



# FCC TEST REPORT

**REPORT NO.:** RF981110A07

**MODEL NO.:** 1416

**RECEIVED:** Nov. 10, 2009

**TESTED:** Nov. 11, 2009

**ISSUED:** Nov. 19, 2009

**APPLICANT:** MICROSOFT CORPORATION

**ADDRESS:** ONE MICROSOFT WAY REDMOND, WA  
98052-6399, U.S.A

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

**LAB LOCATION:** No. 47, 14th Ling, Chia Pau Tsuen, Lin Kou  
Hsiang, Taipei Hsien 244, Taiwan

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## 1. CERTIFICATION

**PRODUCT:** Microsoft wireless Mouse  
**BRAND NAME:** Microsoft®  
**MODEL NO.:** 1416  
**APPLICANT:** MICROSOFT CORPORATION  
**TESTED:** Nov. 11, 2009  
**TEST SAMPLE:** ENGINEERING SAMPLE  
**STANDARDS:** FCC Part 15, Subpart C (Section 15.249),  
ANSI C63.4-2003

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. 19, 2009  
( Annie Chang / Senior Specialist )

**TECHNICAL ACCEPTANCE :** Jamison Chan , **DATE:** Nov. 19, 2009  
Responsible for RF ( Jamison Chan / Supervisor )

**APPROVED BY :** Ken Liu , **DATE:** Nov. 19, 2009  
( Ken Liu / Assistant 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 SECTION	TEST TYPE AND LIMIT	RESULT	REMARK
15.207	Conducted Emission Test	N/A	The EUT power from battery
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 12.209	PASS	Minimum passing margin is -8.2dB at 2390.00MHz

### 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	3.72 dB
	Above 1GHz	2.89 dB

### 3. GENERAL INFORMATION

#### 3.1 GENERAL DESCRIPTION OF EUT

<b>EUT</b>	Microsoft wireless Mouse
<b>MODEL NO.</b>	1416
<b>FCC ID</b>	C3K1416
<b>POWER SUPPLY</b>	1.5Vdc from battery
<b>VOLTAGE OPERATING RANGE</b>	$V_{nom}= 1.5$ $V_{min}= 1.275$ $V_{max}= 1.725$
<b>MODULATION TYPE</b>	GFSK
<b>OPERATING FREQUENCY</b>	2403MHz ~2480MHz
<b>NUMBER OF CHANNEL</b>	24
<b>ANTENNA TYPE</b>	Printed antenna with -0.58dBi 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 Microsoft wireless Mouse, which is a transceiver.
2. The EUT has 3 samples, which are defined as their serial no. as follows:

Product	Model No.	Serial no.
Microsoft wireless Mouse	1416	015
		096
		149

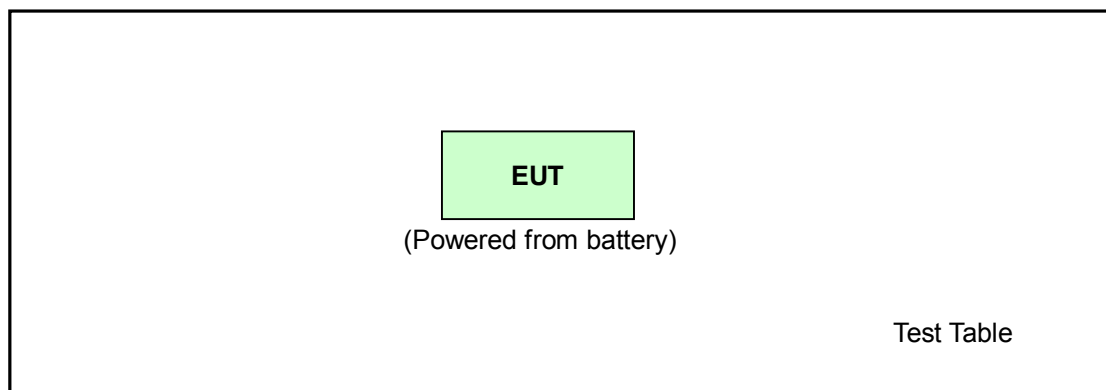
3. The above EUT information was declared by the manufacturer and for more detailed features description, please refer to the manufacturer's specifications or User's Manual.

## 3.2 DESCRIPTION OF TEST MODES

24 channels are provided to this EUT:

Channel Group	Channel	Frequency (MHz)	Channel Group	Channel	Frequency (MHz)
Subset A	0	2403	Subset D	12	2405
	1	2419		13	2425
	2	2478		14	2444
	3	2468		15	2452
Subset B	4	2429	Subset E	16	2423
	5	2450		17	2446
	6	2470		18	2456
	7	2480		19	2474
Subset C	8	2421	Subset F	20	2417
	9	2431		21	2427
	10	2472		22	2448
	11	2454		23	2476

### 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≥1G	APCM	
-	Note	√	√	√	-

Where PLC: Power Line Conducted Emission RE<1G RE: Radiated Emission below 1GHz  
 RE≥1G: Radiated Emission above 1GHz APCM: Antenna Port Conducted 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, data rates 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	SERIAL NO.	MODULATION TYPE
0 to 23	0	015, 096, 149	GFSK

#### 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.

AVAILABLE CHANNEL	TESTED CHANNEL	SERIAL NO.	MODULATION TYPE
0 to 23	0, 14, 7	015, 096, 149	GFSK

#### BANDEDGE MEASUREMENT:

- 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.

AVAILABLE CHANNEL	TESTED CHANNEL	SERIAL NO.	MODULATION TYPE
0 to 23	0, 7	015	GFSK

#### TEST CONDITION:

APPLICABLE TO	ENVIRONMENTAL CONDITIONS	INPUT POWER	TESTED BY
RE≥1G	23deg. C, 74% RH, 1013hPa	1.5Vdc	Nick Chen
RE<1G	23deg. C, 74% RH, 1013hPa	1.5Vdc	Nick Chen
APCM	23deg. C, 74% RH, 1013hPa	1.5Vdc	Nick Chen



### **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. (15.249)**

**ANSI C63.4-2003**

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 MEASUREMENT

#### 4.2.1 LIMITS OF RADIATED EMISSION MEASUREMENT

Emissions radiated outside of the specified bands, shall be according to the general radiated limits in 15.209, 15.249 as following:

15.209 Limit		
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
15.249 Limit		
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

**NOTE:**

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.



## 4.2.2 TEST INSTRUMENTS

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATED DATE	CALIBRATED UNTIL
HP Preamplifier	8447D	2432A03504	May 04, 2009	May 03, 2010
HP Preamplifier	8449B	3008A01924	Aug. 31, 2009	Aug. 30, 2010
HP Preamplifier	8449B	3008A01292	Aug. 10, 2009	Aug. 09, 2010
ROHDE & SCHWARZ TEST RECEIVER	ESI7	836697/012	Dec. 04, 2008	Dec. 03, 2009
Schwarzbeck Antenna	VULB 9168	137	Apr. 29, 2009	Apr. 28, 2010
Schwarzbeck Antenna	VHBA 9123	480	Apr. 21, 2009	Apr. 20, 2010
EMCO Horn Antenna	3115	6714	Oct. 26, 2009	Oct. 25, 2010
EMCO Horn Antenna	3115	9312-4192	Apr. 17, 2009	Apr. 16, 2010
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	SF104-26.5	CABLE-CH6-17m -01	Aug. 20, 2009	Aug. 19, 2010
ROHDE & SCHWARZ Spectrum Analyzer	FSP 40	100036	Apr. 03, 2009	Apr. 02, 2010

- 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 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.

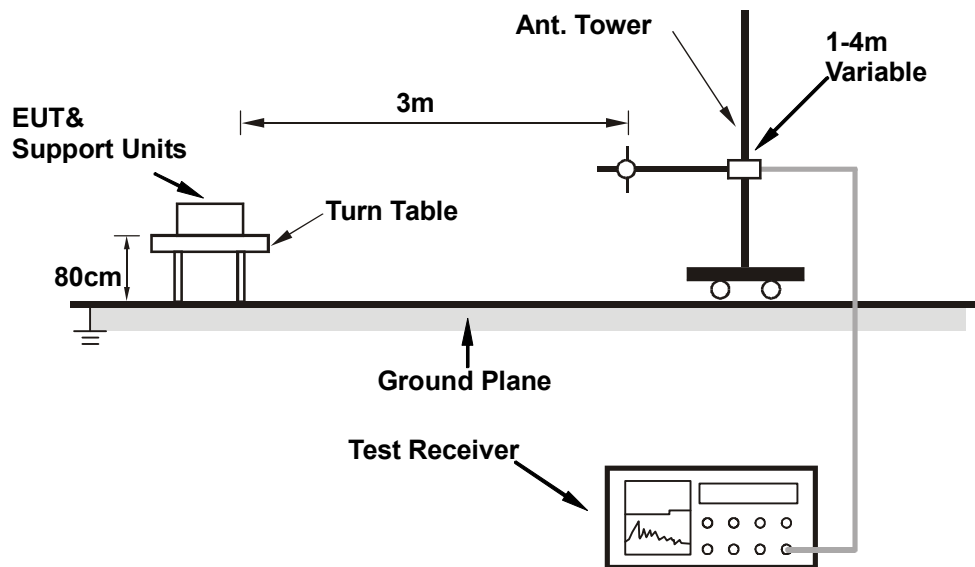
### NOTE:

1. The resolution bandwidth of test receiver/spectrum analyzer is 120kHz for Quasi-peak detection at frequency below 1GHz.
2. The resolution bandwidth is 1MHz and video bandwidth of test receiver/spectrum analyzer is 3MHz for Peak detection at frequency above 1GHz. The resolution bandwidth of test receiver/spectrum analyzer is 1 MHz for Average detection (AV) at frequency above 1GHz.
3. The resolution bandwidth of test receiver/spectrum analyzer is 1 MHz and the video bandwidth is 10 Hz for Average detection (AV) at frequency above 1GHz.

## 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 (For Fundamental, Harmonics)

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 0	FREQUENCY RANGE	1 ~ 25GHz
INPUT POWER	1.5Vdc	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	23deg. C, 74% RH 1013hPa	TESTED BY	Nick Chen
SERIAL NO.	015		

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	2390.00	64.4 PK	74.0	-9.6	1.00 H	111	32.84	31.55
2	<b>2390.00</b>	<b>45.8 AV</b>	<b>54.0</b>	<b>-8.2</b>	<b>1.00 H</b>	<b>111</b>	<b>14.24</b>	<b>31.55</b>
3	2400.00	56.5 PK	74.0	-17.5	1.00 H	111	24.89	31.59
4	2400.00	31.3 AV	54.0	-22.8	1.00 H	111	-0.34	31.59
5	*2403.00	98.5 PK	114.0	-15.5	1.00 H	111	66.87	31.60
6	*2403.00	73.3 AV	94.0	-20.7	1.00 H	111	41.70	31.60
7	7209.00	53.7 PK	74.0	-20.3	1.00 H	79	9.95	43.78
8	7209.00	28.5 AV	54.0	-25.5	1.00 H	79	-15.28	43.78

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	60.6 PK	74.0	-13.4	1.22 V	208	29.02	31.55
2	<b>2390.00</b>	<b>45.8 AV</b>	<b>54.0</b>	<b>-8.2</b>	<b>1.22 V</b>	<b>208</b>	<b>14.22</b>	<b>31.55</b>
3	2400.00	51.7 PK	74.0	-22.4	1.22 V	208	20.06	31.59
4	2400.00	26.5 AV	54.0	-27.5	1.22 V	208	-5.09	31.59
5	*2403.00	93.6 PK	114.0	-20.4	1.22 V	208	62.04	31.60
6	*2403.00	68.4 AV	94.0	-25.6	1.22 V	208	36.81	31.60
7	7209.00	55.0 PK	74.0	-19.0	1.00 V	294	11.20	43.78
8	7209.00	29.8 AV	54.0	-24.3	1.00 V	294	-14.03	43.78

- 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:  
 $20 \log (\text{Duty cycle}) = 20 \log (0.22 \text{ ms} / 4.02 \text{ ms}) = -25.2 \text{ dB}$   
 Please see page 16 for plotted duty.



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EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 14	FREQUENCY RANGE	1 ~ 25GHz
INPUT POWER	1.5Vdc	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	23deg. C, 74% RH 1013hPa	TESTED BY	Nick Chen
SERIAL NO.	015		

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	*2444.00	99.9 PK	114.0	-14.1	1.00 H	293	68.18	31.76
2	*2444.00	74.7 AV	94.0	-19.3	1.00 H	293	42.95	31.76
3	7332.00	58.0 PK	74.0	-16.0	1.03 H	6	13.81	44.19
4	7332.00	32.8 AV	54.0	-21.2	1.03 H	6	-11.42	44.19
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	*2444.00	93.8 PK	114.0	-20.2	1.00 V	26	62.05	31.76
2	*2444.00	68.6 AV	94.0	-25.4	1.00 V	26	36.82	31.76
3	7332.00	59.7 PK	74.0	-14.3	1.00 V	37	15.51	44.19
4	7332.00	34.5 AV	54.0	-19.5	1.00 V	37	-9.72	44.19

- 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:  
 $20 \log (\text{Duty cycle}) = 20 \log (0.22 \text{ ms} / 4.02 \text{ ms}) = -25.2 \text{ dB}$   
 Please see page 16 for plotted duty.



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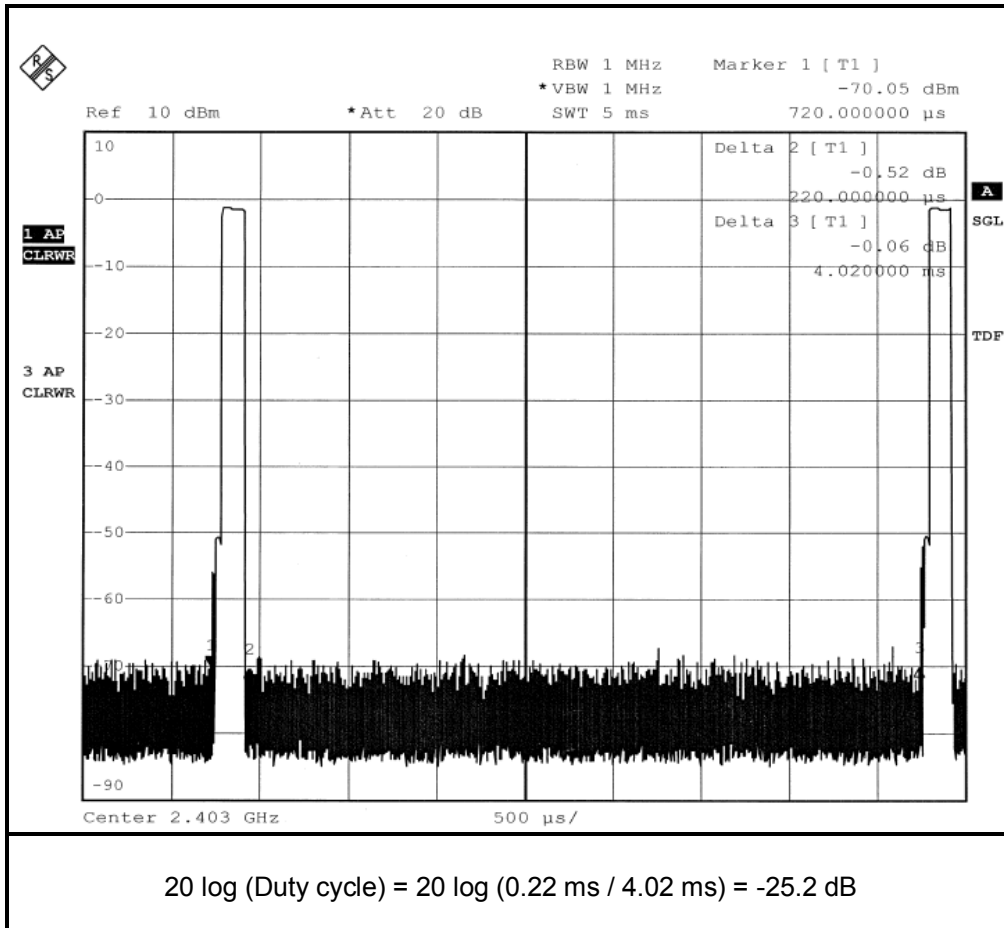
EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 7	FREQUENCY RANGE	1 ~ 25GHz
INPUT POWER	1.5Vdc	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	23deg. C, 74% RH 1013hPa	TESTED BY	Nick Chen
SERIAL NO.	015		

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	*2480.00	97.6 PK	114.0	-16.4	1.00 H	109	65.67	31.89
2	*2480.00	72.4 AV	94.0	-21.6	1.00 H	109	40.51	31.89
3	2483.50	54.0 PK	74.0	-20.0	1.00 H	109	22.05	31.91
4	2483.50	28.8 AV	54.0	-25.2	1.00 H	109	-3.11	31.91
5	7440.00	61.8 PK	74.0	-12.2	1.23 H	343	17.34	44.48
6	7440.00	36.6 AV	54.0	-17.4	1.23 H	343	-7.89	44.48
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	*2480.00	93.1 PK	114.0	-20.9	1.00 V	213	61.21	31.89
2	*2480.00	67.9 AV	94.0	-26.1	1.00 V	213	35.98	31.89
3	2483.50	49.5 PK	74.0	-24.5	1.00 V	213	17.59	31.91
4	2483.50	24.3 AV	54.0	-29.7	1.00 V	213	-7.64	31.91
5	7440.00	63.8 PK	74.0	-10.2	1.31 V	222	19.30	44.48
6	7440.00	38.6 AV	54.0	-15.5	1.31 V	222	-5.93	44.48

- 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:  
 $20 \log (\text{Duty cycle}) = 20 \log (0.22 \text{ ms} / 4.02 \text{ ms}) = -25.2 \text{ dB}$   
 Please see page 16 for plotted duty.



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**ABOVE 1GHz DATA (For Spurious Emission)**

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 0	FREQUENCY RANGE	1 ~ 25GHz
INPUT POWER	1.5Vdc	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	23deg. C, 74% RH 1013hPa	TESTED BY	Nick Chen
SERIAL NO.	015		

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	2748.00	44.2 PK	74.0	-29.8	1.03 H	139	11.18	33.04
2	2748.00	30.2 AV	54.0	-23.8	1.03 H	139	-2.87	33.04
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	2748.00	44.5 PK	74.0	-29.5	1.00 V	199	11.45	33.04
2	2748.00	29.9 AV	54.0	-24.1	1.00 V	199	-3.13	33.04

- 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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EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 14	FREQUENCY RANGE	1 ~ 25GHz
INPUT POWER	1.5Vdc	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	23deg. C, 74% RH 1013hPa	TESTED BY	Nick Chen
SERIAL NO.	015		

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	2795.00	43.9 PK	74.0	-30.1	1.05 H	144	10.73	33.14
2	2795.00	29.6 AV	54.0	-24.4	1.05 H	144	-3.53	33.14
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	2795.00	44.5 PK	74.0	-29.5	1.02 V	234	11.38	33.14
2	2795.00	30.1 AV	54.0	-23.9	1.02 V	234	-3.08	33.14

- 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.



A D T

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 7	FREQUENCY RANGE	1 ~ 25GHz
INPUT POWER	1.5Vdc	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	23deg. C, 74% RH 1013hPa	TESTED BY	Nick Chen
SERIAL NO.	015		

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	2836.00	44.0 PK	74.0	-30.0	1.06 H	151	10.80	33.22
2	2836.00	30.0 AV	54.0	-24.0	1.06 H	151	-3.19	33.22
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	2836.00	44.7 PK	74.0	-29.3	1.05 V	211	11.47	33.22
2	2836.00	30.2 AV	54.0	-23.8	1.05 V	211	-3.03	33.22

- 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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EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 0	FREQUENCY RANGE	1 ~ 25GHz
INPUT POWER	1.5Vdc	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	23deg. C, 74% RH 1013hPa	TESTED BY	Nick Chen
SERIAL NO.	096		

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	2748.00	44.0 PK	74.0	-30.0	1.02 H	163	10.95	33.04
2	2748.00	29.8 AV	54.0	-24.2	1.02 H	163	-3.21	33.04
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	2748.00	43.9 PK	74.0	-30.2	1.00 V	257	10.81	33.04
2	2748.00	30.0 AV	54.0	-24.0	1.00 V	257	-3.07	33.04

- 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.

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 14	FREQUENCY RANGE	1 ~ 25GHz
INPUT POWER	1.5Vdc	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	23deg. C, 74% RH 1013hPa	TESTED BY	Nick Chen
SERIAL NO.	096		

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	2795.00	43.8 PK	74.0	-30.2	1.03 H	133	10.70	33.14
2	2795.00	29.7 AV	54.0	-24.3	1.03 H	133	-3.41	33.14
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	2795.00	44.5 PK	74.0	-29.5	1.06 V	193	11.36	33.14
2	2795.00	30.3 AV	54.0	-23.7	1.06 V	193	-2.85	33.14

- 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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EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 7	FREQUENCY RANGE	1 ~ 25GHz
INPUT POWER	1.5Vdc	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	23deg. C, 74% RH 1013hPa	TESTED BY	Nick Chen
SERIAL NO.	096		

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	2836.00	44.9 PK	74.0	-29.1	1.00 H	136	11.66	33.22
2	2836.00	30.4 AV	54.0	-23.6	1.00 H	136	-2.85	33.22
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	2836.00	44.5 PK	74.0	-29.5	1.04 V	197	11.30	33.22
2	2836.00	31.4 AV	54.0	-22.6	1.04 V	197	-1.78	33.22

- 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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EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 0	FREQUENCY RANGE	1 ~ 25GHz
INPUT POWER	1.5Vdc	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	23deg. C, 74% RH 1013hPa	TESTED BY	Nick Chen
SERIAL NO.	149		

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	2748.00	44.0 PK	74.0	-30.0	1.00 H	130	10.97	33.04
2	2748.00	29.9 AV	54.0	-24.1	1.00 H	130	-3.10	33.04
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	2748.00	44.3 PK	74.0	-29.7	1.01 V	222	11.28	33.04
2	2748.00	31.0 AV	54.0	-23.0	1.01 V	222	-2.02	33.04

- 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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EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 14	FREQUENCY RANGE	1 ~ 25GHz
INPUT POWER	1.5Vdc	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	23deg. C, 74% RH 1013hPa	TESTED BY	Nick Chen
SERIAL NO.	149		

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	2795.00	44.2 PK	74.0	-29.8	1.00 H	133	11.09	33.14
2	2795.00	30.4 AV	54.0	-23.6	1.00 H	133	-2.73	33.14
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	2795.00	44.5 PK	74.0	-29.5	1.00 V	182	11.39	33.14
2	2795.00	30.8 AV	54.0	-23.2	1.00 V	182	-2.33	33.14

- 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.



EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 7	FREQUENCY RANGE	1 ~ 25GHz
INPUT POWER	1.5Vdc	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	23deg. C, 74% RH 1013hPa	TESTED BY	Nick Chen
SERIAL NO.	149		

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	2836.00	43.8 PK	74.0	-30.2	1.05 H	173	10.61	33.22
2	2836.00	29.8 AV	54.0	-24.2	1.05 H	173	-3.46	33.22
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	2836.00	44.5 PK	74.0	-29.5	1.03 V	217	11.30	33.22
2	2836.00	30.3 AV	54.0	-23.7	1.03 V	217	-2.93	33.22

- 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.

### BELOW 1GHz WORST-CASE DATA

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 0	FREQUENCY RANGE	Below 1000MHz
INPUT POWER	1.5Vdc	DETECTOR FUNCTION	Quasi-Peak
ENVIRONMENTAL CONDITIONS	23deg. C, 74% RH 1013hPa	TESTED BY	Nick Chen
SERIAL NO.	015		

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	773.04	24.8 QP	46.0	-21.2	1.23 H	241	-1.37	26.17
2	801.03	25.1 QP	46.0	-20.9	1.27 H	274	-1.54	26.63
3	836.78	25.6 QP	46.0	-20.4	1.05 H	259	-1.63	27.19
4	856.99	25.0 QP	46.0	-21.0	1.32 H	10	-2.53	27.49
5	905.18	25.5 QP	46.0	-20.5	1.09 H	160	-2.61	28.10
6	925.38	26.1 QP	46.0	-19.9	1.12 H	10	-2.18	28.32
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	715.53	22.7 QP	46.0	-23.4	1.02 V	340	-2.47	25.12
2	779.26	22.8 QP	46.0	-23.2	1.13 V	328	-3.45	26.27
3	808.80	24.9 QP	46.0	-21.1	1.34 V	346	-1.88	26.75
4	825.90	25.0 QP	46.0	-21.0	1.27 V	343	-2.02	27.02
5	869.42	24.2 QP	46.0	-21.9	1.24 V	73	-3.50	27.65
6	897.40	24.5 QP	46.0	-21.6	1.06 V	43	-3.56	28.01
7	934.71	25.8 QP	46.0	-20.2	1.05 V	322	-2.62	28.42

- 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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EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 0	FREQUENCY RANGE	Below 1000MHz
INPUT POWER	1.5Vdc	DETECTOR FUNCTION	Quasi-Peak
ENVIRONMENTAL CONDITIONS	23deg. C, 74% RH 1013hPa	TESTED BY	Nick Chen
SERIAL NO.	096		

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	746.62	21.8 QP	46.0	-24.2	1.06 H	292	-3.92	25.73
2	779.26	23.4 QP	46.0	-22.6	1.13 H	349	-2.86	26.27
3	805.69	24.9 QP	46.0	-21.1	1.10 H	334	-1.77	26.70
4	836.78	25.4 QP	46.0	-20.6	1.07 H	295	-1.77	27.19
5	849.21	25.3 QP	46.0	-20.8	1.06 H	10	-2.14	27.39
6	993.78	29.1 QP	54.0	-24.9	1.17 H	283	0.02	29.09
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	699.98	21.8 QP	46.0	-24.2	1.03 V	10	-2.97	24.81
2	737.29	21.9 QP	46.0	-24.1	1.12 V	10	-3.60	25.54
3	776.15	22.5 QP	46.0	-23.5	1.08 V	157	-3.70	26.22
4	808.80	25.1 QP	46.0	-20.9	1.14 V	331	-1.69	26.75
5	830.56	25.6 QP	46.0	-20.4	1.08 V	214	-1.47	27.09
6	849.21	24.7 QP	46.0	-21.3	1.00 V	127	-2.70	27.39
7	884.97	25.2 QP	46.0	-20.8	1.22 V	112	-2.61	27.85
8	937.82	26.3 QP	46.0	-19.7	1.28 V	184	-2.18	28.46

- 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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EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 0	FREQUENCY RANGE	Below 1000MHz
INPUT POWER	1.5Vdc	DETECTOR FUNCTION	Quasi-Peak
ENVIRONMENTAL CONDITIONS	23deg. C, 74% RH 1013hPa	TESTED BY	Nick Chen
SERIAL NO.	149		

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	687.55	21.3 QP	46.0	-24.8	1.02 H	316	-3.37	24.62
2	724.86	22.3 QP	46.0	-23.7	1.11 H	202	-3.00	25.30
3	773.04	24.6 QP	46.0	-21.4	1.06 H	223	-1.58	26.17
4	805.69	25.6 QP	46.0	-20.4	1.28 H	115	-1.14	26.70
5	829.01	24.7 QP	46.0	-21.3	1.01 H	40	-2.39	27.07
6	875.64	24.6 QP	46.0	-21.4	1.22 H	265	-3.11	27.73
7	912.95	25.5 QP	46.0	-20.5	1.25 H	133	-2.67	28.18
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	712.42	21.8 QP	46.0	-24.2	1.03 V	10	-3.21	25.05
2	745.06	21.9 QP	46.0	-24.1	1.17 V	316	-3.82	25.70
3	779.26	23.1 QP	46.0	-22.9	1.26 V	181	-3.15	26.27
4	804.13	25.4 QP	46.0	-20.6	1.17 V	115	-1.29	26.68
5	836.78	24.8 QP	46.0	-21.2	1.01 V	190	-2.39	27.19
6	863.21	24.7 QP	46.0	-21.3	1.28 V	97	-2.85	27.57
7	902.07	24.6 QP	46.0	-21.4	1.10 V	235	-3.47	28.06

- 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.



## 4.3 BAND EDGES MEASUREMENT

### 4.3.1 LIMITS OF BAND EDGES MEASUREMENT

Below  $-50\text{dB}$  of the highest emission level of operating band (in 100kHz Resolution Bandwidth).

### 4.3.2 TEST INSTRUMENTS

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATED DATE	CALIBRATED UNTIL
SPECTRUM ANALYZER	FSP 40	100036	Apr. 03, 2009	Apr. 02, 2010

**NOTE:** The calibration interval of the above test instruments is 12 months and the calibrations are traceable to NML/ROC and NIST/USA.

### 4.3.3 TEST PROCEDURE

The transmitter output was connected to the spectrum analyzer via a low lose cable. Set both RBW and VBW of spectrum analyzer to 100 kHz and 300 kHz with suitable frequency span including 100 MHz bandwidth from band edge. The band edges was measured and recorded.

The spectrum plots are attached on the following pages.

### 4.3.4 DEVIATION FROM TEST STANDARD

No deviation

### 4.3.5 EUT OPERATING CONDITION

Same as Item 4.2.6

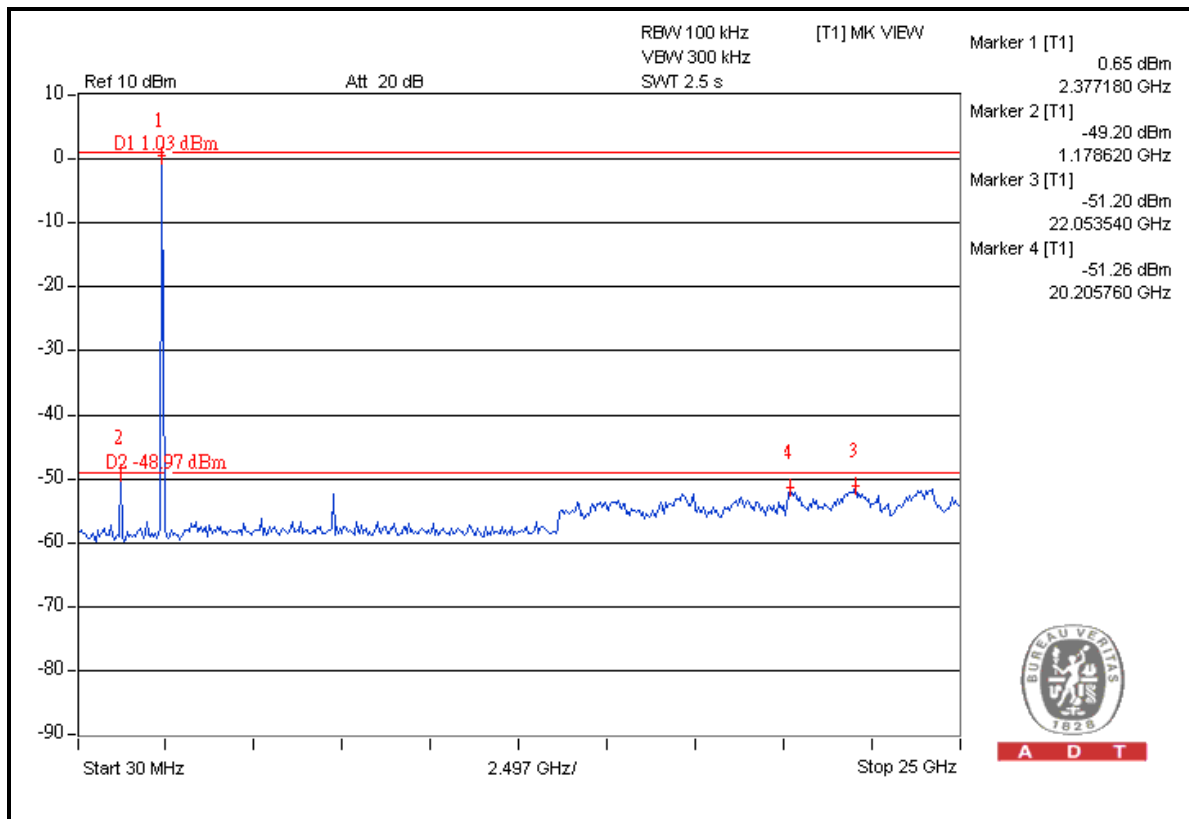
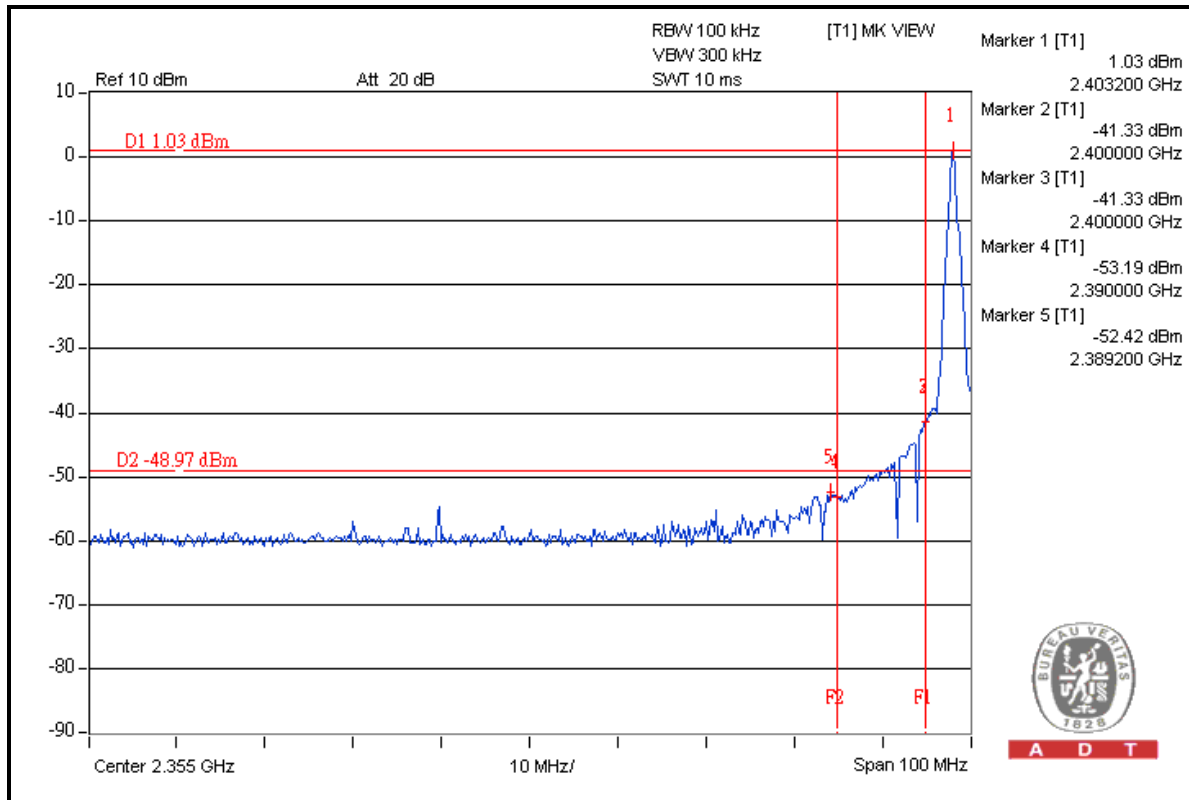
### 4.3.6 TEST RESULTS

The spectrum plots are attached on the following 4 images. D1 line indicates the highest level, and D2 line indicates the 50dB offset below D1. It shows compliance with the requirement in part 15.249(d).



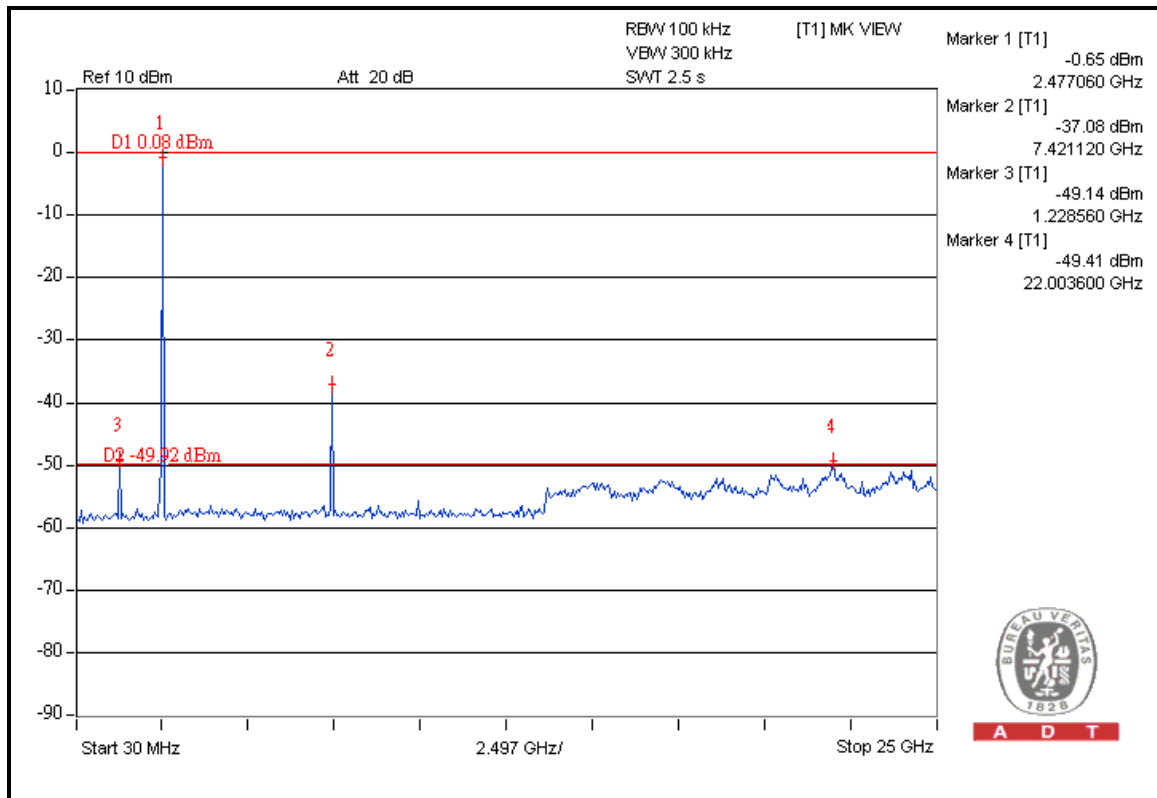
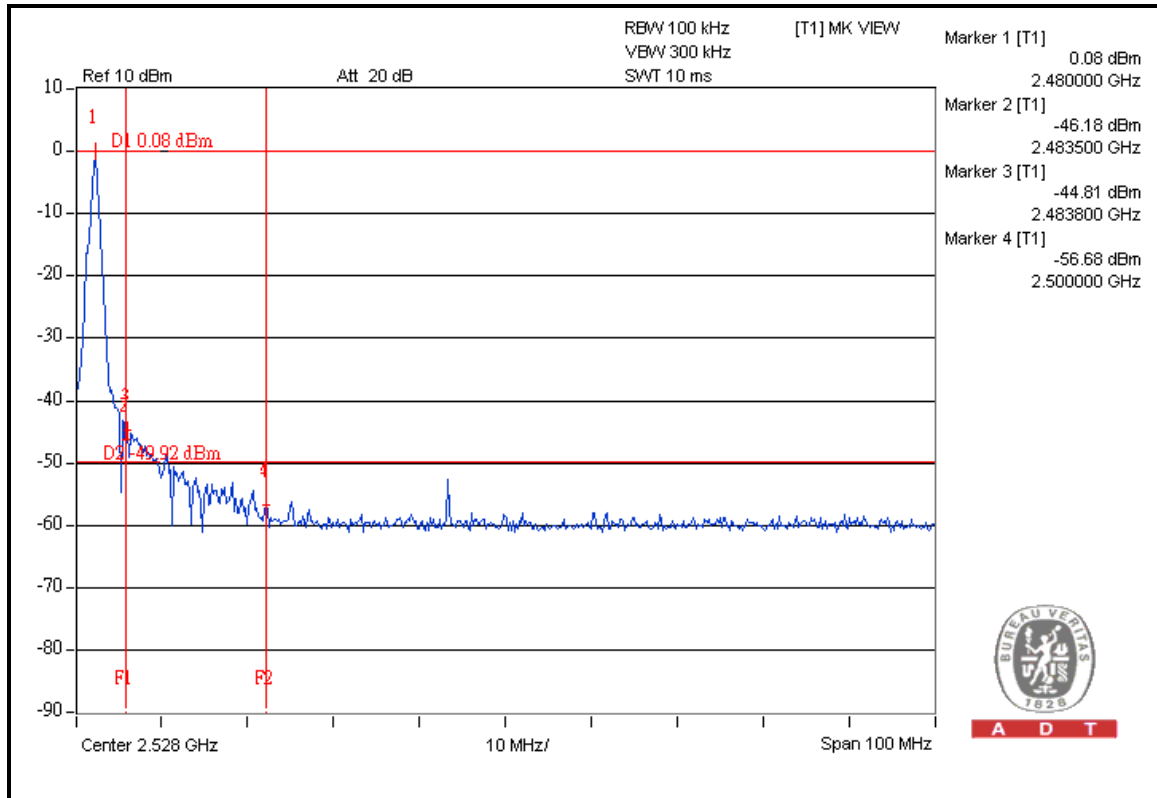
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SERIAL NO.: 015





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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 by the following approval agencies according to ISO/IEC 17025.

<b>USA</b>	FCC, NVLAP
<b>Germany</b>	TUV Rheinland
<b>Japan</b>	VCCI
<b>Norway</b>	NEMKO
<b>Canada</b>	INDUSTRY CANADA, CSA
<b>R.O.C.</b>	TAF, BSMI, NCC
<b>Netherlands</b>	Telefication
<b>Singapore</b>	GOST-ASIA(MOU)
<b>Russia</b>	CERTIS(MOU)

Copies of accreditation certificates of our laboratories obtained from approval agencies can be downloaded from our web site: [www.adt.com.tw/index.5/phtml](http://www.adt.com.tw/index.5/phtml).  
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 Lab:**  
Tel: 886-3-5935343  
Fax: 886-3-5935342

**Hwa Ya EMC/RF/Safety Telecom Lab:**  
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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 any modifications are made to the EUT by the lab during the test.

**---END---**