



# FCC TEST REPORT

**REPORT NO.:** RF120516D06-1

**MODEL NO.:** model 3xx

**FCC ID:** UFELRCCC2510A

**RECEIVED:** May 16, 2012

**TESTED:** May 21 ~ 24, 2012

**ISSUED:** Jun. 6, 2012

**APPLICANT:** iRobot Corporation

**ADDRESS:** 8 Crosby Drive, Bedford Massachusetts United States 01730

**ISSUED BY:** Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch

**LAB LOCATION:** No. 47, 14th Ling, Chia Pau Vil., Lin Kou Dist., New Taipei City, Taiwan ( R.O.C. )

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## RELEASE CONTROL RECORD

ISSUE NO.	REASON FOR CHANGE	DATE ISSUED
RF120516D06-1	Original release	Jun. 6, 2012



# 1. CERTIFICATION

**PRODUCT:** Looj Gutter Cleaning Robot  
**BRAND NAME:** iRobot  
**MODEL NO.:** model 3xx  
(The "x" in the model could be defined as 0~9 for marketing differentiation.)  
**APPLICANT:** iRobot Corporation  
**TESTED:** May 21 ~ 24, 2012  
**TEST ITEM:** MASS-PRODUCTION  
**STANDARDS:** FCC Part 15, Subpart C (Section 15.249)  
ANSI C63.10-2009

The above equipment (model no.: model 330) 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 : Celia Chen , DATE: Jun. 6. 2012  
( Celia Chen / Senior Specialist )

APPROVED BY : Ken Liu , DATE: Jun. 6. 2012  
( Ken Liu / Manager )

## 2. SUMMARY OF TEST RESULTS

The EUT has been tested according to the following specifications:

APPLIED STANDARD: FCC Part 15, Subpart C (Section 15.249)			
STANDARD PARAGRAPH	TEST TYPE	RESULT	REMARK
15.207	Conducted Emission Test	N/A	Power supply is 3.0Vdc from batteries
15.209 15.249 15.249 (d)	Radiated Emission Test Band Edge Measurement Limit: 50dB less than the peak value of fundamental frequency or meet radiated emission limit in section 15.209	PASS	Meet the requirement of limit. Minimum passing margin is -0.5dB at 2483.50MHz.

### 2.1 MEASUREMENT UNCERTAINTY

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

Measurement	Frequency	Uncertainty
Radiated emissions	30MHz ~ 1GHz	3.78 dB
	Above 1GHz	3.36 dB

### 3. GENERAL INFORMATION

#### 3.1 GENERAL DESCRIPTION OF EUT

<b>EUT</b>	Looj Gutter Cleaning Robot
<b>MODEL NO.</b>	model 3xx
<b>FCC ID</b>	UFELRCCC2510A
<b>POWER SUPPLY</b>	3.0Vdc from batteries
<b>MODULATION TYPE</b>	MSK
<b>OPERATING FREQUENCY</b>	2425.8MHz, 2450.8MHz, 2475.8MHz
<b>NUMBER OF CHANNEL</b>	3
<b>ANTENNA TYPE</b>	Printed antenna with 2.42dBi gain
<b>ANTENNA CONNECTOR</b>	N/A
<b>DATA CABLE</b>	N/A
<b>I/O PORTS</b>	N/A
<b>ASSOCIATED DEVICES</b>	N/A

#### NOTE:

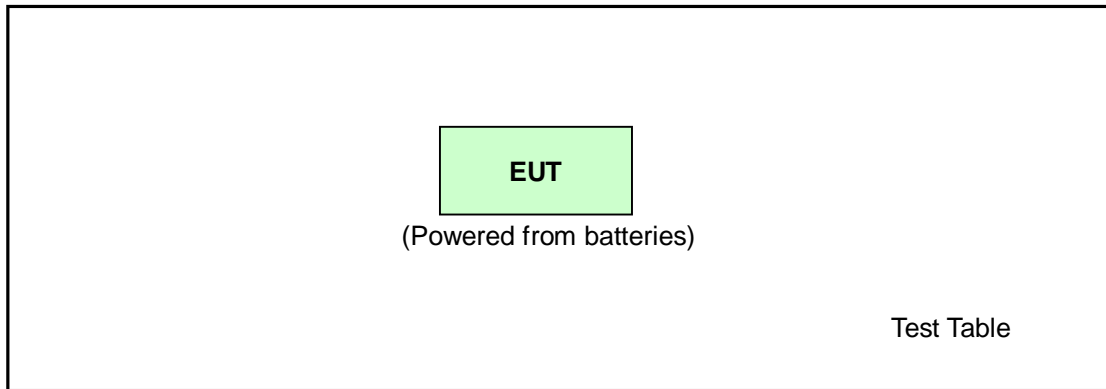
1. The EUT is a transceiver.
2. The "x" in the model could be defined as 0~9 for marketing differentiation. During the test, **model no.: model 330** was selected as a representative one and therefore only its test data was recorded in this report.
3. The above EUT information was declared by the manufacturer and for more detailed features description, please refer to the manufacturer's specifications or User's Manual.

### 3.2 DESCRIPTION OF TEST MODES

3 channels are provided to this EUT:

Channel	Freq. (MHz)
1	2425.8
2	2450.8
3	2475.8

#### 3.2.1 CONFIGURATION OF SYSTEM UNDER TEST





### 3.2.2 TEST MODE APPLICABILITY AND TESTED CHANNEL DETAIL:

EUT configure mode	Applicable to				Description
	PLC	RE<1G	RE <sup>≥</sup> 1G	BM	
-	Note	√	√	√	-

Where PLC: Power Line Conducted Emission RE<1G RE: Radiated Emission below 1GHz  
 RE≥1G: Radiated Emission above 1GHz BM: Bandedge Measurement

**Note:** No need to concern of Conducted Emission due to the EUT is powered by batteries.

#### RADIATED EMISSION TEST (BELOW 1 GHz):

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

AVAILABLE CHANNEL	TESTED CHANNEL	MODULATION TYPE	AXIS
1 to 3	3	MSK	Y

#### RADIATED EMISSION TEST (ABOVE 1 GHz):

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

AVAILABLE CHANNEL	TESTED CHANNEL	MODULATION TYPE	AXIS
1 to 3	1, 2, 3	MSK	Y

#### BANDEDGE MEASUREMENT:

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

AVAILABLE CHANNEL	TESTED CHANNEL	MODULATION TYPE
1 to 3	1, 3	MSK

#### TEST CONDITION:

APPLICABLE TO	ENVIRONMENTAL CONDITIONS	INPUT POWER	TESTED BY
RE <sup>≥</sup> 1G	24deg. C, 67% RH	3Vdc	Chad Lee
RE<1G	24deg. C, 78% RH	3Vdc	Chad Lee
BM	24deg. C, 67% RH	3Vdc	Chad Lee





### **3.3 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 (Section 15.249)**

**ANSI C63.10-2009**

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

### **3.4 DESCRIPTION OF SUPPORT UNITS**

The EUT has been tested as an independent unit together without any necessary accessory or support unit.

## 4. TEST TYPES AND RESULTS

### 4.1 CONDUCTED EMISSION MEASUREMENT

N/A

### 4.2 RADIATED EMISSION AND BAND EDGE MEASUREMENT

#### 4.2.1 LIMITS OF RADIATED EMISSION MEASUREMENT

The field strength of emissions from intentional radiators operated within these frequency bands shall comply with the following

Fundamental Frequency	Field Strength of Fundamental (millivolts/meter)	Field Strength of Harmonics (microvolts/meter)
902 ~ 928 MHz	50	500
2400 ~ 2483.5 MHz	50	500
5725 ~ 5875 MHz	50	500
24 ~ 24.25 GHz	250	2500

Emissions radiated outside of the specified frequency bands, except for harmonics, shall be attenuated by at least 50 dB below the level of the fundamental or to the general radiated emission limits as below table, whichever is the lesser attenuation

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 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.



## 4.2.2 TEST INSTRUMENTS

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATED DATE	CALIBRATED UNTIL
HP Preamplifier	8447D	2432A03504	Feb. 29, 2012	Feb. 28, 2013
HP Preamplifier	8449B	3008A01201	Feb. 29, 2012	Feb. 28, 2013
Agilent Spectrum Analyzer	E4446A	MY46180403	Jun. 22, 2011	Jun. 21, 2012
ROHDE & SCHWARZ Test Receiver	ESCS 30	838251/021	Oct. 14, 2011	Oct. 13, 2012
Schwarzbeck Antenna	VULB 9168	137	Apr. 03, 2012	Apr. 02, 2013
Schwarzbeck Antenna	VHBA 9123	480	May 22, 2012	May 21, 2013
ADT. Turn Table	TT100	0306	NA	NA
ADT. Tower	AT100	0306	NA	NA
Software	ADT_Radiated_V 7.6.15.9.2	NA	NA	NA
SUHNER RF cable	SF102	CABLE-CH6	Aug. 19, 2011	Aug. 18, 2012
Schwarzbeck Horn Antenna	BBHA 9120-D1	D130	May 18, 2012	May 17, 2013
Highpass filter Wainwright Instruments	WHK 3.1/18G-10SS	SN 8	NA	NA

- NOTE:**
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 horn antenna and HP preamplifier (model: 8449B) are used only for the measurement of emission frequency above 1GHz if tested.
  3. The test was performed in Chamber No. 6.
  4. The Industry Canada Reference No. IC 7450E-6.
  5. The FCC Site Registration No. is 447212.

## 4.2.3 TEST PROCEDURES

- a. The EUT was placed on the top of a rotating table 0.8 meters above the ground at a 3 meter semi-anechoic 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 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. If the emission level of the EUT in peak mode was lower than the limit specified, then testing could be stopped and the peak values of the EUT would be reported. Otherwise the emissions would be re-tested one by one using peak, quasi-peak method or average method as specified and then reported in data sheet.

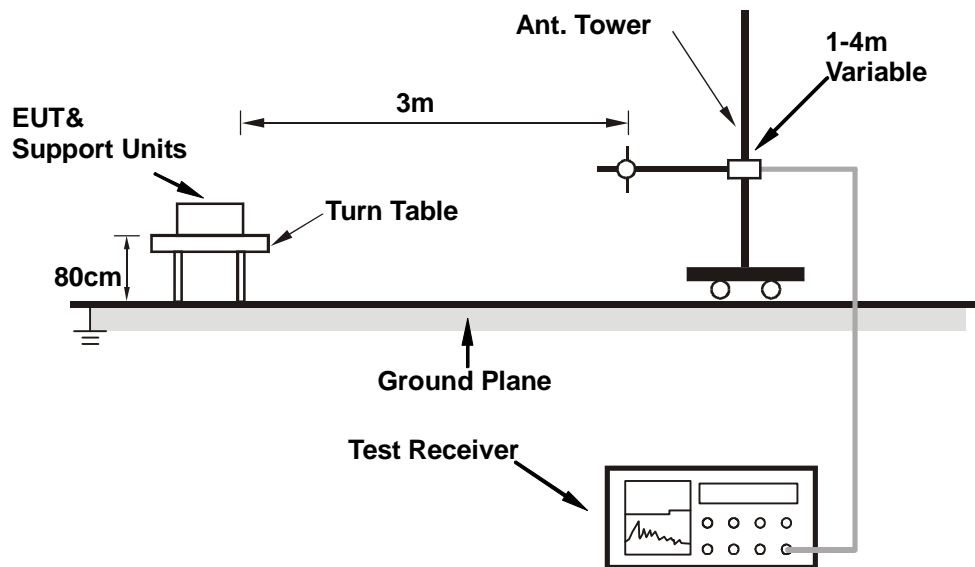
### NOTE:

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

## 4.2.4 DEVIATION FROM TEST STANDARD

No deviation

## 4.2.5 TEST SETUP



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

## 4.2.6 EUT OPERATING CONDITIONS

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



### 4.2.7 TEST RESULTS

#### ABOVE 1GHz DATA

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 1	FREQUENCY RANGE	1 ~ 25GHz
INPUT POWER	3Vdc	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	24deg. C, 67%RH	TESTED BY	Chad Lee

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)		LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	2390.00	64.8 PK	74.0	-9.2	1.00 H	257	33.81	31.02
2	2390.00	44.6 AV	54.0	-9.4	1.00 H	257	13.61	31.02
3	2400.00	49.1 PK	74.0	-24.9	1.00 H	257	18.01	31.05
4	2400.00	9.1 AV	54.0	-44.9	1.00 H	257	-21.99	31.05
5	*2425.80	110.6 PK	114.0	-3.4	1.00 H	257	79.49	31.10
6	*2425.80	70.6 AV	94.0	-23.4	1.00 H	257	39.49	31.10
7	4851.60	50.8 PK	74.0	-23.2	1.00 H	287	12.45	38.37
8	4851.60	10.8 AV	54.0	-43.2	1.00 H	287	-27.55	38.37
9	7277.40	52.6 PK	74.0	-21.5	1.00 H	135	9.92	42.63
10	7277.40	12.6 AV	54.0	-41.5	1.00 H	135	-30.08	42.63

#### REMARKS:

- Emission level (dBuV/m) = Raw Value (dBuV) + Correction Factor (dB/m).
- Correction Factor (dB/m) = Antenna Factor (dB/m) + Cable Factor (dB).
- The other emission levels were very low against the limit.
- Margin value = Emission level – Limit value.
- \* \* \* : Fundamental frequency
- The average value of fundamental frequency is: Average = Peak value + 20log(Duty cycle) Where the duty factor is calculated from following formula:  
 $20 \log (\text{Duty cycle}) = 20 \log (1 \text{ ms} \times 1 / 100 \text{ ms}) = -40 \text{ dB}$   
 Please see page 18 for plotted duty.



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EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 1	FREQUENCY RANGE	1 ~ 25GHz
INPUT POWER	3Vdc	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	24deg. C, 67%RH	TESTED BY	Chad Lee

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	2390.00	52.4 PK	74.0	-21.7	1.00 V	191	21.33	31.02
2	2390.00	42.6 AV	54.0	-11.4	1.00 V	191	11.54	31.02
3	2400.00	42.3 PK	74.0	-31.8	1.00 V	191	11.20	31.05
4	2400.00	2.3 AV	54.0	-51.8	1.00 V	191	-28.80	31.05
5	*2425.80	103.8 PK	114.0	-10.2	1.00 V	191	72.68	31.10
6	*2425.80	63.8 AV	94.0	-30.2	1.00 V	191	32.68	31.10
7	4851.60	57.2 PK	74.0	-16.8	1.00 V	16	18.80	38.37
8	4851.60	17.2 AV	54.0	-36.8	1.00 V	16	-21.20	38.37
9	7277.40	58.2 PK	74.0	-15.8	1.00 V	21	15.57	42.63
10	7277.40	18.2 AV	54.0	-35.8	1.00 V	21	-24.43	42.63

**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).
3. The other emission levels were very low against the limit.
4. Margin value = Emission level – Limit value.
5. “ \* “ : Fundamental frequency
6. The average value of fundamental frequency is: Average = Peak value + 20log(Duty cycle) Where the duty factor is calculated from following formula:  
 $20 \log (\text{Duty cycle}) = 20 \log (1 \text{ ms} \times 1 / 100 \text{ ms}) = -40 \text{ dB}$   
 Please see page 18 for plotted duty.



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EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 2	FREQUENCY RANGE	1 ~ 25GHz
INPUT POWER	3Vdc	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	24deg. C, 67%RH	TESTED BY	Chad Lee

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*2450.80	106.8 PK	114.0	-7.2	1.00 H	124	75.65	31.14
2	*2450.80	66.8 AV	94.0	-27.2	1.00 H	124	35.65	31.14
3	4901.60	52.5 PK	74.0	-21.6	1.00 H	70	13.90	38.55
4	4901.60	12.5 AV	54.0	-41.6	1.00 H	70	-26.10	38.55
5	7352.40	53.4 PK	74.0	-20.6	1.00 H	14	10.54	42.82
6	7352.40	13.4 AV	54.0	-40.6	1.00 H	14	-29.46	42.82
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*2450.80	102.7 PK	114.0	-11.3	1.00 V	199	71.57	31.14
2	*2450.80	62.7 AV	94.0	-31.3	1.00 V	199	31.57	31.14
3	4901.60	57.8 PK	74.0	-16.2	1.00 V	90	19.28	38.55
4	4901.60	17.8 AV	54.0	-36.2	1.00 V	90	-20.72	38.55
5	7352.40	58.7 PK	74.0	-15.3	1.00 V	14	15.92	42.82
6	7352.40	18.7 AV	54.0	-35.3	1.00 V	14	-24.08	42.82

**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).
3. The other emission levels were very low against the limit.
4. Margin value = Emission level – Limit value.
5. “ \* “ : Fundamental frequency
6. The average value of fundamental frequency is: Average = Peak value + 20log(Duty cycle) Where the duty factor is calculated from following formula:  
 $20 \log (\text{Duty cycle}) = 20 \log (1 \text{ ms} \times 1 / 100 \text{ ms}) = -40 \text{ dB}$   
 Please see page 18 for plotted duty.





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EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 3	FREQUENCY RANGE	1 ~ 25GHz
INPUT POWER	3Vdc	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	24deg. C, 67%RH	TESTED BY	Chad Lee

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*2475.80	104.7 PK	114.0	-9.3	1.00 H	333	73.54	31.19
2	*2475.80	64.7 AV	94.0	-29.3	1.00 H	333	33.54	31.19
3	<b>2483.50</b>	<b>73.5 PK</b>	<b>74.0</b>	<b>-0.5</b>	<b>1.00 H</b>	<b>333</b>	<b>42.27</b>	<b>31.20</b>
4	2483.50	33.5 AV	54.0	-20.5	1.00 H	333	2.27	31.20
5	4951.60	51.3 PK	74.0	-22.7	1.00 H	31	12.61	38.72
6	4951.60	11.3 AV	54.0	-42.7	1.00 H	31	-27.39	38.72
7	7427.40	52.7 PK	74.0	-21.3	1.00 H	16	9.68	43.00
8	7427.40	12.7 AV	54.0	-41.3	1.00 H	16	-30.32	43.00

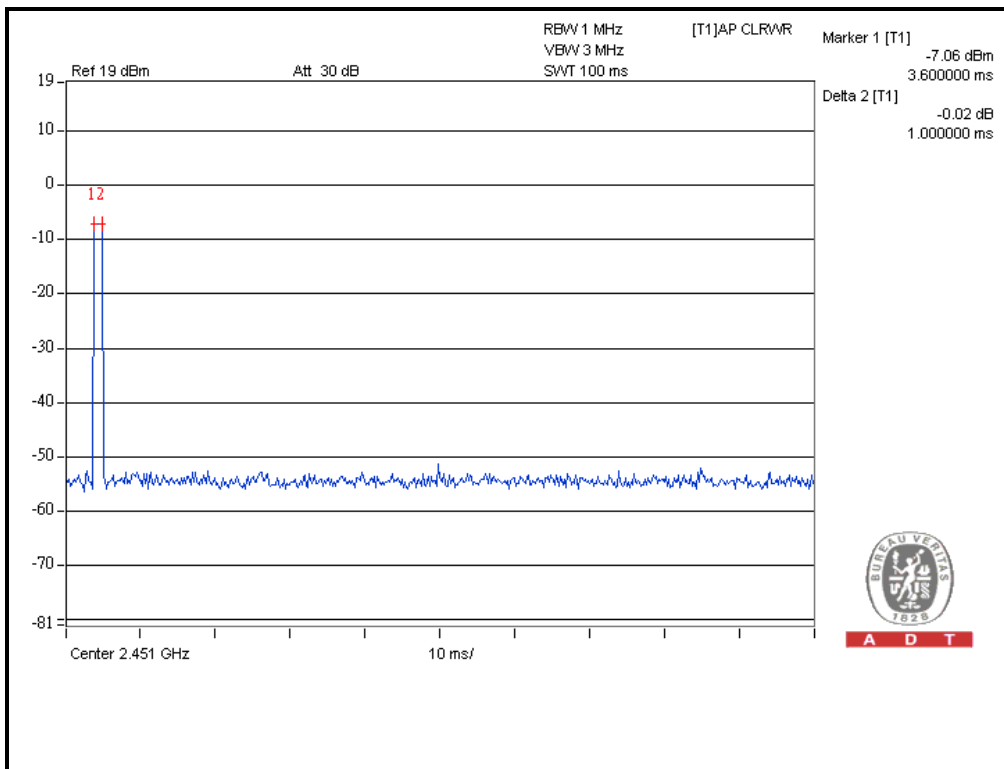
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*2475.80	100.8 PK	114.0	-13.2	1.00 V	164	69.60	31.19
2	*2475.80	60.8 AV	94.0	-33.2	1.00 V	164	29.60	31.19
3	2483.50	69.5 PK	74.0	-4.5	1.00 V	164	38.33	31.20
4	2483.50	29.5 AV	54.0	-24.5	1.00 V	164	-1.67	31.20
5	4951.60	56.1 PK	74.0	-18.0	1.00 V	312	17.33	38.72
6	4951.60	16.1 AV	54.0	-38.0	1.00 V	312	-22.67	38.72
7	7427.40	57.2 PK	74.0	-16.8	1.00 V	14	14.18	43.00
8	7427.40	17.2 AV	54.0	-36.8	1.00 V	14	-25.82	43.00

**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).
3. The other emission levels were very low against the limit.
4. Margin value = Emission level – Limit value.
5. “ \* “ : Fundamental frequency
6. The average value of fundamental frequency is: Average = Peak value + 20log(Duty cycle) Where the duty factor is calculated from following formula:  
 $20 \log (\text{Duty cycle}) = 20 \log (1 \text{ ms} \times 1 / 100 \text{ ms}) = -40 \text{ dB}$   
 Please see page 18 for plotted duty.



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$$20 \log (\text{Duty cycle}) = 20 \log (1 \text{ ms} \times 1 / 100 \text{ ms}) = -40 \text{ dB}$$

**BELOW 1GHz WORST-CASE DATA**

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 3	FREQUENCY RANGE	Below 1000MHz
INPUT POWER	3Vdc	DETECTOR FUNCTION	Quasi-Peak
ENVIRONMENTAL CONDITIONS	24deg. C, 78%RH	TESTED BY	Chad Lee

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	75.27	20.7 QP	40.0	-19.3	1.44 H	14	9.86	10.88
2	794.68	26.7 QP	46.0	-19.3	1.56 H	62	0.48	26.18
3	812.47	26.4 QP	46.0	-19.6	1.24 H	197	-0.04	26.46
4	846.42	27.4 QP	46.0	-18.6	1.08 H	171	0.41	26.99
5	901.38	27.5 QP	46.0	-18.5	1.33 H	9	-0.23	27.75
6	920.78	27.7 QP	46.0	-18.4	1.58 H	10	-0.31	27.96
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	34.85	26.9 QP	40.0	-13.1	1.00 V	10	14.72	12.21
2	75.27	22.0 QP	40.0	-18.0	1.00 V	59	11.12	10.88
3	435.78	32.4 QP	46.0	-13.6	1.14 V	80	13.06	19.30
4	523.08	28.6 QP	46.0	-17.4	1.05 V	2	7.01	21.58
5	894.92	33.3 QP	46.0	-12.7	1.00 V	304	5.60	27.66
6	920.78	28.2 QP	46.0	-17.8	1.00 V	11	0.22	27.96

**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).
3. The other emission levels were very low against the limit.
4. Margin value = Emission level – Limit value.



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## 5. PHOTOGRAPHS OF THE TEST CONFIGURATION

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



## 6. 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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## **7. APPENDIX A – MODIFICATIONS RECORDERS FOR ENGINEERING CHANGES TO THE EUT BY THE LAB**

No modifications were made to the EUT by the lab during the test.

**---END---**