



FCC RADIO TEST REPORT

Applicant : Partner Tech Corporation

Address : 10FL, 233-2, Baoqiao Road, Xindian,
New Taipei City, Taiwan

Equipment : Mobile POS Terminal

Model No. : M3a-2, EM-110, EMC-21X0 (X could be 0-9, -, A-Z or
blank)

Trade Name : PARTNER

FCC ID. : NDPM3A-2

I HEREBY CERTIFY THAT :

The sample was received on Jan. 17, 2019 and the testing was carried out on May. 22, 2019 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

Tested by:

Spree Yeh / Engineer

Laboratory Accreditation:

CerpPASS Technology Corporation Test Laboratory





CONTENTS

1.	Summary of Test Procedure and Test Results	5
1.1.	Applicable Standards	5
2.	Test Configuration of Equipment under Test	6
2.1.	Feature of Equipment under Test.....	6
2.2.	Model Difference	6
2.3.	Carrier Frequency of Channels	7
2.4.	Test Mode and Test Software	8
2.5.	Description of Test System.....	9
2.6.	General Information of Test.....	9
2.7.	Measurement Uncertainty	10
3.	Test Equipment and Ancillaries Used for Tests	11
4.	Antenna Requirements.....	12
4.1.	Standard Applicable	12
4.2.	Antenna Construction and Directional Gain	12
5.	Test of AC Power Line Conducted Emission	13
5.1.	Test Limit	13
5.2.	Test Procedures	13
5.3.	Typical Test Setup	14
5.4.	Test Result and Data	15
5.5.	Test Photographs	19
6.	Test of Spurious Emission (Radiated)	20
6.1.	Test Limit	20
6.2.	Test Procedures	20
6.3.	Typical Test Setup	21
6.4.	Test Result and Data (9kHz ~ 30MHz).....	22
6.5.	Test Result and Data (30MHz ~ 1GHz).....	22
6.6.	Test Result and Data (1GHz ~ 40GHz).....	26
6.7.	Restricted Bands of Operation	62
6.8.	Test Photographs (30MHz ~ 1GHz).....	63
6.9.	Test Photographs (1GHz ~ 40GHz)	64
7.	On Time, Duty Cycle and Measurement methods	65
7.1.	Test Limit	65
7.2.	Test Procedure	65
7.3.	Test Setup Layout	65
7.4.	Test Result and Data	65
7.5.	Measurement Methods	65
8.	6dB Bandwidth & 99% Occupied Bandwidth	67
8.1.	Test Limit	67
8.2.	Test Procedure	67
8.3.	Test Setup Layout	67
8.4.	Test Result and Data (6dB Bandwidth)	67
8.5.	Test Result and Data (99% Occupied Bandwidth)	68
9.	26dB Bandwidth & 99% Occupied Bandwidth	74
9.1.	Test Limit	74



9.2.	Test Procedure	74
9.3.	Test Setup Layout	74
9.4.	Test Result and Data (26dB Bandwidth)	74
9.5.	Test Result and Data (99% Occupied Bandwidth)	75
10.	Average Power	80
10.1.	Test Limit	80
10.2.	Test Procedure	81
10.3.	Test Setup Layout	81
10.4.	Test Result and Data	82
11.	Power Spectral Density	83
11.1.	Test Limit	83
11.2.	Test Procedure	83
11.3.	Test Setup Layout	83
11.4.	Test Result and Data	84
12.	Frequency Stability	90
12.1.	Test Procedure	90
12.2.	Test Setup Layout	90
12.3.	Test Result and Data	91
13.	Automatically Discontinue Transmission	92
13.1.	Limit of Automatically Discontinue Transmission	92
13.2.	Test Result of Automatically Discontinue Transmission	92



History of this test report

Report No.	Issue Date	Description
TEFE1901083	May. 27, 2019	Original



1. Summary of Test Procedure and Test Results

1.1. Applicable Standards

ANSI C63.4:2014

ANSI C63.10:2013

FCC Rules and Regulations Part 15 Subpart E §15.407

First R&O 14-30

KDB662911

KDB789033

KDB644545

FCC Rule	Description of Test	Result
15.203	Antenna Requirement	PASS
15.207(a)	AC Power Line Conducted Emission	PASS
15.407(b) 15.209	Radiated Spurious Emission	PASS
15.407(a)	26 dB & Occupied Bandwidth	PASS
15.407	6 dB Bandwidth	PASS
15.407 (a) & (a)(3)	Average Power	PASS
15.407(a)	Power Spectral Density	PASS
15.407(g)	Frequency Stability	PASS
15.407(c)	Automatically Discontinue Transmission	PASS
2.1091	Radio Frequency Exposure	PASS

This EUT has been also tested and complied with the requirement of FCC Part 15, Subpart B, recorded in a separate test report (TEFV1901083).



2. Test Configuration of Equipment under Test

2.1. Feature of Equipment under Test

Frequency Range	BT / BLE: 2400-2483.5MHz 802.11b/g/n: 2400-2483.5MHz 802.11a/n/ac: 5150-5250MHz, 5725-5850MHz
Modulation Type	BT: GFSK, $\pi/4$ -DQPSK, 8DPSK BLE: GFSK 802.11b: CCK, DQPSK, DBPSK 802.11g/n/a: BPSK, QPSK, 16QAM, 64QAM 802.11ac: BPSK, QPSK, 16QAM, 64QAM, 256QAM
Modulation Technology	DSSS, OFDM, FHSS, DTS
Data Rate	BT: GFSK: 1Mbps, $\pi/4$ -DQPSK: 2Mbps, 8DPSK: 3Mbps BLE: GFSK: 1Mbps WLAN: 802.11b: 1, 2, 5.5, 11Mbps 802.11g: 6, 9, 12, 18, 24, 36, 48, 54Mbps 802.11n: MCS0 – MCS7, HT20/40 802.11a: 6, 9, 12, 18, 24, 36, 48, 54Mbps 802.11ac: MCS0 – MCS9, VHT20/40/80
Antenna Type	Dipole Antenna
Antenna Gain	2400-2483.5MHz: 6.92dBi 5150-5250MHz: 4.12dBi 5725-5850MHz: 5.55dBi
Adapter	EDAC \ EA1024P1 Input: 100-240Vac, 1A, 50-60Hz Output: 12Vdc, 3A

Note:

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

2.2. Model Difference

M3a-2, EM-110, EMC-21X0 (X could be 0-9, -, A-Z or blank) for marketing purpose.



2.3. Carrier Frequency of Channels

Band: 5150MHz-5250MHz

802.11a, 802.11n HT20, 802.11ac VHT20

Channel	Frequency(MHz)	Channel	Frequency(MHz)
*36	5180	*44	5220
40	5200	*48	5240

802.11n HT40, 802.11ac VHT40

Channel	Frequency(MHz)	Channel	Frequency(MHz)
*38	5190	*46	5230

802.11ac VHT80

Channel	Frequency(MHz)
*42	5210

Band: 5725MHz -5850MHz

802.11a, 802.11n HT20, 802.11ac VHT20

Channel	Frequency(MHz)	Channel	Frequency(MHz)
*149	5745	161	5805
153	5765	*165	5825
*157	5785		

802.11n HT40, 802.11ac VHT40

Channel	Frequency(MHz)	Channel	Frequency(MHz)
*151	5755	*159	5795

802.11ac VHT80

Channel	Frequency(MHz)
*155	5775

Note: Channels remarked * are selected to perform test.



2.4. Test Mode and Test Software

- During testing, the interface cables and equipment positions were varied according to ANSI C63.10.
- The complete test system included Notebook and EUT for RF test.
- An executive program, "qdart: win.4.8_installer_00039.311-11-17_08_03_48" was executed to transmit and receive data via WLAN.
- The following test modes were performed for the test:

AC Power Line Conducted Emission	
Test Mode	Operating Description
1	802.11a (6Mbps) , Adapter:EDAC \ EA1024P1
2	802.11ac VHT20 (6.5Mbps) , Adapter:EDAC \ EA1024P1
3	802.11ac VHT40 (13.5Mbps) , Adapter:EDAC \ EA1024P1
4	802.11ac VHT80 (29.3Mbps) , Adapter:EDAC \ EA1024P1
caused "Test Mode 2" generated the worst case, it was reported as the final data.	
Radiated Spurious Emission (below 1GHz)	
Test Mode	Operating Description
1	802.11a (6Mbps) , Adapter:EDAC \ EA1024P1
2	802.11ac VHT20 (6.5Mbps) , Adapter:EDAC \ EA1024P1
3	802.11ac VHT40 (13.5Mbps) , Adapter:EDAC \ EA1024P1
4	802.11ac VHT80 (29.3Mbps) , Adapter:EDAC \ EA1024P1
caused "Test Mode 2" generated the worst case, it was reported as the final data.	
Radiated Spurious Emission (above 1GHz)	
Test Mode	Operating Description
1	802.11a (6Mbps) , Adapter:EDAC \ EA1024P1
2	802.11ac VHT20 (6.5Mbps) , Adapter:EDAC \ EA1024P1
3	802.11ac VHT40 (13.5Mbps) , Adapter:EDAC \ EA1024P1
4	802.11ac VHT80 (29.3Mbps) , Adapter:EDAC \ EA1024P1
caused "Test Mode 1~4" generated the worst case, it was reported as the final data.	
26 dB Occupied Bandwidth, 6dB Bandwidth, Average Power, Power Spectral Density	
1	802.11a (6Mbps) , Adapter:EDAC \ EA1024P1
2	802.11ac VHT20 (6.5Mbps) , Adapter:EDAC \ EA1024P1
3	802.11ac VHT40 (13.5Mbps) , Adapter:EDAC \ EA1024P1
4	802.11ac VHT80 (29.3Mbps) , Adapter:EDAC \ EA1024P1
caused "Test Mode 1~4" generated the worst case, it was reported as the final data.	



2.5. Description of Test System

RF Conducted				
Equipment	Brand	Model	Length/Type	Power cord/Length/Type
Notebook	DELL	Latitude E5450	N/A	Adapter / 1.8m / NS
USB cable	N/A	N/A	1.2m / SH	N/A
Radiated Emissions				
Equipment	Brand	Model	Length/Type	Power cord/Length/Type
Notebook	ASUS	P2430U	N/A	Adapter / 1.8m / NS
USB cable	N/A	N/A	1.2m / SH	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
USB cable	N/A	N/A	1.2m / SH	N/A

2.6. 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 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 40,000MHz	
Test Distance:	The test distance of radiated emission from antenna to EUT is 3 M.	

**2.7. Measurement Uncertainty**

Measurement Item	Uncertainty
Radiated Spurious Emission(9KHz~30MHz)	±3.405dB
Radiated Spurious Emission(30MHz~1GHz)	±5.326dB
Radiated Spurious Emission(1GHz~40GHz)	±5.011dB
6dB Bandwidth	±4.407%
26dB Bandwidth	±4.459%
Occupied Bandwidth	±4.403%
Peak Output Power(Conducted Power Meter)	±1.31dB
Power Spectral Density	±2.106dB
Duty Cycle	±0.17%
Frequency Stability	±156.543Hz
Temperature	±1.2oC
Humidity	±2.7%



3. Test Equipment and Ancillaries Used for Tests

Test Item	Radiated Emissions				
Test Site	Semi Anechoic Room(3M02-NK)				
Instrument	Manufacturer	Model No	Serial No	Calibration Date	Valid Date
Bilog Antenna	Schwarzbeck	VULB9168	275	2018/09/17	2019/09/16
Active Loop Antenna	EMCO	6507	40855	2018/05/22	2019/05/21
Horn Antenna	EMCO	3115	31601	2018/09/26	2019/09/25
Horn Antenna	EMCO	3116	31974	2018/09/07	2019/09/06
EMI Receiver	ROHDE & SCHWARZ	ESCI	101423	2018/06/11	2019/06/10
Spectrum Analyzer	ROHDE & SCHWARZ	FSP 40	100219	2018/07/03	2019/07/02
Preamplifier	EM	EM330	60659	2018/03/20	2019/03/19
Preamplifier	EMC INSTRUMENTS	EMC051845SE	980333	2018/09/18	2019/09/17
Cable-3in1(30M-1G)	HARBOUR INDUSTRIES	LL142	CCE1315	2018/04/20	2019/04/19
Cable-0.5m(1G-40G)	Rapidtek	40GHZ 50CM	38MS-38MS50314	2018/03/27	2019/03/26
Cable-3m(1G-40G)	Rapidtek	40GHZ 300CM	38MS-38MS300314	2018/03/27	2019/03/26
Cable-8m(1G-40G)	Rapidtek	40GHZ 800CM	38MS-38MS800314	2018/03/27	2019/03/26
E3	AUDIX	v8.2014-8-6	RK-000529	NA	NA

Test Item	RF Conducted				
Test Site	RFCON01-NK				
Instrument	Manufacturer	Model No	Serial No	Calibration Date	Valid Date
Spectrum Analyzer	ROHDE & SCHWARZ	FSP 40	100219	2018/07/03	2019/07/02
Attenuator	KEYSIGHT	8491B	MY39250705	2018/09/04	2019/09/03
TEMP & HUMIDITY CHAMBER	T-MACHINE	TMJ-9712	T-12-040111	2018/08/30	2019/08/29
Power Sensor	Anritsu	MA2411B	1207295	2019/04/11	2020/04/10

Test Item	AC Power Line Conducted Emission				
Test Site	CON01-NK				
Instrument	Manufacturer	Model No	Serial No	Calibration Date	Valid Date
EMI Receiver	ROHDE & SCHWARZ	ESCI	100821	2018/9/12	2019/09/11
Line Impedance Stabilization Network	Schwarzbeck	NSLK 8127	8127-740	2018/6/13	2019/06/12
Pulse Limiter	ROHDE & SCHWARZ	ESH3-Z2	101933	2018/9/4	2019/09/03
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 15.407 (a), 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	Dipole Antenna
Antenna Gain	2400-2483.5MHz: 6.92dBi 5150-5250MHz: 4.12dBi 5725-5850MHz: 5.55dBi

2400-2483.5MHz

For Power directional gain= G_{ant} = 6.92 dBi

For PSD directional gain = G_{ant} = 6.92 dBi

5150-5250MHz

For Power directional gain= G_{ant} = 4.12 dBi

For PSD directional gain = G_{ant} = 4.12 dBi

5725-5850MHz

For Power directional gain= G_{ant} = 5.55 dBi

For PSD directional gain = G_{ant} = 5.55 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

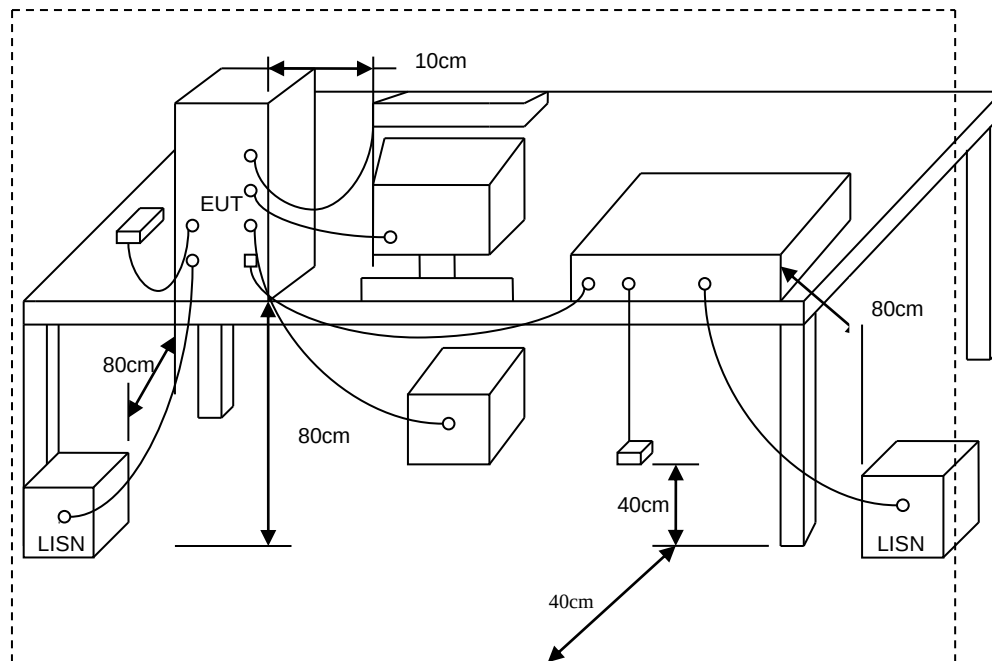
*Decreases with the logarithm of the frequency.

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.



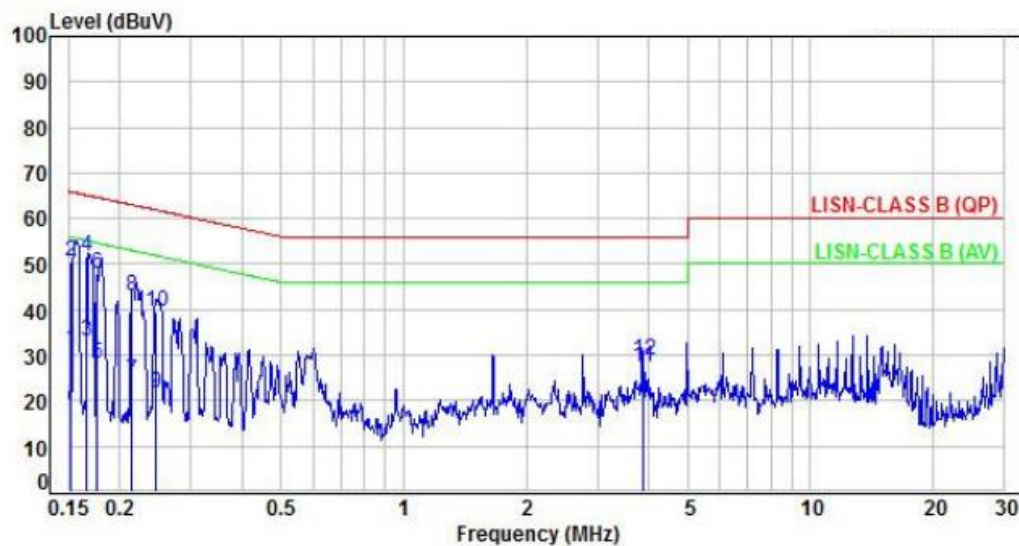
5.3. Typical Test Setup





5.4. Test Result and Data

Power	: AC 120V	Pol/Phase	: LINE
Test Mode	: Mode 1, Band 1	Temperature	: 22 °C
Test Date	: Mar. 05, 2019	Humidity	: 52 %



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector	P/F
1	0.15	9.94	21.43	31.37	55.87	-24.50	Average	P
2	0.15	9.94	40.71	50.65	65.87	-15.22	QP	P
3	0.17	9.94	23.21	33.15	55.19	-22.04	Average	P
4	0.17	9.94	41.80	51.74	65.19	-13.45	QP	P
5	0.18	9.94	18.14	28.08	54.66	-26.58	Average	P
6	0.18	9.94	38.11	48.05	64.66	-16.61	QP	P
7	0.21	9.94	14.48	24.42	53.01	-28.59	Average	P
8	0.21	9.94	32.86	42.80	63.01	-20.21	QP	P
9	0.25	9.94	11.91	21.85	51.91	-30.06	Average	P
10	0.25	9.94	29.71	39.65	61.91	-22.26	QP	P
11	3.87	10.12	17.40	27.52	46.00	-18.48	Average	P
12	3.87	10.12	18.66	28.78	56.00	-27.22	QP	P

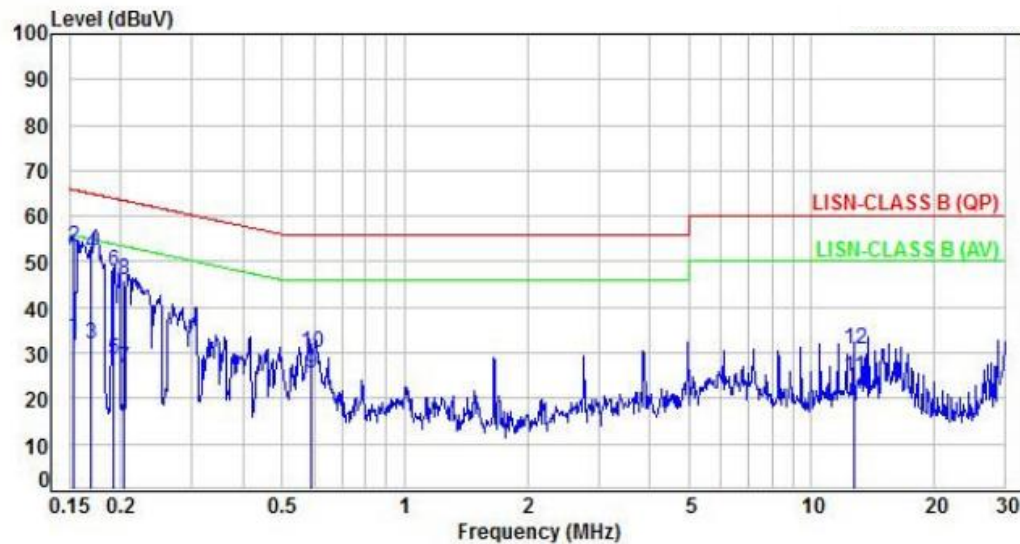
Note: Level=Reading+Factor

Margin=Level-Limit

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



Power	: AC 120V	Pol/Phase	: NEUTRAL
Test Mode	: Mode 1, Band 1	Temperature	: 22 °C
Test Date	: Mar. 05, 2019	Humidity	: 52 %



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector	P/F
1	0.15	9.94	23.44	33.38	55.85	-22.47	Average	P
2	0.15	9.94	43.22	53.16	65.85	-12.69	QP	P
3	0.17	9.94	22.07	32.01	55.01	-23.00	Average	P
4	0.17	9.94	41.75	51.69	65.01	-13.32	QP	P
5	0.19	9.94	18.58	28.52	53.96	-25.44	Average	P
6	0.19	9.94	37.95	47.89	63.96	-16.07	QP	P
7	0.20	9.94	16.74	26.68	53.46	-26.78	Average	P
8	0.20	9.94	36.22	46.16	63.46	-17.30	QP	P
9	0.59	9.95	15.44	25.39	46.00	-20.61	Average	P
10	0.59	9.95	19.95	29.90	56.00	-26.10	QP	P
11	12.73	10.33	14.38	24.71	50.00	-25.29	Average	P
12	12.73	10.33	20.48	30.81	60.00	-29.19	QP	P

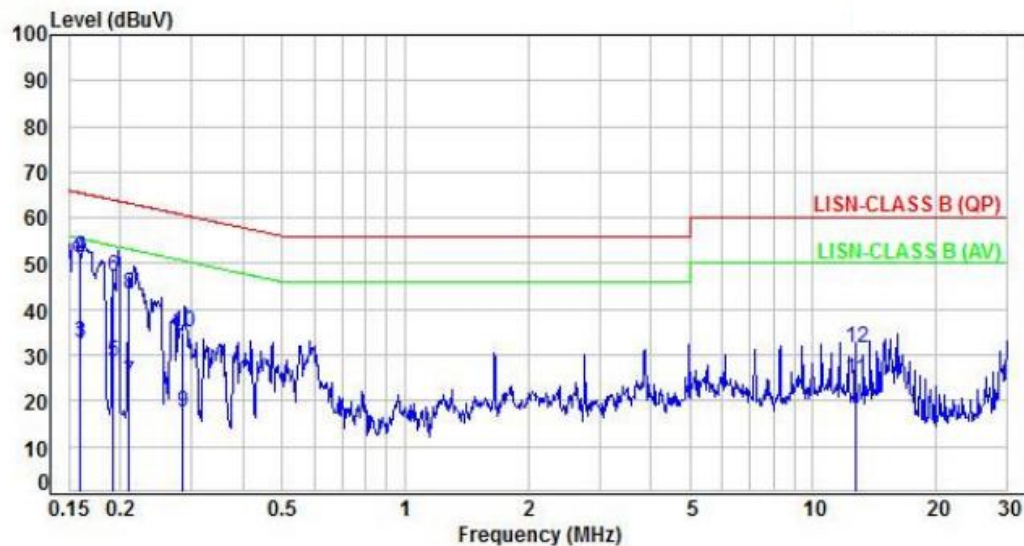
Note: Level=Reading+Factor

Margin=Level-Limit

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



Power	: AC 120V	Pol/Phase	: LINE
Test Mode	: Mode 1, Band 4	Temperature	: 22 °C
Test Date	: Mar. 05, 2019	Humidity	: 52 %



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector	P/F
1	0.16	9.94	22.52	32.46	55.48	-23.02	Average	P
2	0.16	9.94	41.45	51.39	65.48	-14.09	QP	P
3	0.16	9.94	22.60	32.54	55.46	-22.92	Average	P
4	0.16	9.94	41.36	51.30	65.46	-14.16	QP	P
5	0.19	9.94	18.60	28.54	53.96	-25.42	Average	P
6	0.19	9.94	37.31	47.25	63.96	-16.71	QP	P
7	0.21	9.94	14.07	24.01	53.20	-29.19	Average	P
8	0.21	9.94	33.49	43.43	63.20	-19.77	QP	P
9	0.28	9.94	7.61	17.55	50.71	-33.16	Average	P
10	0.28	9.94	25.03	34.97	60.71	-25.74	QP	P
11	12.74	10.35	14.36	24.71	50.00	-25.29	Average	P
12	12.74	10.35	21.27	31.62	60.00	-28.38	QP	P

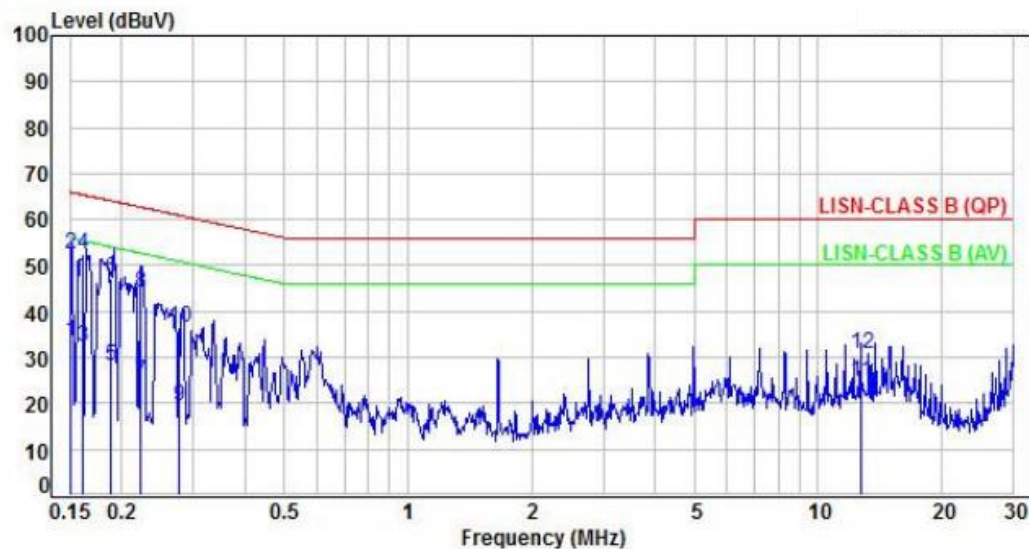
Note: Level=Reading+Factor

Margin=Level-Limit

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



Power	: AC 120V	Pol/Phase	: NEUTRAL
Test Mode	: Mode 1, Band 4	Temperature	: 22 °C
Test Date	: Mar. 05, 2019	Humidity	: 52 %



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector	P/F
1	0.15	9.94	23.58	33.52	55.99	-22.47	Average	P
2	0.15	9.94	42.51	52.45	65.99	-13.54	QP	P
3	0.16	9.94	22.50	32.44	55.41	-22.97	Average	P
4	0.16	9.94	42.35	52.29	65.41	-13.12	QP	P
5	0.19	9.94	18.37	28.31	54.07	-25.76	Average	P
6	0.19	9.94	37.17	47.11	64.07	-16.96	QP	P
7	0.22	9.94	14.79	24.73	52.73	-28.00	Average	P
8	0.22	9.94	34.10	44.04	62.73	-18.69	QP	P
9	0.28	9.94	9.38	19.32	50.94	-31.62	Average	P
10	0.28	9.94	26.68	36.62	60.94	-24.32	QP	P
11	12.76	10.33	14.36	24.69	50.00	-25.31	Average	P
12	12.76	10.33	20.54	30.87	60.00	-29.13	QP	P

Note: Level=Reading+Factor

Margin=Level-Limit

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



6. Test of Spurious Emission (Radiated)

6.1. Test Limit

Undesirable emission limits. Except as shown in paragraph (b)(7) of this section, the maximum emissions outside of the frequency bands of operation shall be attenuated in accordance with the following limits:

- (1) For transmitters operating in the 5.15-5.25 GHz band: All emissions outside of the 5.15-5.35 GHz band shall not exceed an e.i.r.p. of -27 dBm/MHz.
- (2) For transmitters operating in the 5.25-5.35 GHz band: All emissions outside of the 5.15-5.35 GHz band shall not exceed an e.i.r.p. of -27 dBm/MHz.
- (3) For transmitters operating in the 5.47-5.725 GHz band: All emissions outside of the 5.47-5.725 GHz band shall not exceed an e.i.r.p. of -27 dBm/MHz.
- (4) For transmitters operating in the 5.725-5.85 GHz band:
All emissions shall be limited to a level of -27 dBm/MHz at 75 MHz or more above or below the band edge increasing linearly to 10 dBm/MHz at 25 MHz above or below the band edge, and from 25MHz above or below the band edge increasing linearly to a level of 15.6 dBm/MHz at 5 MHz above or below the band edge, and from 5 MHz above or below the band edge increasing linearly to a level of 27dBm/MHz at the band edge.
- (5) The emission measurements shall be performed using a minimum resolution bandwidth of 1 MHz. A lower resolution bandwidth may be employed near the band edge, when necessary, provided the measured energy is integrated to show the total power over 1 MHz.
- (6) Unwanted emissions below 1 GHz must comply with the general field strength limits set forth in §15.209. Further, any U-NII devices using an AC power line are required to comply also with the conducted limits set forth in §15.207.
- (7) The provisions of §15.205 apply to intentional radiators operating under this section.
- (8) When measuring the emission limits, the nominal carrier frequency shall be adjusted as close to the upper and lower frequency band edges as the design of the equipment permits.

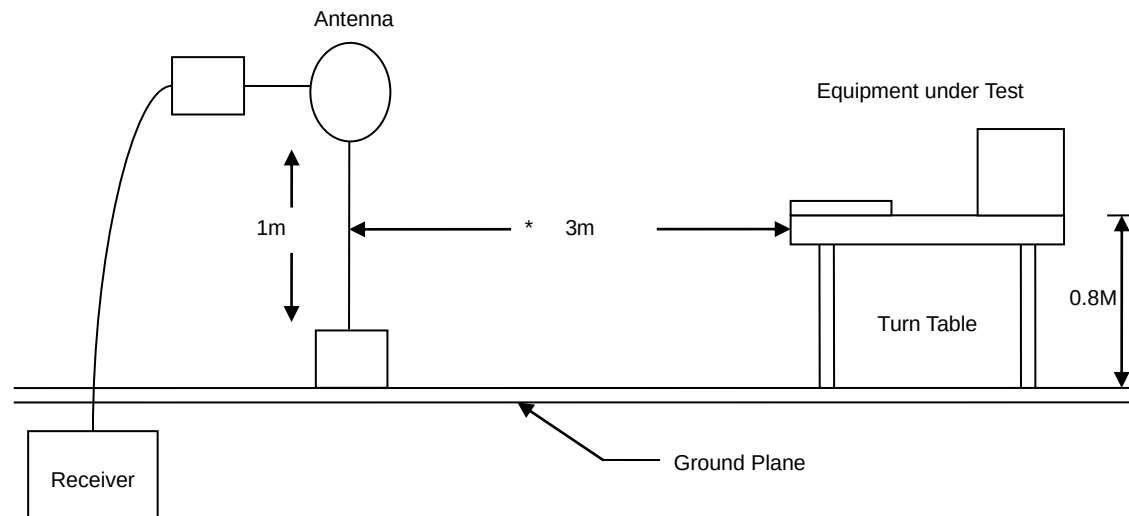
6.2. Test Procedures

- a. The EUT was placed on a rotatable table top 0.8 meter above ground.
- b. The EUT was set 3 meters from the interference receiving antenna which was mounted on the top of a variable height antenna tower.
- c. The table was rotated 360 degrees to determine the position of the highest radiation.
- d. The antenna is a broadband antenna and its height is varied between one meter and four meters above ground to find the maximum value of the field strength both horizontal polarization and vertical polarization of the antenna are set to make the measurement.
- e. For each suspected emission the EUT was arranged to its worst case and then tune the antenna tower (from 1 M to 4 M) and turn table (from 0 degree to 360 degrees) to find the maximum reading.
- f. Set the test-receiver system to Peak or CISPR quasi-peak Detect Function and specified bandwidth with Maximum Hold Mode.
- g. If the emission level of the EUT in peak mode was 3 dB lower than the limit specified, then testing will be stopped and peak values of EUT will be reported, otherwise, the emissions which do not have 3 dB margin will be repeated one by one using the quasi-peak method and reported.
- h. For testing above 1GHz, the emission level of the EUT in peak mode was 20dB lower than average limit (that means the emission level in peak mode also complies with the limit in average mode), then testing will be stopped and peak values of EUT will be reported, otherwise, the emissions will be measured in average mode again and reported.
- i. "Cone of radiation" has been considered to be 3dB bandwidth of the measurement antenna.

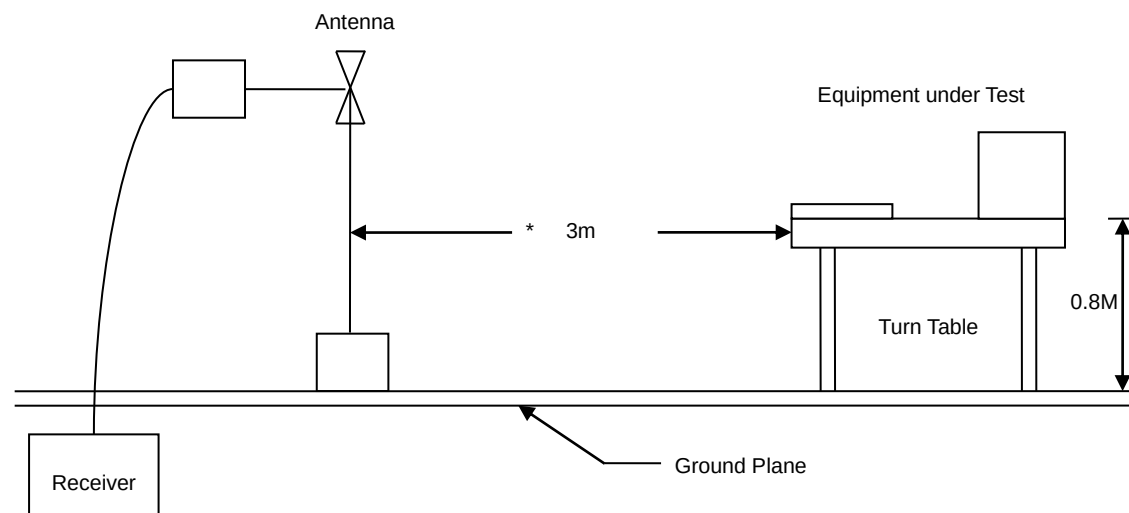


6.3. Typical Test Setup

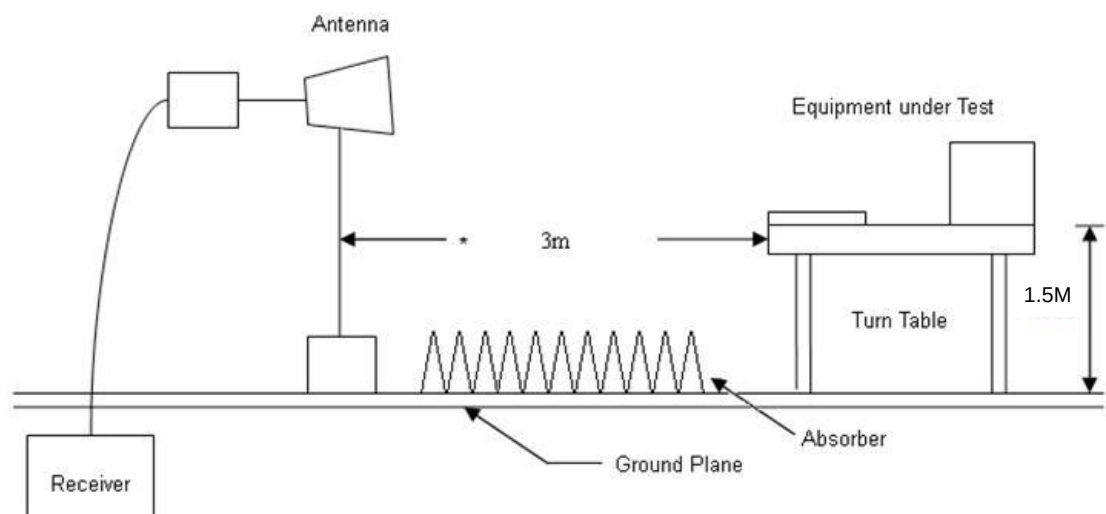
Below 30MHz test setup



30MHz- 1GHz Test Setup



Above 1GHz Test Setup



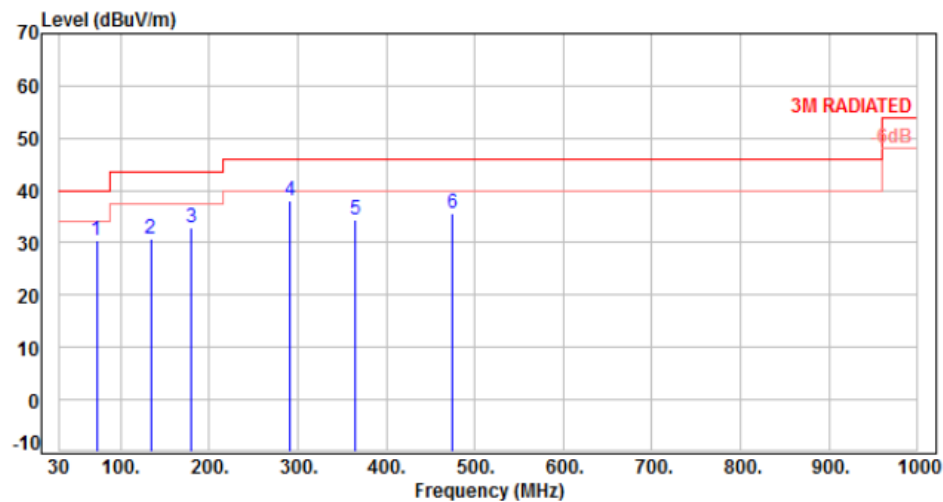


6.4. Test Result and Data (9kHz ~ 30MHz)

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

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

Power	: AC 120V	Pol/Phase	: VERTICAL
Test Mode	: Mode 1, Band 1	Temperature	: 23 °C
Test Date	: Feb. 19, 2019	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	72.68	-11.90	42.39	30.49	40.00	-9.51	Peak	400	0	P
2	133.79	-10.35	41.10	30.75	43.50	-12.75	Peak	400	0	P
3	180.35	-10.86	43.77	32.91	43.50	-10.59	Peak	400	0	P
4	291.90	-8.79	46.71	37.92	46.00	-8.08	Peak	400	0	P
5	365.62	-6.68	41.15	34.47	46.00	-11.53	Peak	400	0	P
6	475.23	-4.29	39.86	35.57	46.00	-10.43	Peak	400	0	P

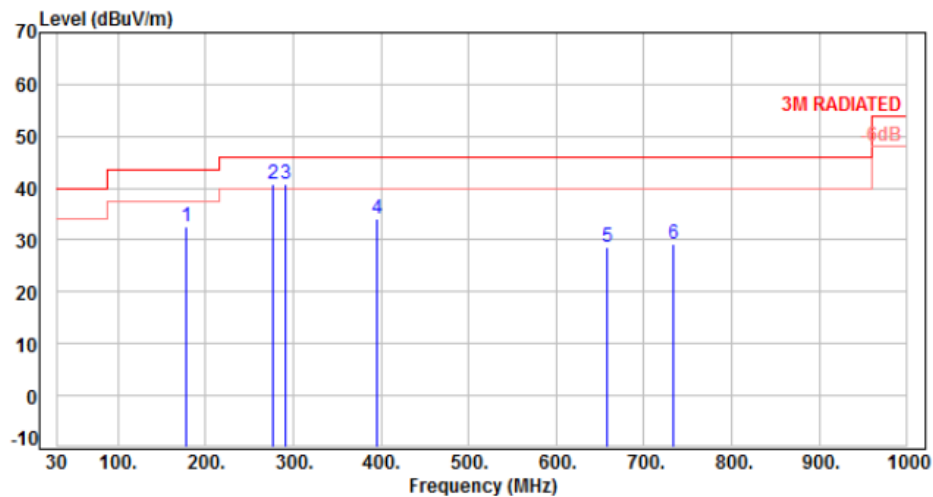
Note: Level=Reading+Factor

Margin=Level-Limit

Factor=Antenna Factor + cable loss - Amplifier Factor



Power	: AC 120V	Pol/Phase	: HORIZONTAL
Test Mode	: Mode 1, Band 1	Temperature	: 23 °C
Test Date	: Feb. 19, 2019	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	177.44	-10.55	43.02	32.47	43.50	-11.03	Peak	100	0	P
2	277.35	-9.15	49.92	40.77	46.00	-5.23	Peak	100	0	P
3	291.90	-8.79	49.68	40.89	46.00	-5.11	Peak	100	0	P
4	395.69	-5.87	40.05	34.18	46.00	-11.82	Peak	100	0	P
5	657.59	-0.93	29.45	28.52	46.00	-17.48	Peak	100	0	P
6	733.25	0.59	28.76	29.35	46.00	-16.65	Peak	100	0	P

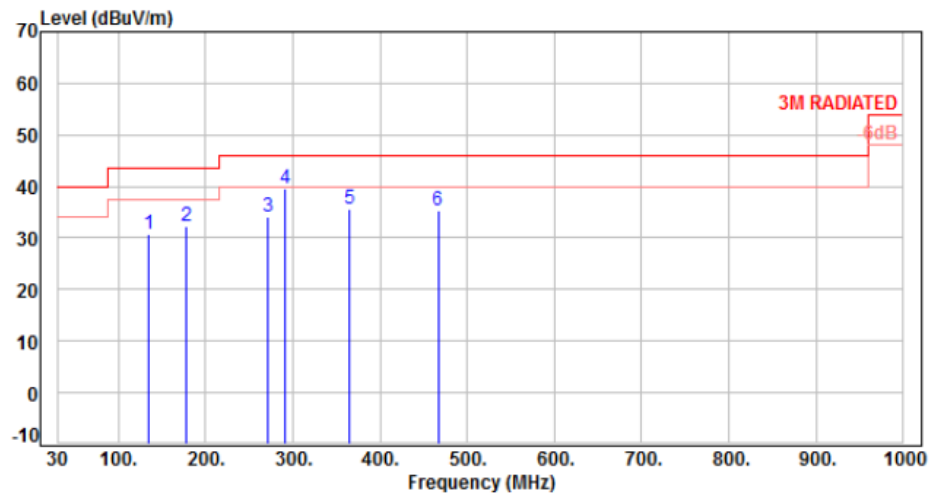
Note: Level=Reading+Factor

Margin=Level-Limit

Factor=Antenna Factor + cable loss - Amplifier Factor



Power	: AC 120V	Pol/Phase	: VERTICAL
Test Mode	: Mode 1, Band 4	Temperature	: 23 °C
Test Date	: Feb. 19, 2019	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	134.76	-10.18	40.96	30.78	43.50	-12.72	Peak	400	0	P
2	178.41	-10.63	43.04	32.41	43.50	-11.09	Peak	400	0	P
3	270.56	-9.42	43.39	33.97	46.00	-12.03	Peak	400	0	P
4	291.90	-8.79	48.23	39.44	46.00	-6.56	Peak	400	0	P
5	365.62	-6.68	42.18	35.50	46.00	-10.50	Peak	400	0	P
6	466.50	-4.42	39.79	35.37	46.00	-10.63	Peak	400	0	P

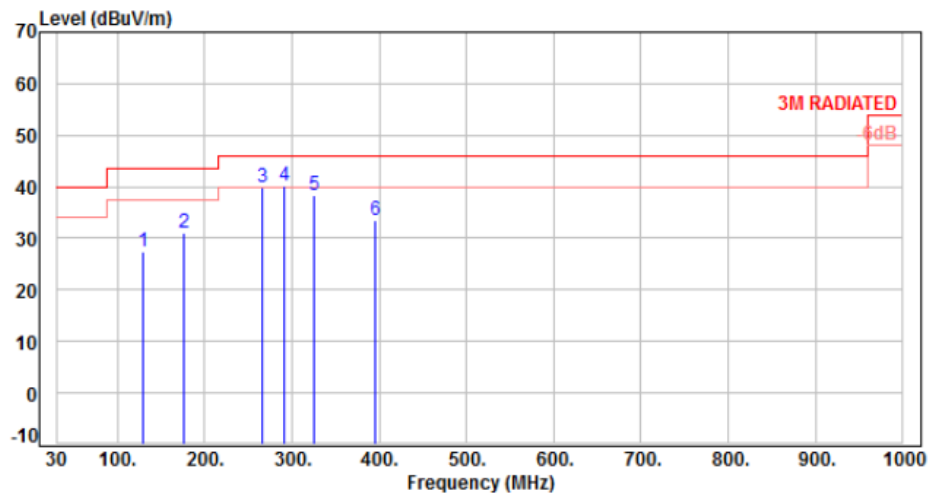
Note: Level=Reading+Factor

Margin=Level-Limit

Factor=Antenna Factor + cable loss - Amplifier Factor



Power	: AC 120V	Pol/Phase	: HORIZONTAL
Test Mode	: Mode 1, Band 4	Temperature	: 24 °C
Test Date	: Feb. 11, 2018	Humidity	: 59 %



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	129.91	-10.76	38.10	27.34	43.50	-16.16	Peak	100	0	P
2	175.50	-10.26	41.45	31.19	43.50	-12.31	Peak	100	0	P
3	266.68	-9.66	49.53	39.87	46.00	-6.13	Peak	100	0	P
4	291.90	-8.79	49.03	40.24	46.00	-5.76	Peak	100	0	P
5	325.85	-7.86	46.08	38.22	46.00	-7.78	Peak	100	0	P
6	394.72	-5.89	39.36	33.47	46.00	-12.53	Peak	100	0	P

Note: Level=Reading+Factor

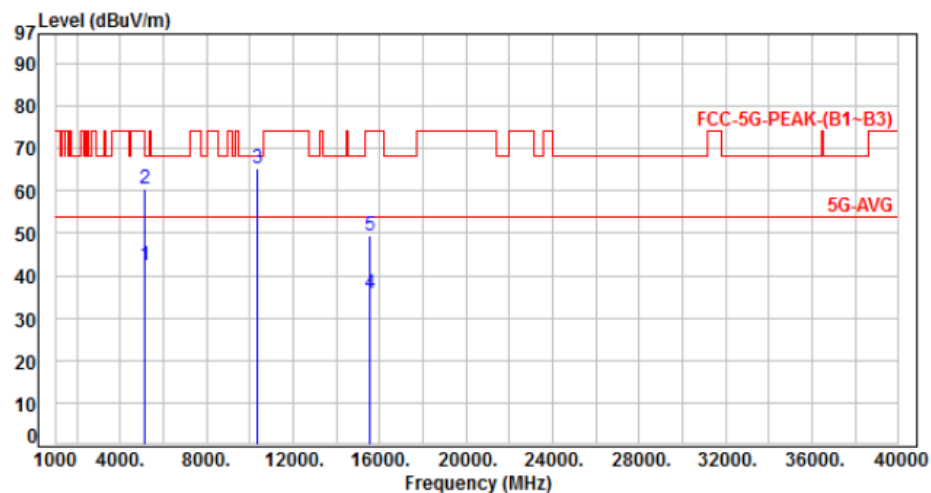
Margin=Level-Limit

Factor=Antenna Factor + cable loss - Amplifier Factor



6.6. Test Result and Data (1GHz ~ 40GHz)

Power	: AC 120V	Pol/Phase	: VERTICAL
Test Mode	: Mode 1, CH36, Band 1	Temperature	: 23 °C
Test Date	: Feb. 19, 2019	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	5150.00	-7.68	50.20	42.52	54.00	-11.48	Average	164	309	P
2	5150.00	-7.68	68.30	60.62	74.00	-13.38	Peak	164	309	P
3	10360.00	-0.12	65.36	65.24	68.20	-2.96	Peak	149	297	P
4	15540.00	5.24	30.70	35.94	54.00	-18.06	Average	100	220	P
5	15540.00	5.24	44.20	49.44	74.00	-24.56	Peak	100	220	P

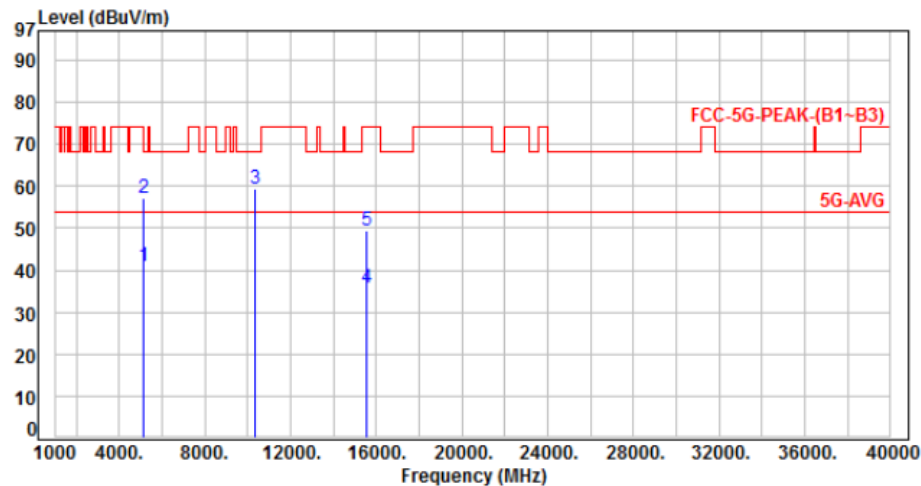
Note: Level=Reading+Factor

Margin=Level-Limit

Factor=Antenna Factor + cable loss - Amplifier Factor



Power	: AC 120V	Pol/Phase	: HORIZONTAL
Test Mode	: Mode 1, CH36, Band 1	Temperature	: 23 °C
Test Date	: Feb. 19, 2019	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	5150.00	-7.68	48.50	40.82	54.00	-13.18	Average	100	280	P
2	5150.00	-7.68	64.70	57.02	74.00	-16.98	Peak	100	280	P
3	10360.00	-0.12	59.50	59.38	68.20	-8.82	Peak	100	240	P
4	15540.00	5.24	30.60	35.84	54.00	-18.16	Average	100	286	P
5	15540.00	5.24	44.10	49.34	74.00	-24.66	Peak	100	286	P

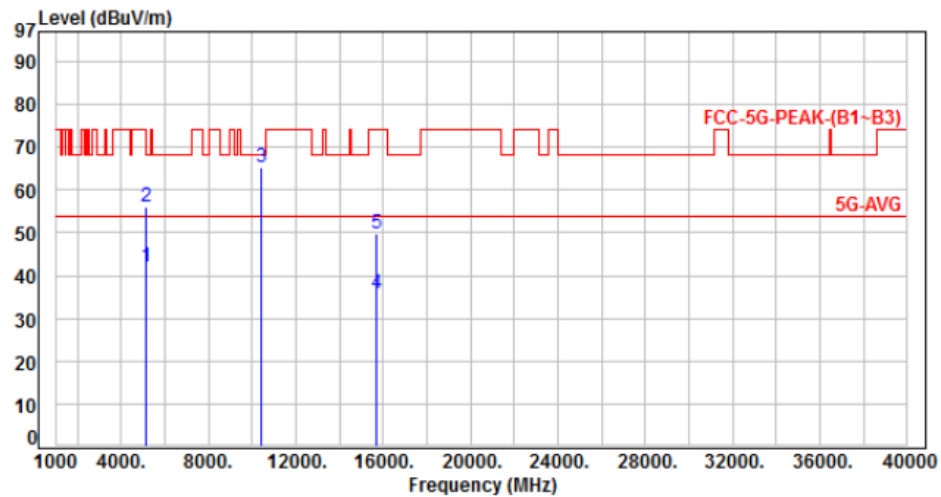
Note: Level=Reading+Factor

Margin=Level-Limit

Factor=Antenna Factor + cable loss - Amplifier Factor



Power	: AC 120V	Pol/Phase	: VERTICAL
Test Mode	: Mode 1, CH44, Band 1	Temperature	: 23 °C
Test Date	: Feb. 19, 2019	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	5150.00	-7.68	49.90	42.22	54.00	-11.78	Average	160	306	P
2	5150.00	-7.68	63.80	56.12	74.00	-17.88	Peak	160	306	P
3	10440.00	-0.03	65.40	65.37	68.20	-2.83	Peak	152	291	P
4	15660.00	5.32	30.32	35.64	54.00	-18.36	Average	100	215	P
5	15660.00	5.32	44.63	49.95	74.00	-24.05	Peak	100	215	P

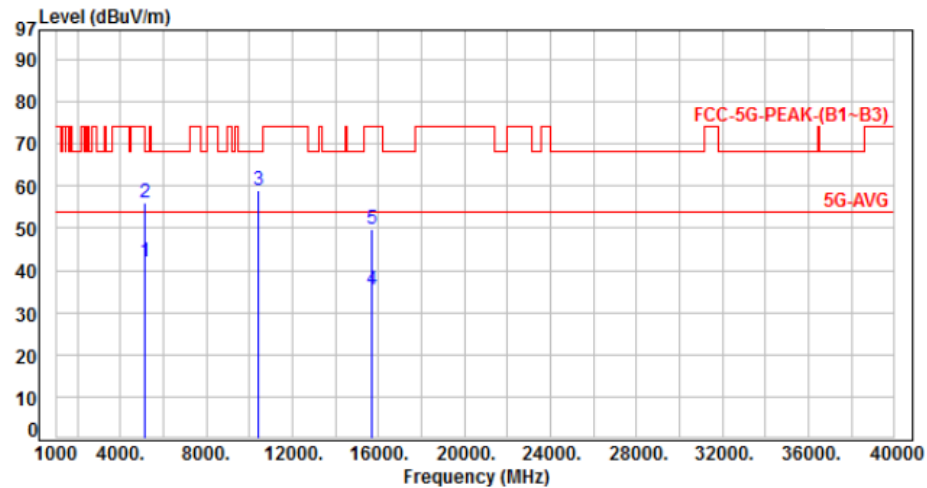
Note: Level=Reading+Factor

Margin=Level-Limit

Factor=Antenna Factor + cable loss - Amplifier Factor



Power	: AC 120V	Pol/Phase	: HORIZONTAL
Test Mode	: Mode 1, CH44, Band 1	Temperature	: 23 °C
Test Date	: Feb. 19, 2019	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	5150.00	-7.68	49.63	41.95	54.00	-12.05	Average	100	274	P
2	5150.00	-7.68	63.60	55.92	74.00	-18.08	Peak	100	274	P
3	10440.00	-0.03	59.20	59.17	68.20	-9.03	Peak	100	239	P
4	15660.00	5.32	30.21	35.53	54.00	-18.47	Average	105	266	P
5	15660.00	5.32	44.58	49.90	74.00	-24.10	Peak	105	266	P

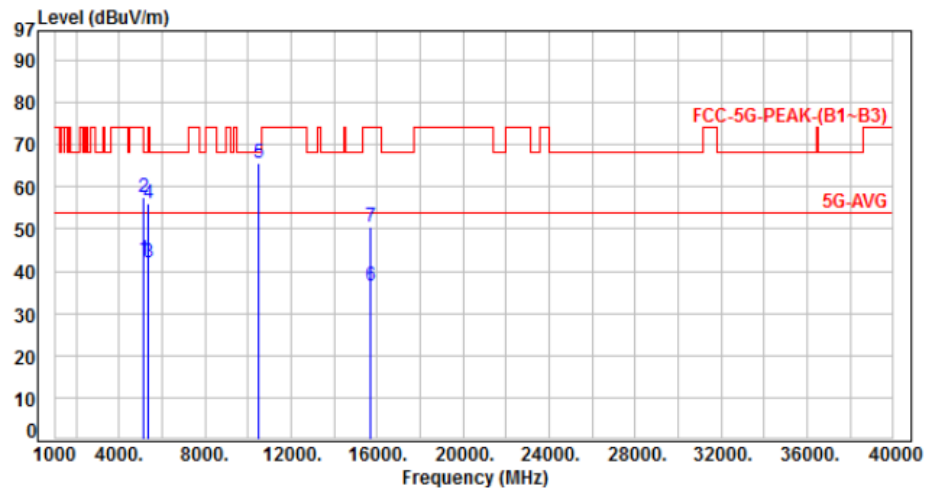
Note: Level=Reading+Factor

Margin=Level-Limit

Factor=Antenna Factor + cable loss - Amplifier Factor



Power	: AC 120V	Pol/Phase	: VERTICAL
Test Mode	: Mode 1, CH48, Band 1	Temperature	: 23 °C
Test Date	: Feb. 19, 2019	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	5150.00	-7.68	50.30	42.62	54.00	-11.38	Average	100	318	P
2	5150.00	-7.68	65.20	57.52	74.00	-16.48	Peak	100	318	P
3	5350.00	-7.30	49.36	42.06	54.00	-11.94	Average	100	318	P
4	5350.00	-7.30	63.40	56.10	74.00	-17.90	Peak	100	318	P
5	10480.00	0.01	65.70	65.71	68.20	-2.49	Peak	158	306	P
6	15720.00	5.36	31.23	36.59	54.00	-17.41	Average	100	203	P
7	15720.00	5.36	45.10	50.46	74.00	-23.54	Peak	100	203	P

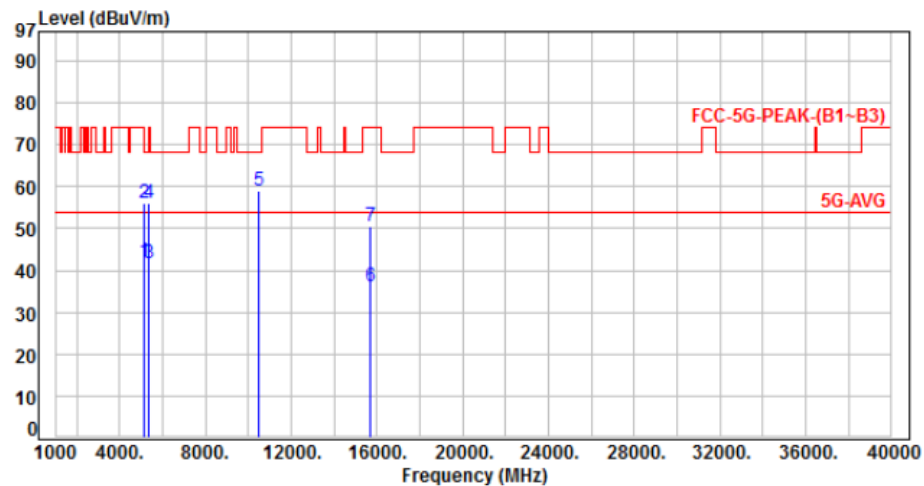
Note: Level=Reading+Factor

Margin=Level-Limit

Factor=Antenna Factor + cable loss - Amplifier Factor



Power	: AC 120V	Pol/Phase	: HORIZONTAL
Test Mode	: Mode 1, CH48, Band 1	Temperature	: 23 °C
Test Date	: Feb. 19, 2019	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	5150.00	-7.68	49.88	42.20	54.00	-11.80	Average	100	273	P
2	5150.00	-7.68	63.60	55.92	74.00	-18.08	Peak	100	273	P
3	5350.00	-7.30	49.10	41.80	54.00	-12.20	Average	100	273	P
4	5350.00	-7.30	63.40	56.10	74.00	-17.90	Peak	100	273	P
5	10480.00	0.01	58.90	58.91	68.20	-9.29	Peak	100	240	P
6	15720.00	5.36	30.93	36.29	54.00	-17.71	Average	100	284	P
7	15720.00	5.36	45.06	50.42	74.00	-23.58	Peak	100	284	P

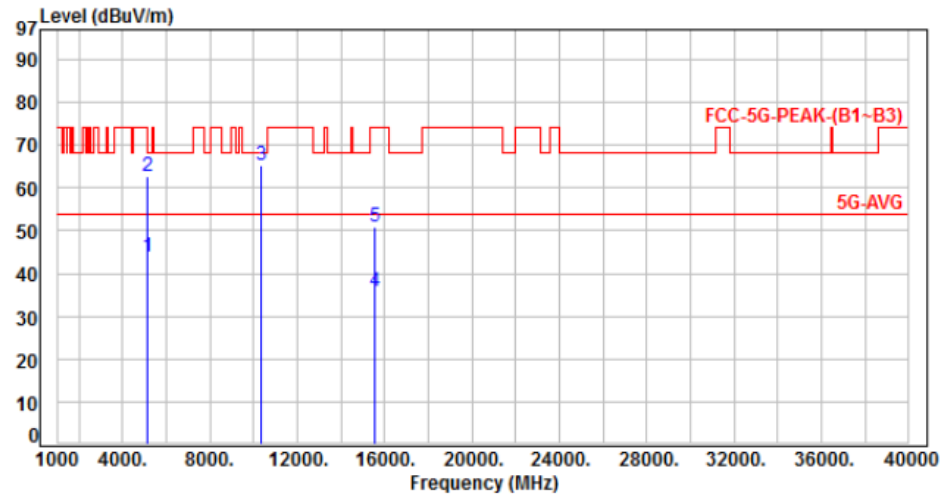
Note: Level=Reading+Factor

Margin=Level-Limit

Factor=Antenna Factor + cable loss - Amplifier Factor



Power	: AC 120V	Pol/Phase	: VERTICAL
Test Mode	: Mode 2, CH36, Band 1	Temperature	: 23 °C
Test Date	: Feb. 19, 2019	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	5150.00	-7.68	51.60	43.92	54.00	-10.08	Average	167	320	P
2	5150.00	-7.68	70.40	62.72	74.00	-11.28	Peak	167	320	P
3	10360.00	-0.12	65.50	65.38	68.20	-2.82	Peak	100	296	P
4	15540.00	5.24	30.50	35.74	54.00	-18.26	Average	100	226	P
5	15540.00	5.24	45.70	50.94	74.00	-23.06	Peak	100	226	P

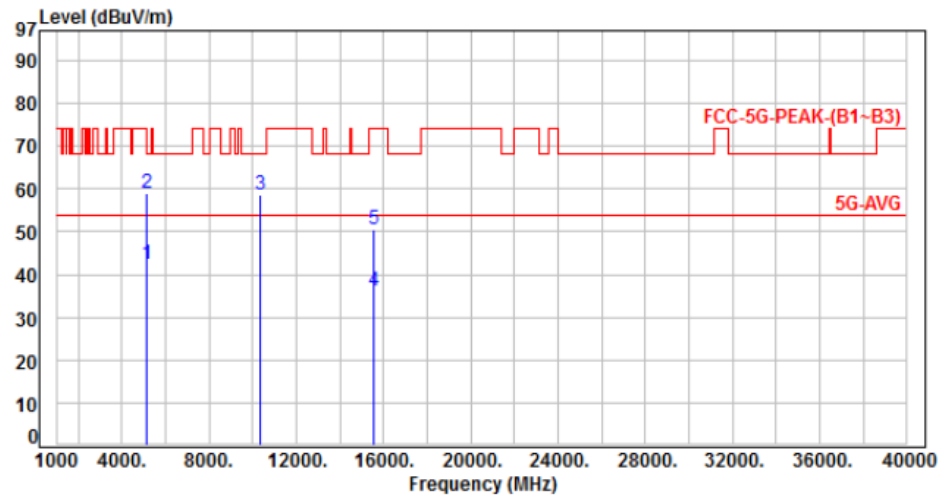
Note: Level=Reading+Factor

Margin=Level-Limit

Factor=Antenna Factor + cable loss - Amplifier Factor



Power	: AC 120V	Pol/Phase	: HORIZONTAL
Test Mode	: Mode 2, CH36, Band 1	Temperature	: 23 °C
Test Date	: Feb. 19, 2019	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	5150.00	-7.68	50.23	42.55	54.00	-11.45	Average	100	274	P
2	5150.00	-7.68	66.60	58.92	74.00	-15.08	Peak	100	274	P
3	10360.00	-0.12	58.59	58.47	68.20	-9.73	Peak	100	226	P
4	15540.00	5.24	30.82	36.06	54.00	-17.94	Average	100	290	P
5	15540.00	5.24	45.20	50.44	74.00	-23.56	Peak	100	290	P

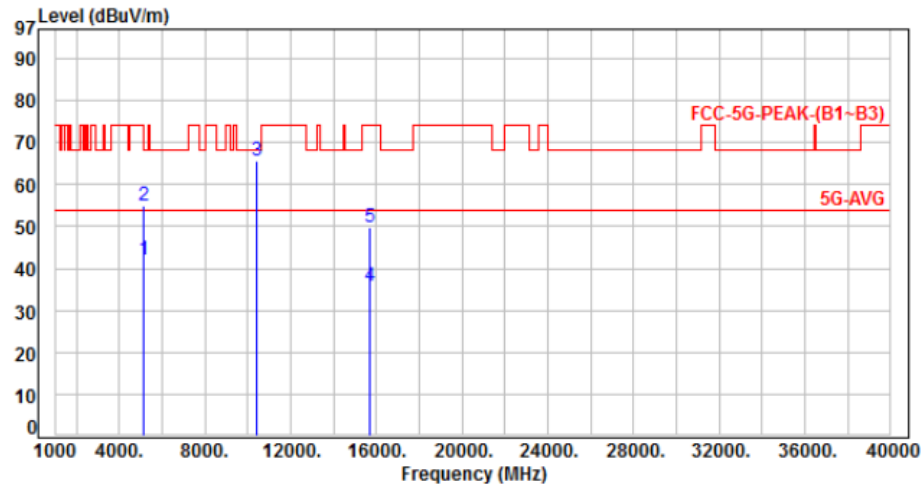
Note: Level=Reading+Factor

Margin=Level-Limit

Factor=Antenna Factor + cable loss - Amplifier Factor



Power	: AC 120V	Pol/Phase	: VERTICAL
Test Mode	: Mode 2, CH44, Band 1	Temperature	: 23 °C
Test Date	: Feb. 19, 2019	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	5150.00	-7.68	49.56	41.88	54.00	-12.12	Average	159	307	P
2	5150.00	-7.68	62.80	55.12	74.00	-18.88	Peak	159	307	P
3	10440.00	-0.03	65.80	65.77	68.20	-2.43	Peak	144	296	P
4	15660.00	5.32	30.47	35.79	54.00	-18.21	Average	100	193	P
5	15660.00	5.32	44.59	49.91	74.00	-24.09	Peak	100	193	P

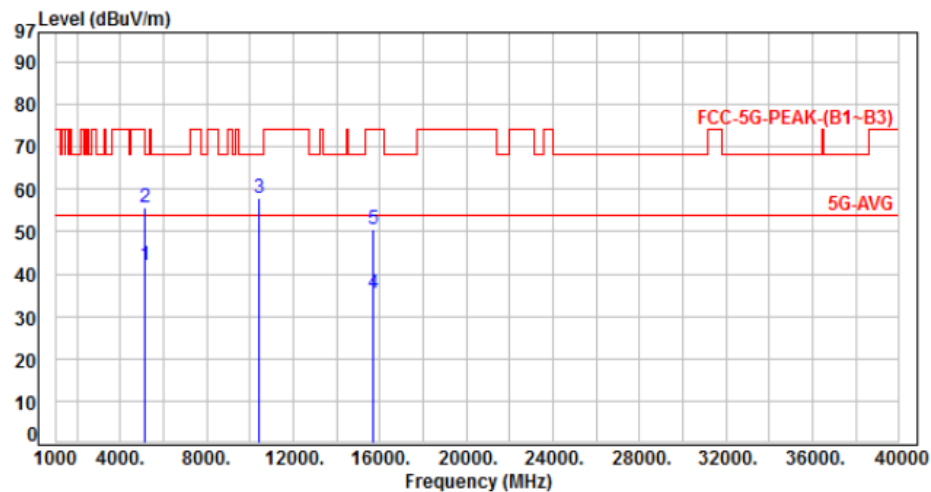
Note: Level=Reading+Factor

Margin=Level-Limit

Factor=Antenna Factor + cable loss - Amplifier Factor



Power	: AC 120V	Pol/Phase	: HORIZONTAL
Test Mode	: Mode 2, CH44, Band 1	Temperature	: 23 °C
Test Date	: Feb. 19, 2019	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	5150.00	-7.68	49.63	41.95	54.00	-12.05	Average	100	274	P
2	5150.00	-7.68	63.30	55.62	74.00	-18.38	Peak	100	274	P
3	10440.00	-0.03	57.80	57.77	68.20	-10.43	Peak	100	230	P
4	15660.00	5.32	30.20	35.52	54.00	-18.48	Average	100	300	P
5	15660.00	5.32	45.36	50.68	74.00	-23.32	Peak	100	300	P

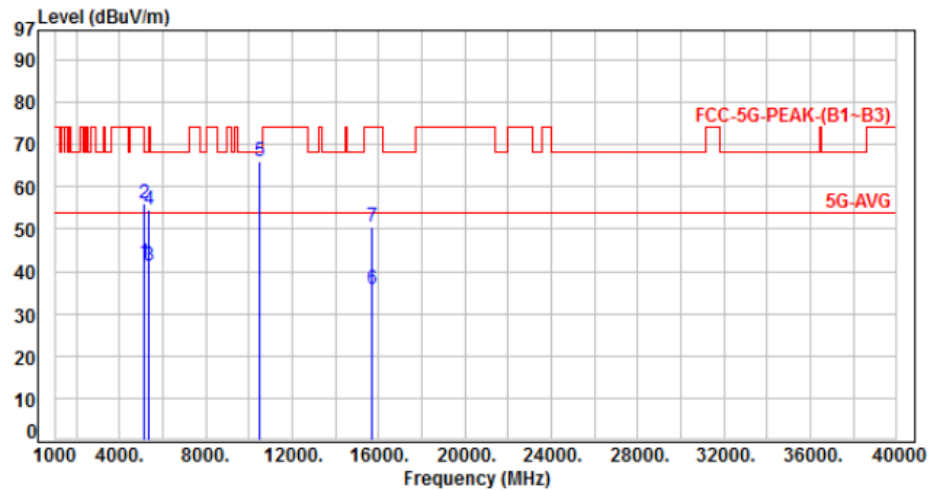
Note: Level=Reading+Factor

Margin=Level-Limit

Factor=Antenna Factor + cable loss - Amplifier Factor



Power	: AC 120V	Pol/Phase	: VERTICAL
Test Mode	: Mode 2, CH48, Band 1	Temperature	: 23 °C
Test Date	: Feb. 19, 2019	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	5150.00	-7.68	49.60	41.92	54.00	-12.08	Average	157	306	P
2	5150.00	-7.68	63.90	56.22	74.00	-17.78	Peak	157	306	P
3	5350.00	-7.30	48.60	41.30	54.00	-12.70	Average	157	306	P
4	5350.00	-7.30	61.80	54.50	74.00	-19.50	Peak	157	306	P
5	10480.00	0.01	65.90	65.91	68.20	-2.29	Peak	244	297	P
6	15720.00	5.36	30.58	35.94	54.00	-18.06	Average	100	195	P
7	15720.00	5.36	45.10	50.46	74.00	-23.54	Peak	100	195	P

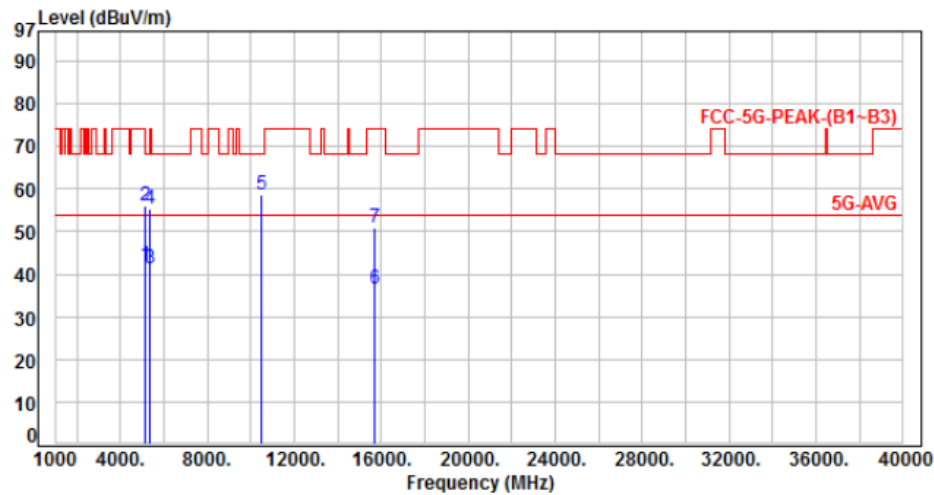
Note: Level=Reading+Factor

Margin=Level-Limit

Factor=Antenna Factor + cable loss - Amplifier Factor



Power	: AC 120V	Pol/Phase	: HORIZONTAL
Test Mode	: Mode 2, CH48, Band 1	Temperature	: 23 °C
Test Date	: Feb. 19, 2019	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	5150.00	-7.68	49.58	41.90	54.00	-12.10	Average	100	274	P
2	5150.00	-7.68	63.60	55.92	74.00	-18.08	Peak	100	274	P
3	5350.00	-7.30	48.70	41.40	54.00	-12.60	Average	100	274	P
4	5350.00	-7.30	62.50	55.20	74.00	-18.80	Peak	100	274	P
5	10480.00	0.01	58.56	58.57	68.20	-9.63	Peak	100	238	P
6	15720.00	5.36	31.20	36.56	54.00	-17.44	Average	100	322	P
7	15720.00	5.36	45.41	50.77	74.00	-23.23	Peak	100	322	P

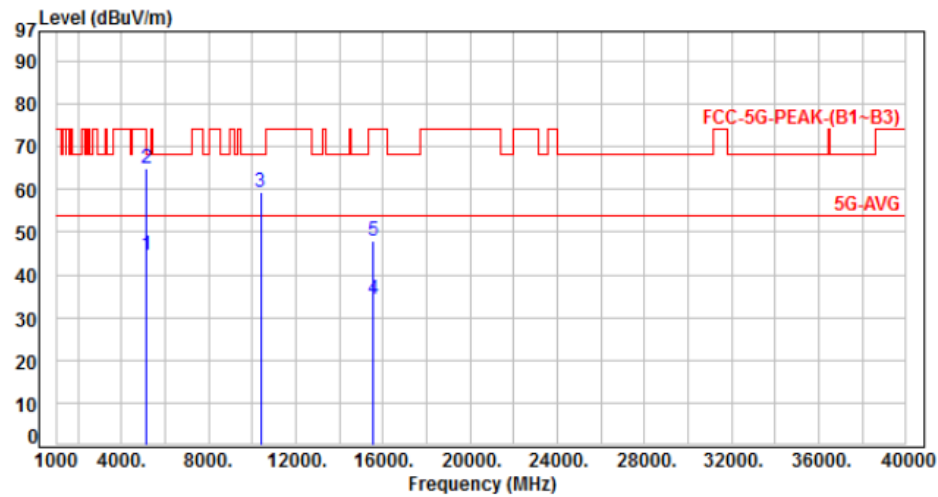
Note: Level=Reading+Factor

Margin=Level-Limit

Factor=Antenna Factor + cable loss - Amplifier Factor



Power	: AC 120V	Pol/Phase	: VERTICAL
Test Mode	: Mode 3, CH38, Band 1	Temperature	: 23 °C
Test Date	: Feb. 19, 2019	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	5150.00	-7.68	52.30	44.62	54.00	-9.38	Average	158	274	P
2	5150.00	-7.68	72.50	64.82	74.00	-9.18	Peak	158	274	P
3	10380.00	-0.10	59.30	59.20	68.20	-9.00	Peak	167	273	P
4	15570.00	5.26	28.99	34.25	54.00	-19.75	Average	100	88	P
5	15570.00	5.26	42.60	47.86	74.00	-26.14	Peak	100	88	P

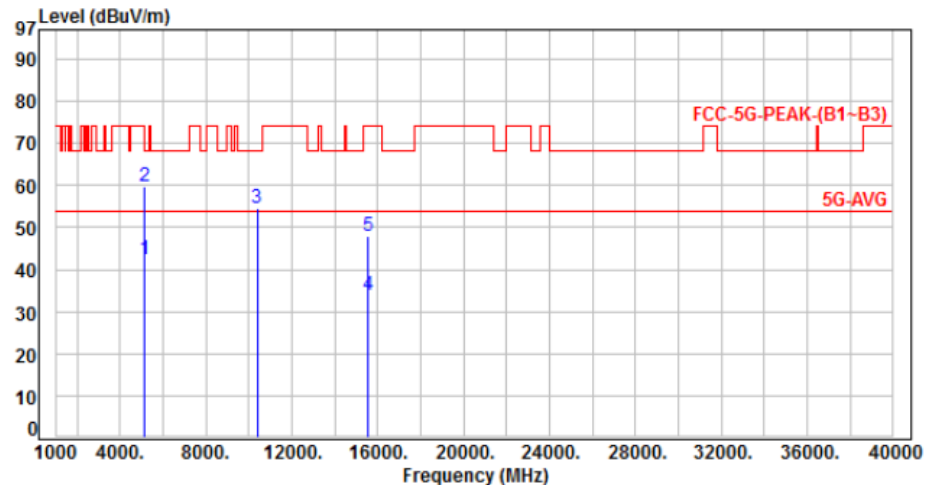
Note: Level=Reading+Factor

Margin=Level-Limit

Factor=Antenna Factor + cable loss - Amplifier Factor



Power	: AC 120V	Pol/Phase	: HORIZONTAL
Test Mode	: Mode 3, CH38, Band 1	Temperature	: 23 °C
Test Date	: Feb. 19, 2019	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	5150.00	-7.68	50.20	42.52	54.00	-11.48	Average	100	274	P
2	5150.00	-7.68	67.50	59.82	74.00	-14.18	Peak	100	274	P
3	10380.00	-0.10	54.80	54.70	68.20	-13.50	Peak	100	237	P
4	15570.00	5.26	28.66	33.92	54.00	-20.08	Average	100	347	P
5	15570.00	5.26	42.80	48.06	74.00	-25.94	Peak	100	347	P

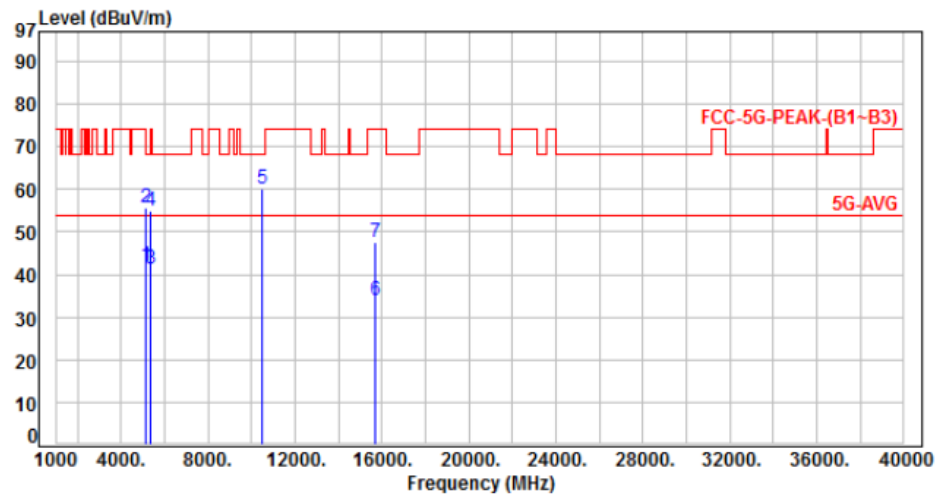
Note: Level=Reading+Factor

Margin=Level-Limit

Factor=Antenna Factor + cable loss - Amplifier Factor



Power	: AC 120V	Pol/Phase	: VERTICAL
Test Mode	: Mode 3, CH46, Band 1	Temperature	: 23 °C
Test Date	: Feb. 19, 2019	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	5150.00	-7.68	49.70	42.02	54.00	-11.98	Average	176	310	P
2	5150.00	-7.68	63.20	55.52	74.00	-18.48	Peak	176	310	P
3	5350.00	-7.30	48.74	41.44	54.00	-12.56	Average	176	310	P
4	5350.00	-7.30	62.36	55.06	74.00	-18.94	Peak	176	310	P
5	10460.00	-0.02	60.21	60.19	68.20	-8.01	Peak	150	291	P
6	15690.00	5.34	28.69	34.03	54.00	-19.97	Average	100	73	P
7	15690.00	5.34	42.33	47.67	74.00	-26.33	Peak	100	73	P

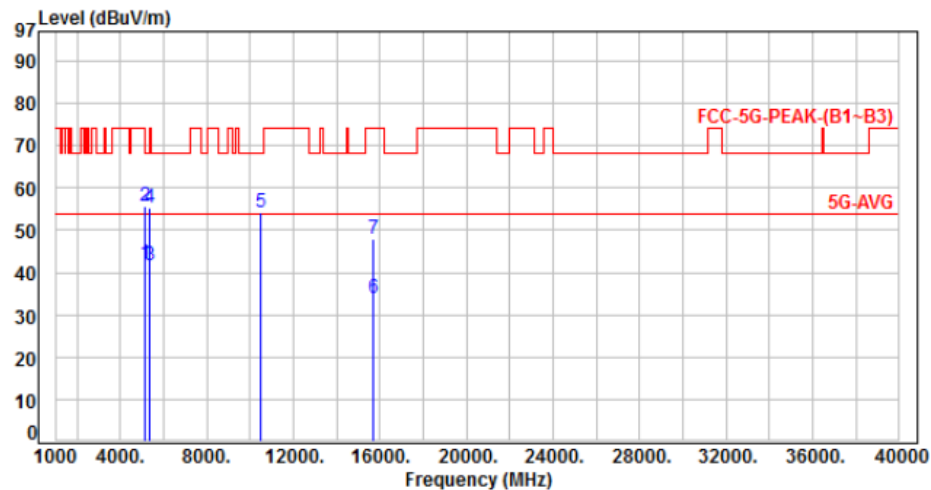
Note: Level=Reading+Factor

Margin=Level-Limit

Factor=Antenna Factor + cable loss - Amplifier Factor



Power	: AC 120V	Pol/Phase	: HORIZONTAL
Test Mode	: Mode 3, CH46, Band 1	Temperature	: 23 °C
Test Date	: Feb. 19, 2019	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	5150.00	-7.68	49.78	42.10	54.00	-11.90	Average	110	273	P
2	5150.00	-7.68	63.40	55.72	74.00	-18.28	Peak	110	273	P
3	5350.00	-7.30	48.90	41.60	54.00	-12.40	Average	110	273	P
4	5350.00	-7.30	62.60	55.30	74.00	-18.70	Peak	110	273	P
5	10460.00	-0.02	54.31	54.29	68.20	-13.91	Peak	100	237	P
6	15690.00	5.34	28.63	33.97	54.00	-20.03	Average	100	350	P
7	15690.00	5.34	42.57	47.91	74.00	-26.09	Peak	100	350	P

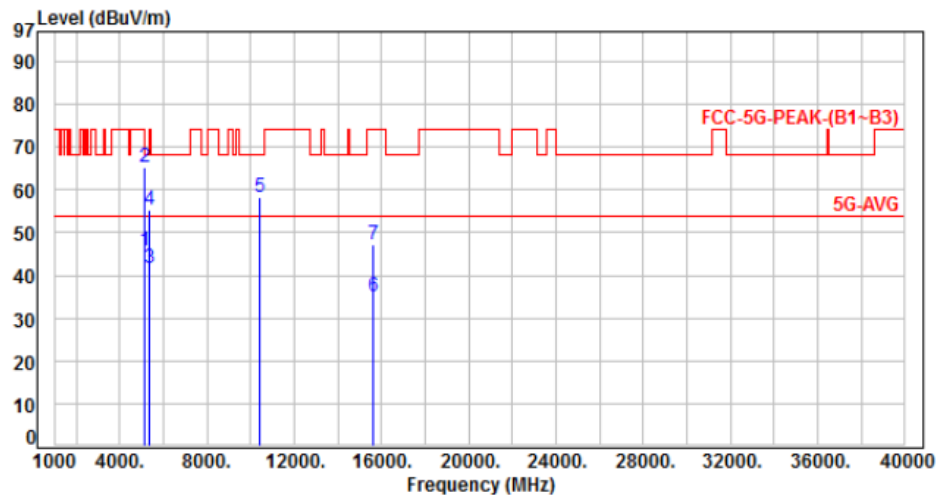
Note: Level=Reading+Factor

Margin=Level-Limit

Factor=Antenna Factor + cable loss - Amplifier Factor



Power	: AC 120V	Pol/Phase	: VERTICAL
Test Mode	: Mode 4, CH42, Band 1	Temperature	: 23 °C
Test Date	: Feb. 19, 2019	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	5150.00	-7.68	53.40	45.72	54.00	-8.28	Average	180	310	P
2	5150.00	-7.68	72.80	65.12	74.00	-8.88	Peak	180	310	P
3	5350.00	-7.30	48.95	41.65	54.00	-12.35	Average	180	310	P
4	5350.00	-7.30	62.60	55.30	74.00	-18.70	Peak	180	310	P
5	10420.00	-0.05	58.20	58.15	68.20	-10.05	Peak	148	314	P
6	15630.00	5.30	29.66	34.96	54.00	-19.04	Average	100	67	P
7	15630.00	5.30	41.80	47.10	74.00	-26.90	Peak	100	67	P

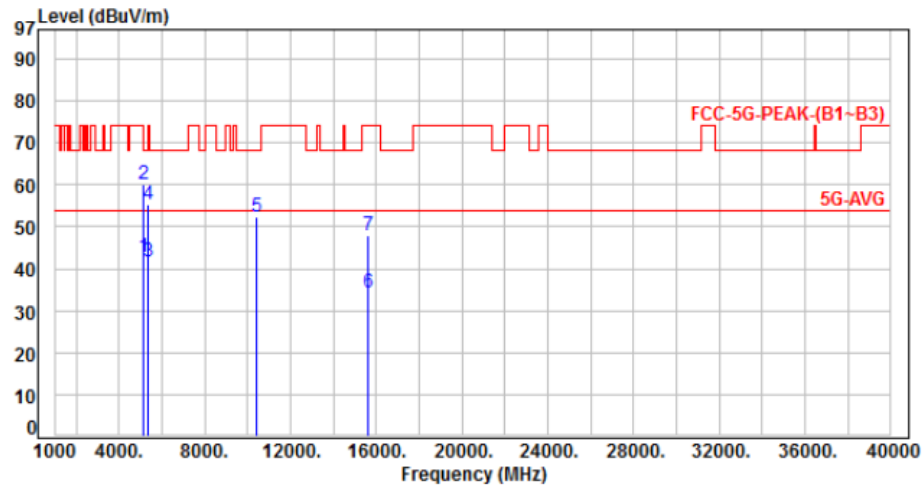
Note: Level=Reading+Factor

Margin=Level-Limit

Factor=Antenna Factor + cable loss - Amplifier Factor



Power	: AC 120V	Pol/Phase	: HORIZONTAL
Test Mode	: Mode 4, CH42, Band 1	Temperature	: 23 °C
Test Date	: Feb. 19, 2019	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	5150.00	-7.68	50.60	42.92	54.00	-11.08	Average	100	274	P
2	5150.00	-7.68	67.80	60.12	74.00	-13.88	Peak	100	274	P
3	5350.00	-7.30	48.90	41.60	54.00	-12.40	Average	100	274	P
4	5350.00	-7.30	62.60	55.30	74.00	-18.70	Peak	100	274	P
5	10420.00	-0.05	52.60	52.55	68.20	-15.65	Peak	100	224	P
6	15630.00	5.30	29.10	34.40	54.00	-19.60	Average	100	347	P
7	15630.00	5.30	42.55	47.85	74.00	-26.15	Peak	100	347	P

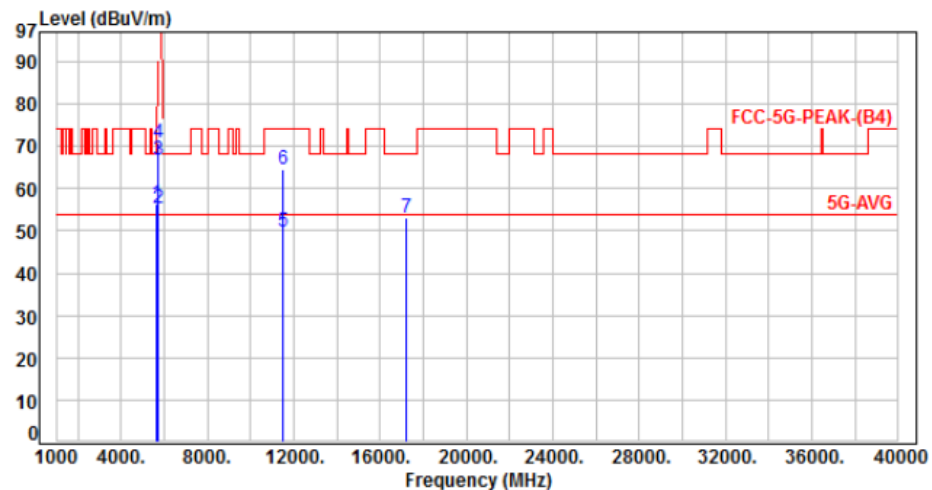
Note: Level=Reading+Factor

Margin=Level-Limit

Factor=Antenna Factor + cable loss - Amplifier Factor



Power	: AC 120V	Pol/Phase	: VERTICAL
Test Mode	: Mode 1, CH149, Band 4	Temperature	: 23 °C
Test Date	: Feb. 19, 2019	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	5650.00	-6.97	63.40	56.43	68.20	-11.77	Peak	155	295	P
2	5700.00	-6.95	62.30	55.35	105.20	-49.85	Peak	155	295	P
3	5720.00	-6.95	73.80	66.85	110.80	-43.95	Peak	155	295	P
4	5725.00	-6.95	77.91	70.96	122.20	-51.24	Peak	155	295	P
5	11490.00	1.18	48.71	49.89	54.00	-4.11	Average	100	311	P
6	11490.00	1.18	63.51	64.69	74.00	-9.31	Peak	100	311	P
7	17235.00	11.64	41.50	53.14	68.20	-15.06	Peak	100	73	P

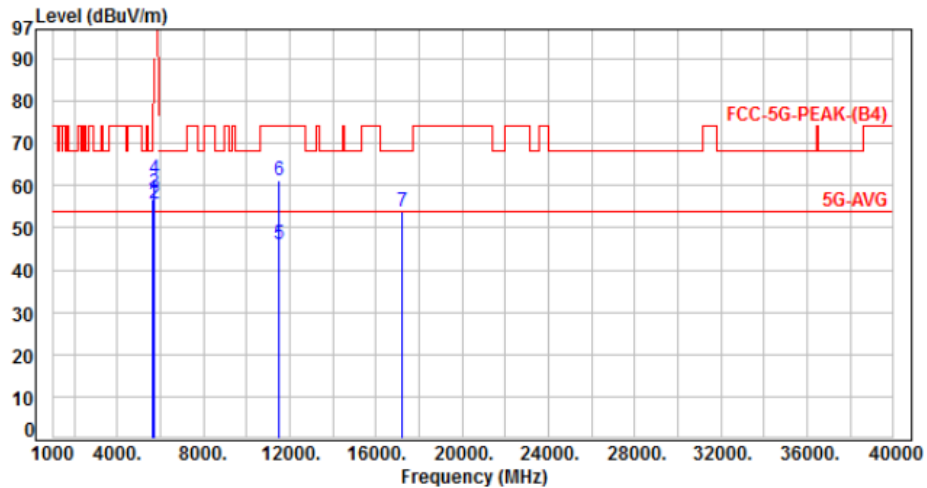
Note: Level=Reading+Factor

Margin=Level-Limit

Factor=Antenna Factor + cable loss - Amplifier Factor



Power	: AC 120V	Pol/Phase	: HORIZONTAL
Test Mode	: Mode 1, CH149, Band 4	Temperature	: 23 °C
Test Date	: Feb. 19, 2019	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	5650.00	-6.97	63.60	56.63	68.20	-11.57	Peak	100	220	P
2	5700.00	-6.95	62.80	55.85	105.20	-49.35	Peak	100	220	P
3	5720.00	-6.95	65.40	58.45	110.80	-52.35	Peak	100	220	P
4	5725.00	-6.95	68.61	61.66	122.20	-60.54	Peak	100	220	P
5	11490.00	1.18	45.01	46.19	54.00	-7.81	Average	100	227	P
6	11490.00	1.18	59.91	61.09	74.00	-12.91	Peak	100	227	P
7	17235.00	11.64	42.05	53.69	68.20	-14.51	Peak	100	302	P

Note: Level=Reading+Factor

Margin=Level-Limit

Factor=Antenna Factor + cable loss - Amplifier Factor