FCC RADIO TEST REPORT

Applicant	:	Allied Telesis K.K.
Address	:	2nd. TOC Bldg. 721-11 Nishi-Gotanda, Shinagawa-ku, Tokyo Japan, 141-0031
Equipment	:	802.11ac wave2 2x2 tri-radio 2.4G/5G/5G wireless outdoor AP
Model No.	:	AT-TQ5403e
Trade Name	:	Allied Telesis
FCC ID.	:	RSL-TQ5403E

I HEREBY CERTIFY THAT :

The sample was received on Nov. 07, 2018 and the testing was carried out on Mar. 19, 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
TEFE1804236-236	Mar. 26, 2019	Original

1. Summary of Test Procedure and Test Results

1.1. Applicable Standards

ANSI C63.4:2014

ANSI C63.10:2013

FCC Rules and Regulations Part 15 Subpart E §15.407

First R&O 14-30

KDB662911

KDB789033

KDB644545

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

This EUT has been also tested and complied with the requirement of FCC Part 15, Subpart B, recorded in a separate test report (TEFB1804236).

2. Test Configuration of Equipment under Test

2.1. Feature of Equipment and Model Description

Equipment	802.11ac wave2 2x2 tri-radio 2.4G/5G/5G wireless outdoor AP
Model No.	AT-TQ5403e
Brand Name	Allied Telesis
Product Description	Please refer to User's Manual.
Connecting I/O Port(s)	Please refer to User's Manual.
PoE	48Vdc/0.67A
Memo	A1
Frequency Range	802.11a/n/ac: 5250MHz-5350MHz, 5470MHz-5725MHz
Modulation Type	OFDM, DSSS
Data Rate	5GHz: 802.11a: 6, 9, 12, 18, 24, 36, 48, 54Mbps 802.11n: MCS0 – MCS15, HT20/40 802.11ac: MCS0 – MCS9, VHT20/40/80
Antenna Type	Dipole Antenna
Antenna Gain	5250-5350MHz: ANT A: 6.72dBi, ANT B: 6.72dBi 5470-5725MHz: ANT A: 6.34dBi, ANT B: 6.34dBi

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

2.2. Carrier Frequency of Channels

Band: 5250MHz -5350MHz
802.11a, 802.11n HT 20, 802.11ac VHT20

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

802.11n HT 40, 802.11ac VHT40

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

802.11ac VHT80

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

Band: 5470MHz -5725MHz
802.11a, 802.11n HT 20, 802.11ac VHT20

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

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

802.11ac VHT80

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

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, ” qdart_conn.win.1.0_installer_00053.1” 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	802.11ac VHT20 (6.5Mbps)
3	802.11ac VHT40 (13.5Mbps)
4	802.11ac VHT80 (29.3Mbps)
caused “Test Mode 3” generated the worst case, it was reported as the final data.	
Radiation Emissions (30MHz ~ 1GHz)	
Test Mode	Operating Description
1	802.11a (6Mbps)
2	802.11ac VHT20 (6.5Mbps)
3	802.11ac VHT40 (13.5Mbps)
4	802.11ac VHT80 (29.3Mbps)
caused “Test Mode 3” generated the worst case, they were reported as the final data.	
Radiation Emissions (1GHz ~ 40GHz)	
Test Mode	Operating Description
1	802.11a (6Mbps)
2	802.11ac VHT20 (6.5Mbps)
3	802.11ac VHT40 (13.5Mbps)
4	802.11ac VHT80 (29.3Mbps)
caused “Test Mode 1~4” generated the worst case, they were reported as the final data.	

Note: Non-Beamforming was worst, used Non-Beamforming mode for the test result.

2.4. Description of Test System

Device	Manufacturer	Model No.	Description
Remote workstation			
Notebook	DELL	Vostro 3560	Power Cable, Unshielding, 1.8m
POE	Bluewave	JS-100GT	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 Address: No.68-1, Shihbachongsi, Shihding Township, New Taipei City 223, Taiwan, R.O.C. Tel: +886-2-2663-8582	
	FCC	TW1079, TW1061, TW1439
	IC	4934E-1, 4934E-2
	VCCI	T-2205 for Telecommunication Test C-4663 for Conducted emission test R-4399, R-4218 for Radiated emission test G-10812, G-10813 for radiated disturbance above 1GHz
Frequency Range Investigated:	Conducted: from 150kHz to 30 MHz Radiation: from 30 MHz to 40,000MHz	
Test Distance:	The test distance of radiated emission from antenna to EUT is 3 M.	

2.6. 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
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	31589	2018/04/02	2019/04/01
Horn Anrenna	EMCO	3116	31974	2018/09/07	2019/09/06
EMI Receiver	ROHDE & SCHWARZ	ESCI	101423	2018/06/11	2019/06/10
Spectrum Analyzer	ROHDE & SCHWARZ	FSP 40	100219	2018/07/03	2019/07/02
Preamplifier	EM Electronics corp.	EM330	60660	2019/03/11	2020/03/10
Preamplifier	EMC INSTRUMENTS	EMC051845SE	980333	2018/09/18	2019/09/17
Bluetooth Tester	ROHDE & SCHWARZ	CBT	101133	2018/04/02	2019/04/01
Cable-3in1(30M-1G)	HARBOUR INDUSTRIES	LL142	CCE1315	2018/04/20	2019/04/19
Cable-0.5m(1G-40G)	Rapidtek	40GHZ 50CM	38MS-38MS50314	2018/03/27	2019/03/26
Cable-3m(1G-40G)	Rapidtek	40GHZ 300CM	38MS-38MS300314	2018/03/27	2019/03/26
Cable-8m(1G-40G)	Rapidtek	40GHZ 800CM	38MS-38MS800314	2018/03/27	2019/03/26
E3	AUDIX	v8.2014-8-6	RK-000529	NA	NA
Bluetooth Tester	ROHDE & SCHWARZ	CBT	101133	2018/04/02	2019/04/01
Attenuator	KEYSIGHT	8491B	MY39250705	2018/09/04	2019/09/03
TEMP & HUMI CHAMBER	T-MACHINE	TMJ-9712	T-12-040111	2018/08/30	2019/08/29
EMI Receiver	ROHDE & SCHWARZ	ESCI	100821	2018/09/12	2019/09/11
Line Impedance Stabilization Network	Schwarzbeck	NSLK 8127	8127-740	2018/06/13	2019/06/12
Pulse Limiter	ROHDE & SCHWARZ	ESH3-Z2	101933	2018/09/04	2019/09/03
E3	AUDIX	v8.2014-8-6	RK-000531	NA	NA

4. Antenna Requirements

4.1. Standard Applicable

For intentional device, according to FCC 47 CFR Section 15.203, an intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device.

And according to FCC 47 CFR Section 15.407 (a), if transmitting antennas of directional gain greater than 6dBi are used, the power shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6dBi.

4.2. Antenna Construction and Directional Gain

Antenna Type	Dipole Antenna
Antenna Gain	2400-2483.5MHz: ANT A: 5.2dBi, ANT B: 5.2dBi 5250-5350MHz: ANT A: 6.72dBi, ANT B: 6.72dBi 5470-5725MHz: ANT A: 6.34dBi, ANT B: 6.34dBi

(Non-Beamforming)

5250-5350MHz
For Power directional gain= G_{ant}= 6.72 dBi For PSD directional gain = 10 log[$(10^{G1/20} + 10^{G2/20})^2$ /NANT] = 9.73 (dBi)
5470-5725MHz
For Power directional gain= G_{ant}= 6.34 dBi For PSD directional gain = 10 log[$(10^{G1/20} + 10^{G2/20})^2$ /NANT] = 9.35 (dBi)

(Beamforming)

5250MHz -5350MHz
For Power directional gain= 10 log[$(10^{G1/20} + 10^{G2/20})^2$ /NANT] = 9.73 (dBi) For PSD directional gain = 10 log[$(10^{G1/20} + 10^{G2/20})^2$ /NANT]= 9.73 (dBi)
5470MHz -5725MHz
For Power directional gain= 10 log[$(10^{G1/20} + 10^{G2/20})^2$ /NANT] = 9.35 (dBi) For PSD directional gain = 10 log[$(10^{G1/20} + 10^{G2/20})^2$ /NANT]= 9.35 (dBi)

5. Test of AC Power Line Conducted Emission

5.1. Test Limit

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

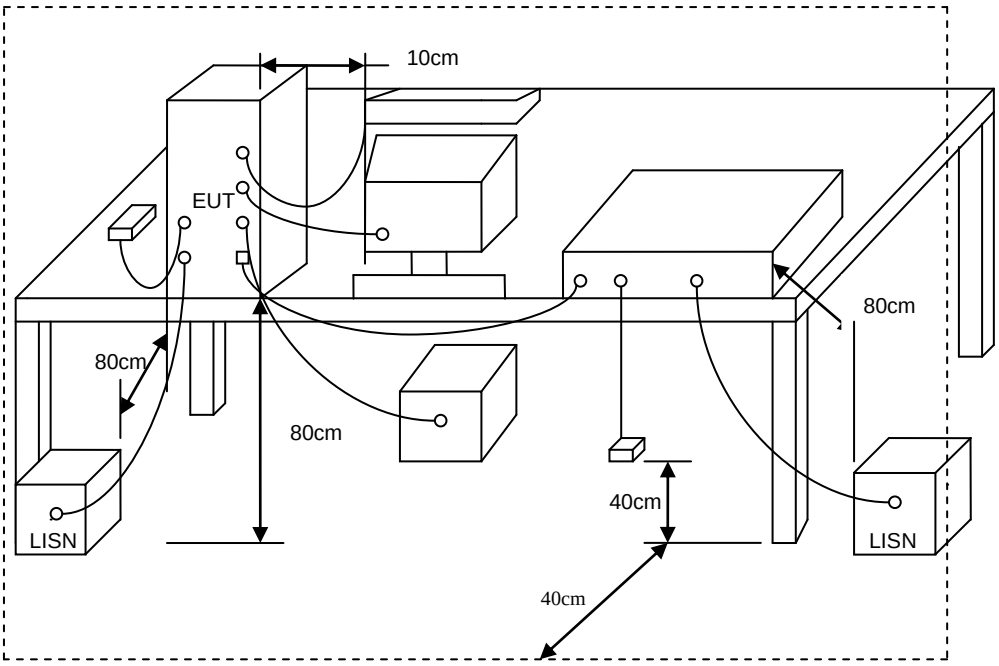
Frequency (MHz)	Quasi Peak (dBμV)	Average (dBμV)
0.15 – 0.5	66-56*	56-46*
0.5 – 5.0	56	46
5.0 – 30.0	60	50

*Decreases with the logarithm of the frequency.

5.2. Test Procedures

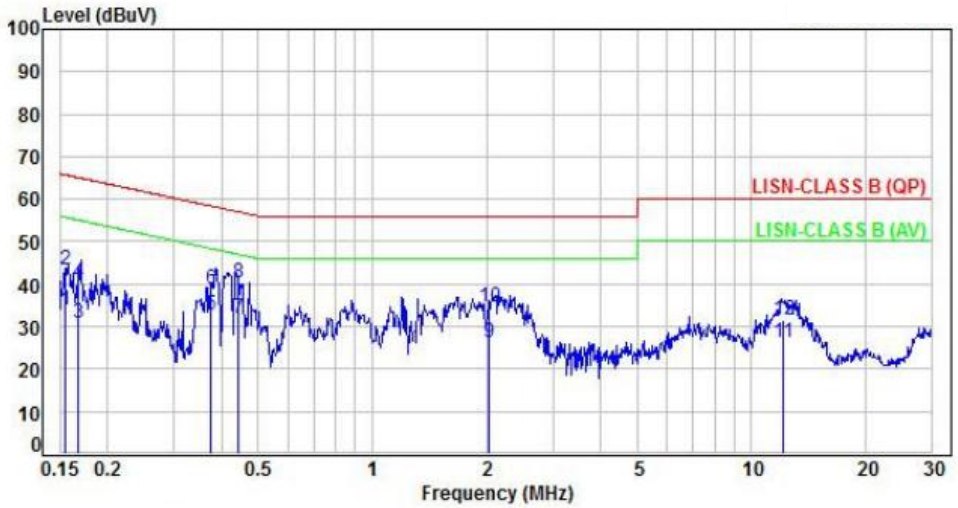
a. The EUT was placed 0.4 meter from the conducting wall of the shielding room was kept at least 80 centimeters from any other grounded conducting surface.
b. Connect EUT to the power mains through a line impedance stabilization network (LISN).
c. All the support units are connecting to the other LISN.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

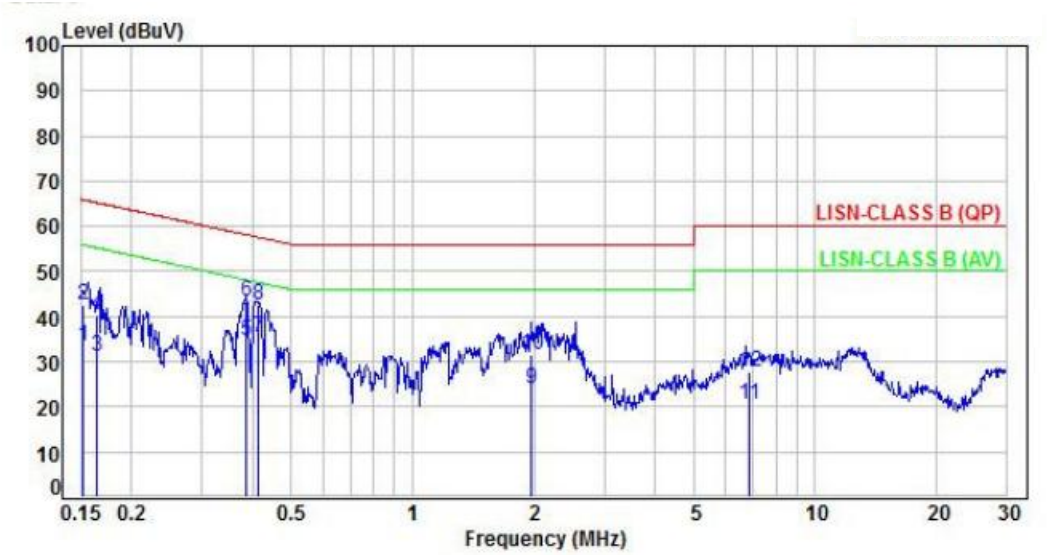
Power	:	AC 120V	Pol/Phase	:	LINE
Test Mode	:	Mode 3	Temperature	:	22 °C
Test Date	:	Mar. 19, 2019	Humidity	:	47 %



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector	P/F
1	0.15	9.94	23.75	33.69	55.74	-22.05	Average	P
2	0.15	9.94	33.28	43.22	65.74	-22.52	QP	P
3	0.17	9.94	21.00	30.94	55.09	-24.15	Average	P
4	0.17	9.94	30.48	40.42	65.09	-24.67	QP	P
5	0.38	9.95	22.67	32.62	48.37	-15.75	Average	P
6	0.38	9.95	28.73	38.68	58.37	-19.69	QP	P
7	0.44	9.95	21.92	31.87	47.01	-15.14	Average	P
8	0.44	9.95	30.36	40.31	57.01	-16.70	QP	P
9	2.03	10.03	16.06	26.09	46.00	-19.91	Average	P
10	2.03	10.03	24.70	34.73	56.00	-21.27	QP	P
11	12.09	10.34	15.91	26.25	50.00	-23.75	Average	P
12	12.09	10.34	21.14	31.48	60.00	-28.52	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 3	Temperature	:	22 °C
Test Date	:	Mar. 19, 2019	Humidity	:	47 %



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector	P/F
1	0.15	9.89	23.41	33.30	55.89	-22.59	Average	P
2	0.15	9.89	32.86	42.75	65.89	-23.14	QP	P
3	0.16	9.89	21.21	31.10	55.26	-24.16	Average	P
4	0.16	9.89	30.56	40.45	65.26	-24.81	QP	P
5	0.39	9.90	24.80	34.70	48.14	-13.44	Average	P
6	0.39	9.90	33.29	43.19	58.14	-14.95	QP	P
7	0.42	9.90	25.56	35.46	47.54	-12.08	Average	P
8	0.42	9.90	32.55	42.45	57.54	-15.09	QP	P
9	1.98	9.96	13.83	23.79	46.00	-22.21	Average	P
10	1.98	9.96	21.42	31.38	56.00	-24.62	QP	P
11	6.87	10.06	10.41	20.47	50.00	-29.53	Average	P
12	6.87	10.06	17.52	27.58	60.00	-32.42	QP	P

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

6. Test of Spurious Emission (Radiated)

6.1. Test Limit

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

(1) For transmitters operating in the 5.15-5.25 GHz band: All emissions outside of the 5.15-5.35 GHz band shall not exceed an e.i.r.p. of −27 dBm/MHz.

(2) For transmitters operating in the 5.25-5.35 GHz band: All emissions outside of the 5.15-5.35 GHz band shall not exceed an e.i.r.p. of −27 dBm/MHz.

(3) For transmitters operating in the 5.47-5.725 GHz band: All emissions outside of the 5.47-5.725 GHz band shall not exceed an e.i.r.p. of −27 dBm/MHz.

(4) For transmitters operating in the 5.725-5.85 GHz band:
All emissions shall be limited to a level of -27 dBm/MHz at 75 MHz or more above or below the band edge increasing linearly to 10 dBm/MHz at 25 MHz above or below the band edge, and from 25MHz above or below the band edge increasing linearly to a level of 15.6 dBm/MHz at 5 MHz above or below the band edge, and from 5 MHz above or below the band edge increasing linearly to a level of 27dBm/MHz at the band edge.

(5) The emission measurements shall be performed using a minimum resolution bandwidth of 1 MHz. A lower resolution bandwidth may be employed near the band edge, when necessary, provided the measured energy is integrated to show the total power over 1 MHz.

(6) Unwanted emissions below 1 GHz must comply with the general field strength limits set forth in §15.209. Further, any U-NII devices using an AC power line are required to comply also with the conducted limits set forth in §15.207.

(7) The provisions of §15.205 apply to intentional radiators operating under this section.

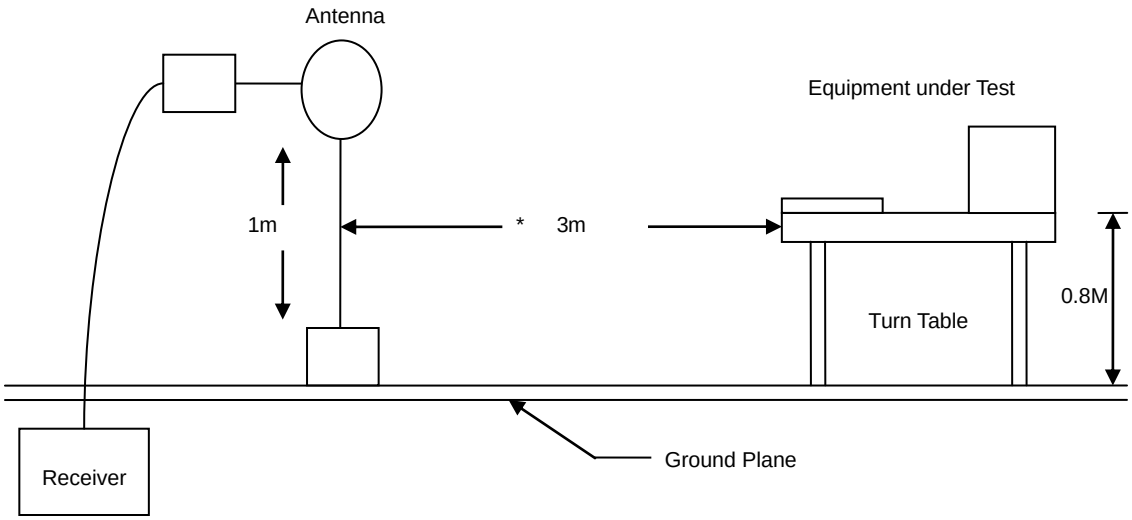
(8) When measuring the emission limits, the nominal carrier frequency shall be adjusted as close to the upper and lower frequency band edges as the design of the equipment permits.

6.2. Test Procedures

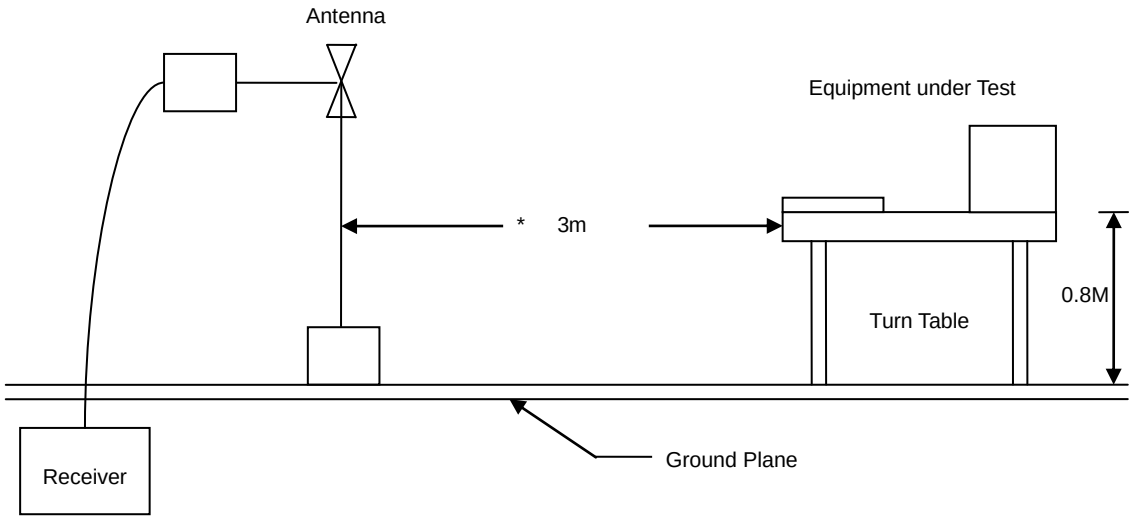
a. The EUT was placed on a rotatable table top 0.8 meter above ground.
b. The EUT was set 3 meters from the interference receiving antenna which was mounted on the top of a variable height antenna tower.
c. The table was rotated 360 degrees to determine the position of the highest radiation.
d. The antenna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

6.3. Typical Test Setup

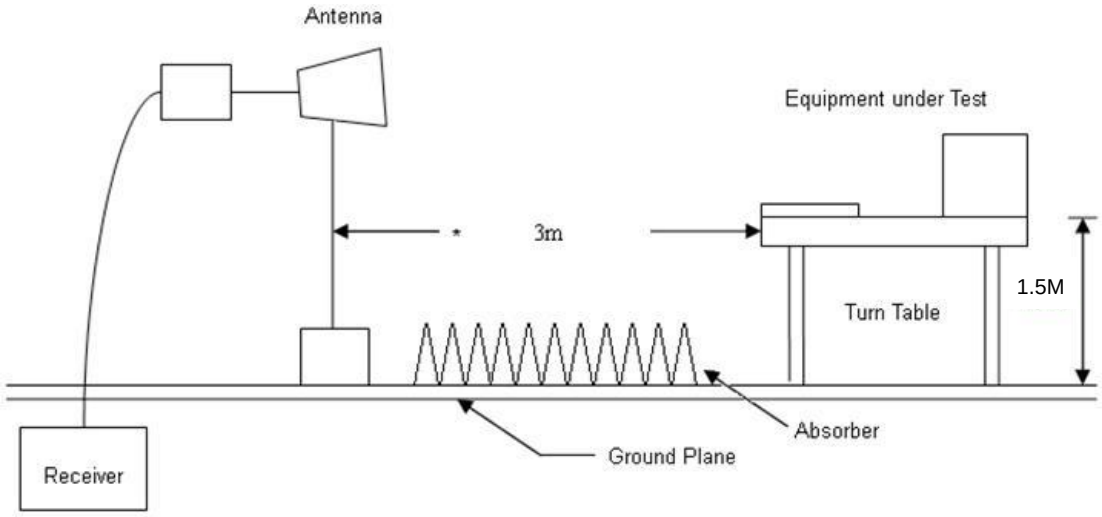
Below 30MHz test setup



30MHz- 1GHz Test Setup



Above 1GHz Test Setup

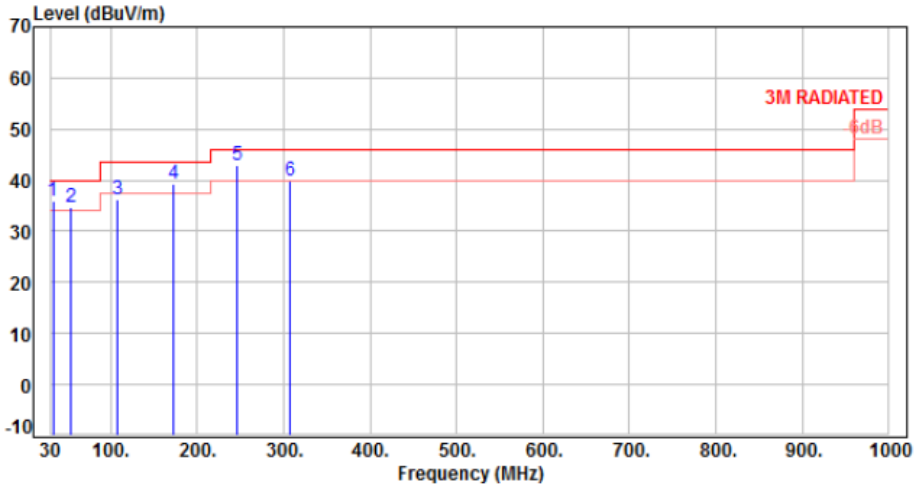


6.4. Test Result and Data (9kHz ~ 30MHz)

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

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

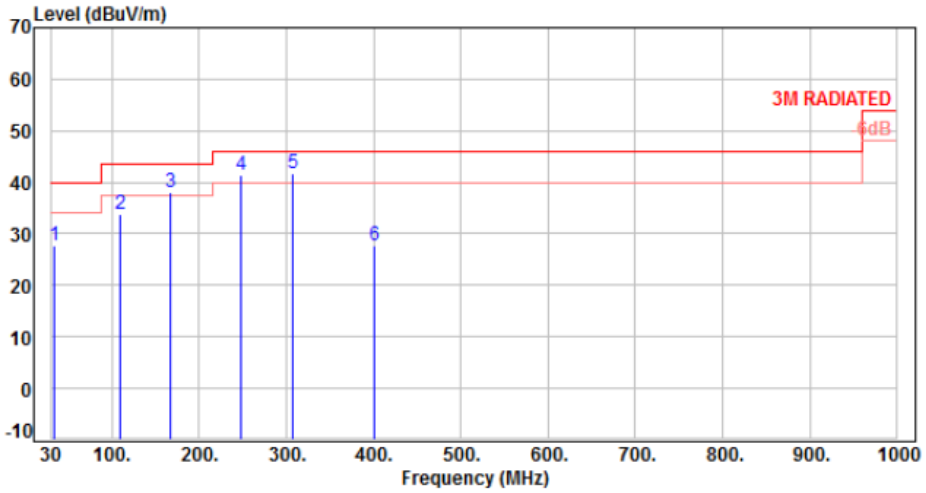
Power	:	From PoE	Pol/Phase	:	VERTICAL
Test Mode	:	Mode 3, Band 2	Temperature	:	22 °C
Test Date	:	Dec. 06, 2018	Humidity	:	63 %



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	33.10	-10.65	46.52	35.87	40.00	-4.13	QP	100	172	P
2	53.02	-9.60	44.34	34.74	40.00	-5.26	QP	100	244	P
3	107.48	-13.16	49.36	36.20	43.50	-7.30	Peak	400	0	P
4	172.44	-9.82	49.11	39.29	43.50	-4.21	Peak	400	0	P
5	245.83	-10.33	53.24	42.91	46.00	-3.09	Peak	400	0	P
6	307.55	-8.44	48.39	39.95	46.00	-6.05	Peak	400	0	P

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

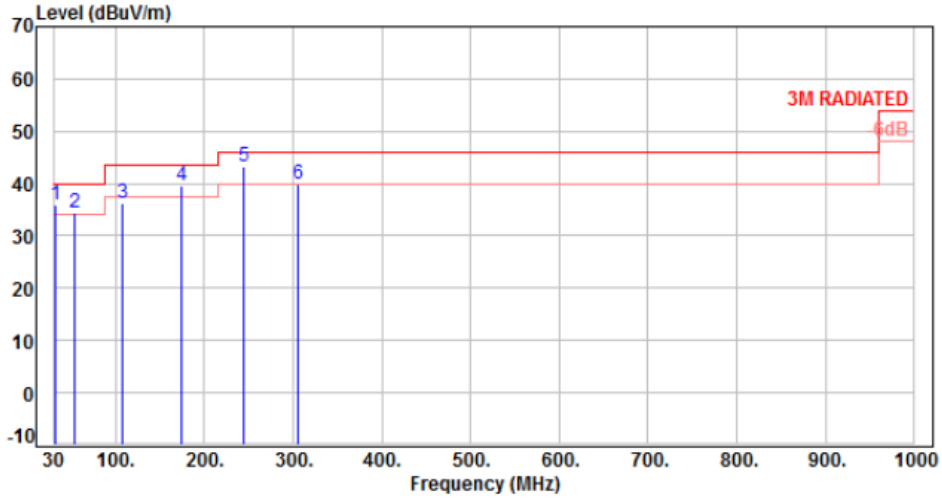
Power	:	From PoE	Pol/Phase	:	HORIZONTAL
Test Mode	:	Mode 3, Band 2	Temperature	:	22 °C
Test Date	:	Dec. 06, 2018	Humidity	:	63 %



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	33.25	-10.66	38.46	27.80	40.00	-12.20	Peak	100	0	P
2	108.71	-12.96	46.67	33.71	43.50	-9.79	Peak	100	0	P
3	166.93	-9.28	47.22	37.94	43.50	-5.56	QP	100	229	P
4	247.66	-10.29	51.65	41.36	46.00	-4.64	Peak	100	0	P
5	307.44	-8.44	50.07	41.63	46.00	-4.37	QP	100	100	P
6	400.68	-5.76	33.40	27.64	46.00	-18.36	Peak	100	0	P

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

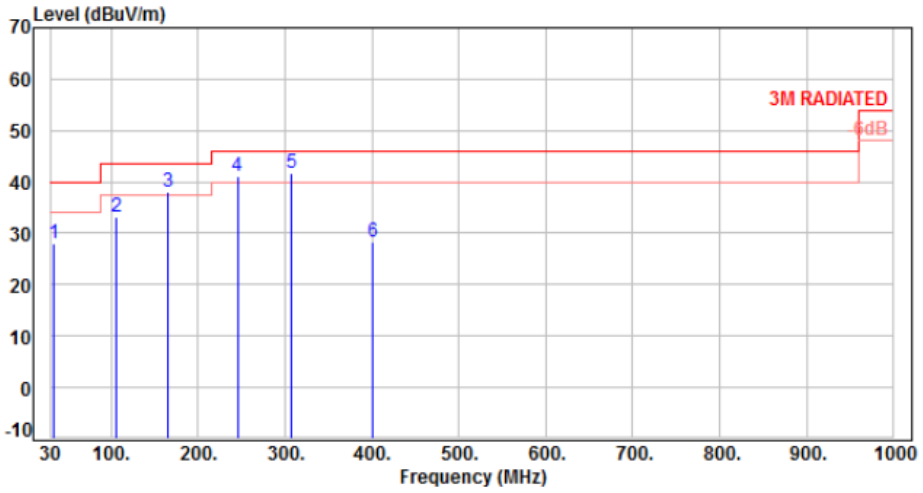
Power	:	From PoE	Pol/Phase	:	VERTICAL
Test Mode	:	Mode 3, Band 3	Temperature	:	22 °C
Test Date	:	Dec. 06, 2018	Humidity	:	63 %



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	31.57	-10.57	46.44	35.87	40.00	-4.13	QP	100	179	P
2	53.11	-9.59	43.98	34.39	40.00	-5.61	QP	100	238	P
3	108.11	-13.09	49.28	36.19	43.50	-7.31	Peak	400	0	P
4	173.64	-10.05	49.68	39.63	43.50	-3.87	Peak	400	0	P
5	244.35	-10.37	53.61	43.24	46.00	-2.76	Peak	400	0	P
6	305.40	-8.50	48.27	39.77	46.00	-6.23	Peak	400	0	P

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

Power	:	From PoE	Pol/Phase	:	HORIZONTAL
Test Mode	:	Mode 3, Band 3	Temperature	:	22 °C
Test Date	:	Dec. 06, 2018	Humidity	:	63 %

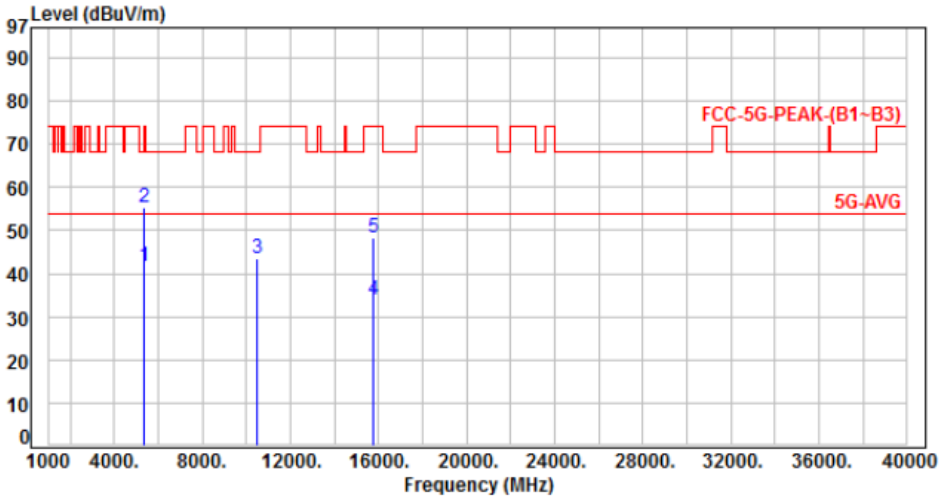


No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	34.56	-10.55	38.55	28.00	40.00	-12.00	Peak	100	0	P
2	106.59	-13.26	46.41	33.15	43.50	-10.35	Peak	100	0	P
3	165.33	-9.28	47.40	38.12	43.50	-5.38	QP	100	231	P
4	245.28	-10.34	51.41	41.07	46.00	-4.93	Peak	100	0	P
5	308.14	-8.43	50.05	41.62	46.00	-4.38	QP	100	103	P
6	400.20	-5.77	33.99	28.22	46.00	-17.78	Peak	100	0	P

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

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

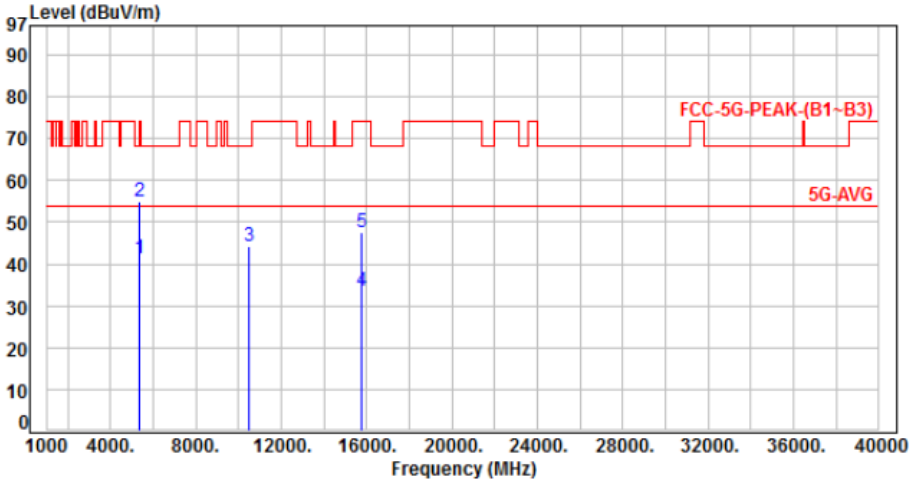
Power	:	From PoE	Pol/Phase	:	VERTICAL
Test Mode	:	Mode 1, Band 2, CH52	Temperature	:	22 °C
Test Date	:	Nov. 12, 2018	Humidity	:	63 %



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	5350.00	-7.30	48.90	41.60	54.00	-12.40	Average	240	360	P
2	5350.00	-7.30	62.60	55.30	74.00	-18.70	Peak	240	360	P
3	10520.00	0.04	43.61	43.65	68.20	-24.55	Peak	100	85	P
4	15780.00	5.41	28.63	34.04	54.00	-19.96	Average	100	122	P
5	15780.00	5.41	42.85	48.26	74.00	-25.74	Peak	100	122	P

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

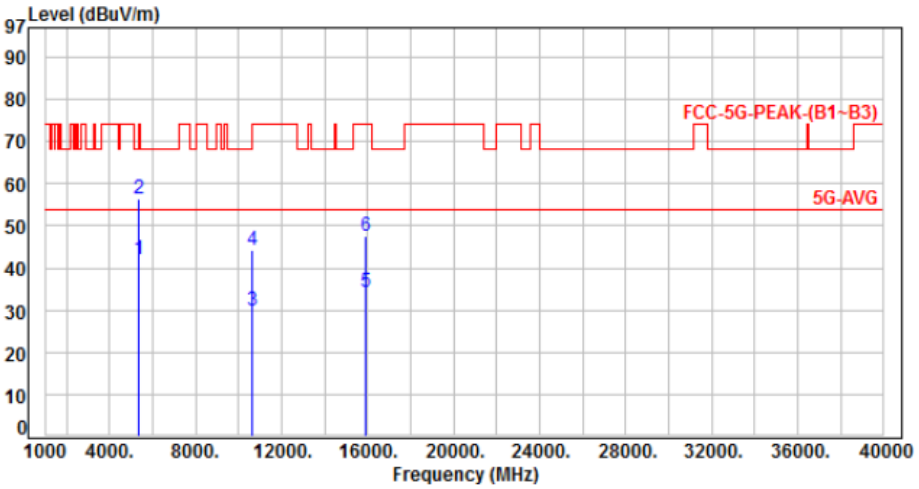
Power	:	From PoE	Pol/Phase	:	HORIZONTAL
Test Mode	:	Mode 1, Band 2, CH52	Temperature	:	22 °C
Test Date	:	Nov. 12, 2018	Humidity	:	63 %



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	5350.00	-7.30	48.50	41.20	54.00	-12.80	Average	280	192	P
2	5350.00	-7.30	62.40	55.10	74.00	-18.90	Peak	280	192	P
3	10520.00	0.04	44.33	44.37	68.20	-23.83	Peak	100	352	P
4	15780.00	5.41	28.21	33.62	54.00	-20.38	Average	100	311	P
5	15780.00	5.41	42.11	47.52	74.00	-26.48	Peak	100	311	P

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

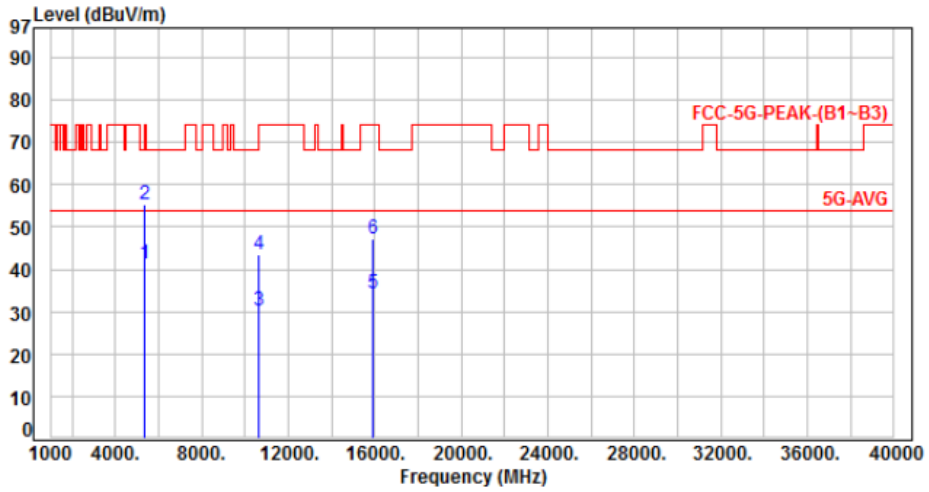
Power	:	From PoE	Pol/Phase	:	VERTICAL
Test Mode	:	Mode 1, Band 2, CH60	Temperature	:	22 °C
Test Date	:	Nov. 12, 2018	Humidity	:	63 %



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	5350.00	-7.30	49.50	42.20	54.00	-11.80	Average	250	355	P
2	5350.00	-7.30	63.80	56.50	74.00	-17.50	Peak	250	355	P
3	10600.00	0.12	29.65	29.77	54.00	-24.23	Average	100	120	P
4	10600.00	0.12	44.32	44.44	74.00	-29.56	Peak	100	120	P
5	15900.00	5.49	28.69	34.18	54.00	-19.82	Average	100	81	P
6	15900.00	5.49	42.11	47.60	74.00	-26.40	Peak	100	81	P

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

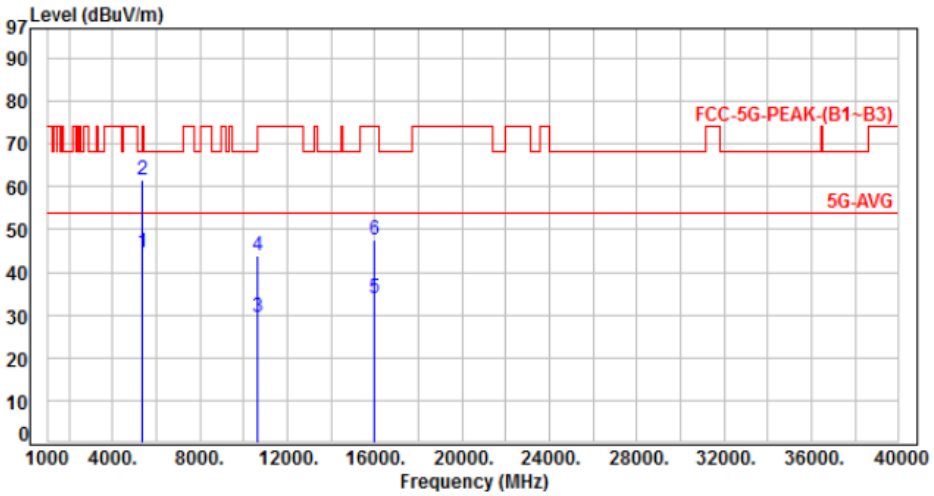
Power	:	AC 120V	Pol/Phase	:	HORIZONTAL
Test Mode	:	Mode 1, Band 2, CH60	Temperature	:	22 °C
Test Date	:	Nov. 12, 2018	Humidity	:	63 %



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	5350.00	-7.30	48.50	41.20	54.00	-12.80	Average	200	127	P
2	5350.00	-7.30	62.60	55.30	74.00	-18.70	Peak	200	127	P
3	10600.00	0.12	30.21	30.33	54.00	-23.67	Average	100	351	P
4	10600.00	0.12	43.28	43.40	74.00	-30.60	Peak	100	351	P
5	15900.00	5.49	28.97	34.46	54.00	-19.54	Average	100	302	P
6	15900.00	5.49	41.76	47.25	74.00	-26.75	Peak	100	302	P

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

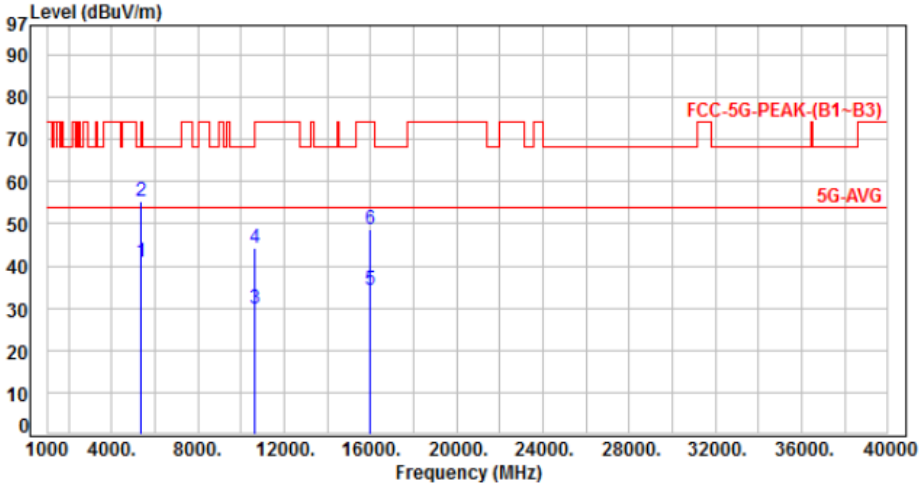
Power	:	From PoE	Pol/Phase	:	VERTICAL
Test Mode	:	Mode 1, Band 2, CH64	Temperature	:	22 °C
Test Date	:	Nov. 12, 2018	Humidity	:	63 %



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	5350.00	-7.30	52.10	44.80	54.00	-9.20	Average	240	357	P
2	5350.00	-7.30	68.80	61.50	74.00	-12.50	Peak	240	357	P
3	10640.00	0.15	29.25	29.40	54.00	-24.60	Average	100	102	P
4	10640.00	0.15	43.60	43.75	74.00	-30.25	Peak	100	102	P
5	15960.00	5.53	28.54	34.07	54.00	-19.93	Average	100	81	P
6	15960.00	5.53	42.22	47.75	74.00	-26.25	Peak	100	81	P

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

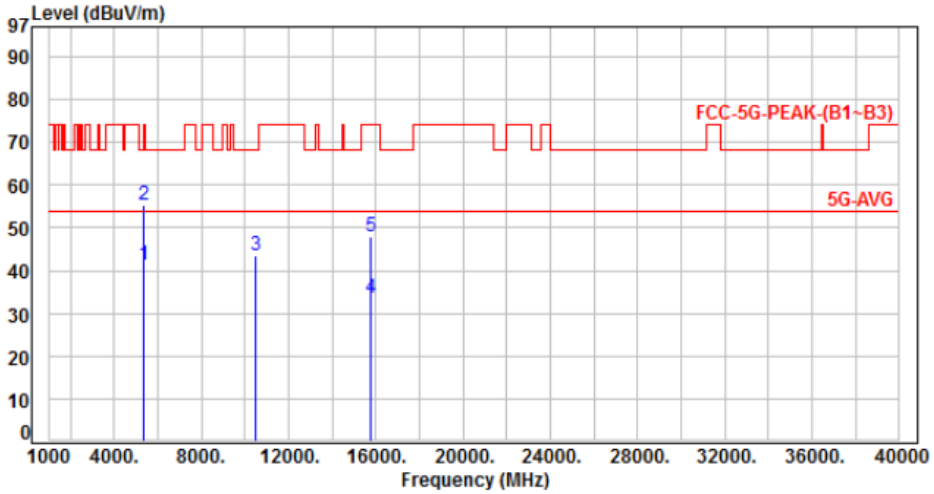
Power	:	AC 120V	Pol/Phase	:	HORIZONTAL
Test Mode	:	Mode 1, Band 2, CH64	Temperature	:	22 °C
Test Date	:	Nov. 12, 2018	Humidity	:	63 %



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	5350.00	-7.30	48.30	41.00	54.00	-13.00	Average	319	130	P
2	5350.00	-7.30	62.70	55.40	74.00	-18.60	Peak	319	130	P
3	10640.00	0.15	29.66	29.81	54.00	-24.19	Average	100	286	P
4	10640.00	0.15	44.10	44.25	74.00	-29.75	Peak	100	286	P
5	15960.00	5.53	28.66	34.19	54.00	-19.81	Average	106	311	P
6	15960.00	5.53	43.28	48.81	74.00	-25.19	Peak	106	311	P

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

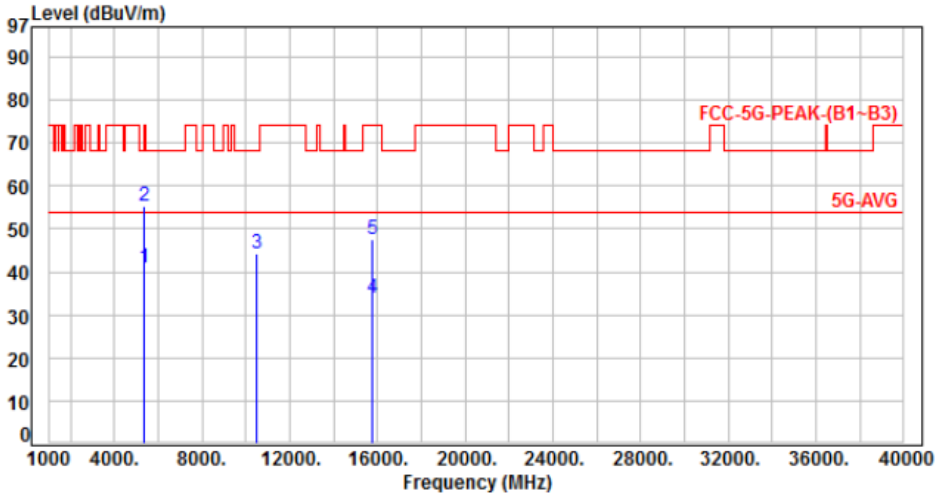
Power	:	From PoE	Pol/Phase	:	VERTICAL
Test Mode	:	Mode 2, Band 2, CH52	Temperature	:	22 °C
Test Date	:	Nov. 12, 2018	Humidity	:	63 %



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	5350.00	-7.30	48.70	41.40	54.00	-12.60	Average	245	355	P
2	5350.00	-7.30	62.70	55.40	74.00	-18.60	Peak	245	355	P
3	10520.00	0.04	43.66	43.70	68.20	-24.50	Peak	100	73	P
4	15780.00	5.41	28.11	33.52	54.00	-20.48	Average	100	163	P
5	15780.00	5.41	42.56	47.97	74.00	-26.03	Peak	100	163	P

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

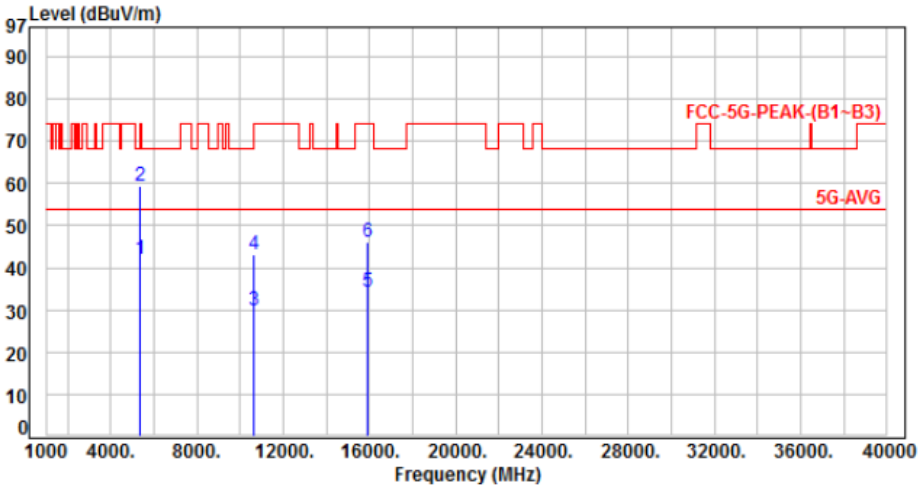
Power	:	From PoE	Pol/Phase	:	HORIZONTAL
Test Mode	:	Mode 2, Band 2, CH52	Temperature	:	22 °C
Test Date	:	Nov. 12, 2018	Humidity	:	63 %



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	5350.00	-7.30	48.20	40.90	54.00	-13.10	Average	326	224	P
2	5350.00	-7.30	62.50	55.20	74.00	-18.80	Peak	326	224	P
3	10520.00	0.04	44.33	44.37	68.20	-23.83	Peak	100	305	P
4	15780.00	5.41	28.66	34.07	54.00	-19.93	Average	100	299	P
5	15780.00	5.41	42.13	47.54	74.00	-26.46	Peak	100	299	P

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

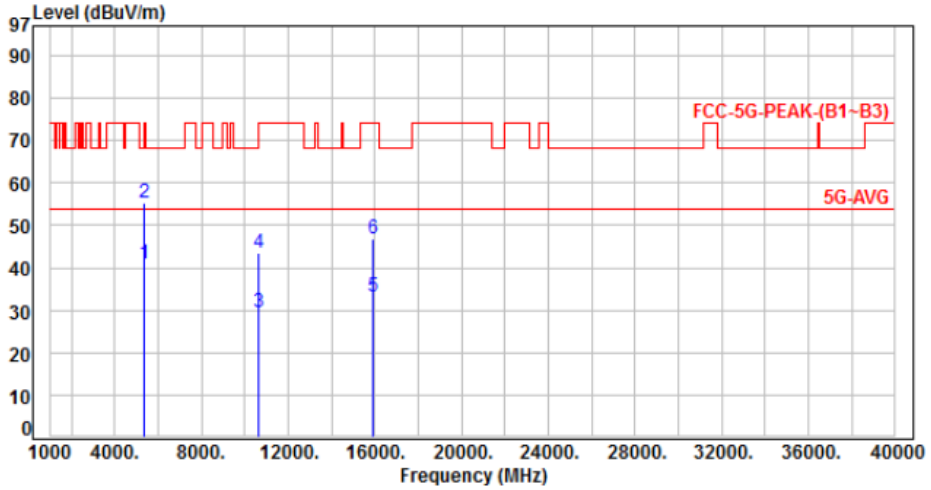
Power	:	From PoE	Pol/Phase	:	VERTICAL
Test Mode	:	Mode 2, Band 2, CH60	Temperature	:	22 °C
Test Date	:	Nov. 12, 2018	Humidity	:	63 %



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	5350.00	-7.30	49.20	41.90	54.00	-12.10	Average	240	353	P
2	5350.00	-7.30	66.60	59.30	74.00	-14.70	Peak	240	353	P
3	10600.00	0.12	29.88	30.00	54.00	-24.00	Average	100	85	P
4	10600.00	0.12	43.21	43.33	74.00	-30.67	Peak	100	85	P
5	15900.00	5.49	28.63	34.12	54.00	-19.88	Average	100	113	P
6	15900.00	5.49	40.50	45.99	74.00	-28.01	Peak	100	113	P

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

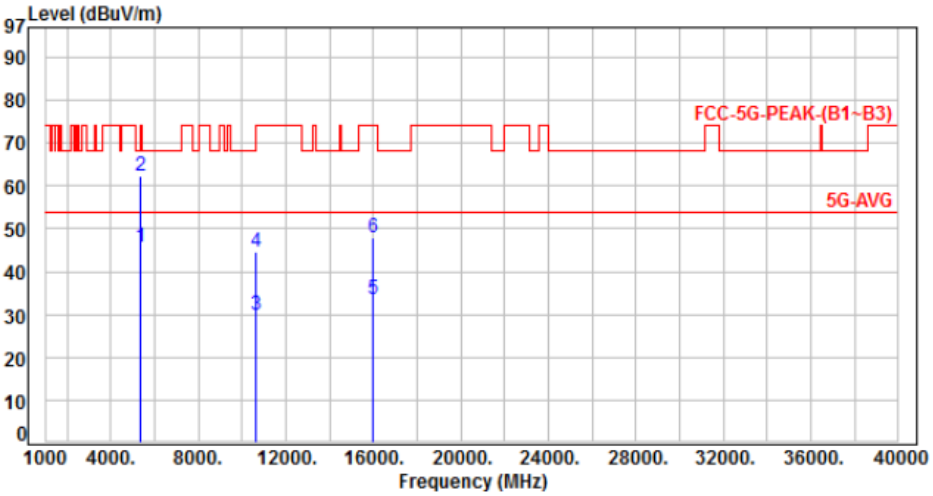
Power	:	From PoE	Pol/Phase	:	HORIZONTAL
Test Mode	:	Mode 2, Band 2, CH60	Temperature	:	22 °C
Test Date	:	Nov. 12, 2018	Humidity	:	63 %



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	5350.00	-7.30	48.20	40.90	54.00	-13.10	Average	250	347	P
2	5350.00	-7.30	62.50	55.20	74.00	-18.80	Peak	250	347	P
3	10600.00	0.12	29.26	29.38	54.00	-24.62	Average	100	319	P
4	10600.00	0.12	43.58	43.70	74.00	-30.30	Peak	100	319	P
5	15900.00	5.49	27.55	33.04	54.00	-20.96	Average	100	324	P
6	15900.00	5.49	41.22	46.71	74.00	-27.29	Peak	100	324	P

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

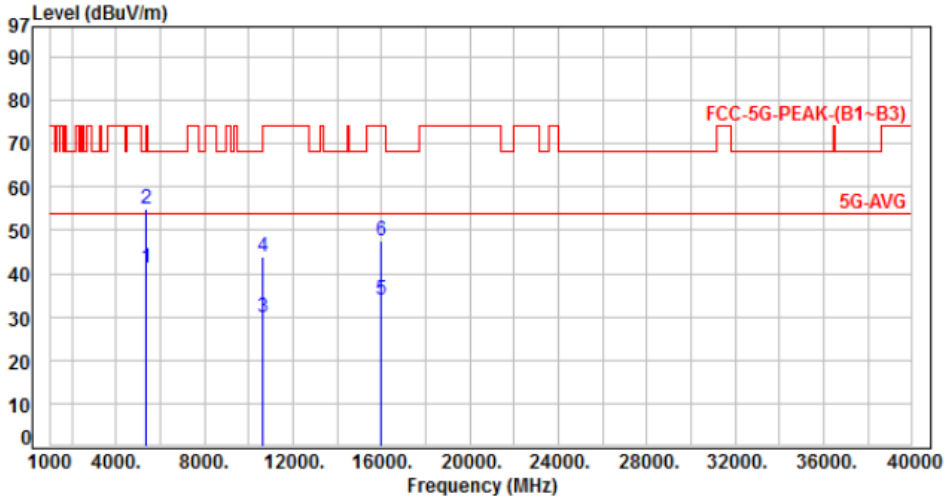
Power	:	From PoE	Pol/Phase	:	VERTICAL
Test Mode	:	Mode 2, Band 2, CH64	Temperature	:	22 °C
Test Date	:	Nov. 12, 2018	Humidity	:	63 %



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	5350.00	-7.30	53.20	45.90	54.00	-8.10	Average	247	355	P
2	5350.00	-7.30	69.60	62.30	74.00	-11.70	Peak	247	355	P
3	10640.00	0.15	29.57	29.72	54.00	-24.28	Average	100	73	P
4	10640.00	0.15	44.58	44.73	74.00	-29.27	Peak	100	73	P
5	15960.00	5.53	27.88	33.41	54.00	-20.59	Average	100	102	P
6	15960.00	5.53	42.52	48.05	74.00	-25.95	Peak	100	102	P

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

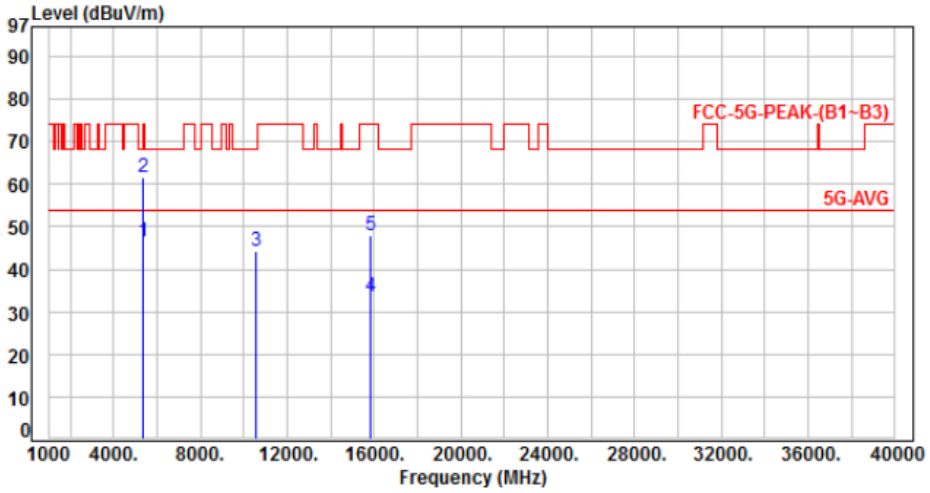
Power	:	From PoE	Pol/Phase	:	HORIZONTAL
Test Mode	:	Mode 2, Band 2, CH64	Temperature	:	22 °C
Test Date	:	Nov. 12, 2018	Humidity	:	63 %



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	5350.00	-7.30	48.50	41.20	54.00	-12.80	Average	230	359	P
2	5350.00	-7.30	62.10	54.80	74.00	-19.20	Peak	230	359	P
3	10640.00	0.15	29.86	30.01	54.00	-23.99	Average	100	341	P
4	10640.00	0.15	43.68	43.83	74.00	-30.17	Peak	100	341	P
5	15960.00	5.53	28.26	33.79	54.00	-20.21	Average	102	302	P
6	15960.00	5.53	41.88	47.41	74.00	-26.59	Peak	102	302	P

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

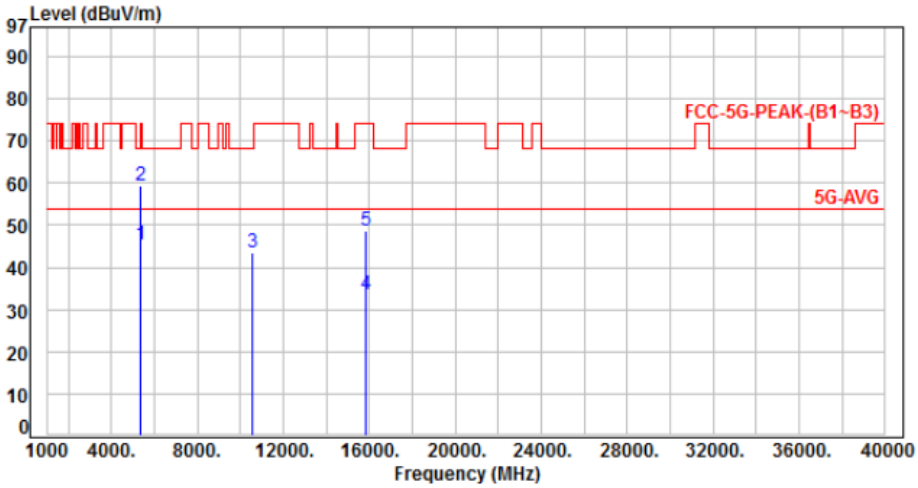
Power	:	From PoE	Pol/Phase	:	VERTICAL
Test Mode	:	Mode 3, Band 2, CH54	Temperature	:	22 °C
Test Date	:	Nov. 12, 2018	Humidity	:	63 %



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	5350.00	-7.30	53.60	46.30	54.00	-7.70	Average	250	342	P
2	5350.00	-7.30	68.80	61.50	74.00	-12.50	Peak	250	342	P
3	10540.00	0.07	44.19	44.26	68.20	-23.94	Peak	100	71	P
4	15810.00	5.43	28.11	33.54	54.00	-20.46	Average	100	105	P
5	15810.00	5.43	42.65	48.08	74.00	-25.92	Peak	100	105	P

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

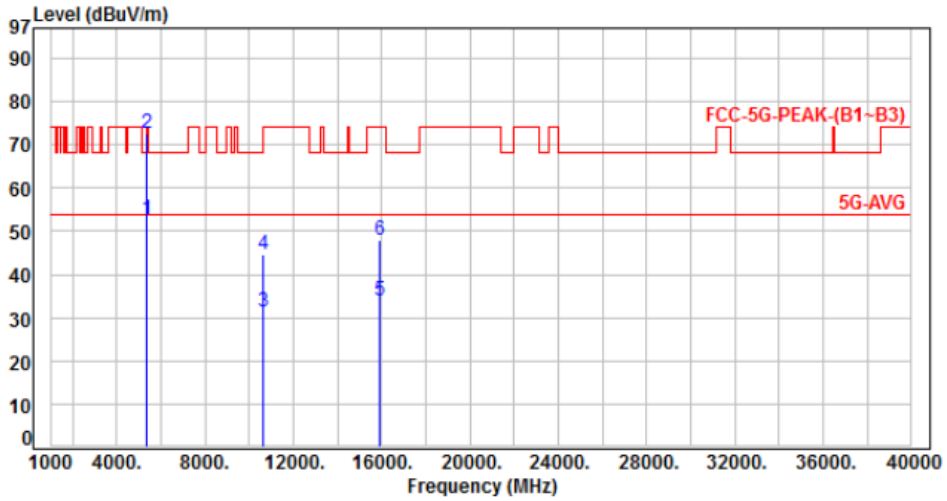
Power	:	From PoE	Pol/Phase	:	HORIZONTAL
Test Mode	:	Mode 3, Band 2, CH54	Temperature	:	22 °C
Test Date	:	Nov. 12, 2018	Humidity	:	63 %



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	5350.00	-7.30	52.50	45.20	54.00	-8.80	Average	285	348	P
2	5350.00	-7.30	66.60	59.30	74.00	-14.70	Peak	285	348	P
3	10540.00	0.07	43.50	43.57	68.20	-24.63	Peak	100	286	P
4	15810.00	5.43	28.22	33.65	54.00	-20.35	Average	100	320	P
5	15810.00	5.43	43.22	48.65	74.00	-25.35	Peak	100	320	P

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

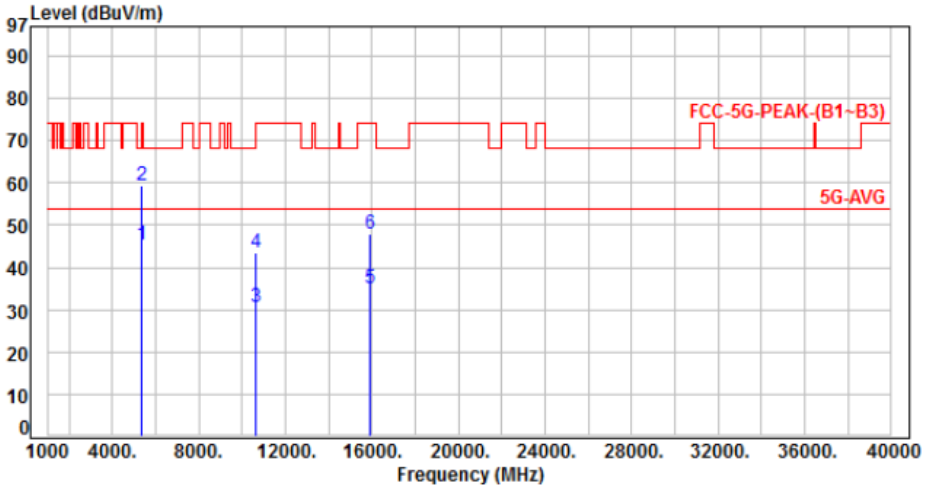
Power	:	From PoE	Pol/Phase	:	VERTICAL
Test Mode	:	Mode 3, Band 2, CH62	Temperature	:	22 °C
Test Date	:	Nov. 12, 2018	Humidity	:	63 %



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	5350.00	-7.30	60.10	52.80	54.00	-1.20	Average	250	353	P
2	5350.00	-7.30	79.80	72.50	74.00	-1.50	Peak	250	353	P
3	10620.00	0.13	31.22	31.35	54.00	-22.65	Average	100	102	P
4	10620.00	0.13	44.32	44.45	74.00	-29.55	Peak	100	102	P
5	15930.00	5.51	28.51	34.02	54.00	-19.98	Average	100	78	P
6	15930.00	5.51	42.39	47.90	74.00	-26.10	Peak	100	78	P

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

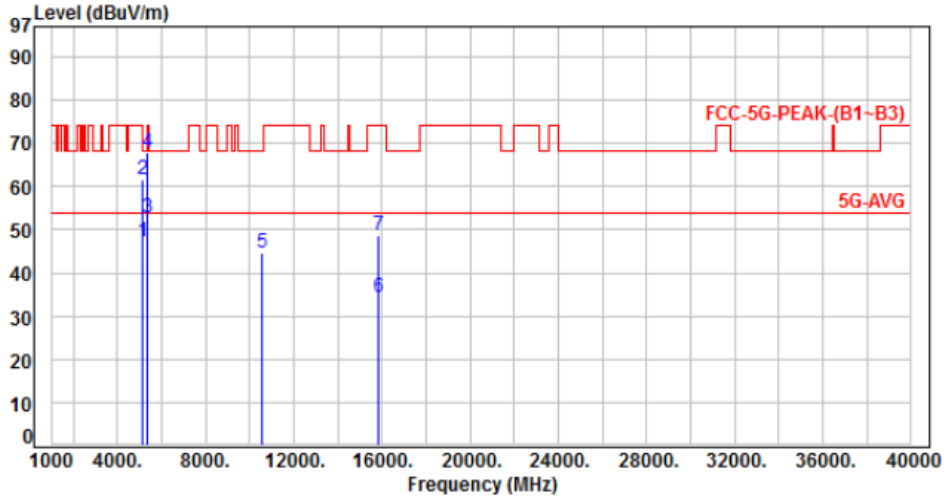
Power	:	From PoE	Pol/Phase	:	HORIZONTAL
Test Mode	:	Mode 3, Band 2, CH62	Temperature	:	22 °C
Test Date	:	Nov. 12, 2018	Humidity	:	63 %



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	5350.00	-7.30	52.50	45.20	54.00	-8.80	Average	250	202	P
2	5350.00	-7.30	66.60	59.30	74.00	-14.70	Peak	250	202	P
3	10620.00	0.13	30.32	30.45	54.00	-23.55	Average	100	299	P
4	10620.00	0.13	43.25	43.38	74.00	-30.62	Peak	100	299	P
5	15930.00	5.51	29.51	35.02	54.00	-18.98	Average	100	324	P
6	15930.00	5.51	42.58	48.09	74.00	-25.91	Peak	100	324	P

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

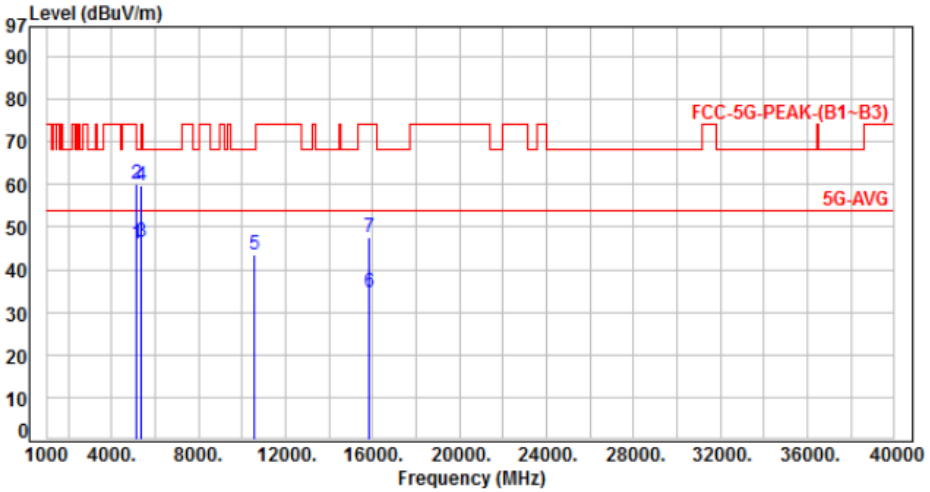
Power	:	From PoE	Pol/Phase	:	VERTICAL
Test Mode	:	Mode 4, Band 2, CH58	Temperature	:	22 °C
Test Date	:	Nov. 12, 2018	Humidity	:	63 %



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	5150.00	-7.68	54.80	47.12	54.00	-6.88	Average	256	352	P
2	5150.00	-7.68	69.10	61.42	74.00	-12.58	Peak	256	352	P
3	5350.00	-7.30	59.90	52.60	54.00	-1.40	Average	256	352	P
4	5350.00	-7.30	75.20	67.90	74.00	-6.10	Peak	256	352	P
5	10580.00	0.10	44.56	44.66	68.20	-23.54	Peak	104	88	P
6	15870.00	5.47	28.96	34.43	54.00	-19.57	Average	100	146	P
7	15870.00	5.47	43.21	48.68	74.00	-25.32	Peak	100	146	P

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

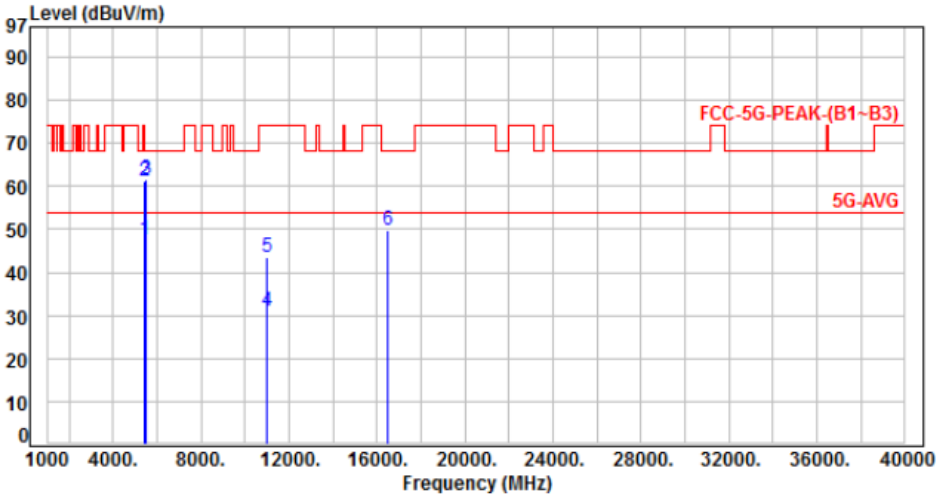
Power	:	From PoE	Pol/Phase	:	HORIZONTAL
Test Mode	:	Mode 4, Band 2, CH58	Temperature	:	22 °C
Test Date	:	Nov. 12, 2018	Humidity	:	63 %



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	5150.00	-7.68	53.90	46.22	54.00	-7.78	Average	200	166	P
2	5150.00	-7.68	67.80	60.12	74.00	-13.88	Peak	200	166	P
3	5350.00	-7.30	53.60	46.30	54.00	-7.70	Average	200	166	P
4	5350.00	-7.30	67.21	59.91	74.00	-14.09	Peak	200	166	P
5	10580.00	0.10	43.52	43.62	68.20	-24.58	Peak	100	325	P
6	15870.00	5.47	29.02	34.49	54.00	-19.51	Average	100	306	P
7	15870.00	5.47	42.21	47.68	74.00	-26.32	Peak	100	306	P

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

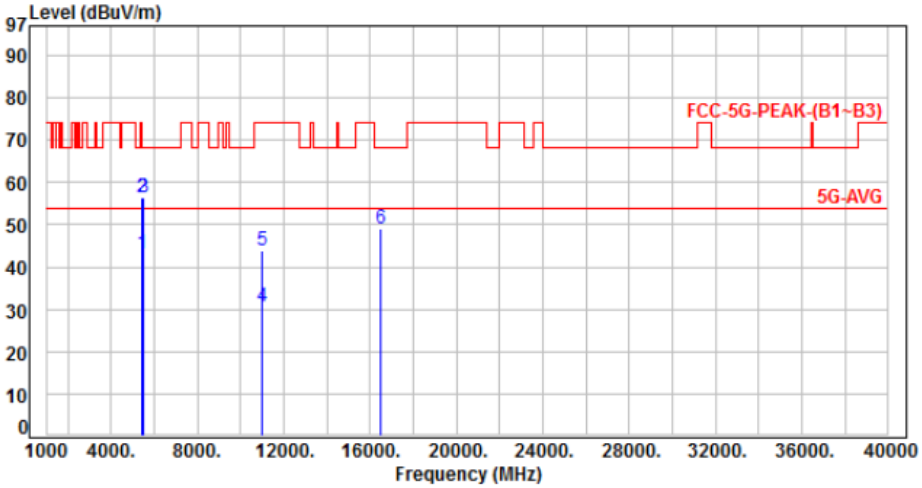
Power	:	From PoE	Pol/Phase	:	VERTICAL
Test Mode	:	Mode 1, Band 3, CH100	Temperature	:	22 °C
Test Date	:	Nov. 12, 2018	Humidity	:	63 %



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	-7.10	54.60	47.50	54.00	-6.50	Average	170	220	P
2	5460.00	-7.10	68.30	61.20	74.00	-12.80	Peak	170	220	P
3	5470.00	-7.08	68.50	61.42	68.20	-6.78	Peak	170	220	P
4	11000.00	0.46	30.50	30.96	54.00	-23.04	Average	310	193	P
5	11000.00	0.46	43.20	43.66	74.00	-30.34	Peak	310	193	P
6	16500.00	7.26	42.52	49.78	68.20	-18.42	Peak	100	112	P

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

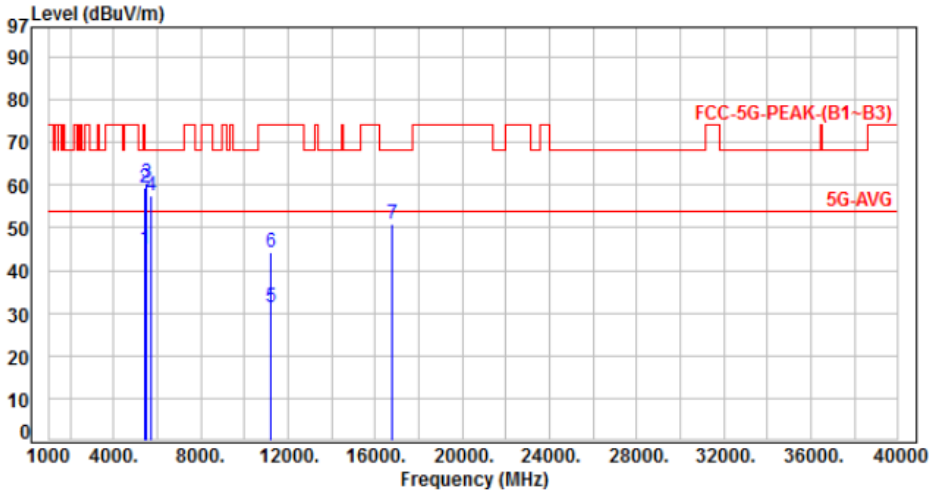
Power	:	From PoE	Pol/Phase	:	HORIZONTAL
Test Mode	:	Mode 1, Band 3, CH100	Temperature	:	22 °C
Test Date	:	Nov. 12, 2018	Humidity	:	63 %



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	-7.10	50.20	43.10	54.00	-10.90	Average	100	12	P
2	5460.00	-7.10	63.60	56.50	74.00	-17.50	Peak	100	12	P
3	5470.00	-7.08	63.56	56.48	68.20	-11.72	Peak	100	12	P
4	11000.00	0.46	30.30	30.76	54.00	-23.24	Average	100	170	P
5	11000.00	0.46	43.60	44.06	74.00	-29.94	Peak	100	170	P
6	16500.00	7.26	41.68	48.94	68.20	-19.26	Peak	100	324	P

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

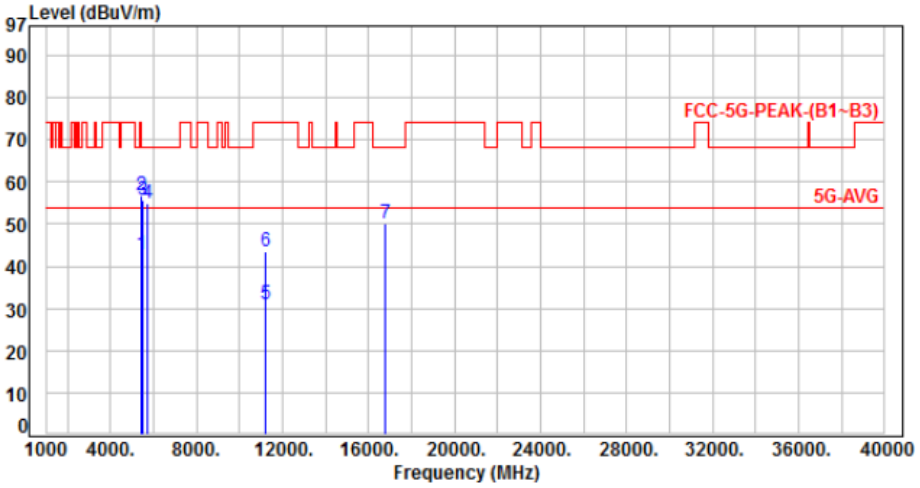
Power	:	From PoE	Pol/Phase	:	VERTICAL
Test Mode	:	Mode 1, Band 3, CH120	Temperature	:	22 °C
Test Date	:	Nov. 12, 2018	Humidity	:	63 %



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	-7.10	52.10	45.00	54.00	-9.00	Average	172	216	P
2	5460.00	-7.10	66.50	59.40	74.00	-14.60	Peak	172	216	P
3	5470.00	-7.08	67.56	60.48	68.20	-7.72	Peak	172	216	P
4	5725.00	-6.95	64.41	57.46	68.20	-10.74	Peak	172	216	P
5	11200.00	0.76	30.52	31.28	54.00	-22.72	Average	300	195	P
6	11200.00	0.76	43.60	44.36	74.00	-29.64	Peak	300	195	P
7	16800.00	8.99	41.88	50.87	68.20	-17.33	Peak	100	85	P

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

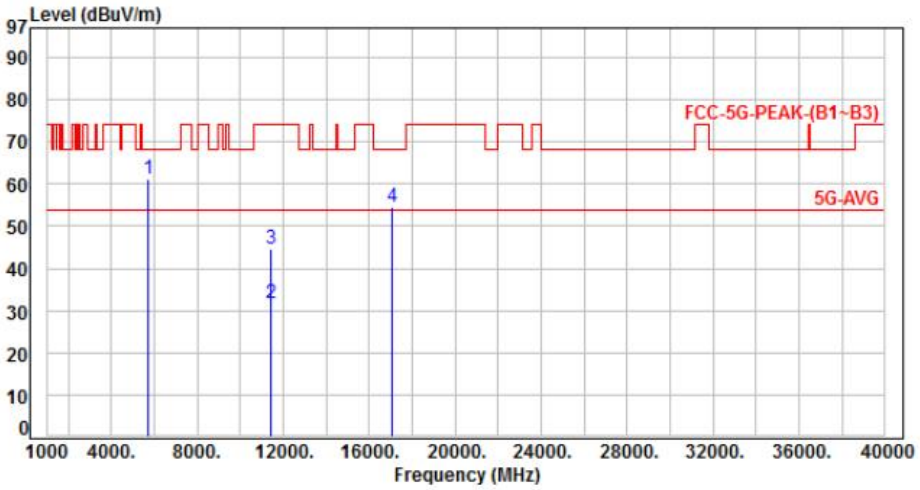
Power	:	From PoE	Pol/Phase	:	HORIZONTAL
Test Mode	:	Mode 1, Band 3, CH120	Temperature	:	22 °C
Test Date	:	Nov. 12, 2018	Humidity	:	63 %



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	-7.10	49.80	42.70	54.00	-11.30	Average	100	162	P
2	5460.00	-7.10	63.90	56.80	74.00	-17.20	Peak	100	162	P
3	5470.00	-7.08	62.60	55.52	68.20	-12.68	Peak	100	162	P
4	5725.00	-6.95	61.81	54.86	68.20	-13.34	Peak	100	162	P
5	11200.00	0.76	30.24	31.00	54.00	-23.00	Average	100	159	P
6	11200.00	0.76	42.91	43.67	74.00	-30.33	Peak	100	159	P
7	16800.00	8.99	41.35	50.34	68.20	-17.86	Peak	100	318	P

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

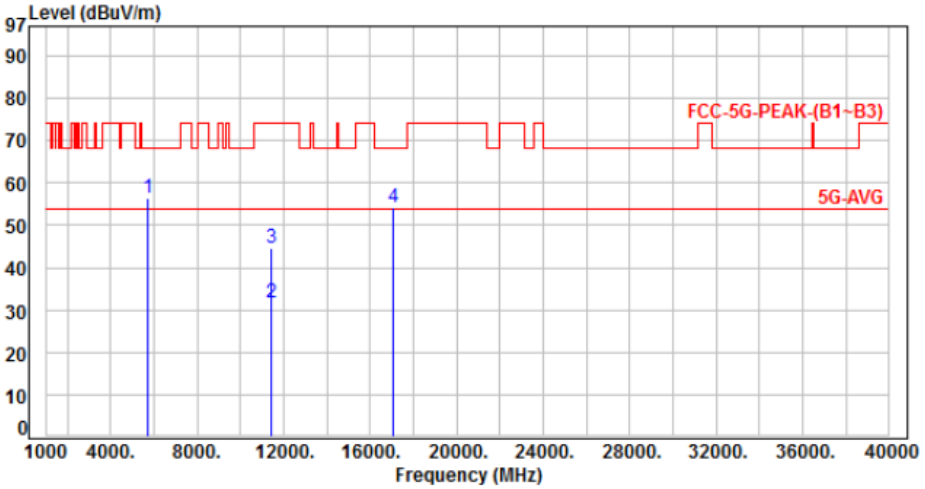
Power	:	From PoE	Pol/Phase	:	VERTICAL
Test Mode	:	Mode 1, Band 3, CH140	Temperature	:	22 °C
Test Date	:	Nov. 12, 2018	Humidity	:	63 %



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	5725.00	-6.95	68.11	61.16	68.20	-7.04	Peak	146	225	P
2	11400.00	1.05	30.58	31.63	54.00	-22.37	Average	312	190	P
3	11400.00	1.05	43.50	44.55	74.00	-29.45	Peak	312	190	P
4	17100.00	10.79	43.67	54.46	68.20	-13.74	Peak	100	182	P

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

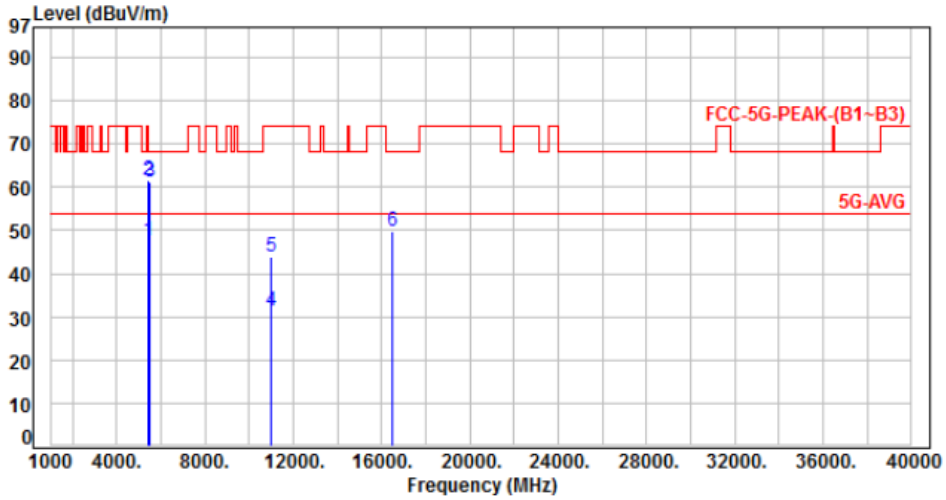
Power	:	From PoE	Pol/Phase	:	HORIZONTAL
Test Mode	:	Mode 1, Band 3, CH140	Temperature	:	22 °C
Test Date	:	Nov. 12, 2018	Humidity	:	63 %



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	5725.00	-6.95	63.21	56.26	68.20	-11.94	Peak	100	105	P
2	11400.00	1.05	30.85	31.90	54.00	-22.10	Average	100	178	P
3	11400.00	1.05	43.61	44.66	74.00	-29.34	Peak	100	178	P
4	17100.00	10.79	43.51	54.30	68.20	-13.90	Peak	100	317	P

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

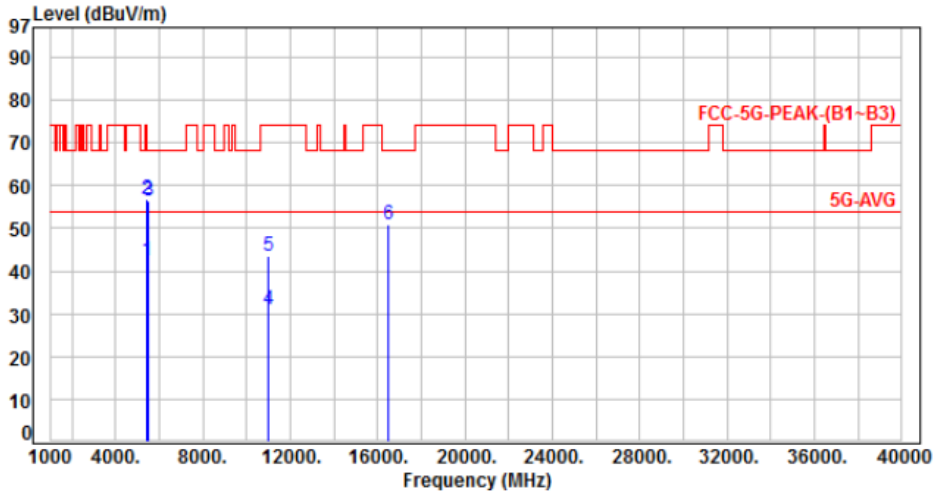
Power	:	From PoE	Pol/Phase	:	VERTICAL
Test Mode	:	Mode 2, Band 3, CH100	Temperature	:	22 °C
Test Date	:	Nov. 12, 2018	Humidity	:	63 %



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	-7.10	54.50	47.40	54.00	-6.60	Average	162	220	P
2	5460.00	-7.10	68.60	61.50	74.00	-12.50	Peak	162	220	P
3	5470.00	-7.08	68.30	61.22	68.20	-6.98	Peak	162	220	P
4	11000.00	0.46	30.85	31.31	54.00	-22.69	Average	299	187	P
5	11000.00	0.46	43.51	43.97	74.00	-30.03	Peak	299	187	P
6	16500.00	7.26	42.68	49.94	68.20	-18.26	Peak	100	103	P

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

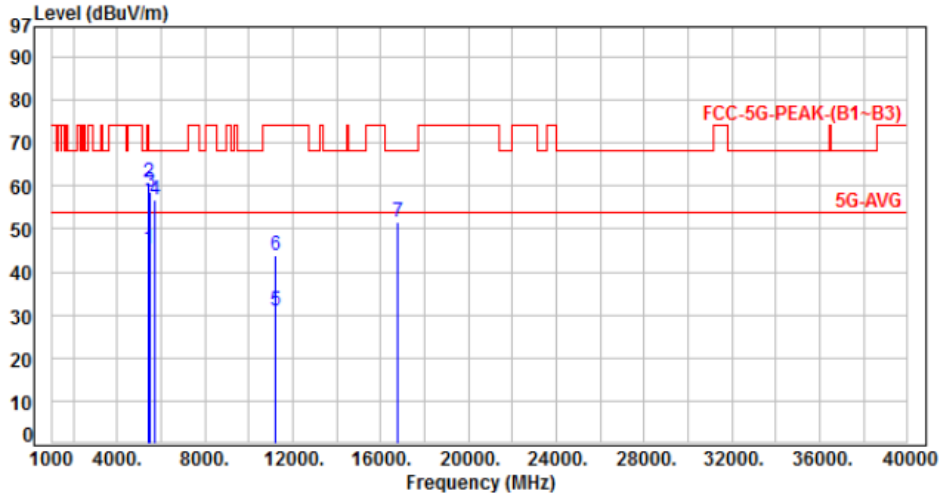
Power	:	From PoE	Pol/Phase	:	HORIZONTAL
Test Mode	:	Mode 2, Band 3, CH100	Temperature	:	22 °C
Test Date	:	Nov. 12, 2018	Humidity	:	63 %



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	-7.10	49.60	42.50	54.00	-11.50	Average	100	12	P
2	5460.00	-7.10	63.80	56.70	74.00	-17.30	Peak	100	12	P
3	5470.00	-7.08	63.60	56.52	68.20	-11.68	Peak	100	12	P
4	11000.00	0.46	30.52	30.98	54.00	-23.02	Average	100	308	P
5	11000.00	0.46	42.88	43.34	74.00	-30.66	Peak	100	308	P
6	16500.00	7.26	43.51	50.77	68.20	-17.43	Peak	100	317	P

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

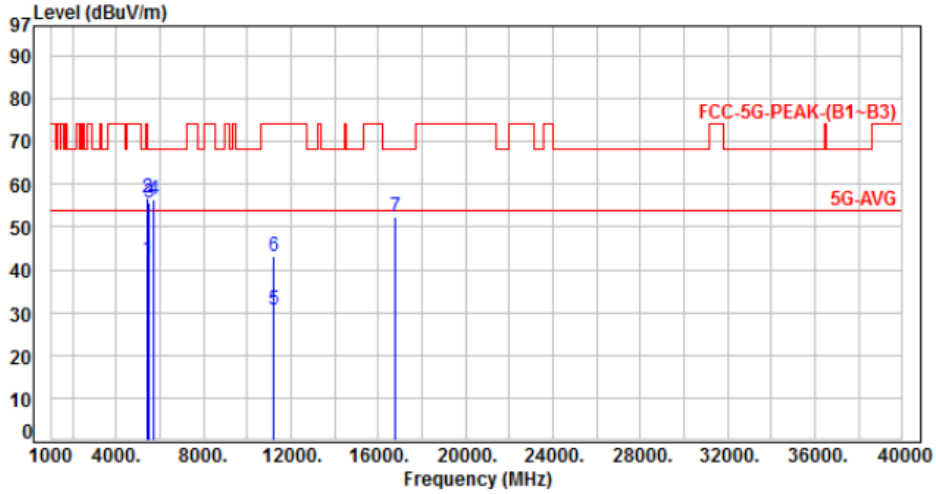
Power	:	From PoE	Pol/Phase	:	VERTICAL
Test Mode	:	Mode 2, Band 3, CH120	Temperature	:	22 °C
Test Date	:	Nov. 12, 2018	Humidity	:	63 %



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	-7.10	52.30	45.20	54.00	-8.80	Average	160	232	P
2	5460.00	-7.10	67.80	60.70	74.00	-13.30	Peak	160	232	P
3	5470.00	-7.08	65.90	58.82	68.20	-9.38	Peak	160	232	P
4	5725.00	-6.95	63.93	56.98	68.20	-11.22	Peak	160	232	P
5	11200.00	0.76	30.24	31.00	54.00	-23.00	Average	302	185	P
6	11200.00	0.76	43.11	43.87	74.00	-30.13	Peak	302	185	P
7	16800.00	8.99	42.63	51.62	68.20	-16.58	Peak	100	188	P

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

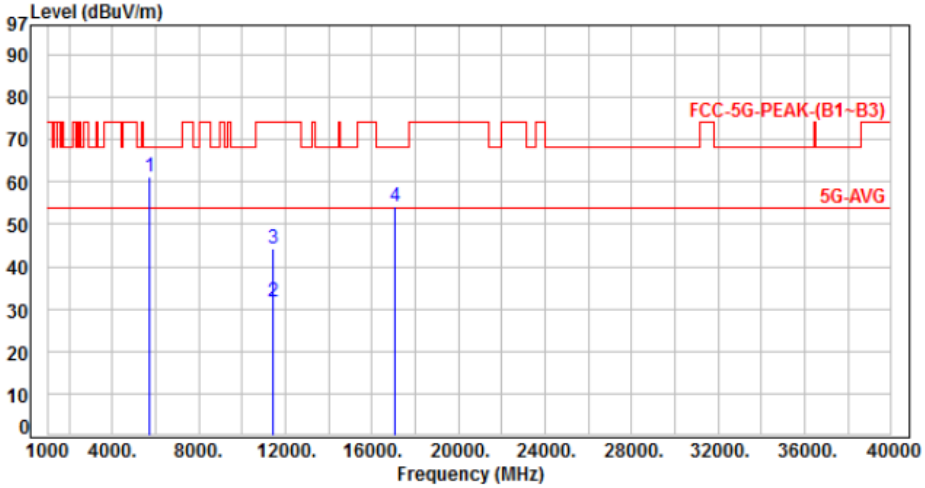
Power	:	From PoE	Pol/Phase	:	HORIZONTAL
Test Mode	:	Mode 2, Band 3, CH120	Temperature	:	22 °C
Test Date	:	Nov. 12, 2018	Humidity	:	63 %



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	-7.10	49.60	42.50	54.00	-11.50	Average	100	163	P
2	5460.00	-7.10	63.80	56.70	74.00	-17.30	Peak	100	163	P
3	5470.00	-7.08	62.90	55.82	68.20	-12.38	Peak	100	163	P
4	5725.00	-6.95	63.36	56.41	68.20	-11.79	Peak	100	163	P
5	11200.00	0.76	30.02	30.78	54.00	-23.22	Average	100	326	P
6	11200.00	0.76	42.25	43.01	74.00	-30.99	Peak	100	326	P
7	16800.00	8.99	43.22	52.21	68.20	-15.99	Peak	100	300	P

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

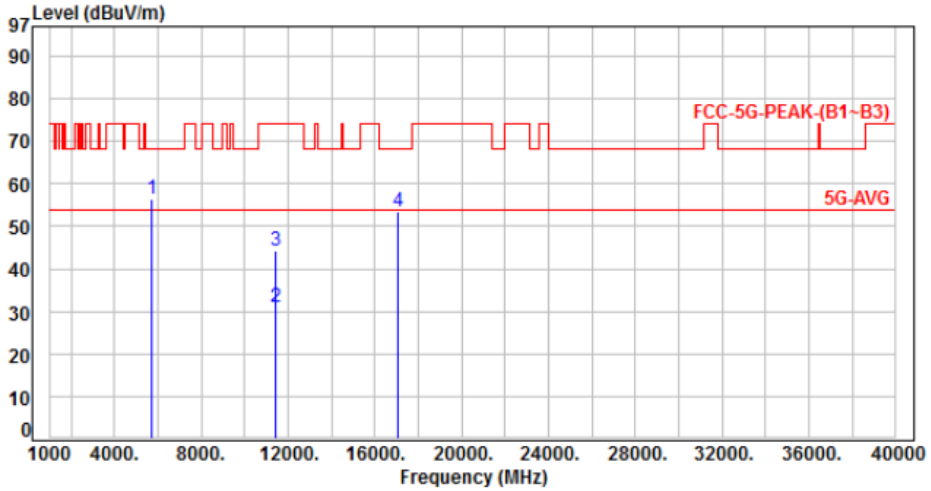
Power	:	From PoE	Pol/Phase	:	VERTICAL
Test Mode	:	Mode 2, Band 3, CH140	Temperature	:	22 °C
Test Date	:	Nov. 12, 2018	Humidity	:	63 %



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	5725.00	-6.95	68.21	61.26	68.20	-6.94	Peak	157	231	P
2	11400.00	1.05	30.53	31.58	54.00	-22.42	Average	285	196	P
3	11400.00	1.05	43.32	44.37	74.00	-29.63	Peak	285	196	P
4	17100.00	10.79	43.55	54.34	68.20	-13.86	Peak	100	99	P

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

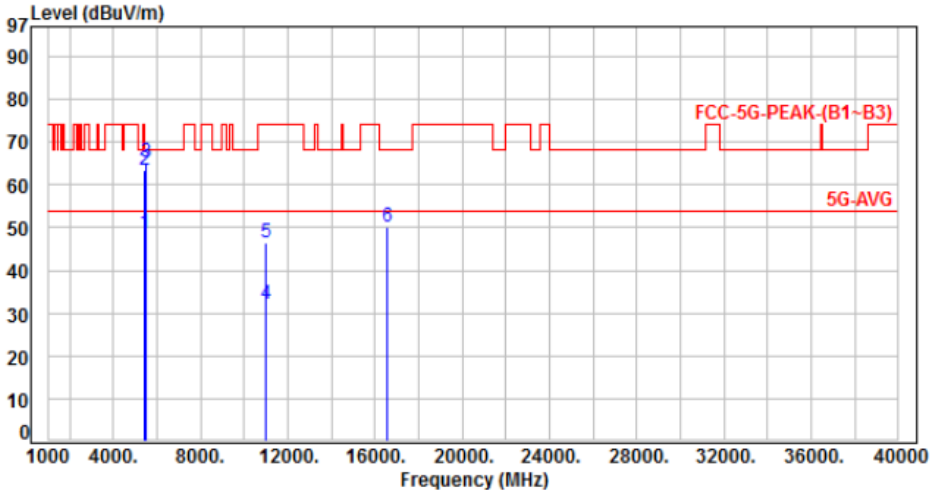
Power	:	From PoE	Pol/Phase	:	HORIZONTAL
Test Mode	:	Mode 2, Band 3, CH140	Temperature	:	22 °C
Test Date	:	Nov. 12, 2018	Humidity	:	63 %



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	5725.00	-6.95	63.51	56.56	68.20	-11.64	Peak	100	106	P
2	11400.00	1.05	30.02	31.07	54.00	-22.93	Average	100	106	P
3	11400.00	1.05	43.32	44.37	74.00	-29.63	Peak	100	106	P
4	17100.00	10.79	42.68	53.47	68.20	-14.73	Peak	100	311	P

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

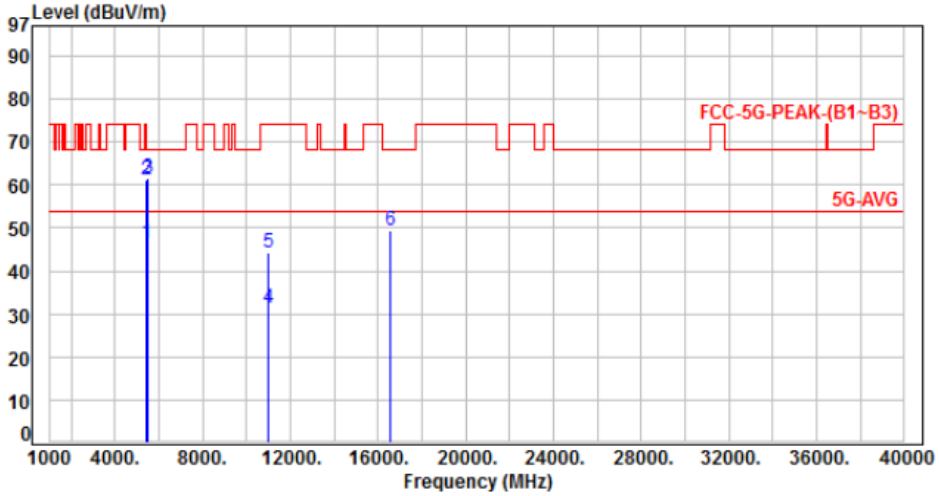
Power	:	From PoE	Pol/Phase	:	VERTICAL
Test Mode	:	Mode 3, Band 3, CH102	Temperature	:	22 °C
Test Date	:	Nov. 12, 2018	Humidity	:	63 %



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	-7.10	55.90	48.80	54.00	-5.20	Average	155	230	P
2	5460.00	-7.10	70.60	63.50	74.00	-10.50	Peak	155	230	P
3	5470.00	-7.08	72.23	65.15	68.20	-3.05	Peak	155	230	P
4	11020.00	0.49	31.56	32.05	54.00	-21.95	Average	100	190	P
5	11020.00	0.49	45.80	46.29	74.00	-27.71	Peak	100	190	P
6	16530.00	7.43	42.55	49.98	68.20	-18.22	Peak	100	81	P

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

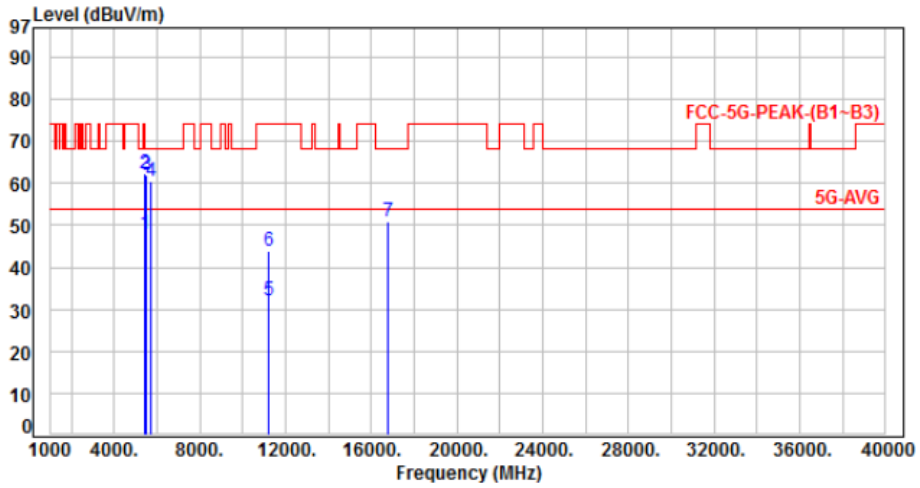
Power	:	From PoE	Pol/Phase	:	HORIZONTAL
Test Mode	:	Mode 3, Band 3, CH102	Temperature	:	22 °C
Test Date	:	Nov. 12, 2018	Humidity	:	63 %



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	-7.10	53.70	46.60	54.00	-7.40	Average	100	12	P
2	5460.00	-7.10	68.50	61.40	74.00	-12.60	Peak	100	12	P
3	5470.00	-7.08	68.69	61.61	68.20	-6.59	Peak	100	12	P
4	11020.00	0.49	30.86	31.35	54.00	-22.65	Average	100	170	P
5	11020.00	0.49	43.70	44.19	74.00	-29.81	Peak	100	170	P
6	16530.00	7.43	42.11	49.54	68.20	-18.66	Peak	100	198	P

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

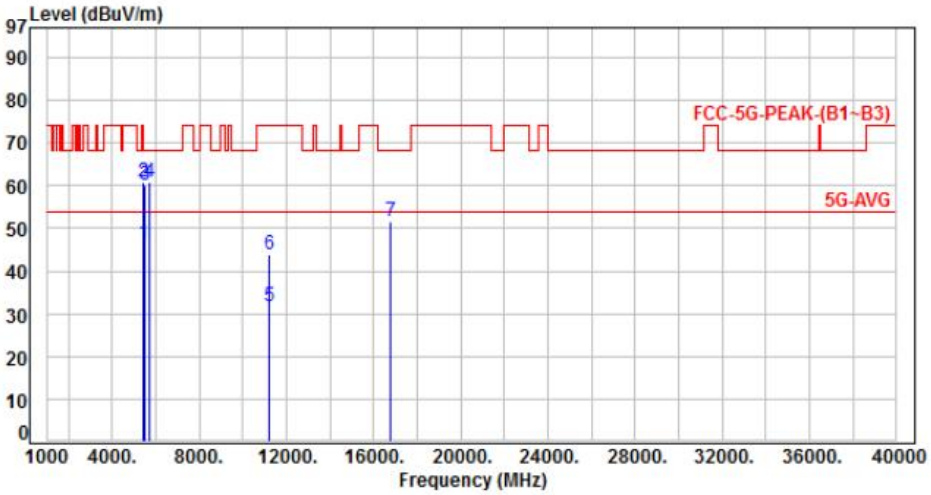
Power	:	From PoE	Pol/Phase	:	VERTICAL
Test Mode	:	Mode 3, Band 3, CH118	Temperature	:	22 °C
Test Date	:	Nov. 12, 2018	Humidity	:	63 %



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	-7.10	55.20	48.10	54.00	-5.90	Average	170	230	P
2	5460.00	-7.10	69.60	62.50	74.00	-11.50	Peak	170	230	P
3	5470.00	-7.08	69.15	62.07	68.20	-6.13	Peak	170	230	P
4	5725.00	-6.95	67.61	60.66	68.20	-7.54	Peak	170	230	P
5	11180.00	0.72	31.28	32.00	54.00	-22.00	Average	110	130	P
6	11180.00	0.72	43.14	43.86	74.00	-30.14	Peak	110	130	P
7	16770.00	8.83	42.21	51.04	68.20	-17.16	Peak	100	102	P

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

Power	:	From PoE	Pol/Phase	:	HORIZONTAL
Test Mode	:	Mode 3, Band 3, CH118	Temperature	:	22 °C
Test Date	:	Nov. 12, 2018	Humidity	:	63 %



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	-7.10	53.50	46.40	54.00	-7.60	Average	100	16	P
2	5460.00	-7.10	67.90	60.80	74.00	-13.20	Peak	100	16	P
3	5470.00	-7.08	67.25	60.17	68.20	-8.03	Peak	100	16	P
4	5725.00	-6.95	67.89	60.94	68.20	-7.26	Peak	100	16	P
5	11180.00	0.72	30.86	31.58	54.00	-22.42	Average	100	123	P
6	11180.00	0.72	43.12	43.84	74.00	-30.16	Peak	100	123	P
7	16770.00	8.83	42.90	51.73	68.20	-16.47	Peak	100	305	P

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