



FCC RADIO TEST REPORT

Applicant : Allied Telesis K.K.

Address : 2nd. TOC Bldg. 721-11 Nishi-Gotanda,
Shinagawa-ku, Tokyo Japan, 141-0031

Equipment : 802.11ax 4x4+4x4 dual-radio 2.4G/5G wireless AP

Model No. : AT-TQ6602

Trade Name : Allied Telesis

FCC ID. : RSL-TQ6602

I HEREBY CERTIFY THAT :

The sample was received on Aug. 03, 2020 and the testing was completed on Nov. 21, 2020 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
TEFI2007311	Nov. 30, 2020	Original



1. Summary of Test Procedure and Test Results

1.1 Applicable Standards

ANSI C63.10:2013

FCC Rules and Regulations Part 15 Subpart C §15.247

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

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

*This EUT has been also tested and compiled with the requirement of FCC Part 15, Subpart B, recorded in a separate test report(TEFD2007311).



2. Test Configuration of Equipment under Test

2.1 Feature of Equipment under Test

Frequency Range	802.11b/g/n/ax: 2412-2462MHz 802.11a/n/ac/ax: 5180-5240MHz, 5745-5825MHz
Modulation Type	WLAN: 2.4GHz: 802.11b: CCK, DQPSK, DBPSK 802.11g/n: BPSK, QPSK, 16QAM, 64QAM, 256QAM(TurboQAM) 802.11ax: BPSK, QPSK, 16QAM, 64QAM, 256QAM, 1024QAM 5GHz: 802.11n/a: BPSK, QPSK, 16QAM, 64QAM 802.11ac: BPSK, QPSK, 16QAM, 64QAM, 256QAM 802.11ax: BPSK, QPSK, 16QAM, 64QAM, 256QAM, 1024QAM
Modulation Technology	DSSS, OFDM, OFDMA
Data Rate	WLAN: 2.4GHz: 802.11b: 1, 2, 5.5, 11Mbps 802.11g: 6, 9, 12, 18, 24, 36, 48, 54Mbps 802.11n: MCS0 – MCS31, HT20/40 MCS0 – MCS9, VHT20/40(TurboQAM) 802.11ax: MCS0 – MCS11, HE20/40 5GHz: 802.11a: 6, 9, 12, 18, 24, 36, 48, 54Mbps 802.11n: MCS0 – MCS31, HT20/40 802.11ac: MCS0 – MCS9, VHT20/40/80/80+80 802.11ax: MCS0 – MCS11, HE20/40/80/80+80
Antenna Type	PIFA Antenna
Antenna Gain	2412-2462MHz: ANT E / F / G / H: 3.67dBi 5180-5240MHz: ANT A / B / C / D: 4.77dBi 5745-5825MHz: ANT A / B / C / D: 4.86dBi
Adapter	Brand: Asian Power Devices Inc. Model No: DA-48Z12

Note:

1. The EUT support AP Mode(Master).
2. Wlan 2.4G 802.11n Support TurboQAM.
3. The EUT support STBC.
3. The EUT not support TPC / CDD.
4. WLAN 2.4G and WLAN 5G can simultaneously transmission.
5. WLAN 2.4GHz 802.11n and TurboQAM and 802.11ax support beamforming Function.
6. WLAN 5GHz 802.11n and 802.11ac and 802.11ax support beamforming Function.
7. 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, VHT20, 802.11ax HE20 (2412MHz~2462MHz)

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

802.11n HT40, VHT40, 802.11ax HE40 (2422MHz~2452MHz)

Channel	Frequency(MHz)	Channel	Frequency(MHz)
---	---	07	2442
---	---	08	2447
*03	2422	*09	2452
04	2427	---	---
05	2432	---	---
*06	2437	---	---

Note: Channels remarked * are selected to perform test.



2.3 Test Mode and Test Software

- a. During testing, the interface cables and equipment positions were varied according to ANSI C63.10.
- b. The complete test system included remote workstation and EUT for RF test. The remote workstation included Notebook.
- c. An executive program, " Dut labtool ver.0.0.1.39" under Windows OS system was executed to transmit and receive data via WLAN.
- d. The following test modes were performed for the test:

Conducted Emissions from the AC mains power ports	
Test Mode	Operating Description
1	802.11b (1Mbps) , Power from Adapter
2	802.11g (6Mbps) , Power from Adapter
3	802.11n HT20 (6.5Mbps) , Power from Adapter
4	802.11n HT40 (13.5Mbps) , Power from Adapter
5	VHT20 (6.5Mbps) , Power from Adapter
6	VHT40 (13.5Mbps) , Power from Adapter
7	802.11ax HE20 (7.3Mbps) , Power from Adapter
8	802.11ax HE40 (14.6Mbps) , Power from Adapter
9	802.11b (1Mbps) , Power from PoE
10	802.11g (6Mbps) , Power from PoE
11	802.11n HT20 (6.5Mbps) , Power from PoE
12	802.11n HT40 (13.5Mbps) , Power from PoE
13	VHT20 (6.5Mbps) , Power from PoE
14	VHT40 (13.5Mbps) , Power from PoE
15	802.11ax HE20 (7.3Mbps) , Power from PoE
16	802.11ax HE40 (14.6Mbps) , Power from PoE
caused "Test Mode 9" generated the worst case, it was reported as the final data.	



Radiation Emissions (30MHz ~ 1GHz)	
Test Mode	Operating Description
1	802.11b (1Mbps) , Power from Adapter
2	802.11g (6Mbps) , Power from Adapter
3	802.11n HT20 (6.5Mbps) , Power from Adapter
4	802.11n HT40 (13.5Mbps) , Power from Adapter
5	VHT20 (6.5Mbps) , Power from Adapter
6	VHT40 (13.5Mbps) , Power from Adapter
7	802.11ax HE20 (7.3Mbps) , Power from Adapter
8	802.11ax HE40 (14.6Mbps) , Power from Adapter
9	802.11b (1Mbps) , Power from PoE
10	802.11g (6Mbps) , Power from PoE
11	802.11n HT20 (6.5Mbps) , Power from PoE
12	802.11n HT40 (13.5Mbps) , Power from PoE
13	VHT20 (6.5Mbps) , Power from PoE
14	VHT40 (13.5Mbps) , Power from PoE
15	802.11ax HE20 (7.3Mbps) , Power from PoE
16	802.11ax HE40 (14.6Mbps) , Power from PoE
caused "Test Mode 1" generated the worst case, it was reported as the final data.	
Radiation Emissions (1GHz ~ 25GHz)	
Test Mode	Operating Description
1	802.11b (1Mbps) , Power from Adapter
2	802.11g (6Mbps) , Power from Adapter
3	802.11n HT20 (6.5Mbps) , Power from Adapter
4	802.11n HT40 (13.5Mbps) , Power from Adapter
5	VHT20 (6.5Mbps) , Power from Adapter
6	VHT40 (13.5Mbps) , Power from Adapter
7	802.11ax HE20 (7.3Mbps) , Power from Adapter
8	802.11ax HE40 (14.6Mbps) , Power from Adapter
9	802.11b (1Mbps) , Power from PoE
10	802.11g (6Mbps) , Power from PoE
11	802.11n HT20 (6.5Mbps) , Power from PoE
12	802.11n HT40 (13.5Mbps) , Power from PoE
13	VHT20 (6.5Mbps) , Power from PoE
14	VHT40 (13.5Mbps) , Power from PoE
15	802.11ax HE20 (7.3Mbps) , Power from PoE
16	802.11ax HE40 (14.6Mbps) , Power from PoE
caused "Test Mode 1,2,5~8" generated the worst case, they were reported as the final data.	



The EUT incorporates a MIMO function

Modulation Type	TX CONFIGURATION
802.11b	4TX
802.11g	4TX
802.11n HT20	4TX
802.11n HT20(TurboQAM)	4TX
802.11ax HE20	4TX
802.11n HT40	4TX
802.11n HT40(TurboQAM)	4TX
802.11ax HE40	4TX



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
RJ45 Cable	TE CONNECTIVITY	CAT5E	1.2m / 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
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	1.2m / NS	N/A
RJ45 Cable	TE CONNECTIVITY	CAT5E	15m / NS	N/A
POE	CERIO	POE-S53VG	N/A	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	TW1439, TW1079
	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	2020/11/21	26°C / 43%	Nick Guan
Radiated Emissions	3M02-NK	2020/11/07~2020/11/19	23°C~25°C / 42%~44%	Nick Guan Leon Huang
AC Power Line Conducted Emission	CON01-NK	2020/11/21	25°C / 48%	Leon Huang

2.6 Measurement Uncertainty

Measurement Item	Uncertainty
AC Power Line Conduction(150K~30MHz)	±3.42dB
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	130606	2020/03/11	2021/03/10
E3	AUDIX	v8.2014-8-6	RK-000529	NA	NA

Test Item	RF Conducted				
Test Site	RFCON01-NK				
Instrument	Manufacturer	Model No	Serial No	Calibration Date	Valid Date
Spectrum Analyzer	ROHDE & SCHWARZ	FSV 40-N	101329	2020/07/07	2021/07/06
Bluetooth Tester	ROHDE & SCHWARZ	CBT	101133	2020/04/07	2021/04/06
CAX Signal Analyzer	KEYSIGHT	N9000B	MY57100339	2019/11/25	2020/11/24
Attenuator	KEYSIGHT	8491B	MY39250703	2020/04/17	2021/04/16
TEMP & HUMI CHAMBER	T-MACHINE	TMJ-9712	T-12-040111	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 Standard Applicable

For intentional device, according to FCC 47 CFR Section 15.203, an intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device.

And according to FCC 47 CFR Section 15.247 (b), if transmitting antennas of directional gain greater than 6dBi are used, the power shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6dBi.

4.2 Antenna Construction and Directional Gain

Antenna Type	PIFA Antenna
Antenna Gain	2412-2462MHz: ANT E / F / G / H:3.67dBi 5180-5240MHz: ANT A / B / C / D:4.77dBi 5745-5825MHz: ANT A / B / C / D:4.86dBi

STBC Mode:

2412-2462MHz
For Power directional gain= $G_{ant} = 3.67 \text{ dBi}$ For PSD directional gain = $G_{ant} = 3.67 \text{ dBi}$
5180MHz -5240MHz
For Power directional gain= $G_{ant} = 4.77 \text{ dBi}$ For PSD directional gain = $G_{ant} = 4.77 \text{ dBi}$
5745MHz -5825MHz
For Power directional gain= $G_{ant} = 4.86 \text{ dBi}$ For PSD directional gain = $G_{ant} = 4.86 \text{ dBi}$

Beamforming Mode:

2412-2462MHz
For Power directional gain= $10 \log[(10G1/20 + 10G2/20)^2 / NANT] = 9.69 \text{ (dBi)}$ For PSD directional gain = $10 \log[(10G1/20 + 10G2/20)^2 / NANT] = 9.69 \text{ (dBi)}$
5180MHz -5240MHz
For Power directional gain= $10 \log[(10G1/20 + 10G2/20)^2 / NANT] = 10.79 \text{ (dBi)}$ For PSD directional gain = $10 \log[(10G1/20 + 10G2/20)^2 / NANT] = 10.79 \text{ (dBi)}$
5745MHz -5825MHz
For Power directional gain= $10 \log[(10G1/20 + 10G2/20)^2 / NANT] = 10.88 \text{ (dBi)}$ For PSD directional gain = $10 \log[(10G1/20 + 10G2/20)^2 / NANT] = 10.88 \text{ (dBi)}$



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

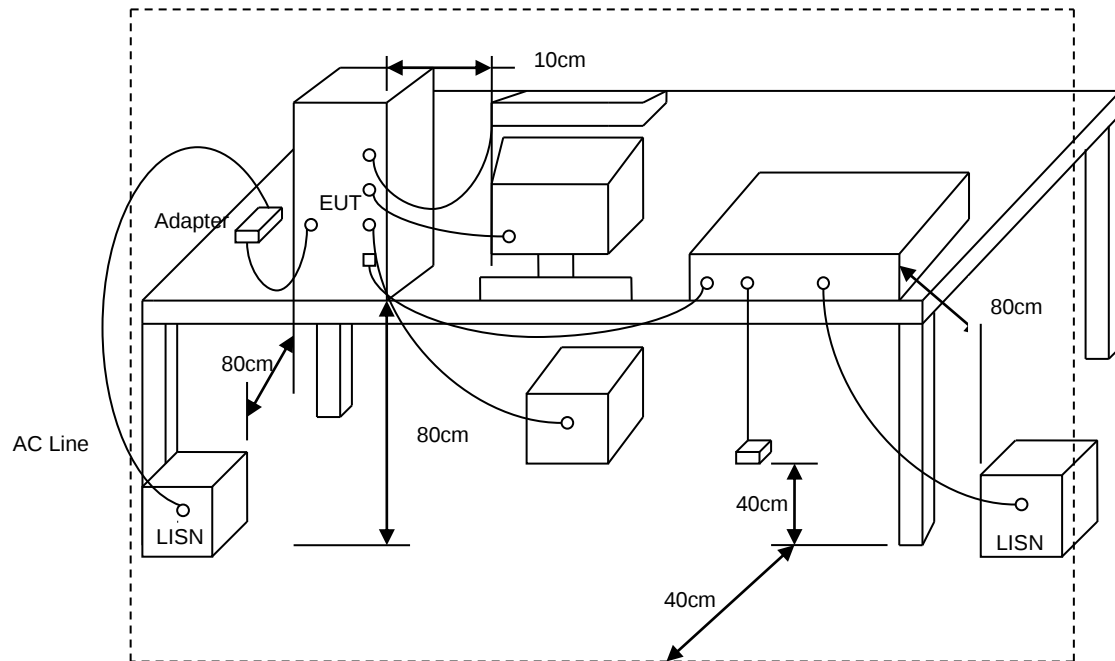
*Decreases with the logarithm of the frequency.

5.2 Test Procedures

- 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.



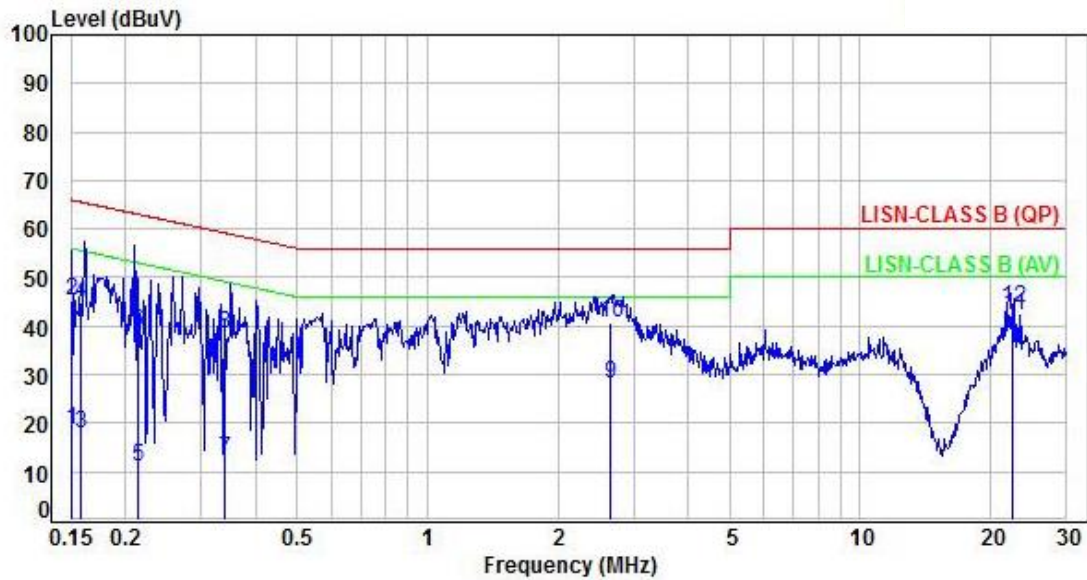
5.3 Typical Test Setup





5.4 Test Result and Data

Power	: AC 120V / 60Hz	Pol/Phase	: LINE
Test Mode	: Mode 9		:



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector	P/F
1	0.15	10.05	8.54	18.59	55.99	-37.40	Average	P
2	0.15	10.05	35.10	45.15	65.99	-20.84	QP	P
3	0.16	10.05	7.78	17.83	55.56	-37.73	Average	P
4	0.16	10.05	34.74	44.79	65.56	-20.77	QP	P
5	0.21	10.05	1.03	11.08	53.02	-41.94	Average	P
6	0.21	10.05	28.55	38.60	63.02	-24.42	QP	P
7	0.34	10.05	2.57	12.62	49.21	-36.59	Average	P
8	0.34	10.05	28.52	38.57	59.21	-20.64	QP	P
9	2.65	10.18	17.91	28.09	46.00	-17.91	Average	P
10	2.65	10.18	30.54	40.72	56.00	-15.28	QP	P
11	22.62	11.16	30.89	42.05	50.00	-7.95	Average	P
12	22.62	11.16	32.64	43.80	60.00	-16.20	QP	P

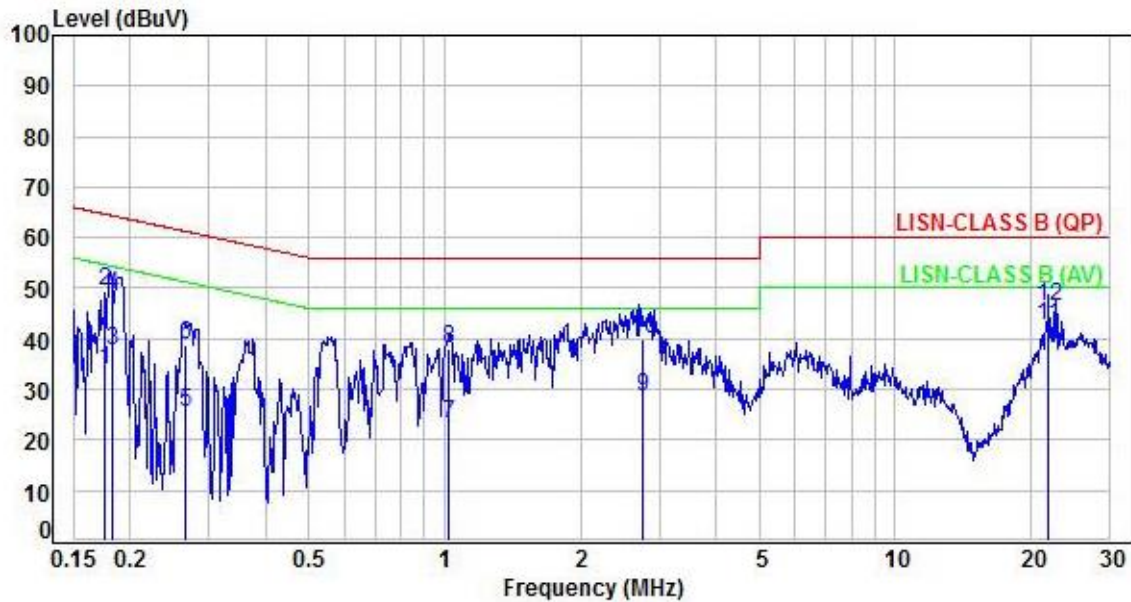
Note: Level=Reading+Factor

Margin=Level-Limit

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



Power	: AC 120V / 60Hz	Pol/Phase	: NEUTRAL
Test Mode	: Mode 9		:



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector	P/F
1	0.18	10.02	23.83	33.85	54.70	-20.85	Average	P
2	0.18	10.02	39.24	49.26	64.70	-15.44	QP	P
3	0.18	10.02	27.58	37.60	54.32	-16.72	Average	P
4	0.18	10.02	38.71	48.73	64.32	-15.59	QP	P
5	0.27	10.02	15.59	25.61	51.23	-25.62	Average	P
6	0.27	10.02	28.91	38.93	61.23	-22.30	QP	P
7	1.02	10.05	12.96	23.01	46.00	-22.99	Average	P
8	1.02	10.05	28.12	38.17	56.00	-17.83	QP	P
9	2.74	10.12	18.22	28.34	46.00	-17.66	Average	P
10	2.74	10.12	29.74	39.86	56.00	-16.14	QP	P
11	21.86	11.12	31.59	42.71	50.00	-7.29	Average	P
12	21.86	11.12	35.42	46.54	60.00	-13.46	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

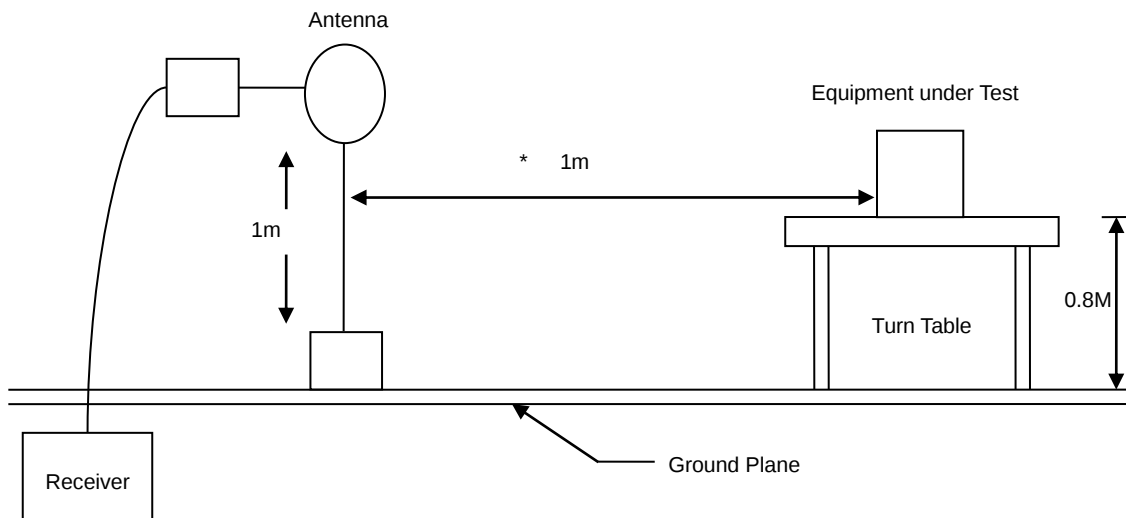
- a. The EUT was placed on a rotatable table top 0.8 meter above ground.
- b. The EUT was set 3 meters from the interference receiving antenna which was mounted on the top of a variable height antenna tower.
- c. The table was rotated 360 degrees to determine the position of the highest radiation.
-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

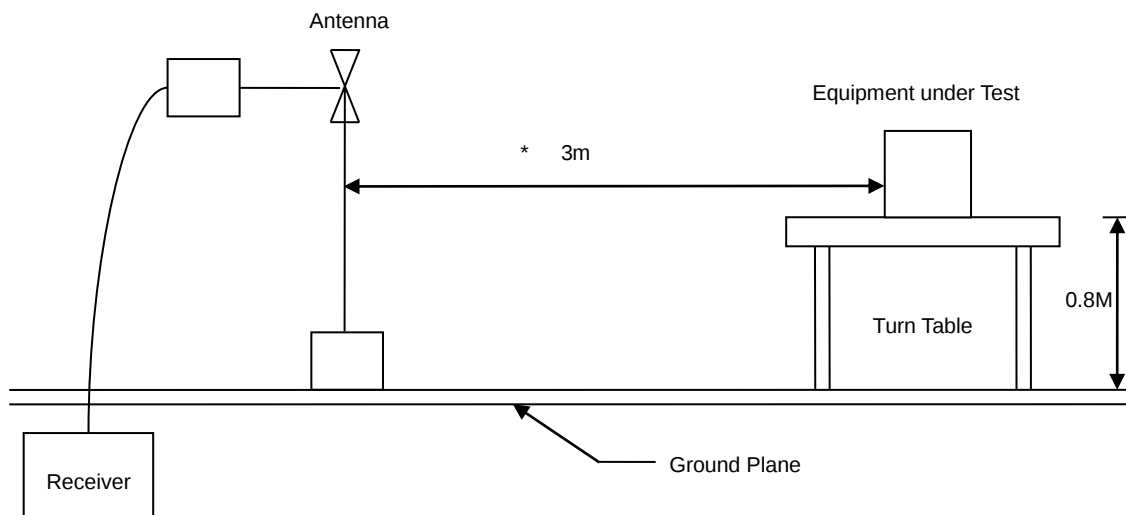


6.3 Typical Test Setup

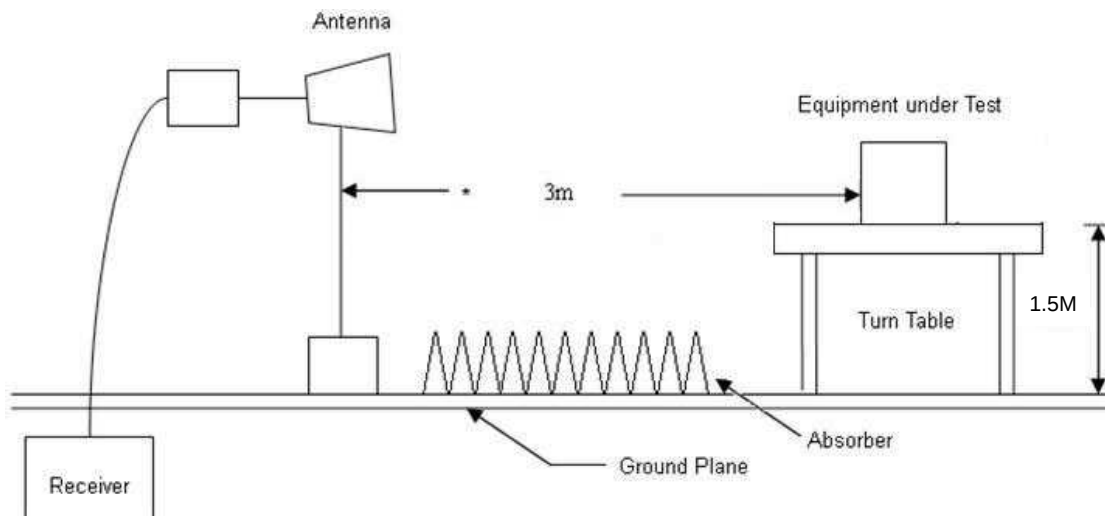
Below 30MHz test setup



30MHz- 1GHz Test Setup



Above 1GHz Test Setup



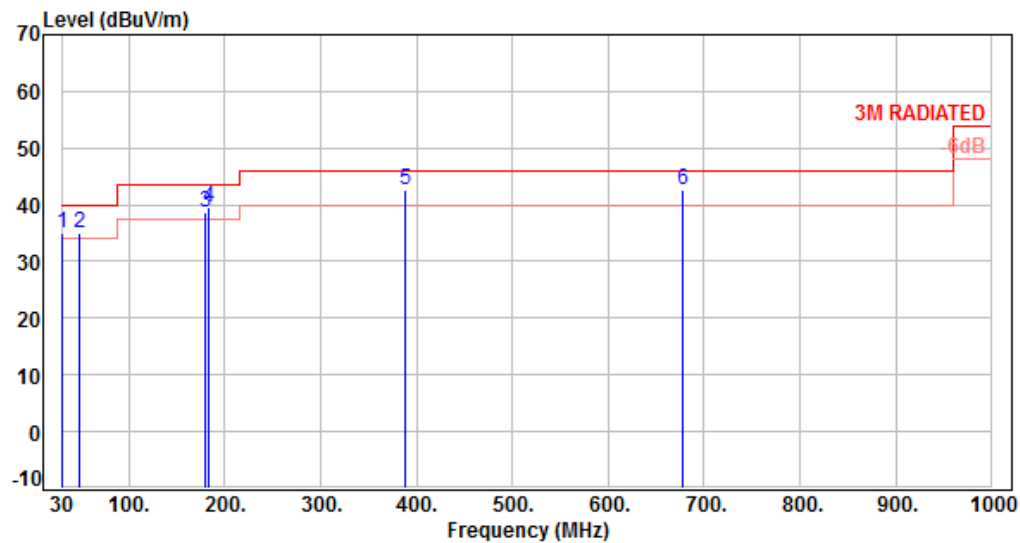


6.4 Test Result and Data (9KHz ~ 30MHz)

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 1		



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	45.52	35.10	40.00	-4.90	Peak	100	0	P
2	48.43	-9.35	44.38	35.03	40.00	-4.97	Peak	100	0	P
3	180.35	-10.80	49.40	38.60	43.50	-4.90	QP	100	245	P
4	183.26	-11.09	50.70	39.61	43.50	-3.89	QP	100	235	P
5	388.90	-6.16	48.86	42.70	46.00	-3.30	Peak	100	0	P
6	676.99	-0.42	43.06	42.64	46.00	-3.36	Peak	100	0	P

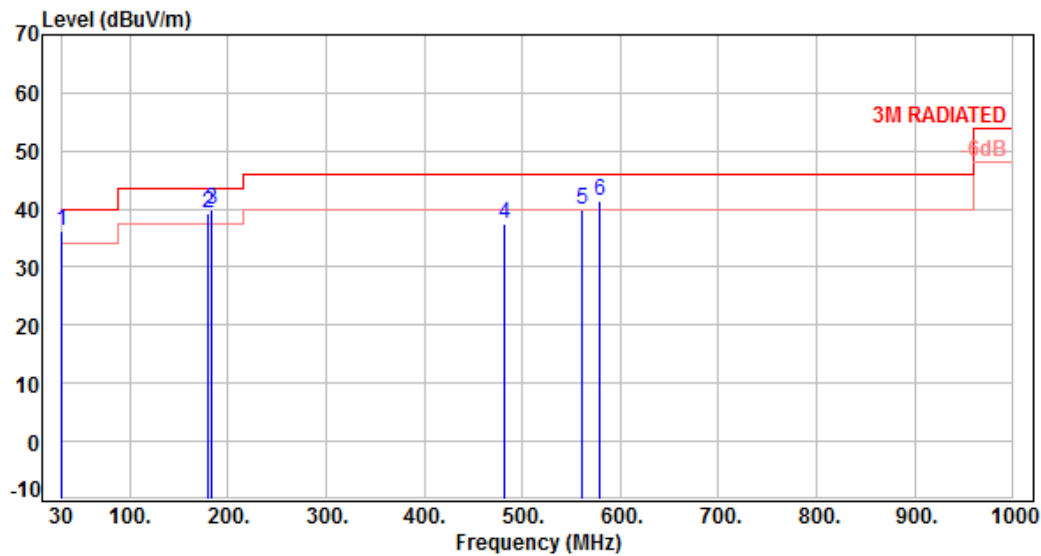
Note: Level=Reading+Factor

Margin=Level-Limit

Factor=Antenna Factor + cable loss - Amplifier Factor



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



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	46.53	36.11	40.00	-3.89	Peak	400	0	P
2	180.35	-10.80	50.10	39.30	43.50	-4.20	QP	160	360	P
3	183.26	-11.09	50.90	39.81	43.50	-3.69	QP	150	360	P
4	481.05	-4.09	41.60	37.51	46.00	-8.49	QP	100	100	P
5	561.56	-2.44	42.21	39.77	46.00	-6.23	QP	100	90	P
6	578.05	-1.93	43.31	41.38	46.00	-4.62	QP	100	95	P

Note: Level=Reading+Factor

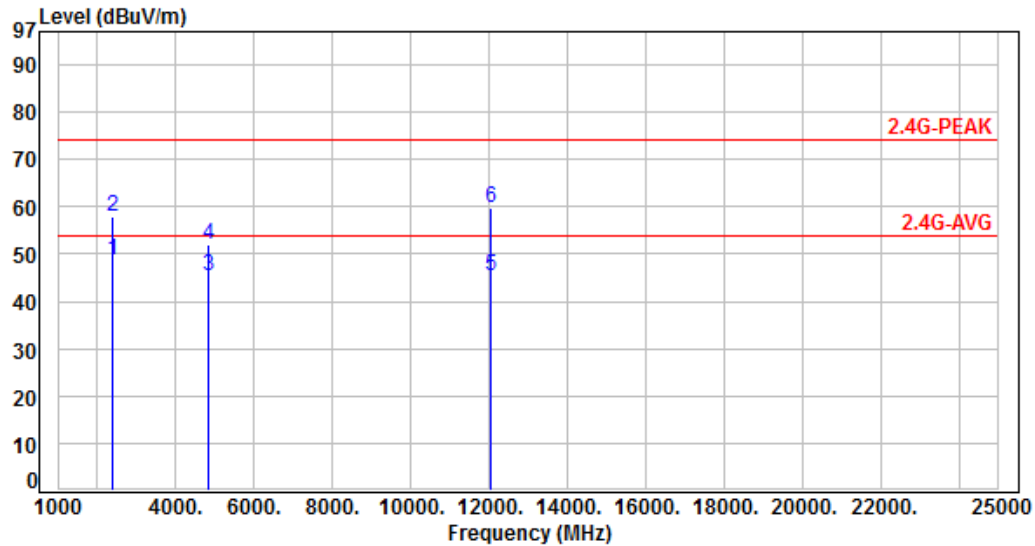
Margin=Level-Limit

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	51.43	48.54	54.00	-5.46	Average	135	343	P
2	2390.00	-2.89	60.63	57.74	74.00	-16.26	Peak	135	343	P
3	4824.00	4.73	40.49	45.22	54.00	-8.78	Average	400	8	P
4	4824.00	4.73	47.17	51.90	74.00	-22.10	Peak	400	8	P
5	12060.00	14.70	30.65	45.35	54.00	-8.65	Average	100	284	P
6	12060.00	14.70	44.96	59.66	74.00	-14.34	Peak	100	284	P

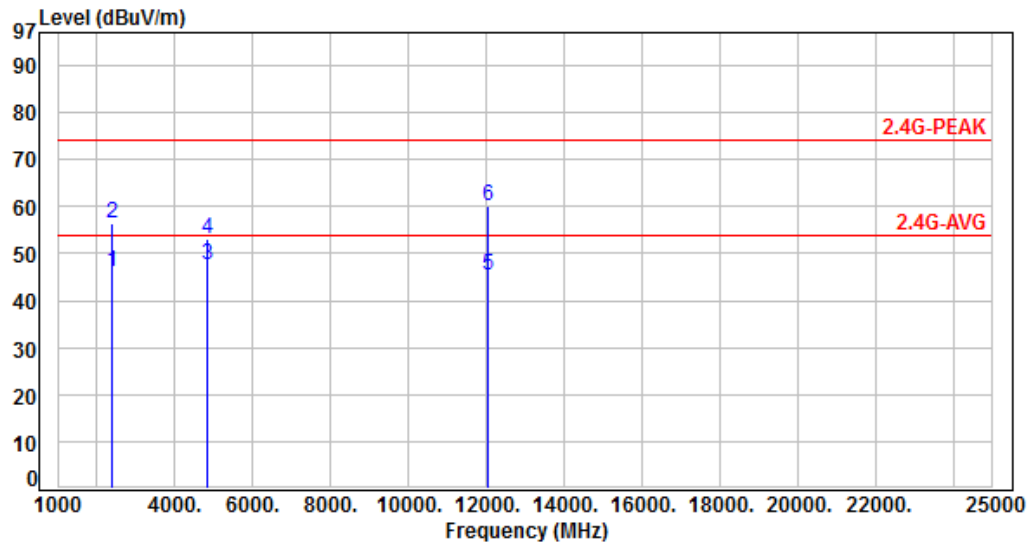
Note: Level=Reading+Factor

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	48.85	45.96	54.00	-8.04	Average	100	60	P
2	2390.00	-2.89	59.20	56.31	74.00	-17.69	Peak	100	60	P
3	4824.00	4.73	42.94	47.67	54.00	-6.33	Average	143	39	P
4	4824.00	4.73	48.25	52.98	74.00	-21.02	Peak	143	39	P
5	12060.00	14.70	30.68	45.38	54.00	-8.62	Average	108	142	P
6	12060.00	14.70	45.28	59.98	74.00	-14.02	Peak	108	142	P

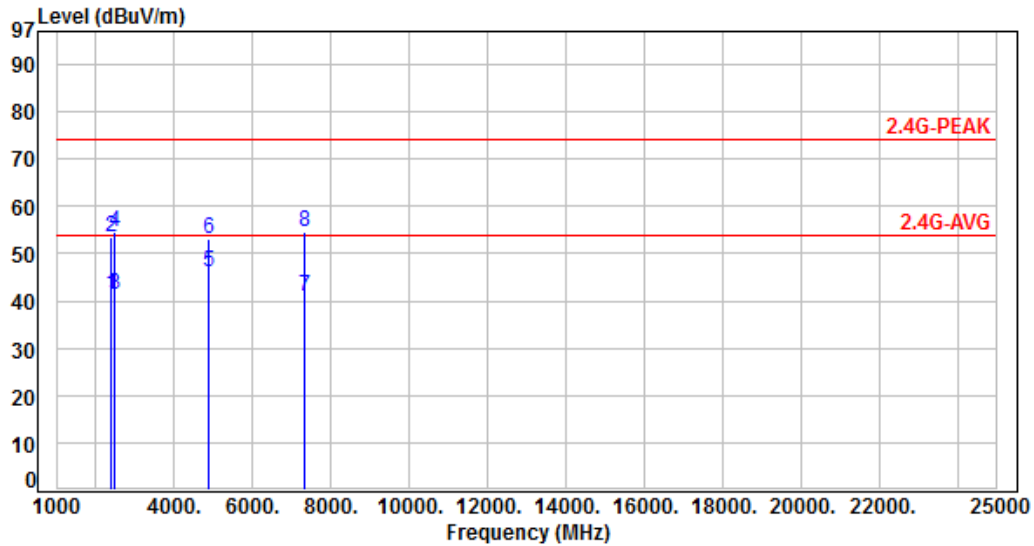
Note: Level=Reading+Factor

Margin=Level-Limit

Factor=Antenna Factor + cable loss - Amplifier Factor



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



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	2390.00	-2.89	44.21	41.32	54.00	-12.68	Average	131	347	P
2	2390.00	-2.89	56.41	53.52	74.00	-20.48	Peak	131	347	P
3	2483.50	-2.66	43.82	41.16	54.00	-12.84	Average	131	347	P
4	2483.50	-2.66	57.13	54.47	74.00	-19.53	Peak	131	347	P
5	4874.00	4.89	41.16	46.05	54.00	-7.95	Average	394	2	P
6	4874.00	4.89	48.18	53.07	74.00	-20.93	Peak	394	2	P
7	7311.00	9.81	31.19	41.00	54.00	-13.00	Average	113	292	P
8	7311.00	9.81	44.67	54.48	74.00	-19.52	Peak	113	292	P

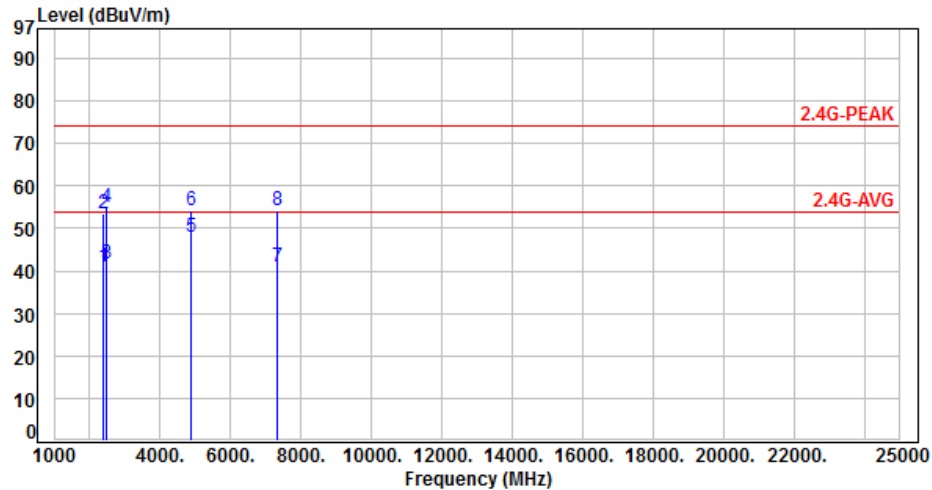
Note: Level=Reading+Factor

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	43.72	40.83	54.00	-13.17	Average	133	52	P
2	2390.00	-2.89	56.43	53.54	74.00	-20.46	Peak	133	52	P
3	2483.50	-2.66	44.29	41.63	54.00	-12.37	Average	133	52	P
4	2483.50	-2.66	57.45	54.79	74.00	-19.21	Peak	133	52	P
5	4874.00	4.89	43.16	48.05	54.00	-5.95	Average	203	33	P
6	4874.00	4.89	49.18	54.07	74.00	-19.93	Peak	203	33	P
7	7311.00	9.81	31.15	40.96	54.00	-13.04	Average	100	138	P
8	7311.00	9.81	44.52	54.33	74.00	-19.67	Peak	100	138	P

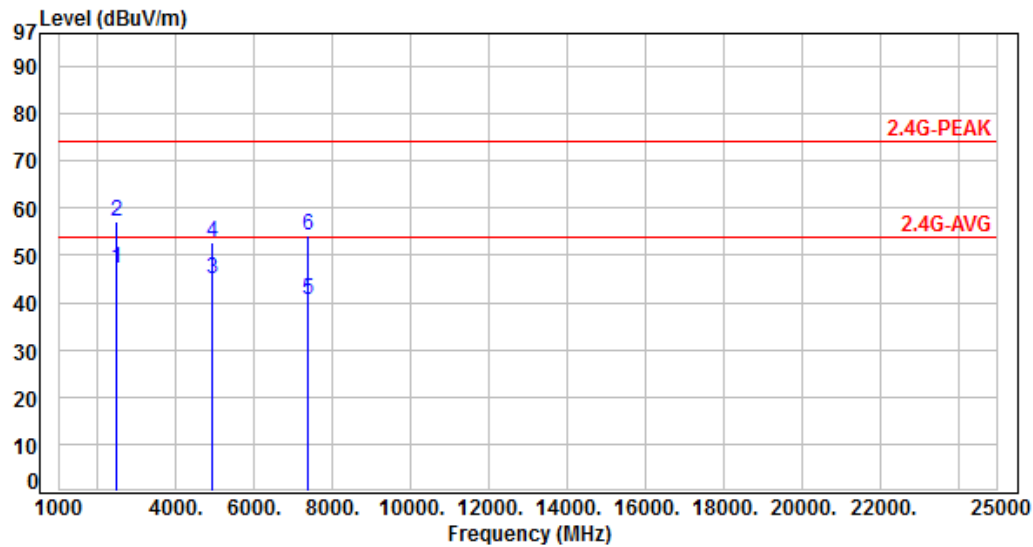
Note: Level=Reading+Factor

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	49.75	47.09	54.00	-6.91	Average	139	346	P
2	2483.50	-2.66	59.96	57.30	74.00	-16.70	Peak	139	346	P
3	4924.00	5.10	39.74	44.84	54.00	-9.16	Average	400	5	P
4	4924.00	5.10	47.79	52.89	74.00	-21.11	Peak	400	5	P
5	7386.00	9.94	30.81	40.75	54.00	-13.25	Average	124	278	P
6	7386.00	9.94	44.43	54.37	74.00	-19.63	Peak	124	278	P

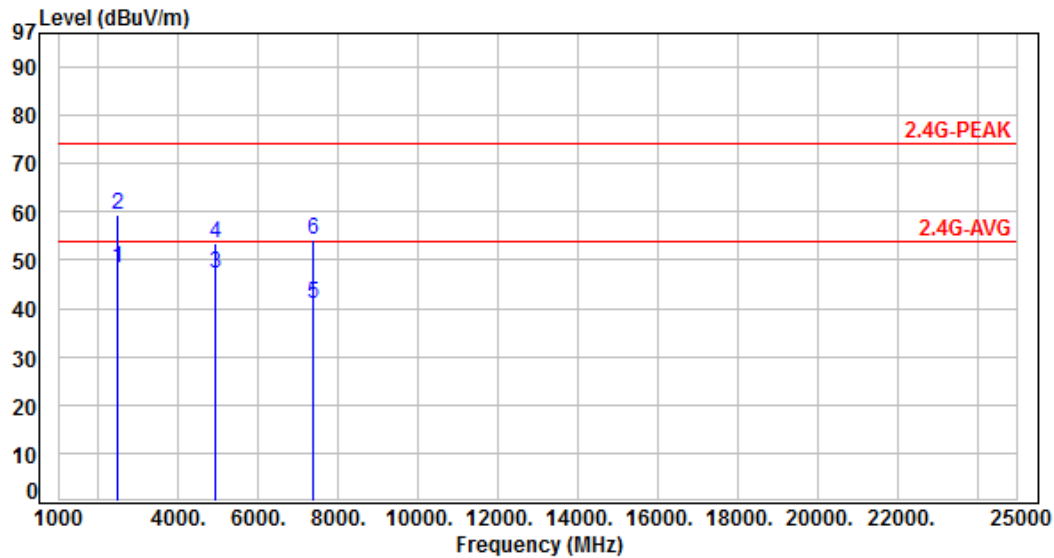
Note: Level=Reading+Factor

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	50.86	48.20	54.00	-5.80	Average	174	55	P
2	2483.50	-2.66	61.95	59.29	74.00	-14.71	Peak	174	55	P
3	4924.00	5.10	42.02	47.12	54.00	-6.88	Average	214	10	P
4	4924.00	5.10	48.30	53.40	74.00	-20.60	Peak	214	10	P
5	7386.00	9.94	30.88	40.82	54.00	-13.18	Average	113	152	P
6	7386.00	9.94	44.10	54.04	74.00	-19.96	Peak	113	152	P

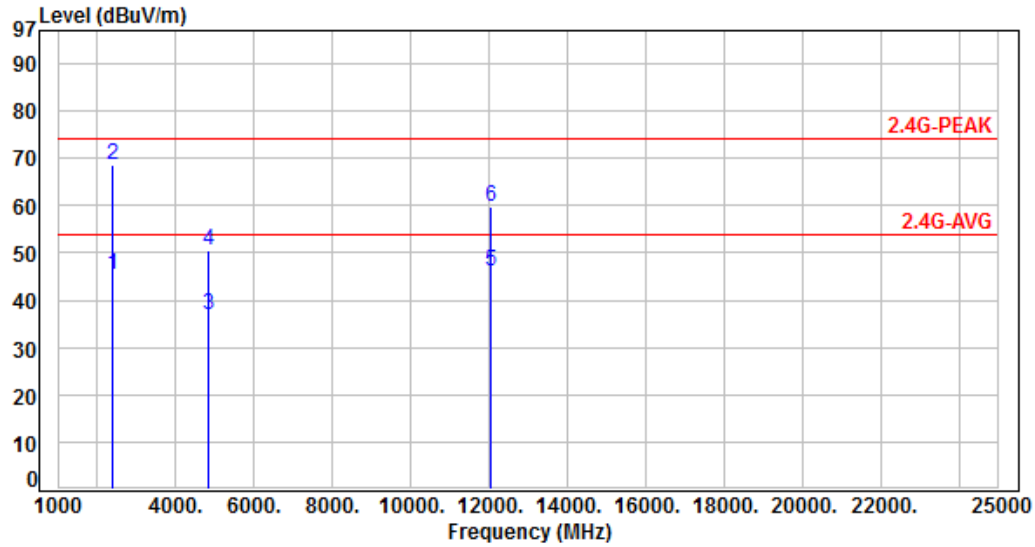
Note: Level=Reading+Factor

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	48.34	45.45	54.00	-8.55	Average	155	345	P
2	2390.00	-2.89	71.58	68.69	74.00	-5.31	Peak	155	345	P
3	4824.00	4.73	32.10	36.83	54.00	-17.17	Average	400	2	P
4	4824.00	4.73	45.64	50.37	74.00	-23.63	Peak	400	2	P
5	12060.00	14.70	31.26	45.96	54.00	-8.04	Average	100	271	P
6	12060.00	14.70	44.88	59.58	74.00	-14.42	Peak	100	271	P

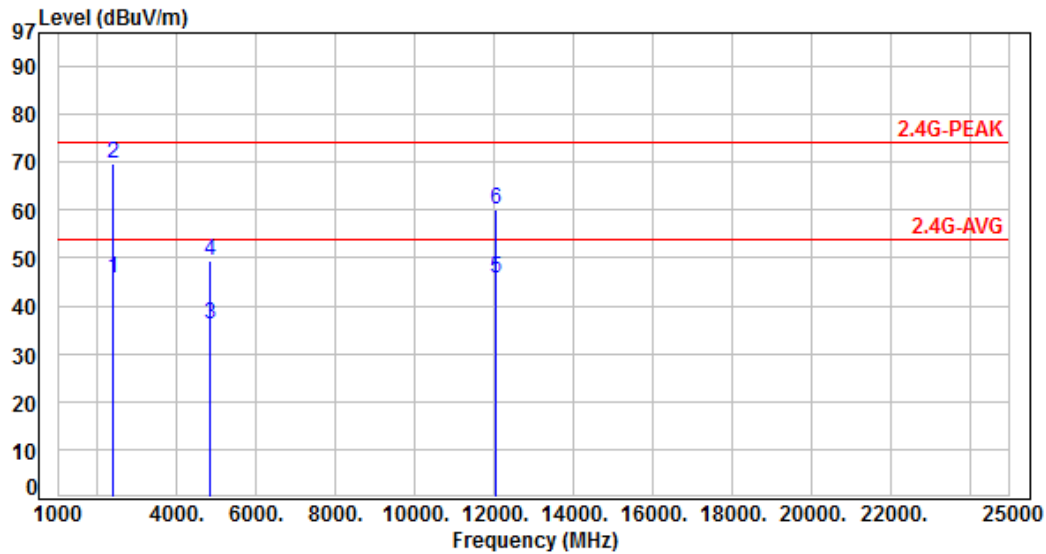
Note: Level=Reading+Factor

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	48.51	45.62	54.00	-8.38	Average	141	69	P
2	2390.00	-2.89	72.48	69.59	74.00	-4.41	Peak	141	69	P
3	4824.00	4.73	31.49	36.22	54.00	-17.78	Average	153	45	P
4	4824.00	4.73	44.65	49.38	74.00	-24.62	Peak	153	45	P
5	12060.00	14.70	31.18	45.88	54.00	-8.12	Average	112	137	P
6	12060.00	14.70	45.32	60.02	74.00	-13.98	Peak	112	137	P

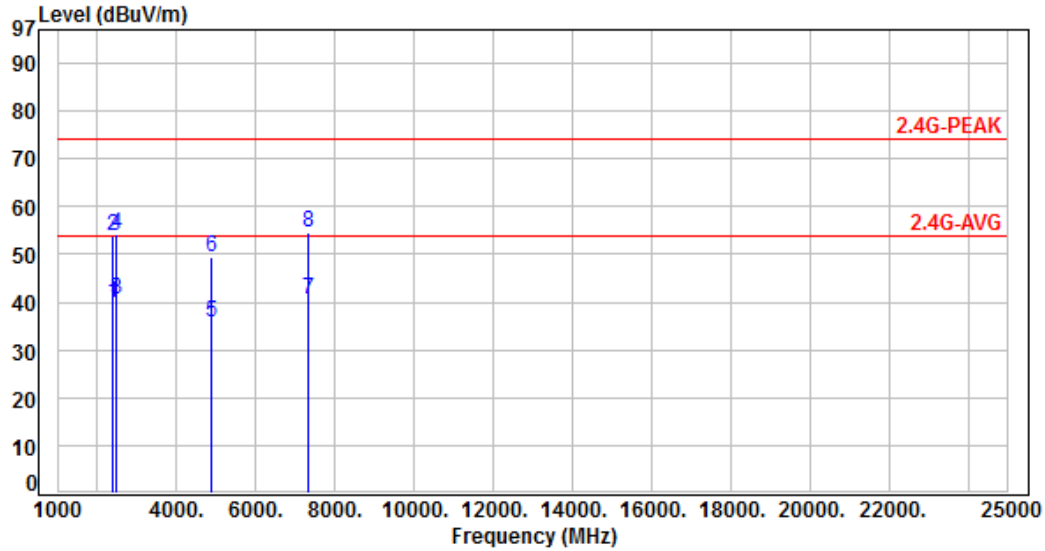
Note: Level=Reading+Factor

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	42.81	39.92	54.00	-14.08	Average	120	343	P
2	2390.00	-2.89	56.80	53.91	74.00	-20.09	Peak	120	343	P
3	2483.50	-2.66	43.37	40.71	54.00	-13.29	Average	120	343	P
4	2483.50	-2.66	56.98	54.32	74.00	-19.68	Peak	120	343	P
5	4874.00	4.89	30.71	35.60	54.00	-18.40	Average	398	8	P
6	4874.00	4.89	44.38	49.27	74.00	-24.73	Peak	398	8	P
7	7311.00	9.81	30.71	40.52	54.00	-13.48	Average	116	278	P
8	7311.00	9.81	44.85	54.66	74.00	-19.34	Peak	116	278	P

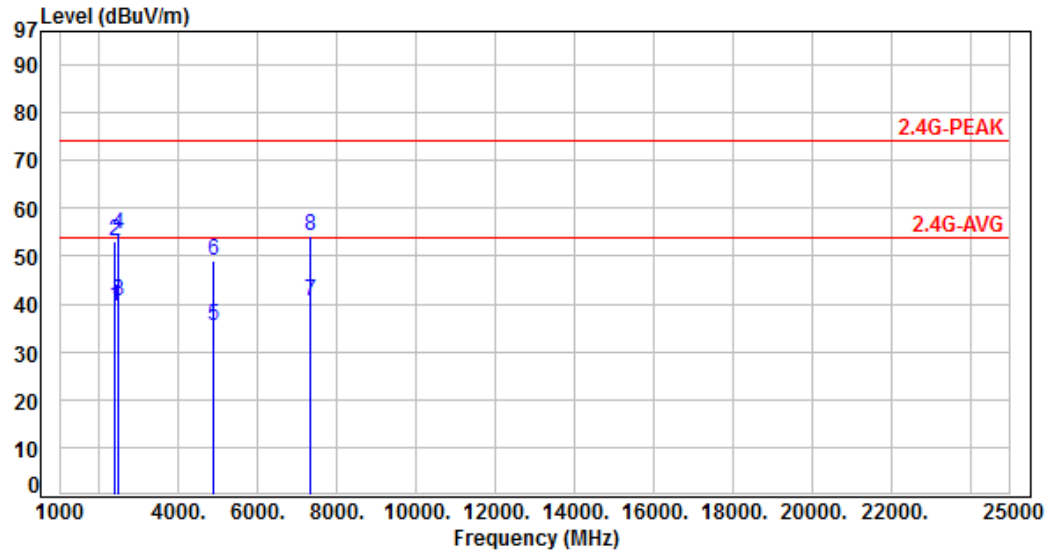
Note: Level=Reading+Factor

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	42.18	39.29	54.00	-14.71	Average	155	62	P
2	2390.00	-2.89	55.95	53.06	74.00	-20.94	Peak	155	62	P
3	2483.50	-2.66	43.30	40.64	54.00	-13.36	Average	155	62	P
4	2483.50	-2.66	57.27	54.61	74.00	-19.39	Peak	155	62	P
5	4874.00	4.89	30.40	35.29	54.00	-18.71	Average	198	42	P
6	4874.00	4.89	44.23	49.12	74.00	-24.88	Peak	198	42	P
7	7311.00	9.81	30.61	40.42	54.00	-13.58	Average	132	151	P
8	7311.00	9.81	44.24	54.05	74.00	-19.95	Peak	132	151	P

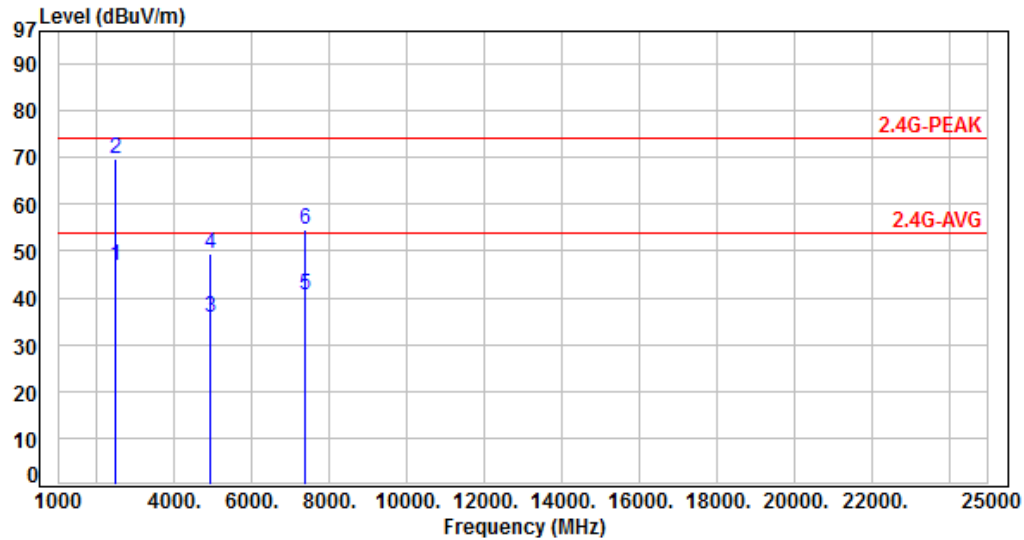
Note: Level=Reading+Factor

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	49.48	46.82	54.00	-7.18	Average	169	343	P
2	2483.50	-2.66	72.23	69.57	74.00	-4.43	Peak	169	343	P
3	4924.00	5.10	30.51	35.61	54.00	-18.39	Average	394	12	P
4	4924.00	5.10	44.19	49.29	74.00	-24.71	Peak	394	12	P
5	7386.00	9.94	30.80	40.74	54.00	-13.26	Average	131	294	P
6	7386.00	9.94	44.50	54.44	74.00	-19.56	Peak	131	294	P

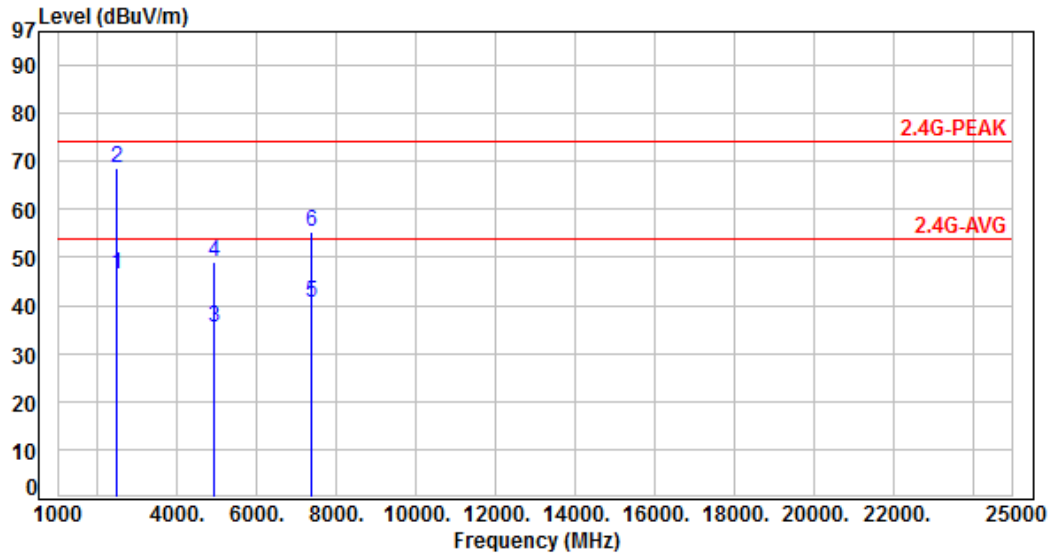
Note: Level=Reading+Factor

Margin=Level-Limit

Factor=Antenna Factor + cable loss - Amplifier Factor



Power	: AC 120V / 60HZ	Pol/Phase	: HORIZONTAL
Test Mode	: Mode 2, 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	49.06	46.40	54.00	-7.60	Average	174	62	P
2	2483.50	-2.66	71.34	68.68	74.00	-5.32	Peak	174	62	P
3	4924.00	5.10	30.14	35.24	54.00	-18.76	Average	208	26	P
4	4924.00	5.10	43.93	49.03	74.00	-24.97	Peak	208	26	P
5	7386.00	9.94	30.45	40.39	54.00	-13.61	Average	121	148	P
6	7386.00	9.94	45.46	55.40	74.00	-18.60	Peak	121	148	P

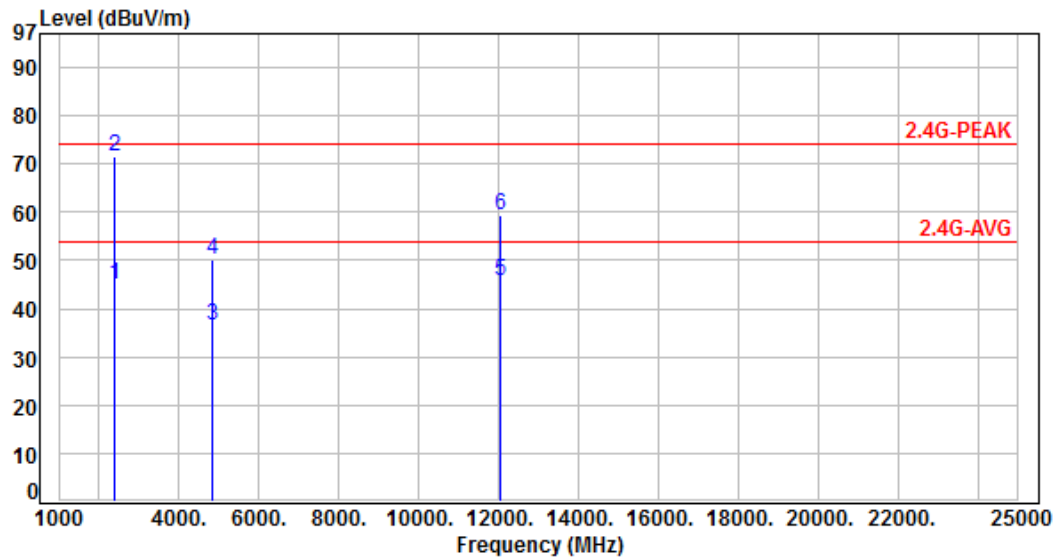
Note: Level=Reading+Factor

Margin=Level-Limit

Factor=Antenna Factor + cable loss - Amplifier Factor



Power	: AC 120V / 60HZ	Pol/Phase	: VERTICAL
Test Mode	: Mode 5, 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	47.84	44.95	54.00	-9.05	Average	153	348	P
2	2390.00	-2.89	74.51	71.62	74.00	-2.38	Peak	153	348	P
3	4824.00	4.73	31.86	36.59	54.00	-17.41	Average	398	4	P
4	4824.00	4.73	45.43	50.16	74.00	-23.84	Peak	398	4	P
5	12060.00	14.70	31.11	45.81	54.00	-8.19	Average	100	264	P
6	12060.00	14.70	44.73	59.43	74.00	-14.57	Peak	100	264	P

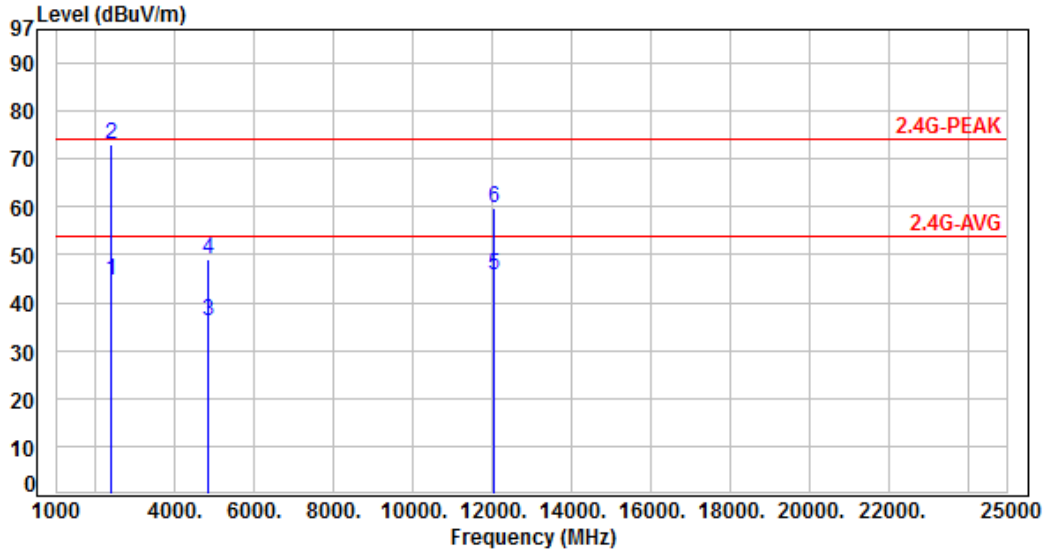
Note: Level=Reading+Factor

Margin=Level-Limit

Factor=Antenna Factor + cable loss - Amplifier Factor



Power	: AC 120V / 60HZ	Pol/Phase	: HORIZONTAL
Test Mode	: Mode 5, 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	47.60	44.71	54.00	-9.29	Average	239	60	P
2	2390.00	-2.89	75.87	72.98	74.00	-1.02	Peak	239	60	P
3	4824.00	4.73	31.28	36.01	54.00	-17.99	Average	149	42	P
4	4824.00	4.73	44.38	49.11	74.00	-24.89	Peak	149	42	P
5	12060.00	14.70	31.05	45.75	54.00	-8.25	Average	115	142	P
6	12060.00	14.70	45.17	59.87	74.00	-14.13	Peak	115	142	P

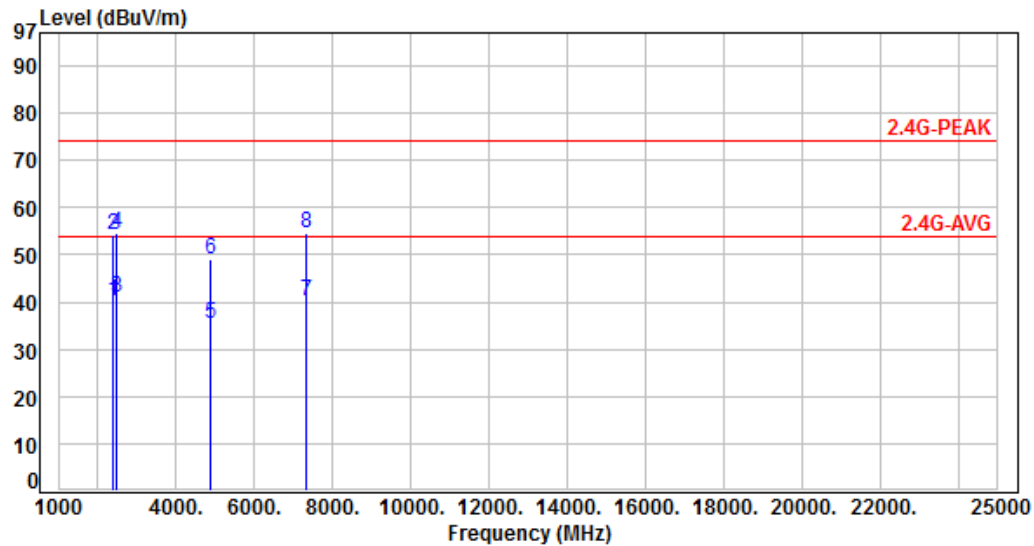
Note: Level=Reading+Factor

Margin=Level-Limit

Factor=Antenna Factor + cable loss - Amplifier Factor



Power	: AC 120V / 60HZ	Pol/Phase	: VERTICAL
Test Mode	: Mode 5, CH06		:



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	2390.00	-2.89	42.94	40.05	54.00	-13.95	Average	137	331	P
2	2390.00	-2.89	56.97	54.08	74.00	-19.92	Peak	137	331	P
3	2483.50	-2.66	43.56	40.90	54.00	-13.10	Average	137	331	P
4	2483.50	-2.66	57.16	54.50	74.00	-19.50	Peak	137	331	P
5	4874.00	4.89	30.58	35.47	54.00	-18.53	Average	400	6	P
6	4874.00	4.89	44.21	49.10	74.00	-24.90	Peak	400	6	P
7	7311.00	9.81	30.56	40.37	54.00	-13.63	Average	112	279	P
8	7311.00	9.81	44.63	54.44	74.00	-19.56	Peak	112	279	P

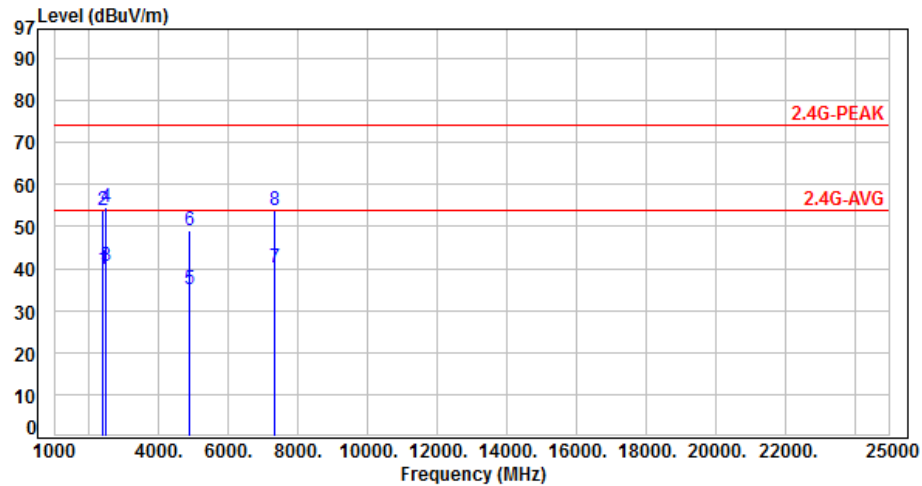
Note: Level=Reading+Factor

Margin=Level-Limit

Factor=Antenna Factor + cable loss - Amplifier Factor



Power	: AC 120V / 60HZ	Pol/Phase	: HORIZONTAL
Test Mode	: Mode 5, CH06		:



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	2390.00	-2.89	42.54	39.65	54.00	-14.35	Average	187	59	P
2	2390.00	-2.89	56.59	53.70	74.00	-20.30	Peak	187	59	P
3	2483.50	-2.66	43.33	40.67	54.00	-13.33	Average	187	59	P
4	2483.50	-2.66	57.33	54.67	74.00	-19.33	Peak	187	59	P
5	4874.00	4.89	30.29	35.18	54.00	-18.82	Average	202	47	P
6	4874.00	4.89	44.11	49.00	74.00	-25.00	Peak	202	47	P
7	7311.00	9.81	30.49	40.30	54.00	-13.70	Average	128	147	P
8	7311.00	9.81	44.06	53.87	74.00	-20.13	Peak	128	147	P

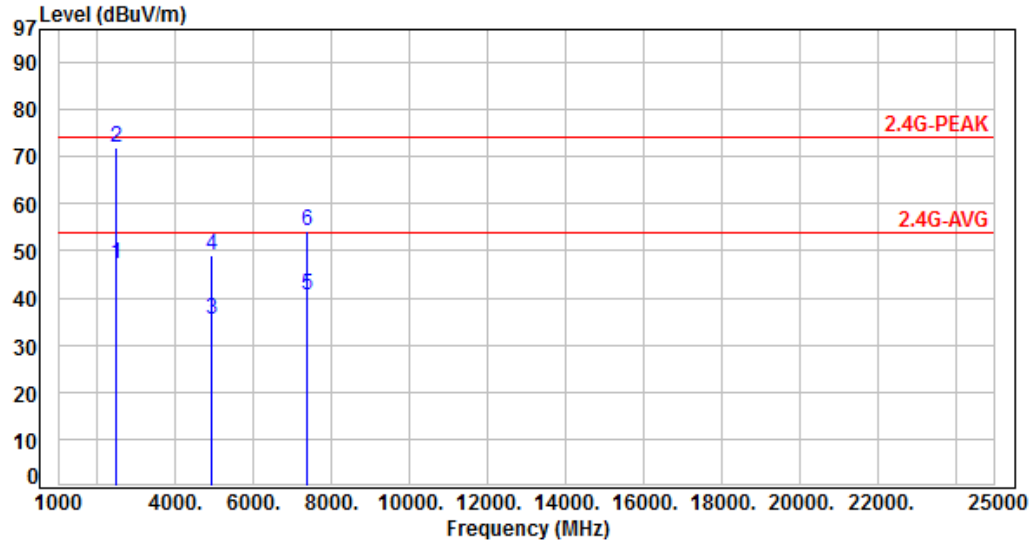
Note: Level=Reading+Factor

Margin=Level-Limit

Factor=Antenna Factor + cable loss - Amplifier Factor



Power	:	AC 120V / 60HZ	Pol/Phase	:	VERTICAL
Test Mode	:	Mode 5, 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	49.89	47.23	54.00	-6.77	Average	149	347	P
2	2483.50	-2.66	74.56	71.90	74.00	-2.10	Peak	149	347	P
3	4924.00	5.10	30.37	35.47	54.00	-18.53	Average	398	2	P
4	4924.00	5.10	44.02	49.12	74.00	-24.88	Peak	398	2	P
5	7386.00	9.94	30.68	40.62	54.00	-13.38	Average	125	288	P
6	7386.00	9.94	44.33	54.27	74.00	-19.73	Peak	125	288	P

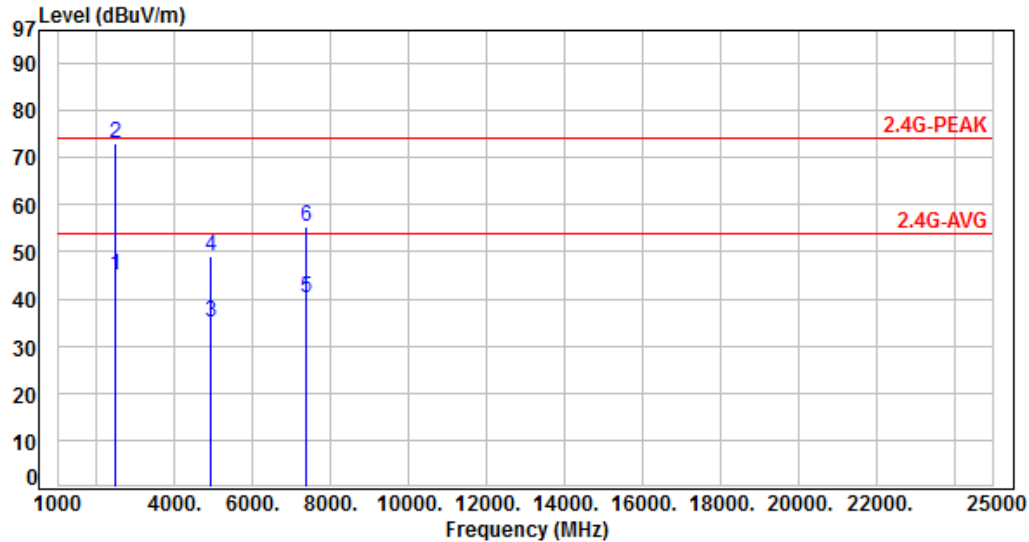
Note: Level=Reading+Factor

Margin=Level-Limit

Factor=Antenna Factor + cable loss - Amplifier Factor



Power	: AC 120V / 60HZ	Pol/Phase	: HORIZONTAL
Test Mode	: Mode 5, 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	47.48	44.82	54.00	-9.18	Average	286	20	P
2	2483.50	-2.66	75.59	72.93	74.00	-1.07	Peak	286	20	P
3	4924.00	5.10	30.04	35.14	54.00	-18.86	Average	202	38	P
4	4924.00	5.10	43.78	48.88	74.00	-25.12	Peak	202	38	P
5	7386.00	9.94	30.34	40.28	54.00	-13.72	Average	119	146	P
6	7386.00	9.94	45.31	55.25	74.00	-18.75	Peak	119	146	P

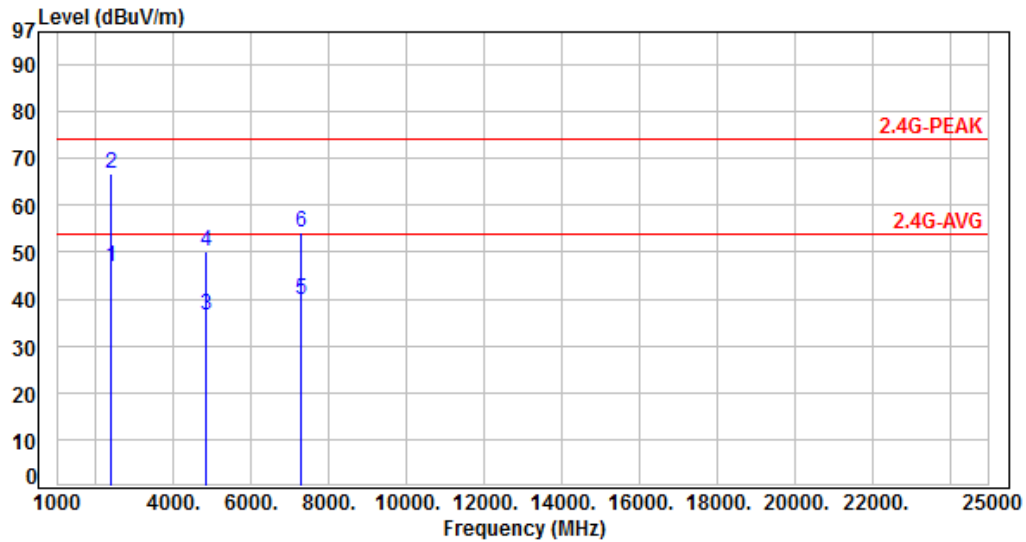
Note: Level=Reading+Factor

Margin=Level-Limit

Factor=Antenna Factor + cable loss - Amplifier Factor



Power	: AC 120V / 60HZ	Pol/Phase	: VERTICAL
Test Mode	: Mode 6, CH03		:



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	2390.00	-2.89	49.84	46.95	54.00	-7.05	Average	121	347	P
2	2390.00	-2.89	69.59	66.70	74.00	-7.30	Peak	121	347	P
3	4844.00	4.80	31.66	36.46	54.00	-17.54	Average	392	10	P
4	4844.00	4.80	45.28	50.08	74.00	-23.92	Peak	392	10	P
5	7266.00	9.63	30.19	39.82	54.00	-14.18	Average	108	272	P
6	7266.00	9.63	44.48	54.11	74.00	-19.89	Peak	108	272	P

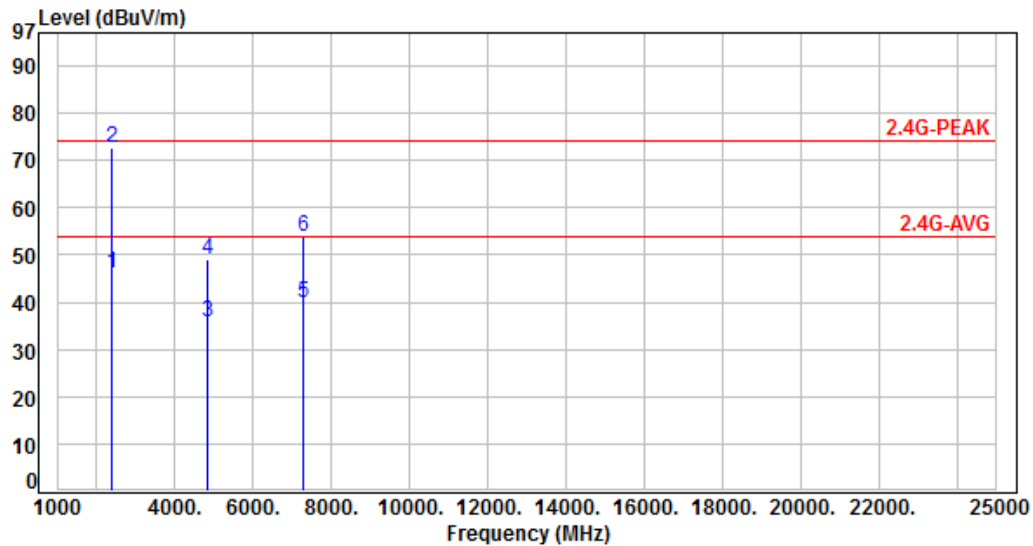
Note: Level=Reading+Factor

Margin=Level-Limit

Factor=Antenna Factor + cable loss - Amplifier Factor



Power	: AC 120V / 60HZ	Pol/Phase	: HORIZONTAL
Test Mode	: Mode 6, CH03		:



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	2390.00	-2.89	49.10	46.21	54.00	-7.79	Average	129	302	P
2	2390.00	-2.89	75.46	72.57	74.00	-1.43	Peak	129	302	P
3	4844.00	4.80	31.06	35.86	54.00	-18.14	Average	144	58	P
4	4844.00	4.80	44.37	49.17	74.00	-24.83	Peak	144	58	P
5	7266.00	9.63	30.31	39.94	54.00	-14.06	Average	132	156	P
6	7266.00	9.63	44.39	54.02	74.00	-19.98	Peak	132	156	P

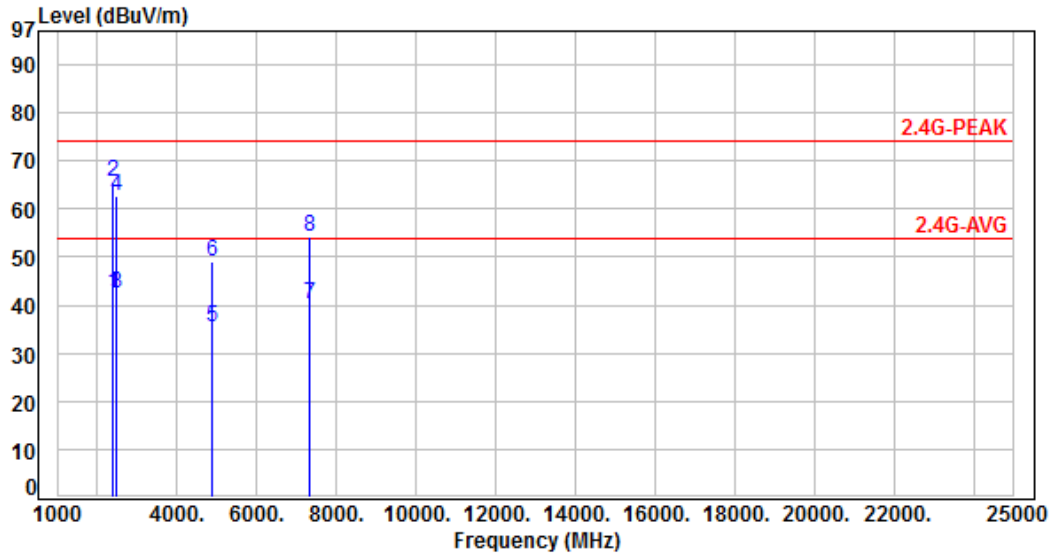
Note: Level=Reading+Factor

Margin=Level-Limit

Factor=Antenna Factor + cable loss - Amplifier Factor



Power	:	AC 120V / 60HZ	Pol/Phase	:	VERTICAL
Test Mode	:	Mode 6, 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	45.27	42.38	54.00	-11.62	Average	153	348	P
2	2390.00	-2.89	68.45	65.56	74.00	-8.44	Peak	153	348	P
3	2483.50	-2.66	45.16	42.50	54.00	-11.50	Average	153	348	P
4	2483.50	-2.66	65.36	62.70	74.00	-11.30	Peak	153	348	P
5	4874.00	4.89	30.34	35.23	54.00	-18.77	Average	400	3	P
6	4874.00	4.89	44.05	48.94	74.00	-25.06	Peak	400	3	P
7	7311.00	9.81	30.37	40.18	54.00	-13.82	Average	115	281	P
8	7311.00	9.81	44.45	54.26	74.00	-19.74	Peak	115	281	P

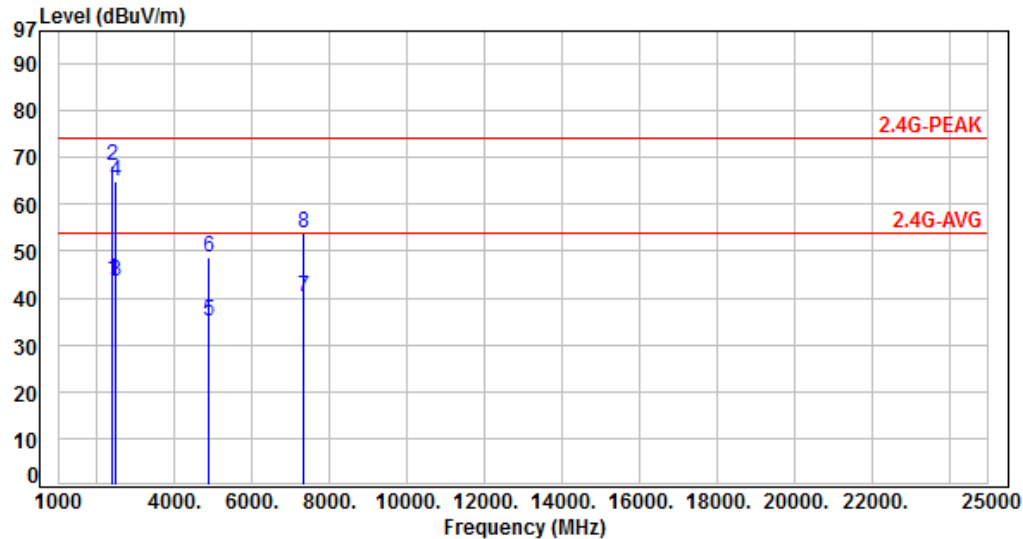
Note: Level=Reading+Factor

Margin=Level-Limit

Factor=Antenna Factor + cable loss - Amplifier Factor



Power	:	AC 120V / 60HZ	Pol/Phase	:	HORIZONTAL
Test Mode	:	Mode 6, 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	46.76	43.87	54.00	-10.13	Average	232	297	P
2	2390.00	-2.89	71.23	68.34	74.00	-5.66	Peak	232	297	P
3	2483.50	-2.66	46.19	43.53	54.00	-10.47	Average	232	297	P
4	2483.50	-2.66	67.76	65.10	74.00	-8.90	Peak	232	297	P
5	4874.00	4.89	30.02	34.91	54.00	-19.09	Average	196	49	P
6	4874.00	4.89	43.98	48.87	74.00	-25.13	Peak	196	49	P
7	7311.00	9.81	30.38	40.19	54.00	-13.81	Average	126	144	P
8	7311.00	9.81	44.17	53.98	74.00	-20.02	Peak	126	144	P

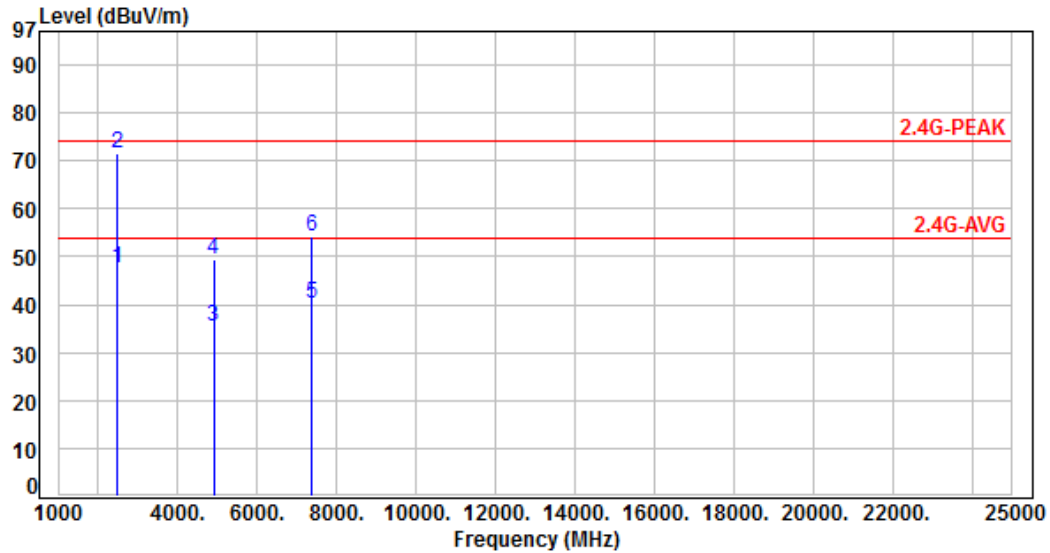
Note: Level=Reading+Factor

Margin=Level-Limit

Factor=Antenna Factor + cable loss - Amplifier Factor



Power	:	AC 120V / 60HZ	Pol/Phase	:	VERTICAL
Test Mode	:	Mode 6, CH09		:	



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	2483.50	-2.66	50.20	47.54	54.00	-6.46	Average	100	349	P
2	2483.50	-2.66	74.17	71.51	74.00	-2.49	Peak	100	349	P
3	4904.00	4.99	30.49	35.48	54.00	-18.52	Average	396	4	P
4	4904.00	4.99	44.27	49.26	74.00	-24.74	Peak	396	4	P
5	7356.00	9.91	30.39	40.30	54.00	-13.70	Average	121	292	P
6	7356.00	9.91	44.19	54.10	74.00	-19.90	Peak	121	292	P

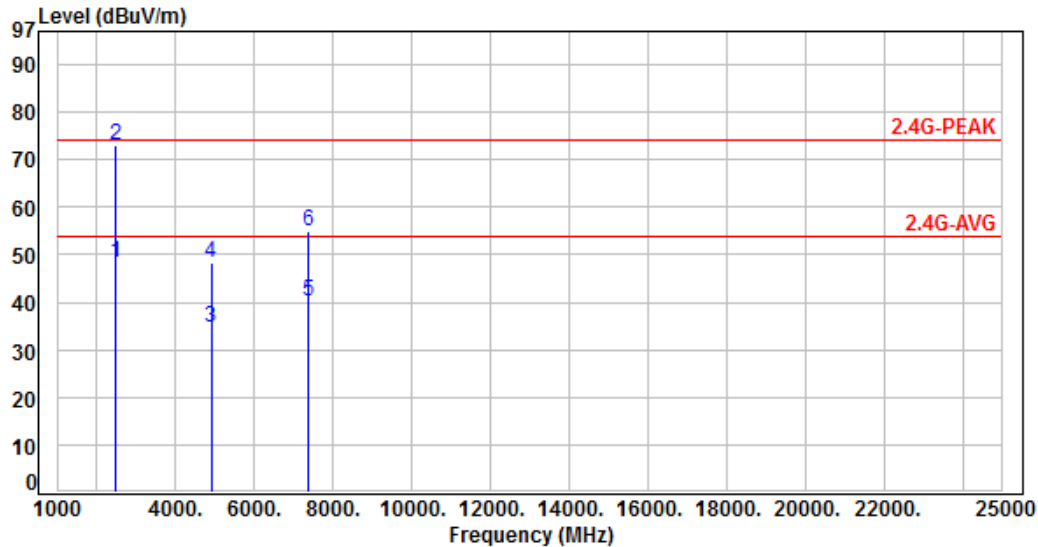
Note: Level=Reading+Factor

Margin=Level-Limit

Factor=Antenna Factor + cable loss - Amplifier Factor



Power	: AC 120V / 60HZ	Pol/Phase	: HORIZONTAL
Test Mode	: Mode 6, CH09		:



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	2483.50	-2.66	51.10	48.44	54.00	-5.56	Average	330	54	P
2	2483.50	-2.66	75.59	72.93	74.00	-1.07	Peak	330	54	P
3	4904.00	4.99	29.85	34.84	54.00	-19.16	Average	192	44	P
4	4904.00	4.99	43.49	48.48	74.00	-25.52	Peak	192	44	P
5	7356.00	9.91	30.12	40.03	54.00	-13.97	Average	127	151	P
6	7356.00	9.91	45.17	55.08	74.00	-18.92	Peak	127	151	P

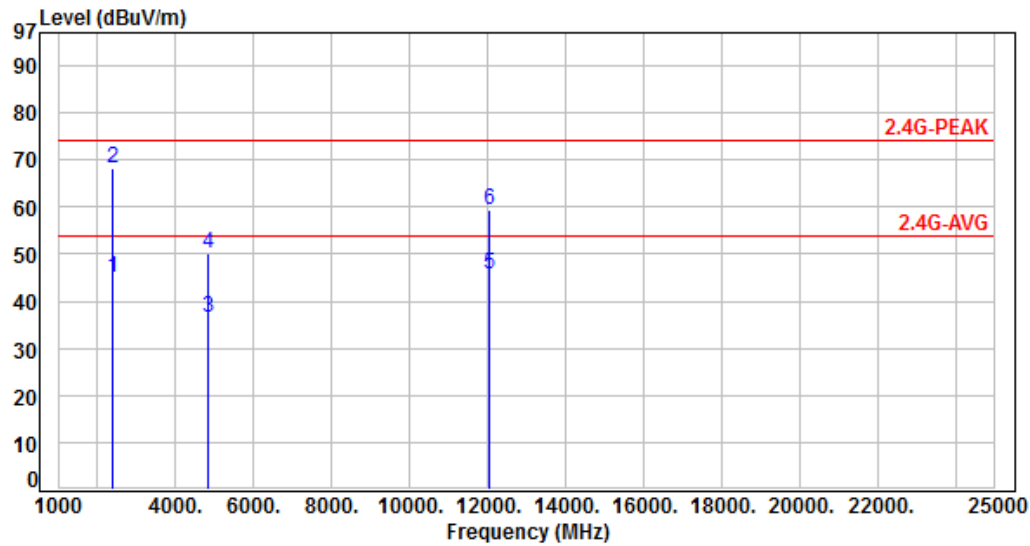
Note: Level=Reading+Factor

Margin=Level-Limit

Factor=Antenna Factor + cable loss - Amplifier Factor



Power	:	AC 120V / 60HZ	Pol/Phase	:	VERTICAL
Test Mode	:	Mode 7, 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	48.01	45.12	54.00	-8.88	Average	157	338	P
2	2390.00	-2.89	71.26	68.37	74.00	-5.63	Peak	157	338	P
3	4824.00	4.73	31.74	36.47	54.00	-17.53	Average	396	6	P
4	4824.00	4.73	45.25	49.98	74.00	-24.02	Peak	396	6	P
5	12060.00	14.70	31.03	45.73	54.00	-8.27	Average	100	258	P
6	12060.00	14.70	44.66	59.36	74.00	-14.64	Peak	100	258	P

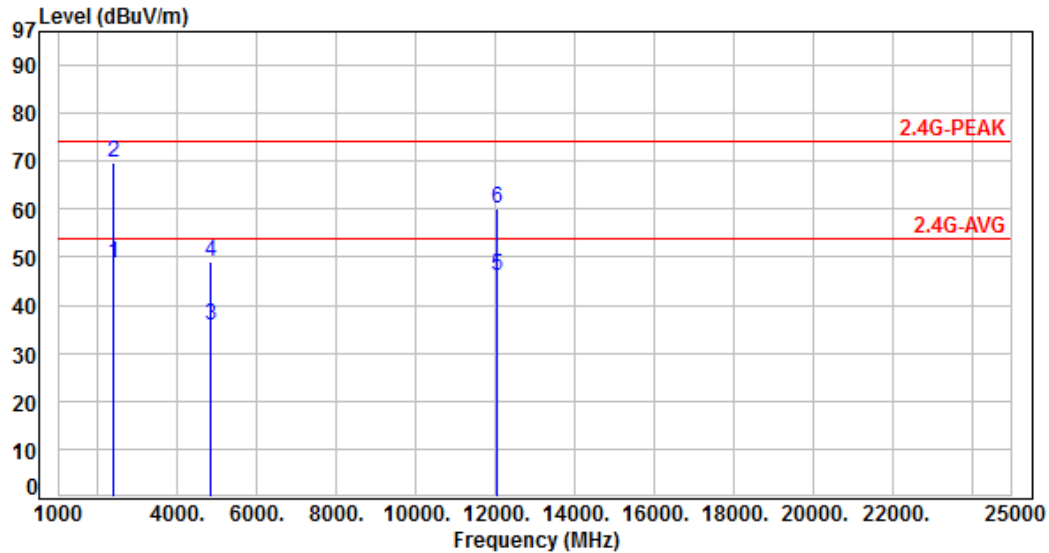
Note: Level=Reading+Factor

Margin=Level-Limit

Factor=Antenna Factor + cable loss - Amplifier Factor



Power	: AC 120V / 60HZ	Pol/Phase	: HORIZONTAL
Test Mode	: Mode 7, CH01		:



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	2390.00	-2.89	51.42	48.53	54.00	-5.47	Average	221	53	P
2	2390.00	-2.89	72.64	69.75	74.00	-4.25	Peak	221	53	P
3	4824.00	4.73	31.11	35.84	54.00	-18.16	Average	138	57	P
4	4824.00	4.73	44.15	48.88	74.00	-25.12	Peak	138	57	P
5	12060.00	14.70	31.23	45.93	54.00	-8.07	Average	118	146	P
6	12060.00	14.70	45.39	60.09	74.00	-13.91	Peak	118	146	P

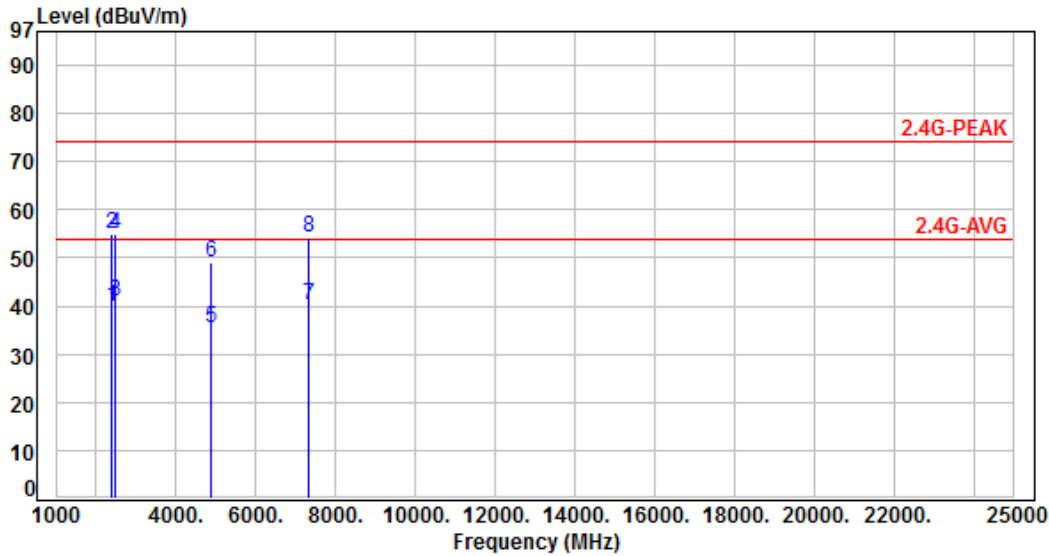
Note: Level=Reading+Factor

Margin=Level-Limit

Factor=Antenna Factor + cable loss - Amplifier Factor



Power	: AC 120V / 60HZ	Pol/Phase	: VERTICAL
Test Mode	: Mode 7, CH06		:



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	2390.00	-2.89	42.80	39.91	54.00	-14.09	Average	147	341	P
2	2390.00	-2.89	57.92	55.03	74.00	-18.97	Peak	147	341	P
3	2483.50	-2.66	43.43	40.77	54.00	-13.23	Average	147	341	P
4	2483.50	-2.66	57.55	54.89	74.00	-19.11	Peak	147	341	P
5	4874.00	4.89	30.35	35.24	54.00	-18.76	Average	400	4	P
6	4874.00	4.89	44.03	48.92	74.00	-25.08	Peak	400	4	P
7	7311.00	9.81	30.26	40.07	54.00	-13.93	Average	110	272	P
8	7311.00	9.81	44.41	54.22	74.00	-19.78	Peak	110	272	P

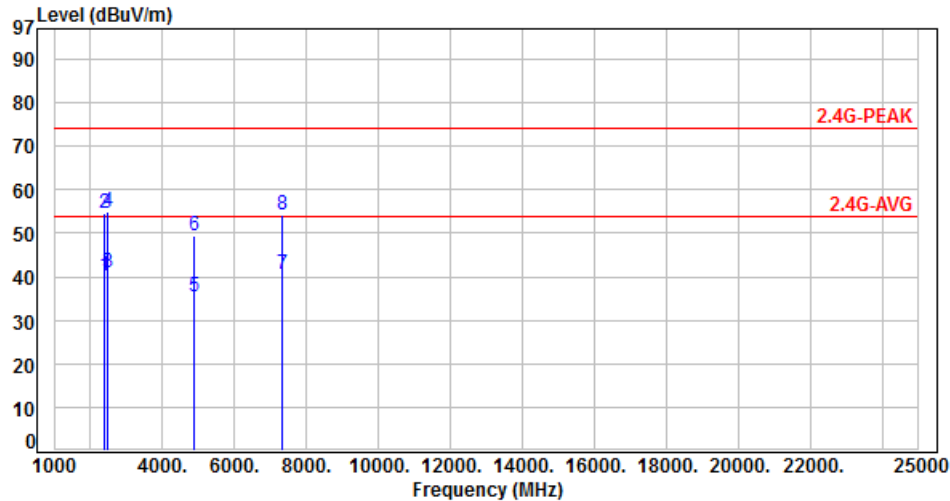
Note: Level=Reading+Factor

Margin=Level-Limit

Factor=Antenna Factor + cable loss - Amplifier Factor



Power	: AC 120V / 60HZ	Pol/Phase	: HORIZONTAL
Test Mode	: Mode 7, 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	43.00	40.11	54.00	-13.89	Average	185	62	P
2	2390.00	-2.89	57.30	54.41	74.00	-19.59	Peak	185	62	P
3	2483.50	-2.66	43.64	40.98	54.00	-13.02	Average	185	62	P
4	2483.50	-2.66	57.74	55.08	74.00	-18.92	Peak	185	62	P
5	4874.00	4.89	30.48	35.37	54.00	-18.63	Average	212	56	P
6	4874.00	4.89	44.37	49.26	74.00	-24.74	Peak	212	56	P
7	7311.00	9.81	30.69	40.50	54.00	-13.50	Average	124	149	P
8	7311.00	9.81	44.38	54.19	74.00	-19.81	Peak	124	149	P

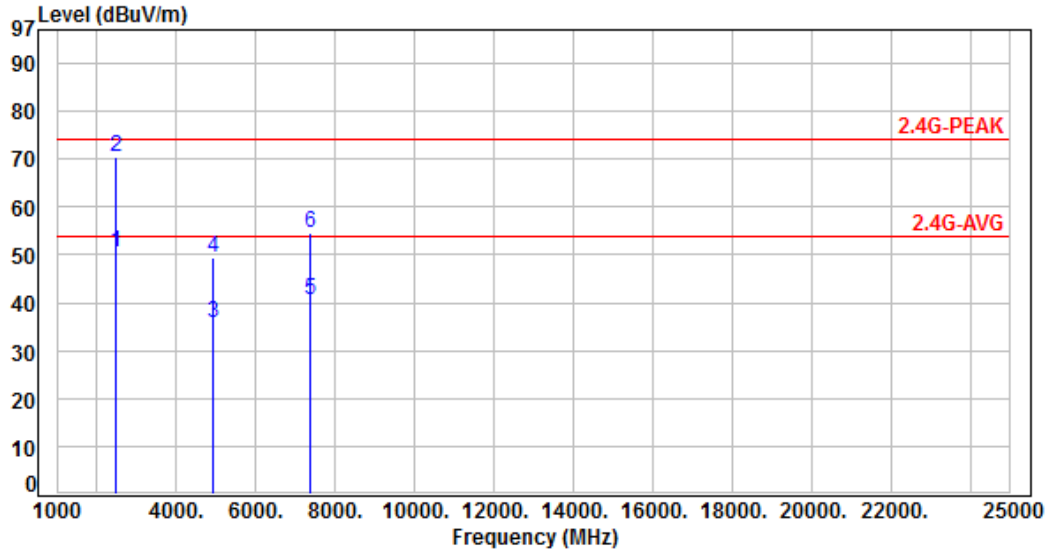
Note: Level=Reading+Factor

Margin=Level-Limit

Factor=Antenna Factor + cable loss - Amplifier Factor



Power	:	AC 120V / 60HZ	Pol/Phase	:	VERTICAL
Test Mode	:	Mode 7, 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	53.04	50.38	54.00	-3.62	Average	148	345	P
2	2483.50	-2.66	73.28	70.62	74.00	-3.38	Peak	148	345	P
3	4924.00	5.10	30.55	35.65	54.00	-18.35	Average	400	3	P
4	4924.00	5.10	44.26	49.36	74.00	-24.64	Peak	400	3	P
5	7386.00	9.94	30.78	40.72	54.00	-13.28	Average	123	290	P
6	7386.00	9.94	44.54	54.48	74.00	-19.52	Peak	123	290	P

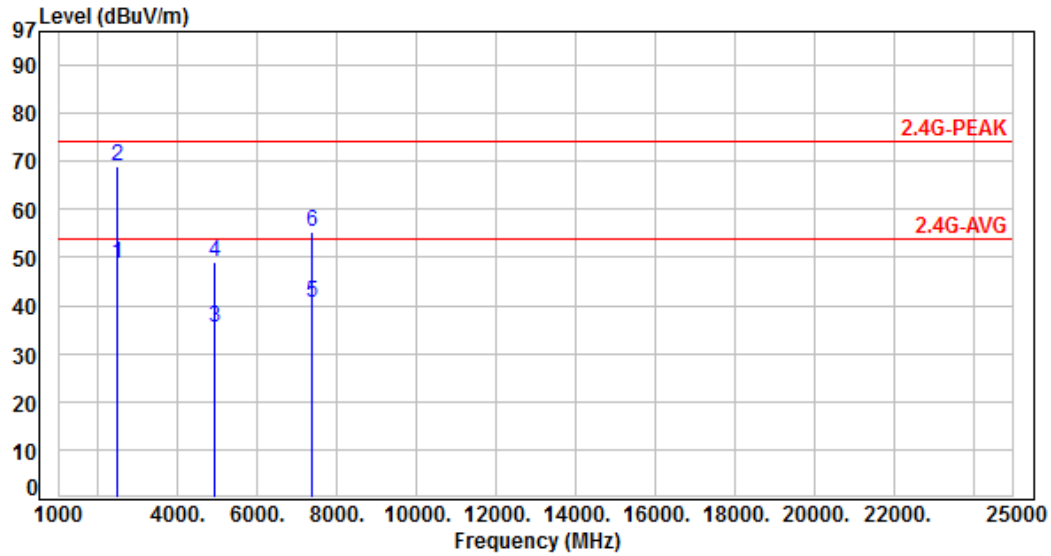
Note: Level=Reading+Factor

Margin=Level-Limit

Factor=Antenna Factor + cable loss - Amplifier Factor



Power	: AC 120V / 60HZ	Pol/Phase	: HORIZONTAL
Test Mode	: Mode 7, 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	51.33	48.67	54.00	-5.33	Average	287	19	P
2	2483.50	-2.66	71.59	68.93	74.00	-5.07	Peak	287	19	P
3	4924.00	5.10	30.20	35.30	54.00	-18.70	Average	196	47	P
4	4924.00	5.10	43.92	49.02	74.00	-24.98	Peak	196	47	P
5	7386.00	9.94	30.47	40.41	54.00	-13.59	Average	116	142	P
6	7386.00	9.94	45.53	55.47	74.00	-18.53	Peak	116	142	P

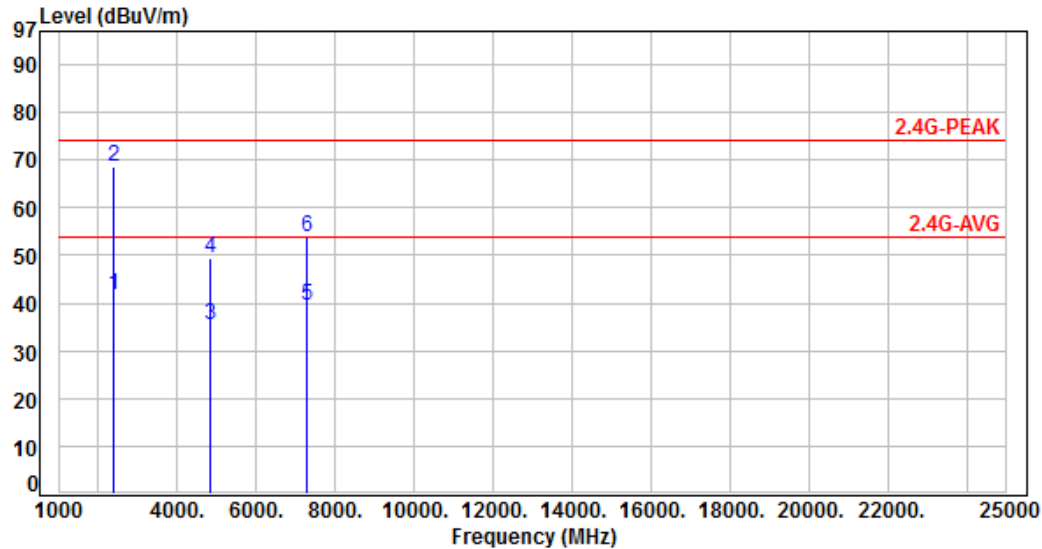
Note: Level=Reading+Factor

Margin=Level-Limit

Factor=Antenna Factor + cable loss - Amplifier Factor



Power	: AC 120V / 60HZ	Pol/Phase	: VERTICAL
Test Mode	: Mode 8, CH03		:



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	2390.00	-2.89	44.40	41.51	54.00	-12.49	Average	121	340	P
2	2390.00	-2.89	71.62	68.73	74.00	-5.27	Peak	121	340	P
3	4844.00	4.80	30.74	35.54	54.00	-18.46	Average	399	2	P
4	4844.00	4.80	44.72	49.52	74.00	-24.48	Peak	399	2	P
5	7266.00	9.63	29.94	39.57	54.00	-14.43	Average	113	265	P
6	7266.00	9.63	44.15	53.78	74.00	-20.22	Peak	113	265	P

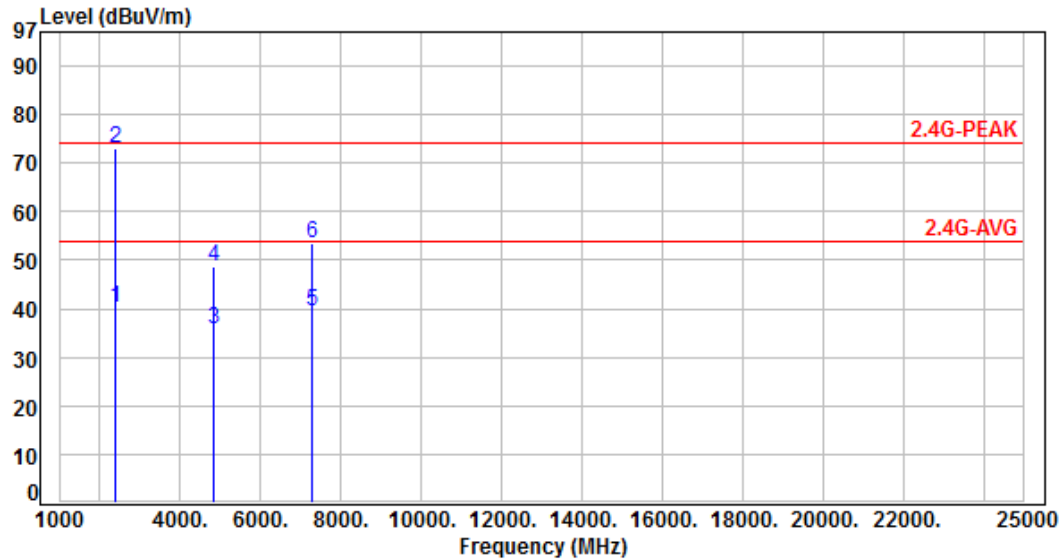
Note: Level=Reading+Factor

Margin=Level-Limit

Factor=Antenna Factor + cable loss - Amplifier Factor



Power	: AC 120V / 60HZ	Pol/Phase	: HORIZONTAL
Test Mode	: Mode 8, CH03		:



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	2390.00	-2.89	43.27	40.38	54.00	-13.62	Average	123	306	P
2	2390.00	-2.89	75.88	72.99	74.00	-1.01	Peak	123	306	P
3	4844.00	4.80	30.87	35.67	54.00	-18.33	Average	135	46	P
4	4844.00	4.80	43.88	48.68	74.00	-25.32	Peak	135	46	P
5	7266.00	9.63	29.98	39.61	54.00	-14.39	Average	128	144	P
6	7266.00	9.63	43.95	53.58	74.00	-20.42	Peak	128	144	P

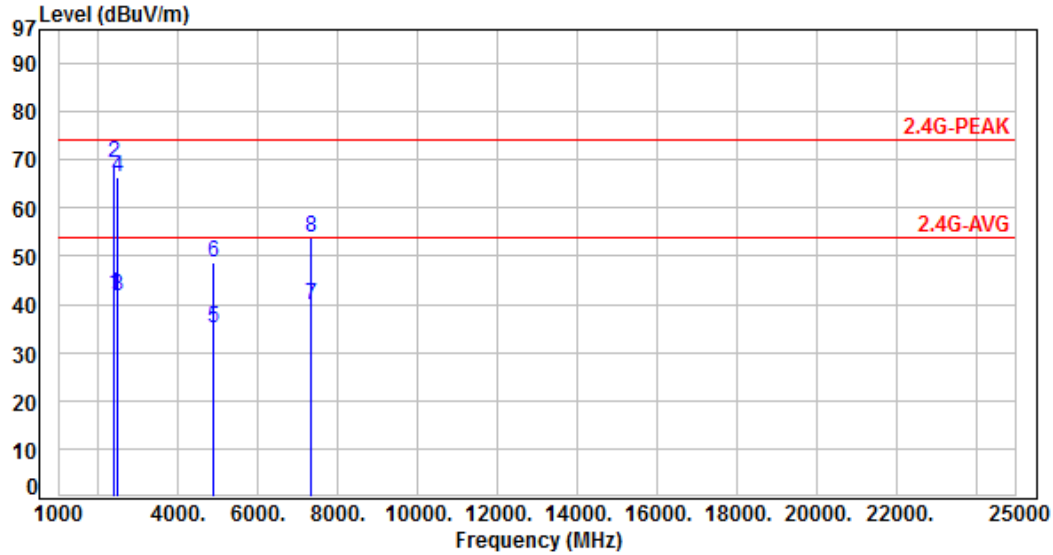
Note: Level=Reading+Factor

Margin=Level-Limit

Factor=Antenna Factor + cable loss - Amplifier Factor



Power	:	AC 120V / 60HZ	Pol/Phase	:	VERTICAL
Test Mode	:	Mode 8, 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	45.10	42.21	54.00	-11.79	Average	113	342	P
2	2390.00	-2.89	72.28	69.39	74.00	-4.61	Peak	113	342	P
3	2483.50	-2.66	44.19	41.53	54.00	-12.47	Average	113	342	P
4	2483.50	-2.66	68.90	66.24	74.00	-7.76	Peak	113	342	P
5	4874.00	4.89	30.11	35.00	54.00	-19.00	Average	400	3	P
6	4874.00	4.89	43.78	48.67	74.00	-25.33	Peak	400	3	P
7	7311.00	9.81	30.15	39.96	54.00	-14.04	Average	119	276	P
8	7311.00	9.81	44.20	54.01	74.00	-19.99	Peak	119	276	P

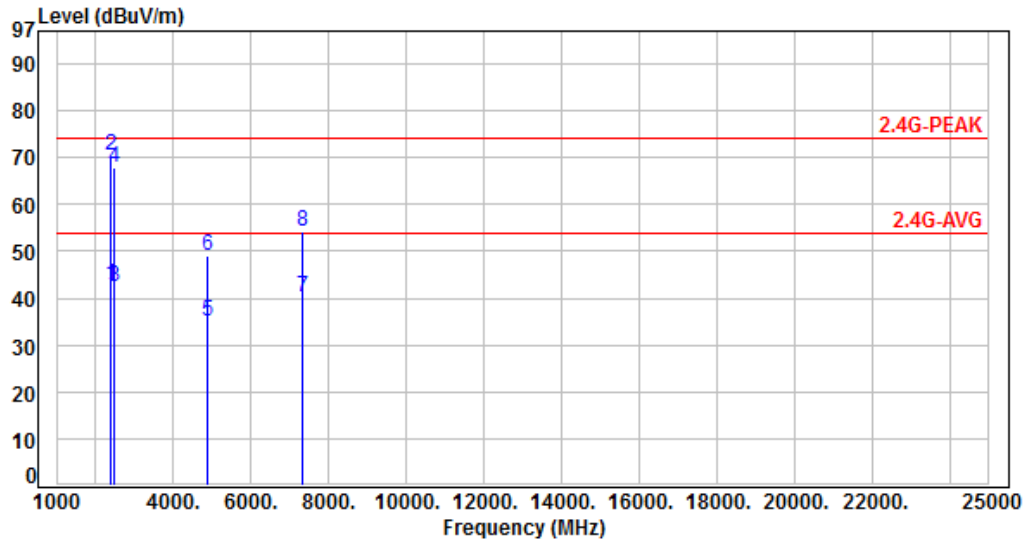
Note: Level=Reading+Factor

Margin=Level-Limit

Factor=Antenna Factor + cable loss - Amplifier Factor



Power	: AC 120V / 60HZ	Pol/Phase	: HORIZONTAL
Test Mode	: Mode 8, 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	45.69	42.80	54.00	-11.20	Average	223	307	P
2	2390.00	-2.89	73.28	70.39	74.00	-3.61	Peak	223	307	P
3	2483.50	-2.66	45.24	42.58	54.00	-11.42	Average	223	307	P
4	2483.50	-2.66	70.66	68.00	74.00	-6.00	Peak	223	307	P
5	4874.00	4.89	30.25	35.14	54.00	-18.86	Average	198	57	P
6	4874.00	4.89	44.19	49.08	74.00	-24.92	Peak	198	57	P
7	7311.00	9.81	30.50	40.31	54.00	-13.69	Average	133	149	P
8	7311.00	9.81	44.38	54.19	74.00	-19.81	Peak	133	149	P

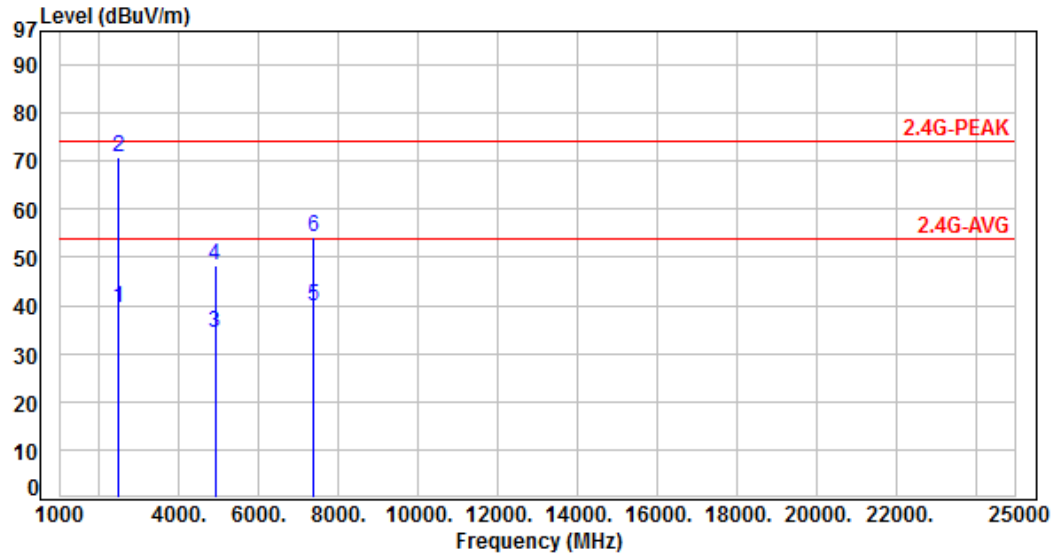
Note: Level=Reading+Factor

Margin=Level-Limit

Factor=Antenna Factor + cable loss - Amplifier Factor



Power	:	AC 120V / 60HZ	Pol/Phase	:	VERTICAL
Test Mode	:	Mode 8, CH09		:	



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	2483.50	-2.66	41.99	39.33	54.00	-14.67	Average	103	353	P
2	2483.50	-2.66	73.60	70.94	74.00	-3.06	Peak	103	353	P
3	4904.00	4.99	29.26	34.25	54.00	-19.75	Average	398	6	P
4	4904.00	4.99	43.28	48.27	74.00	-25.73	Peak	398	6	P
5	7356.00	9.91	29.80	39.71	54.00	-14.29	Average	124	298	P
6	7356.00	9.91	44.25	54.16	74.00	-19.84	Peak	124	298	P

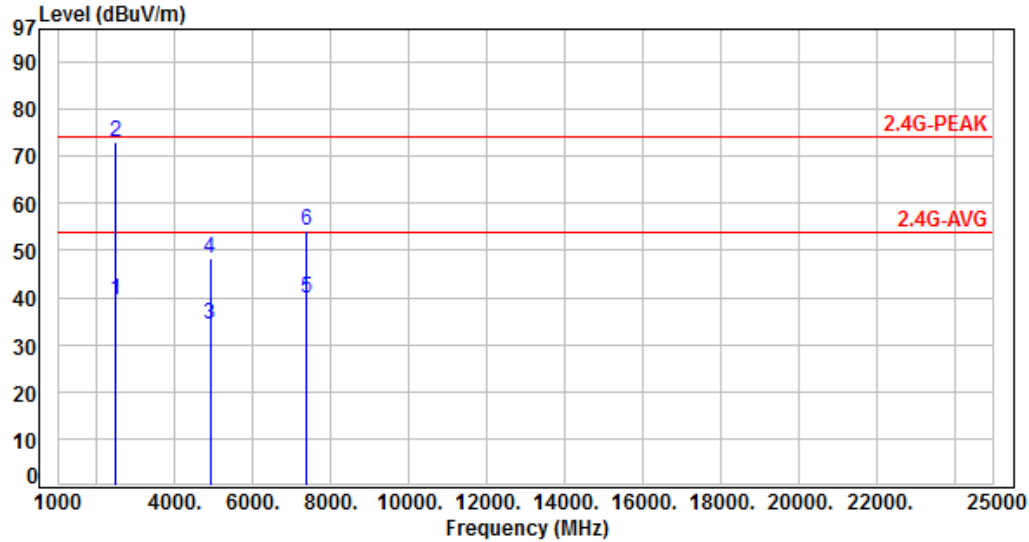
Note: Level=Reading+Factor

Margin=Level-Limit

Factor=Antenna Factor + cable loss - Amplifier Factor



Power	: AC 120V / 60HZ	Pol/Phase	: HORIZONTAL
Test Mode	: Mode 8, CH09		:



No.	Frequency (MHz)	Factor (dB)	Reading (dBUV)	Level (dBUV/m)	Limit (dBUV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	2483.50	-2.66	42.10	39.44	54.00	-14.56	Average	330	53	P
2	2483.50	-2.66	75.58	72.92	74.00	-1.08	Peak	330	53	P
3	4904.00	4.99	29.38	34.37	54.00	-19.63	Average	198	49	P
4	4904.00	4.99	43.38	48.37	74.00	-25.63	Peak	198	49	P
5	7356.00	9.91	29.87	39.78	54.00	-14.22	Average	118	154	P
6	7356.00	9.91	44.26	54.17	74.00	-19.83	Peak	118	154	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

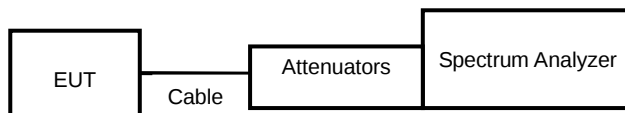
7.1 Test Limit

Below -30dB 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 30dB 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.



ANT E:

Modulation Type: 802.11b, CH 01



Modulation Type: 802.11b, CH 06





ANT E:

Modulation Type: 802.11b, CH 11





ANT E:

Modulation Type: 802.11g, CH 01



Modulation Type: 802.11g, CH 06





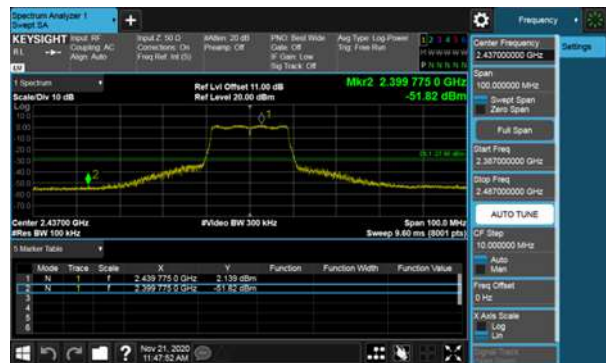
ANT E:

Modulation Type: 802.11g, CH 11





Modulation Type: VHT20, CH06





ANT E:

Modulation Type: VHT20, CH11



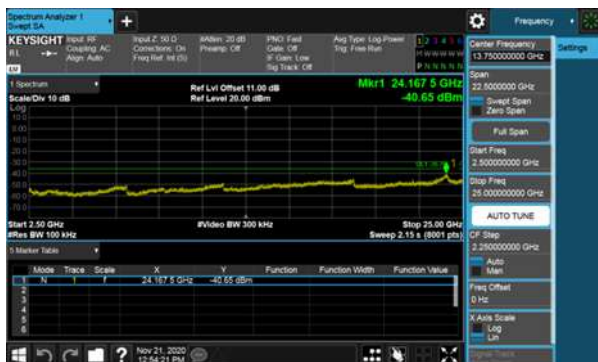
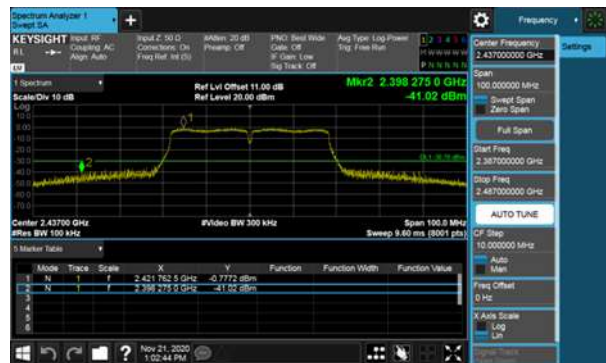


ANT E:

Modulation Type: VHT40, CH03



Modulation Type: VHT40, CH06





ANT E:

Modulation Type: VHT40, CH09





ANT E:

Modulation Type: 11ax HE20, CH01



Modulation Type: 11ax HE20, CH06





ANT E:

Modulation Type: 11ax HE20, CH11







ANT E:

Modulation Type: 11ax HE40, CH09



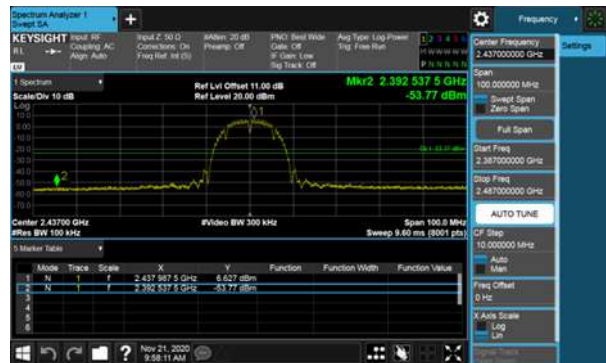


ANT F:

Modulation Type: 802.11b, CH 01



Modulation Type: 802.11b, CH 06





ANT F:

Modulation Type: 802.11b, CH 11



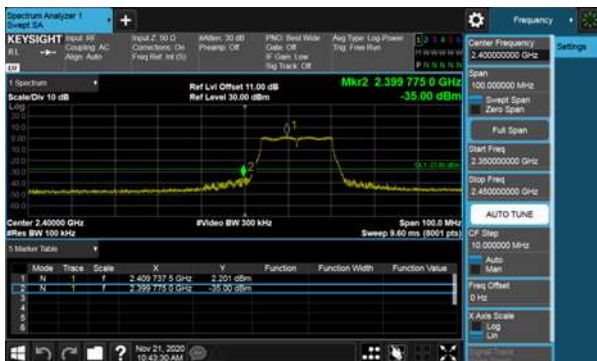


ANT F:

Modulation Type: 802.11g, CH 01



Modulation Type: 802.11g, CH 06





ANT F:

Modulation Type: 802.11g, CH 11



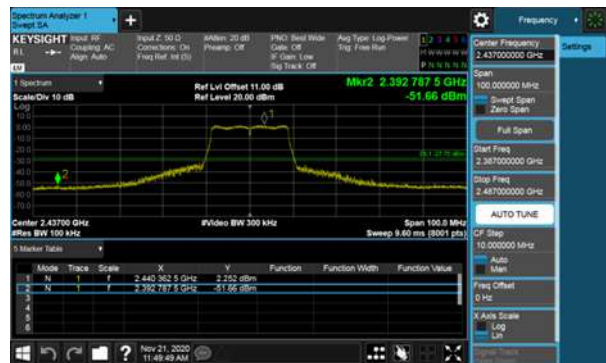


ANT F:

Modulation Type: VHT20, CH01



Modulation Type: VHT20, CH06





ANT F:

Modulation Type: VHT20, CH11



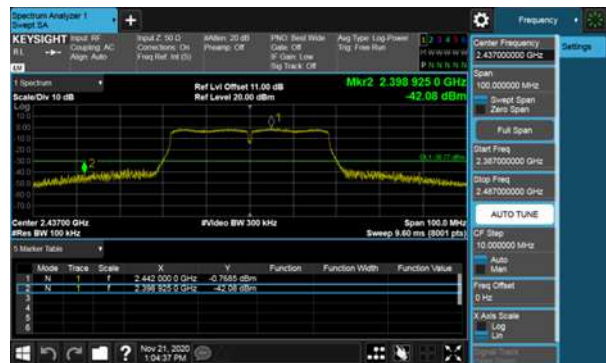
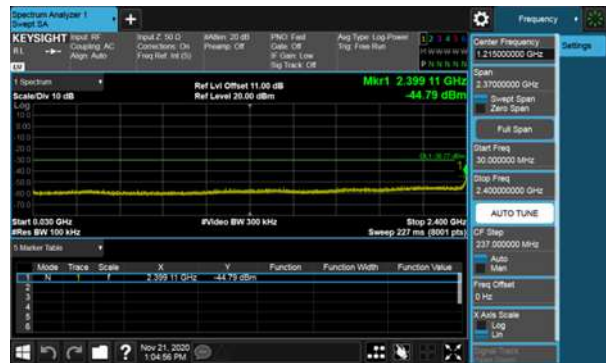


ANT F:

Modulation Type: VHT40, CH03



Modulation Type: VHT40, CH06





ANT F:

Modulation Type: VHT40, CH09



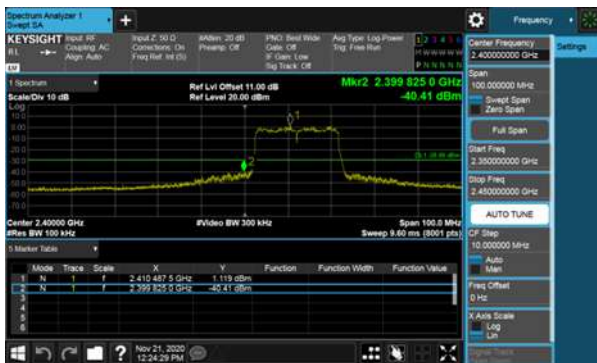


ANT F:

Modulation Type: 11ax HE20, CH01



Modulation Type: 11ax HE20, CH06





Keysight Spectrum Analyzer
 Input RF: 20 dBm
 Center Freq: 2.16330 GHz
 Span: 2.370000 GHz
 Res BW: 300 kHz
 SSB: Off
 Video BW: 300 kHz
 Scale: 10 dB
 Start Freq: 0.030 GHz
 Stop Freq: 2.400 GHz
 Sweep: 221 ms (8001 pts)

Measurement Data:

Trace	Scale	Freq	Level	Function	Function Width	Function Value
1	10 dB	2.16330 GHz	-51.72 dBm			



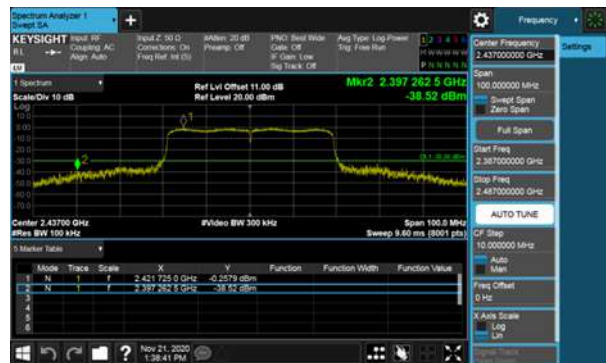


ANT F:

Modulation Type: 11ax HE40, CH03



Modulation Type: 11ax HE40, CH06





ANT F:

Modulation Type: 11ax HE40, CH09





ANT G:

Modulation Type: 802.11b, CH 01



Modulation Type: 802.11b, CH 06





ANT G:
Modulation Type: 802.11b, CH 11





ANT G:

Modulation Type: 802.11g, CH 01



Modulation Type: 802.11g, CH 06





ANT G:
Modulation Type: 802.11g, CH 11



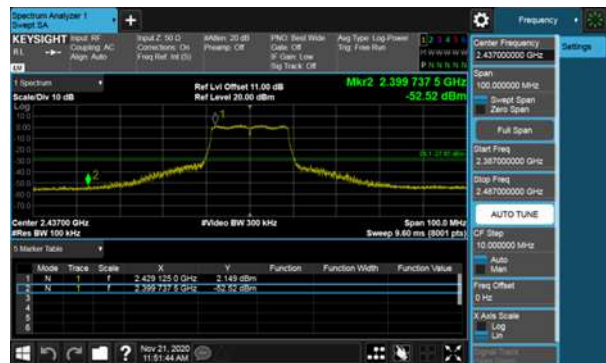
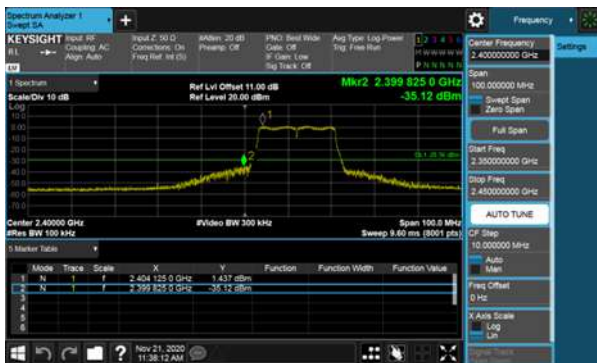


ANT G:

Modulation Type: VHT20, CH01



Modulation Type: VHT20, CH06





ANT G:

Modulation Type: VHT20, CH11





ANT G:

Modulation Type: VHT40, CH03



Modulation Type: VHT40, CH06





ANT G:

Modulation Type: VHT40, CH09





ANT G:

Modulation Type: 11ax HE20, CH01



Modulation Type: 11ax HE20, CH06





ANT G:

Modulation Type: 11ax HE20, CH11



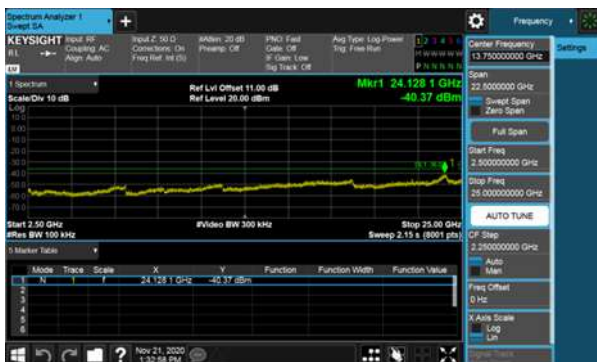


ANT G:

Modulation Type: 11ax HE40, CH03



Modulation Type: 11ax HE40, CH06





ANT G:

Modulation Type: 11ax HE40, CH09



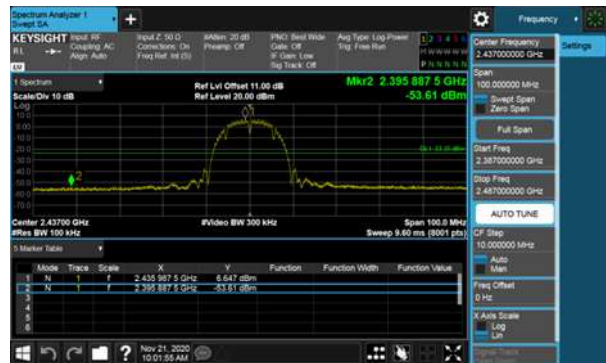


ANT H:

Modulation Type: 802.11b, CH 01



Modulation Type: 802.11b, CH 06





ANT H:

Modulation Type: 802.11b, CH 11

