



FCC RADIO TEST REPORT

Applicant : Shuttle Inc.

Address : No. 30, Lane 76, Rui Guang Rd. Nei-Hu Dist.,
Taipei, Taiwan

Equipment : XPC nano

Model No. : NS02 V2

Trade Name : Shuttle

FCC ID : S8CNS02V2

I HEREBY CERTIFY THAT :

The sample was received on Nov. 18, 2020 and the testing was completed on Feb. 17, 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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History of this test report

Report No.	Issue Date	Description
TEFI2011199	Mar. 03, 2021	Original



1. Summary of Test Procedure and Test Results

1.1 Applicable Standards

ANSI C63.10:2013

FCC Rules and Regulations Part 15 Subpart C §15.247

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

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



2. Test Configuration of Equipment under Test

2.1 Feature of Equipment

Frequency Range	BT / BLE: 2402-2480MHz 802.11b/g/n: 2412-2462MHz 802.11a/n/ac: 5180-5240MHz, 5260-5320MHz, 5500-5700MHz, 5745-5825MHz
Modulation Type	BT: GFSK, $\pi/4$ -DQPSK, 8DPSK BLE: GFSK WLAN: 2.4GHz: 802.11b: CCK, DQPSK, DBPSK 802.11g/n: BPSK, QPSK, 16QAM, 64QAM 5GHz: 802.11n/a: BPSK, QPSK, 16QAM, 64QAM 802.11ac: BPSK, QPSK, 16QAM, 64QAM, 256QAM
Modulation Technology	DSSS, OFDM, FHSS, DTS
Data Rate	BT: GFSK: 1Mbps, $\pi/4$ -DQPSK: 2Mbps, 8DPSK: 3Mbps BLE: GFSK: 1Mbps GFSK: 2 Mbps WLAN: 2.4GHz: 802.11b: 1, 2, 5.5, 11Mbps 802.11g: 6, 9, 12, 18, 24, 36, 48, 54Mbps 802.11n: MCS0 – MCS7, HT20 5GHz: 802.11a: 6, 9, 12, 18, 24, 36, 48, 54Mbps 802.11n: MCS0 – MCS7, HT20/40 802.11ac: MCS0 – MCS9, VHT20/40/80
Antenna Type	PIFA Antenna
Antenna Gain	For BT: 2402-2480MHz: ANT A: 1.11dBi For WLAN: 2412-2462MHz: ANT A: 1.11dBi 5180-5240MHz: ANT A: 3.20dBi 5260-5320MHz: ANT A: 3.20dBi 5500-5700MHz: ANT A: 2.47dBi 5745-5825MHz: ANT A: 2.69dBi
Adapter	Brand: APD Model:WA-24Q12FU
Firmware Number	NS02V2_Series8_STD_1.0.2_20200910
Serial Number	NS02V20201K42F00014

Note:

- 1.EUT support TPC Function.
- 2.EUT support Client Mode without radar detection.
- 3.For more details, please refer to the User's manual of the EUT.



2.2 Carrier Frequency of Channels

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

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

Note: Channels remarked * are selected to perform test.



2.3 Test Mode and Test Software

- During testing, the interface cables and equipment positions were varied according to ANSI C63.10.
- The complete test system included Remote workstation and EUT for RF test. The Remote workstation included Notebook.
- An executive program, "Ampak RFTTestTool ver.7.0" under Android system was executed to transmit and receive data via WLAN.
- The following test modes were performed for the test:

Conducted Emissions from the AC mains power ports	
Test Mode	Operating Description
1	802.11b (11Mbps)
2	802.11g (6Mbps)
3	802.11n HT20 (6.5Mbps)
caused "Test Mode 3" generated the worst case, it was reported as the final data.	
Radiation Emissions (30MHz ~ 1GHz)	
Test Mode	Operating Description
1	802.11b (11Mbps)
2	802.11g (6Mbps)
3	802.11n HT20 (6.5Mbps)
caused "Test Mode 3" generated the worst case, it was reported as the final data.	
Radiation Emissions (1GHz ~ 25GHz)	
Test Mode	Operating Description
1	802.11b (11Mbps)
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.	

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



2.4 Description of Test System

RF Conducted				
Equipment	Brand	Model	Length/Type	Power cord/Length/Type
Notebook	ASUS	P2430U	N/A	Adapter / 1.8m / NS
KeyBoard	DELL	SK-8115	2.0m / NS	N/A
Mouse	DELL	MS111-P	1.7m / NS	N/A
Mointor	AOPEN	27MX1	NA	N/A
RJ45 Cable	TE CONNECTIVITY	CAT5E	1.8m / NS	N/A
HDMI Cable	N/A	H1	1.7m / NS	N/A
Power Cord	N/A	P1	2.3m / NS	N/A
Radiated Emissions				
Equipment	Brand	Model	Length/Type	Power cord/Length/Type
Notebook	ASUS	P2430U	N/A	Adapter / 1.8m / NS
RJ45 Cable	TE CONNECTIVITY	CAT5E	15m / NS	N/A
KeyBoard	DELL	SK-8115	2.0m / NS	N/A
Mouse	DELL	MS111-P	1.7m / NS	N/A
Mointor	AOPEN	27MX1	NA	N/A
Dongle	Transcend	16GB	N/A	N/A
Dongle	Transcend	16GB	N/A	N/A
Earphone	Apple	Earpods	1.2m / NS	N/A
MicroSDHC	ADATA	8GB	N/A	N/A
HDMI Cable	N/A	H1	1.7m / NS	N/A
Power Cord	N/A	P1	2.3m / NS	N/A
AC Power Line Conducted Emission				
Equipment	Brand	Model	Length/Type	Power cord/Length/Type
Notebook	ASUS	P2430U	N/A	Adapter / 1.8m / NS
RJ45 Cable	TE CONNECTIVITY	CAT5E	15m / NS	N/A
KeyBoard	DELL	SK-8115	2.0m / NS	N/A
Mouse	DELL	MS111-P	1.7m / NS	N/A
Mointor	AOPEN	27MX1	NA	N/A
Dongle	Transcend	16GB	N/A	N/A
Dongle	Transcend	16GB	N/A	N/A
Earphone	Apple	Earpods	1.2m / NS	N/A
MicroSDHC	ADATA	8GB	N/A	N/A
HDMI Cable	N/A	H1	1.7m / NS	N/A
Power Cord	N/A	P1	2.3m / NS	N/A



2.5 General Information of Test

Test Site	Cerpass Technology Corporation Test Laboratory Address: No.10, Ln. 2, Lianfu St., Luzhu Dist., Taoyuan City 33848, Taiwan (R.O.C.) Tel:+886-3-3226-888 Fax:+886-3-3226-881	
	FCC	TW1079, TW1439
	IC	4934E-1, 4934E-2
	VCCI	T-2205 for Telecommunication test C-4663 for Conducted emission test R-4218 for Radiated emission test G-10812, G-10813 for radiated disturbance above 1GHz
Frequency Range Investigated:	Conducted: from 150kHz to 30 MHz Radiation: from 30 MHz to 25,000MHz	
Test Distance:	The test distance of radiated emission from antenna to EUT is 3 M.	

Test Item	Test Site	Test period	Environmental Conditions	Tested By
RF Conducted	RFCON01-NK	2021/02/04~2021/02/17	22~24℃ / 38~42%	Nick Guan
Radiated Emissions	3M02-NK	2020/12/26~2021/02/06	21~25℃ / 42~47%	Nick Guan Leon Huang
AC Power Line Conducted Emission	CON01-NK	2021/02/06	22℃ / 43%	Leon Huang

2.6 Measurement Uncertainty

Measurement Item	Uncertainty
AC Power Line Conduction(150K~30MHz)	±3.63dB
Radiated Spurious Emission(9KHz~30MHz)	±3.404dB
Radiated Spurious Emission(30MHz~1GHz)	±5.686dB
Radiated Spurious Emission(1GHz~25GHz)	±6.597dB
Conducted Spurious Emission	±2.022dB
6dB Bandwidth	±4.482%
20dB Bandwidth	±4.40%
Occupied Bandwidth	±4.40%
Peak Output Power(Conducted Power Meter)	±1.02dB
Dwell Time	±3.49%
Power Spectral Density	±1.963dB
Duty Cycle	±3.47%



3. Test Equipment and Ancillaries Used for Tests

Test Item	Radiated Emissions				
Test Site	Semi Anechoic Room(3M02-NK)				
Instrument	Manufacturer	Model No	Serial No	Calibration Date	Valid Date
Bilog Antenna	Schwarzbeck	VULB9168	369	2020/04/10	2021/04/09
Active Loop Antenna	EMCO	6507	40855	2020/05/21	2021/05/20
Horn Antenna	EMCO	3115	31601	2020/10/16	2021/10/15
Horn Antenna	EMCO	3116	31970	2020/03/26	2021/03/25
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	60660	2020/03/16	2021/03/15
Preamplifier	Agilent	8449B	3008A01954	2020/03/16	2021/03/15
Preamplifier	EMC INSTRUMENTS	EMC184045	980065	2020/11/06	2021/11/05
Bluetooth Tester	ROHDE & SCHWARZ	CBT	101133	2020/04/07	2021/04/06
Cable-3in1(30M-1G)	HARBOUR INDUSTRIES	LL142	CCE1315	2020/04/09	2021/04/08
Cable-0.5m(1G-18G)	HUBER SUHNER	SUCOFLEX 100	805443/4	2020/05/27	2021/05/26
Cable-3m(1G-18G)	HUBER SUHNER	SUCOFLEX 100	805796/4	2020/05/27	2021/05/26
Cable-8m(1G-18G)	HUBER SUHNER	SUCOFLEX 100	805795/4	2020/05/27	2021/05/26
Cable-0.5m(30M-40G)	HUBER SUHNER	SUCOFLEX 102	28420/2	2020/04/01	2021/03/31
Cable-3m(30M-40G)	HUBER SUHNER	SUCOFLEX 102	MY2608/2	2020/04/01	2021/03/31
Cable-0.5m(1G-40G)	Rapidtek	40GHZ 50CM	38MS-38MS50314	2020/04/09	2021/04/08
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	2020/04/07	2021/04/06
CAX Signal Analyzer	KEYSIGHT	N9000B	MY57100339	2020/12/25	2021/12/24
Attenuator	KEYSIGHT	8491B	MY39250703	2020/04/17	2021/04/16
TEMP & HUMI CHAMBER	T-MACHINE	TMJ-9712	T-12-040111	2020/08/25	2021/08/24
Power Meter	Anritsu	ML2495A	1224005	2020/04/17	2021/04/16
Power Sensor	Anritsu	MA2411B	1207295	2020/04/17	2021/04/16
Spectrum Analyzer	ROHDE & SCHWARZ	FSV 40-N	101329	2020/07/07	2021/07/06



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	2020/05/25	2021/05/24
Line Impedance Stabilization Network	Schwarzbeck	NSLK 8127	8127-568	2020/03/12	2021/03/11
Pulse Limiter	ROHDE & SCHWARZ	ESH3-Z2	101934	2020/03/11	2021/03/10
Cable-6m(9k~300M)	NA	CFD300-NL	NA	2020/03/11	2021/03/10
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: 1.11dBi



5. Test of AC Power Line Conducted Emission

5.1 Test Limit

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

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

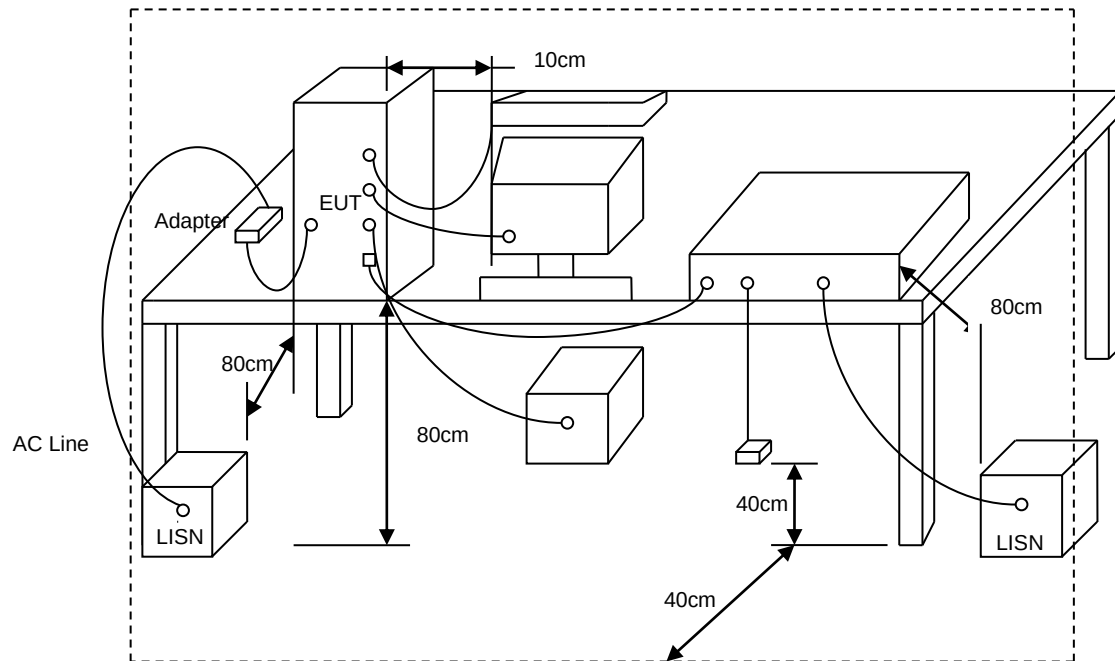
*Decreases with the logarithm of the frequency.

5.2 Test Procedures

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



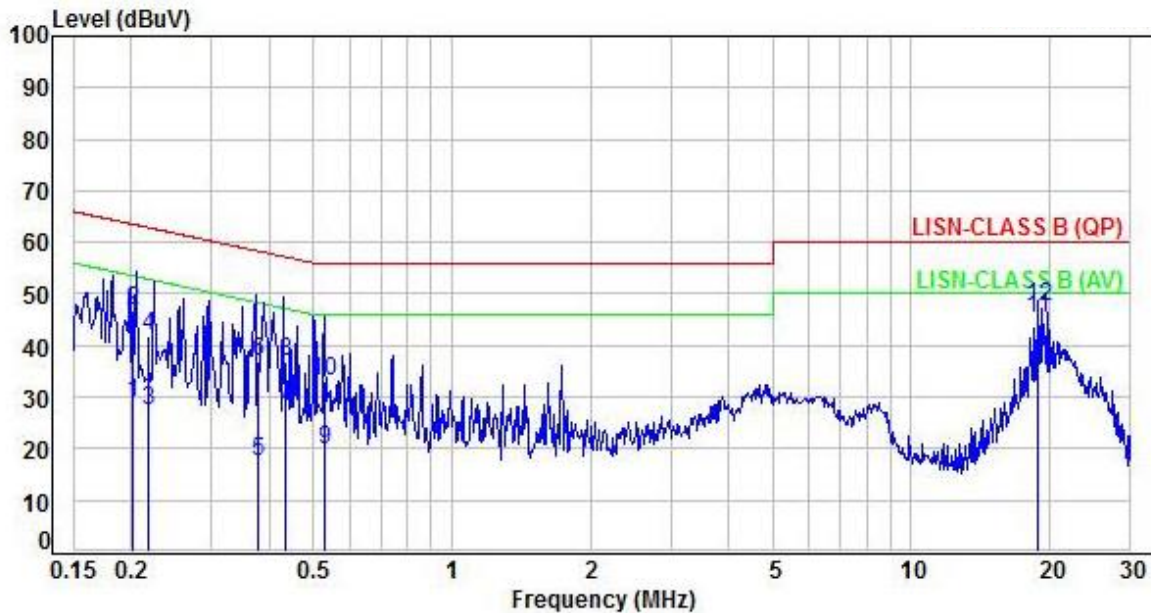
5.3 Typical Test Setup





5.4 Test Result and Data

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



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector	P/F
1	0.20	10.03	18.95	28.98	53.52	-24.54	Average	P
2	0.20	10.03	36.64	46.67	63.52	-16.85	QP	P
3	0.22	10.03	17.52	27.55	52.86	-25.31	Average	P
4	0.22	10.03	31.62	41.65	62.86	-21.21	QP	P
5	0.38	10.04	7.56	17.60	48.34	-30.74	Average	P
6	0.38	10.04	26.95	36.99	58.34	-21.35	QP	P
7	0.43	10.05	18.65	28.70	47.17	-18.47	Average	P
8	0.43	10.05	26.86	36.91	57.17	-20.26	QP	P
9	0.53	10.06	9.53	19.59	46.00	-26.41	Average	P
10	0.53	10.06	23.06	33.12	56.00	-22.88	QP	P
11	18.84	10.70	34.72	45.42	50.00	-4.58	Average	P
12	18.84	10.70	36.64	47.34	60.00	-12.66	QP	P

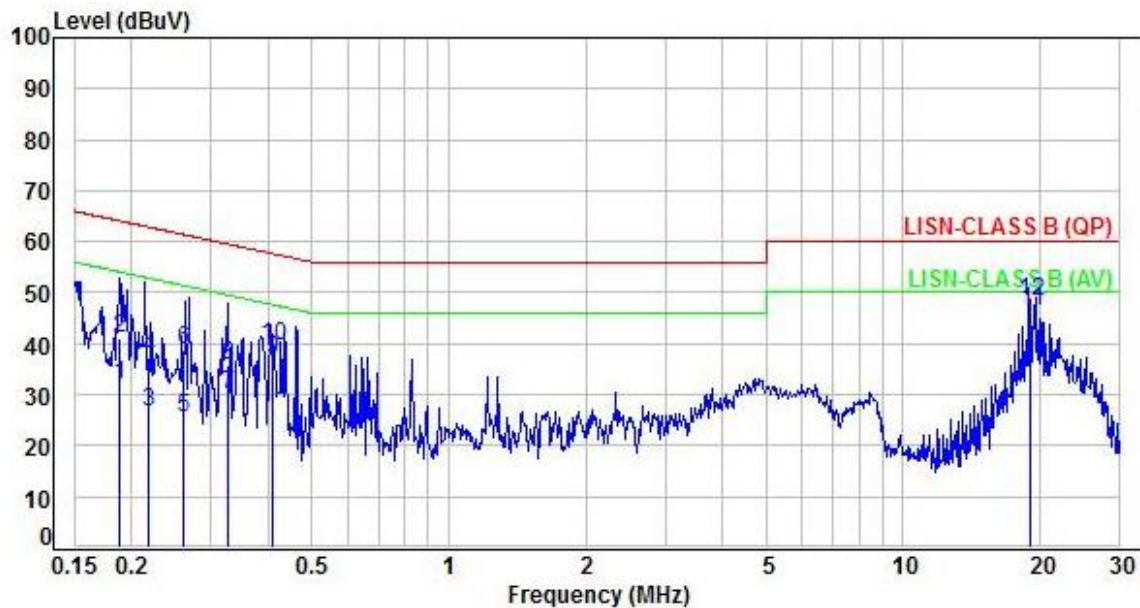
Note: Level=Reading+Factor

Margin=Level-Limit

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



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



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector	P/F
1	0.19	10.00	21.98	31.98	54.07	-22.09	Average	P
2	0.19	10.00	30.97	40.97	64.07	-23.10	QP	P
3	0.22	10.00	16.72	26.72	52.90	-26.18	Average	P
4	0.22	10.00	27.42	37.42	62.90	-25.48	QP	P
5	0.26	10.01	15.35	25.36	51.45	-26.09	Average	P
6	0.26	10.01	28.67	38.68	61.45	-22.77	QP	P
7	0.33	10.01	20.03	30.04	49.57	-19.53	Average	P
8	0.33	10.01	25.86	35.87	59.57	-23.70	QP	P
9	0.41	10.02	26.74	36.76	47.64	-10.88	Average	P
10	0.41	10.02	29.41	39.43	57.64	-18.21	QP	P
11	19.10	10.71	35.79	46.50	50.00	-3.50	Average	P
12	19.10	10.71	37.41	48.12	60.00	-11.88	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

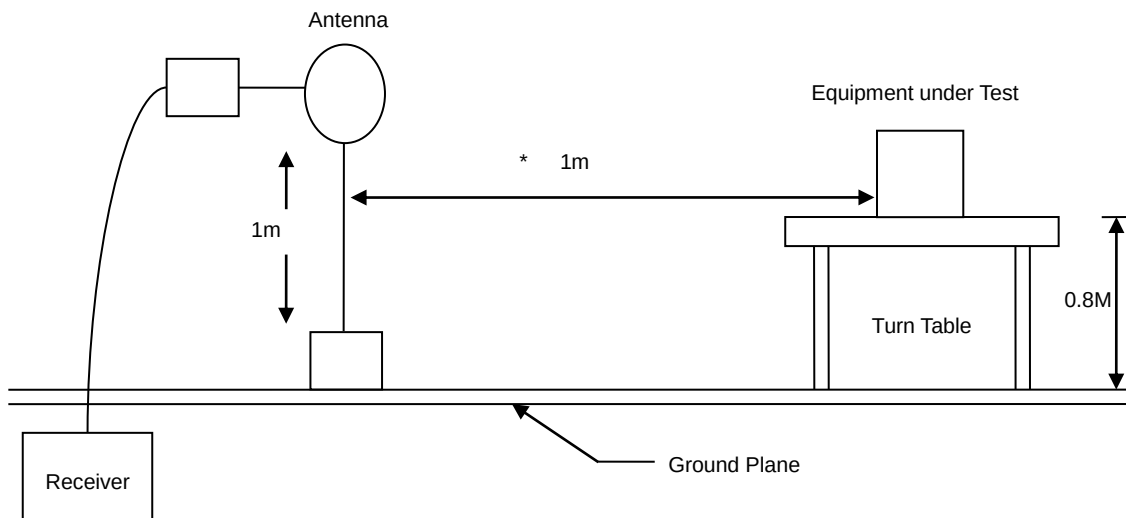
- a. The EUT was placed on a rotatable table top 0.8 meter above ground.
- b. The EUT was set 3 meters from the interference receiving antenna which was mounted on the top of a variable height antenna tower.
- c. The table was rotated 360 degrees to determine the position of the highest radiation.
-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

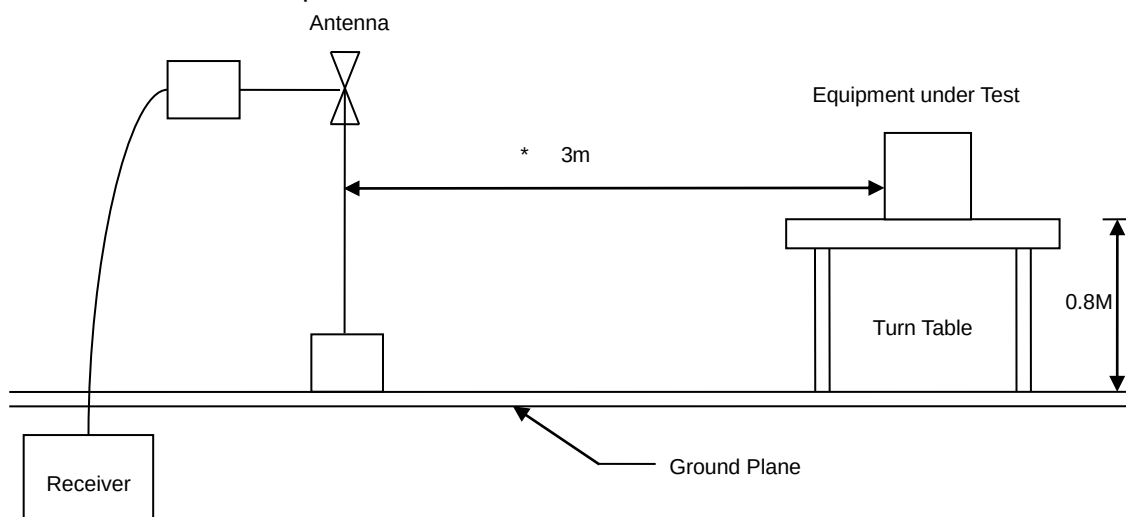


6.3 Typical Test Setup

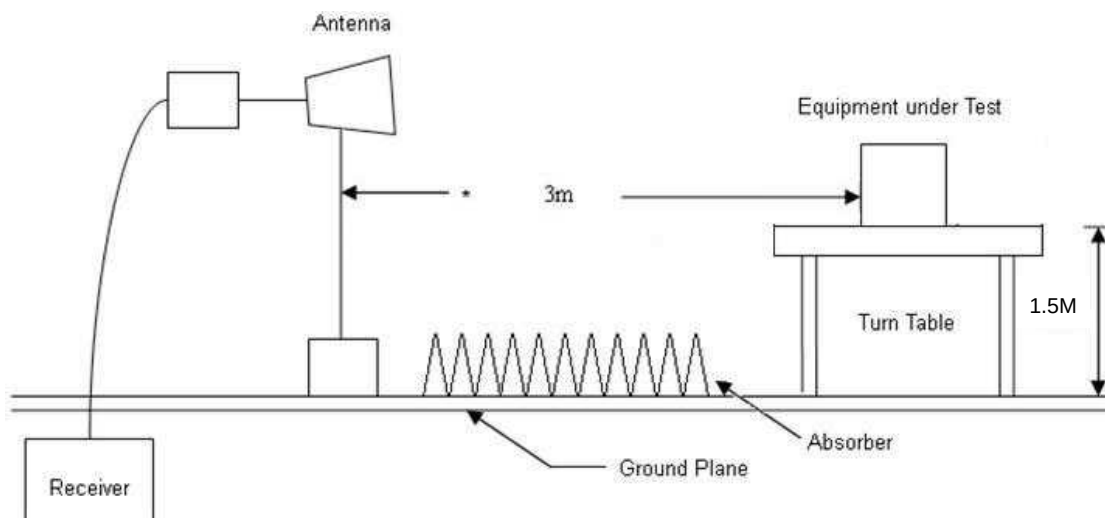
Below 30MHz test setup



30MHz- 1GHz Test Setup



Above 1GHz Test Setup



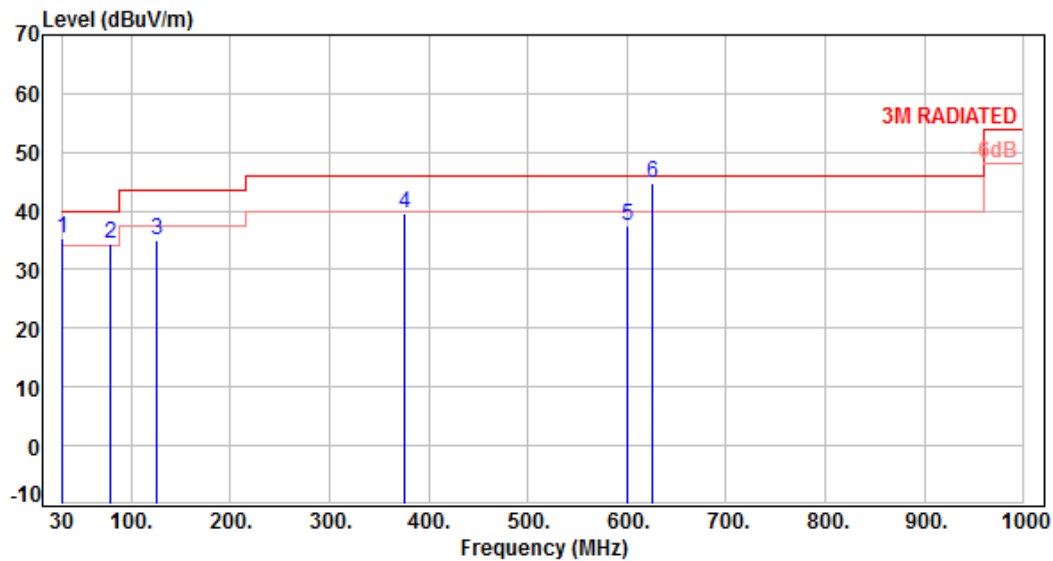


6.4 Test Result and Data (9KHz ~ 30MHz)

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

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

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



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	30.00	-10.42	45.72	35.30	40.00	-4.70	Peak	400	0	P
2	78.16	-13.92	48.36	34.44	40.00	-5.56	Peak	400	0	P
3	125.28	-11.27	46.36	35.09	43.50	-8.41	Peak	400	0	P
4	375.11	-6.37	45.88	39.51	46.00	-6.49	Peak	400	0	P
5	600.24	-1.22	38.72	37.50	46.00	-8.50	Peak	400	0	P
6	625.31	-1.03	45.69	44.66	46.00	-1.34	QP	170	260	P

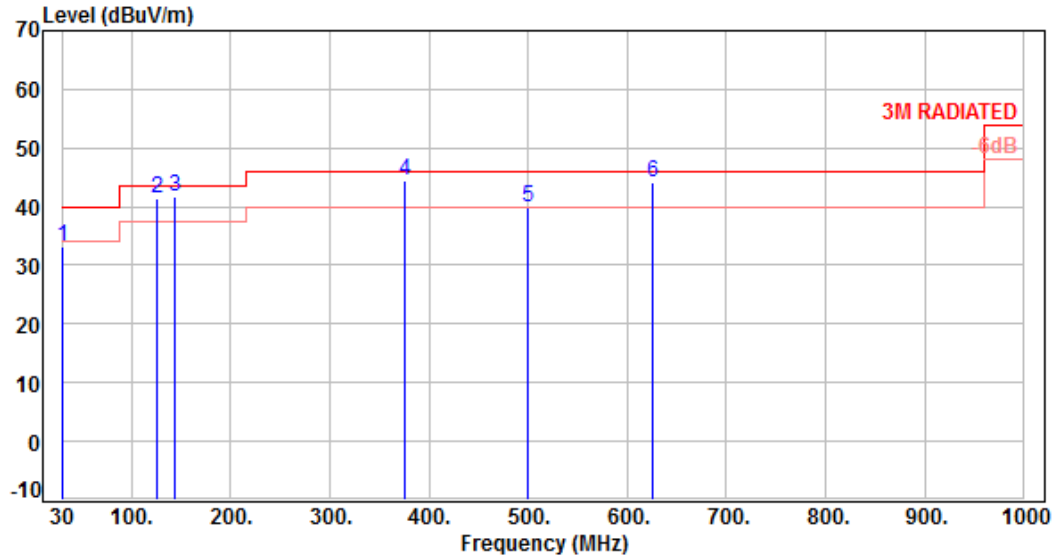
Note: Level=Reading+Factor

Margin=Level-Limit

Factor=Antenna Factor + cable loss - Amplifier Factor



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



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	30.00	-10.42	43.70	33.28	40.00	-6.72	Peak	100	0	P
2	125.10	-11.29	52.74	41.45	43.50	-2.05	QP	150	350	P
3	143.25	-9.52	51.27	41.75	43.50	-1.75	QP	120	210	P
4	375.13	-6.37	50.77	44.40	46.00	-1.60	QP	130	240	P
5	500.23	-3.72	43.48	39.76	46.00	-6.24	Peak	100	0	P
6	625.43	-1.02	45.29	44.27	46.00	-1.73	QP	100	212	P

Note: Level=Reading+Factor

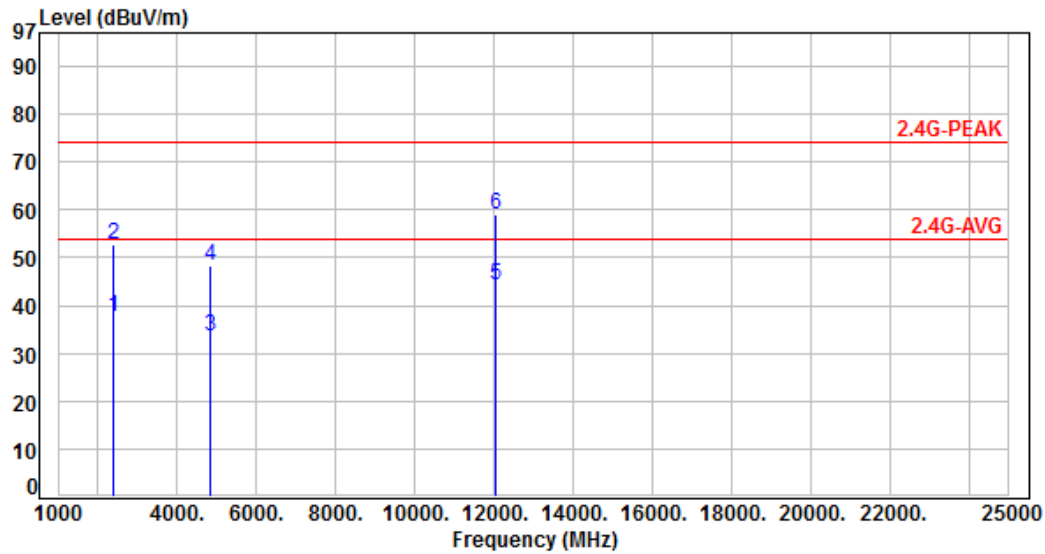
Margin=Level-Limit

Factor=Antenna Factor + cable loss - Amplifier Factor



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

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



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	2390.00	-2.89	40.36	37.47	54.00	-16.53	Average	129	347	P
2	2390.00	-2.89	55.72	52.83	74.00	-21.17	Peak	129	347	P
3	4824.00	4.73	28.84	33.57	54.00	-20.43	Average	100	110	P
4	4824.00	4.73	43.54	48.27	74.00	-25.73	Peak	100	110	P
5	12060.00	14.70	29.41	44.11	54.00	-9.89	Average	100	295	P
6	12060.00	14.70	44.41	59.11	74.00	-14.89	Peak	100	295	P

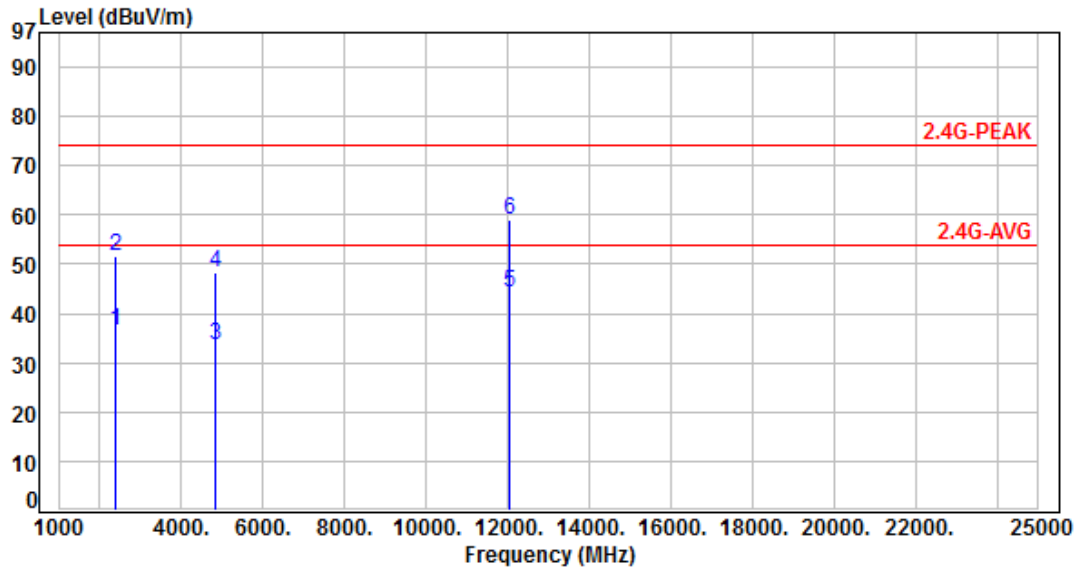
Note: Level=Reading+Factor

Margin=Level-Limit

Factor=Antenna Factor + cable loss - Amplifier Factor



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



No.	Frequency (MHz)	Factor (dB)	Reading (dBUV)	Level (dBUV/m)	Limit (dBUV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	2390.00	-2.89	39.50	36.61	54.00	-17.39	Average	219	175	P
2	2390.00	-2.89	54.44	51.55	74.00	-22.45	Peak	219	175	P
3	4824.00	4.73	28.81	33.54	54.00	-20.46	Average	100	97	P
4	4824.00	4.73	43.56	48.29	74.00	-25.71	Peak	100	97	P
5	12060.00	14.70	29.47	44.17	54.00	-9.83	Average	121	182	P
6	12060.00	14.70	44.16	58.86	74.00	-15.14	Peak	121	182	P

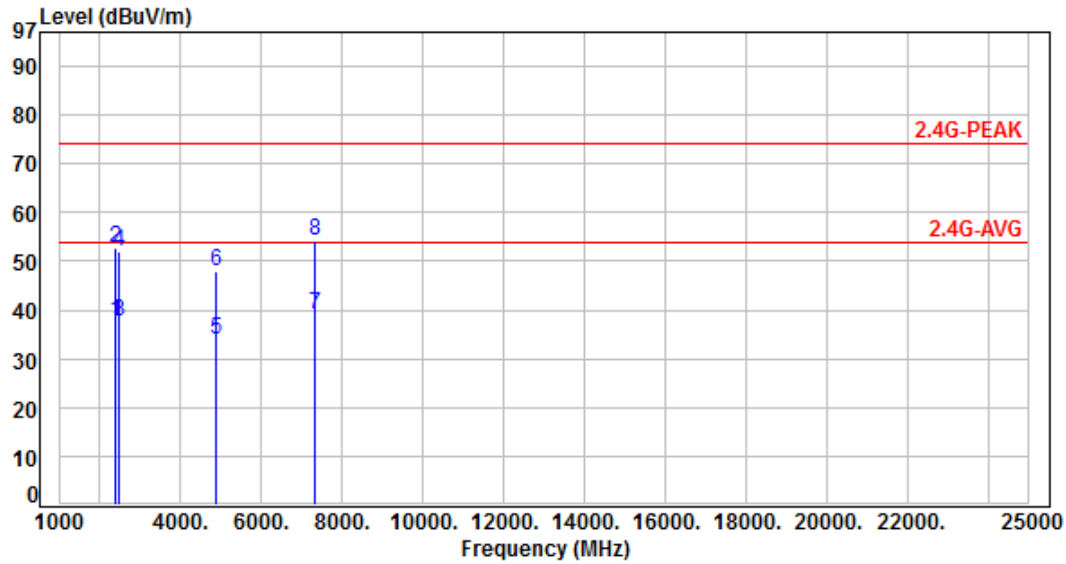
Note: Level=Reading+Factor

Margin=Level-Limit

Factor=Antenna Factor + cable loss - Amplifier Factor



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



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	2390.00	-2.89	40.46	37.57	54.00	-16.43	Average	125	349	P
2	2390.00	-2.89	55.60	52.71	74.00	-21.29	Peak	125	349	P
3	2483.50	-2.66	40.28	37.62	54.00	-16.38	Average	125	349	P
4	2483.50	-2.66	54.63	51.97	74.00	-22.03	Peak	125	349	P
5	4874.00	4.89	29.17	34.06	54.00	-19.94	Average	100	108	P
6	4874.00	4.89	42.95	47.84	74.00	-26.16	Peak	100	108	P
7	7311.00	9.81	29.45	39.26	54.00	-14.74	Average	149	288	P
8	7311.00	9.81	44.35	54.16	74.00	-19.84	Peak	149	288	P

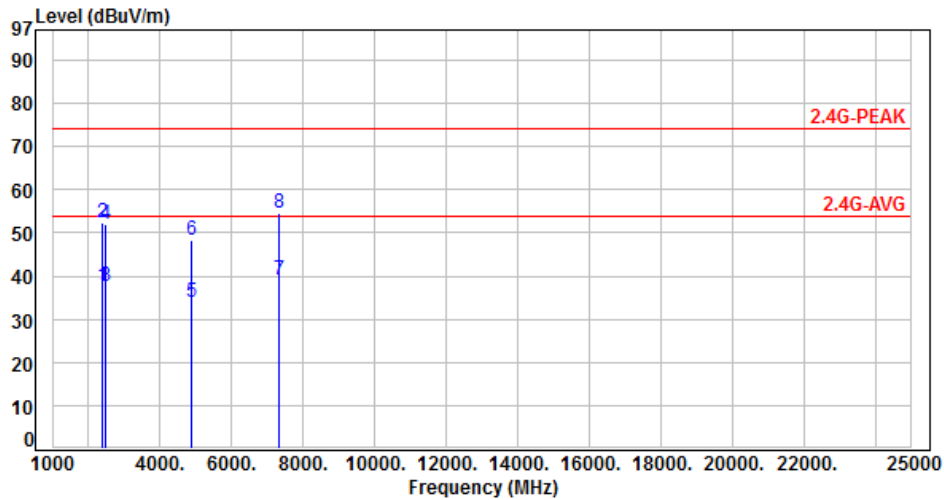
Note: Level=Reading+Factor

Margin=Level-Limit

Factor=Antenna Factor + cable loss - Amplifier Factor



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



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	2390.00	-2.89	40.35	37.46	54.00	-16.54	Average	224	172	P
2	2390.00	-2.89	55.21	52.32	74.00	-21.68	Peak	224	172	P
3	2483.50	-2.66	40.29	37.63	54.00	-16.37	Average	224	172	P
4	2483.50	-2.66	54.83	52.17	74.00	-21.83	Peak	224	172	P
5	4874.00	4.89	29.22	34.11	54.00	-19.89	Average	100	103	P
6	4874.00	4.89	43.38	48.27	74.00	-25.73	Peak	100	103	P
7	7311.00	9.81	29.46	39.27	54.00	-14.73	Average	166	189	P
8	7311.00	9.81	44.93	54.74	74.00	-19.26	Peak	166	189	P

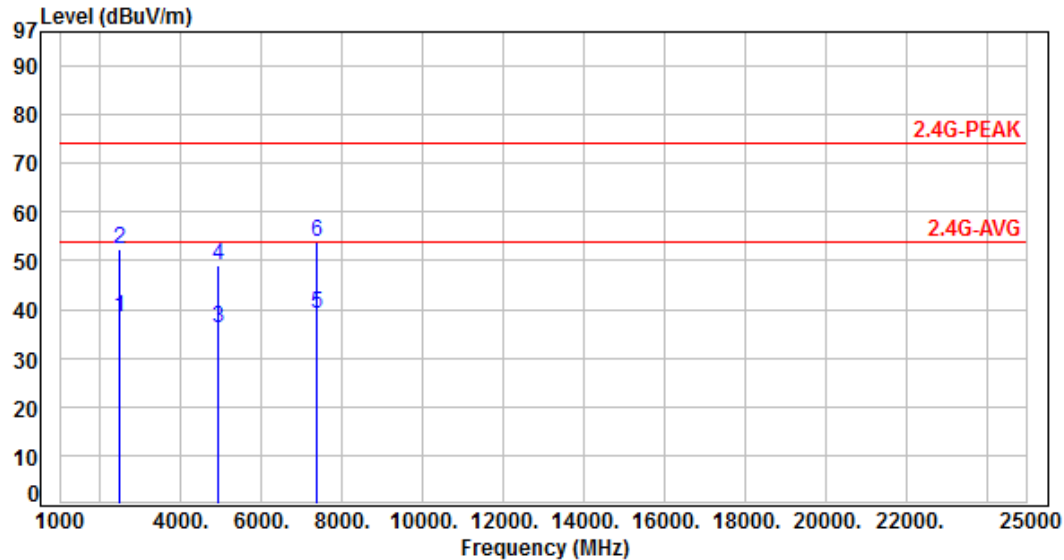
Note: Level=Reading+Factor

Margin=Level-Limit

Factor=Antenna Factor + cable loss - Amplifier Factor



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



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	2483.50	-2.66	40.97	38.31	54.00	-15.69	Average	138	351	P
2	2483.50	-2.66	54.91	52.25	74.00	-21.75	Peak	138	351	P
3	4924.00	5.10	30.88	35.98	54.00	-18.02	Average	100	116	P
4	4924.00	5.10	44.12	49.22	74.00	-24.78	Peak	100	116	P
5	7386.00	9.94	29.01	38.95	54.00	-15.05	Average	158	302	P
6	7386.00	9.94	43.81	53.75	74.00	-20.25	Peak	158	302	P

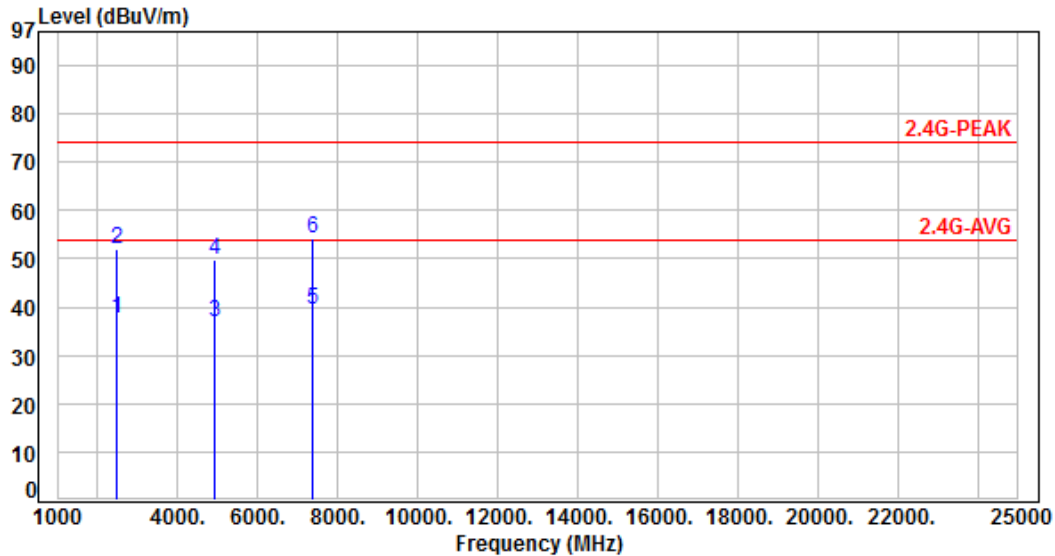
Note: Level=Reading+Factor

Margin=Level-Limit

Factor=Antenna Factor + cable loss - Amplifier Factor



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



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	2483.50	-2.66	40.32	37.66	54.00	-16.34	Average	232	170	P
2	2483.50	-2.66	54.80	52.14	74.00	-21.86	Peak	232	170	P
3	4924.00	5.10	31.68	36.78	54.00	-17.22	Average	100	106	P
4	4924.00	5.10	44.72	49.82	74.00	-24.18	Peak	100	106	P
5	7386.00	9.94	29.47	39.41	54.00	-14.59	Average	154	197	P
6	7386.00	9.94	44.23	54.17	74.00	-19.83	Peak	154	197	P

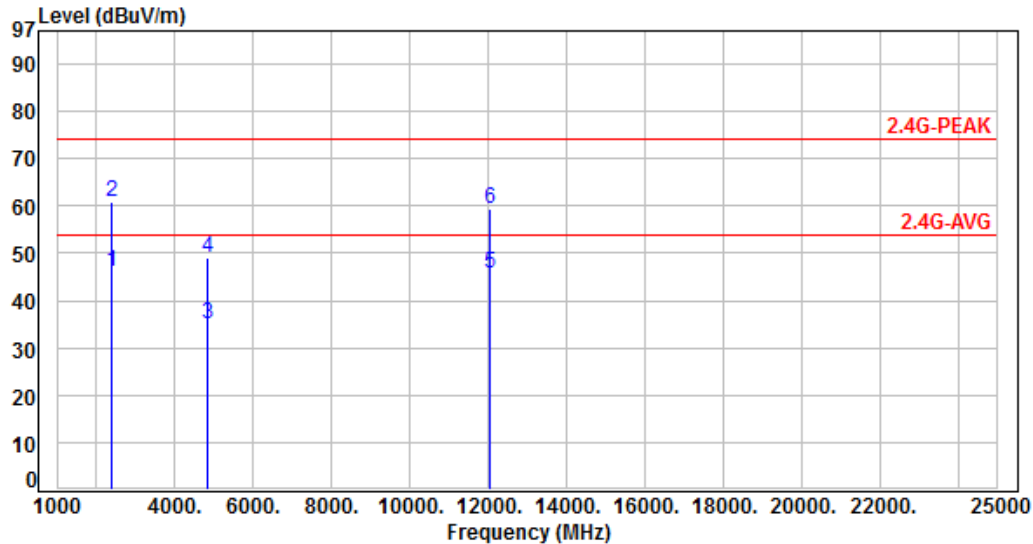
Note: Level=Reading+Factor

Margin=Level-Limit

Factor=Antenna Factor + cable loss - Amplifier Factor



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



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	2390.00	-2.89	48.82	45.93	54.00	-8.07	Average	143	349	P
2	2390.00	-2.89	63.81	60.92	74.00	-13.08	Peak	143	349	P
3	4824.00	4.73	30.45	35.18	54.00	-18.82	Average	106	118	P
4	4824.00	4.73	44.45	49.18	74.00	-24.82	Peak	106	118	P
5	12060.00	14.70	30.91	45.61	54.00	-8.39	Average	100	286	P
6	12060.00	14.70	44.77	59.47	74.00	-14.53	Peak	100	286	P

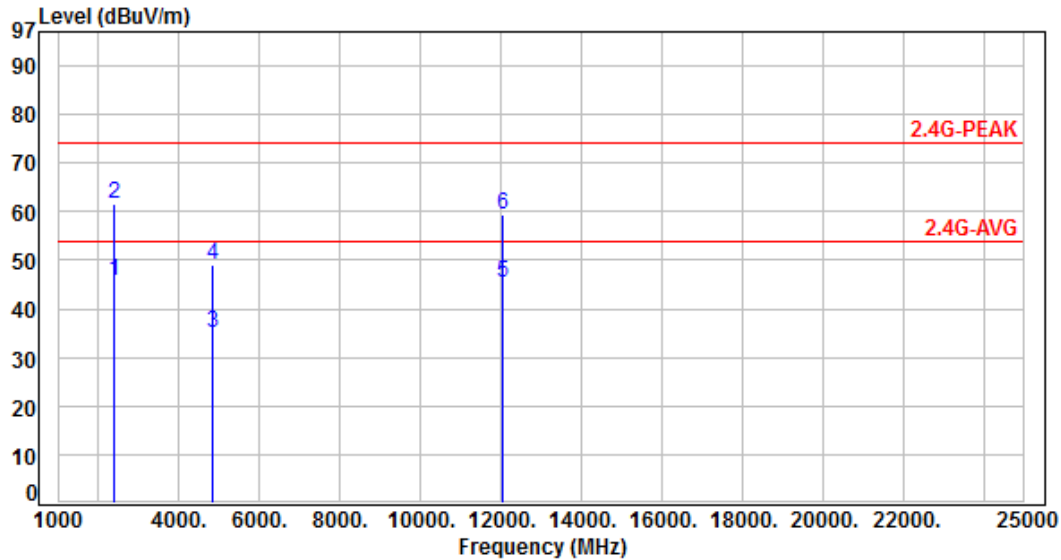
Note: Level=Reading+Factor

Margin=Level-Limit

Factor=Antenna Factor + cable loss - Amplifier Factor



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



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	2390.00	-2.89	48.80	45.91	54.00	-8.09	Average	205	173	P
2	2390.00	-2.89	64.35	61.46	74.00	-12.54	Peak	205	173	P
3	4824.00	4.73	30.36	35.09	54.00	-18.91	Average	100	107	P
4	4824.00	4.73	44.34	49.07	74.00	-24.93	Peak	100	107	P
5	12060.00	14.70	30.83	45.53	54.00	-8.47	Average	126	185	P
6	12060.00	14.70	44.52	59.22	74.00	-14.78	Peak	126	185	P

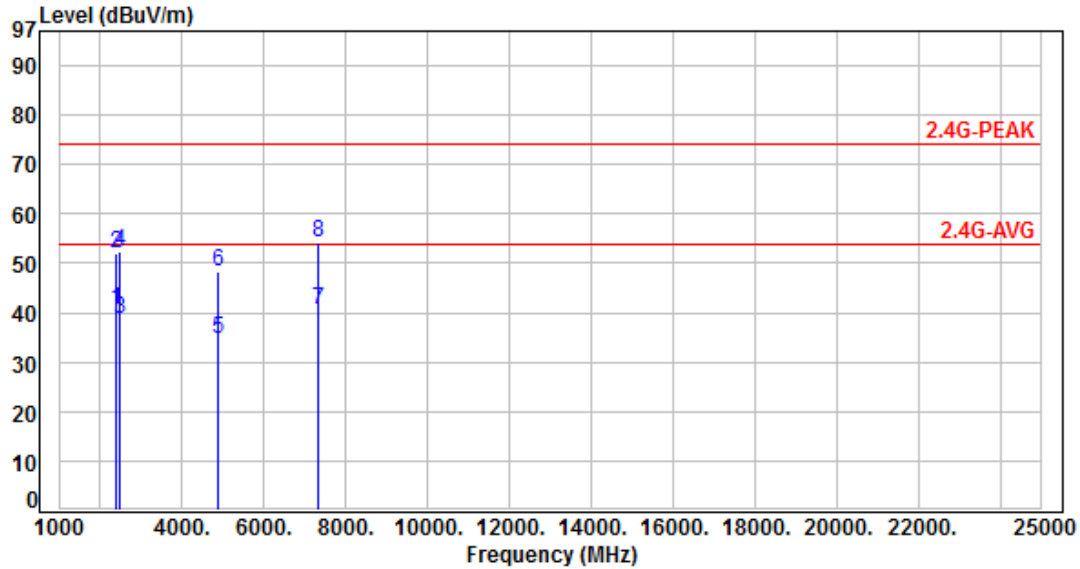
Note: Level=Reading+Factor

Margin=Level-Limit

Factor=Antenna Factor + cable loss - Amplifier Factor



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



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	2390.00	-2.89	43.43	40.54	54.00	-13.46	Average	107	353	P
2	2390.00	-2.89	54.98	52.09	74.00	-21.91	Peak	107	353	P
3	2483.50	-2.66	41.27	38.61	54.00	-15.39	Average	107	353	P
4	2483.50	-2.66	54.90	52.24	74.00	-21.76	Peak	107	353	P
5	4874.00	4.89	29.96	34.85	54.00	-19.15	Average	100	112	P
6	4874.00	4.89	43.51	48.40	74.00	-25.60	Peak	100	112	P
7	7311.00	9.81	30.73	40.54	54.00	-13.46	Average	152	294	P
8	7311.00	9.81	44.26	54.07	74.00	-19.93	Peak	152	294	P

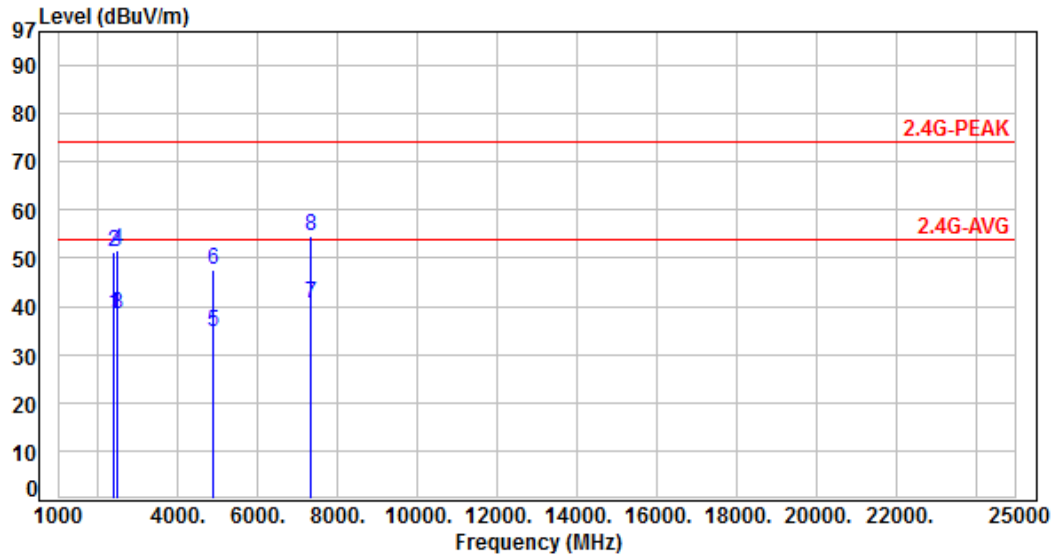
Note: Level=Reading+Factor

Margin=Level-Limit

Factor=Antenna Factor + cable loss - Amplifier Factor



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



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	2390.00	-2.89	41.17	38.28	54.00	-15.72	Average	202	168	P
2	2390.00	-2.89	54.30	51.41	74.00	-22.59	Peak	202	168	P
3	2483.50	-2.66	40.84	38.18	54.00	-15.82	Average	202	168	P
4	2483.50	-2.66	54.26	51.60	74.00	-22.40	Peak	202	168	P
5	4874.00	4.89	29.95	34.84	54.00	-19.16	Average	100	98	P
6	4874.00	4.89	42.68	47.57	74.00	-26.43	Peak	100	98	P
7	7311.00	9.81	30.82	40.63	54.00	-13.37	Average	164	186	P
8	7311.00	9.81	44.78	54.59	74.00	-19.41	Peak	164	186	P

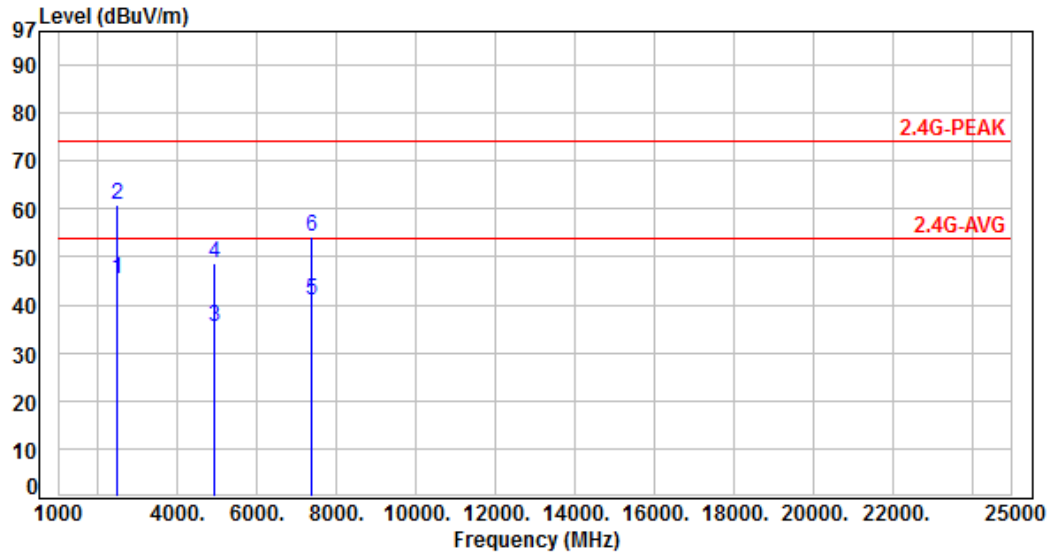
Note: Level=Reading+Factor

Margin=Level-Limit

Factor=Antenna Factor + cable loss - Amplifier Factor



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



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	2483.50	-2.66	47.96	45.30	54.00	-8.70	Average	135	356	P
2	2483.50	-2.66	63.65	60.99	74.00	-13.01	Peak	135	356	P
3	4924.00	5.10	30.42	35.52	54.00	-18.48	Average	100	118	P
4	4924.00	5.10	43.61	48.71	74.00	-25.29	Peak	100	118	P
5	7386.00	9.94	30.94	40.88	54.00	-13.12	Average	154	296	P
6	7386.00	9.94	44.40	54.34	74.00	-19.66	Peak	154	296	P

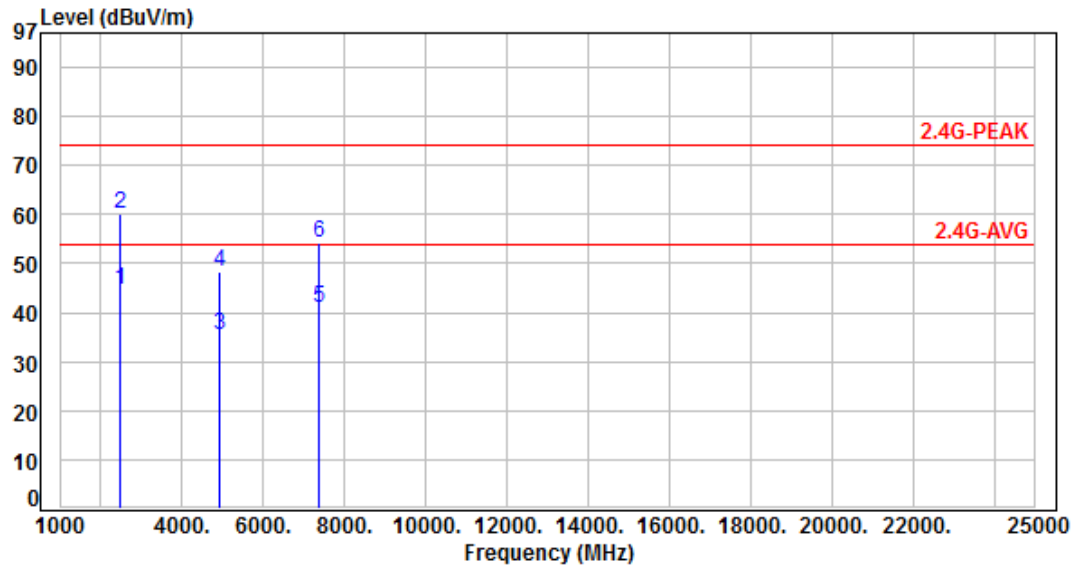
Note: Level=Reading+Factor

Margin=Level-Limit

Factor=Antenna Factor + cable loss - Amplifier Factor



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



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	2483.50	-2.66	47.20	44.54	54.00	-9.46	Average	204	167	P
2	2483.50	-2.66	62.96	60.30	74.00	-13.70	Peak	204	167	P
3	4924.00	5.10	30.43	35.53	54.00	-18.47	Average	100	108	P
4	4924.00	5.10	43.14	48.24	74.00	-25.76	Peak	100	108	P
5	7386.00	9.94	30.89	40.83	54.00	-13.17	Average	156	189	P
6	7386.00	9.94	44.24	54.18	74.00	-19.82	Peak	156	189	P

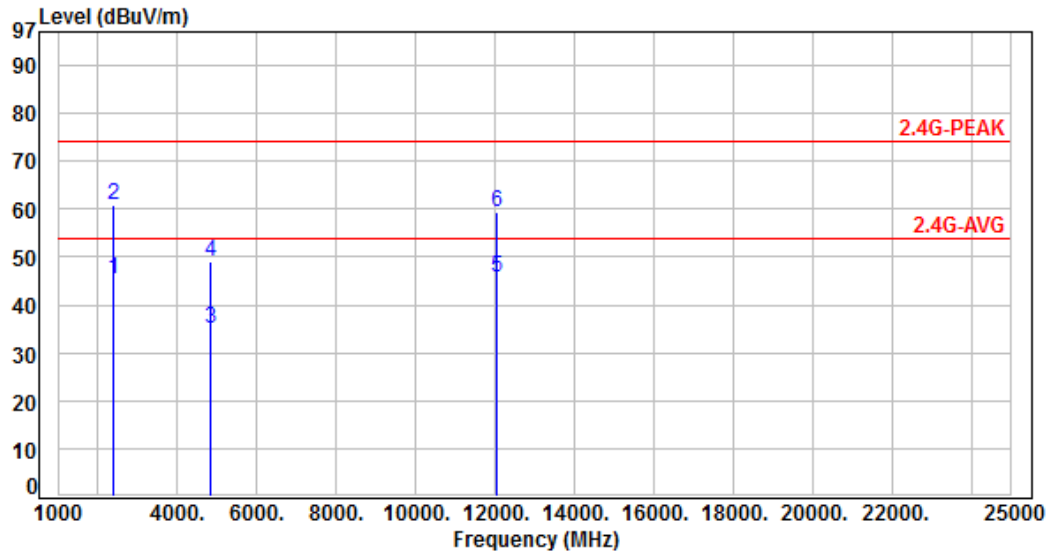
Note: Level=Reading+Factor

Margin=Level-Limit

Factor=Antenna Factor + cable loss - Amplifier Factor



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



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	2390.00	-2.89	48.36	45.47	54.00	-8.53	Average	139	348	P
2	2390.00	-2.89	63.57	60.68	74.00	-13.32	Peak	139	348	P
3	4824.00	4.73	30.36	35.09	54.00	-18.91	Average	102	114	P
4	4824.00	4.73	44.36	49.09	74.00	-24.91	Peak	102	114	P
5	12060.00	14.70	30.98	45.68	54.00	-8.32	Average	100	283	P
6	12060.00	14.70	44.83	59.53	74.00	-14.47	Peak	100	283	P

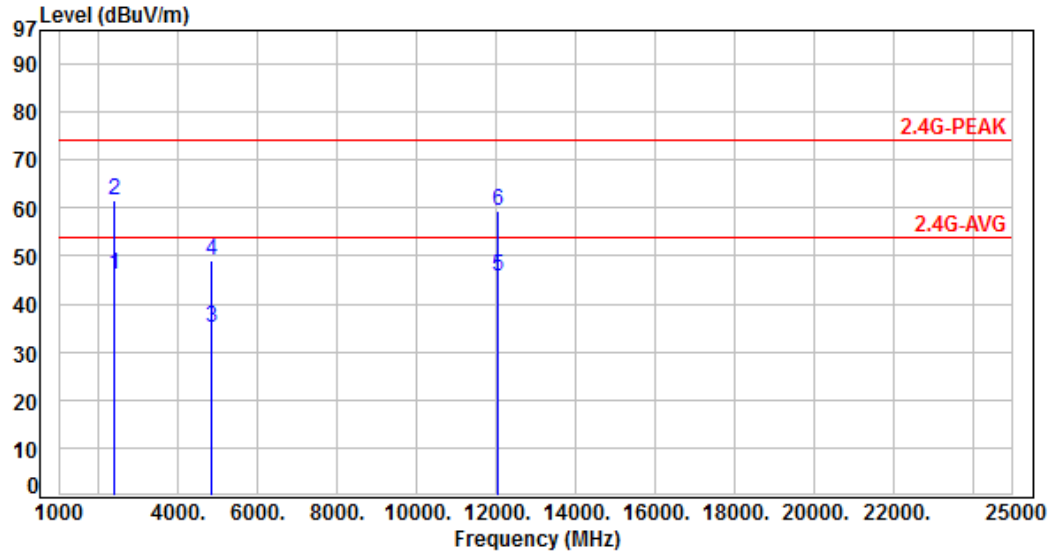
Note: Level=Reading+Factor

Margin=Level-Limit

Factor=Antenna Factor + cable loss - Amplifier Factor



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



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	2390.00	-2.89	48.84	45.95	54.00	-8.05	Average	164	165	P
2	2390.00	-2.89	64.53	61.64	74.00	-12.36	Peak	164	165	P
3	4824.00	4.73	30.28	35.01	54.00	-18.99	Average	100	103	P
4	4824.00	4.73	44.25	48.98	74.00	-25.02	Peak	100	103	P
5	12060.00	14.70	30.92	45.62	54.00	-8.38	Average	128	184	P
6	12060.00	14.70	44.63	59.33	74.00	-14.67	Peak	128	184	P

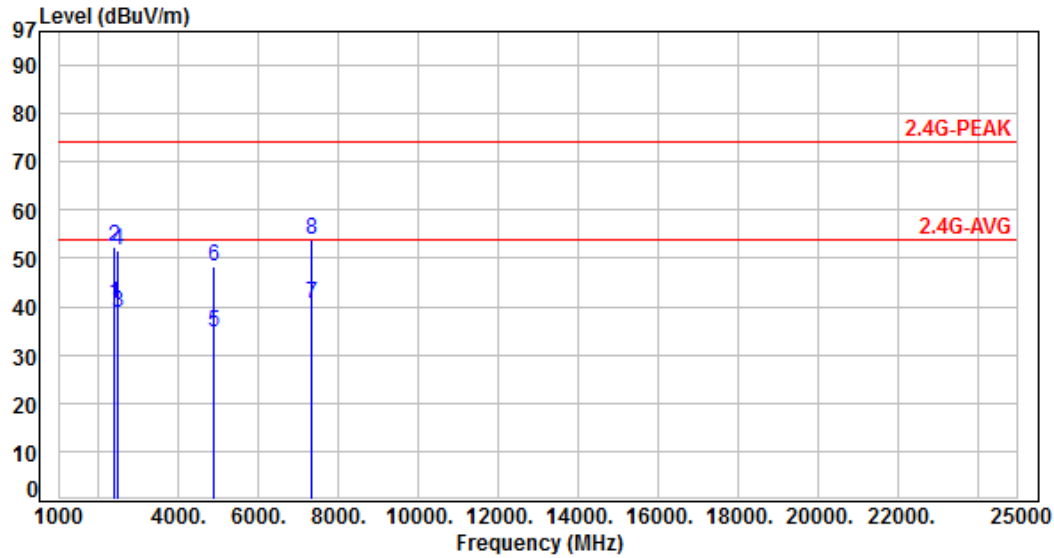
Note: Level=Reading+Factor

Margin=Level-Limit

Factor=Antenna Factor + cable loss - Amplifier Factor



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



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	2390.00	-2.89	43.30	40.41	54.00	-13.59	Average	128	356	P
2	2390.00	-2.89	55.33	52.44	74.00	-21.56	Peak	128	356	P
3	2483.50	-2.66	41.33	38.67	54.00	-15.33	Average	128	356	P
4	2483.50	-2.66	54.43	51.77	74.00	-22.23	Peak	128	356	P
5	4874.00	4.89	29.89	34.78	54.00	-19.22	Average	100	116	P
6	4874.00	4.89	43.36	48.25	74.00	-25.75	Peak	100	116	P
7	7311.00	9.81	30.65	40.46	54.00	-13.54	Average	156	293	P
8	7311.00	9.81	44.17	53.98	74.00	-20.02	Peak	156	293	P

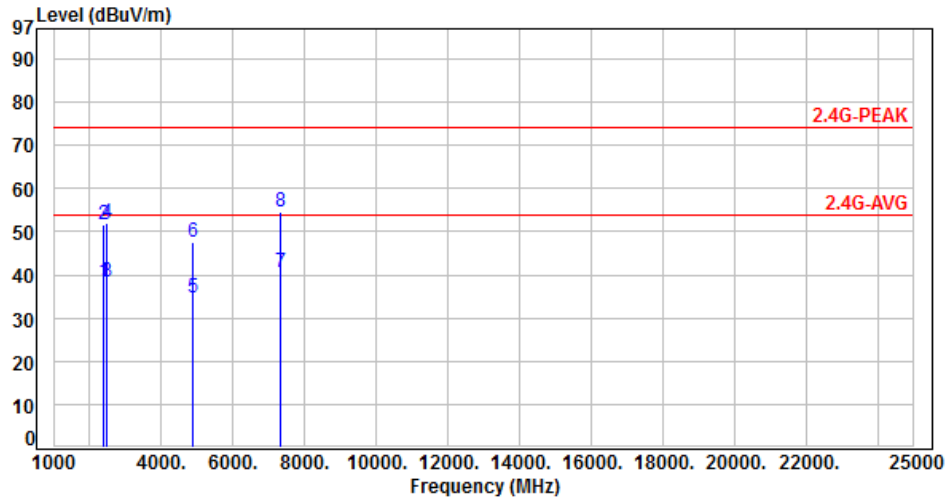
Note: Level=Reading+Factor

Margin=Level-Limit

Factor=Antenna Factor + cable loss - Amplifier Factor



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



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	2390.00	-2.89	41.24	38.35	54.00	-15.65	Average	210	176	P
2	2390.00	-2.89	54.48	51.59	74.00	-22.41	Peak	210	176	P
3	2483.50	-2.66	40.96	38.30	54.00	-15.70	Average	210	176	P
4	2483.50	-2.66	54.54	51.88	74.00	-22.12	Peak	210	176	P
5	4874.00	4.89	29.95	34.84	54.00	-19.16	Average	100	105	P
6	4874.00	4.89	42.68	47.57	74.00	-26.43	Peak	100	105	P
7	7311.00	9.81	30.75	40.56	54.00	-13.44	Average	168	190	P
8	7311.00	9.81	44.67	54.48	74.00	-19.52	Peak	168	190	P

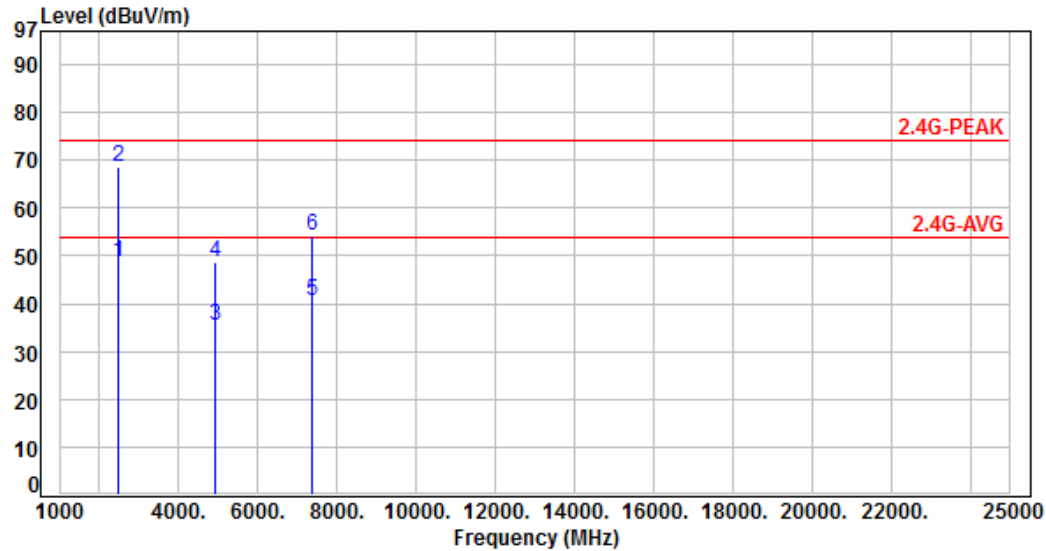
Note: Level=Reading+Factor

Margin=Level-Limit

Factor=Antenna Factor + cable loss - Amplifier Factor



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



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	2483.50	-2.66	51.47	48.81	54.00	-5.19	Average	137	347	P
2	2483.50	-2.66	71.38	68.72	74.00	-5.28	Peak	137	347	P
3	4924.00	5.10	30.38	35.48	54.00	-18.52	Average	100	117	P
4	4924.00	5.10	43.58	48.68	74.00	-25.32	Peak	100	117	P
5	7386.00	9.94	30.79	40.73	54.00	-13.27	Average	154	298	P
6	7386.00	9.94	44.35	54.29	74.00	-19.71	Peak	154	298	P

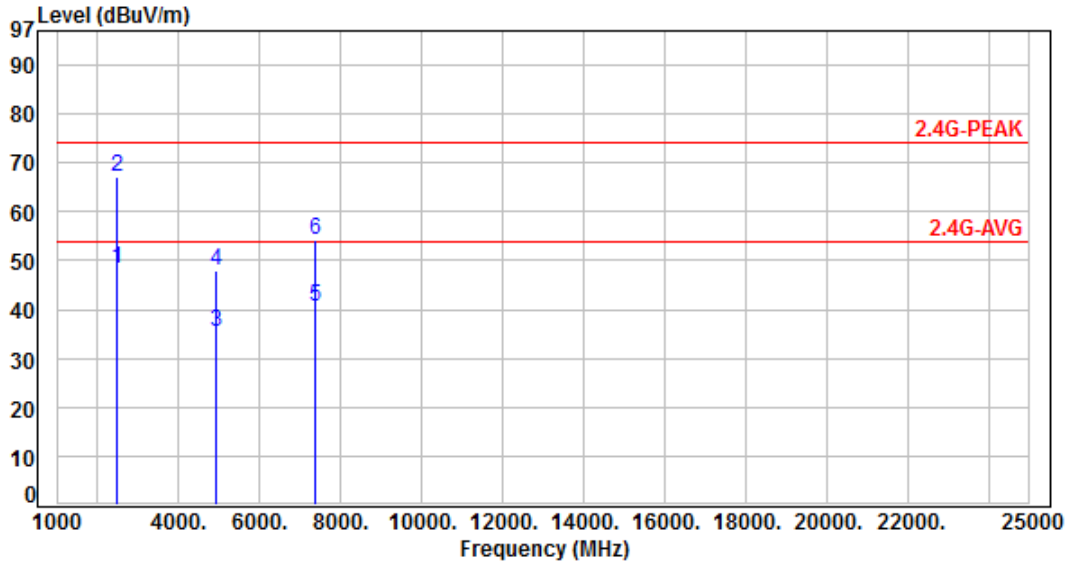
Note: Level=Reading+Factor

Margin=Level-Limit

Factor=Antenna Factor + cable loss - Amplifier Factor



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



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	2483.50	-2.66	50.81	48.15	54.00	-5.85	Average	218	170	P
2	2483.50	-2.66	69.95	67.29	74.00	-6.71	Peak	218	170	P
3	4924.00	5.10	30.31	35.41	54.00	-18.59	Average	100	101	P
4	4924.00	5.10	42.97	48.07	74.00	-25.93	Peak	100	101	P
5	7386.00	9.94	30.81	40.75	54.00	-13.25	Average	162	193	P
6	7386.00	9.94	44.16	54.10	74.00	-19.90	Peak	162	193	P

Note: Level=Reading+Factor

Margin=Level-Limit

Factor=Antenna Factor + cable loss - Amplifier Factor



6.7 Restricted Bands of Operation

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

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

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



7. Test of Conducted Spurious Emission

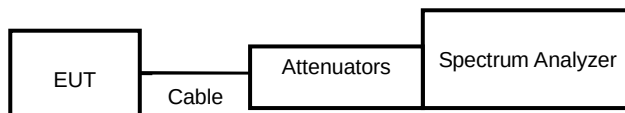
7.1 Test Limit

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

7.2 Test Procedure

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

7.3 Test Setup Layout



7.4 Test Result and Data

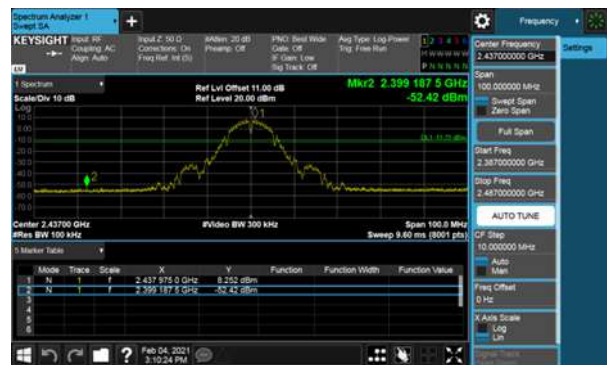
Note: Test plots refers to the following pages.



Modulation Type: 802.11b, CH 01



Modulation Type: 802.11b, CH 06





Modulation Type: 802.11b, CH 11





Modulation Type: 802.11g, CH 01



Modulation Type: 802.11g, CH 06





Modulation Type: 802.11g, CH 11

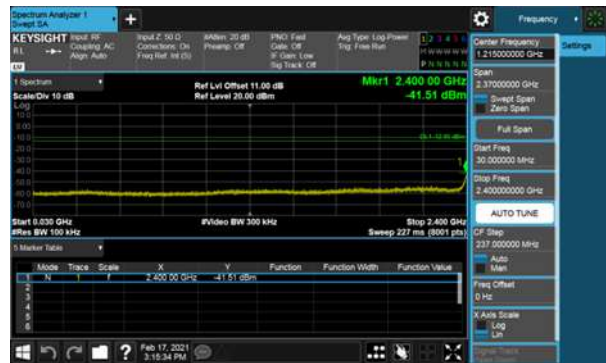




Modulation Type: 802.11n HT20, CH01



Modulation Type: 802.11n HT20, CH06





Modulation Type: 802.11n HT20, CH11





8. On Time, Duty Cycle and Measurement methods

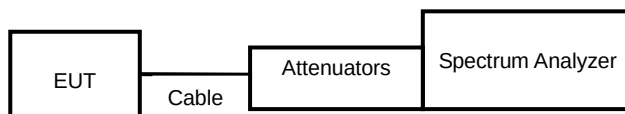
8.1 Test Limit

None; for reporting purposes only.

8.2 Test Procedure

Zero-Span Spectrum Analyzer Method.

8.3 Test Setup Layout



8.4 Test Result and Data

Modulation Type	On Time (ms)	Period Time (ms)	Duty Cycle (%)
11b,1M	8.42	8.46	99.53%
11g,6M	1.40	1.44	96.88%
11n HT20	1.31	1.35	96.89%



Modulation Type: 802.11b(1Mbps)



Modulation Type: 802.11g(6Mbps)



Modulation Type: 802.11n HT20(6.5Mbps)





9. 6dB Bandwidth Measurement Data

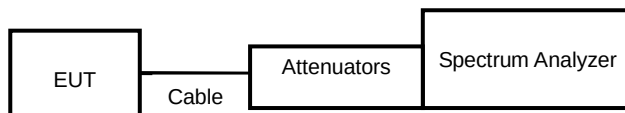
9.1 Test Limit

The minimum of 6dB Bandwidth Measurement is 0.5 MHz.

9.2 Test Procedures

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

9.3 Test Setup Layout



9.4 Test Result and Data

Modulation Type	Channel	Frequency (MHz)	6dB Bandwidth (MHz)	Limit (MHz)
			ANT A	
11b	1	2412	7.56	0.5
	6	2437	8.01	0.5
	11	2462	8.04	0.5
11g	1	2412	15.18	0.5
	6	2437	15.18	0.5
	11	2462	15.18	0.5
11n HT20	1	2412	15.18	0.5
	6	2437	15.18	0.5
	11	2462	15.18	0.5



Modulation Type: 802.11b
CH01



Modulation Type: 802.11g
CH01



CH06



CH06



CH11



CH11





Modulation Type: 802.11n HT20
CH01



CH06



CH11





10. Maximum Peak and Average Output Power

10.1 Test Limit

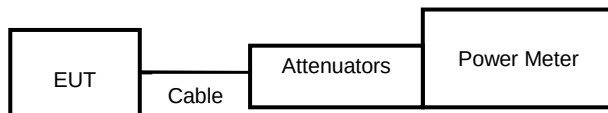
The Maximum Peak Output Power Measurement is 30dBm.

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**

Setting	Modulation Mode	Channel	Frequency (MHz)	Conducted(peak) output power (dBm)	Total PK power (dBm)	Total PK power (mW)	Power Limit (dBm)
				ANT A			
default	11b	1	2412	18.18	18.18	65.766	30.00
default		6	2437	18.16	18.16	65.464	30.00
default		11	2462	18.27	18.27	67.143	30.00
default	11g	1	2412	21.86	21.86	153.462	30.00
default		6	2437	21.97	21.97	157.398	30.00
default		11	2462	21.78	21.78	150.661	30.00
default	11n HT20	1	2412	22.13	22.13	163.305	30.00
default		6	2437	22.18	22.18	165.196	30.00
default		11	2462	21.96	21.96	157.036	30.00

Setting	Modulation Mode	Channel	Frequency (MHz)	Conducted(average) output power (dBm)	Total AV power (dBm)	Total AV power (mW)	Power Limit (dBm)
				ANT A			
default	11b	1	2412	15.15	15.15	32.734	NA
default		6	2437	15.09	15.09	32.285	NA
default		11	2462	15.20	15.20	33.113	NA
default	11g	1	2412	16.22	16.22	41.879	NA
default		6	2437	16.33	16.33	42.954	NA
default		11	2462	16.30	16.30	42.658	NA
default	11n HT20	1	2412	16.95	16.95	49.545	NA
default		6	2437	17.15	17.15	51.880	NA
default		11	2462	16.98	16.98	49.888	NA

Note: Average power is for reference only.



11. Power Spectral Density

11.1 Test Limit

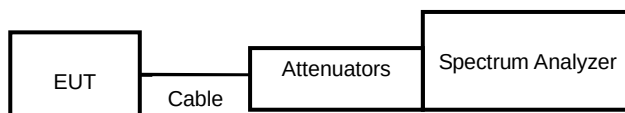
The Maximum of Power Spectral Density Measurement is 8dBm.

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**

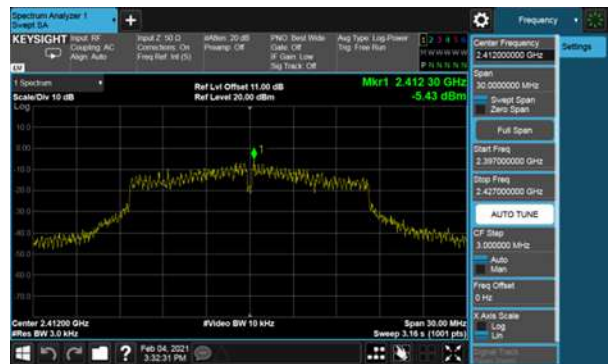
Modulation Type	Channel	Frequency (MHz)	Maximum Power Density of 3KHz Bandwidth(dBm)	Sum chain (dBm)	Duty Cycle CF(dB)	Total PSD (dBm)	Limit (dBm)
			ANT A				
11b	1	2412	-6.11	-6.11	0.00	-6.11	8.00
	6	2437	-6.96	-6.96	0.00	-6.96	8.00
	11	2462	-5.86	-5.86	0.00	-5.86	8.00
11g	1	2412	-5.43	-5.43	0.00	-5.43	8.00
	6	2437	-5.55	-5.55	0.00	-5.55	8.00
	11	2462	-6.53	-6.53	0.00	-6.53	8.00
11n HT20	1	2412	-5.01	-5.01	0.00	-5.01	8.00
	6	2437	-5.40	-5.40	0.00	-5.40	8.00
	11	2462	-5.39	-5.39	0.00	-5.39	8.00



Modulation Type: 802.11b
CH01



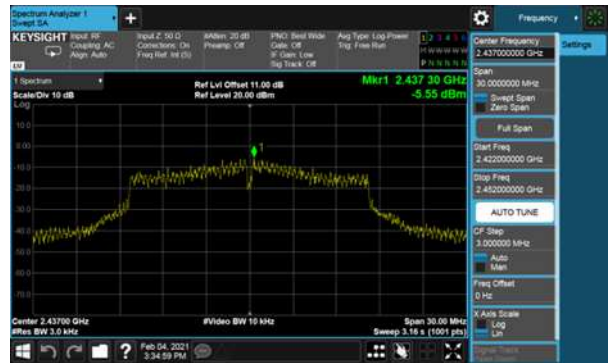
Modulation Type: 802.11g
CH01



CH06



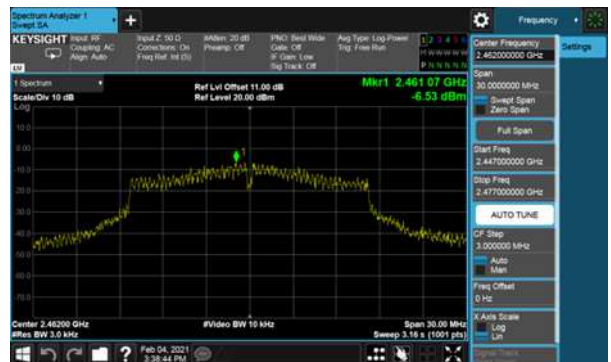
CH06



CH11

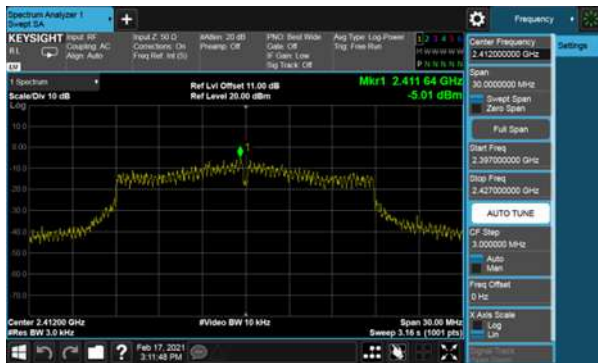


CH11

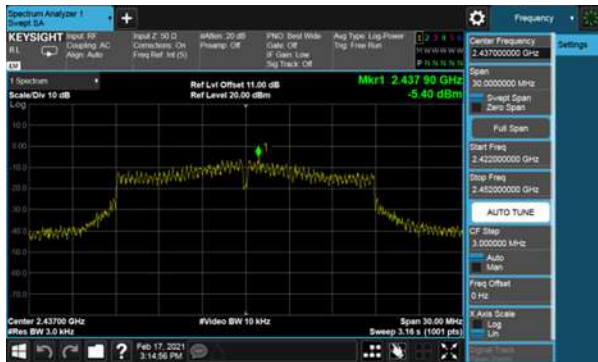




Modulation Type: 802.11n HT20
CH01



CH06



CH11

