FCC TEST REPORT

Test Standard : 47 CFR FCC Rules and Regulations Part 15 Subpart B, Class B Digital Device
ICES-003 Issue 6, Class B.

Filing Type : Certification

Equipment : airCube AC

Model No. : ACB-AC

FCC ID : SWX-ACBAC

Applicant : Ubiquiti Networks, Inc.
2580 Orchard Parkway San Jose, CA 95131

Manufacturer : Ubiquiti Networks, Inc.
2580 Orchard Parkway San Jose, CA 95131

Statement:

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Issued by : **SPORTON International Inc.**
No. 52, Huaya 1st Rd., Guishan Dist., Taoyuan City, Taiwan (R.O.C.)

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History of this test report

Report No.	Version	Issue Date	Description
FC740631	Rev.01	Jun. 21, 2017	Initial issue of report

Verification No. : FC740631

VERIFICATION OF COMPLIANCE

Test Standard : 47 CFR FCC Rules and Regulations Part 15 Subpart B, Class B Digital Device
ICES-003 Issue 6, Class B.

Equipment : airCube AC

Trade Name : UBIQUITI

Model No. : ACB-AC

FCC ID : SWX-ACBAC

Applicant : Ubiquiti Networks, Inc.
2580 Orchard Parkway San Jose, CA 95131

Received Date : Apr. 07, 2017

Final Tested Date : Jun. 08, 2017

I **HEREBY** CERTIFY THAT :

The measurements shown in this test report were made in accordance with the procedures given in **ANSI C63.4 - 2014** and the energy emitted by this equipment was ***passed*** **CISPR PUB. 22** and **FCC Part 15 Subpart B** and **Canada Standard ICES-003 Issue 6.** The equipment was ***passed*** the test performed according to above standard list.

William Li / Supervisor

SPORTON International Inc.

No. 52, Huaya 1st Rd., Guishan Dist., Taoyuan City, Taiwan (R.O.C.)

Summary of Test Result

Emission Tests and Conformance Test Specifications			
Report Clause	**Test items**	**Test Standard**	**Result**
4	Conducted Emissions of Powerline	ANSI C63.4:2014 with FCC Method 47 CFR Part 15, Subpart B, Class B Digital Device, CISPR PUB. 22 and Canada Standard ICES-003 Issue 6, Class B	Complied
5.1	Radiated Emissions below 1GHz		Complied
5.2	Radiated Emissions above 1GHz		Complied

1. General Description of Equipment under Test

1.1. Basic Description of Equipment under Test

Equipment : airCube AC
Model No. : ACB-AC
Power Supply Type : From Adapter
AC Power Cord : Wall-Mount, 2 pin
DC Power Cable : Non-Shielded, 2.04 m
The maximum operating frequency : 5 GHz

1.2. Feature of Equipment under Test

Accessories

Item	Brand	Model	Spec. Description
Adapter	UBIQUITI	GP-R240-083	Input: 100-240VAC, 0.5A Output: 24VDC, 0.83A

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

2. Test Configuration of Equipment under Test

2.1. Test Manner

The equipment under test were performed the following test modes:

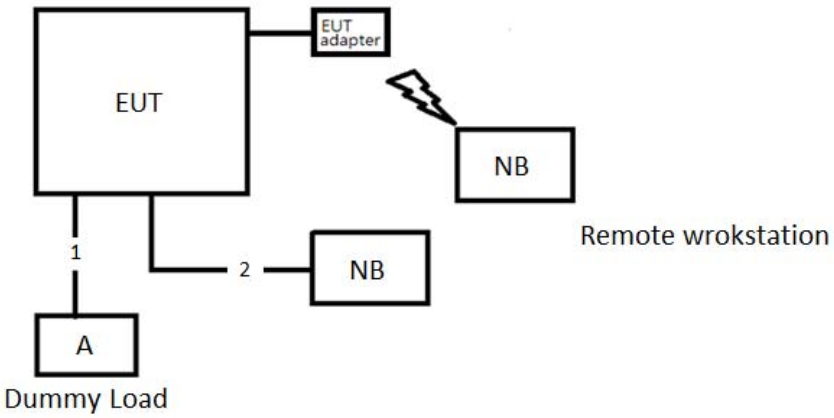
Test Items	Description of test modes
Conducted Emission	Mode 1. LAN 1Gbps, WiFi 2.4G Link, Adapter Mode 2. LAN 1Gbps, WiFi 5G Link, Adapter Mode 3. LAN 1Gbps, WiFi 2.4G Link, PoE Mode 4. LAN 1Gbps, WiFi 5G Link, PoE cause “mode 1” generated the worst test result; it was reported as final data.
Radiated Emissions <below 1GHz>	Mode 1. LAN 1Gbps, WiFi 2.4G Link, Adapter Mode 2. LAN 1Gbps, WiFi 5G Link, Adapter Mode 3. LAN 1Gbps, WiFi 2.4G Link, PoE Mode 4. LAN 1Gbps, WiFi 5G Link, PoE cause “mode 1” generated the worst test result; it was reported as final data.
Radiated Emissions <above 1GHz>	Mode 1. LAN 1Gbps, WiFi 2.4G Link, Adapter Mode 2. LAN 1Gbps, WiFi 5G Link, Adapter Mode 3. LAN 1Gbps, WiFi 2.4G Link, PoE Mode 4. LAN 1Gbps, WiFi 5G Link, PoE cause “mode 1” generated the worst test result; it was reported as final data.

2.2. Description of Test System

No.	Peripheral	Manufacturer	Model Number	FCC ID	Remarks
For Local					
A	Dummy Load	Ubiquiti	-	-	-
For Remote					
-	Notebook	DELL	Vostro 3350	-	-
-	Notebook	DELL	Latitude E5540	-	-

2.3. Connection Diagram of Test System

Test Setup Diagram



No.	Types of Cables	Shielding on Cable	Length (m)	Remarks
1	RJ45 Cable	Non-Shielded	1	x3
2	RJ45 Cable	Non-Shielded	10	Remote

2.4. Test Software

During the test, the following programs were executed under WIN 7 from remote workstation:

- Executed "Ping.exe" to link with the EUT to maintain the connection by RJ45 cable.
- Executed "Ping.exe" to link with the EUT to maintain the connection via WiFi.

3. General Information of Test

3.1. Test Facilities

Test Site：SPORTON INTERNATIONAL INC.		
☒	HUA YA	ADD : No. 52, Huaya 1st Rd., Guishan Dist., Taoyuan City, Taiwan (R.O.C.) TEL : 886-3-327-3456 FAX : 886-3-318-0055
☐	DONG HU	ADD : No. 3, Ln. 238, Kangle St., Neihu Dist., Taipei City, Taiwan (R.O.C.) TEL : 886-2-2631-5551 FAX : 886-2-2631-9740
☐	LIN KOU	ADD : No. 30-2, Dingfu Vil., Linkou Dist., New Taipei City, Taiwan (R.O.C.) TEL : 886-2-2601-1640 FAX : 886-2-2601-1695

Test Items	Test Site No.	Test Engineer	Test Environment		Test Date	Remark
			temp °C	hum %		
Conducted Emissions of Powerline	CO04-HY	Teddy	23	57	Jun. 08, 2017	-
Radiated Emissions below 1GHz	10CH01-HY	Teddy	25	60	Jun. 06, 2017	-
Radiated Emissions above 1GHz	03CH01-HY	Teddy	25	58	Jun. 06, 2017	-

3.2. Test Standards

Test items	Test Standards and Test Procedures
Radiated and Conducted Emissions	ANSI C63.4:2014 with FCC Method 47 CFR Part 15, Subpart B, Class B Digital Device, CISPR PUB. 22 and Canada Standard ICES-003 Issue 6, Class B

3.3. Test Voltage/Frequencies

Power Supply Type	Voltage/Frequencies
AC Power Supply	120V / 60Hz

3.4. Test Distance and Frequency Range Investigated

Test Items	Frequency Range	Remark
Powerline Conducted Emissions	150 kHz to 30 MHz	-
Radiated Emissions (below 1GHz)	30 MHz to 1,000 MHz	Measurement distance is 10 m.
Radiated Emissions (above 1GHz)	1,000 MHz to 18,000 MHz	Measurement distance is 3 m.
	18,000 MHz to 30,000 MHz	Measurement distance is 1 m.

3.5. Operating Condition

- Full system.

3.6. Labelling requirements

3.6.1. FCC Labelling requirements

The devices shall bear the following statement in a conspicuous location on the device:

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

3.6.2. ICES Labelling requirements

The manufacturer, importer or supplier shall meet the labelling requirements set out in this section and in Notice 2014-DRS1003 for electronic labelling for every unit:

(i) prior to marketing in Canada, for ITE manufactured in Canada and
(ii) prior to importation into Canada, for imported ITE.

Each unit of an ITE model shall bear a label (see below) that represents the manufacturer's or the importer's SDoC with Innovation, Science and Economic Development Canada's ICES-003. This label shall be permanently affixed to the ITE or displayed electronically and its text must be clearly legible. If the dimensions of the device are too small or if it is not practical to place the label on the ITE and electronic labelling has not been implemented, the label shall be, upon agreement with Innovation, Science and Economic Development Canada, placed in a prominent location in the user manual supplied with the ITE. The user manual may be in an electronic format and must be readily available.

Innovation, Science and Economic Development Canada ICES-003 Compliance Label:
CAN ICES-3 (*)/NMB-3(*)
* Insert either "A" or "B" but not both to identify the applicable Class of ITE.

3.7. User Information

The users manual or instruction manual for an intentional or unintentional radiator shall caution the user that changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

For a Class B digital device or peripheral, the instructions furnished the user shall include the following or similar statement, placed in a prominent location in the text of the manual:

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation.

This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation.

If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:
—Reorient or relocate the receiving antenna.
—Increase the separation between the equipment and receiver.
—Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
—Consult the dealer or an experienced radio/TV technician for help.

4. Conducted Emissions Measurement

Conducted Emissions were measured according to the methods defined in ANSI C63.4-2014 Section 7.
The EUT is which satisfies the Class B disturbance limits.

4.1. Limit

Limits for conducted disturbance at the mains ports of class B			
Frequency range MHz	**Coupling device**	**Detector type / bandwidth**	**Class B limits** dB(μV)
0,15 – 0,5	AMN	Quasi-peak / 9 kHz	66 - 56
0,5 – 5			56
5 – 30			60
0,15 – 0,5	AMN	Average / 9 kHz	56 - 46
0,5 – 5			46
5 – 30			50
Note 1: The lower limit shall apply at the transition frequencies. Note 2: The limit decreases linearly with the logarithm of the frequency in the range 0.15 MHz to 0.50 MHz.			

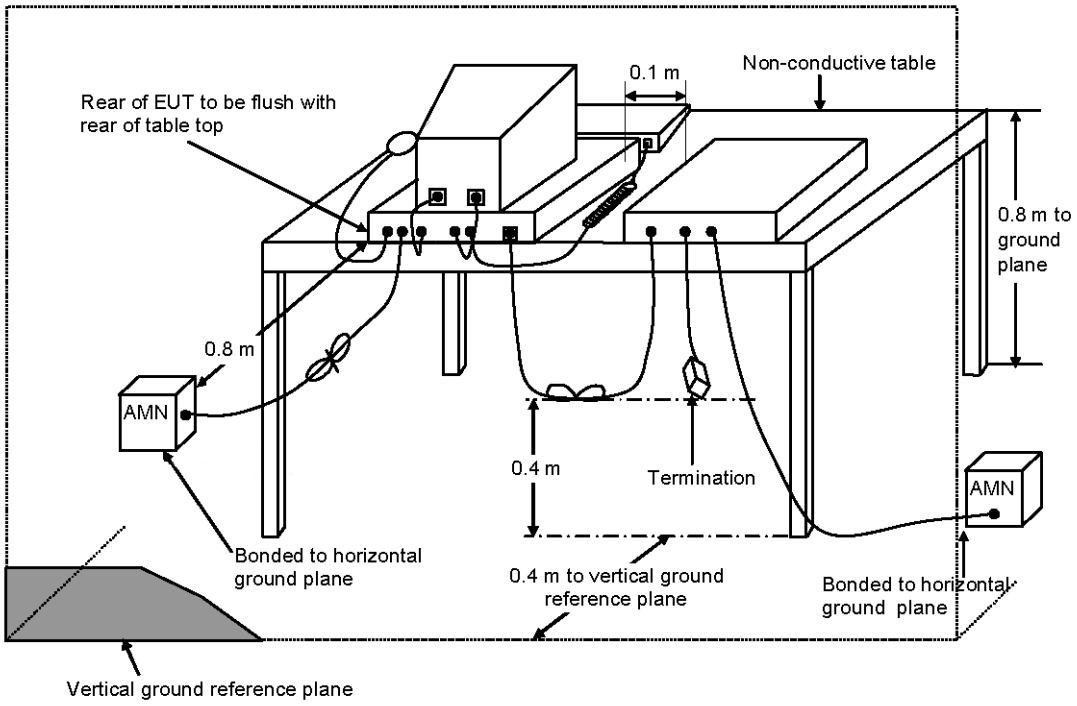
4.2. Test Procedures

a). The EUT was warmed up for 15 minutes before testing started.
b). The EUT was placed on a desk 0.8 meter height from the metal ground plane and 0.4 meter from the conducting wall of the shielding room and it was kept at least 0.8 meter from any other grounded conducting surface.
c). Connect EUT to the power mains through a line impedance stabilization network (LISN).
d). All the support units are connect to the other LISN.
e). The LISN provides 50 ohm, coupling impedance for the measuring instrument.
f). The CISPR states that a 50 ohm, 50 microhenry LISN should be used.
g). Both sides of AC line were checked for maximum conducted interference.
h). The frequency range from 150 kHz to 30 MHz was searched.
i). Set the test-receiver system to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode.
j). All emissions not reported here are more than 10 dB below the prescribed limit.

4.3. Measurement Results Calculation

The measurand Level is calculated using:
Corrected Reading (dBμV) = LISN Factor + Cable Loss + Read Level
For example at 0.3 MHz if the LISN Factor is 10.48 dB, the cable loss is 0.10 dB, the measured voltage is 36.39 dBμV, the signal strength would be calculated:
Corrected Reading (dBμV) = 10.48 dB + 0.10 dB + 36.39 dBμV = 46.97 dBμV

4.4. Typical Test Setup Layout

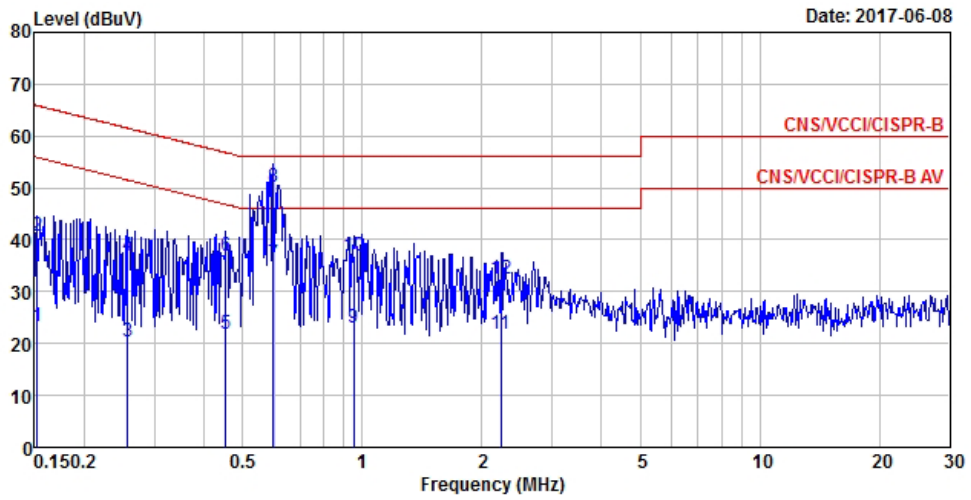


a). AMN is 80 cm from the EUT and at least 80 cm from other units and other metal planes.
b). EUT is connected to one artificial mains network (AMN).
c). All other units of a system are powered from a second AMN. A multiple outlet strip can be used for multiple mains cords.
d). Rear of EUT to be flushed with rear of table top.
e). Peripherals shall be placed at a distance of 10 cm from each other and from the controller, except for the monitor which, if this is an acceptable installation practice, shall be placed directly on the top of the controller.
f). If cables, which hang closer than 40 cm to the horizontal metal ground plane, cannot be shortened to appropriate length, the excess shall be folded back and forth forming a bundle 30 cm to 40 cm long.
g). Mains cords and signal cables shall be positioned for their entire lengths, as far as possible, at 40 cm from the vertical reference plane.
h). Cables of hand operated devices, such as keyboards, mice, etc. shall be placed as for normal usage.

4.5. Test Result

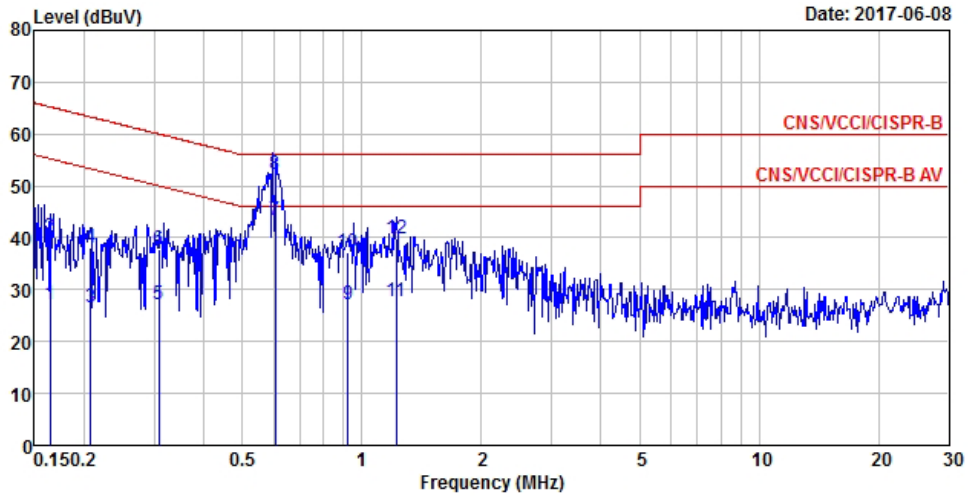
Test Mode	Mode 1		
Test Frequency	0.15 MHz ~ 30 MHz	Test Voltage	AC 120V / 60Hz
■ The test was passed at the minimum margin that marked by the frame in the following data			

Line



		Freq	Level	Over Limit	Limit Line	Read Level	LISN Factor	Cable Loss	Remark
		MHz	dBuV	dB	dBuV	dBuV	dB	dB	
1		0.15	23.20	-32.67	55.87	13.32	9.66	0.22	Average
2		0.15	40.59	-25.28	65.87	30.71	9.66	0.22	QP
3		0.26	20.49	-31.02	51.51	10.60	9.66	0.23	Average
4		0.26	36.95	-24.56	61.51	27.06	9.66	0.23	QP
5		0.45	21.98	-24.82	46.80	12.21	9.67	0.10	Average
6		0.45	36.97	-19.83	56.80	27.20	9.67	0.10	QP
7		0.60	35.34	-10.66	46.00	25.58	9.66	0.10	Average
8	MAX	0.60	50.23	-5.77	56.00	40.47	9.66	0.10	QP
9		0.95	23.00	-23.00	46.00	13.27	9.63	0.10	Average
10		0.95	36.92	-19.08	56.00	27.19	9.63	0.10	QP
11		2.24	21.93	-24.07	46.00	11.87	9.79	0.27	Average
12		2.24	32.40	-23.60	56.00	22.34	9.79	0.27	QP

Neutral



		Freq	Level	Over Limit	Limit Line	Read Level	LISN Factor	Cable Loss	Remark
		MHz	dBuV	dB	dBuV	dBuV	dB	dB	
1		0.16	27.02	-28.23	55.25	17.16	9.62	0.24	Average
2		0.16	40.27	-24.98	65.25	30.41	9.62	0.24	QP
3		0.21	26.56	-26.76	53.32	16.60	9.67	0.29	Average
4		0.21	37.98	-25.34	63.32	28.02	9.67	0.29	QP
5		0.31	27.12	-22.90	50.02	17.31	9.64	0.17	Average
6		0.31	37.86	-22.16	60.02	28.05	9.64	0.17	QP
7	MAX	0.60	43.39	-2.61	46.00	33.68	9.61	0.10	Average
8		0.60	52.35	-3.65	56.00	42.64	9.61	0.10	QP
9		0.92	27.09	-18.91	46.00	17.40	9.59	0.10	Average
10		0.92	37.08	-18.92	56.00	27.39	9.59	0.10	QP
11		1.22	27.77	-18.23	46.00	18.00	9.61	0.16	Average
12		1.22	39.82	-16.18	56.00	30.05	9.61	0.16	QP

5. Radiated Emissions Measurement

Radiated Emissions were measured according to the methods defined in ANSI C63.4-2014 Section 8.
The EUT is which satisfies the Class B disturbance limits.

5.1. Radiated Emission below 1GHz

5.1.1. Limit

radiated emissions at frequencies up to 1 GHz for Class B equipment			
Frequency range MHz	**Measurement**		**Class B limits**
	Distance (m)	**Detector type / bandwidth**	**dB(μV/m)**
30 – 230	10	Quasi Peak / 120 kHz	30
230 – 1000			37

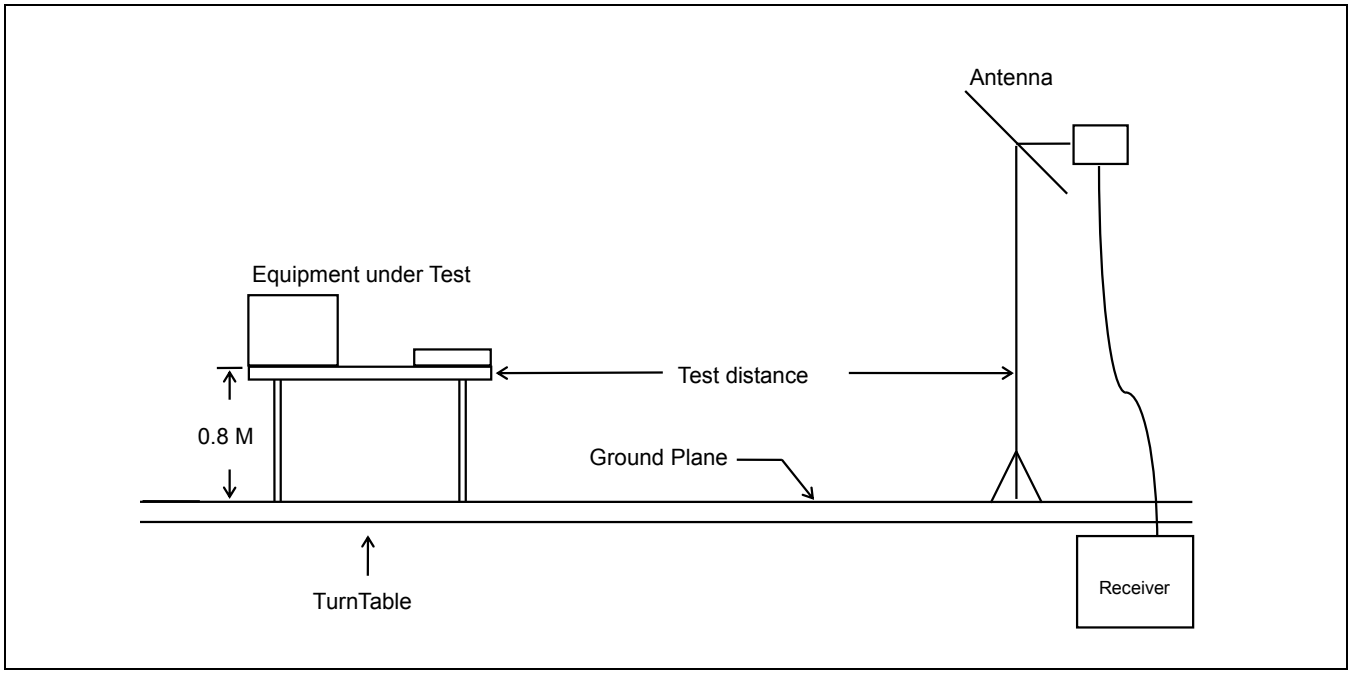
5.1.2. Test Procedures

a). The EUT was placed on a rotatable table top 0.8 meter above ground.
b). The EUT was set 10 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 half wave dipole 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 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). The FCC Part 15.109(g) permit parties seeking to authorize a digital device to choose to demonstrate that the device complies with either the Part 15 standards or the international standards found in Publication 22 of the International Special Committee on Radio Interference (CISPR).

5.1.3. Measurement Results Calculation

The measurand Level is calculated using:
Corrected Reading (dBμV/m) = Antenna Factor + Cable Loss + Read Level – Preamp Factor
For example at 125 MHz if the Antenna Factor is 17.24 dB/m, the cable loss is 1.20 dB, the measured voltage is 35.80 dBμV and the Preamp Factor is 27.18 dB, the signal strength would be calculated:
Corrected Reading (dBμV/m) = 17.24 dB/m + 1.20 dB + 35.80 dBμV - 27.18 dB = 27.06 dBμV/m
Note: If a hybrid antenna is used, the antenna factor shell be the sum of the Antenna Factor + Attenuator Factor.

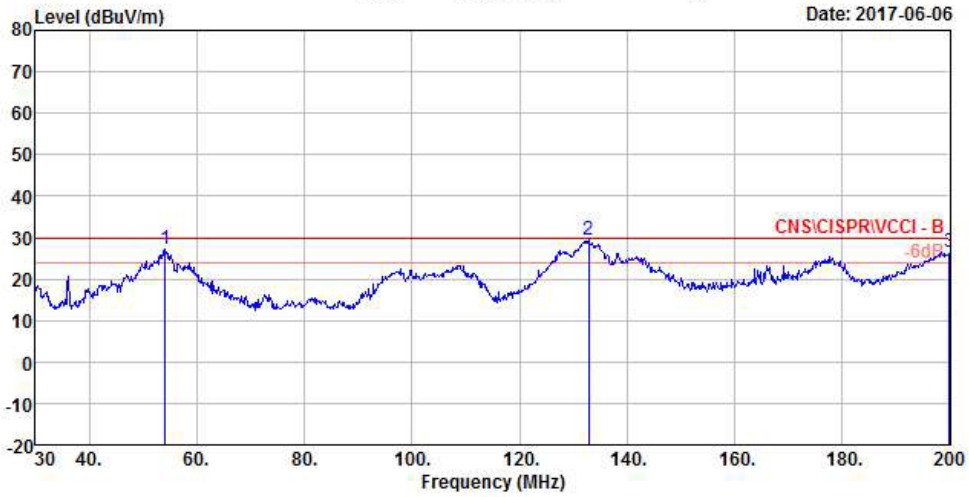
5.1.4. Typical Test Setup Layout



5.1.5. Test Result

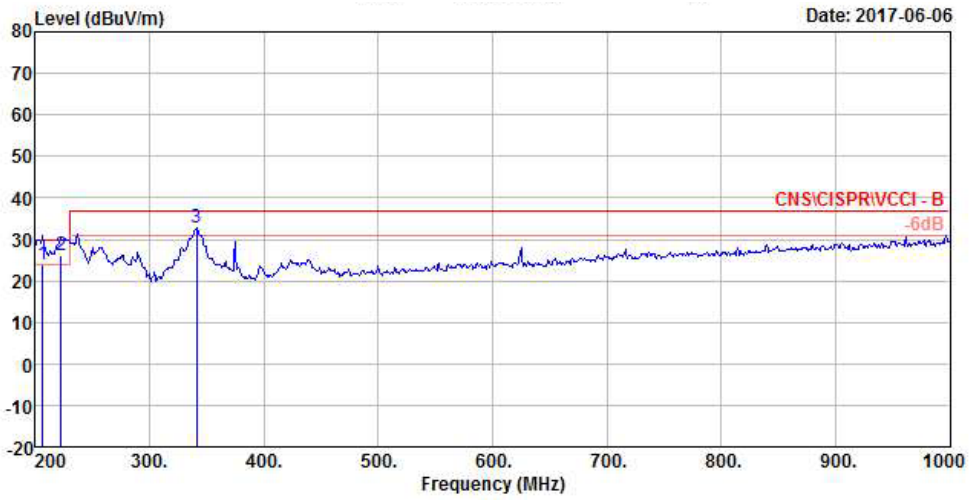
Test mode	Mode 1		
Test frequency	30 MHz ~ 1000 MHz	Test Voltage	AC 120V / 60Hz
■ The test was passed at the minimum margin that marked by the frame in the following data			

Vertical



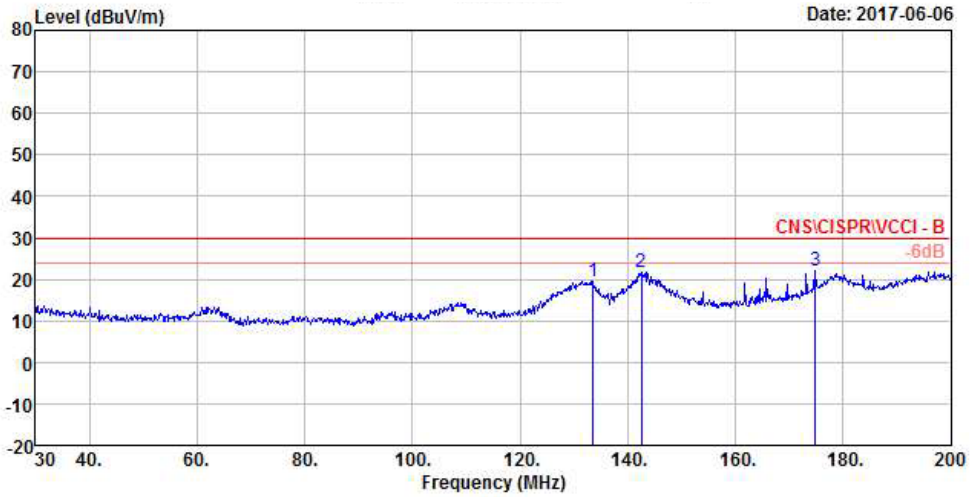
	Freq	Level	Over Limit	Limit Line	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB	dB/m	dB		cm	deg
1	54.14	27.32	-2.68	30.00	44.18	1.78	9.92	28.56	Peak	---	---
2 MX	132.85	29.31	-0.69	30.00	43.15	2.95	11.45	28.24	Peak	100	165
3	200.00	26.42	-3.58	30.00	36.15	3.59	14.64	27.96	Peak	---	---

Vertical



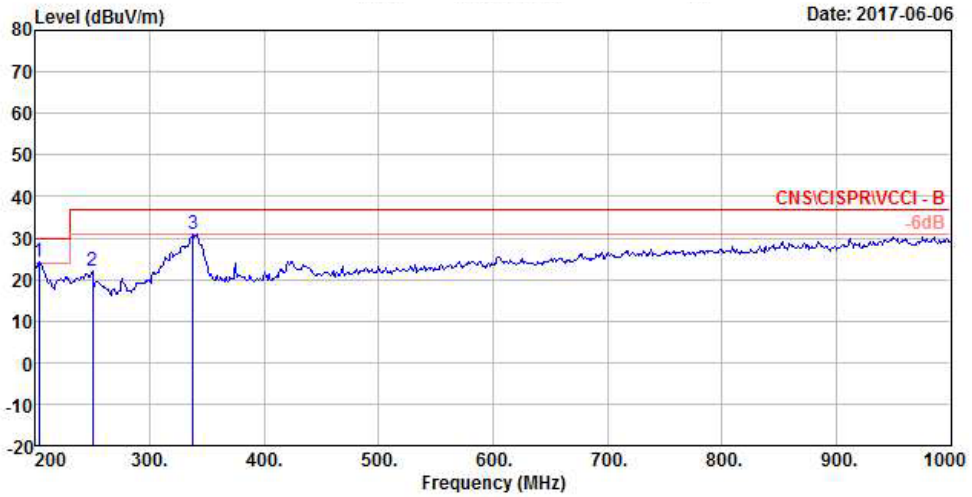
	Freq	Level	Over Limit	Limit Line	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB	dB/m	dB		cm	deg
1	206.40	23.93	-6.07	30.00	32.00	3.79	15.64	27.50	QP	100	220
2 MX	222.40	26.13	-3.87	30.00	36.01	3.89	13.69	27.46	QP	100	360
3	340.80	32.85	-4.15	37.00	40.62	4.86	14.93	27.56	Peak	---	---

Horizontal



	Freq	Level	Over Limit	Limit Line	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB	dB/m	dB		cm	deg
1	133.53	19.56	-10.44	30.00	33.36	2.97	11.47	28.24	Peak	---	---
2	142.54	21.66	-8.34	30.00	35.15	3.05	11.65	28.19	Peak	---	---
3 MX	174.84	22.08	-7.92	30.00	33.69	3.42	13.02	28.05	Peak	---	---

Horizontal



	Freq	Level	Over Limit	Limit Line	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB	dB/m	dB		cm	deg
1 MX	203.20	24.42	-5.58	30.00	32.35	3.71	15.87	27.51	Peak	---	---
2	249.60	21.90	-15.10	37.00	32.69	4.24	12.36	27.39	Peak	---	---
3	337.60	31.01	-5.99	37.00	38.79	4.92	14.84	27.54	Peak	---	---

5.2. Radiated Emission above 1GHz

5.2.1. Limit

radiated emissions at frequencies above 1 GHz for Class B equipment			
Frequency range GHz	**Measurement**		**Class B limits**
	Distance (m)	**Detector type / RBW / VBW**	**dB(μV/m)**
1 – 18	3	Average / 1MHz / 1Hz	54
1 – 18		Peak / 1MHz / 3MHz	74
18 – 30	1	Average / 1MHz / 1Hz	63.54
18 – 30		Peak / 1MHz / 3MHz	83.54
Test distance for frequencies at or above 30 MHz, measurements may be performed at a distance other than the limit distance provided they are not performed in the near field and the emissions to be measured can be detected by the measurement equipment. When performing measurements at a distance other than that specified, the results shall be extrapolated to the specified distance using an extrapolation factor of 20 dB/decade (inverse of linear distance for field-strength measurements, inverse of linear distance-squared for power-density measurements).			
Remark: It should be noted that the field strength is inversely proportional to distance, so the field strength at 3m is 1/3 the strength at 1m, i.e. L3m/Lx = X/3. Ex. L3m dB-Lx dB = 20log(3/x); L1m dB = 54 + 20log (3/1) = 63.54 dB(μV/m)			

Required highest frequency for radiated measurement	
Highest internal frequency (F_x)	**Highest measured frequency**
$F_x \leq 108$ MHz	1 GHz
108 MHz < $F_x \leq 500$ MHz	2 GHz
500 MHz < $F_x \leq 1$ GHz	5 GHz
$F_x > 1$ GHz	5 x F_x up to a maximum of 40 GHz

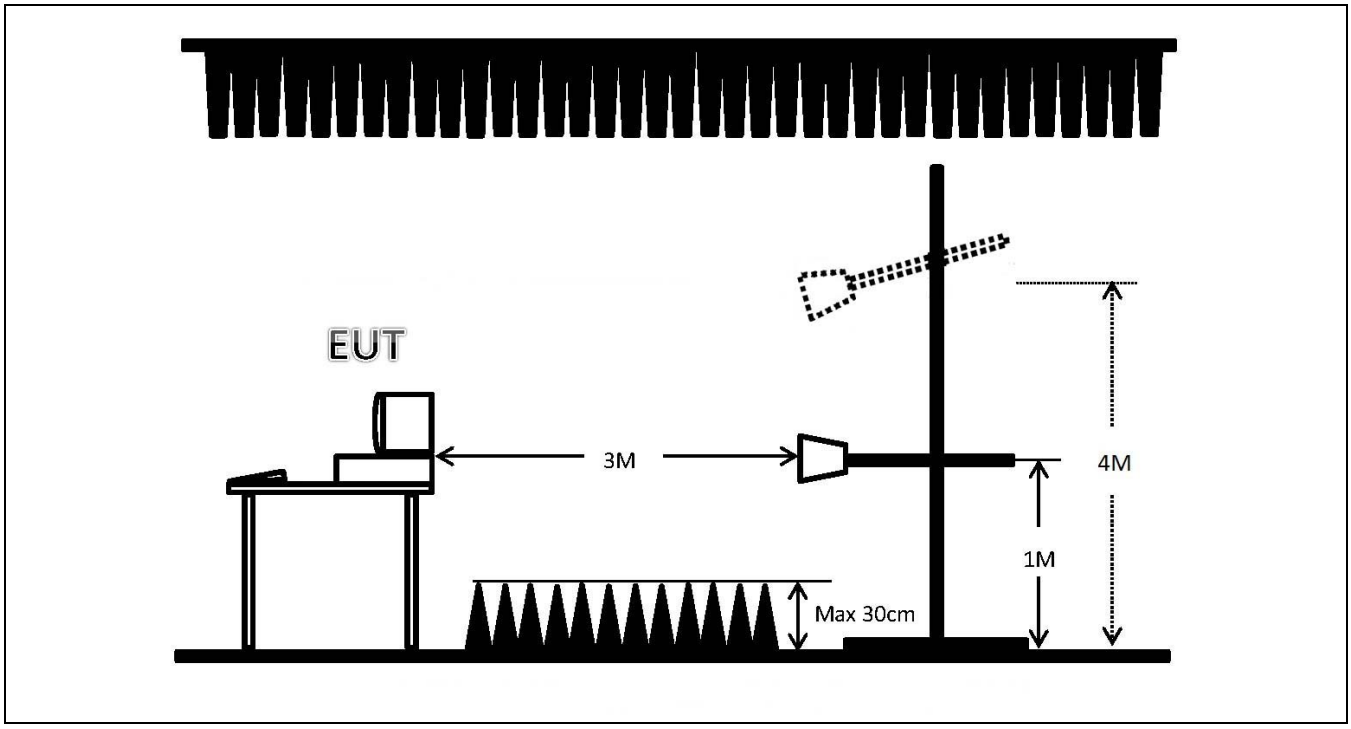
5.2.2. Test Procedures

a). Same test set up as below 1GHz radiated testing.
b). The EUT was set 3m/1m (1 – 30GHz) from the interference-receiving antenna which was mounted on the top of a variable height antenna tower.
c). There should be absorber placed between the EUT and Antenna and its located size should let the test site meet CISPR16-1-4 requirement.
d). The table was rotated 360 degrees to determine the position of the highest radiation.
e). The measured using a test-receiver system with both a peak and CISPR average detector.
f). If the EUT is having a Wireless or Bluetooth modular, install the filter at the input connector of test-receiver system.
g). Set the DRG Horn Antenna at 1M height, then run the turn table to get the maximum noise reading from Horizontal and Vertical polarity separately.t the test-receiver system to Peak Detect Function and specified bandwidth with Maximum Hold Mode.
h). When EUT locating on the turn-table, and its height is over 172cm (Antenna's 3dB beam width of 6GHz is 27◦), the DRG Horn Antenna must be raised up and descended down, then turning around the turn-table to get the maximum noise reading of the Horizontal and Vertical polarity separately. Note the maximum raise up height is same as the top of EUT.
i). If 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.

5.2.3. Measurement Results Calculation

The measurand Level is calculated using:
Corrected Reading (dBμV/m) = Antenna Factor + Cable Loss + Read Level – Preamp Factor
For example at 1980 MHz if the Antenna Factor is 26.19 dB/m, the cable loss is 4.08 dB, the measured voltage is 51.30 dBμV and the Preamp Factor is 33.34 dB, the signal strength would be calculated:
Corrected Reading (dBμV/m) = 26.19 dB/m + 4.08 dB + 51.30 dBμV - 33.34 dB = 48.23 dBμV/m

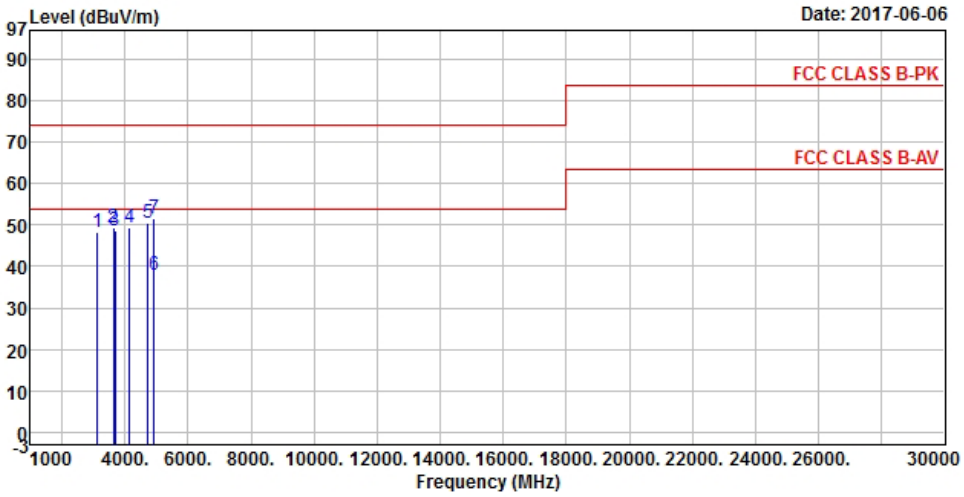
5.2.4. Typical Test Setup Layout



5.2.5. Test Result

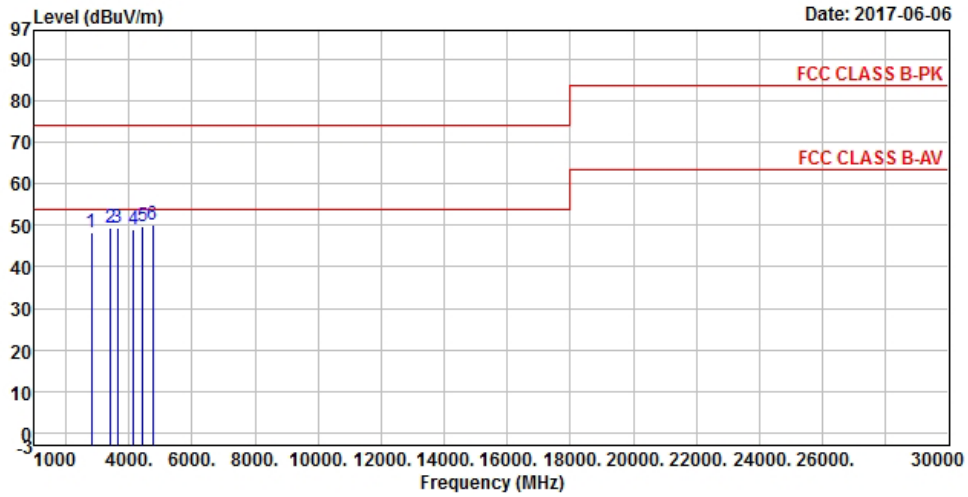
Test mode	Mode 1		
Test frequency	1 GHz ~ 30 GHz	Test Voltage	AC 120V / 60Hz
■ The test was passed at the minimum margin that marked by the frame in the following data			

Vertical



	Freq	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Preamp Factor	Cable Loss	A/Pos	T/Pos	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	cm	deg	
1	3120.00	48.39	-25.61	74.00	49.28	28.42	35.32	6.01	---	---	Peak
2	3625.00	49.51	-24.49	74.00	49.23	29.02	35.13	6.39	---	---	Peak
3	3675.00	48.58	-25.42	74.00	48.16	29.11	35.13	6.44	---	---	Peak
4	4150.00	49.36	-24.64	74.00	47.65	30.00	35.04	6.75	---	---	Peak
5	4715.00	50.48	-23.52	74.00	47.07	31.06	34.90	7.25	---	---	Peak
6 Max	4925.00	37.79	-16.21	54.00	33.73	31.39	34.84	7.51	100	360	Average
7	4925.00	51.58	-22.42	74.00	47.52	31.39	34.84	7.51	100	360	Peak

Horizontal



	Freq	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Preamp Factor	Cable Loss	A/Pos	T/Pos	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	cm	deg	
1	2805.00	48.21	-25.79	74.00	49.97	27.90	35.34	5.68	---	---	Peak
2	3410.00	49.27	-24.73	74.00	49.48	28.71	35.18	6.26	---	---	Peak
3	3640.00	49.40	-24.60	74.00	49.07	29.05	35.13	6.41	---	---	Peak
4	4130.00	48.99	-25.01	74.00	47.35	29.97	35.05	6.72	---	---	Peak
5	4425.00	49.81	-24.19	74.00	47.28	30.53	34.98	6.98	---	---	Peak
6 Max	4745.00	50.13	-23.87	74.00	46.64	31.09	34.89	7.29	---	---	Peak

6. Uncertainty of Test Site

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

6.1. Emission Test Measurement Uncertainty

Test Items	Test Site No.	U_{LAB}	U_{CISPR}
Conducted Emissions	CO04-HY	2.2 dB	3.4 dB
Radiated Emissions below 1GHz	10CH01-HY	2.5 dB	6.3 dB
Radiated Emissions above 1GHz	03CH01-HY	5.4 dB	5.2 dB

7. List of Measuring Equipment Used

Conducted Emission - Test Date: Jun. 08, 2017

Instrument	Manufacturer	Model No.	Serial No.	Characteristics	Calibration Date	Remark
EMC Receiver	R&S	ESR3	102051	9KHz ~ 3.6GHz	Apr. 29, 2017	Conduction (CO04-HY)
LISN	R&S	ENV216	101295	9kHz ~ 30MHz	Nov. 15, 2016	Conduction (CO04-HY)
RF Cable-CON	HUBER+SUHNER	RG213/U	07611832020001	9kHz ~ 30MHz	Oct. 24, 2016	Conduction (CO04-HY)

Note: Calibration Interval of instruments listed above is one year. NCR: No Calibration Request.

Radiated Emission below 1GHz - Test Date: Jun. 06, 2017

Instrument	Manufacturer	Model No.	Serial No.	Characteristics	Calibration Date	Remark
10m Semi Anechoic Chamber	SIDT FRANKONIA	SAC-10M	10CH01-HY	30MHz ~ 1GHz 10m/3m	Apr. 23, 2017	Radiation (10CH01-HY)
Spectrum Analyzer	R&S	FSP7	838858/039	9kHz ~ 7GHz	Mar. 07, 2017	Radiation (10CH01-HY)
Receiver	R&S	ESI7	838496/009	20Hz ~ 7GHz	Sep. 26, 2016	Radiation (10CH01-HY)
Amplifier	Agilent	8447D	2944A10825	100kHz ~ 1.3GHz z	Apr. 19, 2017	Radiation (10CH01-HY)
Amplifier	Agilent	8447D	2944A10826	100kHz ~ 1.3GHz	Apr. 12, 2017	Radiation (10CH01-HY)
Biconical Antenna	Schwarz beck	VHBB 9124	286	30MHz ~ 200MHz	Aug. 01, 2016	Radiation (10CH01-HY)
Log Antenna	Schwarz beck	VUSLP 9111	206	200MHz ~ 1GHz	Aug. 01, 2016	Radiation (10CH01-HY)
Turn Table	HD	DT 60 RPS	1513/004/00	0 ~ 360 degree	NCR	Radiation (10CH01-HY)
Antenna Mast	HD	MA240	240/556/00	1 ~ 4 m	NCR	Radiation (10CH01-HY)
Antenna Mast	HD	MA240	240/559/00	1 ~ 4 m	NCR	Radiation (10CH01-HY)
RF Cable-R10m	BELDEN	RG8/U	CB023-INSIDE	30MHz ~ 1GHz	Nov. 11, 2016	Radiation (10CH01-HY)
RF Cable-R10m	Suhner Switzerland + Rosenberger	RG223/U + UAA220A-0	CB022-DOOR	30MHz ~ 1GHz	Nov. 11, 2016	Radiation (10CH01-HY)

Note: Calibration Interval of instruments listed above is one year. NCR: No Calibration Request.

Radiated Emission above 1GHz - Test Date: Jun. 06, 2017

Instrument	Manufacturer	Model No.	Serial No.	Characteristics	Calibration Date	Remark
Spectrum Analyzer	R&S	FSP 40	100593	9kHz ~ 40GHz	Oct. 26, 2016	Radiation (03CH01-HY)
Amplifier	Agilent	8449B	3008A02326	1GHz ~ 26.5GHz	Jul. 12, 2016	Radiation (03CH01-HY)
Amplifier	EMC INSTRUMENTS	EMC184045B	980192	18GHz ~ 40GHz	Aug. 24, 2016	Radiation (03CH01-HY)
Horn Antenna	SCHWARZBECK	BBHA9120	BBHA9120D1130	1 GHz ~ 18 GHz	Oct. 07, 2016	Radiation (03CH01-HY)
Horn Antenna	SCHWARZBECK	BBHA9170	BBHA9170339	18GHz ~ 40GHz	Apr. 10, 2017	Radiation (03CH01-HY)
Turn Table	Chaintek	3000	MF7802056	0 ~ 360 degree	NCR	Radiation (03CH01-HY)
Antenna Mast	MF	MF-7802	MF780208163	1 m ~ 4 m	NCR	Radiation (03CH01-HY)
RF Cable-HIGH	SUHNER	SUCOFLEX 106	CB069-HF	1 GHz ~ 26 GHz	Nov. 05, 2016	Radiation (03CH01-HY)
RF Cable-HIGH	SUHNER	SUCOFLEX 106	CB068-HF	26 GHz ~ 40 GHz	Sep. 16, 2016	Radiation (03CH01-HY)

Note: Calibration Interval of instruments listed above is one year. NCR: No Calibration Request.