FCC RADIO TEST REPORT

Applicant	:	Ring LLC
Address	:	1523 26th Street, Santa Monica,CA 90404 United States
Equipment	:	Chime (2nd Generation)
Model No.	:	5AT1S2
Trade Name	:	Ring
FCC ID.	:	2AEUPBHACM021

I HEREBY CERTIFY THAT :

The sample was received on Sep. 20, 2019 and the testing was completed on Sep. 25, 2019 at Cerpass Technology Corp. The test result refers exclusively to the test presented test model / sample. Without written approval of Cerpass Technology Corp., the test report shall not be reproduced except in full.

Approved by:

Mark Liao / Supervisor

Laboratory Accreditation:

Cerpass Technology Corporation Test Laboratory

Contents

History of this test report

Report No.	Issue Date	Description
TEFI1909178	Oct. 02, 2019	Original

1. Summary of Test Procedure and Test Results

1.1 Applicable Standards

ANSI C63.4:2014

ANSI C63.10:2013

FCC Rules and Regulations Part 15 Subpart C §15.247

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 lowered the uncertainty risk of test equipment, environment, and staff technicians according to ISO-IEC17025. Therefore we define test result as compliant when it complies with the standard without further evaluation of test result uncertainty.

*This EUT has been also tested and compiled with the requirement of FCC Part 15, Subpart B, recorded in a separate test report(TEFD1909178).

2. Test Configuration of Equipment under Test

2.1 Feature of Equipment

Frequency Range	802.11b/g/n: 2400-2483.5 MHz
Modulation Type	802.11b: CCK, DQPSK, DBPSK 802.11g/n: BPSK, QPSK, 16QAM, 64QAM
Modulation Technology	OFDM, DSSS
Data Rate	802.11b: 1, 2, 5.5, 11Mbps 802.11g: 6, 9, 12, 18, 24, 36, 48, 54Mbps 802.11n: MCS0 – MCS7, HT20
Antenna Type	PIFA Antenna
Antenna Gain	2400-2483.5MHz: ANT A : 1.8dBi

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

2.2 Carrier Frequency of Channels

802.11b, 802.11g, 802.11n HT20 (2412MHz~2462MHz)

Channel	Frequency(MHz)	Channel	Frequency(MHz)
***01**	**2412**	07	2442
02	2417	08	2447
03	2422	09	2452
04	2427	10	2457
05	2432	***11**	**2462**
***06**	**2437**	---	---

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, ” Radio Tool V1.2.5942.19689” 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)
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)
caused “Test Mode 2” generated the worst case, they were 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)
caused “Test Mode 1~3” 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	2019/09/25	24℃ / 61%	Nick Guan
Radiated Emissions	3M02-NK	2019/09/25	22℃ / 58%	Vic Yeh
AC Power Line Conducted Emission	CON01-NK	2019/09/25	20℃ / 40%	Leon Huang

2.6 Measurement Uncertainty

Measurement Item	Uncertainty
Radiated Spurious Emission(9KHz~30MHz)	±3.405dB
Radiated Spurious Emission(30MHz~1GHz)	±5.326dB
Radiated Spurious Emission(1GHz~25GHz)	±5.918dB
Conducted Spurious Emission	±2.156dB
6dB Bandwidth	±4.401%
20dB Bandwidth	±4.40%
Occupied Bandwidth	±4.41%
Peak Output Power(Conducted Power Meter)	±1.31dB
Dwell Time	±0.11%
Power Spectral Density	±2.146dB
Duty Cycle	±0.17%

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
Bilog Antenna	Schwarzbeck	VULB9168	369	2019/03/29	2020/03/28
Active Loop Antenna	EMCO	6507	40855	2019/05/24	2020/05/23
Horn Antenna	EMCO	3115	31589	2019/04/01	2020/03/31
Horn Anrenna	EMCO	3116	31974	2019/09/17	2020/09/16
EMI Receiver	ROHDE & SCHWARZ	ESCI	101423	2019/05/14	2020/05/13
Spectrum Analyzer	ROHDE & SCHWARZ	FSP 40	100047	2019/03/28	2020/03/27
Preamplifier	EM Electronics corp.	EM330	60660	2019/03/11	2020/03/10
Preamplifier	EMC INSTRUMENTS	EMC051845SE	980333	2019/09/20	2020/09/19
Preamplifier	Agilent	8449B	3008A01954	2019/03/11	2020/03/10
Bluetooth Tester	ROHDE & SCHWARZ	CBT	101133	2019/04/07	2020/04/06
Cable-3in1(30M-1G)	HARBOUR INDUSTRIES	LL142	CCE1315	2019/04/09	2020/04/08
Cable-3in1(30M-1G)	HARBOUR INDUSTRIES	LL142	CCE1316	2019/09/20	2020/09/19
Cable-0.5m(1G-40G)	HUBER SUHNER	SUCOFLEX 100	805443/4	2019/05/20	2020/05/19
Cable-3m(1G-40G)	HUBER SUHNER	SUCOFLEX 100	805796/4	2019/05/20	2020/05/19
Cable-8m(1G-40G)	HUBER SUHNER	SUCOFLEX 100	805795/4	2019/05/20	2020/05/19
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	100047	2019/03/28	2020/03/27
Bluetooth Tester	ROHDE & SCHWARZ	CBT	101133	2019/04/07	2020/04/06
Attenuator	KEYSIGHT	8491B	MY39250703	2019/09/12	2020/09/11
TEMP & HUMI CHAMBER	T-MACHINE	TMJ-9712	T-12-040111	2019/08/28	2020/08/27
Power Meter	Anritsu	ML2495A	1224005	2019/4/11	2020/04/10
Power Sensor	Anritsu	MA2411B	1207295	2019/04/09	2020/04/08

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	100443	2019/03/29	2020/03/28
Line Impedance Stabilization Network	Schwarzbeck	NSLK 8127	8127-568	2019/03/15	2020/03/14
Pulse Limiter	ROHDE & SCHWARZ	ESH3-Z2	101934	2019/03/12	2020/03/11
Cable-6m(9k~300M)	NA	EMC5D-BM-BM-6	130606	2019/03/14	2020/03/13
E3	AUDIX	v8.2014-8-6	RK-000531	NA	NA

4. Antenna Requirements

4.1 Antenna Construction and Directional Gain

Antenna Type	PIFA Antenna
Antenna Gain	2412-2462MHz: ANT A: 1.8dBi

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.

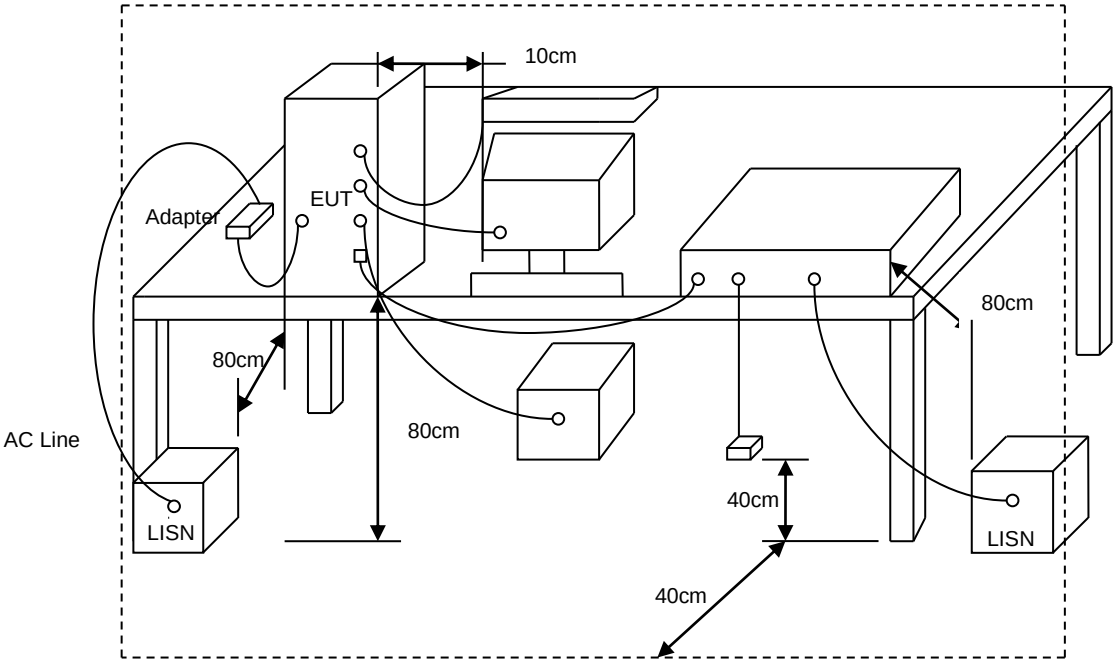
Frequency (MHz)	Quasi Peak (dB μ V)	Average (dB μ V)
0.15 – 0.5	66-56*	56-46*
0.5 – 5.0	56	46
5.0 – 30.0	60	50

*Decreases with the logarithm of the frequency.

5.2 Test Procedures

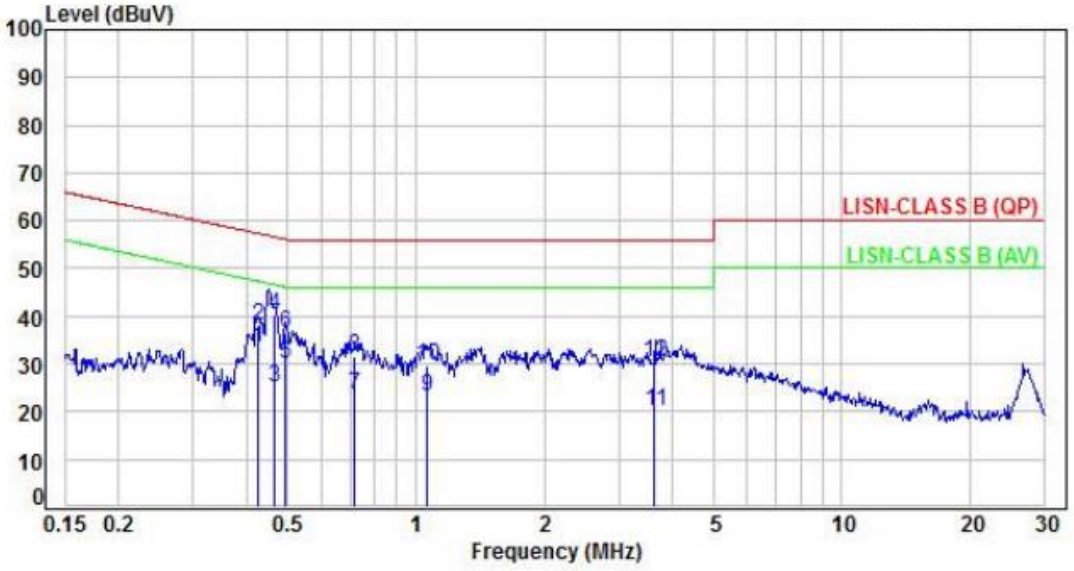
a. The EUT was placed 0.4 meter from the conducting wall of the shielding room was kept at least 80 centimeters from any other grounded conducting surface.
b. Connect EUT to the power mains through a line impedance stabilization network (LISN).
c. All the support units are connecting to the other LISN.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

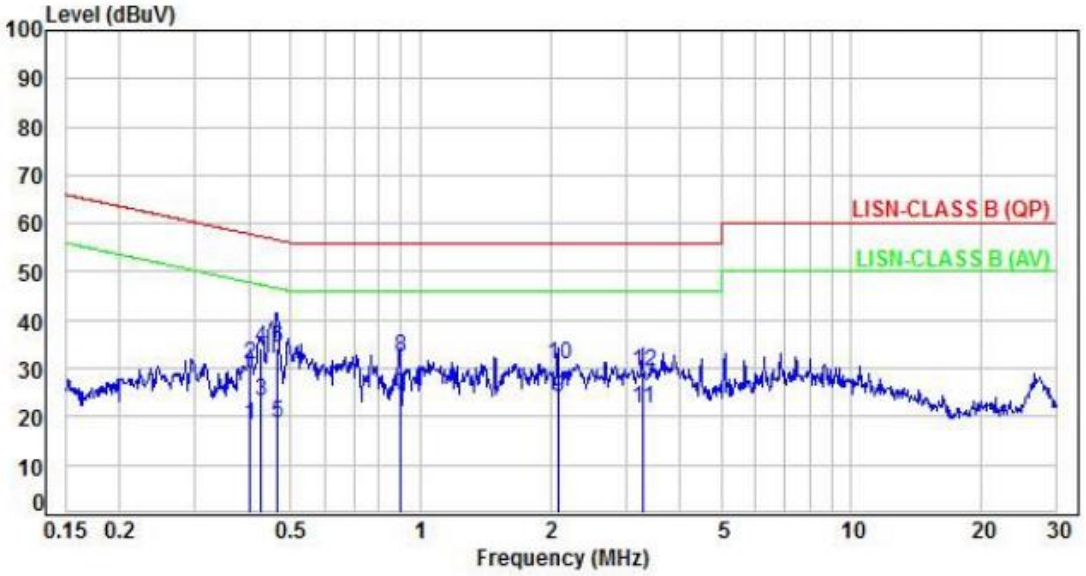
Power	:	AC 120V / 60Hz	Pol/Phase	:	LINE
Test Mode	:	Mode 2		:	



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector	P/F
1	0.42	9.94	23.35	33.29	47.35	-14.06	Average	P
2	0.42	9.94	28.19	38.13	57.35	-19.22	QP	P
3	0.46	9.94	15.09	25.03	46.61	-21.58	Average	P
4	0.46	9.94	30.37	40.31	56.61	-16.30	QP	P
5	0.49	9.94	20.16	30.10	46.14	-16.04	Average	P
6	0.49	9.94	26.44	36.38	56.14	-19.76	QP	P
7	0.72	9.96	13.63	23.59	46.00	-22.41	Average	P
8	0.72	9.96	21.64	31.60	56.00	-24.40	QP	P
9	1.06	9.97	13.16	23.13	46.00	-22.87	Average	P
10	1.06	9.97	19.51	29.48	56.00	-26.52	QP	P
11	3.64	10.09	10.22	20.31	46.00	-25.69	Average	P
12	3.64	10.09	20.41	30.50	56.00	-25.50	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	0.40	9.96	8.43	18.39	47.80	-29.41	Average	P
2	0.40	9.96	20.71	30.67	57.80	-27.13	QP	P
3	0.42	9.96	13.09	23.05	47.35	-24.30	Average	P
4	0.42	9.96	24.34	34.30	57.35	-23.05	QP	P
5	0.47	9.96	8.84	18.80	46.60	-27.80	Average	P
6	0.47	9.96	24.43	34.39	56.60	-22.21	QP	P
7	0.89	9.98	14.28	24.26	46.00	-21.74	Average	P
8	0.89	9.98	22.40	32.38	56.00	-23.62	QP	P
9	2.09	10.01	14.09	24.10	46.00	-21.90	Average	P
10	2.09	10.01	20.88	30.89	56.00	-25.11	QP	P
11	3.28	10.09	11.66	21.75	46.00	-24.25	Average	P
12	3.28	10.09	19.16	29.25	56.00	-26.75	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.

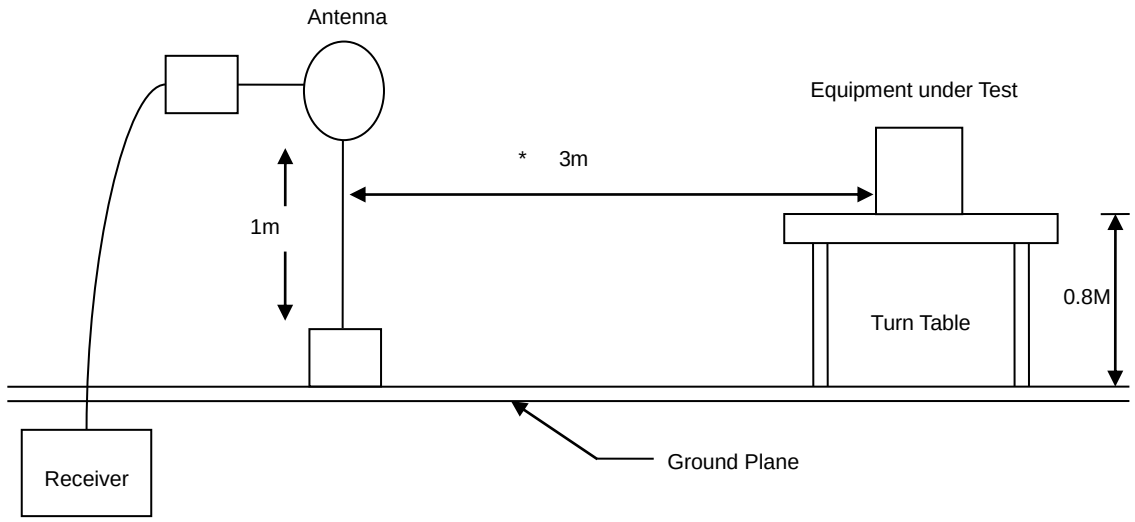
g. If the emission level of the EUT in peak mode was 3 dB lower than the limit specified, then testing will be stopped and peak values of EUT will be reported, otherwise, the emissions which do not have 3 dB margin will be repeated one by one using the quasi-peak method and reported.

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.

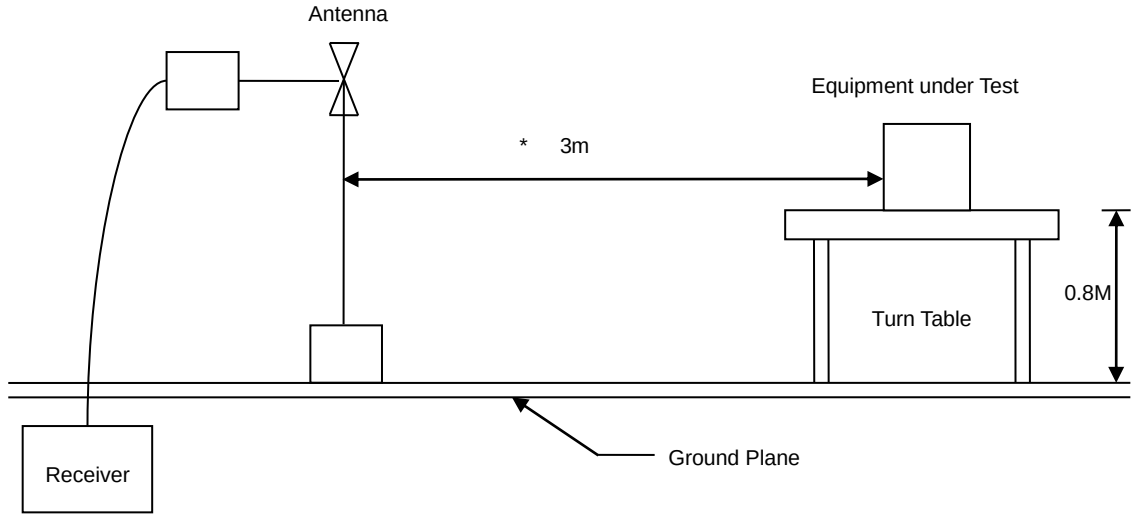
i. “Cone of radiation” has been considered to be 3dB bandwidth of the measurement antenna.

6.3 Typical Test Setup

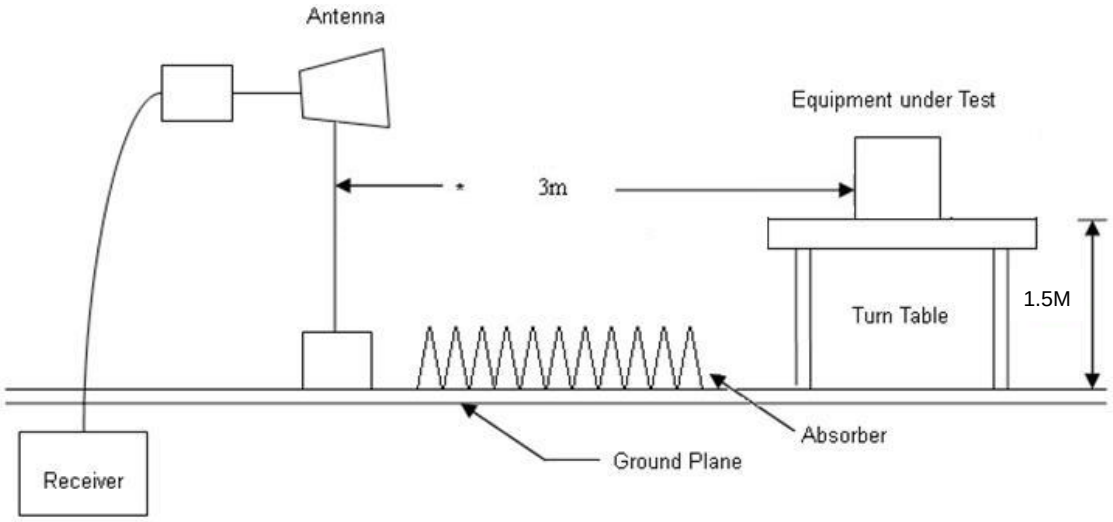
Below 30MHz test setup



30MHz- 1GHz Test Setup



Above 1GHz Test Setup

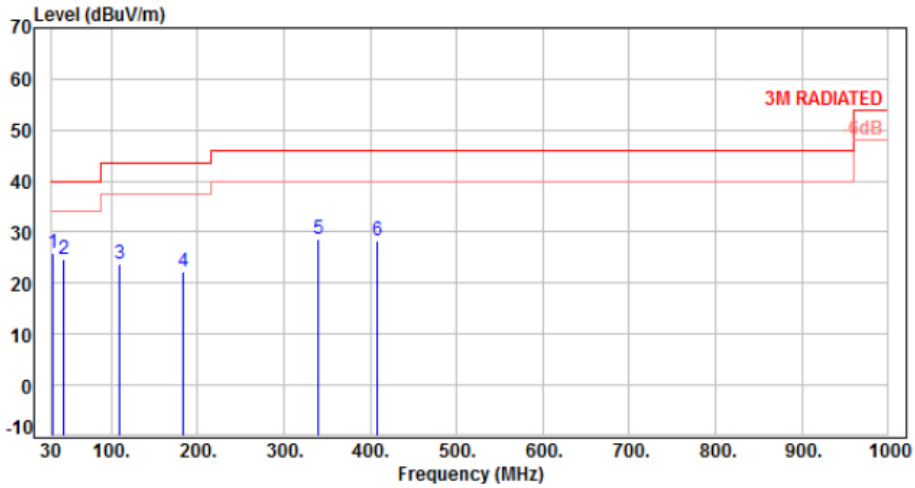


6.4 Test Result and Data (9KHz ~ 30MHz)

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

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

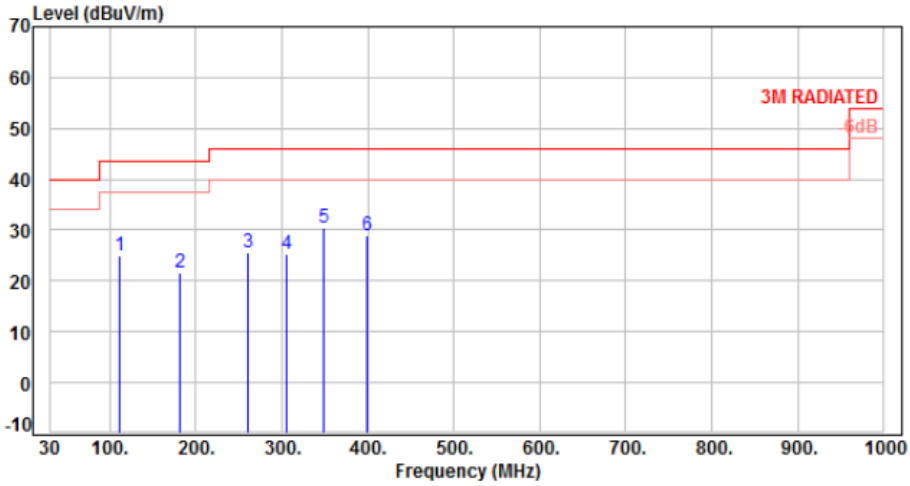
Power	:	AC 120V / 60Hz	Pol/Phase	:	VERTICAL
Test Mode	:	Mode 2		:	



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	31.94	-10.25	35.99	25.74	40.00	-14.26	Peak	201	0	P
2	45.52	-9.33	34.13	24.80	40.00	-15.20	Peak	201	0	P
3	109.54	-12.50	36.32	23.82	43.50	-19.68	Peak	201	0	P
4	183.26	-11.04	33.16	22.12	43.50	-21.38	Peak	201	0	P
5	340.40	-7.27	35.80	28.53	46.00	-17.47	Peak	201	0	P
6	408.30	-5.50	33.85	28.35	46.00	-17.65	Peak	201	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		:	

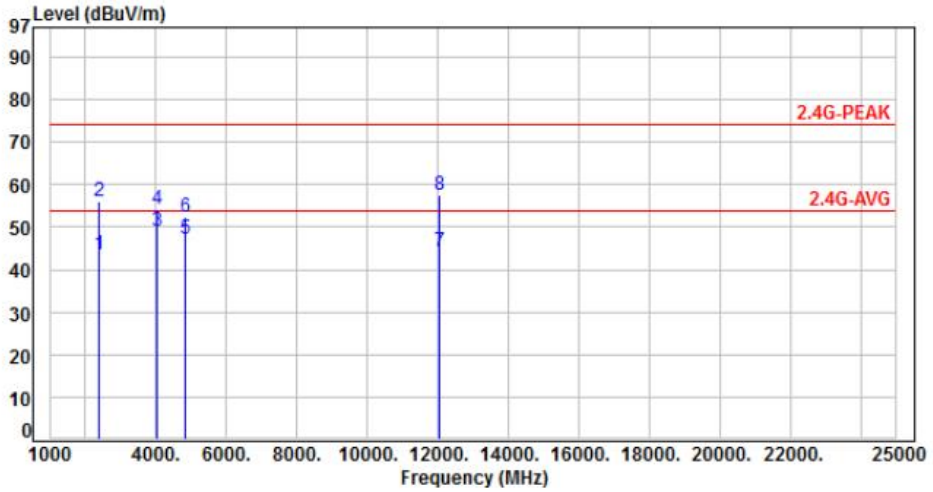


No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	111.48	-12.39	37.39	25.00	43.50	-18.50	Peak	100	0	P
2	181.32	-10.96	32.65	21.69	43.50	-21.81	Peak	100	0	P
3	260.86	-9.93	35.48	25.55	46.00	-20.45	Peak	100	0	P
4	305.48	-8.29	33.58	25.29	46.00	-20.71	Peak	100	0	P
5	348.16	-7.17	37.51	30.34	46.00	-15.66	Peak	100	0	P
6	398.60	-5.74	34.61	28.87	46.00	-17.13	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)

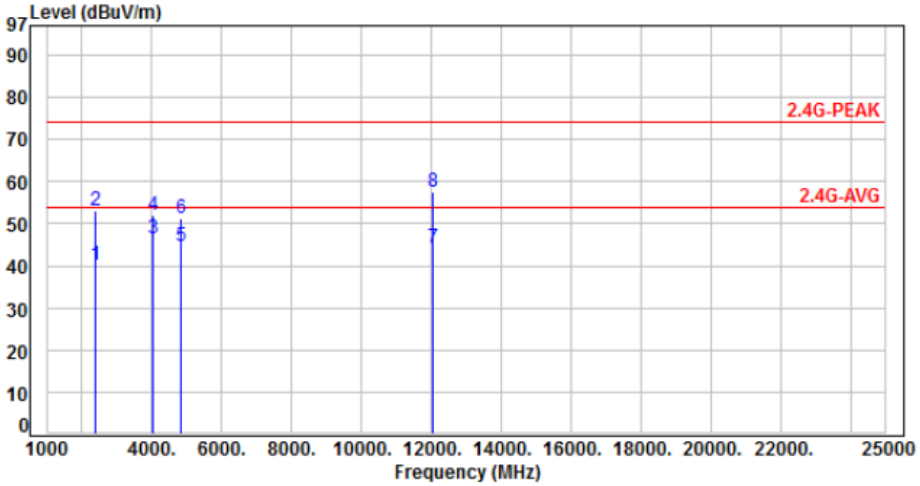
Power	:	AC 120V / 60Hz	Pol/Phase	:	VERTICAL
Test Mode	:	Mode 1, CH01		:	



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	-3.64	47.31	43.67	54.00	-10.33	Average	245	338	P
2	2390.00	-3.64	59.75	56.11	74.00	-17.89	Peak	245	338	P
3	4020.00	2.47	46.45	48.92	54.00	-5.08	Average	311	170	P
4	4020.00	2.47	51.70	54.17	74.00	-19.83	Peak	311	170	P
5	4824.00	3.76	43.45	47.21	54.00	-6.79	Average	398	15	P
6	4824.00	3.76	48.59	52.35	74.00	-21.65	Peak	398	15	P
7	12060.00	13.45	30.86	44.31	54.00	-9.69	Average	100	196	P
8	12060.00	13.45	43.92	57.37	74.00	-16.63	Peak	100	196	P

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

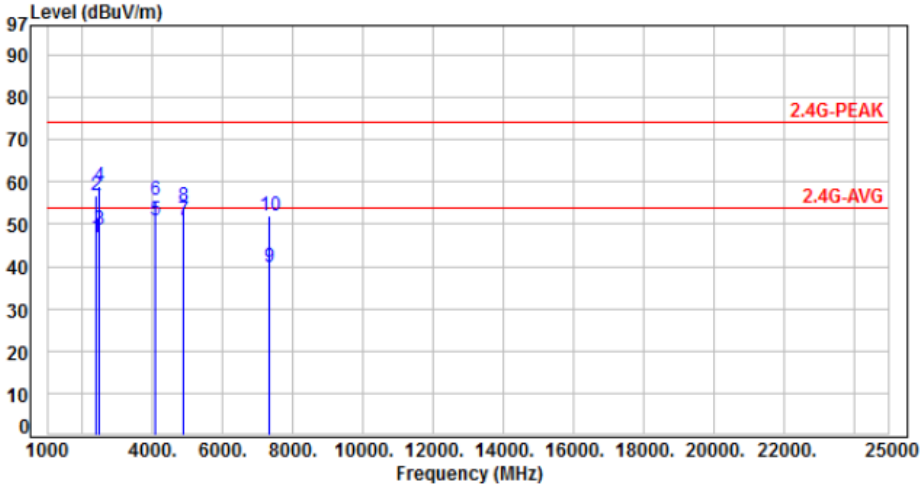
Power	:	AC 120V / 60Hz	Pol/Phase	:	HORIZONTAL
Test Mode	:	Mode 1, CH01		:	



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	-3.64	43.91	40.27	54.00	-13.73	Average	100	5	P
2	2390.00	-3.64	56.86	53.22	74.00	-20.78	Peak	100	5	P
3	4020.00	2.47	43.90	46.37	54.00	-7.63	Average	112	182	P
4	4020.00	2.47	49.36	51.83	74.00	-22.17	Peak	112	182	P
5	4824.00	3.76	40.99	44.75	54.00	-9.25	Average	100	202	P
6	4824.00	3.76	47.62	51.38	74.00	-22.62	Peak	100	202	P
7	12060.00	13.45	30.76	44.21	54.00	-9.79	Average	100	324	P
8	12060.00	13.45	44.02	57.47	74.00	-16.53	Peak	100	324	P

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

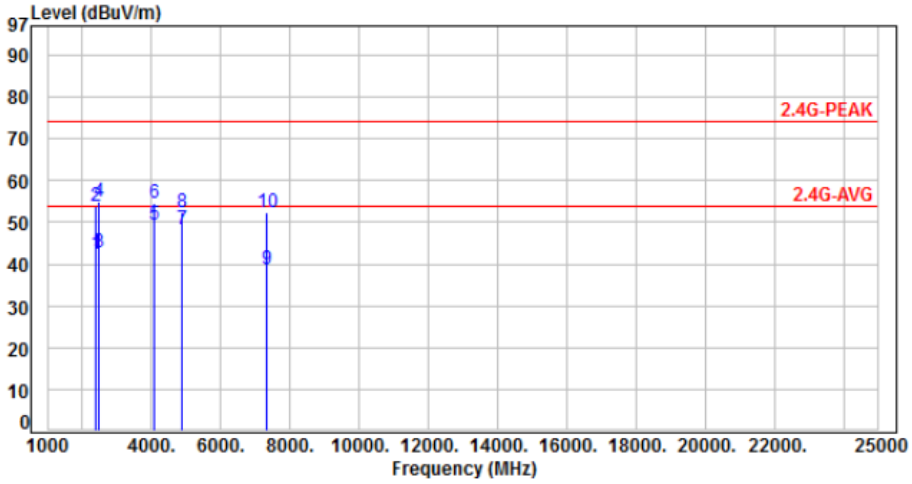
Power	:	AC 120V / 60Hz	Pol/Phase	:	VERTICAL
Test Mode	:	Mode 1, CH06		:	



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	-3.64	50.44	46.80	54.00	-7.20	Average	310	312	P
2	2390.00	-3.64	60.50	56.86	74.00	-17.14	Peak	310	312	P
3	2483.50	-3.30	51.85	48.55	54.00	-5.45	Average	310	312	P
4	2483.50	-3.30	62.40	59.10	74.00	-14.90	Peak	310	312	P
5	4062.00	2.46	48.26	50.72	54.00	-3.28	Average	275	143	P
6	4062.00	2.46	53.18	55.64	74.00	-18.36	Peak	275	143	P
7	4874.00	3.95	46.93	50.88	54.00	-3.12	Average	398	30	P
8	4874.00	3.95	50.10	54.05	74.00	-19.95	Peak	398	30	P
9	7311.00	8.84	30.89	39.73	54.00	-14.27	Average	100	269	P
10	7311.00	8.84	43.17	52.01	74.00	-21.99	Peak	100	269	P

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

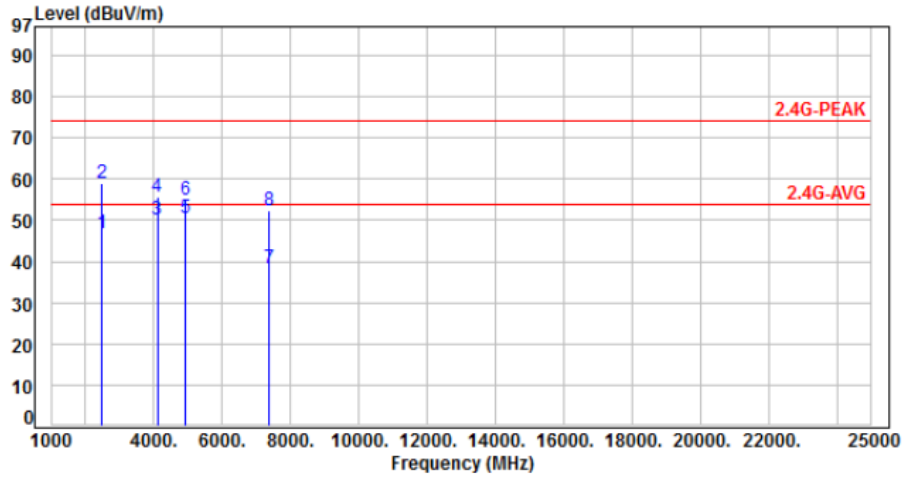
Power	:	AC 120V / 60Hz	Pol/Phase	:	HORIZONTAL
Test Mode	:	Mode 1, CH06		:	



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	-3.64	45.97	42.33	54.00	-11.67	Average	100	16	P
2	2390.00	-3.64	57.57	53.93	74.00	-20.07	Peak	100	16	P
3	2483.50	-3.30	45.96	42.66	54.00	-11.34	Average	100	16	P
4	2483.50	-3.30	58.18	54.88	74.00	-19.12	Peak	100	16	P
5	4062.00	2.46	46.80	49.26	54.00	-4.74	Average	100	180	P
6	4062.00	2.46	52.30	54.76	74.00	-19.24	Peak	100	180	P
7	4874.00	3.95	44.45	48.40	54.00	-5.60	Average	100	138	P
8	4874.00	3.95	48.45	52.40	74.00	-21.60	Peak	100	138	P
9	7311.00	8.84	29.84	38.68	54.00	-15.32	Average	100	311	P
10	7311.00	8.84	43.39	52.23	74.00	-21.77	Peak	100	311	P

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

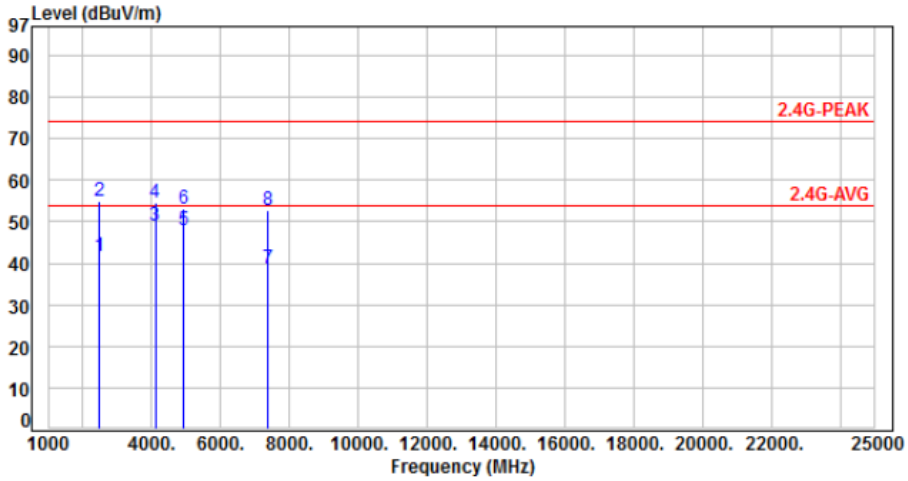
Power	:	AC 120V / 60Hz	Pol/Phase	:	VERTICAL
Test Mode	:	Mode 1, CH11		:	



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	-3.30	50.20	46.90	54.00	-7.10	Average	160	315	P
2	2483.50	-3.30	62.22	58.92	74.00	-15.08	Peak	160	315	P
3	4103.00	2.35	47.98	50.33	54.00	-3.67	Average	215	200	P
4	4103.00	2.35	53.52	55.87	74.00	-18.13	Peak	215	200	P
5	4924.00	4.10	46.33	50.43	54.00	-3.57	Average	387	33	P
6	4924.00	4.10	50.78	54.88	74.00	-19.12	Peak	387	33	P
7	7386.00	8.94	29.60	38.54	54.00	-15.46	Average	100	308	P
8	7386.00	8.94	43.34	52.28	74.00	-21.72	Peak	100	308	P

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

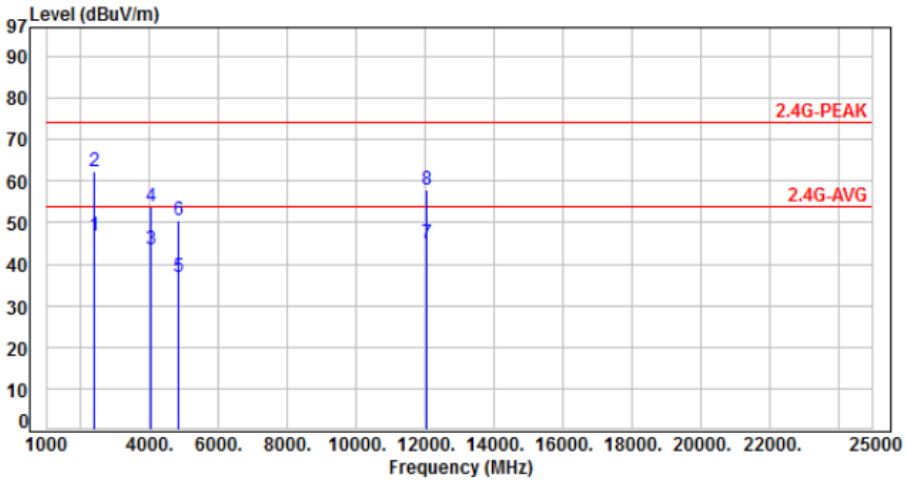
Power	:	AC 120V / 60Hz	Pol/Phase	:	HORIZONTAL
Test Mode	:	Mode 1, CH11		:	



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	-3.30	44.97	41.67	54.00	-12.33	Average	100	0	P
2	2483.50	-3.30	58.16	54.86	74.00	-19.14	Peak	100	0	P
3	4103.00	2.35	46.72	49.07	54.00	-4.93	Average	100	186	P
4	4103.00	2.35	52.14	54.49	74.00	-19.51	Peak	100	186	P
5	4924.00	4.10	43.83	47.93	54.00	-6.07	Average	100	195	P
6	4924.00	4.10	49.01	53.11	74.00	-20.89	Peak	100	195	P
7	7386.00	8.94	29.62	38.56	54.00	-15.44	Average	100	211	P
8	7386.00	8.94	43.94	52.88	74.00	-21.12	Peak	100	211	P

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

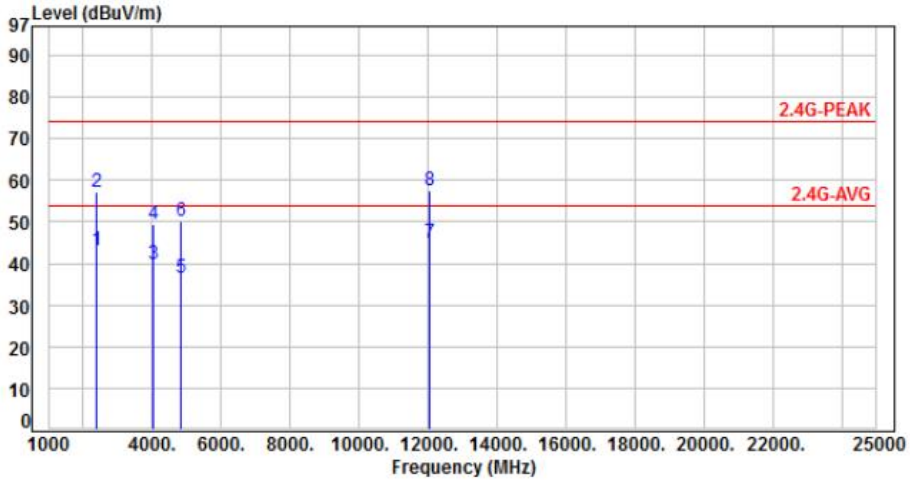
Power	:	AC 120V / 60Hz	Pol/Phase	:	VERTICAL
Test Mode	:	Mode 2, CH01		:	



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	-3.64	50.30	46.66	54.00	-7.34	Average	100	330	P
2	2390.00	-3.64	65.96	62.32	74.00	-11.68	Peak	100	330	P
3	4020.00	2.47	41.07	43.54	54.00	-10.46	Average	110	190	P
4	4020.00	2.47	51.27	53.74	74.00	-20.26	Peak	110	190	P
5	4824.00	3.76	32.97	36.73	54.00	-17.27	Average	380	25	P
6	4824.00	3.76	46.70	50.46	74.00	-23.54	Peak	380	25	P
7	12060.00	13.45	31.48	44.93	54.00	-9.07	Average	100	125	P
8	12060.00	13.45	44.33	57.78	74.00	-16.22	Peak	100	125	P

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

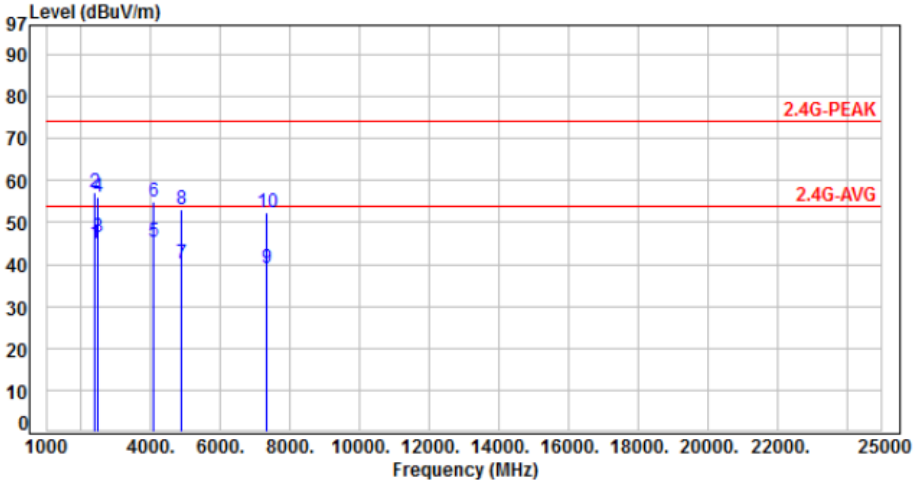
Power	:	AC 120V / 60Hz	Pol/Phase	:	HORIZONTAL
Test Mode	:	Mode 2, CH01		:	



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	-3.64	46.78	43.14	54.00	-10.86	Average	100	17	P
2	2390.00	-3.64	60.90	57.26	74.00	-16.74	Peak	100	17	P
3	4020.00	2.47	37.37	39.84	54.00	-14.16	Average	120	185	P
4	4020.00	2.47	46.84	49.31	74.00	-24.69	Peak	120	185	P
5	4824.00	3.76	32.85	36.61	54.00	-17.39	Average	100	138	P
6	4824.00	3.76	46.31	50.07	74.00	-23.93	Peak	100	138	P
7	12060.00	13.45	31.49	44.94	54.00	-9.06	Average	100	166	P
8	12060.00	13.45	44.08	57.53	74.00	-16.47	Peak	100	166	P

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

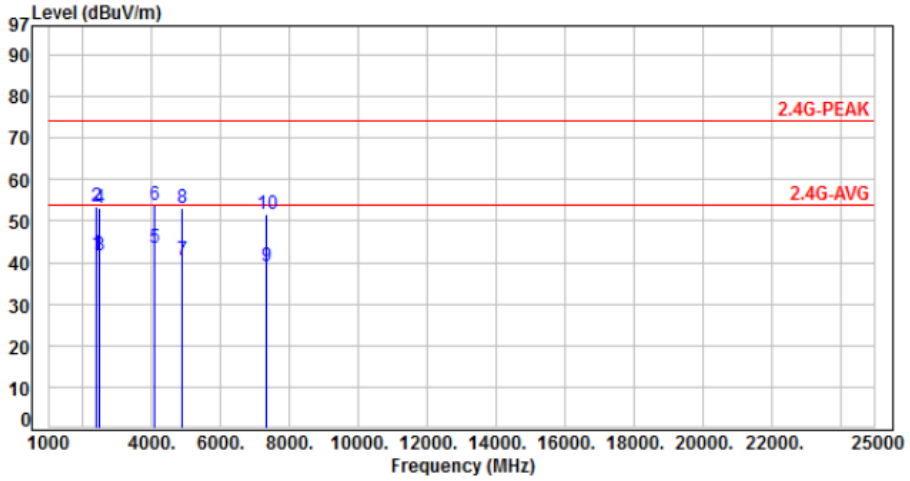
Power	:	AC 120V / 60Hz	Pol/Phase	:	VERTICAL
Test Mode	:	Mode 2, CH06		:	



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	-3.64	48.80	45.16	54.00	-8.84	Average	100	335	P
2	2390.00	-3.64	60.93	57.29	74.00	-16.71	Peak	100	335	P
3	2483.50	-3.30	49.60	46.30	54.00	-7.70	Average	100	335	P
4	2483.50	-3.30	59.45	56.15	74.00	-17.85	Peak	100	335	P
5	4062.00	2.46	42.96	45.42	54.00	-8.58	Average	100	190	P
6	4062.00	2.46	52.67	55.13	74.00	-18.87	Peak	100	190	P
7	4874.00	3.95	36.13	40.08	54.00	-13.92	Average	392	16	P
8	4874.00	3.95	49.33	53.28	74.00	-20.72	Peak	392	16	P
9	7311.00	8.84	30.22	39.06	54.00	-14.94	Average	100	120	P
10	7311.00	8.84	43.52	52.36	74.00	-21.64	Peak	100	120	P

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

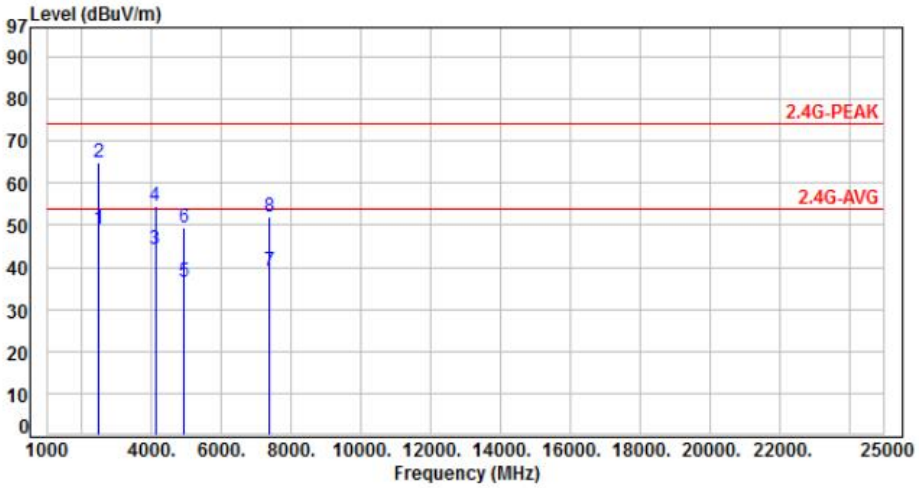
Power	:	AC 120V / 60Hz	Pol/Phase	:	HORIZONTAL
Test Mode	:	Mode 2, CH06		:	



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	-3.64	45.76	42.12	54.00	-11.88	Average	100	240	P
2	2390.00	-3.64	57.15	53.51	74.00	-20.49	Peak	100	240	P
3	2483.50	-3.30	45.08	41.78	54.00	-12.22	Average	100	240	P
4	2483.50	-3.30	56.42	53.12	74.00	-20.88	Peak	100	240	P
5	4062.00	2.46	41.02	43.48	54.00	-10.52	Average	100	184	P
6	4062.00	2.46	51.26	53.72	74.00	-20.28	Peak	100	184	P
7	4874.00	3.95	36.47	40.42	54.00	-13.58	Average	100	136	P
8	4874.00	3.95	49.34	53.29	74.00	-20.71	Peak	100	136	P
9	7311.00	8.84	30.13	38.97	54.00	-15.03	Average	100	256	P
10	7311.00	8.84	42.93	51.77	74.00	-22.23	Peak	100	256	P

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

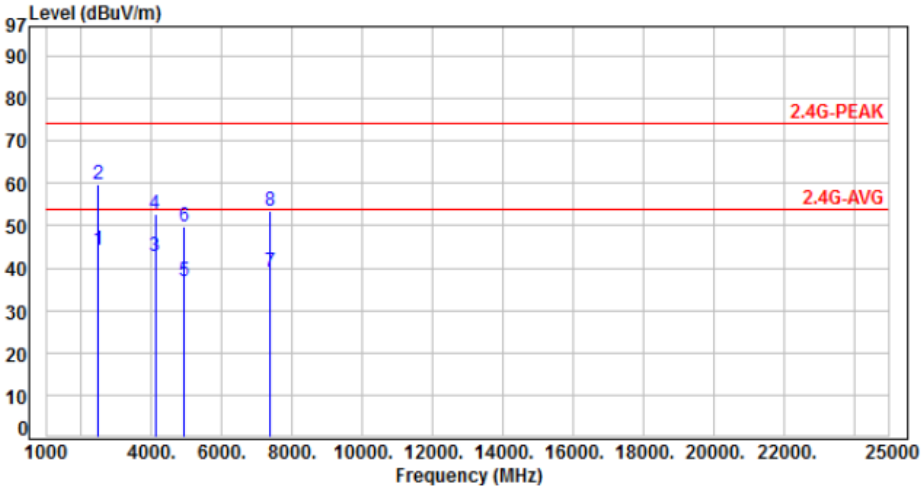
Power	:	AC 120V / 60Hz	Pol/Phase	:	VERTICAL
Test Mode	:	Mode 2, CH11		:	



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	-3.30	52.36	49.06	54.00	-4.94	Average	149	325	P
2	2483.50	-3.30	68.29	64.99	74.00	-9.01	Peak	149	325	P
3	4103.00	2.35	42.04	44.39	54.00	-9.61	Average	130	195	P
4	4103.00	2.35	52.11	54.46	74.00	-19.54	Peak	130	195	P
5	4924.00	4.10	32.50	36.60	54.00	-17.40	Average	100	35	P
6	4924.00	4.10	45.39	49.49	74.00	-24.51	Peak	100	35	P
7	7386.00	8.94	30.04	38.98	54.00	-15.02	Average	100	188	P
8	7386.00	8.94	43.13	52.07	74.00	-21.93	Peak	100	188	P

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

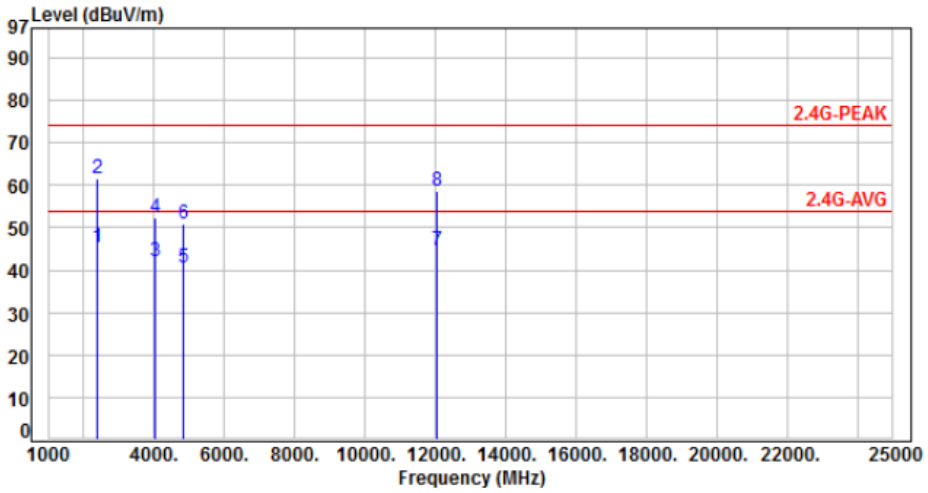
Power	:	AC 120V / 60Hz	Pol/Phase	:	HORIZONTAL
Test Mode	:	Mode 2, CH11		:	



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	-3.30	47.68	44.38	54.00	-9.62	Average	120	30	P
2	2483.50	-3.30	63.13	59.83	74.00	-14.17	Peak	120	30	P
3	4103.00	2.35	40.37	42.72	54.00	-11.28	Average	100	192	P
4	4103.00	2.35	50.54	52.89	74.00	-21.11	Peak	100	192	P
5	4924.00	4.10	32.77	36.87	54.00	-17.13	Average	100	212	P
6	4924.00	4.10	45.63	49.73	74.00	-24.27	Peak	100	212	P
7	7386.00	8.94	30.09	39.03	54.00	-14.97	Average	100	263	P
8	7386.00	8.94	44.50	53.44	74.00	-20.56	Peak	100	263	P

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

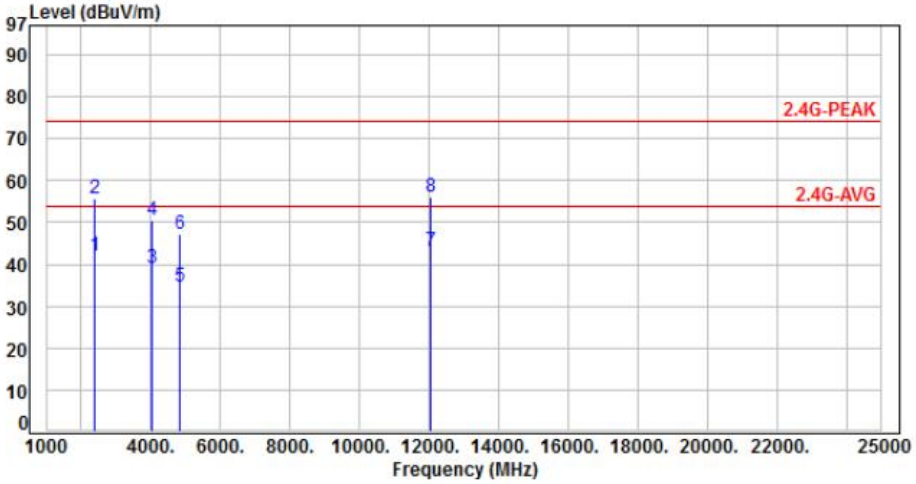
Power	:	AC 120V / 60Hz	Pol/Phase	:	VERTICAL
Test Mode	:	Mode 3, CH01		:	



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	-3.64	49.05	45.41	54.00	-8.59	Average	100	331	P
2	2390.00	-3.64	65.05	61.41	74.00	-12.59	Peak	100	331	P
3	4020.00	2.47	39.49	41.96	54.00	-12.04	Average	100	192	P
4	4020.00	2.47	50.00	52.47	74.00	-21.53	Peak	100	192	P
5	4824.00	3.76	36.79	40.55	54.00	-13.45	Average	359	33	P
6	4824.00	3.76	47.15	50.91	74.00	-23.09	Peak	359	33	P
7	12060.00	13.45	31.17	44.62	54.00	-9.38	Average	100	130	P
8	12060.00	13.45	45.11	58.56	74.00	-15.44	Peak	100	130	P

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

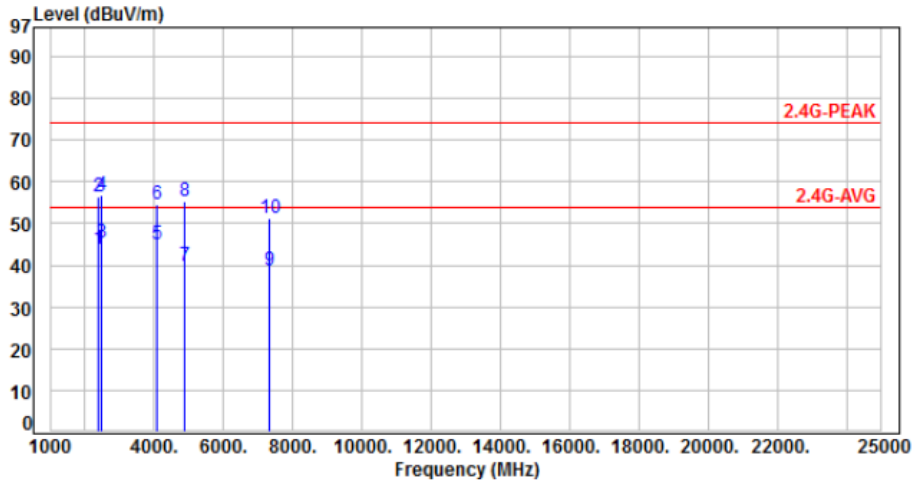
Power	:	AC 120V / 60Hz	Pol/Phase	:	HORIZONTAL
Test Mode	:	Mode 3, CH01		:	



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	-3.64	45.57	41.93	54.00	-12.07	Average	100	40	P
2	2390.00	-3.64	59.30	55.66	74.00	-18.34	Peak	100	40	P
3	4020.00	2.47	36.72	39.19	54.00	-14.81	Average	380	155	P
4	4020.00	2.47	47.90	50.37	74.00	-23.63	Peak	380	155	P
5	4824.00	3.76	30.87	34.63	54.00	-19.37	Average	100	133	P
6	4824.00	3.76	43.49	47.25	74.00	-26.75	Peak	100	133	P
7	12060.00	13.45	29.76	43.21	54.00	-10.79	Average	100	112	P
8	12060.00	13.45	42.73	56.18	74.00	-17.82	Peak	100	112	P

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

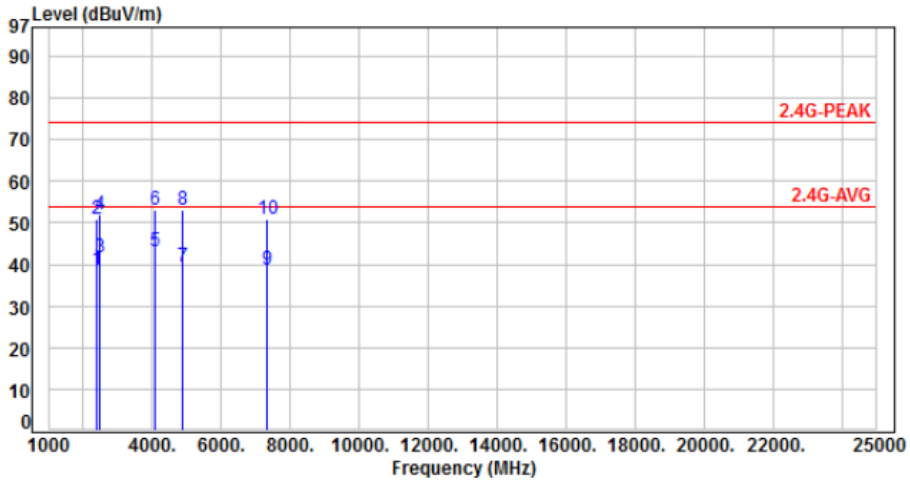
Power	:	AC 120V / 60Hz	Pol/Phase	:	VERTICAL
Test Mode	:	Mode 3, CH06		:	



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	-3.64	47.48	43.84	54.00	-10.16	Average	100	235	P
2	2390.00	-3.64	60.00	56.36	74.00	-17.64	Peak	100	235	P
3	2483.50	-3.30	48.79	45.49	54.00	-8.51	Average	100	235	P
4	2483.50	-3.30	60.05	56.75	74.00	-17.25	Peak	100	235	P
5	4062.00	2.46	42.63	45.09	54.00	-8.91	Average	313	189	P
6	4062.00	2.46	52.14	54.60	74.00	-19.40	Peak	313	189	P
7	4874.00	3.95	35.90	39.85	54.00	-14.15	Average	400	35	P
8	4874.00	3.95	51.34	55.29	74.00	-18.71	Peak	400	35	P
9	7311.00	8.84	30.05	38.89	54.00	-15.11	Average	100	205	P
10	7311.00	8.84	42.46	51.30	74.00	-22.70	Peak	100	205	P

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

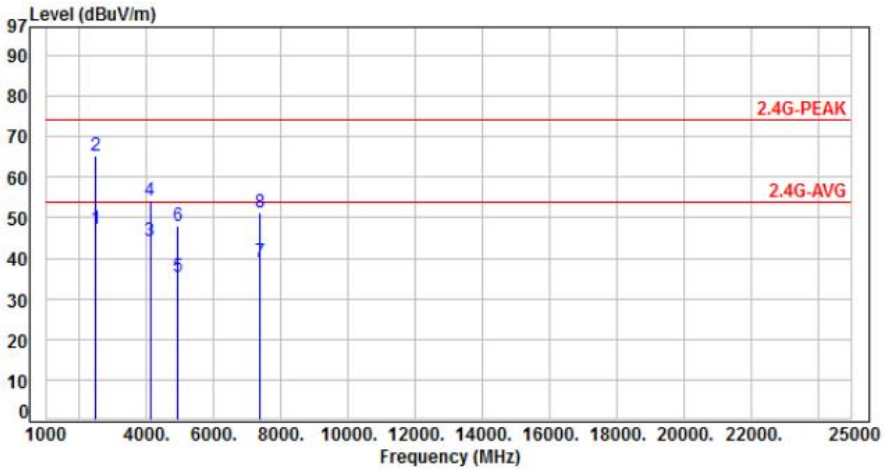
Power	:	AC 120V / 60Hz	Pol/Phase	:	HORIZONTAL
Test Mode	:	Mode 3, CH06		:	



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	-3.64	42.37	38.73	54.00	-15.27	Average	100	202	P
2	2390.00	-3.64	54.43	50.79	74.00	-23.21	Peak	100	202	P
3	2483.50	-3.30	45.01	41.71	54.00	-12.29	Average	100	202	P
4	2483.50	-3.30	55.17	51.87	74.00	-22.13	Peak	100	202	P
5	4062.00	2.46	40.80	43.26	54.00	-10.74	Average	100	187	P
6	4062.00	2.46	50.63	53.09	74.00	-20.91	Peak	100	187	P
7	4874.00	3.95	35.52	39.47	54.00	-14.53	Average	100	148	P
8	4874.00	3.95	49.12	53.07	74.00	-20.93	Peak	100	148	P
9	7311.00	8.84	29.99	38.83	54.00	-15.17	Average	100	258	P
10	7311.00	8.84	42.20	51.04	74.00	-22.96	Peak	100	258	P

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

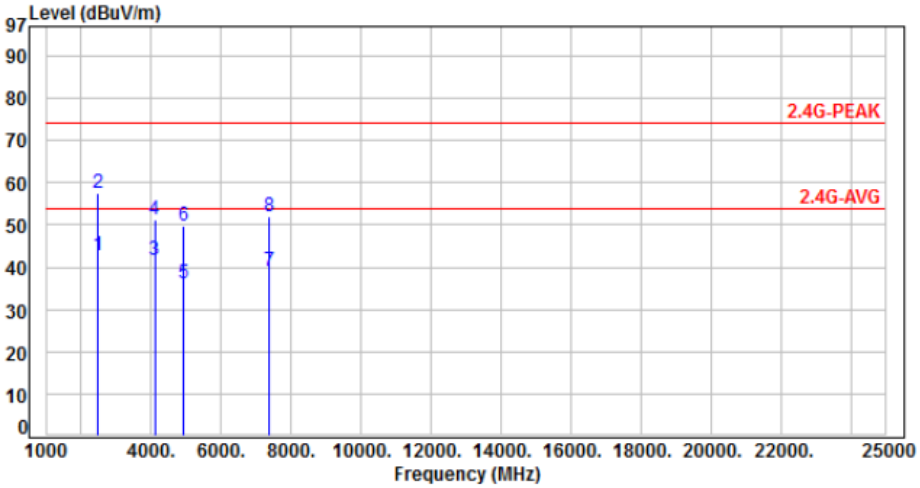
Power	:	AC 120V / 60Hz	Pol/Phase	:	VERTICAL
Test Mode	:	Mode 3, CH11		:	



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	-3.30	50.68	47.38	54.00	-6.62	Average	100	170	P
2	2483.50	-3.30	68.52	65.22	74.00	-8.78	Peak	100	170	P
3	4103.00	2.35	41.93	44.28	54.00	-9.72	Average	301	169	P
4	4103.00	2.35	51.75	54.10	74.00	-19.90	Peak	301	169	P
5	4924.00	4.10	31.43	35.53	54.00	-18.47	Average	125	120	P
6	4924.00	4.10	43.86	47.96	74.00	-26.04	Peak	125	120	P
7	7386.00	8.94	30.13	39.07	54.00	-14.93	Average	100	237	P
8	7386.00	8.94	42.35	51.29	74.00	-22.71	Peak	100	237	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	-3.30	46.24	42.94	54.00	-11.06	Average	100	274	P
2	2483.50	-3.30	61.00	57.70	74.00	-16.30	Peak	100	274	P
3	4103.00	2.35	39.18	41.53	54.00	-12.47	Average	100	193	P
4	4103.00	2.35	49.02	51.37	74.00	-22.63	Peak	100	193	P
5	4924.00	4.10	32.05	36.15	54.00	-17.85	Average	100	193	P
6	4924.00	4.10	45.74	49.84	74.00	-24.16	Peak	100	193	P
7	7386.00	8.94	30.03	38.97	54.00	-15.03	Average	100	295	P
8	7386.00	8.94	42.95	51.89	74.00	-22.11	Peak	100	295	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

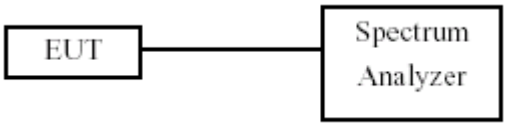
7.1 Test Limit

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

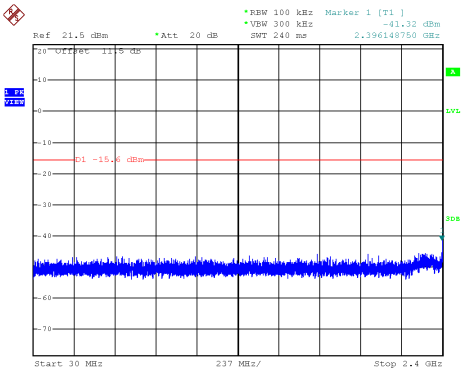


7.4 Test Result and Data

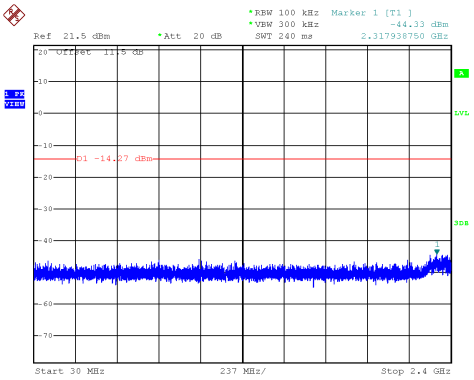
Note: Test plots refers to the following pages.

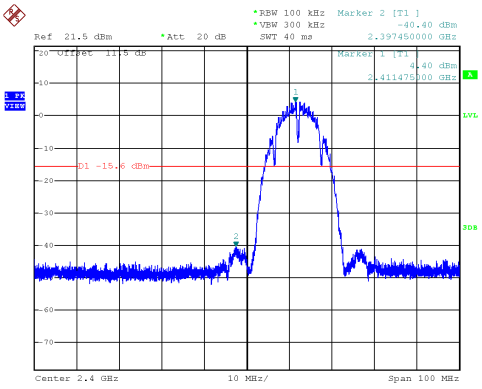
ANT A

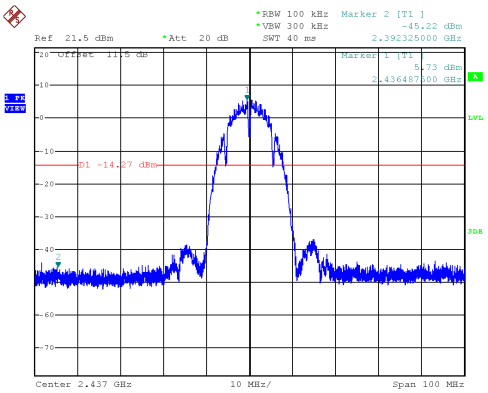
Modulation Type: 802.11b, CH 01

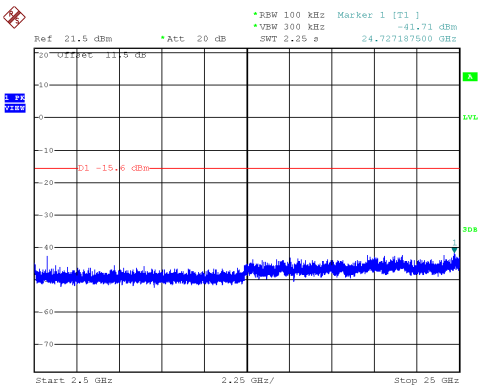


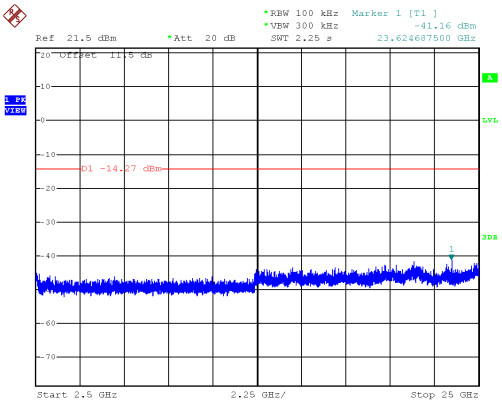
Modulation Type: 802.11b, CH 06





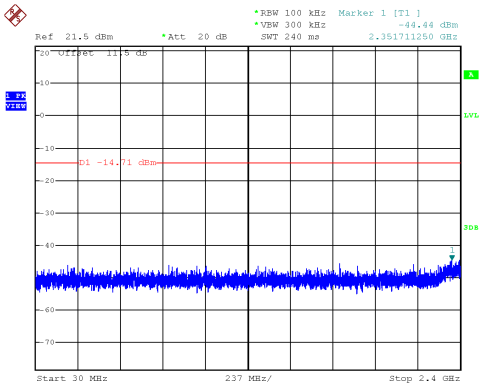


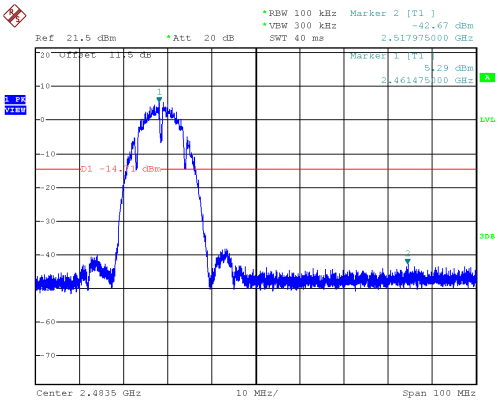


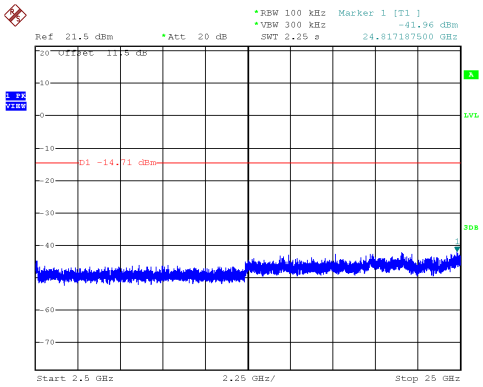


ANT A

Modulation Type: 802.11b, CH 11

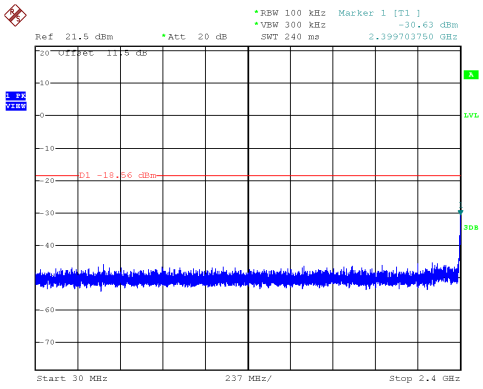




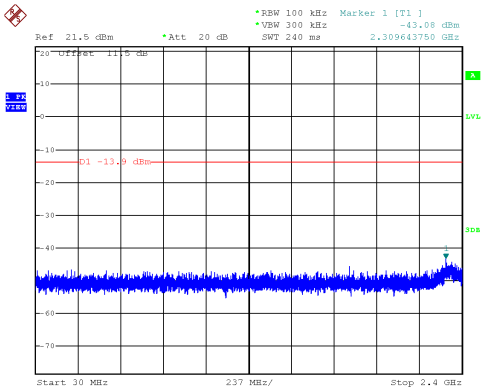


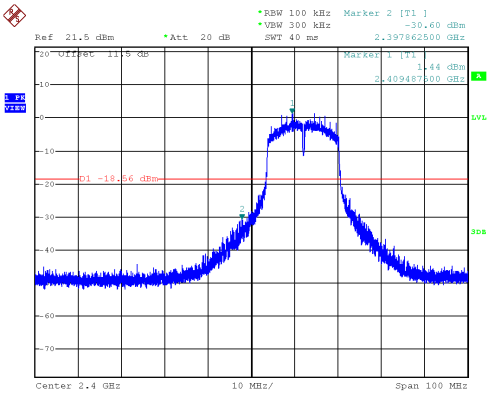
ANT A

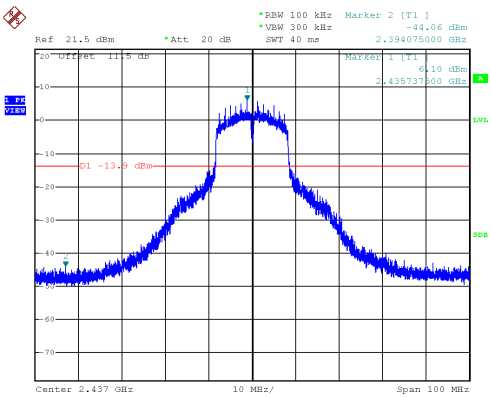
Modulation Type: 802.11g, CH 01

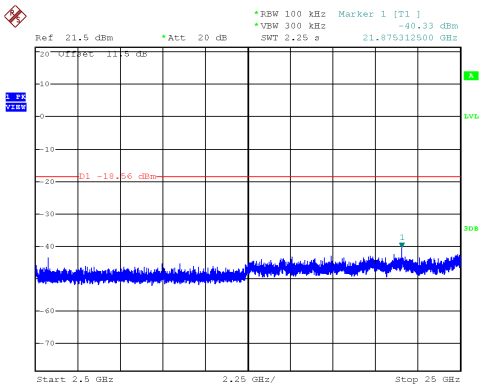


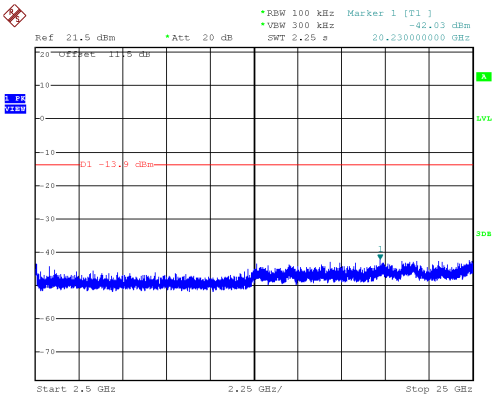
Modulation Type: 802.11g, CH 06





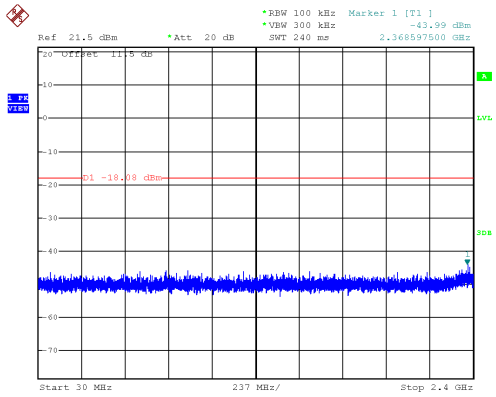


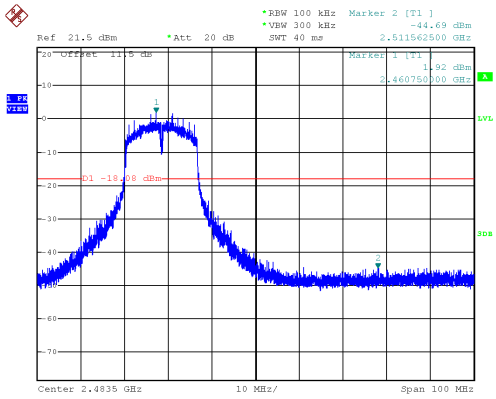


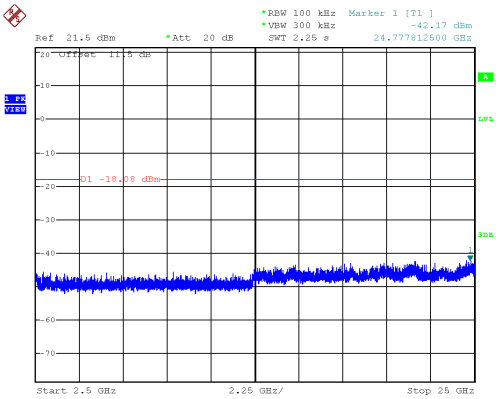


ANT A

Modulation Type: 802.11g, CH 11

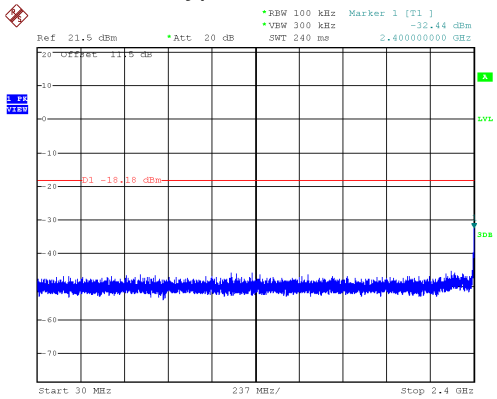




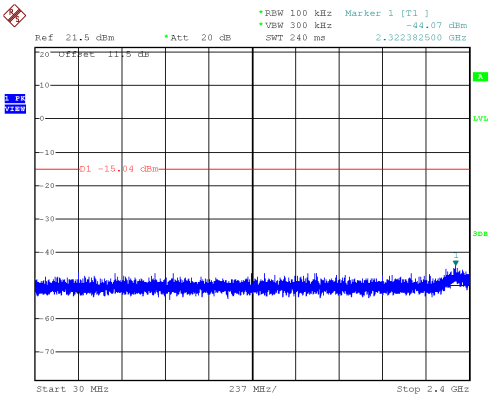


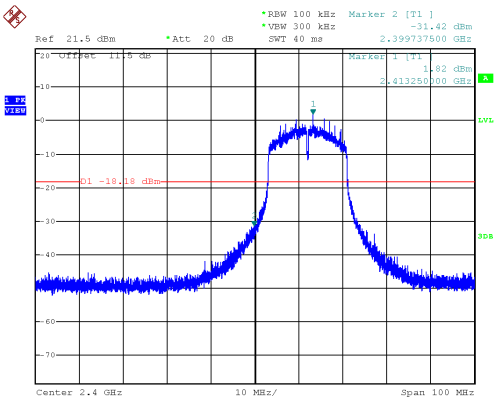
ANT A

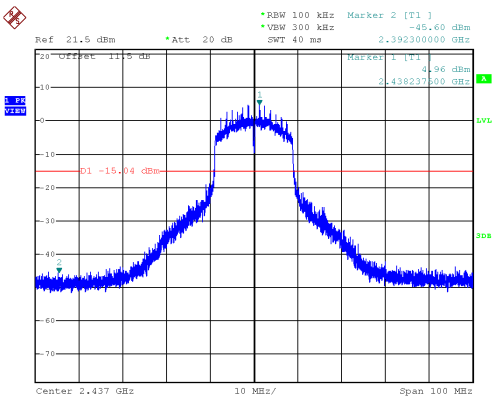
Modulation Type: 802.11n HT20, CH01

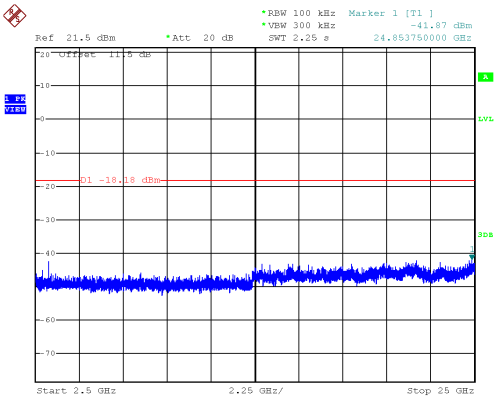


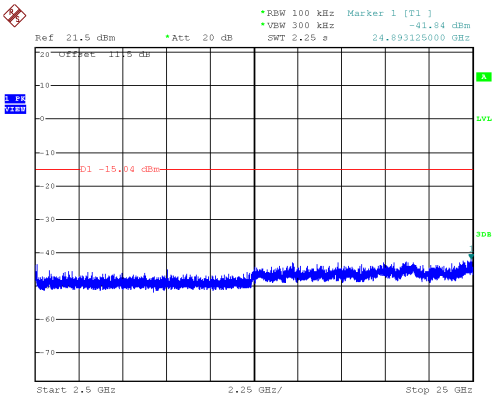
Modulation Type: 802.11n HT20, CH06





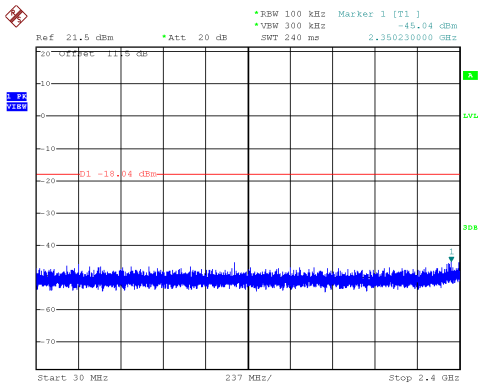


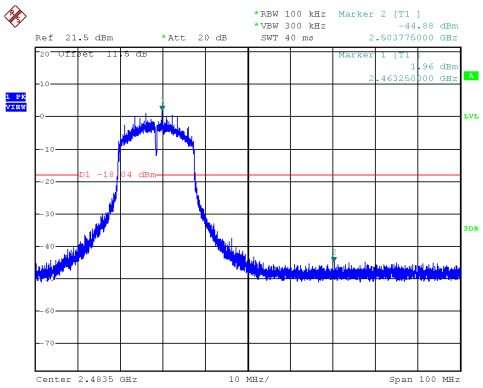


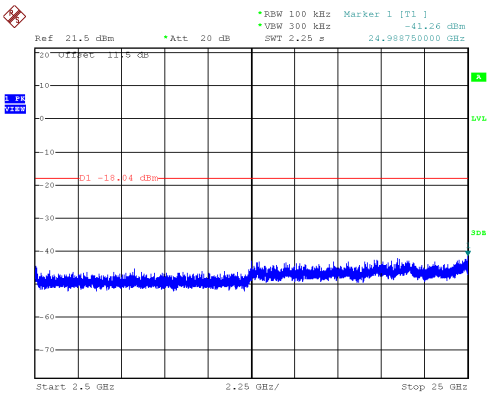


ANT A

Modulation Type: 802.11n HT20, CH11







8. On Time, Duty Cycle and Measurement methods

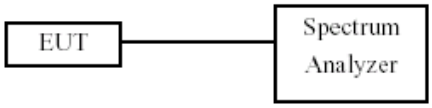
8.1 Test Limit

None; for reporting purposes only.

8.2 Test Procedure

Zero-Span Spectrum Analyzer Method.

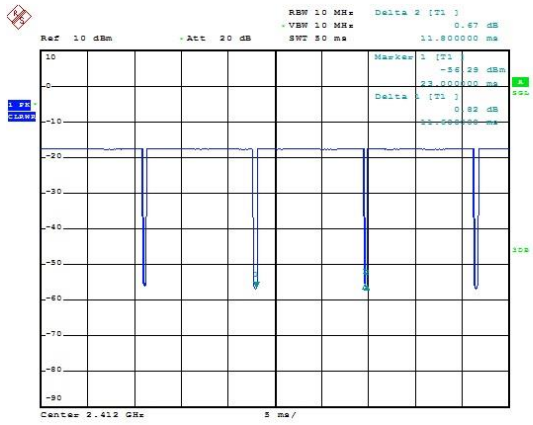
8.3 Test Setup Layout



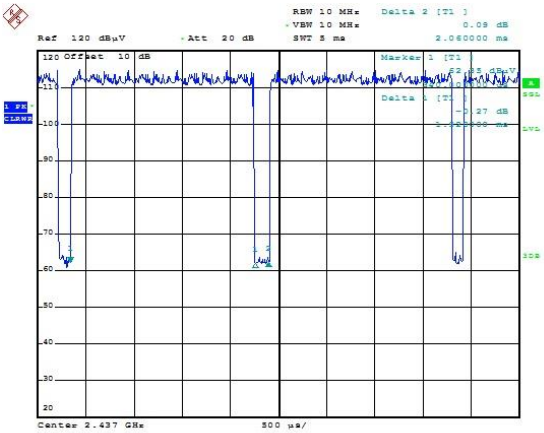
8.4 Test Result and Data

Modulation Type	On Time (msec)	Period Time (msec)	Duty Cycle (%)
11b,1M	11.60	11.80	98.31%
11g,6M	1.92	2.06	93.20%
11n HT20	1.79	1.90	94.21%

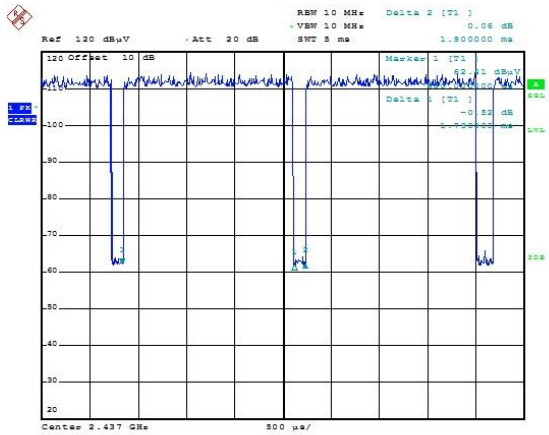
Modulation Type: 802.11b (1Mbps)



Modulation Type: 802.11g (6Mbps)



Modulation Type: 802.11n HT20 (6.5Mbps)



9. 6dB Bandwidth Measurement Data

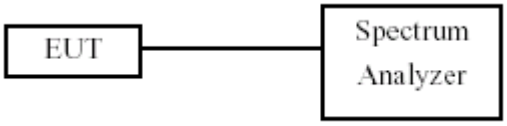
9.1 Test Limit

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



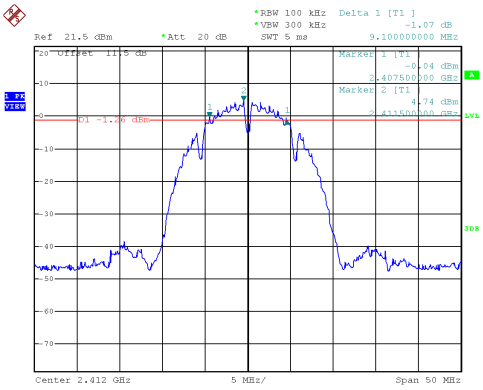
9.4 Test Result and Data

Modulation Type	Channel	Frequency (MHz)	6dB Bandwidth (MHz)				Limit (MHz)
			ANT A	---	---	---	
IEEE 802.11b (1Mbps)	01	2412	**9.10**	---	---	---	0.5
	06	2437	9.20	---	---	---	0.5
	11	2462	**9.10**	---	---	---	0.5
IEEE 802.11g (6Mbps)	01	2412	15.00	---	---	---	0.5
	06	2437	15.10	---	---	---	0.5
	11	2462	15.10	---	---	---	0.5
IEEE 802.11n HT20 (6.5Mbps)	01	2412	15.10	---	---	---	0.5
	06	2437	15.10	---	---	---	0.5
	11	2462	15.10	---	---	---	0.5

ANT A

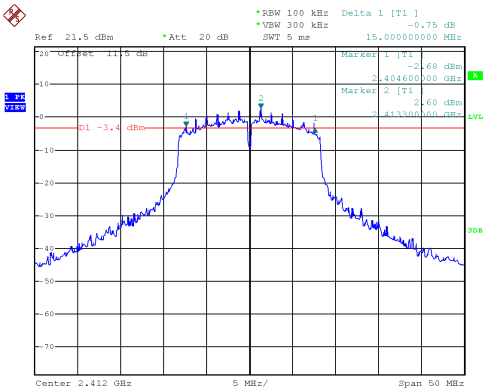
Modulation Type: 802.11b

CH01

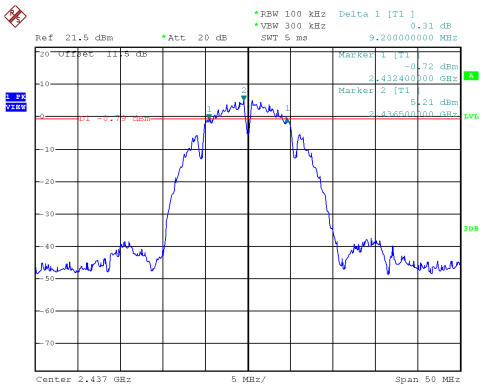


Modulation Type: 802.11g

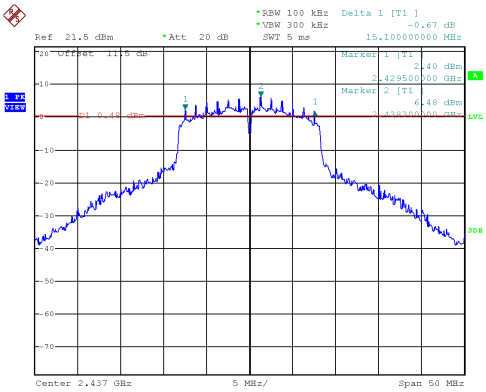
CH01



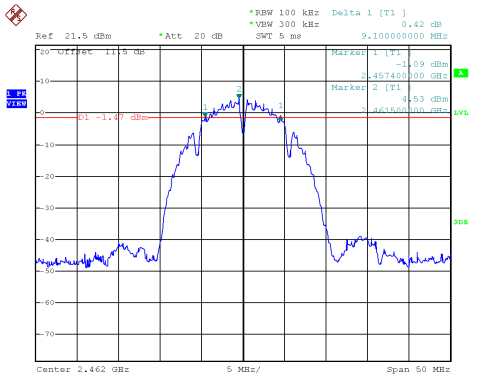
CH06



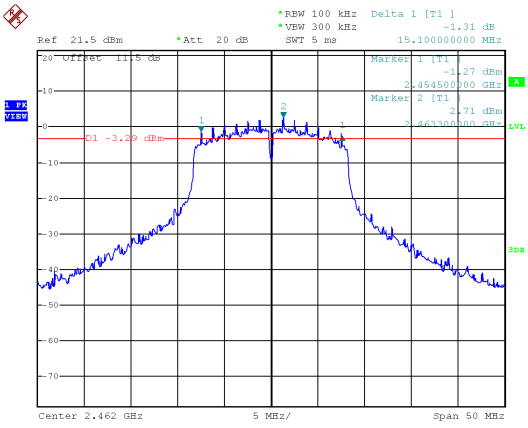
CH06



CH11



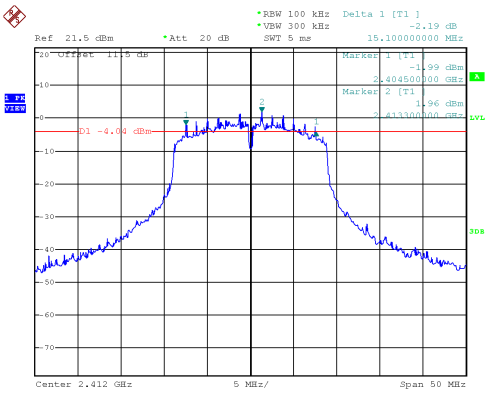
CH11



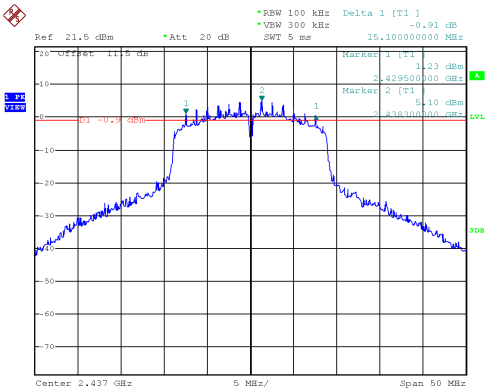
ANT A

Modulation Type: 802.11n HT20

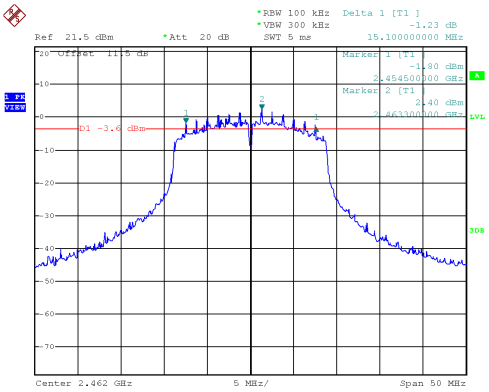
CH01



CH06



CH11



10. Maximum Peak and Average Output Power

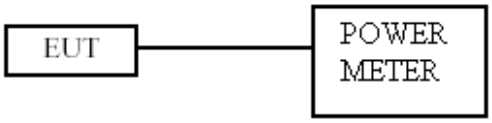
10.1 Test Limit

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

Modulation Type	Channel	Frequency (MHz)	Conducted(peak) output power (dBm)		Total PK power (dBm)	Total PK power (mW)	Power Limit (dBm)
			ANT A	---			
11b	01	2412	16.13	---	16.13	41.020	30.00
	06	2437	17.35	---	**17.35**	54.325	30.00
	11	2462	16.83	---	16.83	48.195	30.00
11g	01	2412	20.16	---	20.16	103.753	30.00
	06	2437	20.72	---	**20.72**	118.032	30.00
	11	2462	20.33	---	20.33	107.895	30.00
11n HT20	01	2412	19.84	---	19.84	96.383	30.00
	06	2437	20.58	---	**20.58**	114.288	30.00
	11	2462	19.97	---	19.97	99.312	30.00

Modulation Type	Channel	Frequency (MHz)	Conducted(AV) output power (dBm)		Total AV power (dBm)	Total AV power (mW)	Power Limit (dBm)
			ANT A	---			
11b	01	2412	13.86	---	13.86	24.322	NA
	06	2437	15.09	---	**15.09**	32.285	NA
	11	2462	14.55	---	14.55	28.510	NA
11g	01	2412	12.15	---	12.15	16.406	NA
	06	2437	15.71	---	**15.71**	37.239	NA
	11	2462	12.35	---	12.35	17.179	NA
11n HT20	01	2412	11.41	---	11.41	13.836	NA
	06	2437	14.47	---	**14.47**	27.990	NA
	11	2462	11.61	---	11.61	14.488	NA

Note: Average power is for reference only.

11. Power Spectral Density

11.1 Test Limit

The Maximum of Power Spectral Density Measurement is 8dBm.

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

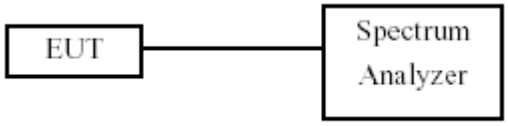
11.2 Test Procedures

a. The transmitter output was connected to spectrum analyzer.

b. The spectrum analyzer's resolution bandwidth were set at 3kHz RBW and 30KHz VBW as that of the fundamental frequency. Set the sweep time=auto couple.

c. The power spectral density was measured and recorded.

11.3 Test Setup Layout



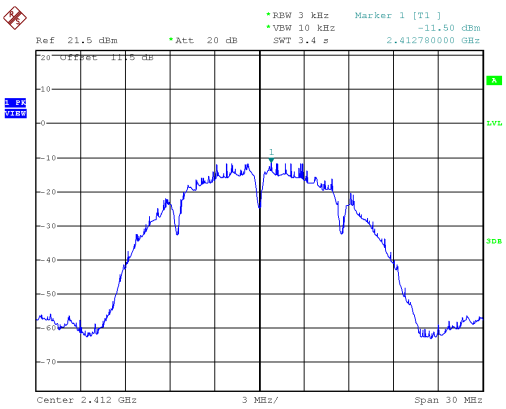
11.4 Test Result and Data

Modulation Type	CH	Freq. (MHz)	Maximum Power Density of 3 kHz Bandwidth (dBm)				Sum chain (dBm)	Duty Cycle CF(dB)	Total PSD (dBm)	Limit (dBm)
			ANT A	---	---	---				
11b	01	2412	-11.5	---	---	---	-11.50	0.00	-11.50	8.00
	06	2437	-9.23	---	---	---	-9.23	0.00	-9.23	8.00
	11	2462	-9.83	---	---	---	-9.83	0.00	-9.83	8.00
11g	01	2412	-13.96	---	---	---	-13.96	0.00	-13.96	8.00
	06	2437	-10.66	---	---	---	-10.66	0.00	-10.66	8.00
	11	2462	-13.57	---	---	---	-13.57	0.00	-13.57	8.00
11n HT20	01	2412	-14.16	---	---	---	-14.16	0.00	-14.16	8.00
	06	2437	-11.48	---	---	---	-11.48	0.00	-11.48	8.00
	11	2462	-14.55	---	---	---	-14.55	0.00	-14.55	8.00

ANT A

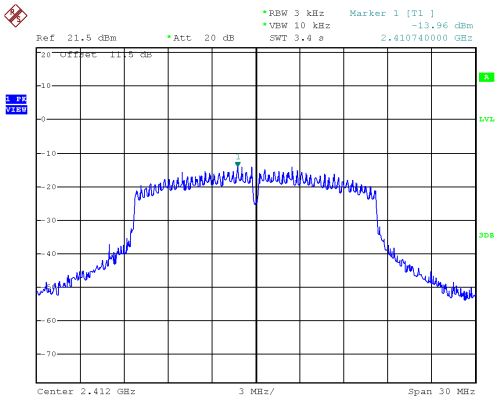
Modulation Type: 802.11b

CH01

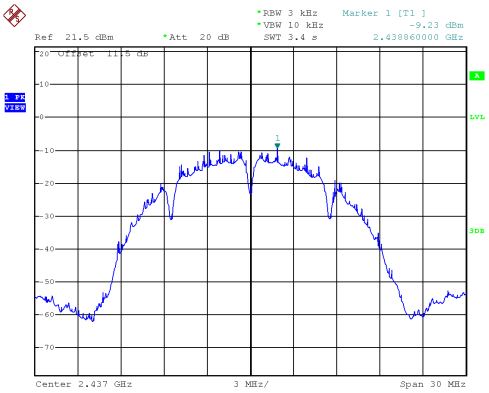


Modulation Type: 802.11g

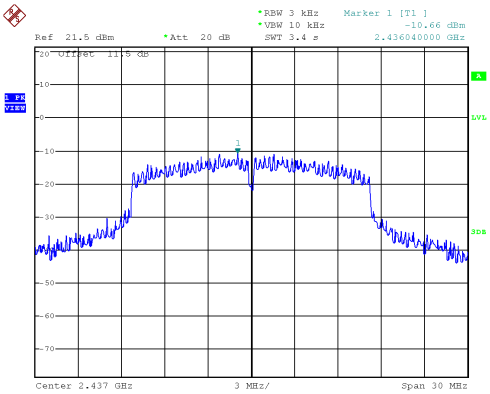
CH01



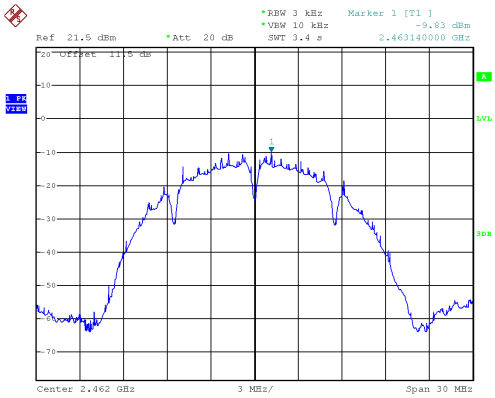
CH06



CH06



CH11



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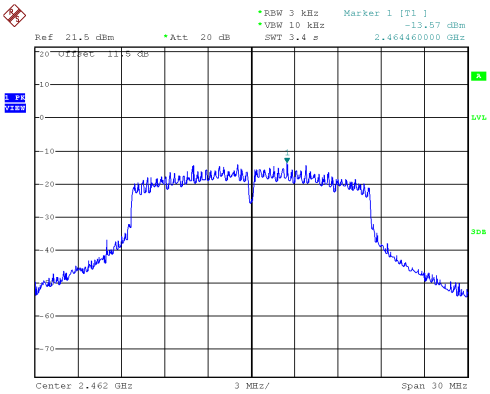
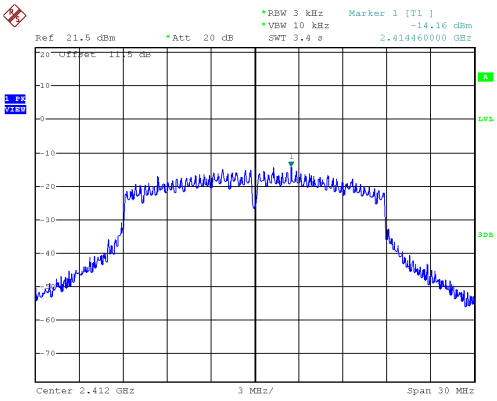
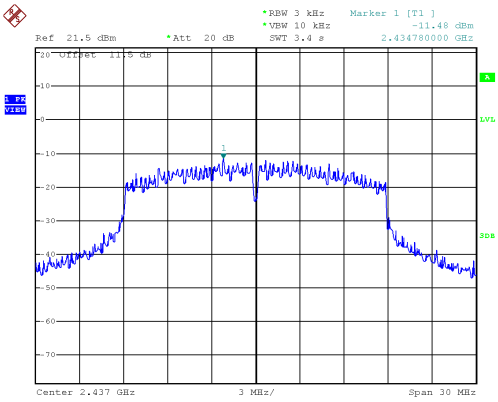


ANT A
Modulation Type: 802.11n HT20
CH01



CH06



CH11