FCC TEST REPORT

REPORT NO.: RF901009R02
MODEL NO.: TR-01AV
RECEIVED: Oct. 9, 2001
TESTED: Oct. 29 ~ Nov. 19, 2001

APPLICANT: JEBSEE ELECTRONICS CO., LTD.

ADDRESS: 24-3, Sin-Lo Road, P.O. Box 57, Tainan Taiwan

ISSUED BY: Advance Data Technology Corporation

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

0528
ILAC MRA

Lab Code: 200102-0

Table of Contents

1 CERTIFICATION

PRODUCT :	2.4 GHz Wireless A/V Sender
BRAND NAME :	JEBSEE
MODEL NO :	TR-01AV
APPLICANT :	JEBSEE ELECTRONICS CO., LTD.
STANDARDS :	47 CFR Part 15, Subpart C(15.249) ANSI C63.4-1992

We, **Advance Data Technology Corporation**, hereby certify that one sample of the designation has been tested in our facility from Oct. 29, 2001 to Nov. 19,2001. 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: Gary Chang , **DATE:** Dec. 11. 2001
Gary Chang

CHECKED BY: Anna Kuo , **DATE:** Dec. 11, 2001
Anna Kuo

APPROVED BY: Alan Lane , **DATE:** Dec. 11, 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 PARAGRAPH	**TEST TYPE**	**RESULT**	**REMARK**
15.107	Conducted Emission Test	PASS	Minimum passing margin is –14.98 dBuV at 0.542 MHz
15.227	Radiated Emission Test	PASS	Minimum passing margin is –2.30 dBuV at 7242.30 MHz
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 receiver part to communicate with the EUT has been verified to comply with FCC Part 15, Subpart B, Class B (DoC). The test report can be provided upon request.

3 GENERAL INFORMATION

3.1 GENERAL DESCRIPTION OF EUT

PRODUCT	2.4 GHz Wireless A/V Sender
MODEL NO.	TR-01AV
POWER SUPPLY	9VDC from adapter
MODULATION TYPE	ASK
CARRIER FREQUENCY OF EACH CHANNEL	2414, 2432, 2450, 2468MHz
BANDWIDTH OF EACH CHANNEL	18MHz
NUMBER OF CHANNEL	4
ANTENNA TYPE	Inverted-F antenna
DATA CABLE	1.8m (Nonshielded)
I/O PORTS	AV port
ASSOCIATED DEVICES	NA

NOTE:

1. The EUT is the transmitter part of a 2.4 GHz Wireless A/V Sender.
2. For more detailed features description of the EUT, please refer to the manufacturer's specifications or the User's Manual.

The EUT was operated with the adapter as follows:

Brand	SINO-AMERICAN
Model No.	A20930G
Input Power	230V ~ 50Hz
Output Power	9V, 300mA, 2.7VA

3.2 DESCRIPTION OF TEST MODES

All channels are listed in the following table:

Channel	Frequency	Channel	Frequency
1	2414 MHz	2	2432 MHz
3	2450 MHz	4	2468 MHz

NOTE: 1. Below 1 GHz, the channel 1, 2, and 4 were pre-tested in chamber. Channel 1, the worst case, was chosen for the final test.

2. Above 1 GHz, the channel 1, 2, and 4 were tested individually.

3.3 GENERAL DESCRIPTION OF APPLIED STANDARDS

The EUT is the transmitter part of a 2.4 GHz Wireless A/V Sender. According to the specifications of the manufacturer, it must comply with the requirements of the following standards:

FCC CFR 47 Part 15, Subpart C(15.249)

ANSI C63.4-1992

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

3.4 DESCRIPTION OF SUPPORT UNITS

NO.	PRODUCT	BRAND	MODEL NO.	SERIAL NO.	FCC ID
1	Video Hi 8	SONY	CCD-TRV60	1002389	VERIFICATION
2	TV MONITOR	PANASONIC	BT-H1390Y	NA	VERIFICATION

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

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

4 TEST PROCEDURE AND RESULT

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	ESCS30	834115/016	Feb. 21, 2002
ROHDE & SCHWARZ Artificial Mains Network (For EUT)	ESH2-Z5	892107/003	July 10, 2002
* ROHDE & SCHWARZ 4-wire ISN	ENY41	838119/028	Dec. 12, 2001
* ROHDE & SCHWARZ 2-wire ISN	ENY22	837497/018	Dec. 3, 2001
EMCO L.I.S.N. (For peripherals)	3825/2	9504-2359	July 10, 2002
Software	Cond-V2J	NA	NA
RF cable (JYEBAO)	RG-58A/U	Cable-C03.01	July 11, 2002
Terminator (For EMCO LISN)	NA	E1-01-300	Feb. 20, 2002
Terminator (For EMCO LISN)	NA	E1-01-301	Feb. 20, 2002
Shielded Room	Site 3	ADT-C03	NA
VCCI Site Registration No.	Site 3	C-274	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 equipment are used for conducted telecom port test only (if tested).

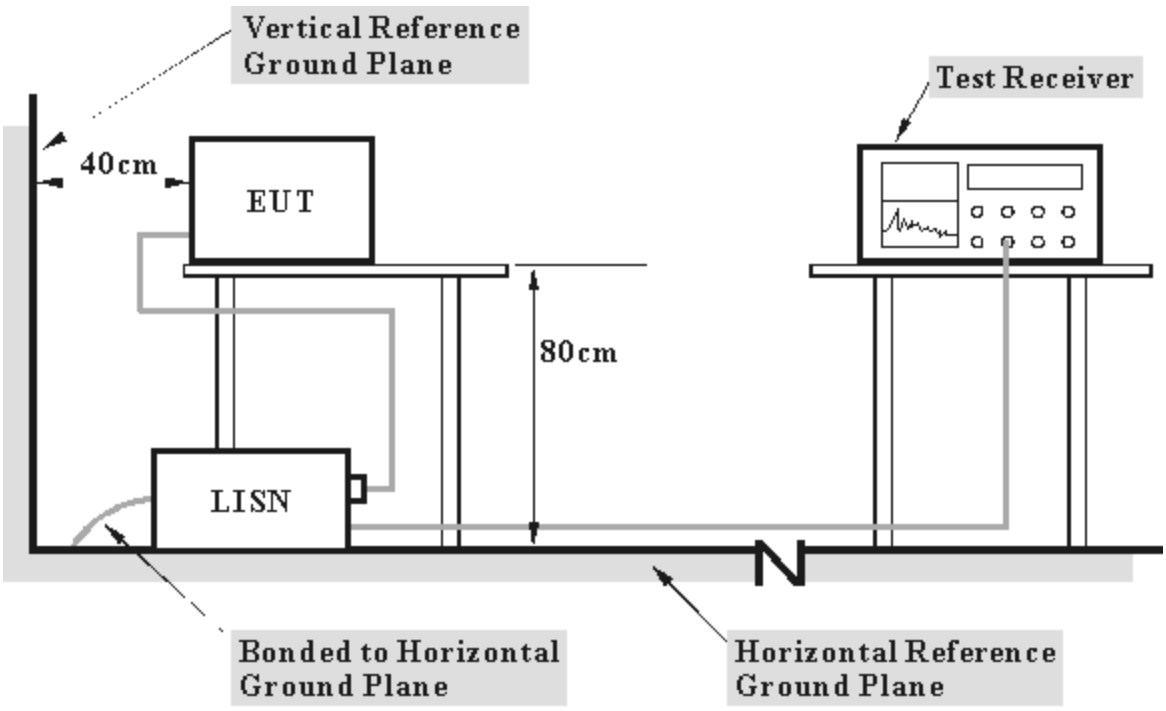
4.1.3 TEST PROCEDURES

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. Place the EUT on the test table.

b. Power on the EUT.

c. Connected the audio and video output of video camera to the EUT.

d. Select the channel being chosen for the test.

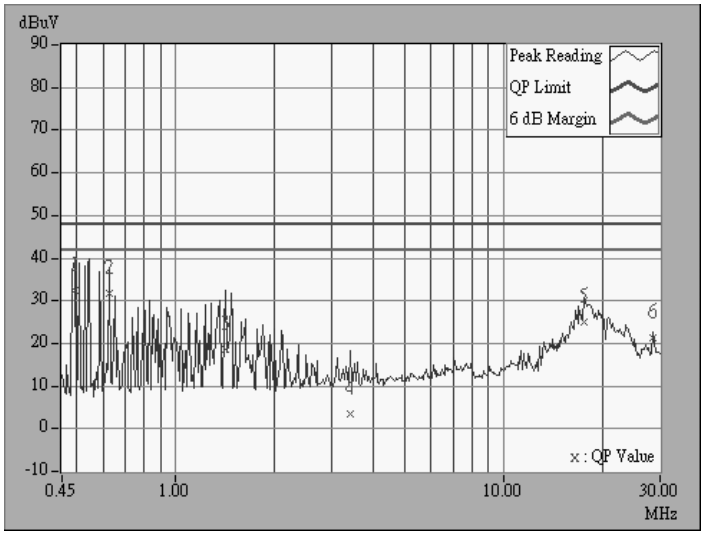
4.1.6 TEST RESULTS

EUT	2.4 GHz Wireless A/V Sender	**MODEL**	TR-01AV
MODE	Channel 1	**6dB BANDWIDTH**	10 kHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	**PHASE**	Line (L)
ENVIRONMENTAL CONDITIONS	23 deg. C, 55%RH, 1005 hPa	**TESTED BY**: James Lee	

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	0.493	0.12	32.47	-	32.59	-	48.00	-	-15.41	-
2	0.626	0.14	31.84	-	31.98	-	48.00	-	-16.02	-
3	1.423	0.20	18.72	-	18.92	-	48.00	-	-29.08	-
4	3.402	0.27	3.40	-	3.67	-	48.00	-	-44.33	-
5	17.595	0.55	25.02	-	25.57	-	48.00	-	-22.43	-
6	28.638	0.50	21.45	-	21.95	-	48.00	-	-26.05	-

NOTE:

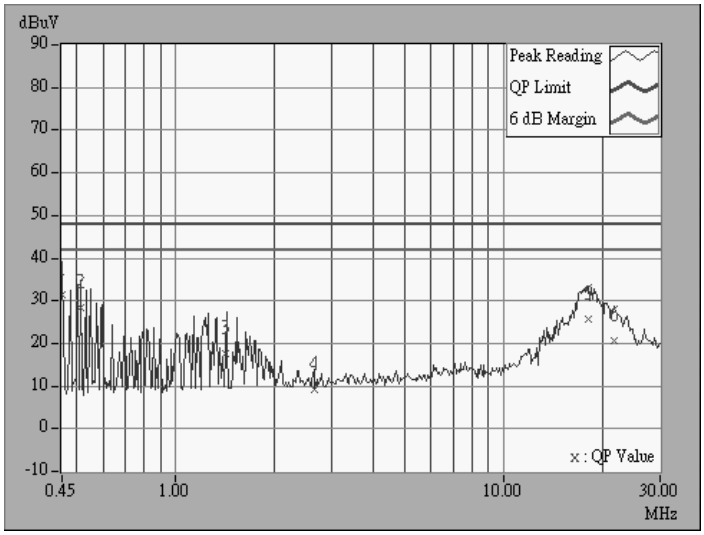
1. QP. and AV. are abbreviations of quasi-peak and average individually.
2. "-": NA
3. The emission levels of other frequencies were very low against the limit.
4. Margin value = Emission level - Limit value
5. Emission Level = Reading Value + Correction Factor.



EUT	2.4 GHz Wireless A/V Sender	**MODEL**	TR-01AV
MODE	Channel 1	**6dB BANDWIDTH**	10 kHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	**PHASE**	Neutral (N)
ENVIRONMENTAL CONDITIONS	23 deg. C, 55%RH, 1005 hPa	**TESTED BY**: James Lee	

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	0.450	0.11	31.28	-	31.39	-	48.00	-	-16.61	-
2	0.513	0.12	28.52	-	28.64	-	48.00	-	-19.36	-
3	1.424	0.20	17.68	-	17.88	-	48.00	-	-30.12	-
4	2.638	0.23	9.17	-	9.40	-	48.00	-	-38.60	-
5	18.100	0.79	25.85	-	26.64	-	48.00	-	-21.36	-
6	21.707	0.93	20.77	-	21.70	-	48.00	-	-26.30	-

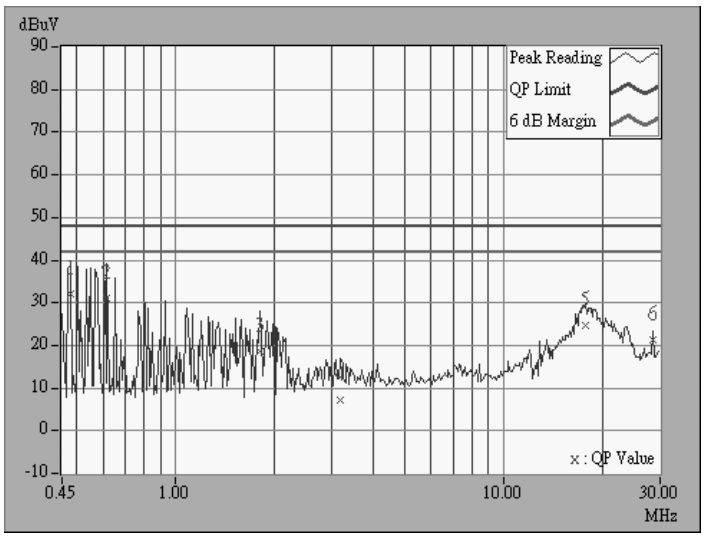
NOTE:
1. QP. and AV. are abbreviations of quasi-peak and average individually.
2. "-": NA
3. The emission levels of other frequencies were very low against the limit.
4. Margin value = Emission level - Limit value
5. Emission Level = Reading Value + Correction Factor.



EUT	2.4 GHz Wireless A/V Sender	**MODEL**	TR-01AV
MODE	Channel 2	**6dB BANDWIDTH**	10 kHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	**PHASE**	Line (L)
ENVIRONMENTAL CONDITIONS	23 deg. C, 55%RH, 1005 hPa	**TESTED BY**: James Lee	

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	0.479	0.11	32.11	-	32.22	-	48.00	-	-15.78	-
2	0.618	0.14	31.06	-	31.20	-	48.00	-	-16.80	-
3	1.813	0.20	18.67	-	18.87	-	48.00	-	-29.13	-
4	3.184	0.26	7.29	-	7.55	-	48.00	-	-40.45	-
5	17.845	0.56	24.69	-	25.25	-	48.00	-	-22.75	-
6	28.639	0.50	21.45	-	21.95	-	48.00	-	-26.05	-

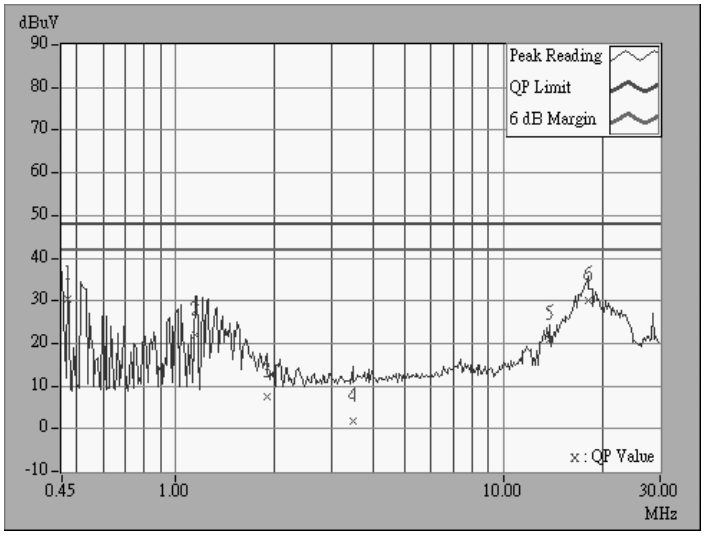
NOTE:
1. QP. and AV. are abbreviations of quasi-peak and average individually.
2. "-": NA
3. The emission levels of other frequencies were very low against the limit.
4. Margin value = Emission level - Limit value
5. Emission Level = Reading Value + Correction Factor.



EUT	2.4 GHz Wireless A/V Sender	**MODEL**	TR-01AV
MODE	Channel 2	**6dB BANDWIDTH**	10 kHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	**PHASE**	Neutral (N)
ENVIRONMENTAL CONDITIONS	23 deg. C, 55%RH, 1005 hPa	**TESTED BY**: James Lee	

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	0.469	0.11	30.45	-	30.56	-	48.00	-	-17.44	-
2	1.147	0.20	21.90	-	22.10	-	48.00	-	-25.90	-
3	1.891	0.20	7.42	-	7.62	-	48.00	-	-40.38	-
4	3.462	0.27	1.68	-	1.95	-	48.00	-	-46.05	-
5	13.820	0.55	21.09	-	21.64	-	48.00	-	-26.36	-
6	18.104	0.79	29.97	-	30.76	-	48.00	-	-17.24	-

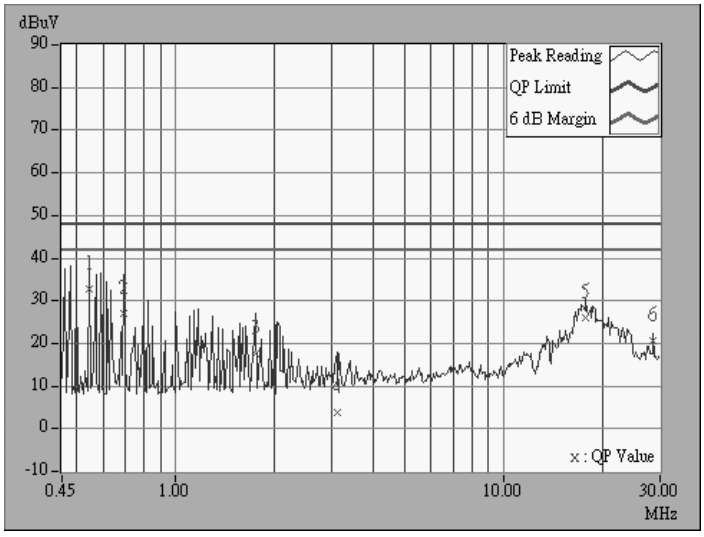
NOTE:
1. QP. and AV. are abbreviations of quasi-peak and average individually.
2. "-": NA
3. The emission levels of other frequencies were very low against the limit.
4. Margin value = Emission level - Limit value
5. Emission Level = Reading Value + Correction Factor.



EUT	2.4 GHz Wireless A/V Sender	**MODEL**	TR-01AV
MODE	Channel 4	**6dB BANDWIDTH**	10 kHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	**PHASE**	Line (L)
ENVIRONMENTAL CONDITIONS	23 deg. C, 55%RH, 1005 hPa	**TESTED BY**: James Lee	

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	0.542	0.12	32.90	-	33.02	-	48.00	-	-14.98	-
2	0.696	0.15	26.94	-	27.09	-	48.00	-	-20.91	-
3	1.746	0.20	17.47	-	17.67	-	48.00	-	-30.33	-
4	3.098	0.25	3.71	-	3.96	-	48.00	-	-44.04	-
5	17.848	0.56	25.91	-	26.47	-	48.00	-	-21.53	-
6	28.639	0.50	20.70	-	21.20	-	48.00	-	-26.80	-

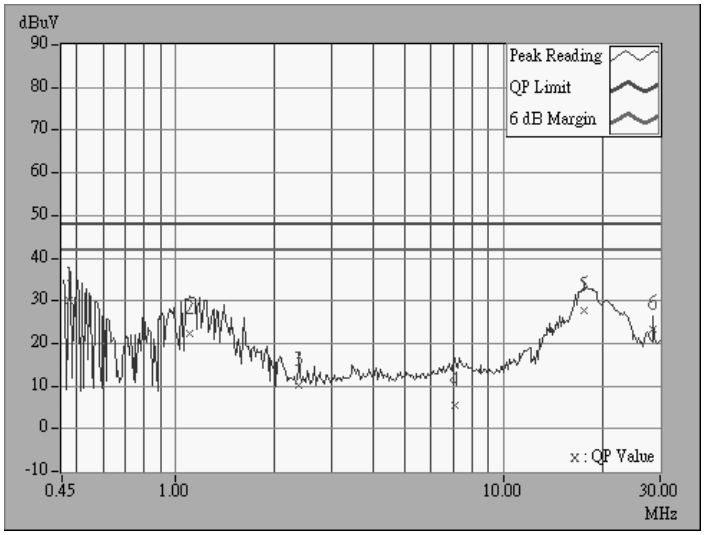
NOTE:
1. QP. and AV. are abbreviations of quasi-peak and average individually.
2. "-": NA
3. The emission levels of other frequencies were very low against the limit.
4. Margin value = Emission level - Limit value
5. Emission Level = Reading Value + Correction Factor.



EUT	2.4 GHz Wireless A/V Sender	**MODEL**	TR-01AV
MODE	Channel 4	**6dB BANDWIDTH**	10 kHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	**PHASE**	Neutral (N)
ENVIRONMENTAL CONDITIONS	23 deg. C, 55%RH, 1005 hPa	**TESTED BY**: James Lee	

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	0.473	0.11	30.17	-	30.28	-	48.00	-	-17.72	-
2	1.102	0.20	22.16	-	22.36	-	48.00	-	-25.64	-
3	2.372	0.22	10.30	-	10.52	-	48.00	-	-37.48	-
4	7.083	0.35	5.46	-	5.81	-	48.00	-	-42.19	-
5	17.626	0.76	27.78	-	28.54	-	48.00	-	-19.46	-
6	28.638	1.29	23.24	-	24.53	-	48.00	-	-23.47	-

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



4.2 RADIATED EMISSION MEASUREMENT

4.2.1 LIMITS OF RADIATED EMISSION MEASUREMENT

According to 15.249 the field strength of emissions from intentional radiators operated under these frequencies bands shall not exceed the following:

Fundamental Frequency (MHz)	Field Strength of Fundamental (dBuV/m)	
2400 – 2483.5	Peak	Average
	114	94

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:

Other Frequencies (MHz)	Field Strength of Fundamental	
	uV/meter	dBuV/meter
30-88	100	40.0
88-216	150	43.5
216-960	200	46.0
Above 960	500	54.0

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 INSTRUMENT

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATED UNTIL
HP Spectrum Analyzer	8590L	3544A01176	May 7, 2002
HP Preamplifier	8447D	2944A08485	May. 7, 2002
* 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, 2002
* 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

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 equipment are used for the final measurement.

4. The horn antenna and HP preamplifier (model: 8449B) are used only for the measurement of emission frequency above 1GHz.

4.2.3 TEST PROCEDURE

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.

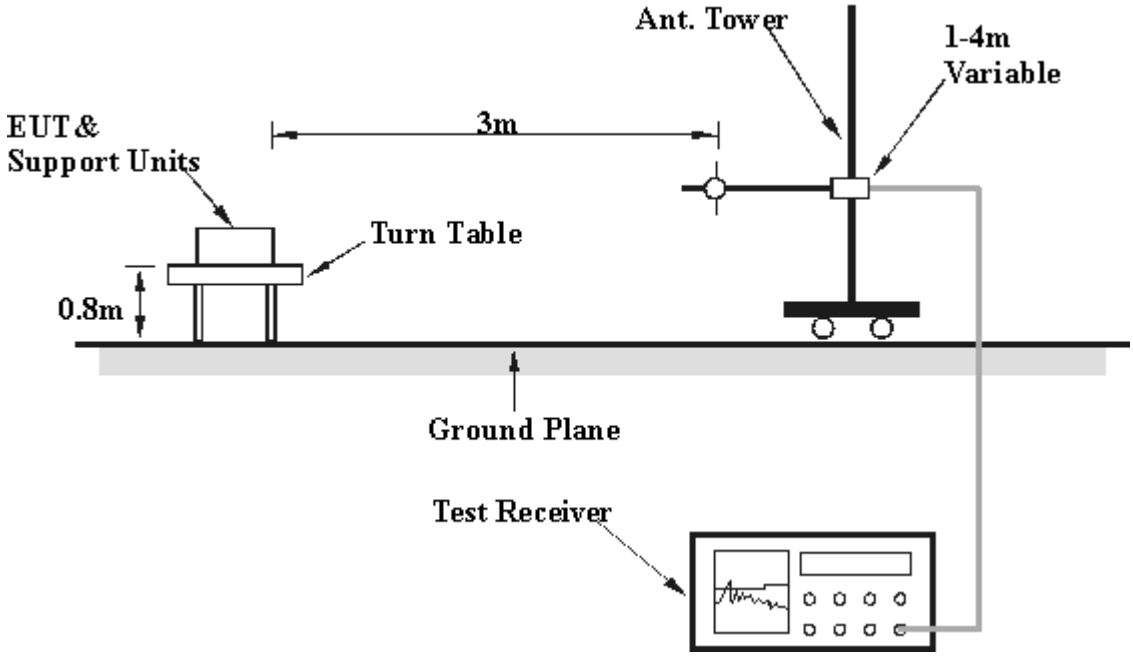
e. The test-receiver system was set to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode.

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 Peak detection (PK) and Quasi-peak detection (QP) at frequency below 1GHz.
2. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 1 MHz for Peak detection at frequency above 1GHz.
3. The resolution bandwidth of test receiver/spectrum analyzer is 1 MHz and the video bandwidth is 300 Hz for Average detection (AV) at frequency above 1GHz.

4.2.4 TEST SETUP



For the actual test configuration, please refer to the related item in this test report - Photographs of the Test Configuration.

4.2.5 EUT OPERATING CONDITION

Same as item 4.1.5

4.2.6 TEST RESULT

EUT	2.4 GHz Wireless A/V Sender	**MODEL**	TR-01AV
FREQUENCY RANGE	30 – 1000 MHz	**DETECTOR FUNCTION**	Quasi-Peak
ENVIRONMENTAL CONDITIONS	25 deg. C, 70 % RH, 1050 hPa	**TESTED BY**: James Lee	

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

No.	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Antenna Factor (dB)	Cable Factor (dB)	Pre-Amp. Factor (dB)	Correction Factor (dB)
1	120.78	31.2 QP	43.50	-12.30	1.03H	60	18.50	11.65	1.08	0.00	-12.73
2	162.00	29.1 QP	43.50	-14.40	2.49H	69	18.20	9.62	1.26	0.00	-10.89
3	167.80	31.6 QP	43.50	-11.90	1.86H	355	21.00	9.35	1.30	0.00	-10.65
4	186.10	28.3 QP	43.50	-15.20	1.59H	321	18.00	8.93	1.37	0.00	-10.30
5	204.65	28.5 QP	43.50	-15.00	1.50H	284	17.80	9.25	1.44	0.00	-10.70
6	235.20	30.8 QP	46.00	-15.20	1.41H	269	18.10	11.13	1.59	0.00	-12.72
7	265.00	31.8 QP	46.00	-14.20	1.24H	215	17.40	12.75	1.70	0.00	-14.45

REMARKS:
1. Emission level(dBuV/m)=Raw Value(dBuV) – Correction Factor(dB)
2. Correction Factor(dB) = Pre-Amplifier Factor (dB) - Antenna Factor (dB) - Cable Factor (dB)
3. Pre-Amplifier Factor (dB) = 0, when the test receiver is used to read the value and because it did not use the Pre-Amplifier.
4. The other emission levels were very low against the limit.
5. Margin value = Emission level– Limit value.

EUT	2.4 GHz Wireless A/V Sender	**MODEL**	TR-01AV
FREQUENCY RANGE	30-1000 MHz	**DETECTOR FUNCTION**	Quasi-Peak
ENVIRONMENTAL CONDITIONS	25 deg. C, 70 % RH, 1050 hPa	**TESTED BY**: James Lee	

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

No.	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Antenna Factor (dB)	Cable Factor (dB)	Pre-Amp. Factor (dB)	Correction Factor (dB)
1	120.00	28.7 QP	43.50	-14.80	1.25V	355	16.00	11.65	1.08	0.00	-12.73
2	167.00	31.7 QP	43.50	-11.80	1.36V	51	21.00	9.44	1.29	0.00	-10.74
3	174.00	28.1 QP	43.50	-15.40	1.39V	149	17.60	9.17	1.32	0.00	-10.49
4	180.00	27.3 QP	43.50	-16.20	1.04V	90	17.00	8.91	1.35	0.00	-10.27
5	194.31	27.6 QP	43.50	-15.90	1.36V	305	17.20	8.96	1.40	0.00	-10.36
6	204.97	28.8 QP	43.50	-14.70	1.34V	178	18.10	9.25	1.44	0.00	-10.70

REMARKS:
1. Emission level(dBuV/m)=Raw Value(dBuV) – Correction Factor(dB)
2. Correction Factor(dB) = Pre-Amplifier Factor (dB) - Antenna Factor (dB) - Cable Factor (dB)
3. Pre-Amplifier Factor (dB) = 0, when the test receiver is used to read the value and because it did not use the Pre-Amplifier.
4. The other emission levels were very low against the limit.
5. Margin value = Emission level– Limit value.

EUT	2.4 GHz Wireless A/V Sender	**MODEL**	TR-01AV
		FREQUENCY RANGE	Above 1 GHz
MODE	Channel 1	**DETECTOR FUNCTION**	Peak / Average
ENVIRONMENTAL CONDITIONS	25 deg. C, 70 % RH, 1050 hPa	**TESTED BY**: James Lee	

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

No.	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Antenna Factor (dB)	Cable Factor (dB)	Pre-Amp. Factor (dB)	Correction Factor (dB)
1	*2414.10	87.9 Av	94.00	-6.10	1.59H	20	55.66	27.11	5.10	0.00	-32.21
2	*2414.10	89.2 pk	114.00	-28.8	1.59H	20	57.00	27.11	5.10	0.00	-32.21
3	4828.20	52.0 pk	74.00	-22.00	1.75H	237	48.00	31.43	7.23	34.63	-4.02
4	7242.30	46.6 Av	54.00	-7.40	1.47H	23	36.00	36.09	9.24	34.70	-10.64
5	7242.30	55.6 pk	74.00	-18.40	1.47H	23	45.00	36.09	9.24	34.70	-10.64.

REMARKS:
1. Emission level(dBuV/m)=Raw Value(dBuV) – Correction Factor(dB)
2. Correction Factor(dB) = Pre-Amplifier Factor (dB) - Antenna Factor (dB) - Cable Factor (dB)
3. Pre-Amplifier Factor (dB) = 0, when the test receiver is used to read the value and because it did not use the Pre-Amplifier.
4. The other emission levels were very low against the limit.
5. Margin value = Emission level– Limit value.
6."*" = Fundamental frequency

EUT	2.4 GHz Wireless A/V Sender	**MODEL**	TR-01AV
		FREQUENCY RANGE	Above 1 GHz
MODE	Channel 1	**DETECTOR FUNCTION**	Peak / Average
ENVIRONMENTAL CONDITIONS	25 deg. C, 70 % RH, 1050 hPa	**TESTED BY**: James Lee	

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

No.	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Antenna Factor (dB)	Cable Factor (dB)	Pre-Amp. Factor (dB)	Correction Factor (dB)
1	*2415.00	90.0 Av	94.00	-4.00	1.20V	351	57.82	27.11	5.10	0.00	-32.21
2	*2415.00	91.3 pk	114.00	-22.7	1.20V	351	57.82	27.11	5.10	0.00	-32.21
3	4824.00	50.3 Av	54.00	-3.70	1.18V	4	46.24	31.43	7.23	34.63	-4.02
4	4824.00	54.0 pk	74.00	-20.00	1.18V	4	50.00	31.43	7.23	34.63	-4.02.
5	7242.30	51.7 Av	54.00	-2.30	1.08V	357	41.06	36.09	9.24	34.70	-10.64

REMARKS:
1. Emission level(dBuV/m)=Raw Value(dBuV) – Correction Factor(dB)
2. Correction Factor(dB) = Pre-Amplifier Factor (dB) - Antenna Factor (dB) - Cable Factor (dB)
3. Pre-Amplifier Factor (dB) = 0, when the test receiver is used to read the value and because it did not use the Pre-Amplifier.
4. The other emission levels were very low against the limit.
5. Margin value = Emission level– Limit value.
6. "*" = Fundamental frequency

EUT	2.4 GHz Wireless A/V Sender	**MODEL**	TR-01AV
		FREQUENCY RANGE	Above 1 GHz
MODE	Channel 2	**DETECTOR FUNCTION**	Peak / Average
ENVIRONMENTAL CONDITIONS	25 deg. C, 70 % RH, 1050 hPa	**TESTED BY**: James Lee	

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

No.	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Antenna Factor (dB)	Cable Factor (dB)	Pre-Amp. Factor (dB)	Correction Factor (dB)
1	*2432.10	88.8 pk	114.00	-25.20	1.10H	349	56.40	27.33	5.08	0.00	-32.40
2	*2432.10	87.6 Av	94.00	-6.40	1.10H	349	55.20	27.33	5.08	0.00	-32.40
3	4864.00	51.5 pk	74.00	-22.50	1.00H	55	47.40	31.47	7.21	34.63	-4.05
4	7296.00	54.7 pk	74.00	-19.30	1.20H	347	44.00	36.18	9.28	34.72	-10.76
5	7296.00	47.1 Av	54.00	-6.90	1.20H	347	36.40	36.18	9.28	34.72	-10.75

REMARKS:
1. Emission level(dBuV/m)=Raw Value(dBuV) – Correction Factor(dB)
2. Correction Factor(dB) = Pre-Amplifier Factor (dB) - Antenna Factor (dB) - Cable Factor (dB)
3. Pre-Amplifier Factor (dB) = 0, when the test receiver is used to read the value and because it did not use the Pre-Amplifier.
4. The other emission levels were very low against the limit.
5. Margin value = Emission level– Limit value.
6."*" = Fundamental frequency

EUT	2.4 GHz Wireless A/V Sender	**MODEL**	TR-01AV
		FREQUENCY RANGE	Above 1 GHz
MODE	Channel 2	**DETECTOR FUNCTION**	Peak / Average
ENVIRONMENTAL CONDITIONS	25 deg. C, 70 % RH, 1050 hPa	**TESTED BY**: James Lee	

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

No.	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Antenna Factor (dB)	Cable Factor (dB)	Pre-Amp. Factor (dB)	Correction Factor (dB)
1	*2432.10	90.4 pk	114.00	-23.60	1.78V	122	58.00	27.33	5.08	0.00	-32.40
2	*2432.10	89.4 Av	94.00	-4.60	1.78V	122	57.00	27.33	5.08	0.00	-32.40
3	4864.30	52.8 pk	74.00	-21.20	1.82V	140	48.70	31.47	7.21	34.63	-4.05
4	7296.00	55.7 pk	74.00	-18.30	1.55V	268	45.00	36.18	9.28	34.72	-10.75
5	7296.00	48.7 Av	54.00	-5.30	1.55V	268	38.00	36.18	9.28	34.72	-10.75

REMARKS: 1. Emission level(dBuV/m)=Raw Value(dBuV) – Correction Factor(dB)
2. Correction Factor(dB) = Pre-Amplifier Factor (dB) - Antenna Factor (dB) - Cable Factor (dB)
3. Pre-Amplifier Factor (dB) = 0, when the test receiver is used to read the value and because it did not use the Pre-Amplifier.
4. The other emission levels were very low against the limit.
5. Margin value = Emission level– Limit value.
6."*" = Fundamental frequency

EUT	2.4 GHz Wireless A/V Sender	**MODEL**	TR-01AV
		FREQUENCY RANGE	Above 1 GHz
MODE	Channel 4	**DETECTOR FUNCTION**	Peak / Average
ENVIRONMENTAL CONDITIONS	25 deg. C, 70 % RH, 1050 hPa	**TESTED BY**: James Lee	

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

No.	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Antenna Factor (dB)	Cable Factor (dB)	Pre-Amp. Factor (dB)	Correction Factor (dB)
1	*2468.20	88.8 pk	114.00	-25.20	1.28H	2	56.20	27.54	5.06	0.00	-32.59
2	*2468.20	87.2 Av	94.00	-6.80	1.28H	2	54.65	27.54	5.06	0.00	-32.59
3	4936.10	51.4 pk	74.00	-22.60	1.63H	92	47.20	31.55	7.26	34.61	-4.21
4	7404.30	48.3 Av	54.00	-5.70	1.03H	339	37.40	36.43	9.28	34.77	-10.95
5	7404.30	56.0 pk	74.00	-18.00	1.03H	339	45.10	36.43	9.28	34.77	-10.95.

REMARKS:
1. Emission level(dBuV/m)=Raw Value(dBuV) – Correction Factor(dB)
2. Correction Factor(dB) = Pre-Amplifier Factor (dB) - Antenna Factor (dB) - Cable Factor (dB)
3. Pre-Amplifier Factor (dB) = 0, when the test receiver is used to read the value and because it did not use the Pre-Amplifier.
4. The other emission levels were very low against the limit.
5. Margin value = Emission level– Limit value.
6."*" = Fundamental frequency

EUT	2.4 GHz Wireless A/V Sender	**MODEL**	TR-01AV
		FREQUENCY RANGE	Above 1 GHz
MODE	Channel 4	**DETECTOR FUNCTION**	Peak / Average
ENVIRONMENTAL CONDITIONS	25 deg. C, 70 % RH, 1050 hPa	**TESTED BY**: James Lee	

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

No.	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Antenna Factor (dB)	Cable Factor (dB)	Pre-Amp. Factor (dB)	Correction Factor (dB)
1	*2468.10	91.0 pk	114.00	-23.00	1.17V	48	58.40	27.54	5.06	0.00	-32.59
2	*2468.10	90.1 Av	94.00	-3.90	1.17V	48	57.50	27.54	5.06	0.00	-32.59
3	4936.60	54.2 pk	74.00	-19.80	1.33V	321	50.00	31.55	7.26	34.61	-4.21
4	4936.60	49.2 Av	54.00	-4.80	1.33V	321	45.00	31.55	7.26	34.61	-4.21
5	7404.30	54.9 pk	74.00	-19.10	1.75V	48	44.00	36.43	9.28	34.77	-10.95.
6	7404.30	47.7 Av	54.00	-6.30	1.75V	48	36.75	36.43	9.28	34.77	-10.95

REMARKS: 1. Emission level(dBuV/m)=Raw Value(dBuV) – Correction Factor(dB)
2. Correction Factor(dB) = Pre-Amplifier Factor (dB) - Antenna Factor (dB) - Cable Factor (dB)
3. Pre-Amplifier Factor (dB) = 0, when the test receiver is used to read the value and because it did not use the Pre-Amplifier.
4. The other emission levels were very low against the limit.
5. Margin value = Emission level– Limit value.
6."*" = Fundamental frequency

5.1 BAND EDGES MEASUREMENT

5.1.1 LIMITS OF BAND EDGES MEASUREMENT

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

5.1.2 TEST INSTRUMENTS

Description & Manufacturer	Model No.	Serial No.	Calibrated Until
SPECTRUM ANALYZER	FSEK30	100049	July 17, 2002

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.

5.1.3 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.

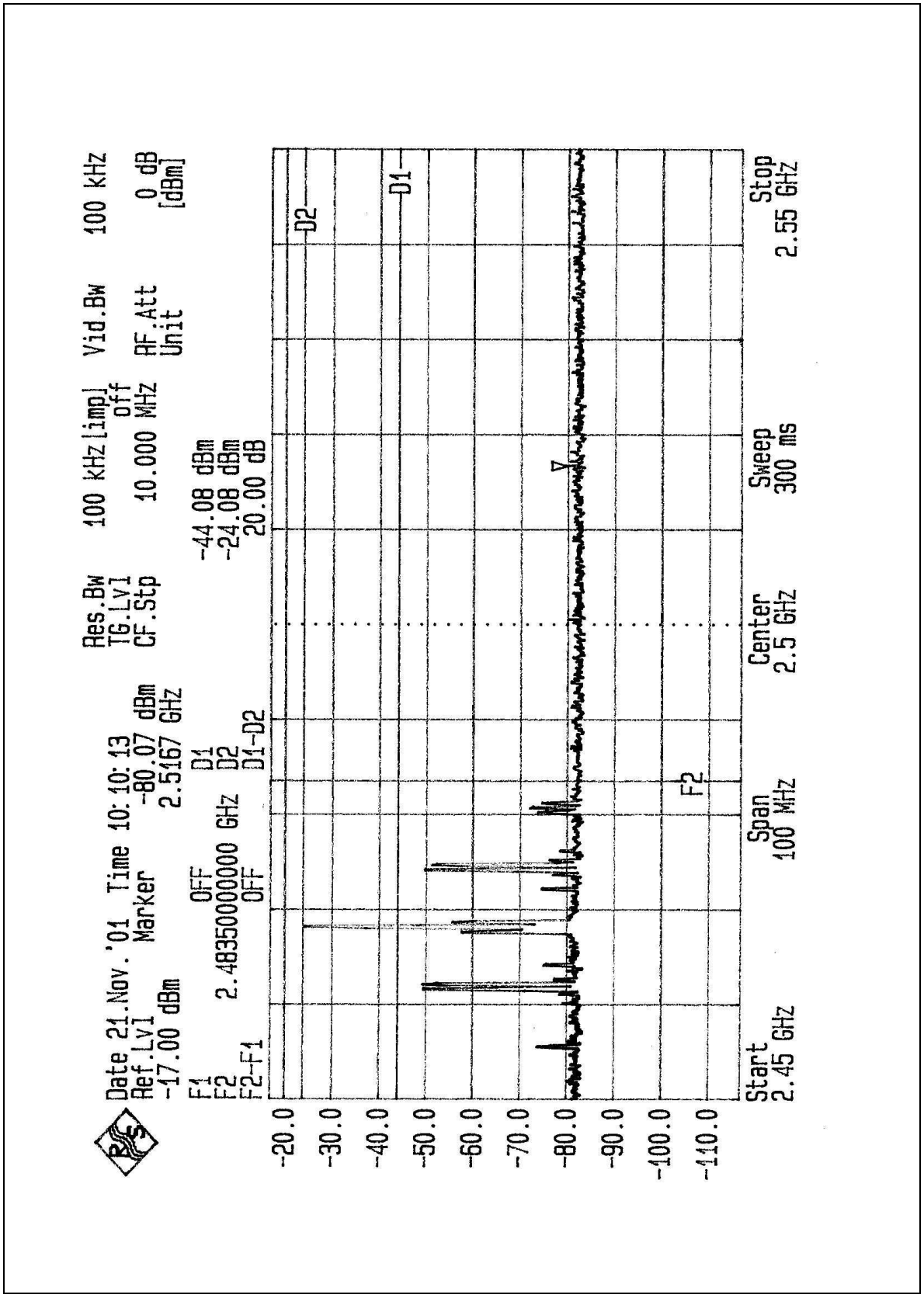
5.1.4 EUT OPERATING CONDITION

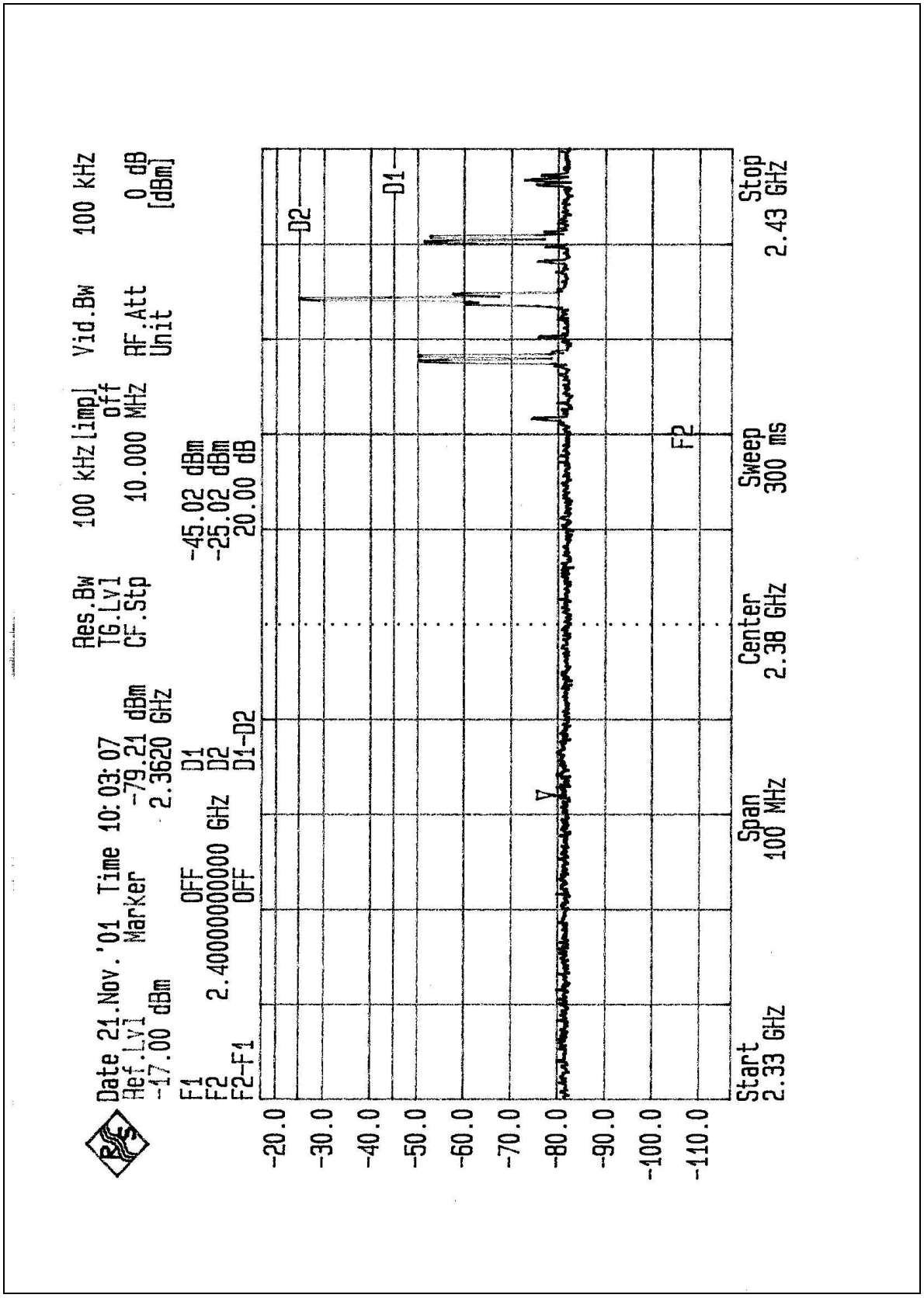
Same as Item 3.4.5

5.1.5 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 15.249(C).

NOTE: The band edge emission plot on the following 2 pages shows 46.94dB delta between carrier maximum power and local maximum emission in restrict band (2.4921GHz). The emission of carrier strength list in the test result of channel 11 at the item 4.2.6 (Page 17) is 83.60dBuV/m, so the maximum field strength in restrict band is 83.60-46.94=36.66dBuV/m which is under 54 dBuV/m limit.

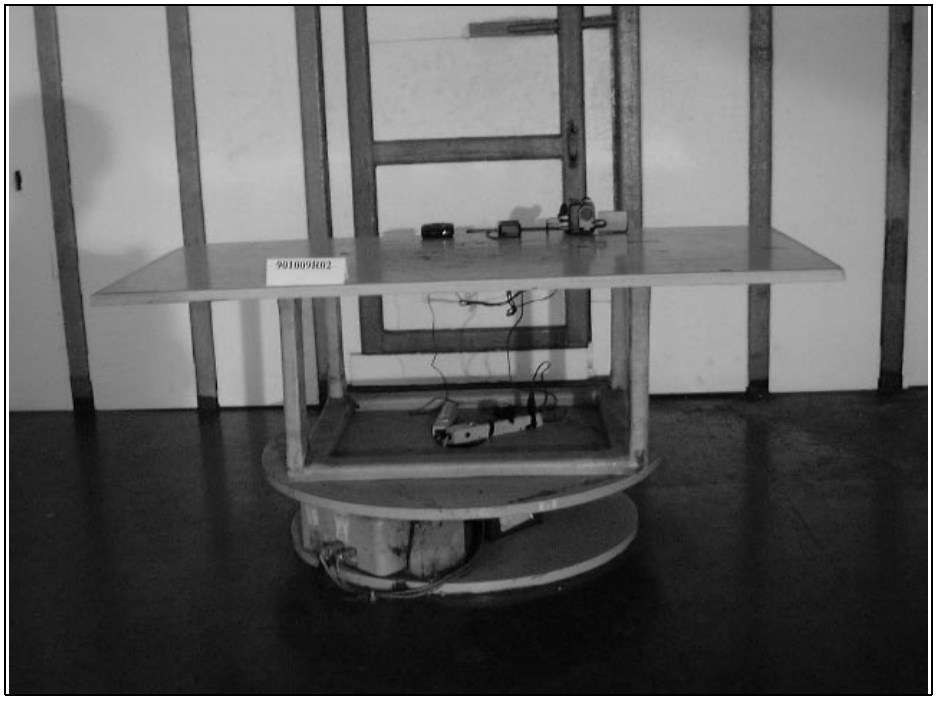

Date 21.Nov.'01 Time 10:10:13
Ref.Lvl
-17.00 dBm
Marker
-80.07 dBm
2.5167 GHz
F1
F2
F2-F1
2.48350000000 GHz
OFF
OFF
D1
D2
D1-D2
-44.08 dBm
-24.08 dBm
20.00 dB
Res.Bw
TG.Lvl
CF.Stp
100 kHz[imp]
10.000 MHz
Vid.Bw
RF.Att
Unit
100 kHz
0 dB
[dBm]
D1
D2
F2
Start
2.45 GHz
Span
100 MHz
Center
2.5 GHz
Sweep
300 ms
Stop
2.55 GHz
-20.0
-30.0
-40.0
-50.0
-60.0
-70.0
-80.0
-90.0
-100.0
-110.0

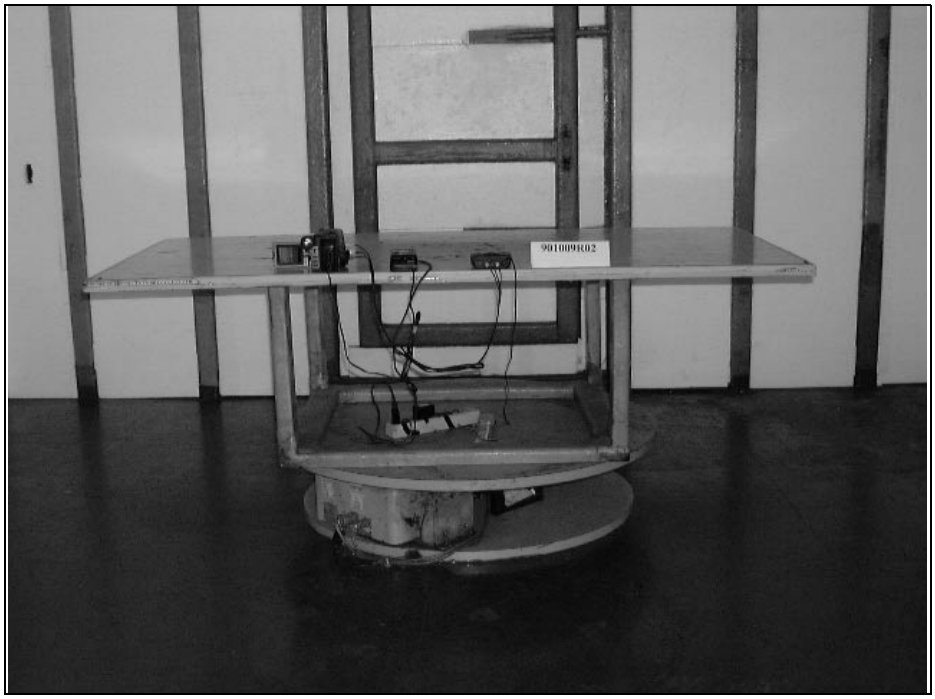

Date 21.Nov.'01 Time 10:03:07
Ref.Lvl
-17.00 dBm
Marker
-79.21 dBm
2.3620 GHz
F1
F2
F2-F1
OFF
2.400000000000 GHz
OFF
D1
D2
D1-D2
Res.Bw
TG.Lvl
CF.Stp
100 kHz [imp]
off
10.000 MHz
-45.02 dBm
-25.02 dBm
20.00 dB
Vid.Bw
RF.Att
Unit
100 kHz
0 dB
[dBm]
D1
D2
F2
-20.0
-30.0
-40.0
-50.0
-60.0
-70.0
-80.0
-90.0
-100.0
-110.0
Start
2.33 GHz
Span
100 MHz
Center
2.38 GHz
Sweep
300 ms
Stop
2.43 GHz

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