FCC Test Report

Report No.:	FC170508D01
FCC ID:	2ALJ3AP27X
Test Model:	AP271
Received Date:	May 8, 2017
Test Date:	Jun. 1 ~ 2, 2017
Issued Date:	Nov. 16, 2017
Applicant:	HAN Networks Co., Ltd.
Address:	5/F, Building 37, No.8 Dongbeiwang West Road, HaiDian District, Beijing, China
Issued By:	Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch
Lab Address:	No. 47-2, 14th Ling, Chia Pau Vil., Lin Kou Dist., New Taipei City, Taiwan (R.O.C.)
FCC Registration / Designation Number:	418586 / TW1078

A2LA ACCREDITED Certificate #4327.01

ilac-MRA

TAF Testing Laboratory 2021

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Release Control Record

Issue No.	Description	Date Issued
FC170508D01	Original release.	Nov. 16, 2017

1 Certificate of Conformity

Product:	HAN Access Point
Brand:	HAN
Test Model:	AP271
Sample Status:	Engineering sample
Applicant:	HAN Networks Co., Ltd.
Test Date:	Jun. 1 ~ 2, 2017
Standards:	47 CFR FCC Part 15, Subpart B, Class A ICES-003:2016 Issue 6, Class A ANSI C63.4:2014

The above equipment has been tested by **Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch**, and found compliance with the requirement of the above standards. The test record, data evaluation & Equipment Under Test (EUT) configurations represented herein are true and accurate accounts of the measurements of the sample's EMC characteristics under the conditions specified in this report.

Prepared by : Annie Chang , **Date:** Nov. 16, 2017

Annie Chang / Senior Specialist

Approved by : Henry Lai , **Date:** Nov. 16, 2017

Henry Lai / Director

2 Summary of Test Results

47 CFR FCC Part 15, Subpart B / ICES-003:2016 Issue 6, Class A

ANSI C63.4:2014

FCC Clause	ICES-003 Clause	Test Item	Result/Remarks	Verdict
15.107	6.1	AC Power Line Conducted Emissions	Minimum passing Class A margin is -23.76 dB at 0.52102 MHz	Pass
15.109	6.2.1	Radiated Emissions up to 1 GHz	Minimum passing Class A margin is -9.21 dB at 125.02 MHz	Pass
	6.2.2	Radiated Emissions above 1 GHz	Minimum passing Class A margin is -25.74 dB at 3474.73 MHz	Pass

Note: There is no deviation to the applied test methods and requirements covered by the scope of this report.

2.1 Measurement Uncertainty

Where relevant, the following measurement uncertainty levels have been estimated for tests performed on the EUT:

The listed uncertainties are the worst case uncertainty for the entire range of measurement. Please note that the uncertainty values are provided for informational purposes only and are not used in determining the PASS/FAIL results.

Measurement	Frequency	Expanded Uncertainty (k=2) (±)
Conducted Emissions at mains ports	150kHz ~ 30MHz	2.77 dB
Radiated Emissions up to 1 GHz	30MHz ~ 1GHz	3.99 dB
Radiated Emissions above 1 GHz	1GHz ~ 6GHz	4.97 dB
	6GHz ~ 18GHz	5.13 dB

2.2 Modification Record

There were no modifications required for compliance.

3 General Information

3.1 Features of EUT

The tests reported herein were performed according to the method specified by HAN Networks Co., Ltd., for detailed feature description, please refer to the manufacturer's specifications or user's manual.

3.2 General Description of EUT

Product	HAN Access Point
Brand	HAN
Test Model	AP271
Sample Status	Engineering sample
Operating Software	N/A
Power Supply Rating	48Vdc from PoE
Accessory Device	PoE
Data Cable Supplied	N/A

Note:

1. The EUT is a HAN Access Point with the following interfaces:
   - ✧ LAN (10/100/1000Mbps)
   - ✧ PoE LAN (10/100/1000Mbps)
   - ✧ Console
   - ✧ GND

2. The EUT uses following PoE.

Brand	Model No.	Specification
Microsemi	PD-3501G/AC	AC I/P: 100-240V, 50/60Hz, 0.43A DC O/P: 48V, 0.35A

3.3 Operating Modes of EUT and Determination of Worst Case Operating Mode

1. The EUT has been pre-tested under following test modes, and **Pre-test mode 1** was the worst case.

Pre-tested mode		**1**	**2**	**3**	**4**
Power Supply	PoE	V	V	V	V
LAN Speed	1000Mbps	V	V		
	100Mbps			V	
	10Mbps				V
The position of EUT	Horizontal		V		
	Vertical	V		V	V

2. Test modes are presented in the report as below.

Mode	Test Condition	Input Power
Conducted emission test		
1	WiFi Link, Ping+TfGen, LAN Speed: 1000Mbps	PoE (120Vac, 60Hz)
Radiated emission test		
1	WiFi Link, Ping+TfGen, LAN Speed: 1000Mbps	PoE (48Vdc)

3.4 Test Program Used and Operation Descriptions

a. Turned on the power of all equipment.

b. Prepared notebooks to act as communication partners and placed them outside of testing area.

c. The communication partner sent data to EUT by command “TfGen” + “Ping” via LAN & WLAN.

d. The notebook read and wrote messages to another notebook via EUT.

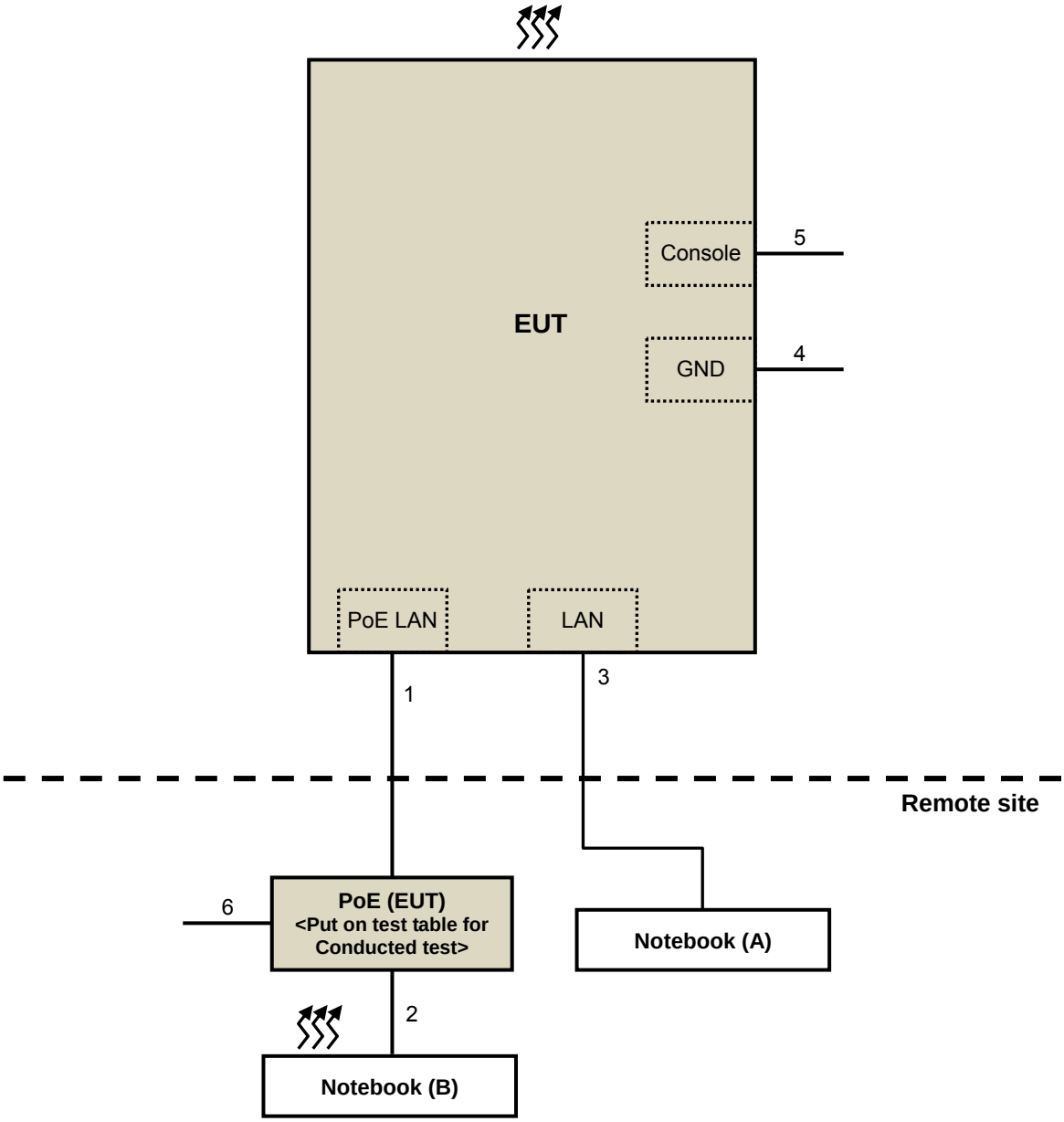
e. Steps c-d were repeated.

3.5 Primary Clock Frequencies of Internal Source

The highest frequency generated or used within the EUT or on which the EUT operates or tunes is 6GHz, provided by HAN Networks Co., Ltd., for detailed internal source, please refer to the manufacturer's specifications.

4 Configuration and Connections with EUT

4.1 Connection Diagram of EUT and Peripheral Devices



4.2 Configuration of Peripheral Devices and Cable Connections

ID	Product	Brand	Model No.	Serial No.	FCC ID	Remarks
A.	Notebook PC	ASUS	PU401L	ECNXBC012528528	FCC DoC Approved	Provided by Lab
B.	Notebook PC	SONY	SVS151A12P	275548477001024	FCC DoC Approved	Provided by Lab

Note:
1. All power cords of the above support units are non-shielded (1.8m).
2. Items A-B acted as communication partners to transfer data.

ID	Descriptions	Qty.	Length (m)	Shielding (Yes/No)	Cores (Qty.)	Remarks
1.	LAN cable	1	10	N	0	Provided by Lab
2.	LAN cable	1	1.5	N	0	Provided by Lab
3.	LAN cable	1	10	N	0	Provided by Lab
4.	GND cable	1	1.2	N	0	Provided by Lab
5.	USB cable	1	1.5	Y	0	Provided by Lab
6.	AC Power Cord	1	1.8	N	0	Provided by Lab

Note: The core(s) is(are) originally attached to the cable(s).

5 Conducted Emissions at Mains Ports

5.1 Limits

Frequency (MHz)	Class A (dBuV)		Class B (dBuV)	
	Quasi-peak	Average	Quasi-peak	Average
0.15 - 0.5	79	66	66 - 56	56 - 46
0.50 - 5.0	73	60	56	46
5.0 - 30.0	73	60	60	50

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

5.2 Test Instruments

Description & Manufacturer	Model No.	Serial No.	Cal. Date	Cal. Due
ROHDE & SCHWARZ TEST RECEIVER	ESCS 30	838251/021	Oct. 24, 2016	Oct. 23, 2017
ROHDE & SCHWARZ Artificial Mains Network (For EUT)	ENV216	101195	May 02, 2017	May 01, 2018
LISN With Adapter (for EUT)	AD10	C03Ada-002	May 02, 2017	May 01, 2018
EMCO L.I.S.N. (For peripherals)	3825/2	9504-2359	Jul. 25, 2016	Jul. 24, 2017
SCHWARZBECK Artificial Mains Network (For EUT)	NNLK8129	8129229	May 09, 2017	May 08, 2018
Software	Cond_V7.3.7.4	NA	NA	NA
RF cable (JYEBAO) With10dB PAD	5D-FB	Cable-C03.01	Sep. 22, 2016	Sep. 21, 2017
LYNICS Terminator (For EMCO LISN)	0900510	E1-01-300	Jan. 18, 2017	Jan. 17, 2018
LYNICS Terminator (For EMCO LISN)	0900510	E1-01-301	Jan. 18, 2017	Jan. 17, 2018
ROHDE & SCHWARZ Artificial Mains Network (For TV EUT)	ESH3-Z5	100220	Nov. 08, 2016	Nov. 07, 2017
LISN With Adapter (for TV EUT)	100220	N/A	Nov. 08, 2016	Nov. 07, 2017

Notes: 1. The calibration interval of the above test instruments is 12 months and the calibrations are traceable to NML/ROC and NIST/USA.
2. The test was performed in Shielded Room No. 3.
3. The VCCI Site Registration No. C-10274.
4. Tested Date: Jun. 6, 2017

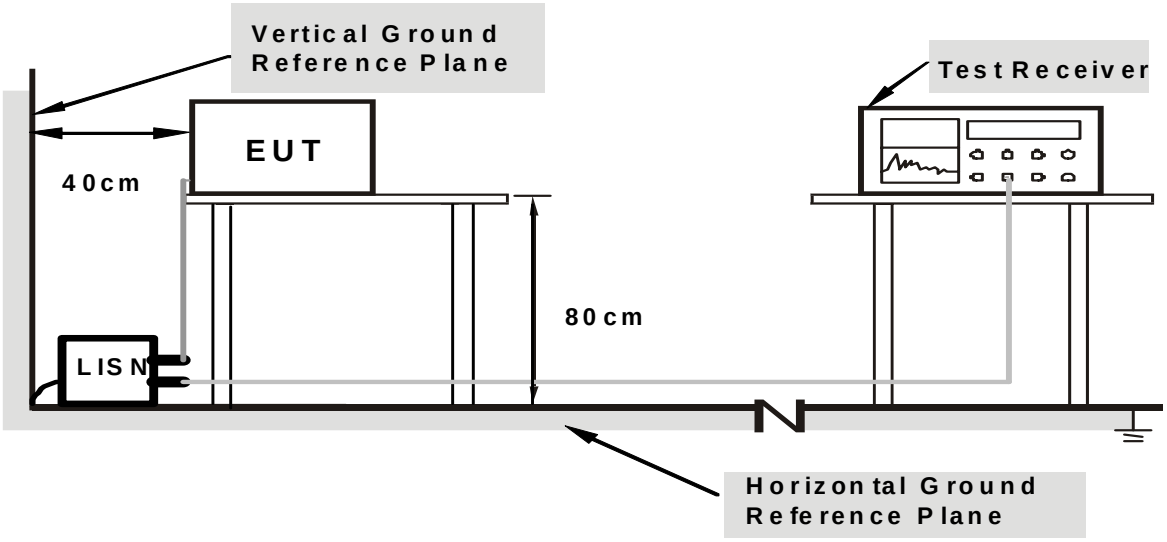
5.3 Test Arrangement

a. The EUT was placed 0.4 meters from the conducting wall of the shielded room with EUT being connected to the power mains through a line impedance stabilization network (LISN). Other support units were connected to the power mains through another LISN. The two LISNs provide 50 Ohm/ 50uH of coupling impedance for the measuring instrument.

b. Both lines of the power mains connected to the EUT were checked for maximum conducted interference.

c. The test results of conducted emissions at mains ports are recorded of six worst margins for quasi-peak (mandatory) [and average (if necessary)] values against the limits at frequencies of interest unless the margin is 20 dB or greater.

Note: The resolution bandwidth and video bandwidth of test receiver is 9kHz for quasi-peak detection (QP) and average detection (AV) at frequency 0.15MHz-30MHz.



Note: Support units were connected to second LISN.

For the actual test configuration, please refer to the related item – Photographs of the Test Configuration.

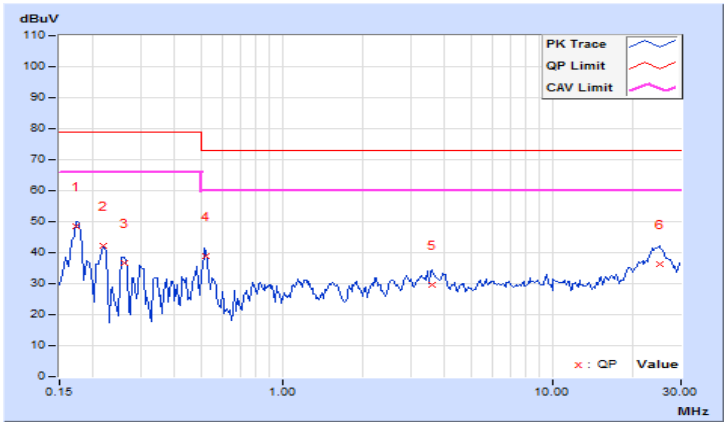
5.4 Test Results

Frequency Range	150kHz ~ 30MHz	**Detector Function & Resolution Bandwidth**	Quasi-Peak (QP) / Average (AV), 9kHz
Input Power	120Vac, 60Hz (PoE)	**Environmental Conditions**	24℃, 77%RH
Tested by	Adam Chen		
Test Mode	Mode 1		

Phase Of Power : Line (L)										
No	**Frequency (MHz)**	**Correction Factor (dB)**	**Reading Value (dBuV)**		**Emission Level (dBuV)**		**Limit (dBuV)**		**Margin (dB)**	
			Q.P.	**AV.**	**Q.P.**	**AV.**	**Q.P.**	**AV.**	**Q.P.**	**AV.**
1	0.17344	9.56	38.82	29.51	48.38	39.07	79.00	66.00	-30.62	-26.93
2	0.21641	9.57	32.79	23.11	42.36	32.68	79.00	66.00	-36.64	-33.32
3	0.25936	9.57	27.08	17.92	36.65	27.49	79.00	66.00	-42.35	-38.51
4	**0.52102**	**9.57**	**29.42**	**26.67**	**38.99**	**36.24**	**73.00**	**60.00**	**-34.01**	**-23.76**
5	3.58597	9.64	19.96	12.95	29.60	22.59	73.00	60.00	-43.40	-37.41
6	24.92188	9.89	26.45	20.83	36.34	30.72	73.00	60.00	-36.66	-29.28

Remarks:

1. Q.P. and AV. are abbreviations of quasi-peak and average individually.
2. The emission levels of other frequencies were very low against the limit.
3. Margin value = Emission level – Limit value
4. Correction factor = Insertion loss + Cable loss
5. Emission Level = Correction Factor + Reading Value

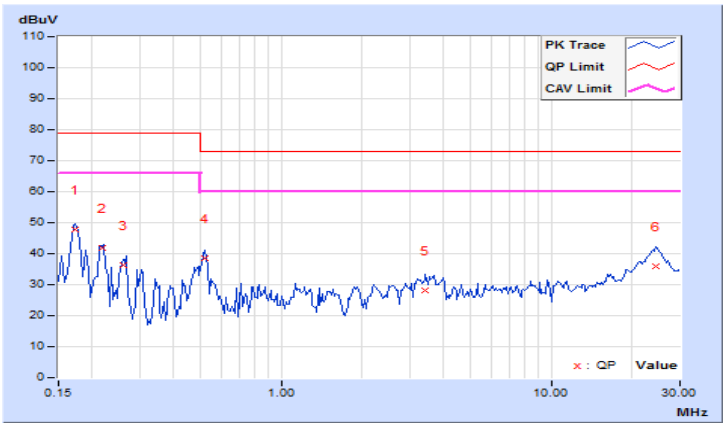


Frequency Range	150kHz ~ 30MHz	**Detector Function & Resolution Bandwidth**	Quasi-Peak (QP) / Average (AV), 9kHz
Input Power	120Vac, 60Hz (PoE)	**Environmental Conditions**	24℃, 77%RH
Tested by	Adam Chen		
Test Mode	Mode 1		

Phase Of Power : Neutral (N)										
No	**Frequency (MHz)**	**Correction Factor (dB)**	**Reading Value (dBuV)**		**Emission Level (dBuV)**		**Limit (dBuV)**		**Margin (dB)**	
			Q.P.	**AV.**	**Q.P.**	**AV.**	**Q.P.**	**AV.**	**Q.P.**	**AV.**
1	0.17355	9.72	38.24	28.75	47.96	38.47	79.00	66.00	-31.04	-27.53
2	0.21649	9.73	32.21	21.96	41.94	31.69	79.00	66.00	-37.06	-34.31
3	0.26082	9.73	26.55	16.43	36.28	26.16	79.00	66.00	-42.72	-39.84
4	0.52364	9.74	28.67	26.16	38.41	35.90	73.00	60.00	-34.59	-24.10
5	3.43371	9.80	18.19	13.61	27.99	23.41	73.00	60.00	-45.01	-36.59
6	24.53906	10.15	25.84	20.57	35.99	30.72	73.00	60.00	-37.01	-29.28

Remarks:

1. Q.P. and AV. are abbreviations of quasi-peak and average individually.
2. The emission levels of other frequencies were very low against the limit.
3. Margin value = Emission level – Limit value
4. Correction factor = Insertion loss + Cable loss
5. Emission Level = Correction Factor + Reading Value



6 Radiated Emissions up to 1 GHz

6.1 Limits

Emissions radiated outside of the specified bands, shall be according to the general radiated limits as following:

Radiated Emissions Limits at 10 meters (dBμV/m)				
Frequencies (MHz)	FCC 15B / ICES-003, Class A	FCC 15B / ICES-003, Class B	CISPR 22, Class A	CISPR 22, Class B
30-88	39	29.5	40	30
88-216	43.5	33.1		
216-230	46.4	35.6		
230-960			47	37
960-1000	49.5	43.5		

Radiated Emissions Limits at 3 meters (dBμV/m)				
Frequencies (MHz)	FCC 15B / ICES-003, Class A	FCC 15B / ICES-003, Class B	CISPR 22, Class A	CISPR 22, Class B
30-88	49.5	40	50.5	40.5
88-216	54	43.5		
216-230	56.9	46		
230-960			57.5	47.5
960-1000	60	54		

Notes: 1. The lower limit shall apply at the transition frequencies.
2. Emission level (dBuV/m) = 20 log Emission level (uV/m).
3. QP detector shall be applied if not specified.

6.2 Test Instruments

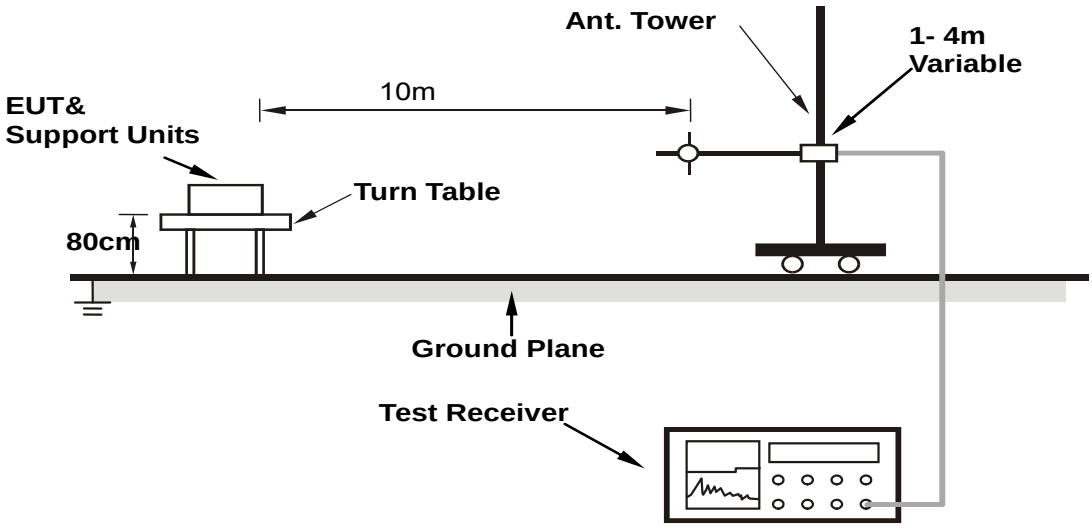
Description & Manufacturer	Model No.	Serial No.	Cal. Date	Cal. Due
ROHDE & SCHWARZ TEST RECEIVER	ESCS 30	845552/004	Sep. 19, 2016	Sep. 18, 2017
Schaffner Bilog Antenna	CBL6111D	22262	Dec. 28, 2016	Dec. 27, 2017
Agilent Preamplifier	8447D	2944A08119	Feb. 21, 2017	Feb. 20, 2018
ADT. Turn Table	TT100	0205	NA	NA
ADT. Tower	AT100	0205	NA	NA
Software	Radiated_V7.6.15.9.5	NA	NA	NA
ADT RF Switches BOX	EMH-011	1001	Oct. 28, 2016	Oct. 27, 2017
Pacific RF cable With 5dB PAD	8D	CABLE-ST2-01	Oct. 28, 2016	Oct. 27, 2017

Notes: 1. The calibration interval of the above test instruments is 12 months and the calibrations are traceable to NML/ROC and NIST/USA.
2. The test was performed in Open Site No. 2.
3. The VCCI Site Registration No. R-237.
4. Tested Date: Jun. 1, 2017

6.3 Test Arrangement

a. The EUT was placed on the top of a rotating table 0.8 meters above the ground at an accredited test facility. The table was rotated 360 degrees to determine the position of the highest radiation.
b. The EUT was set 10 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.
c. The antenna is a broadband antenna, and its height is varied from one meter to four meters above the ground to determine the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna are set to make the measurement.
d. For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights from 1 meter to 4 meters and the rotatable table was turned from 0 degrees to 360 degrees to find the maximum reading.
e. The test-receiver system was set to quasi-peak detect function and specified bandwidth with maximum hold mode when the test frequency is up to 1 GHz.

Note: The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 120kHz for quasi-peak detection (QP) at frequency up to 1GHz.



For the actual test configuration, please refer to the related item – Photographs of the Test Configuration.

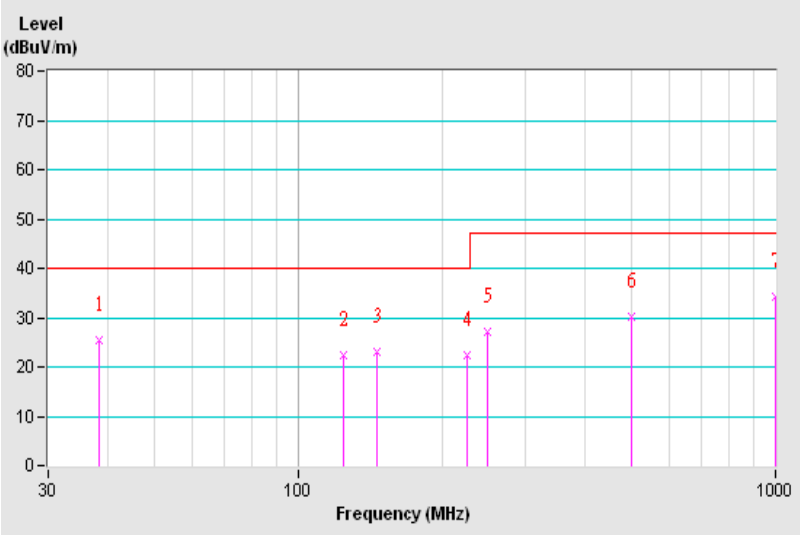
6.4 Test Results

Frequency Range	30MHz ~ 1GHz	Detector Function & Resolution Bandwidth	Quasi-Peak (QP), 120kHz
Input Power	48Vdc	Environmental Conditions	29℃, 70%RH
Tested by	Vincent Lin		
Test Mode	Mode 1		

Antenna Polarity & Test Distance : Horizontal at 10 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	38.27	25.47 QP	40.00	-14.53	4.00 H	164	35.38	-9.91
2	125.00	22.39 QP	40.00	-17.61	4.00 H	252	34.12	-11.73
3	146.44	22.97 QP	40.00	-17.03	4.00 H	311	34.98	-12.01
4	226.73	22.24 QP	40.00	-17.76	4.00 H	19	34.71	-12.47
5	250.00	27.18 QP	47.00	-19.82	4.00 H	312	36.89	-9.71
6	499.98	30.26 QP	47.00	-16.74	2.80 H	289	34.29	-4.03
7	1000.00	34.09 QP	47.00	-12.91	1.08 H	178	28.49	5.60

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor (dB/m) + Cable Factor (dB)
   – Pre-Amplifier Factor (dB)
3. The other emission levels were very low against the limit.
4. Margin value = Emission level – Limit value

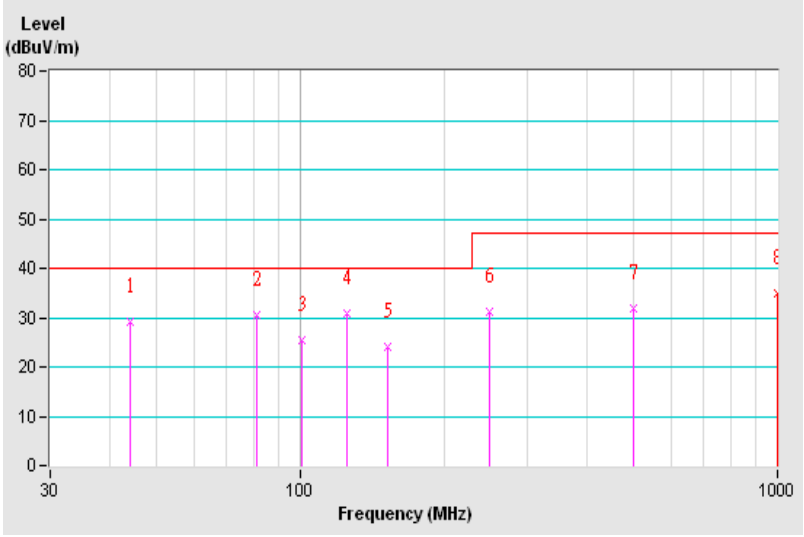


Frequency Range	30MHz ~ 1GHz	Detector Function & Resolution Bandwidth	Quasi-Peak (QP), 120kHz
Input Power	48Vdc	Environmental Conditions	29℃, 70%RH
Tested by	Vincent Lin		
Test Mode	Mode 1		

Antenna Polarity & Test Distance : Vertical at 10 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	44.06	29.30 QP	40.00	-10.70	1.00 V	279	42.66	-13.36
2	81.19	30.60 QP	40.00	-9.40	1.00 V	216	47.05	-16.45
3	100.95	25.30 QP	40.00	-14.70	1.00 V	1	38.86	-13.56
4	**125.02**	**30.79 QP**	**40.00**	**-9.21**	**1.00 V**	**300**	**42.52**	**-11.73**
5	152.64	24.08 QP	40.00	-15.92	1.00 V	219	36.37	-12.29
6	250.00	31.19 QP	47.00	-15.81	1.00 V	13	40.90	-9.71
7	500.00	31.70 QP	47.00	-15.30	2.05 V	298	35.73	-4.03
8	999.99	35.07 QP	47.00	-11.93	2.45 V	83	29.47	5.60

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor (dB/m) + Cable Factor (dB)
   – Pre-Amplifier Factor (dB)
3. The other emission levels were very low against the limit.
4. Margin value = Emission level – Limit value



7 Radiated Emissions above 1 GHz

7.1 Limits

Emissions radiated outside of the specified bands, shall be according to the general radiated limits as following:

Radiated Emissions Limits at 10 meters (dBμV/m)				
Frequencies (MHz)	FCC 15B / ICES-003, Class A	FCC 15B / ICES-003, Class B	CISPR 22, Class A	CISPR 22, Class B
1000-3000	Avg: 49.5 Peak: 69.5	Avg: 43.5 Peak: 63.5	Not defined	Not defined
Above 3000			Not defined	Not defined

Radiated Emissions Limits at 3 meters (dBμV/m)				
Frequencies (MHz)	FCC 15B / ICES-003, Class A	FCC 15B / ICES-003, Class B	CISPR 22, Class A	CISPR 22, Class B
1000-3000	Avg: 60 Peak: 80	Avg: 54 Peak: 74	Avg: 56 Peak: 76	Avg: 50 Peak: 70
Above 3000			Avg: 60 Peak: 80	Avg: 54 Peak: 74

Notes: 1. The lower limit shall apply at the transition frequencies.
2. Emission level (dBuV/m) = 20 log Emission level (uV/m).
3. As shown in 15.35(b), for frequencies above 1000MHz, 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 20dB under any condition of modulation.

Frequency Range (For unintentional radiators)

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 40GHz, whichever is lower

7.2 Test Instruments

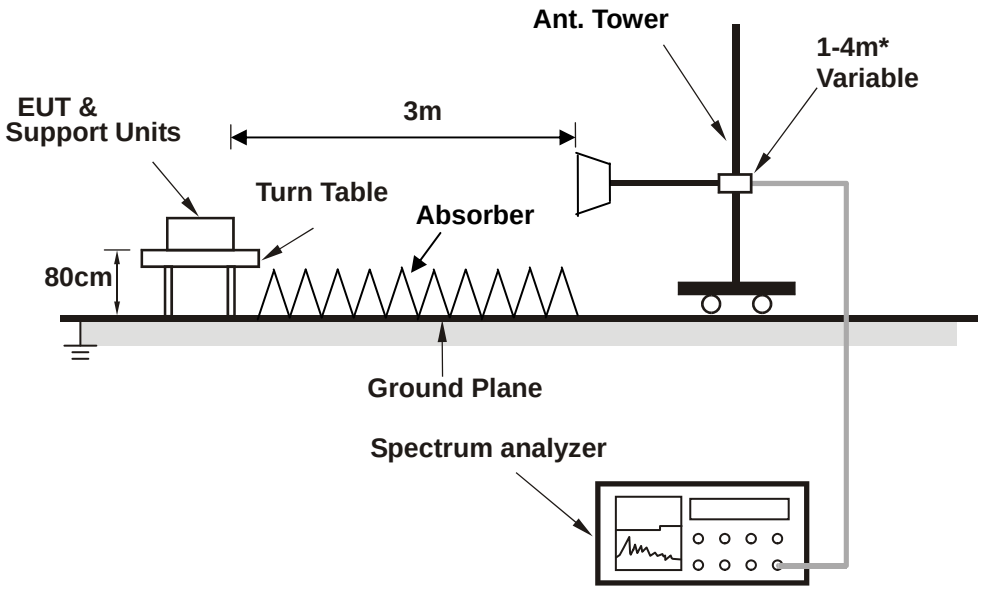
Description & Manufacturer	Model No.	Serial No.	Cal. Date	Cal. Due
Agilent Spectrum	E4446A	MY51100009	Jun. 01, 2017	May 31, 2018
Agilent Test Receiver	N9038A	MY51210137	Jul. 27, 2016	Jul. 26, 2017
Agilent Preamplifier	8449B	3008A01292	Feb. 22, 2017	Feb. 21, 2018
MITEQ Preamplifier	AMF-6F-260400-33-8P	892164	Feb. 21, 2017	Feb. 20, 2018
EMCI Preamplifier	EMC184045B	980235	Feb. 22, 2017	Feb. 21, 2018
Schwarzbeck Horn Antenna	BBHA-9170	212	Dec. 30, 2016	Dec. 29, 2017
EMCO Horn Antenna	3115	6714	Dec. 29, 2016	Dec. 28, 2017
Max Full. Turn Table	MF7802	MF780208216	NA	NA
Software	Radiated_V8.7.08	NA	NA	NA
SUHNER RF cable With 3dB PAD	SF102	Cable-CH10-3.6m	Aug. 15, 2016	Aug. 14, 2017

Notes: 1. The calibration interval of the above test instruments is 12 months and the calibrations are traceable to NML/ROC and NIST/USA.
2. The test was performed in Chamber No. 10.
3. The Industry Canada Reference No. IC 7450E-11.
4. The VCCI Site Registration No. G-10427
5. Tested Date: Jun. 1, 2017

7.3 Test Arrangement

a. The EUT was placed on the top of a rotating table 0.8 meters above the ground at an accredited chamber room. The table was rotated 360 degrees to determine the position of the highest radiation.
b. The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.
c. The height of antenna can be varied from one meter to four meters, the height of adjustment depends on the EUT height and the antenna 3dB beamwidth both, to detect the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna are set to make the measurement.
d. For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights and the rotatable table was turned from 0 degrees to 360 degrees to find the maximum reading.
e. The spectrum analyzer system was set to peak and average detect function and specified bandwidth with maximum hold mode when the test frequency is above 1 GHz.

Note: The resolution bandwidth of test receiver/spectrum analyzer is 1MHz and video bandwidth is 3MHz for Peak detection (PK) at frequency above 1GHz. The resolution bandwidth of test receiver/spectrum analyzer is 1 MHz for Average detection (AV) at frequency above 1GHz.



* :depends on the EUT height and the antenna 3dB beamwidth both.

For the actual test configuration, please refer to the related item – Photographs of the Test Configuration.

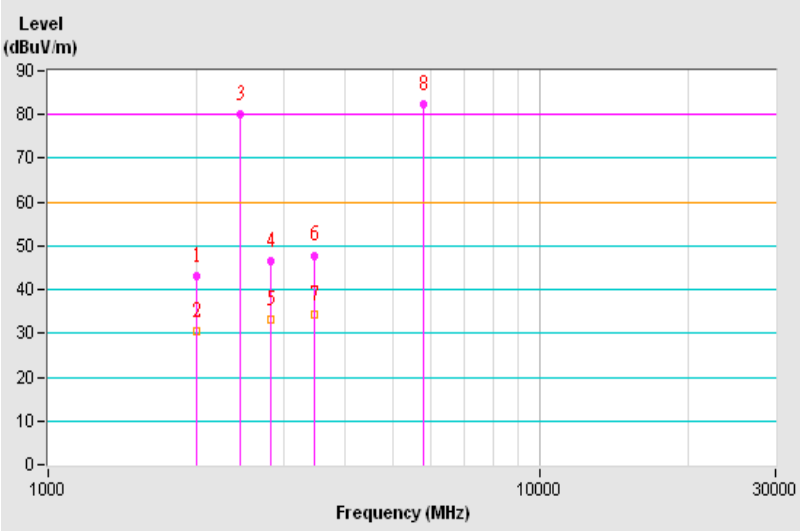
7.4 Test Results

Frequency Range	1GHz ~ 30GHz	Detector Function & Resolution Bandwidth	Peak (PK) / Average (AV), 1MHz
Input Power	48Vdc	Environmental Conditions	26℃, 74%RH
Tested by	Kobe Lu		
Test Mode	Mode 1		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	2005.55	43.16 PK	80.00	-36.84	1.47 H	138	44.27	-1.11
2	2005.55	30.42 AV	60.00	-29.58	1.47 H	138	31.53	-1.11
3	*2447.98	80.12 PK			1.50 H	28	79.77	0.35
4	2840.25	46.43 PK	80.00	-33.57	2.04 H	0	44.38	2.05
5	2840.25	33.31 AV	60.00	-26.69	2.04 H	0	31.26	2.05
6	3474.73	47.84 PK	80.00	-32.16	1.23 H	352	44.15	3.69
7	**3474.73**	**34.26 AV**	**60.00**	**-25.74**	**1.23 H**	**352**	**30.57**	**3.69**
8	**5774.88	82.35 PK			2.00 H	344	74.03	8.32

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor (dB/m) + Cable Factor (dB) – Pre-Amplifier Factor (dB)
3. The other emission levels were very low against the limit.
4. Margin value = Emission level – Limit value
5. "*": Wireless frequency, for 2.4GHz transmission.
6. "*": Wireless frequency, for 5GHz transmission.

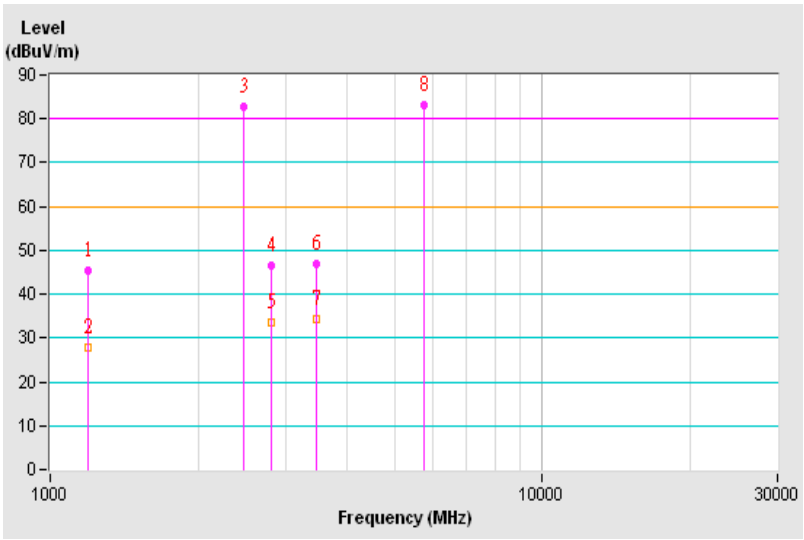


Frequency Range	1GHz ~ 30GHz	**Detector Function & Resolution Bandwidth**	Peak (PK) / Average (AV), 1MHz
Input Power	48Vdc	**Environmental Conditions**	26℃, 74%RH
Tested by	Kobe Lu		
Test Mode	Mode 1		

Antenna Polarity & Test Distance : Vertical at 3 m								
No	**Frequency (MHz)**	**Emission Level (dBuV/m)**	**Limit (dBuV/m)**	**Margin (dB)**	**Antenna Height (m)**	**Table Angle (Degree)**	**Raw Value (dBuV)**	**Correction Factor (dB/m)**
1	1196.82	45.49 PK	80.00	-34.51	1.49 V	219	49.61	-4.12
2	1196.82	27.79 AV	60.00	-32.21	1.49 V	219	31.91	-4.12
3	*2464.38	82.85 PK			2.00 V	348	82.45	0.40
4	2820.70	46.43 PK	80.00	-33.57	1.44 V	120	44.45	1.98
5	2820.70	33.68 AV	60.00	-26.32	1.44 V	120	31.70	1.98
6	3462.88	46.98 PK	80.00	-33.02	2.00 V	65	43.33	3.65
7	3462.88	34.21 AV	60.00	-25.79	2.00 V	65	30.56	3.65
8	**5749.38	83.13 PK			1.00 V	360	74.79	8.34

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor (dB/m) + Cable Factor (dB) – Pre-Amplifier Factor (dB)
3. The other emission levels were very low against the limit.
4. Margin value = Emission level – Limit value
5. "*": Wireless frequency, for 2.4GHz transmission.
6. "*": Wireless frequency, for 5GHz transmission.



8 Pictures of Test Arrangements

Please refer to the attached file (Test Setup Photo).

Appendix – Information on the Testing Laboratories

We, Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch, were founded in 1988 to provide our best service in EMC, Radio, Telecom and Safety consultation. Our laboratories are accredited and approved according to ISO/IEC 17025.

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The address and road map of all our labs can be found in our web site also.

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