

FCC TEST REPORT

REPORT NO. : RF950124A09B

MODEL NO. : 6301URF III

RECEIVED : Jan. 24, 2006

TESTED : Feb. 6 ~ Mar. 13, 2006

ISSUED : Mar. 17, 2006

APPLICANT : BEHAVIOR TECH COMPUTER CORP.

ADDRESS : 2F, 51, Tung Hsing Rd., Taipei, Taiwan, R.O.C.

ISSUED BY : Advance Data Technology Corporation

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

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1. CERTIFICATION

PRODUCT : Wireless Dongle
BRAND NAME : EMPREX, BTC
MODEL NO. : 6301URF III
TEST SAMPLE : ENGINEERING SAMPLE
APPLICANT : BEHAVIOR TECH COMPUTER CORP.
TESTED : Feb. 6 ~ Mar. 13, 2006
STANDARDS : FCC Part 15, Subpart C (Section 15.249)
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 : Jessica Cheng , **DATE:** Mar. 17, 2006
(Jessica Cheng)

TECHNICAL
ACCEPTANCE : Ken Liu , **DATE:** Mar. 17, 2006
Responsible for RF (Ken Liu)

APPROVED BY : Gary Chang , **DATE:** Mar. 17, 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 (Section 15.249)			
STANDARD PARAGRAPH	TEST TYPE	RESULT	REMARK
15.207	Conducted Emission Test	PASS	Minimum passing margin is -18.81dB at 0.193MHz
15.209 15.249 15.249 (d)	Radiated Emission Test Band Edge Measurement Limit: 50dB less than the peak value of fundamental frequency or meet radiated emission limit in section 12.209	PASS	Minimum passing margin is -2.27 dB at 2473.00MHz

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:

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

Measurement	Frequency	Uncertainty
Conducted emissions	9kHz~30MHz	2.44 dB
Radiated emissions	30MHz ~ 200MHz	3.59 dB
	200MHz ~1000MHz	3.61 dB
	1GHz ~ 18GHz	2.26 dB
	18GHz ~ 40GHz	1.94 dB

3. GENERAL INFORMATION

3.1 GENERAL DESCRIPTION OF EUT

EUT	Wireless Dongle
MODEL NO.	6301URF III
FCC ID	E5XRX6301URF3
POWER SUPPLY	5.0Vdc from host equipment
MODULATION TYPE	GFSK
FREQUENCY RANGE	2410MHz ~ 2473MHz
NUMBER OF CHANNEL	64
ANTENNA TYPE	Printed Antenna
DATA CABLE	N/A
I/O PORT	USB port

NOTE:

1. The EUT is a transceiver, which included transmitter part and receiver part.
2. The EUT has two brand names as follows:

Brand Name	Model No.	Description
EMPREX	6301URF III	marketing differentiation
BTC		

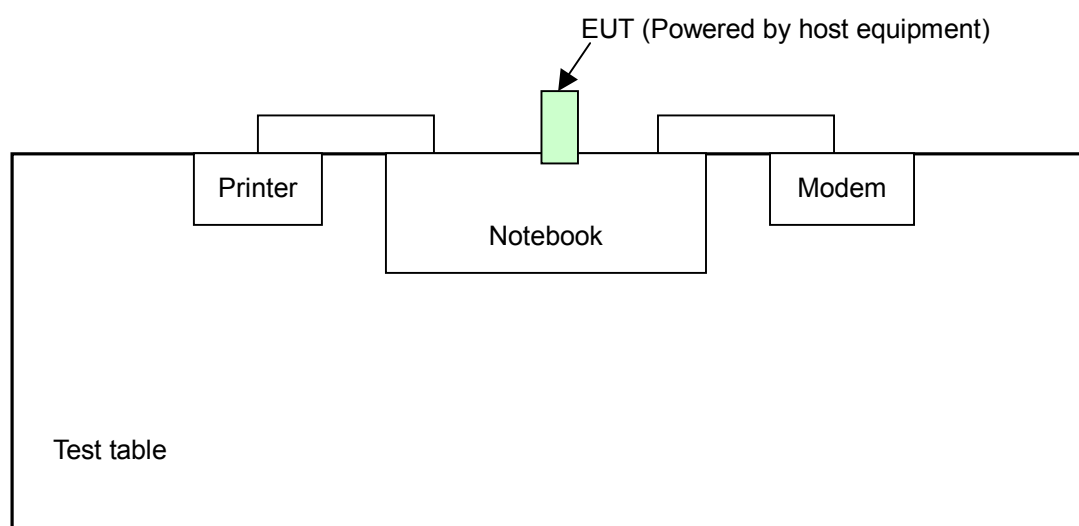
3. The above EUT information was declared by manufacturer and for more detailed features description, please refer to the manufacturer's specifications or User's Manual.

3.2 DESCRIPTION OF TEST MODES

Sixty -four channels are provided to this EUT:

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

3.2.1 CONFIGURATION OF SYSTEM UNDER TEST



3.2.2 TEST MODE APPLICABILITY AND TESTED CHANNEL DETAIL

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

Where PLC: Power Line Conducted Emission
RE≥1G: Radiated Emission above 1GHz

RE<1G RE: Radiated Emission below 1GHz
APCM: Antenna Port Conducted Measurement

Power Line Conducted Emission Test:

- ☒ Pre-Scan has been conducted to determine the worst-case mode from all possible combinations between available modulations, data rates and antenna ports (if EUT with antenna diversity architecture).
- ☒ Following channel(s) was (were) selected for the final test as listed below.

Available Channel	Tested Channel	Radio Technology	Modulation Type
1 to 64	64	FHSS	GFSK

Radiated Emission Test (Below 1 GHz):

- ☒ Pre-Scan has been conducted to determine the worst-case mode from all possible combinations between available modulations, data rates and antenna ports (if EUT with antenna diversity architecture).
- ☒ Following channel(s) was (were) selected for the final test as listed below.

Available Channel	Tested Channel	Radio Technology	Modulation Type
1 to 64	64	FHSS	GFSK

Radiated Emission Test (Above 1 GHz):

- ☒ Pre-Scan has been conducted to determine the worst-case mode from all possible combinations between available modulations, data rates and antenna ports (if EUT with antenna diversity architecture).
- ☒ Following channel(s) was (were) selected for the final test as listed below.

Available Channel	Tested Channel	Radio Technology	Modulation Type
1 to 64	1, 26, 64	FHSS	GFSK

Bandedge Measurement:

- ☒ Pre-Scan has been conducted to determine the worst-case mode from all possible combinations between available modulations, data rates and antenna ports (if EUT with antenna diversity architecture).
- ☒ Following channel(s) was (were) selected for the final test as listed below.

Available Channel	Tested Channel	Radio Technology	Modulation Type
1 to 64	1, 64	FHSS	GFSK

3.3 GENERAL DESCRIPTION OF APPLIED STANDARDS

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

FCC Part 15, Subpart C. (Section 15.249)

ANSI C63.4-2003

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

3.4 DESCRIPTION OF SUPPORT UNITS

The EUT has been tested as an independent unit together 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	PRINTER	EPSON	LQ-300+	DCGY017054	FCC DoC Approved
2	MODEM	ACEEX	1414	980020520	IFAXDM1414
3	NOTEBOOK COMPUTER	DELL	PP05L	20375526736	FCC DoC Approved

NO.	SIGNAL CABLE DESCRIPTION OF THE ABOVE SUPPORT UNITS
1	1.8m braid shielded wire, terminated with DB25 and Centronics connector via metallic frame, w/o core
2	1.2 m braid shielded wire, terminated with DB25 and DB9 connector via metallic frame, w/o core.
3	N/A

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

4. TEST TYPES 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	ESCS 30	838251/021	Nov. 23, 2006
ROHDE & SCHWARZ Artificial Mains Network (for EUT)	ESH3-Z5	100218	Nov. 22, 2006
LISN With Adapter (for EUT)	AD10	C10Ada-001	Nov. 22, 2006
ROHDE & SCHWARZ Artificial Mains Network (for peripherals)	ESH3-Z5	100219	Nov. 22, 2006
ROHDE & SCHWARZ Artificial Mains Network (for peripherals)	ESH3-Z5	100220	Nov. 22, 2006
Software	ADT_Conc_V7.3.2	NA	NA
Software	ADT_ISN_V7.3.2	NA	NA
RF cable (JYEBAO)	5D-FB	Cable-C10.01	Apr. 05, 2006
SUHNTER Terminator (For ROHDE & SCHWARZ LISN)	65BNC-5001	E1-010773	Feb. 23, 2007

- 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 ADT Shielded Room No. 10.
 3. The VCCI Site Registration No. C-1852.

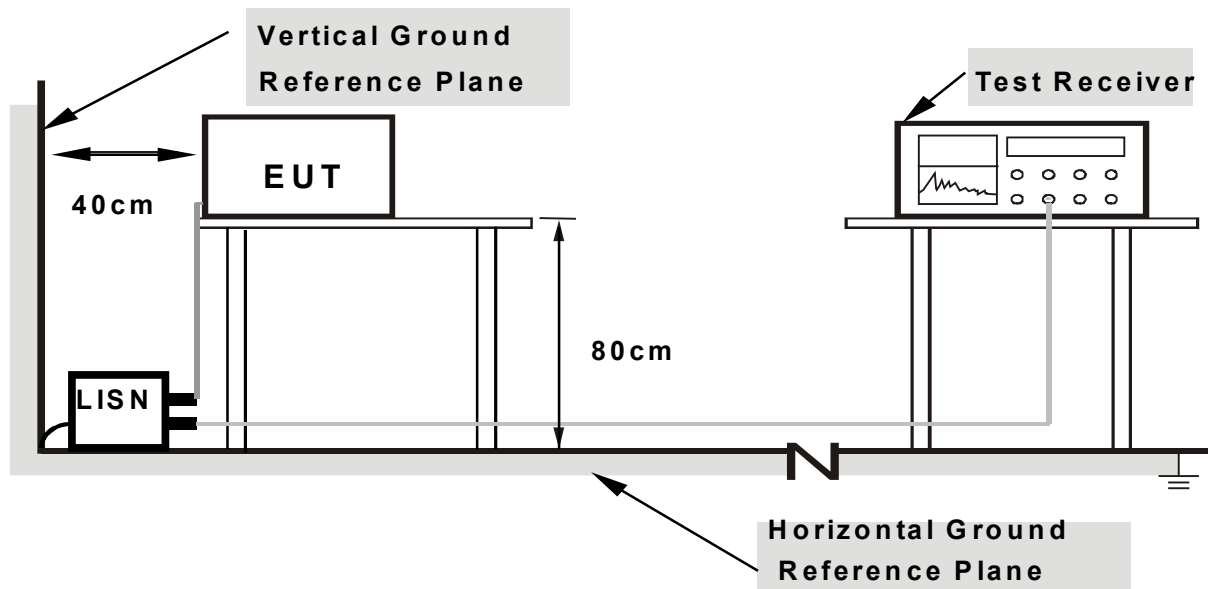
4.1.3 TEST PROCEDURES

- 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 150kHz to 30MHz was searched. Emission levels under (Limit - 20dB) was not recorded.

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) are 80 cm from EUT and at least 80 from other units and other metal planes

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

4.1.6 EUT OPERATING CONDITIONS

- a. Connected the EUT to a notebook system placed on a testing table.
- b. The notebook system ran a test program (provided by manufacturer) to enable EUT under transmission/receiving condition continuously at specific channel frequency.
- c. The notebook system sent "H" messages to its screen.
- d. The notebook system sent "H" messages to printer and the printer prints them out
- e. The notebook system sent "H" messages to modem.

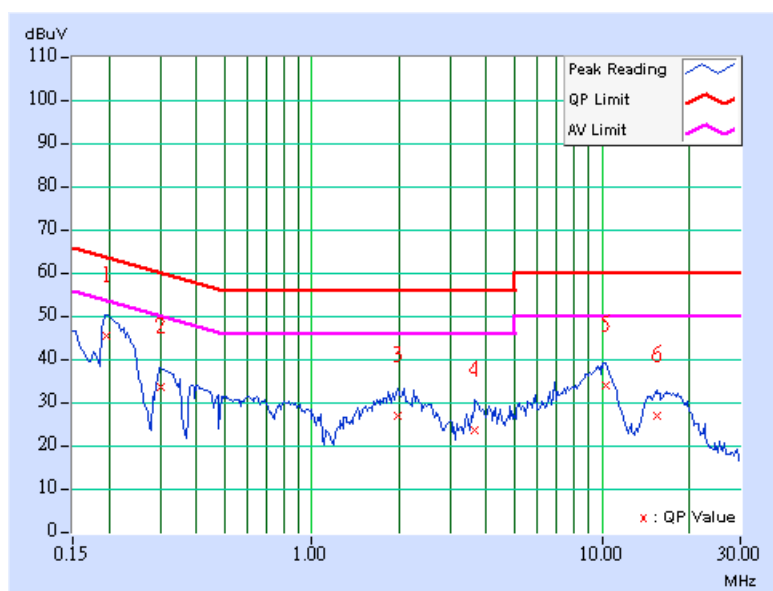
4.1.7 TEST RESULTS

CONDUCTED WORST CASE DATA

MODULATION TYPE	GFSK	CHANNEL	64
INPUT POWER (SYSTEM)	120Vac, 60 Hz	6dB BANDWIDTH	9 kHz
ENVIRONMENTAL CONDITIONS	20deg. C, 70%RH, 1006hPa	PHASE	Line 1
TESTED BY	Jamison Chan		

No	Freq. [MHz]	Corr. Factor (dB)	Reading Value [dB (uV)]		Emission Level [dB (uV)]		Limit [dB (uV)]		Margin (dB)	
			Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.197	0.20	44.58	-	44.78	-	63.74	53.74	-18.96	-
2	0.302	0.20	32.82	-	33.02	-	60.18	50.18	-27.16	-
3	1.980	0.30	26.08	-	26.38	-	56.00	46.00	-29.62	-
4	3.652	0.47	22.54	-	23.01	-	56.00	46.00	-32.99	-
5	10.336	0.81	32.93	-	33.74	-	60.00	50.00	-26.26	-
6	15.441	1.03	25.83	-	26.86	-	60.00	50.00	-33.14	-

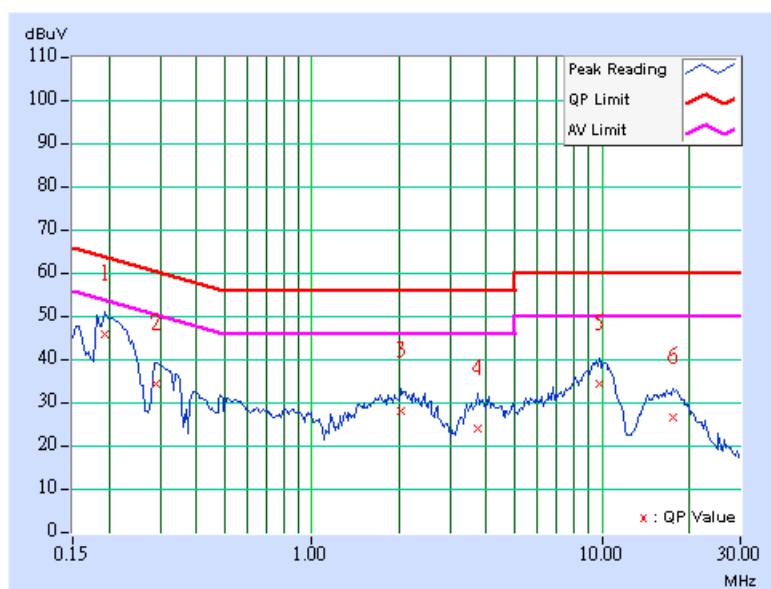
- REMARKS:**
1. Q.P. and AV. are abbreviations of quasi-peak and average individually.
 2. "-": The Quasi-peak reading value also meets average limit and measurement with the average detector is unnecessary.
 3. The emission levels of other frequencies were very low against the limit.
 4. Margin value = Emission level - Limit value
 5. Correction factor = Insertion loss + Cable loss
 6. Emission Level = Correction Factor + Reading Value.



MODULATION TYPE	GFSK	CHANNEL	64
INPUT POWER (SYSTEM)	120Vac, 60 Hz	6dB BANDWIDTH	9 kHz
ENVIRONMENTAL CONDITIONS	20deg. C, 70%RH, 1006hPa	PHASE	Line 2
TESTED BY	Jamison Chan		

No	Freq. [MHz]	Corr. Factor (dB)	Reading Value		Emission Level		Limit		Margin	
			[dB (uV)]		[dB (uV)]		[dB (uV)]		(dB)	
			Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.193	0.20	44.90	-	45.10	-	63.91	53.91	-18.81	-
2	0.291	0.20	33.44	-	33.64	-	60.51	50.51	-26.87	-
3	2.035	0.10	27.16	-	27.26	-	56.00	46.00	-28.74	-
4	3.711	0.27	23.11	-	23.38	-	56.00	46.00	-32.62	-
5	9.828	0.49	33.67	-	34.16	-	60.00	50.00	-25.84	-
6	17.547	0.90	25.77	-	26.67	-	60.00	50.00	-33.33	-

- REMARKS:**
1. Q.P. and AV. are abbreviations of quasi-peak and average individually.
 2. "-": The Quasi-peak reading value also meets average limit and measurement with the average detector is unnecessary.
 3. The emission levels of other frequencies were very low against the limit.
 4. Margin value = Emission level - Limit value
 5. Correction factor = Insertion loss + Cable loss
 6. Emission Level = Correction Factor + Reading Value.



4.2 RADIATED EMISSION MEASUREMENT

4.2.1 LIMITS OF RADIATED EMISSION MEASUREMENT

Emissions radiated outside of the specified bands, shall be according to the general radiated limits in 15.209 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
Test Receiver ROHDE & SCHWARZ	ESMI	839013/007 839379/002	Jan. 24, 2007
Spectrum Analyzer ROHDE & SCHWARZ	FSEK30	100049	Aug. 14, 2006
BILOG Antenna SCHWARZBECK	VULB9163	121	Jun. 01, 2006
HORN Antenna SCHWARZBECK	BBHA 9120 D	9120D-407	Jan. 22, 2007
HORN Antenna SCHWARZBECK	BBHA 9170	BBHA9170242	Jan. 19, 2007
Loop Antenna	HFH2-Z2	100070	Nov. 28, 2007
Preamplifier Agilent	8449B	3008A01911	Sep. 22, 2006
RF signal cable HUBER+SUHNNER	SUCOFLEX 104	218188/218189	Dec. 13, 2006
RF signal cable Worken	8D-FB	Cable-HYCH5-02	Apr. 21, 2006
Software ADT.	ADT_Radiated_ V7.6.01	NA	NA
Antenna Tower EMCO	2070/2080	512.835.4684	NA
Antenna Tower Controller EMCO	2090	NA	NA
Turn Table EMCO	2087-2.03	NA	NA
Turn Table Controller EMCO	2090	NA	NA

- NOTE:**
1. The calibration interval of the above test instruments is 12 months and the calibrations are traceable to NML/ROC and NIST/USA.
 2. The test was performed in HwaYa Chamber 4.
 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 IC4924-4.

4.2.3 TEST PROCEDURES

- a. The EUT was placed on the top of a rotating table 0.8 meters above the ground at a 3 meters 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 the quasi-peak method or average method as specified and then reported in Data sheet peak mode and QP mode.

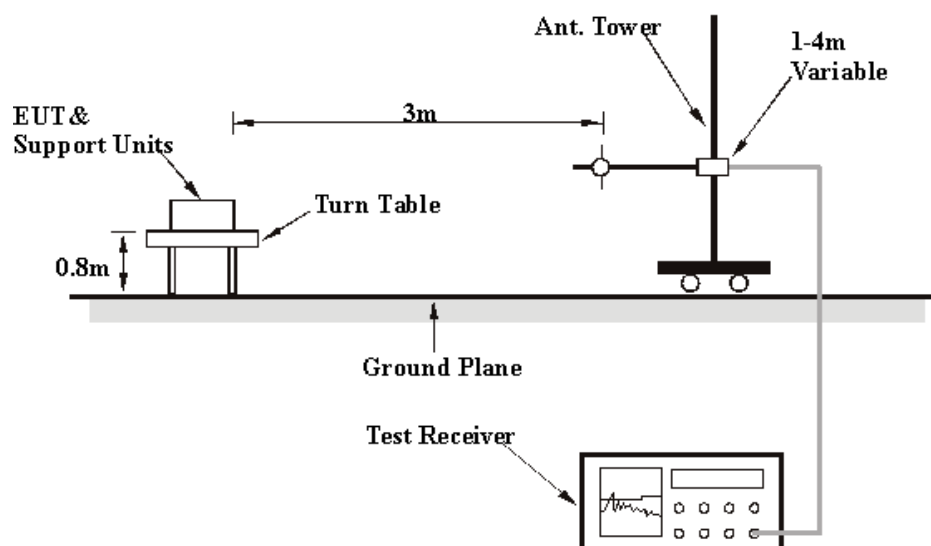
NOTE:

1. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 120kHz for Quasi-peak detection at frequency below 1GHz.
2. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 1 MHz for Peak detection (PK) at frequency above 1GHz.
3. The resolution bandwidth of test receiver/spectrum analyzer is 1 MHz and the video bandwidth is 10 Hz for Average detection (AV) at frequency above 1GHz.

4.2.4 DEVIATION FROM TEST STANDARD

No deviation.

4.2.5 TEST SETUP



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

4.2.6 EUT OPERATING CONDITIONS

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

4.2.7 TEST RESULTS

RADIATED WORST CASE DATA: BELOW 1GHz

MODULATION TYPE	GFSK	CHANNEL	64
INPUT POWER (SYSTEM)	120Vac, 60 Hz	FREQUENCY RANGE	Below 1 GHz
ENVIRONMENTAL CONDITIONS	18deg. C, 70% RH, 1008hPa	DETECTOR FUNCTION	Quasi-Peak
TESTED BY	Jamison Chan		

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	174.42	30.28 QP	43.50	-13.22	2.00 H	40	21.26	9.02
2	523.62	31.31 QP	46.00	-14.69	2.00 H	328	12.57	18.74
3	703.61	31.33 QP	46.00	-14.67	1.00 H	40	9.76	21.57
4	735.94	30.48 QP	46.00	-15.52	1.00 H	292	7.71	22.77
5	769.36	30.20 QP	46.00	-15.80	1.00 H	88	6.95	23.25
6	868.51	29.41 QP	46.00	-16.59	1.00 H	166	4.77	24.64

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)	Correction Factor (dB/m)
1	135.62	30.58 QP	43.50	-12.92	1.00 V	190	22.11	8.47
2	174.42	30.48 QP	43.50	-13.02	1.00 V	340	21.47	9.02
3	250.94	30.44 QP	46.00	-15.56	2.00 V	352	18.06	12.38
4	668.04	32.61 QP	46.00	-13.39	1.00 V	184	11.22	21.39
5	799.53	29.32 QP	46.00	-16.68	2.00 V	46	6.13	23.18
6	868.51	30.76 QP	46.00	-15.24	1.00 V	64	6.11	24.64

- 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.

RADIATED WORST CASE DATA: ABOVE 1GHz

MODULATION TYPE	GFSK	CHANNEL	1
INPUT POWER (SYSTEM)	120Vac, 60 Hz	FREQUENCY RANGE	1 ~ 25 GHz
ENVIRONMENTAL CONDITIONS	18deg. C, 70% RH, 1008hPa	DETECTOR FUNCTION	Peak (PK) Average (AV)
TESTED BY	Jamison Chan		

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	2390.00	57.94 PK	74.00	-16.06	1.00 H	31	26.43	31.51
1	2390.00	46.86 AV	54.00	-7.14	1.00 H	31	15.35	31.51
2	*2410.00	91.42 PK	114.00	-22.58	1.00 H	31	59.85	31.57
2	*2410.00	91.02 AV	94.00	-2.98	1.00 H	31	59.45	31.57
3	4820.00	51.10 PK	74.00	-22.90	1.00 H	3	14.15	36.95
3	4820.00	46.90 AV	54.00	-7.10	1.00 H	3	9.95	36.95

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	2390.00	58.24 PK	74.00	-15.76	1.00 V	107	26.73	31.51
1	2390.00	47.02 AV	54.00	-6.98	1.00 V	107	15.51	31.51
2	*2410.00	91.02 PK	114.00	-22.98	1.00 V	107	59.45	31.57
2	*2410.00	90.55 AV	94.00	-3.45	1.00 V	107	58.98	31.57
3	4820.00	52.29 PK	74.00	-21.71	1.00 V	35	15.34	36.95
3	4820.00	47.96 AV	54.00	-6.04	1.00 V	35	11.01	36.95

- 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

MODULATION TYPE	GFSK	CHANNEL	26
INPUT POWER (SYSTEM)	120Vac, 60 Hz	FREQUENCY RANGE	1 ~ 25 GHz
ENVIRONMENTAL CONDITIONS	18deg. C, 70% RH, 1008hPa	DETECTOR FUNCTION	Peak (PK) Average (AV)
TESTED BY	Jamison Chan		

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	*2435.00	90.86 PK	114.00	-23.14	1.25 H	35	59.21	31.65
1	*2435.00	90.48 AV	94.00	-3.52	1.25 H	35	58.83	31.65
2	4870.00	50.84 PK	74.00	-23.16	1.00 H	1	13.70	37.14
2	4870.00	46.68 AV	54.00	-7.32	1.00 H	1	9.54	37.14

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

No.	Freq. (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*2435.00	89.44 PK	114.00	-24.56	1.47 V	337	57.79	31.65
1	*2435.00	89.23 AV	94.00	-4.77	1.47 V	337	57.58	31.65
2	4870.00	50.13 PK	74.00	-23.87	1.08 V	37	12.99	37.14
2	4870.00	44.85 AV	54.00	-9.15	1.08 V	37	7.71	37.14

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

MODULATION TYPE	GFSK	CHANNEL	64
INPUT POWER (SYSTEM)	120Vac, 60 Hz	FREQUENCY RANGE	1 ~ 25 GHz
ENVIRONMENTAL CONDITIONS	18deg. C, 70% RH, 1008hPa	DETECTOR FUNCTION	Peak (PK) Average (AV)
TESTED BY	Jamison Chan		

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	*2473.00	92.49 PK	114.00	-21.51	1.39 H	211	60.72	31.77
1	*2473.00	91.73 AV	94.00	-2.27	1.39 H	211	59.96	31.77
2	2483.50	58.28 PK	74.00	-15.72	1.39 H	211	26.47	31.81
2	2483.50	46.59 AV	54.00	-7.41	1.39 H	211	14.78	31.81
3	4946.00	50.34 PK	74.00	-23.66	1.13 H	18	13.02	37.32
3	4946.00	45.21 AV	54.00	-8.79	1.13 H	18	7.89	37.32

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	*2473.00	90.20 PK	114.00	-23.8	1.35 V	347	58.43	31.77
1	*2473.00	89.82 AV	94.00	-4.18	1.35 V	347	58.05	31.77
2	2483.50	57.63 PK	74.00	-16.37	1.35 V	347	25.82	31.81
2	2483.50	46.58 AV	54.00	-7.42	1.35 V	347	14.77	31.81
3	4946.00	50.21 PK	74.00	-23.79	1.34 V	47	12.89	37.32
3	4946.00	44.75 AV	54.00	-9.25	1.34 V	47	7.43	37.32

- 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

4.3 BAND EDGES MEASUREMENT

4.3.1 LIMITS OF BAND EDGES MEASUREMENT

Below -50dB of the highest emission level of operating band (in 100kHz Resolution Bandwidth).

4.3.2 TEST INSTRUMENTS

Description & Manufacturer	Model No.	Serial No.	Calibrated Until
SPECTRUM ANALYZER	FSP 40	100036	Apr. 13. 2006

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 loss cable. Set both RBW and VBW of spectrum analyzer to 100 kHz and 100 kHz with suitable frequency span including 100 MHz bandwidth from band edge. The band edges was measured and recorded.

The spectrum plots are attached on the following pages.

4.3.4 DEVIATION FROM TEST STANDARD

No deviation.

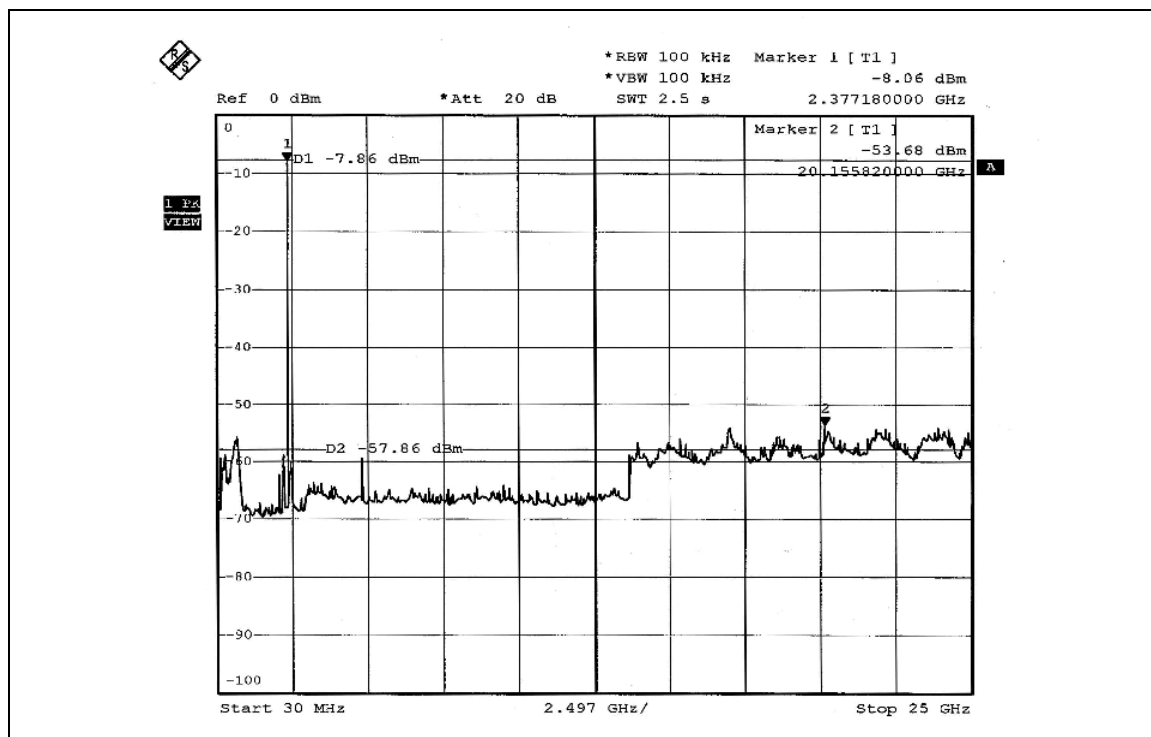
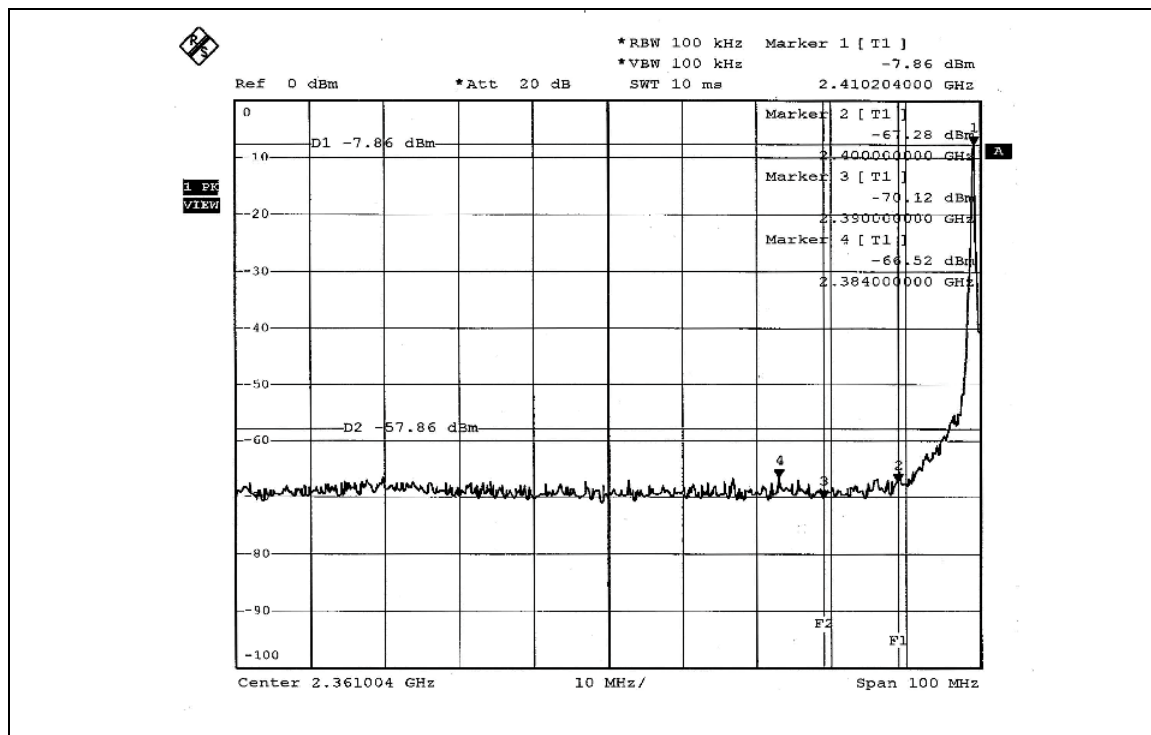
4.3.5 EUT OPERATING CONDITION

Same as Item 4.2.6.

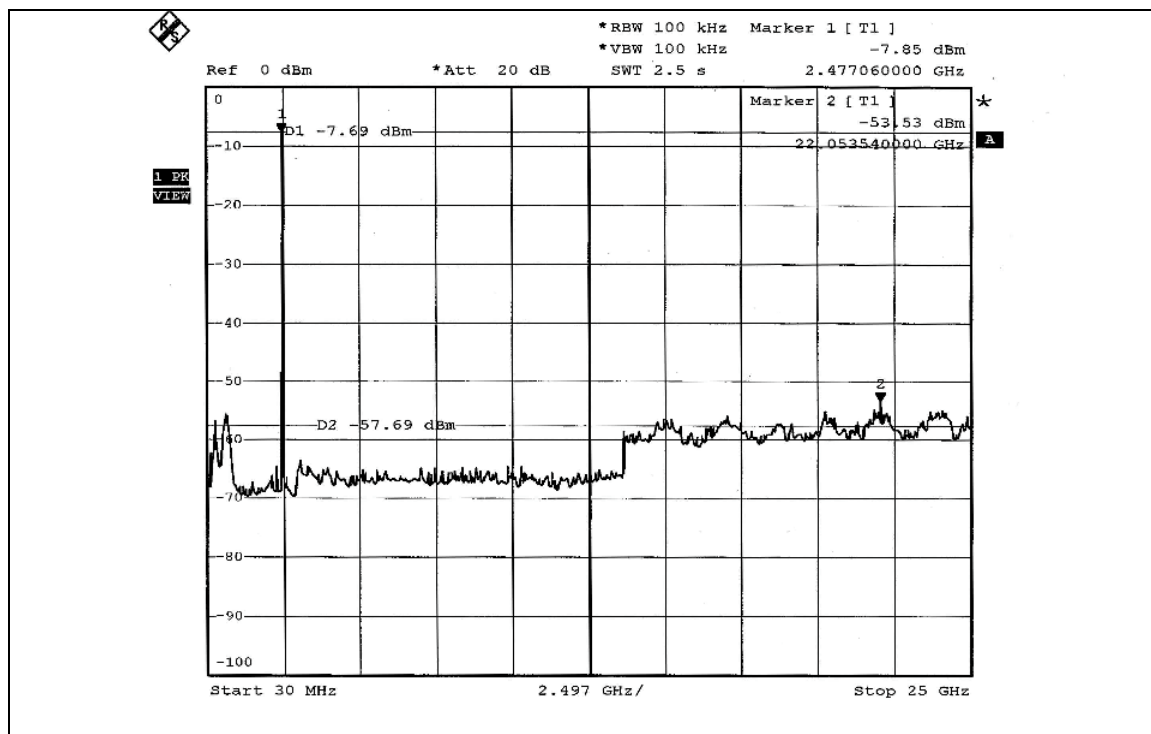
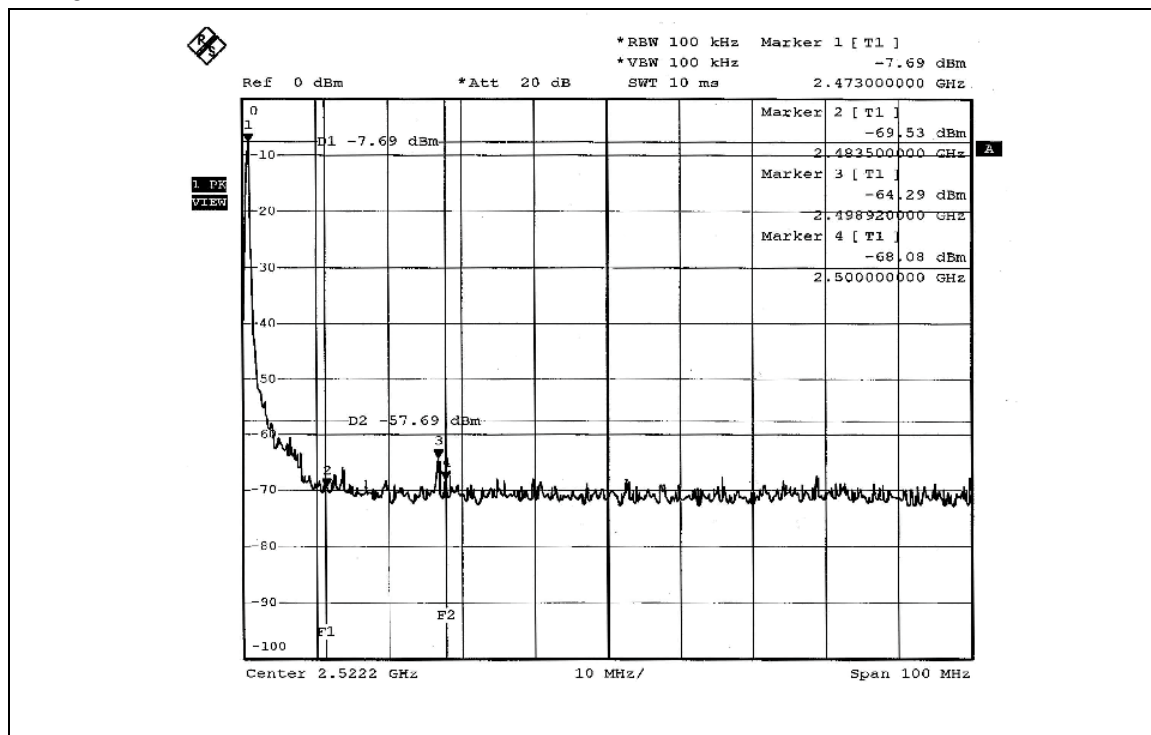
4.3.6 TEST RESULTS

The spectrum plots are attached on the following 12 images. D1 line indicates the highest level, and D2 line indicates the 50dB offset below D1. It shows compliance with the requirement in part 15.249 (d).

CH 1



CH 64

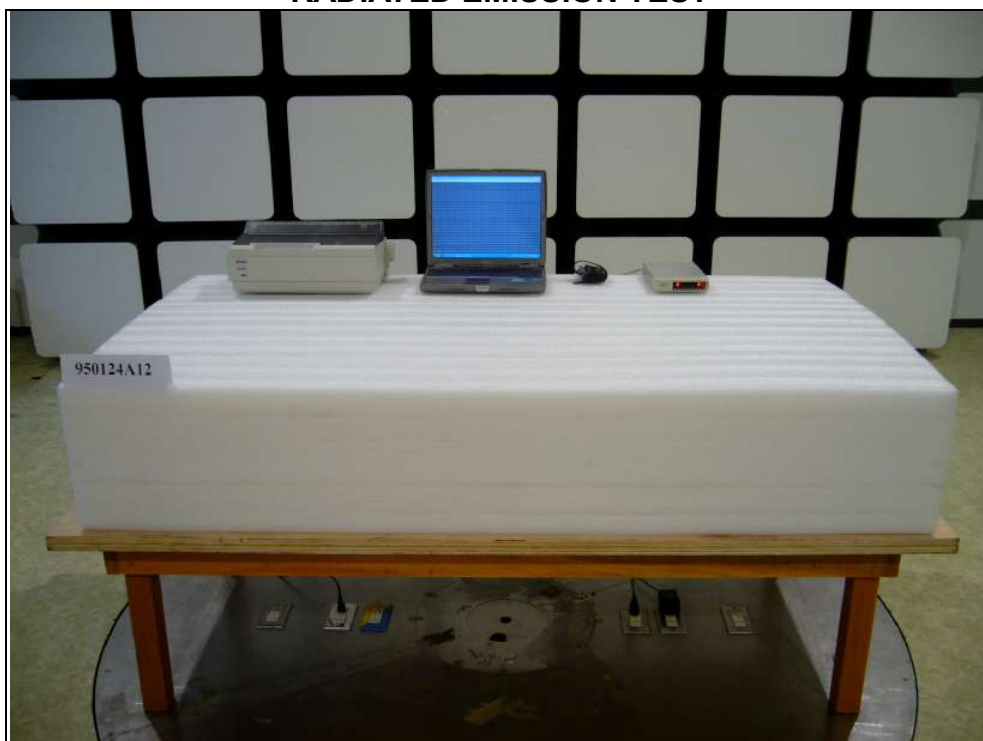


5. PHOTOGRAPHS OF THE TEST CONFIGURATION

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, 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

Tel: 886-2-26052180

Fax: 886-2-26051924

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

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.