



FCC TEST REPORT

REPORT NO.: RF930909L03A

MODEL NO.: AV55000

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TESTED: Sep. 08 ~ Sep. 29, 2004

APPLICANT: Belkin Corporation

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ISSUED BY: Advance Data Technology Corporation

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0528
ILAC MRA



No. 2177-01

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1. CERTIFICATION

PRODUCT: WIRELESS VIDEO ADAPTER
BRAND NAME: Belkin
MODEL NO.: AV55000
TEST SAMPLE: Engineering Sample
TESTED: Sep. 08 ~ Sep. 29, 2004
APPLICANT: Belkin Corporation
STANDARDS: FCC Part 15, Subpart E (Section 15.407),
ANSI C63.4-2001

The above equipment have been tested by **Advance Data Technology Corporation**, and found compliance with the requirement of the above standards. The test record, data evaluation & Equipment Under Test (EUT) configurations represented herein are true and accurate accounts of the measurements of the sample's EMC characteristics under the conditions specified in this report.

PREPARED BY : Windy Chou , **DATE:** Oct. 06, 2004
(Windy Chou)

TECHNICAL
ACCEPTANCE : Gary Chang , **DATE:** Oct. 06, 2004
Responsible for
RF
(Gary Chang)

APPROVED BY : Cody Chang , **DATE:** Oct. 06, 2004
(Cody Chang,
Deputy Manager)

2. SUMMARY OF TEST RESULTS

The EUT has been tested according to the following specifications:

APPLIED STANDARD: FCC Part 15, Subpart E			
Standard Section	Test Type	Result	Remark
15.407(b)(5)	AC Power Conducted Emission	PASS	Meet the requirement of limit. Minimum passing margin is -11.59dB at 0.252MHz
15.407(b/1/2/3)(b)(5)	Electric Field Strength Spurious Emissions, 30MHz ~ 40000MHz	PASS	Meet the requirement of limit. Minimum passing margin is -1.50dB at 400.00MHz
15.407(a/1/2/3)	Peak Transmit Power	PASS	Meet the requirement of limit.
15.407(a)(6)	Peak Power Excursion	PASS	Meet the requirement of limit.
15.407(a/1/2/3)	Peak Power Spectral Density	PASS	Meet the requirement of limit.
15.407(g)	Frequency Stability	PASS	Meet the requirement of limit.

2.1 MEASUREMENT UNCERTAINTY

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

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

3. GENERAL INFORMATION

3.1 GENERAL DESCRIPTION OF EUT

EUT	WIRELESS VIDEO ADAPTER
MODEL NO.	AV55000
POWER SUPPLY	5.0Vdc from AC Adapter (for control board) 3.3Vdc from control board
MODULATION TYPE	DBPSK, DQPSK, CCK, 16QAM, 64QAM
MODULATION TECHNOLOGY	DSSS, OFDM
TRANSFER RATE	54/48/36/24/18/12/9/6Mbps
FREQUENCY RANGE	5.15 ~ 5.35GHz
NUMBER OF CHANNEL	8
CHANNEL SPACING	20MHz
OUTPUT POWER	31.842mW
DATA CABLE	NA
ANTENNA TYPE	PCB antenna with 5.0dBi gain
I/O PORTS	NA
ASSOCIATED DEVICES	NA

NOTE:

1. The EUT operates in the 5GHz Band and compatibility with 802.11a technology.
2. The control board was powered by following adapter.

BRAND :	OEM
MODEL :	AD-052A
INPUT :	120Vac, 60Hz, 17W
OUTPUT :	5Vdc, 2A, 1.8M

3. The above EUT information was declared by the manufacturer and for more detailed features description, please refer to the manufacturer's specifications or User's Manual.

3.2 DESCRIPTION OF TEST MODES

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

Channel	Frequency	Channel	Frequency
1	5180 MHz	5	5260 MHz
2	5200 MHz	6	5280 MHz
3	5220 MHz	7	5300 MHz
4	5240 MHz	8	5320 MHz

NOTE:

1. The EUT allows data rates of up to 54Mbps and was tested at 6Mbps data rate that produced the highest output power.
2. Channel 1, 4, 5 and 8 are the closest frequencies to the band edge, were chosen for final test.

3.3 GENERAL DESCRIPTION OF APPLIED STANDARDS

The EUT is a WIRELESS VIDEO ADAPTER. According to the specifications of the manufacturer, it must comply with the requirements of the following standards:

FCC Part 15, Subpart E (15.407).

ANSI C63.4 : 2001

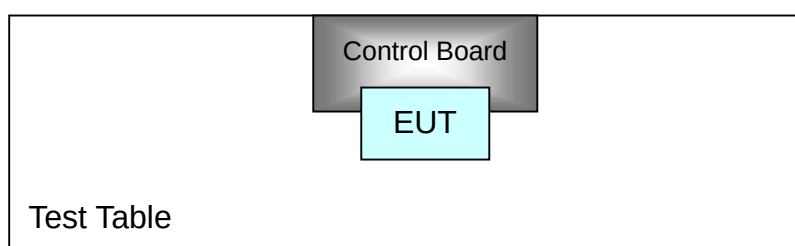
All test items have been performed and recorded as per the above standards.

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

NA

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 (dB μ V)	
	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
Test Receiver ROHDE & SCHWARZ	ESCS30	100288	Dec. 11, 2004
RF signal cable Woken	5D-FB	Cable-HyC02-01	Mar. 07, 2005
LISN ROHDE & SCHWARZ	ESH2-Z5	100100	Mar. 10, 2005
LISN ROHDE & SCHWARZ	ESH3-Z5	100311	Mar. 04, 2005
Software ADT	ADT_Cond_V3	NA	NA

- NOTE:**
1. The calibration interval of the above test instruments is 12 months and the calibrations are traceable to NML/ROC and NIST/USA.
 2. The test was performed in HwaYa Shielded Room 2.
 3. The VCCI Site Registration No. is C-2047.



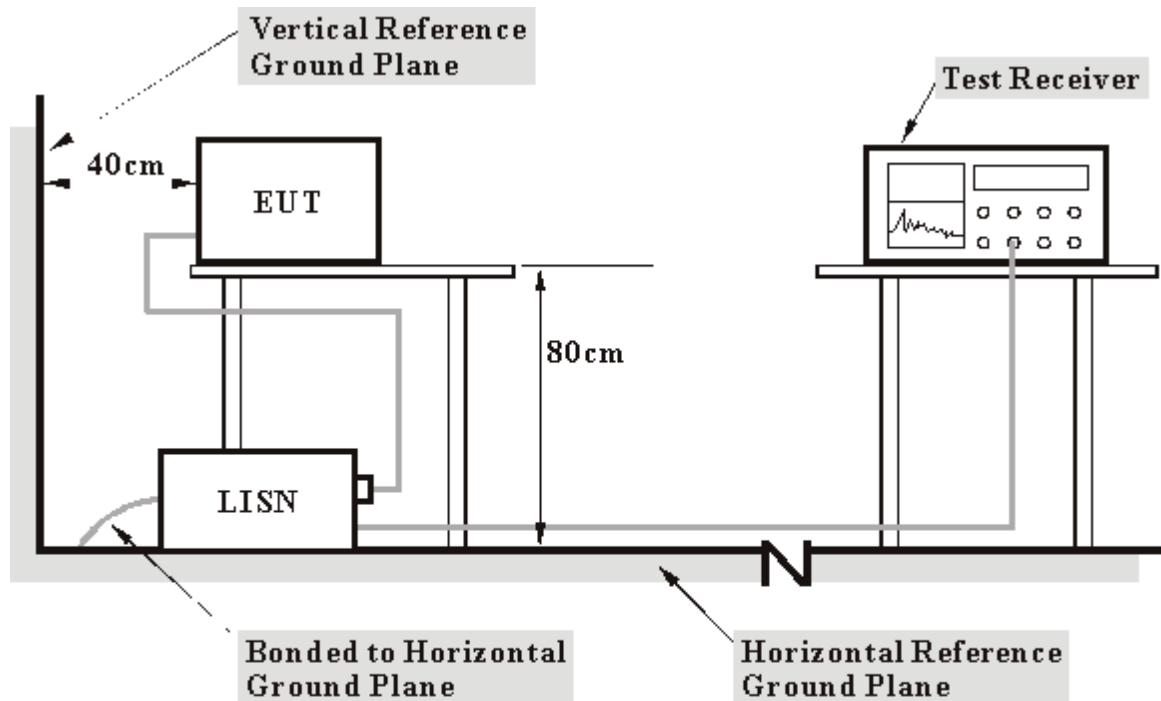
4.1.3 TEST PROCEDURES

- a. The EUT was placed 0.4 meters from the conducting wall of the shielded room with EUT being connected to the power mains through a line impedance stabilization network (LISN). Other support units were connected to the power mains through another LISN. The two LISNs provide 50 ohm/ 50uH of coupling impedance for the measuring instrument.
- b. Both lines of the power mains connected to the EUT were checked for maximum conducted interference.
- c. The frequency range from 150kHz to 30MHz was searched. Emission levels under (Limit - 20dB) was not recorded.

4.1.4 DEVIATION FROM TEST STANDARD

No deviation

4.1.5 TEST SETUP



- Note:**
1. Support units were connected to second LISN.
 2. Both of LISNs (AMN) 80 cm from EUT and at the least 80 cm from other units and other metal planes support units.

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

4.1.6 EUT OPERATING CONDITIONS

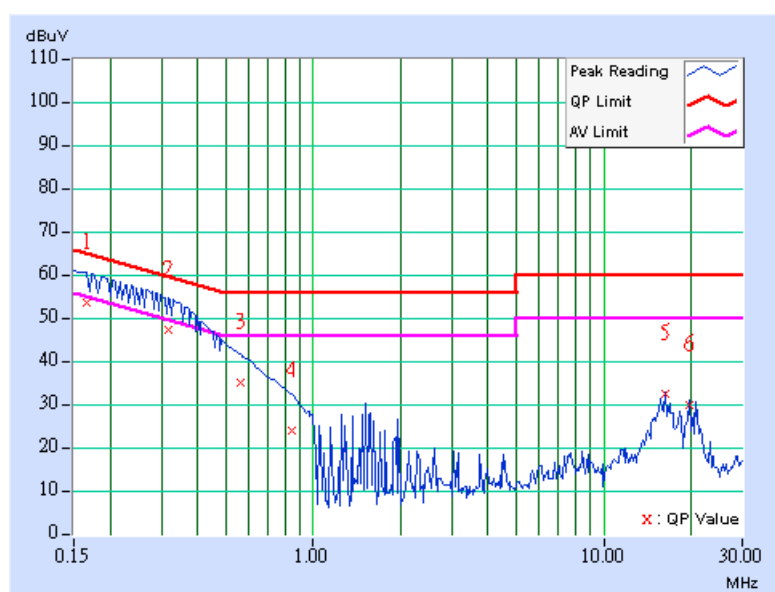
Set the transmission part of the EUT under transmission condition continuously at specific channel frequency.

4.1.7 TEST RESULTS

EUT	WIRELESS VIDEO ADAPTER	MODEL	AV55000
		6dB BANDWIDTH	9 kHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	PHASE	Line (L)
ENVIRONMENTAL CONDITIONS	24deg. C, 58%RH, 991hPa	TESTED BY: Kevin Chen	

No	Freq. [MHz]	Corr. Factor (dB)	Reading Value		Emission Level		Limit		Margin	
			[dB (uV)]		[dB (uV)]		[dB (uV)]		(dB)	
			Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.166	0.10	52.63	-	52.73	-	65.18	55.18	-12.44	-
2	0.318	0.11	46.68	-	46.79	-	59.76	49.76	-12.97	-
3	0.560	0.15	34.14	-	34.29	-	56.00	46.00	-21.71	-
4	0.841	0.21	23.17	-	23.38	-	56.00	46.00	-32.62	-
5	16.227	0.75	31.73	-	32.48	-	60.00	50.00	-27.52	-
6	19.711	0.91	29.05	-	29.96	-	60.00	50.00	-30.04	-

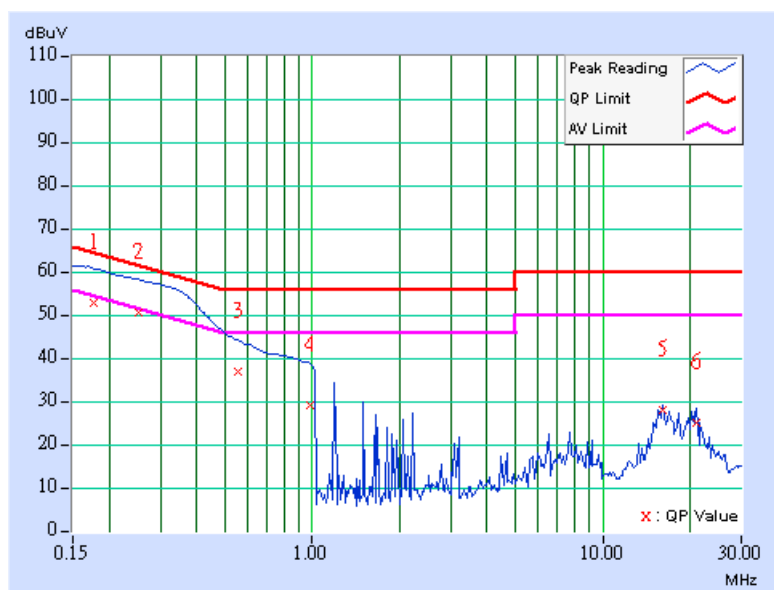
- REMARKS:**
1. Q.P. and AV. are abbreviations of quasi-peak and average individually.
 2. "-": The Quasi-peak reading value also meets average limit and measurement with the average detector is unnecessary.
 3. The emission levels of other frequencies were very low against the limit.
 4. Margin value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



EUT	WIRELESS VIDEO ADAPTER	MODEL	AV55000
		6dB BANDWIDTH	9 kHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	PHASE	Neutral (N)
ENVIRONMENTAL CONDITIONS	24deg. C, 58%RH, 991hPa	TESTED BY: Kevin Chen	

No	Freq. [MHz]	Corr. Factor (dB)	Reading Value		Emission Level		Limit		Margin	
			[dB (uV)]		[dB (uV)]		[dB (uV)]		(dB)	
			Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.177	0.10	52.48	-	52.58	-	64.61	54.61	-12.03	-
2	0.252	0.10	50.01	-	50.11	-	61.71	51.71	-11.59	-
3	0.552	0.15	36.23	-	36.38	-	56.00	46.00	-19.62	-
4	0.982	0.24	28.58	-	28.82	-	56.00	46.00	-27.18	-
5	16.166	0.58	27.37	-	27.95	-	60.00	50.00	-32.05	-
6	21.051	0.66	24.36	-	25.02	-	60.00	50.00	-34.98	-

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



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 LIMITS OF UNWANTED EMISSION OUT OF THE RESTRICTED BANDS

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

NOTE:

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

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

4.2.3 TEST INSTRUMENTS

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

- NOTE:** 1. The calibration interval of the above test instruments is 12 months and the calibrations are traceable to NML/ROC and NIST/USA.
2. The test was performed in HwaYa Chamber 2.
3. The horn antenna and HP preamplifier (model: 8449B) are used only for the measurement of emission frequency above 1GHz if tested.
4. The IC Site Registration No. is IC4924-3.

4.2.4 TEST PROCEDURES

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

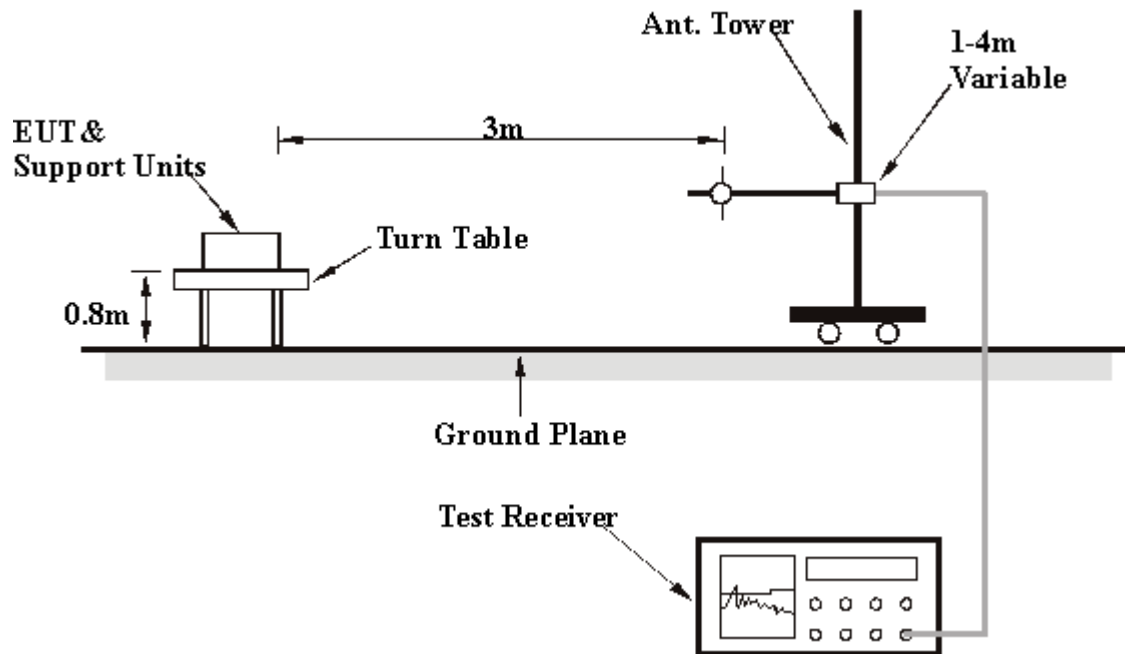
NOTE:

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

4.2.5 DEVIATION FROM TEST STANDARD

No deviation

4.2.6 TEST SETUP



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

4.2.7 EUT OPERATING CONDITIONS

Same as 4.1.6

4.2.8 TEST RESULTS

EUT	WIRELESS VIDEO ADAPTER	MODEL	AV55000
CHANNEL	Channel 1	FREQUENCY RANGE	Below 1000MHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Quasi-Peak
ENVIRONMENTAL CONDITIONS	28deg. C, 65%RH, 991hPa	TESTED BY: Long Chen	

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

No.	Freq. (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	39.72	32.49 QP	40.00	-7.51	2.50 H	85	16.69	15.80
2	113.59	34.71 QP	43.50	-8.79	1.50 H	91	22.41	12.30
3	239.94	36.75 QP	46.00	-9.25	1.00 H	238	23.50	13.25
4	274.93	39.44 QP	46.00	-6.56	1.00 H	232	25.18	14.26
5	319.64	42.76 QP	46.00	-3.24	1.00 H	208	27.54	15.22
6	399.34	42.06 QP	46.00	-3.94	2.00 H	214	25.12	16.95
7	640.38	42.57 QP	46.00	-3.43	1.00 H	112	20.76	21.81
8	799.78	43.81 QP	46.00	-2.19	1.50 H	145	20.04	23.77

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	39.72	38.29 QP	40.00	-1.71	1.00 V	76	22.49	15.80
2	239.94	36.03 QP	46.00	-9.97	1.00 V	262	22.78	13.25
3	319.64	43.48 QP	46.00	-2.52	1.50 V	82	28.26	15.22
4	360.46	40.67 QP	46.00	-5.33	1.50 V	274	24.58	16.09
5	400.00	44.50 QP	46.00	-1.50	1.50 V	235	27.54	16.96
6	479.04	44.08 QP	46.00	-1.92	1.00 V	244	25.62	18.46
7	560.68	33.84 QP	46.00	-12.16	1.00 V	295	13.73	20.12
8	640.38	43.99 QP	46.00	-2.01	1.50 V	223	22.18	21.81
9	799.78	43.68 QP	46.00	-2.32	1.00 V	238	19.91	23.77

- 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 VIDEO ADAPTER	MODEL	AV55000
FREQUENCY RANGE	1 ~ 40 GHz	CHANNEL	1
INPUT POWER (SYSTEM)	120Vac, 60Hz	DETECTOR FUNCTION	Peak(PK) Average (AV)
ENVIRONMENTAL CONDITIONS	24deg. C, 65%RH, 991hPa	TESTED BY	Long Chen

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

No.	Freq. (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB)
1	#1520.00	46.37 PK	74.00	-27.63	1.15 H	328	17.30	29.07
2	2960.00	46.18 PK	68.30	-22.12	1.00 H	98	12.87	33.31
3	#4240.00	55.31 PK	74.00	-18.69	1.22 H	94	18.90	36.41
3	#4240.00	50.18 AV	54.00	-3.82	1.22 H	94	13.77	36.41
4	#5150.00	55.62 PK	74.00	-18.38	1.00 H	268	17.18	38.44
4	#5150.00	45.25 AV	54.00	-8.75	1.00 H	268	6.81	38.44
5	*5180.00	104.78 PK			1.00 H	268	66.21	38.57
5	*5180.00	94.41 AV			1.00 H	268	55.84	38.57
6	#8480.00	64.78 PK	74.00	-9.22	1.12 H	248	18.69	46.09
6	#8480.00	52.19 AV	54.00	-1.81	1.12 H	248	6.10	46.09
7	10360.00	65.26 PK	68.30	-3.04	1.65 H	248	15.59	49.68

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

EUT	WIRELESS VIDEO ADAPTER	MODEL	AV55000
FREQUENCY RANGE	1 ~ 40 GHz	CHANNEL	1
INPUT POWER (SYSTEM)	120Vac, 60Hz	DETECTOR FUNCTION	Peak(PK) Average (AV)
ENVIRONMENTAL CONDITIONS	24deg. C, 65%RH, 991hPa	TESTED BY	Long Chen

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
No.	Freq. (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB)
1	#1520.00	48.71 PK	74.00	-25.29	1.41 V	248	19.64	29.07
2	2960.00	44.29 PK	68.30	-24.01	1.72 V	263	10.98	33.31
3	#4240.00	52.33 PK	74.00	-21.67	1.28 V	227	15.92	36.41
3	#4240.00	48.36 AV	54.00	-5.64	1.28 V	227	11.95	36.41
4	#5150.00	61.38 PK	74.00	-12.62	1.04 V	96	22.94	38.44
4	#5150.00	51.02 AV	54.00	-2.98	1.04 V	96	12.58	38.44
5	*5180.00	110.54 PK			1.04 V	96	71.97	38.57
5	*5180.00	100.18 AV			1.04 V	96	61.61	38.57
6	#8480.00	61.38 PK	74.00	-12.62	1.42 V	228	15.29	46.09
6	#8480.00	51.02 AV	54.00	-2.98	1.42 V	228	4.93	46.09
7	10360.00	61.73 PK	68.30	-6.57	1.15 V	246	12.05	49.68

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

EUT	WIRELESS VIDEO ADAPTER	MODEL	AV55000
FREQUENCY RANGE	1 ~ 40 GHz	CHANNEL	4
INPUT POWER (SYSTEM)	120Vac, 60Hz	DETECTOR FUNCTION	Peak(PK) Average (AV)
ENVIRONMENTAL CONDITIONS	24deg. C, 65%RH, 991hPa	TESTED BY	Long Chen

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

No.	Freq. (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB)
1	#1520.00	46.82 PK	74.00	-27.18	1.16 H	328	17.75	29.07
2	2960.00	46.71 PK	68.30	-21.59	1.22 H	47	13.40	33.31
3	#4300.00	54.92 PK	74.00	-19.08	1.00 H	88	18.46	36.46
3	#4300.00	50.11 AV	54.00	-3.89	1.00 H	88	13.65	36.46
4	*5240.00	104.00 PK			1.00 H	270	65.38	38.62
4	*5240.00	91.94 AV			1.00 H	270	53.32	38.62
5	8600.00	64.18 PK	68.30	-4.12	1.12 H	248	17.77	46.41
6	10480.00	65.11 PK	68.30	-3.19	1.42 H	183	16.01	49.10

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

No.	Freq. (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB)
1	#1520.00	48.92 PK	74.00	-25.08	1.14 V	239	19.85	29.07
2	2995.00	44.20 PK	68.30	-24.10	1.43 V	117	10.85	33.35
3	#4300.00	50.12 PK	74.00	-23.88	1.12 V	282	13.66	36.46
3	#4300.00	46.28 AV	54.00	-7.72	1.12 V	282	9.82	36.46
4	*5240.00	109.51 PK			1.02 V	97	70.89	38.62
4	*5240.00	99.02 AV			1.02 V	97	60.40	38.62
5	8600.00	61.17 PK	68.30	-7.13	1.41 V	236	14.76	46.41
6	10480.00	61.92 PK	68.30	-6.38	1.12 V	241	12.82	49.10

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

EUT	WIRELESS VIDEO ADAPTER	MODEL	AV55000
FREQUENCY RANGE	1 ~ 40 GHz	CHANNEL	5
INPUT POWER (SYSTEM)	120Vac, 60Hz	DETECTOR FUNCTION	Peak(PK) Average (AV)
ENVIRONMENTAL CONDITIONS	24deg. C, 65%RH, 991hPa	TESTED BY	Long Chen

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

No.	Freq. (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB)
1	#1520.00	46.58 PK	74.00	-27.42	1.24 H	338	17.51	29.07
2	2960.00	44.39 PK	68.30	-23.91	1.00 H	98	11.08	33.31
3	#4320.00	55.89 PK	74.00	-18.11	1.02 H	88	19.21	36.68
3	#4320.00	50.28 AV	54.00	-3.72	1.02 H	88	13.60	36.68
4	*5260.00	104.35 PK			1.06 H	266	65.74	38.61
4	*5260.00	94.28 AV			1.06 H	266	55.67	38.61
5	8640.00	64.02 PK	68.30	-4.28	1.39 H	147	17.53	46.49
6	10520.00	64.95 PK	68.30	-3.35	1.16 H	175	15.99	48.97

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

No.	Freq. (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB)
1	#1520.00	47.58 PK	74.00	-26.42	1.00 V	248	18.51	29.07
2	2960.00	43.95 PK	68.30	-24.35	1.22 V	287	10.64	33.31
3	#4320.00	51.41 PK	74.00	-22.59	1.42 V	288	14.73	36.68
3	#4320.00	46.85 AV	54.00	-7.15	1.42 V	288	10.17	36.68
4	*5260.00	109.78 PK			1.11 V	245	71.17	38.61
4	*5260.00	98.91 AV			1.11 V	245	60.30	38.61
5	8640.00	61.22 PK	68.30	-7.08	1.42 V	228	14.73	46.49
6	10520.00	62.73 PK	68.30	-5.57	1.33 V	238	13.77	48.97

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

EUT	WIRELESS VIDEO ADAPTER	MODEL	AV55000
FREQUENCY RANGE	1 ~ 40 GHz	CHANNEL	8
INPUT POWER (SYSTEM)	120Vac, 60Hz	DETECTOR FUNCTION	Peak(PK) Average (AV)
ENVIRONMENTAL CONDITIONS	24deg. C, 65%RH, 991hPa	TESTED BY	Long Chen

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

No.	Freq. (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Antenna Factor (dB)
1	#1520.00	46.18 PK	74.00	-27.82	1.14 H	305	17.11	29.07
2	2960.00	45.29 PK	68.30	-23.01	1.00 H	93	11.98	33.31
3	#4380.00	54.78 PK	74.00	-19.22	1.00 H	93	17.46	37.32
3	#4380.00	49.24 AV	54.00	-4.76	1.00 H	93	11.92	37.32
4	*5320.00	102.51 PK			1.13 H	87	63.95	38.56
4	*5320.00	92.64 AV			1.13 H	87	54.08	38.56
5	#5350.00	55.64 PK	74.00	-18.36	1.13 H	87	17.11	38.53
5	#5350.00	45.77 AV	54.00	-8.23	1.13 H	87	7.24	38.53
6	8760.00	63.97 PK	68.30	-4.33	1.05 H	233	17.16	46.82
7	#10640.00	65.47 PK	74.00	-8.53	1.72 H	239	16.14	49.33
7	#10640.00	51.97 AV	54.00	-2.03	1.72 H	239	2.64	49.33

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

No.	Freq. (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Antenna Factor (dB)
1	#1520.00	48.31 PK	74.00	-25.69	1.00 V	58	19.24	29.07
2	#2295.00	44.48 PK	74.00	-29.52	1.42 V	298	13.12	31.36
3	#4380.00	51.41 PK	74.00	-22.59	1.10 V	257	14.09	37.32
3	#4380.00	47.61 AV	54.00	-6.39	1.10 V	257	10.29	37.32
4	*5320.00	108.41 PK			1.03 V	90	69.85	38.56
4	*5320.00	98.12 AV			1.03 V	90	59.56	38.56
5	#5350.00	61.54 PK	74.00	-12.46	1.03 V	90	23.01	38.53
5	#5350.00	51.25 AV	54.00	-2.75	1.03 V	90	12.72	38.53
6	8760.00	60.57 PK	68.30	-7.73	1.42 V	224	13.76	46.82
7	#10640.00	62.83 PK	74.00	-11.17	1.22 V	142	13.50	49.33
7	#10640.00	51.18 AV	54.00	-2.82	1.22 V	142	1.85	49.33

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

4.3 PEAK TRANSMIT POWER MEASUREMENT

4.3.1 LIMITS OF PEAK TRANSMIT POWER MEASUREMENT

Frequency Band	Limit
5.15 – 5.25GHz	The lesser of 50mW (17dBm) or 4dBm + 10logB
5.25 – 5.35GHz	The lesser of 250mW (24dBm) or 11dBm + 10logB

NOTE: Where B is the 26dB emission bandwidth in MHz.

4.3.2 TEST INSTRUMENTS

Description & Manufacturer	Model No.	Serial No.	Calibrated Until
R&S SPECTRUM ANALYZER	FSEK30	100049	Aug. 12, 2005

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

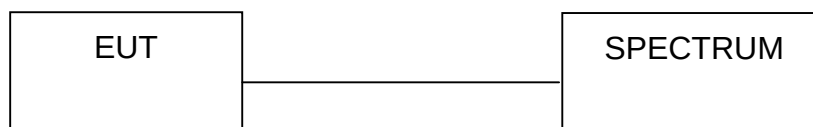
4.3.3 TEST PROCEDURE

1. The transmitter output was connected to the spectrum analyzer.
2. Set span to encompass the entire emission bandwidth of the signal.
3. Set RBW to 1MHz, VBW to 300kHz.
4. Using the spectrum analyzer's channel power measurement function to measure the output power.

4.3.4 DEVIATION FROM TEST STANDARD

No deviation

4.3.5 TEST SETUP



4.3.6 EUT OPERATING CONDITIONS

The software provided by client to enable the EUT under transmission condition continuously at specific channel frequencies individually.



4.3.7 TEST RESULTS

EUT	WIRELESS VIDEO ADAPTER	MODEL	AV55000
INPUT POWER (SYSTEM)	120Vac, 60 Hz	ENVIRONMENTAL CONDITIONS	24deg. C, 64%RH, 991hPa
TESTED BY	Leo Hung		

CHANNEL	CHANNEL FREQUENCY (MHz)	PEAK POWER OUTPUT (mW)	PEAK POWER OUTPUT (dBm)	PEAK POWER LIMIT (dBm)	26dBc Occupied Bandwidth (MHz)	PASS/FAIL
1	5180	31.842	15.03	17.00	25.11	PASS
4	5240	28.642	14.57	17.00	24.26	PASS
5	5260	28.249	14.51	24.00	24.54	PASS
8	5320	17.906	12.53	24.00	23.84	PASS

NOTE: The 26dBc Occupied Bandwidth plot, please refer to the following pages.

Ref Lvl 10.5 dBm

Marker 1 [T1]

RBW 4.38 dBm

VBW 300 KHz

SWT 5 ms

RF Att 20 dB

Unit dBm

Span 40 MHz

Center 5.18 GHz

1VIEW

1

▼1 [T1]

CH FWR 5.17779559 GHz

CH BW 26.00000000 MHz

4.38 dBm

15.03 dBm

26.00000000 MHz

10.5

0

-10

-20

-30

-40

-50

-60

-70

-80

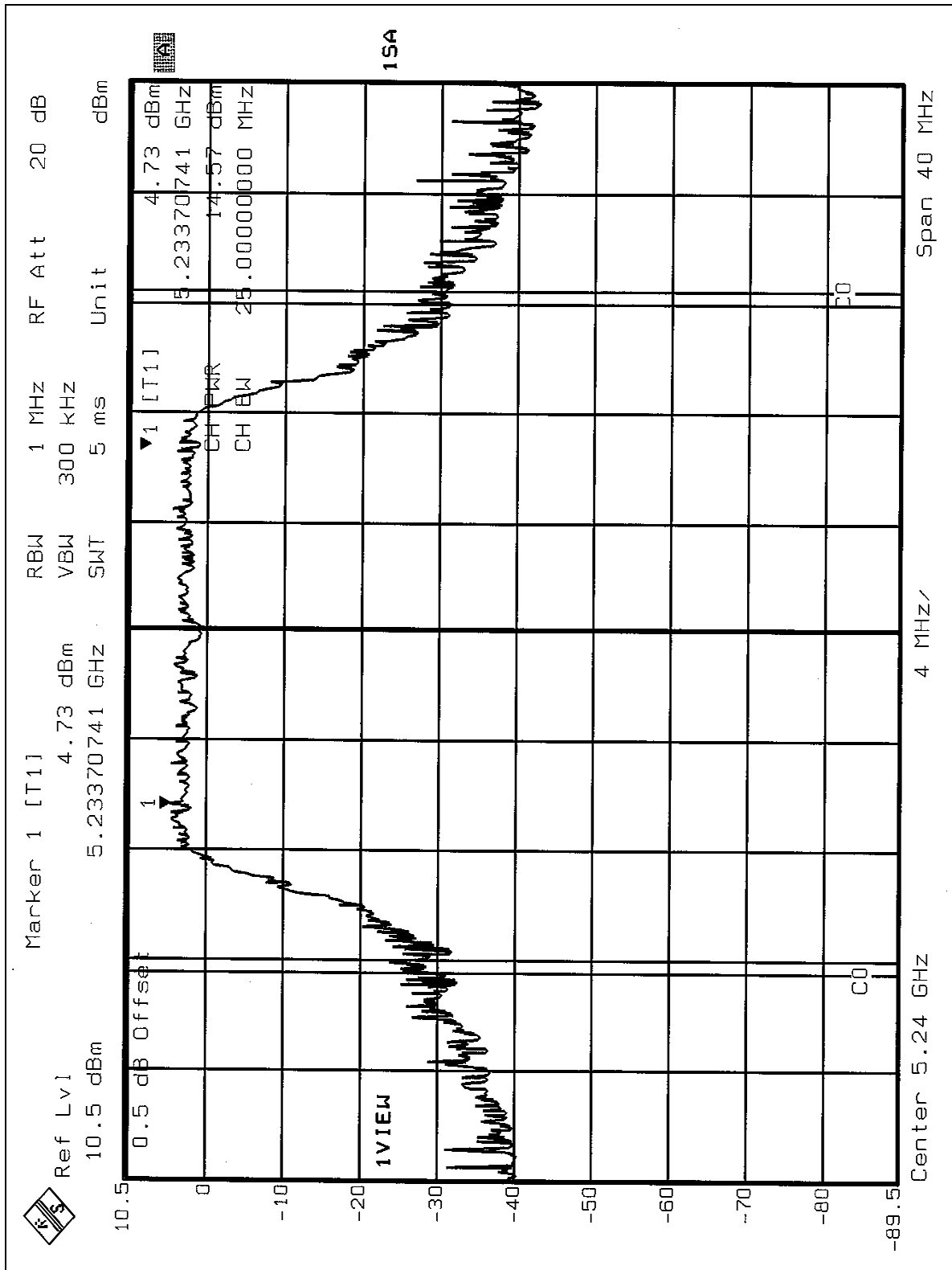
-89.5

0.5 dB Offset

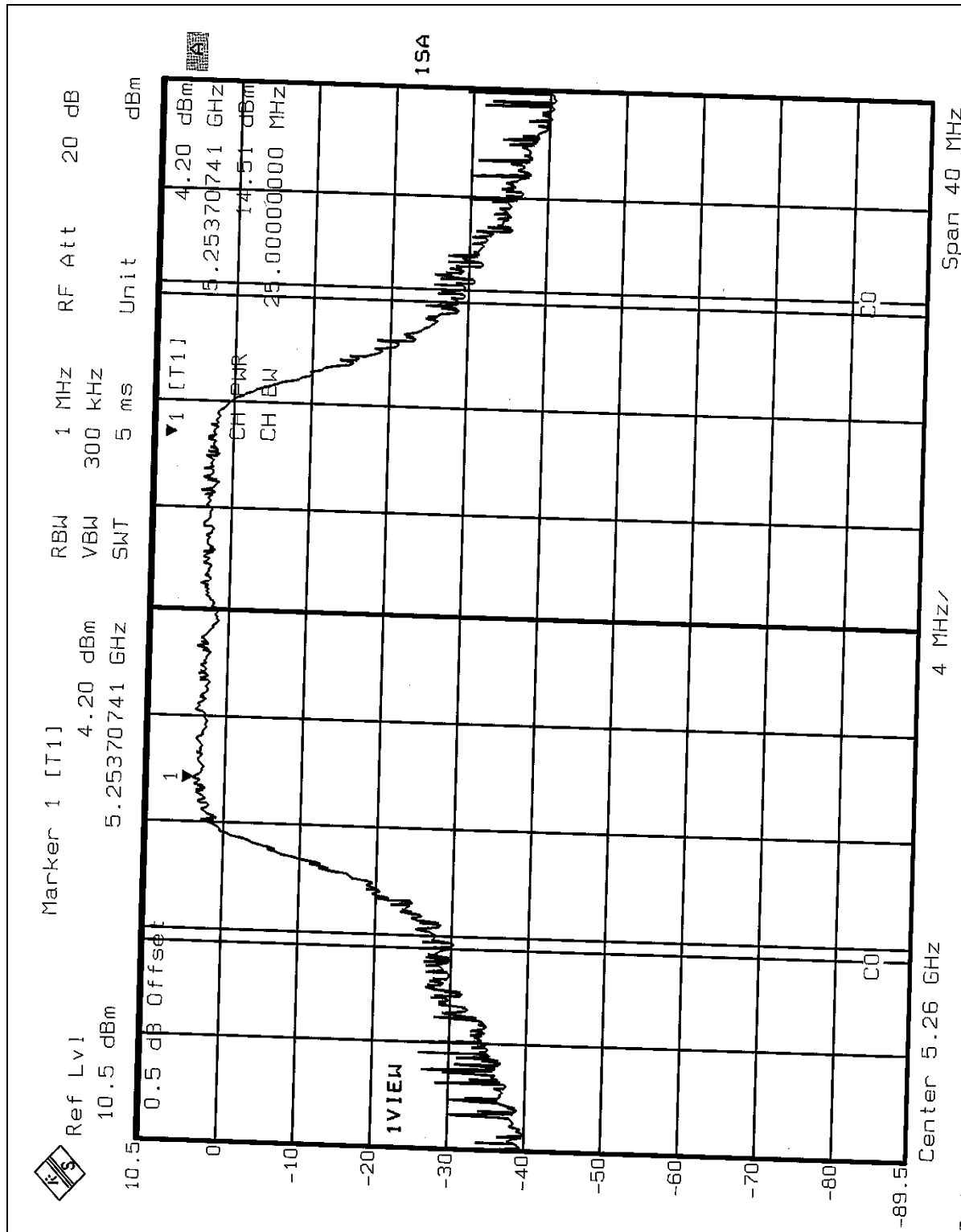
10.5

1SA

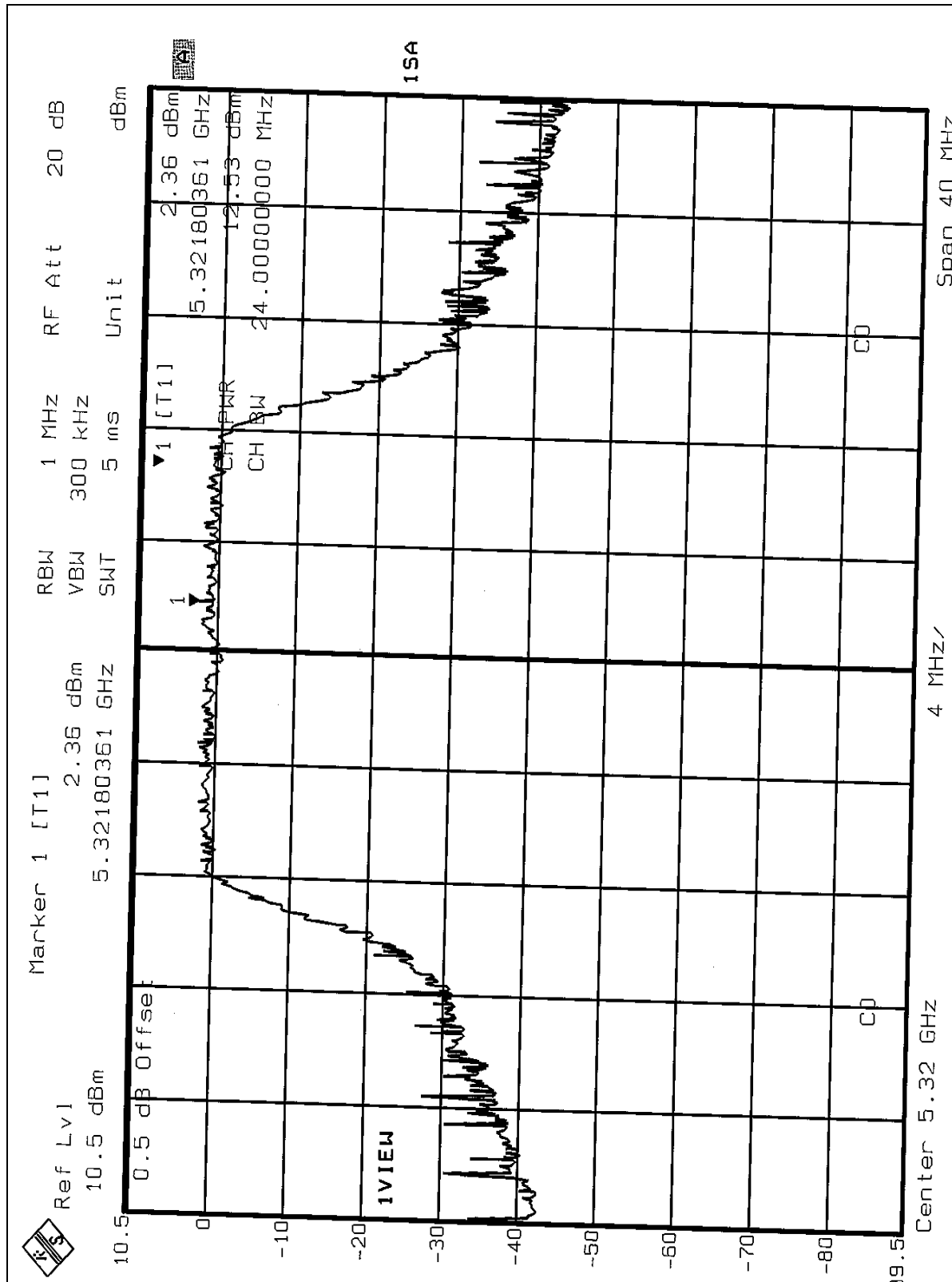
CH4



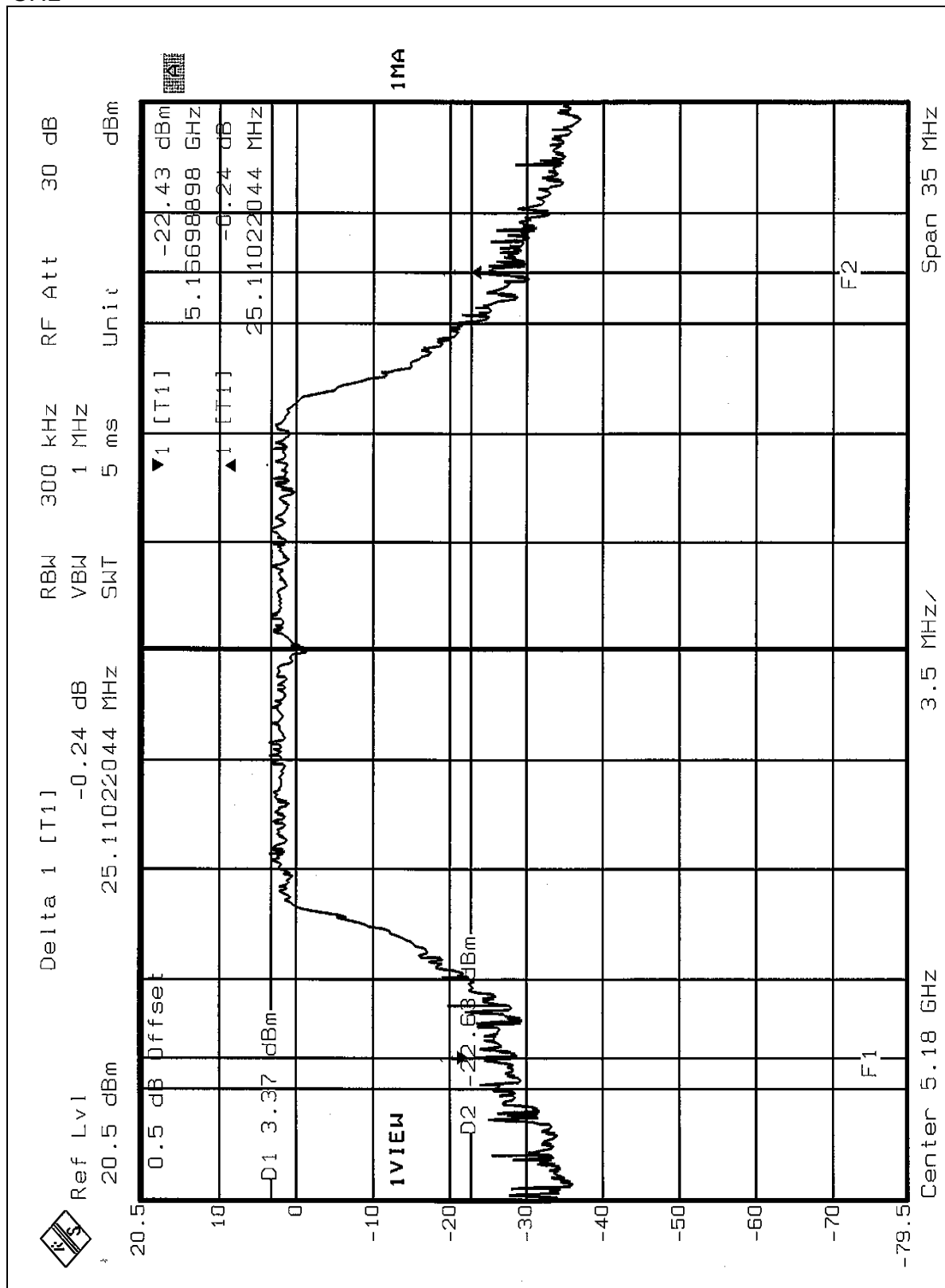
CH5



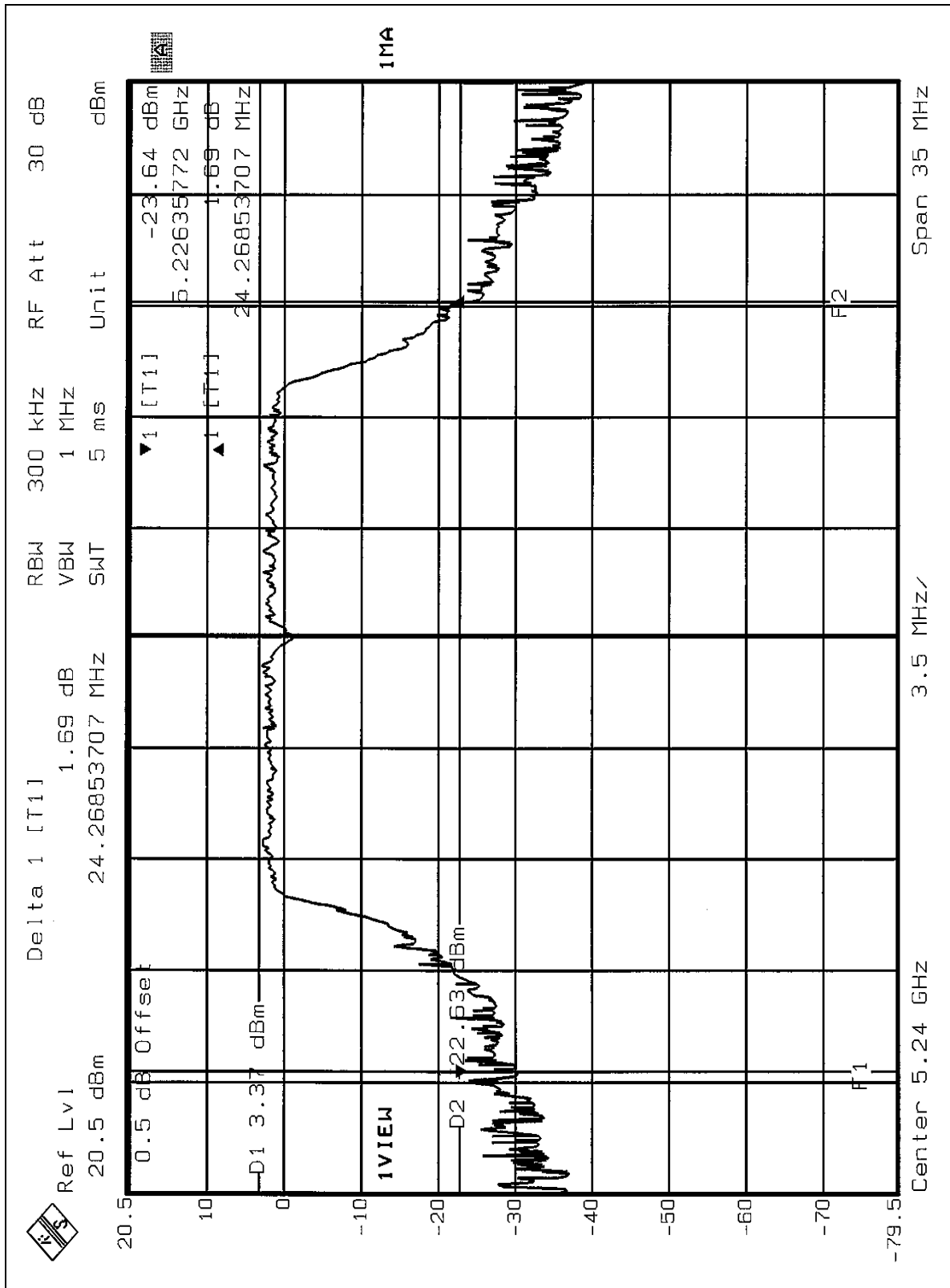
CH8



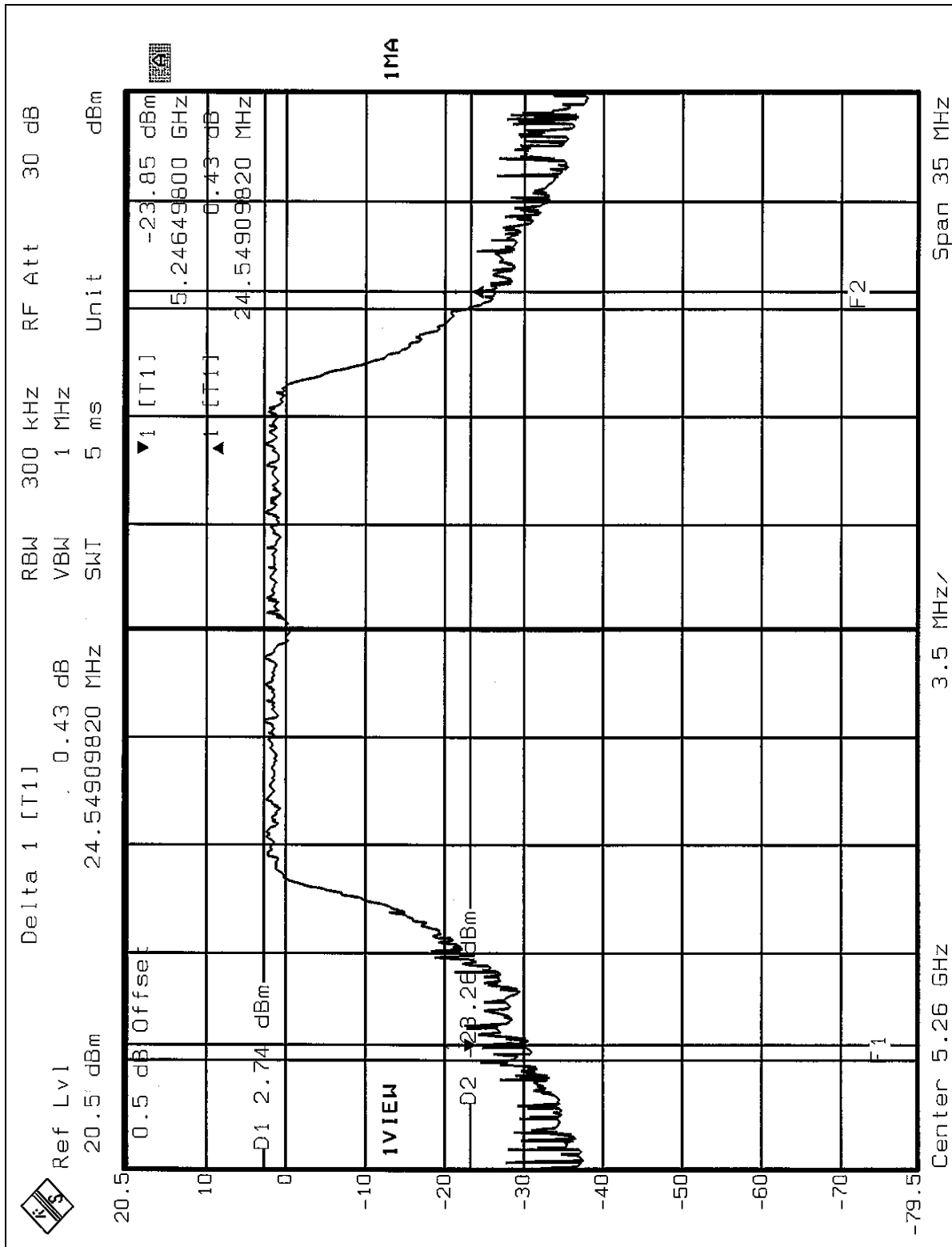
26dB Occupied Bandwidth:
CH1



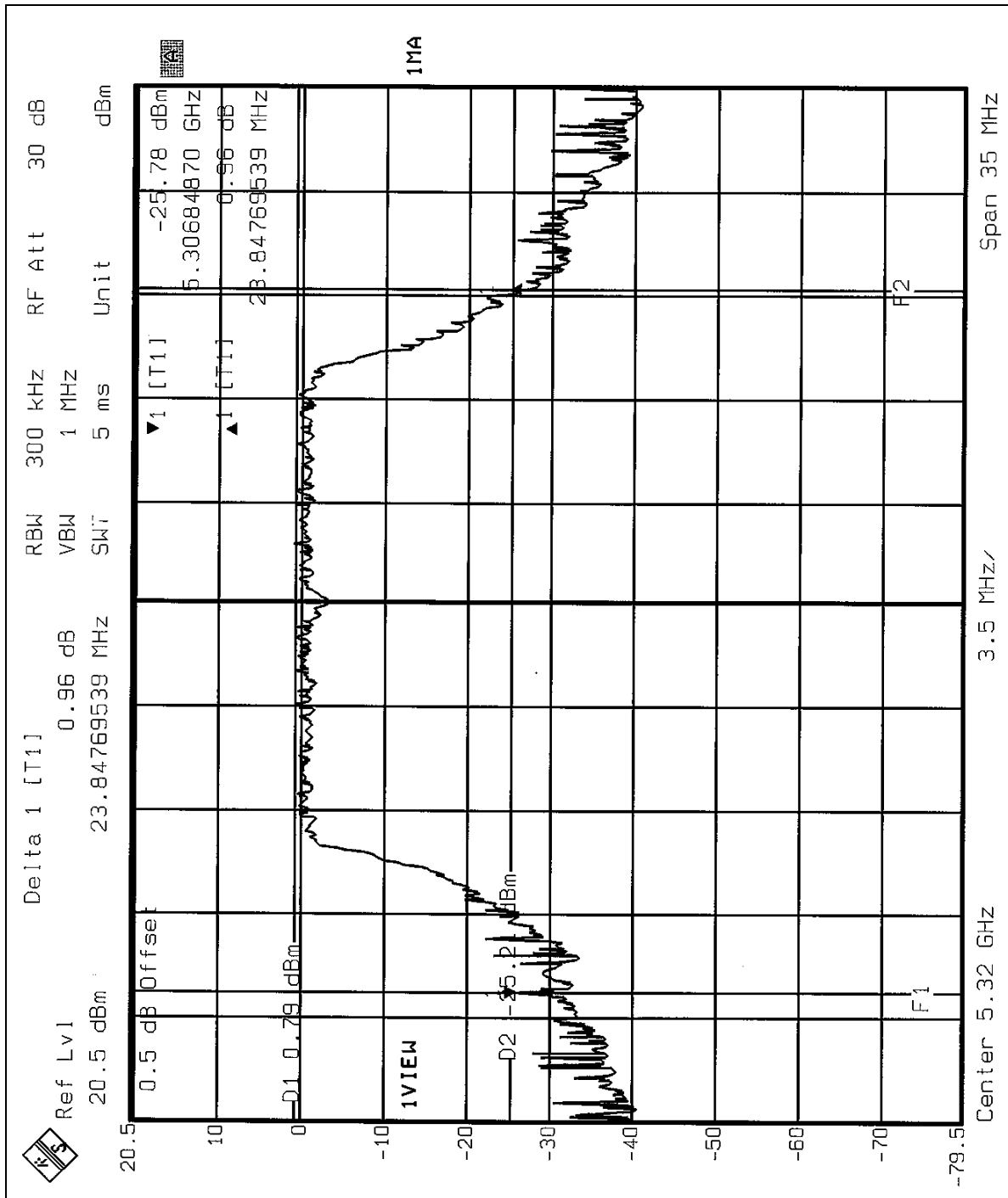
CH4



CH5



CH8



4.4 PEAK POWER EXCURSION MEASUREMENT

4.4.1 LIMITS OF PEAK POWER EXCURSION MEASUREMENT

Frequency Band	Limit
5.15 – 5.25 GHz	13dB
5.25 – 5.35 GHz	13dB

4.4.2 TEST INSTRUMENTS

Description & Manufacturer	Model No.	Serial No.	Calibrated Until
SPECTRUM ANALYZER	FSEK30	100049	Aug. 12, 2005

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

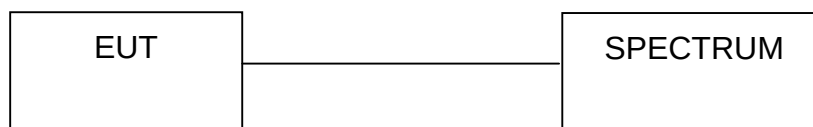
4.4.3 TEST PROCEDURE

1. The transmitter output was connected to the spectrum analyzer.
2. Set the spectrum bandwidth span to view the entire spectrum.
3. Using peak detector and Max-hold function for Trace 1 (RB=1MHz, VB=3MHz) and 2 (RB=1MHz, VB=300KHz).
4. The largest difference between Trace 1 and Trace 2 in any 1MHz band on any frequency was recorded.

4.4.4 DEVIATION FROM TEST STANDARD

No deviation

4.4.5 TEST SETUP



4.4.6 EUT OPERATING CONDITIONS

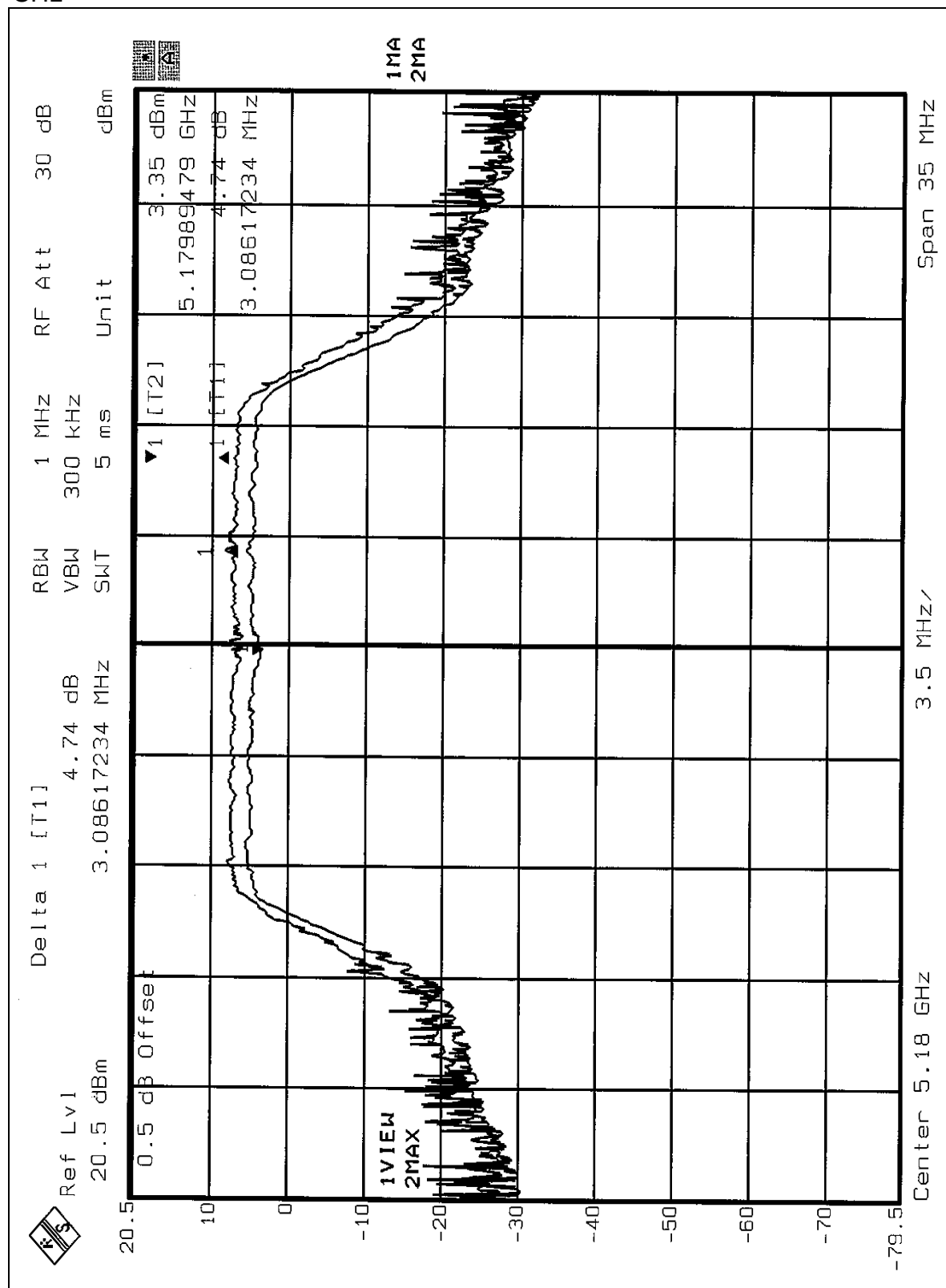
The software provided by client to enable the EUT under transmission condition continuously at specific channel frequencies individually.

4.4.7 TEST RESULTS

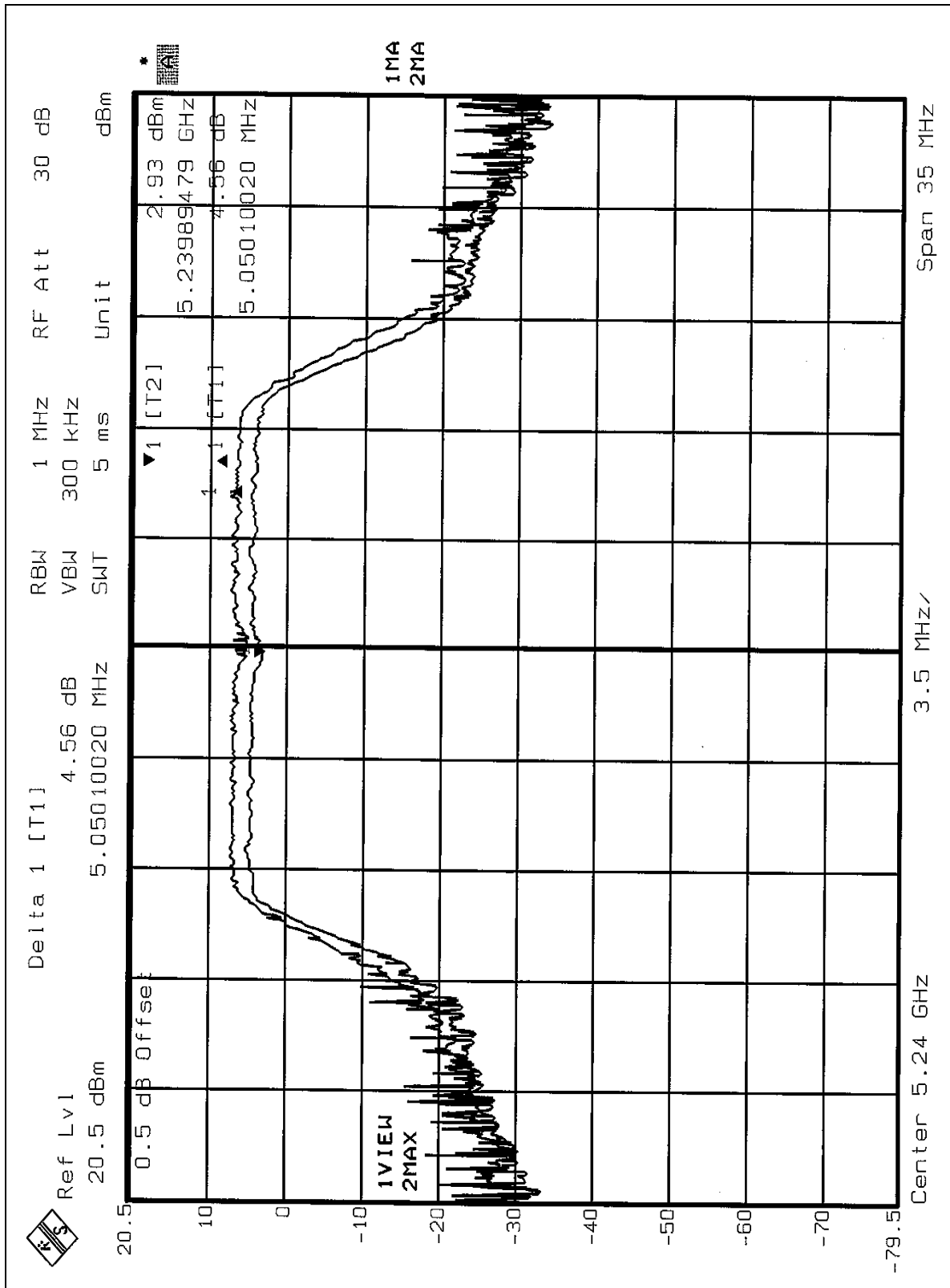
EUT	WIRELESS VIDEO ADAPTER	MODEL	AV55000
INPUT POWER (SYSTEM)	120Vac, 60 Hz	ENVIRONMENTAL CONDITIONS	24deg. C, 64%RH, 991hPa
TESTED BY	Leo Hung		

CHANNEL	CHANNEL FREQUENCY (MHz)	PEAK POWER EXCURSION (dB)	PEAK to AVERAGE EXCURSION LIMIT (dB)	PASS/FAIL
1	5180	4.74	13	PASS
4	5240	4.56	13	PASS
5	5260	4.52	13	PASS
8	5320	4.92	13	PASS

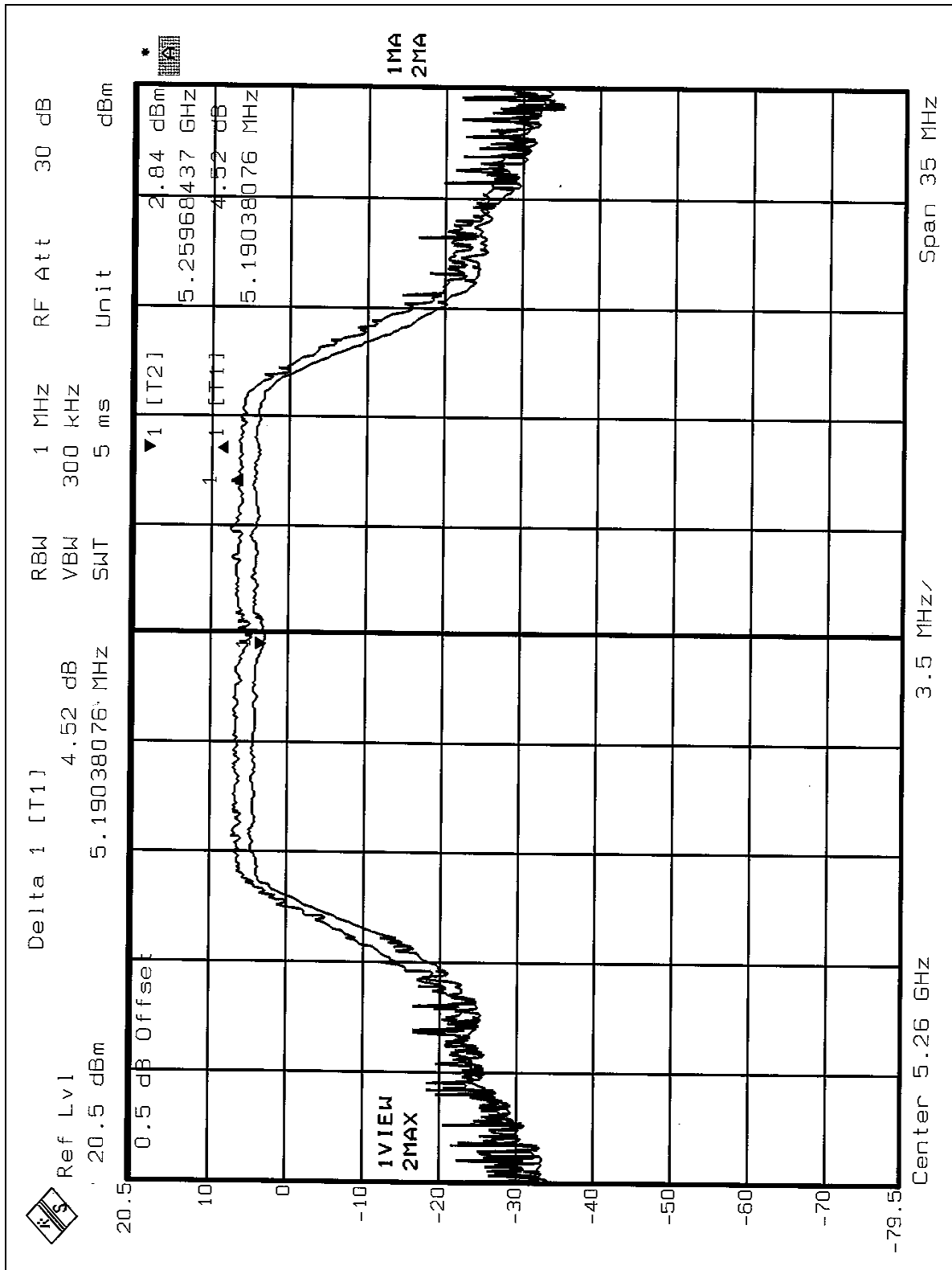
CH1



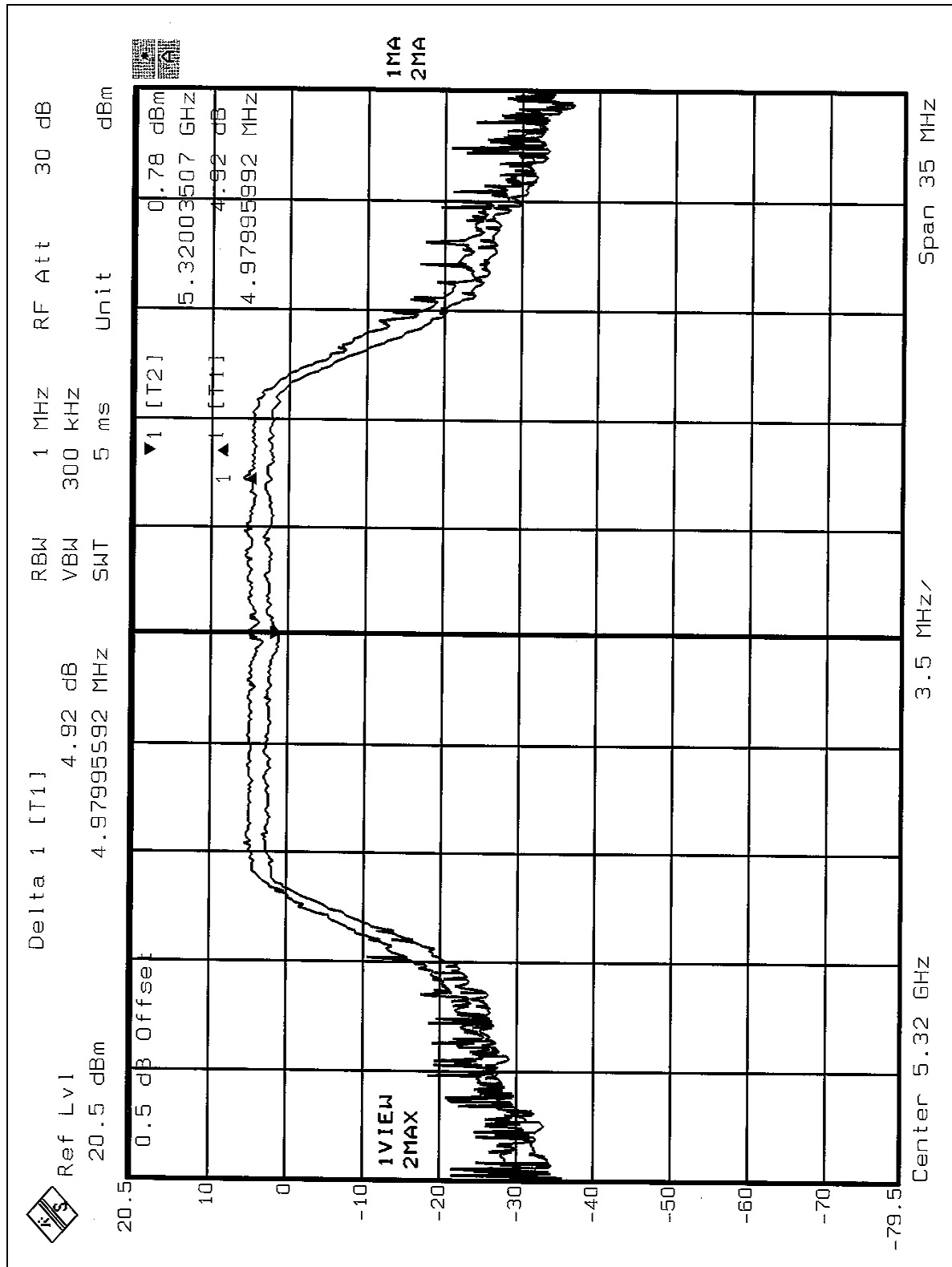
CH4



CH5



CH8



4.5 PEAK POWER SPECTRAL DENSITY MEASUREMENT

4.5.1 LIMITS OF PEAK POWER SPECTRAL DENSITY MEASUREMENT

Frequency Band	Limit
5.15 – 5.25GHz	4dBm
5.25 – 5.35GHz	11dBm

4.5.2 TEST INSTRUMENTS

Description & Manufacturer	Model No.	Serial No.	Calibrated Until
SPECTRUM ANALYZER	FSEK30	100049	Aug. 12, 2005

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

4.5.3 TEST PROCEDURES

1. The transmitter output was connected to the spectrum analyzer.
2. Set RBW=1MHz, VBW=3MHz. The PPSD is the highest level found across the emission in any 1MHz band.

4.5.4 DEVIATION FROM TEST STANDARD

No deviation

4.5.5 TEST SETUP



4.5.6 EUT OPERATING CONDITIONS

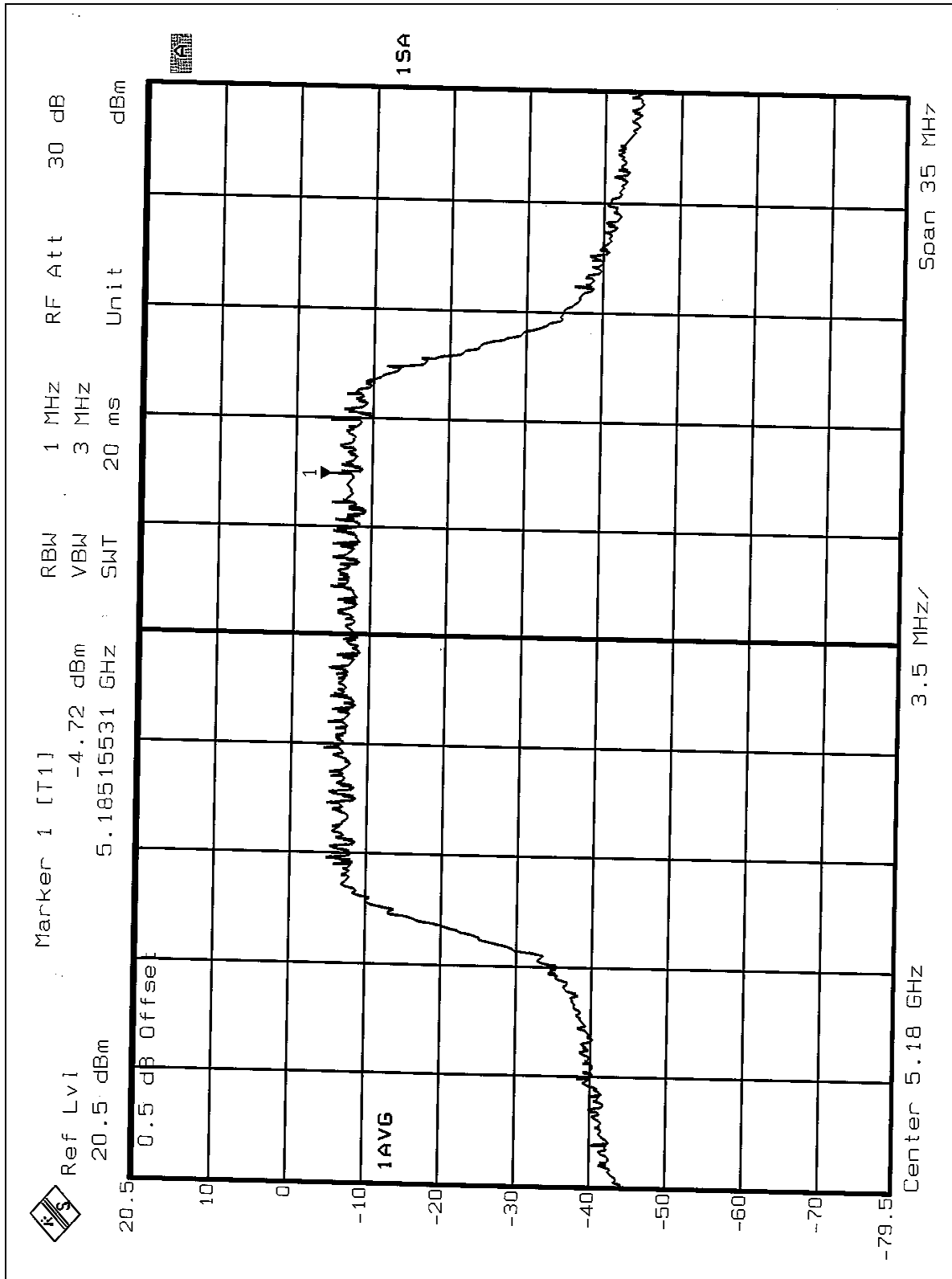
Same as 5.3.6

4.5.7 TEST RESULTS

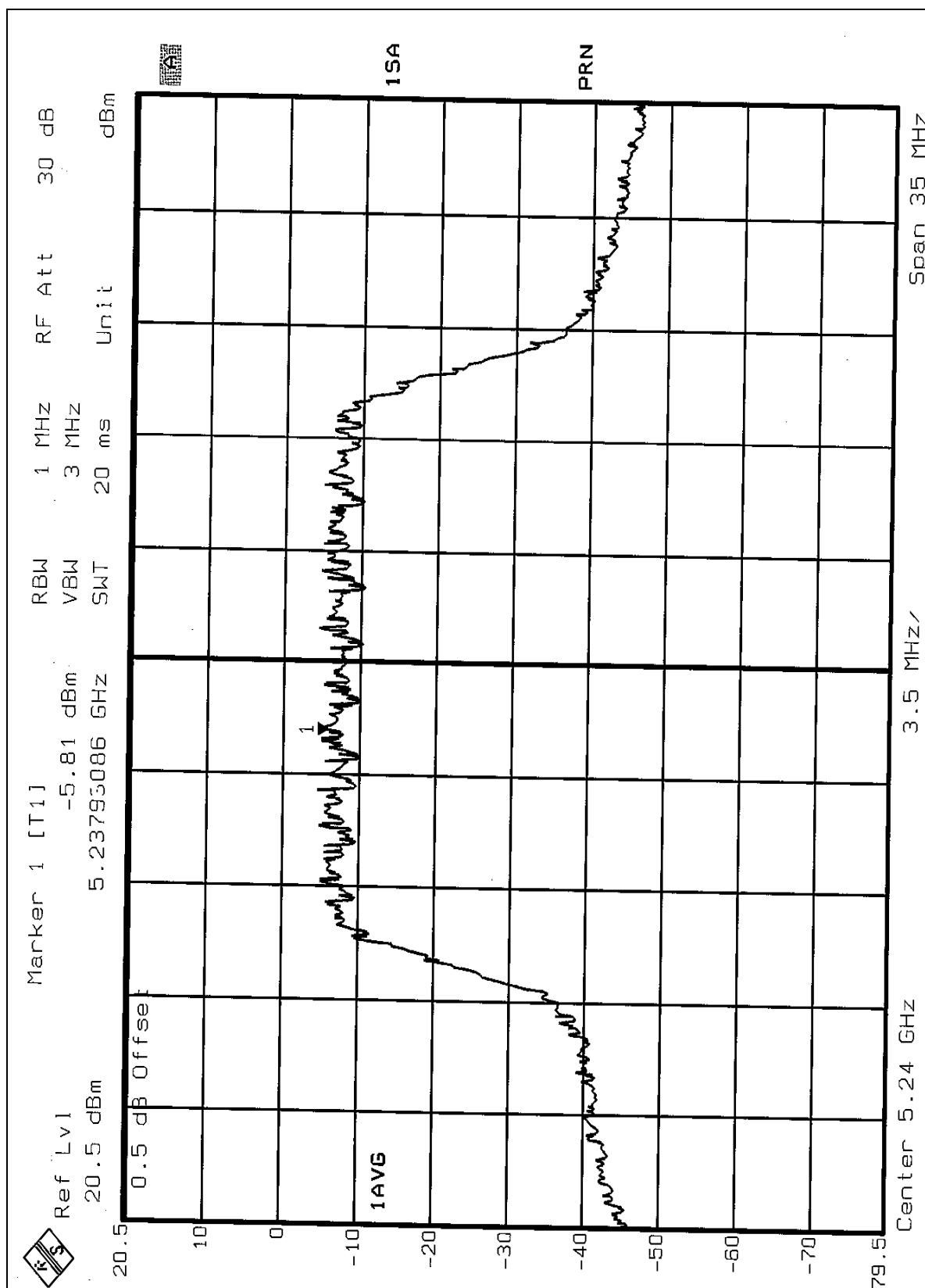
EUT	WIRELESS VIDEO ADAPTER	MODEL	AV55000
INPUT POWER (SYSTEM)	120Vac, 60 Hz	ENVIRONMENTAL CONDITIONS	24deg. C, 64%RH, 991hPa
TESTED BY	Leo Hung		

CHANNEL	CHANNEL FREQUENCY (MHz)	RF POWER LEVEL IN 1MHz BW (dBm)	MAXIMUM LIMIT (dBm)	PASS/FAIL
1	5180	-4.72	4	PASS
4	5240	-5.81	4	PASS
5	5260	-5.07	11	PASS
8	5320	-7.05	11	PASS

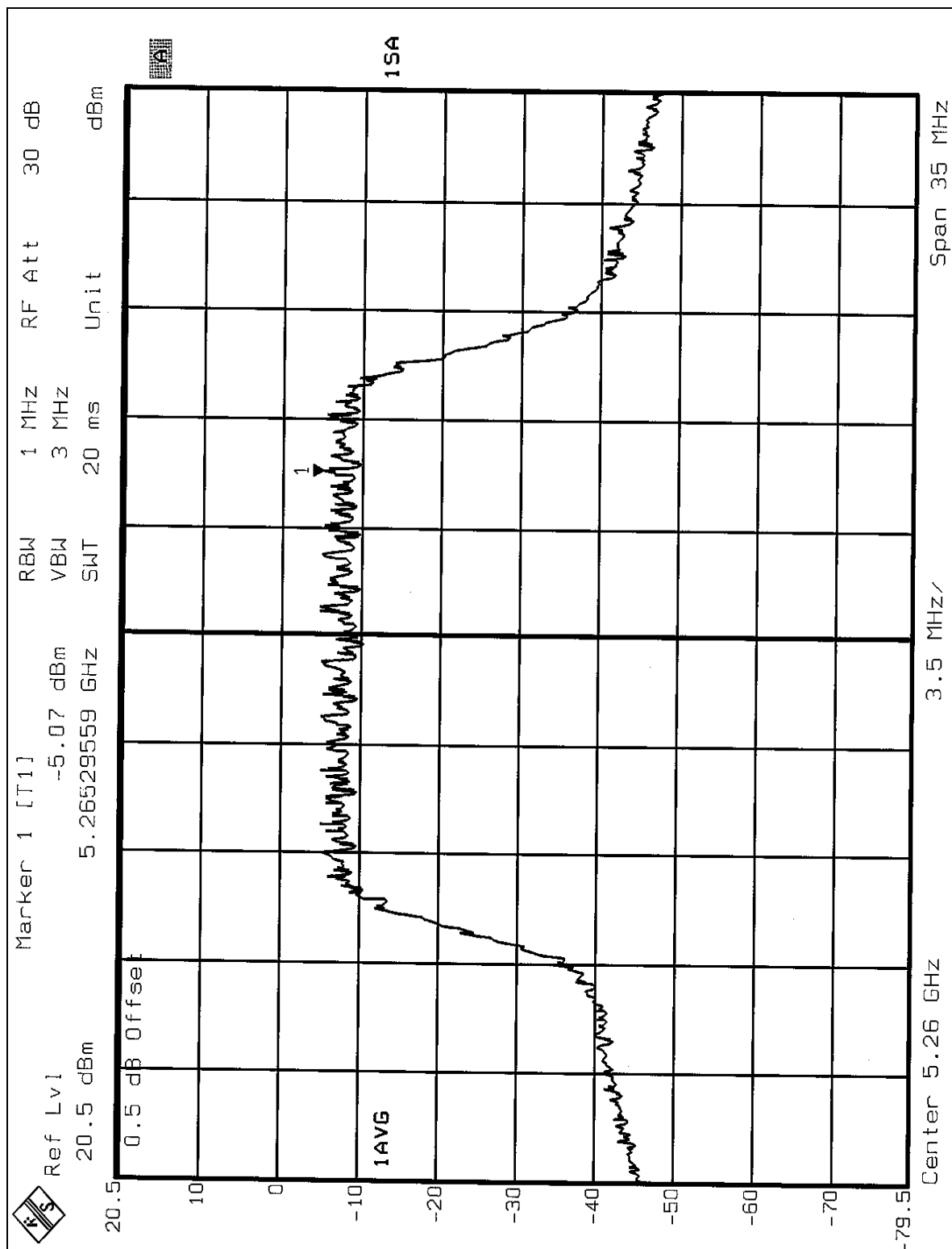
CH1



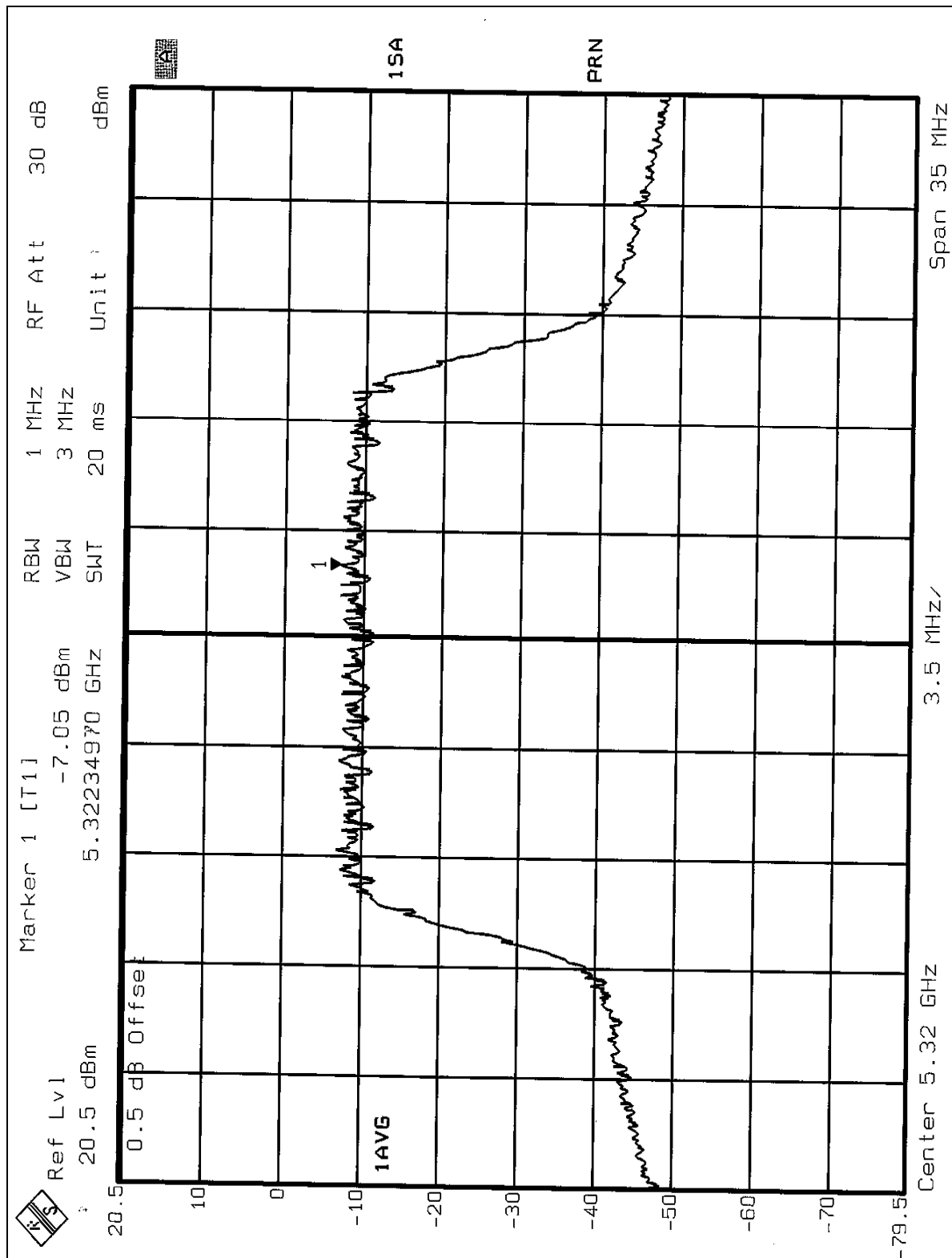
CH4



CH5



CH8



4.6 FREQUENCY STABILITY

4.6.1 LIMITS OF FREQUENCY STABILITY MEASUREMENT

The frequency tolerance of the carrier signal shall be maintained within +/- 0.02% of the operating frequency over a temperature variation of -30 degrees to 50 degrees C at normal supply voltage, and for a variation in the primary supply voltage from 85% to 115% of the rated supply voltage at a temperature of 20 degrees C.

4.6.2 TEST INSTRUMENTS

Description & Manufacturer	Model No.	Serial No.	Calibrated Until
ANRITSU SPECTRUM ANALYZER	MS2667C	M10281	Aug. 12, 2005
WIT STANDARD TEMPERATURE AND HUMIDITY CHAMBER	TH-4S-C	W901030	Aug. 12, 2005

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

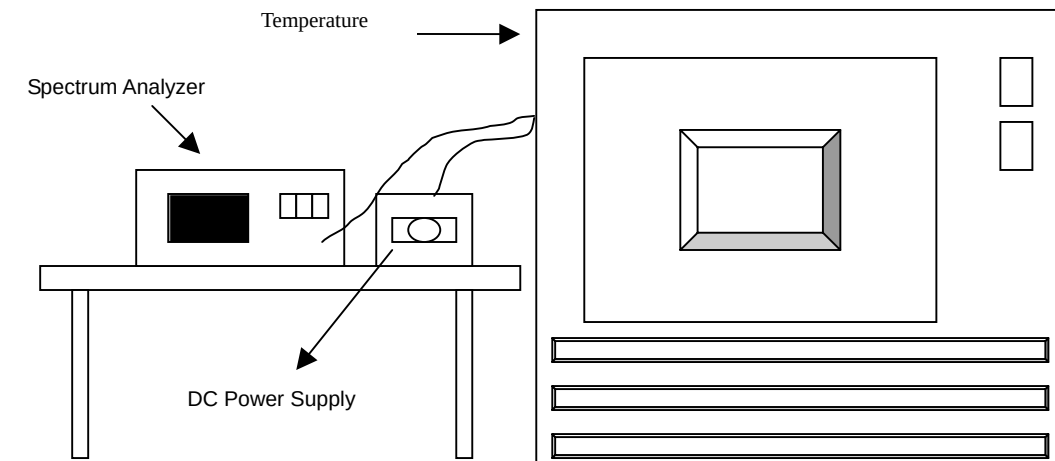
4.6.3 TEST PROCEDURE

1. The EUT was placed inside the environmental test chamber and powered by nominal DC voltage.
2. Turn the EUT on and couple its output to a spectrum analyzer.
3. Turn the EUT off and set the chamber to the highest temperature specified.
4. Allow sufficient time (approximately 30 min) for the temperature of the chamber to stabilize, turn the EUT on and measure the operating frequency after 2, 5, and 10 minutes.
5. Repeat step 2 and 3 with the temperature chamber set to the lowest temperature.
6. The test chamber was allowed to stabilize at +20 degree C for a minimum of 30 minutes. The supply voltage was then adjusted on the EUT from 85% to 115% and the frequency record.

4.6.4 DEVIATION FROM TEST STANDARD

No deviation

4.6.5 TEST SETUP



4.6.6 EUT OPERATING CONDITION

Same as Item 4.1.6

4.6.7 TEST RESULTS

Operating frequency: 5320MHz				Limit : $\pm 0.02\%$			
Temp. (°C)	Power supply (Vdc)	2 minute		5 minute		10 minute	
		(MHz)	(%)	(MHz)	(%)	(MHz)	(%)
50	102	5319.9382	-0.0011617	5319.9395	-0.0011372	5319.9408	-0.0011128
	120V	5319.9392	-0.0011429	5319.9402	-0.0011241	5319.9415	-0.0010996
	138	5319.9405	-0.0011184	5319.9408	-0.0011128	5319.9422	-0.0010865
40	102	5319.9425	-0.0010808	5319.9375	-0.0011748	5319.9368	-0.0011880
	120V	5319.9408	-0.0011128	5319.9375	-0.0011748	5319.3750	-0.0117481
	138	5319.9382	-0.0011617	5319.9375	-0.0011748	5319.9372	-0.0011805
30	102	5319.9548	-0.0008496	5319.9545	-0.0008553	5319.9528	-0.0008872
	120V	5319.9545	-0.0008553	5319.9545	-0.0008553	5319.9528	-0.0008872
	138	5319.9542	-0.0008609	5319.9528	-0.0008872	5319.9532	-0.0008797
20	102	5319.9672	-0.0006165	5319.9665	-0.0006297	5319.9652	-0.0006541
	120V	5319.9668	-0.0006241	5319.9662	-0.0006353	5319.9665	-0.0006297
	138	5319.9660	-0.0006391	5319.9662	-0.0006353	5319.9652	-0.0006541
10	102	5319.9868	-0.0002481	5319.9862	-0.0002594	5319.9862	-0.0002594
	120V	5319.9862	-0.0002594	5319.9862	-0.0002594	5319.9862	-0.0002594
	138	5319.9862	-0.0002594	5319.9865	-0.0002538	5319.9855	-0.0002726
0	102	5320.0055	0.0001034	5320.0068	0.0001278	5320.0072	0.0001353
	120V	5320.0062	0.0001165	5320.0068	0.0001278	5320.0072	0.0001353
	138	5320.0065	0.0001222	5320.0072	0.0001353	5320.0068	0.0001278
-10	102	5320.0135	0.0002538	5320.0128	0.0002406	5320.0128	0.0002406
	120V	5320.0135	0.0002538	5320.0128	0.0002406	5320.0125	0.0002350
	138	5320.0132	0.0002481	5320.0128	0.0002406	5320.0125	0.0002350
-20	102	5320.0108	0.0002030	5320.0102	0.0001917	5320.0102	0.0001917
	120V	5320.0105	0.0001974	5320.0102	0.0001917	5320.0102	0.0001917
	138	5320.0105	0.0001974	5320.0102	0.0001917	5320.0102	0.0001917
-30	102	5320.0038	0.0000714	5320.0045	0.0000846	5320.0042	0.0000789
	120V	5320.0035	0.0000658	5320.0042	0.0000789	5320.0042	0.0000789
	138	5320.0035	0.0000658	5320.0042	0.0000789	5320.0038	0.0000714

4.7 BAND EDGES MEASUREMENT

4.7.1 TEST INSTRUMENTS

Description & Manufacturer	Model No.	Serial No.	Calibrated Until
SPECTRUM ANALYZER	FSEK30	100049	Aug. 12, 2005

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

4.7.2 TEST PROCEDURE

The transmitter output was connected to the spectrum analyzer via a low loss cable. Set both RBW and VBW of spectrum analyzer to 1MHz with suitable frequency span including 100 MHz bandwidth from band edge. The band edges were measured and recorded.

4.7.3 EUT OPERATING CONDITION

The software provided by client to enable the EUT under transmission condition continuously at specific channel frequencies individually.

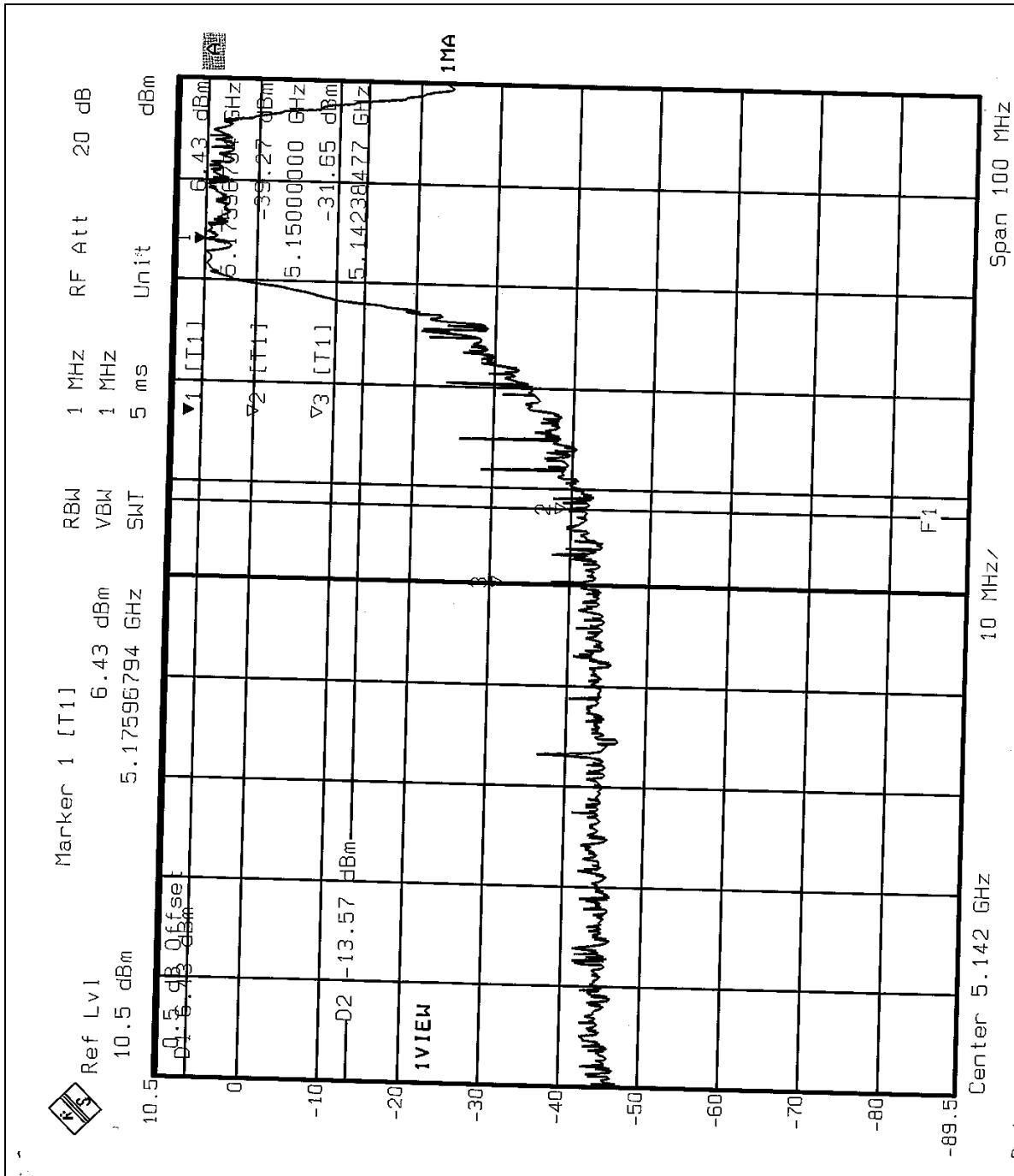
4.7.4 TEST RESULTS

For signals in the restricted bands above and below the 5.15 to 5.35GHz allocated band a measurement was made of the amplitude of the spurious emissions with respect to the intentional signals. The relative amplitude, in dBc, was applied to the average and peak field strength of the intentional signal made on the OATS to calculate the field strength of the unintentional signals.

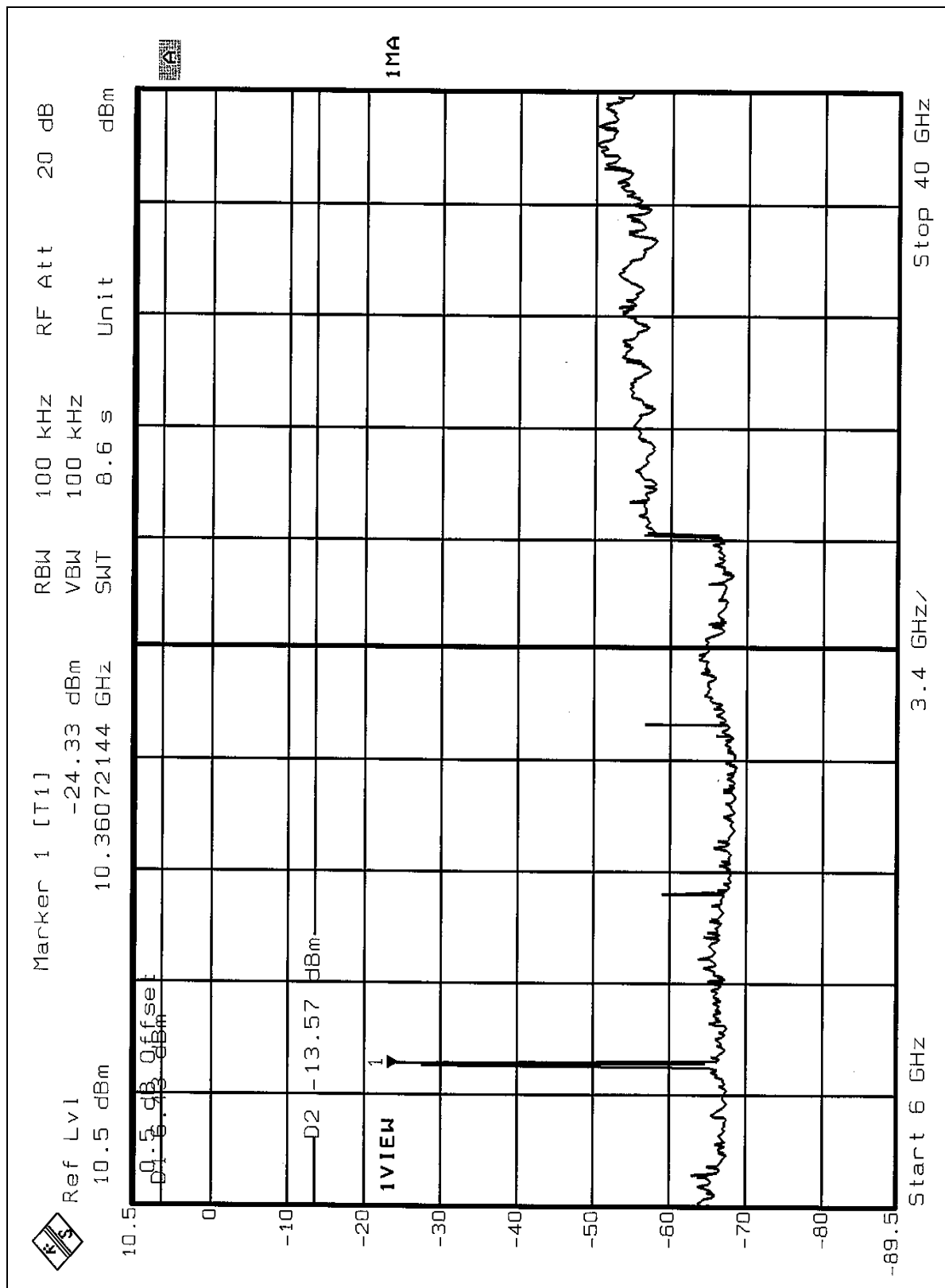
The spectrum plots (Peak RBW=VBW=1MHz; Average RBW=1MHz, VBW=10Hz) are attached on the following pages.

Channel 1 (5180MHz)

The band edge emission plot on the following 1 ~ 3 pages shows 38.08dBc (Peak) / 48.07Bc (Average) between carrier maximum power and local maximum emission in restrict band. The emission of carrier strength list in the test result of channel 1 is 100.18dBuV/m, so the maximum field strength in restrict band is $100.18 - 48.07 = 52.11\text{dBuV/m}$ which is under 54dBuV/m limit.

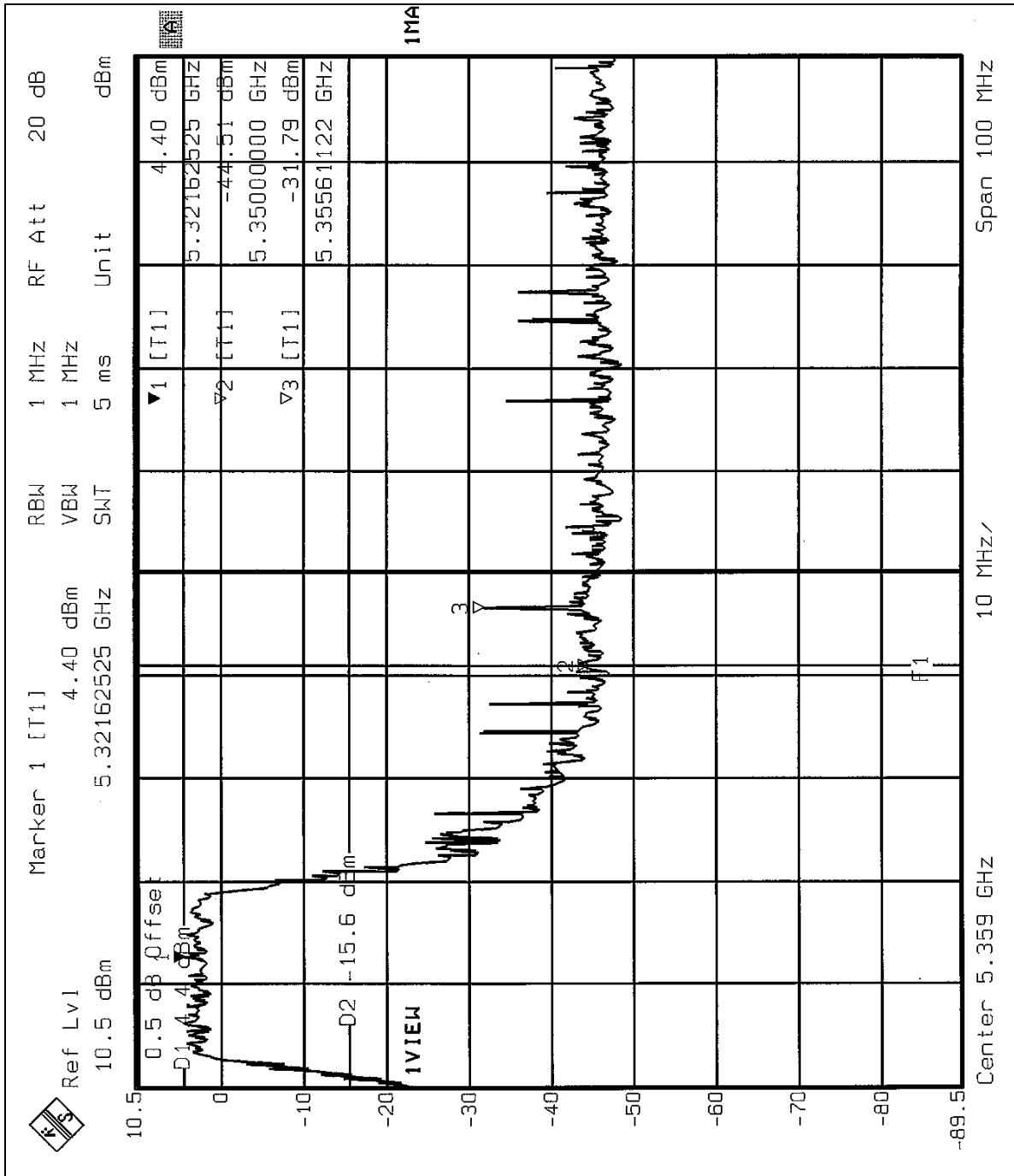




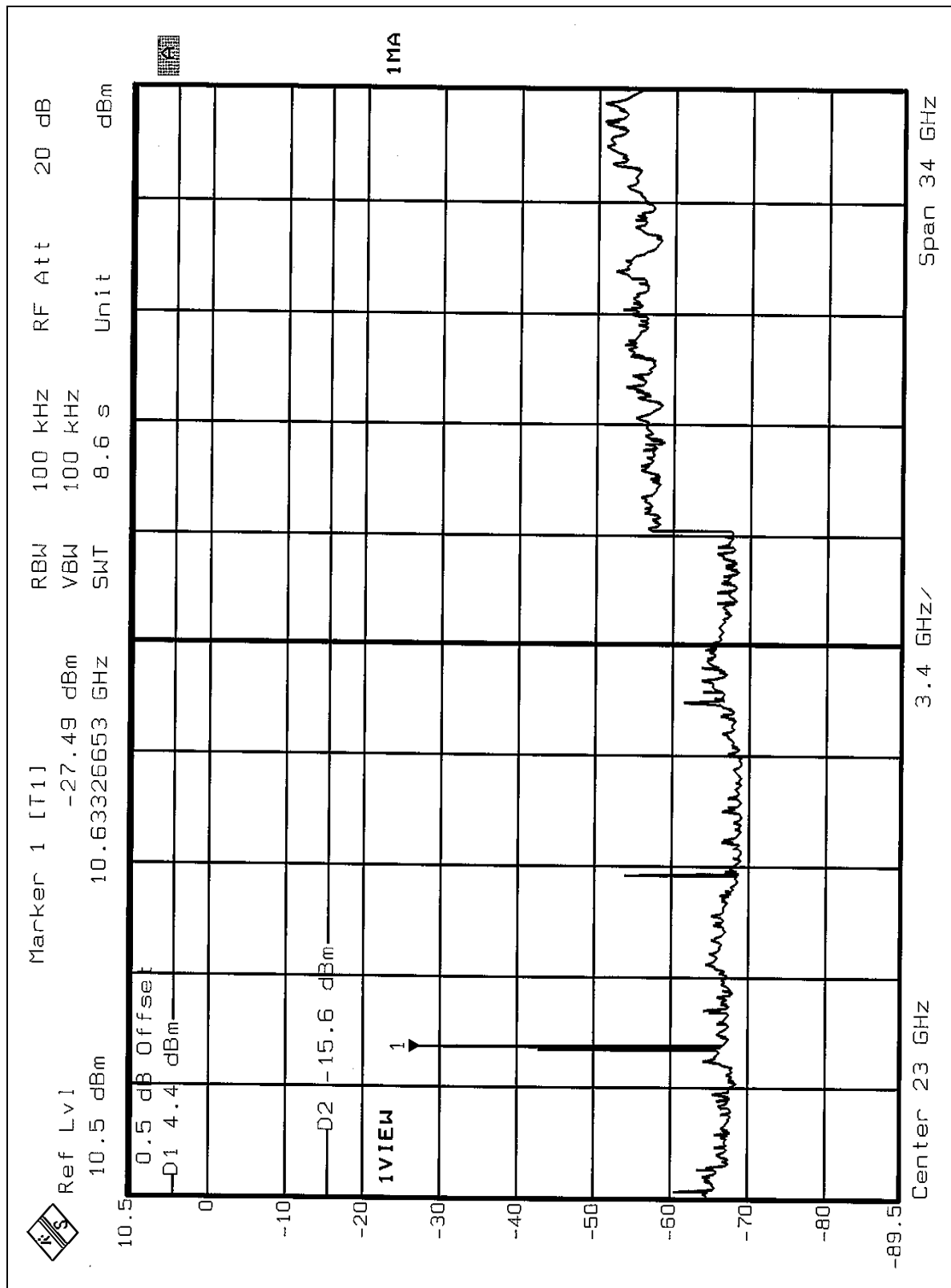


Channel 8 (5320MHz)

The band edge emission plot on the following 1 ~ 3 pages shows 36.19dBc (Peak) / 47.73dBc (Average) between carrier maximum power and local maximum emission in restrict band. The emission of carrier strength list in the test result of channel 8 is 98.12dBuV/m, so the maximum field strength in restrict band is $98.12 - 47.73 = 50.39$ dBuV/m which is under 54dBuV/m limit.









4.8 ANTENNA REQUIREMENT

4.8.1 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 15.407(a), 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.

4.8.2 ANTENNA CONNECTED CONSTRUCTION

The antenna used in this product is PCB antenna with UFL antenna connector. The maximum Gain of the antenna is 5.0dBi.

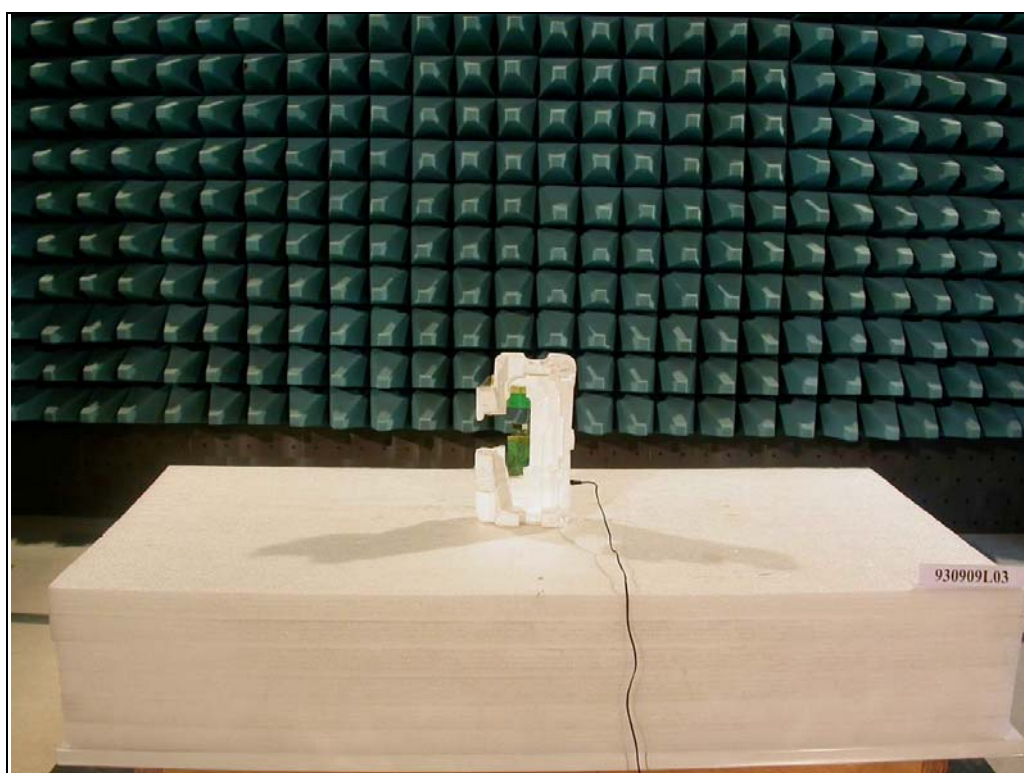
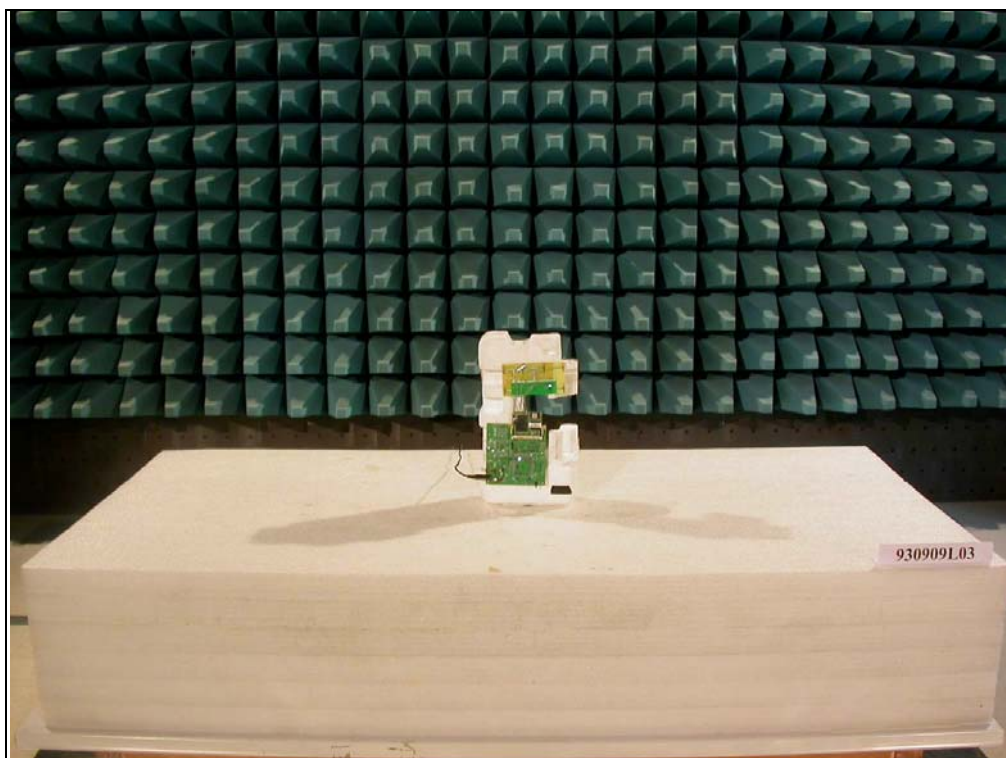
5. PHOTOGRAPHS OF THE TEST CONFIGURATION

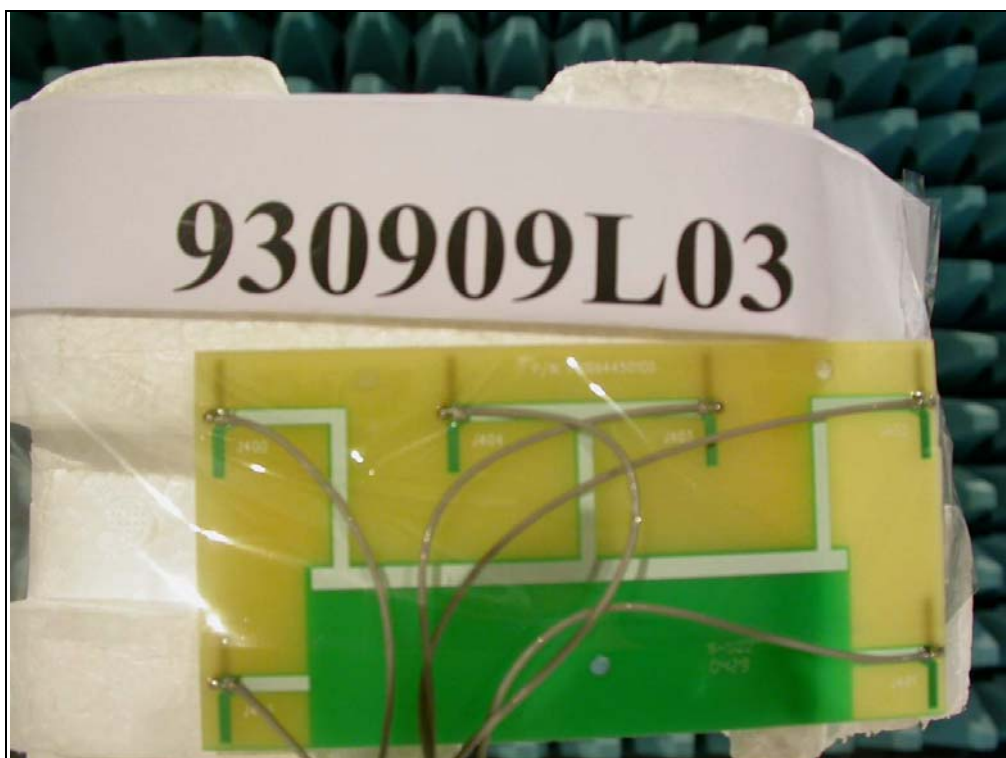
CONDUCTED EMISSION TEST





RADIATED EMISSION TEST





6. INFORMATION ON THE TESTING LABORATORIES

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

USA	FCC, NVLAP, UL, A2LA
Germany	TUV Rheinland
Japan	VCCI
Norway	NEMKO
Canada	INDUSTRY CANADA , CSA
R.O.C.	CNLA, BSMI, DGT
Netherlands	Telefication
Singapore	PSB , GOST-ASIA(MOU)
Russia	CERTIS(MOU)

Copies of accreditation certificates of our laboratories obtained from approval agencies can be downloaded from our web site:

www.adt.com.tw/index.5/phtml. If you have any comments, please feel free to contact us at the following:

Linko EMC/RF Lab:

Tel: 886-2-26052180

Fax: 886-2-26052943

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

Report Format Version 1.5