36	50.00	-14.64	AVG
12		20.8321	27.74	20.16	47.90	60.00	-12.10	QP

****Note: Pre-scan all modes and recorded the worst case results in this report.*
Margin=Reading level + Correct - Limit

5.9. Antenna Requirements

5.9.1 Standard Applicable

According to antenna requirement of §15.203.

According to antenna requirement of §15.203, an intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device. The use of a permanently attached antenna or of an antenna that uses a unique coupling to the intentional radiator shall be considered sufficient to comply with the provisions of this Section. The manufacturer may design the unit so that a broken antenna can be re-placed by the user, but the use of a standard antenna jack or electrical connector is prohibited. This requirement does not apply to carrier current devices or to devices operated under the provisions of Sections 15.211, 15.213, 15.217, 15.219, or 15.221. Further, this requirement does not apply to intentional radiators that must be professionally installed, such as perimeter protection systems and some field disturbance sensors, or to other intentional radiators which, in accordance with Section 15.31(d), must be measured at the installation site. However, the installer shall be responsible for ensuring that the proper antenna is employed so that the limits in this Part are not exceeded.

And according to §15.247(4)(1), system operating in the 2400-2483.5MHz bands that are used exclusively for fixed, point-to-point operations may employ transmitting antennas with directional gain greater than 6dBi provided the maximum peak output power of the intentional radiator is reduced by 1 dB for every 3 dB that the directional gain of the antenna exceeds 6dBi.

5.9.2 Antenna Connected Construction

5.9.2.1. Standard Applicable

According to § 15.203, an intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device.

5.9.2.2. Antenna Connector Construction

The gains of antenna used for transmitting is 2.2dBi (Max.), the antenna ANT 0 and ANT 1 is External Antenna and uses unique antenna connector(s) RP-SMA (Reverse Polarity SMA). Please see EUT photo for details.

5.9.2.3. Results: Compliance.

6. LIST OF MEASURING EQUIPMENTS

Item	Equipment	Manufacturer	Model No.	Serial No.	Cal Date	Due Date
1	Power Meter	R&S	NRVS	100444	2023-06-09	2024-06-08
2	Power Sensor	R&S	NRV-Z81	100458	2023-06-09	2024-06-08
3	Power Sensor	R&S	NRV-Z32	10057	2023-06-09	2024-06-08
4	Test Software	Tonscend	JS1120-2	/	N/A	N/A
5	RF Control Unit	Tonscend	JS0806-2	N/A	2022-10-29	2024-10-27
					2023-10-28	2024-10-27
6	MXA Signal Analyzer	Agilent	N9020A	MY50510140	2022-10-29	2024-10-27
					2023-10-28	2024-10-27
7	DC Power Supply	Agilent	E3642A	N/A	2022-10-29	2024-10-27
					2023-10-28	2024-10-27
8	EMI Test Software	AUDIX	E3	/	N/A	N/A
9	3m Semi Anechoic Chamber	SIDT FRANKONIA	SAC-3M	03CH03-HY	2023-06-09	2024-06-08
10	Positioning Controller	Max-Full	MF7802BS	MF780208586	N/A	N/A
11	Active Loop Antenna	SCHWARZBECK	FMZB 1519B	00005	2021-08-29	2024-08-28
12	By-log Antenna	SCHWARZBECK	VULB9163	9163-470	2021-09-12	2024-09-11
13	Horn Antenna	SCHWARZBECK	BBHA 9120D	9120D-1925	2021-09-05	2024-09-04
14	Broadband Horn Antenna	SCHWARZBECK	BBHA 9170	791	2021-08-29	2024-08-28
15	Broadband Preamplifier	SCHWARZBECK	BBV9719	9719-025	2023-06-09	2024-06-08
16	EMI Test Receiver	R&S	ESR 7	101181	2023-06-09	2024-06-08
17	RS SPECTRUM ANALYZER	R&S	FSP40	100503	2022-10-29	2024-10-27
					2023-10-28	2024-10-27
18	Broadband Preamplifier	/	BP-01M18G	P190501	2023-06-09	2024-06-08
19	6dB Attenuator	/	100W/6dB	1172040	2023-06-09	2024-06-08
20	3dB Attenuator	/	2N-3dB	/	2022-10-29	2024-10-27
					2023-10-28	2024-10-27
21	EMI Test Receiver	R&S	ESPI	101940	2023-08-15	2024-08-14
22	Artificial Mains	R&S	ENV216	101288	2023-06-09	2024-06-08
23	10dB Attenuator	SCHWARZBECK	MTS-IMP-136	261115-001-0032	2023-06-09	2024-06-08
24	EMI Test Software	Farad	EZ	/	N/A	N/A
25	Antenna Mast	Max-Full	MFA-515BSN	1308572	N/A	N/A

7. TEST SETUP PHOTOGRAPHS OF EUT

Please refer to separated files for Test Setup Photos of the EUT.

8. EXTERIOR PHOTOGRAPHS OF THE EUT

Please refer to separated files for External Photos of the EUT.

9. INTERIOR PHOTOGRAPHS OF THE EUT

Please refer to separated files for Internal Photos of the EUT.

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