FCC TEST REPORT

REPORT NO.: RF911010R01
MODEL NO.: G-RB7 (for Gamepad)
C-X3A18 (for Receiver Unit)
RECEIVED: October 10, 2002
TESTED: Oct. 15 ~ Nov. 12, 2002

APPLICANT: Logitech Inc.

ADDRESS: 6505 Kaiser Drive Fremont, CA 94555-3615

ISSUED BY: Advance Data Technology Corporation

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

0528
ILAC MRA

Lab Code: 200102-0

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1 CERTIFICATION

PRODUCT :	Logitech Cordless Controller for X-Box
BRAND NAME :	Logitech
MODEL NO. :	G-RB7 (for Gamepad) C-X3A18 (for Receiver Unit)
APPLICANT :	Logitech Inc.
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 Oct. 15, 2002 to Nov. 12, 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 : Emily Lu , DATE : Nov. 13, 2002
Emily Lu

APPROVED BY : Dr. Alan Lane, Manager , DATE : Nov. 13, 2002

2 SUMMARY OF TEST RESULTS

The EUT has been tested according to the following specifications:

APPLIED STANDARD: 47 CFR Part 15, Subpart C			
Standard Section	**Test Type and Limit**	**Result**	**REMARK**
15.207	AC Power Conducted Emission	PASS	Meet the requirement of limit Minimum passing margin is –17.25dBuV at 0.170MHz
15.249	Transmitter Radiated Emissions Spec.: Table 15.209	PASS	Meet the requirement of limit Minimum passing margin is –9.50dBuV at 144.00MHz
15.249	Band Edge Measurement	PASS	Meet the requirement of limit

3 GENERAL INFORMATION

3.1 GENERAL DESCRIPTION OF EUT

PRODUCT	Logitech Cordless Controller for X-Box
MODEL NO.	G-RB7 (for Gamepad) C-X3A18 (for USB Receiver Unit)
POWER SUPPLY	6VDC 200mA from Batteries for Gamepad 5VDC 500mA from host equipment for XBOX Receiver Unit
MODULATION TYPE	FHSS (FSK)
FREQUENCY RANGE	2402MHz ~ 2480MHz
NUMBER OF CHANNEL	79
ANTENNA TYPE	Sheet metal inverted-F antenna
DATA CABLE	0.8m (Nonshielded) with ferrite code
I/O PORTS	XBOX
ASSOCIATED DEVICES	NA

NOTE:

1. FCC ID: DZLGRB7 is applied for model number G-RB7 (Gamepad) and FCC ID: DZLCX3A18 is applied for model number C-X3A18 (XBOX Receiver Unit: a 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.

Test result A is for model G-RB7 and test result B is for model C-X3A18.

3.3 GENERAL DESCRIPTION OF APPLIED STANDARDS

The EUT is a Logitech Cordless Controller for X-Box. 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.

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-09C748-12800-19O-B220	FCC DoC APPROVED
2	PRINTER	EPSON	LQ-300+	DCGY017096	FCC DoC APPROVED
3	MODEM	ACEEX	1414	980020504	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 OF EMISSION (MHz)	CONDUCTED LIMIT (dBμV)	
	Quasi-peak	Average
0.15-0.5	66 to 56	56 to 46
0.5-5	56	46
5-30	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	834115/016	Mar. 3, 2003
ROHDE & SCHWARZ Artificial Mains Network (For EUT)	ESH3-Z5	847265/023	Jan. 10, 2003
* ROHDE & SCHWARZ 4-wire ISN	ENY41	838119/028	Dec. 10, 2002
* ROHDE & SCHWARZ 2-wire ISN	ENY22	837497/018	Dec. 10, 2002
EMCO L.I.S.N. (For peripherals)	3825/2	9504-2359	July 10, 2003
Software	Cond-V2L	NA	NA
RF cable (JYEBAO)	5D-FB	Cable-C03.01	July 11, 2003
Terminator (For EMCO LISN)	NA	E1-01-300	Feb. 20, 2003
Terminator (For EMCO LISN)	NA	E1-01-301	Feb. 20, 2003
Shielded Room	Site 3	ADT-C03	NA
VCCI Site Registration No.	Site 3	C-274	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. 3.

4.1.3 TEST PROCEDURES

a. 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.

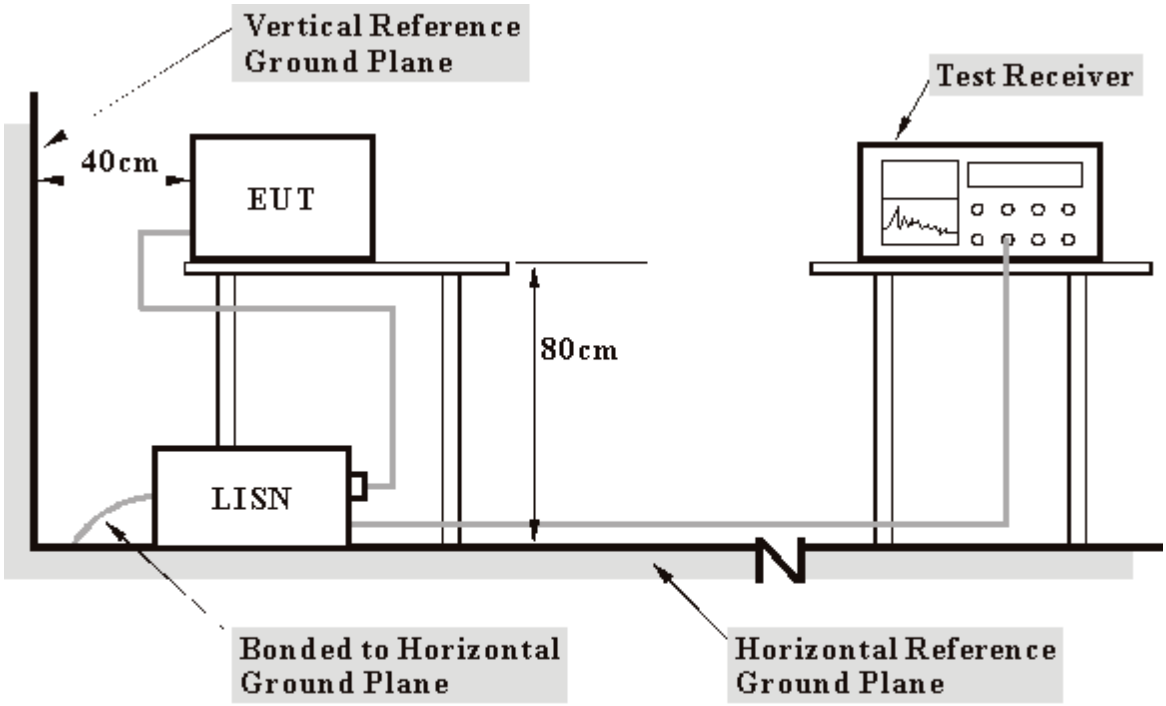
b. Both lines of the power mains connected to the EUT were checked for maximum conducted interference.

c. 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 DEVIATION FROM TEST STANDARD

No deviation

4.1.5 TEST SETUP



Note: 1. Support units were connected to second LISN.
2. 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.

4.1.6 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.

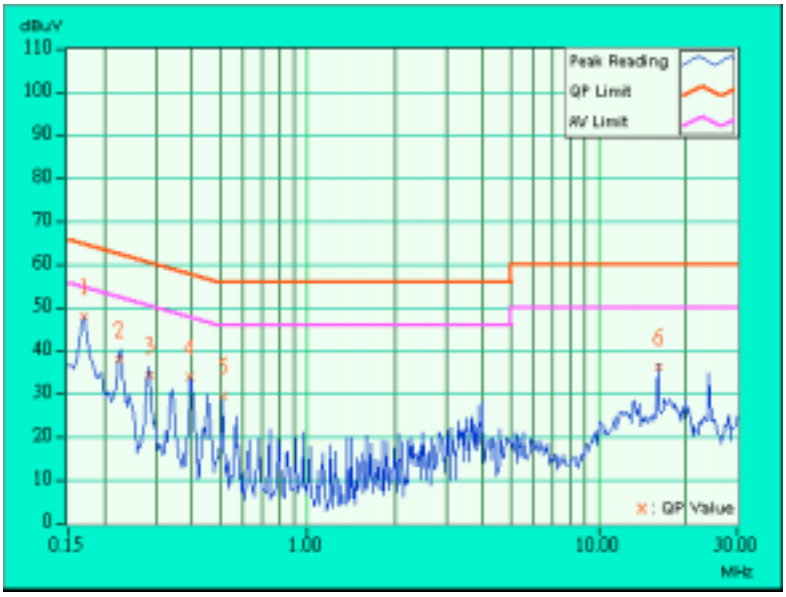
4.1.7 TEST RESULTS (B)

EUT	Logitech Cordless Controller for X-Box	**MODEL**	C-X3A18
MODE	Channel 0	**6dB BANDWIDTH**	9 kHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	**PHASE**	Line (L)
ENVIRONMENTAL CONDITIONS	24deg. C, 48%RH, 1005 hPa	**TESTED BY**: Cody Chang	

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.	AV.
1	0.170	0.10	47.53	-	47.63	-	64.98	54.98	-17.35	-
2	0.224	0.10	37.60	-	37.70	-	62.66	52.66	-24.96	-
3	0.287	0.10	33.54	-	33.64	-	60.62	50.62	-26.98	-
4	0.396	0.10	33.49	-	33.59	-	57.94	47.94	-24.35	-
5	0.512	0.12	28.81	-	28.93	-	56.00	46.00	-27.07	-
6	16.000	0.72	35.42	-	36.14	-	60.00	50.00	-23.86	-

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.

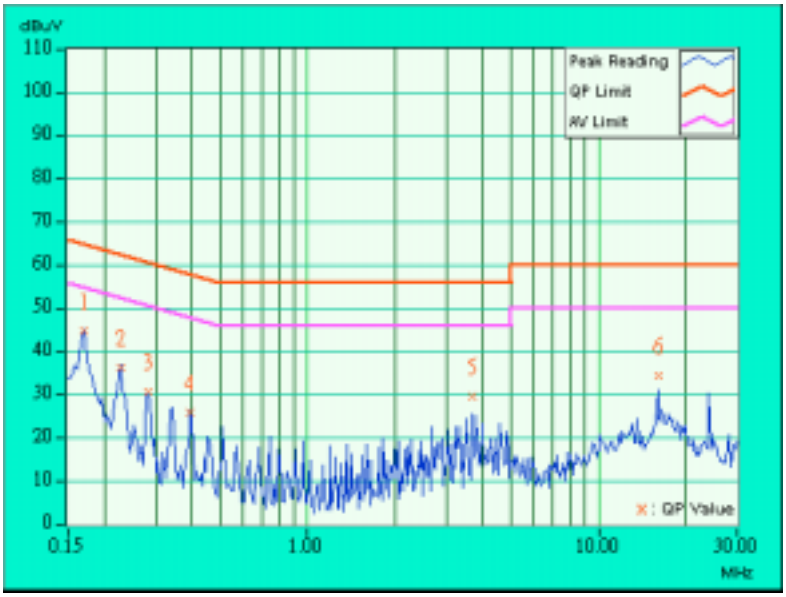


EUT	Logitech Cordless Controller for X-Box	**MODEL**	C-X3A18
MODE	Channel 0	**6dB BANDWIDTH**	9 kHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	**PHASE**	Neutral (N)
ENVIRONMENTAL CONDITIONS	24deg. C, 48%RH, 1005 hPa	**TESTED BY**: Cody Chang	

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.	AV.
1	0.170	0.10	44.19	-	44.29	-	64.98	54.98	-20.69	-
2	0.228	0.10	35.62	-	35.72	-	62.52	52.52	-26.80	-
3	0.283	0.10	30.19	-	30.29	-	60.73	50.73	-30.44	-
4	0.396	0.10	25.57	-	25.67	-	57.93	47.93	-32.26	-
5	3.691	0.38	28.93	-	29.31	-	56.00	46.00	-26.69	-
6	16.000	0.52	34.05	-	34.57	-	60.00	50.00	-25.43	-

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.

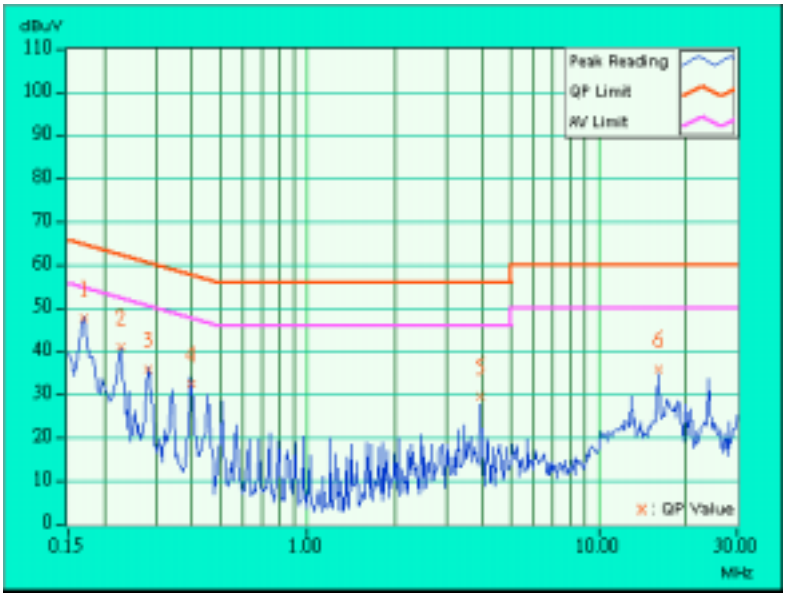


EUT	Logitech Cordless Controller for X-Box	**MODEL**	C-X3A18
MODE	Channel 39	**6dB BANDWIDTH**	9 kHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	**PHASE**	Line (L)
ENVIRONMENTAL CONDITIONS	24deg. C, 48%RH, 1005 hPa	**TESTED BY**: Cody Chang	

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.	AV.
1	0.170	0.10	47.03	-	47.13	-	64.98	54.98	-17.85	-
2	0.228	0.10	40.34	-	40.44	-	62.52	52.52	-22.08	-
3	0.283	0.10	35.20	-	35.30	-	60.73	50.73	-25.43	-
4	0.400	0.10	31.73	-	31.83	-	57.85	47.85	-26.02	-
5	3.918	0.49	28.95	-	29.44	-	56.00	46.00	-26.56	-
6	16.000	0.72	35.25	-	35.97	-	60.00	50.00	-24.03	-

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.

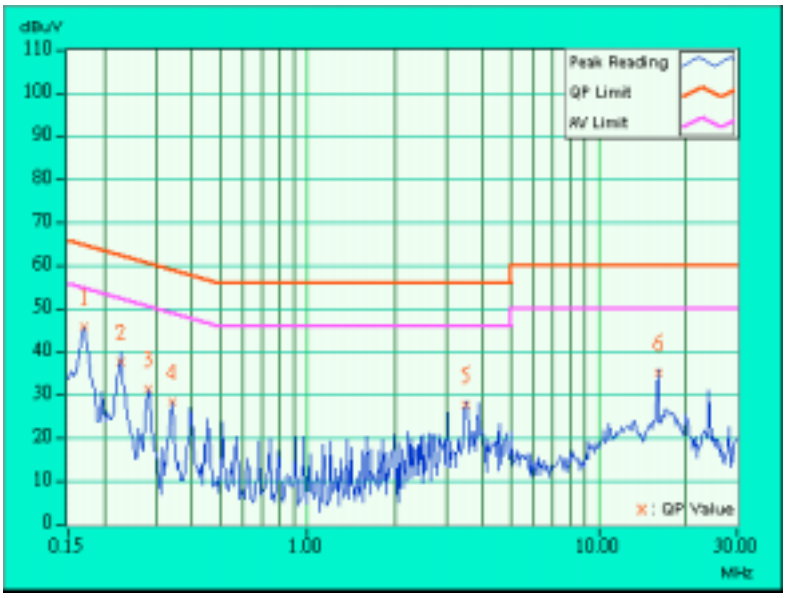


EUT	Logitech Cordless Controller for X-Box	**MODEL**	C-X3A18
MODE	Channel 39	**6dB BANDWIDTH**	9 kHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	**PHASE**	Neutral (N)
ENVIRONMENTAL CONDITIONS	24deg. C, 48%RH, 1005 hPa	**TESTED BY**: Cody Chang	

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.	AV.
1	0.170	0.10	45.28	-	45.38	-	64.98	54.98	-19.60	-
2	0.228	0.10	37.12	-	37.22	-	62.52	52.52	-25.30	-
3	0.283	0.10	30.91	-	31.01	-	60.73	50.73	-29.72	-
4	0.341	0.10	27.86	-	27.96	-	59.17	49.17	-31.21	-
5	3.523	0.38	27.13	-	27.51	-	56.00	46.00	-28.49	-
6	16.000	0.52	34.49	-	35.01	-	60.00	50.00	-24.99	-

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.

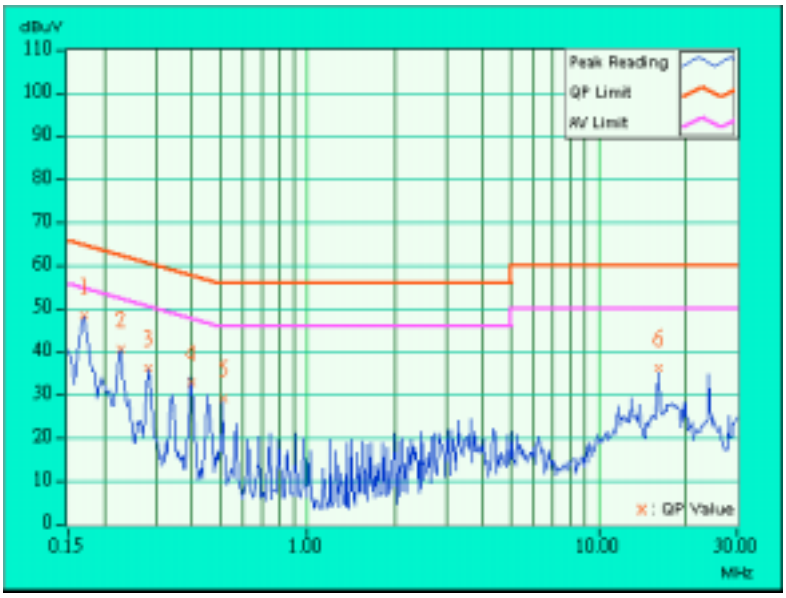


EUT	Logitech Cordless Controller for X-Box	**MODEL**	C-X3A18
MODE	Channel 78	**6dB BANDWIDTH**	9 kHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	**PHASE**	Line (L)
ENVIRONMENTAL CONDITIONS	24deg. C, 48%RH, 1005 hPa	**TESTED BY**: Cody Chang	

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.	AV.
1	0.170	0.10	47.63	-	47.73	-	64.98	54.98	-17.25	-
2	0.228	0.10	39.96	-	40.06	-	62.52	52.52	-22.46	-
3	0.283	0.10	35.62	-	35.72	-	60.73	50.73	-25.01	-
4	0.400	0.10	32.07	-	32.17	-	57.85	47.85	-25.68	-
5	0.512	0.12	28.51	-	28.63	-	56.00	46.00	-27.37	-
6	16.000	0.72	35.57	-	36.29	-	60.00	50.00	-23.71	-

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.

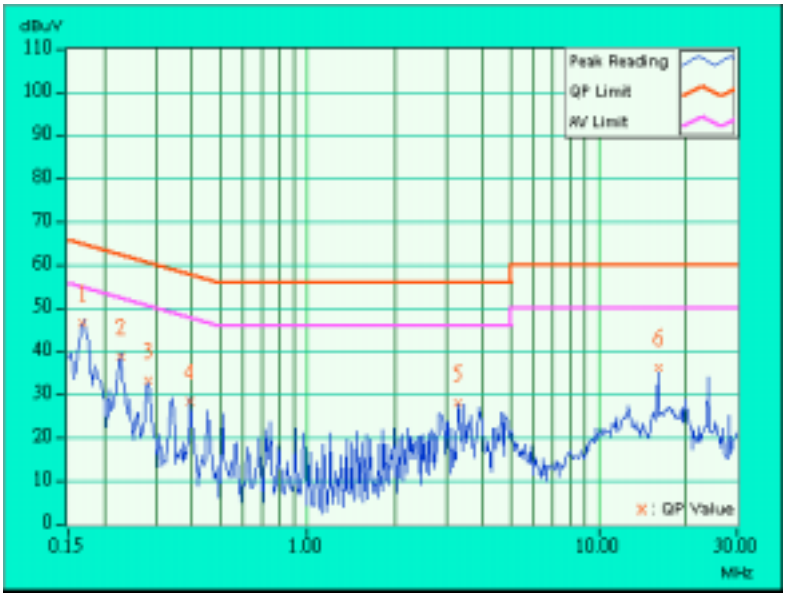


EUT	Logitech Cordless Controller for X-Box	**MODEL**	C-X3A18
MODE	Channel 78	**6dB BANDWIDTH**	9 kHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	**PHASE**	Neutral (N)
ENVIRONMENTAL CONDITIONS	24deg. C, 48%RH, 1005 hPa	**TESTED BY**: Cody Chang	

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.	AV.
1	0.168	0.10	46.10	-	46.20	-	65.05	55.05	-18.85	-
2	0.228	0.10	38.36	-	38.46	-	62.52	52.52	-24.06	-
3	0.284	0.10	32.98	-	33.08	-	60.70	50.70	-27.62	-
4	0.396	0.10	27.88	-	27.98	-	57.94	47.94	-29.96	-
5	3.293	0.36	27.50	-	27.86	-	56.00	46.00	-28.14	-
6	16.000	0.52	35.79	-	36.31	-	60.00	50.00	-23.69	-

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

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

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	Apr. 29, 2003
* HP Preamplifier	8449B	3008A01201	Dec. 06, 2002
* HP Preamplifier	8449B	3008A01292	Aug. 07, 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
ANTENNA (Large Biconical)	VHBA9123	449	Dec. 10, 2002
* CHASE BILOG Antenna	CBL6112A	2221	Aug. 02, 2003
* SCHWARZBECK Horn Antenna	BBHA9120-D1	D130	Jul. 03, 2003
* EMCO Horn Antenna	3115	9312-4192	Apr. 09, 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.

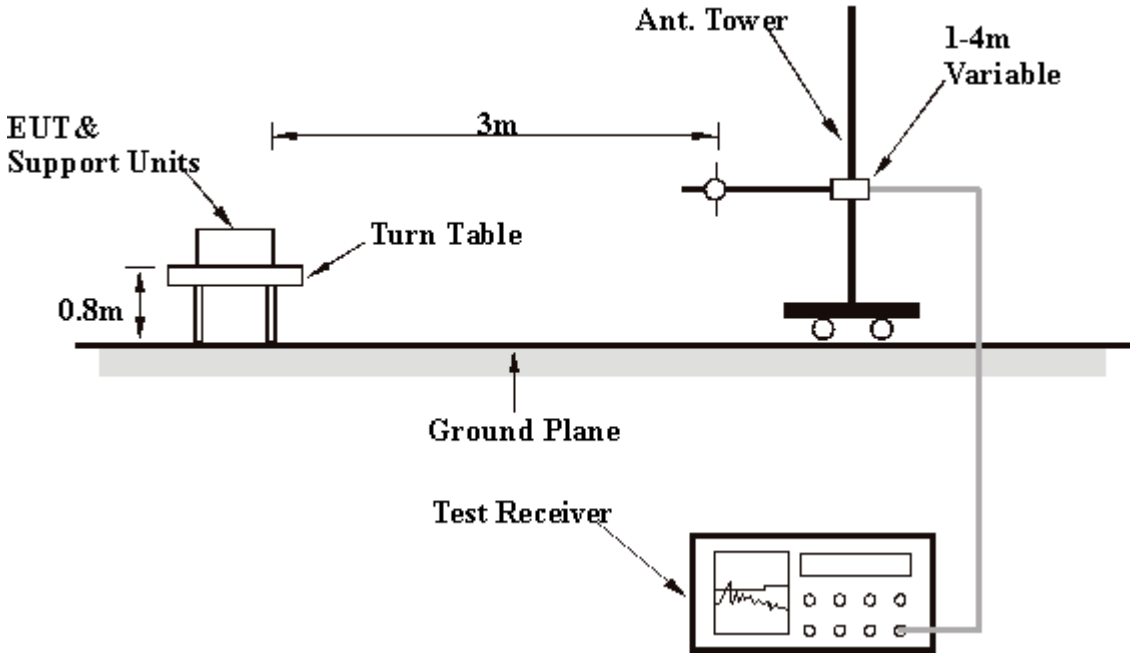
NOTE:

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 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 TEST RESULTS (A)

Digital Portion:

EUT	Logitech Cordless Controller for X-Box	**MODEL**	G-RB7
MODE	Channel 78	**FREQUENCY RANGE**	30-1000 MHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	**DETECTOR FUNCTION**	Quasi-Peak
ENVIRONMENTAL CONDITIONS	25deg. C, 60%RH, 1050 hPa	**TESTED BY**: Gary Chang	

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	121.00	25.2 QP	43.50	-18.30	1.47H	321	10.35	11.58	3.27	0.00	-14.85
2	152.00	27.0 QP	43.50	-16.50	1.43H	286	13.30	10.16	3.54	0.00	-13.70
3	215.40	26.2 QP	43.50	-17.30	1.49H	237	12.12	9.83	4.25	0.00	-14.08
4	220.00	25.7 QP	46.00	-20.30	1.11H	331	11.28	10.12	4.30	0.00	-14.42
5	250.00	27.0 QP	46.00	-19.00	1.00H	79	10.31	12.02	4.67	0.00	-16.69
6	260.00	26.2 QP	46.00	-19.80	1.06H	205	8.27	13.03	4.90	0.00	-17.93

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	120.00	26.0 QP	43.50	-17.50	1.27V	230	11.10	11.65	3.25	0.00	-14.90
2	166.00	28.0 QP	43.50	-15.50	1.32V	129	14.87	9.44	3.68	0.00	-13.12
3	218.00	27.5 QP	46.00	-18.50	1.35V	120	13.08	10.12	4.30	0.00	-14.42
4	240.00	25.7 QP	46.00	-20.30	1.48V	287	9.74	11.41	4.55	0.00	-15.96
5	249.00	26.5 QP	46.00	-19.50	1.39V	226	10.02	11.85	4.63	0.00	-16.48
6	352.00	26.0 QP	46.00	-20.00	1.24V	236	5.96	14.31	5.73	0.00	-20.05

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 :

EUT	Logitech Cordless Controller for X-Box	**MODEL**	G-RB7
MODE	Channel 0	**FREQUENCY RANGE**	Above 1000 MHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	**DETECTOR FUNCTION**	Peak(PK) Average (AV)
ENVIRONMENTAL CONDITIONS	25deg. C, 60%RH, 1050 hPa	**TESTED BY**: Gary Chang	

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	58.6 AV	94.00	-35.40	1.54H	336	98.30	27.67	2.53	36.72	6.52
2	*2402.00	92.6 PK	114.00	-21.40	1.54H	336	99.10	27.67	2.53	36.72	6.52
3	4804.00	44.8 PK	74.00	-29.20	1.60H	287	46.00	31.52	4.01	36.70	1.18
4	7206.00	47.7 PK	74.00	-26.30	1.29H	7	43.00	36.13	5.51	36.98	-4.67

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	58.2 AV	94.00	-35.80	1.34V	330	98.07	27.67	2.53	36.72	6.52
2	*2402.00	92.2 PK	114.00	-21.80	1.34V	330	98.70	27.67	2.53	36.72	6.52
3	4804.00	42.8 PK	74.00	-31.20	1.37V	321	44.00	31.52	4.01	36.70	1.18
4	7206.00	45.7 PK	74.00	-28.30	1.14V	6	41.00	36.13	5.51	36.98	-4.66

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.
6. The manufacturer declared that Tx will not transmit greater than 2ms in a 100 msec period of time per channel. Therefore, the duty cycle should be equal to 20 log (0.02)=34.0dB.
7. Average value = peak reading – 20 log (duty cycle).

EUT	Logitech Cordless Controller for X-Box	**MODEL**	G-RB7
MODE	Channel 39	**FREQUENCY RANGE**	Above 1000 MHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	**DETECTOR FUNCTION**	Peak(PK) Average (AV)
ENVIRONMENTAL CONDITIONS	25deg. C, 60%RH, 1050 hPa	**TESTED BY**: Gary Chang	

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	60.0 AV	94.00	-34.00	1.43H	186	99.80	27.81	2.66	36.71	6.24
2	*2441.00	94.0 PK	114.00	-20.00	1.43H	186	100.28	27.81	2.66	36.71	6.24
3	4882.00	47.9 PK	74.00	-26.10	1.30H	2	49.00	31.59	4.03	36.70	1.08
4	7322.00	51.0 PK	74.00	-23.00	1.07H	357	46.00	36.33	5.72	37.03	-5.02

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	92.8 PK	114.00	-21.20	1.40V	309	99.00	27.81	2.66	36.71	6.24
2	*2441.00	58.8 AV	94.00	-35.20	1.40V	309	96.50	27.81	2.66	36.71	6.24
3	4882.00	47.1 PK	74.00	-26.90	1.21V	6	48.20	31.59	4.03	36.70	1.08
4	7322.00	50.4 PK	74.00	-23.60	1.18V	58	45.40	36.33	5.72	37.03	-5.02

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.
6. The manufacturer declared that Tx will not transmit greater than 2ms in a 100 msec period of time per channel. Therefore, the duty cycle should be equal to 20 log (0.02)=34.0dB.
7. Average value = peak reading – 20 log (duty cycle).

EUT	Logitech Cordless Controller for X-Box	**MODEL**	G-RB7
MODE	Channel 78	**FREQUENCY RANGE**	Above 1000 MHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	**DETECTOR FUNCTION**	Peak(PK) Average (AV)
ENVIRONMENTAL CONDITIONS	25deg. C, 60%RH, 1050 hPa	**TESTED BY**: Gary Chang	

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	61.0 AV	94.00	-33.00	1.02H	329	99.70	27.96	2.78	36.70	5.96
2	*2480.00	95.0 PK	114.00	-19.00	1.02H	329	101.00	27.96	2.78	36.70	5.96
3	4960.00	46.5 PK	74.00	-27.50	1.51H	123	47.40	31.72	4.08	36.70	0.89
4	7440.00	49.2 PK	74.00	-24.80	1.15H	312	43.80	36.54	5.93	37.08	-5.39

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	56.8 AV	94.00	-37.20	1.00V	134	96.20	27.96	2.78	36.70	5.96
2	*2480.00	90.8 PK	114.00	-23.20	1.00V	134	96.80	27.96	2.78	36.70	5.96
3	4960.00	50.1 PK	74.00	-23.90	1.42V	196	51.00	31.72	4.08	36.70	0.89
4	7440.00	49.4 PK	74.00	-24.60	1.32V	11	44.00	36.54	5.93	37.08	-5.39

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.
6. The manufacturer declared that Tx will not transmit greater than 2ms in a 100 msec period of time per channel. Therefore, the duty cycle should be equal to 20 log (0.02)=34.0dB.
7. Average value = peak reading – 20 log (duty cycle).

4.2.7 TEST RESULTS (B)

Digital Portion:

EUT	Logitech Cordless Controller for X-Box	**MODEL**	C-X3A18
MODE	Channel 78	**FREQUENCY RANGE**	30-1000 MHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	**DETECTOR FUNCTION**	Quasi-Peak
ENVIRONMENTAL CONDITIONS	25deg. C, 60%RH, 1050 hPa	**TESTED BY**: Gary Chang	

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	240.00	33.0 QP	46.00	-13.00	1.53H	106	17.04	11.41	4.55	0.00	-15.96
2	252.00	26.0 QP	46.00	-20.00	1.04H	265	8.98	12.29	4.73	0.00	-17.03
3	272.00	31.0 QP	46.00	-15.00	1.04H	31	13.54	12.53	4.93	0.00	-17.47
4	288.00	29.0 QP	46.00	-17.00	1.39H	20	11.10	12.88	5.01	0.00	-17.91
5	336.00	31.0 QP	46.00	-15.00	1.04H	3	11.55	13.92	5.53	0.00	-19.45
6	368.00	31.0 QP	46.00	-15.00	1.43H	3	10.28	14.86	5.87	0.00	-20.72
7	384.00	30.0 QP	46.00	-16.00	1.84H	26	8.48	15.50	6.02	0.00	-21.53

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	84.00	25.0 QP	40.00	-15.00	1.02V	3	14.71	7.63	2.66	0.00	-10.29
2	120.00	27.0 QP	43.50	-16.50	1.05V	300	12.10	11.65	3.25	0.00	-14.90
3	132.00	33.0 QP	43.50	-10.50	1.42V	11	18.47	11.16	3.37	0.00	-14.53
4	144.00	34.0 QP	43.50	-9.50	1.02V	3	19.94	10.58	3.48	0.00	-14.06
5	156.00	33.0 QP	43.50	-10.50	1.16V	12	19.54	9.88	3.58	0.00	-13.47
6	216.00	26.0 QP	43.50	-17.50	1.13V	15	11.75	9.97	4.28	0.00	-14.26
7	220.00	0.0 QP	46.00	-46.00	1.02V	3	-14.42	10.12	4.30	0.00	-14.42
8	240.00	32.0 QP	46.00	-14.00	1.18V	3	16.04	11.41	4.55	0.00	-15.96
9	352.00	31.0 QP	46.00	-15.00	1.08V	343	10.96	14.31	5.73	0.00	-20.04

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 :

EUT	Logitech Cordless Controller for X-Box	**MODEL**	C-X3A18
MODE	Channel 0	**FREQUENCY RANGE**	Above 1000 MHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	**DETECTOR FUNCTION**	Peak(PK) Average (AV)
ENVIRONMENTAL CONDITIONS	25deg. C, 60%RH, 1050 hPa	**TESTED BY**: Gary Chang	

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	93.0 PK	114.00	-21.00	1.26H	61	99.50	27.67	2.53	36.72	6.52
2	*2402.00	59.0 AV	94.00	-35.00	1.26H	61	97.50	27.67	2.53	36.72	6.52
3	4804.00	43.8 PK	74.00	-30.20	1.16H	75	45.00	31.52	4.01	36.70	1.18
4	7206.00	48.4 PK	74.00	-25.60	1.13H	61	43.70	36.13	5.51	36.98	-4.66

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	62.3 AV	94.00	-31.70	1.06V	143	101.00	27.67	2.53	36.72	6.52
2	*2402.00	96.3 PK	114.00	-17.70	1.06V	143	102.80	27.67	2.53	36.72	6.52
3	4804.00	47.8 PK	74.00	-26.20	1.00V	7	49.00	31.52	4.01	36.70	1.18
4	7206.00	47.8 PK	74.00	-26.20	1.47V	152	43.10	36.13	5.51	36.98	-4.66

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.
6. The manufacturer declared that Tx will not transmit greater than 2ms in a 100 msec period of time per channel. Therefore, the duty cycle should be equal to 20 log (0.02)=34.0dB.
7. Average value = peak reading – 20 log (duty cycle).

8.

EUT	Logitech Cordless Controller for X-Box	**MODEL**	C-X3A18
MODE	Channel 39	**FREQUENCY RANGE**	Above 1000 MHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	**DETECTOR FUNCTION**	Peak(PK) Average (AV)
ENVIRONMENTAL CONDITIONS	25deg. C, 60%RH, 1050 hPa	**TESTED BY**: Gary Chang	

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	91.8 PK	114.00	-22.20	1.24H	38	98.00	27.81	2.66	36.71	6.24
2	*2441.00	57.8 AV	94.00	-36.20	1.24H	38	97.30	27.81	2.66	36.71	6.24
3	4882.00	44.6 PK	74.00	-29.40	1.01H	253	45.70	31.59	4.03	36.70	1.08
4	7322.00	48.0 PK	74.00	-26.00	1.41H	5	43.00	36.33	5.72	37.03	-5.03

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	60.6 AV	94.00	-33.40	1.37V	19	99.56	27.81	2.66	36.71	6.24
2	*2441.00	94.6 PK	114.00	-19.40	1.37V	19	100.80	27.81	2.66	36.71	6.24
3	4882.00	49.1 PK	74.00	-24.90	1.01V	224	50.20	31.59	4.03	36.70	1.08
4	7322.00	47.8 PK	74.00	-26.20	1.86V	201	42.80	36.33	5.72	37.03	-5.02

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.
6. The manufacturer declared that Tx will not transmit greater than 2ms in a 100 msec period of time per channel. Therefore, the duty cycle should be equal to 20 log (0.02)=34.0dB.
7. Average value = peak reading – 20 log (duty cycle).

EUT	Logitech Cordless Controller for X-Box	**MODEL**	C-X3A18
MODE	Channel 78	**FREQUENCY RANGE**	Above 1000 MHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	**DETECTOR FUNCTION**	Peak(PK) Average (AV)
ENVIRONMENTAL CONDITIONS	25deg. C, 60%RH, 1050 hPa	**TESTED BY**: Gary Chang	

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	57.7 AV	94.00	-36.30	1.00H	96	96.00	27.96	2.78	36.70	5.96
2	*2480.00	91.7 PK	114.00	-22.30	1.00H	96	97.70	27.96	2.78	36.70	5.96
3	4960.00	46.1 PK	74.00	-27.90	1.50H	259	47.00	31.72	4.08	36.70	0.89

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	93.9 PK	114.00	-20.10	1.01V	59	99.90	27.96	2.78	36.70	5.96
2	*2480.00	59.9 AV	94.00	-34.10	1.01V	59	97.90	27.96	2.78	36.70	5.96
3	4960.00	50.1 PK	74.00	-23.90	1.07V	357	51.00	31.72	4.08	36.70	0.89

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.
6. The manufacturer declared that Tx will not transmit greater than 2ms in a 100 msec period of time per channel. Therefore, the duty cycle should be equal to 20 log (0.02)=34.0dB.
7. Average value = peak reading – 20 log (duty cycle).

4.3 BAND EDGES MEASUREMENT

4.3.1 LIMITS OF BAND EDGES MEASUREMENT

Below –20dB 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	July 24, 2003

Notes:

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.

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 DEVIATION FROM TEST STANDARD

No deviation

4.3.5 EUT OPERATING CONDITION

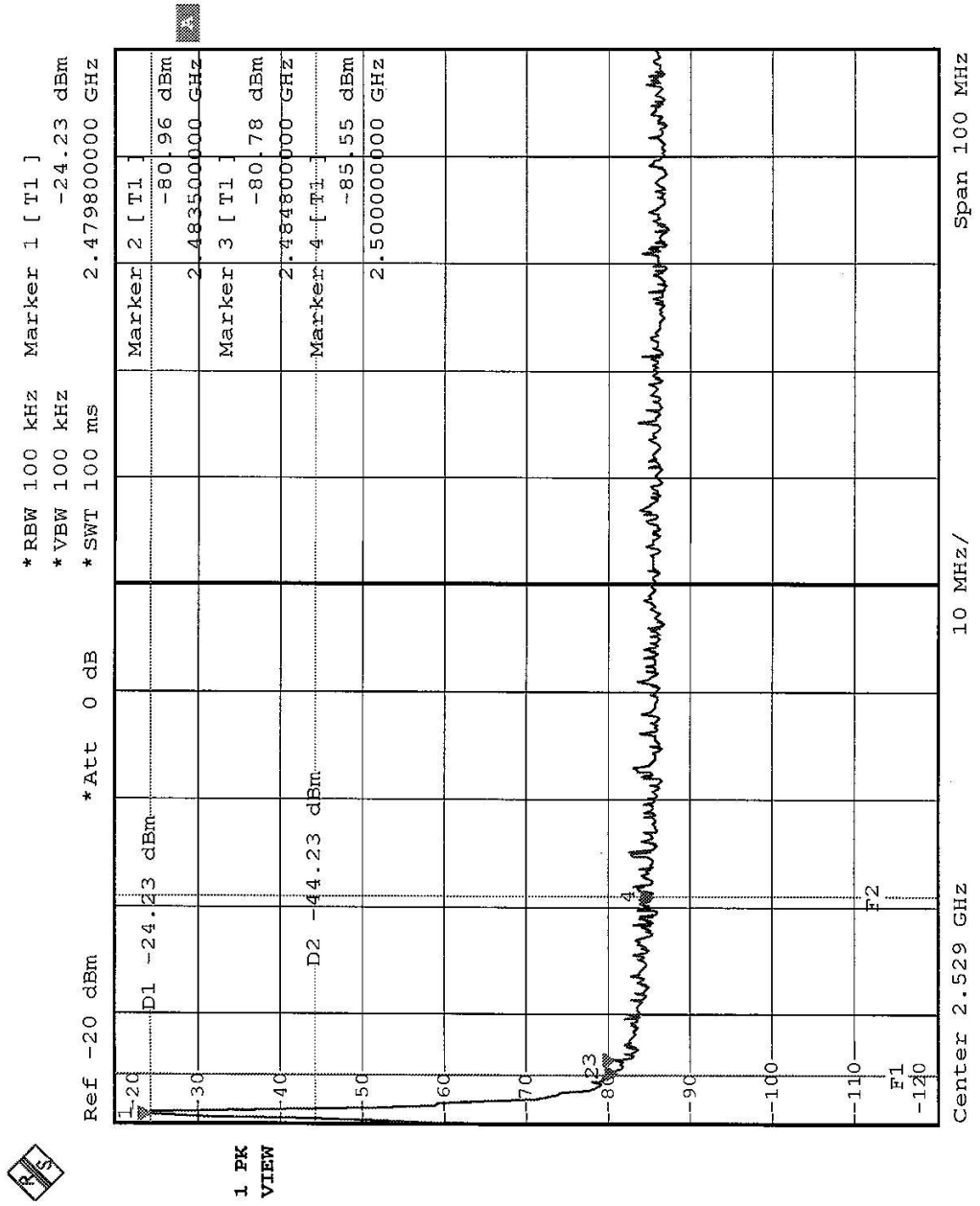
The software provided by client enabled the EUT to transmit and receive data at lowest, middle and highest channel frequencies individually.

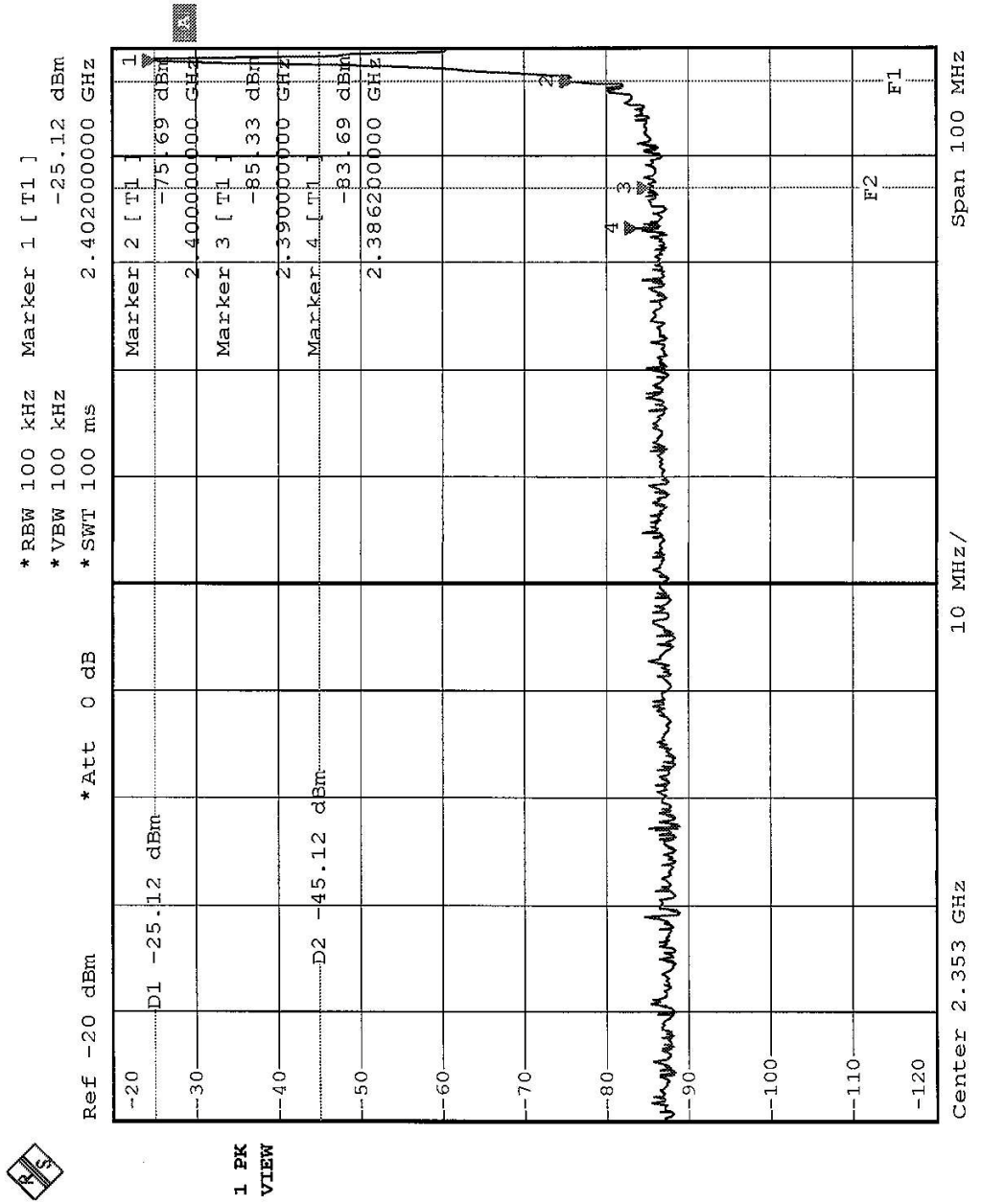
4.3.6 TEST RESULTS

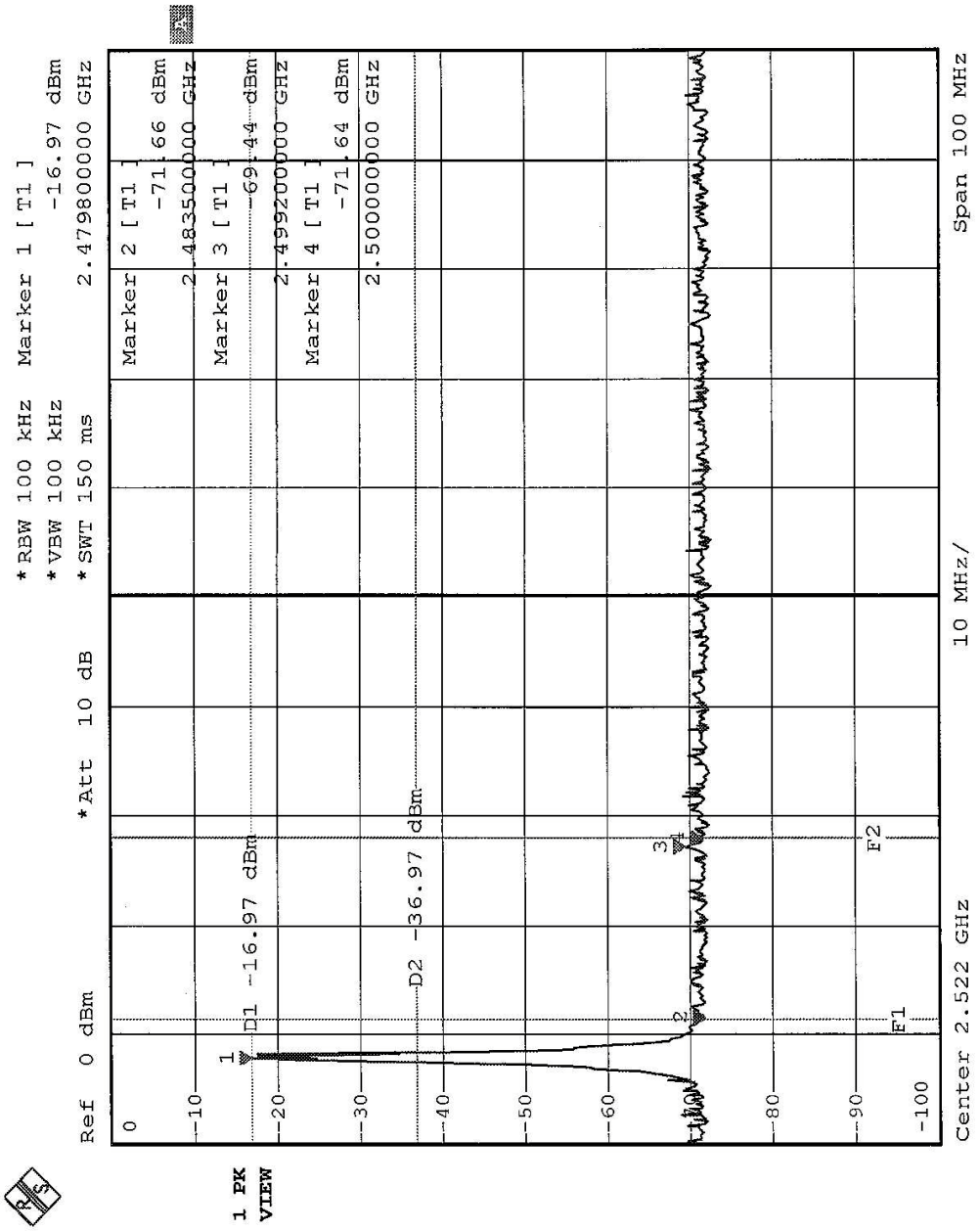
The spectrum plots are attached below. D2 line indicates the highest level, D1 line indicates the 20dB offset below D2. It shows compliance with the requirement in part 15.249.

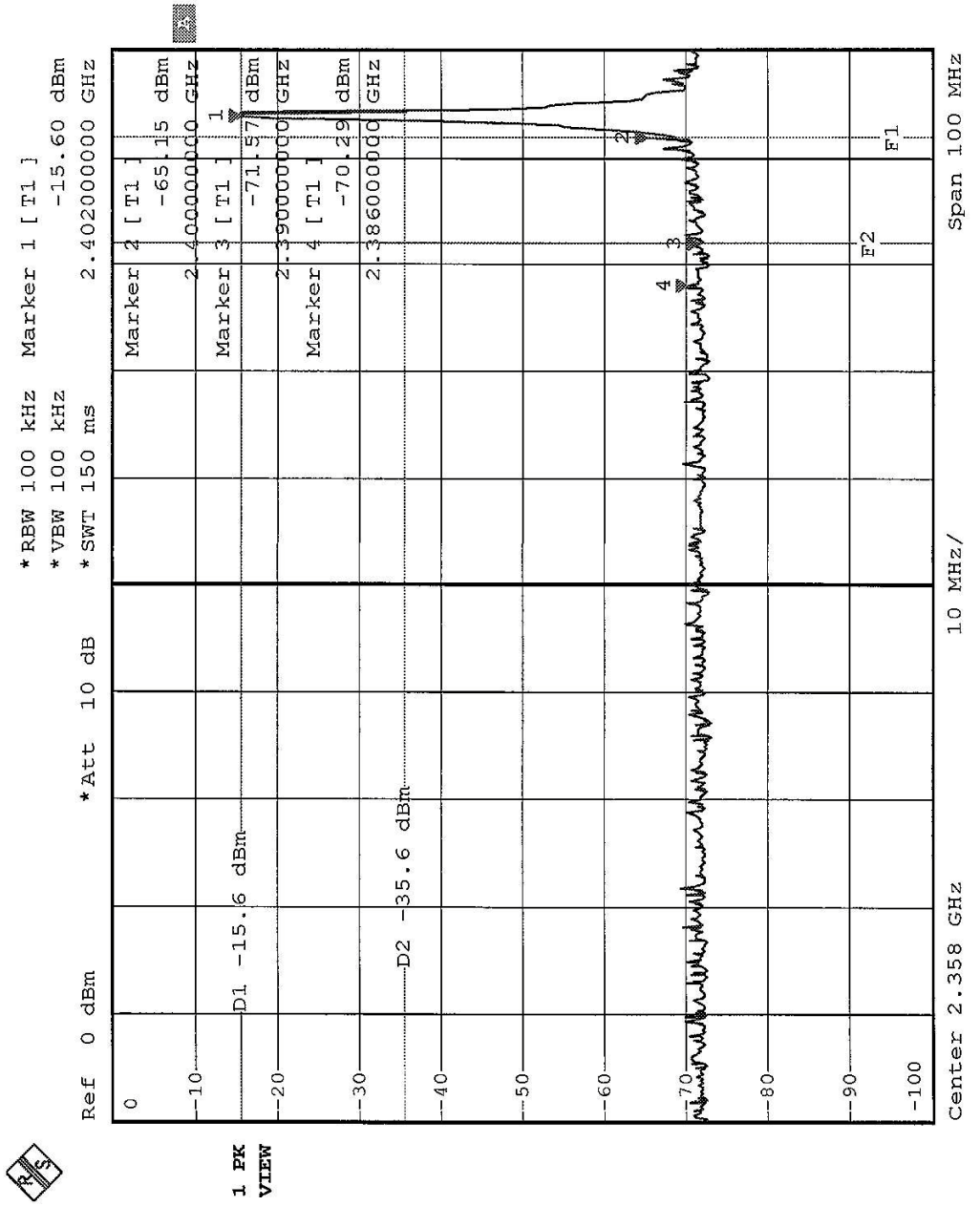
Note for test result (A) on page 32-33: The band edge emission plot on the following 2 pages shows 56.55dB / 58.57dB delta between carrier maximum power and local maximum emission in restrict band (2.4848GHz / 2.3862GHz). The emission of carrier strength list in the test result of channel 78 at the item 4.2.6 (Page 25) is 61.0dBuV/m, so the maximum field strength in restrict band is 61.0-56.55=4.45dBuV/m which is under 54dBuV/m limit.

Note for test result (B) on page 34-35: The band edge emission plot on the following 2 pages shows 52.47dB / 54.69dB delta between carrier maximum power and local maximum emission in restrict band (2.4992GHz / 2.3860GHz). The emission of carrier strength list in the test result of channel 0 at the item 4.2.7 (Page 27) is 62.3dBuV/m, so the maximum field strength in restrict band is 62.3-54.69=7.61dBuV/m which is under 54dBuV/m limit.


*RBW 100 kHz
*VBW 100 kHz
*SWT 100 ms
Marker 1 [T1]
-24.23 dBm
2.479800000 GHz
Marker 2 [T1]
-80.96 dBm
2.483500000 GHz
Marker 3 [T1]
-80.78 dBm
2.484800000 GHz
Marker 4 [T1]
-85.55 dBm
2.500000000 GHz
Ref -20 dBm
*Att 0 dB
D1 -24.23 dBm
D2 -44.23 dBm
1 PK
VIEW
Center 2.529 GHz
10 MHz/
Span 100 MHz
F1
F2


*RBW 100 kHz
*VBW 100 kHz
*SWT 100 ms
Marker 1 [T1]
-25.12 dBm
2.402000000 GHz
Ref -20 dBm
*Att 0 dB
D1 -25.12 dBm
D2 -45.12 dBm
Marker 2 [T1]
-75.69 dBm
2.400000000 GHz
Marker 3 [T1]
-85.33 dBm
2.390000000 GHz
Marker 4 [T1]
-83.69 dBm
2.386200000 GHz
1 PK
VIEW
Center 2.353 GHz
10 MHz/
Span 100 MHz
F1
F2


*RBW 100 kHz
*VBW 100 kHz
*SWT 150 ms
*Att 10 dB
Ref 0 dBm
Marker 1 [T1]
-16.97 dBm
2.47980000 GHz
Marker 2 [T1]
-71.66 dBm
2.48350000 GHz
Marker 3 [T1]
-69.44 dBm
2.49920000 GHz
Marker 4 [T1]
-71.64 dBm
2.50000000 GHz
D1 -16.97 dBm
D2 -36.97 dBm
F1
F2
1 PK
VIEW
Center 2.522 GHz
10 MHz/
Span 100 MHz


*RBW 100 kHz
*VBW 100 kHz
*SWT 150 ms
Marker 1 [T1]
-15.60 dBm
2.402000000 GHz
Ref 0 dBm
*Att 10 dB
Marker 2 [T1]
-65.15 dBm
2.400000000 GHz
Marker 3 [T1]
-71.57 dBm
2.390000000 GHz
Marker 4 [T1]
-70.29 dBm
2.386000000 GHz
D1 -15.6 dBm
D2 -35.6 dBm
1 PK
VIEW
Center 2.358 GHz
10 MHz/
Span 100 MHz
F1
F2

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.

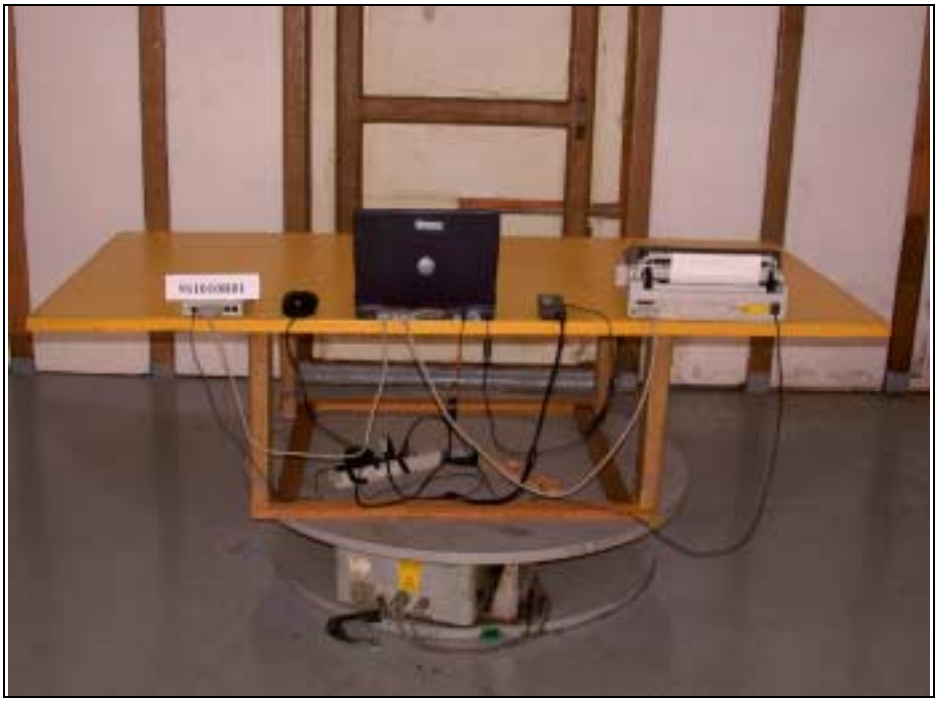
4.4.2 ANTENNA CONNECTED CONSTRUCTION

The antenna used in this product is Sheet metal 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:

USA	FCC, NVLAP
Germany	TUV Rheinland
Japan	VCCI
New Zealand	MoC
Norway	NEMKO
R.O.C.	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.

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