



7.2.2.6. DATA SAMPLE

Below 1GHz

Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Pole (V/H)	Remark
XXX.XXXX	36.37	-12.20	24.17	40.00	-15.83	V	QP

Frequency (MHz) = Emission frequency in MHz
Reading (dBuV) = Uncorrected Analyzer / Receiver reading
Correct Factor (dB/m) = Antenna factor + Cable loss – Amplifier gain
Result (dBuV/m) = Reading (dBuV) + Corr. Factor (dB/m)
Limit (dBuV/m) = Limit stated in standard
Margin (dB) = Result (dBuV/m) – Limit (dBuV/m)
Q.P. = Quasi-peak Reading

Above 1GHz

Frequency (MHz)	Reading (dBuV)	Correction Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Pole (V/H)	Remark
XXXX.XXXX	62.09	-11.42	50.67	74.00	-23.33	V	Peak
XXXX.XXXX	49.78	-11.42	38.36	54.00	-15.64	V	AVG

Frequency (MHz) = Emission frequency in MHz
Reading (dBuV) = Uncorrected Analyzer / Receiver reading
Correction Factor (dB/m) = Antenna factor + Cable loss – Amplifier gain
Result (dBuV/m) = Reading (dBuV) + Corr. Factor (dB/m)
Limit (dBuV/m) = Limit stated in standard
Margin (dB) = Result (dBuV/m) – Limit (dBuV/m)
Peak = Peak Reading
AVG = Average Reading

Calculation Formula

Margin (dB) = Result (dBuV/m) – Limits (dBuV/m)

Result (dBuV/m) = Reading (dBuV) + Correction Factor



7.2.2.7. TEST RESULTS

Below 1 GHz

Antenna 1

Test Mode: TX / IEEE 802.11b(CH Low)

Tested by: Saber Huang

Ambient temperature: 24°C **Relative humidity:** 52% RH

Date: March 15, 2017

Frequency (MHz)	Reading (dBuV)	Correction Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Pole (V/H)	Remark
191.0200	51.93	-22.85	29.08	43.50	-14.42	V	QP
249.2200	50.45	-21.11	29.34	46.00	-16.66	V	QP
482.0200	36.92	-14.36	22.56	46.00	-23.44	V	QP
582.9000	37.44	-13.09	24.35	46.00	-21.65	V	QP
649.8300	45.11	-12.52	32.59	46.00	-13.41	V	QP
974.7800	34.95	-9.07	25.88	54.00	-28.12	V	QP
195.8700	54.32	-22.78	31.54	43.50	-11.96	H	QP
206.5400	53.61	-21.93	31.68	43.50	-11.82	H	QP
251.1600	51.78	-20.94	30.84	46.00	-15.16	H	QP
561.5600	39.35	-13.22	26.13	46.00	-19.87	H	QP
649.8300	38.73	-12.52	26.21	46.00	-19.79	H	QP
833.1600	35.60	-10.63	24.97	46.00	-21.03	H	QP

****Remark:** 1. No emission found between lowest internal used/generated frequency to 30MHz.

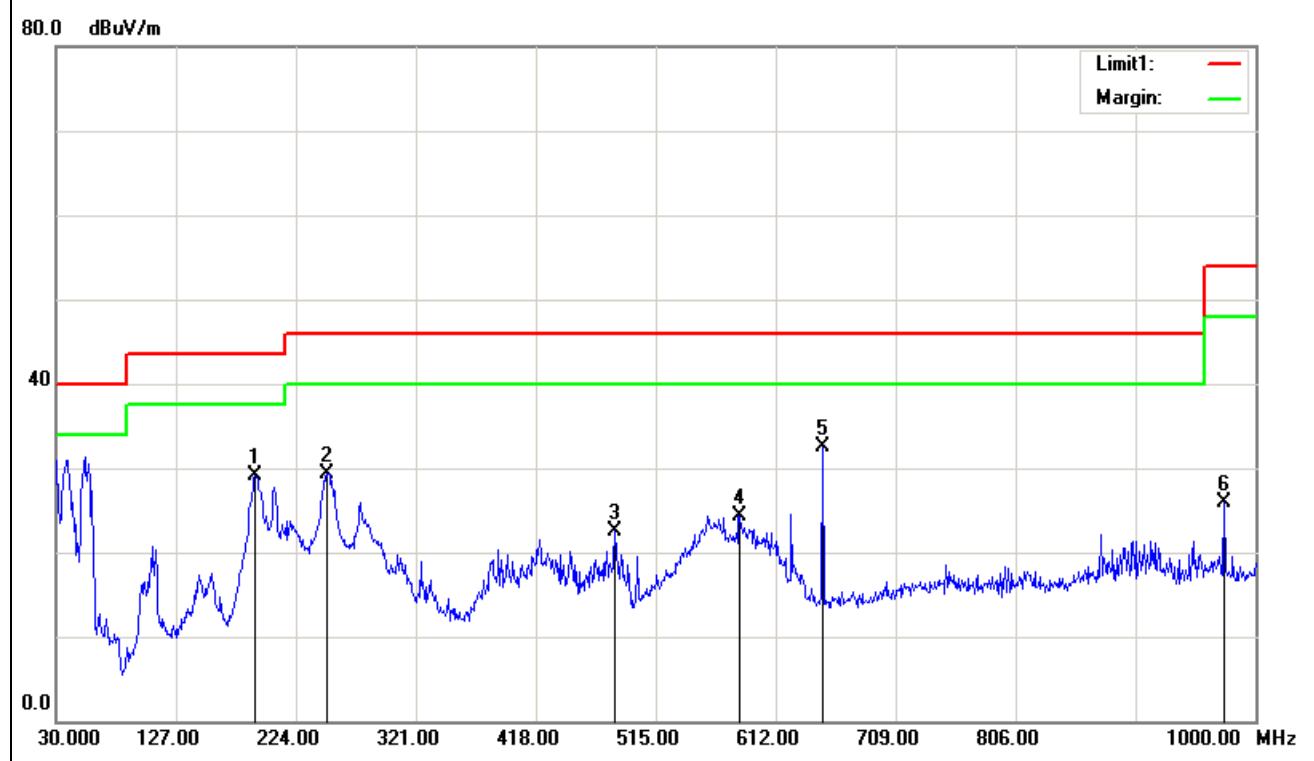
2. Pre-scan all mode and recorded the worst case results in this report (802.11b (Low Channel)

Notes:

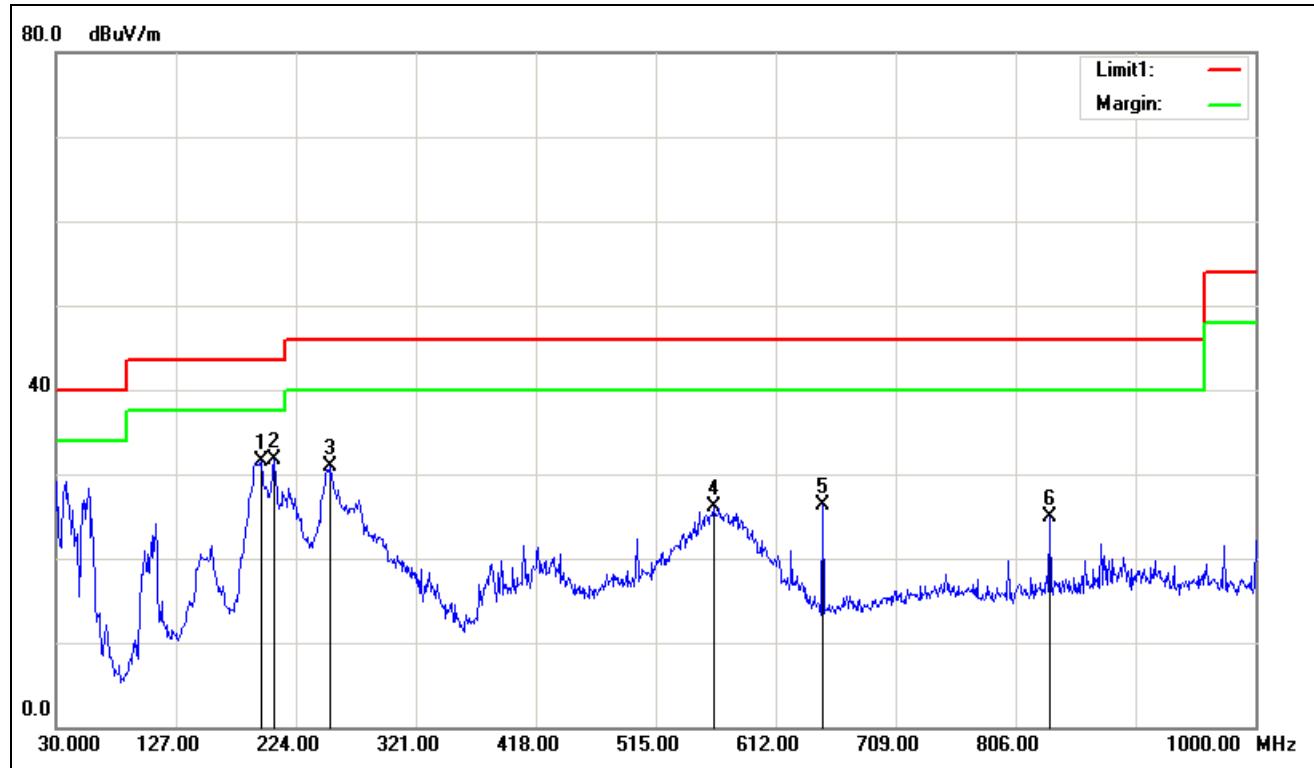
1. Radiated emissions measured in frequency range from 9kHz to 1GHz were made with an instrument using Quasi-peak detector mode.
2. Data of measurement within this frequency range shown “ --- ” in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
3. The IF bandwidth of Receiver between 30MHz to 1GHz was 120kHz.
4. Frequency (MHz).
Reading (dB μ V/m) = Emission frequency in MHz
Correction Factor (dB) = Receiver reading
Limit (dB μ V/m) = Antenna factor + Cable loss – Amplifier gain
Margin (dB) = Limit stated in standard
Antenna Pol e(H/V) = Measured (dB μ V/m) – Limits (dB μ V/m)
= Current carrying line of reading



Vertical



Horizontal



**Above 1 GHz****Antenna 0****Test Mode: TX / IEEE 802.11b(CH Low)****Tested by: Saber Huang****Ambient temperature: 24°C Relative humidity: 52% RH Date: February 24, 2017**

Frequency (MHz)	Reading (dBuV)	Correction Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Pole (V/H)	Remark
1891.000	51.00	-5.69	45.31	74.00	-28.69	V	peak
2521.000	47.19	-2.22	44.97	74.00	-29.03	V	peak
3916.000	43.23	1.24	44.47	74.00	-29.53	V	peak
4825.000	43.94	4.41	48.35	74.00	-25.65	V	peak
5599.000	42.51	5.91	48.42	74.00	-25.58	V	peak
6760.000	41.57	7.31	48.88	74.00	-25.12	V	peak
2512.000	47.14	-2.24	44.90	74.00	-29.10	H	Peak
3943.000	43.41	1.35	44.76	74.00	-29.24	H	Peak
4825.000	47.75	4.41	52.16	74.00	-21.84	H	Peak
4825.000	47.75	4.41	52.16	54.00	-1.84	H	AVG
5581.000	42.74	5.90	48.64	74.00	-25.36	H	peak
6247.000	44.18	6.48	50.66	74.00	-23.34	H	Peak
7939.000	41.70	9.53	51.23	74.00	-22.77	H	peak

REMARKS:

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. Radiated emissions measured in frequency above 1000MHz were made with an instrument using peak/average detector mode.
3. Average test would be performed if the peak result were greater than the average limit or as required by the applicant.
4. Data of measurement within this frequency range shown “ --- ” in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
5. Measurements above show only up to 6 maximum emissions noted, or would be lesser, with “ N/A ” remark, if no specific emissions from the EUT are recorded (ie: margin>20dB from the applicable limit) and considered that's already beyond the background noise floor.
6. Margin (dB) = Remark result (dBuV/m) – Average limit (dBuV/m).

**Test Mode: TX / IEEE 802.11b (CH Mid)****Tested by: Saber Huang****Ambient temperature: 24°C****Relative humidity: 52% RH****Date: February 24, 2017**

Frequency (MHz)	Reading (dBuV)	Correction Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Pole (V/H)	Remark
1765.000	52.07	-6.35	45.72	74.00	-28.28	V	Peak
2530.000	46.98	-2.21	44.77	74.00	-29.23	V	Peak
3223.000	44.91	-0.99	43.92	74.00	-30.08	V	Peak
3925.000	44.06	1.27	45.33	74.00	-28.67	V	Peak
4870.000	45.44	4.56	50.00	74.00	-24.00	V	Peak
5617.000	42.29	5.92	48.21	74.00	-25.79	V	Peak
1900.000	47.42	-5.63	41.79	74.00	-32.21	H	Peak
2278.000	52.88	-3.48	49.40	74.00	-24.60	H	Peak
2827.000	45.65	-1.67	43.98	74.00	-30.02	H	Peak
3772.000	43.65	0.63	44.28	74.00	-29.72	H	Peak
4870.000	48.17	4.56	52.73	74.00	-21.27	H	Peak
4870.000	46.70	4.56	51.26	54.00	-2.74	H	AVG
6058.000	42.50	6.17	48.67	74.00	-25.33	H	Peak

REMARKS:

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. Radiated emissions measured in frequency above 1000MHz were made with an instrument using peak/average detector mode.
3. Average test would be performed if the peak result were greater than the average limit or as required by the applicant.
4. Data of measurement within this frequency range shown “ --- ” in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
5. Measurements above show only up to 6 maximum emissions noted, or would be lesser, with “ N/A ” remark, if no specific emissions from the EUT are recorded (ie: margin>20dB from the applicable limit) and considered that's already beyond the background noise floor.
6. Margin (dB) = Remark result (dBuV/m) – Average limit (dBuV/m).

**Test Mode:** TX / IEEE 802.11b (CH High)**Tested by:** Saber Huang**Ambient temperature:** 24°C**Relative humidity:** 52% RH**Date:** February 24, 2017

Frequency (MHz)	Reading (dBuV)	Correction Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Pole (V/H)	Remark
3088.000	44.66	-1.21	43.45	74.00	-30.55	V	Peak
3844.000	44.34	0.93	45.27	74.00	-28.73	V	Peak
4375.000	43.22	2.91	46.13	74.00	-27.87	V	Peak
4924.000	45.01	4.73	49.74	74.00	-24.26	V	Peak
5482.000	42.02	5.84	47.86	74.00	-26.14	V	Peak
6184.000	41.18	6.38	47.56	74.00	-26.44	V	Peak
2512.000	47.45	-2.24	45.21	74.00	-28.79	H	Peak
2791.000	45.68	-1.74	43.94	74.00	-30.06	H	Peak
3907.000	43.78	1.20	44.98	74.00	-29.02	H	Peak
4924.000	47.06	4.73	51.79	74.00	-22.21	H	Peak
5437.000	41.87	5.76	47.63	74.00	-26.37	H	Peak
6247.000	43.50	6.48	49.98	74.00	-24.02	H	Peak

REMARKS:

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. Radiated emissions measured in frequency above 1000MHz were made with an instrument using peak/average detector mode.
3. Average test would be performed if the peak result were greater than the average limit or as required by the applicant.
4. Data of measurement within this frequency range shown “ --- ” in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
5. Measurements above show only up to 6 maximum emissions noted, or would be lesser, with “ N/A ” remark, if no specific emissions from the EUT are recorded (ie: margin>20dB from the applicable limit) and considered that's already beyond the background noise floor.
6. Margin (dB) = Remark result (dBuV/m) – Average limit (dBuV/m).

**Antenna 1****Test Mode: TX / IEEE 802.11b(CH Low)****Tested by: Saber Huang****Ambient temperature: 24°C Relative humidity: 52% RH Date: February 24, 2017**

Frequency (MHz)	Reading (dBuV)	Correction Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Pole (V/H)	Remark
2503.000	46.93	-2.25	44.68	74.00	-29.32	V	peak
3853.000	42.95	0.97	43.92	74.00	-30.08	V	peak
4312.000	42.99	2.69	45.68	74.00	-28.32	V	peak
5122.000	41.70	5.20	46.90	74.00	-27.10	V	peak
5410.000	41.66	5.71	47.37	74.00	-26.63	V	peak
6625.000	40.84	7.09	47.93	74.00	-26.07	V	peak
2512.000	46.98	-2.24	44.74	74.00	-29.26	H	Peak
4024.000	42.56	1.67	44.23	74.00	-29.77	H	Peak
4879.000	42.91	4.59	47.50	74.00	-26.50	H	Peak
5437.000	41.71	5.76	47.47	74.00	-26.53	H	peak
6247.000	43.76	6.48	50.24	74.00	-23.76	H	peak
7156.000	41.61	8.00	49.61	74.00	-24.39	H	peak

REMARKS:

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. Radiated emissions measured in frequency above 1000MHz were made with an instrument using peak/average detector mode.
3. Average test would be performed if the peak result were greater than the average limit or as required by the applicant.
4. Data of measurement within this frequency range shown “ --- ” in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
5. Measurements above show only up to 6 maximum emissions noted, or would be lesser, with “ N/A ” remark, if no specific emissions from the EUT are recorded (ie: margin>20dB from the applicable limit) and considered that's already beyond the background noise floor.
6. Margin (dB) = Remark result (dBuV/m) – Average limit (dBuV/m).

**Test Mode:** TX / IEEE 802.11b (CH Mid)**Tested by:** Saber Huang**Ambient temperature:** 24°C**Relative humidity:** 52% RH**Date:** February 24, 2017

Frequency (MHz)	Reading (dBuV)	Correction Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Pole (V/H)	Remark
1774.000	51.33	-6.33	45.00	74.00	-29.00	V	Peak
2494.000	46.97	-2.29	44.68	74.00	-29.32	V	Peak
3673.000	44.27	0.21	44.48	74.00	-29.52	V	Peak
4195.000	42.80	2.28	45.08	74.00	-28.92	V	Peak
4888.000	43.00	4.61	47.61	74.00	-26.39	V	Peak
5455.000	42.42	5.79	48.21	74.00	-25.79	V	Peak
2512.000	46.83	-2.24	44.59	74.00	-29.41	H	Peak
3754.000	44.21	0.55	44.76	74.00	-29.24	H	Peak
4870.000	43.76	4.56	48.32	74.00	-25.68	H	Peak
5644.000	42.23	5.93	48.16	74.00	-25.84	H	Peak
6247.000	43.42	6.48	49.90	74.00	-24.10	H	Peak
7498.000	41.18	8.67	49.85	74.00	-24.15	H	Peak

REMARKS:

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. Radiated emissions measured in frequency above 1000MHz were made with an instrument using peak/average detector mode.
3. Average test would be performed if the peak result were greater than the average limit or as required by the applicant.
4. Data of measurement within this frequency range shown “ --- ” in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
5. Measurements above show only up to 6 maximum emissions noted, or would be lesser, with “ N/A ” remark, if no specific emissions from the EUT are recorded (ie: margin>20dB from the applicable limit) and considered that's already beyond the background noise floor.
6. Margin (dB) = Remark result (dBuV/m) – Average limit (dBuV/m).

**Test Mode:** TX / IEEE 802.11b (CH High)**Tested by:** Saber Huang**Ambient temperature:** 24°C**Relative humidity:** 52% RH**Date:** February 24, 2017

Frequency (MHz)	Reading (dBuV)	Correction Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Pole (V/H)	Remark
2800.000	45.61	-1.72	43.89	74.00	-30.11	V	Peak
3934.000	44.45	1.31	45.76	74.00	-28.24	V	Peak
4285.000	42.54	2.59	45.13	74.00	-28.87	V	Peak
4978.000	41.99	4.91	46.90	74.00	-27.10	V	Peak
5464.000	41.74	5.81	47.55	74.00	-26.45	V	Peak
6697.000	41.41	7.21	48.62	74.00	-25.38	V	Peak
2098.000	46.68	-4.46	42.22	74.00	-31.78	H	Peak
3241.000	44.05	-0.96	43.09	74.00	-30.91	H	Peak
4348.000	42.54	2.81	45.35	74.00	-28.65	H	Peak
5131.000	42.17	5.21	47.38	74.00	-26.62	H	Peak
6247.000	42.50	6.48	48.98	74.00	-25.02	H	Peak
6904.000	41.23	7.54	48.77	74.00	-25.23	H	Peak

REMARKS:

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. Radiated emissions measured in frequency above 1000MHz were made with an instrument using peak/average detector mode.
3. Average test would be performed if the peak result were greater than the average limit or as required by the applicant.
4. Data of measurement within this frequency range shown “ --- ” in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
5. Measurements above show only up to 6 maximum emissions noted, or would be lesser, with “ N/A ” remark, if no specific emissions from the EUT are recorded (ie: margin>20dB from the applicable limit) and considered that's already beyond the background noise floor.
6. Margin (dB) = Remark result (dBuV/m) – Average limit (dBuV/m).

**Antenna 2****Test Mode: TX / IEEE 802.11b(CH Low)****Tested by: Saber Huang****Ambient temperature: 24°C Relative humidity: 52% RH Date: March 15, 2017**

Frequency (MHz)	Reading (dBuV)	Correction Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Pole (V/H)	Remark
1954.000	48.73	-5.29	43.44	74.00	-30.56	V	peak
2503.000	46.94	-2.25	44.69	74.00	-29.31	V	peak
3925.000	44.14	1.27	45.41	74.00	-28.59	V	peak
4573.000	44.15	3.59	47.74	74.00	-26.26	V	peak
4825.000	45.88	4.41	50.29	74.00	-23.71	V	peak
5455.000	41.86	5.79	47.65	74.00	-26.35	V	peak
1954.000	47.93	-5.29	42.64	74.00	-31.36	H	Peak
2503.000	47.25	-2.25	45.00	74.00	-29.00	H	Peak
3232.000	44.91	-0.97	43.94	74.00	-30.06	H	Peak
3826.000	45.42	0.86	46.28	74.00	-27.72	H	peak
4384.000	43.68	2.94	46.62	74.00	-27.38	H	peak
4987.000	43.26	4.94	48.20	74.00	-25.80	H	peak

REMARKS:

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. Radiated emissions measured in frequency above 1000MHz were made with an instrument using peak/average detector mode.
3. Average test would be performed if the peak result were greater than the average limit or as required by the applicant.
4. Data of measurement within this frequency range shown “ --- ” in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
5. Measurements above show only up to 6 maximum emissions noted, or would be lesser, with “ N/A ” remark, if no specific emissions from the EUT are recorded (ie: margin>20dB from the applicable limit) and considered that's already beyond the background noise floor.
6. Margin (dB) = Remark result (dBuV/m) – Average limit (dBuV/m).



Test Mode: TX / IEEE 802.11b (CH Mid)

Tested by: Saber HuangAmbient temperature: 24°CRelative humidity: 52% RHDate: March 15, 2017

Frequency (MHz)	Reading (dBuV)	Correction Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Pole (V/H)	Remark
1765.000	49.97	-6.35	43.62	74.00	-30.38	V	Peak
2539.000	47.58	-2.19	45.39	74.00	-28.61	V	Peak
3214.000	44.17	-1.00	43.17	74.00	-30.83	V	Peak
4159.000	42.62	2.15	44.77	74.00	-29.23	V	Peak
4879.000	46.69	4.59	51.28	74.00	-22.72	V	Peak
5725.000	42.17	5.96	48.13	74.00	-25.87	V	Peak
2548.000	46.93	-2.17	44.76	74.00	-29.24	H	Peak
3250.000	44.14	-0.94	43.20	74.00	-30.80	H	Peak
3826.000	45.36	0.86	46.22	74.00	-27.78	H	Peak
4627.000	43.37	3.76	47.13	74.00	-26.87	H	Peak
4879.000	43.09	4.59	47.68	74.00	-26.32	H	Peak
5590.000	43.08	5.91	48.99	74.00	-25.01	H	Peak

REMARKS:

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. Radiated emissions measured in frequency above 1000MHz were made with an instrument using peak/average detector mode.
3. Average test would be performed if the peak result were greater than the average limit or as required by the applicant.
4. Data of measurement within this frequency range shown “ --- ” in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
5. Measurements above show only up to 6 maximum emissions noted, or would be lesser, with “ N/A ” remark, if no specific emissions from the EUT are recorded (ie: margin>20dB from the applicable limit) and considered that's already beyond the background noise floor.
6. Margin (dB) = Remark result (dBuV/m) – Average limit (dBuV/m).

**Test Mode:** TX / IEEE 802.11b (CH High)**Tested by:** Saber Huang**Ambient temperature:** 24°C**Relative humidity:** 52% RH**Date:** March 15, 2017

Frequency (MHz)	Reading (dBuV)	Correction Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Pole (V/H)	Remark
1954.000	49.59	-5.29	44.30	74.00	-29.70	V	Peak
2494.000	46.71	-2.29	44.42	74.00	-29.58	V	Peak
3790.000	44.13	0.70	44.83	74.00	-29.17	V	Peak
4924.000	44.07	4.73	48.80	74.00	-25.20	V	Peak
5617.000	42.86	5.92	48.78	74.00	-25.22	V	Peak
7750.000	41.47	9.16	50.63	74.00	-23.37	V	Peak
1954.000	48.01	-5.29	42.72	74.00	-31.28	H	Peak
2467.000	46.50	-2.44	44.06	74.00	-29.94	H	Peak
3826.000	44.92	0.86	45.78	74.00	-28.22	H	Peak
5032.000	43.35	5.04	48.39	74.00	-25.61	H	Peak
6373.000	41.86	6.68	48.54	74.00	-25.46	H	Peak
7156.000	41.55	8.00	49.55	74.00	-24.45	H	Peak

REMARKS:

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. Radiated emissions measured in frequency above 1000MHz were made with an instrument using peak/average detector mode.
3. Average test would be performed if the peak result were greater than the average limit or as required by the applicant.
4. Data of measurement within this frequency range shown “ --- ” in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
5. Measurements above show only up to 6 maximum emissions noted, or would be lesser, with “ N/A ” remark, if no specific emissions from the EUT are recorded (ie: margin>20dB from the applicable limit) and considered that's already beyond the background noise floor.
6. Margin (dB) = Remark result (dBuV/m) – Average limit (dBuV/m).

**Antenna 0****Test Mode:** TX / IEEE 802.11g(CH Low)**Tested by:** Saber Huang**Ambient temperature:** 24°C **Relative humidity:** 52% RH **Date:** February 24, 2017

Frequency (MHz)	Reading (dBuV)	Correction Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Pole (V/H)	Remark
2512.000	47.14	-2.24	44.90	74.00	-29.10	V	Peak
3808.000	43.54	0.78	44.32	74.00	-29.68	V	Peak
4834.000	43.08	4.44	47.52	74.00	-26.48	V	Peak
5140.000	42.70	5.23	47.93	74.00	-26.07	V	Peak
5698.000	41.88	5.95	47.83	74.00	-26.17	V	Peak
7066.000	42.00	7.83	49.83	74.00	-24.17	V	Peak
1756.000	50.81	-6.36	44.45	74.00	-29.55	H	Peak
2800.000	46.22	-1.72	44.50	74.00	-29.50	H	Peak
4006.000	42.77	1.61	44.38	74.00	-29.62	H	Peak
4825.000	44.95	4.41	49.36	74.00	-24.64	H	Peak
5437.000	41.74	5.76	47.50	74.00	-26.50	H	Peak
6247.000	44.46	6.48	50.94	74.00	-23.06	H	Peak

REMARKS:

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. Radiated emissions measured in frequency above 1000MHz were made with an instrument using peak/average detector mode.
3. Average test would be performed if the peak result were greater than the average limit or as required by the applicant.
4. Data of measurement within this frequency range shown “ --- ” in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
5. Measurements above show only up to 6 maximum emissions noted, or would be lesser, with “ N/A ” remark, if no specific emissions from the EUT are recorded (ie: margin>20dB from the applicable limit) and considered that's already beyond the background noise floor.
6. Margin (dB) = Remark result (dBuV/m) – Average limit (dBuV/m).



Test Mode: TX / IEEE 802.11g (CH Mid)

Tested by: Saber HuangAmbient temperature: 24°CRelative humidity: 52% RHDate: February 24, 2017

Frequency (MHz)	Reading (dBuV)	Correction Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Pole (V/H)	Remark
2521.000	46.39	-2.22	44.17	74.00	-29.83	V	Peak
3475.000	44.55	-0.56	43.99	74.00	-30.01	V	Peak
4465.000	41.81	3.23	45.04	74.00	-28.96	V	Peak
4870.000	43.61	4.56	48.17	74.00	-25.83	V	Peak
5671.000	41.72	5.94	47.66	74.00	-26.34	V	Peak
7102.000	41.18	7.90	49.08	74.00	-24.92	V	Peak
2512.000	46.82	-2.24	44.58	74.00	-29.42	H	Peak
3835.000	43.26	0.89	44.15	74.00	-29.85	H	Peak
4591.000	42.01	3.65	45.66	74.00	-28.34	H	Peak
4870.000	47.75	4.56	52.31	74.00	-21.69	H	Peak
5122.000	42.39	5.20	47.59	74.00	-26.41	H	Peak
6247.000	42.71	6.48	49.19	74.00	-24.81	H	Peak

REMARKS:

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. Radiated emissions measured in frequency above 1000MHz were made with an instrument using peak/average detector mode.
3. Average test would be performed if the peak result were greater than the average limit or as required by the applicant.
4. Data of measurement within this frequency range shown “ --- ” in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
5. Measurements above show only up to 6 maximum emissions noted, or would be lesser, with “ N/A ” remark, if no specific emissions from the EUT are recorded (ie: margin>20dB from the applicable limit) and considered that's already beyond the background noise floor.
6. Margin (dB) = Remark result (dBuV/m) – Average limit (dBuV/m).

**Test Mode:** TX / IEEE 802.11g (CH High)**Tested by:** Saber Huang**Ambient temperature:** 24°C **Relative humidity:** 52% RH **Date:** February 24, 2017

Frequency (MHz)	Reading (dBuV)	Correction Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Pole (V/H)	Remark
1765.000	51.46	-6.35	45.11	74.00	-28.89	V	Peak
2521.000	46.24	-2.22	44.02	74.00	-29.98	V	Peak
4330.000	42.40	2.75	45.15	74.00	-28.85	V	Peak
4924.000	43.42	4.73	48.15	74.00	-25.85	V	Peak
5266.000	42.17	5.45	47.62	74.00	-26.38	V	Peak
7030.000	41.14	7.76	48.90	74.00	-25.10	V	Peak
1900.000	47.33	-5.63	41.70	74.00	-32.30	H	Peak
2224.000	50.12	-3.77	46.35	74.00	-27.65	H	Peak
2827.000	45.46	-1.67	43.79	74.00	-30.21	H	Peak
4330.000	43.03	2.75	45.78	74.00	-28.22	H	Peak
4924.000	45.96	4.73	50.69	74.00	-23.31	H	Peak
6247.000	43.70	6.48	50.18	74.00	-23.82	H	Peak

REMARKS:

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. Radiated emissions measured in frequency above 1000MHz were made with an instrument using peak/average detector mode.
3. Average test would be performed if the peak result were greater than the average limit or as required by the applicant.
4. Data of measurement within this frequency range shown “ --- ” in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
5. Measurements above show only up to 6 maximum emissions noted, or would be lesser, with “ N/A ” remark, if no specific emissions from the EUT are recorded (ie: margin>20dB from the applicable limit) and considered that's already beyond the background noise floor.
6. Margin (dB) = Remark result (dBuV/m) – Average limit (dBuV/m).

**Antenna 1****Test Mode: TX / IEEE 802.11g(CH Low)****Tested by: Saber Huang****Ambient temperature: 24°C Relative humidity: 52% RH Date: February 24, 2017**

Frequency (MHz)	Reading (dBuV)	Correction Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Pole (V/H)	Remark
2809.000	45.57	-1.70	43.87	74.00	-30.13	V	Peak
3943.000	43.55	1.35	44.90	74.00	-29.10	V	Peak
4897.000	42.79	4.64	47.43	74.00	-26.57	V	Peak
5626.000	41.65	5.92	47.57	74.00	-26.43	V	Peak
6202.000	42.60	6.41	49.01	74.00	-24.99	V	Peak
6535.000	41.96	6.95	48.91	74.00	-25.09	V	Peak
2521.000	46.79	-2.22	44.57	74.00	-29.43	H	Peak
4555.000	42.74	3.53	46.27	74.00	-27.73	H	Peak
5212.000	42.16	5.36	47.52	74.00	-26.48	H	Peak
5527.000	41.61	5.88	47.49	74.00	-26.51	H	Peak
6247.000	43.67	6.48	50.15	74.00	-23.85	H	Peak
7687.000	41.11	9.04	50.15	74.00	-23.85	H	Peak

REMARKS:

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. Radiated emissions measured in frequency above 1000MHz were made with an instrument using peak/average detector mode.
3. Average test would be performed if the peak result were greater than the average limit or as required by the applicant.
4. Data of measurement within this frequency range shown “ --- ” in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
5. Measurements above show only up to 6 maximum emissions noted, or would be lesser, with “ N/A ” remark, if no specific emissions from the EUT are recorded (ie: margin>20dB from the applicable limit) and considered that's already beyond the background noise floor.
6. Margin (dB) = Remark result (dBuV/m) – Average limit (dBuV/m).

**Test Mode: TX / IEEE 802.11g (CH Mid)****Tested by: Saber Huang****Ambient temperature: 24°C Relative humidity: 52% RH Date: February 24, 2017**

Frequency (MHz)	Reading (dBuV)	Correction Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Pole (V/H)	Remark
2242.000	46.47	-3.67	42.80	74.00	-31.20	V	Peak
2521.000	46.51	-2.22	44.29	74.00	-29.71	V	Peak
3673.000	43.01	0.21	43.22	74.00	-30.78	V	Peak
4717.000	42.44	4.06	46.50	74.00	-27.50	V	Peak
6247.000	41.83	6.48	48.31	74.00	-25.69	V	Peak
6778.000	40.79	7.34	48.13	74.00	-25.87	V	Peak
2503.000	47.41	-2.25	45.16	74.00	-28.84	H	Peak
2836.000	45.16	-1.66	43.50	74.00	-30.50	H	Peak
3952.000	42.79	1.39	44.18	74.00	-29.82	H	Peak
4681.000	42.81	3.94	46.75	74.00	-27.25	H	Peak
4888.000	43.05	4.61	47.66	74.00	-26.34	H	Peak
6247.000	43.39	6.48	49.87	74.00	-24.13	H	Peak

REMARKS:

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. Radiated emissions measured in frequency above 1000MHz were made with an instrument using peak/average detector mode.
3. Average test would be performed if the peak result were greater than the average limit or as required by the applicant.
4. Data of measurement within this frequency range shown “ --- ” in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
5. Measurements above show only up to 6 maximum emissions noted, or would be lesser, with “ N/A ” remark, if no specific emissions from the EUT are recorded (ie: margin>20dB from the applicable limit) and considered that's already beyond the background noise floor.
6. Margin (dB) = Remark result (dBuV/m) – Average limit (dBuV/m).

**Test Mode:** TX / IEEE 802.11g (CH High)**Tested by:** Saber Huang**Ambient temperature:** 24°C **Relative humidity:** 52% RH **Date:** February 24, 2017

Frequency (MHz)	Reading (dBuV)	Correction Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Pole (V/H)	Remark
2818.000	47.01	-1.69	45.32	74.00	-28.68	V	Peak
3727.000	43.88	0.44	44.32	74.00	-29.68	V	Peak
4150.000	43.30	2.12	45.42	74.00	-28.58	V	Peak
4609.000	41.81	3.71	45.52	74.00	-28.48	V	Peak
5437.000	41.51	5.76	47.27	74.00	-26.73	V	Peak
5626.000	41.63	5.92	47.55	74.00	-26.45	V	Peak
3952.000	42.61	1.39	44.00	74.00	-30.00	H	Peak
4267.000	42.83	2.53	45.36	74.00	-28.64	H	Peak
4609.000	42.35	3.71	46.06	74.00	-27.94	H	Peak
5059.000	41.96	5.09	47.05	74.00	-26.95	H	Peak
5563.000	42.02	5.90	47.92	74.00	-26.08	H	Peak
6247.000	43.44	6.48	49.92	74.00	-24.08	H	Peak

REMARKS:

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. Radiated emissions measured in frequency above 1000MHz were made with an instrument using peak/average detector mode.
3. Average test would be performed if the peak result were greater than the average limit or as required by the applicant.
4. Data of measurement within this frequency range shown “ --- ” in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
5. Measurements above show only up to 6 maximum emissions noted, or would be lesser, with “ N/A ” remark, if no specific emissions from the EUT are recorded (ie: margin>20dB from the applicable limit) and considered that's already beyond the background noise floor.
6. Margin (dB) = Remark result (dBuV/m) – Average limit (dBuV/m).

**Antenna 2****Test Mode:** TX / IEEE 802.11g(CH Low)**Tested by:** Saber Huang**Ambient temperature:** 24°C**Relative humidity:** 52% RH**Date:** March 15, 2017

Frequency (MHz)	Reading (dBuV)	Correction Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Pole (V/H)	Remark
1783.000	51.86	-6.31	45.55	74.00	-28.45	V	Peak
2242.000	47.77	-3.67	44.10	74.00	-29.90	V	Peak
2530.000	46.12	-2.21	43.91	74.00	-30.09	V	Peak
4321.000	43.04	2.72	45.76	74.00	-28.24	V	Peak
4834.000	44.32	4.44	48.76	74.00	-25.24	V	Peak
6058.000	42.33	6.17	48.50	74.00	-25.50	V	Peak
1954.000	48.12	-5.29	42.83	74.00	-31.17	H	Peak
2521.000	46.63	-2.22	44.41	74.00	-29.59	H	Peak
3358.000	44.17	-0.76	43.41	74.00	-30.59	H	Peak
4231.000	44.08	2.40	46.48	74.00	-27.52	H	Peak
5446.000	42.17	5.77	47.94	74.00	-26.06	H	Peak
6364.000	42.20	6.67	48.87	74.00	-25.13	H	Peak

REMARKS:

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. Radiated emissions measured in frequency above 1000MHz were made with an instrument using peak/average detector mode.
3. Average test would be performed if the peak result were greater than the average limit or as required by the applicant.
4. Data of measurement within this frequency range shown “ --- ” in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
5. Measurements above show only up to 6 maximum emissions noted, or would be lesser, with “ N/A ” remark, if no specific emissions from the EUT are recorded (ie: margin>20dB from the applicable limit) and considered that's already beyond the background noise floor.
6. Margin (dB) = Remark result (dBuV/m) – Average limit (dBuV/m).

**Test Mode: TX / IEEE 802.11g (CH Mid)****Tested by: Saber Huang****Ambient temperature: 24°C****Relative humidity: 52% RH****Date: March 15, 2017**

Frequency (MHz)	Reading (dBuV)	Correction Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Pole (V/H)	Remark
1954.000	48.49	-5.29	43.20	74.00	-30.80	V	Peak
2494.000	46.37	-2.29	44.08	74.00	-29.92	V	Peak
2809.000	46.00	-1.70	44.30	74.00	-29.70	V	Peak
4024.000	43.61	1.67	45.28	74.00	-28.72	V	Peak
4402.000	43.13	3.01	46.14	74.00	-27.86	V	Peak
4870.000	46.93	4.56	51.49	74.00	-22.51	V	Peak
1765.000	49.01	-6.35	42.66	74.00	-31.34	H	Peak
2512.000	46.72	-2.24	44.48	74.00	-29.52	H	Peak
3664.000	43.25	0.17	43.42	74.00	-30.58	H	Peak
4339.000	43.52	2.78	46.30	74.00	-27.70	H	Peak
4996.000	43.20	4.97	48.17	74.00	-25.83	H	Peak
5527.000	43.73	5.88	49.61	74.00	-24.39	H	Peak

REMARKS:

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. Radiated emissions measured in frequency above 1000MHz were made with an instrument using peak/average detector mode.
3. Average test would be performed if the peak result were greater than the average limit or as required by the applicant.
4. Data of measurement within this frequency range shown “ --- ” in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
5. Measurements above show only up to 6 maximum emissions noted, or would be lesser, with “ N/A ” remark, if no specific emissions from the EUT are recorded (ie: margin>20dB from the applicable limit) and considered that's already beyond the background noise floor.
6. Margin (dB) = Remark result (dBuV/m) – Average limit (dBuV/m).

**Test Mode: TX / IEEE 802.11g (CH High)****Tested by: Saber Huang****Ambient temperature: 24°C****Relative humidity: 52% RH****Date: March 15, 2017**

Frequency (MHz)	Reading (dBuV)	Correction Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Pole (V/H)	Remark
1756.000	50.44	-6.36	44.08	74.00	-29.92	V	Peak
2494.000	46.79	-2.29	44.50	74.00	-29.50	V	Peak
4636.000	43.49	3.79	47.28	74.00	-26.72	V	Peak
4915.000	43.32	4.70	48.02	74.00	-25.98	V	Peak
5455.000	42.15	5.79	47.94	74.00	-26.06	V	Peak
5806.000	41.66	6.00	47.66	74.00	-26.34	V	Peak
1954.000	48.36	-5.29	43.07	74.00	-30.93	H	Peak
2539.000	47.06	-2.19	44.87	74.00	-29.13	H	Peak
2809.000	45.84	-1.70	44.14	74.00	-29.86	H	Peak
3826.000	44.64	0.86	45.50	74.00	-28.50	H	Peak
4888.000	43.44	4.61	48.05	74.00	-25.95	H	Peak
6085.000	42.72	6.22	48.94	74.00	-25.06	H	Peak

REMARKS:

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. Radiated emissions measured in frequency above 1000MHz were made with an instrument using peak/average detector mode.
3. Average test would be performed if the peak result were greater than the average limit or as required by the applicant.
4. Data of measurement within this frequency range shown “ --- ” in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
5. Measurements above show only up to 6 maximum emissions noted, or would be lesser, with “ N/A ” remark, if no specific emissions from the EUT are recorded (ie: margin>20dB from the applicable limit) and considered that's already beyond the background noise floor.
6. Margin (dB) = Remark result (dBuV/m) – Average limit (dBuV/m).

**Combine with Antenna 0 and Antenna 1 and Antenna 2****Test Mode:** TX / IEEE 802.11n HT20 MHz (CH Low)**Tested by:** Saber Huang**Ambient temperature:** 24°C **Relative humidity:** 52% RH**Date:** February 24, 2017

Frequency (MHz)	Reading (dBuV)	Correction Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Pole (V/H)	Remark
2530.000	47.02	-2.21	44.81	74.00	-29.19	V	Peak
4492.000	42.12	3.32	45.44	74.00	-28.56	V	Peak
4879.000	43.44	4.59	48.03	74.00	-25.97	V	Peak
5527.000	41.53	5.88	47.41	74.00	-26.59	V	Peak
6112.000	41.54	6.26	47.80	74.00	-26.20	V	Peak
7336.000	41.35	8.36	49.71	74.00	-24.29	V	AVG
2530.000	47.02	-2.21	44.81	74.00	-29.19	V	Peak
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2233.000	48.55	-3.72	44.83	74.00	-29.17	H	Peak
4024.000	43.21	1.67	44.88	74.00	-29.12	H	Peak
4825.000	44.11	4.41	48.52	74.00	-25.48	H	Peak
5653.000	41.79	5.93	47.72	74.00	-26.28	H	Peak
6247.000	43.83	6.48	50.31	74.00	-23.69	H	Peak
7336.000	40.96	8.36	49.32	74.00	-24.68	H	Peak

REMARKS:

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. Radiated emissions measured in frequency above 1000MHz were made with an instrument using peak/average detector mode.
3. Average test would be performed if the peak result were greater than the average limit or as required by the applicant.
4. Data of measurement within this frequency range shown “ --- ” in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
5. Measurements above show only up to 6 maximum emissions noted, or would be lesser, with “ N/A ” remark, if no specific emissions from the EUT are recorded (ie: margin>20dB from the applicable limit) and considered that's already beyond the background noise floor.
6. Margin (dB) = Remark result (dBuV/m) – Average limit (dBuV/m).

**Test Mode:** TX / IEEE 802.11n HT20 MHz (CH Mid)**Tested by:** Saber Huang**Ambient temperature:** 24°C**Relative humidity:** 52% RH**Date:** February 24, 2017

Frequency (MHz)	Reading (dBuV)	Correction Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Pole (V/H)	Remark
2521.000	47.43	-2.22	45.21	74.00	-28.79	V	Peak
3673.000	44.45	0.21	44.66	74.00	-29.34	V	Peak
4276.000	43.65	2.56	46.21	74.00	-27.79	V	Peak
4870.000	44.06	4.56	48.62	74.00	-25.38	V	Peak
5185.000	42.50	5.31	47.81	74.00	-26.19	V	Peak
5716.000	41.94	5.96	47.90	74.00	-26.10	V	Peak
4375.000	42.57	2.91	45.48	74.00	-28.52	H	Peak
4879.000	45.67	4.59	50.26	74.00	-23.74	H	Peak
5878.000	41.68	6.03	47.71	74.00	-26.29	H	Peak
6247.000	43.29	6.48	49.77	74.00	-24.23	H	Peak
7012.000	41.27	7.72	48.99	74.00	-25.01	H	Peak
7633.000	40.84	8.93	49.77	74.00	-24.23	H	Peak

REMARKS:

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. Radiated emissions measured in frequency above 1000MHz were made with an instrument using peak/average detector mode.
3. Average test would be performed if the peak result were greater than the average limit or as required by the applicant.
4. Data of measurement within this frequency range shown “ --- ” in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
5. Measurements above show only up to 6 maximum emissions noted, or would be lesser, with “ N/A ” remark, if no specific emissions from the EUT are recorded (ie: margin>20dB from the applicable limit) and considered that's already beyond the background noise floor.
6. Margin (dB) = Remark result (dBuV/m) – Average limit (dBuV/m).

Test Mode: TX / EEE 802.11n HT20 MHz (CH High)Tested by: Saber HuangAmbient temperature: 24°CRelative humidity: 52% RHDate: February 24, 2017

Frequency (MHz)	Reading (dBuV)	Correction Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Pole (V/H)	Remark
2467.000	48.09	-2.44	45.65	74.00	-28.35	V	Peak
4015.000	42.90	1.64	44.54	74.00	-29.46	V	Peak
4888.000	43.23	4.61	47.84	74.00	-26.16	V	Peak
5617.000	41.89	5.92	47.81	74.00	-26.19	V	Peak
6373.000	41.63	6.68	48.31	74.00	-25.69	V	Peak
7210.000	42.10	8.11	50.21	74.00	-23.79	V	Peak
2467.000	47.72	-2.44	45.28	74.00	-28.72	H	Peak
3214.000	45.05	-1.00	44.05	74.00	-29.95	H	Peak
4267.000	42.32	2.53	44.85	74.00	-29.15	H	Peak
4915.000	45.14	4.70	49.84	74.00	-24.16	H	Peak
5482.000	41.92	5.84	47.76	74.00	-26.24	H	Peak
6913.000	41.15	7.56	48.71	74.00	-25.29	H	Peak

REMARKS:

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. Radiated emissions measured in frequency above 1000MHz were made with an instrument using peak/average detector mode.
3. Average test would be performed if the peak result were greater than the average limit or as required by the applicant.
4. Data of measurement within this frequency range shown “ --- ” in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
5. Measurements above show only up to 6 maximum emissions noted, or would be lesser, with “ N/A ” remark, if no specific emissions from the EUT are recorded (ie: margin>20dB from the applicable limit) and considered that's already beyond the background noise floor.
6. Margin (dB) = Remark result (dBuV/m) – Average limit (dBuV/m).

**Combine with Antenna 0 and Antenna 1 and Antenna 2****Test Mode:** TX/ IEEE 802.11n HT40 MHz (CH Low)**Tested by:** Saber Huang**Ambient temperature:** 24°C **Relative humidity:** 52% RH **Date:** February 24, 2017

Frequency (MHz)	Reading (dBuV)	Correction Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Pole (V/H)	Remark
2233.000	47.44	-3.72	43.72	74.00	-30.28	V	Peak
2521.000	46.79	-2.22	44.57	74.00	-29.43	V	Peak
3817.000	43.17	0.82	43.99	74.00	-30.01	V	Peak
4906.000	42.96	4.67	47.63	74.00	-26.37	V	Peak
5428.000	42.27	5.74	48.01	74.00	-25.99	V	Peak
6328.000	41.27	6.61	47.88	74.00	-26.12	V	Peak
2242.000	46.83	-3.67	43.16	74.00	-30.84	H	Peak
2521.000	47.27	-2.22	45.05	74.00	-28.95	H	Peak
3673.000	43.52	0.21	43.73	74.00	-30.27	H	Peak
4879.000	43.80	4.59	48.39	74.00	-25.61	H	Peak
6022.000	42.10	6.12	48.22	74.00	-25.78	H	Peak
6247.000	43.89	6.48	50.37	74.00	-23.63	H	Peak

REMARKS:

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. Radiated emissions measured in frequency above 1000MHz were made with an instrument using peak/average detector mode.
3. Average test would be performed if the peak result were greater than the average limit or as required by the applicant.
4. Data of measurement within this frequency range shown “ --- ” in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
5. Measurements above show only up to 6 maximum emissions noted, or would be lesser, with “ N/A ” remark, if no specific emissions from the EUT are recorded (ie: margin>20dB from the applicable limit) and considered that's already beyond the background noise floor.
6. Margin (dB) = Remark result (dBuV/m) – Average limit (dBuV/m).

Test Mode: TX / IEEE 802.11n HT40 MHz (CH Mid)Tested by: Saber HuangAmbient temperature: 24°CRelative humidity: 52% RHDate: February 24, 2017

Frequency (MHz)	Reading (dBuV)	Correction Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Pole (V/H)	Remark
1765.000	48.39	-6.35	42.04	74.00	-31.96	V	Peak
2512.000	46.98	-2.24	44.74	74.00	-29.26	V	Peak
3241.000	44.43	-0.96	43.47	74.00	-30.53	V	Peak
4888.000	42.82	4.61	47.43	74.00	-26.57	V	Peak
5455.000	42.07	5.79	47.86	74.00	-26.14	V	Peak
6463.000	42.06	6.83	48.89	74.00	-25.11	V	Peak
<hr/>							
2242.000	46.85	-3.67	43.18	74.00	-30.82	H	Peak
2521.000	46.65	-2.22	44.43	74.00	-29.57	H	Peak
3205.000	44.93	-1.02	43.91	74.00	-30.09	H	Peak
4339.000	43.10	2.78	45.88	74.00	-28.12	H	Peak
4888.000	44.26	4.61	48.87	74.00	-25.13	H	Peak
6247.000	42.90	6.48	49.38	74.00	-24.62	H	Peak

REMARKS:

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. Radiated emissions measured in frequency above 1000MHz were made with an instrument using peak/average detector mode.
3. Average test would be performed if the peak result were greater than the average limit or as required by the applicant.
4. Data of measurement within this frequency range shown “ --- ” in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
5. Measurements above show only up to 6 maximum emissions noted, or would be lesser, with “ N/A ” remark, if no specific emissions from the EUT are recorded (ie: margin>20dB from the applicable limit) and considered that's already beyond the background noise floor.
6. Margin (dB) = Remark result (dBuV/m) – Average limit (dBuV/m).

**Test Mode:** TX/ IEEE 802.11n HT40 MHz (CH High)**Tested by:** Saber Huang**Ambient temperature:** 24°C**Relative humidity:** 52% RH**Date:** February 24, 2017

Frequency (MHz)	Reading (dBuV)	Correction Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Pole (V/H)	Remark
2449.000	47.98	-2.54	45.44	74.00	-28.56	V	Peak
3358.000	44.82	-0.76	44.06	74.00	-29.94	V	Peak
4555.000	42.10	3.53	45.63	74.00	-28.37	V	Peak
5005.000	42.40	4.99	47.39	74.00	-26.61	V	Peak
5536.000	43.71	5.89	49.60	74.00	-24.40	V	Peak
6247.000	41.54	6.48	48.02	74.00	-25.98	V	Peak
2512.000	47.46	-2.24	45.22	74.00	-28.78	H	Peak
3340.000	43.92	-0.79	43.13	74.00	-30.87	H	Peak
4510.000	43.04	3.38	46.42	74.00	-27.58	H	Peak
4906.000	43.78	4.67	48.45	74.00	-25.55	H	Peak
6247.000	42.51	6.48	48.99	74.00	-25.01	H	Peak
6913.000	42.21	7.56	49.77	74.00	-24.23	H	Peak

REMARKS:

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. Radiated emissions measured in frequency above 1000MHz were made with an instrument using peak/average detector mode.
3. Average test would be performed if the peak result were greater than the average limit or as required by the applicant.
4. Data of measurement within this frequency range shown “ --- ” in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
5. Measurements above show only up to 6 maximum emissions noted, or would be lesser, with “ N/A ” remark, if no specific emissions from the EUT are recorded (ie: margin>20dB from the applicable limit) and considered that's already beyond the background noise floor.
6. Margin (dB) = Remark result (dBuV/m) – Average limit (dBuV/m).



7.3. 6dB BANDWIDTH MEASUREMENT

7.3.1. LIMITS

According to §15.247(a)(2), systems using digital modulation techniques may operate in the 902 - 928 MHz, 2400 - 2483.5 MHz. The minimum 6 dB bandwidth shall be at least 500 kHz.

7.3.2. TEST INSTRUMENTS

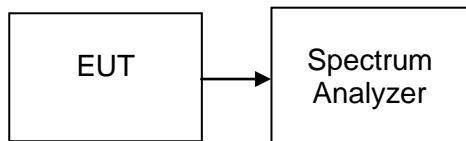
Name of Equipment	Manufacturer	Model	Serial Number	Last Calibration	Calibration Due
Spectrum Analyzer	Agilent	N9010A	MY52221469	02/21/2017	02/20/2018

7.3.3. TEST PROCEDURES (please refer to measurement standard)

8.2 Option 2:

The automatic bandwidth measurement capability of an instrument may be employed using the X dB bandwidth mode with X set to 6 dB, if the functionality described above (i.e., RBW = 100 kHz, VBW \geq 3 RBW, peak detector with maximum hold) is implemented by the instrumentation function. When using this capability, care shall be taken so that the bandwidth measurement is not influenced by any intermediate power nulls in the fundamental emission that might be \geq 6 dB.

7.3.4. TEST SETUP





7.3.5. TEST RESULTS

No non-compliance noted

Test Data

Test mode: IEEE 802.11b

Channel	Frequency (MHz)	Bandwidth (kHz)			Limit (kHz)	Test Result
		Antenna 0	Antenna 1	Antenna 2		
Low	2412	7065	7056	7065	>500	PASS
Mid	2437	7046	6589	7052		PASS
High	2462	7055	7035	7051		PASS

Test mode: IEEE 802.11g

Channel	Frequency (MHz)	Bandwidth (kHz)			Limit (kHz)	Test Result
		Antenna 0	Antenna 1	Antenna 2		
Low	2412	15090	15090	15100	>500	PASS
Mid	2437	15100	15090	15090		PASS
High	2462	15080	15100	15090		PASS

Test mode: IEEE 802.11n HT20 MHz

Channel	Frequency (MHz)	Bandwidth (kHz)			Limit (kHz)	Test Result
		Antenna 0	Antenna 1	Antenna 2		
Low	2412	15100	15090	15090	>500	PASS
Mid	2437	15080	15090	15090		PASS
High	2462	15090	15090	15100		PASS

Test mode: IEEE 802.11n HT40 MHz

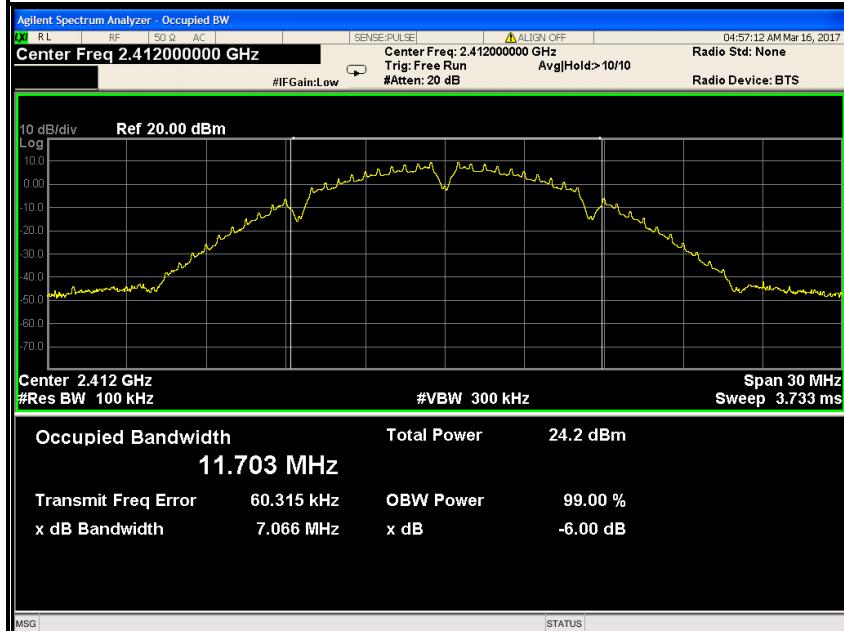
Channel	Frequency (MHz)	Bandwidth (kHz)			Limit (kHz)	Test Result
		Antenna 0	Antenna 1	Antenna 2		
Low	2422	33750	32540	32540	>500	PASS
Mid	2437	33730	32540	32540		PASS
High	2452	32530	32540	32540		PASS



Test Plot

IEEE 802.11b mode (Antenna 0)

6dB Bandwidth (CH Low)



6dB Bandwidth (CH Mid)





6dB Bandwidth (CH High)



IEEE 802.11b mode (Antenna 1)

6dB Bandwidth (CH Low)





6dB Bandwidth (CH Mid)



6dB Bandwidth (CH High)





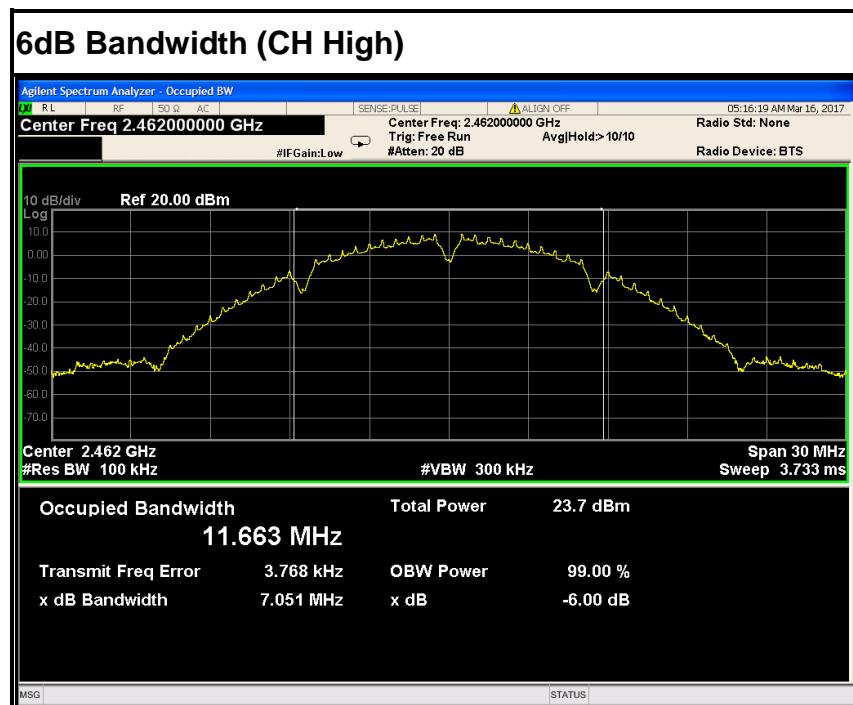
IEEE 802.11b mode (Antenna 2)

6dB Bandwidth (CH Low)



6dB Bandwidth (CH Mid)

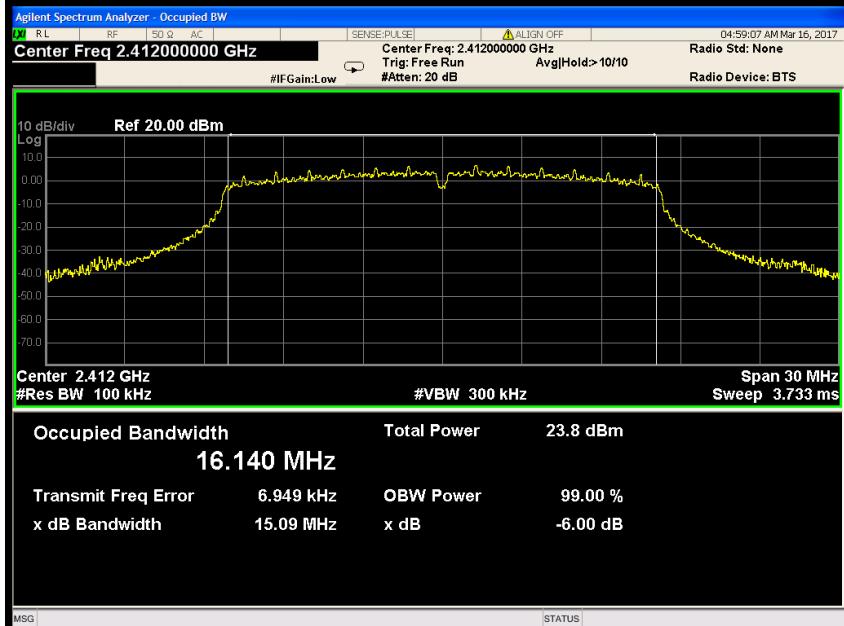




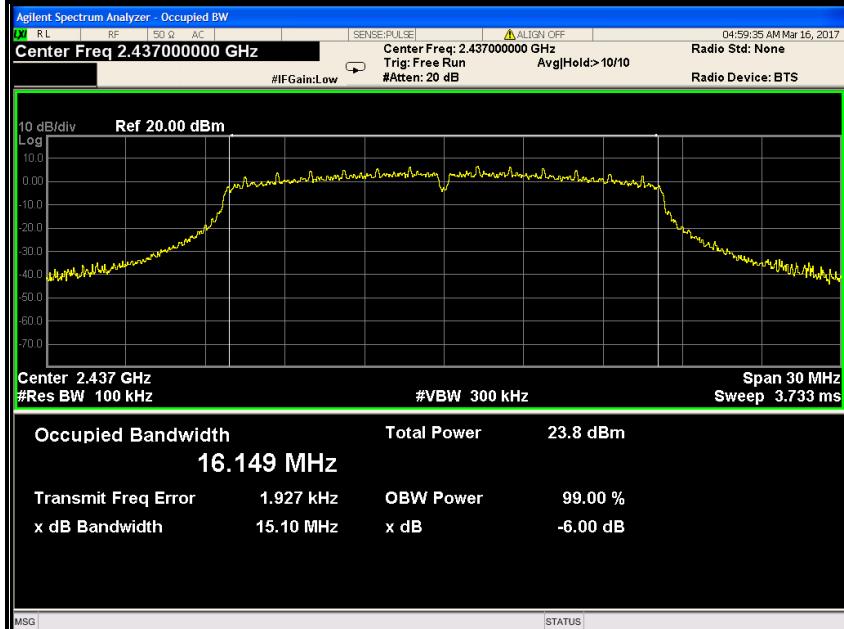


IEEE 802.11g mode (Antenna 0)

6dB Bandwidth (CH Low)

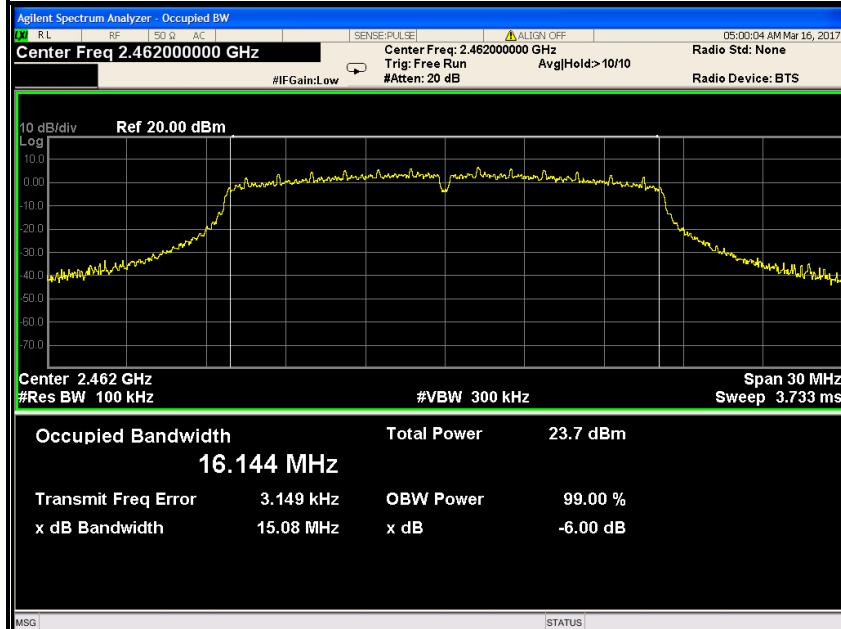


6dB Bandwidth (CH Mid)



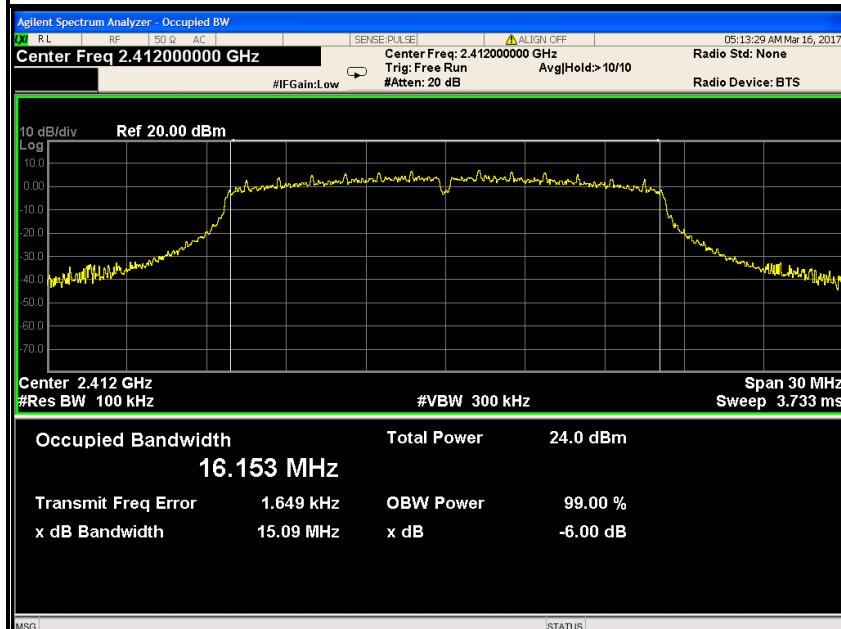


6dB Bandwidth (CH High)



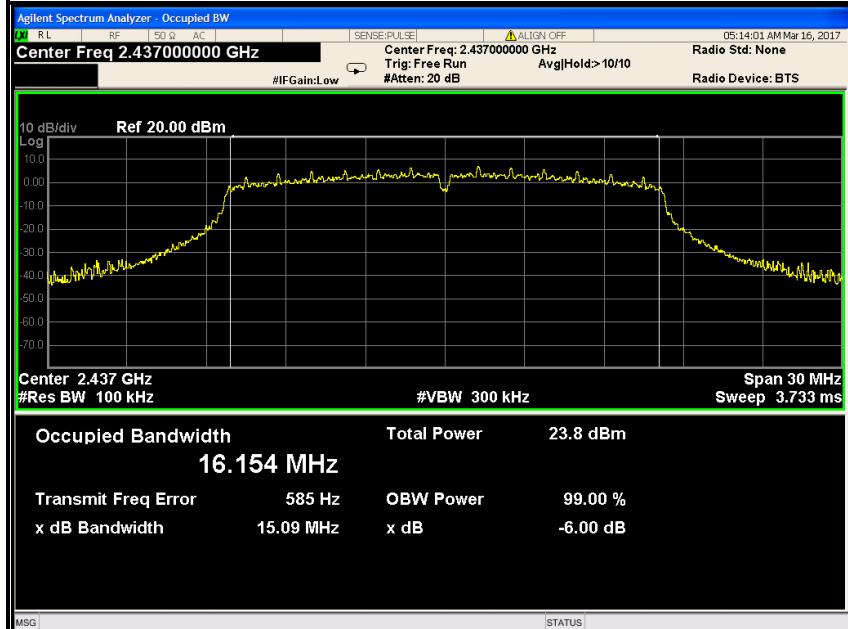
IEEE 802.11g mode (Antenna 1)

6dB Bandwidth (CH Low)

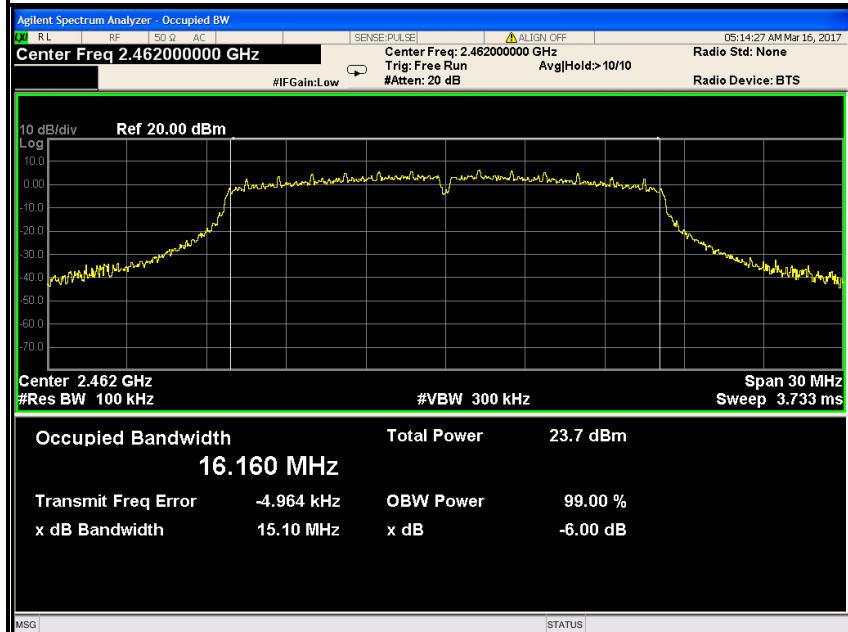




6dB Bandwidth (CH Mid)



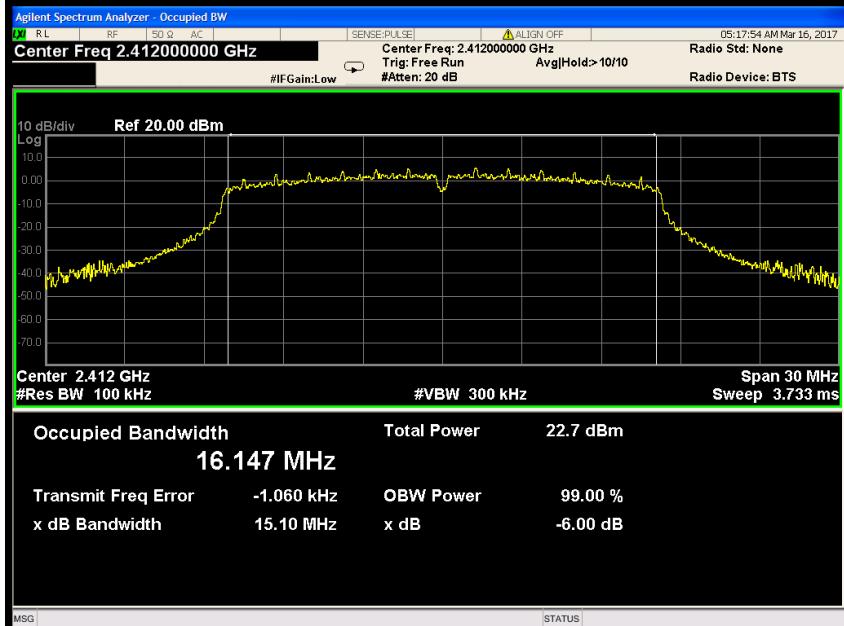
6dB Bandwidth (CH High)



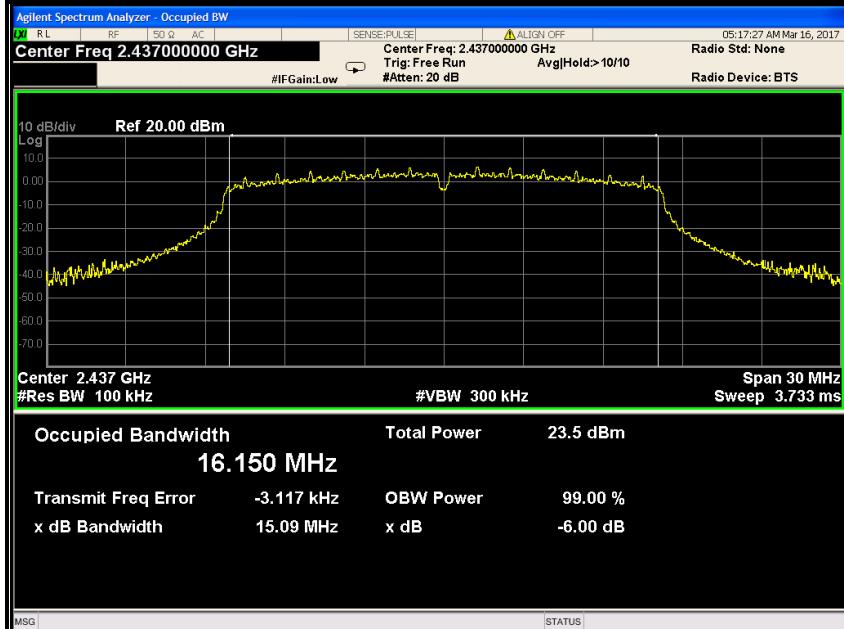


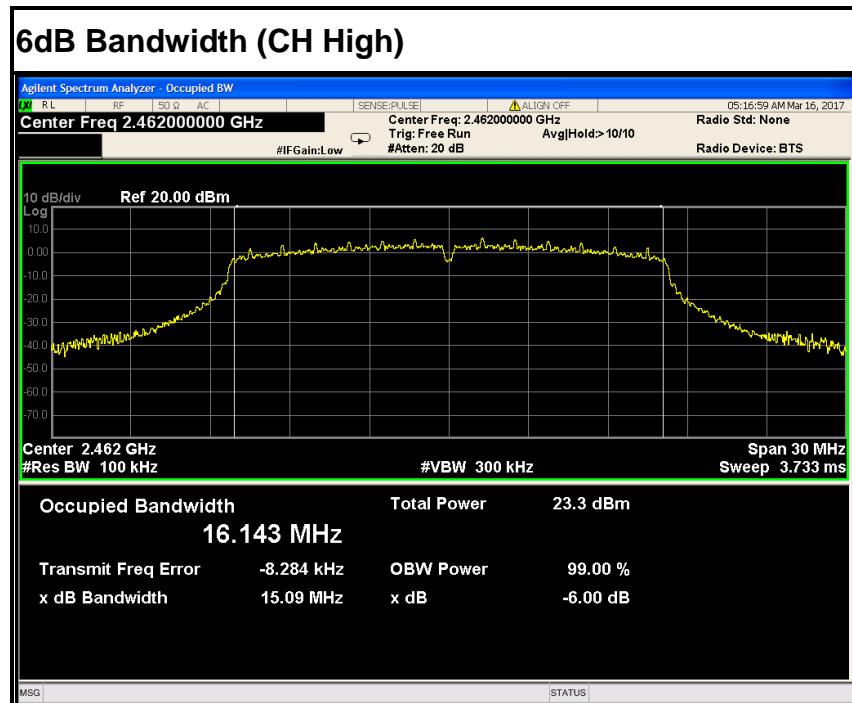
IEEE 802.11g mode (Antenna 0)

6dB Bandwidth (CH Low)



6dB Bandwidth (CH Mid)

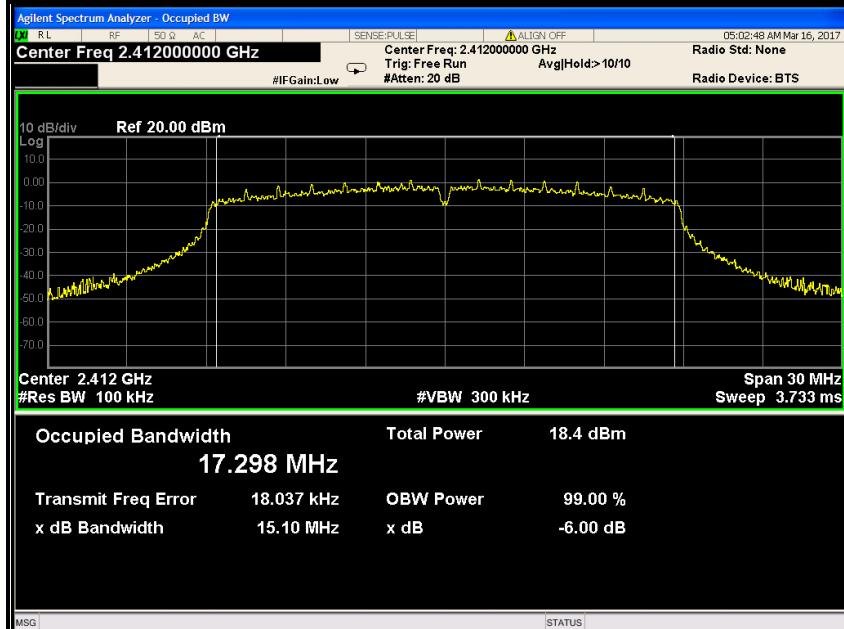




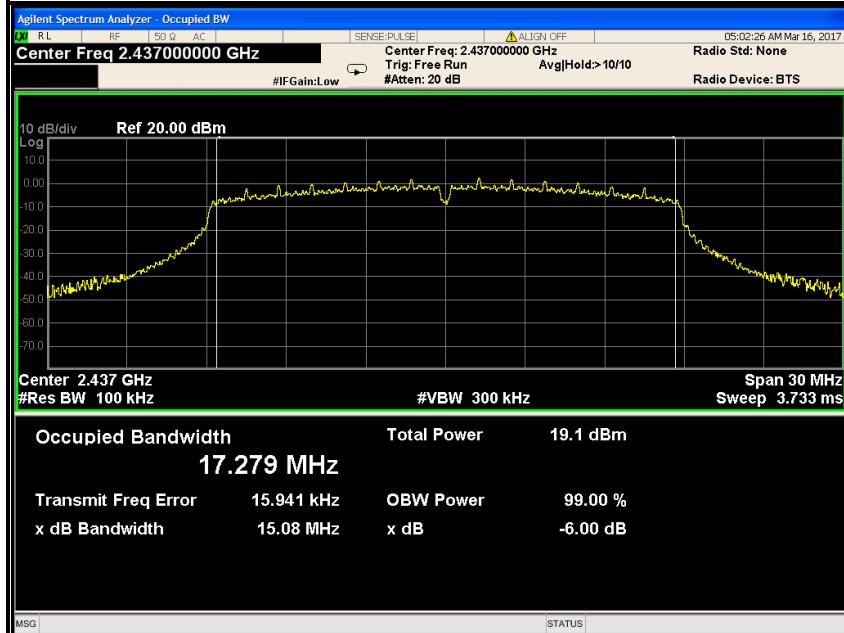


IEEE 802.11n HT20 MHz mode (Antenna 0)

6dB Bandwidth (CH Low)

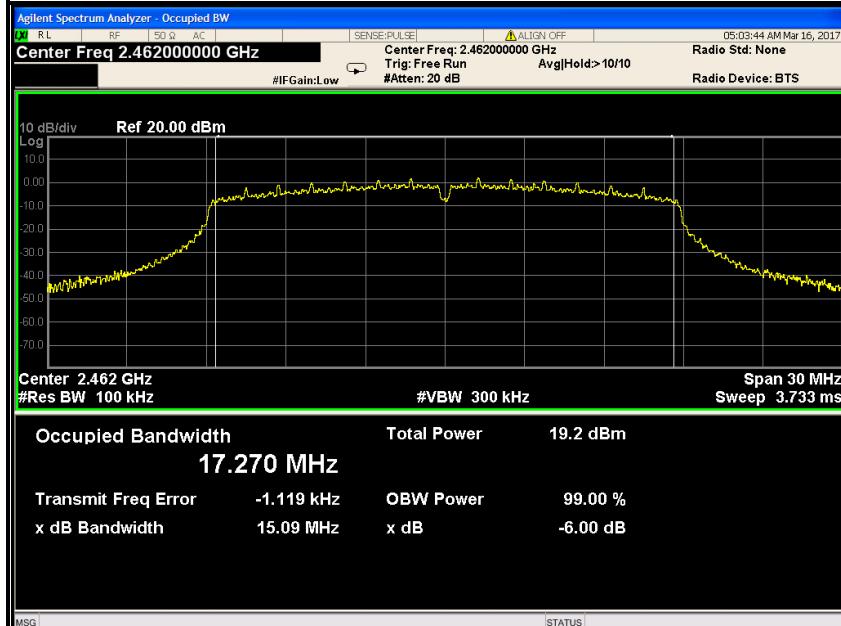


6dB Bandwidth (CH Mid)



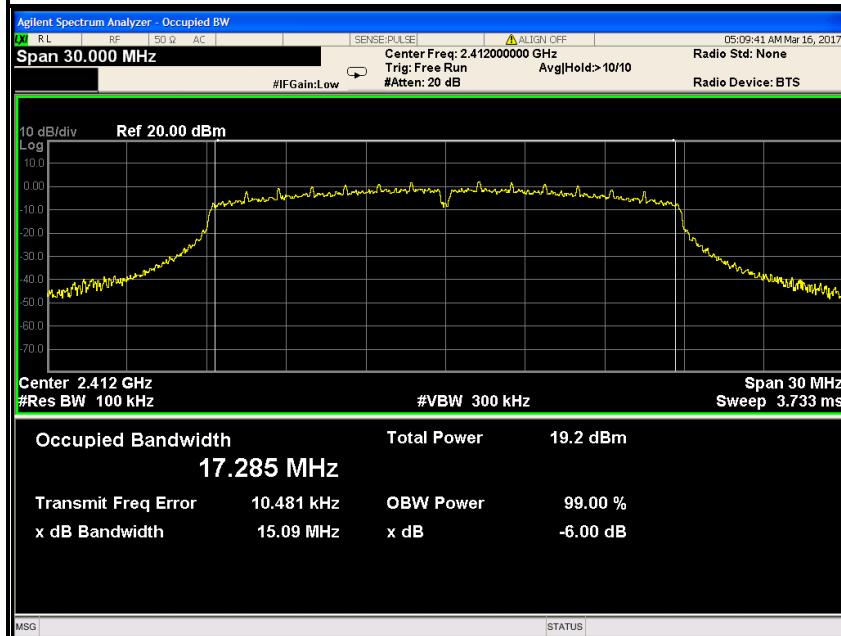


6dB Bandwidth (CH High)



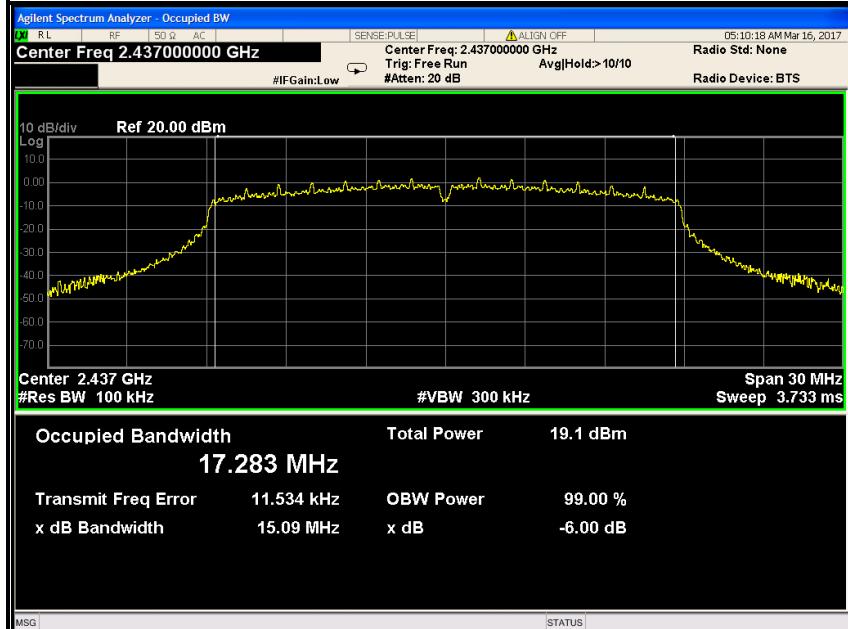
IEEE 802.11n HT20 MHz mode (Antenna 1)

6dB Bandwidth (CH Low)

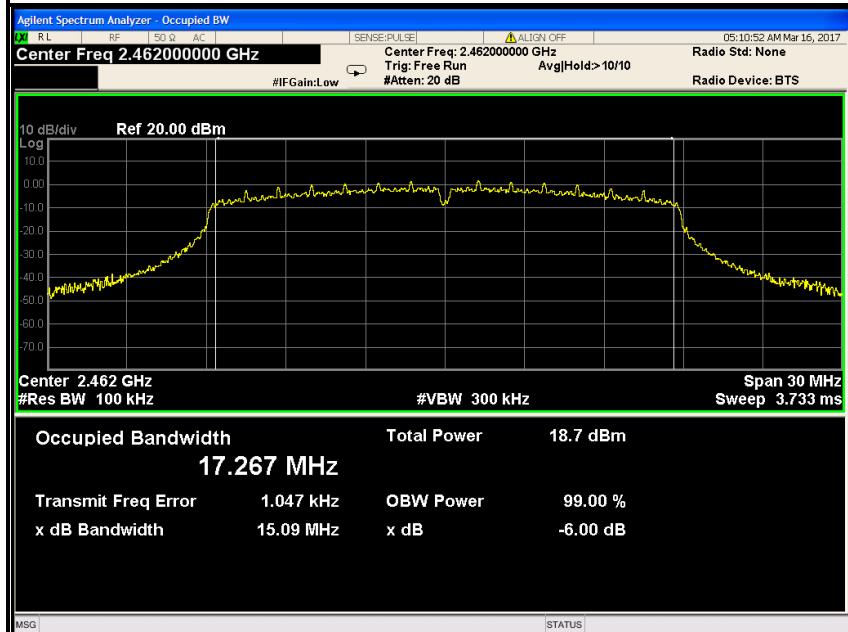


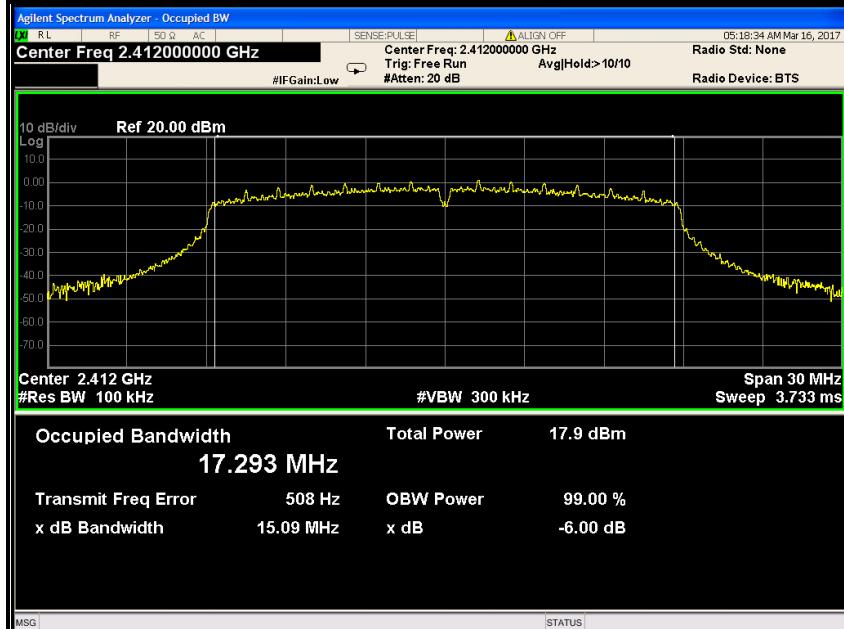
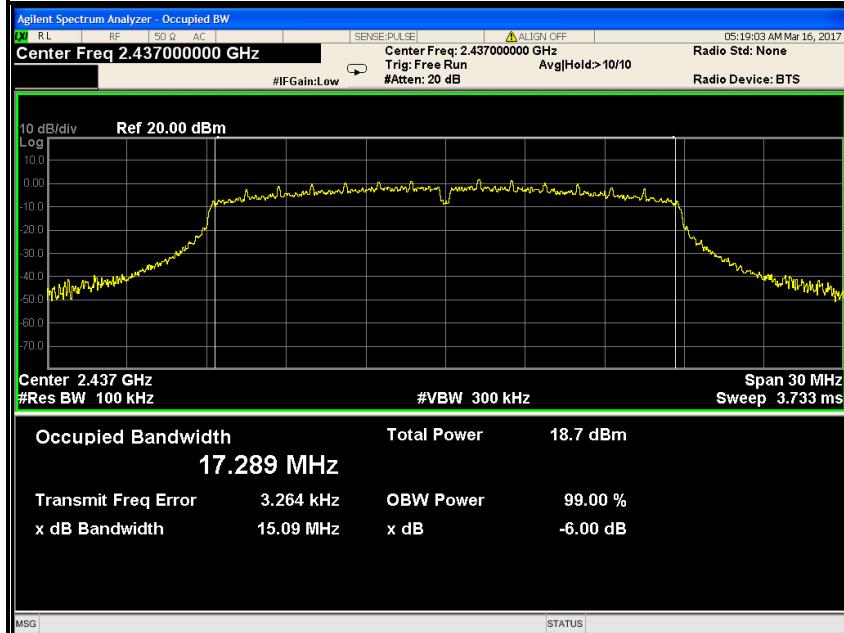


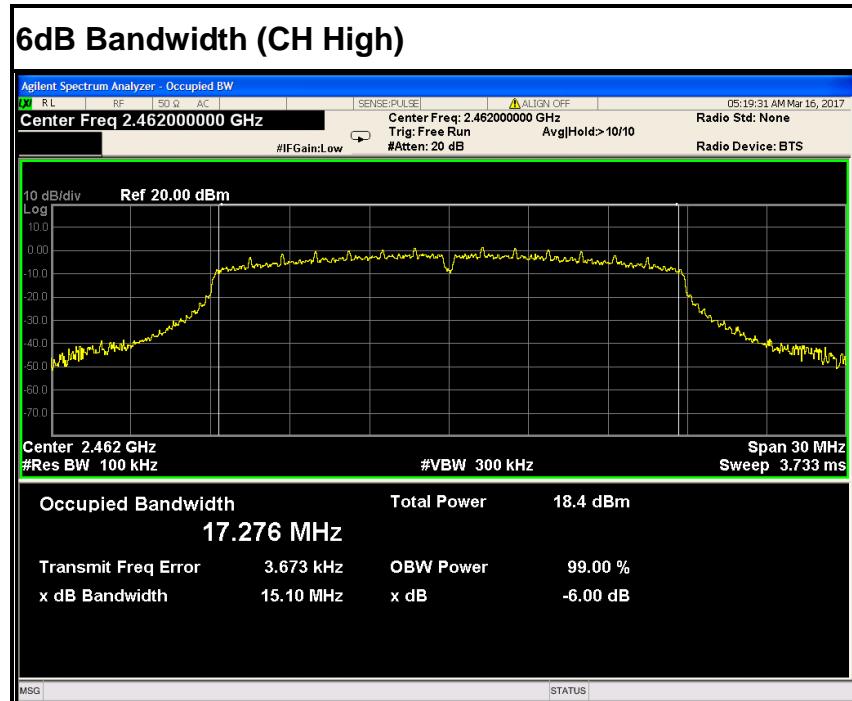
6dB Bandwidth (CH Mid)



6dB Bandwidth (CH High)



**IEEE 802.11n HT20 MHz mode (Antenna 2)****6dB Bandwidth (CH Low)****6dB Bandwidth (CH Mid)**



**IEEE 802.11n HT40 MHz mode (Antenna 0)****6dB Bandwidth (CH Low)****6dB Bandwidth (CH Mid)**

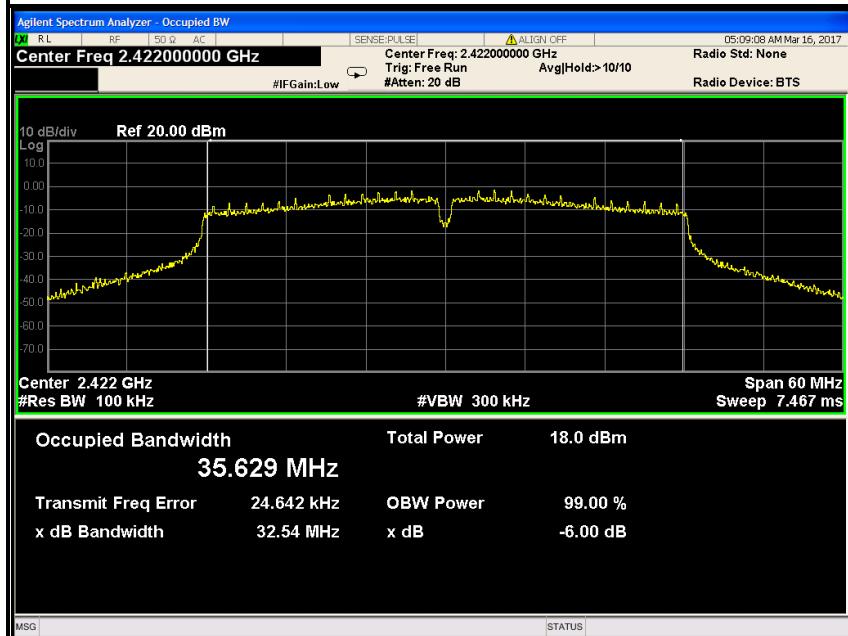


6dB Bandwidth (CH High)



IEEE 802.11n HT40 MHz mode (Antenna 1)

6dB Bandwidth (CH Low)

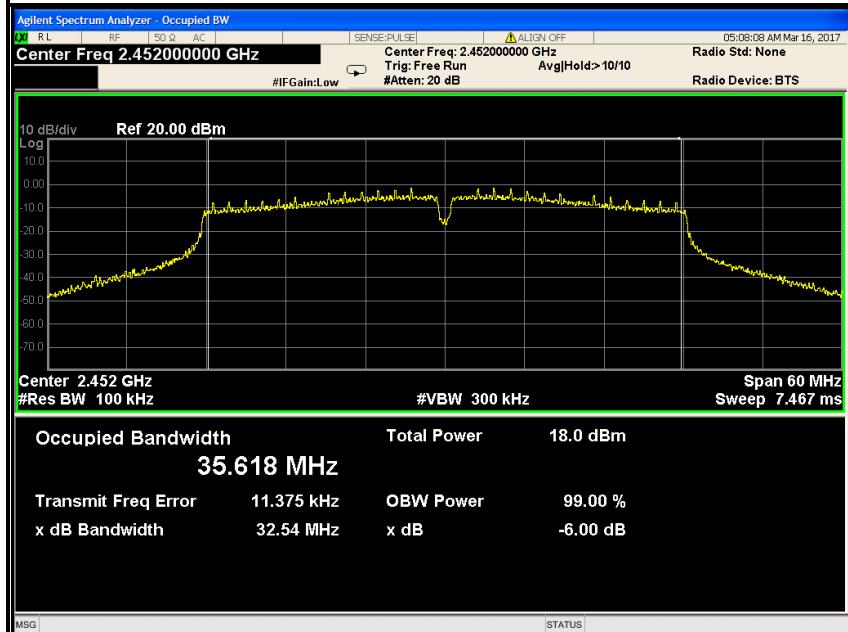


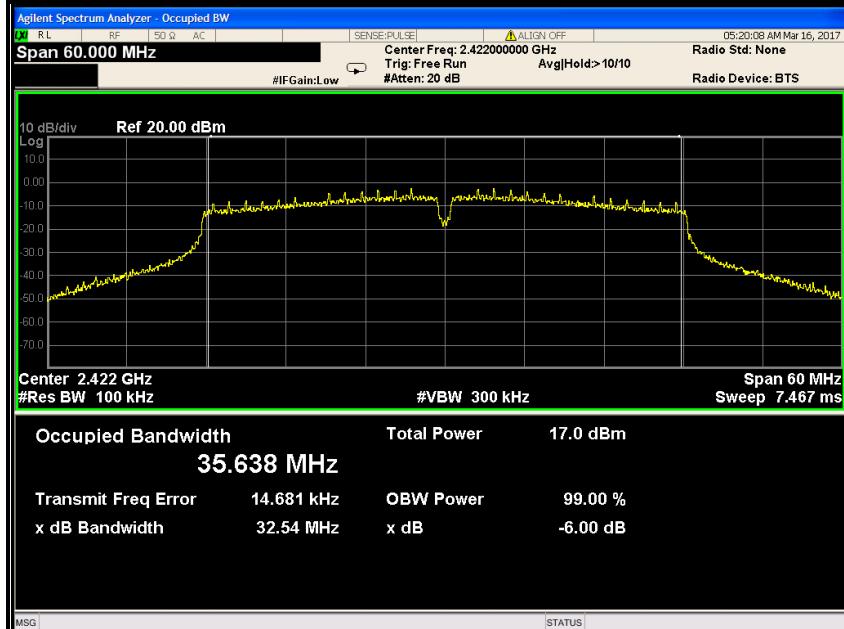
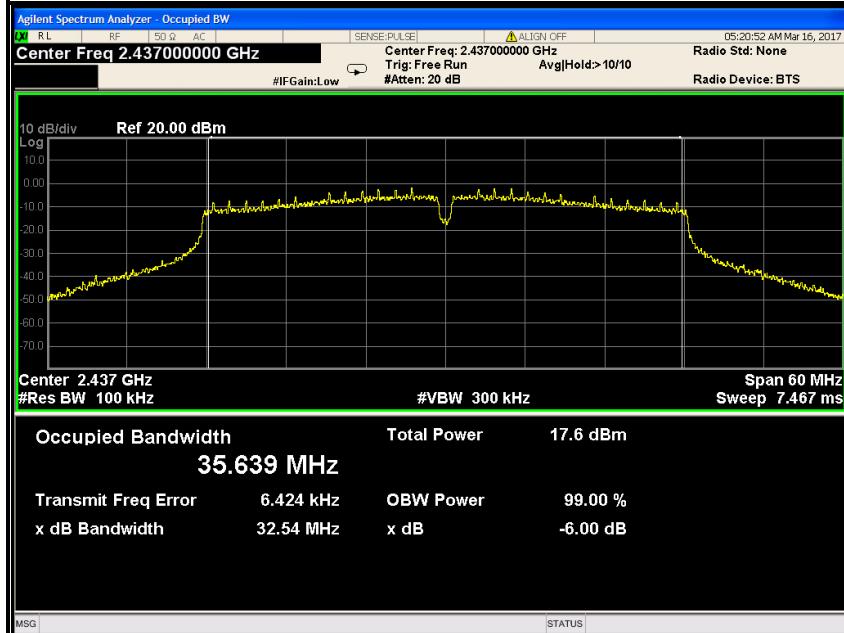


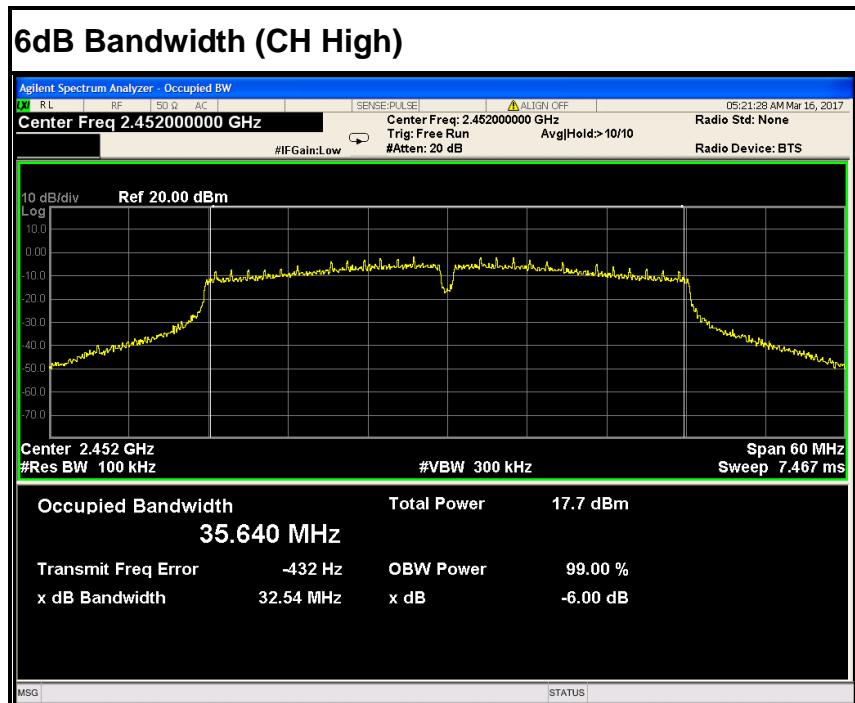
6dB Bandwidth (CH Mid)



6dB Bandwidth (CH High)



**IEEE 802.11n HT40 MHz mode (Antenna 2)****6dB Bandwidth (CH Low)****6dB Bandwidth (CH Mid)**





7.4. ANTENNA GAIN

MEASUREMENT

The antenna gain of the complete system is calculated by the difference of radiated power in EIRP and the conducted power of the module. For normal WLAN devices, the DSSS mode is used.

MEASUREMENT PARAMETERS

Measurement parameter	
Detector	Peak
Sweep time	Auto
Resolution bandwidth	3 MHz
Video bandwidth	3 MHz
Trace-Mode	Max hold

LIMITS

FCC	IC
Antenna Gain	
6 dBi	



TEST RESULTS

IEEE 802.11b mode (Antenna 0)

T _{nom}	V _{nom}	Lowest channel 2412MHz	Middle channel 2437MHz	Highest channel 2462MHz
Conducted power [dBm/MHz] Measured with DSSS modulation		11.09	11.09	10.99
Radiated power [dBm/MHz] Measured with DSSS modulation		12.90	13.13	12.35
Gain [dBi] Calculated		1.81	2.04	2.36
Measurement uncertainty		± 1.5 dB (cond.) / ± 3 dB (rad.)		

IEEE 802.11b mode (Antenna 1)

T _{nom}	V _{nom}	Lowest channel 2412MHz	Middle channel 2437MHz	Highest channel 2462MHz
Conducted power [dBm/MHz] Measured with DSSS modulation		11.19	10.79	10.55
Radiated power [dBm/MHz] Measured with DSSS modulation		12.90	12.70	12.50
Gain [dBi] Calculated		1.71	1.91	1.95
Measurement uncertainty		± 1.5 dB (cond.) / ± 3 dB (rad.)		

IEEE 802.11b mode (Antenna 2)

T _{nom}	V _{nom}	Lowest channel 2412MHz	Middle channel 2437MHz	Highest channel 2462MHz
Conducted power [dBm/MHz] Measured with DSSS modulation		10.29	10.68	10.19
Radiated power [dBm/MHz] Measured with DSSS modulation		12.30	12.40	12.50
Gain [dBi] Calculated		2.01	1.72	2.31
Measurement uncertainty		± 1.5 dB (cond.) / ± 3 dB (rad.)		



7.5. PEAK OUTPUT POWER

7.5.1. LIMITS

The maximum peak output power of the intentional radiator shall not exceed the following:

1. According to §15.247(b)(3), for systems using digital modulation in the bands of 902-928 MHz, 2400-2483.5 MHz, and 5725-5850 MHz: 1 Watt.
2. According to §15.247(b)(4), the conducted output power limit specified in paragraph (b) of this section is based on the use of antennas with directional gains that do not exceed 6 dBi. Except as shown in paragraph (c) of this section, if transmitting antennas of directional gain greater than 6 dBi are used, the conducted output power from the intentional radiator shall be reduced below the stated values in paragraphs (b)(1), (b)(2), and (b)(3) of this section, as appropriate, by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

7.5.2. TEST INSTRUMENTS

Name of Equipment	Manufacturer	Model	Serial Number	Last Calibration	Calibration Due
Power Meter	Anritsu	ML2495A	1204003	02/21/2017	02/20/2018
Power Sensor	Anritsu	MA2411B	1126150	02/21/2017	02/20/2018

7.5.3. TEST PROCEDURES (please refer to measurement standard)

9.1.1 RBW \geq DTS bandwidth

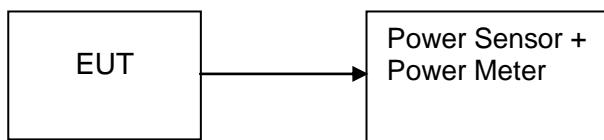
This procedure shall be used when the measurement instrument has available a resolution bandwidth that is greater than the *DTS bandwidth*.

- a) Set the RBW \geq DTS bandwidth.
- b) Set VBW \geq 3 RBW.
- c) Set span \geq 3 x RBW
- d) Sweep time = auto couple.
- e) Detector = peak.
- f) Trace mode = max hold.
- g) Allow trace to fully stabilize.
- h) Use peak marker function to determine the peak amplitude level.

9.1.3 PKPM1 Peak power meter method

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.

7.5.4. TEST SETUP





7.5.5. TEST RESULTS

No non-compliance noted

Test Data

Test mode: IEEE 802.11b (Antenna 0)

Channel	Frequency (MHz)	Output Power (dBm)	Output Power (W)	Peak / AVG	Limit (W)	Result
Low	2412	21.50	0.14125	Peak	1	PASS
Mid	2437	21.50	0.14125			PASS
High	2462	21.40	0.13804			PASS
Low	2412	18.60	0.07244	AVG	1	PASS
Mid	2437	18.60	0.07244			PASS
High	2462	18.50	0.07079			PASS

Test mode: IEEE 802.11b (Antenna 1)

Channel	Frequency (MHz)	Output Power (dBm)	Output Power (W)	Peak / AVG	Limit (W)	Result
Low	2412	21.60	0.14454	Peak	1	PASS
Mid	2437	21.20	0.13183			PASS
High	2462	21.00	0.12589			PASS
Low	2412	18.80	0.07586	AVG	1	PASS
Mid	2437	18.40	0.06918			PASS
High	2462	18.20	0.06607			PASS

Test mode: IEEE 802.11b (Antenna 2)

Channel	Frequency (MHz)	Output Power (dBm)	Output Power (W)	Peak / AVG	Limit (W)	Result
Low	2412	20.70	0.11749	Peak	1	PASS
Mid	2437	21.10	0.12882			PASS
High	2462	20.60	0.11482			PASS
Low	2412	17.90	0.06166	AVG	1	PASS
Mid	2437	18.30	0.06761			PASS
High	2462	17.90	0.06166			PASS

**Test mode: IEEE 802.11g (Antenna 0)**

Channel	Frequency (MHz)	Output Power (dBm)	Output Power (W)	Peak / AVG	Limit (W)	Result
Low	2412	27.00	0.50119	Peak	1	PASS
Mid	2437	27.00	0.50119			PASS
High	2462	27.20	0.52481			PASS
Low	2412	18.60	0.07244	AVG	1	PASS
Mid	2437	18.60	0.07244			PASS
High	2462	18.30	0.06761			PASS

Test mode: IEEE 802.11g (Antenna 1)

Channel	Frequency (MHz)	Output Power (dBm)	Output Power (W)	Peak / AVG	Limit (W)	Result
Low	2412	27.40	0.54954	Peak	1	PASS
Mid	2437	27.00	0.50119			PASS
High	2462	26.70	0.46774			PASS
Low	2412	18.70	0.07413	AVG	1	PASS
Mid	2437	18.30	0.06761			PASS
High	2462	18.60	0.07244			PASS

Test mode: IEEE 802.11g (Antenna 2)

Channel	Frequency (MHz)	Output Power (dBm)	Output Power (W)	Peak / AVG	Limit (W)	Result
Low	2412	26.40	0.43652	Peak	1	PASS
Mid	2437	27.00	0.50119			PASS
High	2462	26.70	0.46774			PASS
Low	2412	17.60	0.05754	AVG	1	PASS
Mid	2437	18.10	0.06457			PASS
High	2462	18.10	0.06457			PASS



Test mode: IEEE 802.11n HT20 MHz(Combine with Antenna 0 and Antenna 1 and Antenna 2)

Channel	Frequency (MHz)	Output Power (dBm)				Output Power (W)	Peak / AVG	Limit (W)
		Antenna 0	Antenna 1	Antenna 2	Total			
Low	2412	21.90	23.40	21.10	27.01	0.50248	Peak	1
Mid	2437	22.10	22.00	21.90	26.77	0.47555		
High	2462	23.00	21.70	21.30	26.83	0.48233		
Low	2412	13.70	13.90	12.90	18.29	0.06749	AVG	1
Mid	2437	13.70	13.50	13.30	18.27	0.06721		
High	2462	13.70	13.20	13.00	18.08	0.06429		

Test mode: IEEE 802.11n HT40 MHz(Combine with Antenna 0 and Antenna 1 and Antenna 2)

Channel	Frequency (MHz)	Output Power (dBm)				Output Power (W)	Peak / AVG	Limit (W)
		Antenna 0	Antenna 1	Antenna 2	Total			
Low	2422	20.80	20.90	19.60	25.24	0.33445	Peak	1
Mid	2437	20.80	20.60	20.30	25.34	0.34219		
High	2452	21.30	20.10	20.10	25.31	0.33955		
Low	2422	13.50	13.20	12.20	17.77	0.05988	AVG	1
Mid	2437	13.30	12.90	12.80	17.78	0.05993		
High	2452	13.60	12.20	12.60	17.61	0.05770		



7.6. BAND EDGES MEASUREMENT

7.6.1. LIMITS

According to §15.247(d), in any 100 kHz 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 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. 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 Section 15.205(c)).

7.6.2. TEST INSTRUMENTS

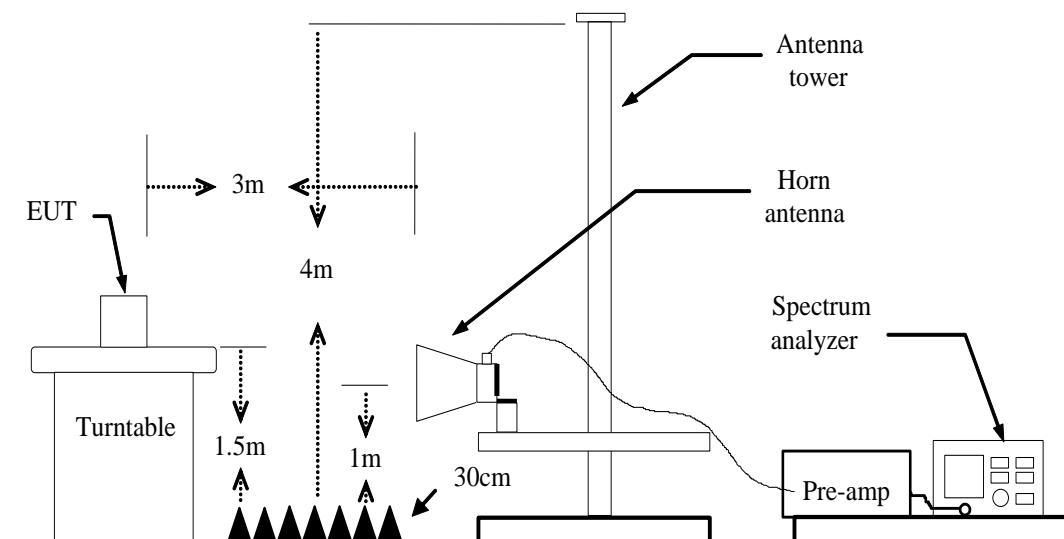
Radiated Emission Test Site 966(2)					
Name of Equipment	Manufacturer	Model Number	Serial Number	Last Calibration	Due Calibration
PSA Series Spectrum Analyzer	Agilent	N9010A	MY55370330	02/21/2017	02/20/2018
EMI TEST RECEIVER	ROHDE&SCHWARZ	ESCI	100783	02/21/2017	02/20/2018
Amplifier	EMEC	EM330	060661	03/18/2017	03/17/2018
High Noise Amplifier	Agilent	8449B	3008A01838	02/21/2017	02/20/2018
Loop Antenna	COM-POWER	AL-130	121044	09/25/2016	09/24/2017
Bilog Antenna	SCHAFFNER	CBL6143	5082	02/21/2017	02/20/2018
Horn Antenna	SCHWARZBECK	BBHA9120	D286	02/28/2017	02/27/2018
Board-Band Horn Antenna	Schwarzbeck	BBHA 9170	9170-497	02/28/2017	02/27/2018
Turn Table	N/A	N/A	N/A	N.C.R	N.C.R
Antenna Tower	SUNOL	TLT2	N/A	N.C.R	N.C.R
Controller	Sunol Sciences	SC104V	022310-1	N.C.R	N.C.R
Controller	CT	N/A	N/A	N.C.R	N.C.R
Temp. / Humidity Meter	Anymetre	JR913	N/A	02/21/2017	02/20/2018
Test S/W	FARAD		LZ-RF / CCS-SZ-3A2		

NOTE: 1. The calibration interval of the above test instruments is 12 months and the calibrations are traceable to NML/ROC and NIST/USA.
2. The FCC Site Registration number is 101879.
3. N.C.R = No Calibration Required.

7.6.3. TEST PROCEDURES (please refer to measurement standard)

1. The EUT is placed on a turntable, which is 1.5m above the ground plane.
2. The turntable shall be rotated for 360 degrees to determine the position of maximum emission level.
3. EUT is set 3m away from the receiving antenna, which is varied from 1m to 4m to find out the highest emission.
4. Set the spectrum analyzer in the following setting in order to capture the lower and upper band-edges of the emission:
 - (a) PEAK: RBW=1MHz / VBW=3MHz / Sweep=AUTO
 - (b) AVERAGE: RBW=1MHz / VBW=10Hz / Sweep=AUTO / Detector=PEAK
5. Repeat the procedures until all the PEAK and AVERAGE versus POLARIZATION are measured.

7.6.4. TEST SETUP



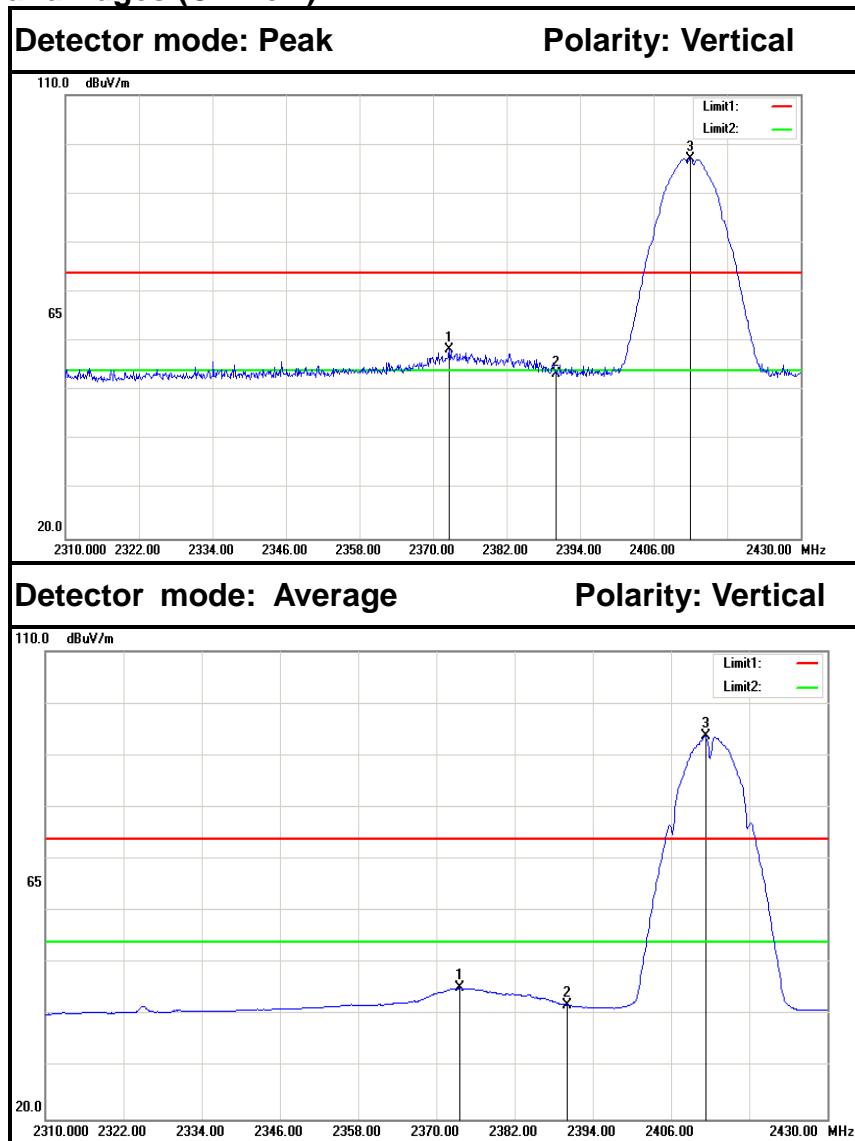


7.6.5. TEST RESULTS

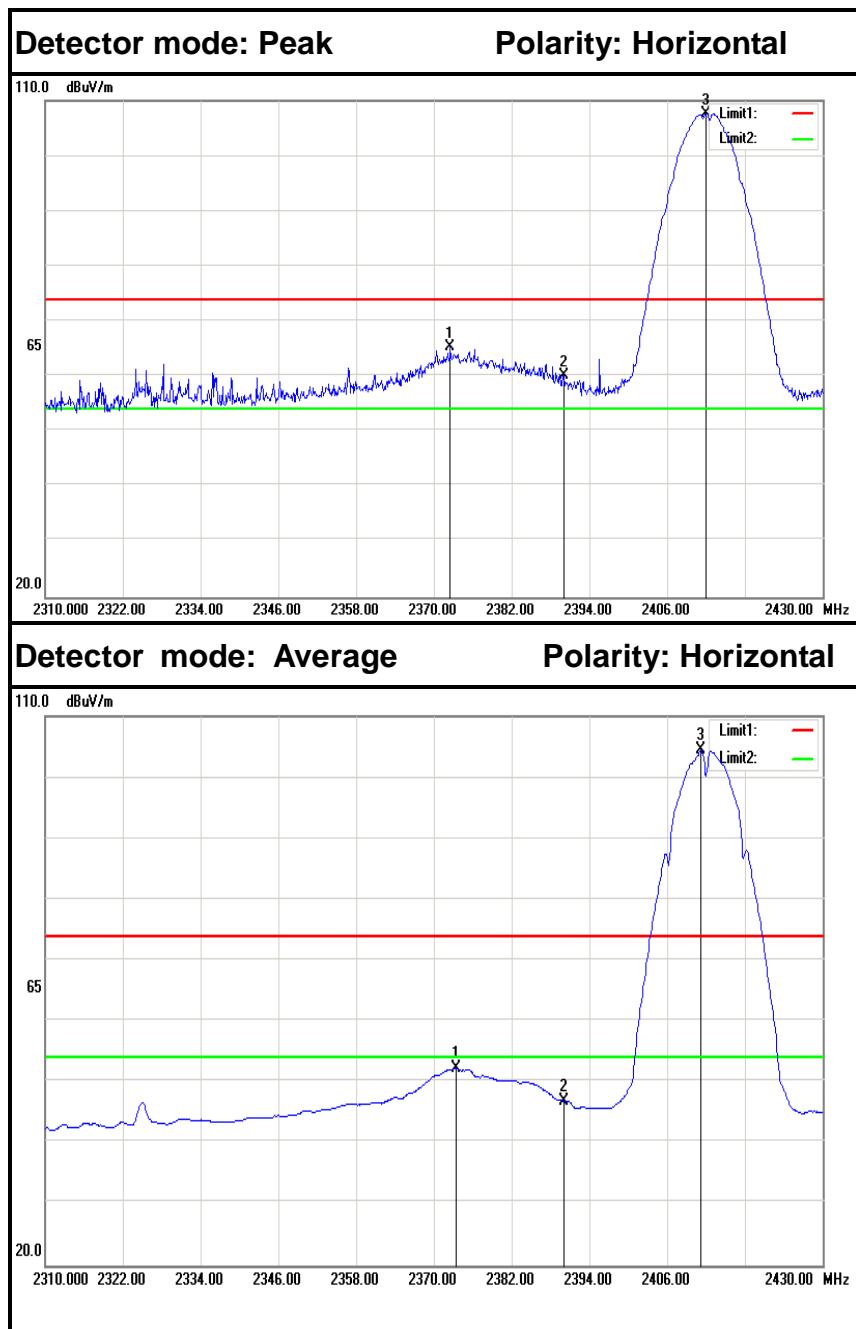
Test Plot

Antenna 0

IEEE 802.11b mode Band Edges (CH Low)



No.	Frequency (MHz)	Reading (dB)	Factor (dB/m)	Result (dB/m)	Limit (dB/m)	Margin (dB)	Remark	Antenna Polar
1.	2372.640	61.38	-2.96	58.42	74.00	-15.58	Peak	Vertical
2.	2390.000	56.32	-2.86	53.46	74.00	-20.54	Peak	Vertical
3.	2412.000	99.79	-2.74	97.05	---	---	Peak	Vertical
1.	2373.600	48.20	-2.95	45.25	54.00	-8.75	Average	Vertical
2.	2390.000	44.88	-2.86	42.02	54.00	-11.98	Average	Vertical
3.	2411.280	96.42	-2.75	93.67	---	---	Average	Vertical



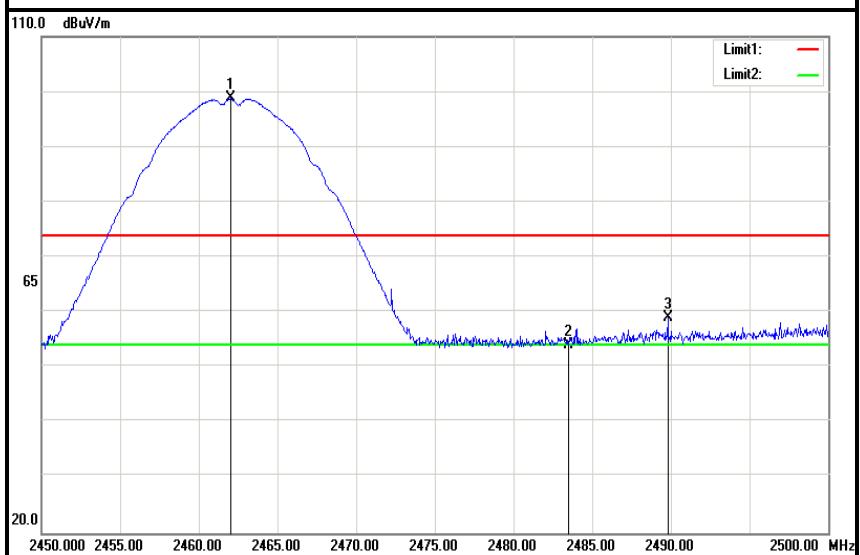
No.	Frequency (MHz)	Reading (dB)	Factor (dB/m)	Result (dB/m)	Limit (dB/m)	Margin (dB)	Remark	Antenna Polar
1.	2372.520	68.30	-2.96	65.34	74.00	-8.66	Peak	Horizontal
2.	2390.000	63.10	-2.86	60.24	74.00	-13.76	Peak	Horizontal
3.	2412.000	110.37	-2.74	107.63	---	---	Peak	Horizontal
1.	2373.480	55.20	-2.95	52.25	54.00	-1.75	Average	Horizontal
2.	2390.000	49.69	-2.86	46.83	54.00	-7.17	Average	Horizontal
3.	2411.160	107.13	-2.75	104.38	---	---	Average	Horizontal



Band Edges (CH High)

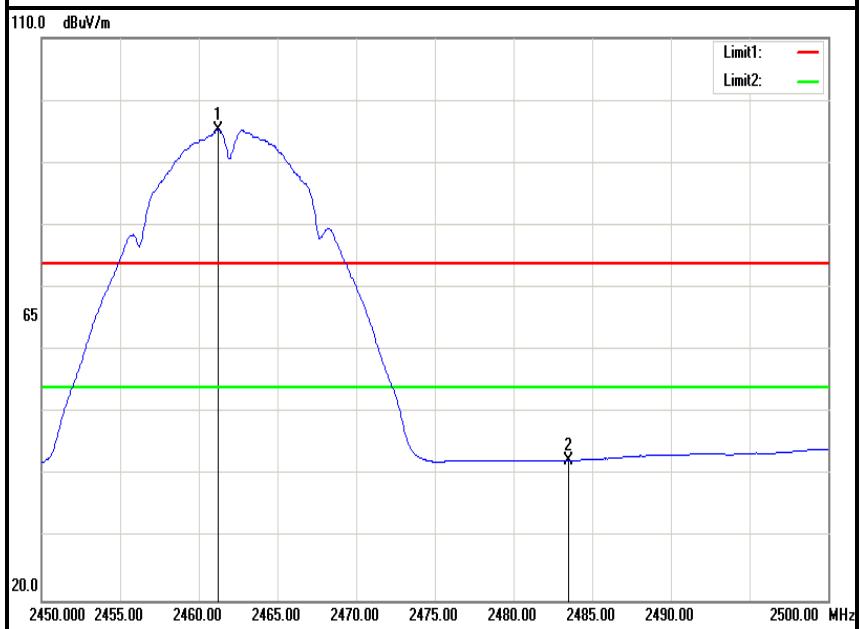
Detector mode: Peak

Polarity: Vertical



Detector mode: Average

Polarity: Vertical



No.	Frequency (MHz)	Reading (dB)	Factor (dB/m)	Result (dB/m)	Limit (dB/m)	Margin (dB)	Remark	Antenna Polar
1.	2462.000	101.25	-2.47	98.78	---	---	Peak	Vertical
2.	2483.500	56.51	-2.35	54.16	74.00	-19.84	Peak	Vertical
3.	2489.800	61.37	-2.32	59.05	74.00	-14.95	Peak	Vertical
1.	2461.200	97.75	-2.47	95.28	---	---	Average	Vertical
2.	2483.500	44.77	-2.35	42.42	54.00	-11.58	Average	Vertical