FCC RADIO TEST REPORT

Applicant	:	Hunt Electronic Co., Ltd.
Address	:	9F, No. 171, Sec 2, Datong Rd, Xizhi Dist., New Taipei City, 221, Taiwan
Equipment	:	Wireless IP CAMERA
Model No.	:	HLC-8JMD, HLC-8JMM, HLC-8JMD/W
Trade Name	:	HUNT
FCC ID	:	UTBHLC8JMD

I HEREBY CERTIFY THAT :

The sample was received on Dec. 15, 2017 and the testing was carried out on Jan. 31, 2018 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 / Assistant Manager

Tested by:

Spree Yei / Engineer

Laboratory Accreditation:

Cerpass Technology Corporation Test Laboratory

Contents

History of this test report

Report No.	Issue Date	Description
TEFI1709136	Feb. 06, 2018	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

Frequency Range	2.4G: 2412-2462MHz
Modulation Type	OFDM, DSSS
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/gain	Internal Antenna / 3.24 dBi

2.2 Difference of model numbers

The difference between all model numbers are for marketing purpose, the EUT design, circuit diagram and layout are the same.

2.3 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 (2412MHz~2462MHz)

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.

2.4 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 EUT for RF test.
c. An executive program," UI Control" under WIN 7 was executed to transmit and receive data via WLAN.
d. The following test modes were performed for the test:

Test Mode	Operating Description
1	802.11b (1Mbps)
2	802.11g (6Mbps)
3	802.11n HT20 (6.5Mbps)
4	802.11n HT40 (13.5Mbps)
For conduction and radiation test (below 1GHz) test, caused "Test Mode 2" generated the worst case, it was reported as the final data. For radiation test (above 1GHz), caused "Test Mode 1~4" generated the worst case, they were reported as the final data.	

2.5 Description of Test System

The test system is without Peripheral.

2.6 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.	

2.7 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	2017/03/07	2018/03/06
LISN	Schwarzbeck	NSLK 8127	8127-568	2017/02/15	2018/02/14
Pulse Limiter	R&S	ESH3-Z2	101934	2017/02/14	2018/02/13
Bilog Antenna	Schwarzbeck	VULB9168	369	2017/03/15	2018/03/14
Active Loop Antenna	EMCO	6507	40855	2017/05/15	2018/05/14
Horn Antenna	EMCO	3115	31589	2017/02/18	2018/02/17
Horn Anrenna	EMCO	3116	31970	2017/03/29	2018/03/28
EXA Signal Analyzer	KEYSIGHT	N9010A	MY54200207	2017/03/17	2018/03/16
Preamplifier	EM	EM330	60660	2017/02/25	2018/02/24
Preamplifier	EMC INSTRUMENTS	EMC051845SE	980333	2017/09/20	2018/09/19
Preamplifier	Agilent	8449B	3008A01954	2017/02/09	2018/02/08
Preamplifier	EMC INSTRUMENTS	EMC184045	980065	2017/11/10	2018/11/09
MXG MW Analog Signal Generator	KEYSIGHT	N5183A	MY50142931	2017/03/17	2018/03/16
Spectrum Analyzer	R&S	FSP40	100219	2017/07/01	2018/06/30
BLUETOOTH TESTER	R&S	CBT	101133	2017/03/10	2018/03/09
Attenuator	KEYSIGHT	8491B	MY39250703	2017/03/07	2018/03/06
Rotary Attenuator	Agilent	8495B	MY42146680	2017/03/13	2018/03/12
Temp & Humi chamber	T-MACHINE	TMJ-9712	T-12-040111	2017/09/04	2018/09/03
Series Power Meter	Anritsu	ML2495A	1224005	2017/03/01	2018/02/28
Power Sensor	Anritsu	MA2411B	1207295	2017/03/01	2018/02/28
Cable	HUBER SUHNER	SUCOFLEX 102	28422/2	2017/02/25	2018/02/24
Cable	HUBER SUHNER	SUCOFLEX 102	28418/2	2017/02/25	2018/02/24
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	Internal Antenna
Antenna Gain	3.24 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.

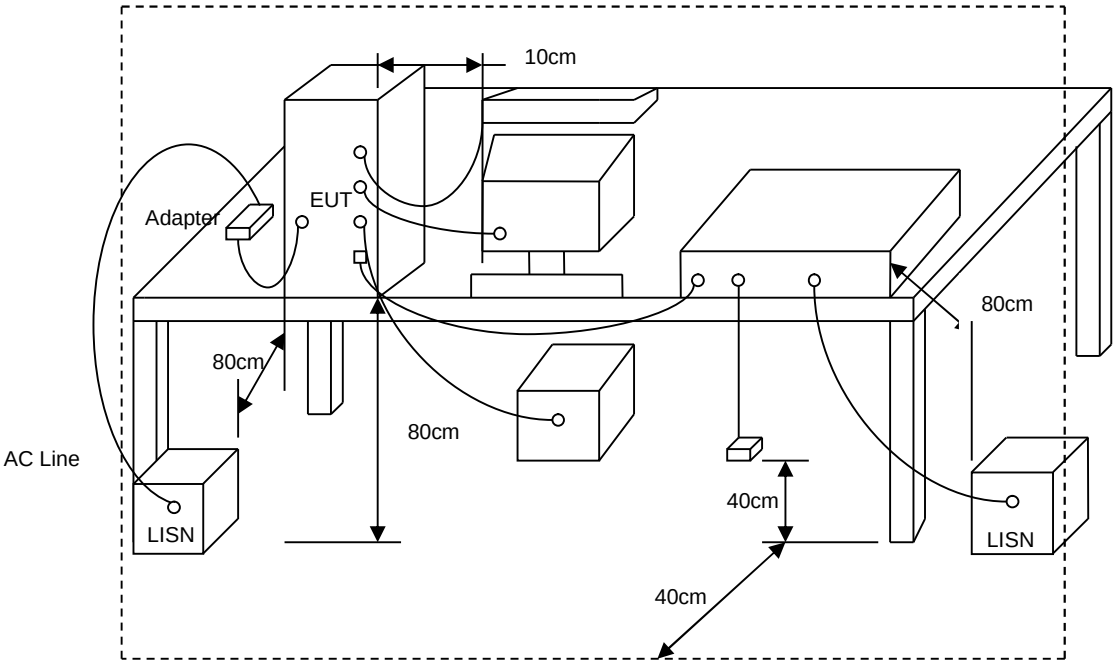
Frequency (MHz)	Quasi Peak (dB μ V)	Average (dB μ V)
0.15 – 0.5	66-56*	56-46*
0.5 – 5.0	56	46
5.0 – 30.0	60	50

*Decreases with the logarithm of the frequency.

5.2 Test Procedures

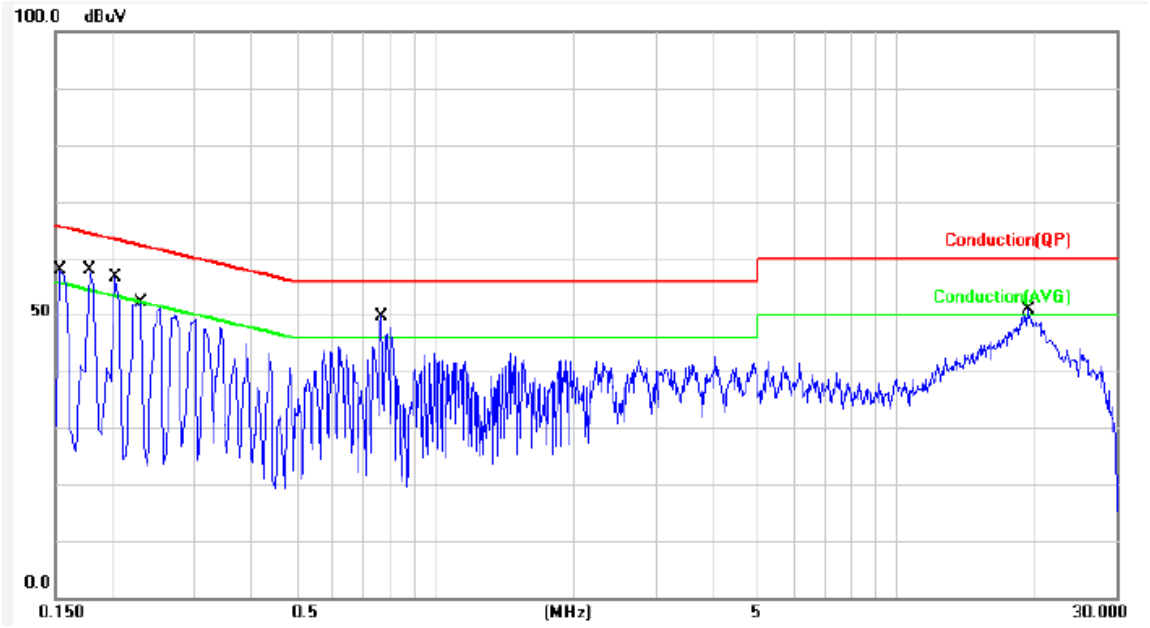
a. The EUT was placed 0.4 meter from the conducting wall of the shielding room was kept at least 80 centimeters from any other grounded conducting surface.
b. Connect EUT to the power mains through a line impedance stabilization network (LISN).
c. All the support units are connecting to the other LISN.
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

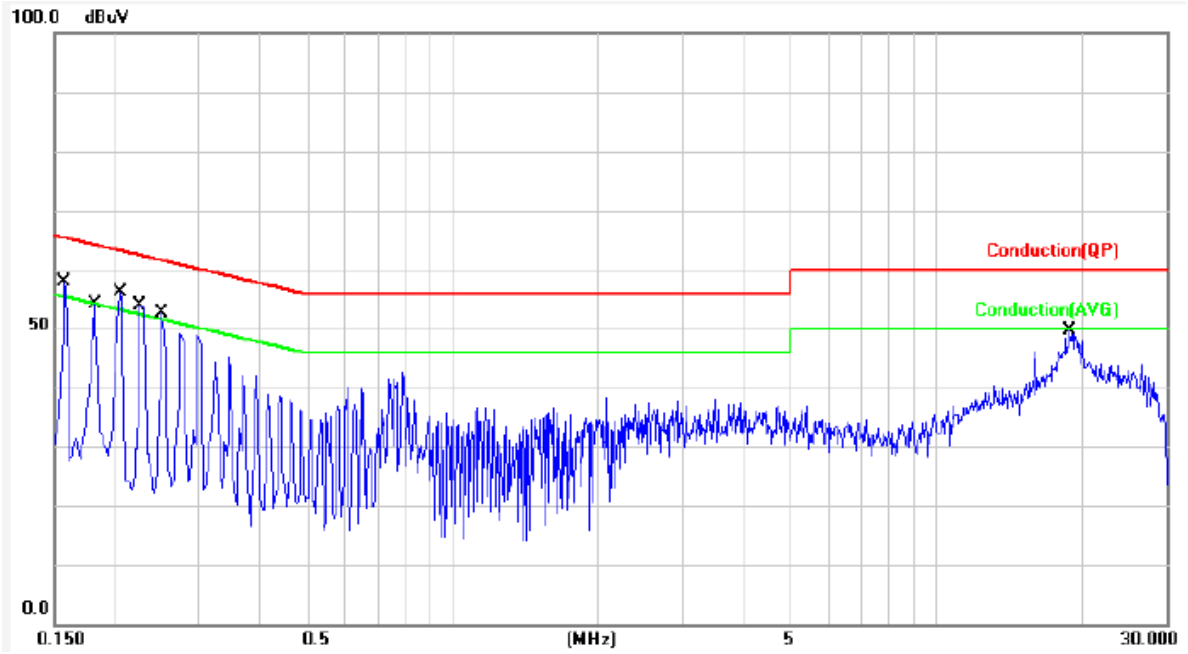
Power	:	AC 120V	Pol/Phase	:	LINE
Test Mode	:	Mode 2	Temperature	:	20 °C
Test Date	:	Jan. 31, 2018	Humidity	:	40 %



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector	P/F
1	0.1548	9.91	45.61	55.52	65.73	-10.21	QP	P
2	0.1548	9.91	29.71	39.62	55.73	-16.11	AVG	P
3	0.1780	9.91	43.34	53.25	64.57	-11.32	QP	P
4	0.1780	9.91	27.87	37.78	54.57	-16.79	AVG	P
5	0.2020	9.91	42.14	52.05	63.52	-11.47	QP	P
6	0.2020	9.91	26.94	36.85	53.52	-16.67	AVG	P
7	0.2300	9.91	39.93	49.84	62.45	-12.61	QP	P
8	0.2300	9.91	25.07	34.98	52.45	-17.47	AVG	P
9	0.7660	9.95	35.33	45.28	56.00	-10.72	QP	P
10	0.7660	9.95	24.56	34.51	46.00	-11.49	AVG	P
11	19.2979	10.44	33.89	44.33	60.00	-15.67	QP	P
12	19.2979	10.44	22.41	32.85	50.00	-17.15	AVG	P

Note: Level = Reading + Factor
Margin = Level – Limit
Factor = (LISN, ISN, PLC or current probe) Factor + Cable Loss+ Attenuator

Power	:	AC 120V	Pol/Phase	:	NEUTRAL
Test Mode	:	Mode 2	Temperature	:	20 °C
Test Date	:	Jan. 31, 2018	Humidity	:	40 %



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector	P/F
1	0.1580	9.91	44.49	54.40	65.56	-11.16	QP	P
2	0.1580	9.91	28.38	38.29	55.56	-17.27	AVG	P
3	0.1819	9.91	42.72	52.63	64.39	-11.76	QP	P
4	0.1819	9.91	26.58	36.49	54.39	-17.90	AVG	P
5	0.2060	9.91	41.07	50.98	63.36	-12.38	QP	P
6	0.2060	9.91	24.84	34.75	53.36	-18.61	AVG	P
7	0.2260	9.91	39.42	49.33	62.59	-13.26	QP	P
8	0.2260	9.91	23.06	32.97	52.59	-19.62	AVG	P
9	0.2500	9.91	38.23	48.14	61.75	-13.61	QP	P
10	0.2500	9.91	22.45	32.36	51.75	-19.39	AVG	P
11	18.9619	10.41	31.11	41.52	60.00	-18.48	QP	P
12	18.9619	10.41	17.33	27.74	50.00	-22.26	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

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.

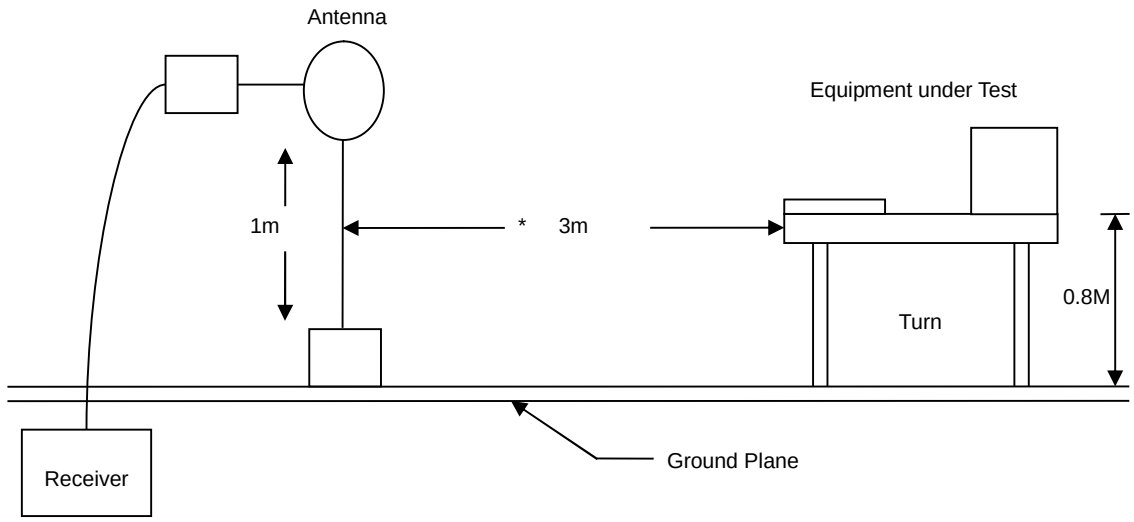
g. If the emission level of the EUT in peak mode was 3 dB lower than the limit specified, then testing will be stopped and peak values of EUT will be reported, otherwise, the emissions which do not have 3 dB margin will be repeated one by one using the quasi-peak method and reported.

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.

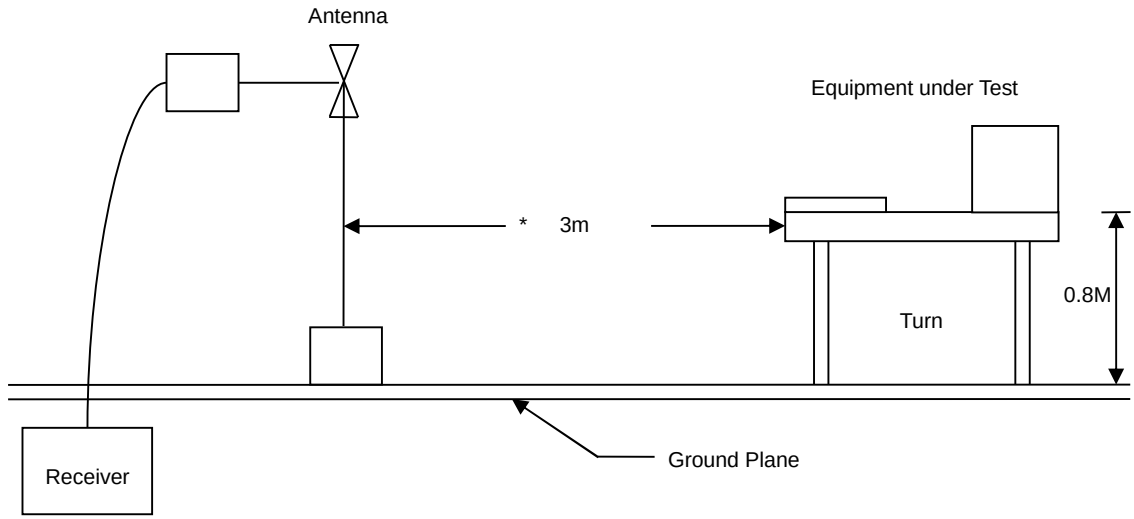
i. “Cone of radiation” has been considered to be 3dB bandwidth of the measurement antenna.

6.3 Typical Test Setup

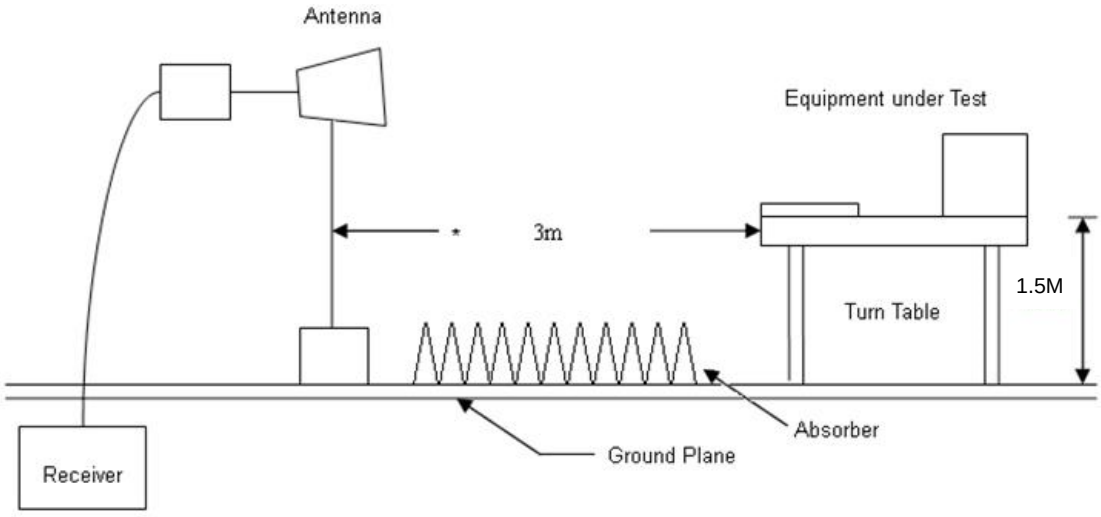
Below 30MHz test setup



30MHz- 1GHz Test Setup



Above 1GHz Test Setup

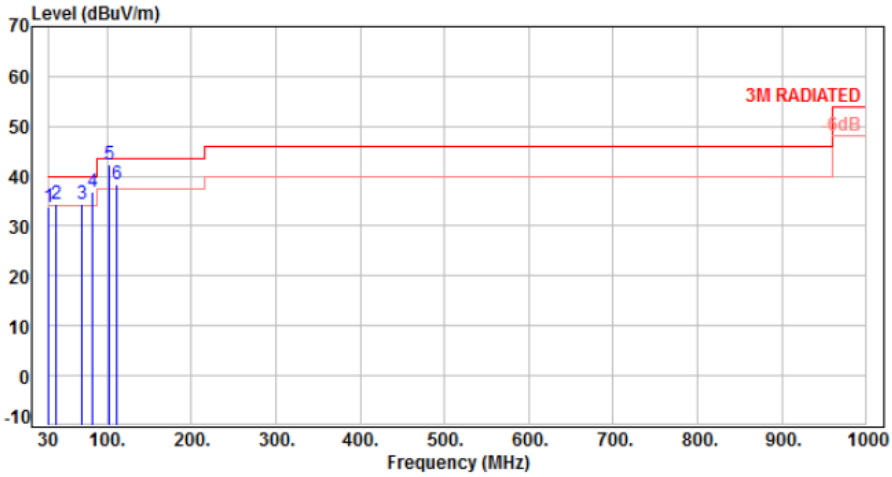


6.4 Test Result and Data (9KHz ~ 30MHz)

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

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

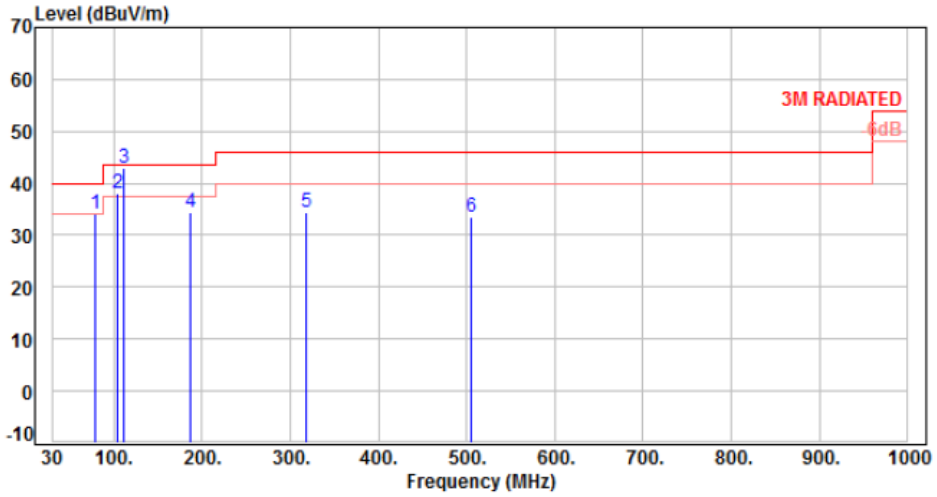
Power	:	AC 120V	Pol/Phase	:	VERTICAL
Test Mode	:	Mode 2	Temperature	:	19 °C
Test date	:	Jan. 08, 2018	Humidity	:	58 %



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	30.00	-10.92	44.60	33.68	40.00	-6.32	QP	100	261	P
2	39.70	-10.38	44.70	34.32	40.00	-5.68	QP	100	244	P
3	69.77	-11.95	46.30	34.35	40.00	-5.65	QP	100	78	P
4	82.38	-14.61	51.50	36.89	40.00	-3.11	QP	100	250	P
5	101.78	-14.72	57.00	42.28	43.50	-1.22	QP	100	60	P
6	110.51	-13.26	51.70	38.44	43.50	-5.06	QP	100	42	P

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

Power	:	AC 120V	Pol/Phase	:	HORIZONTAL
Test Mode	:	Mode 2	Temperature	:	19 °C
Test date	:	Jan. 08, 2018	Humidity	:	58 %

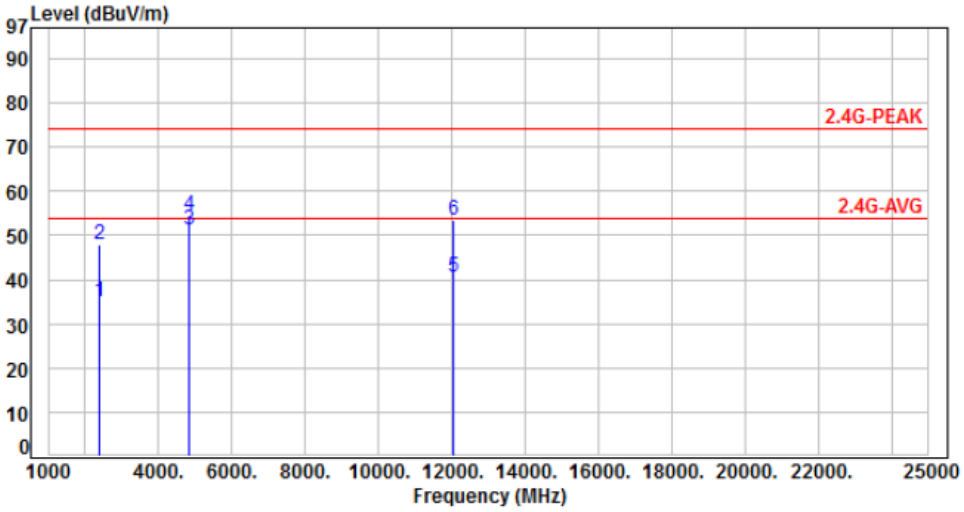


No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	79.47	-14.12	48.12	34.00	40.00	-6.00	Peak	100	0	P
2	103.72	-14.39	52.40	38.01	43.50	-5.49	QP	300	36	P
3	111.48	-13.17	56.00	42.83	43.50	-0.67	QP	295	40	P
4	187.14	-11.67	46.23	34.56	43.50	-8.94	Peak	100	0	P
5	318.09	-8.32	42.84	34.52	46.00	-11.48	Peak	100	0	P
6	504.33	-3.84	37.29	33.45	46.00	-12.55	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)

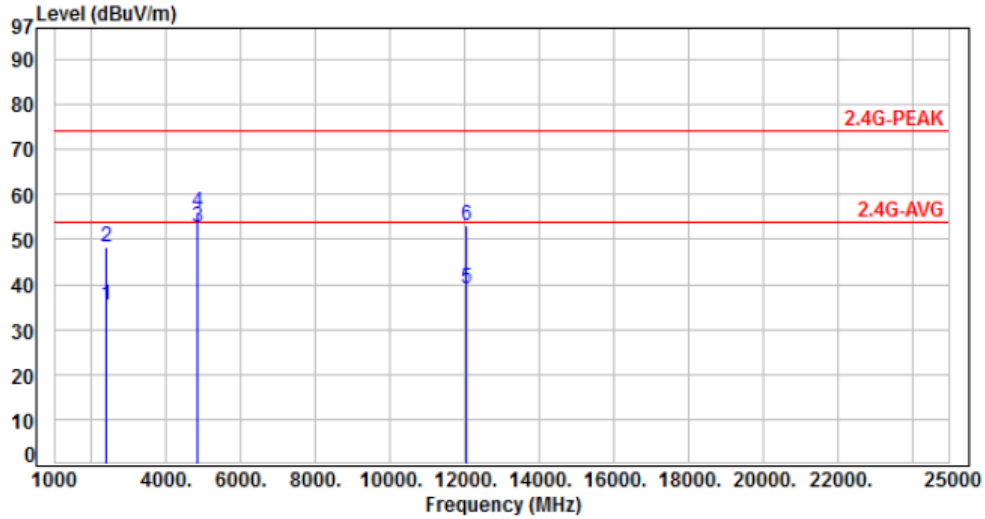
Power	:	AC 120V	Pol/Phase	:	VERTICAL
Test Mode	:	Mode 1, CH01	Temperature	:	19 °C
Test date	:	Jan. 08, 2018	Humidity	:	58 %



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	2390.00	-18.95	54.10	35.15	54.00	-18.85	Average	326	284	P
2	2390.00	-18.95	66.80	47.85	74.00	-26.15	Peak	326	284	P
3	4824.00	-13.23	64.52	51.29	54.00	-2.71	Average	315	113	P
4	4824.00	-13.23	67.70	54.47	74.00	-19.53	Peak	315	113	P
5	12060.00	-5.95	46.50	40.55	54.00	-13.45	Average	100	299	P
6	12060.00	-5.95	59.30	53.35	74.00	-20.65	Peak	100	299	P

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

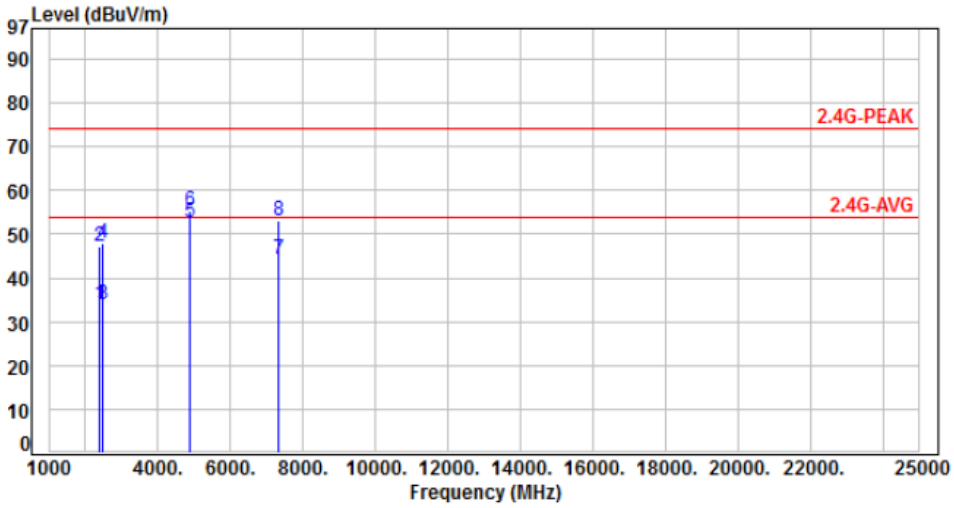
Power	:	AC 120V	Pol/Phase	:	HORIZONTAL
Test Mode	:	Mode 1, CH01	Temperature	:	19 °C
Test date	:	Jan. 08, 2018	Humidity	:	58 %



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	2390.00	-18.95	54.20	35.25	54.00	-18.75	Average	383	295	P
2	2390.00	-18.95	67.30	48.35	74.00	-25.65	Peak	383	295	P
3	4824.00	-13.23	66.00	52.77	54.00	-1.23	Average	314	111	P
4	4824.00	-13.23	69.20	55.97	74.00	-18.03	Peak	314	111	P
5	12060.00	-5.95	45.10	39.15	54.00	-14.85	Average	100	16	P
6	12060.00	-5.95	59.20	53.25	74.00	-20.75	Peak	100	16	P

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

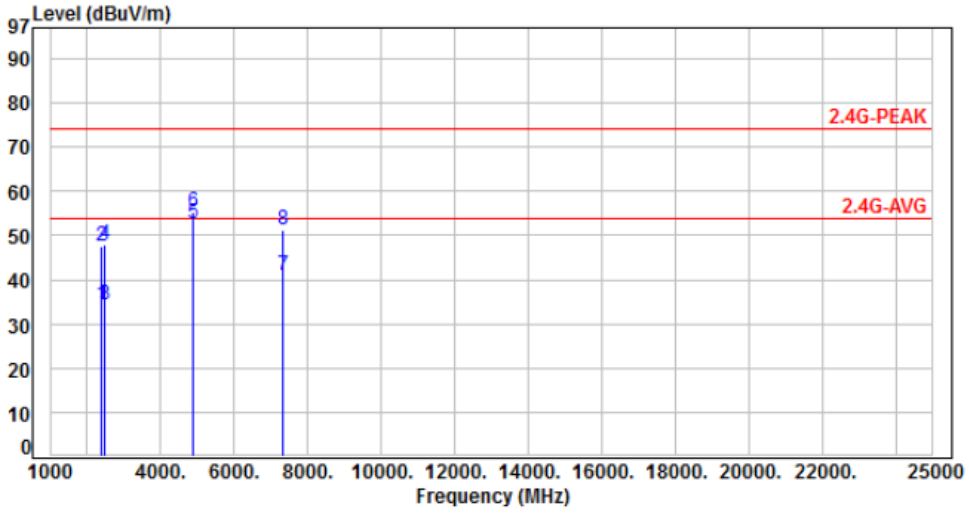
Power	:	AC 120V	Pol/Phase	:	VERTICAL
Test Mode	:	Mode 1, CH06	Temperature	:	19 °C
Test date	:	Jan. 08, 2018	Humidity	:	58 %



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	2390.00	-18.95	53.00	34.05	54.00	-19.95	Average	370	183	P
2	2390.00	-18.95	66.20	47.25	74.00	-26.75	Peak	370	183	P
3	2483.50	-18.71	52.60	33.89	54.00	-20.11	Average	370	183	P
4	2483.50	-18.71	66.80	48.09	74.00	-25.91	Peak	370	183	P
5	4874.00	-13.11	65.86	52.75	54.00	-1.25	Average	311	114	P
6	4874.00	-13.11	68.51	55.40	74.00	-18.60	Peak	311	114	P
7	7311.00	-10.18	54.49	44.31	54.00	-9.69	Average	289	92	P
8	7311.00	-10.18	63.29	53.11	74.00	-20.89	Peak	289	92	P

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

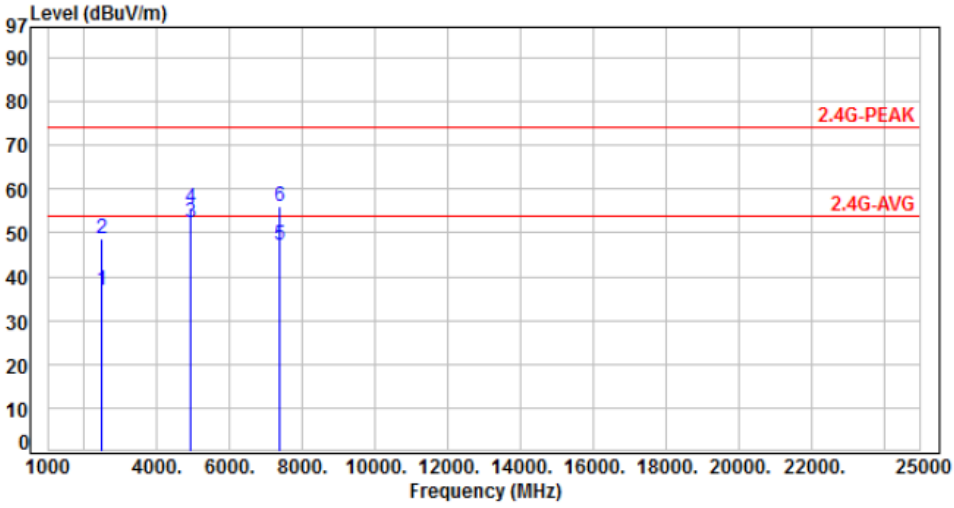
Power	:	AC 120V	Pol/Phase	:	HORIZONTAL
Test Mode	:	Mode 1, CH06	Temperature	:	19 °C
Test date	:	Jan. 08, 2018	Humidity	:	58 %



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	2390.00	-18.95	53.10	34.15	54.00	-19.85	Average	276	259	P
2	2390.00	-18.95	66.70	47.75	74.00	-26.25	Peak	276	259	P
3	2483.50	-18.71	52.90	34.19	54.00	-19.81	Average	276	259	P
4	2483.50	-18.71	66.80	48.09	74.00	-25.91	Peak	276	259	P
5	4874.00	-13.11	65.70	52.59	54.00	-1.41	Average	343	107	P
6	4874.00	-13.11	68.50	55.39	74.00	-18.61	Peak	343	107	P
7	7311.00	-10.18	51.19	41.01	54.00	-12.99	Average	256	247	P
8	7311.00	-10.18	61.49	51.31	74.00	-22.69	Peak	256	247	P

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

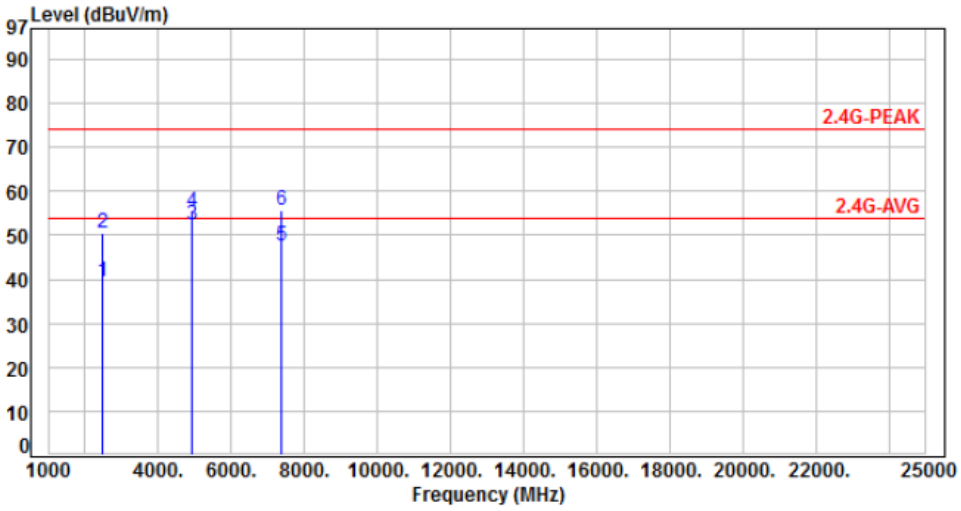
Power	:	AC 120V	Pol/Phase	:	VERTICAL
Test Mode	:	Mode 1, CH11	Temperature	:	19 °C
Test date	:	Jan. 08, 2018	Humidity	:	58 %



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	2483.50	-18.71	55.70	36.99	54.00	-17.01	Average	340	193	P
2	2483.50	-18.71	67.50	48.79	74.00	-25.21	Peak	340	193	P
3	4924.00	-12.98	65.40	52.42	54.00	-1.58	Average	310	111	P
4	4924.00	-12.98	68.50	55.52	74.00	-18.48	Peak	310	111	P
5	7386.00	-10.00	57.09	47.09	54.00	-6.91	Average	100	318	P
6	7386.00	-10.00	65.99	55.99	74.00	-18.01	Peak	100	318	P

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

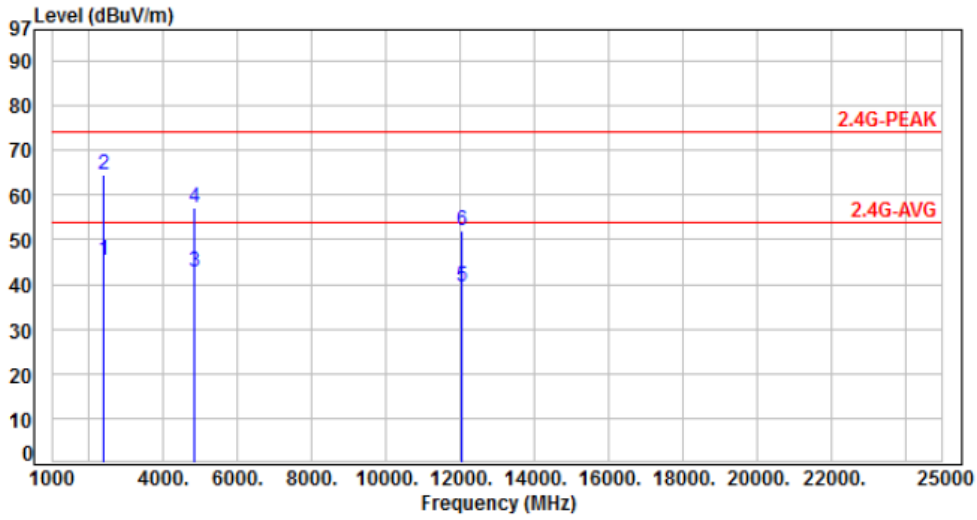
Power	:	AC 120V	Pol/Phase	:	HORIZONTAL
Test Mode	:	Mode 1, CH11	Temperature	:	19 °C
Test date	:	Jan. 08, 2018	Humidity	:	58 %



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	2483.50	-18.71	58.20	39.49	54.00	-14.51	Average	391	252	P
2	2483.50	-18.71	69.10	50.39	74.00	-23.61	Peak	391	252	P
3	4924.00	-12.98	65.43	52.45	54.00	-1.55	Average	370	151	P
4	4924.00	-12.98	68.20	55.22	74.00	-18.78	Peak	370	151	P
5	7386.00	-10.00	57.41	47.41	54.00	-6.59	Average	259	260	P
6	7386.00	-10.00	65.71	55.71	74.00	-18.29	Peak	259	260	P

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

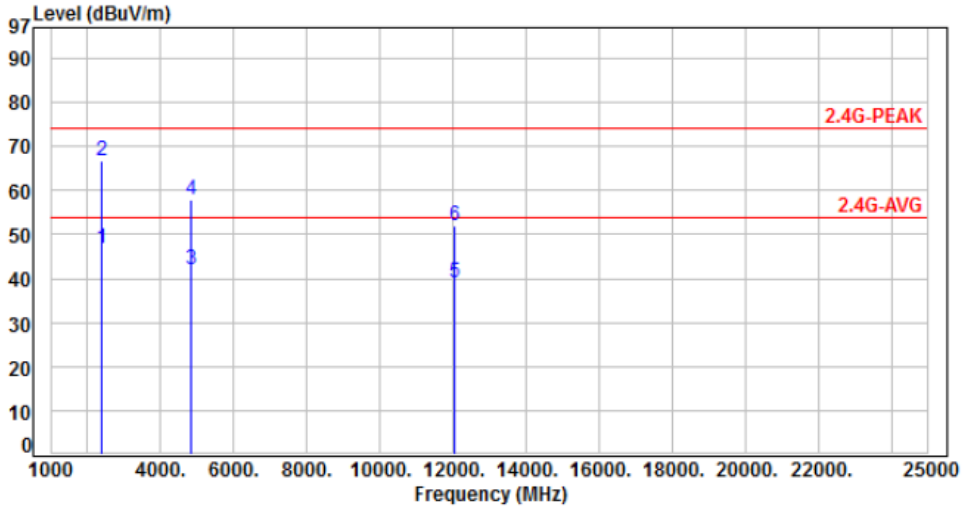
Power	:	AC 120V	Pol/Phase	:	VERTICAL
Test Mode	:	Mode 2, CH01	Temperature	:	19 °C
Test date	:	Jan. 08, 2018	Humidity	:	58 %



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	2390.00	-18.95	64.50	45.55	54.00	-8.45	Average	365	180	P
2	2390.00	-18.95	83.40	64.45	74.00	-9.55	Peak	365	180	P
3	4824.00	-13.23	56.10	42.87	54.00	-11.13	Average	317	113	P
4	4824.00	-13.23	70.30	57.07	74.00	-16.93	Peak	317	113	P
5	12060.00	-5.95	45.33	39.38	54.00	-14.62	Average	122	35	P
6	12060.00	-5.95	57.85	51.90	74.00	-22.10	Peak	122	35	P

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

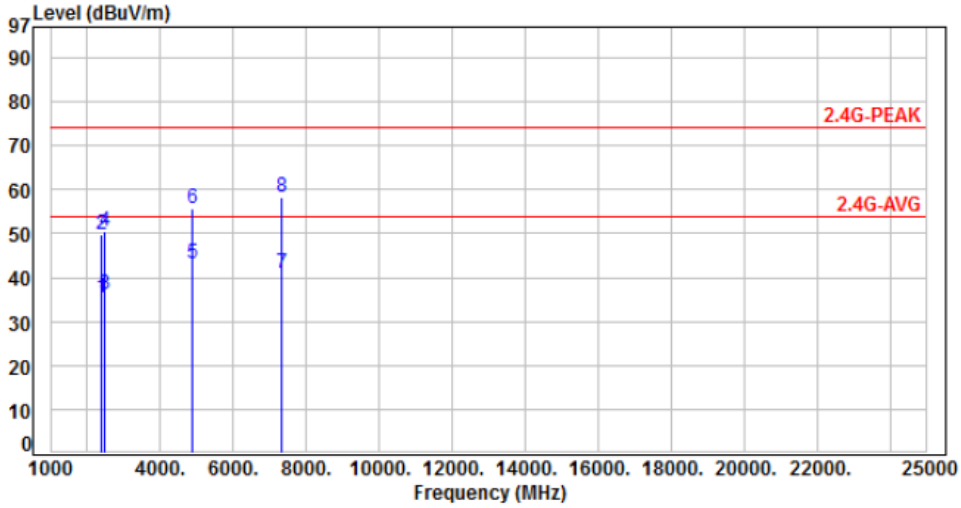
Power	:	AC 120V	Pol/Phase	:	HORIZONTAL
Test Mode	:	Mode 2, CH01	Temperature	:	19 °C
Test date	:	Jan. 08, 2018	Humidity	:	58 %



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	2390.00	-18.95	65.65	46.70	54.00	-7.30	Average	376	293	P
2	2390.00	-18.95	85.60	66.65	74.00	-7.35	Peak	376	293	P
3	4824.00	-13.23	55.10	41.87	54.00	-12.13	Average	333	111	P
4	4824.00	-13.23	71.00	57.77	74.00	-16.23	Peak	333	111	P
5	12060.00	-5.95	45.00	39.05	54.00	-14.95	Average	100	122	P
6	12060.00	-5.95	57.93	51.98	74.00	-22.02	Peak	100	122	P

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

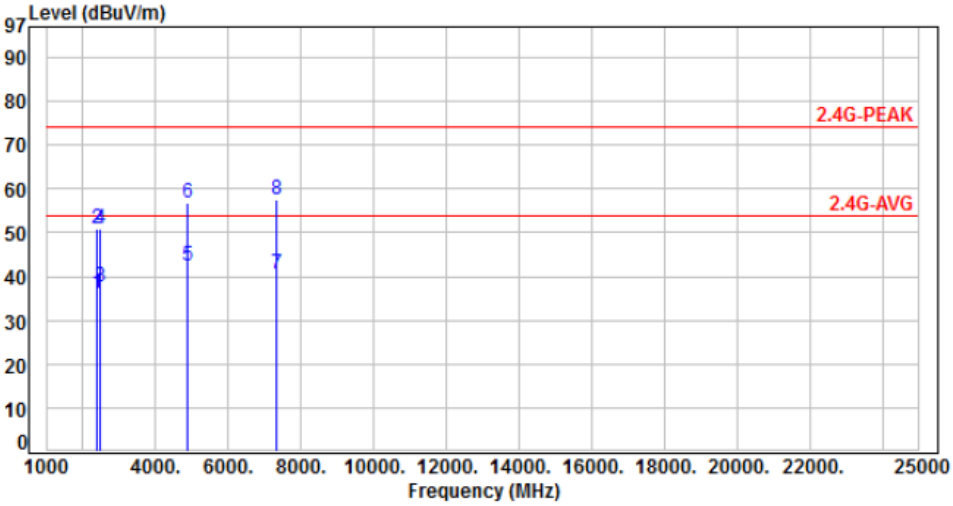
Power	:	AC 120V	Pol/Phase	:	VERTICAL
Test Mode	:	Mode 2, CH06	Temperature	:	19 °C
Test date	:	Jan. 08, 2018	Humidity	:	58 %



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	2390.00	-18.95	54.43	35.48	54.00	-18.52	Average	354	216	P
2	2390.00	-18.95	68.70	49.75	74.00	-24.25	Peak	354	216	P
3	2483.50	-18.71	54.75	36.04	54.00	-17.96	Average	354	216	P
4	2483.50	-18.71	69.21	50.50	74.00	-23.50	Peak	354	216	P
5	4874.00	-13.11	56.20	43.09	54.00	-10.91	Average	100	107	P
6	4874.00	-13.11	68.70	55.59	74.00	-18.41	Peak	100	107	P
7	7311.00	-10.18	50.99	40.81	54.00	-13.19	Average	100	100	P
8	7311.00	-10.18	68.59	58.41	74.00	-15.59	Peak	100	100	P

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

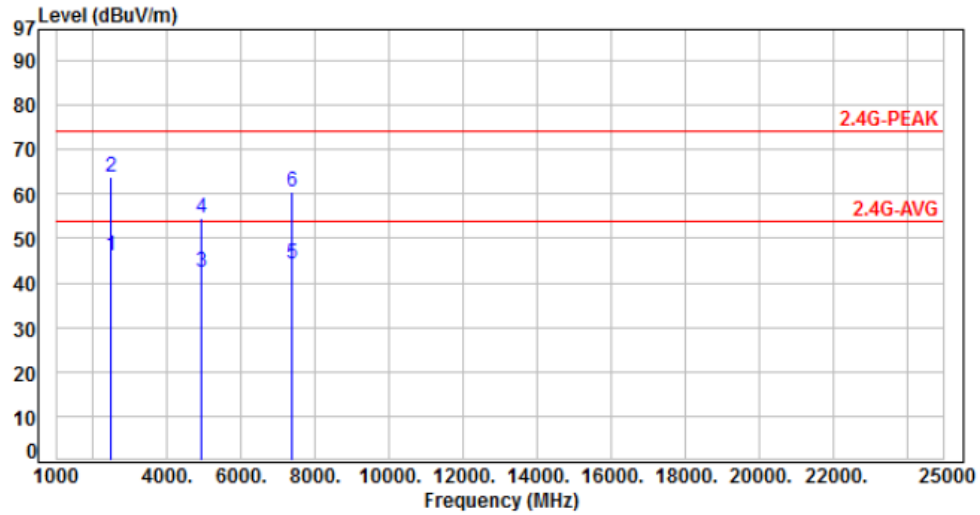
Power	:	AC 120V	Pol/Phase	:	HORIZONTAL
Test Mode	:	Mode 2, CH06	Temperature	:	19 °C
Test date	:	Jan. 08, 2018	Humidity	:	58 %



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	2390.00	-18.95	55.20	36.25	54.00	-17.75	Average	373	285	P
2	2390.00	-18.95	69.80	50.85	74.00	-23.15	Peak	373	285	P
3	2483.50	-18.71	56.30	37.59	54.00	-16.41	Average	373	285	P
4	2483.50	-18.71	69.60	50.89	74.00	-23.11	Peak	373	285	P
5	4874.00	-13.11	55.40	42.29	54.00	-11.71	Average	105	226	P
6	4874.00	-13.11	69.82	56.71	74.00	-17.29	Peak	105	226	P
7	7311.00	-10.18	50.89	40.71	54.00	-13.29	Average	343	127	P
8	7311.00	-10.18	67.79	57.61	74.00	-16.39	Peak	343	127	P

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

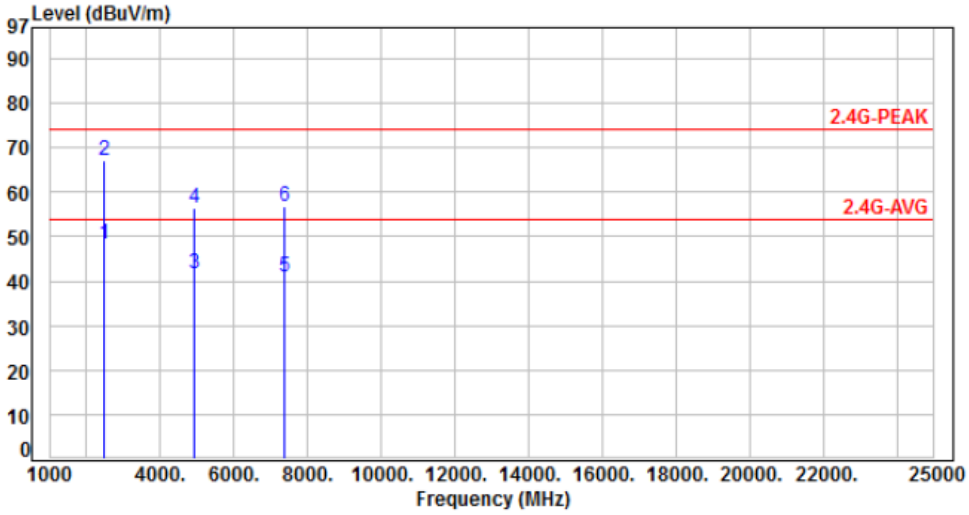
Power	:	AC 120V	Pol/Phase	:	VERTICAL
Test Mode	:	Mode 2, CH11	Temperature	:	19 °C
Test date	:	Jan. 08, 2018	Humidity	:	58 %



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	2483.50	-18.71	64.80	46.09	54.00	-7.91	Average	348	197	P
2	2483.50	-18.71	82.70	63.99	74.00	-10.01	Peak	348	197	P
3	4924.00	-12.98	55.43	42.45	54.00	-11.55	Average	100	111	P
4	4924.00	-12.98	67.70	54.72	74.00	-19.28	Peak	100	111	P
5	7386.00	-10.00	54.12	44.12	54.00	-9.88	Average	290	96	P
6	7386.00	-10.00	70.59	60.59	74.00	-13.41	Peak	290	96	P

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

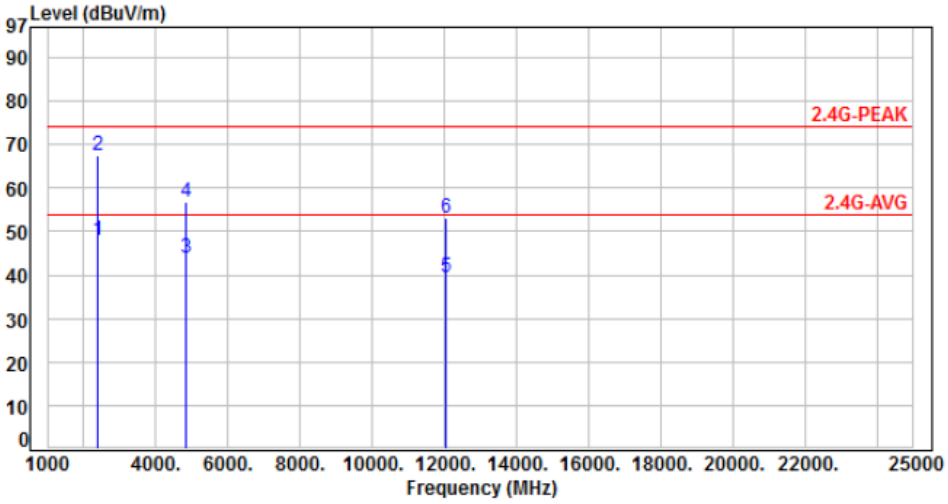
Power	:	AC 120V	Pol/Phase	:	HORIZONTAL
Test Mode	:	Mode 2, CH11	Temperature	:	19 °C
Test date	:	Jan. 08, 2018	Humidity	:	58 %



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	2483.50	-18.71	66.98	48.27	54.00	-5.73	Average	295	274	P
2	2483.50	-18.71	85.70	66.99	74.00	-7.01	Peak	295	274	P
3	4924.00	-12.98	54.83	41.85	54.00	-12.15	Average	100	224	P
4	4924.00	-12.98	69.50	56.52	74.00	-17.48	Peak	100	224	P
5	7386.00	-10.00	50.99	40.99	54.00	-13.01	Average	341	250	P
6	7386.00	-10.00	66.89	56.89	74.00	-17.11	Peak	341	250	P

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

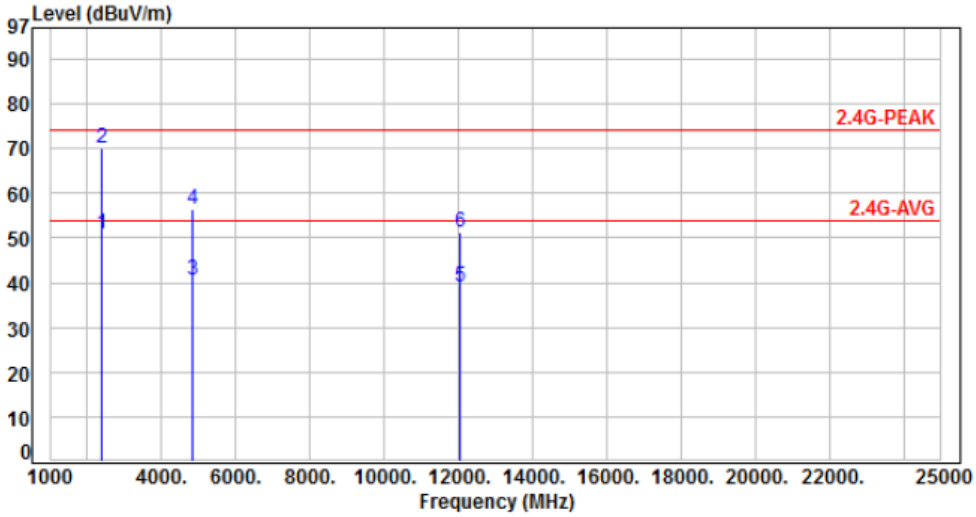
Power	:	AC 120V	Pol/Phase	:	VERTICAL
Test Mode	:	Mode 3, CH01	Temperature	:	19 °C
Test date	:	Jan. 08, 2018	Humidity	:	58 %



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	2390.00	-18.95	67.00	48.05	54.00	-5.95	Average	377	208	P
2	2390.00	-18.95	86.30	67.35	74.00	-6.65	Peak	377	208	P
3	4824.00	-13.23	57.20	43.97	54.00	-10.03	Average	316	119	P
4	4824.00	-13.23	70.00	56.77	74.00	-17.23	Peak	316	119	P
5	12060.00	-5.95	45.23	39.28	54.00	-14.72	Average	300	52	P
6	12060.00	-5.95	58.90	52.95	74.00	-21.05	Peak	300	52	P

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

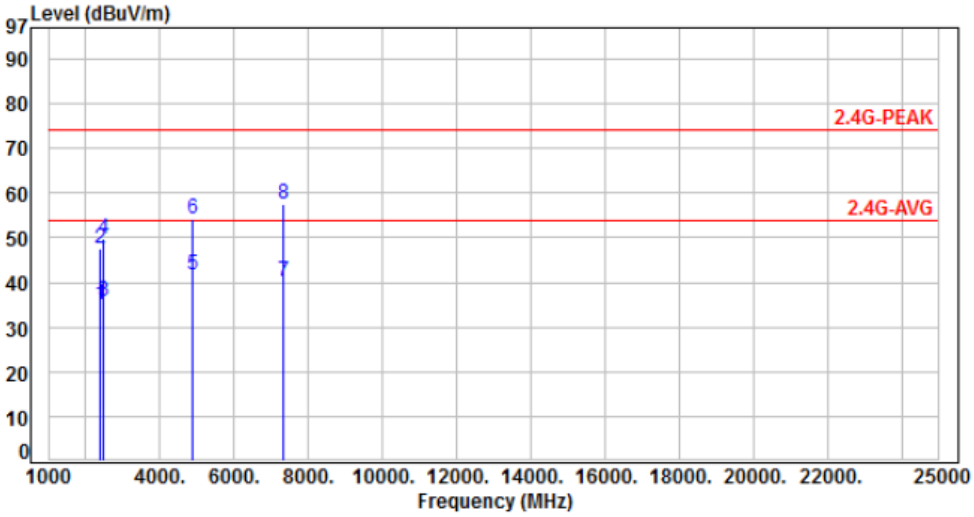
Power	:	AC 120V	Pol/Phase	:	HORIZONTAL
Test Mode	:	Mode 3, CH01	Temperature	:	19 °C
Test date	:	Jan. 08, 2018	Humidity	:	58 %



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	2390.00	-18.95	70.00	51.05	54.00	-2.95	Average	379	285	P
2	2390.00	-18.95	89.11	70.16	74.00	-3.84	Peak	379	285	P
3	4824.00	-13.23	53.65	40.42	54.00	-13.58	Average	106	226	P
4	4824.00	-13.23	69.60	56.37	74.00	-17.63	Peak	106	226	P
5	12060.00	-5.95	45.10	39.15	54.00	-14.85	Average	155	233	P
6	12060.00	-5.95	57.30	51.35	74.00	-22.65	Peak	155	233	P

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

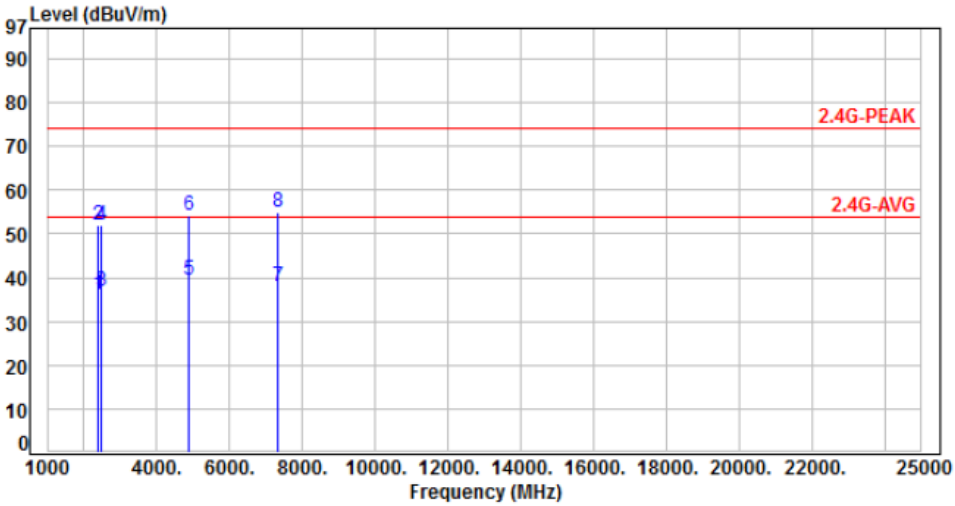
Power	:	AC 120V	Pol/Phase	:	VERTICAL
Test Mode	:	Mode 3, CH06	Temperature	:	19 °C
Test date	:	Jan. 08, 2018	Humidity	:	58 %



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	2390.00	-18.95	54.14	35.19	54.00	-18.81	Average	354	207	P
2	2390.00	-18.95	66.53	47.58	74.00	-26.42	Peak	354	207	P
3	2483.50	-18.71	54.50	35.79	54.00	-18.21	Average	354	207	P
4	2483.50	-18.71	68.40	49.69	74.00	-24.31	Peak	354	207	P
5	4874.00	-13.11	54.78	41.67	54.00	-12.33	Average	100	105	P
6	4874.00	-13.11	67.20	54.09	74.00	-19.91	Peak	100	105	P
7	7311.00	-10.18	50.49	40.31	54.00	-13.69	Average	100	110	P
8	7311.00	-10.18	67.59	57.41	74.00	-16.59	Peak	100	110	P

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

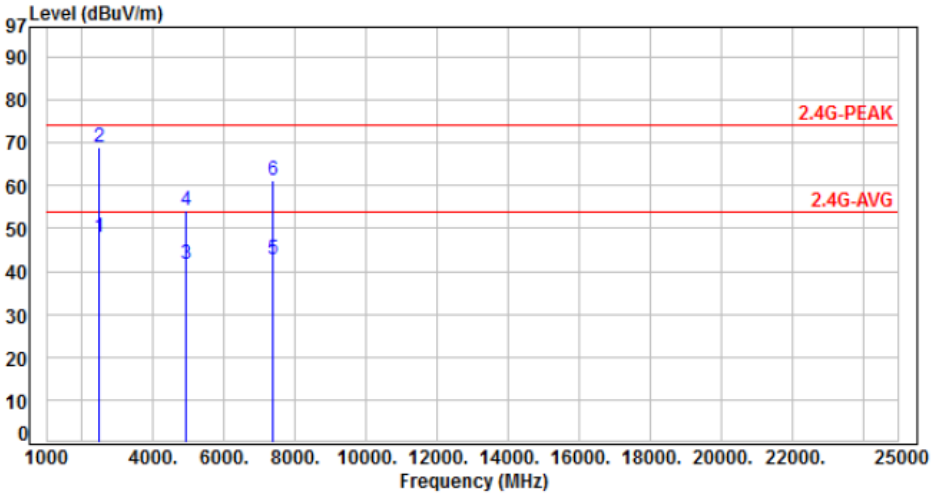
Power	:	AC 120V	Pol/Phase	:	HORIZONTAL
Test Mode	:	Mode 3, CH06	Temperature	:	19 °C
Test date	:	Jan. 08, 2018	Humidity	:	58 %



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	2390.00	-18.95	55.20	36.25	54.00	-17.75	Average	374	290	P
2	2390.00	-18.95	70.80	51.85	74.00	-22.15	Peak	374	290	P
3	2483.50	-18.71	55.60	36.89	54.00	-17.11	Average	374	290	P
4	2483.50	-18.71	70.60	51.89	74.00	-22.11	Peak	374	290	P
5	4874.00	-13.11	52.50	39.39	54.00	-14.61	Average	122	227	P
6	4874.00	-13.11	67.20	54.09	74.00	-19.91	Peak	122	227	P
7	7311.00	-10.18	48.10	37.92	54.00	-16.08	Average	300	250	P
8	7311.00	-10.18	64.99	54.81	74.00	-19.19	Peak	300	250	P

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

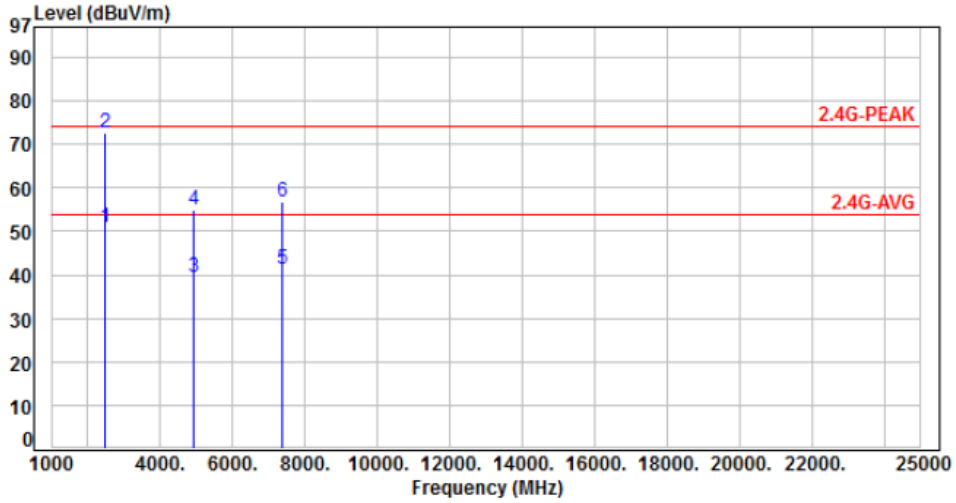
Power	:	AC 120V	Pol/Phase	:	VERTICAL
Test Mode	:	Mode 3, CH11	Temperature	:	19 °C
Test date	:	Jan. 08, 2018	Humidity	:	58 %



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	2483.50	-18.71	66.70	47.99	54.00	-6.01	Average	346	203	P
2	2483.50	-18.71	87.78	69.07	74.00	-4.93	Peak	346	203	P
3	4924.00	-12.98	54.50	41.52	54.00	-12.48	Average	100	107	P
4	4924.00	-12.98	67.20	54.22	74.00	-19.78	Peak	100	107	P
5	7386.00	-10.00	52.69	42.69	54.00	-11.31	Average	278	98	P
6	7386.00	-10.00	71.19	61.19	74.00	-12.81	Peak	278	98	P

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

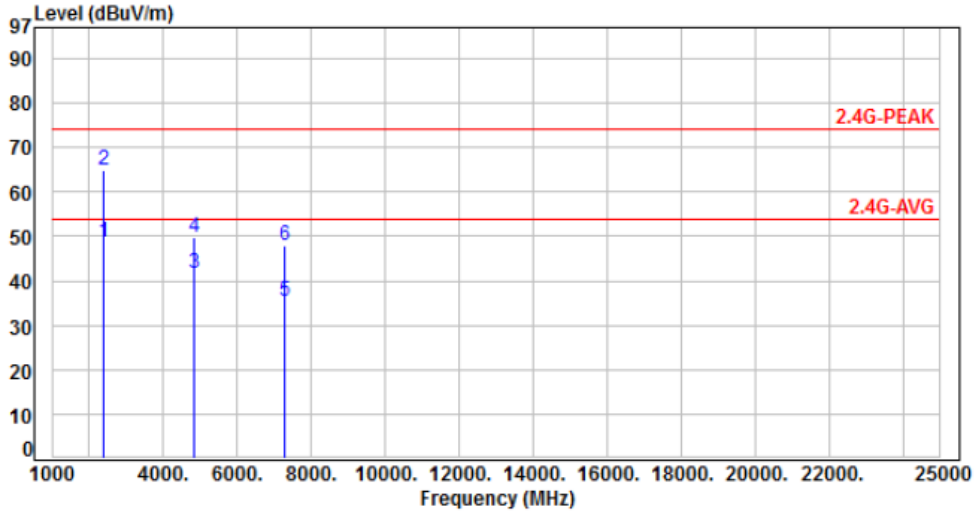
Power	:	AC 120V	Pol/Phase	:	HORIZONTAL
Test Mode	:	Mode 3, CH11	Temperature	:	19 °C
Test date	:	Jan. 08, 2018	Humidity	:	58 %



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	2483.50	-18.71	69.72	51.01	54.00	-2.99	Average	393	275	P
2	2483.50	-18.71	91.20	72.49	74.00	-1.51	Peak	393	275	P
3	4924.00	-12.98	52.30	39.32	54.00	-14.68	Average	125	224	P
4	4924.00	-12.98	68.00	55.02	74.00	-18.98	Peak	125	224	P
5	7386.00	-10.00	51.19	41.19	54.00	-12.81	Average	303	250	P
6	7386.00	-10.00	66.73	56.73	74.00	-17.27	Peak	303	250	P

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

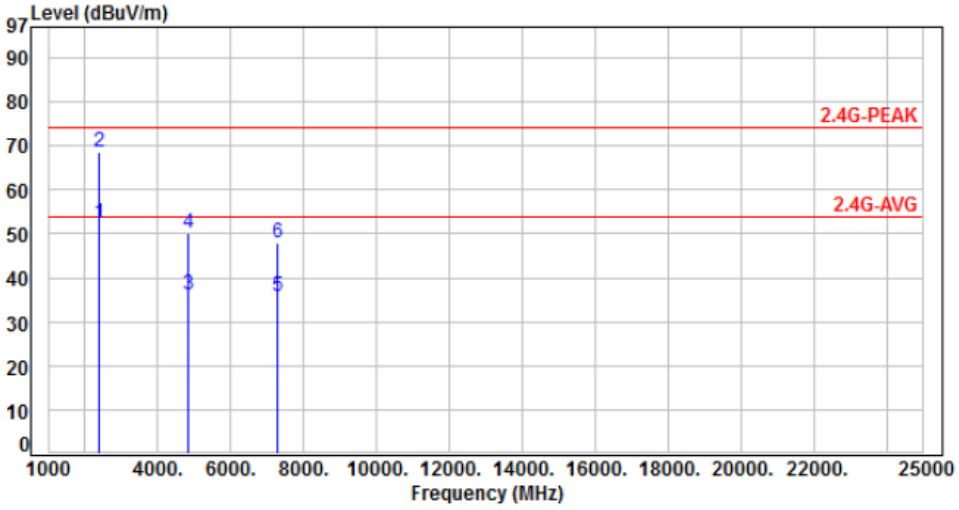
Power	:	AC 120V	Pol/Phase	:	VERTICAL
Test Mode	:	Mode 4, CH03	Temperature	:	19 °C
Test date	:	Jan. 08, 2018	Humidity	:	58 %



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	2390.00	-18.95	67.70	48.75	54.00	-5.25	Average	377	212	P
2	2390.00	-18.95	83.70	64.75	74.00	-9.25	Peak	377	212	P
3	4844.00	-13.18	55.00	41.82	54.00	-12.18	Average	356	104	P
4	4844.00	-13.18	62.80	49.62	74.00	-24.38	Peak	356	104	P
5	7266.00	-10.30	45.63	35.33	54.00	-18.67	Average	188	122	P
6	7266.00	-10.30	58.33	48.03	74.00	-25.97	Peak	188	122	P

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

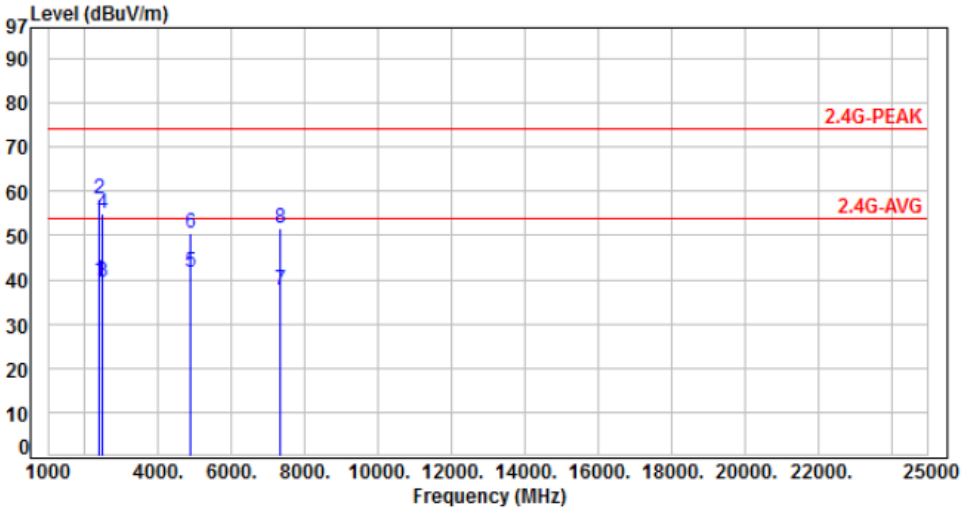
Power	:	AC 120V	Pol/Phase	:	HORIZONTAL
Test Mode	:	Mode 4, CH03	Temperature	:	19 °C
Test date	:	Jan. 08, 2018	Humidity	:	58 %



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	2390.00	-18.95	71.30	52.35	54.00	-1.65	Average	380	289	P
2	2390.00	-18.95	87.72	68.77	74.00	-5.23	Peak	380	289	P
3	4844.00	-13.18	49.40	36.22	54.00	-17.78	Average	100	226	P
4	4844.00	-13.18	63.50	50.32	74.00	-23.68	Peak	100	226	P
5	7266.00	-10.30	45.93	35.63	54.00	-18.37	Average	112	57	P
6	7266.00	-10.30	58.11	47.81	74.00	-26.19	Peak	112	57	P

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

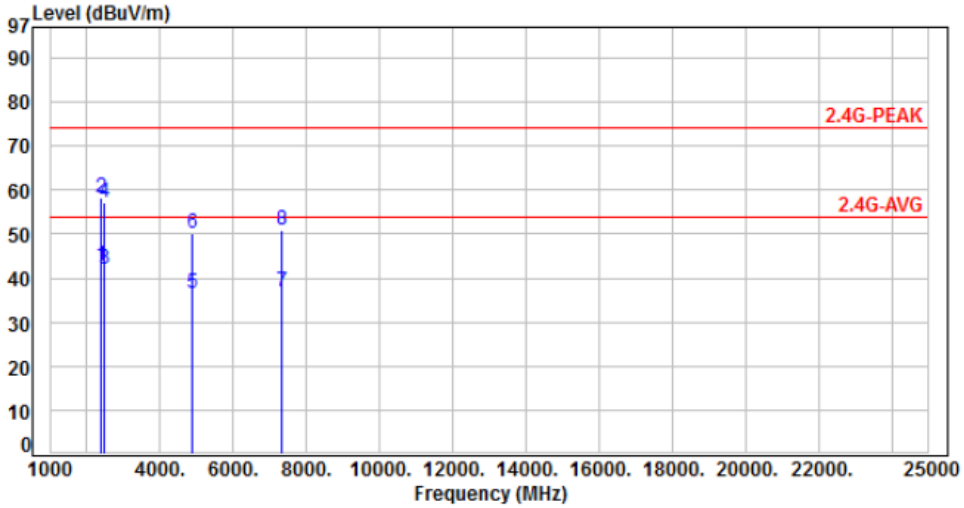
Power	:	AC 120V	Pol/Phase	:	VERTICAL
Test Mode	:	Mode 4, CH06	Temperature	:	19 °C
Test date	:	Jan. 08, 2018	Humidity	:	58 %



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	2390.00	-18.95	58.90	39.95	54.00	-14.05	Average	367	200	P
2	2390.00	-18.95	77.33	58.38	74.00	-15.62	Peak	367	200	P
3	2483.50	-18.71	58.30	39.59	54.00	-14.41	Average	367	200	P
4	2483.50	-18.71	73.50	54.79	74.00	-19.21	Peak	367	200	P
5	4874.00	-13.11	54.60	41.49	54.00	-12.51	Average	348	110	P
6	4874.00	-13.11	63.50	50.39	74.00	-23.61	Peak	348	110	P
7	7311.00	-10.18	47.83	37.65	54.00	-16.35	Average	285	100	P
8	7311.00	-10.18	61.69	51.51	74.00	-22.49	Peak	285	100	P

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

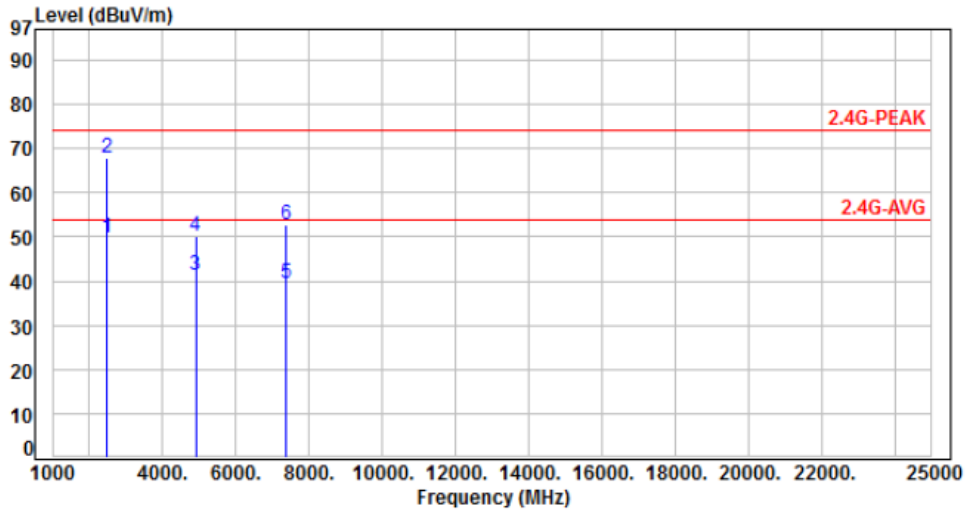
Power	:	AC 120V	Pol/Phase	:	HORIZONTAL
Test Mode	:	Mode 4, CH06	Temperature	:	19 °C
Test date	:	Jan. 08, 2018	Humidity	:	58 %



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	2390.00	-18.95	61.60	42.65	54.00	-11.35	Average	366	270	P
2	2390.00	-18.95	77.30	58.35	74.00	-15.65	Peak	366	270	P
3	2483.50	-18.71	60.60	41.89	54.00	-12.11	Average	366	270	P
4	2483.50	-18.71	75.80	57.09	74.00	-16.91	Peak	366	270	P
5	4874.00	-13.11	49.56	36.45	54.00	-17.55	Average	107	228	P
6	4874.00	-13.11	63.10	49.99	74.00	-24.01	Peak	107	228	P
7	7311.00	-10.18	47.19	37.01	54.00	-16.99	Average	343	260	P
8	7311.00	-10.18	60.99	50.81	74.00	-23.19	Peak	343	260	P

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

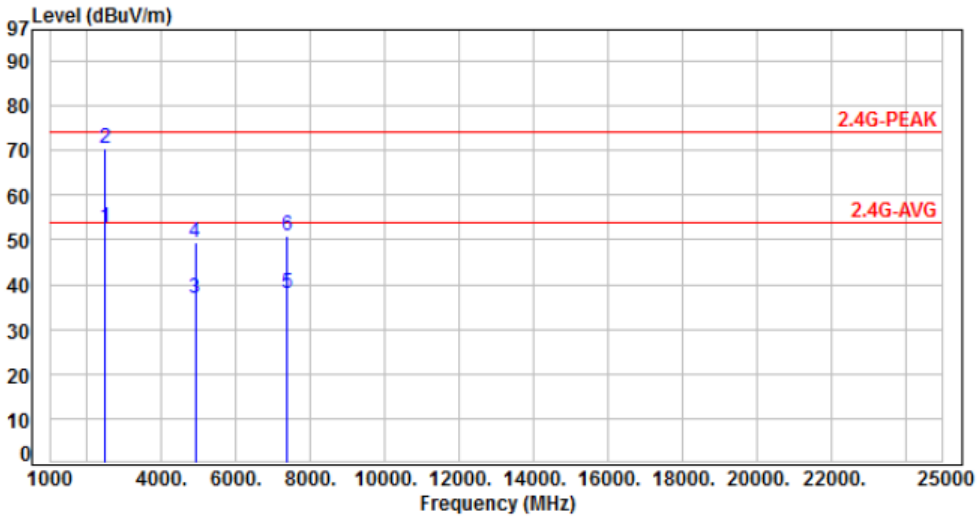
Power	:	AC 120V	Pol/Phase	:	VERTICAL
Test Mode	:	Mode 4, CH09	Temperature	:	19 °C
Test date	:	Jan. 08, 2018	Humidity	:	58 %



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	2483.50	-18.71	68.50	49.79	54.00	-4.21	Average	340	200	P
2	2483.50	-18.71	86.60	67.89	74.00	-6.11	Peak	340	200	P
3	4904.00	-13.03	54.40	41.37	54.00	-12.63	Average	330	122	P
4	4904.00	-13.03	63.20	50.17	74.00	-23.83	Peak	330	122	P
5	7356.00	-10.08	49.60	39.52	54.00	-14.48	Average	100	317	P
6	7356.00	-10.08	62.80	52.72	74.00	-21.28	Peak	100	317	P

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

Power	:	AC 120V	Pol/Phase	:	HORIZONTAL
Test Mode	:	Mode 4, CH09	Temperature	:	19 °C
Test date	:	Jan. 08, 2018	Humidity	:	58 %



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	2483.50	-18.71	71.60	52.89	54.00	-1.11	Average	400	277	P
2	2483.50	-18.71	89.10	70.39	74.00	-3.61	Peak	400	277	P
3	4904.00	-13.03	50.00	36.97	54.00	-17.03	Average	372	43	P
4	4904.00	-13.03	62.30	49.27	74.00	-24.73	Peak	372	43	P
5	7356.00	-10.08	48.00	37.92	54.00	-16.08	Average	351	245	P
6	7356.00	-10.08	61.00	50.92	74.00	-23.08	Peak	351	245	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

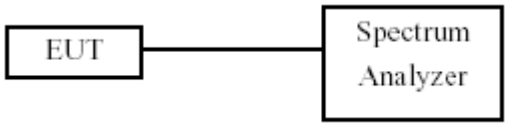
7.1 Test Limit

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 lose 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

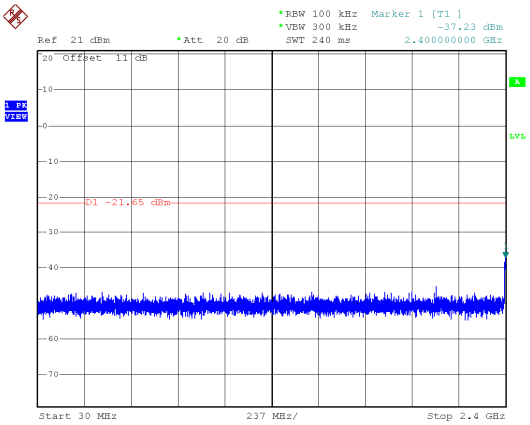


7.4 Test Result and Data

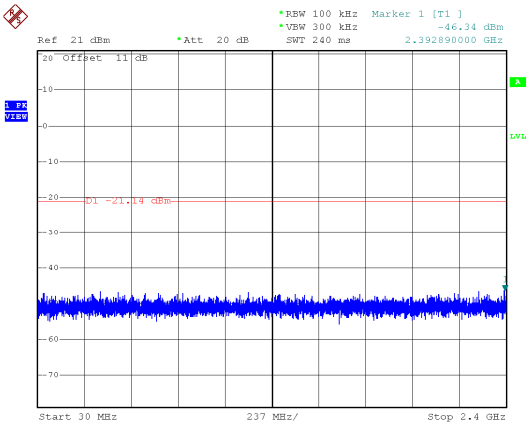
Test Result	:	PASS	Temperature	:	21°C
Test Date	:	Jan. 31, 2018	Humidity	:	63%

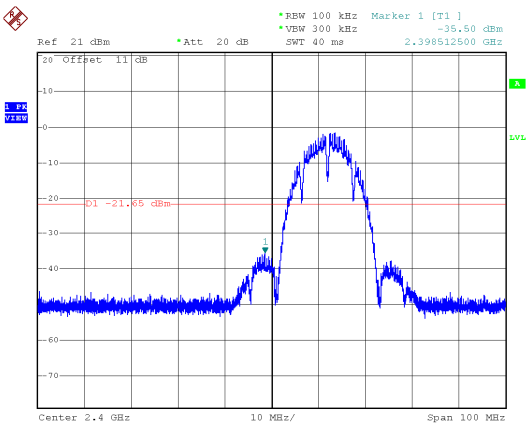
Note: Test plots refers to the following pages.

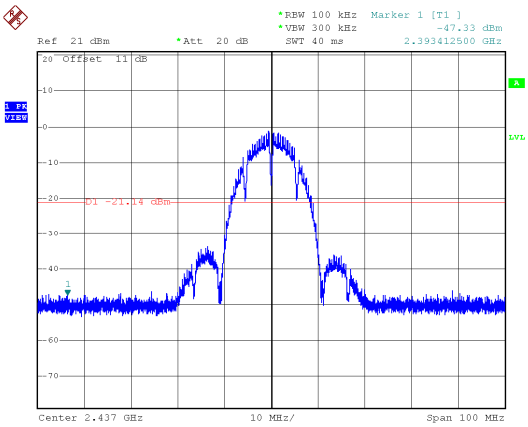
Modulation Type: 802.11b, CH 01

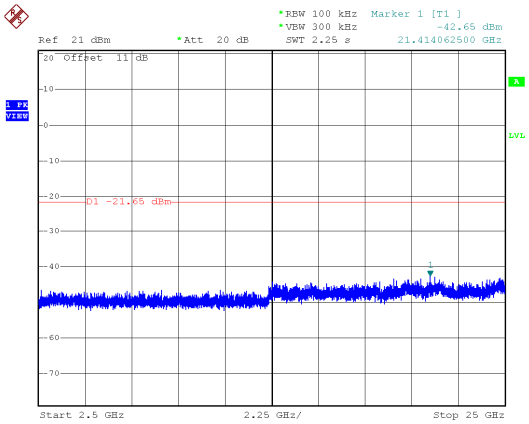


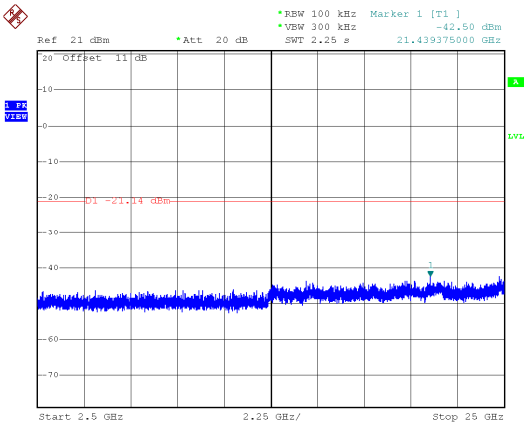
Modulation Type: 802.11b, CH 06



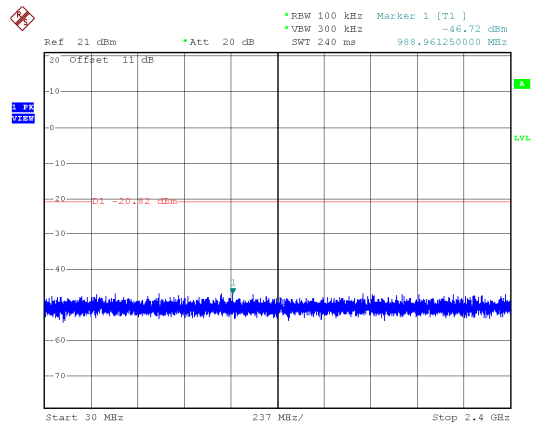


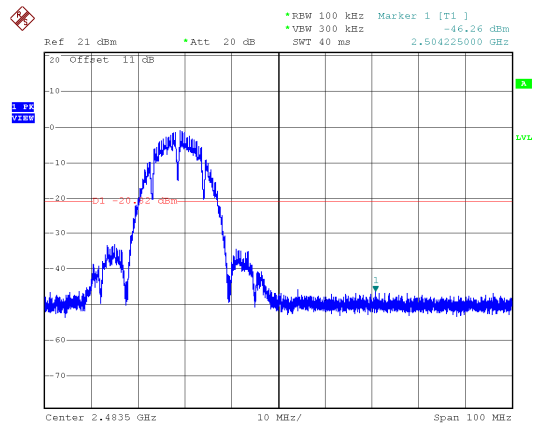


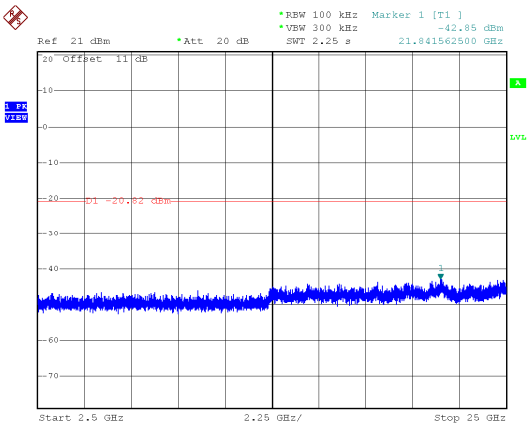




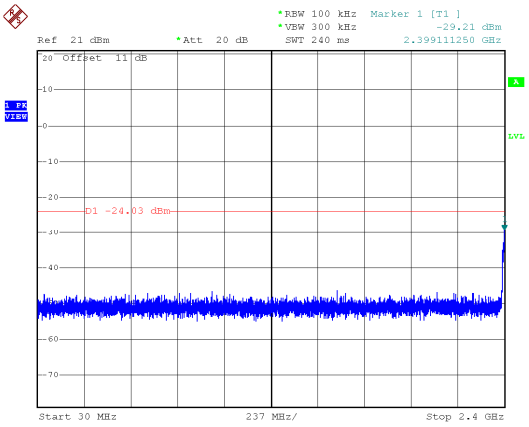
Modulation Type: 802.11b, CH 11



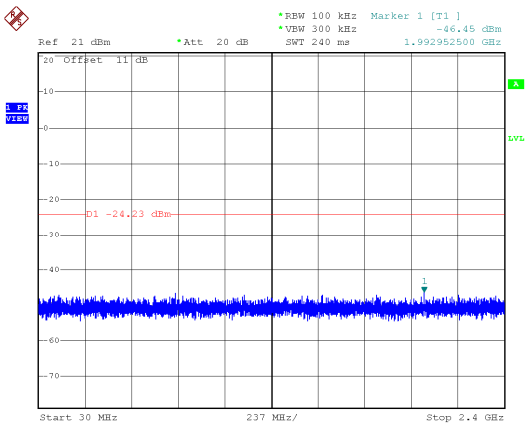


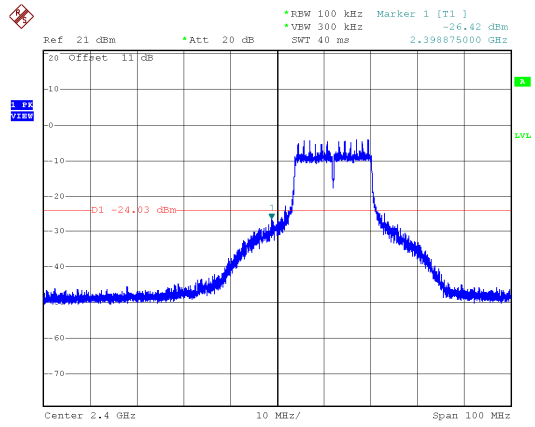


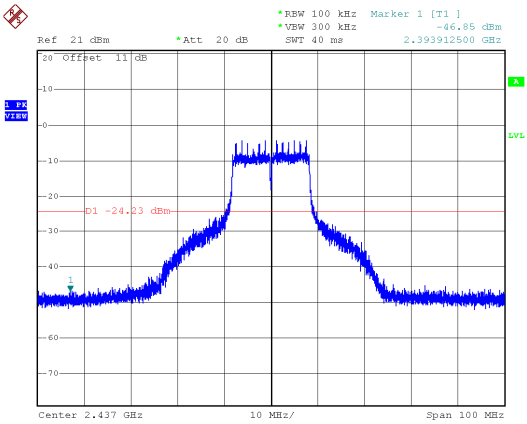
Modulation Type: 802.11g, CH 01

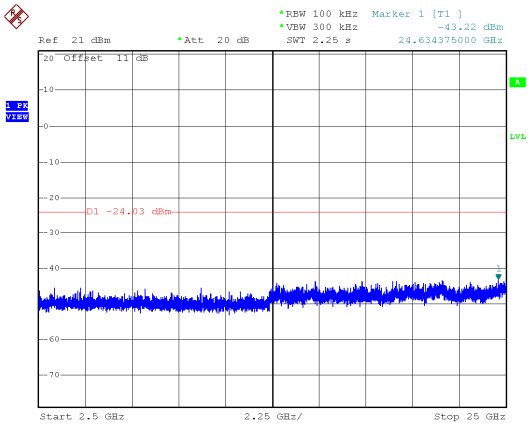


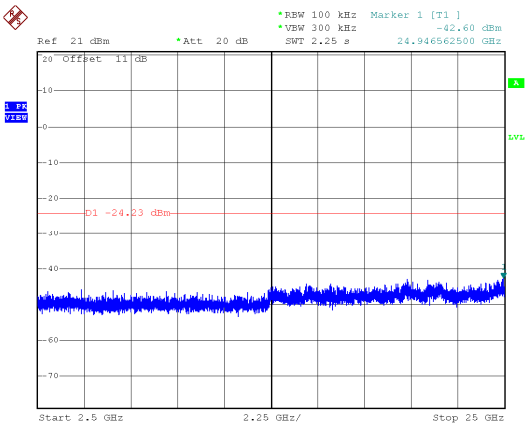
Modulation Type: 802.11g, CH 06



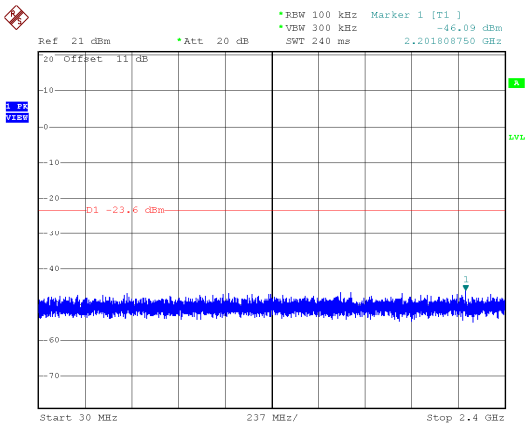


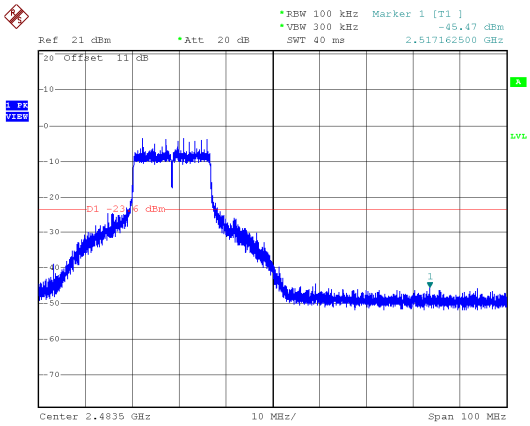


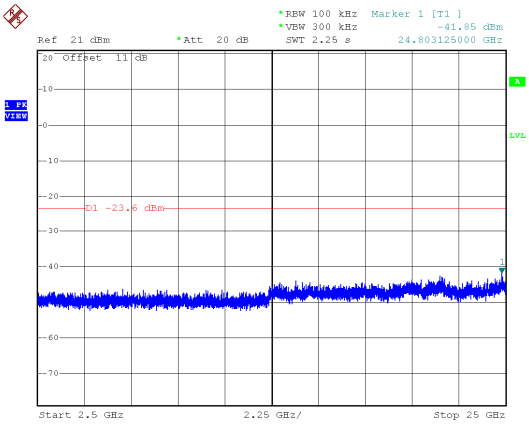




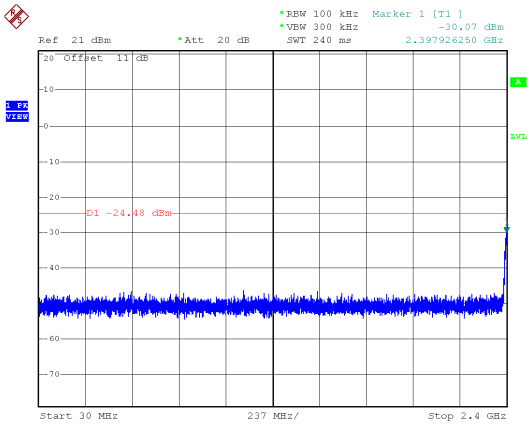
Modulation Type: 802.11g, CH 11



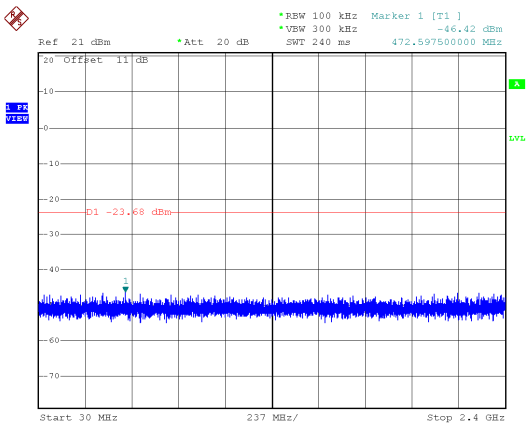


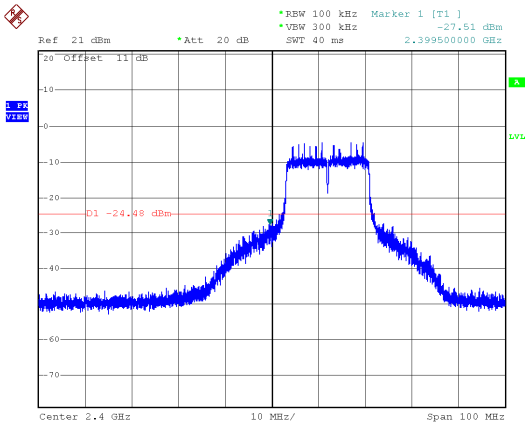


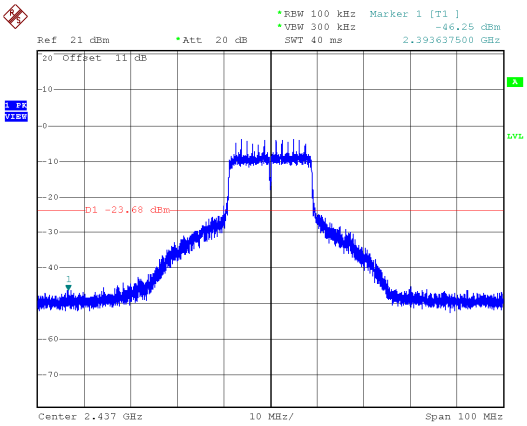
Modulation Type: 802.11n HT20, CH01

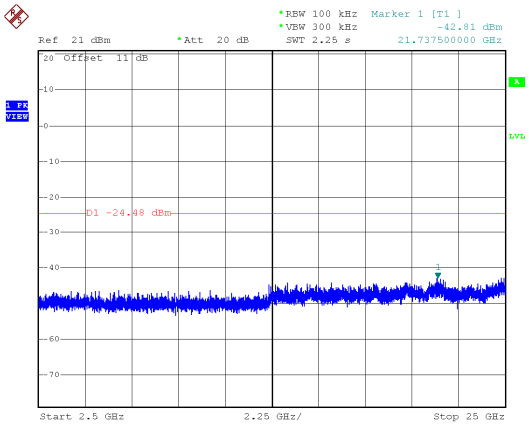


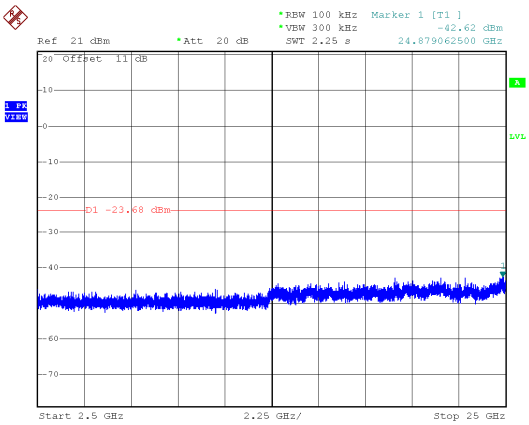
Modulation Type: 802.11n HT20, CH06



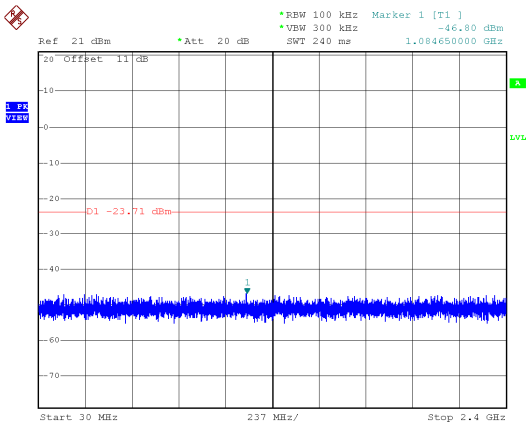


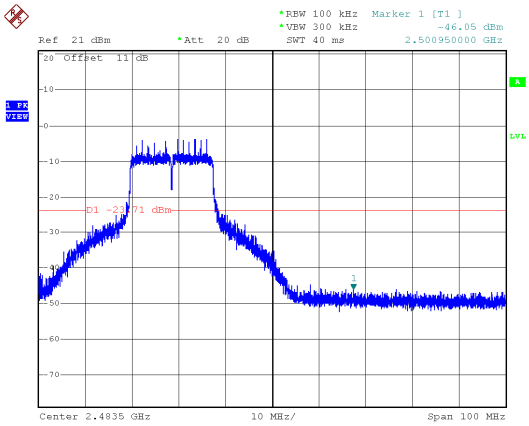


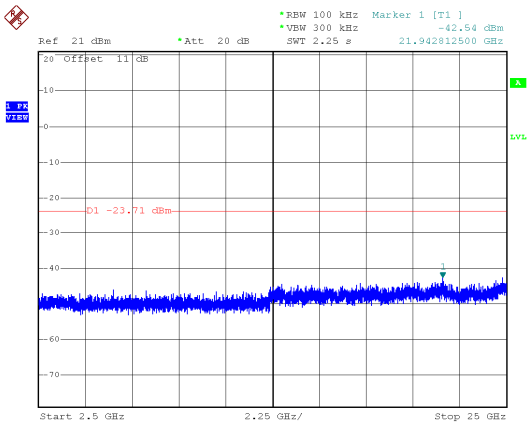




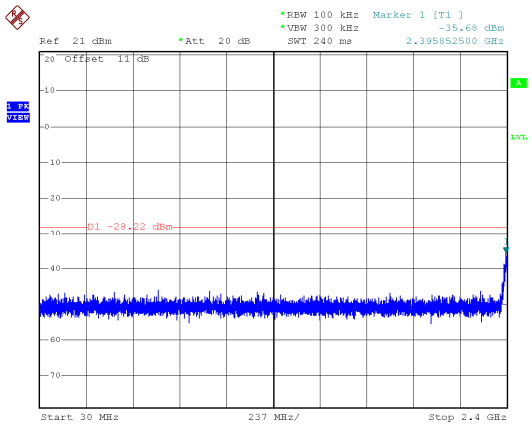
Modulation Type: 802.11n HT20, CH11

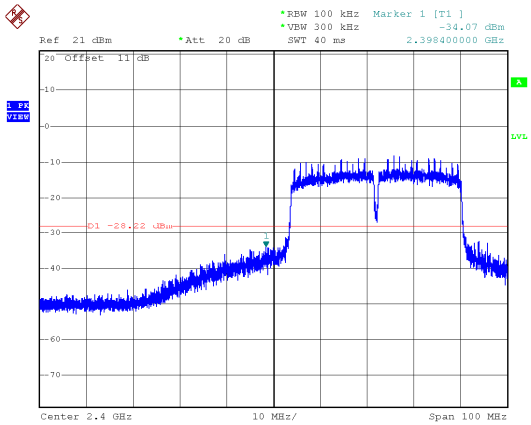


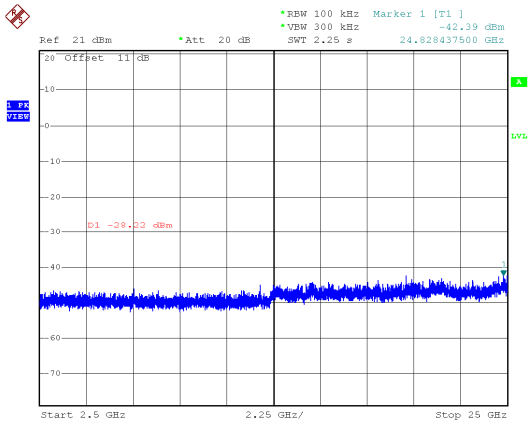




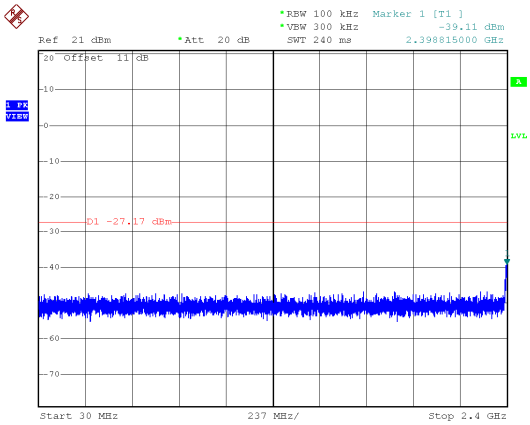
Modulation Type: 802.11n HT40, CH03

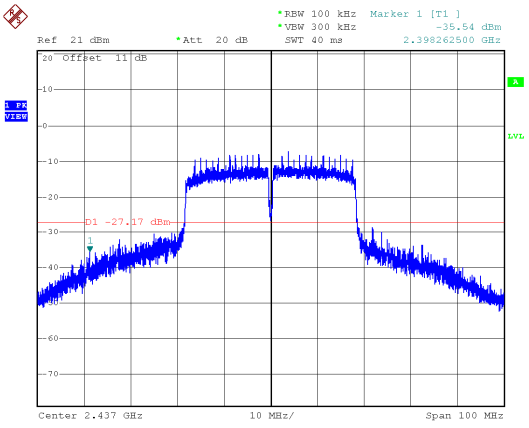


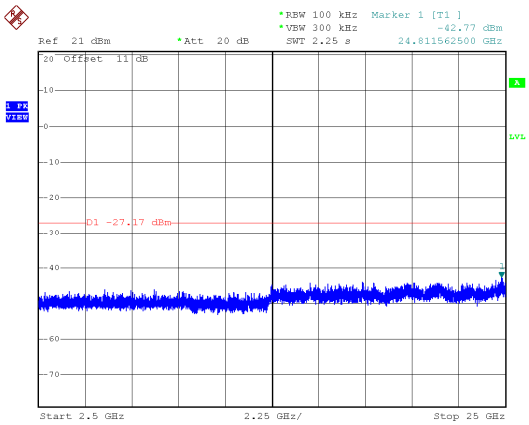




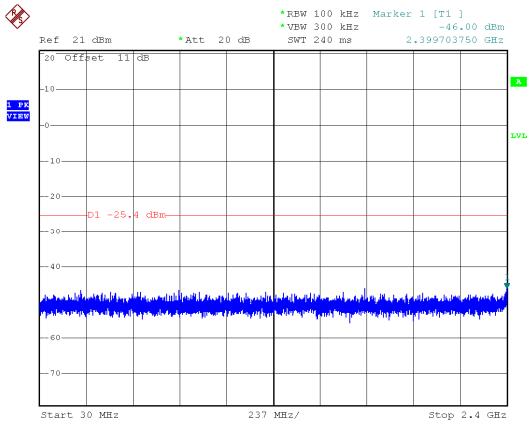
Modulation Type: 802.11n HT40, CH06

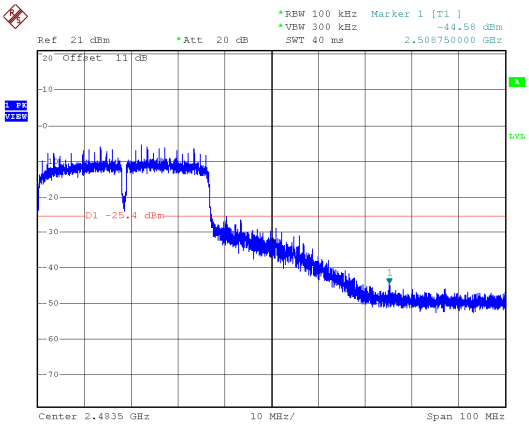


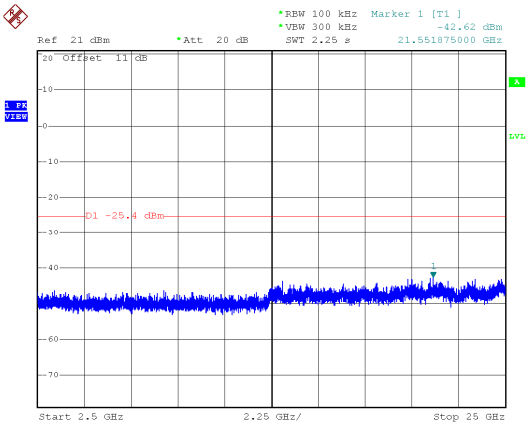




Modulation Type: 802.11n HT40, CH09







8. 6dB Bandwidth Measurement Data

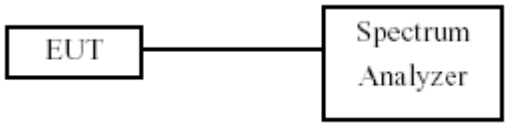
8.1 Test Limit

The minimum of 6dB Bandwidth Measurement is 0.5 MHz.

8.2 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.

8.3 Test Setup Layout

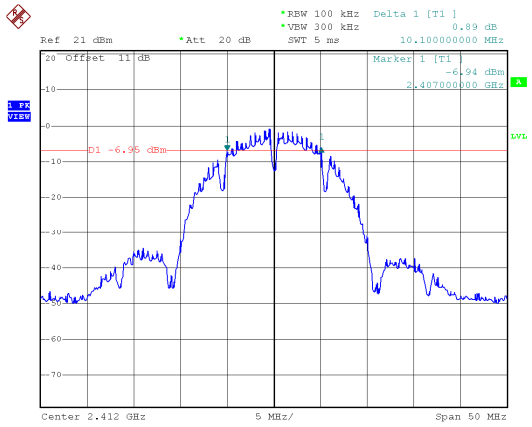


8.4 Test Result and Data

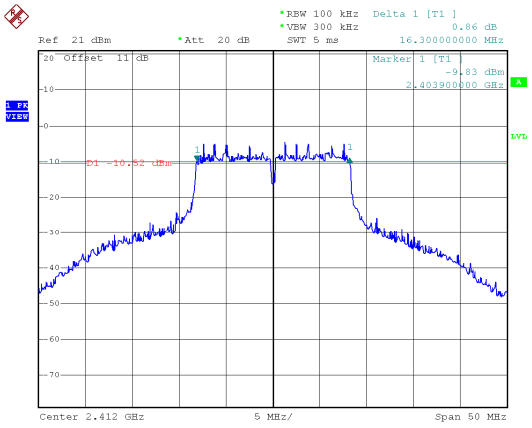
Temperature : 21°C Humidity : 63%
Test Date : Jan. 31, 2018

Modulation Type	Channel	Frequency (MHz)	6dB Bandwidth (MHz)	Limit (MHz)
IEEE 802.11b (1Mbps)	01	2412	10.10	0.5
	06	2437	10.10	0.5
	11	2462	10.10	0.5
IEEE 802.11g (6Mbps)	01	2412	16.30	0.5
	06	2437	16.40	0.5
	11	2462	16.30	0.5
IEEE 802.11n HT20 (6.5Mbps)	01	2412	17.30	0.5
	06	2437	17.70	0.5
	11	2462	17.50	0.5
IEEE 802.11n HT40 (13.5Mbps)	03	2422	35.40	0.5
	06	2437	35.20	0.5
	09	2452	35.00	0.5

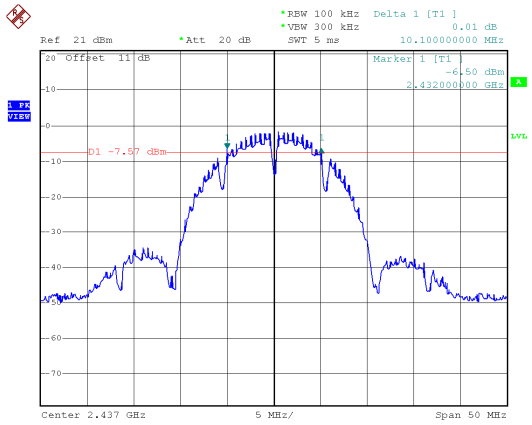
Modulation Type: 802.11b
CH01



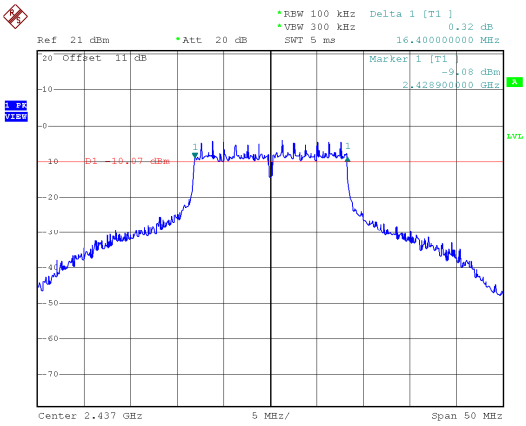
Modulation Type: 802.11g
CH01



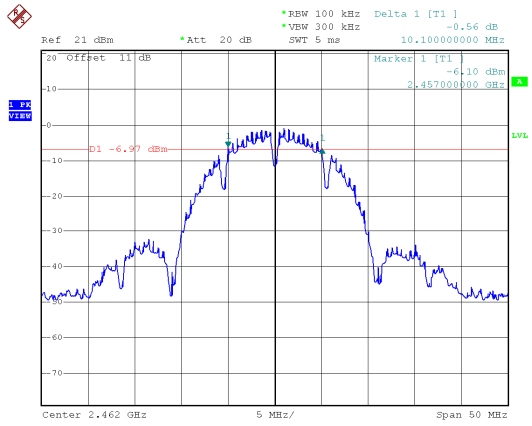
CH06



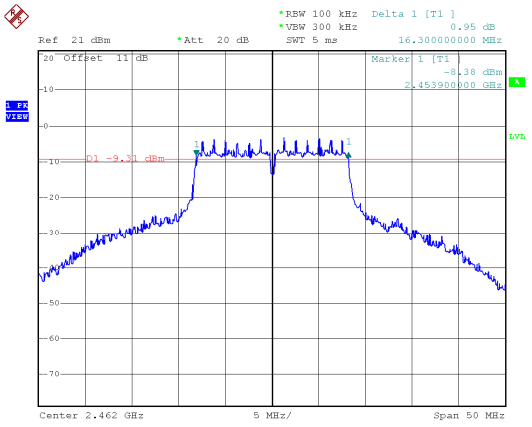
CH06



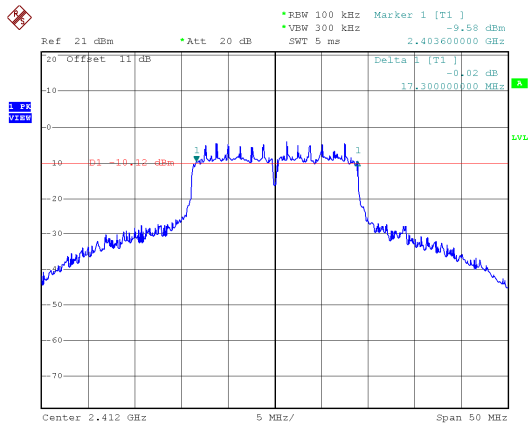
CH11



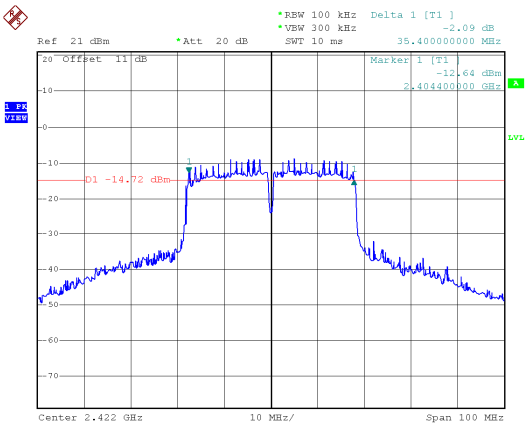
CH11



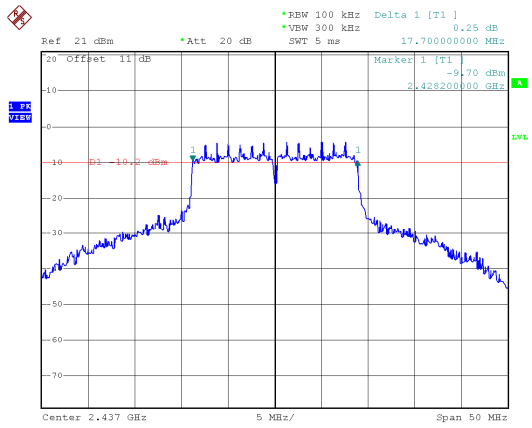
Modulation Type: 802.11n HT20
CH01

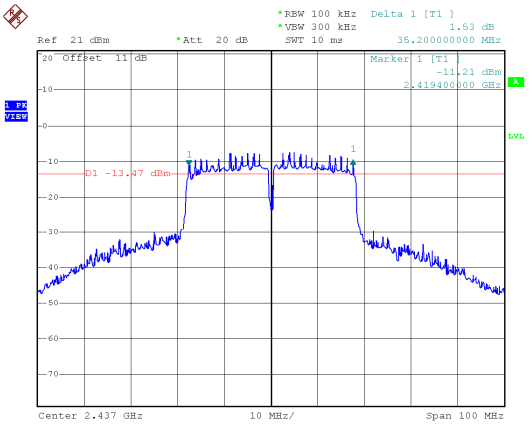


Modulation Type: 802.11n HT40
CH03

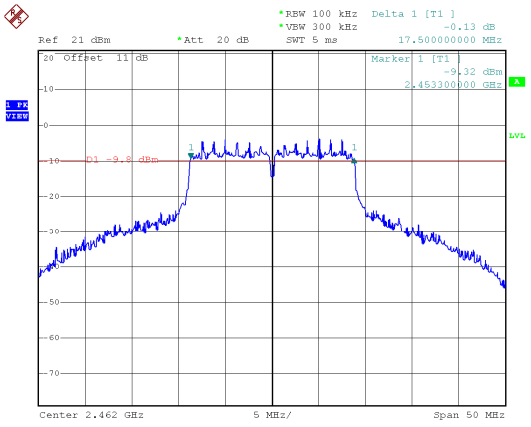


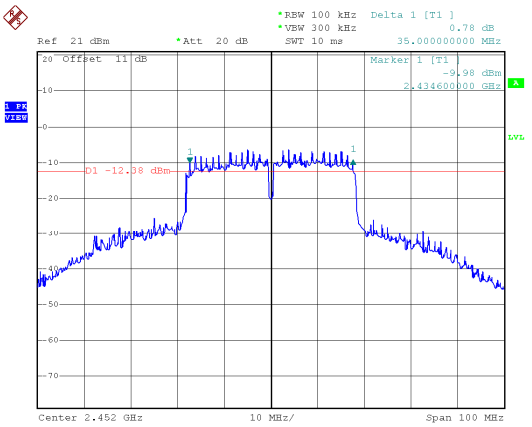
CH06





CH11





9. Maximum Peak and Average Output Power

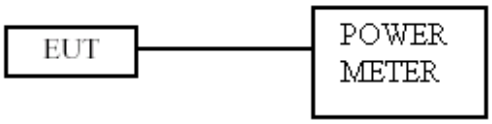
9.1 Test Limit

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 : 21°C Humidity : 64%

Test Date : Jan. 19, 2018

Modulation Type	Channel	Frequency (MHz)	Peak Power Output (dBm)	Total Power (mW)	Total Power (dBm)	Power Limit (dBm)
IEEE 802.11b (1Mbps)	01	2412	10.89	12.274	10.89	30.00
	06	2437	11.14	13.002	11.14	30.00
	11	2462	11.41	13.836	11.41	30.00
IEEE 802.11g (6Mbps)	01	2412	12.83	19.187	12.83	30.00
	06	2437	12.86	19.320	12.86	30.00
	11	2462	12.93	19.634	12.93	30.00
IEEE 802.11n HT20 (6.5Mbps)	01	2412	12.85	19.275	12.85	30.00
	06	2437	12.79	19.011	12.79	30.00
	11	2462	12.85	19.275	12.85	30.00
IEEE 802.11n HT40 (13.5Mbps)	03	2422	12.51	17.824	12.51	30.00
	06	2437	12.67	18.493	12.67	30.00
	09	2452	12.78	18.967	12.78	30.00

Modulation Type	Channel	Frequency (MHz)	Avg. Power Output (dBm)	Total Power (mW)	Total Power (dBm)	Power Limit (dBm)
IEEE 802.11b (1Mbps)	01	2412	8.94	7.834	8.94	N/A
	06	2437	9.21	8.337	9.21	N/A
	11	2462	9.58	9.078	9.58	N/A
IEEE 802.11g (6Mbps)	01	2412	7.99	6.295	7.99	N/A
	06	2437	8.37	6.871	8.37	N/A
	11	2462	8.56	7.178	8.56	N/A
IEEE 802.11n HT20 (6.5Mbps)	01	2412	7.9	6.166	7.90	N/A
	06	2437	8.24	6.668	8.24	N/A
	11	2462	8.44	6.982	8.44	N/A
IEEE 802.11n HT40 (13.5Mbps)	03	2422	7.10	5.129	7.10	N/A
	06	2437	7.78	5.998	7.78	N/A
	09	2452	7.96	6.252	7.96	N/A

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

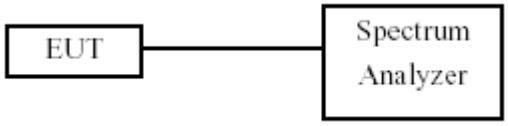
10.2 Test Procedures

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.

10.3 Test Setup Layout



10.4 Test Result and Data

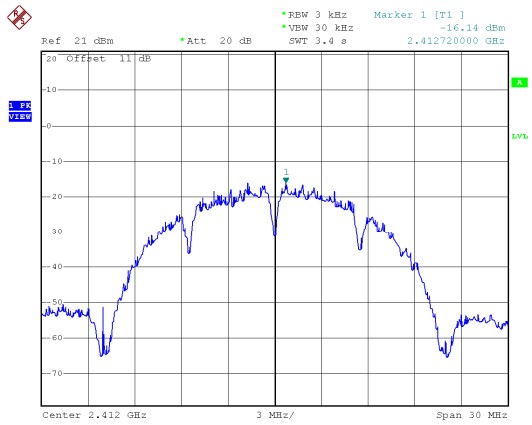
Temperature : 21°C Humidity : 64%

Test Date : Jan. 19, 2018

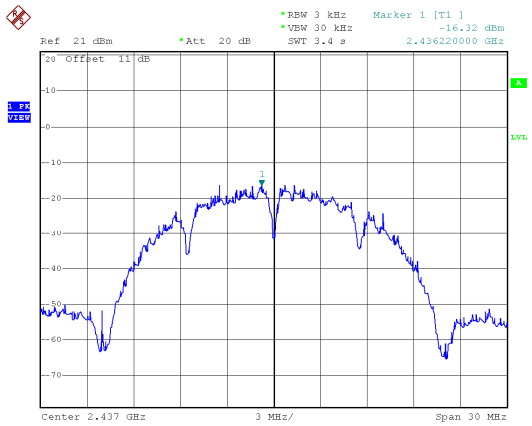
Modulation Type	Channel	Frequency (MHz)	Maximum Power Density of 3 kHz Bandwidth (dBm)	Sum chain (dBm)	Duty Cycle CF(dB)	Total PSD (dBm)	Limit (dBm)
IEEE 802.11b (1Mbps)	01	2412	-16.14	-16.14	0.00	-16.14	8.00
	06	2437	-16.32	-16.32	0.00	-16.32	8.00
	11	2462	-15.19	-15.19	0.00	-15.19	8.00
IEEE 802.11g (6Mbps)	01	2412	-19.38	-19.38	0.00	-19.38	8.00
	06	2437	-18.28	-18.28	0.00	-18.28	8.00
	11	2462	-19.33	-19.33	0.00	-19.33	8.00
IEEE 802.11n HT20 (6.5Mbps)	01	2412	-18.73	-18.73	0.00	-18.73	8.00
	06	2437	-18.66	-18.66	0.00	-18.66	8.00
	11	2462	-19.28	-19.28	0.00	-19.28	8.00
IEEE 802.11n HT40 (13.5Mbps)	03	2422	-22.97	-22.97	0.00	-22.97	8.00
	06	2437	-22.39	-22.39	0.00	-22.39	8.00
	09	2452	-21.86	-21.86	0.00	-21.86	8.00

Modulation Type: 802.11b

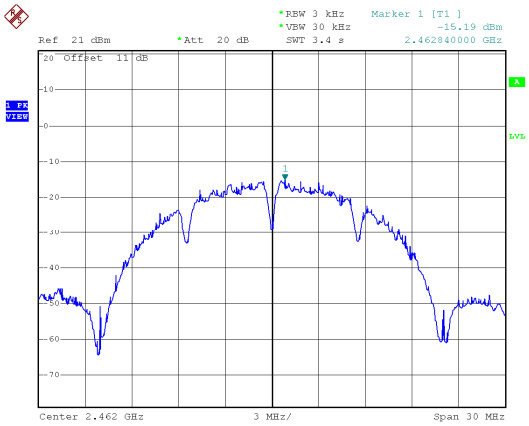
CH01



CH06

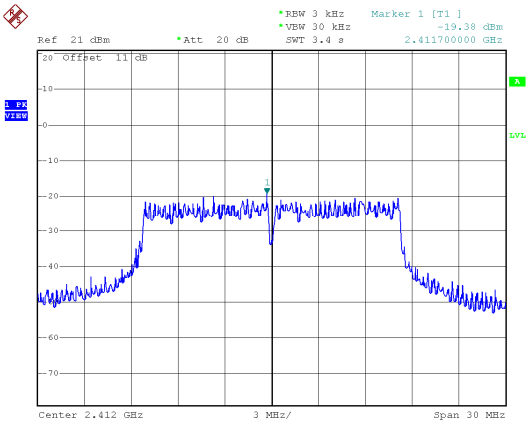


CH11

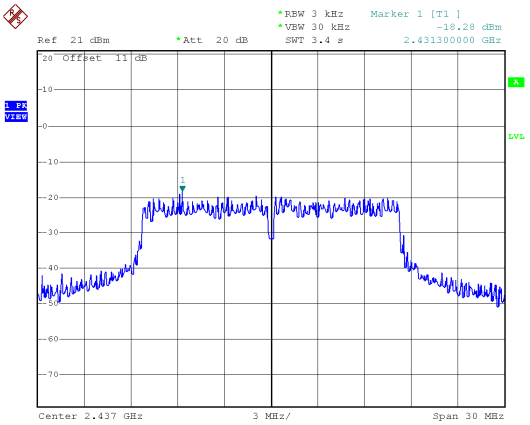


Modulation Type: 802.11g

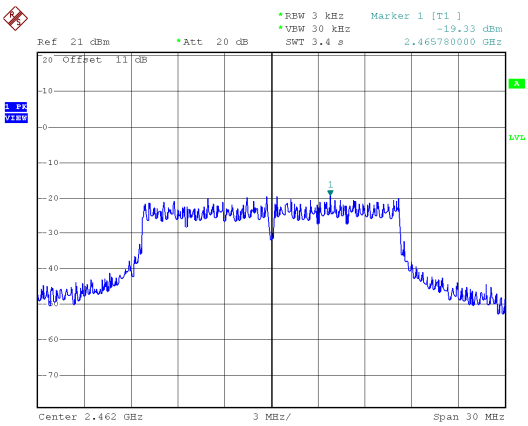
CH01



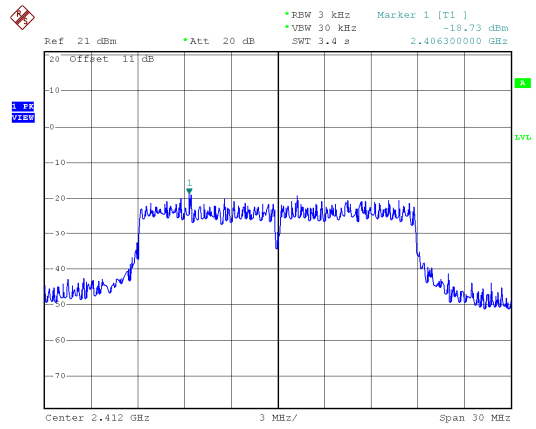
CH06



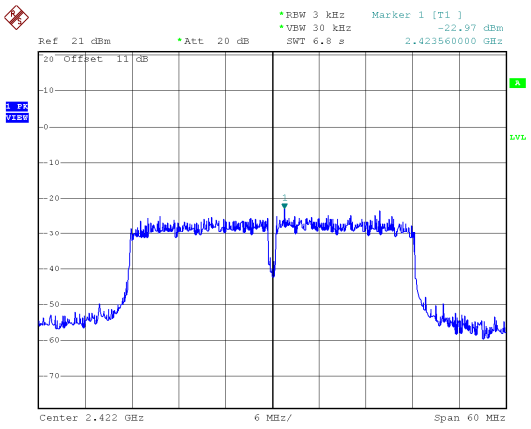
CH11



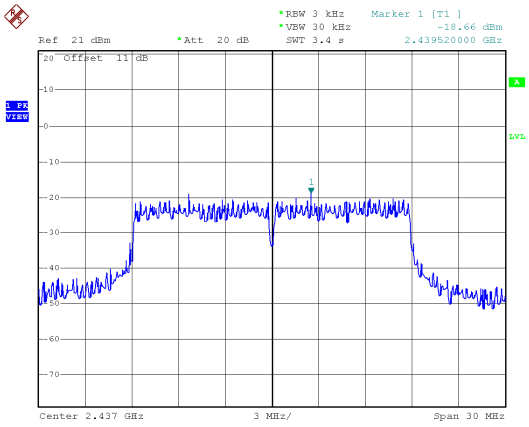
Modulation Type: 802.11n HT20
CH01



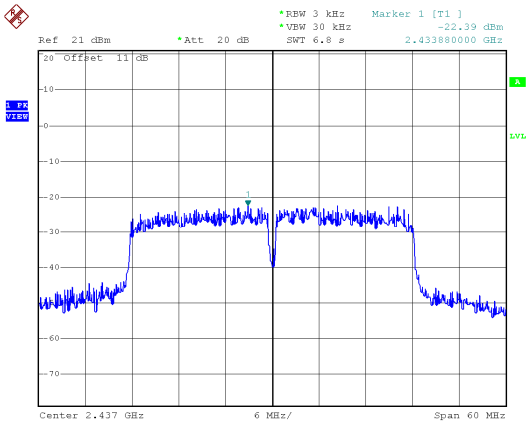
Modulation Type: 802.11n HT40
CH03



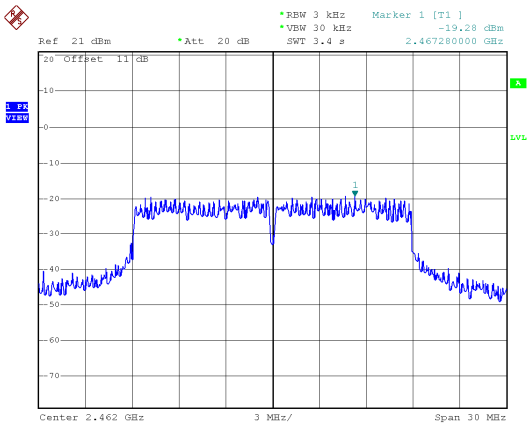
CH06



CH06



CH11



CH09