FCC TEST REPORT

REPORT NO.: RF980323A03-1

MODEL NO.: MG-0919

RECEIVED: March 23, 2009

TESTED: March 26, 2009

ISSUED: April 8, 2009

APPLICANT: Chicony Electronics Co., Ltd.

ADDRESS: No. 25, Wu-Gong 6th Rd., Wu Ku Industrial Park, Taipei Hsien, Taiwan, R.O.C.

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:	Wireless Mouse
BRAND NAME:	acer, Chicony
MODEL NO.:	MG-0919
APPLICANT:	Chicony Electronics Co., Ltd.
TESTED:	March 26, 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 : Celia Chen , **DATE:** April 8, 2009
(Celia Chen / Senior Specialist)

TECHNICAL ACCEPTANCE : Jamison Chan , **DATE:** April 8, 2009
Responsible for RF
(Jamison Chan / Supervisor)

APPROVED BY : Ken Liu , **DATE:** April 8, 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	Power supply is 3Vdc 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 12.209	PASS	Minimum passing margin is –6.82dB at 801.72MHz

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
	1GHz ~ 40GHz	2.89 dB

3. GENERAL INFORMATION

3.1 GENERAL DESCRIPTION OF EUT

EUT	Wireless Mouse
MODEL NO.	MG-0919
FCC ID	E8HMG-0919
POWER SUPPLY	3Vdc from batteries
MODULATION TECHNOLOGY	DSSS
OPERATING FREQUENCY	2402MHz ~ 2479MHz
NUMBER OF CHANNEL	78
ANTENNA TYPE	Strip antenna with -5.04dBi gain
DATA CABLE	N/A
I/O PORTS	N/A
ASSOCIATED DEVICES	N/A

NOTE:

1. The EUT is a Wireless Mouse, which is a transceiver.

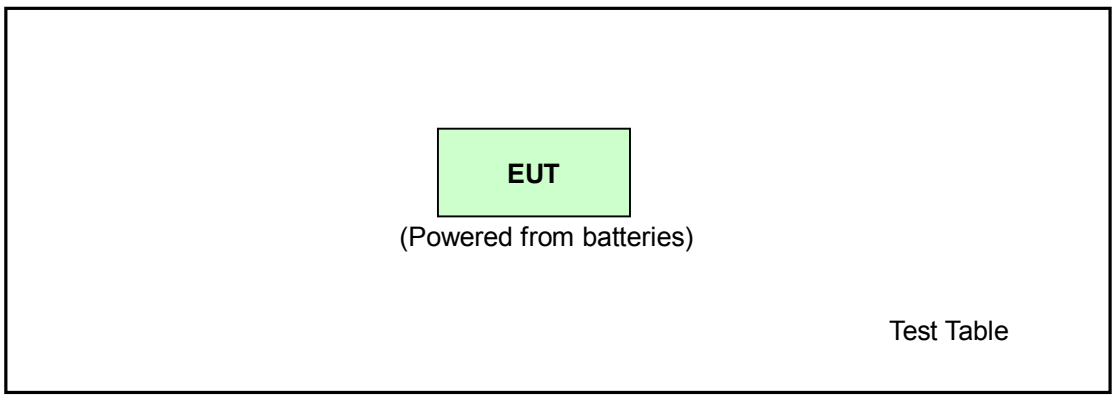
2. The above EUT information was declared by the manufacturer and for more detailed features description, please refer to the manufacturer's specifications or User's Manual.

3.2 DESCRIPTION OF TEST MODES

78 channels are provided to this EUT:

CHANNEL	FREQ. (MHZ)	CHANNEL	FREQ. (MHz)	CHANNEL	FREQ. (MHz)	CHANNEL	FREQ. (MHz)
0	2402	20	2422	40	2442	60	2462
1	2403	21	2423	41	2443	61	2463
2	2404	22	2424	42	2444	62	2464
3	2405	23	2425	43	2445	63	2465
4	2406	24	2426	44	2446	64	2466
5	2407	25	2427	45	2447	65	2467
6	2408	26	2428	46	2448	66	2468
7	2409	27	2429	47	2449	67	2469
8	2410	28	2430	48	2450	68	2470
9	2411	29	2431	49	2451	69	2471
10	2412	30	2432	50	2452	70	2472
11	2413	31	2433	51	2453	71	2473
12	2414	32	2434	52	2454	72	2474
13	2415	33	2435	53	2455	73	2475
14	2416	34	2436	54	2456	74	2476
15	2417	35	2437	55	2457	75	2477
16	2418	36	2438	56	2458	76	2478
17	2419	37	2439	57	2459	77	2479
18	2420	38	2440	58	2460		
19	2421	39	2441	59	2461		

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	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 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 TECHNOLOGY
0 to 77	0	DSSS

RADIATED EMISSION TEST (ABOVE 1 GHz):

☒ 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 TECHNOLOGY
0 to 77	0, 38, 77	DSSS

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 TECHNOLOGY
0 to 77	0, 77	DSSS

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 09, 2008	May 08, 2009
HP Preamplifier	8449B	3008A01924	Sep. 03, 2008	Sep. 02, 2009
HP Preamplifier	8449B	3008A01292	Aug. 06, 2008	Aug. 05, 2009
ROHDE & SCHWARZ TEST RECEIVER	ESI7	836697/012	Dec. 04, 2008	Dec. 03, 2009
Schwarzbeck Antenna	VULB 9168	137	May 02, 2008	May 01, 2009
Schwarzbeck Antenna	VHBA 9123	480	Apr. 23, 2008	Apr. 22, 2009
EMCO Horn Antenna	3115	6714	Oct. 17, 2008	Oct. 16, 2009
EMCO Horn Antenna	3115	9312-4192	Apr. 21, 2008	Apr. 20, 2009
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. 22, 2008	Aug. 21, 2009
ROHDE & SCHWARZ Spectrum Analyzer	FSP 40	100035	Mar. 24, 2009	Mar. 23, 2010

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.

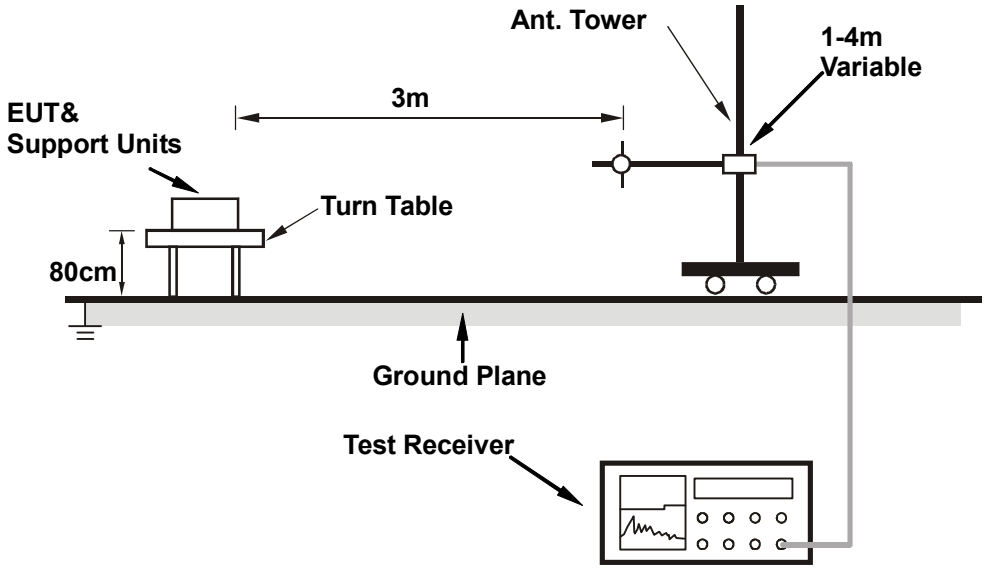
NOTE:

1. The resolution bandwidth 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

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 0	FREQUENCY RANGE	1 ~ 25GHz
INPUT POWER	3Vdc	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	18deg. C, 80%RH 1019hPa	TESTED BY	Nick Chen

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	1602.00	56.07 PK	74.00	-17.93	1.00 H	292	24.15	31.92
2	1602.00	26.83 AV	54.00	-27.17	1.00 H	292	-5.09	31.92
3	2390.00	63.20 PK	74.00	-10.80	1.00 H	163	28.13	35.07
4	2390.00	46.30 AV	54.00	-7.70	1.00 H	163	11.23	35.07
5	2400.00	60.63 PK	74.00	-13.37	1.00 H	163	25.54	35.09
6	2400.00	31.39 AV	54.00	-22.61	1.00 H	163	-3.70	35.09
7	*2402.00	94.67 PK	114.00	-19.33	1.00 H	163	59.58	35.09
8	*2402.00	65.43 AV	94.00	-28.57	1.00 H	163	30.34	35.09
9	4804.00	54.24 PK	74.00	-19.76	1.11 H	274	11.25	42.99
10	4804.00	25.00 AV	54.00	-29.00	1.11 H	274	-17.99	42.99

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:

$$20\log(\text{Duty cycle}) = 20\log\frac{0.5\text{ ms}}{14.5\text{ ms}} = -29.24\text{dB}$$

Please see page 17 for plotted duty.

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 0	FREQUENCY RANGE	1 ~ 25GHz
INPUT POWER	3Vdc	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	18deg. C, 80%RH 1019hPa	TESTED BY	Nick Chen

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	1602.00	44.15 PK	74.00	-29.85	1.26 V	127	12.23	31.92
2	1602.00	14.91 AV	54.00	-39.09	1.26 V	127	-17.01	31.92
3	2390.00	58.53 PK	74.00	-15.47	1.00 V	210	23.46	35.07
4	2390.00	46.23 AV	54.00	-7.77	1.00 V	210	11.16	35.07
5	2400.00	57.97 PK	74.00	-16.03	1.00 V	210	22.88	35.09
6	2400.00	28.73 AV	54.00	-25.27	1.00 V	210	-6.36	35.09
7	*2402.00	92.01 PK	114.00	-21.99	1.00 V	210	56.92	35.09
8	*2402.00	62.77 AV	94.00	-31.23	1.00 V	210	27.68	35.09
9	4804.00	55.59 PK	74.00	-18.41	1.00 V	195	12.60	42.99
10	4804.00	26.35 AV	54.00	-27.65	1.00 V	195	-16.64	42.99

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:

$$20\log(\text{Duty cycle}) = 20\log\frac{0.5\text{ ms}}{14.5\text{ ms}} = -29.24\text{dB}$$

Please see page 17 for plotted duty.

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 38	FREQUENCY RANGE	1 ~ 25GHz
INPUT POWER	3Vdc	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	18deg. C, 80%RH 1017hPa	TESTED BY	Nick Chen

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	1626.00	60.94 PK	74.00	-13.06	1.00 H	266	28.91	32.03
2	1626.00	31.70 AV	54.00	-22.30	1.00 H	266	-0.33	32.03
3	*2440.00	98.54 PK	114.00	-15.46	1.19 H	356	63.37	35.17
4	*2440.00	69.30 AV	94.00	-24.70	1.19 H	356	34.13	35.17
5	4880.00	52.62 PK	74.00	-21.38	1.00 H	191	9.48	43.14
6	4880.00	23.38 AV	54.00	-30.62	1.00 H	191	-19.76	43.14
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	1626.00	43.12 PK	74.00	-30.88	1.26 V	62	11.09	32.03
2	1626.00	13.88 AV	54.00	-40.12	1.26 V	62	-18.15	32.03
3	*2440.00	92.02 PK	114.00	-21.98	1.00 V	211	56.85	35.17
4	*2440.00	62.78 AV	94.00	-31.22	1.00 V	211	27.61	35.17
5	4880.00	57.98 PK	74.00	-16.02	1.00 V	213	14.84	43.14
6	4880.00	28.74 AV	54.00	-25.26	1.00 V	213	-14.40	43.14

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.
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:

$$20\log(\text{Duty cycle}) = 20\log\frac{0.5\text{ ms}}{14.5\text{ ms}} = -29.24\text{dB}$$

Please see page 17 for plotted duty.

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 77	FREQUENCY RANGE	1 ~ 25GHz
INPUT POWER	3Vdc	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	18deg. C, 80%RH 1017hPa	TESTED BY	Nick Chen

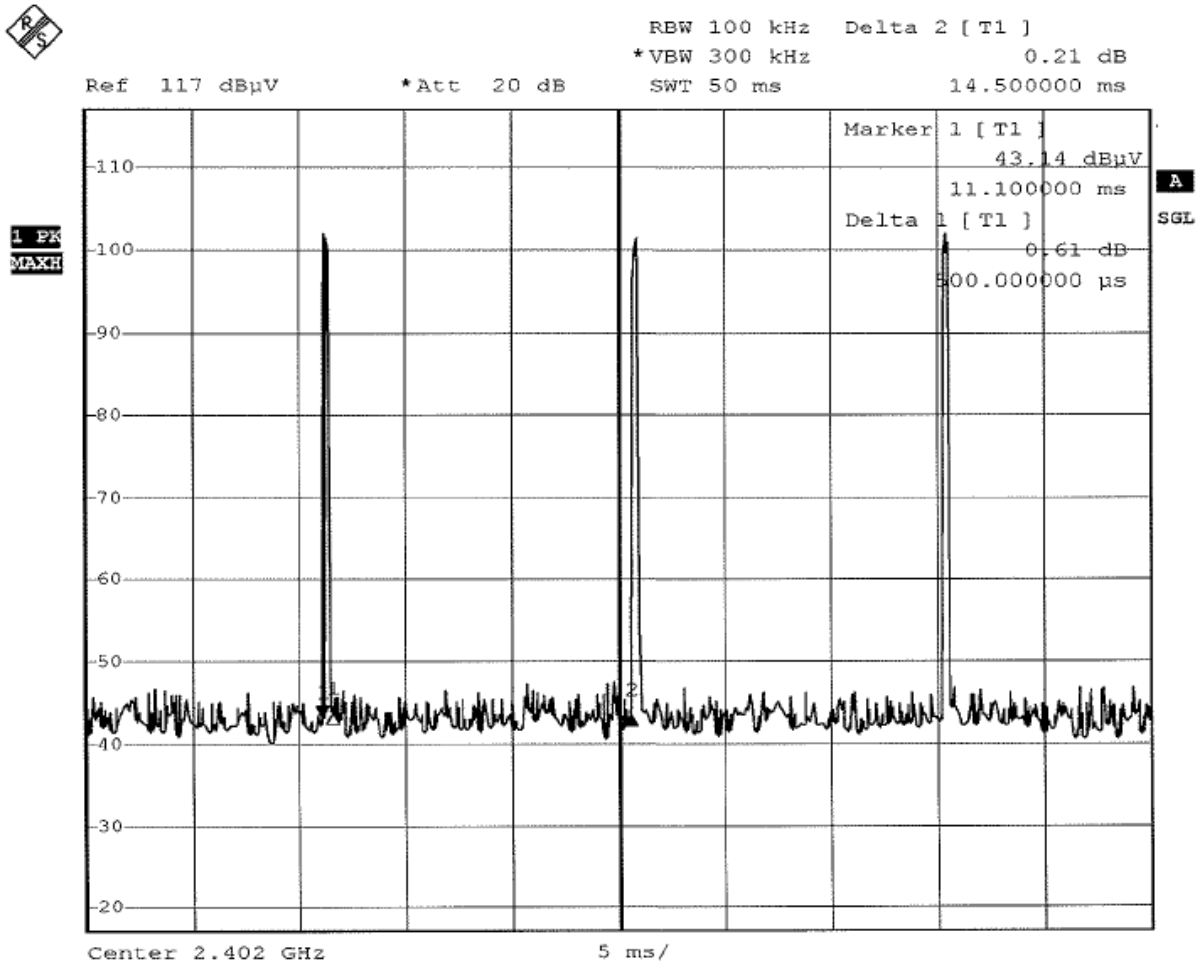
ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	1652.00	60.88 PK	74.00	-13.12	1.00 H	270	28.73	32.15
2	1652.00	31.64 AV	54.00	-22.36	1.00 H	270	-0.51	32.15
3	*2479.00	98.49 PK	114.00	-15.51	1.09 H	113	63.24	35.25
4	*2479.00	69.25 AV	94.00	-24.75	1.09 H	113	34.00	35.25
5	2483.50	55.30 PK	74.00	-18.70	1.09 H	113	20.04	35.26
6	2483.50	26.06 AV	54.00	-27.94	1.09 H	113	-9.20	35.26
7	4958.00	52.68 PK	74.00	-21.32	1.00 H	138	9.38	43.30
8	4958.00	23.44 AV	54.00	-30.56	1.00 H	138	-19.86	43.30
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	1652.00	46.17 PK	74.00	-27.83	1.12 V	294	14.02	32.15
2	1652.00	16.93 AV	54.00	-37.07	1.12 V	294	-15.22	32.15
3	*2479.00	92.14 PK	114.00	-21.86	1.00 V	160	56.89	35.25
4	*2479.00	62.90 AV	94.00	-31.10	1.00 V	160	27.65	35.25
5	2483.50	49.10 PK	74.00	-24.90	1.00 V	160	13.84	35.26
6	2483.50	19.86 AV	54.00	-34.14	1.00 V	160	-15.40	35.26
7	4958.00	54.39 PK	74.00	-19.61	1.00 V	96	11.09	43.30
8	4958.00	25.15 AV	54.00	-28.85	1.00 V	96	-18.15	43.30

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:

$$20\log(\text{Duty cycle}) = 20\log\frac{0.5\text{ ms}}{14.5\text{ ms}} = -29.24\text{dB}$$

Please see page 17 for plotted duty.



$$20\log(\text{Duty cycle}) = 20\log\frac{0.5\ \text{ms}}{14.5\ \text{ms}} = -29.24\text{dB}$$

BELOW 1GHz WORST-CASE DATA

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 0	FREQUENCY RANGE	Below 1000MHz
INPUT POWER	3Vdc	DETECTOR FUNCTION	Quasi-Peak
ENVIRONMENTAL CONDITIONS	18deg. C, 80%RH 1017hPa	TESTED BY	Nick Chen

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	30.00	29.46 QP	40.00	-10.54	1.05 H	349	16.39	13.07
2	68.88	19.59 QP	40.00	-20.41	1.13 H	316	6.95	12.64
3	119.42	28.00 QP	43.50	-15.50	1.24 H	31	14.78	13.22
4	138.86	17.46 QP	43.50	-26.04	1.20 H	205	3.30	14.16
5	164.13	15.11 QP	43.50	-28.39	1.08 H	151	1.18	13.93
6	**801.72**	**39.18 QP**	**46.00**	**-6.82**	**1.11 H**	**94**	**12.11**	**27.07**
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	30.00	31.64 QP	40.00	-8.36	1.04 V	55	18.57	13.07
2	68.88	23.25 QP	40.00	-16.75	1.33 V	70	10.61	12.64
3	90.26	28.73 QP	43.50	-14.77	1.07 V	226	18.69	10.04
4	119.42	27.05 QP	43.50	-16.45	1.01 V	10	13.83	13.22
5	138.86	29.91 QP	43.50	-13.59	1.16 V	358	15.75	14.16
6	158.30	21.01 QP	43.50	-22.49	1.31 V	97	6.73	14.28

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 –50dB 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	100025	Oct. 22, 2008	Oct. 21, 2009

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

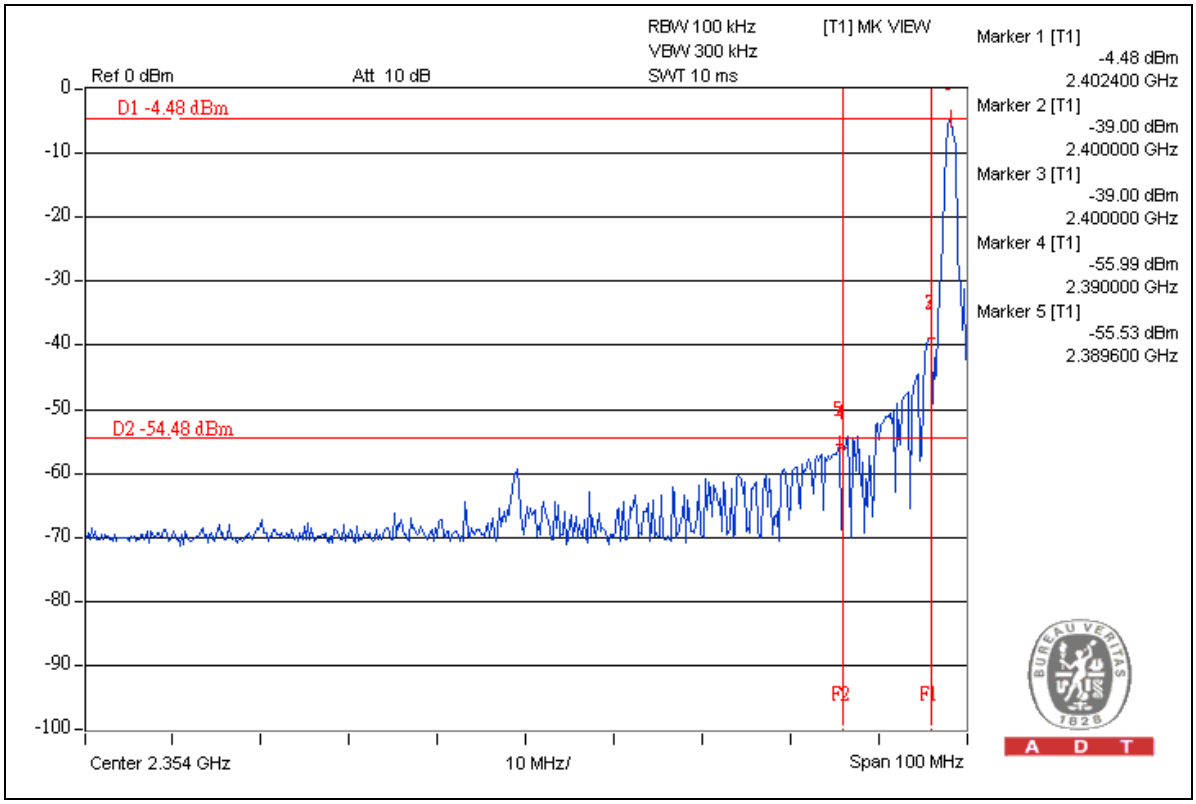
No deviation

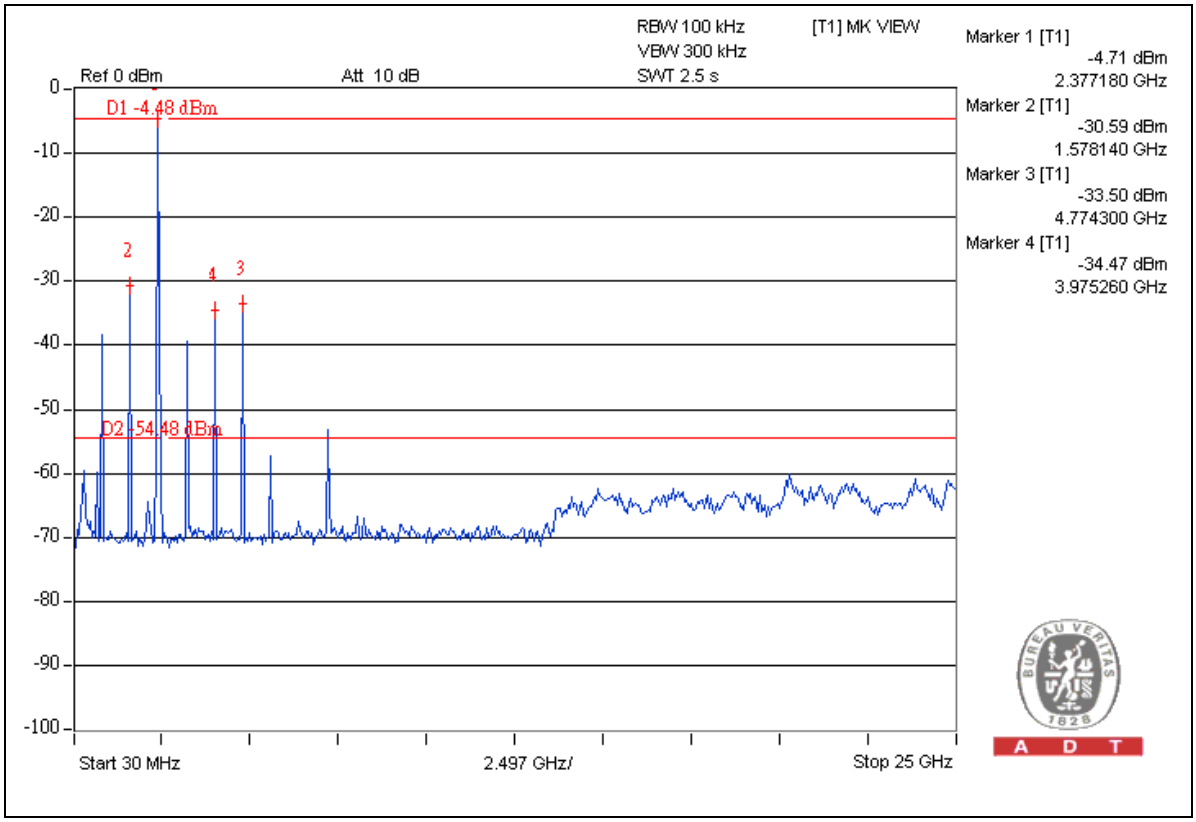
4.3.5 EUT OPERATING CONDITION

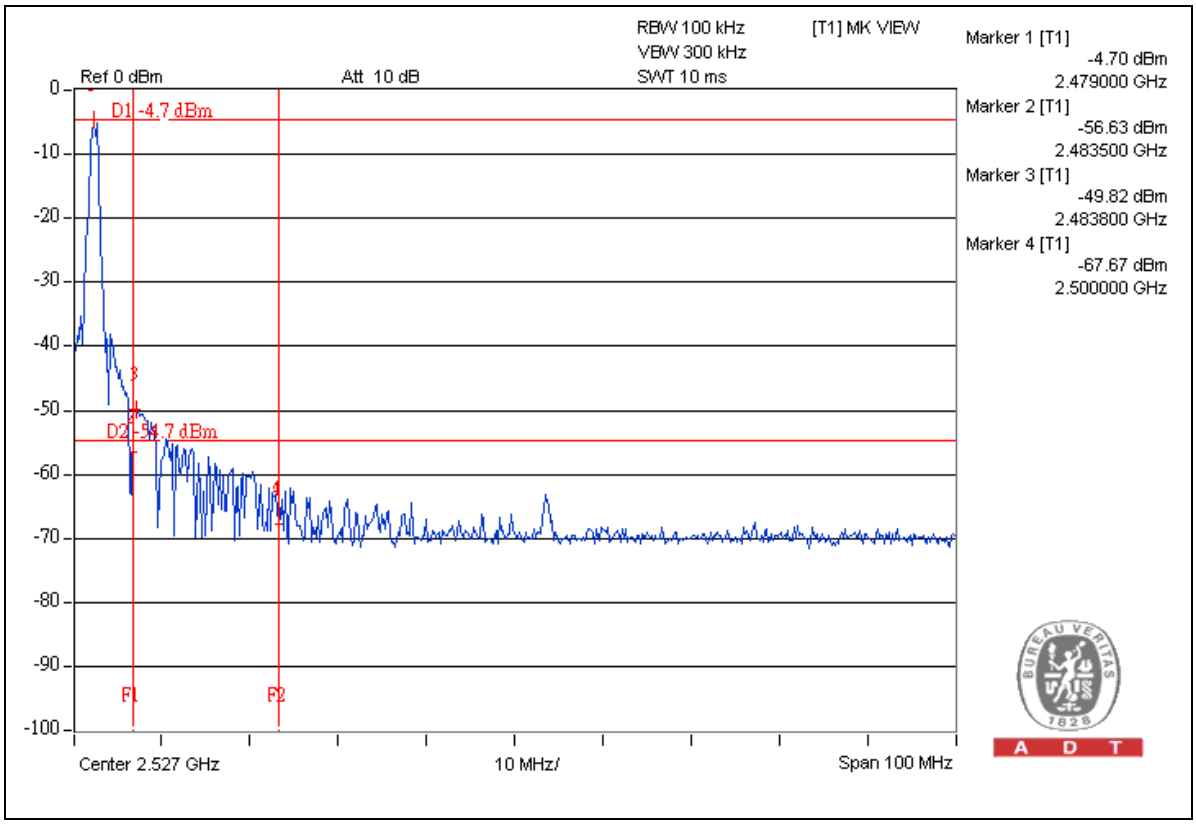
Same as Item 4.2.6

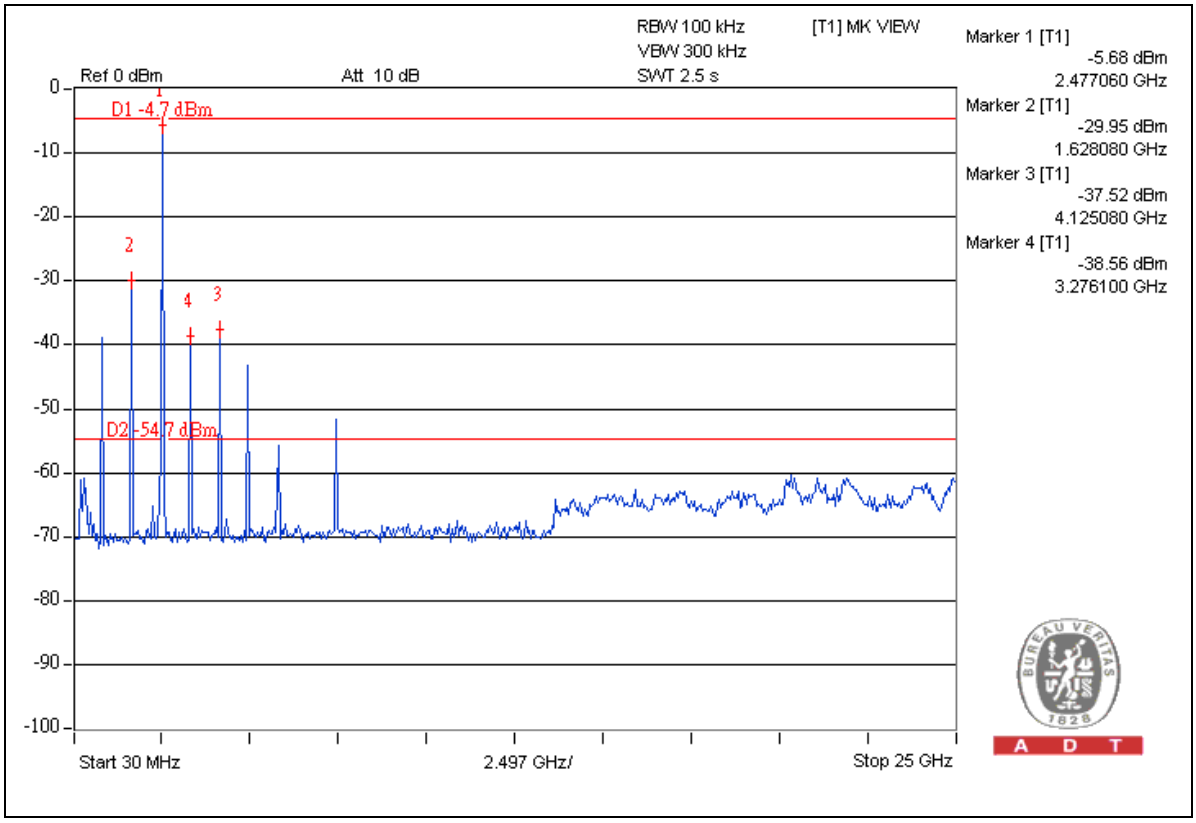
4.3.6 TEST RESULTS

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).


RBW 100 kHz
VBW 300 kHz
SWT 10 ms
[T1] MK VIEW
Ref 0 dBm
Att 10 dB
D1 -4.48 dBm
D2 -54.48 dBm
Marker 1 [T1]
-4.48 dBm
2.402400 GHz
Marker 2 [T1]
-39.00 dBm
2.400000 GHz
Marker 3 [T1]
-39.00 dBm
2.400000 GHz
Marker 4 [T1]
-55.99 dBm
2.390000 GHz
Marker 5 [T1]
-55.53 dBm
2.389600 GHz
Center 2.354 GHz
10 MHz/
Span 100 MHz


RBW 100 kHz
VBW 300 kHz
SWT 2.5 s
[T1] MK VIEW
Ref 0 dBm
Att 10 dB
D1 -4.48 dBm
D2 -54.48 dBm
Marker 1 [T1]
-4.71 dBm
2.377180 GHz
Marker 2 [T1]
-30.59 dBm
1.578140 GHz
Marker 3 [T1]
-33.50 dBm
4.774300 GHz
Marker 4 [T1]
-34.47 dBm
3.975260 GHz
Start 30 MHz
2.497 GHz/
Stop 25 GHz


RBW 100 kHz
VBW 300 kHz
SWT 10 ms
[T1] MK VIEW
Ref 0 dBm
Att 10 dB
D1 -4.7 dBm
D2 -54.7 dBm
F1
F2
Center 2.527 GHz
10 MHz/
Span 100 MHz
Marker 1 [T1]
-4.70 dBm
2.479000 GHz
Marker 2 [T1]
-56.63 dBm
2.483500 GHz
Marker 3 [T1]
-49.82 dBm
2.483800 GHz
Marker 4 [T1]
-67.67 dBm
2.500000 GHz


RBW 100 kHz
VBW 300 kHz
SWT 2.5 s
[T1] MK VIEW
Ref 0 dBm
Att 10 dB
D1 -4.7 dBm
D2 -54.7 dBm
Start 30 MHz
2.497 GHz/
Stop 25 GHz
Marker 1 [T1]
-5.68 dBm
2.477060 GHz
Marker 2 [T1]
-29.95 dBm
1.628080 GHz
Marker 3 [T1]
-37.52 dBm
4.125080 GHz
Marker 4 [T1]
-38.56 dBm
3.276100 GHz

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.

USA	FCC, NVLAP
Germany	TUV Rheinland
Japan	VCCI
Norway	NEMKO
Canada	INDUSTRY CANADA, CSA
R.O.C.	TAF, BSMI, NCC
Netherlands	Telefication
Singapore	GOST-ASIA(MOU)
Russia	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.
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
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Hwa Ya EMC/RF/Safety Telecom Lab:
Tel: 886-3-3183232
Fax: 886-3-3185050

Web Site: www.adt.com.tw

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

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---