

## Variant FCC Test Report

**Report No.:** RF150401C19E-2

**FCC ID:** ZQAT30

**Test Model:** A0013

**Received Date:** Jul. 01, 2016

**Test Date:** Jul. 20, 2016 ~ Aug. 15, 2016

**Issued Date:** Aug. 18, 2016

**Applicant:** Nest Labs Inc

**Address:** 3400 Hillview Ave. Palo Alto California, United States 94304

**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 )

**Test Location:** No. 19, Hwa Ya 2nd Rd, Wen Hwa Tsuen, Kwei Shan Hsiang, Taoyuan Hsien 333, Taiwan, R.O.C.



This report is for your exclusive use. Any copying or replication of this report to or for any other person or entity, or use of our name or trademark, is permitted only with our prior written permission. This report sets forth our findings solely with respect to the test samples identified herein. The results set forth in this report are not indicative or representative of the quality or characteristics of the lot from which a test sample was taken or any similar or identical product unless specifically and expressly noted. Our report includes all of the tests requested by you and the results thereof based upon the information that you provided to us. You have 60 days from date of issuance of this report to notify us of any material error or omission caused by our negligence, provided, however, that such notice shall be in writing and shall specifically address the issue you wish to raise. A failure to raise such issue within the prescribed time shall constitute your unqualified acceptance of the completeness of this report, the tests conducted and the correctness of the report contents. Unless specifically mentioned, the uncertainty of measurement has been explicitly taken into account to declare the compliance or non-compliance to the specification.

## Table of Contents

<b>Release Control Record .....</b>	<b>3</b>
<b>1 Certificate of Conformity .....</b>	<b>4</b>
<b>2 Summary of Test Results.....</b>	<b>5</b>
2.1 Measurement Uncertainty.....	5
2.2 Modification Record .....	5
<b>3 General Information .....</b>	<b>6</b>
3.1 General Description of EUT .....	6
3.2 Description of Test Modes.....	6
3.2.1 Test Mode Applicability and Tested Channel Detail.....	7
3.3 Description of Support Units .....	8
3.3.1 Configuration of System under Test .....	8
3.4 General Description of Applied Standards.....	8
<b>4 Test Types and Results .....</b>	<b>9</b>
4.1 Radiated Emission and Bandedge Measurement .....	9
4.1.1 Limits of Radiated Emission and Bandedge Measurement .....	9
4.1.2 Test Instruments .....	10
4.1.3 Test Procedures.....	11
4.1.4 Deviation from Test Standard .....	11
4.1.5 Test Set Up .....	12
4.1.6 EUT Operating Conditions.....	12
4.1.7 Test Results .....	13
<b>5 Pictures of Test Arrangements.....</b>	<b>21</b>
<b>Appendix – Information on the Testing Laboratories .....</b>	<b>22</b>

### Release Control Record

Issue No.	Description	Date Issued
RF150401C19E-2	Original Release	Aug. 18, 2016

## 1 Certificate of Conformity

**Product:** Nest Learning Thermostat

**Test Model:** A0013

**Sample Status:** Production Unit

**Applicant:** Nest Labs Inc

**Test Date:** Jul. 20, 2016 ~ Aug. 15, 2016

**Standards:** 47 CFR FCC Part 15, Subpart C (Section 15.247)  
ANSI C63.10:2013

This report is issued as a supplementary report to BV ADT report no.: RF150401C19-3 R1. This report shall be used by combining with its original report.

**Prepared by :** Evonne Liu , **Date:** Aug. 18, 2016  
Evonne Liu / Specialist

**Approved by :** Stanley Wu , **Date:** Aug. 18, 2016  
Stanley Wu / Assistant Manager

## 2 Summary of Test Results

47 CFR FCC Part 15, Subpart C (Section 15.247)			
FCC Clause	Test Item	Result	Remarks
15.207	AC Power Conducted Emission	NA	Refer to Note
15.205 & 209	Radiated Emissions	Pass	Meet the requirement of limit. Minimum passing margin is -1.5 dB at 2484 MHz.
15.247(d)	Band Edge Measurement	NA	Refer to Note
15.247(d)	Antenna Port Emission	NA	Refer to Note
15.247(a)(2)	6dB bandwidth	NA	Refer to Note
15.247(b)	Conducted power	NA	Refer to Note
15.247(e)	Power Spectral Density	NA	Refer to Note
15.203	Antenna Requirement	NA	Refer to Note

Note: Only Radiated Emissions test was performed for this addendum. Refer to original report for other test data.

### 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) (±)
Radiated Emissions up to 1 GHz	30 MHz ~ 200 MHz	2.93 dB
	200 MHz ~ 1000 MHz	2.95 dB
Radiated Emissions above 1 GHz	1 GHz ~ 18 GHz	2.26 dB
	18 GHz ~ 40 GHz	1.94 dB

### 2.2 Modification Record

There were no modifications required for compliance.

### 3 General Information

#### 3.1 General Description of EUT

<b>Product</b>	Nest Learning Thermostat
<b>Test Model</b>	A0013
<b>Status of EUT</b>	Production Unit
<b>Power Supply Rating</b>	5.0Vac (Adapter)
<b>Modulation Type</b>	O-QPSK
<b>Transfer Rate</b>	250kbps
<b>Operating Frequency</b>	2405 ~ 2475 MHz
<b>Number of Channel</b>	15
<b>Antenna Type</b>	Loop antenna with -0.3 dBi gain
<b>Antenna Connector</b>	N/A
<b>Accessory Device</b>	Refer to Note as below
<b>Data Cable Supplied</b>	Refer to Note as below

Note:

- This report is issued as a supplementary report to BV ADT report no. RF150401C19-3 R1. The difference compared with original report is adding material of outer casing. Therefore, only Radiated Emissions was verified and recorded in this report.
- The device has 3 configurations as below.  
 Main sample (A): Material of outer casing for DLC  
 2nd sample (B): Material of outer casing for Copper  
 3rd sample (C): Material of outer casing for Ceramic
- The EUT contains following accessory devices.

Product	Brand	Model	Description
Adapter	Nest	A0017	I/P: 100-240Vac, 50/60Hz, 0.35A O/P: 5Vdc, 2.5A
USB Cable	Nest	NA	2.0m shielded cable w/o core
Stand	Nest	Stand	--

- The above EUT information is declared by manufacturer and for more detailed features description, please refer to the manufacturer's specifications or User's Manual.

#### 3.2 Description of Test Modes

15 channels are provided to this EUT:

Channel	Freq. (MHz)	Channel	Freq. (MHz)	Channel	Freq. (MHz)	Channel	Freq. (MHz)
11	2405	15	2425	19	2445	23	2465
12	2410	16	2430	20	2450	24	2470
13	2415	17	2435	21	2455	25	2475
14	2420	18	2440	22	2460		

### 3.2.1 Test Mode Applicability and Tested Channel Detail

EUT Configure Mode	Applicable To		Description
	RE $\geq$ 1G	RE $<$ 1G	
A	√	-	Sample A: DLC
B	√	-	Sample B: Copper
C	√	√	Sample C: Ceramic

Where **RE $\geq$ 1G**: Radiated Emission above 1 GHz      **RE $<$ 1G**: Radiated Emission below 1 GHz

**NOTE:** 1. The EUT had been pre-tested on the positioned of each 3 axis. The worst case was found when positioned on **Z-plane**.

2. "-" means no effect.

#### **Radiated Emission Test (Above 1 GHz):**

- Pre-Scan has been conducted to determine the worst-case mode from all possible combinations between available modulations, data rates and antenna ports (if EUT with antenna diversity architecture).
- Following channel(s) was (were) selected for the final test as listed below.

EUT Configure Mode	Available Channel	Tested Channel	Modulation Technology	Modulation Type
A, B, C	11 to 25	25	DSSS	O-QPSK

#### **Radiated Emission Test (Below 1 GHz):**

- Pre-Scan has been conducted to determine the worst-case mode from all possible combinations between available modulations, data rates and antenna ports (if EUT with antenna diversity architecture).
- Following channel(s) was (were) selected for the final test as listed below.

EUT Configure Mode	Available Channel	Tested Channel	Modulation Technology	Modulation Type
C	11 to 25	25	OFDM	O-QPSK

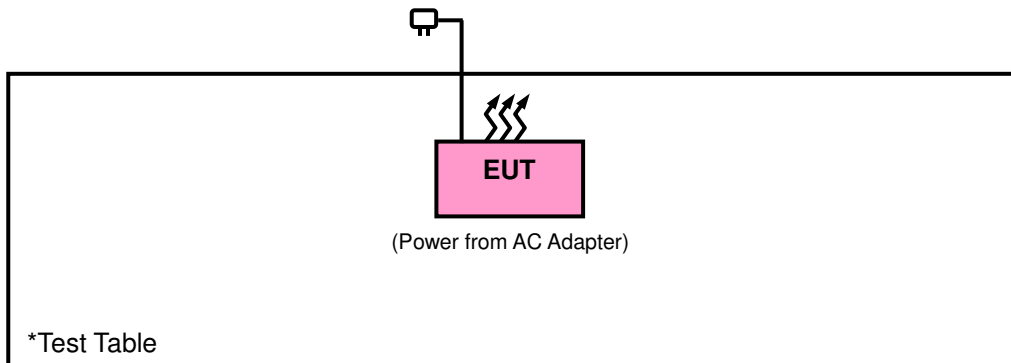
#### **Test Condition:**

Applicable To	Environmental Conditions	Input Power	Tested by
RE $\geq$ 1G	25 deg. C, 65 % RH	120 Vac, 60 Hz	Getaz Yang
RE $<$ 1G	25 deg. C, 65 % RH	120 Vac, 60 Hz	Getaz Yang

### 3.3 Description of Support Units

The EUT has been tested as an independent unit together with other necessary accessories or support units.

#### 3.3.1 Configuration of System under Test



### 3.4 General Description of Applied Standards

The EUT is a RF Product. According to the specifications of the manufacturer, it must comply with the requirements of the following standards:

**FCC Part 15, Subpart C (15.247)**

**558074 D01 DTS Meas Guidance v03r05**

ANSI C63.10-2013

All test items have been performed and recorded as per the above standards.

**NOTE:** The EUT has been verified to comply with the requirements of FCC Part 15, Subpart B, Class B (DoC).  
The test report has been issued separately.



## 4 Test Types and Results

### 4.1 Radiated Emission and Bandedge Measurement

#### 4.1.1 Limits of Radiated Emission and Bandedge Measurement

Radiated emissions which fall in the restricted bands must comply with the radiated emission limits specified as below table. Other emissions shall be at least 20 dB below the highest level of the desired power:

Frequencies (MHz)	Field Strength (microvolts/meter)	Measurement Distance (meters)
0.009 ~ 0.490	2400/F (kHz)	300
0.490 ~ 1.705	24000/F (kHz)	30
1.705 ~ 30.0	30	30
30 ~ 88	100	3
88 ~ 216	150	3
216 ~ 960	200	3
Above 960	500	3

**NOTE:**

1. The lower limit shall apply at the transition frequencies.
2. Emission level (dBuV/m) = 20 log Emission level (uV/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.

## 4.1.2 Test Instruments

Description & Manufacturer	Model No.	Serial No.	Date of Calibration	Due Date of Calibration
Test Receiver Agilent	N9038A	MY51210203	Jan. 21, 2016	Jan. 20, 2017
Spectrum Analyzer Agilent	N9010A	MY52220314	Sep.03, 2015	Sep.02, 2016
BILOG Antenna SCHWARZBECK	VULB9168	9168-472	Jan. 07, 2016	Jan. 06, 2017
HORN Antenna SCHWARZBECK	BBHA 9120 D	9120D-969	Jan. 04, 2016	Jan. 03, 2017
HORN Antenna SCHWARZBECK	BBHA 9170	9170-480	Jan. 08, 2016	Jan. 07, 2017
Loop Antenna	LPA600	270	Aug. 20, 2015	Aug. 19, 2017
Agilent Communications Tester-Wireless	8960 Series 10	MY53201073	Jul. 03, 2015	Jul. 02, 2017
Preamplifier EMCI	EMC 012645	980115	Dec. 21, 2015	Dec. 20, 2016
Preamplifier EMCI	EMC 184045	980116	Dec. 21, 2015	Dec. 20, 2016
Preamplifier EMCI	EMC 330H	980112	Dec. 28, 2015	Dec. 27, 2016
RF signal cable HUBER+SUHNNER	SUCOFLEX 104	309219/4 2950114	Oct. 12, 2015	Oct. 11, 2016
RF signal cable HUBER+SUHNNER	SUCOFLEX 104	250130/4	Oct. 12, 2015	Oct. 11, 2016
RF Coaxial Cable Worken	8D-FB	Cable-Ch10-01	Oct. 12, 2015	Oct. 11, 2016
Software BV ADT	E3 6.120103	NA	NA	NA
Antenna Tower MF	MFA-440H	NA	NA	NA
Turn Table MF	MFT-201SS	NA	NA	NA
Antenna Tower & Turn Table Controller MF	MF-7802	NA	NA	NA

- Note: 1. The calibration interval of the above test instruments is 12 / 24 months and the calibrations are traceable to NML/ROC and NIST/USA.
2. The test was performed in HwaYa Chamber 10.
3. The horn antenna and preamplifier (model: EMC 184045) are used only for the measurement of emission frequency above 1 GHz if tested.
4. The FCC Site Registration No. is 690701.
5. The IC Site Registration No. is IC7450F-10.

#### 4.1.3 Test Procedures

- a. The EUT was placed on the top of a rotating table 0.8 meters (for below 1 GHz) / 1.5 meters (for above 1 GHz) above the ground at 3 meter chamber room for test. 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 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 below 1 GHz.
- f. The test-receiver system was set to peak and average detected function and specified bandwidth with maximum hold mode when the test frequency is above 1 GHz. If the peak reading value also meets average limit, measurement with the average detector is unnecessary.

**Note:**

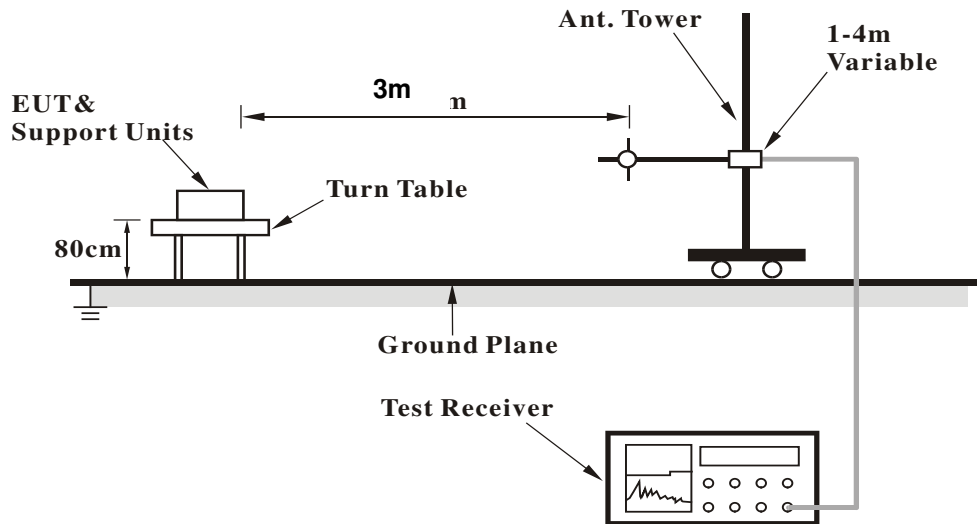
1. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 120 kHz for Quasi-peak detection (QP) at frequency below 1 GHz.
2. The resolution bandwidth of test receiver/spectrum analyzer is 1 MHz and the video bandwidth is 3 MHz for Peak detection (PK) at frequency above 1 GHz.
3. The resolution bandwidth of test receiver/spectrum analyzer is 1 MHz and the video bandwidth is 1/T for RMS Average (Duty cycle < 98 %) for Peak detection at frequency above 1 GHz.
4. The resolution bandwidth of test receiver/spectrum analyzer is 1 MHz and the video bandwidth is 10 Hz (Duty cycle ≥ 98 %) for Average detection (AV) at frequency above 1 GHz.
5. All modes of operation were investigated and the worst-case emissions are reported.

#### 4.1.4 Deviation from Test Standard

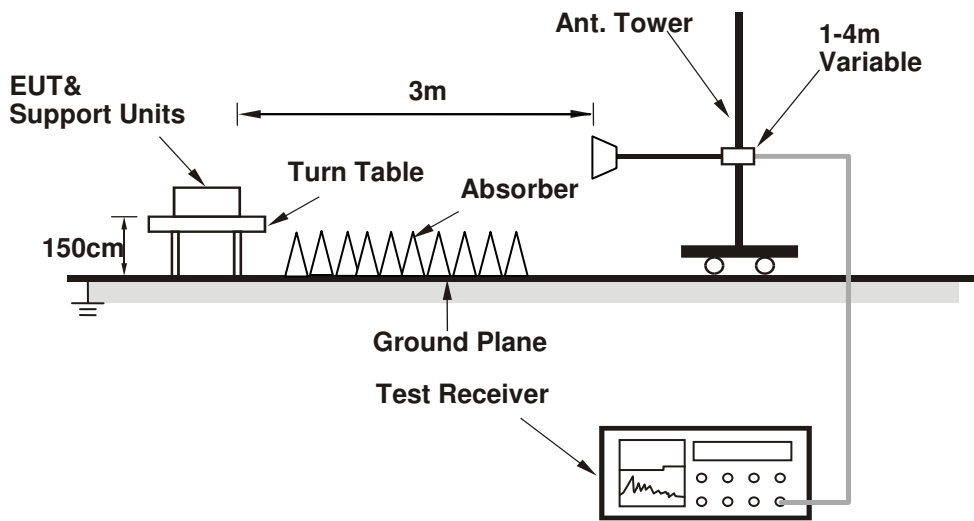
No deviation.

#### 4.1.5 Test Set Up

##### <Frequency Range below 1 GHz>



##### <Frequency Range above 1 GHz>



For the actual test configuration, please refer to the attached file (Test Setup Photo).

#### 4.1.6 EUT Operating Conditions

Set the EUT under transmission condition continuously at specific channel frequency.

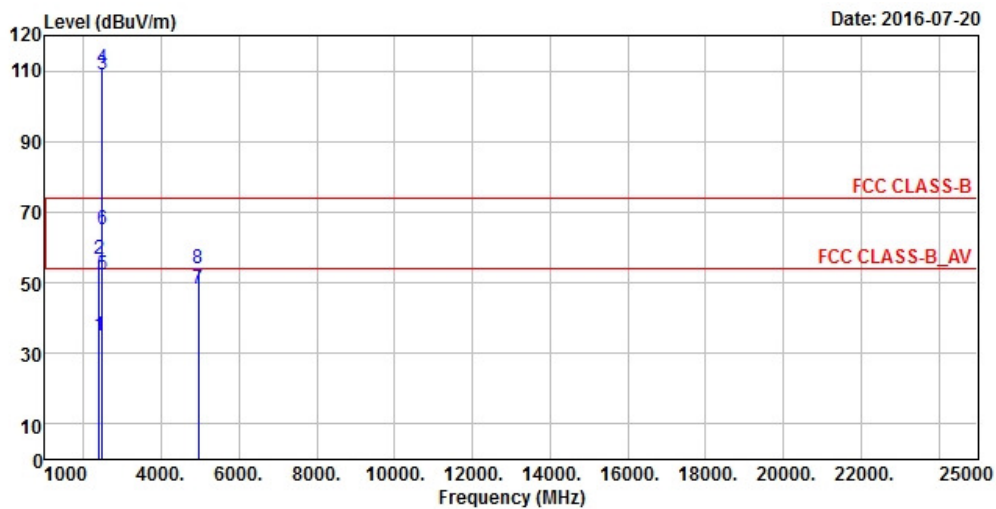
4.1.7 Test Results

ABOVE 1 GHz DATA :

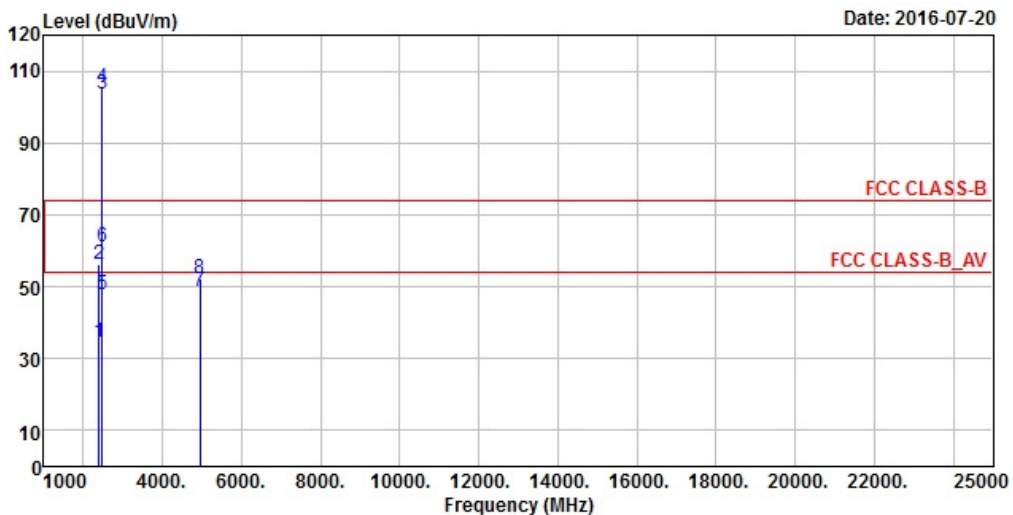
Mode A

EUT Test Condition		Measurement Detail	
Channel	Channel 25	Frequency Range	1 GHz ~ 25 GHz
Input Power	120 Vac, 60 Hz	Detector Function	Peak (PK) RBW : 1MHz , VBW : 3MHz Average (AV) RBW : 1MHz , VBW : 1KHz
Environmental Conditions	25 deg. C, 65 % RH	Tested By	Getaz Yang

Horizontal



Vertical



**Antenna Polarity & Test Distance: Horizontal at 3 m**

Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
2386	34.98	41.49	54	-19.02	26.91	4.08	37.5	101	58	Average
2386	56.61	63.12	74	-17.39	26.91	4.08	37.5	101	58	Peak
2475	108.94	114.96			27.15	4.15	37.32	101	58	Average
2475	110.86	116.88			27.15	4.15	37.32	101	58	Peak
2484	52.12	58.14	54	-1.88	27.15	4.15	37.32	101	58	Average
2484	65.09	71.11	74	-8.91	27.15	4.15	37.32	101	58	Peak
4950	48.24	63.23	54	-5.76	31.14	6.91	53.04	200	89	Average
4950	54.23	69.22	74	-19.77	31.14	6.91	53.04	200	89	Peak

**Antenna Polarity & Test Distance: Vertical at 3 m**

Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
2386	34.65	41.16	54	-19.35	26.91	4.08	37.5	143	355	Average
2386	56.34	62.85	74	-17.66	26.91	4.08	37.5	143	355	Peak
2475	103.61	109.63			27.15	4.15	37.32	143	355	Average
2475	105.5	111.52			27.15	4.15	37.32	143	355	Peak
2484	47.82	53.84	54	-6.18	27.15	4.15	37.32	143	355	Average
2484	61	67.02	74	-13	27.15	4.15	37.32	143	355	Peak
4950	48.77	63.76	54	-5.23	31.14	6.91	53.04	200	317	Average
4950	52.15	67.14	74	-21.85	31.14	6.91	53.04	200	317	Peak

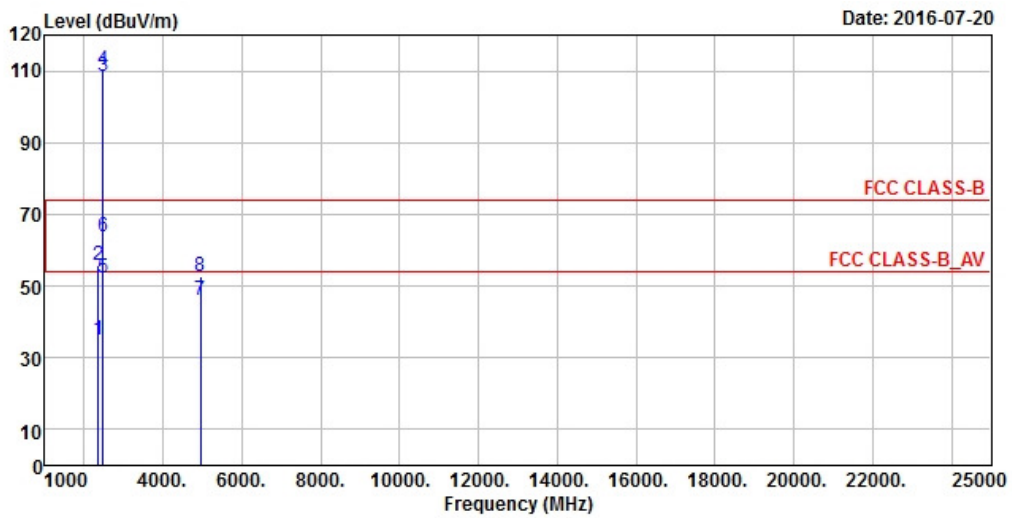
Remarks:

- Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor  
Margin value = Emission level – Limit value
- 2475 MHz: Fundamental frequency.

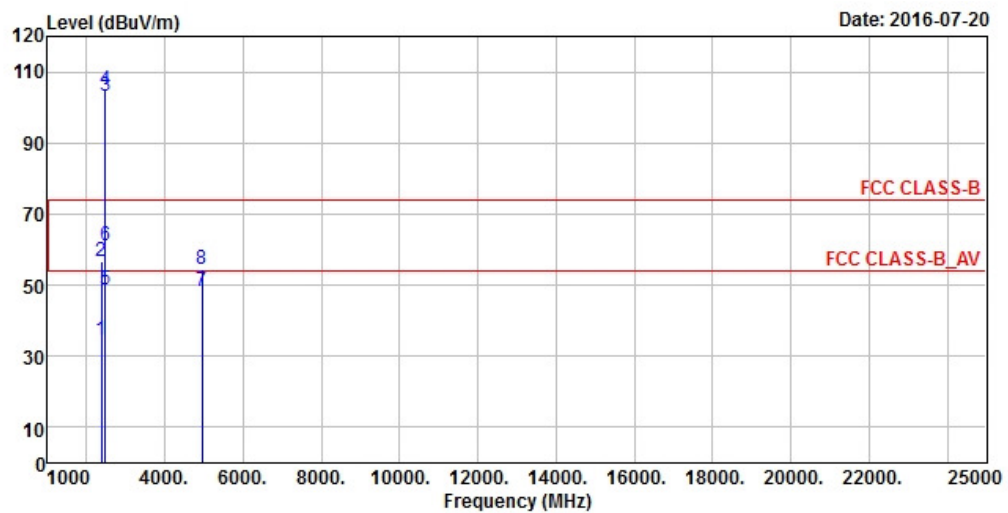
**Mode B**

EUT Test Condition		Measurement Detail	
Channel	Channel 25	Frequency Range	1 GHz ~ 25 GHz
Input Power	120 Vac, 60 Hz	Detector Function	Peak (PK) RBW : 1MHz , VBW : 3MHz Average (AV) RBW : 1MHz , VBW : 1KHz
Environmental Conditions	25 deg. C, 65 % RH	Tested By	Getaz Yang

**Horizontal**



**Vertical**



**Antenna Polarity & Test Distance: Horizontal at 3 m**

Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
2348	34.99	41.66	54	-19.01	26.77	4.05	37.49	101	67	Average
2348	55.6	62.27	74	-18.4	26.77	4.05	37.49	101	67	Peak
2475	108.34	114.36			27.15	4.15	37.32	101	67	Average
2475	110.23	116.25			27.15	4.15	37.32	101	67	Peak
2484	52.38	58.4	54	-1.62	27.15	4.15	37.32	101	67	Average
2484	63.87	69.89	74	-10.13	27.15	4.15	37.32	101	67	Peak
4950	46.26	61.25	54	-7.74	31.14	6.91	53.04	200	162	Average
4950	52.89	67.88	74	-21.11	31.14	6.91	53.04	200	162	Peak

**Antenna Polarity & Test Distance: Vertical at 3 m**

Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
2374	34.72	41.29	54	-19.28	26.86	4.07	37.5	158	343	Average
2374	56.56	63.13	74	-17.44	26.86	4.07	37.5	158	343	Peak
2475	103.05	109.07			27.15	4.15	37.32	158	343	Average
2475	104.9	110.92			27.15	4.15	37.32	158	343	Peak
2484	48.81	54.83	54	-5.19	27.15	4.15	37.32	158	343	Average
2484	61.29	67.31	74	-12.71	27.15	4.15	37.32	158	343	Peak
4950	48.3	63.29	54	-5.7	31.14	6.91	53.04	212	313	Average
4950	54.68	69.67	74	-19.32	31.14	6.91	53.04	212	313	Peak

Remarks:

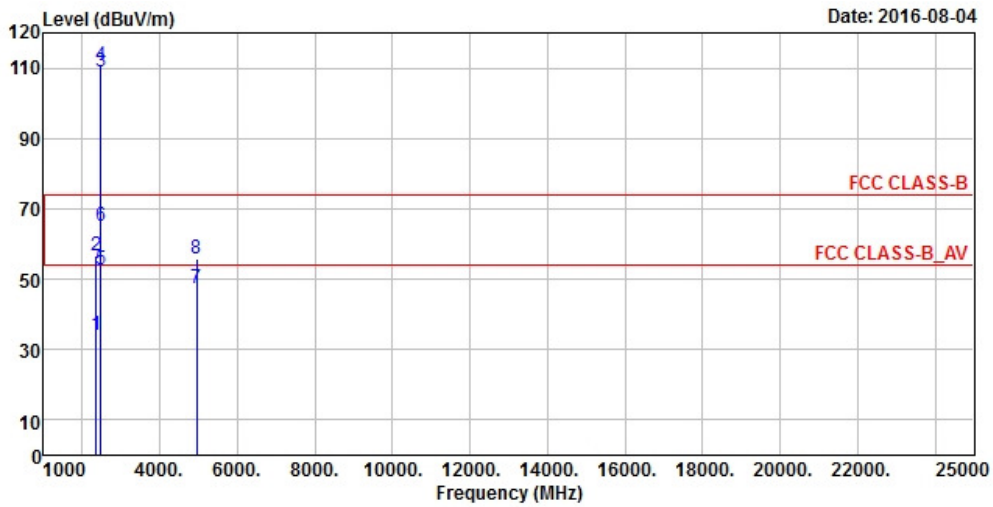
- Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor  
Margin value = Emission level – Limit value
- 2475 MHz: Fundamental frequency.



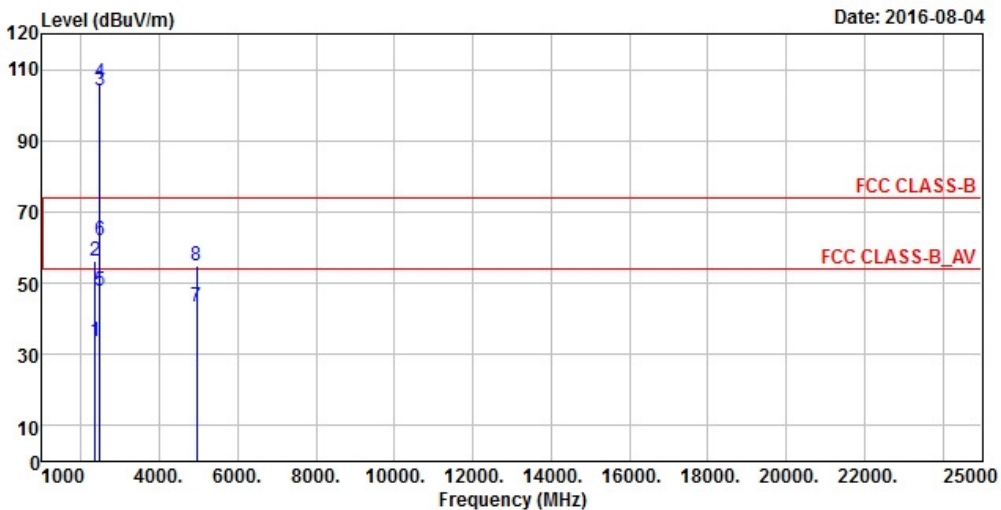
**Mode C**

EUT Test Condition		Measurement Detail	
Channel	Channel 25	Frequency Range	1 GHz ~ 25 GHz
Input Power	120 Vac, 60 Hz	Detector Function	Peak (PK) RBW : 1MHz , VBW : 3MHz Average (AV) RBW : 1MHz , VBW : 1KHz
Environmental Conditions	25 deg. C, 65 % RH	Tested By	Getaz Yang

**Horizontal**



**Vertical**



**Antenna Polarity & Test Distance: Horizontal at 3 m**

Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
2352	33.92	40.55	54	-20.08	26.81	4.05	37.49	104	62	Average
2352	56.82	63.45	74	-17.18	26.81	4.05	37.49	104	62	Peak
2475	108.71	114.73			27.15	4.15	37.32	104	62	Average
2475	110.9	116.92			27.15	4.15	37.32	104	62	Peak
2484	52.5	58.52	54	-1.5	27.15	4.15	37.32	104	62	Average
2484	65.25	71.27	74	-8.75	27.15	4.15	37.32	104	62	Peak
4950	47.17	62.16	54	-6.83	31.14	6.91	53.04	100	292	Average
4950	55.65	70.64	74	-18.35	31.14	6.91	53.04	100	292	Peak

**Antenna Polarity & Test Distance: Vertical at 3 m**

Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
2348	33.61	40.28	54	-20.39	26.77	4.05	37.49	144	342	Average
2348	56.23	62.9	74	-17.77	26.77	4.05	37.49	144	342	Peak
2475	103.98	110			27.15	4.15	37.32	144	342	Average
2475	106.21	112.23			27.15	4.15	37.32	144	342	Peak
2484	47.82	53.84	54	-6.18	27.15	4.15	37.32	144	342	Average
2484	61.87	67.89	74	-12.13	27.15	4.15	37.32	144	342	Peak
4950	43.4	58.39	54	-10.6	31.14	6.91	53.04	154	185	Average
4950	54.75	69.74	74	-19.25	31.14	6.91	53.04	154	185	Peak

Remarks:

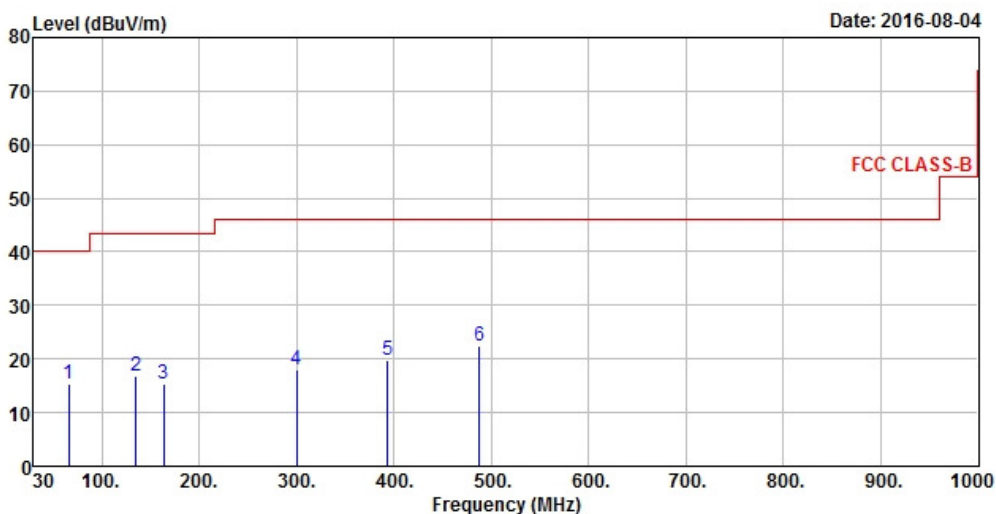
- Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor  
Margin value = Emission level – Limit value
- 2475 MHz: Fundamental frequency.

**BELOW 1 GHz WORST-CASE DATA:**

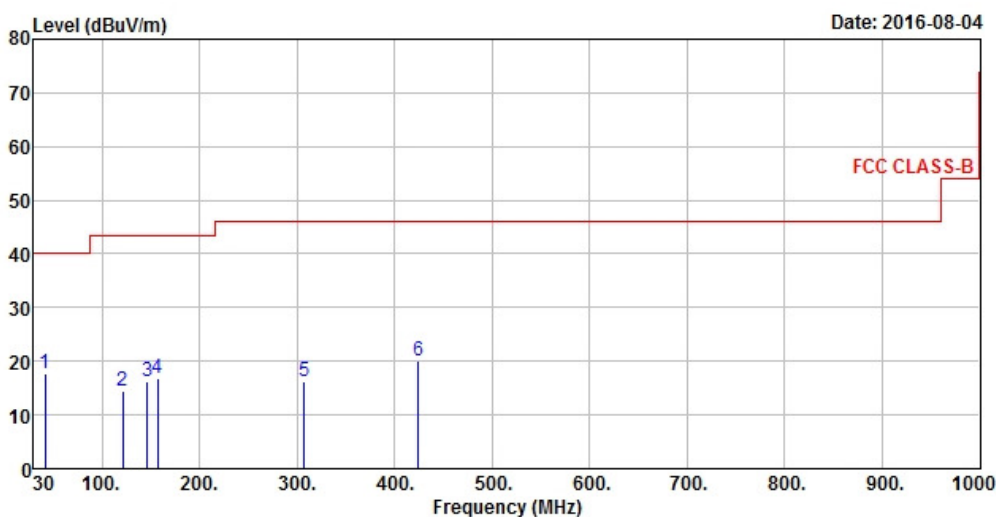
**Mode C**

EUT Test Condition		Measurement Detail	
Channel	Channel 25	Frequency Range	Below 1000 MHz
Input Power	120 Vac, 60 Hz	Detector Function	Peak (PK) RBW : 120KHz , VBW : 360KHz Quasi-peak (QP)
Environmental Conditions	25 deg. C, 65 % RH	Tested By	Getaz Yang

**Horizontal**



**Vertical**



**Antennal Polarity & Test Distance: Horizontal at 3 m**

Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
65.89	15.25	34.8	40	-24.75	11.24	0.85	31.64	115	73	Peak
134.76	16.87	35.48	43.5	-26.63	12.01	1.14	31.76	134	267	Peak
163.86	15.35	33.7	43.5	-28.15	12.34	1.13	31.82	120	11	Peak
299.66	17.94	35.21	46	-28.06	12.94	1.63	31.84	127	10	Peak
393.75	19.9	34.89	46	-26.1	15.19	1.9	32.08	122	339	Peak
487.84	22.43	35.07	46	-23.57	17.08	2.07	31.79	130	300	Peak

**Antennal Polarity & Test Distance: Vertical at 3 m**

Frequency (MHz)	Emission Level (dBuV/m)	Read Level (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Antenna Height (cm)	Table Angle (Degree)	Remark
41.64	17.6	34.43	40	-22.4	13.56	0.66	31.05	117	219	Peak
121.18	14.33	33.98	43.5	-29.17	11.09	1.16	31.9	120	270	Peak
146.4	16.21	34.1	43.5	-27.29	12.58	1.15	31.62	101	243	Peak
157.07	16.94	34.89	43.5	-26.56	12.72	1.13	31.8	115	271	Peak
307.42	16.11	33.25	46	-29.89	13.13	1.65	31.92	120	150	Peak
424.79	19.99	34.24	46	-26.01	15.83	1.95	32.03	124	141	Peak

Remarks:

- Emission Level = Read Level + Antenna Factor + Cable Loss - Preamp Factor  
 Margin value = Emission level – Limit value

## 5 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.

If you have any comments, please feel free to contact us at the following:

**Linko EMC/RF Lab**

Tel: 886-2-26052180

Fax: 886-2-26051924

**Hsin Chu EMC/RF/Telecom Lab**

Tel: 886-3-6668565

Fax: 886-3-6668323

**Hwa Ya EMC/RF/Safety**

Tel: 886-3-3183232

Fax: 886-3-3270892

**Email:** [service.adt@tw.bureauveritas.com](mailto:service.adt@tw.bureauveritas.com)

**Web Site:** [www.bureauveritas-adt.com](http://www.bureauveritas-adt.com)

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

--- END ---