

FCC TEST REPORT

REPORT NO.: RF911221H01

MODEL NO.: WLAN Mobile Adapter 2201

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APPLICANT: Accton Technology Corporation

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0528
ILAC MRA



Lab Code: 200102-0

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1. CERTIFICATION

PRODUCT : WLAN Mobile Adapter 2201
MODEL NO. : WLAN Mobile Adapter 2201
BRAND NAME : NORTEL NETWORKS
APPLICANT : Accton Technology Corporation
STANDARDS : 47 CFR Part 15, Subpart C (Section 15.247),
Subpart E (Section 15.407), ANSI C63.4-1992

We, **Advance Data Technology Corporation**, hereby certify that one sample of the designation has been tested in our facility from Jan. 4, 2003 ~ Jan. 7, 2003. 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.

CHECKED BY : Emily Lu , **DATE :** Jan. 15, 2003
Emily Lu

APPROVED BY : Dr. Alan Lane for , **DATE :** Jan. 15, 2003
Dr. Alan Lane, Manager

2. SUMMARY OF TEST RESULTS

The EUT has been tested according to the following specifications:

APPLIED STANDARD: 47 CFR Part 15, Subpart C			
Standard Section	Test Type and Limit	Result	REMARK
15.207	AC Power Conducted Emission	PASS	Meet the requirement of limit Minimum passing margin is -11.23dBuV at 0.175MHz
15.247(a)(2)	Spectrum Bandwidth of a Direct Sequence Spread Spectrum System Limit: min. 500kHz	PASS	Meet the requirement of limit
15.247(b)	Maximum Peak Output Power Limit: max. 30dBm	PASS	Meet the requirement of limit
15.247(c)	Radiated Emissions Limit: Table 15.209	PASS	Meet the requirement of limit Minimum passing margin is -1.70dBuV at 2483.50MHz
15.247(d)	Power Spectral Density Limit: max. 8dBm	PASS	Meet the requirement of limit
15.247(c)	Band Edge Measurement Limit: 20dB less than the peak value of fundamental frequency	PASS	Meet the requirement of limit

APPLIED STANDARD: 47 CFR 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 -10.62dBuV at 0.173MHz
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 -1.90dBuV at 5148.00MHz
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

3. GENERAL INFORMATION

3.1 GENERAL DESCRIPTION OF EUT

PRODUCT	WLAN Mobile Adapter 2201
MODEL NO.	WLAN Mobile Adapter 2201
POWER SUPPLY	3.3VDC from host equipment
MODULATION	802.11b: DSSS 802.11a: OFDM
TRANSFER RATE	802.11b: 1/2/5.5/11Mbps 802.11a: 6 to 54Mbps *(Turbo mode : up to 108Mbps)
FREQUENCY RANGE	802.11b: 2412MHz ~ 2462MHz 802.11a: 5.15GHz ~ 5.85GHz
NUMBER OF CHANNEL	802.11b: 11 802.11a: 12 for Normal mode / 5 for Turbo mode
CHANNEL SPACING	802.11b: 5MHz 802.11a: 20MHz for Normal mode / 40MHz for Turbo mode
OUTPUT POWER	802.11b: 17.42dBm 802.11a: 21.80dBm
DATA CABLE	NA
ANTENNA TYPE	PIFA
I/O PORTS	NA
ASSOCIATED DEVICES	NA

NOTE:

1. The EUT operates in both the 5GHz and 2.4GHz Bands and compatibility with 802.11a and 802.11b technology.
2. This EUT is capable of providing data rates up to 108Mbps in turbo mode depending upon reception quality.
3. For more detailed features description, please refer to the manufacturer's specifications or User's Manual.

3.2 DESCRIPTION OF TEST MODES

For 802.11b: 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.

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

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

Five channels are provided to this EUT for Turbo Mode.

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

NOTE:

1. The EUT was transmitting at full power on the specified channel with a duty cycle of 99% (maximum allowed). The EUT was tested in both normal mode (channel bandwidth of approximately 30MHz) and turbo mode (channel bandwidth of approximately 60MHz).
2. "Normal Mode" allows data rates of up to 54Mbps. The device was, therefore, tested in Normal mode at the data rate that produced the highest output power for normal mode (6Mbps).
3. "Turbo Mode" allows data rates of up to 108Mbps. At data rates higher than 12Mbps the PA gain is reduced to improve signal fidelity. The device was, therefore, tested in turbo mode at the data rate that produced the highest output power for turbo mode (12Mbps).
4. Channel 1, 4, 5, 8, 9 and 12 are the closest frequencies to the band edge, were chosen for final test of Normal Mode.
5. Channel 1 ~ 5 were chosen for final test of turbo mode.

3.3 GENERAL DESCRIPTION OF APPLIED STANDARDS

The EUT is a WLAN Mobile Adapter 2201. According to the specifications of the manufacturer, it must comply with the requirements of the following standards:

47 CFR Part 15, Subpart C. (15.247), Subpart E (15.407).

ANSI C63.4 : 1992

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

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



3.4 DESCRIPTION OF SUPPORT UNITS

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

NO.	PRODUCT	BRAND	MODEL NO.	SERIAL NO.	FCC ID
1	NOTEBOOK	DELL	PP01L	TW-09C748-12800-16M-5064	FCC DoC APPROVED
2	PRINTER	EPSON	LQ-300+	DCGY017096	FCC DoC APPROVED
3	MODEM	ACEEX	1414	980020569	IFAXDM1414

NO.	SIGNAL CABLE DESCRIPTION OF THE ABOVE SUPPORT UNITS
1	NA
2	1.2m braid shielded wire, terminated with DB25 and Centronics connector via metallic frame, w/o core
3	1.2 m braid shielded wire, terminated with DB25 and DB9 connector via metallic frame, w/o core.

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

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

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	ESHS30	828109/007	July 03, 2003
ROHDE & SCHWARZ Artificial Mains Network (for EUT)	ESH3-Z5	839135/006	July 02, 2003
* ROHDE & SCHWARZ 4-wire ISN	ENY41	838119/028	Nov. 29, 2003
* ROHDE & SCHWARZ 2-wire ISN	ENY22	837497/016	Nov. 29, 2003
EMCO-L.I.S.N. (for peripheral)	3825/2	9204-1964	July 02, 2003
Software	Cond-V2M1	NA	NA
RF cable (JYEBAO)	5D-FB	Cable-C02.01	July 5, 2003
HP Terminator (For EMCO LISN)	11593A	E1-01-298	Feb. 23, 2004
HP Terminator (For EMCO LISN)	11593A	E1-01-299	Feb. 23, 2004

- 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. 2.
 4. The VCCI Site Registration No. is C-240.



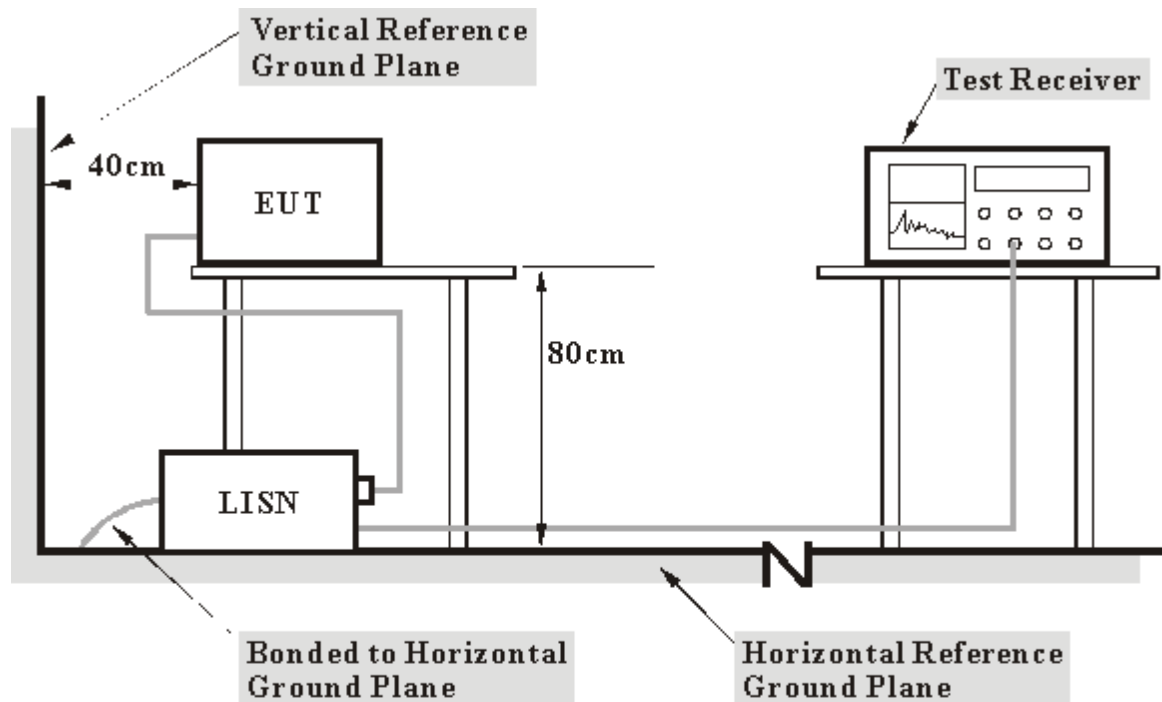
4.1.3 TEST PROCEDURES

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

4.1.4 DEVIATION FROM TEST STANDARD

No deviation

4.1.5 TEST SETUP



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

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

4.1.6 EUT OPERATING CONDITIONS

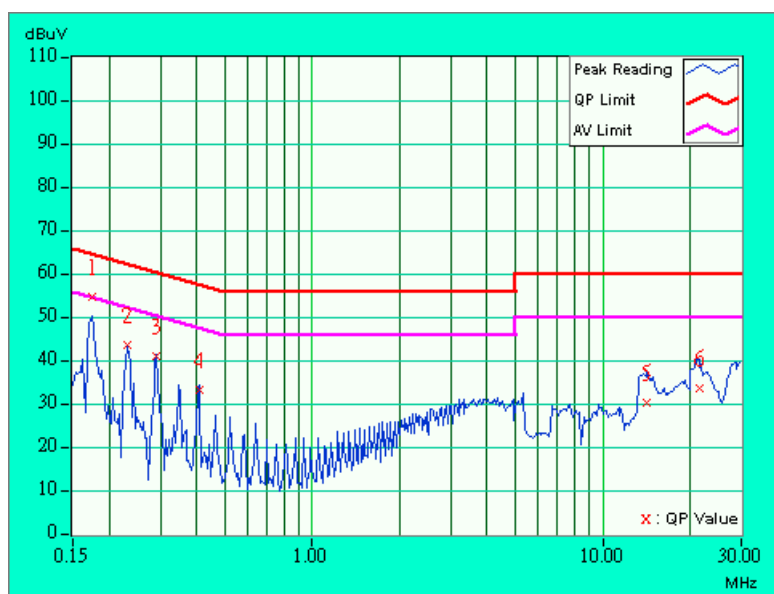
- a. Connected the EUT to a computer system placed on a testing table.
- b. The computer system ran a test program to enable EUT under transmission/receiving condition continuously at specific channel frequency.
- c. The computer system sent "H" messages to its screen.
- d. The computer system sent "H" messages to modem.
- e. The computer system sent "H" messages to printer, and the printer prints them on paper.

4.1.7 TEST RESULTS

EUT	WLAN Mobile Adapter 2201	MODEL	WLAN Mobile Adapter 2201
MODE	Channel 1	6dB BANDWIDTH	10kHz
INPUT POWER (SYSTEM)	120Vac, 60Hz	PHASE	Line (L)
ENVIRONMENTAL CONDITIONS	25deg. C, 60%RH, 1005 hPa	TESTED BY: Gary Chang	

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	0.175	0.10	53.41	-	53.51	-	64.74	54.74	-11.23	-
2	0.231	0.10	42.31	-	42.41	-	62.41	52.41	-20.00	-
3	0.291	0.10	39.74	-	39.84	-	60.50	50.50	-20.66	-
4	0.408	0.10	32.23	-	32.33	-	57.69	47.69	-25.36	-
5	14.207	0.94	29.03	-	29.97	-	60.00	50.00	-30.03	-
6	21.539	1.23	32.49	-	33.72	-	60.00	50.00	-26.28	-

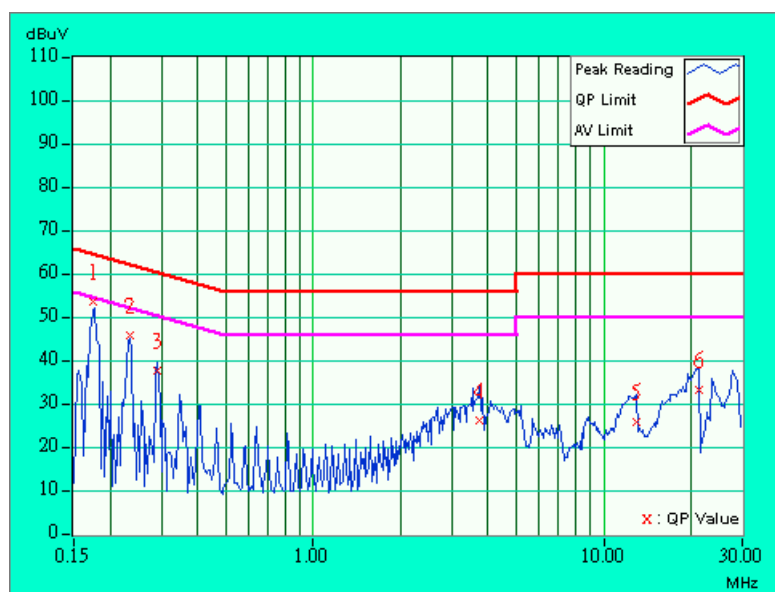
- REMARKS:**
1. Q.P. and AV. are abbreviations of quasi-peak and average individually.
 2. "-": The Quasi-peak reading value also meets average limit and measurement with the average detector is unnecessary.
 3. The emission levels of other frequencies were very low against the limit.
 4. Margin value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



EUT	WLAN Mobile Adapter 2201	MODEL	WLAN Mobile Adapter 2201
MODE	Channel 1	6dB BANDWIDTH	10kHz
INPUT POWER (SYSTEM)	120Vac, 60Hz	PHASE	Neutral (N)
ENVIRONMENTAL CONDITIONS	25deg. C, 60%RH, 1005 hPa	TESTED BY: Gary Chang	

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	0.175	0.10	52.80	-	52.90	-	64.73	54.73	-11.83	-
2	0.234	0.10	45.04	-	45.14	-	62.31	52.31	-17.17	-
3	0.291	0.10	36.78	-	36.88	-	60.50	50.50	-23.62	-
4	3.732	0.27	25.11	-	25.38	-	56.00	46.00	-30.62	-
5	12.941	0.64	25.06	-	25.70	-	60.00	50.00	-34.30	-
6	21.203	1.05	32.25	-	33.30	-	60.00	50.00	-26.70	-

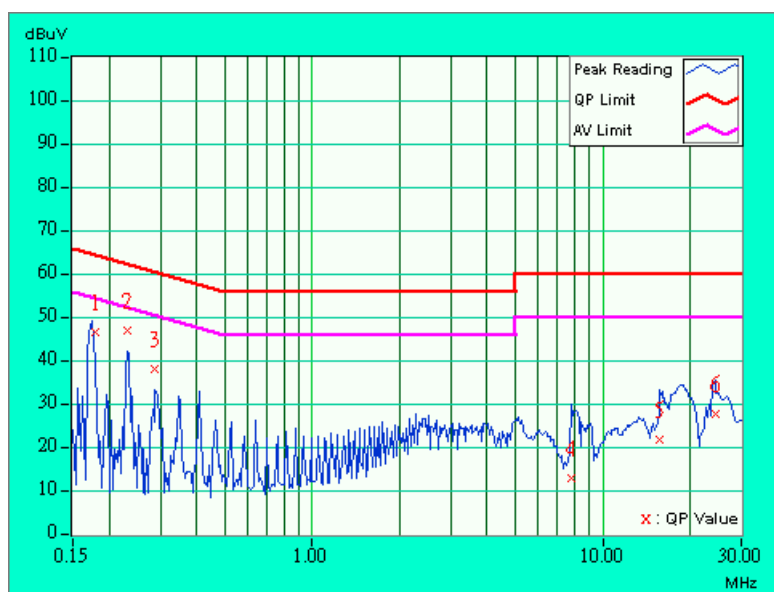
- REMARKS:**
1. Q.P. and AV. are abbreviations of quasi-peak and average individually.
 2. "-": The Quasi-peak reading value also meets average limit and measurement with the average detector is unnecessary.
 3. The emission levels of other frequencies were very low against the limit.
 4. Margin value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



EUT	WLAN Mobile Adapter 2201	MODEL	WLAN Mobile Adapter 2201
MODE	Channel 6	6dB BANDWIDTH	10kHz
INPUT POWER (SYSTEM)	120Vac, 60Hz	PHASE	Line (L)
ENVIRONMENTAL CONDITIONS	25deg. C, 60%RH, 1005 hPa	TESTED BY: Gary Chang	

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	0.178	0.10	45.53	-	45.63	-	64.57	54.57	-18.94	-
2	0.231	0.10	45.91	-	46.01	-	62.41	52.41	-16.40	-
3	0.288	0.10	37.04	-	37.14	-	60.58	50.58	-23.44	-
4	7.823	0.49	11.72	-	12.21	-	60.00	50.00	-47.79	-
5	15.698	1.03	20.54	-	21.57	-	60.00	50.00	-38.43	-
6	24.350	1.29	26.33	-	27.62	-	60.00	50.00	-32.38	-

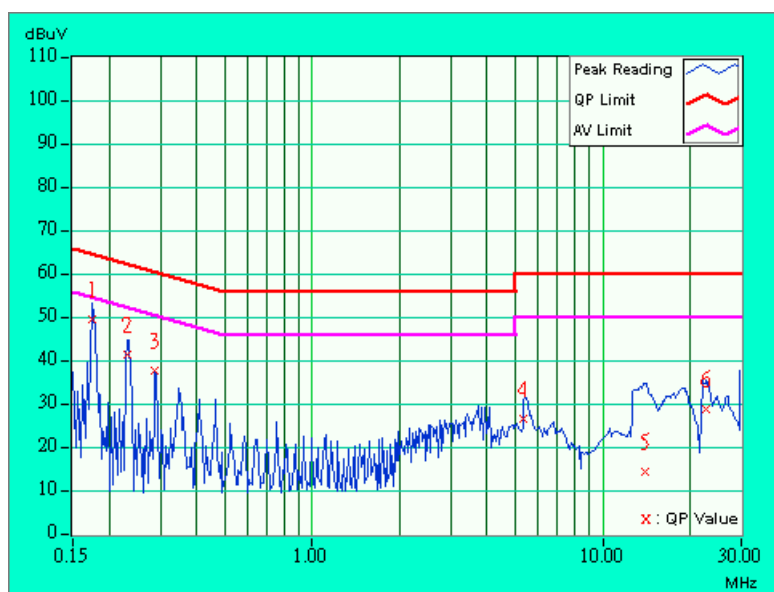
- REMARKS:**
1. Q.P. and AV. are abbreviations of quasi-peak and average individually.
 2. "-": The Quasi-peak reading value also meets average limit and measurement with the average detector is unnecessary.
 3. The emission levels of other frequencies were very low against the limit.
 4. Margin value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



EUT	WLAN Mobile Adapter 2201	MODEL	WLAN Mobile Adapter 2201
MODE	Channel 6	6dB BANDWIDTH	10kHz
INPUT POWER (SYSTEM)	120Vac, 60Hz	PHASE	Neutral (N)
ENVIRONMENTAL CONDITIONS	25deg. C, 60%RH, 1005 hPa	TESTED BY: Gary Chang	

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	0.174	0.10	48.46	-	48.56	-	64.79	54.79	-16.23	-
2	0.231	0.10	40.50	-	40.60	-	62.41	52.41	-21.81	-
3	0.288	0.10	36.68	-	36.78	-	60.58	50.58	-23.80	-
4	5.363	0.32	25.40	-	25.72	-	60.00	50.00	-34.28	-
5	14.003	0.72	13.21	-	13.93	-	60.00	50.00	-46.07	-
6	22.814	1.11	27.70	-	28.81	-	60.00	50.00	-31.19	-

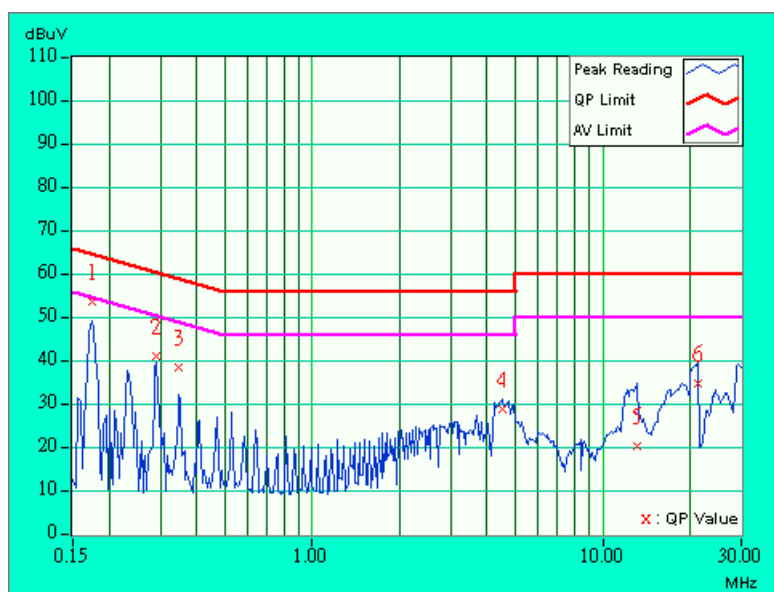
- REMARKS:**
1. Q.P. and AV. are abbreviations of quasi-peak and average individually.
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 3. The emission levels of other frequencies were very low against the limit.
 4. Margin value = Emission level - Limit value
 5. Correction factor = Insertion loss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



EUT	WLAN Mobile Adapter 2201	MODEL	WLAN Mobile Adapter 2201
MODE	Channel 11	6dB BANDWIDTH	10kHz
INPUT POWER (SYSTEM)	120Vac, 60Hz	PHASE	Line (L)
ENVIRONMENTAL CONDITIONS	25deg. C, 60%RH, 1005 hPa	TESTED BY: Gary Chang	

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	0.175	0.10	52.42	-	52.52	-	64.71	54.71	-12.19	-
2	0.291	0.10	40.02	-	40.12	-	60.50	50.50	-20.38	-
3	0.348	0.10	37.38	-	37.48	-	59.01	49.01	-21.53	-
4	4.494	0.32	27.58	-	27.90	-	56.00	46.00	-28.10	-
5	13.076	0.85	19.01	-	19.86	-	60.00	50.00	-40.14	-
6	21.305	1.23	33.71	-	34.94	-	60.00	50.00	-25.06	-

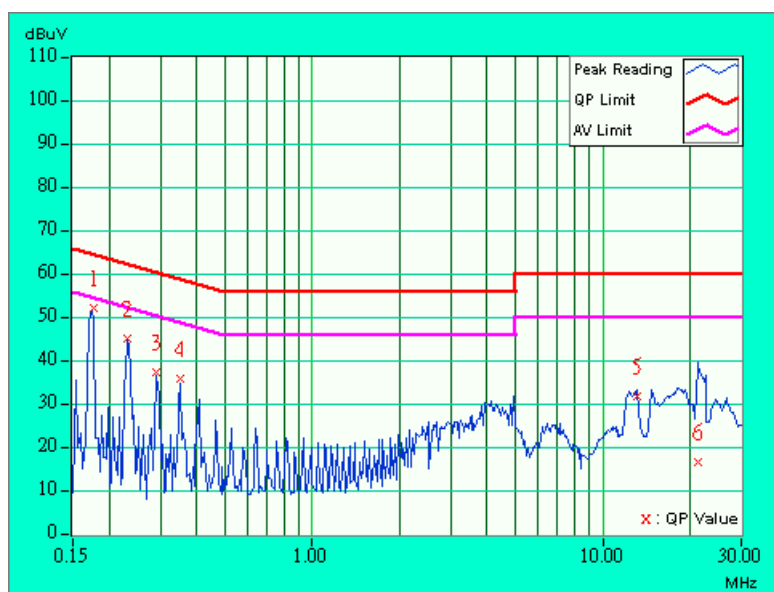
- REMARKS:**
1. Q.P. and AV. are abbreviations of quasi-peak and average individually.
 2. "-": The Quasi-peak reading value also meets average limit and measurement with the average detector is unnecessary.
 3. The emission levels of other frequencies were very low against the limit.
 4. Margin value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



EUT	WLAN Mobile Adapter 2201	MODEL	WLAN Mobile Adapter 2201
MODE	Channel 11	6dB BANDWIDTH	10kHz
INPUT POWER (SYSTEM)	120Vac, 60Hz	PHASE	Neutral (N)
ENVIRONMENTAL CONDITIONS	25deg. C, 60%RH, 1005 hPa	TESTED BY: Gary Chang	

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	51.02	-	51.12	-	64.64	54.64	-13.52	-
2	0.231	0.10	44.10	-	44.20	-	62.41	52.41	-18.21	-
3	0.291	0.10	36.32	-	36.42	-	60.50	50.50	-24.08	-
4	0.351	0.10	35.01	-	35.11	-	58.94	48.94	-23.83	-
5	13.142	0.65	30.65	-	31.30	-	60.00	50.00	-28.70	-
6	21.260	1.05	15.48	-	16.53	-	60.00	50.00	-43.47	-

- 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 & MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATED UNTIL
* HP Spectrum Analyzer	8590L	3544A01176	May 13, 2003
* HP Preamplifier	8447D	2944A08485	Apr. 29, 2003
* HP Preamplifier	8449B	3008A01201	Dec. 01, 2003
* HP Preamplifier	8449B	3008A01292	Aug. 07, 2003
* Spectrum Analyzer	8593E	3926A04191	Mar. 28, 2003
* Test Receiver	ESI7	838496/016	Feb. 23, 2004
SCHAFFNER Tunable Dipole Antenna	VHBA 9123	459	Nov. 22, 2003
SCHWARZBECK Tunable Dipole Antenna	UHA 9105	977	
* CHASE BILOG Antenna	CBL6112A	2221	Aug. 02, 2003
* SCHWARZBECK Horn Antenna	BBHA9120-D1	D130	July 03, 2003
* EMCO Horn Antenna	3115	9312-4192	Apr. 09, 2003
* EMCO Turn Table	1060	1115	NA
* SHOSHIN Tower	AP-4701	A6Y005	NA
* Software	ADT_Radiated_V5.09	NA	NA
* ANRITSU RF Switches	MP59B	M35046	Jul. 11. 2003
* TIMES RF cable	LMR-600	CABLE-ST5-01	Jul. 11. 2003

- 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 the final measurement.
3. The horn antenna and HP preamplifier (model: 8449B) are used only for the measurement of emission frequency above 1GHz if tested.
4. The test was performed in ADT Open Site No. 5.
5. The VCCI Site Registration No. is R-1039.

4.2.3 TEST PROCEDURES

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

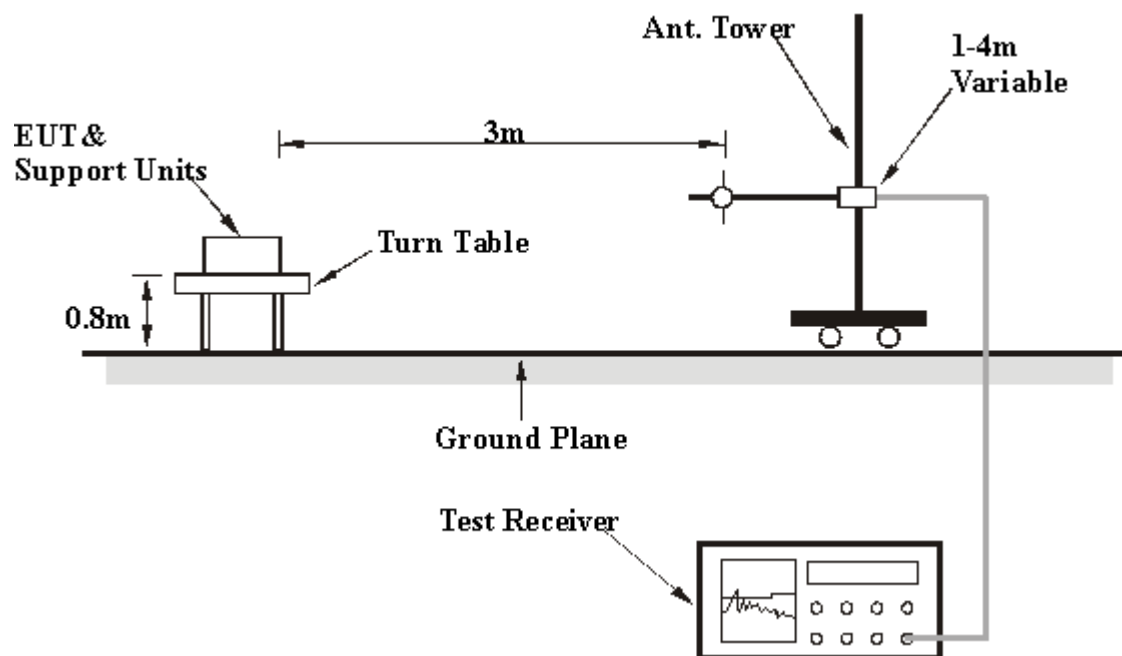
NOTE:

1. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 120kHz for Quasi-peak detection at frequency below 1GHz.
2. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 1 MHz for Peak detection (PK) at frequency above 1GHz.
3. The resolution bandwidth of test receiver/spectrum analyzer is 1 MHz and the video bandwidth is 300 Hz for Average detection (AV) at frequency above 1GHz.

4.2.4 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	WLAN Mobile Adapter 2201	MODEL	WLAN Mobile Adapter 2201
MODE	Channel 11	FREQUENCY RANGE	Below 1000 MHz
INPUT POWER (SYSTEM)	120Vac, 60Hz	DETECTOR FUNCTION	Quasi-Peak
ENVIRONMENTAL CONDITIONS	19deg. C, 55%RH, 1005 hPa	TESTED BY: Bunny Yao	

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	236.00	23.8 QP	46.00	-22.20	1.28 H	200	6.80	17.00
2	240.00	24.2 QP	46.00	-21.80	1.54 H	42	6.80	17.40
3	301.00	25.0 QP	46.00	-21.00	1.65 H	222	5.00	20.00
4	356.80	28.0 QP	46.00	-18.00	1.24 H	342	6.40	21.60
5	461.00	25.4 QP	46.00	-20.60	1.40 H	1	1.30	24.10
6	526.00	23.6 QP	46.00	-22.40	1.48 H	42	-1.80	25.40

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	232.00	23.0 QP	46.00	-23.00	1.24 V	40	6.50	16.50
2	240.00	22.4 QP	46.00	-23.60	1.15 V	327	5.00	17.40
3	301.50	25.5 QP	46.00	-20.50	1.61 V	12	5.50	20.00
4	357.00	29.6 QP	46.00	-16.40	1.41 V	147	8.00	21.60
5	462.00	27.0 QP	46.00	-19.00	1.26 V	258	2.90	24.10
6	526.00	25.3 QP	46.00	-20.70	1.10 V	5	-0.10	25.40

- 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	WLAN Mobile Adapter 2201	MODEL	WLAN Mobile Adapter 2201
MODE	Channel 1	FREQUENCY RANGE	Above 1000 MHz
INPUT POWER (SYSTEM)	120Vac, 60Hz	DETECTOR FUNCTION	Peak(PK) Average (AV)
ENVIRONMENTAL CONDITIONS	19deg. C, 55%RH, 1005 hPa	TESTED BY: Bunny Yao	

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

No.	Freq. (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	2387.00	62.2 PK	74.00	-11.80	1.34 H	270	28.10	34.10
1	2387.00	52.0 AV	54.00	-2.00	1.34 H	270	17.90	34.10
2	*2412.00	108.5 PK			1.34 H	270	74.40	34.10
2	*2412.00	99.0 AV			1.34 H	270	64.90	34.10
3	4824.00	49.8 PK	74.00	-24.20	1.83 H	166	11.20	38.60
4	6336.00	54.8 PK	88.50	-33.70	1.86 H	130	14.90	39.90
4	6336.00	50.5 AV	79.00	-28.50	1.86 H	130	10.60	38.60
5	7236.00	53.4 PK	74.00	-20.60	1.55 H	24	11.70	41.70
5	7236.00	45.8 AV	54.00	-8.20	1.55 H	24	4.10	39.90

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	2387.00	56.9 PK	74.00	-17.10	1.20 V	29	22.80	34.10
1	2387.00	49.2 AV	54.00	-4.80	1.20 V	29	15.10	34.10
2	*2412.00	102.9 PK			1.20 V	36	68.80	34.10
2	*2412.00	96.2 AV			1.20 V	36	62.10	34.10
3	4824.00	49.7 PK	74.00	-24.30	1.24 V	229	11.10	38.60
4	6336.00	56.2 PK	82.90	-26.70	1.68 V	54	16.30	39.90
4	6336.00	52.5 AV	76.20	-23.70	1.68 V	54	12.60	38.60
5	7236.00	51.4 PK	74.00	-22.60	1.64 V	350	9.70	41.70
5	7236.00	42.2 AV	54.00	-11.80	1.64 V	350	0.50	39.90

- 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. The limit value is defined as per 15.247
 6. “ * ” : Fundamental frequency

EUT	WLAN Mobile Adapter 2201	MODEL	WLAN Mobile Adapter 2201
MODE	Channel 6	FREQUENCY RANGE	Above 1000 MHz
INPUT POWER (SYSTEM)	120Vac, 60Hz	DETECTOR FUNCTION	Peak(PK) Average (AV)
ENVIRONMENTAL CONDITIONS	19deg. C, 55%RH, 1005 hPa	TESTED BY: Bunny Yao	

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	2373.00	58.4 PK	74.00	-15.60	1.35 H	269	24.30	34.10
1	2373.00	49.9 AV	54.00	-4.10	1.35 H	269	15.80	34.10
2	*2437.00	106.3 PK			1.35 H	269	72.10	34.20
2	*2437.00	101.7 AV			1.35 H	269	67.50	34.20
3	2497.00	59.9 PK	74.00	-14.10	1.35 H	272	25.70	34.20
3	2497.00	50.6 AV	54.00	-3.40	1.35 H	272	16.40	34.20
4	4874.00	53.7 PK	74.00	-20.30	1.21 H	214	14.90	38.70
4	4874.00	44.2 AV	54.00	-9.80	1.21 H	214	5.40	38.70
5	6336.00	56.7 PK	86.30	-29.60	1.26 H	25	16.80	39.90
5	6336.00	52.8 AV	81.70	-28.90	1.26 H	25	12.90	39.90
6	7311.00	56.9 PK	74.00	-17.10	2.05 H	350	15.10	41.80
6	7311.00	49.2 AV	54.00	-4.80	2.05 H	350	7.40	41.80

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	2373.00	54.2 PK	74.00	-19.80	1.30 V	23	20.10	34.10
1	2373.00	43.4 AV	54.00	-10.60	1.30 V	23	9.30	34.10
2	*2437.00	102.1 PK			1.29 V	20	67.90	34.20
2	*2437.00	95.2 AV			1.29 V	20	61.00	34.20
3	2497.00	55.0 PK	74.00	-19.00	1.32 V	23	20.80	34.20
3	2497.00	44.8 AV	54.00	-9.20	1.32 V	23	10.60	34.20
4	4874.00	52.9 PK	74.00	-21.10	1.20 V	238	14.20	38.70
4	4874.00	43.5 AV	54.00	-10.50	1.20 V	238	4.80	38.70
5	6336.00	56.5 PK	82.10	-25.60	1.75 V	60	16.60	39.90
5	6336.00	52.7 AV	75.20	-22.50	1.75 V	60	12.80	39.90
6	7311.00	56.8 PK	74.00	-17.20	1.68 V	342	15.00	41.80
6	7311.00	46.5 AV	54.00	-7.50	1.68 V	342	4.70	41.80

- 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. The limit value is defined as per 15.247
 6. “ * “ : Fundamental frequency

EUT	WLAN Mobile Adapter 2201	MODEL	WLAN Mobile Adapter 2201
MODE	Channel 11	FREQUENCY RANGE	Above 1000 MHz
INPUT POWER (SYSTEM)	120Vac, 60Hz	DETECTOR FUNCTION	Peak(PK) Average (AV)
ENVIRONMENTAL CONDITIONS	19deg. C, 55%RH, 1005 hPa	TESTED BY: Bunny Yao	

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	108.0 PK			1.24 H	28	73.80	34.20
1	*2462.00	100.7 AV			1.24 H	28	66.50	34.20
2	2483.50	62.1 PK	74.00	-11.90	1.34 H	284	27.90	34.20
2	2483.50	52.3 AV	54.00	-1.70	1.34 H	284	18.10	34.20
3	4924.00	51.9 PK	74.00	-22.10	1.26 H	200	13.00	38.90
3	4924.00	42.7 AV	54.00	-11.30	1.26 H	200	3.80	38.90
4	6336.00	56.0 PK	88.00	-32.00	1.45 H	85	16.10	39.90
4	6336.00	52.3 AV	80.70	-28.40	1.45 H	85	12.40	39.90
5	7386.00	54.8 PK	74.00	-19.20	1.87 H	318	12.80	42.00
5	7386.00	47.5 AV	54.00	-6.50	1.87 H	318	5.50	42.00

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	103.1 PK			1.24 V	28	68.90	34.20
1	*2462.00	97.3 AV			1.24 V	28	63.10	34.20
2	2483.50	57.2 PK	74.00	-16.80	1.24 V	28	23.00	34.20
2	2483.50	48.9 AV	54.00	-5.10	1.24 V	28	14.70	34.20
3	4924.00	48.7 PK	74.00	-25.30	1.47 V	239	9.80	38.90
4	6336.00	55.5 PK	83.10	-27.60	1.13 V	248	15.60	39.90
4	6336.00	52.0 AV	77.30	-25.30	1.13 V	248	12.10	38.90
5	7386.00	52.0 PK	74.00	-22.00	1.38 V	80	10.00	42.00
5	7386.00	45.5 AV	54.00	-8.50	1.38 V	80	3.50	39.90

- 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. The limit value is defined as per 15.247
 6. “ * ” : Fundamental frequency

4.3 6dB BANDWIDTH MEASUREMENT

4.3.1 LIMITS OF 6dB BANDWIDTH MEASUREMENT

The minimum of 6dB Bandwidth Measurement is 0.5 MHz.

4.3.2 TEST INSTRUMENTS

Description & Manufacturer	Model No.	Serial No.	Calibrated Until
SPECTRUM ANALYZER	FSEK30	100049	July 24, 2003

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

4.3.3 TEST PROCEDURE

The transmitter output was connected to the spectrum analyzer through an attenuator. The bandwidth of the fundamental frequency was measured by spectrum analyzer with 100kHz RBW and 100kHz VBW. The 6dB bandwidth is defined as the total spectrum the power of which is higher than peak power minus 6dB.

4.3.4 DEVIATION FROM TEST STANDARD

No deviation

4.3.5 TEST SETUP



4.3.6 EUT OPERATING CONDITIONS

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

4.3.7 TEST RESULTS

EUT	WLAN Mobile Adapter 2201	MODEL	WLAN Mobile Adapter 2201
INPUT POWER (SYSTEM)	120Vac, 60Hz	ENVIRONMENTAL CONDITIONS	20deg.C, 69%RH, 1005 hPa
TESTED BY: Ansen Lei			

CHANNEL	CHANNEL FREQUENCY (MHz)	6dB BANDWIDTH (MHz)	MINIMUM LIMIT (MHz)	PASS/FAIL
1	2412	11.26	0.5	PASS
6	2437	12.42	0.5	PASS
11	2462	12.18	0.5	PASS

The image shows a spectrum analyzer display with a grid. The vertical axis (Y-axis) is labeled with power levels in dBm, ranging from -79.2 to 20.8. The horizontal axis (X-axis) is labeled with frequency in MHz, ranging from 2.412 GHz to 2.414 GHz. A signal trace is visible, showing a peak at approximately 2.4125 GHz. The peak is labeled with a value of -1.98 dBm. Other labels on the screen include "0.8 dB Offset", "0.44 dB", "11.26252505 MHz", "100 kHz", "100 ms", "Unit", "dBm", "F1", "F2", "Span 20 MHz", "Center 2.412 GHz", "2 MHz", "1V1E", "0.8 dB Offset", "0.44 dB", "11.26252505 MHz", "100 kHz", "100 ms", "Unit", "dBm", "F1", "F2", "Span 20 MHz", "Center 2.412 GHz", "2 MHz", "1V1E".

Delta 1 [T1]
 -0.45 dB
 12.42484970 MHz

Ref Lvl
 20.8 dBm

RBW 100 kHz
 VBW 100 kHz
 SWT 100 ms

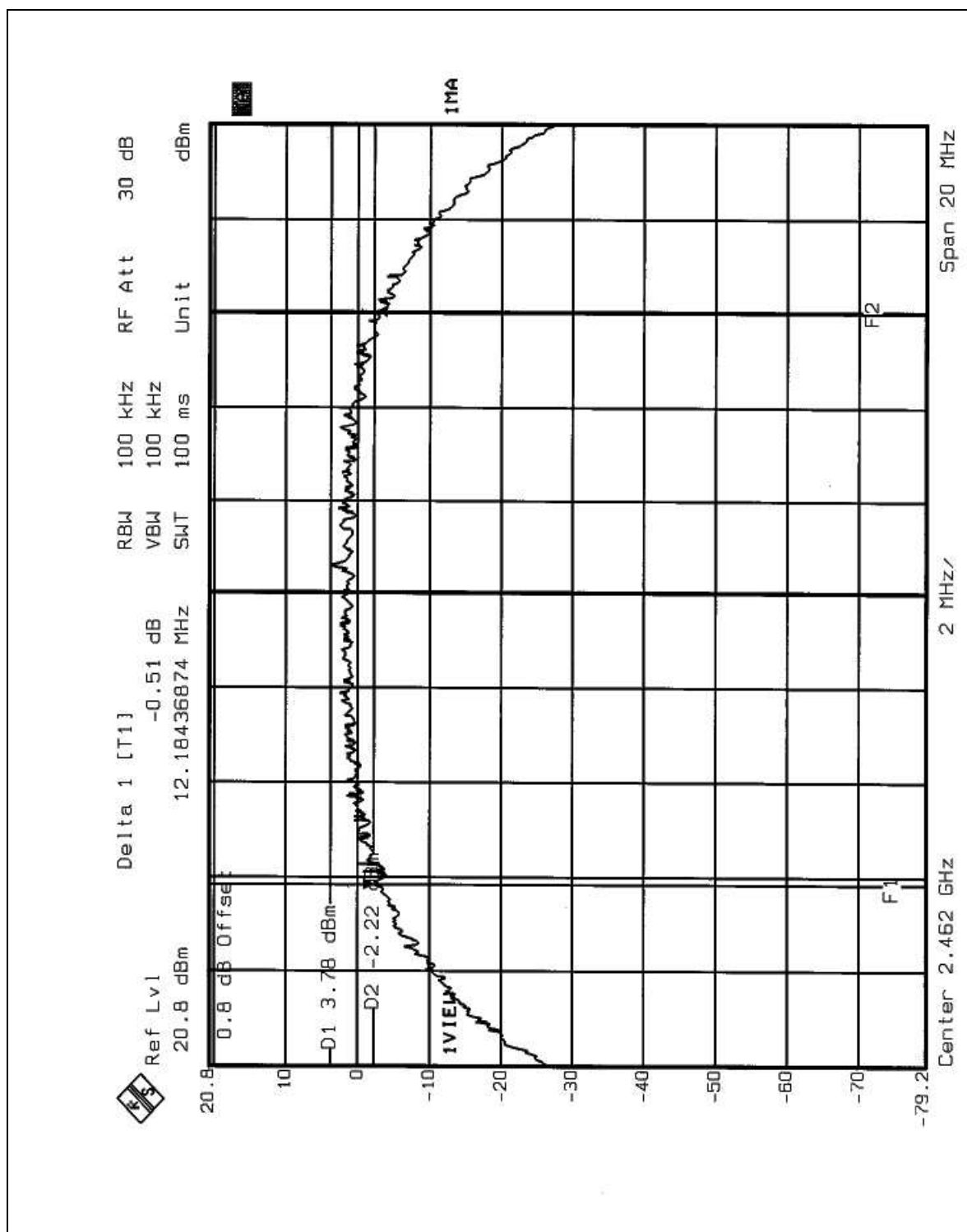
RF Att 30 dB

Unit dBm

0.8 dB Offset
 01 6.08 dBm
 02 0.08 dBm
 1V1BW
 1MA
 F1
 F2

Center 2.437 GHz
 Span 20 MHz

CH11



4.4 MAXIMUM PEAK OUTPUT POWER

4.4.1 LIMITS OF MAXIMUM PEAK OUTPUT POWER MEASUREMENT

The Maximum Peak Output Power Measurement is 30dBm.

4.4.2 INSTRUMENTS

Description & Manufacturer	Model No.	Serial No.	Calibrated Until
PEAK POWER SENSOR	E9327A	US40440722	July 30, 2003
POWER METER	E4416A	GB41291118	July 30, 2003

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

The transmitter output was connected to the peak power meter.

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	WLAN Mobile Adapter 2201	MODEL	WLAN Mobile Adapter 2201
INPUT POWER (SYSTEM)	120Vac, 60Hz	ENVIRONMENTAL CONDITIONS	20deg.C, 69%RH, 1005 hPa
TESTED BY: Ansen Lei			

CHANNEL	CHANNEL FREQUENCY (MHz)	PEAK POWER OUTPUT (dBm)	PEAK POWER LIMIT (dBm)	PASS/FAIL
1	2412	13.56	30	PASS
6	2437	17.42	30	PASS
11	2462	14.58	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	July 24, 2003

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

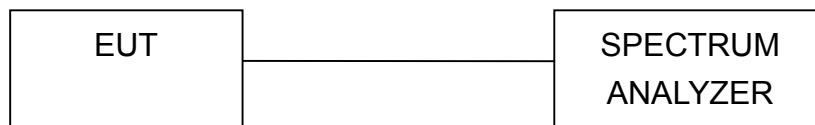
4.5.3 TEST PROCEDURE

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

4.5.4 DEVIATION FROM TEST STANDARD

No deviation

4.5.5 TEST SETUP



4.5.6 EUT OPERATING CONDITION

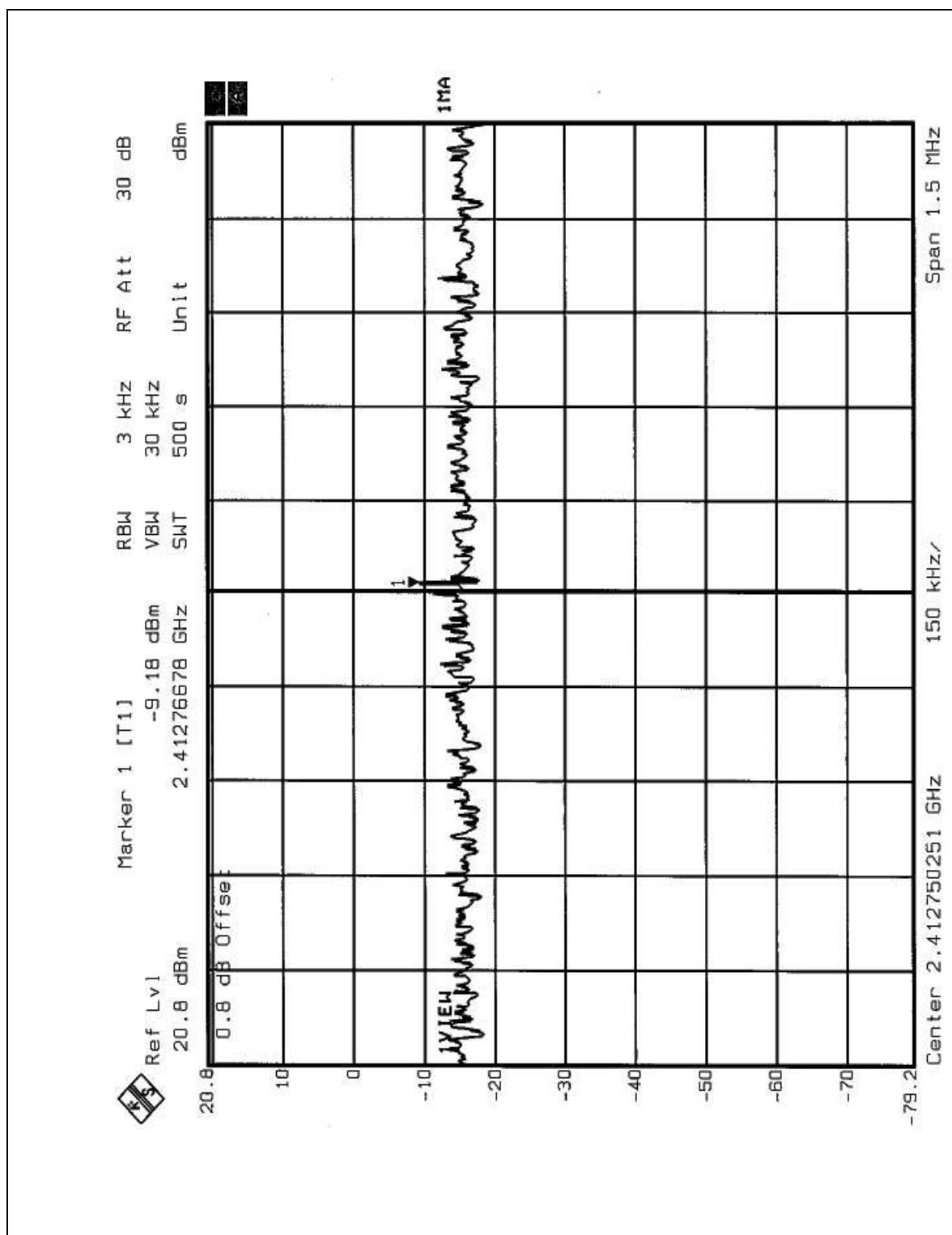
Same as Item 4.3.6

4.5.7 TEST RESULTS

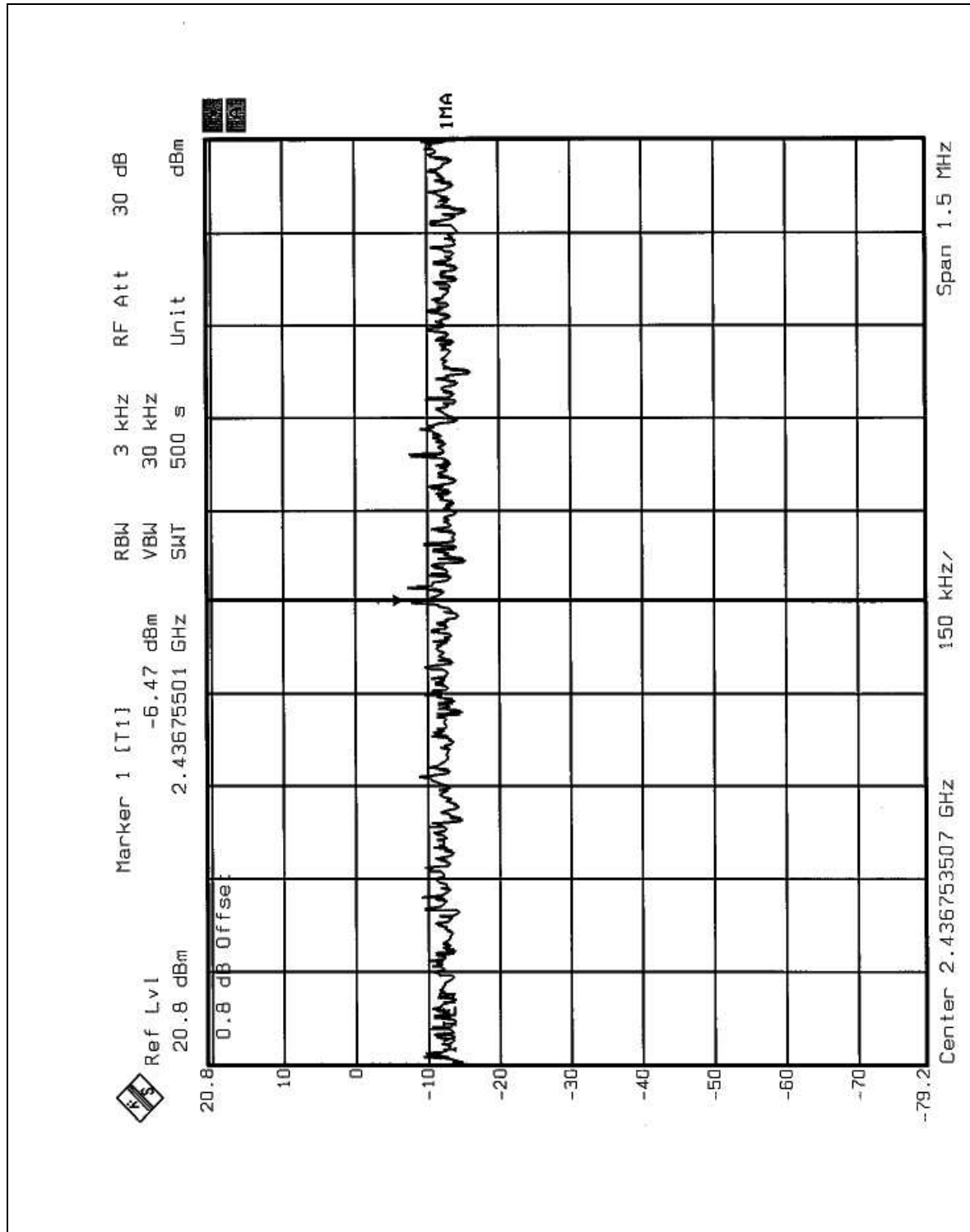
EUT	WLAN Mobile Adapter 2201	MODEL	WLAN Mobile Adapter 2201
INPUT POWER (SYSTEM)	120Vac, 60Hz	ENVIRONMENTAL CONDITIONS	20deg.C, 69%RH, 1005 hPa
TESTED BY: Ansen Lei			

CHANNEL	CHANNEL FREQUENCY (MHz)	RF POWER LEVEL IN 3 kHz BW (dBm)	MAXIMUM LIMIT (dBm)	PASS/FAIL
1	2412	-9.18	8	PASS
6	2437	-6.47	8	PASS
11	2462	-7.95	8	PASS

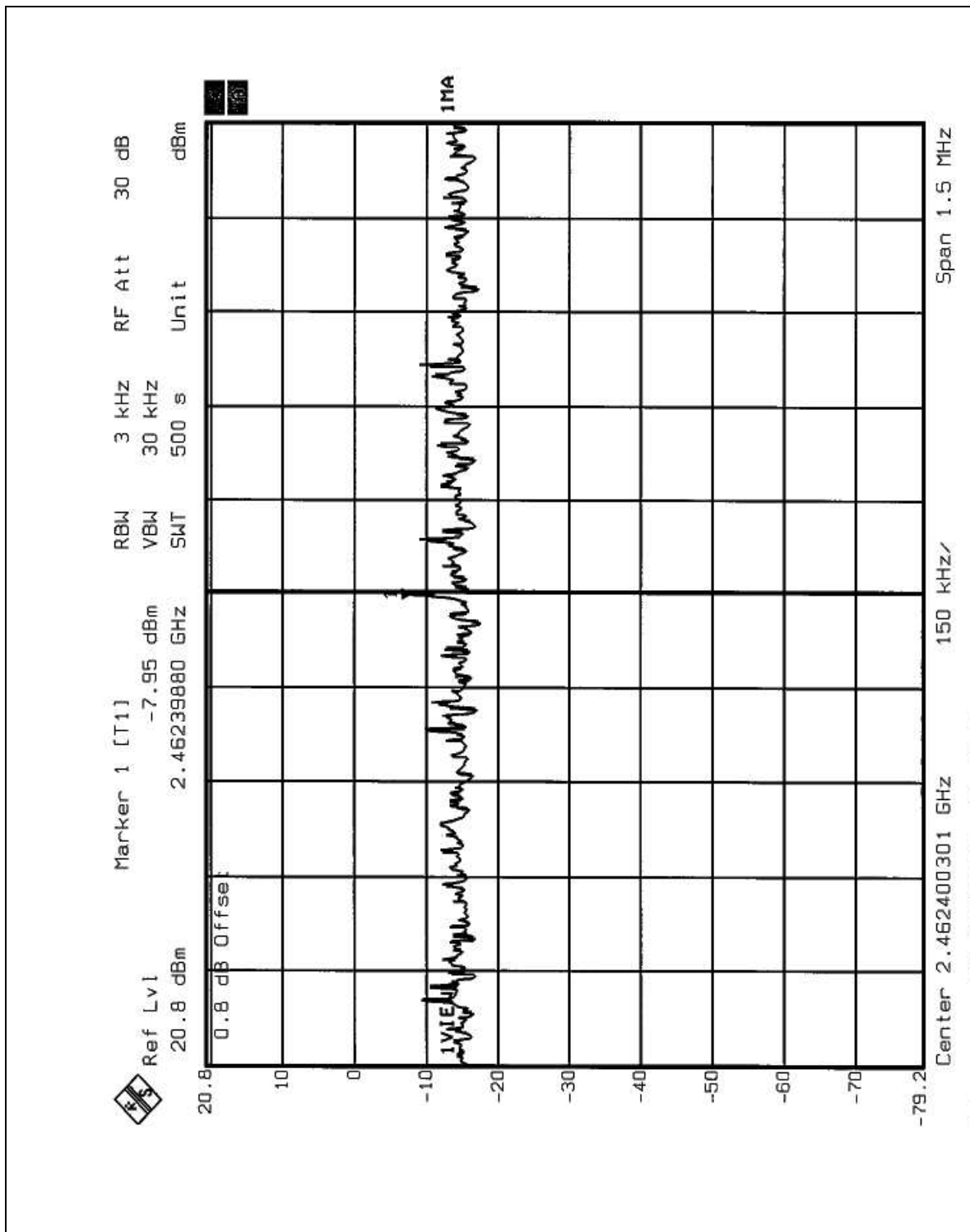
CH1



CH6



CH11



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	July 24, 2003

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 1MkHz and 300Hz with suitable frequency span including 100 kHz bandwidth from band edge. The band edges was measured and recorded.

4.6.4 DEVIATION FROM TEST STANDARD

No deviation



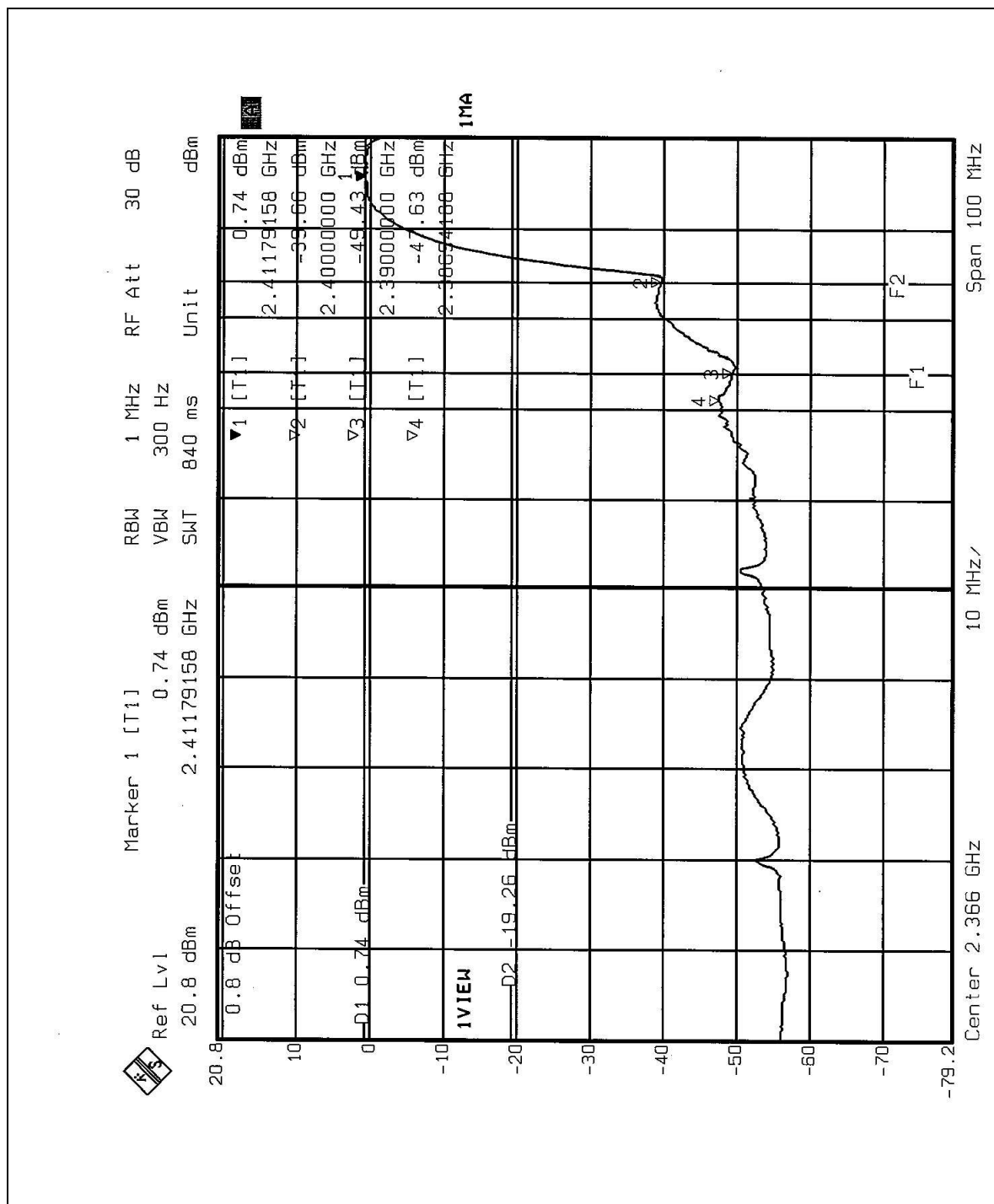
4.6.5 EUT OPERATING CONDITION

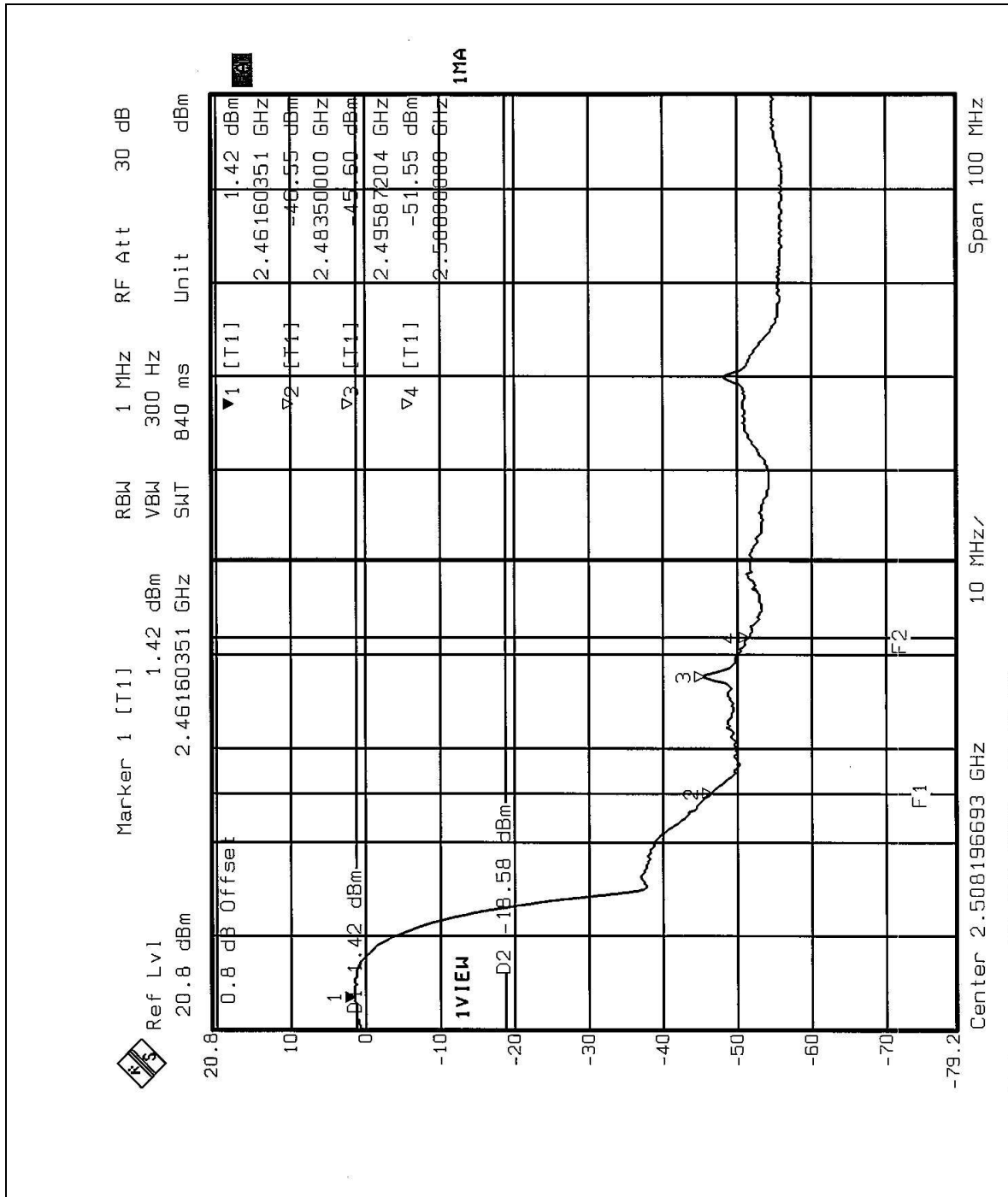
Same as Item 4.3.6

4.6.6 TEST RESULTS

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

NOTE: The band edge emission plot on the following 2 pages shows 47.76dB/45.47dB delta between carrier maximum power and local maximum emission in restrict band (2.3859GHz / 2.4961GHz). The emission of carrier strength list in the test result of channel 11 at the item 4.2.7 is 101.6dBuV/m, so the maximum field strength in restrict band is $101.6 - 48.33 = 53.27$ dBuV/m which is under 54dBuV/m limit.







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 type used in this product is PIFA and without antenna connector. The maximum Gain of the antenna is 3dBi.

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

5.1 CONDUCTED EMISSION MEASUREMENT

5.1.1 LIMITS OF CONDUCTED EMISSION MEASUREMENT

FREQUENCY OF EMISSION (MHz)	CONDUCTED LIMIT (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.

5.1.2 TEST INSTRUMENTS

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATED UNTIL
ROHDE & SCHWARZ Test Receiver	ESHS30	828109/007	July 03, 2003
ROHDE & SCHWARZ Artificial Mains Network (for EUT)	ESH3-Z5	839135/006	July 02, 2003
* ROHDE & SCHWARZ 4-wire ISN	ENY41	838119/028	Nov. 29, 2003
* ROHDE & SCHWARZ 2-wire ISN	ENY22	837497/016	Nov. 29, 2003
EMCO-L.I.S.N. (for peripheral)	3825/2	9204-1964	July 02, 2003
Software	Cond-V2M1	NA	NA
RF cable (JYEBAO)	5D-FB	Cable-C02.01	July 5, 2003
HP Terminator (For EMCO LISN)	11593A	E1-01-298	Feb. 23, 2004
HP Terminator (For EMCO LISN)	11593A	E1-01-299	Feb. 23, 2004

- 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. 2.
 4. The VCCI Site Registration No. is C-240.



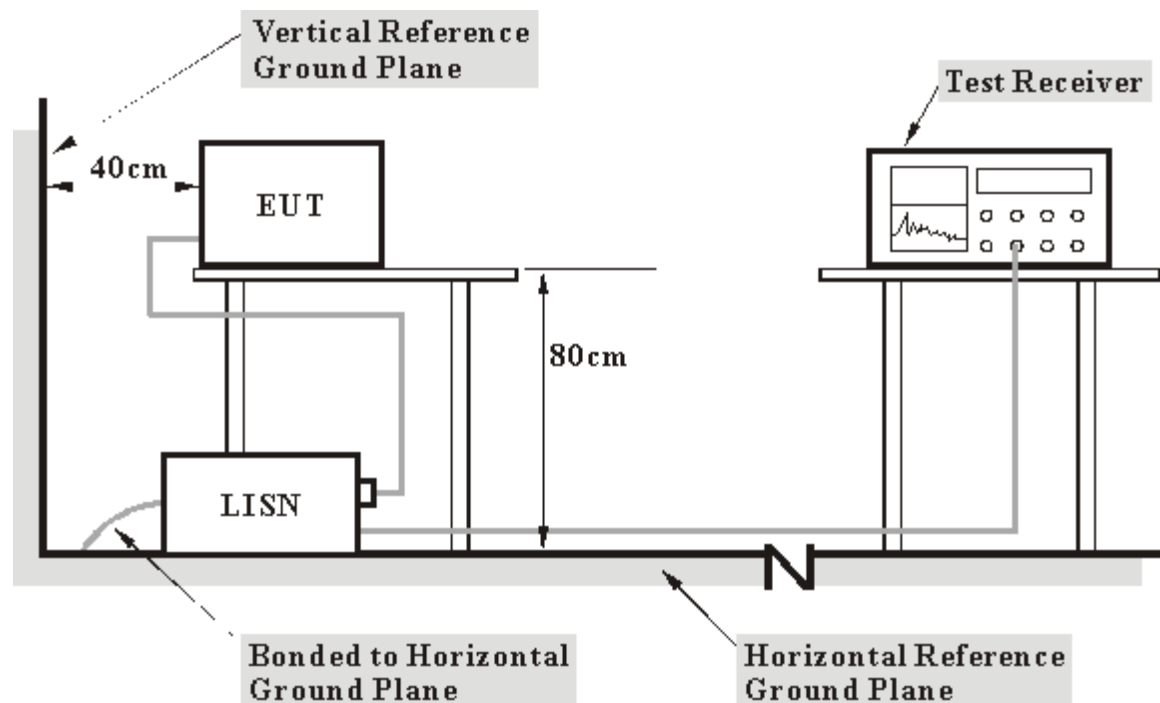
5.1.3 TEST PROCEDURES

- a. The EUT was placed 0.4 meters from the conducting wall of the shielded room with EUT being connected to the power mains through a line impedance stabilization network (LISN). Other support units were connected to the power mains through another LISN. The two LISNs provide 50 ohm/ 50uH of coupling impedance for the measuring instrument.
- b. Both lines of the power mains connected to the EUT were checked for maximum conducted interference.
- c. The frequency range from 150 kHz to 30 MHz was searched. Emission levels over 10dB under the prescribed limits could not be reported

5.1.4 DEVIATION FROM TEST STANDARD

No deviation

5.1.5 TEST SETUP



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

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

5.1.6 EUT OPERATING CONDITIONS

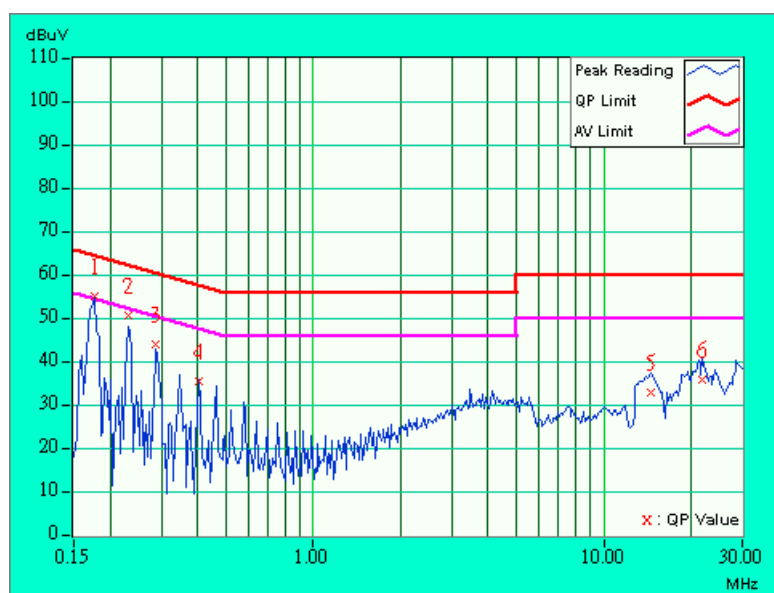
Same as 4.1.6.

5.1.7 TEST RESULTS

EUT	WLAN Mobile Adapter 2201	MODEL	WLAN Mobile Adapter 2201
INPUT POWER (SYSTEM)	120Vac, 60Hz	6dB BANDWIDTH	10 kHz
		PHASE	Line (L)
ENVIRONMENTAL CONDITIONS	25deg. C, 60%RH, 1005hPa	TESTED BY: Gary Chang	

No	Freq.	Corr. Factor	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	53.90	-	54.00	-	64.63	54.63	-10.63	-
2	0.231	0.10	49.61	-	49.71	-	62.41	52.41	-12.70	-
3	0.288	0.10	42.69	-	42.79	-	60.58	50.58	-17.79	-
4	0.405	0.10	34.47	-	34.57	-	57.75	47.75	-23.18	-
5	14.453	0.96	31.72	-	32.68	-	60.00	50.00	-27.32	-
6	21.764	1.24	34.83	-	36.07	-	60.00	50.00	-23.93	-

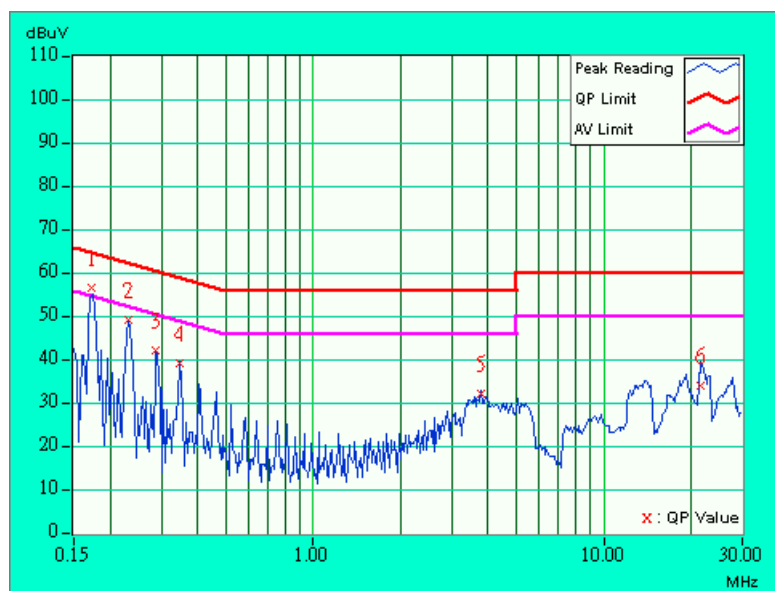
- REMARKS:**
1. Q.P. and AV. are abbreviations of quasi-peak and average individually.
 2. "-": The Quasi-peak reading value also meets average limit and measurement with the average detector is unnecessary.
 3. The emission levels of other frequencies were very low against the limit.
 4. Margin value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



EUT	WLAN Mobile Adapter 2201	MODEL	WLAN Mobile Adapter 2201
INPUT POWER (SYSTEM)	120Vac, 60Hz	6dB BANDWIDTH	10 kHz
		PHASE	Neutral (N)
ENVIRONMENTAL CONDITIONS	25deg. C, 60%RH, 1005hPa	TESTED BY: Gary Chang	

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	0.173	0.10	55.69	44.09	55.79	44.19	64.81	54.81	-9.02	-10.62
2	0.231	0.10	48.26	-	48.36	-	62.41	52.41	-14.05	-
3	0.288	0.10	41.15	-	41.25	-	60.58	50.58	-19.33	-
4	0.348	0.10	38.36	-	38.46	-	59.01	49.01	-20.55	-
5	3.771	0.28	31.02	-	31.30	-	56.00	46.00	-24.70	-
6	21.515	1.06	33.11	-	34.17	-	60.00	50.00	-25.83	-

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



5.2 RADIATED EMISSION MEASUREMENT

5.2.1 LIMITS OF RADIATED EMISSION MEASUREMENT

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

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

NOTE:

1. The lower limit shall apply at the transition frequencies.
2. Emission level (dBuV/m) = 20 log Emission level (uV/m).
3. As shown in 15.35(b), for frequencies 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.

5.2.2 LIMITS OF UNWANTED EMISSION OUT OF THE RESTRICTED BANDS

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

NOTE:

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

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

5.2.3 TEST INSTRUMENTS

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATED UNTIL
* HP Spectrum Analyzer	8590L	3544A01176	May 13, 2003
* HP Preamplifier	8447D	2944A08485	Apr. 29, 2003
* HP Preamplifier	8449B	3008A01201	Dec. 01, 2003
* HP Preamplifier	8449B	3008A01292	Aug. 07, 2003
*Spectrum Analyzer	8593E	3926A04191	Mar. 28, 2003
*Test Receiver	ESI7	838496/016	Feb. 23, 2004
SCHAFFNER Tunable Dipole Antenna	VHBA 9123	459	Nov. 22, 2003
SCHWARZBECK Tunable Dipole Antenna	UHA 9105	977	
* CHASE BILOG Antenna	CBL6112A	2221	Aug. 02, 2003
* SCHWARZBECK Horn Antenna	BBHA9120-D1	D130	July 03, 2003
* EMCO Horn Antenna	3115	9312-4192	Apr. 09, 2003
* EMCO Turn Table	1060	1115	NA
* SHOSHIN Tower	AP-4701	A6Y005	NA
* Software	ADT_Radiated_V5.09	NA	NA
* ANRITSU RF Switches	MP59B	M35046	Jul. 11. 2003
* TIMES RF cable	LMR-600	CABLE-ST5-01	Jul. 11. 2003

- 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 the final measurement.
3. The horn antenna and HP preamplifier (model: 8449B) are used only for the measurement of emission frequency above 1GHz if tested.
4. The test was performed in ADT Open Site No. 5.
5. The VCCI Site Registration No. is R-1039.

5.2.4 TEST PROCEDURES

- a. The EUT was placed on the top of a rotating table 0.8 meters above the ground at a 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 10dB lower than the limit specified, then testing could be stopped and the peak values of the EUT would be reported. Otherwise the emissions that did not have 10dB margin would be re-tested one by one using peak, quasi-peak or average method as specified and then reported in a data sheet.

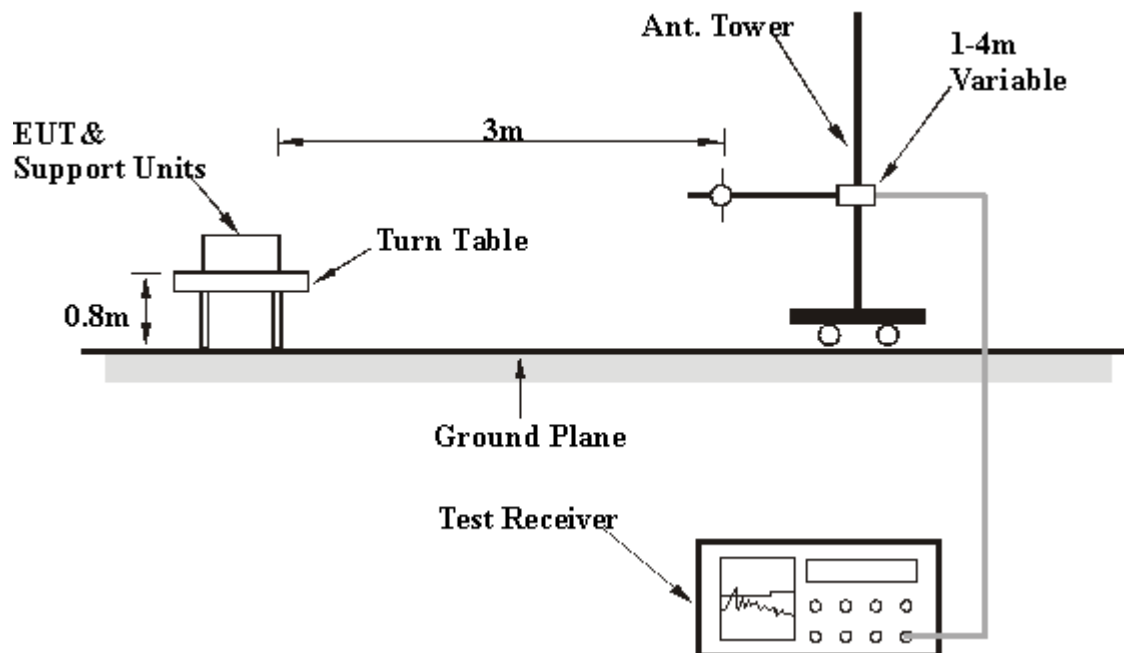
NOTE:

1. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 120kHz for Peak detection (PK) and Quasi-peak detection (QP) at frequency below 1GHz.
2. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 1 MHz for Peak detection at frequency above 1GHz.
3. The resolution bandwidth of test receiver/spectrum analyzer is 1 MHz and the video bandwidth is 300 Hz for Average detection (AV) at frequency above 1GHz.

5.2.5 DEVIATION FROM TEST STANDARD

No deviation

5.2.6 TEST SETUP



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

5.2.7 EUT OPERATING CONDITIONS

Same as 4.1.6.

5.2.8 TEST RESULTS

EUT	WLAN Mobile Adapter 2201	MODEL	WLAN Mobile Adapter 2201
FREQUENCY RANGE	Below 1000 MHz	DETECTOR FUNCTION	Quasi-Peak
ENVIRONMENTAL CONDITIONS	19deg. C, 55%RH, 1050 hPa	INPUT POWER (SYSTEM)	120Vac, 60Hz
TESTED BY	Bunny Yao		

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	236.00	23.6 QP	46.00	-22.40	1.47 H	201	6.70	17.00
2	240.00	23.6 QP	46.00	-22.40	1.14 H	45	6.20	17.40
3	300.00	24.2 QP	46.00	-21.80	1.15 H	14	4.30	19.90
4	353.00	25.9 QP	46.00	-20.10	1.47 H	48	4.50	21.50
5	460.00	26.6 QP	46.00	-19.40	1.25 H	147	2.50	24.10
6	526.00	26.0 QP	46.00	-20.00	1.10 H	186	0.60	25.40

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	232.80	25.4 QP	46.00	-20.60	1.04 V	78	8.80	16.60
2	240.00	31.1 QP	46.00	-14.90	1.30 V	329	13.70	17.40
3	302.00	26.2 QP	46.00	-19.80	1.51 V	105	6.20	20.00
4	355.50	29.2 QP	46.00	-16.80	1.20 V	266	7.60	21.60
5	462.30	32.5 QP	46.00	-13.50	1.21 V	9	8.40	24.10
6	526.00	32.9 QP	46.00	-13.10	1.21 V	78	7.50	25.40

- 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.

5.2.9 TEST RESULTS

EUT	WLAN Mobile Adapter 2201	MODEL	WLAN Mobile Adapter 2201
MODE	Normal Mode	CHANNEL	1
FREQUENCY RANGE	Above 1000 MHz	DETECTOR FUNCTION	Peak(PK) Average (AV)
ENVIRONMENTAL CONDITIONS	19deg. C, 55%RH, 1050 hPa	INPUT POWER (SYSTEM)	120Vac, 60Hz
TESTED BY	Bunny Yao		

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)	Remark
1	5150.00	59.2 PK	74.00	-14.80	2.03 H	288	20.00	39.20	NOTE 6
1	5150.00	49.6 AV	54.00	-4.40	2.03 H	288	10.40	39.20	NOTE 6
2	*5180.00	104.2 PK			2.03 H	288	65.00	39.20	
2	*5180.00	94.3 AV			2.03 H	288	55.10	39.20	
3	10360.00	52.7 PK	68.30	-15.60	1.56 H	75	8.60	44.20	

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)	Remark
1	5148.00	64.4 PK	74.00	-9.60	1.39 V	217	25.20	39.20	NOTE 6
1	5148.00	52.1 AV	54.00	-1.90	1.39 V	217	13.00	39.20	NOTE 6
2	*5180.00	108.2 PK			1.67 V	218	69.00	39.20	
2	*5180.00	99.8 AV			1.67 V	218	60.60	39.20	
3	10360.00	51.4 PK	68.30	-16.90	1.28 V	25	7.30	44.20	

- 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.
 6. The radiated frequency falling in the restricted band.

EUT	WLAN Mobile Adapter 2201	MODEL	WLAN Mobile Adapter 2201
MODE	Normal Mode	CHANNEL	4
FREQUENCY RANGE	Above 1000 MHz	DETECTOR FUNCTION	Peak(PK) Average (AV)
ENVIRONMENTAL CONDITIONS	19deg. C, 55%RH, 1050 hPa	INPUT POWER (SYSTEM)	120Vac, 60Hz
TESTED BY	Bunny Yao		

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	*5240.00	104.0 PK			1.36 H	220	64.70	39.30
1	*5240.00	93.8 AV			1.36 H	220	54.50	39.30
2	10480.00	51.5 PK	68.30	-16.80	1.68 H	324	7.00	44.50

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	*5240.00	107.3 PK			1.23 V	219	68.00	39.30
1	*5240.00	97.5 AV			1.23 V	219	58.20	39.30
2	10480.00	52.3 PK	68.30	-16.00	1.75 V	15	7.80	44.50

- 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	WLAN Mobile Adapter 2201	MODEL	WLAN Mobile Adapter 2201
MODE	Normal Mode	CHANNEL	5
FREQUENCY RANGE	Above 1000 MHz	DETECTOR FUNCTION	Peak(PK) Average (AV)
ENVIRONMENTAL CONDITIONS	19deg. C, 55%RH, 1050 hPa	INPUT POWER (SYSTEM)	120Vac, 60Hz
TESTED BY	Bunny Yao		

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	*5260.00	104.8 PK			1.22 H	239	65.50	39.30
1	*5260.00	94.5 AV			1.22 H	239	55.20	39.30
2	10520.00	52.4 PK	68.30	-15.90	1.87 H	184	7.90	44.60

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	*5260.00	108.5 PK			1.43 V	189	69.20	39.30
1	*5260.00	100.2 AV			1.43 V	189	60.90	39.30
2	10520.00	53.6 PK	68.30	-14.70	2.08 V	342	9.10	44.60

- 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	WLAN Mobile Adapter 2201	MODEL	WLAN Mobile Adapter 2201
MODE	Normal Mode	CHANNEL	8
FREQUENCY RANGE	Above 1000 MHz	DETECTOR FUNCTION	Peak(PK) Average (AV)
ENVIRONMENTAL CONDITIONS	19deg. C, 55%RH, 1050 hPa	INPUT POWER (SYSTEM)	120Vac, 60Hz
TESTED BY	Bunny Yao		

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)	Remark
1	*5320.00	103.0 PK			1.36 H	198	63.70	39.30	
1	*5320.00	93.7 AV			1.36 H	198	54.40	39.30	
2	5352.00	60.8 PK	74.00	-13.20	1.36 H	198	21.40	39.40	NOTE 6
2	5352.00	49.6 AV	54.00	-4.40	1.36 H	198	10.20	39.40	NOTE 6
3	10640.00	51.4 PK	74.00	-22.60	1.65 H	20	6.70	44.60	NOTE 6
3	10640.00	41.8 AV	54.00	-12.20	1.65 H	20	-2.90	44.60	NOTE 6

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)	Remark
1	*5320.00	106.7 PK			1.69 V	220	67.40	39.30	
1	*5320.00	97.5 AV			1.69 V	220	58.20	39.30	
2	5352.00	64.8 PK	74.00	-9.20	1.69 V	220	25.40	39.40	NOTE 6
2	5352.00	52.1 AV	54.00	-1.90	1.69 V	220	12.70	39.40	NOTE 6
3	10640.00	50.4 PK	74.00	-23.60	1.70 V	123	5.70	44.60	NOTE 6
3	10640.00	41.1 AV	54.00	-12.90	1.70 V	123	-3.60	44.60	NOTE 6

- 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.
 6. The radiated frequency falling in the restricted band.

EUT	WLAN Mobile Adapter 2201	MODEL	WLAN Mobile Adapter 2201
MODE	Normal Mode	CHANNEL	9
FREQUENCY RANGE	Above 1000 MHz	DETECTOR FUNCTION	Peak(PK) Average (AV)
ENVIRONMENTAL CONDITIONS	19deg. C, 55%RH, 1050 hPa	INPUT POWER (SYSTEM)	120Vac, 60Hz
TESTED BY	Bunny Yao		

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)	Remark
1	5715.00	59.6 PK	68.30	-8.70	1.85 H	158	20.00	39.60	
2	5725.00	72.5 PK	78.30	-5.80	1.85 H	158	32.90	39.60	
3	*5745.00	103.0 PK			1.68 H	158	63.40	39.60	
3	*5745.00	94.6 AV			1.68 H	158	55.00	39.60	
4	11490.00	53.1 PK	74.00	-20.90	1.26 H	80	7.70	45.40	NOTE 6
4	11490.00	43.6 AV	54.00	-10.40	1.26 H	80	-1.80	45.40	NOTE 6

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)	Remark
1	5715.00	64.8 PK	68.30	-3.50	1.35 V	220	25.20	39.60	
2	5725.00	76.0 PK	78.30	-2.30	1.27 V	226	36.40	39.60	
3	*5745.00	107.3 PK			1.35 V	220	67.70	39.60	
3	*5745.00	99.4 AV			1.35 V	220	59.80	39.60	
4	11490.00	51.4 PK	74.00	-22.60	1.99 V	65	6.00	45.40	NOTE 6
4	11490.00	41.9 AV	54.00	-12.10	1.99 V	65	-3.50	45.40	NOTE 6

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.
6. The radiated frequency falling in the restricted band.

EUT	WLAN Mobile Adapter 2201	MODEL	WLAN Mobile Adapter 2201
MODE	Normal Mode	CHANNEL	12
FREQUENCY RANGE	Above 1000 MHz	DETECTOR FUNCTION	Peak(PK) Average (AV)
ENVIRONMENTAL CONDITIONS	19deg. C, 55%RH, 1050 hPa	INPUT POWER (SYSTEM)	120Vac, 60Hz
TESTED BY	Bunny Yao		

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)	Remark
1	*5805.00	102.4 PK			1.75 H	50	62.70	39.70	
1	*5805.00	92.9 AV			1.75 H	50	53.20	39.70	
2	5825.00	72.8 PK	78.30	-5.50	1.75 H	50	33.10	39.70	
3	5835.00	61.9 PK	68.30	-6.40	1.85 H	50	22.20	39.70	
4	11610.00	51.9 PK	74.00	-22.10	2.15 H	248	6.30	45.60	NOTE 6
4	11610.00	41.4 AV	54.00	-12.60	2.15 H	248	-4.20	45.60	NOTE 6

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)	Remark
1	*5805.00	106.6 PK			1.25 V	220	66.90	39.70	
1	*5805.00	96.9 AV			1.25 V	220	57.20	39.70	
2	5825.00	76.3 PK	78.30	-2.00	1.19 V	212	36.60	39.70	
3	5835.00	65.8 PK	68.30	-2.50	1.20 V	220	26.10	39.70	
4	11610.00	53.4 PK	74.00	-20.60	1.80 V	197	7.80	45.60	NOTE 6
4	11610.00	43.2 AV	54.00	-10.80	1.80 V	197	-2.40	45.60	NOTE 6

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.
6. The radiated frequency falling in the restricted band.

EUT	WLAN Mobile Adapter 2201	MODEL	WLAN Mobile Adapter 2201
MODE	Turbo Mode	CHANNEL	1
FREQUENCY RANGE	Above 1000 MHz	DETECTOR FUNCTION	Peak(PK) Average (AV)
ENVIRONMENTAL CONDITIONS	19deg. C, 55%RH, 1050 hPa	INPUT POWER (SYSTEM)	120Vac, 60Hz
TESTED BY	Bunny Yao		

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)	Remark
1	5150.00	54.9 PK	74.00	-19.10	1.25 H	80	15.70	39.20	NOTE 6
1	5150.00	43.7 AV	54.00	-10.30	1.25 H	80	4.50	39.20	NOTE 6
2	*5210.00	102.2 PK			1.37 H	76	63.00	39.20	
2	*5210.00	93.6 AV			1.37 H	76	54.40	39.20	
3	10420.00	51.9 PK	68.30	-16.40	1.72 H	358	7.60	44.30	

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)	Remark
1	5150.00	60.6 PK	74.00	-13.40	1.13 V	222	21.40	39.20	NOTE 6
1	5150.00	49.2 AV	54.00	-4.80	1.13 V	222	10.10	39.20	NOTE 6
2	*5210.00	106.3 PK			1.25 V	225	67.10	39.20	
2	*5210.00	97.6 AV			1.25 V	225	58.40	39.20	
3	10420.00	53.3 PK	68.30	-15.00	1.05 V	263	9.00	44.30	

- 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.
 6. The radiated frequency falling in the restricted band.

EUT	WLAN Mobile Adapter 2201	MODEL	WLAN Mobile Adapter 2201
MODE	Turbo Mode	CHANNEL	2
FREQUENCY RANGE	Above 1000 MHz	DETECTOR FUNCTION	Peak(PK) Average (AV)
ENVIRONMENTAL CONDITIONS	19deg. C, 55%RH, 1050 hPa	INPUT POWER (SYSTEM)	120Vac, 60Hz
TESTED BY	Bunny Yao		

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	*5250.00	100.7 PK			1.88 H	41	61.40	39.30
1	*5250.00	92.7 AV			1.88 H	41	53.40	39.30
2	10500.00	53.0 PK	68.30	-15.30	1.47 H	20	8.50	44.60

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	*5250.00	105.2 PK			1.12 V	225	65.90	39.30
1	*5250.00	96.6 AV			1.12 V	225	57.30	39.30
2	10500.00	54.6 PK	68.30	-13.70	1.84 V	156	10.10	44.60

- 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	WLAN Mobile Adapter 2201	MODEL	WLAN Mobile Adapter 2201
MODE	Turbo Mode	CHANNEL	3
FREQUENCY RANGE	Above 1000 MHz	DETECTOR FUNCTION	Peak(PK) Average (AV)
ENVIRONMENTAL CONDITIONS	19deg. C, 55%RH, 1050 hPa	INPUT POWER (SYSTEM)	120Vac, 60Hz
TESTED BY	Bunny Yao		

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)	Remark
1	*5290.00	110.0 PK			1.44 H	6	70.70	39.30	
1	*5290.00	92.4 AV			1.44 H	6	53.10	39.30	
2	5350.00	54.4 PK	74.00	-19.60	1.44 H	6	15.00	39.40	NOTE 6
2	5350.00	43.6 AV	54.00	-10.40	1.44 H	6	4.20	39.40	NOTE 6
3	10580.00	53.2 PK	68.30	-15.10	2.13 H	43	8.60	44.60	

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)	Remark
1	*5290.00	103.6 PK			1.18 V	200	64.30	39.30	
1	*5290.00	97.1 AV			1.18 V	200	57.80	39.30	
2	5350.00	62.5 PK	74.00	-11.50	1.10 V	189	23.10	39.40	NOTE 6
2	5350.00	50.4 AV	54.00	-3.60	1.10 V	189	11.00	39.40	NOTE 6
3	10580.00	54.5 PK	68.30	-13.80	1.52 V	164	9.90	44.60	

- 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.
 6. The radiated frequency falling in the restricted band.

EUT	WLAN Mobile Adapter 2201	MODEL	WLAN Mobile Adapter 2201
MODE	Turbo Mode	CHANNEL	4
FREQUENCY RANGE	Above 1000 MHz	DETECTOR FUNCTION	Peak(PK) Average (AV)
ENVIRONMENTAL CONDITIONS	19deg. C, 55%RH, 1050 hPa	INPUT POWER (SYSTEM)	120Vac, 60Hz
TESTED BY	Bunny Yao		

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)	Remark
1	5715.00	61.3 PK	68.30	-7.00	1.38 H	60	21.70	39.60	
2	5725.00	72.7 PK	78.30	-5.60	1.38 H	54	33.10	39.60	
3	*5760.00	102.0 PK			1.25 H	58	62.40	39.60	
3	*5760.00	93.4 AV			1.25 H	58	53.80	39.60	
4	11520.00	52.3 PK	74.00	-21.70	1.55 H	15	6.80	45.50	NOTE 6

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)	Remark
1	5715.00	66.1 PK	68.30	-2.20	1.25 V	220	26.50	39.60	
2	5725.00	76.4 PK	78.30	-1.90	1.18 V	220	36.80	39.60	
3	*5760.00	106.5 PK			1.18 V	220	66.90	39.60	
3	*5760.00	97.6 AV			1.18 V	220	58.00	39.60	
4	11520.00	54.3 PK	74.00	-19.70	2.10 V	178	8.80	45.50	NOTE 6
4	11520.00	43.7 AV	54.00	-10.30	2.10 V	178	-1.80	45.50	NOTE 6

- 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.
 6. The radiated frequency falling in the restricted band.

EUT	WLAN Mobile Adapter 2201	MODEL	WLAN Mobile Adapter 2201
MODE	Turbo Mode	CHANNEL	5
FREQUENCY RANGE	Above 1000 MHz	DETECTOR FUNCTION	Peak(PK) Average (AV)
ENVIRONMENTAL CONDITIONS	19deg. C, 55%RH, 1050 hPa	INPUT POWER (SYSTEM)	120Vac, 60Hz
TESTED BY	Bunny Yao		

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)	Remark
1	*5800.00	94.5 PK			1.25 H	15	54.80	39.70	
1	*5800.00	87.5 AV			1.25 H	15	47.80	39.70	
2	5825.00	73.4 PK	78.30	-4.90	1.38 H	23	33.70	39.70	
3	5835.00	63.3 PK	68.30	-5.00	1.38 H	10	23.60	39.70	
4	11600.00	52.1 PK	74.00	-21.90	1.95 H	28	6.50	45.60	NOTE 6
4	11600.00	40.6 AV	54.00	-13.40	1.95 H	28	-5.00	45.60	NOTE 6

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)	Remark
1	*5800.00	99.4 PK			1.34 V	20	59.70	39.70	
1	*5800.00	91.8 AV			1.34 V	20	52.10	39.70	
2	5825.00	76.2 PK	78.30	-2.10	1.18 V	212	36.50	39.70	
3	5835.00	66.4 PK	68.30	-1.90	1.28 V	212	26.70	39.70	
4	11600.00	53.4 PK	74.00	-20.60	1.58 V	20	7.80	45.60	NOTE 6
4	11600.00	42.1 AV	54.00	-11.90	1.58 V	20	-3.50	45.60	NOTE 6

- 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.
 6. The radiated frequency falling in the restricted band.

5.3 PEAK TRANSMIT POWER MEASUREMENT

5.3.1 LIMITS OF PEAK TRANSMIT POWER MEASUREMENT

Frequency Band	Limit
5.15 – 5.25 GHz	The lesser of 50mW (17dBm) or 4dBm + 10logB
5.25 – 5.35 GHz	The lesser of 250mW (24dBm) or 11dBm + 10logB
5.725 – 5.825 GHz	The lesser of 1W (30dBm) or 17dBm + 10logB

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

5.3.2 TEST INSTRUMENTS

Description & Manufacturer	Model No.	Serial No.	Calibrated Until
SPECTRUM ANALYZER	FSEK30	100049	July 24, 2003

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

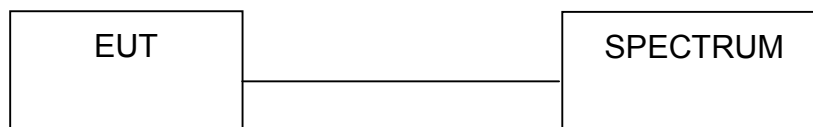
5.3.3 TEST PROCEDURE

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 30kHz.
4. Using the spectrum analyzer's band power measurement function to measure the output power.

5.3.4 DEVIATION FROM TEST STANDARD

No deviation

5.3.5 TEST SETUP



5.3.6 EUT OPERATING CONDITIONS

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

5.3.7 TEST RESULTS

EUT	WLAN Mobile Adapter 2201	MODEL	WLAN Mobile Adapter 2201
MODE	Normal	INPUT POWER (SYSTEM)	120Vac, 60 Hz
ENVIRONMENTAL CONDITIONS	19deg. C, 68%RH, 1005 hPa	TESTED BY	Ansen Lei

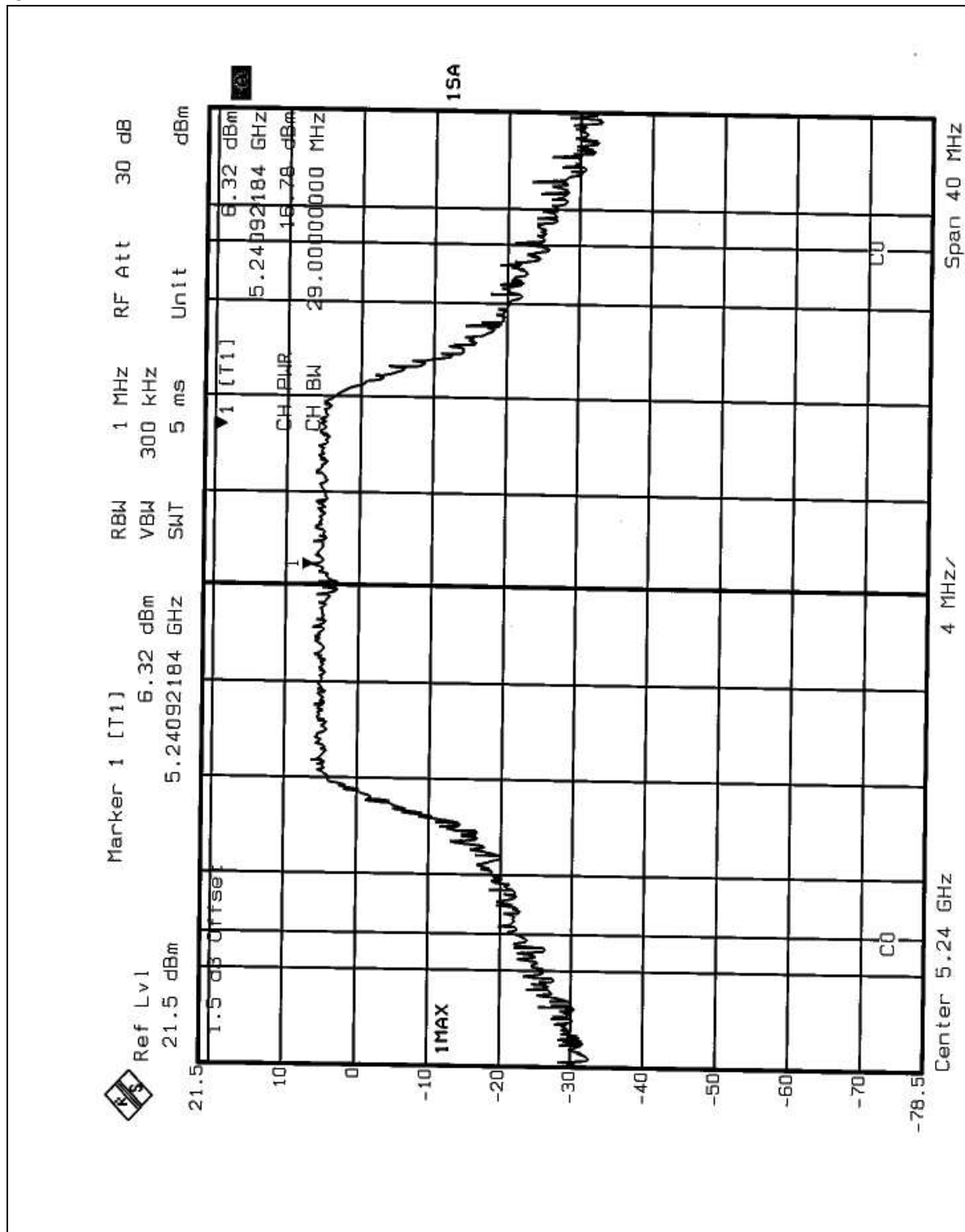
CHANNEL	CHANNEL FREQUENCY (MHz)	PEAK POWER OUTPUT (dBm)	PEAK POWER LIMIT (dBm)	26dBc Occupied Bandwidth (MHz)	PASS/FAIL
1	5180	16.63	17.00	28.297	PASS
4	5240	16.78	17.00	29.018	PASS
5	5260	21.57	24.00	37.515	PASS
8	5320	18.48	24.00	28.377	PASS
9	5745	18.25	30.00	31.583	PASS
12	5805	16.27	30.00	29.419	PASS

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

Marker 1 [T1]
 Ref Lvl 21.5 dBm
 1.5 dB Offset
 6.28 dBm
 5.18494489 GHz
 RBW 1 MHz
 VBW 300 kHz
 SWT 5 ms
 RF Att 30 dB
 Unit dBm

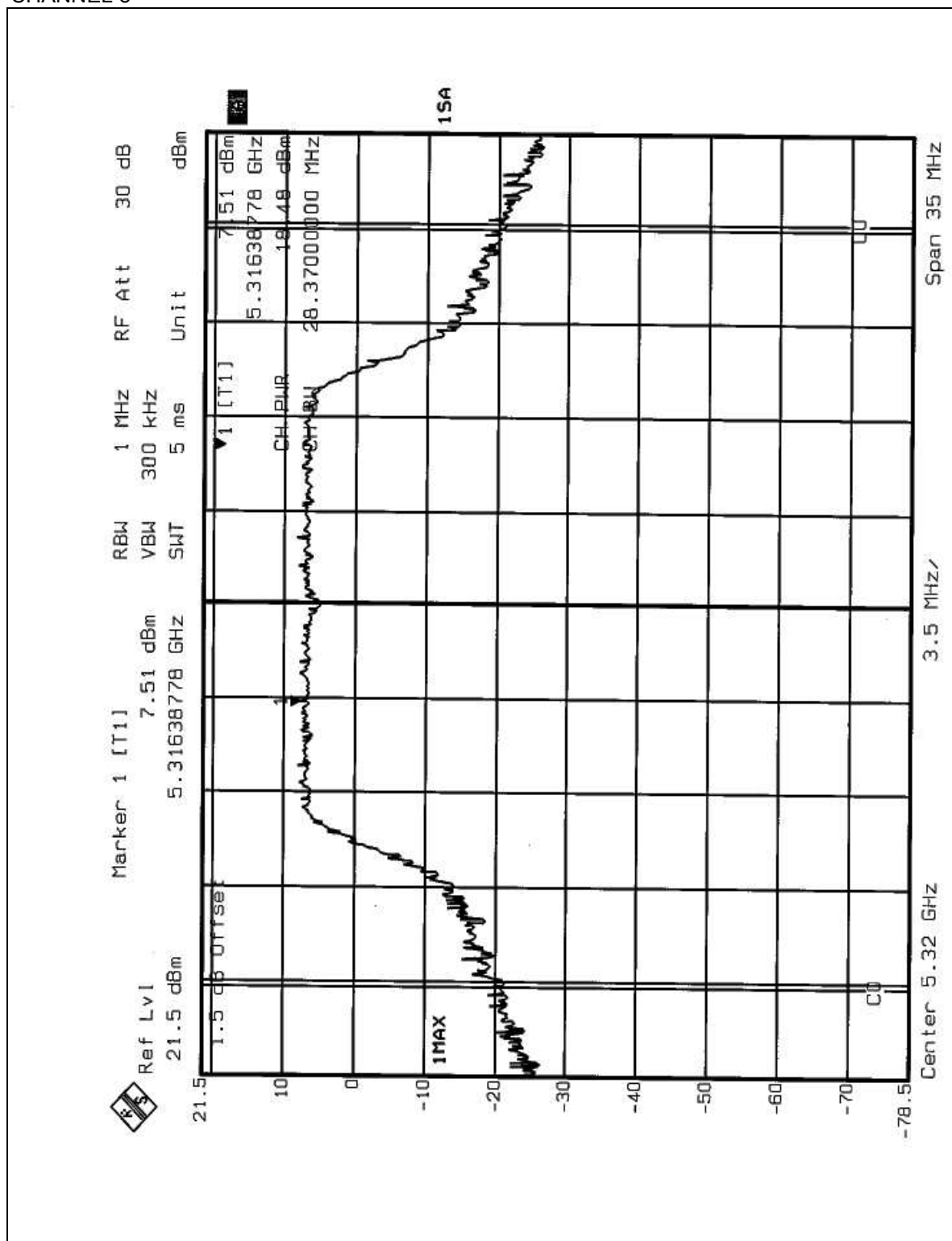
1MAX
 1 [T1]
 CH FUR
 CH BW
 5.18494489 GHz
 16.53 dBm
 28.29000000 MHz
 15A
 Center 5.18 GHz
 Span 35 MHz
 -78.5
 -70
 -60
 -50
 -40
 -30
 -20
 -10
 0
 10
 21.5

CHANNEL 4

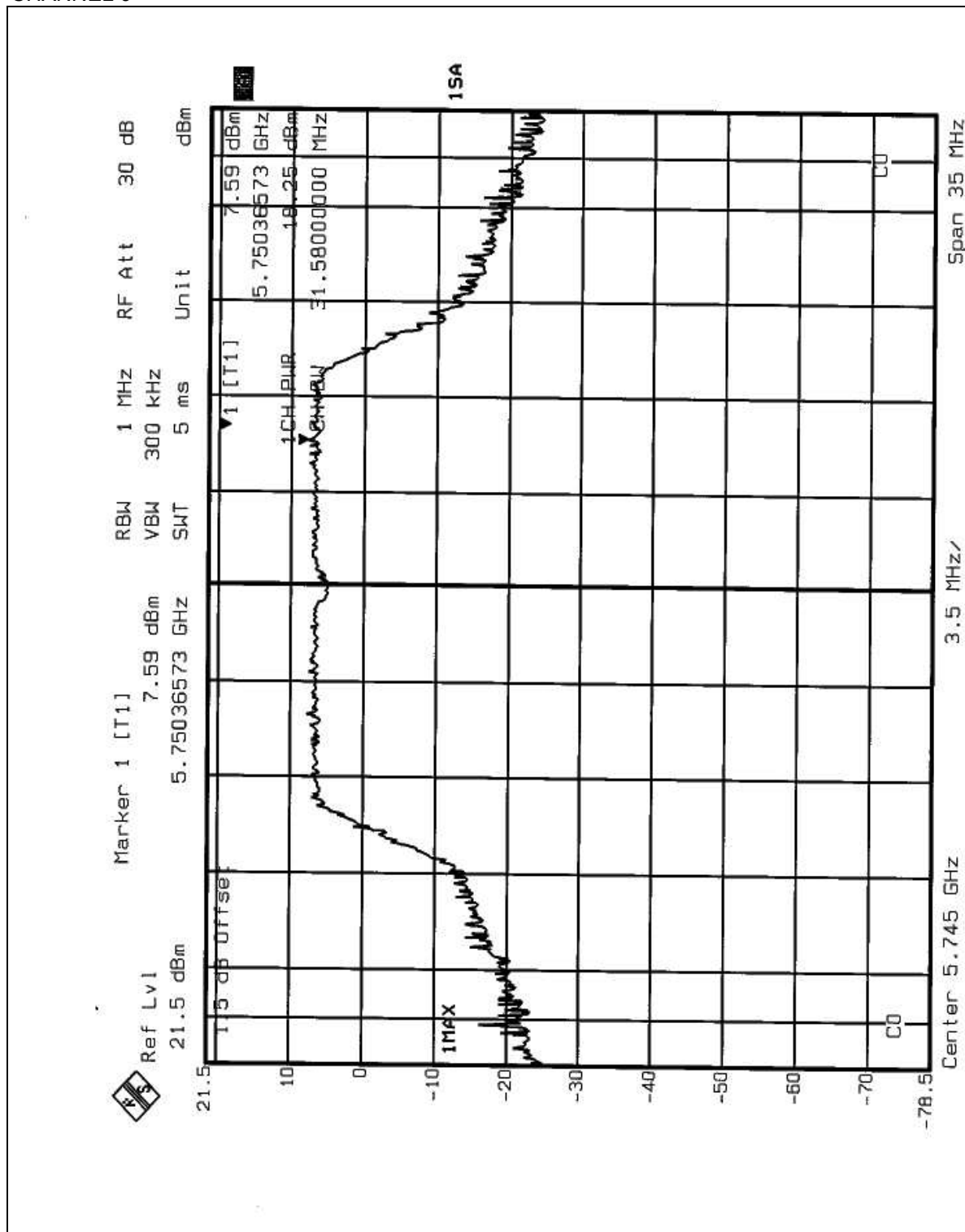


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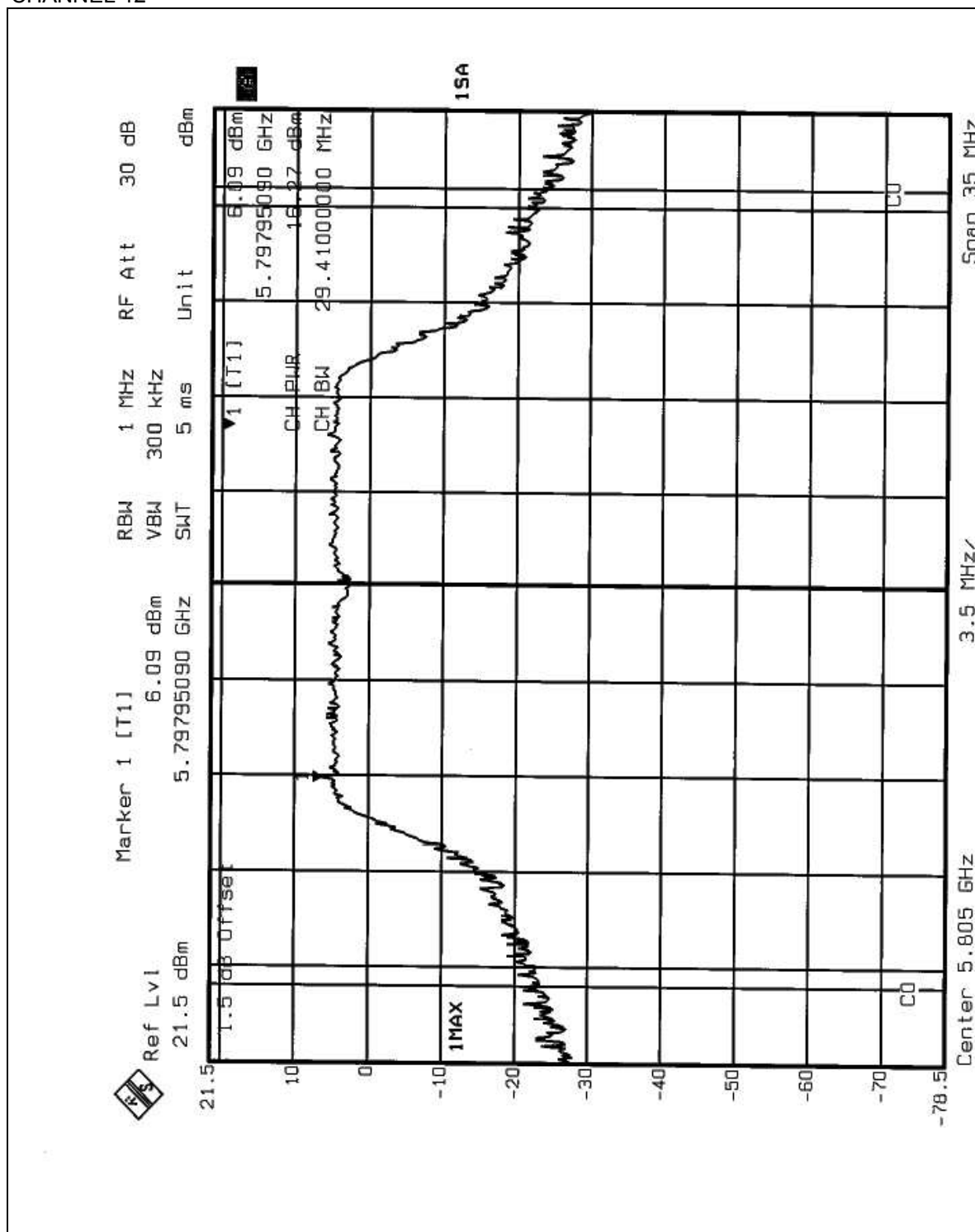
CHANNEL 8



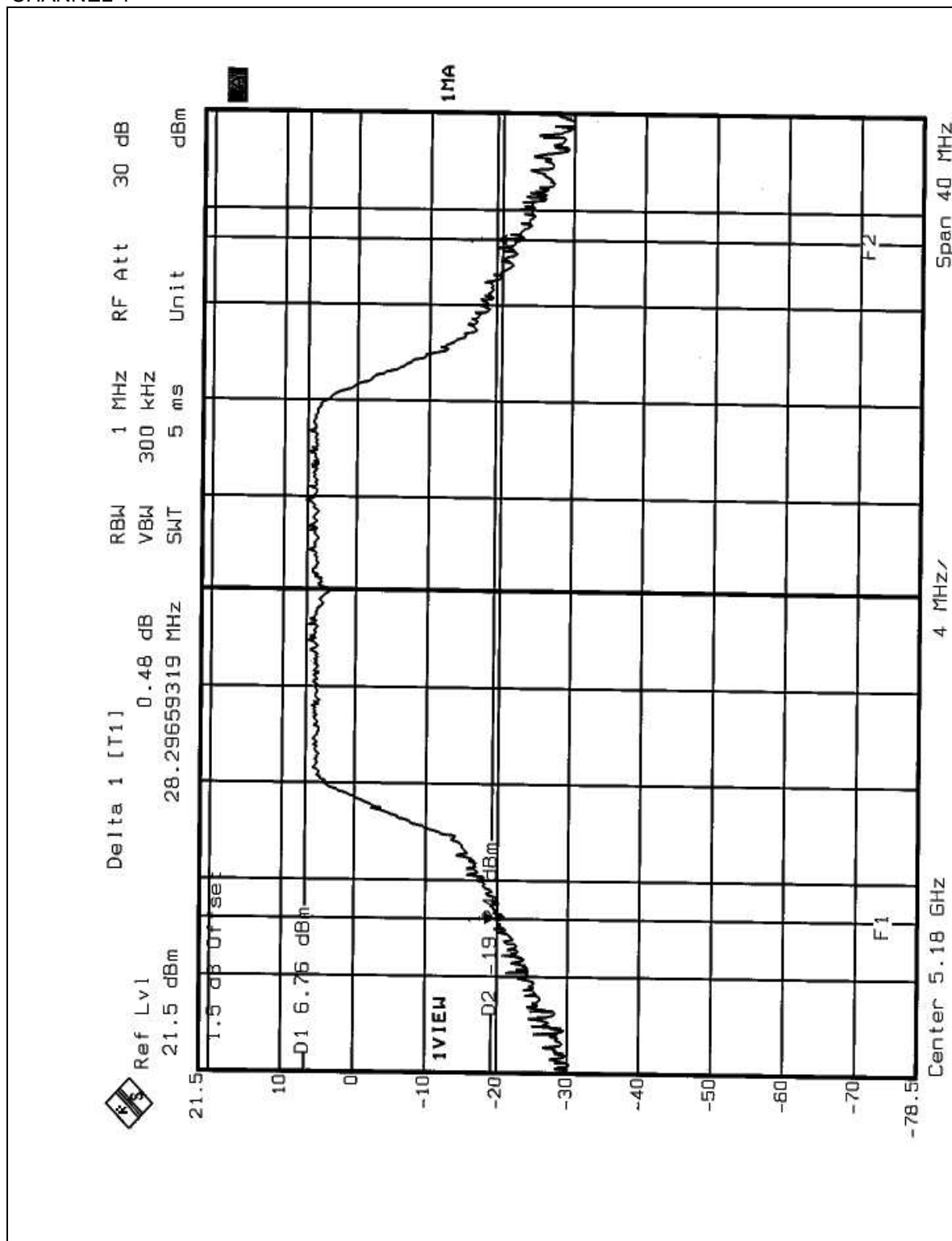
CHANNEL 9



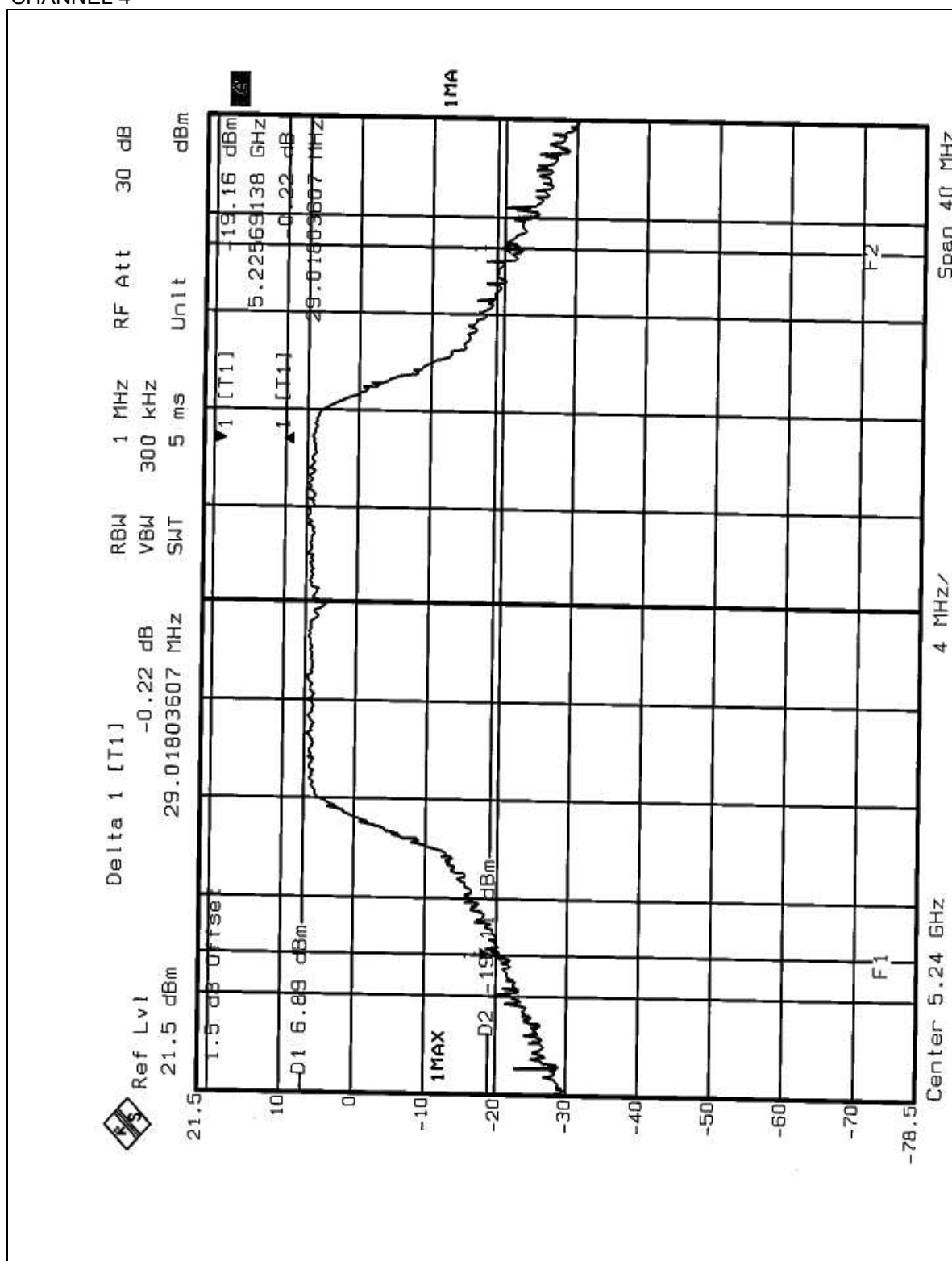
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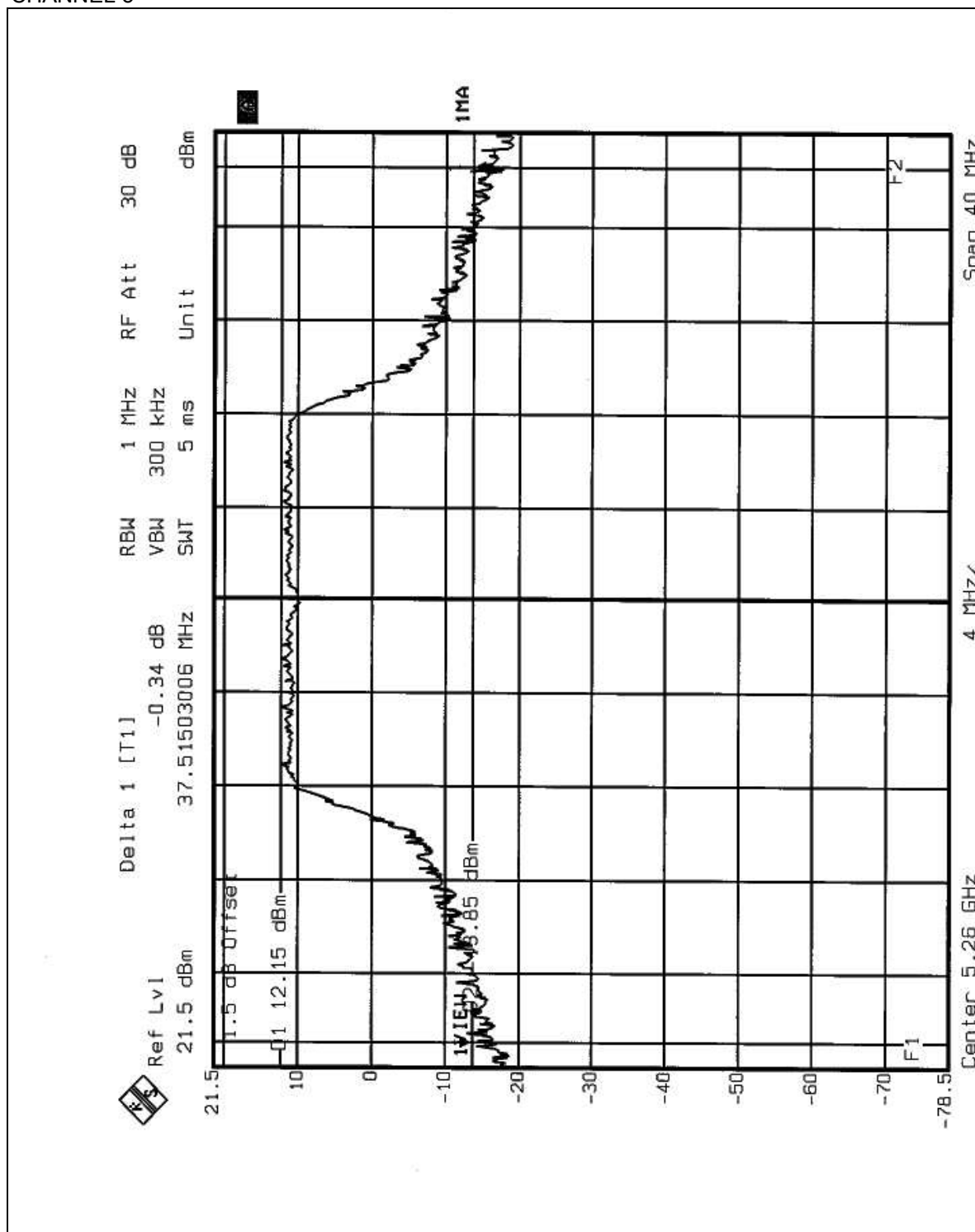
CHANNEL 1



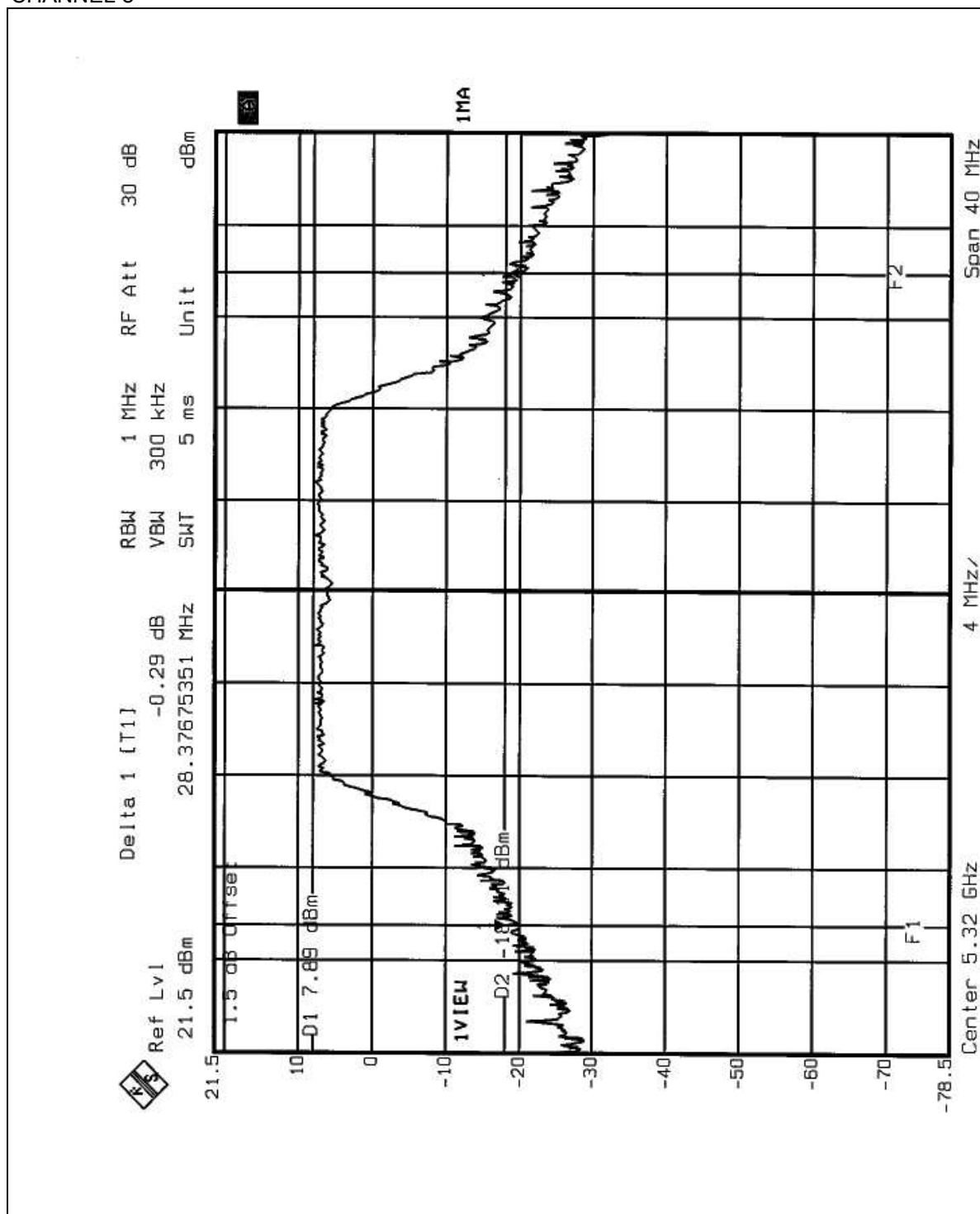
CHANNEL 4



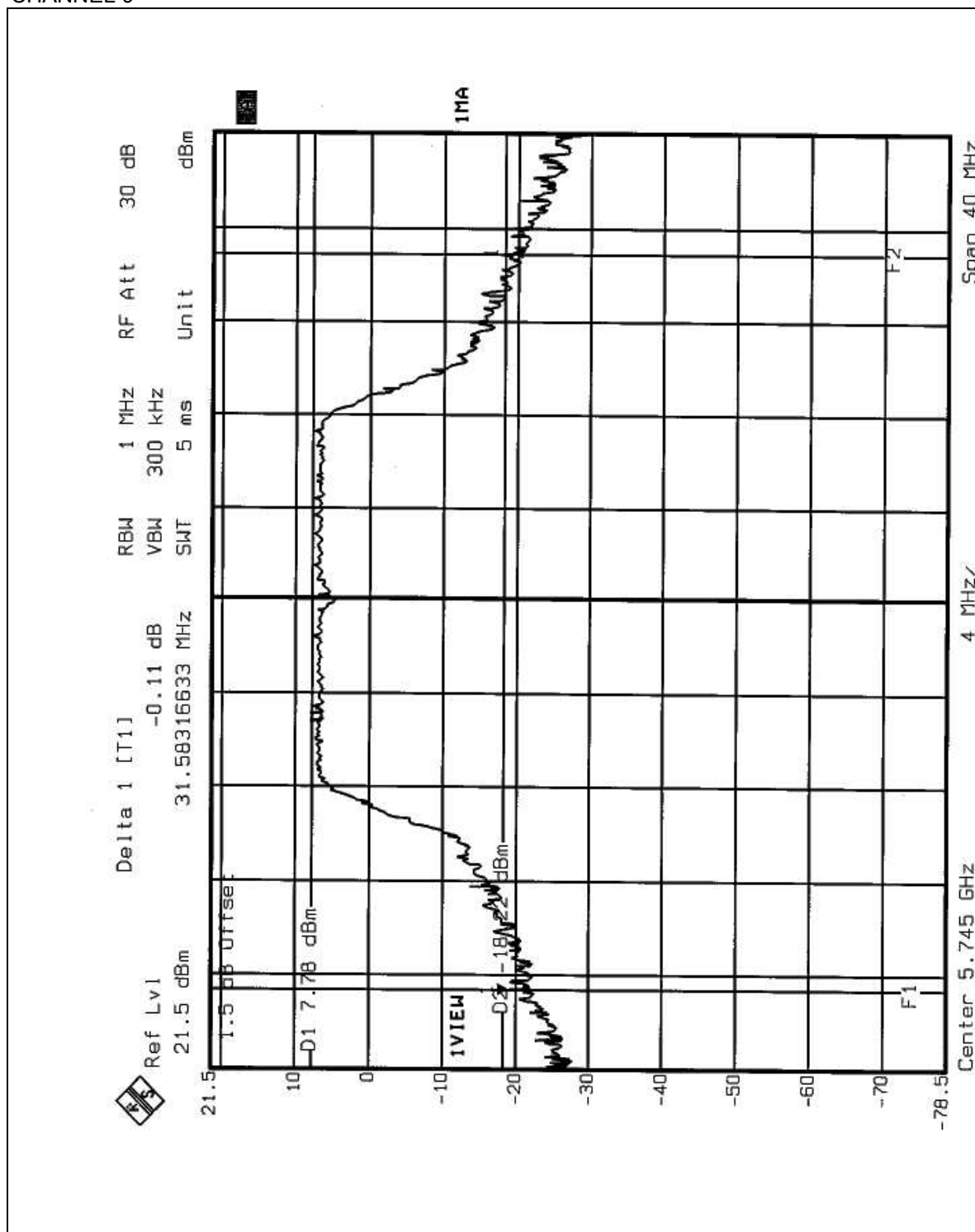
CHANNEL 5



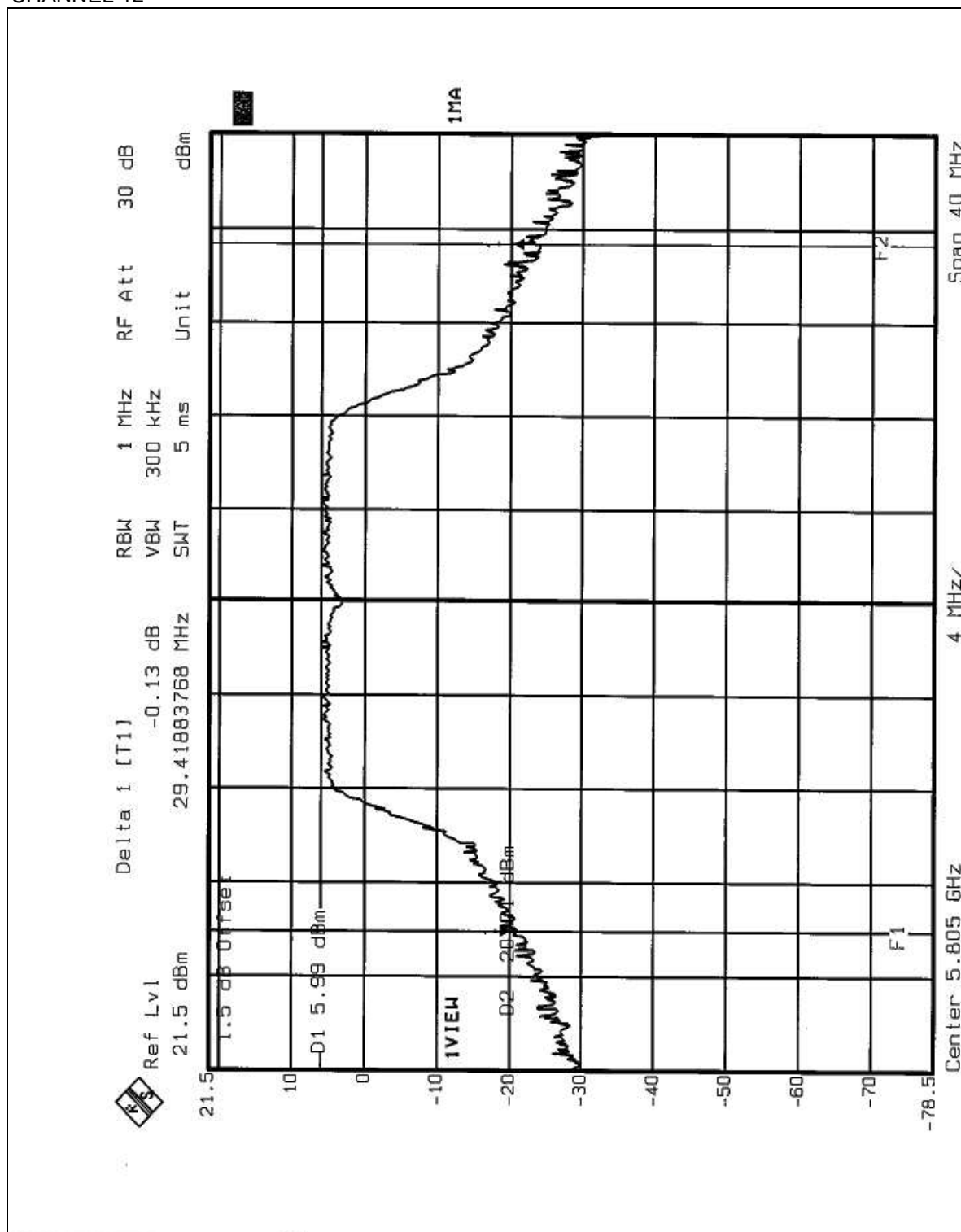
CHANNEL 8



CHANNEL 9



CHANNEL 12



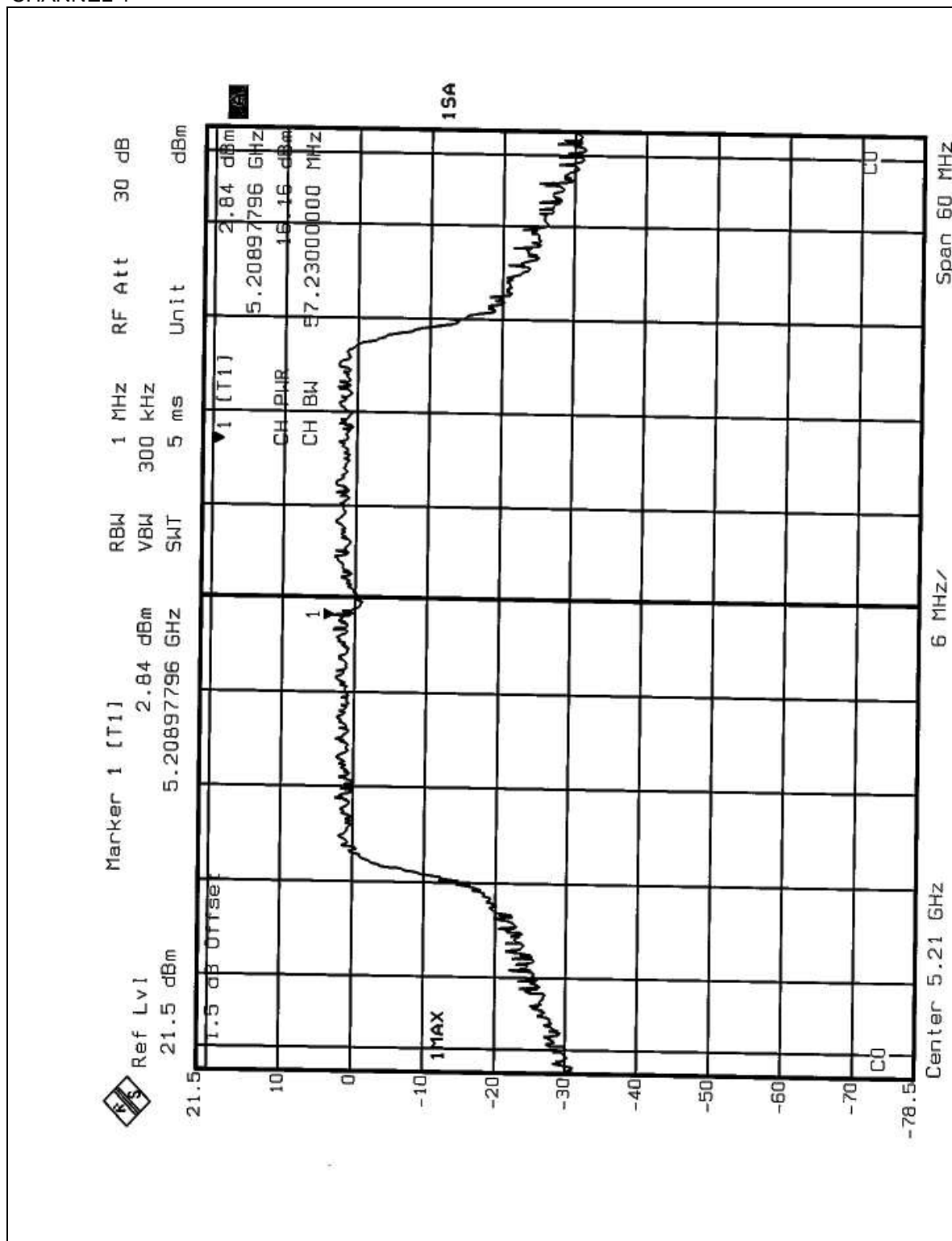


EUT	WLAN Mobile Adapter 2201	MODEL	WLAN Mobile Adapter 2201
MODE	Turbo	INPUT POWER (SYSTEM)	120Vac, 60 Hz
ENVIRONMENTAL CONDITIONS	19deg. C, 68%RH, 1005 hPa	TESTED BY	Ansen Lei

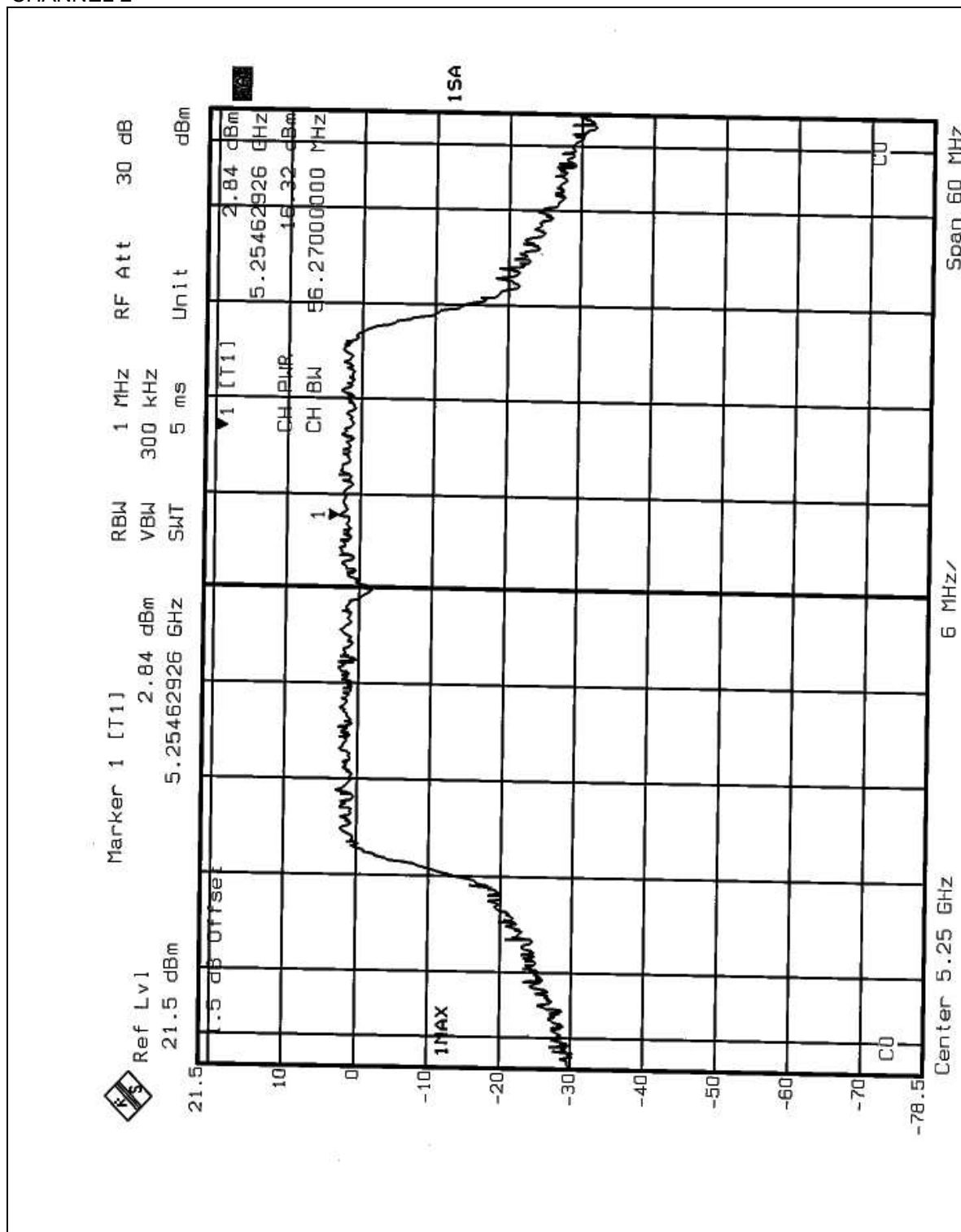
CHANNEL	CHANNEL FREQUENCY (MHz)	PEAK POWER OUTPUT (dBm)	PEAK POWER LIMIT (dBm)	26dBc Occupied Bandwidth (MHz)	PASS/FAIL
1	5210	16.16	17.00	57.234	PASS
2	5250	16.32	17.00	56.273	PASS
3	5290	21.80	24.00	57.956	PASS
4	5760	19.06	30.00	54.469	PASS
5	5800	13.42	30.00	46.774	PASS

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

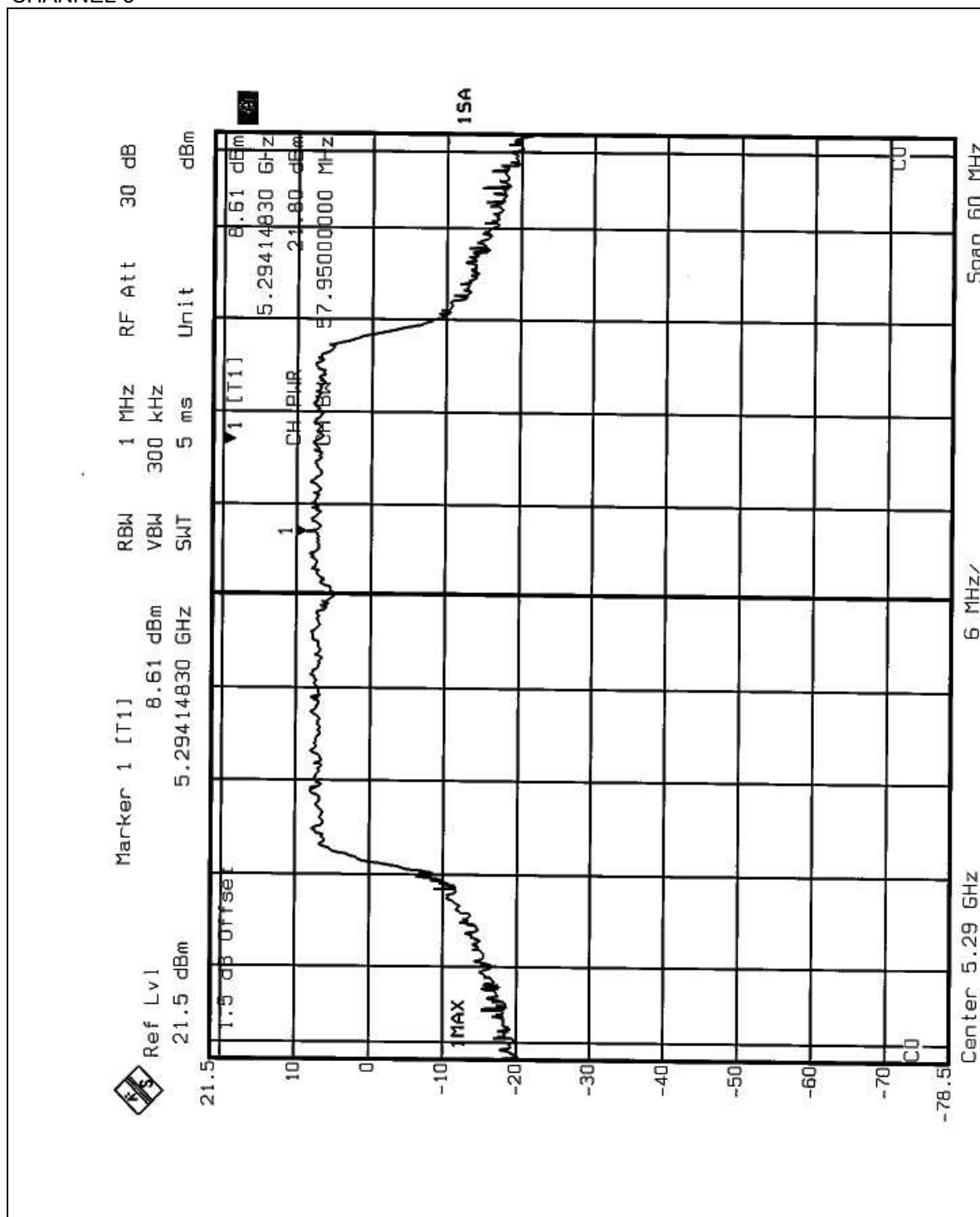
CHANNEL 1



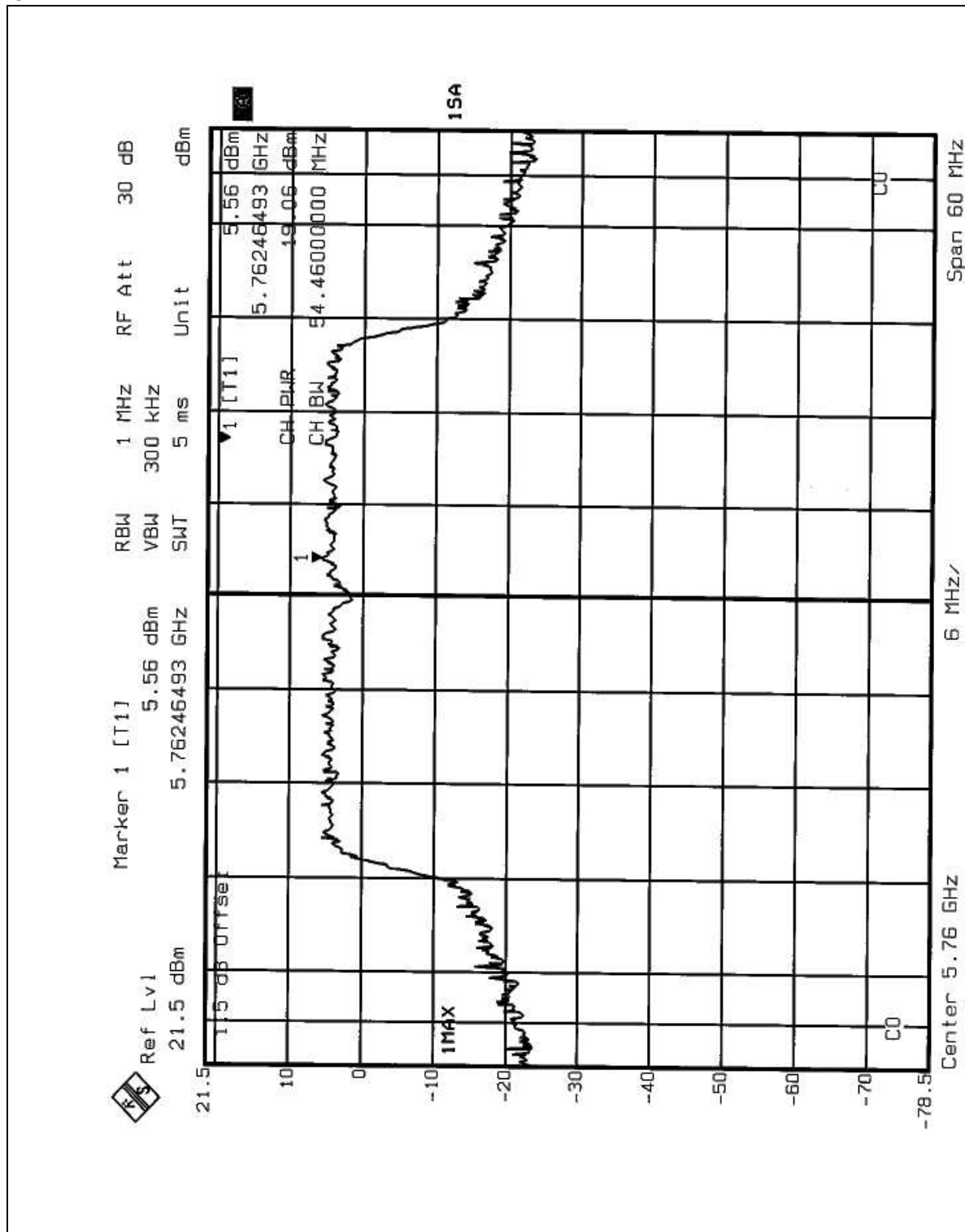
CHANNEL 2



CHANNEL 3



CHANNEL 4



CHANNEL 5

