



# FCC TEST REPORT

**REPORT NO.:** RF910222R01A

**MODEL NO.:** GTP-100

**RECEIVED:** Mar. 28, 2003

**TESTED:** February 22 ~ March 15 , 2002

**APPLICANT:** G-TEK Electronics Corporation

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0528  
ILAC MRA



Lab Code: 200102-0

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## 1 CERTIFICATION

**PRODUCT :** Tablet PC  
**MODEL NO. :** GTP-100  
**BRAND :** G-TEK  
**APPLICANT :** G-TEK Electronics Corporation  
**STANDARDS :** 47 CFR Part 15, Subpart C (Section 15.247),  
ANSI C63.4-1992

We, **Advance Data Technology Corporation**, hereby certify that one sample of the designation has been tested in our facility from Feb. 22 to Mar. 15, 2002, The test record, data evaluation and Equipment Under Test (EUT) configurations represented herein are true and accurate accounts of the measurements of the sample's EMC characteristics under the conditions herein specified.

**CHECKED BY:** Rennie Wang, **DATE:** April 12, 2003  
Rennie Wang

**APPROVED BY:** Dr. Alan Lane, **DATE:** April 12, 2003  
Dr. Alan Lane  
Manager

## 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 Limit: 48dBuV	PASS	Meet the requirement of limit Minimum passing margin is -18.84dBuV at 2.73MHz
15.247(a)(2)	Spectrum Bandwidth of a Direct Sequence Spread Spectrum System Limit: min. 500kHz	PASS	Meet the requirement of limit
15.247(b)	Maximum Peak Output Power Limit: max. 30dBm	PASS	Meet the requirement of limit
15.247(c)	Transmitter Radiated Emissions Limit: Table 15.209	PASS	Meet the requirement of limit Minimum passing margin is -7.8dBuV at 500.25MHz
15.247(d)	Power Spectral Density Limit: max. 8dBm	PASS	Meet the requirement of limit
15.247(c)	Band Edge Measurement Limit: 20 dB less than the peak value of fundamental frequency	PASS	Meet the requirement of limit

### 3 GENERAL INFORMATION

#### 3.1 GENERAL DESCRIPTION OF EUT

<b>PRODUCT</b>	Tablet PC
<b>MODEL NO.</b>	GTP-100
<b>POWER SUPPLY</b>	16VDC from AC Adapter
<b>MODULATION TYPE</b>	BPSK, QPSK, CCK
<b>RADIO TECHNOLOGY</b>	DSSS
<b>TRANSFER RATE</b>	1/2/5.5/11Mbps
<b>FREQUENCY RANGE</b>	2412MHz ~ 2462MHz
<b>NUMBER OF CHANNEL</b>	11
<b>OUTPUT POWER</b>	16.12dBm
<b>ANTENNA TYPE</b>	Dipole Antenna
<b>DATA CABLE</b>	NA
<b>I/O PORTS</b>	NA
<b>ASSOCIATED DEVICES</b>	NA

**NOTE:**

1. This report is issued as a supplementary report to the original report with no. RF910222R01. And the model in this report is identical to the original application model.
2. The EUT is operated with following AC Adapter
 

<b>Model No. :</b>	HPW-2005U
<b>Input Power :</b>	100-240V~2.1AM MAX, 50-60Hz
<b>Output Power :</b>	+5V, 2.5A
3. For more detailed features description, please refer to the manufacturer's specifications or User's Manual.

### 3.2 DESCRIPTION OF TEST MODES

Eleven channels are provided to this EUT.

Channel	Frequency	Channel	Frequency
1	2412 MHz	7	2442 MHz
2	2417 MHz	8	2447 MHz
3	2422 MHz	9	2452 MHz
4	2427 MHz	10	2457 MHz
5	2432 MHz	11	2462 MHz
6	2437 MHz		

**NOTE:**

1. Below 1 GHz, the channel 1, 6, and 11 were pre-tested in chamber. The channel 11, worst case one, was chosen for final test.
2. Above 1 GHz, the channel 1, 6, and 11 were tested individually.

### 3.3 GENERAL DESCRIPTION OF APPLIED STANDARDS

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

**FCC 47 CFR Part 15, Subpart C. (15.247)**

**ANSI C63.4 : 1992**

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

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



### 3.4 DESCRIPTION OF SUPPORT UNITS

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

NO.	PRODUCT	BRAND	MODEL NO.	SERIAL NO.	FCC ID
1	600Ω Load	NA	NA	NA	NA

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



## 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

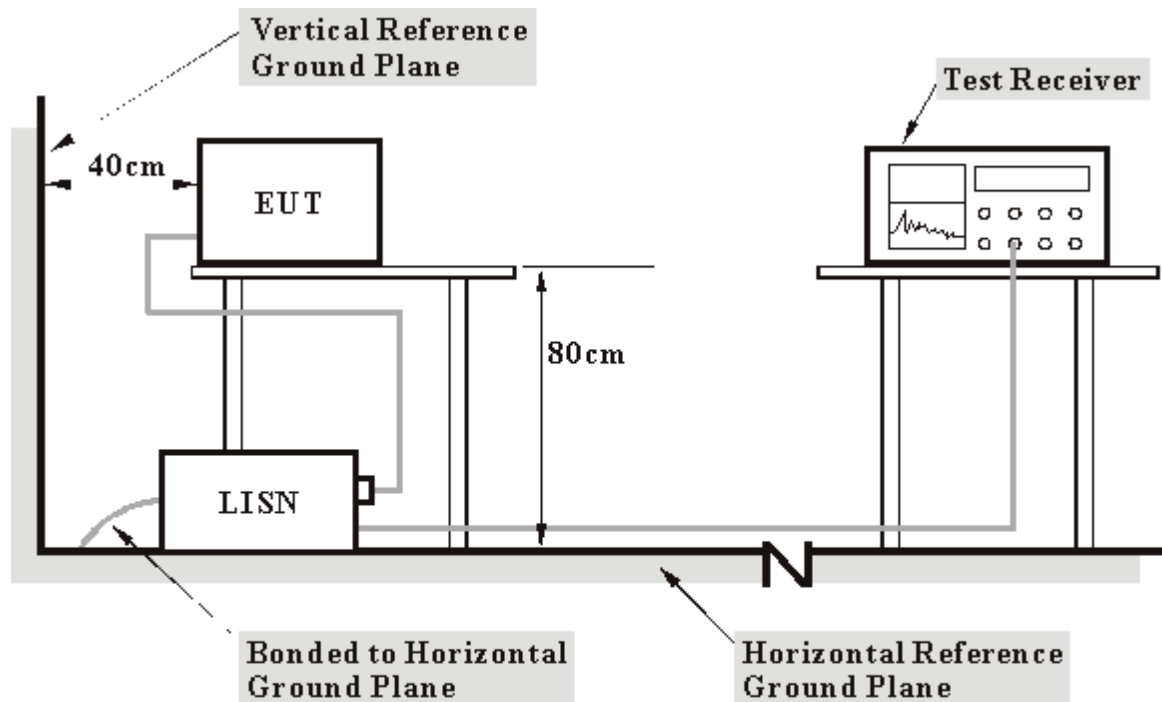
DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATED UNTIL
ROHDE & SCHWARZ Test Receiver	ESHS30	828109/007	July 03, 2003
ROHDE & SCHWARZ Artificial Mains Network (for EUT)	ESH3-Z5	839135/006	July 02, 2003
* ROHDE & SCHWARZ 4-wire ISN	ENY41	838119/028	Nov. 29, 2003
* ROHDE & SCHWARZ 2-wire ISN	ENY22	837497/016	Nov. 29, 2003
EMCO-L.I.S.N. (for peripheral)	3825/2	9204-1964	July 02, 2003
Software	Cond-V2M1	NA	NA
RF cable (JYEBAO)	5D-FB	Cable-C02.01	July 5, 2003
HP Terminator (For EMCO LISN)	11593A	E1-01-298	Feb. 23, 2004
HP Terminator (For EMCO LISN)	11593A	E1-01-299	Feb. 23, 2004

- 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. “\*”: These equipment are used for conducted telecom port test only (if tested).
  3. The test was performed in ADT Shielded Room No. 2.
  4. The VCCI Site Registration No. is C-240.

#### 4.1.3 TEST PROCEDURES

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

#### 4.1.4 TEST SETUP



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

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



#### 4.1.5 EUT OPERATING CONDITIONS

The computer system ran a test program to enable EUT under transmission/receiving condition continuously at specific channel frequency.

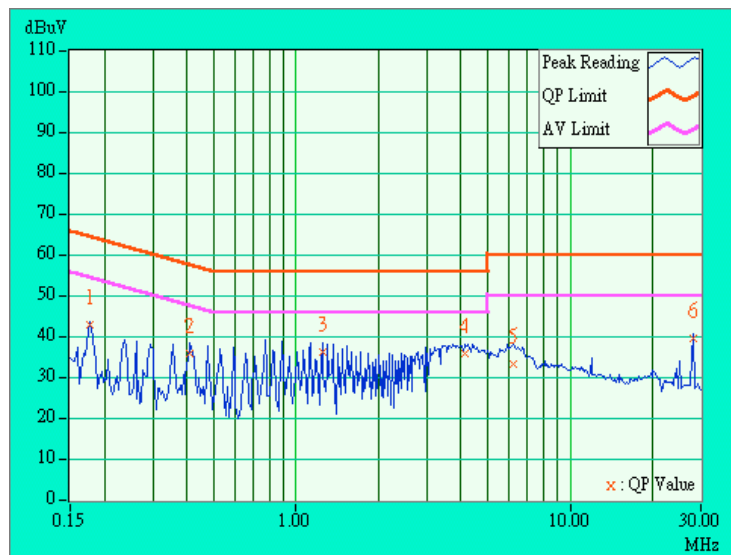
## 4.1.6 TEST RESULTS

<b>EUT</b>	Tablet PC	<b>MODEL</b>	GTP-100
<b>MODE</b>	Channel 11	<b>6dB BANDWIDTH</b>	10 kHz
<b>INPUT POWER (SYSTEM)</b>	120Vac, 60 Hz	<b>PHASE</b>	Line (L)
<b>ENVIRONMENTAL CONDITIONS</b>	25 deg. C, 60%RH, 991 hPa	<b>TESTED BY:</b> Gary 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	0.177	0.10	42.85	-	42.95	-	64.63	54.63	-21.68	-
2	0.411	0.10	35.77	-	35.87	-	57.63	47.63	-21.76	-
3	1.245	0.10	36.42	-	36.52	-	56.00	46.00	-19.48	-
4	4.146	0.30	36.05	-	36.35	-	56.00	46.00	-19.65	-
5	6.227	0.37	33.21	-	33.58	-	60.00	50.00	-26.42	-
6	28.223	1.16	39.55	-	40.71	-	60.00	50.00	-19.29	-

**NOTE:**

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

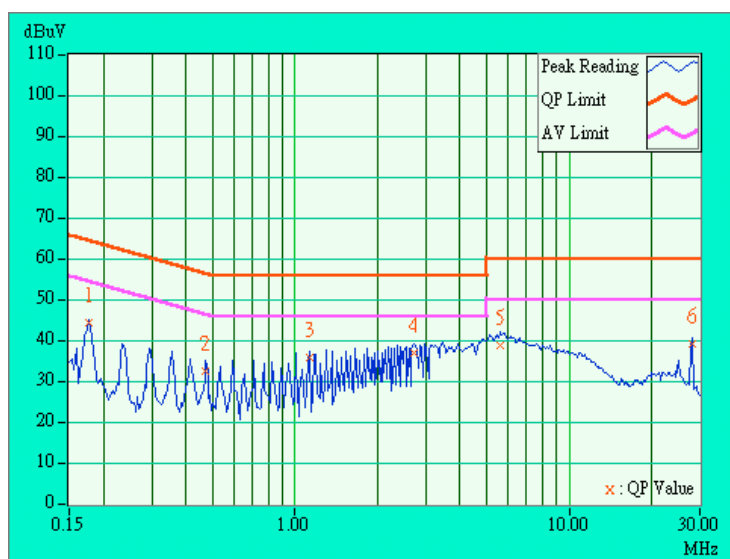


<b>EUT</b>	Tablet PC	<b>MODEL</b>	GTP-100
<b>MODE</b>	Channel 11	<b>6dB BANDWIDTH</b>	10 kHz
<b>INPUT POWER (SYSTEM)</b>	120Vac, 60 Hz	<b>PHASE</b>	Neutral (N)
<b>ENVIRONMENTAL CONDITIONS</b>	25 deg. C, 60%RH, 991 hPa	<b>TESTED BY:</b> Gary Chang	

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	0.177	0.10	44.26	-	44.36	-	64.63	54.63	-20.27	-
2	0.471	0.10	32.69	-	32.79	-	56.50	46.50	-23.71	-
3	1.125	0.10	35.95	-	36.05	-	56.00	46.00	-19.95	-
4	2.727	0.17	36.99	-	37.16	-	56.00	46.00	-18.84	-
5	5.630	0.33	39.04	-	39.37	-	60.00	50.00	-20.63	-
6	28.223	0.96	39.41	-	40.37	-	60.00	50.00	-19.63	-

**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

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. 01, 2003
* 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. 22, 2003
* CHASE BILOG Antenna	CBL6112A	2221	Aug. 2, 2003
* SCHWARZBECK Horn Antenna	BBHA9120-D1	D130	July 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	Jul. 11, 2003
* TIMES RF cable	LMR-600	CABLE-ST5-01	Jul. 11, 2003

**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. "\*" = These equipment are used for the final measurement.
3. The horn antenna and HP preamplifier (model: 8449B) are used only for the measurement of emission frequency above 1GHz if tested.
4. The test was performed in ADT Open Site No. 5.
5. The VCCI Site Registration No. is R-1039.



#### 4.2.3 TEST PROCEDURES

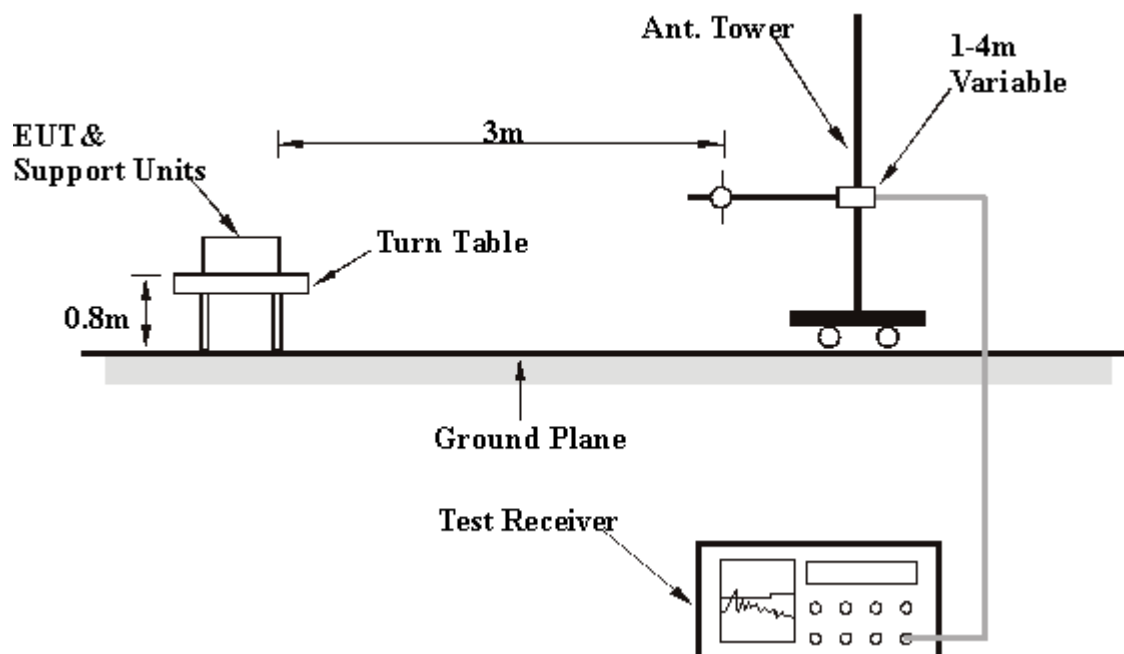
- a. The EUT was placed on the top of a rotating table 0.8 meters above the ground at a 10 meter open area test site. The table was rotated 360 degrees to determine the position of the highest radiation.
- b. The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on 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 300 Hz for Average detection (AV) at frequency above 1GHz.



#### 4.2.4 TEST SETUP



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

#### 4.2.5 EUT OPERATING CONDITIONS

Same as 4.1.5

## 4.2.6 TEST RESULTS

<b>EUT</b>	Tablet PC	<b>MODEL</b>	GTP-100
<b>MODE</b>	Channel 11	<b>FREQUENCY RANGE</b>	Below 1000 MHz
<b>INPUT POWER (SYSTEM)</b>	120Vac, 60 Hz	<b>DETECTOR FUNCTION</b>	Quasi-Peak
<b>ENVIRONMENTAL CONDITIONS</b>	20 deg. C, 70 % RH, 1050 hPa	<b>TESTED BY:</b> Gary Chang	

<b>ANTENNA POLARITY &amp; TEST DISTANCE: HORIZONTAL AT 3 M</b>											
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	52.13	31.0 QP	40.00	-9.00	1.19H	101	21.20	9.04	0.72	0.00	-9.76
2	239.60	32.9 QP	46.00	-13.10	1.14H	317	20.00	11.27	1.61	0.00	-12.87
3	260.35	32.7 QP	46.00	-13.30	1.18H	208	18.00	13.03	1.69	0.00	-14.72
4	279.60	33.5 QP	46.00	-12.50	1.10H	322	19.00	12.71	1.77	0.00	-14.47
5	300.13	31.1 QP	46.00	-14.90	1.22H	279	16.00	13.18	1.88	0.00	-15.06
6	340.58	31.7 QP	46.00	-14.30	1.16H	234	15.70	14.02	2.01	0.00	-16.03
7	352.00	32.4 QP	46.00	-13.60	1.10H	194	16.00	14.31	2.05	0.00	-16.36
8	366.80	35.0 QP	46.00	-11.00	1.04H	121	18.00	14.86	2.11	0.00	-16.96
9	400.18	35.8 QP	46.00	-10.20	1.00H	79	17.50	16.11	2.24	0.00	-18.36
10	440.00	37.3 QP	46.00	-8.70	1.13H	28	18.60	16.32	2.38	0.00	-18.70
11	459.80	36.8 QP	46.00	-9.20	1.18H	23	17.80	16.53	2.43	0.00	-18.97
12	500.25	38.2 QP	46.00	-7.80	1.23H	151	18.40	17.26	2.50	0.00	-19.77
13	600.50	36.4 QP	46.00	-9.60	1.18H	202	15.00	18.61	2.83	0.00	-21.45
14	700.34	36.5 QP	46.00	-9.50	1.22H	258	14.00	19.31	3.15	0.00	-22.47
15	738.25	35.2 QP	46.00	-10.80	1.27H	302	12.00	19.97	3.23	0.00	-23.21
16	778.69	34.8 QP	46.00	-11.20	1.31H	300	11.00	20.48	3.30	0.00	-23.77
17	800.55	34.0 QP	46.00	-12.00	1.35H	240	10.00	20.69	3.32	0.00	-24.01
18	836.80	33.0 QP	46.00	-13.00	1.30H	196	9.00	20.53	3.46	0.00	-23.99
19	900.50	32.8 QP	46.00	-13.20	1.34H	152	8.40	20.80	3.58	0.00	-24.39
20	976.80	35.1 QP	54.00	-18.90	1.38H	103	10.00	21.29	3.80	0.00	-25.09
21	994.40	34.2 QP	54.00	-19.80	1.38H	61	9.00	21.35	3.81	0.00	-25.15

**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.



<b>EUT</b>	Tablet PC	<b>MODEL</b>	GTP-100
<b>MODE</b>	Channel 11	<b>FREQUENCY RANGE</b>	Below 1000 MHz
<b>INPUT POWER (SYSTEM)</b>	120Vac, 60 Hz	<b>DETECTOR FUNCTION</b>	Quasi-Peak
<b>ENVIRONMENTAL CONDITIONS</b>	20 deg. C, 70 % RH, 1050 hPa	<b>TESTED BY:</b> Gary Chang	

<b>ANTENNA POLARITY &amp; TEST DISTANCE: VERTICAL AT 3 M</b>											
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	220.30	29.6 QP	46.00	-16.40	1.32V	67	18.00	10.12	1.51	0.00	-11.63
2	239.50	29.9 QP	46.00	-16.10	1.37V	90	17.00	11.27	1.61	0.00	-12.87
3	260.13	33.1 QP	46.00	-12.90	1.32V	149	18.40	13.03	1.69	0.00	-14.72
4	300.00	32.1 QP	46.00	-13.90	1.23V	193	17.00	13.18	1.88	0.00	-15.06
5	352.00	33.6 QP	46.00	-12.40	1.18V	236	17.20	14.31	2.05	0.00	-16.36
6	396.00	34.9 QP	46.00	-11.10	1.12V	283	16.70	15.96	2.22	0.00	-18.18
7	400.00	33.3 QP	46.00	-12.70	1.17V	338	15.00	16.11	2.24	0.00	-18.35
8	440.00	34.7 QP	46.00	-11.30	1.13V	338	16.00	16.32	2.38	0.00	-18.69
9	479.80	34.3 QP	46.00	-11.70	1.06V	296	15.00	16.87	2.46	0.00	-19.34
10	484.00	33.4 QP	46.00	-12.60	1.02V	244	14.00	16.96	2.47	0.00	-19.43
11	500.00	35.8 QP	46.00	-10.20	1.16V	196	16.00	17.26	2.50	0.00	-19.76
12	528.00	36.6 QP	46.00	-9.40	1.20V	141	16.40	17.62	2.60	0.00	-20.23
13	538.75	35.4 QP	46.00	-10.60	1.23V	94	15.00	17.79	2.64	0.00	-20.44
14	538.75	36.4 QP	46.00	-9.60	1.19V	148	16.00	17.79	2.64	0.00	-20.44
15	596.00	36.4 QP	46.00	-9.60	1.24V	195	15.00	18.54	2.82	0.00	-21.37
16	600.50	35.4 QP	46.00	-10.60	1.28V	234	14.00	18.61	2.83	0.00	-21.44
17	639.25	36.3 QP	46.00	-9.70	1.28V	267	14.20	19.09	2.98	0.00	-22.07
18	738.40	35.2 QP	46.00	-10.80	1.33V	318	12.00	19.97	3.23	0.00	-23.21
19	777.30	36.2 QP	46.00	-9.80	1.55V	257	12.50	20.45	3.29	0.00	-23.75
20	795.60	35.0 QP	46.00	-11.00	1.59V	208	11.00	20.65	3.32	0.00	-23.97
21	836.20	34.4 QP	46.00	-11.60	1.17V	125	10.40	20.54	3.45	0.00	-23.99
22	836.20	34.0 QP	46.00	-12.00	1.64V	163	10.00	20.54	3.45	0.00	-23.99
23	878.00	34.4 QP	46.00	-11.60	1.46V	57	10.20	20.66	3.55	0.00	-24.22
24	900.60	34.8 QP	46.00	-11.20	1.46V	110	10.40	20.80	3.58	0.00	-24.39

**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. The other emission levels were very low against the limit.

<b>EUT</b>	Tablet PC	<b>MODEL</b>	GTP-100
<b>MODE</b>	Channel 1	<b>FREQUENCY RANGE</b>	Above 1000 MHz
<b>INPUT POWER (SYSTEM)</b>	120Vac, 60 Hz	<b>DETECTOR FUNCTION</b>	Peak(PK) Average (AV)
<b>ENVIRONMENTAL CONDITIONS</b>	20 deg. C, 70 % RH, 1050 hPa	<b>TESTED BY:</b> 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	2038.00	48.2 PK	74.00	-25.80	1.89H	357	53.00	25.20	4.86	34.90	4.84
2	*2413.00	104.6 PK	-	-	1.43H	126	72.40	27.11	5.10	0.00	-32.21
3	*2413.00	98.6 AV	-	-	1.43H	126	66.40	27.11	5.10	0.00	-32.21
4	4076.00	47.8 PK	74.00	-26.20	1.43H	354	45.40	30.13	6.78	34.52	-2.39
5	4824.00	49.2 PK	74.00	-24.80	1.23H	19	45.20	31.43	7.23	34.63	-4.03

#### 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	2038.00	47.2 PK	74.00	-26.80	1.12V	355	52.00	25.20	4.86	34.90	4.84
2	*2413.00	106.2 PK	-	-	1.36V	276	74.00	27.11	5.10	0.00	-32.21
3	*2413.00	99.2 AV	-	-	1.36V	276	67.00	27.11	5.10	0.00	-32.21
4	4076.00	47.5 PK	74.00	-26.50	1.08V	338	45.10	30.13	6.78	34.52	-2.39
5	4824.00	49.0 PK	74.00	-25.00	1.31V	21	45.00	31.43	7.23	34.63	-4.03

#### NOTE:

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



<b>EUT</b>	Tablet PC	<b>MODEL</b>	GTP-100
<b>MODE</b>	Channel 6	<b>FREQUENCY RANGE</b>	Above 1000 MHz
<b>INPUT POWER (SYSTEM)</b>	120Vac, 60 Hz	<b>DETECTOR FUNCTION</b>	Peak(PK) Average (AV)
<b>ENVIRONMENTAL CONDITIONS</b>	20 deg. C, 55 % RH, 1050 hPa	<b>TESTED BY:</b> 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	2063.00	46.5 PK	74.00	-27.50	1.30H	68	51.00	25.41	4.96	34.90	4.53
2	*2438.50	110.9 PK	-	-	1.14H	301	78.50	27.33	5.08	0.00	-32.40
3	*2438.50	104.4 AV	-	-	1.14H	301	72.00	27.33	5.08	0.00	-32.40
4	4126.00	48.5 PK	74.00	-25.50	1.80H	351	46.00	30.32	6.70	34.56	-2.46
5	4874.00	49.3 PK	74.00	-24.70	1.54H	45	45.20	31.47	7.21	34.63	-4.06

#### 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	2063.00	49.7 PK	74.00	-24.30	1.30V	358	54.20	25.41	4.96	34.90	4.53
2	*2438.50	108.9 PK	-	-	1.23V	5	76.50	27.33	5.08	0.00	-32.40.
3	*2438.50	102.4 AV	-	-	1.23V	5	70.00	27.33	5.08	0.00	-32.40.
4	4126.00	49.5 PK	74.00	-24.50	1.12V	284	47.00	30.32	6.70	34.56	-2.46
5	4874.00	50.1 PK	74.00	-23.90	1.24V	344	46.00	31.47	7.21	34.63	-4.05

#### 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. " \* " : Fundamental frequency
5. The other emission levels were very low against the limit.

<b>EUT</b>	Tablet PC	<b>MODEL</b>	GTP-100
<b>MODE</b>	Channel 11	<b>FREQUENCY RANGE</b>	Above 1000 MHz
<b>INPUT POWER (SYSTEM)</b>	120Vac, 60 Hz	<b>DETECTOR FUNCTION</b>	Peak(PK) Average (AV)
<b>ENVIRONMENTAL CONDITIONS</b>	20 deg. C, 55 % RH, 1050 hPa	<b>TESTED BY:</b> 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	2088.00	46.7 PK	74.00	-27.30	1.44H	36	51.00	25.62	5.02	34.90	4.26
2	*2463.00	108.4 PK	-	-	1.74H	355	76.00	27.33	5.08	0.00	-32.40
3	*2463.00	100.9 AV	-	-	1.74H	355	68.50	27.33	5.08	0.00	-32.40
4	2488.00	47.9 PK	74.00	-26.10	1.28H	347	50.20	27.54	5.06	34.90	2.31
5	4176.00	49.0 PK	74.00	-25.00	1.80H	155	46.50	30.41	6.68	34.58	-2.51
6	4924.00	49.8 PK	74.00	-24.20	1.68H	40	45.70	31.51	7.21	34.62	-4.10

#### 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	2088.00	45.7 PK	74.00	-28.30	1.26V	332	50.00	25.62	5.02	34.90	4.26
2	*2463.00	107.9 PK	-	-	1.07V	6	75.47	27.33	5.08	0.00	-32.40.
3	*2463.00	100.4 AV	-	-	1.07V	6	68.00	27.33	5.08	0.00	-32.40.
4	2492.00	47.8 PK	74.00	-26.20	1.11V	242	50.10	27.54	5.06	34.90	2.31
5	4176.00	49.5 PK	74.00	-24.50	1.07V	247	47.00	30.41	6.68	34.58	-2.51
6	4924.00	49.5 PK	74.00	-24.50	1.60V	112	45.40	31.51	7.21	34.62	-4.10

#### NOTE:

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

### 4.3 6dB BANDWIDTH MEASUREMENT

#### 4.3.1 LIMITS OF 6dB BANDWIDTH MEASUREMENT

The minimum of 6dB Bandwidth Measurement is 0.5 MHz.

#### 4.3.2 TEST INSTRUMENTS

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

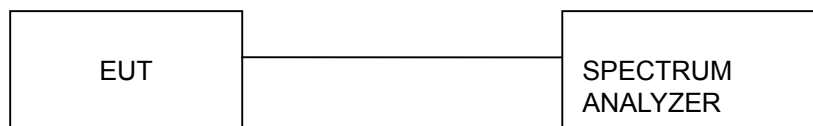
**NOTE:**

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 through an attenuator. The bandwidth of the fundamental frequency was measured by spectrum analyzer with 100 kHz RBW and 100 kHz VBW. The 6 dB bandwidth is defined as the total spectrum the power of which is higher than peak power minus 6 dB.

#### 4.3.4 TEST SETUP



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

#### 4.3.5 EUT OPERATING CONDITIONS

The software provided by client to enable the EUT under transmission condition continuously at lowest, middle and highest channel frequencies individually.



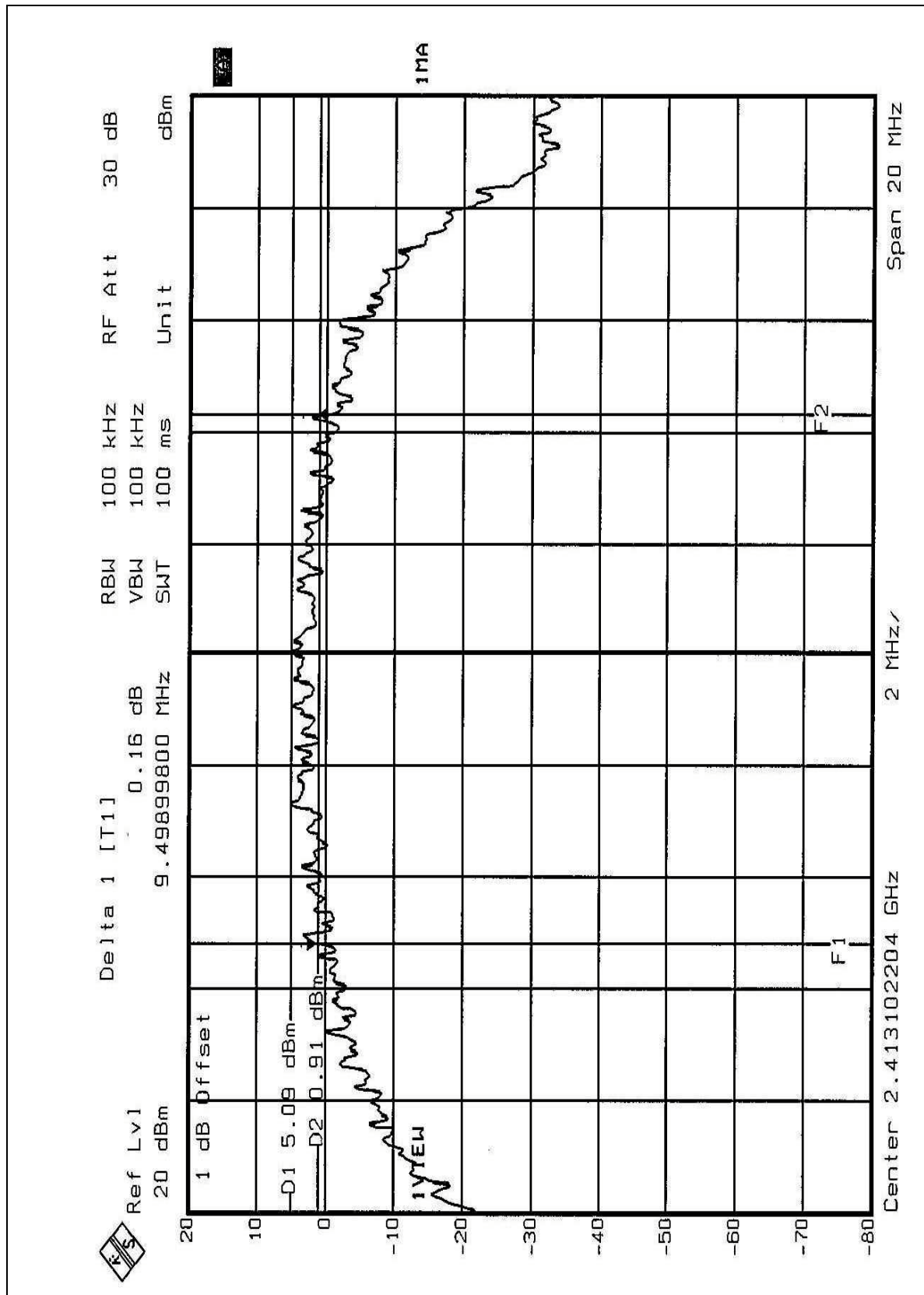


## 4.3.6 TEST RESULTS

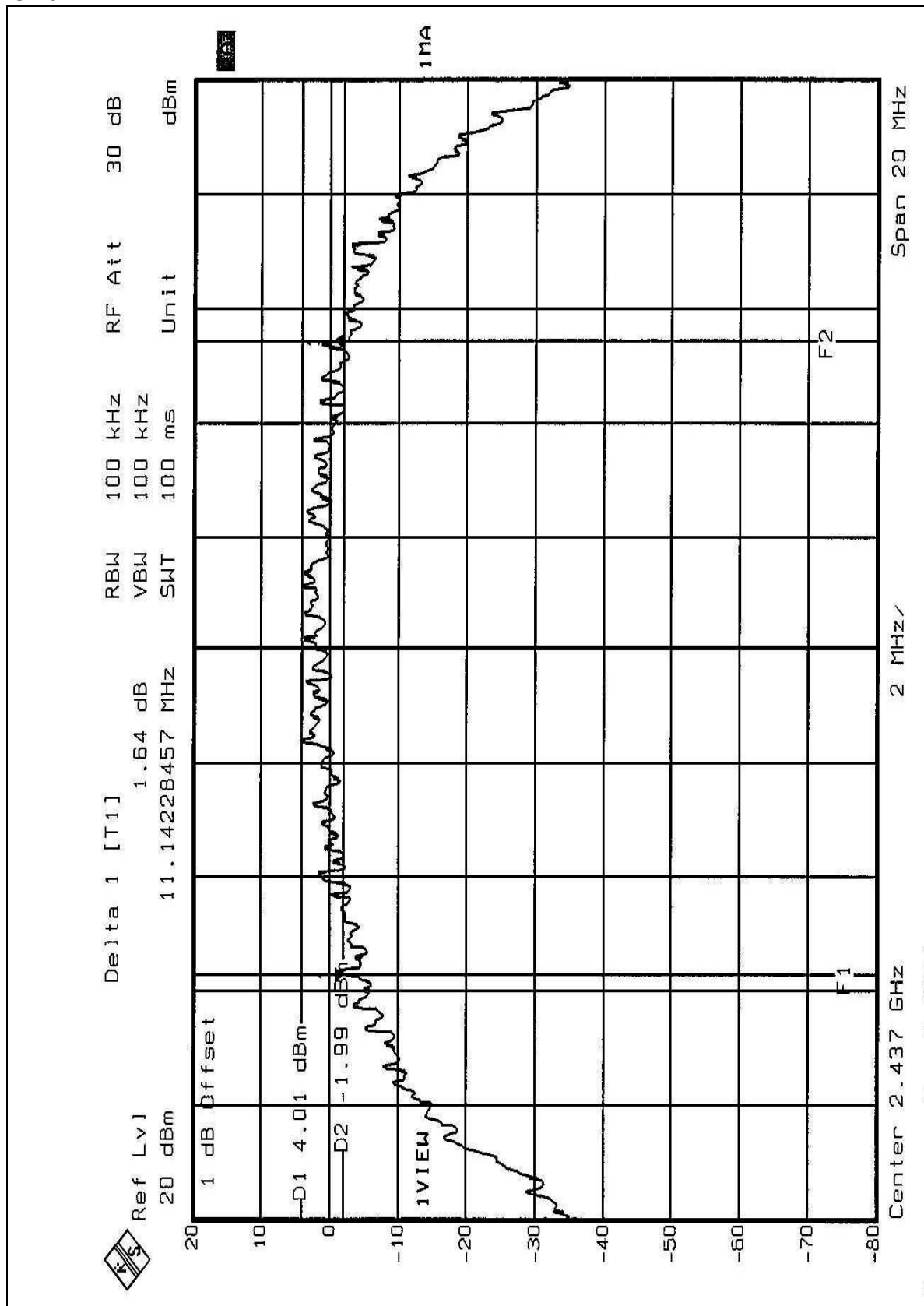
<b>EUT</b>	Tablet PC	<b>MODEL</b>	GTP-100
<b>INPUT POWER (SYSTEM)</b>	120Vac, 60 Hz	<b>ENVIRONMENTAL CONDITIONS</b>	25 deg. C, 54%RH, 1005 hPa
<b>TESTED BY:</b> Steven Lu			

<b>CHANNEL</b>	<b>CHANNEL FREQUENCY (MHz)</b>	<b>6 dB BANDWIDTH (MHz)</b>	<b>MINIMUM LIMIT (MHz)</b>	<b>PASS/FAIL</b>
1	2412	9.50	0.5	PASS
6	2437	11.14	0.5	PASS
11	2462	11.30	0.5	PASS

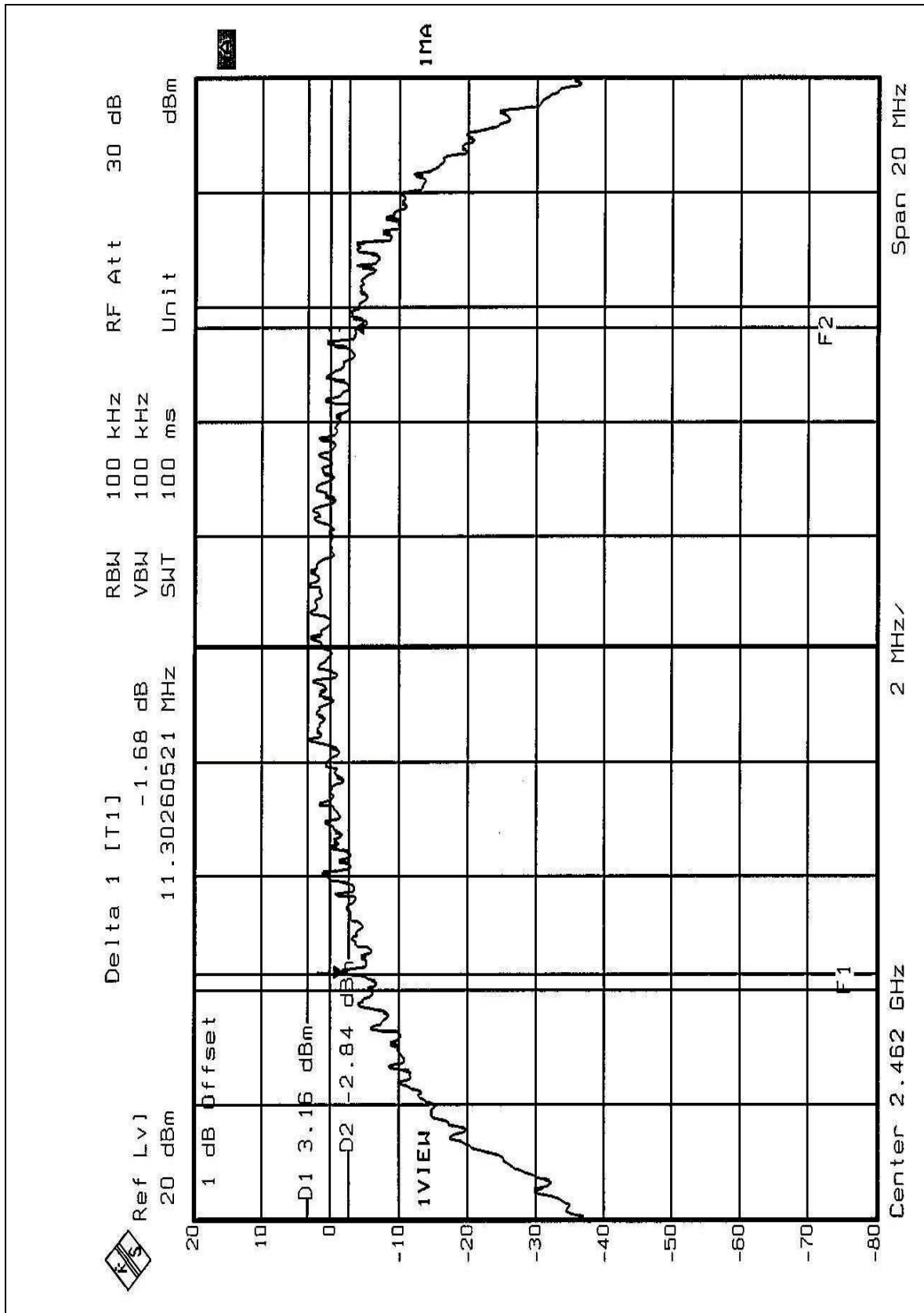
CH1



CH6



CH11



#### 4.4 MAXIMUM PEAK OUTPUT POWER

##### 4.4.1 LIMITS OF MAXIMUM PEAK OUTPUT POWER MEASUREMENT

The Maximum Peak Output Power Measurement is 30dBm.

##### 4.4.2 TEST INSTRUMENTS

Description & Manufacturer	Model No.	Serial No.	Calibrated Until
SINGLE CHANNEL POWER METER	NRVS	100026	Mar. 6, 2004
PEAK POWER SENSOR	NRV-Z32	100013	Mar. 6, 2004

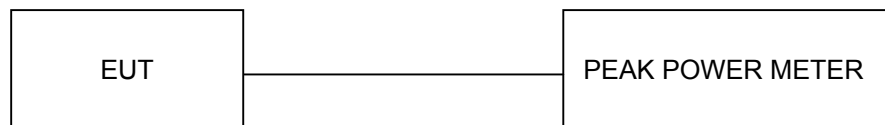
**NOTE:**

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

#### 4.4.3 TEST PROCEDURES

The transmitter output was connected to the peak power meter.

#### 4.4.4 TEST SETUP



#### 4.4.5 EUT OPERATING CONDITIONS

Same as Item 4.3.5

## 4.4.6 TEST RESULTS

<b>EUT</b>	Tablet PC	<b>MODEL</b>	GTP-100
<b>INPUT POWER (SYSTEM)</b>	120Vac, 60 Hz	<b>ENVIRONMENTAL CONDITIONS</b>	25 deg. C, 54%RH, 1005 hPa
<b>TESTED BY:</b> Steven Lu			

<b>CHANNEL</b>	<b>CHANNEL FREQUENCY (MHz)</b>	<b>PEAK POWER OUTPUT (dBm)</b>	<b>PEAK POWER LIMIT (dBm)</b>	<b>PASS/FAIL</b>
1	2412	16.12	30	PASS
6	2437	15.89	30	PASS
11	2462	15.03	30	PASS

#### 4.5 POWER SPECTRAL DENSITY MEASUREMENT

##### 4.5.1 LIMITS OF POWER SPECTRAL DENSITY MEASUREMENT

The Maximum of Power Spectral Density Measurement is 8dBm.

##### 4.5.2 TEST INSTRUMENTS

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

**NOTE:**

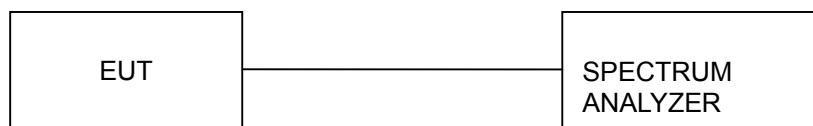
The calibration interval of the above test instruments is 12 months and the calibrations are traceable to NML/ROC and NIST/USA.



#### 4.5.3 TEST PROCEDURE

The transmitter output was connected to the spectrum analyzer through an attenuator, the bandwidth of the fundamental frequency was measured with the spectrum analyzer using 3 kHz RBW and 30 kHz VBW, set sweep time=span/3kHz. The power spectral density was measured and recorded. The sweep time is allowed to be longer than span/3KHz for a full response of the mixer in the spectrum analyzer.

#### 4.5.4 TEST SETUP



#### 4.5.5 EUT OPERATING CONDITIONS

Same as 4.3.5

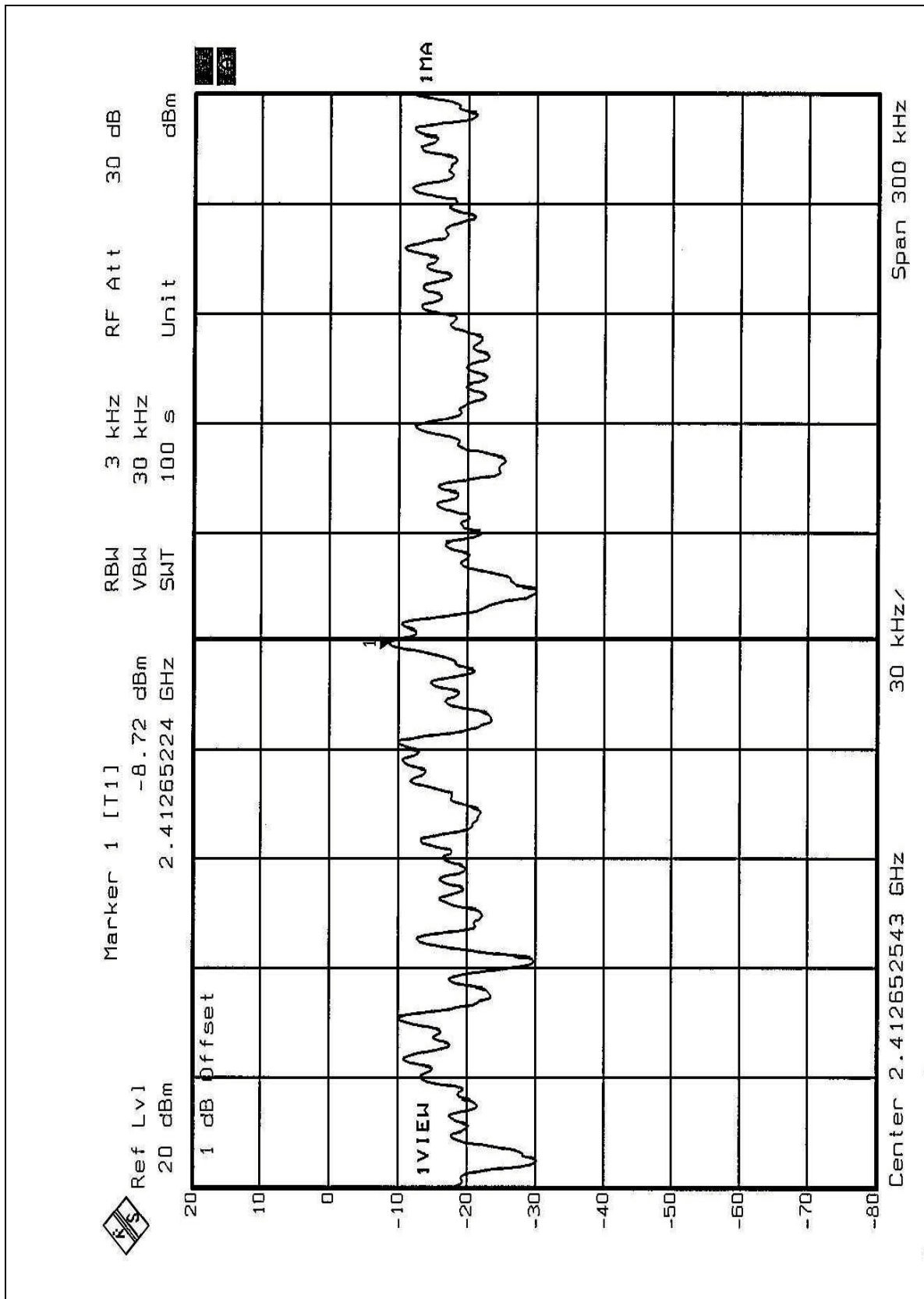


## 4.5.6 TEST RESULTS

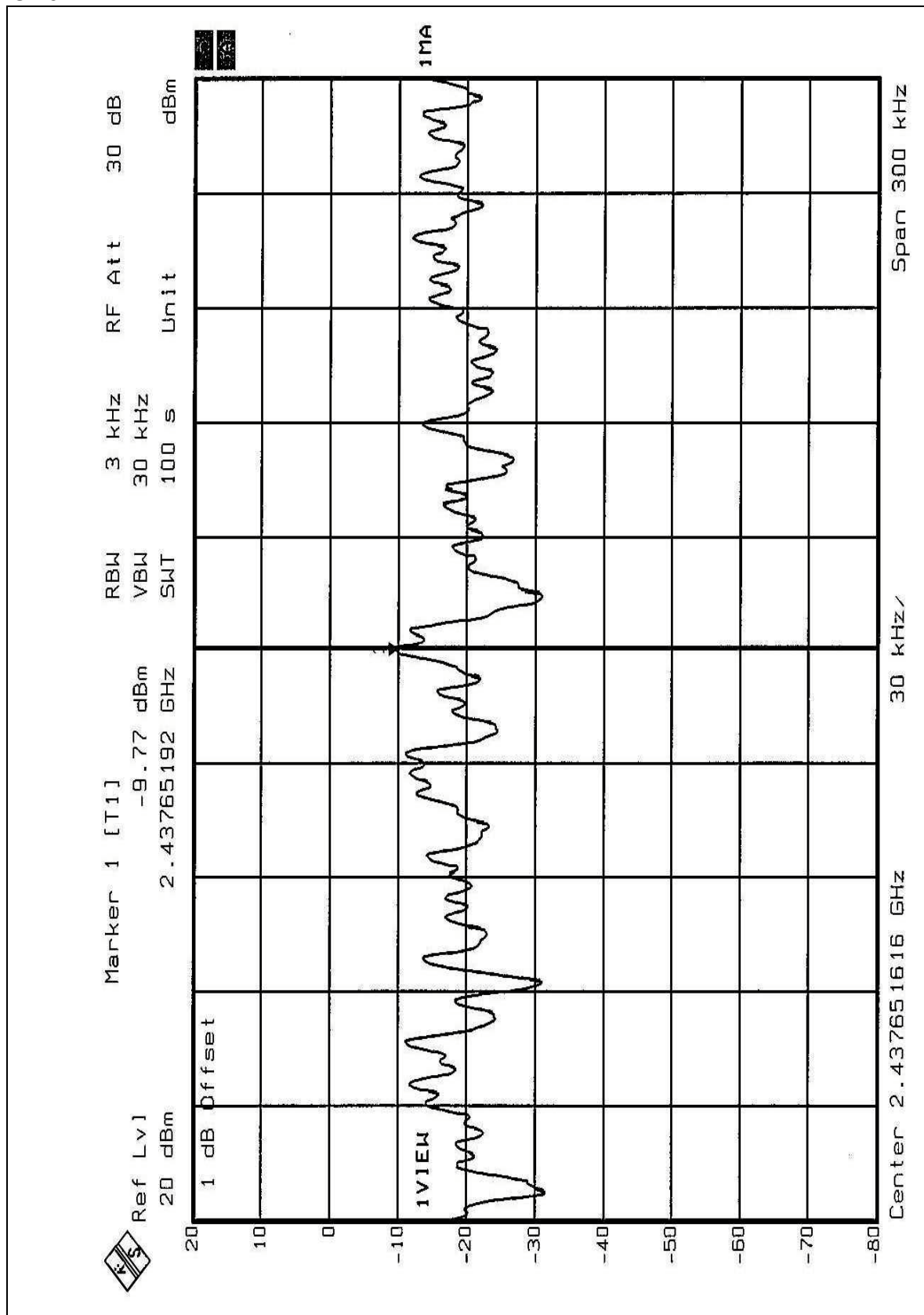
<b>EUT</b>	Tablet PC	<b>MODEL</b>	GTP-100
<b>INPUT POWER (SYSTEM)</b>	120Vac, 60 Hz	<b>ENVIRONMENTAL CONDITIONS</b>	25 deg. C, 54%RH, 1005 hPa
<b>TESTED BY:</b> Steven Lu			

<b>CHANNEL NUMBER</b>	<b>CHANNEL FREQUENCY (MHz )</b>	<b>RF POWER LEVEL IN 3 KHz BW (dBm)</b>	<b>MAXIMUM LIMIT (dBm)</b>	<b>PASS/FAIL</b>
1	2412	-8.72	8	PASS
6	2437	-9.77	8	PASS
11	2462	-10.54	8	PASS

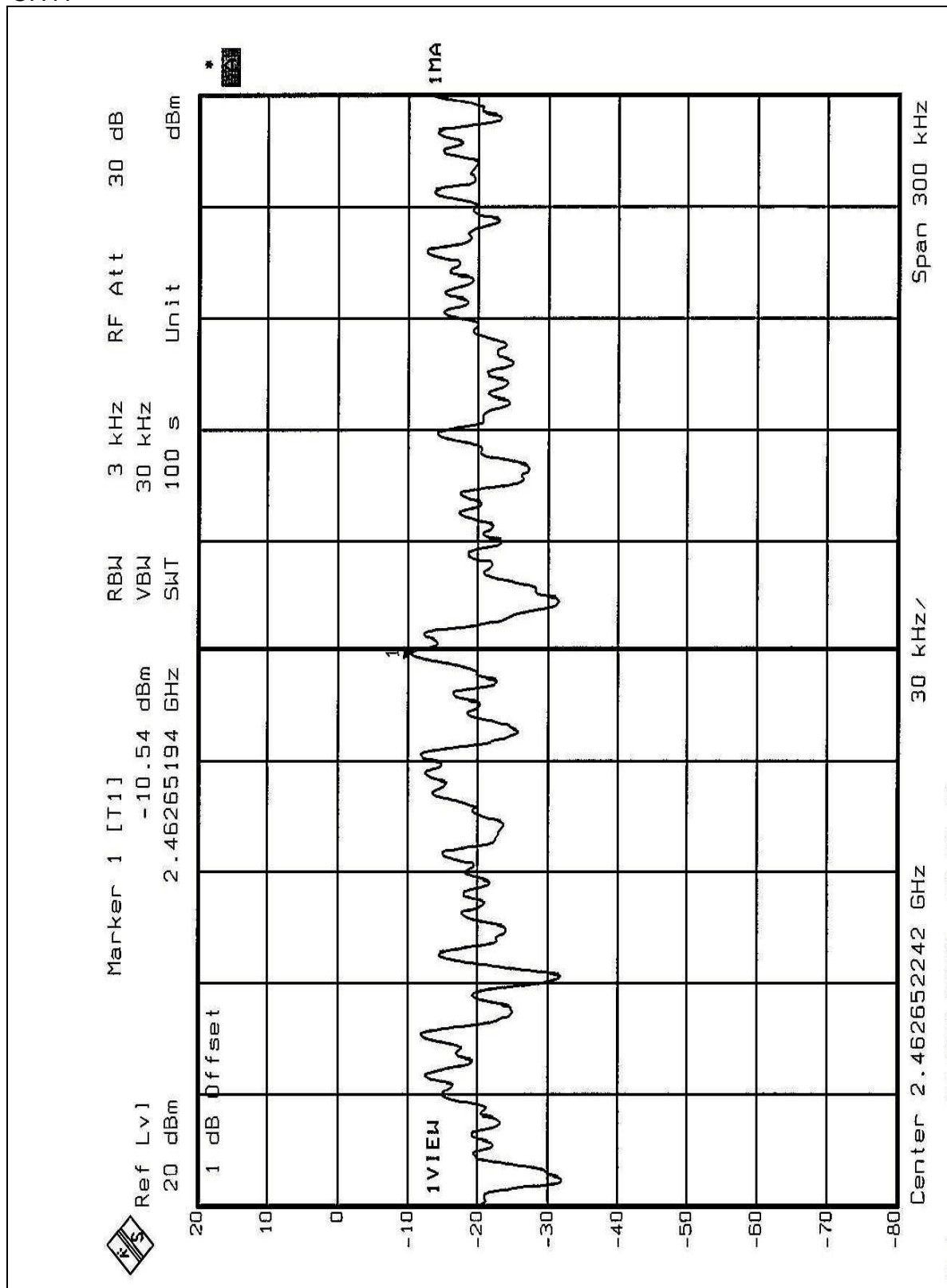
CH1



CH6



CH11



## 4.6 BAND EDGES MEASUREMENT

### 4.6.1 LIMITS OF BAND EDGES MEASUREMENT

Below -20dB of the highest emission level of operating band (in 100KHz Resolution Bandwidth).

### 4.6.2 TEST INSTRUMENTS

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

**NOTE:**

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

### 4.6.3 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 with suitable frequency span including 100 kHz bandwidth from band edge. The band edges were measured and recorded.



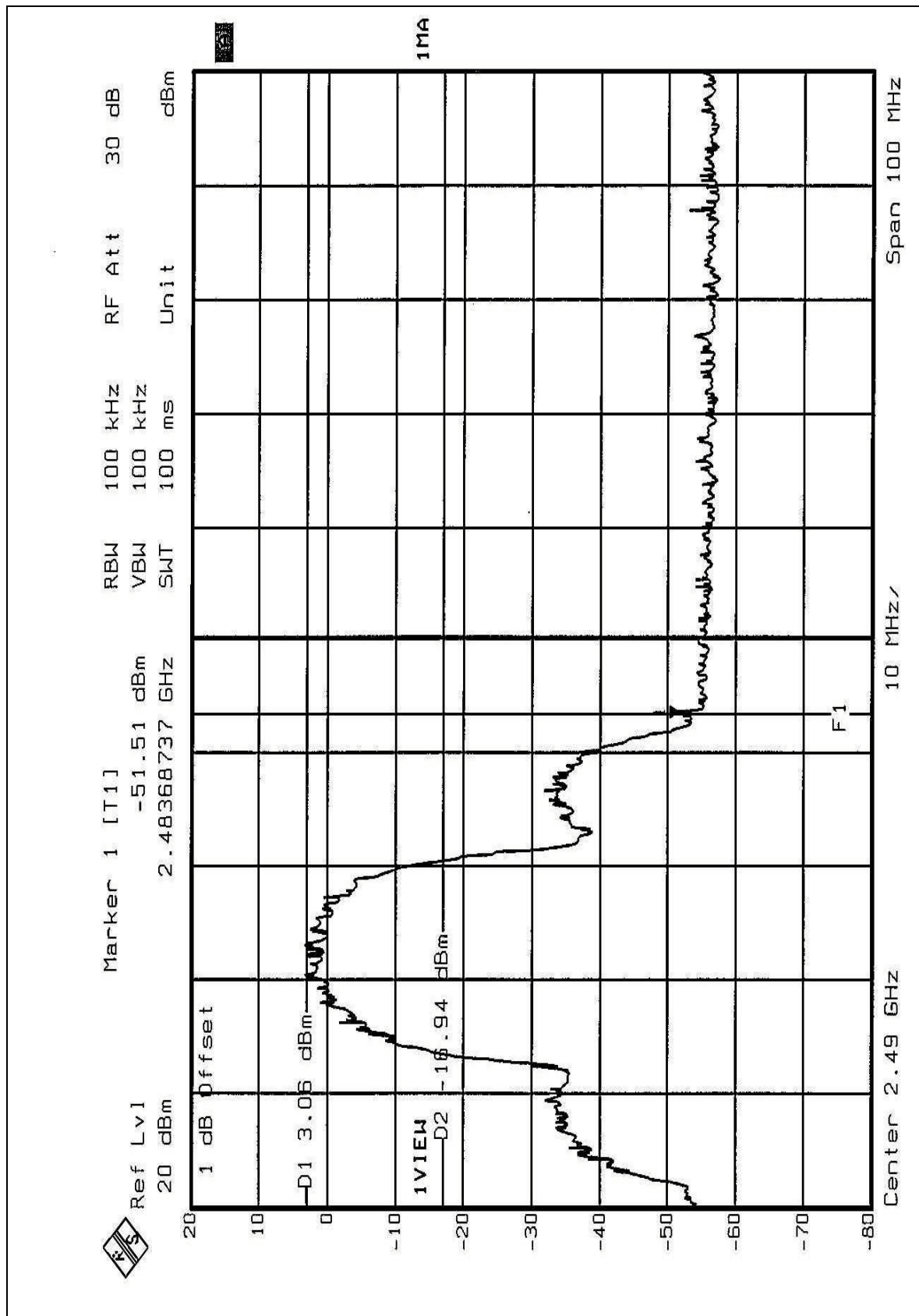
#### 4.6.4 EUT OPERATING CONDITION

Same as Item 4.3.5

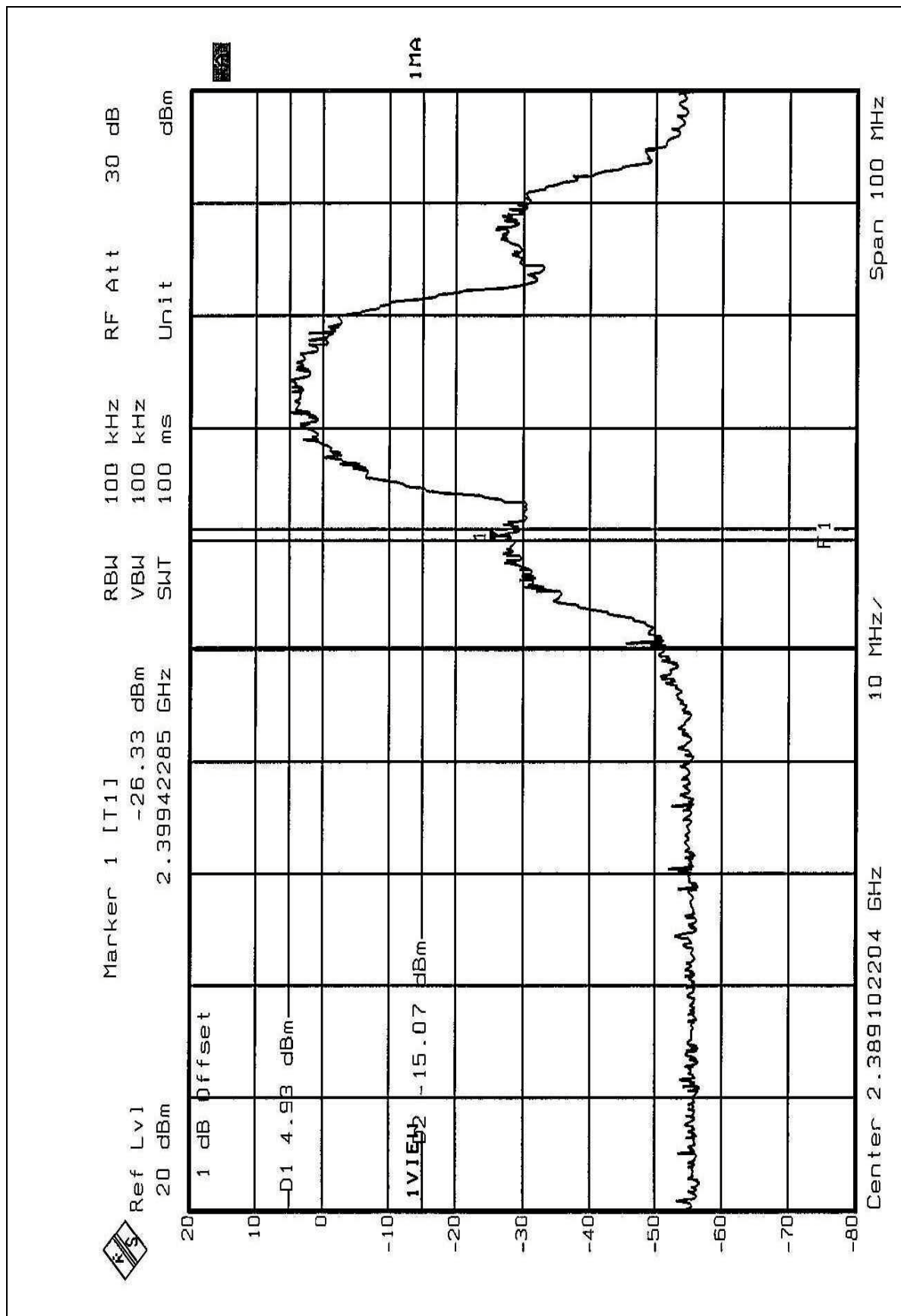
#### 4.6.5 TEST RESULTS

The spectrum plots are attached on the following 2 pages. D2 line indicates the highest level, D1 line indicates the 20dB offset below D2. It shows compliance with the requirement in part 15.247(C).

**NOTE:** The band edge emission plot on the following 2 pages shows 54.57dB / 49.93 delta between carrier maximum power and local maximum emission in restrict band (2.4837GHz / 2.3900). The emission of carrier strength list in the test result of channel 11 at the item 4.2.6 (Page 26) is 100.9dBuV/m, so the maximum field strength in restrict band is  $100.9 - 54.57 = 46.33$  dBuV/m which is under 54 dBuV/m limit.









## **4.7 ANTENNA REQUIREMENT**

### **4.7.1 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.

And according to FCC 47 CFR Section 15.247 (b), if transmitting antennas of directional gain greater than 6dBi are used, the power shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6dBi.

### **4.7.2 ANTENNA CONNECTED CONSTRUCTION**

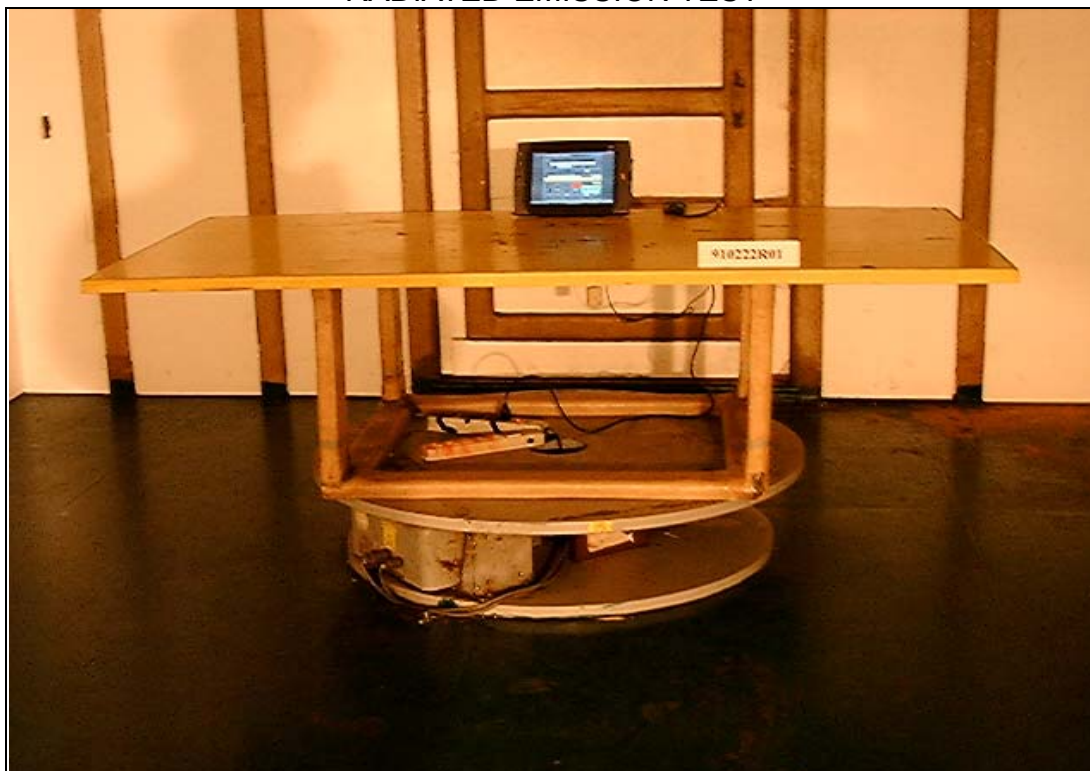
The antenna used in this product is Dipole Antenna with UFL antenna connector. And the maximum Gain of this antenna is only 0dBi.

## 5 PHOTOGRAPHS OF THE TEST CONFIGURATION

### CONDUCTED EMISSION TEST



## RADIATED EMISSION TEST





## 6 INFORMATION ON THE TESTING LABORATORIES

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

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

Copies of accreditation certificates of our laboratories obtained from approval agencies can be downloaded from our web site:

[www.adt.com.tw/index.5/phtml](http://www.adt.com.tw/index.5/phtml).

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**Hsin Chu EMC Lab:**

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Fax: 886-3-3270892

**Email:** [service@mail.adt.com.tw](mailto:service@mail.adt.com.tw)

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

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