FCC TEST REPORT

REPORT NO.: RF930322L11A
MODEL NO.: WLPS1
RECEIVED: NA
TESTED: 27 March, 2004 ~ 09 April, 2004

APPLICANT: NEC America Inc.

ADDRESS: 6535 North State Highway 161, Irving, TX75039-2402, U.S.A.

ISSUED BY: Advance Data Technology Corporation

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

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1 CERTIFICATION

PRODUCT :	Wireless IP Phone
MODEL NO. :	WLPS1
BRAND :	NEC
TEST ITEM:	Engineering Sample
APPLICANT :	NEC America Inc.
STANDARDS :	FCC 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 27 March, 2004 ~ 09 April, 2004. 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.

PREPARED BY: _____ , **DATE:** 12 April, 2004
Stephanie Hung

APPROVED BY: _____ , **DATE:** 12 April, 2004
Ellis Wu / Manager for

2 SUMMARY OF TEST RESULTS

The EUT has been tested according to the following specifications:

APPLIED STANDARD: FCC Part 15, Subpart C			
Standard Section	**Test Type and Limit**	**Result**	**REMARK**
15.207	AC Power Conducted Emission	PASS	Meet the requirement of limit. Minimum passing margin is –11.81dB at 0.173MHz.
15.247(a)(2)	Spectrum Bandwidth of a Direct Sequence Spread Spectrum System Limit: min. 500kHz	PASS	Meet the requirement of limit.
15.247(b)	Maximum Peak Output Power Limit: max. 30dBm	PASS	Meet the requirement of limit.
15.247(c)	Transmitter Radiated Emissions Limit: Table 15.209	PASS	Meet the requirement of limit. Minimum passing margin is –3.71dB at 424.61MHz.
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.

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

3 GENERAL INFORMATION

3.1 GENERAL DESCRIPTION OF EUT

PRODUCT	Wireless IP Phone
MODEL NO.	WLPS1
POWER SUPPLY	5Vdc from power adapter
MODULATION TYPE	BPSK, QPSK, CCK
RADIO TECHNOLOGY	DSSS
TRANSFER RATE	1 / 2 / 5.5 / 11Mbps
FREQUENCY RANGE	2412MHz ~ 2462MHz
NUMBER OF CHANNEL	11
OUTPUT POWER	13.99dBm
ANTENNA TYPE	Chip embedded Antenna
ANTENNA GAIN	0dBi
DATA CABLE	NA
I/O PORTS	NA
ASSOCIATED DEVICES	NA

NOTE:

1. The EUT operates in the 2.4GHz frequency spectrum with throughput of up to 11Mbps.
2. The EUT complies with IEEE 802.11b products.
3. The EUT was powered by the following adapters:

Brand:	NEC
Model:	ADP-10SB REV. BH
Input:	100-240Vac, 0.4A, 50-60Hz
Output:	5.0Vdc, 2.0A

NOTE: This adapter is identical to the DELTA adapter used in the original report RF930322L11, the only difference is the brand name.

Brand:	LEADER
Model:	MU12-2050200-A1
Input:	100-240Vac, 0.5A, 50-60Hz
Output:	5.0Vdc, 2.0A

4. This is a duplicate report of RF930322L11. The difference is changing the applicant, product name, model designation and brand name.
5. For more detailed features description, please refer to the manufacturer's specifications or user's manual.

3.2 DESCRIPTION OF TEST MODES

Eleven channels are provided to this EUT:

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

NOTE:

1. Below 1 GHz, the channel 1, 6, and 11 were pre-tested in chamber. The channel 11, worst case one, was chosen for final test.
2. Above 1 GHz, the channel 1, 6, and 11 were tested individually.
3. Data rate 11Mbps, the worst case, was chosen for final test.
4. Two adapter provided for the testing, so conducted emission measurement and radiated emission measurement below 1GHz will have two test mode. One is for NEC adapter, and the other is LEADER.
5. Since the EUT is considered a portable unit, it was pre-tested on the positioned of each 3 axis. The worst case was found when positioned on Z-plane. Therefore only the test data of this Z-plane was used for Radiated test.

3.3 GENERAL DESCRIPTION OF APPLIED STANDARDS

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

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

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

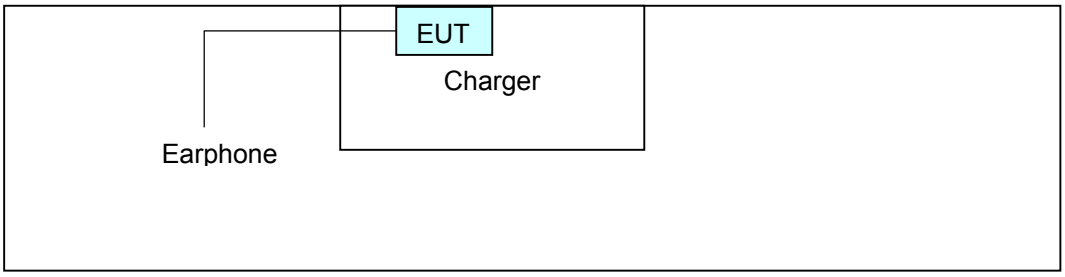
The EUT has been tested as an independent unit together with other necessary accessories or support units. The following support units or accessories were used to form a representative test configuration during the tests.

NO.	PRODUCT	BRAND	MODEL NO.	SERIAL NO.	FCC ID
1	NA	NA	NA	NA	NA

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

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

4.1 CONDUCTED EMISSION MEASUREMENT

4.1.1 LIMITS OF CONDUCTED EMISSION MEASUREMENT

FREQUENCY OF EMISSION (MHz)	CONDUCTED LIMIT (dBμV)	
	Quasi-peak	Average
0.15-0.5	66 to 56	56 to 46
0.5-5	56	46
5-30	60	50

NOTE:
1. The lower limit shall apply at the transition frequencies.
2. The limit decreases in line with the logarithm of the frequency in the range of 0.15 to 0.50 MHz.
3. All emanations from a class A/B digital device or system, including any network of conductors and apparatus connected thereto, shall not exceed the level of field strengths specified above.

4.1.2 TEST INSTRUMENTS

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATED UNTIL
ROHDE & SCHWARZ Test Receiver	ESCS 30	838251/021	Jan. 04, 2005
ROHDE & SCHWARZ Artificial Mains Network (for EUT)	ESH3-Z5	100218	Dec. 09, 2004
ROHDE & SCHWARZ Artificial Mains Network (for peripherals)	ESH3-Z5	100219	Dec. 09, 2004
ROHDE & SCHWARZ Artificial Mains Network (for peripherals)	ESH3-Z5	100220	Dec. 09, 2004
*ROHDE & SCHWARZ 4-wire ISN	ENY41	837032/016	Nov. 19, 2004
*ROHDE & SCHWARZ 2-wire ISN	ENY22	837497/016	Nov. 19, 2004
Software	Cond-V2M3	NA	NA
RF cable (JYEBAO)	5D-FB	Cable-C10.01	May 01, 2004
SUHNER Terminator (For ROHDE & SCHWARZ LISN)	65BNC-5001	E1-010770	Feb. 28, 2005
SUHNER Terminator (For ROHDE & SCHWARZ LISN)	65BNC-5001	E1-010773	Feb. 28, 2005

NOTE:
1. The calibration interval of the above test instruments is 12 months and the calibrations are traceable to NML/ROC and NIST/USA.
2. "*": These equipment are used for conducted telecom port test only (if tested).
3. The test was performed in ADT Shielded Room No. 10.
4. The VCCI Site Registration No. is C-1312.

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.

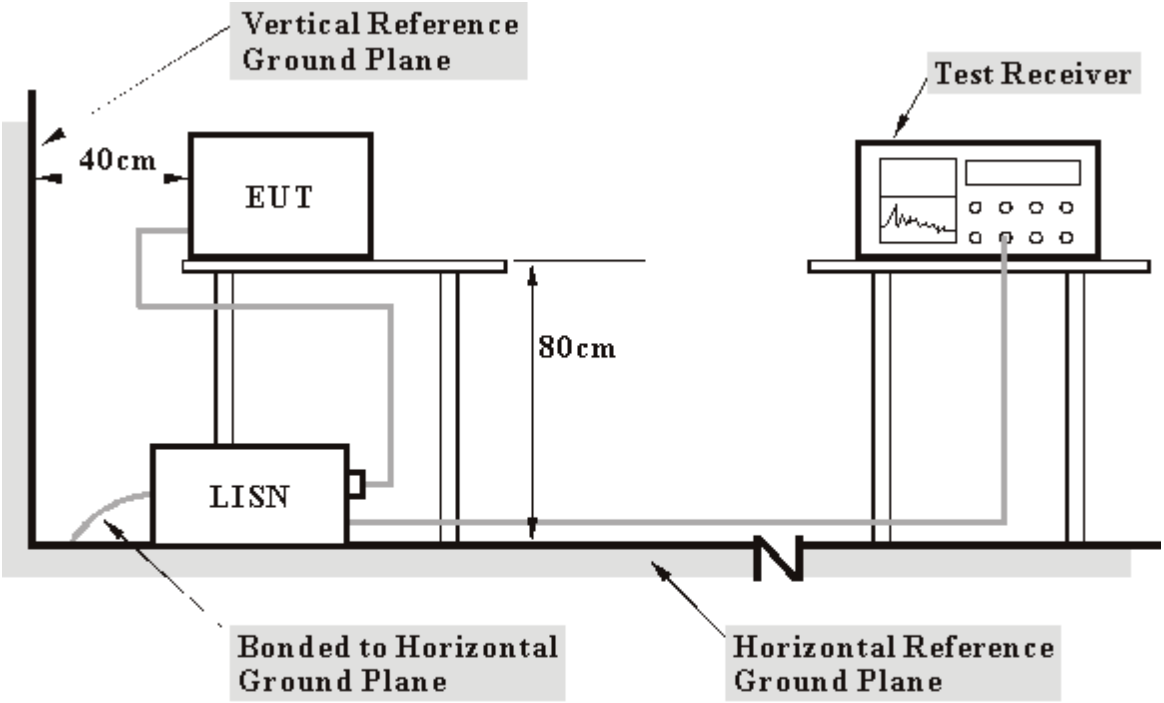
b. Both lines of the power mains connected to the EUT were checked for maximum conducted interference.

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. Place the EUT on the charger with earphone.

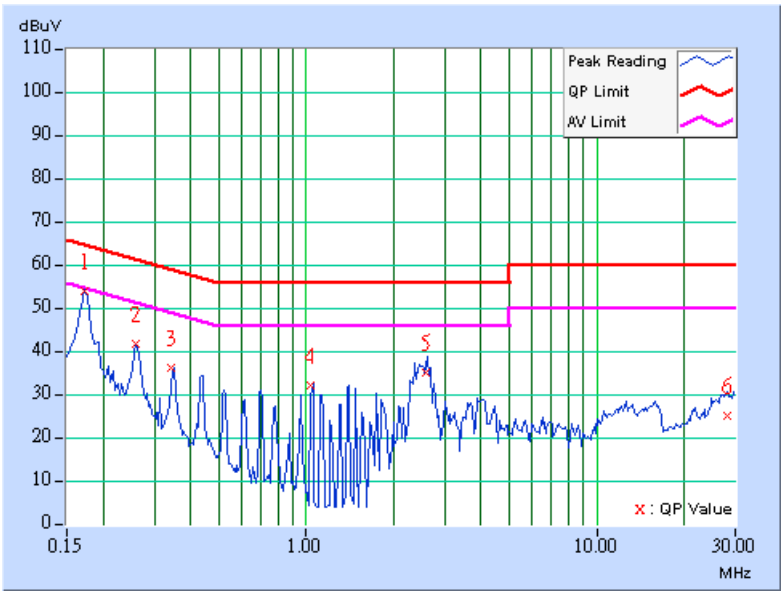
b. Ran a test program to enable EUT under transmission/receiving condition continuously at specific channel frequency.

4.1.7 TEST RESULTS

EUT	Wireless IP Phone	**MODEL**	WLPS1
MODE	Channel 1	**6dB BANDWIDTH**	9 kHz
INPUT POWER	120Vac, 60 Hz	**TEST MODE**	LEADER
ENVIRONMENTAL CONDITIONS	17 deg. C, 75%RH, 991 hPa	**PHASE**	Line (L)
TESTED BY	Steven Lu		

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	**0.173**	**0.10**	**52.88**	**-**	**52.98**	**-**	**64.79**	**54.79**	**-11.81**	**-**
2	0.259	0.10	40.82	-	40.92	-	61.45	51.45	-20.53	-
3	0.344	0.10	35.24	-	35.34	-	59.12	49.12	-23.78	-
4	1.038	0.20	30.88	-	31.08	-	56.00	46.00	-24.92	-
5	2.599	0.23	34.16	-	34.39	-	56.00	46.00	-21.61	-
6	28.156	1.20	24.10	-	25.30	-	60.00	50.00	-34.70	-

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	Wireless IP Phone	**MODEL**	WLPS1
MODE	Channel 1	**6dB BANDWIDTH**	9 kHz
INPUT POWER	120Vac, 60 Hz	**TEST MODE**	LEADER
ENVIRONMENTAL CONDITIONS	17 deg. C, 75%RH, 991 hPa	**PHASE**	Neutral (N)
TESTED BY	Steven Lu		

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	0.176	0.10	50.56	-	50.66	-	64.67	54.67	-14.01	-
2	0.263	0.10	41.20	-	41.30	-	61.33	51.33	-20.03	-
3	0.349	0.10	37.22	-	37.32	-	58.98	48.98	-21.66	-
4	0.524	0.12	32.30	-	32.42	-	56.00	46.00	-23.58	-
5	2.356	0.22	33.96	-	34.18	-	56.00	46.00	-21.82	-
6	15.691	0.71	22.14	-	22.85	-	60.00	50.00	-37.15	-

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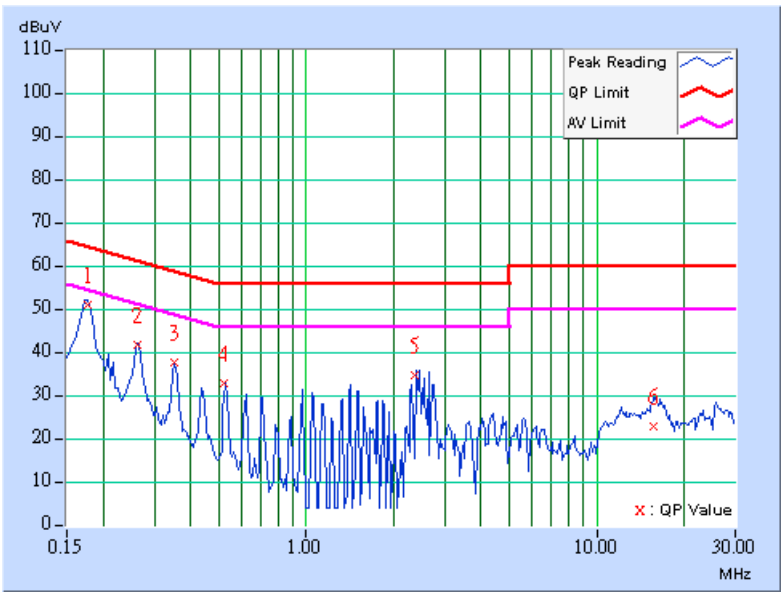
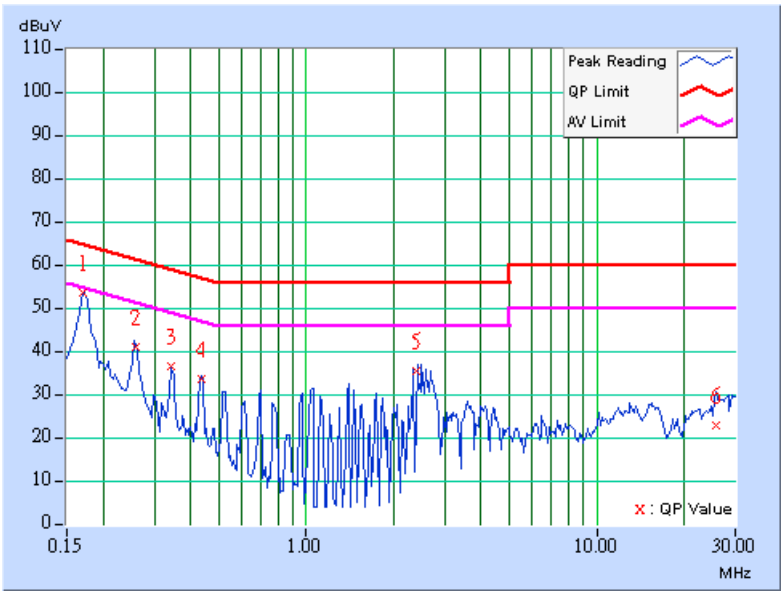
3. The emission levels of other frequencies were very low against the limit.
4. Margin value = Emission level - Limit value.
5. Correction factor = Insertion loss + Cable loss.
6. Emission Level = Correction Factor + Reading Value.



EUT	Wireless IP Phone	**MODEL**	WLPS1
MODE	Channel 6	**6dB BANDWIDTH**	9 kHz
INPUT POWER	120Vac, 60 Hz	**TEST MODE**	LEADER
ENVIRONMENTAL CONDITIONS	17 deg. C, 75%RH, 991 hPa	**PHASE**	Line (L)
TESTED BY	Steven Lu		

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	0.171	0.10	52.52	-	52.62	-	64.92	54.92	-12.30	-
2	0.259	0.10	39.92	-	40.02	-	61.45	51.45	-21.43	-
3	0.342	0.10	35.40	-	35.50	-	59.15	49.15	-23.65	-
4	0.435	0.11	32.68	-	32.79	-	57.15	47.15	-24.37	-
5	2.395	0.22	34.36	-	34.58	-	56.00	46.00	-21.42	-
6	25.652	1.20	21.64	-	22.84	-	60.00	50.00	-37.16	-

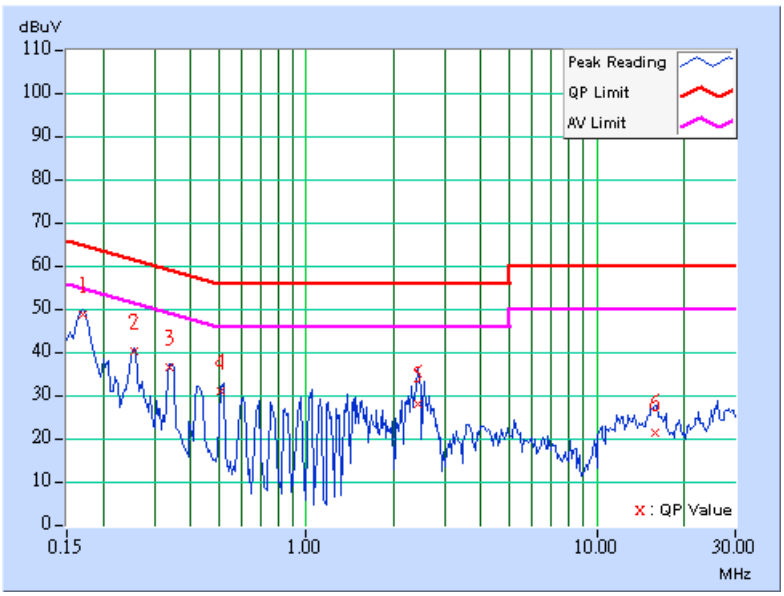
REMARKS: 1. Q.P. and AV. are abbreviations of quasi-peak and average individually.
2. "-": The Quasi-peak reading value also meets average limit and measurement with the average detector is unnecessary.
3. The emission levels of other frequencies were very low against the limit.
4. Margin value = Emission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



EUT	Wireless IP Phone	**MODEL**	WLPS1
MODE	Channel 6	**6dB BANDWIDTH**	9 kHz
INPUT POWER	120Vac, 60 Hz	**TEST MODE**	LEADER
ENVIRONMENTAL CONDITIONS	17 deg. C, 75%RH, 991 hPa	**PHASE**	Neutral (N)
TESTED BY	Steven Lu		

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	48.26	-	48.36	-	64.98	54.98	-16.62	-
2	0.255	0.10	39.74	-	39.84	-	61.58	51.58	-21.74	-
3	0.339	0.10	35.88	-	35.98	-	59.23	49.23	-23.25	-
4	0.506	0.12	30.56	-	30.68	-	56.00	46.00	-25.32	-
5	2.439	0.22	27.50	-	27.72	-	56.00	46.00	-28.28	-
6	15.957	0.72	20.82	-	21.54	-	60.00	50.00	-38.46	-

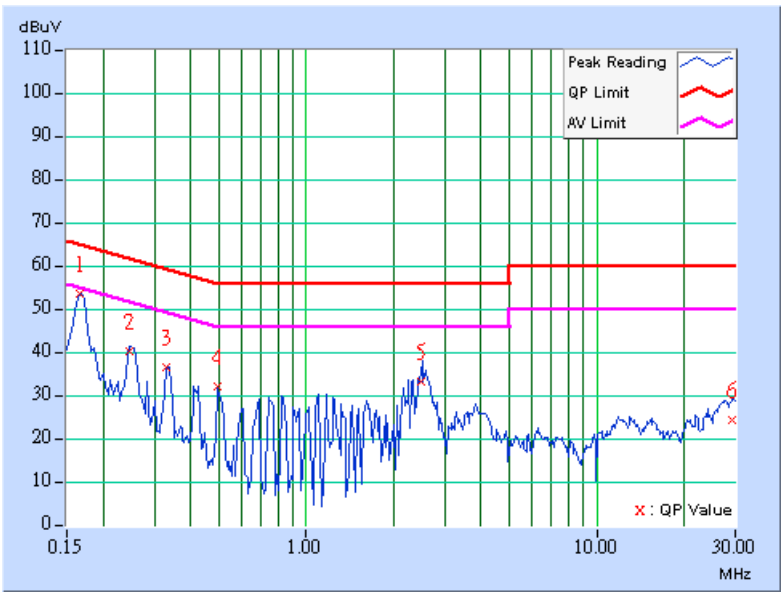
REMARKS: 1. Q.P. and AV. are abbreviations of quasi-peak and average individually.
2. "-": The Quasi-peak reading value also meets average limit and measurement with the average detector is unnecessary.
3. The emission levels of other frequencies were very low against the limit.
4. Margin value = Emission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



EUT	Wireless IP Phone	**MODEL**	WLPS1
MODE	Channel 11	**6dB BANDWIDTH**	9 kHz
INPUT POWER	120Vac, 60 Hz	**TEST MODE**	LEADER
ENVIRONMENTAL CONDITIONS	17 deg. C, 75%RH, 991 hPa	**PHASE**	Line (L)
TESTED BY	Steven Lu		

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	52.32	-	52.42	-	65.18	55.18	-12.76	-
2	0.248	0.10	39.34	-	39.44	-	61.84	51.84	-22.40	-
3	0.330	0.10	35.32	-	35.42	-	59.46	49.46	-24.04	-
4	0.494	0.12	30.90	-	31.02	-	56.10	46.10	-25.09	-
5	2.485	0.22	32.28	-	32.50	-	56.00	46.00	-23.50	-
6	29.324	1.20	23.28	-	24.48	-	60.00	50.00	-35.52	-

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	Wireless IP Phone	**MODEL**	WLPS1
MODE	Channel 11	**6dB BANDWIDTH**	9 kHz
INPUT POWER	120Vac, 60 Hz	**TEST MODE**	LEADER
ENVIRONMENTAL CONDITIONS	17 deg. C, 75%RH, 991 hPa	**PHASE**	Neutral (N)
TESTED BY	Steven Lu		

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	48.28	-	48.38	-	65.18	55.18	-16.80	-
2	0.252	0.10	39.62	-	39.72	-	61.71	51.71	-21.99	-
3	0.338	0.10	35.28	-	35.38	-	59.26	49.26	-23.88	-
4	0.504	0.12	30.38	-	30.50	-	56.00	46.00	-25.50	-
5	2.410	0.22	30.68	-	30.90	-	56.00	46.00	-25.10	-
6	15.980	0.72	20.68	-	21.40	-	60.00	50.00	-38.60	-

REMARKS: 1. Q.P. and AV. are abbreviations of quasi-peak and average individually.
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3. The emission levels of other frequencies were very low against the limit.
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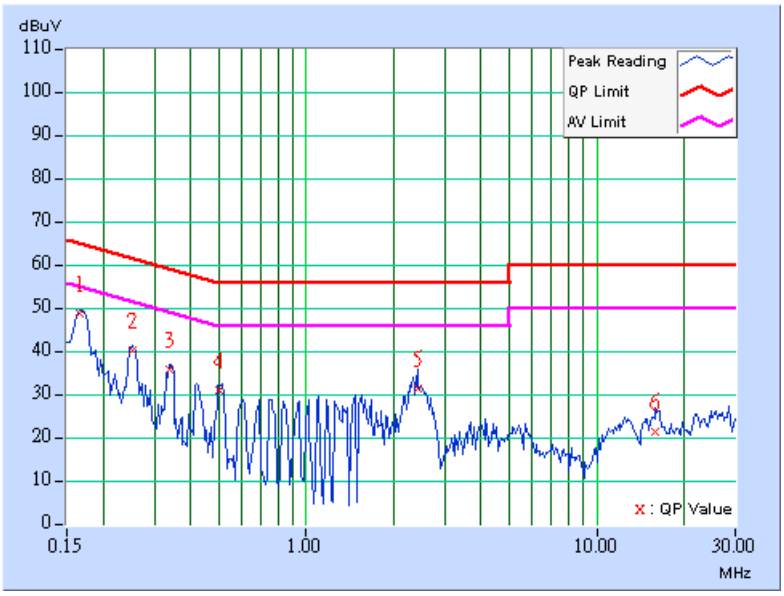
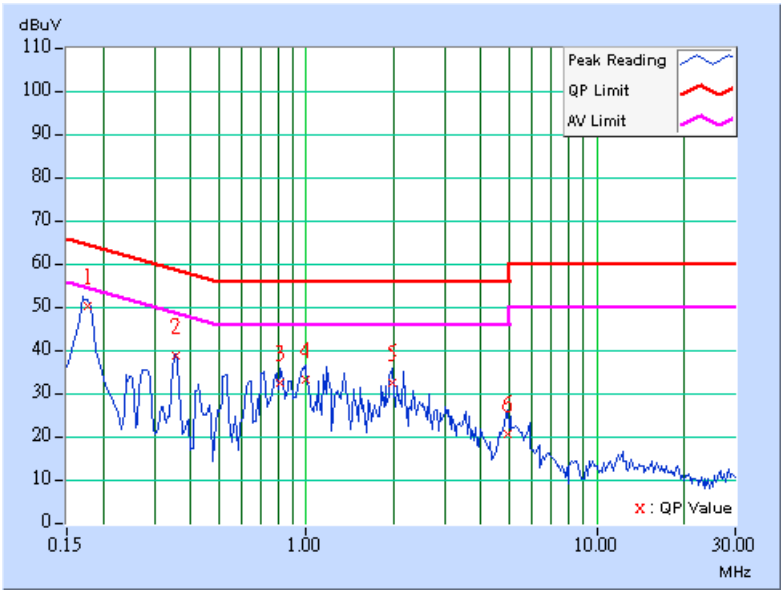
6. Emission Level = Correction Factor + Reading Value.



EUT	Wireless IP Phone	**MODEL**	WLPS1
MODE	Channel 1	**6dB BANDWIDTH**	9 kHz
INPUT POWER	120Vac, 60 Hz	**TEST MODE**	NEC
ENVIRONMENTAL CONDITIONS	17 deg. C, 75%RH, 991 hPa	**PHASE**	Line (L)
TESTED BY	Steven Lu		

No	Freq.	Corr. Factor	Reading Value [dB (uV)]		Emission Level [dB (uV)]		Limit [dB (uV)]		Margin (dB)	
	[MHz]	(dB)	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.177	0.10	50.12	-	50.22	-	64.63	54.63	-14.41	-
2	0.357	0.10	38.40	-	38.50	-	58.80	48.80	-20.30	-
3	0.814	0.17	32.28	-	32.45	-	56.00	46.00	-23.55	-
4	0.994	0.20	32.92	-	33.12	-	56.00	46.00	-22.88	-
5	1.988	0.20	32.30	-	32.50	-	56.00	46.00	-23.50	-
6	4.922	0.35	20.42	-	20.77	-	56.00	46.00	-35.23	-

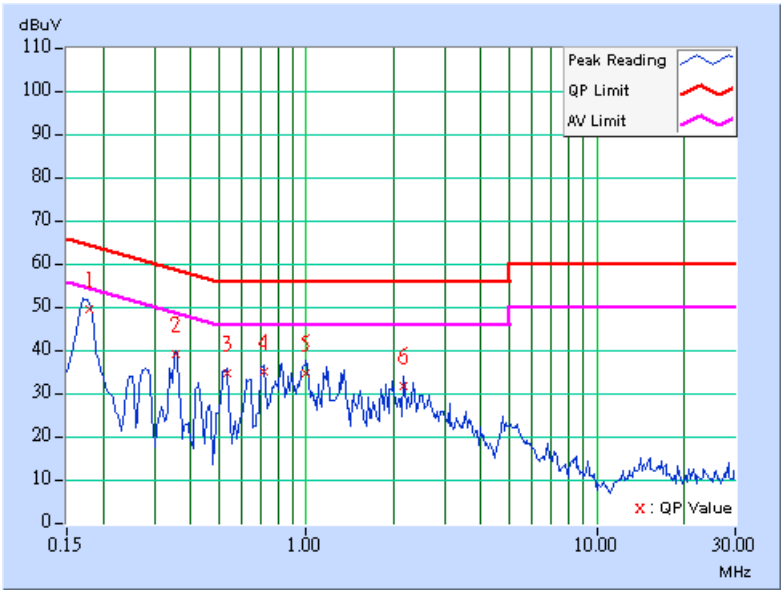
REMARKS: 1. Q.P. and AV. are abbreviations of quasi-peak and average individually.
2. "-": The Quasi-peak reading value also meets average limit and measurement with the average detector is unnecessary.
3. The emission levels of other frequencies were very low against the limit.
4. Margin value = Emission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



EUT	Wireless IP Phone	**MODEL**	WLPS1
MODE	Channel 1	**6dB BANDWIDTH**	9 kHz
INPUT POWER	120Vac, 60 Hz	**TEST MODE**	NEC
ENVIRONMENTAL CONDITIONS	17 deg. C, 75%RH, 991 hPa	**PHASE**	Neutral (N)
TESTED BY	Steven Lu		

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	0.180	0.10	49.48	-	49.58	-	64.49	54.49	-14.91	-
2	0.357	0.10	39.18	-	39.28	-	58.80	48.80	-19.52	-
3	0.537	0.12	34.60	-	34.72	-	56.00	46.00	-21.28	-
4	0.713	0.15	34.92	-	35.07	-	56.00	46.00	-20.93	-
5	0.998	0.20	34.62	-	34.82	-	56.00	46.00	-21.18	-
6	2.171	0.21	31.80	-	32.01	-	56.00	46.00	-23.99	-

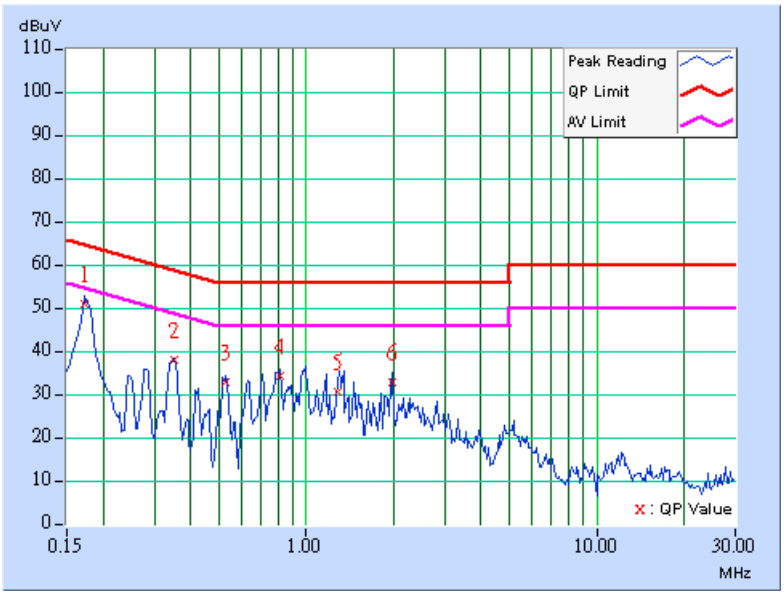
REMARKS: 1. Q.P. and AV. are abbreviations of quasi-peak and average individually.
2. "-": The Quasi-peak reading value also meets average limit and measurement with the average detector is unnecessary.
3. The emission levels of other frequencies were very low against the limit.
4. Margin value = Emission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



EUT	Wireless IP Phone	**MODEL**	WLPS1
MODE	Channel 6	**6dB BANDWIDTH**	9 kHz
INPUT POWER	120Vac, 60 Hz	**TEST MODE**	NEC
ENVIRONMENTAL CONDITIONS	17 deg. C, 75%RH, 991 hPa	**PHASE**	Line (L)
TESTED BY	Steven Lu		

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	0.173	0.10	50.82	-	50.92	-	64.79	54.79	-13.87	-
2	0.353	0.10	37.78	-	37.88	-	58.89	48.89	-21.01	-
3	0.529	0.12	32.80	-	32.92	-	56.00	46.00	-23.08	-
4	0.814	0.17	34.24	-	34.41	-	56.00	46.00	-21.59	-
5	1.281	0.20	30.62	-	30.82	-	56.00	46.00	-25.18	-
6	1.977	0.20	32.58	-	32.78	-	56.00	46.00	-23.22	-

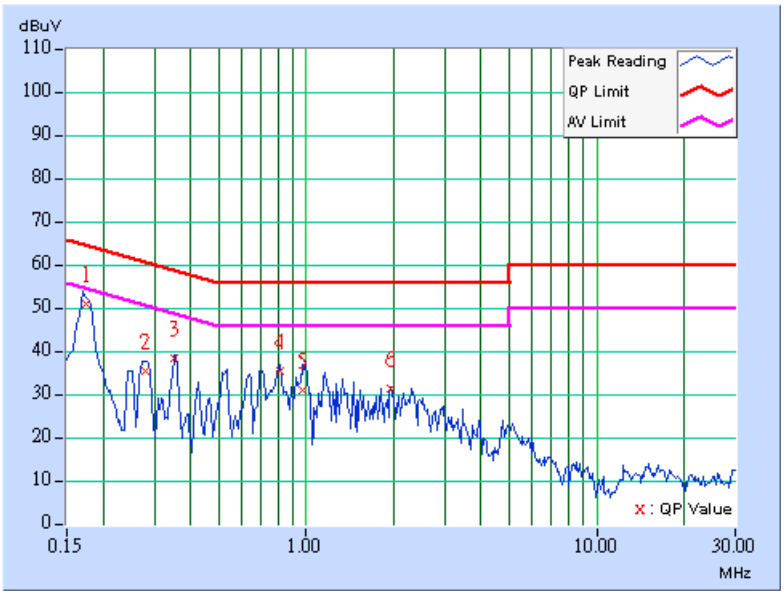
REMARKS: 1. Q.P. and AV. are abbreviations of quasi-peak and average individually.
2. "-": The Quasi-peak reading value also meets average limit and measurement with the average detector is unnecessary.
3. The emission levels of other frequencies were very low against the limit.
4. Margin value = Emission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



EUT	Wireless IP Phone	**MODEL**	WLPS1
MODE	Channel 6	**6dB BANDWIDTH**	9 kHz
INPUT POWER	120Vac, 60 Hz	**TEST MODE**	NEC
ENVIRONMENTAL CONDITIONS	17 deg. C, 75%RH, 991 hPa	**PHASE**	Neutral (N)
TESTED BY	Steven Lu		

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	0.175	0.10	51.02	-	51.12	-	64.73	54.73	-13.61	-
2	0.280	0.10	35.48	-	35.58	-	60.83	50.83	-25.25	-
3	0.353	0.10	38.32	-	38.42	-	58.89	48.89	-20.47	-
4	0.813	0.17	35.24	-	35.41	-	56.00	46.00	-20.59	-
5	0.966	0.19	30.96	-	31.15	-	56.00	46.00	-24.85	-
6	1.965	0.20	31.26	-	31.46	-	56.00	46.00	-24.54	-

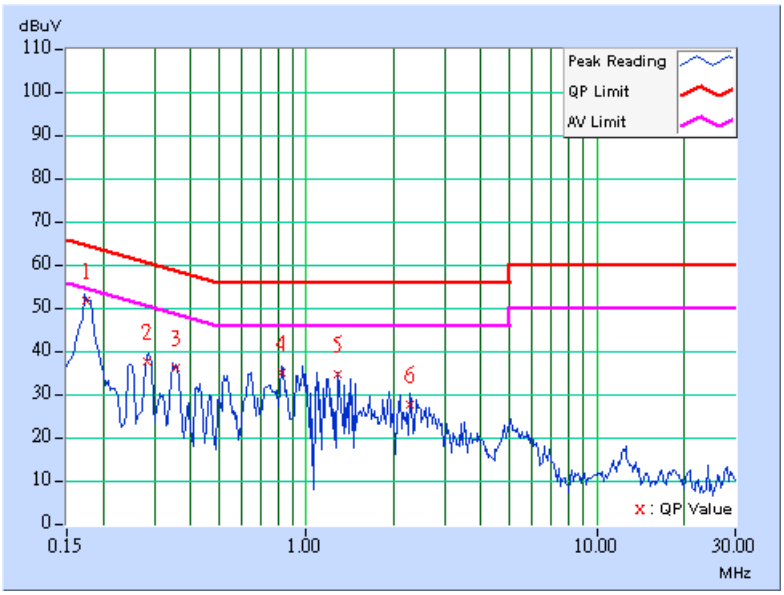
REMARKS: 1. Q.P. and AV. are abbreviations of quasi-peak and average individually.
2. "-": The Quasi-peak reading value also meets average limit and measurement with the average detector is unnecessary.
3. The emission levels of other frequencies were very low against the limit.
4. Margin value = Emission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



EUT	Wireless IP Phone	**MODEL**	WLPS1
MODE	Channel 11	**6dB BANDWIDTH**	9 kHz
INPUT POWER	120Vac, 60 Hz	**TEST MODE**	NEC
ENVIRONMENTAL CONDITIONS	17 deg. C, 75%RH, 991 hPa	**PHASE**	Line (L)
TESTED BY	Steven Lu		

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	0.175	0.10	51.48	-	51.58	-	64.71	54.71	-13.13	-
2	0.282	0.10	37.66	-	37.76	-	60.77	50.77	-23.01	-
3	0.354	0.10	35.92	-	36.02	-	58.86	48.86	-22.84	-
4	0.822	0.17	34.88	-	35.05	-	56.00	46.00	-20.95	-
5	1.285	0.20	34.66	-	34.86	-	56.00	46.00	-21.14	-
6	2.285	0.21	27.58	-	27.79	-	56.00	46.00	-28.21	-

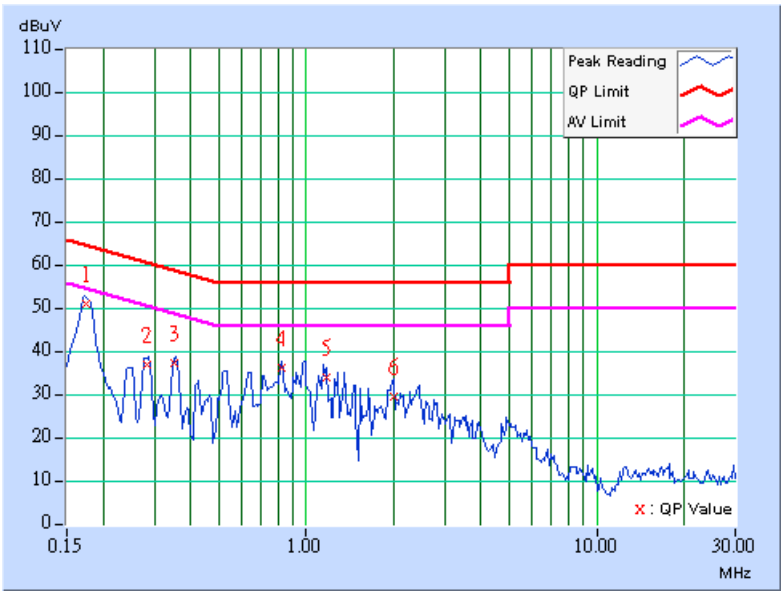
REMARKS: 1. Q.P. and AV. are abbreviations of quasi-peak and average individually.
2. "-": The Quasi-peak reading value also meets average limit and measurement with the average detector is unnecessary.
3. The emission levels of other frequencies were very low against the limit.
4. Margin value = Emission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



EUT	Wireless IP Phone	**MODEL**	WLPS1
MODE	Channel 11	**6dB BANDWIDTH**	9 kHz
INPUT POWER	120Vac, 60 Hz	**TEST MODE**	NEC
ENVIRONMENTAL CONDITIONS	17 deg. C, 75%RH, 991 hPa	**PHASE**	Neutral (N)
TESTED BY	Steven Lu		

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	0.175	0.10	50.98	-	51.08	-	64.71	54.71	-13.63	-
2	0.282	0.10	36.96	-	37.06	-	60.77	50.77	-23.71	-
3	0.351	0.10	37.34	-	37.44	-	58.93	48.93	-21.49	-
4	0.822	0.17	36.02	-	36.19	-	56.00	46.00	-19.81	-
5	1.168	0.20	33.90	-	34.10	-	56.00	46.00	-21.90	-
6	1.996	0.20	29.42	-	29.62	-	56.00	46.00	-26.38	-

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 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	MODEL NO.	MANUFACTURER	SERIAL NO.	CALIBRATED UNTIL
Test Receiver	ESI7	ROHDE & SCHWARZ	100033	May 28, 2004
Spectrum Analyzer	FSP40	ROHDE & SCHWARZ	100040	Dec. 15, 2004
BILOG Antenna	VULB9168	SCHWARZBECK	9168-153	Feb. 03, 2005
HORN Antenna	9120D	SCHWARZBECK	9120D-408	Feb. 03, 2005
HORN Antenna	BBHA 9170	SCHWARZBECK	BBHA 9170243	Feb. 23, 2005
Preamplifier	8447D	Agilent	2944A10633	Jan. 15, 2005
Preamplifier	8449B	Agilent	3008A01964	Jan. 27, 2005
RF signal cable	SUCOFLEX 104	HUBER+SUHNNER	218183/4	Mar. 05, 2005
RF signal cable	SUCOFLEX 104	HUBER+SUHNNER	218195/4	Mar. 05, 2005
Software	ADT_Radiated_V5.14	ADT.	NA	X
Antenna Tower	MA 4000	inn-co GmbH	013303	X
Antenna Tower Controller	CO2000	inn-co GmbH	017303	X
Turn Table	TT100.	ADT.	TT93021703	X
Turn Table Controller	SC100.	ADT.	SC93021703	X

NOTE: 1. The calibration interval of the above test instruments is 12 months and the calibrations are traceable to NML/ROC and NIST/USA.
2. The test was performed in HwaYa Chamber 3.

4.2.3 TEST PROCEDURES

a. The EUT was placed on the top of a rotating table 0.8 meters above the ground at a 10 meter open area test site. The table was rotated 360 degrees to determine the position of the highest radiation.
b. The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.
c. The antenna is a broadband antenna, and its height is varied from one meter to four meters above the ground to determine the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna are set to make the measurement.
d. For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights from 1 meter to 4 meters and the rotatable table was turned from 0 degrees to 360 degrees to find the maximum reading.
e. The test-receiver system was set to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode.
f. If the emission level of the EUT in peak mode was 10 dB lower than the limit specified, then testing could be stopped and the peak values of the EUT would be reported. Otherwise the emissions that did not have 10 dB margin would be re-tested one by one using peak, quasi-peak or average method as specified and then reported in a data sheet.

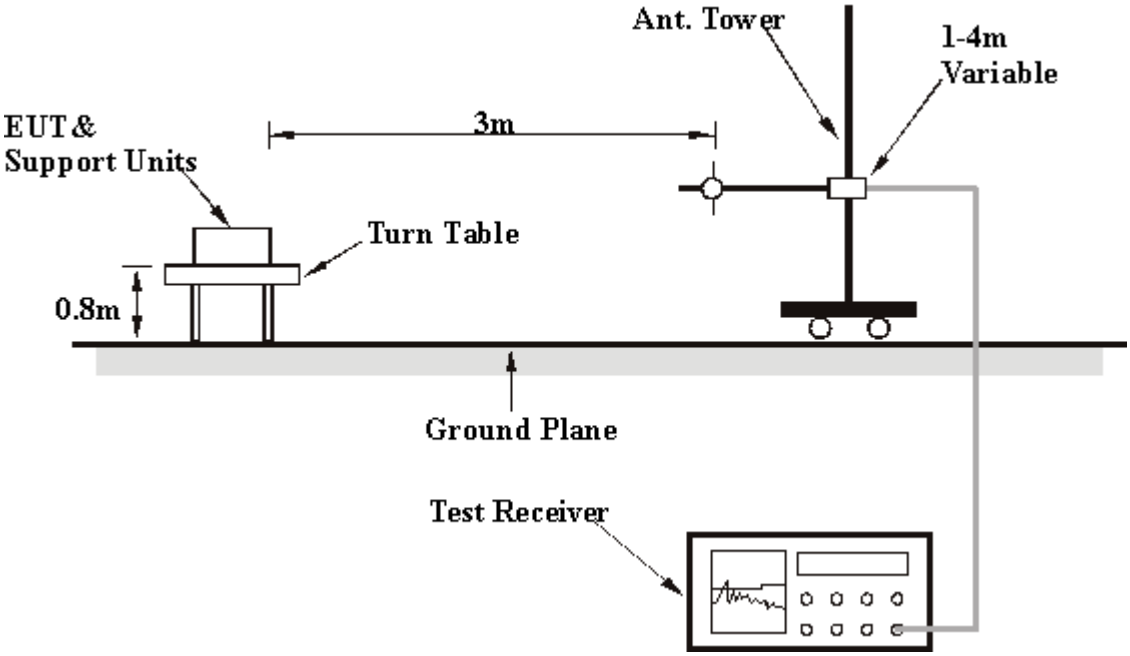
NOTE:

1. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 120kHz for Peak detection (PK) and Quasi-peak detection (QP) at frequency below 1GHz.
2. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 1 MHz for Peak detection at frequency above 1GHz.
3. The resolution bandwidth of test receiver/spectrum analyzer is 1 MHz and the video bandwidth is 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	Wireless IP Phone	**MODEL**	WLPS1
MODE	Channel 11	**TEST MODE**	LEADER
INPUT POWER (SYSTEM)	120Vac, 60 Hz	**FREQUENCY RANGE**	Below 1000 MHz
ENVIRONMENTAL CONDITIONS	25 deg. C, 60 % RH, 991 hPa	**DETECTOR FUNCTION**	Quasi-Peak
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)	Correction Factor (dB/m)
1	74.71	28.72 QP	40.00	-11.28	4.00 H	337	16.91	11.81
2	177.74	28.72 QP	43.50	-14.78	2.00 H	157	15.53	13.19
3	261.32	33.79 QP	46.00	-12.21	1.00 H	256	20.14	13.65
4	374.07	32.54 QP	46.00	-13.46	1.00 H	106	16.15	16.39
5	424.61	42.18 QP	46.00	-3.82	2.00 H	118	24.66	17.53
6	475.15	35.90 QP	46.00	-10.10	2.00 H	142	17.49	18.41

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	74.71	26.27 QP	40.00	-13.73	3.00 H	61	14.46	11.81
2	127.19	28.57 QP	43.50	-14.93	1.00 H	316	15.27	13.31
3	195.23	31.41 QP	43.50	-12.09	2.00H	67	19.59	11.82
4	379.90	32.93 QP	46.00	-13.07	1.00 H	136	16.41	16.52
5	424.61	39.75 QP	46.00	-6.25	1.50 H	160	22.22	17.53
6	475.15	36.83 QP	46.00	-9.17	1.00 H	112	18.41	18.41
7	574.29	31.28 QP	46.00	-14.72	1.00 H	211	10.77	20.51
8	624.83	34.32 QP	46.00	-11.68	1.00 H	214	12.73	21.59

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

EUT	Wireless IP Phone	**MODEL**	WLPS1
MODE	Channel 11	**TEST MODE**	NEC
INPUT POWER (SYSTEM)	120Vac, 60 Hz	**FREQUENCY RANGE**	Below 1000 MHz
ENVIRONMENTAL CONDITIONS	25 deg. C, 60 % RH, 991 hPa	**DETECTOR FUNCTION**	Quasi-Peak
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)	Correction Factor (dB/m)
1	74.71	29.82 QP	40.00	-10.18	4.00 H	271	18.01	11.81
2	195.23	28.53 QP	43.50	-14.97	1.50 H	178	16.71	11.82
3	374.07	32.29 QP	46.00	-13.71	1.00 H	43	15.90	16.39
4	424.61	42.29 QP	46.00	-3.71	2.00 H	55	24.77	17.53
5	475.15	36.91 QP	46.00	-9.09	2.00 H	82	18.50	18.41
6	525.69	33.66 QP	46.00	-12.34	1.50 H	118	14.39	19.28

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	74.71	27.12 QP	40.00	-12.88	3.00 H	127	15.31	11.81
2	127.19	28.98 QP	43.50	-14.52	1.00 H	64	15.68	13.31
3	199.12	32.33 QP	43.50	-11.17	1.50H	292	20.80	11.53
4	374.07	31.01 QP	46.00	-14.99	1.50H	73	14.63	16.39
5	424.61	38.81 QP	46.00	-7.19	1.50 H	94	21.28	17.53
6	475.15	38.38 QP	46.00	-7.62	1.00 H	172	19.96	18.41
7	624.83	34.77 QP	46.00	-11.23	1.00 H	292	13.18	21.59

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

EUT	Wireless IP Phone	**MODEL**	WLPS1
MODE	Channel 1	**FREQUENCY RANGE**	1 ~ 20GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	**DETECTOR FUNCTION**	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	20 deg. C, 60 % RH, 991 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)	Correction Factor (dB/m)
1	2374.00	49.19 PK	74.00	-24.81	1.43 H	224	18.08	31.11
2	*2412.00	101.39 PK			1.43 H	224	70.18	31.21
2	*2412.00	93.10 AV			1.43 H	224	61.89	31.21
3	4824.00	49.20 PK	74.00	-24.80	1.32 H	318	11.32	37.88

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	2374.00	45.04 PK	74.00	-28.96	2.15 V	360	13.93	31.11
2	*2412.00	97.34 PK			2.15 V	360	66.13	31.21
2	*2412.00	89.69 AV			2.15 V	360	58.48	31.21
3	4824.00	51.69 PK	74.00	-22.31	1.32 V	318	13.81	37.88
3	4824.00	43.71 AV	54.00	-10.29	1.32 V	318	5.83	37.88

REMARKS:

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

EUT	Wireless IP Phone	**MODEL**	WLPS1
MODE	Channel 6	**FREQUENCY RANGE**	1 ~ 20GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	**DETECTOR FUNCTION**	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	20 deg. C, 60 % RH, 991 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)	Correction Factor (dB/m)
1	*2437.00	98.43 PK			1.46 H	237	67.09	31.34
1	*2437.00	90.80 AV			1.46 H	237	59.46	31.34
2	4874.00	49.22 PK	74.00	-24.78	1.90 H	332	11.23	37.99

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	98.19 PK			1.06 V	107	66.86	31.34
1	*2437.00	89.53 AV			1.06 V	107	58.20	31.34
2	4874.00	49.47 PK	74.00	-24.53	1.00 V	76	11.48	37.99

REMARKS:

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

EUT	Wireless IP Phone	**MODEL**	WLPS1
MODE	Channel 11	**FREQUENCY RANGE**	1 ~ 20GHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	**DETECTOR FUNCTION**	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	20 deg. C, 60 % RH, 991 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)	Correction Factor (dB/m)
1	*2462.00	100.35 PK			1.29 H	100	68.89	31.46
1	*2462.00	92.62 AV			1.29 H	100	61.16	31.46
2	2499.00	43.10 PK	74.00	-30.90	1.29 H	100	11.46	31.64
3	4924.00	50.91 PK	74.00	-23.09	1.60 H	126	12.80	38.11

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	96.61 PK			1.00 V	98	65.15	31.46
1	*2462.00	88.73 AV			1.00 V	98	57.27	31.46
2	2499.00	40.00 PK	74.00	-34.00	1.00 V	98	8.36	31.64
3	4924.00	47.92 PK	74.00	-26.08	1.00 V	360	9.81	38.11

REMARKS:

1. Emission level (dBuV/m) = Raw Value (dBuV) + Correction Factor (dB).
2. Correction Factor (dB/m) = Antenna Factor (dB/m) + Cable Factor (dB).
3. The other emission levels were very low against the limit.
4. Margin value = Emission level – Limit value.
5. " * ": 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	FSEK30	100049	August 12, 2004

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

4.3.3 TEST PROCEDURE

The transmitter output was connected to the spectrum analyzer 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 DEVIATION FROM TEST STANDARD

No deviation

4.3.5 TEST SETUP

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

4.3.6 EUT OPERATING CONDITIONS

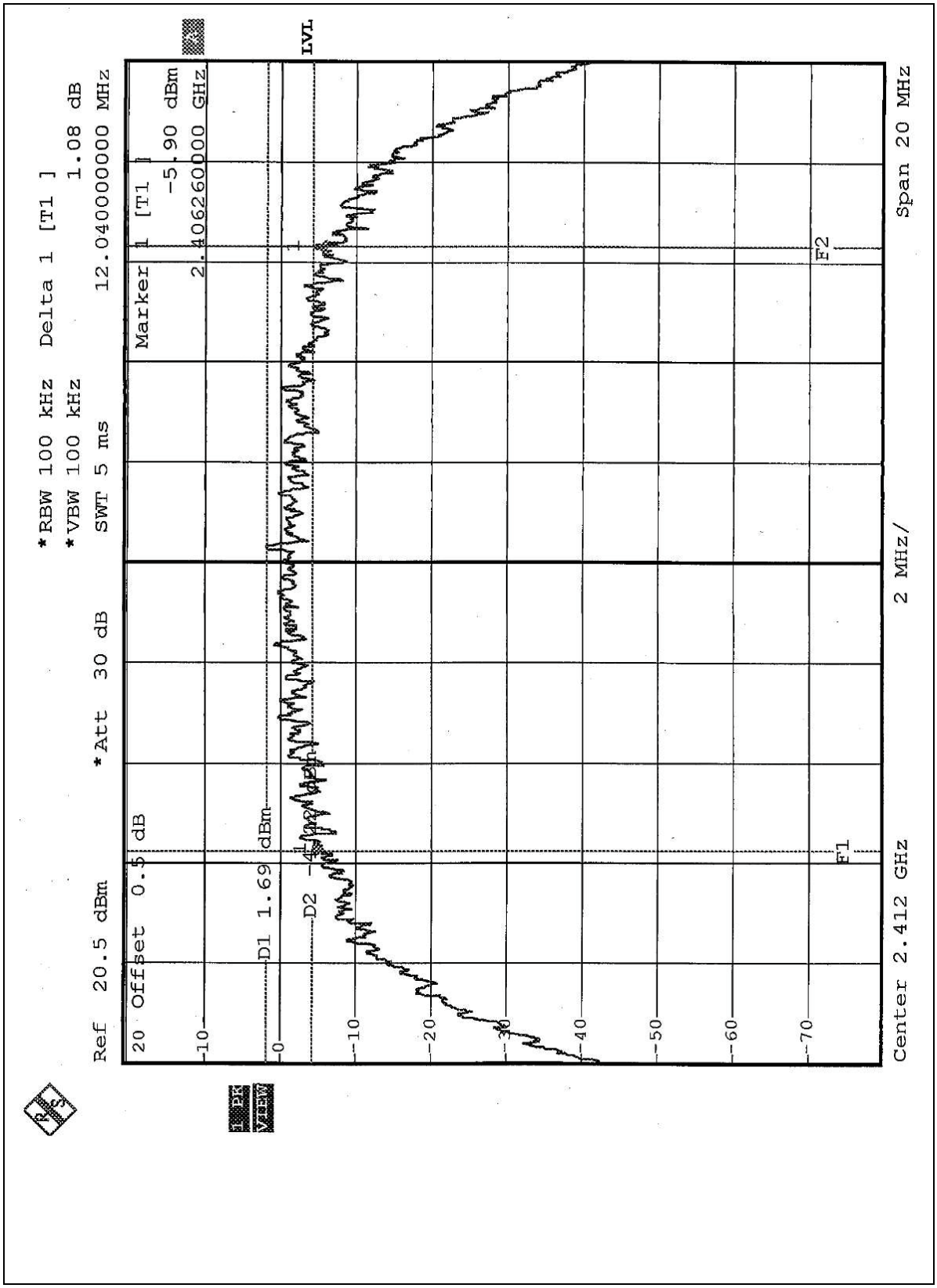
The software provided by client to enable the EUT under transmission condition continuously at lowest, middle and highest channel frequencies individually.

4.3.7 TEST RESULTS

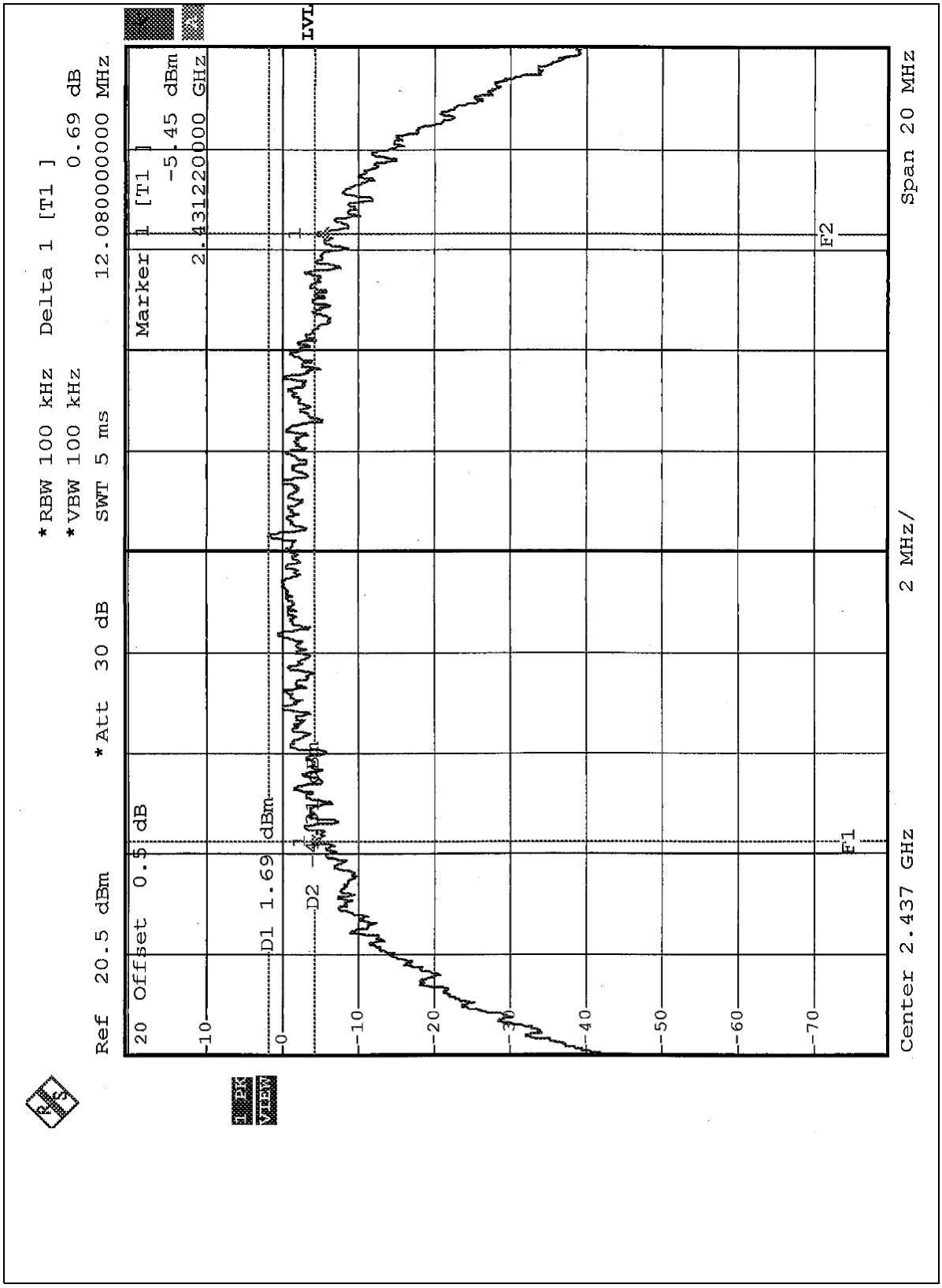
EUT	Wireless IP Phone	**MODEL**	WLPS1
INPUT POWER (SYSTEM)	120Vac, 60 Hz	**ENVIRONMENTAL CONDITIONS**	20 deg. C, 62%RH, 991 hPa
TESTED BY: Hardaway Lee			

CHANNEL	CHANNEL FREQUENCY (MHz)	6 dB BANDWIDTH (MHz)	MINIMUM LIMIT (MHz)	PASS/FAIL
1	2412	12.04	0.5	PASS
6	2437	12.08	0.5	PASS
11	2462	11.32	0.5	PASS

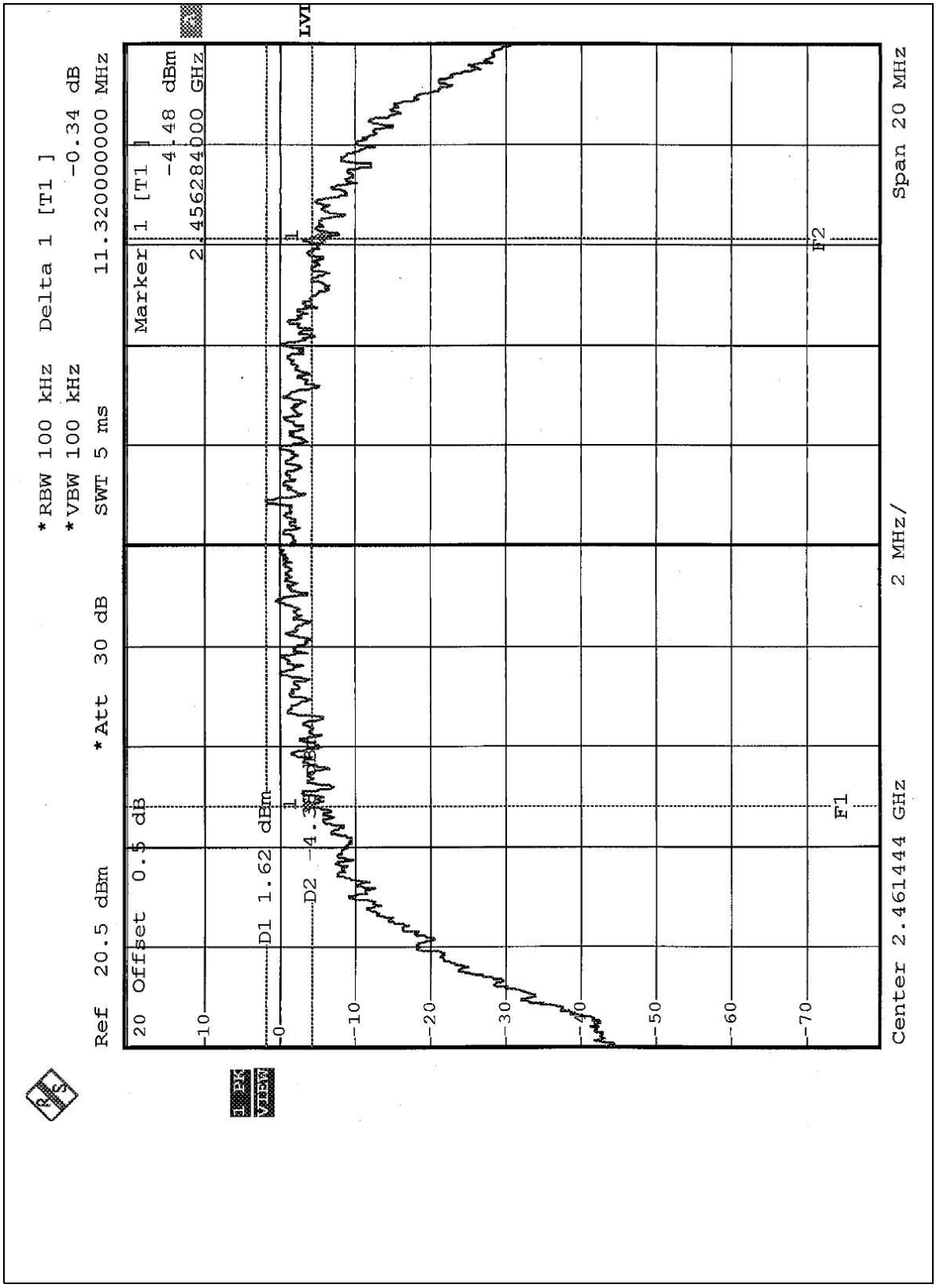
CH1


Ref 20.5 dBm
*Att 30 dB
*RBW 100 kHz
*VBW 100 kHz
SWT 5 ms
Delta 1 [T1]
1.08 dB
12.040000000 MHz
Marker 1 [T1]
-5.90 dBm
2.406260000 GHz
20 Offset 0.5 dB
D1 1.69 dBm
D2 -4
LVL
F1
F2
Center 2.412 GHz
2 MHz/
Span 20 MHz

CH6


Ref 20.5 dBm
Offset 0.5 dB
*Att 30 dB
SWT 5 ms
*RBW 100 kHz
*VBW 100 kHz
Delta 1 [T1]
0.69 dB
12.08000000 MHz
Marker 1 [T1]
-5.45 dBm
2.43122000 GHz
D1 1.69 dBm
D2
LVL
F1
F2
Center 2.437 GHz
2 MHz/
Span 20 MHz

CH11


Ref 20.5 dBm
20 Offset 0.5 dB
*Att 30 dB
*RBW 100 kHz
*VBW 100 kHz
SWT 5 ms
Delta 1 [T1]
-0.34 dB
11.320000000 MHz
Marker 1 [T1]
-4.48 dBm
2.456284000 GHz
D1 1.62 dBm
D2 -4.3
F1
F2
Center 2.461444 GHz
2 MHz/
Span 20 MHz

4.4 MAXIMUM PEAK OUTPUT POWER

4.4.1 LIMITS OF MAXIMUM PEAK OUTPUT POWER MEASUREMENT

The Maximum Peak Output Power Measurement is 30dBm.

4.4.2 TEST INSTRUMENTS

Description & Manufacturer	Model No.	Serial No.	Calibrated Until
R&S SPECTRUM ANALYZER	FSEK30	100049	August 12, 2004
R&S SIGNAL GENERATOR	SMP04	100011	May 28, 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.

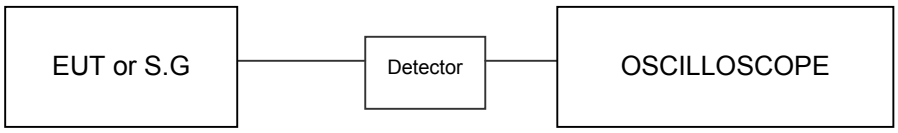
4.4.3 TEST PROCEDURES

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.

4.4.4 DEVIATION FROM TEST STANDARD

No deviation

4.4.5 TEST SETUP



4.4.6 EUT OPERATING CONDITIONS

Same as Item 4.3.6

4.4.7 TEST RESULTS

EUT	Wireless IP Phone	**MODEL**	WLPS1
INPUT POWER (SYSTEM)	120Vac, 60 Hz	**ENVIRONMENTAL CONDITIONS**	20 deg. C, 62%RH, 991 hPa
TESTED BY: Stanely Hsu			

CHANNEL	CHANNEL FREQUENCY (MHz)	PEAK POWER OUTPUT (dBm)	PEAK POWER LIMIT (dBm)	PASS/FAIL
1	2412	13.92	30	PASS
6	2437	13.99	30	PASS
11	2462	13.92	30	PASS

4.5 POWER SPECTRAL DENSITY MEASUREMENT

4.5.1 LIMITS OF POWER SPECTRAL DENSITY MEASUREMENT

The Maximum of Power Spectral Density Measurement is 8dBm.

4.5.2 TEST INSTRUMENTS

Description & Manufacturer	Model No.	Serial No.	Calibrated Until
SPECTRUM ANALYZER	FSEK30	100049	August 12, 2004

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

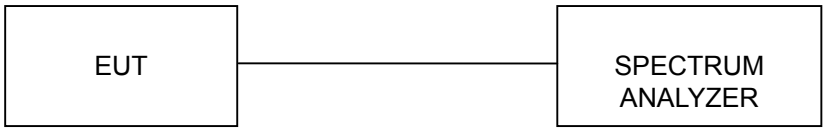
4.5.3 TEST PROCEDURE

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

4.5.4 DEVIATION FROM TEST STANDARD

No deviation

4.5.5 TEST SETUP



4.5.6 EUT OPERATING CONDITIONS

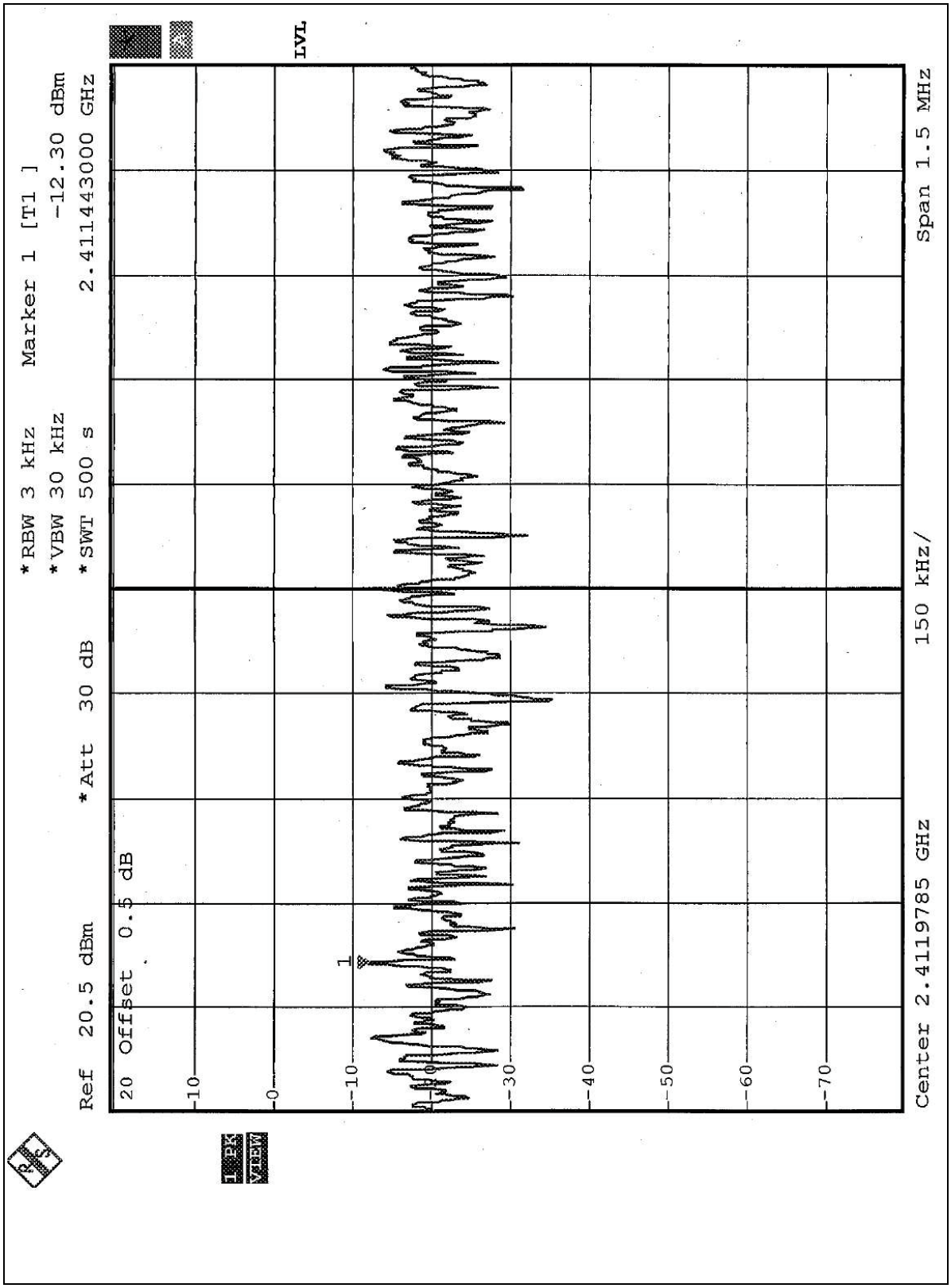
Same as 4.3.6

4.5.7 TEST RESULTS

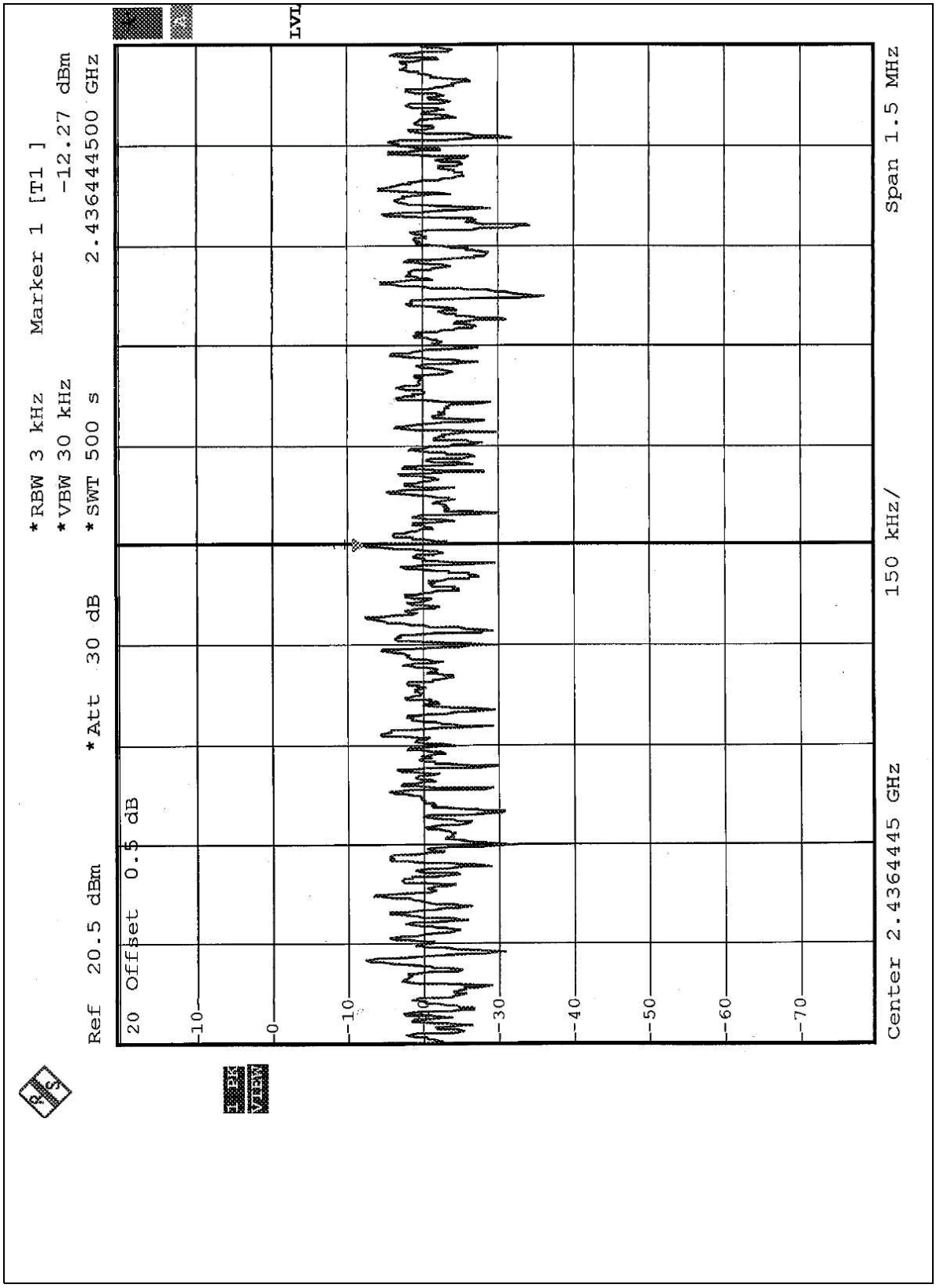
EUT	Wireless IP Phone	**MODEL**	WLPS1
INPUT POWER (SYSTEM)	120Vac, 60 Hz	**ENVIRONMENTAL CONDITIONS**	20 deg. C, 62%RH, 991 hPa
TESTED BY: Stanely Hsu			

CHANNEL NUMBER	CHANNEL FREQUENCY (MHz)	RF POWER LEVEL IN 3 KHz BW (dBm)	MAXIMUM LIMIT (dBm)	PASS/FAIL
1	2412	-12.30	8	PASS
6	2437	-12.27	8	PASS
11	2462	-12.34	8	PASS

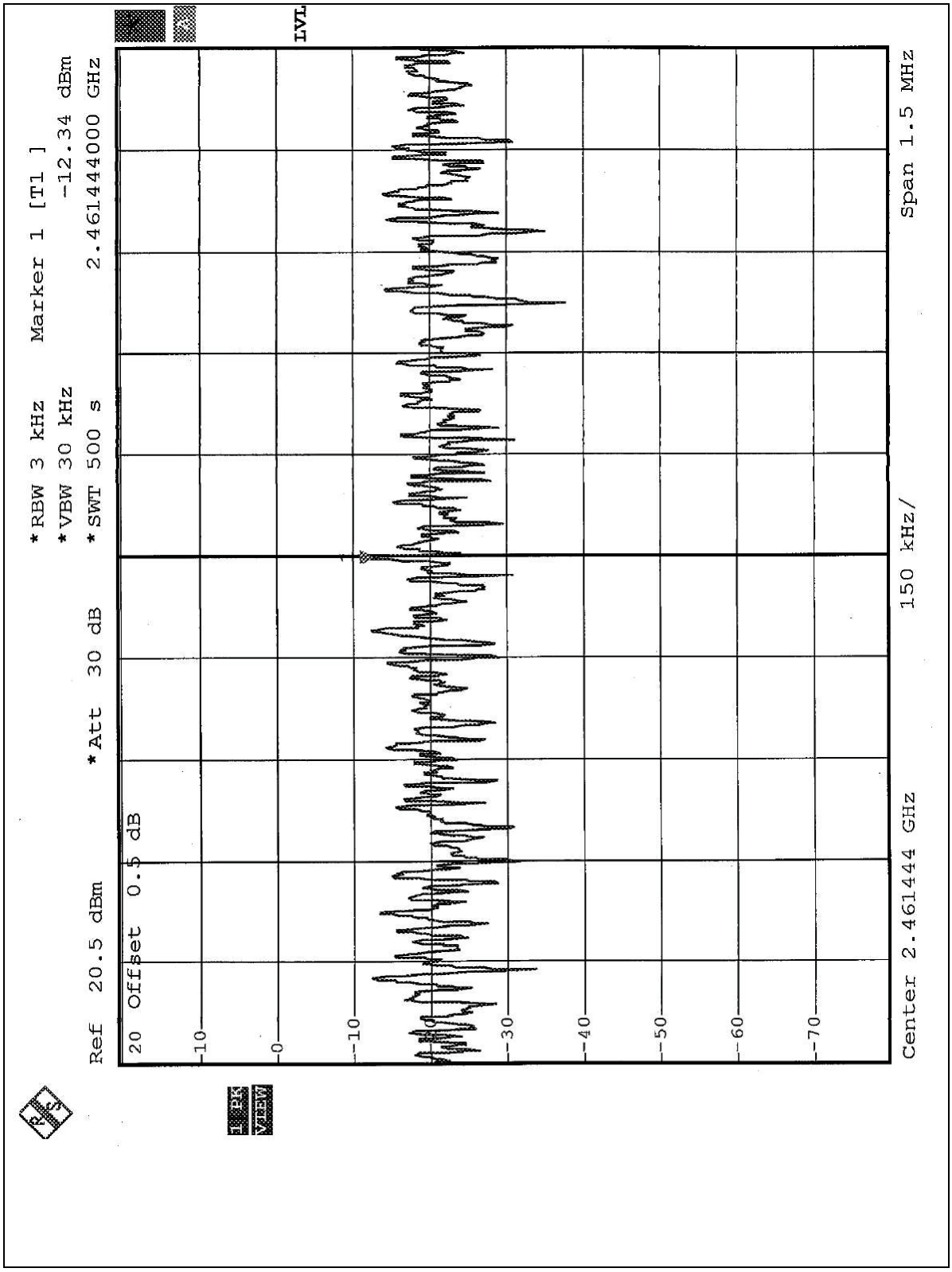
CH1


Ref 20.5 dBm
20 Offset 0.5 dB
*Att 30 dB
*RBW 3 kHz
*VBW 30 kHz
*SWT 500 s
Marker 1 [T1]
-12.30 dBm
2.411443000 GHz
LVL
1 PK
VBW
Center 2.4119785 GHz
150 kHz/
Span 1.5 MHz

CH6


Ref 20.5 dBm
20 Offset 0.5 dB
*Att 30 dB
*RBW 3 kHz
*VBW 30 kHz
*SWT 500 s
Marker 1 [T1]
-12.27 dBm
2.436444500 GHz
LVL
-10
0
-10
-30
-40
-50
-60
-70
Center 2.4364445 GHz
150 kHz/
Span 1.5 MHz
PK
AVG

CH11


Ref 20.5 dBm
20 Offset 0.5 dB
*Att 30 dB
*RBW 3 kHz
*VBW 30 kHz
*SWT 500 s
Marker 1 [T1]
-12.34 dBm
2.461444000 GHz
LVL
10
0
-10
-20
-30
-40
-50
-60
-70
Center 2.461444 GHz
150 kHz/
Span 1.5 MHz

4.6 BAND EDGES MEASUREMENT

4.6.1 LIMITS OF BAND EDGES MEASUREMENT

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

4.6.2 TEST INSTRUMENTS

Description & Manufacturer	Model No.	Serial No.	Calibrated Until
SPECTRUM ANALYZER	FSEK30	100049	August 12, 2004

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

4.6.3 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 100kHz and100kHz with suitable frequency span including 100MHz 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

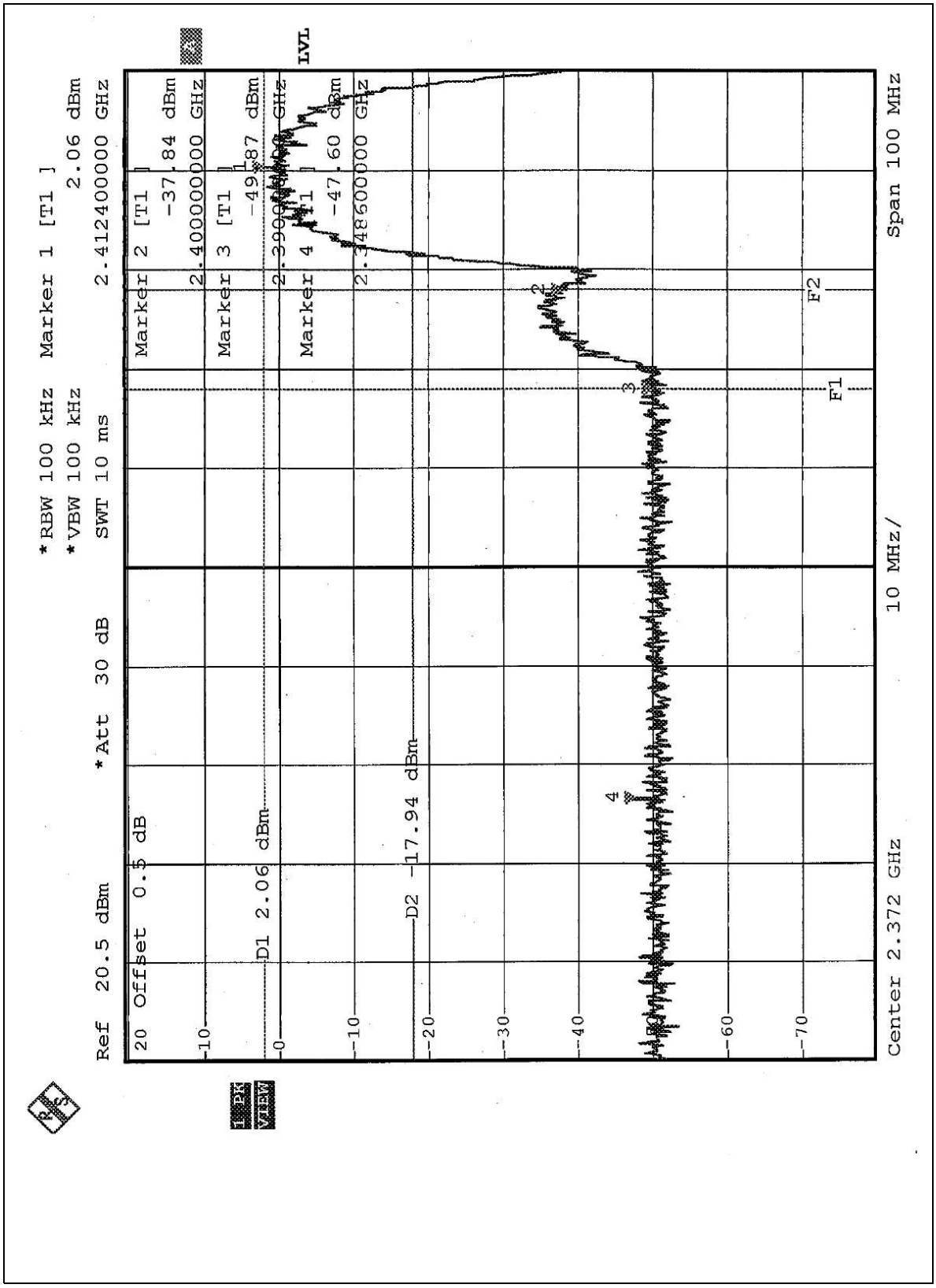
Same as Item 4.3.6

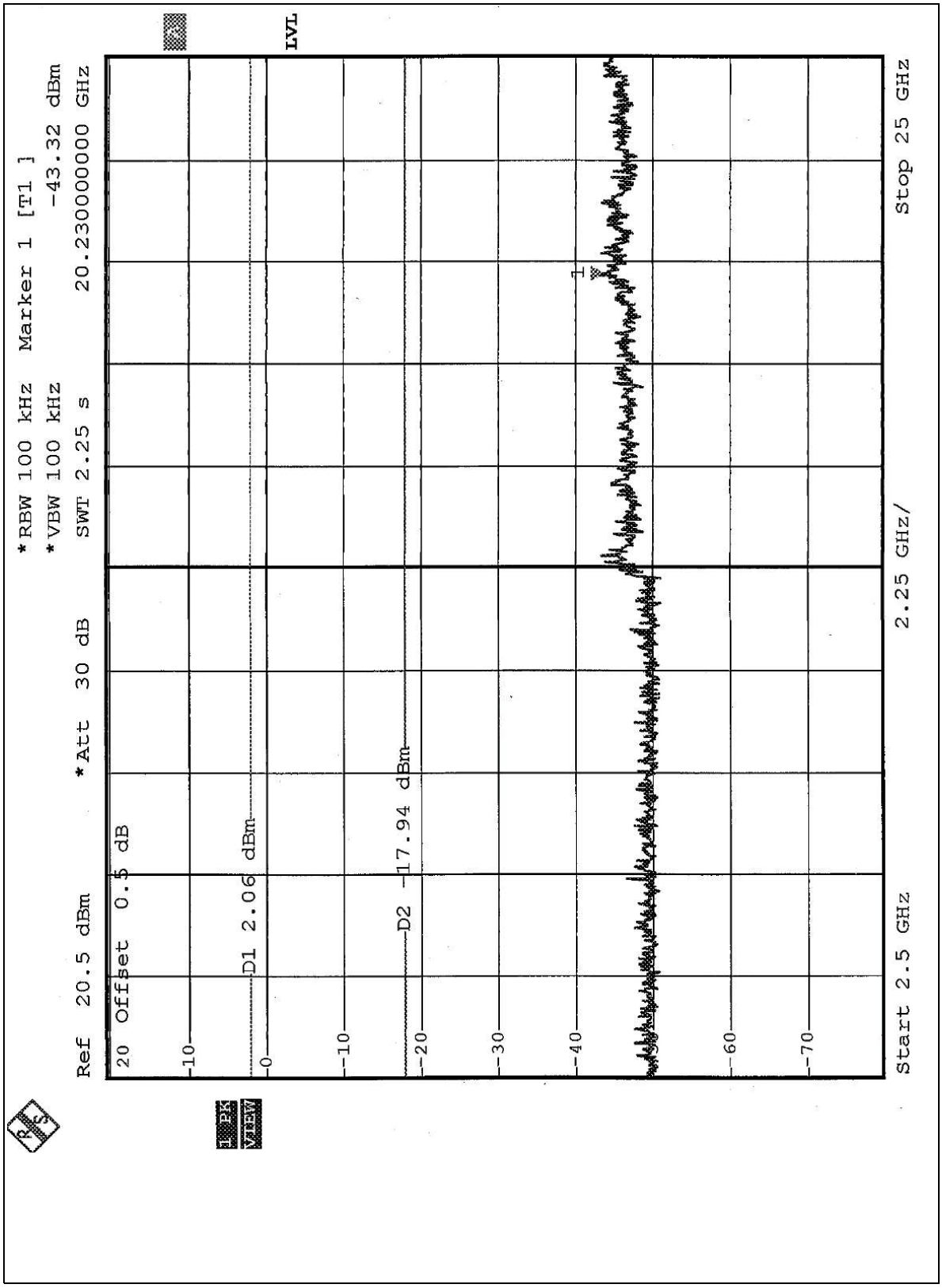
4.6.6 TEST RESULTS

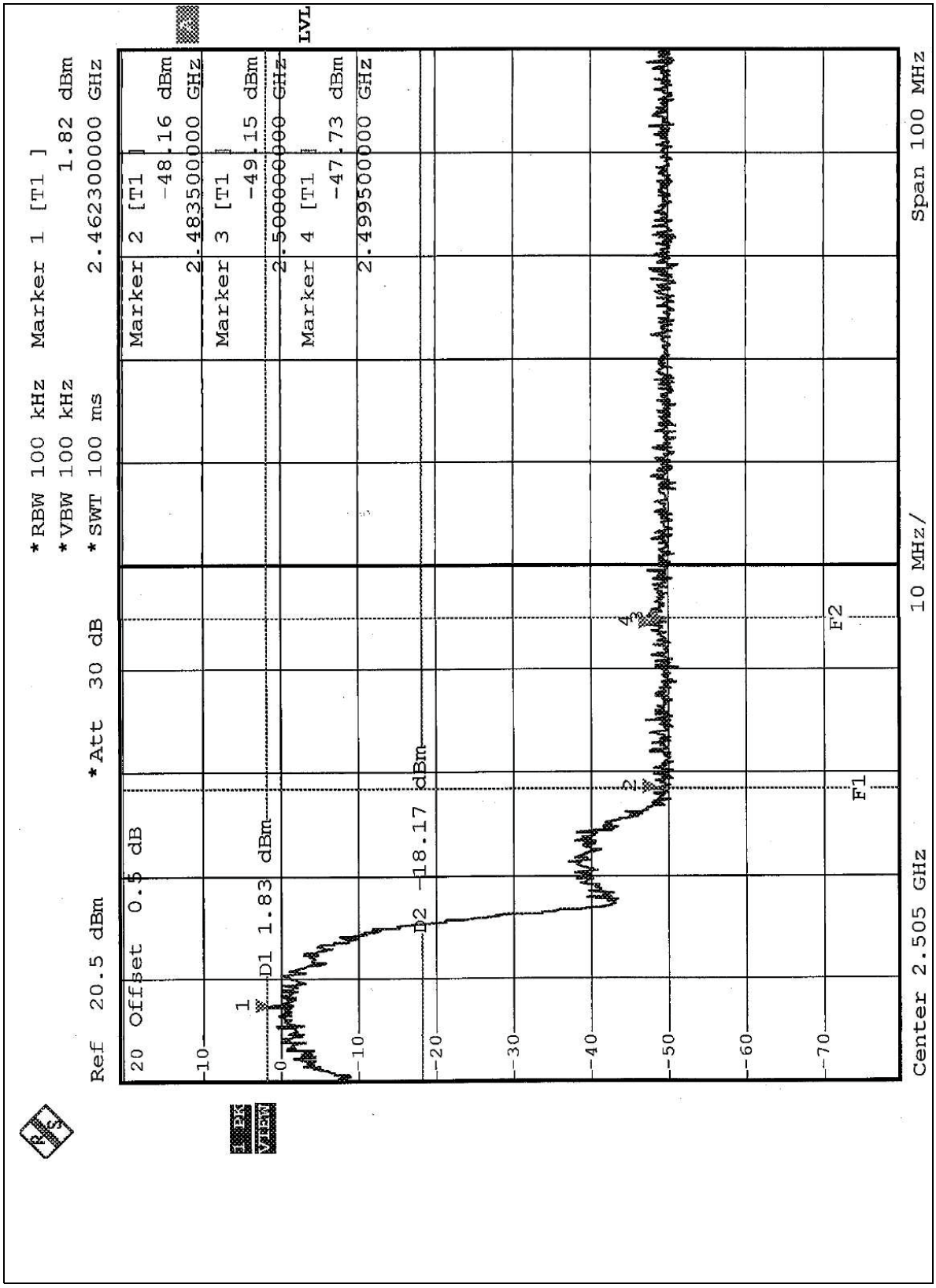
The spectrum plots are attached on the following 4 pages. D2 line indicates the highest level, D1 line indicates the 20dB offset below D2. It shows compliance with the requirement in part 15.247(C).

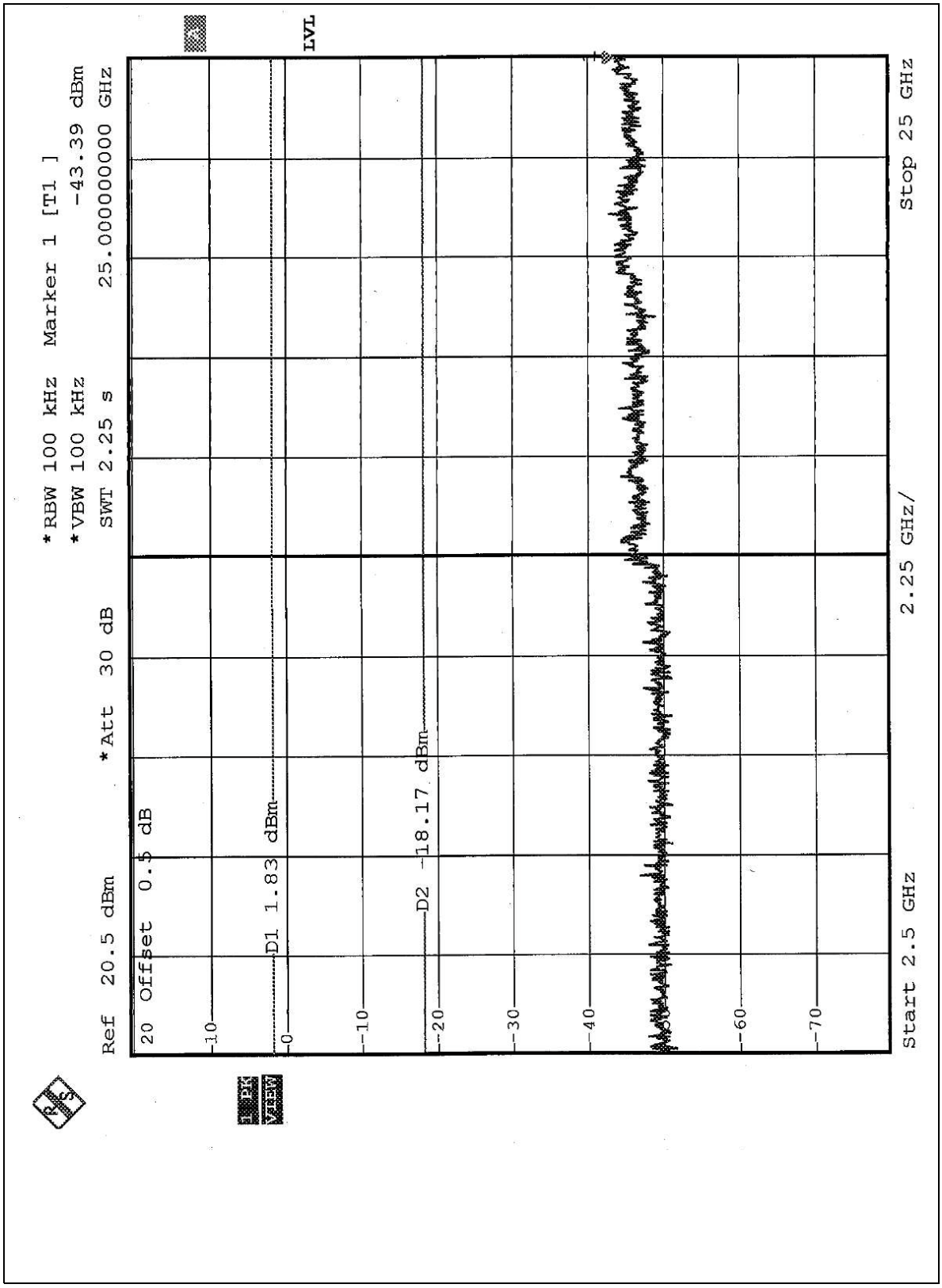
NOTE:
The band edge emission plots on the following 1st, 2nd pages show 51.93dB delta between carrier maximum power and local maximum emissions in restrict band (2.3900GHz). The emission of carrier strength list in the test result of channel 1 at the item 4.2.7 (Page 28) is 93.10dBuV/m, so the maximum field strength in restrict band is 93.10 – 51.93 = 41.17dBuV/m which is under 54 dBuV/m limit.

The band edge emission plots on the following 3rd, 4th pages show 49.99dB 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 4.2.7 (Page 30) is 92.62dBuV/m, so the maximum field strength in restrict band is 92.62 – 49.99 = 42.63dBuV/m which is under 54 dBuV/m limit.


Ref 20.5 dBm
20 Offset 0.5 dB
D1 2.06 dBm
D2 -17.94 dBm
*Att 30 dB
*RBW 100 kHz
*VBW 100 kHz
SWT 10 ms
Marker 1 [T1] 2.06 dBm 2.412400000 GHz
Marker 2 [T1] -37.84 dBm 2.400000000 GHz
Marker 3 [T1] -49.87 dBm 2.390000000 GHz
Marker 4 [T1] -47.60 dBm 2.348600000 GHz
LVL
F1
F2
Center 2.372 GHz
10 MHz/
Span 100 MHz


Ref 20.5 dBm
*Att 30 dB
*RBW 100 kHz
*VBW 100 kHz
SWT 2.25 s
Marker 1 [T1]
-43.32 dBm
20.230000000 GHz
20 Offset 0.5 dB
D1 2.06 dBm
D2 -17.94 dBm
1 PK
VIEW
LVL
Start 2.5 GHz
2.25 GHz/
Stop 25 GHz


Ref 20.5 dBm
20 Offset 0.5 dB
*Att 30 dB
*RBW 100 kHz
*VBW 100 kHz
*SWT 100 ms
Marker 1 [T1]
1.82 dBm
2.462300000 GHz
Marker 2 [T1]
-48.16 dBm
2.483500000 GHz
Marker 3 [T1]
-49.15 dBm
2.500000000 GHz
Marker 4 [T1]
-47.73 dBm
2.499500000 GHz
D1 1.83 dBm
D2 -18.17 dBm
LVL
F1
F2
Center 2.505 GHz
10 MHz/
Span 100 MHz


Ref 20.5 dBm
*Att 30 dB
*RBW 100 kHz
*VBW 100 kHz
SWT 2.25 s
Marker 1 [T1]
-43.39 dBm
25.00000000 GHz
20 Offset 0.5 dB
D1 1.83 dBm
D2 -18.17 dBm
LVL
Start 2.5 GHz
2.25 GHz/
Stop 25 GHz

4.7 ANTENNA REQUIREMENT

4.7.1 STANDARD APPLICABLE

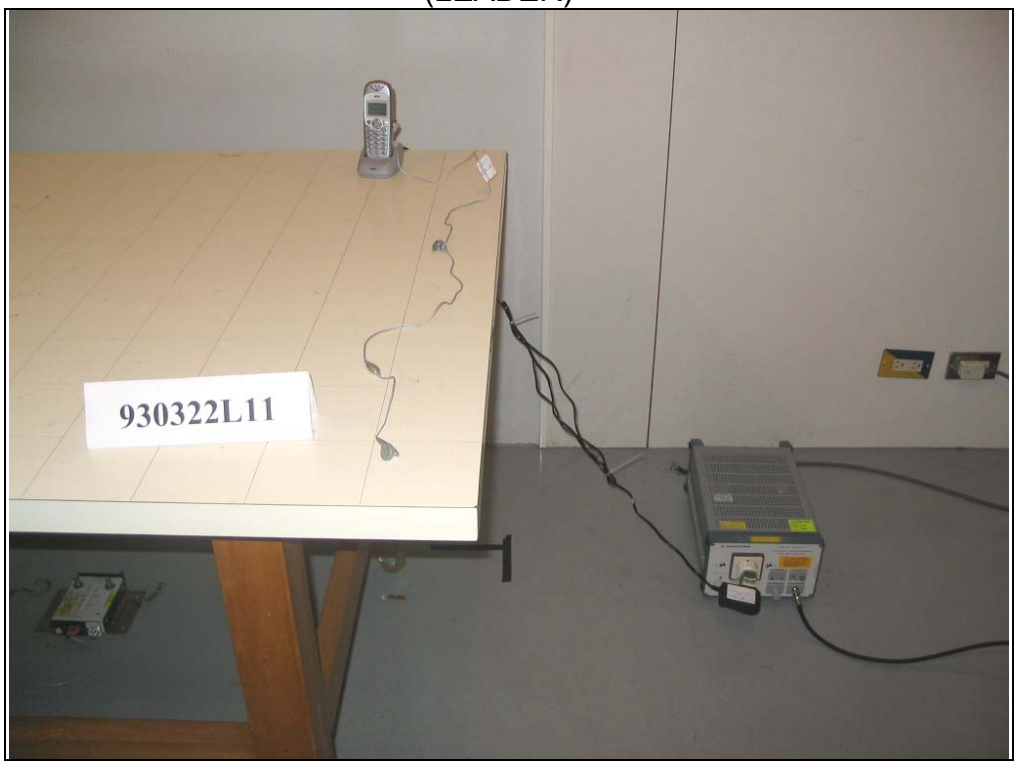
For intentional device, according to FCC 47 CFR Section 15.203, an intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device.
And according to FCC 47 CFR Section 15.247 (b), if transmitting antennas of directional 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

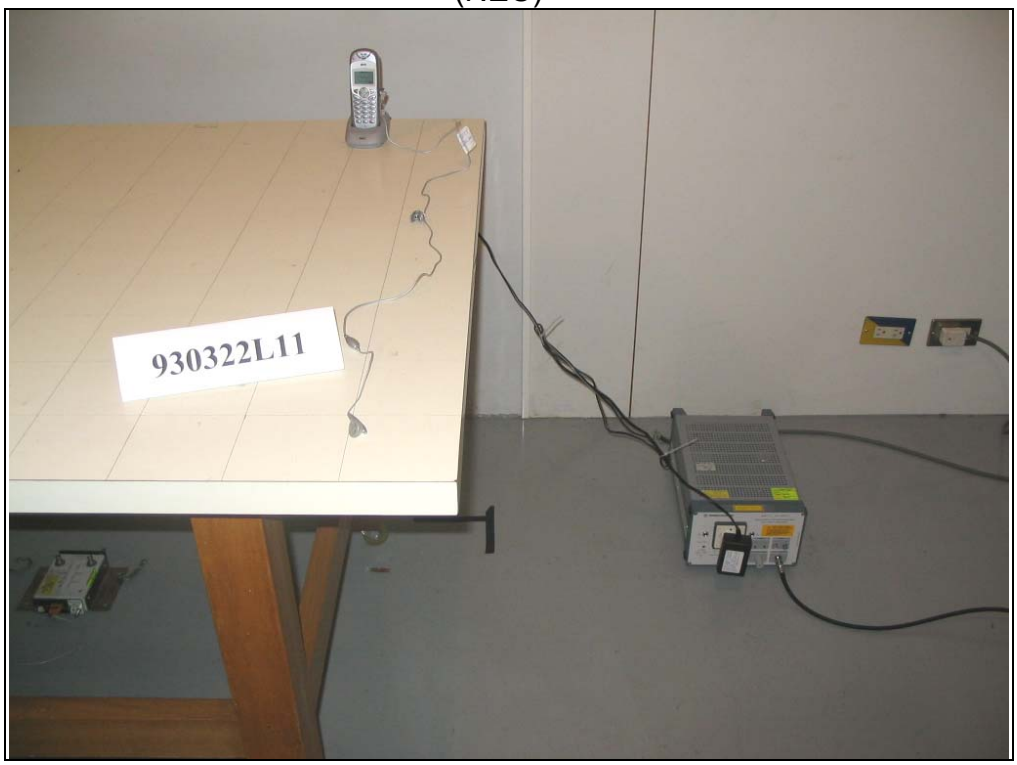
The antenna used in this product is Chip embedded antenna without antenna connector. And the maximum Gain of this antenna is 0dBi only.

5 PHOTOGRAPHS OF THE TEST CONFIGURATION

CONDUCTED EMISSION TEST
(LEADER)



(NEC)



RADIATED EMISSION TEST

6 INFORMATION ON THE TESTING LABORATORIES

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

USA	FCC, NVLAP, UL
Germany	TUV Rheinland
Japan	VCCI
Norway	NEMKO
Canada	INDUSTRY CANADA , CSA
R.O.C.	CNLA, BSMI, DGT
Netherlands	Telefication
Singapore	PSB , GOST-ASIA(MOU)
Russia	CERTIS(MOU)

Copies of accreditation certificates of our laboratories obtained from approval agencies can be downloaded from our web site: www.adt.com.tw/index.5/phtml. If you have any comments, please feel free to contact us at the following:

Linko EMC/RF Lab:
Tel: 886-2-26052180
Fax: 886-2-26052943

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

Hwa Ya EMC/RF/Safety Lab:
Tel: 886-3-3183232
Fax: 886-3-3185050

Linko RF & Telecom Lab.
Tel: 886-3-3270910
Fax: 886-3-3270892

Email: service@mail.adt.com.tw
Web Site: www.adt.com.tw

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