FCC TEST REPORT

REPORT NO.: RF920624R02C
MODEL NO.: WLL4030
RECEIVED: Nov. 09, 2004
TESTED: Nov. 10 ~ Nov. 12, 2004

APPLICANT: ASKEY COMPUTER CORP.

ADDRESS: 10F, NO.119, CHIENKANG RD., CHUNG-HO, TAIPEI TAIWAN R.O.C.

ISSUED BY: Advance Data Technology Corporation

LAB ADDRESS: 47 14th Lin, Chiapau Tsun, Linko Hsien, Taipei Hsien, Taiwan, R.O.C.

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

ACCREDITED
No. 2177-01

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1. CERTIFICATION

PRODUCT:	Mini- PCI CARD
BRAND NAME:	ASKEY
MODEL NO.:	WLL4030
APPLICANT:	ASKEY COMPUTER CORP.
TEST ITEM:	Engineering Sample
TESTED:	Nov. 10 ~ Nov. 12, 2004
STANDARDS:	FCC Part 15, Subpart C (Section 15.247), Subpart E (Section 15.407), ANSI C63.4-2003

The above equipment have 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 : Andrea Hsia , **DATE:** Nov. 17, 2004
(Andrea Hsia)

TECHNICAL ACCEPTANCE : Gary Chang , **DATE:** Nov. 17, 2004
Responsible for RF (Gary Chang)

APPROVED BY : Jeff Chuang for , **DATE:** Nov. 17, 2004
(Cody Chang, Deputy Manager)

2. SUMMARY OF TEST RESULTS

The EUT has been tested according to the following specifications:

APPLIED STANDARD: FCC Part 15, Subpart C (Section 15.247)			
Standard Section	**Test Type and Limit**	**Result**	**Remark**
15.207	AC Power Conducted Emission	PASS	Meet the requirement of limit. Minimum passing margin is –11.98dB at 0.170MHz
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(d)	Radiated Emissions Limit: Table 15.209	PASS	Meet the requirement of limit. Minimum passing margin is –0.70dB at 99.50MHz
15.247(e)	Power Spectral Density Limit: max. 8dBm	PASS	Meet the requirement of limit.
15.247(d)	Band Edge Measurement Limit: 20dB less than the peak value of fundamental frequency	PASS	Meet the requirement of limit.

APPLIED STANDARD: FCC Part 15, Subpart E (Section 15.407)			
Standard Section	**Test Type**	**Result**	**Remark**
15.407(b)(5)	AC Power Conducted Emission	PASS	Meet the requirement of limit. Minimum passing margin is –15.02dB at 0.170MHz
15.407(b/1/2/3)(b)(5)	Electric Field Strength Spurious Emissions, 30MHz ~ 40000MHz	PASS	Meet the requirement of limit. Minimum passing margin is –0.70dB at 99.50MHz
15.407(a/1/2/3)	Peak Transmit Power	PASS	Meet the requirement of limit.
15.407(a)(6)	Peak Power Excursion	PASS	Meet the requirement of limit.
15.407(a/1/2/3)	Peak Power Spectral Density	PASS	Meet the requirement of limit.
15.407(g)	Frequency Stability	PASS	Meet the requirement of limit.

2.1 MEASUREMENT UNCERTAINTY

Where relevant, the following measurement uncertainty levels have been estimated for tests performed on the EUT as specified in CISPR 16-4:

MEASUREMENT	FREQUENCY	UNCERTAINTY
Conducted emissions	9k~30MHz	2.44 dB
Radiated emissions	30MHz ~ 200MHz	3.55 dB
	200MHz ~1000MHz	3.58 dB
	1GHz ~ 18GHz	2.20 dB
	18GHz ~ 40GHz	1.88 dB

3. GENERAL INFORMATION

3.1 GENERAL DESCRIPTION OF EUT

EUT	Mini- PCI CARD
MODEL NO.	WLL4030
POWER SUPPLY	3.3Vdc from host equipment
MODULATION TYPE	DBPSK, DQPSK, CCK, 16QAM, 64QAM
MODULATION TECHNOLOGY	DSSS, OFDM
TRANSFER RATE	802.11b:11/5.5/2/1Mbps 802.11g: 54/48/36/24/18/12/9/6Mbps 802.11a: 54/48/36/24/18/12/9/6Mbps (Turbo mode: up to 108Mbps *see Note 3)
FREQUENCY RANGE	802.11b & 802.11g: 2412 ~ 2462MHz 802.11a: 5.15 ~ 5.35GHz and 5.725 ~ 5.825GHz
NUMBER OF CHANNEL	802.11b & 802.11g: 11 for Normal mode / 1 for Turbo mode 802.11a: 13 for Normal mode / 5 for Turbo mode
CHANNEL SPACING	802.11b & 802.11g: 5MHz 802.11a: 20MHz for Normal mode / 40MHz for Turbo mode
OUTPUT POWER	802.11b and 802.11g: 43.853mW 802.11a: 69.502mW
DATA CABLE	NA
ANTENNA TYPE	*refer to note2
I/O PORTS	NA
ASSOCIATED DEVICES	NA

NOTE:

1. This is a supplementary report with ADT report no. RF920624R02B.
2. This report is prepared for FCC class II permissive change. The difference compared with the original design is the item 1 adding the turbo mode of 5GHz to this EUT for the test.

Item	Brand	P/N	Type	2.4GHz	5GHz
1	NA	NA	Inverted F	2.38dBi	2.55dBi

3. This EUT is capable of providing data rates of up to 108Mbps in Turbo Mode depending upon reception quality.
4. 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

802.11b and 802.11g: 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 1GHz, the channel 1, 6, and 11 were pre-tested in chamber. The channel 11, worst case one, was chosen for final test.
2. Above 1GHz, the channel 1, 6, and 11 were tested individually.
3. From our experience and technical viewpoint, we have chosen data rates, 11Mbps with CCK technique and 6Mbps with OFDM technique, as the worst cases for the test among other data rates.

One channel is provided to this EUT for Turbo Mode.

Channel	Frequency
6	2437 MHz

NOTE: One turbo mode at frequency 2437MHz.

For 802.11a: Thirteen channels are provided to this EUT for Normal mode.

Channel	Frequency	Channel	Frequency
1	5180 MHz	8	5320 MHz
2	5200 MHz	9	5745 MHz
3	5220 MHz	10	5765 MHz
4	5240 MHz	11	5785 MHz
5	5260 MHz	12	5805 MHz
6	5280 MHz		
7	5300 MHz		

Five channels are provided to this EUT for Turbo Mode.

Channel	Frequency	Channel	Frequency
1	5210 MHz	4	5760 MHz
2	5250 MHz	5	5800 MHz
3	5290 MHz		

NOTE:

1. The EUT was tested in both normal mode (channel bandwidth of approximately 30MHz) and turbo mode (channel bandwidth of approximately 60MHz).
2. “Normal Mode” allows data rates of up to 54Mbps. The device was, therefore, tested in Normal mode at the data rate that produced the highest output power for normal mode (6Mbps).
3. “Turbo Mode” allows data rates of up to 108Mbps. At data rates higher than 12Mbps the PA gain is reduced to improve signal fidelity. The device was, therefore, tested in turbo mode at the data rate that produced the highest output power for turbo mode (12Mbps).
4. Channel 1, 4, 5, 8, 9 and 12are the closest frequencies to the band edge, were chosen for final test of Normal Mode.
5. Channel 1~5 were chosen for final test of Turbo mode.

3.3 GENERAL DESCRIPTION OF APPLIED STANDARDS

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

FCC Part 15, Subpart C. (15.247),
Subpart E (15.407). ANSI C63.4 : 2003

All test items 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

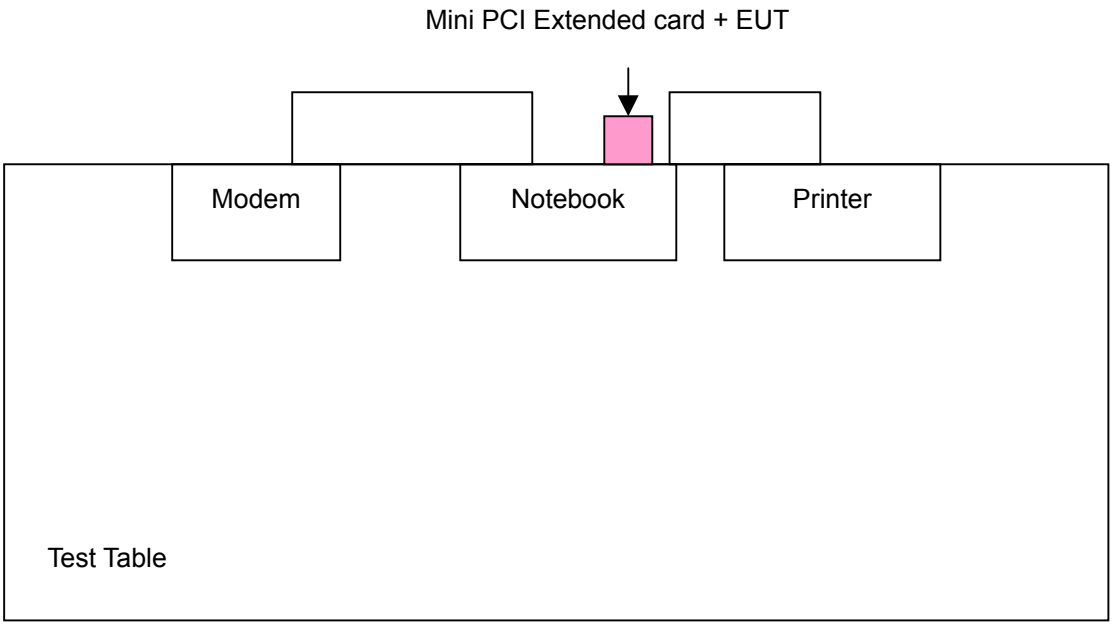
The EUT has been tested as an independent unit together with other necessary accessories or support units. The following support units or accessories were used to form a representative test configuration during the tests.

NO.	PRODUCT	BRAND	MODEL NO.	SERIAL NO.	FCC ID
1	NOTEBOOK	DELL	LATITUDE	C640	IMRMPCIDE3
2	PRINTER	EPSON	LQ-300+	DCGY047265	FCC DoC Approved
3	MODEM	ACEEX	1414V/3	0401008248	IFAXDM1414

NO.	SIGNAL CABLE DESCRIPTION OF THE ABOVE SUPPORT UNITS
1	NA
2	1.2m shielded cable without core.
3	1.2m shielded cable without core.

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

3.5 CONFIGURATION OF SYSTEM UNDER TEST



4. TEST TYPES AND RESULTS (FOR PART 802.11b & 802.11g)

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 0.5-5 5-30	66 to 56 56 60	56 to 46 46 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	100288	Dec. 11, 2004
RF signal cable Woken	5D-FB	Cable-HyC02-01	Mar. 07, 2005
LISN ROHDE & SCHWARZ	ESH2-Z5	100100	Mar. 10, 2005
LISN ROHDE & SCHWARZ	ESH3-Z5	100311	Mar. 04, 2005
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 2.
3. The VCCI Site Registration No. is C-2047.

4.1.3 TEST PROCEDURES

a. The EUT was placed 0.4 meters from the conducting wall of the shielded room with EUT being connected to the power mains through a line impedance stabilization network (LISN). Other support units were connected to the power mains through another LISN. The two LISNs provide 50 ohm/ 50uH of coupling impedance for the measuring instrument.

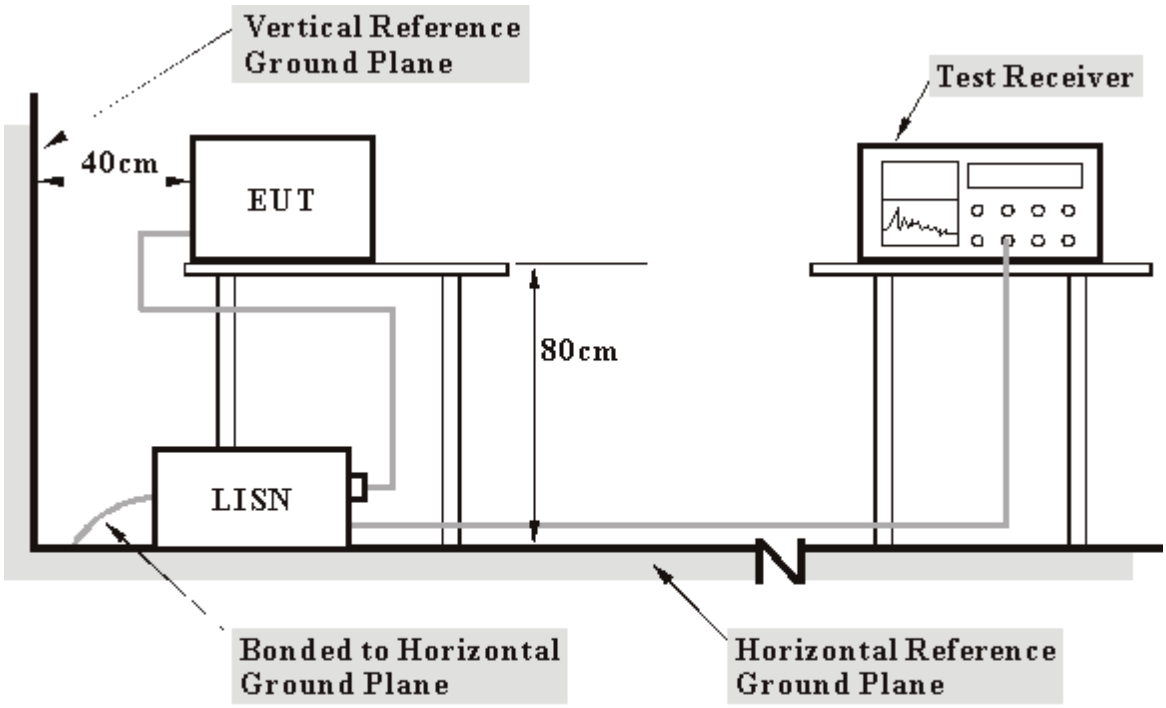
b. Both lines of the power mains connected to the EUT were checked for maximum conducted interference.

c. The frequency range from 150kHz to 30MHz was searched. Emission levels under (Limit - 20dB) was not recorded.

4.1.4 DEVIATION FROM TEST STANDARD

No deviation

4.1.5 TEST SETUP



Note: 1. Support units were connected to second LISN.
2. Both of LISNs (AMN) 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

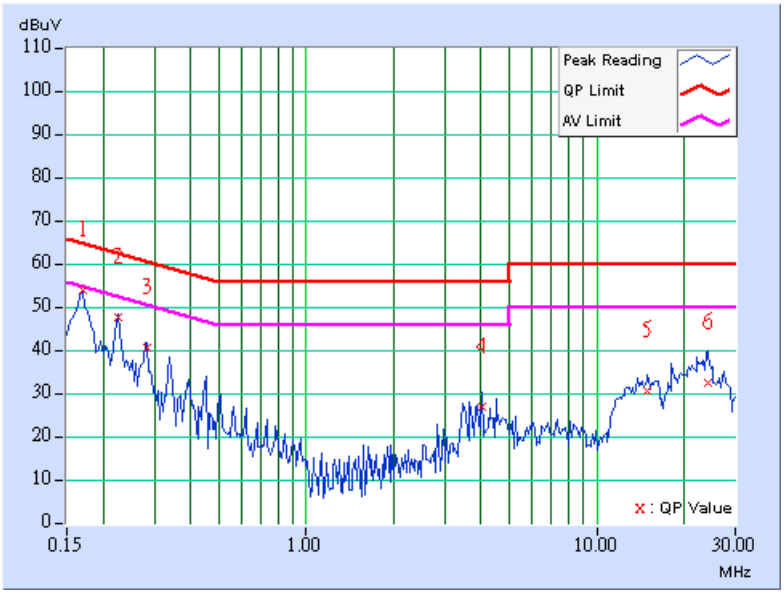
a. Connected the EUT to a notebook system placed on a testing table.
b. The notebook system ran a test program (provided by manufacturer) to enable EUT under transmission/receiving condition continuously at specific channel frequency.
c. The notebook system sent "H" messages to its screen.
d. The notebook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

4.1.7 TEST RESULTS

EUT	Mini- PCI CARD	**MODEL**	WLL4030
MODE	Channel 1	**6dB BANDWIDTH**	9 kHz
INPUT POWER (SYSTEM)	120Vac, 60Hz	**PHASE**	Line (L)
ENVIRONMENTAL CONDITIONS	23deg. C, 65%RH, 991hPa	**TESTED BY**	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	**0.170**	**0.10**	**52.90**	**-**	**53.00**	**-**	**64.98**	**54.98**	**-11.98**	**-**
2	0.224	0.10	46.53	-	46.63	-	62.66	52.66	-16.03	-
3	0.283	0.11	39.80	-	39.91	-	60.73	50.73	-20.83	-
4	4.047	0.32	25.99	-	26.31	-	56.00	46.00	-29.69	-
5	14.941	0.70	29.56	-	30.26	-	60.00	50.00	-29.74	-
6	24.051	1.11	31.52	-	32.63	-	60.00	50.00	-27.37	-

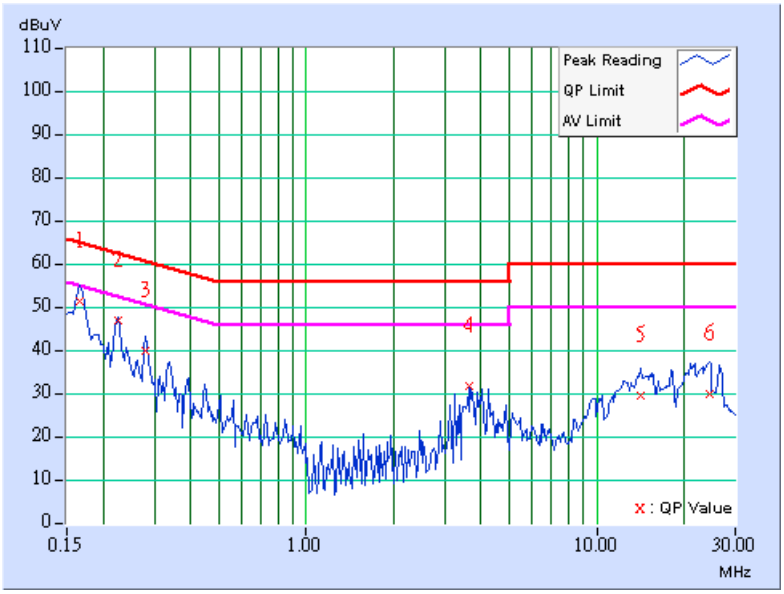
REMARKS: 1. Q.P. and AV. are abbreviations of quasi-peak and average individually.
2. "-": The Quasi-peak reading value also meets average limit and measurement with the average detector is unnecessary.
3. The emission levels of other frequencies were very low against the limit.
4. Margin value = Emission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



EUT	Mini- PCI CARD	**MODEL**	WLL4030
MODE	Channel 1	**6dB BANDWIDTH**	9 kHz
INPUT POWER (SYSTEM)	120Vac, 60Hz	**PHASE**	Neutral (N)
ENVIRONMENTAL CONDITIONS	23deg. C, 65%RH, 991hPa	**TESTED BY**	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	0.166	0.10	50.75	-	50.85	-	65.18	55.18	-14.33	-
2	0.224	0.10	46.33	-	46.43	-	62.66	52.66	-16.23	-
3	0.279	0.11	39.40	-	39.51	-	60.85	50.85	-21.34	-
4	3.648	0.29	31.06	-	31.35	-	56.00	46.00	-24.65	-
5	14.121	0.55	28.90	-	29.45	-	60.00	50.00	-30.55	-
6	24.348	0.69	29.33	-	30.02	-	60.00	50.00	-29.98	-

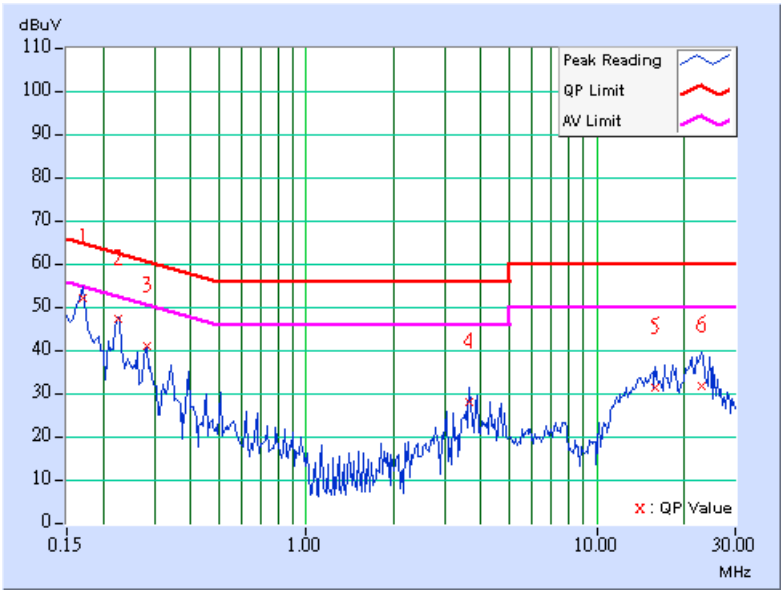
REMARKS: 1. Q.P. and AV. are abbreviations of quasi-peak and average individually.
2. "-": The Quasi-peak reading value also meets average limit and measurement with the average detector is unnecessary.
3. The emission levels of other frequencies were very low against the limit.
4. Margin value = Emission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



EUT	Mini- PCI CARD	**MODEL**	WLL4030
MODE	Channel 6	**6dB BANDWIDTH**	9 kHz
INPUT POWER (SYSTEM)	120Vac, 60Hz	**PHASE**	Line (L)
ENVIRONMENTAL CONDITIONS	23deg. C, 65%RH, 991hPa	**TESTED BY**	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	0.170	0.10	51.34	-	51.44	-	64.98	54.98	-13.54	-
2	0.224	0.10	46.23	-	46.33	-	62.66	52.66	-16.33	-
3	0.283	0.11	39.94	-	40.05	-	60.73	50.73	-20.69	-
4	3.656	0.30	27.12	-	27.42	-	56.00	46.00	-28.58	-
5	15.984	0.74	30.60	-	31.34	-	60.00	50.00	-28.66	-
6	23.016	1.06	30.75	-	31.81	-	60.00	50.00	-28.19	-

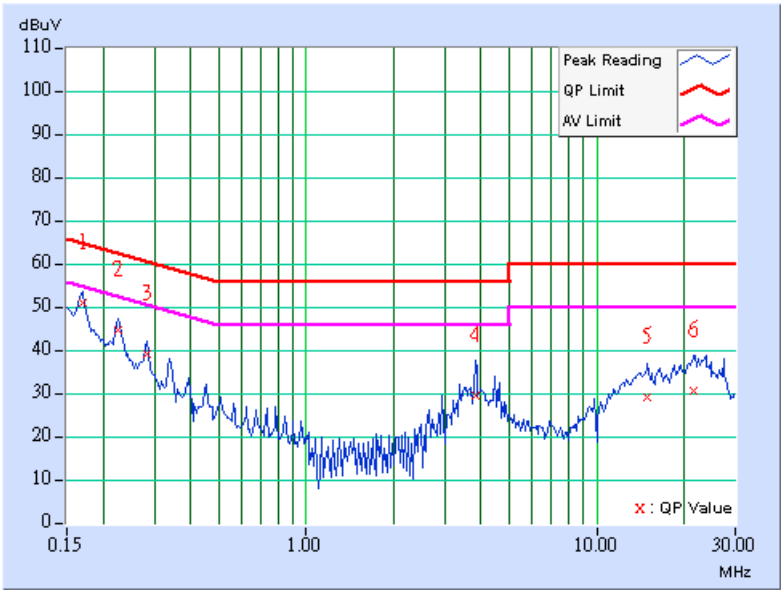
REMARKS: 1. Q.P. and AV. are abbreviations of quasi-peak and average individually.
2. "-": The Quasi-peak reading value also meets average limit and measurement with the average detector is unnecessary.
3. The emission levels of other frequencies were very low against the limit.
4. Margin value = Emission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



EUT	Mini- PCI CARD	**MODEL**	WLL4030
MODE	Channel 6	**6dB BANDWIDTH**	9 kHz
INPUT POWER (SYSTEM)	120Vac, 60Hz	**PHASE**	Neutral (N)
ENVIRONMENTAL CONDITIONS	23deg. C, 65%RH, 991hPa	**TESTED BY**	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	0.170	0.10	50.60	-	50.70	-	64.98	54.98	-14.29	-
2	0.224	0.10	44.30	-	44.40	-	62.66	52.66	-18.26	-
3	0.283	0.11	38.46	-	38.57	-	60.73	50.73	-22.17	-
4	3.832	0.30	29.11	-	29.41	-	56.00	46.00	-26.59	-
5	14.961	0.56	28.66	-	29.22	-	60.00	50.00	-30.78	-
6	21.605	0.67	30.05	-	30.72	-	60.00	50.00	-29.28	-

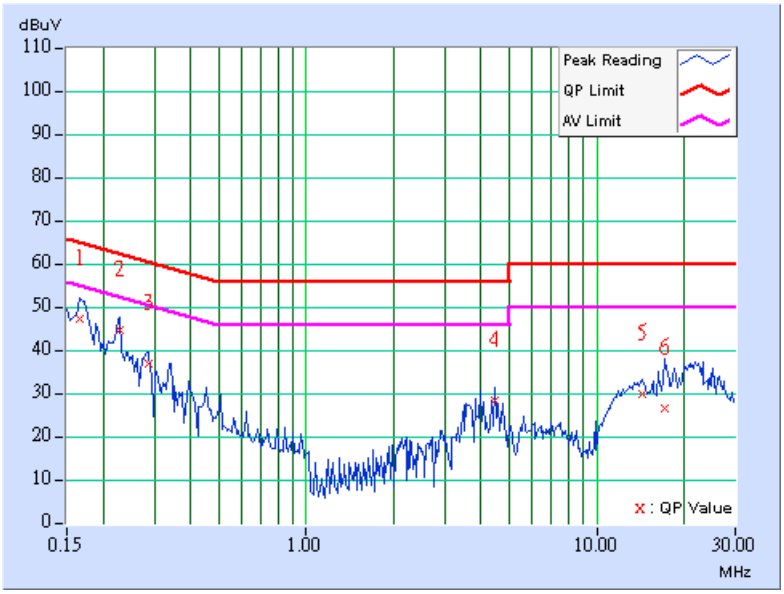
REMARKS: 1. Q.P. and AV. are abbreviations of quasi-peak and average individually.
2. "-": The Quasi-peak reading value also meets average limit and measurement with the average detector is unnecessary.
3. The emission levels of other frequencies were very low against the limit.
4. Margin value = Emission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



EUT	Mini- PCI CARD	**MODEL**	WLL4030
MODE	Channel 11	**6dB BANDWIDTH**	9 kHz
INPUT POWER (SYSTEM)	120Vac, 60Hz	**PHASE**	Line (L)
ENVIRONMENTAL CONDITIONS	23deg. C, 65%RH, 991hPa	**TESTED BY**	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	0.166	0.10	46.75	-	46.85	-	65.18	55.18	-18.32	-
2	0.228	0.10	44.04	-	44.14	-	62.52	52.52	-18.38	-
3	0.287	0.11	36.19	-	36.30	-	60.62	50.62	-24.32	-
4	4.465	0.33	27.78	-	28.11	-	56.00	46.00	-27.89	-
5	14.371	0.68	29.19	-	29.87	-	60.00	50.00	-30.13	-
6	17.180	0.80	25.85	-	26.65	-	60.00	50.00	-33.35	-

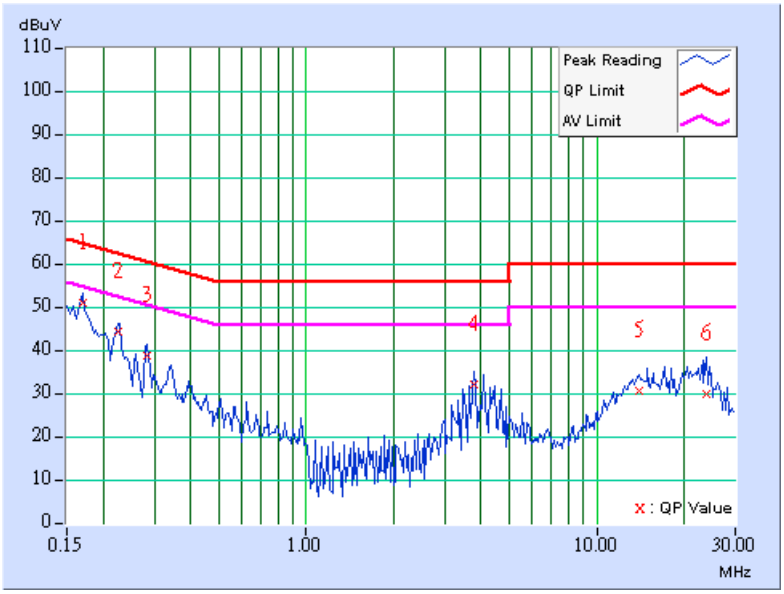
REMARKS: 1. Q.P. and AV. are abbreviations of quasi-peak and average individually.
2. "-": The Quasi-peak reading value also meets average limit and measurement with the average detector is unnecessary.
3. The emission levels of other frequencies were very low against the limit.
4. Margin value = Emission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



EUT	Mini- PCI CARD	**MODEL**	WLL4030
MODE	Channel 11	**6dB BANDWIDTH**	9 kHz
INPUT POWER (SYSTEM)	120Vac, 60Hz	**PHASE**	Neutral (N)
ENVIRONMENTAL CONDITIONS	23deg. C, 65%RH, 991hPa	**TESTED BY**	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	0.170	0.10	50.34	-	50.44	-	64.98	54.98	-14.55	-
2	0.224	0.10	43.73	-	43.83	-	62.66	52.66	-18.83	-
3	0.283	0.11	38.20	-	38.31	-	60.73	50.73	-22.43	-
4	3.785	0.30	31.48	-	31.78	-	56.00	46.00	-24.22	-
5	14.059	0.55	30.00	-	30.55	-	60.00	50.00	-29.45	-
6	23.746	0.69	29.30	-	29.99	-	60.00	50.00	-30.01	-

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



4.2 RADIATED EMISSION MEASUREMENT

4.2.1 LIMITS OF RADIATED EMISSION MEASUREMENT

Emissions radiated outside of the specified bands, shall be according to the general radiated limits in 15.209 as following:

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

NOTE:

1. The lower limit shall apply at the transition frequencies.
2. Emission level (dBuV/m) = 20 log Emission level (uV/m).
3. As shown in 15.35(b), for frequencies 1 ~ 25 GHz, the field strength limits are based on average detector, however, the peak field strength of any emission shall not exceed the maximum permitted average limits, specified above by more than 20dB under any condition of modulation.

4.2.2 TEST INSTRUMENTS

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATED UNTIL
Test Receiver ROHDE & SCHWARZ	ESI7	100033	Jun, 08, 2005
Spectrum Analyzer ROHDE & SCHWARZ	FSP40	100040	Dec. 15, 2004
BILOG Antenna SCHWARZBECK	VULB9168	9168-153	Feb. 03, 2005
HORN Antenna SCHWARZBECK	9120D	9120D-408	Feb. 03, 2005
HORN Antenna SCHWARZBECK	BBHA 9170	BBHA 9170243	Feb. 23, 2005
Preamplifier Agilent	8447D	2944A10633	Jan. 15, 2005
Preamplifier Agilent	8449B	3008A01964	Jan. 27, 2005
RF signal cable HUBER+SUHNNER	SUCOFLEX 104	218183/4	Mar. 05, 2005
RF signal cable HUBER+SUHNNER	SUCOFLEX 104	218195/4	Mar. 05, 2005
Software ADT.	ADT_Radiated_V5.14	NA	NA
Antenna Tower inn-co GmbH	MA 4000	013303	NA
Antenna Tower Controller inn-co GmbH	CO2000	017303	NA
Turn Table ADT.	TT100.	TT93021703	NA
Turn Table Controller ADT.	SC100.	SC93021703	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 2.

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 IC4924-3.

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- anechoic. The table was rotated 360 degrees to determine the position of the highest radiation.

b. The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.

c. The antenna is a broadband antenna, and its height is varied from one meter to four meters above the ground to determine the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna are set to make the measurement.

d. For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights from 1 meter to 4 meters and the rotatable table was turned from 0 degrees to 360 degrees to find the maximum reading.

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

f. If the emission level of the EUT in peak mode was 10 dB lower than the limit specified, then testing could be stopped and the peak values of the EUT would be reported. Otherwise the emissions that did not have 10 dB margin would be re-tested one by one using the quasi-peak method or average method as specified and then reported in Data sheet peak mode and QP mode.

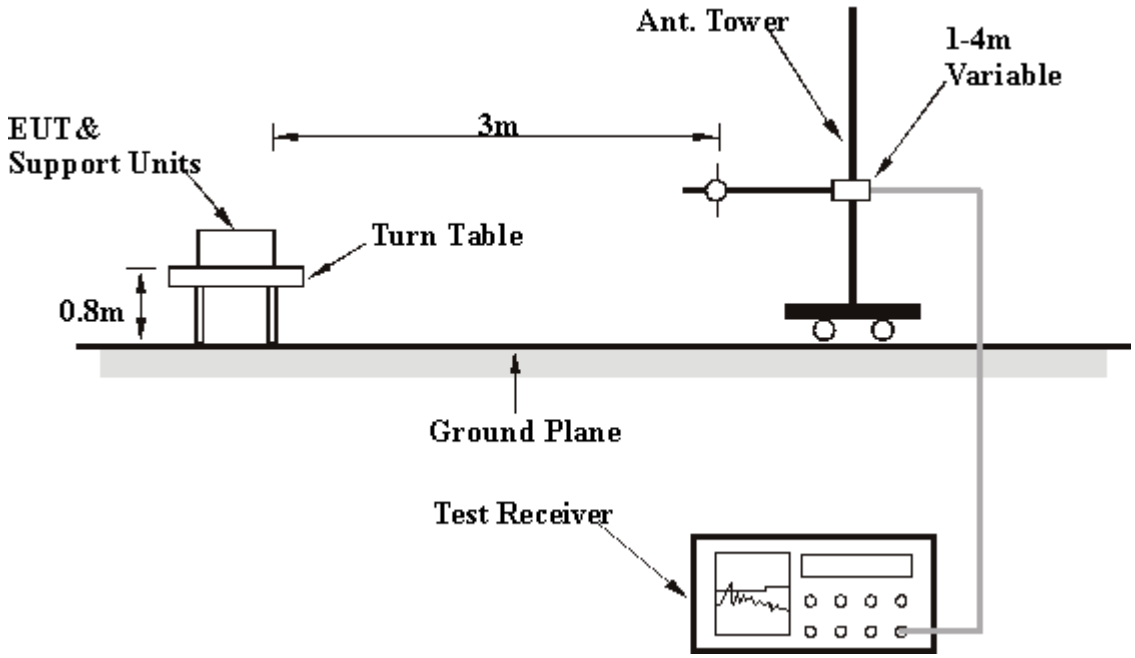
NOTE:

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

4.2.4 DEVIATION FROM TEST STANDARD

No deviation

4.2.5 TEST SETUP



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

4.2.6 EUT OPERATING CONDITIONS

Same as 4.1.6

4.2.7 TEST RESULTS

EUT	Mini- PCI CARD	MODEL	WLL4030
MODE	Channel 11	FREQUENCY RANGE	Below 1000MHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Quasi-Peak
ENVIRONMENTAL CONDITIONS	23deg. C, 65%RH, 991hPa	TESTED BY	Long Chen

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	99.50	41.50 QP	43.50	-2.00	1.07 H	85	30.39	11.11
2	167.50	40.20 QP	43.50	-3.30	1.15 H	332	26.12	14.08
3	199.50	37.50 QP	43.50	-6.00	1.02 H	304	26.00	11.50
4	235.20	38.40 QP	46.00	-7.60	1.15 H	62	25.46	12.94
5	264.50	41.50 QP	46.00	-4.50	1.05 H	335	27.70	13.80
6	351.40	32.50 QP	46.00	-13.50	1.44 H	85	16.61	15.89
7	400.20	32.80 QP	46.00	-13.20	1.07 H	31	15.84	16.96
8	599.50	34.50 QP	46.00	-11.50	1.18 H	98	13.26	21.24
9	732.50	38.40 QP	46.00	-7.60	1.02 H	62	15.13	23.27

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	**99.50**	**42.80 QP**	**43.50**	**-0.70**	**1.24 V**	**54**	**31.69**	**11.11**
2	133.50	38.50 QP	43.50	-5.00	1.07 V	84	24.79	13.71
3	168.20	39.50 QP	43.50	-4.00	1.15 V	82	25.48	14.02
4	199.80	32.80 QP	43.50	-10.70	1.02 V	112	21.32	11.48
5	232.50	39.50 QP	46.00	-6.50	1.12 V	352	26.73	12.77
6	545.20	39.50 QP	46.00	-6.50	1.02 V	325	19.80	19.70
7	635.60	41.85 QP	46.00	-4.15	1.32 V	85	20.11	21.74

REMARKS: 1. Emission level(dBuV/m)=Raw Value(dBuV) + Correction Factor(dB/m)

2. Correction Factor(dB/m) = Antenna Factor (dB/m) + Cable Factor (dB)

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

4. Margin value = Emission level – Limit value.

4.2.8 TEST RESULTS (A)

EUT	Mini- PCI CARD	**MODEL**	WLL4030
CHANNEL	Channel 1	**FREQUENCY RANGE**	1 ~ 25 GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	**DETECTOR FUNCTION**	Peak(PK) Average (AV)
ENVIRONMENTAL CONDITIONS	23deg. C, 65%RH, 991hPa	**TESTED BY**	Long Chen

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	2387.60	58.50 PK	74.00	-15.50	1.12 H	35	26.90	31.60
1	2387.60	50.40 AV	54.00	-3.60	1.12 H	35	18.80	31.60
2	*2412.00	109.20 PK			1.12 H	35	77.50	31.70
2	*2412.00	102.10 AV			1.12 H	35	70.40	31.70
3	2688.00	48.20 PK	74.00	-25.80	1.04 H	227	15.50	32.70
4	4824.00	57.40 PK	74.00	-16.60	1.72 H	34	19.82	37.58
4	4824.00	51.40 AV	54.00	-2.60	1.72 H	34	13.82	37.58

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	2388.00	53.80 PK	74.00	-20.20	1.08 V	321	22.20	31.60
1	2388.00	46.20 AV	54.00	-7.80	1.08V	321	14.60	31.60
2	*2412.00	105.40 PK			1.08 V	321	73.70	31.70
2	*2412.00	98.20 AV			1.08 V	321	66.50	31.70
3	2688.00	50.40 PK	74.00	-23.60	1.05 V	85	17.70	32.70
4	4824.00	53.50 PK	74.00	-20.50	1.14 V	352	15.92	37.58
4	4824.00	48.20 AV	54.00	-5.80	1.14 V	352	10.62	37.58

REMARKS: 1. Emission level(dBuV/m)=Raw Value(dBuV) + Correction Factor(dB/m)

2. Correction Factor(dB/m) = Antenna Factor (dB/m) + Cable Factor (dB)

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

4. Margin value = Emission level – Limit value.

5. " * " : Fundamental frequency.

EUT	Mini- PCI CARD	**MODEL**	WLL4030
CHANNEL	Channel 6	**FREQUENCY RANGE**	1 ~ 25 GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	**DETECTOR FUNCTION**	Peak(PK) Average (AV)
ENVIRONMENTAL CONDITIONS	23deg. C, 65%RH, 991hPa	**TESTED BY**	Long Chen

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	110.50 PK			1.35 H	35	78.65	31.85
1	*2437.00	102.80 AV			1.35 H	35	70.95	31.85
2	2688.00	47.50 PK	74.00	-26.50	1.32 H	115	14.80	32.70
3	4874.00	55.40 PK	74.00	-18.60	1.13 H	62	17.74	37.66
3	4874.00	49.80 AV	54.00	-4.20	1.13 H	62	12.14	37.66

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	106.20 PK			1.74 V	95	74.35	31.85
1	*2437.00	97.90 AV			1.74 V	95	66.05	31.85
2	2688.00	48.20 PK	74.00	-25.80	1.14 V	245	15.50	32.70
3	4874.00	53.20 PK	74.00	-20.80	1.52 V	77	15.54	37.66
3	4874.00	48.50 AV	54.00	-5.50	1.52 V	77	10.84	37.66

REMARS: 1. Emission level(dBuV/m)=Raw Value(dBuV) + Correction Factor(dB/m)

2. Correction Factor(dB/m) = Antenna Factor (dB/m) + Cable Factor (dB)

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

4. Margin value = Emission level – Limit value.

5. " * " : Fundamental frequency.

EUT	Mini- PCI CARD	MODEL	WLL4030
CHANNEL	Channel 11	FREQUENCY RANGE	1 ~ 25 GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak(PK) Average (AV)
ENVIRONMENTAL CONDITIONS	23deg. C, 65%RH, 991hPa	TESTED BY	Long Chen

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	109.40 PK			1.13 H	62	77.40	32.00
1	*2462.00	101.90 AV			1.13 H	62	69.90	32.00
2	2488.00	57.40 PK	74.00	-16.60	1.13 H	62	25.24	32.16
2	2488.00	51.10 AV	54.00	-2.90	1.13 H	62	18.94	32.16
3	2688.00	47.50 PK	74.00	-26.50	1.85 H	95	14.80	32.70
4	4924.00	55.70 PK	74.00	-18.30	1.02 H	335	17.96	37.74
4	4924.00	51.90 AV	54.00	-2.10	1.02 H	335	14.16	37.74

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	107.10 PK			1.02 V	352	75.10	32.00
1	*2462.00	99.10 AV			1.02 V	352	67.10	32.00
2	2488.20	55.40 PK	74.00	-18.60	1.02 V	352	23.24	32.16
2	2488.20	48.20 AV	54.00	-5.80	1.02 V	352	16.04	32.16
3	2688.00	49.40 PK	74.00	-24.60	1.17 V	32	16.70	32.70
4	4924.00	55.40 PK	74.00	-18.60	1.82 V	272	17.66	37.74
4	4924.00	50.10 AV	54.00	-3.90	1.82 V	272	12.36	37.74

REMARS:

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

4.2.9 TEST RESULTS (B)

Normal Mode

EUT	Mini- PCI CARD	**MODEL**	WLL4030
CHANNEL	Channel 1	**FREQUENCY RANGE**	1 ~ 25 GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	**DETECTOR FUNCTION**	Peak(PK) Average (AV)
ENVIRONMENTAL CONDITIONS	23deg. C, 65%RH, 991hPa	**TESTED BY**	Long Chen

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	60.10 PK	74.00	-13.90	1.12 H	335	28.49	31.61
1	2390.00	51.70 AV	54.00	-2.30	1.12 H	335	20.09	31.61
2	*2412.00	106.70 PK			1.12 H	335	75.00	31.70
2	*2412.00	96.80 AV			1.12 H	335	65.10	31.70
3	2688.00	48.10 PK	74.00	-25.90	1.08 H	68	15.40	32.70
4	4824.00	52.80 PK	74.00	-21.20	1.16 H	55	15.22	37.58
4	4824.00	40.00 AV	54.00	-14.00	1.16 H	55	2.42	37.58

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	52.70 PK	74.00	-21.30	1.65 V	352	21.09	31.61
1	2390.00	44.50 AV	54.00	-9.50	1.65 V	352	12.89	31.61
2	*2412.00	98.50 PK			1.65 V	352	66.80	31.70
2	*2412.00	90.80 AV			1.65 V	352	59.10	31.70
3	2688.00	48.10 PK	74.00	-25.90	1.74 V	62	15.40	32.70
4	4824.00	53.40 PK	74.00	-20.60	1.12 V	85	15.82	37.58
4	4824.00	42.10 AV	54.00	-11.90	1.12 V	85	4.52	37.58

REMARS:

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

EUT	Mini- PCI CARD	MODEL	WLL4030
CHANNEL	Channel 6	FREQUENCY RANGE	1 ~ 25 GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak(PK) Average (AV)
ENVIRONMENTAL CONDITIONS	23deg. C, 65%RH, 991hPa	TESTED BY	Long Chen

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	107.20 PK			1.13 H	25	75.35	31.85
1	*2437.00	96.80 AV			1.13 H	25	64.95	31.85
2	2688.00	47.50 PK	74.00	-26.50	1.02 H	332	14.80	32.70
3	4874.00	51.50 PK	74.00	-22.50	1.82 H	74	13.84	37.66
3	4874.00	40.80 AV	54.00	-13.20	1.82 H	74	3.14	37.66

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	99.80 PK			1.19 V	35	67.95	31.85
1	*2437.00	90.50 AV			1.19 V	35	58.65	31.85
2	2688.00	47.20 PK	74.00	-26.80	1.08 V	94	14.50	32.70
3	4874.00	53.20 PK	74.00	-20.80	1.17 V	226	15.54	37.66
3	4874.00	43.50 AV	54.00	-10.50	1.17 V	226	5.84	37.66

REMARKS: 1. Emission level(dBuV/m)=Raw Value(dBuV) + Correction Factor(dB/m)

2. Correction Factor(dB/m) = Antenna Factor (dB/m) + Cable Factor (dB)

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

4. Margin value = Emission level – Limit value.

5. " * " : Fundamental frequency.

EUT	Mini- PCI CARD	MODEL	WLL4030
CHANNEL	Channel 11	FREQUENCY RANGE	1 ~ 25 GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Peak(PK) Average (AV)
ENVIRONMENTAL CONDITIONS	23deg. C, 65%RH, 991hPa	TESTED BY	Long Chen

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	106.80 PK			1.62 H	55	74.80	32.00
1	*2462.00	96.50 AV			1.62 H	55	64.50	32.00
2	2483.50	59.80 PK	74.00	-14.20	1.62 H	55	27.67	32.13
2	2483.50	49.90 AV	54.00	-4.10	1.62 H	55	17.77	32.13
3	2688.00	47.20 PK	74.00	-26.80	1.12 H	62	14.50	32.70
4	4924.00	54.40 PK	74.00	-19.60	1.18 H	352	16.66	37.74
4	4924.00	44.50 AV	54.00	-9.50	1.18 H	352	6.76	37.74

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	100.20 PK			1.31 V	297	68.20	32.00
1	*2462.00	89.10 AV			1.31 V	297	57.10	32.00
2	2483.50	52.00 PK	74.00	-22.00	1.31 V	297	19.87	32.13
2	2483.50	43.00 AV	54.00	-11.00	1.31 V	297	10.87	32.13
3	2688.00	47.20 PK	74.00	-26.80	1.52 V	84	14.50	32.70
4	4924.00	55.40 PK	74.00	-18.60	1.52 V	74	17.66	37.74
4	4924.00	43.20 AV	54.00	-10.80	1.52 V	74	5.46	37.74

REMARKS: 1. Emission level(dBuV/m)=Raw Value(dBuV) + Correction Factor(dB/m)

2. Correction Factor(dB/m) = Antenna Factor (dB/m) + Cable Factor (dB)

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

4. Margin value = Emission level – Limit value.

5. " * " : Fundamental frequency.

Turbo mode

EUT	Mini- PCI CARD	**MODEL**	WLL4030
CHANNEL	Channel 6	**FREQUENCY RANGE**	1 ~ 25 GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	**DETECTOR FUNCTION**	Peak(PK) Average (AV)
ENVIRONMENTAL CONDITIONS	25deg. C, 62%RH, 991hPa	**TESTED BY**	Long Chen

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3M

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	61.28 PK	74.00	-12.72	1.38 H	25	29.67	31.61
1	2390.00	51.48 AV	54.00	-2.52	1.38 H	25	19.87	31.61
2	*2437.00	108.50 PK			1.38 H	25	76.65	31.85
2	*2437.00	98.70 AV			1.38 H	25	66.85	31.85
3	2483.50	59.93 PK	74.00	-14.07	1.38 H	25	27.80	32.13
3	2483.50	50.13 AV	54.00	-3.87	1.38 H	25	18.00	32.13
4	2688.00	48.38 PK	74.00	-25.62	1.24 H	8	15.68	32.70
5	4874.00	52.39 PK	74.00	-21.61	1.63 H	284	14.73	37.66
5	4874.00	46.63 AV	54.00	-7.37	1.63 H	284	8.97	37.66

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3M

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	55.17 PK	74.00	-18.83	1.38 V	109	23.56	31.61
1	2390.00	44.04 AV	54.00	-9.96	1.38 V	109	12.43	31.61
2	*2437.00	102.39 PK			1.38 V	109	70.54	31.85
2	*2437.00	91.26 AV			1.38 V	109	59.41	31.85
3	2483.50	53.82 PK	74.00	-20.18	1.38 V	109	21.69	32.13
3	2483.50	42.69 AV	54.00	-11.31	1.38 V	109	10.56	32.13
4	2688.00	45.31 PK	74.00	-28.69	1.14 V	289	12.61	32.70
5	4874.00	46.58 PK	74.00	-27.42	1.32 V	146	8.92	37.66

REMARKS:
1. Emission level(dBuV/m)=Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor (dB/m) + Cable Factor (dB)
3. The other emission levels were very low against the limit.
4. Margin value = Emission level – Limit value.
5. 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
SPECTRUM ANALYZER	FSEK 30	100049	Aug. 12, 2005

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 100kHz RBW and 100kHz VBW. The 6dB bandwidth is defined as the total spectrum the power of which is higher than peak power minus 6dB.

4.3.4 DEVIATION FROM TEST STANDARD

No deviation

4.3.5 TEST SETUP

4.3.6 EUT OPERATING CONDITIONS

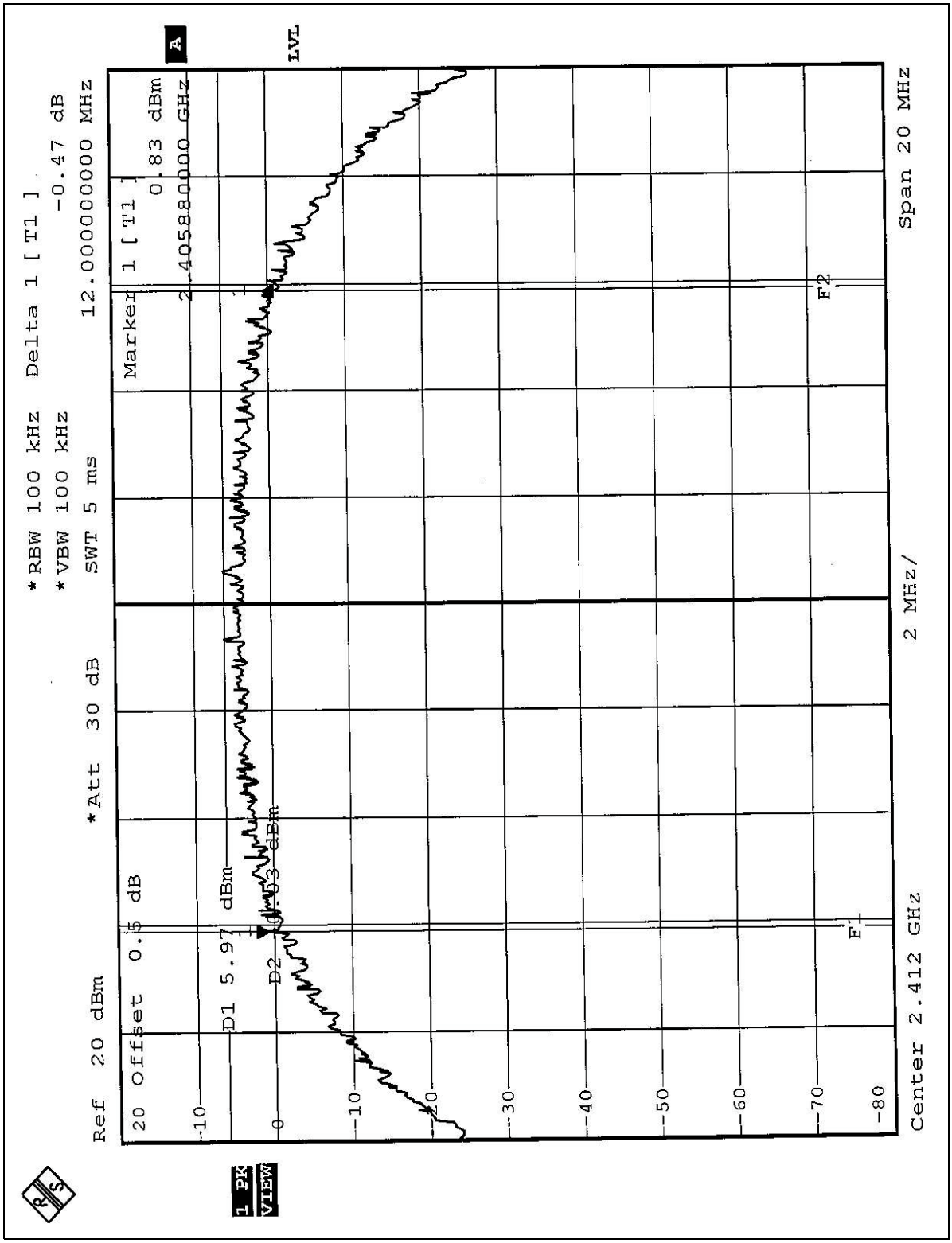
The software provided by client to enable the EUT under transmission condition continuously at lowest, middle and highest channel frequencies individually.

4.3.7 TEST RESULTS (A)

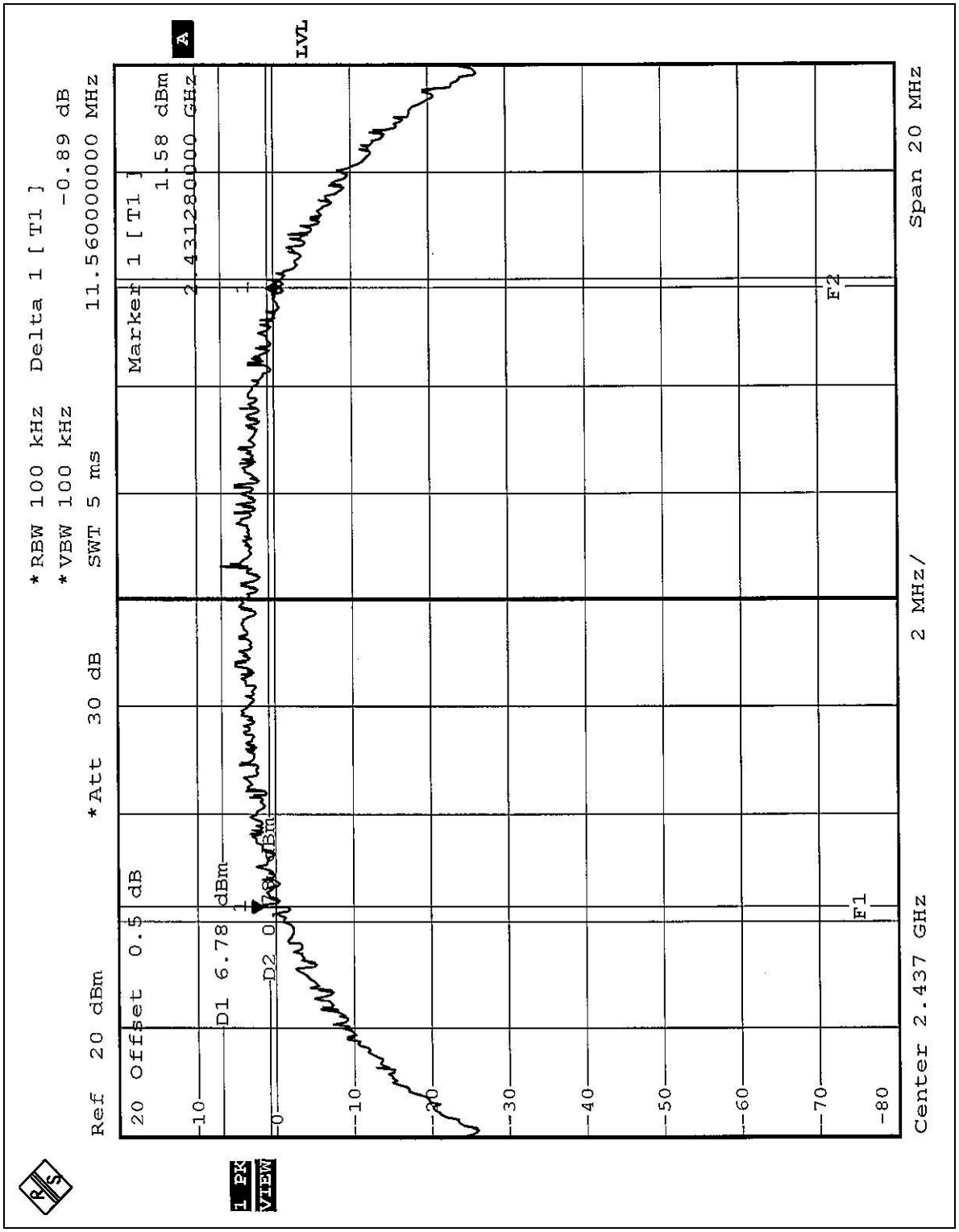
EUT	Mini- PCI CARD	**MODEL**	WLL4030
MODE	CCK	**INPUT POWER (SYSTEM)**	120Vac, 60 Hz
ENVIRONMENTAL CONDITIONS	27deg. C, 57%RH, 991hPa	**TESTED BY**	Steven Lu

CHANNEL	CHANNEL FREQUENCY (MHz)	6dB BANDWIDTH (MHz)	MINIMUM LIMIT (MHz)	PASS/FAIL
1	2412	12.00	0.5	PASS
6	2437	11.56	0.5	PASS
11	2462	11.20	0.5	PASS

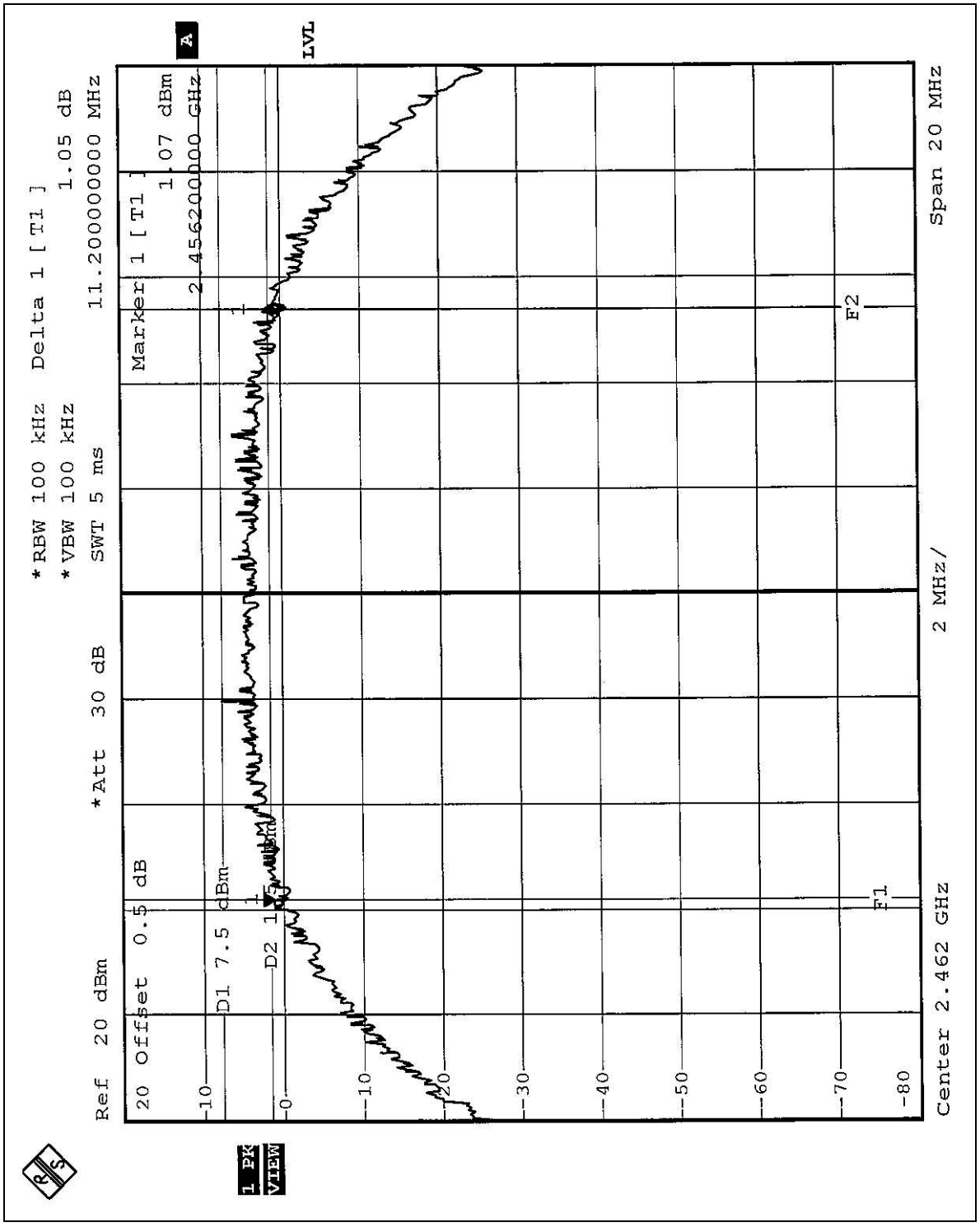
CH1


Ref 20 dBm
20 Offset 0.5 dB
*Att 30 dB
*VBW 100 kHz
SWT 5 ms
*RBW 100 kHz
Delta 1 [T1]
-0.47 dB
12.000000000 MHz
Marker 1 [T1]
0.83 dBm
2.405880000 GHz
D1 5.97 dBm
D2 -13 dBm
Center 2.412 GHz
2 MHz/
Span 20 MHz
F1
F2
1 PK
VIEW

CH6


*RBW 100 kHz
*VBW 100 kHz
SWT 5 ms
Delta 1 [T1]
-0.89 dB
11.560000000 MHz
Marker 1 [T1]
1.58 dBm
2.431280000 GHz
*Att 30 dB
Ref 20 dBm
20 Offset 0.5 dB
D1 6.78 dBm
D2 0 dBm
LVL
A
1 PK
VIEW
F1
F2
Center 2.437 GHz
2 MHz/
Span 20 MHz

CH11


RBW 100 kHz
VBW 100 kHz
SWT 5 ms
Delta 1 [T1]
1.05 dB
11.200000000 MHz
Marker 1 [T1]
1.07 dBm
2.456200000 GHz
Ref 20 dBm
Offset 0.5 dB
Att 30 dB
D1 7.5 dBm
D2 1 dBm
F1
F2
Center 2.462 GHz
2 MHz/
Span 20 MHz
LVL
1 PK
VIEW

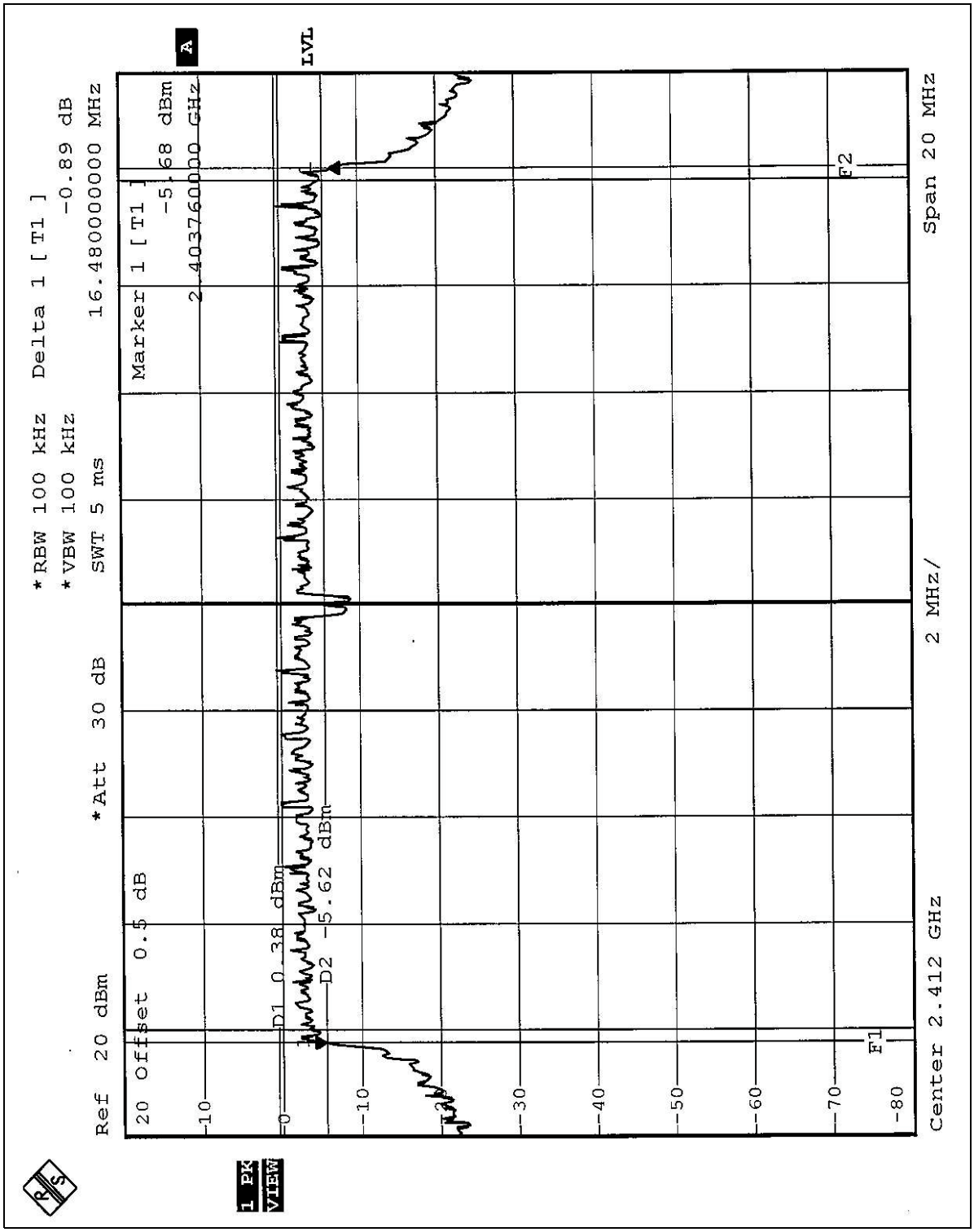
4.3.8 TEST RESULTS (B)

Normal Mode

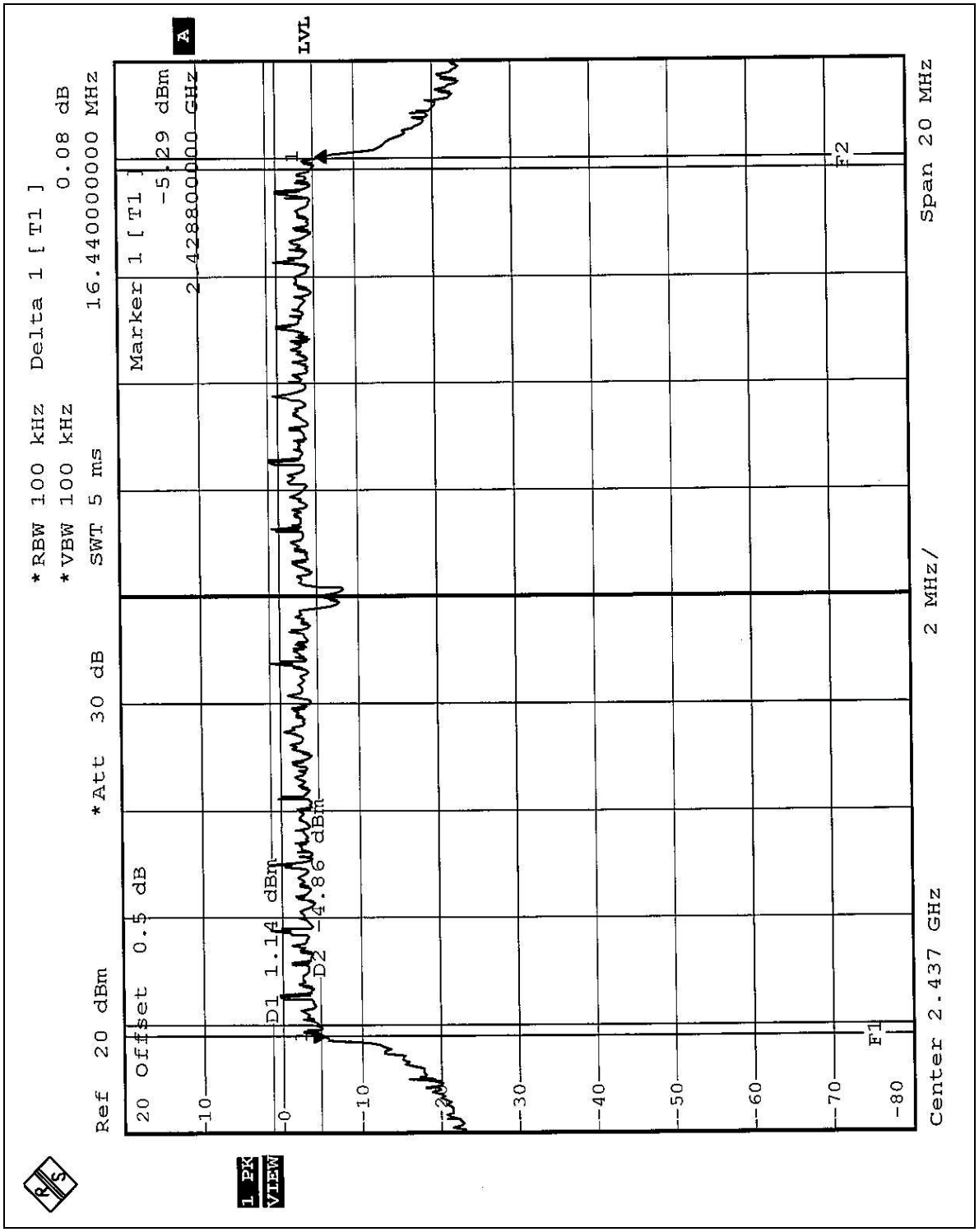
EUT	Mini- PCI CARD	**MODEL**	WLL4030
MODE	OFDM	**INPUT POWER (SYSTEM)**	120Vac, 60 Hz
ENVIRONMENTAL CONDITIONS	24deg. C, 57%RH, 991hPa	**TESTED BY**	Steven Lu

CHANNEL	CHANNEL FREQUENCY (MHz)	6dB BANDWIDTH (MHz)	MINIMUM LIMIT (MHz)	PASS/FAIL
1	2412	16.48	0.5	PASS
6	2437	16.44	0.5	PASS
11	2462	16.40	0.5	PASS

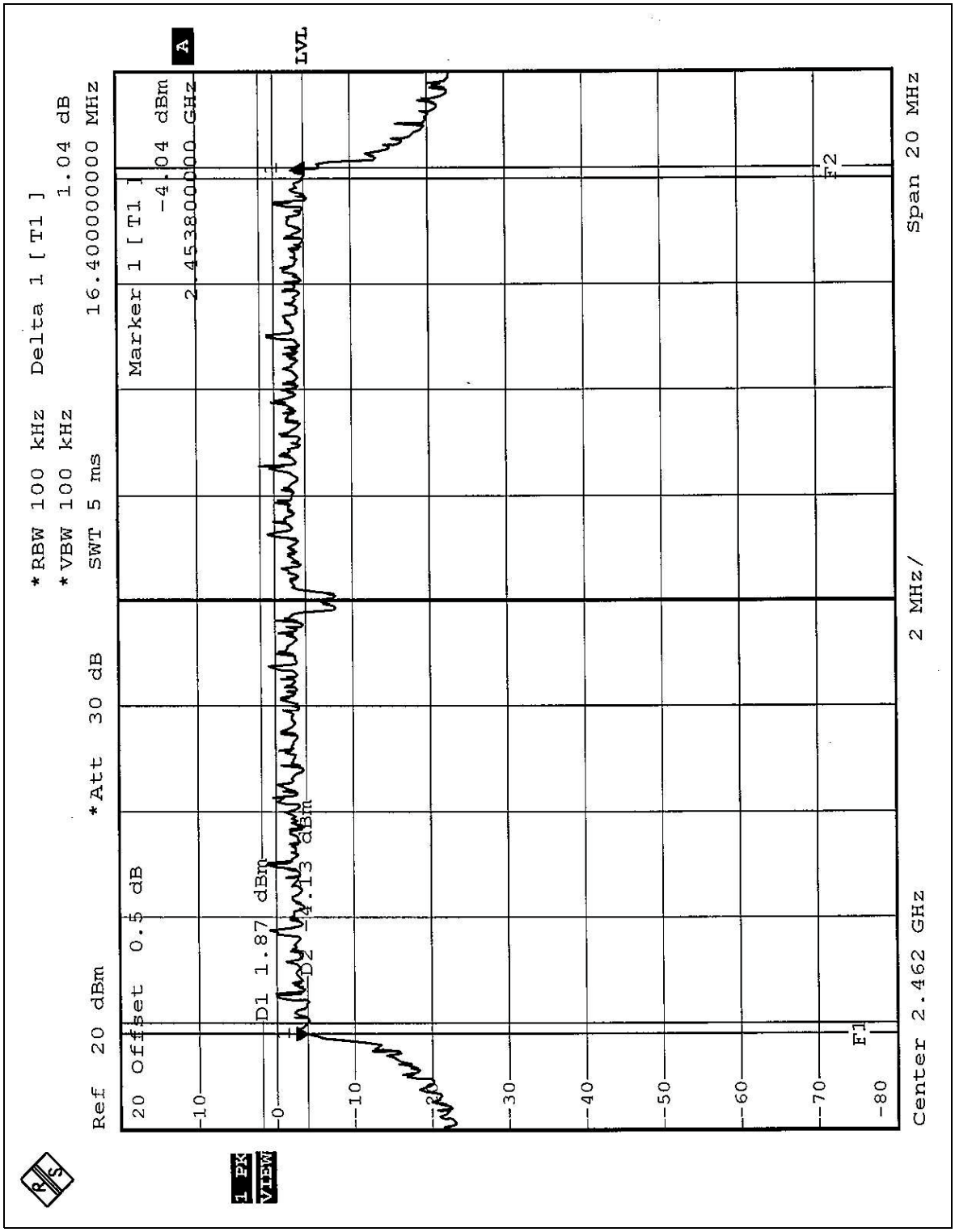
CH1


*RBW 100 kHz
*VBW 100 kHz
*Att 30 dB
SWT 5 ms
Delta 1 [T1]
-0.89 dB
16.480000000 MHz
Marker 1 [T1]
-5.68 dBm
2.403760000 GHz
Ref 20 dBm
20 Offset 0.5 dB
D1 0.38 dBm
D2 -5.62 dBm
Center 2.412 GHz
2 MHz/
Span 20 MHz
F1
F2
LVL
A
1 PK
VIEW

CH6


*RBW 100 kHz
*VBW 100 kHz
SWT 5 ms
Delta 1 [T1]
0.08 dB
16.44000000 MHz
Marker 1 [T1]
-5.29 dBm
2.42880000 GHz
Ref 20 dBm
Offset 0.5 dB
*Att 30 dB
D1 1.14 dBm
D2 -4.86 dBm
Center 2.437 GHz
2 MHz/
Span 20 MHz
F1
F2
1 PK
VIEW
A
1VL

CH11

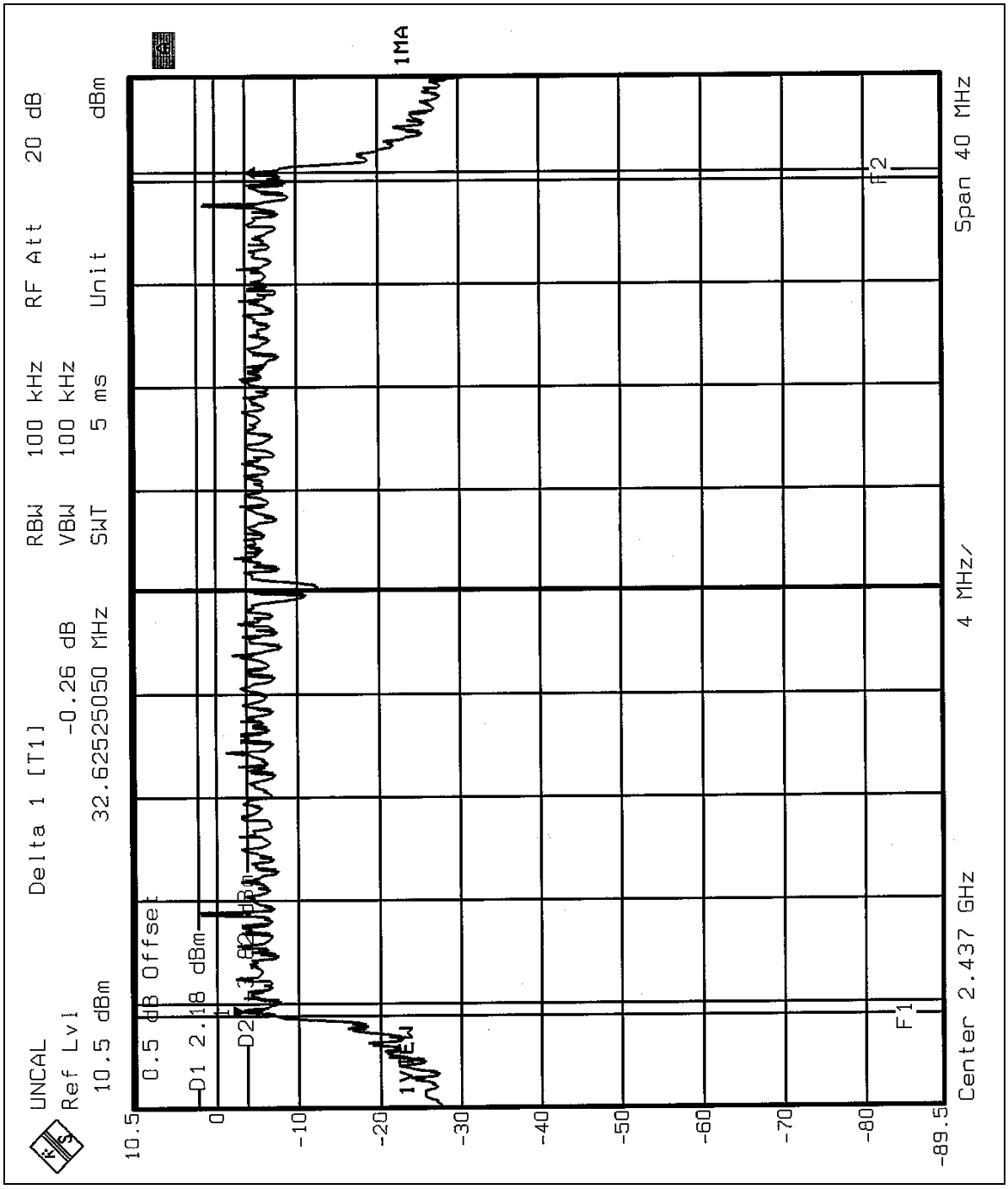

*RBW 100 kHz
*VBW 100 kHz
SWT 5 ms
Delta 1 [T1]
1.04 dB
16.400000000 MHz
Marker 1 [T1]
-4.04 dBm
2.453800000 GHz
A
LVL
Ref 20 dBm
20 Offset 0.5 dB
*Att 30 dB
D1 1.87 dBm
D2 -4.13 dBm
F1
F2
Center 2.462 GHz
2 MHz/
Span 20 MHz
1 PK
VIEW

Turbo mode

EUT	Mini- PCI CARD	**MODEL**	WLL4030
MODE	OFDM	**INPUT POWER (SYSTEM)**	120Vac, 60 Hz
ENVIRONMENTAL CONDITIONS	24deg. C, 66%RH, 991hPa	**TESTED BY**	Steven Lu

CHANNEL	CHANNEL FREQUENCY (MHz)	6dB BANDWIDTH (MHz)	MINIMUM LIMIT (MHz)	PASS/FAIL
6	2437	32.62	0.5	PASS

CH6


UNCAL
Ref Lvl
10.5 dBm
Delta 1 [T1]
-0.26 dB
32.62525050 MHz
RBW 100 kHz
VBW 100 kHz
SWT 5 ms
RF Att 20 dB
Unit dBm
0.5 dB Offset
D1 2.18 dBm
D2
1MA
1VIEW
F1
F2
Center 2.437 GHz
4 MHz/
Span 40 MHz
10.5
0
-10
-20
-30
-40
-50
-60
-70
-80
-89.5

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 INSTRUMENTS

Description & Manufacturer	Model No.	Serial No.	Calibrated Until
R&S SPECTRUM ANALYZER	FSEK30	100049	Aug. 12, 2005
AGILENT SIGNAL GENERATOR	E8257C	MY43320668	Dec. 31, 2004
TEKTRONIX OSCILLOSCOPE	TDS 1012	C019167	Feb. 01, 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..

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4.4.1 TEST PROCEDURES

1. A detector was used on the output port of the EUT. An oscilloscope was used to read the 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 reading on oscilloscope. Record the power level.

4.4.2 DEVIATION FROM TEST STANDARD

No deviation

4.4.3 TEST SETUP

4.4.4 EUT OPERATING CONDITIONS

Same as Item 4.3.6

4.4.3 TEST RESULTS (A)

EUT	Mini- PCI CARD	MODEL	WLL4030
INPUT POWER (SYSTEM)	120Vac, 60Hz	ENVIRONMENTAL CONDITIONS	27deg. C, 57%RH, 991hPa
MODE	CCK	TESTED BY	Steven Lu

CHANNEL	CHANNEL FREQUENCY (MHz)	PEAK POWER OUTPUT (mW)	PEAK POWER OUTPUT (dBm)	PEAK POWER LIMIT (dBm)	PASS/FAIL
1	2412	43.853	16.42	30	PASS
6	2437	43.351	16.37	30	PASS
11	2462	43.652	16.40	30	PASS

4.4.4 TEST RESULTS (B)

Normal Mode

EUT	Mini- PCI CARD	MODEL	WLL4030
INPUT POWER (SYSTEM)	120Vac, 60Hz	ENVIRONMENTAL CONDITIONS	27deg. C, 57%RH, 991hPa
MODE	OFDM	TESTED BY	Steven Lu

CHANNEL	CHANNEL FREQUENCY (MHz)	PEAK POWER OUTPUT (mW)	PEAK POWER OUTPUT (dBm)	PEAK POWER LIMIT (dBm)	PASS/FAIL
1	2412	43.853	16.42	30	PASS
6	2437	43.652	16.40	30	PASS
11	2462	43.652	16.40	30	PASS

Turbo mode

EUT	Mini- PCI CARD	MODEL	WLL4030
INPUT POWER (SYSTEM)	120Vac, 60Hz	ENVIRONMENTAL CONDITIONS	24deg.C, 66%RH, 991hPa
MODE	OFDM	TESTED BY	Steven Lu

CHANNEL	CHANNEL FREQUENCY (MHz)	PEAK POWER OUTPUT (mW)	PEAK POWER OUTPUT (dBm)	PEAK POWER LIMIT (dBm)	PASS/FAIL
6	2437	43.652	16.40	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	FSEK30	100049	Aug. 12, 2005

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

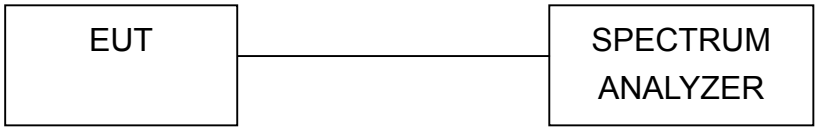
4.5.3 TEST PROCEDURE

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 3kHz RBW and 30kHz 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 DEVIATION FROM TEST STANDARD

No deviation

4.5.5 TEST SETUP



4.5.6 EUT OPERATING CONDITION

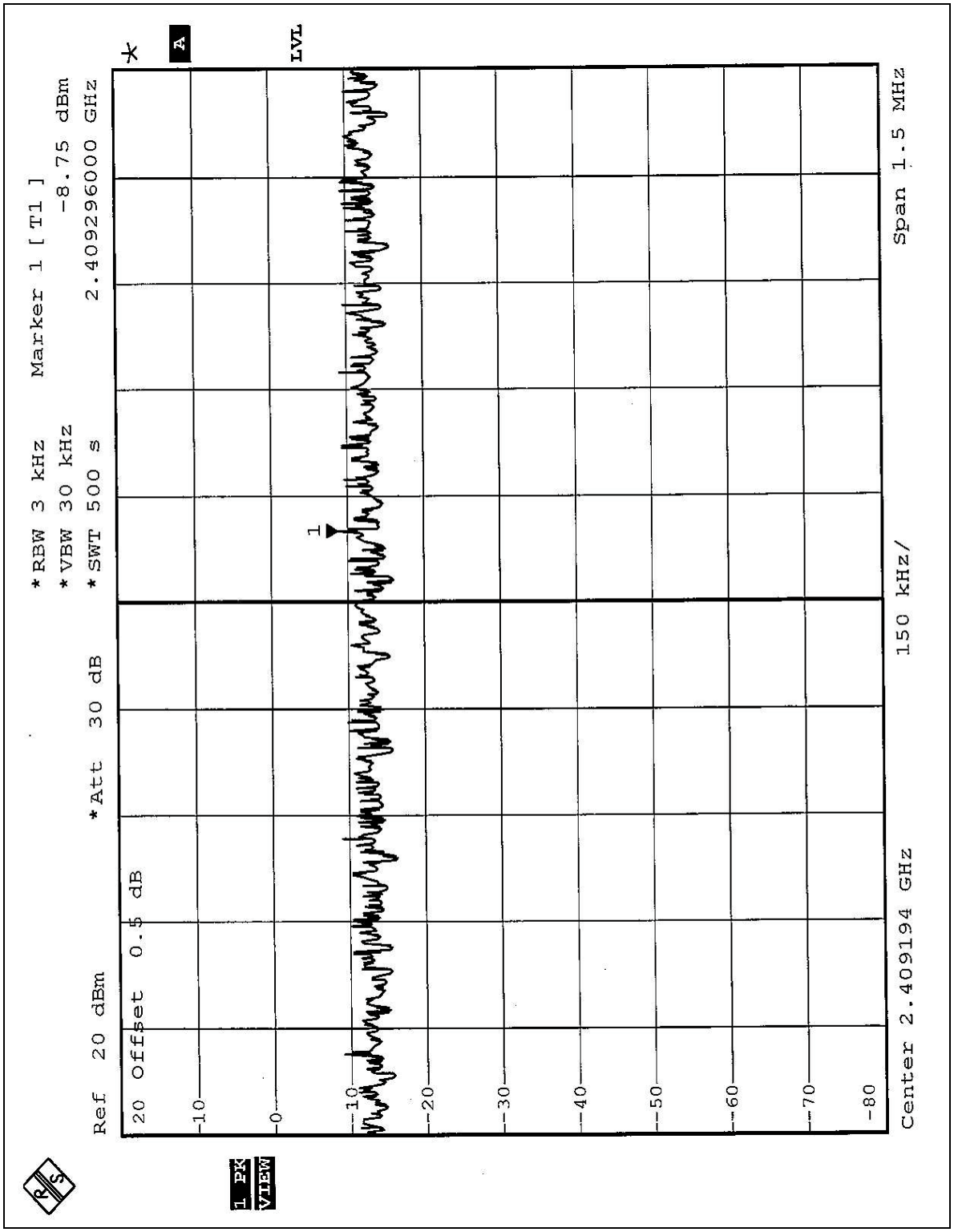
Same as Item 4.3.6

4.5.7 TEST RESULTS (A)

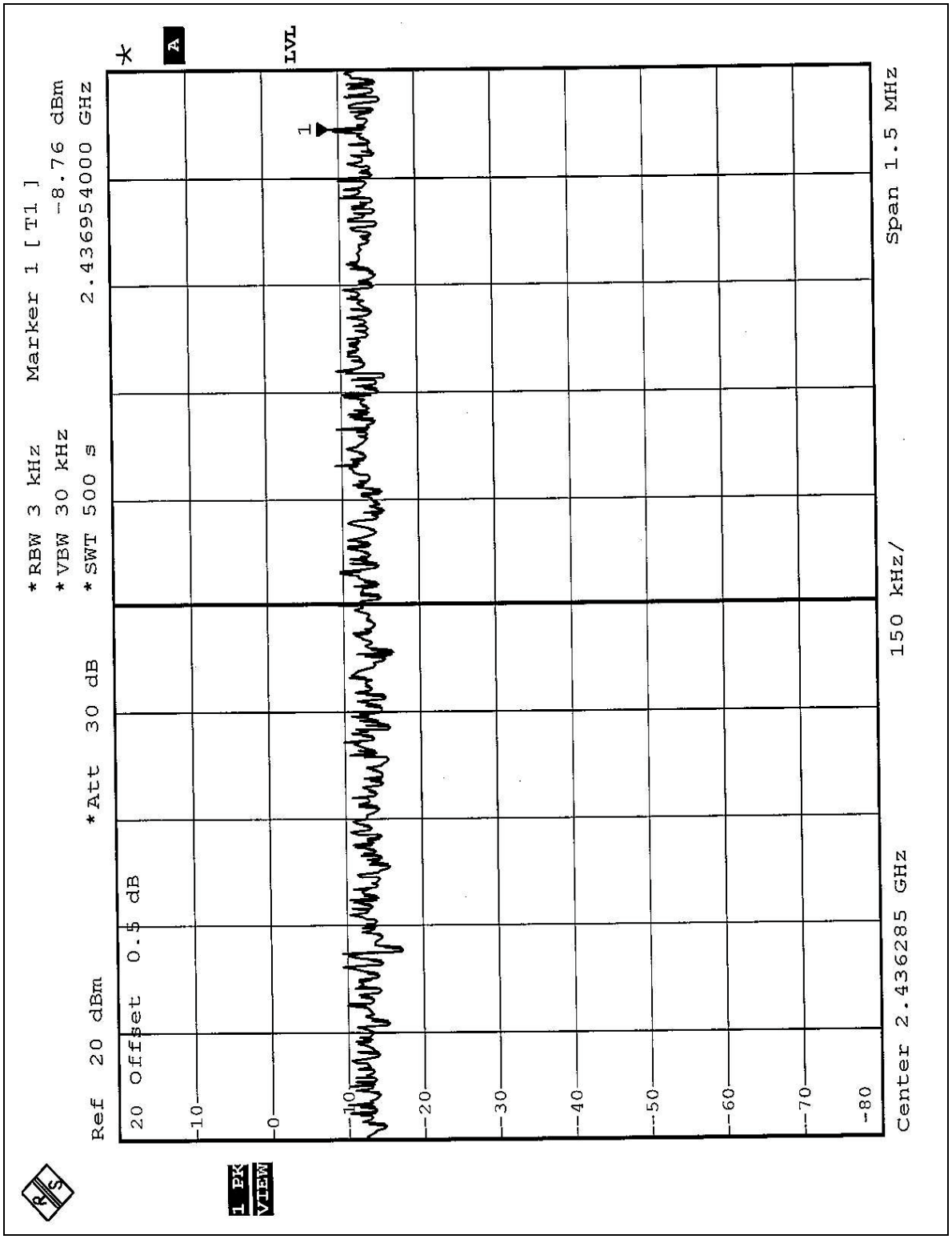
EUT	Mini- PCI CARD	**MODEL**	WLL4030
INPUT POWER (SYSTEM)	120Vac, 60Hz	**ENVIRONMENTAL CONDITIONS**	24deg.C, 57%RH, 991hPa
MODE	CCK	**TESTED BY**	Steven Lu

CHANNEL	CHANNEL FREQUENCY (MHz)	RF POWER LEVEL IN 3kHz BW (dBm)	MAXIMUM LIMIT (dBm)	PASS/FAIL
1	2412	-8.75	8	PASS
6	2437	-8.76	8	PASS
11	2462	-8.30	8	PASS

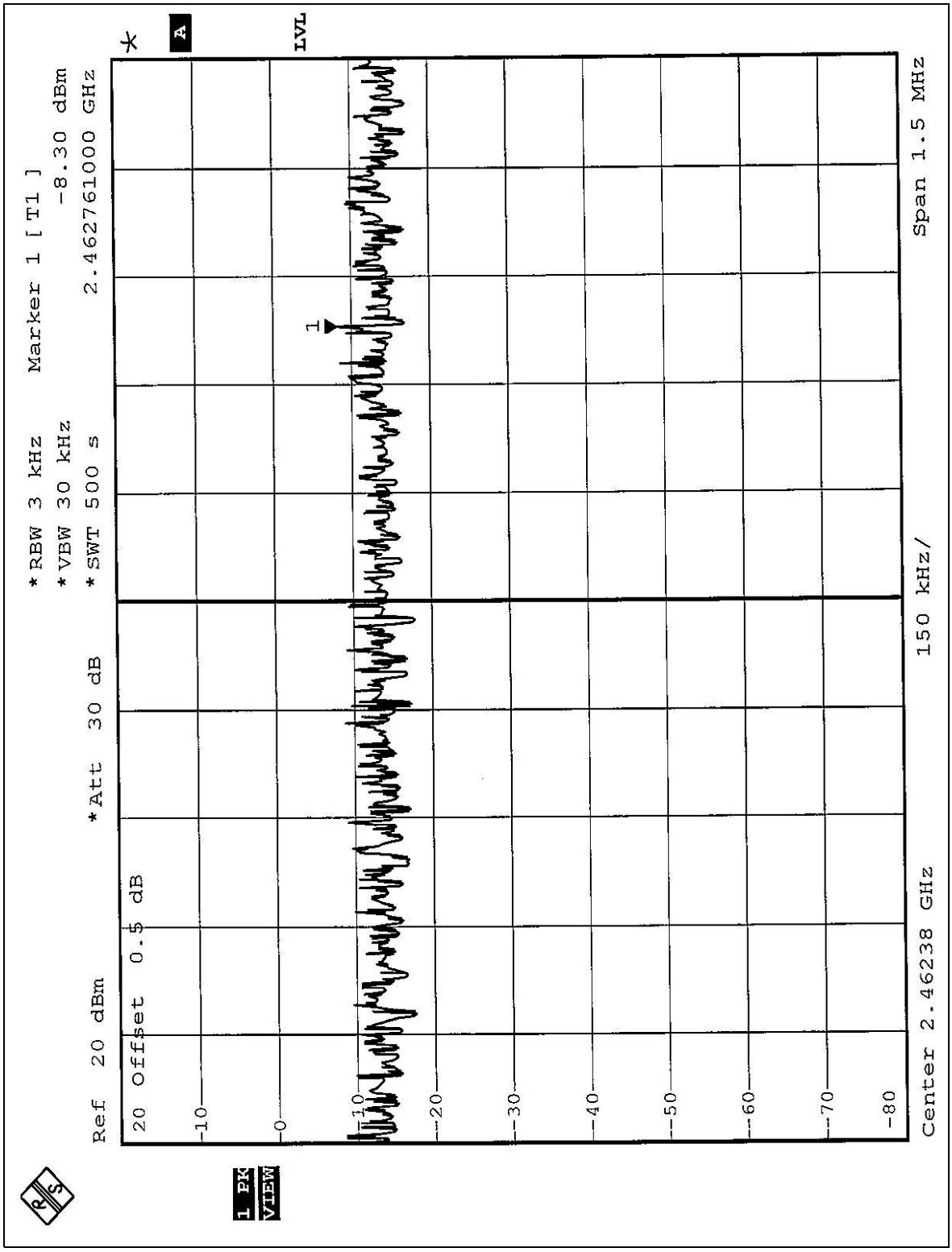
CH1


Ref 20 dBm
20 Offset 0.5 dB
*Att 30 dB
*RBW 3 kHz
*VBW 30 kHz
*SWT 500 s
Marker 1 [T1]
-8.75 dBm
2.409296000 GHz
Center 2.409194 GHz
150 kHz/
Span 1.5 MHz
1 PK VIEW

CH6


Ref 20 dBm
20 Offset 0.5 dB
*Att 30 dB
*RBW 3 kHz
*VBW 30 kHz
*SWT 500 s
Marker 1 [T1]
-8.76 dBm
2.436954000 GHz
Center 2.436285 GHz
150 kHz/
Span 1.5 MHz
1 PK
VIEW
LVL
A

CH11


Ref 20 dBm
20 Offset 0.5 dB
*Att 30 dB
*RBW 3 kHz
*VBW 30 kHz
*SWT 500 s
Marker 1 [T1]
-8.30 dBm
2.462761000 GHz
Center 2.46238 GHz
150 kHz/
Span 1.5 MHz
1 PK VIEW

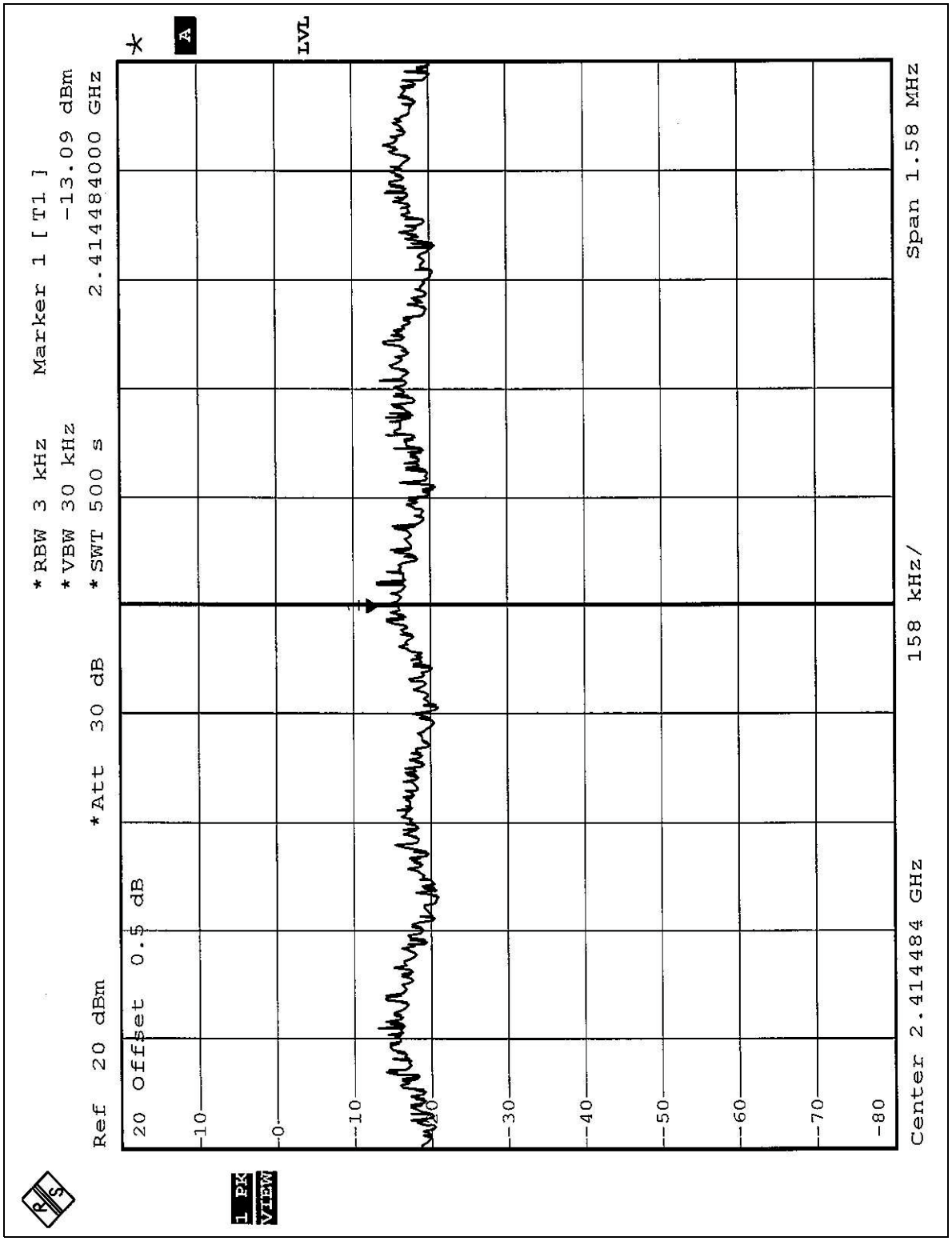
4.5.8 TEST RESULTS (B)

Normal Mode

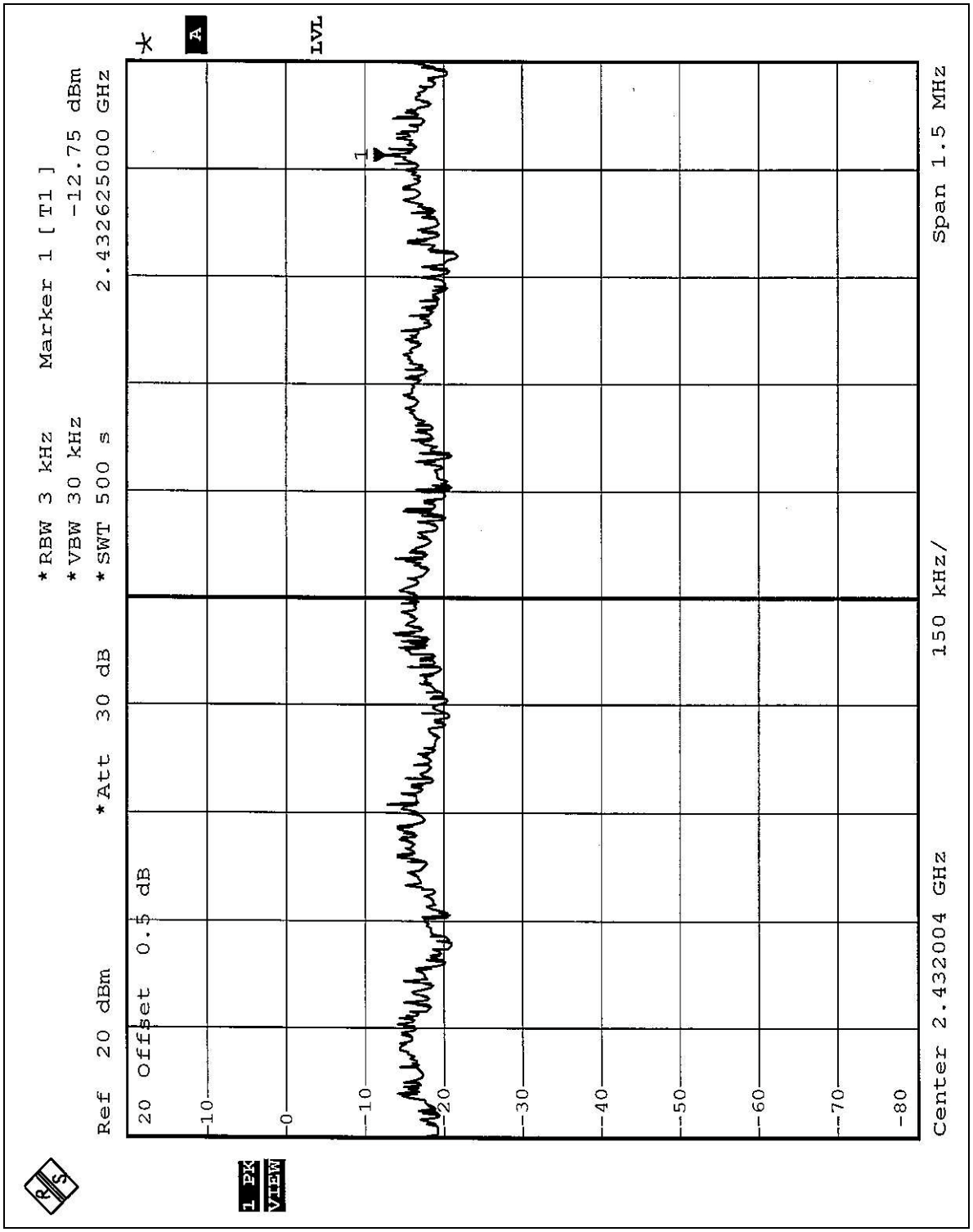
EUT	Mini- PCI CARD	**MODEL**	WLL4030
INPUT POWER (SYSTEM)	120Vac, 60Hz	**ENVIRONMENTAL CONDITIONS**	24deg.C, 57%RH, 991hPa
MODE	OFDM	**TESTED BY**	Steven Lu

CHANNEL	CHANNEL FREQUENCY (MHz)	RF POWER LEVEL IN 3kHz BW (dBm)	MAXIMUM LIMIT (dBm)	PASS/FAIL
1	2412	-13.09	8	PASS
6	2437	-12.75	8	PASS
11	2462	-12.20	8	PASS

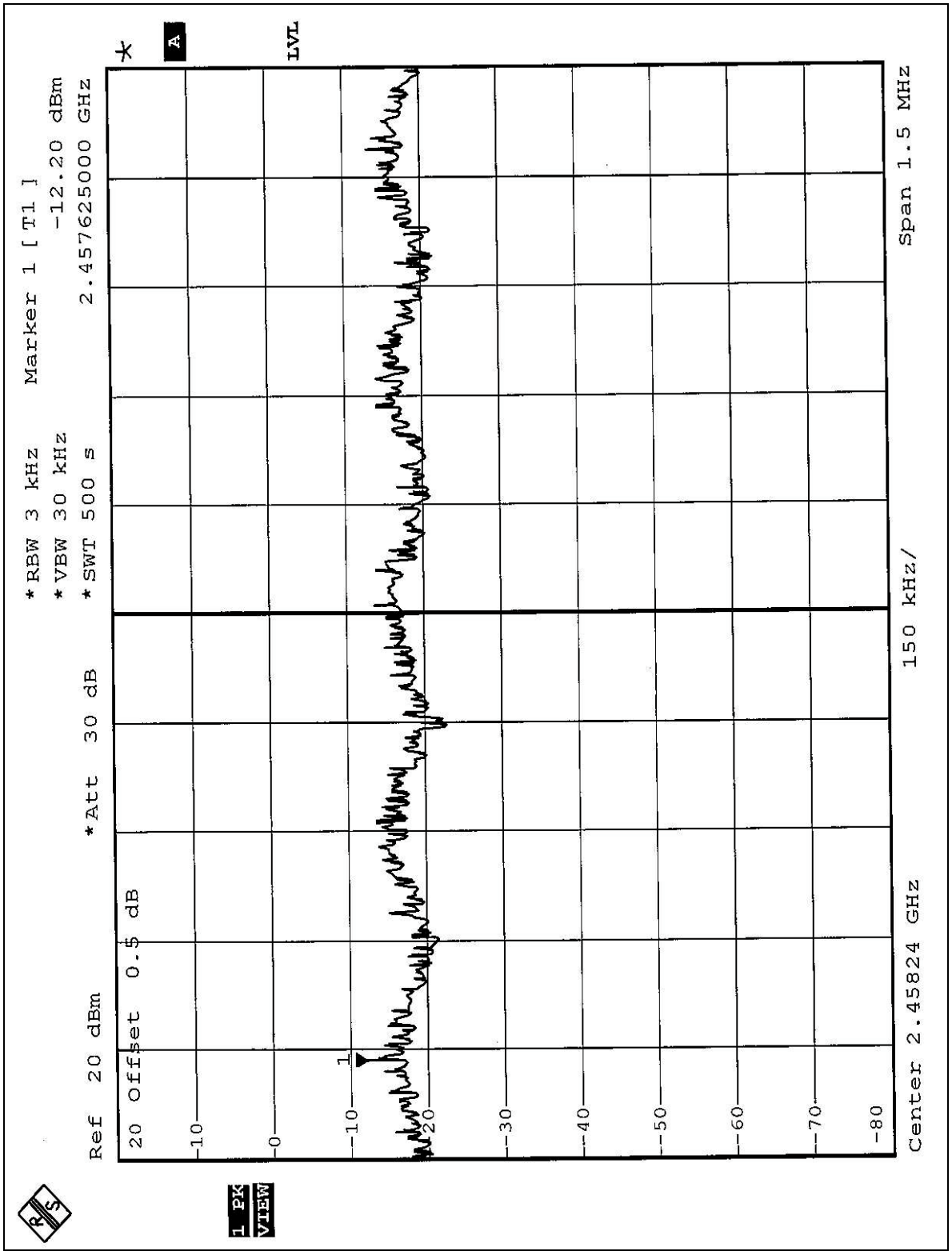
CH1


Ref 20 dBm
20 Offset 0.5 dB
*Att 30 dB
*RBW 3 kHz
*VBW 30 kHz
*SWT 500 s
Marker 1 [T1]
-13.09 dBm
2.414484000 GHz
Center 2.414484 GHz
158 kHz/
Span 1.58 MHz
1 PK
VIEW
LVL
A

CH6


Marker 1 [T1]
-12.75 dBm
2.43262500 GHz
*RBW 3 kHz
*VBW 30 kHz
*SWT 500 s
*Att 30 dB
Offset 0.5 dB
Ref 20 dBm
Center 2.432004 GHz
150 kHz/
Span 1.5 MHz
1 PK VIEW

CH11

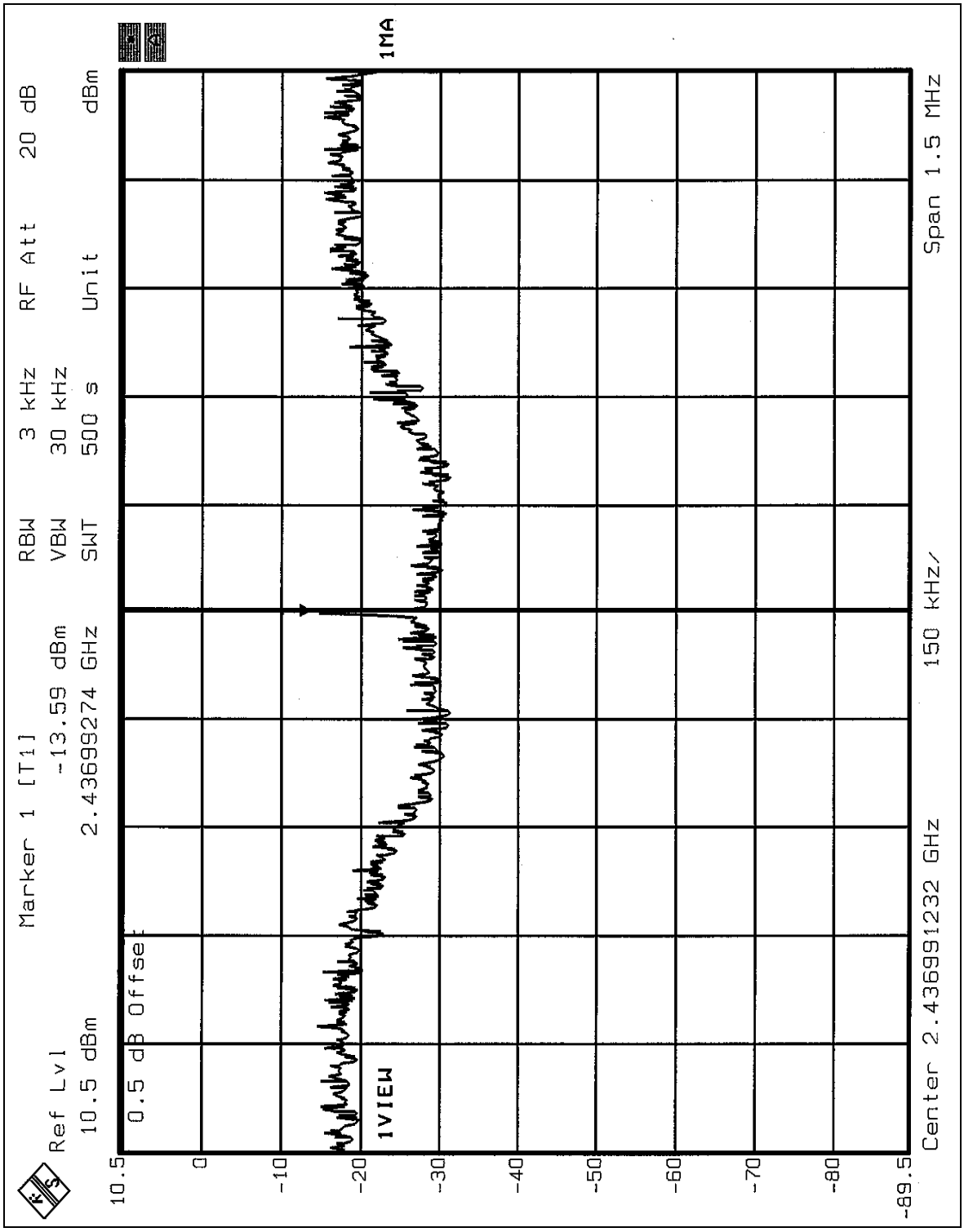

Ref 20 dBm
20 Offset 0.5 dB
*Att 30 dB
*RBW 3 kHz
*VBW 30 kHz
*SWT 500 s
Marker 1 [T1]
-12.20 dBm
2.457625000 GHz
Center 2.45824 GHz
150 kHz/
Span 1.5 MHz
LVL
1 PK
VIEW

Turbo mode

EUT	Mini- PCI CARD	**MODEL**	WLL4030
INPUT POWER (SYSTEM)	120Vac, 60Hz	**ENVIRONMENTAL CONDITIONS**	24deg.C, 64%RH, 991hPa
MODE	OFDM	**TESTED BY**	Steven Lu

CHANNEL	CHANNEL FREQUENCY (MHz)	RF POWER LEVEL IN 3kHz BW (dBm)	MAXIMUM LIMIT (dBm)	PASS/FAIL
6	2437	-13.59	8	PASS

CH6


Marker 1 [T1]
-13.59 dBm
2.43699274 GHz
RBW 3 kHz
VBW 30 kHz
SWT 500 s
RF Att 20 dB
Unit dBm
Ref Lvl
10.5 dBm
0.5 dB Offset
1VIEW
1MA
Center 2.436991232 GHz
150 kHz/
Span 1.5 MHz
10.5
0
-10
-20
-30
-40
-50
-60
-70
-80
-89.5

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
R&S SPECTRUM ANALYZER	FSEK30	100049	Aug. 12, 2005

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 lose cable. Set both RBW and VBW of spectrum analyzer to 1MHz and 300Hz with suitable frequency span including 100 MHz bandwidth from band edge. The band edges was measured and recorded.

4.6.4 DEVIATION FROM TEST STANDARD

No deviation

4.6.5 EUT OPERATING CONDITION

Same as Item 4.3.6

4.6.6 TEST RESULTS

The spectrum plots are attached on the following 4 pages. D2 line indicates the highest level, and D1 line indicates the 20dB offset below D2. It shows compliance with the requirement in part 15.247(d).

NOTE1: The band edge emission plot of CCK technique on the page 62~63 shows 53.87dB delta between carrier maximum power and local maximum emission in restrict band (2.3864GHz). The emission of carrier strength list in the test result of channel 1 at the item 4.2.8 is 102.10dBuV/m, so the maximum field strength in restrict band is 102.10-53.87=48.23dBuV/m which is under 54dBuV/m limit.

NOTE2: The band edge emission plot of CCK technique on the page 64~65 shows 54.99dB delta between carrier maximum power and local maximum emission in restrict band (2.4865GHz). The emission of carrier strength list in the test result of channel 11 at the item 4.2.8 is 101.90dBuV/m, so the maximum field strength in restrict band is 101.90-54.99=46.91dBuV/m which is under 54 dBuV/m limit.

Normal Mode

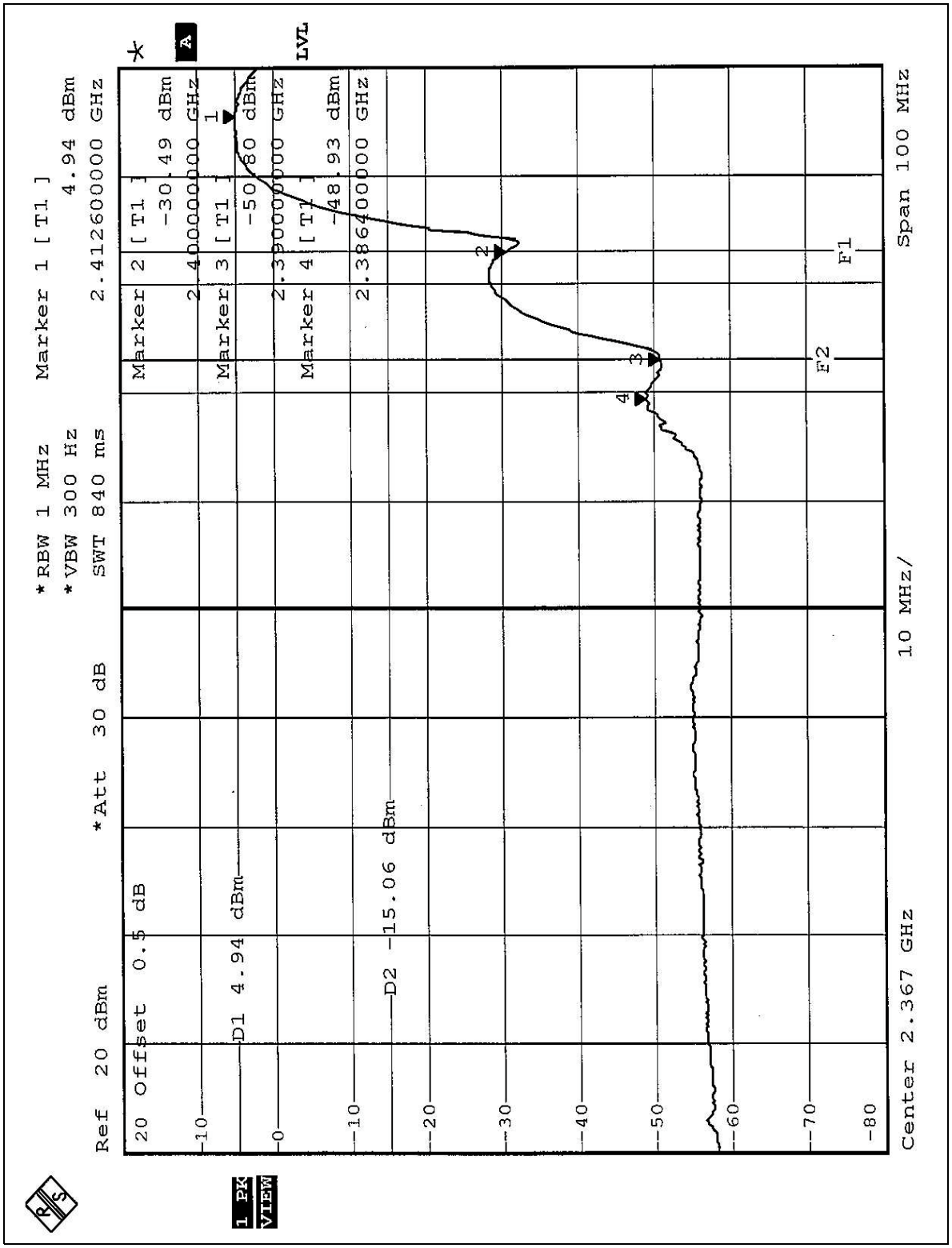
NOTE3: The band edge emission plot of OFDM technique on the page 66~67 shows 46.67dB delta between carrier maximum power and local maximum emission in restrict band (2.3900GHz). The emission of carrier strength list in the test result of channel 1 at the item 4.2.9 is 96.80dBuV/m, so the maximum field strength in restrict band is 96.80-46.67=50.13dBuV/m which is under 54 dBuV/m limit.

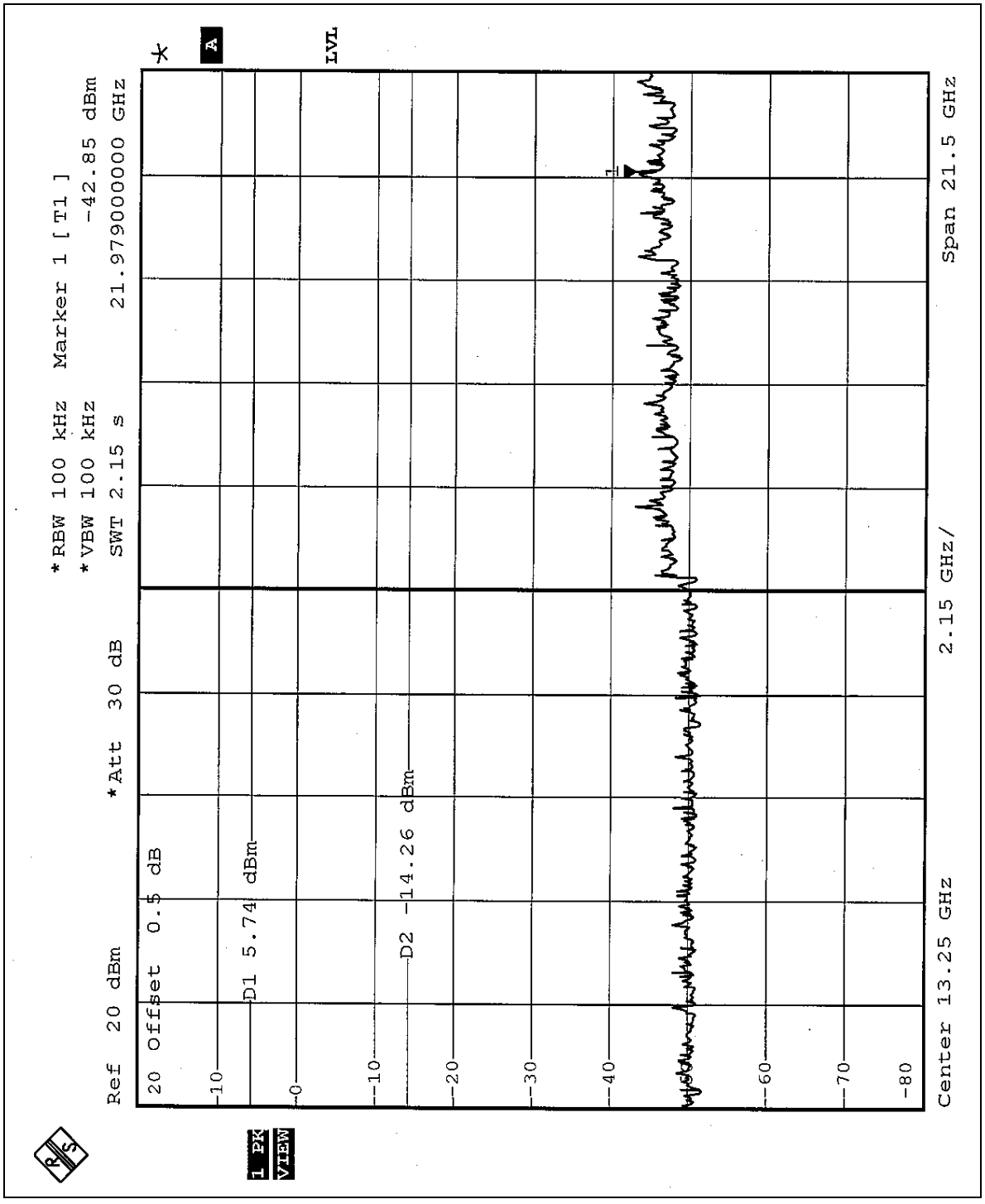
NOTE4: The band edge emission plot of OFDM technique on the page 68~69 shows 46.58dB delta between carrier maximum power and local maximum emission in restrict band (2.4835GHz). The emission of carrier strength list in the test result of channel 11 at the item 4.2.9 is 96.50dBuV/m, so the maximum field strength in restrict band is 96.50-46.58=49.92dBuV/m which is under 54dBuV/m limit.

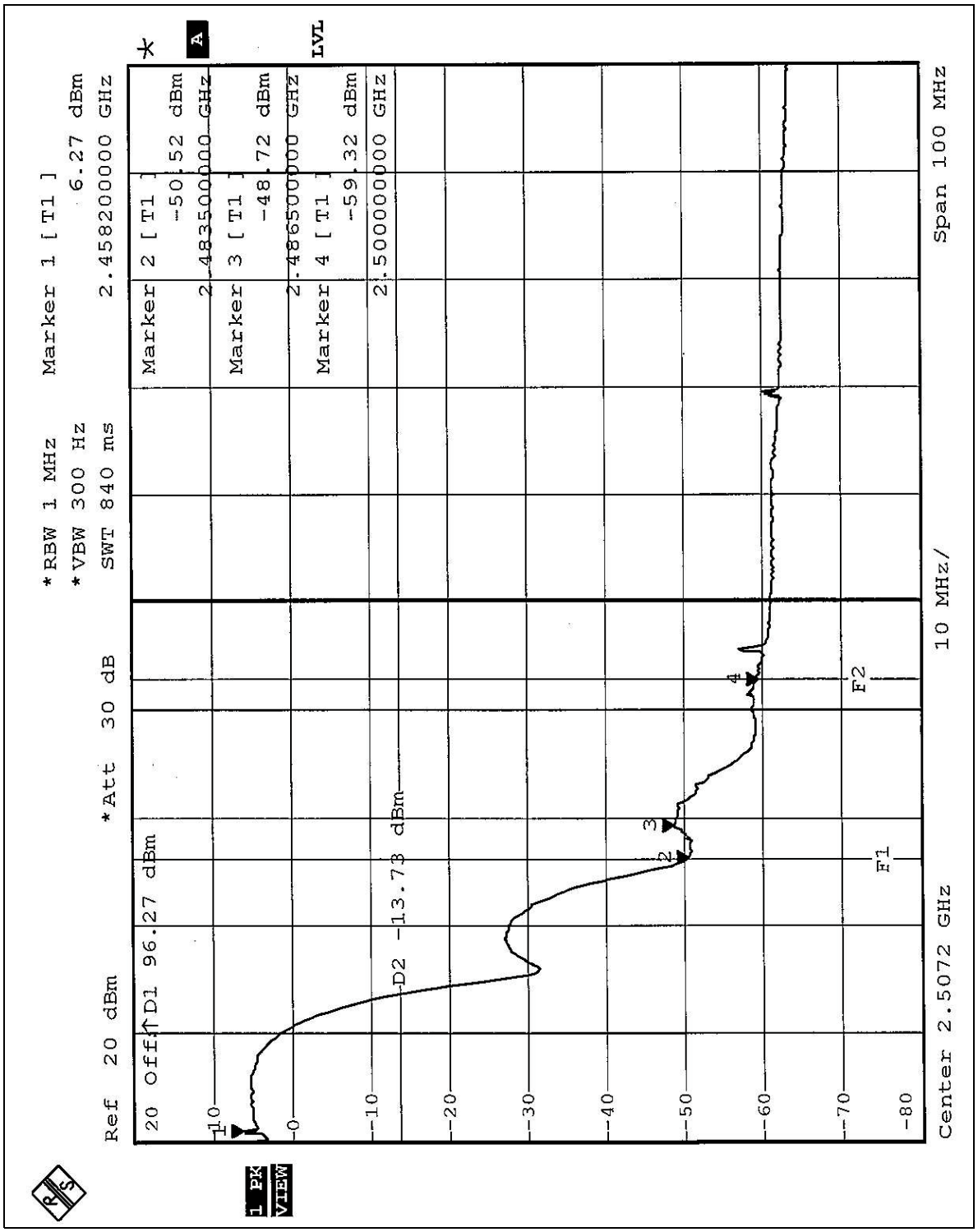
Turbo Mode

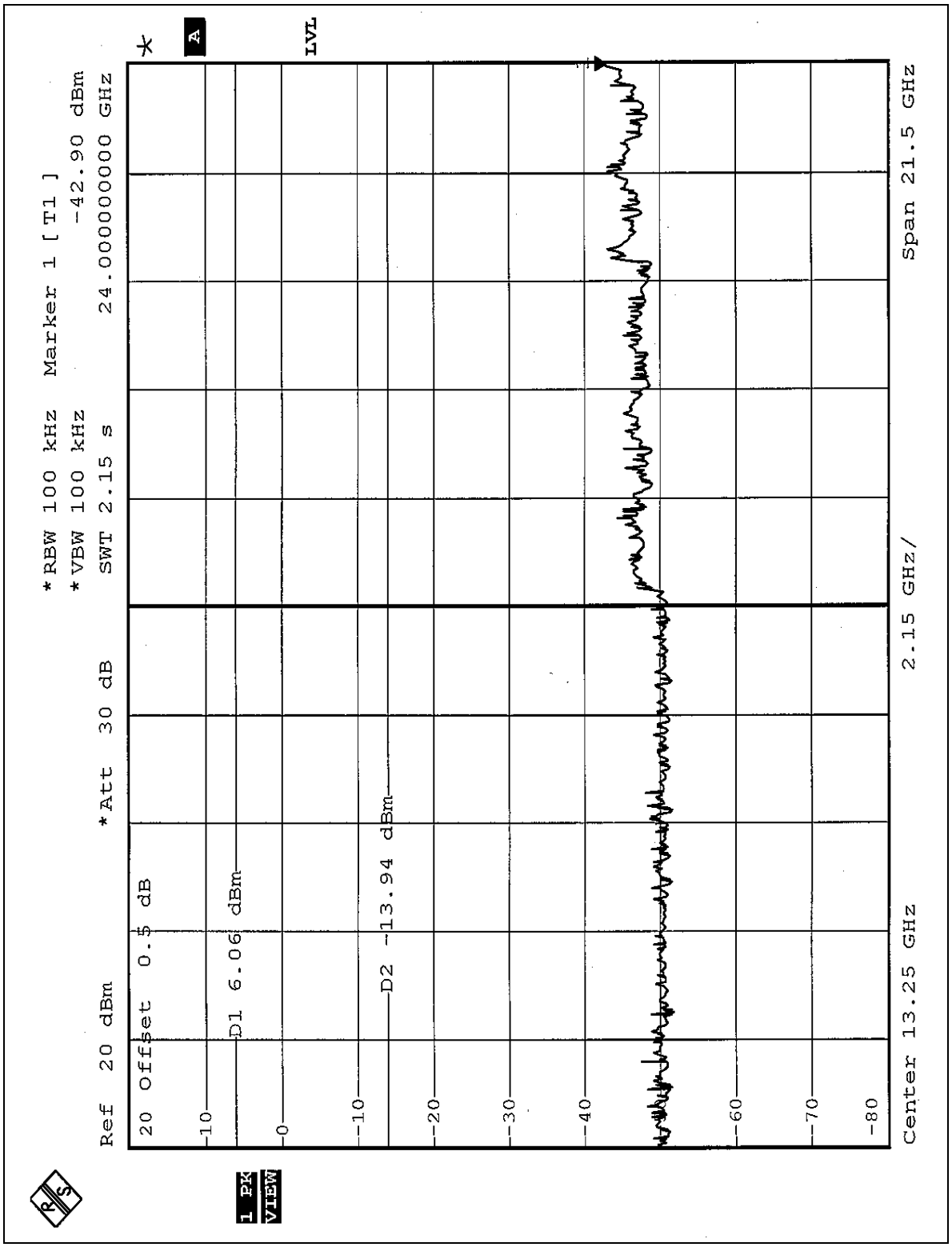
NOTE 5: The band edge emission plot of OFDM technique with Turbo mode on page 70~71 shows 49.04dB delta between carrier maximum power and local maximum emission in restrict band (2.3784GHz). The emission of carrier strength list in the test result of channel 6 at the item 4.2.9 is 98.70dBuV/m, so the maximum field strength in restrict band is 98.70-49.04=49.66dBuV/m which is under 54dBuV/m limit.

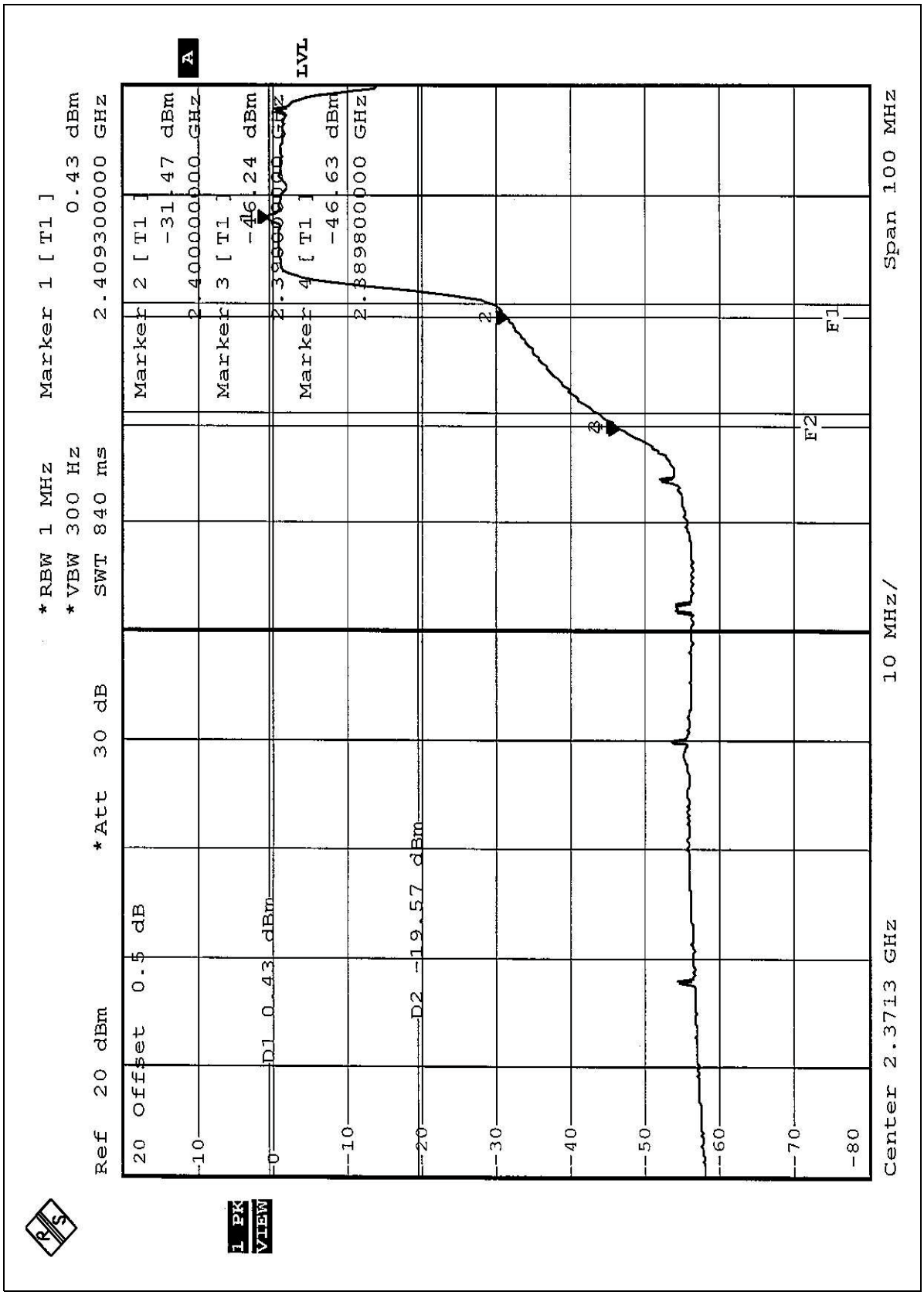
NOTE 6: The band edge emission plot of OFDM technique with Turbo mode on page 72~73 shows 51.13dB delta between carrier maximum power and local maximum emission in restrict band (2.4835GHz). The emission of carrier strength list in the test result of channel 6 at the item 4.2.9 is 91.26dBuV/m, so the maximum field strength in restrict band is 98.70-51.13=47.57dBuV/m which is under 54dBuV/m limit.

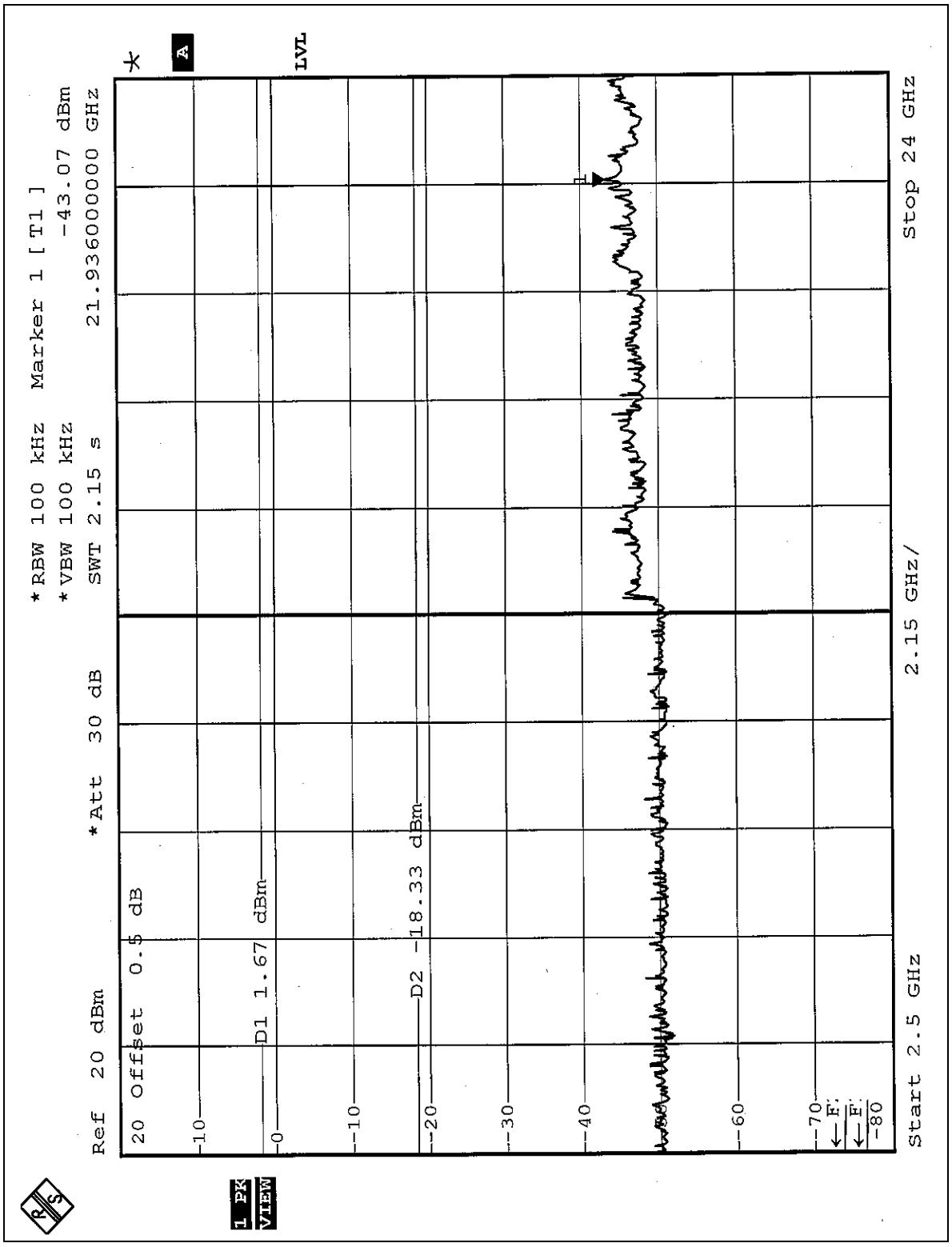

*RBW 1 MHz
*VBW 300 Hz
SWT 840 ms
Marker 1 [T1]
4.94 dBm
2.412600000 GHz
Marker 2 [T1]
-30.49 dBm
2.400000000 GHz
Marker 3 [T1]
-50.80 dBm
2.390000000 GHz
Marker 4 [T1]
-48.93 dBm
2.386400000 GHz
Ref 20 dBm
*Att 30 dB
20 Offset 0.5 dB
D1 4.94 dBm
D2 -15.06 dBm
Center 2.367 GHz
10 MHz/
Span 100 MHz
F1
F2
LVL
A
1 PK
VIEW

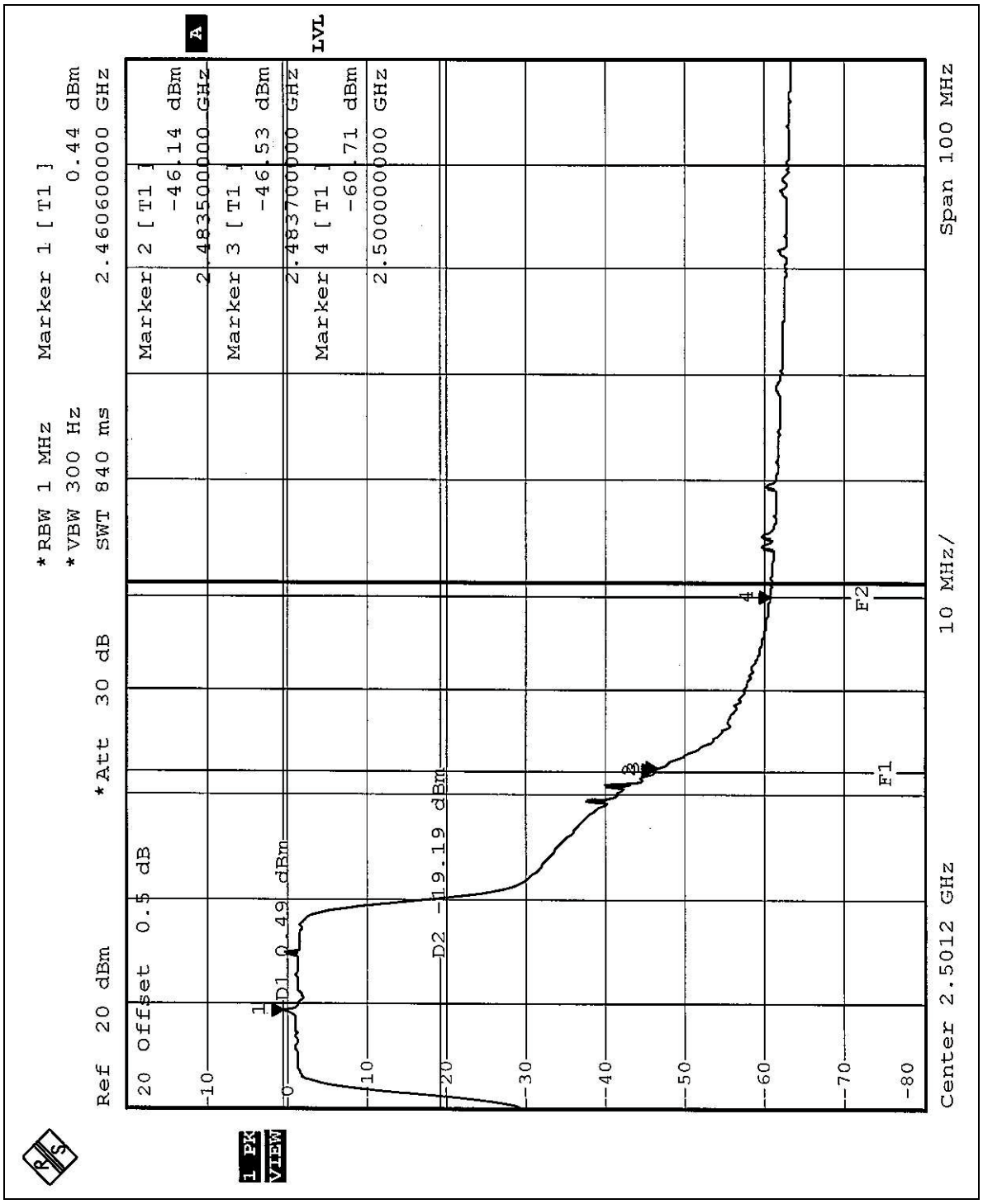

RBW 100 kHz
VBW 100 kHz
SWT 2.15 s
Marker 1 [T1]
-42.85 dBm
21.979000000 GHz
Ref 20 dBm
Offset 0.5 dB
Att 30 dB
D1 5.74 dBm
D2 -14.26 dBm
Center 13.25 GHz
2.15 GHz/
Span 21.5 GHz
1 PK VIEW
A
LVL

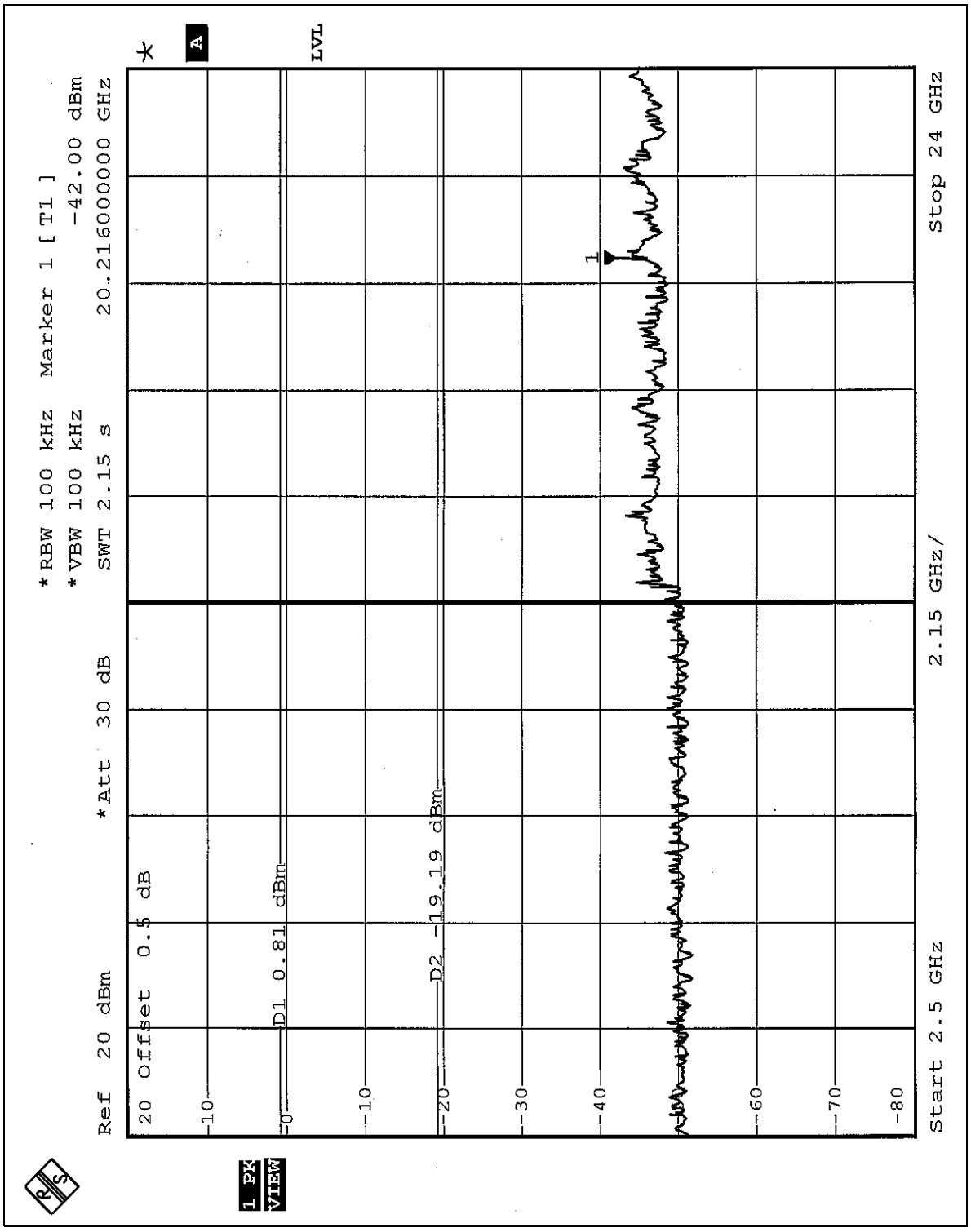

RBW 1 MHz
VBW 300 Hz
SWT 840 ms
Marker 1 [T1]
6.27 dBm
2.45820000 GHz
Marker 2 [T1]
-50.52 dBm
2.48350000 GHz
Marker 3 [T1]
-48.72 dBm
2.48650000 GHz
Marker 4 [T1]
-59.32 dBm
2.50000000 GHz
Ref 20 dBm
Att 30 dB
Off
D1 96.27 dBm
D2 -13.73 dBm
Center 2.5072 GHz
Span 100 MHz
10 MHz/
F1
F2
1 PK
VIEW
LVL

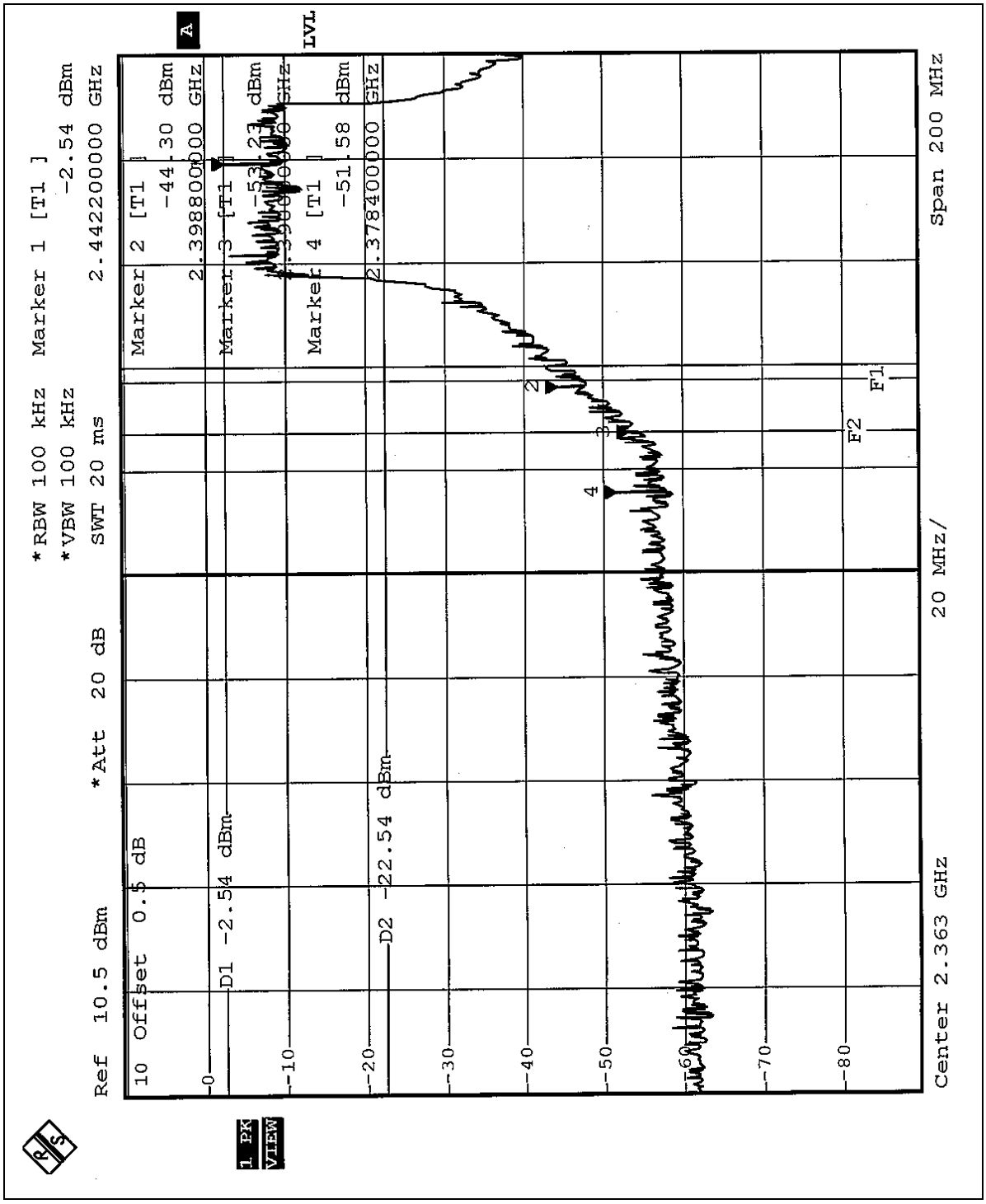

*RBW 100 kHz
*VBW 100 kHz
SWT 2.15 s
Marker 1 [T1]
-42.90 dBm
24.000000000 GHz
Ref 20 dBm
20 Offset 0.5 dB
*Att 30 dB
D1 6.06 dBm
D2 -13.94 dBm
1 PK VIEW
LVL
A
Center 13.25 GHz
2.15 GHz/
Span 21.5 GHz

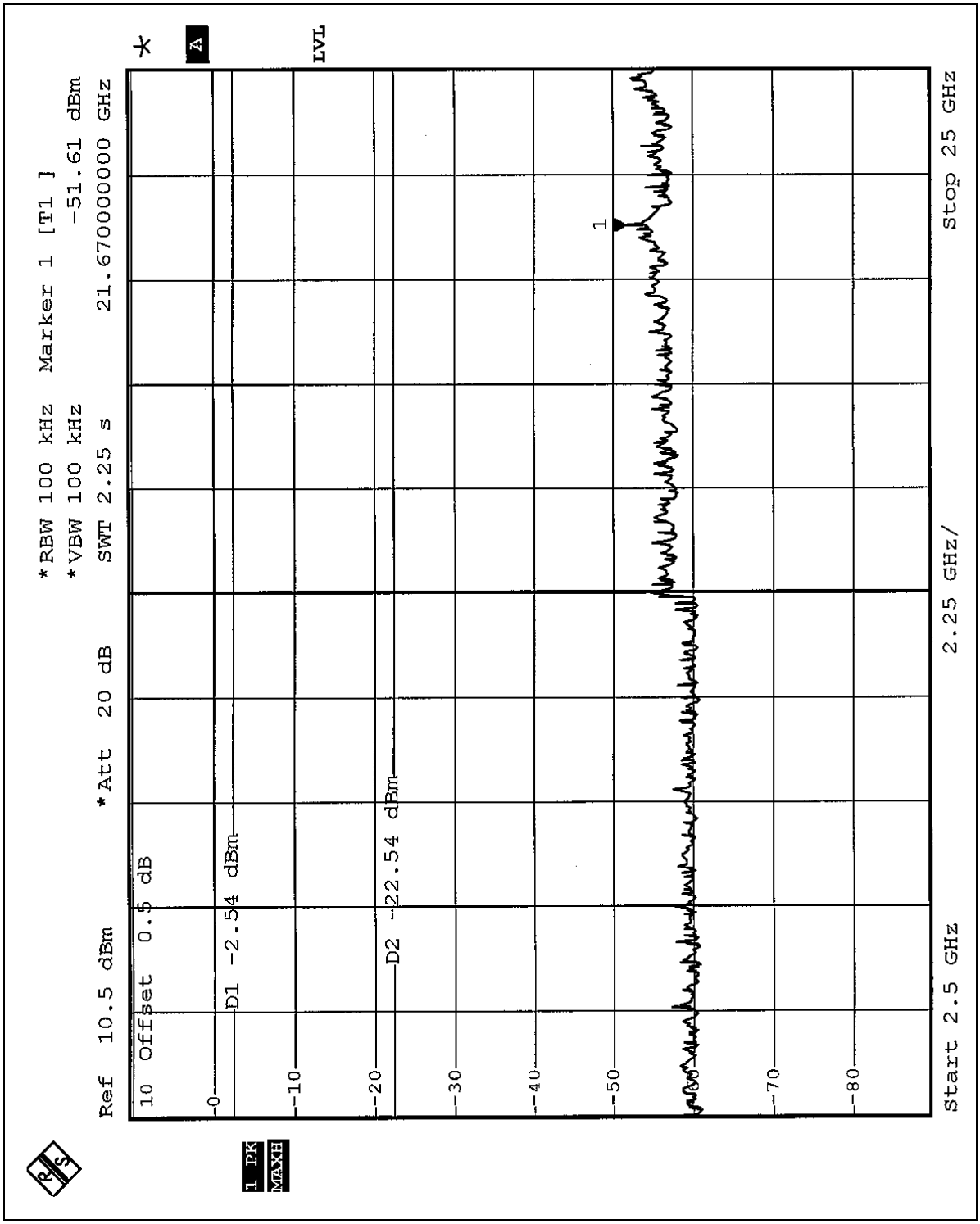

Marker 1 [T1]
0.43 dBm
2.40930000 GHz
*RBW 1 MHz
*VBW 300 Hz
SWT 840 ms
*Att 30 dB
Ref 20 dBm
20 Offset 0.5 dB
Marker 2 [T1]
-31.47 dBm
2.40000000 GHz
Marker 3 [T1]
-46.24 dBm
2.39300000 GHz
Marker 4 [T1]
-46.63 dBm
2.38980000 GHz
D1 0.43 dBm
D2 -19.57 dBm
LVL
A
1 PK
VIEW
Center 2.3713 GHz
10 MHz/
Span 100 MHz
F1
F2

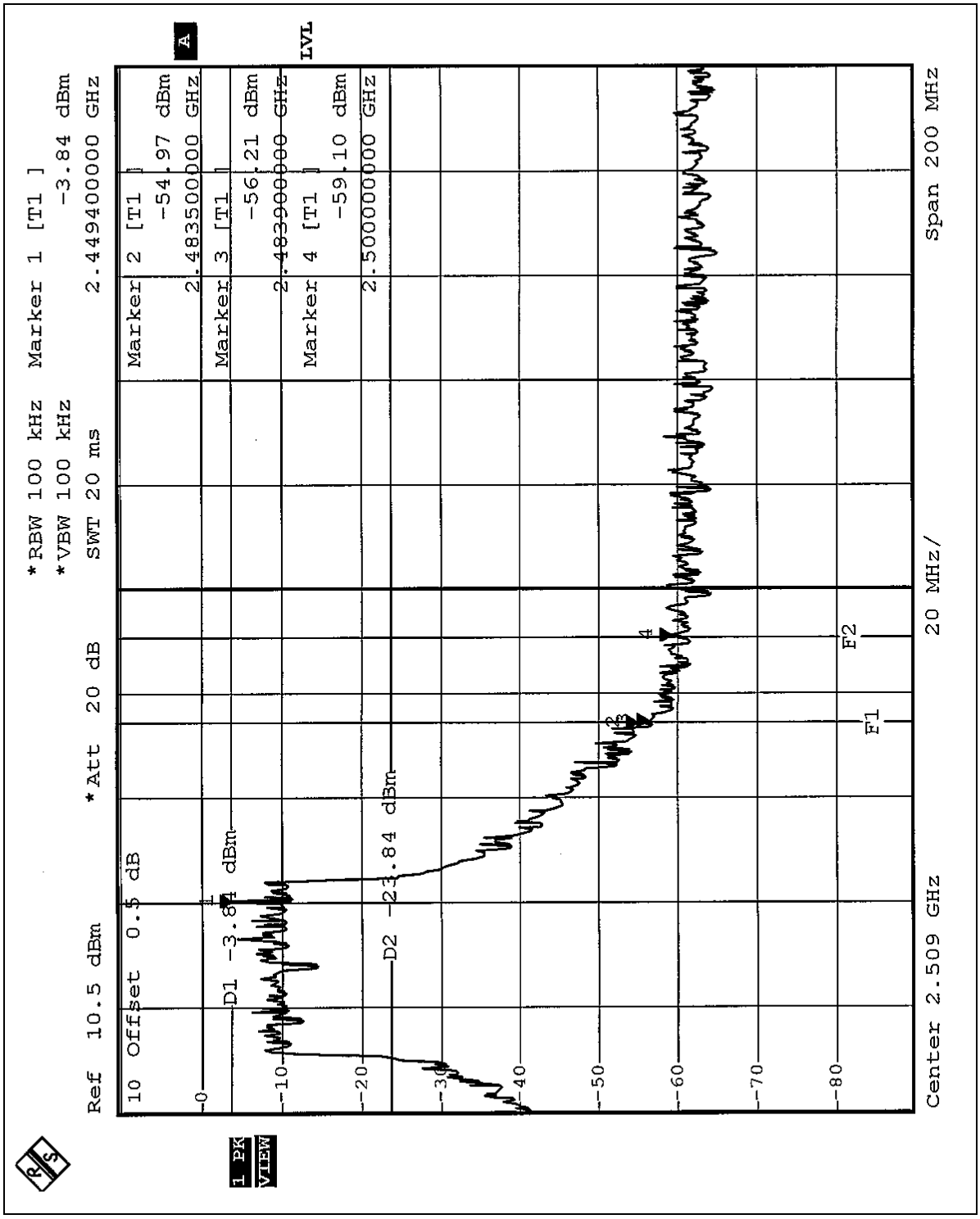

*RBW 100 kHz
*VBW 100 kHz
SWT 2.15 s
Marker 1 [T1]
-43.07 dBm
21.936000000 GHz
Ref 20 dBm
20 Offset 0.5 dB
*Att 30 dB
D1 1.67 dBm
D2 -18.33 dBm
LVL
A
1 PK
VIEW
Start 2.5 GHz
2.15 GHz/
Stop 24 GHz

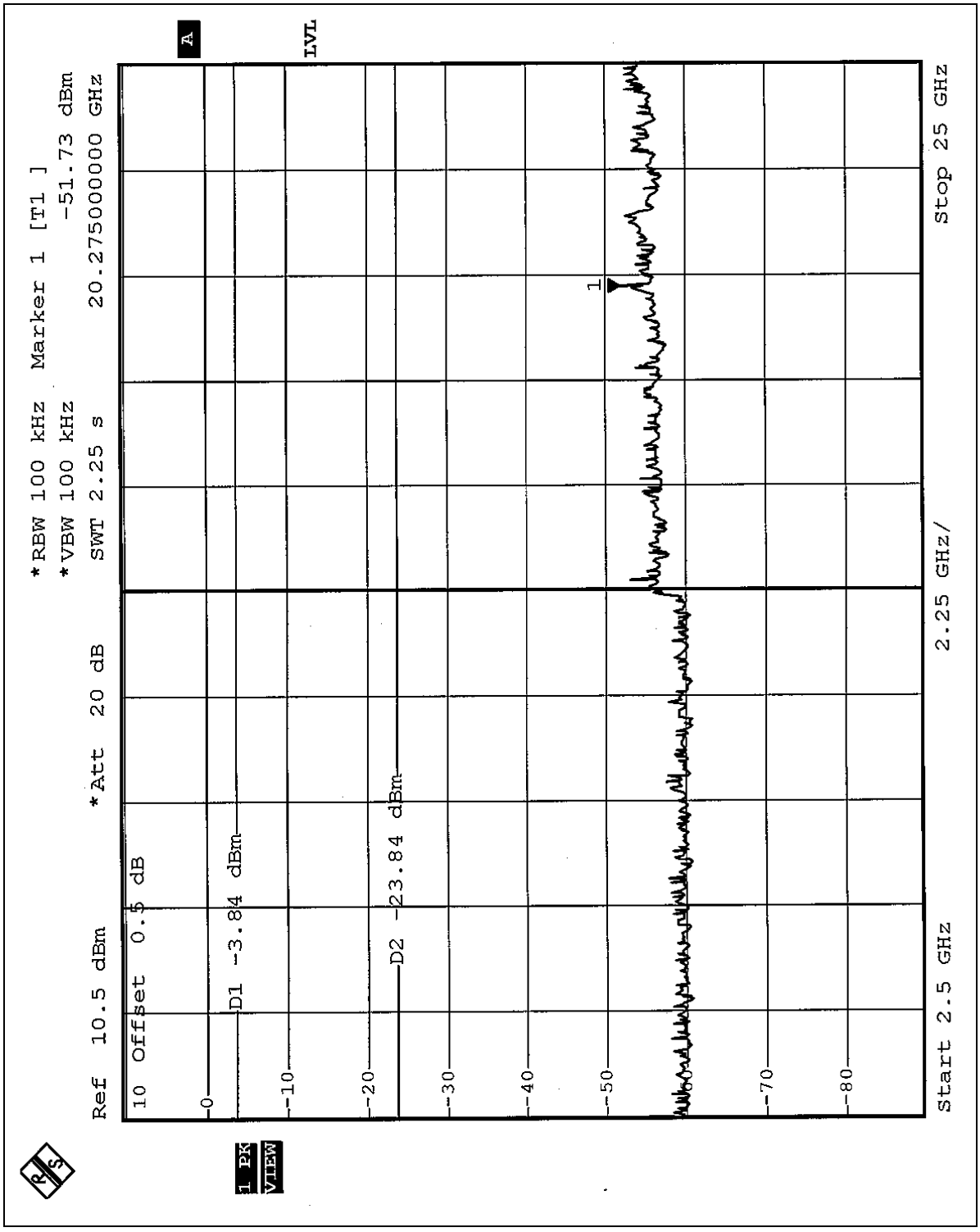

RBW 1 MHz
VBW 300 Hz
SWT 840 ms
Marker 1 [T1]
0.44 dBm
2.46060000 GHz
Marker 2 [T1]
-46.14 dBm
2.48350000 GHz
Marker 3 [T1]
-46.53 dBm
2.48370000 GHz
Marker 4 [T1]
-60.71 dBm
2.50000000 GHz
Ref 20 dBm
20 Offset 0.5 dB
Att 30 dB
D1 0.49 dBm
D2 -19.19 dBm
F1
F2
Center 2.5012 GHz
10 MHz/
Span 100 MHz
LVL
A
1 PK
VIEW


Ref 20 dBm
20 Offset 0.5 dB
*Att 30 dB
*RBW 100 kHz
*VBW 100 kHz
SWT 2.15 s
Marker 1 [T1]
-42.00 dBm
20.216000000 GHz
D1 0.81 dBm
D2 -19.19 dBm
LVL
1 PK VIEW
Start 2.5 GHz
2.15 GHz/
Stop 24 GHz


*RBW 100 kHz
*VBW 100 kHz
SWT 20 ms
Marker 1 [T1]
-2.54 dBm
2.442200000 GHz
Ref 10.5 dBm
*Att 20 dB
10 Offset 0.5 dB
D1 -2.54 dBm
D2 -22.54 dBm
Marker 2 [T1]
-44.30 dBm
2.398800000 GHz
Marker 3 [T1]
-53.23 dBm
2.390000000 GHz
Marker 4 [T1]
-51.58 dBm
2.378400000 GHz
LVL
A
1 PK VIEW
Center 2.363 GHz
20 MHz/
Span 200 MHz
F1
F2


Ref 10.5 dBm
10 Offset 0.5 dB
*Att 20 dB
*RBW 100 kHz
*VBW 100 kHz
SWT 2.25 s
Marker 1 [T1]
-51.61 dBm
21.670000000 GHz
A
LVL
D1 -2.54 dBm
D2 -22.54 dBm
1 PK MAXH
Start 2.5 GHz
2.25 GHz/
Stop 25 GHz


RBW 100 kHz
VBW 100 kHz
SWT 20 ms
Marker 1 [T1]
-3.84 dBm
2.449400000 GHz
Ref 10.5 dBm
Offset 0.5 dB
Att 20 dB
Marker 2 [T1]
-54.97 dBm
2.483500000 GHz
Marker 3 [T1]
-56.21 dBm
2.483900000 GHz
Marker 4 [T1]
-59.10 dBm
2.500000000 GHz
D1 -3.84 dBm
D2 -23.84 dBm
F1
F2
Center 2.509 GHz
20 MHz/
Span 200 MHz
1 PK
VIEW
A
LVL


Ref 10.5 dBm
10 Offset 0.5 dB
*Att 20 dB
*RBW 100 kHz
*VBW 100 kHz
SWT 2.25 s
Marker 1 [T1]
-51.73 dBm
20.275000000 GHz
D1 -3.84 dBm
D2 -23.84 dBm
1 PK VIEW
A
LVL
Start 2.5 GHz
2.25 GHz/
Stop 25 GHz

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 are Inverted F antenna with UFL connector. The maximum Gain of the antenna is 2.38dBi.

5. TEST TYPES AND RESULTS (FOR PART 802.11a)

5.1 CONDUCTED EMISSION MEASUREMENT

5.1.1 LIMITS OF CONDUCTED EMISSION MEASUREMENT

FREQUENCY OF EMISSION (MHz)	CONDUCTED LIMIT (dBμV)	
	Quasi-peak	Average
0.15-0.5 0.5-5 5-30	66 to 56 56 60	56 to 46 46 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.

5.1.2 TEST INSTRUMENTS

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATED UNTIL
Test Receiver ROHDE & SCHWARZ	ESCS30	100288	Dec. 11, 2004
RF signal cable Woken	5D-FB	Cable-HyC02-01	Mar. 07, 2005
LISN ROHDE & SCHWARZ	ESH2-Z5	100100	Mar. 10, 2005
LISN ROHDE & SCHWARZ	ESH3-Z5	100311	Mar. 04, 2005
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 2.

3. The VCCI Site Registration No. is C-2047.

5.1.3 TEST PROCEDURES

a. The EUT was placed 0.4 meters from the conducting wall of the shielded room with EUT being connected to the power mains through a line impedance stabilization network (LISN). Other support units were connected to the power mains through another LISN. The two LISNs provide 50 ohm/ 50uH of coupling impedance for the measuring instrument.

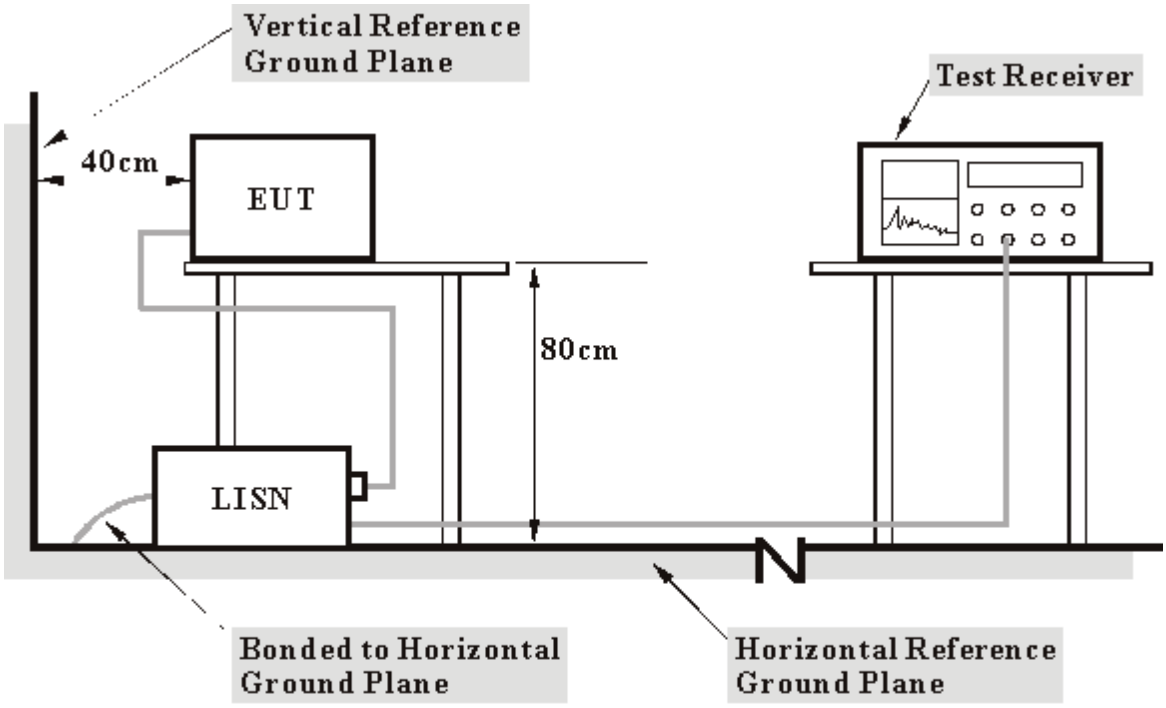
b. Both lines of the power mains connected to the EUT were checked for maximum conducted interference.

c. The frequency range from 150kHz to 30MHz was searched. Emission levels under (Limit - 20dB) was not recorded.

5.1.4 DEVIATION FROM TEST STANDARD

No deviation

5.1.5 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.

5.1.6 EUT OPERATING CONDITIONS

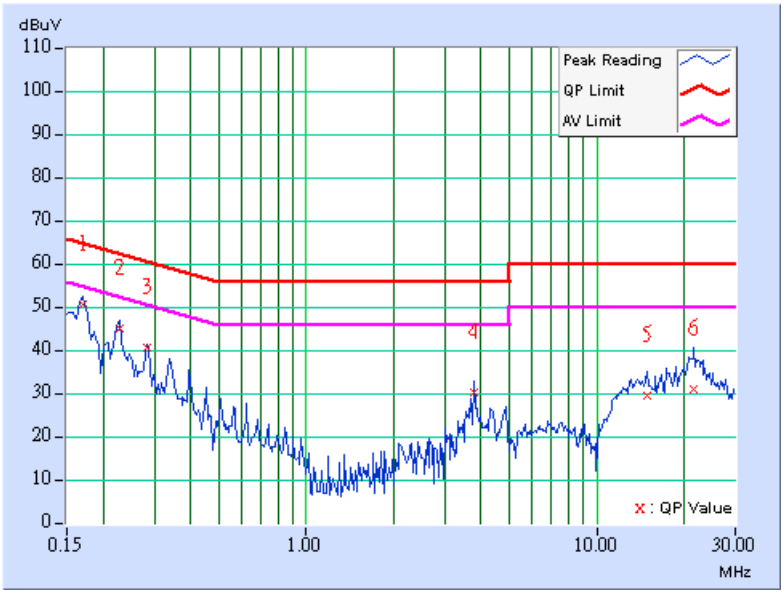
Same as 4.1.6

5.1.7 TEST RESULTS

EUT	Mini- PCI CARD	**MODEL**	WLL4030
INPUT POWER (SYSTEM)	120Vac, 60 Hz	**6dB BANDWIDTH**	9 kHz
ENVIRONMENTAL CONDITIONS	23deg. C, 65%RH, 991hPa	**PHASE**	Line (L)
TESTED BY	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	**0.170**	**0.10**	**49.86**	**-**	**49.96**	**-**	**64.98**	**54.98**	**-15.02**	**-**
2	0.228	0.10	44.04	-	44.14	-	62.52	52.52	-18.38	-
3	0.283	0.11	39.68	-	39.79	-	60.73	50.73	-20.95	-
4	3.793	0.31	29.53	-	29.84	-	56.00	46.00	-26.16	-
5	14.949	0.70	28.75	-	29.45	-	60.00	50.00	-30.55	-
6	21.551	0.99	30.03	-	31.02	-	60.00	50.00	-28.98	-

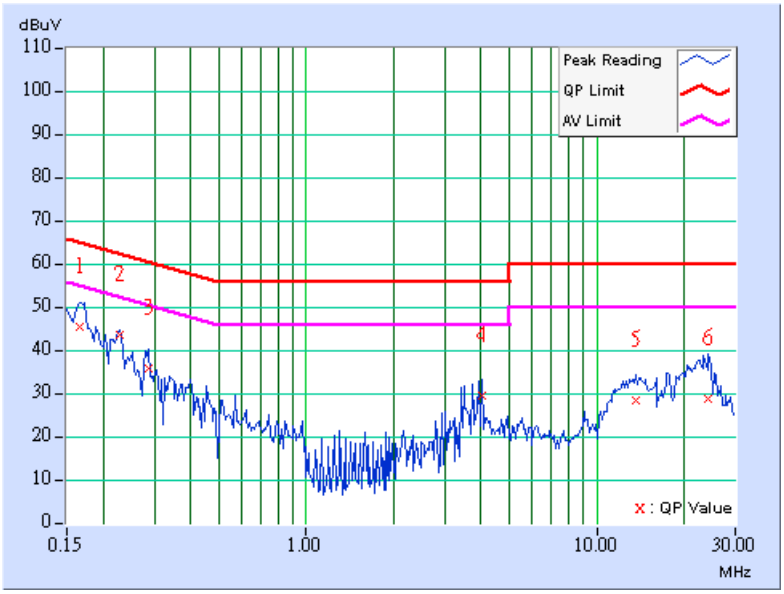
REMARKS: 1. Q.P. and AV. are abbreviations of quasi-peak and average individually.
2. "-": The Quasi-peak reading value also meets average limit and measurement with the average detector is unnecessary.
3. The emission levels of other frequencies were very low against the limit.
4. Margin value = Emission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



EUT	Mini- PCI CARD	**MODEL**	WLL4030
INPUT POWER (SYSTEM)	120Vac, 60 Hz	**PHASE**	Neutral (N)
ENVIRONMENTAL CONDITIONS	25deg. C, 60%RH, 991hPa	**6dB BANDWIDTH**	9 kHz
TESTED BY	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	0.166	0.10	44.82	-	44.92	-	65.18	55.18	-20.26	-
2	0.228	0.10	42.83	-	42.93	-	62.52	52.52	-19.59	-
3	0.287	0.11	35.31	-	35.42	-	60.62	50.62	-25.20	-
4	4.020	0.30	28.96	-	29.26	-	56.00	46.00	-26.74	-
5	13.688	0.54	27.75	-	28.29	-	60.00	50.00	-31.71	-
6	24.297	0.69	28.34	-	29.03	-	60.00	50.00	-30.97	-

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.



5.2 RADIATED EMISSION MEASUREMENT

5.2.1 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 1 ~ 25 GHz, 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.

5.2.2 LIMITS OF UNWANTED EMISSION OUT OF THE RESTRICTED BANDS

Frequencies (MHz)	**EIRP Limit (dBm)**	**Equivalent Field Strength at 3m (dBμV/m)** *note 3
5150~5250	-27	68.3
5250~5350	-27	68.3
5725~5825	-27 *note 1	68.3
	-17 *note 2	78.3

NOTE:

1. For frequencies 10MHz or greater above or below the band edge.
2. All emissions within the frequency range from the band edge to 10MHz above or below the band edge.
3. The following formula is used to convert the equipment isotropic radiated power (eirp) to field strength

$$E=\frac{1000000\sqrt{30P}}{3}\quad \mu V/m, \text{ where P is the eirp (Watts)}$$

5.2.3 TEST INSTRUMENTS

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATED UNTIL
Test Receiver ROHDE & SCHWARZ	ESI7	100033	Jun, 08, 2005
Spectrum Analyzer ROHDE & SCHWARZ	FSP40	100040	Dec. 15, 2004
BILOG Antenna SCHWARZBECK	VULB9168	9168-153	Feb. 03, 2005
HORN Antenna SCHWARZBECK	9120D	9120D-408	Feb. 03, 2005
HORN Antenna SCHWARZBECK	BBHA 9170	BBHA 9170243	Feb. 23, 2005
Preamplifier Agilent	8447D	2944A10633	Jan. 15, 2005
Preamplifier Agilent	8449B	3008A01964	Jan. 27, 2005
RF signal cable HUBER+SUHNNER	SUCOFLEX 104	218183/4	Mar. 05, 2005
RF signal cable HUBER+SUHNNER	SUCOFLEX 104	218195/4	Mar. 05, 2005
Software ADT.	ADT_Radiated_V5.14	NA	NA
Antenna Tower inn-co GmbH	MA 4000	013303	NA
Antenna Tower Controller inn-co GmbH	CO2000	017303	NA
Turn Table ADT.	TT100.	TT93021703	NA
Turn Table Controller ADT.	SC100.	SC93021703	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 2.

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 IC4924-3.

5.2.4 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-anechoic camber. 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 10dB 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 10dB margin would be re-tested one by one using peak, quasi-peak or average method as specified and then reported in a data sheet.

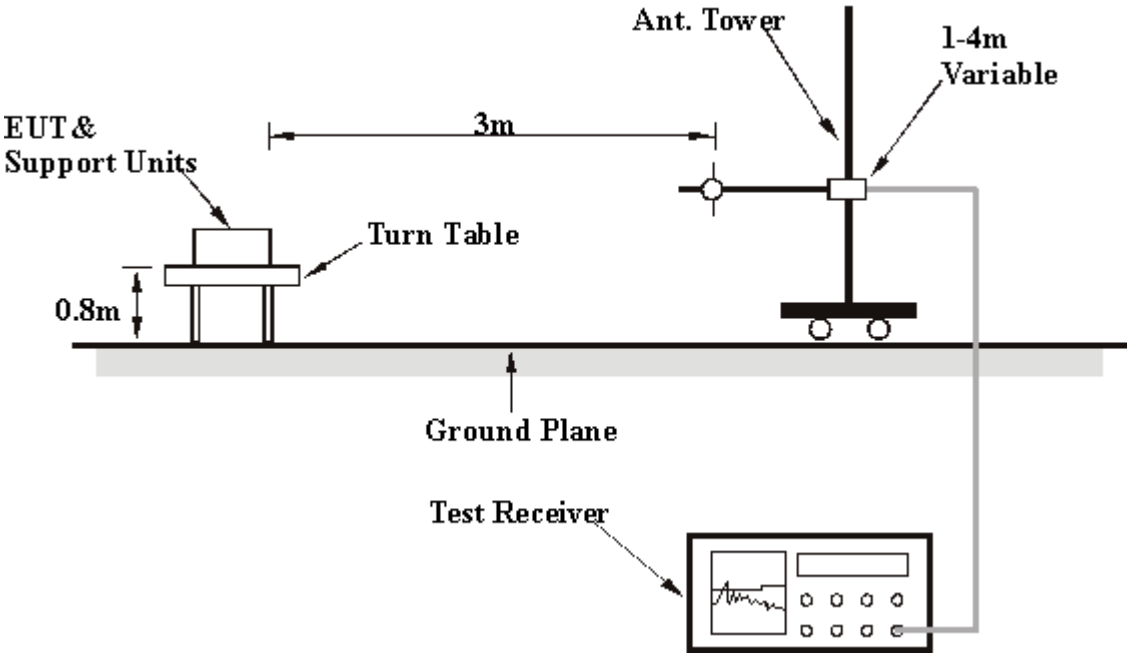
NOTE:

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.

5.2.5 DEVIATION FROM TEST STANDARD

No deviation

5.2.6 TEST SETUP



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

5.2.7 EUT OPERATING CONDITIONS

Same as 4.1.6

5.2.8 TEST RESULTS

EUT	Mini- PCI CARD	**MODEL**	WLL4030
MODE	Channel 11	**FREQUENCY RANGE**	Below 1000MHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	**DETECTOR FUNCTION**	Quasi-Peak
ENVIRONMENTAL CONDITIONS	23deg. C, 65%RH, 991hPa	**TESTED BY**	Long Chen

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	99.50	41.50 QP	43.50	-2.00	1.07 H	85	30.39	11.11
2	167.50	40.20 QP	43.50	-3.30	1.15 H	332	26.12	14.08
3	199.50	37.50 QP	43.50	-6.00	1.02 H	304	26.00	11.50
4	235.20	38.40 QP	46.00	-7.60	1.15 H	62	25.46	12.94
5	264.50	41.50 QP	46.00	-4.50	1.05 H	335	27.70	13.80
6	351.40	32.50 QP	46.00	-13.50	1.44 H	85	16.61	15.89
7	400.20	32.80 QP	46.00	-13.20	1.07 H	31	15.84	16.96
8	599.50	34.50 QP	46.00	-11.50	1.18 H	98	13.26	21.24
9	732.50	38.40 QP	46.00	-7.60	1.02 H	62	15.13	23.27

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	**99.50**	**42.80 QP**	**43.50**	**-0.70**	**1.24 V**	**54**	**31.69**	**11.11**
2	133.50	38.50 QP	43.50	-5.00	1.07 V	84	24.79	13.71
3	168.20	39.50 QP	43.50	-4.00	1.15 V	82	25.48	14.02
4	199.80	32.80 QP	43.50	-10.70	1.02 V	112	21.32	11.48
5	232.50	39.50 QP	46.00	-6.50	1.12 V	352	26.73	12.77
6	545.20	39.50 QP	46.00	-6.50	1.02 V	325	19.80	19.70
7	635.60	41.85 QP	46.00	-4.15	1.32 V	85	20.11	21.74

REMARKS: 1. Emission level(dBuV/m)=Raw Value(dBuV) + Correction Factor(dB/m)

2. Correction Factor(dB/m) = Antenna Factor (dB/m) + Cable Factor (dB)

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

4. Margin value = Emission level – Limit value.

EUT	Mini- PCI CARD	MODEL	WLL4030
FREQUENCY RANGE	1 ~ 40 GHz	CHANNEL	1
ENVIRONMENTAL CONDITIONS	23deg. C, 65%RH, 991hPa	DETECTOR FUNCTION	Peak(PK) Average (AV)
INPUT POWER (SYSTEM)	120Vac, 60Hz	MODE	Normal
TESTED BY	Long Chen		

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)
1	3452.00	48.00 PK	68.30	-20.30	1.13 H	2	13.74	34.26
2	#5150.00	58.40 PK	74.00	-15.60	1.21 H	55	19.96	38.44
2	#5150.00	47.50 AV	54.00	-6.50	1.21 H	55	9.06	38.44
3	*5180.00	109.80 PK			1.21 H	55	71.23	38.57
3	*5180.00	98.50 AV			1.21 H	55	59.93	38.57
4	10360.00	63.80 PK	68.30	-4.50	1.52 H	91	14.12	49.68

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)
1	3452.00	46.20 PK	68.30	-22.10	1.31 V	35	11.94	34.26
2	#5150.00	52.70 PK	74.00	-21.30	1.08 V	81	14.26	38.44
2	#5150.00	43.20 AV	54.00	-10.80	1.08 V	81	4.76	38.44
3	*5180.00	103.90 PK			1.08 V	81	65.33	38.57
3	*5180.00	93.00 AV			1.08 V	81	54.43	38.57
4	10360.00	64.80 PK	68.30	-3.50	1.15 V	328	15.12	49.68

NOTE:

1. Emission level = Raw value + Correction Factor
2. Correction Factor = Ant. Factor + Cable loss
3. Margin value = Emission level - Limit value
4. The other emission levels were very low against the limit.
5. "*" : Fundamental frequency
6. "#"The radiated frequency falling in the restricted band.

EUT	Mini- PCI CARD	**MODEL**	WLL4030
FREQUENCY RANGE	1 ~ 40 GHz	**CHANNEL**	4
ENVIRONMENTAL CONDITIONS	23deg. C, 65%RH, 991hPa	**DETECTOR FUNCTION**	Peak(PK) Average (AV)
INPUT POWER (SYSTEM)	120Vac, 60Hz	**MODE**	Normal
TESTED BY	Long Chen		

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)
1	3495.40	47.10 PK	68.30	-21.20	1.18 H	97	12.89	34.21
2	*5240.00	108.90 PK			1.35 H	62	70.28	38.62
2	*5240.00	97.80 AV			1.35 H	62	59.18	38.62
3	10480.00	62.90 PK	68.30	-5.40	1.51 H	224	13.80	49.10

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)	Correction Factor (dB)
1	3495.50	46.80 PK	68.30	-21.50	1.36 V	115	12.59	34.21
2	*5240.00	103.10 PK			1.05 V	35	64.48	38.62
2	*5240.00	92.10 AV			1.05 V	35	53.48	38.62
3	10480.00	63.50 PK	68.30	-4.80	1.18 V	22	14.40	49.10

NOTE:

1. Emission level = Raw value + Correction Factor
2. Correction Factor = Ant. Factor + Cable loss
3. Margin value = Emission level - Limit value
4. The other emission levels were very low against the limit.
5. "*" : Fundamental frequency
6. "#"The radiated frequency falling in the restricted band.

EUT	Mini- PCI CARD	**MODEL**	WLL4030
FREQUENCY RANGE	1 ~ 40 GHz	**CHANNEL**	5
ENVIRONMENTAL CONDITIONS	23deg. C, 65%RH, 991hPa	**DETECTOR FUNCTION**	Peak(PK) Average (AV)
INPUT POWER (SYSTEM)	120Vac, 60Hz	**MODE**	Normal
TESTED BY	Long Chen		

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	3506.20	49.50 PK	68.30	-18.80	1.12 H	57	15.26	34.24
2	*5260.00	109.10 PK			1.52 H	74	70.49	38.61
2	*5260.00	100.20 AV			1.52 H	74	61.59	38.61
3	10520.00	63.80 PK	68.30	-4.50	1.15 H	85	14.83	48.97

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	3506.50	45.50 PK	68.30	-22.80	1.82 V	77	11.26	34.24
2	*5260.00	104.40 PK			1.07 V	35	65.79	38.61
2	*5260.00	93.80 AV			1.07 V	35	55.19	38.61
3	10520.00	63.10 PK	68.30	-5.20	1.55 V	75	14.13	48.97

NOTE:

1. Emission level = Raw value + Correction Factor
2. Correction Factor = Ant. Factor + Cable loss
3. Margin value = Emission level - Limit value
4. The other emission levels were very low against the limit.
5. "*" : Fundamental frequency
6. "#"The radiated frequency falling in the restricted band.

EUT	Mini- PCI CARD	**MODEL**	WLL4030
FREQUENCY RANGE	1 ~ 40 GHz	**CHANNEL**	8
ENVIRONMENTAL CONDITIONS	23deg. C, 65%RH, 991hPa	**DETECTOR FUNCTION**	Peak(PK) Average (AV)
INPUT POWER (SYSTEM)	120Vac, 60Hz	**MODE**	Normal
TESTED BY	Long Chen		

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)
1	3574.00	47.00 PK	68.30	-21.30	1.31 H	64	12.37	34.63
2	*5320.00	108.70 PK			1.54 H	185	70.14	38.56
2	*5320.00	97.50 AV			1.54 H	185	58.94	38.56
3	#5350.00	57.70 PK	74.00	-16.30	1.54 H	185	19.17	38.53
3	#5350.00	46.80 AV	54.00	-7.20	1.54 H	185	8.27	38.53
4	#10640.00	63.50 PK	74.00	-10.50	1.54 H	168	14.17	49.33
4	#10640.00	50.70 AV	54.00	-3.30	1.54 H	168	1.37	49.33

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)
1	3574.00	45.50 PK	68.30	-22.80	1.36 V	62	10.87	34.63
2	*5320.00	103.40 PK			1.18 V	332	64.84	38.56
2	*5320.00	92.50 AV			1.18 V	332	53.94	38.56
3	#5350.00	51.80 PK	74.00	-22.20	1.18 V	332	13.27	38.53
3	#5350.00	43.00 AV	54.00	-11.00	1.18 V	332	4.47	38.53
4	#10640.00	62.70 PK	74.00	-11.30	1.28 V	36	13.37	49.33
4	#10640.00	51.80 AV	54.00	-2.20	1.28 V	36	2.47	49.33

NOTE:

1. Emission level = Raw value + Correction Factor
2. Correction Factor = Ant. Factor + Cable loss
3. Margin value = Emission level - Limit value
4. The other emission levels were very low against the limit.
5. “*” : Fundamental frequency
6. “#”The radiated frequency falling in the restricted band.

EUT	Mini- PCI CARD	**MODEL**	WLL4030
FREQUENCY RANGE	1 ~ 40 GHz	**CHANNEL**	9
ENVIRONMENTAL CONDITIONS	23deg. C, 65%RH, 991hPa	**DETECTOR FUNCTION**	Peak(PK) Average (AV)
INPUT POWER (SYSTEM)	120Vac, 60Hz	**MODE**	Normal
TESTED BY	Long Chen		

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	#3830.00	47.50 PK	74.00	-26.50	1.31 H	68	12.49	35.01
2	5715.00	64.50 PK	68.30	-3.80	1.68 H	91	25.46	39.04
3	5725.00	75.00 PK	78.30	-3.30	1.68 H	91	35.91	39.09
4	*5745.00	107.80 PK			1.68 H	91	68.60	39.20
4	*5745.00	97.20 AV			1.68 H	91	58.00	39.20
5	#11490.00	61.80 PK	74.00	-12.20	1.85 H	262	12.05	49.75
5	#11490.00	50.10 AV	54.00	-3.90	1.85 H	262	0.35	49.75

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	#3830.00	45.80 PK	74.00	-28.20	1.03 V	91	10.79	35.01
2	5715.00	61.80 PK	68.30	-6.50	1.21 V	68	22.76	39.04
3	5725.00	72.80 PK	78.30	-5.50	1.21 V	68	33.71	39.09
4	*5745.00	105.10 PK			1.21 V	68	65.90	39.20
4	*5745.00	93.50 AV			1.21 V	68	54.30	39.20
5	#11490.00	60.40 PK	74.00	-13.60	1.62 V	94	10.65	49.75
5	#11490.00	49.90 AV	54.00	-4.10	1.62 V	94	0.15	49.75

NOTE:

1. Emission level(dBuV/m)=Raw Value(dBuV) + Correction Factor(dB/m).
2. Correction Factor(dB/m) = Antenna Factor (dB/m) + Cable Factor (dB).
3. The other emission levels were very low against the limit.
4. Margin value = Emission level – Limit value.
5. " * " : Fundamental frequency.
6. "#"The radiated frequency falling in the restricted band.