Certificate #4312.01

FCC & ISED TEST REPORT

Product Name:	Analog FXO Gateway
Trade Mark:	GRANDSTREAM
Model No. :	HT881
Add. Model No. :	HT841
Report Number:	2306075482EMC-1
Test Standards:	FCC 47 CFR Part 15 Subpart B ICES-003 Issue 7
FCC ID:	YZZHT881
Test Result:	PASS
Date of Issue:	July 27, 2023

Prepared for:

Grandstream Networks, Inc.
126 Brookline Ave., 3rd Floor Boston, MA 02215, USA

Prepared by:

Shenzhen UnionTrust Quality and Technology Co., Ltd.
Unit D/E of 9/F and 16/F, Block A, Building 6, Baoneng science and technology park, Longhua district, Shenzhen, China
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Prepared by:	Dylan Zhang	Reviewed by:	Henry Lu
	Senior Project Engineer		Team Leader
Approved by:	Kevin Liang	Date:	July 27, 2023
	Assistant Manager		

Version

Version No.	Date	Description
V1.0	July 27, 2023	Original

CONTENTS

1. GENERAL INFORMATION

1.1 CLIENT INFORMATION

Applicant:	Grandstream Networks, Inc.
Address of Applicant:	126 Brookline Ave., 3rd Floor Boston, MA 02215, USA
Manufacturer:	Grandstream Networks, Inc.
Address of Manufacturer:	126 Brookline Ave., 3rd Floor Boston, MA 02215, USA

1.2 EUT INFORMATION

1.2.1 General Description of EUT

Product Name:	Analog FXO Gateway
Model No.:	HT881
Add. Model No.:	HT841
Trade Mark:	GRANDSTREAM
DUT Stage:	Production Unit
Rated Voltage:	DC 12V/1A or DC 48V from PoE Adapter
Classification of digital devices:	Class B
Highest Internal Frequency:	1.1GHz
Software Version:	N/A (Provided by the customer)
Hardware Version:	V1.1B (Provided by the customer)
Sample Received Date:	June 7, 2023
Sample Tested Date:	June 19, 2023 to June 25, 2023

Note: The (HT881/HT841) two models of Main Board share the same PCB layout. The number of FXO ports is different, the corresponding FXO port circuit devices will decrease.

Trade Name	Product Name	Model	FXO Port
GRANDSTREAM	Analog FXO Gateway	HT881	8
GRANDSTREAM	Analog FXO Gateway	HT841	4

The test data is gathered from main-test model HT881, provided by the manufacturer.

Remark: The above EUT's information was provided by customer. Please refer to the specifications or user's manual for more detailed description.

1.2.2 Description of Accessories

None.

1.3 DESCRIPTION OF SUPPORT UNITS

The EUT has been tested with associated equipment below.

1) Support Equipment

Description	Manufacturer	Model No.	Serial Number	Supplied by
Telephone	CHINO E	HCD6238(20)P/ TSDL16	N/A	UnionTrust
Telephone	CHINO E	HCD6238(28)P/ TSD16	N/A	UnionTrust
Router	ASUS	RT-AC2000	N/A	UnionTrust
AE	GRANDSTREAM	HT818	N/A	UnionTrust
AC/DC Adapter	Sunlight	F12DE1200100 A	N/A	UnionTrust
PoE Adapter	CISCO	MA-INJ-4	N/A	UnionTrust

2) Support Cable

Cable No.	Description	Connector	Length	Supplied by
1~9	RJ11 Cable	RJ11	1 meter Unshielded without ferrite	UnionTrust
10-11	Ethernet Cable	RJ45	3.0 Unshielded without ferrite	UnionTrust

1.4 TEST LOCATION

Shenzhen UnionTrust Quality and Technology Co., Ltd.

Address: Unit D/E of 9/F and 16/F, Block A, Building 6, Baoneng science and technology park, Longhua district, Shenzhen, China
Telephone: +86 (0) 755 2823 0888
Fax: +86 (0) 755 2823 0886

1.5 TEST FACILITY

The test facility is recognized, certified, or accredited by the following organizations:

CNAS-Lab Code: L9069
The measuring equipment utilized to perform the tests documented in this report has been calibrated once a year or in accordance with the manufacturer's recommendations, and is traceable under the ISO/IEC 17025 to international or national standards. Equipment has been calibrated by accredited calibration laboratories.

A2LA-Lab Certificate No.: 4312.01
Shenzhen UnionTrust Quality and Technology Co., Ltd. has been accredited by A2LA for technical competence in the field of electrical testing, and proved to be in compliance with ISO/IEC 17025 General Requirements for the Competence of Testing and Calibration Laboratories and any additional program requirements in the identified field of testing.

ISED Wireless Device Testing Laboratories
CAB identifier: CN0032

FCC Accredited Lab.
Designation Number: CN1194
Test Firm Registration Number: 259480

1.6 DEVIATION FROM STANDARDS

None.

1.7 ABNORMALITIES FROM STANDARD CONDITIONS

None.

1.8 OTHER INFORMATION REQUESTED BY THE CUSTOMER

None.

1.9 MEASUREMENT UNCERTAINTY

Where relevant, the following measurement uncertainty levels have been estimated for tests performed on the Product as specified in CISPR 16-4-2. This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of k=2.

No.	Item	Measurement Uncertainty
1	Conducted emission 9KHz-150KHz	±3.2 dB
2	Conducted emission 150KHz-30MHz	±2.7 dB
3	Radiated emission 9KHz-30MHz	± 4.7 dB
4	Radiated emission 30MHz-1GHz	± 4.6 dB
5	Radiated emission 1GHz-18GHz	± 4.4 dB
6	Radiated emission 18GHz-26GHz	± 4.6 dB
7	Radiated emission 26GHz-40GHz	± 4.6 dB

2. TEST SUMMARY

FCC 47 CFR Part 15 Subpart B Test Cases			
Test Item	**Test Requirement**	**Test Method**	**Result**
Conducted Emission	FCC 47 CFR Part 15.107 ICES-003 Issue 7 Section 3.2.1	ANSI C63.4-2014	PASS
Radiated Emission	FCC 47 CFR Part 15.109 ICES-003 Issue 7 Section 3.2.2	ANSI C63.4-2014	PASS

3. EQUIPMENT LIST

Radiated Emission Test - 3M Chamber						
Used	**Equipment**	**Manufacturer**	**Model No.**	**Serial Number**	**Cal. date**	**Cal. Due date**
☒	3m Chamber & Accessory Equipment	ETS-Lindgren	3m	Euroshiedpn-CT 001270-1317	22-Jan-2021	21-Jan-2024
☒	Broadband Antenna	ETS-Lindgren	3142E	00201566	13-Dec-2022	12-Dec-2023
☒	6dB Attenuator	Talent	RA6A5-N-18	18103001	13-Dec-2022	12-Dec-2023
☒	Pre-amplifier	HP	8447F	2805A02960	1-Nov-2022	31-Oct-2023
☒	Receiver	ROHDE & SCHWARZ	ESIB26	100114	3-Nov-2022	2-Nov-2023
☒	Double-Ridged Waveguide Horn Antenna (Pre-amplifier)	ETS-LINDGREN	3117-PA	00201541	16- Apr-2022	15- Apr-2024
☒	Pre-amplifier	ETS-Lindgren	00118385	00201874	1-Nov-2022	31-Oct-2023
☒	Multi device Controller	ETS-Lindgren	7006-001	00160105	N/A	N/A
☒	Test Software	Audix	e3	Software Version: 9.160323		

Conducted Emission Test						
Used	**Equipment**	**Manufacturer**	**Model No.**	**Serial Number**	**Cal. date**	**Cal. Due date**
☒	LISN	R&S	ESH2-Z5	860014/024	1-Nov-2022	31-Oct-2023
☒	LISN	ETS-Lindgren	3816/2SH	00201088	1-Nov-2022	31-Oct-2023
☒	Receiver	R&S	ESR7	101181	1-Nov-2022	31-Oct-2023
☒	Pulse Limiter	R&S	ESH3-Z2	0357.8810.54	1-Nov-2022	31-Oct-2023
☒	Shielding room	ETS-Lindgren	843	Euroshiedpn-CT001270-1246	5-Nov-2021	4-Nov-2024
☒	Test Software	Audix	e3	Software Version: 9 20151119i		

4. TEST CONFIGURATION

4.1 ENVIRONMENTAL CONDITIONS FOR TESTING

4.1.1 Normal or Extreme Test Conditions

Environment Parameter	Selected Values During Tests		
Test Condition	Ambient		
	Temperature (°C)	Voltage (V)	Relative Humidity (%)
NT/NV	+15 to +35	1: AC 120V/60Hz	20 to 75
Remark: 1) NV: Normal Voltage; NT: Normal Temperature			

4.1.2 Record of Normal Environment and Test Sample

Test Item	Temperature (°C)	Relative Humidity (%)	Pressure (Kpa)	Sample No.	Tested by
Conducted Emission	21.4	62.0	99.3	S202306071592-ZJA01/3	Andy Lin
Radiated Emission	22.3	68.8	99.3		Lucas Ouyang

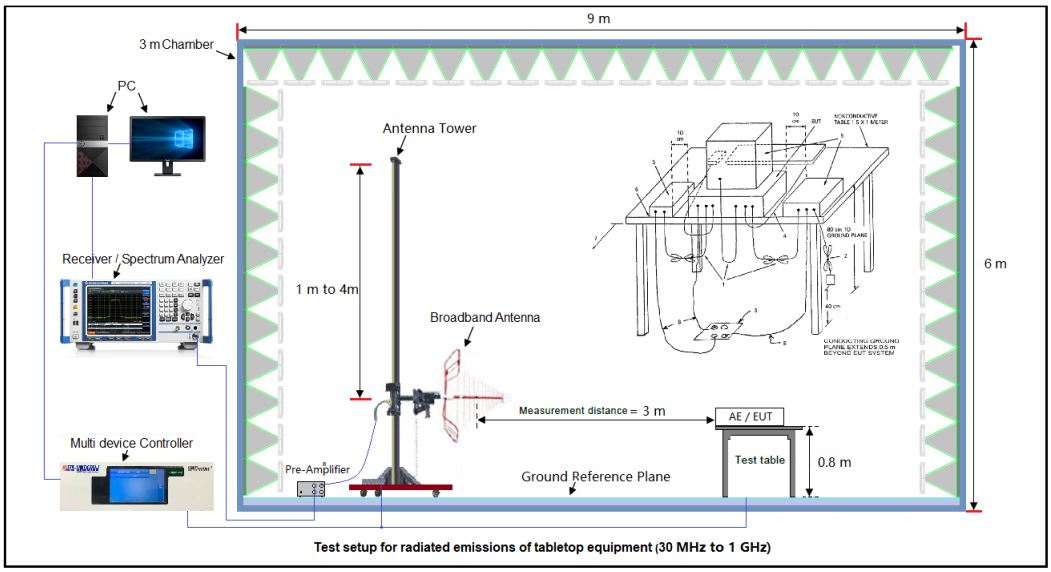
4.2 TEST MODES

Test Item	EMI Test Modes
Radiated Emission	Test Mode 1: phone call & adapter powered Test Mode 2: phone call & PoE powered
Conducted Emission	Test Mode 1: phone call & adapter powered Test Mode 2: phone call & PoE powered

4.3 TEST SETUP

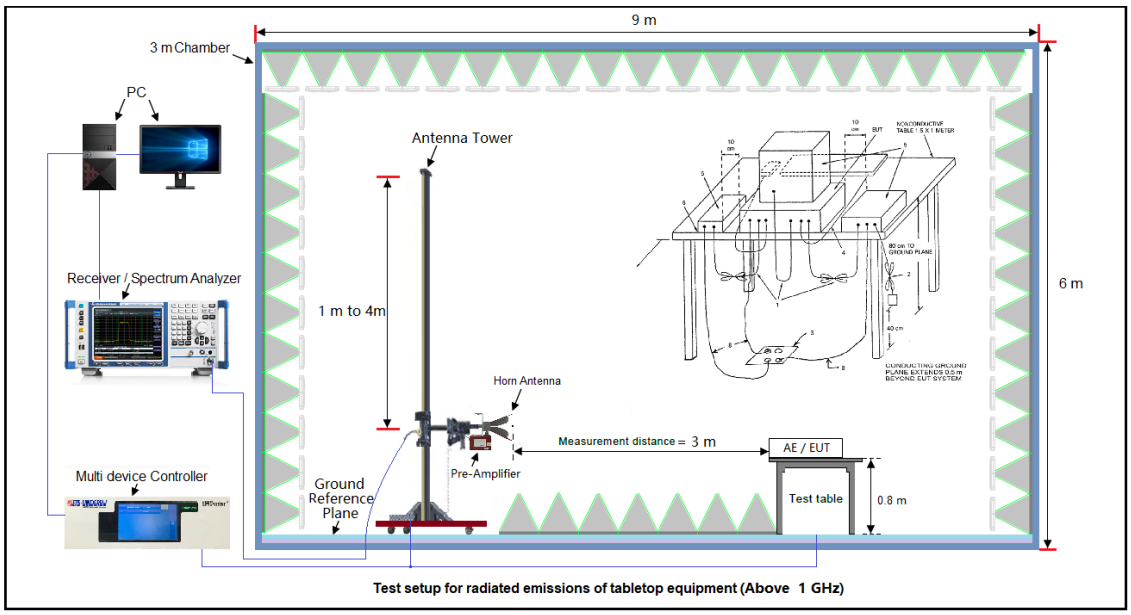
4.3.1 For Radiated Emissions test setup

Figure 1. 30MHz to 1GHz



Test setup for radiated emissions of tabletop equipment (30 MHz to 1 GHz)

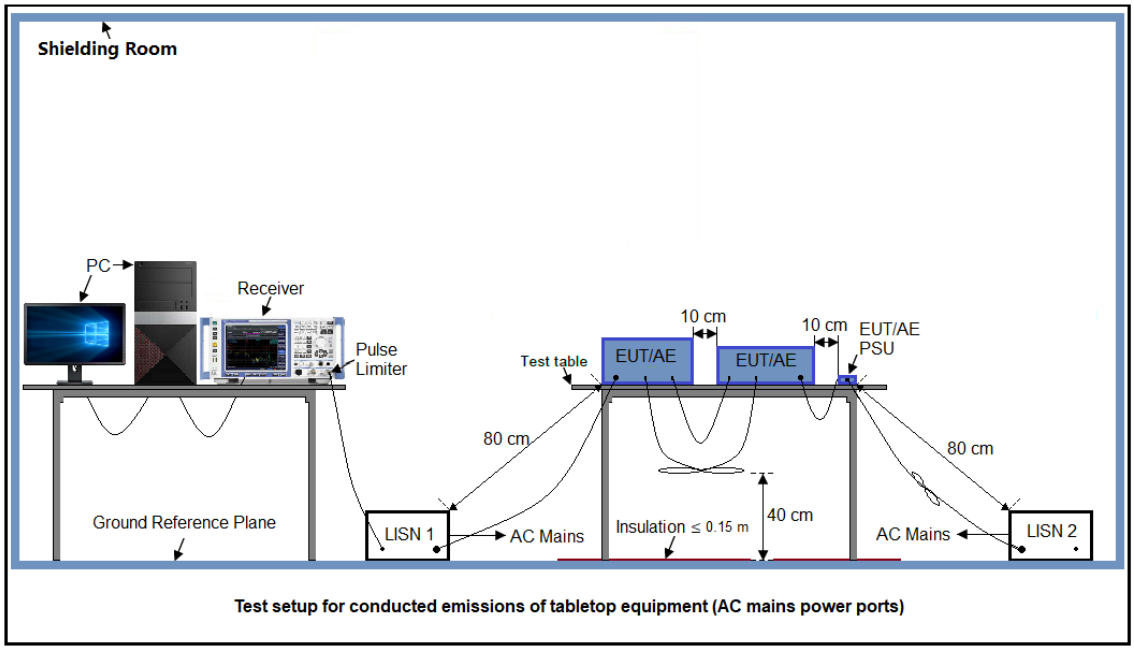
Figure 2. Above 1GHz



Test setup for radiated emissions of tabletop equipment (Above 1 GHz)

4.3.2 For Conducted Emissions test setup

Figure 3. Conducted Emissions setup



Test setup for conducted emissions of tabletop equipment (AC mains power ports)

4.4 SYSTEM TEST CONFIGURATION

All readings are extrapolated back to the equivalent three meter reading using inverse scaling with distance. Analyzer resolution is 100 kHz or greater for frequencies below 1000MHz. The resolution is 1 MHz or greater for frequencies above 1000MHz. The spurious emissions more than 20 dB below the permissible value are not reported.

Radiated emission measurement were performed from the lowest radio frequency signal generated in the device which is greater than 9 kHz to the tenth harmonic (according to KDB 896810 D02 SDoC FAQ v01r01) of the highest fundamental frequency or to 40 GHz, whichever is lower.

5. REFERENCE DOCUMENTS FOR TESTING

No.	Identity	Document Title
1	FCC 47 CFR Part15 Subpart B	Unintentional Radiators
2	ICES-003 Issue 7	Information Technology Equipment (Including Digital Apparatus)
3	ANSI C63.4-2014	American National Standard for Methods of Measurement of Radio-Noise Emissions from Low-Voltage Electrical and Electronic Equipment in the Range of 9 kHz to 40 GHz
4	KDB 174176 D01 Line Conducted FAQ v01r01	AC power-line conducted emission frequency asked questions
5	KDB 896810 D02 SDoC FAQ v01r02	Supplier's Declaration of Conformity frequency asked questions

6. EMC REQUIREMENTS SPECIFICATION

6.1 RADIATED EMISSION

Test Requirement: FCC 47 CFR Part 15.109
ICES-003 Issue 7 Clause 3.2.2

Test Method: ANSI C63.4-2014

Receiver Setup:

Frequency: (f) (MHz)	Detector type	Measurement receiver bandwidth	
		RBW	VBW
30 ≤ f ≤ 1 000	Quasi Peak	120 kHz	300 kHz
f ≥1000	Peak	1 MHz	3 MHz
	Average	1 MHz	3 MHz

Measured frequency range

Highest frequency generated or used in the device or on which the device operates or tunes (MHz)	Upper frequency of measurement range (MHz)
Below 1.705	30.
1.705-108	1000.
108-500	2000.
500-1000	5000.
Above 1000	5th harmonic of the highest frequency or 40 GHz, whichever is lower.

Limits:

Limits for Class B devices

FCC 47 CFR Part 15 Subpart B

Frequency (MHz)	limits at 3 m (dBμV/m)		
	QP D tector	PK Detector	AV Detector
30 – 88	40.0	--	--
88 – 216	43.5	--	--
216 – 960	46.0		
960 – 1000	54.0	--	--
Above 1000	--	74.0	54.0

ICES-003 Issue 7

Frequency (MHz)	limits at 3 m (dBμV/m)		
	QP Detector	PK D tector	AV Detector
30 – 88	40.0	--	--
88 – 216	43.5	--	--
216 – 230	46.0		
230 – 960	47.0	--	--
960 – 1000	54.0	--	--
Above 1000	--	74.0	54.0

Remark:

1. The lower limit shall apply at the transition frequencies.
2. Emission level (dBμV/m) = 20 log Emission level (μV/m).
3. For frequencies above 1000 MHz, the field strength limits are based on average detector, however, the peak field strength of any emission shall not exceed the maximum permitted average limits, specified above by more than 20 dB under any condition of modulation.

Test Setup: Refer to section 4.3.1 for details.

Test Procedures:

1. From 30 MHz to 1GHz test procedure as below:

1) The Product was placed on the non-conductive turntable 0.8 m above the ground at a chamber.
2) Set the spectrum analyzer/receiver in Peak detector, Max Hold mode, and 120 kHz RBW. Record the maximum field strength of all the pre-scan process in the full band when the antenna is varied between 1~4 m in both horizontal and vertical, and the turntable is rotated from 0 to 360 degrees.
3) For each frequency whose maximum record was higher or close to limit, measure its QP value: vary the antenna's height and rotate the turntable from 0 to 360 degrees to find the height and degree where Product radiated the maximum emission, then set the test frequency analyzer/receiver to QP Detector and specified bandwidth with Maximum Hold Mode, and record the maximum value.

2. Above 1GHz test procedure as below:

1) The Product was placed on the non-conductive turntable 0.8 m above the ground at a chamber.
2) Set the spectrum analyzer/receiver in Peak detector, Max Hold mode, and 1MHz RBW. Record the maximum field strength of all the pre-scan process in the full band when the antenna is varied in both horizontal and vertical, and the turntable is rotated from 0 to 360 degrees.
3) For each frequency whose maximum record was higher or close to limit, measure its AV value: rotate the turntable from 0 to 360 degrees to find the degree where Product radiated the maximum emission, then set the test frequency analyzer/receiver to AV value and specified bandwidth with Maximum Hold Mode, and record the maximum value.

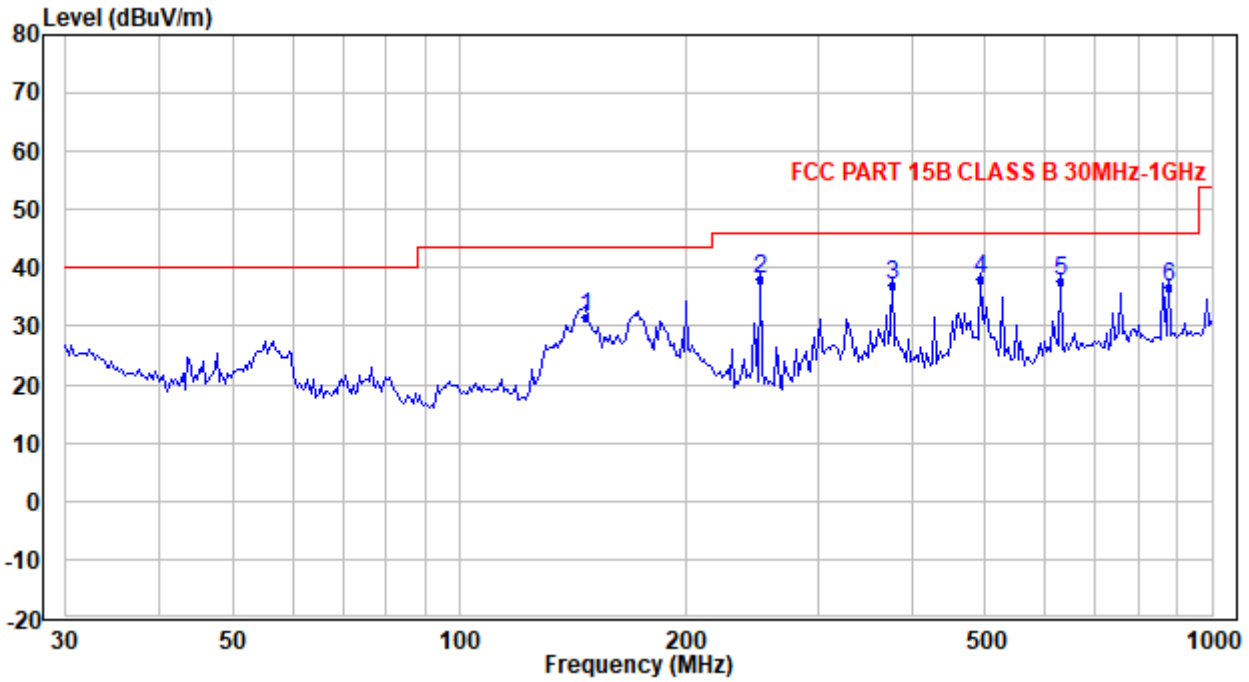
Equipment Used: Refer to section 3 for details.

Test Result: Pass

The measurement data as follows:

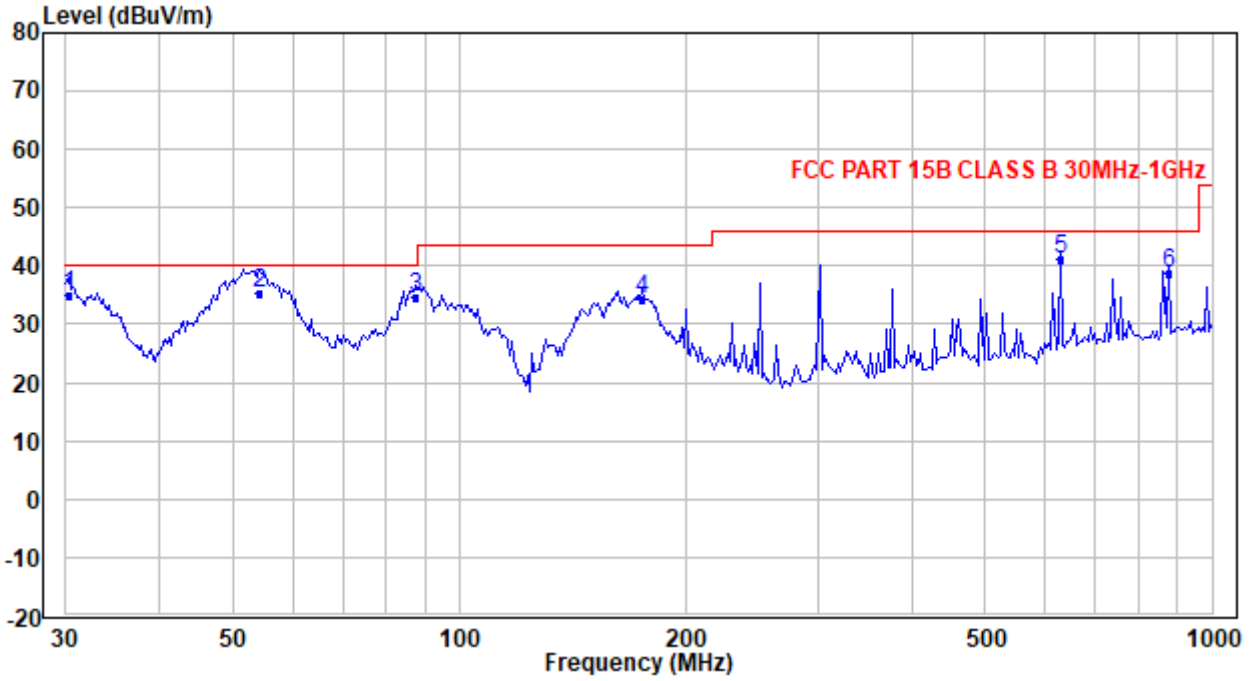
The measurement data for FCC 47 CFR Part 15 Subpart B as follows:

Below 1GHz (Quasi Peak):
Test Mode 1: phone call & adapter powered
Horizontal



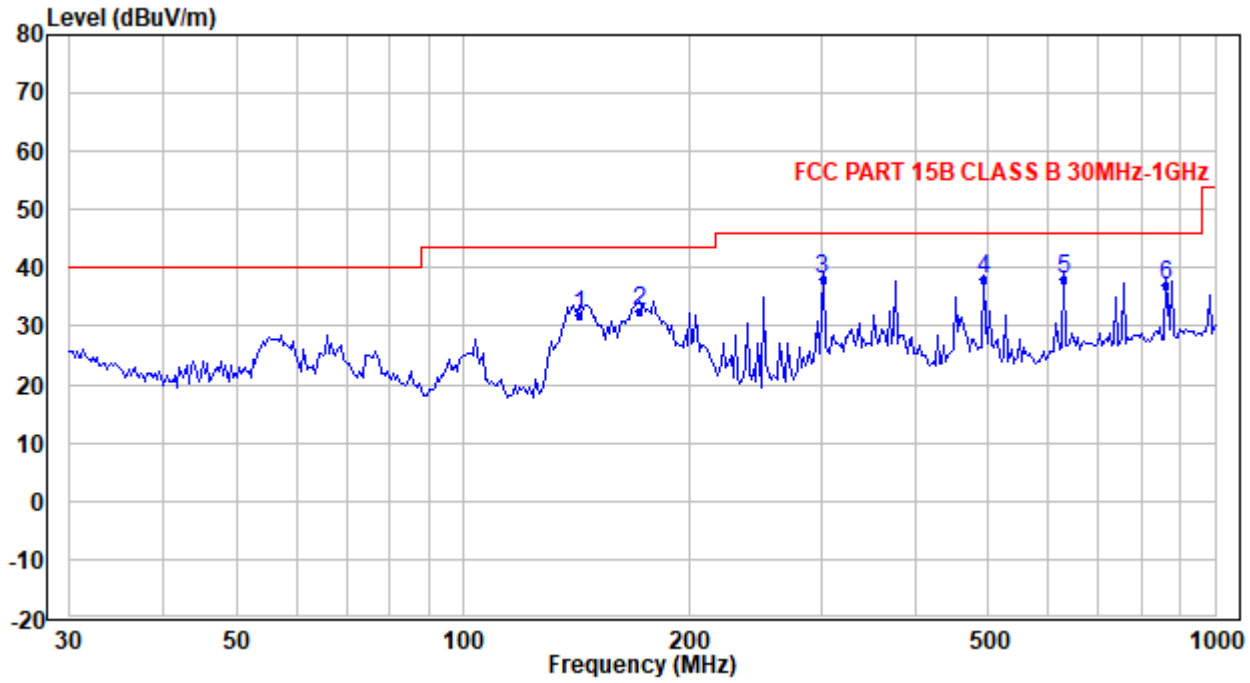
No.	Frequency (MHz)	Reading (dBµV)	Correction factor (dB/m)	Result (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Detector
1	146.839	46.46	-14.94	31.52	43.50	-11.98	QP
2	250.486	47.02	-8.82	38.20	46.00	-7.80	QP
3	376.523	42.13	-5.16	36.97	46.00	-9.03	QP
4	491.770	41.15	-3.21	37.94	46.00	-8.06	QP
5	628.894	37.47	0.33	37.80	46.00	-8.20	QP
6	875.013	32.62	4.07	36.69	46.00	-9.31	QP

Vertical



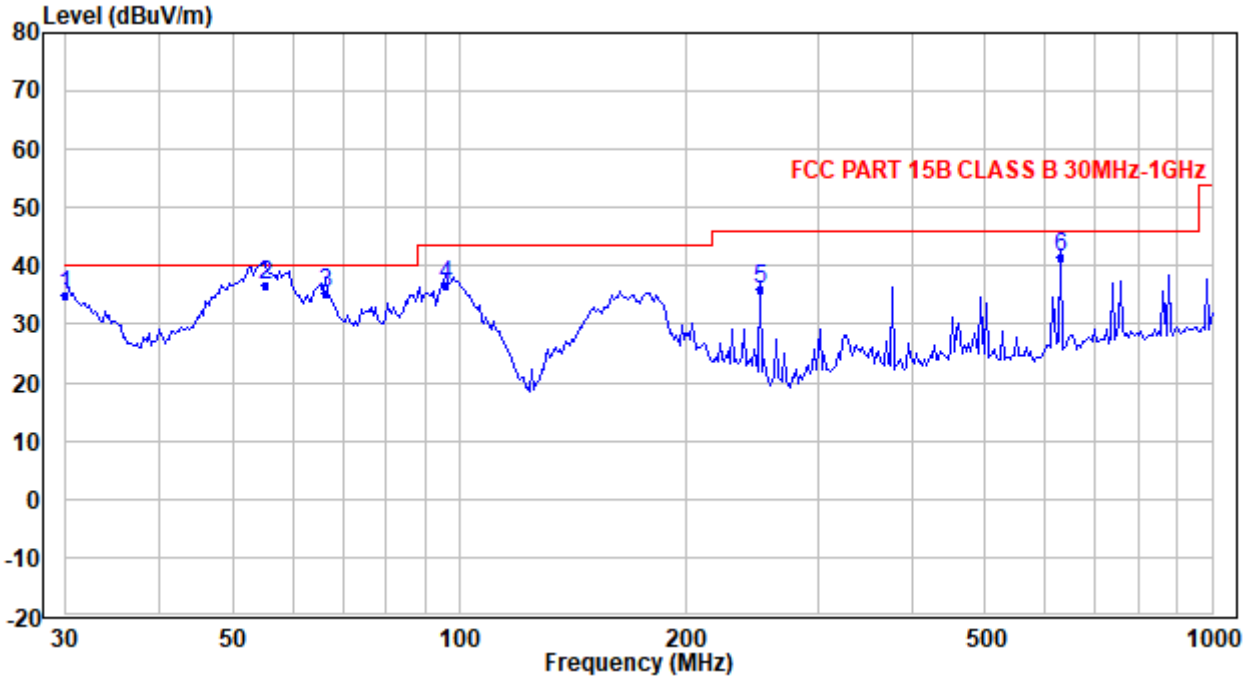
No.	Frequency (MHz)	Reading (dBµV)	Correction factor (dB/m)	Result (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Detector
1	30.212	39.98	-4.84	35.14	40.00	-4.86	QP
2	54.135	51.74	-16.33	35.41	40.00	-4.59	QP
3	87.298	51.08	-16.52	34.56	40.00	-5.44	QP
4	175.040	45.02	-10.87	34.15	43.50	-9.35	QP
5	628.894	40.75	0.33	41.08	46.00	-4.92	QP
6	875.013	34.65	4.07	38.72	46.00	-7.28	QP

Below 1GHz (Quasi Peak):
Test Mode 2: phone call & PoE powered
Horizontal



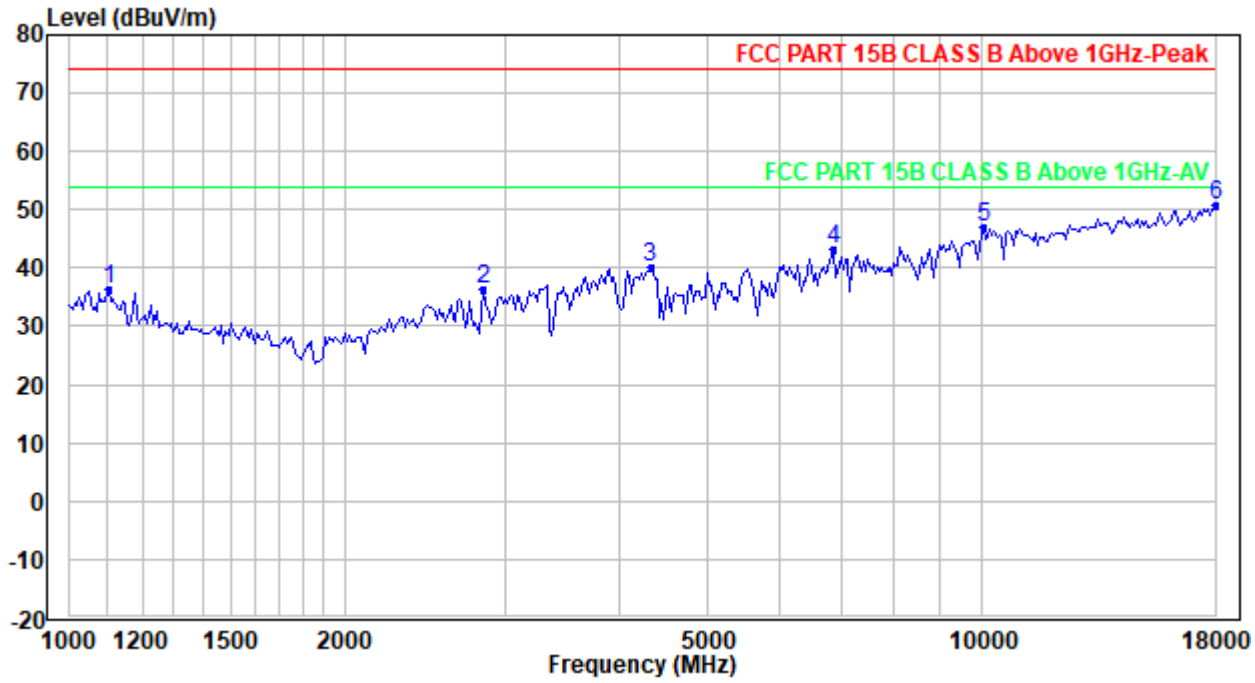
No.	Frequency (MHz)	Reading (dBµV)	Correction factor (dB/m)	Result (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Detector
1	142.769	47.17	-15.41	31.76	43.50	-11.74	QP
2	171.389	43.81	-11.35	32.46	43.50	-11.04	QP
3	300.699	45.00	-6.77	38.23	46.00	-7.77	QP
4	491.770	41.14	-3.21	37.93	46.00	-8.07	QP
5	628.894	37.82	0.33	38.15	46.00	-7.85	QP
6	862.802	33.57	3.40	36.97	46.00	-9.03	QP

Vertical



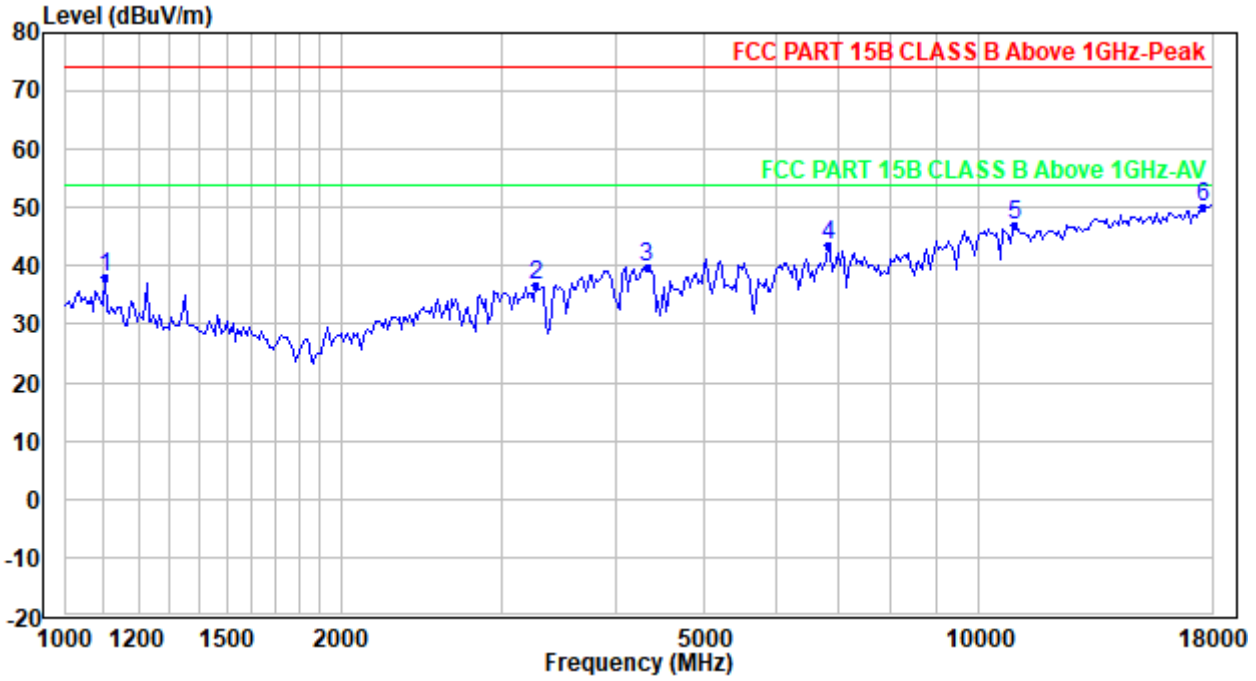
No.	Frequency (MHz)	Reading (dBµV)	Correction factor (dB/m)	Result (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Detector
1	30.000	39.91	-4.80	35.11	40.00	-4.89	QP
2	55.288	53.63	-16.84	36.79	40.00	-3.21	QP
3	66.371	52.65	-17.42	35.23	40.00	-4.77	QP
4	95.649	52.40	-15.83	36.57	43.50	-6.93	QP
5	250.486	44.94	-8.82	36.12	46.00	-9.88	QP
6	628.894	41.15	0.33	41.48	46.00	-4.52	QP

Above 1GHz (Peak & Average)
Test Mode 1: phone call & adapter powered
Horizontal



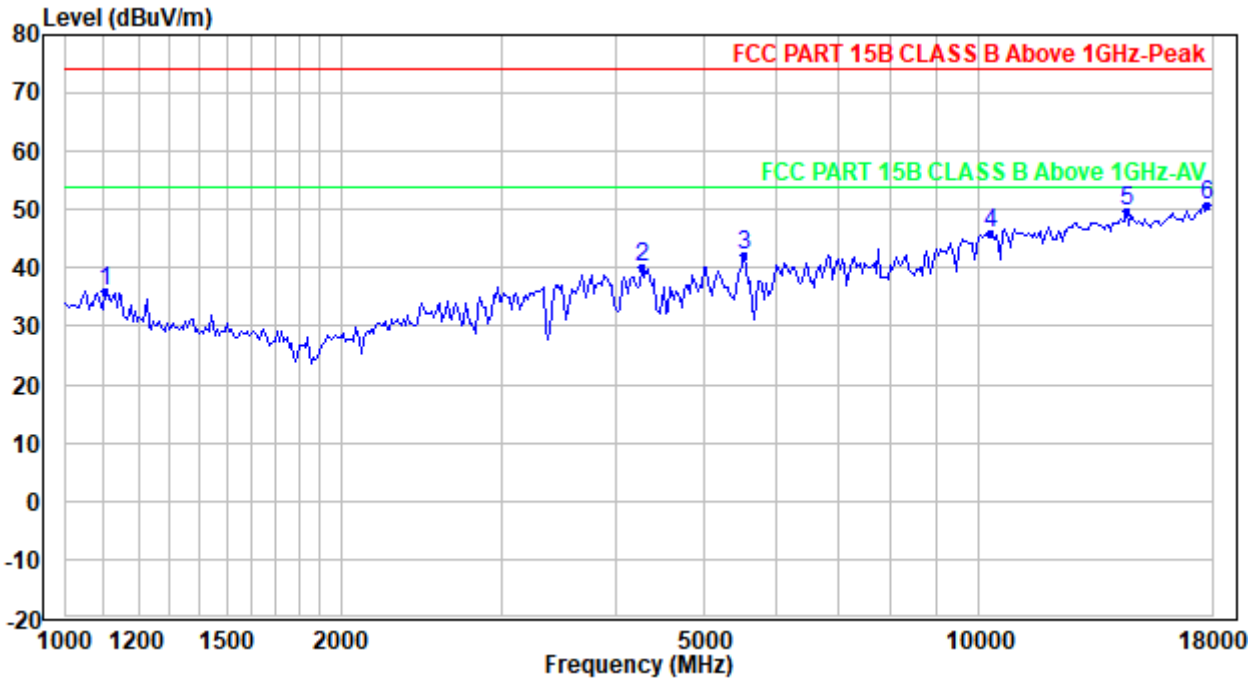
No.	Frequency (MHz)	Reading (dBµV)	Correction factor (dB/m)	Result (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Detector
1	1103.481	49.50	-13.22	36.28	74.00	-37.72	Peak
2	2836.637	43.40	-7.03	36.37	74.00	-37.63	Peak
3	4329.530	41.97	-1.97	40.00	74.00	-34.00	Peak
4	6881.560	41.21	2.02	43.23	74.00	-30.77	Peak
5	10027.650	40.03	7.08	47.11	74.00	-26.89	Peak
6	18000.000	34.48	16.41	50.89	74.00	-23.11	Peak

Vertical



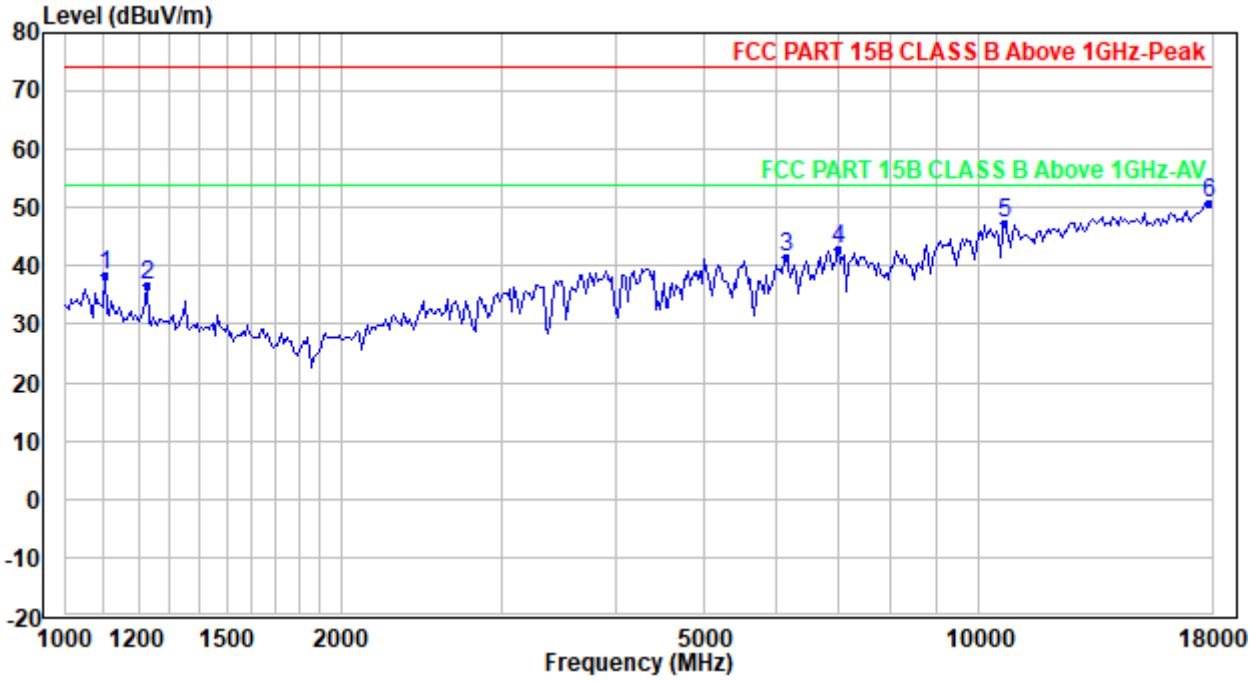
No.	Frequency (MHz)	Reading (dBµV)	Correction factor (dB/m)	Result (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Detector
1	1103.481	51.39	-13.22	38.17	74.00	-35.83	Peak
2	3278.635	41.65	-5.03	36.62	74.00	-37.38	Peak
3	4329.530	41.81	-1.97	39.84	74.00	-34.16	Peak
4	6841.814	41.51	1.97	43.48	74.00	-30.52	Peak
5	10937.880	38.88	8.11	46.99	74.00	-27.01	Peak
6	17587.750	35.41	14.75	50.16	74.00	-23.84	Peak

Above 1GHz (Quasi Peak):
Test Mode 2: phone call & PoE powered
Horizontal



No.	Frequency (MHz)	Reading (dBµV)	Correction factor (dB/m)	Result (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Detector
1	1103.481	49.28	-13.22	36.06	74.00	-37.94	Peak
2	4279.664	42.17	-2.01	40.16	74.00	-33.84	Peak
3	5521.982	41.63	0.41	42.04	74.00	-31.96	Peak
4	10322.320	38.74	7.18	45.92	74.00	-28.08	Peak
5	14527.680	37.00	12.87	49.87	74.00	-24.13	Peak
6	17792.680	35.35	15.57	50.92	74.00	-23.08	Peak

Vertical



No.	Frequency (MHz)	Reading (dBµV)	Correction factor (dB/m)	Result (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Detector
1	1103.481	51.78	-13.22	38.56	74.00	-35.44	Peak
2	1224.744	49.86	-12.99	36.87	74.00	-37.13	Peak
3	6164.401	40.78	0.67	41.45	74.00	-32.55	Peak
4	7002.185	40.77	2.19	42.96	74.00	-31.04	Peak
5	10687.370	39.61	7.61	47.22	74.00	-26.78	Peak
6	17896.040	34.67	15.99	50.66	74.00	-23.34	Peak

Remark:

1. Correct Factor = Antenna Factor + Cable Loss - Amplifier Gain, the value was added to Original Receiver Reading by the software automatically.
2. Result = Reading + Correct Factor.
3. Margin = Result – Limit
4. The limit of ICES-003 in the 230MHz to 960MHz band is higher than that of FCC Part 15B, so the radiation emission test data conform to the limit of ICES-003.
5. As shown in this section, for frequencies above 1GHz, the field strength limits are based on average limits. However, the peak field strength of any emission shall not exceed the maximum permitted average limits specified above by more than 20 dB under any condition of modulation. So, only the peak measurements were shown in the report.

6.2 CONDUCTED EMISSION

Test Requirement: FCC 47 CFR Part 15.107
ICES-003 Issue 7 Section 3.2.1

Test Method: ANSI C63.4-2014

Limits:

Limits for Class B devices

Frequency range (MHz)	Limits (dB(μV))	
	Quasi-peak	Average
0,15 to 0,50	66 to 56	56 to 46
0,50 to 5	56	46
5 to 30	60	50

Remark:

1. The lower limit shall apply at the transition frequencies.
2. The limit decreases linearly with the logarithm of the frequency in the range 0.15 to 0.50 MHz.

Test Setup: Refer to section 4.3.2 for details.

Test Procedures:

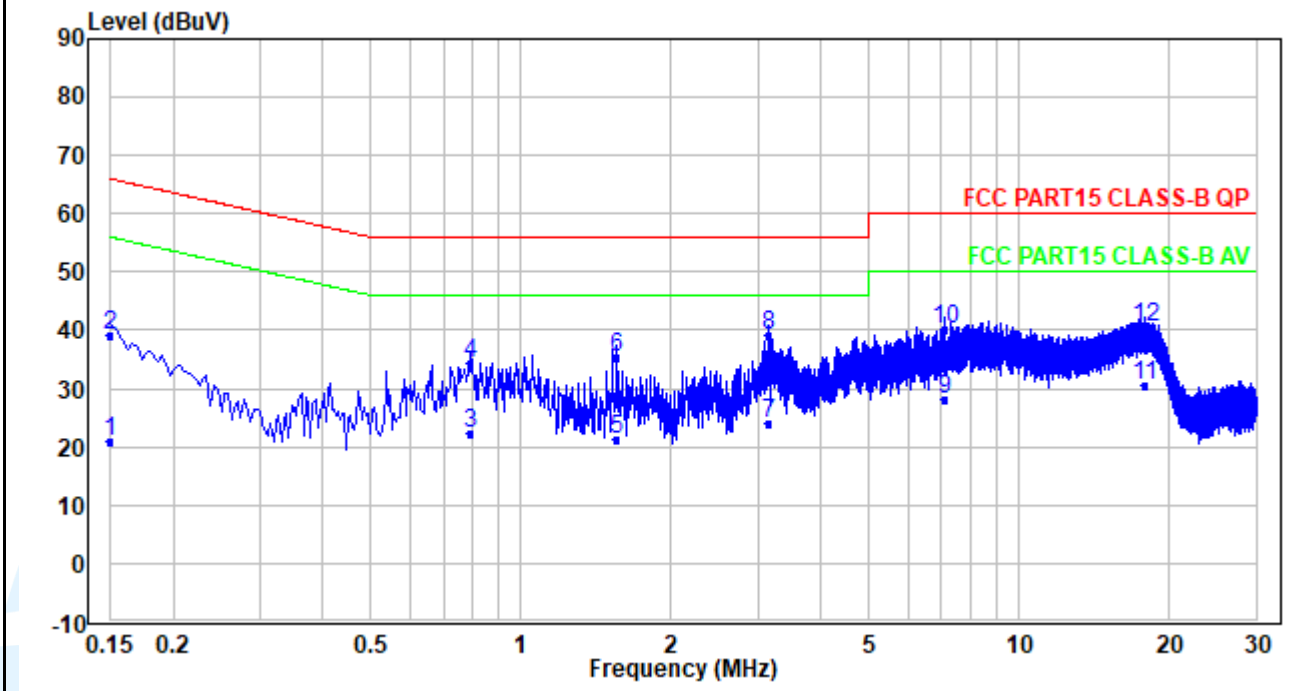
1) The Product was placed on a nonconductive table 0.8 m above the horizontal ground reference plane, and 0.4 m from the vertical ground reference plane, and connected to the main through Line Impedance Stability Network (L.I.S.N).
2) The RBW of the receiver was set at 9 kHz in 150 kHz ~ 30MHz with Peak and AVG detector in Max Hold mode. Run the receiver's pre-scan to record the maximum disturbance generated from Product in all power lines in the full band.
3) For each frequency whose maximum record was higher or close to limit, measure its QP and AVG values and record.

Equipment Used: Refer to section 3 for details.

Test Result: Pass

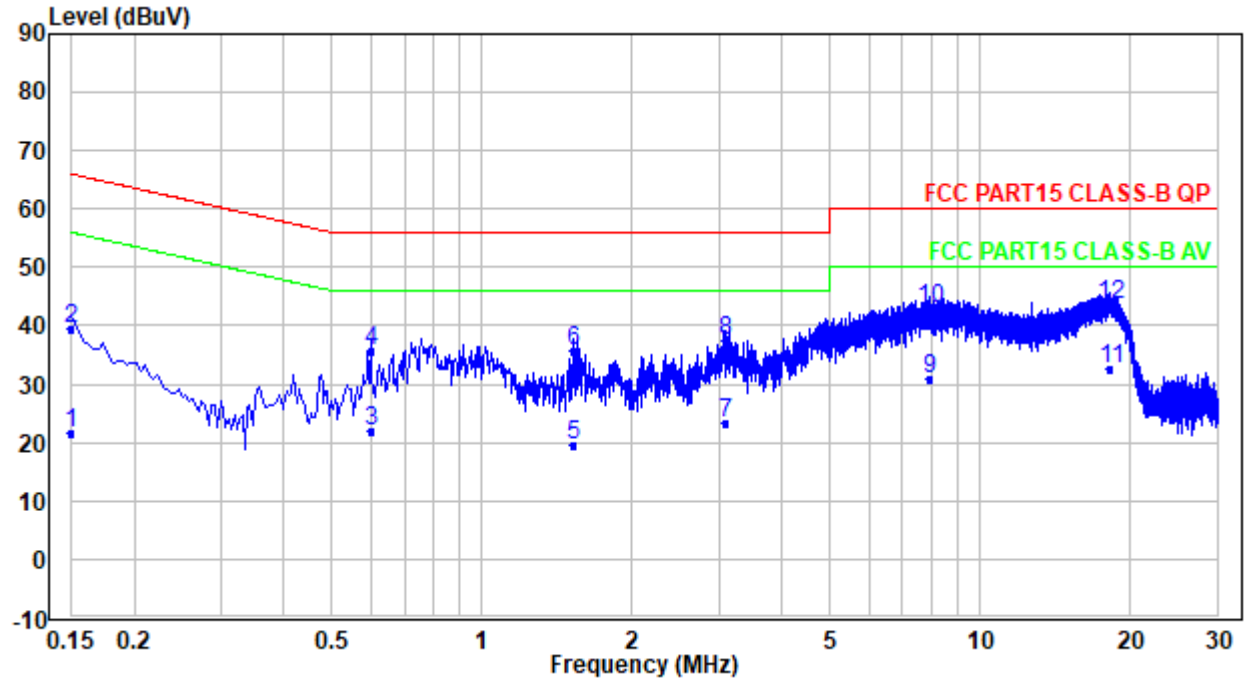
The worst measurement data as follows:
Quasi Peak and Average:
Test Mode 1: phone call & adapter powered

Live Line



No.	Frequency (MHz)	Reading (dBµV)	Correction factor (dB)	Result (dBµV)	Limit (dBµV)	Margin (dB)	Detector
1	0.150	11.00	10.03	21.03	56.00	-34.97	Average
2	0.150	29.00	10.03	39.03	66.00	-26.97	QP
3	0.794	12.33	10.05	22.38	46.00	-23.62	Average
4	0.794	24.33	10.05	34.38	56.00	-21.62	QP
5	1.562	11.17	10.11	21.28	46.00	-24.72	Average
6	1.562	25.17	10.11	35.28	56.00	-20.72	QP
7	3.142	13.76	10.21	23.97	46.00	-22.03	Average
8	3.142	28.76	10.21	38.97	56.00	-17.03	QP
9	7.106	17.68	10.43	28.11	50.00	-21.89	Average
10	7.106	29.68	10.43	40.11	60.00	-19.89	QP
11	17.905	19.28	11.11	30.39	50.00	-19.61	Average
12	17.905	29.28	11.11	40.39	60.00	-19.61	QP

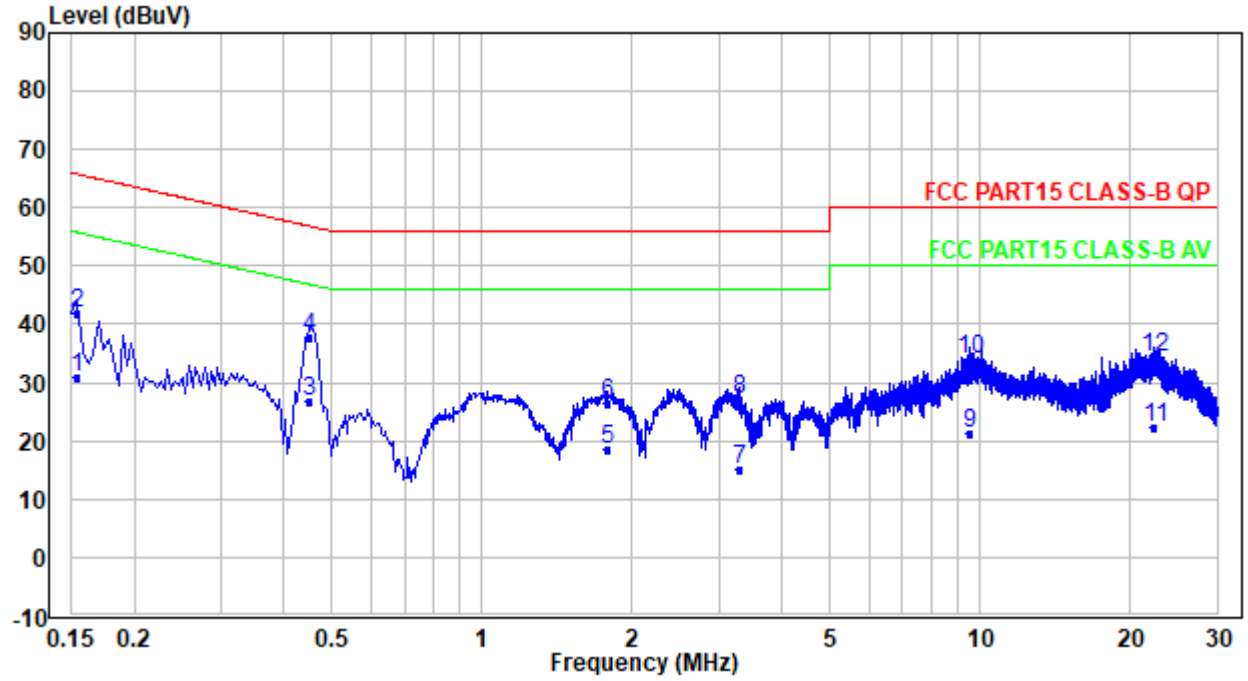
Neutral Line



No.	Frequency (MHz)	Reading (dBμV)	Correction factor (dB)	Result (dBμV)	Limit (dBμV)	Margin (dB)	Detector
1	0.150	11.45	10.02	21.47	56.00	-34.53	Average
2	0.150	29.45	10.02	39.47	66.00	-26.53	QP
3	0.598	11.82	10.03	21.85	46.00	-24.15	Average
4	0.598	25.82	10.03	35.85	56.00	-20.15	QP
5	1.522	9.55	10.07	19.62	46.00	-26.38	Average
6	1.522	25.55	10.07	35.62	56.00	-20.38	QP
7	3.094	13.12	10.19	23.31	46.00	-22.69	Average
8	3.094	27.12	10.19	37.31	56.00	-18.69	QP
9	7.941	20.56	10.43	30.99	50.00	-19.01	Average
10	7.941	32.56	10.43	42.99	60.00	-17.01	QP
11	18.341	21.61	11.04	32.65	50.00	-17.35	Average
12	18.341	32.61	11.04	43.65	60.00	-16.35	QP

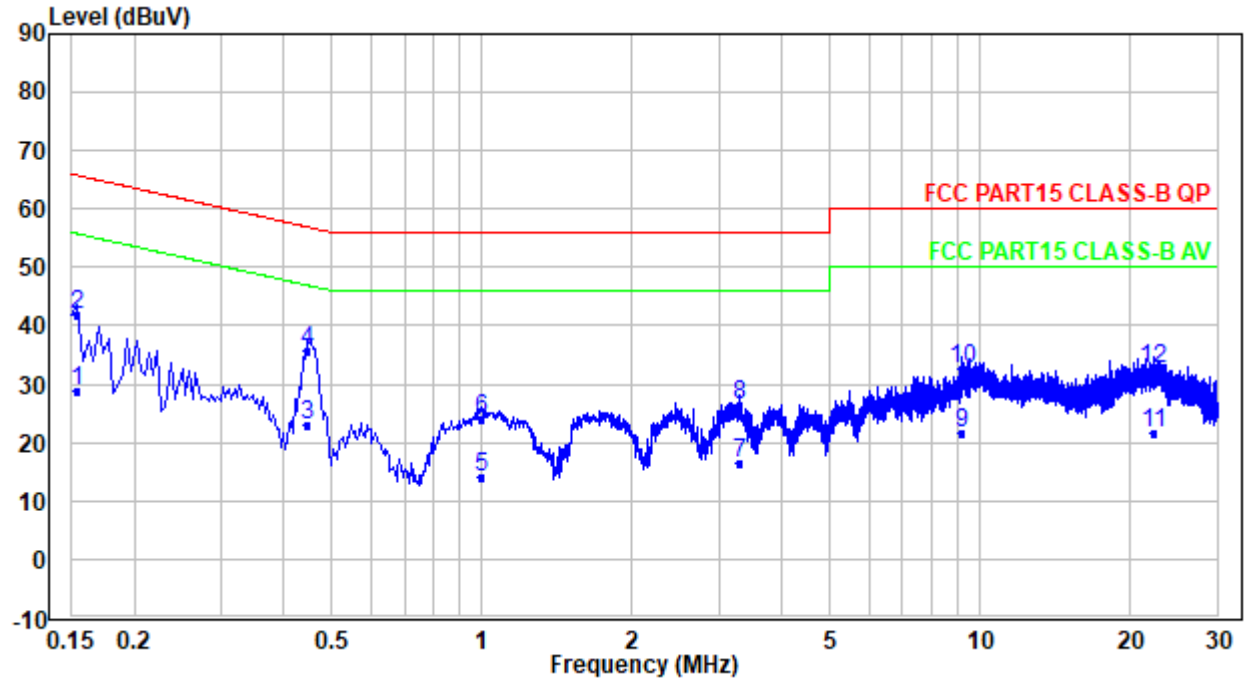
Quasi Peak and Average:
Test Mode 2: phone call & PoE powered

Live Line



No.	Frequency (MHz)	Reading (dBµV)	Correction factor (dB)	Result (dBµV)	Limit (dBµV)	Margin (dB)	Detector
1	0.154	20.91	10.03	30.94	55.78	-24.84	Average
2	0.154	31.91	10.03	41.94	65.78	-23.84	QP
3	0.450	16.57	10.04	26.61	46.88	-20.27	Average
4	0.450	27.57	10.04	37.61	56.88	-19.27	QP
5	1.786	8.45	10.11	18.56	46.00	-27.44	Average
6	1.786	16.45	10.11	26.56	56.00	-29.44	QP
7	3.294	4.99	10.21	15.20	46.00	-30.80	Average
8	3.294	16.99	10.21	27.20	56.00	-28.80	QP
9	9.549	10.60	10.53	21.13	50.00	-28.87	Average
10	9.549	23.60	10.53	34.13	60.00	-25.87	QP
11	22.465	10.84	11.36	22.20	50.00	-27.80	Average
12	22.465	22.84	11.36	34.20	60.00	-25.80	QP

Neutral Line



No.	Frequency (MHz)	Reading (dBµV)	Correction factor (dB)	Result (dBµV)	Limit (dBµV)	Margin (dB)	Detector
1	0.154	18.74	10.02	28.76	55.78	-27.02	Average
2	0.154	31.74	10.02	41.76	65.78	-24.02	QP
3	0.446	12.82	10.02	22.84	46.95	-24.11	Average
4	0.446	25.82	10.02	35.84	56.95	-21.11	QP
5	0.994	3.91	10.05	13.96	46.00	-32.04	Average
6	0.994	13.91	10.05	23.96	56.00	-32.04	QP
7	3.294	6.12	10.20	16.32	46.00	-29.68	Average
8	3.294	16.12	10.20	26.32	56.00	-29.68	QP
9	9.229	11.05	10.46	21.51	50.00	-28.49	Average
10	9.229	22.05	10.46	32.51	60.00	-27.49	QP
11	22.301	10.37	11.25	21.62	50.00	-28.38	Average
12	22.301	21.37	11.25	32.62	60.00	-27.38	QP

Remark:

1. Correct Factor = LISN Factor + Cable Loss + Pulse Limiter Factor, the value was added to Original Receiver Reading by the software automatically.
2. Result = Reading + Correct Factor.
3. Margin = Result - Limit
4. An initial pre-scan was performed on the Phase and neutral lines with peak detector. Quasi-Peak and Average measurement were performed at the frequencies with maximized peak emission were detected.

APPENDIX 1 PHOTOS OF TEST SETUP

See test photos attached in Appendix 1 for the actual connections between Product and support equipment.

APPENDIX 2 PHOTOS OF EUT CONSTRUCTIONAL DETAILS

Refer to Appendix 2 for EUT external and internal photos.

*** End of Report ***