



FCC RADIO TEST REPORT

Applicant : LITE-ON Technology Corp.
Address : Bldg. C, 90, Chien 1 Rd., Chung-Ho,
New Taipei City, 23585, Taiwan
Equipment : Outdoor Wi-Fi 6 Enterprise Access Point
Model No. : WPX9926R, WPX9926RE
Trade Name : LITEON
FCC ID : PPQ-WPX9926R

I HEREBY CERTIFY THAT :

The sample was received on Aug. 16, 2023 and the testing was completed on Sep. 22, 2023 at CerpPASS Technology Corp. The test result refers exclusively to the test presented test model / sample. Without written approval of CerpPASS Technology Corp., the test report shall not be reproduced except in full.

Approved by:

Mark Liao / Supervisor

Laboratory Accreditation:

CerpPASS Technology Corporation Test Laboratory





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History of this test report

Report No.	Issued Date	Description
23070089-TRFCC02	Sep. 26, 2023	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.

*This EUT has been also tested and compiled with the requirement of FCC Part 15, Subpart B, recorded in a separate test report (23070089-TEFV01).



2. Test Configuration of Equipment under Test

2.1. Feature of Equipment under Test

Operation Frequency Range	802.11b/g/n/Turbo QAM/ax: 2400-2483.5MHz 802.11a/n/ac/ax: 5150-5250MHz, 5725-5850MHz
Center Frequency Range	802.11b/g/n/Turbo QAM/ax: 2412-2462MHz 802.11a/n/ac/ax: 5180-5240MHz, 5745-5825MHz
Modulation Type	2.4GHz 802.11b: CCK, DQPSK, DBPSK 802.11g/n: BPSK, QPSK, 16QAM, 64QAM, 256QAM(TurboQAM) 802.11ax: BPSK, QPSK, 16QAM, 64QAM, 256QAM, 1024QAM 5GHz 802.11n/a: BPSK, QPSK, 16QAM, 64QAM 802.11ac: BPSK, QPSK, 16QAM, 64QAM, 256QAM 802.11ax: BPSK, QPSK, 16QAM, 64QAM, 256QAM, 1024QAM
Modulation Technology	DSSS, OFDM, OFDMA
Data Rate	2.4GHz 802.11b: 1, 2, 5.5, 11Mbps 802.11g: 6, 9, 12, 18, 24, 36, 48, 54Mbps 802.11n: MCS0 – MCS15, HT20/40 802.11ac: MCS0 – MCS9, VHT20/40(Turbo QAM) 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, VHT20/40/80 802.11ax: MCS0 – MCS11, HE20/40/80
Antenna Type	Dipole ANT for Model No.: WPX9926RE Patch ANT for Model No.: WPX9926R
Antenna Gain (Dipole ANT with cable loss for Model No.: WPX9926RE)	2412-2462MHz: ANT A(Black): 3.46dBi, ANT B(Gray): 3.67dBi 5180-5240MHz, 5745-5825MHz: ANT C(Blue): 4.40dBi, ANT D(White): 4.22dBi
Antenna Gain (Patch ANT with cable loss for Model No.: WPX9926R)	2412-2462MHz: ANT A(Red): 7.00dBi, ANT B(Blue): 7.00dBi 5180-5240MHz, 5745-5825MHz: ANT C(Gray): 6.50dBi, ANT D(White): 6.50dBi

Note:

1. EUT supports TPC Function.
2. WLAN 2.4G 802.11n Support TurboQAM.
3. WLAN 2.4GHz & WLAN 5GHz 802.11ax support beamforming Function.
4. For more details, please refer to the User's manual of the EUT.

Difference Description:	
Model No.	Remark
WPX9926RE	External Antenna
WPX9926R	Internal Antenna
These two models can use Micron & Winbond DDR NAND.	



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

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

- During testing, the interface cables and equipment positions were varied according to ANSI C63.10.
- For Non-beamforming test, "QSPR ver.: 5.0-00202" under Windows 7 system was executed to transmit and receive data via WLAN.
- For beamforming test, "Command" under Windows 7 system was executed to transmit and receive data via WLAN.



- d. Model no. WPX9926RE & WPX9926R can use Micron & Winbond DDR NAND, so we use these samples to test with AC 120V & AC 240V, the worst case is Micron DDR NAND with AC 120V. The following test modes were performed for the test:

Conducted Emissions Test	
Test Mode	Operating Description
ANT: Dipole	
Test Mode 1	AC 120V, 802.11a (6Mbps), Power from PoE, Non-beamforming
Test Mode 2	AC 120V, 802.11ax HE20 (7.3Mbps), Power from PoE, Non-beamforming
Test Mode 3	AC 120V, 802.11ax HE40 (14.6Mbps), Power from PoE, Non-beamforming
Test Mode 4	AC 120V, 802.11ax HE80 (30.6Mbps), Power from PoE, Non-beamforming
Test Mode 5	AC 120V, 802.11ax HE20 (7.3Mbps), Power from PoE, Beamforming
Test Mode 6	AC 120V, 802.11ax HE40 (14.6Mbps), Power from PoE, Beamforming
Test Mode 7	AC 120V, 802.11ax HE80 (30.6Mbps), Power from PoE, Beamforming
ANT: Patch	
Test Mode 8	AC 120V, 802.11a (6Mbps), Power from PoE, Non-beamforming
Test Mode 9	AC 120V, 802.11ax HE20 (7.3Mbps), Power from PoE, Non-beamforming
Test Mode 10	AC 120V, 802.11ax HE40 (14.6Mbps), Power from PoE, Non-beamforming
Test Mode 11	AC 120V, 802.11ax HE80 (30.6Mbps), Power from PoE, Non-beamforming
Test Mode 12	AC 120V, 802.11ax HE20 (7.3Mbps), Power from PoE, Beamforming
Test Mode 13	AC 120V, 802.11ax HE40 (14.6Mbps), Power from PoE, Beamforming
Test Mode 14	AC 120V, 802.11ax HE80 (30.6Mbps), Power from PoE, Beamforming
For Conducted Emission test, caused "Test Mode 1,5,10,12" were the worst case, they were reported as the final data. For Radiation Emission (below 1GHz) test, caused "Test Mode 1,5,10,12" were the worst case, they were reported as the final data. For Radiation Emission (above 1GHz) test, caused "Test Mode 1~14" were the worst case, they were reported as the final data. After engineering evaluation, for Duty cycle, 26dB & 6dB bandwidth and Occupied bandwidth, Power Spectral Density test, Dipole ANT was the worst case, it was reported as the final data.	

The EUT incorporates a MIMO function

Modulation Type	TX CONFIGURATION
802.11a	2TX
802.11n HT20	2TX
802.11n HT40	2TX
802.11ac VHT20	2TX
802.11ac VHT40	2TX
802.11ac VHT80	2TX
802.11ax HE20	2TX
802.11ax HE40	2TX
802.11ax HE80	2TX



2.4. Description of Test System

Model No.: WPX9926RE, ANT: Dipole, Non-beamforming

RF Conducted				
Equipment	Brand	Model	Length/Type	Power cord/ Length/Type
Notebook	lenovo	S1GL2W	N/A	Adapter / 1.8m / NS
Power Cord	Powersync	TPCMRN0006	1.2m / NS	N/A
RJ45 Cable*2	TE CONNECTIVITY	CAT5E	1.2m / NS	N/A
PoE	UBIQUITI	GP-H480-050G	N/A	0.6m / NS

Radiated Emissions				
Equipment	Brand	Model	Length/Type	Power cord/ Length/Type
RJ45 Cable	TE CONNECTIVITY	CAT5E	1.2m / NS	N/A
RJ45 Cable	TE CONNECTIVITY	CAT5E	15m / NS	N/A
Power Cord	Powersync	TPCMRN0006	1.2m / NS	N/A
Notebook	ASUS	P2430U	N/A	Adapter / 1.8m / NS
PoE	Cambium Networks	NET-P60-56IN	N/A	N/A

AC Power Line Conducted Emission				
Equipment	Brand	Model	Length/Type	Power cord/ Length/Type
RJ45 Cable*2	TE CONNECTIVITY	CAT5E	1.2m / NS	N/A
Notebook	ASUS	P2430U	N/A	Adapter / 1.8m / NS
Power Cord	Powersync	TPCMRN0006	1.2m / NS	N/A
PoE	Cambium Networks	NET-P60-56IN	N/A	N/A

Model No.: WPX9926RE, ANT: Dipole, Beamforming

RF Conducted				
Equipment	Brand	Model	Length/Type	Power cord/ Length/Type
Notebook	lenovo	S1GL2W	N/A	Adapter / 1.8m / NS
Notebook	lenovo	S1GL2W	N/A	Adapter / 1.8m / NS
Power Cord	Powersync	TPCMRN0006	1.2m / NS	N/A
Power Cord	KING-CORD	KC-003	1m / NS	N/A
RJ45 Cable*4	TE CONNECTIVITY	CAT5E	1.2m / NS	N/A
PoE*2	UBIQUITI	GP-H480-050G	N/A	0.6m / NS
AP	LITEON	WPX9926R	N/A	N/A



Radiated Emissions				
Equipment	Brand	Model	Length/Type	Power cord/ Length/Type
RJ45 Cable*3	TE CONNECTIVITY	CAT5E	1.2m / NS	N/A
RJ45 Cable	TE CONNECTIVITY	CAT5E	15m / NS	N/A
Notebook	ASUS	P2430U	N/A	Adapter / 1.8m / NS
Power Cord	Powersync	TPCMRN0006	1.2m / NS	N/A
Power Cord	KING-CORD	KC-003	1m / NS	N/A
PoE	N/A	NET-P60-56IN	N/A	N/A
PoE	Bluewave	JS-100GT	N/A	N/A
Notebook	ASUS	P2430U	N/A	Adapter / 1.8m / NS
AP	LITEON	WPX9926R	N/A	N/A

AC Power Line Conducted Emission				
Equipment	Brand	Model	Length/Type	Power cord/ Length/Type
RJ45 Cable*4	TE CONNECTIVITY	CAT5E	1.2m / NS	N/A
Notebook	ASUS	P2430U	N/A	Adapter / 1.8m / NS
Power Cord	Powersync	TPCMRN0006	1.2m / NS	N/A
Power Cord	KING-CORD	KC-003	1m / NS	N/A
PoE	N/A	NET-P60-56IN	N/A	N/A
PoE	Bluewave	JS-100GT	N/A	N/A
Notebook	ASUS	P2430U	N/A	Adapter / 1.8m / NS
AP	LITEON	WPX9926R	N/A	N/A

Model No.: WPX9926R, ANT: Patch, Non-beamforming

RF Conducted				
Equipment	Brand	Model	Length/Type	Power cord/ Length/Type
Notebook	lenovo	S1GL2W	N/A	Adapter / 1.8m / NS
Power Cord	Powersync	TPCMRN0006	1.2m / NS	N/A
RJ45 Cable*2	TE CONNECTIVITY	CAT5E	1.2m / NS	N/A
PoE	UBIQUITI	GP-H480-050G	N/A	0.6m / NS

Radiated Emissions				
Equipment	Brand	Model	Length/Type	Power cord/ Length/Type
Notebook	ASUS	P2430U	N/A	Adapter / 1.8m / NS
Power Cord	Powersync	TPCMRN0006	1.2m / NS	N/A
RJ45 Cable	TE CONNECTIVITY	CAT5E	1.2m / NS	N/A
RJ45 Cable	TE CONNECTIVITY	CAT5E	15m / NS	N/A
PoE	UBIQUITI	GP-H480-050G	N/A	0.6m / NS



AC Power Line Conducted Emission				
Equipment	Brand	Model	Length/Type	Power cord/ Length/Type
Notebook	ASUS	P2430U	N/A	Adapter / 1.8m / NS
Power Cord	Powersync	TPCMRN0006	1.2m / NS	N/A
RJ45 Cable*2	TE CONNECTIVITY	CAT5E	1.2m / NS	N/A
PoE	Bluewave	JS-100GT	N/A	N/A

Model No.: WPX9926R, ANT: Patch, Beamforming

RF Conducted				
Equipment	Brand	Model	Length/Type	Power cord/ Length/Type
Notebook	lenovo	S1GL2W	N/A	Adapter / 1.8m / NS
Notebook	lenovo	S1GL2W	N/A	Adapter / 1.8m / NS
Power Cord*2	Powersync	TPCMRN0006	1.2m / NS	N/A
RJ45 Cable*4	TE CONNECTIVITY	CAT5E	1.2m / NS	N/A
PoE*2	UBIQUITI	GP-H480-050G	N/A	0.6m / NS
AP	LITEON	WPX9926R	N/A	N/A

Radiated Emissions				
Equipment	Brand	Model	Length/Type	Power cord/ Length/Type
Notebook	ASUS	P2430U	N/A	Adapter / 1.8m / NS
Notebook	ASUS	P2430U	N/A	Adapter / 1.8m / NS
RJ45 Cable*3	TE CONNECTIVITY	CAT5E	1.2m / NS	N/A
PoE	UBIQUITI	GP-H480-050G	N/A	0.6m / NS
Power Cord	KING-CORD	KC-003	1m / NS	N/A
Power Cord	Powersync	TPCMRN0006	1.2m / NS	N/A
RJ45 Cable	TE CONNECTIVITY	CAT5E	15m / NS	N/A
PoE	PowerDsine	PD-9001GR	N/A	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
Notebook	ASUS	P2430U	N/A	Adapter / 1.8m / NS
RJ45 Cable*4	TE CONNECTIVITY	CAT5E	1.2m / NS	N/A
PoE	Bluewave	JS-100GT	N/A	N/A
Power Cord	KING-CORD	KC-003	1m / NS	N/A
Power Cord	Powersync	TPCMRN0006	1.2m / NS	N/A
POE	PowerDsine	PD-9001GR	N/A	N/A



2.5. General Information of Test

Test Site	Cerpass Technology Corporation Test Laboratory Address: No.10, Ln. 2, Lianfu St., Luzhu Dist., Taoyuan City 33848, Taiwan (R.O.C.) Tel:+886-3-3226-888 Fax:+886-3-3226-881	
	FCC	TW1439, TW1079
	IC	4934E-1, 4934E-2
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.	

Model No.: WPX9926RE, ANT: Dipole, Non-beamforming

Test Item	Test Site	Finish Date	Environmental Conditions	Tested By
RF Conducted	RFCON01-NK	2023/09/20	24.8°C / 47%	Leon Huang
Radiated Emissions	3M02-NK	2023/08/24 ~ 2023/09/04	24~27.8°C / 35~61%	Leon Huang
AC Power Line Conducted Emission	CON01-NK	2023/09/01	26°C / 53%	Leon Huang

Model No.: WPX9926RE, ANT: Dipole, Beamforming

Test Item	Test Site	Finish Date	Environmental Conditions	Tested By
RF Conducted	RFCON01-NK	2023/09/22	25.6°C / 51%	Leon Huang
Radiated Emissions	3M02-NK	2023/08/28 ~ 2023/09/04	23~27.2°C / 35~43%	Leon Huang
AC Power Line Conducted Emission	CON01-NK	2023/09/01	26°C / 53%	Leon Huang

Model No.: WPX9926R, ANT: Patch, Non-beamforming

Test Item	Test Site	Finish Date	Environmental Conditions	Tested By
RF Conducted	RFCON01-NK	2023/09/20	24.8°C / 47%	Leon Huang
Radiated Emissions	3M02-NK	2023/08/29 ~ 2023/09/04	23~27.8°C / 38~43%	Leon Huang
AC Power Line Conducted Emission	CON01-NK	2023/09/01	26°C / 53%	Leon Huang

Model No.: WPX9926R, ANT: Patch, Beamforming

Test Item	Test Site	Finish Date	Environmental Conditions	Tested By
RF Conducted	RFCON01-NK	2023/09/22	25.6°C / 51%	Leon Huang
Radiated Emissions	3M02-NK	2023/08/30 ~ 2023/09/04	25~27.8°C / 41~43%	Leon Huang
AC Power Line Conducted Emission	CON01-NK	2023/09/01	26°C / 53%	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)	±3.28dB
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	275	2022/11/18	2023/11/17
Active Loop Antenna	Schwarzbeck	FMZB 1513	414	2023/02/03	2024/02/02
Horn Antenna	EMCO	3115	31589	2023/03/23	2024/03/22
Horn Antenna	EMCO	3116	31970	2023/03/03	2024/03/02
EMI Receiver	R&S	ESCI	101423	2023/07/05	2024/07/04
Spectrum Analyzer	R&S	FSV 40-N	102151	2023/08/16	2024/08/15
Preamplifier	Agilent	8449B	3008A01954	2023/03/08	2024/03/07
Preamplifier	EMC INSTRUMENT S	EMC184045	980065	2022/11/11	2023/11/10
Preamplifier	EM Electronics corp.	EM330	60658	2022/10/04	2023/10/03
Cable-6m (9k~300M)	NA	EMC5D-BM-BM-6	130606	2023/03/13	2024/03/12
Cable-3in1 (30M-1G)	HARBOUR INDUSTRIES	LL142	CCE1315	2023/02/25	2024/02/24
Cable-0.5m (1G-40G)	HUBER SUHNER	SUCOFLEX 104	805443/4	2023/03/07	2024/03/06
Cable-3m (1G-40G)	HUBER SUHNER	SUCOFLEX 104	805796/4	2023/03/07	2024/03/06
Cable-8m (1G-26.5G)	WOKEN	WCBA-WCA203SM	CCE1374	2023/03/07	2024/03/06
Cable-0.5m (30M-40G)	HUBER SUHNER	SUCOFLEX 102	28420/2	2023/03/07	2024/03/06
Cable-3m (10M-40G)	HUBER SUHNER	SF102	804619/2	2022/10/11	2023/10/10
High Pass Filter	Warison	WFIL-H3000-18000F-03	WRJ5CFWC2J1	2023/07/03	2024/07/02
High Pass Filter	Warison	WFIL-H7500-18000F	WRQ4BFWC2J1	2023/03/13	2024/03/12
Notch Filter	Warison	WFIL-N5925-7125F-04	WRQ4BFWC4M1	2023/03/13	2024/03/12
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
CAX Signal Analyzer	KEYSIGHT	N9000B	MY57100339	2022/11/29	2023/11/28
Power Meter	Anritsu	ML2495A	1224005	2023/03/07	2024/03/06
Power Sensor	Anritsu	MA2411B	1207295	2023/03/07	2024/03/06
Attenuator	KEYSIGHT	8491B	MY39250703	2023/03/08	2024/03/07



Test Item	AC Power Line Conducted Emission				
Test Site	CON01-NK				
Instrument	Manufacturer	Model No	Serial No	Calibration Date	Valid Date
EMI Receiver	R&S	ESCI	101200	2022/12/09	2023/12/08
LISN	Schwarzbeck	NSLK 8127	8127-568	2023/05/10	2024/05/09
Pulse Limiter	R&S	ESH3-Z2	101933	2022/09/29	2023/09/28
Cable-6m(9k~300M)	NA	EMC5D-BM-B M-6	130605	2022/09/06	2023/09/05
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

Model No.	Antenna Type	Antenna Gain
WPX9926RE	Dipole ANT	5180-5240MHz, 5745-5825MHz: ANT C(Blue): 4.40dBi, ANT D(White): 4.22dBi
WPX9926R	Patch ANT	5180-5240MHz, 5745-5825MHz: ANT C(Gray): 6.50dBi, ANT D(White): 6.50dBi

(Non-Beamforming)

Dipole ANT	5180-5240MHz
For Power directional gain= $G_{ant}= 4.40 \text{ dBi}$ For PSD directional gain = $10 \log[(10^{G1/20} + 10^{G2/20} + \dots + 10^{GN/20})^2 / N_{ANT}]$ = 7.32 dBi *MIMO type: Cyclic Delay Diversity (CDD) mode.	
Dipole ANT	5745-5825MHz
For Power directional gain= $G_{ant}= 4.40 \text{ dBi}$ For PSD directional gain = $10 \log[(10^{G1/20} + 10^{G2/20} + \dots + 10^{GN/20})^2 / N_{ANT}]$ = 7.32 dBi *MIMO type: Cyclic Delay Diversity (CDD) mode.	
<u>(Beamforming)</u>	
Dipole ANT	5180-5240MHz
For Power directional gain = $10 \log[(10^{G1/20} + 10^{G2/20} + \dots + 10^{GN/20})^2 / N_{ANT}] = 7.32 \text{ dBi}$ For PSD directional gain = $10 \log[(10^{G1/20} + 10^{G2/20} + \dots + 10^{GN/20})^2 / N_{ANT}]$ = 7.32 dBi	
Dipole ANT	5745-5825MHz
For Power directional gain = $10 \log[(10^{G1/20} + 10^{G2/20} + \dots + 10^{GN/20})^2 / N_{ANT}] = 7.32 \text{ dBi}$ For PSD directional gain = $10 \log[(10^{G1/20} + 10^{G2/20} + \dots + 10^{GN/20})^2 / N_{ANT}]$ = 7.32 dBi	



(Non-Beamforming)	
Patch ANT	5180-5240MHz
For Power directional gain= $G_{ant}= 6.50 \text{ dBi}$ For PSD directional gain = $10 \log[(10^{G1/20} + 10^{G2/20} + \dots + 10^{GN/20})^2 / N_{ANT}]$ = 9.51 dBi *MIMO type: Cyclic Delay Diversity (CDD) mode.	
Patch ANT	5745-5825MHz
For Power directional gain= $G_{ant}= 6.50 \text{ dBi}$ For PSD directional gain = $10 \log[(10^{G1/20} + 10^{G2/20} + \dots + 10^{GN/20})^2 / N_{ANT}]$ = 9.51 dBi *MIMO type: Cyclic Delay Diversity (CDD) mode.	
(Beamforming)	
Patch ANT	5180-5240MHz
For Power directional gain = $10 \log[(10^{G1/20} + 10^{G2/20} + \dots + 10^{GN/20})^2 / N_{ANT}] = 9.51 \text{ dBi}$ For PSD directional gain = $10 \log[(10^{G1/20} + 10^{G2/20} + \dots + 10^{GN/20})^2 / N_{ANT}]$ = 9.51 dBi	
Patch ANT	5745-5825MHz
For Power directional gain = $10 \log[(10^{G1/20} + 10^{G2/20} + \dots + 10^{GN/20})^2 / N_{ANT}] = 9.51 \text{ dBi}$ For PSD directional gain = $10 \log[(10^{G1/20} + 10^{G2/20} + \dots + 10^{GN/20})^2 / N_{ANT}]$ = 9.51 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 C63.10-2013. 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 (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.

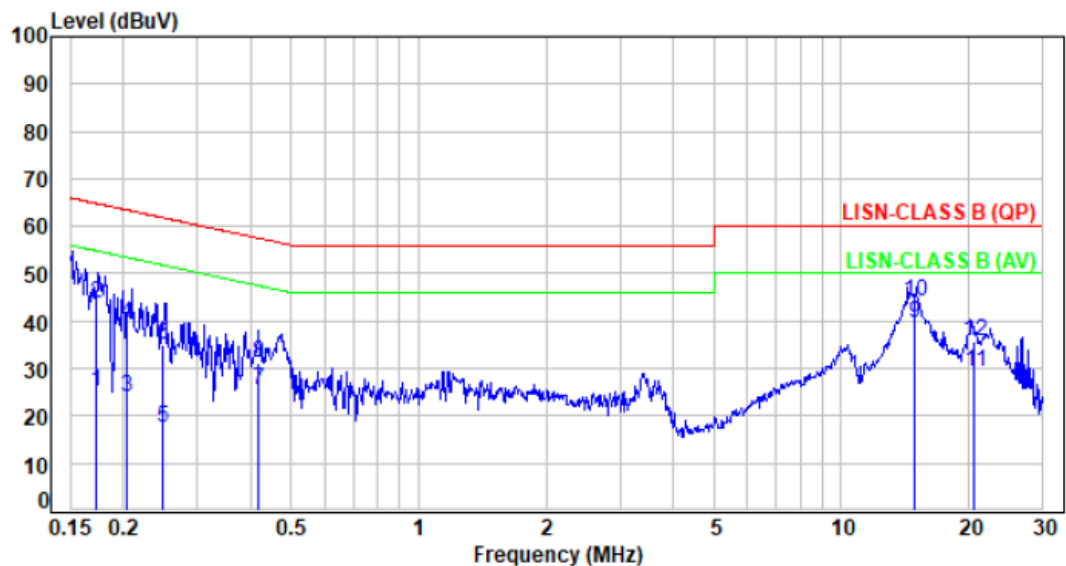
5.2. Test Procedures

- 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.



5.4. Test Result and Data

Power	:	AC 120V / 60Hz from PoE	Pol/Phase	:	LINE
Test Mode	:	Mode 1, 11a CH149		:	



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector	P/F
1	0.17	9.97	15.12	25.09	54.85	-29.76	Average	P
2	0.17	9.97	33.84	43.81	64.85	-21.04	QP	P
3	0.20	9.97	14.14	24.11	53.43	-29.32	Average	P
4	0.20	9.97	29.53	39.50	63.43	-23.93	QP	P
5	0.25	9.97	7.36	17.33	51.85	-34.52	Average	P
6	0.25	9.97	25.07	35.04	61.85	-26.81	QP	P
7	0.42	9.97	15.65	25.62	47.49	-21.87	Average	P
8	0.42	9.97	21.26	31.23	57.49	-26.26	QP	P
9	14.94	10.60	28.76	39.36	50.00	-10.64	Average	P
10	14.94	10.60	33.59	44.19	60.00	-15.81	QP	P
11	20.70	10.72	18.38	29.10	50.00	-20.90	Average	P
12	20.70	10.72	24.84	35.56	60.00	-24.44	QP	P

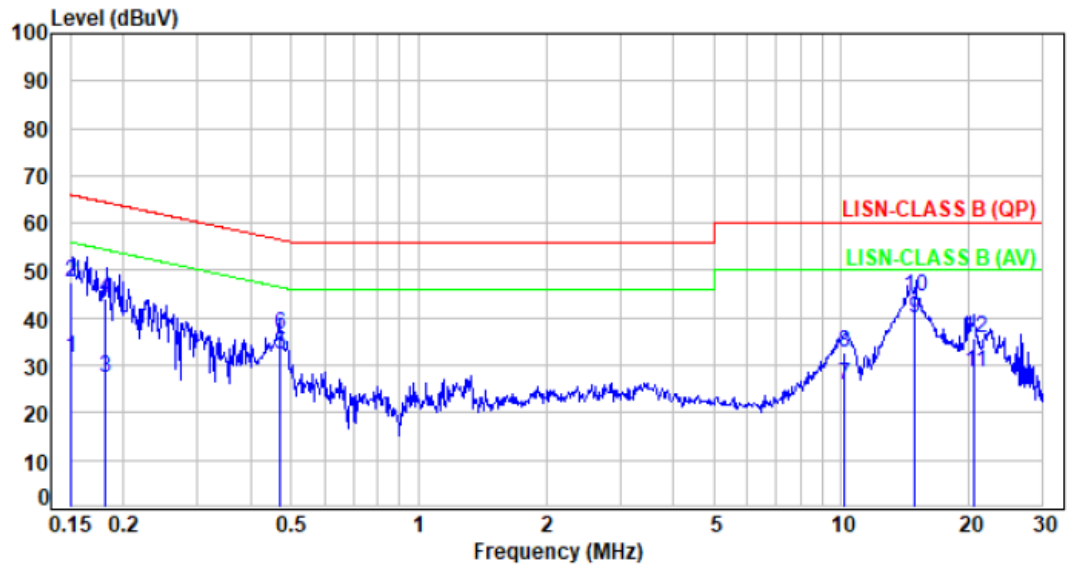
Note: Level=Reading+Factor

Margin=Level-Limit

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



Power	:	AC 120V / 60Hz from PoE	Pol/Phase	:	NEUTRAL
Test Mode	:	Mode 1, 11a CH149		:	



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector	P/F
1	0.15	9.97	21.67	31.64	55.99	-24.35	Average	P
2	0.15	9.97	37.68	47.65	65.99	-18.34	QP	P
3	0.18	9.96	17.33	27.29	54.40	-27.11	Average	P
4	0.18	9.96	34.04	44.00	64.40	-20.40	QP	P
5	0.47	9.97	22.45	32.42	46.54	-14.12	Average	P
6	0.47	9.97	26.53	36.50	56.54	-20.04	QP	P
7	10.17	10.35	15.54	25.89	50.00	-24.11	Average	P
8	10.17	10.35	22.39	32.74	60.00	-27.26	QP	P
9	14.94	10.54	29.35	39.89	50.00	-10.11	Average	P
10	14.94	10.54	34.09	44.63	60.00	-15.37	QP	P
11	20.70	10.69	17.89	28.58	50.00	-21.42	Average	P
12	20.70	10.69	25.07	35.76	60.00	-24.24	QP	P

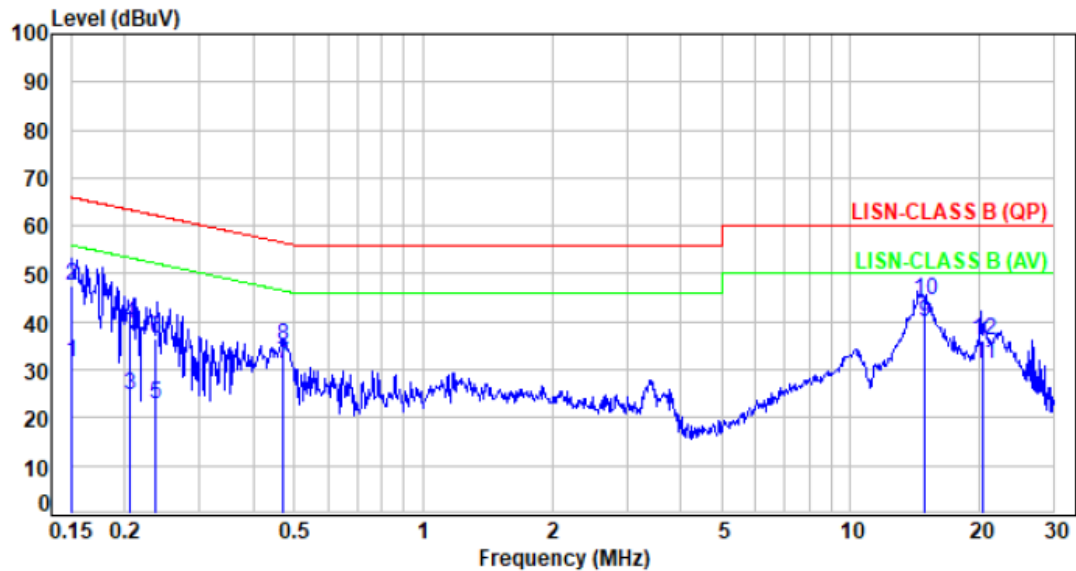
Note: Level=Reading+Factor

Margin=Level-Limit

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



Power	: AC 120V / 60Hz from PoE	Pol/Phase	: LINE
Test Mode	: Mode 5, 11ax HE20 CH157		:



No.	Frequency (MHz)	Factor (dB)	Reading (dBUV)	Level (dBUV)	Limit (dBUV)	Margin (dB)	Detector	P/F
1	0.15	9.97	21.52	31.49	55.98	-24.49	Average	P
2	0.15	9.97	37.59	47.56	65.98	-18.42	QP	P
3	0.21	9.97	14.84	24.81	53.39	-28.58	Average	P
4	0.21	9.97	29.58	39.55	63.39	-23.84	QP	P
5	0.24	9.97	12.89	22.86	52.24	-29.38	Average	P
6	0.24	9.97	26.39	36.36	62.24	-25.88	QP	P
7	0.47	9.98	21.29	31.27	46.55	-15.28	Average	P
8	0.47	9.98	25.12	35.10	56.55	-21.45	QP	P
9	14.94	10.60	29.16	39.76	50.00	-10.24	Average	P
10	14.94	10.60	34.03	44.63	60.00	-15.37	QP	P
11	20.48	10.71	20.47	31.18	50.00	-18.82	Average	P
12	20.48	10.71	25.58	36.29	60.00	-23.71	QP	P

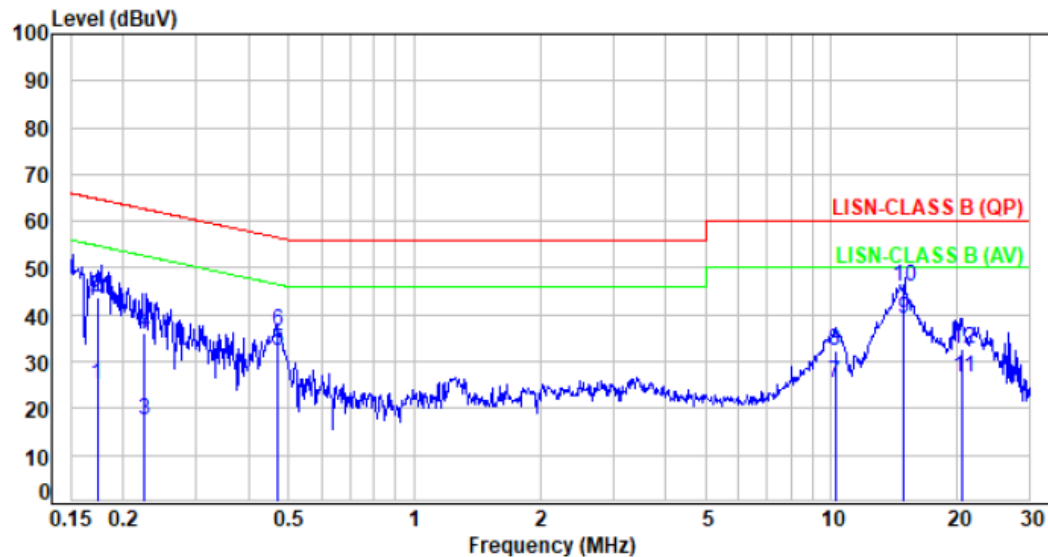
Note: Level=Reading+Factor

Margin=Level-Limit

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



Power	:	AC 120V / 60Hz from PoE	Pol/Phase	:	NEUTRAL
Test Mode	:	Mode 5, 11ax HE20 CH157		:	



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector	P/F
1	0.17	9.96	15.10	25.06	54.80	-29.74	Average	P
2	0.17	9.96	33.70	43.66	64.80	-21.14	QP	P
3	0.22	9.96	7.60	17.56	52.66	-35.10	Average	P
4	0.22	9.96	26.21	36.17	62.66	-26.49	QP	P
5	0.47	9.97	22.25	32.22	46.53	-14.31	Average	P
6	0.47	9.97	26.38	36.35	56.53	-20.18	QP	P
7	10.21	10.36	15.18	25.54	50.00	-24.46	Average	P
8	10.21	10.36	22.00	32.36	60.00	-27.64	QP	P
9	14.94	10.54	28.78	39.32	50.00	-10.68	Average	P
10	14.94	10.54	35.39	45.93	60.00	-14.07	QP	P
11	20.70	10.69	16.01	26.70	50.00	-23.30	Average	P
12	20.70	10.69	21.88	32.57	60.00	-27.43	QP	P

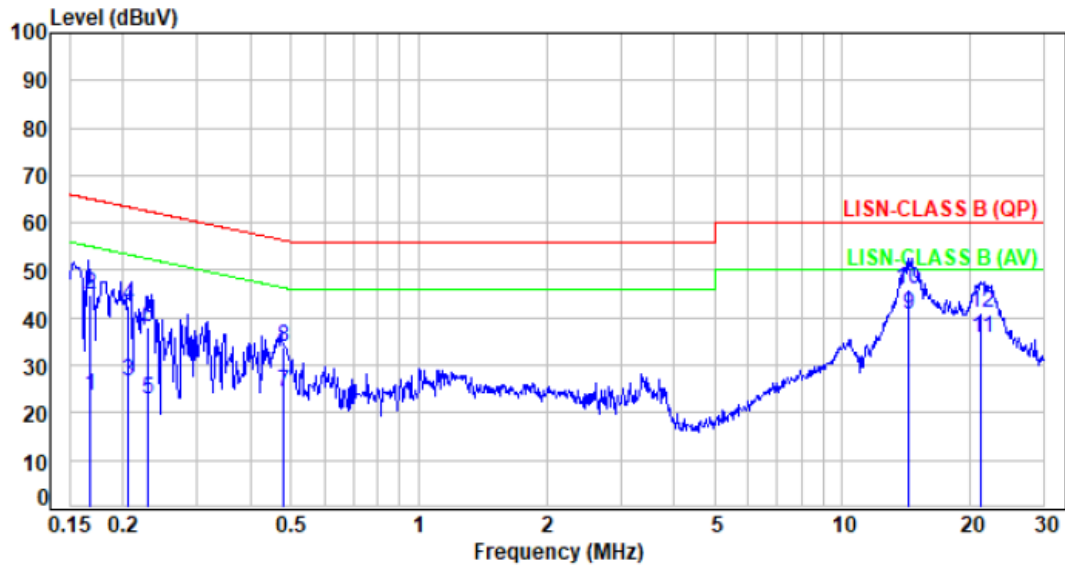
Note: Level=Reading+Factor

Margin=Level-Limit

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



Power	: AC 120V / 60Hz from PoE	Pol/Phase	: LINE
Test Mode	: Mode 10, 11ax HE40 CH159		:



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector	P/F
1	0.17	9.97	13.46	23.43	55.06	-31.63	Average	P
2	0.17	9.97	34.74	44.71	65.06	-20.35	QP	P
3	0.21	9.97	16.58	26.55	53.35	-26.80	Average	P
4	0.21	9.97	32.65	42.62	63.35	-20.73	QP	P
5	0.23	9.97	12.82	22.79	52.48	-29.69	Average	P
6	0.23	9.97	27.87	37.84	62.48	-24.64	QP	P
7	0.48	9.98	14.32	24.30	46.39	-22.09	Average	P
8	0.48	9.98	23.92	33.90	56.39	-22.49	QP	P
9	14.27	10.58	30.19	40.77	50.00	-9.23	Average	P
10	14.27	10.58	35.55	46.13	60.00	-13.87	QP	P
11	21.27	10.75	24.85	35.60	50.00	-14.40	Average	P
12	21.27	10.75	30.28	41.03	60.00	-18.97	QP	P

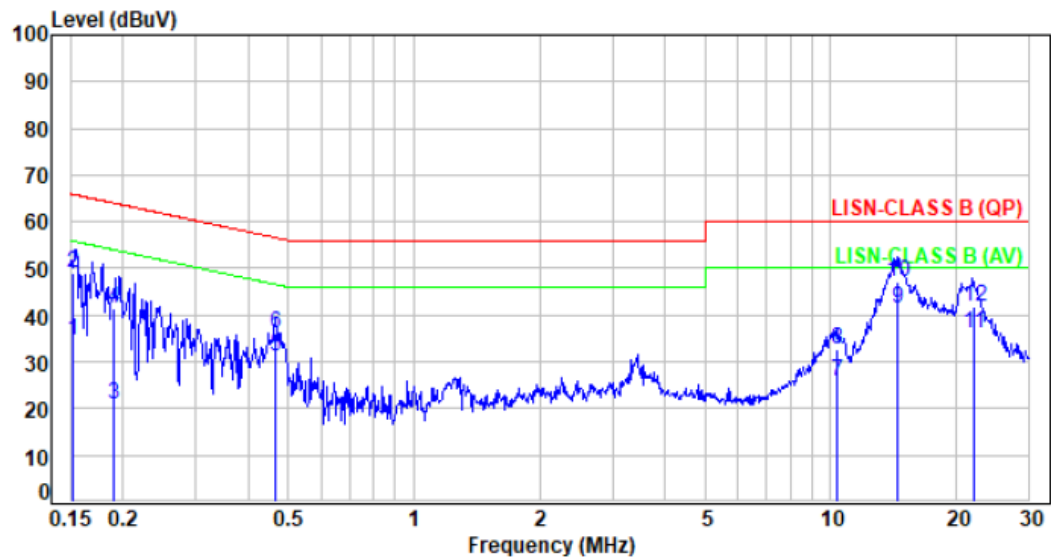
Note: Level=Reading+Factor

Margin=Level-Limit

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



Power	:	AC 120V / 60Hz from PoE	Pol/Phase	:	NEUTRAL
Test Mode	:	Mode 10, 11ax HE40 CH159		:	



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector	P/F
1	0.15	9.97	24.45	34.42	55.92	-21.50	Average	P
2	0.15	9.97	39.04	49.01	65.92	-16.91	QP	P
3	0.19	9.96	10.83	20.79	53.99	-33.20	Average	P
4	0.19	9.96	31.30	41.26	63.99	-22.73	QP	P
5	0.46	9.97	21.22	31.19	46.62	-15.43	Average	P
6	0.46	9.97	25.98	35.95	56.62	-20.67	QP	P
7	10.36	10.36	15.41	25.77	50.00	-24.23	Average	P
8	10.36	10.36	22.23	32.59	60.00	-27.41	QP	P
9	14.48	10.53	30.86	41.39	50.00	-8.61	Average	P
10	14.48	10.53	36.45	46.98	60.00	-13.02	QP	P
11	22.04	10.73	25.51	36.24	50.00	-13.76	Average	P
12	22.04	10.73	30.91	41.64	60.00	-18.36	QP	P

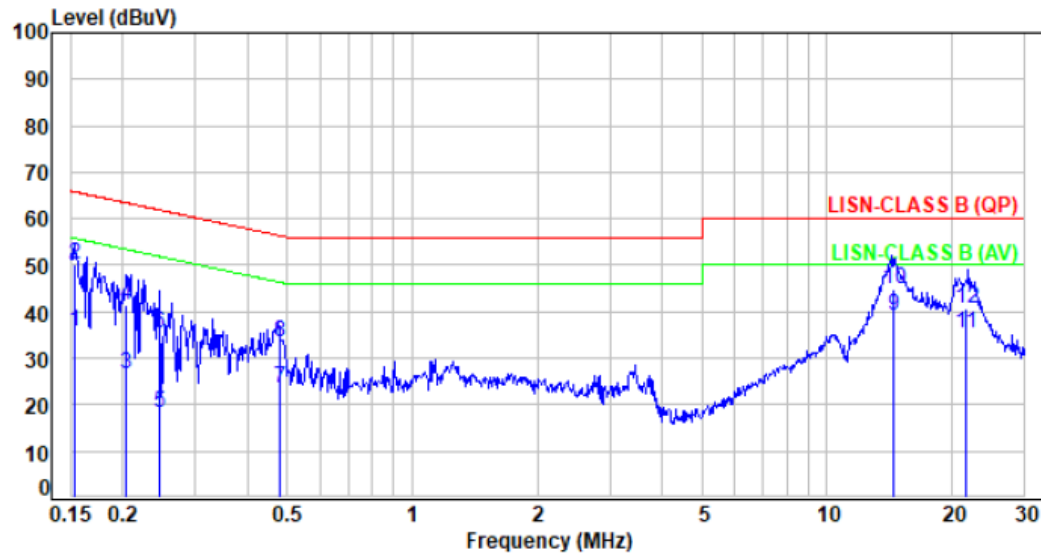
Note: Level=Reading+Factor

Margin=Level-Limit

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



Power	:	AC 120V / 60Hz from PoE	Pol/Phase	:	LINE
Test Mode	:	Mode 12, 11ax HE20 CH157		:	



No.	Frequency (MHz)	Factor (dB)	Reading (dBUV)	Level (dBUV)	Limit (dBUV)	Margin (dB)	Detector	P/F
1	0.15	9.97	25.58	35.55	55.83	-20.28	Average	P
2	0.15	9.97	40.05	50.02	65.83	-15.81	QP	P
3	0.20	9.97	16.63	26.60	53.46	-26.86	Average	P
4	0.20	9.97	31.61	41.58	63.46	-21.88	QP	P
5	0.25	9.97	8.10	18.07	51.90	-33.83	Average	P
6	0.25	9.97	25.29	35.26	61.90	-26.64	QP	P
7	0.48	9.98	13.71	23.69	46.35	-22.66	Average	P
8	0.48	9.98	23.45	33.43	56.35	-22.92	QP	P
9	14.52	10.59	28.68	39.27	50.00	-10.73	Average	P
10	14.52	10.59	34.33	44.92	60.00	-15.08	QP	P
11	21.61	10.75	24.54	35.29	50.00	-14.71	Average	P
12	21.61	10.75	30.03	40.78	60.00	-19.22	QP	P

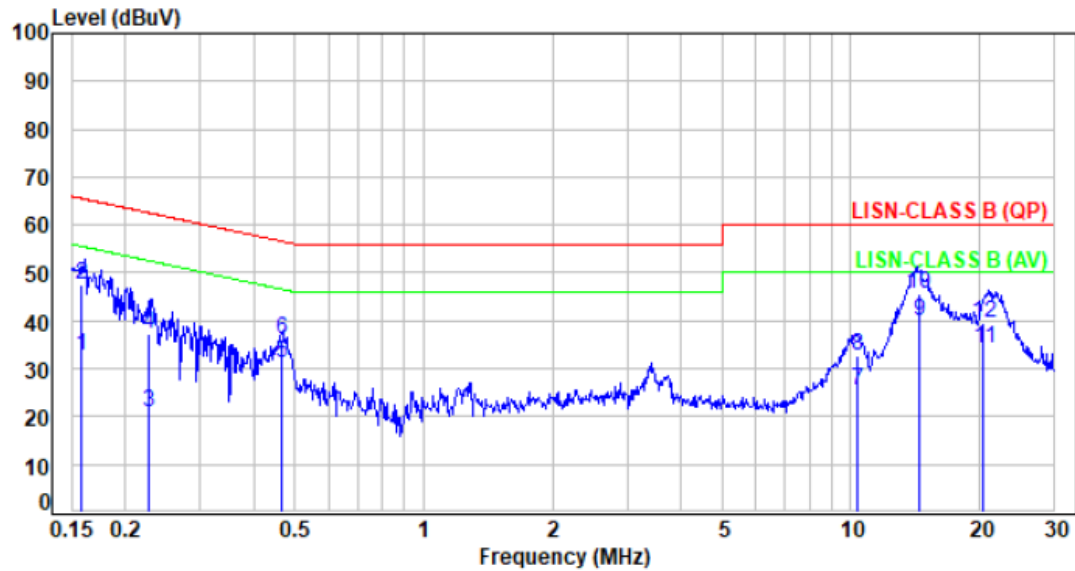
Note: Level=Reading+Factor

Margin=Level-Limit

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



Power	: AC 120V / 60Hz from PoE	Pol/Phase	: NEUTRAL
Test Mode	: Mode 12, 11ax HE20 CH157		:



No.	Frequency (MHz)	Factor (dB)	Reading (dBUV)	Level (dBUV)	Limit (dBUV)	Margin (dB)	Detector	P/F
1	0.16	9.97	22.54	32.51	55.54	-23.03	Average	P
2	0.16	9.97	37.57	47.54	65.54	-18.00	QP	P
3	0.23	9.96	10.77	20.73	52.52	-31.79	Average	P
4	0.23	9.96	27.14	37.10	62.52	-25.42	QP	P
5	0.47	9.97	21.30	31.27	46.59	-15.32	Average	P
6	0.47	9.97	25.97	35.94	56.59	-20.65	QP	P
7	10.33	10.36	15.24	25.60	50.00	-24.40	Average	P
8	10.33	10.36	22.18	32.54	60.00	-27.46	QP	P
9	14.41	10.53	29.49	40.02	50.00	-9.98	Average	P
10	14.41	10.53	35.14	45.67	60.00	-14.33	QP	P
11	20.48	10.68	23.55	34.23	50.00	-15.77	Average	P
12	20.48	10.68	28.92	39.60	60.00	-20.40	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.

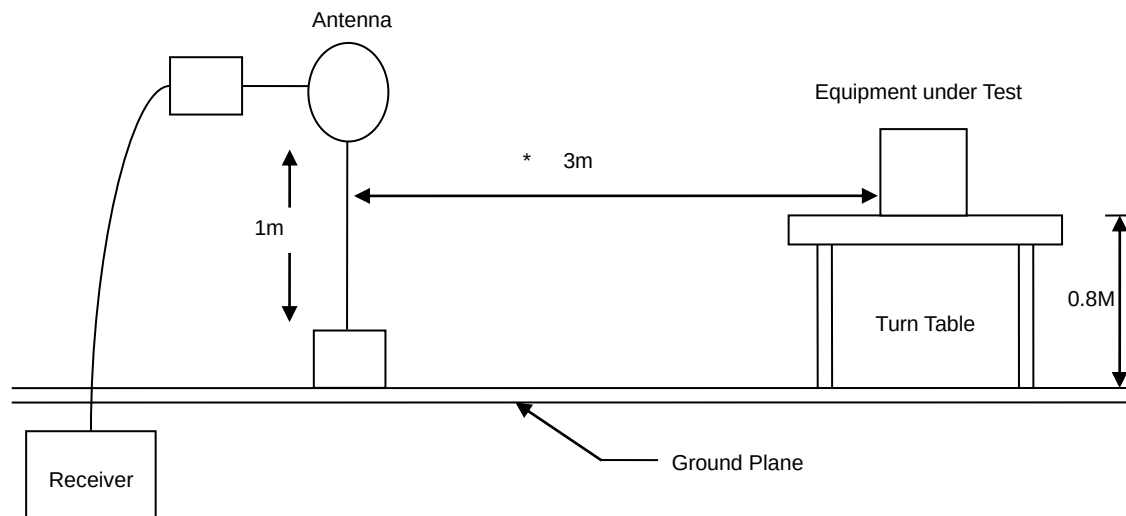
Note:

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

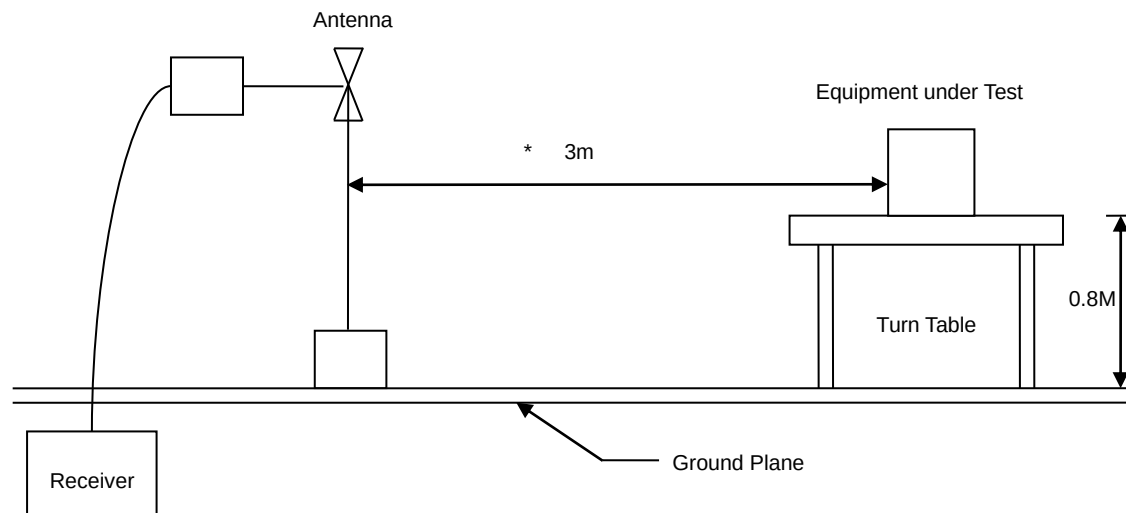


6.3. Typical Test Setup

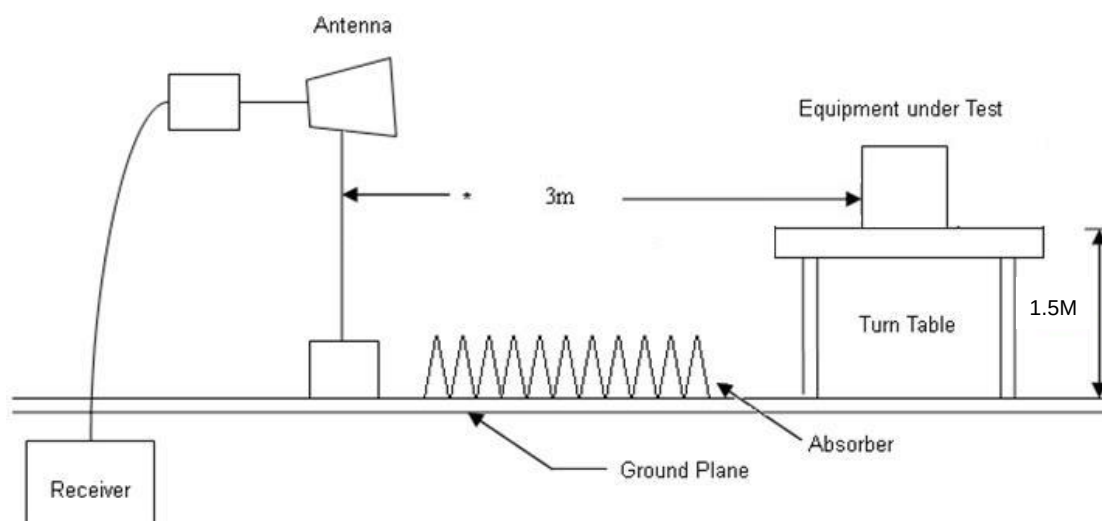
Below 30MHz test setup



30MHz- 1GHz Test Setup



Above 1GHz Test Setup



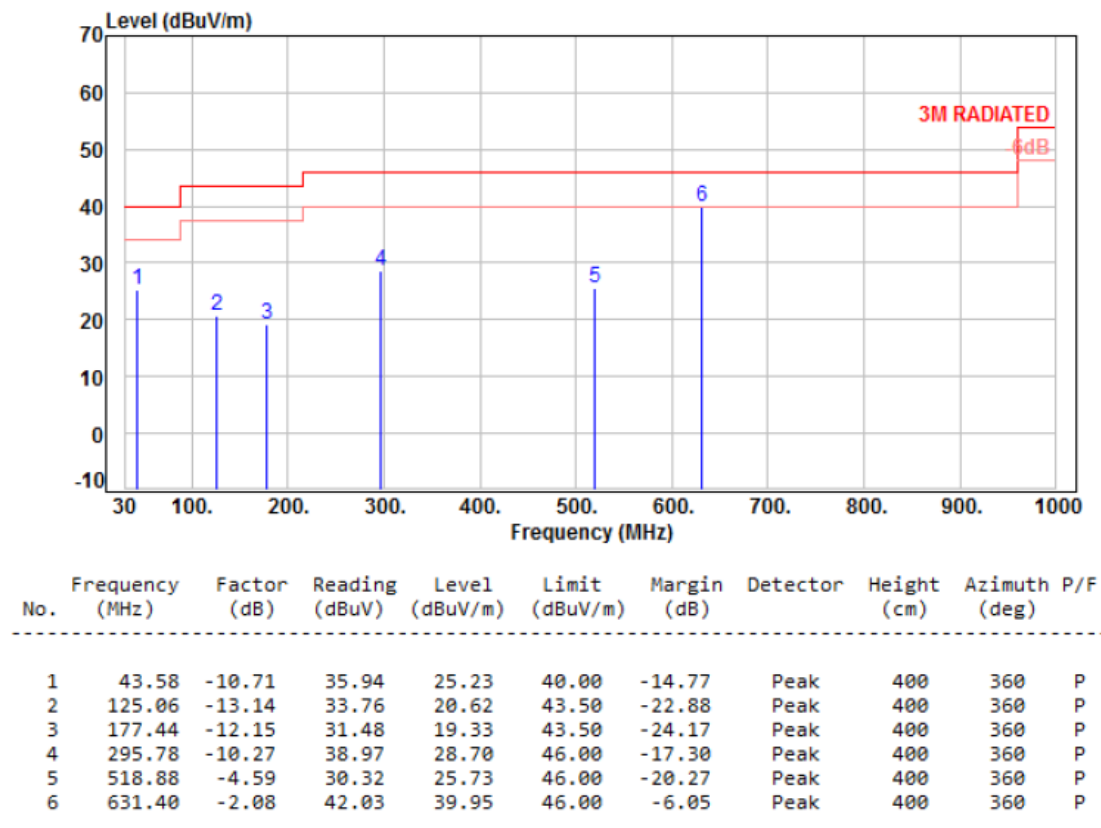


6.4. Test Result and Data (9kHz ~ 30MHz)

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

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

Power	:	AC 120V / 60Hz from PoE	Pol/Phase	:	VERTICAL
Test Mode	:	Mode 1, 11a CH149		:	



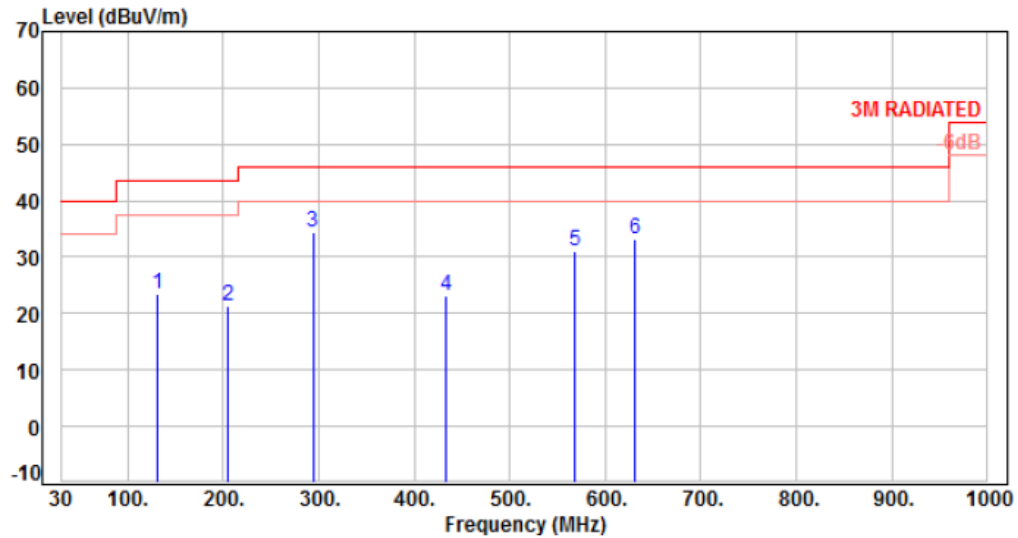
Note: Level=Reading+Factor

Margin=Level-Limit

Factor=Antenna Factor + cable loss - Amplifier Factor



Power	: AC 120V / 60Hz from PoE	Pol/Phase	: HORIZONTAL
Test Mode	: Mode 1, 11a CH149		:



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	130.88	-12.30	35.63	23.33	43.50	-20.17	Peak	400	360	P
2	204.60	-14.02	35.24	21.22	43.50	-22.28	Peak	400	360	P
3	293.84	-10.32	44.59	34.27	46.00	-11.73	Peak	400	360	P
4	433.52	-6.26	29.56	23.30	46.00	-22.70	Peak	400	360	P
5	567.38	-3.71	34.84	31.13	46.00	-14.87	Peak	400	360	P
6	631.40	-2.08	35.42	33.34	46.00	-12.66	Peak	400	360	P

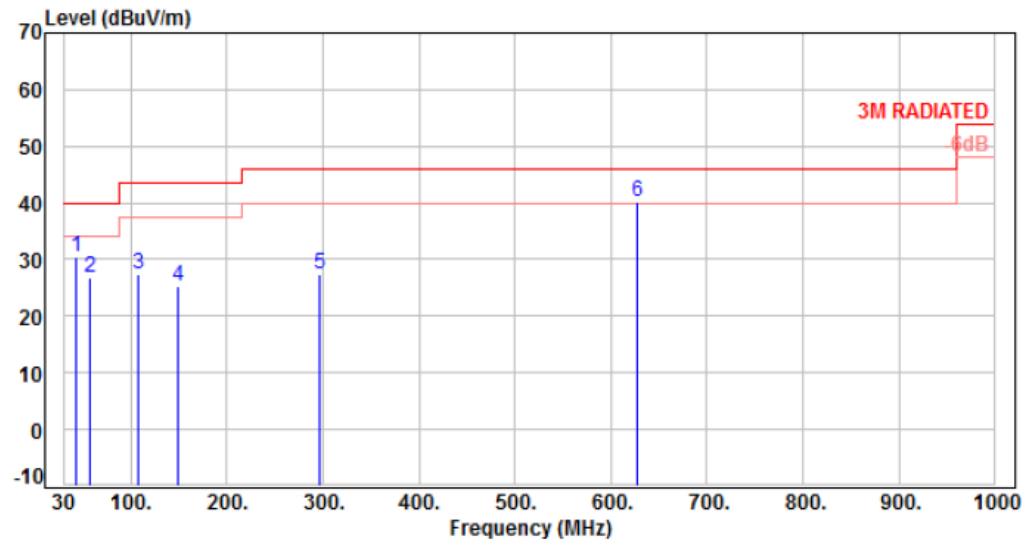
Note: Level=Reading+Factor

Margin=Level-Limit

Factor=Antenna Factor + cable loss - Amplifier Factor



Power	: AC 120V / 60Hz from PoE	Pol/Phase	: VERTICAL
Test Mode	: Mode 5, 11ax HE20 CH157		:



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	43.58	-10.71	41.30	30.59	40.00	-9.41	Peak	100	360	P
2	57.16	-10.95	37.80	26.85	40.00	-13.15	Peak	100	360	P
3	107.60	-14.43	41.79	27.36	43.50	-16.14	Peak	100	360	P
4	148.34	-10.86	36.05	25.19	43.50	-18.31	Peak	100	360	P
5	295.78	-10.27	37.62	27.35	46.00	-18.65	Peak	100	360	P
6	627.52	-2.13	42.32	40.19	46.00	-5.81	Peak	100	360	P

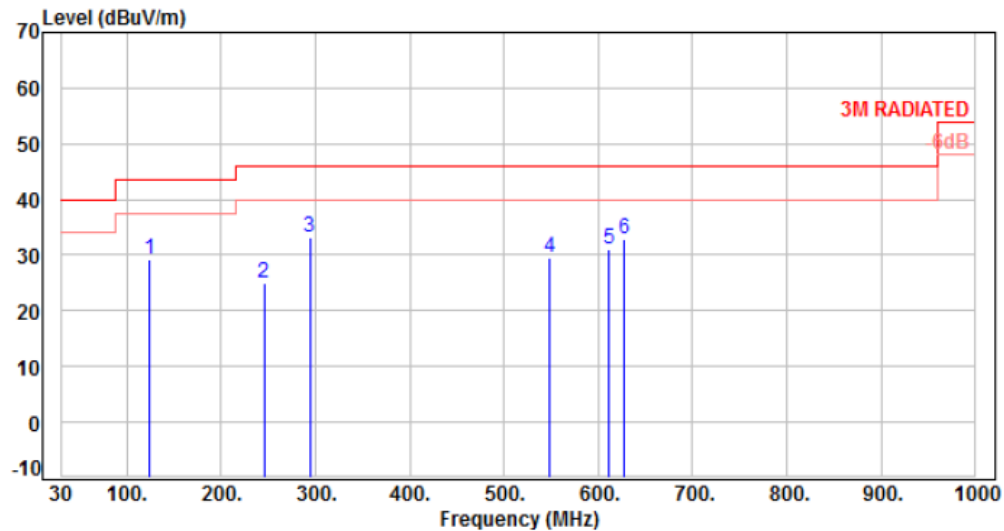
Note: Level=Reading+Factor

Margin=Level-Limit

Factor=Antenna Factor + cable loss - Amplifier Factor



Power	:	AC 120V / 60Hz from PoE	Pol/Phase	:	HORIZONTAL
Test Mode	:	Mode 5, 11ax HE20 CH157		:	



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	-13.20	42.43	29.23	43.50	-14.27	Peak	400	360	P
2	245.34	-12.09	37.06	24.97	46.00	-21.03	Peak	400	360	P
3	293.84	-10.32	43.51	33.19	46.00	-12.81	Peak	400	360	P
4	547.98	-4.28	33.95	29.67	46.00	-16.33	Peak	400	360	P
5	612.00	-2.44	33.52	31.08	46.00	-14.92	Peak	400	360	P
6	627.52	-2.13	35.02	32.89	46.00	-13.11	Peak	400	360	P

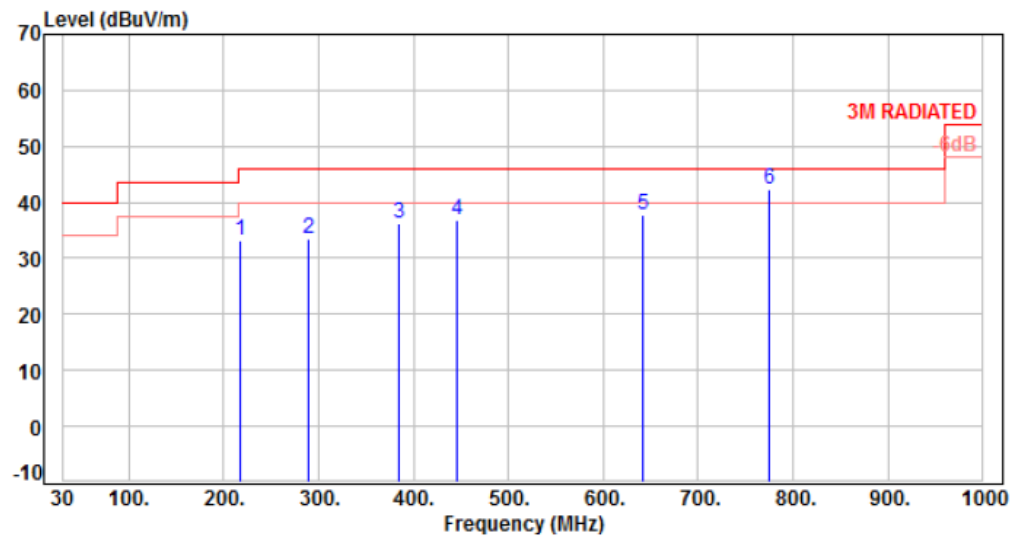
Note: Level=Reading+Factor

Margin=Level-Limit

Factor=Antenna Factor + cable loss - Amplifier Factor



Power	:	AC 120V / 60Hz from PoE	Pol/Phase	:	VERTICAL
Test Mode	:	Mode 10, 11ax HE40 CH159		:	



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	218.18	-13.76	46.95	33.19	46.00	-12.81	Peak	400	0	P
2	289.96	-10.41	43.86	33.45	46.00	-12.55	Peak	400	0	P
3	385.02	-7.78	43.86	36.08	46.00	-9.92	Peak	400	0	P
4	445.16	-6.04	42.74	36.70	46.00	-9.30	Peak	400	0	P
5	641.10	-1.96	39.58	37.62	46.00	-8.38	Peak	400	0	P
6	774.96	0.44	41.79	42.23	46.00	-3.77	Peak	400	0	P

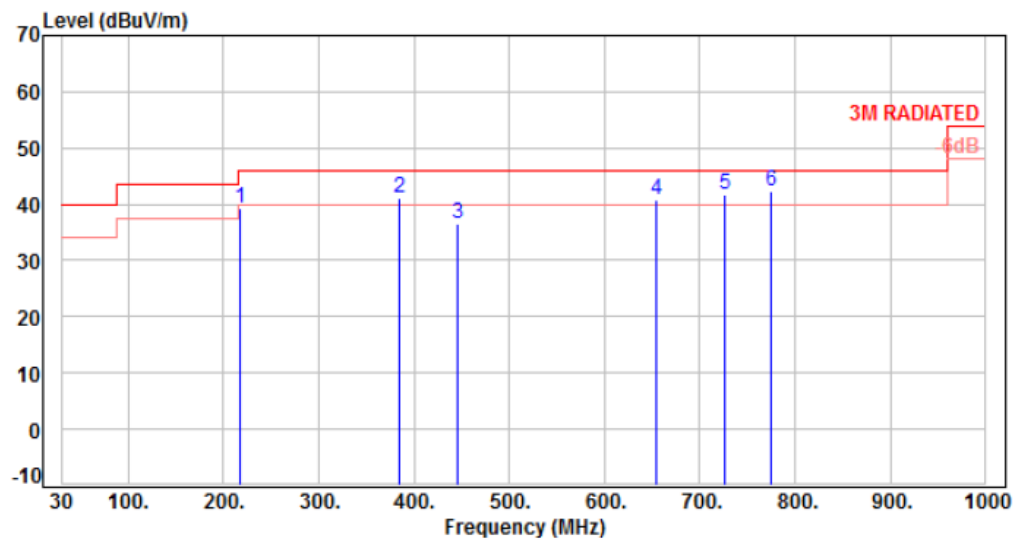
Note: Level=Reading+Factor

Margin=Level-Limit

Factor=Antenna Factor + cable loss - Amplifier Factor



Power	:	AC 120V / 60Hz from PoE	Pol/Phase	:	HORIZONTAL
Test Mode	:	Mode 10, 11ax HE40 CH159		:	



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	218.18	-13.76	53.09	39.33	46.00	-6.67	Peak	400	360	P
2	384.80	-7.78	49.00	41.22	46.00	-4.78	QP	100	208	P
3	445.16	-6.04	42.58	36.54	46.00	-9.46	Peak	400	360	P
4	654.68	-1.70	42.59	40.89	46.00	-5.11	Peak	400	360	P
5	726.46	-0.67	42.33	41.66	46.00	-4.34	Peak	400	360	P
6	774.96	0.44	41.92	42.36	46.00	-3.64	Peak	400	360	P

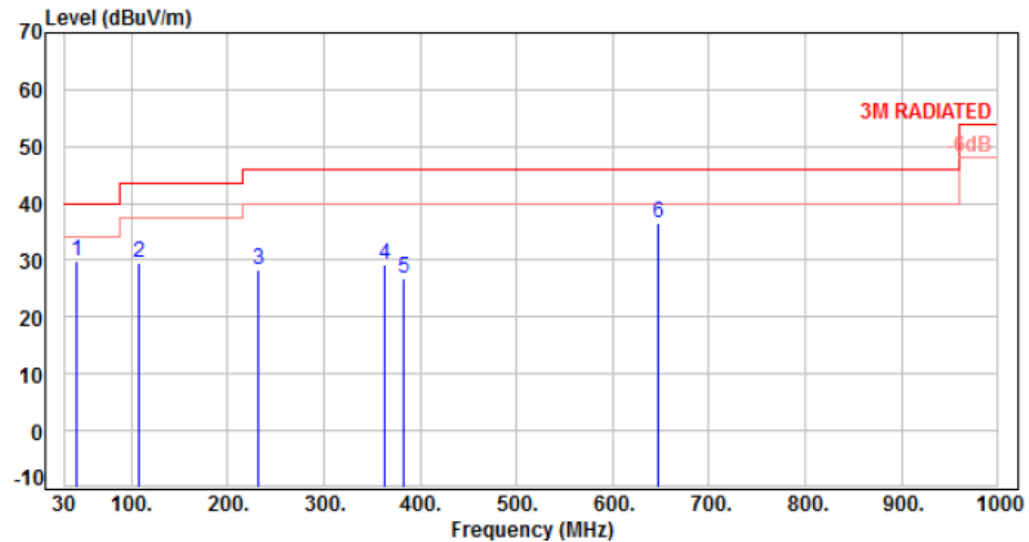
Note: Level=Reading+Factor

Margin=Level-Limit

Factor=Antenna Factor + cable loss - Amplifier Factor



Power	:	AC 120V / 60Hz from PoE	Pol/Phase	:	VERTICAL
Test Mode	:	Mode 12, 11ax HE20 CH157		:	



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	43.58	-10.71	40.51	29.80	40.00	-10.20	Peak	400	360	P
2	107.60	-14.43	44.12	29.69	43.50	-13.81	Peak	400	360	P
3	231.76	-13.60	41.96	28.36	46.00	-17.64	Peak	400	360	P
4	363.68	-8.54	37.73	29.19	46.00	-16.81	Peak	400	360	P
5	383.08	-7.82	34.70	26.88	46.00	-19.12	Peak	400	360	P
6	646.92	-1.92	38.35	36.43	46.00	-9.57	Peak	400	360	P

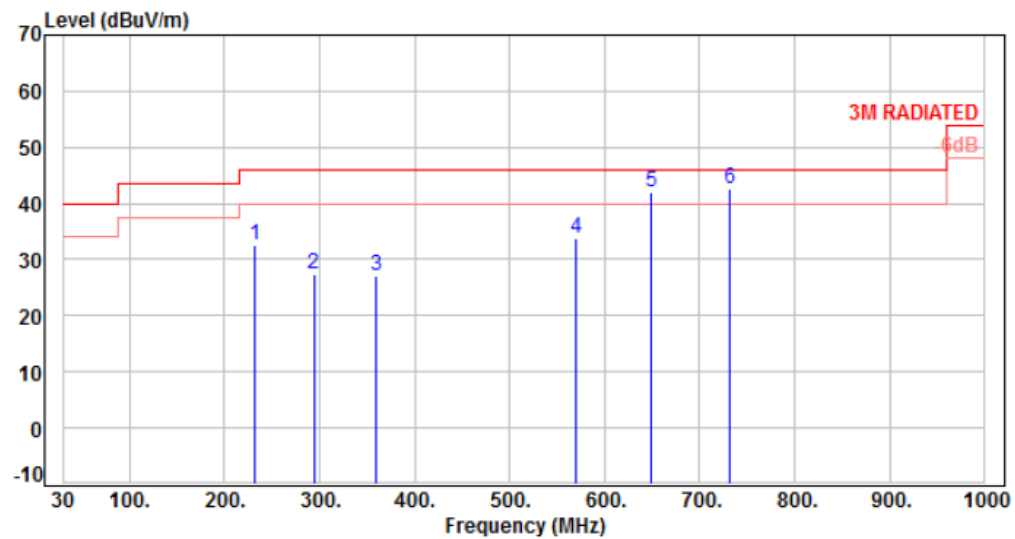
Note: Level=Reading+Factor

Margin=Level-Limit

Factor=Antenna Factor + cable loss - Amplifier Factor



Power	:	AC 120V / 60Hz from PoE	Pol/Phase	:	HORIZONTAL
Test Mode	:	Mode 12, 11ax HE20 CH157		:	



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	231.76	-13.60	46.15	32.55	46.00	-13.45	Peak	400	0	P
2	293.84	-10.32	37.72	27.40	46.00	-18.60	Peak	400	0	P
3	359.80	-8.61	35.58	26.97	46.00	-19.03	Peak	400	0	P
4	569.32	-3.63	37.39	33.76	46.00	-12.24	Peak	400	0	P
5	648.86	-1.91	43.92	42.01	46.00	-3.99	Peak	400	0	P
6	732.28	-0.50	43.16	42.66	46.00	-3.34	Peak	400	0	P

Note: Level=Reading+Factor

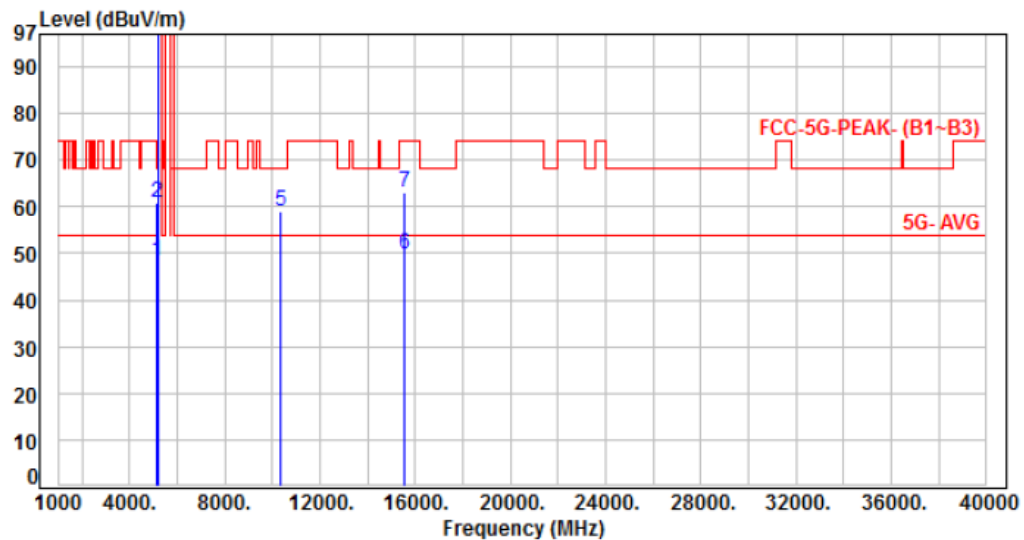
Margin=Level-Limit

Factor=Antenna Factor + cable loss - Amplifier Factor



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

Power	:	AC 120V / 60Hz from PoE	Pol/Phase	:	VERTICAL
Test Mode	:	Mode 1, Band 1, 11a CH36		:	



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	6.70	41.51	48.21	54.00	-5.79	Average	100	360	P
2	5150.00	6.70	54.34	61.04	74.00	-12.96	Peak	100	360	P
3	5180.00	6.85	98.35	105.20	200.00	-94.80	Average	100	360	P
4	5180.00	6.85	108.28	115.13	200.00	-84.87	Peak	100	360	P
5	10360.00	15.93	43.06	58.99	68.20	-9.21	Peak	100	175	P
6	15540.00	19.69	30.01	49.70	54.00	-4.30	Average	100	123	P
7	15540.00	19.69	43.51	63.20	74.00	-10.80	Peak	100	123	P

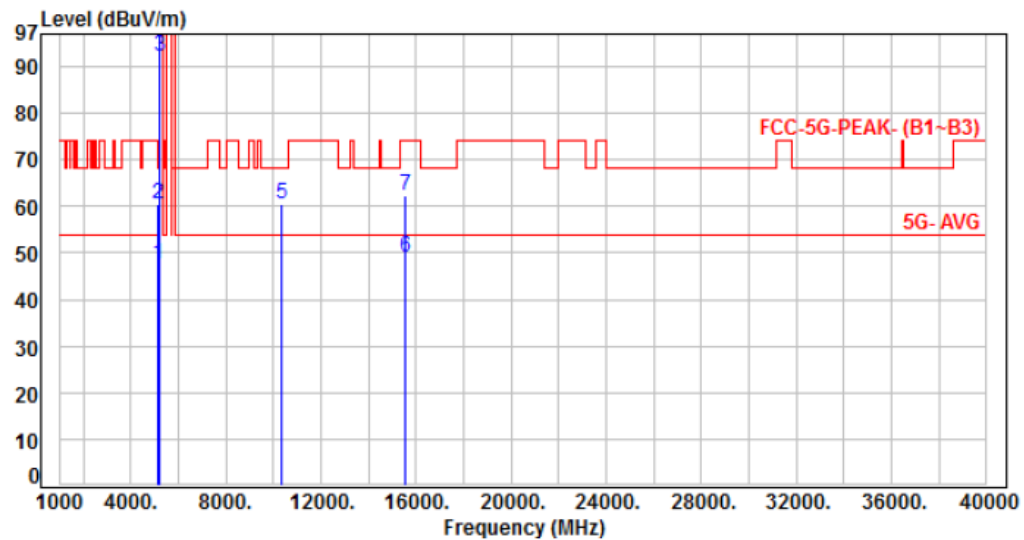
Note: Level=Reading+Factor

Margin=Level-Limit

Factor=Antenna Factor + cable loss - Amplifier Factor



Power	: AC 120V / 60Hz from PoE	Pol/Phase	: HORIZONTAL
Test Mode	: Mode 1, Band 1, 11a CH36		



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	6.70	40.94	47.64	54.00	-6.36	Average	213	262	P
2	5150.00	6.70	53.89	60.59	74.00	-13.41	Peak	213	262	P
3	5180.00	6.85	85.26	92.11	200.00	-107.89	Average	213	262	P
4	5180.00	6.85	95.13	101.98	200.00	-98.02	Peak	213	262	P
5	10360.00	15.93	44.67	60.60	68.20	-7.60	Peak	100	261	P
6	15540.00	19.69	29.35	49.04	54.00	-4.96	Average	100	342	P
7	15540.00	19.69	42.63	62.32	74.00	-11.68	Peak	100	342	P

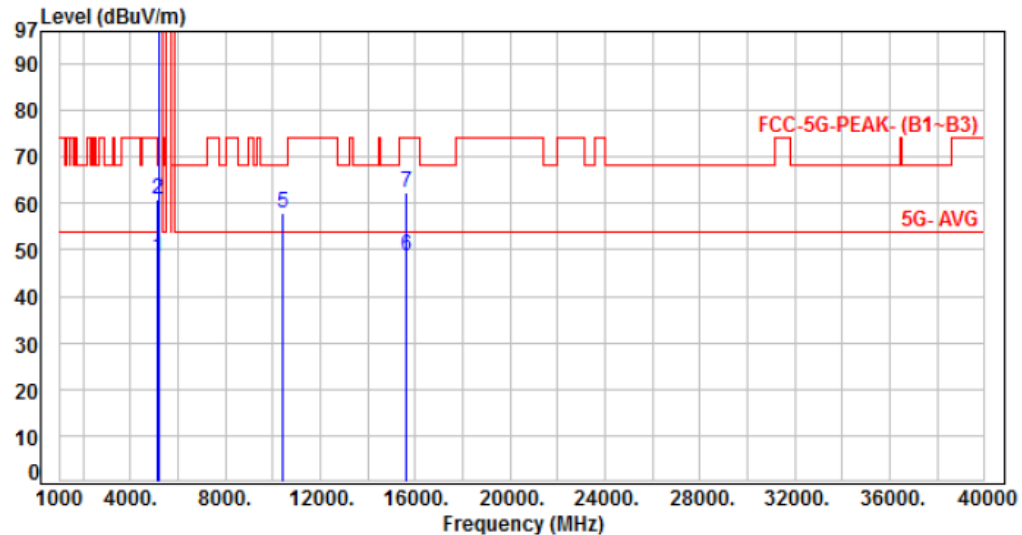
Note: Level=Reading+Factor

Margin=Level-Limit

Factor=Antenna Factor + cable loss - Amplifier Factor



Power	: AC 120V / 60Hz from PoE	Pol/Phase	: VERTICAL
Test Mode	: Mode 1, Band 1, 11a CH40		:



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	6.70	41.44	48.14	54.00	-5.86	Average	128	0	P
2	5150.00	6.70	54.14	60.84	74.00	-13.16	Peak	128	0	P
3	5200.00	6.95	97.79	104.74	200.00	-95.26	Average	128	0	P
4	5200.00	6.95	108.59	115.54	200.00	-84.46	Peak	128	0	P
5	10400.00	15.84	42.11	57.95	68.20	-10.25	Peak	100	241	P
6	15600.00	19.64	29.12	48.76	54.00	-5.24	Average	100	164	P
7	15600.00	19.64	42.56	62.20	74.00	-11.80	Peak	100	164	P

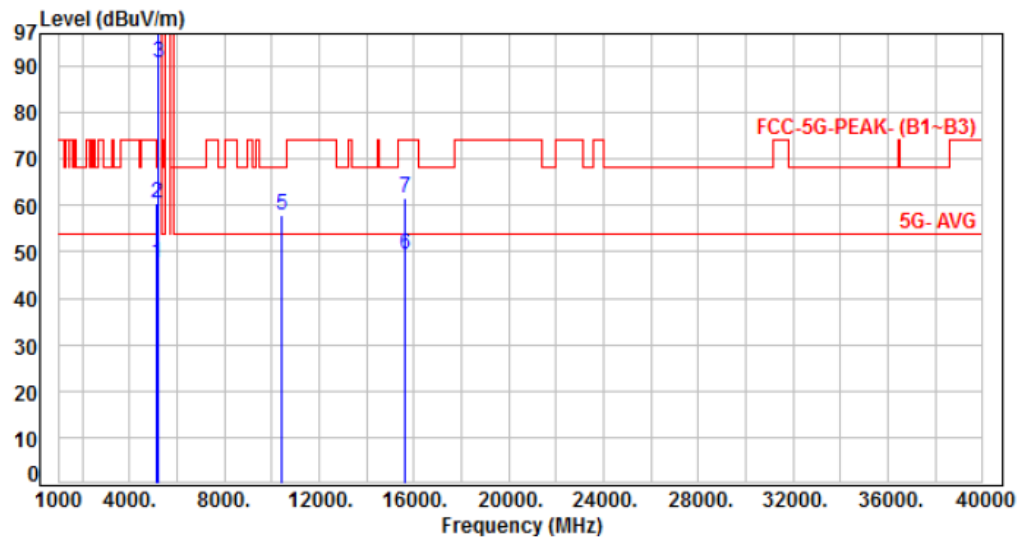
Note: Level=Reading+Factor

Margin=Level-Limit

Factor=Antenna Factor + cable loss - Amplifier Factor



Power	: AC 120V / 60Hz from PoE	Pol/Phase	: HORIZONTAL
Test Mode	: Mode 1, Band 1, 11a CH40		:



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	6.70	40.87	47.57	54.00	-6.43	Average	100	16	P
2	5150.00	6.70	53.85	60.55	74.00	-13.45	Peak	100	16	P
3	5200.00	6.95	83.64	90.59	200.00	-109.41	Average	100	16	P
4	5200.00	6.95	93.19	100.14	200.00	-99.86	Peak	100	16	P
5	10400.00	15.84	41.97	57.81	68.20	-10.39	Peak	100	142	P
6	15600.00	19.64	29.91	49.55	54.00	-4.45	Average	100	83	P
7	15600.00	19.64	42.12	61.76	74.00	-12.24	Peak	100	83	P

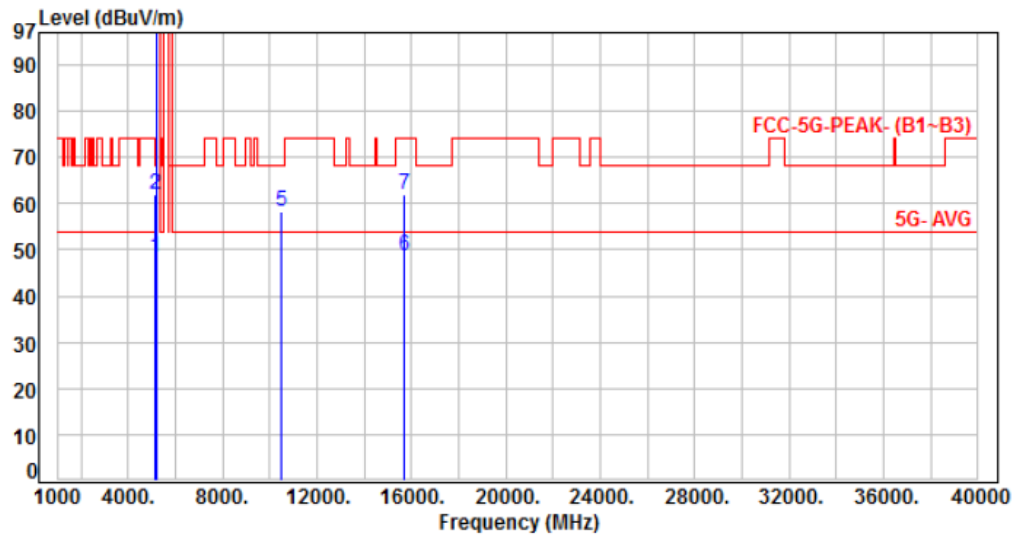
Note: Level=Reading+Factor

Margin=Level-Limit

Factor=Antenna Factor + cable loss - Amplifier Factor



Power	: AC 120V / 60Hz from PoE	Pol/Phase	: VERTICAL
Test Mode	: Mode 1, Band 1, 11a CH48		:



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	6.70	41.45	48.15	54.00	-5.85	Average	124	360	P
2	5150.00	6.70	55.30	62.00	74.00	-12.00	Peak	124	360	P
3	5240.00	7.00	97.54	104.54	200.00	-95.46	Average	124	360	P
4	5240.00	7.00	107.89	114.89	200.00	-85.11	Peak	124	360	P
5	10480.00	15.97	42.14	58.11	68.20	-10.09	Peak	100	174	P
6	15720.00	19.25	29.28	48.53	54.00	-5.47	Average	100	192	P
7	15720.00	19.25	42.79	62.04	74.00	-11.96	Peak	100	192	P

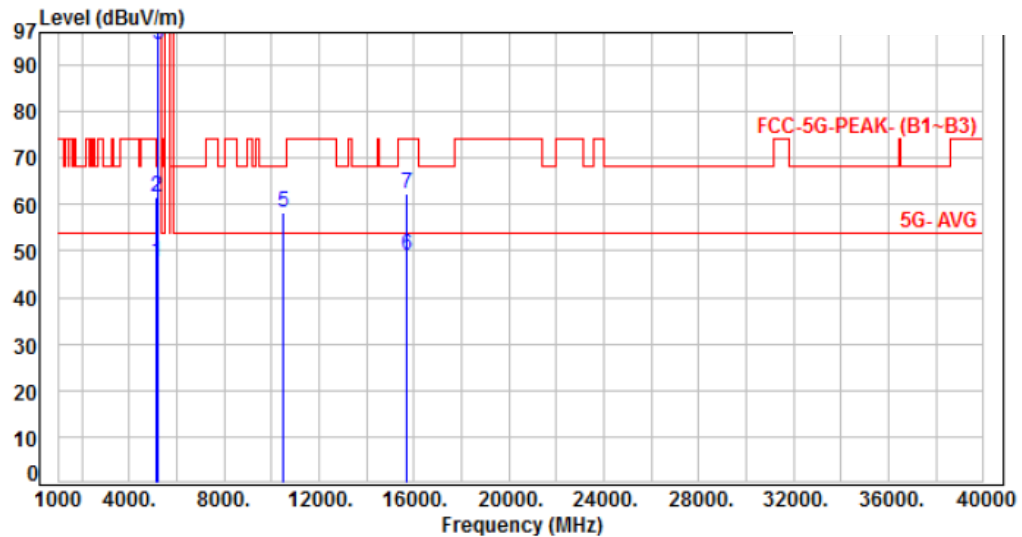
Note: Level=Reading+Factor

Margin=Level-Limit

Factor=Antenna Factor + cable loss - Amplifier Factor



Power	: AC 120V / 60Hz from PoE	Pol/Phase	: HORIZONTAL
Test Mode	: Mode 1, Band 1, 11a CH48		



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	6.70	40.88	47.58	54.00	-6.42	Average	222	262	P
2	5150.00	6.70	54.83	61.53	74.00	-12.47	Peak	222	262	P
3	5240.00	7.00	87.28	94.28	200.00	-105.72	Average	222	262	P
4	5240.00	7.00	97.20	104.20	200.00	-95.80	Peak	222	262	P
5	10480.00	15.97	42.40	58.37	68.20	-9.83	Peak	100	167	P
6	15720.00	19.25	29.69	48.94	54.00	-5.06	Average	100	214	P
7	15720.00	19.25	43.20	62.45	74.00	-11.55	Peak	100	214	P

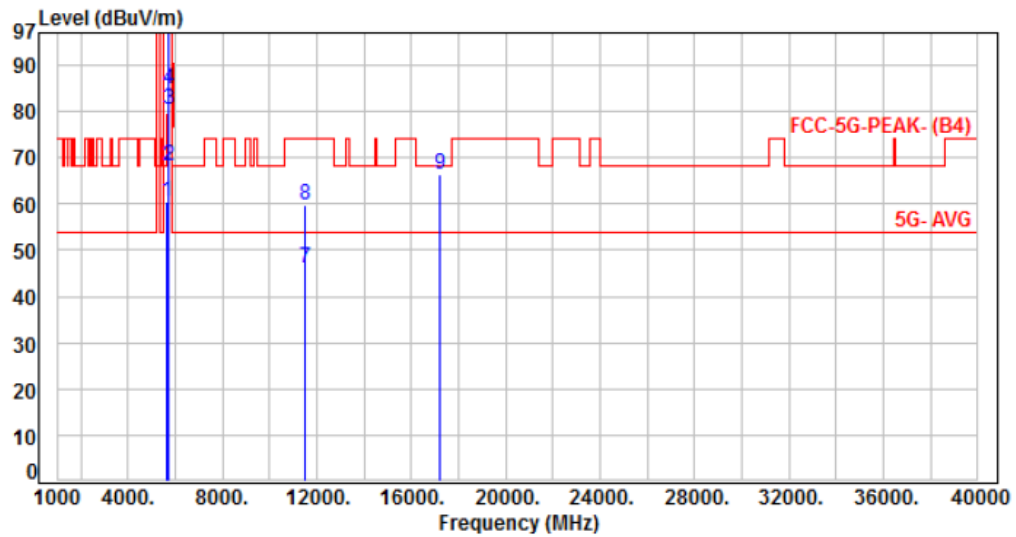
Note: Level=Reading+Factor

Margin=Level-Limit

Factor=Antenna Factor + cable loss - Amplifier Factor



Power	:	AC 120V / 60Hz from PoE	Pol/Phase	:	VERTICAL
Test Mode	:	Mode 1, Band 4, 11a CH149		:	



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	7.35	53.10	60.45	68.20	-7.75	Peak	110	36	P
2	5700.00	7.37	60.80	68.17	105.20	-37.03	Peak	110	36	P
3	5720.00	7.34	73.14	80.48	110.80	-30.32	Peak	110	36	P
4	5725.00	7.33	77.45	84.78	122.20	-37.42	Peak	110	36	P
5	5745.00	7.30	104.80	112.10	200.00	-87.90	Average	110	36	P
6	5745.00	7.30	115.18	122.48	200.00	-77.52	Peak	110	36	P
7	11490.00	17.72	28.24	45.96	54.00	-8.04	Average	100	220	P
8	11490.00	17.72	41.94	59.66	74.00	-14.34	Peak	100	220	P
9	17235.00	23.71	42.68	66.39	68.20	-1.81	Peak	100	158	P

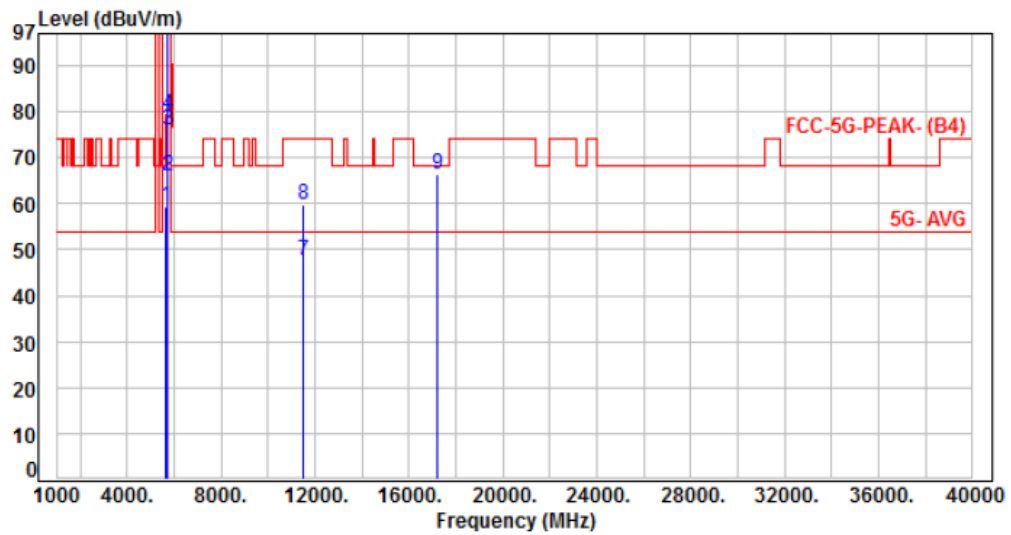
Note: Level=Reading+Factor

Margin=Level-Limit

Factor=Antenna Factor + cable loss - Amplifier Factor



Power	: AC 120V / 60Hz from PoE	Pol/Phase	: HORIZONTAL
Test Mode	: Mode 1, Band 4, 11a CH149		



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	7.35	51.94	59.29	68.20	-8.91	Peak	174	43	P
2	5700.00	7.37	58.65	66.02	105.20	-39.18	Peak	174	43	P
3	5720.00	7.34	68.60	75.94	110.80	-34.86	Peak	174	43	P
4	5725.00	7.33	71.80	79.13	122.20	-43.07	Peak	174	43	P
5	5745.00	7.30	96.48	103.78	200.00	-96.22	Average	174	43	P
6	5745.00	7.30	106.49	113.79	200.00	-86.21	Peak	174	43	P
7	11490.00	17.72	29.75	47.47	54.00	-6.53	Average	100	216	P
8	11490.00	17.72	42.16	59.88	74.00	-14.12	Peak	100	216	P
9	17235.00	23.71	42.61	66.32	68.20	-1.88	Peak	100	314	P

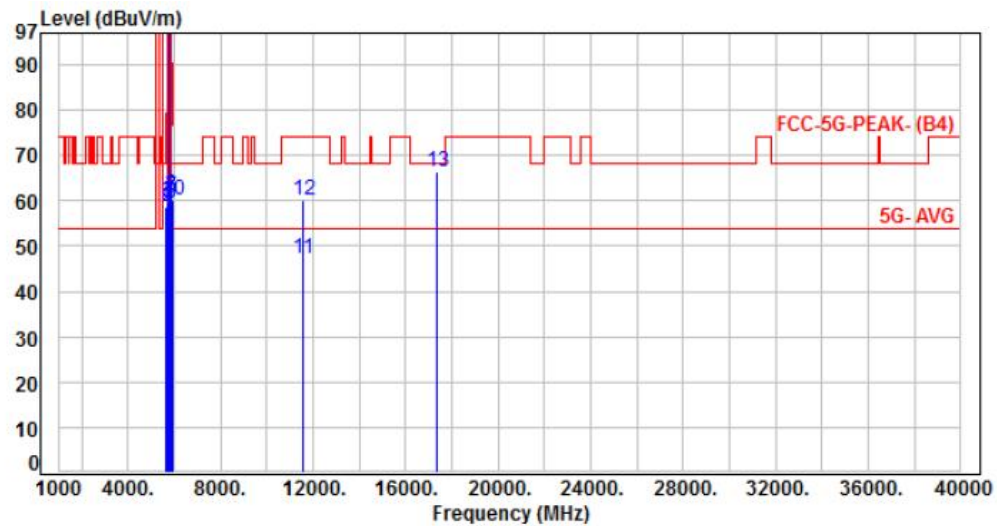
Note: Level=Reading+Factor

Margin=Level-Limit

Factor=Antenna Factor + cable loss - Amplifier Factor



Power	: AC 120V / 60Hz from PoE	Pol/Phase	: VERTICAL
Test Mode	: Mode 1, Band 4, 11a CH157		:



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	7.35	51.32	58.67	68.20	-9.53	Peak	126	34	P
2	5700.00	7.37	51.13	58.50	105.20	-46.70	Peak	126	34	P
3	5720.00	7.34	52.41	59.75	110.80	-51.05	Peak	126	34	P
4	5725.00	7.33	51.70	59.03	122.20	-63.17	Peak	126	34	P
5	5785.00	7.37	104.52	111.89	200.00	-88.11	Average	126	34	P
6	5785.00	7.37	114.57	121.94	200.00	-78.06	Peak	126	34	P
7	5850.00	7.43	53.59	61.02	122.20	-61.18	Peak	126	34	P
8	5855.00	7.45	53.72	61.17	110.80	-49.63	Peak	126	34	P
9	5875.00	7.54	51.82	59.36	105.20	-45.84	Peak	126	34	P
10	5925.00	7.66	52.38	60.04	68.20	-8.16	Peak	126	34	P
11	11570.00	17.92	29.16	47.08	54.00	-6.92	Average	100	126	P
12	11570.00	17.92	42.33	60.25	74.00	-13.75	Peak	100	126	P
13	17355.00	24.51	42.04	66.55	68.20	-1.65	Peak	100	234	P

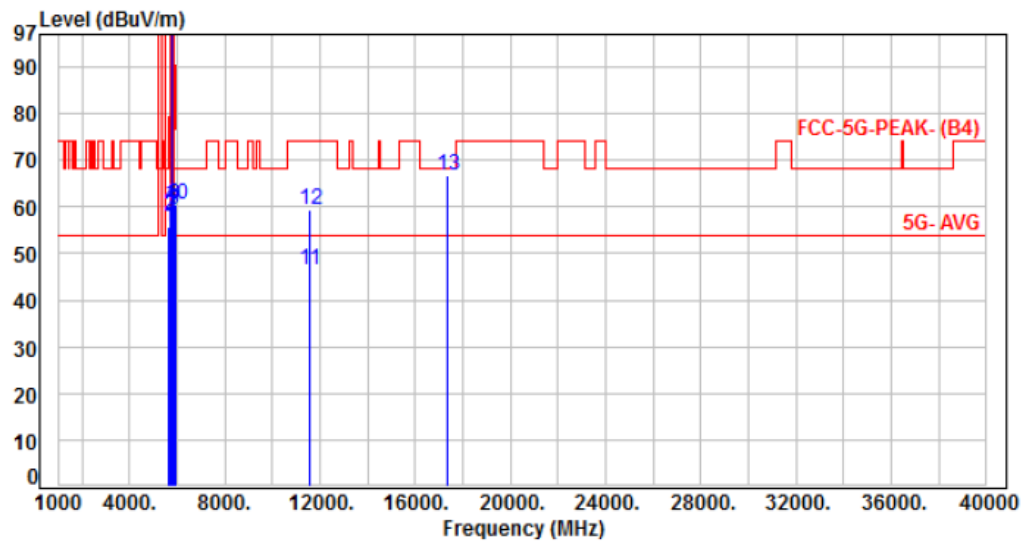
Note: Level=Reading+Factor

Margin=Level-Limit

Factor=Antenna Factor + cable loss - Amplifier Factor



Power	: AC 120V / 60Hz from PoE	Pol/Phase	: HORIZONTAL
Test Mode	: Mode 1, Band 4, 11a CH157		



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	7.35	48.42	55.77	68.20	-12.43	Peak	210	42	P
2	5700.00	7.37	50.81	58.18	105.20	-47.02	Peak	210	42	P
3	5720.00	7.34	50.61	57.95	110.80	-52.85	Peak	210	42	P
4	5725.00	7.33	52.73	60.06	122.20	-62.14	Peak	210	42	P
5	5785.00	7.37	94.96	102.33	200.00	-97.67	Average	210	42	P
6	5785.00	7.37	105.61	112.98	200.00	-87.02	Peak	210	42	P
7	5850.00	7.43	51.67	59.10	122.20	-63.10	Peak	210	42	P
8	5855.00	7.45	53.06	60.51	110.80	-50.29	Peak	210	42	P
9	5875.00	7.54	51.70	59.24	105.20	-45.96	Peak	210	42	P
10	5925.00	7.66	52.67	60.33	68.20	-7.87	Peak	210	42	P
11	11570.00	17.92	28.73	46.65	54.00	-7.35	Average	100	158	P
12	11570.00	17.92	41.64	59.56	74.00	-14.44	Peak	100	158	P
13	17355.00	24.51	42.15	66.66	68.20	-1.54	Peak	100	229	P

Note: Level=Reading+Factor

Margin=Level-Limit

Factor=Antenna Factor + cable loss - Amplifier Factor