



FCC RADIO TEST REPORT

Applicant : Everest Networks, Inc.
Address : 205 Ravendale Dr, Mountain View, CA 94043, USA
Equipment : AP300 3-Radio Omni-Directional Indoor Access Point
Model No. : AP23I300
Trade Name : **EVEREST**
NETWORKS
FCC ID : 2AGMRAP23I300

I HEREBY CERTIFY THAT :

The sample was received on Jul. 07, 2018 and the testing was carried out on Aug. 20, 2018 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:

Tested by:

Mark Liao / Assistant Manager

Spree Yei / Engineer

Laboratory Accreditation:

CerpPASS Technology Corporation Test Laboratory





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History of this test report

Report No.	Issue Date	Description
TEF1811129	Nov. 30, 2018	Original



1. Summary of Test Procedure and Test Results

1.1 Applicable Standards

ANSI C63.4:2014

ANSI C63.10:2013

FCC Rules and Regulations Part 15 Subpart C §15.247

KDB558074

KDB662911

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

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



2. Test Configuration of Equipment under Test

2.1 Feature of Equipment and Model Description

Equipment	AP300 3-Radio Omni-Directional Indoor Access Point
Model No.	AP23I300
Brand Name	EVEREST NETWORKS
Product Description	Please refer to User's Manual.
Connecting I/O Port(s)	Please refer to User's Manual.
AC ADAPTER	Adapter Brand: APD Model No.: WA-24Q12R I/P: AC 100-240V~, 50-60Hz, 0.7A MAX. ; O/P: DC 12V, 2.0A
PoE	48Vdc/0.67A
Memo	A1
Frequency Range	802.11b/g/n: 2400~2483.5 MHz 802.11a/n/ac: 5150~5250 MHz, 5725~5850 MHz
Modulation Type	OFDM, DSSS
Data Rate	2.4GHz: 802.11b: 1, 2, 5.5, 11Mbps 802.11g: 6, 9, 12, 18, 24, 36, 48, 54Mbps 802.11n: MCS0 – MCS15, HT20/40, VHT20/40 5GHz: 802.11a: 6, 9, 12, 18, 24, 36, 48, 54Mbps 802.11n: MCS0 – MCS15, HT20/40 802.11ac: MCS0 – MCS9, VHT20/40/80
Antenna Type	PIFA Antenna
Antenna Gain	2.4GHz: ANT A: 4.85 dBi ; ANT B: 4.4 dBi 5150MHz-5250MHz: ANT A: 4.18 dBi ; ANT B: 4.81 dBi 5725MHz-5850MHz: ANT A: 4.9 dBi ; ANT B: 4.18 dBi

Note:

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



2.2 Carrier Frequency of Channels

802.11b, 802.11g, 802.11n HT20, VHT20 (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 (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 C63.4.
- b. The complete test system included remote workstation and EUT for RF test. The remote workstation included Notebook.
- c. An executive program, "QDART:39.1" under WIN 8 was executed to transmit and receive data via WLAN.
- d. The following test modes were performed for the test:

Conducted Emissions from the AC mains power ports	
Test Mode	Operating Description
1	802.11b (1Mbps)
2	802.11g (6Mbps)
3	VHT20 (6.5Mbps)
4	VHT40 (13.5Mbps)
caused "Test Mode 1" 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	VHT20 (6.5Mbps), Power from Adapter
4	VHT40 (13.5Mbps), Power from Adapter
5	802.11b (1Mbps), Power from PoE
6	802.11g (6Mbps), Power from PoE
7	VHT20 (6.5Mbps), Power from PoE
8	VHT40 (13.5Mbps), Power from PoE
caused "Test Mode 1,5" generated the worst case, they were 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	VHT20 (6.5Mbps), Power from Adapter
4	VHT40 (13.5Mbps), Power from Adapter
caused "Test Mode 1~4" generated the worst case, they were reported as the final data.	

- Note: 1. Non-Beamforming was the worst case of test result, and record in this test report.
- 2. The Thermal Pad of P300K was the worst case, so it was used for the test result.

2.4 Description of Test System

Device	Manufacturer	Model No.	Description
Remote workstation			
Notebook	DELL	LatitudeE5450/5450	Power Cable, Unshielding, 1.8m



2.5 General Information of Test

Test Site	CerpPASS Technology Corporation Test Laboratory Address: No.10, Ln. 2, Lianfu St., Luzhu Dist., Taoyuan City 33848, Taiwan (R.O.C.) Tel:+886-3-3226-888 Fax:+886-3-3226-881 Address: No.68-1, Shihbachongsi, Shihding Township, New Taipei City 223, Taiwan, R.O.C. Tel: +886-2-2663-8582	
	FCC	TW1079, TW1061, TW1439
	IC	4934E-1, 4934E-2
	VCCI	T-2205 for Telecommunication Test C-4663 for Conducted emission test R-4399, 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.	

2.6 Measurement Uncertainty

Measurement Item	Uncertainty
Radiated Spurious Emission(9KHz~30MHz)	±5.007dB
Radiated Spurious Emission(30MHz~1GHz)	±5.157dB
Radiated Spurious Emission(1GHz~18GHz)	±6.383dB
Radiated Spurious Emission(18GHz~40GHz)	±6.648dB
Conducted Spurious Emission	±1.253dB
6dB Bandwidth	±6.89%
Power Spectral Density	±0.630dB
26 dB Occupied Bandwidth	±6.10%
Frequency Stability	±375KHz
Channel Frequencies Separation	±6.10%
20dB Bandwidth	±6.12%
Dwell Time	±1.34%
Peak Output Power(Conducted Power Meter)	±0.86dB
Temperature	±1.2°C
Humidity	±2.7%
Channel Move Time	±4.53%
Channel Closing Transmission Time	±6.61%
Threshold	±0.631dB
Non occupancy period	±1.17%



3. Test Equipment and Ancillaries Used for Tests

Instrument	Manufacturer	Model No.	Serial No.	Calibration Date	Valid Date
EMI Receiver	R&S	ESCI3	100821	2017/09/08	2018/09/07
LISN	Schwarzbeck	NSLK 8127	8127-568	2018/02/26	2019/02/25
Pulse Limiter	R&S	ESH3-Z2	101934	2018/02/22	2019/02/21
Bilog Antenna	Schwarzbeck	VULB9168	275	2017/08/31	2018/08/30
Active Loop Antenna	EMCO	6507	40855	2018/05/22	2019/05/21
Horn Antenna	EMCO	3115	31601	2017/09/11	2018/09/10
Horn Antenna	EMCO	3116	31970	2018/03/23	2019/03/22
Preamplifier	EM	EM330	60658	2017/09/08	2018/09/07
Preamplifier	EMC INSTRUMENTS	EMC051845SE	980333	2017/09/20	2018/09/19
Preamplifier	EMC INSTRUMENTS	EMC184045	980065	2017/11/10	2018/11/09
MXG MW Analog Signal Generator	KEYSIGHT	N5183A	MY50142931	2018/04/10	2019/04/09
Spectrum Analyzer	R&S	FSP40	100219	2018/07/03	2019/07/02
BLUETOOTH TESTER	R&S	CBT	101133	2018/04/02	2019/04/01
Attenuator	KEYSIGHT	8491B	MY39250705	2017/09/04	2018/09/03
Rotary Attenuator	Agilent	8495B	MY42146680	2018/03/29	2019/03/28
Temp & Humi chamber	T-MACHINE	TMJ-9712	T-12-040111	2017/09/04	2018/09/03
Series Power Meter	Anritsu	ML2495A	1224005	2018/03/23	2019/03/22
Power Sensor	Anritsu	MA2411B	1207295	2018/03/23	2019/03/22
Software	Farad	Ez-EMC	ver.ct3a1	N/A	N/A
Software	AUDIX	E3	V8.2014-8-6	N/A	N/A
Software	Keysight	N7607B Signal Studio	V3.0.0.0	N/A	N/A
Software	Keysight	Inservice MonitorUtility	N/A	N/A	N/A



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	2.4GHz: ANT A: 4.85 dBi ; ANT B: 4.4 dBi 5150MHz-5250MHz: ANT A: 4.18 dBi ; ANT B: 4.81 dBi 5725MHz-5850MHz: ANT A: 4.9 dBi ; ANT B: 4.18 dBi

(Non-Beamforming)

2412-2462MHz
For Power directional gain= $G_{ant}= 4.85$ dBi For PSD directional gain = $10 \log[(10^{G1/20} + 10^{G2/20})^2 / NANT]$ = 7.64 (dBi)
5150MHz -5250MHz
For Power directional gain= $G_{ant}= 4.81$ dBi For PSD directional gain = $10 \log[(10^{G1/20} + 10^{G2/20})^2 / NANT]$ = 7.51 (dBi)
5725MHz -5850MHz
For Power directional gain= $G_{ant}= 4.9$ dBi For PSD directional gain = $10 \log[(10^{G1/20} + 10^{G2/20})^2 / NANT]$ = 7.56 (dBi)

PSD directional gain is exceed to 6dBi, the limit is reduced accordingly.

(Beamforming)

2412-2462MHz
For Power directional gain = $10 \log[(10^{G1/20} + 10^{G2/20})^2 / NANT] = 7.64$ dBi For PSD directional gain = $10 \log[(10^{G1/20} + 10^{G2/20})^2 / NANT] = 7.64$ (dBi)
5150MHz -5250MHz
For Power directional gain= $10 \log[(10^{G1/20} + 10^{G2/20})^2 / NANT] = 7.51$ (dBi) For PSD directional gain = $10 \log[(10^{G1/20} + 10^{G2/20})^2 / NANT] = 7.51$ (dBi)
5725MHz -5850MHz
For Power directional gain= $10 \log[(10^{G1/20} + 10^{G2/20})^2 / NANT] = 7.56$ (dBi) For PSD directional gain = $10 \log[(10^{G1/20} + 10^{G2/20})^2 / NANT] = 7.56$ (dBi)

Power directional gain is exceed to 6dBi, the limit is reduced accordingly.

PSD directional gain is exceed to 6dBi, the limit is reduced accordingly.



5. Test of AC Power Line Conducted Emission

5.1 Test Limit

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

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

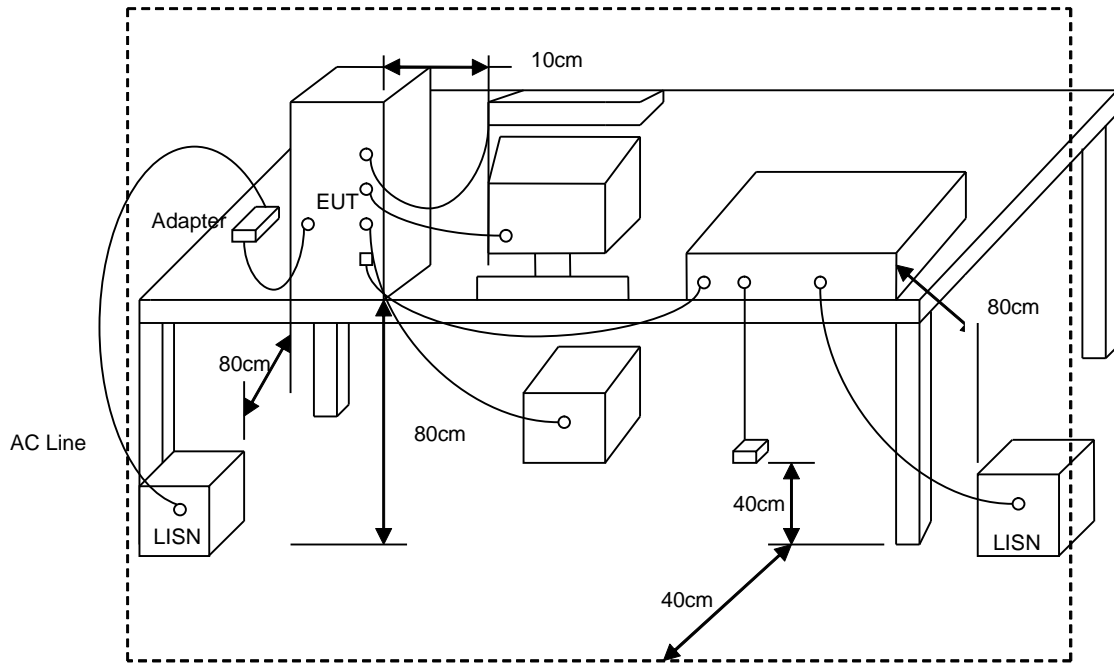
*Decreases with the logarithm of the frequency.

5.2 Test Procedures

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



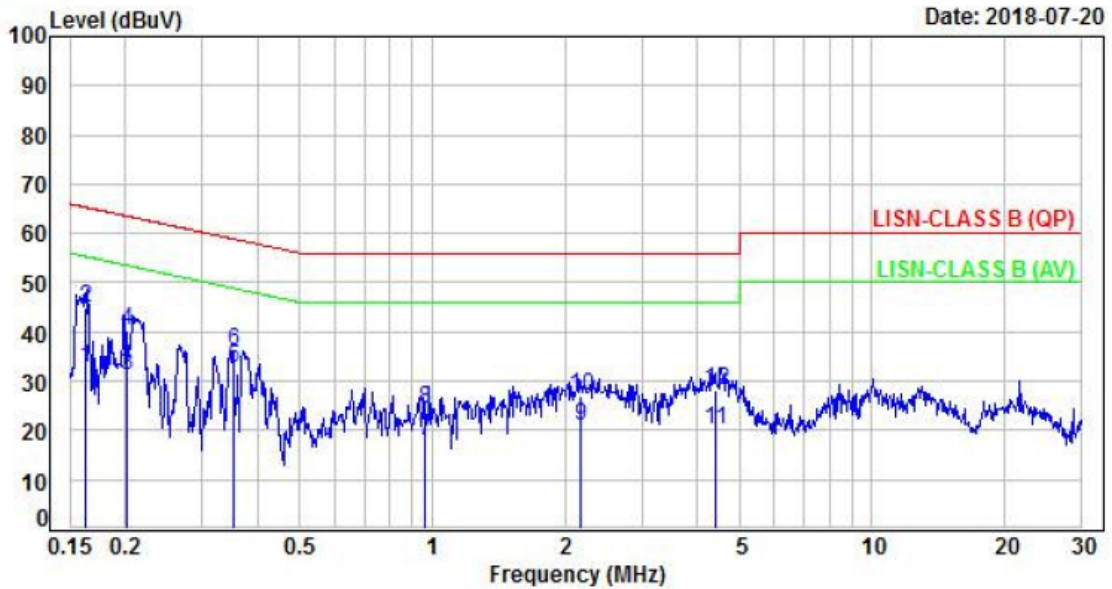
5.3 Typical Test Setup





5.4 Test Result and Data

Power	: AC 120V	Pol/Phase	: LINE
Test Mode	: Mode 1	Temperature	: 20 °C
Test Date	: Jul. 20, 2018	Humidity	: 40 %



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector	P/F
1	0.16	9.70	22.86	32.56	55.36	-22.80	Average	P
2	0.16	9.70	35.00	44.70	65.36	-20.66	QP	P
3	0.20	9.69	21.36	31.05	53.53	-22.48	Average	P
4	0.20	9.69	30.69	40.38	63.53	-23.15	QP	P
5	0.35	9.70	22.82	32.52	48.89	-16.37	Average	P
6	0.35	9.70	26.57	36.27	58.89	-22.62	QP	P
7	0.96	9.73	8.31	18.04	46.00	-27.96	Average	P
8	0.96	9.73	14.77	24.50	56.00	-31.50	QP	P
9	2.18	9.80	11.09	20.89	46.00	-25.11	Average	P
10	2.18	9.80	17.32	27.12	56.00	-28.88	QP	P
11	4.42	9.85	10.18	20.03	46.00	-25.97	Average	P
12	4.42	9.85	18.40	28.25	56.00	-27.75	QP	P

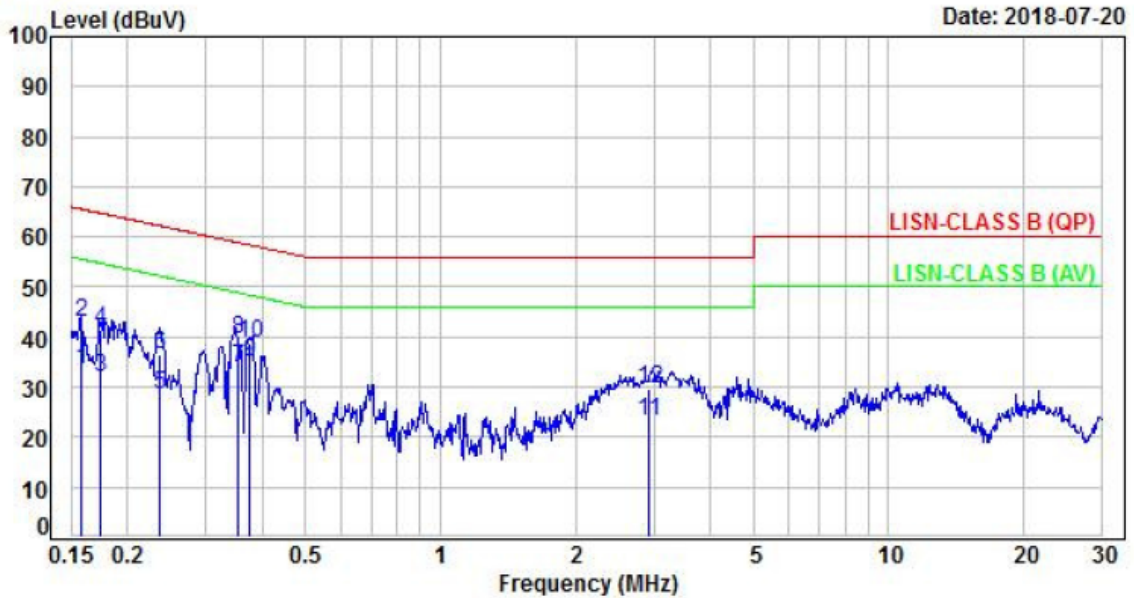
Note: Level = Reading + Factor

Margin = Level – Limit

Factor = (LISN, ISN, PLC or current probe) Factor + Cable Loss+ Attenuator



Power	: AC 120V	Pol/Phase	: NEUTRAL
Test Mode	: Mode 1	Temperature	: 20 °C
Test Date	: Jul. 20, 2018	Humidity	: 40 %



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector	P/F
1	0.16	9.70	23.80	33.50	55.56	-22.06	Average	P
2	0.16	9.70	33.45	43.15	65.56	-22.41	QP	P
3	0.17	9.70	22.22	31.92	54.79	-22.87	Average	P
4	0.17	9.70	31.89	41.59	64.79	-23.20	QP	P
5	0.24	9.70	18.89	28.59	52.23	-23.64	Average	P
6	0.24	9.70	26.86	36.56	62.23	-25.67	QP	P
7	0.35	9.70	24.13	33.83	48.85	-15.02	Average	P
8	0.35	9.70	29.75	39.45	58.85	-19.40	QP	P
9	0.38	9.70	25.37	35.07	48.37	-13.30	Average	P
10	0.38	9.70	29.05	38.75	58.37	-19.62	QP	P
11	2.92	9.83	13.30	23.13	46.00	-22.87	Average	P
12	2.92	9.83	19.77	29.60	56.00	-26.40	QP	P

Note: Level = Reading + Factor
 Margin = Level – Limit
 Factor = (LISN, ISN, PLC or current probe) Factor + Cable Loss+ Attenuator



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

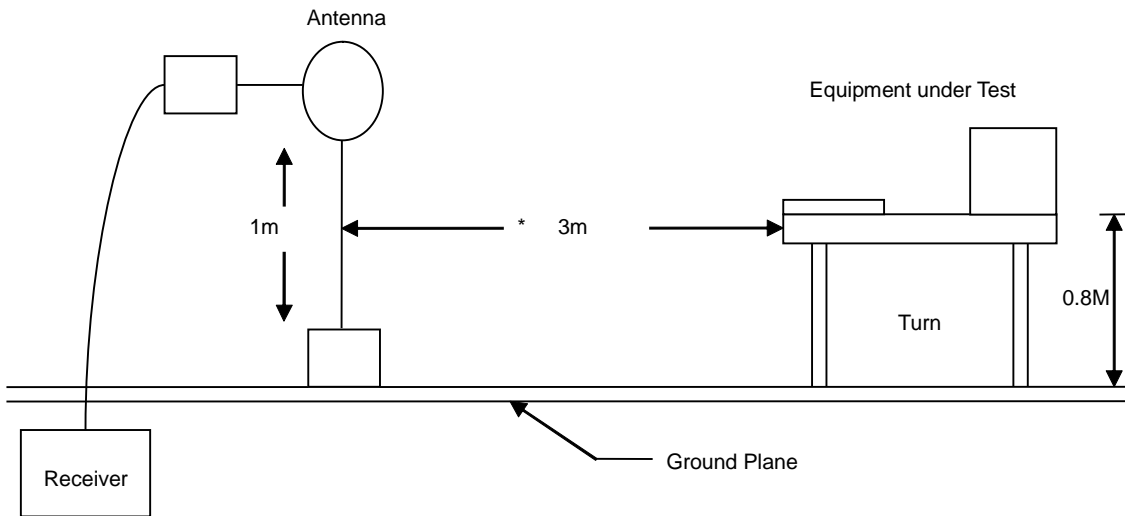
6.2 Test Procedures

- The EUT was placed on a rotatable table top 0.8 meter above ground.
- The EUT was set 3 meters from the interference receiving antenna which was mounted on the top of a variable height antenna tower.
- The table was rotated 360 degrees to determine the position of the highest radiation.
- 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.
- 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.
- Set the test-receiver system to Peak or CISPR quasi-peak Detect Function and specified bandwidth with Maximum Hold Mode.
- 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.
- 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.
- "Cone of radiation" has been considered to be 3dB bandwidth of the measurement antenna.

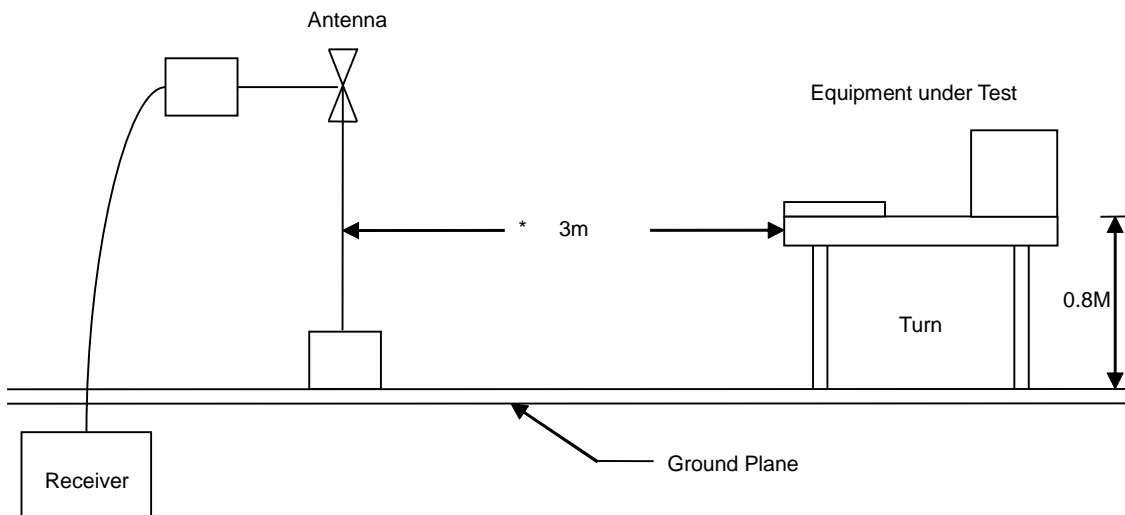


6.3 Typical Test Setup

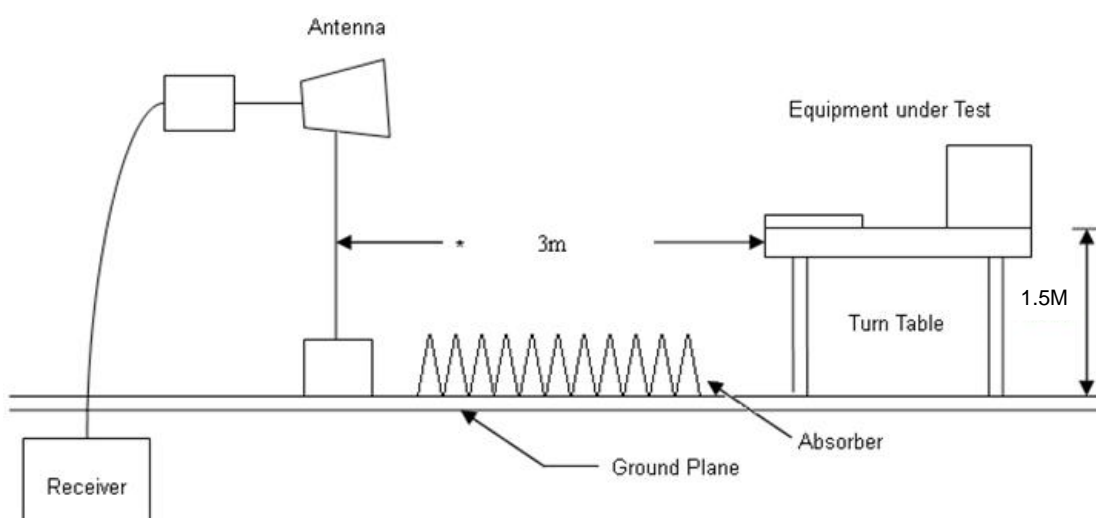
Below 30MHz test setup



30MHz- 1GHz Test Setup



Above 1GHz Test Setup



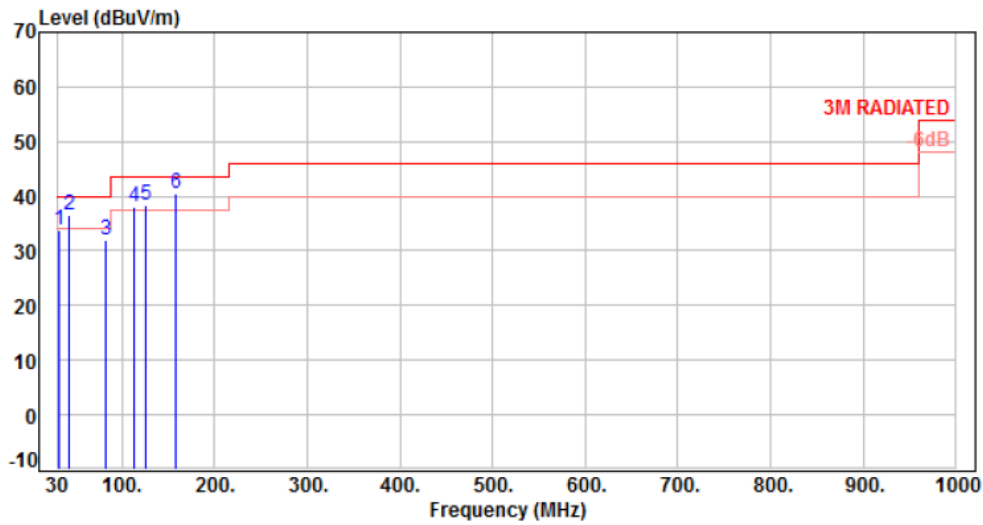


6.4 Test Result and Data (9KHz ~ 30MHz)

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

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

Power	: AC 120V	Pol/Phase	: VERTICAL
Test Mode	: Mode 1	Temperature	: 23 °C
Test Date	: Jul. 07, 2018	Humidity	: 61 %

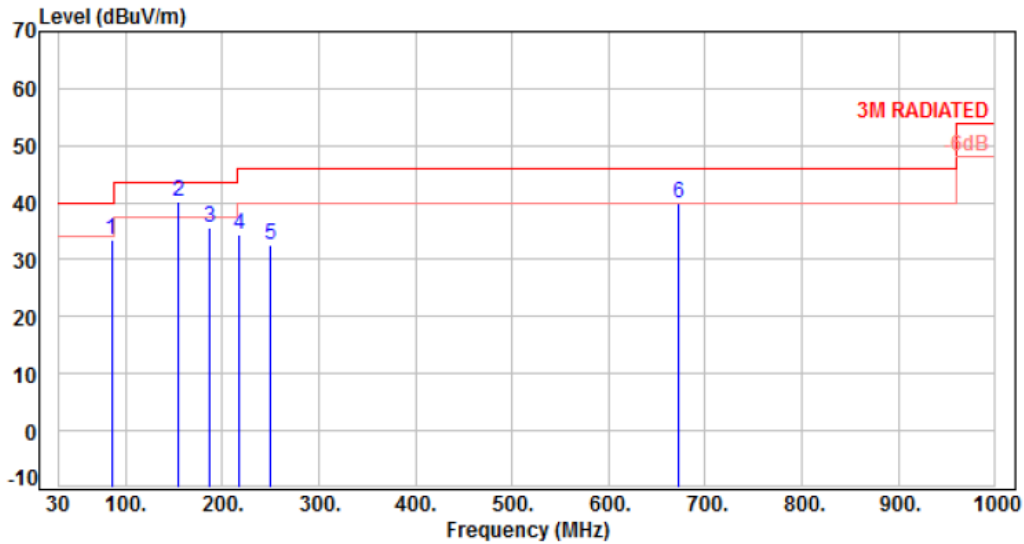


No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	32.91	-11.64	45.30	33.66	40.00	-6.34	QP	100	173	P
2	42.61	-10.93	47.33	36.40	40.00	-3.60	QP	100	152	P
3	82.38	-15.56	47.51	31.95	40.00	-8.05	QP	103	33	P
4	112.45	-14.00	52.04	38.04	43.50	-5.46	Peak	400	0	P
5	125.06	-12.88	51.10	38.22	43.50	-5.28	Peak	400	0	P
6	158.04	-10.88	51.34	40.46	43.50	-3.04	QP	100	20	P

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



Power	: AC 120V	Pol/Phase	: HORIZONTAL
Test Mode	: Mode 1	Temperature	: 23 °C
Test Date	: Jul. 07, 2018	Humidity	: 61 %

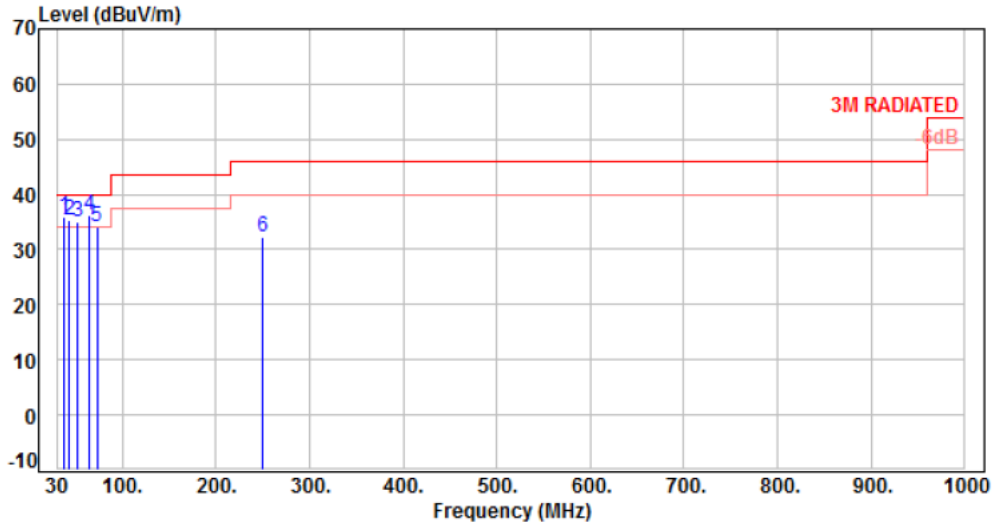


No.	Frequency (MHz)	Factor (dB)	Reading (dBUV)	Level (dBUV/m)	Limit (dBUV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	85.29	-16.00	49.58	33.58	40.00	-6.42	Peak	100	0	P
2	155.13	-10.95	51.06	40.11	43.50	-3.39	QP	150	126	P
3	186.17	-12.58	48.15	35.57	43.50	-7.93	Peak	100	0	P
4	218.18	-12.90	47.17	34.27	46.00	-11.73	Peak	100	0	P
5	250.19	-11.64	44.15	32.51	46.00	-13.49	Peak	100	0	P
6	672.14	-1.80	41.70	39.90	46.00	-6.10	Peak	100	0	P

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



Power	: PoE	Pol/Phase	: VERTICAL
Test Mode	: Mode 5	Temperature	: 23 °C
Test Date	: Jul. 07, 2018	Humidity	: 61 %

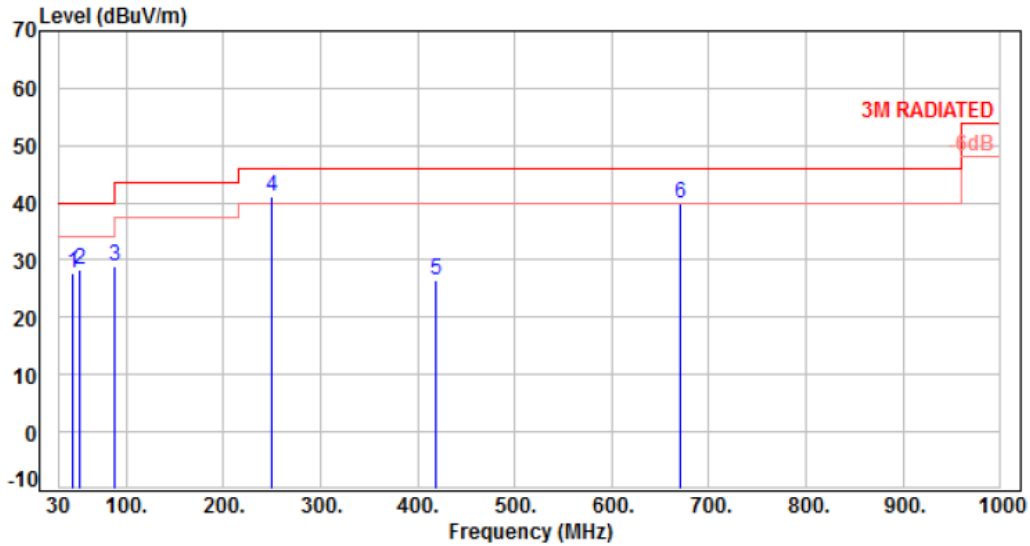


No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	36.79	-11.44	47.34	35.90	40.00	-4.10	QP	100	285	P
2	43.58	-10.86	46.16	35.30	40.00	-4.70	QP	100	266	P
3	51.34	-10.69	45.64	34.95	40.00	-5.05	QP	100	325	P
4	64.92	-12.05	48.43	36.38	40.00	-3.62	Peak	400	0	P
5	72.68	-13.52	47.52	34.00	40.00	-6.00	Peak	400	0	P
6	250.19	-11.64	43.82	32.18	46.00	-13.82	Peak	400	0	P

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



Power	: PoE	Pol/Phase	: HORIZONTAL
Test Mode	: Mode 5	Temperature	: 23 °C
Test Date	: Jul. 07, 2018	Humidity	: 61 %



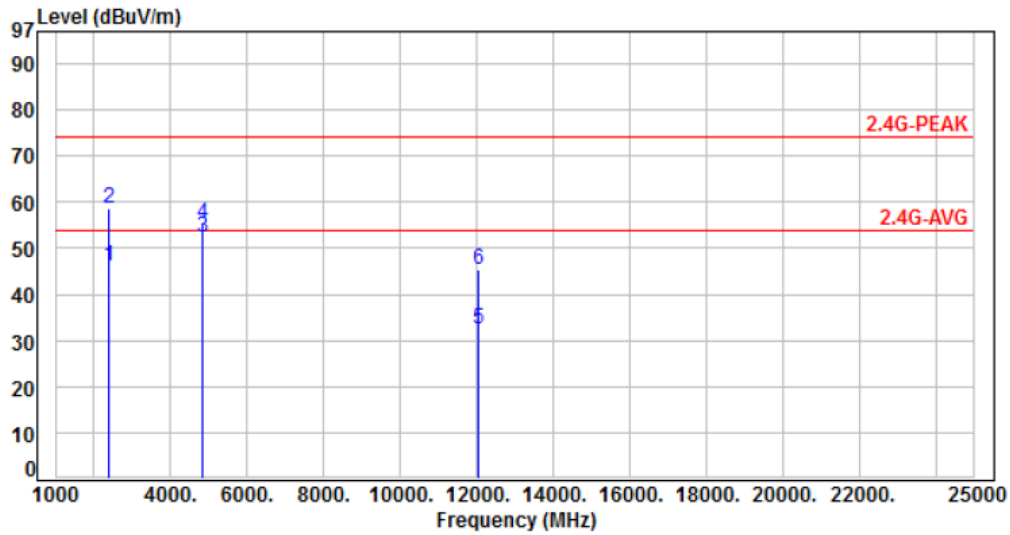
No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	44.55	-10.80	38.45	27.65	40.00	-12.35	Peak	100	0	P
2	51.34	-10.69	39.02	28.33	40.00	-11.67	Peak	100	0	P
3	88.20	-16.43	45.37	28.94	43.50	-14.56	Peak	100	0	P
4	250.19	-11.64	52.86	41.22	46.00	-4.78	Peak	100	0	P
5	418.97	-6.61	32.98	26.37	46.00	-19.63	Peak	100	0	P
6	670.20	-1.83	41.80	39.97	46.00	-6.03	Peak	100	0	P

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



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

Power	: AC 120V	Pol/Phase	: VERTICAL
Test Mode	: Mode 1, CH01	Temperature	: 23 °C
Test Date	: Jul. 07, 2018	Humidity	: 61 %

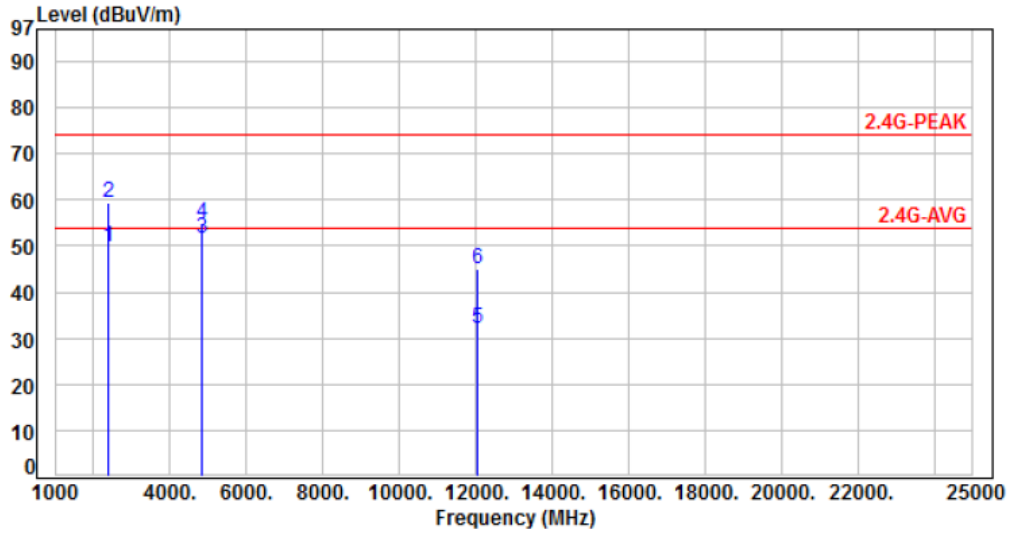


No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	2390.00	-15.96	61.93	45.97	54.00	-8.03	Average	359	360	P
2	2390.00	-15.96	74.54	58.58	74.00	-15.42	Peak	359	360	P
3	4824.00	-8.80	61.33	52.53	54.00	-1.47	Average	132	314	P
4	4824.00	-8.80	63.99	55.19	74.00	-18.81	Peak	132	314	P
5	12060.00	1.21	31.12	32.33	54.00	-21.67	Average	100	360	P
6	12060.00	1.21	44.09	45.30	74.00	-28.70	Peak	100	360	P

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



Power	: AC 120V	Pol/Phase	: HORIZONTAL
Test Mode	: Mode 1, CH01	Temperature	: 23 °C
Test Date	: Jul. 07, 2018	Humidity	: 61 %

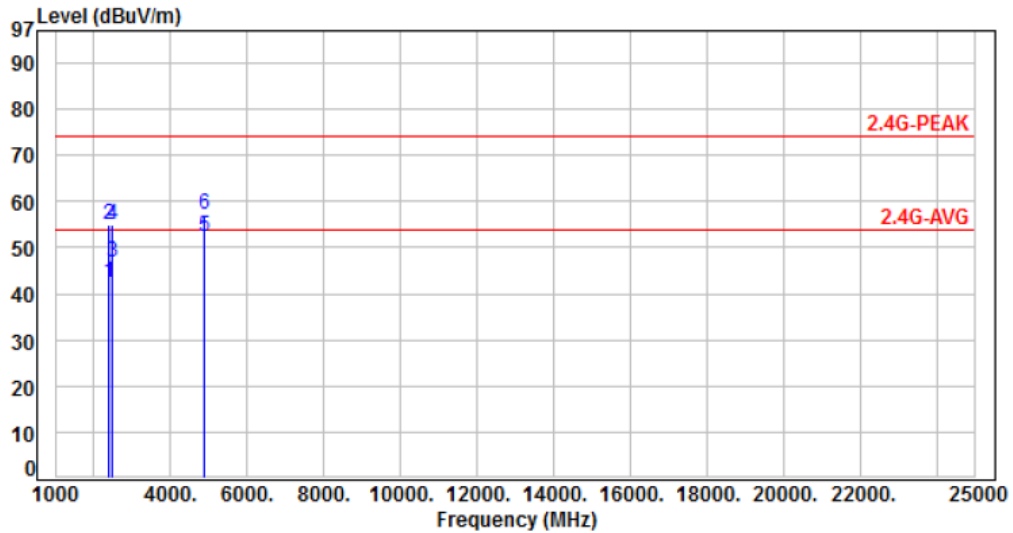


No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	2390.00	-15.96	65.90	49.94	54.00	-4.06	Average	177	286	P
2	2390.00	-15.96	75.28	59.32	74.00	-14.68	Peak	177	286	P
3	4824.00	-8.80	60.57	51.77	54.00	-2.23	Average	116	337	P
4	4824.00	-8.80	63.60	54.80	74.00	-19.20	Peak	116	337	P
5	12060.00	1.21	30.70	31.91	54.00	-22.09	Average	100	120	P
6	12060.00	1.21	43.94	45.15	74.00	-28.85	Peak	100	120	P

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



Power	: AC 120V	Pol/Phase	: VERTICAL
Test Mode	: Mode 1, CH06	Temperature	: 23 °C
Test Date	: Jul. 07, 2018	Humidity	: 61 %

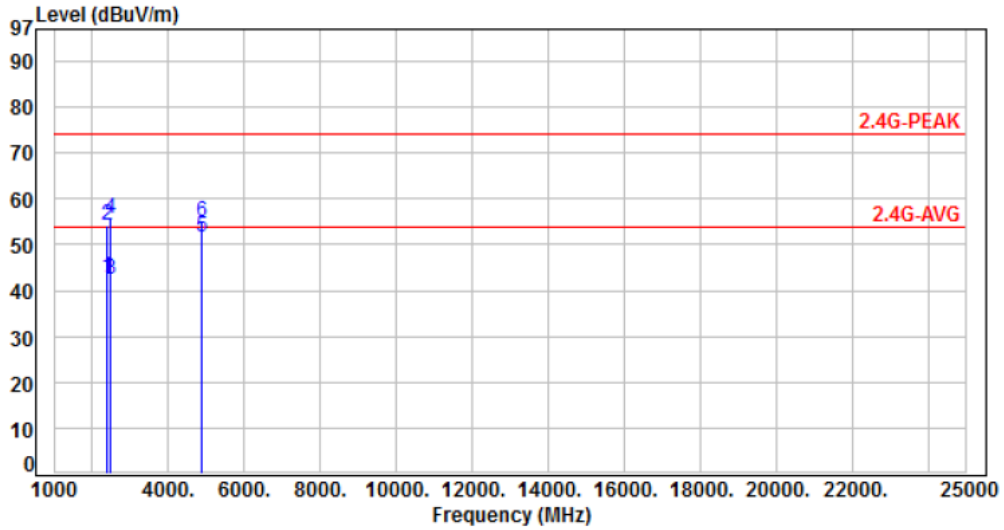


No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	2390.00	-15.96	58.21	42.25	54.00	-11.75	Average	151	32	P
2	2390.00	-15.96	71.10	55.14	74.00	-18.86	Peak	151	32	P
3	2483.50	-15.65	62.43	46.78	54.00	-7.22	Average	151	32	P
4	2483.50	-15.65	70.69	55.04	74.00	-18.96	Peak	151	32	P
5	4874.00	-8.65	61.00	52.35	54.00	-1.65	Average	114	313	P
6	4874.00	-8.65	65.65	57.00	74.00	-17.00	Peak	114	313	P

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



Power	: AC 120V	Pol/Phase	: HORIZONTAL
Test Mode	: Mode 1, CH06	Temperature	: 23 °C
Test Date	: Jul. 07, 2018	Humidity	: 61 %

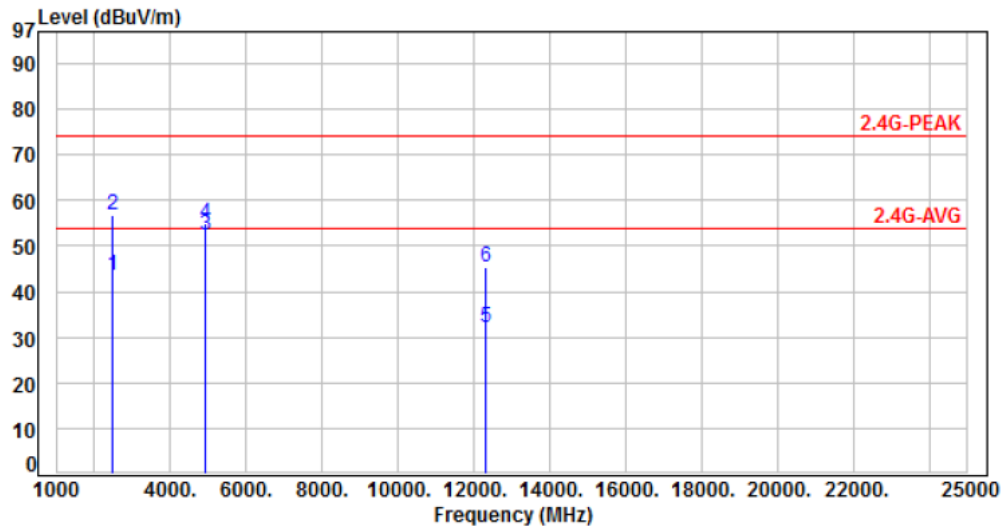


No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	2390.00	-15.96	58.66	42.70	54.00	-11.30	Average	263	354	P
2	2390.00	-15.96	70.35	54.39	74.00	-19.61	Peak	263	354	P
3	2483.50	-15.65	58.15	42.50	54.00	-11.50	Average	263	354	P
4	2483.50	-15.65	71.36	55.71	74.00	-18.29	Peak	263	354	P
5	4874.00	-8.65	60.44	51.79	54.00	-2.21	Average	130	334	P
6	4874.00	-8.65	63.55	54.90	74.00	-19.10	Peak	130	334	P

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



Power	: AC 120V	Pol/Phase	: VERTICAL
Test Mode	: Mode 1, CH11	Temperature	: 23 °C
Test Date	: Jul. 07, 2018	Humidity	: 61 %

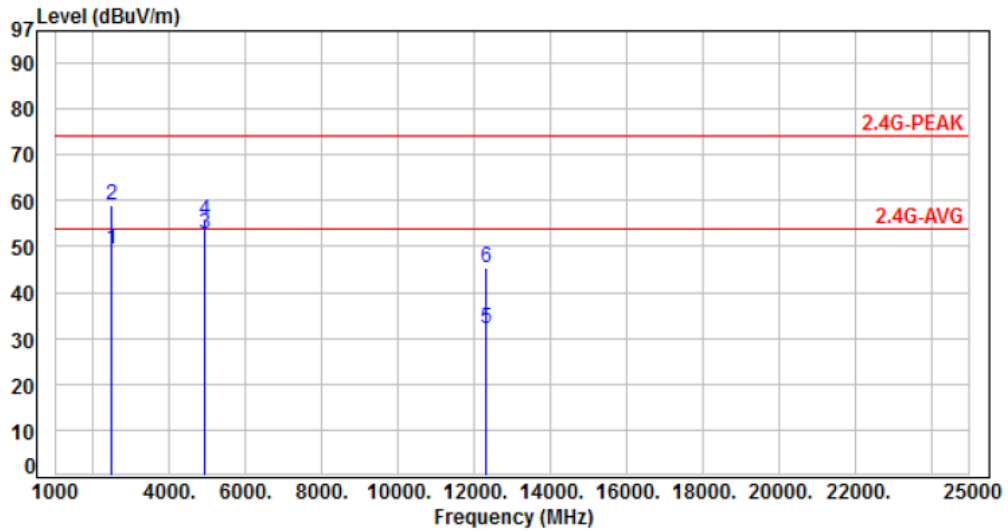


No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	2483.50	-15.65	59.20	43.55	54.00	-10.45	Average	337	360	P
2	2483.50	-15.65	72.60	56.95	74.00	-17.05	Peak	337	360	P
3	4924.00	-8.49	60.85	52.36	54.00	-1.64	Average	170	318	P
4	4924.00	-8.49	63.59	55.10	74.00	-18.90	Peak	170	318	P
5	12310.00	1.44	30.59	32.03	54.00	-21.97	Average	100	351	P
6	12310.00	1.44	43.82	45.26	74.00	-28.74	Peak	100	351	P

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



Power	: AC 120V	Pol/Phase	: HORIZONTAL
Test Mode	: Mode 1, CH11	Temperature	: 23 °C
Test Date	: Jul. 07, 2018	Humidity	: 61 %

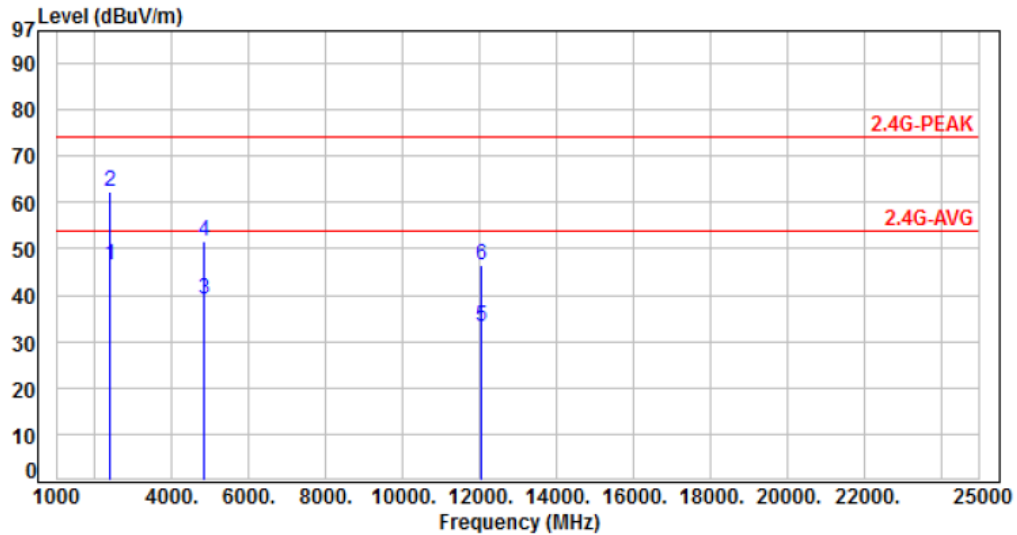


No.	Frequency (MHz)	Factor (dB)	Reading (dBUV)	Level (dBUV/m)	Limit (dBUV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	2483.50	-15.65	64.95	49.30	54.00	-4.70	Average	188	296	P
2	2483.50	-15.65	74.60	58.95	74.00	-15.05	Peak	188	296	P
3	4924.00	-8.49	61.39	52.90	54.00	-1.10	Average	197	191	P
4	4924.00	-8.49	64.34	55.85	74.00	-18.15	Peak	197	191	P
5	12310.00	1.44	30.53	31.97	54.00	-22.03	Average	100	136	P
6	12310.00	1.44	43.86	45.30	74.00	-28.70	Peak	100	136	P

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



Power	: AC 120V	Pol/Phase	: VERTICAL
Test Mode	: Mode 2, CH01	Temperature	: 23 °C
Test Date	: Jul. 09, 2018	Humidity	: 61 %

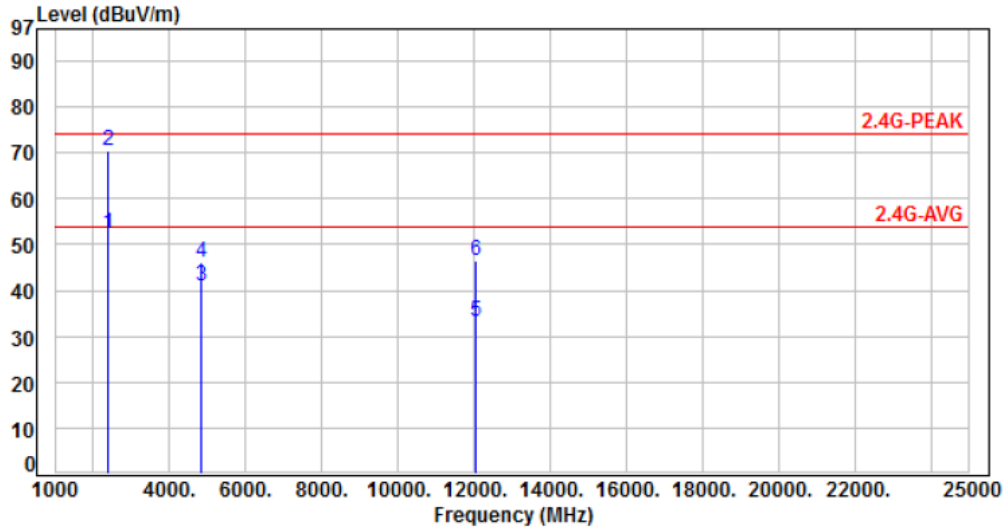


No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	2390.00	-15.96	62.43	46.47	54.00	-7.53	Average	309	316	P
2	2390.00	-15.96	78.35	62.39	74.00	-11.61	Peak	309	316	P
3	4824.00	-8.80	47.86	39.06	54.00	-14.94	Average	119	350	P
4	4824.00	-8.80	60.50	51.70	74.00	-22.30	Peak	119	350	P
5	12060.00	1.21	31.98	33.19	54.00	-20.81	Average	112	326	P
6	12060.00	1.21	45.40	46.61	74.00	-27.39	Peak	112	326	P

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



Power	: AC 120V	Pol/Phase	: HORIZONTAL
Test Mode	: Mode 2, CH01	Temperature	: 23 °C
Test Date	: Jul. 09, 2018	Humidity	: 61 %

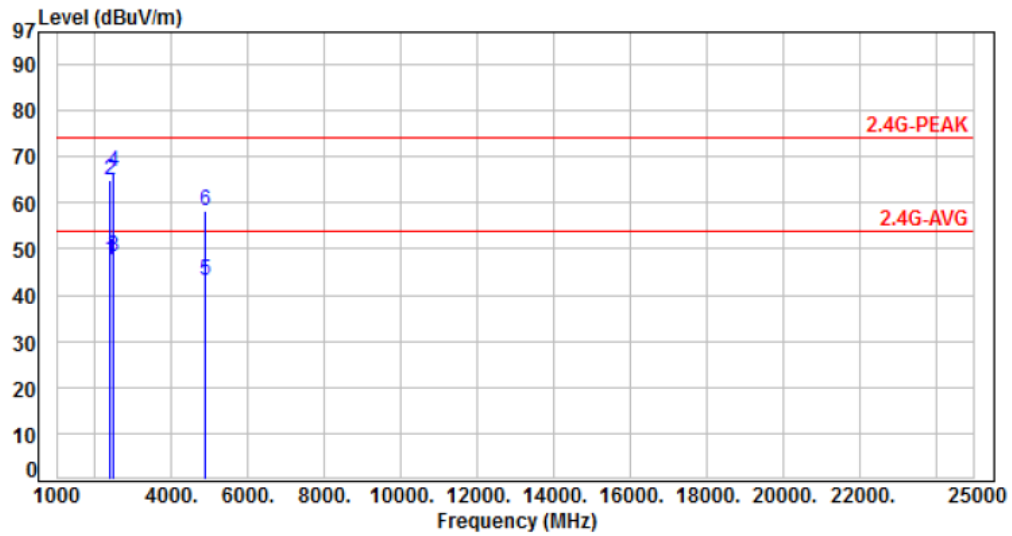


No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	2390.00	-15.96	68.42	52.46	54.00	-1.54	Average	101	31	P
2	2390.00	-15.96	86.32	70.36	74.00	-3.64	Peak	101	31	P
3	4824.00	-8.80	49.71	40.91	54.00	-13.09	Average	100	123	P
4	4824.00	-8.80	54.82	46.02	74.00	-27.98	Peak	100	123	P
5	12060.00	1.21	32.08	33.29	54.00	-20.71	Average	106	38	P
6	12060.00	1.21	45.19	46.40	74.00	-27.60	Peak	106	38	P

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



Power	: AC 120V	Pol/Phase	: VERTICAL
Test Mode	: Mode 2, CH06	Temperature	: 23 °C
Test Date	: Jul. 09, 2018	Humidity	: 61 %

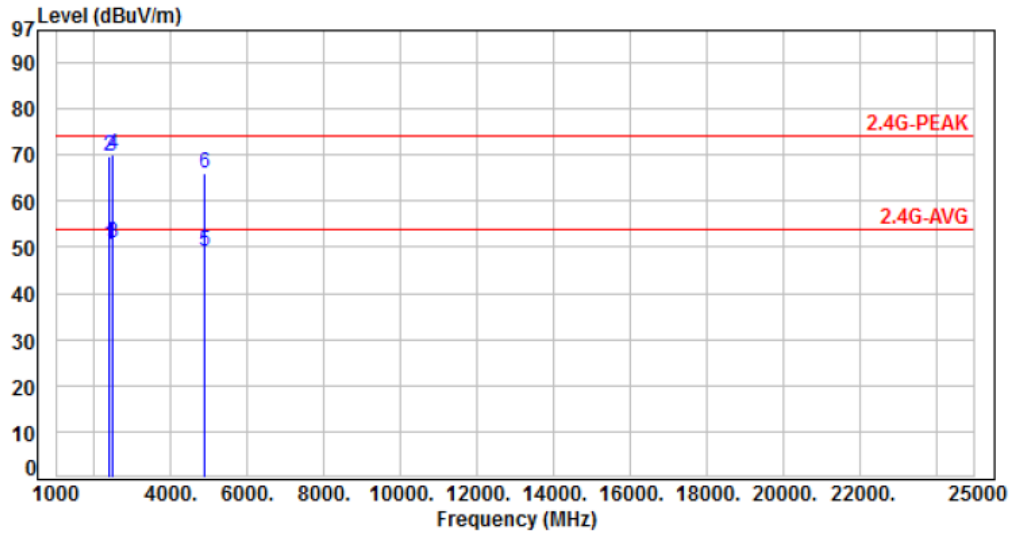


No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	2390.00	-15.96	63.46	47.50	54.00	-6.50	Average	359	329	P
2	2390.00	-15.96	80.95	64.99	74.00	-9.01	Peak	359	329	P
3	2483.50	-15.65	64.05	48.40	54.00	-5.60	Average	370	360	P
4	2483.50	-15.65	82.32	66.67	74.00	-7.33	Peak	370	360	P
5	4874.00	-8.65	51.73	43.08	54.00	-10.92	Average	395	324	P
6	4874.00	-8.65	66.82	58.17	74.00	-15.83	Peak	395	324	P

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



Power	: AC 120V	Pol/Phase	: HORIZONTAL
Test Mode	: Mode 2, CH06	Temperature	: 23 °C
Test Date	: Jul. 09, 2018	Humidity	: 61 %

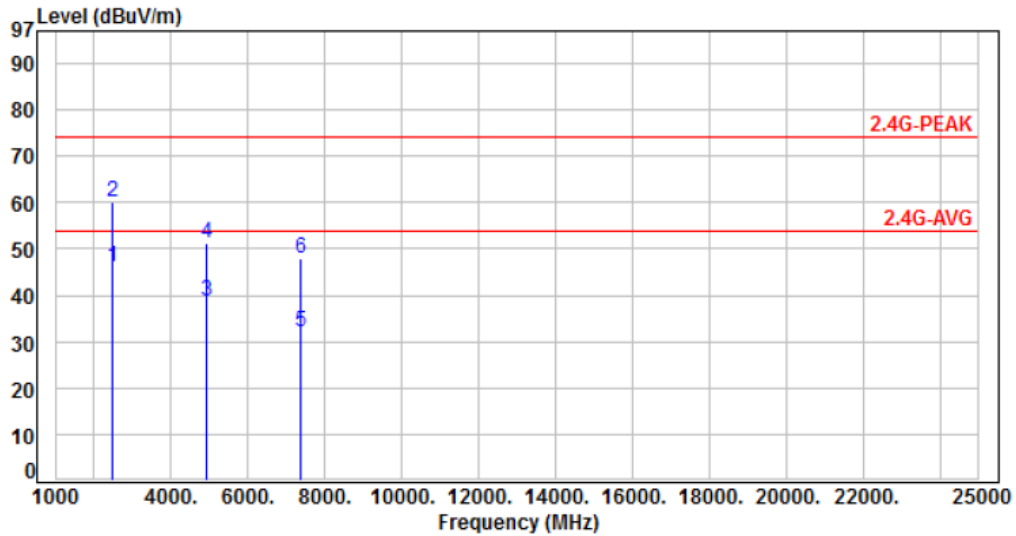


No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	2390.00	-15.96	66.52	50.56	54.00	-3.44	Average	177	288	P
2	2390.00	-15.96	85.58	69.62	74.00	-4.38	Peak	177	288	P
3	2483.50	-15.65	66.51	50.86	54.00	-3.14	Average	216	304	P
4	2483.50	-15.65	85.61	69.96	74.00	-4.04	Peak	216	304	P
5	4874.00	-8.65	57.75	49.10	54.00	-4.90	Average	158	358	P
6	4874.00	-8.65	74.78	66.13	74.00	-7.87	Peak	158	358	P

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



Power	: AC 120V	Pol/Phase	: VERTICAL
Test Mode	: Mode 2, CH11	Temperature	: 23 °C
Test Date	: Jul. 09, 2018	Humidity	: 61 %

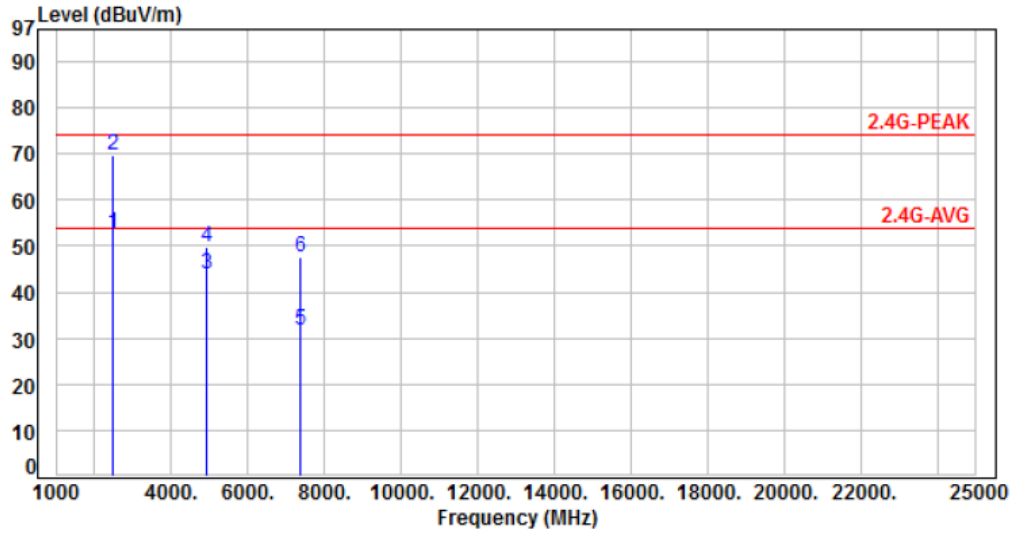


No.	Frequency (MHz)	Factor (dB)	Reading (dBUV)	Level (dBUV/m)	Limit (dBUV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	2483.50	-15.65	61.79	46.14	54.00	-7.86	Average	238	13	P
2	2483.50	-15.65	75.71	60.06	74.00	-13.94	Peak	238	13	P
3	4924.00	-8.49	47.10	38.61	54.00	-15.39	Average	100	349	P
4	4924.00	-8.49	59.77	51.28	74.00	-22.72	Peak	100	349	P
5	7386.00	-4.48	36.57	32.09	54.00	-21.91	Average	100	331	P
6	7386.00	-4.48	52.26	47.78	74.00	-26.22	Peak	100	331	P

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



Power	: AC 120V	Pol/Phase	: HORIZONTAL
Test Mode	: Mode 2, CH11	Temperature	: 23 °C
Test Date	: Jul. 09, 2018	Humidity	: 61 %

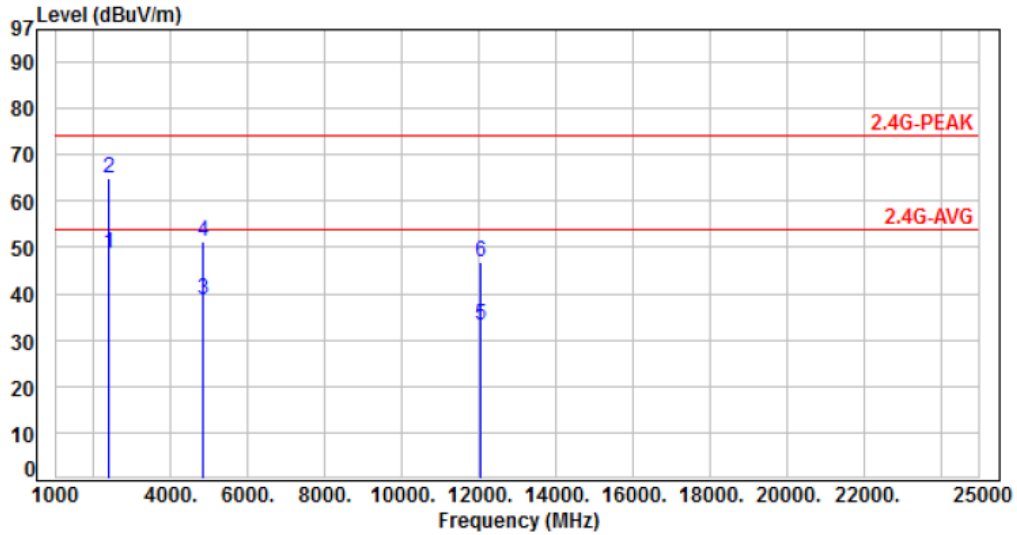


No.	Frequency (MHz)	Factor (dB)	Reading (dBUV)	Level (dBUV/m)	Limit (dBUV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	2483.50	-15.65	68.23	52.58	54.00	-1.42	Average	101	309	P
2	2483.50	-15.65	85.50	69.85	74.00	-4.15	Peak	101	309	P
3	4924.00	-8.49	52.53	44.04	54.00	-9.96	Average	131	81	P
4	4924.00	-8.49	58.34	49.85	74.00	-24.15	Peak	131	81	P
5	7386.00	-4.48	36.36	31.88	54.00	-22.12	Average	128	97	P
6	7386.00	-4.48	51.97	47.49	74.00	-26.51	Peak	128	97	P

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



Power	: AC 120V	Pol/Phase	: VERTICAL
Test Mode	: Mode 3, CH01	Temperature	: 23 °C
Test Date	: Jul. 09, 2018	Humidity	: 61 %

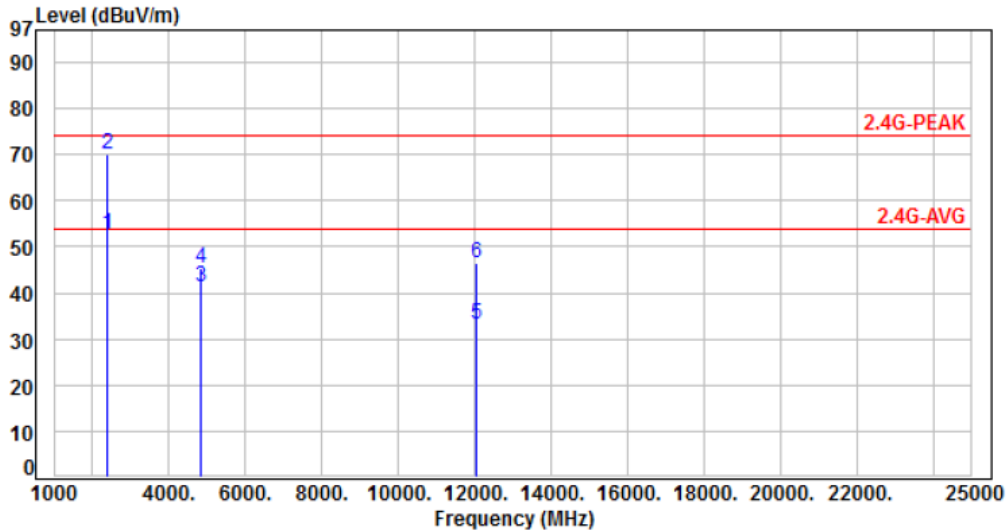


No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	2390.00	-15.96	64.59	48.63	54.00	-5.37	Average	305	314	P
2	2390.00	-15.96	80.96	65.00	74.00	-9.00	Peak	305	314	P
3	4824.00	-8.80	47.51	38.71	54.00	-15.29	Average	104	348	P
4	4824.00	-8.80	60.14	51.34	74.00	-22.66	Peak	104	348	P
5	12060.00	1.21	31.90	33.11	54.00	-20.89	Average	113	332	P
6	12060.00	1.21	45.46	46.67	74.00	-27.33	Peak	113	332	P

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



Power	: AC 120V	Pol/Phase	: HORIZONTAL
Test Mode	: Mode 3, CH01	Temperature	: 23 °C
Test Date	: Jul. 09, 2018	Humidity	: 61 %

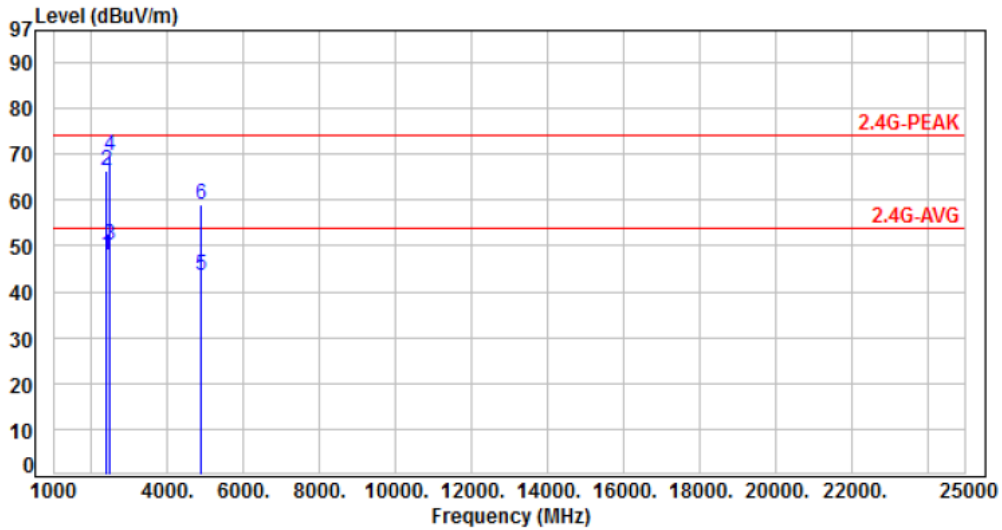


No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	2390.00	-15.96	68.59	52.63	54.00	-1.37	Average	243	289	P
2	2390.00	-15.96	86.10	70.14	74.00	-3.86	Peak	243	289	P
3	4824.00	-8.80	49.93	41.13	54.00	-12.87	Average	100	120	P
4	4824.00	-8.80	54.19	45.39	74.00	-28.61	Peak	100	120	P
5	12060.00	1.21	32.16	33.37	54.00	-20.63	Average	112	298	P
6	12060.00	1.21	45.44	46.65	74.00	-27.35	Peak	112	298	P

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



Power	: AC 120V	Pol/Phase	: VERTICAL
Test Mode	: Mode 3, CH06	Temperature	: 23 °C
Test Date	: Jul. 09, 2018	Humidity	: 61 %

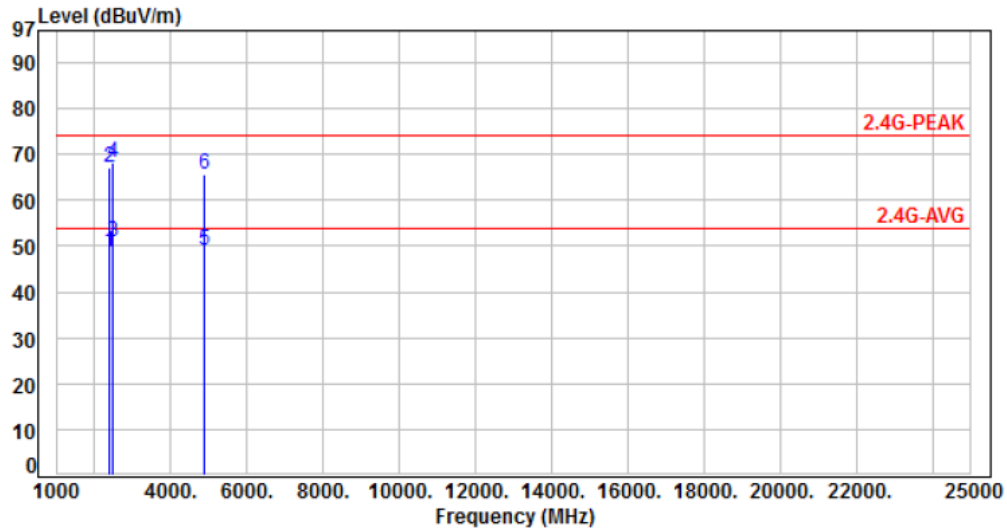


No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	2390.00	-15.96	63.78	47.82	54.00	-6.18	Average	300	323	P
2	2390.00	-15.96	82.21	66.25	74.00	-7.75	Peak	300	323	P
3	2483.50	-15.65	65.87	50.22	54.00	-3.78	Average	300	323	P
4	2483.50	-15.65	85.34	69.69	74.00	-4.31	Peak	300	323	P
5	4874.00	-8.65	52.33	43.68	54.00	-10.32	Average	100	345	P
6	4874.00	-8.65	67.48	58.83	74.00	-15.17	Peak	100	345	P

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



Power	: AC 120V	Pol/Phase	: HORIZONTAL
Test Mode	: Mode 3, CH06	Temperature	: 23 °C
Test Date	: Jul. 09, 2018	Humidity	: 61 %

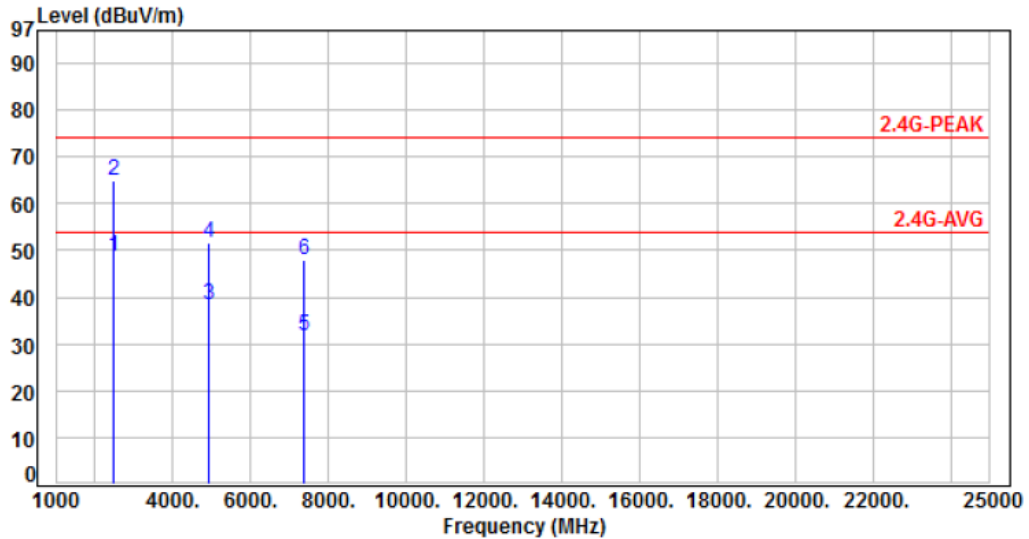


No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	2390.00	-15.96	64.82	48.86	54.00	-5.14	Average	257	298	P
2	2390.00	-15.96	82.94	66.98	74.00	-7.02	Peak	257	298	P
3	2483.50	-15.65	66.43	50.78	54.00	-3.22	Average	257	298	P
4	2483.50	-15.65	83.97	68.32	74.00	-5.68	Peak	257	298	P
5	4874.00	-8.65	57.66	49.01	54.00	-4.99	Average	109	336	P
6	4874.00	-8.65	74.16	65.51	74.00	-8.49	Peak	109	336	P

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



Power	: AC 120V	Pol/Phase	: VERTICAL
Test Mode	: Mode 3, CH11	Temperature	: 23 °C
Test Date	: Jul. 09, 2018	Humidity	: 61 %

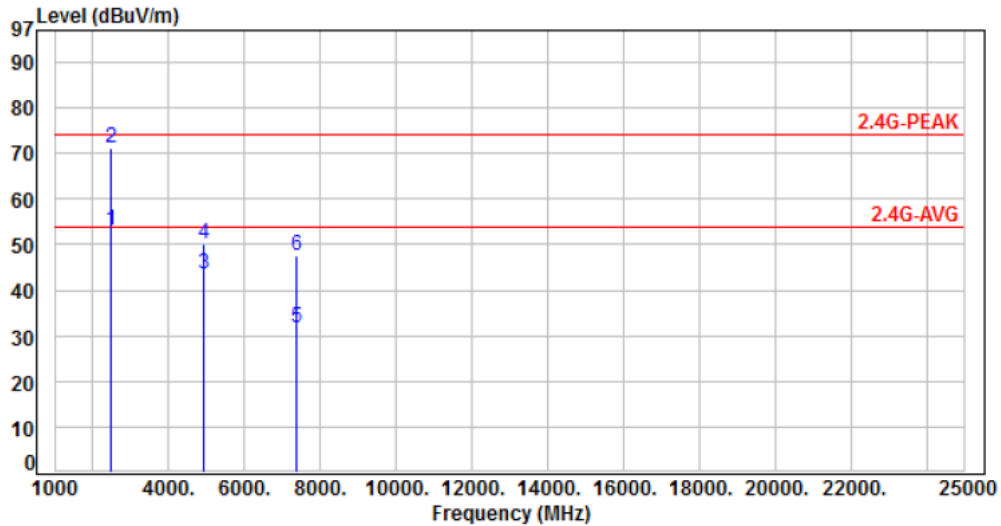


No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	2483.50	-15.65	64.25	48.60	54.00	-5.40	Average	372	346	P
2	2483.50	-15.65	80.67	65.02	74.00	-8.98	Peak	372	346	P
3	4924.00	-8.49	46.88	38.39	54.00	-15.61	Average	106	342	P
4	4924.00	-8.49	59.97	51.48	74.00	-22.52	Peak	106	342	P
5	7386.00	-4.48	36.28	31.80	54.00	-22.20	Average	101	326	P
6	7386.00	-4.48	52.57	48.09	74.00	-25.91	Peak	101	326	P

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



Power	: AC 120V	Pol/Phase	: HORIZONTAL
Test Mode	: Mode 3, CH11	Temperature	: 23 °C
Test Date	: Jul. 09, 2018	Humidity	: 61 %

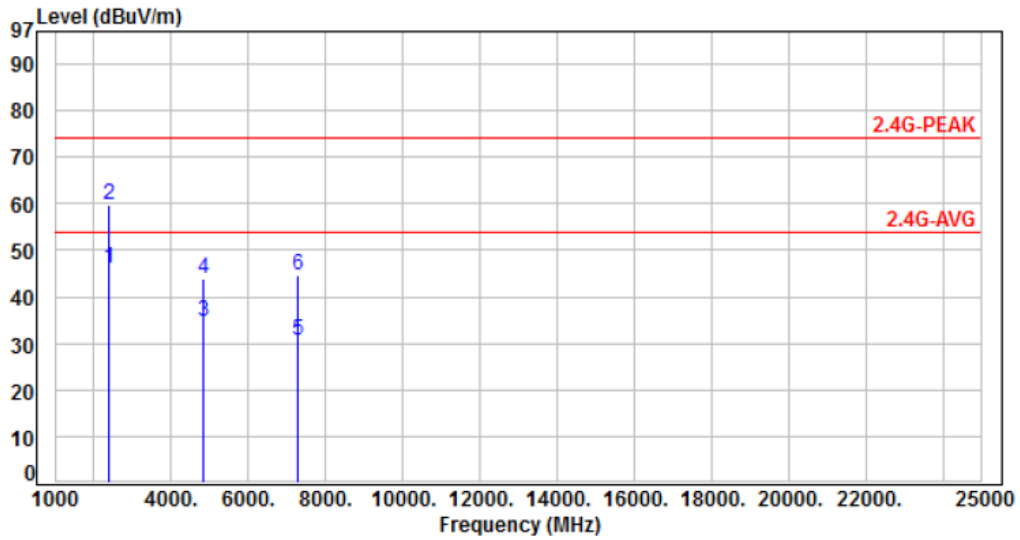


No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	2483.50	-15.65	68.70	53.05	54.00	-0.95	Average	209	303	P
2	2483.50	-15.65	86.79	71.14	74.00	-2.86	Peak	209	303	P
3	4924.00	-8.49	52.15	43.66	54.00	-10.34	Average	116	318	P
4	4924.00	-8.49	58.68	50.19	74.00	-23.81	Peak	116	318	P
5	7386.00	-4.48	36.16	31.68	54.00	-22.32	Average	106	332	P
6	7386.00	-4.48	52.22	47.74	74.00	-26.26	Peak	106	332	P

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



Power	: AC 120V	Pol/Phase	: VERTICAL
Test Mode	: Mode 4, CH03	Temperature	: 23 °C
Test Date	: Jul. 09, 2018	Humidity	: 61 %



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	-15.96	62.17	46.21	54.00	-7.79	Average	203	358	P
2	2390.00	-15.96	75.64	59.68	74.00	-14.32	Peak	203	358	P
3	4844.00	-8.74	43.52	34.78	54.00	-19.22	Average	131	279	P
4	4844.00	-8.74	52.68	43.94	74.00	-30.06	Peak	131	279	P
5	7266.00	-4.83	35.56	30.73	54.00	-23.27	Average	128	292	P
6	7266.00	-4.83	49.44	44.61	74.00	-29.39	Peak	128	292	P

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