



FCC RADIO TEST REPORT

Applicant : Ubiquiti Inc.
Address : 685 Third Avenue, New York, New York 10017,
USA
Equipment : Smart Chime
Model No. : UP-Chime
Trade Name : UBIQUITI
FCC ID. : SWX-UPCME

I HEREBY CERTIFY THAT :

The sample was received on May. 25, 2021 and the testing was completed on Jun. 10, 2021 at CerpPASS Technology Corp. The test result refers exclusively to the test presented test model / sample. Without written approval of CerpPASS Technology Corp., the test report shall not be reproduced except in full.

Approved by:

Mark Liao / Supervisor

Laboratory Accreditation:

CerpPASS Technology Corporation Test Laboratory





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1. Summary of Test Procedure and Test Results

1.1 Applicable Standards

ANSI C63.10:2013

FCC Rules and Regulations Part 15 Subpart C §15.247

FCC Rule	Description of Test	Result
15.203	. Antenna Requirement	PASS
15.207	. AC Power Line Conducted Emission	PASS
15.209 15.205	. Radiated Spurious Emission	PASS
15.247(d)	. Conducted Spurious Emission	PASS
15.247(a)(2)	. 6dB Bandwidth	PASS
15.247(b)	. Maximum Peak and Average Output Power	PASS
15.247(e)	. Power Spectral Density	PASS
2.1091	. Radio Frequency Exposure	PASS

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

*This EUT has been also tested and compiled with the requirement of FCC Part 15, Subpart B, recorded in a separate test report(21050174-TEFV01).



2. Test Configuration of Equipment under Test

2.1 Feature of Equipment

Frequency Range	For BT / BLE: 2402-2480MHz 802.11b/g/n: 2412-2462MHz
Modulation Type	BT: GFSK, π /4-DQPSK, 8DPSK BLE: GFSK 2.4GHz: 802.11b: CCK, DQPSK, DBPSK 802.11g/n: BPSK, QPSK, 16QAM, 64QAM
Modulation Technology	DSSS, OFDM, FHSS, DTS
Data Rate	BT: GFSK: 1Mbps, π /4-DQPSK: 2Mbps, 8DPSK: 3Mbps BLE: GFSK: 1Mbps 2.4GHz: 802.11b: 1, 2, 5.5, 11Mbps 802.11g: 6, 9, 12, 18, 24, 36, 48, 54Mbps 802.11n: MCS0 – MCS7, HT20/40
Antenna Type	Internal Antenna
Antenna Gain	For BT / BLE: 2402-2480MHz:2.00dBi For 2.4GHz: 2400-2480MHz:2.00dBi
Serial Number	2118A 68D79A1F44D8-7ZnJxq

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



2.2 Carrier Frequency of Channels

802.11b, 802.11g, 802.11n HT20

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

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, "EspRFtestTool ver.2.5" 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 (11Mbps)
2	802.11g (6Mbps)
3	802.11n HT20 (6.5Mbps)
4	802.11n HT40 (13.5Mbps)
caused "Test Mode 4" generated the worst case, it was reported as the final data.	
Radiation Emissions ((9KHz ~30MHz & 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 4" 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.	

Modulation Type	TX CONFIGURATION
802.11b	1TX
802.11g	1TX
802.11n HT20	1TX
802.11n HT40	1TX



2.4 Description of Test System

RF Conducted				
Equipment	Brand	Model	Length/Type	Power cord/Length/Type
Test Fixture	N/A	N/A	N/A	N/A
Test Fixture Cable	N/A	N/A	N/A	N/A
Radiated Emissions				
Equipment	Brand	Model	Length/Type	Power cord/Length/Type
Test Fixture	N/A	N/A	N/A	N/A
Test Fixture Cable	N/A	N/A	N/A	N/A
AC Power Line Conducted Emission				
Equipment	Brand	Model	Length/Type	Power cord/Length/Type
Test Fixture	N/A	N/A	N/A	N/A
Test Fixture Cable	N/A	N/A	N/A	N/A



2.5 General Information of Test

Test Site	CerpPASS 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	Test Period	Environmental Conditions	Tested By
RF Conducted	RFCON01-NK	2021/06/08	28°C / 51%	Nick Guan
Radiated Emissions	3M02-NK	2021/06/05~2021/06/10	22.6~24.3°C / 36~43%	Nick Guan
AC Power Line Conducted Emission	CON01-NK	2021/06/08	25°C / 49%	Nick Guan

2.6 Measurement Uncertainty

Measurement Item	Uncertainty
AC Power Line Conduction(150K~30MHz)	±3.63dB
Radiated Spurious Emission(9KHz~30MHz)	±3.4dB
Radiated Spurious Emission(30MHz~1GHz)	±5.6dB
Radiated Spurious Emission(1GHz~25GHz)	±6.6dB
Conducted Spurious Emission	±1.8dB
6dB Bandwidth	±4.4%
20dB Bandwidth	±4.4%
Occupied Bandwidth	±4.4%
Peak Output Power(Conducted Power Meter)	±1.1dB
Dwell Time / Deactivation Time	±1.2%
Power Spectral Density	±1.8dB
Duty Cycle	±1.2%



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	369	2021/04/26	2022/04/25
Active Loop Antenna	EMCO	6507	40855	2021/06/10	2022/06/09
Horn Antenna	EMCO	3115	31601	2020/10/16	2021/10/15
Horn Antenna	EMCO	3116	31974	2020/09/24	2021/09/23
EMI Receiver	ROHDE & SCHWARZ	ESCI	101423	2020/06/23	2021/06/22
Spectrum Analyzer	ROHDE & SCHWARZ	FSV 40-N	102151	2020/08/03	2021/08/02
Preamplifier	EM Electronics corp.	EM330	60658	2020/10/20	2021/10/19
Preamplifier	EM Electronics corp.	EM330	60660	2021/03/18	2022/03/17
Preamplifier	Agilent	8449B	3008A01954	2021/03/22	2022/03/21
Preamplifier	EMC INSTRUMENTS	EMC184045	980065	2020/11/06	2021/11/05
Bluetooth Tester	ROHDE & SCHWARZ	CBT	101133	2021/04/19	2022/04/18
Cable-3in1(30M-1G)	HARBOUR INDUSTRIES	LL142	CCE1315	2021/04/12	2022/04/11
Cable-0.5m(1G-18G)	EMEC	EM104-SMSM-0.5M	CCE1354	2020/06/19	2021/06/18
Cable-3m(1G-18G)	EMEC	EM104-SMSM-3M	CCE1355	2020/06/19	2021/06/18
Cable-8m(1G-18G)	EMEC	EM104-SMSM-8M	CCE1356	2020/06/19	2021/06/18
Cable-0.5m(30M-40G)	HUBER SUHNER	SUCOFLEX 102	28420/2	2021/04/03	2022/04/02
Cable-3m(30M-40G)	HUBER SUHNER	SUCOFLEX 102	MY2608/2	2021/04/09	2022/04/08
Cable-0.5m(1G-40G)	Rapidtek	40GHZ 50CM	38MS-38MS50314	2021/04/08	2022/04/07
Cable-6m(9k~300M)	NA	EMC5D-BM-BM-6	130605	2020/09/18	2021/09/17
E3	AUDIX	v8.2014-8-6	RK-000529	NA	NA

Test Item	RF Conducted				
Test Site	RFCON01-NK				
Instrument	Manufacturer	Model No	Serial No	Calibration Date	Valid Date
Spectrum Analyzer	ROHDE & SCHWARZ	FSV 40-N	101329	2020/07/07	2021/07/06
Bluetooth Tester	ROHDE & SCHWARZ	CBT	101133	2021/04/19	2022/04/18
CAX Signal Analyzer	KEYSIGHT	N9000B	MY57100339	2020/12/25	2021/12/24
Attenuator	KEYSIGHT	8491B	MY39250703	2021/04/09	2022/04/08
TEMP & HUMIDITY CHAMBER	T-MACHINE	TMJ-9712	T-12-040111	2020/08/25	2021/08/24
Power Meter	Anritsu	ML2495A	1224005	2021/04/14	2022/04/13
Power Sensor	Anritsu	MA2411B	1207295	2021/04/14	2022/04/13



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	2020/09/11	2021/09/10
Line Impedance Stabilization Network	Schwarzbeck	NSLK 8127	8127-516	2020/09/26	2021/09/25
Pulse Limiter	ROHDE & SCHWARZ	ESH3-Z2	101933	2020/09/17	2021/09/16
Cable-6m(9k~300M)	NA	EMC5D-BM-BM-6	130605	2020/09/18	2021/09/17
E3	AUDIX	v8.2014-8-6	RK-000531	NA	NA



4. Antenna Requirements

4.1 Antenna Construction and Directional Gain

Antenna Type	Internal Antenna
Antenna Gain	2412MHz~2462MHz: 2.00dBi

2412-2462MHz

For Power directional gain= $G_{ant}= 2.00$ dBi

For PSD directional gain = $G_{ant}= 2.00$ dBi



5. Test of AC Power Line Conducted Emission

5.1 Test Limit

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

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

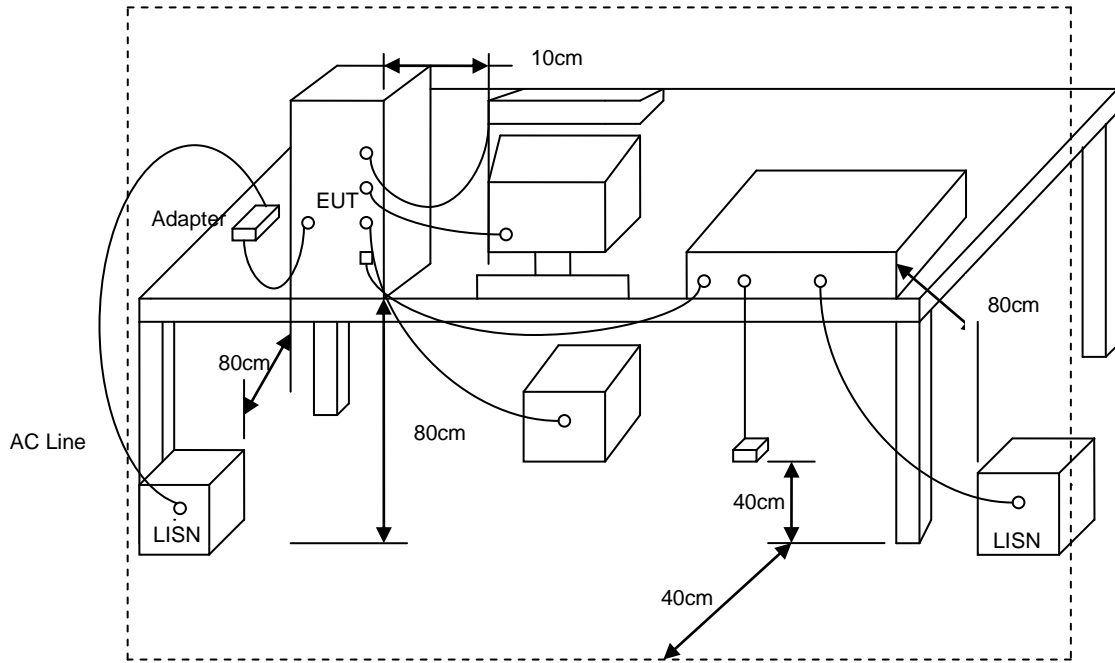
*Decreases with the logarithm of the frequency.

5.2 Test Procedures

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



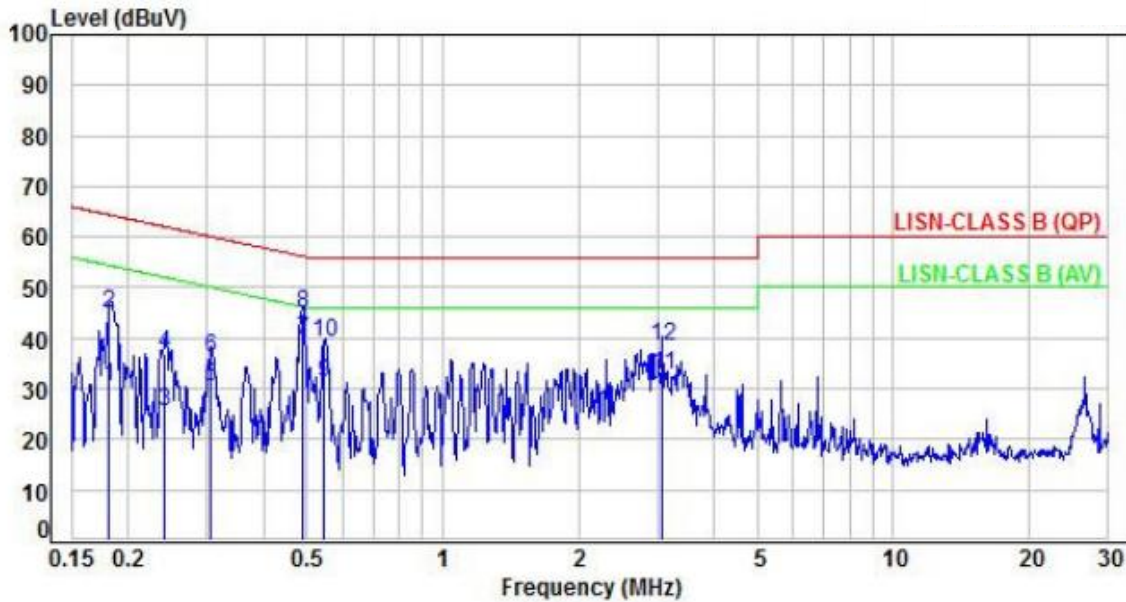
5.3 Typical Test Setup





5.4 Test Result and Data

Power	: AC 120V / 60Hz	Pol/Phase	: LINE
Test Mode	: Mode 4		:

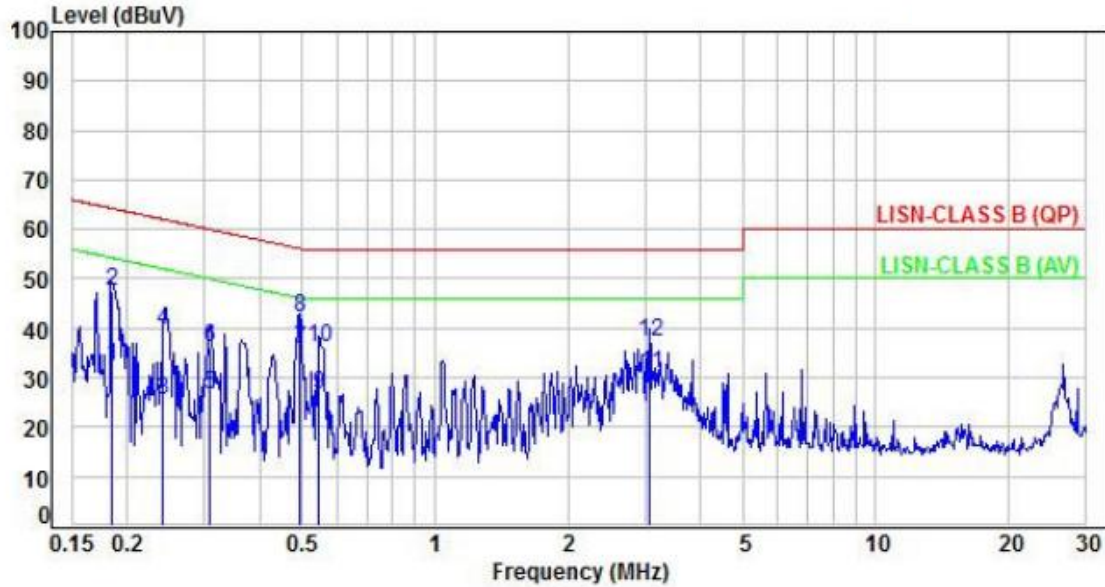


No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector	P/F
1	0.18	9.96	20.62	30.58	54.41	-23.83	Average	P
2	0.18	9.96	34.89	44.85	64.41	-19.56	QP	P
3	0.24	9.96	15.34	25.30	52.09	-26.79	Average	P
4	0.24	9.96	26.96	36.92	62.09	-25.17	QP	P
5	0.30	9.96	20.45	30.41	50.11	-19.70	Average	P
6	0.30	9.96	26.13	36.09	60.11	-24.02	QP	P
7	0.49	9.98	29.43	39.41	46.16	-6.75	Average	P
8	0.49	9.98	34.74	44.72	56.16	-11.44	QP	P
9	0.55	9.98	21.03	31.01	46.00	-14.99	Average	P
10	0.55	9.98	29.06	39.04	56.00	-16.96	QP	P
11	3.07	10.18	22.43	32.61	46.00	-13.39	Average	P
12	3.07	10.18	28.14	38.32	56.00	-17.68	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 4		:



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector	P/F
1	0.18	9.97	22.18	32.15	54.29	-22.14	Average	P
2	0.18	9.97	37.60	47.57	64.29	-16.72	QP	P
3	0.24	9.97	15.49	25.46	52.06	-26.60	Average	P
4	0.24	9.97	29.56	39.53	62.06	-22.53	QP	P
5	0.31	9.97	16.51	26.48	49.99	-23.51	Average	P
6	0.31	9.97	26.25	36.22	59.99	-23.77	QP	P
7	0.49	9.98	25.78	35.76	46.14	-10.38	Average	P
8	0.49	9.98	32.10	42.08	56.14	-14.06	QP	P
9	0.55	9.99	16.55	26.54	46.00	-19.46	Average	P
10	0.55	9.99	26.22	36.21	56.00	-19.79	QP	P
11	3.07	10.14	20.53	30.67	46.00	-15.33	Average	P
12	3.07	10.14	27.30	37.44	56.00	-18.56	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

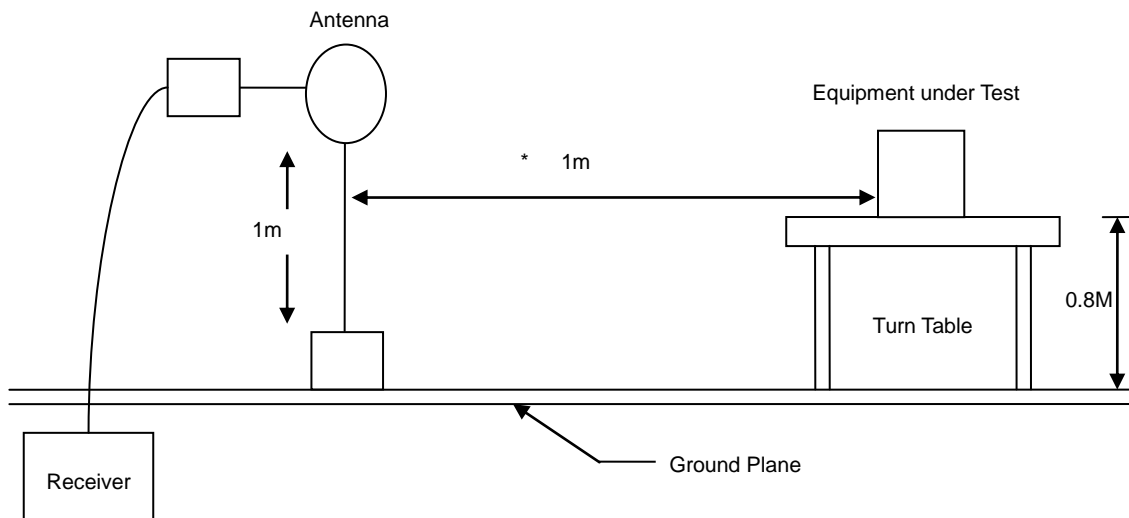
- a. The EUT was placed on a rotatable table top 0.8 meter above ground.
- b. The EUT was set 3 meters from the interference receiving antenna which was mounted on the top of a variable height antenna tower.
- c. The table was rotated 360 degrees to determine the position of the highest radiation.
- 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.

Note: The supporting fixture shall permit orientation of the EUT in each of three orthogonal axis positions such that emissions from the EUT are maximized.
(Y-AXIS is the worst.)

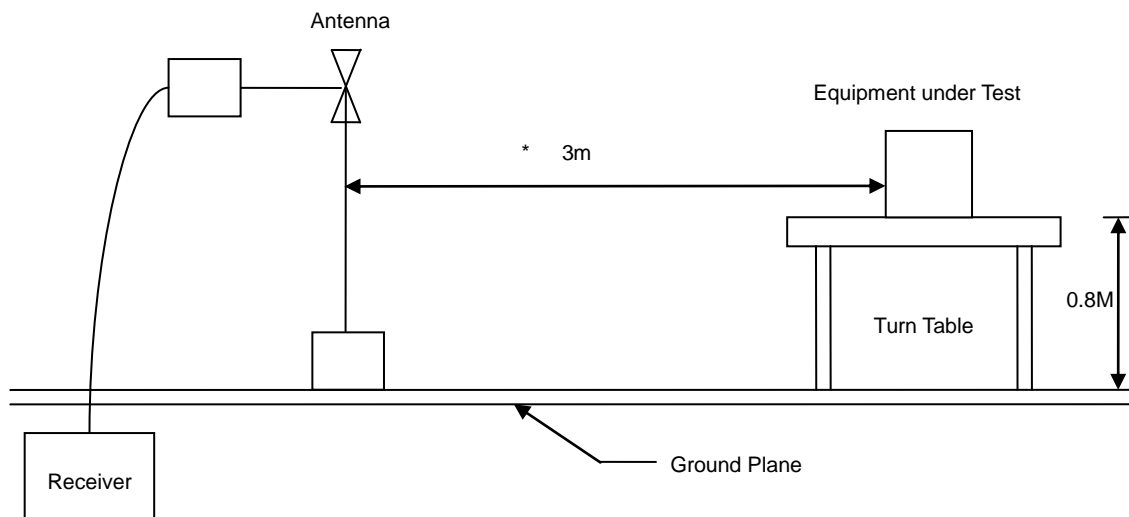


6.3 Typical Test Setup

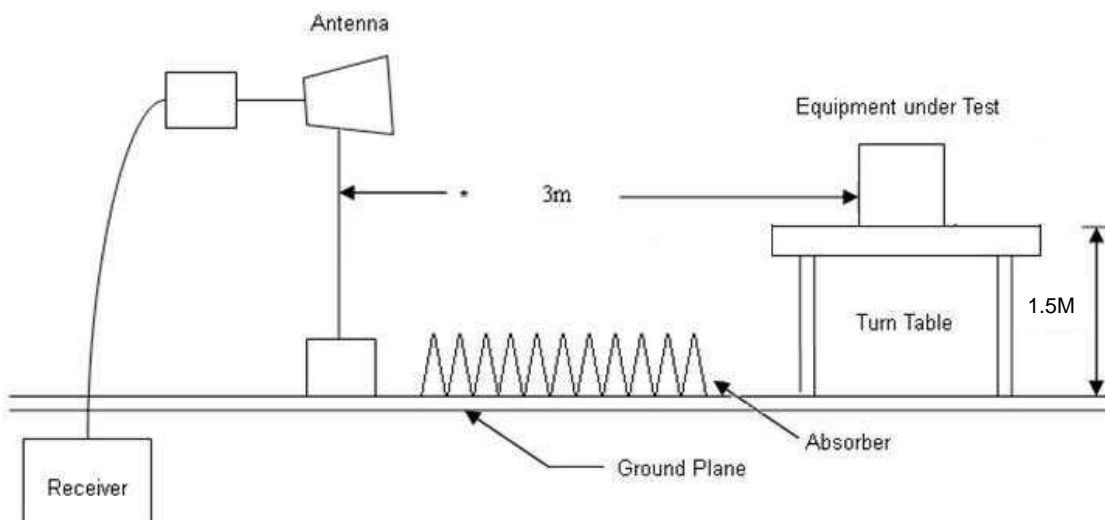
Below 30MHz test setup



30MHz- 1GHz Test Setup



Above 1GHz Test Setup



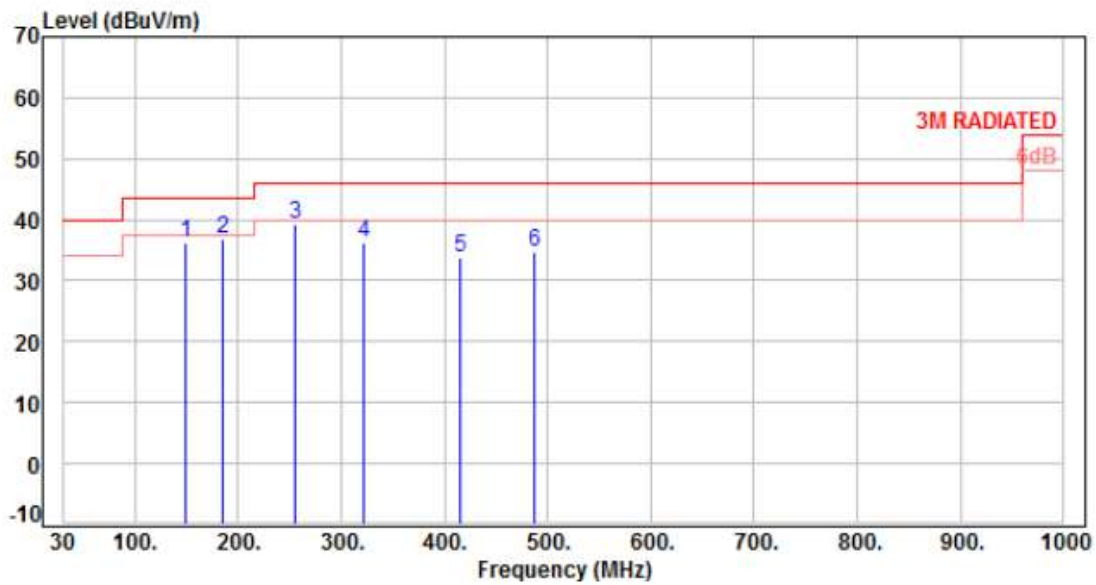


6.4 Test Result and Data (9KHz ~ 30MHz)

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 4		:

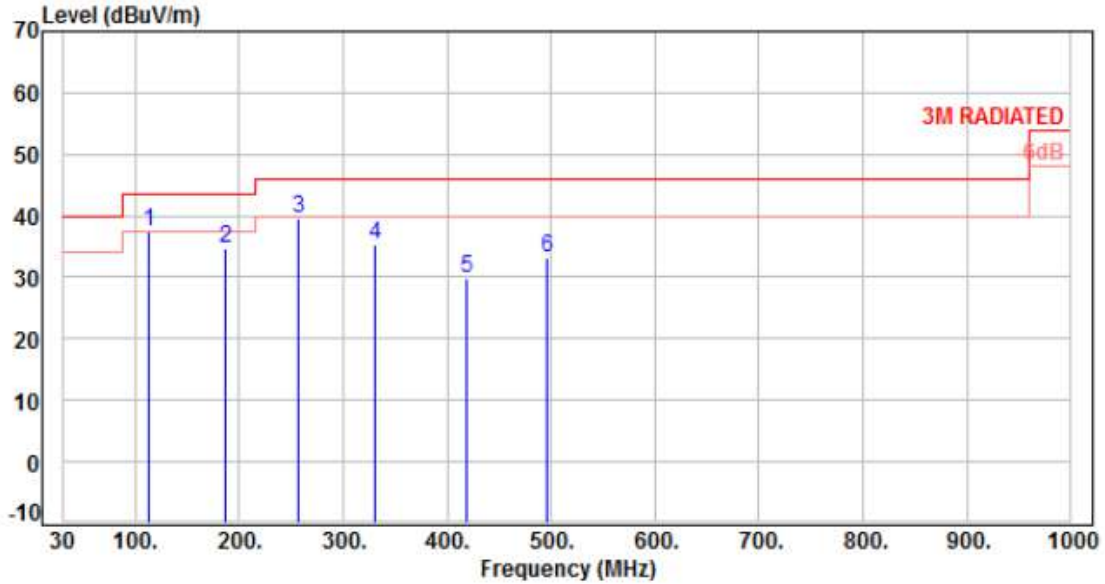


No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	148.34	-10.83	47.07	36.24	43.50	-7.26	QP	100	328	P
2	185.20	-12.65	49.61	36.96	43.50	-6.54	QP	100	67	P
3	255.04	-11.31	50.54	39.23	46.00	-6.77	Peak	400	360	P
4	321.00	-9.09	45.39	36.30	46.00	-9.70	Peak	400	360	P
5	416.06	-6.76	40.52	33.76	46.00	-12.24	Peak	400	360	P
6	487.84	-5.07	39.70	34.63	46.00	-11.37	Peak	400	360	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		:



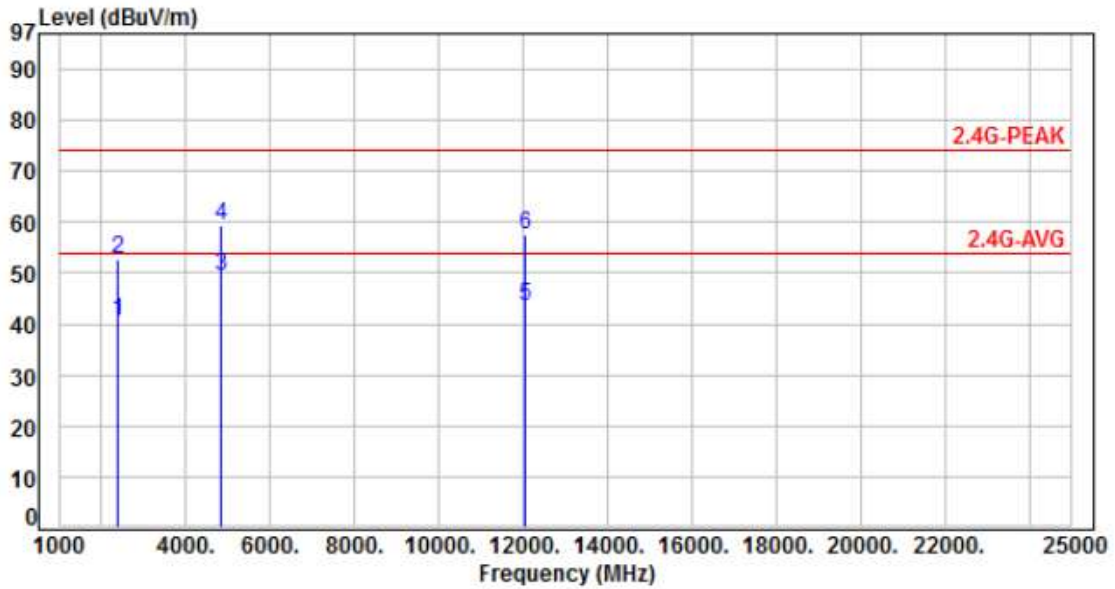
No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	113.42	-13.66	51.09	37.43	43.50	-6.07	Peak	400	360	P
2	187.14	-12.83	47.42	34.59	43.50	-8.91	QP	100	269	P
3	256.98	-11.26	50.75	39.49	46.00	-6.51	Peak	400	360	P
4	330.70	-8.77	44.18	35.41	46.00	-10.59	Peak	400	360	P
5	418.00	-6.67	36.57	29.90	46.00	-16.10	Peak	400	360	P
6	495.60	-4.98	38.28	33.30	46.00	-12.70	Peak	400	360	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		:

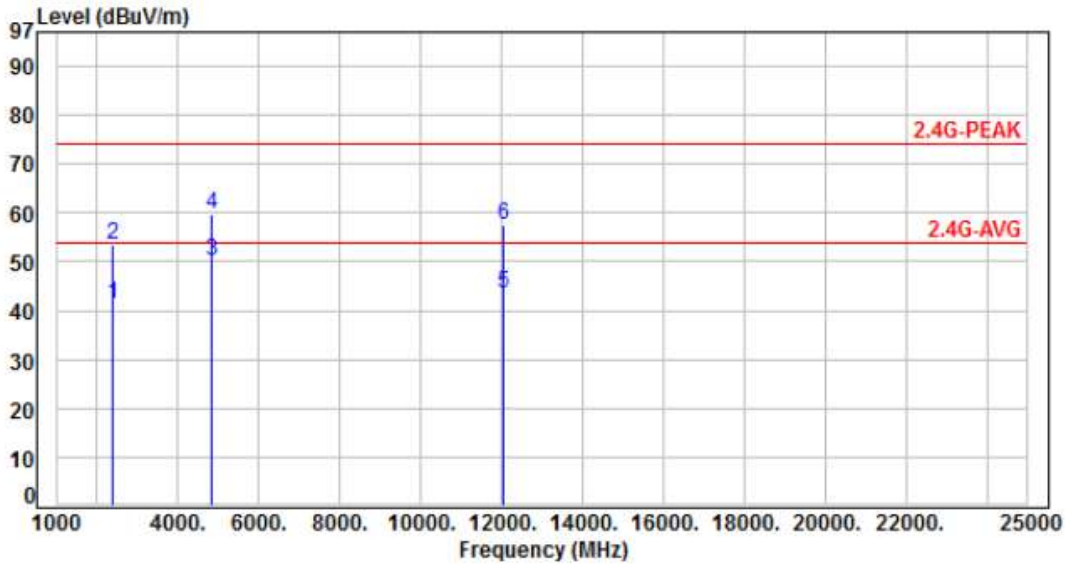


No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	2390.00	-3.62	44.36	40.74	54.00	-13.26	Average	130	267	P
2	2390.00	-3.62	56.49	52.87	74.00	-21.13	Peak	130	267	P
3	4824.00	3.73	45.77	49.50	54.00	-4.50	Average	334	281	P
4	4824.00	3.73	55.48	59.21	74.00	-14.79	Peak	334	281	P
5	12060.00	13.35	30.27	43.62	54.00	-10.38	Average	100	238	P
6	12060.00	13.35	44.36	57.71	74.00	-16.29	Peak	100	238	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		:

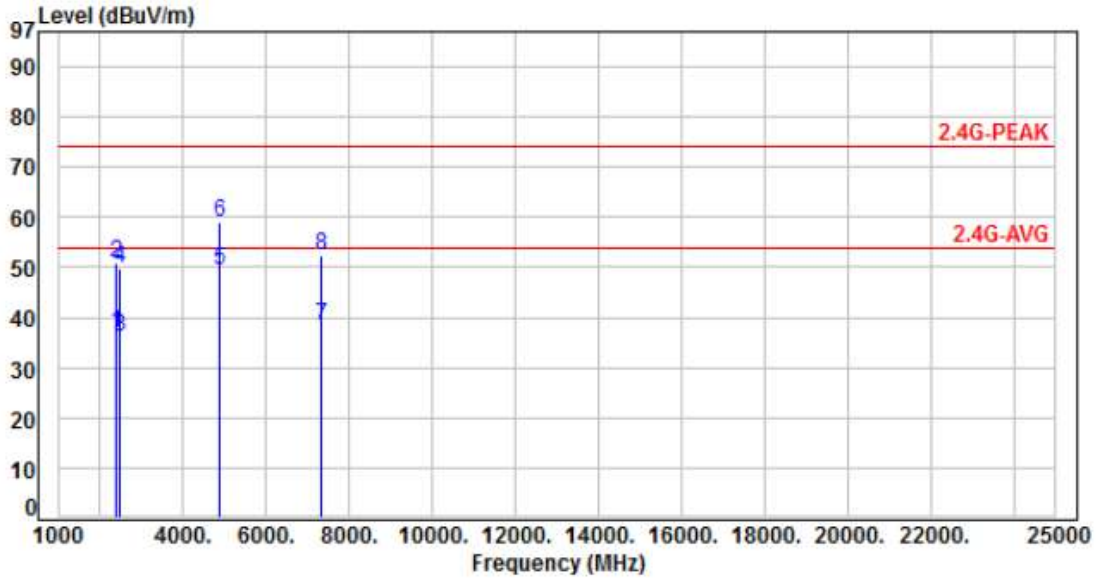


No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	2390.00	-3.62	44.93	41.31	54.00	-12.69	Average	267	179	P
2	2390.00	-3.62	57.15	53.53	74.00	-20.47	Peak	267	179	P
3	4824.00	3.73	46.54	50.27	54.00	-3.73	Average	385	213	P
4	4824.00	3.73	55.86	59.59	74.00	-14.41	Peak	385	213	P
5	12060.00	13.35	30.12	43.47	54.00	-10.53	Average	100	133	P
6	12060.00	13.35	44.19	57.54	74.00	-16.46	Peak	100	133	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		:

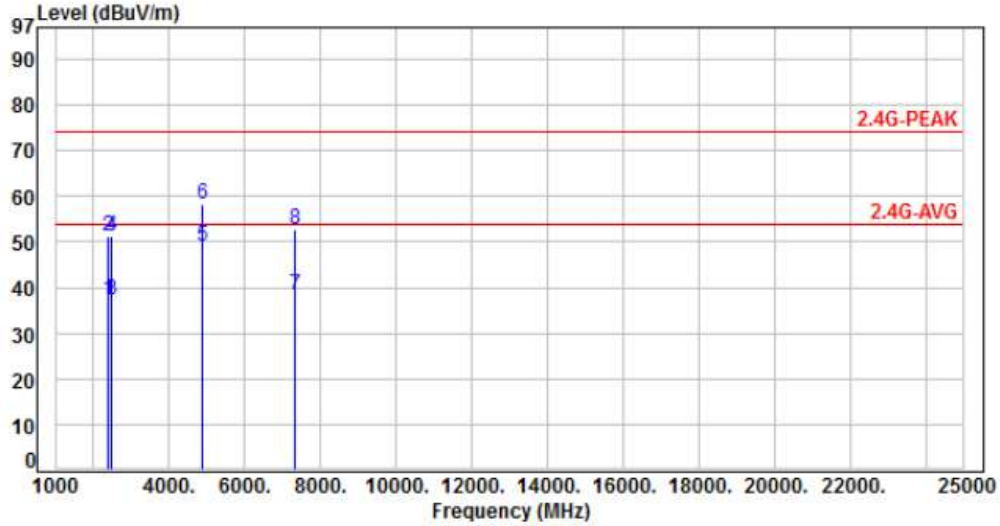


No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	2390.00	-3.62	40.46	36.84	54.00	-17.16	Average	100	226	P
2	2390.00	-3.62	54.37	50.75	74.00	-23.25	Peak	100	226	P
3	2483.50	-3.40	39.59	36.19	54.00	-17.81	Average	100	226	P
4	2483.50	-3.40	53.34	49.94	74.00	-24.06	Peak	100	226	P
5	4874.00	3.90	45.53	49.43	54.00	-4.57	Average	317	353	P
6	4874.00	3.90	54.94	58.84	74.00	-15.16	Peak	317	353	P
7	7311.00	8.48	29.88	38.36	54.00	-15.64	Average	100	276	P
8	7311.00	8.48	43.99	52.47	74.00	-21.53	Peak	100	276	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		:

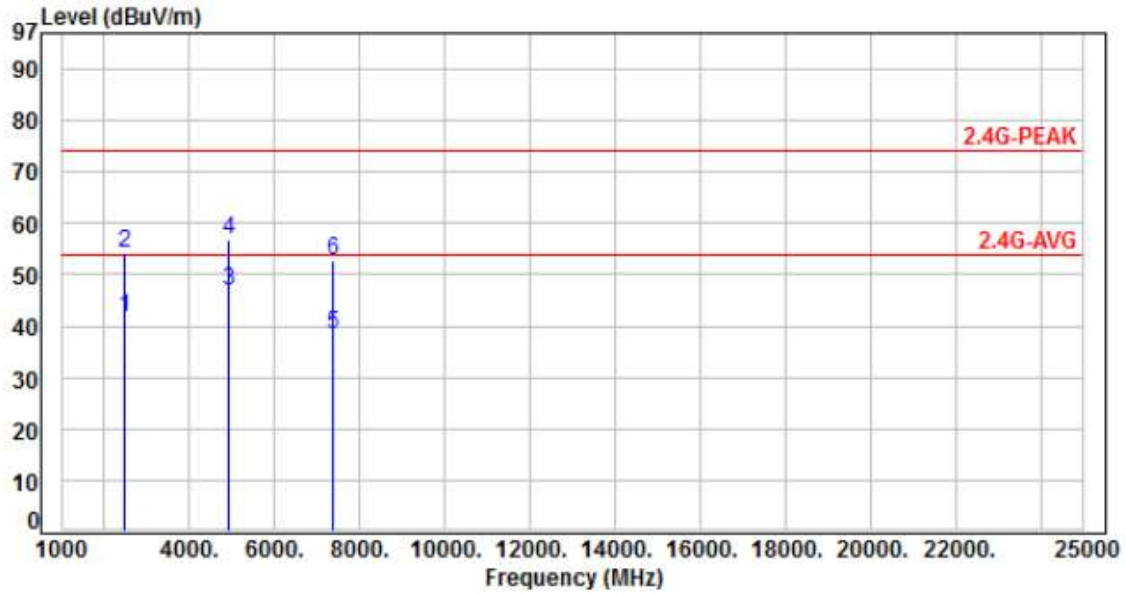


No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	2370.00	-3.64	40.74	37.10	54.00	-16.90	Average	322	197	P
2	2370.00	-3.64	54.78	51.14	74.00	-22.86	Peak	322	197	P
3	2483.50	-3.40	40.68	37.28	54.00	-16.72	Average	322	197	P
4	2483.50	-3.40	54.63	51.23	74.00	-22.77	Peak	322	197	P
5	4874.00	3.90	45.02	48.92	54.00	-5.08	Average	276	319	P
6	4874.00	3.90	54.51	58.41	74.00	-15.59	Peak	276	319	P
7	7311.00	8.48	29.78	38.26	54.00	-15.74	Average	100	247	P
8	7311.00	8.48	44.19	52.67	74.00	-21.33	Peak	100	247	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		:

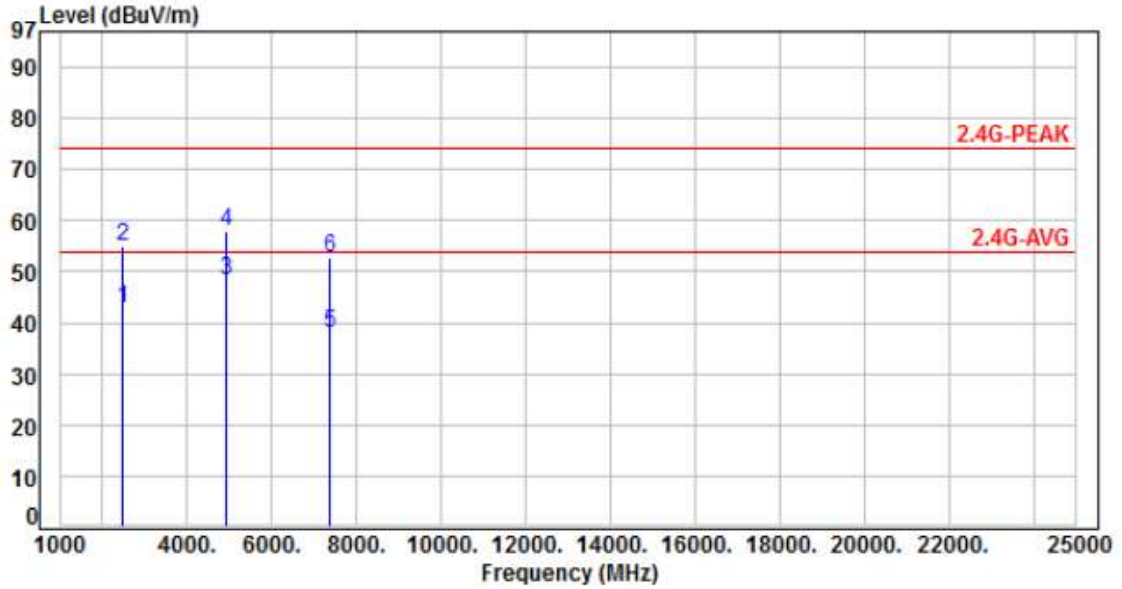


No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	2483.50	-3.40	45.19	41.79	54.00	-12.21	Average	100	161	P
2	2483.50	-3.40	57.65	54.25	74.00	-19.75	Peak	100	161	P
3	4924.00	4.10	42.76	46.86	54.00	-7.14	Average	100	116	P
4	4924.00	4.10	52.65	56.75	74.00	-17.25	Peak	100	116	P
5	7386.00	8.59	29.69	38.28	54.00	-15.72	Average	100	136	P
6	7386.00	8.59	44.21	52.80	74.00	-21.20	Peak	100	136	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		:

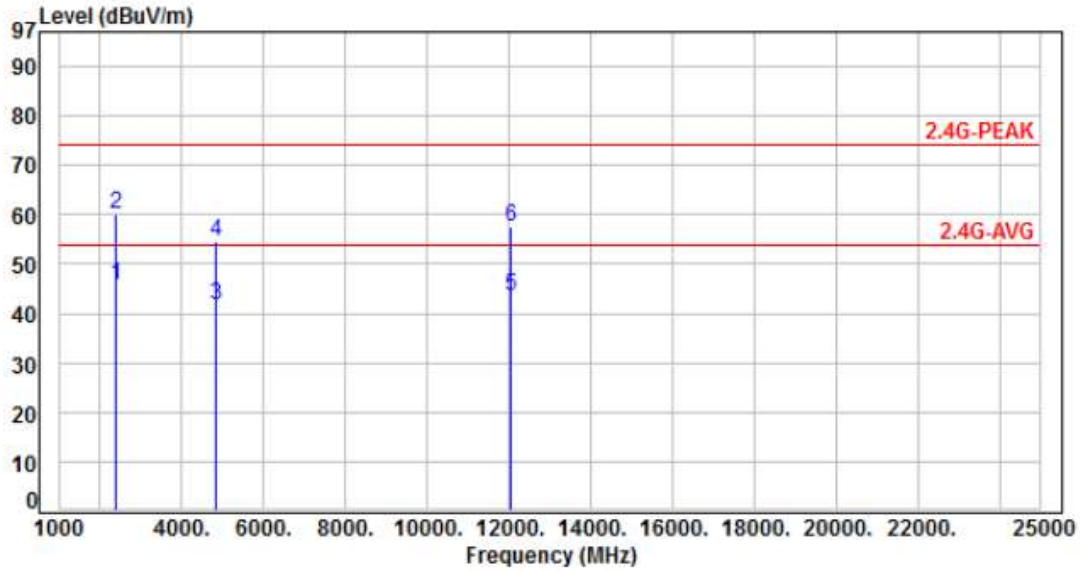


No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	2483.50	-3.40	46.16	42.76	54.00	-11.24	Average	100	202	P
2	2483.50	-3.40	58.35	54.95	74.00	-19.05	Peak	100	202	P
3	4924.00	4.10	44.04	48.14	54.00	-5.86	Average	384	317	P
4	4924.00	4.10	53.86	57.96	74.00	-16.04	Peak	384	317	P
5	7386.00	8.59	29.29	37.88	54.00	-16.12	Average	100	177	P
6	7386.00	8.59	44.10	52.69	74.00	-21.31	Peak	100	177	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		:

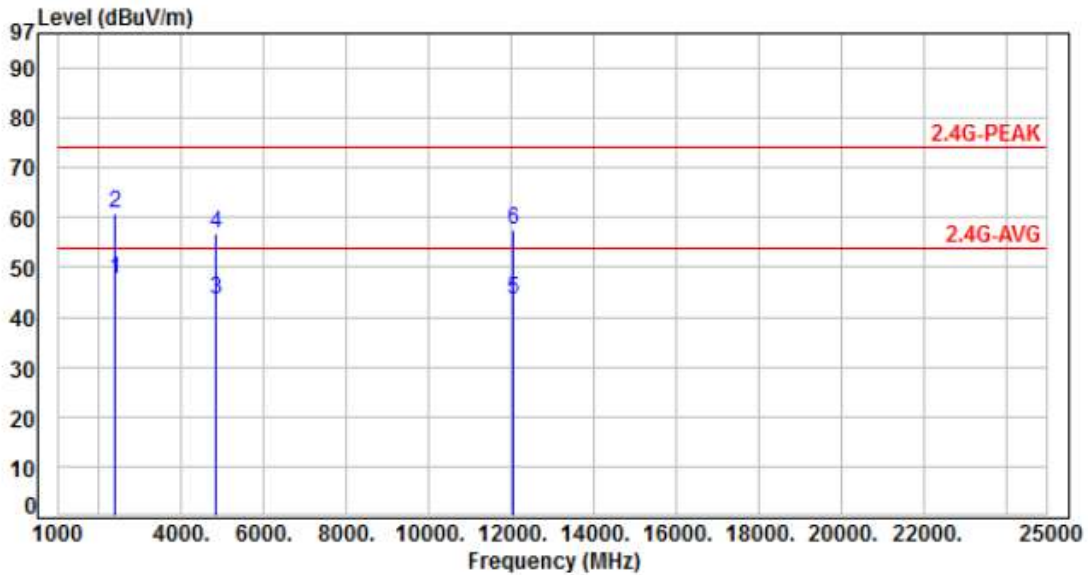


No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	2390.00	-3.62	49.35	45.73	54.00	-8.27	Average	100	191	P
2	2390.00	-3.62	63.72	60.10	74.00	-13.90	Peak	100	191	P
3	4824.00	3.73	38.04	41.77	54.00	-12.23	Average	100	256	P
4	4824.00	3.73	50.93	54.66	74.00	-19.34	Peak	100	256	P
5	12060.00	13.35	30.03	43.38	54.00	-10.62	Average	100	229	P
6	12060.00	13.35	44.27	57.62	74.00	-16.38	Peak	100	229	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		:

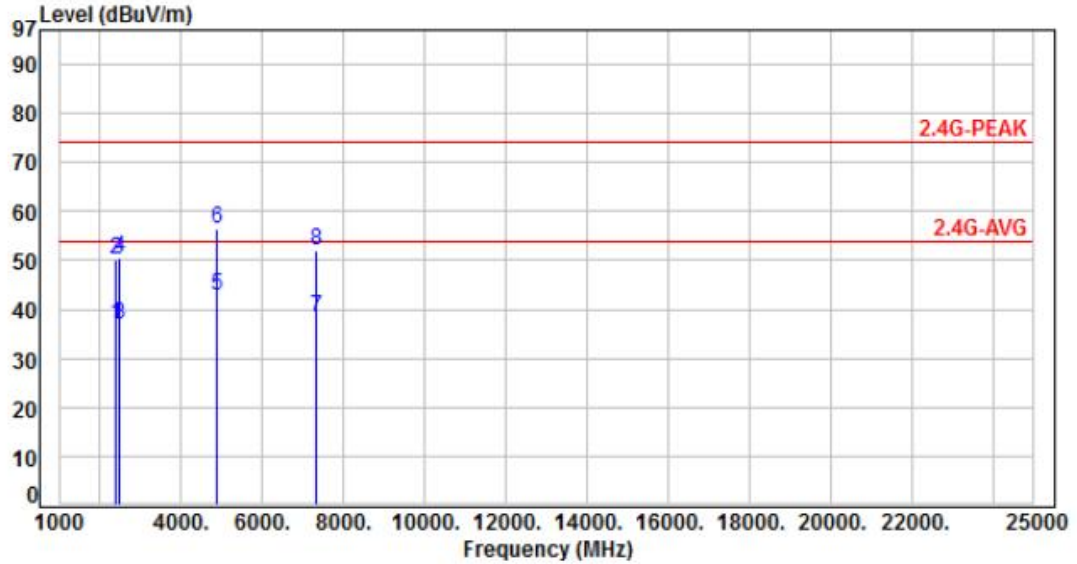


No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	2390.00	-3.62	51.31	47.69	54.00	-6.31	Average	291	178	P
2	2390.00	-3.62	64.63	61.01	74.00	-12.99	Peak	291	178	P
3	4824.00	3.73	39.67	43.40	54.00	-10.60	Average	174	325	P
4	4824.00	3.73	53.08	56.81	74.00	-17.19	Peak	174	325	P
5	12060.00	13.35	30.16	43.51	54.00	-10.49	Average	100	132	P
6	12060.00	13.35	44.29	57.64	74.00	-16.36	Peak	100	132	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		:

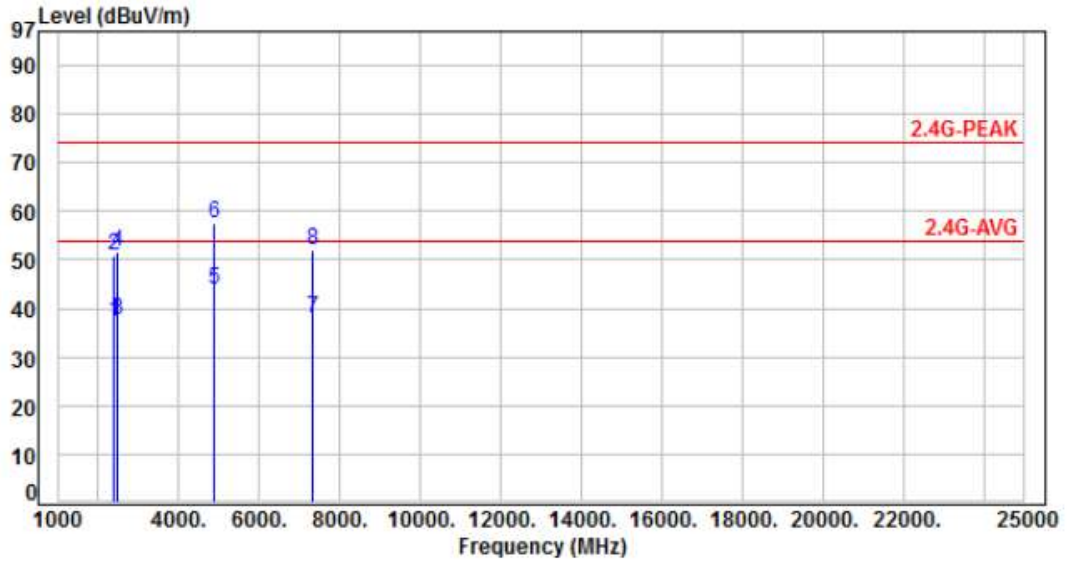


No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	2390.00	-3.62	40.46	36.84	54.00	-17.16	Average	104	145	P
2	2390.00	-3.62	53.67	50.05	74.00	-23.95	Peak	104	145	P
3	2483.50	-3.40	40.30	36.90	54.00	-17.10	Average	104	145	P
4	2483.50	-3.40	53.89	50.49	74.00	-23.51	Peak	104	145	P
5	4874.00	3.90	38.91	42.81	54.00	-11.19	Average	100	254	P
6	4874.00	3.90	52.36	56.26	74.00	-17.74	Peak	100	254	P
7	7311.00	8.48	29.75	38.23	54.00	-15.77	Average	100	171	P
8	7311.00	8.48	43.38	51.86	74.00	-22.14	Peak	100	171	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		:

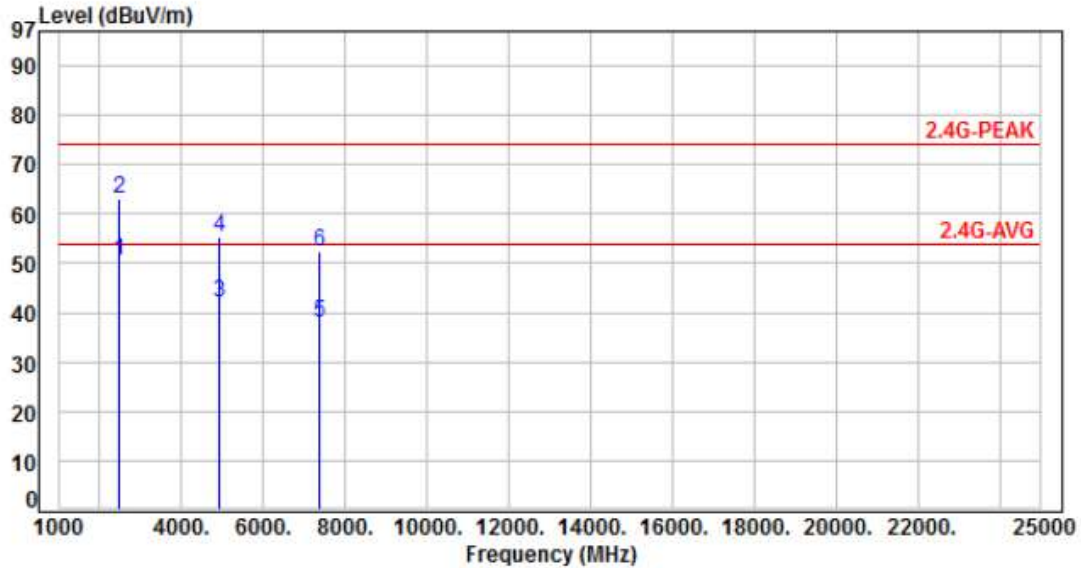


No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	2390.00	-3.62	41.04	37.42	54.00	-16.58	Average	253	176	P
2	2390.00	-3.62	54.67	51.05	74.00	-22.95	Peak	253	176	P
3	2483.50	-3.40	40.84	37.44	54.00	-16.56	Average	253	176	P
4	2483.50	-3.40	54.90	51.50	74.00	-22.50	Peak	253	176	P
5	4874.00	3.90	39.83	43.73	54.00	-10.27	Average	173	316	P
6	4874.00	3.90	53.78	57.68	74.00	-16.32	Peak	173	316	P
7	7311.00	8.48	29.53	38.01	54.00	-15.99	Average	100	157	P
8	7311.00	8.48	43.49	51.97	74.00	-22.03	Peak	100	157	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		:

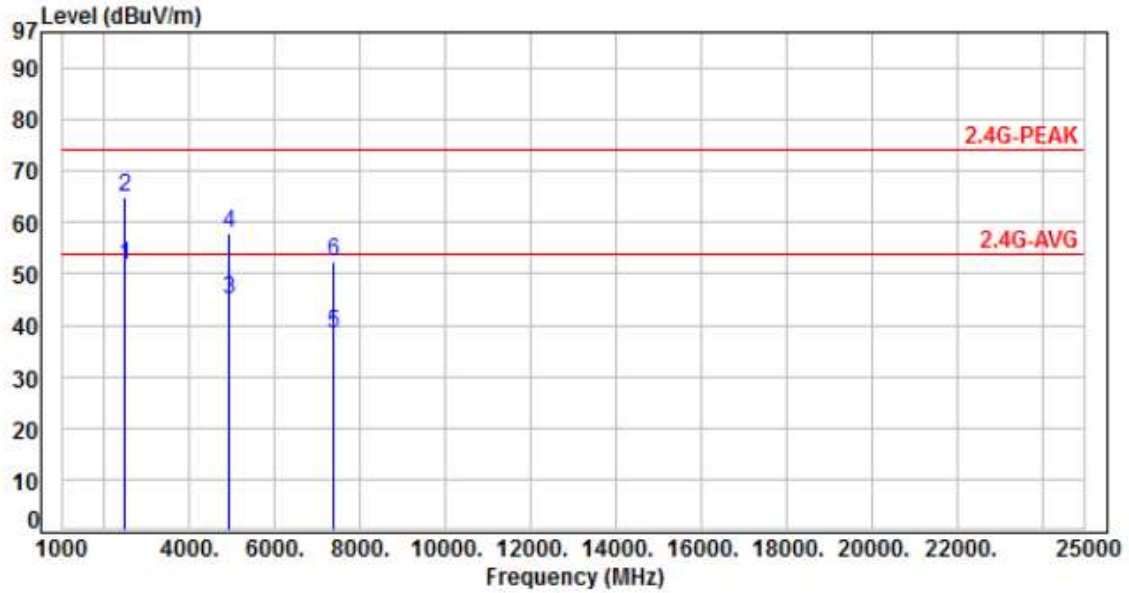


No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	2483.50	-3.40	53.79	50.39	54.00	-3.61	Average	100	192	P
2	2483.50	-3.40	66.32	62.92	74.00	-11.08	Peak	100	192	P
3	4924.00	4.10	38.07	42.17	54.00	-11.83	Average	126	245	P
4	4924.00	4.10	51.32	55.42	74.00	-18.58	Peak	126	245	P
5	7386.00	8.59	29.55	38.14	54.00	-15.86	Average	100	232	P
6	7386.00	8.59	43.68	52.27	74.00	-21.73	Peak	100	232	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		:

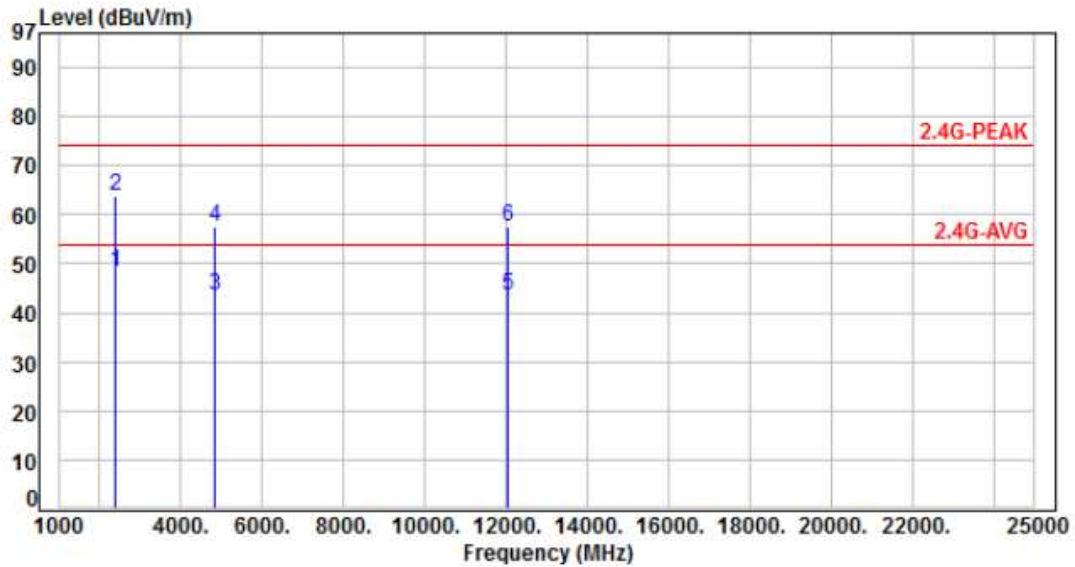


No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	2483.50	-3.40	55.12	51.72	54.00	-2.28	Average	238	184	P
2	2483.50	-3.40	68.36	64.96	74.00	-9.04	Peak	238	184	P
3	4924.00	4.10	40.85	44.95	54.00	-9.05	Average	384	335	P
4	4924.00	4.10	53.72	57.82	74.00	-16.18	Peak	384	335	P
5	7386.00	8.59	29.62	38.21	54.00	-15.79	Average	100	162	P
6	7386.00	8.59	43.62	52.21	74.00	-21.79	Peak	100	162	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		:

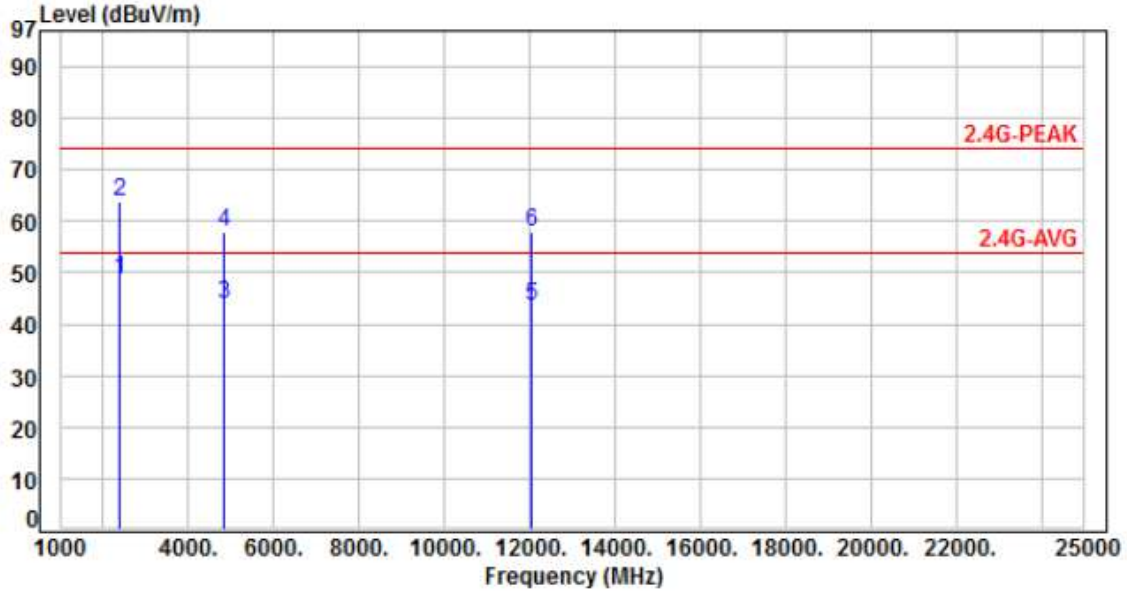


No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	2390.00	-3.62	52.04	48.42	54.00	-5.58	Average	268	268	P
2	2390.00	-3.62	67.29	63.67	74.00	-10.33	Peak	268	268	P
3	4824.00	3.73	39.67	43.40	54.00	-10.60	Average	339	261	P
4	4824.00	3.73	53.71	57.44	74.00	-16.56	Peak	339	261	P
5	12060.00	13.35	30.27	43.62	54.00	-10.38	Average	100	246	P
6	12060.00	13.35	44.09	57.44	74.00	-16.56	Peak	100	246	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		:

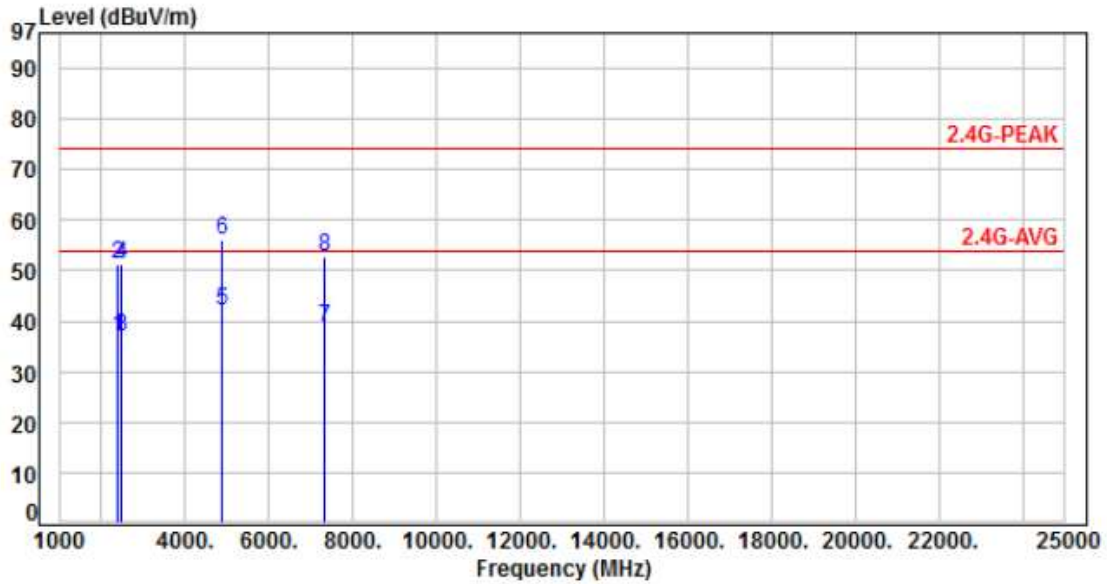


No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	2390.00	-3.62	52.38	48.76	54.00	-5.24	Average	302	176	P
2	2390.00	-3.62	67.54	63.92	74.00	-10.08	Peak	302	176	P
3	4824.00	3.73	40.32	44.05	54.00	-9.95	Average	130	322	P
4	4824.00	3.73	54.23	57.96	74.00	-16.04	Peak	130	322	P
5	12060.00	13.35	30.29	43.64	54.00	-10.36	Average	100	134	P
6	12060.00	13.35	44.41	57.76	74.00	-16.24	Peak	100	134	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		:

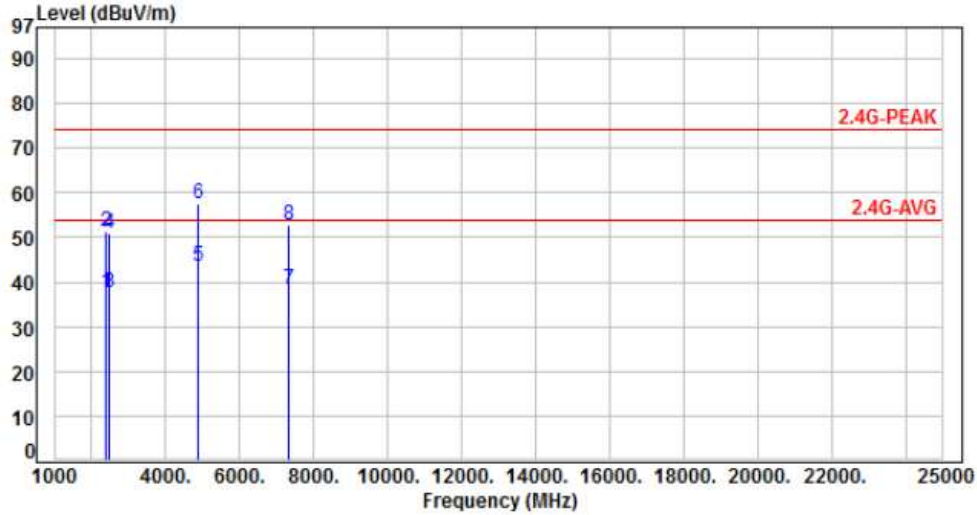


No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	2390.00	-3.62	40.61	36.99	54.00	-17.01	Average	100	228	P
2	2390.00	-3.62	54.87	51.25	74.00	-22.75	Peak	100	228	P
3	2483.50	-3.40	40.39	36.99	54.00	-17.01	Average	100	228	P
4	2483.50	-3.40	54.62	51.22	74.00	-22.78	Peak	100	228	P
5	4874.00	3.90	38.22	42.12	54.00	-11.88	Average	113	258	P
6	4874.00	3.90	52.27	56.17	74.00	-17.83	Peak	113	258	P
7	7311.00	8.48	30.16	38.64	54.00	-15.36	Average	100	176	P
8	7311.00	8.48	44.27	52.75	74.00	-21.25	Peak	100	176	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		:

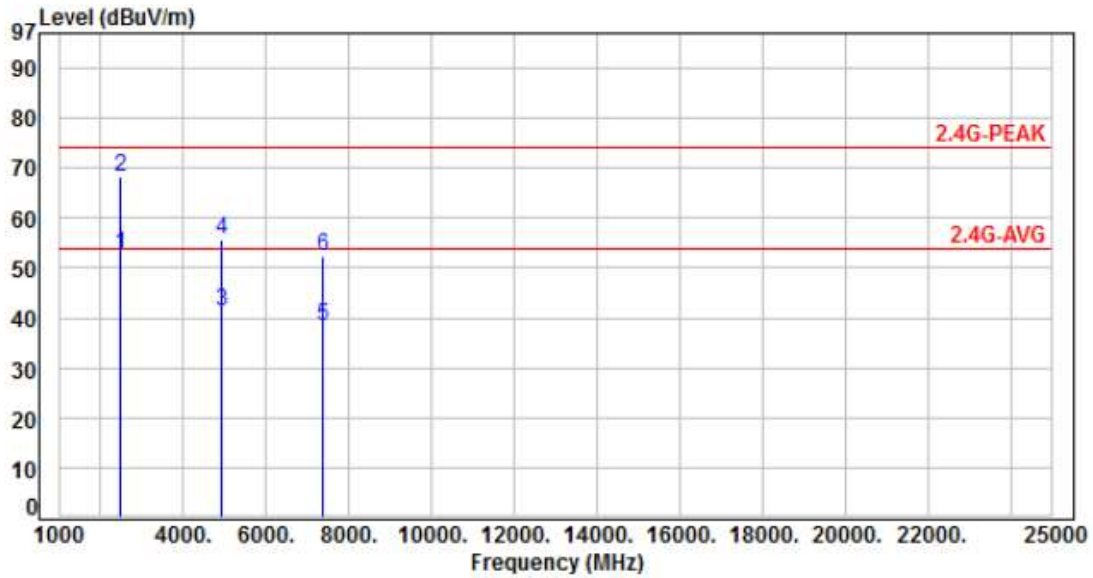


No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	2390.00	-3.62	41.08	37.46	54.00	-16.54	Average	257	199	P
2	2390.00	-3.62	54.74	51.12	74.00	-22.88	Peak	257	199	P
3	2483.50	-3.40	40.84	37.44	54.00	-16.56	Average	257	199	P
4	2483.50	-3.40	54.39	50.99	74.00	-23.01	Peak	257	199	P
5	4874.00	3.90	39.68	43.58	54.00	-10.42	Average	276	333	P
6	4874.00	3.90	53.54	57.44	74.00	-16.56	Peak	276	333	P
7	7311.00	8.48	30.04	38.52	54.00	-15.48	Average	100	214	P
8	7311.00	8.48	44.17	52.65	74.00	-21.35	Peak	100	214	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		:

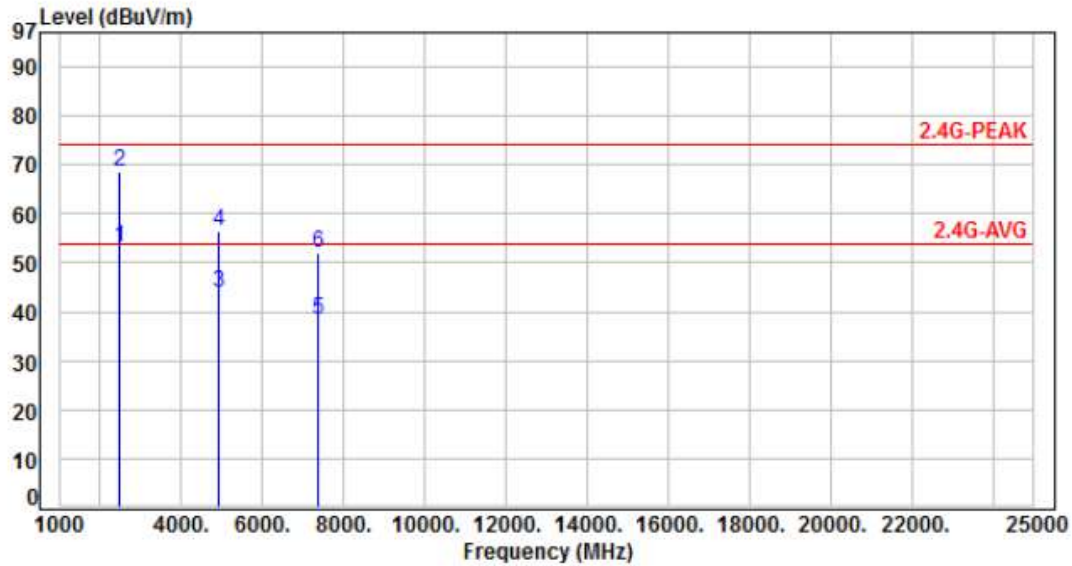


No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	2483.50	-3.40	56.13	52.73	54.00	-1.27	Average	100	161	P
2	2483.50	-3.40	71.64	68.24	74.00	-5.76	Peak	100	161	P
3	4924.00	4.10	37.27	41.37	54.00	-12.63	Average	100	115	P
4	4924.00	4.10	51.42	55.52	74.00	-18.48	Peak	100	115	P
5	7386.00	8.59	29.88	38.47	54.00	-15.53	Average	100	121	P
6	7386.00	8.59	43.71	52.30	74.00	-21.70	Peak	100	121	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		:

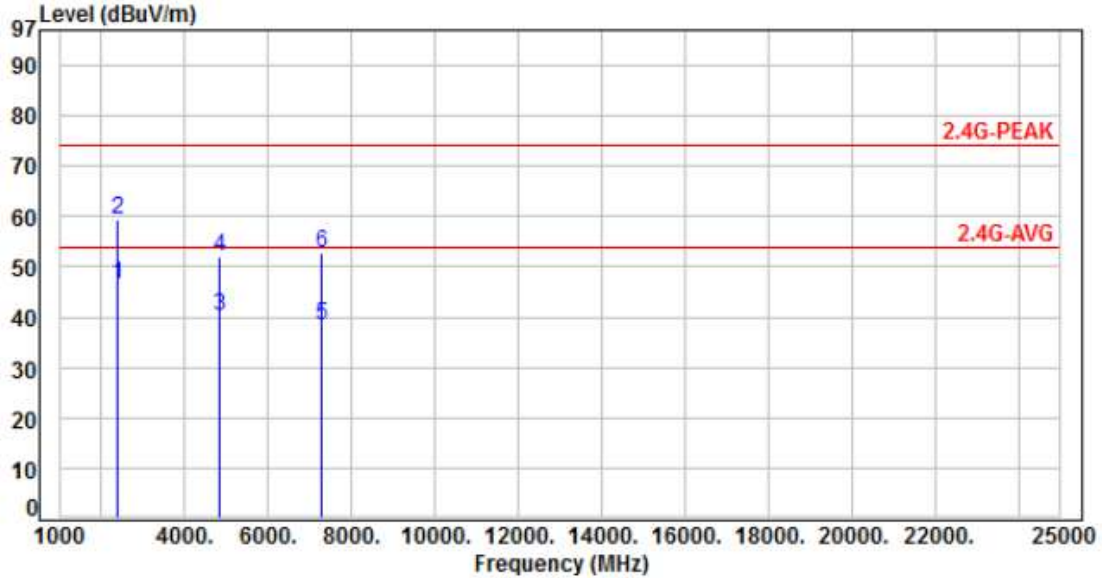


No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	2483.50	-3.40	56.64	53.24	54.00	-0.76	Average	100	199	P
2	2483.50	-3.40	72.15	68.75	74.00	-5.25	Peak	100	199	P
3	4924.00	4.10	39.68	43.78	54.00	-10.22	Average	173	317	P
4	4924.00	4.10	52.48	56.58	74.00	-17.42	Peak	173	317	P
5	7386.00	8.59	29.76	38.35	54.00	-15.65	Average	100	234	P
6	7386.00	8.59	43.58	52.17	74.00	-21.83	Peak	100	234	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		:

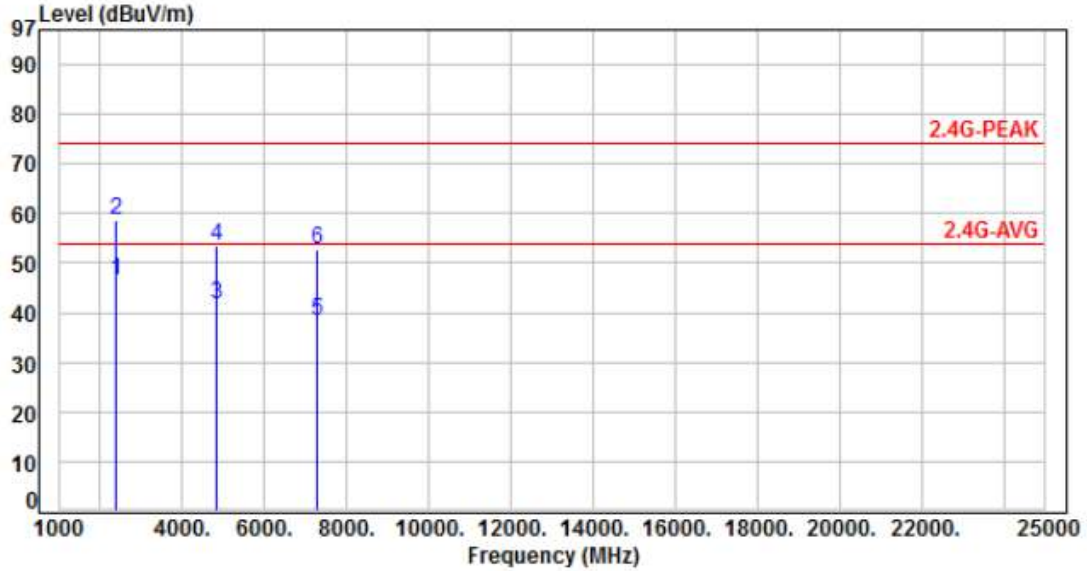


No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	2390.00	-3.62	49.92	46.30	54.00	-7.70	Average	270	268	P
2	2390.00	-3.62	62.86	59.24	74.00	-14.76	Peak	270	268	P
3	4844.00	3.80	36.23	40.03	54.00	-13.97	Average	100	122	P
4	4844.00	3.80	48.36	52.16	74.00	-21.84	Peak	100	122	P
5	7266.00	8.30	30.14	38.44	54.00	-15.56	Average	100	247	P
6	7266.00	8.30	44.38	52.68	74.00	-21.32	Peak	100	247	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		:

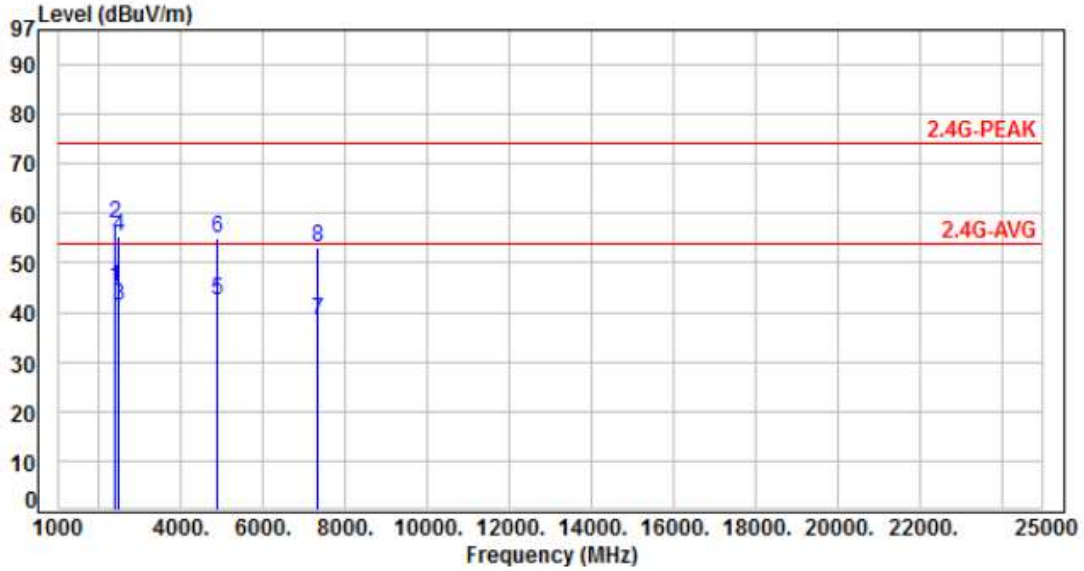


No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	2390.00	-3.62	50.13	46.51	54.00	-7.49	Average	338	171	P
2	2390.00	-3.62	62.19	58.57	74.00	-15.43	Peak	338	171	P
3	4844.00	3.80	37.91	41.71	54.00	-12.29	Average	200	320	P
4	4844.00	3.80	49.83	53.63	74.00	-20.37	Peak	200	320	P
5	7266.00	8.30	30.02	38.32	54.00	-15.68	Average	100	139	P
6	7266.00	8.30	44.57	52.87	74.00	-21.13	Peak	100	139	P

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



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

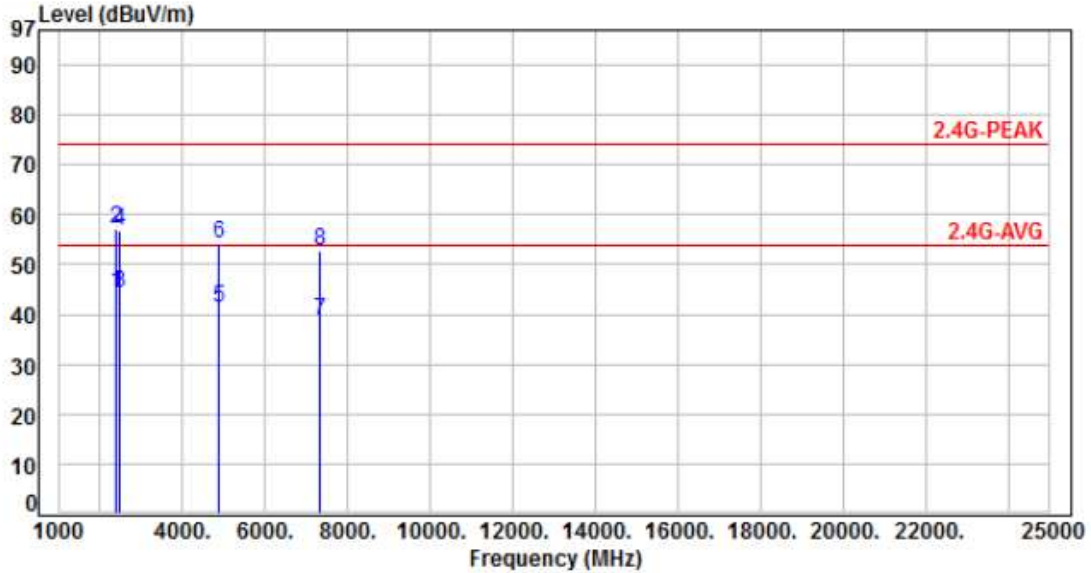


No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	2390.00	-3.62	48.66	45.04	54.00	-8.96	Average	138	265	P
2	2390.00	-3.62	61.65	58.03	74.00	-15.97	Peak	138	265	P
3	2483.50	-3.40	44.77	41.37	54.00	-12.63	Average	138	265	P
4	2483.50	-3.40	58.65	55.25	74.00	-18.75	Peak	138	265	P
5	4874.00	3.90	38.67	42.57	54.00	-11.43	Average	317	4	P
6	4874.00	3.90	51.17	55.07	74.00	-18.93	Peak	317	4	P
7	7311.00	8.48	29.93	38.41	54.00	-15.59	Average	100	288	P
8	7311.00	8.48	44.76	53.24	74.00	-20.76	Peak	100	288	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		:

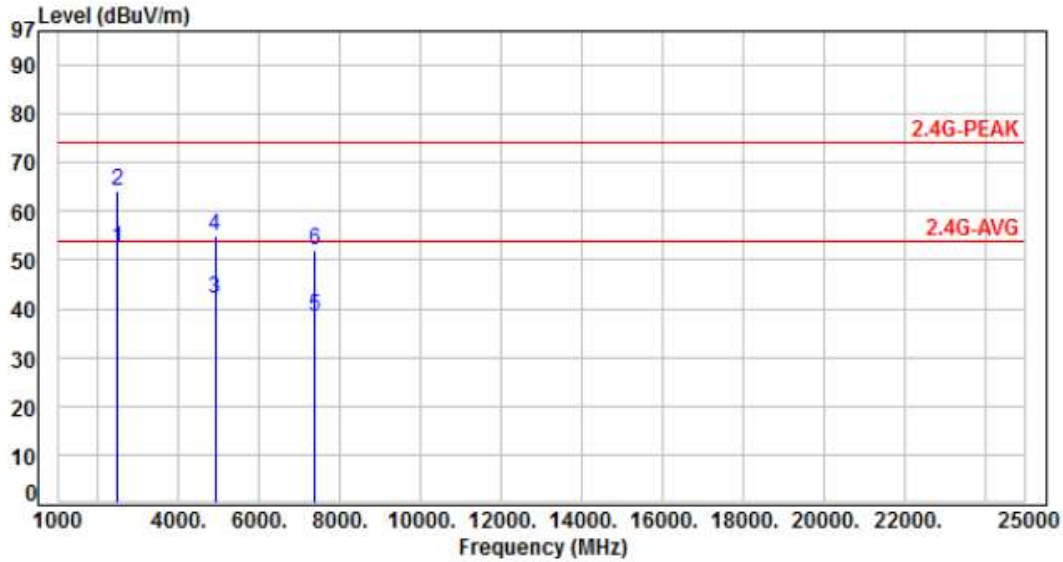


No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	2390.00	-3.62	48.04	44.42	54.00	-9.58	Average	322	189	P
2	2390.00	-3.62	60.92	57.30	74.00	-16.70	Peak	322	189	P
3	2483.50	-3.40	47.77	44.37	54.00	-9.63	Average	322	189	P
4	2483.50	-3.40	60.33	56.93	74.00	-17.07	Peak	322	189	P
5	4874.00	3.90	37.56	41.46	54.00	-12.54	Average	386	330	P
6	4874.00	3.90	50.25	54.15	74.00	-19.85	Peak	386	330	P
7	7311.00	8.48	30.17	38.65	54.00	-15.35	Average	100	244	P
8	7311.00	8.48	44.39	52.87	74.00	-21.13	Peak	100	244	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		:

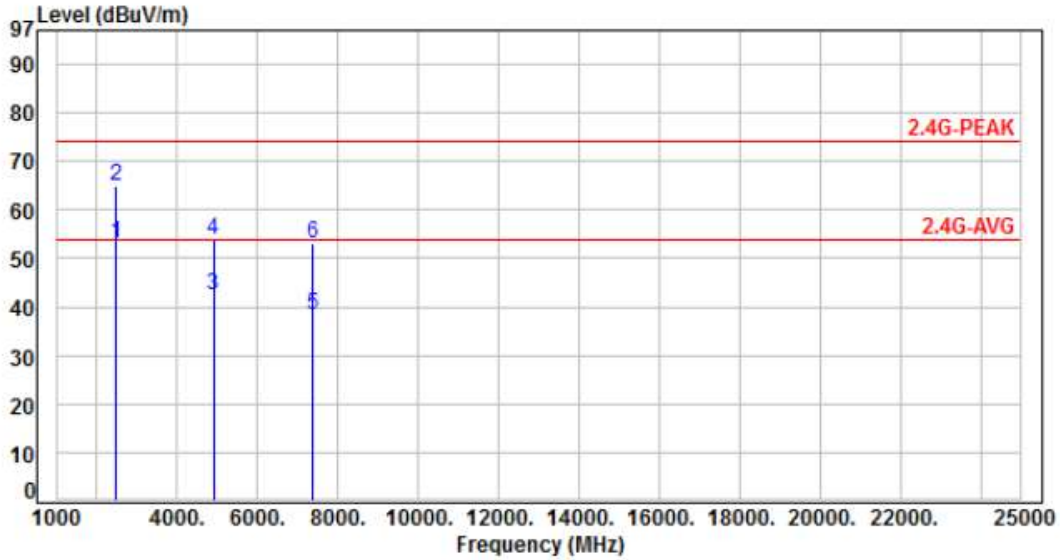


No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	2483.50	-3.40	55.79	52.39	54.00	-1.61	Average	100	163	P
2	2483.50	-3.40	67.45	64.05	74.00	-9.95	Peak	100	163	P
3	4904.00	4.00	37.94	41.94	54.00	-12.06	Average	246	6	P
4	4904.00	4.00	51.13	55.13	74.00	-18.87	Peak	246	6	P
5	7356.00	8.58	29.93	38.51	54.00	-15.49	Average	100	147	P
6	7356.00	8.58	43.36	51.94	74.00	-22.06	Peak	100	147	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	-3.40	56.58	53.18	54.00	-0.82	Average	100	198	P
2	2483.50	-3.40	68.26	64.86	74.00	-9.14	Peak	100	198	P
3	4904.00	4.00	38.43	42.43	54.00	-11.57	Average	383	334	P
4	4904.00	4.00	49.75	53.75	74.00	-20.25	Peak	383	334	P
5	7356.00	8.58	29.76	38.34	54.00	-15.66	Average	100	165	P
6	7356.00	8.58	44.43	53.01	74.00	-20.99	Peak	100	165	P

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



6.7 Restricted Bands of Operation

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

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

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



7. Test of Conducted Spurious Emission

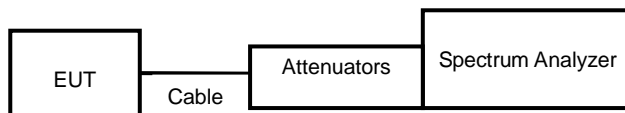
7.1 Test Limit

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

7.2 Test Procedure

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

7.3 Test Setup Layout



7.4 Test Result and Data

Note: Test plots refers to the following pages.



Modulation Type: 802.11b, CH 01



Modulation Type: 802.11b, CH 06





Modulation Type: 802.11b, CH 11

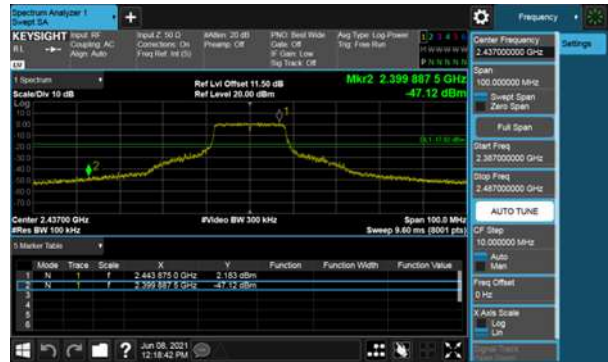
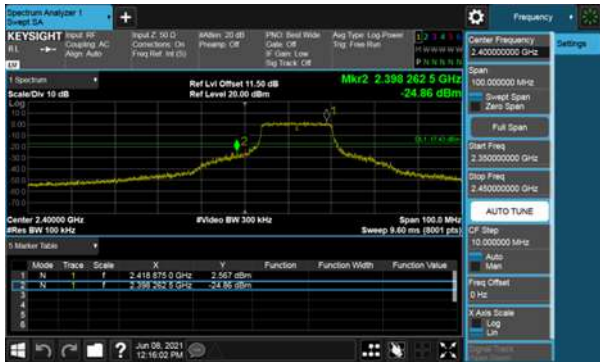




Modulation Type: 802.11g, CH 01



Modulation Type: 802.11g, CH 06





Modulation Type: 802.11g, CH 11

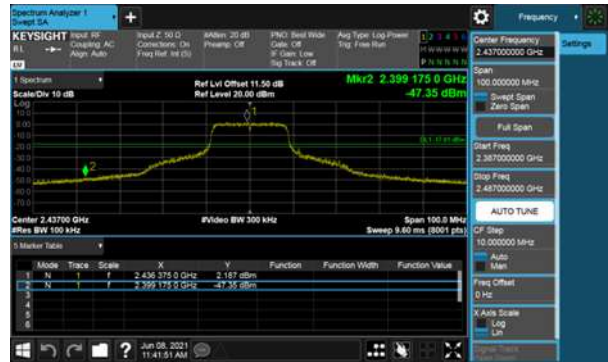
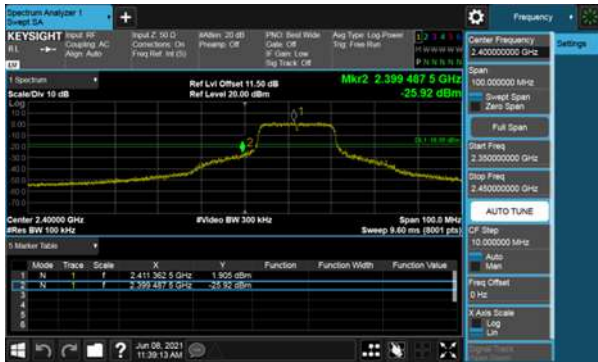




Modulation Type: 802.11n HT20, CH01



Modulation Type: 802.11n HT20, CH06





Modulation Type: 802.11n HT20, CH11

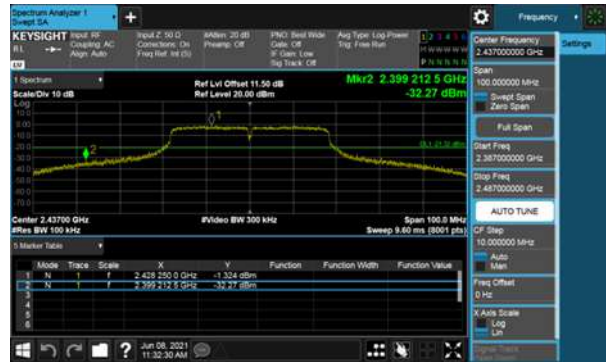




Modulation Type: 802.11n HT40, CH03



Modulation Type: 802.11n HT40, CH06





Modulation Type: 802.11n HT40, CH09





8. On Time, Duty Cycle and Measurement methods

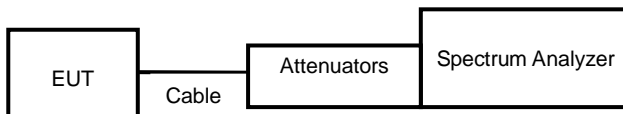
8.1 Test Limit

None; for reporting purposes only.

8.2 Test Procedure

Zero-Span Spectrum Analyzer Method.

8.3 Test Setup Layout



8.4 Test Result and Data

Modulation Type	On Time (ms)	Period Time (ms)	Duty Cycle (%)
11b,1M	100.00	100.00	100.00%
11g,6M	100.00	100.00	100.00%
11n HT20	100.00	100.00	100.00%
11n HT40	100.00	100.00	100.00%



Modulation Type: 802.11b(1Mbps)



Modulation Type: 802.11n HT40(13.5Mbps)



Modulation Type: 802.11g(6Mbps)



Modulation Type: 802.11n HT20(6.5Mbps)





9. 6dB Bandwidth Measurement Data

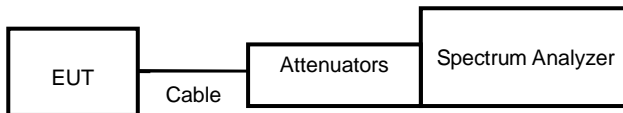
9.1 Test Limit

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	
11b	1	2412	9.18	0.5
	6	2437	9.18	0.5
	11	2462	9.15	0.5
11g	1	2412	16.38	0.5
	6	2437	16.38	0.5
	11	2462	16.38	0.5
11n HT20	1	2412	17.01	0.5
	6	2437	16.98	0.5
	11	2462	17.01	0.5
11n HT40	3	2422	36.36	0.5
	6	2437	36.36	0.5
	9	2452	36.36	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

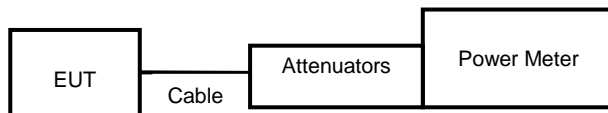
The Maximum Peak Output Power Measurement is 30dBm.

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**

Modulation Mode	Channel	Frequency (MHz)	Conducted(peak) output power (dBm)	Total PK power (dBm)	Total PK power (mW)	Powe Limit (dBm)
			ANT A			
11b	1	2412	17.52	17.52	56.494	30.00
	6	2437	17.56	17.56	57.016	30.00
	11	2462	17.46	17.46	55.719	30.00
11g	1	2412	18.66	18.66	73.451	30.00
	6	2437	18.76	18.76	75.162	30.00
	11	2462	18.64	18.64	73.114	30.00
11n HT20	1	2412	18.92	18.92	77.983	30.00
	6	2437	18.96	18.96	78.705	30.00
	11	2462	18.86	18.86	76.913	30.00
11n HT40	3	2422	18.91	18.91	77.804	30.00
	6	2437	18.98	18.98	79.068	30.00
	9	2452	18.05	18.05	63.826	30.00

Modulation Mode	Channel	Frequency (MHz)	Conducted (average) output power (dBm)	Total AV power (dBm)	Total AV power (mW)	Powe Limit (dBm)
			ANT A			
11b	1	2412	14.64	14.64	29.107	NA
	6	2437	14.72	14.72	29.648	NA
	11	2462	14.55	14.55	28.510	NA
11g	1	2412	13.91	13.91	24.604	NA
	6	2437	13.93	13.93	24.717	NA
	11	2462	13.84	13.84	24.210	NA
11n HT20	1	2412	13.75	13.75	23.714	NA
	6	2437	13.77	13.77	23.823	NA
	11	2462	13.62	13.62	23.014	NA
11n HT40	3	2422	13.97	13.97	24.946	NA
	6	2437	14.02	14.02	25.235	NA
	9	2452	12.84	12.84	19.231	NA

Note: Average power is for reference only.



11. Power Spectral Density

11.1 Test Limit

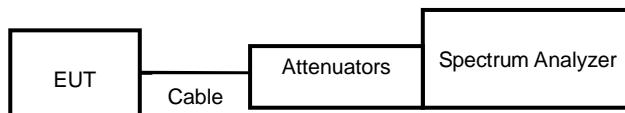
The Maximum of Power Spectral Density Measurement is 8dBm.

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

11.2 Test Procedures

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

11.3 Test Setup Layout



11.4 Test Result and Data

Modulation Type	Channel	Frequency (MHz)	Maximum Power Density of 3KHz Bandwidth(dBm)	Sum chain (dBm)	Duty Cycle CF(dB)	Total PSD (dBm)	Limit (dBm)
			ANT A				
11b	1	2412	-7.36	-7.36	0.00	-7.36	8.00
	6	2437	-7.54	-7.54	0.00	-7.54	8.00
	11	2462	-7.42	-7.42	0.00	-7.42	8.00
11g	1	2412	-12.86	-12.86	0.00	-12.86	8.00
	6	2437	-12.95	-12.95	0.00	-12.95	8.00
	11	2462	-12.84	-12.84	0.00	-12.84	8.00
11n HT20	1	2412	-12.66	-12.66	0.00	-12.66	8.00
	6	2437	-13.19	-13.19	0.00	-13.19	8.00
	11	2462	-12.62	-12.62	0.00	-12.62	8.00
11n HT40	3	2422	-14.77	-14.77	0.00	-14.77	8.00
	6	2437	-15.19	-15.19	0.00	-15.19	8.00
	9	2452	-15.6	-15.60	0.00	-15.60	8.00



Modulation Type: 802.11b
CH01



Modulation Type: 802.11g
CH01



CH06



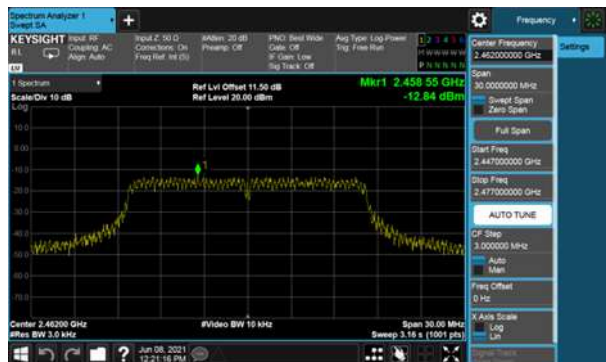
CH06



CH11

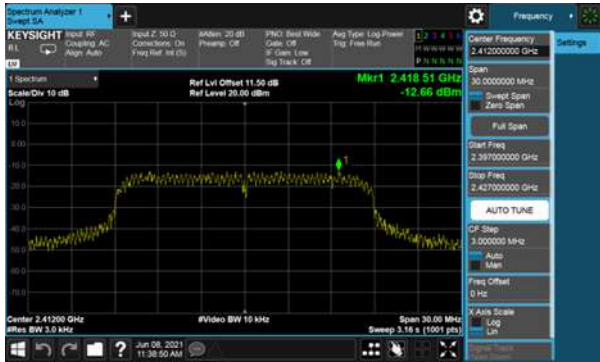


CH11

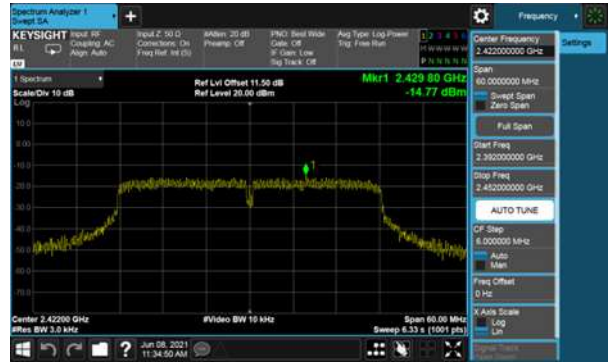




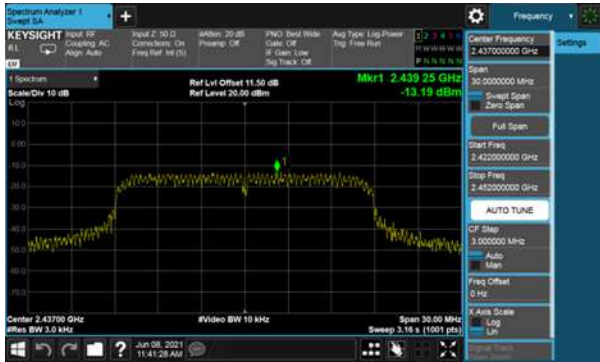
Modulation Type: 802.11n HT20 CH01



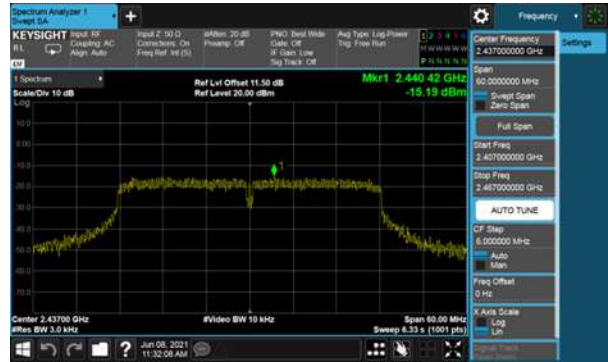
Modulation Type: 802.11n HT40 CH03



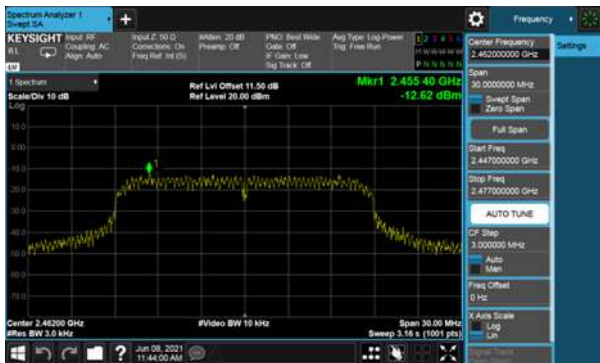
CH06



CH06



CH11



CH09

