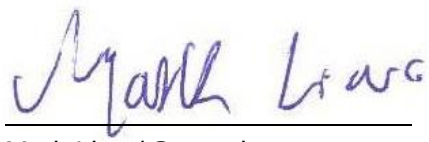
FCC RADIO TEST REPORT

Applicant	:	Partner Tech Corp.
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 :

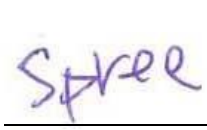
The sample was received on Jan. 17, 2019 and the testing was carried out on Mar. 05, 2019 at Cerpass Technology Corp. The test result refers exclusively to the test presented test model / sample. Without written approval of Cerpass Technology Corp., the test report shall not be reproduced except in full.

Approved by:



Mark Liao / Supervisor

Tested by:



Spree Yeh / Engineer

Laboratory Accreditation:

Cerpass Technology Corporation Test Laboratory

Contents

History of this test report

Report No.	Issue Date	Description
TEFU1901083	Mar. 14, 2019	Original

1. Summary of Test Procedure and Test Results

1.1 Applicable Standards

ANSI C63.4:2014

ANSI C63.10:2013

FCC Rule	. Description of Test	Result
15.203	. CO-LOCATION	PASS

This EUT has been also tested and complied with the requirement of FCC Part 15, Subpart B, recorded in a separate test report (TEFB1901083).

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, π/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, π/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 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 Notebook and EUT for RF test.
c. An executive program, ”qdart: win.4.8_installer_00039.311-11-17_08_03_48” and “Tag writer “ was executed to transmit and receive data.
d. The following test modes were performed for the test:

Test Mode	Operating Description
1	NFC +BT 8DPSK(3Mbps) CH39 + WIFI 2.4G 11G CH6, Adapter:EDAC \ EA1024P1
2	NFC +BT 8DPSK(3Mbps) CH39 + WIFI 5G 11A CH149, Adapter:EDAC \ EA1024P1

2.4 Description of Test System

Device	Manufacturer	Model No.	Description
Notebook	DELL	Latitude E5450	Power Cable, Non-shielded, 1.8m
USB cable	N/A	N/A	Shielding, 1.2m

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 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℃
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	2018/09/12	2019/09/11
LISN	Schwarzbeck	NSLK 8127	8127-516	2018/09/11	2019/09/10
Pulse Limiter	R&S	ESH3-Z2	101933	2018/09/04	2019/09/03
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	31970	2018/03/23	2019/03/22
Preamplifier	EM	EM330	60659	2018/03/20	2019/03/19
Preamplifier	EMC INSTRUMENTS	EMC051845SE	980333	2018/09/18	2019/09/17
Preamplifier	EMC INSTRUMENTS	EMC184045	980065	2018/10/31	2019/10/30
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	2018/09/04	2019/09/03
Rotary Attenuator	Agilent	8495B	MY42146680	2018/03/29	2019/03/28
Temp & Humi chamber	T-MACHINE	TMJ-9712	T-12-040111	2018/08/30	2019/08/29
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. Test of AC Power Line Conducted Emission

4.1 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.

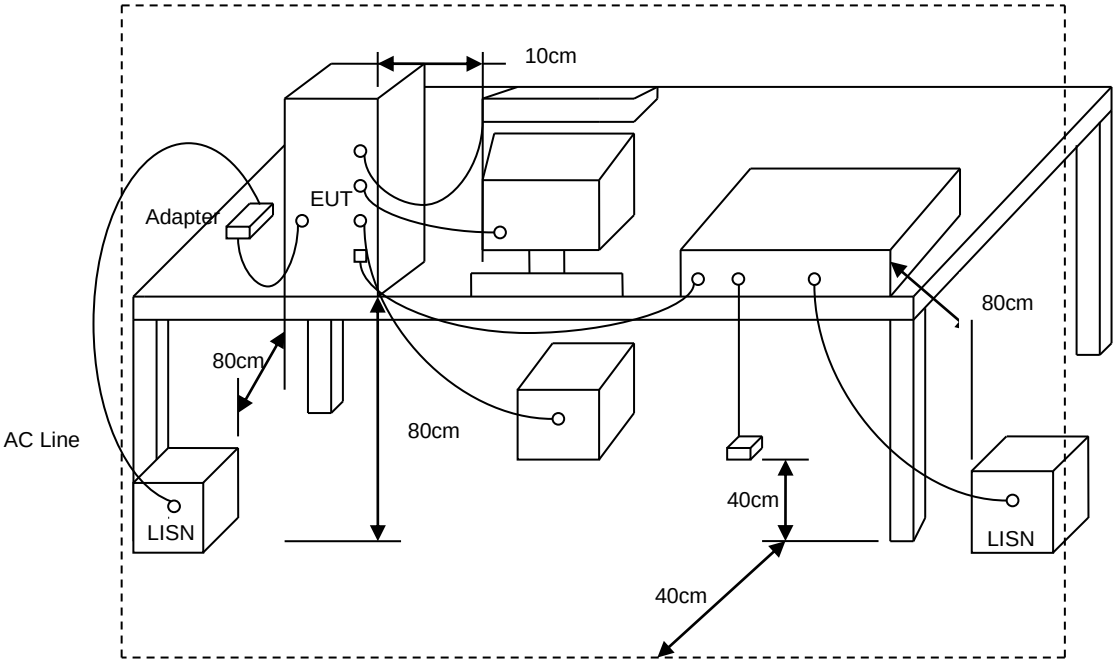
Frequency (MHz)	Quasi Peak (dB μ V)	Average (dB μ V)
0.15 – 0.5	66-56*	56-46*
0.5 – 5.0	56	46
5.0 – 30.0	60	50

*Decreases with the logarithm of the frequency.

4.2 Test Procedures

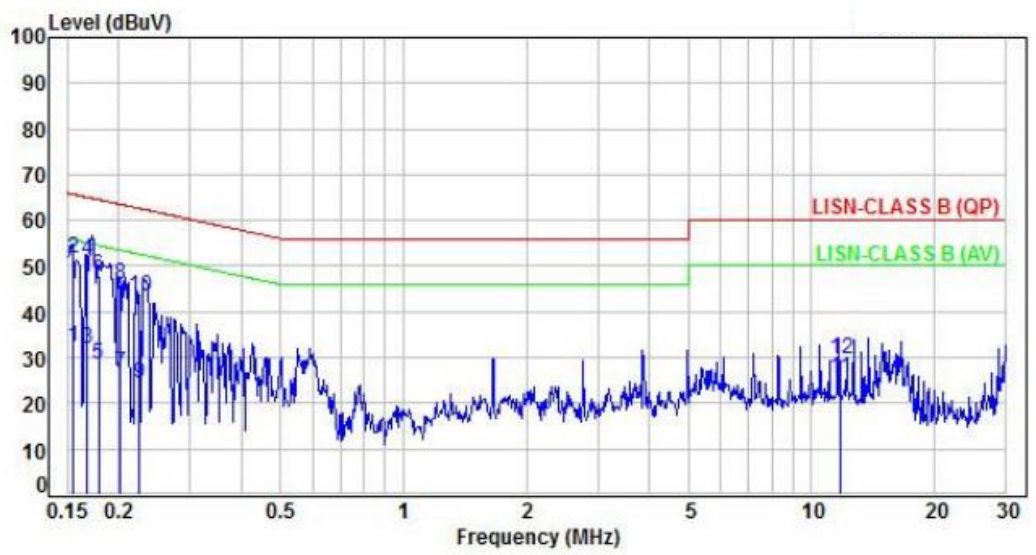
a. The EUT was placed 0.4 meter from the conducting wall of the shielding room was kept at least 80 centimeters from any other grounded conducting surface.
b. Connect EUT to the power mains through a line impedance stabilization network (LISN).
c. All the support units are connecting to the other LISN.
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.

4.3 Typical Test Setup



4.4 Test Result and Data

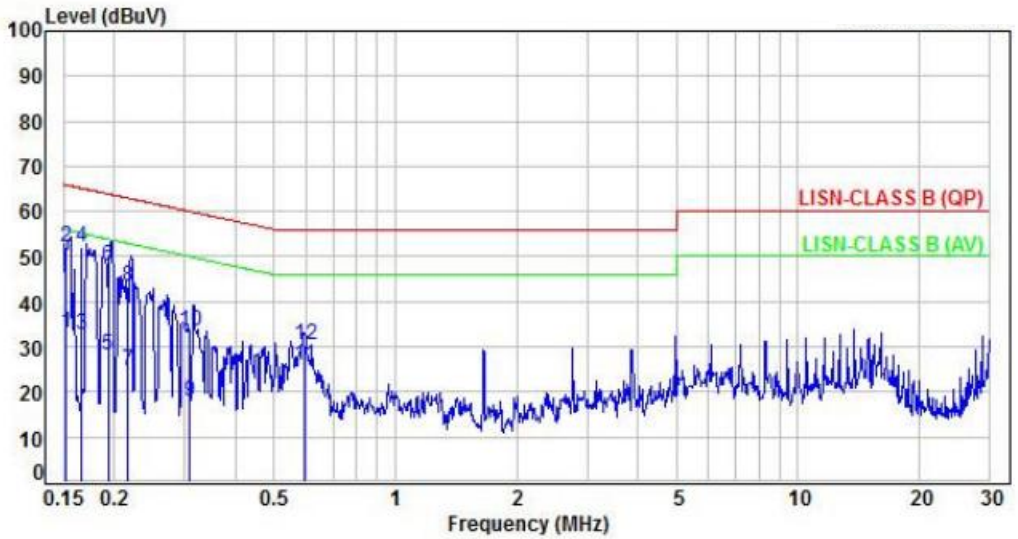
Power	:	AC 120V	Pol/Phase	:	LINE
Test Mode	:	Mode 1	Temperature	:	22 °C
Test Date	:	Mar. 05, 2019	Humidity	:	52 %



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector	P/F
1	0.16	9.94	22.44	32.38	55.70	-23.32	Average	P
2	0.16	9.94	41.78	51.72	65.70	-13.98	QP	P
3	0.17	9.94	21.86	31.80	55.06	-23.26	Average	P
4	0.17	9.94	41.54	51.48	65.06	-13.58	QP	P
5	0.18	9.94	18.39	28.33	54.56	-26.23	Average	P
6	0.18	9.94	37.94	47.88	64.56	-16.68	QP	P
7	0.20	9.94	16.53	26.47	53.53	-27.06	Average	P
8	0.20	9.94	35.98	45.92	63.53	-17.61	QP	P
9	0.23	9.94	14.29	24.23	52.63	-28.40	Average	P
10	0.23	9.94	33.27	43.21	62.63	-19.42	QP	P
11	11.74	10.34	15.21	25.55	50.00	-24.45	Average	P
12	11.74	10.34	19.39	29.73	60.00	-30.27	QP	P

Note: Level=Reading+Factor
Margin=Level-Limit
Factor=(LISN or ISN or Current Probe)Factor + Cable Loss

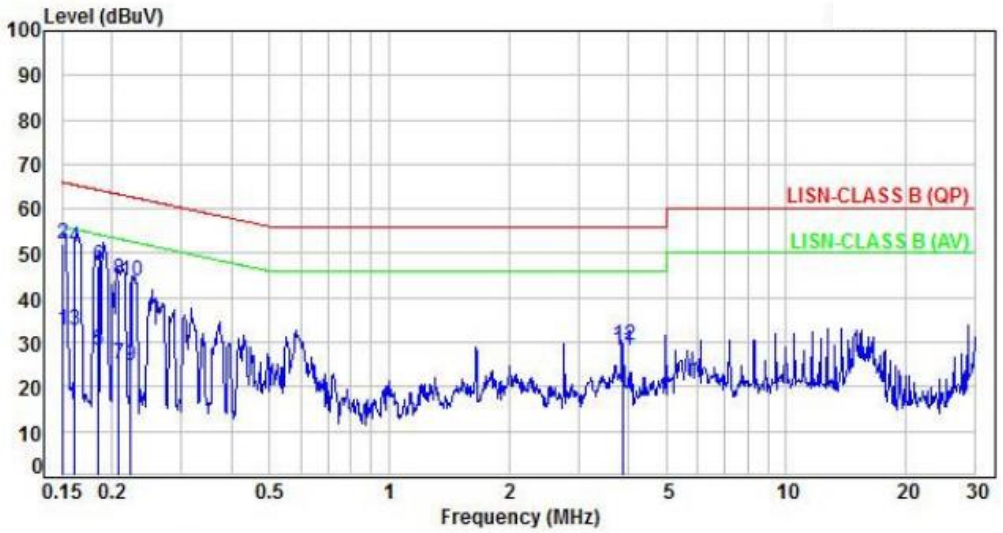
Power	:	AC 120V	Pol/Phase	:	NEUTRAL
Test Mode	:	Mode 1	Temperature	:	22 °C
Test Date	:	Mar. 05, 2019	Humidity	:	52 %



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector	P/F
1	0.15	9.94	22.97	32.91	55.90	-22.99	Average	P
2	0.15	9.94	42.32	52.26	65.90	-13.64	QP	P
3	0.17	9.94	22.73	32.67	55.15	-22.48	Average	P
4	0.17	9.94	42.21	52.15	65.15	-13.00	QP	P
5	0.19	9.94	18.30	28.24	53.90	-25.66	Average	P
6	0.19	9.94	37.79	47.73	63.90	-16.17	QP	P
7	0.22	9.94	14.87	24.81	52.95	-28.14	Average	P
8	0.22	9.94	33.26	43.20	62.95	-19.75	QP	P
9	0.31	9.94	8.00	17.94	50.05	-32.11	Average	P
10	0.31	9.94	23.70	33.64	60.05	-26.41	QP	P
11	0.59	9.95	15.76	25.71	46.00	-20.29	Average	P
12	0.59	9.95	20.40	30.35	56.00	-25.65	QP	P

Note: Level=Reading+Factor
Margin=Level-Limit
Factor=(LISN or ISN or Current Probe)Factor + Cable Loss

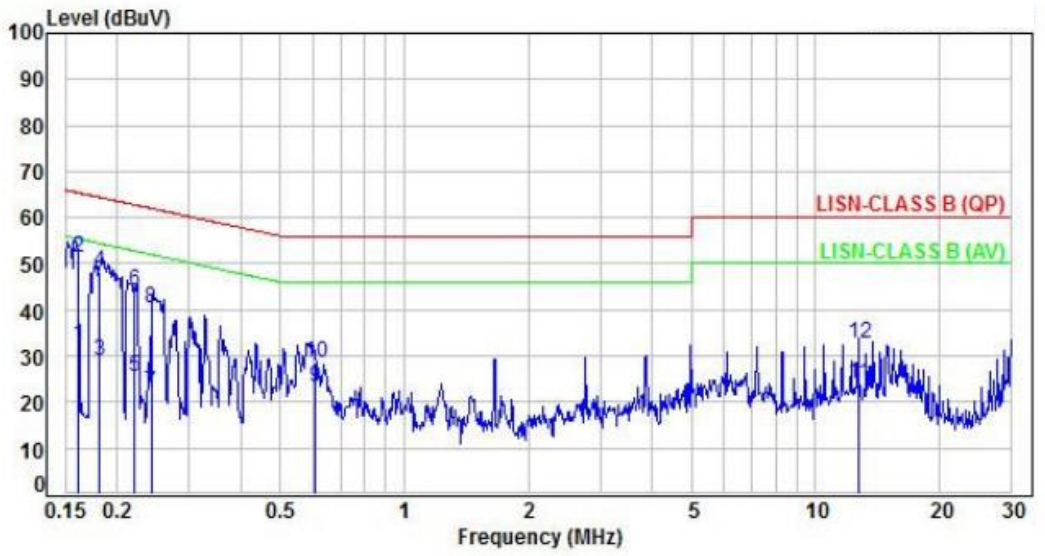
Power	:	AC 120V	Pol/Phase	:	LINE
Test Mode	:	Mode 2	Temperature	:	22 °C
Test Date	:	Mar. 05, 2019	Humidity	:	52 %



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector	P/F
1	0.15	9.94	22.86	32.80	55.98	-23.18	Average	P
2	0.15	9.94	42.09	52.03	65.98	-13.95	QP	P
3	0.16	9.94	22.60	32.54	55.41	-22.87	Average	P
4	0.16	9.94	41.42	51.36	65.41	-14.05	QP	P
5	0.18	9.94	18.36	28.30	54.31	-26.01	Average	P
6	0.18	9.94	37.32	47.26	64.31	-17.05	QP	P
7	0.21	9.94	15.03	24.97	53.29	-28.32	Average	P
8	0.21	9.94	34.06	44.00	63.29	-19.29	QP	P
9	0.22	9.94	14.62	24.56	52.72	-28.16	Average	P
10	0.22	9.94	33.97	43.91	62.72	-18.81	QP	P
11	3.87	10.12	17.97	28.09	46.00	-17.91	Average	P
12	3.87	10.12	19.02	29.14	56.00	-26.86	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 2	Temperature	:	22 °C
Test Date	:	Mar. 05, 2019	Humidity	:	52 %



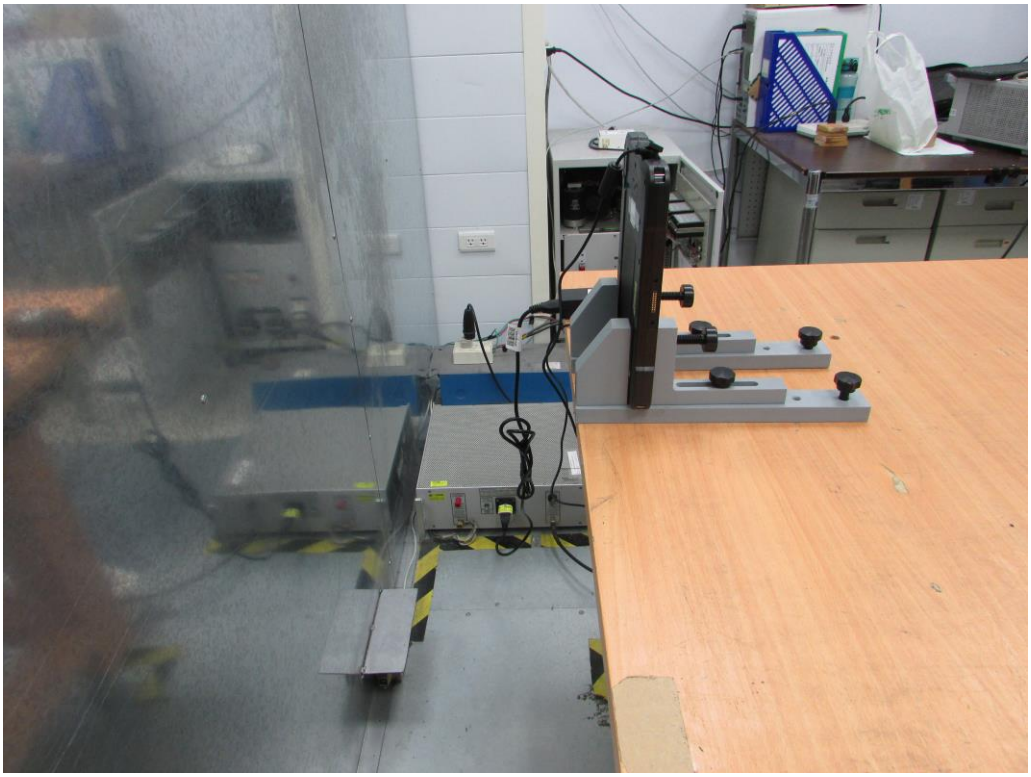
No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector	P/F
1	0.16	9.94	22.51	32.45	55.45	-23.00	Average	P
2	0.16	9.94	41.44	51.38	65.45	-14.07	QP	P
3	0.18	9.94	19.05	28.99	54.41	-25.42	Average	P
4	0.18	9.94	38.27	48.21	64.41	-16.20	QP	P
5	0.22	9.94	15.44	25.38	52.80	-27.42	Average	P
6	0.22	9.94	34.19	44.13	62.80	-18.67	QP	P
7	0.24	9.94	11.94	21.88	52.02	-30.14	Average	P
8	0.24	9.94	30.28	40.22	62.02	-21.80	QP	P
9	0.60	9.96	13.18	23.14	46.00	-22.86	Average	P
10	0.60	9.96	18.63	28.59	56.00	-27.41	QP	P
11	12.75	10.33	13.46	23.79	50.00	-26.21	Average	P
12	12.75	10.33	22.30	32.63	60.00	-27.37	QP	P

Note: Level=Reading+Factor
Margin=Level-Limit
Factor=(LISN or ISN or Current Probe)Factor + Cable Loss

4.5 Test Photographs

Front View

Rear View



5. Test of Spurious Emission (Radiated)

5.1 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).

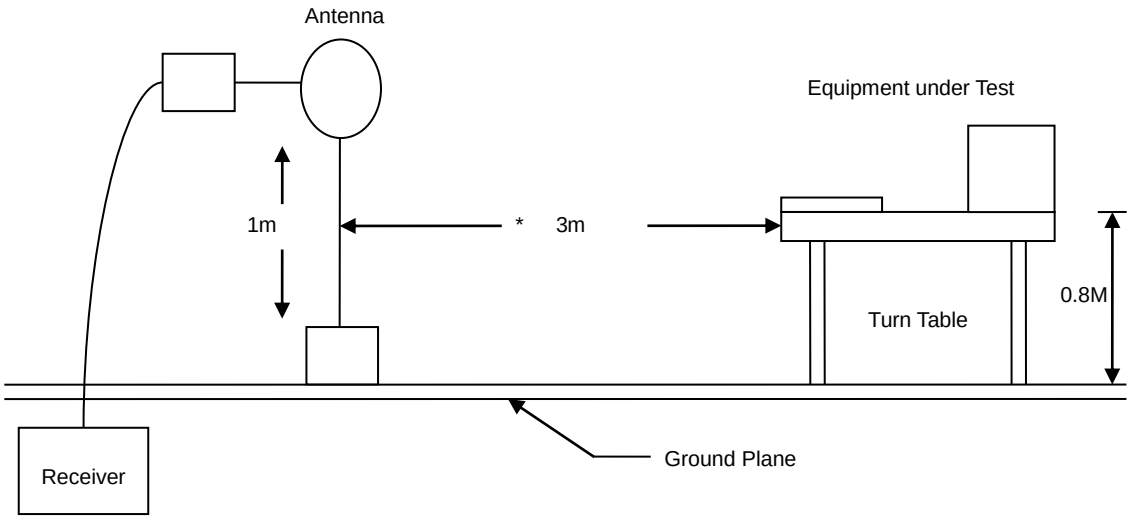
Frequency (MHz)	Field Strength (microvolt/meter)	Measurement Distance (meters)
0.009 ~ 0.490	2400/F(kHz)	300
0.490 ~ 1.705	24000/F(kHz)	30
1.705 ~ 30.0	30	30
30 ~ 88	100	3
88 ~ 216	150	3
216 ~ 960	200	3
Above 960	500	3

5.2 Test Procedures

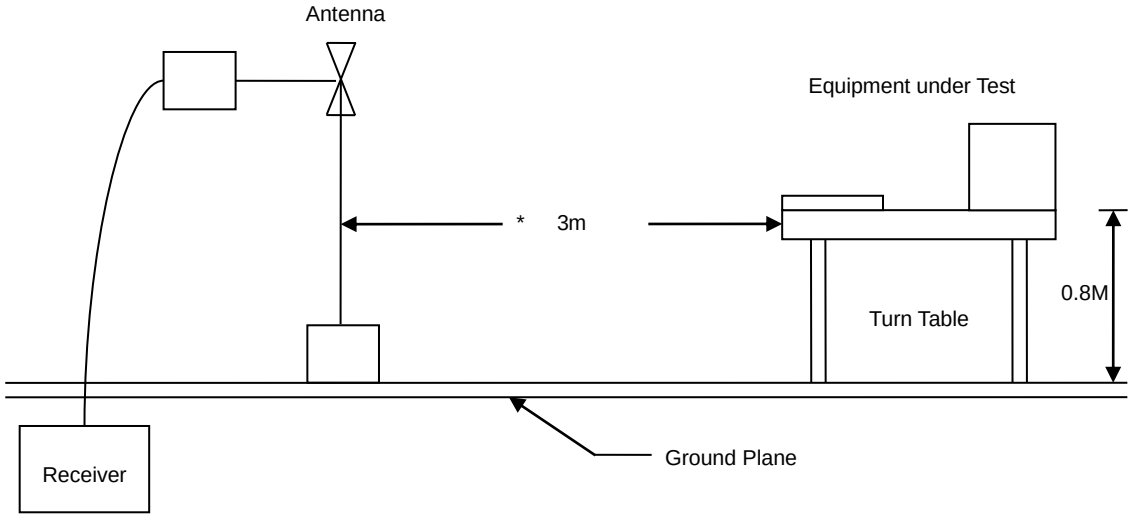
a. The EUT was placed on a rotatable table top 0.8 meter above ground.
b. The EUT was set 3 meters from the interference receiving antenna which was mounted on the top of a variable height antenna tower.
c. The table was rotated 360 degrees to determine the position of the highest radiation.
d. The antenna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

5.3 Typical Test Setup

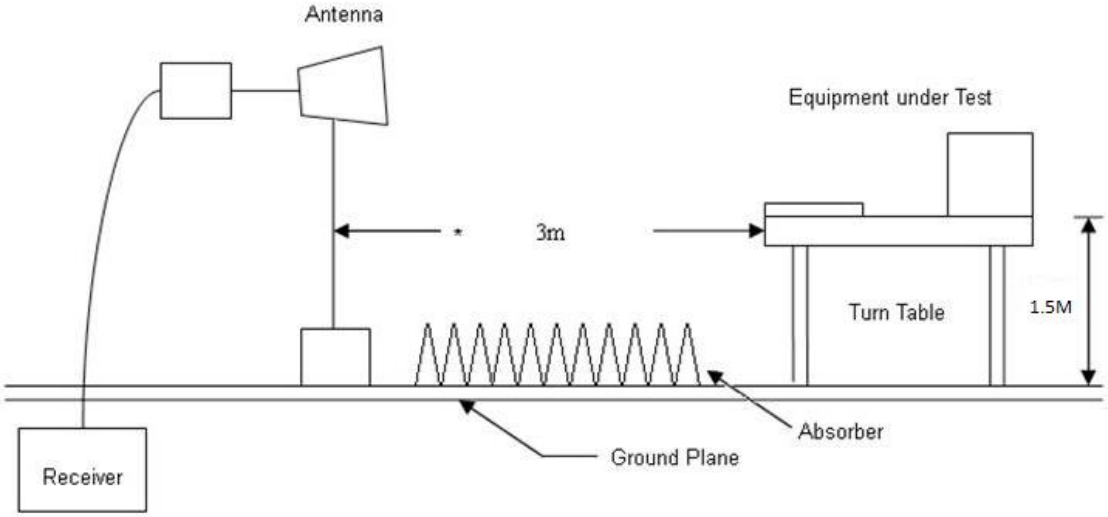
Below 30MHz test setup



30MHz- 1GHz Test Setup



Above 1GHz Test Setup

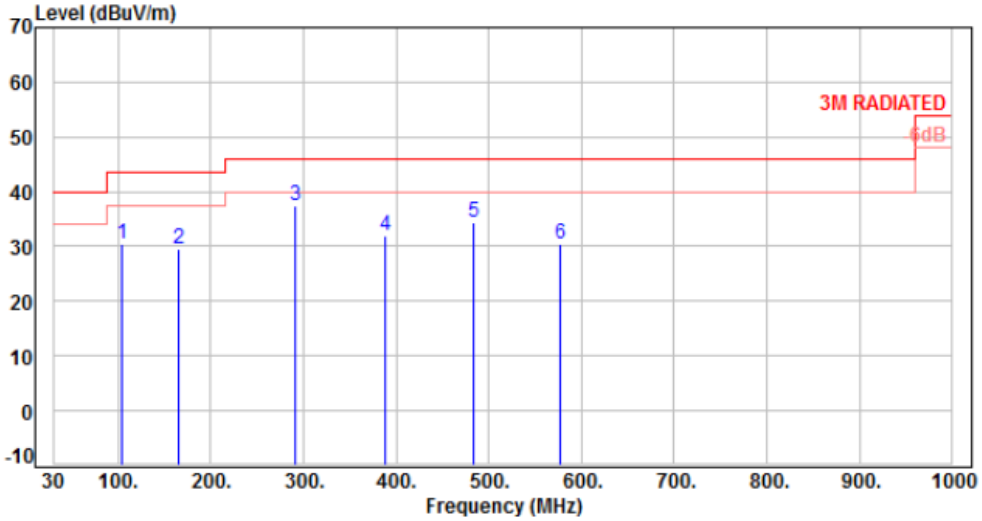


5.4 Test Result and Data (9kHz ~ 30MHz)

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

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

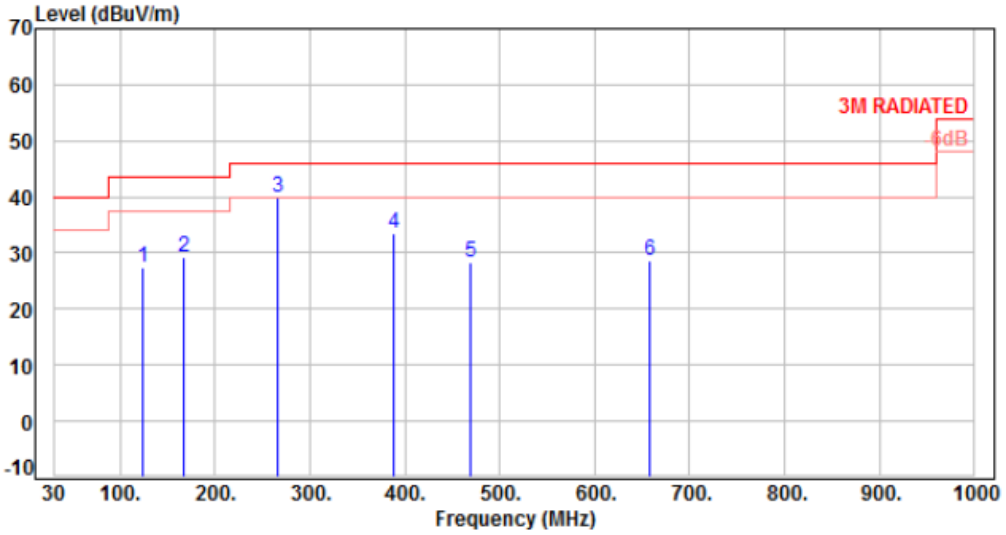
Power	:	AC 120V	Pol/Phase	:	VERTICAL
Test Mode	:	Mode 1	Temperature	:	23 °C
Test Date	:	Feb. 19, 2019	Humidity	:	61 %



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	104.69	-13.60	43.93	30.33	43.50	-13.17	Peak	400	0	P
2	165.80	-9.28	38.72	29.44	43.50	-14.06	Peak	400	0	P
3	291.90	-8.79	46.37	37.58	46.00	-8.42	Peak	400	0	P
4	387.93	-6.05	37.99	31.94	46.00	-14.06	Peak	400	0	P
5	482.99	-4.09	38.65	34.56	46.00	-11.44	Peak	400	0	P
6	577.08	-2.10	32.71	30.61	46.00	-15.39	Peak	400	0	P

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

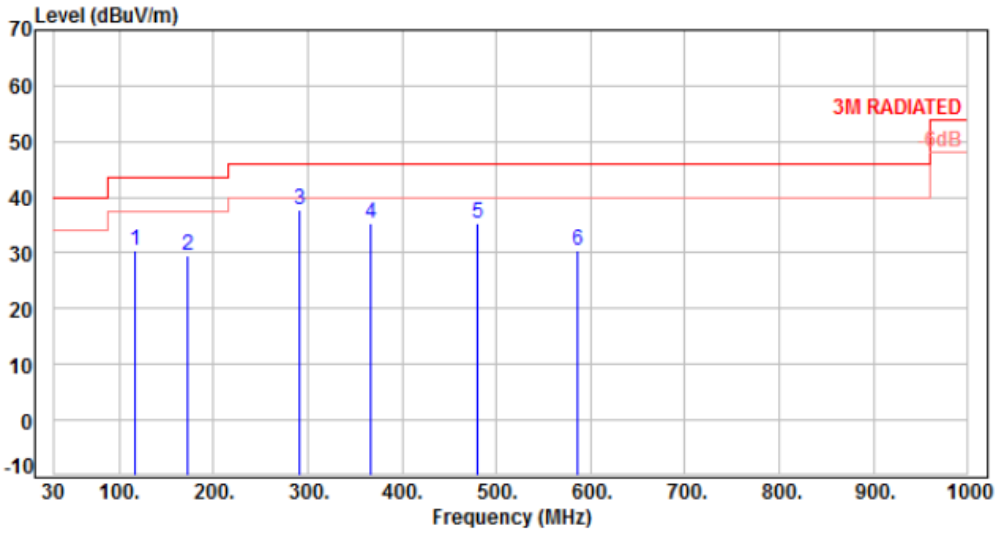
Power	:	AC 120V	Pol/Phase	:	HORIZONTAL
Test Mode	:	Mode 1	Temperature	:	23 °C
Test Date	:	Feb. 19, 2019	Humidity	:	61 %



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	123.12	-11.44	38.99	27.55	43.50	-15.95	Peak	100	0	P
2	166.77	-9.28	38.54	29.26	43.50	-14.24	Peak	100	0	P
3	265.71	-9.73	49.66	39.93	46.00	-6.07	Peak	100	0	P
4	388.90	-6.03	39.43	33.40	46.00	-12.60	Peak	100	0	P
5	469.41	-4.34	32.82	28.48	46.00	-17.52	Peak	100	0	P
6	657.59	-0.93	29.52	28.59	46.00	-17.41	Peak	100	0	P

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

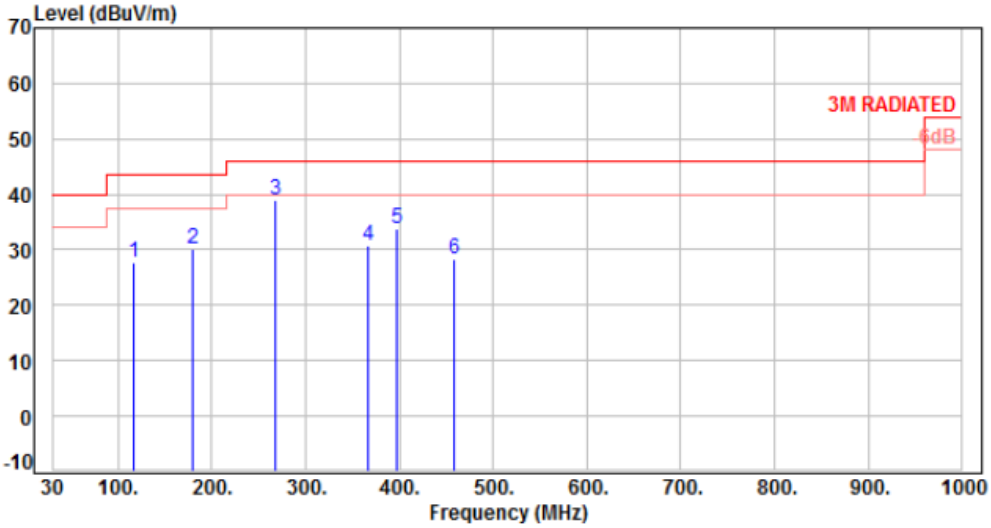
Power	:	AC 120V	Pol/Phase	:	VERTICAL
Test Mode	:	Mode 2	Temperature	:	23 °C
Test Date	:	Feb. 19, 2019	Humidity	:	61 %



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	116.33	-12.09	42.59	30.50	43.50	-13.00	Peak	400	0	P
2	172.59	-9.84	39.47	29.63	43.50	-13.87	Peak	400	0	P
3	291.90	-8.79	46.48	37.69	46.00	-8.31	Peak	400	0	P
4	366.59	-6.65	42.10	35.45	46.00	-10.55	Peak	400	0	P
5	480.08	-4.17	39.52	35.35	46.00	-10.65	Peak	400	0	P
6	585.81	-1.84	32.34	30.50	46.00	-15.50	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 2	Temperature	:	23 °C
Test Date	:	Feb. 19, 2019	Humidity	:	61 %

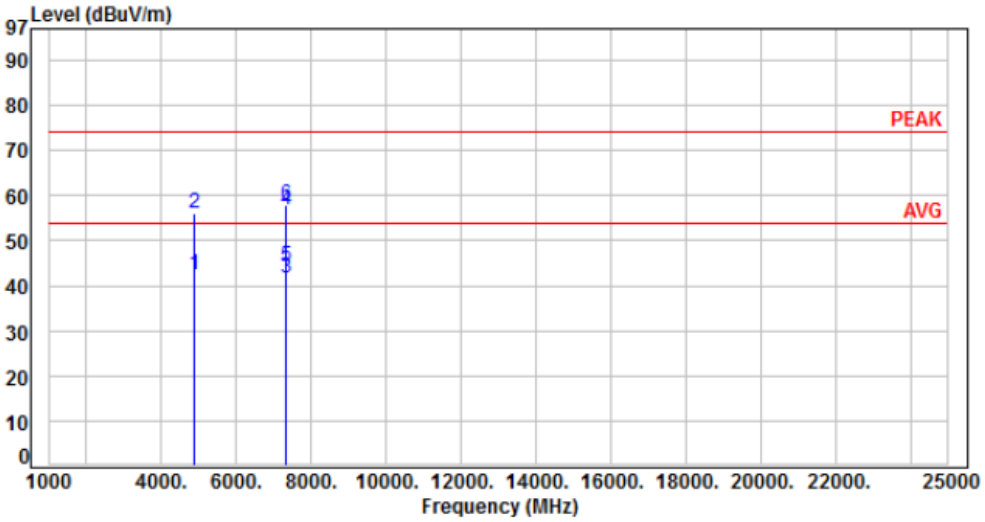


No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	116.33	-12.09	39.70	27.61	43.50	-15.89	Peak	100	0	P
2	179.38	-10.73	40.78	30.05	43.50	-13.45	Peak	100	0	P
3	268.62	-9.53	48.61	39.08	46.00	-6.92	Peak	100	0	P
4	366.59	-6.65	37.36	30.71	46.00	-15.29	Peak	100	0	P
5	396.66	-5.85	39.61	33.76	46.00	-12.24	Peak	100	0	P
6	458.74	-4.54	32.82	28.28	46.00	-17.72	Peak	100	0	P

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

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

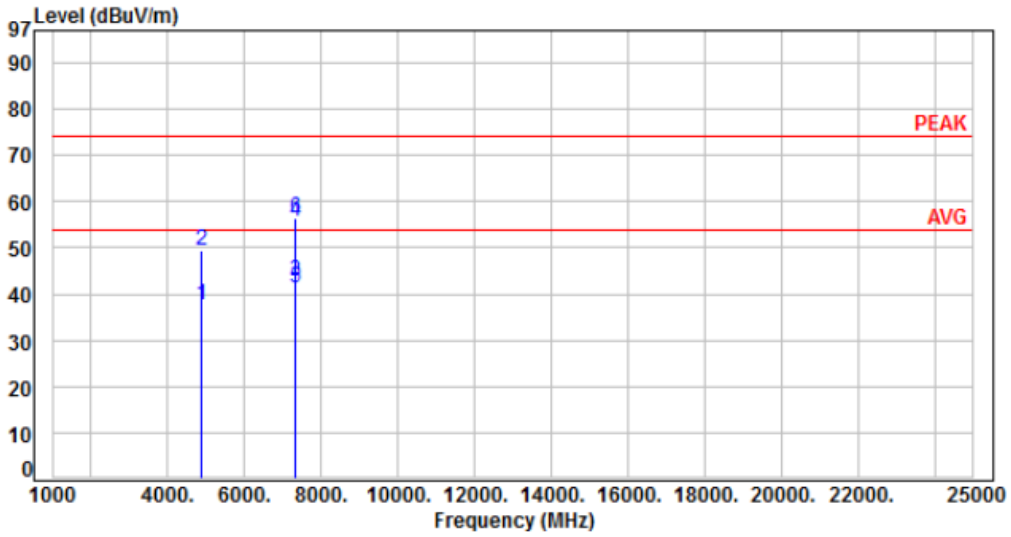
Power	:	AC 120V	Pol/Phase	:	VERTICAL
Test Mode	:	Mode 1, CH06+CH39	Temperature	:	23 °C
Test Date	:	Feb. 19, 2019	Humidity	:	61 %



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	4874.00	-8.33	50.66	42.33	54.00	-11.67	Average	122	272	P
2	4874.00	-8.33	64.55	56.22	74.00	-17.78	Peak	122	272	P
3	7311.00	-3.86	45.36	41.50	54.00	-12.50	Average	100	85	P
4	7311.00	-3.86	60.58	56.72	74.00	-17.28	Peak	100	85	P
5	7323.00	-3.83	48.25	44.42	54.00	-9.58	Average	100	293	P
6	7323.00	-3.83	61.66	57.83	74.00	-16.17	Peak	100	293	P

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

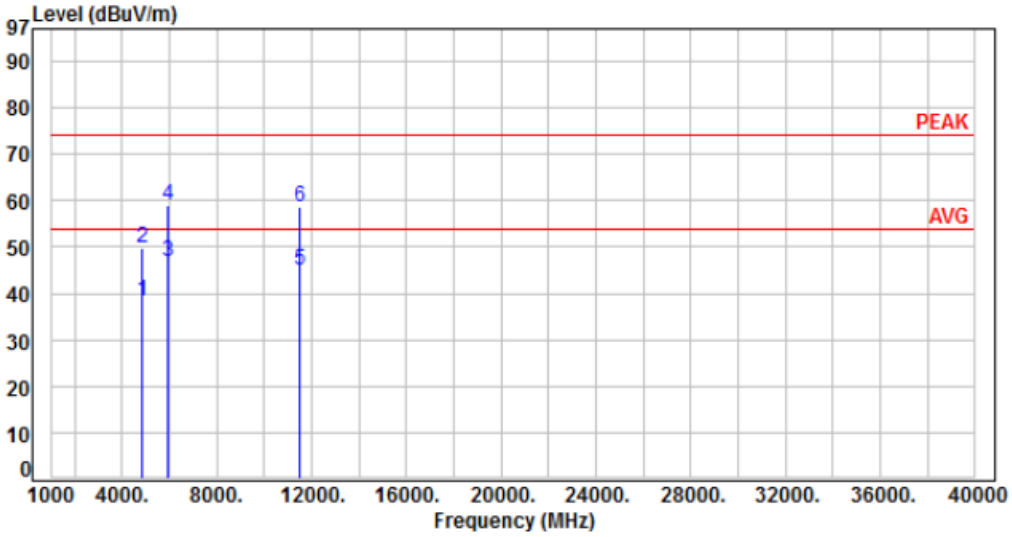
Power	:	AC 120V	Pol/Phase	:	HORIZONTAL
Test Mode	:	Mode 1, CH06+CH39	Temperature	:	23 °C
Test Date	:	Feb. 19, 2019	Humidity	:	61 %



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	4874.00	-8.33	46.11	37.78	54.00	-16.22	Average	291	160	P
2	4874.00	-8.33	57.68	49.35	74.00	-24.65	Peak	291	160	P
3	7311.00	-3.86	46.55	42.69	54.00	-11.31	Average	100	299	P
4	7311.00	-3.86	59.67	55.81	74.00	-18.19	Peak	100	299	P
5	7323.00	-3.83	45.22	41.39	54.00	-12.61	Average	100	347	P
6	7323.00	-3.83	60.44	56.61	74.00	-17.39	Peak	100	347	P

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

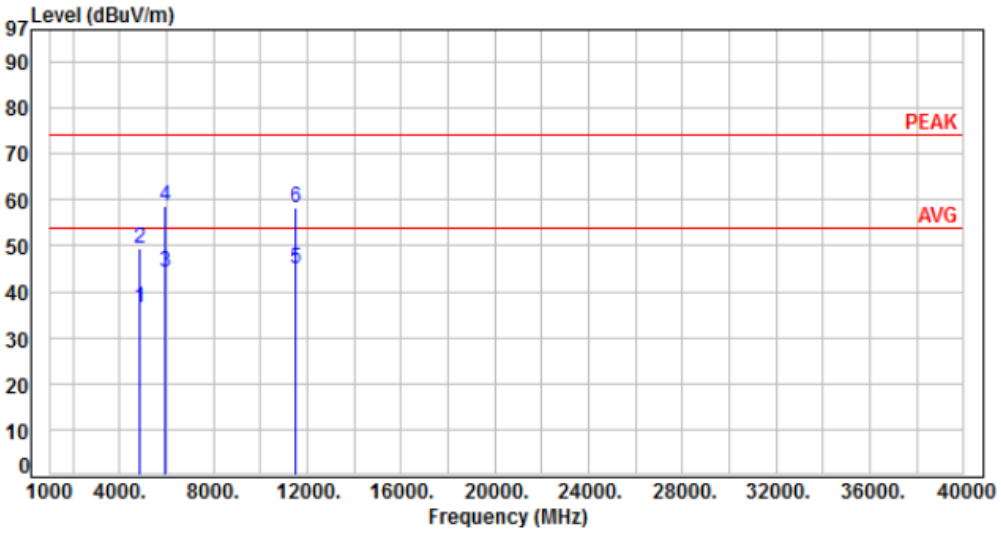
Power	:	AC 120V	Pol/Phase	:	VERTICAL
Test Mode	:	Mode 2, CH149+CH39	Temperature	:	23 °C
Test Date	:	Feb. 19, 2019	Humidity	:	61 %



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	4882.00	-8.30	46.80	38.50	54.00	-15.50	Average	249	50	P
2	4882.00	-8.30	58.15	49.85	74.00	-24.15	Peak	249	50	P
3	5944.00	-6.87	53.60	46.73	54.00	-7.27	Average	177	343	P
4	5944.00	-6.87	65.80	58.93	74.00	-15.07	Peak	177	343	P
5	11490.00	1.18	43.91	45.09	54.00	-8.91	Average	100	252	P
6	11490.00	1.18	57.51	58.69	74.00	-15.31	Peak	100	252	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, CH149+CH39	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	4882.00	-8.30	44.64	36.34	54.00	-17.66	Average	223	314	P
2	4882.00	-8.30	57.80	49.50	74.00	-24.50	Peak	223	314	P
3	5944.00	-6.87	51.28	44.41	54.00	-9.59	Average	100	122	P
4	5944.00	-6.87	65.66	58.79	74.00	-15.21	Peak	100	122	P
5	11490.00	1.18	43.81	44.99	54.00	-9.01	Average	100	324	P
6	11490.00	1.18	57.23	58.41	74.00	-15.59	Peak	100	324	P

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

5.7 Restricted Bands of Operation

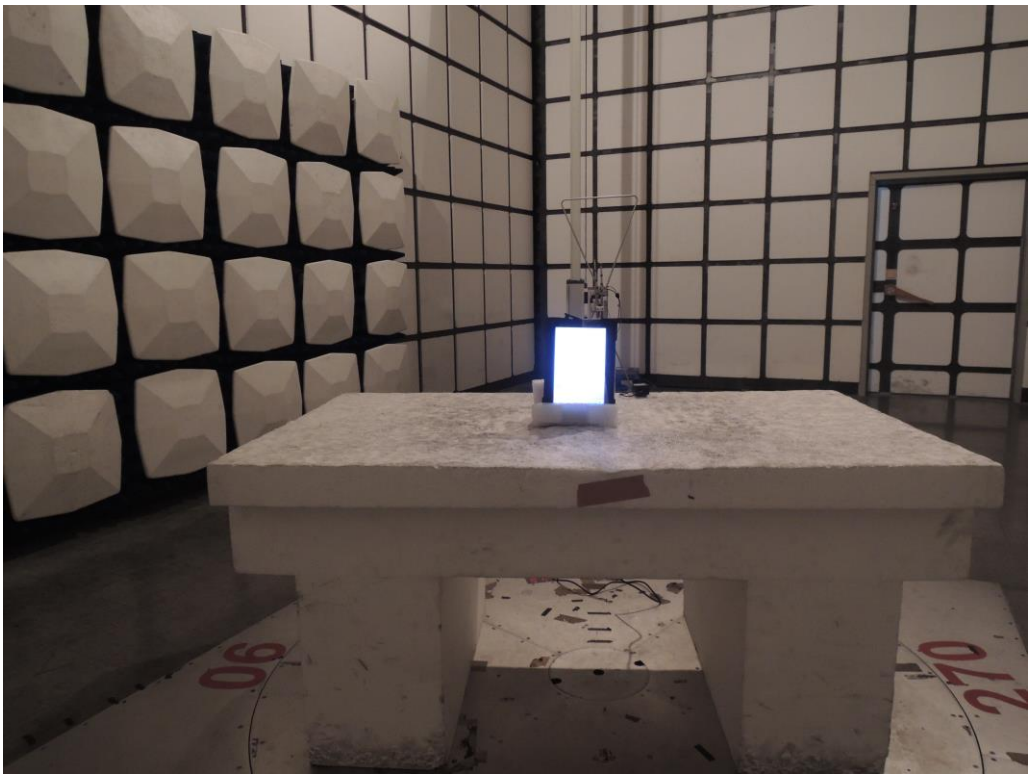
Only spurious emissions are permitted in any of the frequency bands listed below:

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			

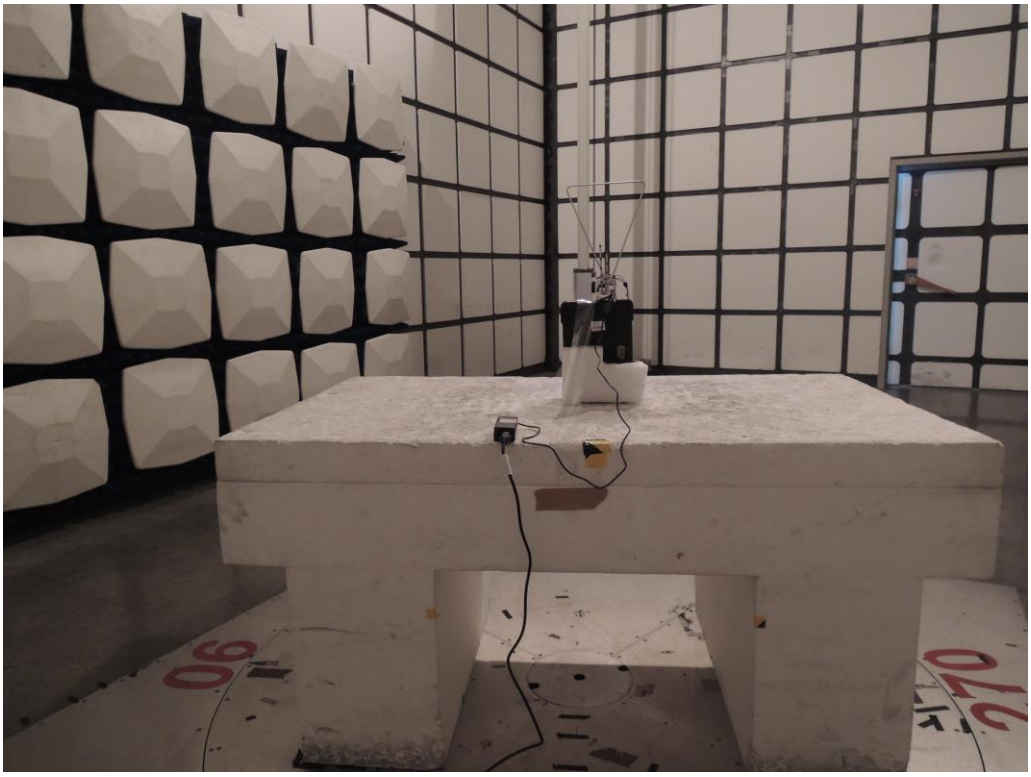
**: Until February 1, 1999, this restricted band shall be 0.490-0.510 MHz

5.8 Test Photographs (30MHz ~ 1GHz)

Front View



Rear View



5.9 Test Photographs (1GHz ~ 25GHz)

Front View

Rear View