FCC RADIO TEST REPORT

Applicant	:	ELO TOUCH SOLUTIONS, INC.
Address	:	670 N. McCarthy Blvd., Suite 100 Milpitas, CA 95035 USA
Equipment	:	Touch All-in-One Computer
Model No.	:	ESY15I1E-C
Trade Name	:	Elo or elo
FCC ID	:	RBWESY15I1EC

I HEREBY CERTIFY THAT :

The sample was received on Jun. 27, 2024 and the testing was completed on Oct. 22, 2024 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

Laboratory Accreditation:

Cerpass Technology Corporation Test Laboratory

CONTENTS

History of this test report

Report No.	Issued Date	Description
24060472-TRFCC04	Oct. 24, 2024	Original

1. Summary of Test Procedure and Test Results

1.1. Applicable Standards

ANSI C63.10:2013

FCC Rules and Regulations Part 15 Subpart E §15.407

KDB 789033

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
2.1091	Radio Frequency Exposure	PASS

*The lab has reduced the uncertainty risk factor from test equipment, environment and staff technicians which according to the standard on contract. Therefore, the test result will only be determined by standard requirement,measurement uncertainty evaluation is not considered.

2. Test Configuration of Equipment under Test

2.1. Feature of Equipment under Test

Operation Frequency Range	BT / BLE: 2400-2483.5MHz WLAN:802.11b/g/n/ax: 2400-2483.5MHz 5GHz:802.11a/n/ac/ax:5150-5250MHz, 5250-5350MHz, 5470-5725MHz, 5725-5875MHz 6GHz: 802.11a/ax: 5925MHz~6425MHz, 6425MHz~6525MHz 6525MHz~6875MHz, 6875MHz~7125MHz
Center Frequency Range	BT / BLE: 2402MHz-2480MHz WLAN:802.11b/g/n/ax: 2412MHz-2462MHz 5GHz:802.11a/n/ac/ax:5180-5240MHz, 5260-5320MHz, 5500-5720MHz, 5745-5825MHz 6GHz: 802.11a/ax: 5955MHz~6415MHz, 6435MHz~6515MHz 6535MHz~6855MHz, 6875MHz~7115MHz
Modulation Type	BT: GFSK, π/4-DQPSK, 8DPSK BLE: GFSK WLAN: 2.4GHz: 802.11b: CCK, DQPSK, DBPSK 802.11g/n: BPSK, QPSK, 16QAM, 64QAM 802.11ax: BPSK, QPSK, 16QAM, 64QAM, 256QAM, 1024QAM 5GHz: 802.11a/n: BPSK, QPSK, 16QAM, 64QAM 802.11ac: BPSK, QPSK, 16QAM, 64QAM, 256QAM 802.11ax: BPSK, QPSK, 16QAM, 64QAM, 256QAM, 1024QAM 6GHz 802.11a: BPSK, QPSK, 16QAM, 64QAM 802.11ax: BPSK, QPSK, 16QAM, 64QAM, 256QAM, 1024QAM
Modulation Technology	DSSS, OFDM, FHSS, DTS, OFDMA
Data Rate	BT: GFSK: 1Mbps, π/4-DQPSK: 2Mbps, 8DPSK: 3Mbps BLE: GFSK: 1Mbps, 2Mbps WLAN: 2.4GHz: 802.11b: 1, 2, 5.5, 11Mbps 802.11g: 6, 9, 12, 18, 24, 36, 48, 54Mbps 802.11n: MCS0 – MCS15, HT20/40 802.11ax: MCS0 – MCS11, HE20/40 5GHz: 802.11a: 6, 9, 12, 18, 24, 36, 48, 54Mbps 802.11n: MCS0 – MCS15, HT20/40 802.11ac: MCS0 – MCS9, VHT20/40/80/160 802.11ax: MCS0 – MCS11, HE20/40/80/160 6GHz 802.11a: 6, 9, 12, 18, 24, 36, 48, 54Mbps 802.11ax: MCS0 – MCS11, HE20/40/80/160
Antenna Type	PIFA Antenna

Antenna Gain	For BT / BLE: 2400-2500MHz: ANT A: 1.97dBi For WLAN: 2400-2500MHz: ANT A: 1.97dBi, ANT B: 1.82dBi 5150-5250MHz: ANT A: 2.73dBi, ANT B: 2.11dBi 5250-5350MHz: ANT A: 2.73dBi, ANT B: 2.54dBi 5470-5725MHz: ANT A: 2.35dBi, ANT B: 2.4dBi 5725-5850MHz: ANT A: 2.4dBi, ANT B: 2.34dBi 5925~6425MHz:ANT A: 2.07dBi, ANT B: 2.48dBi 6425~6525MHz:ANT A: 1.77dBi, ANT B: 1.79dBi 6525~6875MHz:ANT A: 2.43dBi, ANT B: 2.37dBi 6875~7125MHz:ANT A: 2.24dBi, ANT B: 2.19dBi
Adapter	Brand: Delta Model: ADP-150EH B
Adapter	Brand: Delta Model: ADP-65JH HB
Adapter	Brand: Billion Model: BA070-190342MBX
Adapter	Brand: FSP Model: FSP150-AABN3
Power cord (US)	Brand: I-SHENG Model: V44VS336T1218000-A01
Power cord (EU)	Brand: I-SHENG Model: EU85B300S121800
USBC-POS-STAND	Brand: ELO Model: KIT, Z30-POS-Stand-CFD-Gen 2-15
USBC-POS-STAND	Brand: ELO Model: KIT, Z30-POS-STAND-GEN2-15
USBC-IO-HUB	Brand: ELO Model: USBC-IO-HUB-POWER-BARICK-V2
Panel	Brand: AUO Model: A156HAN01.1
Panel	Brand: BOE Model: PV156FHM-N30

Note:
1. EUT support TPC Function.
2. EUT supports DFS Client Mode, without radar detection.
3. WLAN and BT can simultaneously transmission.
4.The device not support Channel Puncturing or Bandwidth Reduction mechanisms supported
5.802.11ax EUT only Support Full RU
6. EUT Operating mode: Indoor Client
7. For more details, please refer to the User's manual of the EUT.

2.2. Carrier Frequency of Channels

Band: 5150MHz-5250MHz

802.11a, 802.11n HT20, 802.11ac VHT20, 802.11ax HE20

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

802.11n HT40, 802.11ac VHT40, 802.11ax HE40

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

802.11ac VHT80, 802.11ax HE80

Channel	Frequency(MHz)
***42**	**5210**

802.11ac VHT160, 802.11ax HE160

Channel	Frequency(MHz)
***50**	**5250**

Band: 5250MHz-5350MHz

802.11a, 802.11n HT20, 802.11ac VHT20, 802.11ax HE20

Channel	Frequency(MHz)	Channel	Frequency(MHz)
***52**	**5260**	***60**	**5300**
56	5280	***64**	**5320**

802.11n HT40, 802.11ac VHT40, 802.11ax HE40

Channel	Frequency(MHz)	Channel	Frequency(MHz)
***54**	**5270**	***62**	**5310**

802.11ac VHT80, 802.11ax HE80

Channel	Frequency(MHz)
***58**	**5290**

Band: 5470MHz-5725MHz

802.11a, 802.11n HT20, 802.11ac VHT20, 802.11ax HE20

Channel	Frequency(MHz)	Channel	Frequency(MHz)
***100**	**5500**	124	5620
104	5520	128	5640
108	5540	132	5660
112	5560	136	5680
116	5580	***140**	**5700**
***120**	**5600**		

802.11n HT40, 802.11ac VHT40, 802.11ax HE40

Channel	Frequency(MHz)	Channel	Frequency(MHz)
***102**	**5510**	126	5630
110	5550	***134**	**5670**
***118**	**5590**		

802.11ac VHT80, 802.11ax HE80

Channel	Frequency(MHz)	Channel	Frequency(MHz)
***106**	**5530**	***122**	**5610**

802.11ac VHT160, 802.11ax HE160

Channel	Frequency(MHz)
***114**	**5570**

Band 3: Straddle Channel

802.11a, 802.11n HT 20, 802.11ac VHT20, 802.11ax HE20

Channel	Frequency(MHz)
***144**	**5720**

802.11n HT40, 802.11ac VHT40, 802.11ax HE40

Channel	Frequency(MHz)
***142**	**5710**

802.11ac VHT80, 802.11ax HE80

Channel	Frequency(MHz)
***138**	**5690**

Band: 5725MHz-5850MHz

802.11a, 802.11n HT20, 802.11ac VHT20, 802.11ax HE20

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

802.11n HT40, 802.11ac VHT40, 802.11ax HE40

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

802.11ac VHT80, 802.11ax HE80

Channel	Frequency(MHz)
***155**	**5775**

Note: Channels remarked * are selected to perform test.

2.3. Test Mode and Test Software

a. During testing, the interface cables and equipment positions were varied according to ANSI C63.10.
b. The complete test system included remote workstation and EUT for RF test. The remote workstation included Notebook.
c. An executive program," QRCT V4.0.211.0" under Windows OS system was executed to transmit and receive data via WLAN.
d. The following test modes were performed for the test:

Conducted Emissions from the AC mains power ports	
Test Mode	Operating Description
1	802.11a (6Mbps)
2	802.11ax HE20 (7.3Mbps)
3	802.11ax HE40 (14.6Mbps)
4	802.11ax HE80 (30.6Mbps)
5	802.11ax HE160 (61.3Mbps)
caused "Test Mode 1" generated the worst case, it was reported as the final data.	
Radiation Emissions (9KHz ~30MHz & 30MHz ~ 1GHz)	
Test Mode	Operating Description
1	802.11a (6Mbps)
2	802.11ax HE20 (7.3Mbps)
3	802.11ax HE40 (14.6Mbps)
4	802.11ax HE80 (30.6Mbps)
5	802.11ax HE160 (61.3Mbps)
caused "Test Mode 1" generated the worst case, it was reported as the final data.	
Radiation Emissions (1GHz ~ 40GHz)	
Test Mode	Operating Description
1	802.11a (6Mbps)
2	802.11ax HE20 (7.3Mbps)
3	802.11ax HE40 (14.6Mbps)
4	802.11ax HE80 (30.6Mbps)
5	802.11ax HE160 (61.3Mbps)
caused "Test Mode 1~5" generated the worst case, they were reported as the final data.	

Note: 1. There are two kinds of test voltage: AC 120V / 60Hz and AC 240V / 60Hz.
worst case (V)

Test Item /test voltage	AC 120V / 60Hz	AC 240V / 60Hz.
AC Power Line Conducted Emission: SISO ANT/ MIMO ANT	V	
Radiation Emissions (Below 1GHz) : SISO ANT/ MIMO ANT		V

2.The EUT has Four types of Adapters. After engineering evaluation,
For AC Power Line Conducted Emission, FSP150-AABN3 is worst case.
For Radiated Spurious Emission(9kHz~30MHz,30MHz~1GHz), ADP-65JH is worst case.
For Radiated Spurious Emission(1GHz~40GHz), ADP-150EH B is worst case., hence, are used at test report.

Adapter	Brand: Delta Model: ADP-150EH B
Adapter	Brand: Delta Model: ADP-65JH HB
Adapter	Brand: Billion Model: BA070-190342MBX
Adapter	Brand: FSP Model: FSP150-AABN3

3. There are two types of Panels: AUO&BOE. After engineering evaluation, AUO is worst case, hence, is used at test report.

Panel	Brand: AUO Model: A156HAN01.1
	Brand: BOE Model: PV156FHM-N30

4. The EUT has Two types of USBC-POS-STANDS. After engineering evaluation,
For AC Power Line Conducted Emission, KIT, Z30-POS-STAND-GEN2-15 is worst case.
For Radiated Spurious Emission(9kHz~30MHz,30MHz~1GHz), none-docking is worst case.
For Radiated Spurious Emission(1GHz~40GHz), KIT, Z30-POS-STAND-CFD-Gen 2-15 is worst case., hence, are used at test report

USBC-POS-STAND	Brand: ELO Model: KIT, Z30-POS-Stand-CFD-Gen 2-15
USBC-POS-STAND	Brand: ELO Model: KIT, Z30-POS-STAND-GEN2-15

The EUT incorporates a MIMO function

Modulation Type	TX CONFIGURATION
802.11a	1TX (Diversity)
802.11n HT20	2TX
802.11n HT40	2TX
802.11ac VHT20	2TX
802.11ac VHT40	2TX
802.11ac VHT80	2TX
802.11ac VHT160	2TX
802.11ax HE20	2TX
802.11ax HE40	2TX
802.11ax HE80	2TX
802.11ax HE160	2TX

2.4. Description of Test System

RF Conducted				
Equipment	Brand	Model	Length/Type	Power cord/Length/Type
Notebook	lenovo	S1GL2W	N/A	N/A
Micro USB(Blue)	kolin	KEX-DLCP07	1m / NS	N/A

Radiated Emissions				
Equipment	Brand	Model	Length/Type	Power cord/Length/Type
Notebook	DELL	Latitude E5470	N/A	Adapter / 1.8m / NS
Micro USB(Blue)	kolin	KEX-DLCP07	1m / NS	N/A
Flash*4	TranScend	USB3.0 3GB	N/A	N/A
RJ45 Cable	TE CONNECTIVITY	CAT5E	1.2m / NS	N/A

AC Power Line Conducted Emission				
Equipment	Brand	Model	Length/Type	Power cord/Length/Type
Notebook	DELL	Latitude E5470	N/A	Adapter / 1.8m / NS
Micro USB(White)	kolin	KEX-DLCP07	1m / NS	N/A
RJ45 Cable	TE CONNECTIVITY	CAT5E	1.2m / NS	N/A
Cash Drawer	PARTNER	5E415	1.8m / NS	N/A
TYPE-C(Blue)	kolin	KEX-DLCP08	1m / NS	N/A
Flash*4	TranScend	USB3.0 3GB	N/A	N/A
Power USB Panel Type - 24V	TAIMING	Power USB	1.8m / NS	N/A

2.5. General Information of Test

☒ Test Site	Cerpass Technology Corporation Test Laboratory Address: No.10, Ln. 2, Lianfu St., Luzhu Dist., Taoyuan City 33848, Taiwan (R.O.C.) Tel: +886-3-3226-888 Fax: +886-3-3226-881	
	FCC	TW1439, TW1079
	IC	4934E-1, 4934E-2
Frequency Range Investigated	Conducted: from 150kHz to 30 MHz Radiation: from 9kHz to 40,000MHz	
Test Distance	The test distance of radiated emission from antenna to EUT is 3 M.	

ANT A

Test Item	Test Site	Test Period	Environmental Conditions	Tested By
RF Conducted	RFCON01-NK	2024/08/03	26.4℃ / 51%	Leon Huang
RF Conducted	RFCON01-NK	2024/10/07	27.1℃ / 45%	Leon Huang
Radiated Emissions	3M02-NK	2024/07/26	25.8°C / 71%	Leon Huang

ANT B

Test Item	Test Site	Test Period	Environmental Conditions	Tested By
RF Conducted	RFCON01-NK	2024/08/02	25.8℃ / 48%	Leon Huang
RF Conducted	RFCON01-NK	2024/08/03	26.4°C / 51%	Leon Huang
RF Conducted	RFCON01-NK	2024/10/22	25.2°C / 45%	Leon Huang
Radiated Emissions	3M02-NK	2024/07/23	26.4°C / 62%	Leon Huang
Radiated Emissions	3M02-NK	2024/08/20	20.4°C / 40%	Leon Huang
AC Power Line Conducted Emission	CON02-NK	2024/08/23	25.3°C / 53%	Leon Huang
AC Power Line Conducted Emission	CON02-NK	2024/08/24	26.5°C / 43%	Leon Huang

ANT A, B

Test Item	Test Site	Test Period	Environmental Conditions	Tested By
RF Conducted	RFCON01-NK	2024/07/30	26.3°C / 46%	Leon Huang
RF Conducted	RFCON01-NK	2024/07/31	26.6℃ / 49%	Leon Huang
RF Conducted	RFCON01-NK	2024/08/01	26.9°C / 47%	Leon Huang
Radiated Emissions	3M02-NK	2024/08/02	20.3°C / 53%	Leon Huang
Radiated Emissions	3M02-NK	2024/08/20	20.4°C / 40%	Leon Huang
AC Power Line Conducted Emission	CON02-NK	2024/08/23	25.3°C / 53%	Leon Huang
AC Power Line Conducted Emission	CON02-NK	2024/08/24	26.5°C / 43%	Leon Huang

2.6. Measurement Uncertainty

ISO/IEC 17025 requires that an estimate of the measurement uncertainties associated with the emissions test results be included in the report. The measurement uncertainties given below are based on a 95% confidence level (based on a coverage factor (k=2)

Measurement Item	Uncertainty
AC Power Line Conduction(150K~30MHz)	±3.12dB
Radiated Spurious Emission(9KHz~30MHz)	±3.5dB
Radiated Spurious Emission(30MHz~1GHz)	±5.1dB
Radiated Spurious Emission(1GHz~40GHz)	±5.2dB
6dB Bandwidth	±5.4%
26dB Bandwidth	±4.4%
Occupied Bandwidth	±4.5%
Peak Output Power(Conducted Power Meter)	±1.1dB
Power Spectral Density	±2.0dB
Duty Cycle	±3.5%
Frequency Stability	±0.23KHz

3. Test Equipment and Ancillaries Used for Tests

Test Item	Radiated Emissions				
Test Site	Semi Anechoic Room(3M02-NK)				
Instrument	Manufacturer	Model No	Serial No	Calibration Date	Valid Date
Bilog Antenna	Schwarzbeck	VULB9168	369	2024/02/19	2025/02/18
Active Loop Antenna	Schwarzbeck	FMZB 1513	414	2024/01/16	2025/01/15
Horn Antenna	EMCO	3115	31589	2024/02/26	2025/02/25
Horn Antenna	EMCO	3116	31974	2023/10/16	2024/10/15
EMI Receiver	ROHDE & SCHWARZ	ESR 7	101906	2024/05/13	2025/05/12
Spectrum Analyzer	ROHDE & SCHWARZ	FSV 40-N	101329	2024/07/16	2025/07/15
Preamplifier	Agilent	8449B	3008A01954	2024/03/01	2025/02/28
Preamplifier	EMC INSTRUMENTS	EMC184045	980065	2023/10/13	2024/10/12
Preamplifier	EM Electronics corp.	EM330	60659	2024/02/17	2025/02/16
Cable-6m(9k~300M)	N/A	EMC5D-BM-BM-6	130606	2024/03/13	2025/03/12
Cable-3in1(30M-1G)	HARBOUR INDUSTRIES	LL142	CCE1315	2024/02/23	2025/02/22
Cable-0.5m(1G-40G)	HUBER SUHNER	SUCOFLEX 104	805443/4	2024/03/05	2025/03/04
Cable-3m(1G-40G)	HUBER SUHNER	SUCOFLEX 104	805796/4	2024/03/05	2025/03/04
Cable-8m(1G-26.5G)	WOKEN	WCBA-WCA203SM	CCE1374	2024/03/05	2025/03/04
Cable-1m(1G-40G)	HUBER SUHNER	HUBER SUHNER / SF102	804398/2	2023/10/12	2024/10/11
Cable-3m(1G-40G)	HUBER SUHNER	HUBER SUHNER / SF102	804619/2	2023/10/12	2024/10/11
E3	AUDIX	v8.2014-8-6	RK-000529	NA	NA
Highpass Filter	Warison	WFIL-H3000-18000F-03	WRJ5CFWC2J1	2024/07/03	2025/07/02
Notch Filter	Warison	WFIL-N5925-7125F-04	WRQ4BFWC4M1	2024/03/11	2025/03/10
Hipass Filter	Warison	WFIL-H7500-18000F	WRQ4BFWC2J1	2024/03/11	2025/03/10

Test Item	RF Conducted				
Test Site	RFCON01-NK				
Instrument	Manufacturer	Model No	Serial No	Calibration Date	Valid Date
CAX Signal Analyzer	KEYSIGHT	N9000B	MY57100339	2023/11/06	2024/11/05
Power Meter	Anritsu	ML2495A	1224005	2024/02/17	2025/02/16
Power Sensor	Anritsu	MA2411B	1207295	2024/02/17	2025/02/16
Attenuator	KEYSIGHT	8491B	MY39250703	2024/02/20	2025/02/19

Test Item	AC Power Line Conducted Emission				
Test Site	CON02-NK				
Instrument	Manufacturer	Model No	Serial No	Calibration Date	Valid Date
EMI Receiver	ROHDE & SCHWARZ	ESR 7	101906	2024/05/13	2025/05/12
Line Impedance Stabilization Network	Schwarzbeck	NSLK 8127	8127516	2023/10/03	2024/10/02
Line Impedance Stabilization Network	Schwarzbeck	NSLK 8127	8127740	2023/08/28	2024/08/27
Pulse Limiter	ROHDE & SCHWARZ	ESH3-Z2	101934	2024/03/01	2025/02/28
Cable-6m(9k~300M)	N/A	EMC5D-BM-BM-6	130606	2024/03/13	2025/03/12
E3	AUDIX	v8.2014-8-6	RK-000536	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	PIFA Antenna
Antenna Gain	5150-5250MHz: ANT A: 2.73dBi, ANT B: 2.11dBi 5250-5350MHz: ANT A: 2.73dBi, ANT B: 2.54dBi 5470-5725MHz: ANT A: 2.35dBi, ANT B: 2.40dBi 5725-5850MHz: ANT A: 2.40dBi, ANT B: 2.34dBi

SISO ANT A

5150-5250MHz
For Power directional gain= Gant= 2.73dBi For PSD directional gain = Gant= 2.73dBi
5250-5350MHz
For Power directional gain= Gant= 2.73dBi For PSD directional gain = Gant= 2.73dBi
5470-5725MHz
For Power directional gain= Gant= 2.35dBi For PSD directional gain = Gant= 2.35dBi
5725-5850MHz
For Power directional gain= Gant=2.40dBi For PSD directional gain = Gant=2.40dBi

SISO ANT B

5150-5250MHz
For Power directional gain= Gant= 2.11dBi For PSD directional gain = Gant= 2.11dBi
5250-5350MHz
For Power directional gain= Gant= 2.54dBi For PSD directional gain = Gant= 2.54dBi
5470-5725MHz
For Power directional gain= Gant= 2.40dBi For PSD directional gain = Gant= 2.40dBi
5725-5850MHz
For Power directional gain= Gant=2.34dBi For PSD directional gain = Gant=2.34dBi

MIMO

5150-5250MHz
For Power directional gain= G_{ant}= 2.73dBi For PSD directional gain = 10 log[($10^{G1/20}$ + $10^{G2/20}$ + … + $10^{GN/20}$)^2 /N_{ANT}] = 5.44(dBi)
5250-5350MHz
For Power directional gain= G_{ant}= 2.73dBi For PSD directional gain = 10 log[($10^{G1/20}$ + $10^{G2/20}$ + … + $10^{GN/20}$)^2 /N_{ANT}] = 5.65 (dBi)
5470-5725MHz
For Power directional gain= Gant= 2.40dBi For PSD directional gain = 10 log[(10G1 /20 + 10G2 /20 + … + 10GN /20)2 /NANT] = 5.39(dBi)
5725-5850MHz
For Power directional gain= Gant= 2.40dBi For PSD directional gain = 10 log[(10G1 /20 + 10G2 /20 + … + 10GN /20)2 /NANT] = 5.38(dBi)

*MIMO type: Cyclic Delay Diversity (CDD) mode.

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 C63.10-2013. 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.

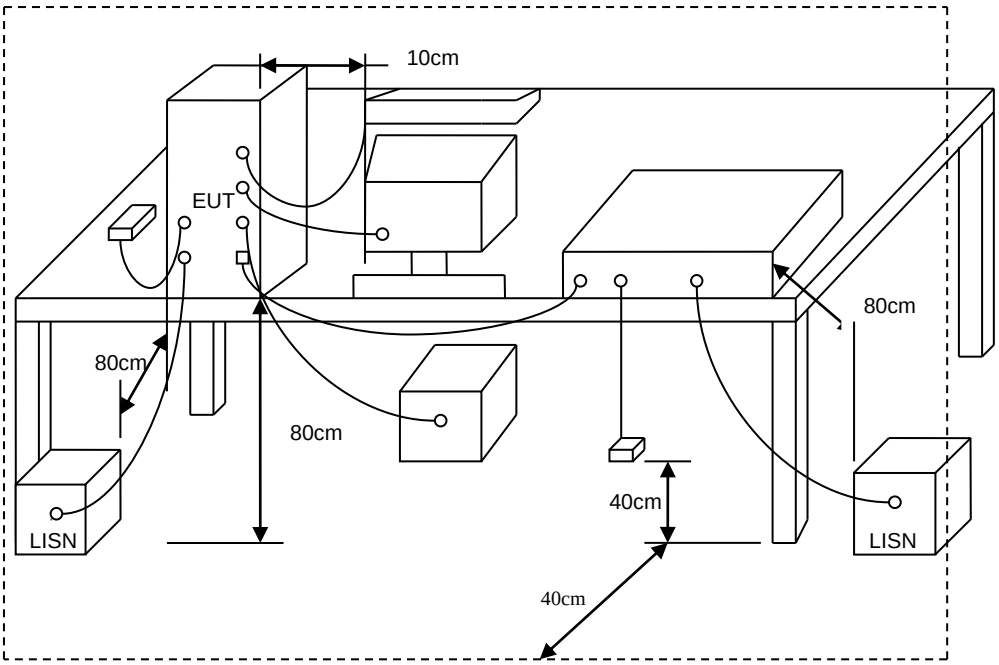
Frequency (MHz)	Quasi Peak (dBμV)	Average (dBμV)
0.15 – 0.5	66-56*	56-46*
0.5 – 5.0	56	46
5.0 – 30.0	60	50

*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.

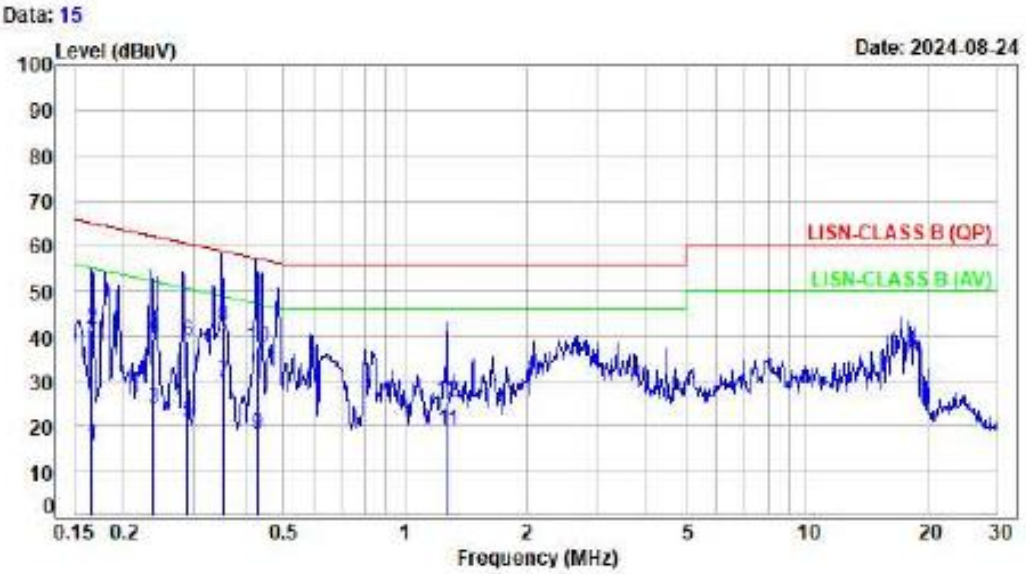
5.3. Typical Test Setup



5.4. Test Result and Data

MIMO

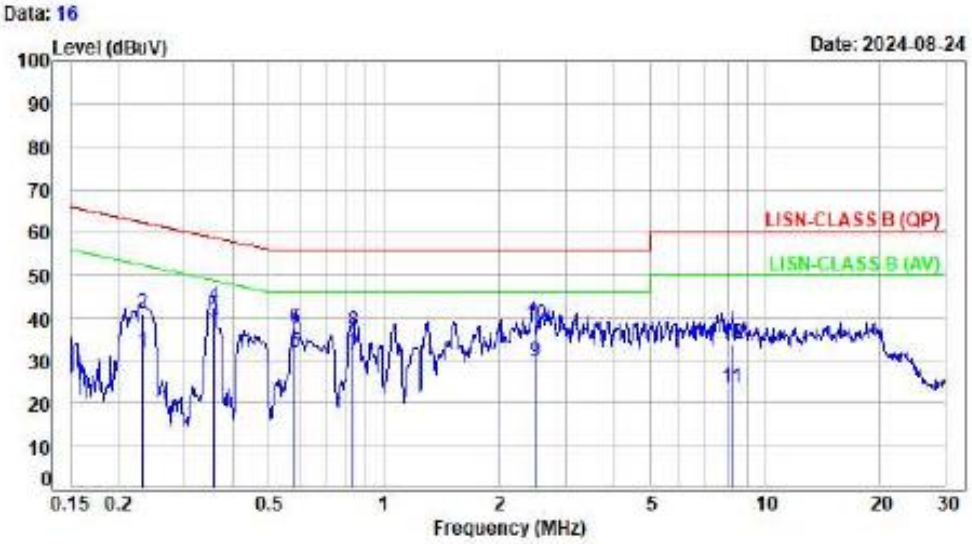
Test Mode : 2TX 11ax20 CH157 NSS1 MCS0
Voltage : From Adapter(AC 120V/60Hz)
Phase : Line



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector	P/F
1	0.1664	9.92	5.77	15.69	55.14	-39.45	Average	P
2	0.1664	9.92	31.37	41.29	65.14	-23.85	QP	P
3	0.2355	9.92	14.02	23.94	52.25	-28.31	Average	P
4	0.2355	9.92	29.66	39.58	62.25	-22.67	QP	P
5	0.2877	9.92	11.03	20.95	50.59	-29.64	Average	P
6	0.2877	9.92	28.84	38.76	60.59	-21.83	QP	P
7	0.3543	9.93	19.87	29.80	48.86	-19.06	Average	P
8	0.3543	9.93	32.39	42.32	58.86	-16.54	QP	P
9	0.4320	9.93	8.43	18.36	47.21	-28.85	Average	P
10	0.4320	9.93	27.68	37.61	57.21	-19.60	QP	P
11	1.2739	9.98	9.10	19.08	46.00	-26.92	Average	P
12	1.2739	9.98	15.45	25.43	56.00	-30.57	QP	P

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

Test Mode : 2TX 11ax20 CH157 NSS1 MCS0
Voltage : From Adapter(AC 120V/60Hz)
Phase : Neutral



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector	P/F
1	0.2315	9.94	22.11	32.05	52.40	-20.35	Average	P
2	0.2315	9.94	31.00	40.94	62.40	-21.46	QP	P
3	0.3560	9.96	29.24	39.20	48.82	-9.62	Average	P
4	0.3560	9.96	32.61	42.57	58.82	-16.25	QP	P
5	0.5845	9.96	22.01	31.97	46.00	-14.03	Average	P
6	0.5845	9.96	27.81	37.77	56.00	-18.23	QP	P
7	0.8285	9.98	21.31	31.29	46.00	-14.71	Average	P
8	0.8285	9.98	26.73	36.71	56.00	-19.29	QP	P
9	2.4923	10.04	19.49	29.53	46.00	-16.47	Average	P
10	2.4923	10.04	28.23	38.27	56.00	-17.73	QP	P
11	8.1986	10.26	13.17	23.43	50.00	-26.57	Average	P
12	8.1986	10.26	23.67	33.93	60.00	-26.07	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.

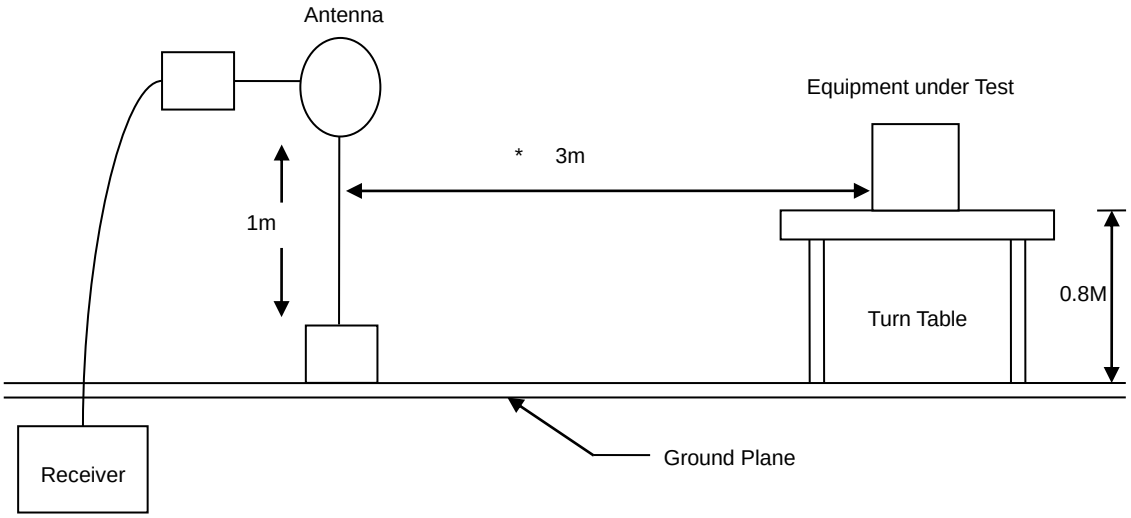
Note:

1.The supporting fixture shall permit orientation of the EUT in each of three orthogonal axis positions such that emissions from the EUT are maximized.

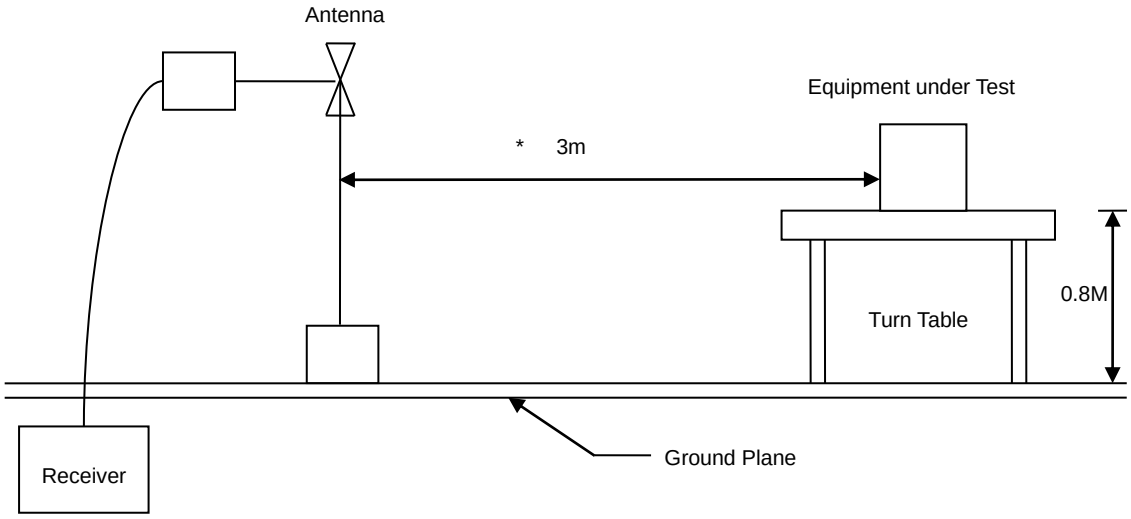
2.Due to the test software function limit the operation band setting(200dBuV/m). There's no corresponding limitation in the actual test item.

6.3. Typical Test Setup

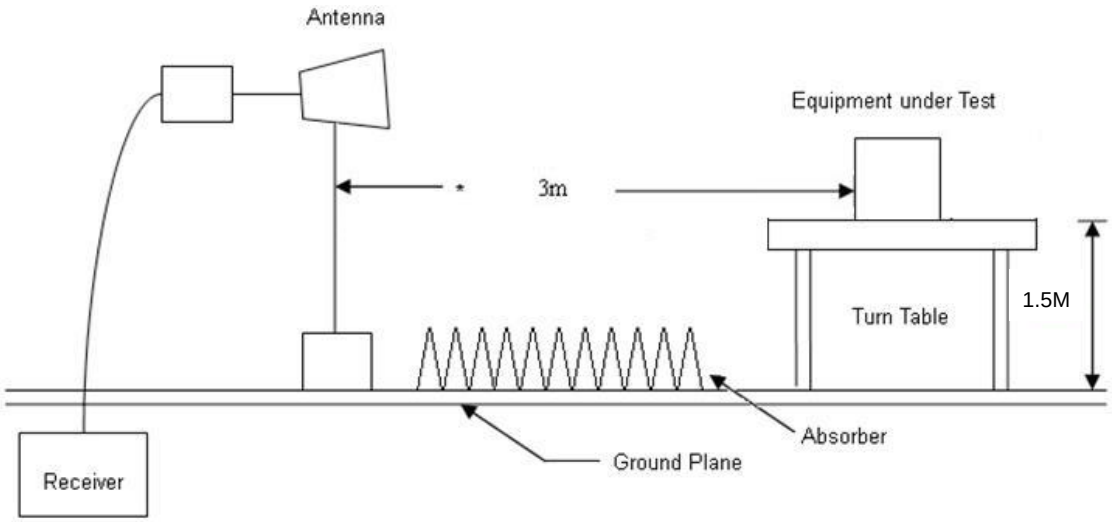
Below 30MHz test setup



30MHz- 1GHz Test Setup



Above 1GHz Test Setup



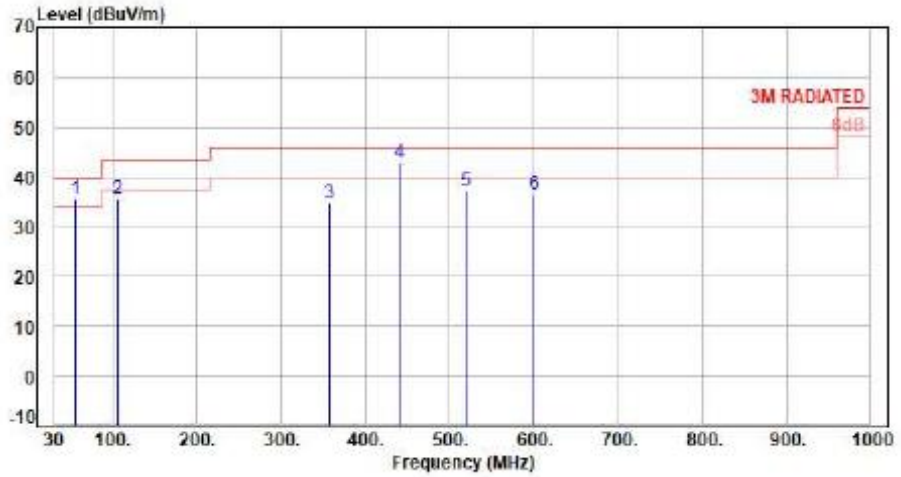
6.4. Test Result and Data (9kHz ~ 30MHz)

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

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

MIMO

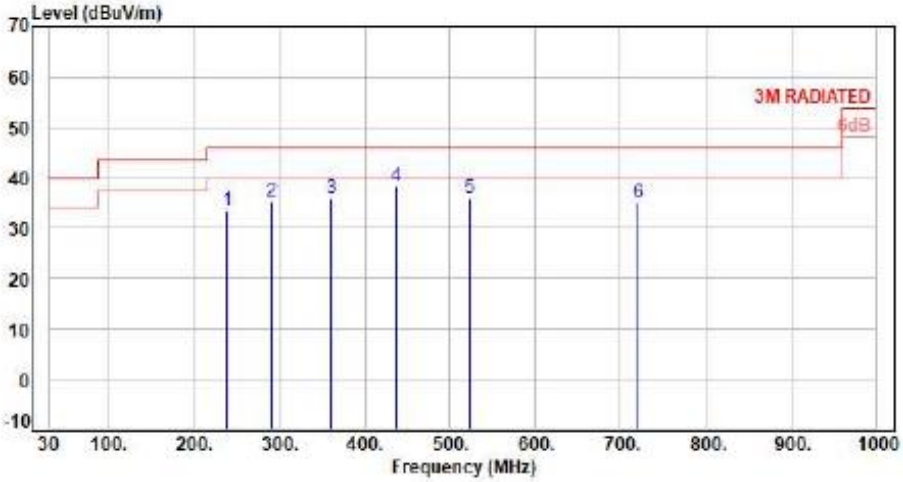
Test Mode : 2TX 11ax20 CH157 NSS1 MCS0
Voltage : From Adatper(AC240V/60Hz)
Pol : Vertical



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	55.22	-9.22	45.00	35.78	40.00	-4.22	Peak	400	0	P
2	105.66	-13.45	48.96	35.51	43.50	-7.99	Peak	400	0	P
3	357.86	-7.03	41.70	34.67	46.00	-11.33	Peak	400	0	P
4	441.28	-4.58	47.53	42.95	46.00	-3.05	Peak	400	0	P
5	518.88	-2.82	39.92	37.10	46.00	-8.90	Peak	400	0	P
6	600.36	-0.75	37.40	36.65	46.00	-9.35	Peak	400	0	P

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

Test Mode : 2TX 11ax20 CH157 NSS1 MCS0
Voltage : From Adatper(AC240V/60Hz)
Pol : Horizontal



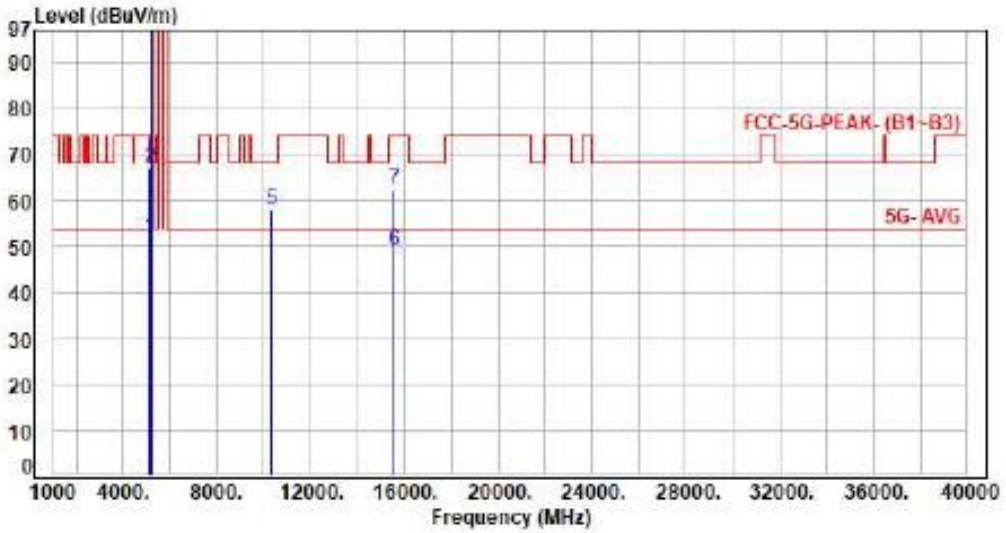
No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	239.52	-10.52	44.04	33.52	46.00	-12.48	Peak	400	360	P
2	291.90	-8.68	44.14	35.46	46.00	-10.54	Peak	400	360	P
3	361.74	-6.85	42.65	35.80	46.00	-10.20	Peak	400	360	P
4	437.40	-4.72	43.18	38.46	46.00	-7.54	Peak	400	360	P
5	522.76	-2.71	38.51	35.80	46.00	-10.20	Peak	400	360	P
6	720.64	0.84	34.18	35.02	46.00	-10.98	Peak	400	360	P

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

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

SISO ANT B

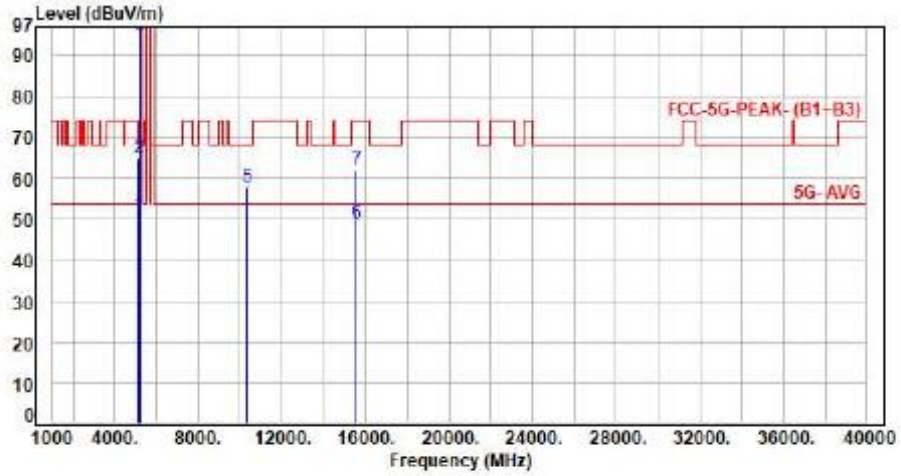
Test Mode : 1TX 11a CH36 6Mbps
Voltage : From Adapter(AC120V/60Hz)
Pol : Vertical



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	6.69	45.35	52.04	54.00	-1.96	Average	100	335	P
2	5150.00	6.69	60.35	67.04	74.00	-6.96	Peak	100	335	P
3	5180.00	6.79	91.69	98.48	200.00	-101.52	Average	100	335	P
4	5180.00	6.79	102.12	108.91	200.00	-91.09	Peak	100	335	P
5	10360.00	14.86	43.03	57.89	68.20	-10.31	Peak	100	331	P
6	15540.00	18.46	30.44	48.90	54.00	-5.10	Average	100	247	P
7	15540.00	18.46	43.69	62.15	74.00	-11.85	Peak	100	247	P

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

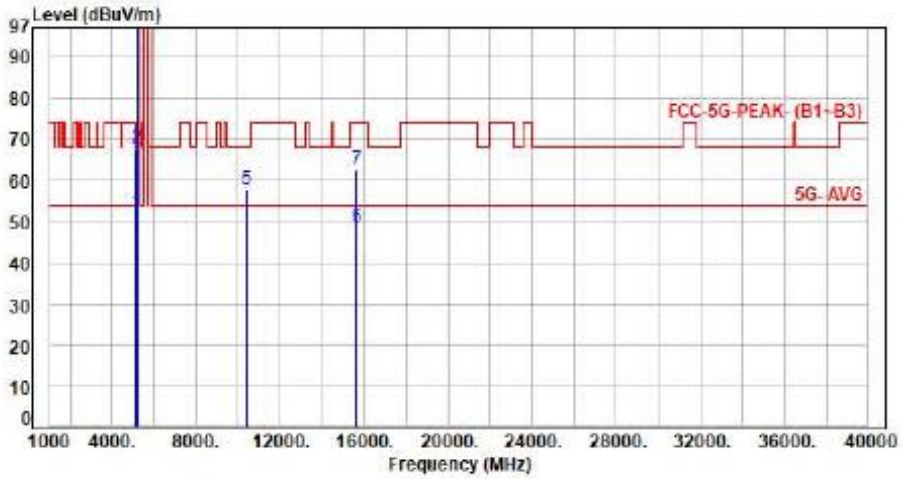
Test Mode : 1TX 11a CH36 6Mbps
Voltage : From Adapter(AC120V/60Hz)
Pol : Horizontal



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	6.69	44.13	50.82	54.00	-3.18	Average	115	348	P
2	5150.00	6.69	58.22	64.91	74.00	-9.09	Peak	115	348	P
3	5180.00	6.79	88.11	94.90	200.00	-105.10	Average	115	348	P
4	5180.00	6.79	98.43	105.22	200.00	-94.78	Peak	115	348	P
5	10360.00	14.86	42.89	57.75	68.20	-10.45	Peak	100	324	P
6	15540.00	18.46	30.47	48.93	54.00	-5.07	Average	100	311	P
7	15540.00	18.46	43.59	62.05	74.00	-11.95	Peak	100	311	P

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

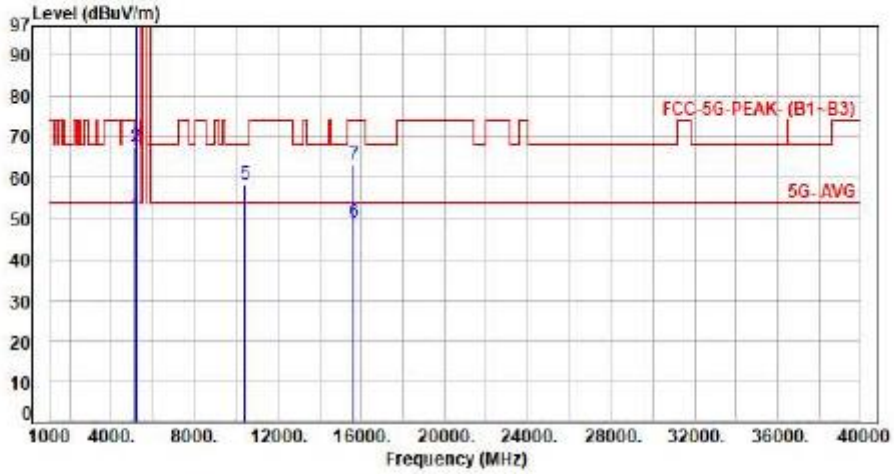
Test Mode : 1TX 11a CH40 6Mbps
Voltage : From Adapter(AC120V/60Hz)
Pol : Vertical



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	6.69	45.74	52.43	54.00	-1.57	Average	245	331	P
2	5150.00	6.69	61.34	68.03	74.00	-5.97	Peak	245	331	P
3	5200.00	6.86	94.32	101.18	200.00	-98.82	Average	245	331	P
4	5200.00	6.86	104.68	111.54	200.00	-88.46	Peak	245	331	P
5	10400.00	14.77	42.99	57.76	68.20	-10.44	Peak	100	213	P
6	15600.00	18.20	30.50	48.70	54.00	-5.30	Average	100	157	P
7	15600.00	18.20	44.42	62.62	74.00	-11.38	Peak	100	157	P

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

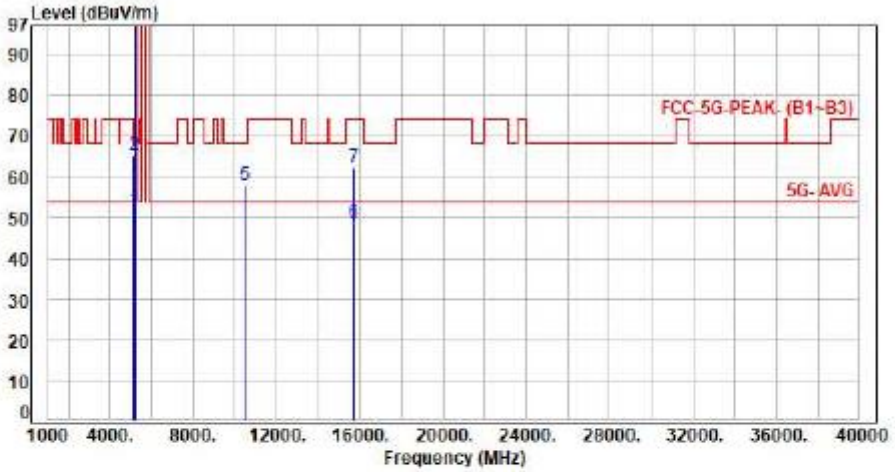
Test Mode : 1TX 11a CH40 6Mbps
Voltage : From Adapter(AC120V/60Hz)
Pol : Horizontal



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	6.69	44.31	51.00	54.00	-3.00	Average	100	350	P
2	5150.00	6.69	60.83	67.52	74.00	-6.48	Peak	100	350	P
3	5200.00	6.86	89.51	96.37	200.00	-103.63	Average	100	350	P
4	5200.00	6.86	99.69	106.55	200.00	-93.45	Peak	100	350	P
5	10400.00	14.77	43.45	58.22	68.20	-9.98	Peak	100	157	P
6	15600.00	18.20	30.74	48.94	54.00	-5.06	Average	100	144	P
7	15600.00	18.20	44.97	63.17	74.00	-10.83	Peak	100	144	P

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

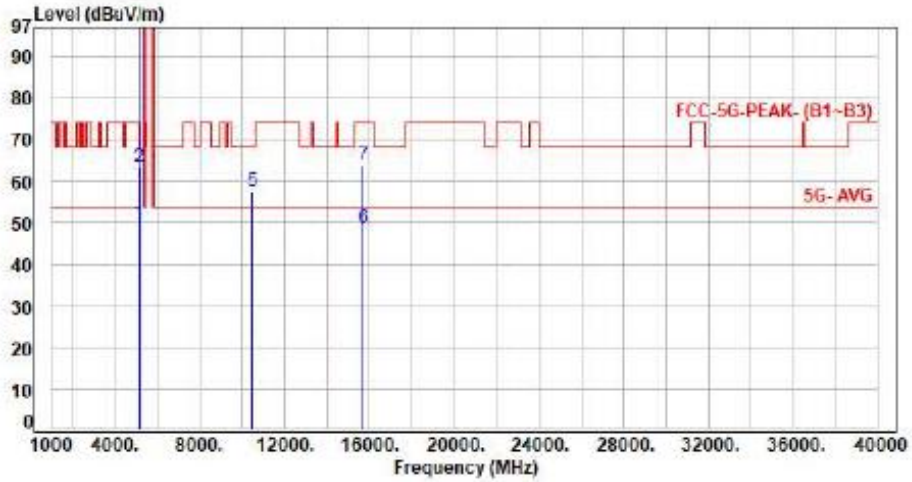
Test Mode : 1TX 11a CH48 6Mbps
Voltage : From Adapter(AC120V/60Hz)
Pol : Vertical



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	6.69	44.81	51.50	54.00	-2.50	Average	100	326	P
2	5150.00	6.69	58.59	65.28	74.00	-8.72	Peak	100	326	P
3	5240.00	6.91	95.64	102.55	200.00	-97.45	Average	100	326	P
4	5240.00	6.91	105.93	112.84	200.00	-87.16	Peak	100	326	P
5	10480.00	14.94	42.79	57.73	68.20	-10.47	Peak	100	117	P
6	15720.00	17.80	30.78	48.58	54.00	-5.42	Average	100	159	P
7	15720.00	17.80	44.46	62.26	74.00	-11.74	Peak	100	159	P

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

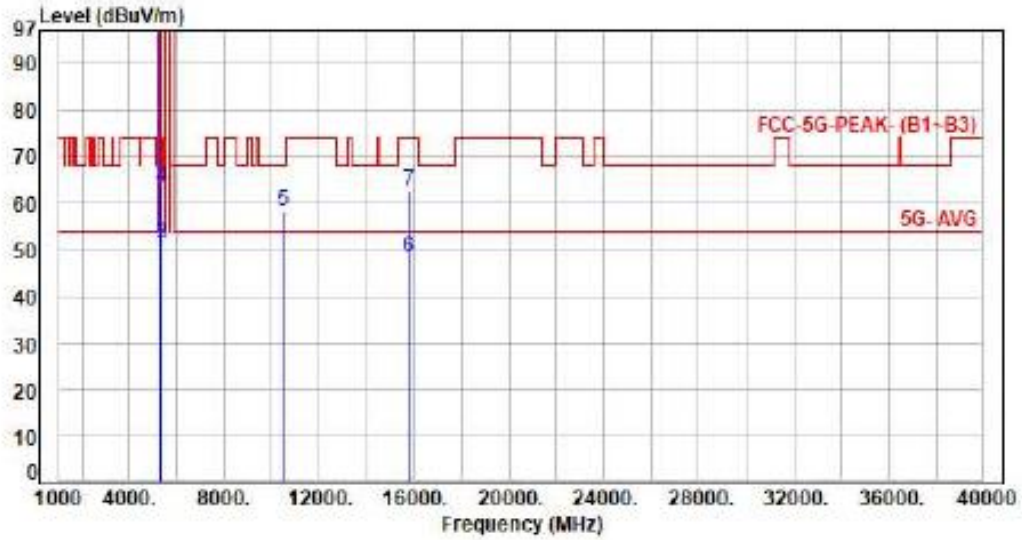
Test Mode : 1TX 11a CH48 6Mbps
Voltage : From Adapter(AC120V/60Hz)
Pol : Horizontal



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	6.69	43.01	49.70	54.00	-4.30	Average	190	350	P
2	5150.00	6.69	56.70	63.39	74.00	-10.61	Peak	190	350	P
3	5240.00	6.91	90.91	97.82	200.00	-102.18	Average	190	350	P
4	5240.00	6.91	101.44	108.35	200.00	-91.65	Peak	190	350	P
5	10480.00	14.94	42.55	57.49	68.20	-10.71	Peak	100	247	P
6	15720.00	17.80	30.87	48.67	54.00	-5.33	Average	100	247	P
7	15720.00	17.80	45.84	63.64	74.00	-10.36	Peak	100	123	P

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

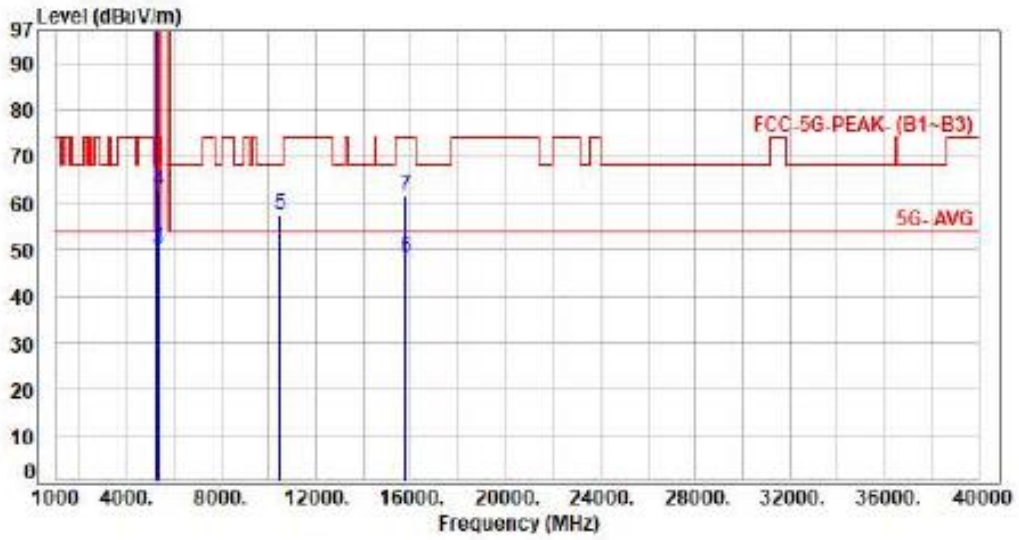
Test Mode : 1TX 11a CH52 6Mbps
Voltage : From Adapter(AC120V/60Hz)
Pol : Vertical



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	5260.00	6.99	94.26	101.25	200.00	-98.75	Average	190	207	P
2	5260.00	6.99	104.50	111.49	200.00	-88.51	Peak	190	207	P
3	5350.00	7.27	43.83	51.10	54.00	-2.90	Average	190	207	P
4	5350.00	7.27	56.26	63.53	74.00	-10.47	Peak	190	207	P
5	10520.00	15.08	43.20	58.28	68.20	-9.92	Peak	190	207	P
6	15780.00	17.59	30.76	48.35	54.00	-5.65	Average	190	207	P
7	15780.00	17.59	45.03	62.62	74.00	-11.38	Peak	190	207	P

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

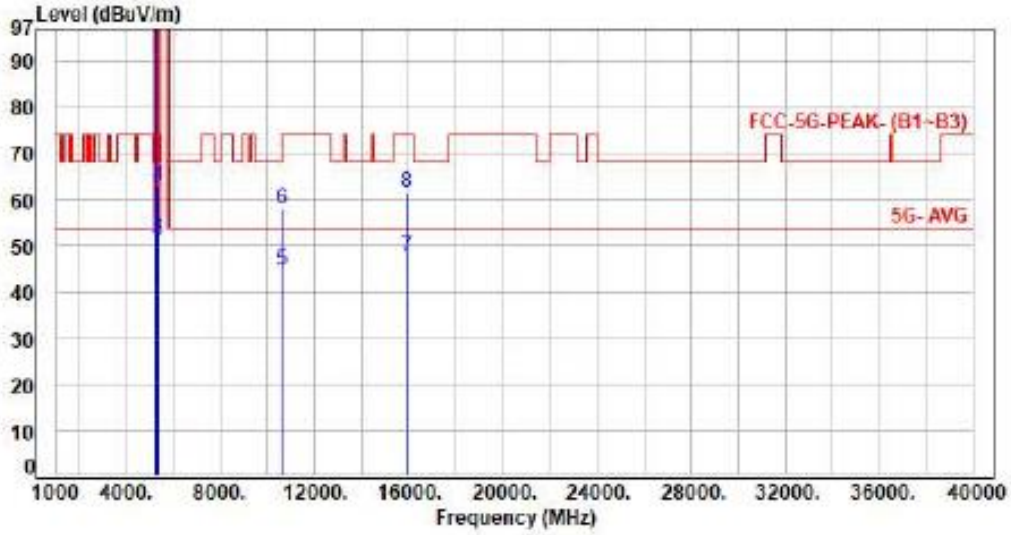
Test Mode : 1TX 11a CH52 6Mbps
Voltage : From Adapter(AC120V/60Hz)
Pol : Horizontal



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	5260.00	6.99	89.11	96.10	200.00	-103.90	Average	197	349	P
2	5260.00	6.99	99.41	106.40	200.00	-93.60	Peak	197	349	P
3	5350.00	7.27	43.02	50.29	54.00	-3.71	Average	197	349	P
4	5350.00	7.27	55.61	62.88	74.00	-11.12	Peak	197	349	P
5	10520.00	15.08	42.51	57.59	68.20	-10.61	Peak	197	349	P
6	15780.00	17.59	30.83	48.42	54.00	-5.58	Average	197	349	P
7	15780.00	17.59	44.13	61.72	74.00	-12.28	Peak	197	349	P

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

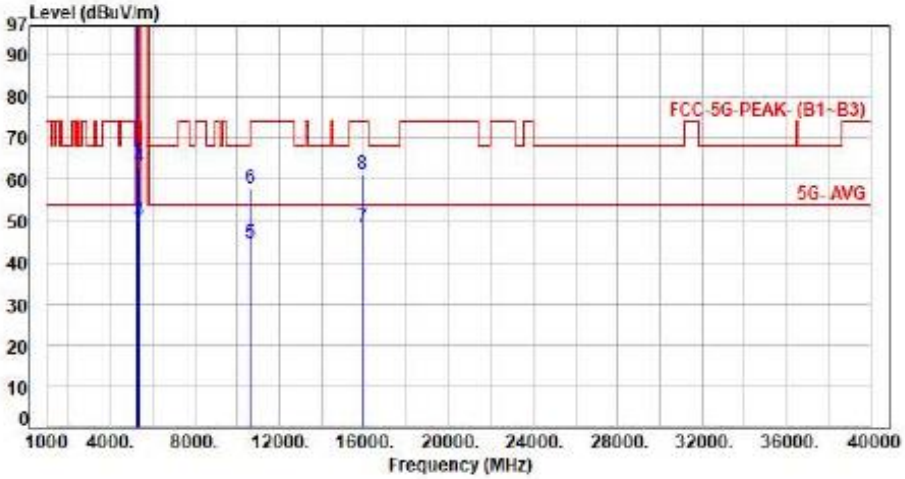
Test Mode : 1TX 11a CH60 6Mbps
Voltage : From Adapter(AC120V/60Hz)
Pol : Vertical



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	5300.00	7.20	93.67	100.87	200.00	-99.13	Average	189	209	P
2	5300.00	7.20	104.01	111.21	200.00	-88.79	Peak	189	209	P
3	5350.00	7.27	44.01	51.28	54.00	-2.72	Average	189	209	P
4	5350.00	7.27	55.93	63.20	74.00	-10.80	Peak	189	209	P
5	10600.00	15.29	29.51	44.80	54.00	-9.20	Average	100	118	P
6	10600.00	15.29	42.66	57.95	74.00	-16.05	Peak	100	118	P
7	15900.00	17.45	30.10	47.55	54.00	-6.45	Average	100	252	P
8	15900.00	17.45	44.16	61.61	74.00	-12.39	Peak	100	252	P

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

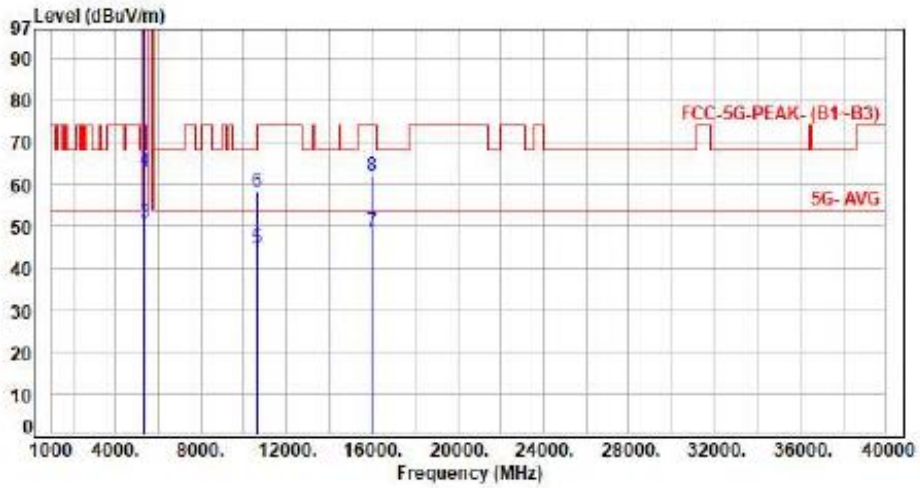
Test Mode : 1TX 11a CH60 6Mbps
Voltage : From Adapter(AC120V/60Hz)
Pol : Horizontal



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	5300.00	7.20	57.46	64.66	200.00	-135.34	Average	117	308	P
2	5300.00	7.20	97.15	104.35	200.00	-95.65	Peak	117	308	P
3	5350.00	7.27	43.06	50.33	54.00	-3.67	Average	117	308	P
4	5350.00	7.27	55.85	63.12	74.00	-10.88	Peak	117	308	P
5	10600.00	15.29	29.24	44.53	54.00	-9.47	Average	100	162	P
6	10600.00	15.29	42.58	57.87	74.00	-16.13	Peak	100	162	P
7	15900.00	17.45	30.91	48.36	54.00	-5.64	Average	100	162	P
8	15900.00	17.45	43.85	61.30	74.00	-12.70	Peak	100	162	P

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

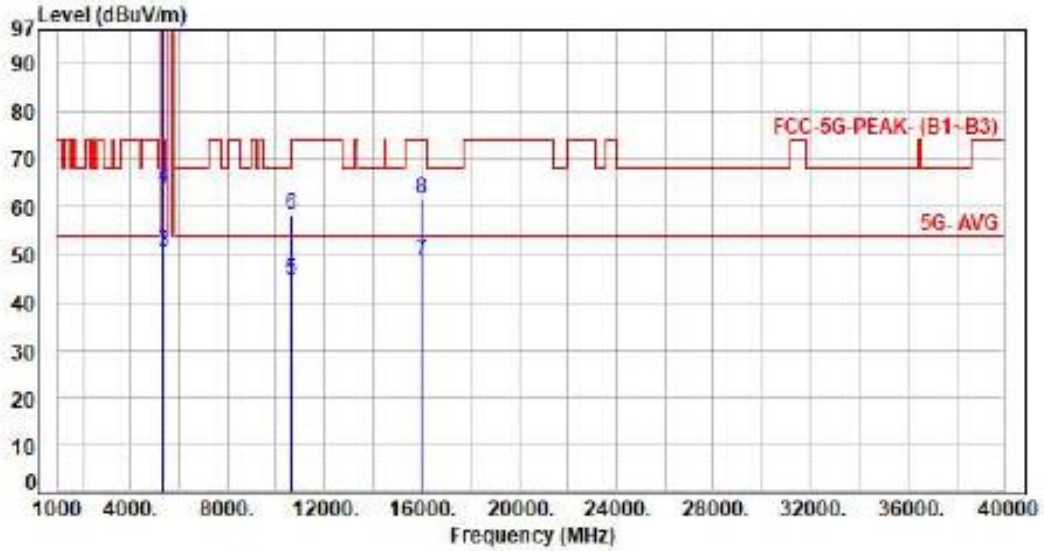
Test Mode : 1TX 11a CH64 6Mbps
Voltage : From Adapter(AC120V/60Hz)
Pol : Vertical



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	5320.00	7.23	92.17	99.40	200.00	-100.60	Average	220	323	P
2	5320.00	7.23	102.67	109.90	200.00	-90.10	Peak	220	323	P
3	5350.00	7.27	43.49	50.76	54.00	-3.24	Average	220	323	P
4	5350.00	7.27	55.75	63.02	74.00	-10.98	Peak	220	323	P
5	10640.00	15.44	29.34	44.78	54.00	-9.22	Average	100	187	P
6	10640.00	15.44	42.70	58.14	74.00	-15.86	Peak	100	187	P
7	15960.00	17.45	31.35	48.80	54.00	-5.20	Average	100	117	P
8	15960.00	17.45	44.42	61.87	74.00	-12.13	Peak	100	117	P

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

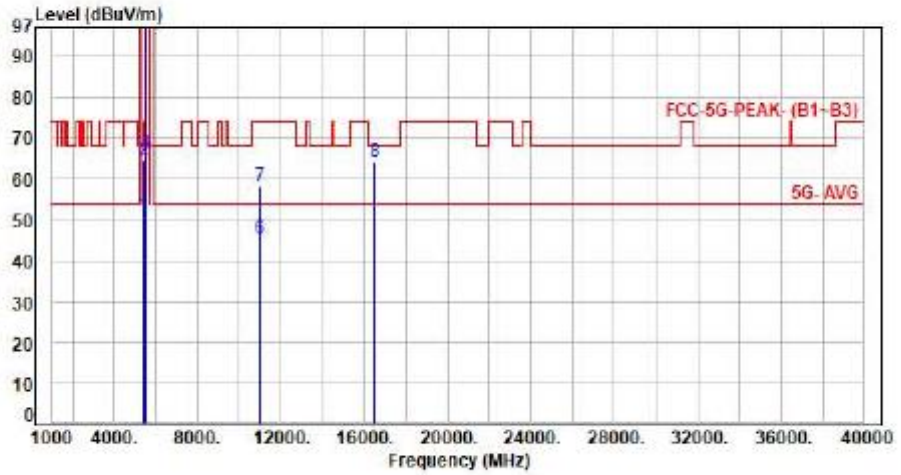
Test Mode : 1TX 11a CH64 6Mbps
Voltage : From Adapter(AC120V/60Hz)
Pol : Horizontal



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	5320.00	7.23	86.71	93.94	200.00	-106.06	Average	107	308	P
2	5320.00	7.23	96.47	103.70	200.00	-96.30	Peak	107	308	P
3	5350.00	7.27	43.09	50.36	54.00	-3.64	Average	107	308	P
4	5350.00	7.27	56.61	63.88	74.00	-10.12	Peak	107	308	P
5	10640.00	15.44	29.19	44.63	54.00	-9.37	Average	100	214	P
6	10640.00	15.44	42.86	58.30	74.00	-15.70	Peak	100	214	P
7	15960.00	17.45	31.25	48.70	54.00	-5.30	Average	100	162	P
8	15960.00	17.45	44.22	61.67	74.00	-12.33	Peak	100	162	P

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

Test Mode : 1TX 11a CH100 6Mbps
Voltage : From Adapter(AC120V/60Hz)
Pol : Vertical



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	5460.00	7.55	43.80	51.35	54.00	-2.65	Average	185	210	P
2	5460.00	7.55	56.82	64.37	74.00	-9.63	Peak	185	210	P
3	5470.00	7.58	58.86	66.44	68.20	-1.76	Peak	185	210	P
4	5500.00	7.68	91.49	99.17	200.00	-100.83	Average	185	210	P
5	5500.00	7.68	101.78	109.46	200.00	-90.54	Peak	185	210	P
6	11000.00	16.20	29.30	45.50	54.00	-8.50	Average	100	116	P
7	11000.00	16.20	42.01	58.21	74.00	-15.79	Peak	100	116	P
8	16500.00	18.92	45.13	64.05	68.20	-4.15	Peak	100	224	P

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