



FCC TEST REPORT

REPORT NO.: RF931027H08

MODEL NO.: T60N871

RECEIVED: Oct. 29, 2004

TESTED: Nov. 05 to 07, 2004

ISSUED: Nov. 11, 2004

APPLICANT: HON HAI PRECISION IND. CO., LTD.
HSINCHU SCIENCE PARK BRANCH OFFICE

ADDRESS: 5F-1,5 Hsin-An Road Hsinchu, Science-Based
Industrial Park Taiwan, R.O.C.

ISSUED BY: Advance Data Technology Corporation

LAB LOCATION: No. 81-1, Lu Liao Keng, 9 Ling, Wu Lung Tsuen,
Chiung Lin Hsiang, Hsin Chu Hsien,
Taiwan, R.O.C.

This test report consists of 61 pages in total. It may be duplicated completely for legal use with the approval of the applicant. It should not be reproduced except in full, without the written approval of our laboratory. The client should not use it to claim product endorsement by CNLA, A2LA or any government agencies. The test results in the report only apply to the tested sample. The test results in this report are traceable to the national or international standards.



0536
ILAC MRA



No. 2177-01

Table of Contents

1	CERTIFICATION	4
2	SUMMARY OF TEST RESULTS.....	5
3	GENERAL INFORMATION	6
3.1	GENERAL DESCRIPTION OF EUT.....	6
3.2	DESCRIPTION OF TEST MODES.....	7
3.3	GENERAL DESCRIPTION OF APPLIED STANDARDS	7
3.4	DESCRIPTION OF SUPPORT UNITS.....	8
3.5	CONFIGURATION OF SYSTEM UNDER TEST	8
4	TEST TYPES AND RESULTS.....	9
4.1	CONDUCTED EMISSION MEASUREMENT	9
4.1.1	LIMITS OF CONDUCTED EMISSION MEASUREMENT	9
4.1.2	TEST INSTRUMENTS	9
4.1.3	TEST PROCEDURES.....	10
4.1.4	TEST SETUP	10
4.1.5	EUT OPERATING CONDITIONS.....	11
4.1.6	TEST RESULTS.....	12
4.2	RADIATED EMISSION MEASUREMENT	14
4.2.1	LIMITS OF RADIATED EMISSION MEASUREMENT	14
4.2.2	TEST INSTRUMENTS	15
4.2.3	TEST PROCEDURES.....	16
4.2.4	TEST SETUP	17
4.2.5	EUT OPERATING CONDITIONS.....	17
4.2.6	TEST RESULTS.....	18
4.2.7	TEST RESULTS - DSSS.....	19
4.2.8	TEST RESULTS -OFDM	22
4.3	6DB BANDWIDTH MEASUREMENT.....	25
4.3.1	LIMITS OF 6DB BANDWIDTH MEASUREMENT	25
4.3.2	TEST INSTRUMENTS	25
4.3.3	TEST PROCEDURE	26
4.3.4	TEST SETUP	26
4.3.5	EUT OPERATING CONDITIONS.....	26
4.3.6	TEST RESULTS-DSSS.....	27
4.3.7	TEST RESULTS-OFDM	31
4.4	MAXIMUM PEAK OUTPUT POWER	35
4.4.1	LIMITS OF MAXIMUM PEAK OUTPUT POWER MEASUREMENT	35
4.4.2	TEST INSTRUMENTS	35
4.4.3	TEST PROCEDURES.....	36
4.4.4	TEST SETUP	36
4.4.5	EUT OPERATING CONDITIONS.....	36



4.4.6	TEST RESULTS - DSSS.....	37
4.4.7	TEST RESULTS - OFDM	38
4.5	POWER SPECTRAL DENSITY MEASUREMENT	39
4.5.1	LIMITS OF POWER SPECTRAL DENSITY MEASUREMENT	39
4.5.2	TEST INSTRUMENTS	39
4.5.3	TEST PROCEDURE	40
4.5.4	TEST SETUP	40
4.5.5	EUT OPERATING CONDITIONS.....	40
4.5.6	TEST RESULTS-DSSS.....	41
4.5.7	TEST RESULTS-OFDM	45
4.6	BAND EDGES MEASUREMENT	49
4.6.1	LIMITS OF BAND EDGES MEASUREMENT	49
4.6.2	TEST INSTRUMENTS	49
4.6.3	TEST PROCEDURE	49
4.6.4	EUT OPERATING CONDITION	49
4.6.5	TEST RESULTS - DSSS.....	50
4.6.6	TEST RESULTS -OFDM	53
4.7	ANTENNA REQUIREMENT	56
4.7.1	STANDARD APPLICABLE	56
4.7.2	ANTENNA CONNECTED CONSTRUCTION.....	56
5	PHOTOGRAPHS OF THE TEST CONFIGURATION.....	57
6	INFORMATION ON THE TESTING LABORATORIES	61



1 CERTIFICATION

PRODUCT : 802.11b/g Mini-PCI
BRAND NAME : FOXCONN
MODEL NO. : T60N871
TESTED: Nov. 05 to 07, 2004
APPLICANT : HON HAI PRECISION IND. CO., LTD.
HSINCHU SCIENCE PARK BRANCH OFFICE
TEST ITEM: ENGINEERING SAMPLE
STANDARDS : 47 CFR Part 15, Subpart C (Section 15.247),
ANSI C63.4-2003

The above equipment (Model: T60N871) 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 : Carol Liao **DATE:** Nov. 11, 2004
(Carol Liao)

TECHNICAL
ACCEPTANCE : Hank Chung **DATE:** Nov. 11, 2004
Responsible for RF (Hank Chung)

APPROVED BY : Eric Lin **DATE:** Nov. 11, 2004
(Eric Lin, 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	PASS	Meet the requirement of limit Minimum passing margin is -14.21 dBuV at 0.181 MHz
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 -1.90 dBuV at 2483.50MHz
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

PRODUCT	802.11b/g Mini-PCI
MODEL NO.	T60N871
POWER SUPPLY	3.3VDC +/- 5% from host equipment
MODULATION TYPE	CCK, OFDM
RADIO TECHNOLOGY	DSSS, OFDM
TRANSFER RATE	1/2/5.5/6/9/11/12/18/24/36/48/54Mbps
FREQUENCY RANGE	2412MHz ~ 2462MHz
NUMBER OF CHANNEL	11
OUTPUT POWER	22.59dBm
ANTENNA TYPE	Pifa antenna
DATA CABLE	NA
I/O PORTS	NA
ASSOCIATED DEVICES	NA

NOTE:

1. The EUT operates in the 2.4GHz frequency spectrum with throughput of up to 54Mbps.
2. The EUT complies with IEEE 802.11g draft standards, and backwards compatible with IEEE 802.11b products.
3. The above EUT information was declared by the manufacturer and 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 in 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. Transfer rate, 11Mbps with CCK technique and 6Mbps with OFDM technique, the worst case, were chosen for final test.

3.3 GENERAL DESCRIPTION OF APPLIED STANDARDS

The EUT is an 802.11b/g Mini-PCI. According to the specifications of the manufacturer, it must comply with the requirements of the following standards:

47 CFR Part 15, Subpart C. (15.247)
ANSI C63.4 : 2003

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 47 CFR Part 15, Subpart B, Class B (DoC). The test report has been issued separately.

3.4 DESCRIPTION OF SUPPORT UNITS

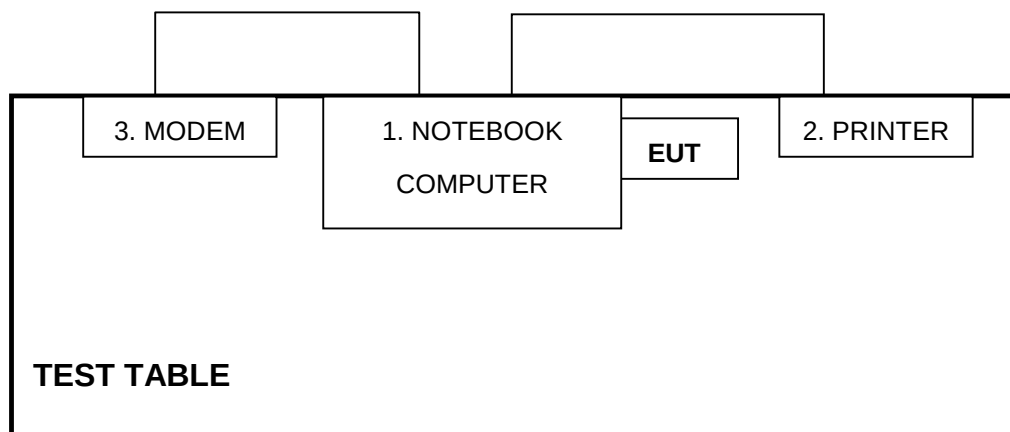
The EUT has been tested as an independent unit together with other necessary accessories or support units. The following support units or accessories were used to form a representative test configuration during the tests.

No.	Product	Brand	Model No.	Serial No.	FCC ID
1	NOTEBOOK	DELL	PP01L	TW-09c748-12800-165-3171	FCC DoC
2	PRINTER	HP	C2642A	MY79F1C3MZ	B94C2642X
3	MODEM	ACEEX	1414	0206026776	IFAXDM1414

No.	Signal cable description
1	NA
2	1.8 m braid shielded wire, terminated with DB25 and Centronics connector via metallic frame, w/o core.
3	1.2 m braid shielded wire, terminated with DB25 and DB9 connector via metallic frame, w/o core.

Note: 1. All power cords of the above support units are unshielded (1.8m).

3.5 CONFIGURATION OF SYSTEM UNDER TEST



NOTE: 1. Please refer to the photos of test configuration in Item 5 also.

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. All emanations from a class 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	847124/029	Dec. 06, 2004
ROHDE & SCHWARZ LISN (for EUT)	ESHS-Z5	848773/004	Nov. 08, 2005
KYORITSU LISN (for peripheral)	KNW-407	8/1395/12	Jul. 23, 2005
RF Cable (JETBAO)	RG233/U	Cable_CA_01	Jul. 02, 2005
Terminator(for KYORITSU)	50	3	May 10, 2005
Software	Cond-V2e	NA	NA

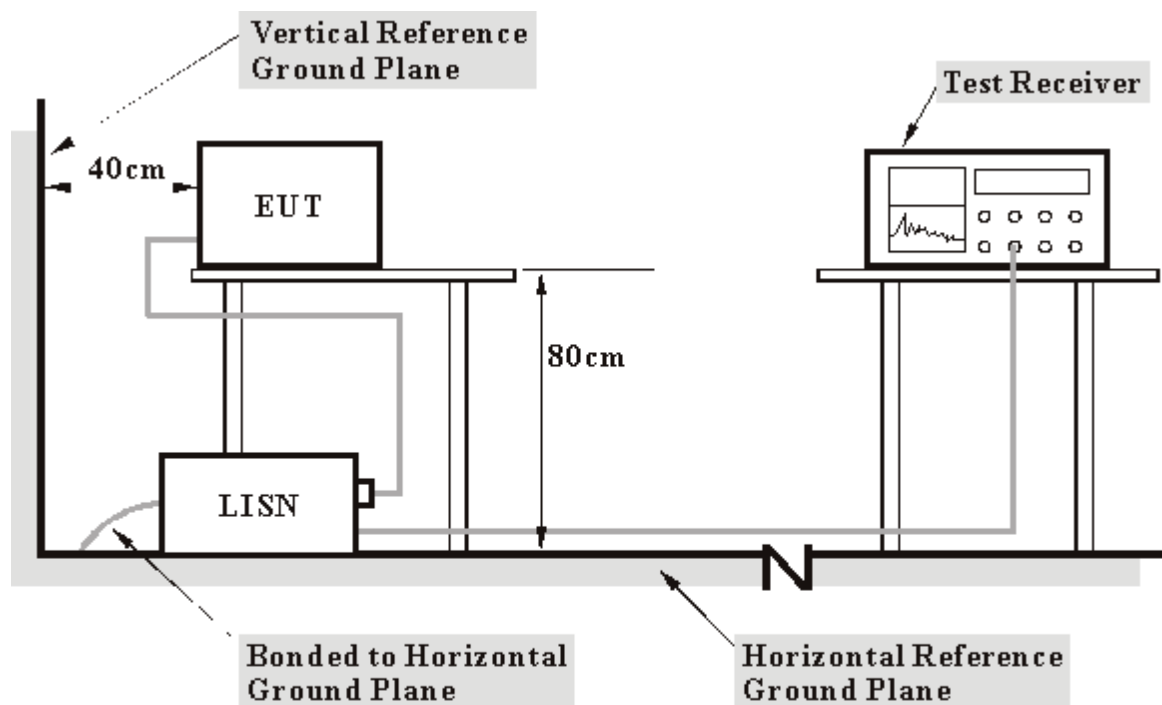
NOTE:

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 ADT Shielded Room No. A.
3. The VCCI Con A Registration No. is C-817.
4. The measurement uncertainty is 2.53 dB, which is calculated as per the document CISPR 16-4

4.1.3 TEST PROCEDURES

- The EUT/HOST was placed 0.4 meters from the conducting wall of the shielded room with EUT/HOST 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/HOST 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

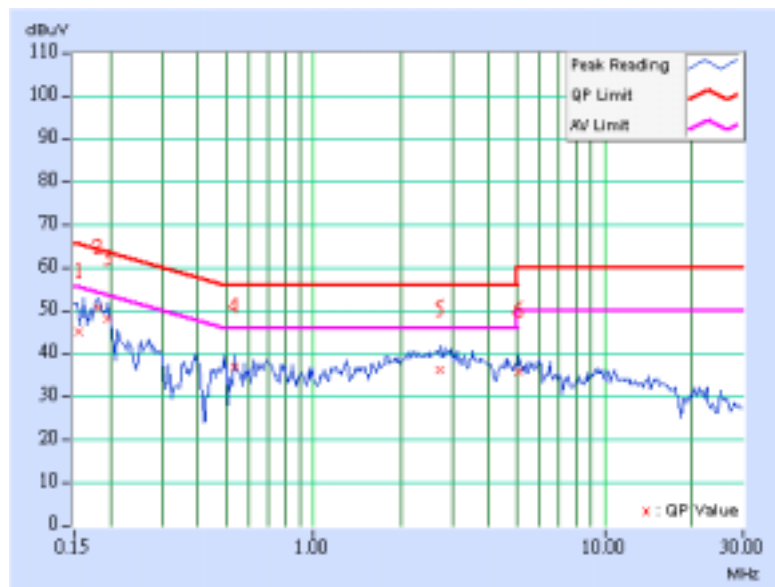
- a. Plug the EUT into the support unit 1 (Notebook computer) which placed on a testing table.
- b. The support unit 1 (Notebook computer) ran a test program "Inprocomm Test Utiliy" to enable EUT under transmission condition continuously at specific channel frequency.
- c. Notebook computer sends "H" messages to modem.
- d. Notebook computer sends "H" messages to printer, and the printer prints them on paper.

4.1.6 TEST RESULTS

EUT	802.11b/g Mini-PCI	MODEL	T60N871
MODE	Channel 11	6dB BANDWIDTH	9 kHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	PHASE	Line (L)
ENVIRONMENTAL CONDITIONS	25 deg. C, 65%RH, 978 hPa	TESTED BY	Rex Huang

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	0.156	0.31	44.08	-	44.39	-	65.70	55.70	-21.31	-
2	0.181	0.31	49.91	-	50.22	-	64.43	54.43	-14.21	-
3	0.197	0.31	47.35	-	47.66	-	63.74	53.74	-16.08	-
4	0.533	0.35	36.04	-	36.39	-	56.00	46.00	-19.61	-
5	2.728	0.66	35.52	-	36.18	-	56.00	46.00	-19.82	-
6	5.094	0.96	34.98	-	35.94	-	60.00	50.00	-24.06	-

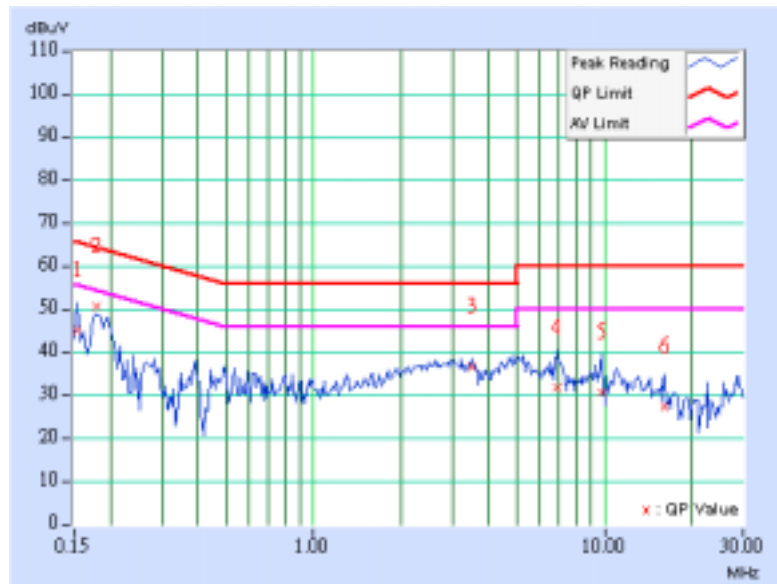
- REMARKS:**
1. Q.P. and AV. are abbreviations of quasi-peak and average individually.
 2. "-": The Quasi-peak reading value also meets average limit and measurement with the average detector is unnecessary.
 3. The emission levels of other frequencies were very low against the limit.
 4. Margin value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



EUT	802.11b/g Mini-PCI	MODEL	T60N871
MODE	Channel 11	6dB BANDWIDTH	9 kHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	PHASE	Neutral (N)
ENVIRONMENTAL CONDITIONS	25 deg. C, 65%RH, 978 hPa	TESTED BY	Rex Huang

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	0.154	0.31	43.57	-	43.88	-	65.79	55.79	-21.91	-
2	0.180	0.31	49.25	-	49.56	-	64.48	54.48	-14.93	-
3	3.500	0.80	35.01	-	35.81	-	56.00	46.00	-20.19	-
4	6.855	1.02	30.21	-	31.23	-	60.00	50.00	-28.77	-
5	9.746	1.16	29.22	-	30.38	-	60.00	50.00	-29.62	-
6	16.133	1.47	25.79	-	27.26	-	60.00	50.00	-32.74	-

- 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

Field strength limits are at the distance of 3 meters, emissions radiated outside of the specified bands, shall be according to the general radiated limits in 15.209 as following:

Frequencies (MHz)	Field strength (microvolts/meter)	Measurement distance (meters)
0.009-0.490	2400/F(kHz)	300
0.490-1.705	24000/F(kHz)	30
1.705-30.0	30	30
30-88	100	3
88-216	150	3
216-960	200	3
Above 960	500	3

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	8594E	3710A04861	Sep. 23, 2005
ADVANTEST Spectrum Analyzer	R3271A	85060311	Jun. 29, 2005
CHASE RF Pre_Amplifier	CPA9232	1057	Aug. 06, 2005
HP Pre_Amplifier	8449B	3008A01922	Oct. 13, 2005
ROHDE & SCHWARZ Test Receiver	ESCS30	100287	Dec. 11, 2004
CHASE Broadband Antenna	VULB9168	138	May 22, 2005
Schwarzbeck Horn_Antenna	BBHA9120	D124	Jun. 16, 2005
Schwarzbeck Horn_Antenna	BBHA 9170	BBHA9170192	Feb. 16, 2005
SCHWARZBECK Tunable Dipole Antenna	UHAP	897	Mar. 07, 2005
SCHWARZBECK Tunable Dipole Antenna	VHAP	880	Mar. 07, 2005
RF Switches (ARNITSU)	CS-201	1565157	Dec. 01, 2004
RF CABLE (Chaintek) 1GHz-20GHz	SF102	22054-2	Feb. 10, 2005
RF Cable(RICHTEC)	9913-30M	STCCAB-30M- 1GHz-021	Dec. 01, 2004
Software	AS60P8	NA	NA
CHANCE MOST Antenna Tower	AT-100	0203	NA
CHANCE MOST Turn Table	TT-100	0203	NA

- Note: 1. The calibration interval of the above test instruments is 12 months (36 months for Tunable Dipole Antenna) and the calibrations are traceable to NML/ROC and NIST/USA.
2. The horn antenna and HP preamplifier (model: 8449B) are used only for the measurement of emission frequency above 1GHz if tested.
3. The test was performed in ADT Open Site No. C.
4. The FCC Site Registration No. is 656396.
5. The VCCI Site Registration No. is R-1626.
6. The CANADA Site Registration No. is IC 4824-3.
7. The measurement uncertainty is 3.56 dB, which is calculated as per the document CISPR 16-4



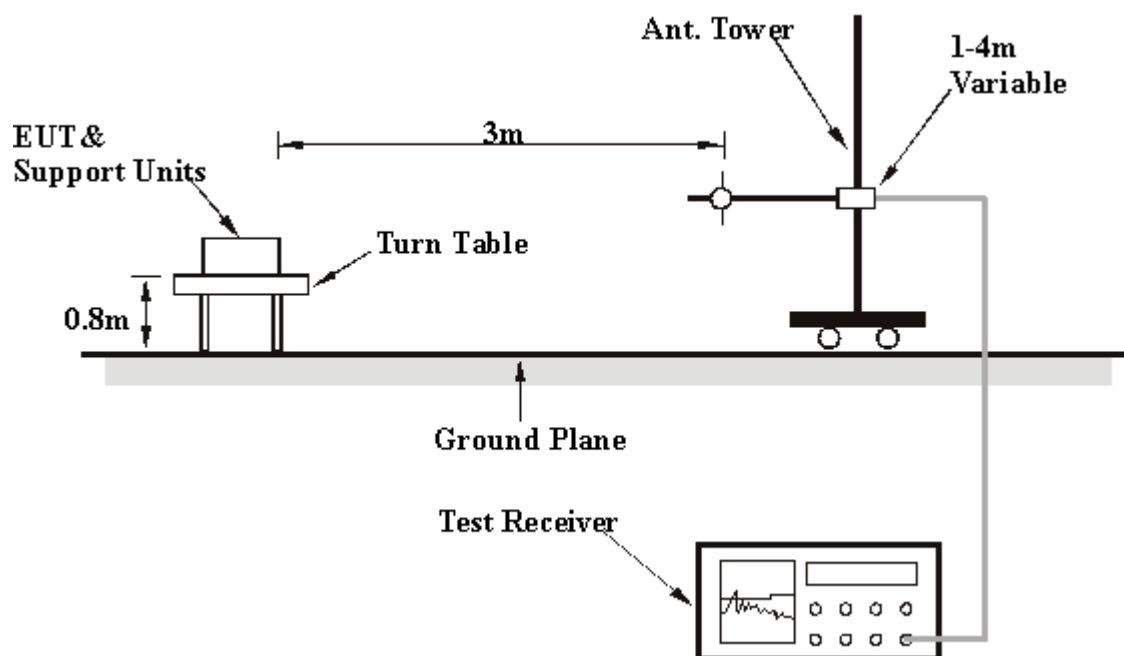
4.2.3 TEST PROCEDURES

- a. The EUT was placed on the top of a rotating table 0.8 meters above the ground at a 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

EUT	802.11b/g Mini-PCI	MODEL	T60N871
MODE	Channel 11	FREQUENCY RANGE	30-1000 MHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION & BANDWIDTH	Quasi-Peak, 120kHz
ENVIRONMENTAL CONDITIONS	27 deg. C, 68%RH, 978 hPa	TESTED BY	Sky Liao

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	132.84	39.60 QP	43.50	-3.90	1.88 H	352	27.00	12.60
2	166.18	40.10 QP	43.50	-3.40	1.64 H	6	29.40	10.80
3	232.34	39.70 QP	46.00	-6.30	1.34 H	18	27.90	11.80
4	298.75	40.30 QP	46.00	-5.70	1.00 H	317	25.10	15.20
5	332.13	40.80 QP	46.00	-5.20	1.00 H	327	24.60	16.20
6	465.90	36.60 QP	46.00	-9.40	1.00 H	200	16.70	19.90

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	132.72	38.20 QP	43.50	-5.30	1.00 V	305	25.50	12.60
2	166.07	37.00 QP	43.50	-6.50	1.00 V	1	26.20	10.80
3	232.70	36.20 QP	46.00	-9.80	1.00 V	259	24.40	11.80
4	298.41	42.20 QP	46.00	-3.80	1.54 V	21	27.10	15.20
5	331.79	41.60 QP	46.00	-4.40	1.36 V	1	25.40	16.20
6	364.96	32.10 QP	46.00	-13.90	1.51 V	12	14.90	17.20

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

4.2.7 TEST RESULTS - DSSS

EUT	802.11b/g Mini-PCI	MODEL	T60N871
MODE	Channel 1	FREQUENCY RANGE	1000~25000MHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION & BANDWIDTH	Peak (PK) Average (AV) 1 MHz
ENVIRONMENTAL CONDITIONS	27 deg. C, 66%RH, 978 hPa	TESTED BY	Sky Liao

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	53.20 PK	74.00	-20.80	2.06 H	174	19.40	33.80
1	2390.00	44.10 AV	54.00	-9.90	2.06 H	174	10.30	33.80
2	*2412.00	109.20 PK			2.06 H	174	79.30	29.90
2	*2412.00	101.80 AV			2.06 H	174	71.90	29.90
3	4824.00	56.70 PK	74.00	-17.30	1.39 H	113	20.40	36.20
3	4824.00	45.10 AV	54.00	-8.90	1.39 H	113	8.90	36.20
4	7236.00	48.80 PK	74.00	-25.20	1.39 H	45	7.20	41.70

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	45.30 PK	74.00	-28.70	1.00 V	77	11.50	33.80
2	*2412.00	101.20 PK			1.00 V	77	71.30	29.90
2	*2412.00	94.10 AV			1.00 V	77	64.20	29.90
3	4824.00	54.80 PK	74.00	-19.20	1.15 V	296	18.60	36.20
3	4824.00	43.40 AV	54.00	-10.60	1.15 V	296	7.20	36.20
4	7236.00	50.00 PK	74.00	-24.00	1.14 V	95	8.30	41.70

- REMARKS:**
1. Emission level(dBuV/m)=Raw Value(dBuV) + Correction Factor(dB)
 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. The limit value is defined as per 15.247
 6. “ * ” : Fundamental frequency

EUT	802.11b/g Mini-PCI	MODEL	T60N871
MODE	Channel 6	FREQUENCY RANGE	1000~25000MHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION & BANDWIDTH	Peak (PK) Average (AV) 1 MHz
ENVIRONMENTAL CONDITIONS	27 deg. C, 66%RH, 978 hPa	TESTED BY	Sky Liao

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	*2437.00	108.60 PK			1.00 H	180	78.70	30.00
1	*2437.00	101.60 AV			1.00 H	180	71.70	30.00
2	4874.00	52.00 PK	74.00	-22.00	1.40 H	111	15.50	36.50
2	4874.00	40.90 AV	54.00	-13.10	1.40 H	111	4.40	36.50
3	7311.00	48.00 PK	74.00	-26.00	1.25 H	345	6.20	41.80

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	*2437.00	102.20 PK			1.14 V	334	72.20	30.00
1	*2437.00	95.10 AV			1.14 V	334	65.10	30.00
2	4874.00	49.20 PK	74.00	-24.80	1.52 V	199	12.80	36.50
3	7311.00	49.10 PK	74.00	-24.90	1.59 V	49	7.30	41.80

- REMARKS:**
1. Emission level(dBuV/m)=Raw Value(dBuV) + Correction Factor(dB)
 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. The limit value is defined as per 15.247
 6. “ * ” : Fundamental frequency



EUT	802.11b/g Mini-PCI	MODEL	T60N871
MODE	Channel 11	FREQUENCY RANGE	1000~25000MHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION & BANDWIDTH	Peak (PK) Average (AV) 1 MHz
ENVIRONMENTAL CONDITIONS	27 deg. C, 66%RH, 978 hPa	TESTED BY	Sky Liao

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	*2462.00	106.70 PK			1.20 H	0	76.60	30.10
1	*2462.00	99.70 AV			1.20 H	0	69.70	30.10
2	2483.50	48.70 PK	74.00	-25.30	1.20 H	0	18.50	30.10
3	4924.00	49.50 PK	74.00	-24.50	1.68 H	5	12.80	36.70
4	7386.00	50.60 PK	74.00	-23.40	1.68 H	12	8.70	41.80

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	*2462.00	100.80 PK			1.12 V	335	70.70	30.10
1	*2462.00	93.80 AV			1.12 V	335	63.70	30.10
2	2483.50	43.90 PK	74.00	-30.10	1.12 V	335	13.80	30.10
3	4924.00	50.80 PK	74.00	-23.20	1.55 V	217	14.10	36.70
4	7386.00	52.00 PK	74.00	-22.00	1.68 V	104	10.10	41.80
4	7386.00	41.20 AV	54.00	-12.80	1.68 V	104	-0.70	41.80

- REMARKS:**
1. Emission level(dBuV/m)=Raw Value(dBuV) + Correction Factor(dB)
 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. The limit value is defined as per 15.247
 6. “ * ” : Fundamental frequency

4.2.8 TEST RESULTS -OFDM

EUT	802.11b/g Mini-PCI	MODEL	T60N871
MODE	Channel 1	FREQUENCY RANGE	1000~25000MHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION & BANDWIDTH	Peak (PK) Average (AV) 1 MHz
ENVIRONMENTAL CONDITIONS	27 deg. C, 66%RH, 978 hPa	TESTED BY	Sky Liao

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	59.10 PK	74.00	-14.90	2.05 H	179	25.30	33.80
1	2390.00	50.30 AV	54.00	-3.70	2.05 H	179	16.50	33.80
2	*2412.00	108.70 PK			2.05 H	179	78.80	29.90
2	*2412.00	99.50 AV			2.05 H	179	69.60	29.90
3	4824.00	60.70 PK	74.00	-13.30	1.39 H	112	24.40	36.20
3	4824.00	48.20 AV	54.00	-5.80	1.39 H	112	11.90	36.20
4	7236.00	49.60 PK	74.00	-24.40	1.22 H	52	8.00	41.70

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	52.20 PK	74.00	-21.80	1.00 V	78	18.40	33.80
1	2390.00	43.90 AV	54.00	-10.10	1.00 V	78	10.10	33.80
2	*2412.00	101.20 PK			1.00 V	78	71.30	29.90
2	*2412.00	93.10 AV			1.00 V	78	63.20	29.90
3	4824.00	60.90 PK	74.00	-13.10	1.16 V	113	24.60	36.20
3	4824.00	46.30 AV	54.00	-7.70	1.16 V	113	10.10	36.20
4	7236.00	56.50 PK	74.00	-17.50	1.24 V	116	14.80	41.70
4	7236.00	43.10 AV	54.00	-10.90	1.24 V	116	1.50	41.70

- REMARKS:**
1. Emission level(dBuV/m)=Raw Value(dBuV) + Correction Factor(dB)
 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. The limit value is defined as per 15.247
 6. “ * ” : Fundamental frequency



EUT	802.11b/g Mini-PCI	MODEL	T60N871
MODE	Channel 6	FREQUENCY RANGE	1000~25000MHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION & BANDWIDTH	Peak (PK) Average (AV) 1 MHz
ENVIRONMENTAL CONDITIONS	27 deg. C, 66%RH, 978 hPa	TESTED BY	Sky Liao

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	*2437.00	108.60 PK			1.00 H	179	78.60	30.00
1	*2437.00	98.90 AV			1.00 H	179	68.90	30.00
2	4874.00	59.30 PK	74.00	-14.70	1.60 H	100	22.80	36.50
2	4874.00	43.50 AV	54.00	-10.50	1.60 H	100	7.00	36.50
3	7311.00	49.90 PK	74.00	-24.10	1.74 H	62	8.20	41.80

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	*2437.00	102.30 PK			1.00 V	78	72.30	30.00
1	*2437.00	93.50 AV			1.00 V	78	63.60	30.00
2	4874.00	60.40 PK	74.00	-13.60	1.00 V	92	23.90	36.50
2	4874.00	45.80 AV	54.00	-8.20	1.00 V	92	9.30	36.50
3	7311.00	54.50 PK	74.00	-19.50	2.10 V	96	12.80	41.80
3	7311.00	42.60 AV	54.00	-11.40	2.10 V	96	0.80	41.80

- REMARKS:**
1. Emission level(dBuV/m)=Raw Value(dBuV) + Correction Factor(dB)
 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. The limit value is defined as per 15.247
 6. “ * ” : Fundamental frequency



EUT	802.11b/g Mini-PCI	MODEL	T60N871
MODE	Channel 11	FREQUENCY RANGE	1000~25000MHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION & BANDWIDTH	Peak (PK) Average (AV) 1 MHz
ENVIRONMENTAL CONDITIONS	27 deg. C, 66%RH, 978 hPa	TESTED BY	Sky Liao

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	*2462.00	107.20 PK			1.00 H	168	77.20	30.10
1	*2462.00	98.80 AV			1.00 H	168	68.80	30.10
2	2483.50	60.10 PK	74.00	-13.90	1.00 H	168	30.00	30.10
2	2483.50	52.10 AV	54.00	-1.90	1.00 H	168	21.90	30.10
3	2488.00	54.90 PK	74.00	-19.10	1.00 H	168	24.80	30.10
3	2488.00	46.90 AV	54.00	-7.10	1.00 H	168	16.80	30.10
4	4924.00	52.10 PK	74.00	-21.90	1.39 H	10	15.40	36.70
4	4924.00	37.80 AV	54.00	-16.20	1.39 H	10	1.10	36.70
5	7386.00	52.30 PK	74.00	-21.70	1.53 H	197	10.50	41.80
5	7386.00	39.40 AV	54.00	-14.60	1.53 H	197	-2.40	41.80

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	*2462.00	101.80 PK			1.00 V	84	71.70	30.10
1	*2462.00	93.50 AV			1.00 V	84	63.40	30.10
2	2483.50	55.10 PK	74.00	-18.90	1.00 V	84	25.00	30.10
2	2483.50	46.80 AV	54.00	-7.20	1.00 V	84	16.60	30.10
3	2488.00	49.90 PK	74.00	-24.10	1.00 V	84	19.80	30.10
4	4924.00	52.20 PK	74.00	-21.80	1.15 V	66	15.50	36.70
4	4924.00	39.90 AV	54.00	-14.10	1.15 V	66	3.30	36.70
5	7386.00	60.00 PK	74.00	-14.00	1.12 V	95	18.20	41.80
5	7386.00	47.10 AV	54.00	-6.90	1.12 V	95	5.20	41.80

- REMARKS:**
1. Emission level(dBuV/m)=Raw Value(dBuV) + Correction Factor(dB)
 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. The limit value is defined as per 15.247
 6. “ * ” : Fundamental frequency

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
R&S SPECTRUM ANALYZER	FSP40	100036	Nov. 27, 2004

NOTE:

- 1.The measurement uncertainty is less than +/- 2.6dB, which is calculated as per the NAMAS document NIS81.
- 2.The calibration interval of the above test instruments is 12 months and the calibrations are traceable to NML/ROC and NIST/USA.

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

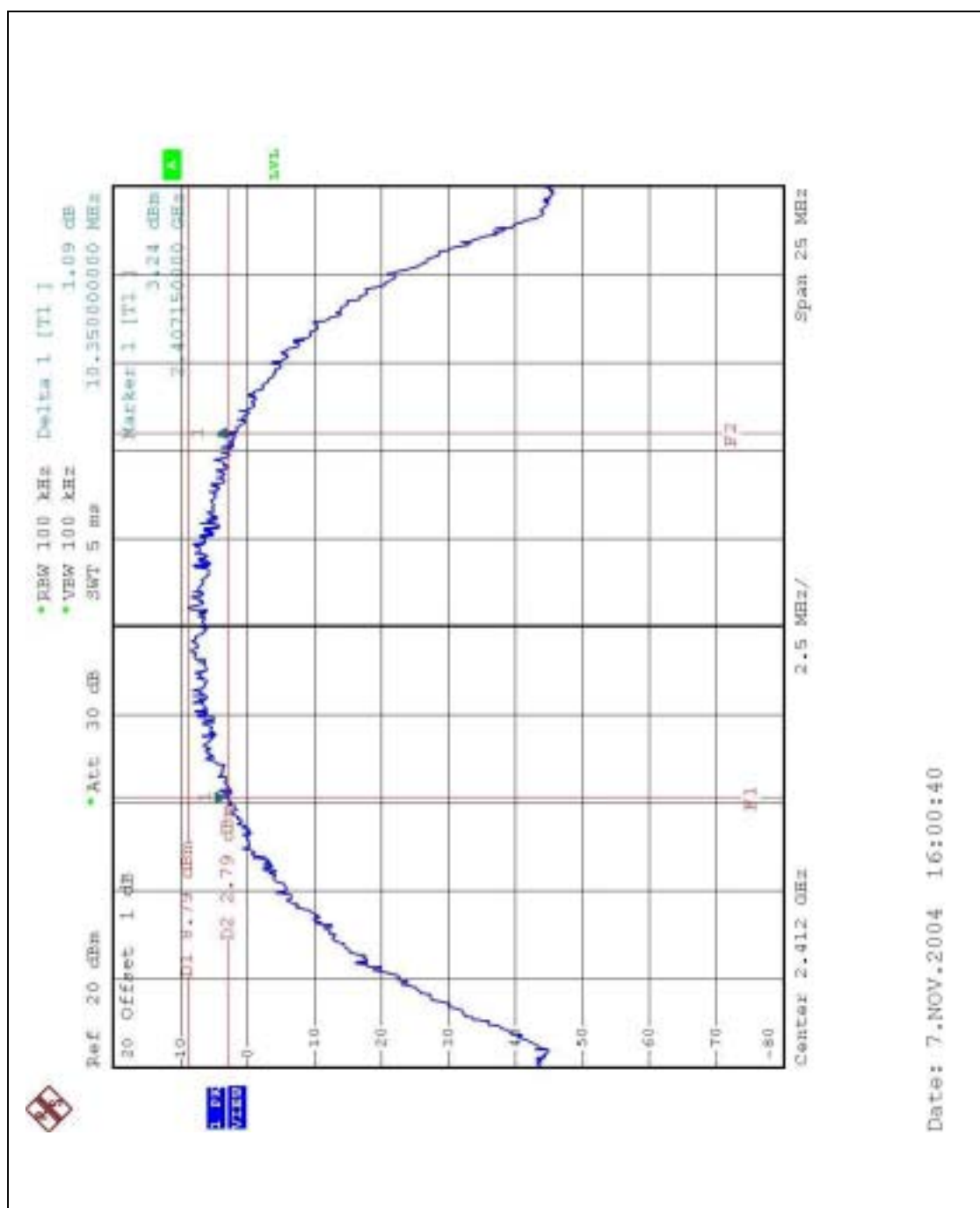
The software provided by client to enable the EUT under transmission condition continuously at lowest, middle and highest channel frequencies individually.

4.3.6 TEST RESULTS-DSSS

EUT	802.11b/g Mini-PCI		
MODEL	T60N871	ENVIRONMENTAL CONDITIONS	27 deg. C, 68%RH, 978 hPa
INPUT POWER (SYSTEM)	120Vac, 60 Hz	TESTED BY	Sky Liao

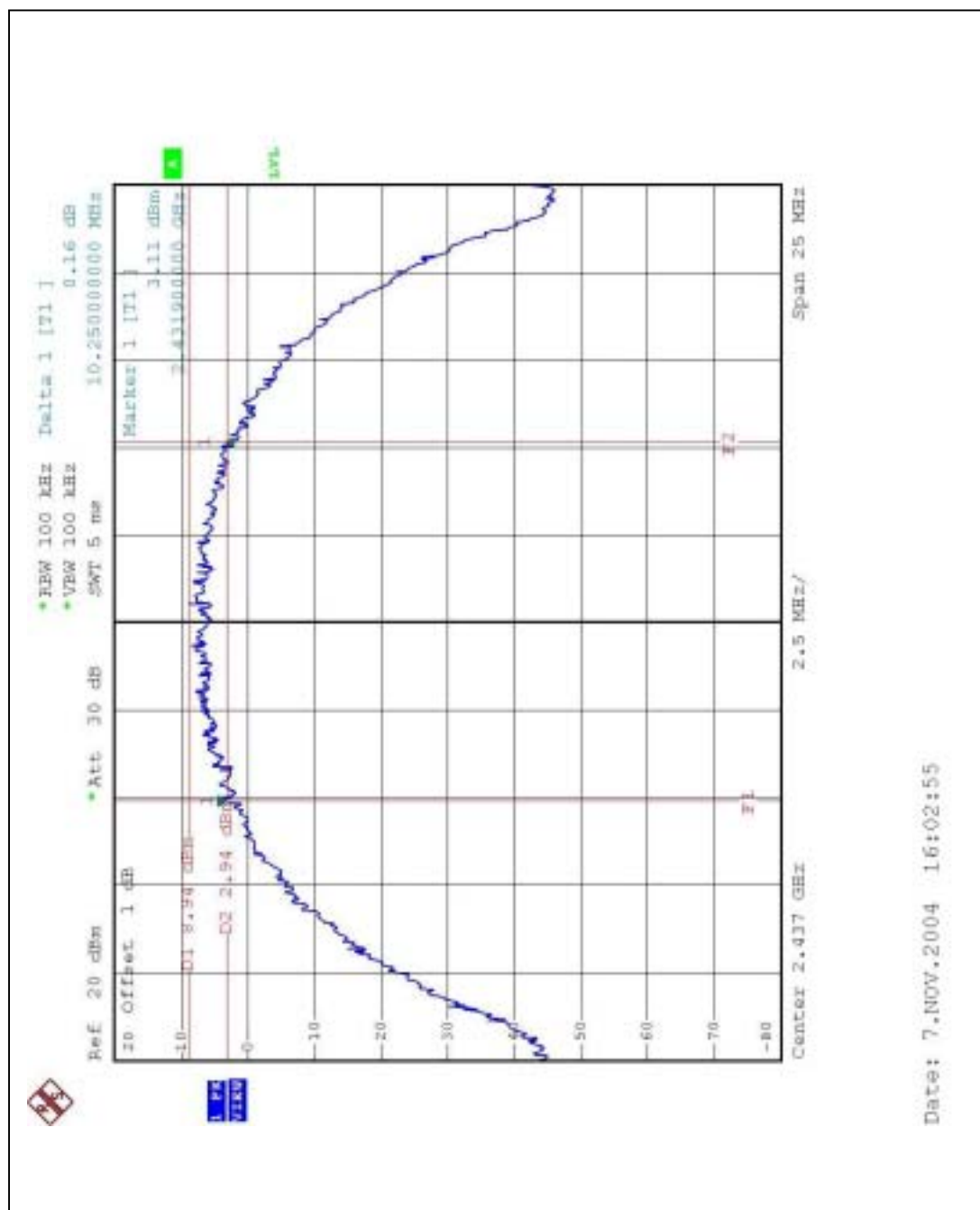
CHANNEL	CHANNEL FREQUENCY (MHz)	6 dB BANDWIDTH (MHz)	MINIMUM LIMIT (MHz)	PASS/FAIL
1	2412	10.35	0.5	PASS
6	2437	10.25	0.5	PASS
11	2462	10.45	0.5	PASS

CH1



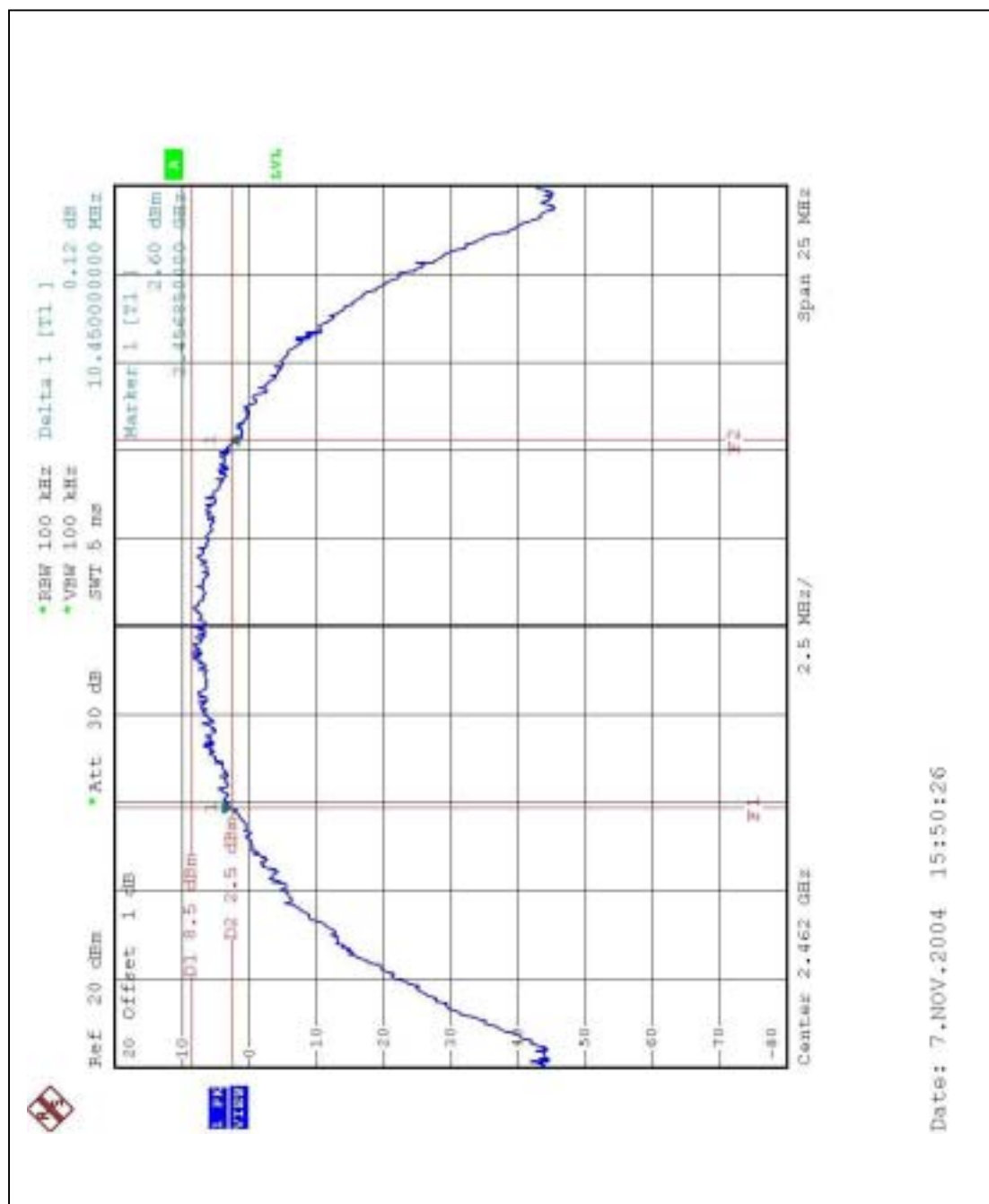
Date: 7.NOV.2004 16:00:40

CH6



Date: 7.NOV.2004 16:02:55

CH11



4.3.7 TEST RESULTS-OFDM

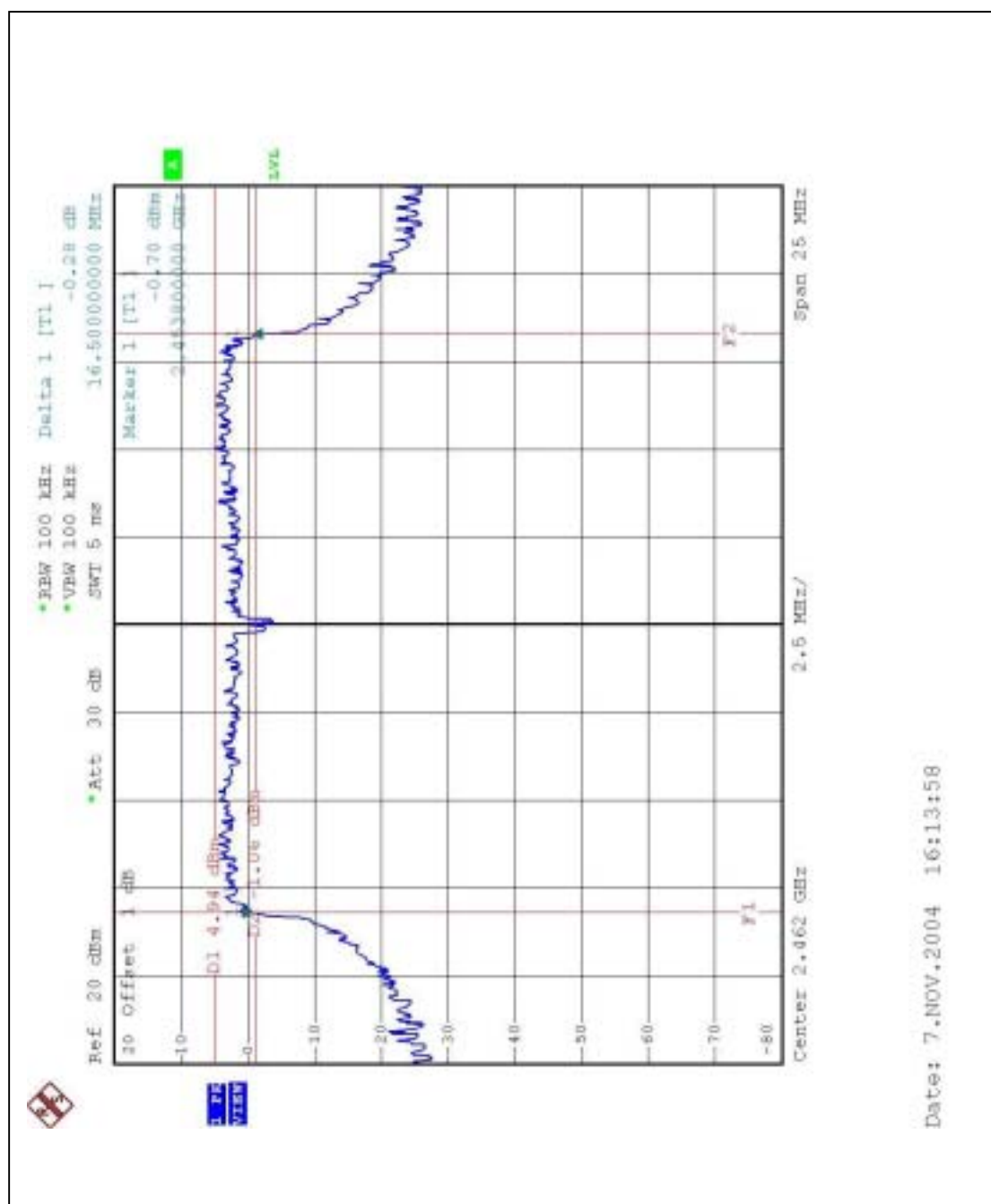
EUT	802.11b/g Mini-PCI		
MODEL	T60N871	ENVIRONMENTAL CONDITIONS	27 deg. C, 68%RH, 978 hPa
INPUT POWER (SYSTEM)	120Vac, 60 Hz	TESTED BY	Sky Liao

CHANNEL	CHANNEL FREQUENCY (MHz)	6 dB BANDWIDTH (MHz)	MINIMUM LIMIT (MHz)	PASS/FAIL
1	2412	16.45	0.5	PASS
6	2437	16.40	0.5	PASS
11	2462	16.50	0.5	PASS

REF 100 kHz Delta 1 [T1] 0.24 dB
 VBW 100 kHz
 Att 30 dB SWT 5 ms
 Ref 20 dBm Offset 1 dB
 D1 5.28 dBm
 D2 0.72 dBm
 Marker 1 [T1] -0.43 dBm
 Marker 2 [T2]
 Center 2.412 GHz Span 25 MHz
 2.5 MHz/

REF 20 dBm Att 30 dB RBW 100 kHz Delta 1 [T1] -2.06 dB
 Span 5 ms 16.40000000 MHz
 Center 2.437 GHz Span 25 MHz/
 2.5 MHz/
 F1
 F2
 M1
 M2
 M3
 M4
 M5
 M6
 M7
 M8
 M9
 M10
 M11
 M12
 M13
 M14
 M15
 M16
 M17
 M18
 M19
 M20
 M21
 M22
 M23
 M24
 M25
 M26
 M27
 M28
 M29
 M30
 M31
 M32
 M33
 M34
 M35
 M36
 M37
 M38
 M39
 M40
 M41
 M42
 M43
 M44
 M45
 M46
 M47
 M48
 M49
 M50
 M51
 M52
 M53
 M54
 M55
 M56
 M57
 M58
 M59
 M60
 M61
 M62
 M63
 M64
 M65
 M66
 M67
 M68
 M69
 M70
 M71
 M72
 M73
 M74
 M75
 M76
 M77
 M78
 M79
 M80
 M81
 M82
 M83
 M84
 M85
 M86
 M87
 M88
 M89
 M90
 M91
 M92
 M93
 M94
 M95
 M96
 M97
 M98
 M99
 M100
 M101
 M102
 M103
 M104
 M105
 M106
 M107
 M108
 M109
 M110
 M111
 M112
 M113
 M114
 M115
 M116
 M117
 M118
 M119
 M120
 M121
 M122
 M123
 M124
 M125
 M126
 M127
 M128
 M129
 M130
 M131
 M132
 M133
 M134
 M135
 M136
 M137
 M138
 M139
 M140
 M141
 M142
 M143
 M144
 M145
 M146
 M147
 M148
 M149
 M150
 M151
 M152
 M153
 M154
 M155
 M156
 M157
 M158
 M159
 M160
 M161
 M162
 M163
 M164
 M165
 M166
 M167
 M168
 M169
 M170
 M171
 M172
 M173
 M174
 M175
 M176
 M177
 M178
 M179
 M180
 M181
 M182
 M183
 M184
 M185
 M186
 M187
 M188
 M189
 M190
 M191
 M192
 M193
 M194
 M195
 M196
 M197
 M198
 M199
 M200
 M201
 M202
 M203
 M204
 M205
 M206
 M207
 M208
 M209
 M210
 M211
 M212
 M213
 M214
 M215
 M216
 M217
 M218
 M219
 M220
 M221
 M222
 M223
 M224
 M225
 M226
 M227
 M228
 M229
 M230
 M231
 M232
 M233
 M234
 M235
 M236
 M237
 M238
 M239
 M240
 M241
 M242
 M243
 M244
 M245
 M246
 M247
 M248
 M249
 M250
 M251
 M252
 M253
 M254
 M255
 M256
 M257
 M258
 M259
 M260
 M261
 M262
 M263
 M264
 M265
 M266
 M267
 M268
 M269
 M270
 M271
 M272
 M273
 M274
 M275
 M276
 M277
 M278
 M279
 M280
 M281
 M282
 M283
 M284
 M285
 M286
 M287
 M288
 M289
 M290
 M291
 M292
 M293
 M294
 M295
 M296
 M297
 M298
 M299
 M300
 M301
 M302
 M303
 M304
 M305
 M306
 M307
 M308
 M309
 M310
 M311
 M312
 M313
 M314
 M315
 M316
 M317
 M318
 M319
 M320
 M321
 M322
 M323
 M324
 M325
 M326
 M327
 M328
 M329
 M330
 M331
 M332
 M333
 M334
 M335
 M336
 M337
 M338
 M339
 M340
 M341
 M342
 M343
 M344
 M345
 M346
 M347
 M348
 M349
 M350
 M351
 M352
 M353
 M354
 M355
 M356
 M357
 M358
 M359
 M360
 M361
 M362
 M363
 M364
 M365
 M366
 M367
 M368
 M369
 M370
 M371
 M372
 M373
 M374
 M375
 M376
 M377
 M378
 M379
 M380
 M381
 M382
 M383
 M384
 M385
 M386
 M387
 M388
 M389
 M390
 M391
 M392
 M393
 M394
 M395
 M396
 M397
 M398
 M399
 M400
 M401
 M402
 M403
 M404
 M405
 M406
 M407
 M408
 M409
 M410
 M411
 M412
 M413
 M414
 M415
 M416
 M417
 M418
 M419
 M420
 M421
 M422
 M423
 M424
 M425
 M426
 M427
 M428
 M429
 M430
 M431
 M432
 M433
 M434
 M435
 M436
 M437
 M438
 M439
 M440
 M441
 M442
 M443
 M444
 M445
 M446
 M447
 M448
 M449
 M450
 M451
 M452
 M453
 M454
 M455
 M456
 M457
 M458
 M459
 M460
 M461
 M462
 M463
 M464
 M465
 M466
 M467
 M468
 M469
 M470
 M471
 M472
 M473
 M474
 M475
 M476
 M477
 M478
 M479
 M480
 M481
 M482
 M483
 M484
 M485
 M486
 M487
 M488
 M489
 M490
 M491
 M492
 M493
 M494
 M495
 M4

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
R&S SPECTRUM ANALYZER	FSP40	100036	Nov. 27, 2004
Agilent SIGNAL GENERATOR	E8257C	MY43320668	Jan. 1, 2005
TEKTRONIX OSCILLOSCOPE	TDS 220	B027241	Jun. 30, 2005
NARDA DETECTOR	4503A	FSCM99899	NA

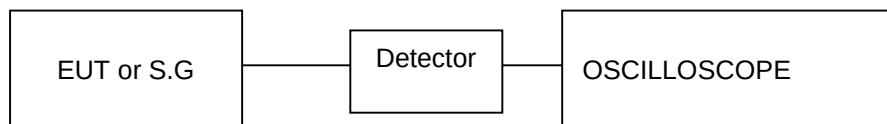
NOTE:

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

1. A detector was used on the output port of the EUT. An oscilloscope was used to read the peak response of the detector.
2. Replaced the EUT by the signal generator. The center frequency of the S.G was adjusted to the center frequency of the measured channel.
3. Adjusted the power to have the same peak reading on oscilloscope. Record the power level.

4.4.4 TEST SETUP



4.4.5 EUT OPERATING CONDITIONS

Same as Item 4.3.5

4.4.6 TEST RESULTS - DSSS

EUT	802.11b/g Mini-PCI		
MODEL	T60N871	ENVIRONMENTAL CONDITIONS	27 deg. C, 68%RH, 978 hPa
INPUT POWER (SYSTEM)	120Vac, 60 Hz	TESTED BY	Sky Liao

CHANNEL	CHANNEL FREQUENCY (MHz)	PEAK POWER OUTPUT (dBm)	PEAK POWER LIMIT (dBm)	PASS/FAIL
1	2412	20.40	30	PASS
6	2437	20.48	30	PASS
11	2462	20.49	30	PASS

4.4.7 TEST RESULTS - OFDM

EUT	802.11b/g Mini-PCI		
MODEL	T60N871	ENVIRONMENTAL CONDITIONS	27 deg. C, 68%RH, 978 hPa
INPUT POWER (SYSTEM)	120Vac, 60 Hz	TESTED BY	Sky Liao

CHANNEL	CHANNEL FREQUENCY (MHz)	PEAK POWER OUTPUT (dBm)	PEAK POWER LIMIT (dBm)	PASS/FAIL
1	2412	22.52	30	PASS
6	2437	22.59	30	PASS
11	2462	22.48	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
R&S SPECTRUM ANALYZER	FSP40	100036	Nov. 27, 2004

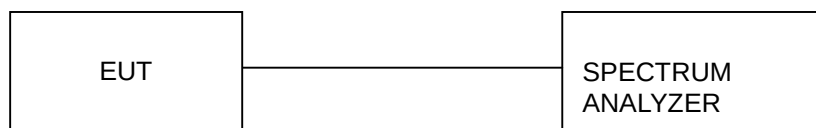
NOTE:

- 1.The measurement uncertainty is less than +/- 2.6dB, which is calculated as per the NAMAS document NIS81.
- 2.The calibration interval of the above test instruments is 12 months and the calibrations are traceable to NML/ROC and NIST/USA.

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

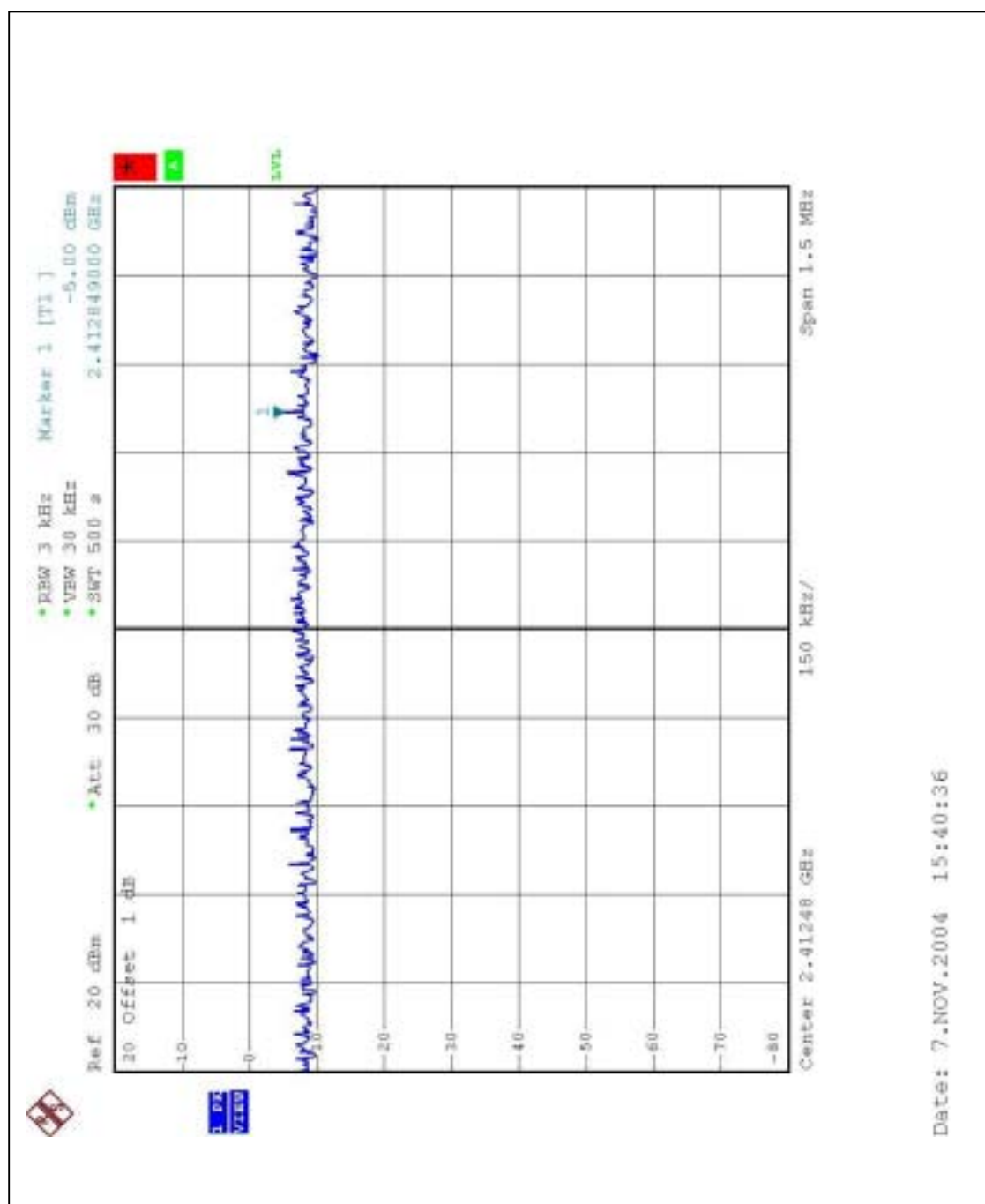
Same as 4.3.5

4.5.6 TEST RESULTS-DSSS

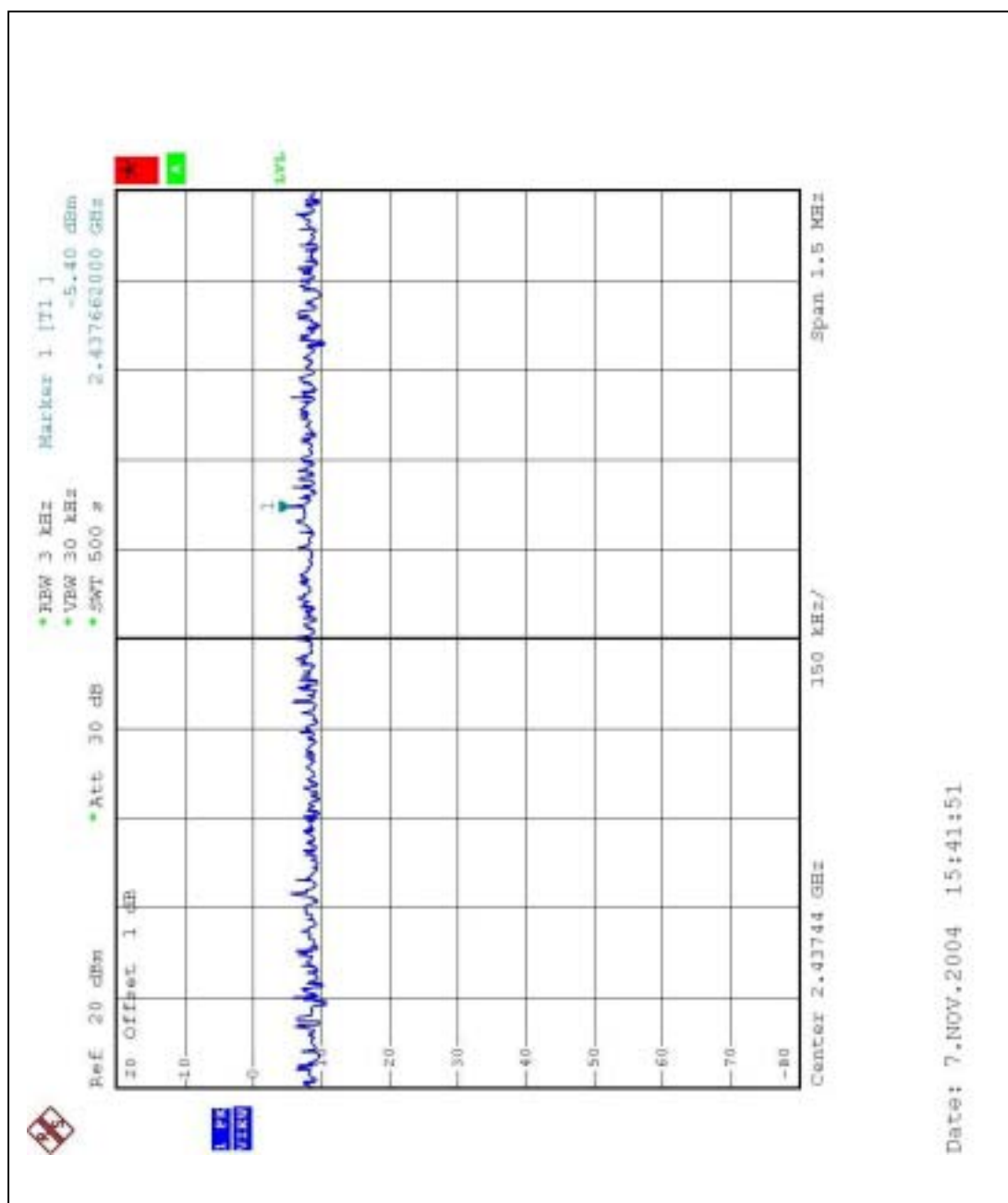
EUT	802.11b/g Mini-PCI		
MODEL	T60N871	ENVIRONMENTAL CONDITIONS	27 deg. C, 68%RH, 978 hPa
INPUT POWER (SYSTEM)	120Vac, 60 Hz	TESTED BY	Sky Liao

CHANNEL NUMBER	CHANNEL FREQUENCY (MHz)	RF POWER LEVEL IN 3 KHz BW (dBm)	MAXIMUM LIMIT (dBm)	PASS/FAIL
1	2412	-5.0	8	PASS
6	2437	-5.4	8	PASS
11	2462	-5.3	8	PASS

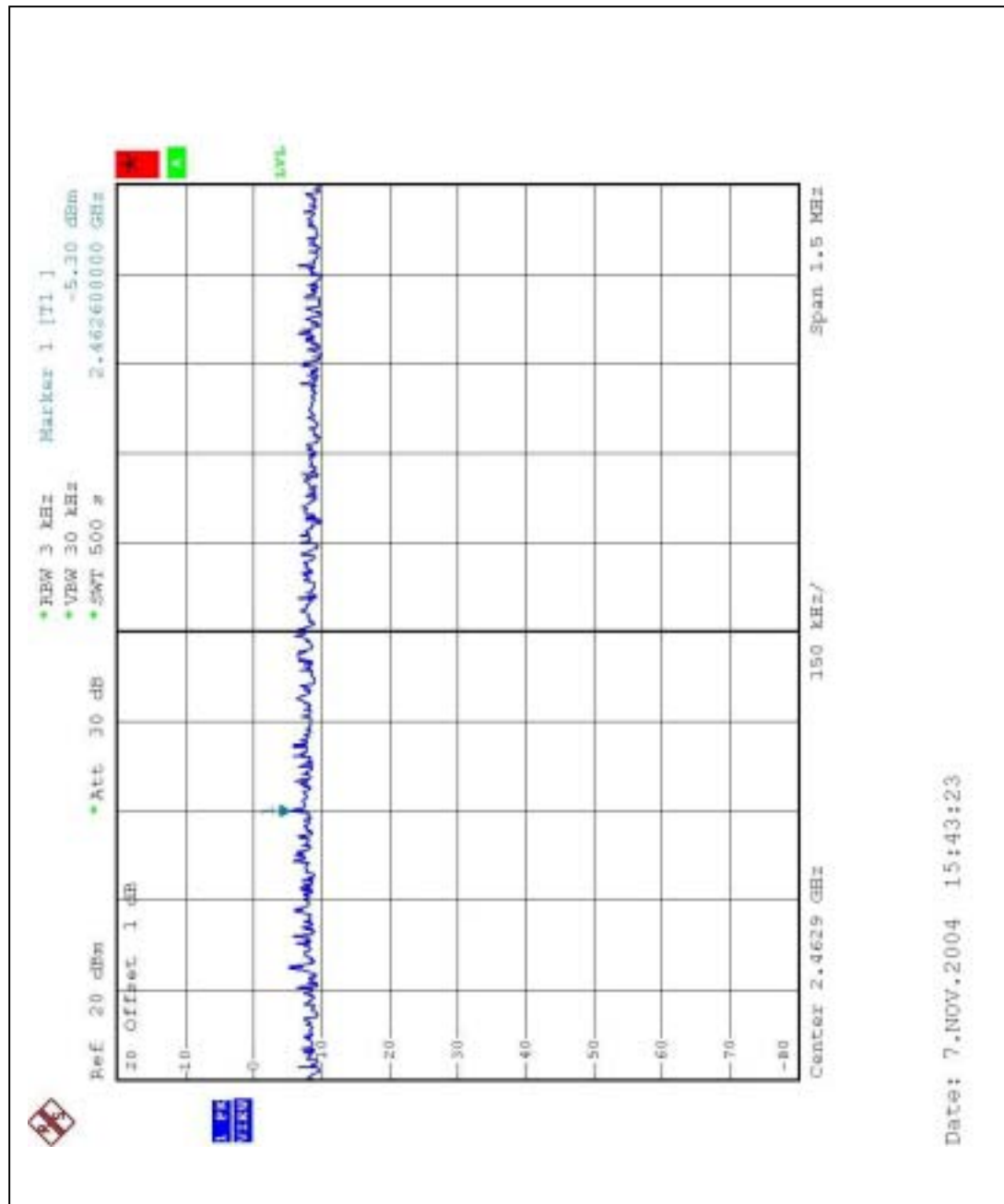
CH1



CH6



CH11

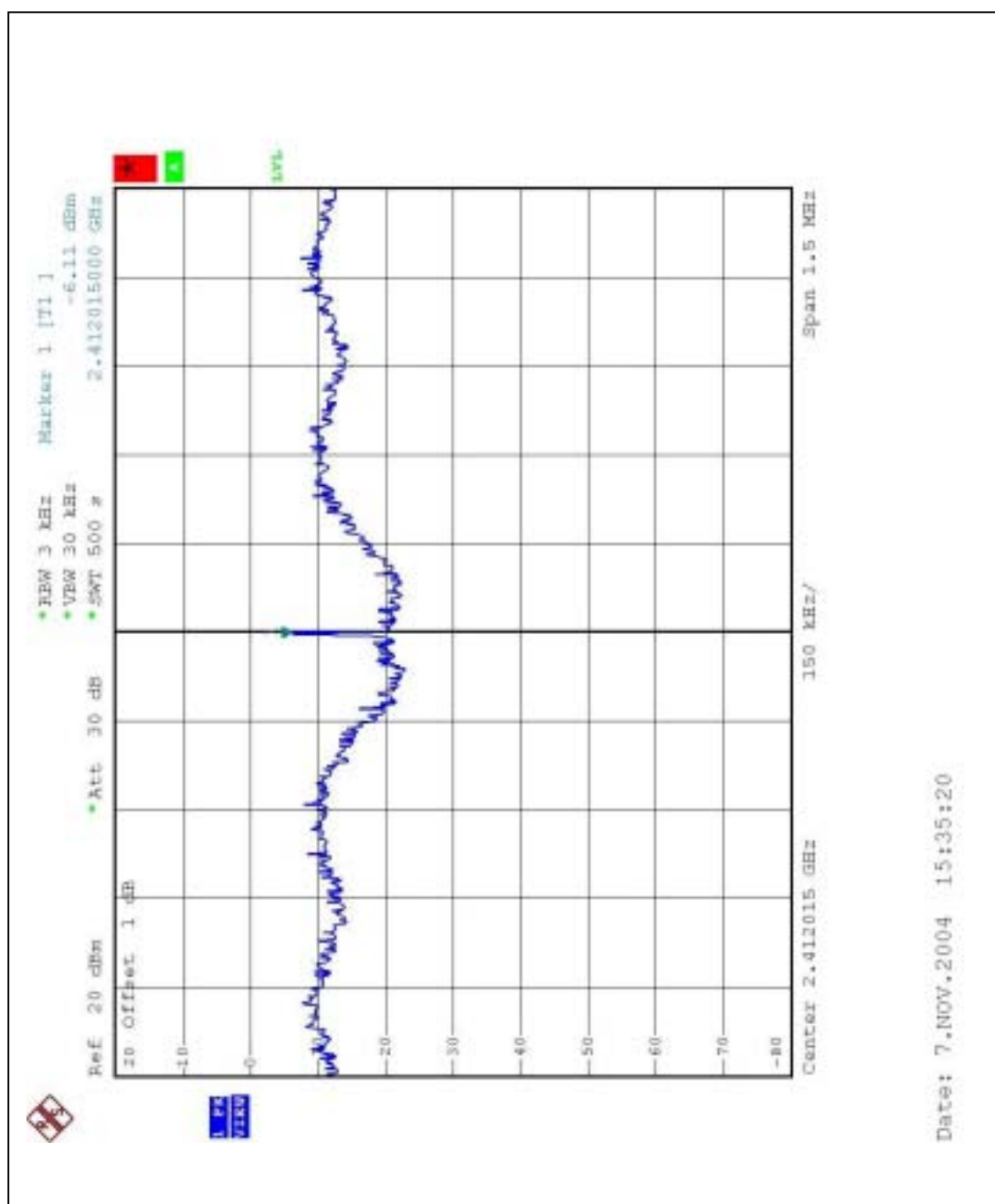


4.5.7 TEST RESULTS-OFDM

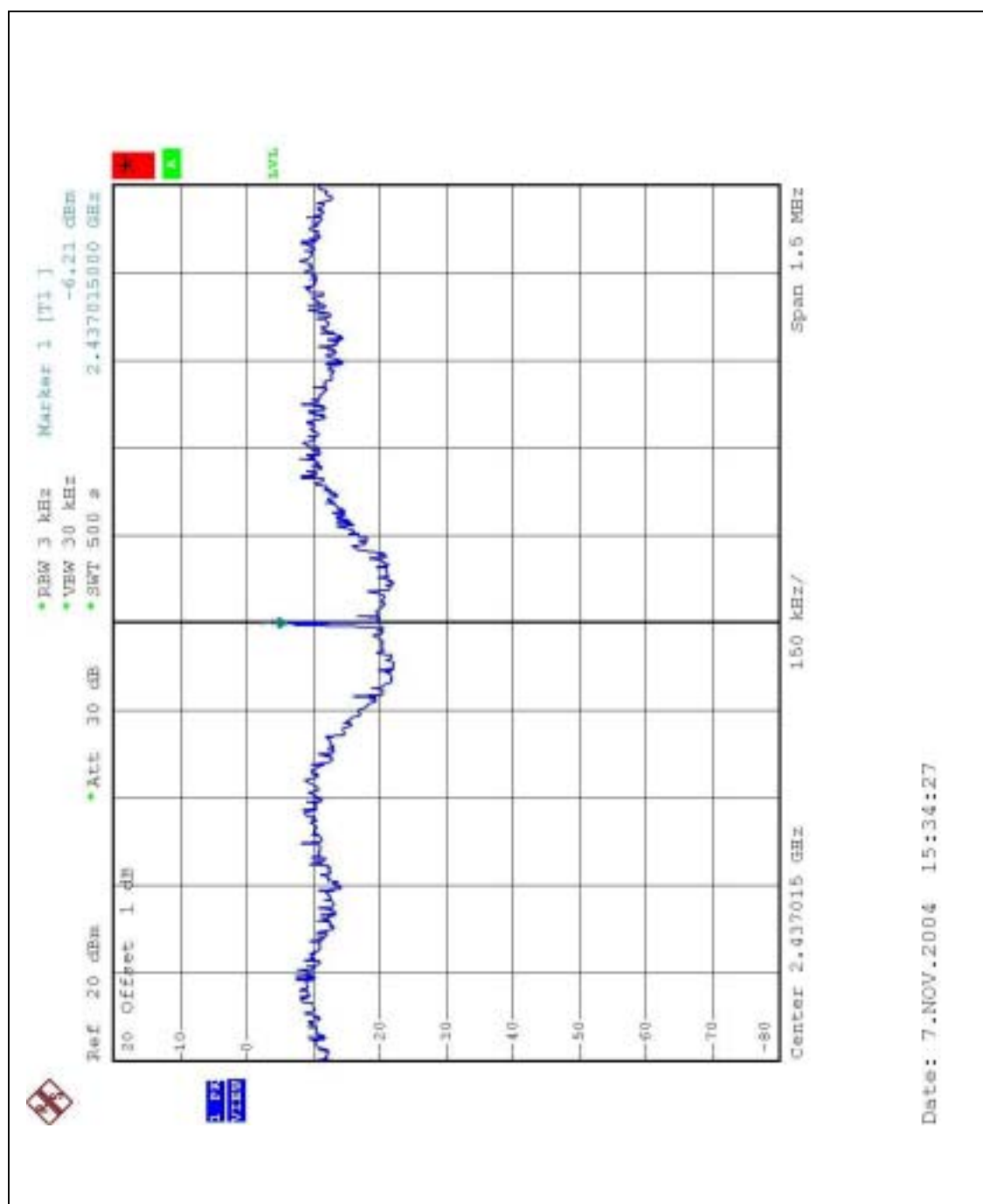
EUT	802.11b/g Mini-PCI		
MODEL	T60N871	ENVIRONMENTAL CONDITIONS	27 deg. C, 68%RH, 978 hPa
INPUT POWER (SYSTEM)	120Vac, 60 Hz	TESTED BY	Sky Liao

CHANNEL NUMBER	CHANNEL FREQUENCY (MHz)	RF POWER LEVEL IN 3 KHz BW (dBm)	MAXIMUM LIMIT (dBm)	PASS/FAIL
1	2412	-6.11	8	PASS
6	2437	-6.21	8	PASS
11	2462	-6.42	8	PASS

CH1

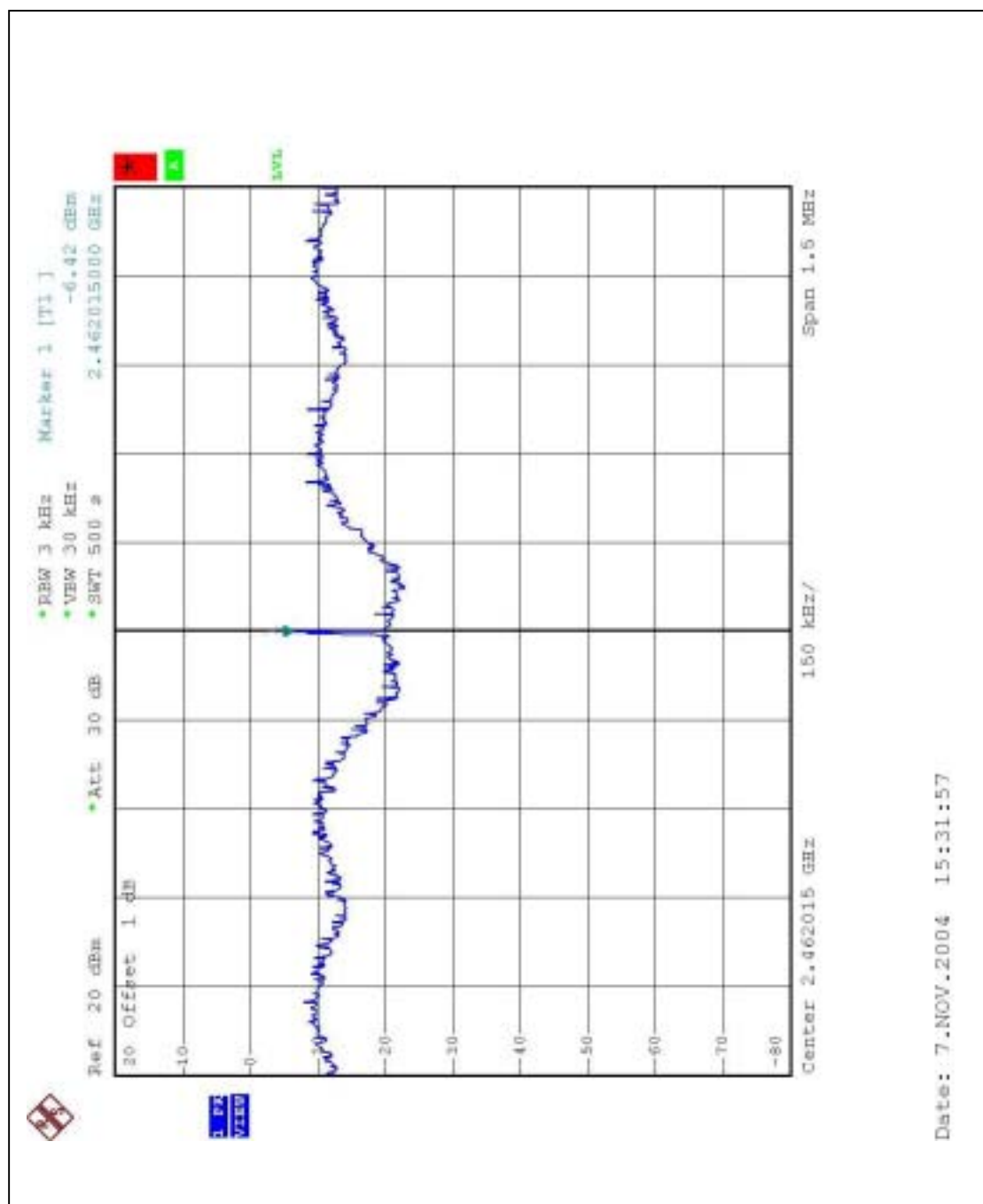


CH6



Date: 7.NOV.2004 15:34:27

CH11



Date: 7.NOV.2004 15:31:57



4.6 BAND EDGES MEASUREMENT

4.6.1 LIMITS OF BAND EDGES MEASUREMENT

Below -20dB of the highest emission level of operating band (in 1MHz Resolution Bandwidth).

4.6.2 TEST INSTRUMENTS

Description & Manufacturer	Model No.	Serial No.	Calibrated Until
R&S SPECTRUM ANALYZER	FSP40	100036	Nov. 27, 2004

NOTE:

- 1.The measurement uncertainty is less than +/- 2.6dB, which is calculated as per the NAMAS document NIS81.
- 2.The calibration interval of the above test instruments is 12 months and the calibrations are traceable to NML/ROC and NIST/USA.

4.6.3 TEST PROCEDURE

The transmitter output was connected to the spectrum analyzer via a low lose cable. Set RBW spectrum analyzer to 1 MHz and set VBW spectrum analyzer to 10 Hz with suitable frequency span including 1 MHz bandwidth from band edge. The band edges was measured and recorded.

4.6.4 EUT OPERATING CONDITION

Same as Item 4.3.5



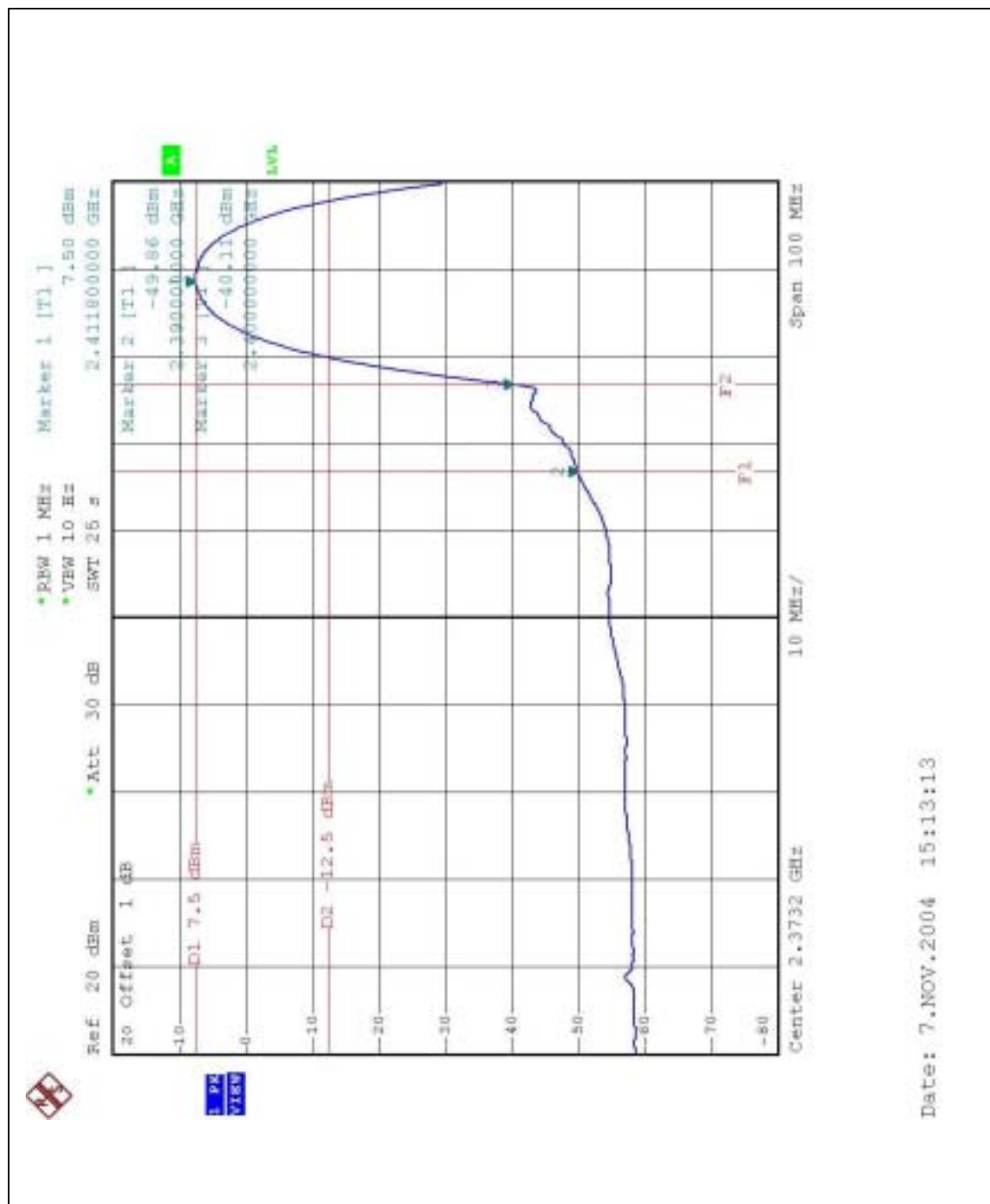
4.6.5 TEST RESULTS - DSSS

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

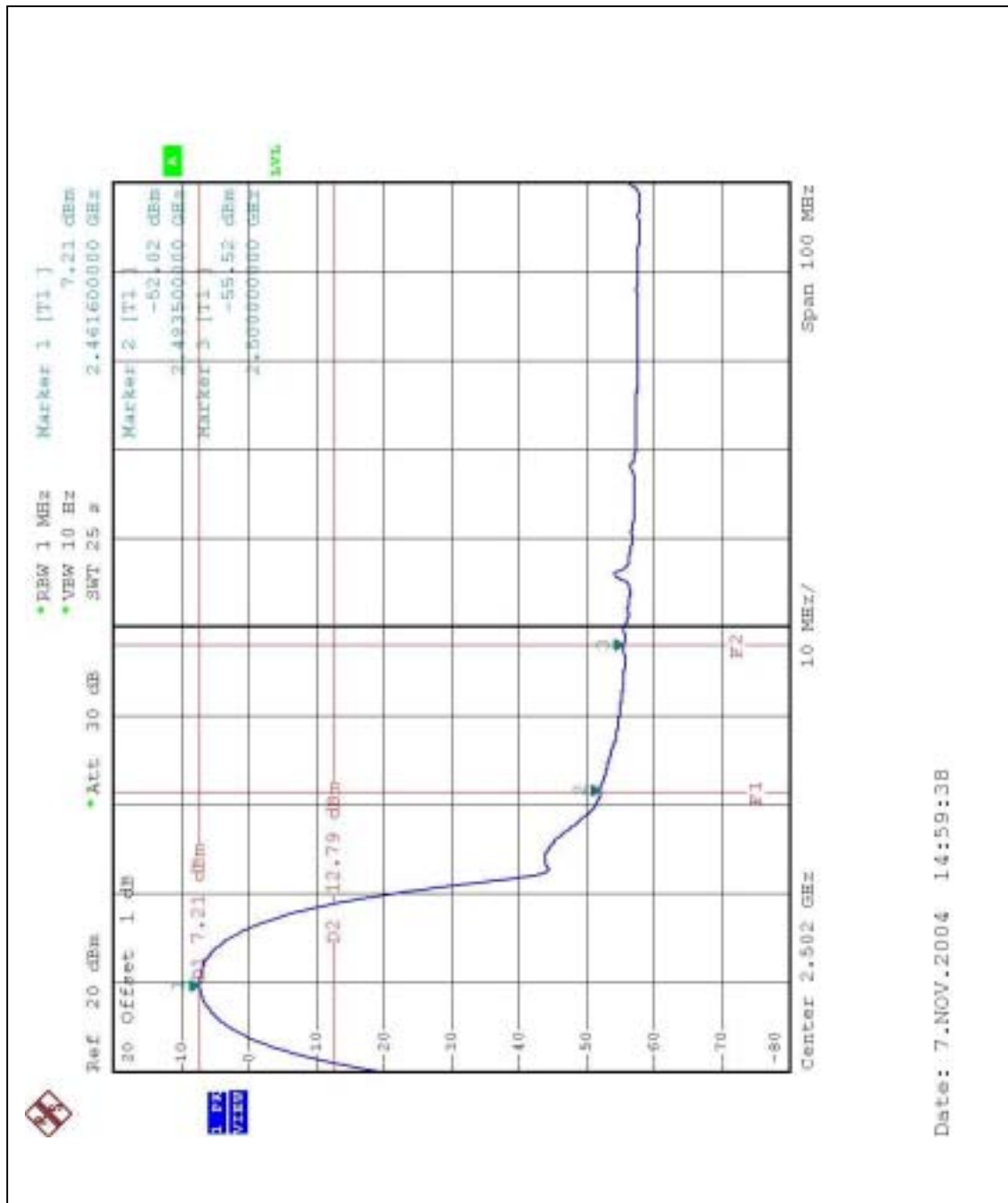
Note - The delta method is only used up to 2 MHz away from the restricted bandage, The radiated emissions which located in other restricted frequency band, the result, please refer to 4.2.

NOTE (1): The band edge emission plot on the following first page shows 57.36dB delta between carrier maximum power and local maximum emission in restrict band (2.3900GHz). The emission of carrier strength list in the test result of channel 1 at the item 4.2 is 101.8dBuV/m, so the maximum field strength in restrict band is $101.8 - 57.36 = 44.44$ dBuV/m which is under 54 dBuV/m limit.

NOTE (2): The band edge emission plot on the following second page shows 59.23dB delta between carrier maximum power and local maximum emission in restrict band (2.4835GHz). The emission of carrier strength list in the test result of channel 11 at the item 4.2. is 99.7dBuV/m, so the maximum field strength in restrict band is $99.7 - 59.23 = 40.47$ dBuV/m which is under 54 dBuV/m limit.



Date: 7.NOV.2004 15:13:13



Date: 7.NOV.2004 14:59:38



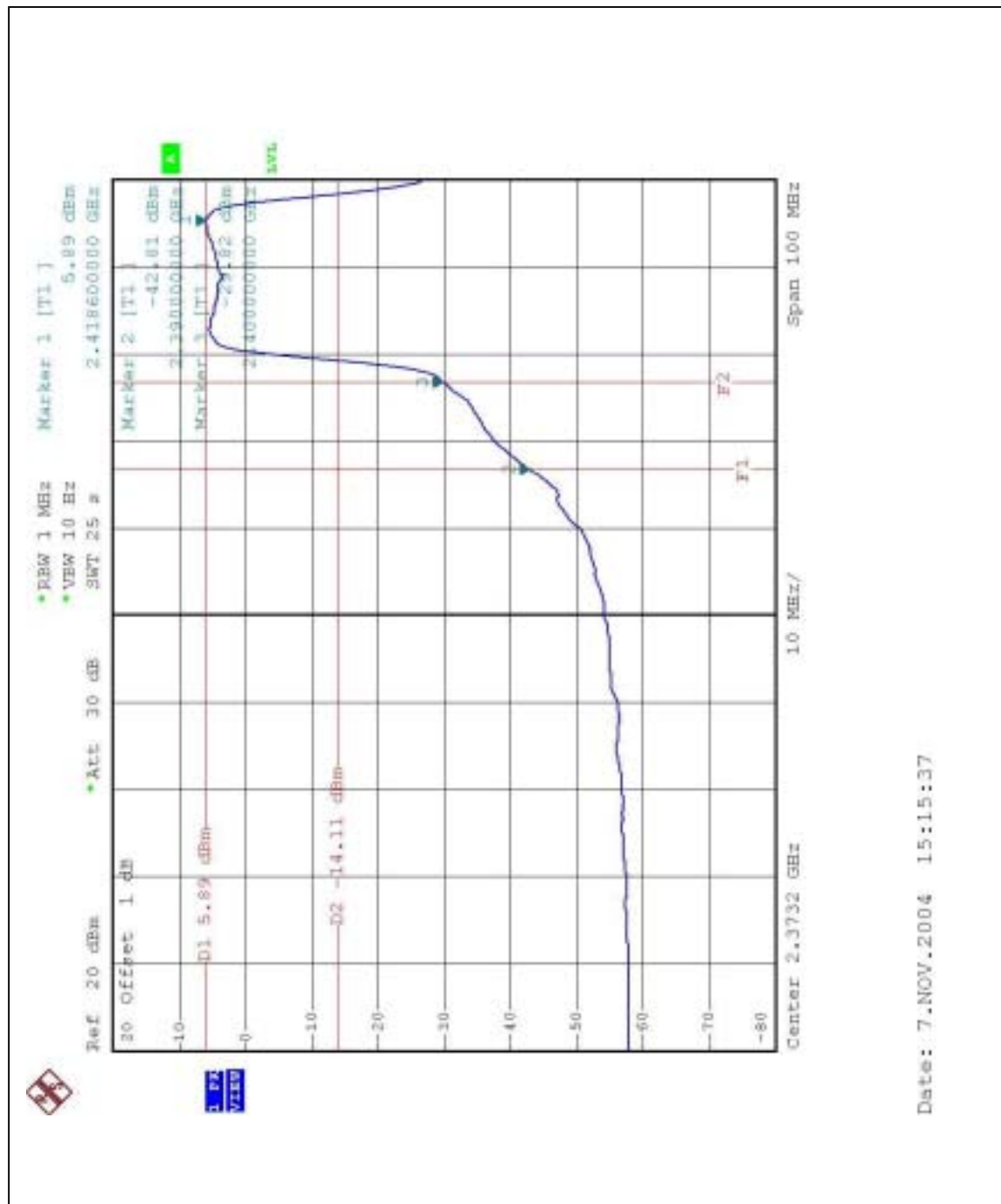
4.6.6 TEST RESULTS -OFDM

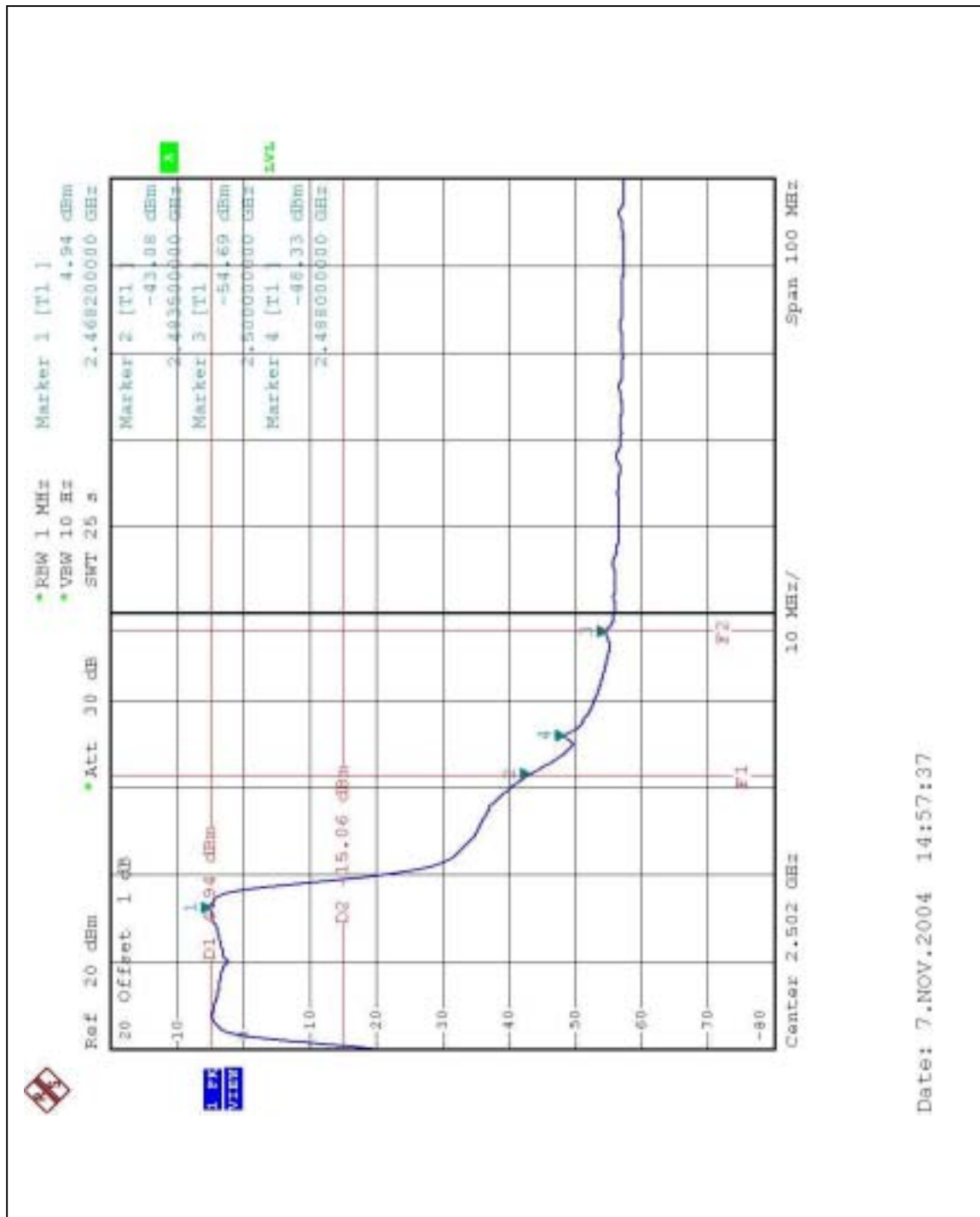
The spectrum plots are attached on the following 2 pages. D1 line indicates the highest level, D2 line indicates the 20dB offset below D1. It shows compliance with the requirement in part 15.247(C).

Note - The delta method is only used up to 2 MHz away from the restricted bandage, The radiated emissions which located in other restricted frequency band, the result, please refer to 4.2.

NOTE (1): The band edge emission plot on the following first page shows 48.7dB delta between carrier maximum power and local maximum emission in restrict band (2.3900GHz). The emission of carrier strength list in the test result of channel 1 at the item 4.2. is 99.5dBuV/m, so the maximum field strength in restrict band is $99.5 - 48.7 = 50.8$ dBuV/m which is under 54 dBuV/m limit.

NOTE (2): The band edge emission plot on the following second page shows 48.02dB delta between carrier maximum power and local maximum emission in restrict band (2.4835GHz). The emission of carrier strength list in the test result of channel 11 at the item 4.2. is 98.8dBuV/m, so the maximum field strength in restrict band is $98.8 - 48.02 = 50.78$ dBuV/m which is under 54 dBuV/m limit.





Date: 7.NOV.2004 14:57:37



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 Pifa antenna with UFL type connector. The maximum Gain of the antenna is 2.0dBi.

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, 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, 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: 886-2-26052943

Hsin Chu EMC/RF Lab:

Tel: 886-3-5935343

Fax: 886-3-5935342

Hwa Ya EMC/RF/Safety/Telecom Lab:

Tel: 886-3-3183232

Fax: 886-3-3185050

Email: service@adt.com.tw

Web Site: www.adt.com.tw

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