FCC RADIO TEST REPORT

Applicant	:	Frontiir PTE LTD
Address	:	809 Yakima Drive, Fremont CA 94539, US
Equipment	:	2.4G Gateway
Model No.	:	FCG
Trade Name	:	FRONTiiR
FCC ID.	:	2AQLFFCGI

I HEREBY CERTIFY THAT :

The sample was received on Aug. 27, 2018 and the testing was carried out on Jan. 21, 2019 at Cerpass Technology Corp. The test result refers exclusively to the test presented test model / sample. Without written approval of Cerpass Technology Corp., the test report shall not be reproduced except in full.

Approved by:

Mark Liao / Supervisor

Tested by:

Spree Yeh / Engineer

Laboratory Accreditation:

Cerpass Technology Corporation Test Laboratory

ilac-MRA TAF Testing Laboratory 1439

Contents

History of this test report

Report No.	Issue Date	Description
TEFI1808258	Jan. 23, 2019	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

KDB447498

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
2.1091	. Radio Frequency Exposure	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

Adapter	Adapter Brand: JPC Model No.: ACW024A2-12U Input: 100-240Vac, 50/60Hz, 0.8A Output: 12Vdc, 2A
Frequency Range	2400-2483.5MHz
Modulation Type	802.11b: CCK, DQPSK, DBPSK 802.11g/n: BPSK, QPSK, 16QAM, 64QAM
Modulation Technology	DSSS, OFDM
Data Rate	802.11b: 1, 2, 5.5, 11Mbps 802.11g: 6, 9, 12, 18, 24, 36, 48, 54Mbps 802.11n: MCS0 – MCS7, HT20/40
Antenna Type	PCB Antenna
Antenna Gain	2.81dBi

Note: For a more detailed features description, please refer to the manufacturer's specifications or the User's Manual.

2.2 Carrier Frequency of Channels

802.11b, 802.11g, 802.11n HT20 (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 C63.10.

b. The complete test system included Remote workstation and EUT for RF test. The Remote workstation included Notebook.

c. An executive program, ” ART2-GUI: 2.3” under WIN 10 was executed to transmit and receive data via WLAN.

d. The following test modes were performed for the test:

Conducted Emissions from the AC mains power ports	
Test Mode	Operating Description
1	802.11b (1Mbps), From Adapter
2	802.11g (6Mbps), From Adapter
3	802.11n HT20 (6.5Mbps), From Adapter
4	802.11n HT40 (13.5Mbps), From Adapter
caused “Test Mode 2” generates the worst case, it was reported as the final data.	
Radiated Emissions (below 1GHz)	
Test Mode	Operating Description
1	802.11b (1Mbps), From Adapter
2	802.11g (6Mbps), From Adapter
3	802.11n HT20 (6.5Mbps), From Adapter
4	802.11n HT40 (13.5Mbps), From Adapter
5	802.11b (1Mbps), From Battery
6	802.11g (6Mbps), From Battery
7	802.11n HT20 (6.5Mbps), From Battery
8	802.11n HT40 (13.5Mbps), From Battery
9	802.11b (1Mbps), From PoE
10	802.11g (6Mbps), From PoE
11	802.11n HT20 (6.5Mbps), From PoE
12	802.11n HT40 (13.5Mbps), From PoE
caused “Test Mode 2, 6, 10” generates the worst case, it was reported as the final data.	
Radiated Emissions (below 1GHz)	
Test Mode	Operating Description
1	802.11b (1Mbps) , From PoE
2	802.11g (6Mbps) , From PoE
3	802.11n HT20 (6.5Mbps) , From PoE
4	802.11n HT40 (13.5Mbps) , From PoE

2.4 Description of Test System

Device	Manufacturer	Model No.	Description
Remote workstation			
Notebook	ASUS	P2430U	Power Cable, Unshielding, 1.8m

Use Cable:

Cable	Quantity	Description
Network	1	Unshielding, 1.2m
Network	1	Unshielding, 15m

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,TW1439
	IC	4934E-1, 4934E-2
	VCCI	T-2205 for Telecommunication test C-4663 for Conducted emission test R-4399, R-4218 for Radiated emission test G-10812, G-10813 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	Uncertainty
Radiated Spurious Emission(9KHz~30MHz)	±5.007dB
Radiated Spurious Emission(30MHz~1GHz)	±5.157dB
Radiated Spurious Emission(1GHz~18GHz)	±6.383dB
Radiated Spurious Emission(18GHz~40GHz)	±6.648dB
Conducted Spurious Emission	±1.253dB
6dB Bandwidth	±6.89%
Power Spectral Density	±0.630dB
26 dB Occupied Bandwidth	±6.10%
Frequency Stability	±375KHz
Channel Frequencies Separation	±6.10%
20dB Bandwidth	±6.12%
Dwell Time	±1.34%
Peak Output Power(Conducted Power Meter)	±0.86dB
Temperature	±1.2℃
Humidity	±2.7%
Channel Move Time	±4.53%
Channel Closing Transmission Time	±6.61%
Threshold	±0.631dB
Non occupancy period	±1.17%

3. Test Equipment and Ancillaries Used for Tests

Instrument	Manufacturer	Model No.	Serial No.	Calibration Date	Valid Date
Spectrum Analyzer	ROHDE & SCHWARZ	FSP40	100219	2018/07/03	2019/07/02
BLUETOOTH TESTER	ROHDE & SCHWARZ	CBT	101133	2018/04/02	2019/04/01
Attenuator	KEYSIGHT	8491B	MY39250705	2018/09/04	2019/09/03
Temp & Humi chamber	T-MACHINE	TMJ-9712	T-12-040111	2018/08/30	2019/08/29
Power Sensor	Anritsu	MA2411B	1207295	2018/03/23	2019/03/22
EMI Receiver	ROHDE & SCHWARZ	ESCI 3	100443	2018/03/15	2019/03/14
Line Impedance Stabilization Network	Schwarzbeck	NSLK 8127	8127-740	2018/06/13	2019/06/12
Pulse Limiter	ROHDE & SCHWARZ	ESH3-Z2	101933	2018/09/04	2019/09/03
E3	AUDIX	v8.2014-8-6	RK-000531	NA	NA
Bilog Antenna	Schwarzbeck	VULB9168	275	2018/09/17	2019/09/16
Active Loop Antenna	EMCO	6507	40855	2018/05/22	2019/05/21
Horn Antenna	EMCO	3115	31589	2018/04/02	2019/04/01
Horn Anrenna	EMCO	3116	31974	2018/09/07	2019/09/06
EMI Receiver	ROHDE & SCHWARZ	ESCI 3	101402	2018/02/23	2019/02/22
Spectrum Analyzer	ROHDE & SCHWARZ	FSP40	100047	2018/03/20	2019/03/19
Preamplifier	EM Electronics corp.	EM330	60660	2018/03/08	2019/03/07
Preamplifier	EMC INSTRUMENTS	EMC051845SE	980333	2018/09/18	2019/09/17
BLUETOOTH TESTER	ROHDE & SCHWARZ	CBT	101133	2018/04/02	2019/04/01
Cable-3in1-(30M-1G)	HARBOUR INDUSTRIES	LL142	CCE1315	2018/04/20	2019/04/19
Cable-0.5m-(1G-40G)	Rapidtek	40GHZ 50CM	38MS-38MS50 314	2018/03/27	2019/03/26
Cable-1m-(1G-40G)	Rapidtek	40GHZ 300CM	38MS-38MS30 0314	2018/03/27	2019/03/26
Cable-6m-(1G-40G)	Rapidtek	40GHZ 800CM	38MS-38MS80 0314	2018/03/27	2019/03/26
E3	AUDIX	v8.2014-8-6	RK-000529	NA	NA

4. Antenna Requirements

4.1 Antenna Construction and Directional Gain

Antenna Type	PCB Antenna
Antenna Gain	2.81dBi

For Power directional gain= G_{ant}= 2.81dBi
For PSD directional gain = G_{ant}= 2.81dBi

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.

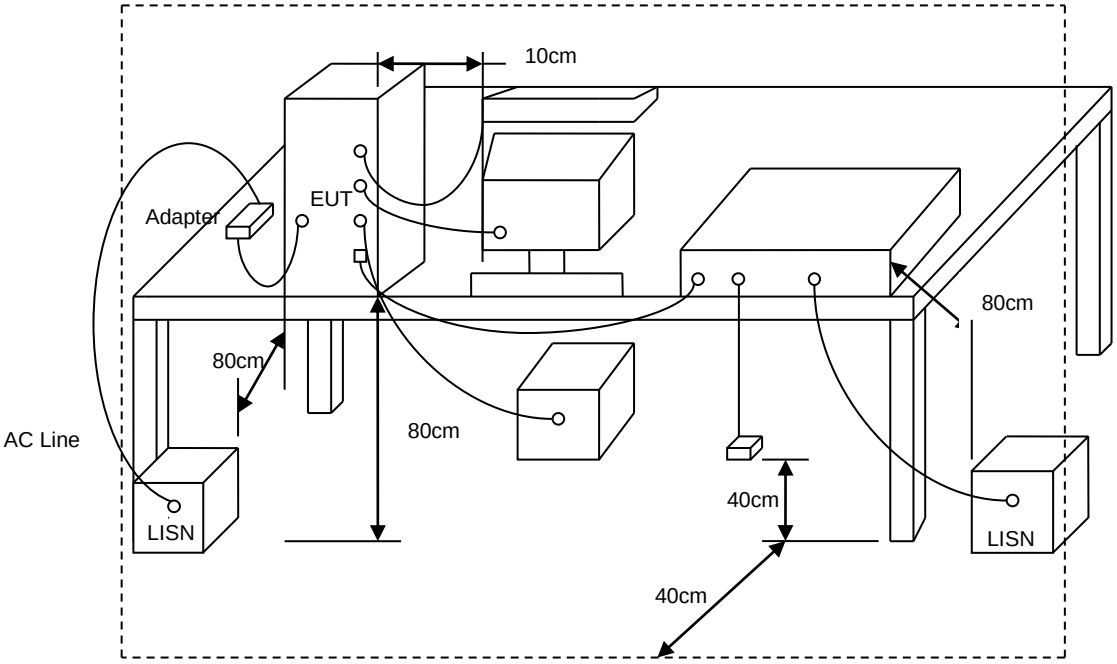
Frequency (MHz)	Quasi Peak (dB μ V)	Average (dB μ V)
0.15 – 0.5	66-56*	56-46*
0.5 – 5.0	56	46
5.0 – 30.0	60	50

*Decreases with the logarithm of the frequency.

5.2 Test Procedures

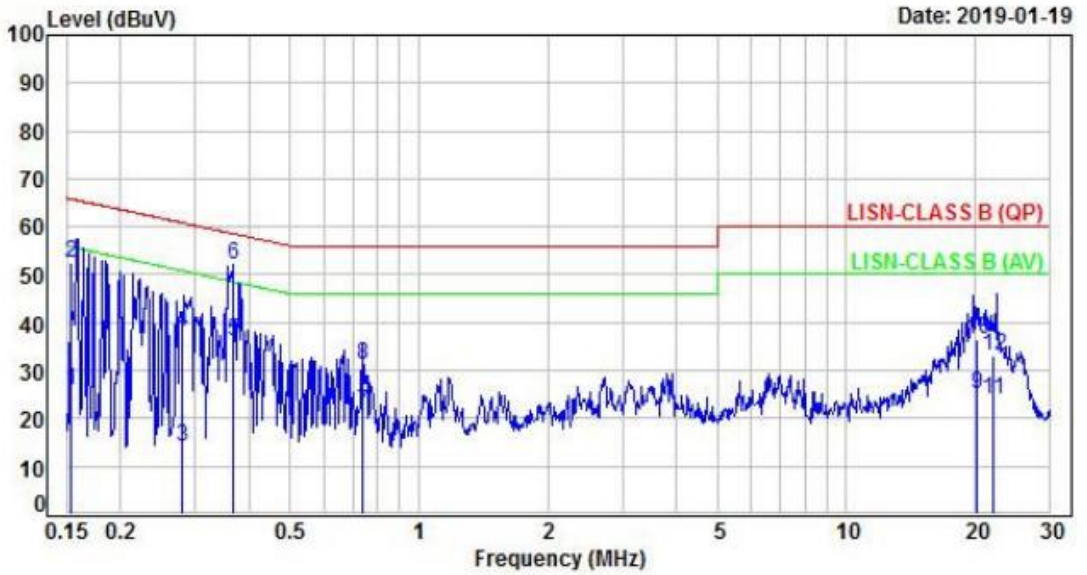
a. The EUT was placed 0.4 meter from the conducting wall of the shielding room was kept at least 80 centimeters from any other grounded conducting surface.
b. Connect EUT to the power mains through a line impedance stabilization network (LISN).
c. All the support units are connecting to the other LISN.
d. The LISN provides 50 ohm coupling impedance for the measuring instrument.
e. The FCC states that a 50 ohm, 50 micro-Henry LISN should be used.
f. Both sides of AC line were checked for maximum conducted interference.
g. The frequency range from 150 kHz to 30 MHz was searched.
h. 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

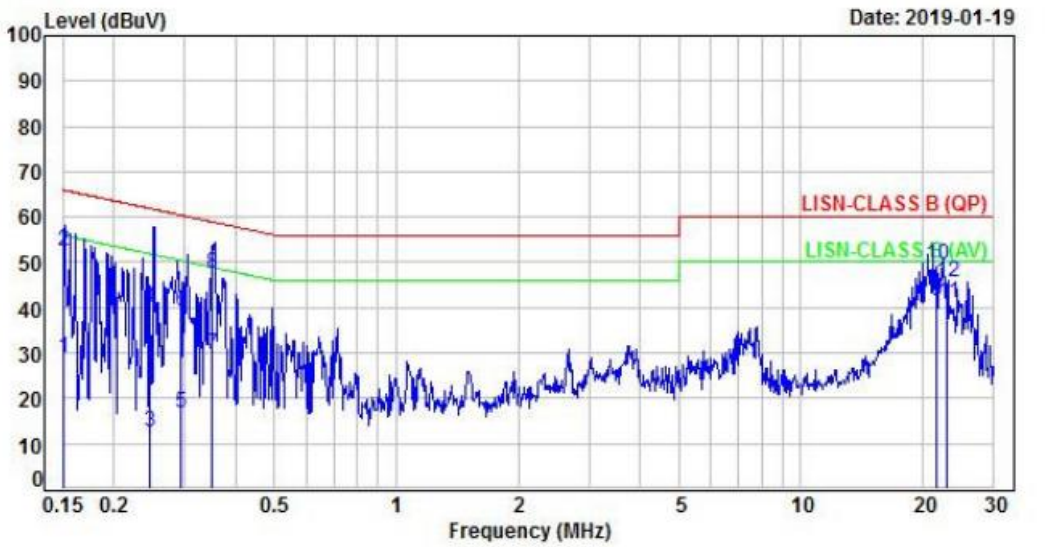
Power	:	AC 120V	Pol/Phase	:	LINE
Test Mode	:	Mode 2	Temperature	:	20 °C
Test date	:	Jan. 19, 2019	Humidity	:	40 %



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector	P/F
1	0.15	9.94	16.00	25.94	55.79	-29.85	Average	P
2	0.15	9.94	42.34	52.28	65.79	-13.51	QP	P
3	0.28	9.94	4.15	14.09	50.88	-36.79	Average	P
4	0.28	9.94	27.99	37.93	60.88	-22.95	QP	P
5	0.37	9.95	26.29	36.24	48.54	-12.30	Average	P
6	0.37	9.95	42.00	51.95	58.54	-6.59	QP	P
7	0.74	9.97	11.33	21.30	46.00	-24.70	Average	P
8	0.74	9.97	21.14	31.11	56.00	-24.89	QP	P
9	20.19	10.52	14.66	25.18	50.00	-24.82	Average	P
10	20.19	10.52	25.80	36.32	60.00	-23.68	QP	P
11	22.06	10.55	13.31	23.86	50.00	-26.14	Average	P
12	22.06	10.55	22.39	32.94	60.00	-27.06	QP	P

Note: Level=Reading+Factor
Margin=Level-Limit
Factor=(LISN or ISN or Current Probe)Factor + Cable Loss

Power	:	AC 120V	Pol/Phase	:	NEUTRAL
Test Mode	:	Mode 2	Temperature	:	20 °C
Test date	:	Jan. 19, 2019	Humidity	:	40 %



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector	P/F
1	0.15	9.94	18.99	28.93	55.99	-27.06	Average	P
2	0.15	9.94	42.42	52.36	65.99	-13.63	QP	P
3	0.25	9.94	2.46	12.40	51.89	-39.49	Average	P
4	0.25	9.94	30.03	39.97	61.89	-21.92	QP	P
5	0.29	9.94	6.98	16.92	50.40	-33.48	Average	P
6	0.29	9.94	29.19	39.13	60.40	-21.27	QP	P
7	0.35	9.95	19.83	29.78	48.95	-19.17	Average	P
8	0.35	9.95	37.75	47.70	58.95	-11.25	QP	P
9	21.66	10.52	30.83	41.35	50.00	-8.65	Average	P
10	21.66	10.52	38.77	49.29	60.00	-10.71	QP	P
11	23.07	10.54	30.48	41.02	50.00	-8.98	Average	P
12	23.07	10.54	34.96	45.50	60.00	-14.50	QP	P

Note: Level=Reading+Factor
Margin=Level-Limit
Factor=(LISN or ISN or Current Probe)Factor + Cable Loss

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

a. The EUT was placed on a rotatable table top 0.8 meter above ground.

b. The EUT was set 3 meters from the interference receiving antenna which was mounted on the top of a variable height antenna tower.

c. The table was rotated 360 degrees to determine the position of the highest radiation.

d. 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.

e. 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.

f. Set the test-receiver system to Peak or CISPR quasi-peak Detect Function and specified bandwidth with Maximum Hold Mode.

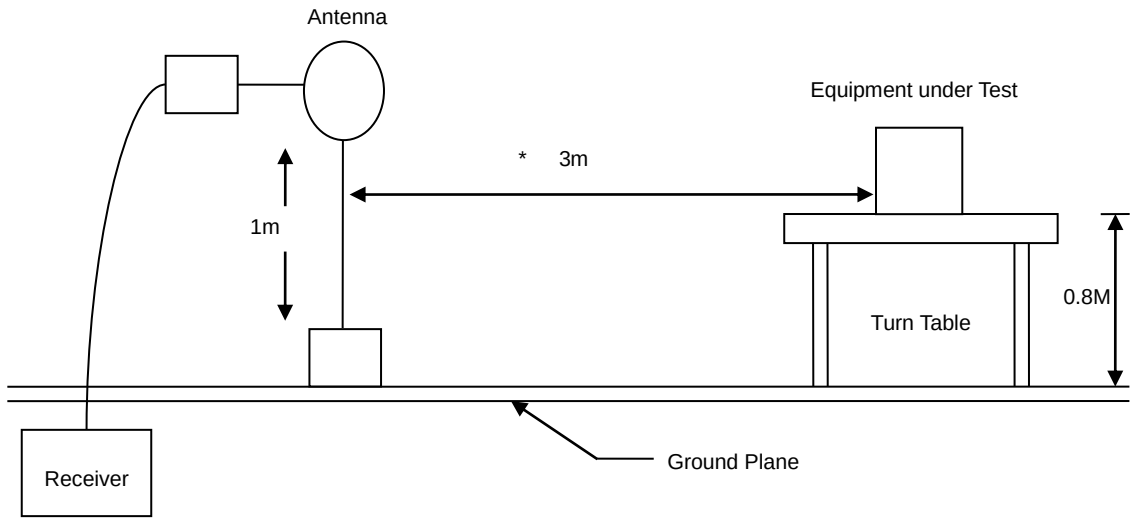
g. If the emission level of the EUT in peak mode was 3 dB lower than the limit specified, then testing will be stopped and peak values of EUT will be reported, otherwise, the emissions which do not have 3 dB margin will be repeated one by one using the quasi-peak method and reported.

h. 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.

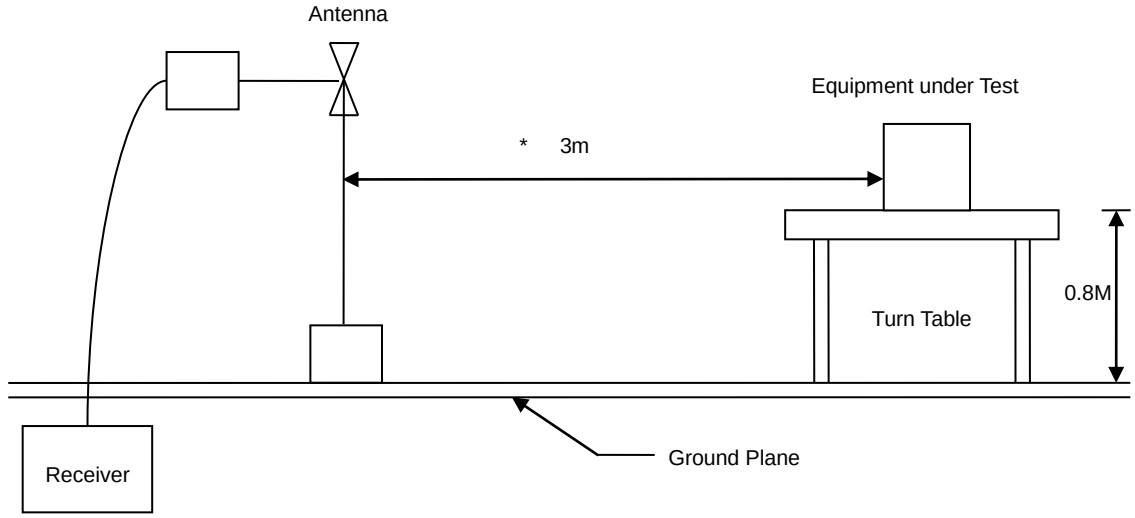
i. “Cone of radiation” has been considered to be 3dB bandwidth of the measurement antenna.

6.3 Typical Test Setup

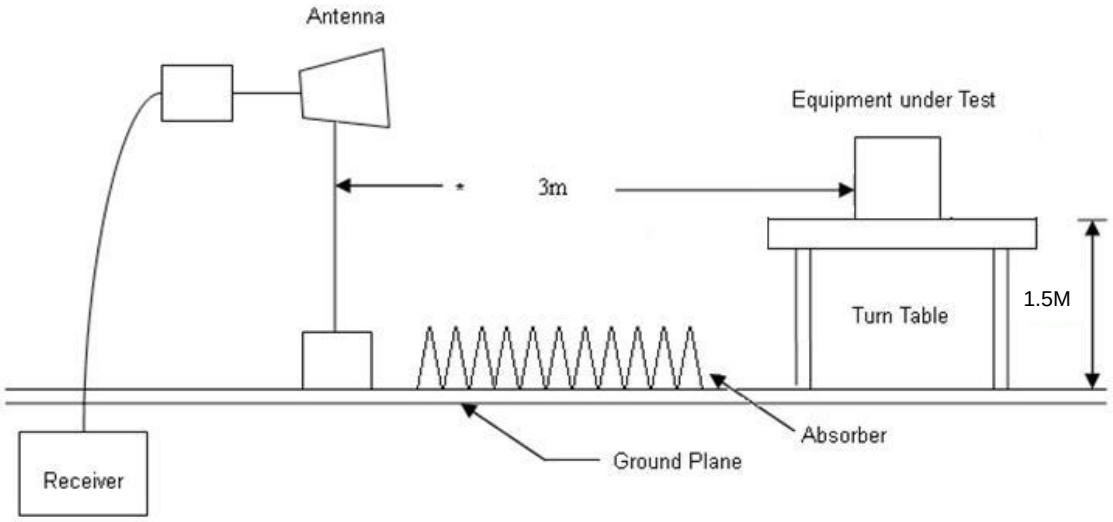
Below 30MHz test setup



30MHz- 1GHz Test Setup



Above 1GHz Test Setup

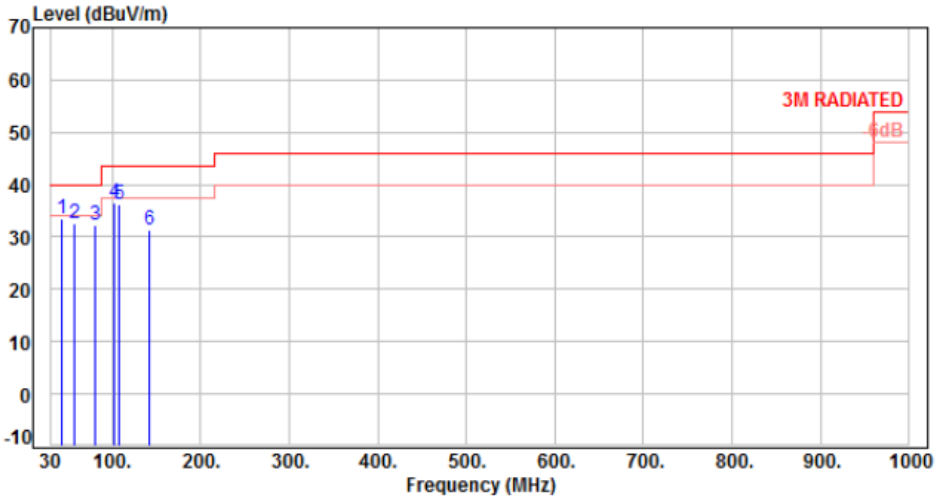


6.4 Test Result and Data (9KHz ~ 30MHz)

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

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

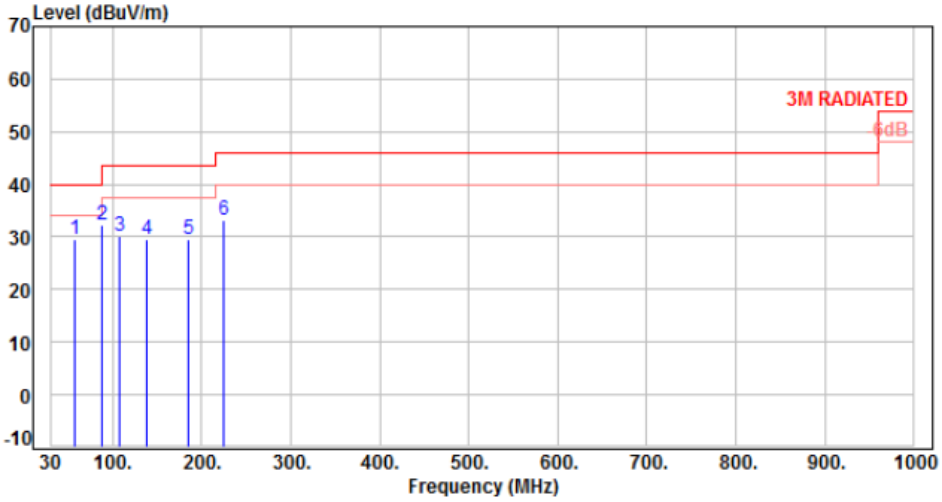
Power	:	AC 120V from Adapter	Pol/Phase	:	VERTICAL
Test Mode	:	Mode 2	Temperature	:	20 °C
Test Date	:	Jan. 21, 2019	Humidity	:	62 %



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	43.58	-9.50	42.87	33.37	40.00	-6.63	Peak	400	0	P
2	58.13	-9.91	42.44	32.53	40.00	-7.47	Peak	400	0	P
3	80.44	-13.72	46.14	32.42	40.00	-7.58	Peak	400	0	P
4	101.78	-14.20	50.81	36.61	43.50	-6.89	Peak	400	0	P
5	108.57	-12.99	49.29	36.30	43.50	-7.20	Peak	400	0	P
6	141.55	-9.71	40.98	31.27	43.50	-12.23	Peak	400	0	P

Note: Level=Reading+Factor
Margin=Level-Limit
Factor=Antenna Factor + cable loss - Amplifier Factor

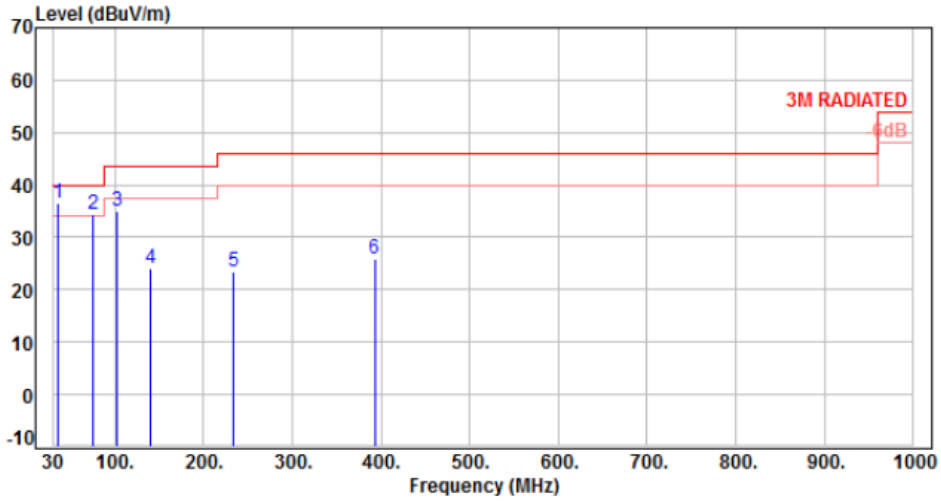
Power	:	AC 120V from Adapter	Pol/Phase	:	HORIZONTAL
Test Mode	:	Mode 2	Temperature	:	20 °C
Test Date	:	Jan. 21, 2019	Humidity	:	62 %



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	58.13	-9.91	39.35	29.44	40.00	-10.56	Peak	100	0	P
2	87.23	-15.09	47.25	32.16	40.00	-7.84	Peak	100	0	P
3	108.57	-12.99	43.08	30.09	43.50	-13.41	Peak	100	0	P
4	137.67	-9.95	39.38	29.43	43.50	-14.07	Peak	100	0	P
5	185.20	-11.38	40.83	29.45	43.50	-14.05	Peak	100	0	P
6	224.97	-11.49	44.63	33.14	46.00	-12.86	Peak	100	0	P

Note: Level=Reading+Factor
Margin=Level-Limit
Factor=Antenna Factor + cable loss - Amplifier Factor

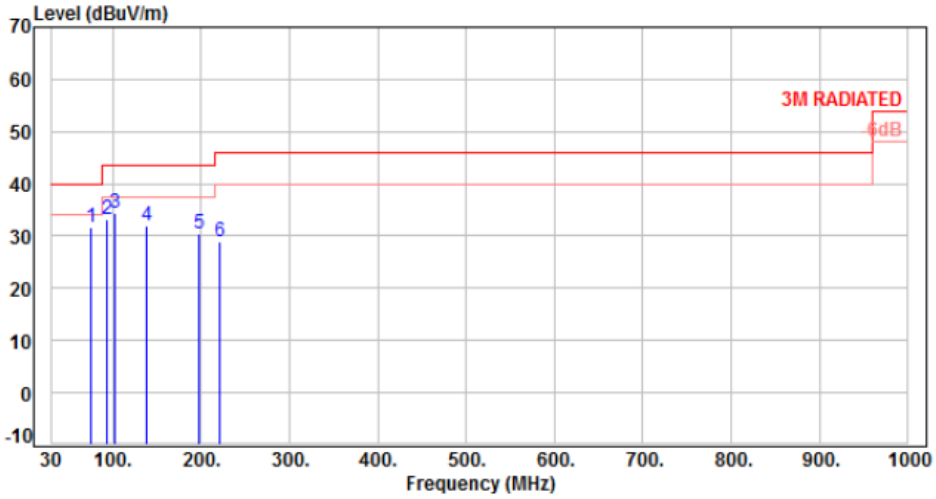
Power	:	AC 120V from Battery	Pol/Phase	:	VERTICAL
Test Mode	:	Mode 6	Temperature	:	20 °C
Test Date	:	Jun. 21, 2019	Humidity	:	62 %



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	35.82	-10.25	46.80	36.55	40.00	-3.45	Peak	400	0	P
2	74.62	-12.25	46.53	34.28	40.00	-5.72	Peak	400	0	P
3	101.78	-14.20	49.26	35.06	43.50	-8.44	Peak	400	0	P
4	140.58	-9.74	33.80	24.06	43.50	-19.44	Peak	400	0	P
5	233.70	-11.11	34.68	23.57	46.00	-22.43	Peak	400	0	P
6	392.78	-5.93	31.74	25.81	46.00	-20.19	Peak	400	0	P

Note: Level=Reading+Factor
Margin=Level-Limit
Factor=Antenna Factor + cable loss - Amplifier Factor

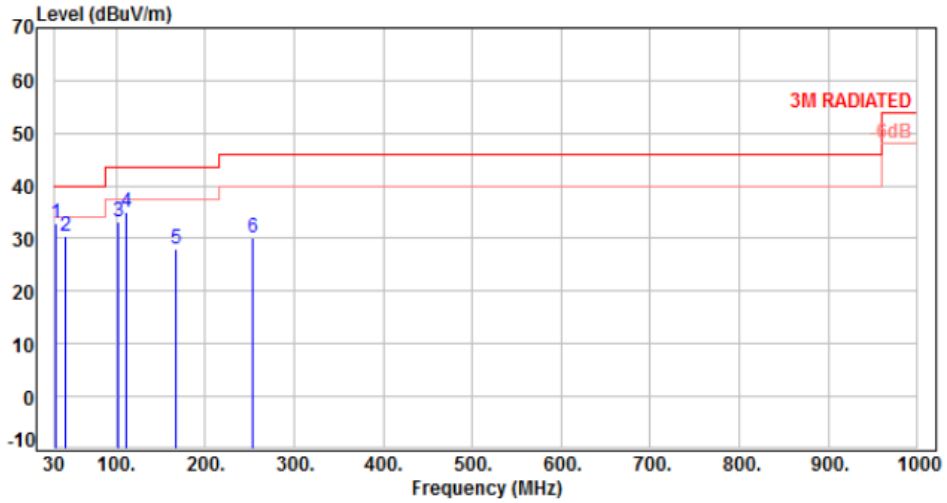
Power	:	AC 120V from Battery	Pol/Phase	:	HORIZONTAL
Test Mode	:	Mode 6	Temperature	:	20 °C
Test Date	:	Jun. 21, 2019	Humidity	:	62 %



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	74.62	-12.25	44.00	31.75	40.00	-8.25	Peak	100	0	P
2	94.02	-15.46	48.63	33.17	43.50	-10.33	Peak	100	0	P
3	101.78	-14.20	48.50	34.30	43.50	-9.20	Peak	100	0	P
4	138.64	-9.85	41.68	31.83	43.50	-11.67	Peak	100	0	P
5	197.81	-12.08	42.42	30.34	43.50	-13.16	Peak	100	0	P
6	221.09	-11.50	40.30	28.80	46.00	-17.20	Peak	100	0	P

Note: Level=Reading+Factor
Margin=Level-Limit
Factor=Antenna Factor + cable loss - Amplifier Factor

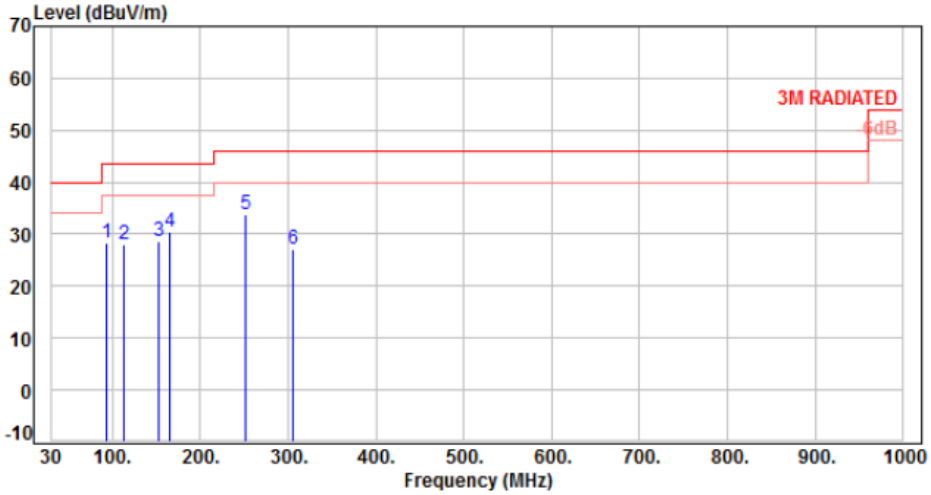
Power	:	AC 120V from PoE	Pol/Phase	:	VERTICAL
Test Mode	:	Mode 10	Temperature	:	20 °C
Test Date	:	Jan. 21, 2019	Humidity	:	62 %



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	31.94	-10.56	43.54	32.98	40.00	-7.02	Peak	400	0	P
2	43.58	-9.50	39.90	30.40	40.00	-9.60	Peak	400	0	P
3	101.78	-14.20	47.49	33.29	43.50	-10.21	Peak	400	0	P
4	110.51	-12.74	47.80	35.06	43.50	-8.44	Peak	400	0	P
5	166.77	-9.28	37.19	27.91	43.50	-15.59	Peak	400	0	P
6	253.10	-10.11	40.19	30.08	46.00	-15.92	Peak	400	0	P

Note: Level=Reading+Factor
Margin=Level-Limit
Factor=Antenna Factor + cable loss - Amplifier Factor

Power	:	AC 120V from PoE	Pol/Phase	:	HORIZONTAL
Test Mode	:	Mode 10	Temperature	:	20 °C
Test Date	:	Jan. 21, 2019	Humidity	:	62 %

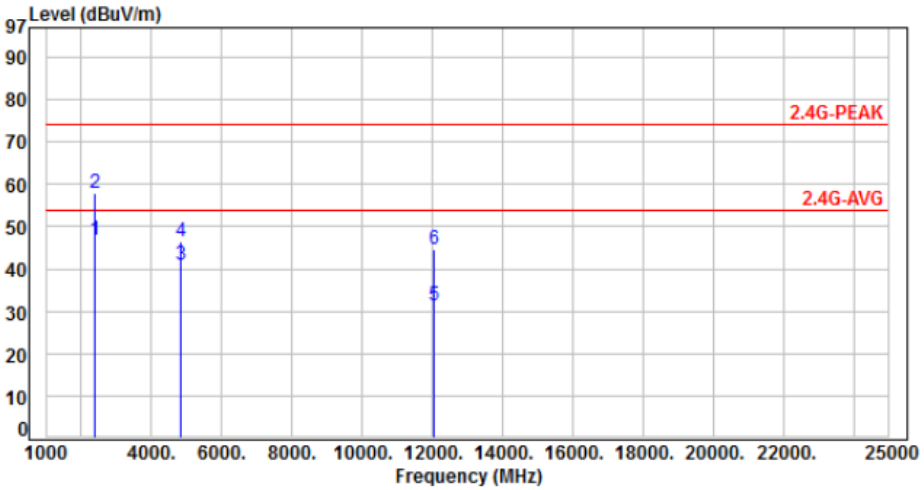


No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	94.02	-15.46	43.82	28.36	43.50	-15.14	Peak	100	0	P
2	112.45	-12.49	40.50	28.01	43.50	-15.49	Peak	100	0	P
3	153.19	-9.47	38.19	28.72	43.50	-14.78	Peak	100	0	P
4	165.80	-9.28	39.71	30.43	43.50	-13.07	Peak	100	0	P
5	251.16	-10.19	44.08	33.89	46.00	-12.11	Peak	100	0	P
6	305.48	-8.50	35.51	27.01	46.00	-18.99	Peak	100	0	P

Note: Level=Reading+Factor
Margin=Level-Limit
Factor=Antenna Factor + cable loss - Amplifier Factor

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

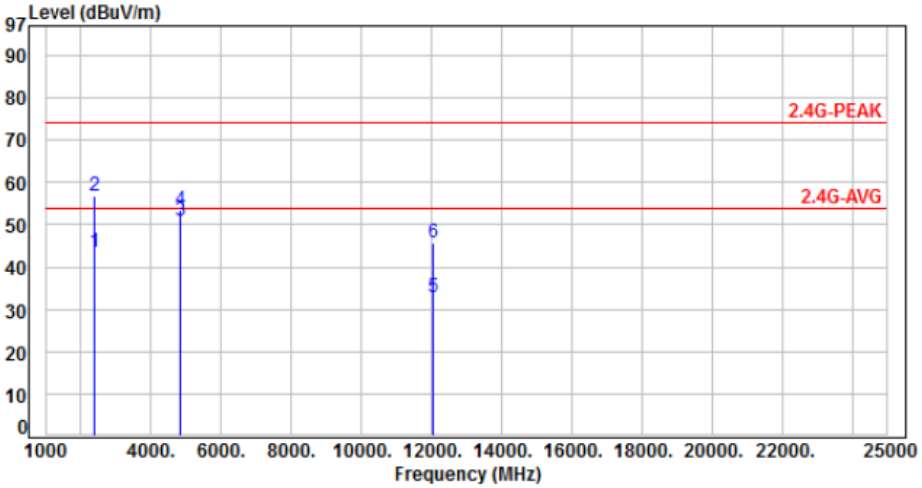
Power	:	From PoE	Pol/Phase	:	VERTICAL
Test Mode	:	Mode 1, CH01	Temperature	:	23 °C
Test Date	:	Aug. 24, 2018	Humidity	:	68 %



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	2369.00	-16.02	62.70	46.68	54.00	-7.32	Average	372	270	P
2	2369.00	-16.02	73.90	57.88	74.00	-16.12	Peak	372	270	P
3	4824.00	-8.80	49.79	40.99	54.00	-13.01	Average	100	303	P
4	4824.00	-8.80	55.39	46.59	74.00	-27.41	Peak	100	303	P
5	12060.00	1.21	30.03	31.24	54.00	-22.76	Average	100	142	P
6	12060.00	1.21	43.52	44.73	74.00	-29.27	Peak	100	142	P

Note: Level=Reading+Factor
Margin=Level-Limit
Factor=Antenna Factor + cable loss - Amplifier Factor

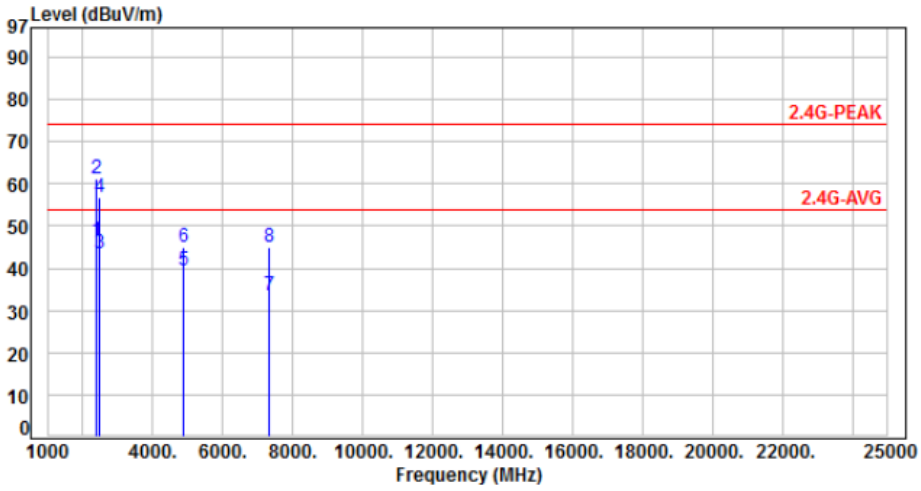
Power	:	From PoE	Pol/Phase	:	HORIZONTAL
Test Mode	:	Mode 1, CH01	Temperature	:	23 °C
Test Date	:	Aug. 24, 2018	Humidity	:	68 %



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	2369.00	-16.02	59.70	43.68	54.00	-10.32	Average	400	165	P
2	2369.00	-16.02	72.70	56.68	74.00	-17.32	Peak	400	165	P
3	4824.00	-8.80	59.79	50.99	54.00	-3.01	Average	230	148	P
4	4824.00	-8.80	62.19	53.39	74.00	-20.61	Peak	230	148	P
5	12060.00	1.21	31.67	32.88	54.00	-21.12	Average	100	318	P
6	12060.00	1.21	44.52	45.73	74.00	-28.27	Peak	100	318	P

Note: Level=Reading+Factor
Margin=Level-Limit
Factor=Antenna Factor + cable loss - Amplifier Factor

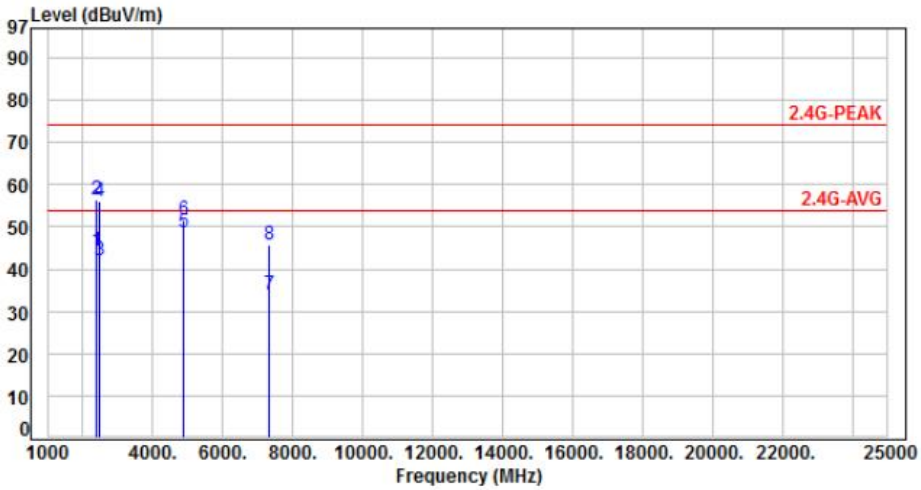
Power	:	From PoE	Pol/Phase	:	VERTICAL
Test Mode	:	Mode 1, CH06	Temperature	:	23 °C
Test Date	:	Aug. 24, 2018	Humidity	:	68 %



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	2390.00	-15.96	62.61	46.65	54.00	-7.35	Average	371	290	P
2	2390.00	-15.96	77.11	61.15	74.00	-12.85	Peak	371	290	P
3	2483.50	-15.65	59.30	43.65	54.00	-10.35	Average	371	290	P
4	2483.50	-15.65	72.60	56.95	74.00	-17.05	Peak	371	290	P
5	4874.00	-8.65	48.20	39.55	54.00	-14.45	Average	330	233	P
6	4874.00	-8.65	53.60	44.95	74.00	-29.05	Peak	330	233	P
7	7311.00	-4.69	38.19	33.50	54.00	-20.50	Average	100	186	P
8	7311.00	-4.69	49.79	45.10	74.00	-28.90	Peak	100	186	P

Note: Level=Reading+Factor
Margin=Level-Limit
Factor=Antenna Factor + cable loss - Amplifier Factor

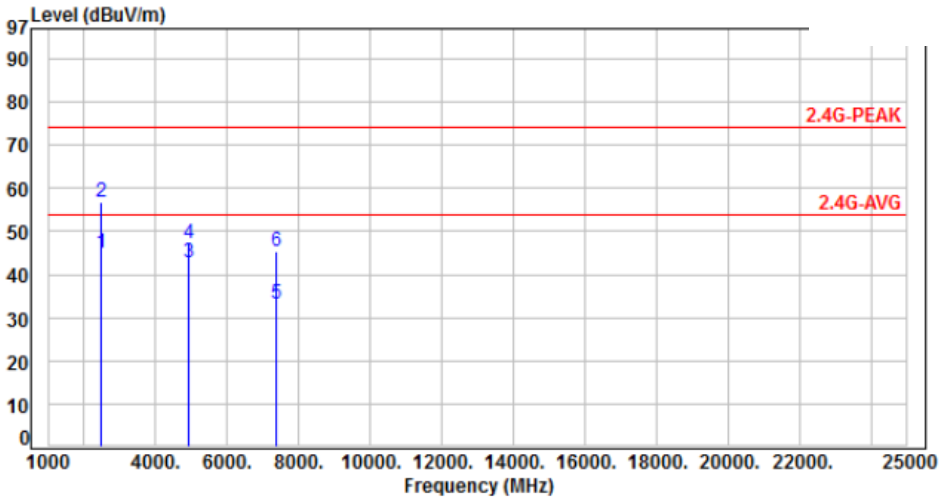
Power	:	From PoE	Pol/Phase	:	HORIZONTAL
Test Mode	:	Mode 1, CH06	Temperature	:	23 °C
Test Date	:	Aug. 24, 2018	Humidity	:	68 %



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	2390.00	-15.96	60.11	44.15	54.00	-9.85	Average	260	130	P
2	2390.00	-15.96	72.31	56.35	74.00	-17.65	Peak	260	130	P
3	2483.50	-15.65	57.60	41.95	54.00	-12.05	Average	260	130	P
4	2483.50	-15.65	71.70	56.05	74.00	-17.95	Peak	260	130	P
5	4874.00	-8.65	57.30	48.65	54.00	-5.35	Average	100	155	P
6	4874.00	-8.65	60.30	51.65	74.00	-22.35	Peak	100	155	P
7	7311.00	-4.69	38.79	34.10	54.00	-19.90	Average	100	349	P
8	7311.00	-4.69	50.59	45.90	74.00	-28.10	Peak	100	349	P

Note: Level=Reading+Factor
Margin=Level-Limit
Factor=Antenna Factor + cable loss - Amplifier Factor

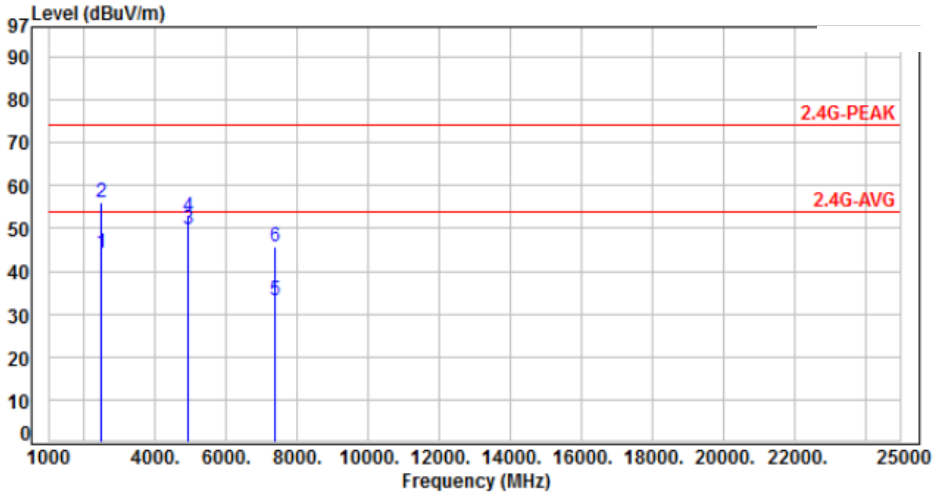
Power	:	From PoE	Pol/Phase	:	VERTICAL
Test Mode	:	Mode 1, CH11	Temperature	:	23 °C
Test Date	:	Aug. 24, 2018	Humidity	:	68 %



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	2483.50	-15.65	60.60	44.95	54.00	-9.05	Average	400	280	P
2	2483.50	-15.65	72.30	56.65	74.00	-17.35	Peak	400	280	P
3	4924.00	-8.49	51.29	42.80	54.00	-11.20	Average	100	232	P
4	4924.00	-8.49	55.79	47.30	74.00	-26.70	Peak	100	232	P
5	7386.00	-4.48	37.50	33.02	54.00	-20.98	Average	100	204	P
6	7386.00	-4.48	49.70	45.22	74.00	-28.78	Peak	100	204	P

Note: Level=Reading+Factor
Margin=Level-Limit
Factor=Antenna Factor + cable loss - Amplifier Factor

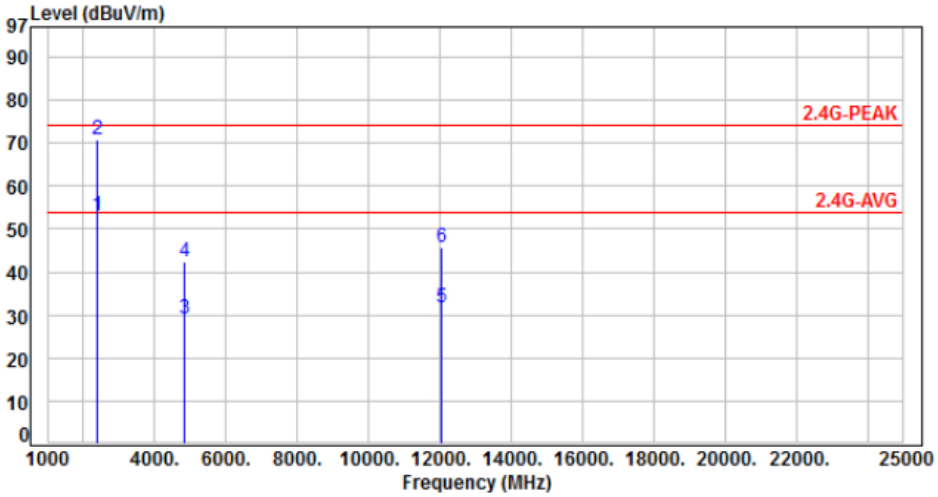
Power	:	From PoE	Pol/Phase	:	HORIZONTAL
Test Mode	:	Mode 1, CH11	Temperature	:	23 °C
Test Date	:	Aug. 24, 2018	Humidity	:	68 %



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	2488.00	-15.64	59.80	44.16	54.00	-9.84	Average	398	345	P
2	2488.00	-15.64	71.80	56.16	74.00	-17.84	Peak	398	345	P
3	4924.00	-8.49	58.29	49.80	54.00	-4.20	Average	116	150	P
4	4924.00	-8.49	61.19	52.70	74.00	-21.30	Peak	116	150	P
5	7386.00	-4.48	37.80	33.32	54.00	-20.68	Average	100	352	P
6	7386.00	-4.48	50.20	45.72	74.00	-28.28	Peak	100	352	P

Note: Level=Reading+Factor
Margin=Level-Limit
Factor=Antenna Factor + cable loss - Amplifier Factor

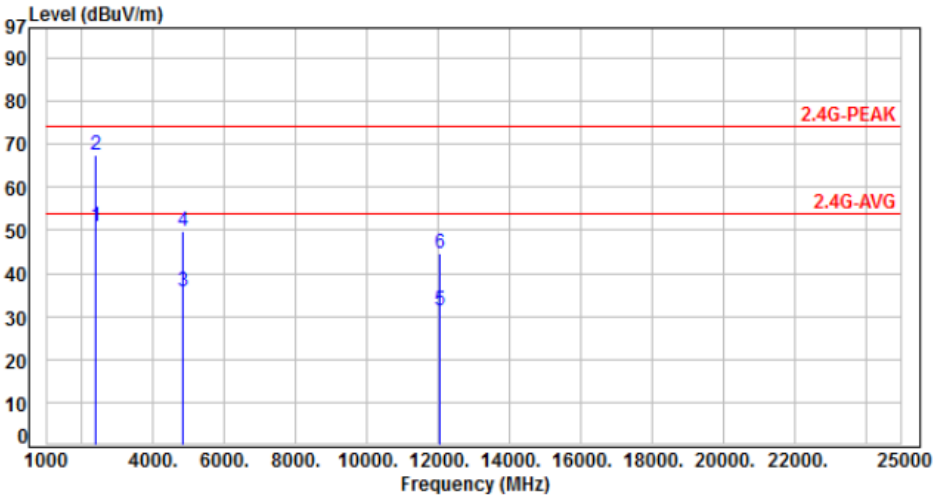
Power	:	From PoE	Pol/Phase	:	VERTICAL
Test Mode	:	Mode 2, CH01	Temperature	:	23 °C
Test Date	:	Aug. 24, 2018	Humidity	:	68 %



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	2390.00	-15.96	69.22	53.26	54.00	-0.74	Average	371	270	P
2	2390.00	-15.96	86.91	70.95	74.00	-3.05	Peak	371	270	P
3	4824.00	-8.80	37.79	28.99	54.00	-25.01	Average	100	200	P
4	4824.00	-8.80	51.19	42.39	74.00	-31.61	Peak	100	200	P
5	12060.00	1.21	30.35	31.56	54.00	-22.44	Average	105	95	P
6	12060.00	1.21	44.52	45.73	74.00	-28.27	Peak	105	95	P

Note: Level=Reading+Factor
Margin=Level-Limit
Factor=Antenna Factor + cable loss - Amplifier Factor

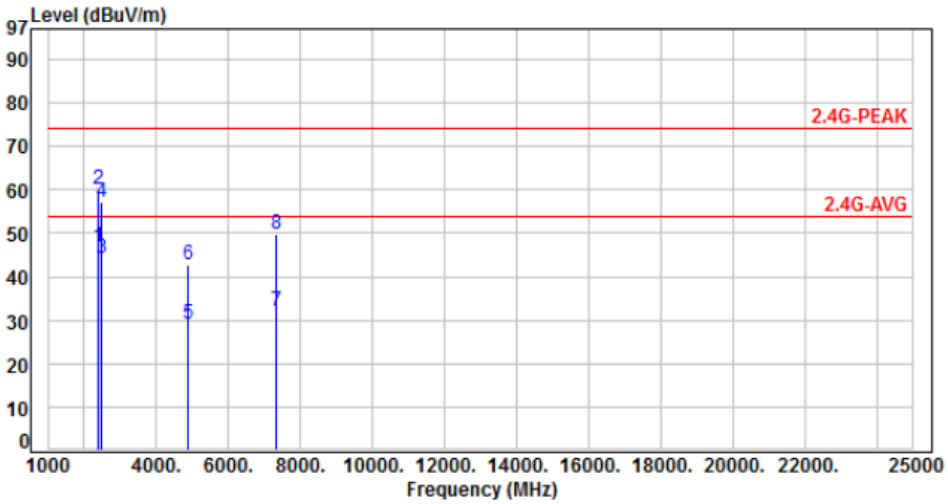
Power	:	From PoE	Pol/Phase	:	HORIZONTAL
Test Mode	:	Mode 2, CH01	Temperature	:	23 °C
Test Date	:	Aug. 24, 2018	Humidity	:	68 %



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	2390.00	-15.96	66.91	50.95	54.00	-3.05	Average	400	66	P
2	2390.00	-15.96	83.51	67.55	74.00	-6.45	Peak	400	66	P
3	4824.00	-8.80	44.49	35.69	54.00	-18.31	Average	230	146	P
4	4824.00	-8.80	58.69	49.89	74.00	-24.11	Peak	230	146	P
5	12060.00	1.21	30.03	31.24	54.00	-22.76	Average	100	299	P
6	12060.00	1.21	43.52	44.73	74.00	-29.27	Peak	100	299	P

Note: Level=Reading+Factor
Margin=Level-Limit
Factor=Antenna Factor + cable loss - Amplifier Factor

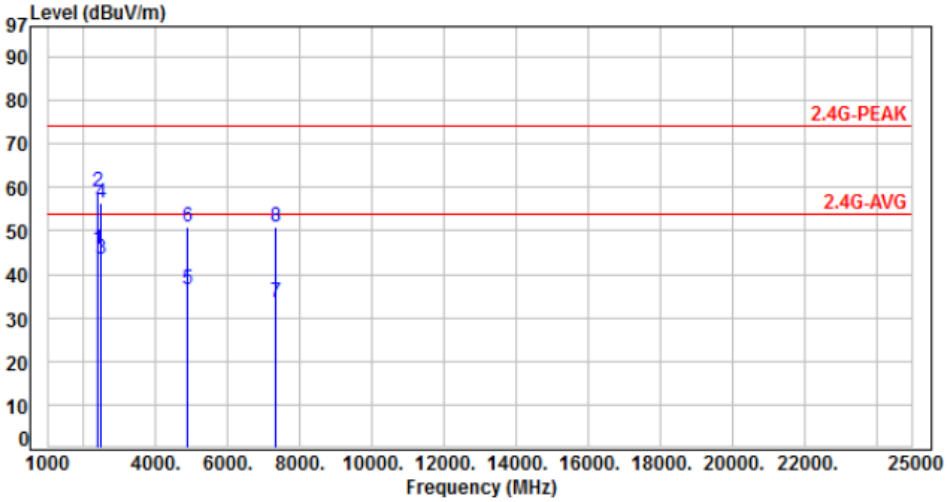
Power	:	From PoE	Pol/Phase	:	VERTICAL
Test Mode	:	Mode 2, CH06	Temperature	:	23 °C
Test Date	:	Aug. 24, 2018	Humidity	:	68 %



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	2390.00	-15.96	62.71	46.75	54.00	-7.25	Average	379	286	P
2	2390.00	-15.96	76.21	60.25	74.00	-13.75	Peak	379	286	P
3	2483.50	-15.65	59.80	44.15	54.00	-9.85	Average	379	286	P
4	2483.50	-15.65	72.90	57.25	74.00	-16.75	Peak	379	286	P
5	4874.00	-8.65	37.80	29.15	54.00	-24.85	Average	331	230	P
6	4874.00	-8.65	51.50	42.85	74.00	-31.15	Peak	331	230	P
7	7311.00	-4.69	36.79	32.10	54.00	-21.90	Average	100	166	P
8	7311.00	-4.69	54.49	49.80	74.00	-24.20	Peak	100	166	P

Note: Level=Reading+Factor
Margin=Level-Limit
Factor=Antenna Factor + cable loss - Amplifier Factor

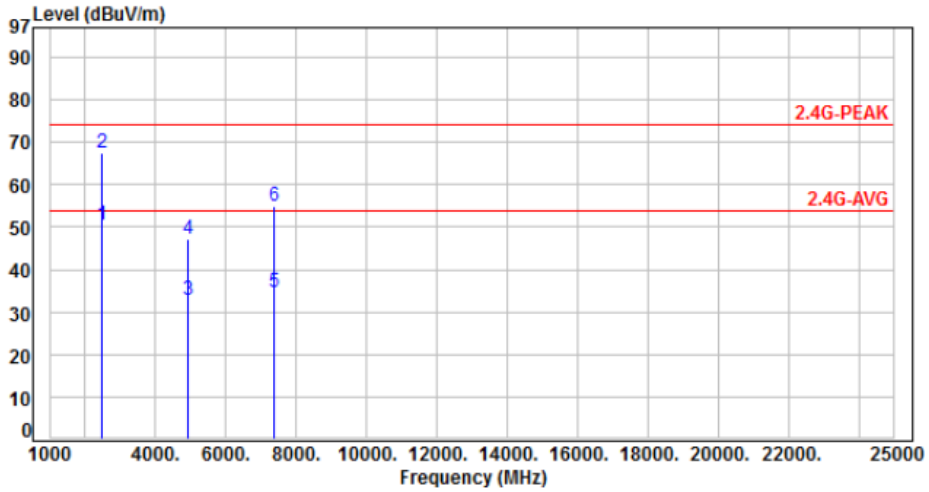
Power	:	From PoE	Pol/Phase	:	HORIZONTAL
Test Mode	:	Mode 2, CH06	Temperature	:	23 °C
Test Date	:	Aug. 24, 2018	Humidity	:	68 %



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	2390.00	-15.96	61.81	45.85	54.00	-8.15	Average	126	135	P
2	2390.00	-15.96	74.91	58.95	74.00	-15.05	Peak	126	135	P
3	2483.50	-15.65	59.20	43.55	54.00	-10.45	Average	126	135	P
4	2483.50	-15.65	71.95	56.30	74.00	-17.70	Peak	126	135	P
5	4874.00	-8.65	45.00	36.35	54.00	-17.65	Average	100	153	P
6	4874.00	-8.65	59.60	50.95	74.00	-23.05	Peak	100	153	P
7	7311.00	-4.69	38.19	33.50	54.00	-20.50	Average	100	347	P
8	7311.00	-4.69	55.69	51.00	74.00	-23.00	Peak	100	347	P

Note: Level=Reading+Factor
Margin=Level-Limit
Factor=Antenna Factor + cable loss - Amplifier Factor

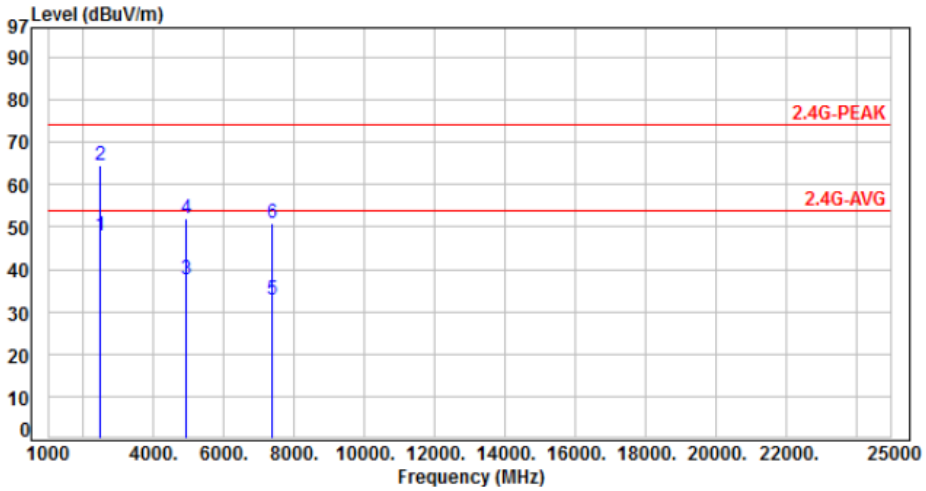
Power	:	From PoE	Pol/Phase	:	VERTICAL
Test Mode	:	Mode 2, CH11	Temperature	:	23 °C
Test Date	:	Aug. 24, 2018	Humidity	:	68 %



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	2483.50	-15.65	66.20	50.55	54.00	-3.45	Average	355	249	P
2	2483.50	-15.65	83.30	67.65	74.00	-6.35	Peak	355	249	P
3	4924.00	-8.49	41.49	33.00	54.00	-21.00	Average	100	227	P
4	4924.00	-8.49	55.59	47.10	74.00	-26.90	Peak	100	227	P
5	7386.00	-4.48	39.11	34.63	54.00	-19.37	Average	100	204	P
6	7386.00	-4.48	59.50	55.02	74.00	-18.98	Peak	100	204	P

Note: Level=Reading+Factor
Margin=Level-Limit
Factor=Antenna Factor + cable loss - Amplifier Factor

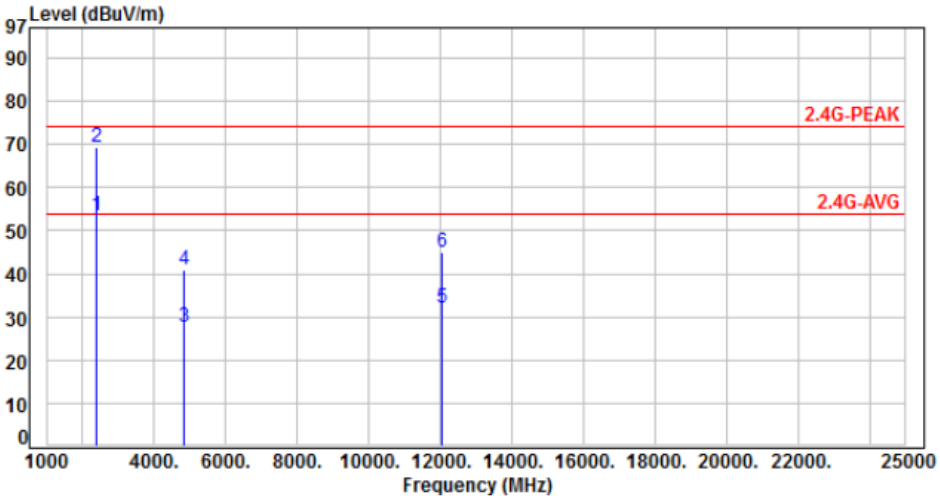
Power	:	From PoE	Pol/Phase	:	HORIZONTAL
Test Mode	:	Mode 2, CH11	Temperature	:	23 °C
Test Date	:	Aug. 24, 2018	Humidity	:	68 %



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	2483.50	-15.65	63.50	47.85	54.00	-6.15	Average	369	180	P
2	2483.50	-15.65	80.10	64.45	74.00	-9.55	Peak	369	180	P
3	4924.00	-8.49	46.19	37.70	54.00	-16.30	Average	122	150	P
4	4924.00	-8.49	60.49	52.00	74.00	-22.00	Peak	122	150	P
5	7386.00	-4.48	37.20	32.72	54.00	-21.28	Average	130	280	P
6	7386.00	-4.48	55.20	50.72	74.00	-23.28	Peak	130	280	P

Note: Level=Reading+Factor
Margin=Level-Limit
Factor=Antenna Factor + cable loss - Amplifier Factor

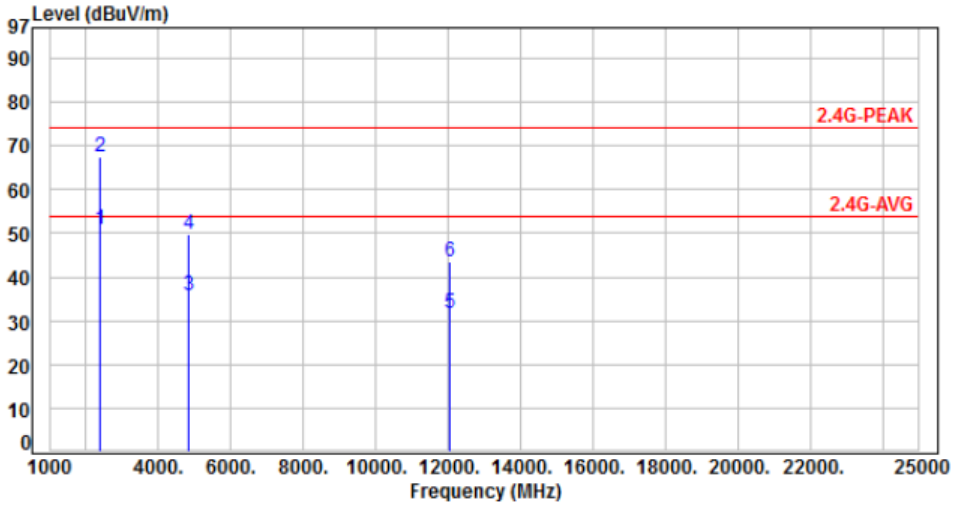
Power	:	From PoE	Pol/Phase	:	VERTICAL
Test Mode	:	Mode 3, CH01	Temperature	:	23 °C
Test Date	:	Aug. 24, 2018	Humidity	:	68 %



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	2390.00	-15.96	69.31	53.35	54.00	-0.65	Average	364	297	P
2	2390.00	-15.96	85.41	69.45	74.00	-4.55	Peak	364	297	P
3	4824.00	-8.80	36.49	27.69	54.00	-26.31	Average	100	199	P
4	4824.00	-8.80	49.79	40.99	74.00	-33.01	Peak	100	199	P
5	12060.00	1.21	31.06	32.27	54.00	-21.73	Average	100	45	P
6	12060.00	1.21	43.61	44.82	74.00	-29.18	Peak	100	45	P

Note: Level=Reading+Factor
Margin=Level-Limit
Factor=Antenna Factor + cable loss - Amplifier Factor

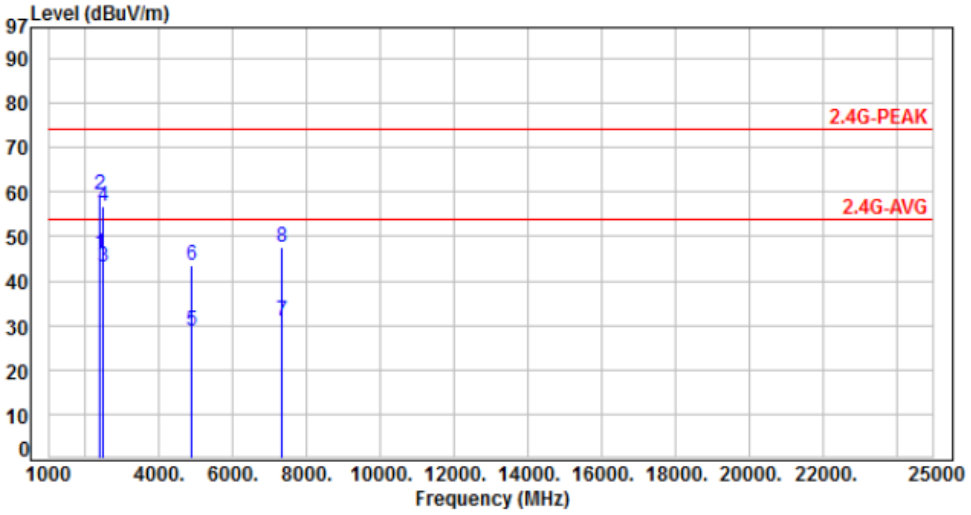
Power	:	From PoE	Pol/Phase	:	HORIZONTAL
Test Mode	:	Mode 3, CH01	Temperature	:	23 °C
Test Date	:	Aug. 24, 2018	Humidity	:	68 %



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	2390.00	-15.96	66.81	50.85	54.00	-3.15	Average	358	147	P
2	2390.00	-15.96	83.53	67.57	74.00	-6.43	Peak	358	147	P
3	4824.00	-8.80	44.62	35.82	54.00	-18.18	Average	100	150	P
4	4824.00	-8.80	58.59	49.79	74.00	-24.21	Peak	100	150	P
5	12060.00	1.21	30.51	31.72	54.00	-22.28	Average	115	340	P
6	12060.00	1.21	42.31	43.52	74.00	-30.48	Peak	115	340	P

Note: Level=Reading+Factor
Margin=Level-Limit
Factor=Antenna Factor + cable loss - Amplifier Factor

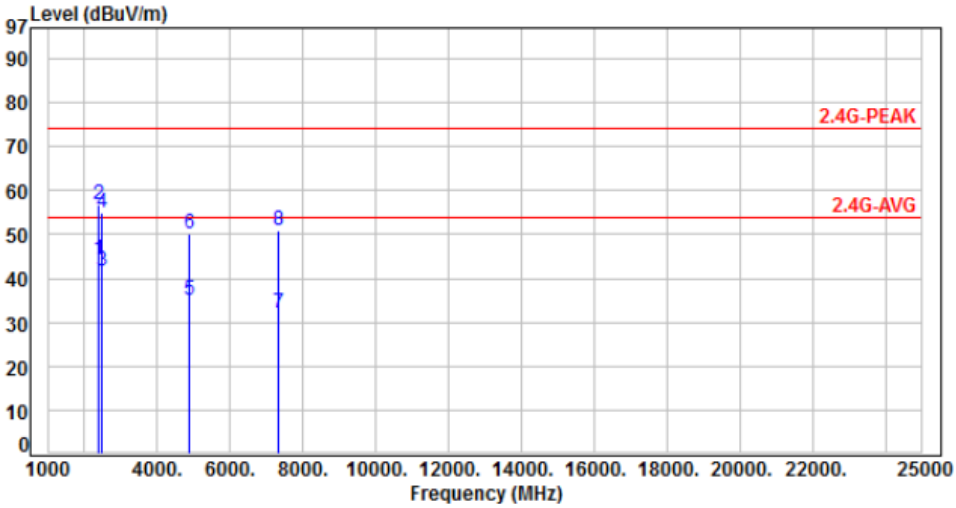
Power	:	From PoE	Pol/Phase	:	VERTICAL
Test Mode	:	Mode 3, CH06	Temperature	:	23 °C
Test Date	:	Aug. 24, 2018	Humidity	:	68 %



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	2390.00	-15.96	62.01	46.05	54.00	-7.95	Average	381	287	P
2	2390.00	-15.96	75.21	59.25	74.00	-14.75	Peak	381	287	P
3	2483.50	-15.65	58.87	43.22	54.00	-10.78	Average	381	287	P
4	2483.50	-15.65	72.60	56.95	74.00	-17.05	Peak	381	287	P
5	4874.00	-8.65	37.50	28.85	54.00	-25.15	Average	100	225	P
6	4874.00	-8.65	52.20	43.55	74.00	-30.45	Peak	100	225	P
7	7311.00	-4.69	35.62	30.93	54.00	-23.07	Average	105	15	P
8	7311.00	-4.69	52.29	47.60	74.00	-26.40	Peak	105	15	P

Note: Level=Reading+Factor
Margin=Level-Limit
Factor=Antenna Factor + cable loss - Amplifier Factor

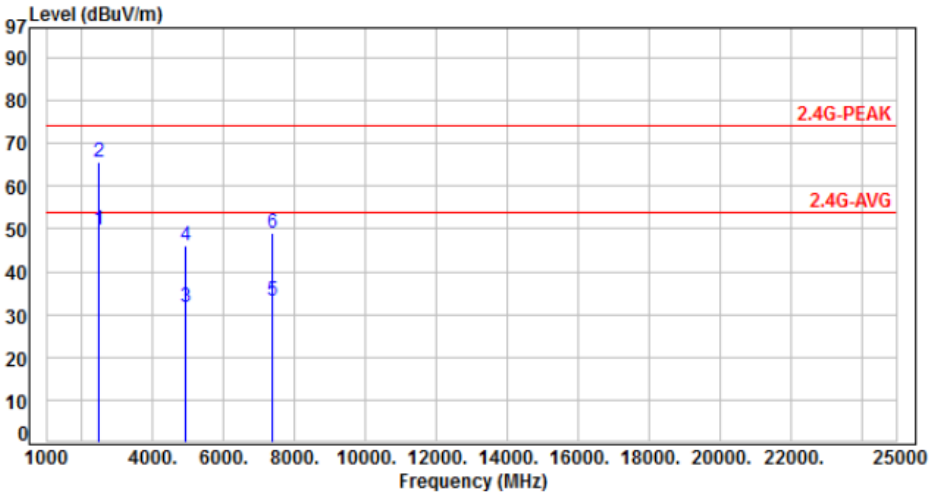
Power	:	From PoE	Pol/Phase	:	HORIZONTAL
Test Mode	:	Mode 3, CH06	Temperature	:	23 °C
Test Date	:	Aug. 24, 2018	Humidity	:	68 %



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	2390.00	-15.96	60.11	44.15	54.00	-9.85	Average	100	130	P
2	2390.00	-15.96	72.91	56.95	74.00	-17.05	Peak	100	130	P
3	2483.50	-15.65	57.50	41.85	54.00	-12.15	Average	100	130	P
4	2483.50	-15.65	70.60	54.95	74.00	-19.05	Peak	100	130	P
5	4874.00	-8.65	43.60	34.95	54.00	-19.05	Average	120	150	P
6	4874.00	-8.65	58.70	50.05	74.00	-23.95	Peak	120	150	P
7	7311.00	-4.69	36.79	32.10	54.00	-21.90	Average	100	339	P
8	7311.00	-4.69	55.49	50.80	74.00	-23.20	Peak	100	339	P

Note: Level=Reading+Factor
Margin=Level-Limit
Factor=Antenna Factor + cable loss - Amplifier Factor

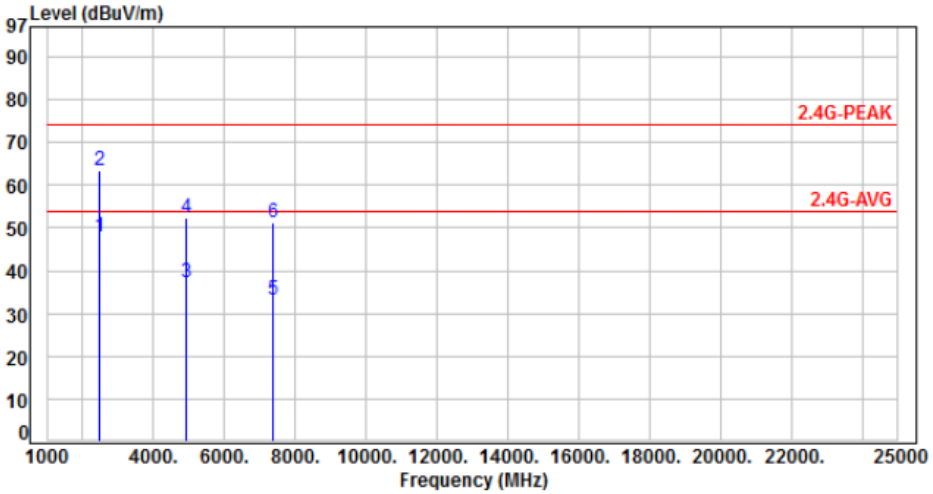
Power	:	From PoE	Pol/Phase	:	VERTICAL
Test Mode	:	Mode 3, CH11	Temperature	:	23 °C
Test Date	:	Aug. 24, 2018	Humidity	:	68 %



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	2483.50	-15.65	65.50	49.85	54.00	-4.15	Average	347	255	P
2	2483.50	-15.65	81.20	65.55	74.00	-8.45	Peak	347	255	P
3	4924.00	-8.49	40.19	31.70	54.00	-22.30	Average	110	229	P
4	4924.00	-8.49	54.59	46.10	74.00	-27.90	Peak	110	229	P
5	7386.00	-4.48	37.51	33.03	54.00	-20.97	Average	115	212	P
6	7386.00	-4.48	53.44	48.96	74.00	-25.04	Peak	115	212	P

Note: Level=Reading+Factor
Margin=Level-Limit
Factor=Antenna Factor + cable loss - Amplifier Factor

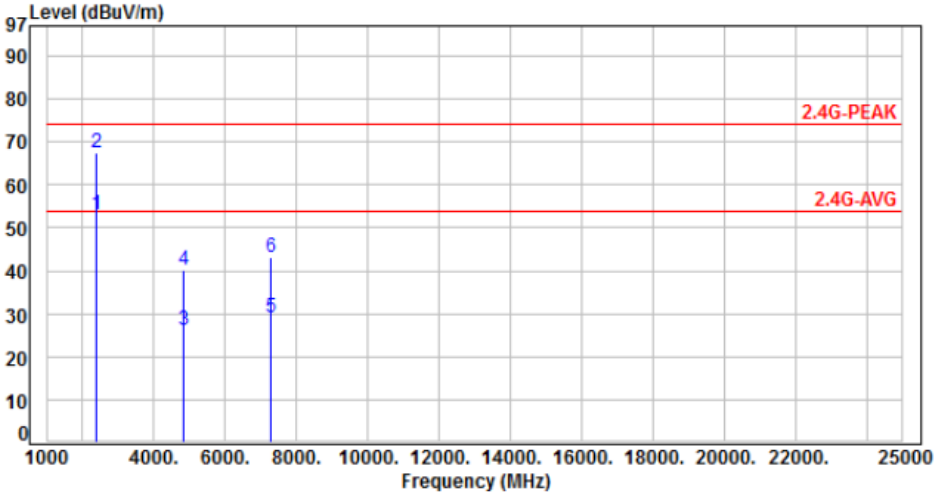
Power	:	From PoE	Pol/Phase	:	HORIZONTAL
Test Mode	:	Mode 3, CH11	Temperature	:	23 °C
Test Date	:	Aug. 24, 2018	Humidity	:	68 %



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	2483.50	-15.65	63.60	47.95	54.00	-6.05	Average	366	172	P
2	2483.50	-15.65	79.20	63.55	74.00	-10.45	Peak	366	172	P
3	4924.00	-8.49	45.59	37.10	54.00	-16.90	Average	100	154	P
4	4924.00	-8.49	60.69	52.20	74.00	-21.80	Peak	100	154	P
5	7386.00	-4.48	37.50	33.02	54.00	-20.98	Average	100	300	P
6	7386.00	-4.48	55.80	51.32	74.00	-22.68	Peak	100	300	P

Note: Level=Reading+Factor
Margin=Level-Limit
Factor=Antenna Factor + cable loss - Amplifier Factor

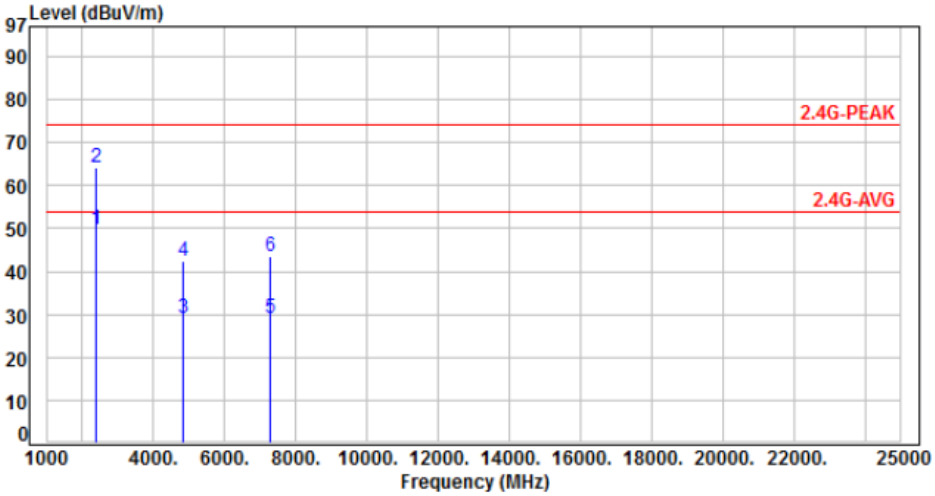
Power	:	From PoE	Pol/Phase	:	VERTICAL
Test Mode	:	Mode 4, CH03	Temperature	:	23 °C
Test Date	:	Aug. 24, 2018	Humidity	:	68 %



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	2390.00	-15.96	69.21	53.25	54.00	-0.75	Average	372	260	P
2	2390.00	-15.96	83.61	67.65	74.00	-6.35	Peak	372	260	P
3	4844.00	-8.74	34.95	26.21	54.00	-27.79	Average	100	101	P
4	4844.00	-8.74	48.80	40.06	74.00	-33.94	Peak	100	101	P
5	7266.00	-4.83	33.81	28.98	54.00	-25.02	Average	100	152	P
6	7266.00	-4.83	47.91	43.08	74.00	-30.92	Peak	100	152	P

Note: Level=Reading+Factor
Margin=Level-Limit
Factor=Antenna Factor + cable loss - Amplifier Factor

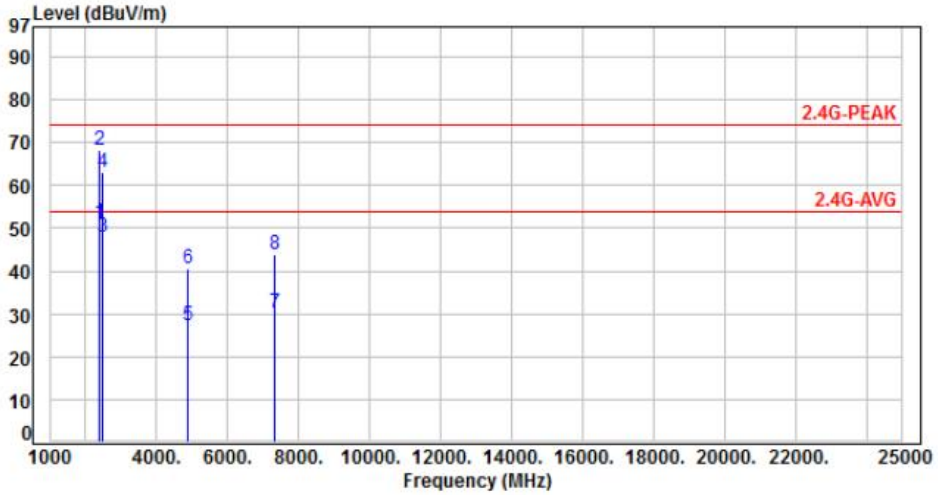
Power	:	From PoE	Pol/Phase	:	HORIZONTAL
Test Mode	:	Mode 4, CH03	Temperature	:	23 °C
Test Date	:	Aug. 24, 2018	Humidity	:	68 %



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	2390.00	-15.96	65.81	49.85	54.00	-4.15	Average	393	0	P
2	2390.00	-15.96	80.21	64.25	74.00	-9.75	Peak	393	0	P
3	4844.00	-8.74	37.70	28.96	54.00	-25.04	Average	217	144	P
4	4844.00	-8.74	51.20	42.46	74.00	-31.54	Peak	217	144	P
5	7266.00	-4.83	33.80	28.97	54.00	-25.03	Average	100	296	P
6	7266.00	-4.83	48.21	43.38	74.00	-30.62	Peak	100	296	P

Note: Level=Reading+Factor
Margin=Level-Limit
Factor=Antenna Factor + cable loss - Amplifier Factor

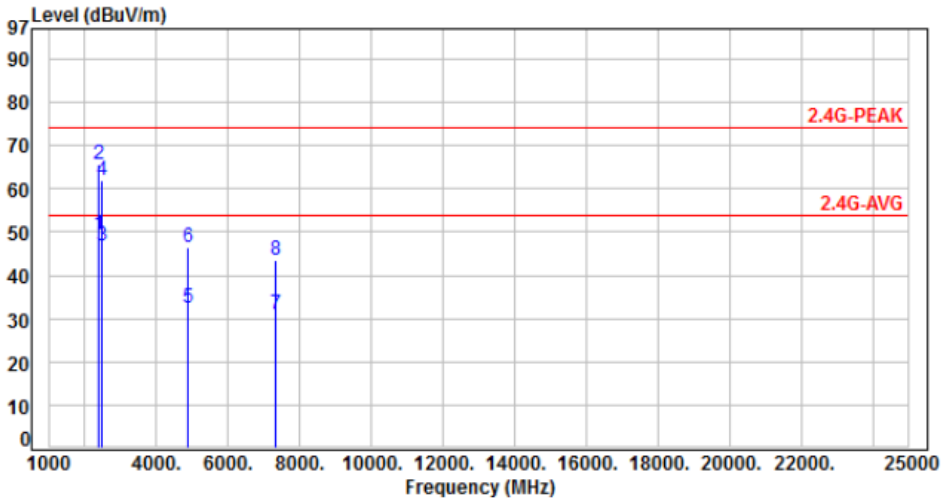
Power	:	From PoE	Pol/Phase	:	VERTICAL
Test Mode	:	Mode 4, CH06	Temperature	:	23 °C
Test Date	:	Aug. 24, 2018	Humidity	:	68 %



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	2390.00	-15.96	67.21	51.25	54.00	-2.75	Average	371	291	P
2	2390.00	-15.96	84.21	68.25	74.00	-5.75	Peak	371	291	P
3	2483.50	-15.65	63.70	48.05	54.00	-5.95	Average	371	291	P
4	2483.50	-15.65	78.80	63.15	74.00	-10.85	Peak	371	291	P
5	4874.00	-8.65	35.90	27.25	54.00	-26.75	Average	284	277	P
6	4874.00	-8.65	49.20	40.55	74.00	-33.45	Peak	284	277	P
7	7311.00	-4.69	34.80	30.11	54.00	-23.89	Average	100	201	P
8	7311.00	-4.69	48.50	43.81	74.00	-30.19	Peak	100	201	P

Note: Level=Reading+Factor
Margin=Level-Limit
Factor=Antenna Factor + cable loss - Amplifier Factor

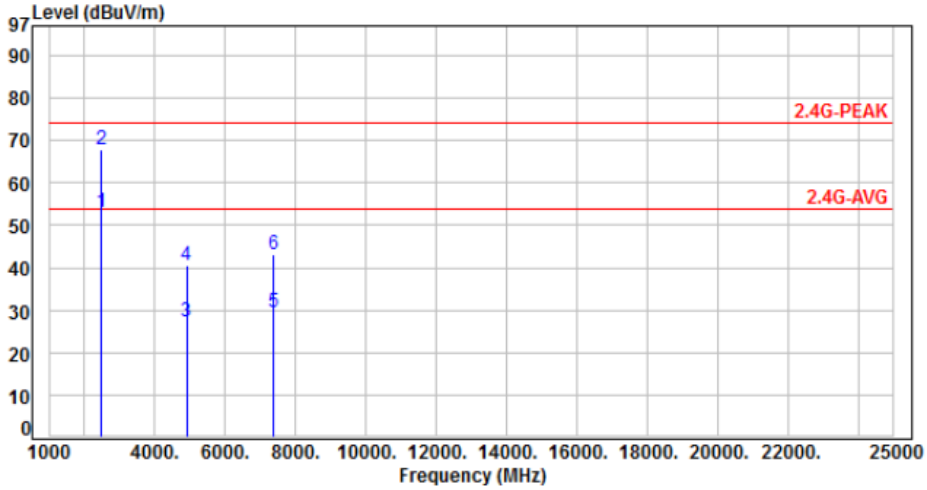
Power	:	From PoE	Pol/Phase	:	HORIZONTAL
Test Mode	:	Mode 4, CH06	Temperature	:	23 °C
Test Date	:	Aug. 24, 2018	Humidity	:	68 %



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	2390.00	-15.96	65.51	49.55	54.00	-4.45	Average	127	136	P
2	2390.00	-15.96	81.51	65.55	74.00	-8.45	Peak	127	136	P
3	2483.50	-15.65	62.60	46.95	54.00	-7.05	Average	127	136	P
4	2483.50	-15.65	77.70	62.05	74.00	-11.95	Peak	127	136	P
5	4874.00	-8.65	41.20	32.55	54.00	-21.45	Average	120	150	P
6	4874.00	-8.65	55.30	46.65	74.00	-27.35	Peak	120	150	P
7	7311.00	-4.69	35.85	31.16	54.00	-22.84	Average	105	330	P
8	7311.00	-4.69	48.09	43.40	74.00	-30.60	Peak	105	330	P

Note: Level=Reading+Factor
Margin=Level-Limit
Factor=Antenna Factor + cable loss - Amplifier Factor

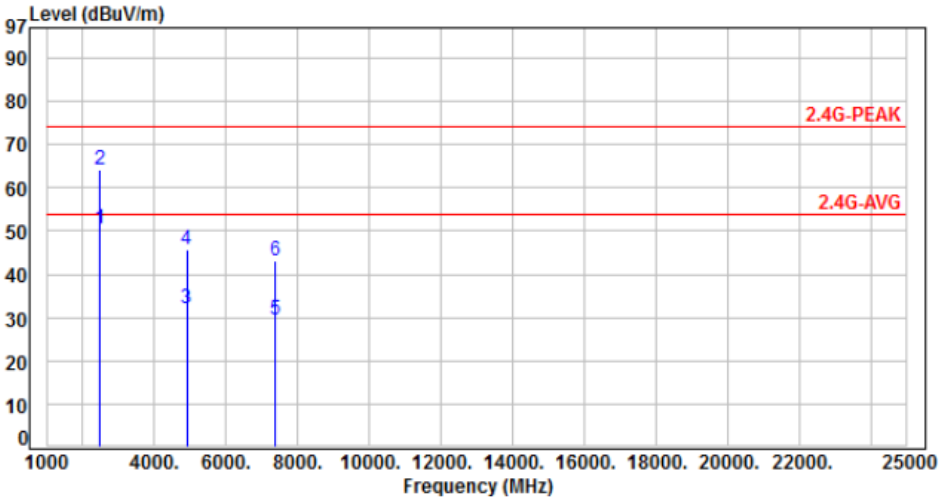
Power	:	From PoE	Pol/Phase	:	VERTICAL
Test Mode	:	Mode 4, CH09	Temperature	:	23 °C
Test Date	:	Aug. 24, 2018	Humidity	:	68 %



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	2483.50	-15.65	68.80	53.15	54.00	-0.85	Average	355	250	P
2	2483.50	-15.65	83.50	67.85	74.00	-6.15	Peak	355	250	P
3	4904.00	-8.56	36.00	27.44	54.00	-26.56	Average	100	195	P
4	4904.00	-8.56	49.20	40.64	74.00	-33.36	Peak	100	195	P
5	7356.00	-4.57	34.10	29.53	54.00	-24.47	Average	100	220	P
6	7356.00	-4.57	47.80	43.23	74.00	-30.77	Peak	100	220	P

Note: Level=Reading+Factor
Margin=Level-Limit
Factor=Antenna Factor + cable loss - Amplifier Factor

Power	:	From PoE	Pol/Phase	:	HORIZONTAL
Test Mode	:	Mode 4, CH09	Temperature	:	23 °C
Test Date	:	Aug. 24, 2018	Humidity	:	68 %



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	2483.50	-15.65	66.10	50.45	54.00	-3.55	Average	367	180	P
2	2483.50	-15.65	79.80	64.15	74.00	-9.85	Peak	367	180	P
3	4904.00	-8.56	40.70	32.14	54.00	-21.86	Average	130	150	P
4	4904.00	-8.56	54.20	45.64	74.00	-28.36	Peak	130	150	P
5	7356.00	-4.57	33.92	29.35	54.00	-24.65	Average	110	351	P
6	7356.00	-4.57	47.64	43.07	74.00	-30.93	Peak	110	351	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

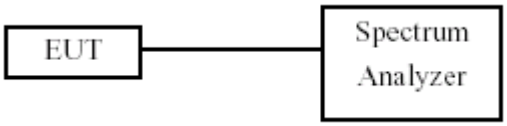
7.1 Test Limit

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

7.2 Test Procedure

a. The transmitter output was connected to the spectrum analyzer via a low loss cable.
b. 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.
c. 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.
d. The band edges was measured and recorded.

7.3 Test Setup Layout

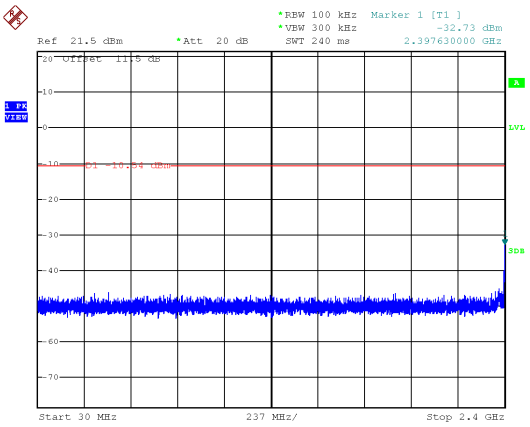


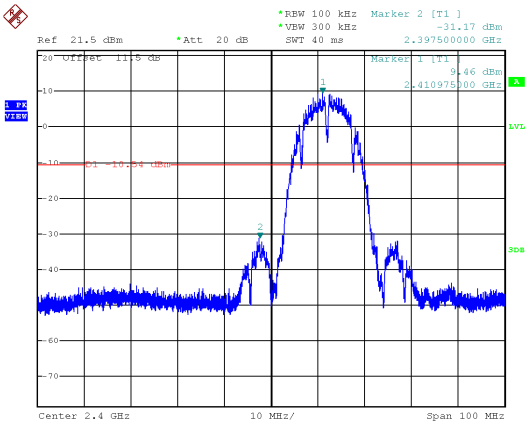
7.4 Test Result and Data

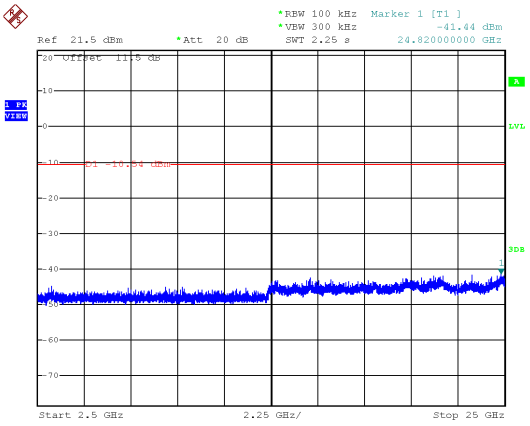
Test Result	:	PASS	Temperature	:	22°C
Test Date	:	Sep. 18, 2018	Humidity	:	61%

Note: Test plots refers to the following pages.

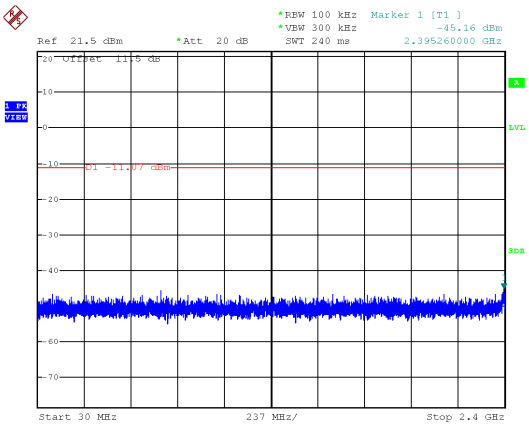
Modulation Type: 802.11b, CH01

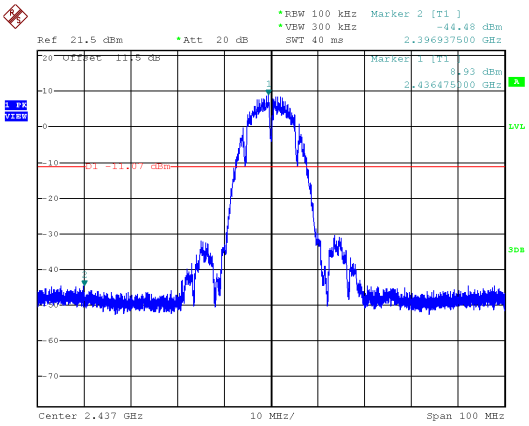


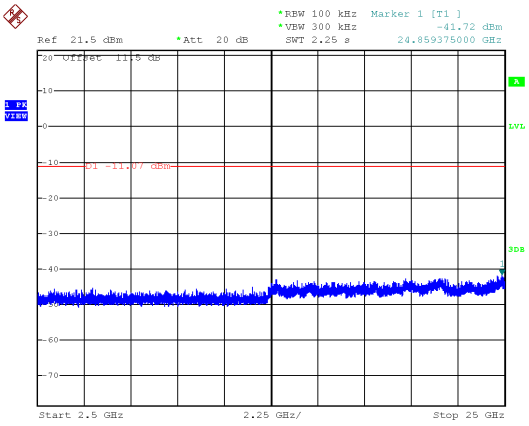




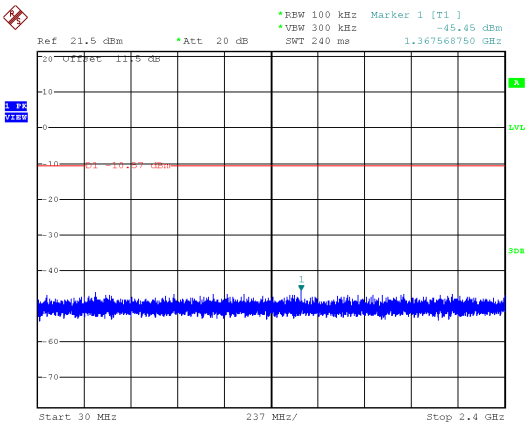
Modulation Type: 802.11b, CH06



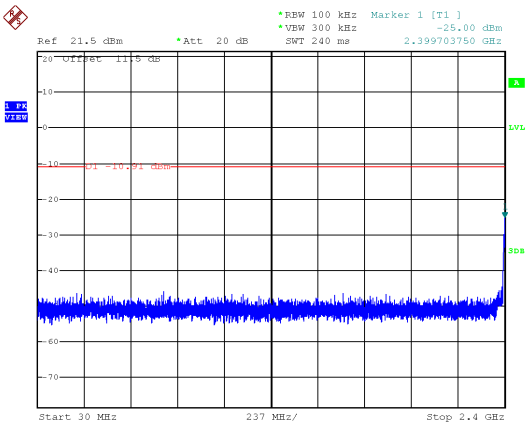


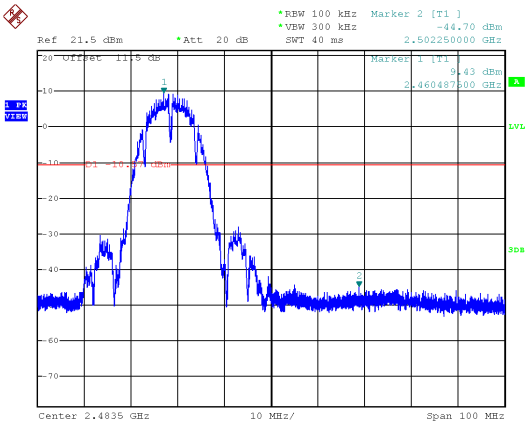


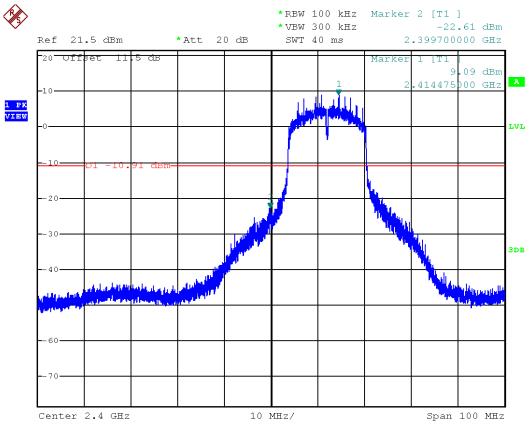
Modulation Type: 802.11b, CH11

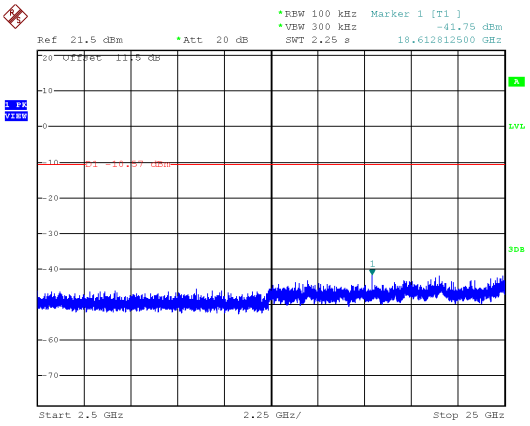


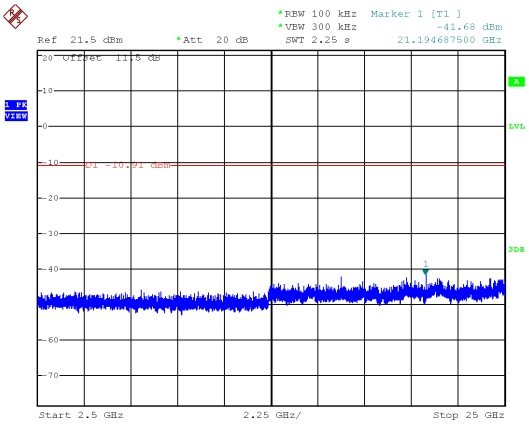
Modulation Type: 802.11g, CH01



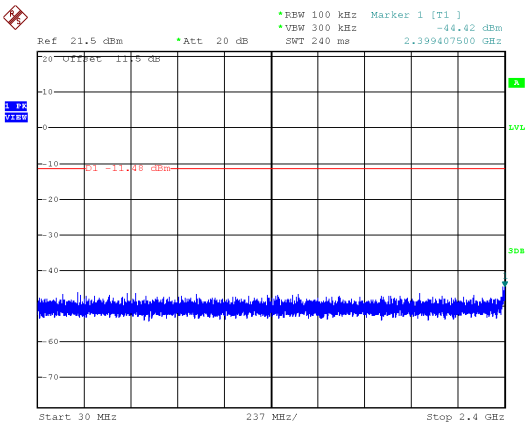


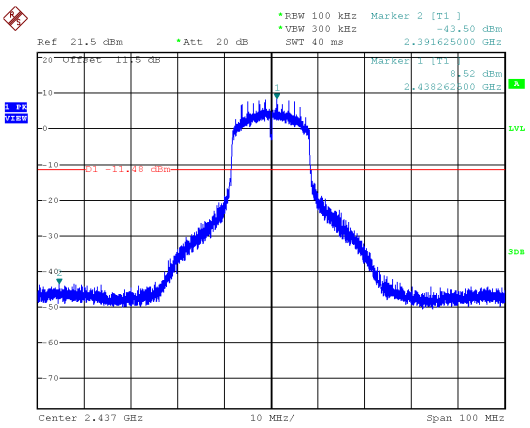


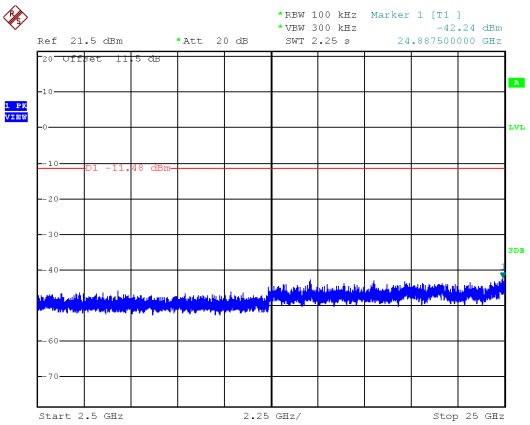




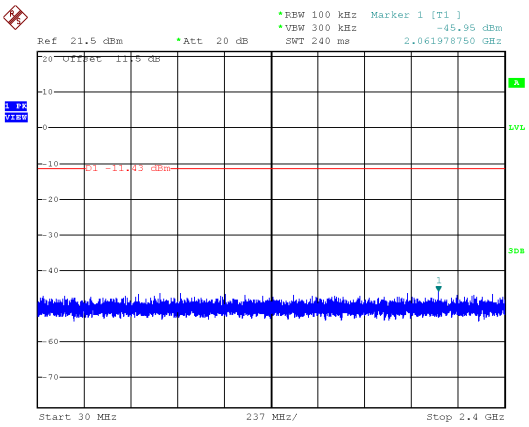
Modulation Type: 802.11g, CH06

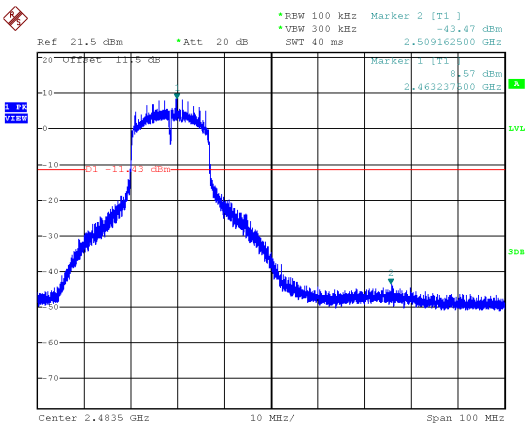


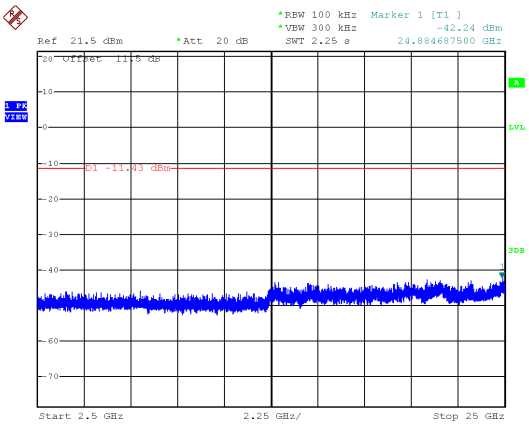




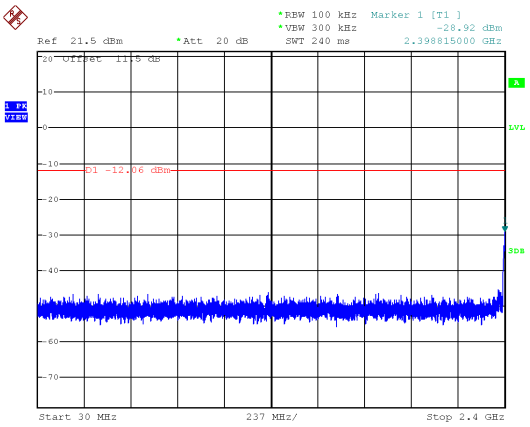
Modulation Type: 802.11g, CH11

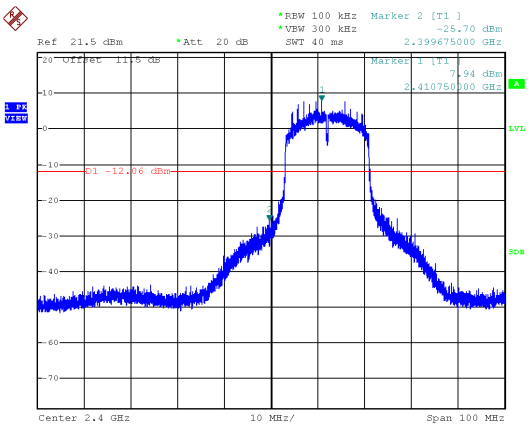


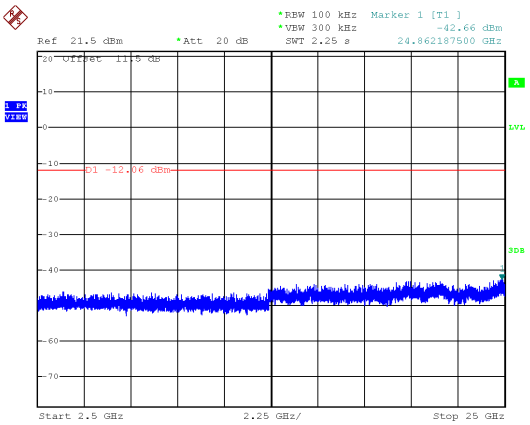




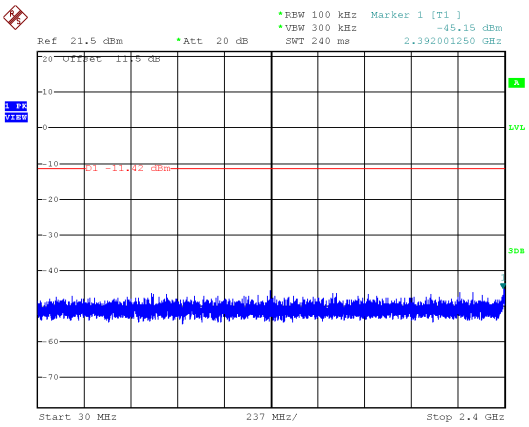
Modulation Type: 802.11n HT20, CH01

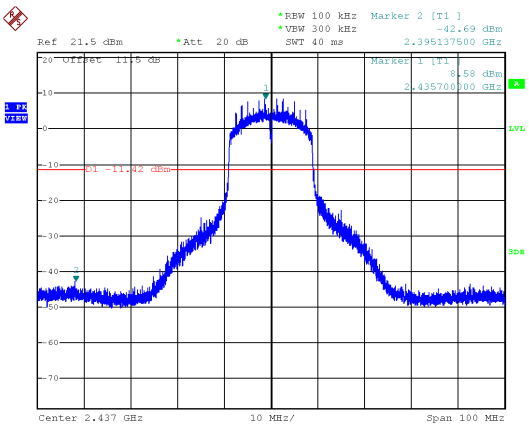


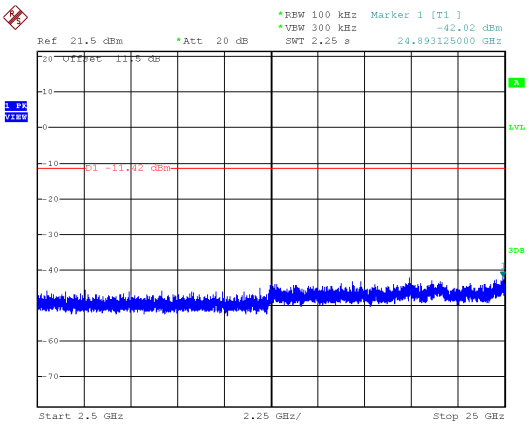




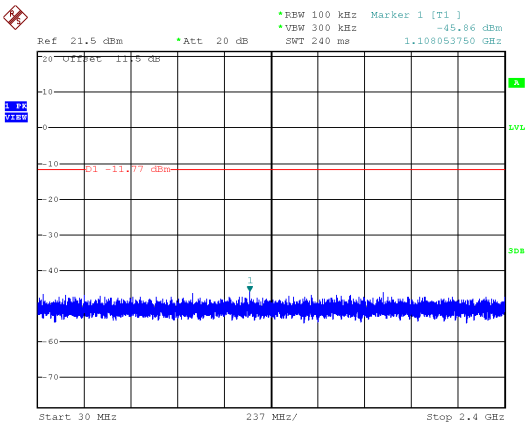
Modulation Type: 802.11n HT20, CH06

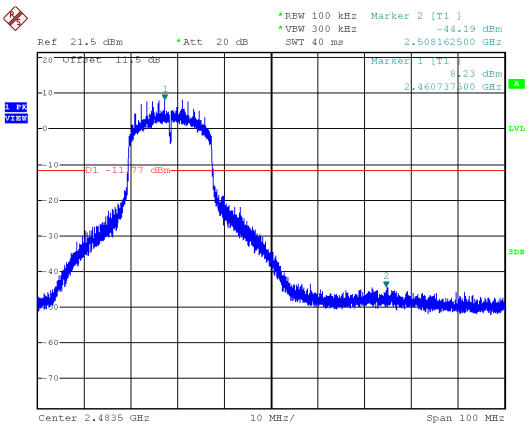


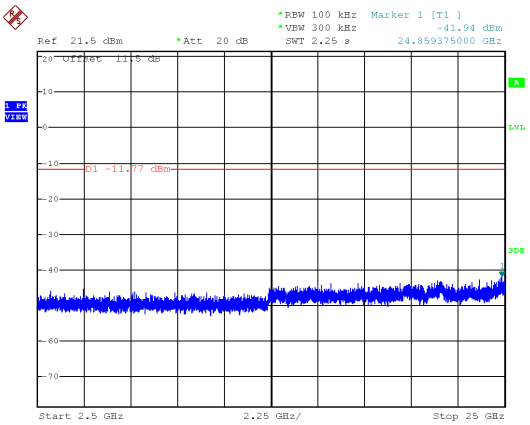




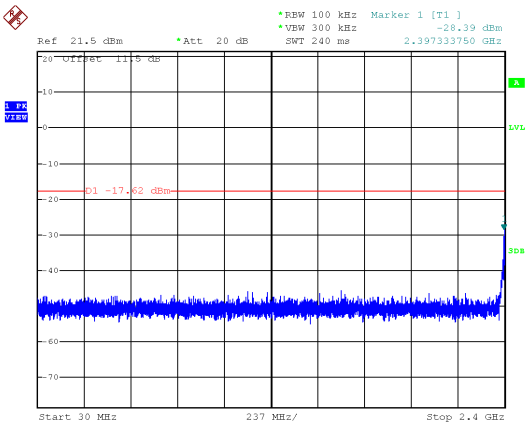
Modulation Type: 802.11n HT20, CH11

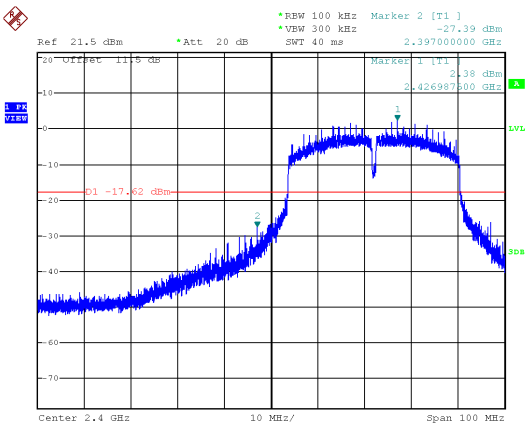


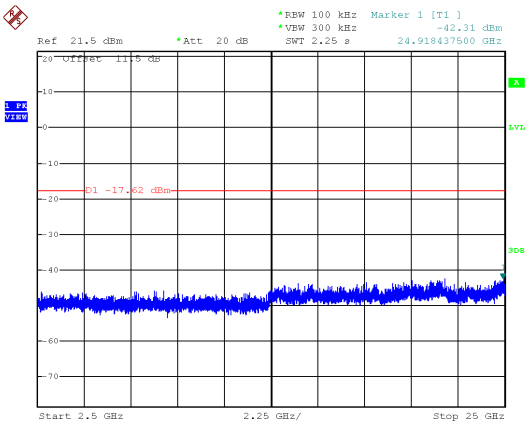




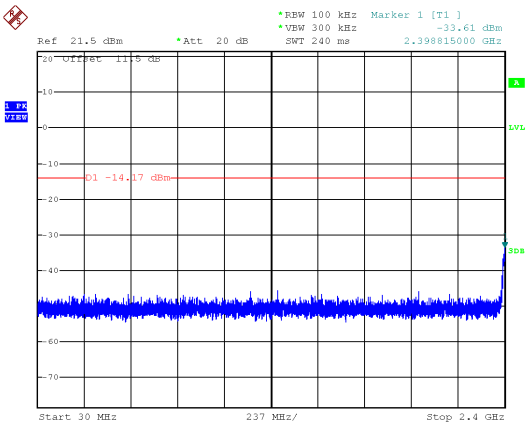
Modulation Type: 802.11n HT40, CH03

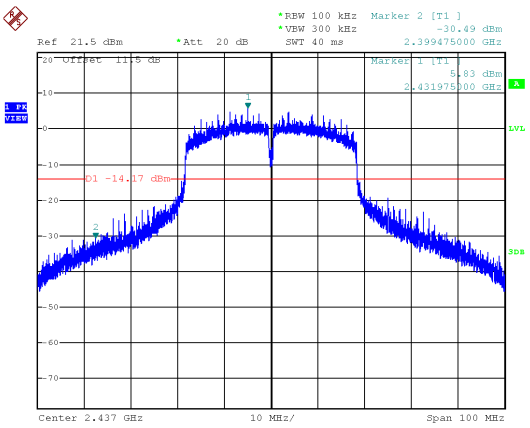


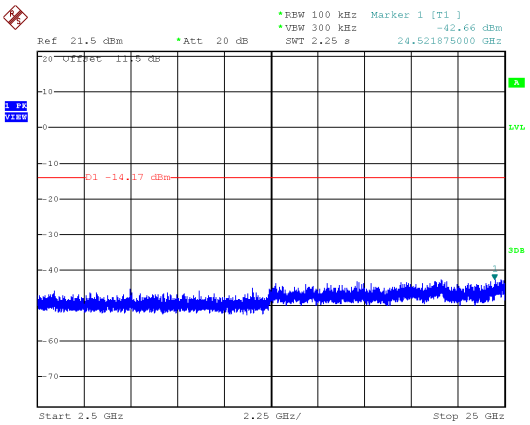




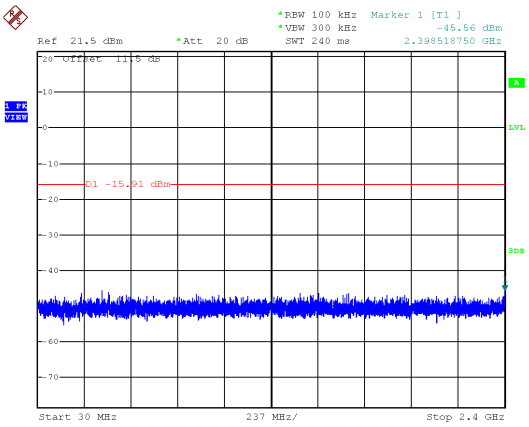
Modulation Type: 802.11n HT40, CH06

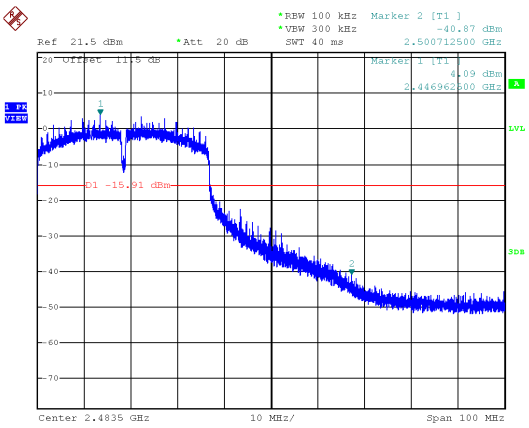


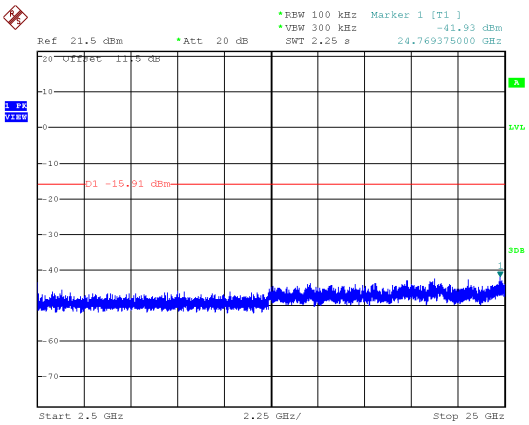




Modulation Type: 802.11n HT40, CH09







8. On Time, Duty Cycle and Measurement methods

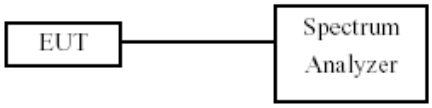
8.1 Test Limit

None; for reporting purposes only.

8.2 Test Procedure

KDB 558074 Zero-Span Spectrum Analyzer Method.

8.3 Test Setup Layout

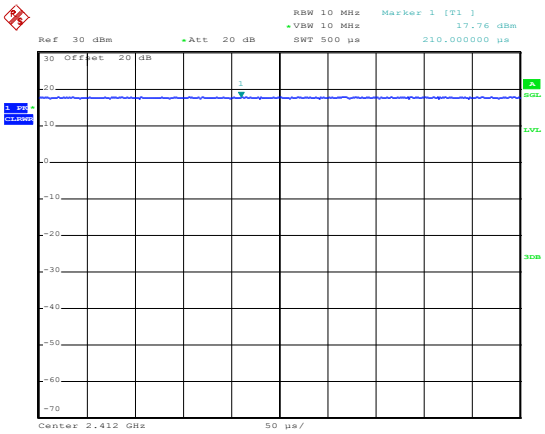


8.4 Test Result and Data

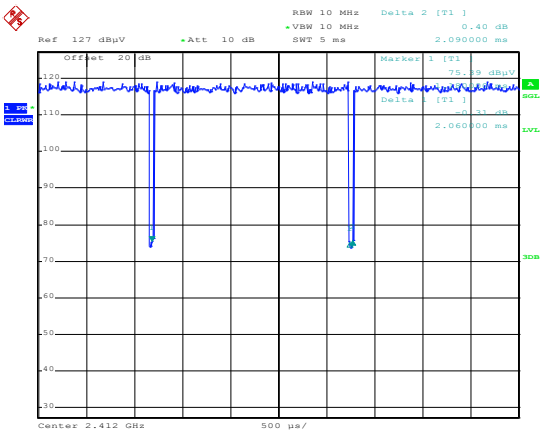
Test Result	: PASS	Temperature	: 22°C
Test Date	: Sep. 18, 2018	Humidity	: 61%

Modulation Type	On Time (ms)	Period Time (ms)	Duty Cycle (%)
802.11b	100.00	100.00	100.00%
802.11g	2.06	2.09	98.56%
802.11n HT20	1.91	1.94	98.45%
802.11n HT40	0.95	0.97	97.53%

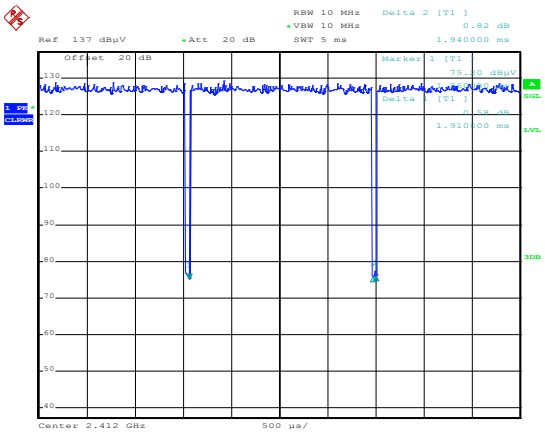
Modulation Standard: 802.11b (1Mbps)



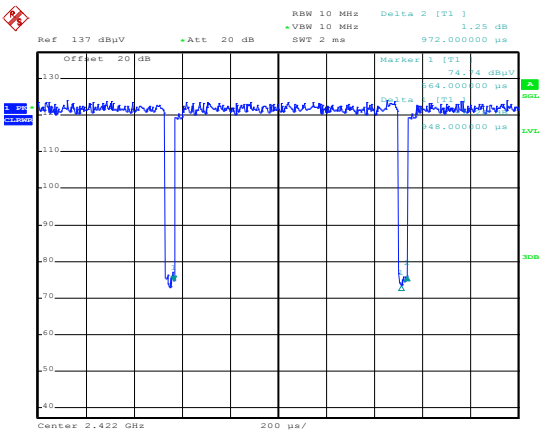
Modulation Standard: 802.11g (6Mbps)



Modulation Standard: 802.11n HT20 (6.5Mbps)



Modulation Standard: 802.11n HT40 (13.5Mbps)



9. 6dB Bandwidth Measurement Data

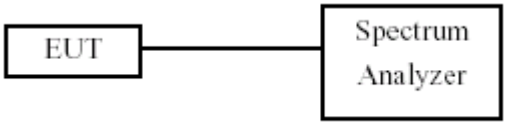
9.1 Test Limit

The minimum of 6dB Bandwidth Measurement is 0.5 MHz.

9.2 Test Procedures

a. The transmitter output was connected to the spectrum analyzer.
b. Set RBW of spectrum analyzer to 1~5% of the emission bandwidth and VBW ≥ 3x RBW.
c. The 6 dB bandwidth is defined as the total spectrum the power of which is higher than peak power minus 6 dB.
d. The 6dB Bandwidth was measured and recorded.

9.3 Test Setup Layout

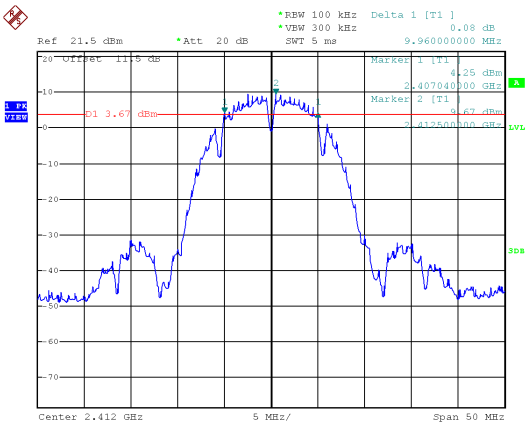


9.4 Test Result and Data

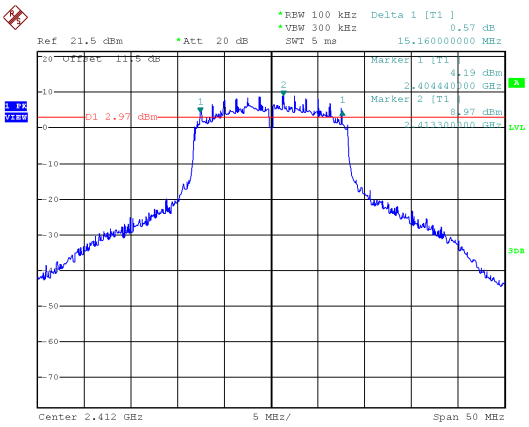
Test Result	: PASS	Temperature	: 22°C
Test Date	: Sep. 18, 2018	Humidity	: 61%

Modulation Type	Channel	Frequency (MHz)	6dB Bandwidth (MHz)	Limit (MHz)
IEEE 802.11b (1Mbps)	01	2412	9.96	0.5
	06	2437	9.96	0.5
	11	2462	9.96	0.5
IEEE 802.11g (6Mbps)	01	2412	15.16	0.5
	06	2437	15.10	0.5
	11	2462	15.10	0.5
IEEE 802.11n HT20 (6.5Mbps)	01	2412	15.20	0.5
	06	2437	15.10	0.5
	11	2462	15.20	0.5
IEEE 802.11n HT40 (13.5Mbps)	03	2422	34.00	0.5
	06	2437	34.00	0.5
	09	2452	34.00	0.5

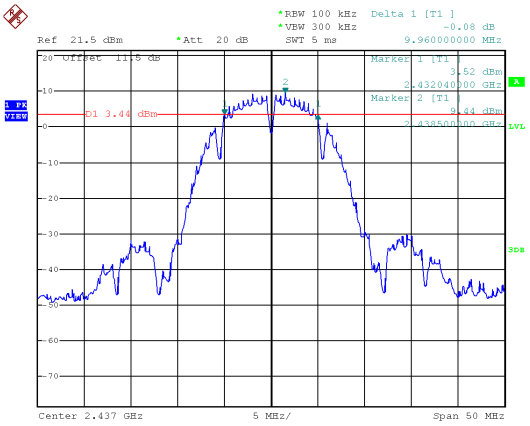
Modulation Type: 802.11b, CH01



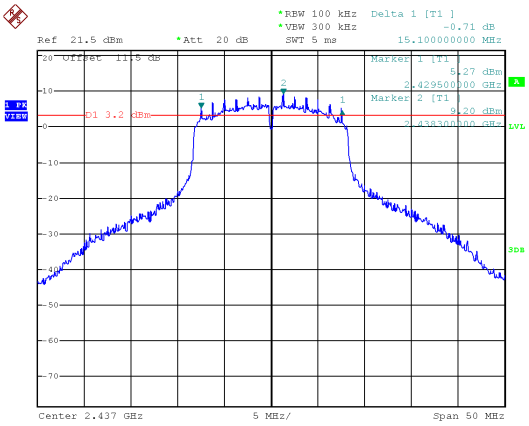
Modulation Type: 802.11g, CH01



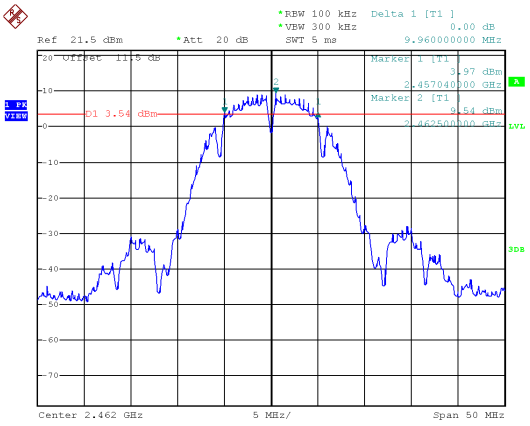
Modulation Type: 802.11b, CH06



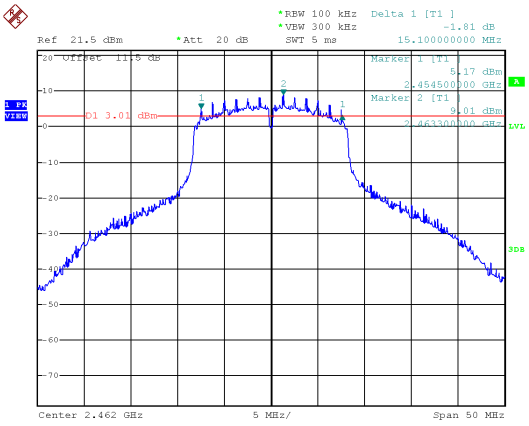
Modulation Type: 802.11g, CH06



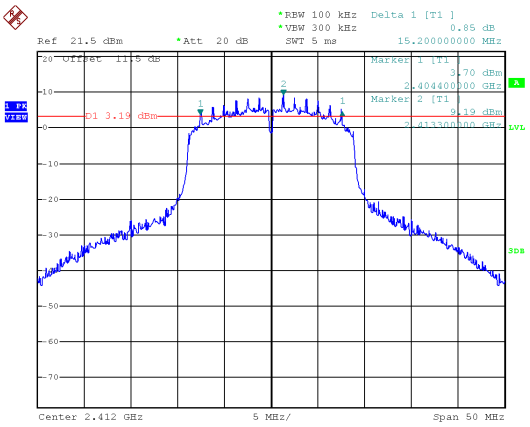
Modulation Type: 802.11b, CH11



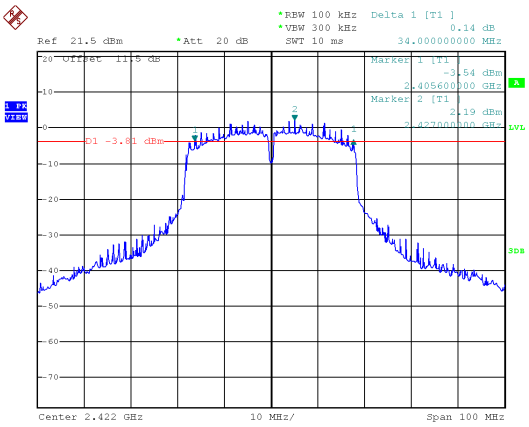
Modulation Type: 802.11g, CH11



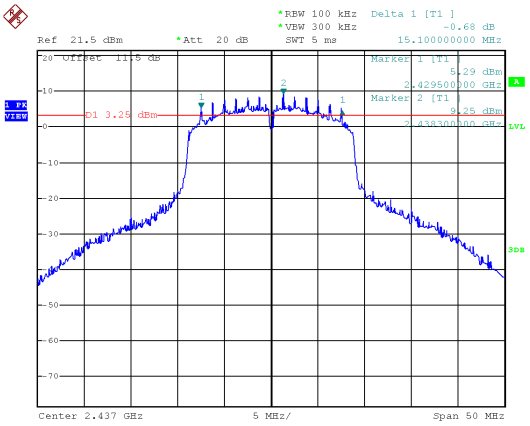
Modulation Type: 802.11n HT20, CH01



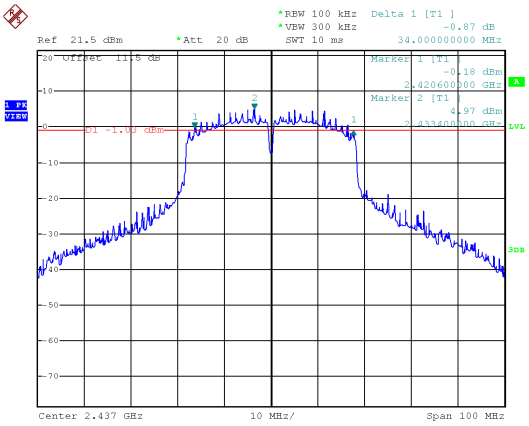
Modulation Type: 802.11n HT40, CH03



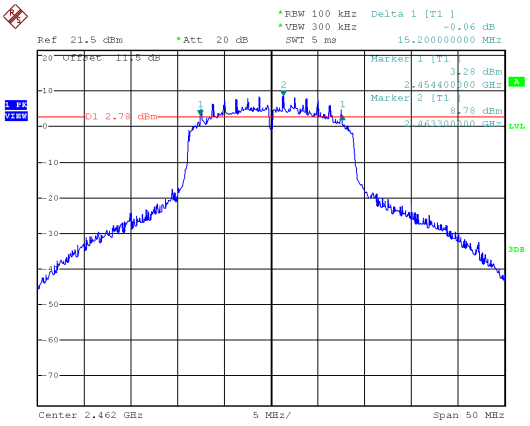
Modulation Type: 802.11n HT20, CH06



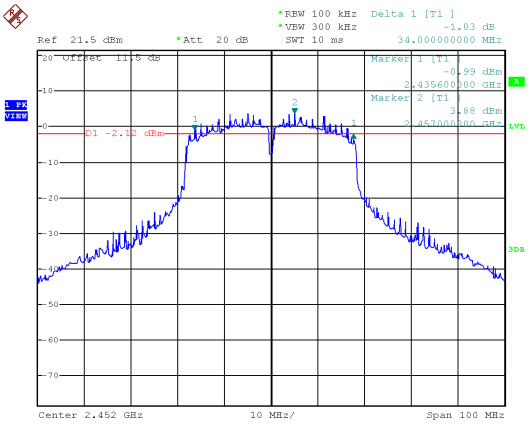
Modulation Type: 802.11n HT40, CH06



Modulation Type: 802.11n HT20, CH11



Modulation Type: 802.11n HT40, CH09



10. Maximum Peak and Average Output Power

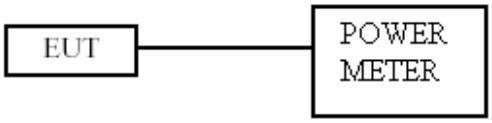
10.1 Test Limit

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

10.2 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.

10.3 Test Setup Layout



10.4 Test Result and Data

Test Result : PASS
Test Date : Sep. 18, 2018
Temperature : 22°C
Humidity : 61%

Modulation Type	Channel	Frequency (MHz)	Conducted (PK) output power (dBm)	Total PK power (dBm)	Total PK power (mW)	Powe Limit (dBm)
IEEE 802.11b (1Mbps)	01	2412	20.90	20.90	123.027	30.00
	06	2437	20.84	20.84	121.339	30.00
	11	2462	21.20	21.20	131.826	30.00
IEEE 802.11g (6Mbps)	01	2412	25.33	25.33	341.193	30.00
	06	2437	25.00	25.00	316.228	30.00
	11	2462	24.93	24.93	311.172	30.00
IEEE 802.11n HT20 (6.5Mbps)	01	2412	25.03	25.03	318.420	30.00
	06	2437	24.98	24.98	314.775	30.00
	11	2462	24.68	24.68	293.765	30.00
IEEE 802.11n HT40 (13.5Mbps)	03	2422	20.14	20.14	103.276	30.00
	06	2437	23.22	23.22	209.894	30.00
	09	2452	22.12	22.12	162.930	30.00

Modulation Type	Channel	Frequency (MHz)	Conducted (AV) output power (dBm)	Total AV power (dBm)	Total AV power (mW)	Powe Limit (dBm)
IEEE 802.11b (1Mbps)	01	2412	18.50	18.50	70.795	NA
	06	2437	18.46	18.46	70.146	NA
	11	2462	18.90	18.90	77.625	NA
IEEE 802.11g (6Mbps)	01	2412	19.50	19.50	89.125	NA
	06	2437	19.53	19.53	89.743	NA
	11	2462	19.51	19.51	89.331	NA
IEEE 802.11n HT20 (6.5Mbps)	01	2412	18.83	18.83	76.384	NA
	06	2437	19.21	19.21	83.368	NA
	11	2462	19.24	19.24	83.946	NA
IEEE 802.11n HT40 (13.5Mbps)	03	2422	15.11	15.11	32.434	NA
	06	2437	18.88	18.88	77.268	NA
	09	2452	17.55	17.55	56.885	NA

Note: Average power is for reference only.

11. Power Spectral Density

11.1 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

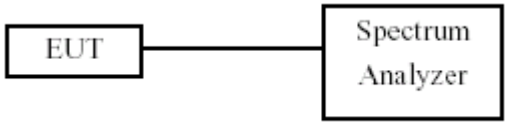
11.2 Test Procedures

a. The transmitter output was connected to spectrum analyzer.

b. 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.

c. The power spectral density was measured and recorded.

11.3 Test Setup Layout

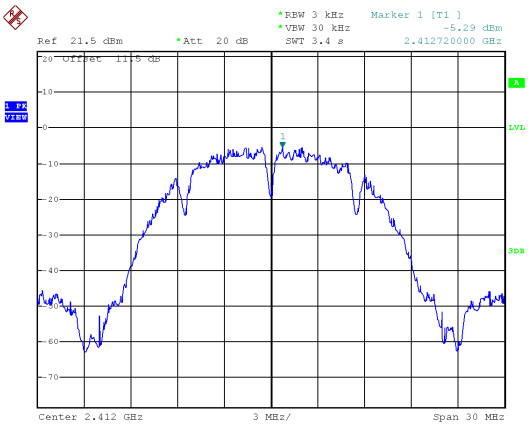


11.4 Test Result and Data

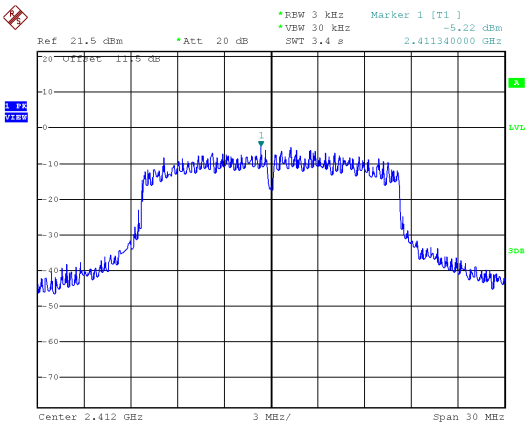
Test Result	: PASS	Temperature	: 22°C
Test Date	: Sep. 18, 2018	Humidity	: 61%

Modulation Type	Channel	Frequency (MHz)	Maximum Power Density of 3KHz Bandwidth (dBm)	Sum chain (dBm)	Duty Cycle CF(dB)	Total PSD (dBm)	Limit (dBm)
IEEE 802.11b (1Mbps)	01	2412	-5.29	-5.29	0.00	-5.29	8.00
	06	2437	-5.24	-5.24	0.00	-5.24	8.00
	11	2462	-5.44	-5.44	0.00	-5.44	8.00
IEEE 802.11g (6Mbps)	01	2412	-5.22	-5.22	0.00	-5.22	8.00
	06	2437	-6.42	-6.42	0.00	-6.42	8.00
	11	2462	-5.79	-5.79	0.00	-5.79	8.00
IEEE 802.11n HT20 (6.5Mbps)	01	2412	-5.79	-5.79	0.00	-5.79	8.00
	06	2437	-6.24	-6.24	0.00	-6.24	8.00
	11	2462	-5.74	-5.74	0.00	-5.74	8.00
IEEE 802.11n HT40 (13.5Mbps)	03	2422	-11.17	-11.17	0.00	-11.17	8.00
	06	2437	-10.13	-10.13	0.00	-10.13	8.00
	09	2452	-10.9	-10.90	0.00	-10.90	8.00

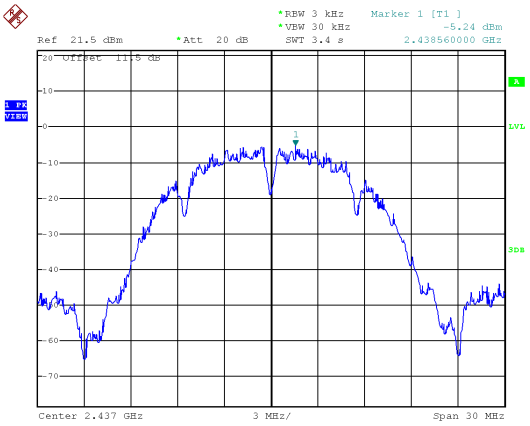
Modulation Type: 802.11b, CH01



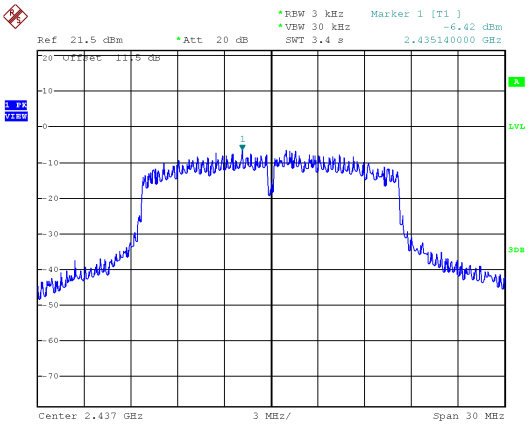
Modulation Type: 802.11g, CH01



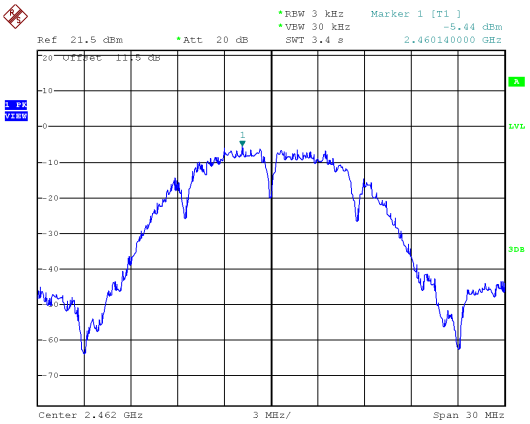
Modulation Type: 802.11b, CH06



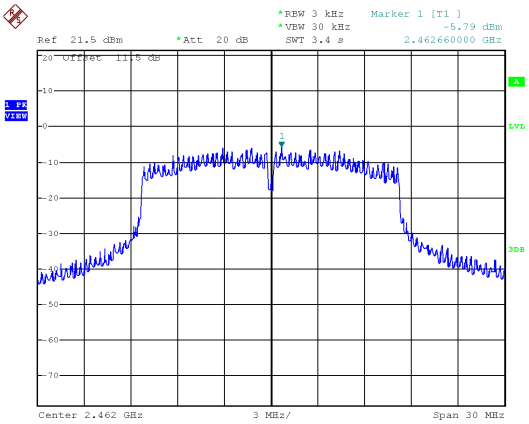
Modulation Type: 802.11g, CH06



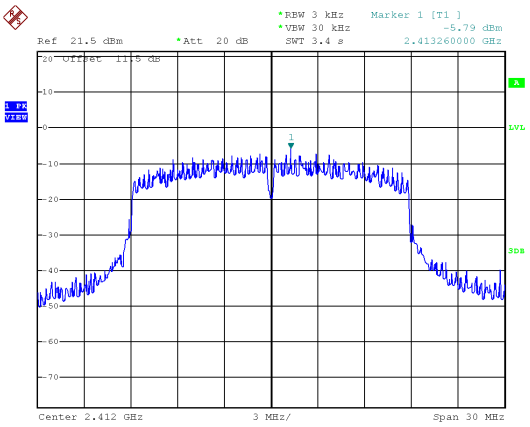
Modulation Type: 802.11b, CH11



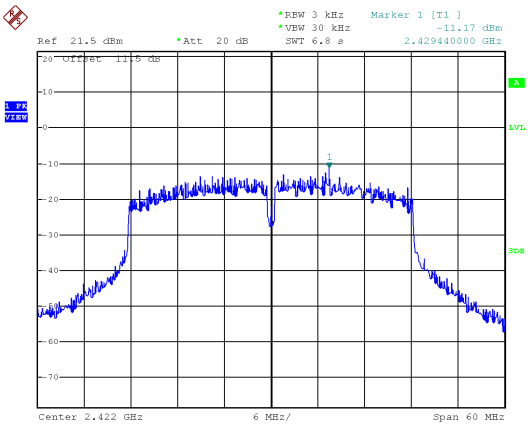
Modulation Type: 802.11g, CH11



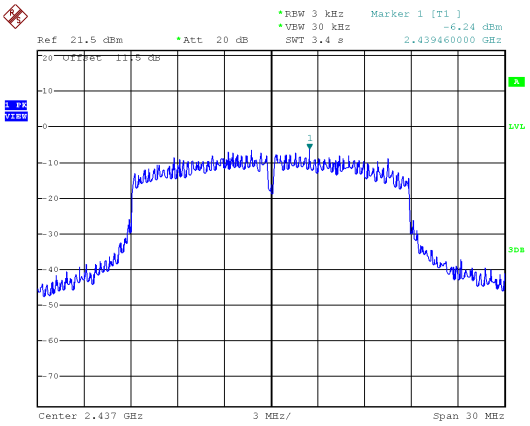
Modulation Type: 802.11n HT20, CH01



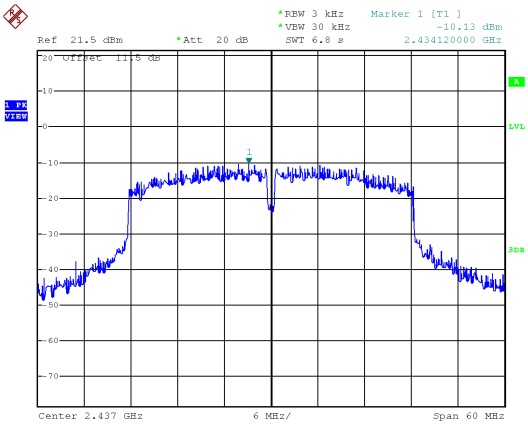
Modulation Type: 802.11n HT40, CH03



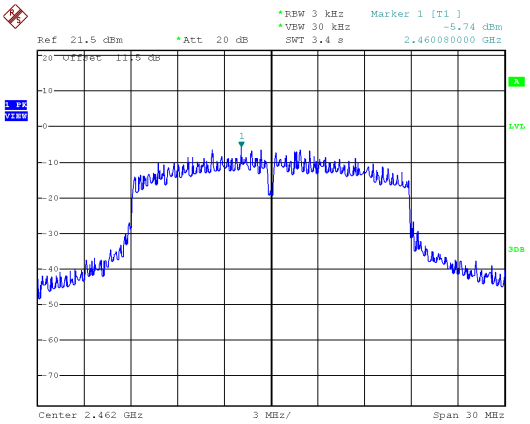
Modulation Type: 802.11n HT20, CH06



Modulation Type: 802.11n HT40, CH06



Modulation Type: 802.11n HT20, CH11



Modulation Type: 802.11n HT40, CH09