



FCC RADIO TEST REPORT

Applicant : Alarm.com Incorporated
Address : 8281 Greensboro Drive, Suite 100, Tysons,
VA 22102
Equipment : Wi-Fi Indoor Camera
Model No. : ADC-V515
Trade Name : ALARM.COM
FCC ID. : YL6-515

I HEREBY CERTIFY THAT :

The sample was received on Jun. 02, 2020 and the testing was completed on Jun. 18, 2020 at CerpPASS Technology Corp. The test result refers exclusively to the test presented test model / sample. Without written approval of CerpPASS Technology Corp., the test report shall not be reproduced except in full.

Approved by:

Laboratory Accreditation:

CerpPASS Technology Corporation Test Laboratory





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History of this test report

Report No.	Issue Date	Description
TEF2006011	Jun. 29, 2020	Original



1. Summary of Test Procedure and Test Results

1.1 Applicable Standards

ANSI C63.10:2013

FCC Rules and Regulations Part 15 Subpart C §15.247

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

*The lab has reduced the uncertainty risk factor from test equipment, environment and staff technicians which according to the standard on contract. Therefore, the test result will only be determined by standard requirement.

*This EUT has been also tested and compiled with the requirement of FCC Part 15, Subpart B, recorded in a separate test report(TEFD2006011).



2. Test Configuration of Equipment under Test

2.1 Feature of Equipment

Frequency Range	802.11b/g/n: 2412-2462MHz
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	FPC Antenna
Antenna Gain	2412-2462MHz: ANT A:2.70dBi
Serial Number	B83A9D500037
Adapter	Brand: Asian Power Devices Inc. Model: WB-12G12FU INPUT: 100-240Vac, 50/60Hz, 0.3A MAX OUTPUT: 12Vdc, 1.0A

Note: For more details, please refer to the User's manual of the EUT.

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

- During testing, the interface cables and equipment positions were varied according to ANSI C63.10.
- The complete test system included Remote workstation and EUT for RF test. The Remote workstation included Notebook.
- An executive program, "rtwpriv command" under Windows OS system was executed to transmit and receive data via WLAN.
- 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)
2	802.11g (6Mbps)
3	11nHT20 (6.5Mbps)
4	11Nht40 (13.5Mbps)
caused "Test Mode 3" generated the worst case, it was reported as the final data.	
Radiation Emissions (30MHz ~ 1GHz)	
Test Mode	Operating Description
1	802.11b (1Mbps)
2	802.11g (6Mbps)
3	11nHT20 (6.5Mbps)
4	11Nht40 (13.5Mbps)
caused "Test Mode 3" generated the worst case, it was reported as the final data.	
Radiation Emissions (1GHz ~ 25GHz)	
Test Mode	Operating Description
1	802.11b (1Mbps)
2	802.11g (6Mbps)
3	11nHT20 (6.5Mbps)
4	11Nht40 (13.5Mbps)
caused "Test Mode 1~4" generated the worst case, they were reported as the final data.	

2.4 Description of Test System

N/A



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	
	FCC	TW1079, TW1439
	IC	4934E-1, 4934E-2
	VCCI	T-2205 for Telecommunication test C-4663 for Conducted emission test 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.	

Test Item	Test Site	Finish Date	Environmental Conditions	Tested By
RF Conducted	RFCON01-NK	2020/06/18	22°C / 60%	Vic Yeh
Radiated Emissions	3M02-NK	2020/06/15	24°C / 44%	Vic Yeh
AC Power Line Conducted Emission	CON01-NK	2020/06/18	26°C / 51%	Leon Huang

2.6 Measurement Uncertainty

Measurement Item	Uncertainty
AC Power Line Conduction(150K~30MHz)	±1.60dB
Radiated Spurious Emission(9KHz~30MHz)	±3.404dB
Radiated Spurious Emission(30MHz~1GHz)	±5.686dB
Radiated Spurious Emission(1GHz~25GHz)	±6.597dB
Conducted Spurious Emission	±2.022dB
6dB Bandwidth	±4.482%
20dB Bandwidth	±4.40%
Occupied Bandwidth	±4.40%
Peak Output Power(Conducted Power Meter)	±1.02dB
Dwell Time	±3.49%
Power Spectral Density	±1.963dB
Duty Cycle	±3.47%



3. Test Equipment and Ancillaries Used for Tests

Test Item	Radiated Emissions				
Test Site	Semi Anechoic Room(3M02-NK)				
Instrument	Manufacturer	Model No	Serial No	Calibration Date	Valid Date
Bilog Antenna	Schwarzbeck	VULB9168	275	2019/09/24	2020/09/23
Active Loop Antenna	EMCO	6507	40855	2020/05/21	2021/05/20
Horn Antenna	EMCO	3115	31589	2020/03/26	2021/03/25
Horn Antenna	EMCO	3116	31974	2019/09/17	2020/09/16
EMI Receiver	ROHDE & SCHWARZ	ESCI	100821	2019/09/16	2020/09/15
Spectrum Analyzer	ROHDE & SCHWARZ	FSV 40-N	102151	2019/08/02	2020/08/01
Preamplifier	EM Electronics corp.	EM330	60660	2020/03/16	2021/03/15
Preamplifier	EMC INSTRUMENTS	EMC051845SE	980333	2019/09/20	2020/09/19
Preamplifier	Agilent	8449B	3008A01954	2020/03/16	2021/03/15
Preamplifier	EMC INSTRUMENTS	EMC184045	980065	2019/11/07	2020/11/06
Bluetooth Tester	ROHDE & SCHWARZ	CBT	101133	2020/04/07	2021/04/06
Cable-3in1(30M-1G)	HARBOUR INDUSTRIES	LL142	CCE1316	2019/09/20	2020/09/19
Cable-0.5m(1G-18G)	HUBER SUHNER	SUCOFLEX 100	805443/4	2020/05/27	2021/05/26
Cable-3m(1G-18G)	HUBER SUHNER	SUCOFLEX 100	805796/4	2020/05/27	2021/05/26
Cable-8m(1G-18G)	HUBER SUHNER	SUCOFLEX 100	805795/4	2020/05/27	2021/05/26
Cable-0.5m(30M-40G)	HUBER SUHNER	SUCOFLEX 102	28420/2	2020/04/01	2021/03/31
Cable-3m(30M-40G)	HUBER SUHNER	SUCOFLEX 102	MY2608/2	2020/04/01	2021/03/31
Cable-0.5m(1G-40G)	Rapidtek	40GHZ 50CM	38MS-38MS50314	2020/04/09	2021/04/08
E3	AUDIX	v8.2014-8-6	RK-000529	NA	NA

Test Item	RF Conducted				
Test Site	RFCON01-NK				
Instrument	Manufacturer	Model No	Serial No	Calibration Date	Valid Date
Spectrum Analyzer	ROHDE & SCHWARZ	FSP 40	100219	2019/07/22	2020/07/21
Spectrum Analyzer	ROHDE & SCHWARZ	FSV 40-N	102151	2019/08/02	2020/08/01
Bluetooth Tester	ROHDE & SCHWARZ	CBT	101133	2020/04/07	2021/04/06
CAX Signal Analyzer	KEYSIGHT	N9000B	MY57100339	2019/11/25	2020/11/24
Attenuator	KEYSIGHT	8491B	MY39250703	2020/04/17	2021/04/16
TEMP & HUMIDITY CHAMBER	T-MACHINE	TMJ-9712	T-12-040111	2019/08/28	2020/08/27
Power Meter	Anritsu	ML2495A	1224005	2020/04/17	2021/04/16
Power Sensor	Anritsu	MA2411B	1207295	2020/04/17	2021/04/16



Test Item	AC Power Line Conducted Emission				
Test Site	CON01-NK				
Instrument	Manufacturer	Model No	Serial No	Calibration Date	Valid Date
EMI Receiver	ROHDE & SCHWARZ	ESCI	100821	2019/09/16	2020/09/15
Line Impedance Stabilization Network	Schwarzbeck	NSLK 8127	8127-516	2019/09/19	2020/09/18
Pulse Limiter	ROHDE & SCHWARZ	ESH3-Z2	101933	2019/09/11	2020/09/10
Cable-6m(9k~300M)	NA	EMC5D-BM-BM-6	130605	2019/09/11	2020/09/10
E3	AUDIX	v8.2014-8-6	RK-000531	NA	NA



4. Antenna Requirements

4.1 Antenna Construction and Directional Gain

Antenna Type	FPC Antenna
Antenna Gain	2412MHz-2462MHz: 2.70 dBi

2412-2462MHz

For Power directional gain= G_{ant} = 2.70 dBi

For PSD directional gain = G_{ant} = 2.70 dBi



5. Test of AC Power Line Conducted Emission

5.1 Test Limit

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

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

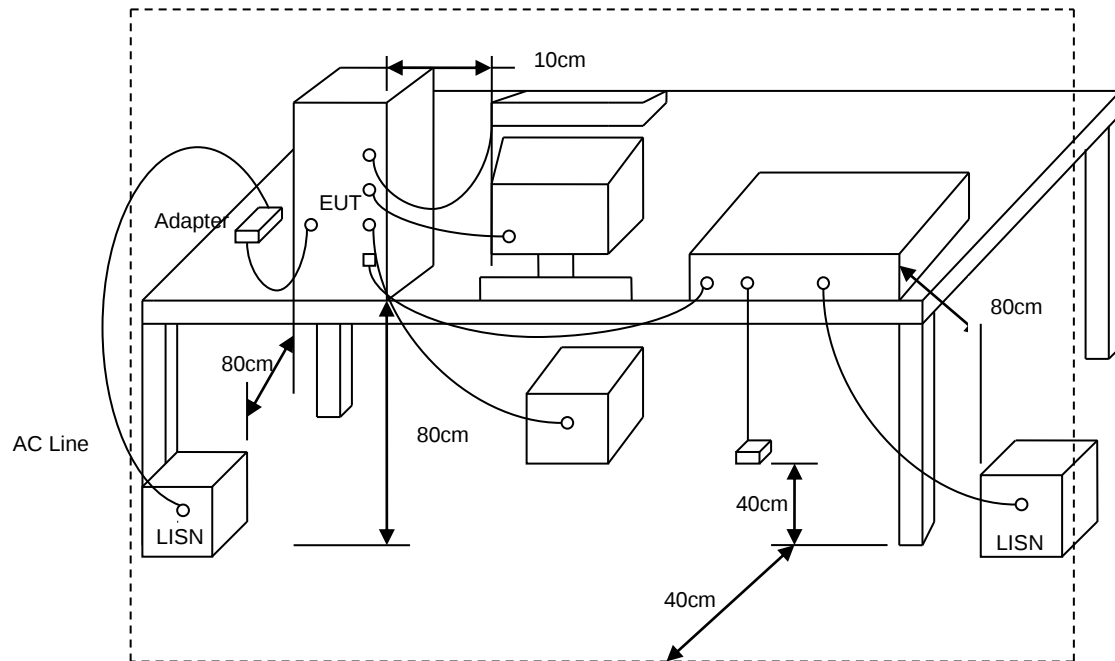
*Decreases with the logarithm of the frequency.

5.2 Test Procedures

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



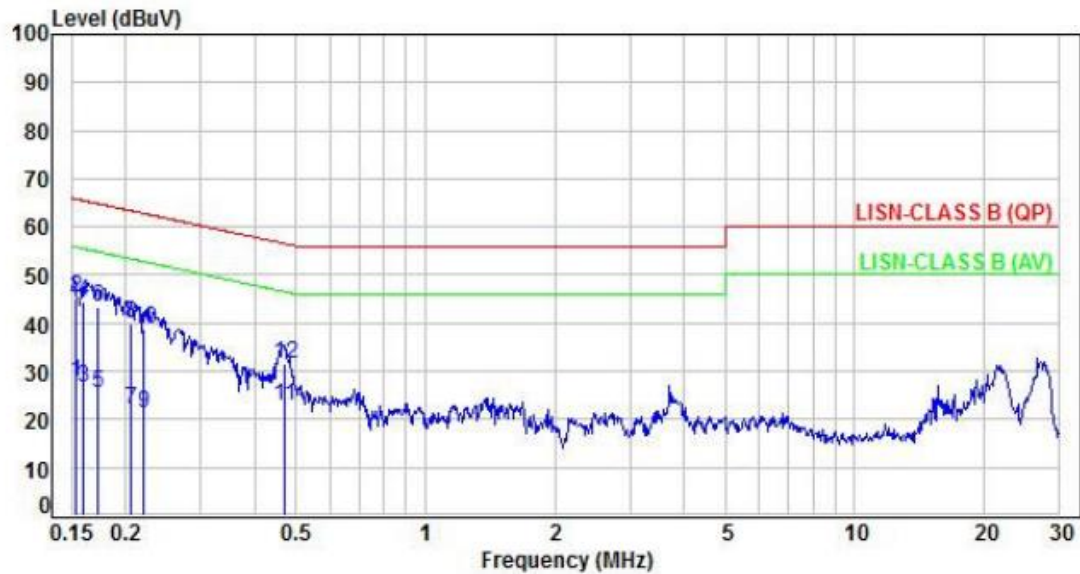
5.3 Typical Test Setup





5.4 Test Result and Data

Power	: AC 120V / 60Hz	Pol/Phase	: LINE
Test Mode	: Mode 3		:



No.	Frequency (MHz)	Factor (dB)	Reading (dBUV)	Level (dBUV)	Limit (dBUV)	Margin (dB)	Detector	P/F
1	0.15	9.95	17.63	27.58	55.79	-28.21	Average	P
2	0.15	9.95	35.16	45.11	65.79	-20.68	QP	P
3	0.16	9.95	16.60	26.55	55.49	-28.94	Average	P
4	0.16	9.95	34.64	44.59	65.49	-20.90	QP	P
5	0.17	9.95	15.34	25.29	54.82	-29.53	Average	P
6	0.17	9.95	33.41	43.36	64.82	-21.46	QP	P
7	0.21	9.95	12.28	22.23	53.34	-31.11	Average	P
8	0.21	9.95	30.12	40.07	63.34	-23.27	QP	P
9	0.22	9.95	11.48	21.43	52.80	-31.37	Average	P
10	0.22	9.95	28.71	38.66	62.80	-24.14	QP	P
11	0.47	9.96	12.83	22.79	46.52	-23.73	Average	P
12	0.47	9.96	21.48	31.44	56.52	-25.08	QP	P

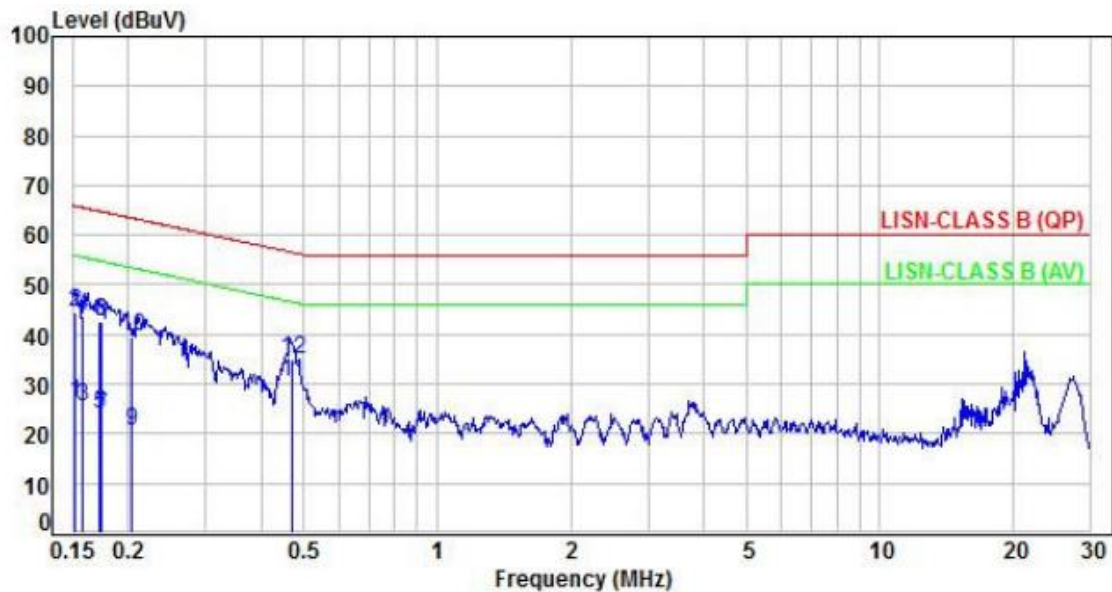
Note: Level=Reading+Factor

Margin=Level-Limit

Factor=(LISN or ISN or Current Probe)Factor + Cable Loss



Power	: AC 120V / 60Hz	Pol/Phase	: NEUTRAL
Test Mode	: Mode 3		



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector	P/F
1	0.15	9.92	16.47	26.39	55.93	-29.54	Average	P
2	0.15	9.92	34.57	44.49	65.93	-21.44	QP	P
3	0.16	9.92	15.47	25.39	55.58	-30.19	Average	P
4	0.16	9.92	33.92	43.84	65.58	-21.74	QP	P
5	0.17	9.92	13.95	23.87	54.84	-30.97	Average	P
6	0.17	9.92	32.68	42.60	64.84	-22.24	QP	P
7	0.17	9.92	13.78	23.70	54.79	-31.09	Average	P
8	0.17	9.92	32.65	42.57	64.79	-22.22	QP	P
9	0.20	9.92	10.72	20.64	53.47	-32.83	Average	P
10	0.20	9.92	29.56	39.48	63.47	-23.99	QP	P
11	0.47	9.94	20.56	30.50	46.53	-16.03	Average	P
12	0.47	9.94	24.96	34.90	56.53	-21.63	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

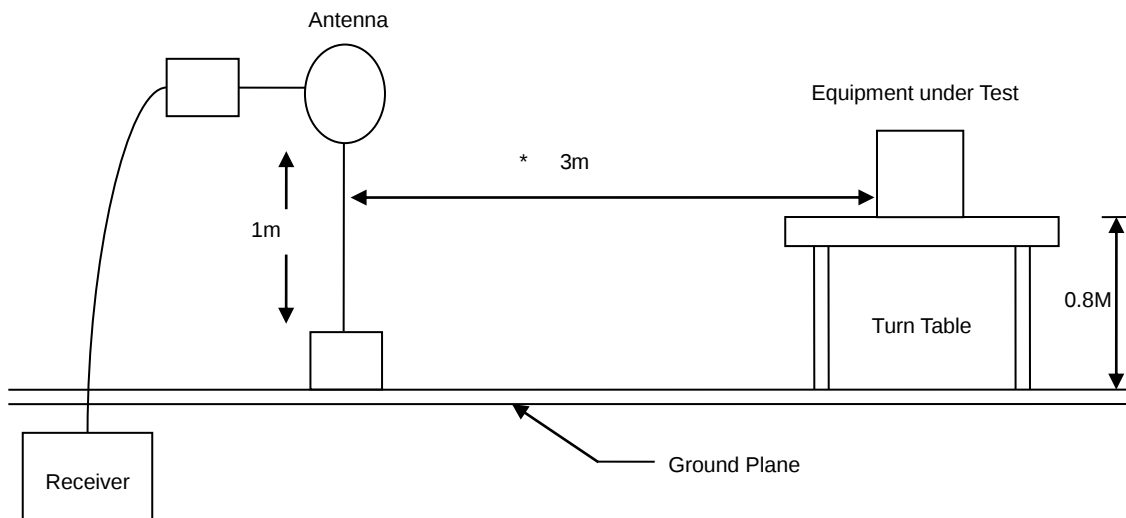
6.2 Test Procedures

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

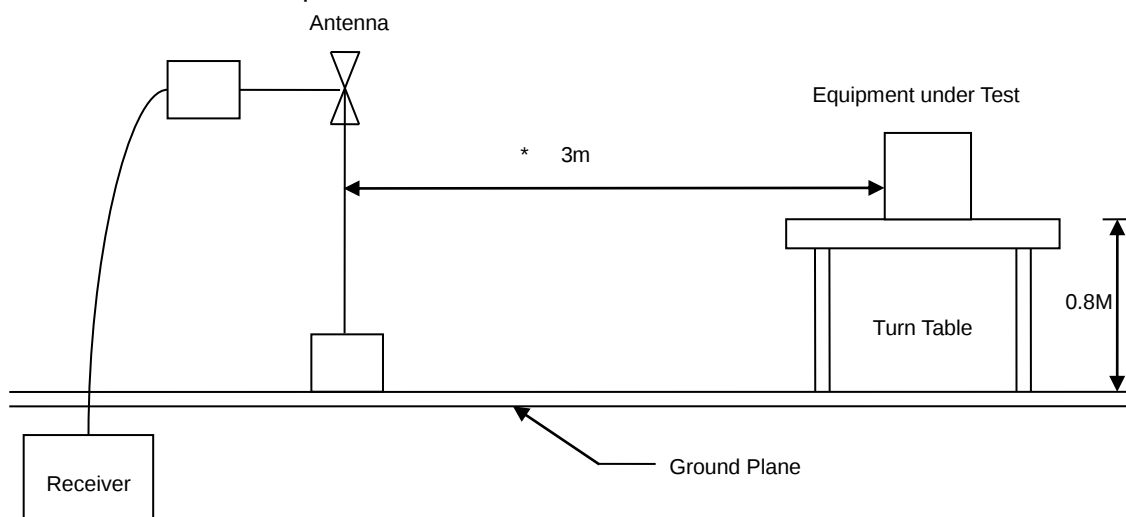


6.3 Typical Test Setup

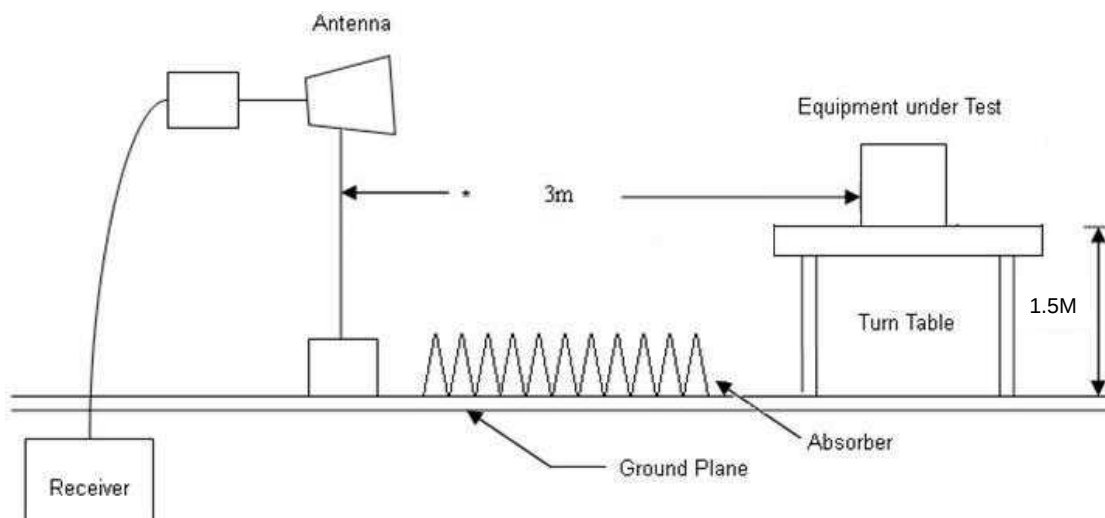
Below 30MHz test setup



30MHz- 1GHz Test Setup



Above 1GHz Test Setup



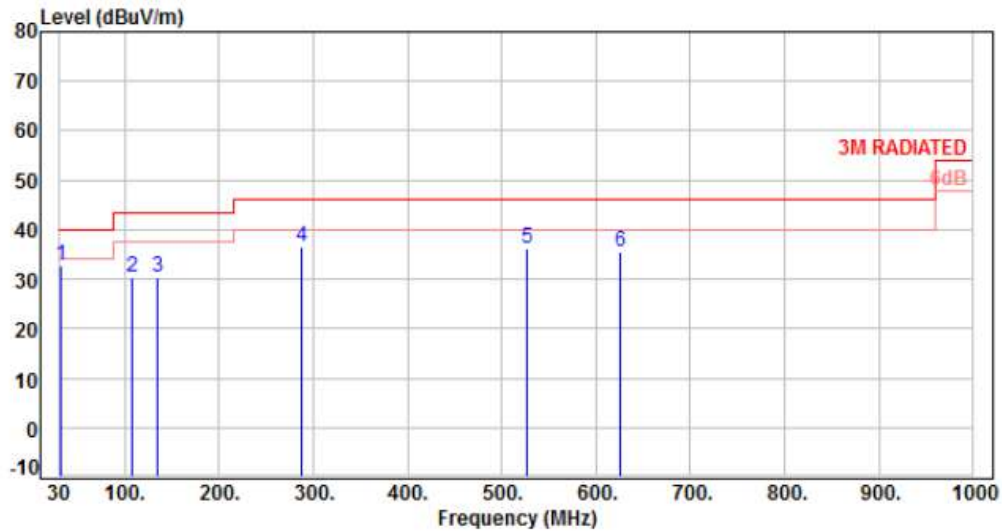


6.4 Test Result and Data (9KHz ~ 30MHz)

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

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

Power	: AC 120V / 60Hz	Pol/Phase	: VERTICAL
Test Mode	: Mode 3		:



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	-10.52	43.37	32.85	40.00	-7.15	Peak	100	0	P
2	107.60	-13.25	43.60	30.35	43.50	-13.15	Peak	100	0	P
3	134.76	-10.68	40.95	30.27	43.50	-13.23	Peak	100	0	P
4	288.02	-8.96	45.51	36.55	46.00	-9.45	Peak	100	0	P
5	526.64	-3.39	39.42	36.03	46.00	-9.97	Peak	100	0	P
6	625.58	-1.16	36.76	35.60	46.00	-10.40	Peak	100	0	P

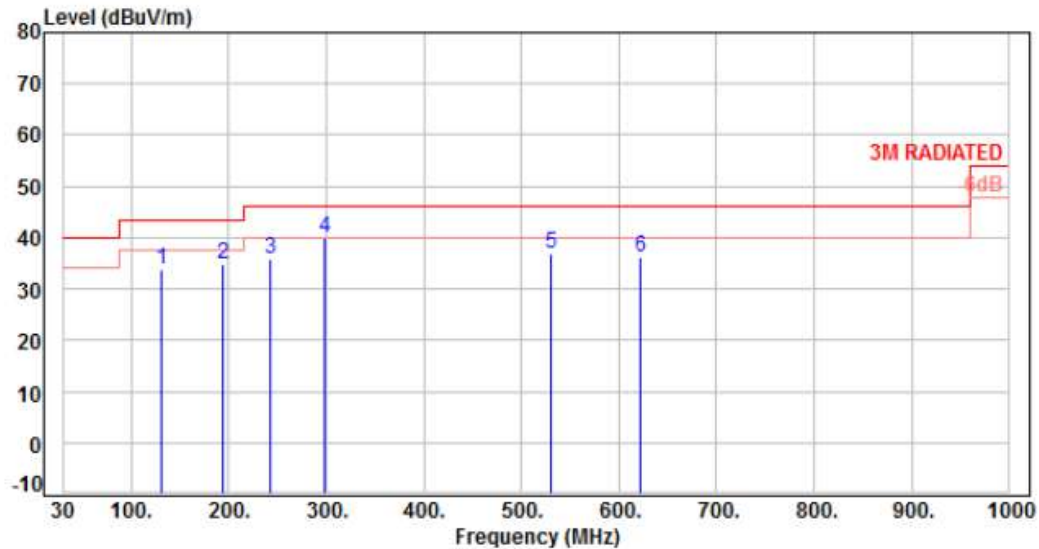
Note: Level=Reading+Factor

Margin=Level-Limit

Factor=Antenna Factor + cable loss - Amplifier Factor



Power	: AC 120V / 60Hz	Pol/Phase	: HORIZONTAL
Test Mode	: Mode 3		:



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	130.88	-11.09	44.93	33.84	43.50	-9.66	Peak	100	0	P
2	194.90	-12.01	46.71	34.70	43.50	-8.80	Peak	100	0	P
3	243.40	-10.59	46.40	35.81	46.00	-10.19	Peak	100	0	P
4	297.72	-8.66	48.48	39.82	46.00	-6.18	Peak	100	0	P
5	530.52	-3.31	40.09	36.78	46.00	-9.22	Peak	100	0	P
6	621.70	-1.24	37.54	36.30	46.00	-9.70	Peak	100	0	P

Note: Level=Reading+Factor

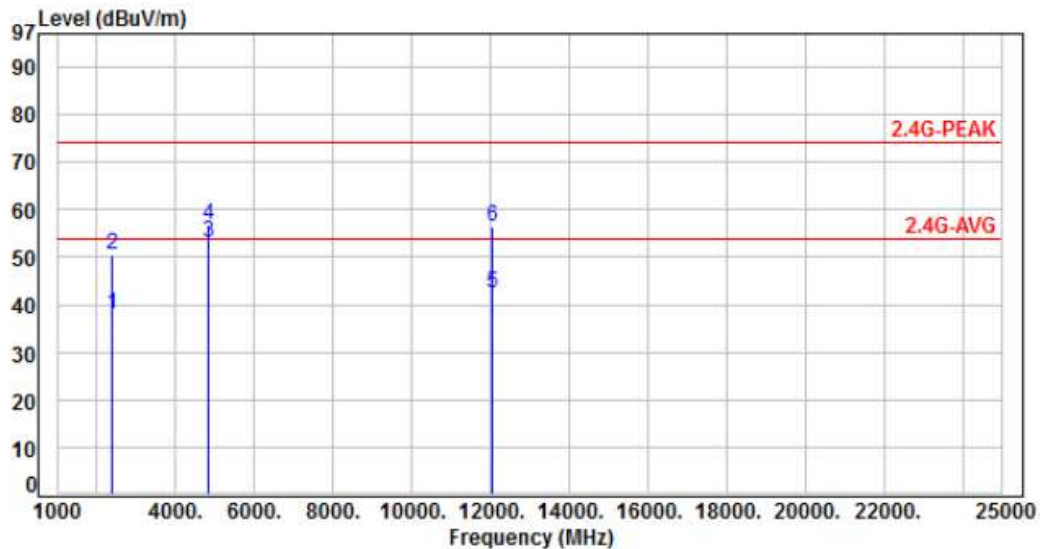
Margin=Level-Limit

Factor=Antenna Factor + cable loss - Amplifier Factor



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

Power	:	AC 120V / 60HZ	Pol/Phase	:	VERTICAL
Test Mode	:	Mode 1, CH01		:	



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	-2.89	40.91	38.02	54.00	-15.98	Average	298	287	P
2	2390.00	-2.89	53.49	50.60	74.00	-23.40	Peak	298	287	P
3	4824.00	4.88	48.10	52.98	54.00	-1.02	Average	348	306	P
4	4824.00	4.88	51.74	56.62	74.00	-17.38	Peak	348	306	P
5	12060.00	14.80	27.77	42.57	54.00	-11.43	Average	100	188	P
6	12060.00	14.80	41.56	56.36	74.00	-17.64	Peak	100	188	P

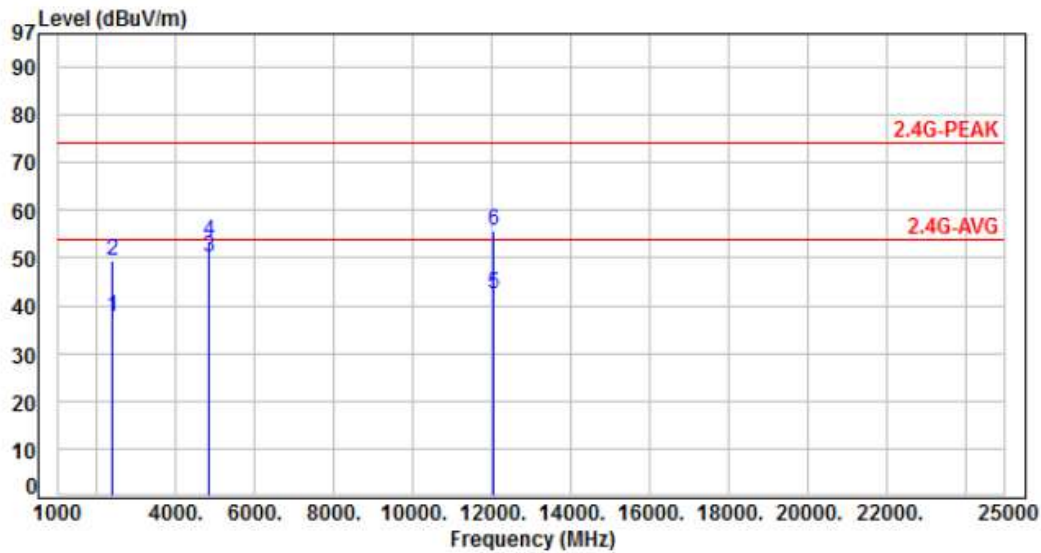
Note: Level=Reading+Factor

Margin=Level-Limit

Factor=Antenna Factor + cable loss - Amplifier Factor



Power	: AC 120V / 60HZ	Pol/Phase	: HORIZONTAL
Test Mode	: Mode 1, CH01		:



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	-2.89	40.42	37.53	54.00	-16.47	Average	100	47	P
2	2390.00	-2.89	52.49	49.60	74.00	-24.40	Peak	100	47	P
3	4824.00	4.88	45.20	50.08	54.00	-3.92	Average	333	109	P
4	4824.00	4.88	48.75	53.63	74.00	-20.37	Peak	333	109	P
5	12060.00	14.80	27.70	42.50	54.00	-11.50	Average	100	221	P
6	12060.00	14.80	40.84	55.64	74.00	-18.36	Peak	100	221	P

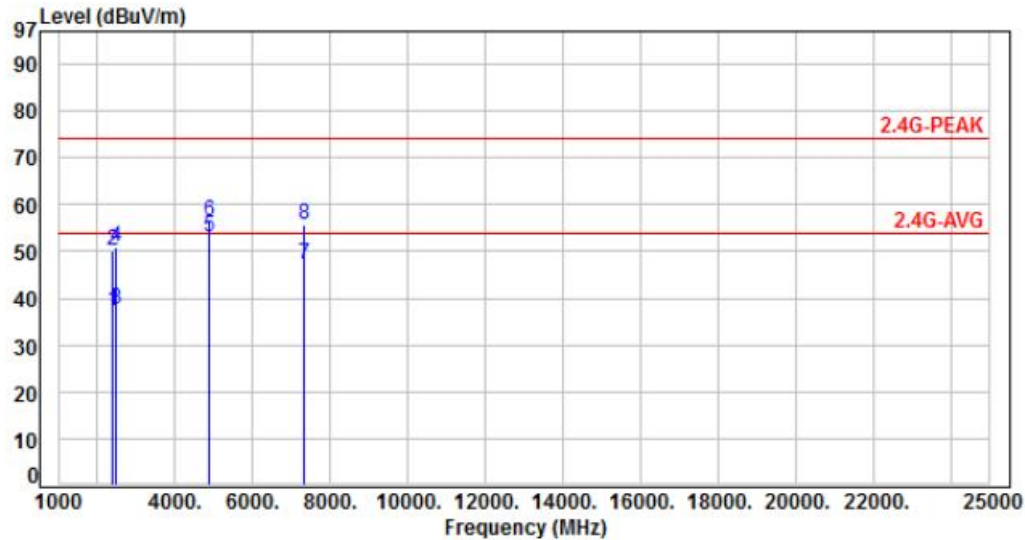
Note: Level=Reading+Factor

Margin=Level-Limit

Factor=Antenna Factor + cable loss - Amplifier Factor



Power	:	AC 120V / 60HZ	Pol/Phase	:	VERTICAL
Test Mode	:	Mode 1, CH06		:	



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	-2.89	40.26	37.37	54.00	-16.63	Average	299	281	P
2	2390.00	-2.89	53.11	50.22	74.00	-23.78	Peak	299	281	P
3	2483.50	-2.69	40.19	37.50	54.00	-16.50	Average	299	281	P
4	2483.50	-2.69	53.53	50.84	74.00	-23.16	Peak	299	281	P
5	4874.00	5.09	47.90	52.99	54.00	-1.01	Average	346	300	P
6	4874.00	5.09	51.39	56.48	74.00	-17.52	Peak	346	300	P
7	7311.00	10.01	37.10	47.11	54.00	-6.89	Average	349	116	P
8	7311.00	10.01	45.51	55.52	74.00	-18.48	Peak	349	116	P

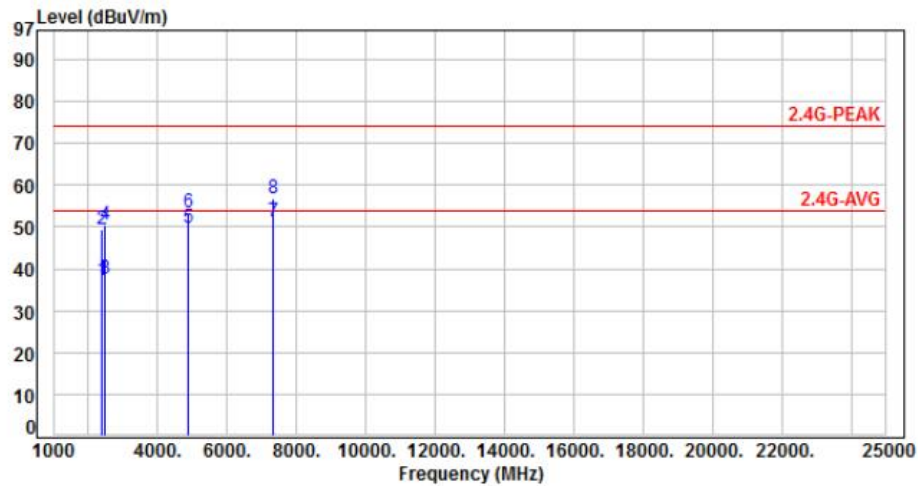
Note: Level=Reading+Factor

Margin=Level-Limit

Factor=Antenna Factor + cable loss - Amplifier Factor



Power	: AC 120V / 60HZ	Pol/Phase	: HORIZONTAL
Test Mode	: Mode 1, CH06		:



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	-2.89	40.18	37.29	54.00	-16.71	Average	100	46	P
2	2390.00	-2.89	52.44	49.55	74.00	-24.45	Peak	100	46	P
3	2483.50	-2.69	40.18	37.49	54.00	-16.51	Average	100	46	P
4	2483.50	-2.69	53.30	50.61	74.00	-23.39	Peak	100	46	P
5	4874.00	5.09	44.65	49.74	54.00	-4.26	Average	277	115	P
6	4874.00	5.09	48.24	53.33	74.00	-20.67	Peak	277	115	P
7	7311.00	10.01	41.30	51.31	54.00	-2.69	Average	100	55	P
8	7311.00	10.01	46.73	56.74	74.00	-17.26	Peak	100	55	P

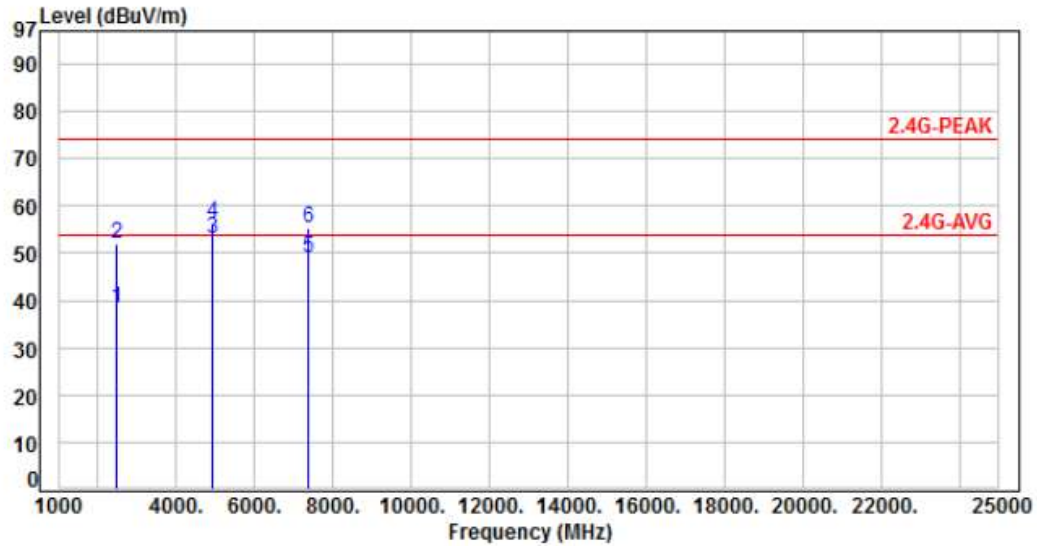
Note: Level=Reading+Factor

Margin=Level-Limit

Factor=Antenna Factor + cable loss - Amplifier Factor



Power	:	AC 120V / 60HZ	Pol/Phase	:	VERTICAL
Test Mode	:	Mode 1, CH11		:	



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	-2.69	40.90	38.21	54.00	-15.79	Average	292	293	P
2	2483.50	-2.69	54.86	52.17	74.00	-21.83	Peak	292	293	P
3	4924.00	5.30	47.70	53.00	54.00	-1.00	Average	322	301	P
4	4924.00	5.30	50.99	56.29	74.00	-17.71	Peak	322	301	P
5	7386.00	10.14	38.97	49.11	54.00	-4.89	Average	347	113	P
6	7386.00	10.14	45.29	55.43	74.00	-18.57	Peak	347	113	P

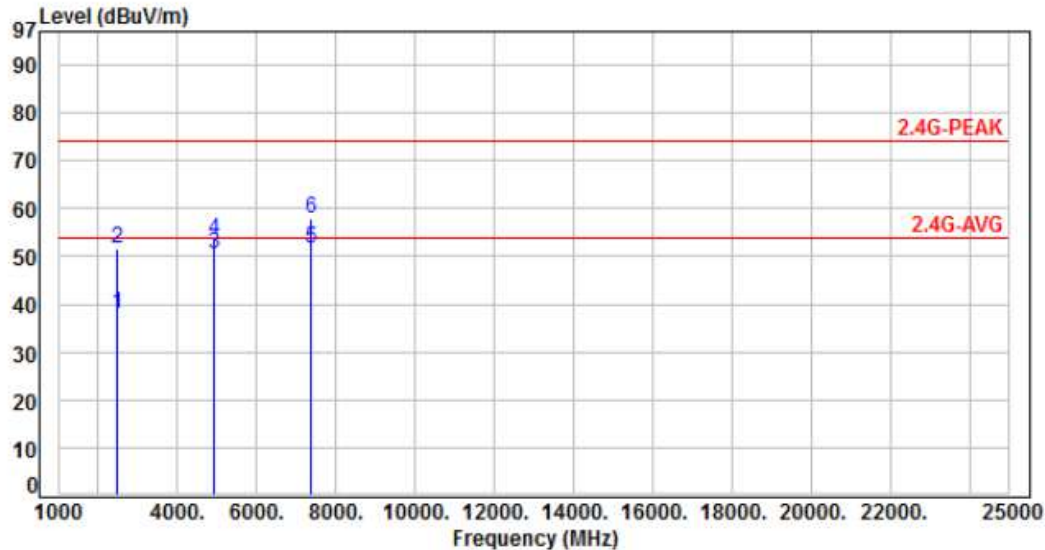
Note: Level=Reading+Factor

Margin=Level-Limit

Factor=Antenna Factor + cable loss - Amplifier Factor



Power	: AC 120V / 60HZ	Pol/Phase	: HORIZONTAL
Test Mode	: Mode 1, CH11		:



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	-2.69	40.68	37.99	54.00	-16.01	Average	100	298	P
2	2483.50	-2.69	54.30	51.61	74.00	-22.39	Peak	100	298	P
3	4924.00	5.30	45.29	50.59	54.00	-3.41	Average	324	112	P
4	4924.00	5.30	48.19	53.49	74.00	-20.51	Peak	324	112	P
5	7386.00	10.14	41.65	51.79	54.00	-2.21	Average	100	47	P
6	7386.00	10.14	47.71	57.85	74.00	-16.15	Peak	100	47	P

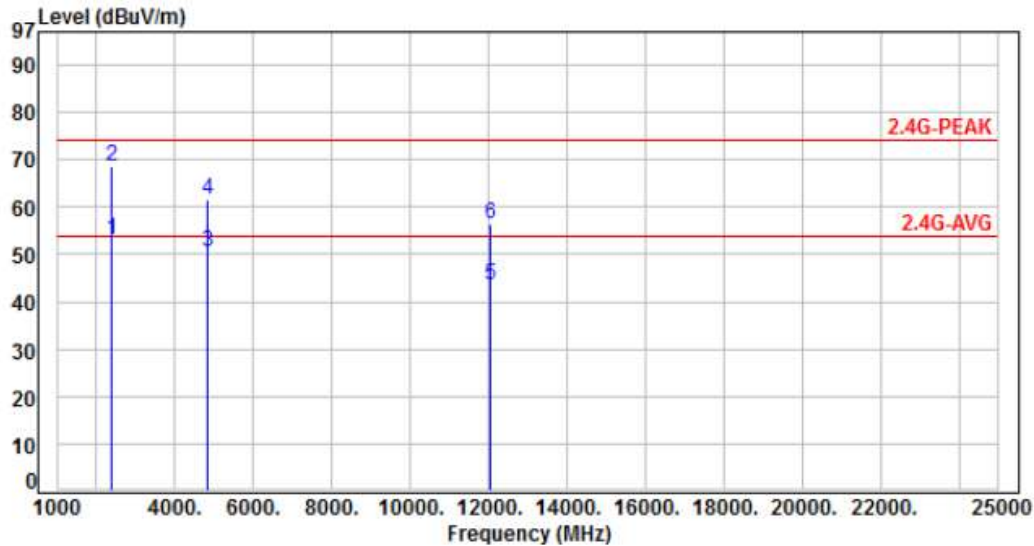
Note: Level=Reading+Factor

Margin=Level-Limit

Factor=Antenna Factor + cable loss - Amplifier Factor



Power	: AC 120V / 60HZ	Pol/Phase	: VERTICAL
Test Mode	: Mode 2, CH01		:



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	-2.89	55.86	52.97	54.00	-1.03	Average	305	235	P
2	2390.00	-2.89	71.54	68.65	74.00	-5.35	Peak	305	235	P
3	4824.00	4.88	45.52	50.40	54.00	-3.60	Average	370	327	P
4	4824.00	4.88	56.85	61.73	74.00	-12.27	Peak	370	327	P
5	12060.00	14.80	28.86	43.66	54.00	-10.34	Average	100	212	P
6	12060.00	14.80	41.60	56.40	74.00	-17.60	Peak	100	212	P

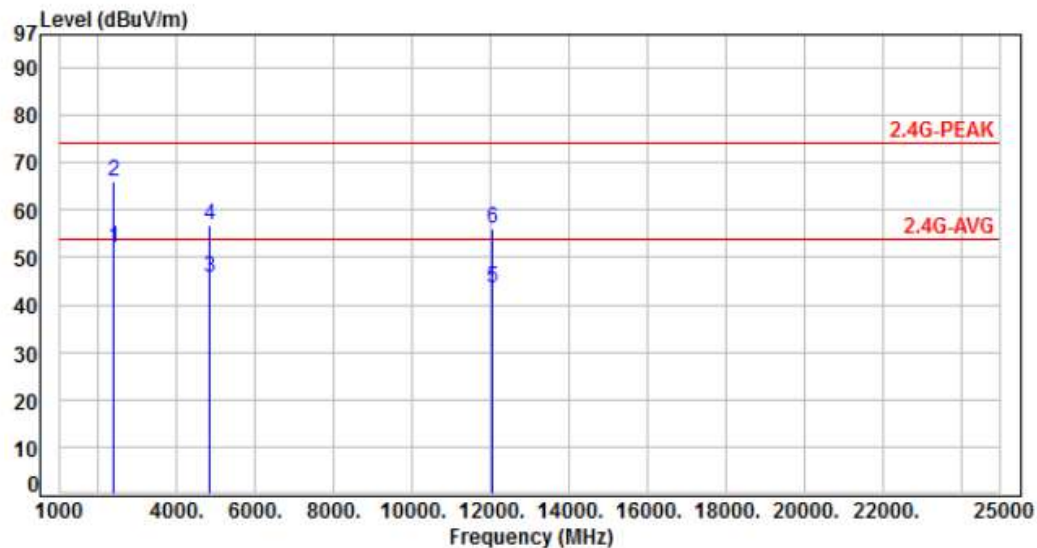
Note: Level=Reading+Factor

Margin=Level-Limit

Factor=Antenna Factor + cable loss - Amplifier Factor



Power	: AC 120V / 60HZ	Pol/Phase	: HORIZONTAL
Test Mode	: Mode 2, CH01		:



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	-2.89	54.88	51.99	54.00	-2.01	Average	163	47	P
2	2390.00	-2.89	69.05	66.16	74.00	-7.84	Peak	163	47	P
3	4824.00	4.88	40.73	45.61	54.00	-8.39	Average	278	96	P
4	4824.00	4.88	52.09	56.97	74.00	-17.03	Peak	278	96	P
5	12060.00	14.80	28.66	43.46	54.00	-10.54	Average	100	251	P
6	12060.00	14.80	41.23	56.03	74.00	-17.97	Peak	100	251	P

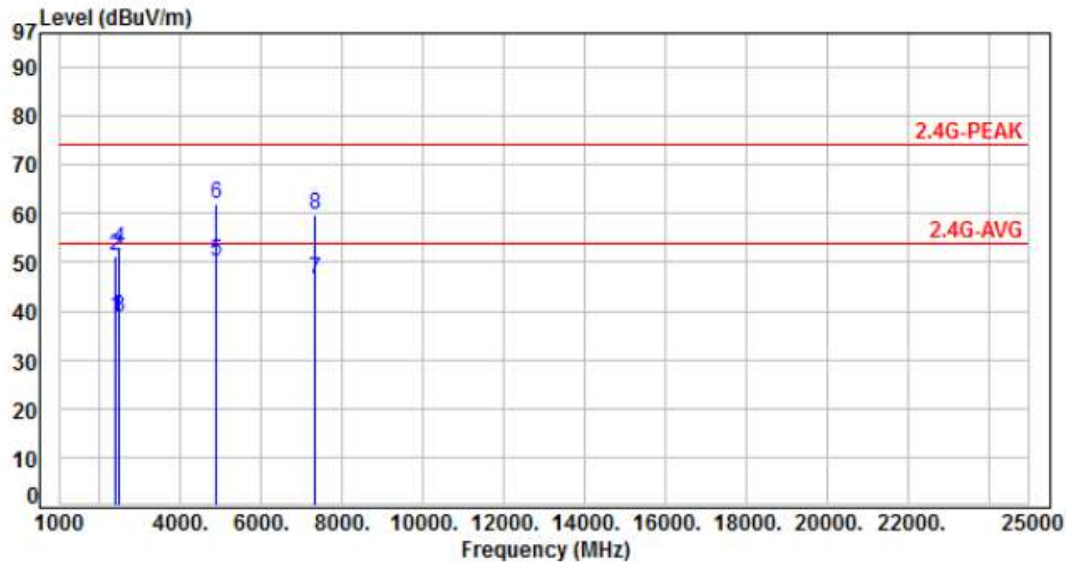
Note: Level=Reading+Factor

Margin=Level-Limit

Factor=Antenna Factor + cable loss - Amplifier Factor



Power	: AC 120V / 60HZ	Pol/Phase	: VERTICAL
Test Mode	: Mode 2, CH06		:



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	-2.89	41.57	38.68	54.00	-15.32	Average	295	297	P
2	2390.00	-2.89	53.99	51.10	74.00	-22.90	Peak	295	297	P
3	2483.50	-2.69	41.47	38.78	54.00	-15.22	Average	295	297	P
4	2483.50	-2.69	55.53	52.84	74.00	-21.16	Peak	295	297	P
5	4874.00	5.09	45.25	50.34	54.00	-3.66	Average	346	322	P
6	4874.00	5.09	56.88	61.97	74.00	-12.03	Peak	346	322	P
7	7311.00	10.01	36.61	46.62	54.00	-7.38	Average	348	115	P
8	7311.00	10.01	49.75	59.76	74.00	-14.24	Peak	348	115	P

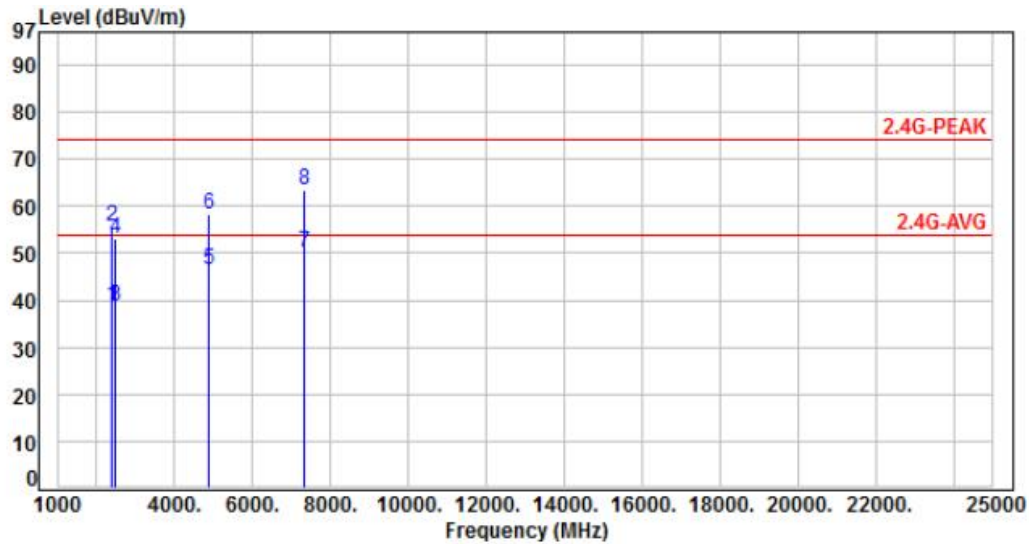
Note: Level=Reading+Factor

Margin=Level-Limit

Factor=Antenna Factor + cable loss - Amplifier Factor



Power	: AC 120V / 60HZ	Pol/Phase	: HORIZONTAL
Test Mode	: Mode 2, CH06		:



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	-2.89	41.79	38.90	54.00	-15.10	Average	374	295	P
2	2390.00	-2.89	58.53	55.64	74.00	-18.36	Peak	374	295	P
3	2483.50	-2.69	41.52	38.83	54.00	-15.17	Average	374	295	P
4	2483.50	-2.69	55.70	53.01	74.00	-20.99	Peak	374	295	P
5	4874.00	5.09	41.41	46.50	54.00	-7.50	Average	277	116	P
6	4874.00	5.09	53.36	58.45	74.00	-15.55	Peak	277	116	P
7	7311.00	10.01	40.15	50.16	54.00	-3.84	Average	100	54	P
8	7311.00	10.01	53.47	63.48	74.00	-10.52	Peak	100	54	P

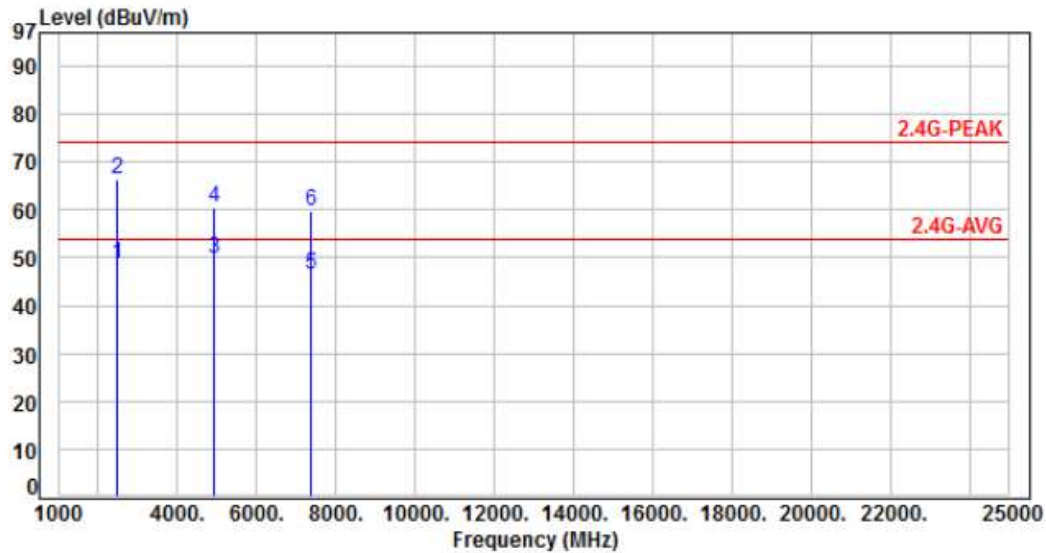
Note: Level=Reading+Factor

Margin=Level-Limit

Factor=Antenna Factor + cable loss - Amplifier Factor



Power	:	AC 120V / 60HZ	Pol/Phase	:	VERTICAL
Test Mode	:	Mode 2, CH11		:	



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	-2.69	51.30	48.61	54.00	-5.39	Average	302	263	P
2	2483.50	-2.69	68.96	66.27	74.00	-7.73	Peak	302	263	P
3	4924.00	5.30	44.54	49.84	54.00	-4.16	Average	358	323	P
4	4924.00	5.30	55.25	60.55	74.00	-13.45	Peak	358	323	P
5	7386.00	10.14	36.29	46.43	54.00	-7.57	Average	348	115	P
6	7386.00	10.14	49.71	59.85	74.00	-14.15	Peak	348	115	P

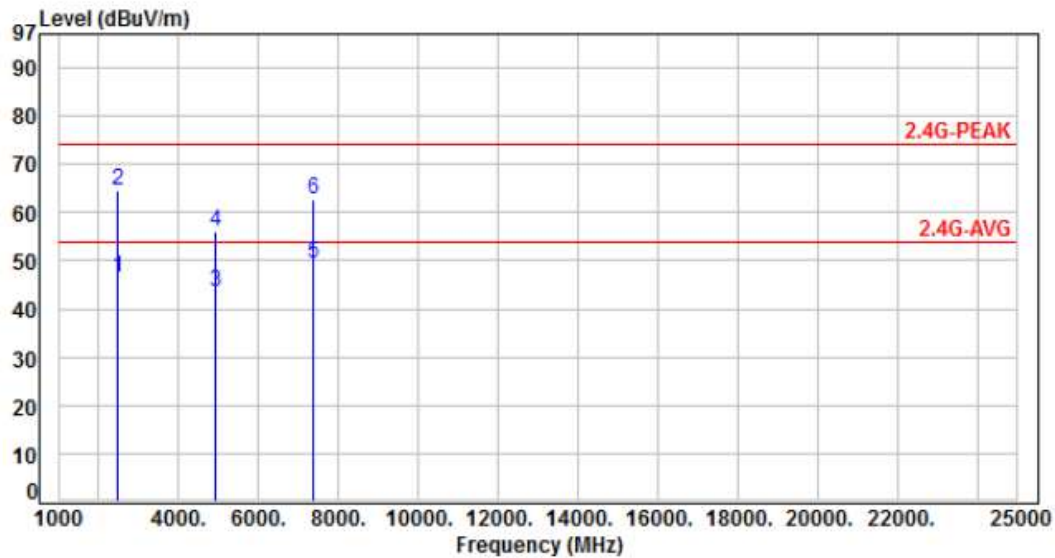
Note: Level=Reading+Factor

Margin=Level-Limit

Factor=Antenna Factor + cable loss - Amplifier Factor



Power	: AC 120V / 60HZ	Pol/Phase	: HORIZONTAL
Test Mode	: Mode 2, CH11		:



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	-2.69	49.02	46.33	54.00	-7.67	Average	371	299	P
2	2483.50	-2.69	67.33	64.64	74.00	-9.36	Peak	371	299	P
3	4924.00	5.30	38.29	43.59	54.00	-10.41	Average	277	115	P
4	4924.00	5.30	50.69	55.99	74.00	-18.01	Peak	277	115	P
5	7386.00	10.14	39.28	49.42	54.00	-4.58	Average	100	48	P
6	7386.00	10.14	52.51	62.65	74.00	-11.35	Peak	100	48	P

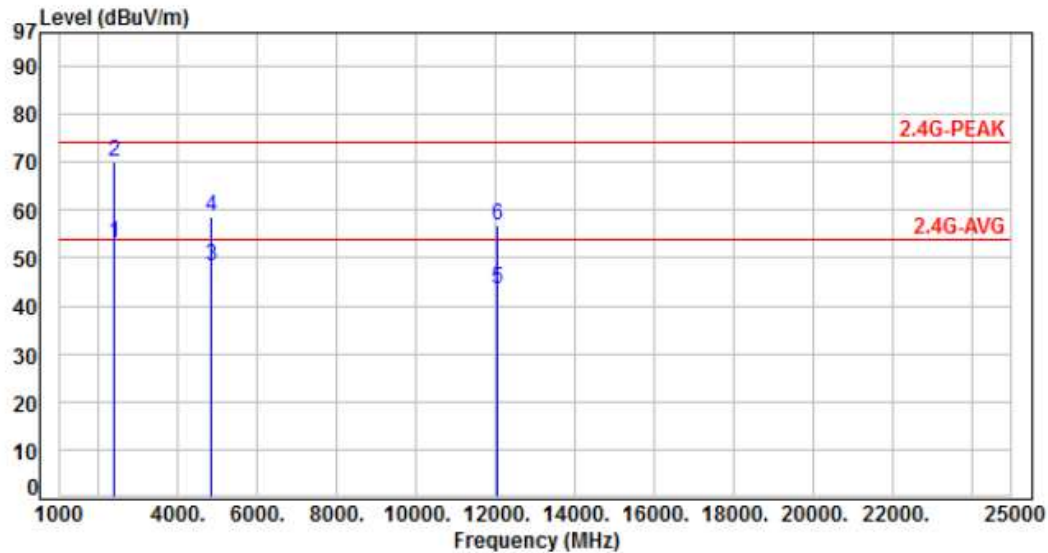
Note: Level=Reading+Factor

Margin=Level-Limit

Factor=Antenna Factor + cable loss - Amplifier Factor



Power	: AC 120V / 60HZ	Pol/Phase	: VERTICAL
Test Mode	: Mode 3, CH01		:



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	-2.89	55.88	52.99	54.00	-1.01	Average	268	243	P
2	2390.00	-2.89	73.04	70.15	74.00	-3.85	Peak	268	243	P
3	4824.00	4.88	43.42	48.30	54.00	-5.70	Average	375	323	P
4	4824.00	4.88	53.70	58.58	74.00	-15.42	Peak	375	323	P
5	12060.00	14.80	28.88	43.68	54.00	-10.32	Average	100	211	P
6	12060.00	14.80	41.96	56.76	74.00	-17.24	Peak	100	211	P

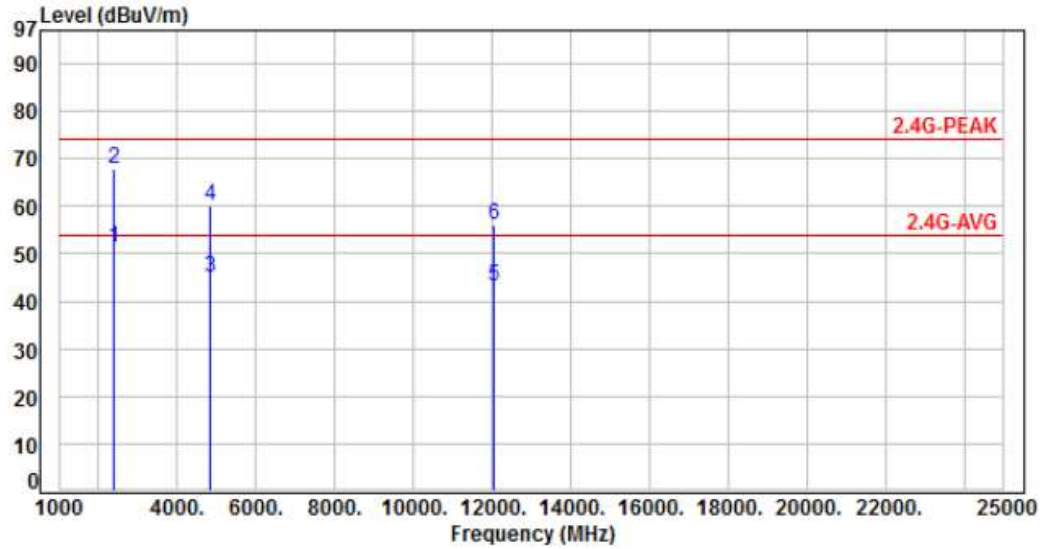
Note: Level=Reading+Factor

Margin=Level-Limit

Factor=Antenna Factor + cable loss - Amplifier Factor



Power	: AC 120V / 60HZ	Pol/Phase	: HORIZONTAL
Test Mode	: Mode 3, CH01		:



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	-2.89	54.19	51.30	54.00	-2.70	Average	162	47	P
2	2390.00	-2.89	70.88	67.99	74.00	-6.01	Peak	162	47	P
3	4824.00	4.88	40.23	45.11	54.00	-8.89	Average	279	96	P
4	4824.00	4.88	55.21	60.09	74.00	-13.91	Peak	279	96	P
5	12060.00	14.80	28.50	43.30	54.00	-10.70	Average	100	255	P
6	12060.00	14.80	41.39	56.19	74.00	-17.81	Peak	100	255	P

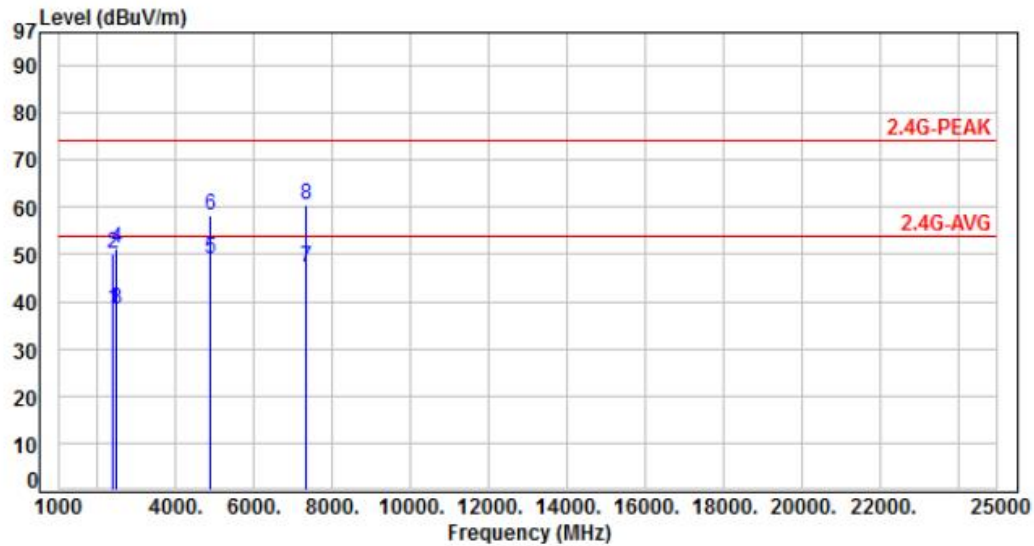
Note: Level=Reading+Factor

Margin=Level-Limit

Factor=Antenna Factor + cable loss - Amplifier Factor



Power	:	AC 120V / 60HZ	Pol/Phase	:	VERTICAL
Test Mode	:	Mode 3, CH06		:	



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	-2.89	41.11	38.22	54.00	-15.78	Average	277	299	P
2	2390.00	-2.89	53.19	50.30	74.00	-23.70	Peak	277	299	P
3	2483.50	-2.69	41.04	38.35	54.00	-15.65	Average	277	299	P
4	2483.50	-2.69	53.80	51.11	74.00	-22.89	Peak	277	299	P
5	4874.00	5.09	44.07	49.16	54.00	-4.84	Average	366	327	P
6	4874.00	5.09	53.14	58.23	74.00	-15.77	Peak	366	327	P
7	7311.00	10.01	37.10	47.11	54.00	-6.89	Average	347	115	P
8	7311.00	10.01	50.50	60.51	74.00	-13.49	Peak	347	115	P

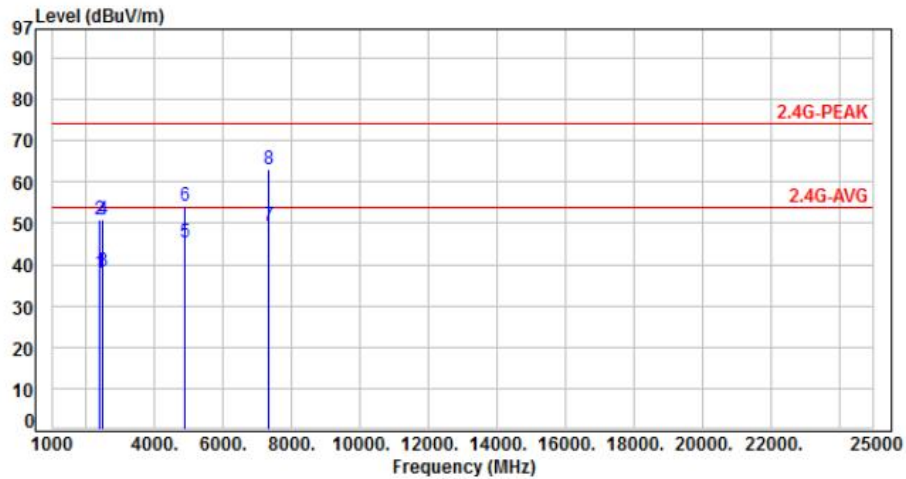
Note: Level=Reading+Factor

Margin=Level-Limit

Factor=Antenna Factor + cable loss - Amplifier Factor



Power	: AC 120V / 60HZ	Pol/Phase	: HORIZONTAL
Test Mode	: Mode 3, CH06		:



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	-2.89	41.04	38.15	54.00	-15.85	Average	380	288	P
2	2390.00	-2.89	53.61	50.72	74.00	-23.28	Peak	380	288	P
3	2483.50	-2.69	41.10	38.41	54.00	-15.59	Average	380	288	P
4	2483.50	-2.69	53.66	50.97	74.00	-23.03	Peak	380	288	P
5	4874.00	5.09	40.42	45.51	54.00	-8.49	Average	276	100	P
6	4874.00	5.09	49.17	54.26	74.00	-19.74	Peak	276	100	P
7	7311.00	10.01	39.47	49.48	54.00	-4.52	Average	100	47	P
8	7311.00	10.01	52.95	62.96	74.00	-11.04	Peak	100	47	P

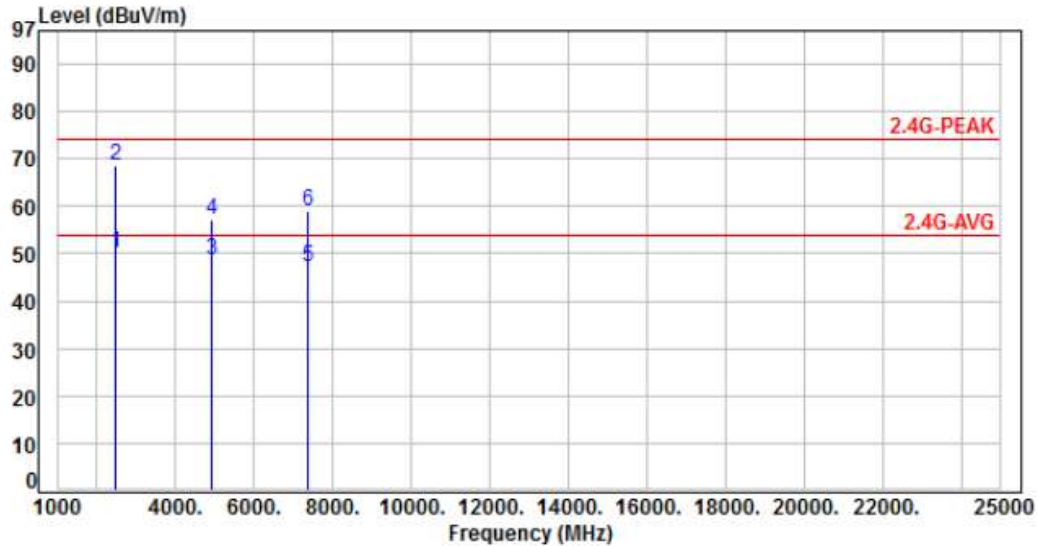
Note: Level=Reading+Factor

Margin=Level-Limit

Factor=Antenna Factor + cable loss - Amplifier Factor



Power	:	AC 120V / 60HZ	Pol/Phase	:	VERTICAL
Test Mode	:	Mode 3, CH11		:	



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	-2.69	52.98	50.29	54.00	-3.71	Average	304	266	P
2	2483.50	-2.69	71.20	68.51	74.00	-5.49	Peak	304	266	P
3	4924.00	5.30	43.25	48.55	54.00	-5.45	Average	357	328	P
4	4924.00	5.30	51.92	57.22	74.00	-16.78	Peak	357	328	P
5	7386.00	10.14	37.11	47.25	54.00	-6.75	Average	343	114	P
6	7386.00	10.14	49.04	59.18	74.00	-14.82	Peak	343	114	P

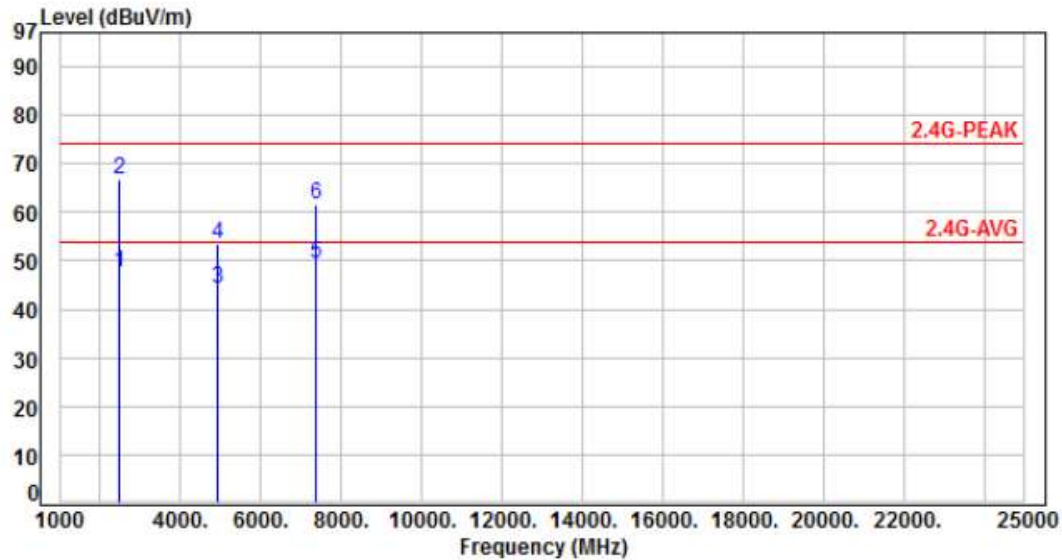
Note: Level=Reading+Factor

Margin=Level-Limit

Factor=Antenna Factor + cable loss - Amplifier Factor



Power	: AC 120V / 60HZ	Pol/Phase	: HORIZONTAL
Test Mode	: Mode 3, CH11		:



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	-2.69	50.41	47.72	54.00	-6.28	Average	378	297	P
2	2483.50	-2.69	69.55	66.86	74.00	-7.14	Peak	378	297	P
3	4924.00	5.30	38.99	44.29	54.00	-9.71	Average	286	114	P
4	4924.00	5.30	48.23	53.53	74.00	-20.47	Peak	286	114	P
5	7386.00	10.14	39.11	49.25	54.00	-4.75	Average	100	47	P
6	7386.00	10.14	51.49	61.63	74.00	-12.37	Peak	100	47	P

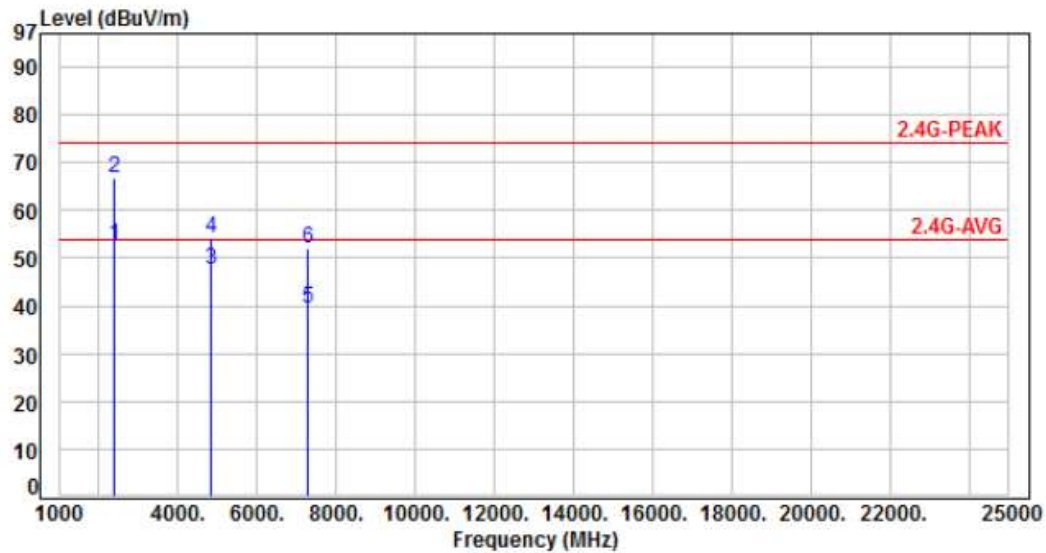
Note: Level=Reading+Factor

Margin=Level-Limit

Factor=Antenna Factor + cable loss - Amplifier Factor



Power	: AC 120V / 60HZ	Pol/Phase	: VERTICAL
Test Mode	: Mode 4, CH03		:



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	-2.89	55.64	52.75	54.00	-1.25	Average	216	246	P
2	2390.00	-2.89	69.49	66.60	74.00	-7.40	Peak	216	246	P
3	4844.00	4.99	42.59	47.58	54.00	-6.42	Average	392	323	P
4	4844.00	4.99	49.37	54.36	74.00	-19.64	Peak	392	323	P
5	7266.00	9.83	29.75	39.58	54.00	-14.42	Average	339	124	P
6	7266.00	9.83	42.12	51.95	74.00	-22.05	Peak	339	124	P

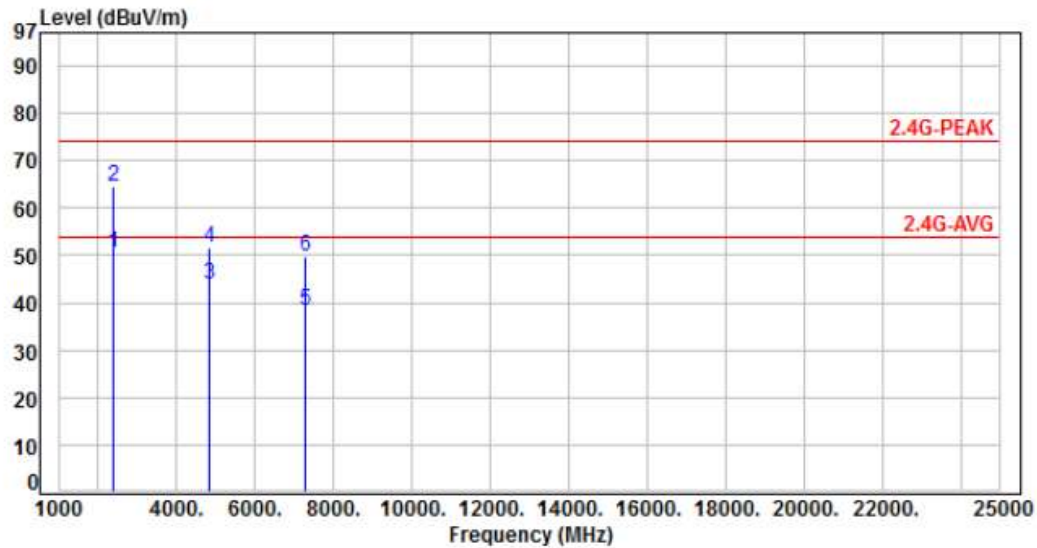
Note: Level=Reading+Factor

Margin=Level-Limit

Factor=Antenna Factor + cable loss - Amplifier Factor



Power	: AC 120V / 60HZ	Pol/Phase	: HORIZONTAL
Test Mode	: Mode 4, CH03		:



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	-2.89	53.35	50.46	54.00	-3.54	Average	166	45	P
2	2390.00	-2.89	67.34	64.45	74.00	-9.55	Peak	166	45	P
3	4844.00	4.99	38.99	43.98	54.00	-10.02	Average	277	99	P
4	4844.00	4.99	46.69	51.68	74.00	-22.32	Peak	277	99	P
5	7266.00	9.83	28.63	38.46	54.00	-15.54	Average	100	46	P
6	7266.00	9.83	40.12	49.95	74.00	-24.05	Peak	100	46	P

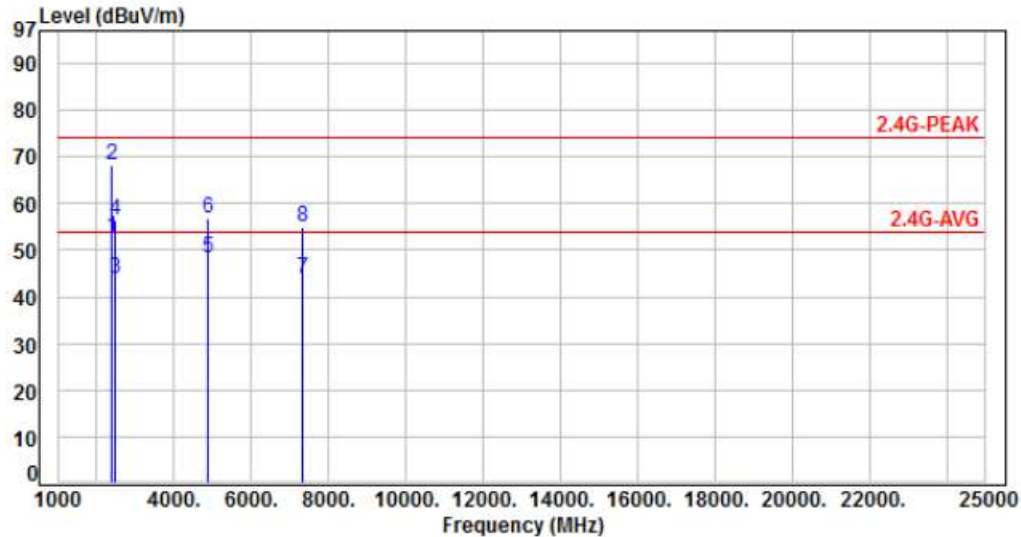
Note: Level=Reading+Factor

Margin=Level-Limit

Factor=Antenna Factor + cable loss - Amplifier Factor



Power	: AC 120V / 60HZ	Pol/Phase	: VERTICAL
Test Mode	: Mode 4, CH06		:



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	-2.89	55.64	52.75	54.00	-1.25	Average	217	242	P
2	2390.00	-2.89	71.11	68.22	74.00	-5.78	Peak	217	242	P
3	2483.50	-2.69	46.50	43.81	54.00	-10.19	Average	217	242	P
4	2483.50	-2.69	59.13	56.44	74.00	-17.56	Peak	217	242	P
5	4874.00	5.09	43.20	48.29	54.00	-5.71	Average	361	312	P
6	4874.00	5.09	51.85	56.94	74.00	-17.06	Peak	361	312	P
7	7311.00	10.01	33.75	43.76	54.00	-10.24	Average	349	116	P
8	7311.00	10.01	44.98	54.99	74.00	-19.01	Peak	349	116	P

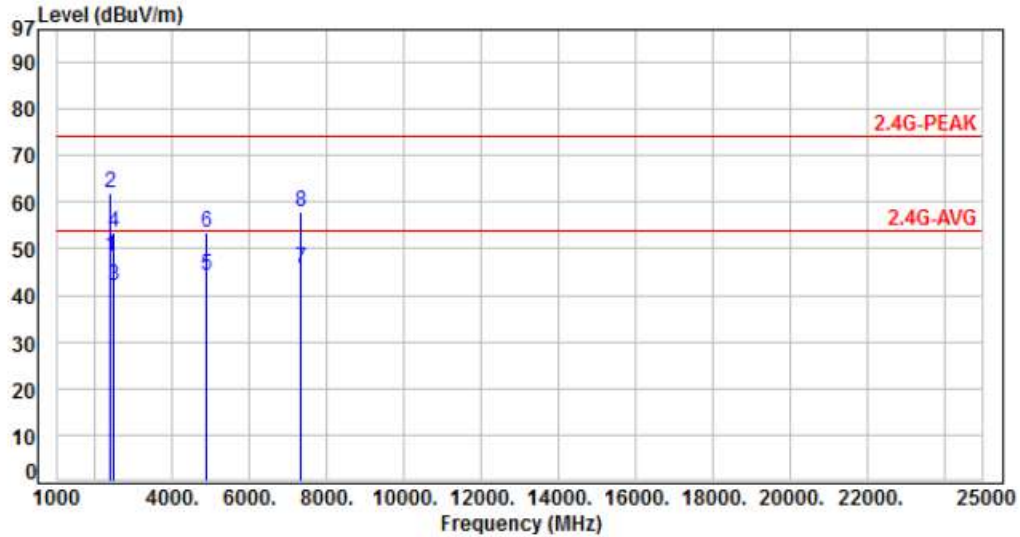
Note: Level=Reading+Factor

Margin=Level-Limit

Factor=Antenna Factor + cable loss - Amplifier Factor



Power	: AC 120V / 60HZ	Pol/Phase	: HORIZONTAL
Test Mode	: Mode 4, CH06		:



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	-2.89	51.38	48.49	54.00	-5.51	Average	375	245	P
2	2390.00	-2.89	64.78	61.89	74.00	-12.11	Peak	375	245	P
3	2483.50	-2.69	44.76	42.07	54.00	-11.93	Average	375	245	P
4	2483.50	-2.69	56.20	53.51	74.00	-20.49	Peak	375	245	P
5	4874.00	5.09	39.13	44.22	54.00	-9.78	Average	281	102	P
6	4874.00	5.09	48.30	53.39	74.00	-20.61	Peak	281	102	P
7	7311.00	10.01	35.60	45.61	54.00	-8.39	Average	100	46	P
8	7311.00	10.01	47.80	57.81	74.00	-16.19	Peak	100	46	P

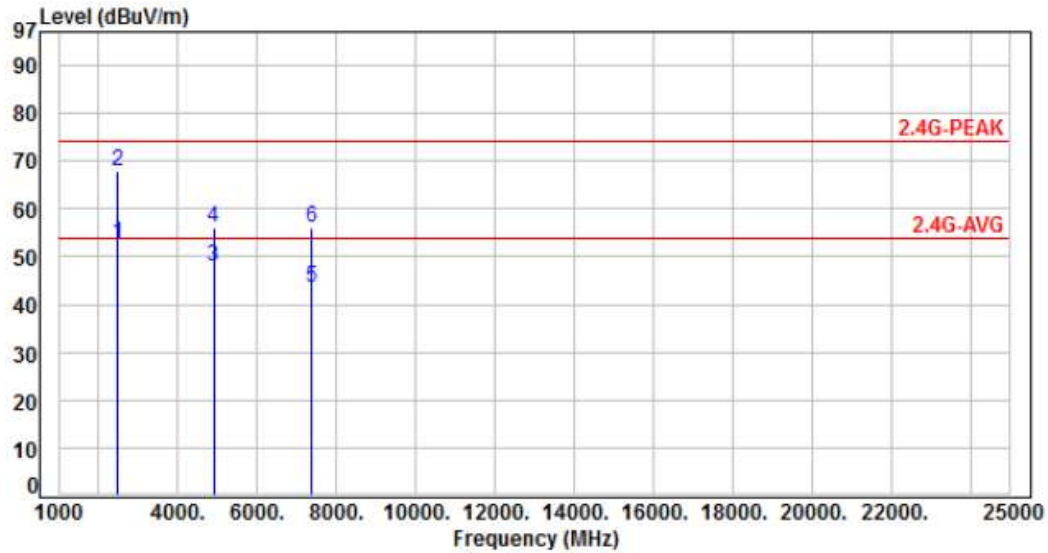
Note: Level=Reading+Factor

Margin=Level-Limit

Factor=Antenna Factor + cable loss - Amplifier Factor



Power	: AC 120V / 60HZ	Pol/Phase	: VERTICAL
Test Mode	: Mode 4, CH09		:



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	-2.69	55.35	52.66	54.00	-1.34	Average	250	278	P
2	2483.50	-2.69	70.67	67.98	74.00	-6.02	Peak	250	278	P
3	4904.00	5.19	42.90	48.09	54.00	-5.91	Average	359	314	P
4	4904.00	5.19	50.87	56.06	74.00	-17.94	Peak	359	314	P
5	7356.00	10.11	33.49	43.60	54.00	-10.40	Average	342	115	P
6	7356.00	10.11	45.85	55.96	74.00	-18.04	Peak	342	115	P

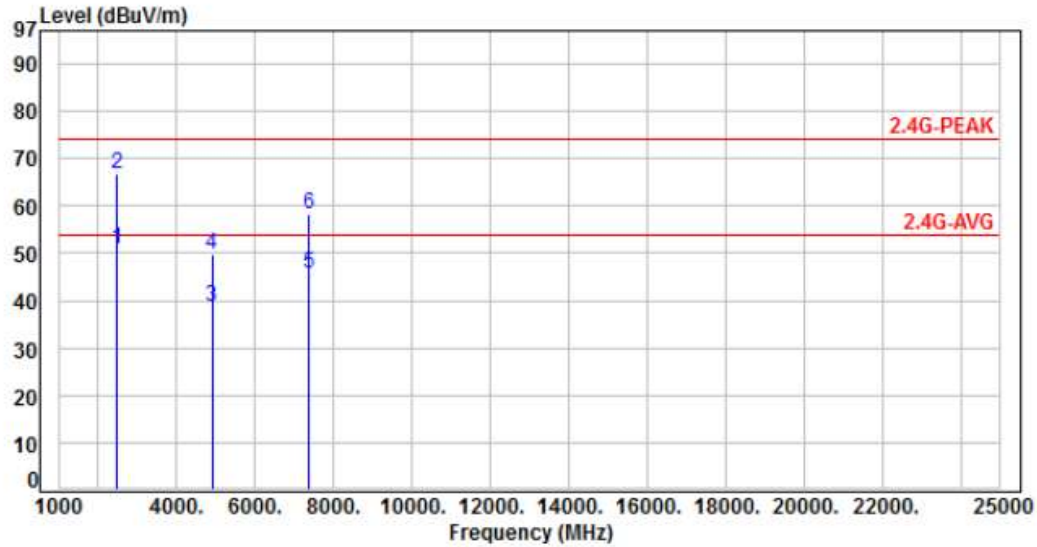
Note: Level=Reading+Factor

Margin=Level-Limit

Factor=Antenna Factor + cable loss - Amplifier Factor



Power	: AC 120V / 60HZ	Pol/Phase	: HORIZONTAL
Test Mode	: Mode 4, CH09		:



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	-2.69	53.68	50.99	54.00	-3.01	Average	378	295	P
2	2483.50	-2.69	69.58	66.89	74.00	-7.11	Peak	378	295	P
3	4904.00	5.19	33.54	38.73	54.00	-15.27	Average	297	117	P
4	4904.00	5.19	44.63	49.82	74.00	-24.18	Peak	297	117	P
5	7356.00	10.11	35.54	45.65	54.00	-8.35	Average	100	47	P
6	7356.00	10.11	48.34	58.45	74.00	-15.55	Peak	100	47	P

Note: Level=Reading+Factor

Margin=Level-Limit

Factor=Antenna Factor + cable loss - Amplifier Factor



6.7 Restricted Bands of Operation

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

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

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



7. Test of Conducted Spurious Emission

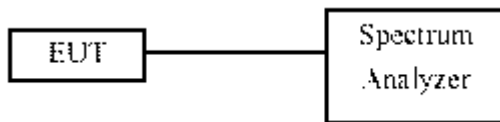
7.1 Test Limit

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

7.2 Test Procedure

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

7.3 Test Setup Layout

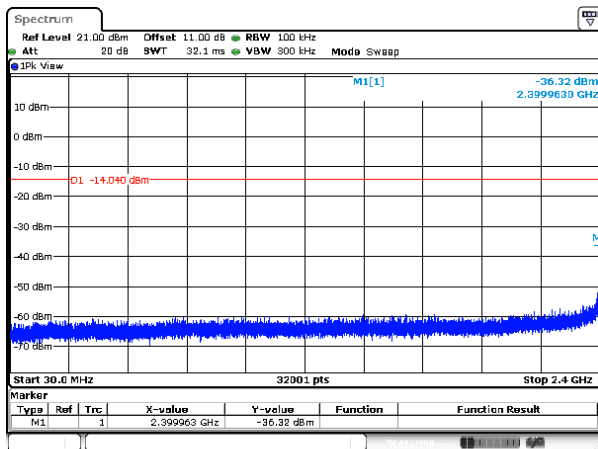


7.4 Test Result and Data

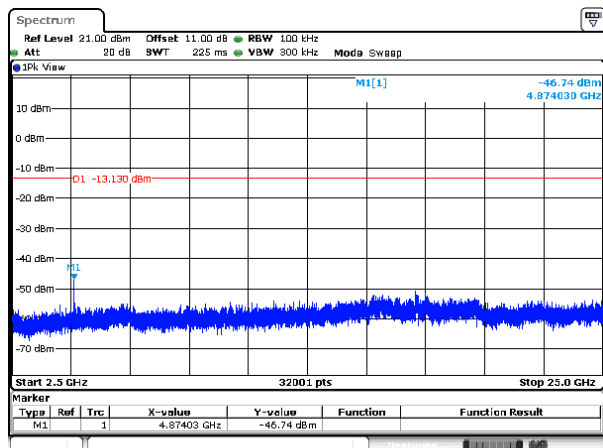
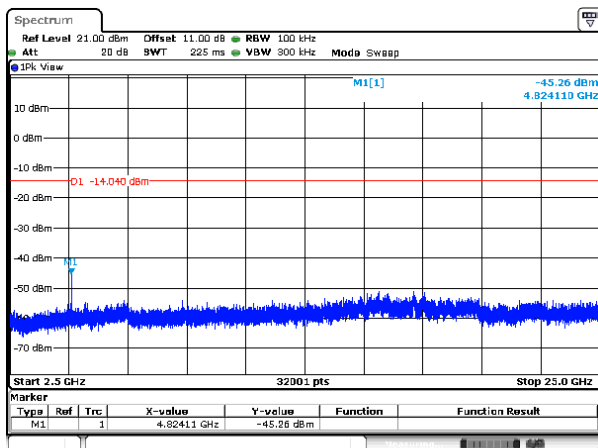
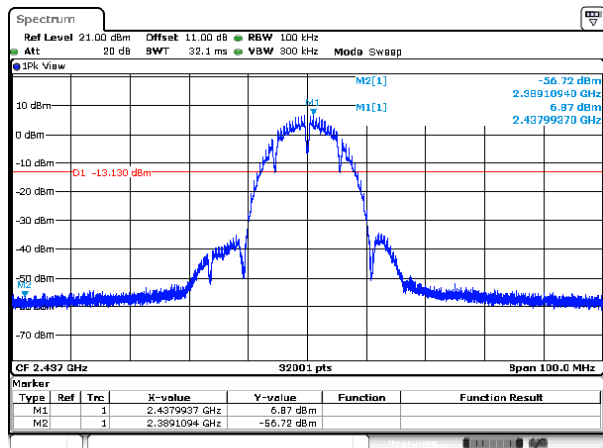
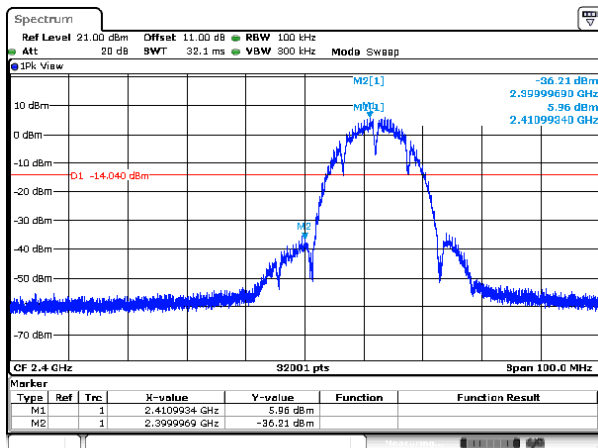
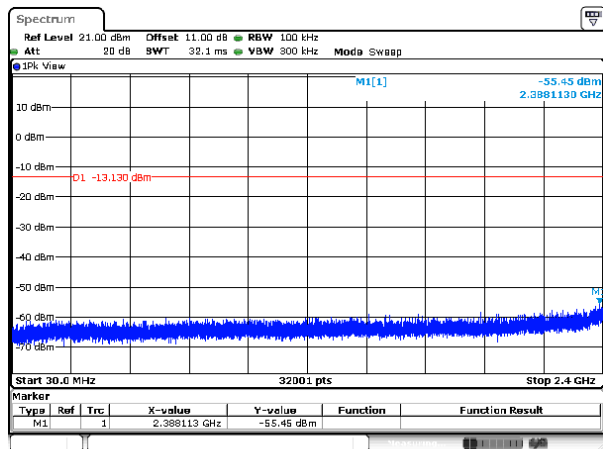
Note: Test plots refers to the following pages.



Modulation Type: 802.11b, CH 01

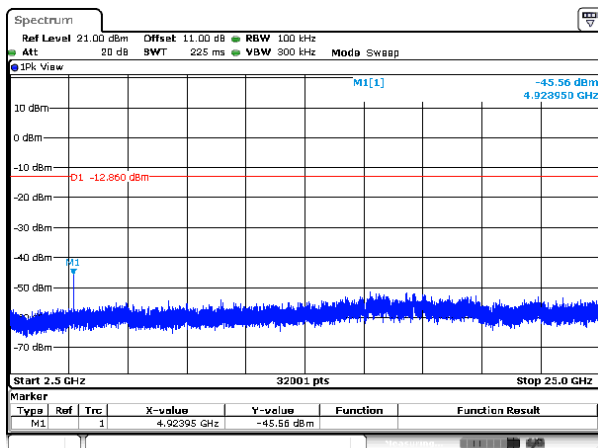
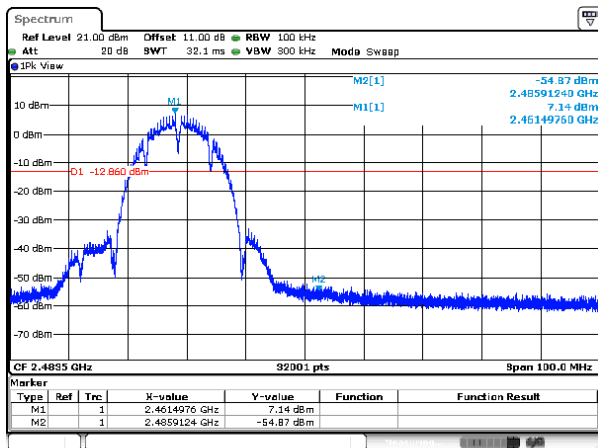
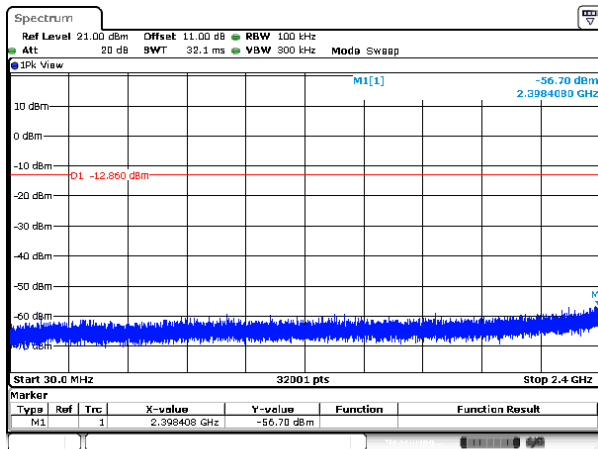


Modulation Type: 802.11b, CH 06



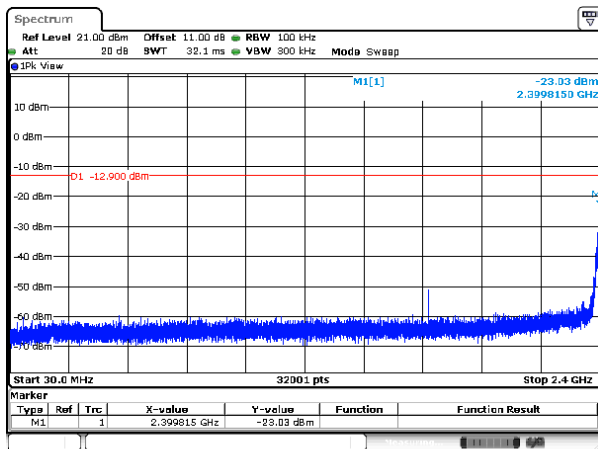


Modulation Type: 802.11b, CH 11

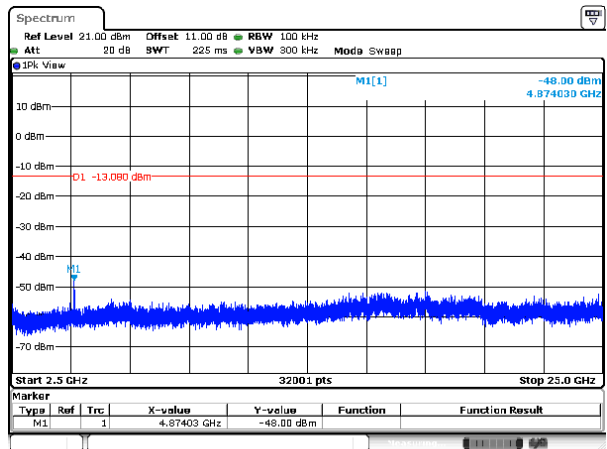
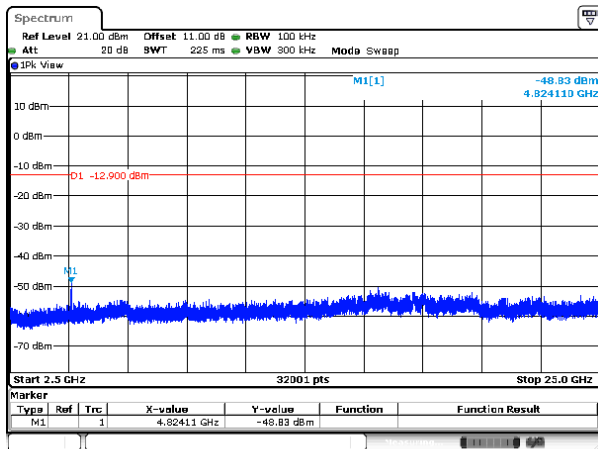
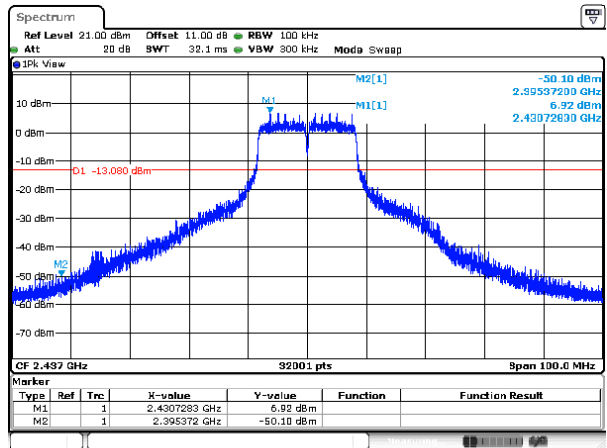
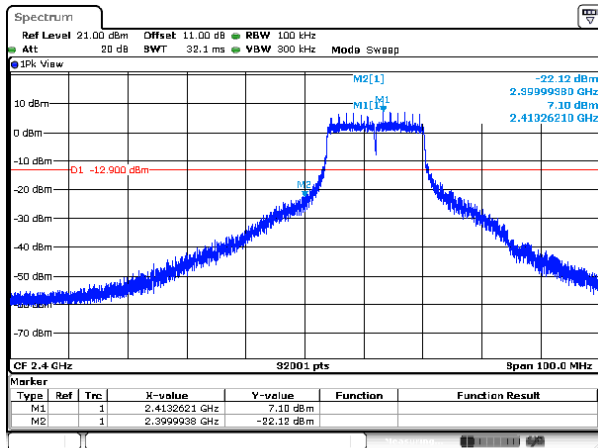
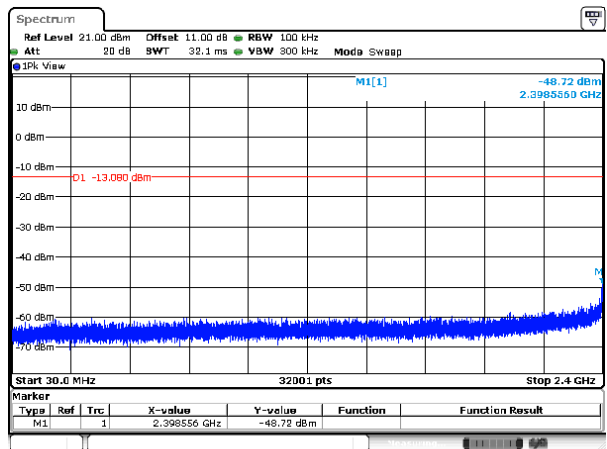




Modulation Type: 802.11g, CH 01

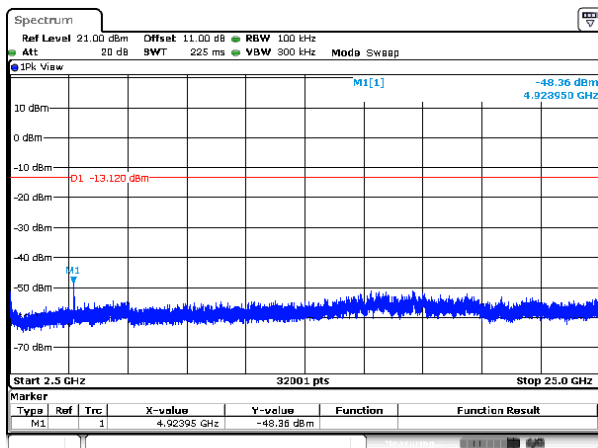
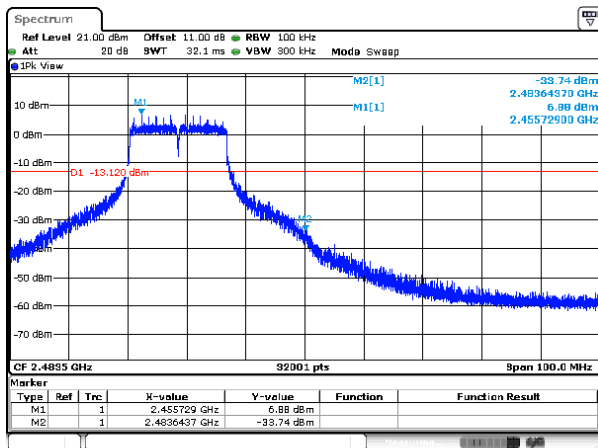
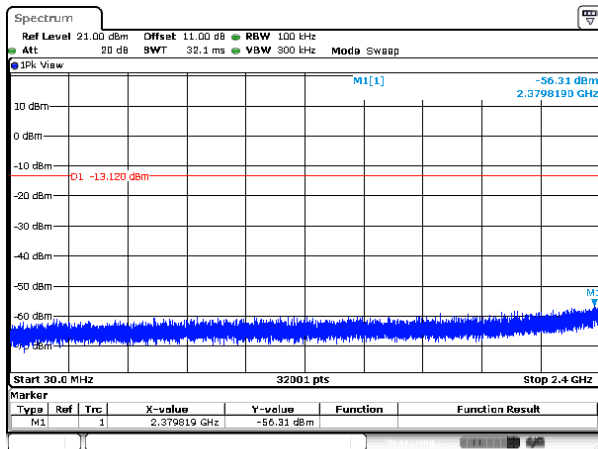


Modulation Type: 802.11g, CH 06



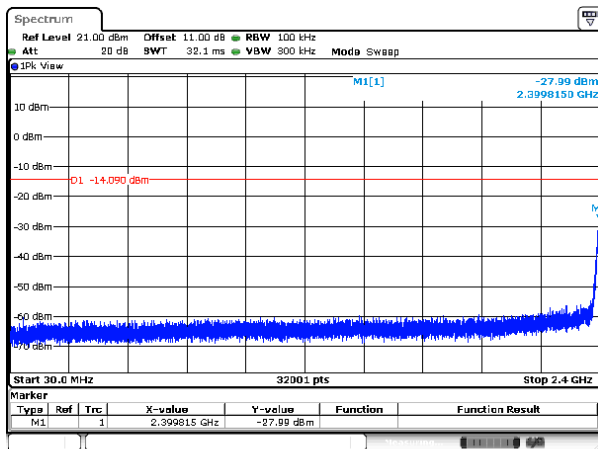


Modulation Type: 802.11g, CH 11

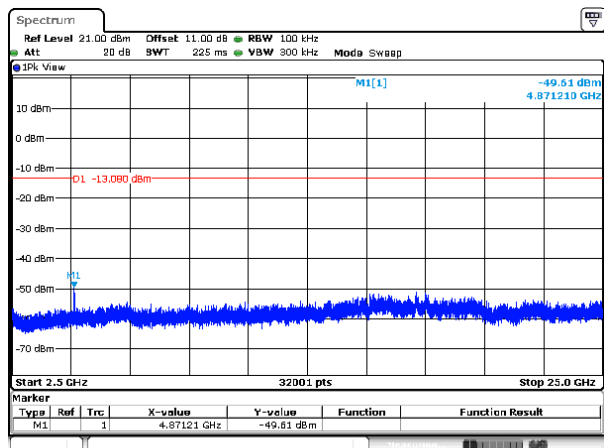
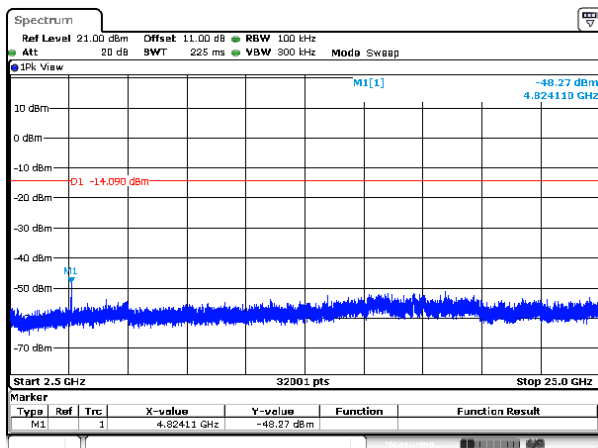
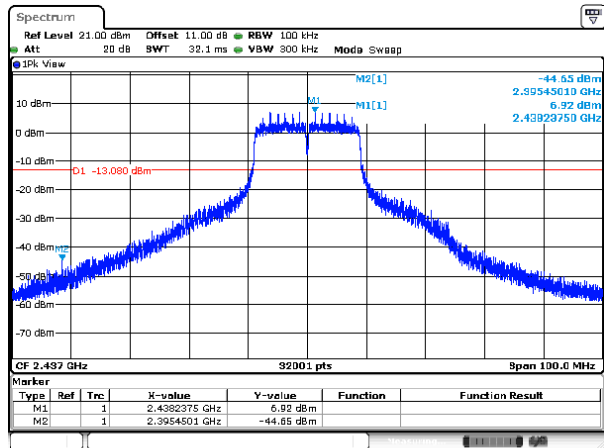
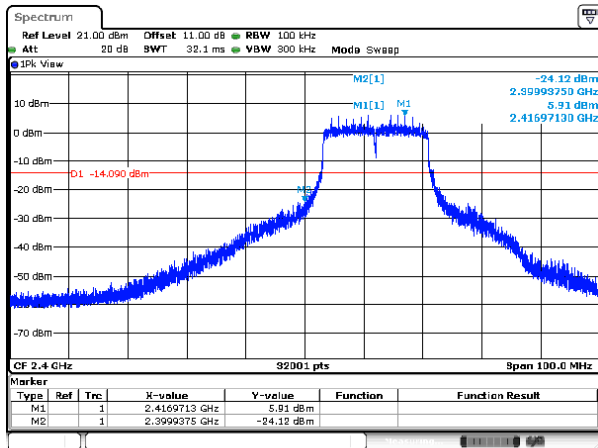
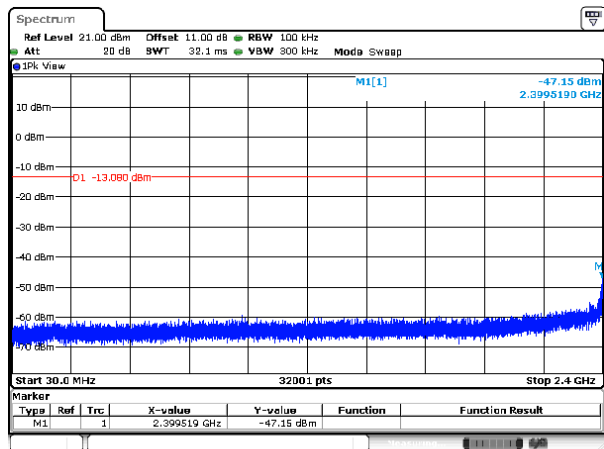




Modulation Type: 802.11n HT20, CH01

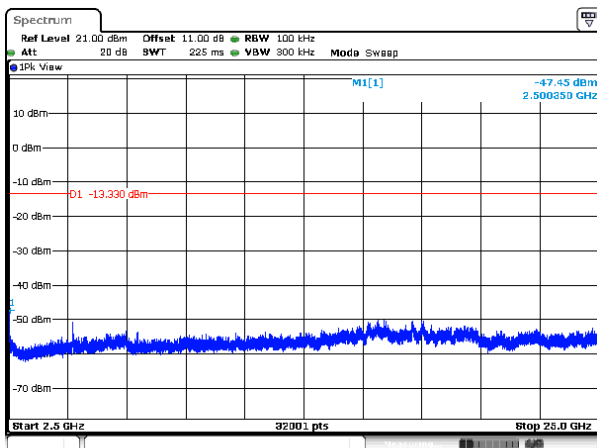
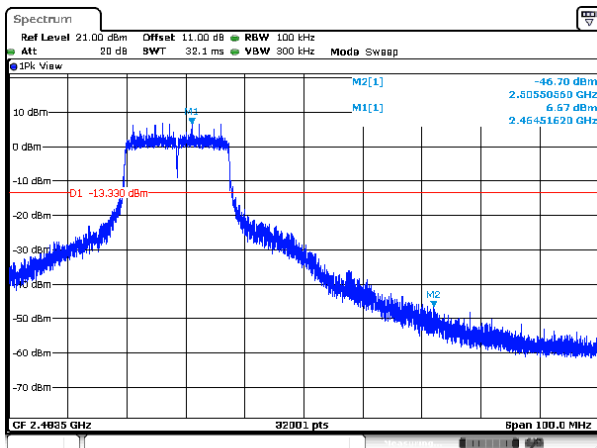
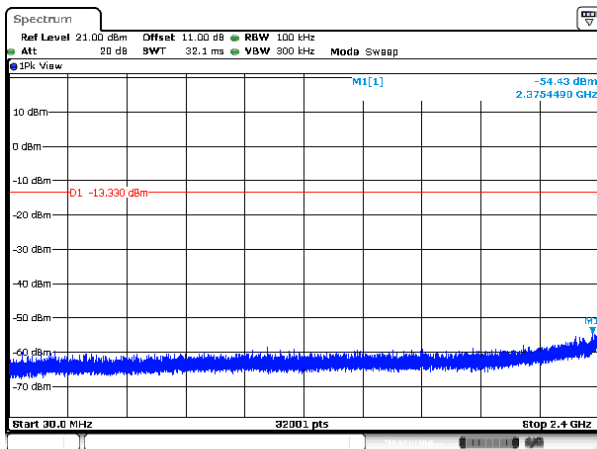


Modulation Type: 802.11n HT20, CH06



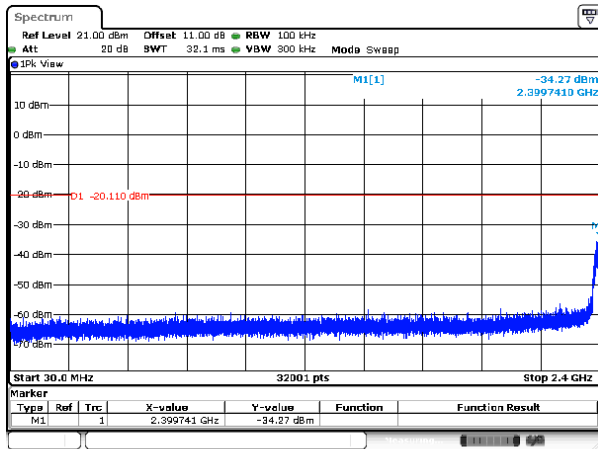


Modulation Type: 802.11n HT20, CH11

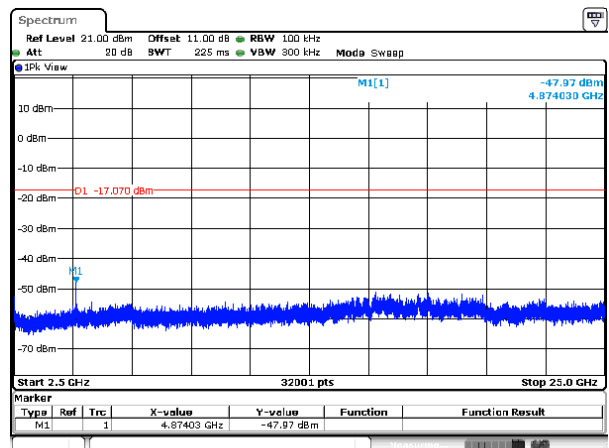
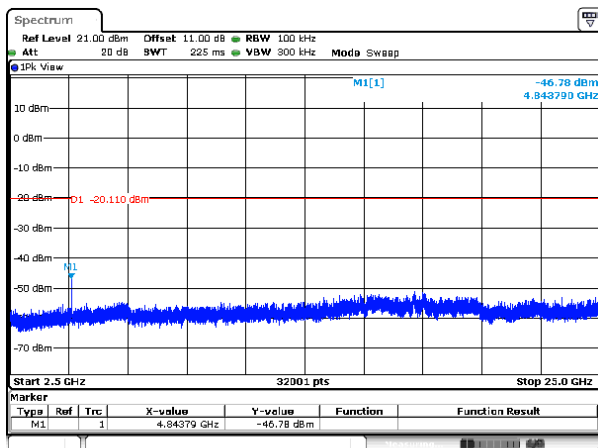
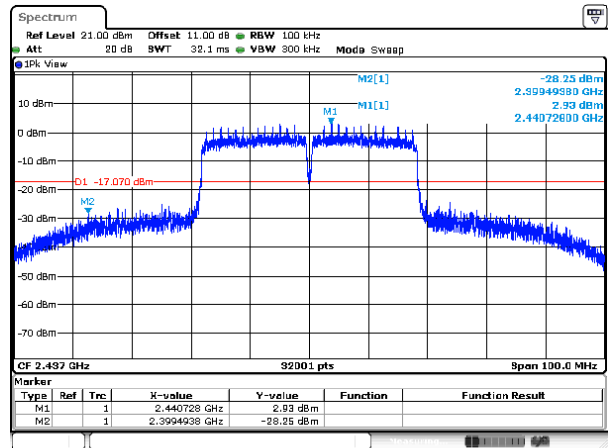
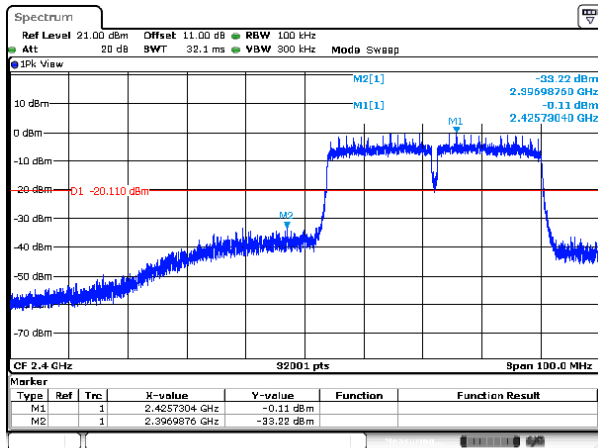
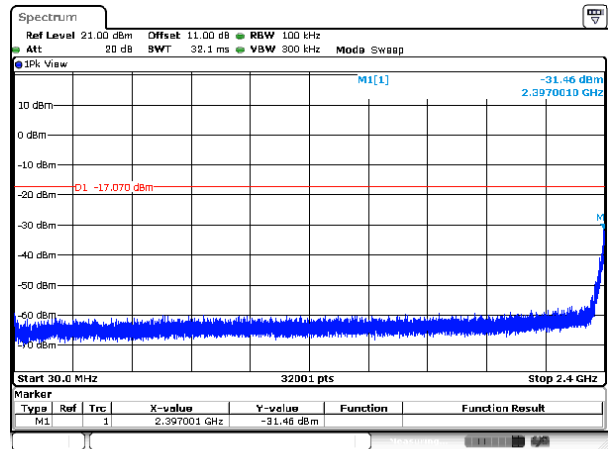




Modulation Type: 802.11n HT40, CH03

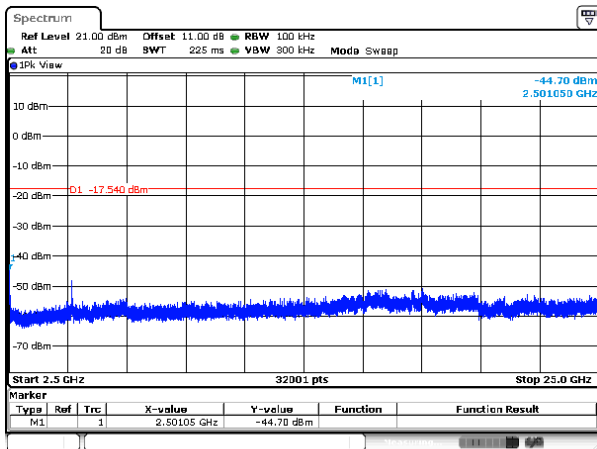
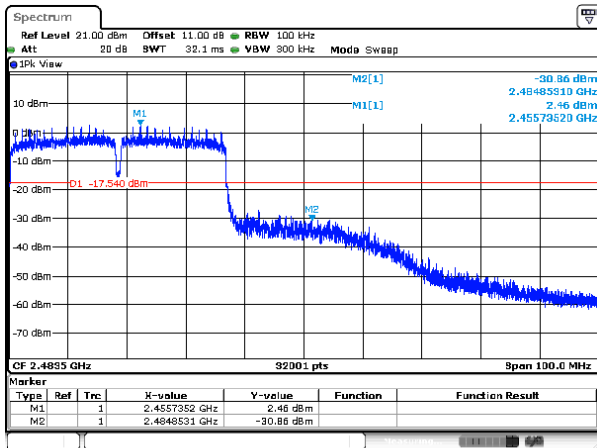
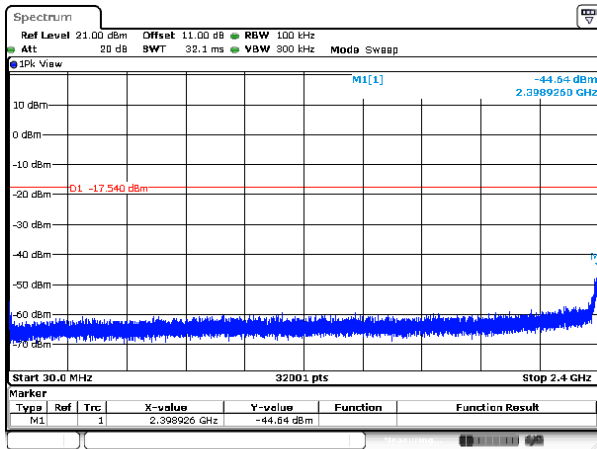


Modulation Type: 802.11n HT40, CH06





Modulation Type: 802.11n HT40, CH09





8. On Time, Duty Cycle and Measurement methods

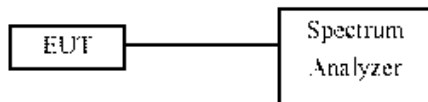
8.1 Test Limit

None; for reporting purposes only.

8.2 Test Procedure

Zero-Span Spectrum Analyzer Method.

8.3 Test Setup Layout



8.4 Test Result and Data

Modulation Type	On Time (ms)	Period Time (ms)	Duty Cycle (%)
11b,1M	100.00	100.00	100.00%
11g,6M	2.09	2.14	97.56%
11n HT20	1.94	2.00	96.81%
11n HT40	0.96	1.07	89.85%





9. 6dB Bandwidth Measurement Data

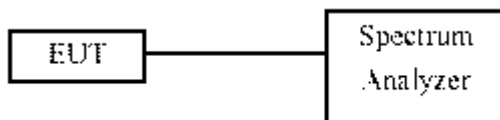
9.1 Test Limit

The minimum of 6dB Bandwidth Measurement is 0.5 MHz.

9.2 Test Procedures

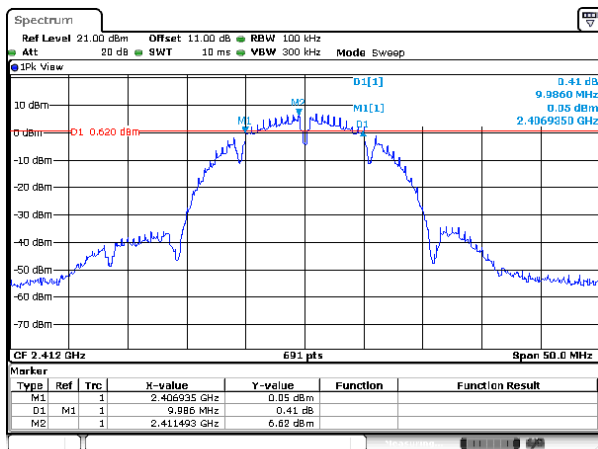
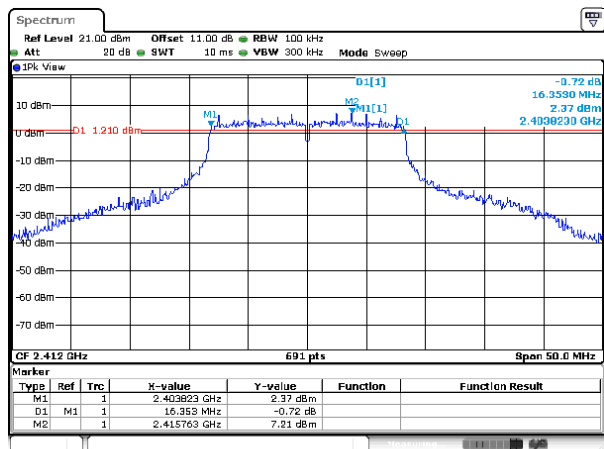
- The transmitter output was connected to the spectrum analyzer.
- Set RBW of spectrum analyzer to 100 KHz and VBW to 300 KHz.
- The 6 dB bandwidth is defined as the total spectrum the power of which is higher than peak power minus 6 dB.
- The 6dB Bandwidth was measured and recorded.

9.3 Test Setup Layout

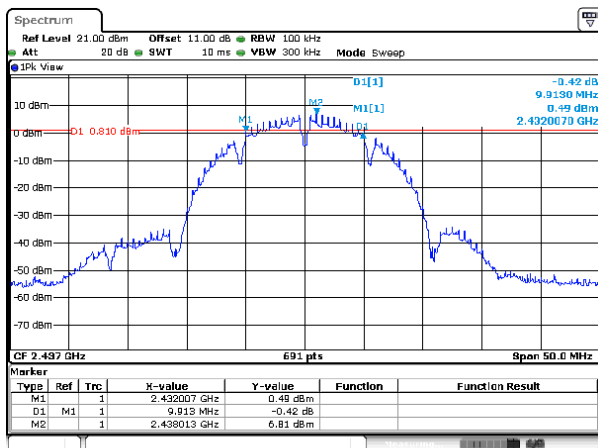


9.4 Test Result and Data

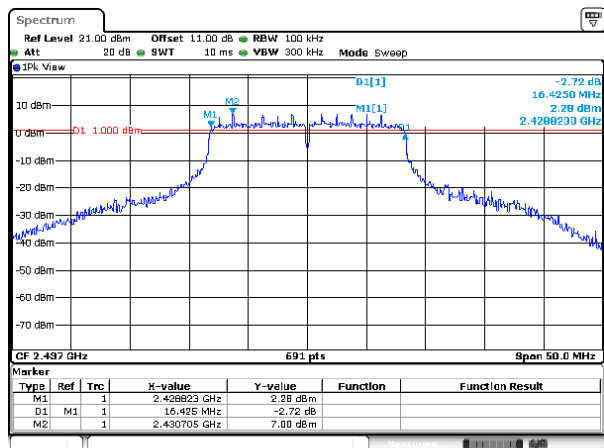
Modulation Type	Channel	Frequency (MHz)	6dB Bandwidth (MHz)	Limit (MHz)
			ANT A	
11b	1	2412	9.99	0.5
	6	2437	9.91	0.5
	11	2462	9.99	0.5
11g	1	2412	16.35	0.5
	6	2437	16.43	0.5
	11	2462	16.35	0.5
11n HT20	1	2412	17.66	0.5
	6	2437	17.51	0.5
	11	2462	17.58	0.5
11n HT40	3	2422	35.02	0.5
	6	2437	35.31	0.5
	9	2452	35.31	0.5

Modulation Type: 802.11b
CH01Modulation Type: 802.11g
CH01

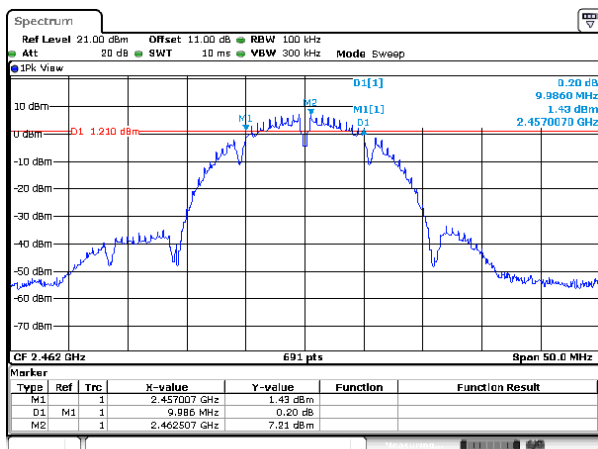
CH06



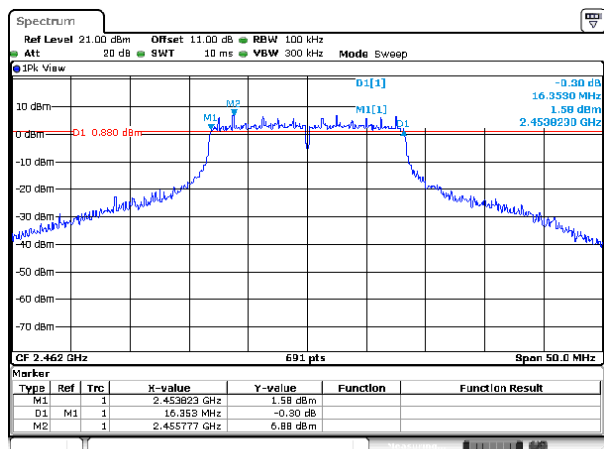
CH06

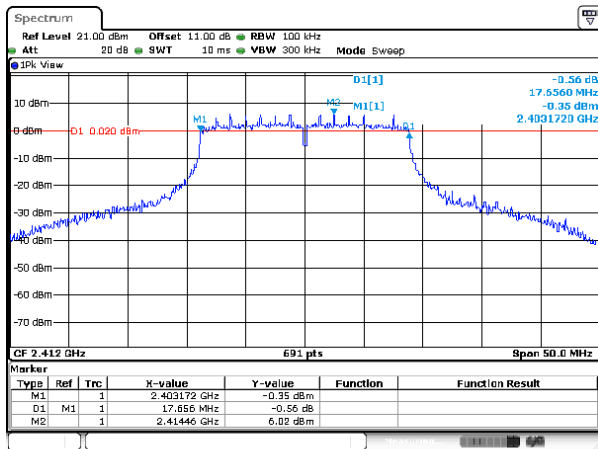
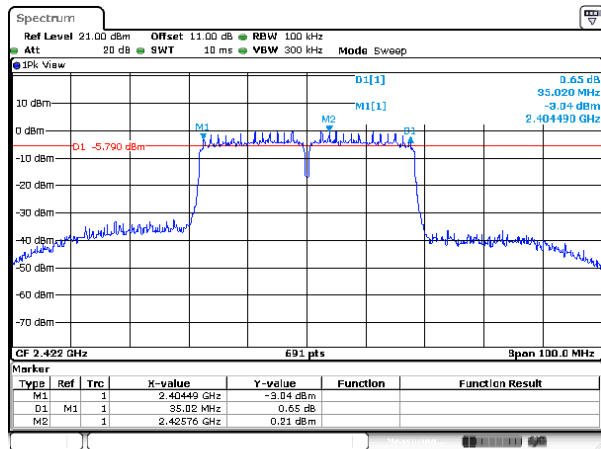


CH11

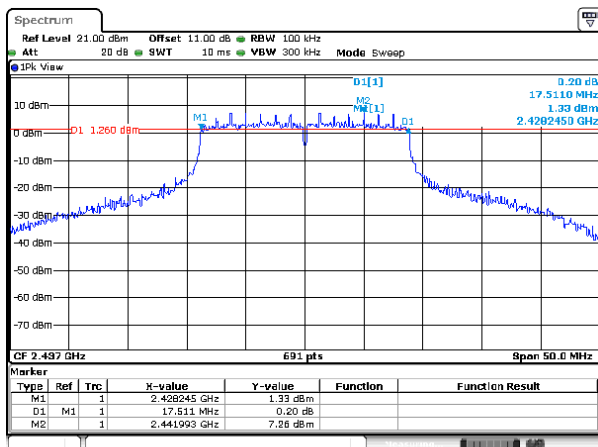


CH11

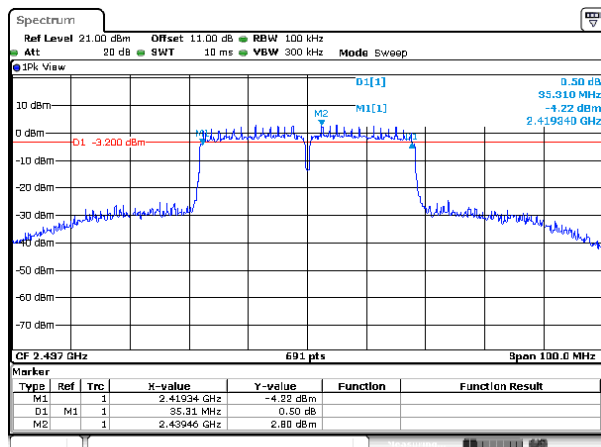


Modulation Type: 802.11n HT20
CH01Modulation Type: 802.11n HT40
CH03

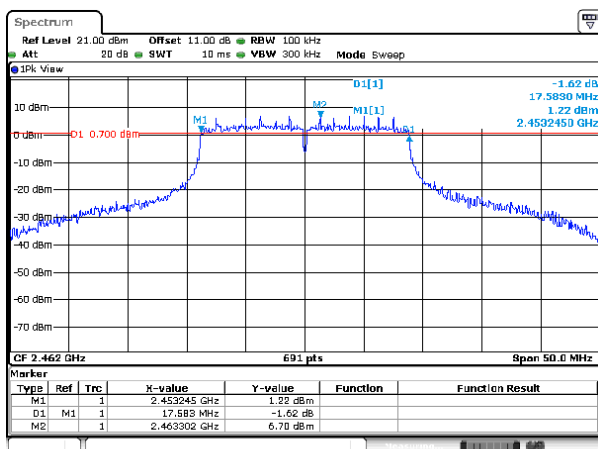
CH06



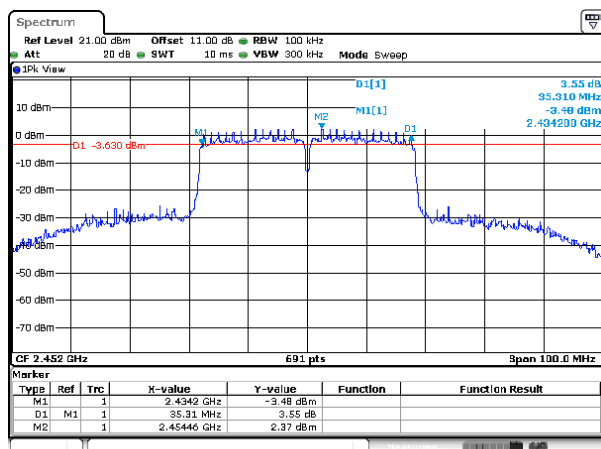
CH06



CH11



CH09





10. Maximum Peak and Average Output Power

10.1 Test Limit

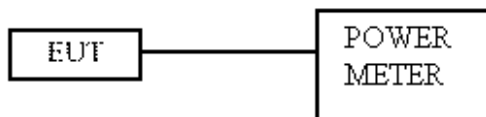
The Maximum Peak Output Power Measurement is 30dBm.

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**

Setting	Modulation Type	Channel	Frequency (MHz)	Conducted(peak) output power (dBm)	Total PK power (dBm)	Total PK power (mW)	Power Limit (dBm)
				ANT A			
40	11b	1	2412	17.92	17.92	61.944	30.00
40		6	2437	17.91	17.91	61.802	30.00
41		11	2462	18.41	18.41	69.343	30.00
56	11g	1	2412	24.71	24.71	295.801	30.00
56		6	2437	24.85	24.85	305.492	30.00
56		11	2462	24.62	24.62	289.734	30.00
54	11n HT20	1	2412	24.28	24.28	267.917	30.00
56		6	2437	24.98	24.98	314.775	30.00
56		11	2462	24.62	24.62	289.734	30.00
45	11n HT40	3	2422	22.31	22.31	170.216	30.00
52		6	2437	24.33	24.33	271.019	30.00
51		9	2452	24.19	24.19	262.422	30.00

Setting	Modulation Type	Channel	Frequency (MHz)	Conducted(average) output power (dBm)	Total AV power (dBm)	Total AV power (mW)	Power Limit (dBm)
				ANT A			
40	11b	1	2412	15.83	15.83	38.282	NA
40		6	2437	15.75	15.75	37.584	NA
41		11	2462	16.27	16.27	42.364	NA
56	11g	1	2412	18.46	18.46	70.146	NA
56		6	2437	18.49	18.49	70.632	NA
56		11	2462	18.42	18.42	69.502	NA
54	11n HT20	1	2412	17.78	17.78	59.979	NA
56		6	2437	18.35	18.35	68.391	NA
56		11	2462	18.27	18.27	67.143	NA
45	11n HT40	3	2422	13.91	13.91	24.604	NA
52		6	2437	16.88	16.88	48.753	NA
51		9	2452	16.46	16.46	44.259	NA

Note: Average power is for reference only.



11. Power Spectral Density

11.1 Test Limit

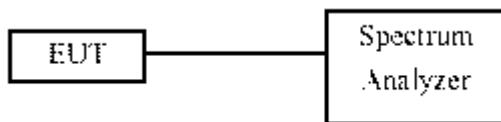
The Maximum of Power Spectral Density Measurement is 8dBm.

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

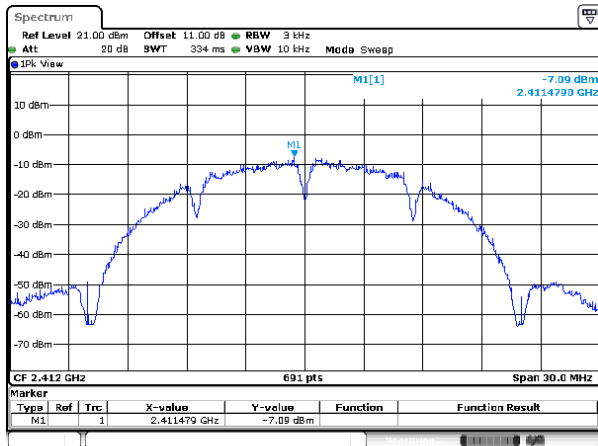
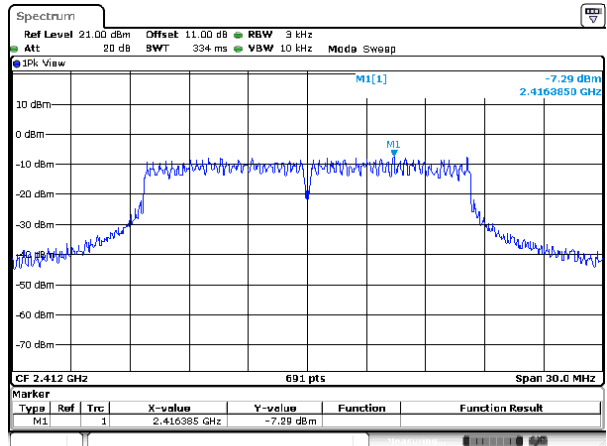
- The transmitter output was connected to spectrum analyzer.
- The spectrum analyzer's resolution bandwidth were set at 3kHz RBW and 10KHz VBW as that of the fundamental frequency. Set the sweep time=auto couple.
- The power spectral density was measured and recorded.

11.3 Test Setup Layout

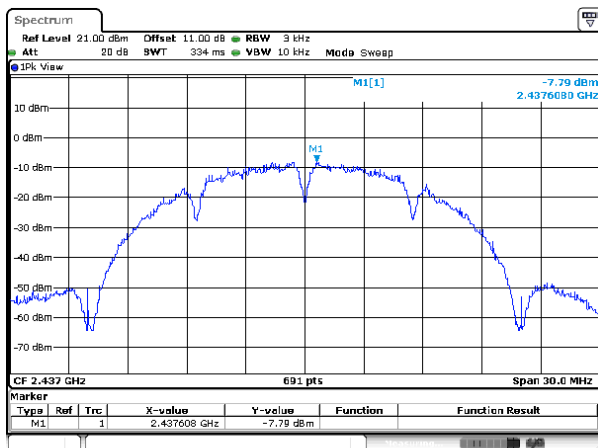


11.4 Test Result and Data

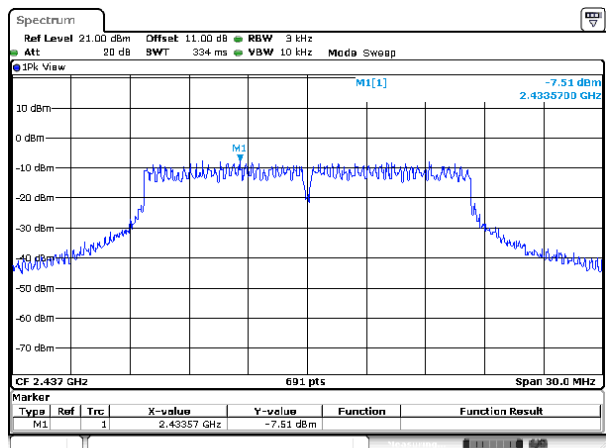
Modulation Type	Channel	Frequency (MHz)	Maximum Power Density of 3KHz Bandwidth(dBm)	Sum chain (dBm)	Duty Cycle CF(dB)	Total PSD (dBm)	Limit (dBm)
			ANT A				
11b	1	2412	-7.09	-7.09	0.00	-7.09	8.00
	6	2437	-7.79	-7.79	0.00	-7.79	8.00
	11	2462	-6.05	-6.05	0.00	-6.05	8.00
11g	1	2412	-7.29	-7.29	0.00	-7.29	8.00
	6	2437	-7.51	-7.51	0.00	-7.51	8.00
	11	2462	-7.05	-7.05	0.00	-7.05	8.00
11n HT20	1	2412	-7.51	-7.51	0.00	-7.51	8.00
	6	2437	-7.01	-7.01	0.00	-7.01	8.00
	11	2462	-7.59	-7.59	0.00	-7.59	8.00
11n HT40	3	2422	-14.47	-14.47	0.00	-14.47	8.00
	6	2437	-10.35	-10.35	0.00	-10.35	8.00
	9	2452	-10.77	-10.77	0.00	-10.77	8.00

Modulation Type: 802.11b
CH01Modulation Type: 802.11g
CH01

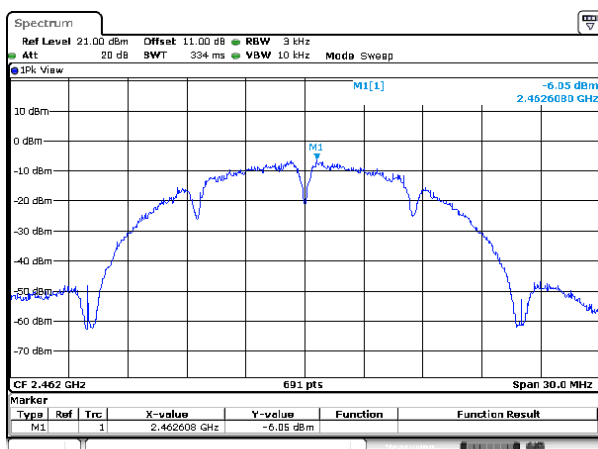
CH06



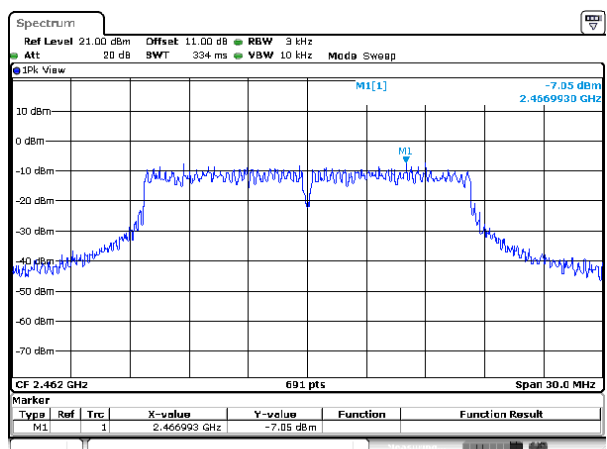
CH06

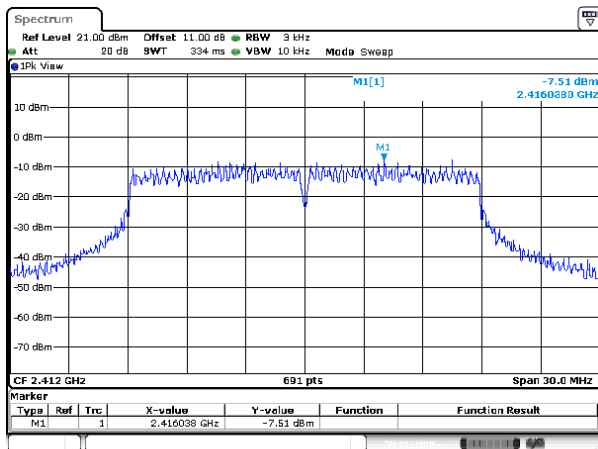
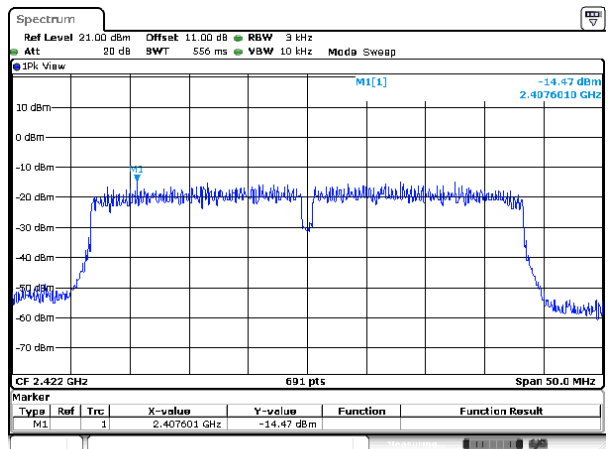


CH11

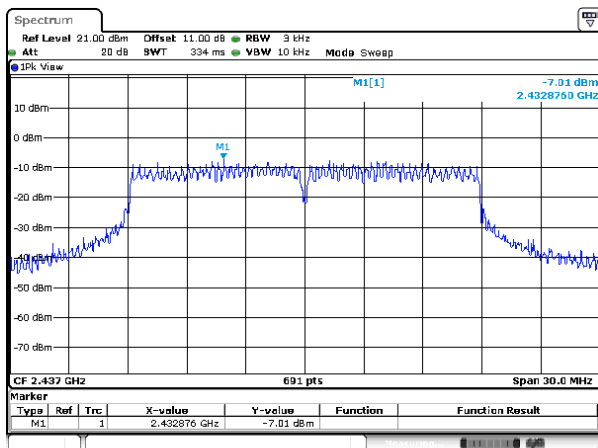


CH11

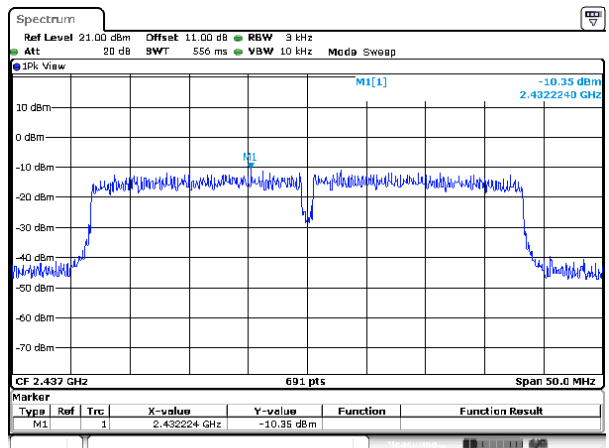


Modulation Type: 802.11n HT20
CH01Modulation Type: 802.11n HT40
CH03

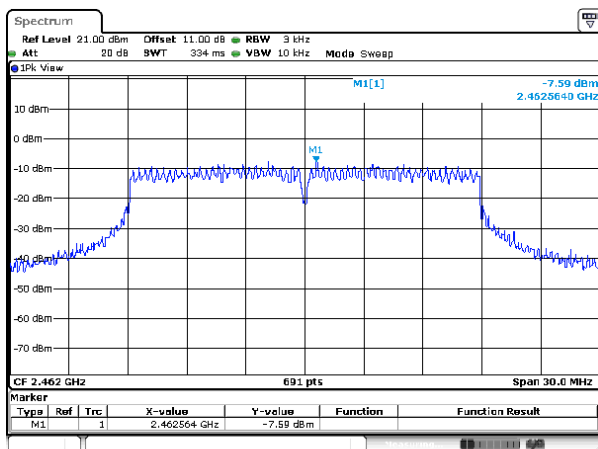
CH06



CH06



CH11



CH09

