



FCC TEST REPORT

REPORT NO.: RF911128H07
MODEL NO.: A13QBF
PLATFORM: Alpha-1
RECEIVED: Nov. 28, 2002
TESTED: Jan. 1 ~ Jan. 25, 2003

APPLICANT: Proxim Corporation
ADDRESS: 935 Stewart Drive, Sunnyvale,
CA 94085, USA

ISSUED BY: Advance Data Technology Corporation
LAB LOCATION: 47 14th Lin, Chiapau Tsun, Linko, Taipei,
Taiwan, R.O.C.

This test report consists of 116 pages in total. It may be duplicated completely for legal use with the approval of the applicant. It should not be reproduced except in full, without the written approval of our laboratory. The client should not use it to claim product endorsement by CNLA, NVLAP or any government agencies. The test results in the report only apply to the tested sample.



0528
ILAC MRA



Lab Code: 200102-0



Table of Contents

| | | |
|-------|---|-----------|
| 1. | CERTIFICATION..... | 5 |
| 2. | SUMMARY OF TEST RESULTS | 6 |
| 3. | GENERAL INFORMATION..... | 8 |
| 3.1 | GENERAL DESCRIPTION OF EUT | 8 |
| 3.2 | DESCRIPTION OF TEST MODES | 9 |
| 3.3 | GENERAL DESCRIPTION OF APPLIED STANDARDS | 10 |
| 3.4 | DESCRIPTION OF SUPPORT UNITS..... | 11 |
| 4. | TEST TYPES AND RESULTS | 12 |
| 4.1 | CONDUCTED EMISSION MEASUREMENT..... | 12 |
| 4.1.1 | LIMITS OF CONDUCTED EMISSION MEASUREMENT | 12 |
| 4.1.2 | TEST INSTRUMENTS | 12 |
| 4.1.3 | TEST PROCEDURES | 13 |
| 4.1.4 | DEVIATION FROM TEST STANDARD | 13 |
| 4.1.5 | TEST SETUP | 14 |
| 4.1.6 | EUT OPERATING CONDITIONS..... | 14 |
| 4.1.7 | TEST RESULTS | 15 |
| 4.2 | RADIATED EMISSION MEASUREMENT..... | 17 |
| 4.2.1 | LIMITS OF RADIATED EMISSION MEASUREMENT | 17 |
| 4.2.2 | LIMITS OF UNWANTED EMISSION OUT OF THE RESTRICTED BANDS | 17 |
| 4.2.3 | TEST INSTRUMENTS | 18 |
| 4.2.4 | TEST PROCEDURES | 19 |
| 4.2.5 | DEVIATION FROM TEST STANDARD | 19 |
| 4.2.6 | TEST SETUP | 20 |
| 4.2.7 | EUT OPERATING CONDITIONS..... | 20 |
| 4.2.8 | TEST RESULTS | 21 |
| | FOR FREQUENCY 5.15~5.35GHz | 34 |
| 4.3 | PEAK TRANSMIT POWER MEASUREMENT..... | 34 |
| 4.3.1 | LIMITS OF PEAK TRANSMIT POWER MEASUREMENT | 34 |
| 4.3.2 | TEST INSTRUMENTS | 34 |
| 4.3.3 | TEST PROCEDURE | 35 |
| 4.3.4 | DEVIATION FROM TEST STANDARD | 35 |
| 4.3.5 | TEST SETUP | 35 |
| 4.3.6 | EUT OPERATING CONDITIONS..... | 35 |
| 4.3.7 | TEST RESULTS | 36 |
| 4.4 | PEAK POWER EXCURSION MEASUREMENT..... | 52 |
| 4.4.1 | LIMITS OF PEAK POWER EXCURSION MEASUREMENT | 52 |
| 4.4.2 | TEST INSTRUMENTS | 52 |
| 4.4.3 | TEST PROCEDURE | 53 |
| 4.4.4 | DEVIATION FROM TEST STANDARD | 53 |



| | | |
|--------|--|-----------|
| 4.4.5 | TEST SETUP | 53 |
| 4.4.6 | EUT OPERATING CONDITIONS..... | 53 |
| 4.4.7 | TEST RESULTS | 54 |
| 4.5 | PEAK POWER SPECTRAL DENSITY MEASUREMENT | 63 |
| 4.5.1 | LIMITS OF PEAK POWER SPECTRAL DENSITY MEASUREMENT..... | 63 |
| 4.5.2 | TEST INSTRUMENTS | 63 |
| 4.5.3 | TEST PROCEDURES | 64 |
| 4.5.4 | DEVIATION FROM TEST STANDARD | 64 |
| 4.5.5 | TEST SETUP | 64 |
| 4.5.6 | EUT OPERATING CONDITIONS..... | 64 |
| 4.5.7 | TEST RESULTS | 65 |
| 4.6 | FREQUENCY STABILITY | 74 |
| 4.6.1 | LIMITS OF FREQUENCY STABILITY MEASUREMENT | 74 |
| 4.6.2 | TEST INSTRUMENTS | 74 |
| 4.6.3 | TEST PROCEDURE | 74 |
| 4.6.4 | DEVIATION FROM TEST STANDARD | 75 |
| 4.6.5 | TEST SETUP | 75 |
| 4.6.6 | EUT OPERATING CONDITION..... | 75 |
| 4.6.7 | TEST RESULTS | 76 |
| 4.7 | BAND EDGES MEASUREMENT | 77 |
| 4.7.1 | TEST INSTRUMENTS | 77 |
| 4.7.2 | TEST PROCEDURE | 77 |
| 4.7.3 | EUT OPERATING CONDITION | 77 |
| 4.7.4 | TEST RESULTS..... | 77 |
| | FOR FREQUENCY 5.725~5.850GHz..... | 86 |
| 4.8 | 6dB BANDWIDTH MEASUREMENT | 86 |
| 4.8.1 | LIMITS OF 6dB BANDWIDTH MEASUREMENT | 86 |
| 4.8.2 | TEST INSTRUMENTS | 86 |
| 4.8.3 | TEST PROCEDURE | 87 |
| 4.8.4 | DEVIATION FROM TEST STANDARD | 87 |
| 4.8.5 | TEST SETUP | 87 |
| 4.8.6 | EUT OPERATING CONDITIONS..... | 87 |
| 4.8.7 | TEST RESULTS | 88 |
| 4.9 | MAXIMUM PEAK OUTPUT POWER..... | 95 |
| 4.9.1 | LIMITS OF MAXIMUM PEAK OUTPUT POWER MEASUREMENT | 95 |
| 4.9.2 | INSTRUMENTS..... | 95 |
| 4.9.3 | TEST PROCEDURES | 96 |
| 4.9.4 | DEVIATION FROM TEST STANDARD | 96 |
| 4.9.5 | TEST SETUP | 96 |
| 4.9.6 | EUT OPERATING CONDITIONS..... | 96 |
| 4.9.7 | TEST RESULTS | 97 |
| 4.10 | POWER SPECTRAL DENSITY MEASUREMENT | 98 |
| 4.10.1 | LIMITS OF POWER SPECTRAL DENSITY MEASUREMENT | 98 |
| 4.10.2 | TEST INSTRUMENTS | 98 |



| | | |
|--------|---|-----|
| 4.10.3 | TEST PROCEDURE | 99 |
| 4.10.4 | DEVIATION FROM TEST STANDARD | 99 |
| 4.10.5 | TEST SETUP | 99 |
| 4.10.6 | EUT OPERATING CONDITION | 99 |
| 4.10.7 | TEST RESULTS | 100 |
| 4.11 | BAND EDGES MEASUREMENT | 107 |
| 4.11.1 | LIMITS OF BAND EDGES MEASUREMENT | 107 |
| 4.11.2 | TEST INSTRUMENTS | 107 |
| 4.11.3 | TEST PROCEDURE | 107 |
| 4.11.4 | DEVIATION FROM TEST STANDARD | 107 |
| 4.11.5 | EUT OPERATING CONDITION | 108 |
| 4.11.6 | TEST RESULTS | 108 |
| 4.12 | ANTENNA REQUIREMENT | 113 |
| 4.12.1 | STANDARD APPLICABLE | 113 |
| 4.12.2 | ANTENNA CONNECTED CONSTRUCTION | 113 |
| 5. | PHOTOGRAPHS OF THE TEST CONFIGURATION | 114 |
| 6. | INFORMATION ON THE TESTING LABORATORIES | 116 |



1. CERTIFICATION

PRODUCT : Wireless LAN and Mini PCI
MODEL NO. : A13QBF
PLATFORM : Alpha-1
BRAND NAME : Proxim
APPLICANT : Proxim 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. 1, 2003 ~ Jan. 25, 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. 27, 2003
Emily Lu

APPROVED BY : Alan Lane for , **DATE :** Jan. 27, 2003
Dr. Alan Lane, Manager

2. SUMMARY OF TEST RESULTS

The EUT has been tested according to the following specifications:

for freq. 5.15~5.35GHz :

| 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 -11.98dBuV at 1.262MHz |
| 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 -2.6dBuV at 5150.00MHz |
| 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 |

for freq. 5.725~5.850GHz :

| 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 -11.98dBuV at 1.262MHz |
| 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 -1.20dBuV at 4628.00MHz |
| 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 |



3. GENERAL INFORMATION

3.1 GENERAL DESCRIPTION OF EUT

| | |
|---------------------------|--|
| PRODUCT | Wireless LAN and Mini PCI |
| MODEL NO. | A13QBF |
| POWER SUPPLY | 3.3VDC from host equipment |
| MODULATION | OFDM |
| TRANSFER RATE | 6 to 54Mbps *(Turbo mode : up to 108Mbps) |
| FREQUENCY RANGE | 5.15GHz ~ 5.85GHz |
| NUMBER OF CHANNEL | 13 for Normal mode / 5 for Turbo mode |
| CHANNEL SPACING | 20MHz for Normal mode / 40MHz for Turbo mode |
| OUTPUT POWER | 20.87dBm |
| DATA CABLE | NA |
| ANTENNA TYPE | Omni Directional antenna |
| I/O PORTS | NA |
| ASSOCIATED DEVICES | NA |

NOTE:

1. This EUT is capable of providing data rates of up to 108Mbps in Turbo Mode depending upon reception quality.
2. Platform Alpha-1 was powered by the following adapter:

| | |
|---------------|--------------------------|
| BRAND | DVE |
| MODEL | DSA-0151F-12 A |
| INPUT | 100-120V AC 50/60Hz 0.4A |
| OUTPUT | 12V DC 1.5A |

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



3.2 DESCRIPTION OF TEST MODES

Thirteen channels are provided to this EUT for Normal mode.

| Channel | Frequency | Channel | Frequency |
|---------|-----------|---------|-----------|
| 1 | 5180 MHz | 8 | 5320 MHz |
| 2 | 5200 MHz | 9 | 5745MHz |
| 3 | 5220 MHz | 10 | 5765MHz |
| 4 | 5240 MHz | 11 | 5785MHz |
| 5 | 5260 MHz | 12 | 5805MHz |
| 6 | 5280 MHz | 13 | 5825MHz |
| 7 | 5300 MHz | | |

Five channels are provided to this EUT for Turbo Mode.

| Channel | Frequency | Channel | Frequency |
|---------|-----------|---------|-----------|
| 1 | 5210 MHz | 4 | 5760MHz |
| 2 | 5250 MHz | 5 | 5800MHz |
| 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, 11 and 13 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 Wireless LAN and Mini PCI. According to the specifications of the manufacturer, it must comply with the requirements of the following standards:

**FCC 47CFR 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-09C748-12800-190-B220 | FCC DoC APPROVED |
| 2 | USB 10/100 Fast Ethernet | D-Link | DU-E100 | UR15001597 | FCC DoC APPROVED |

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

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



4. TEST 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 |
|--|-----------|--------------|------------------|
| ROHDE & SCHWARZ Test Receiver | ESCS30 | 847793/022 | Mar. 12, 2003 |
| ROHDE & SCHWARZ Artificial Mains Network (for EUT) | ESH2-Z5 | 828075/003 | July 23, 2003 |
| ROHDE & SCHWARZ 200-A Four-line V-Network | ENV4200 | 830326/018 | Oct. 30, 2003 |
| * ROHDE & SCHWARZ 4-wire ISN | ENY41 | 838119/028 | Nov. 29, 2003 |
| * ROHDE & SCHWARZ 2-wire ISN | ENY22 | 837497/018 | Nov. 29, 2003 |
| EMCO-L.I.S.N. (for peripheral) | 3825/2 | 90031627 | July 23, 2003 |
| Software | Cond-V2M1 | NA | NA |
| RF cable (JYEBAO) | 5D-FB | Cable-C05.01 | July 19, 2003 |
| LYNICS Terminator (For EMCO LISN) | 0900510 | E1-01-305 | Feb. 20, 2003 |
| LYNICS Terminator (For EMCO LISN) | 0900510 | E1-01-306 | Feb. 20, 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 conducted telecom port test only (if tested).
 3. The test was performed in ADT Shielded Room No. 5.
 4. The VCCI Site Registration No. is C-1093.



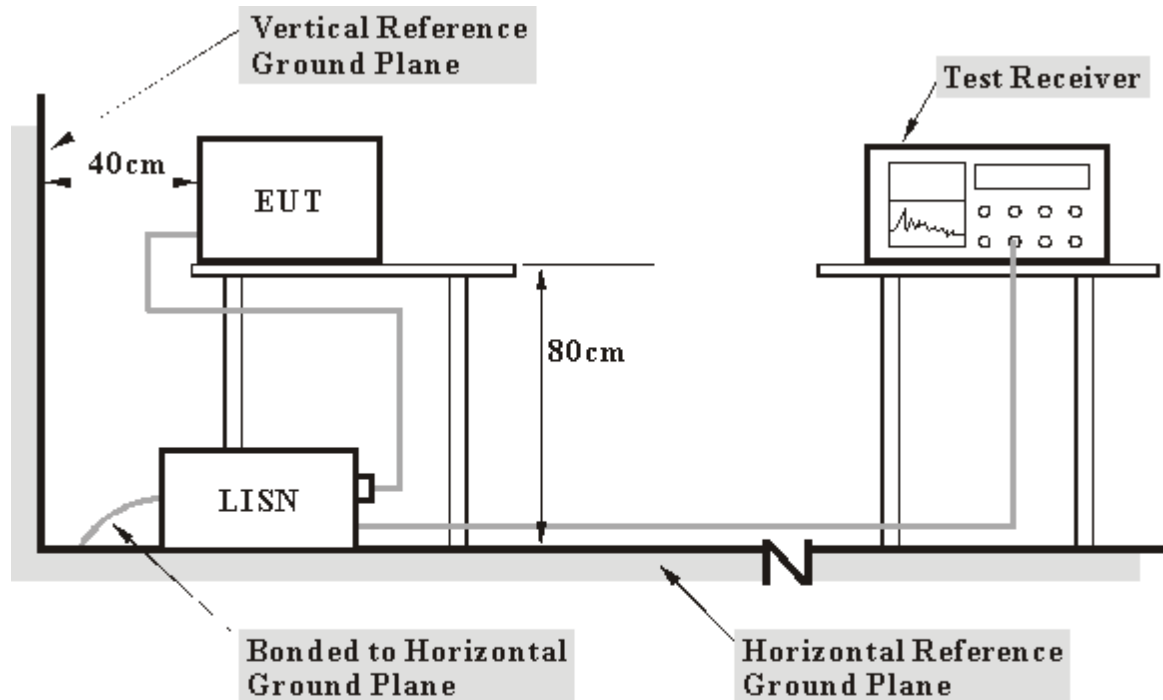
4.1.3 TEST PROCEDURES

- 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. The EUT was installed into the access point which connected 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.



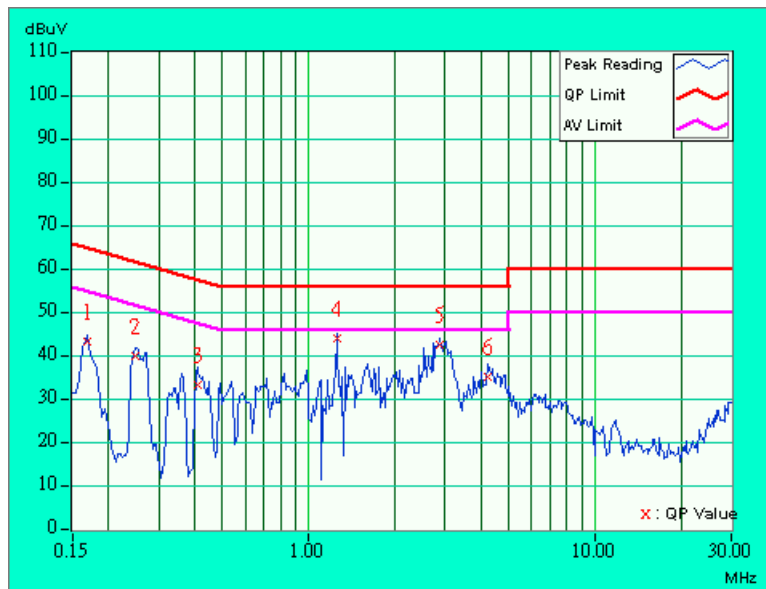
4.1.7 TEST RESULTS

| | | | |
|---------------------------------|---------------------------|-----------------------------|----------|
| EUT | Wireless LAN and Mini PCI | MODEL | A13QBF |
| | | 6dB BANDWIDTH | 9 kHz |
| INPUT POWER (SYSTEM) | 120Vac, 60 Hz | PHASE | Line (L) |
| ENVIRONMENTAL CONDITIONS | 25deg. C, 60RH, 1005 hPa | TESTED BY: Bunny Yao | |

| No | Freq. [MHz] | Corr. Factor (dB) | Reading Value [dB (uV)] | | Emission Level [dB (uV)] | | Limit [dB (uV)] | | Margin (dB) | |
|----|-------------|-------------------|-------------------------|-----|--------------------------|-----|-----------------|-------|-------------|-----|
| | | | Q.P. | AV. | Q.P. | AV. | Q.P. | AV. | Q.P. | AV. |
| 1 | 0.170 | 0.10 | 42.95 | - | 43.05 | - | 64.98 | 54.98 | -21.93 | - |
| 2 | 0.248 | 0.10 | 39.54 | - | 39.64 | - | 61.84 | 51.84 | -22.20 | - |
| 3 | 0.408 | 0.10 | 32.87 | - | 32.97 | - | 57.69 | 47.69 | -24.72 | - |
| 4 | 1.262 | 0.20 | 43.62 | - | 43.82 | - | 56.00 | 46.00 | -12.18 | - |
| 5 | 2.875 | 0.29 | 42.01 | - | 42.30 | - | 56.00 | 46.00 | -13.70 | - |
| 6 | 4.238 | 0.41 | 34.84 | - | 35.25 | - | 56.00 | 46.00 | -20.75 | - |

NOTE:

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.



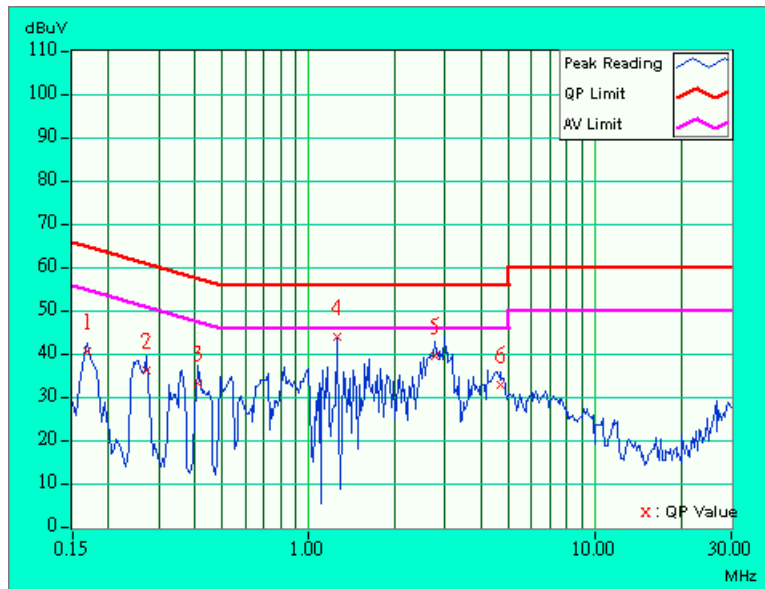


| | | | |
|---------------------------------|---------------------------|-----------------------------|-------------|
| EUT | Wireless LAN and Mini PCI | MODEL | A13QBF |
| | | 6dB BANDWIDTH | 9 kHz |
| INPUT POWER (SYSTEM) | 120Vac, 60 Hz | PHASE | Neutral (N) |
| ENVIRONMENTAL CONDITIONS | 25deg. C, 60RH, 1005 hPa | TESTED BY: Bunny Yao | |

| No | Freq. | Corr. Factor | Reading Value [dB (uV)] | | Emission Level [dB (uV)] | | Limit [dB (uV)] | | Margin (dB) | |
|----|-------|--------------|-------------------------|------|--------------------------|------|-----------------|-------|-------------|------|
| | [MHz] | | (dB) | Q.P. | AV. | Q.P. | AV. | Q.P. | AV. | Q.P. |
| 1 | 0.170 | 0.10 | 40.35 | - | 40.45 | - | 64.98 | 54.98 | -24.53 | - |
| 2 | 0.271 | 0.10 | 36.13 | - | 36.23 | - | 61.08 | 51.08 | -24.85 | - |
| 3 | 0.412 | 0.10 | 33.15 | - | 33.25 | - | 57.61 | 47.61 | -24.36 | - |
| 4 | 1.262 | 0.20 | 43.82 | - | 44.02 | - | 56.00 | 46.00 | -11.98 | - |
| 5 | 2.746 | 0.24 | 39.25 | - | 39.49 | - | 56.00 | 46.00 | -16.51 | - |
| 6 | 4.664 | 0.31 | 32.79 | - | 33.10 | - | 56.00 | 46.00 | -22.90 | - |

NOTE:

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 (dBuV/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

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



4.2.3 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 |
| * ROHDE & SCHWARZ TEST RECEIVER | ESMI | 839013/007 839379/002 | Jan. 27, 2003 |
| SCHAFFNER Tunable Dipole Antenna | VHBA 9123 | 459 | Nov. 22, 2003 |
| SCHWARZBECK Tunable Dipole Antenna | UHA 9105 | 977 | |
| * CHASE BILOG Antenna | CBL6112A | 2221 | Aug. 2, 2003 |
| * SCHWARZBECK Horn Antenna | BBHA9120-D1 | D130 | July 3, 2003 |
| * EMCO Horn Antenna | 3115 | 9312-4192 | April 9, 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 | July 11, 2003 |
| * TIMES RF cable | LMR-600 | CABLE-ST5-01 | July. 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.



4.2.4 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.

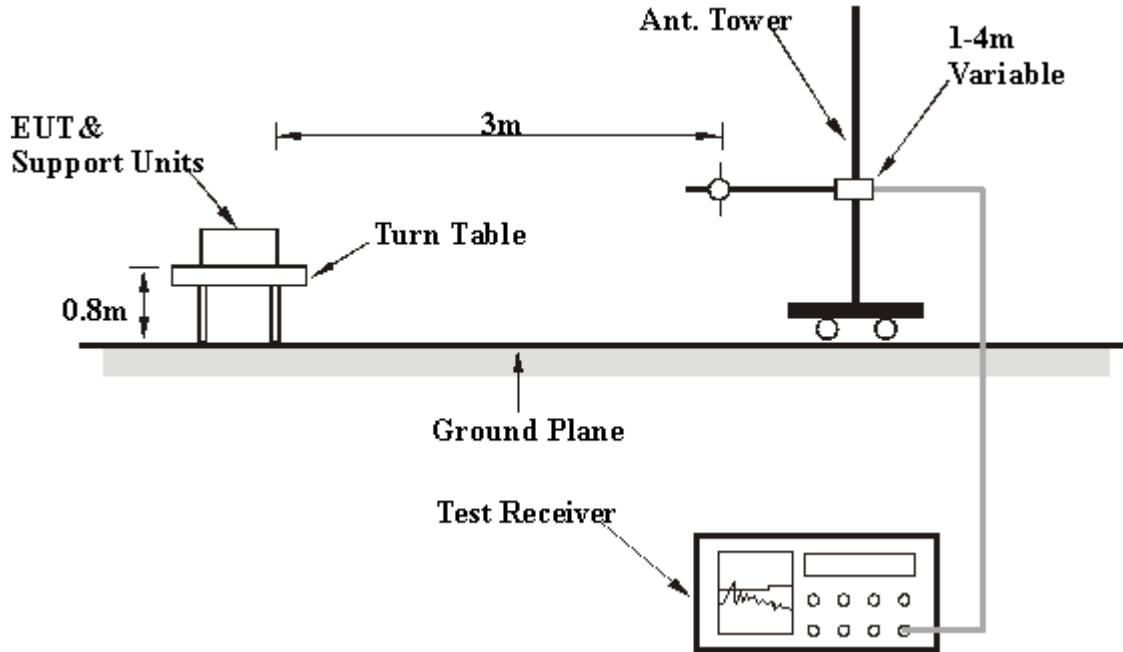
NOTE:

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.

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 LAN and Mini PCI | MODEL | A13QBF |
| FREQUENCY RANGE | Below 1000MHz | DETECTOR FUNCTION | Quasi-Peak |
| ENVIRONMENTAL CONDITIONS | 16deg. C, 75%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 | 128.00 | 25.6 QP | 43.50 | -17.90 | 1.14 H | 58 | 10.70 | 14.90 |
| 2 | 224.00 | 26.3 QP | 46.00 | -19.70 | 1.52 H | 20 | 10.60 | 15.70 |
| 3 | 256.00 | 41.9 QP | 46.00 | -4.10 | 1.30 H | 30 | 22.60 | 19.30 |
| 4 | 320.00 | 38.0 QP | 46.00 | -8.00 | 1.56 H | 128 | 17.50 | 20.50 |
| 5 | 416.00 | 34.3 QP | 46.00 | -11.70 | 2.00 H | 102 | 11.00 | 23.30 |
| 6 | 436.00 | 27.6 QP | 46.00 | -18.40 | 1.25 H | 3 | 4.00 | 23.60 |
| 7 | 480.00 | 44.0 QP | 46.00 | -2.00 | 1.09 H | 36 | 19.40 | 24.60 |
| 8 | 512.00 | 30.0 QP | 46.00 | -16.00 | 1.24 H | 158 | 4.70 | 25.30 |
| 9 | 672.00 | 38.5 QP | 46.00 | -7.50 | 1.02 H | 25 | 10.60 | 27.90 |
| 10 | 736.00 | 38.8 QP | 46.00 | -7.20 | 1.05 H | 1 | 9.80 | 29.00 |
| 11 | 768.00 | 43.3 QP | 46.00 | -2.70 | 1.48 H | 76 | 13.40 | 29.90 |
| 12 | 864.00 | 43.3 QP | 46.00 | -2.70 | 1.39 H | 284 | 12.10 | 31.20 |

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) |
|-----|-------------|-------------------------|----------------|-------------|--------------------|----------------------|------------------|--------------------------|
| 1 | 128.00 | 30.0 QP | 43.50 | -13.50 | 1.42 V | 55 | 15.10 | 14.90 |
| 2 | 224.00 | 26.8 QP | 46.00 | -19.20 | 1.55 V | 55 | 11.10 | 15.70 |
| 3 | 256.00 | 27.2 QP | 46.00 | -18.80 | 1.14 V | 247 | 7.90 | 19.30 |
| 4 | 320.00 | 30.5 QP | 46.00 | -15.50 | 1.58 V | 354 | 10.00 | 20.50 |
| 5 | 416.00 | 41.1 QP | 46.00 | -4.90 | 1.38 V | 241 | 17.80 | 23.30 |
| 6 | 436.00 | 33.8 QP | 46.00 | -12.20 | 1.67 V | 174 | 10.20 | 23.60 |
| 7 | 512.00 | 30.9 QP | 46.00 | -15.10 | 1.48 V | 145 | 5.60 | 25.30 |
| 8 | 672.00 | 31.1 QP | 46.00 | -14.90 | 1.40 V | 12 | 3.20 | 27.90 |
| 9 | 736.00 | 37.2 QP | 46.00 | -8.80 | 1.02 V | 86 | 8.20 | 29.00 |
| 10 | 768.00 | 43.8 QP | 46.00 | -2.20 | 1.35 V | 45 | 13.90 | 29.90 |
| 11 | 864.00 | 44.0 QP | 46.00 | -2.00 | 1.22 V | 221 | 12.80 | 31.20 |

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



Standard section 15.407

| | | | |
|---------------------------------|------------------------------|-----------------------------|--------------------------|
| EUT | Wireless LAN and Mini PCI | MODEL | A13QBF |
| MODE | Normal Mode | CHANNEL | 1 |
| FREQUENCY RANGE | Above 1000 MHz | DETECTOR FUNCTION | Peak(PK) Average (AV) |
| ENVIRONMENTAL CONDITIONS | 18deg. C, 60%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 | 4144.00 | 49.2 PK | 74.00 | -24.80 | 1.26 H | 56 | 13.90 | 35.30 | NOTE 6 |
| 2 | 5150.00 | 54.2 PK | 74.00 | -19.80 | 1.38 H | 10 | 16.50 | 37.70 | NOTE 6 |
| 2 | 5150.00 | 44.3 AV | 54.00 | -9.70 | 1.38 H | 10 | 6.60 | 35.30 | NOTE 6 |
| 3 | *5180.00 | 98.7 PK | | | 1.38 H | 10 | 61.00 | 37.70 | |
| 3 | *5180.00 | 90.5 AV | | | 1.38 H | 10 | 52.80 | 37.70 | |
| 4 | 10360.00 | 51.9 PK | 68.30 | -16.40 | 1.99 H | 69 | 7.40 | 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) | Remark |
|-----|-------------|-------------------------|----------------|-------------|--------------------|----------------------|------------------|--------------------------|--------|
| 1 | 4144.00 | 52.9 PK | 74.00 | -21.10 | 1.58 V | 55 | 17.60 | 35.30 | NOTE 6 |
| 1 | 4144.00 | 46.3 AV | 54.00 | -7.70 | 1.58 V | 55 | 11.00 | 35.30 | NOTE 6 |
| 2 | 5150.00 | 58.6 PK | 74.00 | -15.40 | 1.16 V | 55 | 20.90 | 37.70 | NOTE 6 |
| 2 | 5150.00 | 48.4 AV | 54.00 | -5.60 | 1.16 V | 55 | 10.70 | 37.70 | NOTE 6 |
| 3 | *5180.00 | 104.3 PK | | | 1.16 V | 55 | 66.60 | 37.70 | |
| 3 | *5180.00 | 96.9 AV | | | 1.16 V | 55 | 59.20 | 37.70 | |
| 4 | 10360.00 | 52.9 PK | 68.30 | -15.40 | 1.89 V | 2 | 8.40 | 44.50 | |
| 5 | 15540.00 | 56.6 PK | 74.00 | -17.40 | 1.67 V | 25 | 9.50 | 47.10 | NOTE 6 |
| 5 | 15540.00 | 47.2 AV | 54.00 | -6.80 | 1.67 V | 25 | 0.10 | 47.10 | 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.

Standard section 15.407

| | | | |
|---------------------------------|------------------------------|-----------------------------|--------------------------|
| EUT | Wireless LAN and Mini PCI | MODEL | A13QBF |
| MODE | Normal Mode | CHANNEL | 4 |
| FREQUENCY RANGE | Above 1000 MHz | DETECTOR FUNCTION | Peak(PK) Average (AV) |
| ENVIRONMENTAL CONDITIONS | 18deg. C, 60%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 | 4192.00 | 58.2 PK | 74.00 | -15.80 | 1.26 H | 5 | 22.90 | 35.30 | NOTE 6 |
| 1 | 4192.00 | 49.1 AV | 54.00 | -4.90 | 1.26 H | 5 | 13.80 | 35.30 | NOTE 6 |
| 2 | *5240.00 | 110.8 PK | | | 1.85 H | 158 | 73.10 | 37.70 | |
| 2 | *5240.00 | 101.4 AV | | | 1.85 H | 158 | 63.70 | 37.70 | |
| 3 | 10480.00 | 57.3 PK | 68.30 | -11.00 | 1.78 H | 125 | 12.30 | 45.00 | |
| 4 | 15720.00 | 53.9 PK | 74.00 | -20.10 | 2.22 H | 122 | 7.30 | 46.60 | NOTE 6 |
| 4 | 15720.00 | 44.3 AV | 54.00 | -9.70 | 2.22 H | 122 | -2.30 | 46.60 | 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 | 4192.00 | 58.2 PK | 74.00 | -15.80 | 1.11 V | 59 | 22.90 | 35.30 | NOTE 6 |
| 1 | 4192.00 | 48.4 AV | 54.00 | -5.60 | 1.11 V | 59 | 13.10 | 35.30 | NOTE 6 |
| 2 | *5240.00 | 116.2 PK | | | 1.69 V | 100 | 78.50 | 37.70 | |
| 2 | *5240.00 | 106.5 AV | | | 1.69 V | 100 | 68.80 | 37.70 | |
| 3 | 10480.00 | 61.5 PK | 68.30 | -6.80 | 1.90 V | 258 | 16.50 | 45.00 | |
| 4 | 15720.00 | 59.3 PK | 74.00 | -14.70 | 2.15 V | 122 | 12.70 | 46.60 | NOTE 6 |
| 4 | 15720.00 | 48.5 AV | 54.00 | -5.50 | 2.15 V | 122 | 1.90 | 45.00 | 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.

Standard section 15.407

| | | | |
|---------------------------------|------------------------------|-----------------------------|--------------------------|
| EUT | Wireless LAN and Mini PCI | MODEL | A13QBF |
| MODE | Normal Mode | CHANNEL | 5 |
| FREQUENCY RANGE | Above 1000 MHz | DETECTOR FUNCTION | Peak(PK) Average (AV) |
| ENVIRONMENTAL CONDITIONS | 18deg. C, 60%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 | 4208.00 | 55.6 PK | 74.00 | -18.40 | 1.39 H | 52 | 20.30 | 35.40 | NOTE 6 |
| 1 | 4208.00 | 46.4 AV | 54.00 | -7.60 | 1.39 H | 52 | 11.10 | 35.40 | NOTE 6 |
| 2 | *5260.00 | 109.3 PK | | | 1.49 H | 48 | 71.60 | 37.70 | |
| 2 | *5260.00 | 99.4 AV | | | 1.49 H | 48 | 61.70 | 37.70 | |
| 3 | 10520.00 | 54.8 PK | 68.30 | -13.50 | 1.80 H | 266 | 9.70 | 45.10 | |

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/m) | Remark |
|-----|-------------|-------------------------|----------------|-------------|--------------------|----------------------|------------------|--------------------------|--------|
| 1 | 4208.00 | 56.0 PK | 74.00 | -18.00 | 1.51 V | 174 | 20.70 | 35.40 | NOTE 6 |
| 1 | 4208.00 | 46.8 AV | 54.00 | -7.20 | 1.51 V | 174 | 11.50 | 35.40 | NOTE 6 |
| 2 | *5260.00 | 116.2 PK | | | 1.56 V | 26 | 78.50 | 37.70 | |
| 2 | *5260.00 | 106.3 AV | | | 1.56 V | 26 | 68.60 | 37.70 | |
| 3 | 10520.00 | 62.5 PK | 68.30 | -5.80 | 1.89 V | 55 | 17.40 | 45.10 | |
| 4 | 15720.00 | 58.3 PK | 74.00 | -15.70 | 1.76 V | 265 | 11.70 | 46.60 | NOTE 6 |
| 4 | 15720.00 | 49.2 AV | 54.00 | -4.80 | 1.76 V | 265 | 2.60 | 46.60 | 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.



Standard section 15.407

| | | | |
|---------------------------------|------------------------------|-----------------------------|--------------------------|
| EUT | Wireless LAN and Mini PCI | MODEL | A13QBF |
| MODE | Normal Mode | CHANNEL | 8 |
| FREQUENCY RANGE | Above 1000 MHz | DETECTOR FUNCTION | Peak(PK) Average (AV) |
| ENVIRONMENTAL CONDITIONS | 18deg. C, 60%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 | 4256.00 | 47.5 PK | 74.00 | -26.50 | 1.55 H | 26 | 12.10 | 35.40 | NOTE 6 |
| 2 | *5320.00 | 96.6 PK | | | 1.39 H | 18 | 58.90 | 37.70 | |
| 2 | *5320.00 | 88.2 AV | | | 1.39 H | 18 | 50.50 | 35.40 | |
| 3 | 5350.00 | 54.2 PK | 74.00 | -19.80 | 1.88 H | 66 | 16.50 | 37.70 | NOTE 6 |
| 3 | 5350.00 | 43.9 AV | 54.00 | -10.10 | 1.88 H | 66 | 6.20 | 37.70 | NOTE 6 |
| 4 | 10640.00 | 52.0 PK | 74.00 | -22.00 | 1.78 H | 56 | 6.70 | 45.20 | NOTE 6 |
| 4 | 10640.00 | 41.7 AV | 54.00 | -12.30 | 1.78 H | 56 | -3.60 | 37.70 | 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 | 4256.00 | 52.7 PK | 74.00 | -21.30 | 1.11 V | 55 | 17.30 | 35.40 | NOTE 6 |
| 1 | 4256.00 | 42.0 AV | 54.00 | -12.00 | 1.11 V | 55 | 6.60 | 35.40 | NOTE 6 |
| 2 | *5320.00 | 104.9 PK | | | 1.25 V | 80 | 67.20 | 37.70 | |
| 2 | *5320.00 | 96.1 AV | | | 1.25 V | 80 | 58.40 | 37.70 | |
| 3 | 5350.00 | 55.9 PK | 74.00 | -18.10 | 1.25 V | 80 | 18.20 | 37.70 | NOTE 6 |
| 3 | 5350.00 | 45.7 AV | 54.00 | -8.30 | 1.25 V | 80 | 8.00 | 37.70 | NOTE 6 |
| 4 | 10640.00 | 55.1 PK | 74.00 | -18.90 | 1.35 V | 58 | 9.80 | 45.20 | NOTE 6 |
| 4 | 10640.00 | 44.8 AV | 54.00 | -9.20 | 1.35 V | 58 | -0.50 | 45.20 | 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.



Standard section 15.247

| | | | |
|---------------------------------|------------------------------|-----------------------------|--------------------------|
| EUT | Wireless LAN and Mini PCI | MODEL | A13QBF |
| MODE | Normal Mode | CHANNEL | 9 |
| FREQUENCY RANGE | Above 1000 MHz | DETECTOR FUNCTION | Peak(PK) Average (AV) |
| ENVIRONMENTAL CONDITIONS | 18deg. C, 60%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 | 4596.00 | 52.3 PK | 74.00 | -21.70 | 1.68 H | 147 | 16.20 | 36.00 |
| 1 | 4596.00 | 50.6 AV | 54.00 | -3.40 | 1.68 H | 147 | 14.50 | 36.00 |
| 2 | *5745.00 | 102.4 PK | | | 1.20 H | 58 | 64.50 | 37.90 |
| 2 | *5745.00 | 94.2 AV | | | 1.20 H | 58 | 56.30 | 37.90 |
| 3 | 11490.00 | 57.1 PK | 74.00 | -16.90 | 1.58 H | 45 | 11.60 | 45.50 |
| 3 | 11490.00 | 48.1 AV | 54.00 | -5.90 | 1.58 H | 45 | 2.60 | 45.50 |

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 | 4596.00 | 54.1 PK | 74.00 | -19.90 | 1.22 V | 20 | 18.00 | 36.00 |
| 1 | 4596.00 | 52.7 AV | 54.00 | -1.30 | 1.22 V | 20 | 16.60 | 36.00 |
| 2 | *5745.00 | 108.2 PK | | | 1.06 V | 222 | 70.30 | 37.90 |
| 2 | *5745.00 | 99.1 AV | | | 1.06 V | 222 | 61.20 | 37.90 |
| 3 | 11490.00 | 58.7 PK | 74.00 | -15.30 | 2.02 V | 247 | 13.20 | 45.50 |
| 3 | 11490.00 | 50.0 AV | 54.00 | -4.00 | 2.02 V | 247 | 4.50 | 45.50 |
| 4 | 17235.00 | 59.8 PK | 74.00 | -14.20 | 1.78 V | 56 | 8.80 | 50.90 |
| 4 | 17235.00 | 50.6 AV | 54.00 | -3.40 | 1.78 V | 56 | -0.40 | 50.90 |

- 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. “ * ” : Fundamental frequency.

Standard section 15.247

| | | | |
|---------------------------------|------------------------------|-----------------------------|--------------------------|
| EUT | Wireless LAN and Mini PCI | MODEL | A13QBF |
| MODE | Normal Mode | CHANNEL | 11 |
| FREQUENCY RANGE | Above 1000 MHz | DETECTOR FUNCTION | Peak(PK) Average (AV) |
| ENVIRONMENTAL CONDITIONS | 18deg. C, 60%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 | 4628.00 | 54.2 PK | 74.00 | -19.80 | 1.60 H | 248 | 18.00 | 36.20 |
| 1 | 4628.00 | 52.8 AV | 54.00 | -1.20 | 1.60 H | 248 | 16.60 | 36.20 |
| 2 | *5785.00 | 102.2 PK | | | 1.74 H | 6 | 64.20 | 38.00 |
| 2 | *5785.00 | 93.8 AV | | | 1.74 H | 6 | 55.80 | 38.00 |
| 3 | 11570.00 | 56.7 PK | 74.00 | -17.30 | 1.48 H | 56 | 11.20 | 45.50 |
| 3 | 11570.00 | 47.9 AV | 54.00 | -6.10 | 1.48 H | 56 | 2.40 | 45.50 |

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 | 4628.00 | 49.7 PK | 74.00 | -24.30 | 1.20 V | 234 | 13.50 | 36.20 |
| 2 | *5785.00 | 108.9 PK | | | 1.96 V | 65 | 70.90 | 38.00 |
| 2 | *5785.00 | 99.4 AV | | | 1.96 V | 65 | 61.40 | 36.20 |
| 3 | 11570.00 | 57.8 PK | 74.00 | -16.20 | 1.84 V | 132 | 12.30 | 45.50 |
| 3 | 11570.00 | 49.4 AV | 54.00 | -4.60 | 1.84 V | 132 | 3.90 | 38.00 |
| 4 | 17355.00 | 60.5 PK | 74.00 | -13.50 | 1.68 V | 5 | 8.80 | 51.80 |
| 4 | 17355.00 | 50.8 AV | 54.00 | -3.20 | 1.68 V | 5 | -0.90 | 45.50 |

- 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.



Standard section 15.247

| | | | |
|---------------------------------|------------------------------|-----------------------------|--------------------------|
| EUT | Wireless LAN and Mini PCI | MODEL | A13QBF |
| MODE | Normal Mode | CHANNEL | 13 |
| FREQUENCY RANGE | Above 1000 MHz | DETECTOR FUNCTION | Peak(PK) Average (AV) |
| ENVIRONMENTAL CONDITIONS | 18deg. C, 60%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 | 4660.00 | 54.3 PK | 74.00 | -19.70 | 1.09 H | 110 | 18.00 | 36.30 |
| 1 | 4660.00 | 52.7 AV | 54.00 | -1.30 | 1.09 H | 110 | 16.40 | 36.30 |
| 2 | *5825.00 | 100.8 PK | | | 1.42 H | 30 | 62.80 | 38.00 |
| 2 | *5825.00 | 93.7 AV | | | 1.42 H | 30 | 55.70 | 38.00 |
| 3 | 11650.00 | 56.5 PK | 74.00 | -17.50 | 1.17 H | 5 | 10.90 | 45.50 |
| 3 | 11650.00 | 47.7 AV | 54.00 | -6.30 | 1.17 H | 5 | 2.10 | 45.50 |

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 | 4660.00 | 54.7 PK | 74.00 | -19.30 | 1.39 V | 287 | 18.40 | 36.30 |
| 1 | 4660.00 | 53.3 AV | 54.00 | -0.70 | 1.39 V | 287 | 17.00 | 36.30 |
| 2 | *5825.00 | 108.2 PK | | | 1.88 V | 348 | 70.20 | 38.00 |
| 2 | *5825.00 | 98.8 AV | | | 1.88 V | 348 | 60.80 | 38.00 |
| 3 | 11650.00 | 59.8 PK | 74.00 | -14.20 | 2.01 V | 307 | 14.20 | 45.50 |
| 3 | 11650.00 | 50.5 AV | 54.00 | -3.50 | 2.01 V | 307 | 4.90 | 45.50 |
| 4 | 17475.00 | 60.7 PK | 74.00 | -13.30 | 1.48 V | 23 | 8.10 | 52.60 |
| 4 | 17475.00 | 51.9 AV | 54.00 | -2.10 | 1.48 V | 23 | -0.70 | 52.60 |

- 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.

Standard section 15.407

| | | | |
|---------------------------------|------------------------------|-----------------------------|--------------------------|
| EUT | Wireless LAN and Mini PCI | MODEL | A13QBF |
| MODE | Turbo Mode | CHANNEL | 1 |
| FREQUENCY RANGE | Above 1000 MHz | DETECTOR FUNCTION | Peak(PK) Average (AV) |
| ENVIRONMENTAL CONDITIONS | 18deg. C, 60%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 | 4168.00 | 43.8 PK | 74.00 | -30.20 | 1.89 H | 68 | 8.50 | 35.30 | NOTE 6 |
| 2 | 5150.00 | 56.2 PK | 74.00 | -17.80 | 1.50 H | 258 | 18.50 | 37.70 | NOTE 6 |
| 2 | 5150.00 | 47.6 AV | 54.00 | -6.40 | 1.50 H | 258 | 9.90 | 35.30 | NOTE 6 |
| 3 | *5210.00 | 95.2 PK | | | 1.56 H | 260 | 57.50 | 37.70 | |
| 3 | *5210.00 | 86.9 AV | | | 1.56 H | 260 | 49.20 | 37.70 | |
| 4 | 10420.00 | 50.9 PK | 68.30 | -17.40 | 1.88 H | 360 | 6.10 | 44.80 | |

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) | Remark |
|-----|-------------|-------------------------|----------------|-------------|--------------------|----------------------|------------------|--------------------------|--------|
| 1 | 4168.00 | 41.6 PK | 74.00 | -32.40 | 1.36 V | 65 | 6.30 | 35.30 | NOTE 6 |
| 2 | 5150.00 | 60.0 PK | 74.00 | -14.00 | 1.09 V | 288 | 22.30 | 37.70 | NOTE 6 |
| 2 | 5150.00 | 51.4 AV | 54.00 | -2.60 | 1.09 V | 288 | 13.70 | 35.30 | NOTE 6 |
| 3 | *5210.00 | 101.9 PK | | | 1.02 V | 275 | 64.20 | 37.70 | |
| 3 | *5210.00 | 93.2 AV | | | 1.02 V | 275 | 55.50 | 37.70 | |
| 4 | 10420.00 | 57.1 PK | 68.30 | -11.20 | 1.86 V | 124 | 12.30 | 44.80 | |

- 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. “ * “ : Fundamental frequency.
 6. The radiated frequency falling in the restricted band.



Standard section 15.407

| | | | |
|---------------------------------|------------------------------|-----------------------------|--------------------------|
| EUT | Wireless LAN and Mini PCI | MODEL | A13QBF |
| MODE | Turbo Mode | CHANNEL | 2 |
| FREQUENCY RANGE | Above 1000 MHz | DETECTOR FUNCTION | Peak(PK) Average (AV) |
| ENVIRONMENTAL CONDITIONS | 18deg. C, 60%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 | 4200.00 | 41.5 PK | 74.00 | -32.50 | 1.63 H | 34 | 6.20 | 35.40 | NOTE 6 |
| 2 | *5250.00 | 96.5 PK | | | 1.24 H | 242 | 58.80 | 37.70 | |
| 2 | *5250.00 | 87.7 AV | | | 1.24 H | 242 | 50.00 | 35.40 | |
| 3 | 10500.00 | 52.1 PK | 68.30 | -16.20 | 2.00 H | 3 | 7.10 | 45.10 | |

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/m) | Remark |
|-----|-------------|-------------------------|----------------|-------------|--------------------|----------------------|------------------|--------------------------|--------|
| 1 | 4200.00 | 43.3 PK | 74.00 | -30.70 | 1.68 V | 25 | 8.00 | 35.40 | NOTE 6 |
| 2 | *5250.00 | 102.2 PK | | | 1.06 V | 268 | 64.50 | 37.70 | |
| 2 | *5250.00 | 93.9 AV | | | 1.06 V | 268 | 56.20 | 35.40 | |
| 3 | 10500.00 | 53.1 PK | 68.30 | -15.20 | 1.85 V | 5 | 8.10 | 45.10 | |

- 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.



Standard section 15.407

| | | | |
|---------------------------------|------------------------------|-----------------------------|--------------------------|
| EUT | Wireless LAN and Mini PCI | MODEL | A13QBF |
| MODE | Turbo Mode | CHANNEL | 3 |
| FREQUENCY RANGE | Above 1000 MHz | DETECTOR FUNCTION | Peak(PK) Average (AV) |
| ENVIRONMENTAL CONDITIONS | 18deg. C, 60%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 | 4232.00 | 42.5 PK | 74.00 | -31.50 | 1.00 H | 56 | 7.10 | 35.40 | NOTE 6 |
| 2 | *5290.00 | 97.1 PK | | | 1.24 H | 78 | 59.40 | 37.70 | |
| 2 | *5290.00 | 88.0 AV | | | 1.24 H | 78 | 50.30 | 35.40 | |
| 3 | 5350.00 | 55.7 PK | 74.00 | -18.30 | 1.24 H | 78 | 18.00 | 37.70 | NOTE 6 |
| 3 | 5350.00 | 46.1 AV | 54.00 | -7.90 | 1.24 H | 78 | 8.40 | 37.70 | NOTE 6 |
| 4 | 10580.00 | 52.0 PK | 68.30 | -16.30 | 2.21 H | 269 | 6.80 | 45.10 | |

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/m) | Remark |
|-----|-------------|-------------------------|----------------|-------------|--------------------|----------------------|------------------|--------------------------|--------|
| 1 | 4232.00 | 42.6 PK | 74.00 | -31.40 | 1.61 V | 51 | 7.20 | 35.40 | NOTE 6 |
| 2 | *5290.00 | 99.0 PK | | | 1.12 V | 280 | 61.30 | 37.70 | |
| 2 | *5290.00 | 90.1 AV | | | 1.12 V | 280 | 52.40 | 35.40 | |
| 3 | 5350.00 | 58.1 PK | 74.00 | -15.90 | 1.12 V | 280 | 20.40 | 37.70 | NOTE 6 |
| 3 | 5350.00 | 48.8 AV | 54.00 | -5.20 | 1.12 V | 280 | 11.10 | 37.70 | NOTE 6 |
| 4 | 10580.00 | 57.3 PK | 68.30 | -11.00 | 1.78 V | 72 | 12.10 | 45.10 | |

- 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.



Standard section 15.247

| | | | |
|---------------------------------|------------------------------|-----------------------------|--------------------------|
| EUT | Wireless LAN and Mini PCI | MODEL | A13QBF |
| MODE | Turbo Mode | CHANNEL | 4 |
| FREQUENCY RANGE | Above 1000 MHz | DETECTOR FUNCTION | Peak(PK) Average (AV) |
| ENVIRONMENTAL CONDITIONS | 18deg. C, 60%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 | 4608.00 | 50.3 PK | 74.00 | -23.70 | 1.33 H | 3 | 14.20 | 36.10 |
| 1 | 4608.00 | 47.9 AV | 54.00 | -6.10 | 1.33 H | 3 | 11.80 | 36.10 |
| 2 | *5760.00 | 96.3 PK | | | 1.63 H | 158 | 58.40 | 37.90 |
| 2 | *5760.00 | 88.1 AV | | | 1.63 H | 158 | 50.20 | 37.90 |
| 3 | 11520.00 | 52.7 PK | 74.00 | -21.30 | 1.76 H | 265 | 7.20 | 45.50 |
| 3 | 11520.00 | 42.5 AV | 54.00 | -11.50 | 1.76 H | 265 | -3.00 | 45.50 |

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 | 4608.00 | 52.4 PK | 74.00 | -21.60 | 1.35 V | 100 | 16.30 | 36.10 |
| 1 | 4608.00 | 49.8 AV | 54.00 | -4.20 | 1.35 V | 100 | 13.70 | 36.10 |
| 2 | *5760.00 | 99.3 PK | | | 1.36 V | 6 | 61.40 | 37.90 |
| 2 | *5760.00 | 90.1 AV | | | 1.36 V | 6 | 52.20 | 37.90 |
| 3 | 11520.00 | 54.0 PK | 74.00 | -20.00 | 1.94 V | 75 | 8.50 | 45.50 |
| 3 | 11520.00 | 43.8 AV | 54.00 | -10.20 | 1.94 V | 75 | -1.70 | 45.50 |

- 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.

Standard section 15.247

| | | | |
|---------------------------------|------------------------------|-----------------------------|--------------------------|
| EUT | Wireless LAN and Mini PCI | MODEL | A13QBF |
| MODE | Turbo Mode | CHANNEL | 5 |
| FREQUENCY RANGE | Above 1000 MHz | DETECTOR FUNCTION | Peak(PK) Average (AV) |
| ENVIRONMENTAL CONDITIONS | 18deg. C, 60%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 | 4640.00 | 52.7 PK | 74.00 | -21.30 | 1.02 H | 39 | 16.50 | 36.20 |
| 1 | 4640.00 | 50.7 AV | 54.00 | -3.30 | 1.02 H | 39 | 14.50 | 36.20 |
| 2 | *5800.00 | 95.2 PK | | | 1.64 H | 290 | 57.20 | 38.00 |
| 2 | *5800.00 | 86.7 AV | | | 1.64 H | 290 | 48.70 | 38.00 |
| 3 | 11600.00 | 52.4 PK | 74.00 | -21.60 | 1.84 H | 328 | 6.90 | 45.50 |
| 3 | 11600.00 | 42.9 AV | 54.00 | -11.10 | 1.84 H | 328 | -2.60 | 45.50 |

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 | 4640.00 | 54.3 PK | 74.00 | -19.70 | 1.99 V | 59 | 18.10 | 36.20 |
| 1 | 4640.00 | 51.4 AV | 54.00 | -2.60 | 1.99 V | 59 | 15.20 | 36.20 |
| 2 | *5800.00 | 100.8 PK | | | 1.36 V | 20 | 62.80 | 38.00 |
| 2 | *5800.00 | 91.4 AV | | | 1.36 V | 20 | 53.40 | 38.00 |
| 3 | 11600.00 | 54.7 PK | 74.00 | -19.30 | 1.74 V | 146 | 9.20 | 45.50 |
| 3 | 11600.00 | 45.5 AV | 54.00 | -8.50 | 1.74 V | 146 | 0.00 | 45.50 |

- 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.



FOR FREQUENCY 5.15~5.35GHz

4.3 PEAK TRANSMIT POWER MEASUREMENT

4.3.1 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.

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.

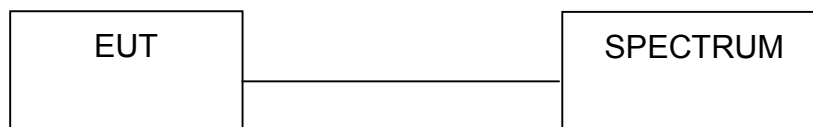
4.3.3 TEST PROCEDURE

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

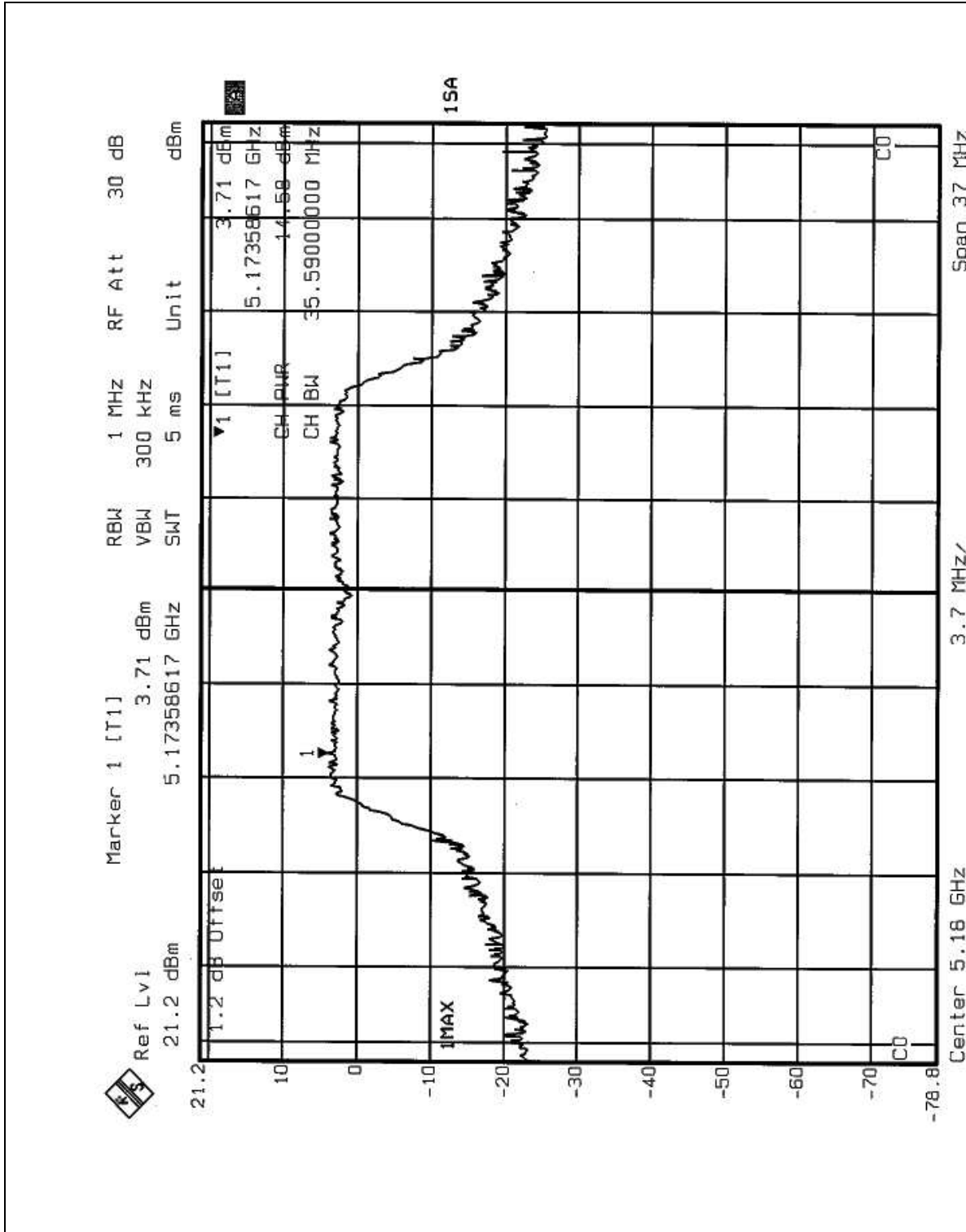
| | | | |
|---------------------------------|------------------------------|-----------------------------|---------------|
| EUT | Wireless LAN and Mini PCI | MODEL | A13QBF |
| MODE | Normal | INPUT POWER (SYSTEM) | 120Vac, 60 Hz |
| ENVIRONMENTAL CONDITIONS | 26deg. C, 66%RH, 1005 hPa | TESTED BY | Ansen Lei |

| CHANNEL | CHANNEL FREQUENCY (MHz) | PEAK POWER OUTPUT (dBm) | PEAK POWER LIMIT (dBm) | 26dBc Occupied Bandwidth (MHz) | PASS/FAIL |
|----------------|--------------------------------|--------------------------------|-------------------------------|---------------------------------------|------------------|
| 1 | 5180 | 14.58 | 17.00 | 35.591 | PASS |
| 4 | 5240 | 16.90 | 17.00 | 31.583 | PASS |
| 5 | 5260 | 17.37 | 24.00 | 32.865 | PASS |
| 8 | 5320 | 14.86 | 24.00 | 32.625 | PASS |

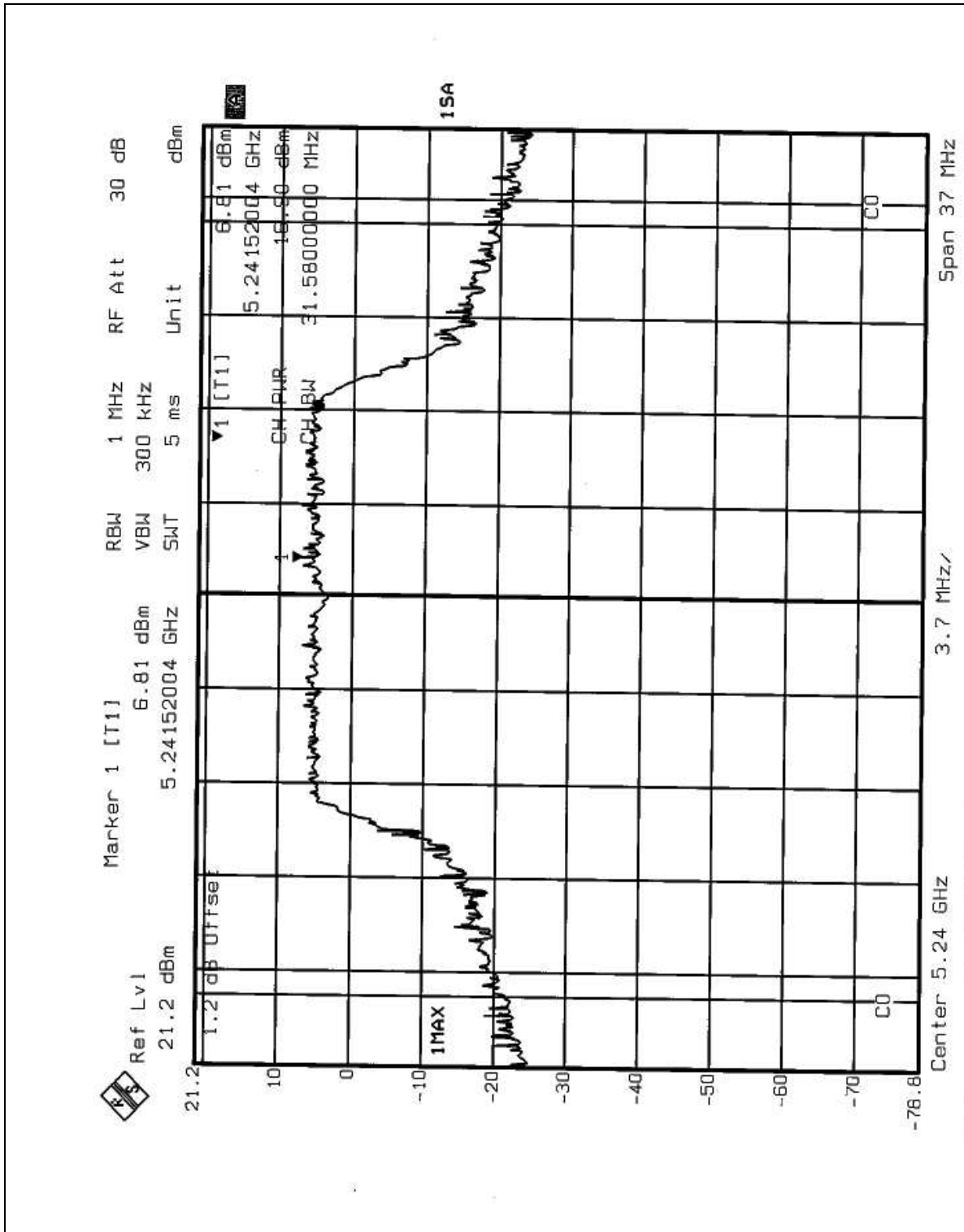
NOTE: The 26dBc Occupied Bandwidth plot, please refer to the following pages.



CHANNEL 1

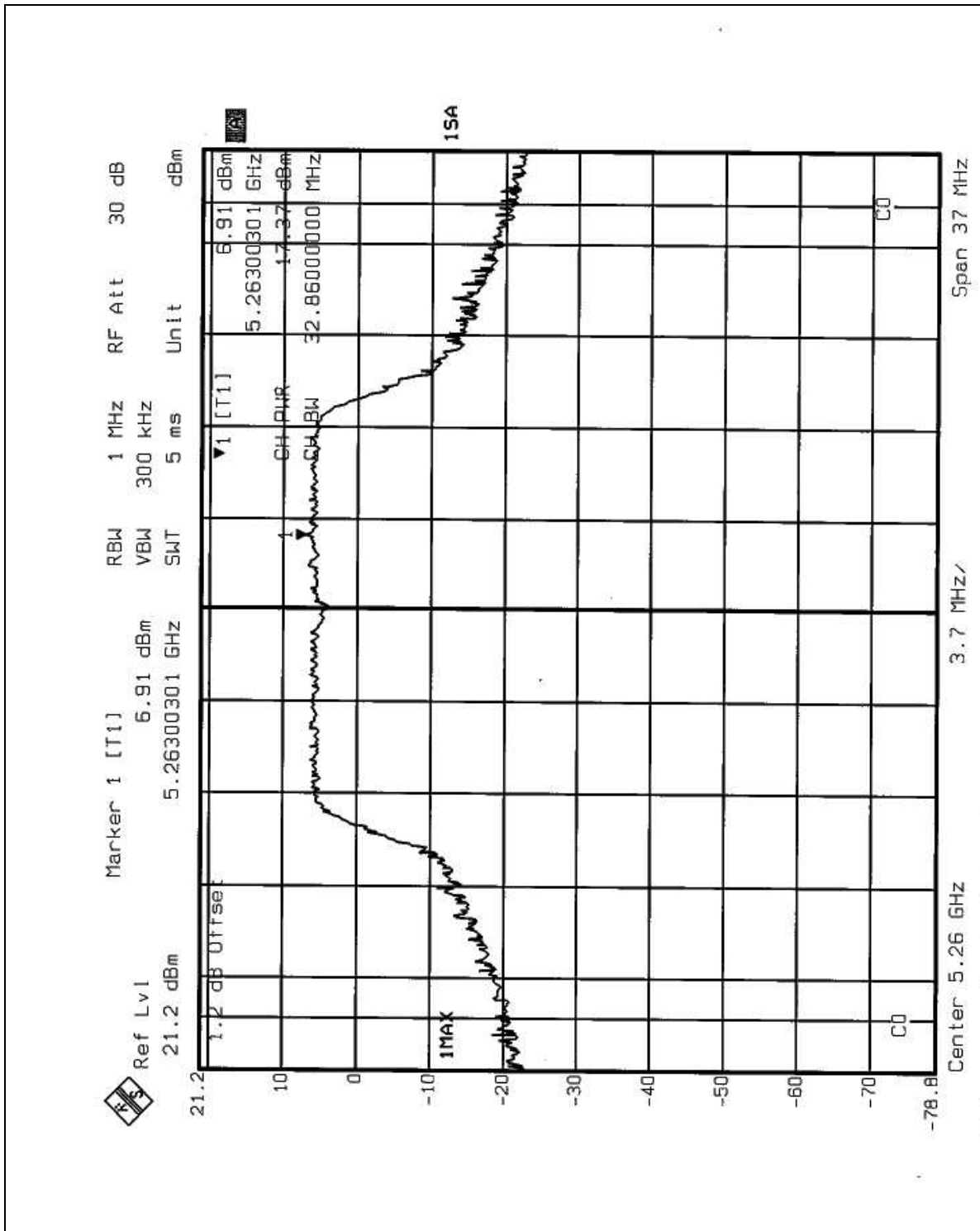


CHANNEL 4



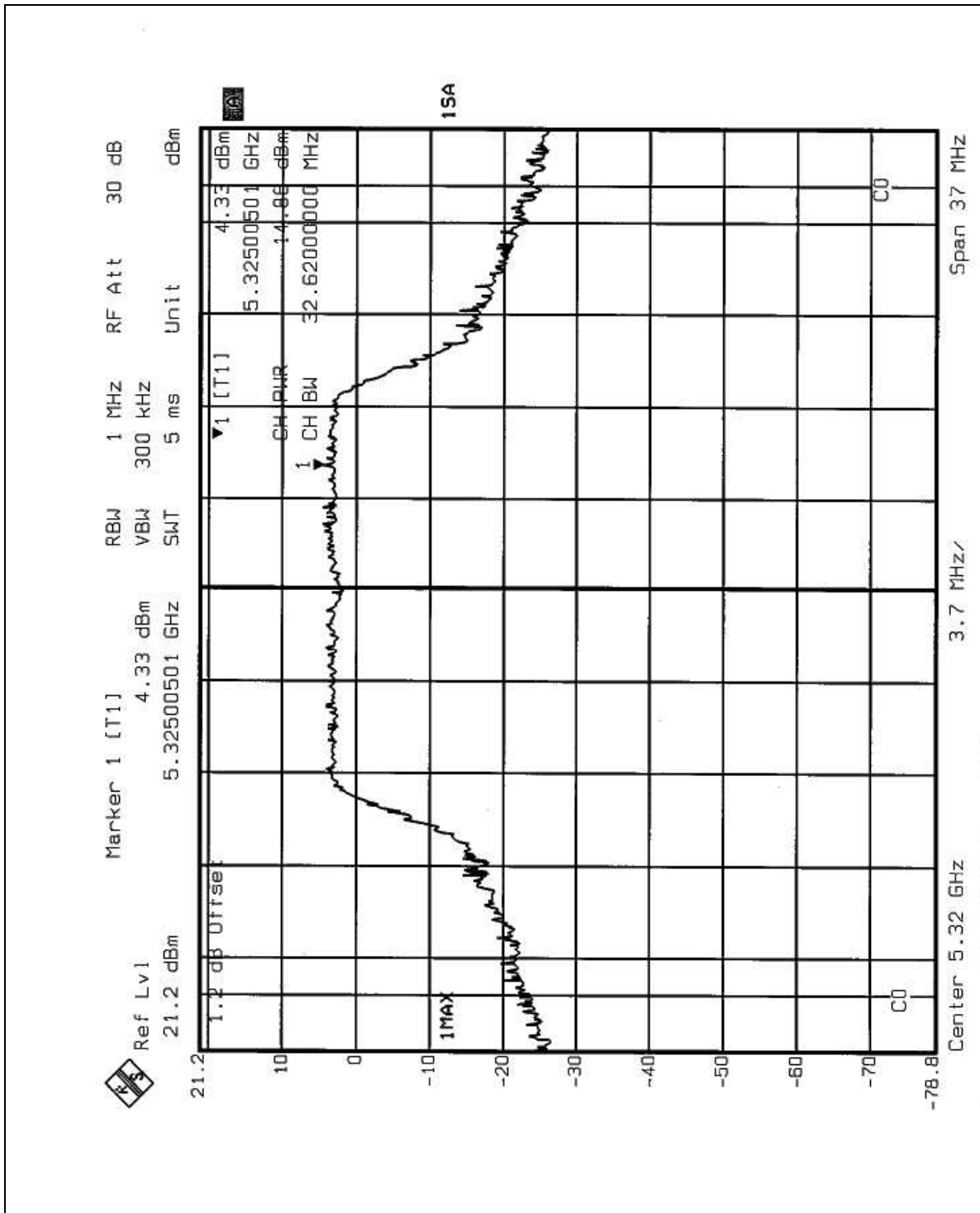


CHANNEL 5



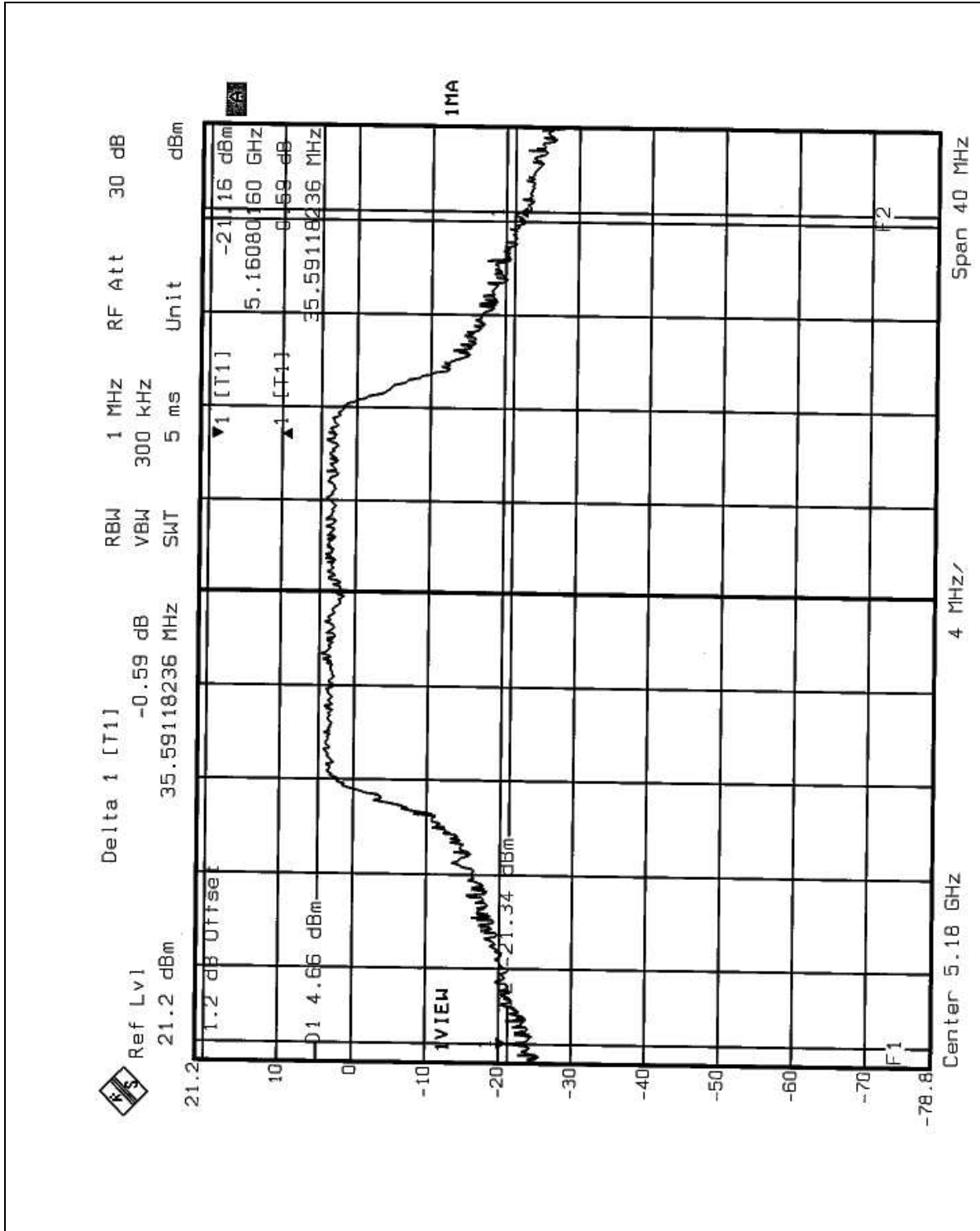


CHANNEL8



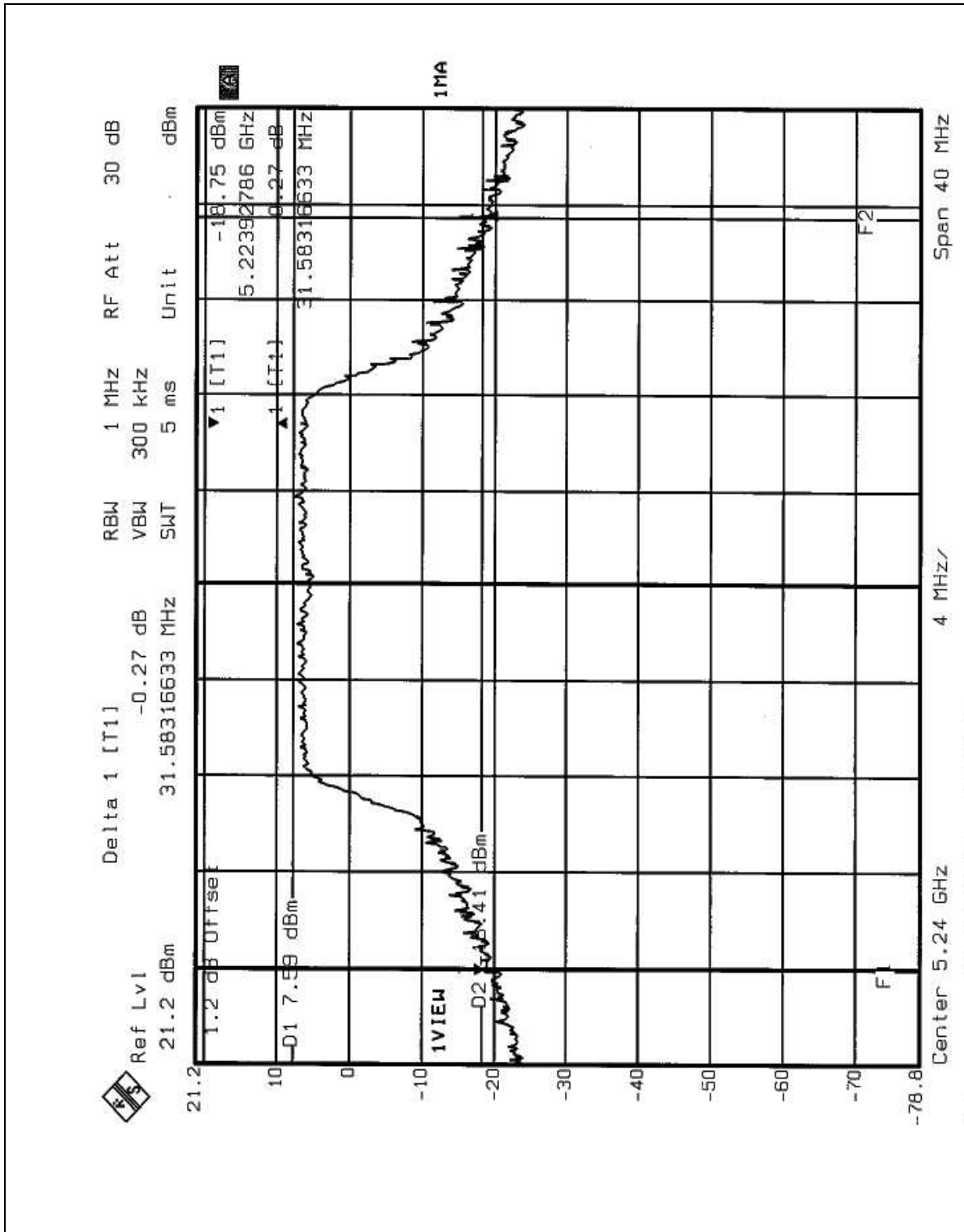


CHANNEL 1



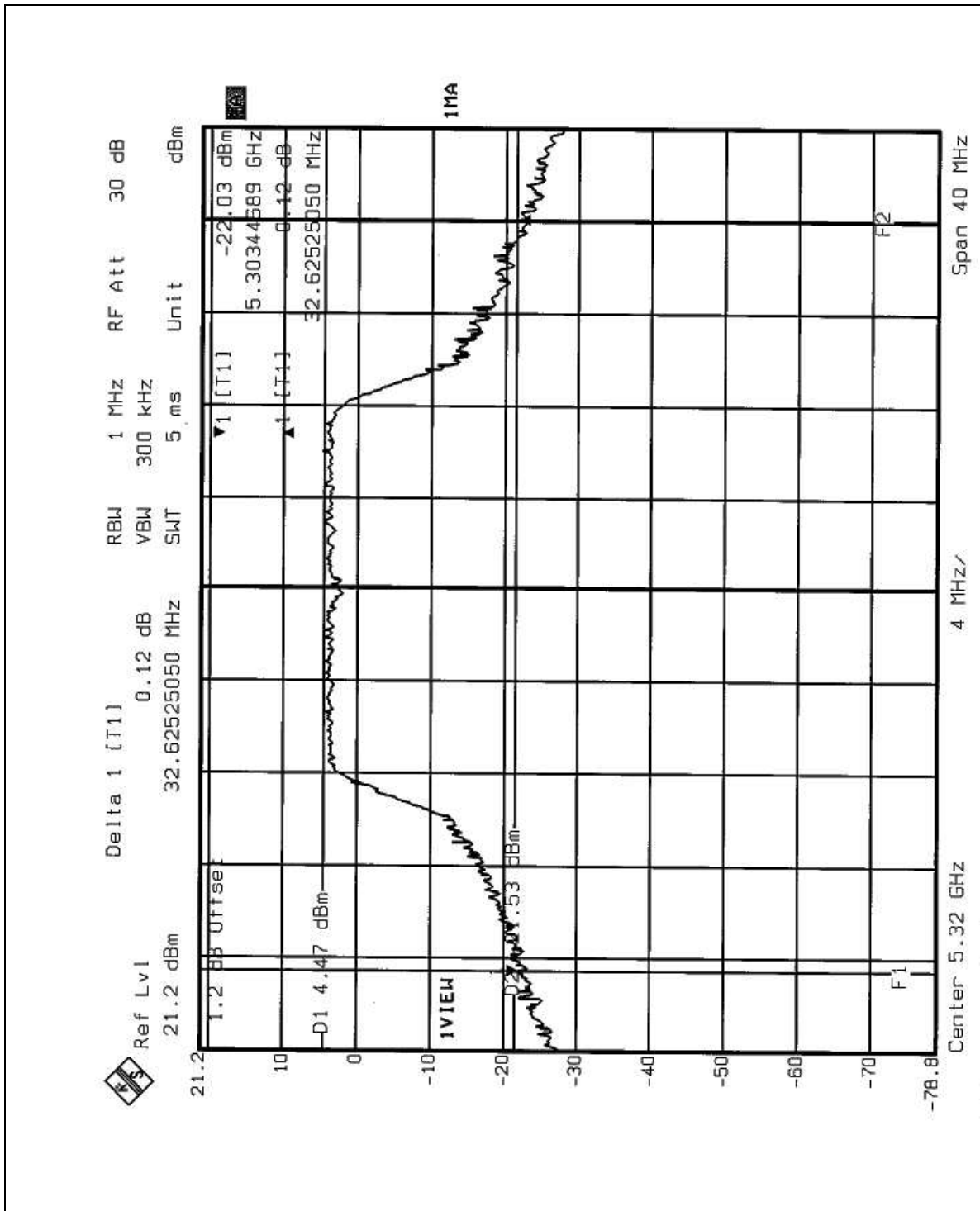


CHANNEL 4





CHANNEL 8





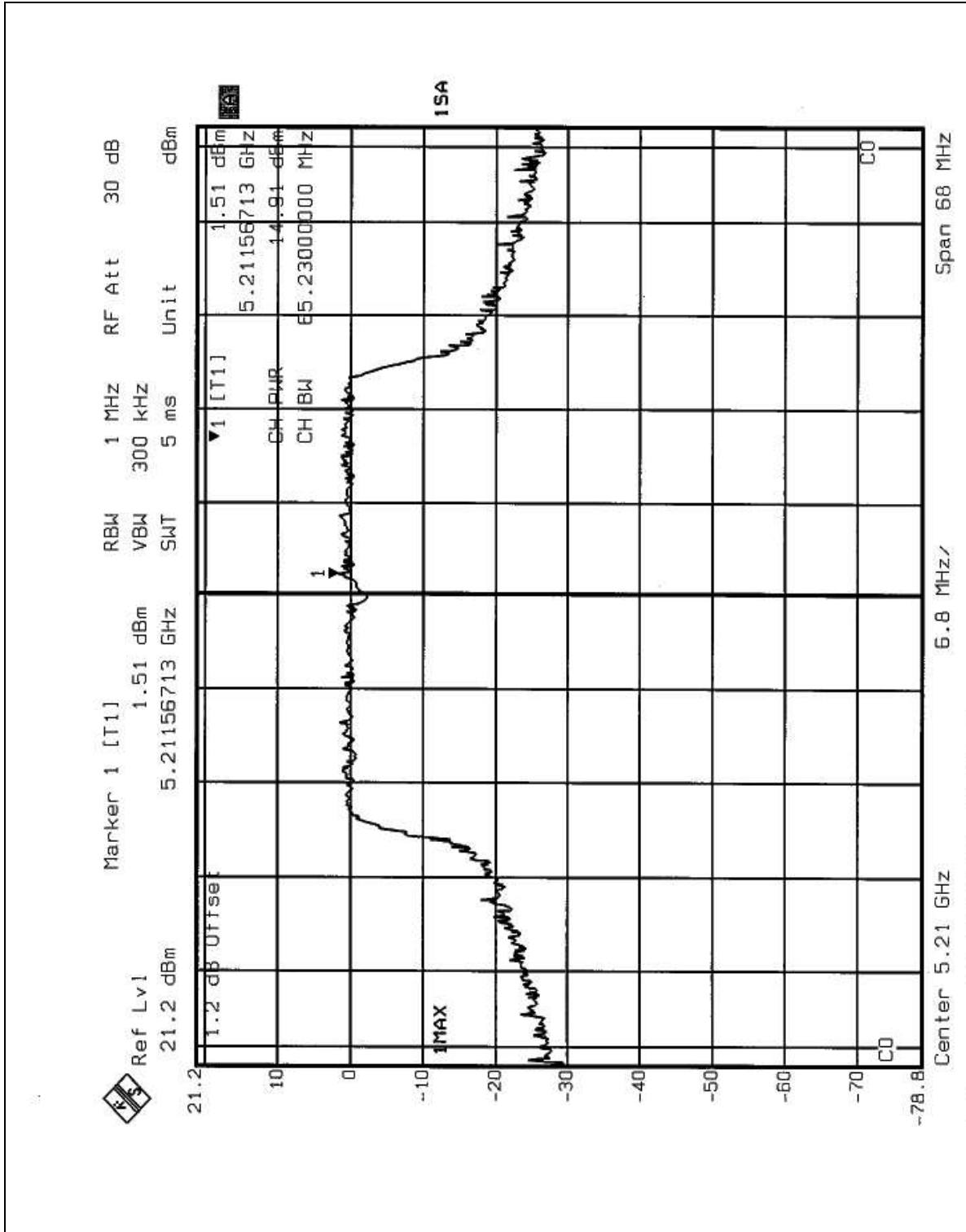
| | | | |
|---------------------------------|------------------------------|-----------------------------|---------------|
| EUT | Wireless LAN and Mini PCI | MODEL | A13QBF |
| MODE | Turbo | INPUT POWER (SYSTEM) | 120Vac, 60 Hz |
| ENVIRONMENTAL CONDITIONS | 26deg. C, 66%RH, 1005 hPa | TESTED BY | Ansen Lei |

| CHANNEL | CHANNEL FREQUENCY (MHz) | PEAK POWER OUTPUT (dBm) | PEAK POWER LIMIT (dBm) | 26dBc Occupied Bandwidth (MHz) | PASS/FAIL |
|----------------|--------------------------------|--------------------------------|-------------------------------|---------------------------------------|------------------|
| 1 | 5210 | 14.91 | 17.00 | 65.23 | PASS |
| 2 | 5250 | 14.91 | 24.00 | 61.16 | PASS |
| 3 | 5290 | 14.96 | 24.00 | 61.16 | PASS |

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

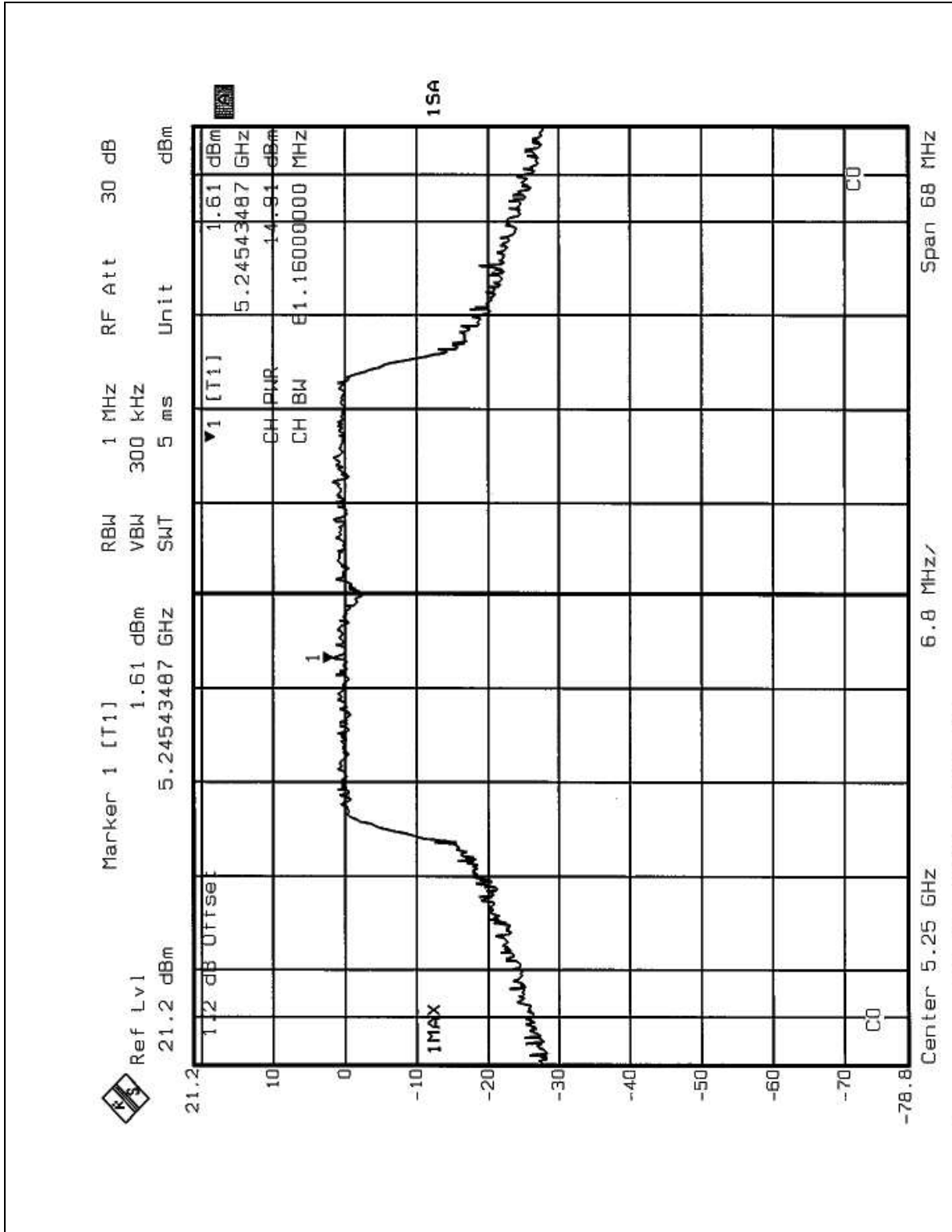


CHANNEL 1



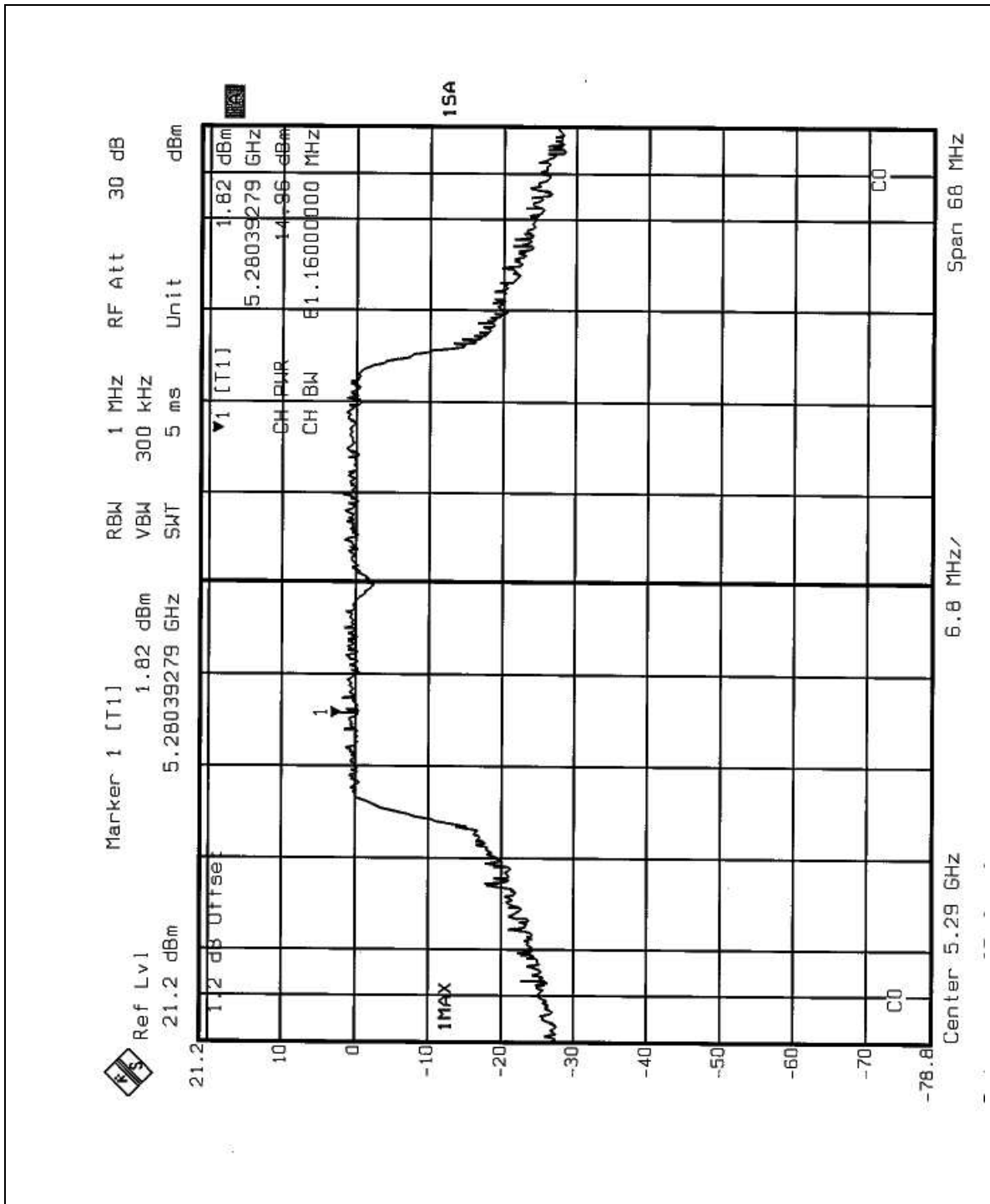


CHANNEL 2



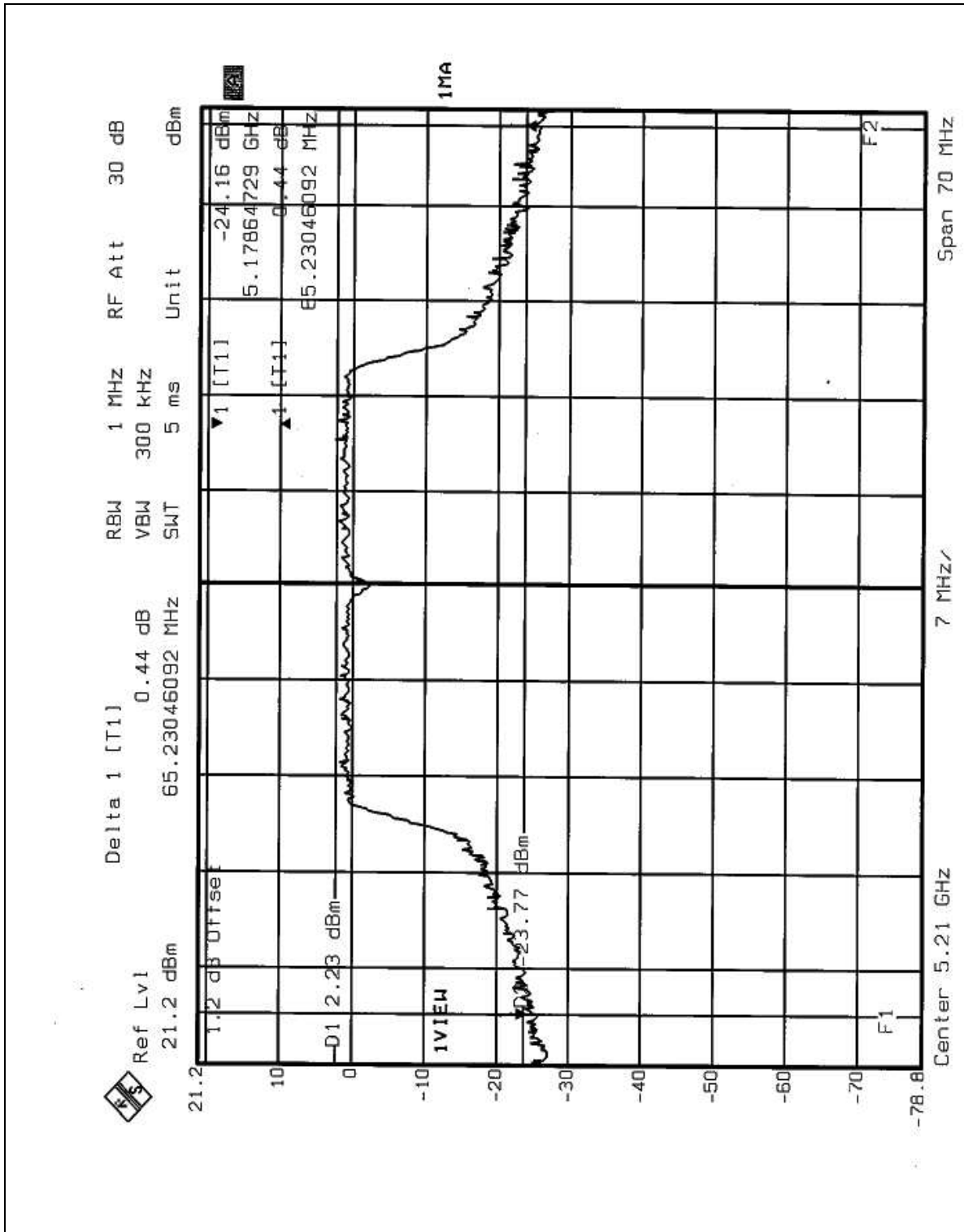


CHANNEL 3



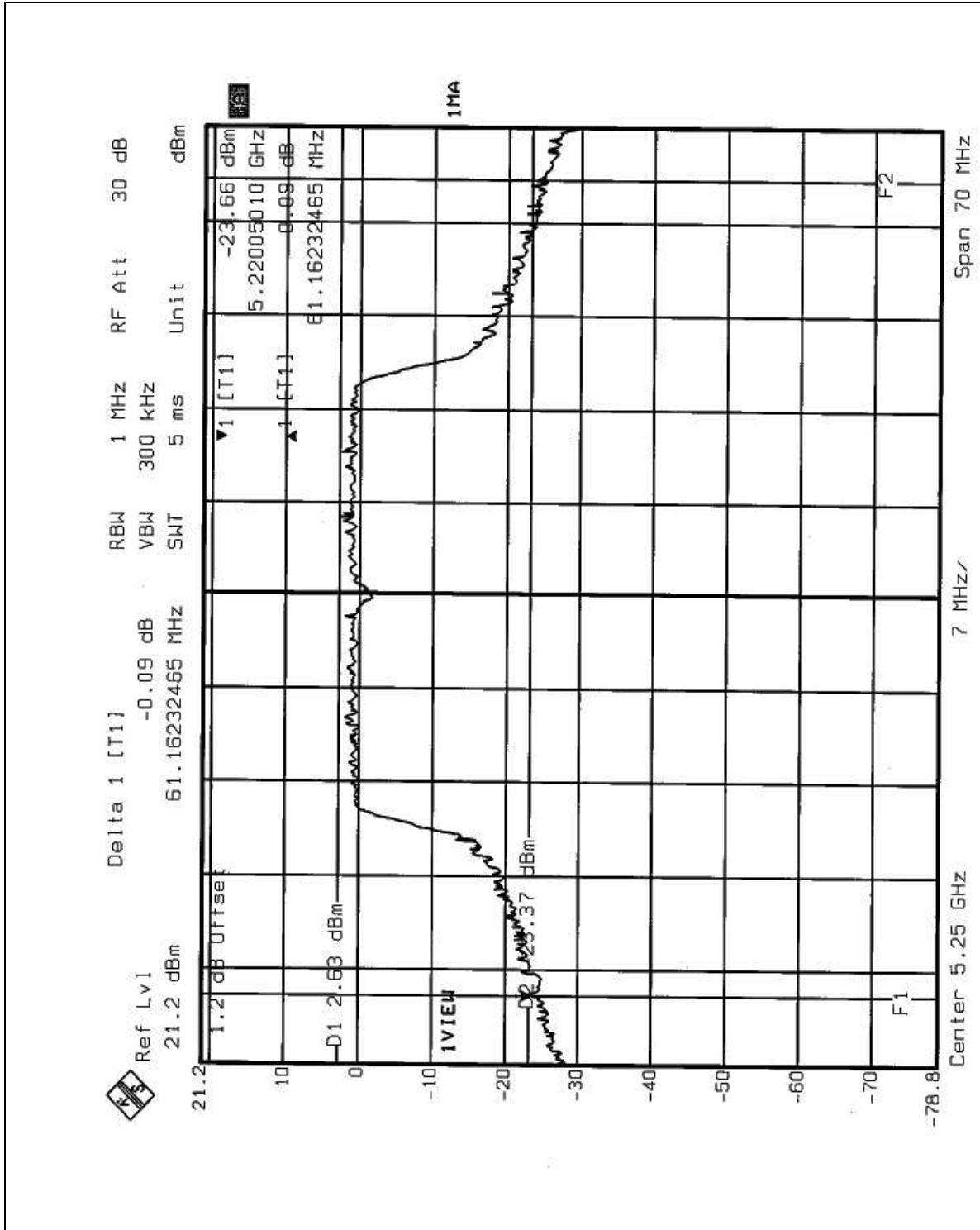


CHANNEL 1



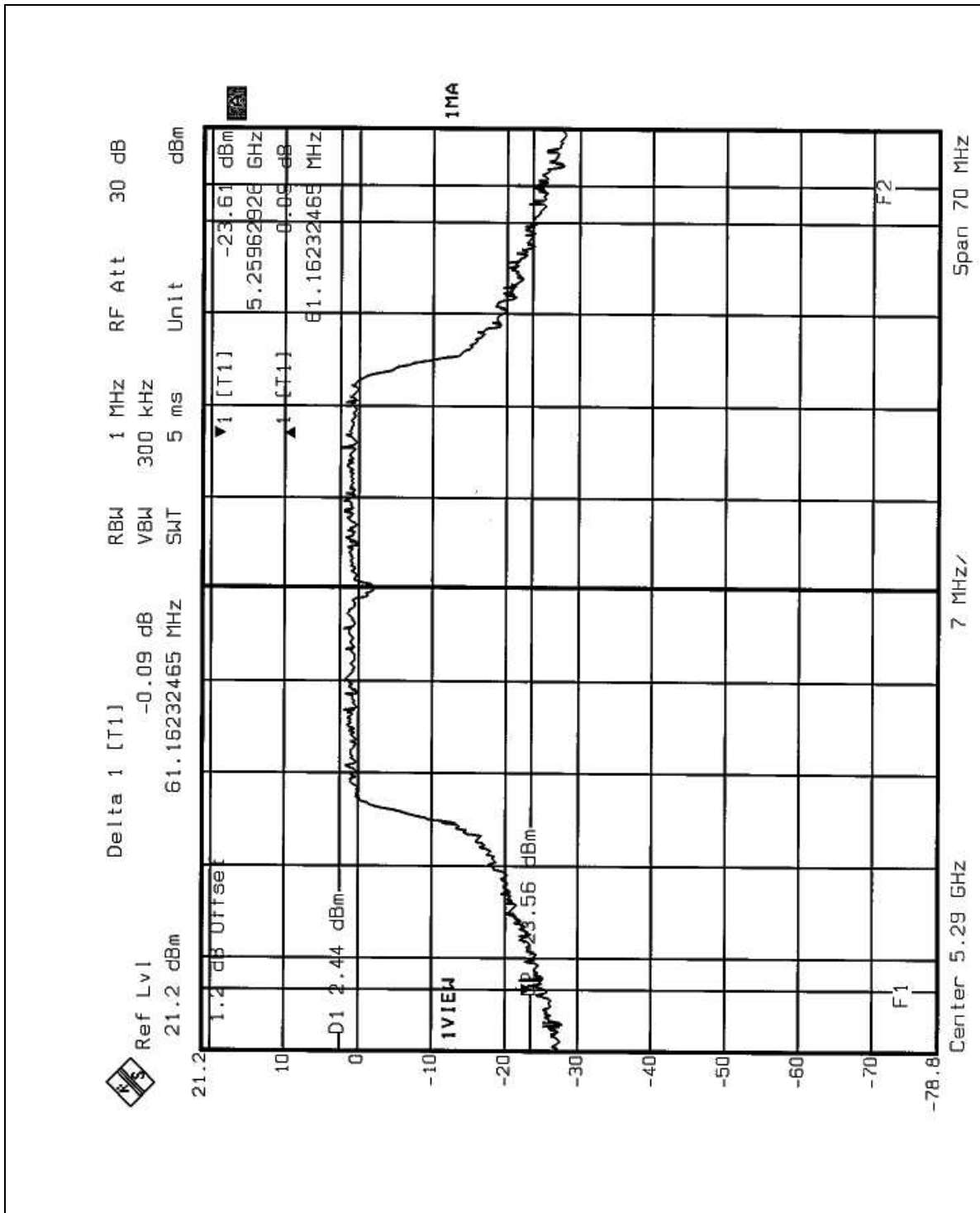


CHANNEL 2





CHANNEL 3



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 |
| 5.725 – 5.825 GHz | 13dB |

4.4.2 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.

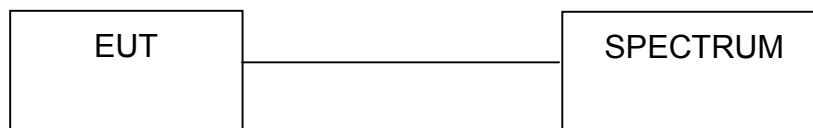
4.4.3 TEST PROCEDURE

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.



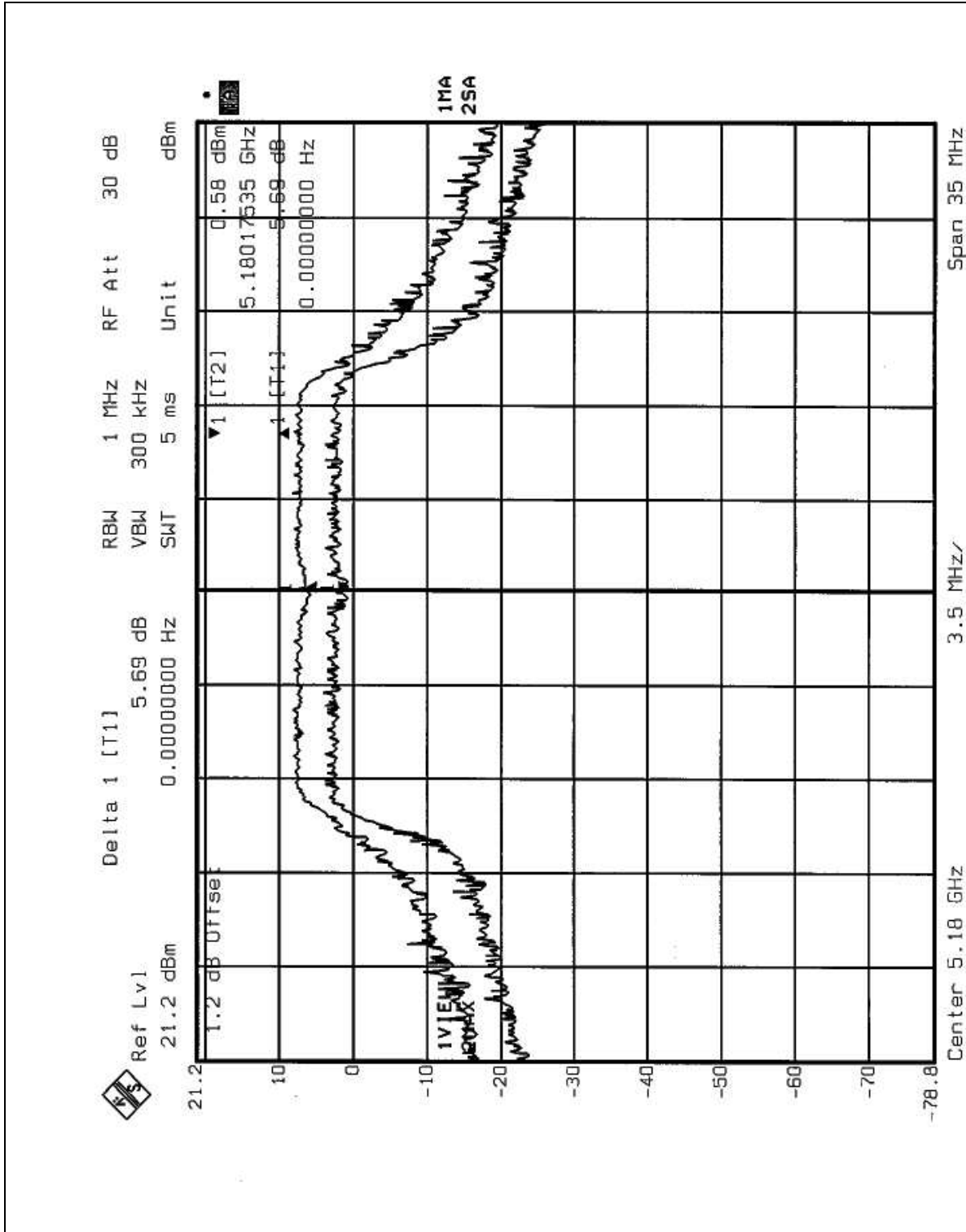
4.4.7 TEST RESULTS

| | | | |
|---------------------------------|------------------------------|-----------------------------|---------------|
| EUT | Wireless LAN and Mini PCI | MODEL | A13QBF |
| MODE | Normal | INPUT POWER (SYSTEM) | 120Vac, 60 Hz |
| ENVIRONMENTAL CONDITIONS | 26deg. C, 66%RH, 1005 hPa | TESTED BY | Ansen Lei |

| CHANNEL | CHANNEL FREQUENCY (MHz) | PEAK POWER EXCURSION (dB) | PEAK to AVERAGE EXCURSION LIMIT (dB) | PASS/FAIL |
|----------------|--------------------------------|----------------------------------|---|------------------|
| 1 | 5180 | 5.69 | 13 | PASS |
| 4 | 5240 | 6.51 | 13 | PASS |
| 5 | 5260 | 4.71 | 13 | PASS |
| 8 | 5320 | 6.17 | 13 | PASS |

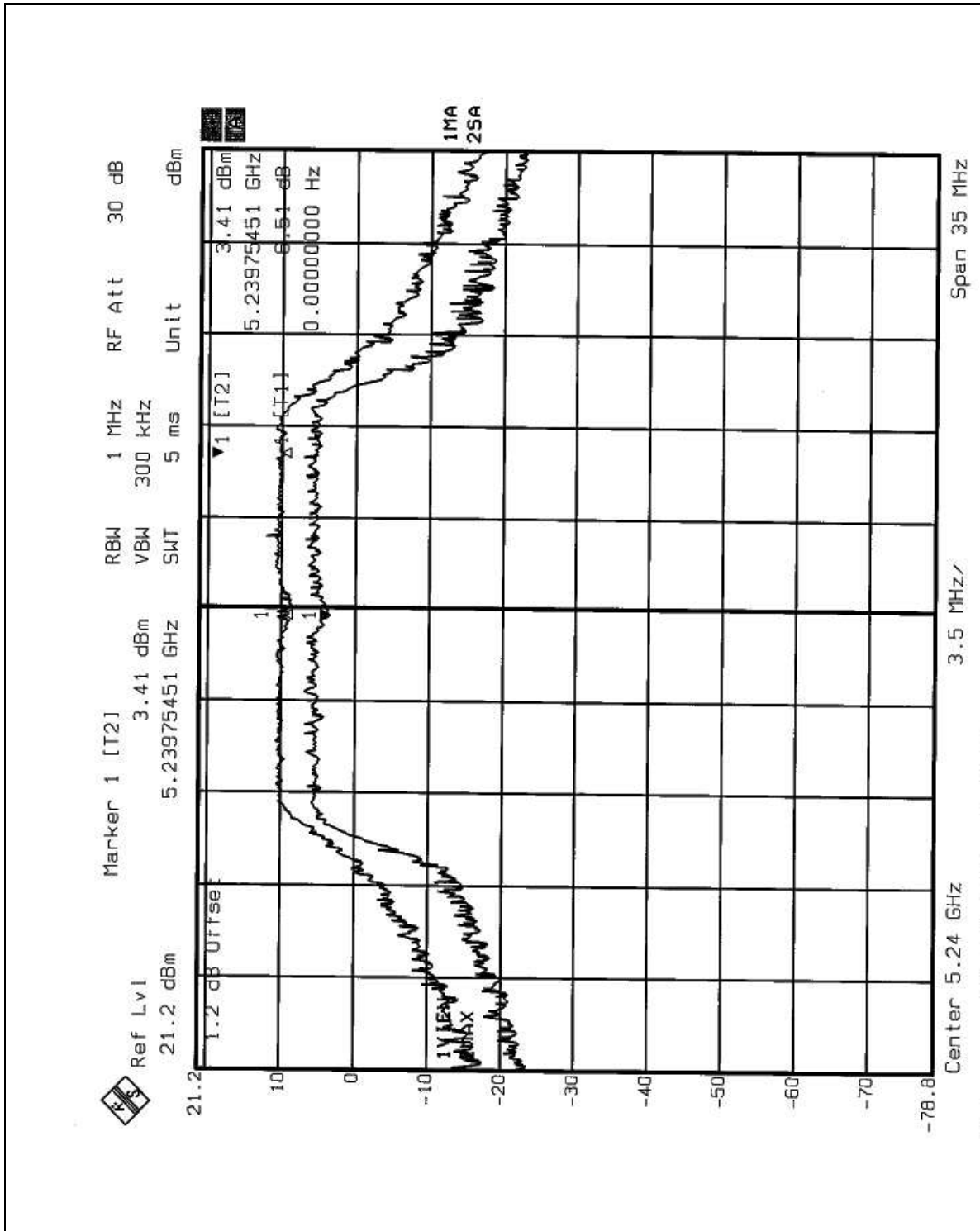


CHANNEL 1



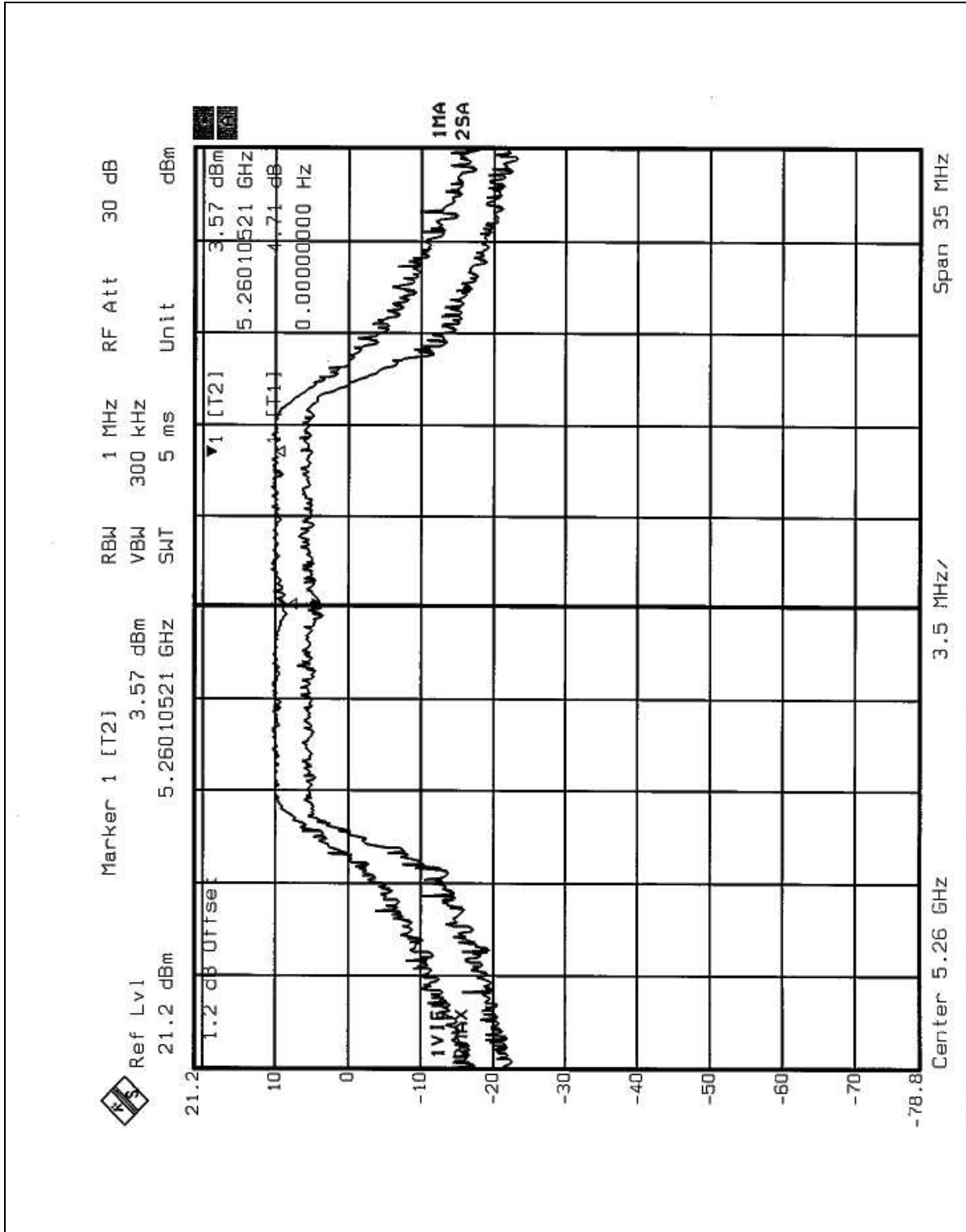


CHANNEL 4



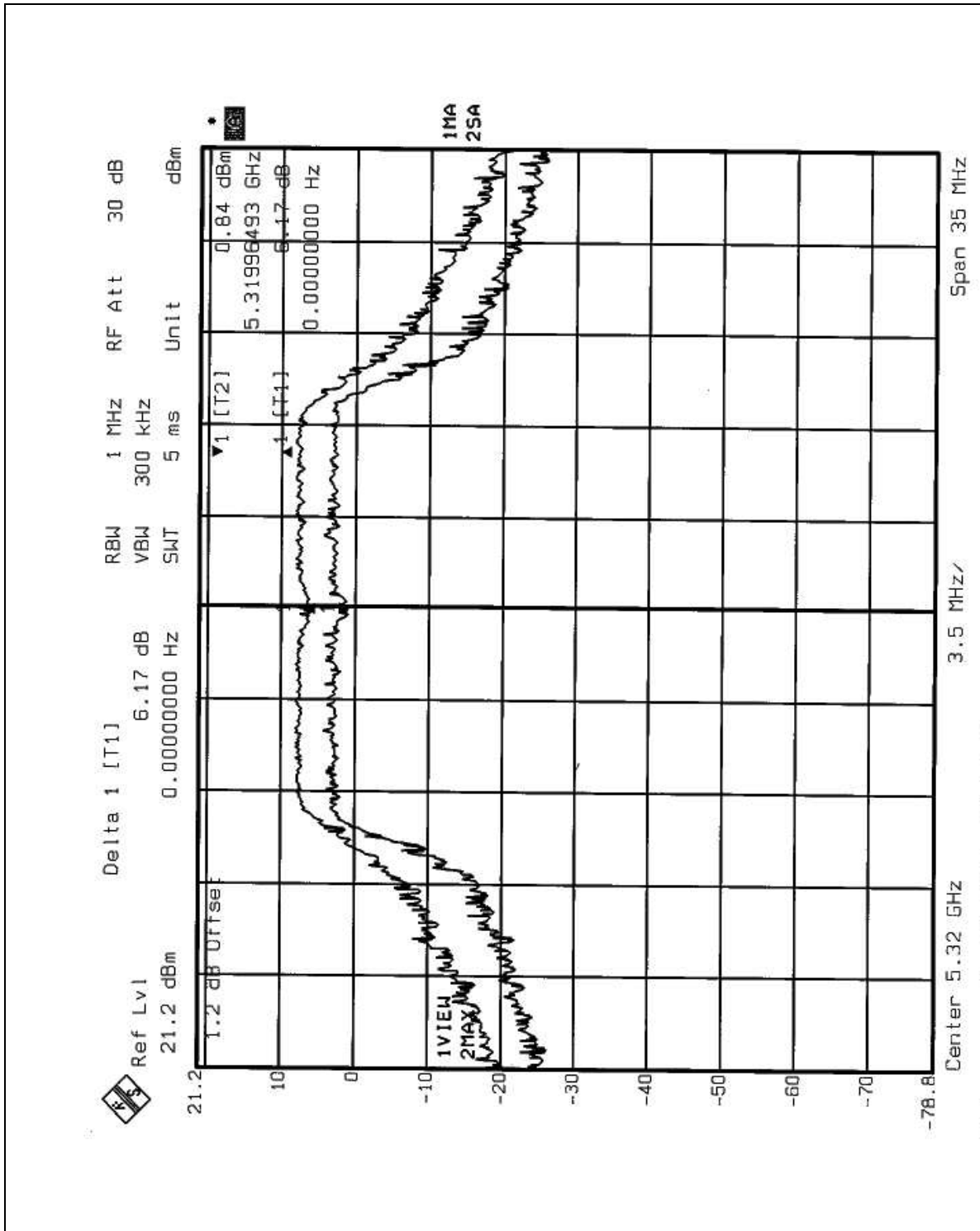


CHANNEL 5





CHANNEL 8



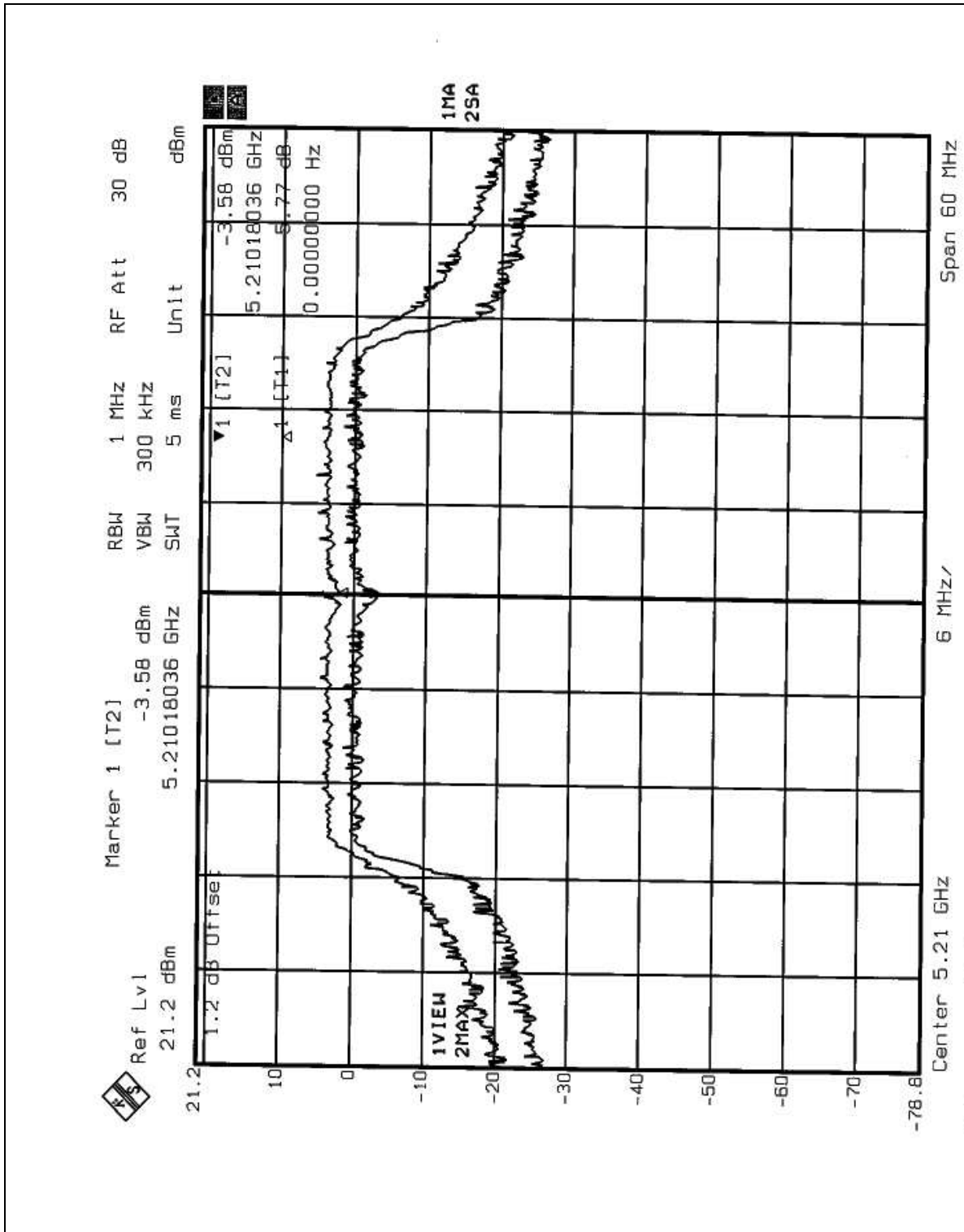


| | | | |
|---------------------------------|------------------------------|-----------------------------|---------------|
| EUT | Wireless LAN and Mini PCI | MODEL | A13QBF |
| MODE | Turbo | INPUT POWER (SYSTEM) | 120Vac, 60 Hz |
| ENVIRONMENTAL CONDITIONS | 26deg. C, 66%RH, 1005 hPa | TESTED BY | Ansen Lei |

| CHANNEL | CHANNEL FREQUENCY (MHz) | PEAK POWER EXCURSION (dB) | PEAK to AVERAGE EXCURSION LIMIT (dB) | PASS/FAIL |
|----------------|--------------------------------|----------------------------------|---|------------------|
| 1 | 5210 | 5.77 | 13 | PASS |
| 2 | 5250 | 5.87 | 13 | PASS |
| 3 | 5290 | 5.76 | 13 | PASS |

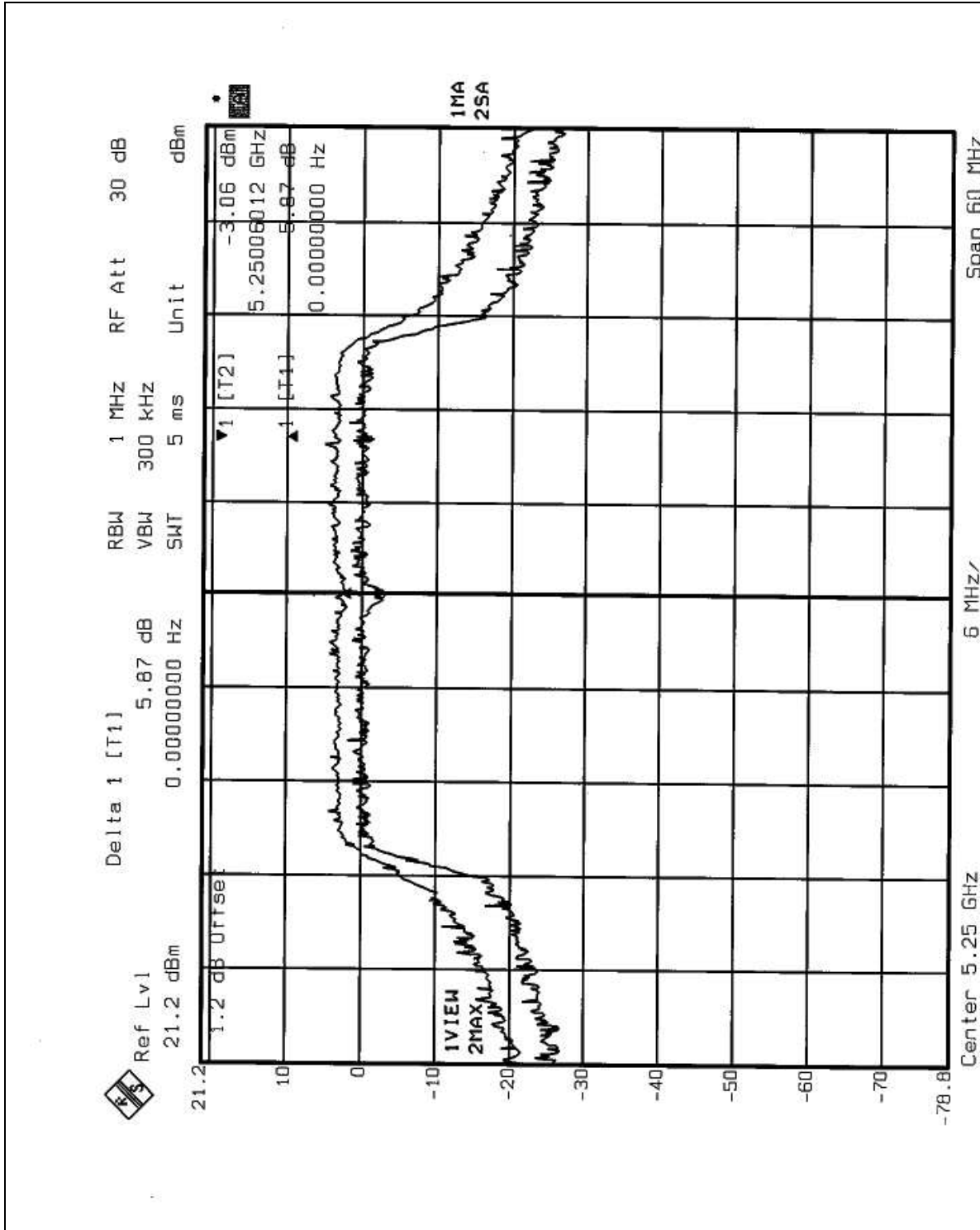


CHANNEL 1



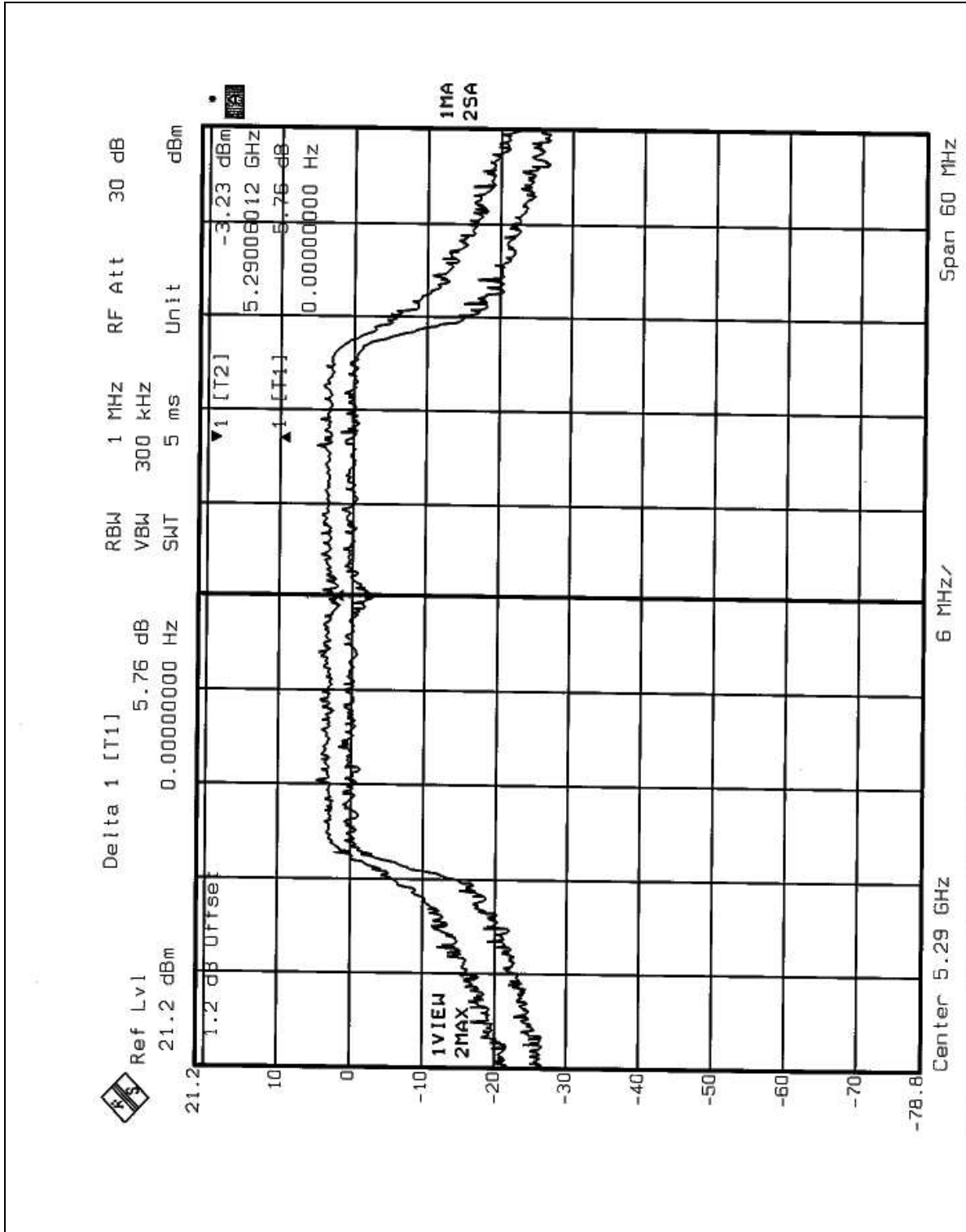


CHANNEL 2





CHANNEL 3





4.5 PEAK POWER SPECTRAL DENSITY MEASUREMENT

4.5.1 LIMITS OF PEAK POWER SPECTRAL DENSITY MEASUREMENT

| Frequency Band | Limit |
|-------------------|-------|
| 5.15 – 5.25 GHz | 4dBm |
| 5.25 – 5.35 GHz | 11dBm |
| 5.725 – 5.825 GHz | 17dBm |

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.



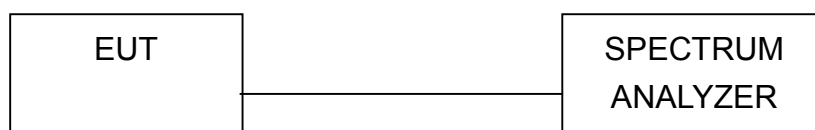
4.5.3 TEST PROCEDURES

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 4.3.6



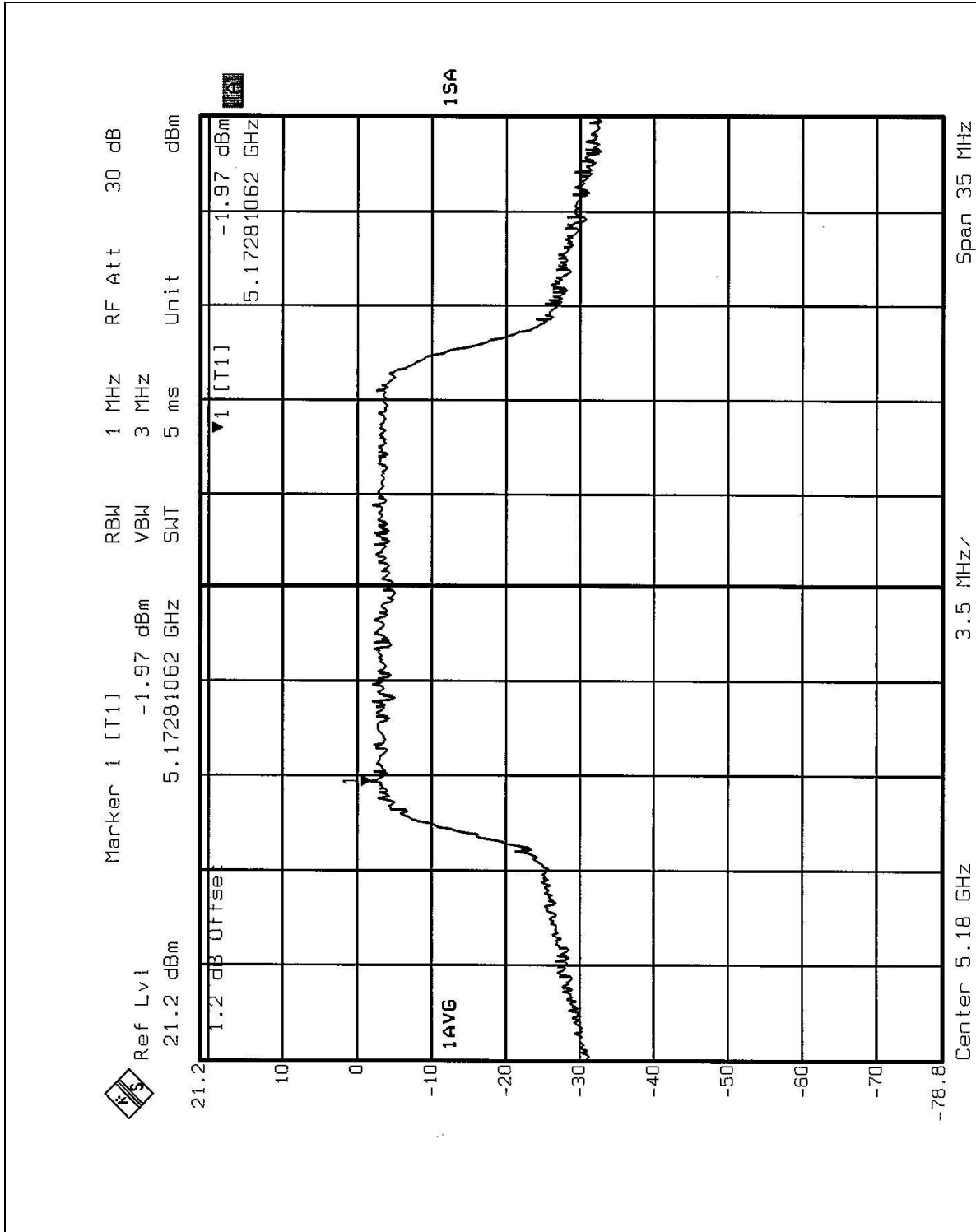
4.5.7 TEST RESULTS

| | | | |
|---------------------------------|------------------------------|-----------------------------|---------------|
| EUT | Wireless LAN and Mini PCI | MODEL | A13QBF |
| MODE | Normal | INPUT POWER (SYSTEM) | 120Vac, 60 Hz |
| ENVIRONMENTAL CONDITIONS | 26deg. C, 66%RH, 1005 hPa | TESTED BY | Ansen Lei |

| CHANNEL | CHANNEL FREQUENCY (MHz) | RF POWER LEVEL IN 1MHz BW (dBm) | MAXIMUM LIMIT (dBm) | PASS/FAIL |
|----------------|--------------------------------|--|----------------------------|------------------|
| 1 | 5180 | -1.97 | 4 | PASS |
| 4 | 5240 | 0.82 | 4 | PASS |
| 5 | 5260 | 0.64 | 11 | PASS |
| 8 | 5320 | -2.02 | 11 | PASS |

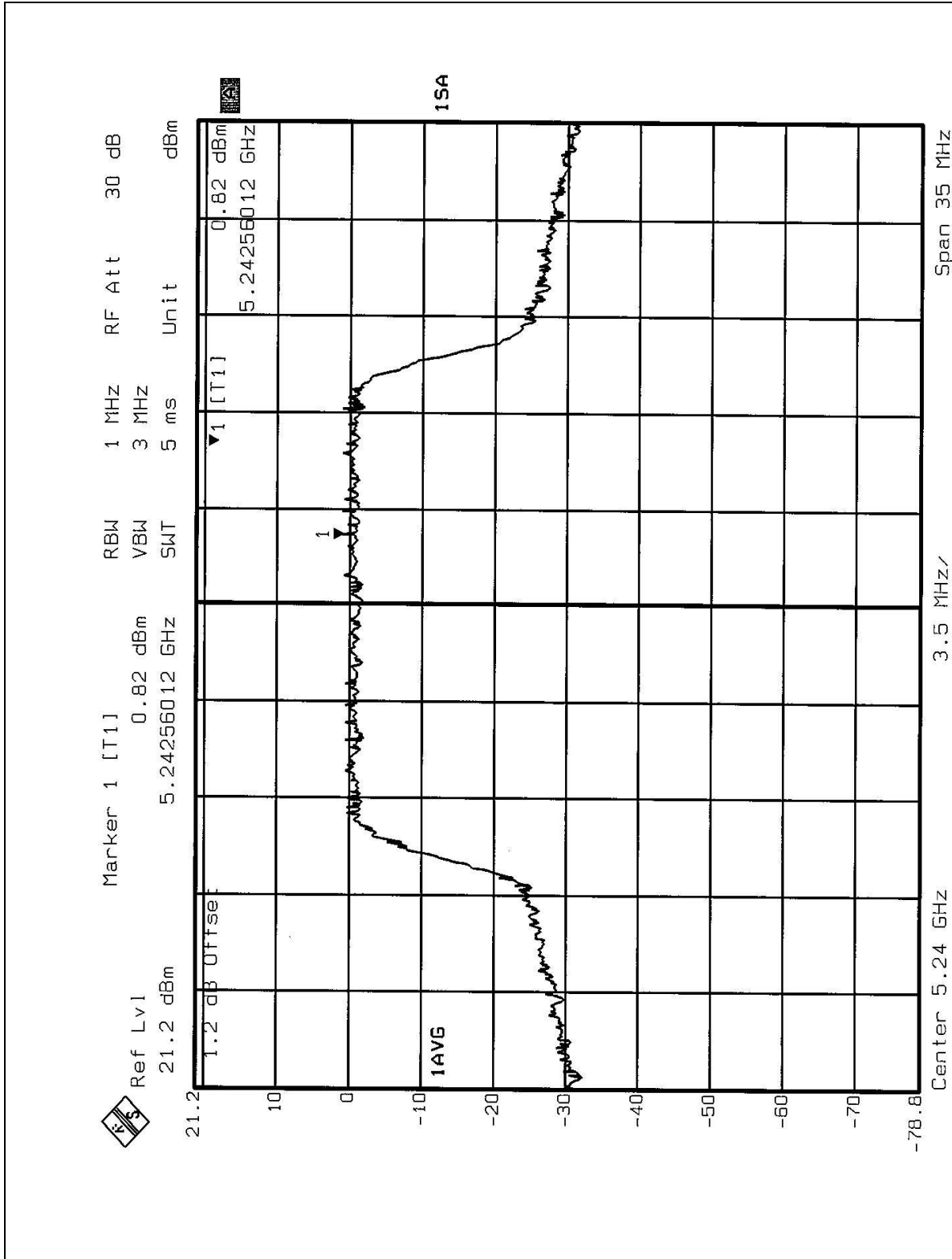


CHANNEL 1



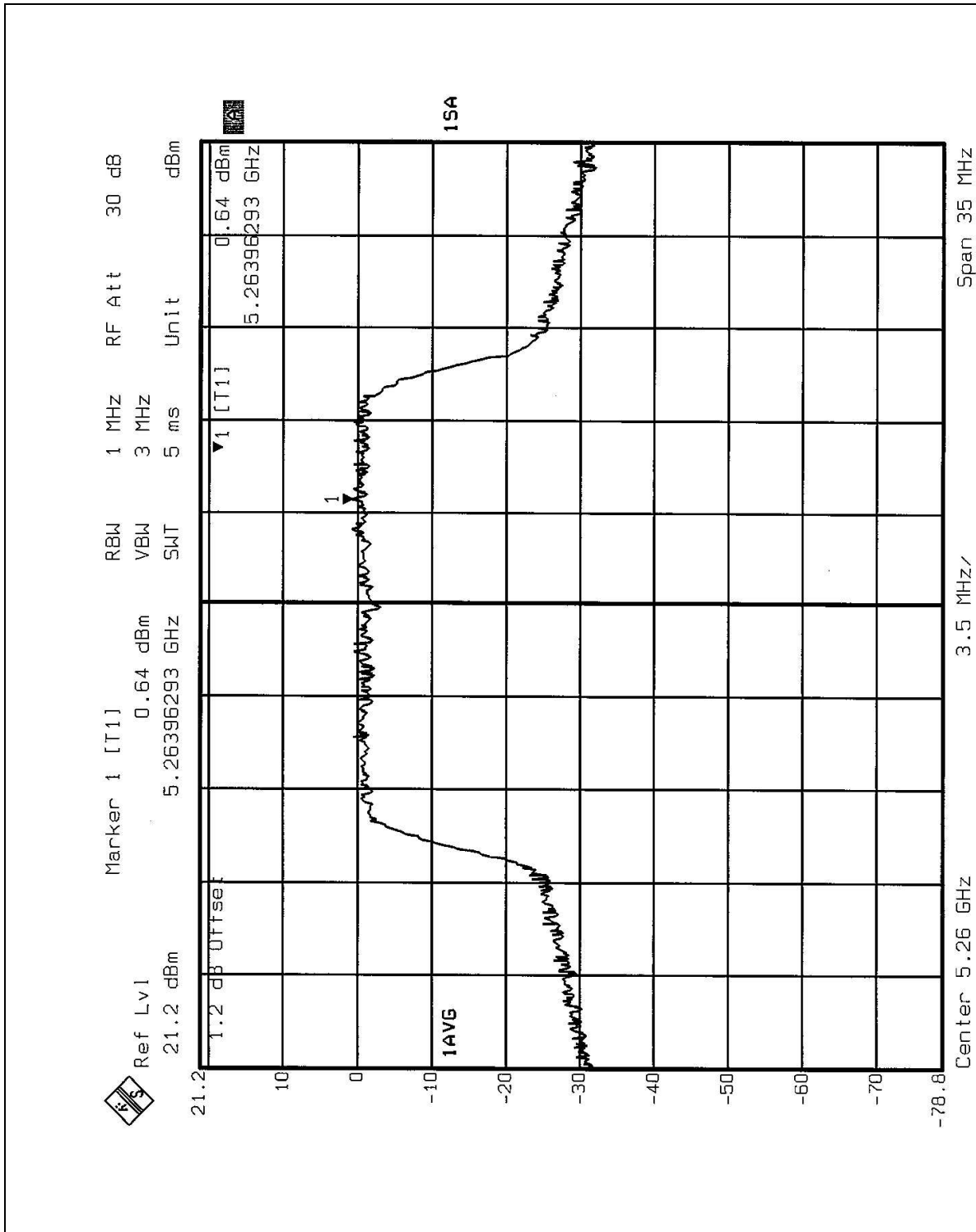


CHANNEL 4



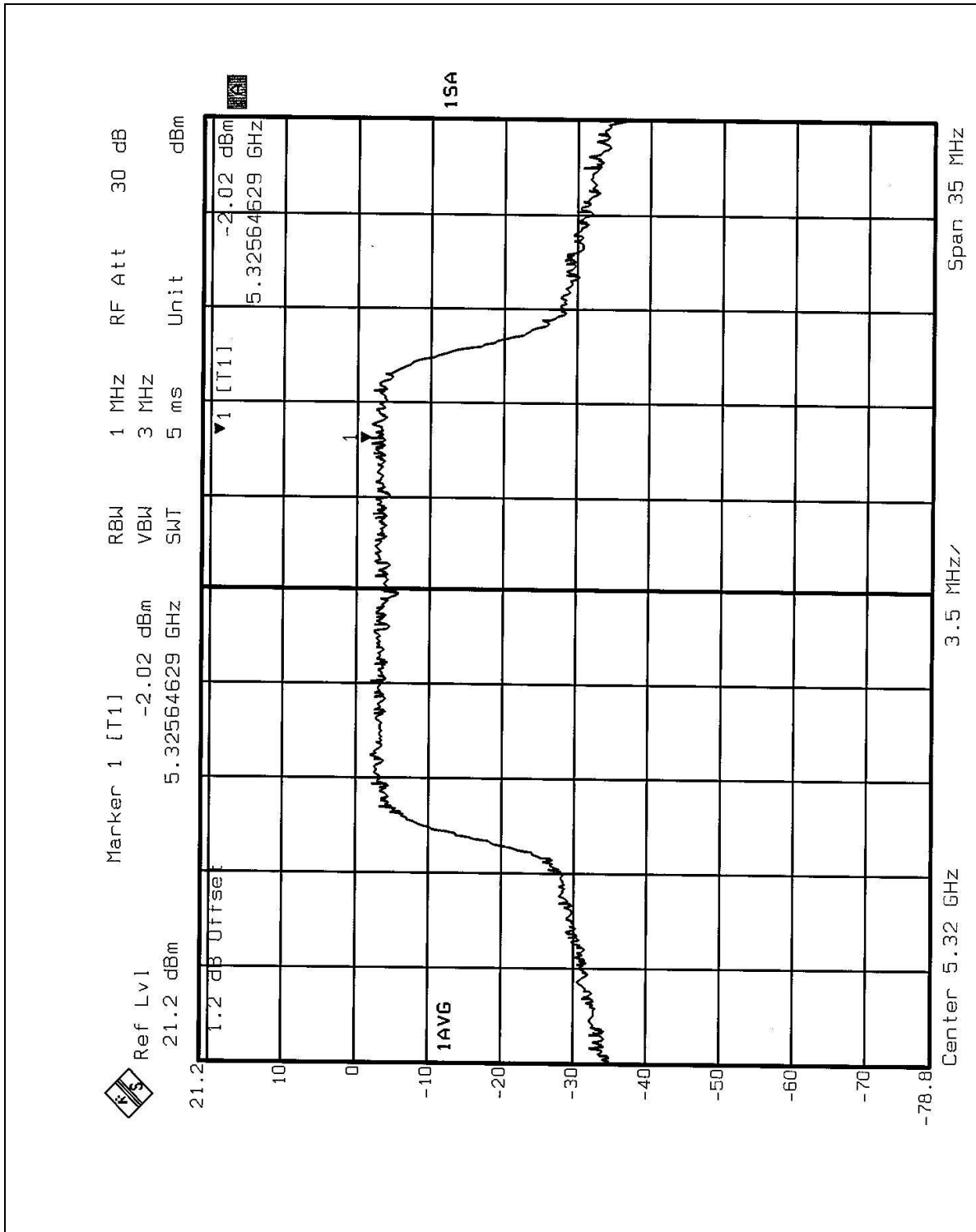


CHANNEL 5





CHANNEL 8





| | | | |
|---------------------------------|------------------------------|-----------------------------|---------------|
| EUT | Wireless LAN and Mini PCI | MODEL | A13QBF |
| MODE | Turbo | INPUT POWER (SYSTEM) | 120Vac, 60 Hz |
| ENVIRONMENTAL CONDITIONS | 26deg. C, 66%RH, 1005 hPa | TESTED BY | Ansen Lei |

| CHANNEL | CHANNEL FREQUENCY (MHz) | RF POWER LEVEL IN 1MHz BW (dBm) | MAXIMUM LIMIT (dBm) | PASS/FAIL |
|----------------|---------------------------------|--|----------------------------|------------------|
| 1 | 5210 | -5.36 | 4 | PASS |
| 2 | 5250 | -4.55 | 4 | PASS |
| 3 | 5290 | -4.86 | 11 | PASS |