FCC RADIO TEST REPORT

Applicant	:	Ubiquiti Inc.
Address	:	685 Third Avenue, New York, New York 10017, USA
Equipment	:	UniFi Protect G3 mini
Model No.	:	UVC-G3-mini
Trade Name	:	UBIQUITI
FCC ID.	:	SWX-UVCG3MI

I HEREBY CERTIFY THAT :

The sample was received on Jul. 20, 2020 and the testing was completed on Jul. 31, 2020 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:

Laboratory Accreditation:

Cerpass Technology Corporation Test Laboratory

Contents

History of this test report

Report No.	Issue Date	Description
TEFI2007197	Aug. 06, 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(TEFD2007197).

2. Test Configuration of Equipment under Test

2.1 Feature of Equipment under Test

Frequency Range	BT / BLE: 2400-2483.5MHz 802.11b/g/n: 2400-2483.5MHz 802.11a/n/ac: 5150-5250MHz, 5250-5350MHz, 5470-5725MHz, 5725-5850MHz
Modulation Type	BT: GFSK, π/4-DQPSK, 8DPSK BLE: GFSK 802.11b: CCK, DQPSK, DBPSK 802.11g/n/a: BPSK, QPSK, 16QAM, 64QAM 802.11ac: BPSK, QPSK, 16QAM, 64QAM, 256QAM
Modulation Technology	DSSS, OFDM, FHSS, DTS
Data Rate	BT: GFSK: 1Mbps, π/4-DQPSK: 2Mbps, 8DPSK: 3Mbps BLE: GFSK: 1Mbps, GFSK: 2Mbps WLAN: 802.11b: 1, 2, 5.5, 11Mbps 802.11g: 6, 9, 12, 18, 24, 36, 48, 54Mbps 802.11n: MCS0 – MCS7, HT20/40 802.11a: 6, 9, 12, 18, 24, 36, 48, 54Mbps 802.11ac: MCS0 – MCS9, VHT20/40/80
Antenna Type	Internal Antenna
Antenna Gain	For BT/BLE: 2402-2480MHz ANT A: 2.60dBi For WLAN 2.4G: 2412-2462MHz ANT A:2.60dBi For WLAN 5G: 5150-5850MHz ANT A: 4.60dBi
USB TYPE-C Cable	Brand: N/A Model: N/A
Adapter	Brand: Ubiquiti Model: NY-PW0H1-05002000
Serial Number	2027A FCECDAFF2B64

Note:

1. WLAN and BT can simultaneously transmission.
2. EUT supports DFS Client Mode, without radar detection.
3. 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

a. During testing, the interface cables and equipment positions were varied according to ANSI C63.10.
b. The complete test system included Remote workstation and EUT for RF test. The Remote workstation included Notebook.
c. An executive program, ” wl command” under Windows OS system was executed to transmit and receive data via WLAN.
d. The following test modes were performed for the test:

Conducted Emissions from the AC mains power ports	
Test Mode	Operating Description
1	802.11b (1Mbps)
2	802.11g (6Mbps)
3	802.11n HT20 (6.5Mbps)
4	802.11n HT40 (13.5Mbps)
caused “Test Mode 2” 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	802.11n HT20 (6.5Mbps)
4	802.11n HT40 (13.5Mbps)
caused “Test Mode 2” 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	802.11n HT20 (6.5Mbps)
4	802.11n HT40 (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	2020/07/31	24℃ / 60%	Vic Yeh
Radiated Emissions	3M02-NK	2020/07/29	25℃ / 39%	Vic Yeh
AC Power Line Conducted Emission	CON01-NK	2020/07/27	27℃ / 50%	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 Anrenna	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-38MS50 314	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	FSV 40-N	101329	2020/07/07	2021/07/06
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 & HUMI 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	Internal Antenna
Antenna Gain	2412-2462MHz: 2.60dBi

2412-2462MHz
For Power directional gain= G_{ant}= 2.60 dBi
For PSD directional gain = G_{ant}= 2.60 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.

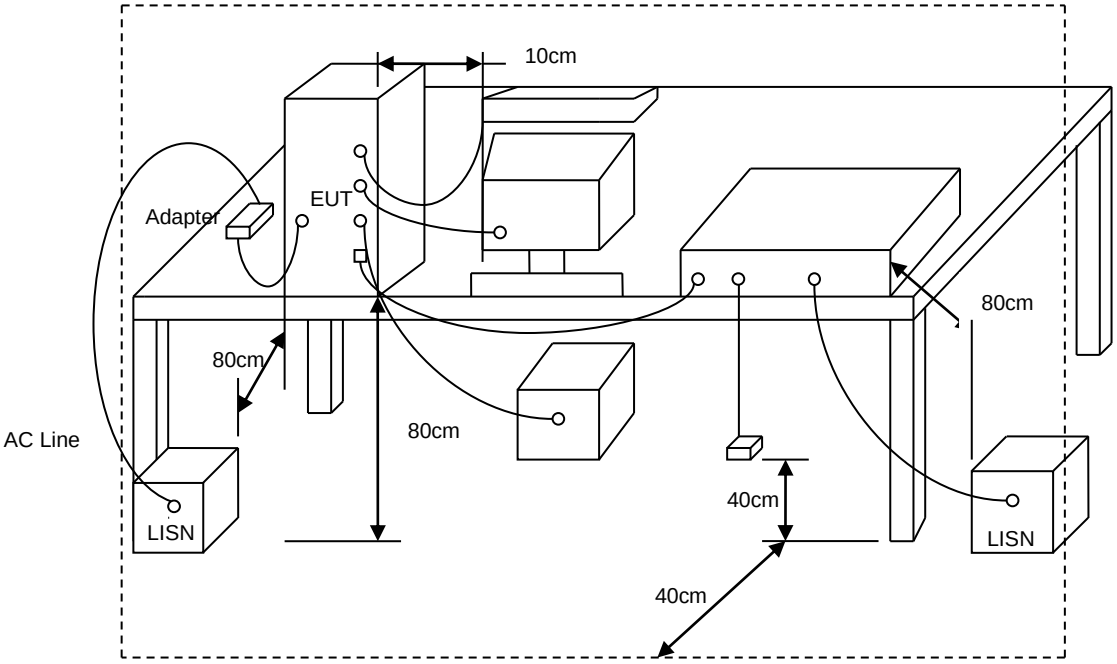
Frequency (MHz)	Quasi Peak (dB μ V)	Average (dB μ V)
0.15 – 0.5	66-56*	56-46*
0.5 – 5.0	56	46
5.0 – 30.0	60	50

*Decreases with the logarithm of the frequency.

5.2 Test Procedures

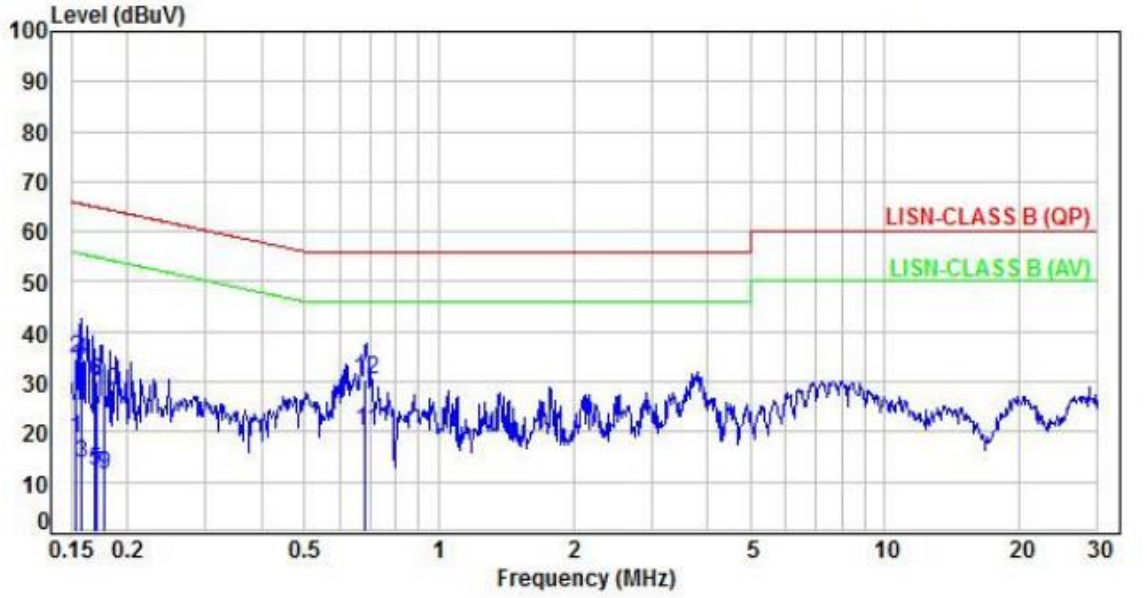
a. The EUT was placed 0.4 meter from the conducting wall of the shielding room was kept at least 80 centimeters from any other grounded conducting surface.
b. Connect EUT to the power mains through a line impedance stabilization network (LISN).
c. All the support units are connecting to the other LISN.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

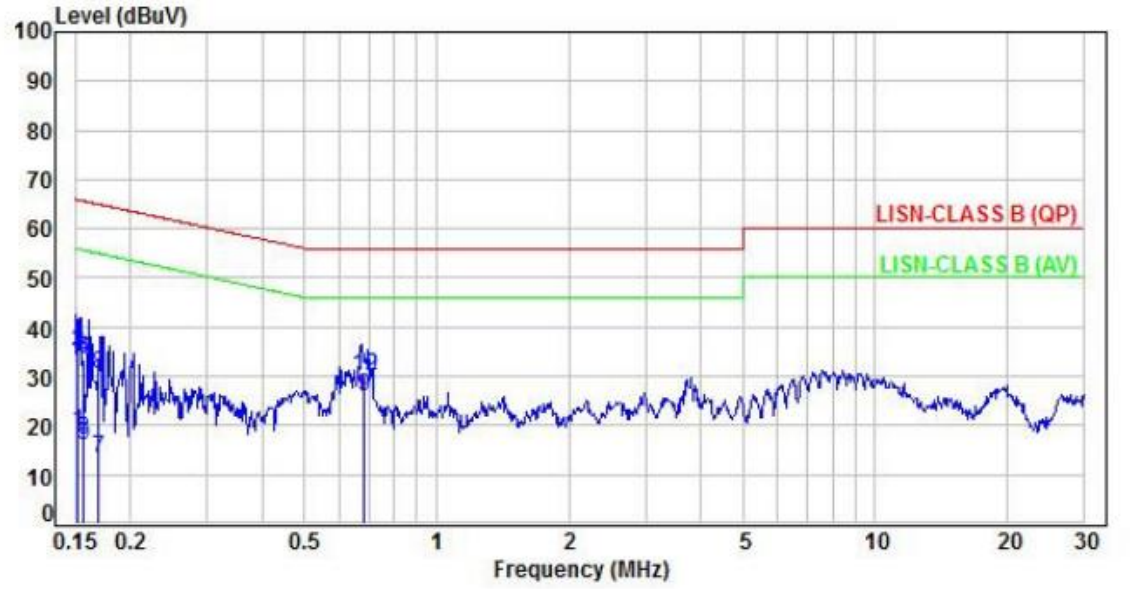
Power	:	AC 120V / 60Hz	Pol/Phase	:	LINE
Test Mode	:	Mode 2		:	



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector	P/F
1	0.15	9.92	8.58	18.50	55.81	-37.31	Average	P
2	0.15	9.92	24.57	34.49	65.81	-31.32	QP	P
3	0.16	9.92	3.80	13.72	55.54	-41.82	Average	P
4	0.16	9.92	24.20	34.12	65.54	-31.42	QP	P
5	0.17	9.92	2.29	12.21	54.98	-42.77	Average	P
6	0.17	9.92	20.16	30.08	64.98	-34.90	QP	P
7	0.17	9.92	1.39	11.31	54.90	-43.59	Average	P
8	0.17	9.92	20.01	29.93	64.90	-34.97	QP	P
9	0.18	9.92	1.47	11.39	54.60	-43.21	Average	P
10	0.18	9.92	18.40	28.32	64.60	-36.28	QP	P
11	0.68	9.95	10.23	20.18	46.00	-25.82	Average	P
12	0.68	9.95	20.40	30.35	56.00	-25.65	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 2		:	



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector	P/F
1	0.15	9.95	8.68	18.63	55.91	-37.28	Average	P
2	0.15	9.95	24.92	34.87	65.91	-31.04	QP	P
3	0.16	9.95	7.12	17.07	55.68	-38.61	Average	P
4	0.16	9.95	23.39	33.34	65.68	-32.34	QP	P
5	0.16	9.95	5.89	15.84	55.62	-39.78	Average	P
6	0.16	9.95	23.60	33.55	65.62	-32.07	QP	P
7	0.17	9.95	3.46	13.41	55.02	-41.61	Average	P
8	0.17	9.95	20.57	30.52	65.02	-34.50	QP	P
9	0.68	9.97	15.96	25.93	46.00	-20.07	Average	P
10	0.68	9.97	19.99	29.96	56.00	-26.04	QP	P
11	0.68	9.97	15.90	25.87	46.00	-20.13	Average	P
12	0.68	9.97	20.01	29.98	56.00	-26.02	QP	P

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

6. Test of Radiated Spurious Emission

6.1 Test Limit

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

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

6.2 Test Procedures

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

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

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

d. The antenna is a broadband antenna and its height is varied between one meter and four meters above ground to find the maximum value of the field strength both horizontal polarization and vertical polarization of the antenna are set to make the measurement.

e. For each suspected emission the EUT was arranged to its worst case and then tune the antenna tower (from 1 M to 4 M) and turn table (from 0 degree to 360 degrees) to find the maximum reading.

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

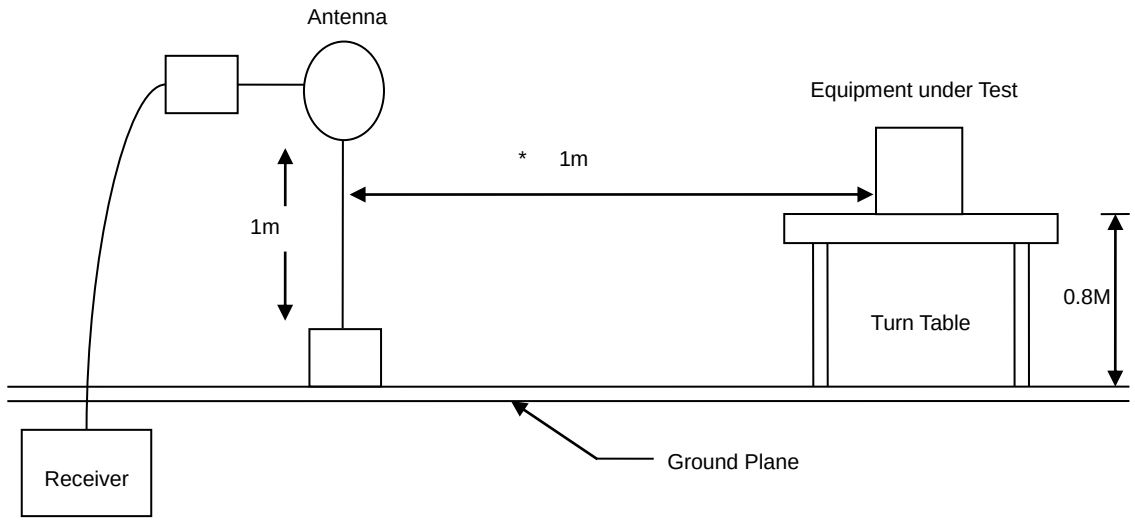
g. If the emission level of the EUT in peak mode was 3 dB lower than the limit specified, then testing will be stopped and peak values of EUT will be reported, otherwise, the emissions which do not have 3 dB margin will be repeated one by one using the quasi-peak method and reported.

h. For testing above 1GHz, the emission level of the EUT in peak mode was 20dB lower than average limit (that means the emission level in peak mode also complies with the limit in average mode), then testing will be stopped and peak values of EUT will be reported, otherwise, the emissions will be measured in average mode again and reported.

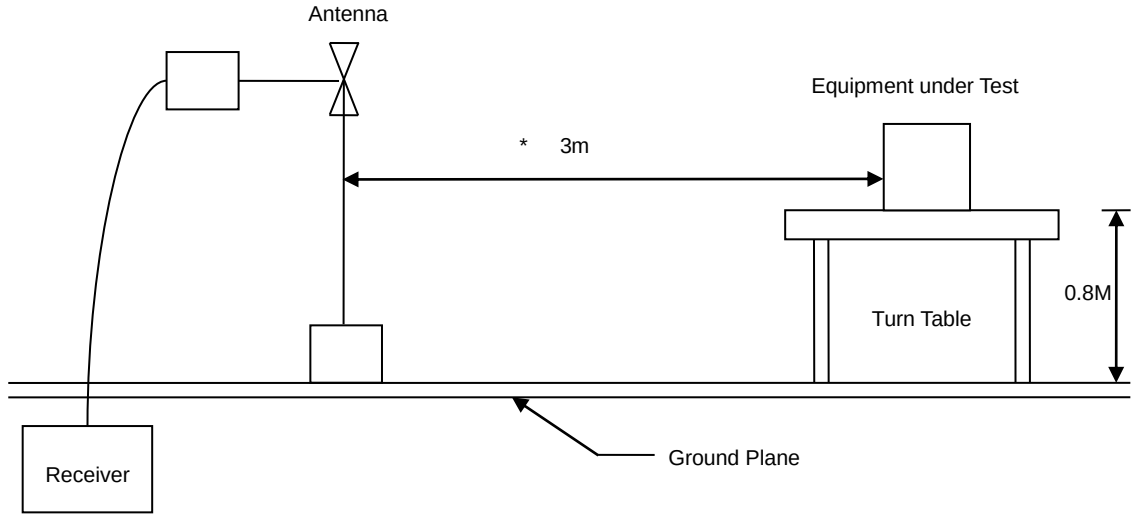
i. “Cone of radiation” has been considered to be 3dB bandwidth of the measurement antenna.

6.3 Typical Test Setup

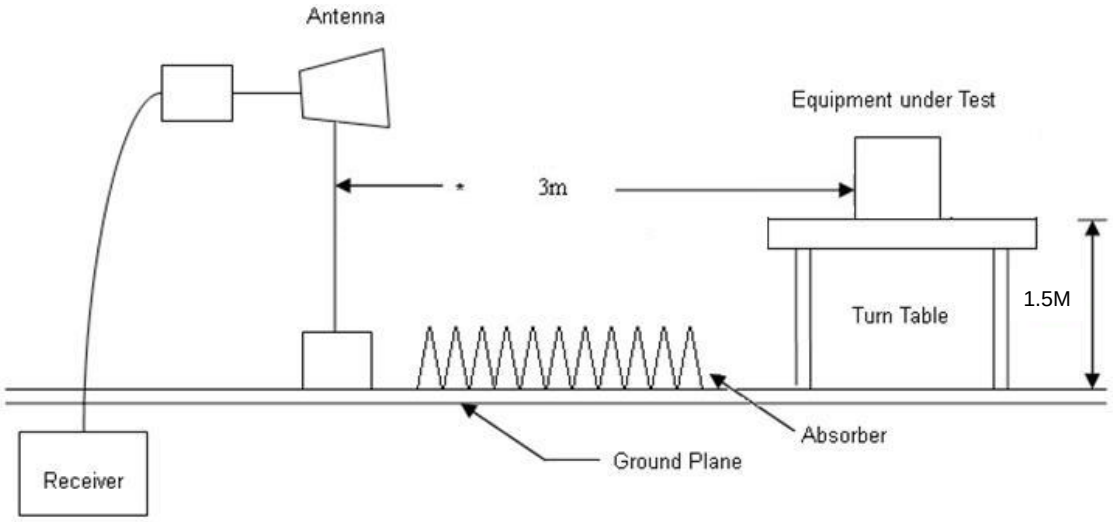
Below 30MHz test setup



30MHz- 1GHz Test Setup



Above 1GHz Test Setup

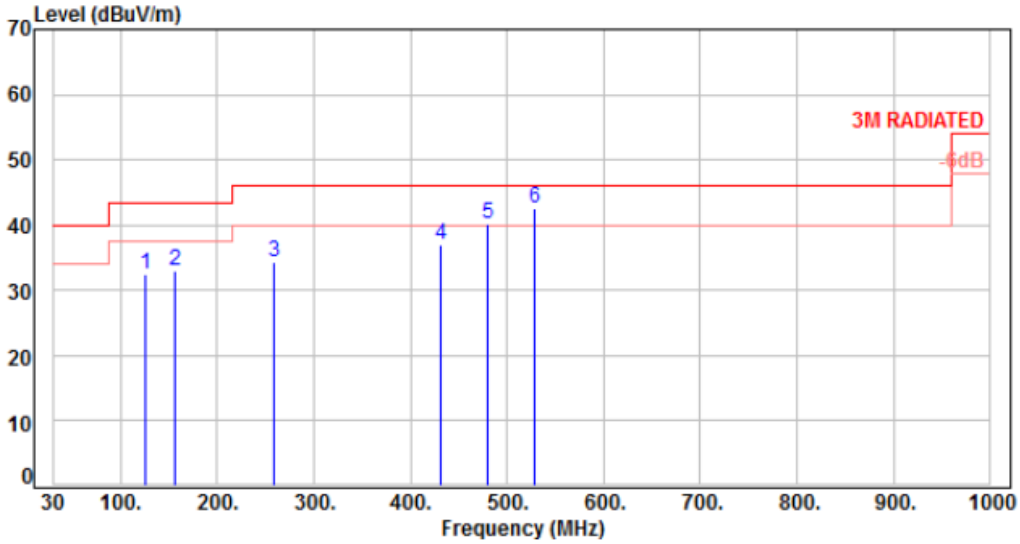


6.4 Test Result and Data (9KHz ~ 30MHz)

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

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

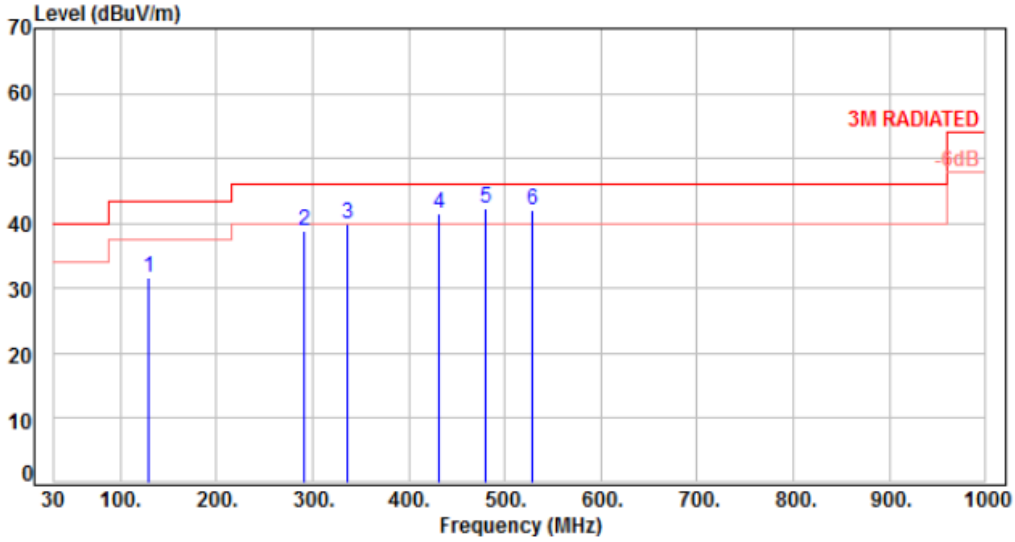
Power	:	AC 120V / 60Hz		Pol/Phase	:	VERTICAL	
Test Mode	:	Mode 2			:		



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	125.06	-11.79	44.37	32.58	43.50	-10.92	Peak	400	0	P
2	156.10	-9.68	42.68	33.00	43.50	-10.50	Peak	400	0	P
3	258.92	-10.11	44.38	34.27	46.00	-11.73	Peak	400	0	P
4	431.58	-5.16	42.12	36.96	46.00	-9.04	Peak	400	0	P
5	480.08	-4.27	44.34	40.07	46.00	-5.93	Peak	400	0	P
6	528.00	-3.35	45.90	42.55	46.00	-3.45	QP	110	110	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		:	

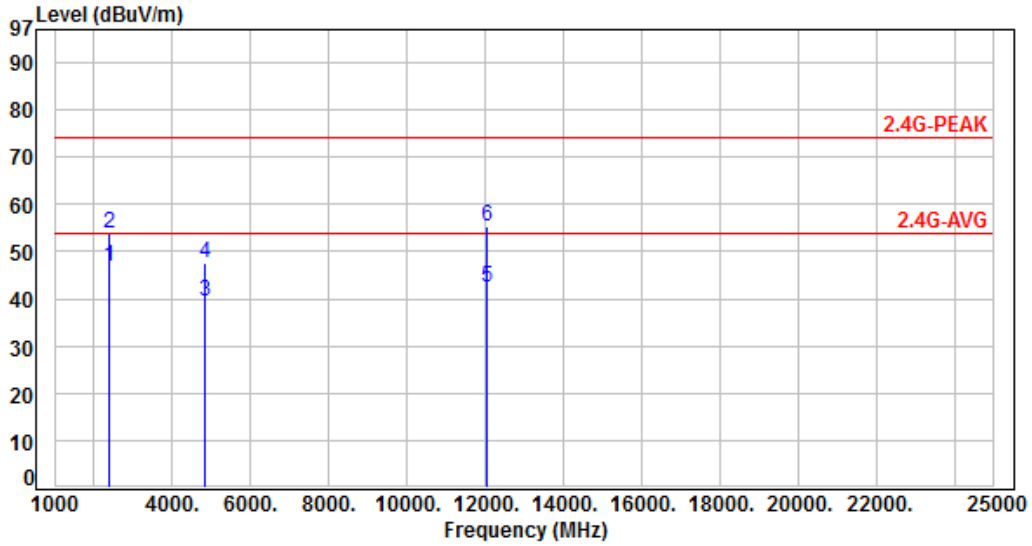


No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	128.94	-11.38	43.11	31.73	43.50	-11.77	Peak	100	0	P
2	290.93	-8.91	47.73	38.82	46.00	-7.18	Peak	100	0	P
3	335.55	-7.66	47.64	39.98	46.00	-6.02	Peak	100	0	P
4	431.58	-5.16	46.58	41.42	46.00	-4.58	Peak	100	0	P
5	480.08	-4.27	46.64	42.37	46.00	-3.63	Peak	100	0	P
6	528.01	-3.35	45.50	42.15	46.00	-3.85	QP	100	195	P

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

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

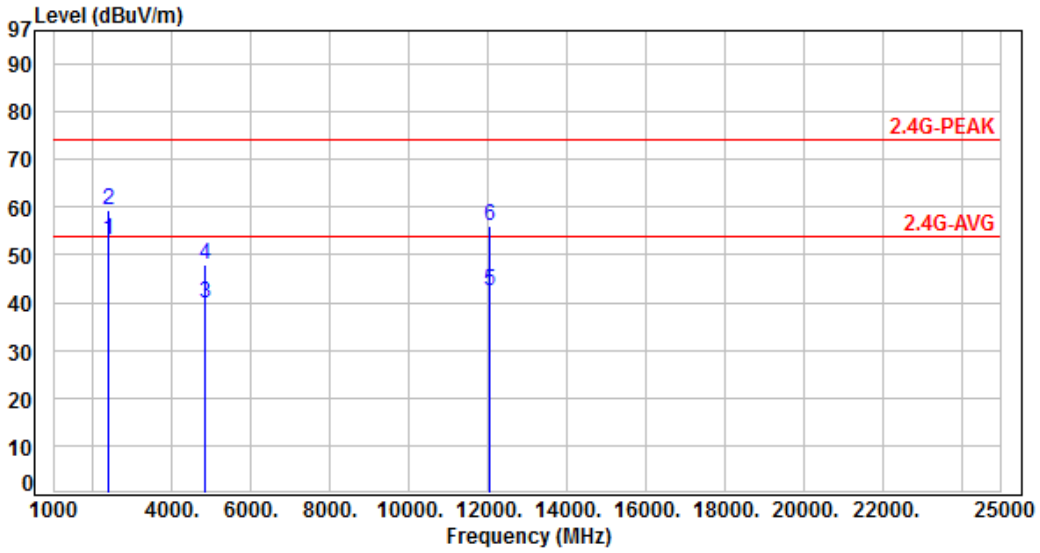
Power	:	AC 120V / 60HZ	Pol/Phase	:	VERTICAL
Test Mode	:	Mode 1, CH01		:	



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	49.74	46.85	54.00	-7.15	Average	373	235	P
2	2390.00	-2.89	56.64	53.75	74.00	-20.25	Peak	373	235	P
3	4824.00	4.88	34.42	39.30	54.00	-14.70	Average	100	69	P
4	4824.00	4.88	42.66	47.54	74.00	-26.46	Peak	100	69	P
5	12060.00	14.80	27.67	42.47	54.00	-11.53	Average	100	62	P
6	12060.00	14.80	40.62	55.42	74.00	-18.58	Peak	100	62	P

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

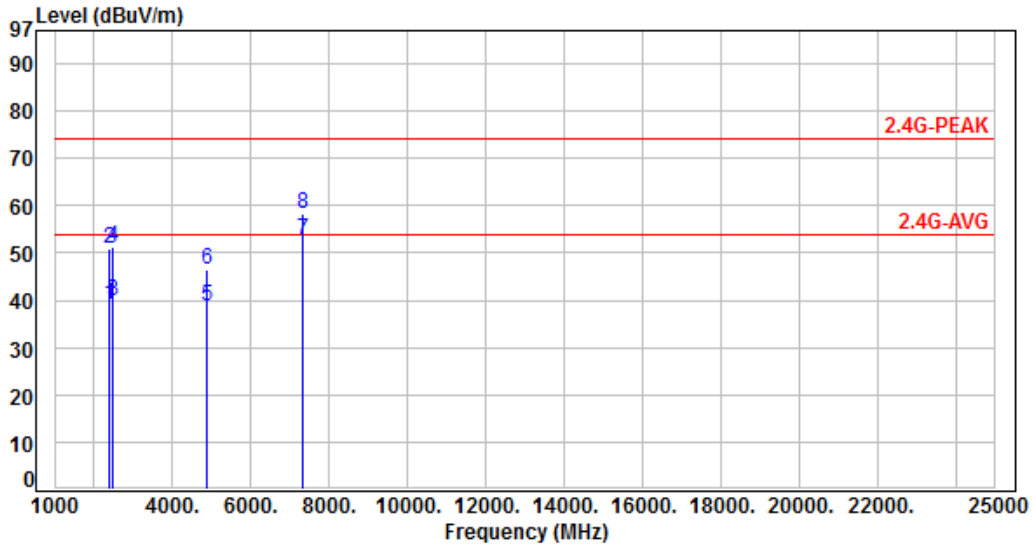
Power	:	AC 120V / 60HZ	Pol/Phase	:	HORIZONTAL
Test Mode	:	Mode 1, CH01		:	



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	55.88	52.99	54.00	-1.01	Average	252	117	P
2	2390.00	-2.89	62.33	59.44	74.00	-14.56	Peak	252	117	P
3	4824.00	4.88	34.82	39.70	54.00	-14.30	Average	100	58	P
4	4824.00	4.88	43.05	47.93	74.00	-26.07	Peak	100	58	P
5	12060.00	14.80	27.68	42.48	54.00	-11.52	Average	100	106	P
6	12060.00	14.80	41.22	56.02	74.00	-17.98	Peak	100	106	P

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

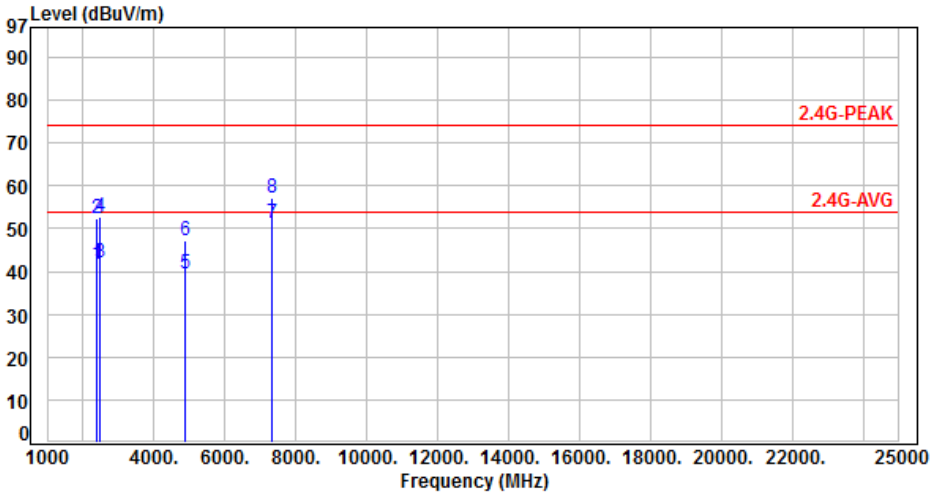
Power	:	AC 120V / 60HZ	Pol/Phase	:	VERTICAL
Test Mode	:	Mode 1, CH06		:	



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	42.15	39.26	54.00	-14.74	Average	381	229	P
2	2390.00	-2.89	53.66	50.77	74.00	-23.23	Peak	381	229	P
3	2483.50	-2.69	42.57	39.88	54.00	-14.12	Average	381	229	P
4	2483.50	-2.69	54.11	51.42	74.00	-22.58	Peak	381	229	P
5	4874.00	5.09	33.65	38.74	54.00	-15.26	Average	100	65	P
6	4874.00	5.09	41.25	46.34	74.00	-27.66	Peak	100	65	P
7	7311.00	10.01	42.74	52.75	54.00	-1.25	Average	100	61	P
8	7311.00	10.01	48.15	58.16	74.00	-15.84	Peak	100	61	P

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

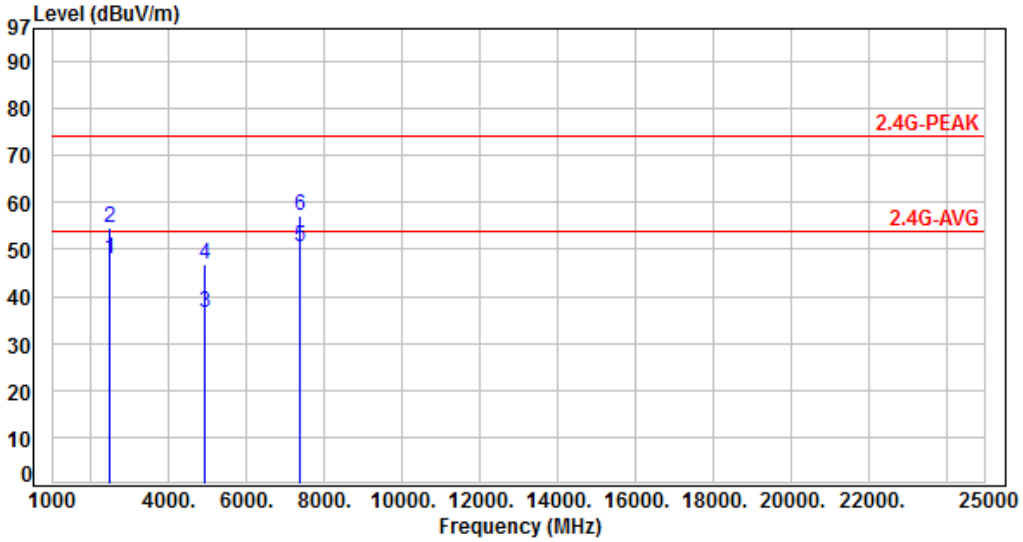
Power	:	AC 120V / 60HZ	Pol/Phase	:	HORIZONTAL
Test Mode	:	Mode 1, CH06		:	



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	44.69	41.80	54.00	-12.20	Average	249	139	P
2	2390.00	-2.89	55.08	52.19	74.00	-21.81	Peak	249	139	P
3	2483.50	-2.69	44.60	41.91	54.00	-12.09	Average	249	139	P
4	2483.50	-2.69	55.58	52.89	74.00	-21.11	Peak	249	139	P
5	4874.00	5.09	34.35	39.44	54.00	-14.56	Average	100	52	P
6	4874.00	5.09	42.03	47.12	74.00	-26.88	Peak	100	52	P
7	7311.00	10.01	41.40	51.41	54.00	-2.59	Average	191	153	P
8	7311.00	10.01	47.03	57.04	74.00	-16.96	Peak	191	153	P

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

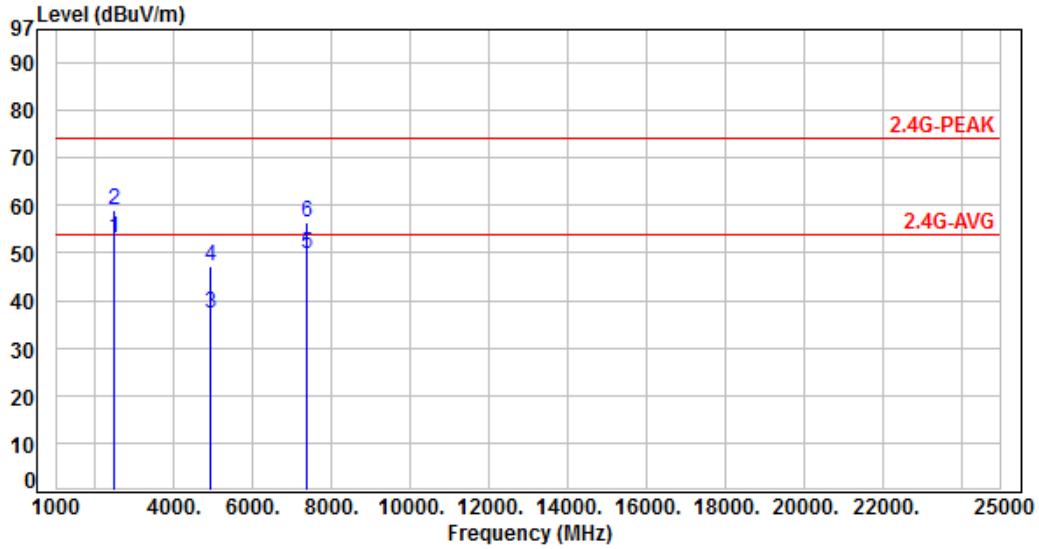
Power	:	AC 120V / 60HZ	Pol/Phase	:	VERTICAL
Test Mode	:	Mode 1, CH11		:	



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	50.52	47.83	54.00	-6.17	Average	380	230	P
2	2483.50	-2.69	57.40	54.71	74.00	-19.29	Peak	380	230	P
3	4924.00	5.30	31.39	36.69	54.00	-17.31	Average	100	70	P
4	4924.00	5.30	41.36	46.66	74.00	-27.34	Peak	100	70	P
5	7386.00	10.14	40.45	50.59	54.00	-3.41	Average	100	58	P
6	7386.00	10.14	46.97	57.11	74.00	-16.89	Peak	100	58	P

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

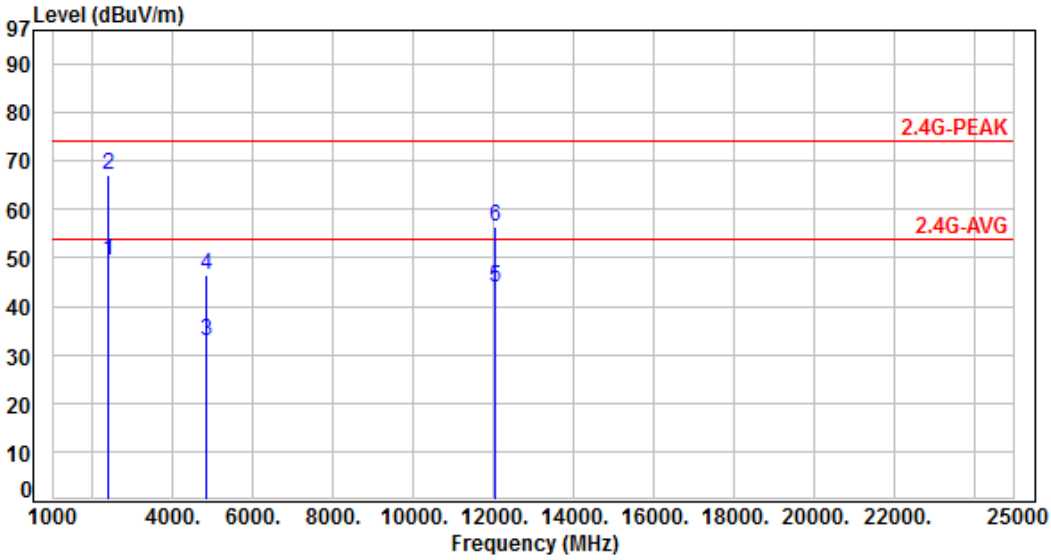
Power	:	AC 120V / 60HZ	Pol/Phase	:	HORIZONTAL
Test Mode	:	Mode 1, CH11		:	



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	55.67	52.98	54.00	-1.02	Average	249	118	P
2	2483.50	-2.69	61.69	59.00	74.00	-15.00	Peak	249	118	P
3	4924.00	5.30	31.79	37.09	54.00	-16.91	Average	100	53	P
4	4924.00	5.30	41.76	47.06	74.00	-26.94	Peak	100	53	P
5	7386.00	10.14	39.73	49.87	54.00	-4.13	Average	193	160	P
6	7386.00	10.14	46.19	56.33	74.00	-17.67	Peak	193	160	P

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

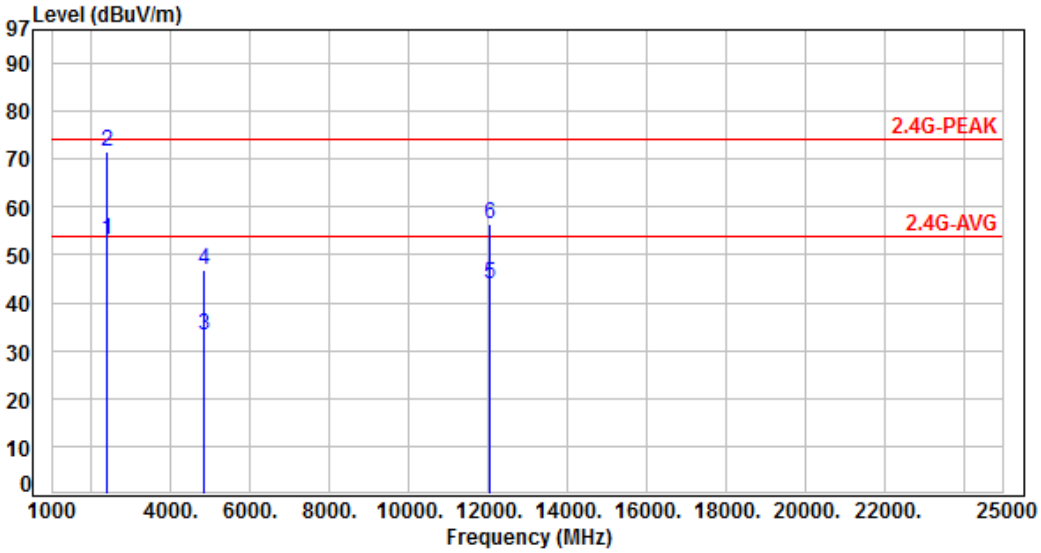
Power	:	AC 120V / 60HZ	Pol/Phase	:	VERTICAL
Test Mode	:	Mode 2, CH01		:	



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	52.29	49.40	54.00	-4.60	Average	373	208	P
2	2390.00	-2.89	70.11	67.22	74.00	-6.78	Peak	373	208	P
3	4824.00	4.88	28.06	32.94	54.00	-21.06	Average	100	82	P
4	4824.00	4.88	41.56	46.44	74.00	-27.56	Peak	100	82	P
5	12060.00	14.80	29.21	44.01	54.00	-9.99	Average	100	321	P
6	12060.00	14.80	41.56	56.36	74.00	-17.64	Peak	100	321	P

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

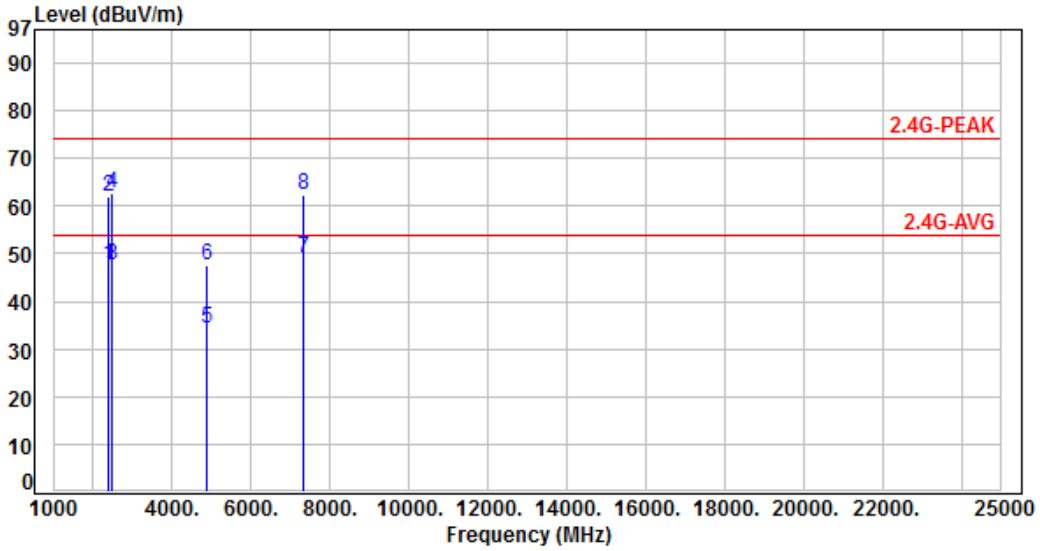
Power	:	AC 120V / 60HZ	Pol/Phase	:	HORIZONTAL
Test Mode	:	Mode 2, CH01		:	



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	55.89	53.00	54.00	-1.00	Average	265	122	P
2	2390.00	-2.89	74.59	71.70	74.00	-2.30	Peak	265	122	P
3	4824.00	4.88	28.46	33.34	54.00	-20.66	Average	100	53	P
4	4824.00	4.88	41.92	46.80	74.00	-27.20	Peak	100	53	P
5	12060.00	14.80	29.15	43.95	54.00	-10.05	Average	100	142	P
6	12060.00	14.80	41.52	56.32	74.00	-17.68	Peak	100	142	P

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

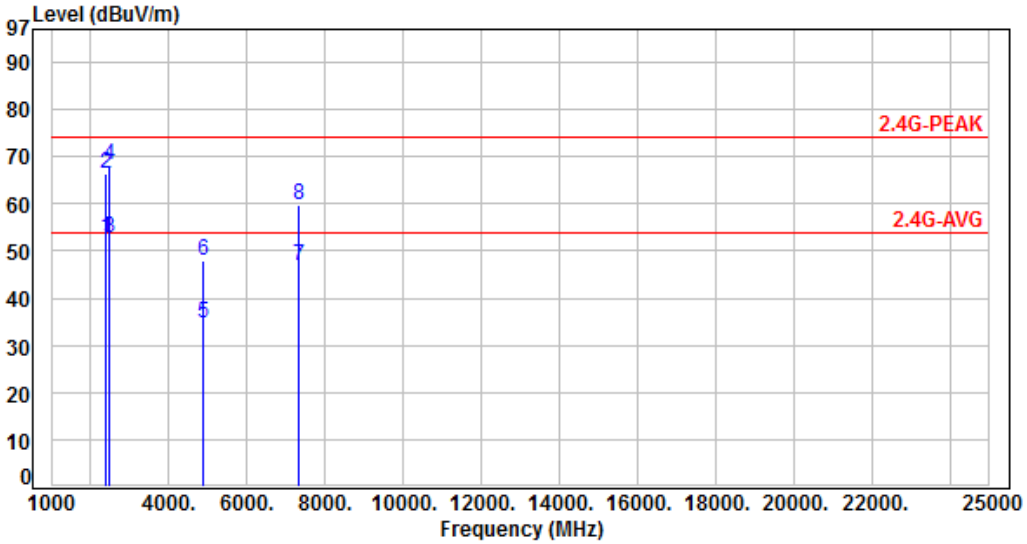
Power	:	AC 120V / 60HZ	Pol/Phase	:	VERTICAL
Test Mode	:	Mode 2, CH06		:	



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	50.49	47.60	54.00	-6.40	Average	387	234	P
2	2390.00	-2.89	64.74	61.85	74.00	-12.15	Peak	387	234	P
3	2483.50	-2.69	50.18	47.49	54.00	-6.51	Average	387	234	P
4	2483.50	-2.69	65.30	62.61	74.00	-11.39	Peak	387	234	P
5	4874.00	5.09	29.15	34.24	54.00	-19.76	Average	100	67	P
6	4874.00	5.09	42.53	47.62	74.00	-26.38	Peak	100	67	P
7	7311.00	10.01	38.89	48.90	54.00	-5.10	Average	100	56	P
8	7311.00	10.01	52.23	62.24	74.00	-11.76	Peak	100	56	P

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

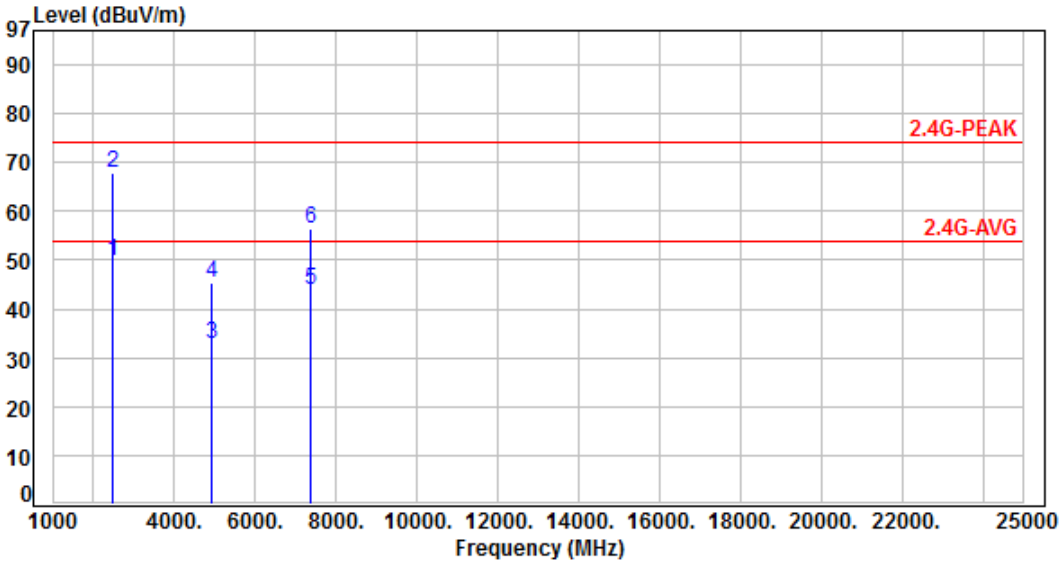
Power	:	AC 120V / 60HZ	Pol/Phase	:	HORIZONTAL
Test Mode	:	Mode 2, CH06		:	



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	55.47	52.58	54.00	-1.42	Average	237	130	P
2	2390.00	-2.89	69.35	66.46	74.00	-7.54	Peak	237	130	P
3	2483.50	-2.69	55.40	52.71	54.00	-1.29	Average	237	130	P
4	2483.50	-2.69	71.08	68.39	74.00	-5.61	Peak	237	130	P
5	4874.00	5.09	29.41	34.50	54.00	-19.50	Average	100	51	P
6	4874.00	5.09	42.88	47.97	74.00	-26.03	Peak	100	51	P
7	7311.00	10.01	36.89	46.90	54.00	-7.10	Average	202	150	P
8	7311.00	10.01	49.56	59.57	74.00	-14.43	Peak	202	150	P

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

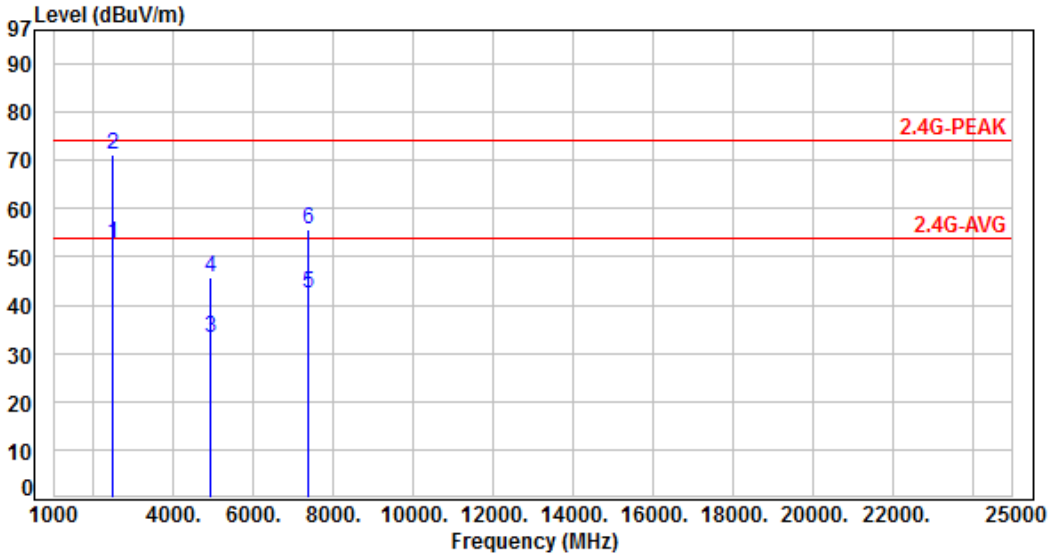
Power	:	AC 120V / 60HZ	Pol/Phase	:	VERTICAL
Test Mode	:	Mode 2, CH11		:	



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	52.63	49.94	54.00	-4.06	Average	381	241	P
2	2483.50	-2.69	70.52	67.83	74.00	-6.17	Peak	381	241	P
3	4924.00	5.30	27.65	32.95	54.00	-21.05	Average	100	78	P
4	4924.00	5.30	40.12	45.42	74.00	-28.58	Peak	100	78	P
5	7386.00	10.14	33.69	43.83	54.00	-10.17	Average	100	58	P
6	7386.00	10.14	46.16	56.30	74.00	-17.70	Peak	100	58	P

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

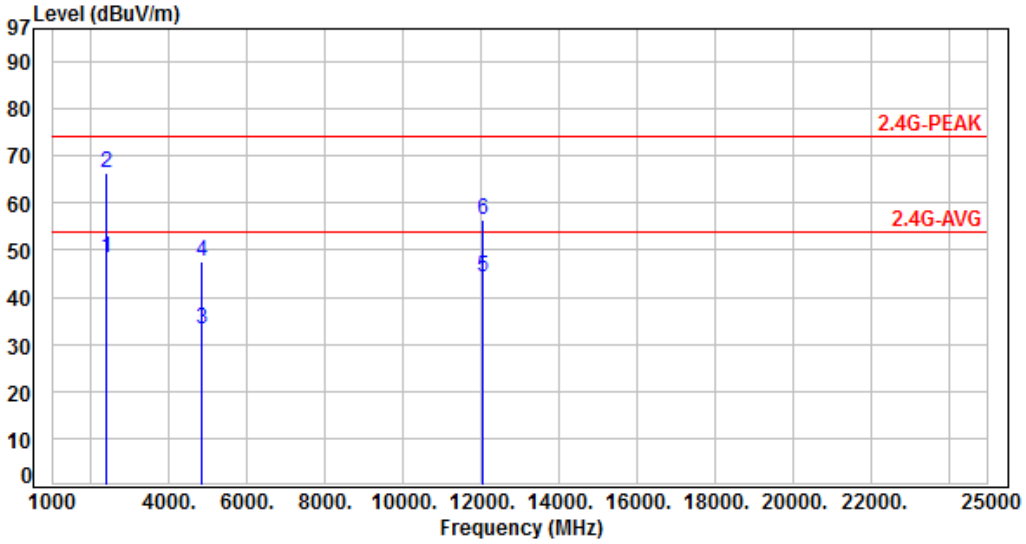
Power	:	AC 120V / 60HZ	Pol/Phase	:	HORIZONTAL
Test Mode	:	Mode 2, CH11		:	



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	55.57	52.88	54.00	-1.12	Average	233	129	P
2	2483.50	-2.69	73.90	71.21	74.00	-2.79	Peak	233	129	P
3	4924.00	5.30	27.85	33.15	54.00	-20.85	Average	100	48	P
4	4924.00	5.30	40.56	45.86	74.00	-28.14	Peak	100	48	P
5	7386.00	10.14	32.31	42.45	54.00	-11.55	Average	193	164	P
6	7386.00	10.14	45.56	55.70	74.00	-18.30	Peak	193	164	P

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

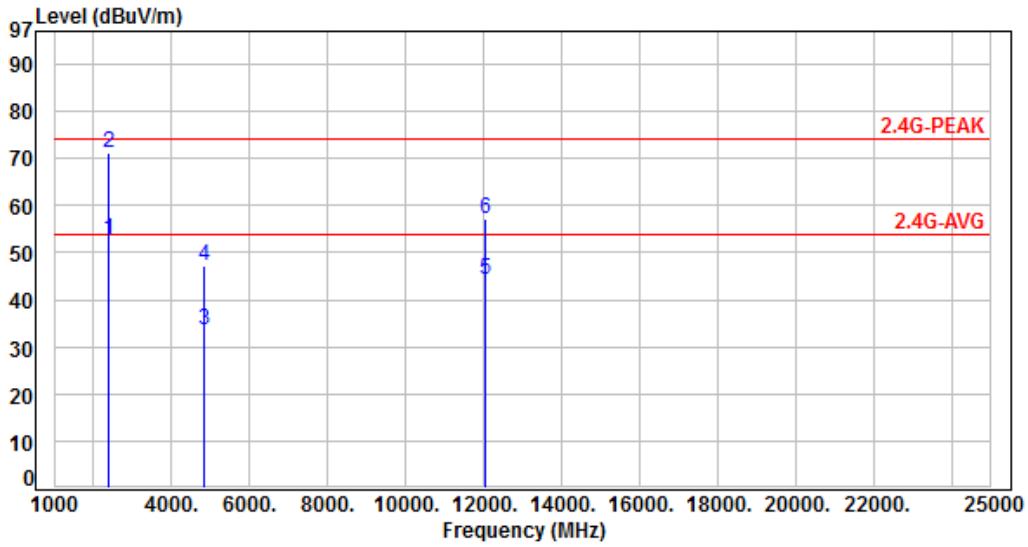
Power	:	AC 120V / 60HZ	Pol/Phase	:	VERTICAL
Test Mode	:	Mode 3, CH01		:	



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	51.22	48.33	54.00	-5.67	Average	373	206	P
2	2390.00	-2.89	69.45	66.56	74.00	-7.44	Peak	373	206	P
3	4824.00	4.88	28.26	33.14	54.00	-20.86	Average	100	85	P
4	4824.00	4.88	42.64	47.52	74.00	-26.48	Peak	100	85	P
5	12060.00	14.80	29.36	44.16	54.00	-9.84	Average	100	318	P
6	12060.00	14.80	41.78	56.58	74.00	-17.42	Peak	100	318	P

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

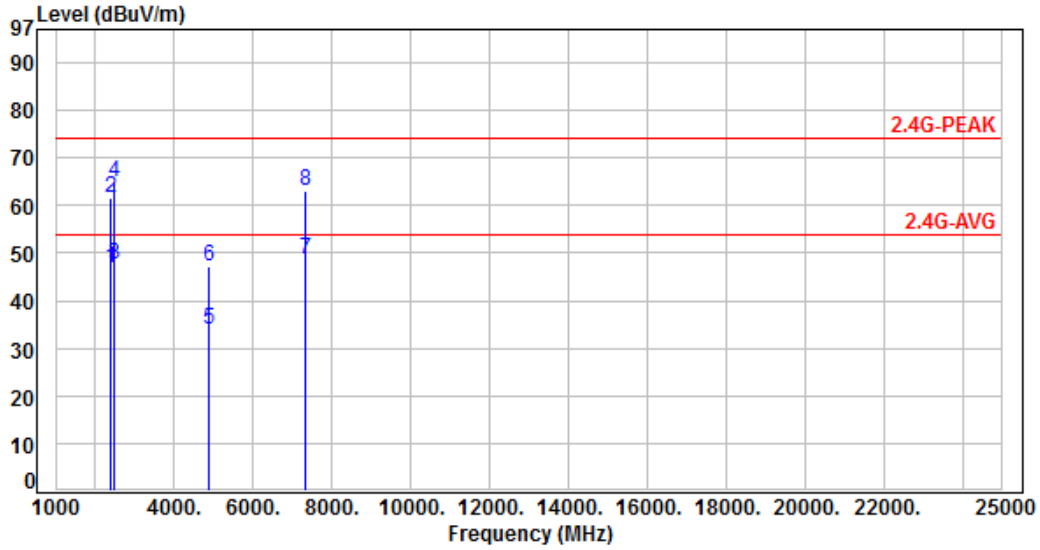
Power	:	AC 120V / 60HZ	Pol/Phase	:	HORIZONTAL
Test Mode	:	Mode 3, CH01		:	



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	55.62	52.73	54.00	-1.27	Average	252	128	P
2	2390.00	-2.89	74.22	71.33	74.00	-2.67	Peak	252	128	P
3	4824.00	4.88	28.62	33.50	54.00	-20.50	Average	100	56	P
4	4824.00	4.88	42.48	47.36	74.00	-26.64	Peak	100	56	P
5	12060.00	14.80	29.44	44.24	54.00	-9.76	Average	100	139	P
6	12060.00	14.80	42.32	57.12	74.00	-16.88	Peak	100	139	P

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

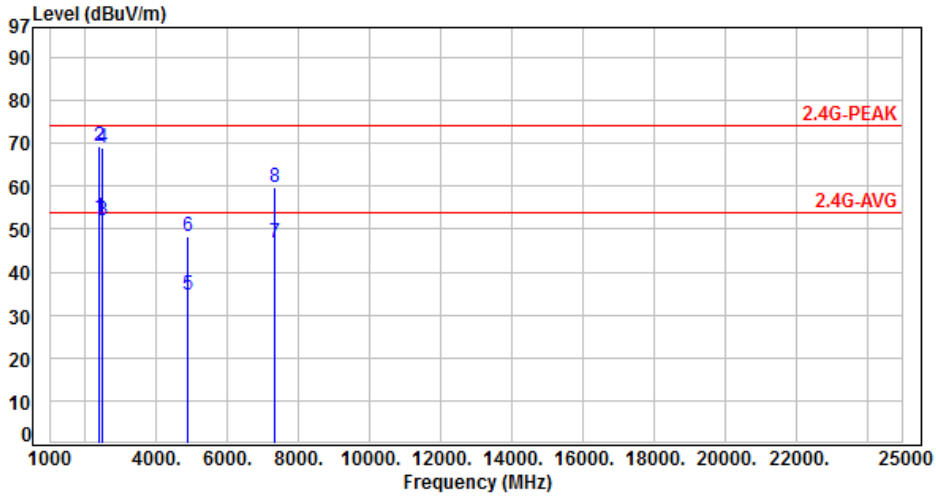
Power	:	AC 120V / 60HZ	Pol/Phase	:	VERTICAL
Test Mode	:	Mode 3, CH06		:	



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	49.58	46.69	54.00	-7.31	Average	390	239	P
2	2390.00	-2.89	64.37	61.48	74.00	-12.52	Peak	390	239	P
3	2483.50	-2.69	50.42	47.73	54.00	-6.27	Average	390	239	P
4	2483.50	-2.69	67.45	64.76	74.00	-9.24	Peak	390	239	P
5	4874.00	5.09	28.88	33.97	54.00	-20.03	Average	100	62	P
6	4874.00	5.09	42.16	47.25	74.00	-26.75	Peak	100	62	P
7	7311.00	10.01	38.72	48.73	54.00	-5.27	Average	100	54	P
8	7311.00	10.01	52.88	62.89	74.00	-11.11	Peak	100	54	P

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

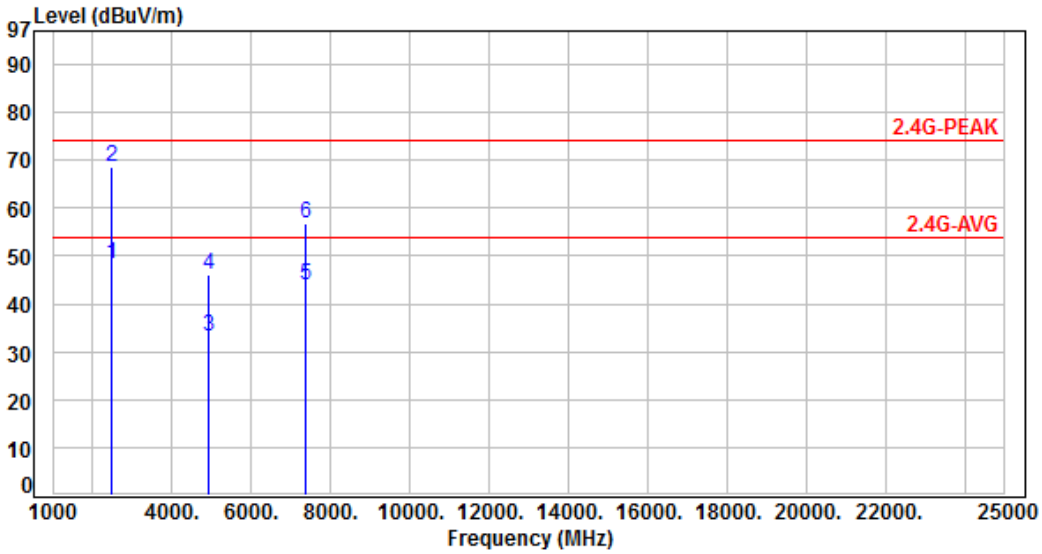
Power	:	AC 120V / 60HZ	Pol/Phase	:	HORIZONTAL
Test Mode	:	Mode 3, CH06		:	



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	55.79	52.90	54.00	-1.10	Average	249	134	P
2	2390.00	-2.89	72.04	69.15	74.00	-4.85	Peak	249	134	P
3	2483.50	-2.69	54.61	51.92	54.00	-2.08	Average	249	134	P
4	2483.50	-2.69	71.80	69.11	74.00	-4.89	Peak	249	134	P
5	4874.00	5.09	29.51	34.60	54.00	-19.40	Average	100	53	P
6	4874.00	5.09	43.05	48.14	74.00	-25.86	Peak	100	53	P
7	7311.00	10.01	36.72	46.73	54.00	-7.27	Average	205	149	P
8	7311.00	10.01	49.88	59.89	74.00	-14.11	Peak	205	149	P

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

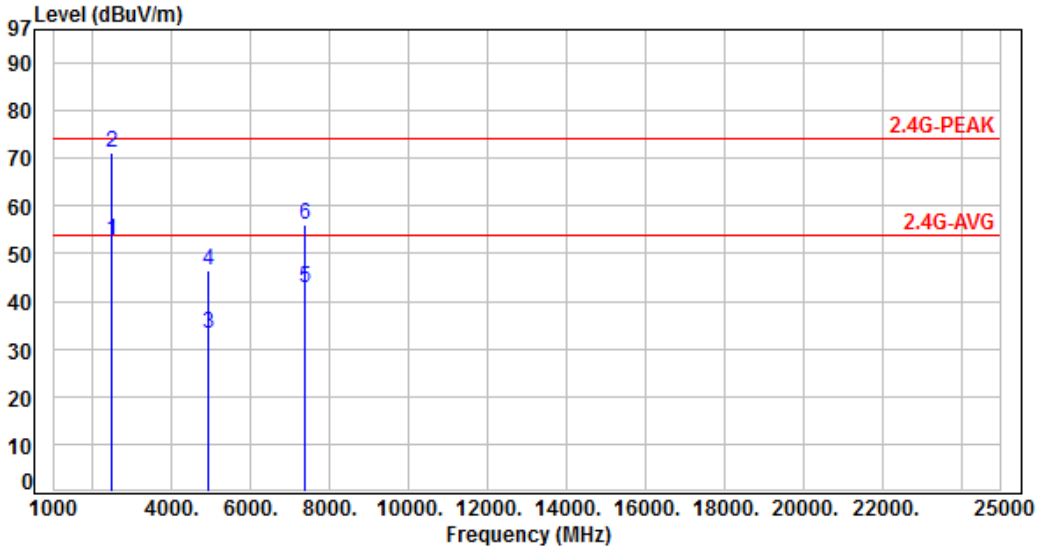
Power	:	AC 120V / 60HZ	Pol/Phase	:	VERTICAL
Test Mode	:	Mode 3, CH11		:	



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	51.02	48.33	54.00	-5.67	Average	382	244	P
2	2483.50	-2.69	71.20	68.51	74.00	-5.49	Peak	382	244	P
3	4924.00	5.30	27.81	33.11	54.00	-20.89	Average	100	75	P
4	4924.00	5.30	40.78	46.08	74.00	-27.92	Peak	100	75	P
5	7386.00	10.14	33.76	43.90	54.00	-10.10	Average	100	60	P
6	7386.00	10.14	46.69	56.83	74.00	-17.17	Peak	100	60	P

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

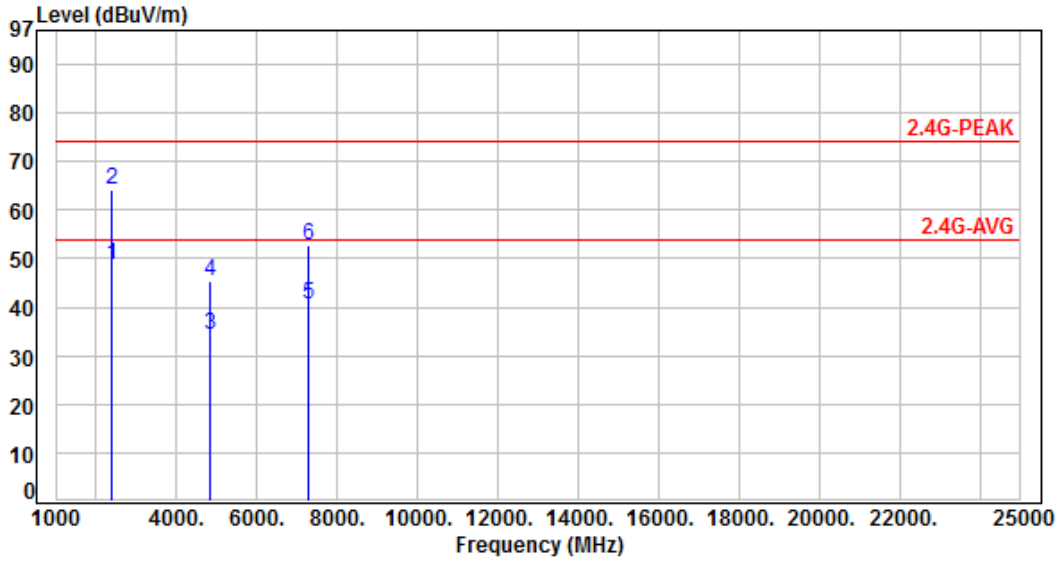
Power	:	AC 120V / 60HZ	Pol/Phase	:	HORIZONTAL
Test Mode	:	Mode 3, CH11		:	



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	55.42	52.73	54.00	-1.27	Average	235	128	P
2	2483.50	-2.69	74.05	71.36	74.00	-2.64	Peak	235	128	P
3	4924.00	5.30	27.95	33.25	54.00	-20.75	Average	100	52	P
4	4924.00	5.30	41.20	46.50	74.00	-27.50	Peak	100	52	P
5	7386.00	10.14	32.47	42.61	54.00	-11.39	Average	192	173	P
6	7386.00	10.14	45.87	56.01	74.00	-17.99	Peak	192	173	P

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

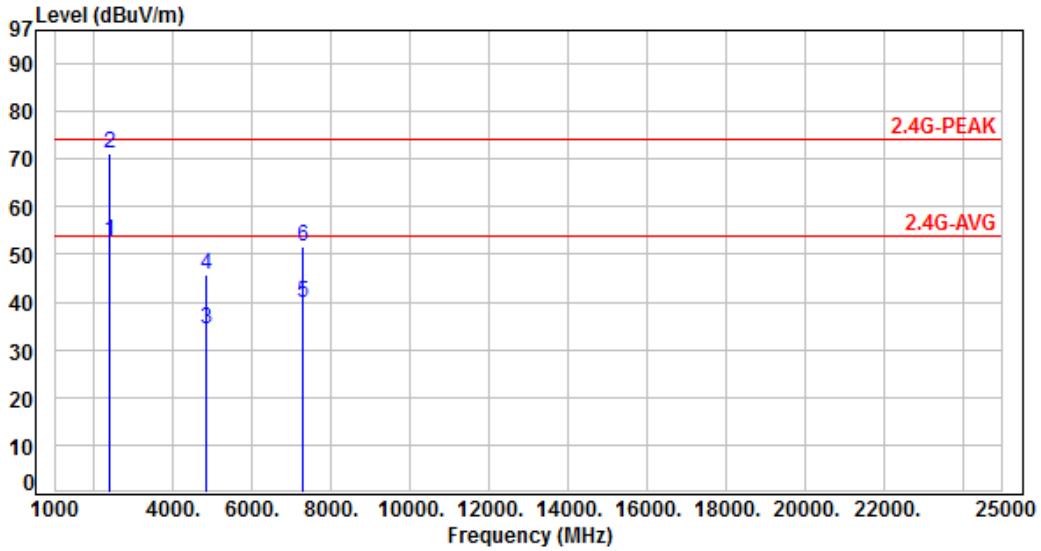
Power	:	AC 120V / 60HZ	Pol/Phase	:	VERTICAL
Test Mode	:	Mode 4, CH03		:	



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	51.69	48.80	54.00	-5.20	Average	381	211	P
2	2390.00	-2.89	67.12	64.23	74.00	-9.77	Peak	381	211	P
3	4844.00	4.99	29.15	34.14	54.00	-19.86	Average	100	62	P
4	4844.00	4.99	40.50	45.49	74.00	-28.51	Peak	100	62	P
5	7266.00	9.83	30.80	40.63	54.00	-13.37	Average	100	53	P
6	7266.00	9.83	42.85	52.68	74.00	-21.32	Peak	100	53	P

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

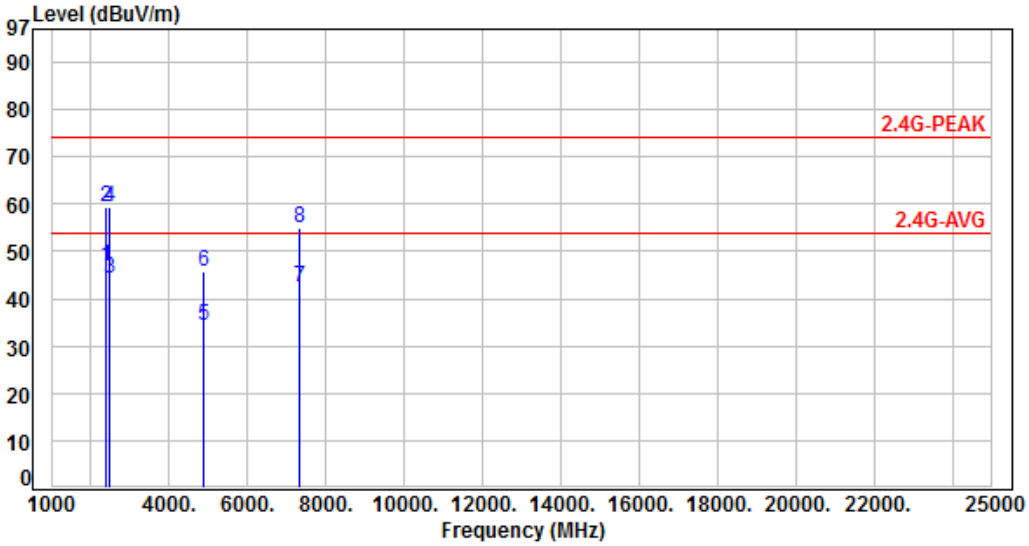
Power	:	AC 120V / 60HZ	Pol/Phase	:	HORIZONTAL
Test Mode	:	Mode 4, CH03		:	



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	55.76	52.87	54.00	-1.13	Average	280	148	P
2	2390.00	-2.89	73.94	71.05	74.00	-2.95	Peak	280	148	P
3	4844.00	4.99	29.35	34.34	54.00	-19.66	Average	100	47	P
4	4844.00	4.99	40.61	45.60	74.00	-28.40	Peak	100	47	P
5	7266.00	9.83	30.16	39.99	54.00	-14.01	Average	200	156	P
6	7266.00	9.83	41.82	51.65	74.00	-22.35	Peak	200	156	P

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

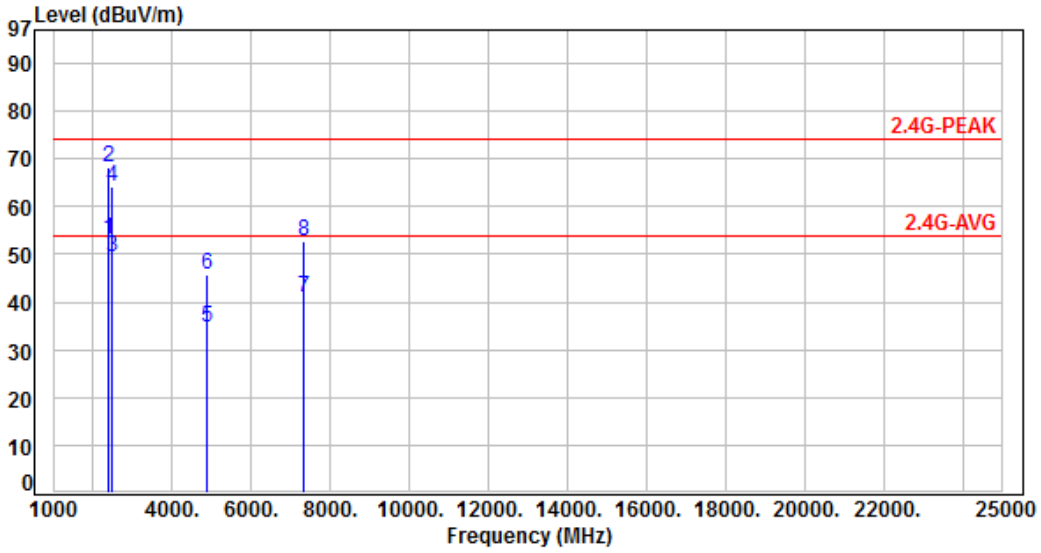
Power	:	AC 120V / 60HZ	Pol/Phase	:	VERTICAL
Test Mode	:	Mode 4, CH06		:	



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	49.55	46.66	54.00	-7.34	Average	384	240	P
2	2390.00	-2.89	62.22	59.33	74.00	-14.67	Peak	384	240	P
3	2483.50	-2.69	46.80	44.11	54.00	-9.89	Average	384	240	P
4	2483.50	-2.69	61.93	59.24	74.00	-14.76	Peak	384	240	P
5	4874.00	5.09	29.20	34.29	54.00	-19.71	Average	100	60	P
6	4874.00	5.09	40.62	45.71	74.00	-28.29	Peak	100	60	P
7	7311.00	10.01	32.23	42.24	54.00	-11.76	Average	100	55	P
8	7311.00	10.01	44.95	54.96	74.00	-19.04	Peak	100	55	P

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

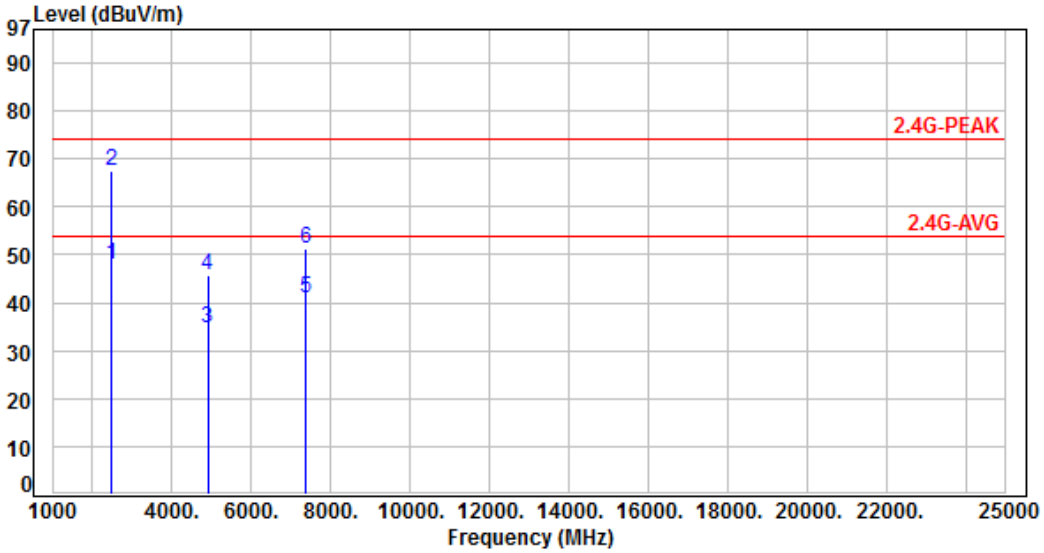
Power	:	AC 120V / 60HZ	Pol/Phase	:	HORIZONTAL
Test Mode	:	Mode 4, CH06		:	



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	55.88	52.99	54.00	-1.01	Average	250	131	P
2	2390.00	-2.89	71.11	68.22	74.00	-5.78	Peak	250	131	P
3	2483.50	-2.69	52.15	49.46	54.00	-4.54	Average	250	131	P
4	2483.50	-2.69	66.95	64.26	74.00	-9.74	Peak	250	131	P
5	4874.00	5.09	29.48	34.57	54.00	-19.43	Average	100	50	P
6	4874.00	5.09	40.67	45.76	74.00	-28.24	Peak	100	50	P
7	7311.00	10.01	30.79	40.80	54.00	-13.20	Average	198	154	P
8	7311.00	10.01	42.63	52.64	74.00	-21.36	Peak	198	154	P

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

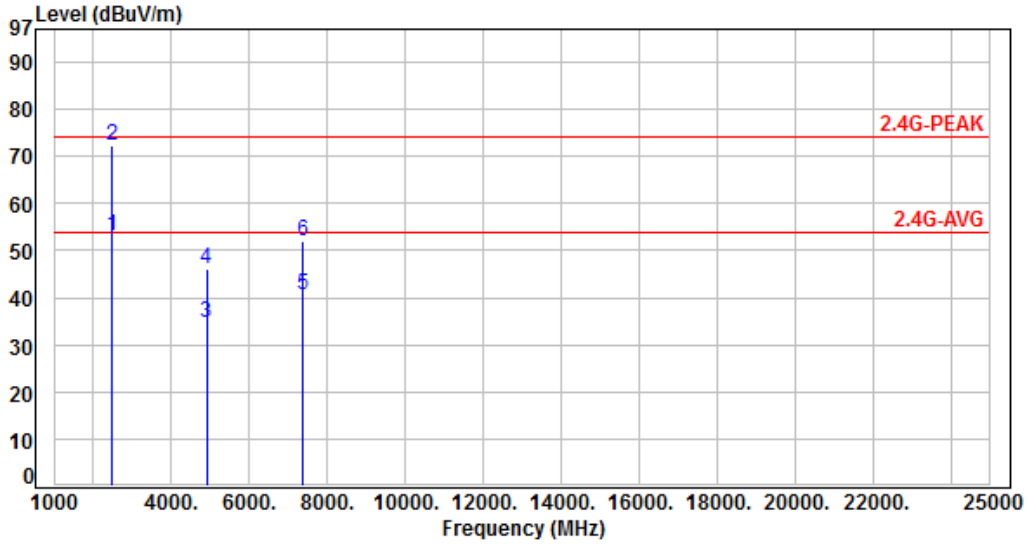
Power	:	AC 120V / 60HZ	Pol/Phase	:	VERTICAL
Test Mode	:	Mode 4, CH09		:	



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	50.60	47.91	54.00	-6.09	Average	390	233	P
2	2483.50	-2.69	70.08	67.39	74.00	-6.61	Peak	390	233	P
3	4904.00	5.19	29.34	34.53	54.00	-19.47	Average	100	59	P
4	4904.00	5.19	40.62	45.81	74.00	-28.19	Peak	100	59	P
5	7356.00	10.11	30.93	41.04	54.00	-12.96	Average	100	51	P
6	7356.00	10.11	41.09	51.20	74.00	-22.80	Peak	100	51	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	55.69	53.00	54.00	-1.00	Average	270	121	P
2	2483.50	-2.69	75.00	72.31	74.00	-1.69	Peak	270	121	P
3	4904.00	5.19	29.49	34.68	54.00	-19.32	Average	100	45	P
4	4904.00	5.19	40.88	46.07	74.00	-27.93	Peak	100	45	P
5	7356.00	10.11	30.46	40.57	54.00	-13.43	Average	197	155	P
6	7356.00	10.11	42.07	52.18	74.00	-21.82	Peak	197	155	P

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

6.7 Restricted Bands of Operation

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

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

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

7. Test of Conducted Spurious Emission

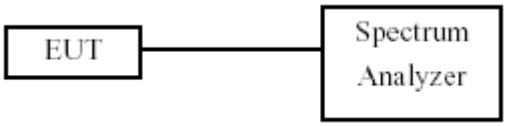
7.1 Test Limit

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

7.2 Test Procedure

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

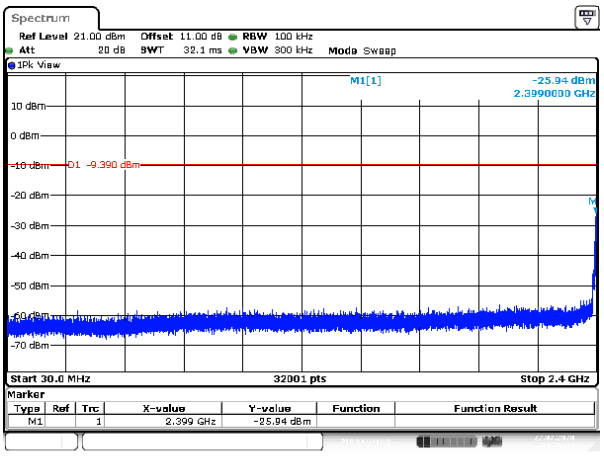
7.3 Test Setup Layout



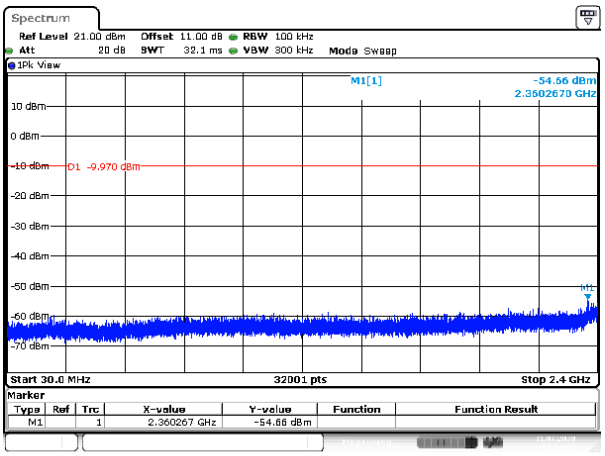
7.4 Test Result and Data

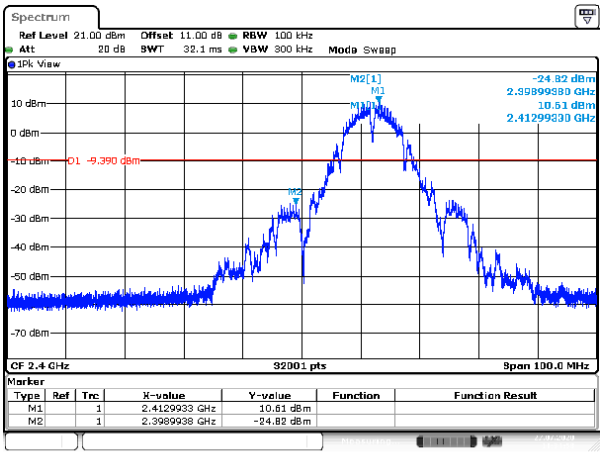
Note: Test plots refers to the following pages.

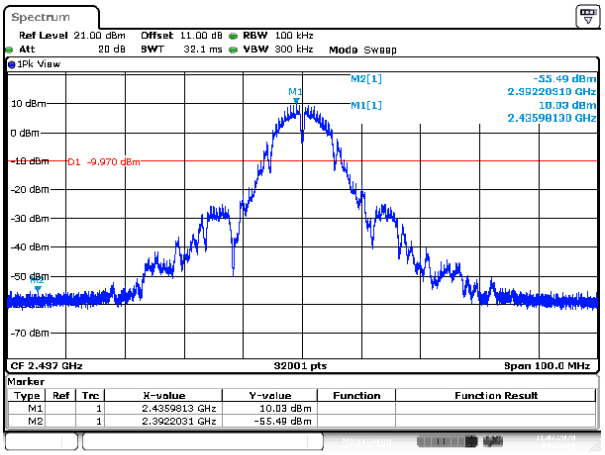
Modulation Type: 802.11b, CH 01

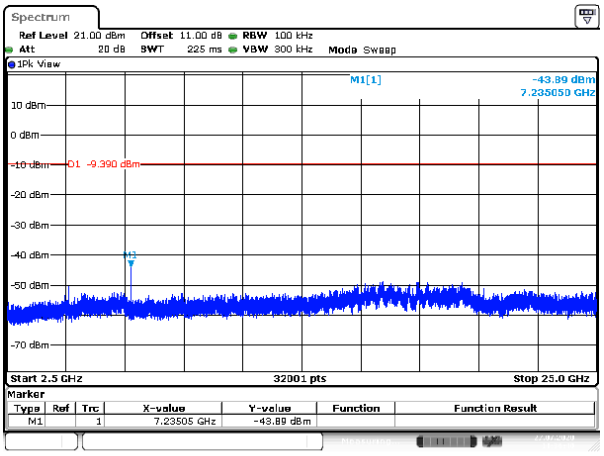


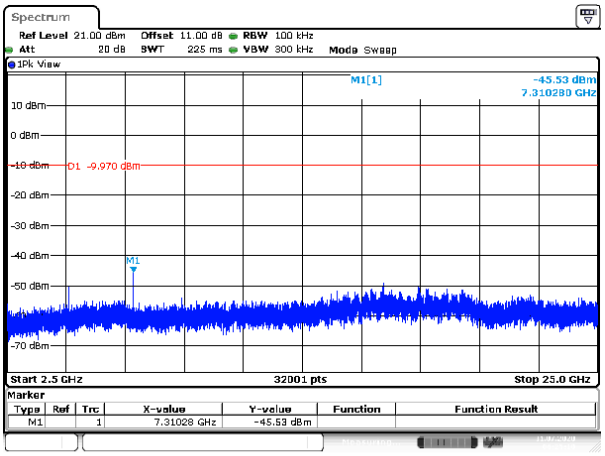
Modulation Type: 802.11b, CH 06



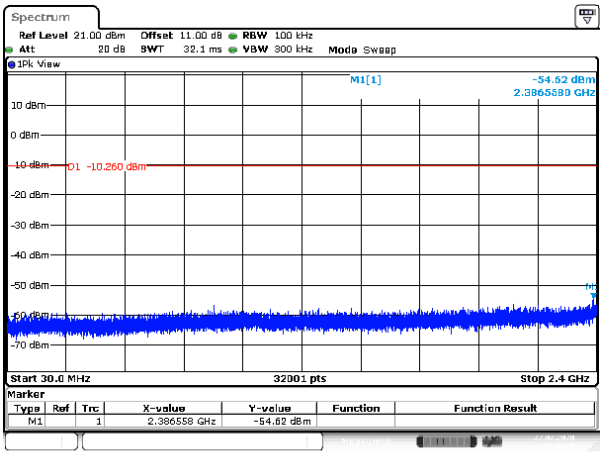


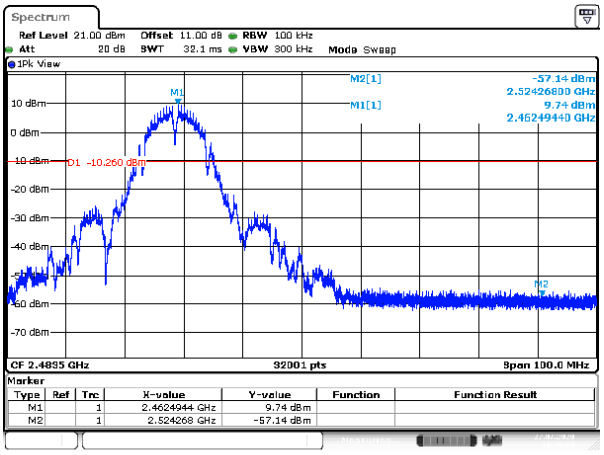


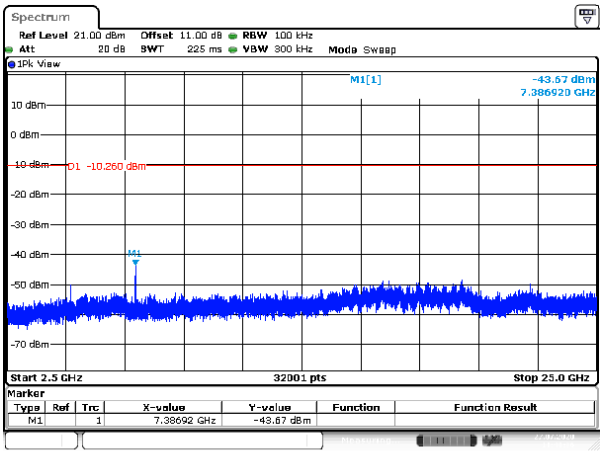




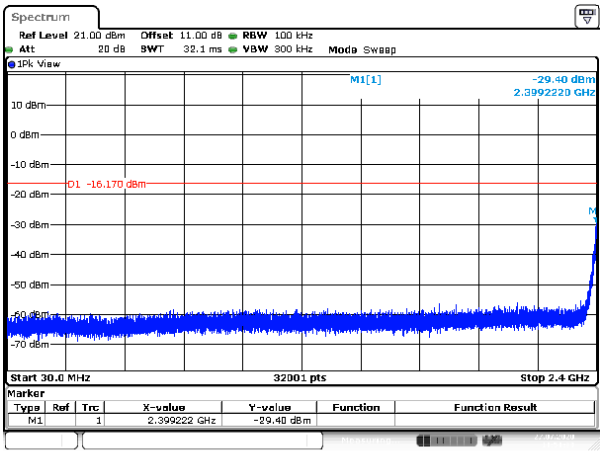
Modulation Type: 802.11b, CH 11



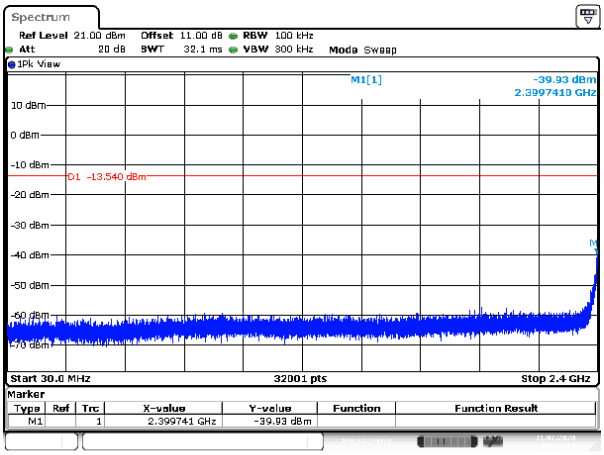


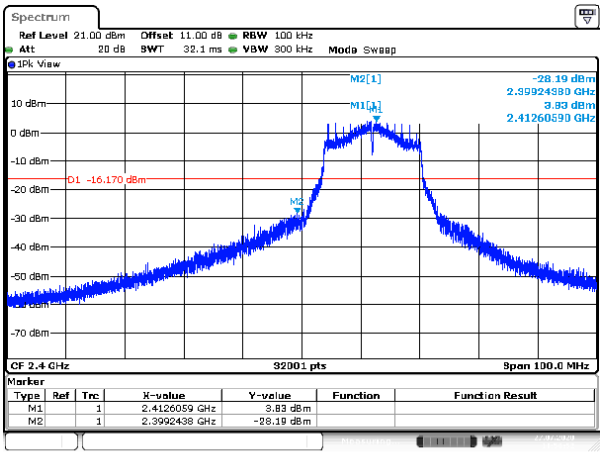


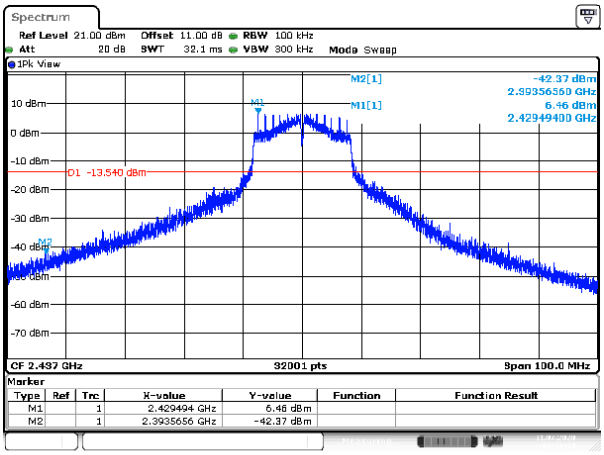
Modulation Type: 802.11g, CH 01

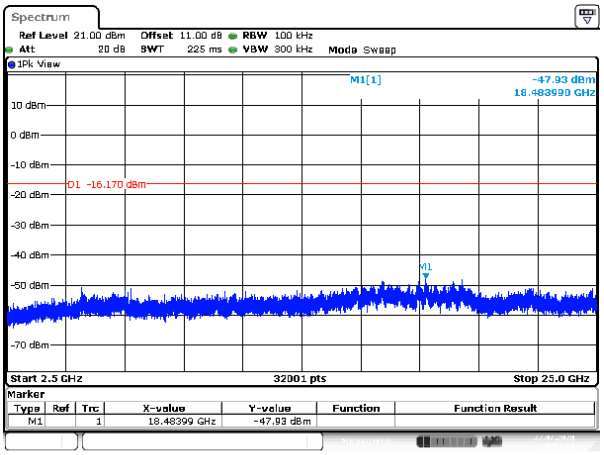


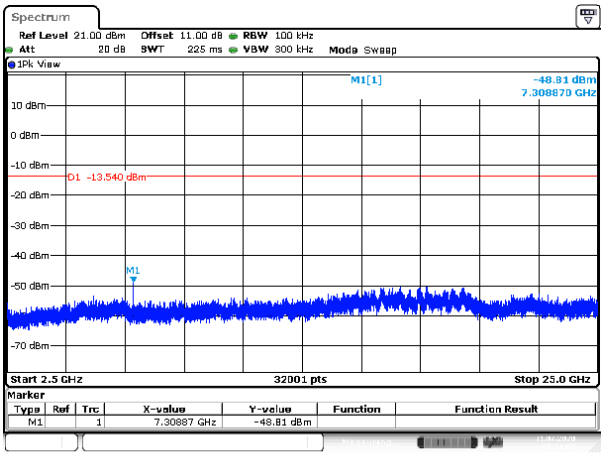
Modulation Type: 802.11g, CH 06



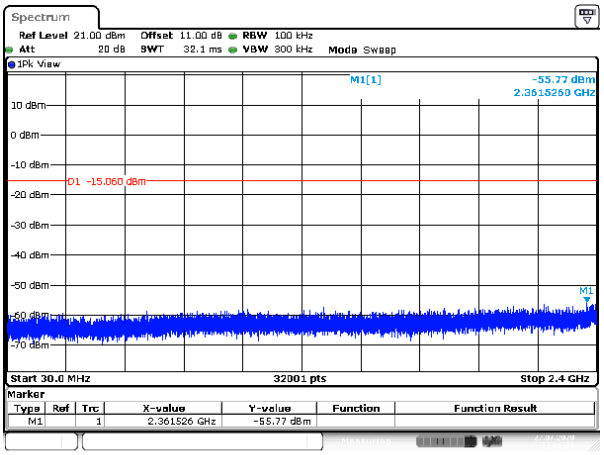


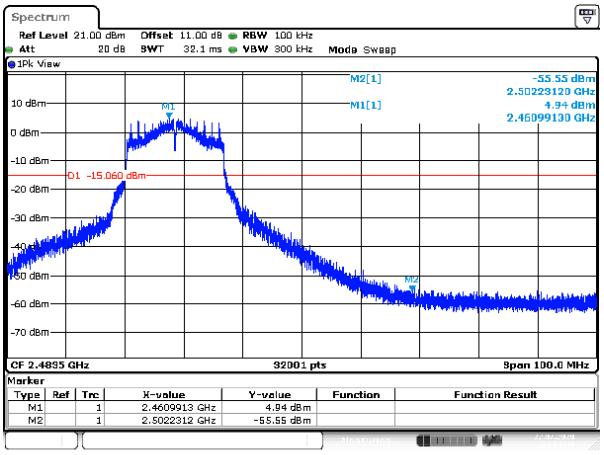


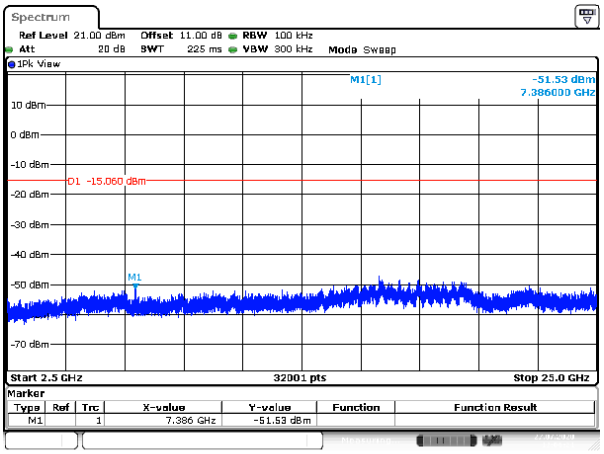




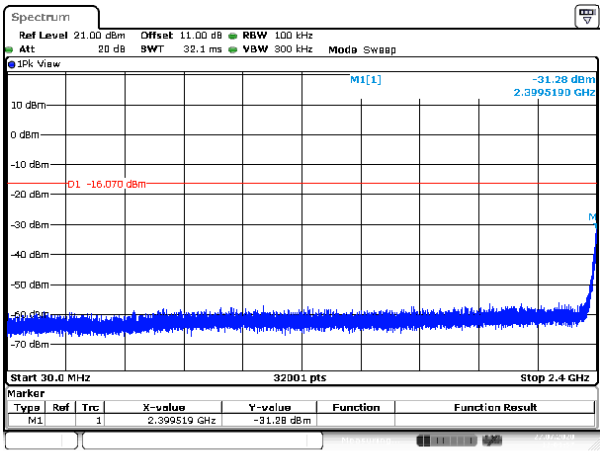
Modulation Type: 802.11g, CH 11



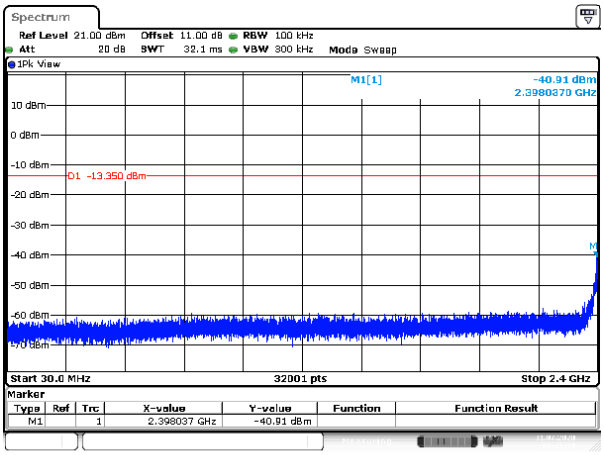


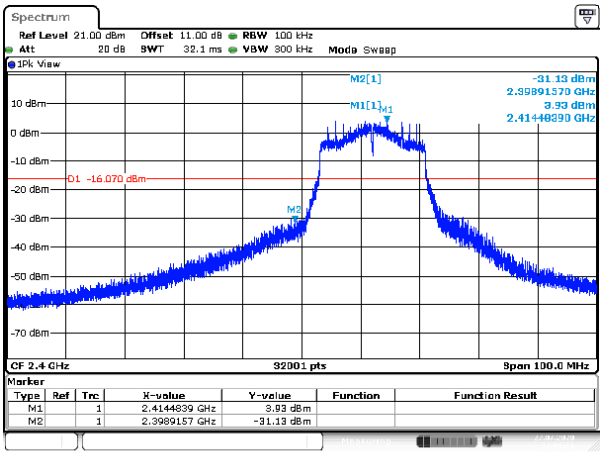


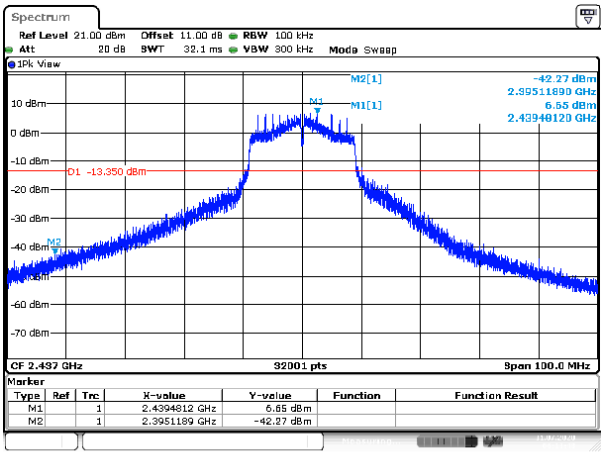
Modulation Type: 802.11n HT20, CH01

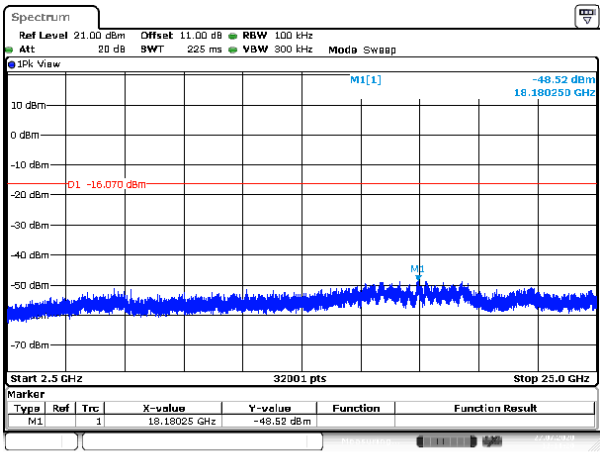


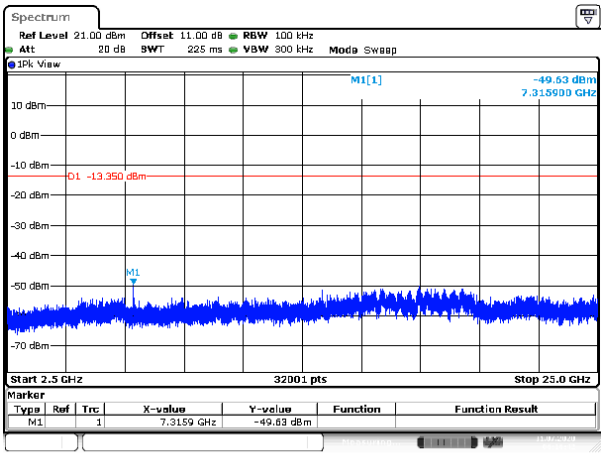
Modulation Type: 802.11n HT20, CH06



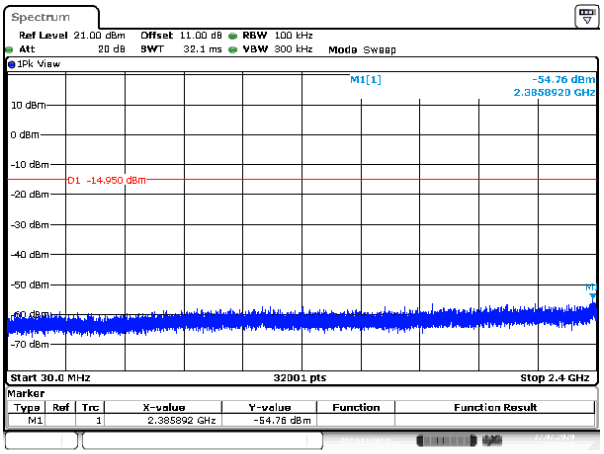


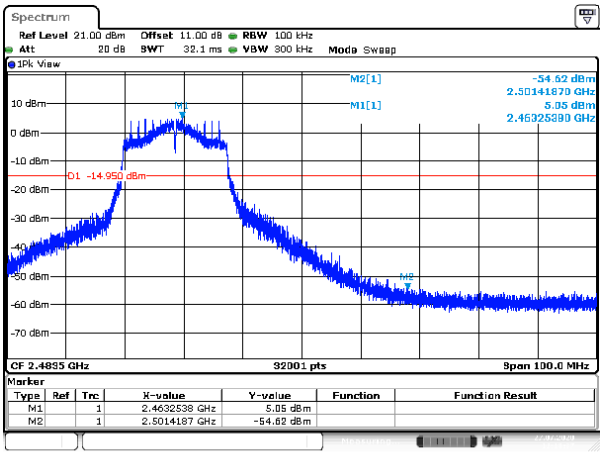


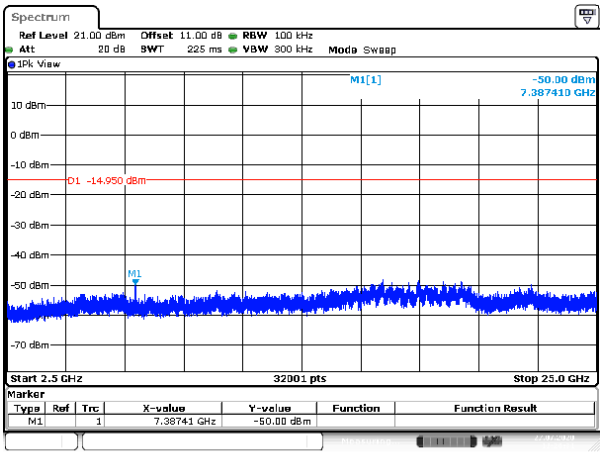




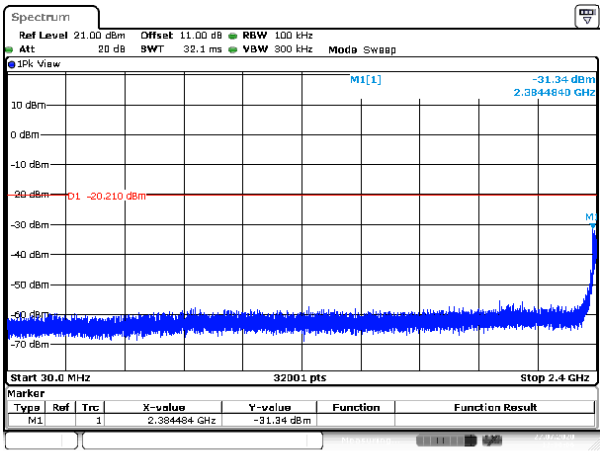
Modulation Type: 802.11n HT20, CH11



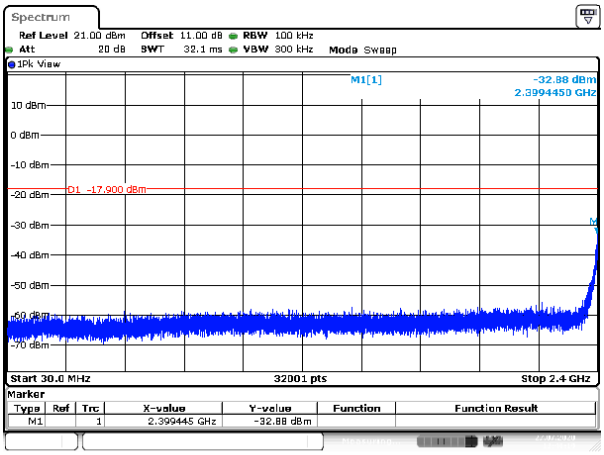


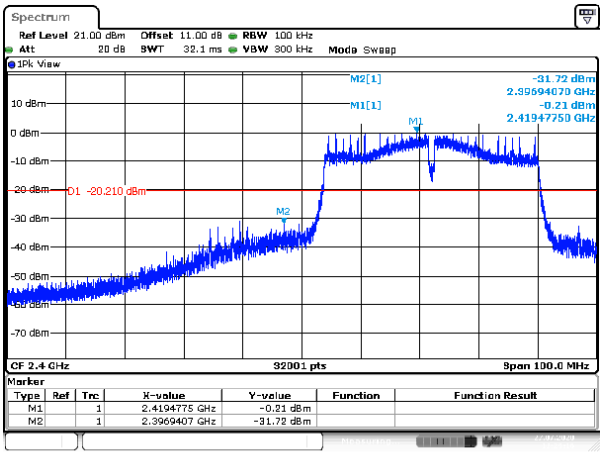


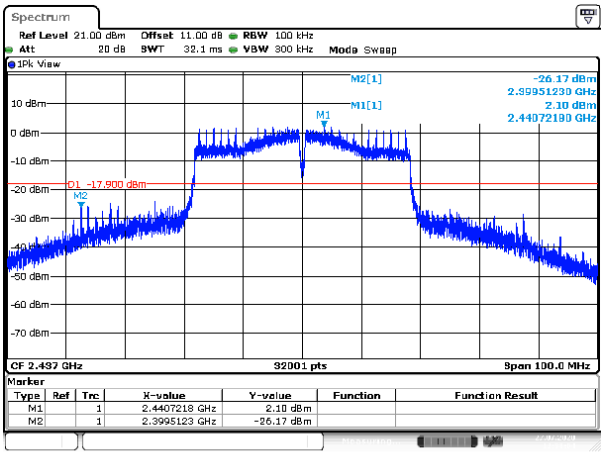
Modulation Type: 802.11n HT40, CH03

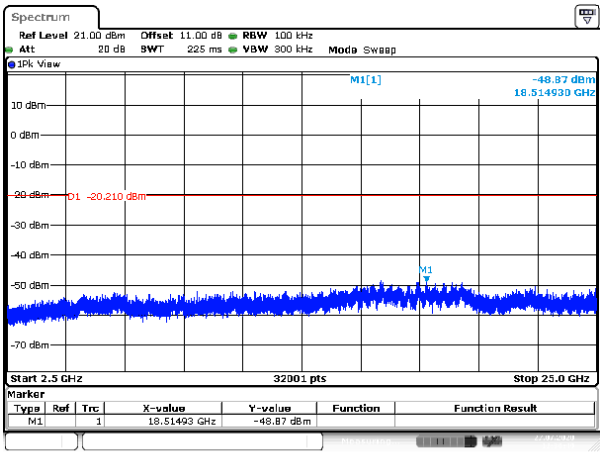


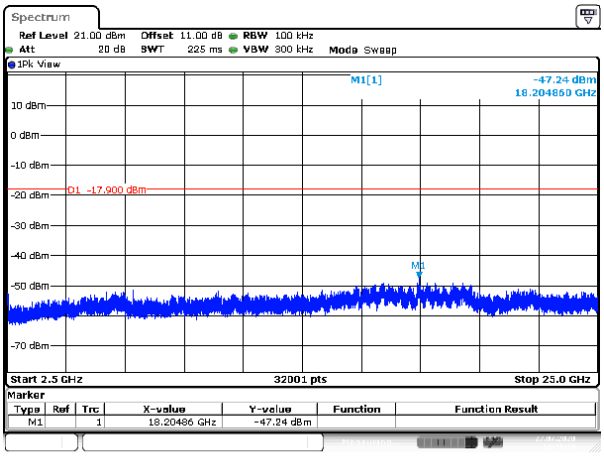
Modulation Type: 802.11n HT40, CH06



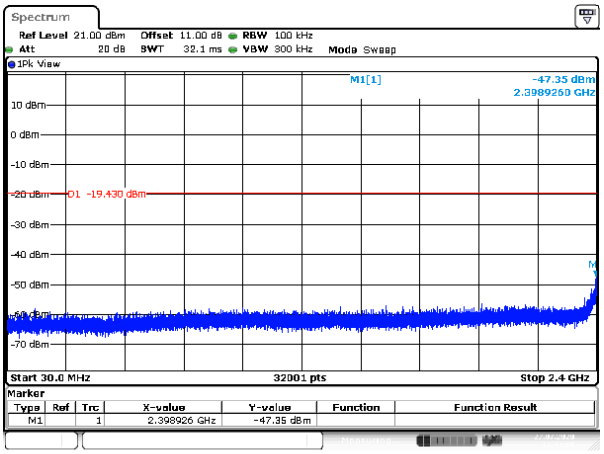


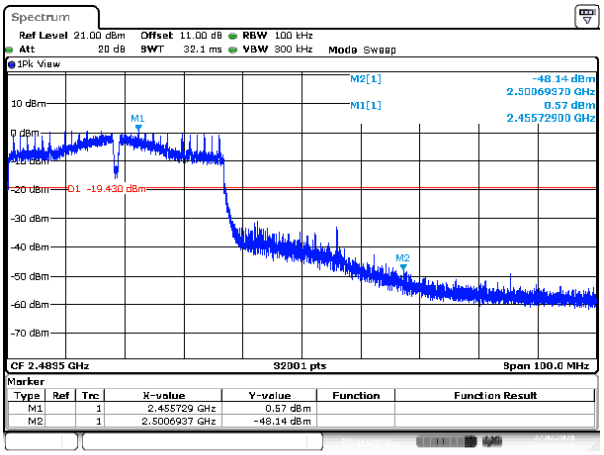


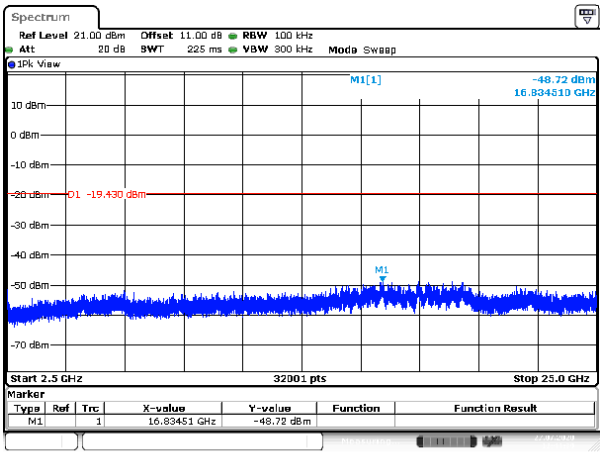




Modulation Type: 802.11n HT40, CH09







8. On Time, Duty Cycle and Measurement methods

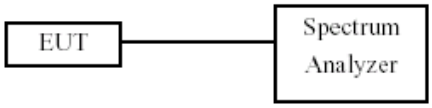
8.1 Test Limit

None; for reporting purposes only.

8.2 Test Procedure

Zero-Span Spectrum Analyzer Method.

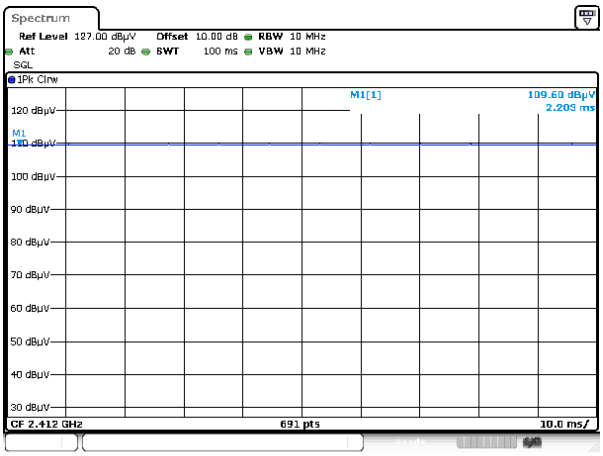
8.3 Test Setup Layout



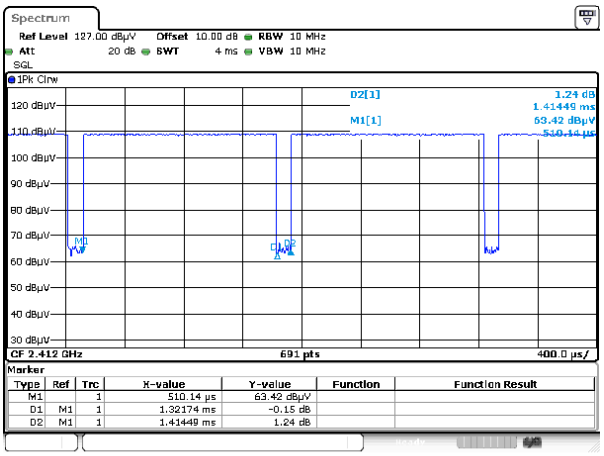
8.4 Test Result and Data

Modulation Type	On Time (ms)	Period Time (ms)	Duty Cycle (%)
11b,1M	100.00	100.00	100.00%
11g,6M	1.41	1.50	94.20%
11n HT20	1.32	1.41	93.44%
11n HT40	0.66	0.75	87.31%

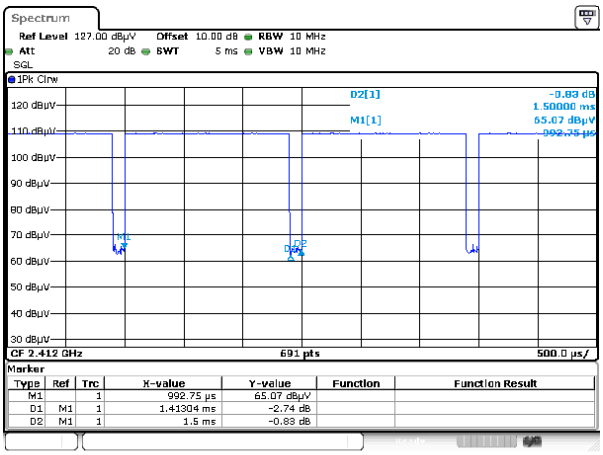
Modulation Type: 802.11b(1Mbps)



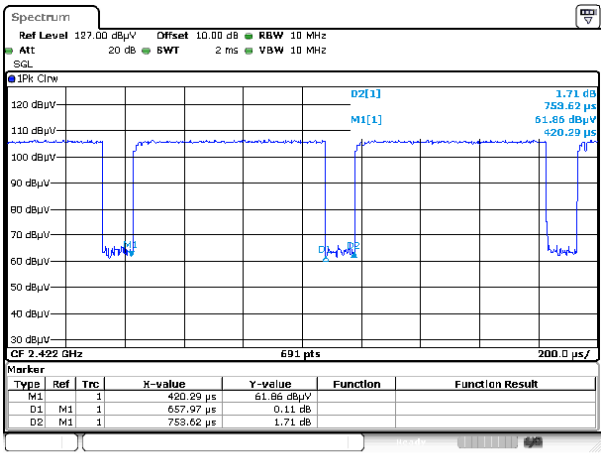
Modulation Type: 802.11n HT20(6.5Mbps)



Modulation Type: 802.11g(6Mbps)



Modulation Type: 802.11n HT40(13.5Mbps)



9. 6dB Bandwidth Measurement Data

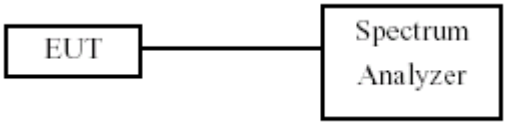
9.1 Test Limit

The minimum of 6dB Bandwidth Measurement is 0.5 MHz.

9.2 Test Procedures

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

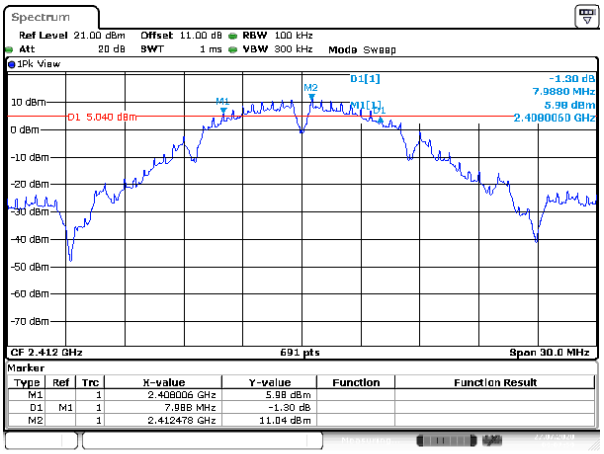
9.3 Test Setup Layout



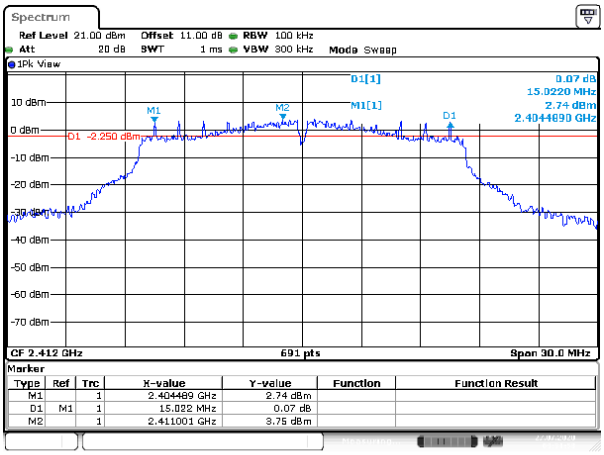
9.4 Test Result and Data

Modulation Type	Channel	Frequency (MHz)	6dB Bandwidth (MHz)	Limit (MHz)
			ANT A	
11b	1	2412	7.99	0.5
	6	2437	8.03	0.5
	11	2462	8.03	0.5
11g	1	2412	15.02	0.5
	6	2437	15.02	0.5
	11	2462	15.02	0.5
11n HT20	1	2412	16.02	0.5
	6	2437	16.24	0.5
	11	2462	15.11	0.5
11n HT40	3	2422	34.99	0.5
	6	2437	35.08	0.5
	9	2452	34.99	0.5

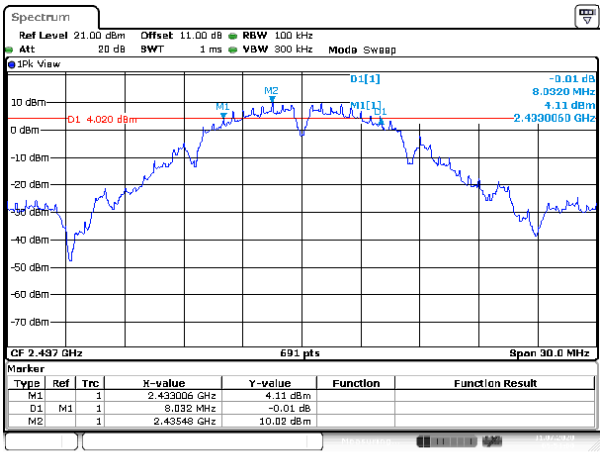
Modulation Type: 802.11b
CH01



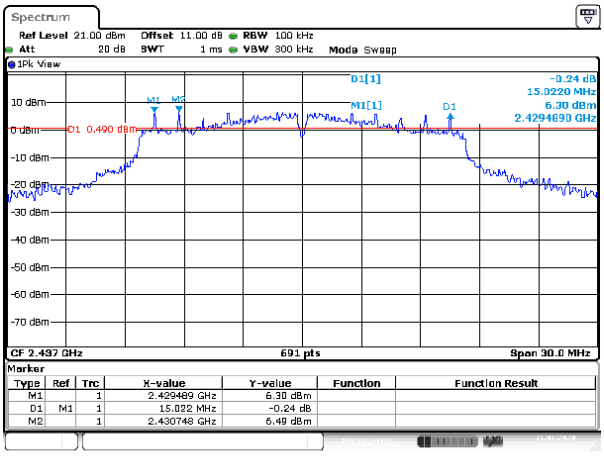
Modulation Type: 802.11g
CH01



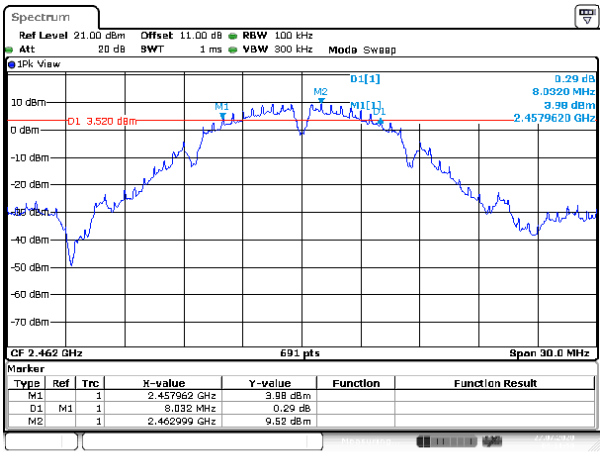
CH06



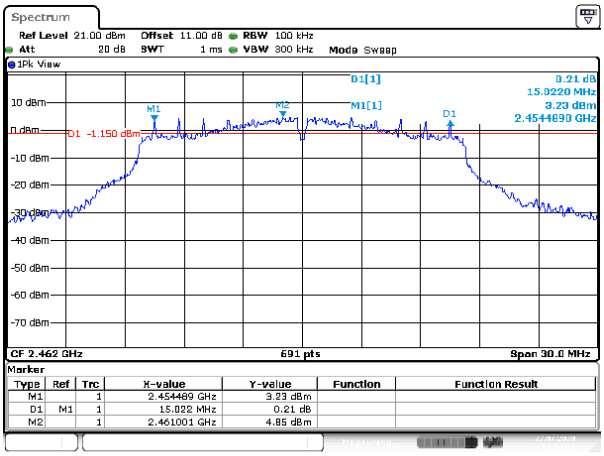
CH06



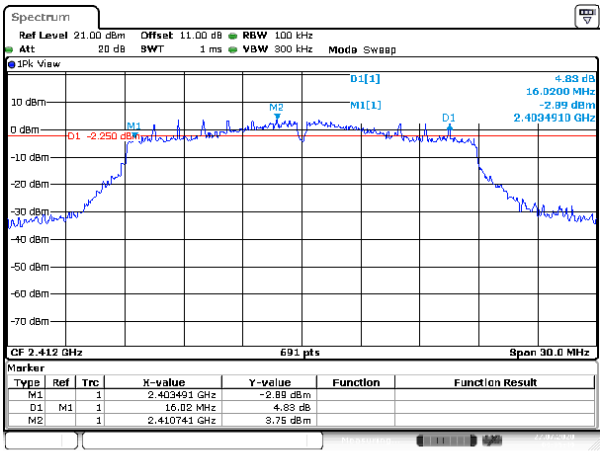
CH11



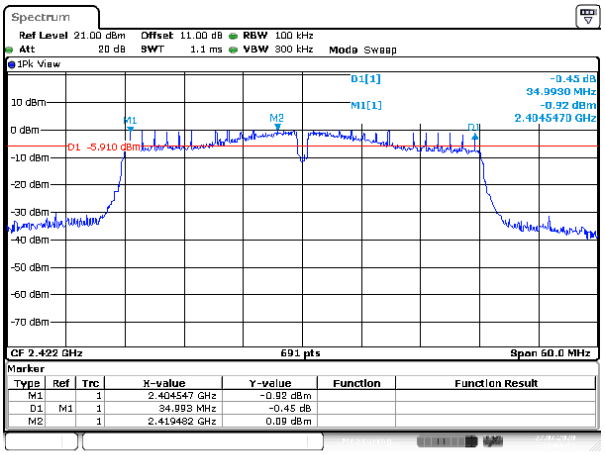
CH11



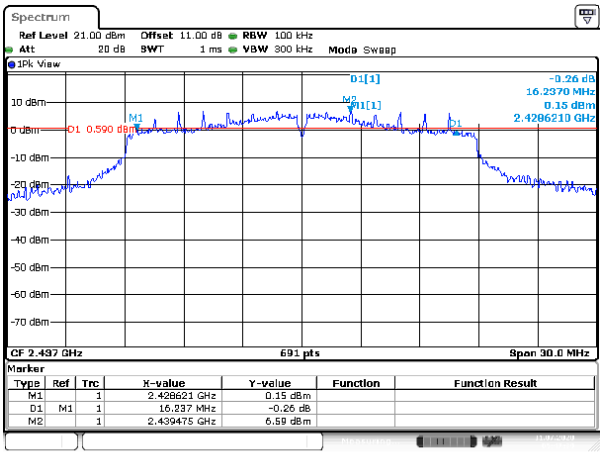
Modulation Type: 802.11n HT20
CH01



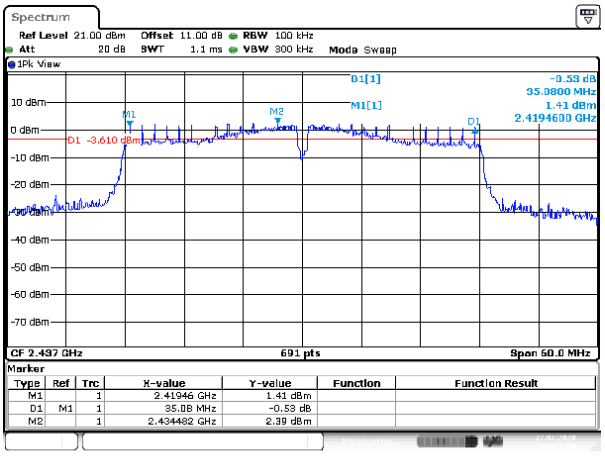
Modulation Type: 802.11n HT40
CH03



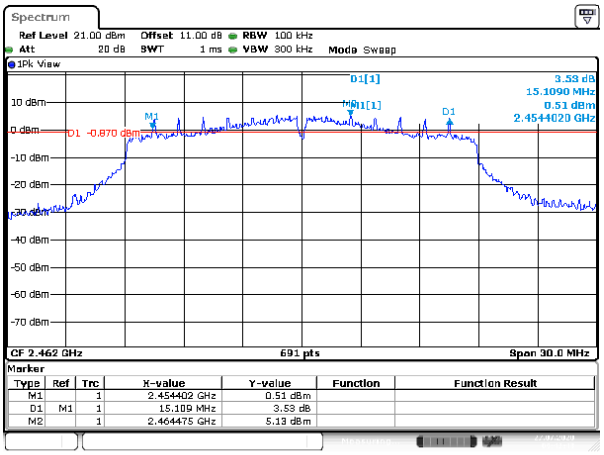
CH06



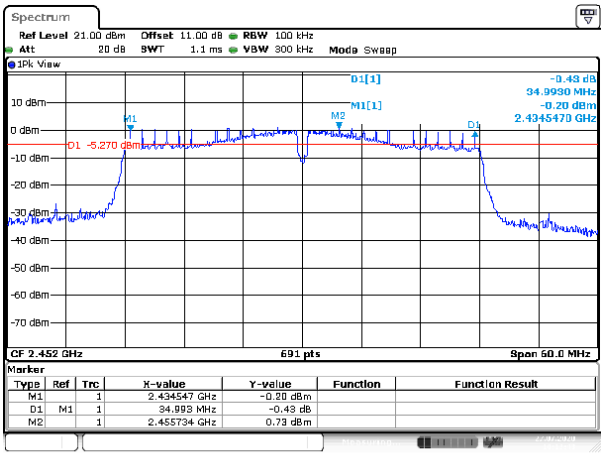
CH06



CH11



CH09



10. Maximum Peak and Average Output Power

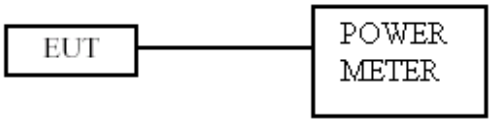
10.1 Test Limit

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 Mode	Channel	Frequency (MHz)	Conducted(peak) output power (dBm)	Total PK power (dBm)	Total PK power (mW)	Power Limit (dBm)
				ANT A			
68	11b	1	2412	21.11	21.11	129.122	30.00
68		6	2437	22.02	22.02	159.221	30.00
64		11	2462	20.64	20.64	115.878	30.00
56	11g	1	2412	22.09	22.09	161.808	30.00
70		6	2437	23.46	**23.46**	221.820	30.00
58		11	2462	22.45	22.45	175.792	30.00
58	11n HT20	1	2412	22.32	22.32	170.608	30.00
70		6	2437	23.35	23.35	216.272	30.00
60		11	2462	22.58	22.58	181.134	30.00
46	11n HT40	3	2422	21.86	21.86	153.462	30.00
54		6	2437	22.48	22.48	177.011	30.00
48		9	2452	22.12	22.12	162.930	30.00

Setting	Modulation Mode	Channel	Frequency (MHz)	Conducted(average) output power (dBm)	Total AV power (dBm)	Total AV power (mW)	Power Limit (dBm)
				ANT A			
68	11b	1	2412	18.36	18.36	68.549	NA
68		6	2437	18.88	18.88	77.268	NA
64		11	2462	17.52	17.52	56.494	NA
56	11g	1	2412	14.71	14.71	29.580	NA
70		6	2437	18.71	18.71	74.302	NA
58		11	2462	15.65	15.65	36.728	NA
58	11n HT20	1	2412	14.87	14.87	30.690	NA
70		6	2437	18.54	18.54	71.450	NA
60		11	2462	15.81	15.81	38.107	NA
46	11n HT40	3	2422	13.31	13.31	21.429	NA
54		6	2437	15.55	15.55	35.892	NA
48		9	2452	14.05	14.05	25.410	NA

Note: Average power is for reference only.

11. Power Spectral Density

11.1 Test Limit

The Maximum of Power Spectral Density Measurement is 8dBm.

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

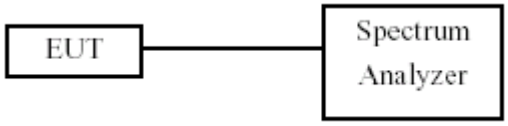
11.2 Test Procedures

a. The transmitter output was connected to spectrum analyzer.

b. The spectrum analyzer's resolution bandwidth were set at 3kHz RBW and 10KHz VBW as that of the fundamental frequency. Set the sweep time=auto couple.

c. The power spectral density was measured and recorded.

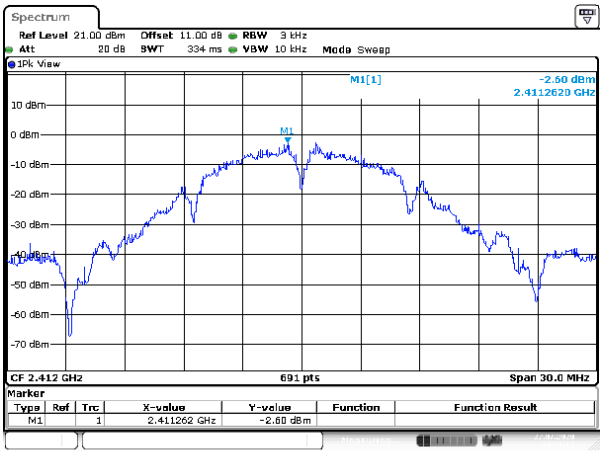
11.3 Test Setup Layout



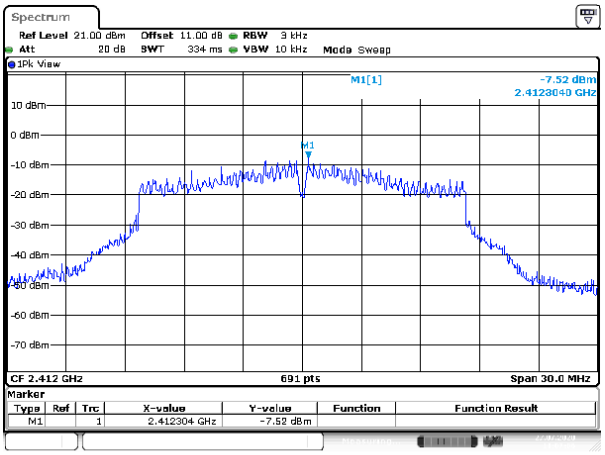
11.4 Test Result and Data

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	-2.60	-2.60	0.00	-2.60	8.00
	6	2437	-4.36	-4.36	0.00	-4.36	8.00
	11	2462	-4.94	-4.94	0.00	-4.94	8.00
11g	1	2412	-7.52	-7.52	0.00	-7.52	8.00
	6	2437	-4.48	-4.48	0.00	-4.48	8.00
	11	2462	-6.04	-6.04	0.00	-6.04	8.00
11n HT20	1	2412	-8.60	-8.60	0.00	-8.60	8.00
	6	2437	-4.97	-4.97	0.00	-4.97	8.00
	11	2462	-6.81	-6.81	0.00	-6.81	8.00
11n HT40	3	2422	-12.80	-12.80	0.00	-12.80	8.00
	6	2437	-10.05	-10.05	0.00	-10.05	8.00
	9	2452	-12.04	-12.04	0.00	-12.04	8.00

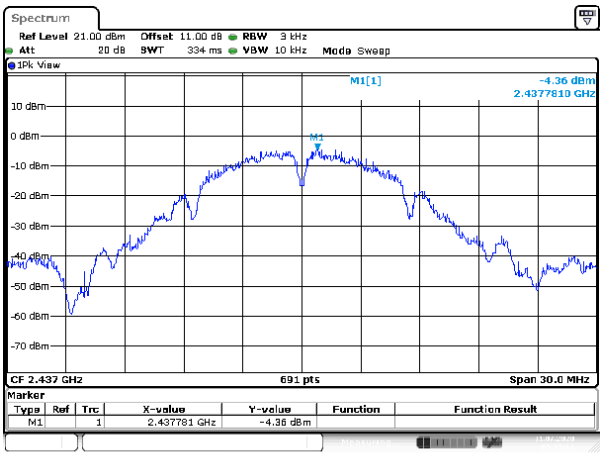
Modulation Type: 802.11b
CH01



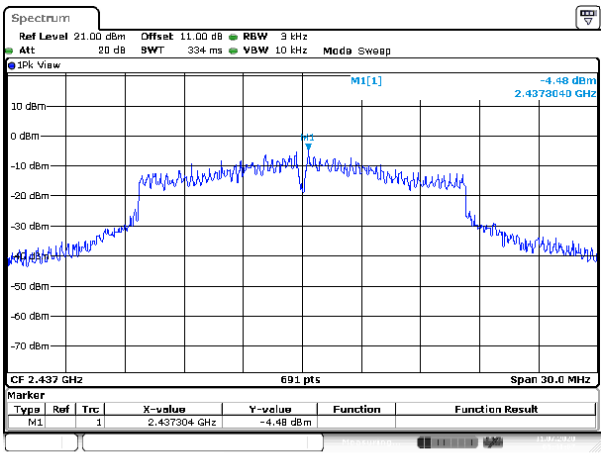
Modulation Type: 802.11g
CH01



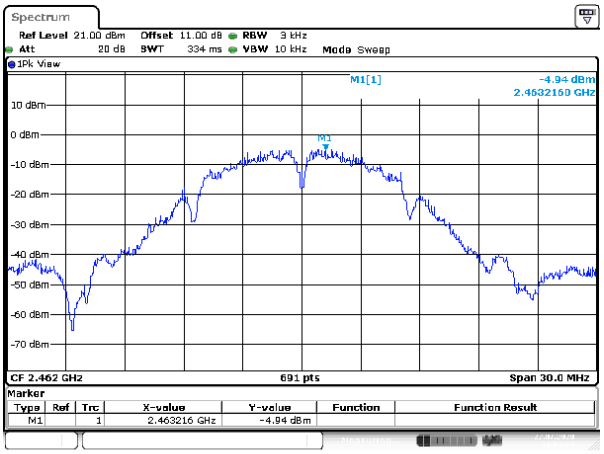
CH06



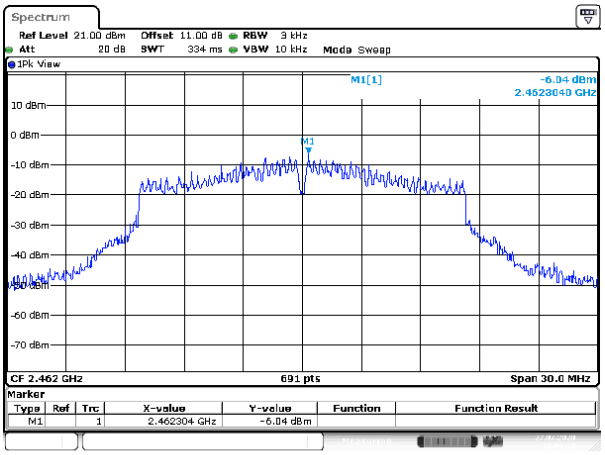
CH06



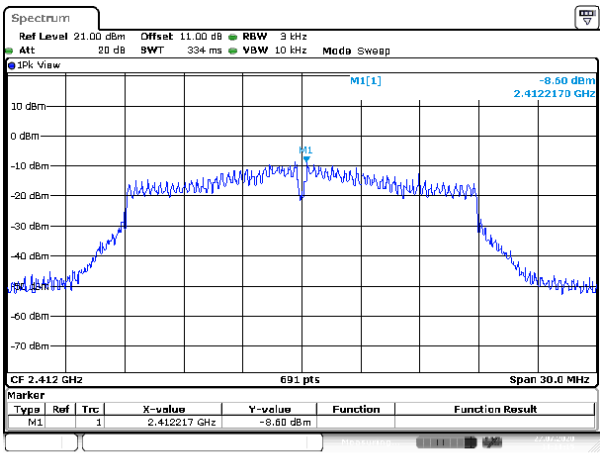
CH11



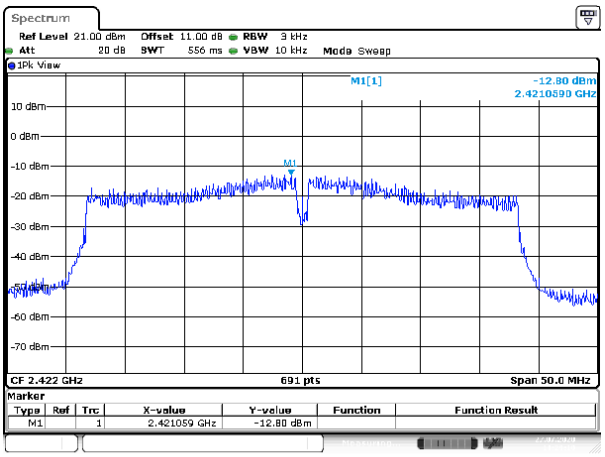
CH11



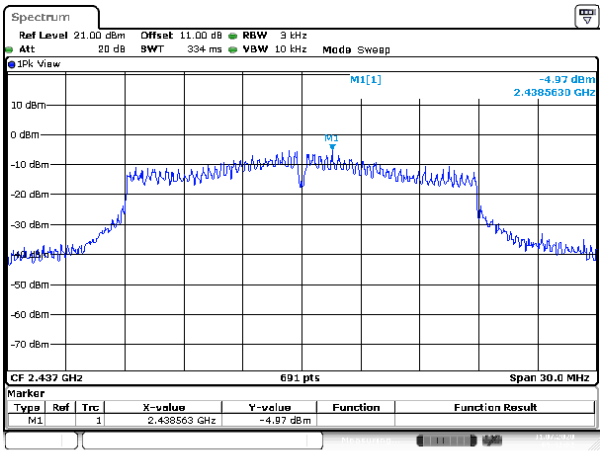
Modulation Type: 802.11n HT20
CH01



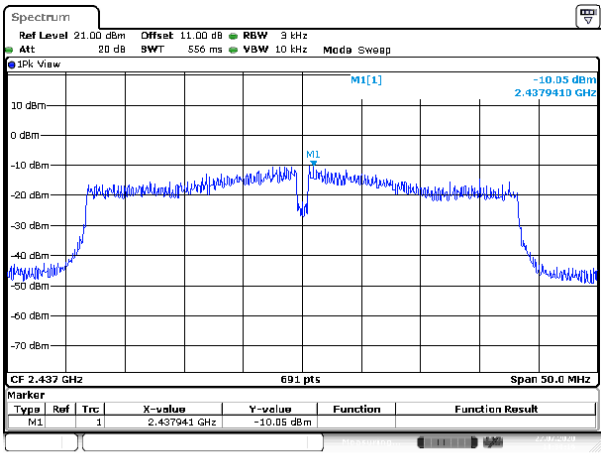
Modulation Type: 802.11n HT40
CH03



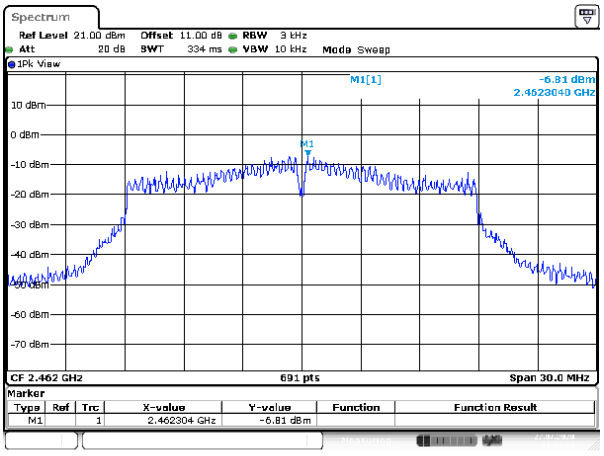
CH06



CH06



CH11



CH09