FCC RADIO TEST REPORT

Applicant	:	ViewSonic Corporation
Address	:	10 Pointe Dr. Suite 200. Brea. CA 92821. USA
Equipment	:	RF Module
Model No.	:	VS18201
Trade Name	:	ViewSonic
FCC ID	:	GSS-VS18201

I HEREBY CERTIFY THAT :

The sample was received on May. 09, 2020 and the testing was completed on May. 26, 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
TEFI2005014	Jun. 08, 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.

2. Test Configuration of Equipment under Test

2.1 Feature of Equipment

Frequency Range	BT / BLE: 2402-2480MHz 802.11b/g/n: 2412-2462MHz 802.11a/n/ac: 5180-5240MHz, 5745-5825MHz
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 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	PCB Antenna
Antenna Gain	For BT/BLE: 2400-2483.5MHz: ANT B: 2.62dBi For WLAN 2.4G: 2412-2462MHz: ANT A:2.60dBi For WLAN 5G: 5180-5240MHz: ANT B:2.80dBi 5745-5825MHz: ANT B:2.11dBi

Note:

1. WLAN and BT can simultaneously transmission.
2. 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, ” MP Tool ver.0.0003.06.30180928” 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

RF Conducted				
Equipment	Brand	Model	Length/Type	Power cord/Length/Type
Notebook	DELL	Latitude E5470	N/A	Adapter / 1.8m / NS
USB Cable	BENEVO	BUSB3100AMF	1m / NS	N/A
Adapter	APD	WB-18D12R	1.8m / NS	N/A
Radiated Emissions				
Equipment	Brand	Model	Length/Type	Power cord/Length/Type
Notebook	DELL	Latitude E5470	N/A	Adapter / 1.8m / NS
USB Cable	BENEVO	BUSB3100AMF	1m / NS	N/A
Adapter	APD	WB-18D12R	1.8m / NS	N/A
AC Power Line Conducted Emission				
Equipment	Brand	Model	Length/Type	Power cord/Length/Type
Notebook	DELL	Latitude E5470	N/A	Adapter / 1.8m / NS
USB Cable	BENEVO	BUSB3100AMF	1m / NS	N/A
Adapter	APD	WB-18D12R	1.8m / NS	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	2020/05/26	24℃ / 61%	Vic Yeh
Radiated Emissions	3M02-NK	2020/05/19	22℃ / 42%	Vic Yeh
AC Power Line Conducted Emission	CON01-NK	2020/05/22	28℃ / 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	2019/05/24	2020/05/23
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	2019/05/20	2020/05/19
Cable-3m(1G-18G)	HUBER SUHNER	SUCOFLEX 100	805796/4	2019/05/20	2020/05/19
Cable-8m(1G-18G)	HUBER SUHNER	SUCOFLEX 100	805795/4	2019/05/20	2020/05/19
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	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 & 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	PCB Antenna
Antenna Gain	2412MHz-2462MHz: 2.60 dBi 5180MHz-5240MHz: 2.80dBi 5745MHz-5825MHz: 2.11dBi

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.

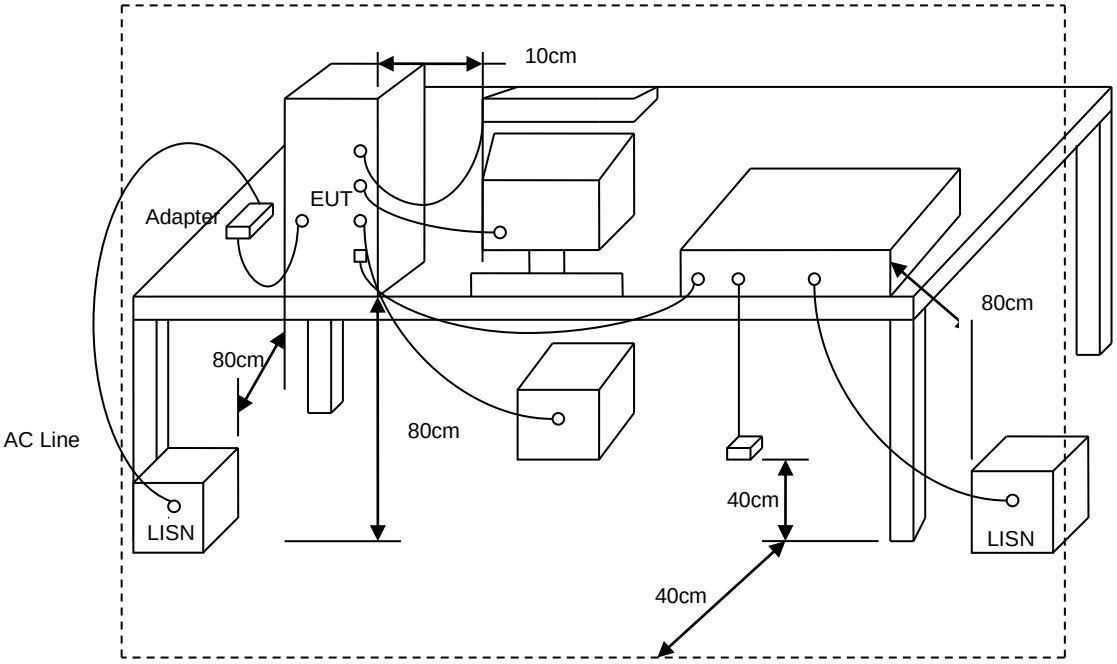
Frequency (MHz)	Quasi Peak (dB μ V)	Average (dB μ V)
0.15 – 0.5	66-56*	56-46*
0.5 – 5.0	56	46
5.0 – 30.0	60	50

*Decreases with the logarithm of the frequency.

5.2 Test Procedures

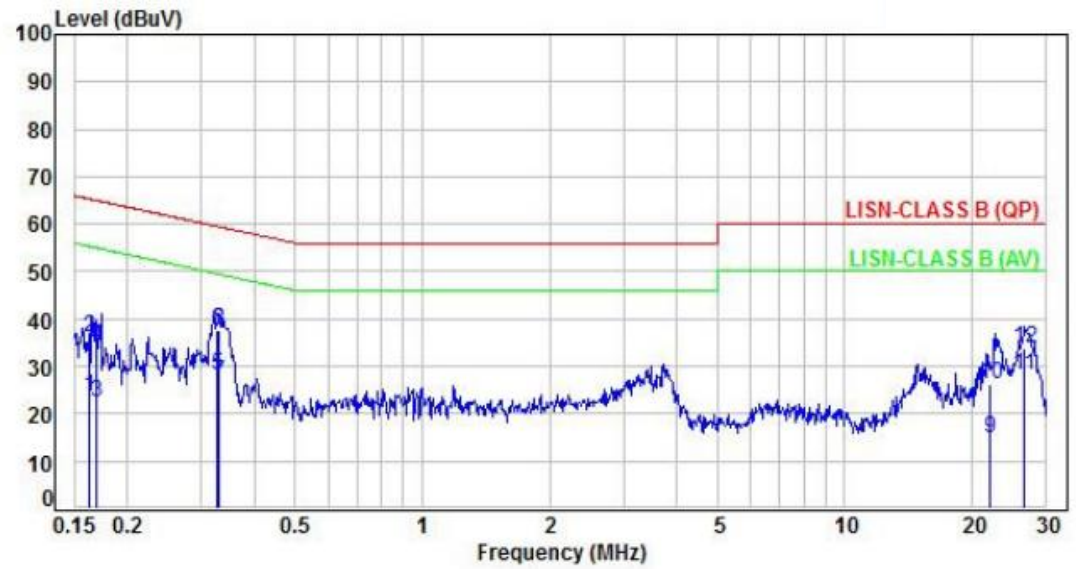
a. The EUT was placed 0.4 meter from the conducting wall of the shielding room was kept at least 80 centimeters from any other grounded conducting surface.
b. Connect EUT to the power mains through a line impedance stabilization network (LISN).
c. All the support units are connecting to the other LISN.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

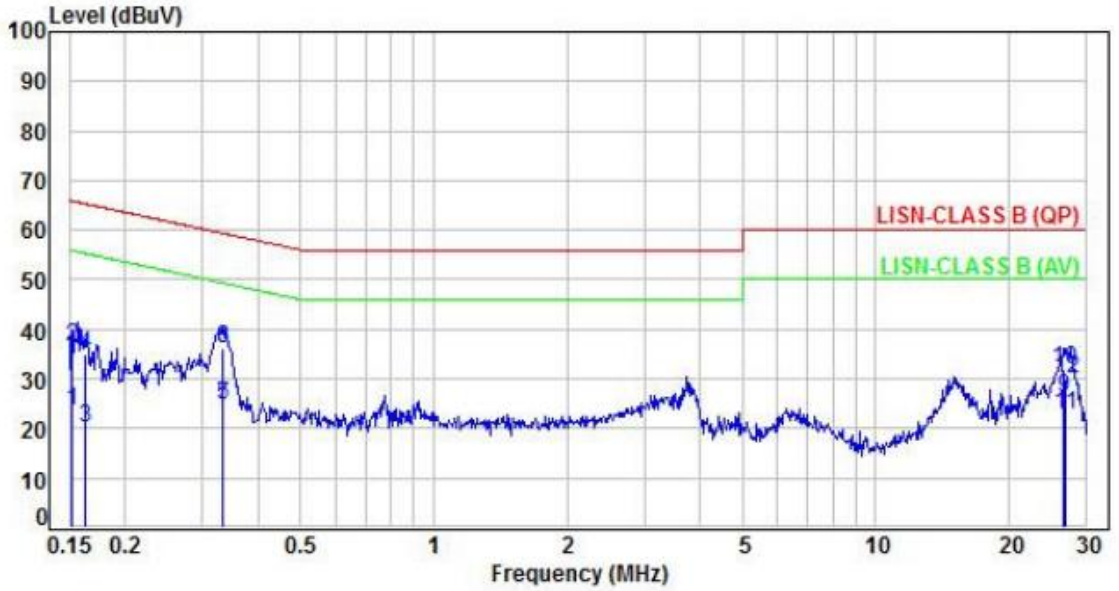
Power	:	AC 120V / 60Hz	Pol/Phase	:	LINE
Test Mode	:	Mode 2		:	



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector	P/F
1	0.16	9.92	13.57	23.49	55.33	-31.84	Average	P
2	0.16	9.92	26.12	36.04	65.33	-29.29	QP	P
3	0.17	9.92	12.46	22.38	55.01	-32.63	Average	P
4	0.17	9.92	24.43	34.35	65.01	-30.66	QP	P
5	0.33	9.94	18.08	28.02	49.56	-21.54	Average	P
6	0.33	9.94	27.78	37.72	59.56	-21.84	QP	P
7	0.33	9.94	16.83	26.77	49.46	-22.69	Average	P
8	0.33	9.94	27.58	37.52	59.46	-21.94	QP	P
9	22.15	10.67	4.12	14.79	50.00	-35.21	Average	P
10	22.15	10.67	15.72	26.39	60.00	-33.61	QP	P
11	26.63	10.83	17.13	27.96	50.00	-22.04	Average	P
12	26.63	10.83	23.08	33.91	60.00	-26.09	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	13.78	23.73	55.90	-32.17	Average	P
2	0.15	9.95	26.73	36.68	65.90	-29.22	QP	P
3	0.16	9.95	10.04	19.99	55.32	-35.33	Average	P
4	0.16	9.95	25.00	34.95	65.32	-30.37	QP	P
5	0.33	9.96	14.63	24.59	49.39	-24.80	Average	P
6	0.33	9.96	26.17	36.13	59.39	-23.26	QP	P
7	0.33	9.96	14.63	24.59	49.39	-24.80	Average	P
8	0.33	9.96	26.17	36.13	59.39	-23.26	QP	P
9	26.62	10.85	15.29	26.14	50.00	-23.86	Average	P
10	26.62	10.85	21.09	31.94	60.00	-28.06	QP	P
11	26.89	10.86	11.92	22.78	50.00	-27.22	Average	P
12	26.89	10.86	19.03	29.89	60.00	-30.11	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.

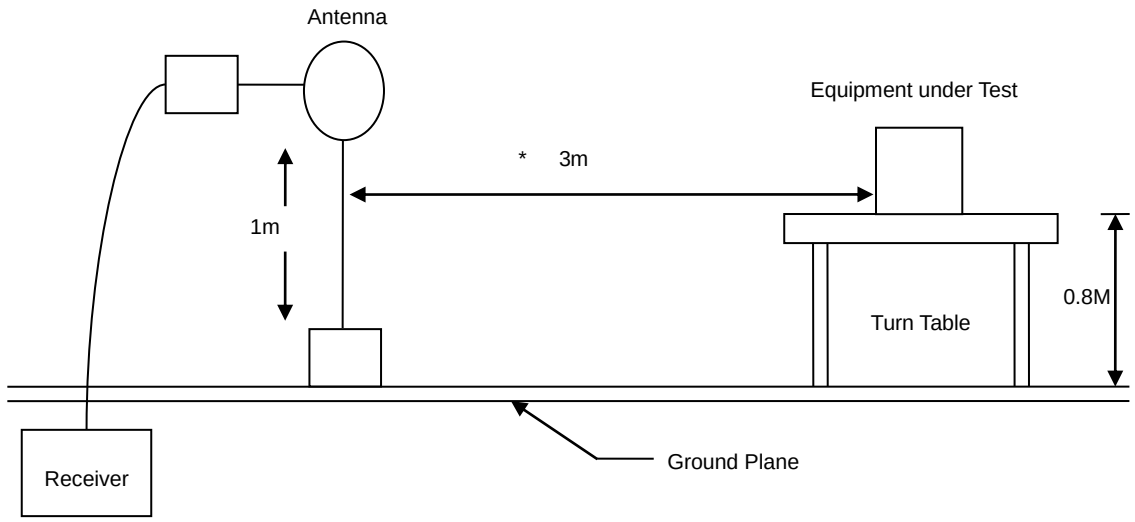
g. If the emission level of the EUT in peak mode was 3 dB lower than the limit specified, then testing will be stopped and peak values of EUT will be reported, otherwise, the emissions which do not have 3 dB margin will be repeated one by one using the quasi-peak method and reported.

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.

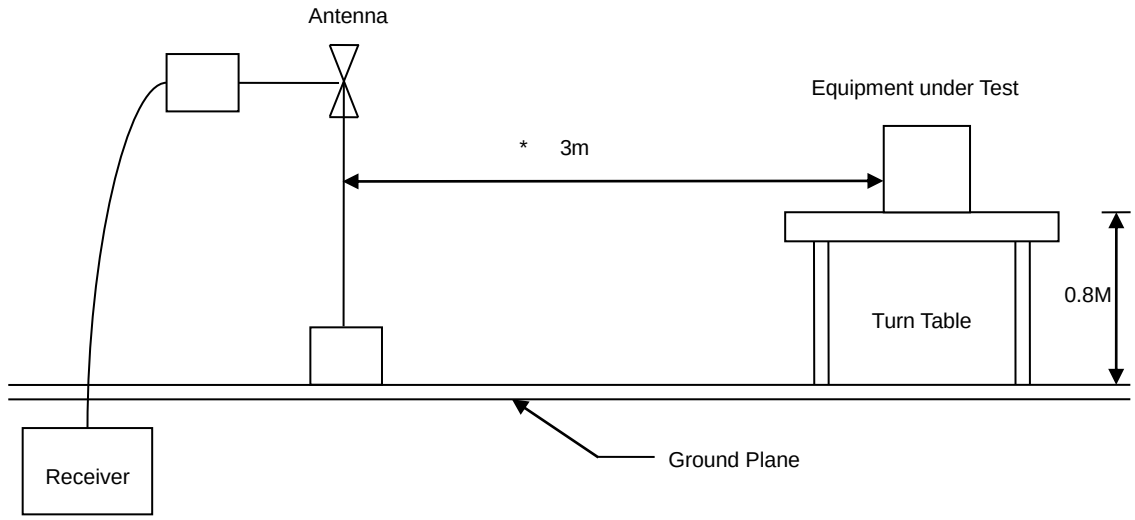
i. “Cone of radiation” has been considered to be 3dB bandwidth of the measurement antenna.

6.3 Typical Test Setup

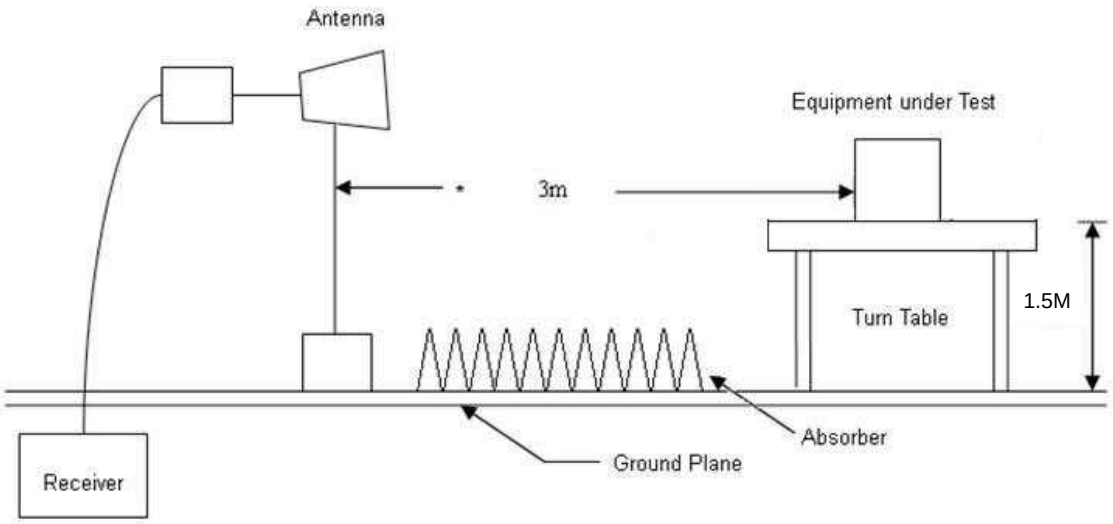
Below 30MHz test setup



30MHz- 1GHz Test Setup



Above 1GHz Test Setup

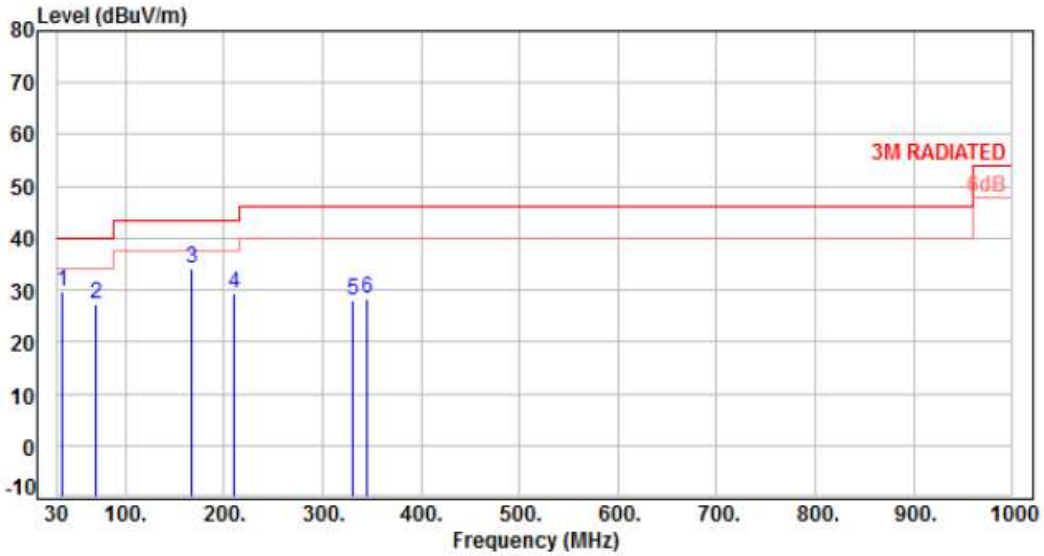


6.4 Test Result and Data (9KHz ~ 30MHz)

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

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

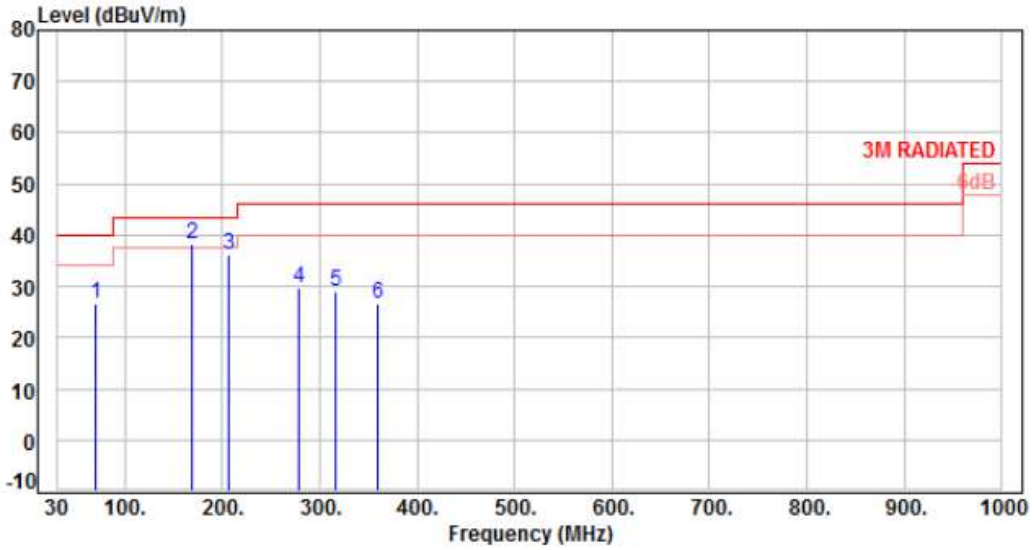
Power	:	AC 120V / 60Hz	Pol/Phase	:	VERTICAL
Test Mode	:	Mode 2		:	



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	35.82	-10.35	40.09	29.74	40.00	-10.26	Peak	100	0	P
2	70.74	-11.74	39.00	27.26	40.00	-12.74	Peak	100	0	P
3	167.74	-9.65	43.63	33.98	43.50	-9.52	Peak	100	0	P
4	210.42	-11.84	41.15	29.31	43.50	-14.19	Peak	100	0	P
5	330.70	-7.77	35.74	27.97	46.00	-18.03	Peak	100	0	P
6	344.28	-7.44	35.62	28.18	46.00	-17.82	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 2		:	

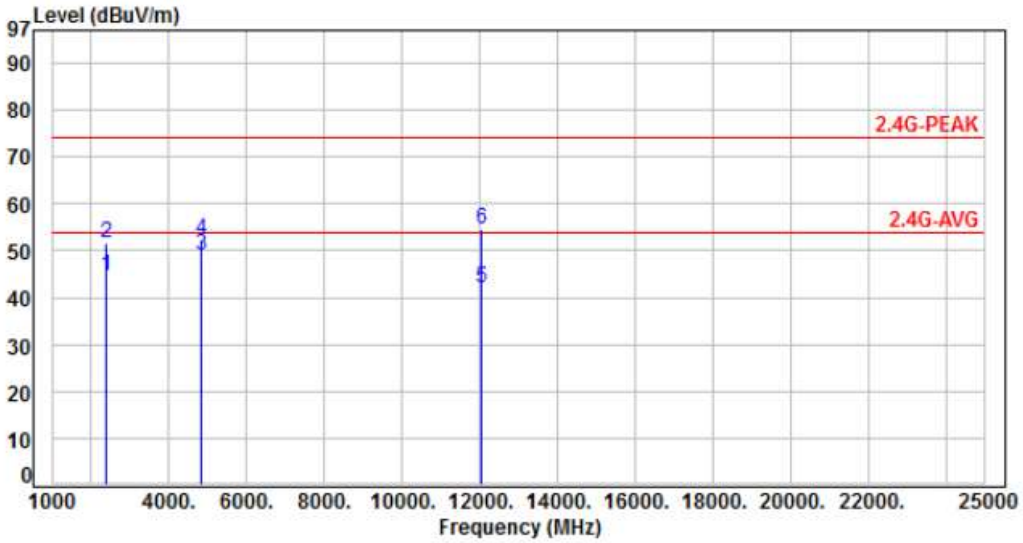


No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	70.79	-11.75	38.27	26.52	40.00	-13.48	Peak	100	0	P
2	168.67	-9.72	48.14	38.42	43.50	-5.08	Peak	100	0	P
3	206.62	-11.94	48.29	36.35	43.50	-7.15	Peak	100	0	P
4	278.47	-9.15	38.89	29.74	46.00	-16.26	Peak	100	0	P
5	317.12	-8.20	37.34	29.14	46.00	-16.86	Peak	100	0	P
6	359.80	-7.07	33.71	26.64	46.00	-19.36	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)

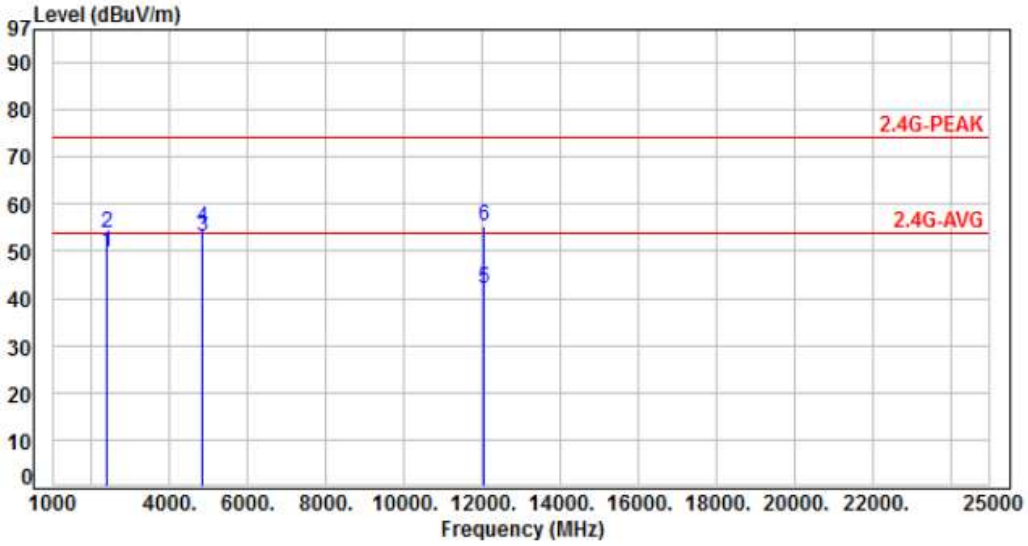
Power	:	AC 120V / 60HZ	Pol/Phase	:	VERTICAL
Test Mode	:	Mode 1, CH01		:	



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	-3.49	48.05	44.56	54.00	-9.44	Average	340	60	P
2	2390.00	-3.49	55.22	51.73	74.00	-22.27	Peak	340	60	P
3	4824.00	3.59	45.47	49.06	54.00	-4.94	Average	230	45	P
4	4824.00	3.59	48.75	52.34	74.00	-21.66	Peak	230	45	P
5	12060.00	13.66	28.37	42.03	54.00	-11.97	Average	100	296	P
6	12060.00	13.66	40.90	54.56	74.00	-19.44	Peak	100	296	P

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

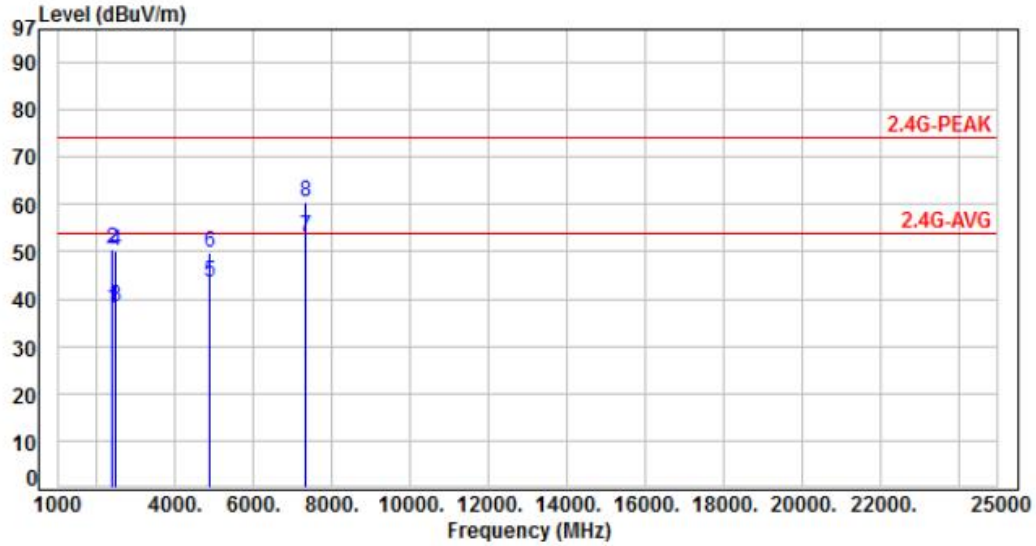
Power	:	AC 120V / 60HZ	Pol/Phase	:	HORIZONTAL
Test Mode	:	Mode 1, CH01		:	



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	-3.49	53.10	49.61	54.00	-4.39	Average	180	160	P
2	2390.00	-3.49	57.16	53.67	74.00	-20.33	Peak	180	160	P
3	4824.00	3.59	49.39	52.98	54.00	-1.02	Average	100	63	P
4	4824.00	3.59	51.20	54.79	74.00	-19.21	Peak	100	63	P
5	12060.00	13.66	28.33	41.99	54.00	-12.01	Average	100	176	P
6	12060.00	13.66	41.60	55.26	74.00	-18.74	Peak	100	176	P

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

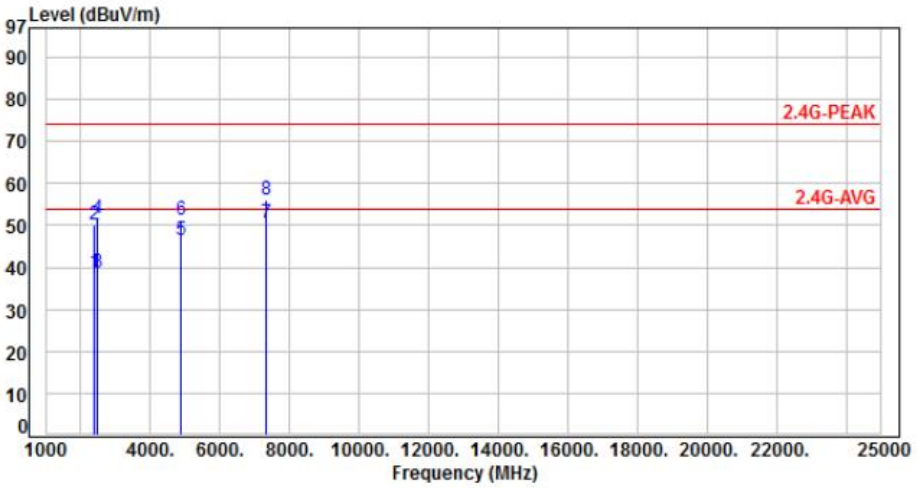
Power	:	AC 120V / 60HZ	Pol/Phase	:	VERTICAL
Test Mode	:	Mode 1, CH06		:	



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	-3.49	41.46	37.97	54.00	-16.03	Average	365	58	P
2	2390.00	-3.49	53.95	50.46	74.00	-23.54	Peak	365	58	P
3	2483.50	-3.21	41.39	38.18	54.00	-15.82	Average	365	58	P
4	2483.50	-3.21	53.45	50.24	74.00	-23.76	Peak	365	58	P
5	4874.00	3.84	39.66	43.50	54.00	-10.50	Average	323	55	P
6	4874.00	3.84	45.89	49.73	74.00	-24.27	Peak	323	55	P
7	7311.00	8.84	44.15	52.99	54.00	-1.01	Average	340	110	P
8	7311.00	8.84	51.58	60.42	74.00	-13.58	Peak	340	110	P

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

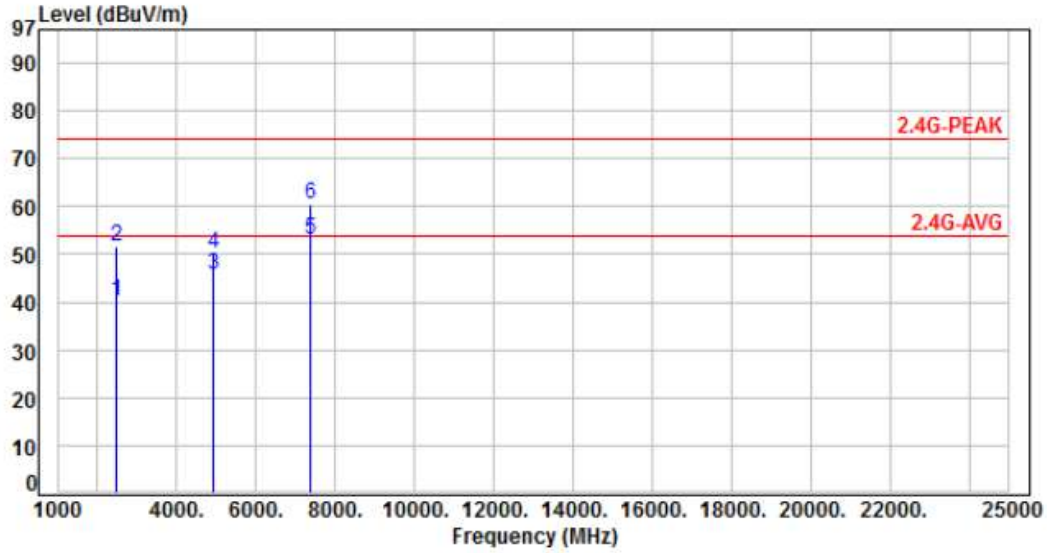
Power	:	AC 120V / 60HZ	Pol/Phase	:	HORIZONTAL
Test Mode	:	Mode 1, CH06		:	



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	-3.49	42.06	38.57	54.00	-15.43	Average	177	158	P
2	2390.00	-3.49	53.77	50.28	74.00	-23.72	Peak	177	158	P
3	2483.50	-3.21	41.90	38.69	54.00	-15.31	Average	177	158	P
4	2483.50	-3.21	54.69	51.48	74.00	-22.52	Peak	177	158	P
5	4874.00	3.84	42.60	46.44	54.00	-7.56	Average	100	152	P
6	4874.00	3.84	47.48	51.32	74.00	-22.68	Peak	100	152	P
7	7311.00	8.84	41.60	50.44	54.00	-3.56	Average	172	140	P
8	7311.00	8.84	47.30	56.14	74.00	-17.86	Peak	172	140	P

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

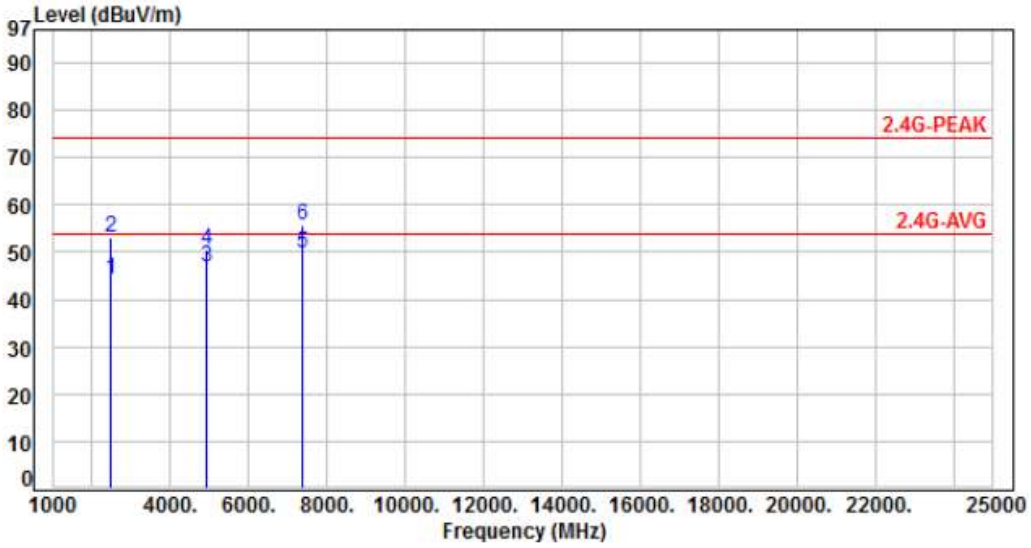
Power	:	AC 120V / 60HZ	Pol/Phase	:	VERTICAL
Test Mode	:	Mode 1, CH11		:	



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	-3.21	43.50	40.29	54.00	-13.71	Average	340	101	P
2	2483.50	-3.21	54.91	51.70	74.00	-22.30	Peak	340	101	P
3	4924.00	4.04	41.72	45.76	54.00	-8.24	Average	345	64	P
4	4924.00	4.04	46.15	50.19	74.00	-23.81	Peak	345	64	P
5	7386.00	9.04	43.95	52.99	54.00	-1.01	Average	335	105	P
6	7386.00	9.04	51.43	60.47	74.00	-13.53	Peak	335	105	P

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

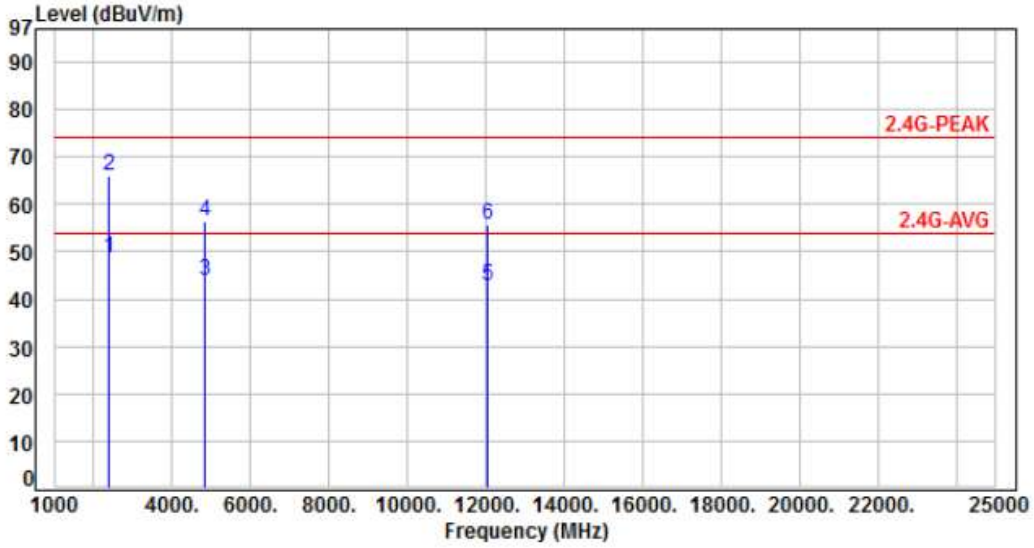
Power	:	AC 120V / 60HZ	Pol/Phase	:	HORIZONTAL
Test Mode	:	Mode 1, CH11		:	



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	-3.21	47.36	44.15	54.00	-9.85	Average	165	142	P
2	2483.50	-3.21	56.24	53.03	74.00	-20.97	Peak	165	142	P
3	4924.00	4.04	42.95	46.99	54.00	-7.01	Average	100	155	P
4	4924.00	4.04	46.47	50.51	74.00	-23.49	Peak	100	155	P
5	7386.00	9.04	40.61	49.65	54.00	-4.35	Average	174	146	P
6	7386.00	9.04	46.62	55.66	74.00	-18.34	Peak	174	146	P

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

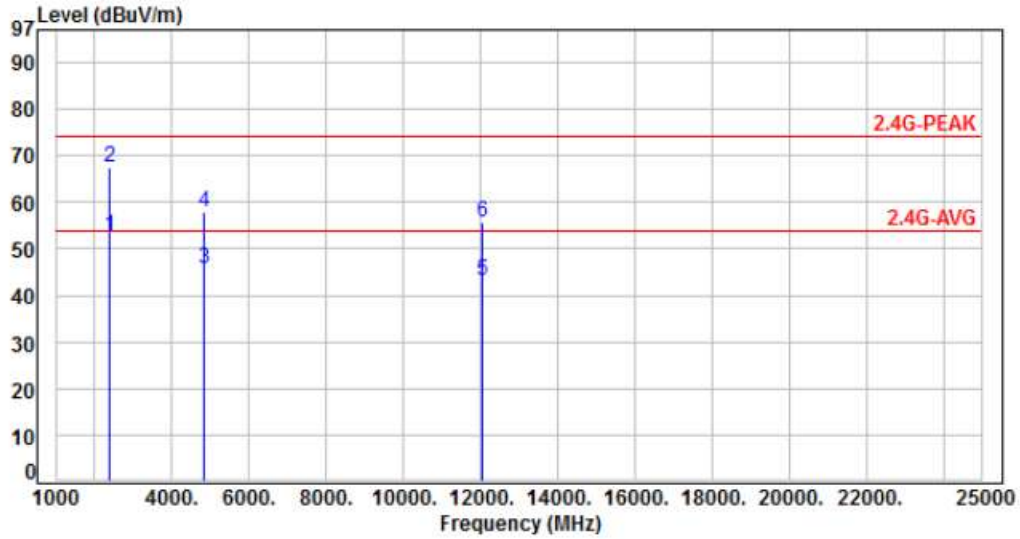
Power	:	AC 120V / 60HZ	Pol/Phase	:	VERTICAL
Test Mode	:	Mode 2, CH01		:	



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	-3.49	52.22	48.73	54.00	-5.27	Average	333	53	P
2	2390.00	-3.49	69.50	66.01	74.00	-7.99	Peak	333	53	P
3	4824.00	3.59	40.40	43.99	54.00	-10.01	Average	363	0	P
4	4824.00	3.59	52.70	56.29	74.00	-17.71	Peak	363	0	P
5	12060.00	13.66	29.23	42.89	54.00	-11.11	Average	100	137	P
6	12060.00	13.66	42.20	55.86	74.00	-18.14	Peak	100	137	P

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

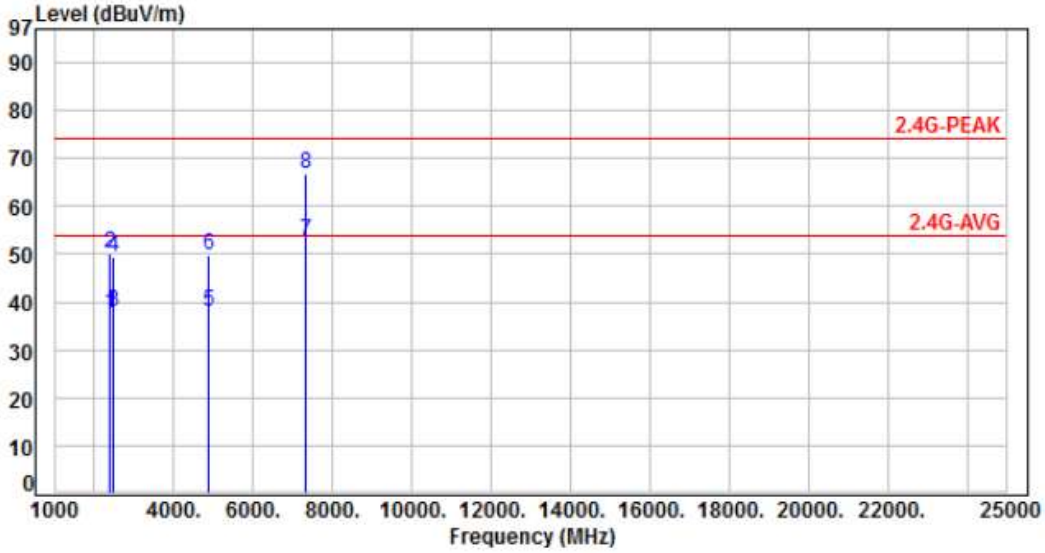
Power	:	AC 120V / 60HZ	Pol/Phase	:	HORIZONTAL
Test Mode	:	Mode 2, CH01		:	



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	-3.49	56.19	52.70	54.00	-1.30	Average	133	60	P
2	2390.00	-3.49	70.98	67.49	74.00	-6.51	Peak	133	60	P
3	4824.00	3.59	42.08	45.67	54.00	-8.33	Average	100	60	P
4	4824.00	3.59	54.29	57.88	74.00	-16.12	Peak	100	60	P
5	12060.00	13.66	29.36	43.02	54.00	-10.98	Average	100	217	P
6	12060.00	13.66	42.02	55.68	74.00	-18.32	Peak	100	217	P

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

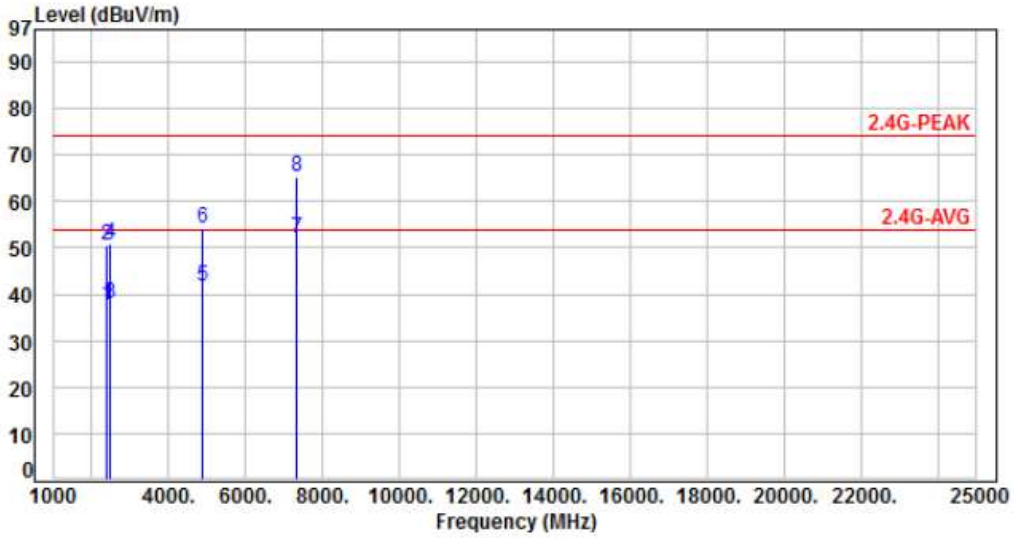
Power	:	AC 120V / 60HZ	Pol/Phase	:	VERTICAL
Test Mode	:	Mode 2, CH06		:	



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	-3.49	41.13	37.64	54.00	-16.36	Average	356	53	P
2	2390.00	-3.49	53.72	50.23	74.00	-23.77	Peak	356	53	P
3	2483.50	-3.21	41.06	37.85	54.00	-16.15	Average	356	53	P
4	2483.50	-3.21	52.73	49.52	74.00	-24.48	Peak	356	53	P
5	4874.00	3.84	34.23	38.07	54.00	-15.93	Average	356	0	P
6	4874.00	3.84	46.08	49.92	74.00	-24.08	Peak	356	0	P
7	7311.00	8.84	43.88	52.72	54.00	-1.28	Average	360	275	P
8	7311.00	8.84	57.82	66.66	74.00	-7.34	Peak	360	275	P

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

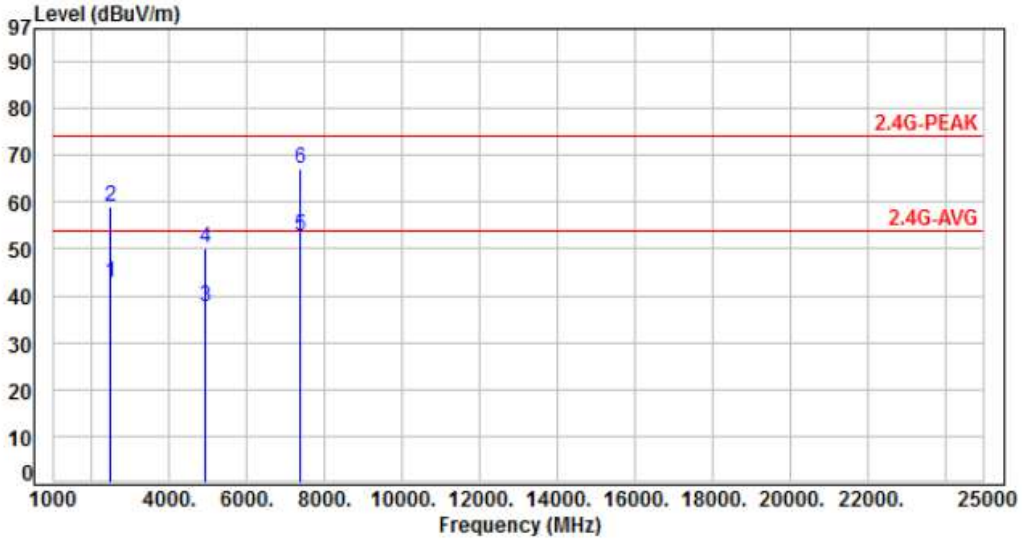
Power	:	AC 120V / 60HZ	Pol/Phase	:	HORIZONTAL
Test Mode	:	Mode 2, CH06		:	



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	-3.49	41.21	37.72	54.00	-16.28	Average	135	56	P
2	2390.00	-3.49	53.99	50.50	74.00	-23.50	Peak	135	56	P
3	2483.50	-3.21	41.22	38.01	54.00	-15.99	Average	135	56	P
4	2483.50	-3.21	54.09	50.88	74.00	-23.12	Peak	135	56	P
5	4874.00	3.84	37.77	41.61	54.00	-12.39	Average	100	38	P
6	4874.00	3.84	50.32	54.16	74.00	-19.84	Peak	100	38	P
7	7311.00	8.84	43.07	51.91	54.00	-2.09	Average	272	286	P
8	7311.00	8.84	56.35	65.19	74.00	-8.81	Peak	272	286	P

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

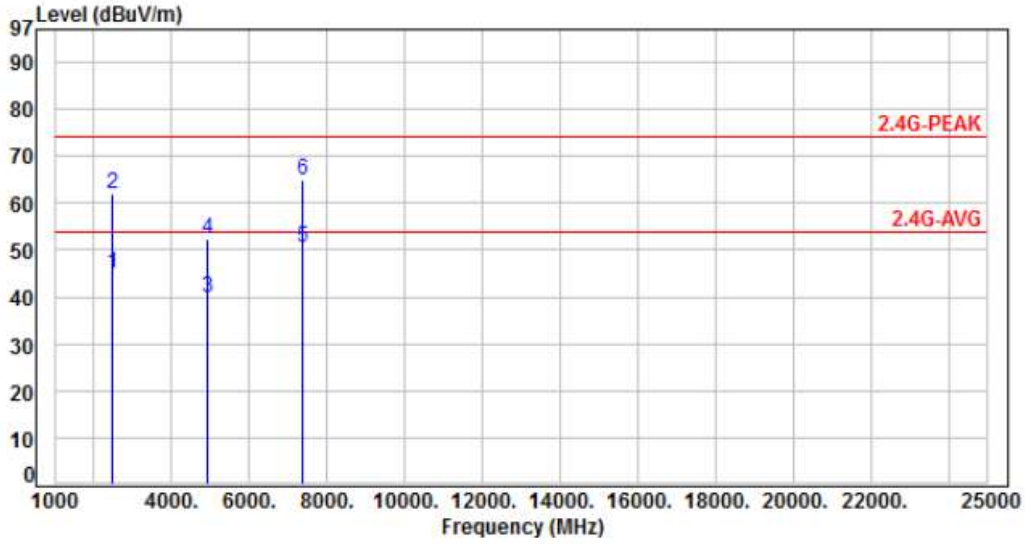
Power	:	AC 120V / 60HZ	Pol/Phase	:	VERTICAL
Test Mode	:	Mode 2, CH11		:	



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	-3.21	46.12	42.91	54.00	-11.09	Average	308	58	P
2	2483.50	-3.21	62.34	59.13	74.00	-14.87	Peak	308	58	P
3	4924.00	4.04	33.70	37.74	54.00	-16.26	Average	352	0	P
4	4924.00	4.04	46.16	50.20	74.00	-23.80	Peak	352	0	P
5	7386.00	9.04	43.79	52.83	54.00	-1.17	Average	370	341	P
6	7386.00	9.04	58.11	67.15	74.00	-6.85	Peak	370	341	P

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

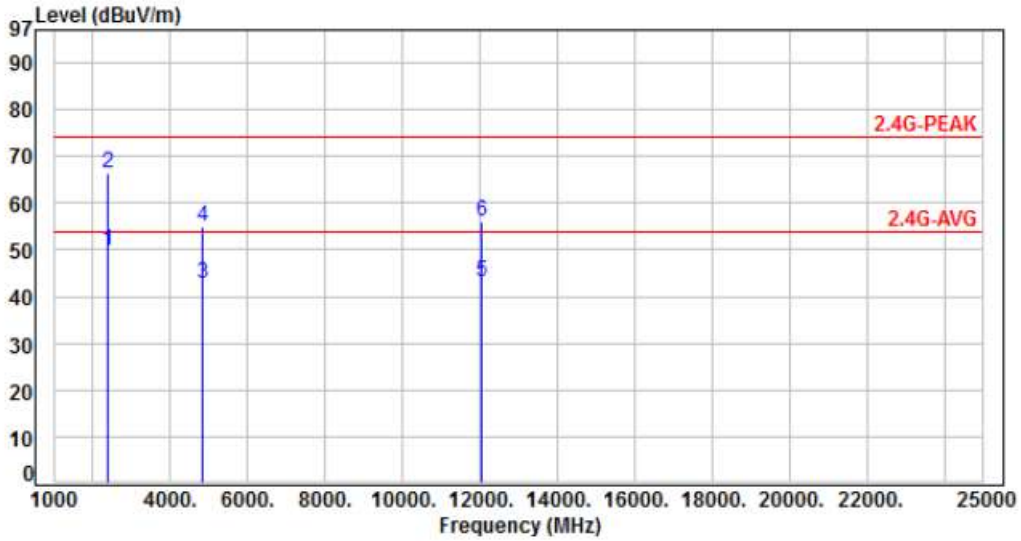
Power	:	AC 120V / 60HZ	Pol/Phase	:	HORIZONTAL
Test Mode	:	Mode 2, CH11		:	



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	-3.21	48.09	44.88	54.00	-9.12	Average	136	59	P
2	2483.50	-3.21	65.29	62.08	74.00	-11.92	Peak	136	59	P
3	4924.00	4.04	35.82	39.86	54.00	-14.14	Average	100	58	P
4	4924.00	4.04	48.20	52.24	74.00	-21.76	Peak	100	58	P
5	7386.00	9.04	41.60	50.64	54.00	-3.36	Average	271	287	P
6	7386.00	9.04	55.69	64.73	74.00	-9.27	Peak	271	287	P

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

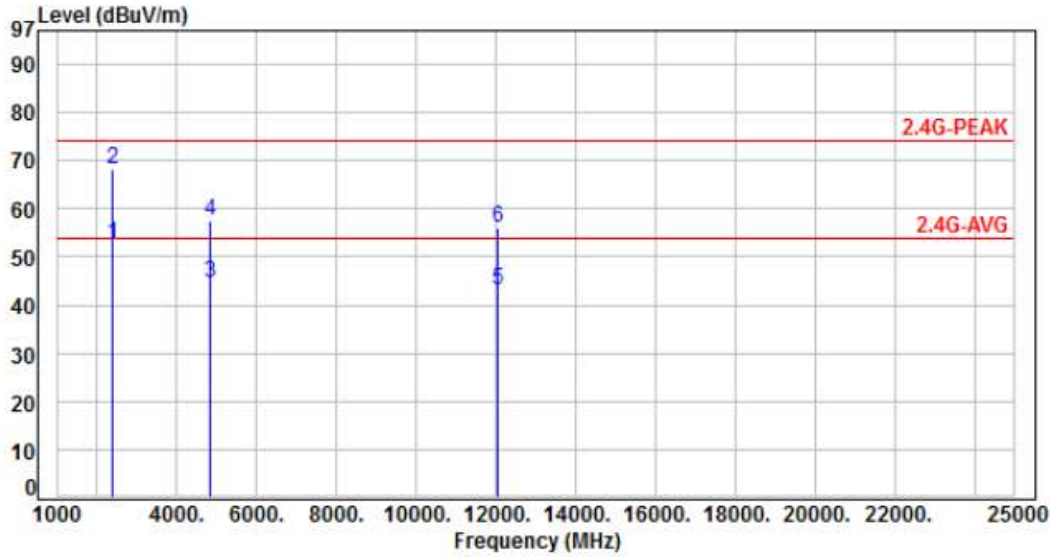
Power	:	AC 120V / 60HZ	Pol/Phase	:	VERTICAL
Test Mode	:	Mode 3, CH01		:	



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	-3.49	53.11	49.62	54.00	-4.38	Average	334	56	P
2	2390.00	-3.49	69.70	66.21	74.00	-7.79	Peak	334	56	P
3	4824.00	3.59	39.24	42.83	54.00	-11.17	Average	362	0	P
4	4824.00	3.59	51.55	55.14	74.00	-18.86	Peak	362	0	P
5	12060.00	13.66	29.42	43.08	54.00	-10.92	Average	100	141	P
6	12060.00	13.66	42.49	56.15	74.00	-17.85	Peak	100	141	P

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

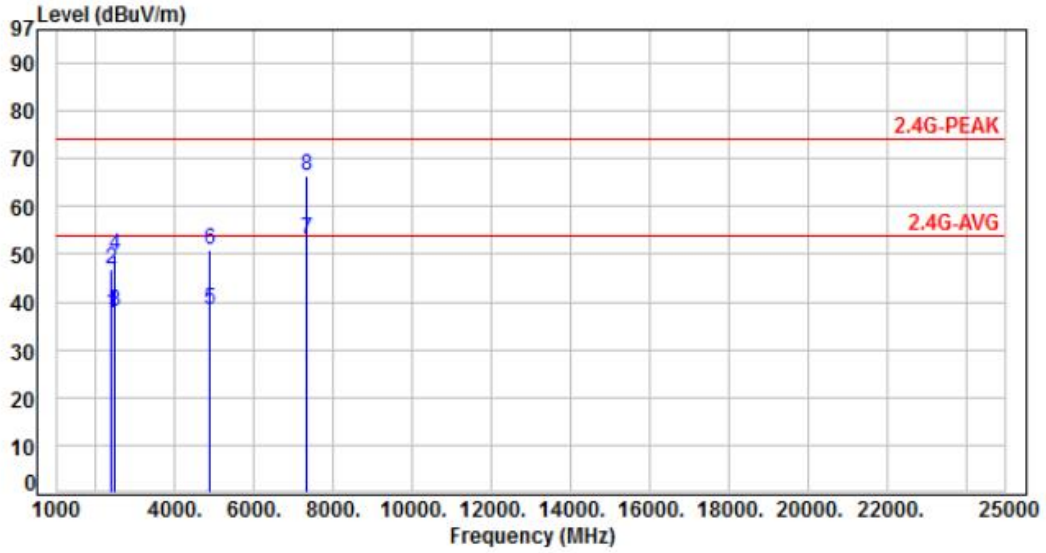
Power	:	AC 120V / 60HZ	Pol/Phase	:	HORIZONTAL
Test Mode	:	Mode 3, CH01		:	



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	-3.49	56.24	52.75	54.00	-1.25	Average	129	18	P
2	2390.00	-3.49	71.75	68.26	74.00	-5.74	Peak	129	18	P
3	4824.00	3.59	41.12	44.71	54.00	-9.29	Average	100	63	P
4	4824.00	3.59	54.13	57.72	74.00	-16.28	Peak	100	63	P
5	12060.00	13.66	29.49	43.15	54.00	-10.85	Average	100	222	P
6	12060.00	13.66	42.51	56.17	74.00	-17.83	Peak	100	222	P

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

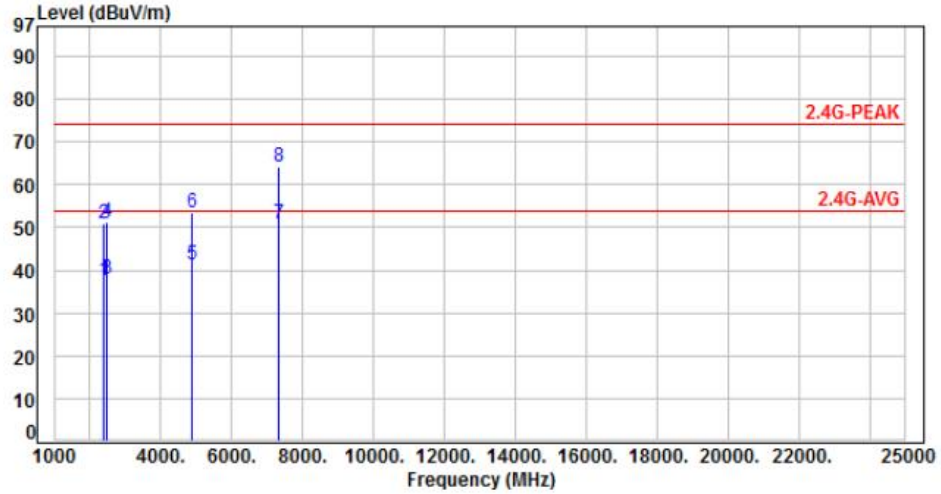
Power	:	AC 120V / 60HZ	Pol/Phase	:	VERTICAL
Test Mode	:	Mode 3, CH06		:	



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	-3.49	41.22	37.73	54.00	-16.27	Average	354	52	P
2	2390.00	-3.49	50.42	46.93	74.00	-27.07	Peak	354	52	P
3	2483.50	-3.21	41.12	37.91	54.00	-16.09	Average	354	52	P
4	2483.50	-3.21	52.94	49.73	74.00	-24.27	Peak	354	52	P
5	4874.00	3.84	34.68	38.52	54.00	-15.48	Average	355	0	P
6	4874.00	3.84	47.20	51.04	74.00	-22.96	Peak	355	0	P
7	7311.00	8.84	44.16	53.00	54.00	-1.00	Average	349	273	P
8	7311.00	8.84	57.65	66.49	74.00	-7.51	Peak	349	273	P

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

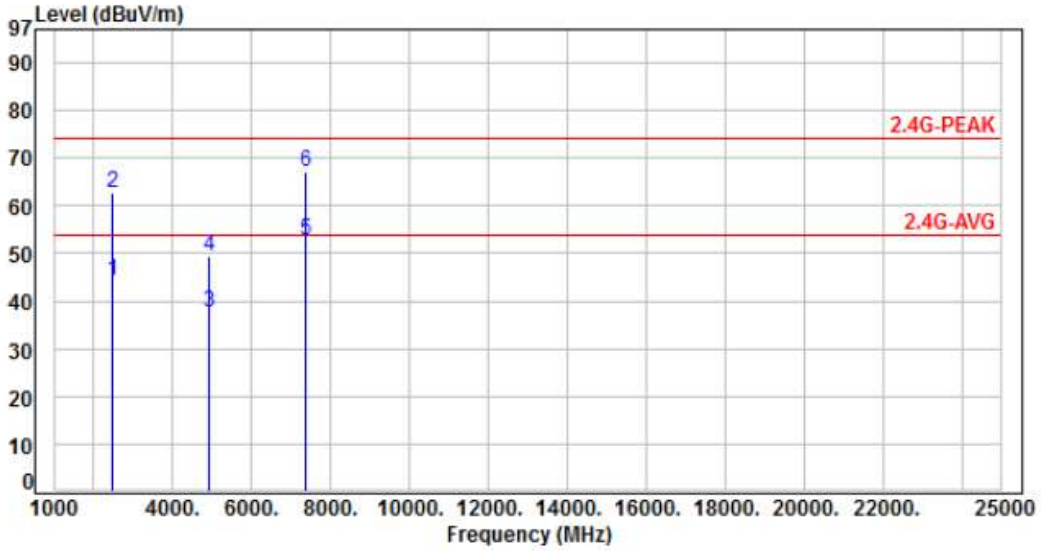
Power	:	AC 120V / 60HZ	Pol/Phase	:	HORIZONTAL
Test Mode	:	Mode 3, CH06		:	



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	-3.49	41.29	37.80	54.00	-16.20	Average	135	58	P
2	2390.00	-3.49	54.26	50.77	74.00	-23.23	Peak	135	58	P
3	2483.50	-3.21	41.26	38.05	54.00	-15.95	Average	135	58	P
4	2483.50	-3.21	54.33	51.12	74.00	-22.88	Peak	135	58	P
5	4874.00	3.84	37.40	41.24	54.00	-12.76	Average	100	38	P
6	4874.00	3.84	49.77	53.61	74.00	-20.39	Peak	100	38	P
7	7311.00	8.84	42.05	50.89	54.00	-3.11	Average	269	251	P
8	7311.00	8.84	55.45	64.29	74.00	-9.71	Peak	269	251	P

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

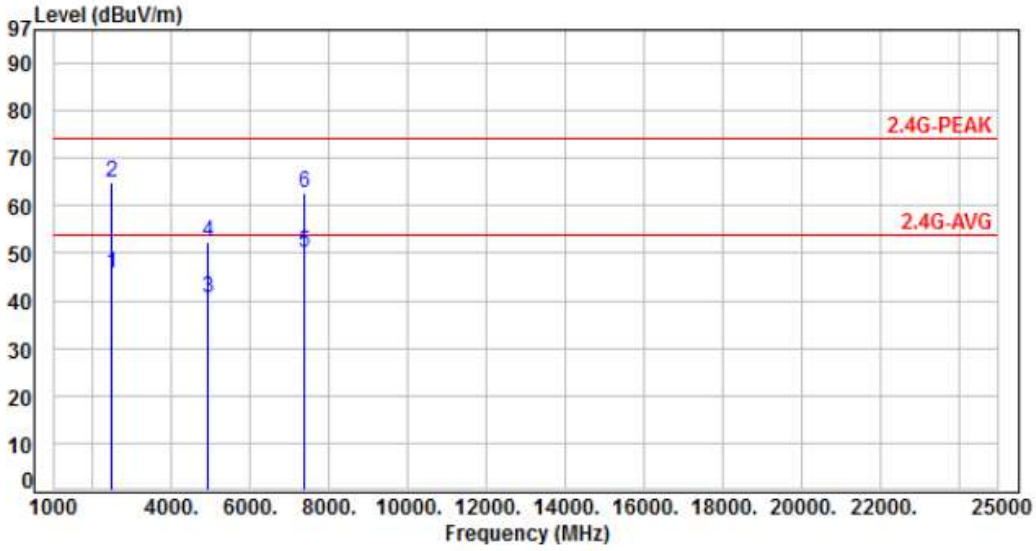
Power	:	AC 120V / 60HZ	Pol/Phase	:	VERTICAL
Test Mode	:	Mode 3, CH11		:	



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	-3.21	47.35	44.14	54.00	-9.86	Average	312	57	P
2	2483.50	-3.21	66.00	62.79	74.00	-11.21	Peak	312	57	P
3	4924.00	4.04	33.42	37.46	54.00	-16.54	Average	345	0	P
4	4924.00	4.04	45.21	49.25	74.00	-24.75	Peak	345	0	P
5	7386.00	9.04	43.87	52.91	54.00	-1.09	Average	378	118	P
6	7386.00	9.04	58.02	67.06	74.00	-6.94	Peak	378	118	P

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

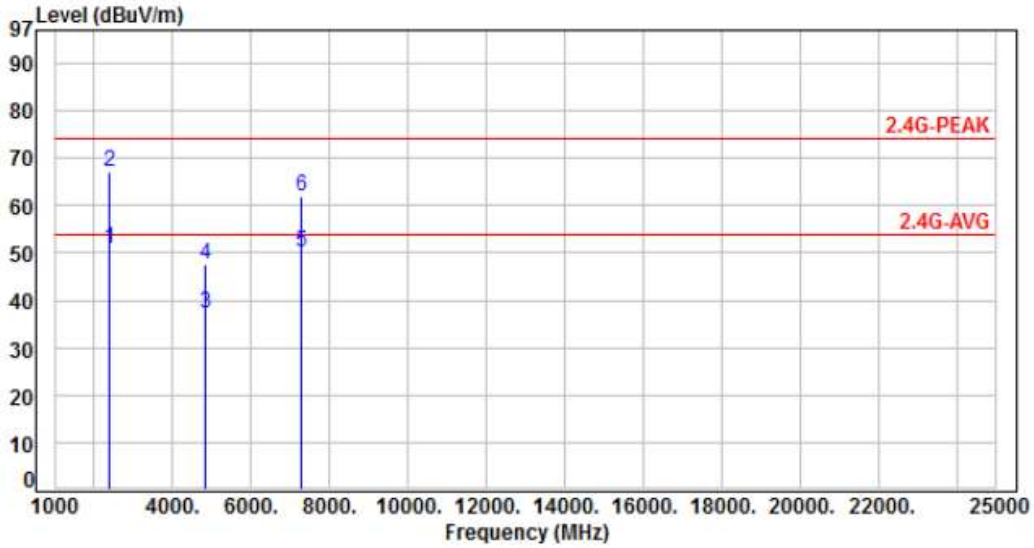
Power	:	AC 120V / 60HZ	Pol/Phase	:	HORIZONTAL
Test Mode	:	Mode 3, CH11		:	



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	-3.21	48.91	45.70	54.00	-8.30	Average	135	55	P
2	2483.50	-3.21	68.26	65.05	74.00	-8.95	Peak	135	55	P
3	4924.00	4.04	36.50	40.54	54.00	-13.46	Average	100	39	P
4	4924.00	4.04	48.40	52.44	74.00	-21.56	Peak	100	39	P
5	7386.00	9.04	41.01	50.05	54.00	-3.95	Average	297	56	P
6	7386.00	9.04	53.77	62.81	74.00	-11.19	Peak	297	56	P

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

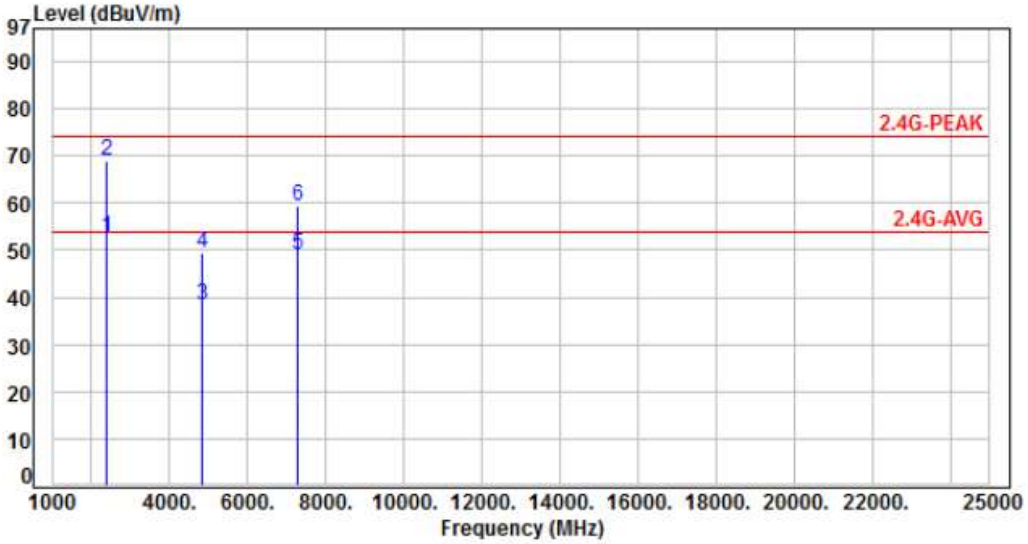
Power	:	AC 120V / 60HZ	Pol/Phase	:	VERTICAL
Test Mode	:	Mode 4, CH03		:	



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	-3.49	54.32	50.83	54.00	-3.17	Average	335	52	P
2	2390.00	-3.49	70.69	67.20	74.00	-6.80	Peak	335	52	P
3	4844.00	3.69	33.55	37.24	54.00	-16.76	Average	355	0	P
4	4844.00	3.69	43.75	47.44	74.00	-26.56	Peak	355	0	P
5	7266.00	8.64	41.43	50.07	54.00	-3.93	Average	379	137	P
6	7266.00	8.64	53.34	61.98	74.00	-12.02	Peak	379	137	P

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

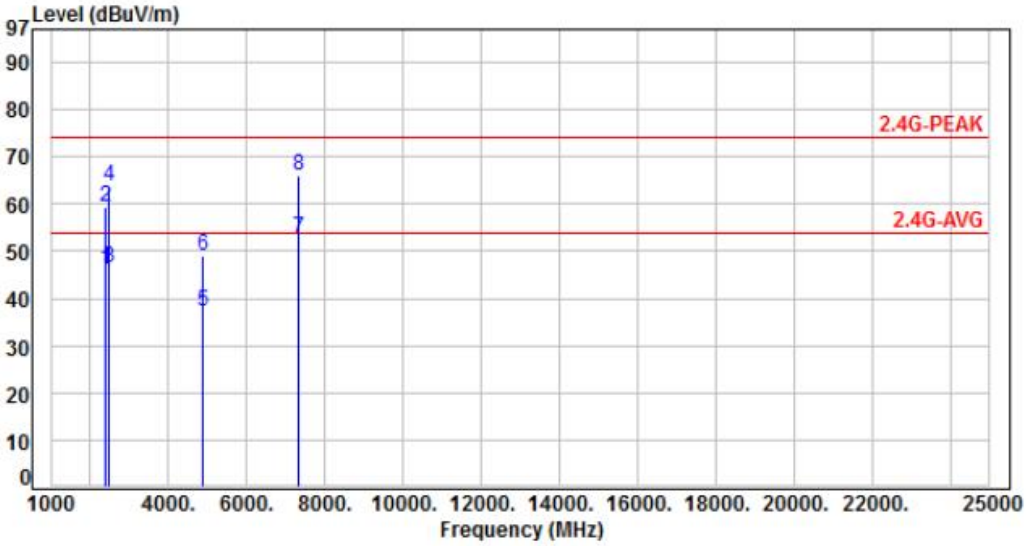
Power	:	AC 120V / 60HZ	Pol/Phase	:	HORIZONTAL
Test Mode	:	Mode 4, CH03		:	



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	-3.49	56.28	52.79	54.00	-1.21	Average	126	18	P
2	2390.00	-3.49	72.40	68.91	74.00	-5.09	Peak	126	18	P
3	4844.00	3.69	34.69	38.38	54.00	-15.62	Average	100	38	P
4	4844.00	3.69	45.65	49.34	74.00	-24.66	Peak	100	38	P
5	7266.00	8.64	40.31	48.95	54.00	-5.05	Average	331	59	P
6	7266.00	8.64	50.76	59.40	74.00	-14.60	Peak	331	59	P

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

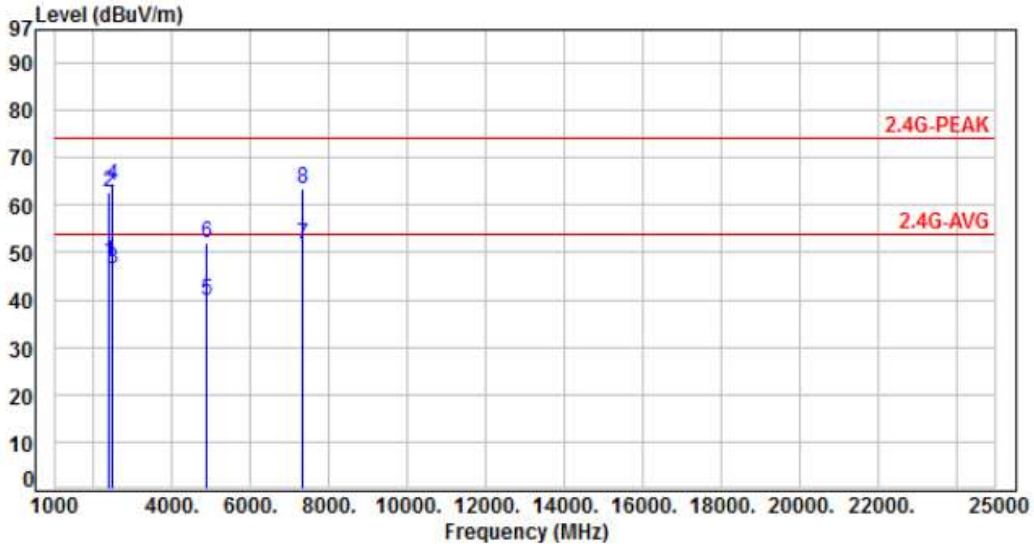
Power	:	AC 120V / 60HZ	Pol/Phase	:	VERTICAL
Test Mode	:	Mode 4, CH06		:	



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	-3.49	49.60	46.11	54.00	-7.89	Average	342	54	P
2	2390.00	-3.49	63.00	59.51	74.00	-14.49	Peak	342	54	P
3	2483.50	-3.21	49.71	46.50	54.00	-7.50	Average	342	54	P
4	2483.50	-3.21	66.99	63.78	74.00	-10.22	Peak	342	54	P
5	4874.00	3.84	33.45	37.29	54.00	-16.71	Average	355	0	P
6	4874.00	3.84	45.26	49.10	74.00	-24.90	Peak	355	0	P
7	7311.00	8.84	44.03	52.87	54.00	-1.13	Average	350	146	P
8	7311.00	8.84	57.03	65.87	74.00	-8.13	Peak	350	146	P

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

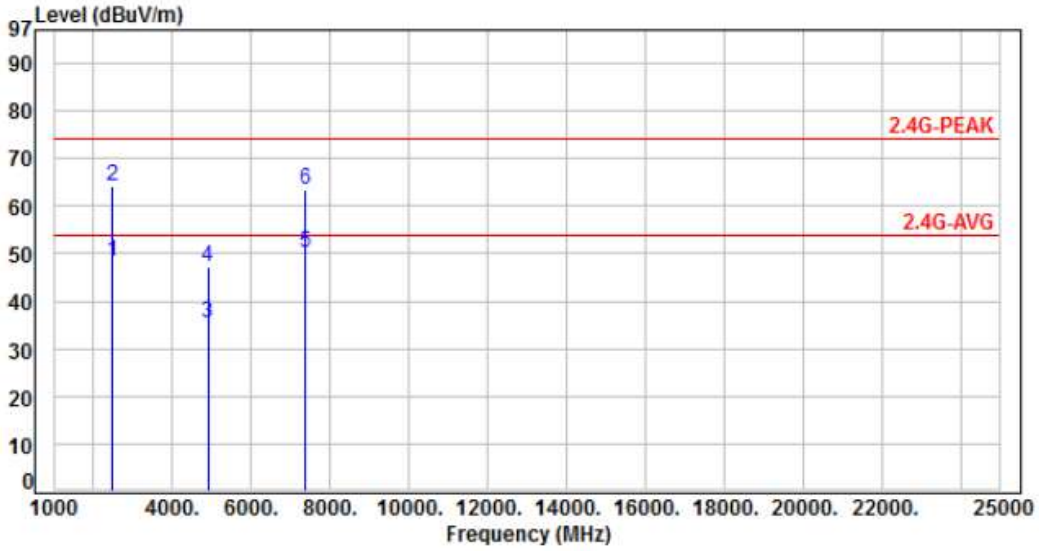
Power	:	AC 120V / 60HZ	Pol/Phase	:	HORIZONTAL
Test Mode	:	Mode 4, CH06		:	



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	-3.49	51.28	47.79	54.00	-6.21	Average	133	111	P
2	2390.00	-3.49	66.23	62.74	74.00	-11.26	Peak	133	111	P
3	2483.50	-3.21	49.79	46.58	54.00	-7.42	Average	133	111	P
4	2483.50	-3.21	67.30	64.09	74.00	-9.91	Peak	133	111	P
5	4874.00	3.84	36.08	39.92	54.00	-14.08	Average	100	39	P
6	4874.00	3.84	48.33	52.17	74.00	-21.83	Peak	100	39	P
7	7311.00	8.84	42.81	51.65	54.00	-2.35	Average	271	289	P
8	7311.00	8.84	54.55	63.39	74.00	-10.61	Peak	271	289	P

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

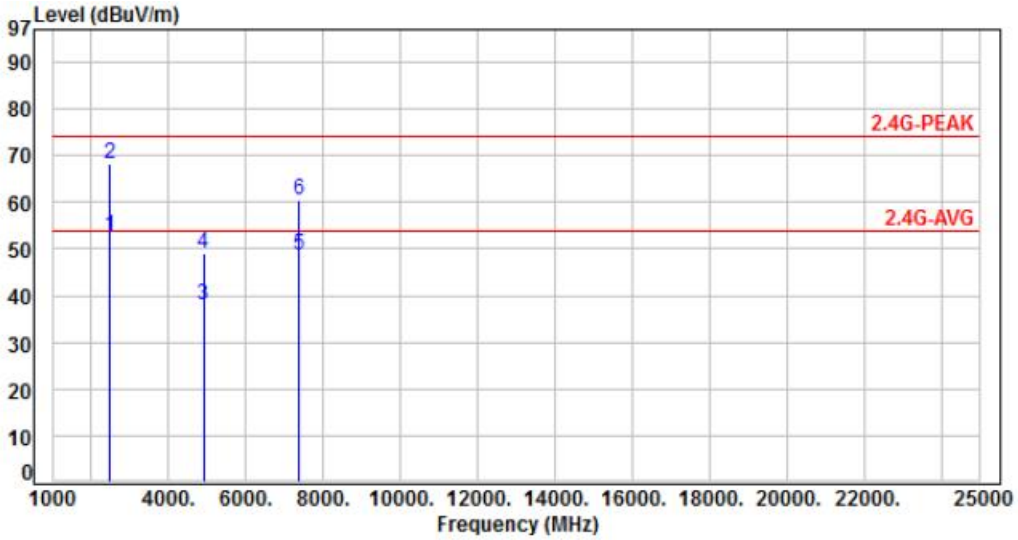
Power	:	AC 120V / 60HZ	Pol/Phase	:	VERTICAL
Test Mode	:	Mode 4, CH09		:	



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	-3.21	51.49	48.28	54.00	-5.72	Average	335	53	P
2	2483.50	-3.21	67.25	64.04	74.00	-9.96	Peak	335	53	P
3	4904.00	3.98	31.45	35.43	54.00	-18.57	Average	332	0	P
4	4904.00	3.98	43.30	47.28	74.00	-26.72	Peak	332	0	P
5	7356.00	9.02	41.01	50.03	54.00	-3.97	Average	382	116	P
6	7356.00	9.02	54.56	63.58	74.00	-10.42	Peak	382	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, 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	-3.21	55.99	52.78	54.00	-1.22	Average	172	25	P
2	2483.50	-3.21	71.39	68.18	74.00	-5.82	Peak	172	25	P
3	4904.00	3.98	34.08	38.06	54.00	-15.94	Average	100	40	P
4	4904.00	3.98	45.12	49.10	74.00	-24.90	Peak	100	40	P
5	7356.00	9.02	39.62	48.64	54.00	-5.36	Average	323	58	P
6	7356.00	9.02	51.35	60.37	74.00	-13.63	Peak	323	58	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

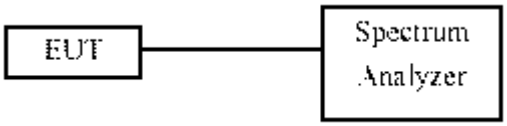
7.1 Test Limit

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.

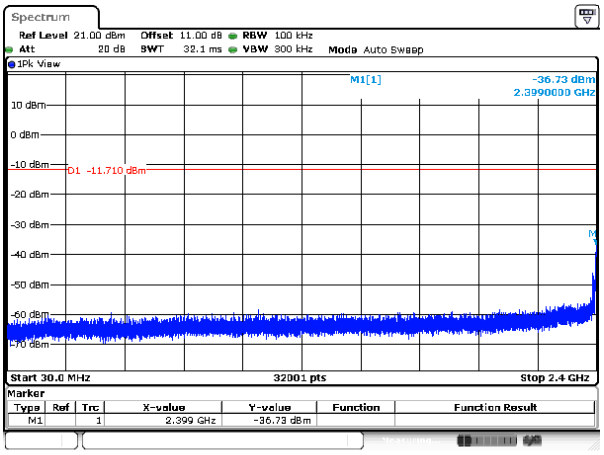
7.3 Test Setup Layout



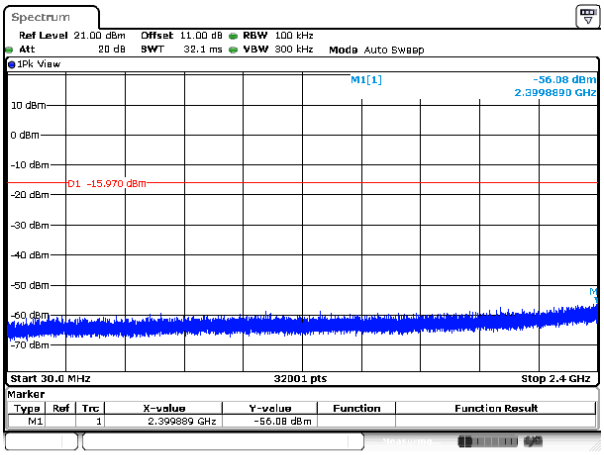
7.4 Test Result and Data

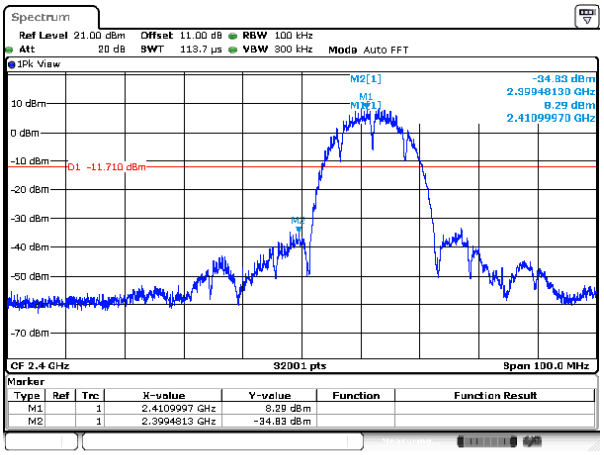
Note: Test plots refers to the following pages.

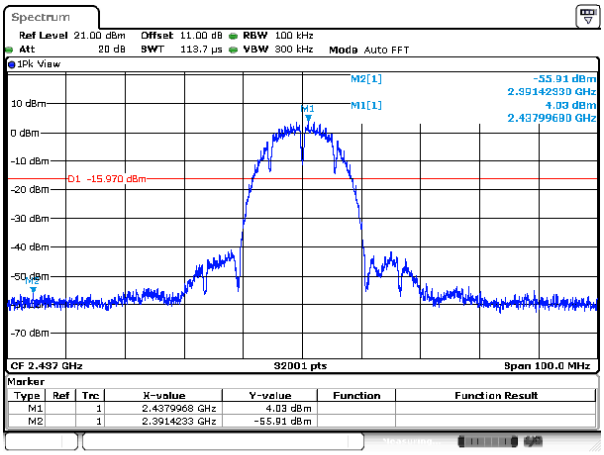
Modulation Type: 802.11b, CH 01

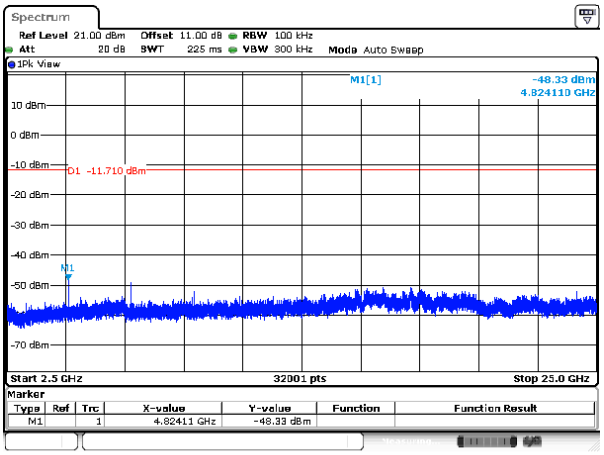


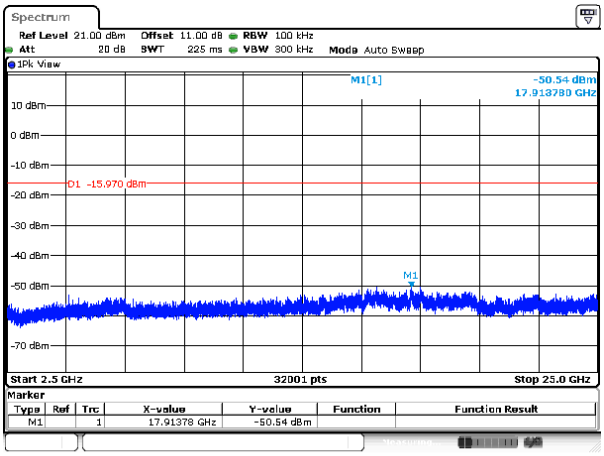
Modulation Type: 802.11b, CH 06



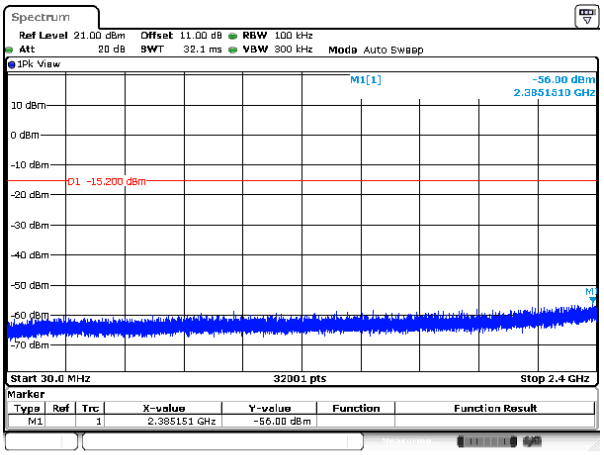


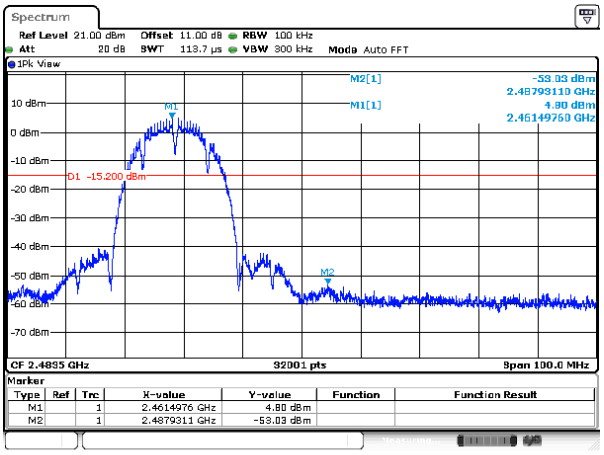


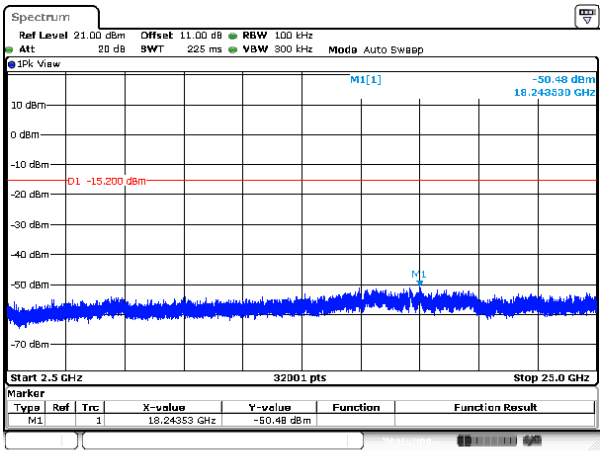




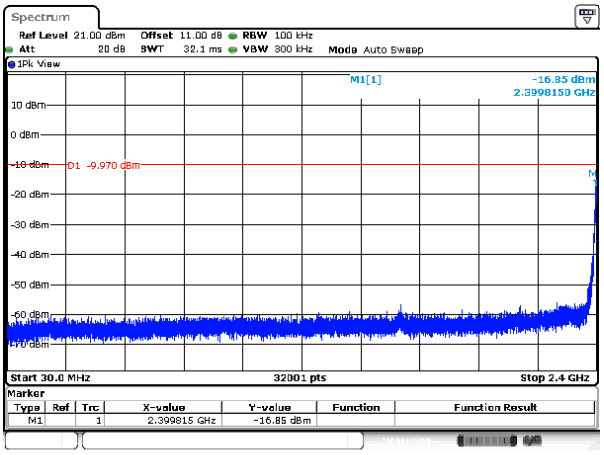
Modulation Type: 802.11b, CH 11



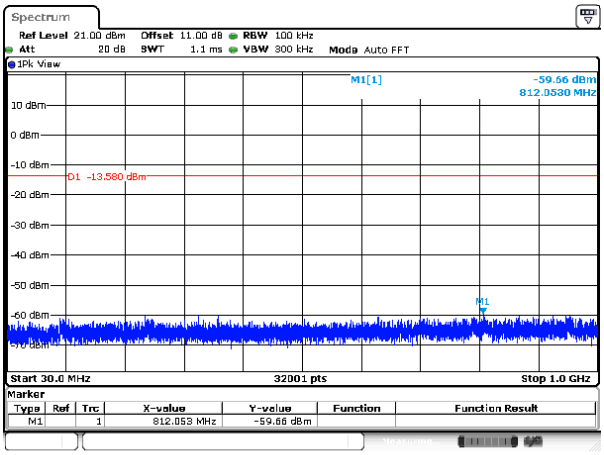


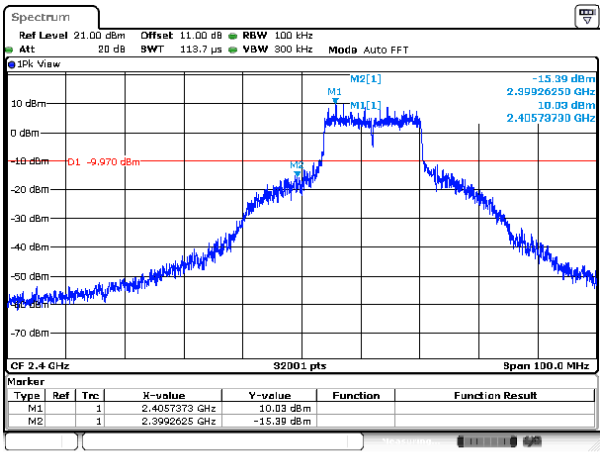


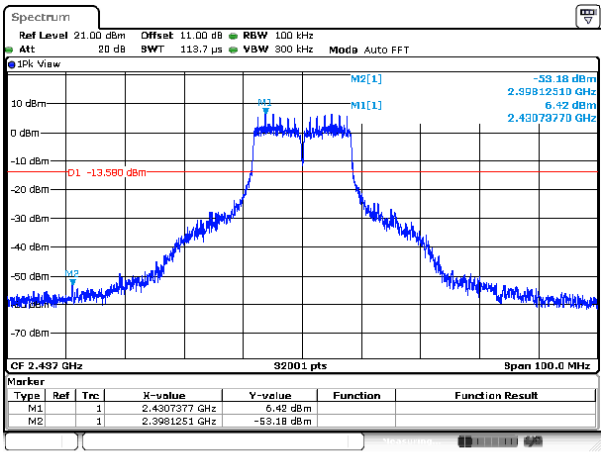
Modulation Type: 802.11g, CH 01

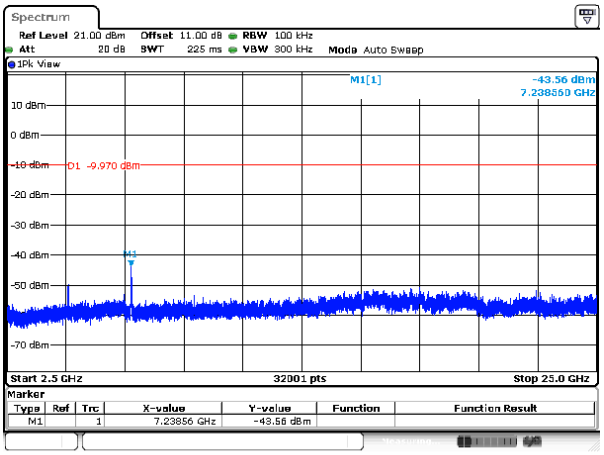


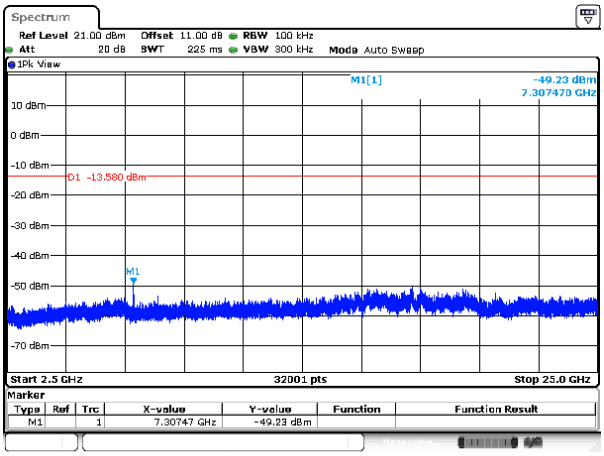
Modulation Type: 802.11g, CH 06



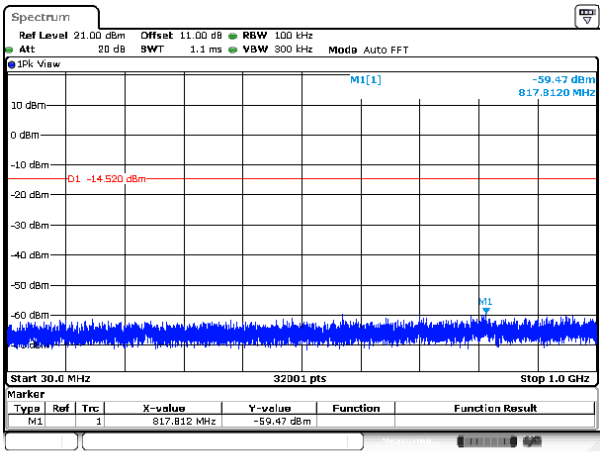


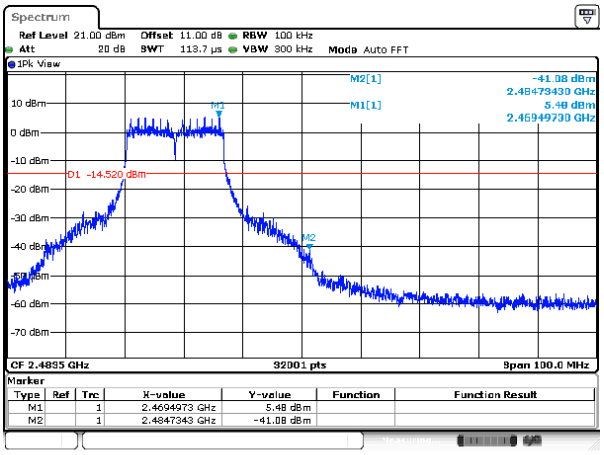


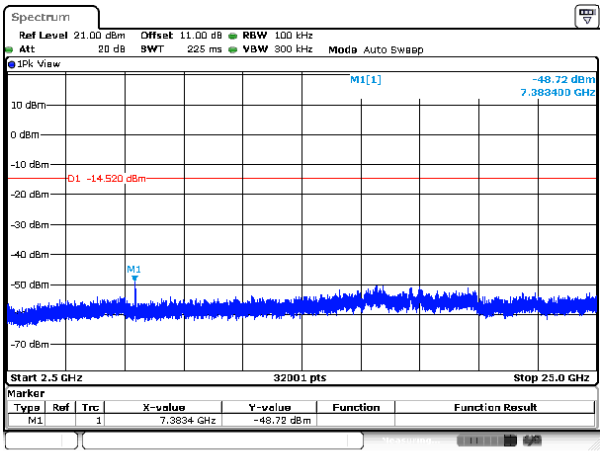




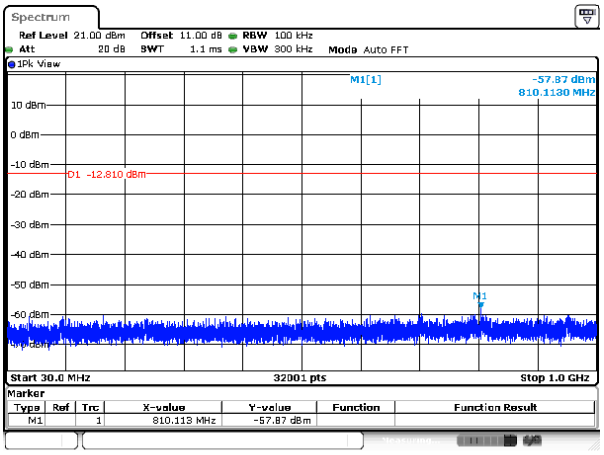
Modulation Type: 802.11g, CH 11



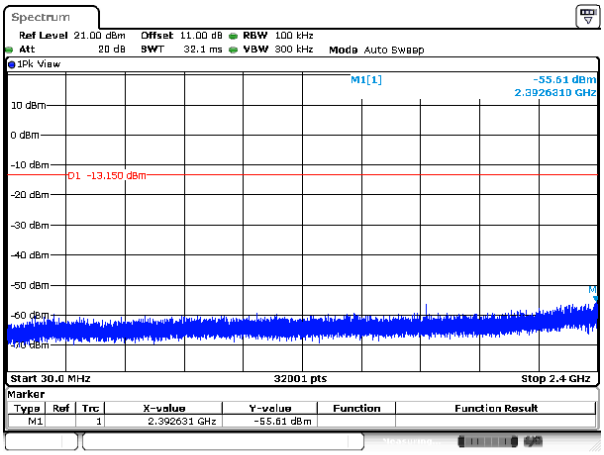


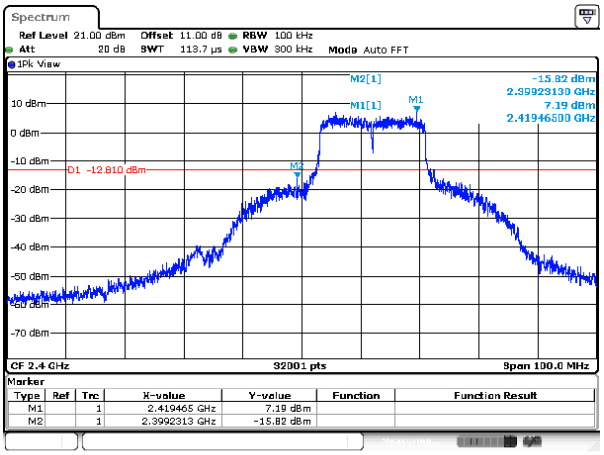


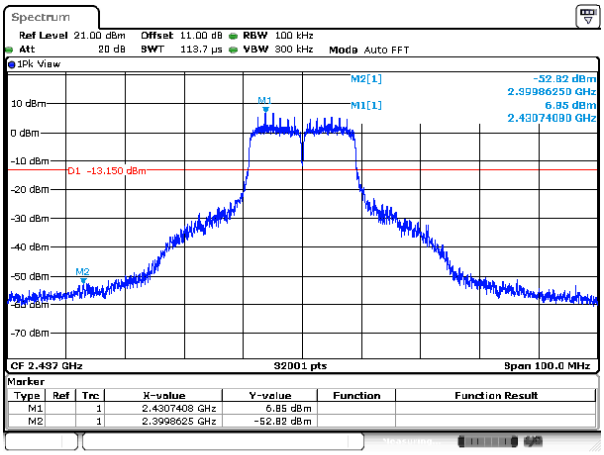
Modulation Type: 802.11n HT20, CH01

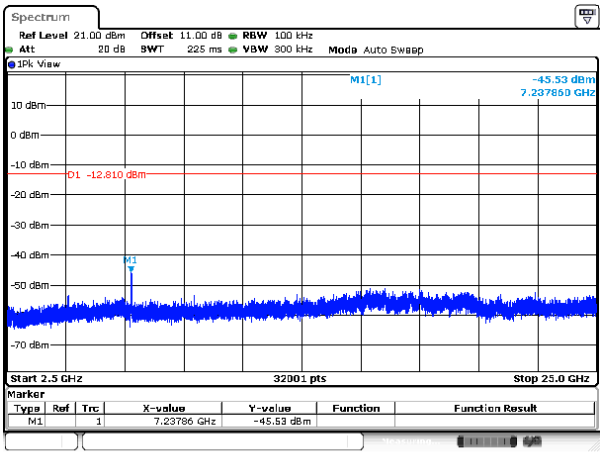


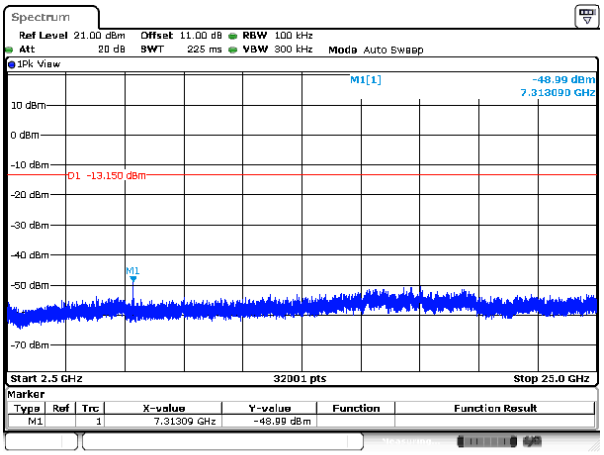
Modulation Type: 802.11n HT20, CH06



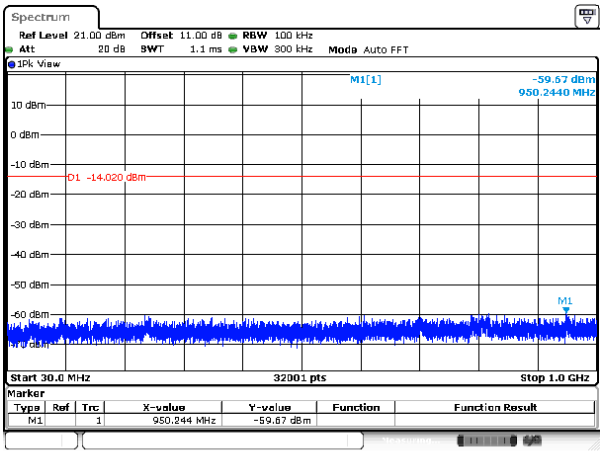


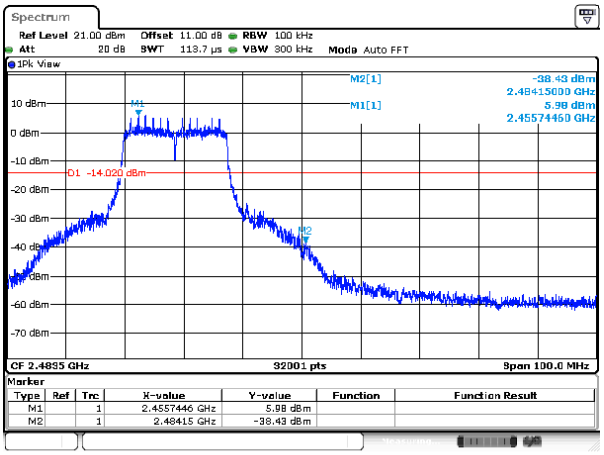


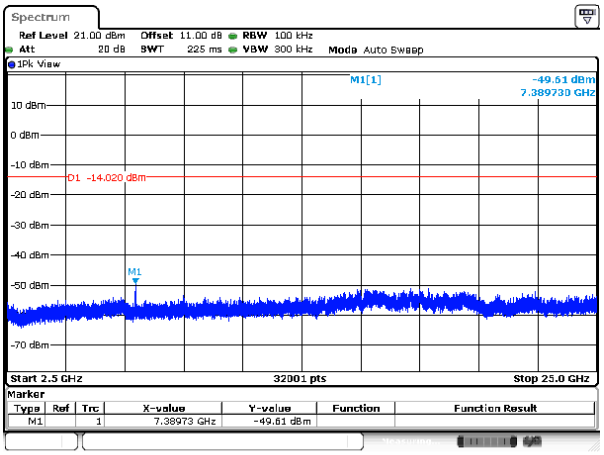




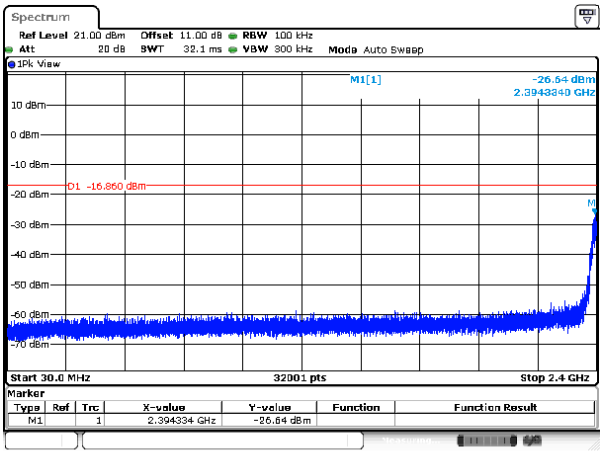
Modulation Type: 802.11n HT20, CH11



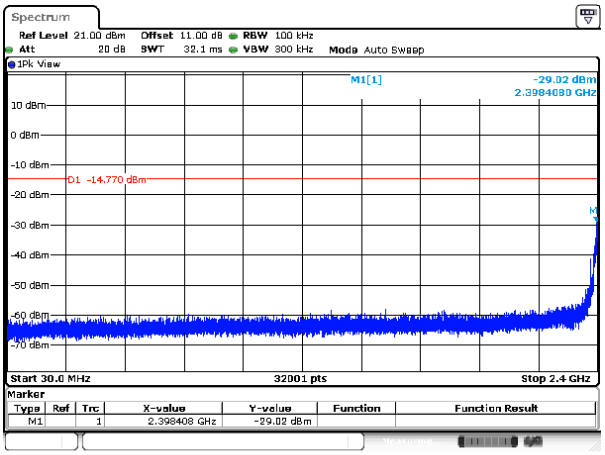


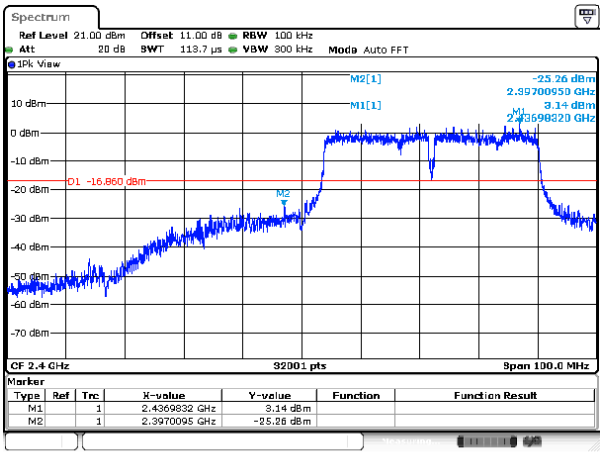


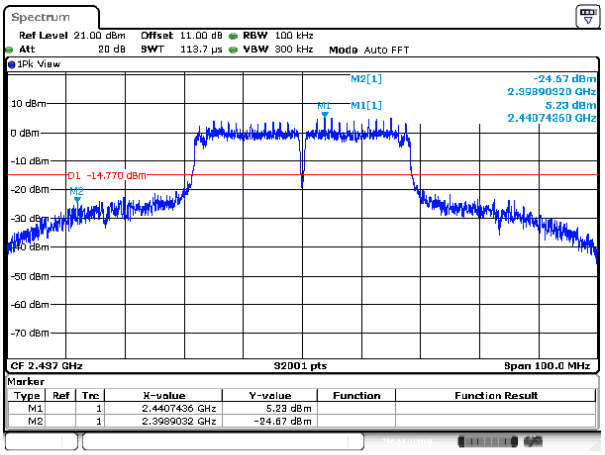
Modulation Type: 802.11n HT40, CH03

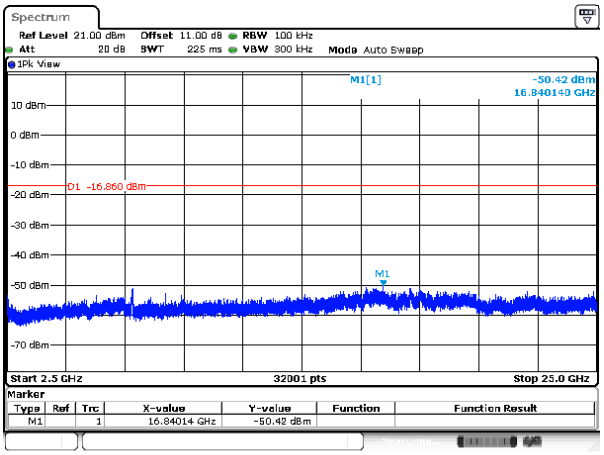


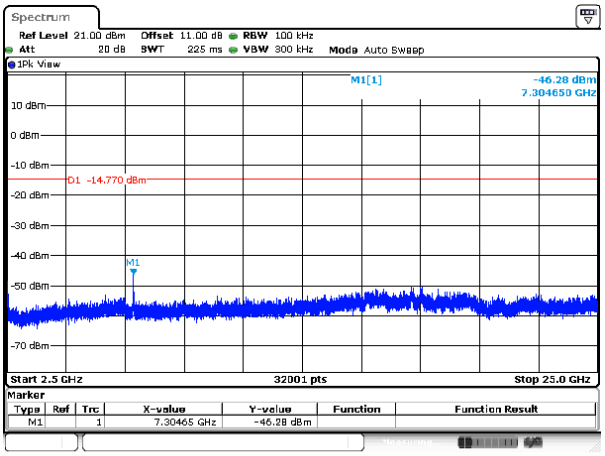
Modulation Type: 802.11n HT40, CH06



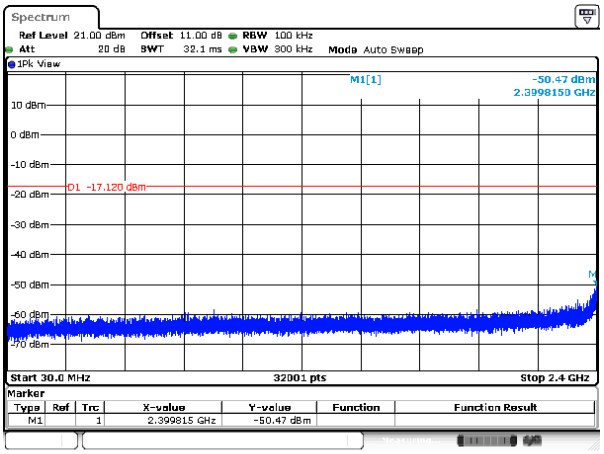


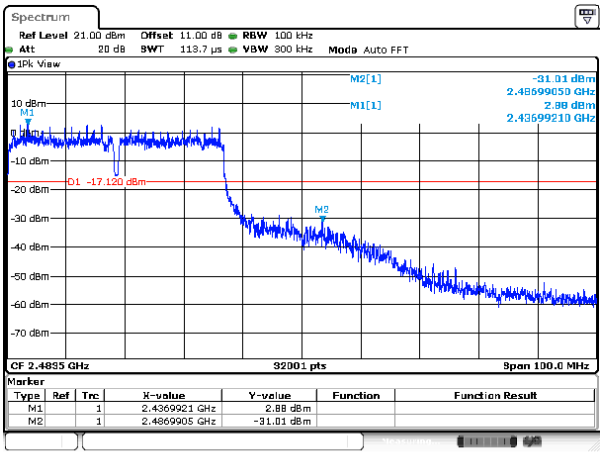


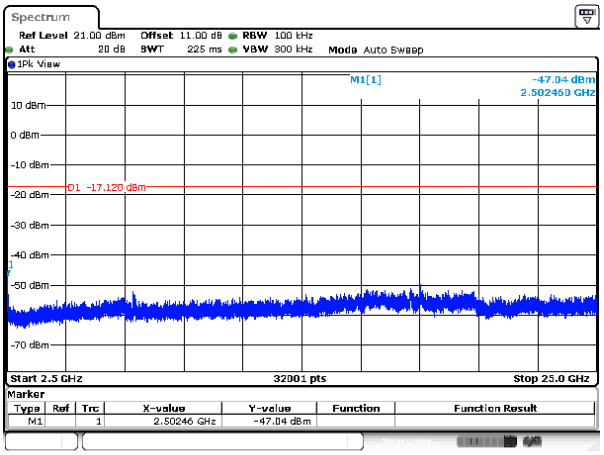




Modulation Type: 802.11n HT40, CH09







8. On Time, Duty Cycle and Measurement methods

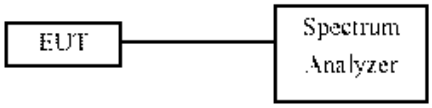
8.1 Test Limit

None; for reporting purposes only.

8.2 Test Procedure

Zero-Span Spectrum Analyzer Method.

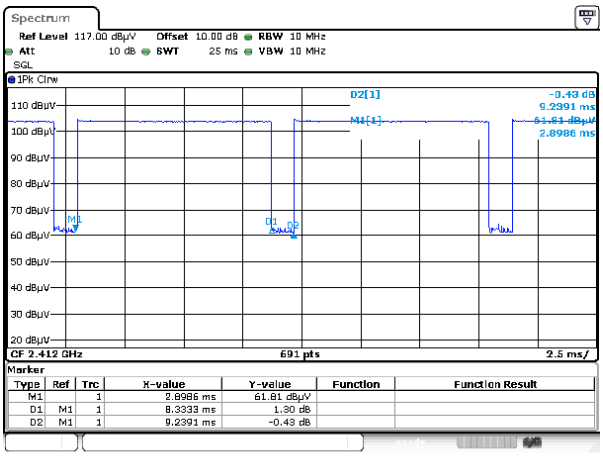
8.3 Test Setup Layout



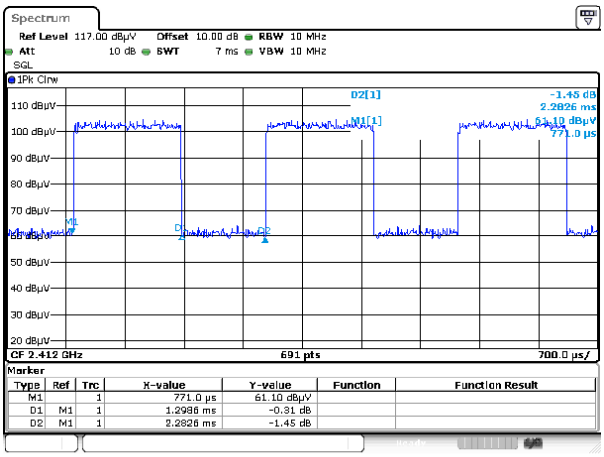
8.4 Test Result and Data

Modulation Type	On Time (ms)	Period Time (ms)	Duty Cycle (%)
11b,1M	8.33	9.24	90.20%
11g,6M	1.39	2.38	58.41%
11n HT20	1.30	2.28	56.89%
11n HT40	0.65	1.64	39.65%

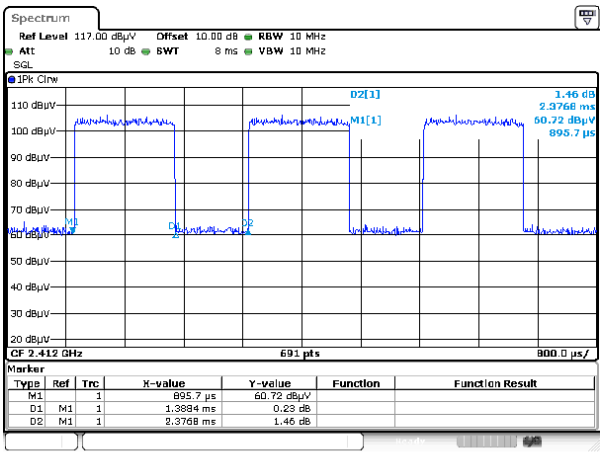
Modulation Type: 802.11b(1Mbps)



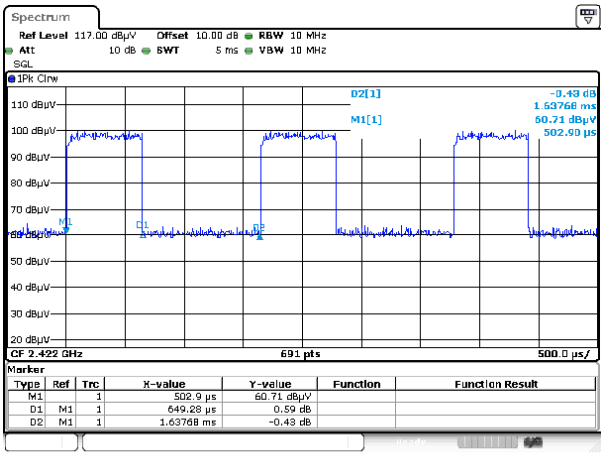
Modulation Type: 802.11n HT20(6.5Mbps)



Modulation Type: 802.11g(6Mbps)



Modulation Type: 802.11n HT40(13.5Mbps)



9. 6dB Bandwidth Measurement Data

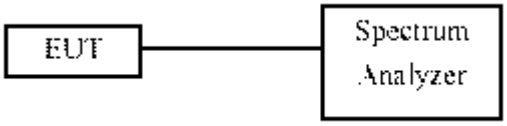
9.1 Test Limit

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.

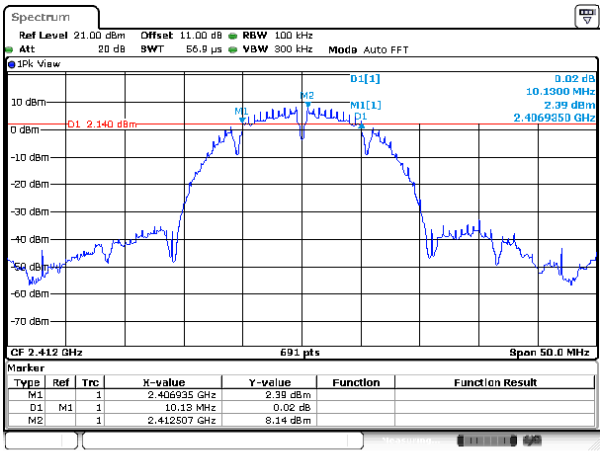
9.3 Test Setup Layout



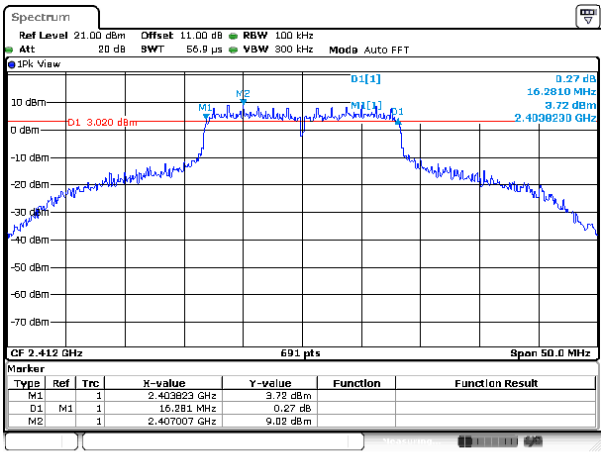
9.4 Test Result and Data

Modulation Type	Channel	Frequency (MHz)	6dB Bandwidth (MHz)	Limit (MHz)
			ANT A	
11b	1	2412	10.13	0.5
	6	2437	10.10	0.5
	11	2462	10.13	0.5
11g	1	2412	16.28	0.5
	6	2437	16.21	0.5
	11	2462	16.21	0.5
11n HT20	1	2412	17.51	0.5
	6	2437	17.29	0.5
	11	2462	17.51	0.5
11n HT40	3	2422	35.31	0.5
	6	2437	35.75	0.5
	9	2452	35.89	0.5

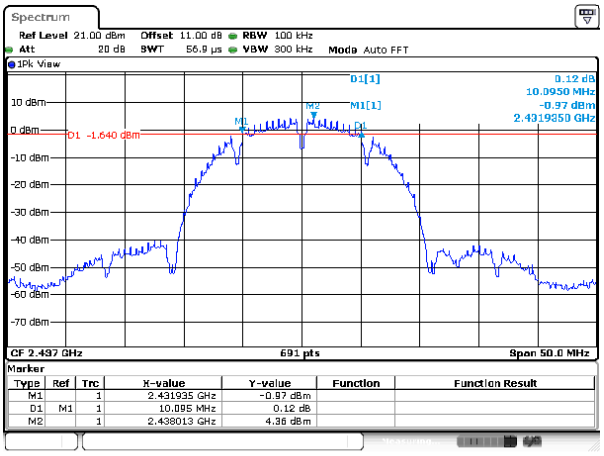
Modulation Type: 802.11b
CH01



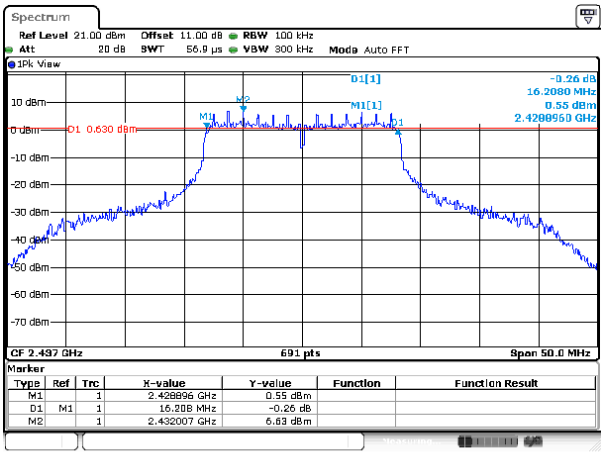
Modulation Type: 802.11g
CH01



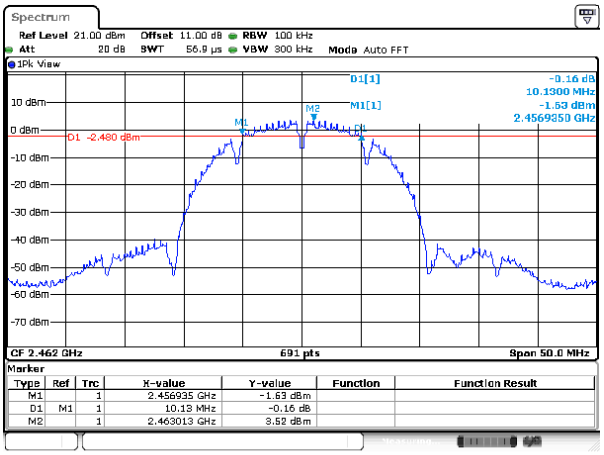
CH06



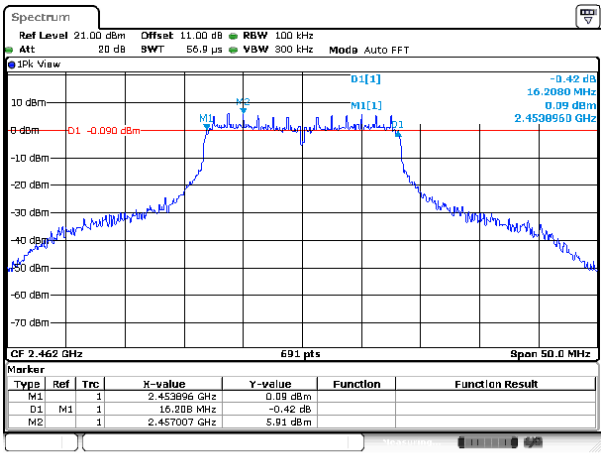
CH06



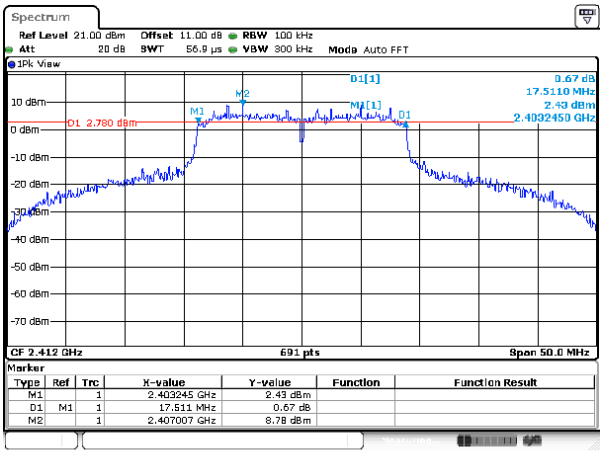
CH11



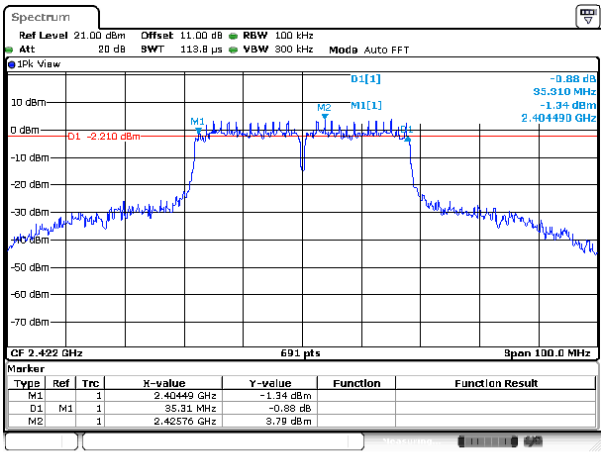
CH11



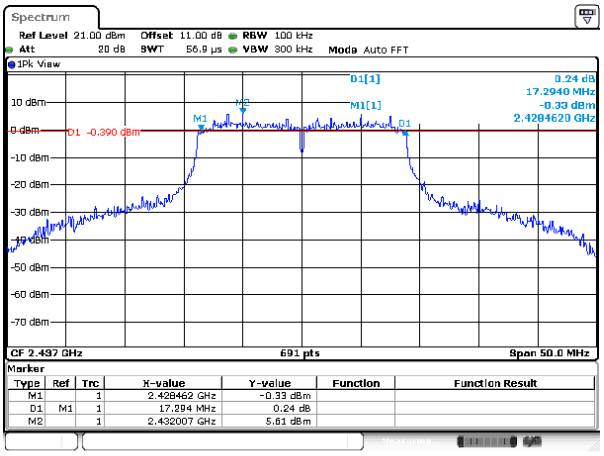
Modulation Type: 802.11n HT20
CH01



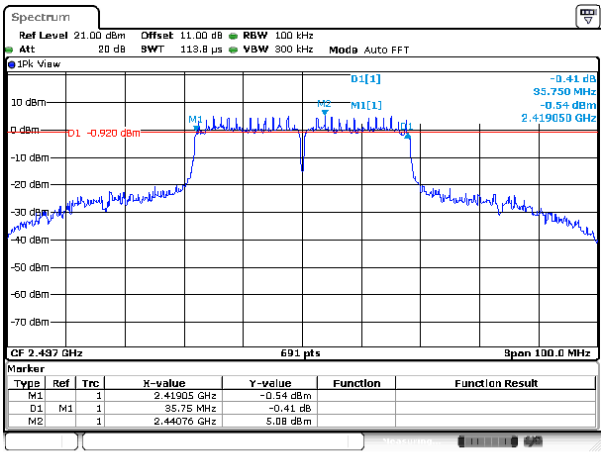
Modulation Type: 802.11n HT40
CH03



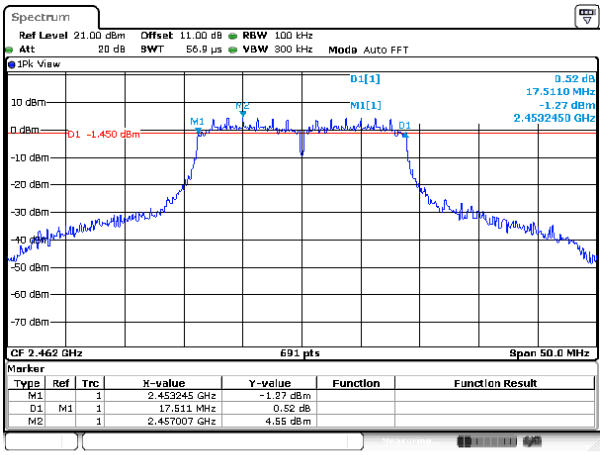
CH06



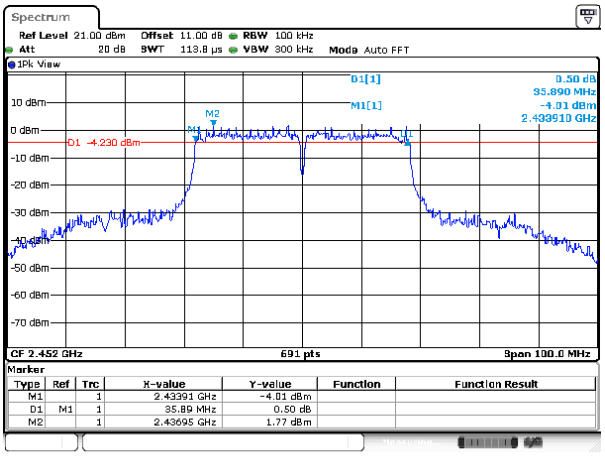
CH06



CH11



CH09



10. Maximum Peak and Average Output Power

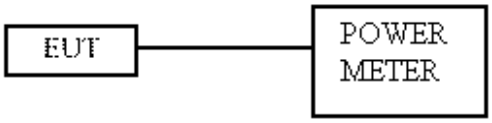
10.1 Test Limit

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)	Powe Limit (dBm)
				ANT A			
45	11b	1	2412	20.52	20.52	112.720	30.00
37		6	2437	16.83	16.83	48.195	30.00
37		11	2462	16.71	16.71	46.881	30.00
61	11g	1	2412	25.34	**25.34**	341.979	30.00
52		6	2437	24.18	24.18	261.818	30.00
51		11	2462	23.94	23.94	247.742	30.00
59	11n HT20	1	2412	25.28	25.28	337.287	30.00
52		6	2437	24.26	24.26	266.686	30.00
51		11	2462	23.94	23.94	247.742	30.00
52	11n HT40	3	2422	24.61	24.61	289.068	30.00
55		6	2437	25.01	25.01	316.957	30.00
50		9	2452	24.16	24.16	260.615	30.00

Power Set	Modulation Mode	Channel	Frequency (MHz)	Conducted(average) output power (dBm)	Total AV power (dBm)	Total AV power (mW)	Powe Limit (dBm)
				ANT A			
45	11b	1	2412	18.12	18.12	64.863	NA
37		6	2437	14.34	14.34	27.164	NA
37		11	2462	14.22	14.22	26.424	NA
61	11g	1	2412	20.77	20.77	119.399	NA
52		6	2437	17.35	17.35	54.325	NA
51		11	2462	16.78	16.78	47.643	NA
59	11n HT20	1	2412	20.18	20.18	104.232	NA
52		6	2437	17.41	17.41	55.081	NA
51		11	2462	16.81	16.81	47.973	NA
52	11n HT40	3	2422	17.81	17.81	60.395	NA
55		6	2437	19.01	19.01	79.616	NA
50		9	2452	16.84	16.84	48.306	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

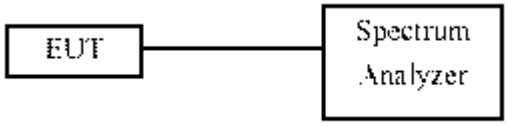
11.2 Test Procedures

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.

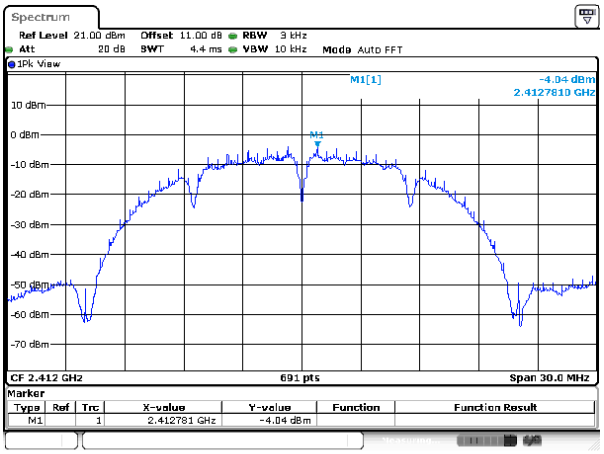
11.3 Test Setup Layout



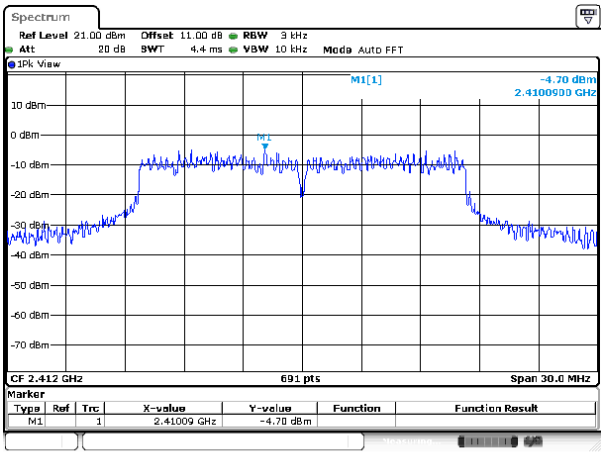
11.4 Test Result and Data

Modulation Type	Channel	Frequency (MHz)	Maximum Power Density of 3KHz Bandwidth(dBm) ANT A	Sum chain (dBm)	Duty Cycle CF(dB)	Total PSD (dBm)	Limit (dBm)
11b	1	2412	-4.04	-4.04	0.00	-4.04	8.00
	6	2437	-7.63	-7.63	0.00	-7.63	8.00
	11	2462	-7.95	-7.95	0.00	-7.95	8.00
11g	1	2412	-4.7	-4.70	0.00	-4.70	8.00
	6	2437	-7.87	-7.87	0.00	-7.87	8.00
	11	2462	-8.51	-8.51	0.00	-8.51	8.00
11n HT20	1	2412	-5.39	-5.39	0.00	-5.39	8.00
	6	2437	-8.1	-8.10	0.00	-8.10	8.00
	11	2462	-8.75	-8.75	0.00	-8.75	8.00
11n HT40	3	2422	-11.18	-11.18	0.00	-11.18	8.00
	6	2437	-10.03	-10.03	0.00	-10.03	8.00
	9	2452	-16.92	-16.92	0.00	-16.92	8.00

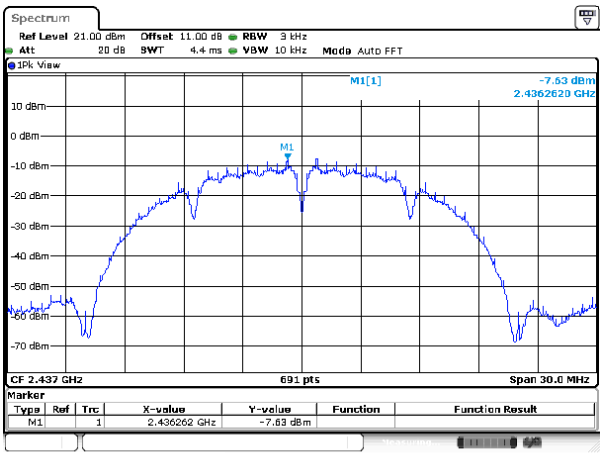
Modulation Type: 802.11b
CH01



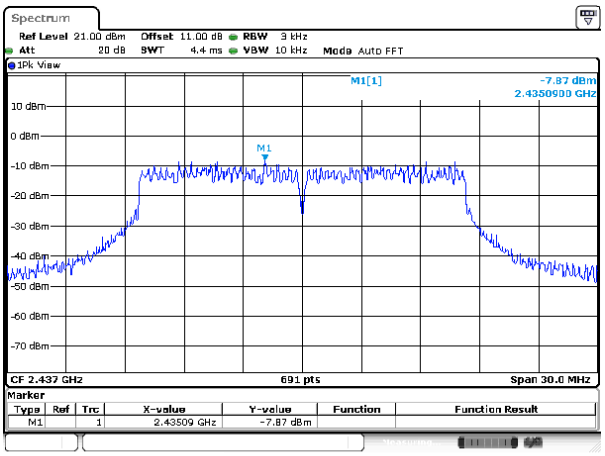
Modulation Type: 802.11g
CH01



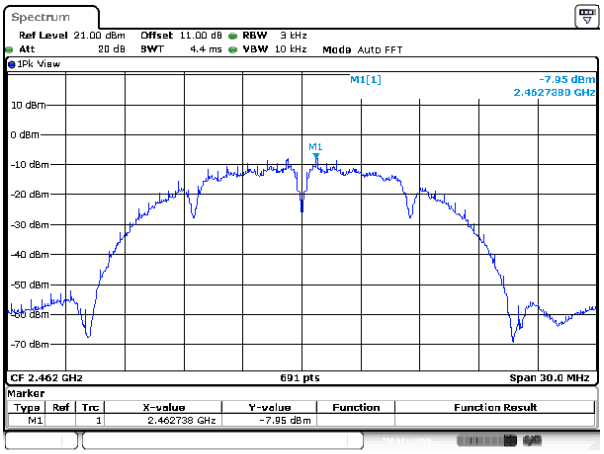
CH06



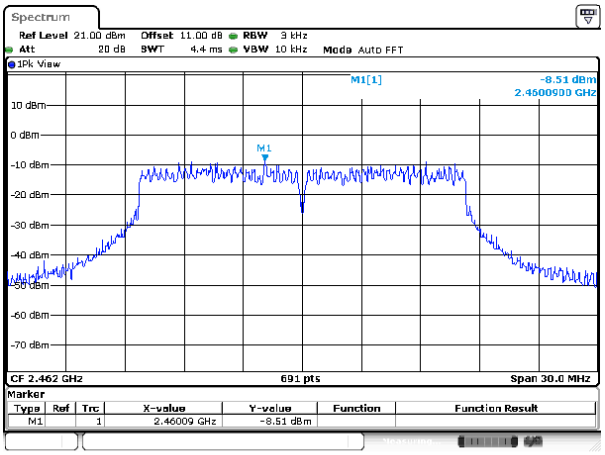
CH06



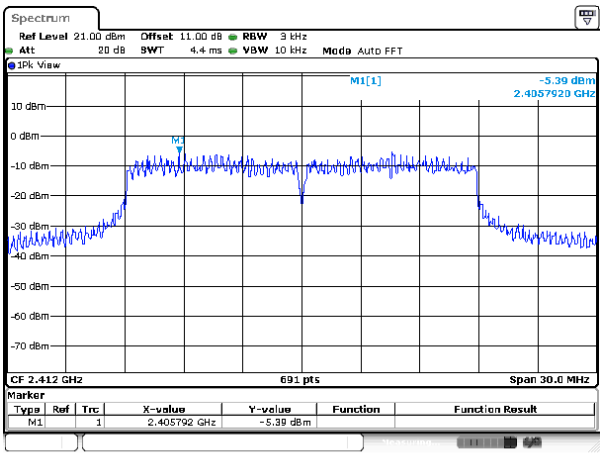
CH11



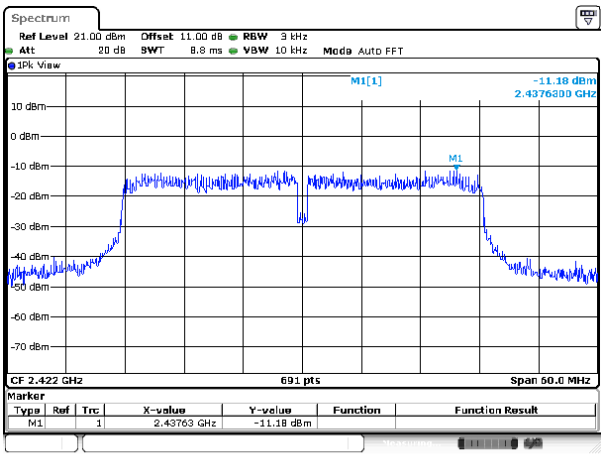
CH11



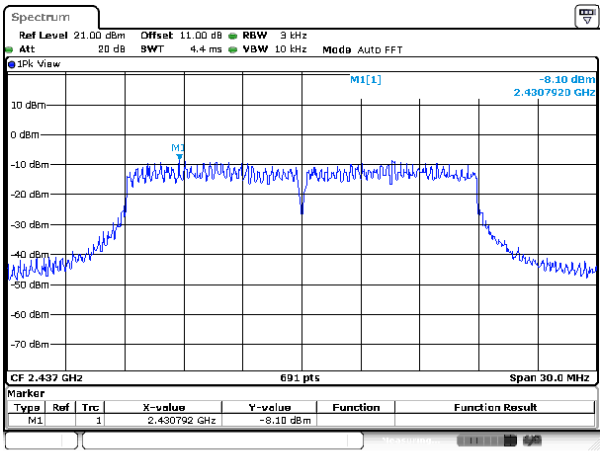
Modulation Type: 802.11n HT20
CH01



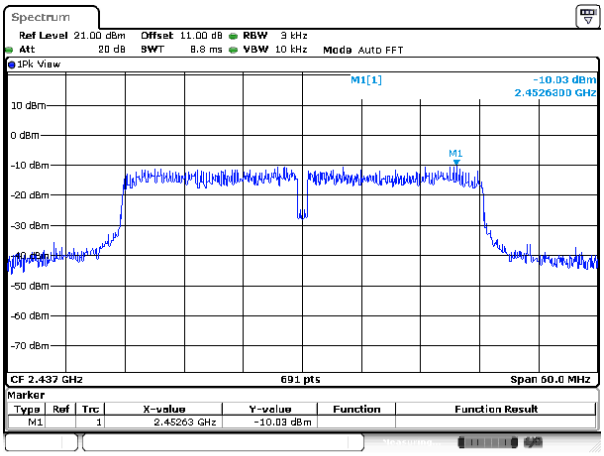
Modulation Type: 802.11n HT40
CH03



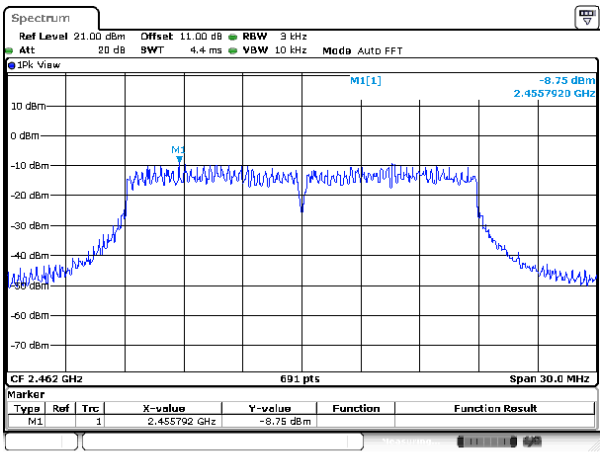
CH06



CH06



CH11



CH09