



# FCC TEST REPORT

**REPORT NO.:** RF910709R01

**MODEL NO.:** J-UE16 (Wireless JoyStick)  
C-UG10b (USB Transceiver)

**RECEIVED:** July 9, 2002

**TESTED:** July 29 ~ August 6, 2002

**APPLICANT:** LOGITECH FAR EAST LTD.

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

**ISSUED BY:** Advance Data Technology Corporation

**LAB LOCATION:** 47 14th Lin, Chiapau Tsun, Linko, Taipei,  
Taiwan, R.O.C.

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0528



Lab Code: 200102-0



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## 1 CERTIFICATION

**PRODUCT :** Wireless JoyStick  
**BRAND NAME :** Logitech  
**MODEL NO. :** J-UE16 (Wireless JoyStick)  
C-UG10b (USB Transceiver)  
**APPLICANT :** Logitech Far East Ltd.  
**STANDARDS :** 47 CFR Part 15, Subpart C (Section 15.249)  
ANSI C63.4-1992

We, **Advance Data Technology Corporation**, hereby certify that one sample of the designation has been tested in our facility from July 29 ~ August 6, 2002, The test record, data evaluation and Equipment Under Test (EUT) configurations represented herein are true and accurate accounts of the measurements of the sample's EMC characteristics under the conditions herein specified.

**CHECKED BY:** Rennie Wang , **DATE:** September 16, 2002  
Rennie Wang

**APPROVED BY:** Dr. Alan Lane , **DATE:** September 16, 2002  
Dr. Alan Lane  
Manager

## 2 SUMMARY OF TEST RESULTS

The EUT has been tested according to the following specifications:

<b>APPLIED STANDARD: 47 CFR Part 15, Subpart C</b>			
<b>Standard Section</b>	<b>Test Type and Limit</b>	<b>Result</b>	<b>REMARK</b>
15.207	AC Power Conducted Emission Limit: 48dBuV	PASS	Meet the requirement of limit Minimum passing margin is -13.65 dBuV at 0.17 MHz
15.249	Transmitter Radiated Emissions Spec.: Table 15.209	PASS	Meet the requirement of limit Minimum passing margin is -12.40 dBuV at 72.00 MHz
15.249	Band Edge Measurement	PASS	Meet the requirement of limit

### 3 GENERAL INFORMATION

#### 3.1 GENERAL DESCRIPTION OF EUT

<b>PRODUCT</b>	Wireless JoyStick
<b>MODEL NO.</b>	J-UE16 (for Wireless JoyStick) C-UG10b (for USB Transceiver)
<b>POWER SUPPLY</b>	6VDC from Batteries for Wireless JoyStick 5VDC from PC for USB Transceiver
<b>MODULATION TYPE</b>	FHSS (GFSK)
<b>FREQUENCY RANGE</b>	2402MHz ~ 2480MHz
<b>NUMBER OF CHANNEL</b>	79
<b>OUTPUT POWER</b>	0.24dBm
<b>ANTENNA TYPE</b>	Inverted-F antenna
<b>DATA CABLE</b>	1.2m (Nonshielded)
<b>I/O PORTS</b>	NA
<b>ASSOCIATED DEVICES</b>	NA

**NOTE:**

1. Model name J-UE16 is for product Wireless JoyStick and model name C-UG10b is for USB Transceiver.
2. For more detailed features description, please refer to the manufacturer's specifications or User's Manual.



### **3.2 DESCRIPTION OF TEST MODES**

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

The test result A is for Wireless JoyStick, and the test result B is for USB Transceiver.

### **3.3 GENERAL DESCRIPTION OF APPLIED STANDARDS**

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

**FCC CFR 47 Part 15, Subpart C. (15.249)**

**ANSI C63.4 : 1992**

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

**NOTE:** The EUT is also considered as a kind of computer peripheral, because the connection to computer is necessary for typical use. It has been verified to comply with the requirements of FCC Part 15, Subpart B, Class B (DoC). The test report has been issued separately.



### 3.4 DESCRIPTION OF SUPPORT UNITS

The EUT has been tested as an independent unit together with other necessary accessories or support units. The following support units or accessories were used to form a representative test configuration during the tests.

NO.	PRODUCT	BRAND	MODEL NO.	SERIAL NO.	FCC ID
1	NOTEBOOK	DELL	PP01L	TW-09C748-12800-190-B220	FCC DoC APPROVED
2	PRINTER	EPSON	LQ-300+	DCGY017096	FCC DoC APPROVED
3	MODEM	ACEEX	1414	980020503	IFAXDM1414

NO.	SIGNAL CABLE DESCRIPTION OF THE ABOVE SUPPORT UNITS
1	NA
2	1.2m braid shielded wire, terminated with DB25 and Centronics connector via metallic frame, w/o core
3	1.2 m braid shielded wire, terminated with DB25 and DB9 connector via metallic frame, w/o core.

**NOTE:** All power cords of the above support units are non shielded (1.8m).

## 4 TEST PROCEDURES AND RESULTS

### 4.1 CONDUCTED EMISSION MEASUREMENT

#### 4.1.1 LIMITS OF CONDUCTED EMISSION MEASUREMENT

FREQUENCY (MHz)	Class A (dBuV)		Class B (dBuV)	
	Quasi-peak	Average	Quasi-peak	Average
0.15 - 0.5	79	66	66 - 56	56 - 46
0.50 - 5.0	73	60	56	46
5.0 - 30.0	73	60	60	50

- NOTE:**
1. The lower limit shall apply at the transition frequencies.
  2. The limit decreases in line with the logarithm of the frequency in the range of 0.15 to 0.50 MHz.
  3. All emanations from a class A/B digital device or system, including any network of conductors and apparatus connected thereto, shall not exceed the level of field strengths specified above.

#### 4.1.2 TEST INSTRUMENTS

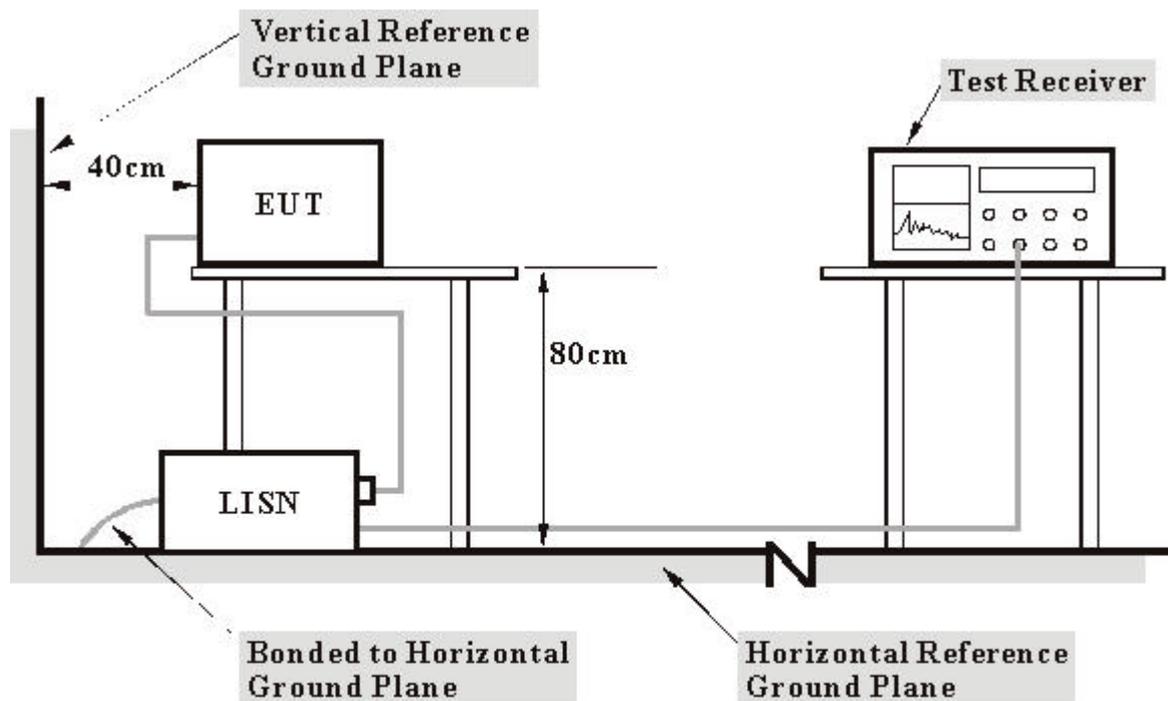
DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATED UNTIL
ROHDE & SCHWARZ Test Receiver	ESCS30	847793/022	Mar. 12, 2003
ROHDE & SCHWARZ Artificial Mains Network (for EUT)	ESH2-Z5	828075/003	Jul. 23, 2003
ROHDE & SCHWARZ 200-A Four-line V-Network	ENV4200	830326/018	Oct. 25, 2002
* ROHDE & SCHWARZ 4-wire ISN	ENY41	838119/028	Dec. 2, 2002
* ROHDE & SCHWARZ 2-wire ISN	ENY22	837497/018	Dec. 2, 2002
EMCO-L.I.S.N. (for peripheral)	3825/2	90031627	Jul. 23, 2003
Software	Cond-V2L	NA	NA
RF cable (JYEBAO)	5D-FB	Cable-C05.01	Jul. 23, 2003
LYNICS Terminator (For EMCO LISN)	0900510	E1-01-305	Feb. 20, 2003
LYNICS Terminator (For EMCO LISN)	0900510	E1-01-306	Feb. 20, 2003
Shielded Room	Site 5	ADT-C05	NA
VCCI Site Registration No.	Site 5	C-1093	NA

- NOTE:**
1. The measurement uncertainty is less than +/- 2.6dB, which is calculated as per the NAMAS document NIS81.
  2. The calibration interval of the above test instruments is 12 months and the calibrations are traceable to NML/ROC and NIST/USA.
  3. “\*”: These equipment are used for conducted telecom port test only (if tested).
  4. The test was performed in ADT Open Site No. 5.

#### 4.1.3 TEST PROCEDURES

- The EUT was placed 0.4 meters from the conducting wall of the shielded room with EUT being connected to the power mains through a line impedance stabilization network (LISN). Other support units were connected to the power mains through another LISN. The two LISNs provide 50 ohm/ 50uH of coupling impedance for the measuring instrument.
- Both lines of the power mains connected to the EUT were checked for maximum conducted interference.
- The frequency range from 150 kHz to 30 MHz was searched. Emission levels over 10dB under the prescribed limits could not be reported

#### 4.1.4 TEST SETUP



- Note:**
- Support units were connected to second LISN.
  - Both of LISNs (AMN) 80 cm from EUT and at the least 80 cm from other units and other metal planes support units.

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



#### 4.1.5 TEST RESULTS(A)

This EUT is excused from investigation of conducted emission, for it is powered by battery only. According to paragraph 15.207(a), measurements to demonstrate compliance with the conducted limited are not required for devices which only employ battery power for operation and which do not operate from the AC power lines or contain provisions for operation while connected to the AC power lines.



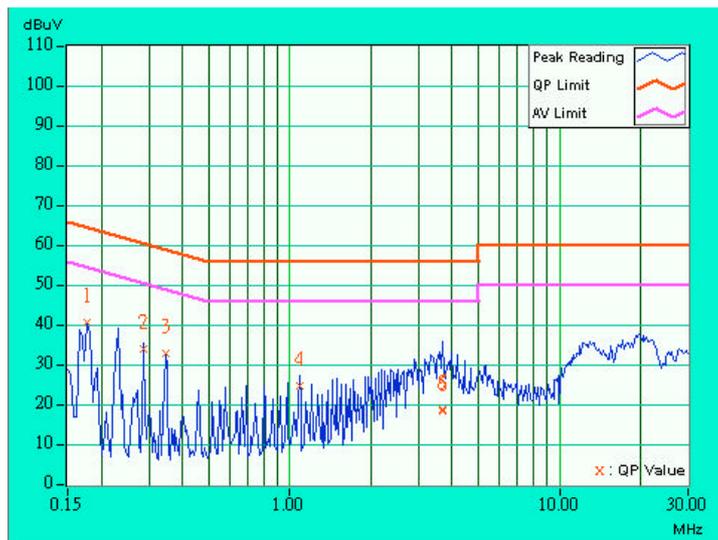
4.1.6 TEST RESULTS(B)

<b>EUT</b>	Wireless JoyStick	<b>MODEL</b>	C-UG10b
<b>MODE</b>	Channel 0	<b>6dB BANDWIDTH</b>	9 kHz
<b>INPUT POWER (SYSTEM)</b>	120Vac, 60 Hz	<b>PHASE</b>	Line (L)
<b>ENVIRONMENTAL CONDITIONS</b>	35 deg. C, 50%RH, 1005 hPa	<b>TESTED BY:</b> Bunny Yao	

No	Freq.	Corr. Factor	Reading Value [dB (uV)]		Emission Level [dB (uV)]		Limit [dB (uV)]		Margin (dB)	
	[MHz]		Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.177	0.10	40.37	-	40.47	-	64.61	54.61	-24.14	-
2	0.287	0.10	33.60	-	33.70	-	60.62	50.62	-26.92	-
3	0.345	0.10	32.64	-	32.74	-	59.07	49.07	-26.33	-
4	1.094	0.20	24.28	-	24.48	-	56.00	46.00	-31.52	-
5	3.684	0.37	18.57	-	18.94	-	56.00	46.00	-37.06	-
6	3.684	0.37	18.20	-	18.57	-	56.00	46.00	-37.43	-

**NOTE:**

1. QP. and AV. are abbreviations of quasi-peak and average individually.
2. "-": NA
3. The emission levels of other frequencies were very low against the limit.
4. Margin value = Emission level - Limit value
5. Emission Level = Reading Value + Correction Factor.



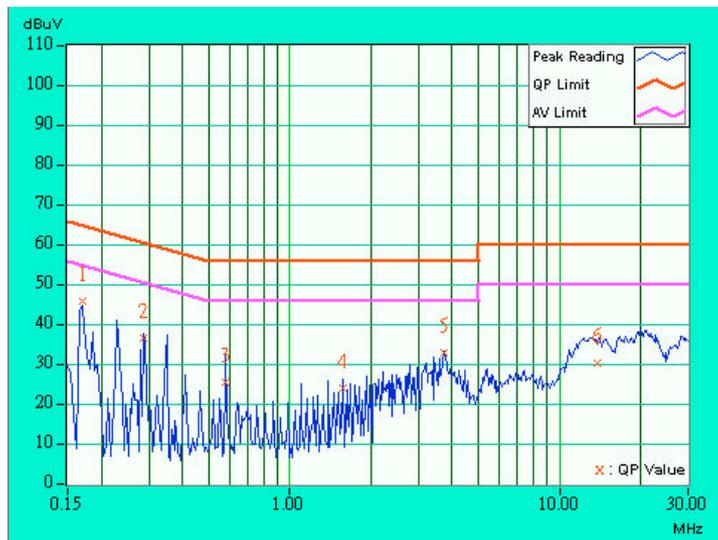


<b>EUT</b>	Wireless JoyStick	<b>MODEL</b>	C-UG10b
<b>MODE</b>	Channel 0	<b>6dB BANDWIDTH</b>	9 kHz
<b>INPUT POWER (SYSTEM)</b>	120Vac, 60 Hz	<b>PHASE</b>	Neutral (N)
<b>ENVIRONMENTAL CONDITIONS</b>	35 deg. C, 50%RH, 1005 hPa	<b>TESTED BY:</b> Bunny Yao	

No	Freq.	Corr. Factor	Reading Value [dB (uV)]		Emission Level [dB (uV)]		Limit [dB (uV)]		Margin (dB)	
	[MHz]		(dB)	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.
1	0.170	0.10	45.32	-	45.42	-	64.98	54.98	-19.56	-
2	0.287	0.10	36.06	-	36.16	-	60.62	50.62	-24.46	-
3	0.576	0.13	24.94	-	25.07	-	56.00	46.00	-30.93	-
4	1.566	0.20	23.75	-	23.95	-	56.00	46.00	-32.05	-
5	3.719	0.29	32.37	-	32.66	-	56.00	46.00	-23.34	-
6	13.879	0.48	29.76	-	30.24	-	60.00	50.00	-29.76	-

**NOTE:**

1. QP. and AV. are abbreviations of quasi-peak and average individually.
2. "-": NA
3. The emission levels of other frequencies were very low against the limit.
4. Margin value = Emission level - Limit value
5. Emission Level = Reading Value + Correction Factor.



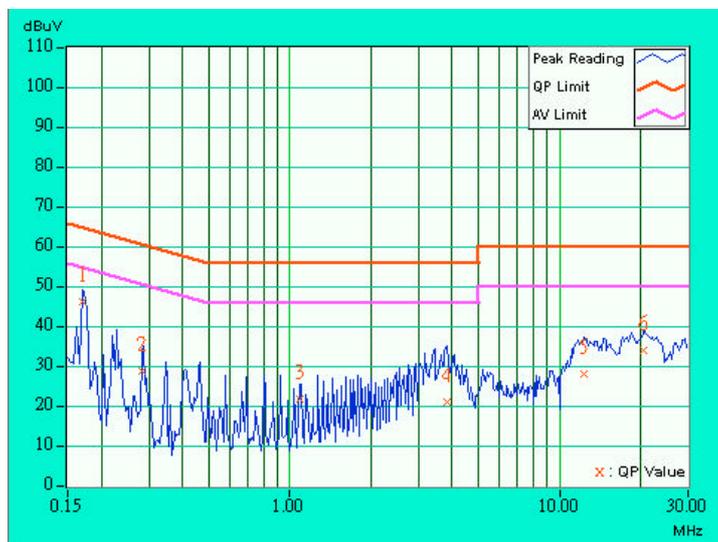


<b>EUT</b>	Wireless JoyStick	<b>MODEL</b>	C-UG10b
<b>MODE</b>	Channel 39	<b>6dB BANDWIDTH</b>	9 kHz
<b>INPUT POWER (SYSTEM)</b>	120Vac, 60 Hz	<b>PHASE</b>	Line (L)
<b>ENVIRONMENTAL CONDITIONS</b>	35 deg. C, 50%RH, 1005 hPa	<b>TESTED BY:</b> Bunny Yao	

No	Freq.	Corr. Factor	Reading Value [dB (uV)]		Emission Level [dB (uV)]		Limit [dB (uV)]		Margin (dB)	
	[MHz]		Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.170	0.10	45.42	-	45.52	-	64.98	54.98	-19.46	-
2	0.283	0.10	27.73	-	27.83	-	60.73	50.73	-32.90	-
3	1.094	0.20	20.83	-	21.03	-	56.00	46.00	-34.97	-
4	3.809	0.38	20.13	-	20.51	-	56.00	46.00	-35.49	-
5	12.352	0.65	27.02	-	27.67	-	60.00	50.00	-32.33	-
6	20.379	1.02	32.96	-	33.98	-	60.00	50.00	-26.02	-

**NOTE:**

1. QP. and AV. are abbreviations of quasi-peak and average individually.
2. "-": NA
3. The emission levels of other frequencies were very low against the limit.
4. Margin value = Emission level - Limit value
5. Emission Level = Reading Value + Correction Factor.



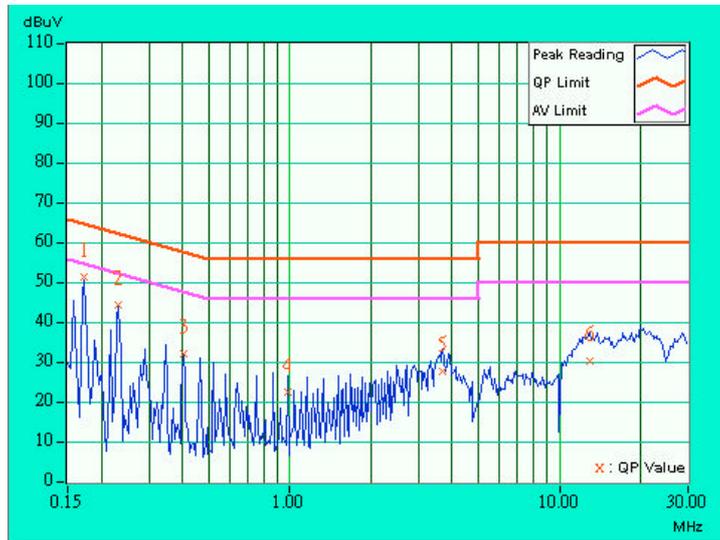


<b>EUT</b>	Wireless JoyStick	<b>MODEL</b>	C-UG10b
<b>MODE</b>	Channel 39	<b>6dB BANDWIDTH</b>	9 kHz
<b>INPUT POWER (SYSTEM)</b>	120Vac, 60 Hz	<b>PHASE</b>	Neutral (N)
<b>ENVIRONMENTAL CONDITIONS</b>	35 deg. C, 50%RH, 1005 hPa	<b>TESTED BY:</b> Bunny Yao	

No	Freq.	Corr. Factor	Reading Value [dB (Uv)]		Emission Level [dB (uV)]		Limit [dB (uV)]		Margin (dB)	
	[MHz]		(dB)	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.
1	0.173	0.10	51.04	-	51.14	-	64.79	54.79	-13.65	-
2	0.232	0.10	44.06	-	44.16	-	62.38	52.38	-18.22	-
3	0.404	0.10	31.74	-	31.84	-	57.77	47.77	-25.93	-
4	0.982	0.20	22.17	-	22.37	-	56.00	46.00	-33.63	-
5	3.707	0.29	27.21	-	27.50	-	56.00	46.00	-28.50	-
6	12.977	0.46	30.07	-	30.53	-	60.00	50.00	-29.47	-

**NOTE:**

1. QP. and AV. are abbreviations of quasi-peak and average individually.
2. "-": NA
3. The emission levels of other frequencies were very low against the limit.
4. Margin value = Emission level - Limit value
5. Emission Level = Reading Value + Correction Factor.



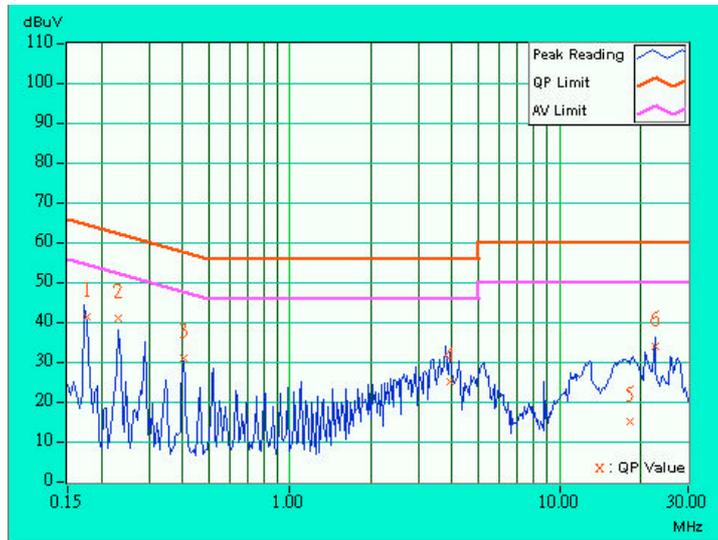


<b>EUT</b>	Wireless JoyStick	<b>MODEL</b>	C-UG10b
<b>MODE</b>	Channel 78	<b>6dB BANDWIDTH</b>	9 kHz
<b>INPUT POWER (SYSTEM)</b>	120Vac, 60 Hz	<b>PHASE</b>	Line (L)
<b>ENVIRONMENTAL CONDITIONS</b>	35 deg. C, 50%RH, 1005 hPa	<b>TESTED BY:</b> Bunny Yao	

No	Freq.	Corr. Factor	Reading Value [dB (uV)]		Emission Level [dB (uV)]		Limit [dB (uV)]		Margin (dB)	
	[MHz]		(dB)	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.
1	0.177	0.10	40.45	-	40.55	-	64.61	54.61	-24.06	-
2	0.232	0.10	40.16	-	40.26	-	62.38	52.38	-22.12	-
3	0.404	0.10	29.96	-	30.06	-	57.77	47.77	-27.71	-
4	3.934	0.39	24.08	-	24.47	-	56.00	46.00	-31.53	-
5	18.266	0.90	13.90	-	14.80	-	60.00	50.00	-45.20	-
6	22.570	1.10	33.13	-	34.23	-	60.00	50.00	-25.77	-

**NOTE:**

1. QP. and AV. are abbreviations of quasi-peak and average individually.
2. "-": NA
3. The emission levels of other frequencies were very low against the limit.
4. Margin value = Emission level - Limit value
5. Emission Level = Reading Value + Correction Factor.



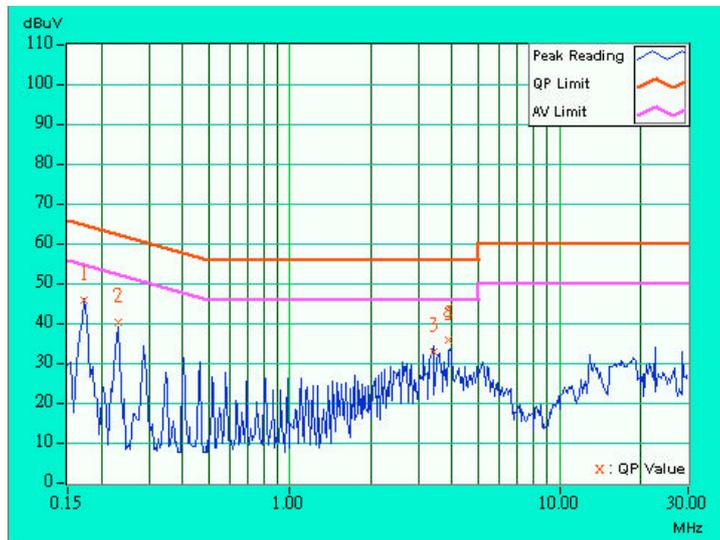


<b>EUT</b>	Wireless JoyStick	<b>MODEL</b>	C-UG10b
<b>MODE</b>	Channel 78	<b>6dB BANDWIDTH</b>	9 kHz
<b>INPUT POWER (SYSTEM)</b>	120Vac, 60 Hz	<b>PHASE</b>	Neutral (N)
<b>ENVIRONMENTAL CONDITIONS</b>	35 deg. C, 50%RH, 1005 hPa	<b>TESTED BY:</b> Bunny Yao	

No	Freq.	Corr. Factor	Reading Value [dB (uV)]		Emission Level [dB (uV)]		Limit [dB (uV)]		Margin (dB)	
	[MHz]		(dB)	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.
1	0.173	0.10	45.58	-	45.68	-	64.79	54.79	-19.11	-
2	0.232	0.10	40.20	-	40.30	-	62.38	52.38	-22.08	-
3	3.410	0.27	32.53	-	32.80	-	56.00	46.00	-23.20	-
4	3.871	0.29	35.50	-	35.79	-	56.00	46.00	-20.21	-
5	3.871	0.29	35.52	-	35.81	-	56.00	46.00	-20.19	-

**NOTE:**

1. QP. and AV. are abbreviations of quasi-peak and average individually.
2. "-": NA
3. The emission levels of other frequencies were very low against the limit.
4. Margin value = Emission level - Limit value
5. Emission Level = Reading Value + Correction Factor.



## 4.2 RADIATED EMISSION MEASUREMENT

### 4.2.1 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 limits are at the distance of 3 meters, emissions radiated outside of the specified bands, shall be according to the general radiated limits in 15.209 as following:

Frequencies (MHz)	Field Strength of Fundamental	
	uV/m	dBuV/m
30-88	100	40.0
88-216	150	43.5
216-960	200	46.0
Above 960	500	54.0

**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 UNTIL
* HP Spectrum Analyzer	8590L	3544A01176	May 13, 2003
* HP Preamplifier	8447D	2944A08485	Oct. 30, 2002
* HP Preamplifier	8449B	3008A01201	Dec. 06, 2002
* HP Preamplifier	8449B	3008A01292	Aug. 7, 2003
* ROHDE & SCHWARZ TEST RECEIVER	ESMI	839013/007 839379/002	Jan. 27, 2003
SCHWARZBECK Tunable Dipole Antenna	VHA 9103 UHA 9105	E101051 E101055	Nov. 23, 2002
* CHASE BILOG Antenna	CBL6112A	2221	Aug. 2, 2003
* SCHWARZBECK Horn Antenna	BBHA9120-D1	D130	Jul. 3, 2003
* EMCO Horn Antenna	3115	9312-4192	Apr. 9, 2003
* EMCO Turn Table	1060	1115	NA
* SHOSHIN Tower	AP-4701	A6Y005	NA
* Software	AS61D4	NA	NA
* ANRITSU RF Switches	MP59B	M35046	Jan. 25, 2003
* TIMES RF cable	LMR-600	CABLE-ST5-01	Jul. 12, 2003
Open Field Test Site	Site 5	ADT-R05	Jul. 19, 2003
VCCI Site Registration No.	Site 5	R-1039	NA

- NOTE:** 1. The measurement uncertainty is less than +/- 3.0dB, which is calculated as per the NAMAS document NIS81.
2. The calibration interval of the above test instruments is 12 months. And the calibrations are traceable to NML/ROC and NIST/USA.
3. "\*" = These equipment are used for the final measurement.
4. The horn antenna and HP preamplifier (model: 8449B) are used only for the measurement of emission frequency above 1GHz if tested.
5. The test was performed in ADT Open Site No. 5.



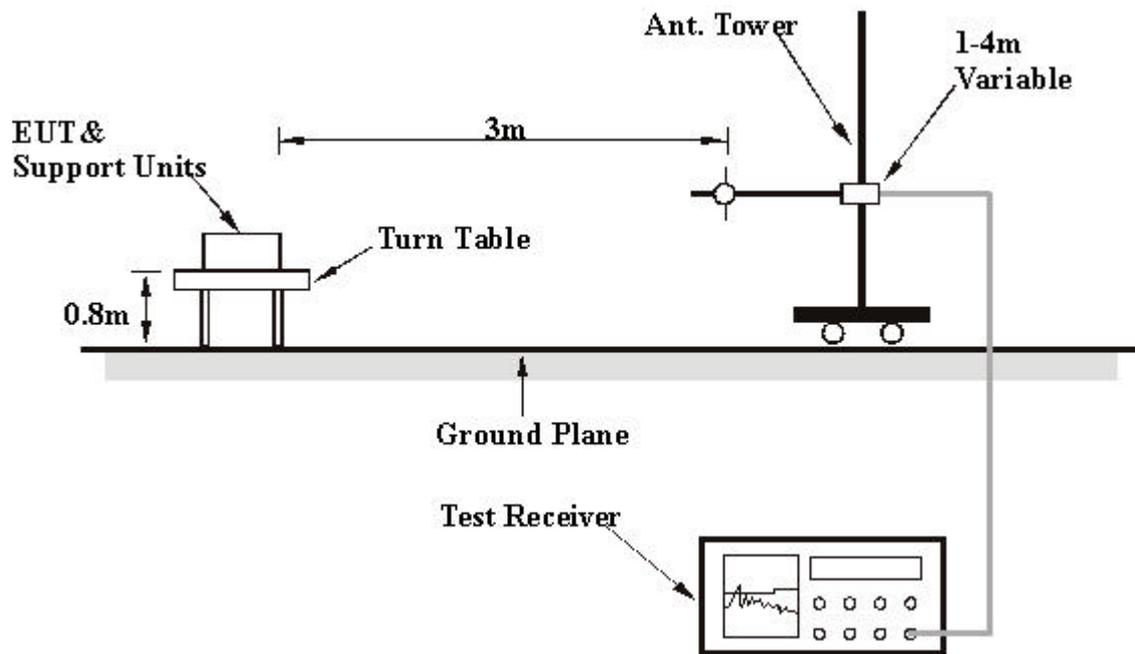
### 4.2.3 TEST PROCEDURES

- a. The EUT was placed on the top of a rotating table 0.8 meters above the ground at a 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 and video bandwidth of test receiver/spectrum analyzer is 1 MHz for Peak detection at frequency above 1GHz.
3. The resolution bandwidth of test receiver/spectrum analyzer is 1 MHz and the video bandwidth is 30 Hz for Average detection (AV) at frequency above 1GHz.

## 4.2.4 TEST SETUP



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

## 4.2.5 TEST RESULTS (A)

**Digital Portion:**

<b>EUT</b>	Wireless JoyStick	<b>MODEL</b>	J-UE16
<b>MODE</b>	Channel 78	<b>FREQUENC Y RANGE</b>	30-1000 MHz
<b>INPUT POWER (SYSTEM)</b>	120Vac, 60 Hz	<b>DETECTOR FUNCTION</b>	Quasi-Peak
<b>ENVIRONMENTAL CONDITIONS</b>	27 deg. C, 60%RH, 1050 hPa	<b>TESTED BY:</b> Bunny Yao	

**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)	Antenna Factor (dB)	Cable Factor (dB)	Pre-Amp. Factor (dB)	Correction Factor (dB)
1	64.00	20.3 QP	40.00	-19.70	1.48H	3	13.17	5.74	1.39	0.00	-7.13
2	120.00	12.3 QP	43.50	-31.20	1.39H	207	-1.56	11.65	2.21	0.00	-13.86
3	144.00	13.9 QP	43.50	-29.60	1.45H	167	0.72	10.58	2.60	0.00	-13.19
4	150.00	20.1 QP	43.50	-23.40	1.49H	156	7.13	10.30	2.66	0.00	-12.98
5	244.00	13.9 QP	46.00	-32.10	1.49H	92	-1.85	11.56	4.19	0.00	-15.76

**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)	Antenna Factor (dB)	Cable Factor (dB)	Pre-Amp. Factor (dB)	Correction Factor (dB)
1	64.00	14.0 QP	40.00	-26.00	1.28V	8	6.87	5.74	1.39	0.00	-7.13
2	120.00	17.5 QP	43.50	-26.00	1.16V	119	3.64	11.65	2.21	0.00	-13.86
3	144.00	20.0 QP	43.50	-23.50	1.29V	175	6.82	10.58	2.60	0.00	-13.18
4	220.00	13.3 QP	46.00	-32.70	1.28V	97	-0.66	10.12	3.85	0.00	-13.96
5	244.00	15.3 QP	46.00	-30.70	1.31V	296	-0.45	11.56	4.19	0.00	-15.75

**NOTE:**

- Emission level = Raw value - Correction Factor
- Correction Factor = Pre-Amp. Factor - Ant. Factor - Cable loss  
(Pre-Amp. Factor = 0, when a Pre-Amplifier is not used for the test.)
- Margin value = Emission level - Limit value  
The other emission levels were very low against the limit.

**RF Portion :**

<b>EUT</b>	Wireless JoyStick	<b>MODEL</b>	J-UE16
<b>MODE</b>	Channel 0	<b>FREQUENCY RANGE</b>	Above 1000 MHz
<b>INPUT POWER (SYSTEM)</b>	120Vac, 60 Hz	<b>DETECTOR FUNCTION</b>	Peak(PK) Average (AV)
<b>ENVIRONMENTAL CONDITIONS</b>	27 deg. C, 60%RH, 1050 hPa	<b>TESTED BY:</b> Bunny Yao	

**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)	Antenna Factor (dB)	Cable Factor (dB)	Pre-Amp. Factor (dB)	Correction Factor (dB)
1	*2402.00	84.5 AV	94.00	-9.50	1.15H	77	86.62	27.67	5.10	34.90	2.13
2	*2402.00	84.8 PK	114.00	-29.20	1.15H	77	86.94	27.67	5.10	34.90	2.13
3	4804.00	40.8 AV	54.00	-13.20	1.58H	108	36.67	31.52	7.23	34.63	-4.12
4	4804.00	54.1 PK	74.00	-19.90	1.58H	108	50.00	31.52	7.23	34.63	-4.12

**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)	Antenna Factor (dB)	Cable Factor (dB)	Pre-Amp. Factor (dB)	Correction Factor (dB)
1	*2402.00	83.7 AV	94.00	-10.3	1.15V	21	85.86	27.67	5.10	34.90	2.13
2	*2402.00	84.2 PK	114.00	-29.80	1.15V	21	86.37	27.67	5.10	34.90	2.13
3	4804.00	36.9 AV	54.00	-17.10	1.00V	62	32.80	31.52	7.23	34.63	-4.12
4	4804.00	47.1 PK	74.00	-26.90	1.00V	62	42.96	31.52	7.23	34.63	-4.12

**NOTE:**

1. Emission level = Raw value - Correction Factor
2. Correction Factor = Pre-Amp. Factor - Ant. Factor - Cable loss  
(Pre-Amp. Factor = 0, when a Pre-Amplifier is not used for the test.)
3. Margin value = Emission level - Limit value
4. " \* " : Fundamental frequency
5. The other emission levels were very low against the limit.

<b>EUT</b>	Wireless JoyStick	<b>MODEL</b>	J-UE16
<b>MODE</b>	Channel 39	<b>FREQUENCY RANGE</b>	Above 1000 MHz
<b>INPUT POWER (SYSTEM)</b>	120Vac, 60 Hz	<b>DETECTOR FUNCTION</b>	Peak(PK) Average (AV)
<b>ENVIRONMENTAL CONDITIONS</b>	27 deg. C, 60%RH, 1050 hPa	<b>TESTED BY:</b> Bunny Yao	

#### 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)	Antenna Factor (dB)	Cable Factor (dB)	Pre-Amp. Factor (dB)	Correction Factor (dB)
1	*2441.00	84.5 AV	94.00	-9.50	1.07H	48	86.50	27.81	5.08	34.90	2.01
2	*2441.00	85.2 PK	114.00	-28.80	1.07H	48	87.20	27.81	5.08	34.90	2.01
3	4882.00	41.2 AV	54.00	-12.80	1.51H	87	37.00	31.59	7.21	34.63	-4.17
4	4882.00	54.4 PK	74.00	-19.60	1.51H	87	50.23	31.59	7.21	34.63	-4.17

#### 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)	Antenna Factor (dB)	Cable Factor (dB)	Pre-Amp. Factor (dB)	Correction Factor (dB)
1	*2441.00	83.4 AV	94.00	-10.60	1.34V	74	85.37	27.81	5.08	34.90	2.01
2	*2441.00	84.1 PK	114.00	-29.90	1.34V	74	86.10	27.81	5.08	34.90	2.01
3	4882.00	37.3 AV	54.00	-16.70	1.05V	15	33.10	31.59	7.21	34.63	-4.17
4	4882.00	47.4 PK	74.00	-26.60	1.05V	15	43.26	31.59	7.21	34.63	-4.18

#### NOTE:

1. Emission level = Raw value - Correction Factor
2. Correction Factor = Pre-Amp. Factor - Ant. Factor - Cable loss  
(Pre-Amp. Factor = 0, when a Pre-Amplifier is not used for the test.)
3. Margin value = Emission level - Limit value
4. " \* " : Fundamental frequency
5. The other emission levels were very low against the limit.

<b>EUT</b>	Wireless JoyStick	<b>MODEL</b>	J-UE16
<b>MODE</b>	Channel 78	<b>FREQUENCY RANGE</b>	Above 1000 MHz
<b>INPUT POWER (SYSTEM)</b>	120Vac, 60 Hz	<b>DETECTOR FUNCTION</b>	Peak(PK) Average (AV)
<b>ENVIRONMENTAL CONDITIONS</b>	27 deg. C, 60%RH, 1050 hPa	<b>TESTED BY:</b> Bunny Yao	

#### 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)	Antenna Factor (dB)	Cable Factor (dB)	Pre-Amp. Factor (dB)	Correction Factor (dB)
1	*2480.00	84.3 AV	94.00	-9.70	1.17H	32	86.14	27.96	5.06	34.90	1.89
2	*2480.00	85.0 PK	114.00	-29.00	1.17H	32	86.85	27.96	5.06	34.90	1.89
3	4960.00	40.6 AV	54.00	-13.40	1.55H	147	36.20	31.72	7.26	34.61	-4.38
4	4960.00	54.2 PK	74.00	-19.80	1.55H	146	49.80	31.72	7.26	34.61	-4.38

#### 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)	Antenna Factor (dB)	Cable Factor (dB)	Pre-Amp. Factor (dB)	Correction Factor (dB)
1	*2480.00	83.5 AV	94.00	-10.50	1.14V	76	85.41	27.96	5.06	34.90	1.89
2	*2480.00	84.1 PK	114.00	-29.90	1.14V	76	86.00	27.96	5.06	34.90	1.89
3	4960.00	36.8 AV	54.00	-17.20	1.01V	50	32.43	31.72	7.26	34.61	-4.38
4	4960.00	47.3 PK	74.00	-26.70	1.01V	50	42.90	31.72	7.26	34.61	-4.39

#### NOTE:

1. Emission level = Raw value - Correction Factor
2. Correction Factor = Pre-Amp. Factor - Ant. Factor - Cable loss  
(Pre-Amp. Factor = 0, when a Pre-Amplifier is not used for the test.)
3. Margin value = Emission level - Limit value
4. " \* " : Fundamental frequency
5. The other emission levels were very low against the limit.



## 4.2.6 TEST RESULTS (B)

## Digital Portion:

<b>EUT</b>	Wireless JoyStick	<b>MODEL</b>	C-UG10b
<b>MODE</b>	Channel 78	<b>FREQUENCY RANGE</b>	30-1000 MHz
<b>INPUT POWER (SYSTEM)</b>	120Vac, 60 Hz	<b>DETECTOR FUNCTION</b>	Quasi-Peak
<b>ENVIRONMENTAL CONDITIONS</b>	27 deg. C, 60%RH, 1050 hPa	<b>TESTED BY:</b> Bunny Yao	

**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)	Antenna Factor (dB)	Cable Factor (dB)	Pre-Amp. Factor (dB)	Correction Factor (dB)
1	72.00	25.5 QP	40.00	-14.50	1.31H	46	17.56	6.45	1.50	0.00	-7.94
2	84.00	15.9 QP	40.00	-24.10	1.37H	113	6.55	7.63	1.71	0.00	-9.35
3	144.00	21.6 QP	43.50	-21.90	1.46H	179	8.42	10.58	2.60	0.00	-13.18
4	168.00	24.4 QP	43.50	-19.10	1.54H	124	11.98	9.35	3.07	0.00	-12.42
5	240.00	24.0 QP	46.00	-22.00	1.39H	296	8.43	11.41	4.16	0.00	-15.57
6	276.00	24.3 QP	46.00	-21.70	1.20H	240	7.03	12.59	4.68	0.00	-17.27
7	460.00	30.5 QP	46.00	-15.50	1.24H	334	6.86	16.53	7.11	0.00	-23.64

**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)	Antenna Factor (dB)	Cable Factor (dB)	Pre-Amp. Factor (dB)	Correction Factor (dB)
1	72.00	27.6 QP	40.00	-12.40	1.48V	133	19.65	6.45	1.50	0.00	-7.94
2	120.00	24.5 QP	43.50	-19.00	1.32V	179	10.64	11.65	2.21	0.00	-13.86
3	144.00	24.4 QP	43.50	-19.10	1.20V	174	11.22	10.58	2.60	0.00	-13.18
4	168.00	29.9 QP	43.50	-13.60	1.17V	110	17.43	9.35	3.07	0.00	-12.43
5	204.00	24.0 QP	43.50	-19.50	1.31V	145	11.11	9.25	3.64	0.00	-12.90
6	216.00	27.5 QP	43.50	-16.00	1.08V	108	13.72	9.97	3.81	0.00	-13.79
7	240.00	29.2 QP	46.00	-16.80	1.00V	86	13.63	11.41	4.16	0.00	-15.58
8	240.00	29.2 QP	46.00	-16.80	1.00V	110	13.63	11.41	4.16	0.00	-15.57
9	460.00	31.5 QP	46.00	-14.50	1.61V	44	7.86	16.53	7.11	0.00	-23.65

**NOTE:**

1. Emission level = Raw value - Correction Factor
2. Correction Factor = Pre-Amp. Factor - Ant. Factor - Cable loss  
(Pre-Amp. Factor = 0, when a Pre-Amplifier is not used for the test.)
3. Margin value = Emission level - Limit value
4. The other emission levels were very low against the limit.

**RF Portion :**

<b>EUT</b>	Wireless JoyStick	<b>MODEL</b>	C-UG10b
<b>MODE</b>	Channel 0	<b>FREQUENCY RANGE</b>	Above 1000 MHz
<b>INPUT POWER (SYSTEM)</b>	120Vac, 60 Hz	<b>DETECTOR FUNCTION</b>	Peak(PK) Average (AV)
<b>ENVIRONMENTAL CONDITIONS</b>	27 deg. C, 60%RH, 1050 hPa	<b>TESTED BY:</b> Bunny Yao	

**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)	Antenna Factor (dB)	Cable Factor (dB)	Pre-Amp. Factor (dB)	Correction Factor (dB)
1	*2402.00	89.1 AV	94.00	-4.90	1.06H	101	91.20	27.67	5.10	34.90	2.13
2	*2402.00	91.8 PK	114.00	-22.20	1.06H	101	93.97	27.67	5.10	34.90	2.13
3	4804.00	36.3 AV	54.00	-17.70	1.14H	61	32.18	31.52	7.23	34.63	-4.12
4	4804.00	46.5 PK	74.00	-27.50	1.14H	61	42.39	31.52	7.23	34.63	-4.12

**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)	Antenna Factor (dB)	Cable Factor (dB)	Pre-Amp. Factor (dB)	Correction Factor (dB)
1	*2402.00	86.2 AV	94.00	-7.80	1.52V	80	88.35	27.67	5.10	34.90	2.13
2	*2402.00	89.0 PK	114.00	-25.00	1.52V	80	91.10	27.67	5.10	34.90	2.13
3	4804.00	37.8 AV	54.00	-16.20	1.27V	101	33.70	31.52	7.23	34.63	-4.12
4	4804.00	48.1 PK	74.00	-25.90	1.27V	101	43.95	31.52	7.23	34.63	-4.12

**NOTE:**

1. Emission level = Raw value - Correction Factor
2. Correction Factor = Pre-Amp. Factor - Ant. Factor - Cable loss  
(Pre-Amp. Factor = 0, when a Pre-Amplifier is not used for the test.)
3. Margin value = Emission level - Limit value
4. " \* " : Fundamental frequency
5. The other emission levels were very low against the limit.

<b>EUT</b>	Wireless JoyStick	<b>MODEL</b>	C-UG10b
<b>MODE</b>	Channel 39	<b>FREQUENCY RANGE</b>	Above 1000 MHz
<b>INPUT POWER (SYSTEM)</b>	120Vac, 60 Hz	<b>DETECTOR FUNCTION</b>	Peak(PK) Average (AV)
<b>ENVIRONMENTAL CONDITIONS</b>	27 deg. C, 60%RH, 1050 hPa	<b>TESTED BY:</b> Bunny Yao	

#### 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)	Antenna Factor (dB)	Cable Factor (dB)	Pre-Amp. Factor (dB)	Correction Factor (dB)
1	*2441.00	88.8 AV	94.00	-5.20	1.08H	68	90.80	27.81	5.08	34.90	2.01
2	*2441.00	91.0 PK	114.00	-23.00	1.08H	68	93.00	27.81	5.08	34.90	2.01
3	4882.00	36.1 AV	54.00	-17.90	1.31H	141	31.89	31.59	7.21	34.63	-4.17
4	4882.00	46.3 PK	74.00	-27.70	1.31H	141	42.17	31.59	7.21	34.63	-4.18

#### 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)	Antenna Factor (dB)	Cable Factor (dB)	Pre-Amp. Factor (dB)	Correction Factor (dB)
1	*2441.00	86.0 AV	94.00	-8.00	1.15V	108	88.03	27.81	5.08	34.90	2.01
2	*2441.00	88.7 PK	114.00	-25.30	1.15V	108	90.67	27.81	5.08	34.90	2.01
3	4882.00	37.6 AV	54.00	-16.40	1.04V	209	33.43	31.59	7.21	34.63	-4.17
4	4882.00	47.9 PK	74.00	-26.10	1.04V	209	43.76	31.59	7.21	34.63	-4.18

#### NOTE:

1. Emission level = Raw value - Correction Factor
2. Correction Factor = Pre-Amp. Factor - Ant. Factor - Cable loss  
(Pre-Amp. Factor = 0, when a Pre-Amplifier is not used for the test.)
3. Margin value = Emission level - Limit value
4. " \* " : Fundamental frequency
5. The other emission levels were very low against the limit.

<b>EUT</b>	Wireless JoyStick	<b>MODEL</b>	C-UG10b
<b>MODE</b>	Channel 78	<b>FREQUENCY RANGE</b>	Above 1000 MHz
<b>INPUT POWER (SYSTEM)</b>	120Vac, 60 Hz	<b>DETECTOR FUNCTION</b>	Peak(PK) Average (AV)
<b>ENVIRONMENTAL CONDITIONS</b>	27 deg. C, 60%RH, 1050 hPa	<b>TESTED BY:</b> Bunny Yao	

#### 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)	Antenna Factor (dB)	Cable Factor (dB)	Pre-Amp. Factor (dB)	Correction Factor (dB)
1	*2480.00	89.2 AV	94.00	-4.80	1.00H	16	91.10	27.96	5.06	34.90	1.89
2	*2480.00	91.5 PK	114.00	-22.50	1.00H	16	93.34	27.96	5.06	34.90	1.89
3	4960.00	36.5 AV	54.00	-17.50	1.60H	87	32.12	31.72	7.26	34.61	-4.38
4	4960.00	46.6 PK	74.00	-27.40	1.60H	87	42.24	31.72	7.26	34.61	-4.39

#### 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)	Antenna Factor (dB)	Cable Factor (dB)	Pre-Amp. Factor (dB)	Correction Factor (dB)
1	*2480.00	86.2 AV	94.00	-7.80	1.00V	129	88.10	27.96	5.06	34.90	1.89
2	*2480.00	89.0 PK	114.00	-25.00	1.00V	129	90.86	27.96	5.06	34.90	1.89
3	4960.00	38.4 AV	54.00	-15.60	1.21V	58	34.00	31.72	7.26	34.61	-4.38
4	4960.00	48.6 PK	74.00	-25.40	1.21V	58	44.21	31.72	7.26	34.61	-4.39

#### NOTE:

1. Emission level = Raw value - Correction Factor
2. Correction Factor = Pre-Amp. Factor - Ant. Factor - Cable loss  
(Pre-Amp. Factor = 0, when a Pre-Amplifier is not used for the test.)
3. Margin value = Emission level - Limit value
4. " \* " : Fundamental frequency
5. The other emission levels were very low against the limit.

### 4.3 BAND EDGES MEASUREMENT

#### 4.3.1 LIMITS OF BAND EDGES MEASUREMENT

Below  $-20\text{dB}$  of the highest emission level of operating band (in 100KHz RB).

#### 4.3.2 TEST INSTRUMENTS

Description & Manufacturer	Model No.	Serial No.	Calibrated Until
R&S SPECTRUM ANALYZER	FSEK30	100049	Jul. 24, 2003

#### Notes:

- 1.The measurement uncertainty is less than  $\pm 2.6\text{dB}$ , which is calculated as per the NAMAS document NIS81.
- 2.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 with suitable frequency span including 100 kHz bandwidth from band edge. The band edges was measured and recorded.



#### 4.3.4 EUT OPERATING CONDITION

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

#### 4.3.5 TEST RESULTS (A)

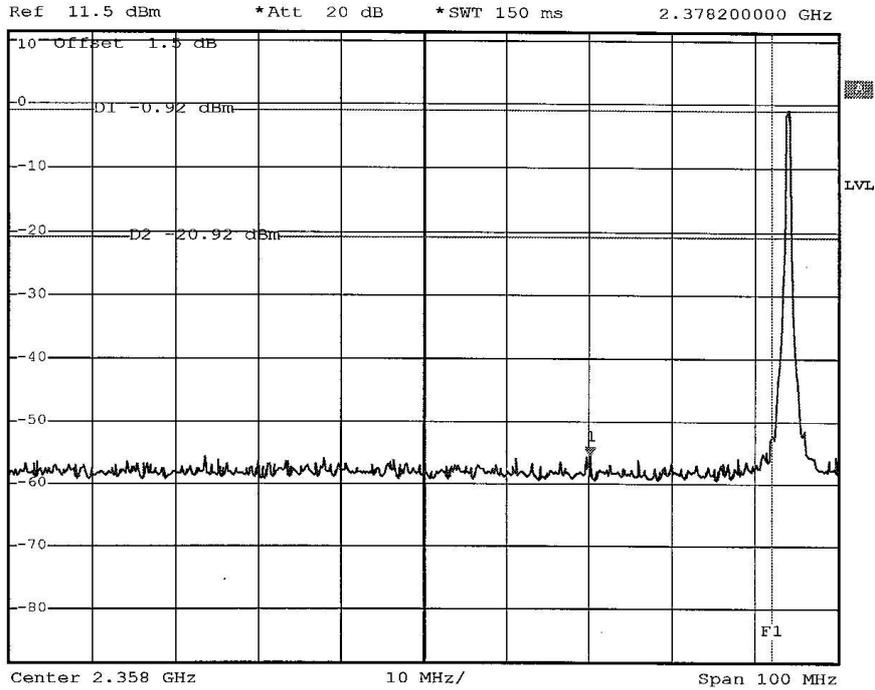
The spectrum plots are attached below. D2 line indicates the highest level, D1 line indicates the 20dB offset below D2. It shows compliance with the requirement in part 15.249.

**NOTE1:** The band edge emission plot on the following page shows 54.73dB delta between carrier maximum power and local maximum emission in restrict band (2.3782GHz). The emission of carrier strength list in the test result of channel 0 at the item 4.7.4 is 84.5dBuV/m, so the maximum field strength in restrict band is  $84.5 - 54.73 = 29.77$  dBuV/m which is under 54 dBuV/m limit.

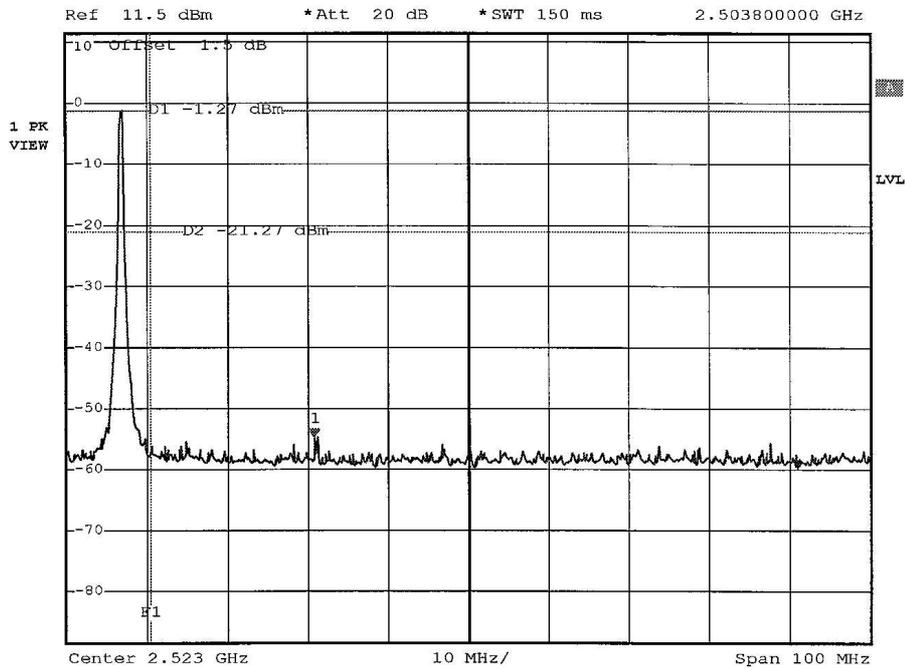
**NOTE2:** The band edge emission plot on the following page shows 53.51dB delta between carrier maximum power and local maximum emission in restrict band (2.5038GHz). The emission of carrier strength list in the test result of channel 78 at the item 4.7.4 is 84.3dBuV/m, so the maximum field strength in restrict band is  $84.3 - 53.51 = 30.79$  dBuV/m which is under 54 dBuV/m limit.



\*RBW 100 kHz Marker 1 [T1 ]  
\*VEW 100 kHz -55.65 dBm  
\*SWT 150 ms 2.378200000 GHz



\*RBW 100 kHz Marker 1 [T1 ]  
\*VEW 100 kHz -54.78 dBm  
\*SWT 150 ms 2.503800000 GHz





#### 4.3.6 TEST RESULTS (B)

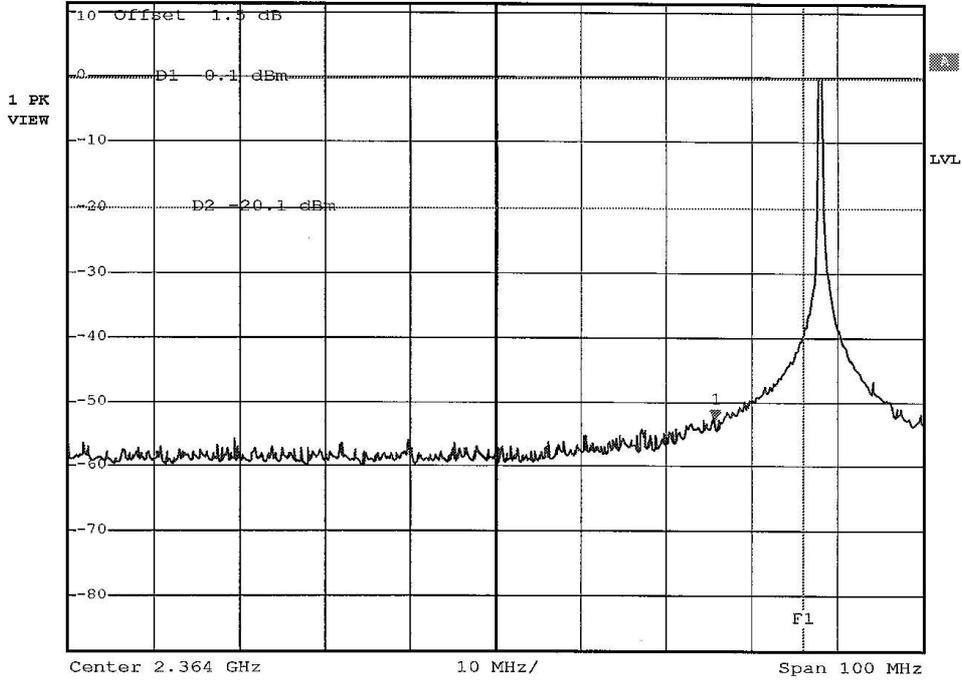
The spectrum plots are attached below. D2 line indicates the highest level, D1 line indicates the 20dB offset below D2. It shows compliance with the requirement in part 15.249.

**NOTE1:** The band edge emission plot on the following page shows 52.45dB delta between carrier maximum power and local maximum emission in restrict band (2.3898GHz). The emission of carrier strength list in the test result of channel 0 at the item 4.7.5 is 89.1dBuV/m, so the maximum field strength in restrict band is  $89.1 - 52.45 = 36.65$  dBuV/m which is under 54 dBuV/m limit.

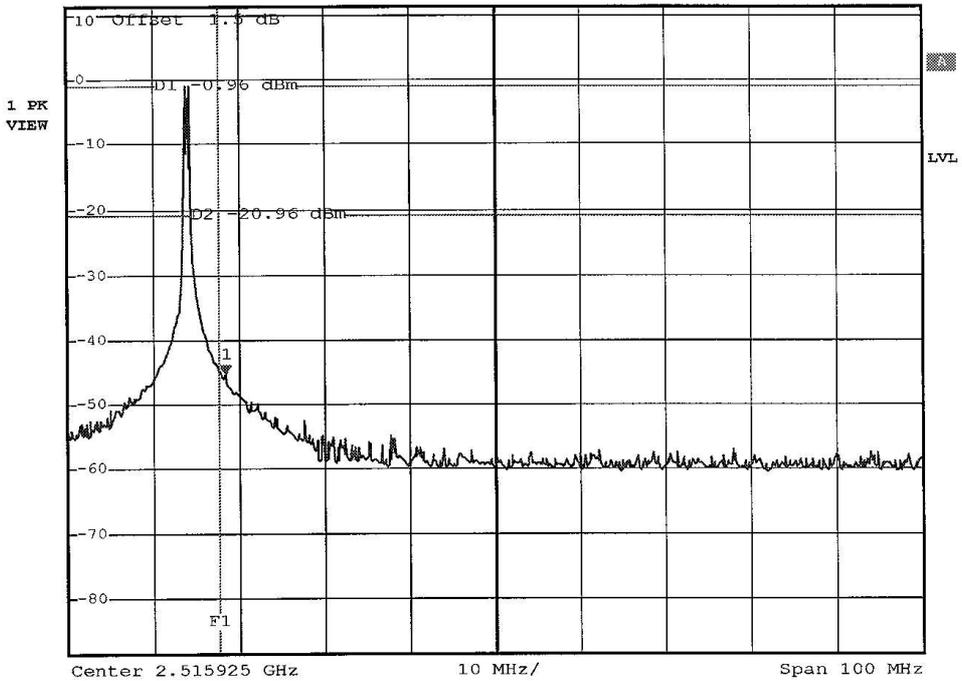
**NOTE2:** The band edge emission plot on the following page shows 44.36dB delta between carrier maximum power and local maximum emission in restrict band (2.4843GHz). The emission of carrier strength list in the test result of channel 78 at the item 4.7.5 is 89.2dBuV/m, so the maximum field strength in restrict band is  $89.2 - 44.36 = 44.84$  dBuV/m which is under 54 dBuV/m limit.



Ref 11.5 dBm \*Att 20 dB \*RBW 100 kHz Marker 1 [T1 ]  
\*VBW 100 kHz -52.55 dBm  
\*SWT 100 ms 2.389800000 GHz



Ref 11.5 dBm \*Att 20 dB \*RBW 100 kHz Marker 1 [T1 ]  
\*VBW 100 kHz -45.32 dBm  
\*SWT 100 ms 2.484325000 GHz





#### **4.4 ANTENNA REQUIREMENT**

##### **4.4.1 STANDARD APPLICABLE**

For intentional device, according to FCC 47 CFR Section 15.203, an intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device.

##### **4.4.2 ANTENNA CONNECTED CONSTRUCTION**

The antenna used in this product is Inverted-F antenna. There is no antenna connector. The maximum Gain of this antenna is only -1dBi.

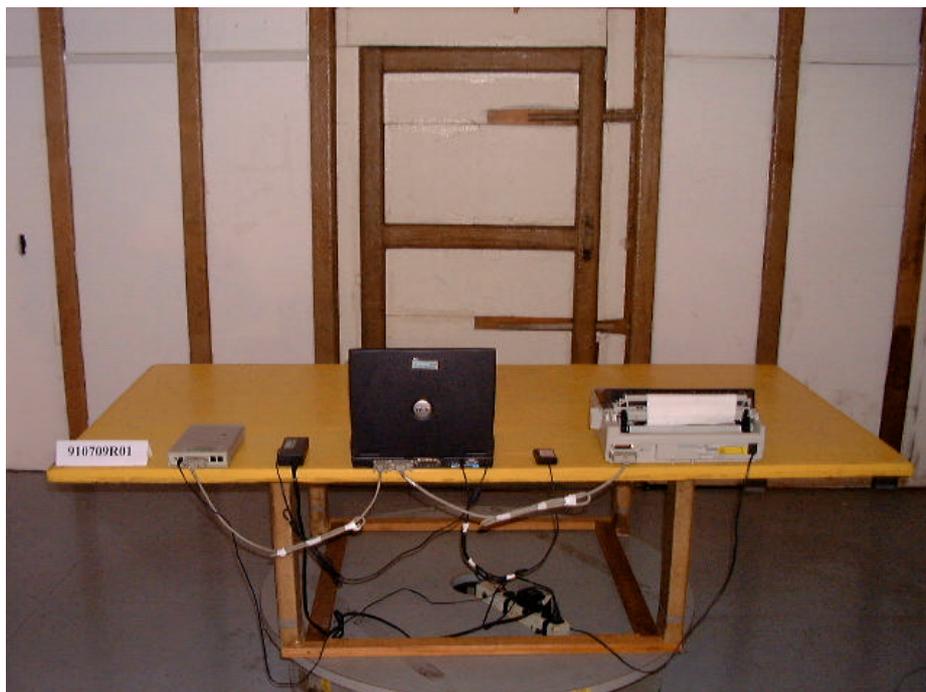
## 5 PHOTOGRAPHS OF THE TEST CONFIGURATION

### CONDUCTED EMISSION TEST



### RADIATED EMISSION TEST







## 6 INFORMATION ON THE TESTING LABORATORIES

We, ADT Corp., were founded in 1988 to provide our best service in EMC and Safety consultation. Our laboratories are accredited and approved by the following approval agencies according to ISO/IEC 17025, Guide 25 or EN 45001:

<b>USA</b>	FCC, NVLAP
<b>Germany</b>	TUV Rheinland
<b>Japan</b>	VCCI
<b>New Zealand</b>	MoC
<b>Norway</b>	NEMKO
<b>R.O.C.</b>	BSMI, DGT, CNLA

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).

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

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