FCC TEST REPORT

REPORT NO.: RF950126L04
MODEL NO.: MWP57-L, CR57 (transmitter, receiver)
OEM MODEL NO.: MWP30-L, CR30 (transmitter, receiver)
RECEIVED: Mar. 09, 2006
TESTED: Mar. 10, 2006
ISSUED: Mar. 15, 2006

APPLICANT: DEXIN Corporation

ADDRESS: 14F-8, No 258, Lian Cheng Rd., Chung Ho City, Taipei Hsien, Taiwan, R.O.C.

ISSUED BY: Advance Data Technology Corporation

LAB ADDRESS: No. 47, 14th Ling, Chia Pau Tsuen, Lin Kou Hsiang 244, Taipei Hsien, Taiwan, R.O.C.

TEST LOCATION: No. 19, Hwa Ya 2nd Rd., Wen Hwa Tsuen, Kwei Shan Hsiang, Taoyuan Hsien 333, Taiwan, R.O.C.

ACCREDITED
No. 2177-01

0528

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1 CERTIFICATION

PRODUCT:	Cordless Presenter Mouse
MODEL:	MWP57-L, CR57 (transmitter, receiver)
OEM MODEL:	MWP30-L, CR30 (transmitter, receiver)
BRAND:	DEXIN
APPLICANT:	DEXIN CORPORATION
TESTED:	Mar. 10, 2006
TEST SAMPLE:	ENGINEERING SAMPLE
STANDARDS:	FCC Part 15, Subpart C (Section 15.235), ANSI C63.4-2003

The above equipment has been tested by **Advance Data Technology Corporation**, 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 : Windy Chou , **DATE:** Mar. 15, 2006
(Windy Chou)

TECHNICAL ACCEPTANCE : Long Chen , **DATE:** Mar. 15, 2006
Responsible for RF (Long Chen)

APPROVED BY : Gary Chang , **DATE:** Mar. 15, 2006
(Gary Chang / Supervisor)

2 SUMMARY OF TEST RESULTS

The EUT has been tested according to the following specifications:

APPLIED STANDARD: FCC Part 15, Subpart C			
STANDARD PARAGRAPH	**TEST TYPE**	**RESULT**	**REMARK**
15.207	Conducted Emission Test	NA	Power supply is 2.4Vdc from battery
15.235 15.209	Radiated Emission Test	PASS	Minimum passing margin is –14.26dB at 298.26MHz
15.235 (b)	Band Edge Measurement Test	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:

MEASUREMENT	FREQUENCY	UNCERTAINTY
Conducted emissions	9kHz~30MHz	2.44 dB
Radiated emissions	30MHz ~ 200MHz	3.55 dB
	200MHz ~1000MHz	3.58 dB
	1GHz ~ 18GHz	1.10 dB
	18GHz ~ 40GHz	0.91 dB

This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of k=2.

3 GENERAL INFORMATION

3.1 GENERAL DESCRIPTION OF EUT

PRODUCT	Cordless Presenter Mouse
FCC ID	NIYMWP57-L
MODEL NO.	MWP57-L, CR57 (transmitter, receiver)
OEM MODEL NO.	MWP30-L, CR30 (transmitter, receiver)
POWER SUPPLY	2.4Vdc from re-chargeable batteries
MODULATION TYPE	GFSK
CARRIER FREQUENCY OF EACH CHANNEL	49.83, 49.85, 49.87, 49.89MHz
NUMBER OF CHANNEL	4
ANTENNA TYPE	Loop antenna
DATA CABLE	NA
I/O PORTS	NA

NOTE:

1. The EUT is a set of Cordless Presenter Mouse.
2. The following models are provided to this EUT, and the only different is the color of outward appearance.

BRAND	MODEL	DESCRIPTION	DIFFERENCE
DEXIN	MWP57-L	For transmitter	Color: Black
	CR57	For receiver	
	MWP30-L	For transmitter	Color: Silver
	CR30	For receiver	

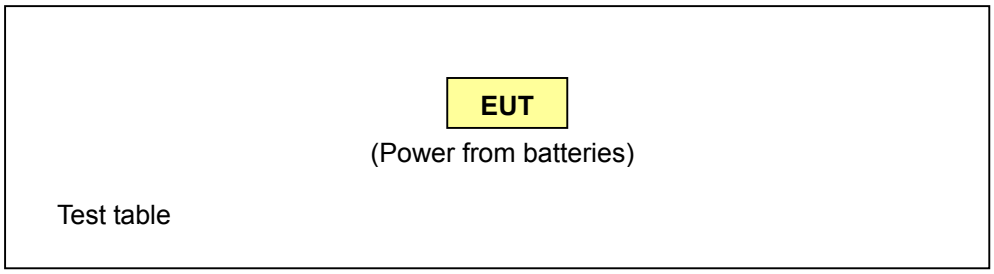
3. The above EUT information was declared by manufacturer and for more detailed features description, please refer to the manufacturer's specifications or User's Manual.

3.1 DESCRIPTION OF TEST MODES

Four channels were provided to this EUT.

CHANNEL	FREQUENCY	CHANNEL	FREQUENCY
1	49.83	3	49.87
2	49.85	4	49.89

3.1.1 CONFIGURATION OF SYSTEM UNDER TEST



3.1.2 TEST MODE APPLICABILITY AND TESTED CHANNEL DETAIL

EUT configure mode	Applicable to		Description
	PLC	RE<1G	
-	-	√	-

Where PLC: Power Line Conducted Emission RE<1G RE: Radiated Emission below 1GHz

"-": No need to concern of Conducted Emission due to the EUT is powered by batteries.

Radiated Emission Test (Below 1 GHz):

☒ Following channel(s) was (were) selected for the final test as listed below.

EUT	Available Channel	Tested Channel	Modulation Type
Mouse	1-4	1	GFSK

3.2 GENERAL DESCRIPTION OF APPLIED STANDARDS

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

FCC Part 15, Subpart C. (15.235)
ANSI C63.4-2003

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

3.3 DESCRIPTION OF SUPPORT UNITS

NA

4 TEST PROCEDURE AND RESULT

4.1 CONDUCTED EMISSION MEASUREMENT

NA

4.2 RADIATED EMISSION MEASUREMENT

4.2.1 LIMITS OF RADIATED EMISSION MEASUREMENT

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 (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.

4.2.2 TEST INSTRUMENT

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATED UNTIL
Test Receiver ROHDE & SCHWARZ	ESIB7	100188	Dec. 20, 2006
Spectrum Analyzer ROHDE & SCHWARZ	FSP40	100039	Nov. 27, 2006
BILOG Antenna SCHWARZBECK	VULB9168	9168-157	Jan. 15, 2007
HORN Antenna SCHWARZBECK	BBHA 9120 D	9120D-407	Jan. 22, 2007
HORN Antenna SCHWARZBECK	BBHA 9170	BBHA9170147	Jan. 26, 2007
Loop Antenna	HFH2-Z2	100070	Nov. 28, 2007
Preamplifier Agilent	8449B	3008A01961	Oct. 23, 2006
Preamplifier Agilent	8447D	2944A10629	Oct. 27, 2006
RF signal cable HUBER+SUHNER	SUCOFLEX 104	214380/4	Jan. 16, 2007
RF signal cable HUBER+SUHNER	SUCOFLEX 104	219266/4	Jan. 16, 2007
Software ADT.	ADT_Radiated_V5.14	NA	NA
Antenna Tower ADT.	AT100	AT93021702	NA
Turn Table ADT.	TT100.	TT93021702	NA
Controller ADT.	SC100.	SC93021702	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 test was performed in HwaYa Chamber 1.

3. The horn antenna and HP preamplifier (model: 8449B) are used only for the measurement of emission frequency above 1GHz if tested.

4. The IC Site Registration No. is IC4924-2.

4.2.3 TEST PROCEDURE

a. The EUT was placed on the top of a rotating table 0.8 meters above the ground at a 3 meter semi-anechoic chamber. 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.

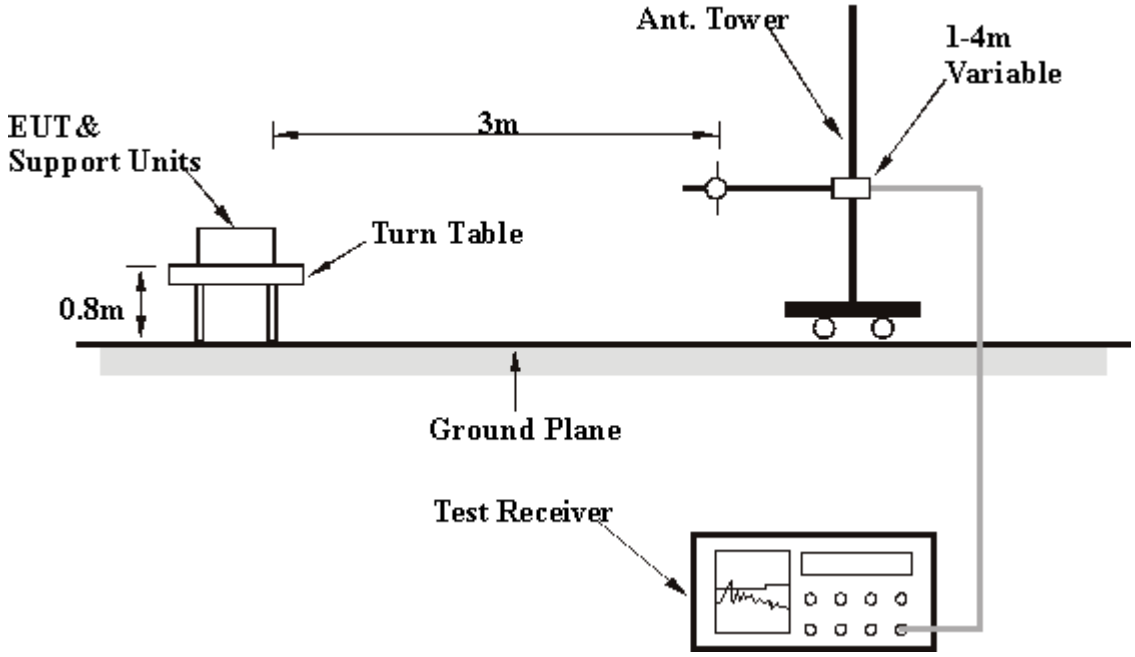
e. The test-receiver system was set to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode.

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.

4.2.4 TEST SETUP



For the actual test configuration, please refer to the related item in this test report - Photographs of the Test Configuration.

4.2.5 EUT OPERATING CONDITION

a. Placed the EUT on the testing table.
b. Set the EUT under transmitting condition.

4.2.6 TEST RESULTS

Radiated Worst-Case Data

INPUT POWER	2.4Vdc	**FREQUENCY RANGE**	Below 1000 MHz
ENVIRONMENTAL CONDITIONS	20 deg. C, 60 % RH, 991 hPa	**DETECTOR FUNCTION**	Peak / Average
TESTED BY	Lori Chiu		

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	49.83	53.44 PK	100	-46.56	1.96 H	142	39.06	14.38
2	49.83	48.23 AV	80	-31.77	1.96 H	142	33.85	14.38

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)	Correction Factor (dB/m)
1	49.83	50.59 PK	100	-49.41	1.00 V	340	36.20	14.38
2	49.83	45.29 AV	80	-34.71	1.00 V	340	30.91	14.38

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. Loop Antenna was used for all frequency below 30MHz.

INPUT POWER	2.4Vdc	**FREQUENCY RANGE**	Below 1000 MHz
ENVIRONMENTAL CONDITIONS	20 deg. C, 60 % RH, 991 hPa	**DETECTOR FUNCTION**	Quasi-Peak
TESTED BY	Lori Chiu		

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	298.26	29.75 QP	46.00	-16.25	2.00 H	346	14.22	15.53
2	348.80	29.19 QP	46.00	-16.81	2.50 H	313	12.93	16.27
3	747.29	30.95 QP	46.00	-15.05	1.00 H	223	5.26	25.69
4	797.84	28.48 QP	46.00	-17.52	1.00 H	277	2.50	25.99
5	848.38	31.58 QP	46.00	-14.42	2.50 H	292	4.93	26.65
6	896.97	30.74 QP	46.00	-15.26	2.00 H	229	3.68	27.06
7	937.80	28.56 QP	46.00	-17.44	2.50 H	178	-0.29	28.85
8	947.52	30.25 QP	46.00	-15.75	1.00 H	13	0.95	29.30

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
No.	Freq. (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	**298.26**	**31.74 QP**	**46.00**	**-14.26**	**1.50 V**	**19**	**16.21**	**15.53**
2	348.80	29.25 QP	46.00	-16.75	1.00 V	223	12.99	16.27
3	747.29	29.33 QP	46.00	-16.67	1.50 V	271	3.64	25.69
4	848.38	29.19 QP	46.00	-16.81	1.00 V	205	2.54	26.65
5	896.97	28.80 QP	46.00	-17.20	1.00 V	166	1.74	27.06
6	947.52	31.47 QP	46.00	-14.53	1.00 V	355	2.16	29.30
7	998.06	37.76 QP	54.00	-16.24	1.00 V	112	9.40	28.37

REMARKS: 1. Emission level(dBuV/m)=Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor (dB/m) + Cable Factor (dB)
3. The other emission levels were very low against the limit.
4. Margin value = Emission level – Limit value.

4.3 BAND EDGES MEASUREMENT

4.3.1 LIMITS OF BAND EDGES MEASUREMENT

The field strength of any emissions appearing between the band edges and up to 10 kHz above and below the band edges shall be attenuated at least 26 dB below the level of the unmodulated carrier or to the general limits in 15.209, whichever permits the higher emission levels.

4.3.2 TEST INSTRUMENTS

Description & Manufacturer	Model No.	Serial No.	Calibrated Until
R&S SPECTRUM ANALYZER	FSEK30	100049	Aug. 12, 2004

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

4.3.3 TEST PROCEDURE

The transmitter output was connected to the spectrum analyzer via a low lose cable. Set both RBW and VBW of spectrum analyzer to 1kHz with suitable frequency span including 100kHz bandwidth from band edge. The band edges was measured and recorded.

4.3.4 DEVIATION FROM TEST STANDARD

No deviation

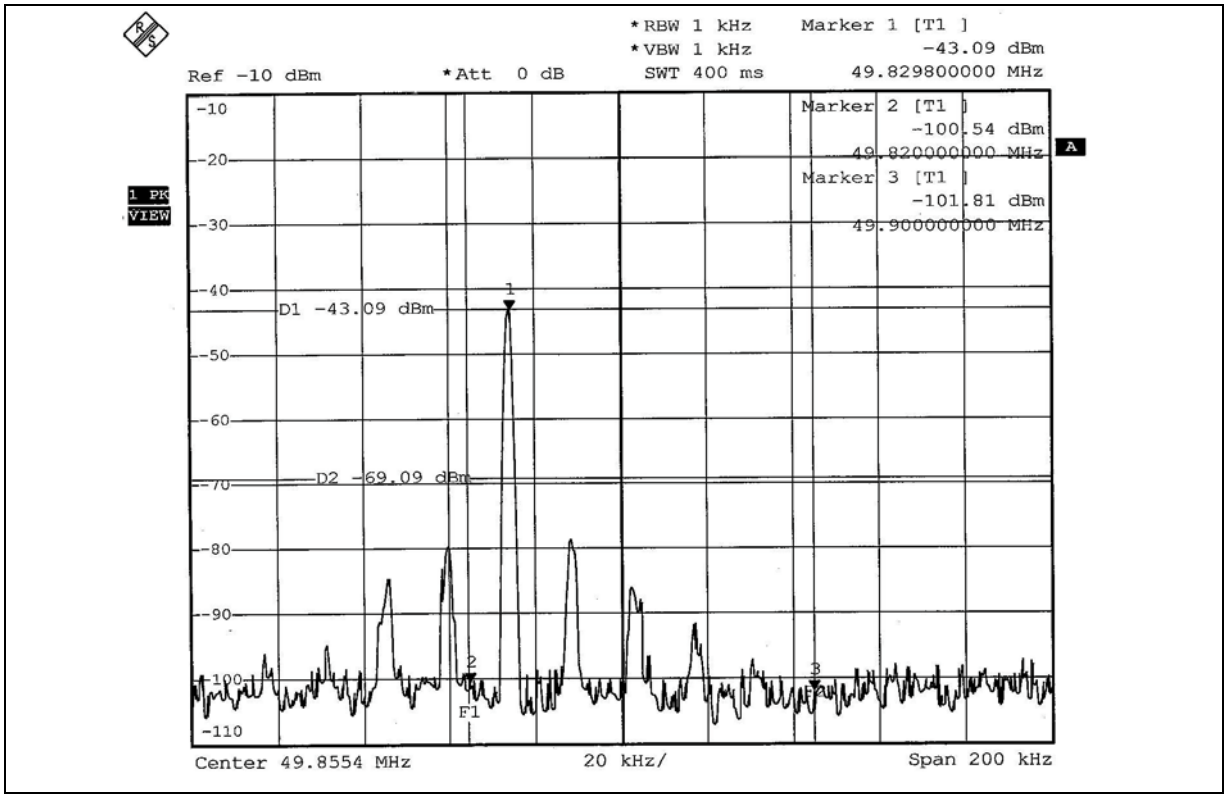
4.3.5 EUT OPERATING CONDITION

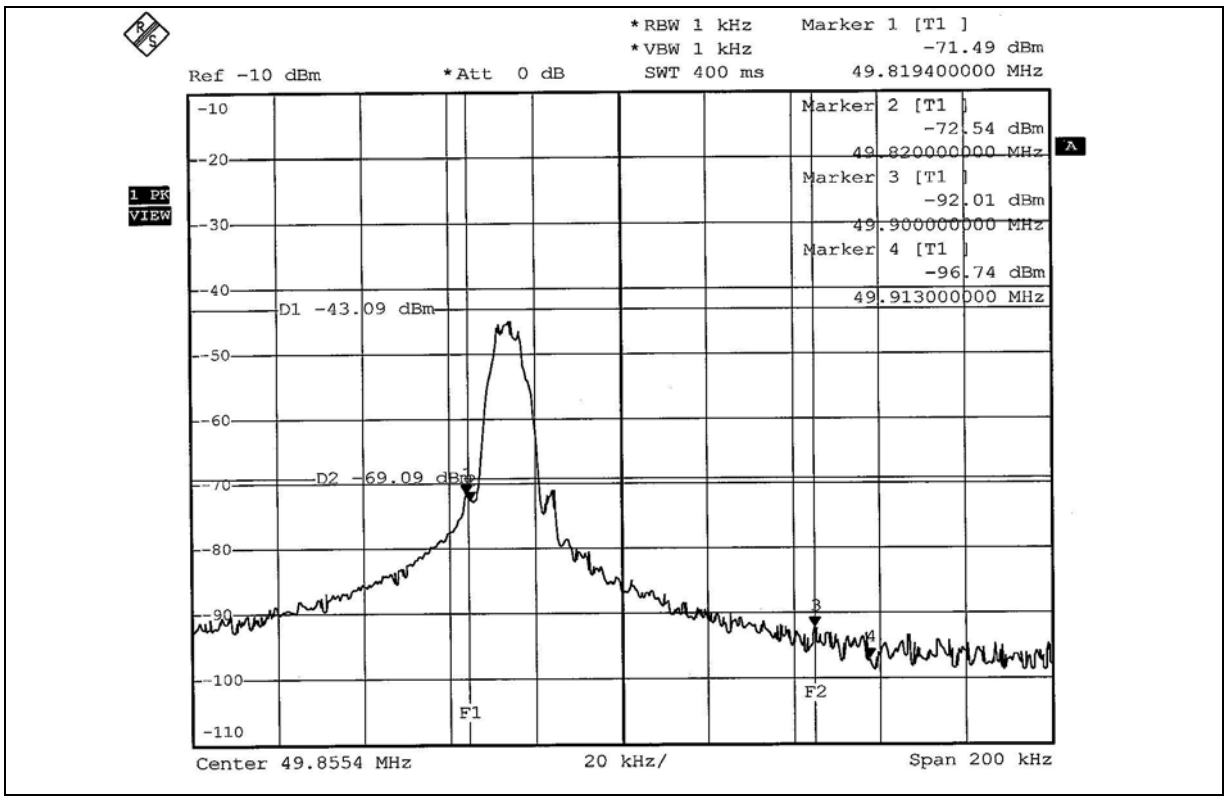
Same as Item 4.2.5

4.3.6 TEST RESULTS

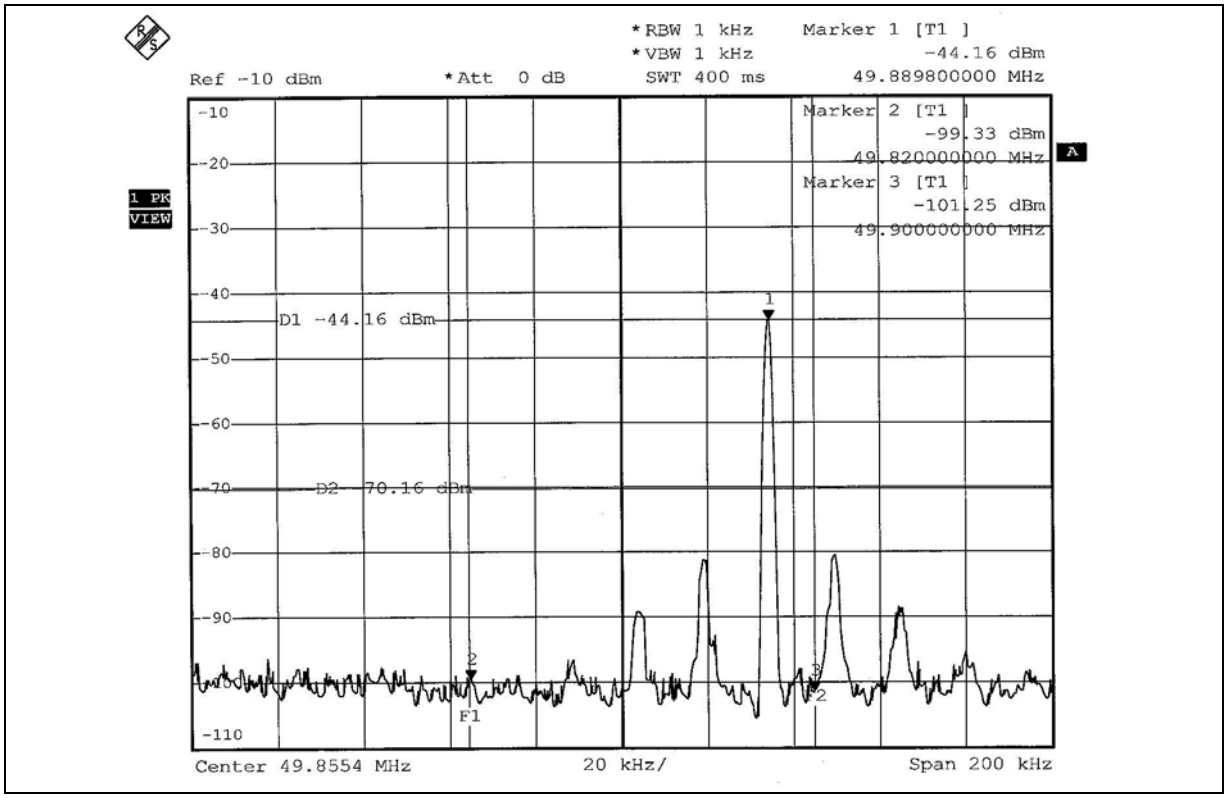
The spectrum plots are attached on the following 2 pages. D1 line indicates the highest level, D2 line indicates the 26dB offset below D1. It shows compliance with the requirement in part 15.235(b).

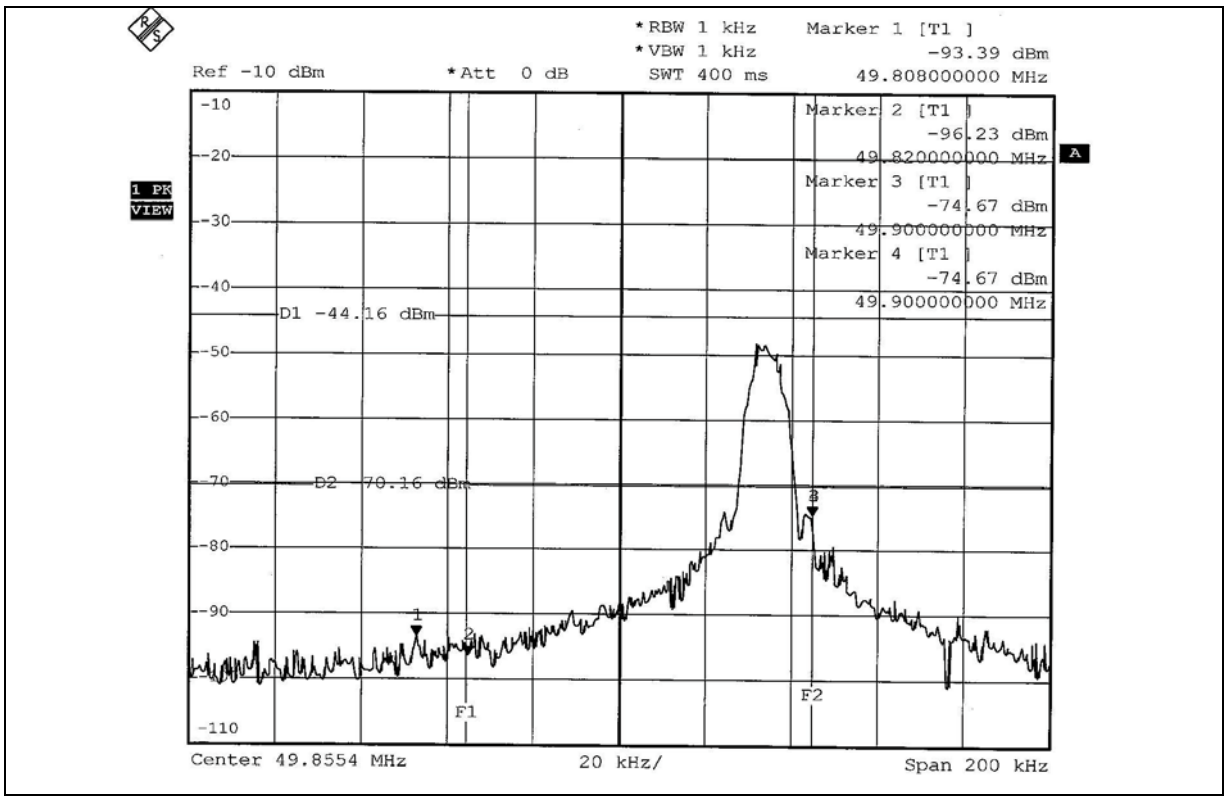
CH 1


*RBW 1 kHz
*VBW 1 kHz
SWT 400 ms
Marker 1 [T1]
-43.09 dBm
49.829800000 MHz
Ref -10 dBm
*Att 0 dB
Marker 2 [T1]
-100.54 dBm
49.820000000 MHz
Marker 3 [T1]
-101.81 dBm
49.900000000 MHz
1 PK
VIEW
A
D1 -43.09 dBm
D2 -69.09 dBm
F1
Center 49.8554 MHz
20 kHz/
Span 200 kHz


*RBW 1 kHz
*VBW 1 kHz
SWT 400 ms
Marker 1 [T1]
-71.49 dBm
49.819400000 MHz
Ref -10 dBm
*Att 0 dB
Marker 2 [T1]
-72.54 dBm
49.820000000 MHz
Marker 3 [T1]
-92.01 dBm
49.900000000 MHz
Marker 4 [T1]
-96.74 dBm
49.913000000 MHz
1 PK
VIEW
A
D1 -43.09 dBm
D2 -69.09 dBm
F1
F2
Center 49.8554 MHz
20 kHz/
Span 200 kHz

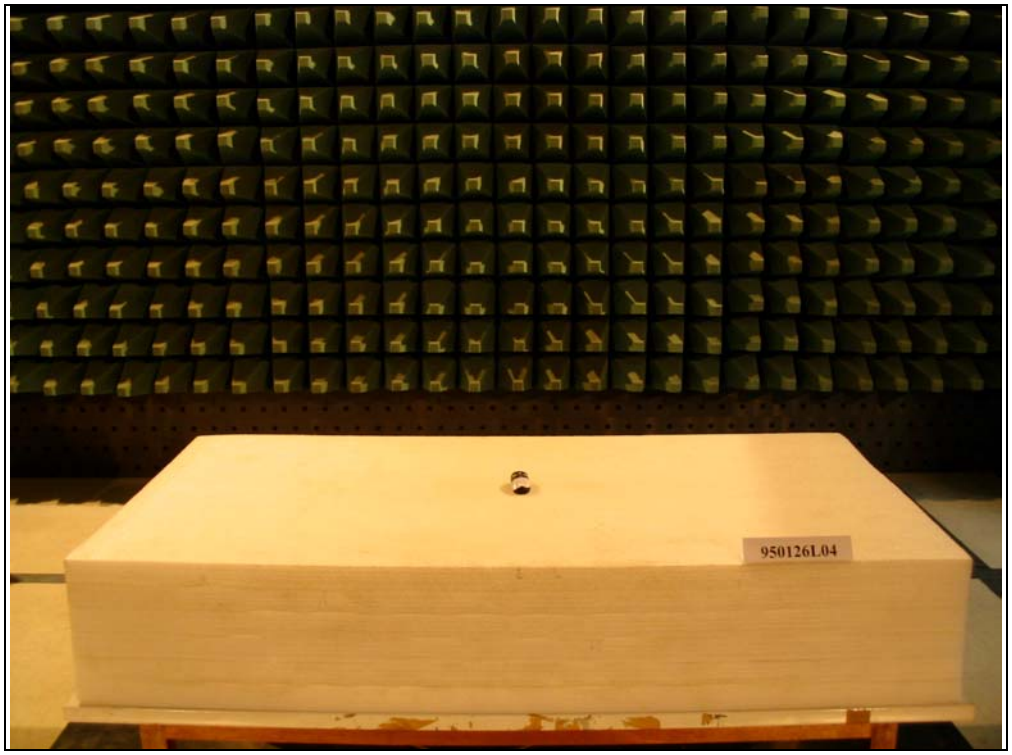
CH 4

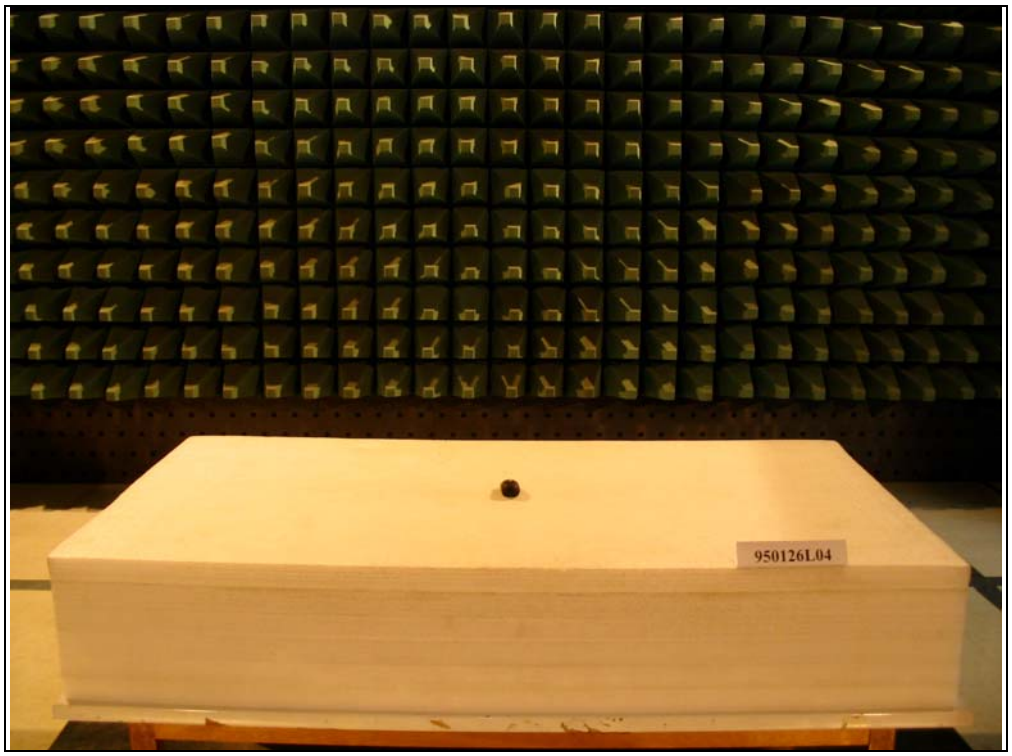

*RBW 1 kHz
*VBW 1 kHz
SWT 400 ms
Marker 1 [T1]
-44.16 dBm
49.889800000 MHz
Ref -10 dBm
*Att 0 dB
Marker 2 [T1]
-99.33 dBm
49.820000000 MHz
Marker 3 [T1]
-101.25 dBm
49.900000000 MHz
1 PK
VIEW
A
D1 -44.16 dBm
D2 -70.16 dBm
F1
F2
Center 49.8554 MHz
20 kHz/
Span 200 kHz


*RBW 1 kHz
*VBW 1 kHz
SWT 400 ms
Marker 1 [T1]
-93.39 dBm
49.808000000 MHz
Ref -10 dBm
*Att 0 dB
Marker 2 [T1]
-96.23 dBm
49.820000000 MHz
Marker 3 [T1]
-74.67 dBm
49.900000000 MHz
Marker 4 [T1]
-74.67 dBm
49.900000000 MHz
1 PK
VIEW
A
D1 -44.16 dBm
D2 -70.16 dBm
F1
F2
Center 49.8554 MHz
20 kHz/
Span 200 kHz

5 PHOTOGRAPHS OF THE TEST CONFIGURATION

RADIATED EMISSION TEST





6 INFORMATION ON THE TESTING LABORATORIES

We, ADT Corp., 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, UL , A2LA
Germany	TUV Rheinland
Japan	VCCI
Norway	NEMKO
Canada	INDUSTRY CANADA , CSA
R.O.C.	CNLA, BSMI, DGT
Netherlands	Telefication
Singapore	PSB , GOST-ASIA(MOU)
Russia	CERTIS(MOU)

Copies of accreditation certificates of our laboratories obtained from approval agencies can be downloaded from our web site: www.adt.com.tw/index.5/phtml.
If you have any comments, please feel free to contact us at the following:

Linko EMC/RF Lab:
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Fax: 886-2-26052943

Hsin Chu EMC/RF Lab:
Tel: 886-3-5935343
Fax: 886-3-5935342

Hwa Ya EMC/RF/Safety/Telecom Lab:
Tel: 886-3-3183232
Fax: 886-3-3185050

Linko RF Lab.
Tel: 886-3-3270910
Fax: 886-3-3270892

Web Site: www.adt.com.tw

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

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.