FCC TEST REPORT

REPORT NO.: RF900621R05
MODEL NO.: DI-714
RECEIVED: June 21, 2001
TESTED: Sep. 12 ~ Sep. 15, 2001

APPLICANT: GEMTEK TECHNOLOGY CO., LTD.

ADDRESS: No.1, Jen Ai Road, Hsinchu Industrial Park
Hukou, Hsinchu, Taiwan, R.O.C.

ISSUED BY: Advance Data Technology Corporation

LAB LOCATION: 47 14th Ling, Chia Pau Tsuen, Linkou Hsiang,
Taipei, Taiwan, R.O.C.

0528

Lab Code: 200102-0

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1 CERTIFICATION

PRODUCT :	2.4GHz Wireless router
BRAND NAME :	D-Link
MODEL NO. :	DI-714
APPLICANT :	GEMTEK TECHNOLOGY CO., LTD.
STANDARDS :	47 CFR Part 15, Subpart C (Section 15.247), ANSI C63.4-1992

We, **Advance Data Technology Corporation**, hereby certify that one sample of the designation has been tested in our facility from Sep. 12, 2001 to Sep. 15, 2001. The test record, data evaluation and Equipment Under Test (EUT) configurations represented herein are true and accurate accounts of the measurements of the sample's EMC characteristics under the conditions herein specified.

TESTED BY : Steven Lu , DATE: Sept 26, 2001
Steven Lu

CHECKED BY : Emily Lu , DATE: Sep 26, 2001
Emily Lu

APPROVED BY : Alan Lane , DATE: Sept. 26, 2001
Dr. Alan Lane, Manager

2 SUMMARY OF TEST RESULTS

The EUT has been tested according to the following specifications:

APPLIED STANDARD: 47 CFR Part 15, Subpart C			
Standard Section	**Test Type and Limit**	**Result**	**REMARK**
15.107	AC Power Conducted Emission Limit: 48dBuV	PASS	Meet the requirement of limit Minimum passing margin is –7.91dBuV at 1.722MHz
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)	Radiated Emissions Limit: Table 15.209	PASS	Meet the requirement of limit Minimum passing margin is –2.10dBuV at 750.00MHz
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	2.4GHz Wireless router
MODEL NO.	DI-714
POWER SUPPLY	5VDC from AC adapter
MODULATION TYPE	DSSS
RADIO TECHNOLOGY	BPSK/QPSK/CCK
TRANSFER RATE	1/2/5.5/11Mbps
FREQUENCY RANGE	2412MHz ~ 2462MHz
NUMBER OF CHANNEL	11
OUTPUT POWER	17.9dBm
ANTENNA TYPE	Dipole antenna
POWER CABLE	NA
I/O PORTS	RJ45, WAN, Serial Port
ASSOCIATED DEVICES	NA

NOTE:

1. The EUT is operated with the following power adapter.

Brand Name:	DELTA
Model No. :	ADP-10SB REV:H
Input Power :	100-240V, 0.4A, 50-60Hz
Output Power :	DC 5V, 2.0A

2. For more detailed features description, please refer to the manufacturer's specifications or the 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.

3.3 GENERAL DESCRIPTION OF APPLIED STANDARDS

The EUT is a 2.4GHz Wireless router. According to the specifications of the manufacturer, it must comply with the requirements of the following standards:

FCC CFR 47 Part 15, Subpart C. (15.247)
ANSI C63.4 : 1992

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

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

3.4 DESCRIPTION OF SUPPORT UNITS

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

NO.	PRODUCT	BRAND	MODEL NO.	SERIAL NO.	FCC ID
1	Personal Computer	HP	Brio BA410	SG12902751	FCC DoC APPROVED
2	MONITOR	HP	D2842A	KR93473168	BEJCB910
3	KEYBOARD	FORWARD	FDA-104GA	FDKB8110111	F4ZDA-104G
4	PS/2 MOUSE	LOGITECH	M-S43	LZE00703207	DZL211106
5	PRINTER	HP	2225C+	3123S97230	DSI6XU2225
6	MODEM	ACEEX	1414	980020510	IFAXDM1414
7	NOTEBOOK	DELL	INSPIRON 5000e	TW-012JXN-12961-0BP-2192	FCC DoC APPROVED
8	LAN CARD	3COM	3CLFE575CT-D	6ZE1316B4E	FCC DoC APPROVED

NO.	SIGNAL CABLE DESCRIPTION OF THE ABOVE SUPPORT UNITS
1	NA
2	1.8 m braid shielded wire, terminated with VGA connector via metallic frame, w/o core.
3	1.5 m foil shielded wire, terminated with PS/2 connector via metallic frame, w/o core.
4	1.8 m foil shielded wire, terminated with PS/2 connector via drain wire, w/o core.
5	1.2m braid shielded wire, terminated with DB25 and Centronics connector via metallic frame, w/o core.
6	1.2 m braid shielded wire, terminated with DB25 and DB9 connector via metallic frame, w/o core.
7	NA
8	NA

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

4 TEST TYPES AND RESULTS

4.1 CONDUCTED EMISSION MEASUREMENT

4.1.1 LIMITS OF CONDUCTED EMISSION MEASUREMENT

FREQUENCY (MHz)	Class B (dBuV)	
	Quasi-peak	Average
0.45 – 30	48	-

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	ESHS30	828109/007	July 4, 2002
*ROHDE & SCHWARZ Artificial Mains Network (for EUT)	ESH3-Z5	839135/006	July 3, 2002
ROHDE & SCHWARZ 4-wire ISN	ENY41	837032/016	Nov. 28, 2001
ROHDE & SCHWARZ 2-wire ISN	ENY22	837497/016	Dec. 3, 2001
*EMCO-L.I.S.N. (for peripheral)	3825/2	9204-1964	July 3, 2002
*Software	Cond-V2J	NA	NA
*RF cable (JYEBAO)	RG-58A/U	Cable-C02.01	July 9, 2002
HP Terminator (For EMCO LISN)	11593A	E1-01-298	Feb. 20, 2002
HP Terminator (For EMCO LISN)	11593A	E1-01-299	Feb. 20, 2002
Shielded Room	Site 2	ADT-C02	NA
VCCI Site Registration No.	Site 2	C-240	NA

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.
3. "*" = These equipments are used for the final measurement.

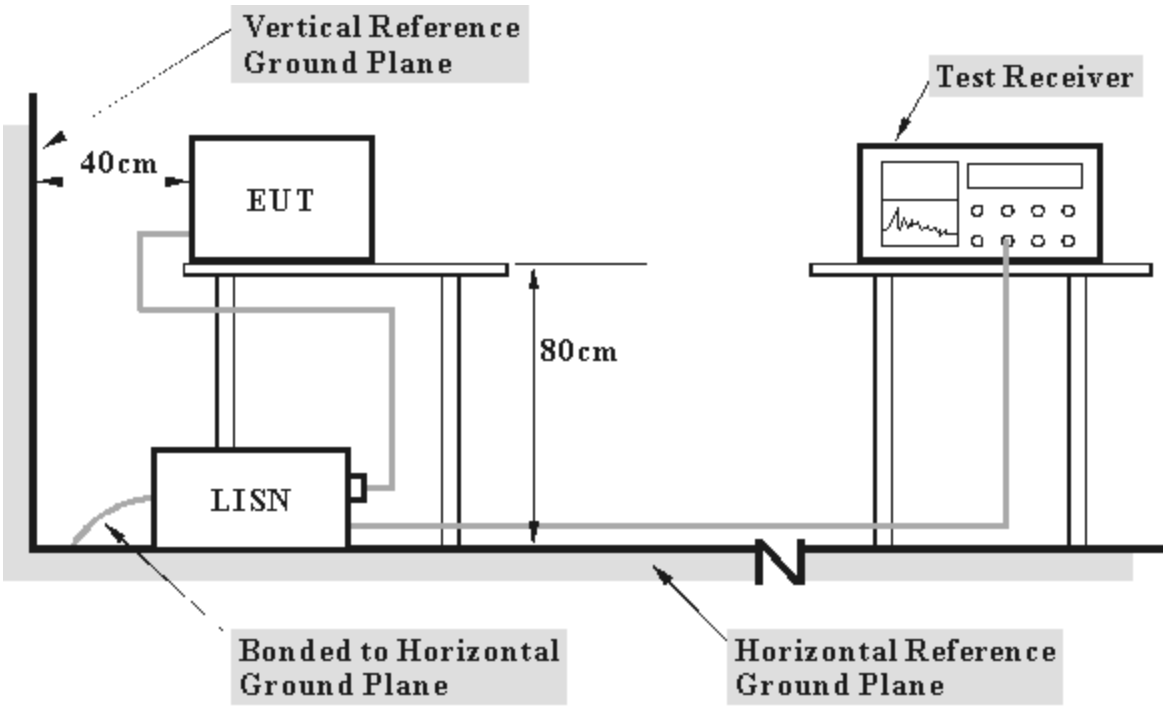
4.1.3 TEST PROCEDURES

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 450 kHz to 30 MHz was searched. Emission levels over 10dB under the prescribed limits could not be reported

4.1.4 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.

4.1.5 EUT OPERATING CONDITIONS

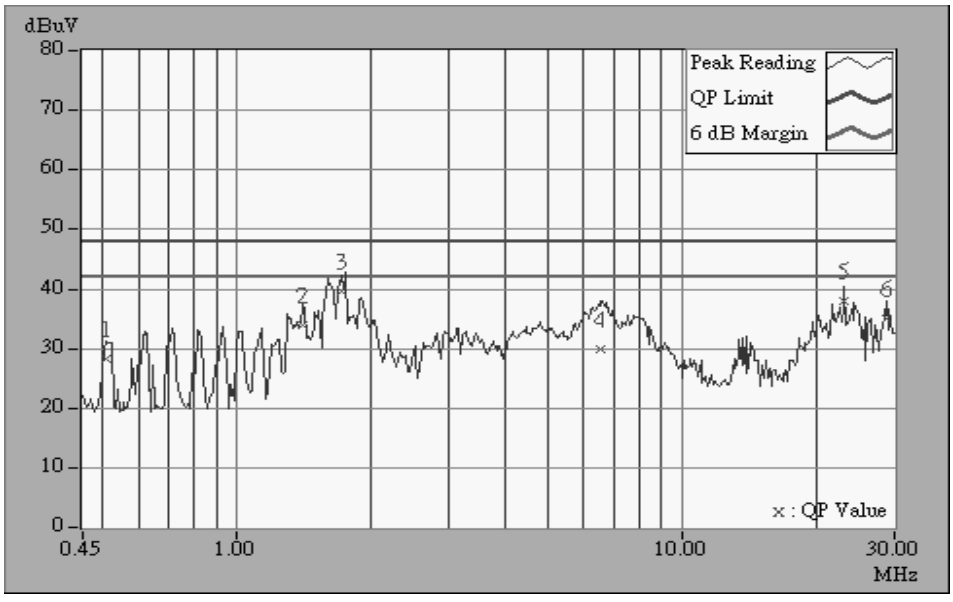
a. Placed the EUT (with a computer system) on the testing table.
b. The computer system sent data to EUT by command "PIN" via an RJ 45 cable.
c. The computer system sent "H" messages to Color Monitor and Monitor displayed "H" patterns on its screen.
d. The computer system sent “H” messages to modem.
e. The computer system sent "H" messages to printer, and the printer prints them on paper.
f. Prepared another computer system to act as a communication partner and placed it outside of testing area.
g. The communication partner run a test program to enable EUT under transmission/receiving condition continuously at specific channel frequency via an RJ 45 cable.
h. The communication partner sent data to EUT by command "PIN".

4.1.6 TEST RESULTS

EUT	2.4GHz Wireless router	**MODEL**	DI-714
MODE	Channel 1	**6dB BANDWIDTH**	10 kHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	**PHASE**	Line (L)
ENVIRONMENTAL CONDITIONS	26 deg. C, 60%RH, 1005 hPa	**TESTED BY**: Steven Lu	

No	Freq. (MHz)	Corr. Factor (dB)	Reading Value [dB (uV)]		Emission Level [dB (uV)]		Limit [dB (uV)]		Margin (dB)	
			QP.	AV.	QP.	AV.	QP.	AV.	QP.	AV.
1	0.510	0.10	28.26	-	28.36	-	48.00	-	-19.64	-
2	1.404	0.10	34.05	-	34.15	-	48.00	-	-13.85	-
3	1.717	0.10	39.73	-	39.83	-	48.00	-	-8.17	-
4	6.530	0.38	29.80	-	30.18	-	48.00	-	-17.82	-
5	23.129	1.06	37.87	-	38.93	-	48.00	-	-9.07	-
6	28.685	1.17	34.94	-	36.11	-	48.00	-	-11.89	-

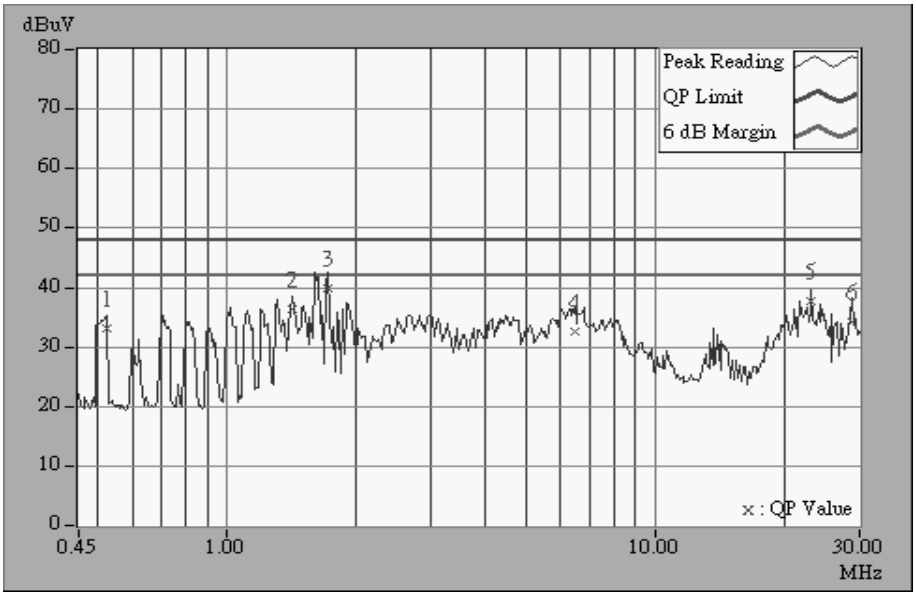
Remarks:
1. "*": Undetectable
2. QP. and AV. are abbreviations of quasi-peak and average individually.
3. "-": NA
4. The emission levels of other frequencies were very low against the limit.
5. Margin value = Emission level - Limit value
6. Emission Level = Correction Factor + Reading Val ue.



EUT	2.4GHz Wireless router	**MODEL**	DI-714
MODE	Channel 1	**6dB BANDWIDTH**	10 kHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	**PHASE**	Neutral (N)
ENVIRONMENTAL CONDITIONS	26 deg. C, 60%RH, 1005 hPa	**TESTED BY**: Steven Lu	

No	Freq. (MHz)	Corr. Factor (dB)	Reading Value [dB (uV)]		Emission Level [dB (uV)]		Limit [dB (uV)]		Margin (dB)	
			QP.	AV.	QP.	AV.	QP.	AV.	QP.	AV.
1	0.522	0.10	33.22	-	33.32	-	48.00	-	-14.68	-
2	1.419	0.10	36.33	-	36.43	-	48.00	-	-11.57	-
3	1.725	0.10	39.89	-	39.99	-	48.00	-	-8.01	-
4	6.470	0.34	32.51	-	32.85	-	48.00	-	-15.15	-
5	23.129	0.86	37.62	-	38.48	-	48.00	-	-9.52	-
6	28.685	0.97	34.26	-	35.23	-	48.00	-	-12.77	-

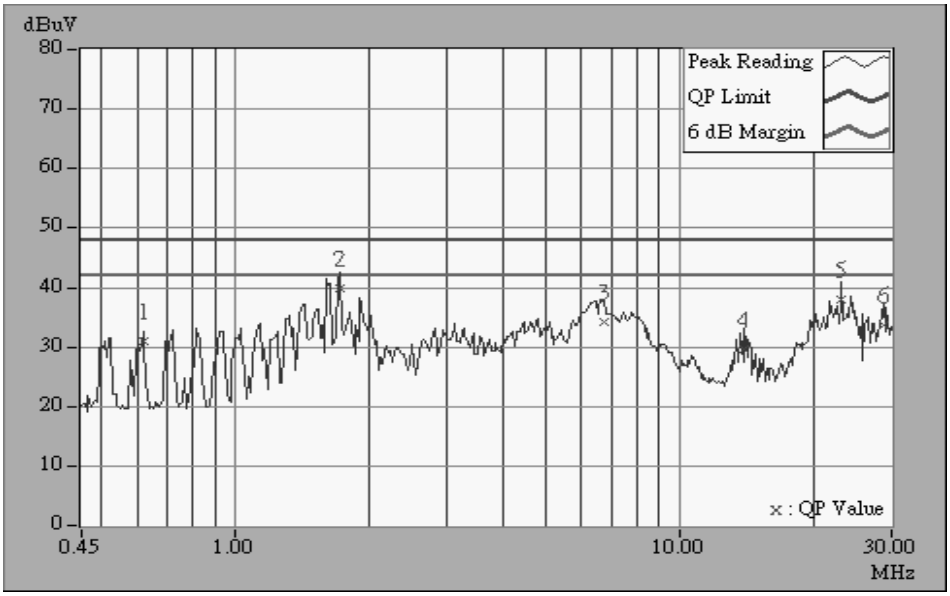
Remarks:
1. "*": Undetectable
2. QP. and AV. are abbreviations of quasi-peak and average individually.
3. "-": NA
4. The emission levels of other frequencies were very low against the limit.
5. Margin value = Emission level - Limit value
6. Emission Level = Correction Factor + Reading Value.



EUT	2.4GHz Wireless router	**MODEL**	DI-714
MODE	Channel 6	**6dB BANDWIDTH**	10 kHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	**PHASE**	Line (L)
ENVIRONMENTAL CONDITIONS	26 deg. C, 60%RH, 1005 hPa	**TESTED BY**: Steven Lu	

No	Freq. (MHz)	Corr. Factor (dB)	Reading Value [dB (uV)]		Emission Level [dB (uV)]		Limit [dB (uV)]		Margin (dB)	
			QP.	AV.	QP.	AV.	QP.	AV.	QP.	AV.
1	0.621	0.10	30.92	-	31.02	-	48.00	-	-16.98	-
2	1.722	0.10	39.99	-	40.09	-	48.00	-	-7.91	-
3	6.770	0.39	34.32	-	34.71	-	48.00	-	-13.29	-
4	13.949	0.74	29.69	-	30.43	-	48.00	-	-17.57	-
5	23.129	1.06	38.01	-	39.07	-	48.00	-	-8.93	-
6	28.685	1.17	33.78	-	34.95	-	48.00	-	-13.05	-

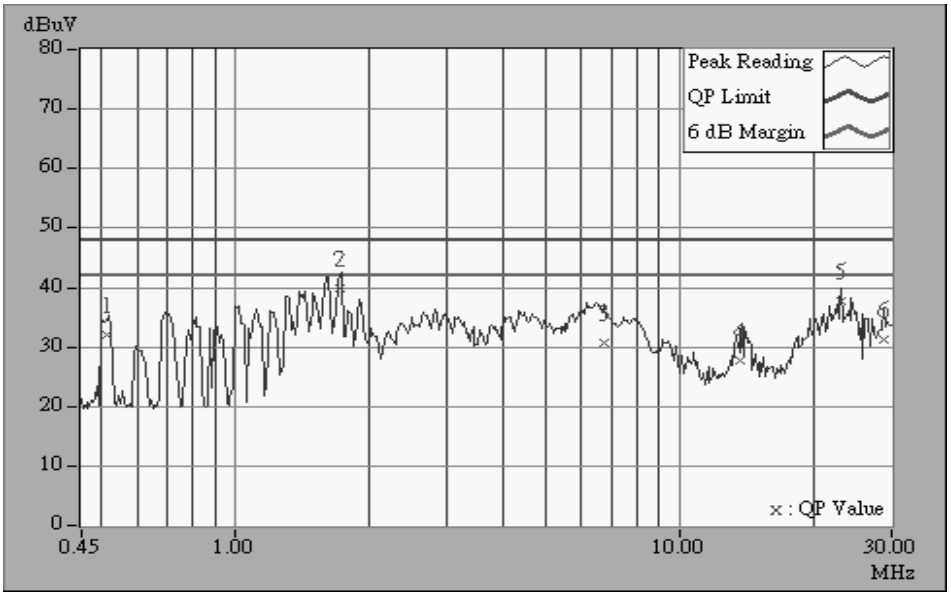
Remarks:
1. "*": Undetectable
2. QP. and AV. are abbreviations of quasi-peak and average individually.
3. "-": NA
4. The emission levels of other frequencies were very low against the limit.
5. Margin value = Emission level - Limit value
6. Emission Level = Correction Factor + Reading Value.



EUT	2.4GHz Wireless router	**MODEL**	DI-714
MODE	Channel 6	**6dB BANDWIDTH**	10 kHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	**PHASE**	Neutral (N)
ENVIRONMENTAL CONDITIONS	26 deg. C, 60%RH, 1005 hPa	**TESTED BY**: Steven Lu	

No	Freq. (MHz)	Corr. Factor (dB)	Reading Value [dB (uV)]		Emission Level [dB (uV)]		Limit [dB (uV)]		Margin (dB)	
			QP.	AV.	QP.	AV.	QP.	AV.	QP.	AV.
1	0.513	0.10	32.10	-	32.20	-	48.00	-	-15.80	-
2	1.722	0.10	39.95	-	40.05	-	48.00	-	-7.95	-
3	6.764	0.35	30.72	-	31.07	-	48.00	-	-16.93	-
4	13.658	0.55	27.75	-	28.30	-	48.00	-	-19.70	-
5	23.128	0.86	37.83	-	38.69	-	48.00	-	-9.31	-
6	28.685	0.97	31.36	-	32.33	-	48.00	-	-15.67	-

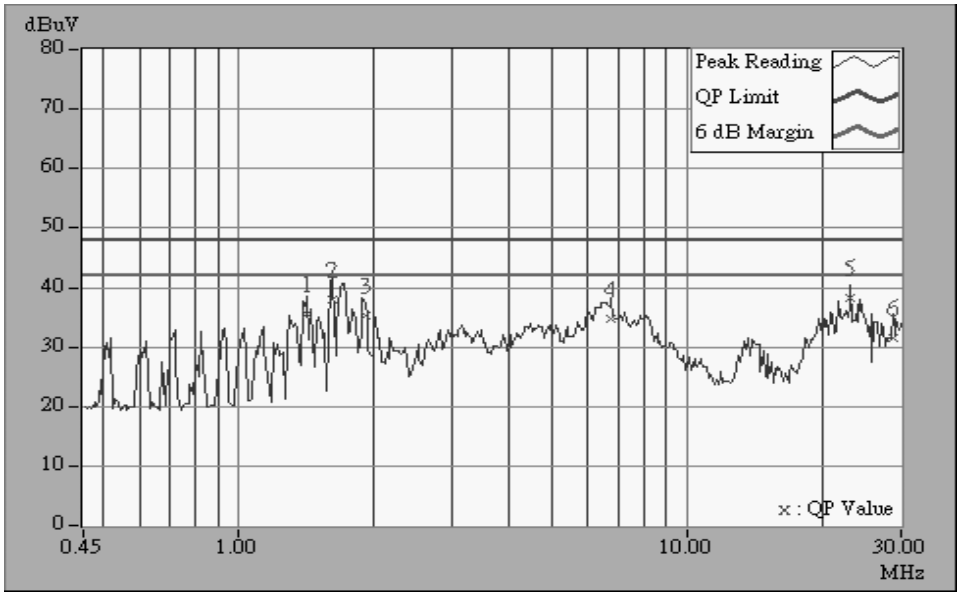
Remarks:
1. "*": Undetectable
2. QP. and AV. are abbreviations of quasi-peak and average individually.
3. "-": NA
4. The emission levels of other frequencies were very low against the limit.
5. Margin value = Emission level - Limit value
6. Emission Level = Correction Factor + Reading Value.



EUT	2.4GHz Wireless router	**MODEL**	DI-714
MODE	Channel 11	**6dB BANDWIDTH**	10 kHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	**PHASE**	Line (L)
ENVIRONMENTAL CONDITIONS	26 deg. C, 60%RH, 1005 hPa	**TESTED BY**: Steven Lu	

No	Freq. (MHz)	Corr. Factor (dB)	Reading Value [dB (uV)]		Emission Level [dB (uV)]		Limit [dB (uV)]		Margin (dB)	
			QP.	AV.	QP.	AV.	QP.	AV.	QP.	AV.
1	1.422	0.10	35.67	-	35.77	-	48.00	-	-12.23	-
2	1.615	0.10	38.05	-	38.15	-	48.00	-	-9.85	-
3	1.914	0.10	35.35	-	35.45	-	48.00	-	-12.55	-
4	6.767	0.39	34.64	-	35.03	-	48.00	-	-12.97	-
5	23.129	1.06	38.15	-	39.21	-	48.00	-	-8.79	-
6	28.685	1.17	31.52	-	32.69	-	48.00	-	-15.31	-

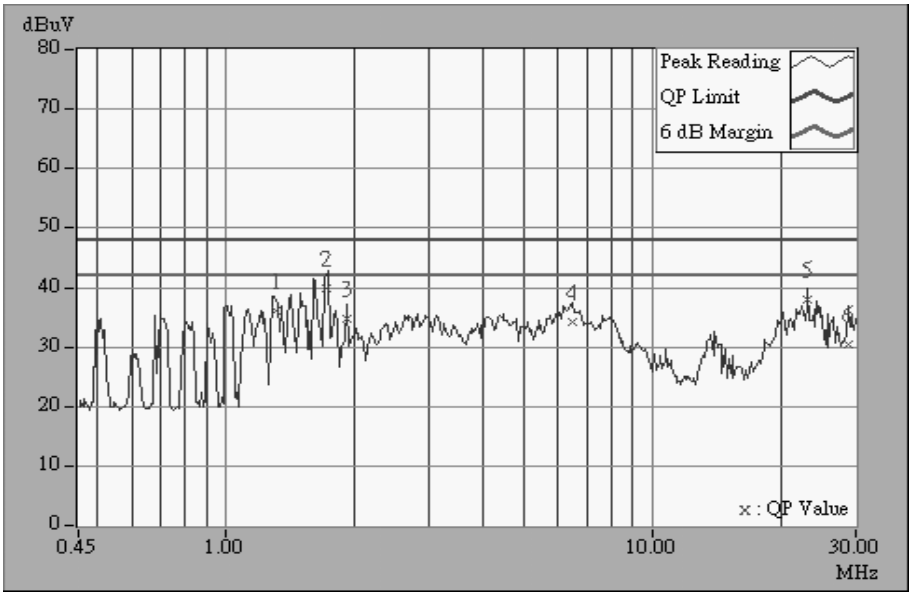
Remarks:
1. "*": Undetectable
2. QP. and AV. are abbreviations of quasi-peak and average individually.
3. "-": NA
4. The emission levels of other frequencies were very low against the limit.
5. Margin value = Emission level - Limit value
6. Emission Level = Correction Factor + Reading Value.



EUT	2.4GHz Wireless router	**MODEL**	DI-714
MODE	Channel 11	**6dB BANDWIDTH**	10 kHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	**PHASE**	Neutral (N)
ENVIRONMENTAL CONDITIONS	26 deg. C, 60%RH, 1005 hPa	**TESTED BY**: Steven Lu	

No	Freq.	Corr. Factor	Reading Value [dB (uV)]		Emission Level [dB (uV)]		Limit [dB (uV)]		Margin (dB)	
	[MHz]	(dB)	QP.	AV.	QP.	AV.	QP.	AV.	QP.	AV.
1	1.305	0.10	36.02	-	36.12	-	48.00	-	-11.88	-
2	1.722	0.10	39.95	-	40.05	-	48.00	-	-7.95	-
3	1.911	0.10	34.78	-	34.88	-	48.00	-	-13.12	-
4	6.461	0.34	34.21	-	34.55	-	48.00	-	-13.45	-
5	23.129	0.86	37.85	-	38.71	-	48.00	-	-9.29	-
6	28.688	0.97	30.56	-	31.53	-	48.00	-	-16.47	-

Remarks:
1. "*": Undetectable
2. QP. and AV. are abbreviations of quasi-peak and average individually.
3. "-": NA
4. The emission levels of other frequencies were very low against the limit.
5. Margin value = Emission level - Limit value
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 of Fundamental	
	uV/m	dBuV/m
30-88	100	40.0
88-216	150	43.5
216-960	200	46.0
Above 960	500	54.0

NOTE:

1. The lower limit shall apply at the transition frequencies.
2. Emission level (dBuV/m) = 20 log Emission level (uV/m).
3. As shown in 15.35(b), for frequencies above 1000MHz, the field strength limits are based on average detector, however, the peak field strength of any emission shall not exceed the maximum permitted average limits, specified above by more than 20dB under any condition of modulation.

4.2.2 TEST INSTRUMENTS

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATED UNTIL
HP Spectrum Analyzer	8590L	3544A01176	May 7, 2002
HP Preamplifier	8447D	2944A08485	Nov. 3, 2001
* HP Preamplifier	8449B	3008A01201	Dec. 13, 2001
* HP Preamplifier	8449B	3008A01292	Aug. 21, 2002
* ROHDE & SCHWARZ TEST RECEIVER	ESMI	839013/007 839379/002	Jan. 25, 2002
SCHWARZBECK Tunable Dipole Antenna	VHA 9103 UHA 9105	E101051 E101055	Nov. 23, 2001
* CHASE BILOG Antenna	CBL6112A	2221	Aug. 2, 2002
* SCHWARZBECK Horn Antenna	BBHA9120-D1	D130	July 6, 2002
* EMCO Horn Antenna	3115	9312-4192	April 15, 2002
* EMCO Turn Table	1060	1115	NA
* SHOSHIN Tower	AP-4701	A6Y005	NA
* Software	AS61D4	NA	NA
* ANRITSU RF Switches	MP59B	M35046	Aug. 2, 2002
* TIMES RF cable	LMR-600	CABLE-ST5-01	Aug. 2, 2002
Open Field Test Site	Site 5	ADT-R05	July 28, 2002
VCCI Site Registration No.	Site 5	R-1039	NA
Site Registration No.	FCC: 90422 VCCI : R-1039 Canada IC: IC 3789-5		

NOTE: 1.The measurement uncertainty is less than +/- 3.0dB, 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.

3."*" = These equipments are used for the final measurement.

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.

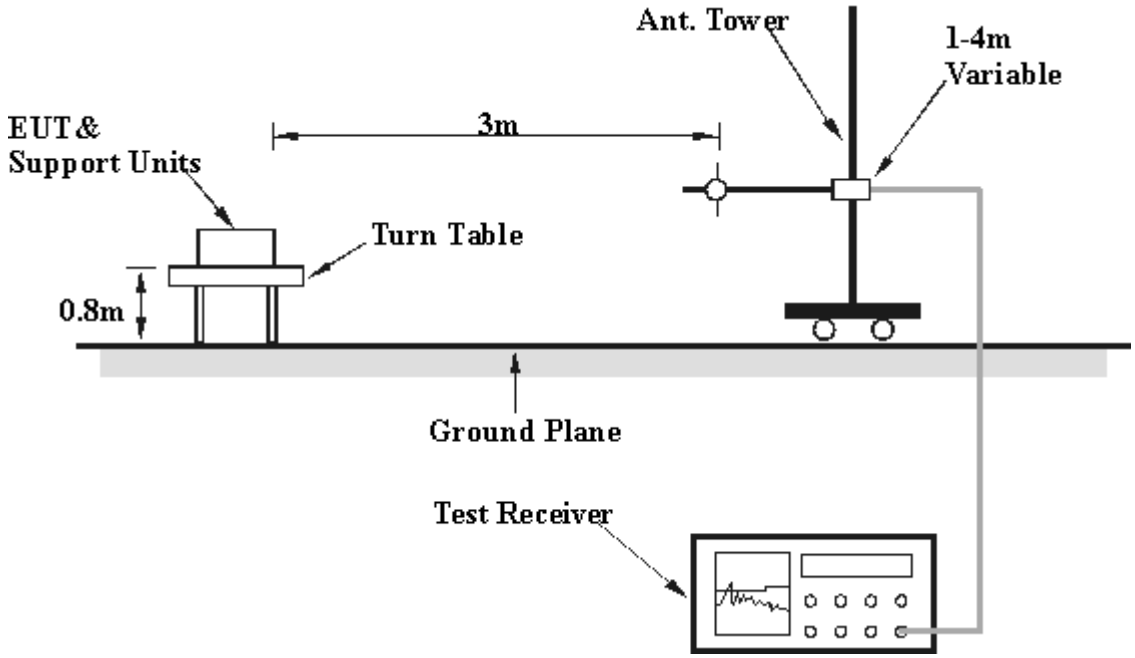
e. The test-receiver system was set to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode.

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 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 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	2.4GHz Wireless router	**MODEL**	DI-714
MODE	Channel 11	**FREQUENCY RANGE**	30-1000 MHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	**DETECTOR FUNCTION**	Quasi-Peak
ENVIRONMENTAL CONDITIONS	26 deg. C, 60%RH, 1005 hPa	**TESTED BY**: Gary Chang	

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

No.	Freq. (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Antenna Factor (dB/m)	Cable Factor (dB)	Pre-Amp. Factor (dB)	Correction Factor (dB/m)
1	132.70	32.3 QP	43.50	-11.20	1.42H	209	20.00	11.16	1.13	0.00	-12.29
2	200.02	38.4 QP	43.50	-5.10	2.55H	3	28.00	8.98	1.42	0.00	-10.40
3	220.40	30.8 QP	46.00	-15.20	1.28H	155	19.00	10.26	1.52	0.00	-11.79
4	250.03	38.7 QP	46.00	-7.30	1.50H	152	25.00	12.02	1.66	0.00	-13.70
5	350.14	35.3 QP	46.00	-10.70	1.06H	323	19.00	14.21	2.04	0.00	-16.25
6	375.03	37.3 QP	46.00	-8.70	1.55H	11	20.00	15.13	2.14	0.00	-17.27
7	400.02	39.3 QP	46.00	-6.70	1.28H	213	21.00	16.11	2.24	0.00	-18.36
8	450.17	39.8 QP	46.00	-6.20	1.08H	244	21.00	16.37	2.41	0.00	-18.79
9	500.05	42.7 QP	46.00	-3.30	1.08H	248	22.97	17.26	2.50	0.00	-19.77
10	528.02	36.2 QP	46.00	-9.80	1.73H	27	16.00	17.62	2.60	0.00	-20.23
11	550.02	40.6 QP	46.00	-5.40	1.72H	32	20.00	17.93	2.68	0.00	-20.61
12	600.04	39.4 QP	46.00	-6.60	1.42H	45	18.00	18.61	2.83	0.00	-21.45
13	625.04	37.8 QP	46.00	-8.20	1.85H	354	16.00	18.91	2.92	0.00	-21.84
14	650.01	37.7 QP	46.00	-8.30	1.09H	162	15.40	19.23	3.02	0.00	-22.25
15	748.48	40.4 QP	46.00	-5.60	2.18H	328	17.00	20.14	3.26	0.00	-23.41
16	750.02	41.4 QP	46.00	-4.60	1.72H	355	18.00	20.18	3.26	0.00	-23.45
17	850.17	38.2 QP	46.00	-7.80	1.00H	355	14.20	20.48	3.50	0.00	-23.98
18	875.07	38.4 QP	46.00	-7.60	1.35H	336	14.20	20.63	3.54	0.00	-24.18
19	950.10	38.0 QP	46.00	-8.00	1.10H	8	13.00	21.20	3.79	0.00	-24.99

NOTE: 1 Emission level = Raw Value - Correction Factor
2 Correction Factor = External Preamp. Gain - Ant. Factor - Cable loss
(External Preamp. Gain = 0, when the test receiver is used for the test.)
3 The other emission levels were very low against the limit.
4 Margin value = Emission level - Limit value

EUT	2.4GHz Wireless router	**MODEL**	DI-714
MODE	Channel 11	**FREQUENCY RANGE**	30-1000 MHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	**DETECTOR FUNCTION**	Quasi-Peak
ENVIRONMENTAL CONDITIONS	26 deg. C, 60%RH, 1005 hPa	**TESTED BY**: Gary Chang	

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/m)	Cable Factor (dB)	Pre-Amp. Factor (dB)	Correction Factor (dB/m)
1	150.02	35.6 QP	43.50	-7.90	1.05V	131	24.10	10.30	1.20	0.00	-11.51
2	200.02	39.8 QP	43.50	-3.70	1.11V	354	29.40	8.98	1.42	0.00	-10.40
3	220.70	32.2 QP	46.00	-13.80	1.58V	194	20.40	10.26	1.52	0.00	-11.79
4	250.02	38.8 QP	46.00	-7.20	1.15V	349	25.10	12.02	1.66	0.00	-13.70
5	275.14	38.5 QP	46.00	-7.50	1.05V	47	24.20	12.59	1.74	0.00	-14.34
6	375.05	37.3 QP	46.00	-8.70	2.24V	35	20.00	15.13	2.14	0.00	-17.28
7	396.00	36.6 QP	46.00	-9.40	1.73V	299	18.40	15.96	2.22	0.00	-18.19
8	400.04	36.7 QP	46.00	-9.30	1.86V	205	18.40	16.11	2.24	0.00	-18.36
9	450.01	38.8 QP	46.00	-7.20	1.12V	33	20.00	16.37	2.41	0.00	-18.79
10	500.04	42.8 QP	46.00	-3.20	2.07V	343	23.00	17.26	2.50	0.00	-19.77
11	528.11	35.2 QP	46.00	-10.80	1.74V	190	15.00	17.62	2.60	0.00	-20.22
12	550.01	41.6 QP	46.00	-4.40	1.00V	107	21.00	17.93	2.68	0.00	-20.60
13	600.01	41.4 QP	46.00	-4.60	2.22V	266	20.00	18.61	2.83	0.00	-21.44
14	625.05	39.8 QP	46.00	-6.20	1.00V	274	18.00	18.91	2.92	0.00	-21.83
15	650.10	39.3 QP	46.00	-6.70	1.39V	350	17.00	19.23	3.02	0.00	-22.25
16	748.50	43.4 QP	46.00	-2.60	1.65V	357	20.00	20.14	3.26	0.00	-23.40
17	750.00	43.9 QP	46.00	-2.10	1.47V	0	20.50	20.18	3.26	0.00	-23.44
18	850.14	41.0 QP	46.00	-5.00	1.00V	25	17.00	20.48	3.50	0.00	-23.98
19	875.10	38.2 QP	46.00	-7.80	1.39V	102	14.00	20.63	3.54	0.00	-24.17
20	950.17	40.0 QP	46.00	-6.00	1.69V	261	15.00	21.20	3.79	0.00	-24.99

NOTE: 1 Emission level = Raw Value - Correction Factor

2 Correction Factor = External Preamp. Gain - Ant. Factor - Cable loss
(External Preamp. Gain = 0, when the test receiver is used for the test.)

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

4 Margin value = Emission level - Limit value

EUT	2.4GHz Wireless router	**MODEL**	DI-714
MODE	Channel 1	**FREQUENCY RANGE**	Above 1000 MHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	**DETECTOR FUNCTION**	Peak(PK) Average (AV)
ENVIRONMENTAL CONDITIONS	26 deg. C, 60%RH, 1005 hPa	**TESTED BY**: Gary Chang	

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

No.	Freq. (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Antenna Factor (dB/m)	Cable Factor (dB)	Pre-Amp. Factor (dB)	Correction Factor (dB/m)
1	2037.80	49.2 PK	74.00	-24.80	1.62H	9	54.00	25.20	4.86	34.90	4.84
2	*2412.00	98.4 PK	-	-	1.24H	347	66.15	27.11	5.10	0.00	-32.21
3	*2412.00	89.6 AV	-	-	1.24H	347	57.40	27.11	5.10	0.00	-32.21
4	4075.10	50.4 PK	74.00	-23.60	1.29H	340	48.00	30.13	6.78	34.52	-2.39
5	4824.30	50.0 PK	74.00	-24.00	1.31H	61	46.00	31.43	7.23	34.63	-4.03

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

No.	Freq. (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Antenna Factor (dB/m)	Cable Factor (dB)	Pre-Amp. Factor (dB)	Correction Factor (dB/m)
1	2037.80	52.2 PK	74.00	-21.80	1.53V	247	57.00	25.20	4.86	34.90	4.84
2	*2412.10	104.0 PK	-	-	2.04V	353	71.74	27.11	5.10	0.00	-32.21
3	*2412.10	96.0 AV	-	-	2.04V	353	63.80	27.11	5.10	0.00	-32.21
4	4075.50	49.4 PK	74.00	-24.60	1.36V	7	47.00	30.13	6.78	34.52	-2.39
5	4824.10	52.0 PK	74.00	-22.00	1.22V	357	48.00	31.43	7.23	34.63	-4.02
6	6113.20	51.4 PK	74.00	-22.60	1.28V	357	45.00	32.80	8.23	34.60	-6.43

NOTE: 1. Emission level = Raw Value - Correction Factor
2. Correction Factor = External Preamp. Gain - Ant. Factor - Cable loss
(External Preamp. Gain = 0, when the test receiver is used for the test.)
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	2.4GHz Wireless router	**MODEL**	DI-714
MODE	Channel 6	**FREQUENCY RANGE**	Above 1000 MHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	**DETECTOR FUNCTION**	Peak(PK) Average (AV)
ENVIRONMENTAL CONDITIONS	26 deg. C, 60%RH, 1005 hPa	**TESTED BY**: Gary Chang	

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

No.	Freq. (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Antenna Factor (dB/m)	Cable Factor (dB)	Pre-Amp. Factor (dB)	Correction Factor (dB/m)
1	2062.70	48.5 PK	74.00	-25.50	1.00H	345	53.00	25.41	4.96	34.90	4.53
2	*2437.80	97.5 PK	-	-	1.66H	353	65.06	27.33	5.08	0.00	-32.40
3	*2437.80	90.8 AV	-	-	1.66H	353	58.40	27.33	5.08	0.00	-32.40
4	4125.70	50.5 PK	74.00	-23.50	1.03H	20	48.00	30.32	6.70	34.56	-2.46
5	4874.20	50.1 PK	74.00	-23.90	1.22H	315	46.00	31.47	7.21	34.63	-4.05

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/m)	Cable Factor (dB)	Pre-Amp. Factor (dB)	Correction Factor (dB/m)
1	2062.80	48.1 PK	74.00	-25.90	1.14V	2	52.60	25.41	4.96	34.90	4.53
2	*2438.50	104.8 PK	-	-	1.17V	284	72.42	27.33	5.08	0.00	-32.40
3	*2438.50	96.6 AV	-	-	1.17V	284	64.20	27.33	5.08	0.00	-32.40
4	4125.50	50.5 PK	74.00	-23.50	1.25V	353	48.00	30.32	6.70	34.56	-2.46
5	4874.20	49.2 PK	74.00	-24.80	1.31V	149	45.10	31.47	7.21	34.63	-4.05
6	6188.20	50.5 PK	74.00	-23.50	1.44V	32	44.00	33.14	8.01	34.60	-6.55

NOTE: 1. Emission level = Raw Value - Correction Factor
2. Correction Factor = External Preamp. Gain - Ant. Factor - Cable loss
(External Preamp. Gain = 0, when the test receiver is used for the test.)
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	2.4GHz Wireless router	**MODEL**	DI-714
MODE	Channel 11	**FREQUENCY RANGE**	Above 1000 MHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	**DETECTOR FUNCTION**	Peak(PK) Average (AV)
ENVIRONMENTAL CONDITIONS	26 deg. C, 60%RH, 1005 hPa	**TESTED BY**: Gary Chang	

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

No.	Freq. (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Antenna Factor (dB/m)	Cable Factor (dB)	Pre-Amp. Factor (dB)	Correction Factor (dB/m)
1	2087.50	46.7 PK	74.00	-27.30	1.15H	21	51.00	25.62	5.02	34.90	4.26
2	*2462.30	97.3 PK	-	-	1.66H	353	64.88	27.33	5.08	0.00	-32.40
3	*2462.30	89.5 AV	-	-	1.66H	353	57.10	27.33	5.08	0.00	-32.40
4	2483.50	45.7 PK	74.00	-28.30	1.80H	336	48.00	27.54	5.06	34.90	2.31
5	4175.60	49.5 PK	74.00	-24.50	1.25H	242	47.00	30.41	6.68	34.58	-2.51
6	4924.20	50.3 PK	74.00	-23.70	1.29H	284	46.20	31.51	7.21	34.62	-4.10
7	6263.00	52.0 PK	74.00	-22.00	1.37H	23	45.00	33.48	8.13	34.60	-7.01

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

No.	Freq. (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Antenna Factor (dB/m)	Cable Factor (dB)	Pre-Amp. Factor (dB)	Correction Factor (dB/m)
1	2087.80	47.0 PK	74.00	-27.00	1.62V	302	51.22	25.62	5.02	34.90	4.26
2	*2463.20	97.2 PK	-	-	1.30V	116	64.78	27.33	5.08	0.00	-32.41
3	*2463.20	89.5 AV	-	-	1.30V	116	57.10	27.33	5.08	0.00	-32.41
4	2483.50	51.2 PK	74.00	-22.80	1.17V	273	53.46	27.54	5.06	34.90	2.31
5	4175.50	49.5 PK	74.00	-24.50	1.30V	1	47.00	30.41	6.68	34.58	-2.51
6	4924.80	49.9 PK	74.00	-24.10	1.22V	49	45.80	31.51	7.21	34.62	-4.10
7	6263.20	51.2 PK	74.00	-22.80	1.07V	327	44.20	33.48	8.13	34.60	-7.01

NOTE: 1. Emission level= Raw Value - Correction Factor
2. Correction Factor = External Preamp. Gain - Ant. Factor - Cable loss
(External Preamp. Gain = 0, when the test receiver is used for the test.)
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
ROHDE & SCHWARZ TEST RECEIVER	ESMI	839379/002	Dec. 28, 2001
HP ATTENUATOR	8496B	3247A18505	Cal. on use
HP PLOTTER	7475A	2641V27755	N/A

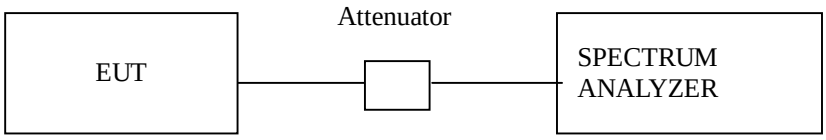
Notes:

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



4.3.5 EUT OPERATING CONDITIONS

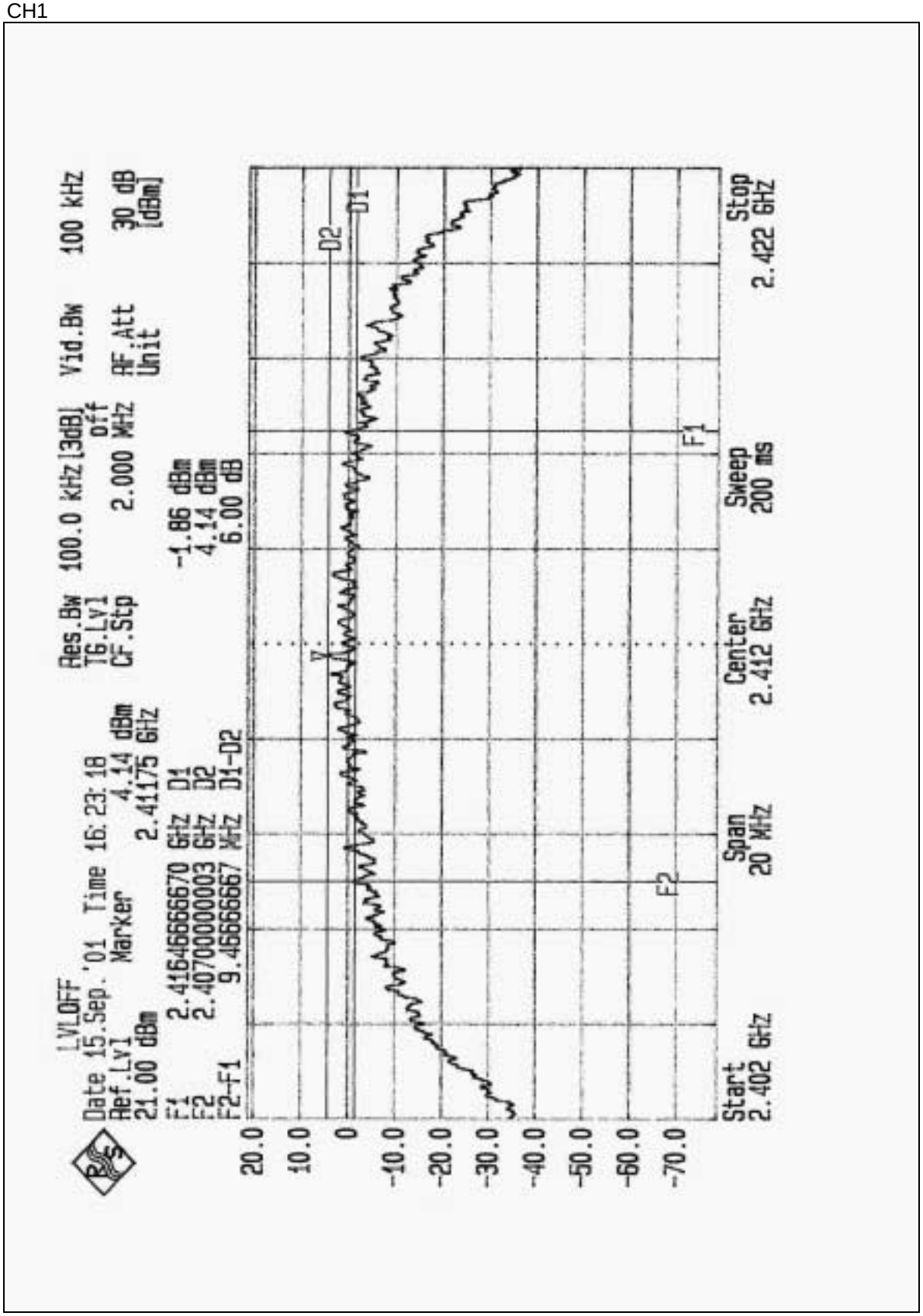
The software provided by client to enable the EUT under transmission condition continuously at lowest, middle and highest channel frequencies individually.

4.3.6 TEST RESULTS

EUT	2.4GHz Wireless router	**MODEL**	DI-714
INPUT POWER (SYSTEM)	120Vac, 60 Hz	**ENVIRONMENTAL CONDITIONS**	25 deg. C, 75%RH, 1005 hPa
TESTED BY: James Lee			

CHANNEL	CHANNEL FREQUENCY (MHz)	6 dB BANDWIDTH (MHz)	MINIMUM LIMIT (MHz)	PASS/FAIL
1	2412	9.47	0.5	PASS
6	2437	9.47	0.5	PASS
11	2462	9.51	0.5	PASS

CH1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F1 2.41646666670 GHz D1 -1.86 dBm
F2 2.40700000003 GHz D2 4.14 dBm
F2-F1 9.46666667 MHz D1-D2 6.00 dB
Res.Bw 100.0 kHz [3dB] Vid.Bw 100 kHz
TG.Lvl off
CF.Stp 2.000 MHz RF.Att 30 dB
Unit [dBm]
Start 2.402 GHz
Span 20 MHz
Center 2.412 GHz
Sweep 200 ms
Stop 2.422 GHz
20.0
10.0
0
-10.0
-20.0
-30.0
-40.0
-50.0
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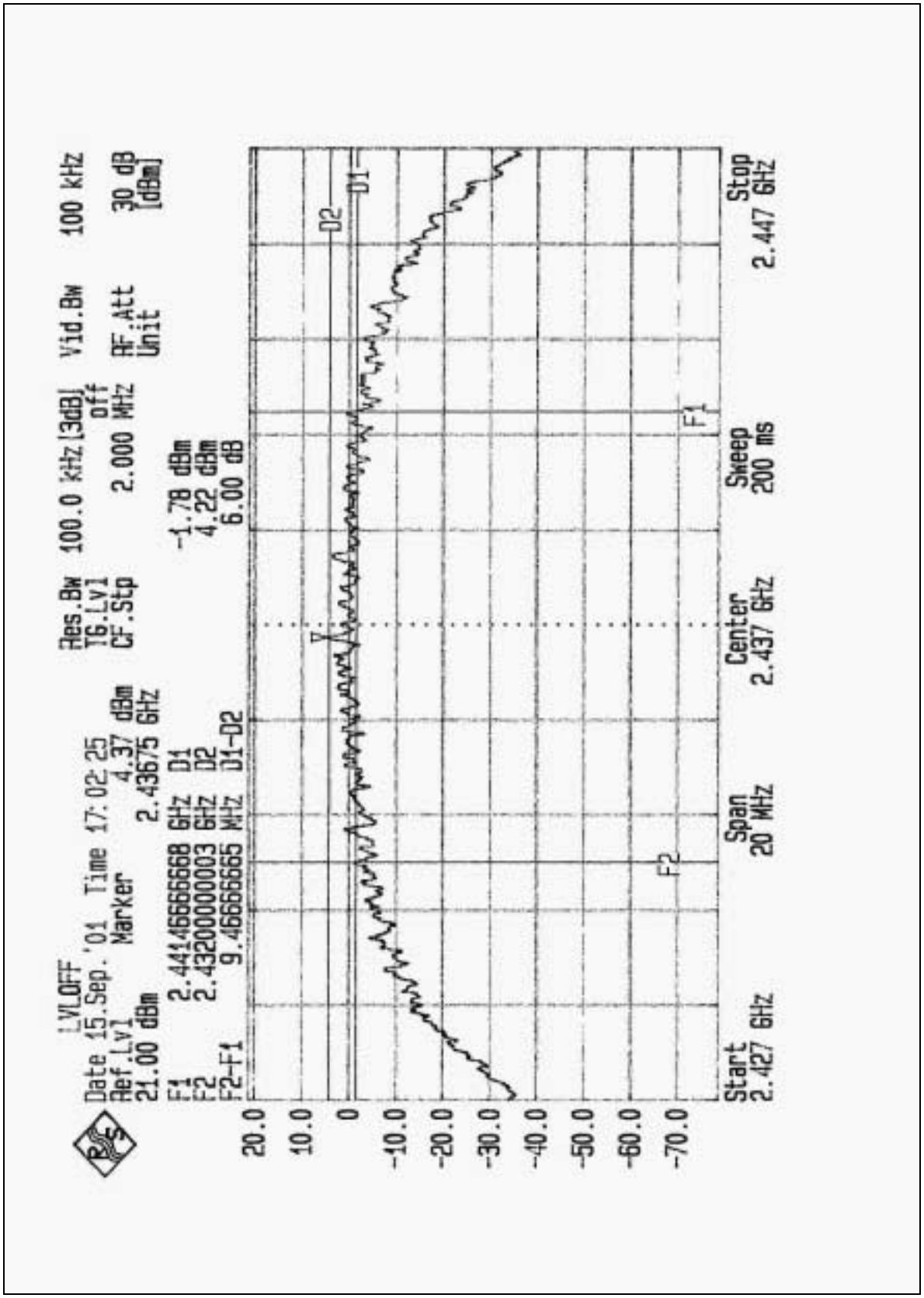
D1
D2
F1
F2

CH6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Marker
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F2 2.432000000003 GHz D2 2.43675 GHz
F2-F1 9.466666665 MHz D1-D2
Res.Bw 100.0 kHz [3dB] Vid.Bw 100 kHz
TG.Lvl off
CF.Stp 2.000 MHz RF.Att 30 dB
Unit [dBm]
-1.78 dBm
4.22 dBm
6.00 dB
Span 20 MHz
Center 2.437 GHz
Sweep 200 ms
Start 2.427 GHz
Stop 2.447 GHz
20.0
10.0
0
-10.0
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-30.0
-40.0
-50.0
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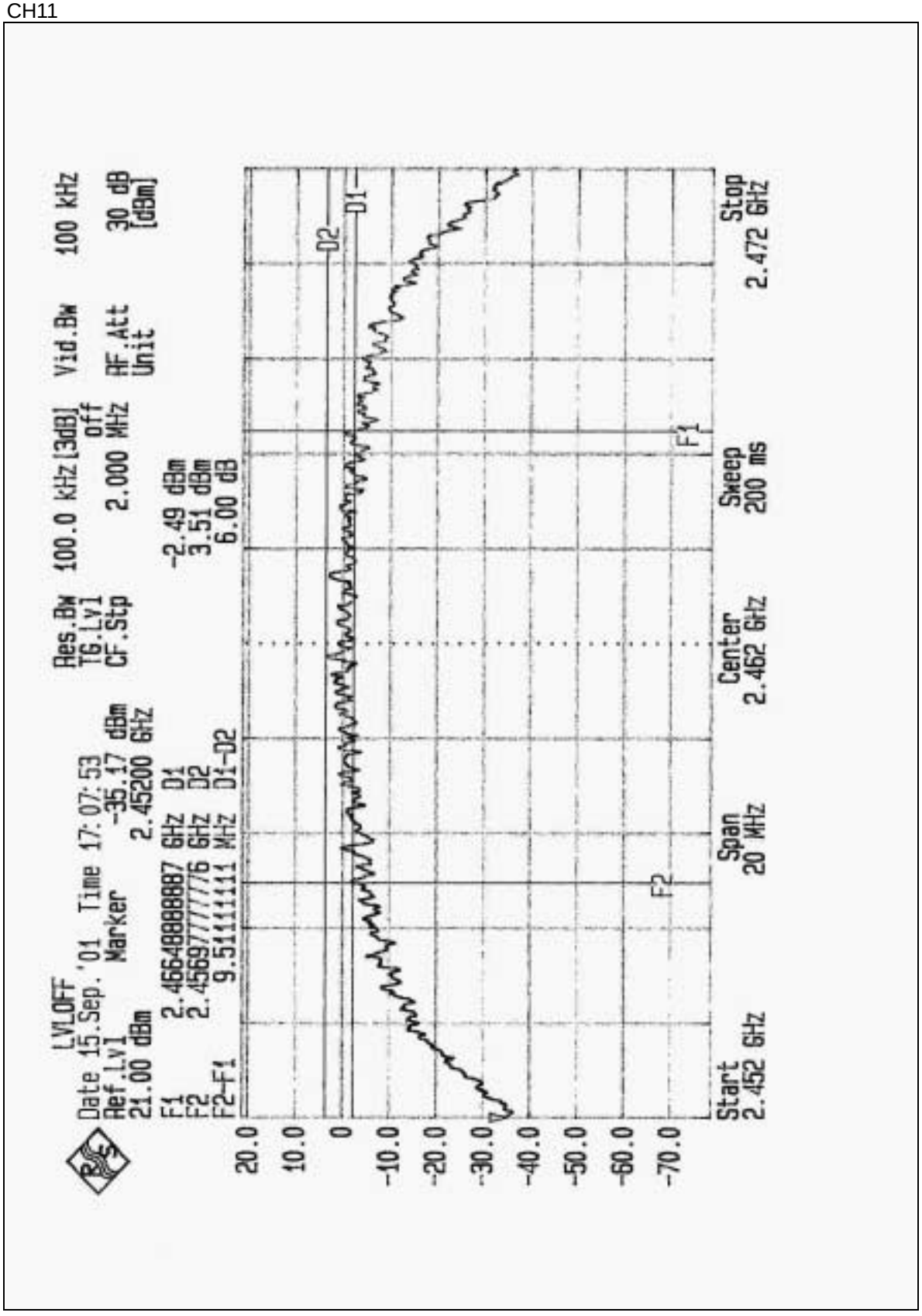
-70.0
D1
D2
F1
F2

CH11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Marker
-35.17 dBm
2.45200 GHz
F1 2.46648888887 GHz D1
F2 2.45697777776 GHz D2
F2-F1 9.51111111 MHz D1-D2
Res.BW 100.0 kHz [3dB]
TG.Lvl off
CF.Stp 2.000 MHz
-2.49 dBm
3.51 dBm
6.00 dB
Vid.BW 100 kHz
RF.Att 30 dB
Unit [dBm]
D1
D2
F1
F2
20.0
10.0
0
-10.0
-20.0
-30.0
-40.0
-50.0
-60.0
-70.0
Start 2.452 GHz
Span 20 MHz
Center 2.462 GHz
Sweep 200 ms
Stop 2.472 GHz

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
ROHDE & SCHWARZ TEST RECEIVER	ESMI	839379/002	Dec. 28, 2001
HP ATTENUATOR	8496B	3247A18505	Cal. on use
HP PLOTTER	7475A	2641V27755	N/A

NOTE:1. The measurement uncertainty is less than +/- 2.6dB, which is calculated as per the NAMAS document NIS81.

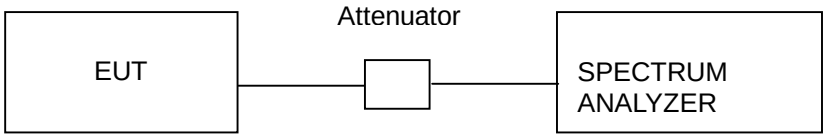
2. The calibration interval of the above test instruments is 12 months and the calibrations are traceable to NML/ROC and NIST/USA.

4.4.3 TEST PROCEDURES

1. The transmitter output was connected to the spectrum analyzer through an attenuator.
2. The center frequency of the spectrum analyzer was set to the fundamental frequency and using 3 MHz RBW and 3 MHz VBW.
3. The span of the spectrum analyzer was larger than 6dB BandWidth plus 10MHz.
4. Used Peak Search to read the peak power after Maximum Hold function is activated.
5. Shifted the marker to +/- 3MHz and +/-6MHz, and recorded the reading.
6. The Maximum Peak Output Power is the linear summation of the five readings in 4 and 5.

NOTE: This measurement is the total power of 12MHz bandwidth which is far more wider than 6dB bandwidth.

4.4.4 TEST SETUP



4.4.5 EUT OPERATING CONDITIONS

Same as Item 3.4.5

4.4.6 TEST RESULTS

EUT	2.4GHz Wireless router	**MODEL**	DI-714
INPUT POWER (SYSTEM)	120Vac, 60 Hz	**ENVIRONMENTAL CONDITIONS**	25 deg. C, 75%RH, 1005 hPa
TESTED BY: James Lee			

CHANNEL	CHANNEL FREQUENCY (MHz)	PEAK POWER OUTPUT (dBm)	PEAK POWER LIMIT (dBm)	PASS/FAIL
1	2412	17.89	30	PASS
6	2437	17.49	30	PASS
11	2462	16.47	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
ROHDE & SCHWARZ TEST RECEIVER	ESMI	839379/002	Dec. 28, 2001
HP ATTENUATOR	8496B	3247A18505	Cal. on use
HP PLOTTER	7475A	2641V27755	N/A

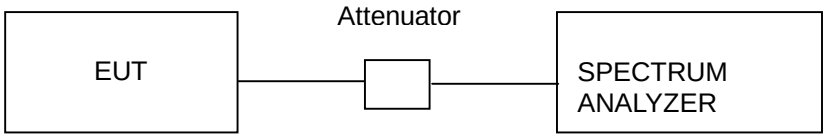
NOTE:1. The measurement uncertainty is less than +/- 2.6dB, which is calculated as per the NAMAS document NIS81.

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/3 kHz. The power spectral density was measured and recorded.
The sweep time is allowed to be longer than span/3 kHz for a full response of the mixer in the spectrum analyzer.

4.5.4 TEST SETUP



4.5.5 EUT OPERATING CONDITION

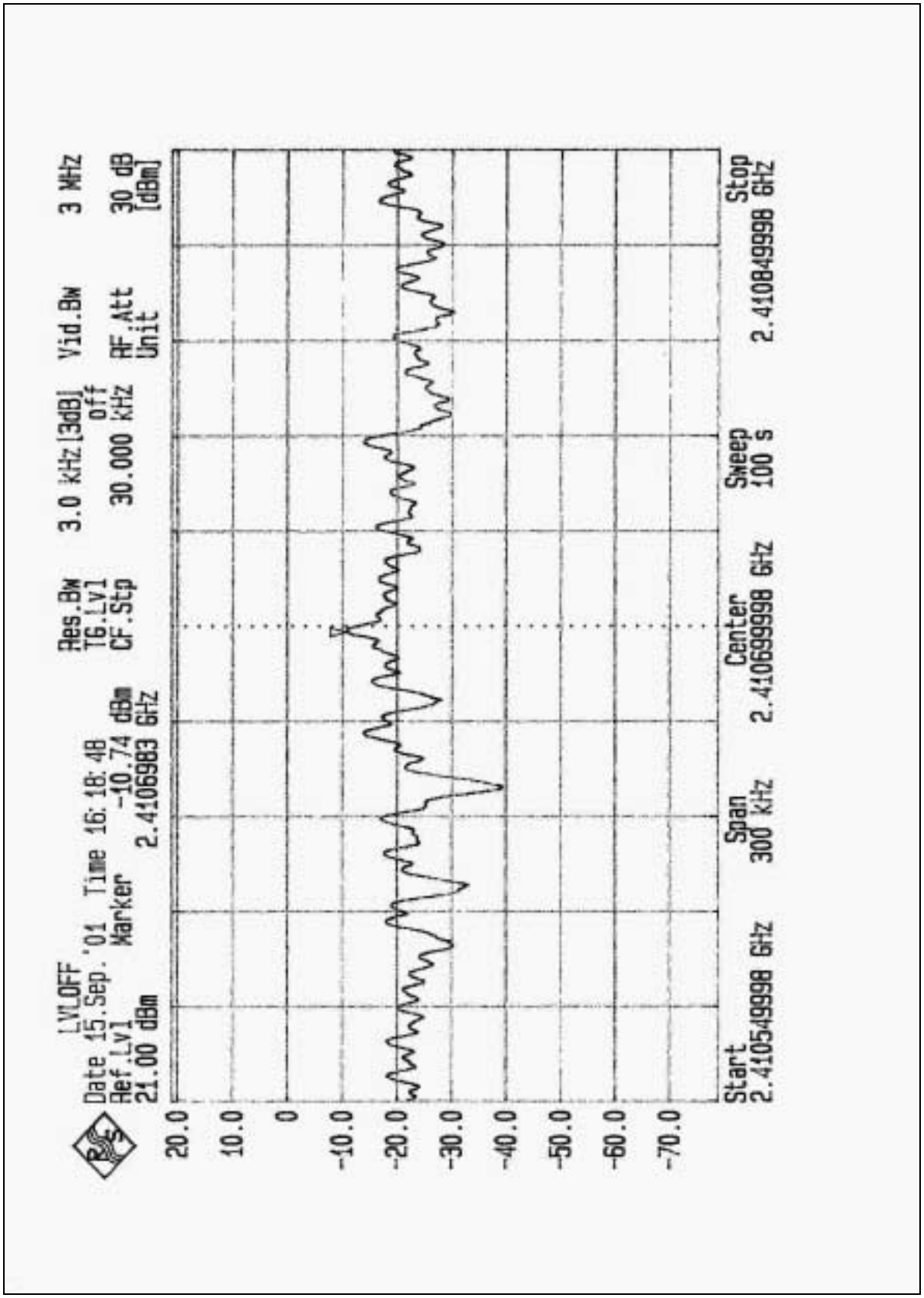
Same as Item 3.4.5

4.5.6 TEST RESULTS

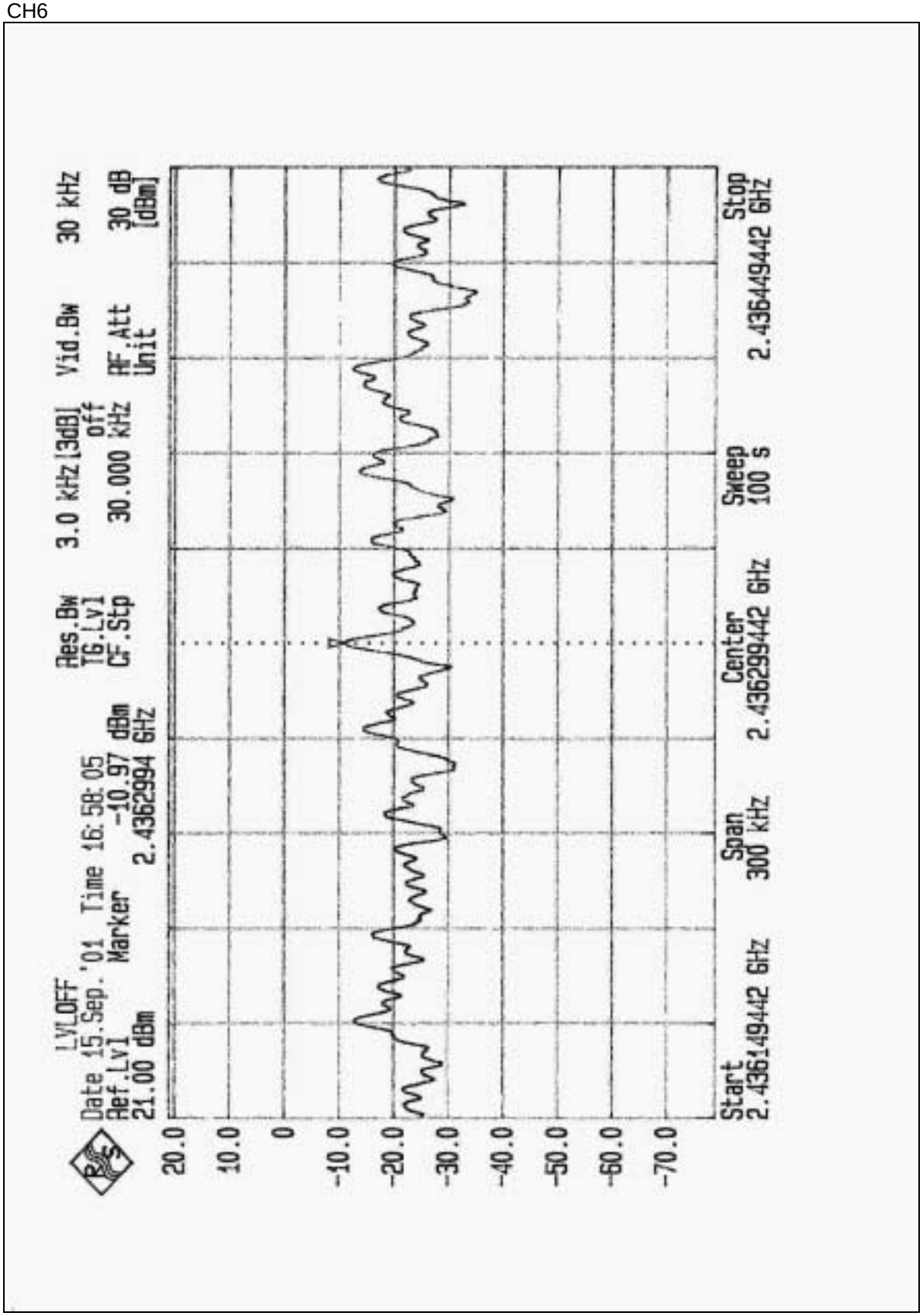
EUT	2.4GHz Wireless router	**MODEL**	DI-714
INPUT POWER (SYSTEM)	120Vac, 60 Hz	**ENVIRONMENTAL CONDITIONS**	25 deg. C, 75%RH, 1005 hPa
TESTED BY: James Lee			

CHANNEL NUMBER	CHANNEL FREQUENCY (MHz)	RF POWER LEVEL IN 3 kHz BW (dBm)	MAXIMUM LIMIT (dBm)	PASS/FAIL
1	2412	-10.74	8	PASS
6	2437	-10.97	8	PASS
11	2462	-11.98	8	PASS

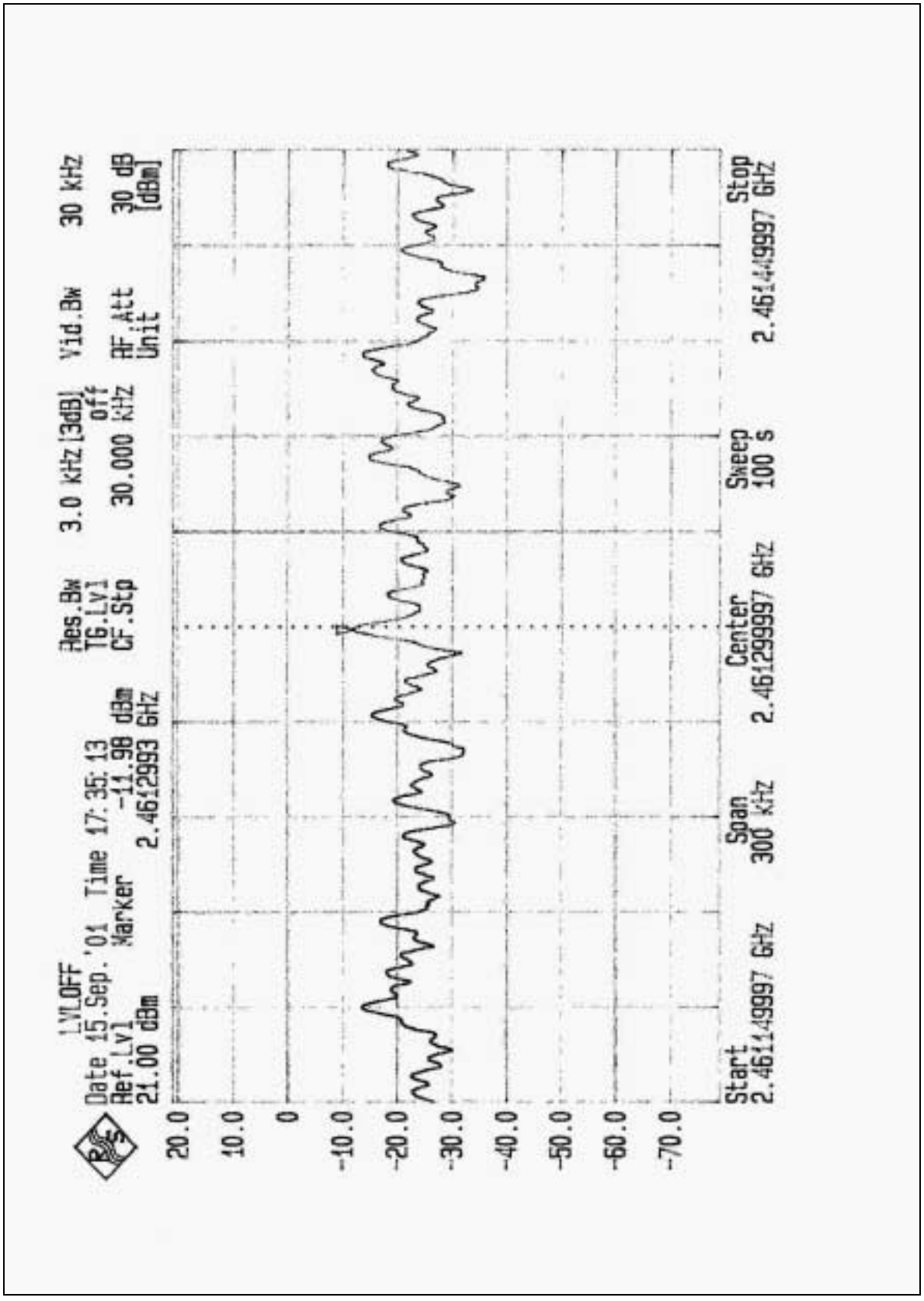
CH1


LVLOFF
Date 15.Sep. '01 Time 16:18:48
Ref.Lvl
21.00 dBm
Marker
-10.74 dBm
2.4106983 GHz
Res.Bw
T6.Lvl
CF.Stp
3.0 kHz [3dB]
off
30.000 kHz
Vid.Bw
RF.Att
Unit
3 MHz
30 dB
[dBm]
20.0
10.0
0
-10.0
-20.0
-30.0
-40.0
-50.0
-60.0
-70.0
Start
2.4105499998 GHz
Span
300 kHz
Center
2.4106999998 GHz
Sweep
100 s
Stop
2.4108499998 GHz

CH6


LVLOFF
Date 15.Sep. '01 Time 16:58:05
Ref.Lvl
21.00 dBm
Marker
-10.97 dBm
2.4362994 GHz
Res.Bw 3.0 kHz [3dB]
TG.Lvl off
CF.Step 30.000 kHz
Vid.Bw 30 kHz
RF.Att 30 dB
Unit [dBm]
Start 2.436149442 GHz
Span 300 kHz
Center 2.436299442 GHz
Sweep 100 s
Stop 2.436449442 GHz
20.0
10.0
0
-10.0
-20.0
-30.0
-40.0
-50.0
-60.0
-70.0

CH11


LVLOFF
Date 15.Sep. '01 Time 17:35:13
Ref.Lvl
21.00 dBm
Marker -11.98 dBm
2.4612993 GHz
Res.Bw 3.0 kHz [3dB]
TG.Lvl off
CF.Stp 30.000 kHz
Vid.Bw 30 kHz
RF.Att 30 dB
Unit [dBm]
20.0
10.0
0
-10.0
-20.0
-30.0
-40.0
-50.0
-60.0
-70.0
Start 2.4611499997 GHz
Span 300 kHz
Center 2.4612999997 GHz
Sweep 100 s
Stop 2.4614499997 GHz

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
ROHDE & SCHWARZ TEST RECEIVER	ESMI	848926/005 846839/018	Dec 28, 2001
HP ATTENUATOR	8496B	3247A18505	Cal. on use
HP PLOTTER	7475A	2641V27755	N/A

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

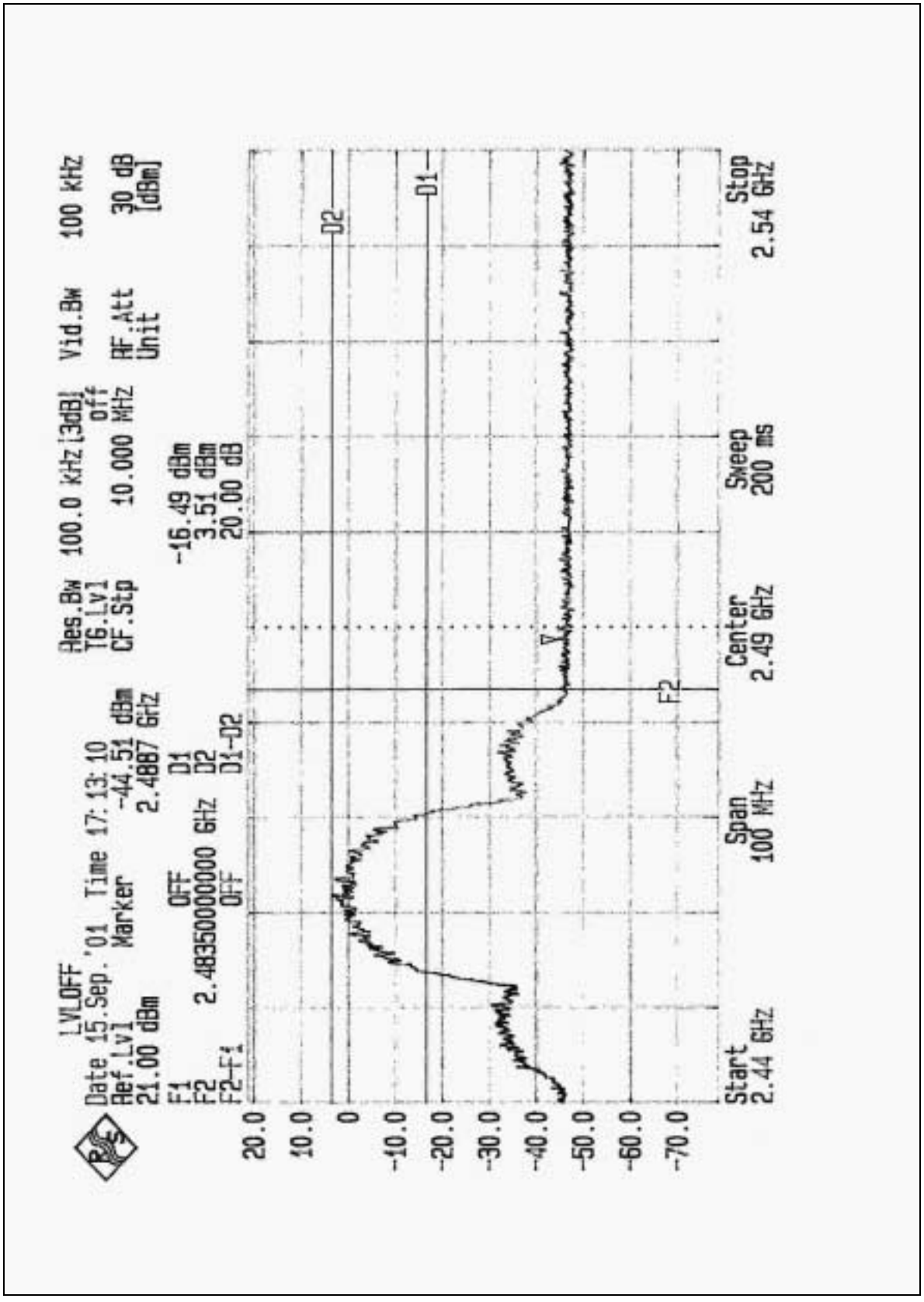
4.6.4 EUT OPERATING CONDITION

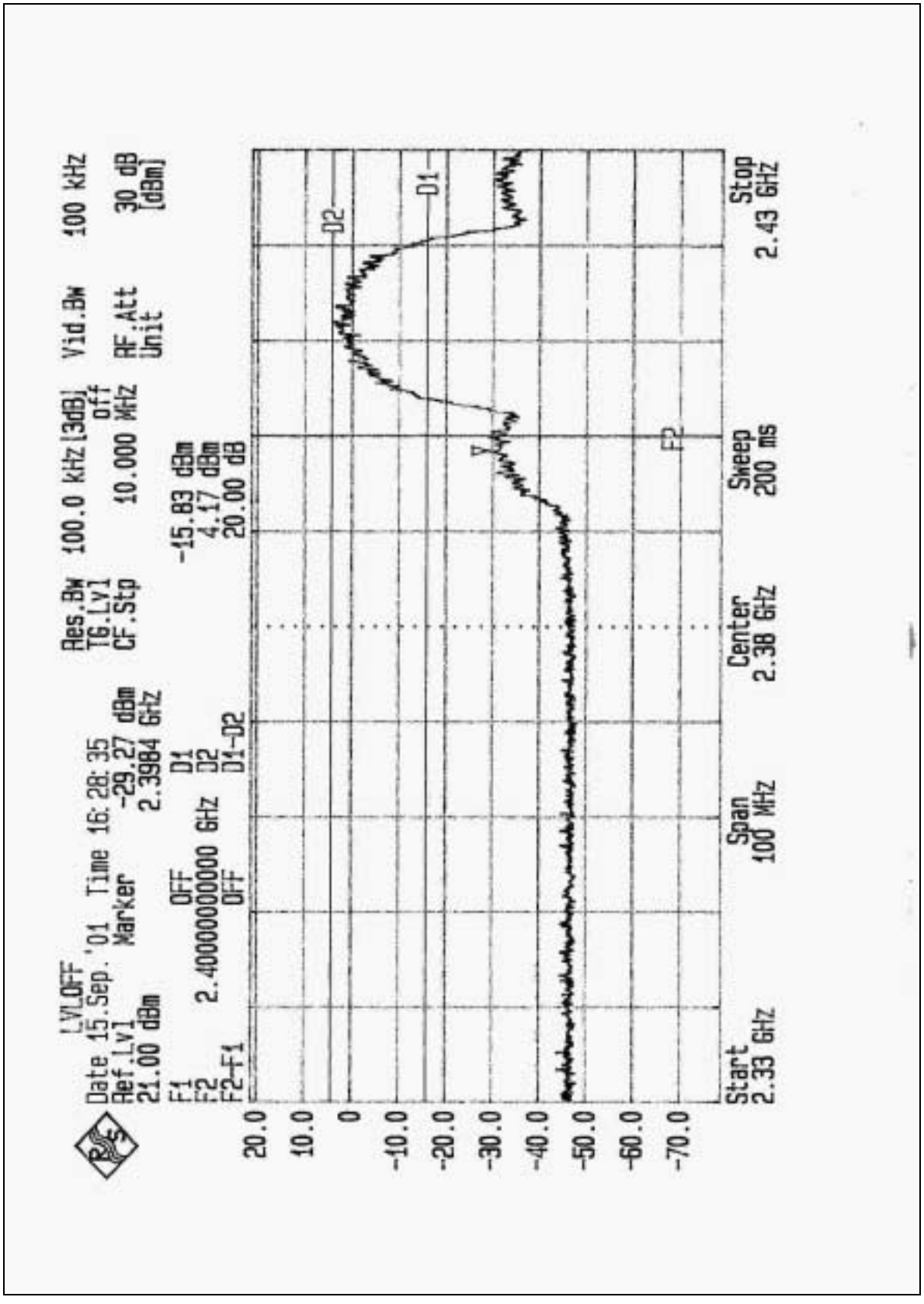
Same as Item 3.4.5

4.6.5 TEST RESULTS

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

NOTE: The band edge emission plot on the following 2 pages shows 48.02dB delta between carrier maximum power and local maximum emission in restrict band (2.4887GHz). The emission of carrier strength list in the test result of channel 11 at the item 4.2.6 (Page 26) is 89.5dBuV/m, so the maximum field strength in restrict band is 89.5-48.02=41.48dBuV/m which is under 54 dBuV/m limit.


LVLOFF
Date 15.Sep.'01 Time 17:13:10
Ref.Lvl
21.00 dBm
Marker
-44.51 dBm
2.4887 GHz
F1
F2
F2-F1
OFF
2.48350000000 GHz
OFF
D1
D2
D1-D2
Res.Bw 100.0 kHz [3dB]
T6.Lvl
CF.Stp
10.000 MHz
-16.49 dBm
3.51 dBm
20.00 dB
Vid.Bw 100 kHz
RF.Att 30 dB
Unit [dBm]
Start 2.44 GHz
Span 100 MHz
Center 2.49 GHz
Sweep 200 ms
Stop 2.54 GHz
D1
D2
F2
20.0
10.0
0
-10.0
-20.0
-30.0
-40.0
-50.0
-60.0
-70.0


LVLOFF
Date 15.Sep. '01 Time 16:28:35
Ref.Lvl
21.00 dBm
Marker
-29.27 dBm
2.3984 GHz
F1
F2
F2-F1
2.400000000 GHz
OFF
OFF
D1
D2
D1-D2
Res.BW 100.0 kHz (3dB)
T6.Lvl off
CF.Stp 10.000 MHz
-15.83 dBm
4.17 dBm
20.00 dB
Vid.BW 100 kHz
RF.Att 30 dB
Unit [dBm]
D1
D2
F2
Start 2.33 GHz
Span 100 MHz
Center 2.38 GHz
Sweep 200 ms
Stop 2.43 GHz
20.0
10.0
0
-10.0
-20.0
-30.0
-40.0
-50.0
-60.0
-70.0

4.7 ANTENNA REQUIREMENT

4.7.1 STANDARD APPLICABLE

For intentional device, according to FCC 47 CFR Section 15.203, an intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device. And according to FCC 47 CFR Section 15.247 (b), if transmitting antennas of directional gain greater than 6dBi are used, the power shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6dBi.

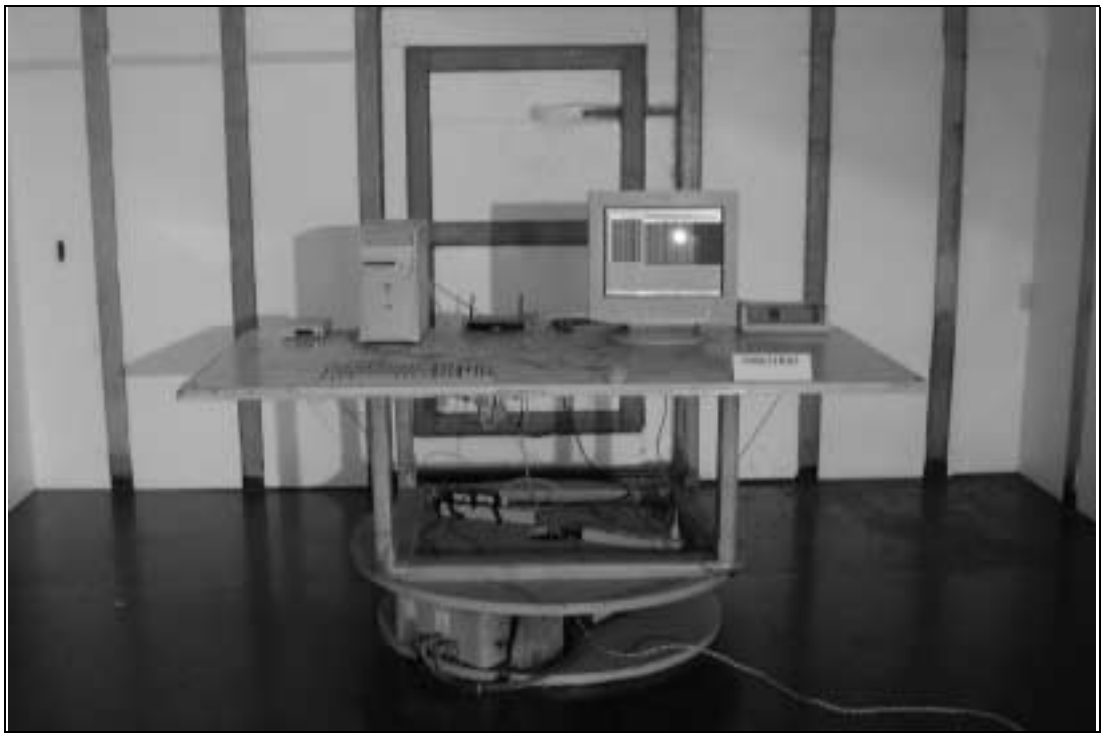
4.7.2 ANTENNA CONNECTED CONSTRUCTION

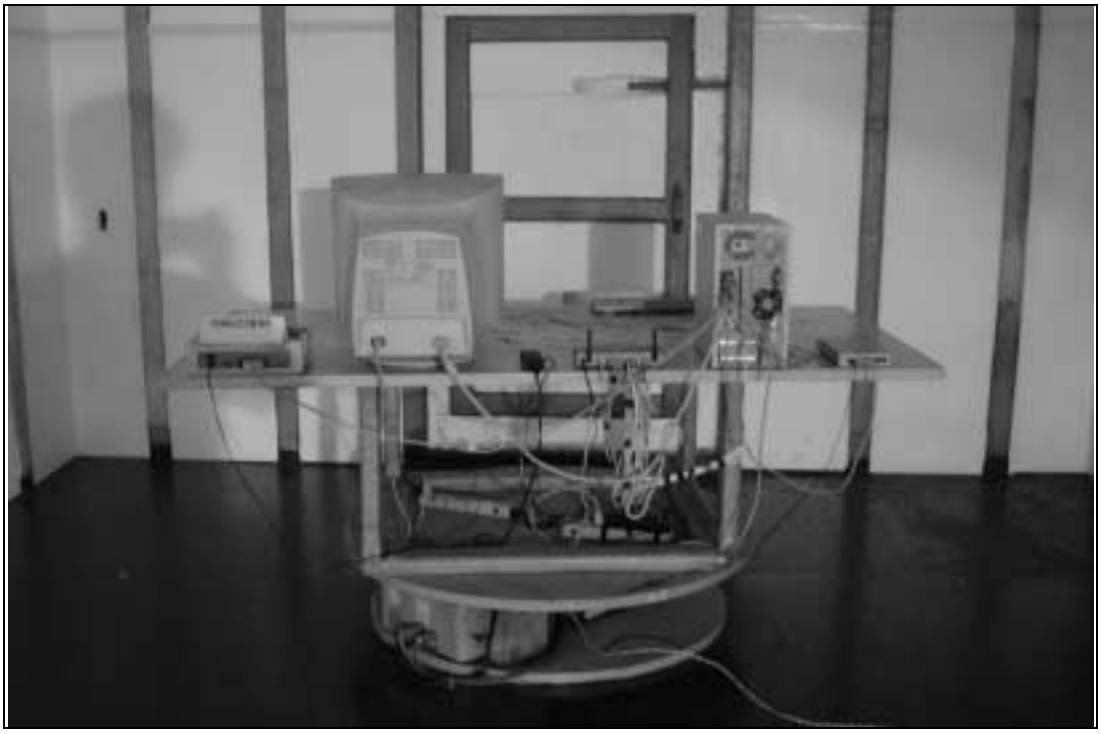
The antenna used in this product is dipole antenna and the reversed SMA connector is used. The maximum Gain of the antenna is 1dBi only.

5 PHOTOGRAPHS OF THE TEST CONFIGURATION

CONDUCTED EMISSION TEST

RADIATED EMISSION TEST





6 INFORMATION ON THE TESTING LABORATORIES

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

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

Copies of accreditation certificates of our laboratories obtained from approval agencies can be downloaded from our web site: www.adt.com.tw/index.5/phtml.

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Tel: 886-35-935343
Fax: 886-35-935342

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Fax: 886-2-26093184

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Tel: 886-3-3270910
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Email: service@mail.adt.com.tw
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The address and road map of all our labs can be found in our web site also.