



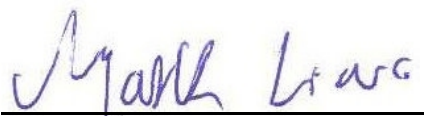
FCC RADIO TEST REPORT

Applicant : Open Mesh, Inc.
Address : 5 Centerpointe Drive, Suite 400, Lake Oswego,
Oregon, United States, 97035
Equipment : WiFi Access Point
Model No. : A40
Trade Name : 
FCC ID : WT8OMA40

I HEREBY CERTIFY THAT :

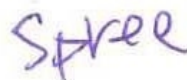
The sample was received on Nov. 26, 2016 and the testing was carried out on Dec. 15, 2016 at CerpPASS Technology Corp. The test result refers exclusively to the test presented test model / sample. Without written approval of CerpPASS Technology Corp., the test report shall not be reproduced except in full.

Approved by:



Mark Liao / Assistant Manager

Tested by:



Spree Yei / Engineer

Laboratory Accreditation:

CerpPASS Technology Corporation Test
Laboratory





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History of this test report

Report No.	Issue Date	Description
TEF1610202	Dec. 19, 2016	Original



1. Summary of Test Procedure and Test Results

1.1 Applicable Standards

ANSI C63.4:2014

ANSI C63.10:2013

FCC Rules and Regulations Part 15 Subpart C §15.247

KDB558074

KDB662911

FCC Rule	Description of Test	Result
15.203	. Antenna Requirement	Pass
15.207	. AC Power Line Conducted Emission	Pass
15.209 15.205	. Radiated Spurious Emission	Pass
15.247(d)	. Conducted Spurious Emission	Pass
15.247(a)(2)	. 6dB Bandwidth	Pass
15.247(b)	. Maximum Peak and Average Output Power	Pass
15.247(e)	. Power Spectral Density	Pass

This EUT has been also tested and compiled with the requirement of FCC Part 15, Subpart B, recorded in a separate test report.



2. Test Configuration of Equipment under Test

2.1 Feature of Equipment under Test

Modulation Type	DSSS, OFDM
Frequency Range	802.11b/g/n: 2412-2462MHz 802.11a/an/ac: 5150-5250MHz, 5725-5850MHz
Data Rate	802.11b: 1, 2, 5.5, 11Mbps 802.11g: 6, 9, 12, 18, 24, 36, 48, 54Mbps 802.11n: MCS0 – MCS15, HT20/40 802.11a: 6, 9, 12, 18, 24, 36, 48, 54Mbps 802.11ac: MCS0 – MCS9, VHT 20/40/80)
Antenna Type	PIFA Antenna
Antenna Gain	802.11b/g/n: Antenna 1: 4.6 dBi Antenna 2: 3.3 dBi 802.11a/an/ac: Antenna 1: 4.7 dBi Antenna 2: 4.8 dBi

2.2 Carrier Frequency of Channels

802.11b, 802.11g, 802.11n HT 20, 802.11ac VHT 20 (2412MHz~2462MHz)

Channel	Frequency(MHz)	Channel	Frequency(MHz)
*01	2412	07	2442
02	2417	08	2447
03	2422	09	2452
04	2427	10	2457
05	2432	*11	2462
*06	2437	---	---

802.11n HT40 (2422MHz~2452MHz)

Channel	Frequency(MHz)	Channel	Frequency(MHz)
---	---	07	2442
---	---	08	2447
*03	2422	*09	2452
04	2427	---	---
05	2432	---	---
*06	2437	---	---

Note: Channels remarked * are selected to perform test.



2.3 Test Mode and Test Software

- a. During testing, the interface cables and equipment positions were varied according to ANSI C63.4.
- b. The complete test system included remote workstation and EUT for RF test. The remote workstation included Notebook.
- c. An executive program, "ART2-GUI" under WIN 7 was executed to transmit and receive data via WLAN.
- d. The following test modes were performed for the test:

Test Mode 1: 802.11b (1Mbps)

Test Mode 2: 802.11g (6Mbps)

Test Mode 3: 802.11n HT20 (6.5Mbps)

Test Mode 4: 802.11n HT40 (13.5Mbps)

For conduction test, caused "Test Mode 2" generated the worst case, it was reported as the final data.

For radiated test (below 1GHz), caused "Test Mode 2" generated the worst case, it was reported as the final data.

For radiated test (above 1GHz), caused "Test Mode 1~4" generated the worst case, they were reported as the final data.

2.4 Description of Test System

Device	Manufacturer	Model No.	Description
Remote workstation			
Notebook	DELL	Latitude E6430	Power Cable, Unshielding, 1.8m



2.5 General Information of Test

Test Site	Cerpass Technology Corporation Test Laboratory Address: No.10, Ln. 2, Lianfu St., Luzhu Dist., Taoyuan City 33848, Taiwan (R.O.C.) Tel:+886-3-3226-888 Fax:+886-3-3226-881 Address: No.68-1, Shihbachongsi, Shihding Township, New Taipei City 223, Taiwan, R.O.C. Tel: +886-2-2663-8582	
	FCC	TW1079, TW1061, 390316, 228391, 641184
	IC	4934E-1, 4934E-2
	VCCI	T-2205 for Telecommunication Test C-4663 for Conducted emission test R-4218, R-4399 for Radiated emission test G-812, G-813 for radiated disturbance above 1GHz
Frequency Range Investigated:	Conducted: from 150kHz to 30 MHz Radiation: from 30 MHz to 25,000MHz	
Test Distance:	The test distance of radiated emission from antenna to EUT is 3 M.	

2.6 Measurement Uncertainty

Measurement Item	Measurement Frequency	Polarization	Uncertainty
Conducted Emission	9 kHz ~ 30 MHz	Line / Neutral	±2.9076 dB
Radiated Emission	9 kHz ~ 25,000 MHz	Vertical / Horizontal	±0.948 dB
Spurious Emission (Conducted)	-	-	±4.011 dB
Maximum Peak and Average Output Power	-	-	±0.322 dB
Power Spectral Density	-	-	±0.322 dB
Bandwidth	-	-	74.224Hz



3. Test Equipment and Ancillaries Used for Tests

Instrument	Manufacturer	Model No.	Serial No.	Calibration Date	Valid Date
EMI Receiver	R&S	ESCI3	100443	2016/03/28	2017/03/27
LISN	Schwarzbeck	NSLK 8127	8127-740	2016/08/30	2017/08/29
LISN	Schwarzbeck	NSLK 8127	8127-516	2016/09/06	2017/09/05
Pulse Limiter	R&S	ESH3-Z2	101934	2016/03/09	2017/03/08
Bilog Antenna	Schwarzbeck	VULB9168	369	2016/03/22	2017/03/21
Active Loop Antenna	EMCO	6507	40855	2016/05/11	2017/05/10
Horn Antenna	EMCO	3115	31601	2016/09/05	2017/09/04
Horn Antenna	EMCO	3116	31970	2016/03/18	2017/03/17
EXA Signal Analyzer	KEYSIGHT	N9010A	MY54200207	2016/03/16	2017/03/15
Preamplifier	EM	EM330	60660	2016/03/16	2017/03/15
Preamplifier	EMC INSTRUMENTS	EMC051845SE	980333	2016/09/13	2017/09/12
Preamplifier	Agilent	8449B	3008A01954	2016/03/04	2017/03/03
Preamplifier	MITEQ	AMF-7D-001010 0-30-10P	1860212	2016/03/16	2017/03/15
Preamplifier	EMC INSTRUMENTS	EMC184045	980065	2016/11/04	2017/11/03
MXG MW Analog Signal Generator	KEYSIGHT	N5183A	MY50142931	2016/03/18	2017/03/17
Spectrum Analyzer	R&S	FSP40	100219	2016/09/01	2017/08/31
BLUETOOTH TESTER	R&S	CBT	101133	2016/03/18	2017/03/17
Attenuator	KEYSIGHT	8491B	MY39250703	2016/03/07	2017/03/06
Rotary Attenuator	Agilent	8494B	MY42154466	2016/03/08	2017/03/07
Rotary Attenuator	Agilent	8495B	MY42146680	2016/03/08	2017/03/07
Temp & Humi chamber	T-MACHINE	TMJ-9712	T-12-040111	2016/09/05	2017/09/04
Series Power Meter	Anritsu	ML2495A	1224005	2016/03/03	2017/03/02
Power Sensor	Anritsu	MA2411B	1207295	2016/03/03	2017/03/02
Cable	HUBER SUHNER	SUCOFLEX 102	28422/2	2016/03/15	2017/03/14
Cable	HUBER SUHNER	SUCOFLEX 102	28418/2	2016/03/16	2017/03/15
Cable	HUBER SUHNER	SUCOFLEX 102	28417/2	2016/03/04	2017/03/03
Software	Farad	Ez-EMC	ver.ct3a1	N/A	N/A
Software	AUDIX	E3	V8.2014-8-6	N/A	N/A
Software	Keysight	N7607B Signal Studio	v2.0.0.1	N/A	N/A
Software	Keysight	Inservice MonitorUtility	N/A	N/A	N/A



4. Antenna Requirements

4.1 Standard Applicable

For intentional device, according to FCC 47 CFR Section 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.

And according to FCC 47 CFR Section 15.247 (b), if transmitting antennas of directional gain greater than 6dBi are used, the power shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6dBi.

4.2 Antenna Construction and Directional Gain

Antenna Type	Antenna Gain
PIFA Antenna	Antenna 1: 4.6 dBi
	Antenna 2: 3.3 dBi

For Power directional gain= G_{ant} = 4.6 dBi

For PSD directional gain = $10 \log[(10^{G1/20} + 10^{G2/20} + \dots + 10^{GN/20})^2 / NANT]$
= 6.98 (dBi)



5. Test of AC Power Line Conducted Emission

5.1 Test Limit

Conducted Emissions were measured from 150 kHz to 30 MHz with a bandwidth of 9 KHz, according to the methods defined in ANSI C63.4-2014. The EUT was placed on a nonmetallic stand in a shielded room 0.8 meters above the ground plane. The interface cables and equipment positioning were varied within limits of reasonable applications to determine the position produced maximum conducted emissions.

Frequency (MHz)	Quasi Peak (dB μ V)	Average (dB μ V)
0.15 – 0.5	66-56*	56-46*
0.5 – 5.0	56	46
5.0 – 30.0	60	50

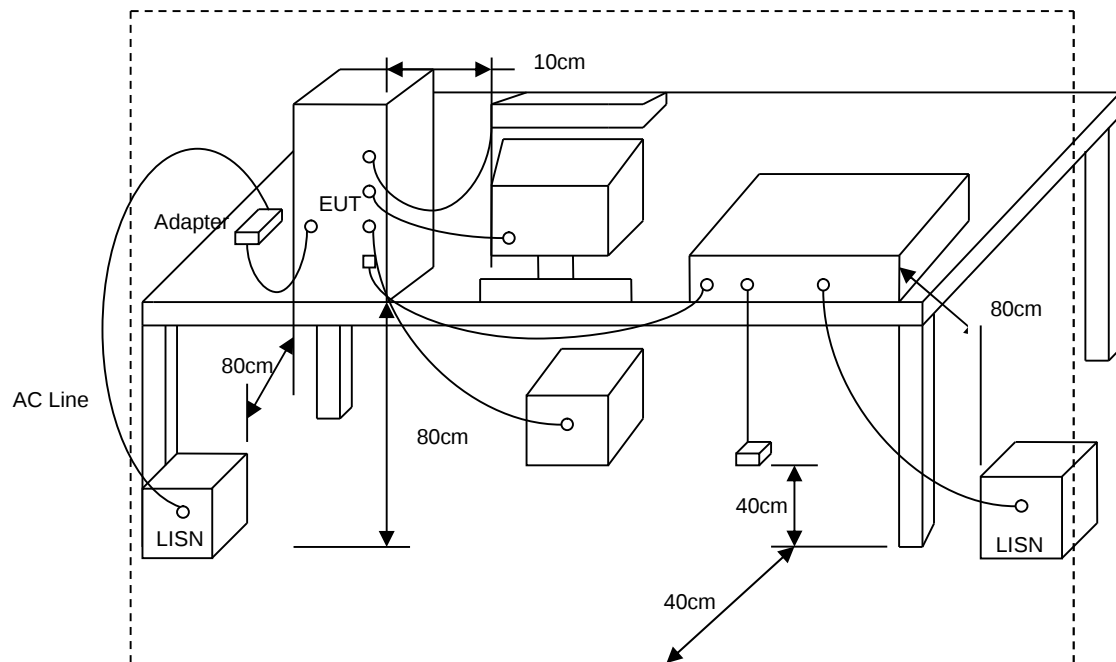
*Decreases with the logarithm of the frequency.

5.2 Test Procedures

- The EUT was placed 0.4 meter from the conducting wall of the shielding room was kept at least 80 centimeters from any other grounded conducting surface.
- Connect EUT to the power mains through a line impedance stabilization network (LISN).
- All the support units are connecting to the other LISN.
- The LISN provides 50 ohm coupling impedance for the measuring instrument.
- The FCC states that a 50 ohm, 50 micro-Henry LISN should be used.
- Both sides of AC line were checked for maximum conducted interference.
- The frequency range from 150 kHz to 30 MHz was searched.
- Set the test-receiver system to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode.



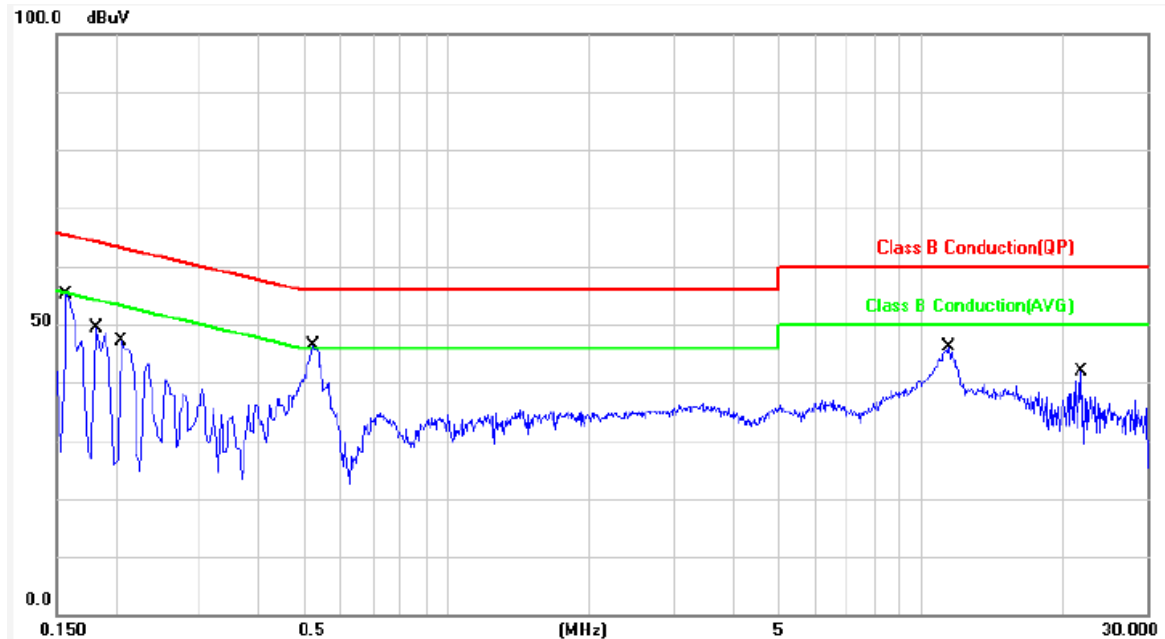
5.3 Typical Test Setup





5.4 Test Result and Data

Power	: PoE	Pol/Phase	: LINE
Test Mode	: Mode 2	Temperature	: 20 °C
Test date	: Dec. 15, 2016	Humidity	: 52 %



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector	P/F
1	0.1580	9.98	43.29	53.27	65.56	-12.29	QP	P
2	0.1580	9.98	24.75	34.73	55.56	-20.83	AVG	P
3	0.1819	9.97	38.09	48.06	64.39	-16.33	QP	P
4	0.1819	9.97	19.79	29.76	54.39	-24.63	AVG	P
5	0.2060	9.97	33.88	43.85	63.36	-19.51	QP	P
6	0.2060	9.97	16.87	26.84	53.36	-26.52	AVG	P
7	0.5220	9.98	34.90	44.88	56.00	-11.12	QP	P
8	0.5220	9.98	29.71	39.69	46.00	-6.31	AVG	P
9	11.4700	10.30	31.63	41.93	60.00	-18.07	QP	P
10	11.4700	10.30	26.96	37.26	50.00	-12.74	AVG	P
11	21.7180	10.55	24.55	35.10	60.00	-24.90	QP	P
12	21.7180	10.55	21.05	31.60	50.00	-18.40	AVG	P

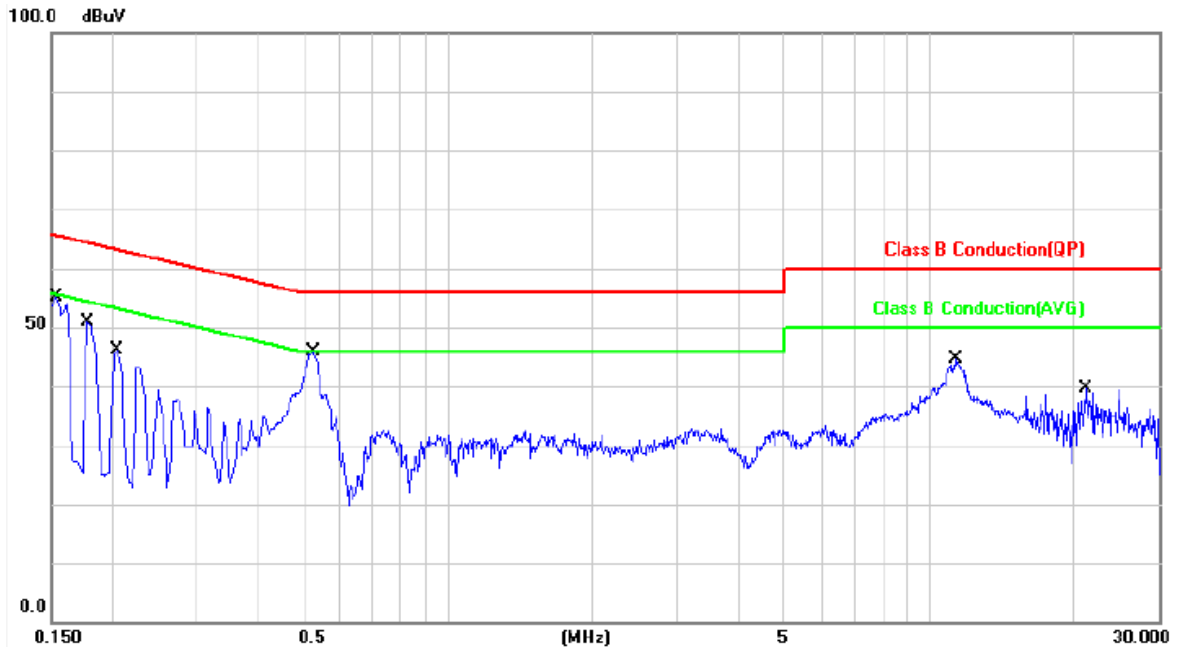
Note: Level = Reading + Factor

Margin = Level – Limit

Factor = (LISN, ISN, PLC or current probe) Factor + Cable Loss+ Attenuator



Power	: PoE	Pol/Phase	: NEUTRAL
Test Mode	: Mode 2	Temperature	: 20 °C
Test date	: Dec. 15, 2016	Humidity	: 52 %



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector	P/F
1	0.1539	9.98	42.80	52.78	65.78	-13.00	QP	P
2	0.1539	9.98	24.31	34.29	55.78	-21.49	AVG	P
3	0.1780	9.98	38.23	48.21	64.57	-16.36	QP	P
4	0.1780	9.98	19.92	29.90	54.57	-24.67	AVG	P
5	0.2060	9.98	33.32	43.30	63.36	-20.06	QP	P
6	0.2060	9.98	16.17	26.15	53.36	-27.21	AVG	P
7	0.5260	9.95	34.83	44.78	56.00	-11.22	QP	P
8	0.5260	9.95	29.69	39.64	46.00	-6.36	AVG	P
9	11.3500	10.36	30.21	40.57	60.00	-19.43	QP	P
10	11.3500	10.36	25.17	35.53	50.00	-14.47	AVG	P
11	21.2180	10.61	25.46	36.07	60.00	-23.93	QP	P
12	21.2180	10.61	24.45	35.06	50.00	-14.94	AVG	P

Note: Level = Reading + Factor

Margin = Level – Limit

Factor = (LISN, ISN, PLC or current probe) Factor + Cable Loss+ Attenuator



6. Test of Radiated Spurious Emission

6.1 Test Limit

In any 100kHz 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 100kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement. If the transmitter measurement is based on the maximum conducted output power, the attenuation required under this paragraph shall be 30dB instead of 20dB. In addition, radiated emissions which fall in section 15.205(a) the restricted bands must also comply with the radiated emission limit specified in section 15.209(a).

Frequency (MHz)	Field Strength (microvolt/meter)	Measurement Distance (meters)
0.009 ~ 0.490	2400/F(kHz)	300
0.490 ~ 1.705	24000/F(kHz)	30
1.705 ~ 30.0	30	30
30 ~ 88	100	3
88 ~ 216	150	3
216 ~ 960	200	3
Above 960	500	3

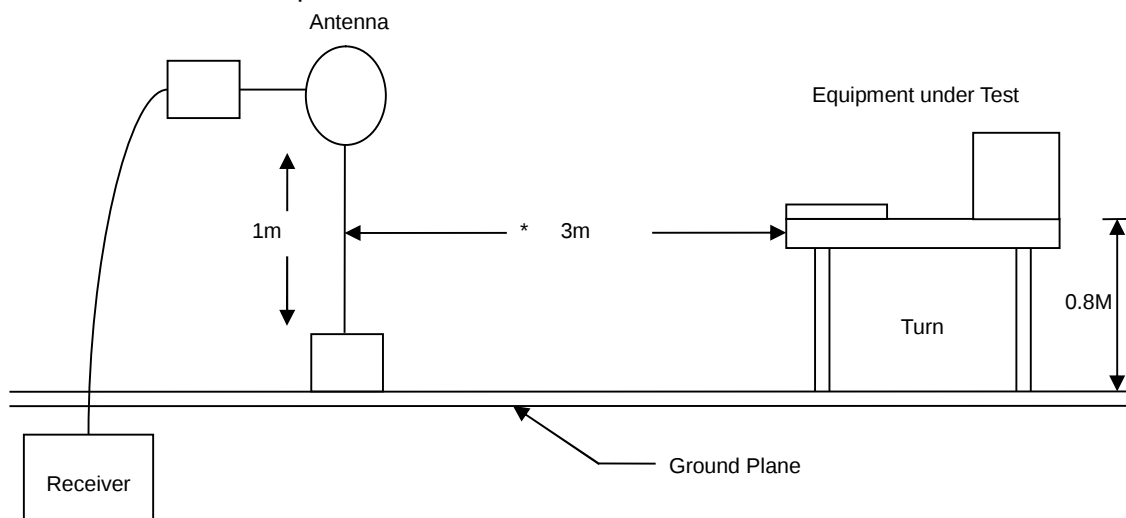
6.2 Test Procedures

- The EUT was placed on a rotatable table top 0.8 meter above ground.
- The EUT was set 3 meters from the interference receiving antenna which was mounted on the top of a variable height antenna tower.
- The table was rotated 360 degrees to determine the position of the highest radiation.
- The antenna is a broadband antenna and its height is varied between one meter and four meters above ground to find the maximum value of the field strength both horizontal polarization and vertical polarization of the antenna are set to make the measurement.
- For each suspected emission the EUT was arranged to its worst case and then tune the antenna tower (from 1 M to 4 M) and turn table (from 0 degree to 360 degrees) to find the maximum reading.
- Set the test-receiver system to Peak or CISPR quasi-peak Detect Function and specified bandwidth with Maximum Hold Mode.
- If the emission level of the EUT in peak mode was 3 dB lower than the limit specified, then testing will be stopped and peak values of EUT will be reported, otherwise, the emissions which do not have 3 dB margin will be repeated one by one using the quasi-peak method and reported.
- For testing above 1GHz, the emission level of the EUT in peak mode was 20dB lower than average limit (that means the emission level in peak mode also complies with the limit in average mode), then testing will be stopped and peak values of EUT will be reported, otherwise, the emissions will be measured in average mode again and reported.
- "Cone of radiation" has been considered to be 3dB bandwidth of the measurement antenna.

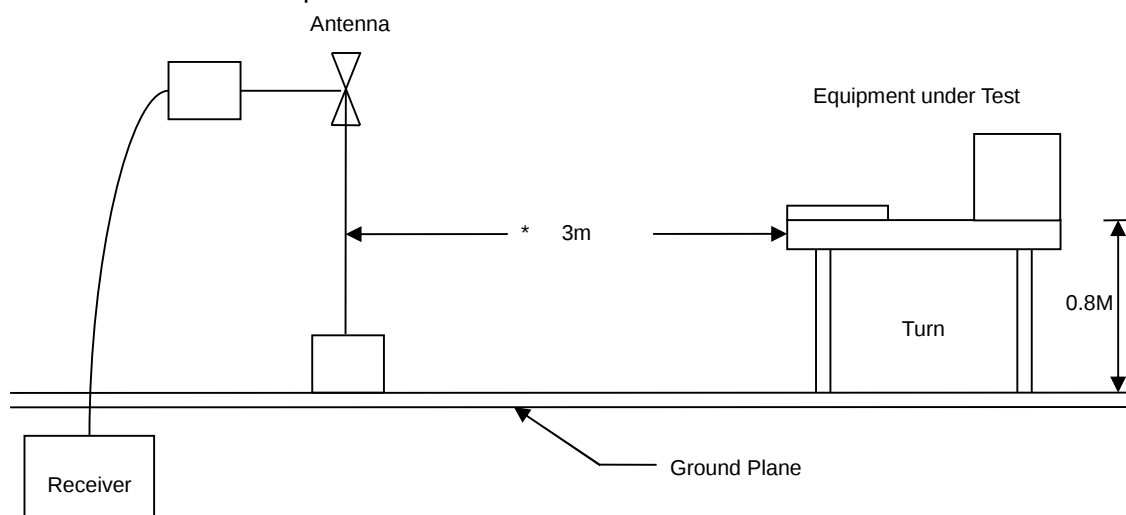


6.3 Typical Test Setup

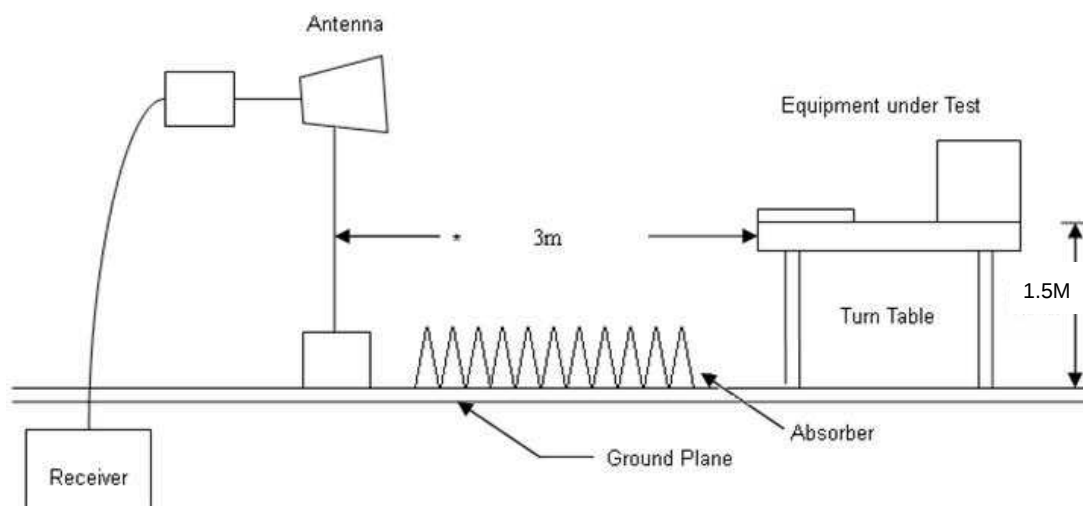
Below 30MHz test setup



30MHz- 1GHz Test Setup



Above 1GHz Test Setup



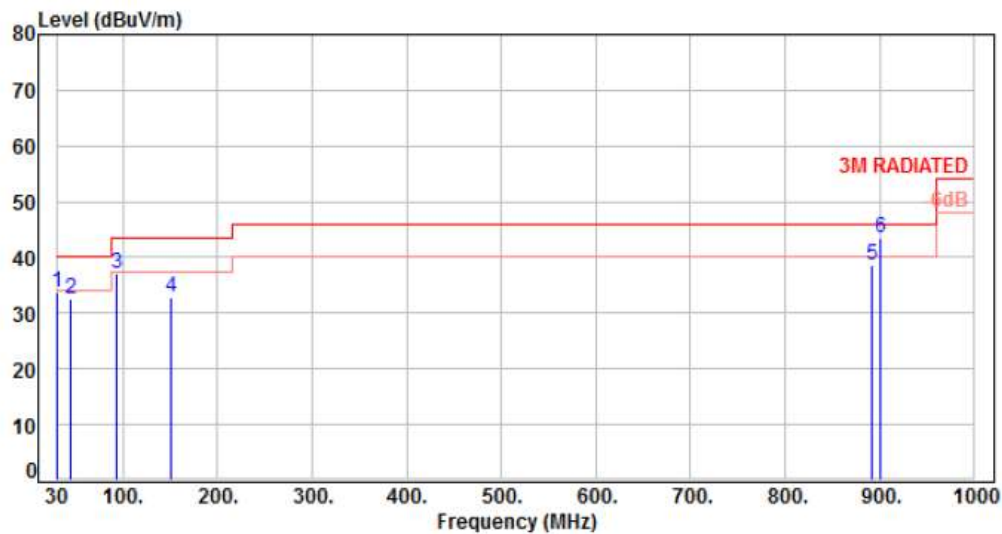


6.4 Test Result and Data (9KHz ~ 30MHz)

The 9kHz - 30MHz spurious emission is under limit 20dB more.

6.5 Test Result and Data (30MHz ~ 1GHz)

Power	:	PoE	Pol/Phase	:	VERTICAL
Test Mode	:	Mode 2	Temperature	:	25 °C
Test Date	:	Dec. 14, 2016	Humidity	:	63 %



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	30.00	-10.73	44.42	33.69	40.00	-6.31	QP	100	185	P
2	45.52	-9.76	42.28	32.52	40.00	-7.48	QP	100	183	P
3	94.02	-15.68	52.73	37.05	43.50	-6.45	Peak	100	0	P
4	150.28	-10.03	42.89	32.86	43.50	-10.64	Peak	100	0	P
5	891.36	2.03	36.50	38.53	46.00	-7.47	Peak	100	0	P
6	901.06	2.14	41.45	43.59	46.00	-2.41	QP	126	207	P

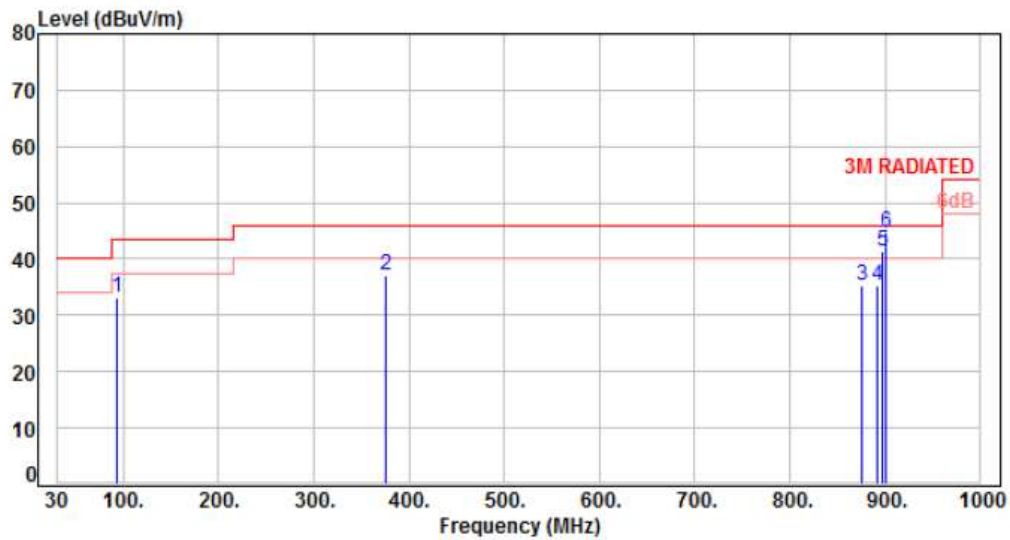
Note: Level=Reading+Factor

Margin=Level-Limit

Factor=Antenna Factor + cable loss - Amplifier Factor



Power	:	PoE	Pol/Phase	:	HORIZONTAL
Test Mode	:	Mode 2	Temperature	:	25 °C
Test Date	:	Dec. 14, 2016	Humidity	:	63 %



No.	Frequency (MHz)	Factor (dB)	Reading (dBUV)	Level (dBUV)	Limit (dBUV)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	94.02	-15.68	48.80	33.12	43.50	-10.38	Peak	100	0	P
2	375.32	-7.06	44.32	37.26	46.00	-8.74	Peak	100	0	P
3	875.84	1.87	33.36	35.23	46.00	-10.77	Peak	100	0	P
4	891.36	2.03	33.39	35.42	46.00	-10.58	Peak	100	0	P
5	897.18	2.10	39.19	41.29	46.00	-4.71	QP	112	81	P
6	901.06	2.14	42.52	44.66	46.00	-1.34	QP	113	80	P

Note: Level=Reading+Factor

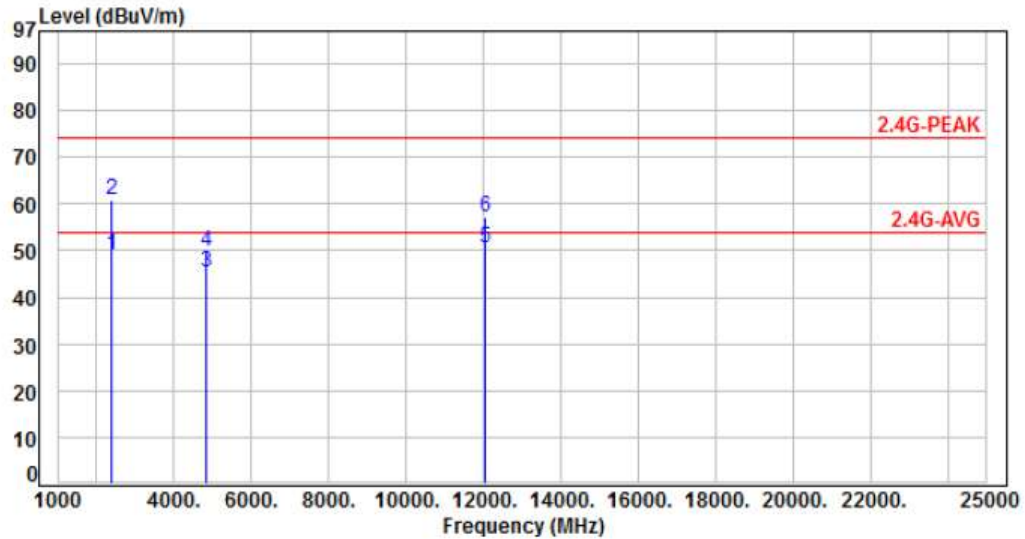
Margin=Level-Limit

Factor=Antenna Factor + cable loss - Amplifier Factor



6.6 Test Result and Data (1GHz ~ 25GHz)

Power	:	PoE	Pol/Phase	:	VERTICAL
Test Mode	:	Mode 1, CH01	Temperature	:	25 °C
Test Date	:	Nov. 26, 2016	Humidity	:	63 %



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	2390.00	-15.75	64.84	49.09	54.00	-4.91	Average	261	295	P
2	2390.00	-15.75	76.43	60.68	74.00	-13.32	Peak	261	295	P
3	4824.00	-7.58	52.92	45.34	54.00	-8.66	Average	273	314	P
4	4824.00	-7.58	57.52	49.94	74.00	-24.06	Peak	273	314	P
5	12060.00	2.28	48.19	50.47	54.00	-3.53	Average	165	299	P
6	12060.00	2.28	54.71	56.99	74.00	-17.01	Peak	165	299	P

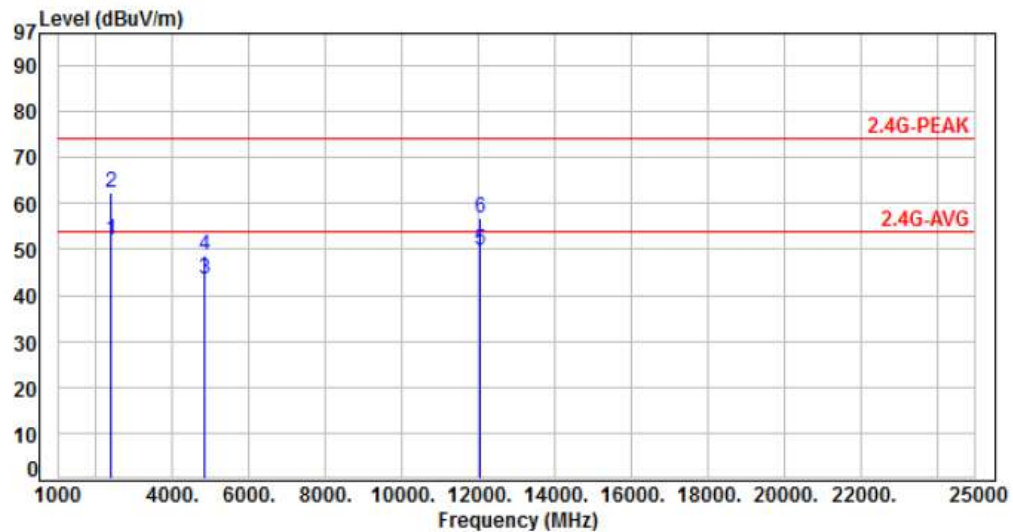
Note: Level=Reading+Factor

Margin=Level-Limit

Factor=Antenna Factor + cable loss - Amplifier Factor



Power	: PoE	Pol/Phase	: HORIZONTAL
Test Mode	: Mode 1, CH01	Temperature	: 25 °C
Test Date	: Nov. 26, 2016	Humidity	: 63 %



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	2390.00	-15.75	67.81	52.06	54.00	-1.94	Average	400	290	P
2	2390.00	-15.75	78.15	62.40	74.00	-11.60	Peak	400	290	P
3	4824.00	-7.58	50.97	43.39	54.00	-10.61	Average	196	360	P
4	4824.00	-7.58	56.40	48.82	74.00	-25.18	Peak	196	360	P
5	12060.00	2.28	47.55	49.83	54.00	-4.17	Average	186	284	P
6	12060.00	2.28	54.41	56.69	74.00	-17.31	Peak	186	284	P

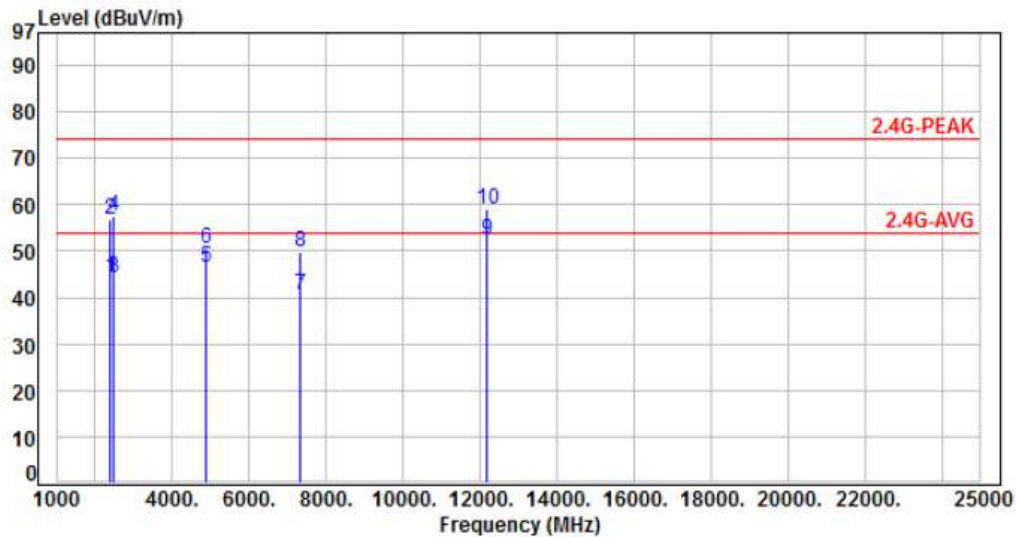
Note: Level=Reading+Factor

Margin=Level-Limit

Factor=Antenna Factor + cable loss - Amplifier Factor



Power	:	PoE	Pol/Phase	:	VERTICAL
Test Mode	:	Mode 1, CH06	Temperature	:	25 °C
Test Date	:	Nov. 26, 2016	Humidity	:	63 %



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	2390.00	-15.75	59.95	44.20	54.00	-9.80	Average	351	78	P
2	2390.00	-15.75	72.45	56.70	74.00	-17.30	Peak	351	78	P
3	2483.50	-15.48	59.68	44.20	54.00	-9.80	Average	351	78	P
4	2483.50	-15.48	73.18	57.70	74.00	-16.30	Peak	351	78	P
5	4874.00	-7.39	53.92	46.53	54.00	-7.47	Average	345	320	P
6	4874.00	-7.39	57.78	50.39	74.00	-23.61	Peak	345	320	P
7	7311.00	-3.50	44.25	40.75	54.00	-13.25	Average	376	360	P
8	7311.00	-3.50	53.31	49.81	74.00	-24.19	Peak	376	360	P
9	12185.00	2.37	50.15	52.52	54.00	-1.48	Average	359	343	P
10	12185.00	2.37	56.58	58.95	74.00	-15.05	Peak	359	343	P

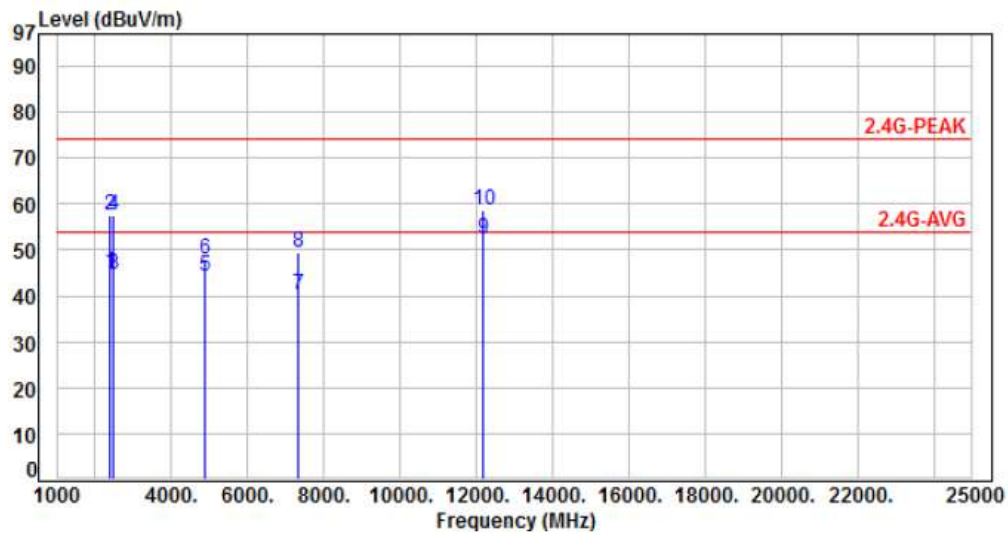
Note: Level=Reading+Factor

Margin=Level-Limit

Factor=Antenna Factor + cable loss - Amplifier Factor



Power	: PoE	Pol/Phase	: HORIZONTAL
Test Mode	: Mode 1, CH06	Temperature	: 25 °C
Test Date	: Nov. 26, 2016	Humidity	: 63 %



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	2390.00	-15.75	60.66	44.91	54.00	-9.09	Average	167	271	P
2	2390.00	-15.75	73.11	57.36	74.00	-16.64	Peak	167	271	P
3	2483.50	-15.48	59.92	44.44	54.00	-9.56	Average	167	271	P
4	2483.50	-15.48	73.08	57.60	74.00	-16.40	Peak	167	271	P
5	4874.00	-7.39	51.78	44.39	54.00	-9.61	Average	100	312	P
6	4874.00	-7.39	55.40	48.01	74.00	-25.99	Peak	100	312	P
7	7311.00	-3.50	43.88	40.38	54.00	-13.62	Average	264	278	P
8	7311.00	-3.50	52.97	49.47	74.00	-24.53	Peak	264	278	P
9	12185.00	2.37	49.82	52.19	54.00	-1.81	Average	212	295	P
10	12185.00	2.37	56.31	58.68	74.00	-15.32	Peak	212	295	P

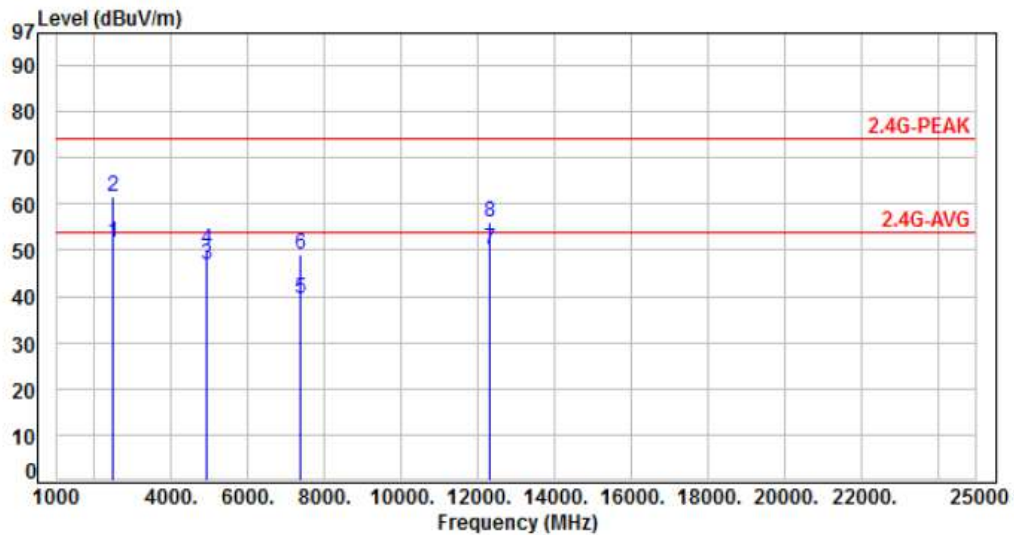
Note: Level=Reading+Factor

Margin=Level-Limit

Factor=Antenna Factor + cable loss - Amplifier Factor



Power	: PoE	Pol/Phase	: VERTICAL
Test Mode	: Mode 1, CH11	Temperature	: 25 °C
Test Date	: Nov. 26, 2016	Humidity	: 63 %



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	2483.50	-15.48	67.13	51.65	54.00	-2.35	Average	268	280	P
2	2483.50	-15.48	77.19	61.71	74.00	-12.29	Peak	268	280	P
3	4924.00	-7.19	54.04	46.85	54.00	-7.15	Average	262	317	P
4	4924.00	-7.19	57.42	50.23	74.00	-23.77	Peak	262	317	P
5	7386.00	-3.39	42.91	39.52	54.00	-14.48	Average	390	350	P
6	7386.00	-3.39	52.44	49.05	74.00	-24.95	Peak	390	350	P
7	12310.00	2.46	47.57	50.03	54.00	-3.97	Average	371	340	P
8	12310.00	2.46	53.67	56.13	74.00	-17.87	Peak	371	340	P

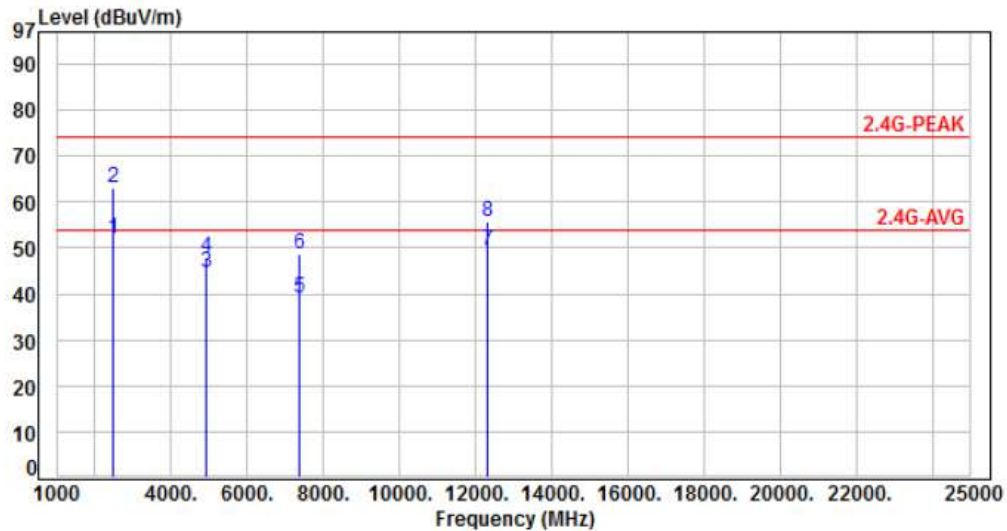
Note: Level=Reading+Factor

Margin=Level-Limit

Factor=Antenna Factor + cable loss - Amplifier Factor



Power	: PoE	Pol/Phase	: HORIZONTAL
Test Mode	: Mode 1, CH11	Temperature	: 25 °C
Test Date	: Nov. 26, 2016	Humidity	: 63 %



No.	Frequency (MHz)	Factor (dB)	Reading (dBUV)	Level (dBUV)	Limit (dBUV)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	2483.50	-15.48	67.66	52.18	54.00	-1.82	Average	395	270	P
2	2483.50	-15.48	78.41	62.93	74.00	-11.07	Peak	395	270	P
3	4924.00	-7.19	51.69	44.50	54.00	-9.50	Average	100	358	P
4	4924.00	-7.19	55.28	48.09	74.00	-25.91	Peak	100	358	P
5	7386.00	-3.39	42.55	39.16	54.00	-14.84	Average	266	292	P
6	7386.00	-3.39	51.89	48.50	74.00	-25.50	Peak	266	292	P
7	12310.00	2.46	46.96	49.42	54.00	-4.58	Average	198	278	P
8	12310.00	2.46	53.18	55.64	74.00	-18.36	Peak	198	278	P

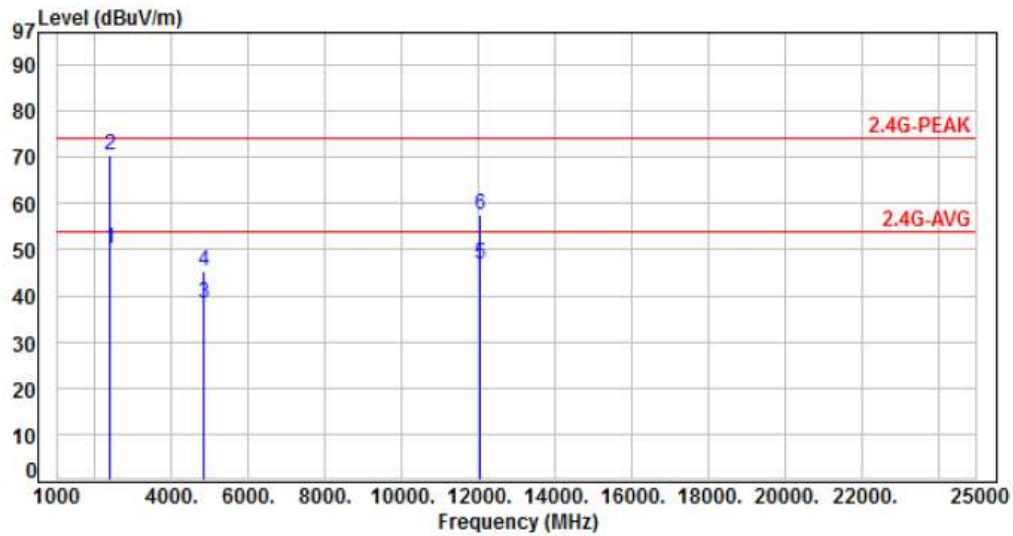
Note: Level=Reading+Factor

Margin=Level-Limit

Factor=Antenna Factor + cable loss - Amplifier Factor



Power	: PoE	Pol/Phase	: VERTICAL
Test Mode	: Mode 2, CH01	Temperature	: 25 °C
Test Date	: Nov. 26, 2016	Humidity	: 63 %



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	2390.00	-15.75	66.03	50.28	54.00	-3.72	Average	191	138	P
2	2390.00	-15.75	86.27	70.52	74.00	-3.48	Peak	191	138	P
3	4824.00	-7.58	45.95	38.37	54.00	-15.63	Average	146	312	P
4	4824.00	-7.58	53.09	45.51	74.00	-28.49	Peak	146	312	P
5	12060.00	2.28	44.69	46.97	54.00	-7.03	Average	165	10	P
6	12060.00	2.28	55.40	57.68	74.00	-16.32	Peak	165	10	P

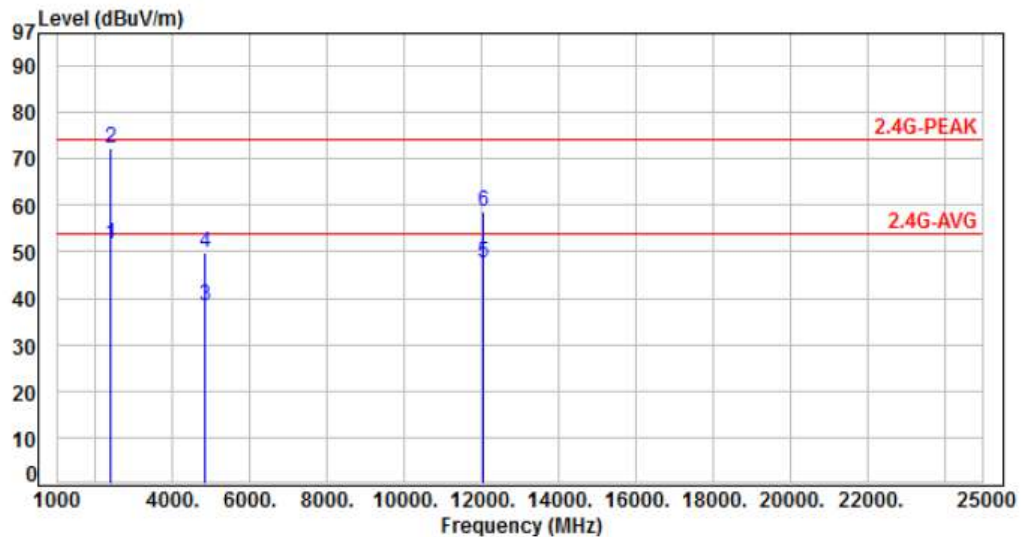
Note: Level=Reading+Factor

Margin=Level-Limit

Factor=Antenna Factor + cable loss - Amplifier Factor



Power	: PoE	Pol/Phase	: HORIZONTAL
Test Mode	: Mode 2, CH01	Temperature	: 25 °C
Test Date	: Nov. 26, 2016	Humidity	: 63 %



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	2390.00	-15.75	67.22	51.47	54.00	-2.53	Average	386	284	P
2	2390.00	-15.75	87.91	72.16	74.00	-1.84	Peak	386	284	P
3	4824.00	-7.58	45.95	38.37	54.00	-15.63	Average	170	196	P
4	4824.00	-7.58	57.36	49.78	74.00	-24.22	Peak	170	196	P
5	12060.00	2.28	45.24	47.52	54.00	-6.48	Average	318	230	P
6	12060.00	2.28	56.48	58.76	74.00	-15.24	Peak	318	230	P

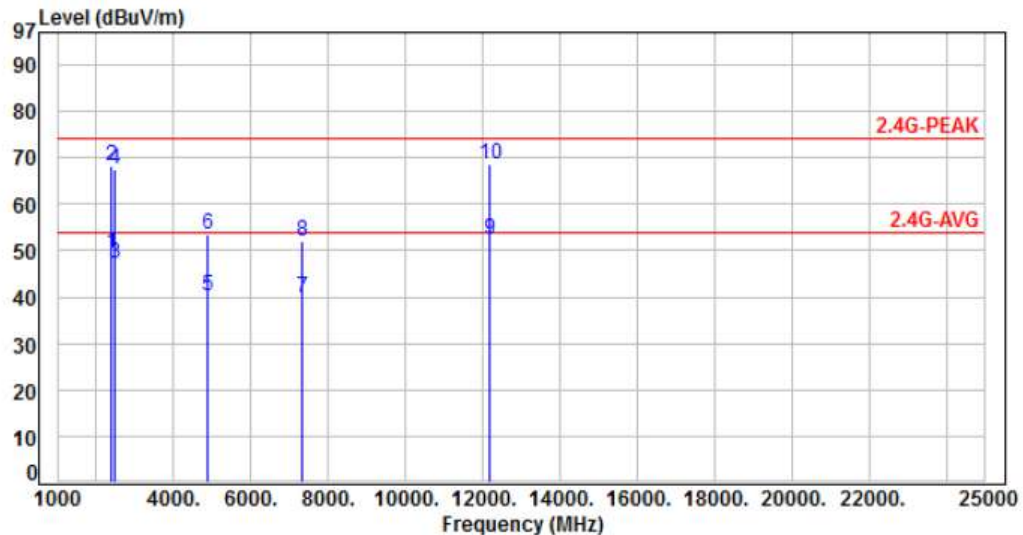
Note: Level=Reading+Factor

Margin=Level-Limit

Factor=Antenna Factor + cable loss - Amplifier Factor



Power	: PoE	Pol/Phase	: VERTICAL
Test Mode	: Mode 2, CH06	Temperature	: 25 °C
Test Date	: Nov. 26, 2016	Humidity	: 63 %



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	2390.00	-15.75	65.06	49.31	54.00	-4.69	Average	195	250	P
2	2390.00	-15.75	83.96	68.21	74.00	-5.79	Peak	195	250	P
3	2483.50	-15.48	62.55	47.07	54.00	-6.93	Average	201	253	P
4	2483.50	-15.48	82.95	67.47	74.00	-6.53	Peak	201	253	P
5	4874.00	-7.39	47.46	40.07	54.00	-13.93	Average	360	300	P
6	4874.00	-7.39	60.85	53.46	74.00	-20.54	Peak	360	300	P
7	7311.00	-3.50	43.19	39.69	54.00	-14.31	Average	312	388	P
8	7311.00	-3.50	55.44	51.94	74.00	-22.06	Peak	312	388	P
9	12185.00	2.37	50.12	52.49	54.00	-1.51	Average	280	330	P
10	12185.00	2.37	66.22	68.59	74.00	-5.41	Peak	280	330	P

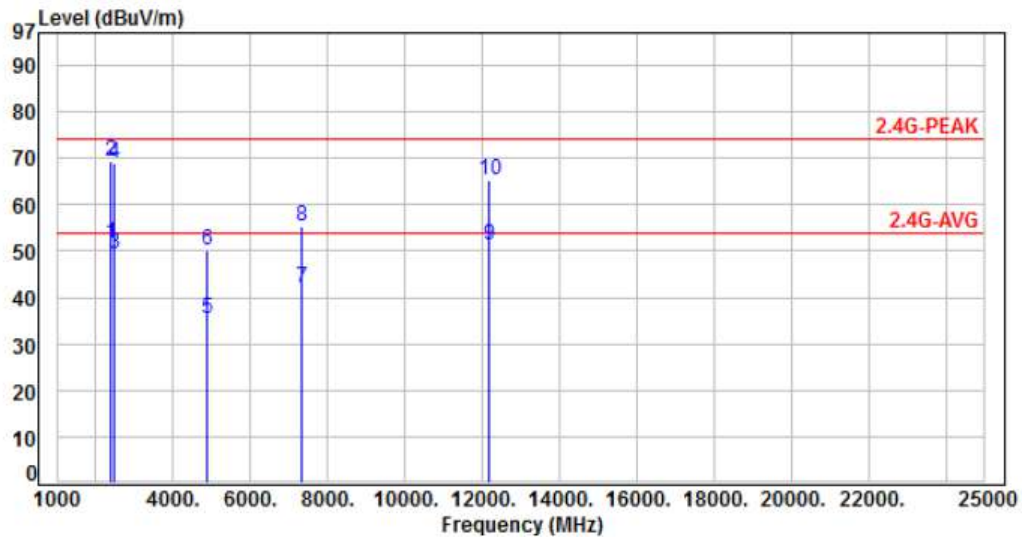
Note: Level=Reading+Factor

Margin=Level-Limit

Factor=Antenna Factor + cable loss - Amplifier Factor



Power	: PoE	Pol/Phase	: HORIZONTAL
Test Mode	: Mode 2, CH06	Temperature	: 25 °C
Test Date	: Nov. 26, 2016	Humidity	: 63 %



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	2390.00	-15.75	67.27	51.52	54.00	-2.48	Average	304	274	P
2	2390.00	-15.75	85.24	69.49	74.00	-4.51	Peak	304	274	P
3	2483.50	-15.48	64.95	49.47	54.00	-4.53	Average	379	264	P
4	2483.50	-15.48	84.58	69.10	74.00	-4.90	Peak	379	264	P
5	4874.00	-7.39	42.65	35.26	54.00	-18.74	Average	175	306	P
6	4874.00	-7.39	57.43	50.04	74.00	-23.96	Peak	175	306	P
7	7311.00	-3.50	45.39	41.89	54.00	-12.11	Average	175	306	P
8	7311.00	-3.50	58.69	55.19	74.00	-18.81	Peak	182	300	P
9	12185.00	2.37	48.71	51.08	54.00	-2.92	Average	176	295	P
10	12185.00	2.37	62.95	65.32	74.00	-8.68	Peak	176	295	P

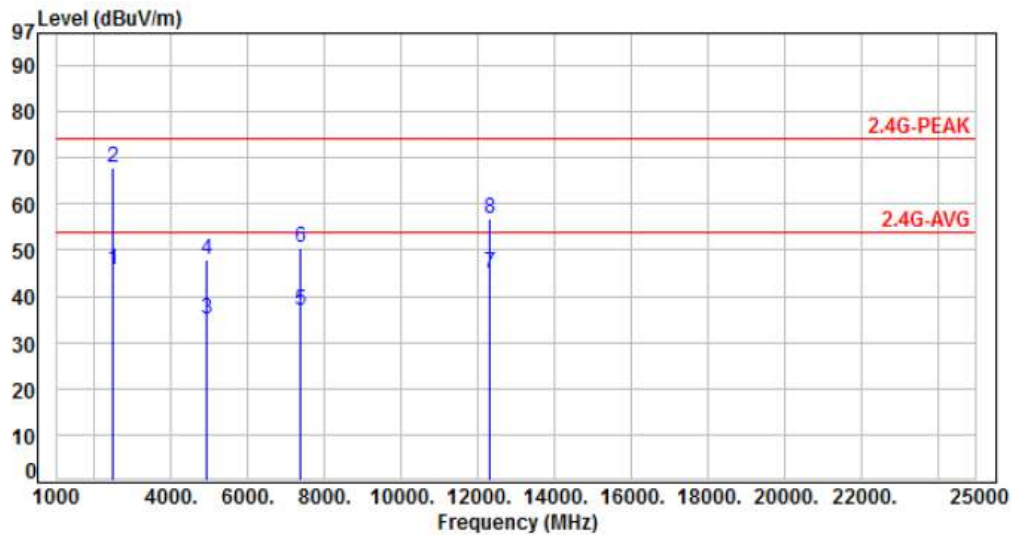
Note: Level=Reading+Factor

Margin=Level-Limit

Factor=Antenna Factor + cable loss - Amplifier Factor



Power	: PoE	Pol/Phase	: VERTICAL
Test Mode	: Mode 2, CH11	Temperature	: 25 °C
Test Date	: Nov. 26, 2016	Humidity	: 63 %



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	2483.50	-15.48	61.39	45.91	54.00	-8.09	Average	223	330	P
2	2483.50	-15.48	83.18	67.70	74.00	-6.30	Peak	223	330	P
3	4924.00	-7.19	42.30	35.11	54.00	-18.89	Average	184	320	P
4	4924.00	-7.19	55.19	48.00	74.00	-26.00	Peak	184	320	P
5	7386.00	-3.39	40.24	36.85	54.00	-17.15	Average	192	308	P
6	7386.00	-3.39	53.95	50.56	74.00	-23.44	Peak	192	308	P
7	12310.00	2.46	42.69	45.15	54.00	-8.85	Average	206	324	P
8	12310.00	2.46	54.17	56.63	74.00	-17.37	Peak	206	324	P

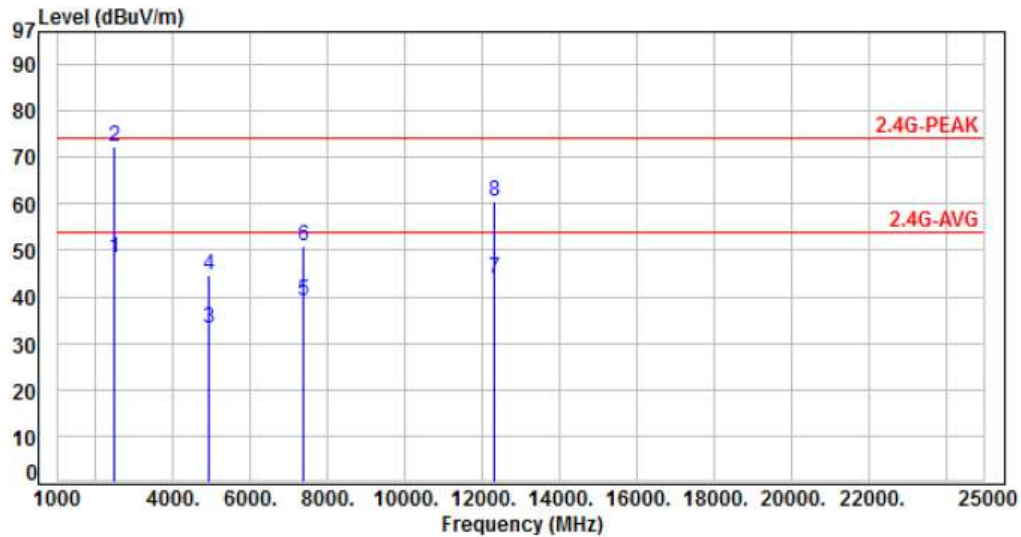
Note: Level=Reading+Factor

Margin=Level-Limit

Factor=Antenna Factor + cable loss - Amplifier Factor



Power	:	PoE	Pol/Phase	:	HORIZONTAL
Test Mode	:	Mode 2, CH11	Temperature	:	25 °C
Test Date	:	Nov. 26, 2016	Humidity	:	63 %



No.	Frequency (MHz)	Factor (dB)	Reading (dBUV)	Level (dBUV)	Limit (dBUV)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	2483.50	-15.48	63.72	48.24	54.00	-5.76	Average	361	291	P
2	2483.50	-15.48	87.88	72.40	74.00	-1.60	Peak	361	291	P
3	4924.00	-7.19	40.22	33.03	54.00	-20.97	Average	244	307	P
4	4924.00	-7.19	51.92	44.73	74.00	-29.27	Peak	244	307	P
5	7386.00	-3.39	42.36	38.97	54.00	-15.03	Average	245	326	P
6	7386.00	-3.39	54.16	50.77	74.00	-23.23	Peak	245	326	P
7	12310.00	2.46	41.55	44.01	54.00	-9.99	Average	195	311	P
8	12310.00	2.46	57.88	60.34	74.00	-13.66	Peak	195	311	P

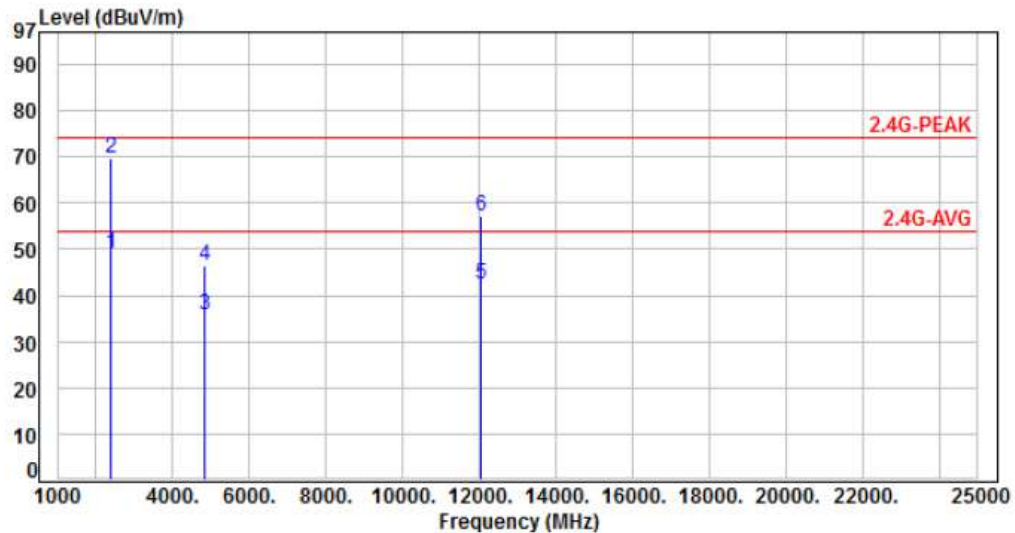
Note: Level=Reading+Factor

Margin=Level-Limit

Factor=Antenna Factor + cable loss - Amplifier Factor



Power	:	PoE	Pol/Phase	:	VERTICAL
Test Mode	:	Mode 3, CH01	Temperature	:	25 °C
Test Date	:	Nov. 26, 2016	Humidity	:	63 %



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	2390.00	-15.75	64.85	49.10	54.00	-4.90	Average	206	241	P
2	2390.00	-15.75	85.52	69.77	74.00	-4.23	Peak	206	241	P
3	4824.00	-7.58	43.20	35.62	54.00	-18.38	Average	205	233	P
4	4824.00	-7.58	53.98	46.40	74.00	-27.60	Peak	205	233	P
5	12060.00	2.28	40.15	42.43	54.00	-11.57	Average	211	287	P
6	12060.00	2.28	54.88	57.16	74.00	-16.84	Peak	211	287	P

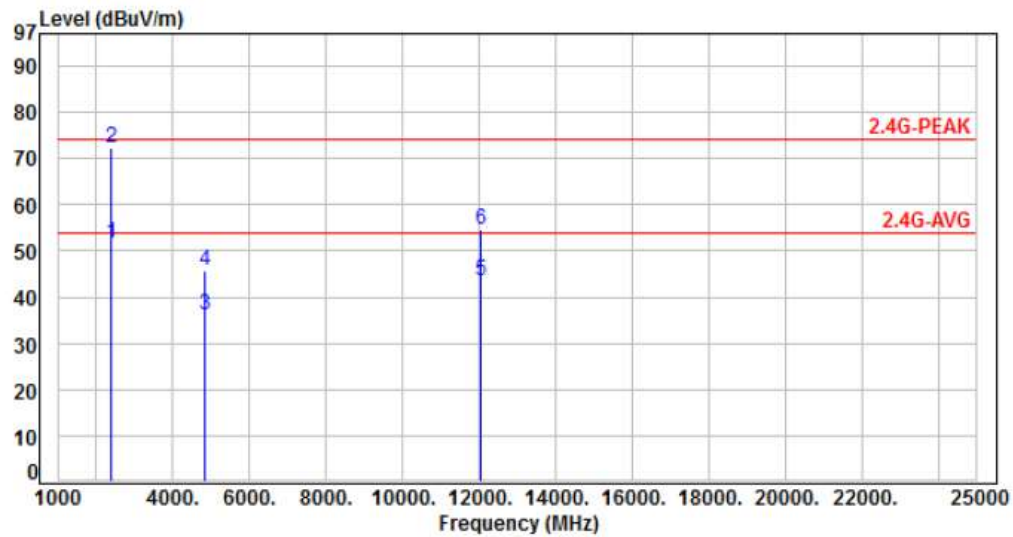
Note: Level=Reading+Factor

Margin=Level-Limit

Factor=Antenna Factor + cable loss - Amplifier Factor



Power	: PoE	Pol/Phase	: HORIZONTAL
Test Mode	: Mode 3, CH01	Temperature	: 25 °C
Test Date	: Nov. 26, 2016	Humidity	: 63 %



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	2390.00	-15.75	67.49	51.74	54.00	-2.26	Average	31	391	P
2	2390.00	-15.75	87.86	72.11	74.00	-1.89	Peak	153	295	P
3	4824.00	-7.58	43.59	36.01	54.00	-17.99	Average	288	302	P
4	4824.00	-7.58	53.29	45.71	74.00	-28.29	Peak	288	302	P
5	12060.00	2.28	41.26	43.54	54.00	-10.46	Average	304	295	P
6	12060.00	2.28	52.21	54.49	74.00	-19.51	Peak	304	295	P

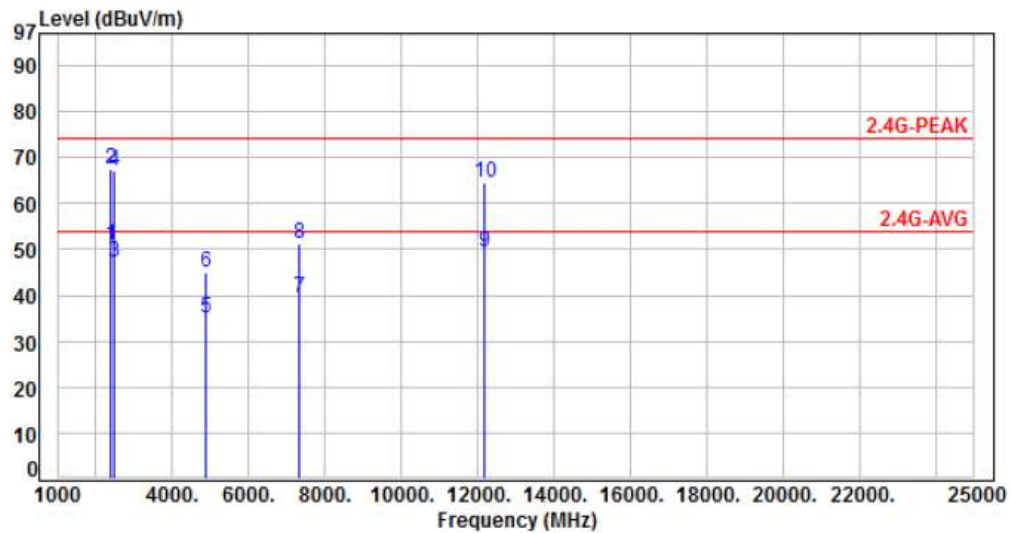
Note: Level=Reading+Factor

Margin=Level-Limit

Factor=Antenna Factor + cable loss - Amplifier Factor



Power	: PoE	Pol/Phase	: VERTICAL
Test Mode	: Mode 3, CH06	Temperature	: 25 °C
Test Date	: Nov. 26, 2016	Humidity	: 63 %



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	2390.00	-15.75	66.75	51.00	54.00	-3.00	Average	174	192	P
2	2390.00	-15.75	83.22	67.47	74.00	-6.53	Peak	174	192	P
3	2483.50	-15.48	62.51	47.03	54.00	-6.97	Average	195	312	P
4	2483.50	-15.48	82.44	66.96	74.00	-7.04	Peak	195	312	P
5	4874.00	-7.39	42.57	35.18	54.00	-18.82	Average	205	249	P
6	4874.00	-7.39	52.21	44.82	74.00	-29.18	Peak	205	249	P
7	7311.00	-3.50	42.88	39.38	54.00	-14.62	Average	198	229	P
8	7311.00	-3.50	54.64	51.14	74.00	-22.86	Peak	198	229	P
9	12185.00	2.37	46.95	49.32	54.00	-4.68	Average	334	327	P
10	12185.00	2.37	62.18	64.55	74.00	-9.45	Peak	334	327	P

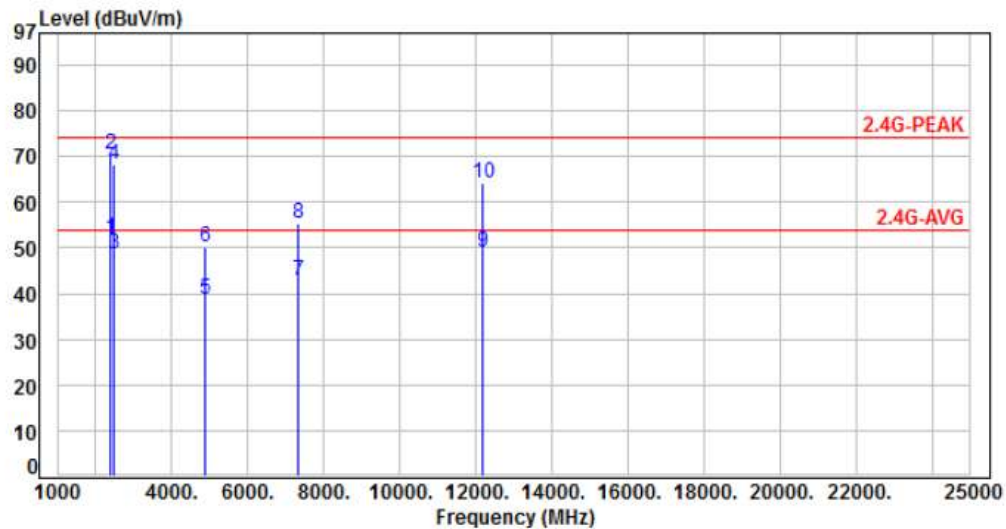
Note: Level=Reading+Factor

Margin=Level-Limit

Factor=Antenna Factor + cable loss - Amplifier Factor



Power	: PoE	Pol/Phase	: HORIZONTAL
Test Mode	: Mode 3, CH06	Temperature	: 25 °C
Test Date	: Nov. 26, 2016	Humidity	: 63 %



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	2390.00	-15.75	67.79	52.04	54.00	-1.96	Average	200	260	P
2	2390.00	-15.75	86.26	70.51	74.00	-3.49	Peak	200	260	P
3	2483.50	-15.48	64.23	48.75	54.00	-5.25	Average	100	285	P
4	2483.50	-15.48	83.60	68.12	74.00	-5.88	Peak	100	285	P
5	4874.00	-7.39	46.16	38.77	54.00	-15.23	Average	334	306	P
6	4874.00	-7.39	57.62	50.23	74.00	-23.77	Peak	334	306	P
7	7311.00	-3.50	46.20	42.70	54.00	-11.30	Average	305	295	P
8	7311.00	-3.50	58.64	55.14	74.00	-18.86	Peak	305	295	P
9	12185.00	2.37	46.72	49.09	54.00	-4.91	Average	302	300	P
10	12185.00	2.37	61.66	64.03	74.00	-9.97	Peak	302	300	P

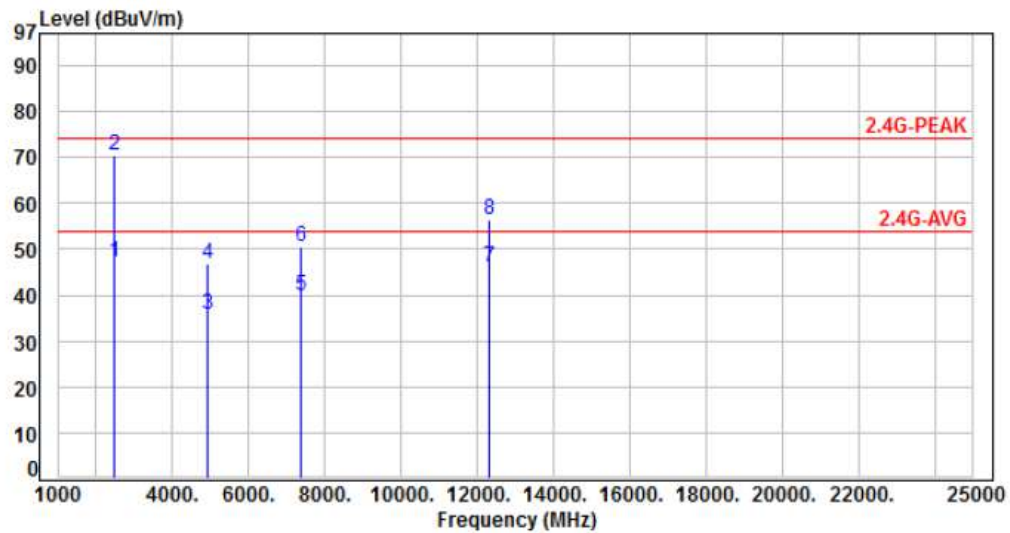
Note: Level=Reading+Factor

Margin=Level-Limit

Factor=Antenna Factor + cable loss - Amplifier Factor



Power	: PoE	Pol/Phase	: VERTICAL
Test Mode	: Mode 3, CH11	Temperature	: 25 °C
Test Date	: Nov. 26, 2016	Humidity	: 63 %



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	2483.50	-15.48	62.51	47.03	54.00	-6.97	Average	100	227	P
2	2483.50	-15.48	85.75	70.27	74.00	-3.73	Peak	100	227	P
3	4924.00	-7.19	43.11	35.92	54.00	-18.08	Average	233	302	P
4	4924.00	-7.19	54.08	46.89	74.00	-27.11	Peak	233	302	P
5	7386.00	-3.39	43.32	39.93	54.00	-14.07	Average	201	331	P
6	7386.00	-3.39	53.88	50.49	74.00	-23.51	Peak	201	331	P
7	12310.00	2.46	43.69	46.15	54.00	-7.85	Average	233	317	P
8	12310.00	2.46	54.02	56.48	74.00	-17.52	Peak	233	317	P

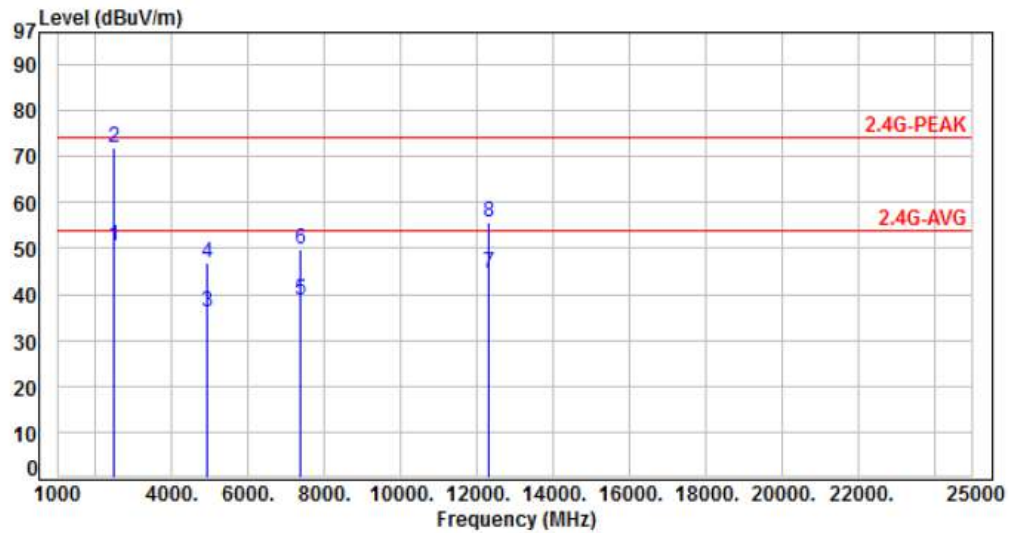
Note: Level=Reading+Factor

Margin=Level-Limit

Factor=Antenna Factor + cable loss - Amplifier Factor



Power	: PoE	Pol/Phase	: HORIZONTAL
Test Mode	: Mode 3, CH11	Temperature	: 25 °C
Test Date	: Nov. 26, 2016	Humidity	: 63 %



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	2483.50	-15.48	65.94	50.46	54.00	-3.54	Average	335	283	P
2	2483.50	-15.48	87.57	72.09	74.00	-1.91	Peak	359	283	P
3	4924.00	-7.19	43.44	36.25	54.00	-17.75	Average	320	8	P
4	4924.00	-7.19	54.03	46.84	74.00	-27.16	Peak	320	8	P
5	7386.00	-3.39	42.15	38.76	54.00	-15.24	Average	336	33	P
6	7386.00	-3.39	53.00	49.61	74.00	-24.39	Peak	336	33	P
7	12310.00	2.46	42.16	44.62	54.00	-9.38	Average	344	20	P
8	12310.00	2.46	53.16	55.62	74.00	-18.38	Peak	344	20	P

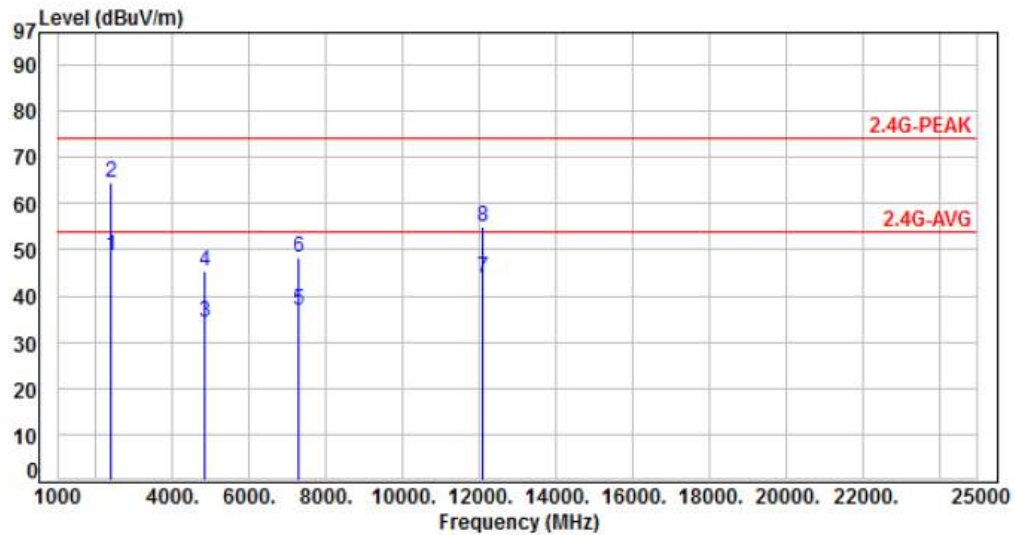
Note: Level=Reading+Factor

Margin=Level-Limit

Factor=Antenna Factor + cable loss - Amplifier Factor



Power	: PoE	Pol/Phase	: VERTICAL
Test Mode	: Mode 4, CH03	Temperature	: 25 °C
Test Date	: Nov. 26, 2016	Humidity	: 63 %



No.	Frequency (MHz)	Factor (dB)	Reading (dBUV)	Level (dBUV)	Limit (dBUV)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	2390.00	-15.75	64.55	48.80	54.00	-5.20	Average	100	225	P
2	2390.00	-15.75	80.20	64.45	74.00	-9.55	Peak	100	225	P
3	4844.00	-7.50	41.65	34.15	54.00	-19.85	Average	216	188	P
4	4844.00	-7.50	52.80	45.30	74.00	-28.70	Peak	216	188	P
5	7266.00	-3.57	40.59	37.02	54.00	-16.98	Average	221	220	P
6	7266.00	-3.57	51.84	48.27	74.00	-25.73	Peak	221	220	P
7	12110.00	2.32	41.63	43.95	54.00	-10.05	Average	216	208	P
8	12110.00	2.32	52.63	54.95	74.00	-19.05	Peak	216	208	P

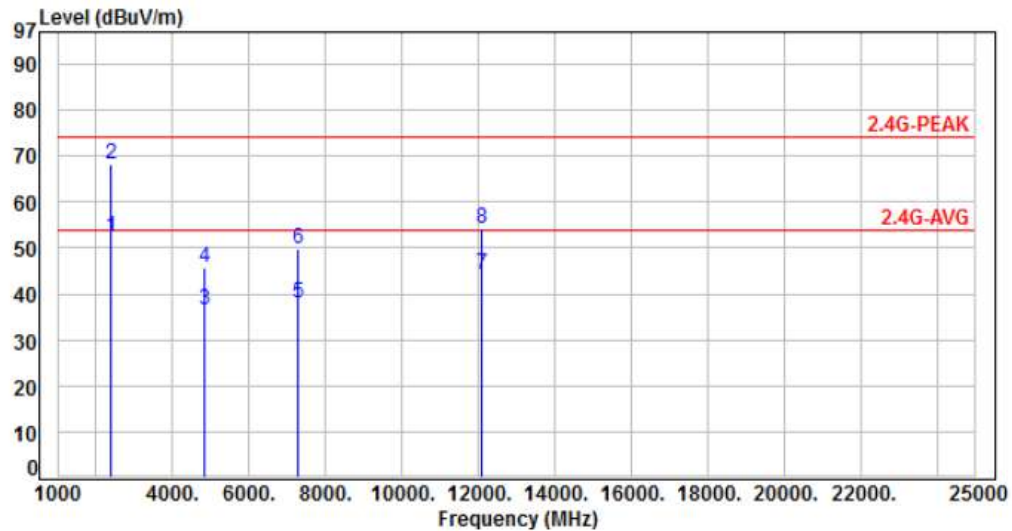
Note: Level=Reading+Factor

Margin=Level-Limit

Factor=Antenna Factor + cable loss - Amplifier Factor



Power	: PoE	Pol/Phase	: HORIZONTAL
Test Mode	: Mode 4, CH03	Temperature	: 25 °C
Test Date	: Nov. 26, 2016	Humidity	: 63 %



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	2390.00	-15.75	68.15	52.40	54.00	-1.60	Average	301	266	P
2	2390.00	-15.75	83.96	68.21	74.00	-5.79	Peak	301	266	P
3	4844.00	-7.50	43.88	36.38	54.00	-17.62	Average	228	241	P
4	4844.00	-7.50	53.20	45.70	74.00	-28.30	Peak	228	241	P
5	7266.00	-3.57	41.58	38.01	54.00	-15.99	Average	207	211	P
6	7266.00	-3.57	53.40	49.83	74.00	-24.17	Peak	207	211	P
7	12110.00	2.32	41.97	44.29	54.00	-9.71	Average	209	198	P
8	12110.00	2.32	52.04	54.36	74.00	-19.64	Peak	209	198	P

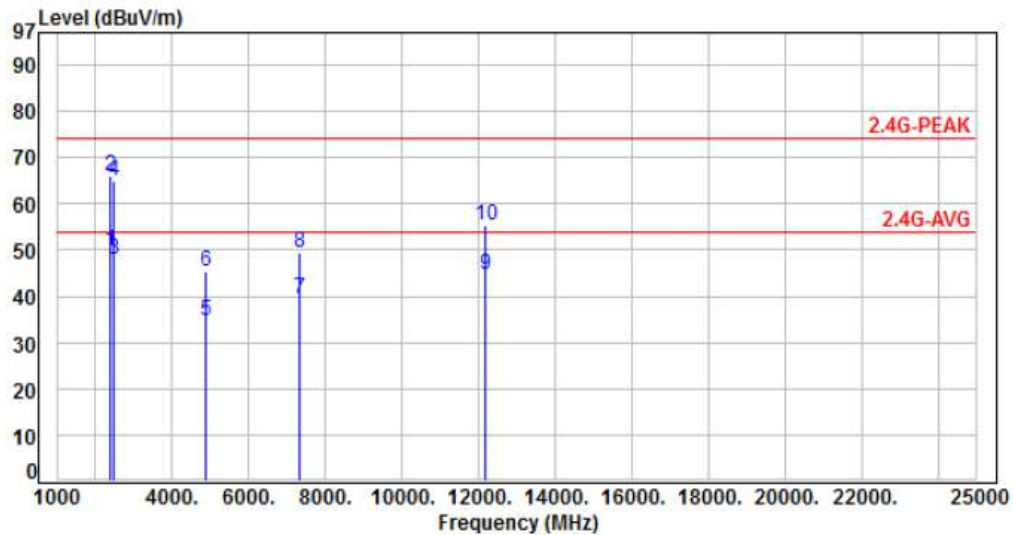
Note: Level=Reading+Factor

Margin=Level-Limit

Factor=Antenna Factor + cable loss - Amplifier Factor



Power	:	PoE	Pol/Phase	:	VERTICAL
Test Mode	:	Mode 4, CH06	Temperature	:	25 °C
Test Date	:	Nov. 26, 2016	Humidity	:	63 %



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	2390.00	-15.75	65.39	49.64	54.00	-4.36	Average	176	205	P
2	2390.00	-15.75	81.70	65.95	74.00	-8.05	Peak	176	205	P
3	2483.50	-15.48	63.59	48.11	54.00	-5.89	Average	253	317	P
4	2483.50	-15.48	80.40	64.92	74.00	-9.08	Peak	253	317	P
5	4874.00	-7.39	42.12	34.73	54.00	-19.27	Average	241	196	P
6	4874.00	-7.39	52.75	45.36	74.00	-28.64	Peak	241	196	P
7	7311.00	-3.50	42.88	39.38	54.00	-14.62	Average	296	300	P
8	7311.00	-3.50	53.02	49.52	74.00	-24.48	Peak	296	300	P
9	12185.00	2.37	42.39	44.76	54.00	-9.24	Average	289	304	P
10	12185.00	2.37	53.01	55.38	74.00	-18.62	Peak	289	304	P

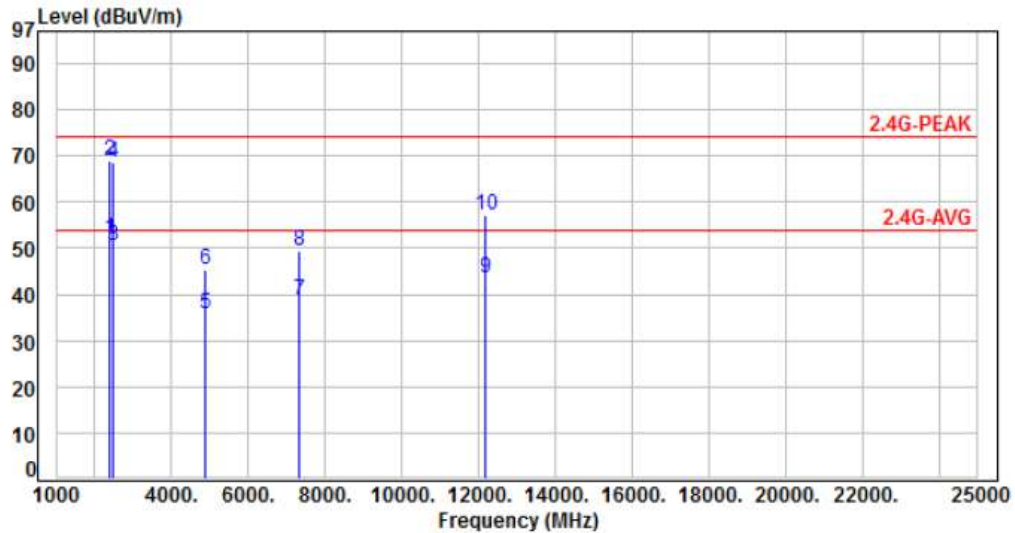
Note: Level=Reading+Factor

Margin=Level-Limit

Factor=Antenna Factor + cable loss - Amplifier Factor



Power	: PoE	Pol/Phase	: HORIZONTAL
Test Mode	: Mode 4, CH06	Temperature	: 25 °C
Test Date	: Nov. 26, 2016	Humidity	: 63 %



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	2390.00	-15.75	67.87	52.12	54.00	-1.88	Average	252	18	P
2	2390.00	-15.75	84.89	69.14	74.00	-4.86	Peak	252	18	P
3	2483.50	-15.48	65.96	50.48	54.00	-3.52	Average	240	273	P
4	2483.50	-15.48	84.10	68.62	74.00	-5.38	Peak	240	273	P
5	4874.00	-7.39	43.02	35.63	54.00	-18.37	Average	255	301	P
6	4874.00	-7.39	52.64	45.25	74.00	-28.75	Peak	255	301	P
7	7311.00	-3.50	42.09	38.59	54.00	-15.41	Average	219	322	P
8	7311.00	-3.50	53.02	49.52	74.00	-24.48	Peak	219	322	P
9	12185.00	2.37	41.16	43.53	54.00	-10.47	Average	306	44	P
10	12185.00	2.37	54.93	57.30	74.00	-16.70	Peak	306	44	P

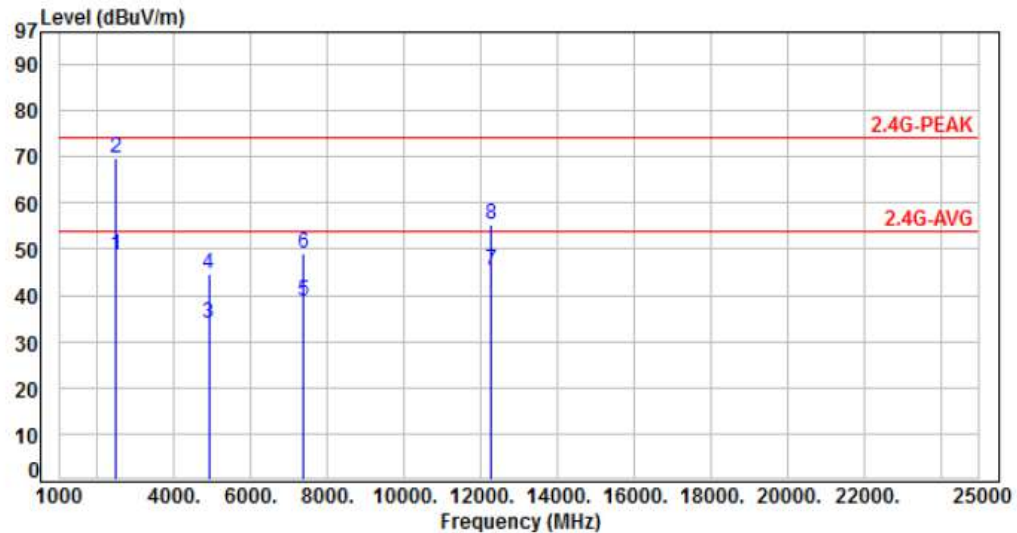
Note: Level=Reading+Factor

Margin=Level-Limit

Factor=Antenna Factor + cable loss - Amplifier Factor



Power	: PoE	Pol/Phase	: VERTICAL
Test Mode	: Mode 4, CH09	Temperature	: 25 °C
Test Date	: Nov. 26, 2016	Humidity	: 63 %



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	2483.50	-15.48	64.23	48.75	54.00	-5.25	Average	390	228	P
2	2483.50	-15.48	85.16	69.68	74.00	-4.32	Peak	390	228	P
3	4904.00	-7.26	41.19	33.93	54.00	-20.07	Average	188	248	P
4	4904.00	-7.26	51.93	44.67	74.00	-29.33	Peak	188	248	P
5	7356.00	-3.42	42.05	38.63	54.00	-15.37	Average	244	249	P
6	7356.00	-3.42	52.35	48.93	74.00	-25.07	Peak	244	249	P
7	12260.00	2.43	42.98	45.41	54.00	-8.59	Average	249	198	P
8	12260.00	2.43	53.01	55.44	74.00	-18.56	Peak	249	198	P

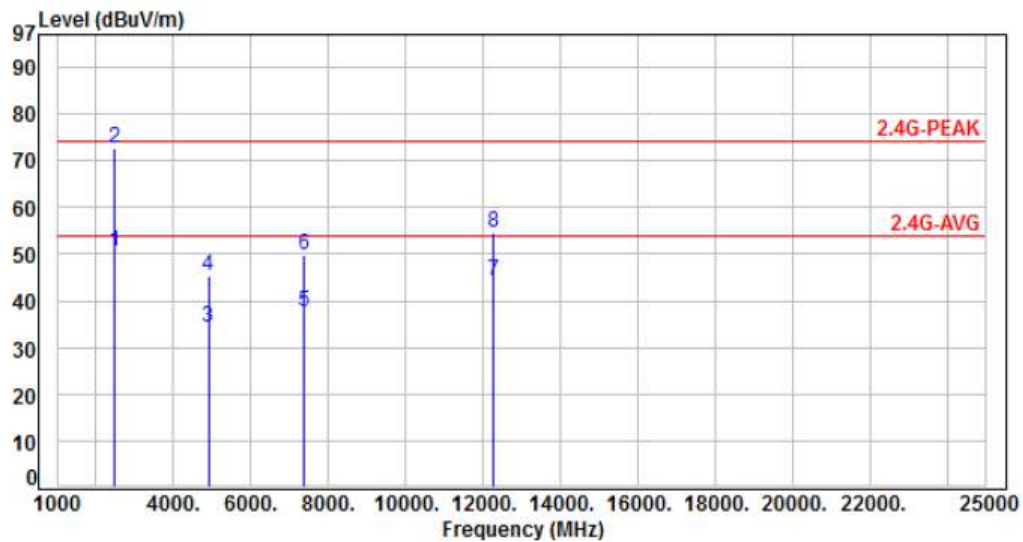
Note: Level=Reading+Factor

Margin=Level-Limit

Factor=Antenna Factor + cable loss - Amplifier Factor



Power	:	PoE	Pol/Phase	:	HORIZONTAL
Test Mode	:	Mode 4, CH09	Temperature	:	25 °C
Test Date	:	Nov. 26, 2016	Humidity	:	63 %



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	2483.50	-15.48	66.12	50.64	54.00	-3.36	Average	362	284	P
2	2483.50	-15.48	87.98	72.50	74.00	-1.50	Peak	362	284	P
3	4904.00	-7.26	41.48	34.22	54.00	-19.78	Average	355	282	P
4	4904.00	-7.26	52.59	45.33	74.00	-28.67	Peak	355	282	P
5	7356.00	-3.42	40.94	37.52	54.00	-16.48	Average	320	249	P
6	7356.00	-3.42	53.19	49.77	74.00	-24.23	Peak	320	249	P
7	12260.00	2.43	41.88	44.31	54.00	-9.69	Average	320	319	P
8	12260.00	2.43	52.08	54.51	74.00	-19.49	Peak	320	319	P

Note: Level=Reading+Factor

Margin=Level-Limit

Factor=Antenna Factor + cable loss - Amplifier Factor



6.7 Restricted Bands of Operation

Only spurious emissions are permitted in any of the frequency bands listed below:

MHz	MHz	MHz	GHz
0.09000 – 0.11000	16.42000 – 16.42300	399.9 – 410.0	4.500 – 5.250
0.49500 – 0.505**	16.69475 – 16.69525	608.0 – 614.0	5.350 – 5.460
2.17350 – 2.19050	16.80425 – 16.80475	960.0 – 1240.0	7.250 – 7.750
4.12500 – 4.12800	25.50000 – 25.67000	1300.0 – 1427.0	8.025 – 8.500
4.17725 – 4.17775	37.50000 – 38.25000	1435.0 – 1626.5	9.000 – 9.200
4.20725 – 4.20775	73.00000 – 74.60000	1645.5 – 1646.5	9.300 – 9.500
6.21500 – 6.21800	74.80000 – 75.20000	1660.0 – 1710.0	10.600 – 12.700
6.26775 – 6.26825	108.00000 – 121.94000	1718.8 – 1722.2	13.250 – 13.400
6.31175 – 6.31225	123.00000 – 138.00000	2200.0 – 2300.0	14.470 – 14.500
8.29100 – 8.29400	149.90000 – 150.05000	2310.0 – 2390.0	15.350 – 16.200
8.36200 – 8.36600	156.52475 – 156.52525	2483.5 – 2500.0	17.700 – 21.400
8.37625 – 8.38675	156.70000 – 156.90000	2655.0 – 2900.0	22.010 – 23.120
8.41425 – 8.41475	162.01250 – 167.17000	3260.0 – 3267.0	23.600 – 24.000
12.29000 – 12.29300	167.72000 – 173.20000	3332.0 – 3339.0	31.200 – 31.800
12.51975 – 12.52025	240.00000 – 285.00000	3345.8 – 3358.0	36.430 – 36.500
12.57675 – 12.57725	322.00000 – 335.40000	3600.0 – 4400.0	Above 38.6
13.36000 – 13.41000			

** : Until February 1, 1999, this restricted band shall be 0.490-0.510 MHz



7. Test of Conducted Spurious Emission

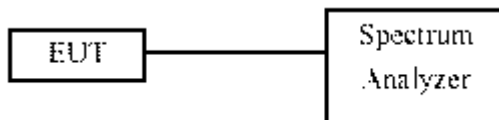
7.1 Test Limit

Below -20dB of the highest emission level of operating band (In 100 kHz Resolution Bandwidth)

7.2 Test Procedure

- The transmitter output was connected to the spectrum analyzer via a low lose cable.
- Set RBW of spectrum analyzer to 100 KHz and VBW of spectrum analyzer to 300 KHz with convenient frequency span including 100 KHz bandwidth from band edge.
- Peak conducted output power measured within any 100 kHz outside the authorized frequency band shall be attenuated by at least 20dB relative to the maximum measured in-band peak PSD level.
- The band edges was measured and recorded.

7.3 Test Setup Layout



7.4 Test Result and Data

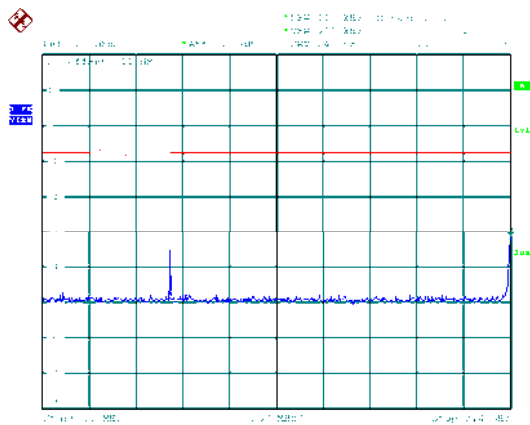
Test Result	: PASS	Temperature	: 22°C
Test Date	: Dec. 06, 2016	Humidity	: 67%

Note: Test plots refers to the following pages.

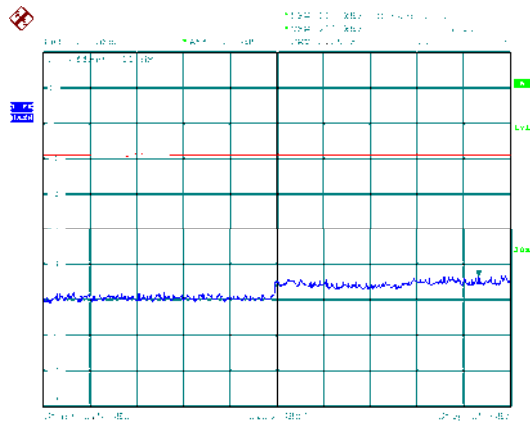
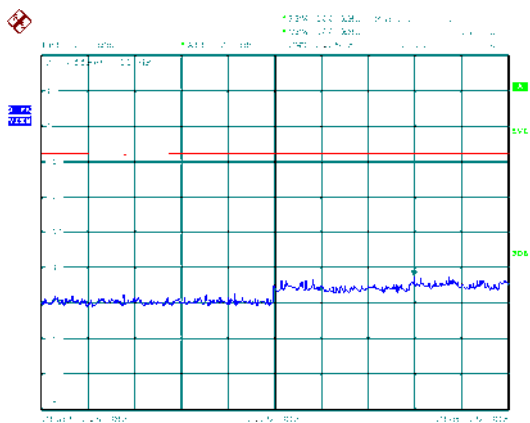
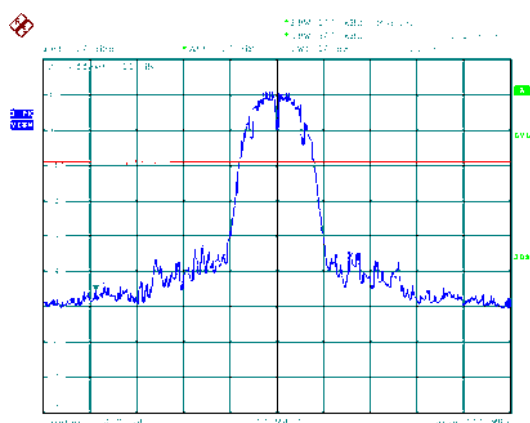
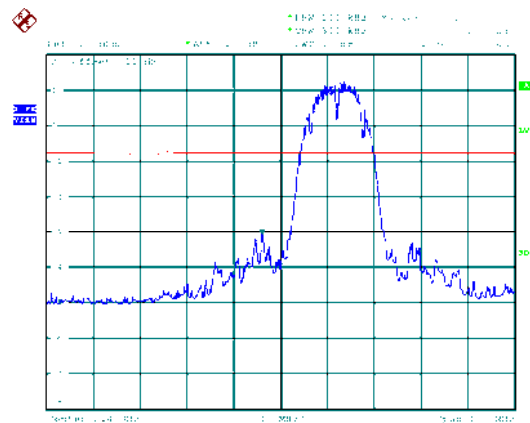
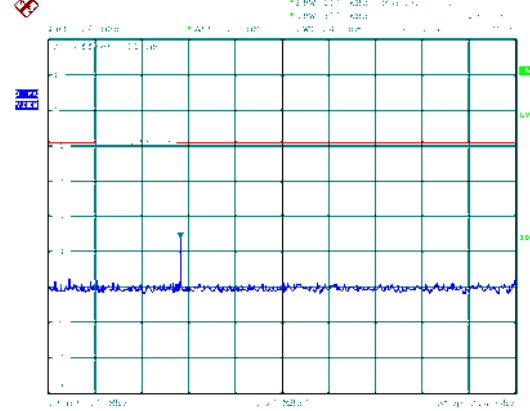


Antenna 1

Modulation Type: 802.11b, CH 01



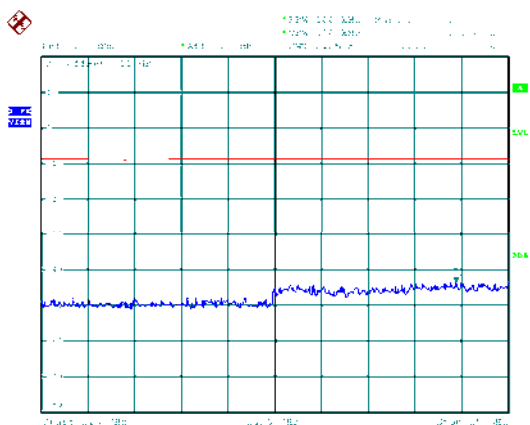
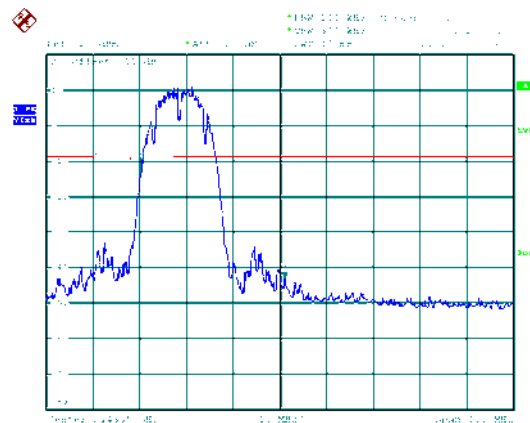
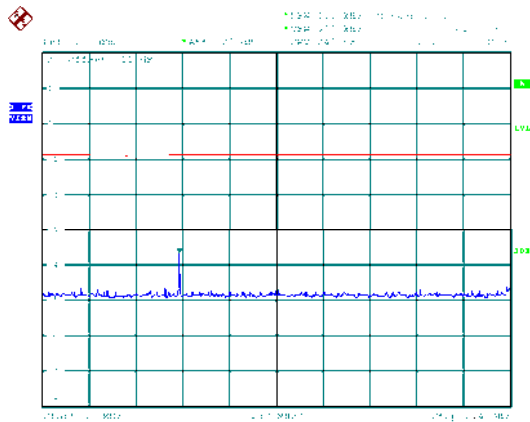
Modulation Type: 802.11b, CH 06





Antenna 1

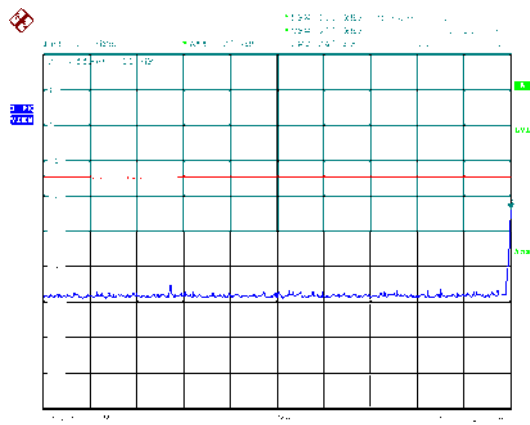
Modulation Type: 802.11b, CH 11



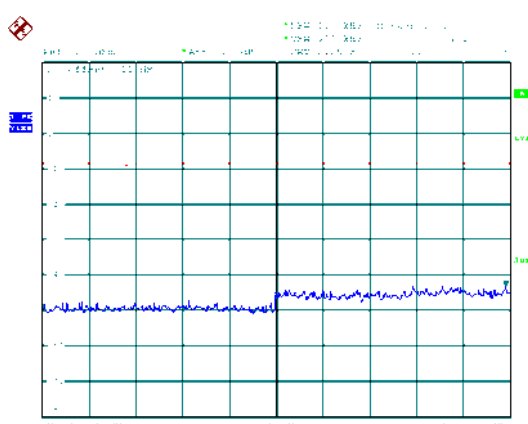
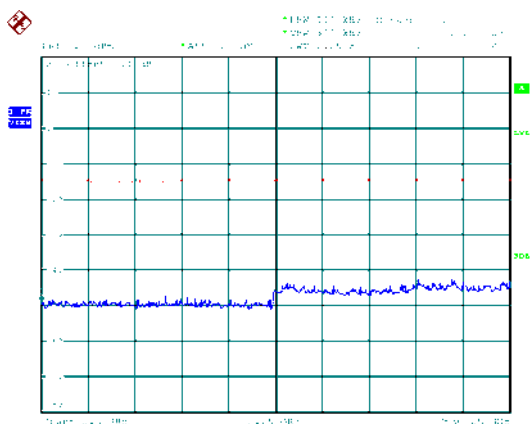
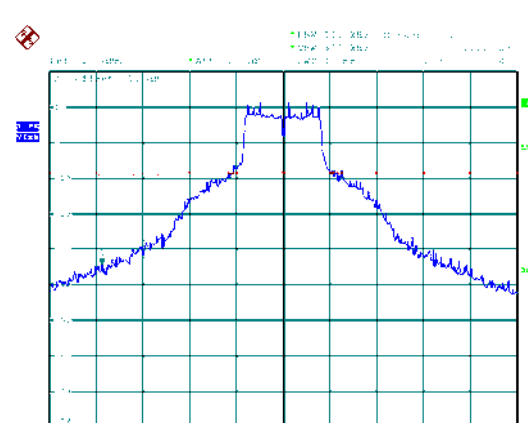
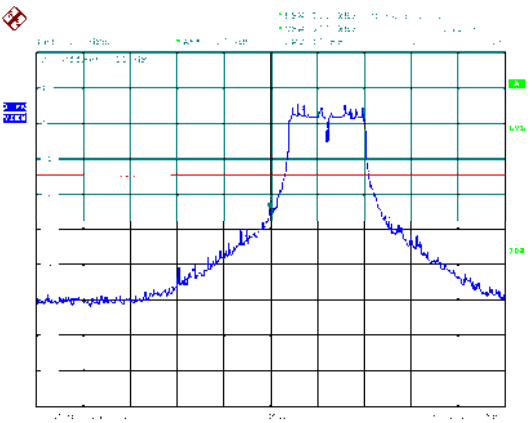
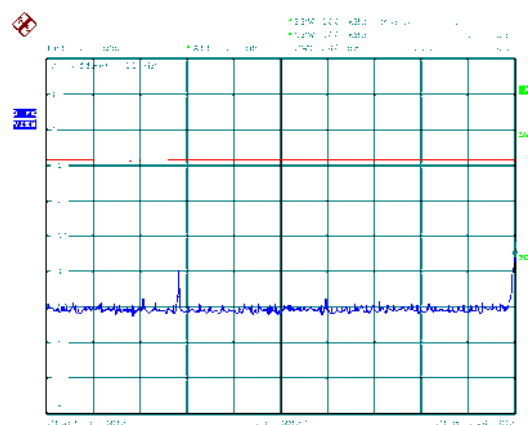


Antenna 1

Modulation Type: 802.11g, CH 01



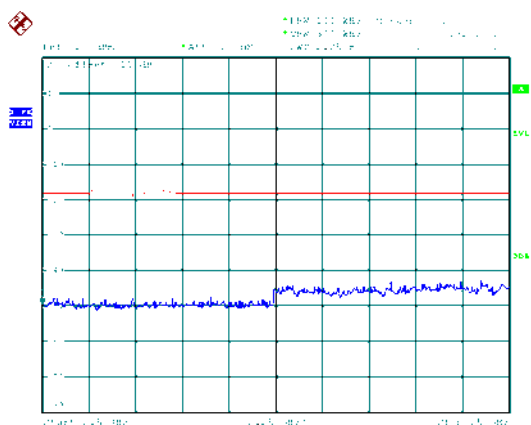
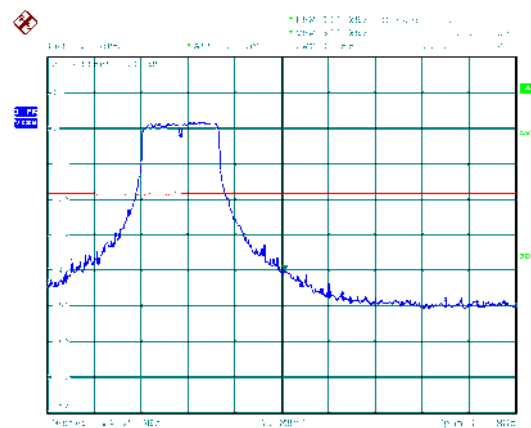
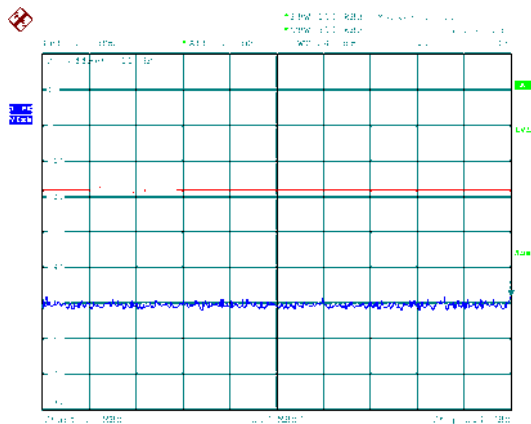
Modulation Type: 802.11g, CH 06





Antenna 1

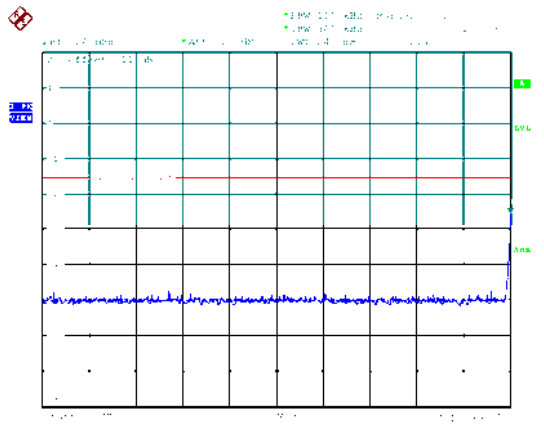
Modulation Type: 802.11g, CH 11



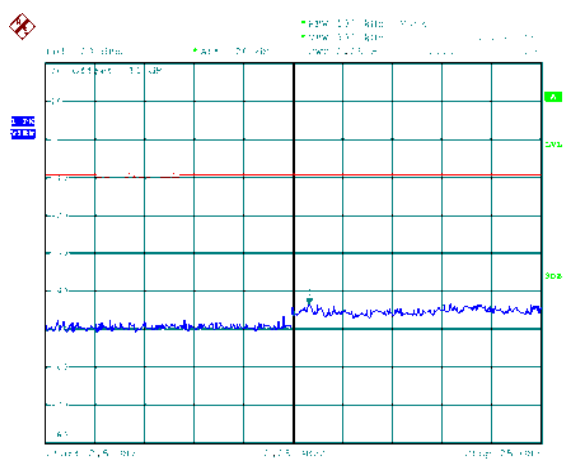
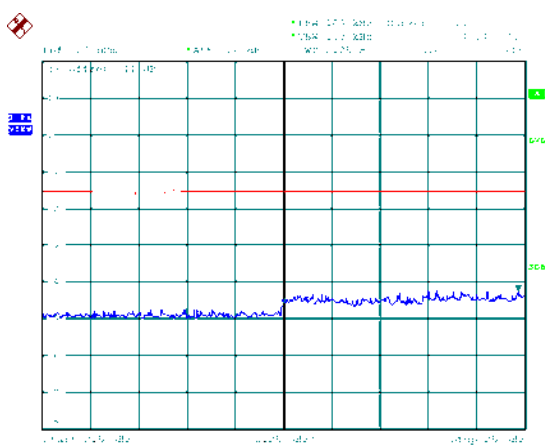
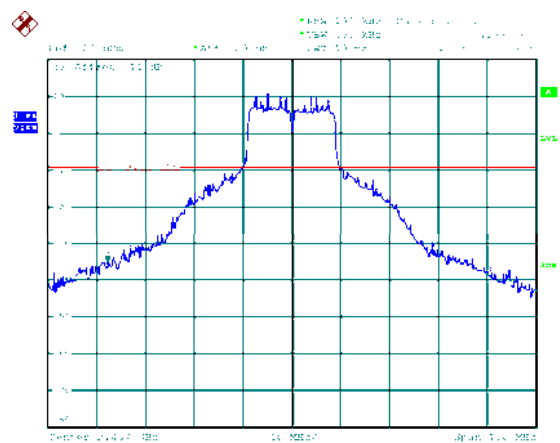
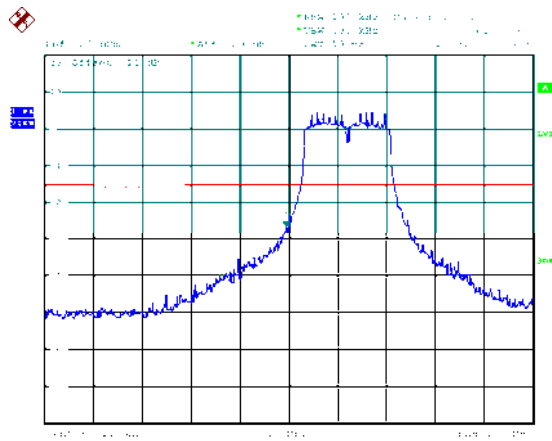
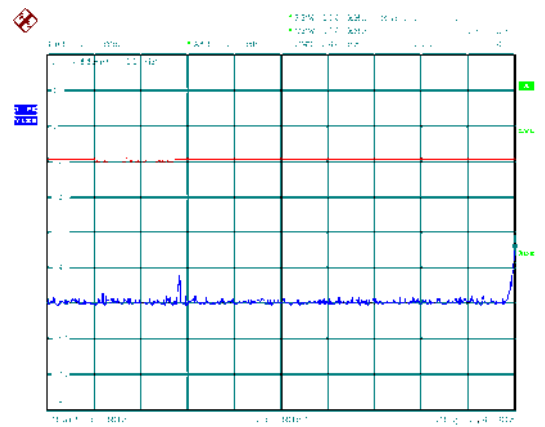


Antenna 1

Modulation Type: 802.11n HT20, CH01



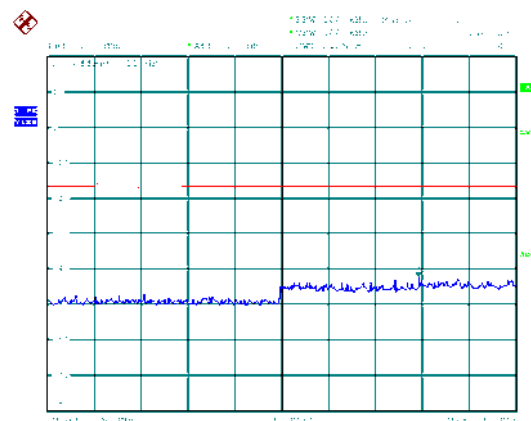
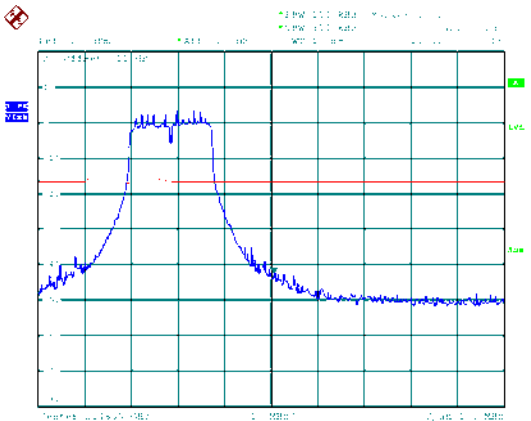
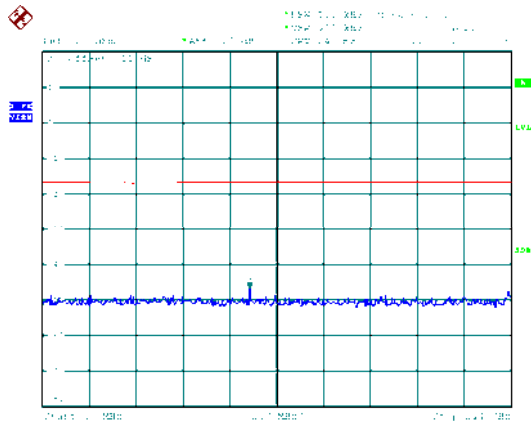
Modulation Type: 802.11n HT20, CH06





Antenna 1

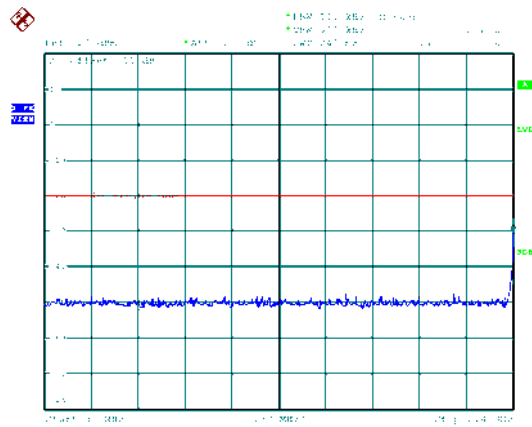
Modulation Type: 802.11n HT20, CH11



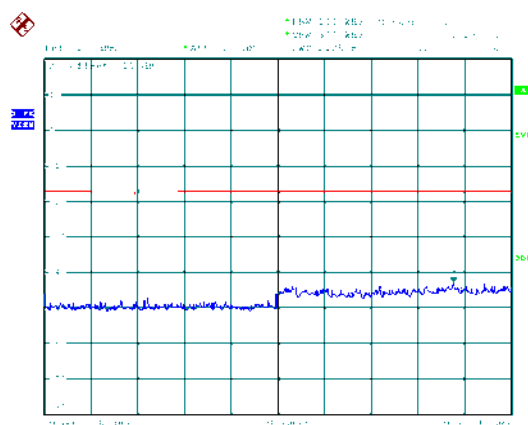
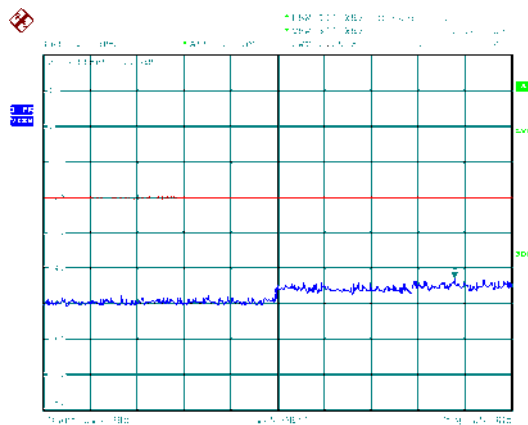
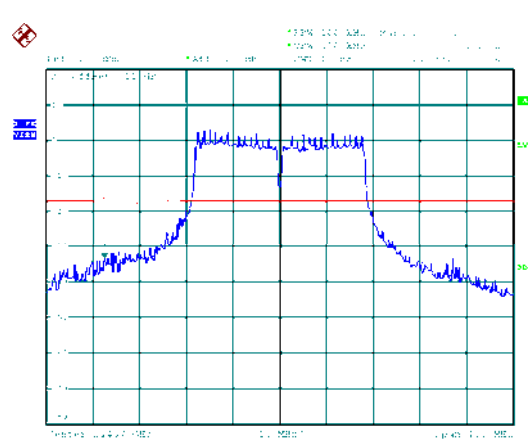
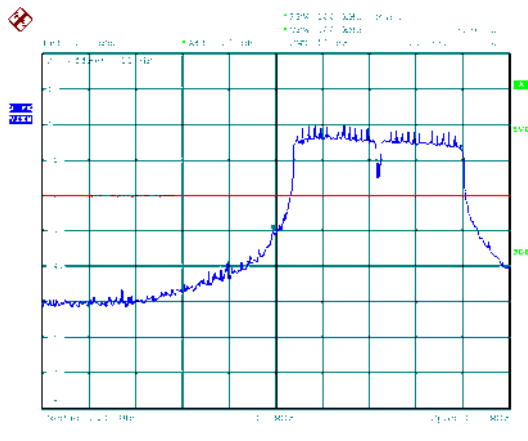
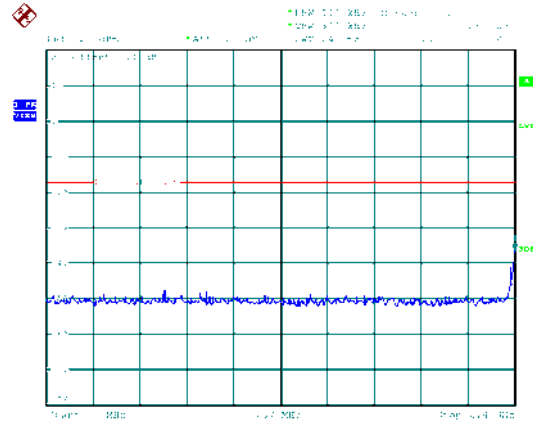


Antenna 1

Modulation Type: 802.11n HT40, CH03



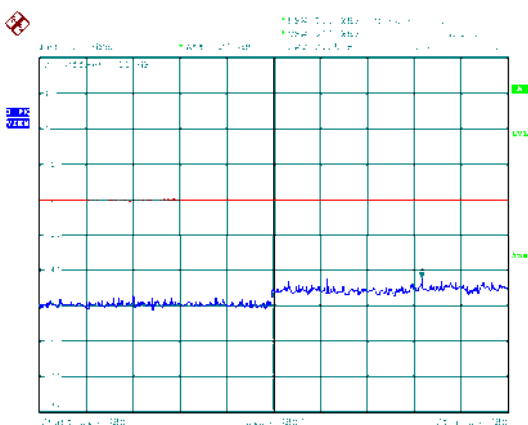
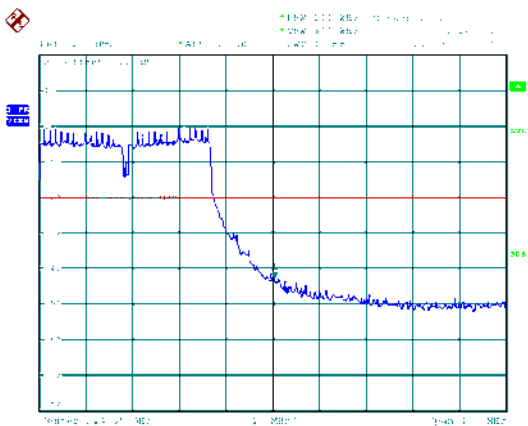
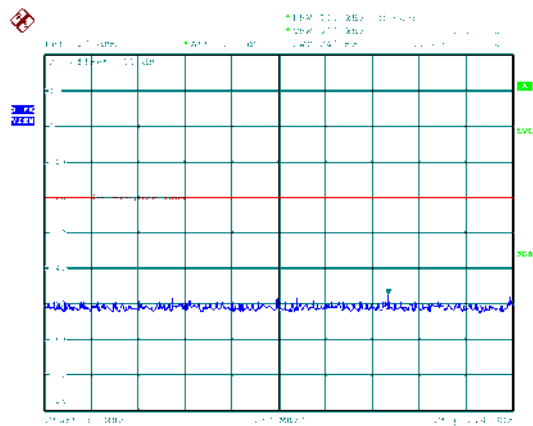
Modulation Type: 802.11n HT40, CH06





Antenna 1

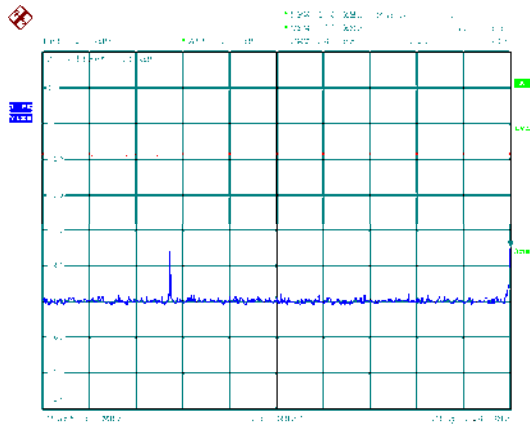
Modulation Type: 802.11n HT40, CH09



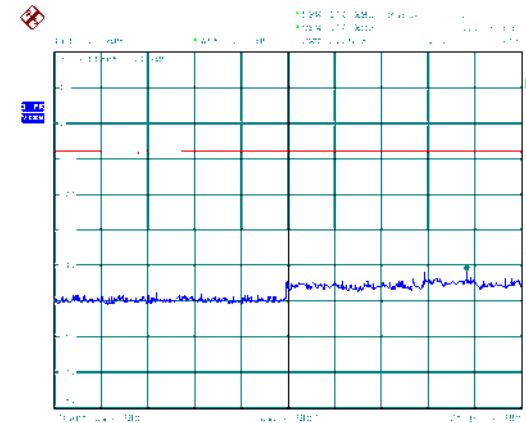
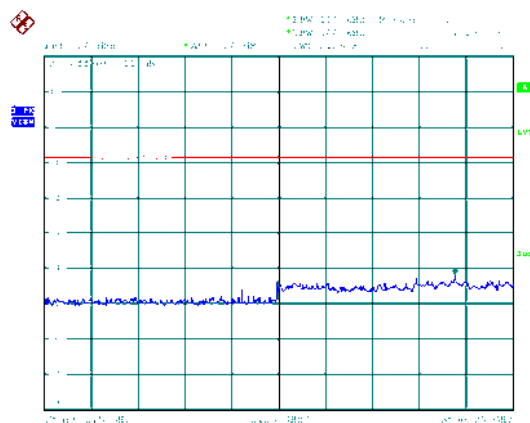
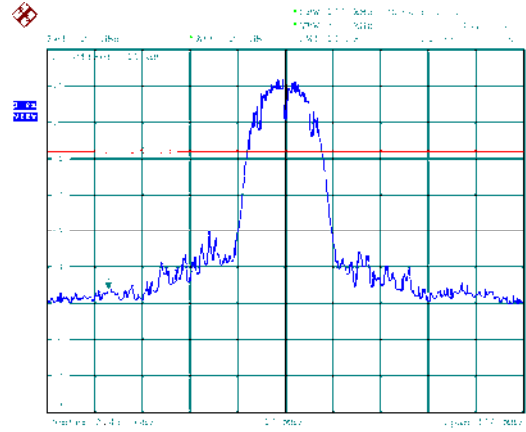
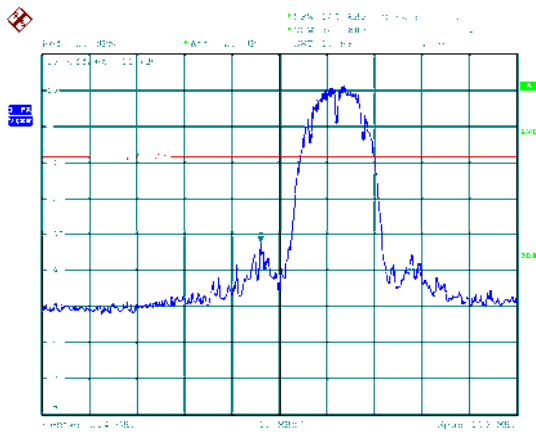
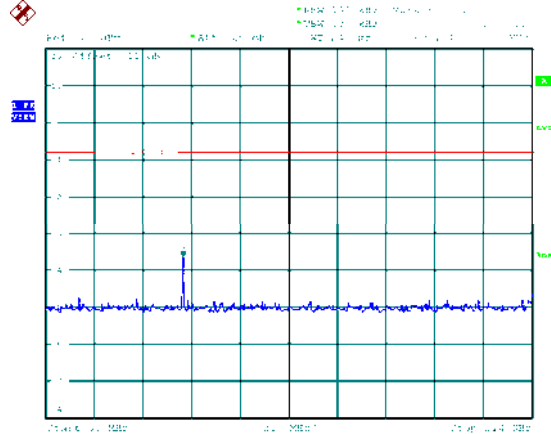


Antenna 2

Modulation Type: 802.11b, CH 01



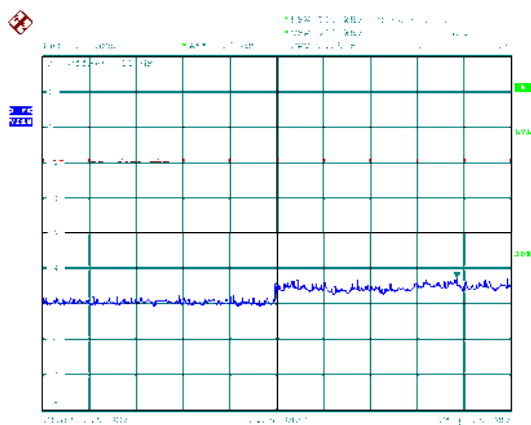
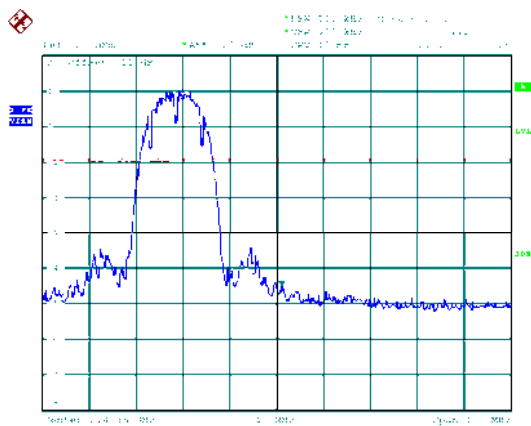
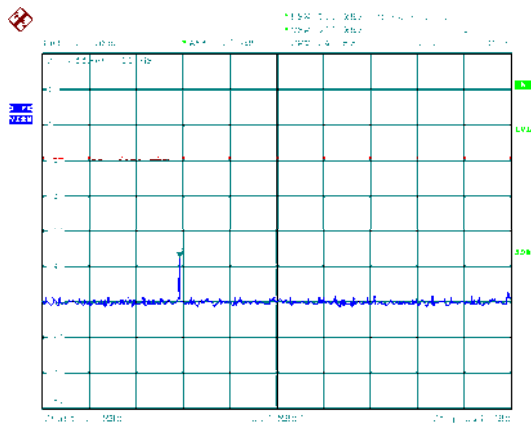
Modulation Type: 802.11b, CH 06





Antenna 2

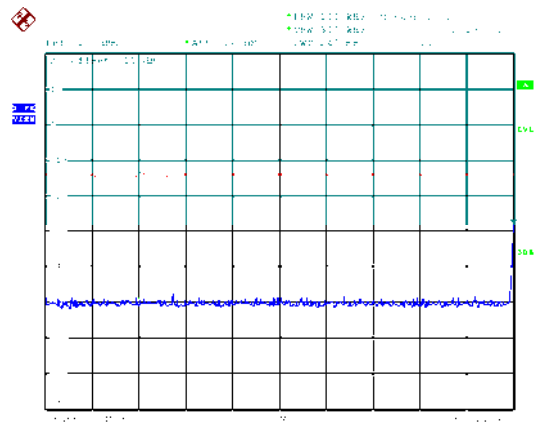
Modulation Type: 802.11b, CH 11



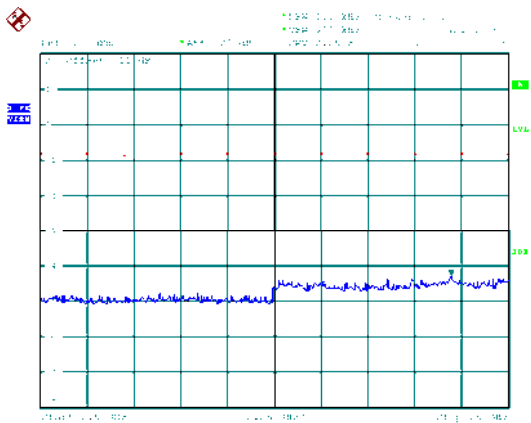
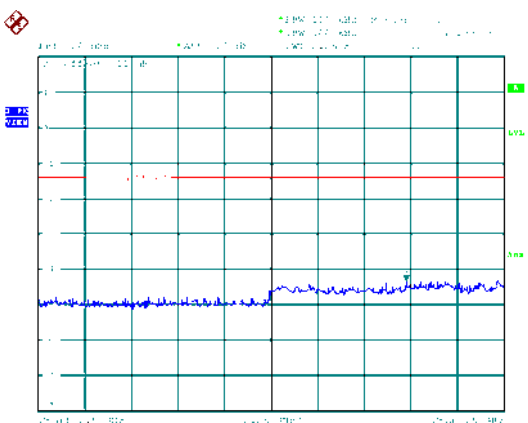
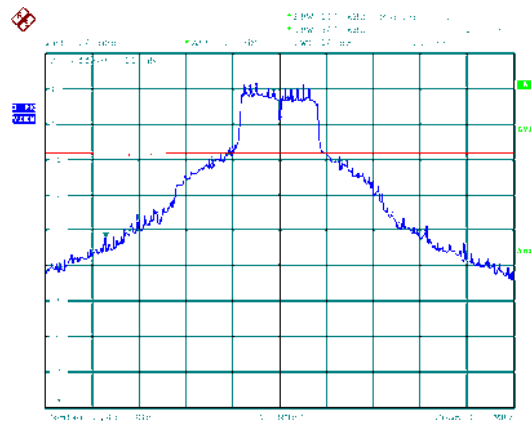
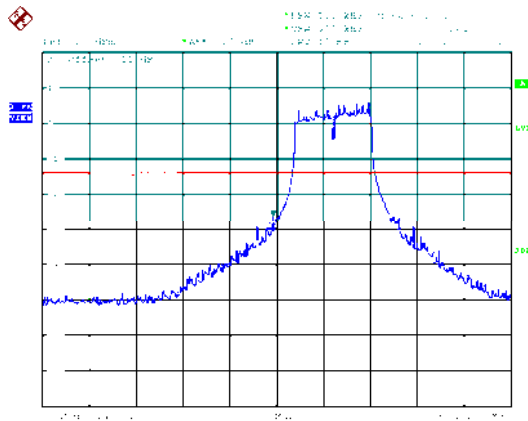
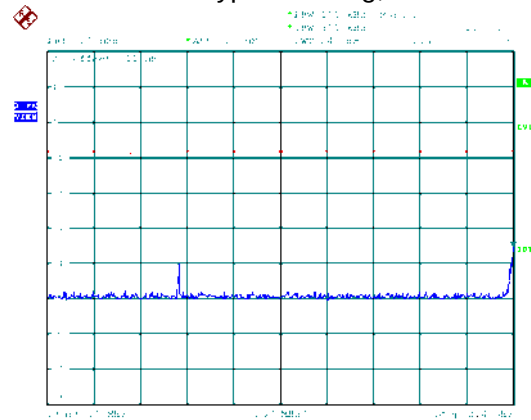


Antenna 2

Modulation Type: 802.11g, CH 01



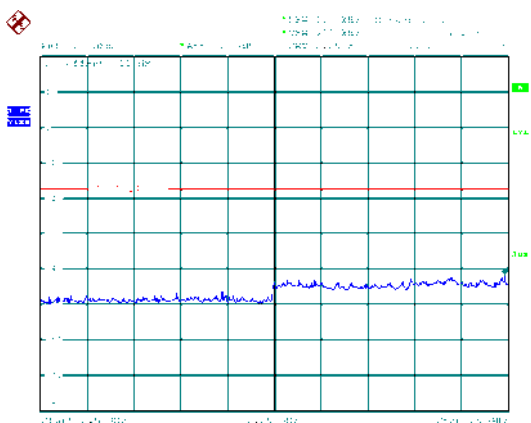
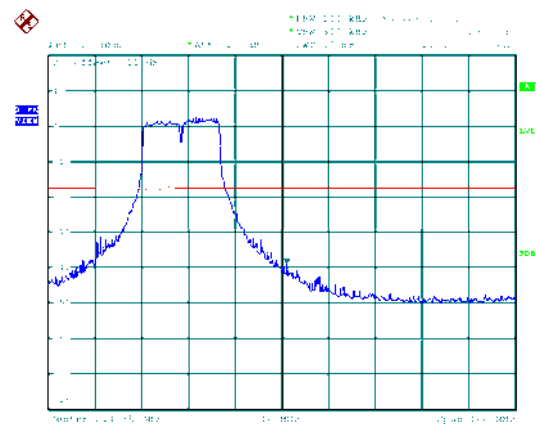
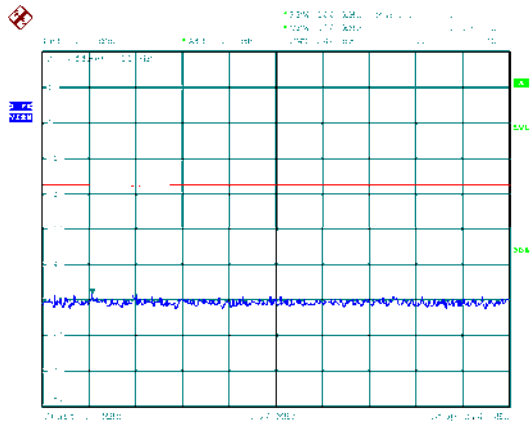
Modulation Type: 802.11g, CH 06





Antenna 2

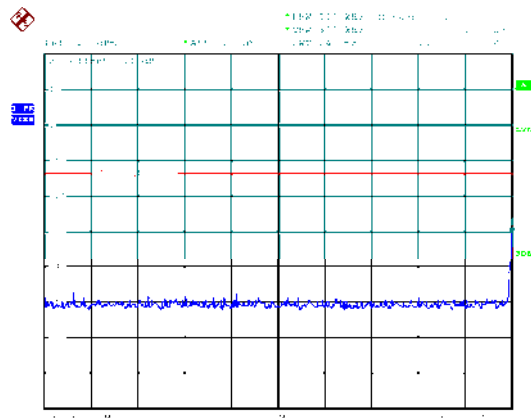
Modulation Type: 802.11g, CH 11





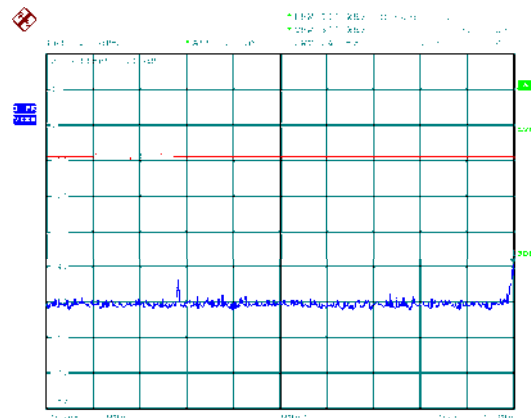
Antenna 2

Modulation Type: 802.11n HT20, CH01

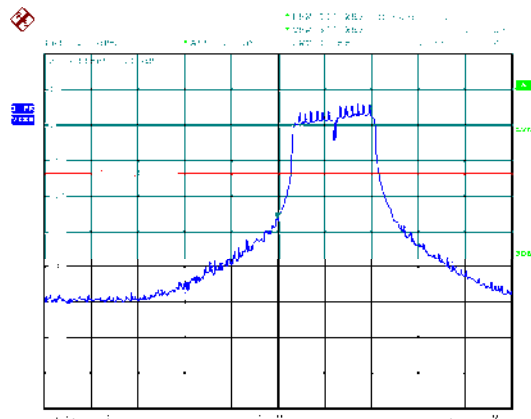


File: 1610202_01_04400417

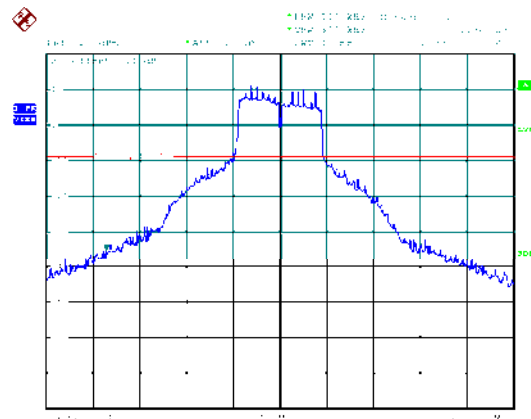
Modulation Type: 802.11n HT20, CH06



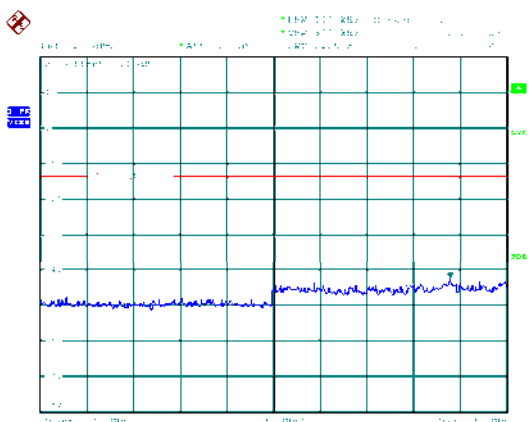
File: 1610202_06_04400417



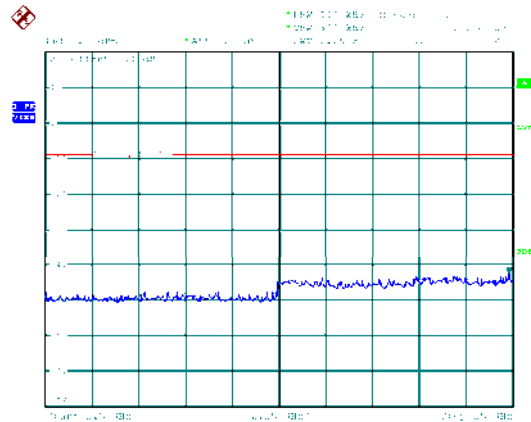
File: 1610202_01_04400417



File: 1610202_06_04400417



File: 1610202_01_04400417

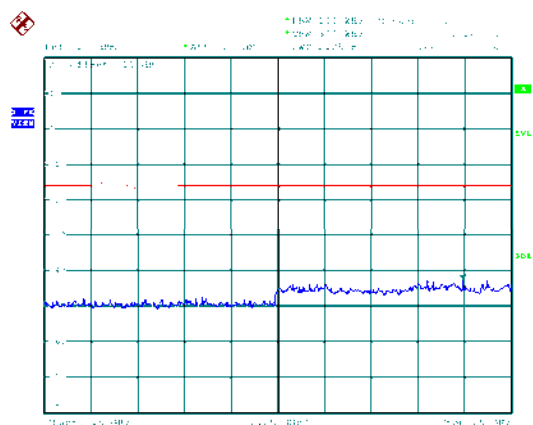
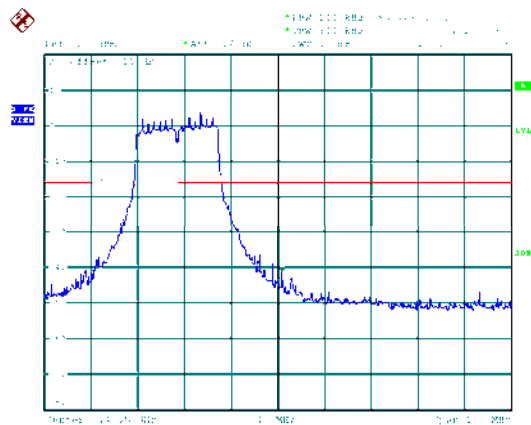
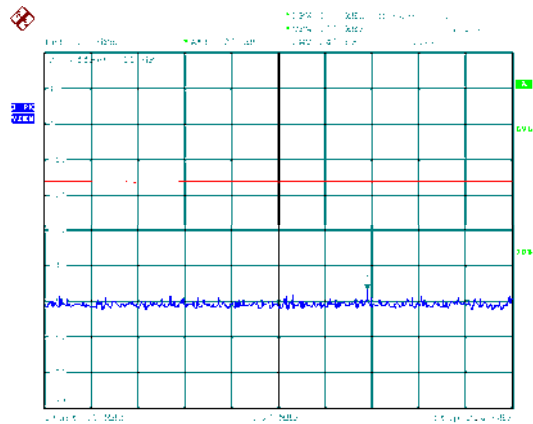


File: 1610202_06_04400417



Antenna 2

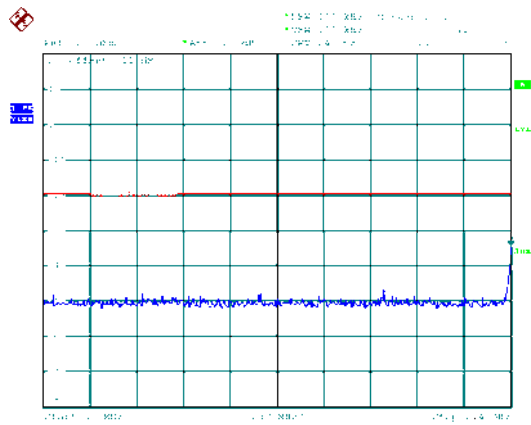
Modulation Type: 802.11n HT20, CH11



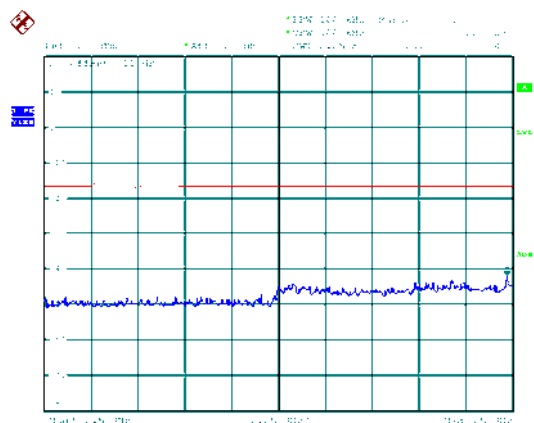
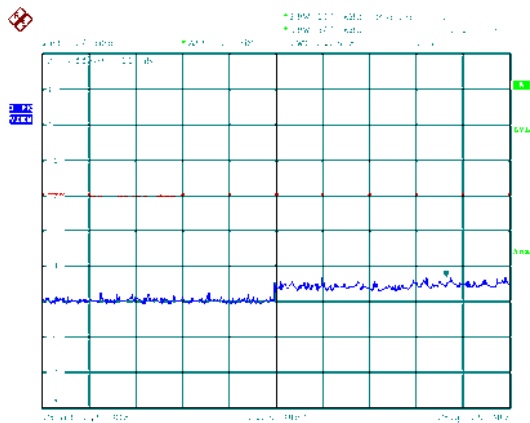
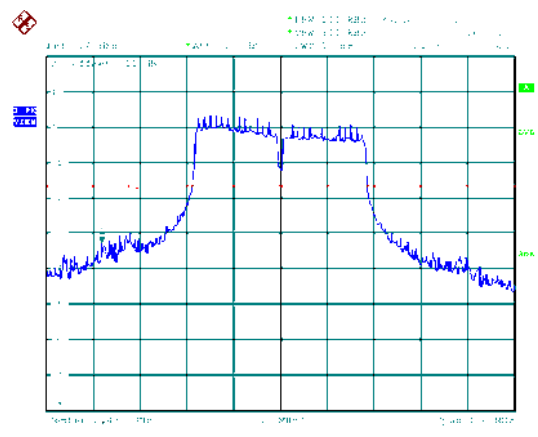
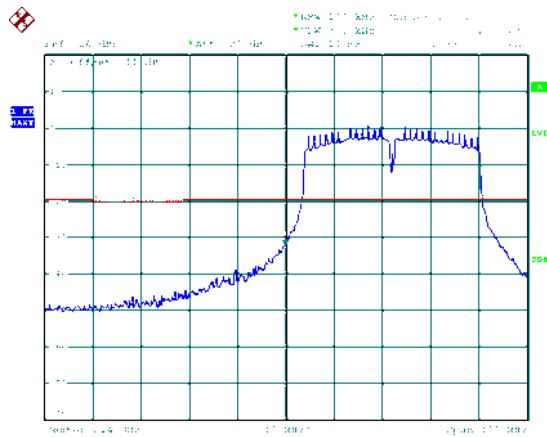
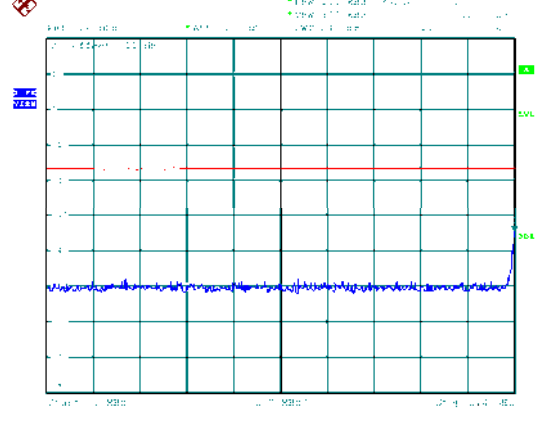


Antenna 2

Modulation Type: 802.11n HT40, CH03



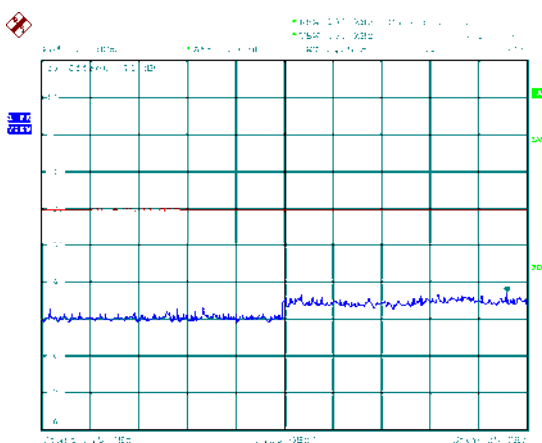
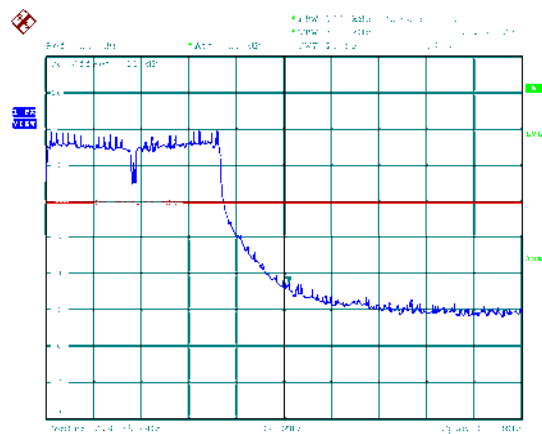
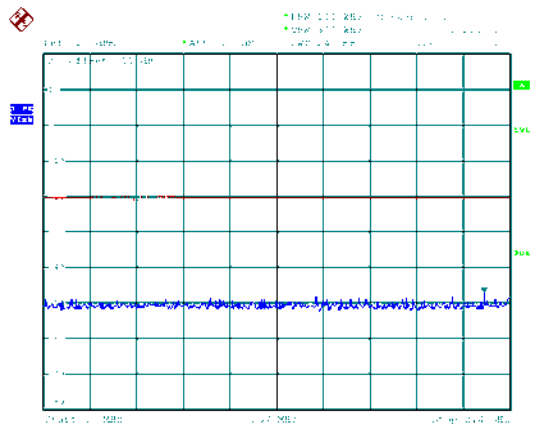
Modulation Type: 802.11n HT40, CH06





Antenna 2

Modulation Type: 802.11n HT40, CH09





8. 6dB Bandwidth Measurement Data

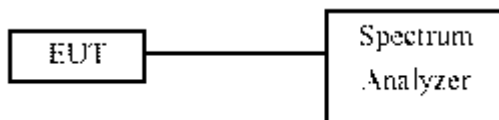
8.1 Test Limit

The minimum of 6dB Bandwidth Measurement is 0.5 MHz.

8.2 Test Procedures

- The transmitter output was connected to the spectrum analyzer.
- Set RBW of spectrum analyzer to 1~5% of the emission bandwidth and VBW $\geq 3 \times$ RBW.
- The 6 dB bandwidth is defined as the total spectrum the power of which is higher than peak power minus 6 dB.
- The 6dB Bandwidth was measured and recorded.

8.3 Test Setup Layout



8.4 Test Result and Data

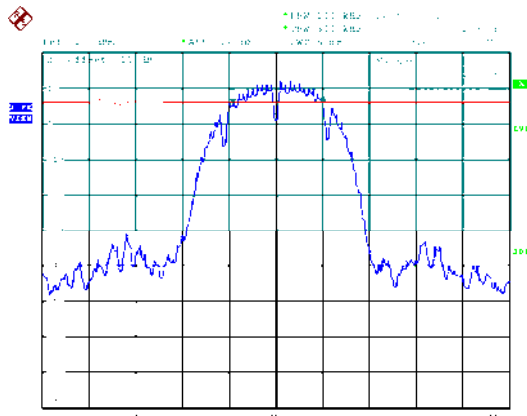
Temperature : 22°C Humidity : 67%
Test Date : Dec. 06, 2016

Modulation Type	Channel	Frequency (MHz)	6dB Bandwidth (MHz)		Limit (MHz)
			ANT 1	ANT 2	
IEEE 802.11b (1Mbps)	01	2412	9.60	9.60	0.5
	06	2437	9.90	9.80	0.5
	11	2462	10.10	10.10	0.5
IEEE 802.11g (6Mbps)	01	2412	16.40	16.40	0.5
	06	2437	16.40	16.30	0.5
	11	2462	16.40	16.40	0.5
IEEE 802.11n HT20 (6.5Mbps)	01	2412	17.60	17.00	0.5
	06	2437	17.60	17.60	0.5
	11	2462	17.60	17.30	0.5
IEEE 802.11n HT40 (13.5Mbps)	03	2422	35.60	35.60	0.5
	06	2437	36.20	35.80	0.5
	09	2452	36.20	36.40	0.5

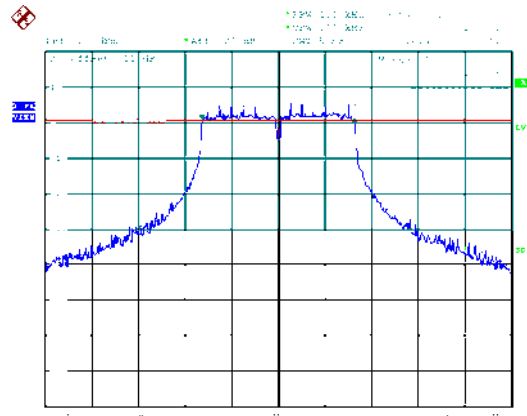


Antenna 1

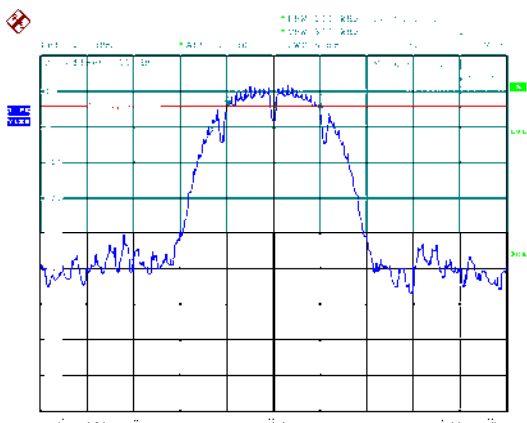
Modulation Type: 802.11b
CH01



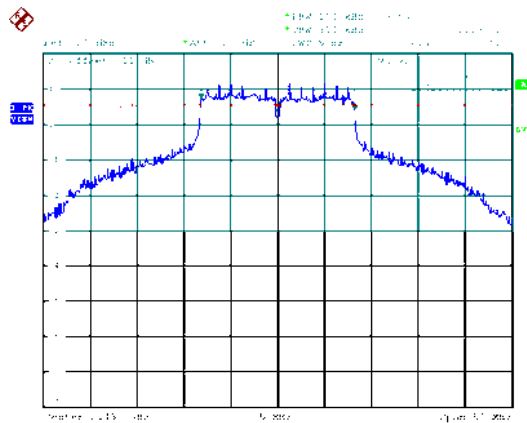
Modulation Type: 802.11g
CH01



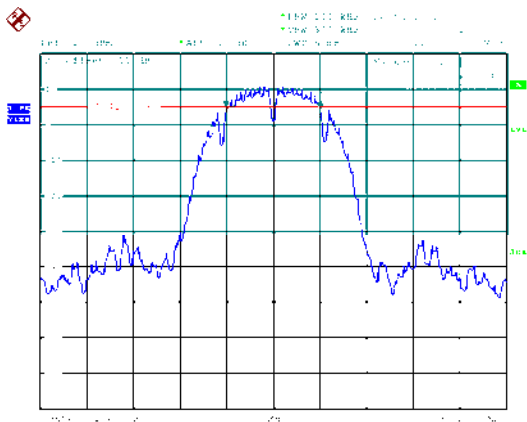
CH06



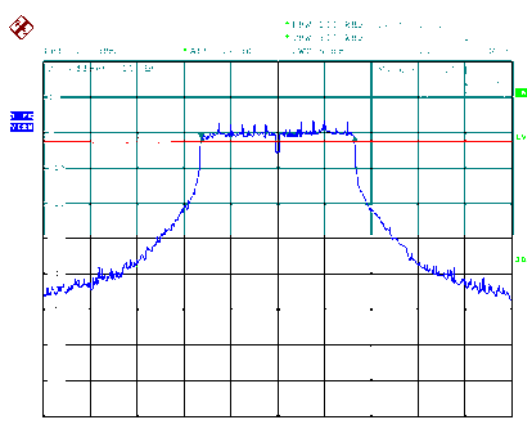
CH06



CH11



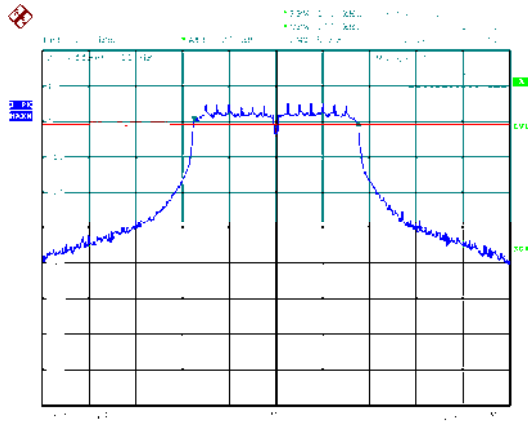
CH11



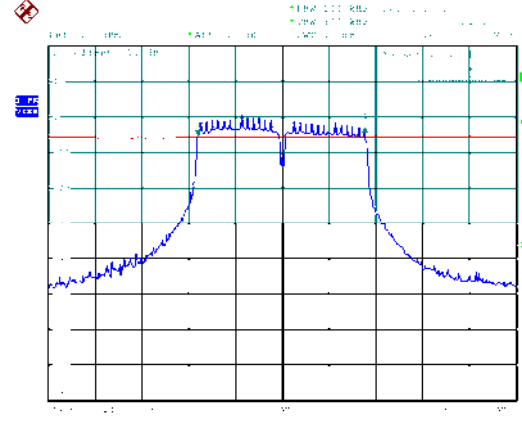


Antenna 1

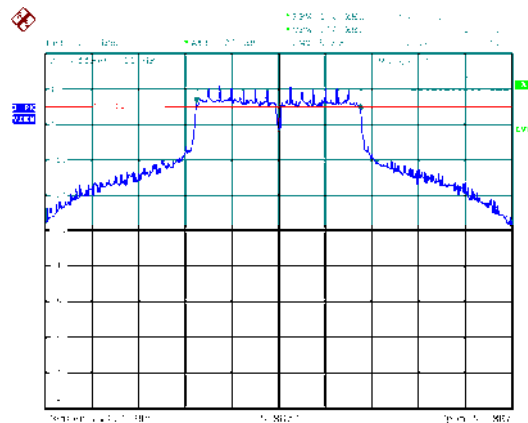
Modulation Type: 802.11n HT20
CH01



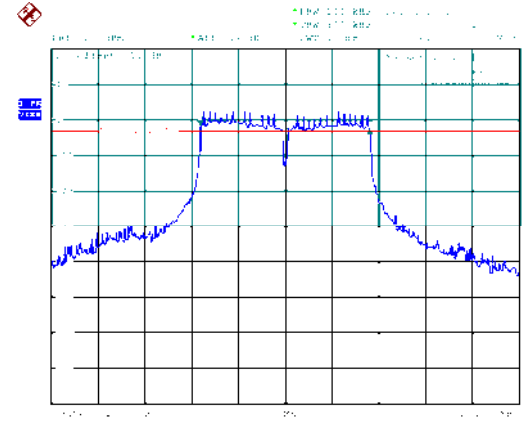
Modulation Type: 802.11n HT40
CH03



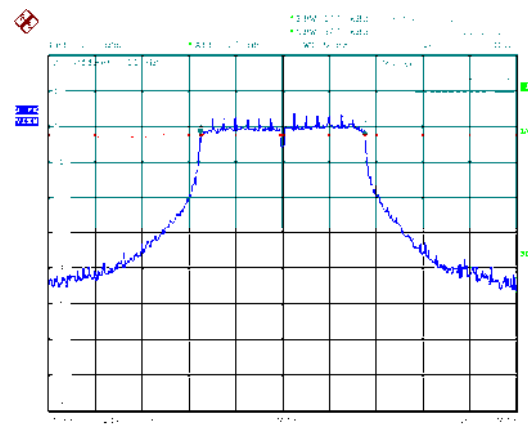
CH06



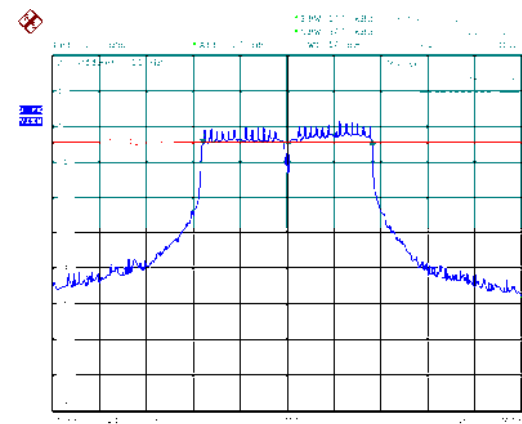
CH06



CH11



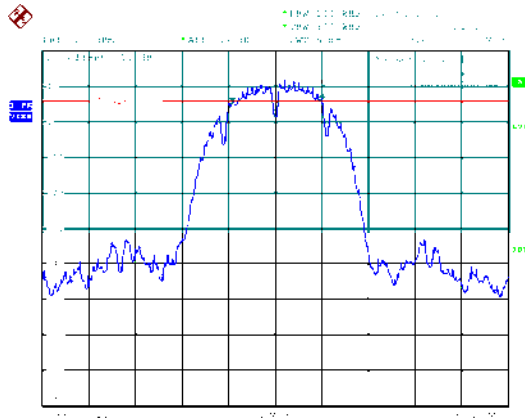
CH09



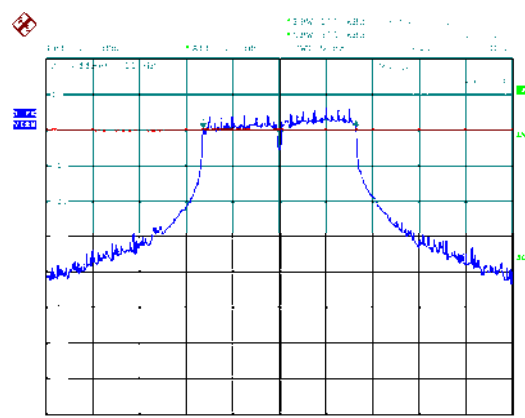


Antenna 2

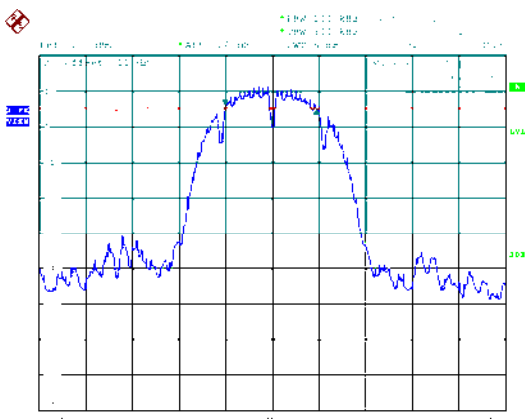
Modulation Type: 802.11b
CH01



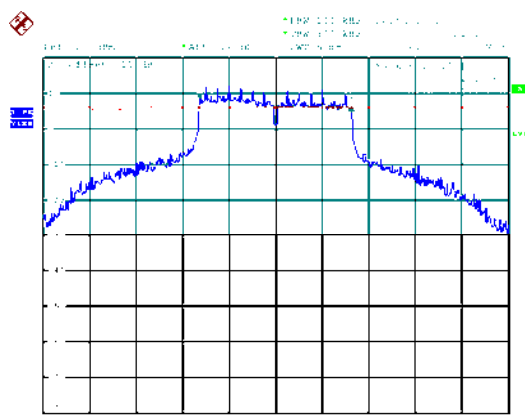
Modulation Type: 802.11g
CH01



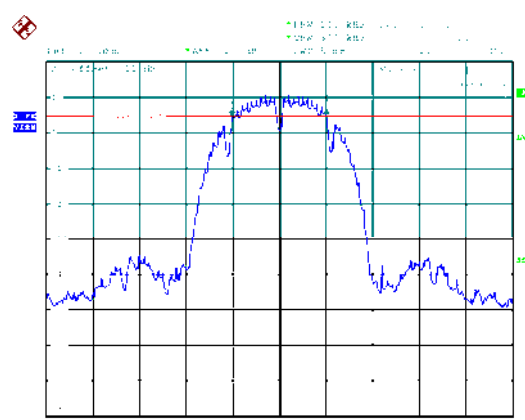
CH06



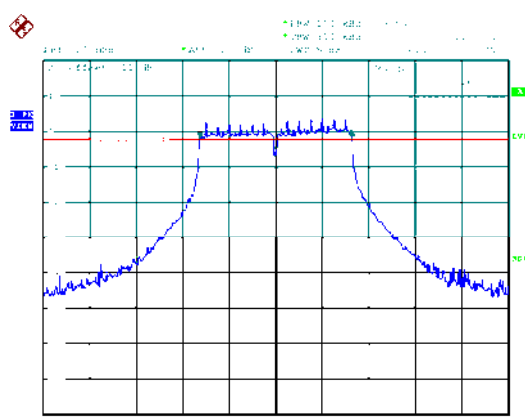
CH06



CH11



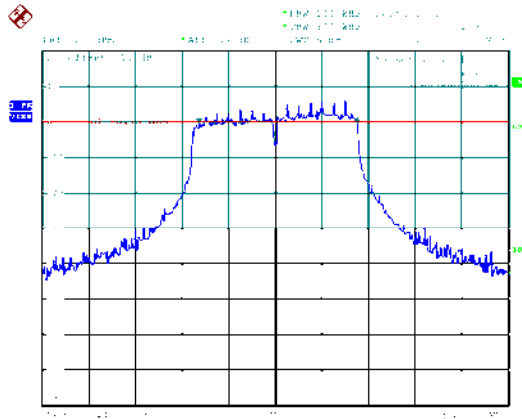
CH11



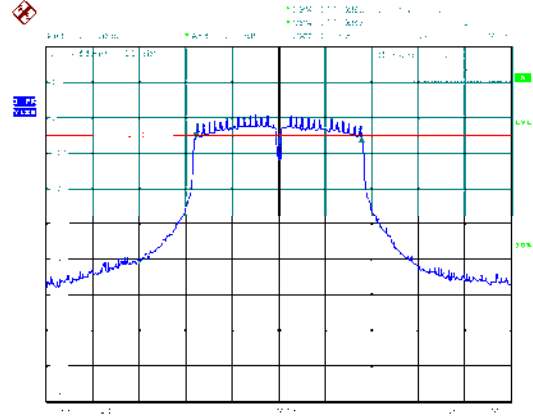


Antenna 2

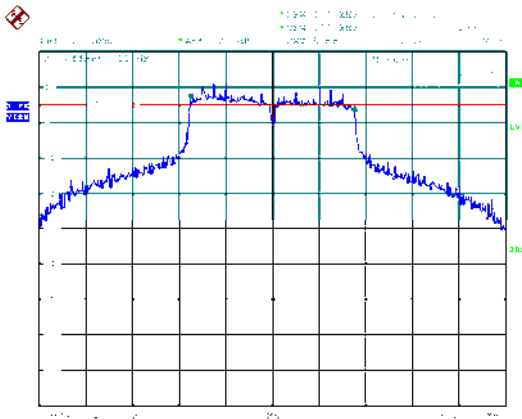
Modulation Type: 802.11n HT20
CH01



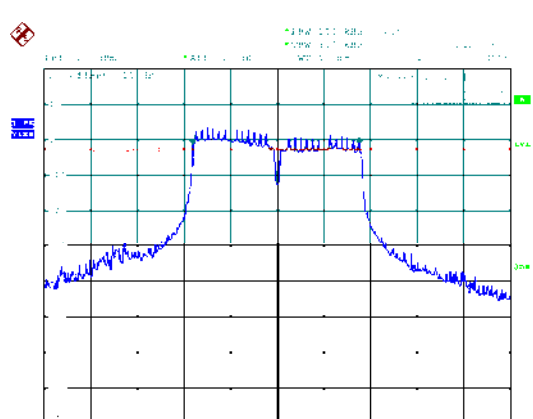
Modulation Type: 802.11n HT40
CH03



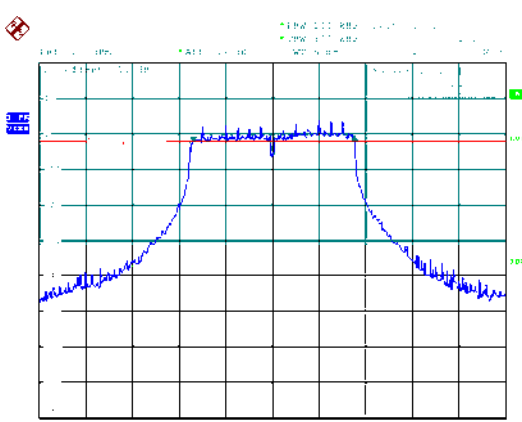
CH06



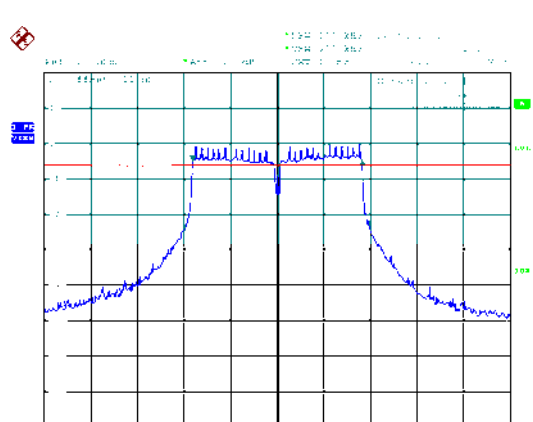
CH06



CH11



CH09





9. Maximum Peak and Average Output Power

9.1 Test Limit

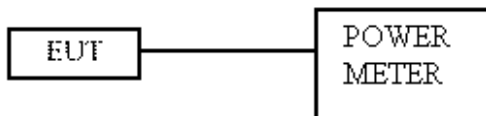
The Maximum Peak Output Power Measurement is 30dBm.

If transmitting antennas of directional gain greater than 6 dBi are used, the peak output power shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi

9.2 Test Procedures

The antenna port (RF output) of the EUT was connected to the input (RF input) of a power meter. Power was read directly from the meter and cable loss connection was added to the reading to obtain power at the EUT antenna terminal. The EUT Output Power was set to maximum to produce the worse case test result.

9.3 Test Setup Layout





9.4 Test Result and Data

Temperature : 22°C Humidity : 67%
Test Date : Dec. 06, 2016

Modulation Type	Channel	Frequency (MHz)	Peak Power Output (dBm)			Peak Power Output (mW)	Power Limit (dBm)
			ANT 1	ANT 2	1+2	ANT 1+2	
IEEE 802.11b (1Mbps)	01	2412	23.45	23.11	26.29	425.95	30.00
	06	2437	23.6	23.29	26.46	442.39	30.00
	11	2462	23.17	22.77	25.98	396.73	30.00
IEEE 802.11g (6Mbps)	01	2412	24.85	24.61	27.74	594.56	30.00
	06	2437	25.71	25.73	28.73	746.50	30.00
	11	2462	23.64	23.53	26.60	456.63	30.00
IEEE 802.11n HT20 (6.5Mbps)	01	2412	24.57	24.54	27.57	570.86	30.00
	06	2437	25.69	25.66	28.69	738.81	30.00
	11	2462	23.73	23.56	26.66	463.03	30.00
IEEE 802.11n HT40 (13.5Mbps)	03	2422	22.85	22.94	25.91	389.54	30.00
	06	2437	24.54	24.49	27.53	565.64	30.00
	09	2452	23.46	22.84	26.17	414.13	30.00

Modulation Type	Channel	Frequency (MHz)	Avg. Power Output (dBm)			Avg. Power Output (mW)	Power Limit (dBm)
			ANT 1	ANT 2	1+2	ANT 1+2	
IEEE 802.11b (1Mbps)	01	2412	21.24	20.85	24.06	254.66	30.00
	06	2437	21.55	21.11	24.35	272.01	30.00
	11	2462	21.05	20.52	23.80	240.07	30.00
IEEE 802.11g (6Mbps)	01	2412	17.15	16.58	19.88	97.38	30.00
	06	2437	22.26	22.19	25.24	333.84	30.00
	11	2462	15.03	14.77	17.91	61.83	30.00
IEEE 802.11n HT20 (6.5Mbps)	01	2412	16.49	16.34	19.43	87.62	30.00
	06	2437	21.81	21.62	24.73	296.92	30.00
	11	2462	15.04	14.77	17.92	61.91	30.00
IEEE 802.11n HT40 (13.5Mbps)	03	2422	13.92	14.07	17.01	50.19	30.00
	06	2437	16.97	16.77	19.88	97.31	30.00
	09	2452	14.94	14.06	17.53	56.66	30.00

Note: Average power is for reference only.



10. Power Spectral Density

10.1 Test Limit

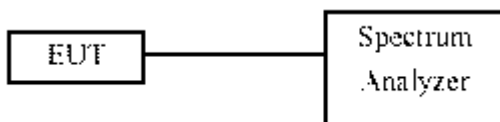
The Maximum of Power Spectral Density Measurement is 8dBm.

If transmitting antennas of directional gain greater than 6 dBi are used, the power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi

10.2 Test Procedures

- The transmitter output was connected to spectrum analyzer.
- The spectrum analyzer's resolution bandwidth were set at 3kHz RBW and 30KHz VBW as that of the fundamental frequency. Set the sweep time=auto couple.
- The power spectral density was measured and recorded.

10.3 Test Setup Layout



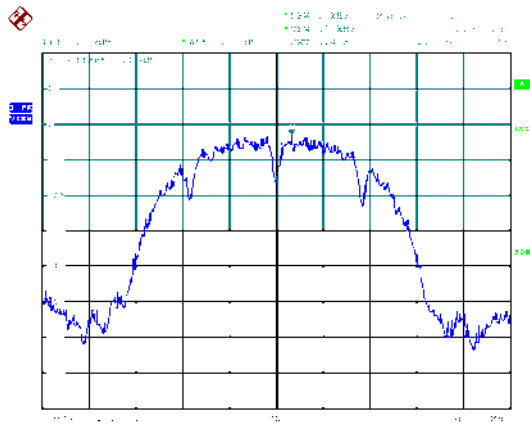
10.4 Test Result and Data

Temperature : 22°C Humidity : 67%
Test Date : Dec. 06, 2016

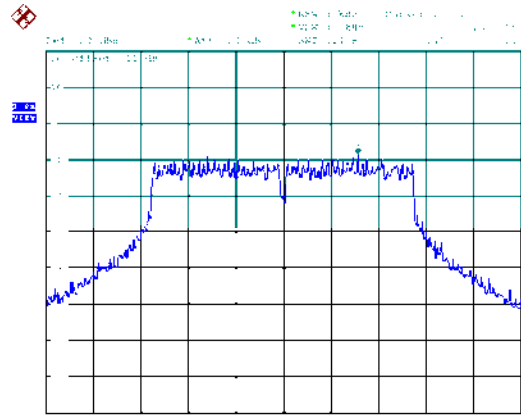
Modulation Type	Channel	Frequency (MHz)	Maximum Power Density of 3 kHz Bandwidth (dBm)		Sum chain (dBm)	Duty Cycle CF(dB)	Total PSD (dBm)	Limit (dBm)
			ANT 1	ANT 2				
IEEE 802.11b (1Mbps)	01	2412	-2.98	-3.1	-0.03	0.00	-0.03	7.02
	06	2437	-2.38	-2.34	0.65	0.00	0.65	7.02
	11	2462	-2.25	-3.62	0.13	0.00	0.13	7.02
IEEE 802.11g (6Mbps)	01	2412	-8.52	-7.58	-5.01	0.00	-5.01	7.02
	06	2437	-1.36	-3.34	0.77	0.00	0.77	7.02
	11	2462	-9.72	-9.58	-6.64	0.00	-6.64	7.02
IEEE 802.11n HT20 (6.5Mbps)	01	2412	-9.06	-8.6	-5.81	0.00	-5.81	7.02
	06	2437	-4.08	-4.05	-1.05	0.00	-1.05	7.02
	11	2462	-10.53	-9.68	-7.07	0.00	-7.07	7.02
IEEE 802.11n HT40 (13.5Mbps)	03	2422	-13.45	-12.9	-10.16	0.00	-10.16	7.02
	06	2437	-11.4	-10.22	-7.76	0.00	-7.76	7.02
	09	2452	-13.64	-13.68	-10.65	0.00	-10.65	7.02



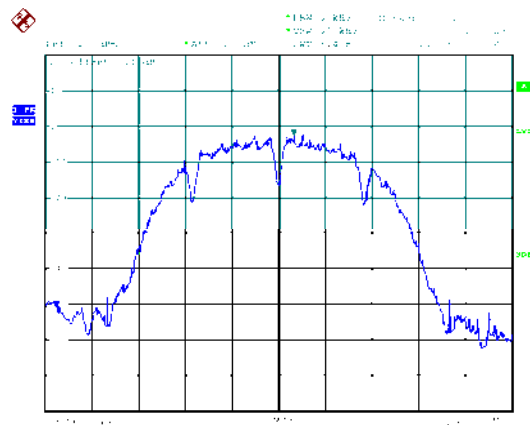
Antenna 1
Modulation Type: 802.11b
CH01



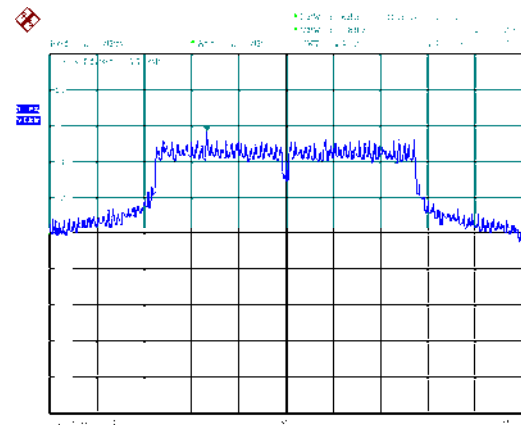
Modulation Type: 802.11g
CH01



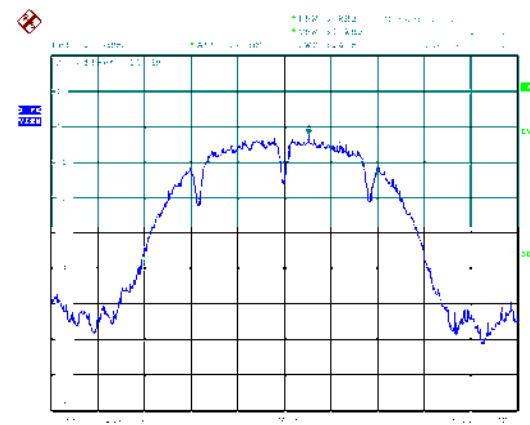
CH06



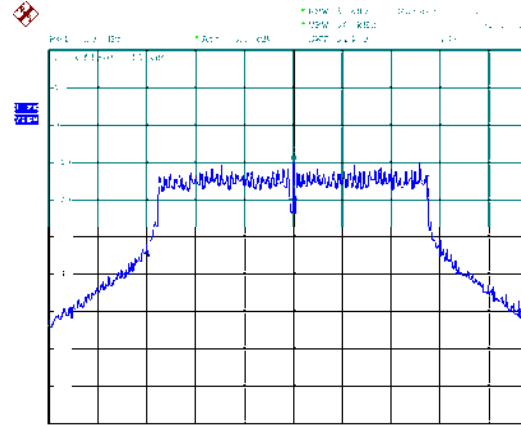
CH06



CH11

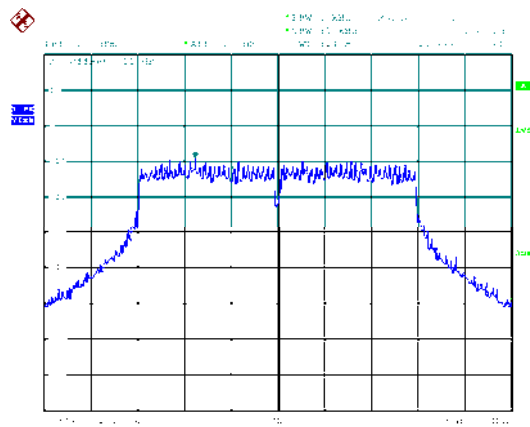


CH11

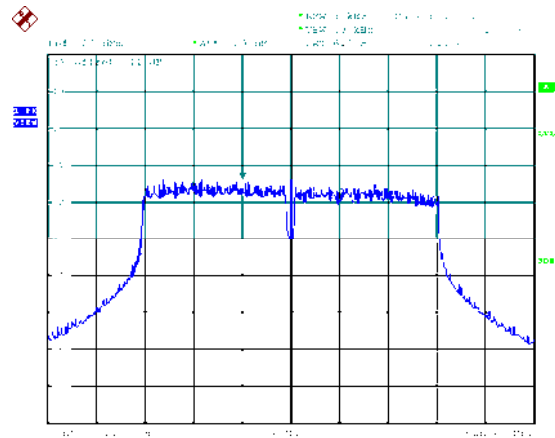




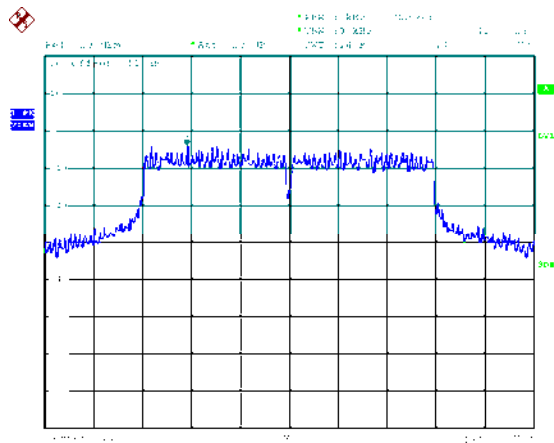
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CH01



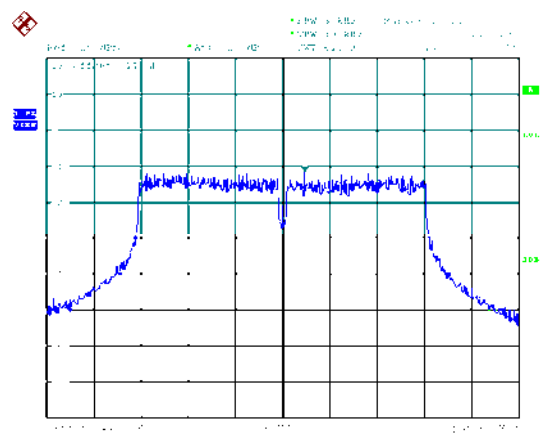
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CH03



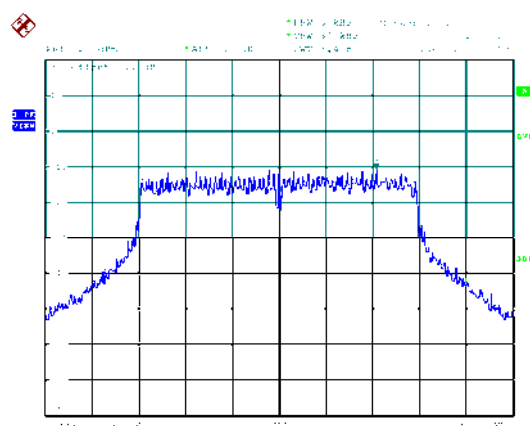
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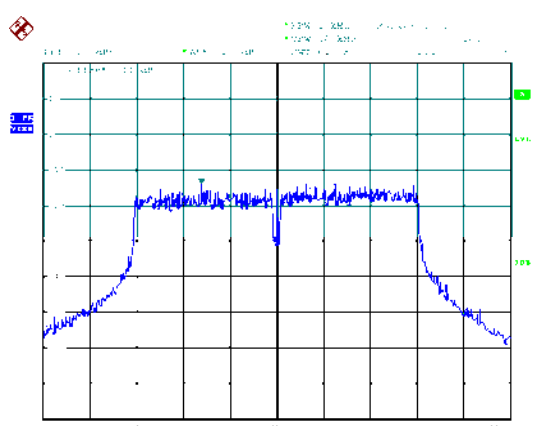
CH06



CH11

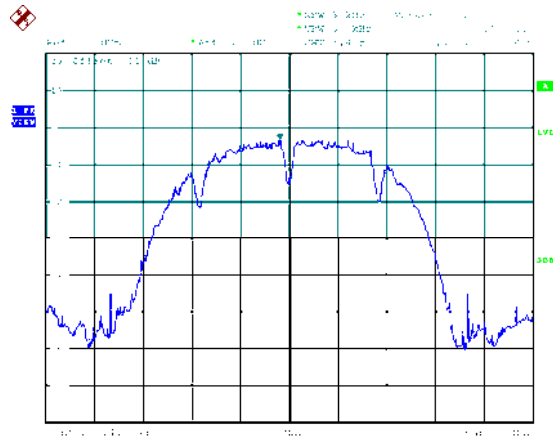


CH09

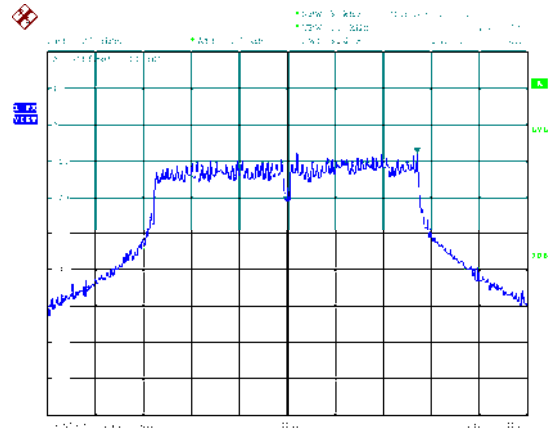




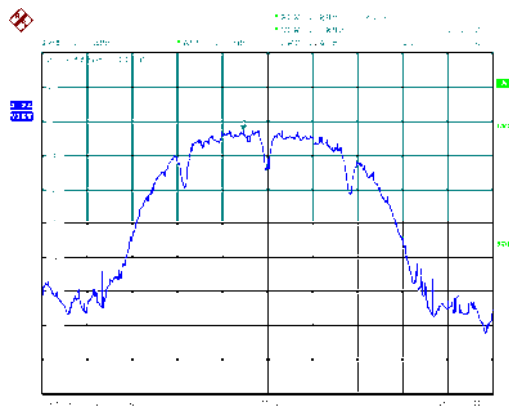
Antenna 2
Modulation Type: 802.11b
CH01



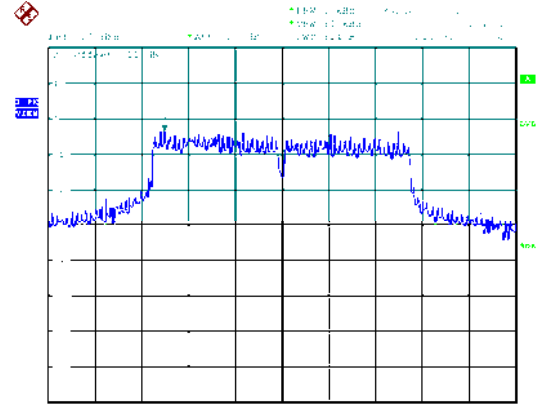
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CH01



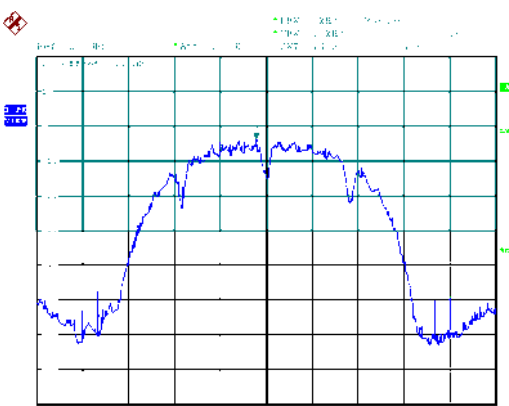
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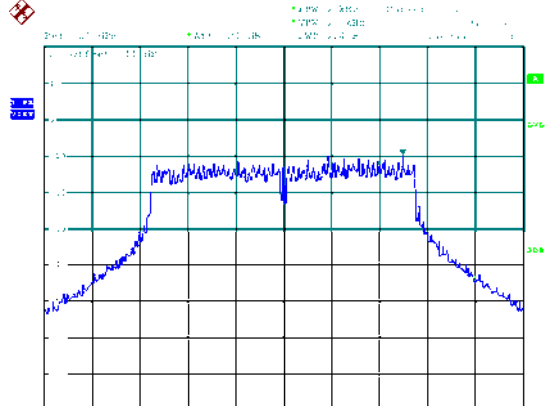
CH06



CH11

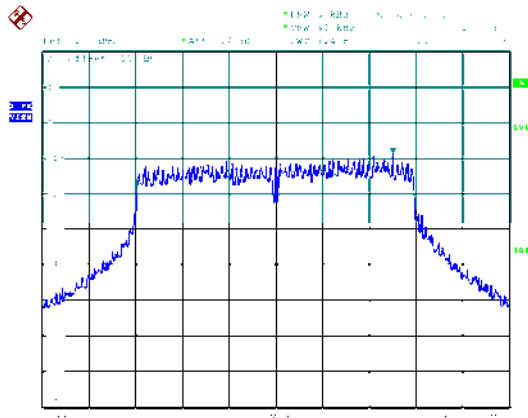


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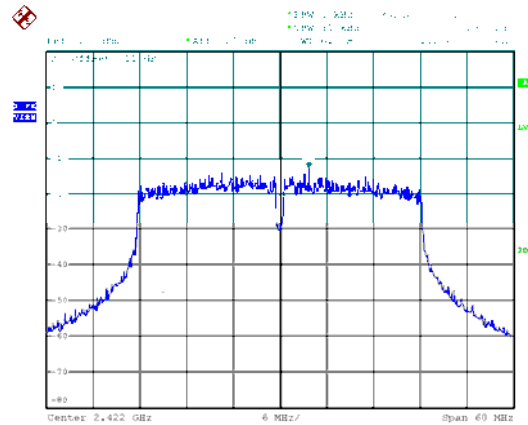




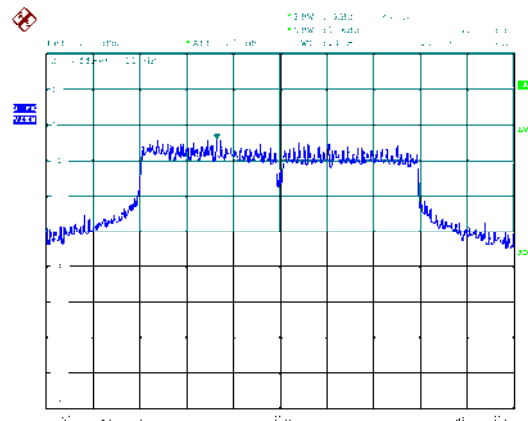
Antenna 2
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CH01



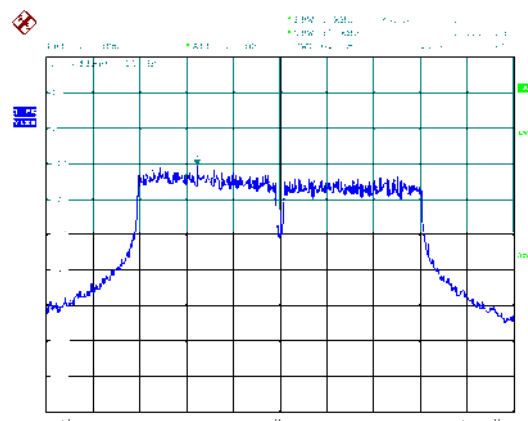
Modulation Type: 802.11n HT40
CH03



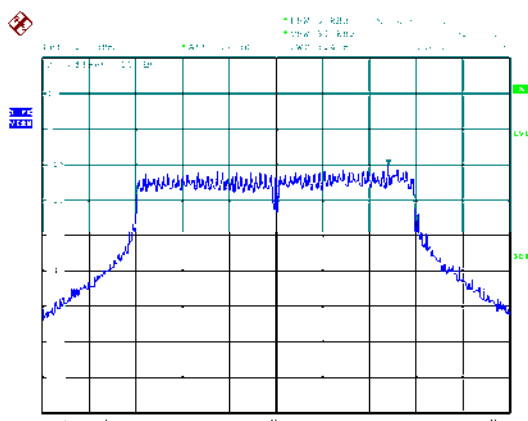
CH06



CH06



CH11



CH09

