FCC TEST REPORT

REPORT NO.: RF930701L11
MODEL NO.: IBF-005
(for other model names please refer to page 5)
RECEIVED: July 01, 2004
TESTED: July 01, 2004 ~ July 15, 2004

APPLICANT: QUANTA COMPUTER INC.

ADDRESS: 7F, 116, Hou Kang St., Shih Lin, Taipei, Taiwan, R.O.C.

ISSUED BY: Advance Data Technology Corporation

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

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1 CERTIFICATION

PRODUCT :	Flipscreen
MODEL NO.:	IBF-005 (for other model names please refer to page 5)
BRAND:	Quanta
APPLICANT :	QUANTA COMPUTER INC.
TEST ITEM:	ENGINEERING SAMPLE
TESTED:	July 01 ~ July 19, 2004
STANDARDS :	FCC Part 15, Subpart C (Section 15.249), ANSI C63.4-2001

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: Stacy Hsueh **DATE:** July 20, 2004

Stacy Hsueh

APPROVED BY: **DATE:** July 20, 2004

Cody 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	PASS	Minimum passing margin is –22.19dB at 0.213MHz
15.209 15.249	Radiated Emission Test	PASS	Minimum passing margin is –6.75dB at 1810.71MHz
15.249 (d)	Band Edge Measurement	PASS	Meet the requirement of limit

Note: The information of measurement uncertainty is available upon the customer's request.

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:

MEASUREMENT	FREQUENCY	UNCERTAINTY
Conducted emissions	9k~30MHz	2.44 dB
Radiated emissions	30MHz ~ 200MHz	3.63 dB
	200MHz ~1000MHz	3.65 dB
	1GHz ~ 18GHz	2.20 dB
	18GHz ~ 40GHz	1.88 dB

3. GENERAL INFORMATION

3.1 GENERAL DESCRIPTION OF EUT

PRODUCT	Flipscreen
MODEL NO.	IBF-005 (for other model names please refer to following table)
BRAND	Quanta
POWER SUPPLY	3.0Vdc from host equipment
MODULATION TYPE	FSK
CARRIER FREQUENCY OF EACH CHANNEL	905.609756 ~ 924.390244MHz
NUMBER OF CHANNEL	28
ANTENNA TYPE	Dipole antenna with –2dBi gain
DATA CABLE	NA
I/O PORTS	NA
ASSOCIATED DEVICES	NA

NOTE:

1. The model as below are identical to each other except for their model due to marketing requirement.

Item	Model
1	IBF-003

2. 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

Twenty- eight channels are provided in the EUT

Channel	Freq. (MHz)	Channel	Freq. (MHz)
0	905.609756	14	915.609756
1	908.095238	15	918.095238
2	908.780488	16	918.780488
3	908.888889	17	918.888889
4	908.918919	18	918.918919
5	909.705882	19	919.705882
6	909.736842	20	919.736842
7	910.263158	21	920.236158
8	910.294118	22	920.294118
9	911.081081	23	921.081081
10	911.111111	24	921.111111
11	911.219512	25	921.219512
12	911.904762	26	921.904762
13	914.390244	27	924.390244

NOTE:

1. Below 1000MHz, the channel 0, 14, 27 were pre-tested in chamber. The channel 28,worst case one, was chosen for final test.
2. Above 1000MHz, the channel 0, 14, 27 were tested individually.
3. The EUT was tested under transmit simultanous with the support unit of IEEE 802.11b wireless card, Model no:C110.

3.3 GENERAL DESCRIPTION OF APPLIED STANDARDS

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

FCC Part 15, Subpart C. (15.249)
ANSI C63.4-2001

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	WIRELESS KEYBOARD (IrDa)	ICEBOX	30034	401033660	FCC DoC Approved
2	REMOTE CONTROL (IrDa)	ICEBOX	30033	306800158	FCC DoC Approved
3	SANI CARD	Beyond	RFT-LS-B-US	031100000796	RTN-BCC-RFMV04
4	802.11b PCMCIA CARD	Tellus	C110	0000800F	PB6-03111

NO.	SIGNAL CABLE DESCRIPTION OF THE ABOVE SUPPORT UNITS
1	NA
2	NA
3	NA
4	NA

NOTE: 1. All power cords of the above support units are non shielded (1.8m).
2. The PCMCIA and SANI cards are actually in operation during the testing.
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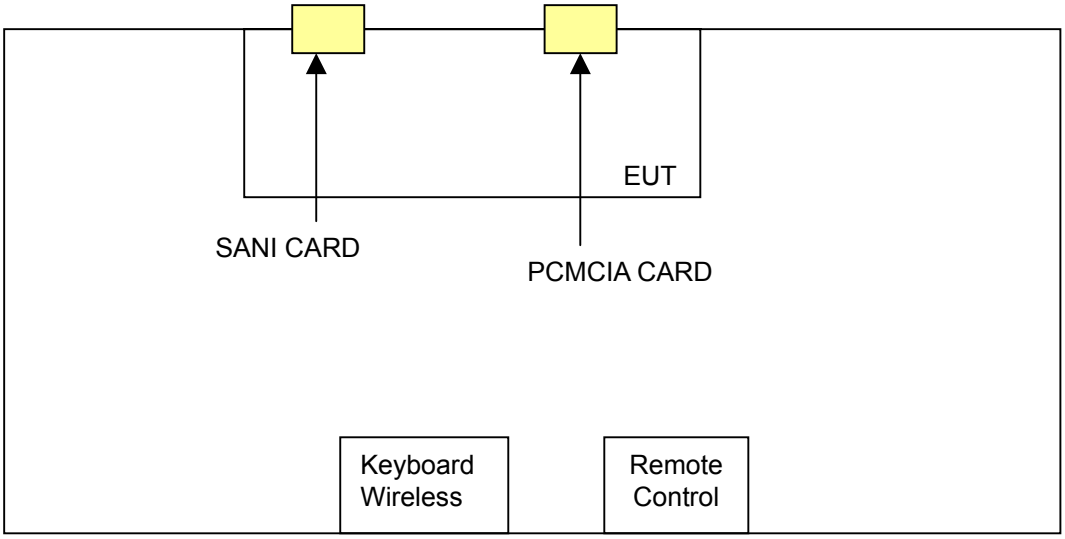
3.5 CONFIGURATION OF SYSTEM UNDER TEST



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
Test Receiver ROHDE & SCHWARZ	ESCS30	100291	Dec. 12, 2004
RF signal cable Woken	5D-FB	Cable-HYC01-01	Mar. 02, 2005
LISN ROHDE & SCHWARZ	ESH3-Z5	847265/023	Oct. 22, 2004
LISN ROHDE & SCHWARZ	ESH3-Z5	100220	Dec. 10, 2004
Software ADT	ADT_Cond_V3	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 Shielded Room 1.
3. The VCCI Site Registration No. is C-2040.Hwa Ya Global Certification Office

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.

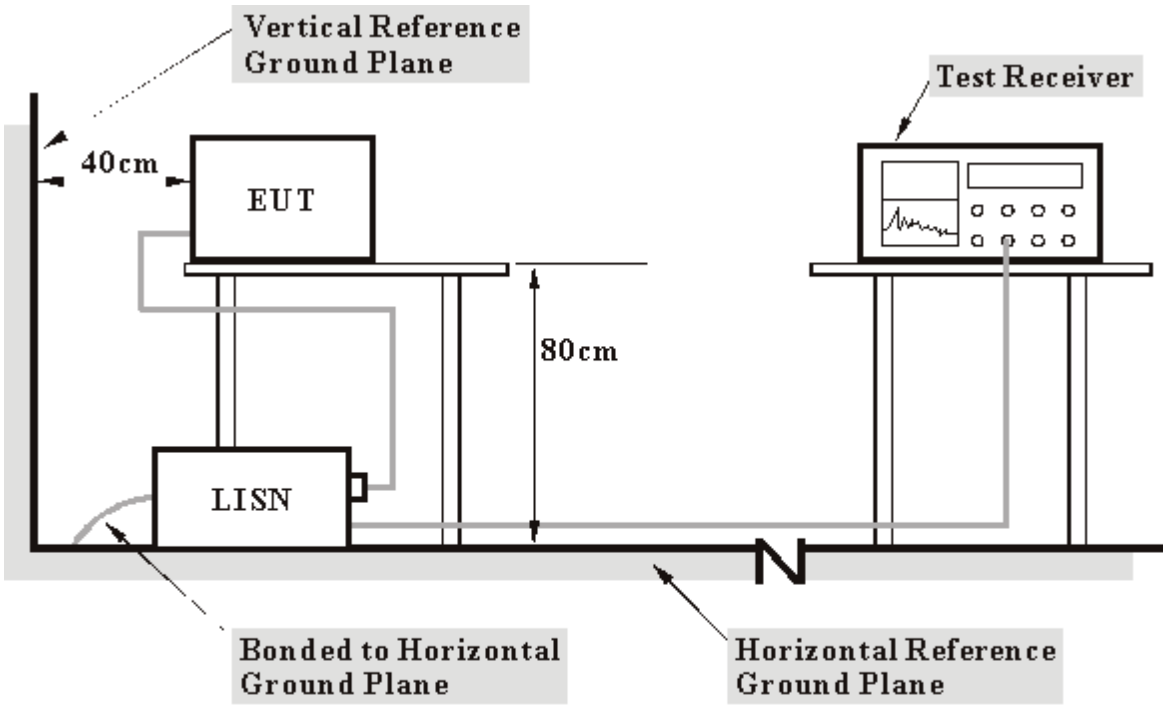
b. Both lines of the power mains connected to the EUT were checked for maximum conducted interference.

c. The frequency range from 150 kHz to 30 MHz was searched. Emission levels 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) 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 EUT OPERATING CONDITIONS

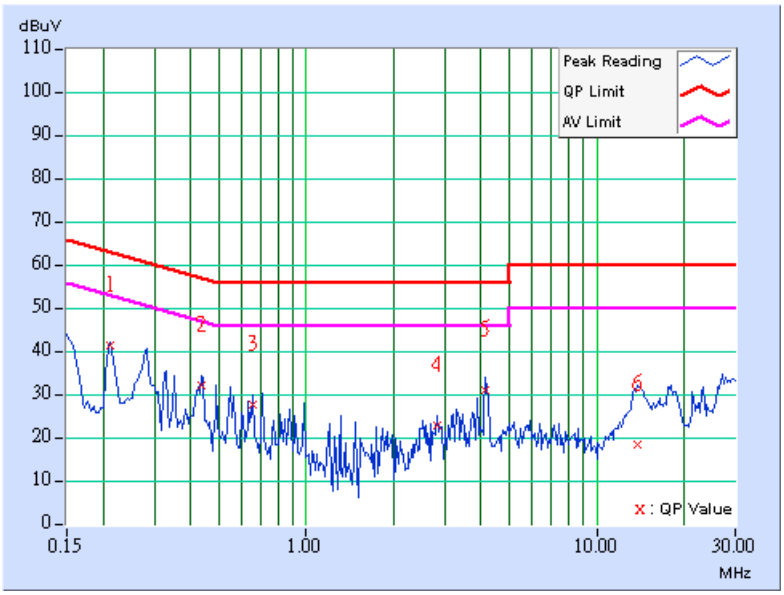
a. Placed the EUT on a testing table.
b. The EUT ran a test program to enable all functions under transmission/receiving condition continuously at specific channel frequency.
c. The EUT sent "H" messages to its screen.

4.1.7 TEST RESULTS

EUT	Flipscreen	**MODEL**	IBF-005
MODE	Channel 0	**6dB BANDWIDTH**	9kHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	**PHASE**	Line (L)
ENVIRONMENTAL CONDITIONS	24deg. C, 64%RH, 991hPa	**TESTED BY**: Leo Hung	

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	**0.213**	**0.12**	**40.80**	**-**	**40.92**	**-**	**63.11**	**53.11**	**-22.19**	-
2	0.435	0.13	31.68	-	31.81	-	57.15	47.15	-25.35	-
3	0.654	0.13	26.99	-	27.12	-	56.00	46.00	-28.88	-
4	2.809	0.18	22.41	-	22.59	-	56.00	46.00	-33.41	-
5	4.148	0.21	30.53	-	30.74	-	56.00	46.00	-25.26	-
6	13.777	0.66	17.90	-	18.56	-	60.00	50.00	-41.44	-

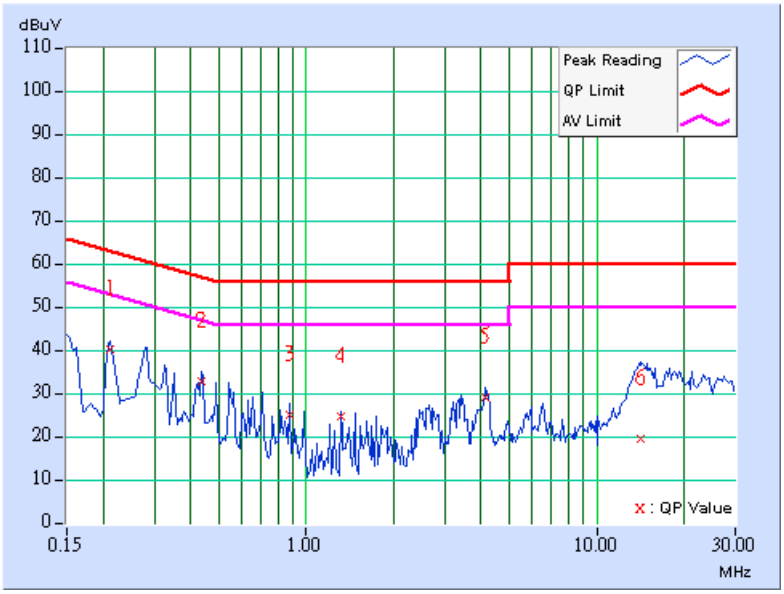
REMARKS: 1. Q.P. and AV. are abbreviations of quasi-peak and average individually.
2. "-": The Quasi-peak reading value also meets average limit and measurement with the average detector is unnecessary.
3. The emission levels of other frequencies were very low against the limit.
4. Margin value = Emission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



EUT	Flipscreen	**MODEL**	IBF-005
MODE	Channel 0	**6dB BANDWIDTH**	9kHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	**PHASE**	Neutral (N)
ENVIRONMENTAL CONDITIONS	24deg. C, 64%RH, 991hPa	**TESTED BY**: Leo Hung	

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	0.213	0.11	39.78	-	39.89	-	63.11	53.11	-23.22	-
2	0.435	0.12	32.28	-	32.40	-	57.15	47.15	-24.76	-
3	0.873	0.14	24.63	-	24.77	-	56.00	46.00	-31.23	-
4	1.313	0.15	24.26	-	24.41	-	56.00	46.00	-31.59	-
5	4.133	0.20	28.55	-	28.75	-	56.00	46.00	-27.25	-
6	14.099	0.58	18.98	-	19.56	-	60.00	50.00	-40.44	-

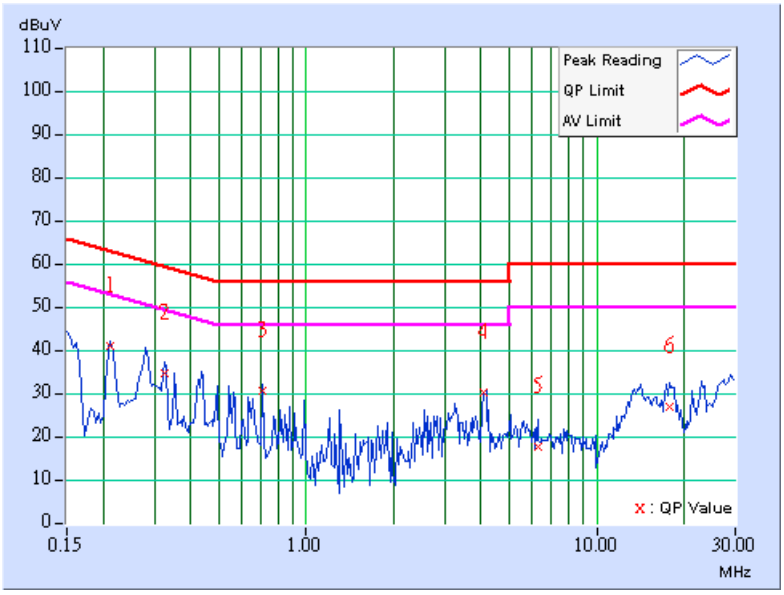
REMARKS: 1. Q.P. and AV. are abbreviations of quasi-peak and average individually.
2. "-": The Quasi-peak reading value also meets average limit and measurement with the average detector is unnecessary.
3. The emission levels of other frequencies were very low against the limit.
4. Margin value = Emission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



EUT	Flipscreen	**MODEL**	IBF-005
MODE	Channel 14	**6dB BANDWIDTH**	9kHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	**PHASE**	Line (L)
ENVIRONMENTAL CONDITIONS	24deg. C, 64%RH, 991hPa	**TESTED BY**: Leo Hung	

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	0.213	0.12	40.10	-	40.22	-	63.11	53.11	-22.89	-
2	0.326	0.12	33.97	-	34.09	-	59.56	49.56	-25.46	-
3	0.709	0.14	29.74	-	29.88	-	56.00	46.00	-26.12	-
4	4.086	0.21	29.36	-	29.57	-	56.00	46.00	-26.43	-
5	6.266	0.27	16.86	-	17.13	-	60.00	50.00	-42.87	-
6	17.844	0.92	26.25	-	27.17	-	60.00	50.00	-32.83	-

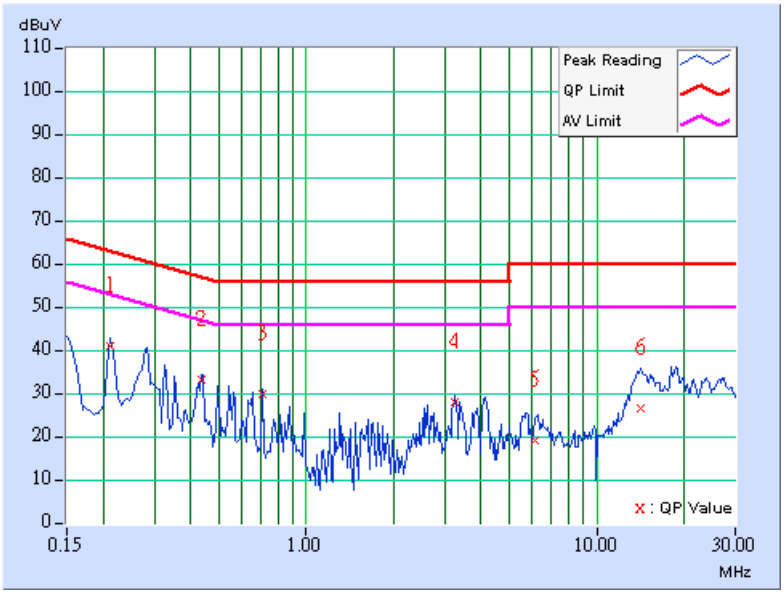
REMARKS: 1. Q.P. and AV. are abbreviations of quasi-peak and average individually.
2. "-": The Quasi-peak reading value also meets average limit and measurement with the average detector is unnecessary.
3. The emission levels of other frequencies were very low against the limit.
4. Margin value = Emission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



EUT	Flipscreen	**MODEL**	IBF-005
MODE	Channel 14	**6dB BANDWIDTH**	9kHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	**PHASE**	Neutral (N)
ENVIRONMENTAL CONDITIONS	24deg. C, 64%RH, 991hPa	**TESTED BY**: Leo Hung	

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	0.213	0.11	40.40	-	40.51	-	63.11	53.11	-22.60	-
2	0.435	0.12	32.62	-	32.74	-	57.15	47.15	-24.42	-
3	0.709	0.13	29.36	-	29.49	-	56.00	46.00	-26.51	-
4	3.250	0.19	27.68	-	27.87	-	56.00	46.00	-28.13	-
5	6.141	0.25	18.52	-	18.77	-	60.00	50.00	-41.23	-
6	14.191	0.58	26.15	-	26.73	-	60.00	50.00	-33.27	-

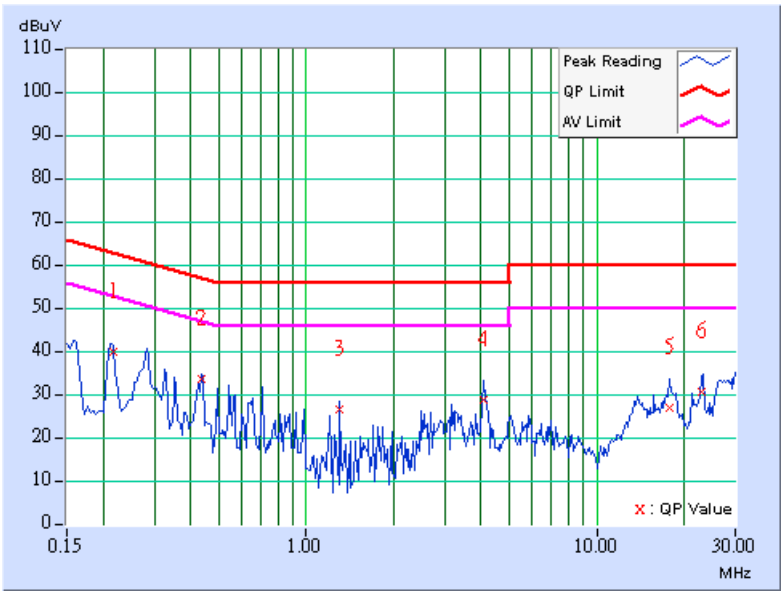
REMARKS: 1. Q.P. and AV. are abbreviations of quasi-peak and average individually.
2. "-": The Quasi-peak reading value also meets average limit and measurement with the average detector is unnecessary.
3. The emission levels of other frequencies were very low against the limit.
4. Margin value = Emission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



EUT	Flipscreen	**MODEL**	IBF-005
MODE	Channel 27	**6dB BANDWIDTH**	9kHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	**PHASE**	Line (L)
ENVIRONMENTAL CONDITIONS	24deg. C, 64%RH, 991hPa	**TESTED BY**: Leo Hung	

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	0.216	0.12	38.94	-	39.06	-	62.96	52.96	-23.90	-
2	0.435	0.13	32.76	-	32.89	-	57.15	47.15	-24.27	-
3	1.309	0.15	25.59	-	25.74	-	56.00	46.00	-30.26	-
4	4.090	0.21	27.66	-	27.87	-	56.00	46.00	-28.13	-
5	17.855	0.92	26.05	-	26.97	-	60.00	50.00	-33.03	-
6	22.883	1.10	29.72	-	30.82	-	60.00	50.00	-29.18	-

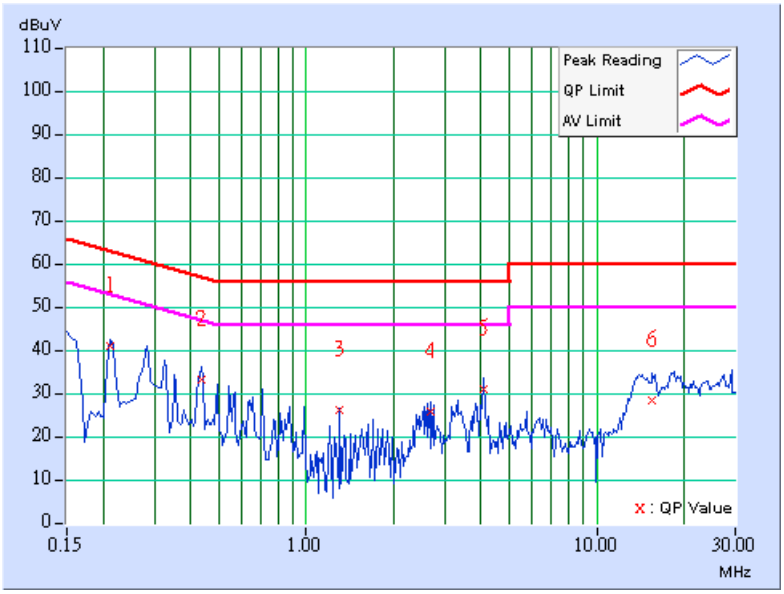
REMARKS: 1. Q.P. and AV. are abbreviations of quasi-peak and average individually.
2. "-": The Quasi-peak reading value also meets average limit and measurement with the average detector is unnecessary.
3. The emission levels of other frequencies were very low against the limit.
4. Margin value = Emission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



EUT	Flipscreen	**MODEL**	IBF-005
MODE	Channel 27	**6dB BANDWIDTH**	9kHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	**PHASE**	Neutral (N)
ENVIRONMENTAL CONDITIONS	24deg. C, 64%RH, 991hPa	**TESTED BY**: Leo Hung	

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	0.213	0.11	40.58	-	40.69	-	63.11	53.11	-22.42	-
2	0.435	0.12	32.76	-	32.88	-	57.15	47.15	-24.28	-
3	1.309	0.15	25.55	-	25.70	-	56.00	46.00	-30.30	-
4	2.680	0.17	25.26	-	25.43	-	56.00	46.00	-30.57	-
5	4.098	0.20	30.56	-	30.76	-	56.00	46.00	-25.24	-
6	15.555	0.65	27.75	-	28.40	-	60.00	50.00	-31.60	-

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

The field strength of emission from fundamental frequency shall comply with the followng:

Frequencies (MHz)	Field strength (dBuV/m)	
	Peak	Average
902 ~ 928	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

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DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATED UNTIL
Test Receiver ROHDE & SCHWARZ	ESI7	838496/016	Feb. 09, 2005
Spectrum Analyzer ROHDE & SCHWARZ	FSP40	100041	Dec. 15, 2004
BILOG Antenna SCHWARZBECK	VULB9168	9168-155	Feb. 03, 2005
HORN Antenna SCHWARZBECK	BBHA 9120D	9120D-404	Feb. 03, 2005
HORN Antenna SCHWARZBECK	BBHA 9170	BBHA 9170242	Feb. 23, 2005
Preamplifier Agilent	8447D	2944A10631	Jan. 15, 2005
Preamplifier Agilent	8449B	3008A01960	Jan. 22, 2005
RF signal cable HUBER+SUHNNER	SUCOFLEX 104	219272/4	Mar. 04, 2005
RF signal cable HUBER+SUHNNER	SUCOFLEX 104	219275/4	Mar. 04, 2005
Software ADT.	ADT_Radiated_V5.14	NA	NA
Antenna Tower inn-co GmbH	MA 4000	010303	NA
Antenna Tower Controller inn-co GmbH	CO2000	019303	NA
Turn Table ADT.	TT100.	TT93021704	NA
Turn Table Controller ADT.	SC100.	SC93021704	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 3.

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 meter semi-anchoic. 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.

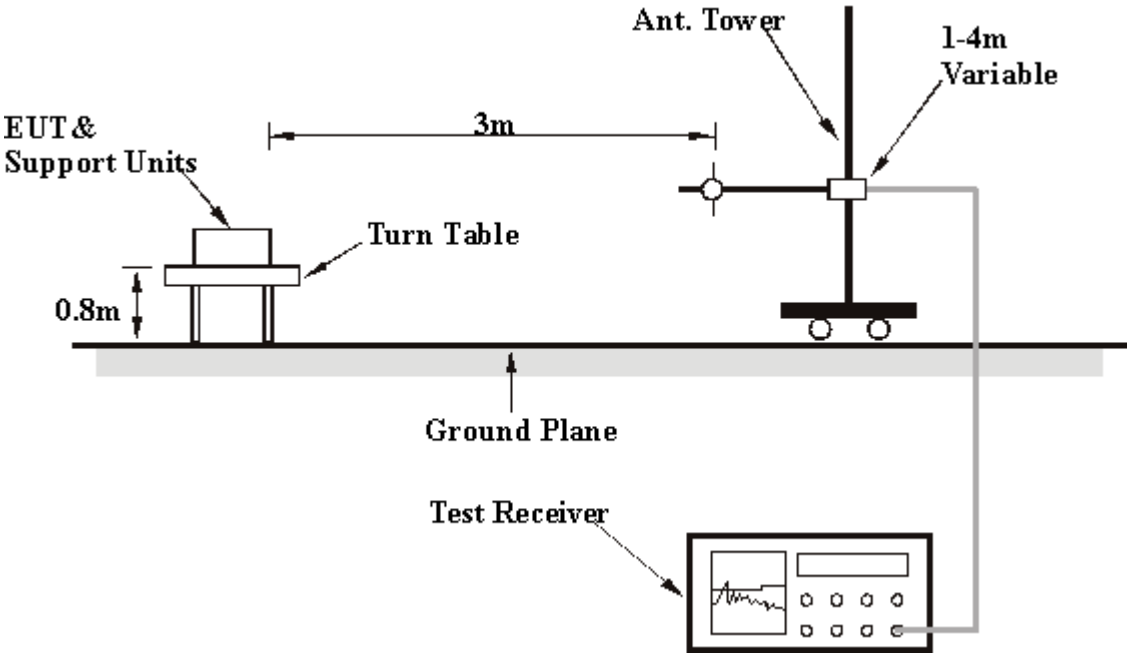
NOTE:

1. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 120kHz for 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 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

Same as item 4.1.6

4.2.7 TEST RESULTS

EUT	Flipscreen	**MODEL**	IBF-005
CHANNEL	Channel 0	**DETECTOR FUNCTION**	Peak (PK) Average (AV)
INPUT POWER (SYSTEM)	120Vac, 60 Hz		
ENVIRONMENTAL CONDITIONS	28deg. C, 55%RH, 991hPa	**TESTED BY**	Allen 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)	Correction Factor (dB/m)
1	*905.36	83.02 PK	94.00	-10.98	1.37 H	62	58.15	24.87
2	1810.71	56.53 PK	74.00	-17.47	1.07 H	343	26.00	30.53
3	**1810.71**	**47.25 AV**	**54.00**	**-6.75**	**1.07 H**	**343**	**16.72**	**30.53**
4	2716.10	54.25 PK	74.00	-19.75	1.12 H	331	19.32	34.93
5	2716.10	44.97 AV	54.00	-9.03	1.12 H	331	10.04	34.93
6	4526.97	53.30 PK	74.00	-20.70	1.15 H	352	13.40	39.89
7	4526.97	44.02 AV	54.00	-9.98	1.15 H	352	4.13	39.89

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)	Correction Factor (dB/m)
1	*905.36	76.77 PK	94.00	-17.23	1.43 V	72	51.90	24.87
2	1810.70	50.83 PK	74.00	-23.17	1.03 V	243	20.30	30.53
3	1810.70	41.55 AV	54.00	-12.45	1.03 V	243	11.02	30.53
4	2716.09	53.68 PK	74.00	-20.32	1.00 V	334	18.75	34.93
5	2716.09	44.40 AV	54.00	-9.60	1.00 V	334	9.47	34.93
6	4525.67	51.38 PK	74.00	-22.62	1.00 V	313	11.49	39.89
7	4525.67	42.10 AV	54.00	-11.90	1.00 V	313	2.21	39.89

NOTE:

1. Emission level(dBuV/m)=Raw Value(dBuV) + Correction Factor(dB)
2. Correction Factor(dB) = Antenna Factor (dB) + Cable Factor (dB)
3. The other emission levels were very low against the limit.
4. Margin value = Emission level – Limit value.
5. "*" = Fundamental frequency
6. The average value of fundamental frequency is: Average = Peak value + 20log(Duty cycle)
   Where the duty factor is calculated from following formula:

$$20\log(\text{Duty cycle}) = 20\log\frac{33.386774\text{ms}}{100\text{ms}} = -9.53\text{dB}$$

please see page 25-26for plotted duty

EUT	Flipscreen	**MODEL**	IBF-005
CHANNEL	Channel 14	**DETECTOR FUNCTION**	Peak (PK) Average (AV)
INPUT POWER (SYSTEM)	120Vac, 60 Hz		
ENVIRONMENTAL CONDITIONS	28deg. C, 55%RH, 991hPa	**TESTED BY**	Allen 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)	Correction Factor (dB/m)
1	*915.14	81.42 PK	94.00	-12.58	1.34 H	62	56.45	24.97
2	1830.70	53.63 PK	74.00	-20.37	1.00 H	346	22.95	30.68
3	1830.70	44.10 AV	54.00	-9.90	1.00 H	346	13.42	30.68
4	2746.15	53.20 PK	74.00	-20.80	1.32 H	333	18.20	35.00
5	2746.15	43.67 AV	54.00	-10.33	1.32 H	333	8.67	35.00
6	4576.88	51.71 PK	74.00	-22.29	1.04 H	351	11.78	39.93
7	4576.88	42.18 AV	54.00	-11.82	1.04 H	351	2.25	39.93

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)	Correction Factor (dB/m)
1	*915.14	77.24 PK	94.00	-16.76	1.46 V	110	52.27	24.97
2	1830.23	48.88 PK	74.00	-25.12	1.00 V	243	18.20	30.67
3	1830.23	39.35 AV	54.00	-14.65	1.00 V	243	8.68	30.67
4	2746.04	51.32 PK	74.00	-22.68	1.00 V	10	16.32	35.00
5	2746.04	41.79 AV	54.00	-12.21	1.00 V	10	6.79	35.00
6	4576.88	51.98 PK	74.00	-22.02	1.08 V	322	12.05	39.93
7	4576.88	42.45 AV	54.00	-11.55	1.08 V	322	2.52	39.93

NOTE:

1. Emission level(dBuV/m)=Raw Value(dBuV) + Correction Factor(dB)
2. Correction Factor(dB) = Antenna Factor (dB) + Cable Factor (dB)
3. The other emission levels were very low against the limit.
4. Margin value = Emission level – Limit value.
5. "*" = Fundamental frequency
6. The average value of fundamental frequency is: Average = Peak value + 20log(Duty cycle)
   Where the duty factor is calculated from following formula:

$$20\log(\text{Duty cycle}) = 20\log\frac{33.386774\text{ms}}{100\text{ms}} = -9.53\text{dB}$$

please see page 25-26for plotted duty

EUT	Flipscreen	**MODEL**	IBF-005
CHANNEL	Channel 27	**DETECTOR FUNCTION**	Peak (PK) Average (AV)
INPUT POWER (SYSTEM)	120Vac, 60 Hz		
ENVIRONMENTAL CONDITIONS	28deg. C, 55%RH, 991hPa	**TESTED BY**	Allen 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)	Correction Factor (dB/m)
1	*924.84	80.58 PK	94.00	-13.42	1.31 H	53	55.51	25.07
2	1849.70	49.41 PK	74.00	-24.59	1.00 H	22	18.59	30.82
3	1849.70	39.88 AV	54.00	-14.12	1.00 H	22	9.06	30.82
4	2773.86	51.55 PK	74.00	-22.45	1.07 H	354	16.48	35.07
5	2773.86	42.02 AV	54.00	-11.98	1.07 H	354	6.95	35.07
6	4623.16	51.71 PK	74.00	-22.29	1.00 H	6	11.71	40.01
7	4623.16	42.18 AV	54.00	-11.82	1.00 H	6	2.17	40.01

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

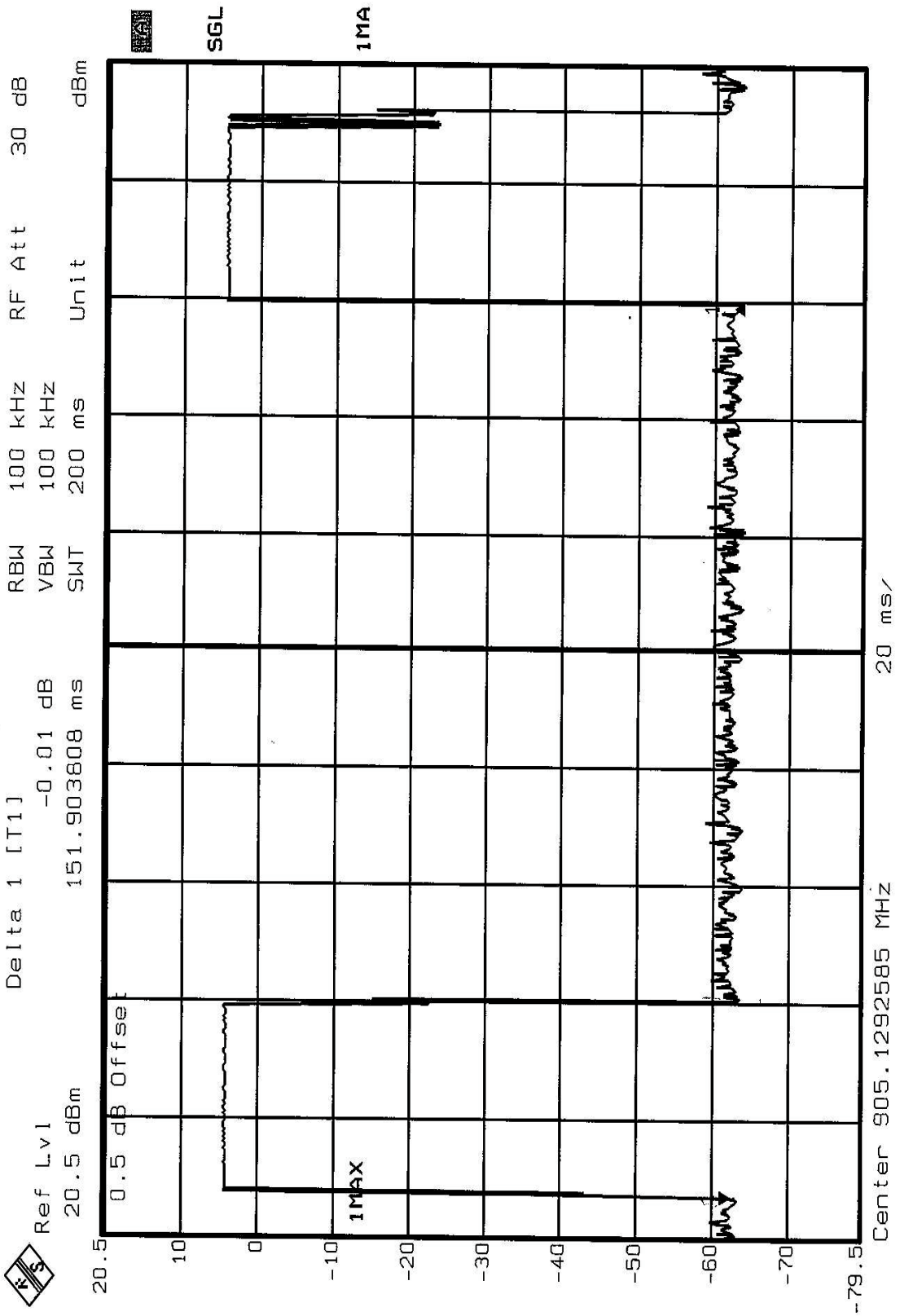
No.	Freq. (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*924.84	77.29 PK	94.00	-16.71	1.44 V	212	52.22	25.07
2	1849.30	50.80 PK	74.00	-23.20	1.29 V	87	19.99	30.81
3	1849.30	41.27 AV	54.00	-12.73	1.29 V	87	10.46	30.81
4	2774.51	49.59 PK	74.00	-24.41	1.00 V	338	14.52	35.07
5	2774.51	40.06 AV	54.00	-13.94	1.00 V	338	4.99	35.07
6	4623.17	51.42 PK	74.00	-22.58	1.38 V	303	11.42	40.01
7	4623.17	41.89 AV	54.00	-12.11	1.38 V	303	1.88	40.01

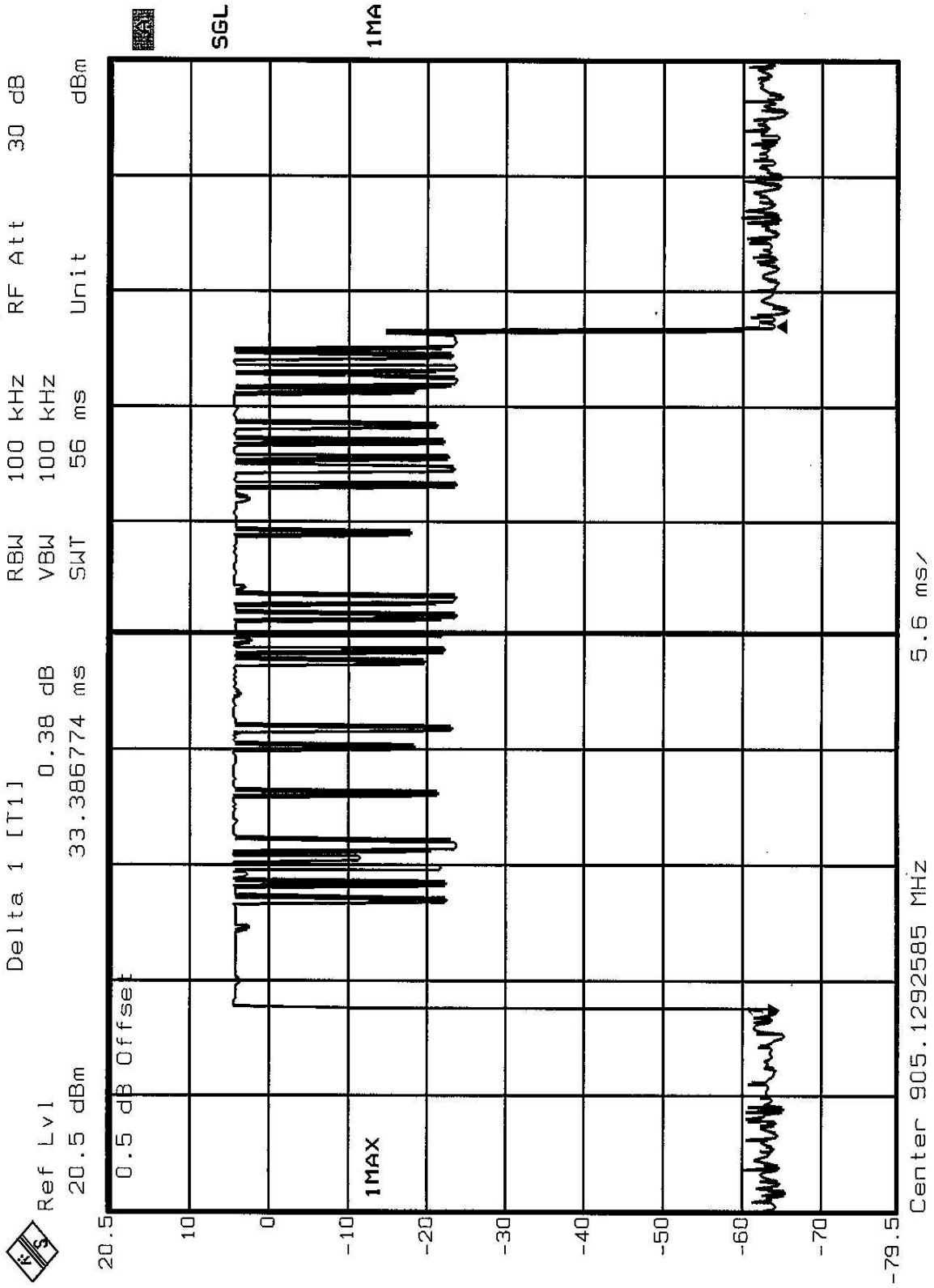
NOTE:

1. Emission level(dBuV/m)=Raw Value(dBuV) + Correction Factor(dB)
2. Correction Factor(dB) = Antenna Factor (dB) + Cable Factor (dB)
3. The other emission levels were very low against the limit.
4. Margin value = Emission level – Limit value.
5. "*" = Fundamental frequency
6. The average value of fundamental frequency is: Average = Peak value + 20log(Duty cycle)
   Where the duty factor is calculated from following formula:

$$20\log(\text{Duty cycle}) = 20\log\frac{33.386774\text{ms}}{100\text{ms}} = -9.53\text{dB}$$

please see page 25-26 for plotted duty


Ref Lvl
20.5 dBm
0.5 dB Offset
Delta 1 [T1]
-0.01 dB
151.903808 ms
RBW 100 kHz
VBW 100 kHz
SWT 200 ms
RF Att 30 dB
Unit dBm
SGL
1MA
1MAX
20.5
10
0
-10
-20
-30
-40
-50
-60
-70
-79.5
Center 905.1292585 MHz
20 ms/


Ref Lvl
20.5 dBm
0.5 dB Offset
Delta 1 [T1]
0.38 dB
33.386774 ms
RBW 100 kHz
VBW 100 kHz
SWT 56 ms
RF Att 30 dB
Unit dBm
SGL
1MA
1MAX
20.5
10
0
-10
-20
-30
-40
-50
-60
-70
-79.5
Center 905.1292585 MHz
5.6 ms/

4.3 BAND EDGES MEASUREMENT

4.3.1 LIMITS OF BAND EDGES MEASUREMENT

Emissions radiated outside of the specified frequency bands, except for harmonics, shall be attenuated by at least 50 dB below the level of the fundamental or to the general radiated emission limits in § 15.209, whichever is the lesser attenuation.

4.3.2 TEST INSTRUMENTS

Description & Manufacturer	Model No.	Serial No.	Calibrated Until
SPECTRUM ANALYZER	FSEK30	100049	August 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 100 kHz with suitable frequency span including 100 MHz bandwidth from band edge. The band edges was measured and recorded.

4.3.4 EUT OPERATING CONDITION

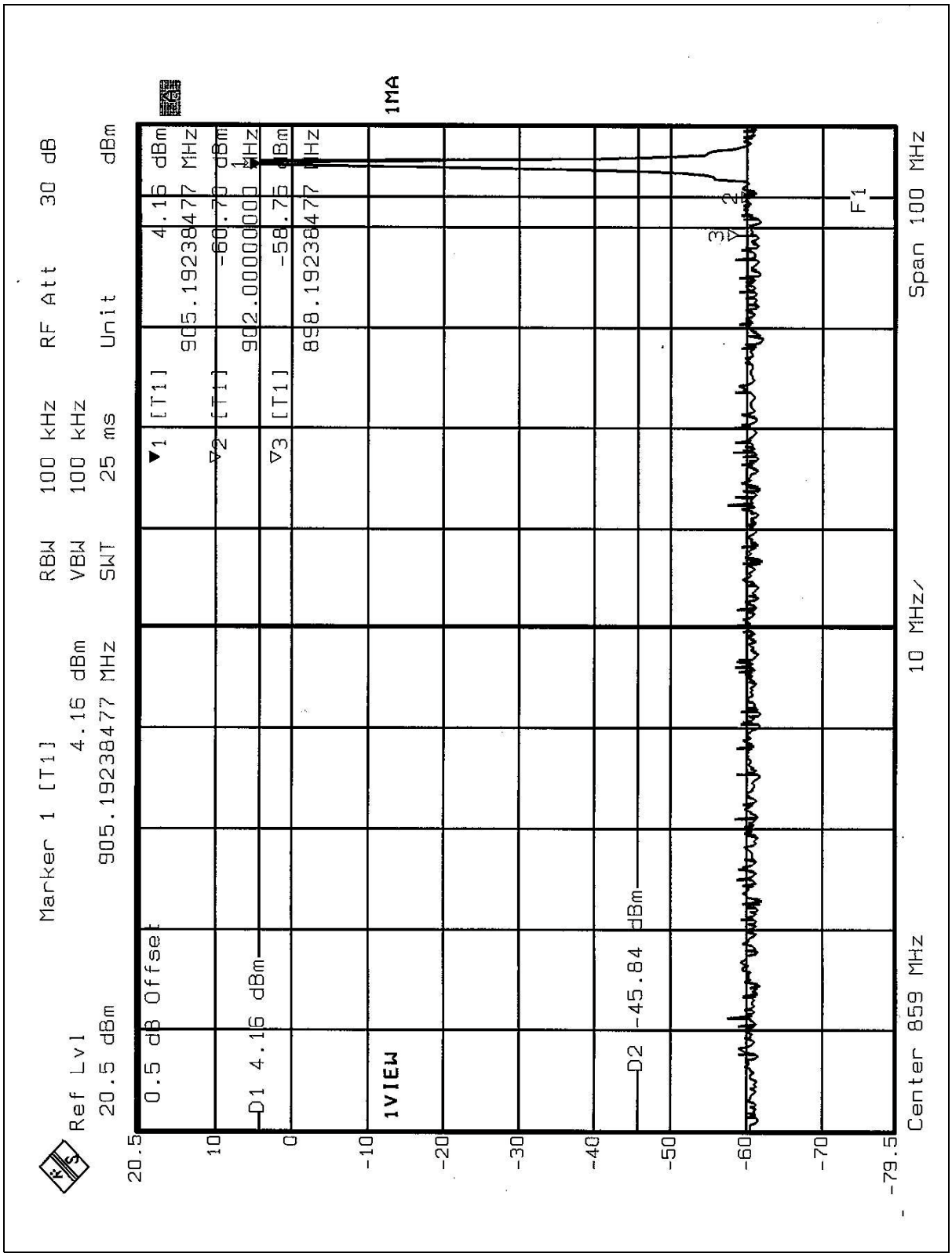
Enable the EUT under transmission condition continuously at lowest, middle and highest channel frequencies individually.

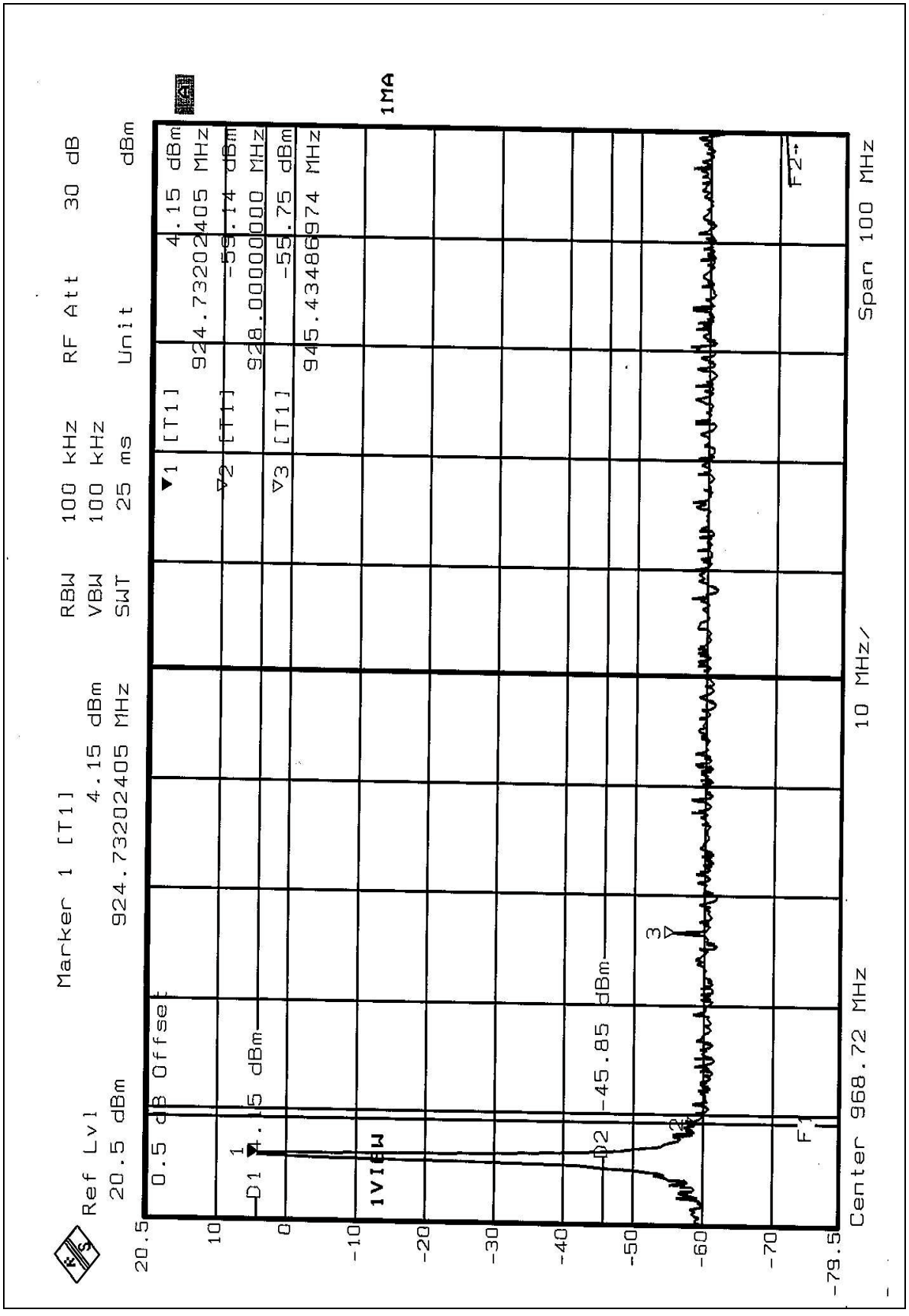
4.3.5 TEST RESULTS

The spectrum plots are attached on the following 2 pages. D2 line indicates the highest level, D1 line indicates the 50dB offset below D2. It shows compliance with the requirement in part 15.249(d).

NOTE1: The band edge emission plot on the following first page shows 62.91dB delta between carrier maximum power and local maximum emission in restrict band (898.1924MHz). The emission of carrier strength list in the test result of channel 0 at the item 4.2.7 is 83.02dBuV/m, so the maximum field strength in restrict band is 83.02-62.91=20.11dBuV/m which is under 54dBuV/m limit.

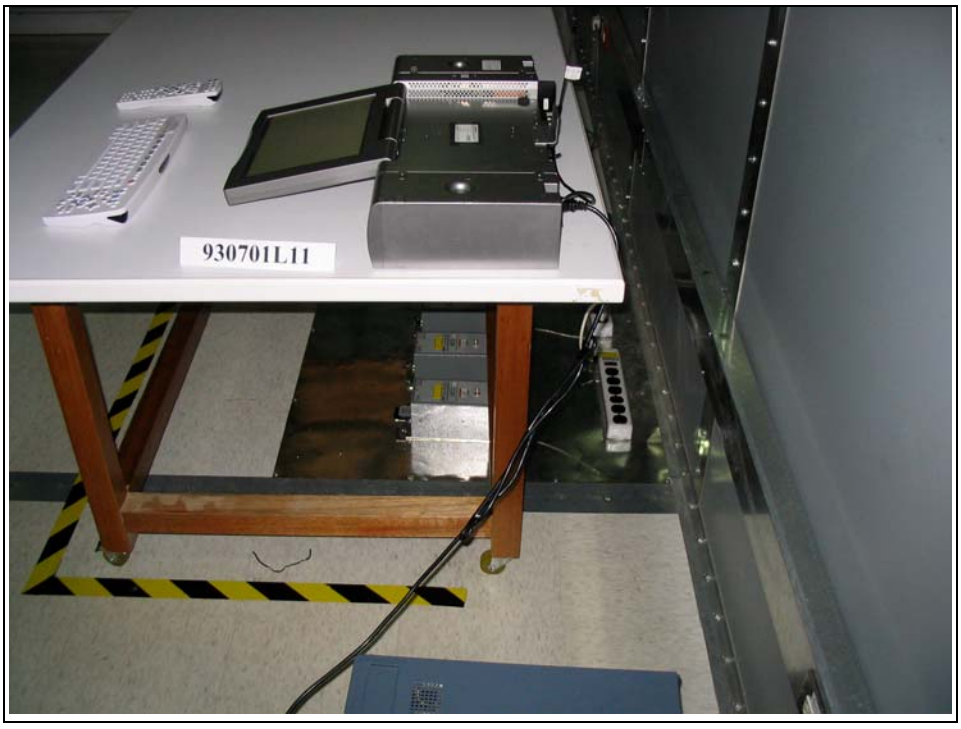
NOTE2: The band edge emission plot on the following second page shows 59.90dB delta between carrier maximum power and local maximum emission in restrict band (945.4349MHz). The emission of carrier strength list in the test result of channel 27 at the item 4.2.7 is 80.58dBuV/m, so the maximum field strength in restrict band is 80.58-59.90=20.68dBuV/m which is under 54dBuV/m limit.


Marker 1 [T1]
4.16 dBm
905.19238477 MHz
RBW 100 kHz
VBW 100 kHz
SWT 25 ms
RF Att 30 dB
Unit dBm
Ref Lvl
20.5 dBm
0.5 dB Offset
D1 4.16 dBm
D2 -45.84 dBm
1VIEW
1MA
Center 859 MHz
Span 100 MHz
10 MHz/

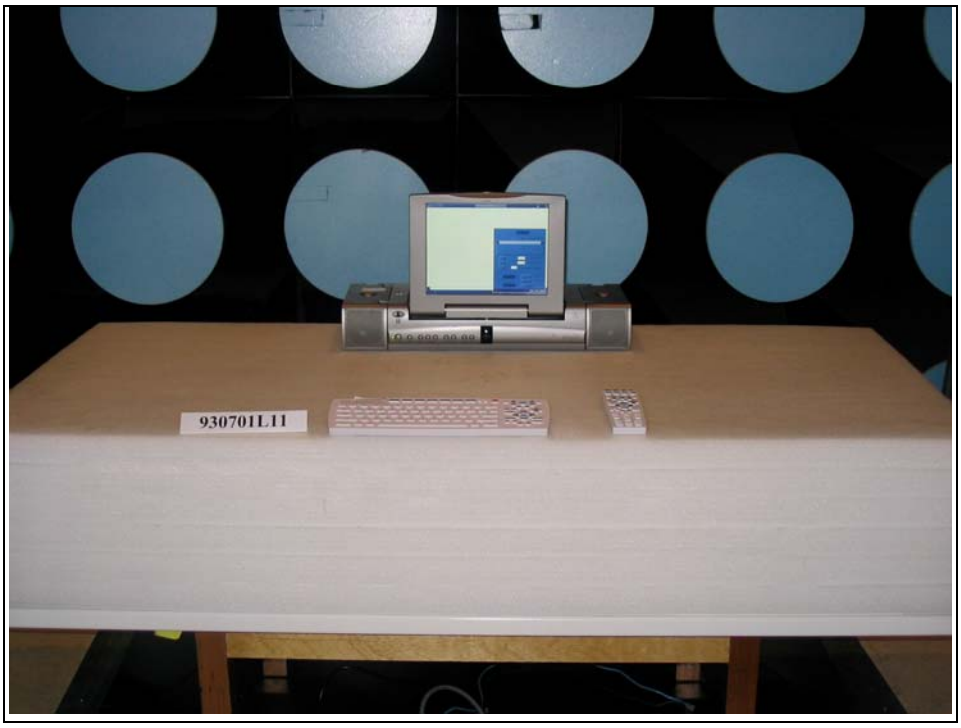

Ref Lvl
20.5 dBm
0.5 dB Offset
Marker 1 [T1]
4.15 dBm
924.73202405 MHz
RBW 100 kHz
VBW 100 kHz
SWT 25 ms
RF Att 30 dB
Unit dBm
1 [T1] 4.15 dBm
924.73202405 MHz
2 [T1] -59.14 dBm
928.00000000 MHz
3 [T1] -55.75 dBm
945.43486974 MHz
1MA
1VIEW
D1 -5.15 dBm
D2 -45.85 dBm
F1
F2
Center 968.72 MHz
10 MHz/
Span 100 MHz

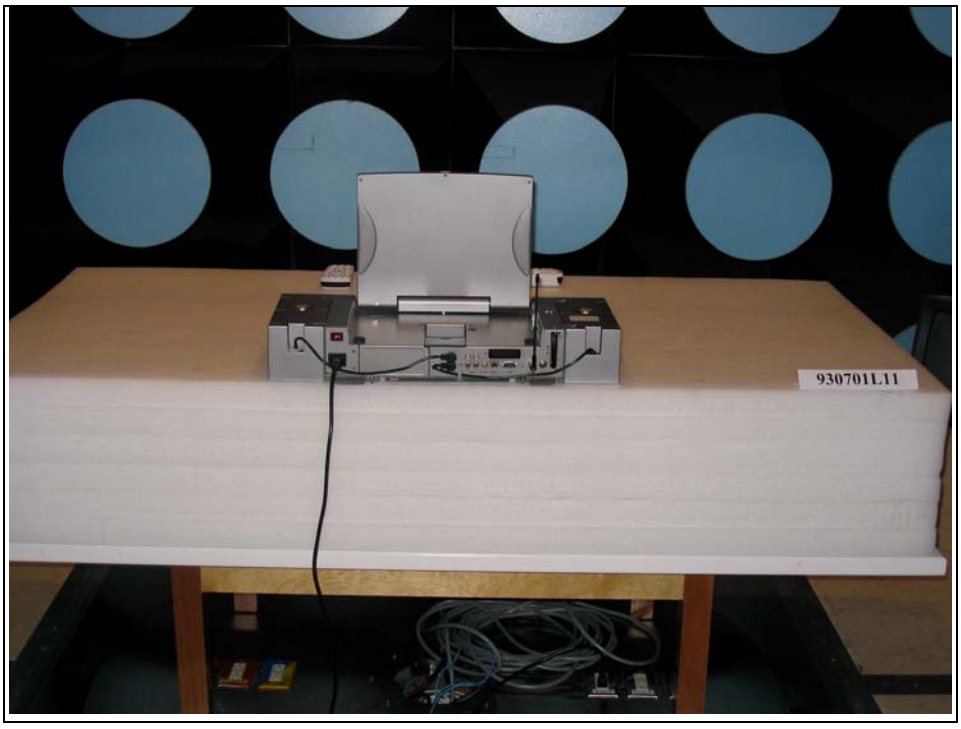
5. PHOTOGRAPHS OF THE TEST CONFIGURATION

CONDUCTED EMISSION TEST



RADIATED EMISSION TEST





6 APPENDIX - 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, Guide 25 or EN 45001:

USA	FCC, NVLAP, UL
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: 886-2-26052943

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

Hwa Ya EMC/RF/Safety/Telecom Lab:
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The address and road map of all our labs can be found in our web site also.

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