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FCC TEST REPORT

REPORT NO.: RF980506H07

MODEL NO.: VGP-WMS4

RECEIVED: May 18, 2009

TESTED: May 19 to 22, 2009

ISSUED: May 25, 2009

APPLICANT: LOGITECH FAR EAST LTD.

ADDRESS: #2 Creation Rd. 4, Science-Based Ind. Park
Hsinchu Taiwan, R.O.C.

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

TEST LOCATION: No. 81-1, Lu Liao Keng, 9th Ling,Wu Lung
Tsuen, Chiung Lin Hsiang, Hsin Chu Hsien 307,
Taiwan

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1 CERTIFICATION

PRODUCT : 2.4GHz Cordless Mouse
BRAND NAME : SONY
MODEL NO. : VGP-WMS4
TESTED : May 19 to 22, 2009
TEST SAMPLE : MASS-PRODUCTION
APPLICANT : LOGITECH FAR EAST LTD.
STANDARDS : 47 CFR Part 15, Subpart C (Section 15.249),
ANSI C63.4-2003

The above equipment (Model: VGP-WMS4) 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 : *Sunny Wen* , **DATE:** May 25, 2009
(Sunny Wen, Specialist)

TECHNICAL ACCEPTANCE : *Hank Chung* , **DATE:** May 25, 2009
Responsible for RF (Hank Chung, Deputy Manager)

APPROVED BY : *May Chen* , **DATE:** May 25, 2009
(May Chen, Deputy Manager)

2 SUMMARY OF TEST RESULTS

The EUT has been tested according to the following specifications:

APPLIED STANDARD: 47 CFR Part 15, Subpart C			
Standard Paragraph	Test Type	Result	Remark
15.207	Conducted Emission Test	NA	Power supply is DC 3V from batteries
15.249	Radiated Emission Test	PASS	Minimum passing margin is -14.06dB at 7437.00MHz
15.249	Band Edge Measurement	PASS	Meet the requirement of limit

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	Value
Radiated emissions (30MHz-1GHz)	3.94 dB
Radiated emissions (1GHz -18GHz)	2.49 dB
Radiated emissions (18GHz -40GHz)	2.70 dB

3 GENERAL INFORMATION

3.1 GENERAL DESCRIPTION OF EUT

PRODUCT	2.4GHz Cordless Mouse
MODEL NO.	VGP-WMS4
FCC ID	JNZVGPWMS4
POWER SUPPLY	DC 3V from batteries
MODULATION TYPE	GFSK
L.O. FREQUENCY	IF: 2 MHz, LO (TX): channel frequency LO (RX): channel frequency + 2 MHz
CARRIER FREQUENCY OF EACH CHANNEL	2402MHz ~ 2479MHz
NUMBER OF CHANNEL	78
ANTENNA TYPE	PCB strip antenna without connector (Antenna Gain : -5.05dBi)
DATA CABLE	NA
I/O PORTS	NA
ASSOCIATED DEVICES	NA

NOTE:

1. 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

Seventy-eight channels are provided to this EUT.

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		

NOTE:

1. Below 1 GHz, the channel 0, 38, and 77 were pre-tested in chamber. The channel 77, worst case one, was chosen for final test.
2. Above 1 GHz, the channel 0, 38, and 77 were tested individually.

3.3 GENERAL DESCRIPTION OF APPLIED STANDARDS

The EUT is a 2.4GHz Cordless Mouse. According to the specifications of the manufacturer, it must comply with the requirements of the following standards:

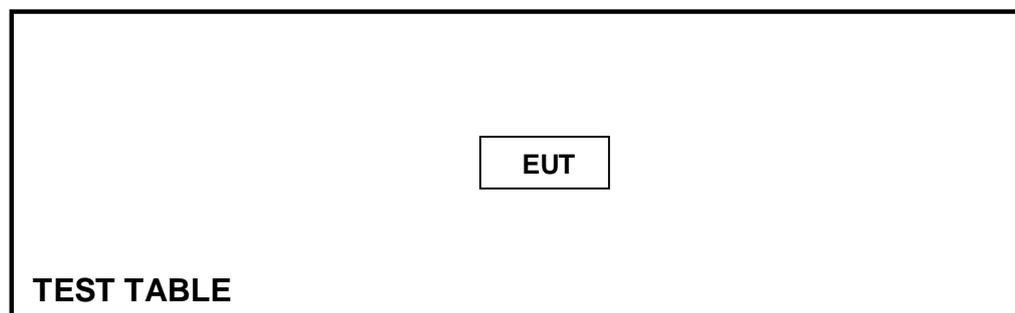
47 CFR Part 15, Subpart C (Section 15.249)
ANSI C63.4: 2003

All tests 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.

3.5 CONFIGURATION OF SYSTEM UNDER TEST



4 TEST PROCEDURES AND RESULTS

4.1 RADIATED EMISSION MEASUREMENT

4.1.1 LIMITS OF RADIATED EMISSION MEASUREMENT

According to 15.249 the field strength of emissions from intentional radiators operated under these frequencies bands shall not exceed the following:

Fundamental Frequency (MHz)	Field Strength of Fundamental (dBuV/m)	
	Peak	Average
2400 ~ 2483.5	114	94
	Field Strength of Harmonics (dBuV/m)	
	74	54

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 in Section 15.209, whichever is the lesser attenuation.

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

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

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.



4.1.2 TEST INSTRUMENTS

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATED DATE	CALIBRATED UNTIL
ROHDE & SCHWARZ Spectrum Analyzer	FSP40	100036	Dec. 09, 2008	Dec. 08, 2009
HP Pre_Amplifier	8449B	3008A01923	Nov. 10, 2008	Nov.09, 2009
ROHDE & SCHWARZ Test Receiver	ESCS30	847124/029	Sep. 09, 2008	Sep. 08, 2009
SCHWARZBECK TRILOG Broadband Antenna	VULB 9168	138	April 29, 2009	April 28, 2010
Schwarzbeck Horn_Antenna	BBHA9120	D124	Dec. 09, 2008	Dec. 08, 2009
Schwarzbeck Horn_Antenna	BBHA 9170	BBHA9170153	Jan. 22, 2009	Jan. 21, 2010
RF Switches	EMH-011	08009	Oct. 07, 2008	Oct. 06, 2009
RF CABLE (Chaintek)	Sucoflex 106	28077	Aug. 15, 2008	Aug. 14, 2009
RF Cable	8DFB	STCCAB-30M-1GHz	Oct. 07, 2008	Oct. 06, 2009
Software	ADT_Radiated_V7.6.15.9.2	NA	NA	NA
CT Antenna Tower & Turn Table	NA	NA	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, HP preamplifier (model: 8449B) and Spectrum Analyzer (model: FSP40) are used only for the measurement of emission frequency above 1GHz if tested.

3. The test was performed in Open Site No. C.

4. The FCC Site Registration No. is 656396.

5. The VCCI Site Registration No. is R-1626.

6. The CANADA Site Registration No. is IC 7450G-3.

4.1.3 TEST PROCEDURES

- a. The EUT was placed on the top of a rotating table 0.8 meters above the ground at a 10 meter open area test site. 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 antenna is a broadband antenna, and its height 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 Peak Detect Function and Specified Bandwidth with Maximum Hold Mode.
- f. If the emission level of the EUT in peak mode was 10 dB lower than the limit specified, then testing could be stopped and the peak values of the EUT would be reported. Otherwise the emissions that did not have 10 dB margin would be re-tested one by one using peak, quasi-peak or average method as specified and then reported in a data sheet.

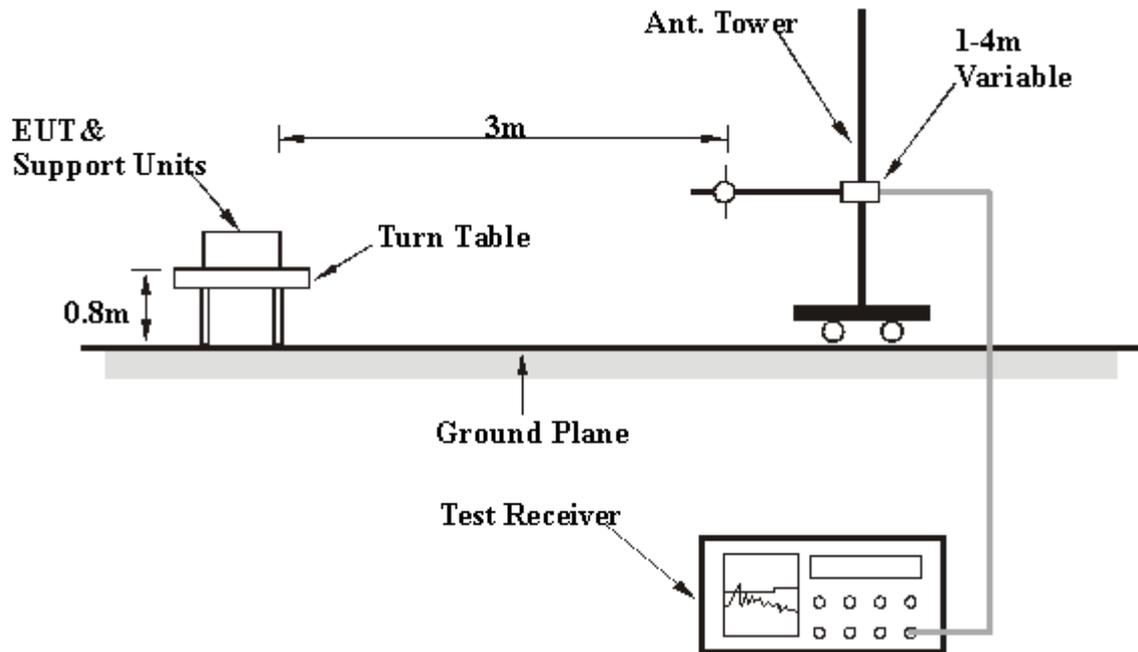
NOTE:

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 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.

4.1.4 DEVIATION FROM TEST STANDARD

No deviation

4.1.5 TEST SETUP



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

4.1.6 EUT OPERATING CONDITIONS

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



4.1.7 TEST RESULTS

BELOW 1GHz WORST-CASE DATA

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 77	FREQUENCY RANGE	Below 1000MHz
INPUT POWER	DC 3V from batteries	DETECTOR FUNCTION	Quasi-Peak
ENVIRONMENTAL CONDITIONS	27deg. C, 62%RH 962hPa	TESTED BY	Wen Yu

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	31.33	21.54 QP	40.00	-18.46	1.68 H	211	7.65	13.89
2	60.11	27.54 QP	40.00	-12.46	1.84 H	23	13.21	14.33
3	151.99	28.15 QP	43.50	-15.35	1.24 H	26	11.91	16.24
4	267.60	27.69 QP	46.00	-18.31	1.26 H	54	11.68	16.01
5	800.00	25.67 QP	46.00	-20.33	1.31 H	62	-4.27	29.94
6	920.50	23.68 QP	46.00	-22.32	1.22 H	357	-7.65	31.33
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	31.32	28.46 QP	40.00	-11.54	1.47 V	35	14.57	13.89
2	47.67	24.49 QP	40.00	-15.51	1.00 V	39	10.46	14.03
3	160.00	23.25 QP	43.50	-20.25	1.00 V	69	7.18	16.07
4	267.60	26.47 QP	46.00	-19.53	1.00 V	322	10.46	16.01
5	455.60	28.58 QP	46.00	-17.42	1.00 V	265	6.60	21.98
6	546.70	26.38 QP	46.00	-19.62	1.00 V	152	2.60	23.78

- 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.



ABOVE 1GHz DATA

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 0	FREQUENCY RANGE	1 ~ 25GHz
INPUT POWER	DC 3V from batteries	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	27deg. C, 62%RH 962hPa	TESTED BY	Wen Yu

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	2399.99	53.47 PK	74.00	-20.53	2.05 H	258	23.15	30.32
2	2399.99	28.58 AV	54.00	-25.42	2.05 H	258	-1.74	30.32
3	*2402.00	89.66 PK	114.00	-24.34	2.05 H	259	59.33	30.33
4	*2402.00	64.77 AV	94.00	-29.23	2.05 H	259	34.44	30.33
5	4804.00	59.60 PK	74.00	-14.40	1.96 H	358	22.87	36.73
6	4804.00	34.71 AV	54.00	-19.29	1.96 H	358	-2.02	36.73
7	7206.00	56.30 PK	74.00	-17.70	1.40 H	196	13.16	43.14
8	7206.00	31.41 AV	54.00	-22.59	1.40 H	196	-11.73	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	2399.99	53.35 PK	74.00	-20.65	1.00 V	209	23.03	30.32
2	2399.99	28.46 AV	54.00	-25.54	1.00 V	209	-1.86	30.32
3	*2402.00	89.54 PK	114.00	-24.46	1.00 V	209	59.21	30.33
4	*2402.00	64.65 AV	94.00	-29.35	1.00 V	209	34.32	30.33
5	4804.00	56.67 PK	74.00	-17.33	1.34 V	179	19.94	36.73
6	4804.00	31.78 AV	54.00	-22.22	1.34 V	179	-4.95	36.73
7	7206.00	56.05 PK	74.00	-17.95	1.37 V	149	12.91	43.14
8	7206.00	31.16 AV	54.00	-22.84	1.37 V	149	-11.98	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 (Duty cycle) = 20 log (0.78 ms / 13.7 ms) = -24.89 dB



EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 38	FREQUENCY RANGE	1 ~ 25GHz
INPUT POWER	DC 3V from batteries	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	27deg. C, 62%RH 962hPa	TESTED BY	Wen Yu

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	*2440.00	87.01 PK	114.00	-26.99	1.91 H	259	56.54	30.47
2	*2440.00	62.12 AV	94.00	-31.88	1.91 H	259	31.65	30.47
3	4880.00	59.14 PK	74.00	-14.86	2.10 H	203	22.20	36.94
4	4880.00	34.25 AV	54.00	-19.75	2.10 H	203	-2.69	36.94
5	7320.00	57.51 PK	74.00	-16.49	1.45 H	205	14.38	43.13
6	7320.00	32.62 AV	54.00	-21.38	1.45 H	205	-10.51	43.13

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	*2440.00	86.62 PK	114.00	-27.38	1.00 V	262	56.15	30.47
2	*2440.00	61.73 AV	94.00	-32.27	1.00 V	262	31.26	30.47
3	4880.00	57.36 PK	74.00	-16.64	1.28 V	180	20.42	36.94
4	4880.00	32.47 AV	54.00	-21.53	1.28 V	180	-4.47	36.94
5	7320.00	58.62 PK	74.00	-15.38	1.30 V	238	15.49	43.13
6	7320.00	33.73 AV	54.00	-20.27	1.30 V	238	-9.40	43.13

- 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 (Duty cycle) = 20 log (0.78 ms / 13.7 ms) = -24.89 dB



EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 78	FREQUENCY RANGE	1 ~ 25GHz
INPUT POWER	DC 3V from batteries	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	27deg. C, 62%RH 962hPa	TESTED BY	Wen Yu

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	*2479.00	84.92 PK	114.00	-29.08	1.82 H	281	54.31	30.61
2	*2479.00	60.03 AV	94.00	-33.97	1.82 H	281	29.42	30.61
3	2483.50	43.62 PK	74.00	-30.38	1.82 H	281	12.99	30.63
4	2483.50	18.73 AV	54.00	-35.27	1.82 H	281	-11.90	30.63
5	4958.00	58.57 PK	74.00	-15.43	2.09 H	290	21.42	37.15
6	4958.00	33.68 AV	54.00	-20.32	2.09 H	290	-3.47	37.15
7	7437.00	59.94 PK	74.00	-14.06	1.52 H	57	16.81	43.13
8	7437.00	35.05 AV	54.00	-18.95	1.52 H	57	-8.08	43.13

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	*2479.00	86.41 PK	114.00	-27.59	1.00 V	284	55.80	30.61
2	*2479.00	61.52 AV	94.00	-32.48	1.00 V	284	30.91	30.61
3	2483.50	45.11 PK	74.00	-28.89	1.00 V	284	14.48	30.63
4	2483.50	20.22 AV	54.00	-33.78	1.00 V	284	-10.41	30.63
5	4958.00	56.78 PK	74.00	-17.22	1.89 V	117	19.63	37.15
6	4958.00	31.89 AV	54.00	-22.11	1.89 V	117	-5.26	37.15
7	7437.00	58.96 PK	74.00	-15.04	1.42 V	141	15.83	43.13
8	7437.00	34.07 AV	54.00	-19.93	1.42 V	141	-9.06	43.13

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 (Duty cycle) = 20 log (0.78 ms / 13.7 ms) = -24.89 dB



4.2 BAND EDGE EMISSION MEASUREMENT

4.2.1 LIMITS OF BAND EDGE EMISSION MEASUREMENT

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 in Section 15.209, whichever is the lesser attenuation.

4.2.2 TEST INSTRUMENTS

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATED DATE	CALIBRATED UNTIL
R&S SPECTRUM ANALYZER	FSP40	100037	Aug. 09, 2008	Aug. 08, 2009

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

4.2.3 TEST PROCEDURE

The transmitter output was connected to the spectrum analyzer via a low lose cable. Use marker-delta method to test band edge. The band edges was measured and recorded.

4.2.4 DEVIATION FROM TEST STANDARD

No deviation

4.2.5 EUT OPERATING CONDITION

The software provided by client enabled the EUT to transmit and receive data at lowest, middle and highest channel frequencies individually.

4.2.6 TEST RESULTS

The spectrum plots are attached on the following 2 pages. It shows compliance with the requirement in part 15.249(d).

Note - The delta method is only used up to 2 MHz away from the restricted bandage, The radiated emissions which located in other restricted frequency band, the result, please refer to 4.2.

NOTE (Peak):

The band edge emission plot on the following first page show 47.09dB delta between carrier maximum power and local maximum emission in restrict band (2.3900GHz). The emission of carrier strength list in the test result of channel 0 at the item 4.1 is 89.66dBuV/m, so the maximum field strength in restrict band is $89.66-47.09=42.57$ dBuV/m which is under 74 dBuV/m limit.

The band edge emission plot on the following second page shows 45.27dB delta between carrier maximum power and local maximum emission in restrict band (2.5000GHz). The emission of carrier strength list in the test result of channel 77 at the item 4.1 is 86.41dBuV/m, so the maximum field strength in restrict band is $86.41-45.27=41.14$ dBuV/m which is under 74 dBuV/m limit.

NOTE (Average):

Average value = $42.57-24.89=17.68$ dBuV/m, which is under 54dBuV/m limit.

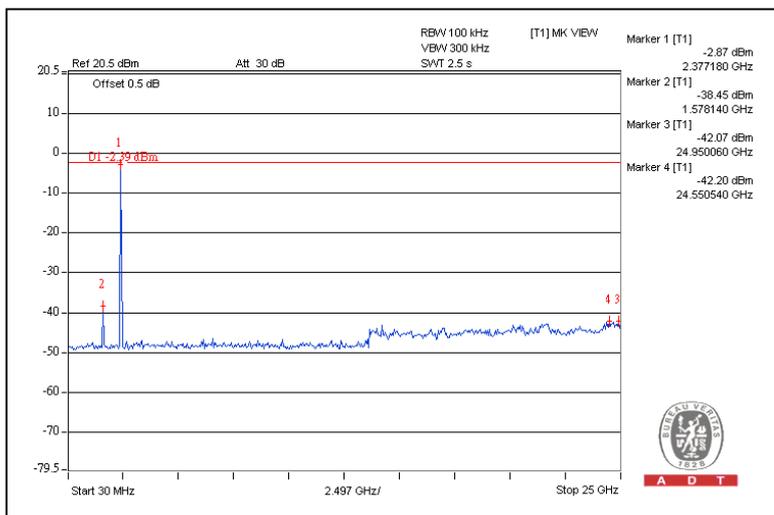
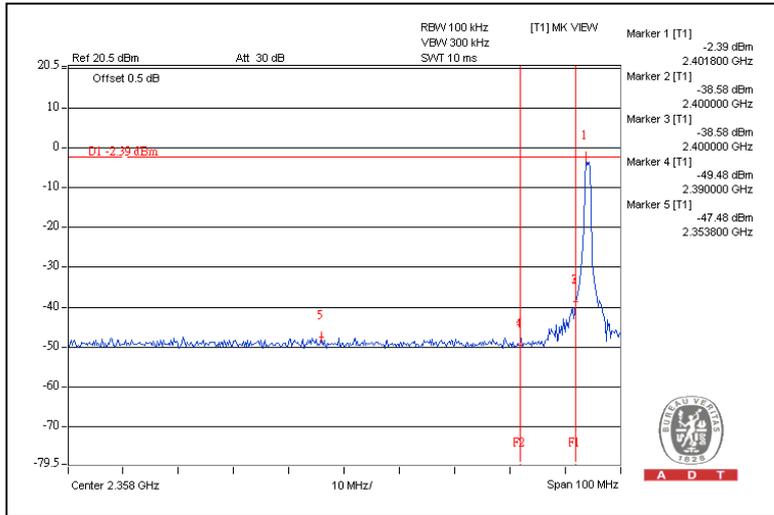
*The duty cycle equal to: $20\log(0.78 \text{ ms} / 13.7 \text{ ms}) = -24.89 \text{ dB}$. Average value = peak reading -24.89.

Average value = $41.14-24.89=16.25$ dBuV/m, which is under 54dBuV/m limit.

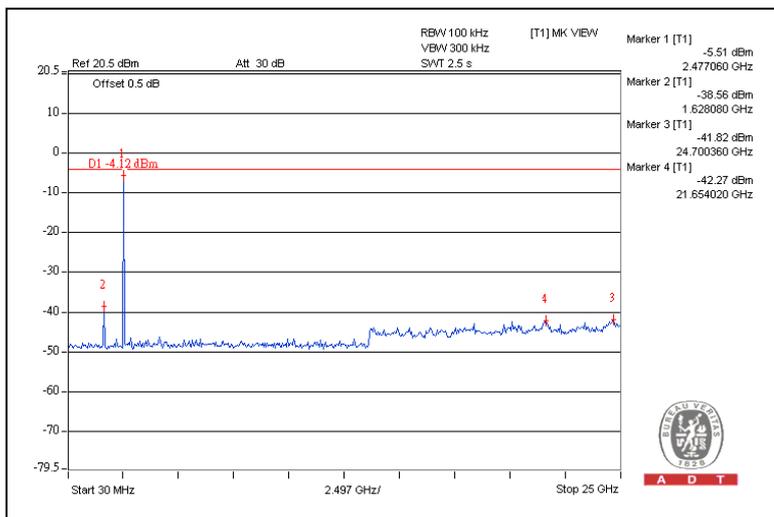
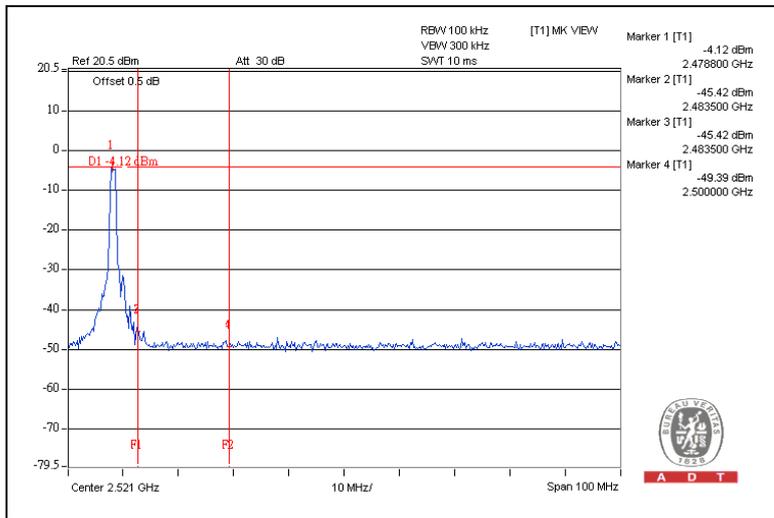
*The duty cycle equal to: $20\log(0.78 \text{ ms} / 13.7 \text{ ms}) = -24.89 \text{ dB}$. Average value = peak reading -24.89.

Emissions radiated outside of the specified frequency bands, please refer pages form 14 to 16 for met the requirement of the general radiated emission limits in § 15.209.

CH0



CH77





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5 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:

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Web Site: www.adt.com.tw

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



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6 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 ---