

EMC TEST REPORT

Report No. : EME-041122

Model No. : XG-650MB

Issued Date : Dec. 16, 2004

Applicant : Z-COM, Inc.
7F-2, No. 9, Prosperity 1st RD., Science-Based Industrial
Park, Hsinchu, Taiwan

Test By : Intertek Testing Services Taiwan Ltd.
No. 11, Lane 275, Ko-Nan 1 Street, Chia-Tung Li,
Shiang-Shan District, Hsinchu City, Taiwan

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Project Engineer

Jackey Chiu

Jackey Chiu

Reviewed By

Jerry Liu

Jerry Liu

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Summary of Tests

**54Mbps 802.11g Wireless Mini-PCI Adapter - Model: XG-650MB
FCC ID: M4Y-0XG650**

| Test | Reference | Results |
|---------------------------------|----------------|----------|
| Radiated Spurious Emission test | 15.205, 15.209 | Complies |

1. General information

1.1 Identification of the EUT

| | |
|---------------------------|---|
| Applicant | : Z-COM, Inc. |
| Product | : 54Mbps 802.11g Wireless Mini-PCI Adapter |
| Model No. | : XG-650MB |
| FCC ID. | : M4Y-0XG650 |
| Frequency Range | : 2412~2462 MHz |
| Channel Number | : 11 Channels |
| Frequency of Each Channel | : 2412MHz, 2417MHz, 2422MHz, 2427MHz, 2432MHz, 2437MHz, 2442MHz, 2447MHz, 2452MHz, 2457MHz, 2462MHz |
| Type of Modulation | : DSSS, OFDM |
| Rated Power | : 3.3Vdc |
| Power Cord | : N/A |
| Sample Received | : Nov. 16, 2004 |
| Test Date(s) | : Nov. 19, 2004 ~ Dec. 15, 2004 |

A FCC DoC report has been generated for the client.

1.2 Additional information about the EUT

The 802.11g Wireless LAN Mini-PCI Adapter is an enhanced high-performance, that supports high-speed wireless networking at home, at office or in public places. 802.11g Wireless LAN Mini-PCI Adapter is able to communicate with any 802.11b and 802.11g compliant products.

We verified that XG-650MB is series model to XG-650, for the model is identical in hardware aspect, and the different is in IC and components.

Owing to the change of IC and components. We conducted the Radiated Spurious Emission Test and Band-edge test.

The EUT meets special requirements for full modular approval on FCC Public Notice DA 00-1407 and the device is only for OEM integrator, please refer the test result in this report.

For more detail features, please refer to User's manual as file name "Installation guide.pdf"

1.3 Antenna description

The antenna is a fixed to the EUT using a unique connector, which allows for replacement of a broken antenna, but DOES NOT use a standard antenna jack or electrical connector.

Antenna Gain : 2dBi

Antenna Type : Dipole antenna

Connector Type : UFL

1.4 Peripherals equipment

| Peripherals | Manufacturer | Product No. | Serial No. | FCC ID |
|--------------|--------------|-------------------|------------------------|---------------------|
| Notebook PC | IBM | 2609 | BA-ZHNHN | FCC DoC Approved |
| Printer | HP | C2642A | TH86K1N2ZB | FCC DoC Approved |
| Modem | Dynalink | V1456VQE | 00V230A00051494 | FCC DoC Approved |
| Access Point | SMC | WG 4005-17 2 (A3) | C-G 3030232-1-1-3*1000 | FCC DoC Approved |

2. Test specifications

2.1 Test standard

The EUT was performed according to the procedures in FCC Part 15 Subpart C Section § 15.205 、 §15.207 、 §15.209 、 §15.247 and ANSI C63.4/2003.

The test of radiated measurements according to FCC Part15 Section 15.33(a) had been conducted and the field strength of this frequency band were all meet limit requirement, thus we evaluate the EUT pass the specified test.

2.2 Operation mode

The EUT was transmitted continuously during the test.

After verifying the maximum output power, we found the maximum output power of 802.11b was occurred at 11Mbps data rate and 802.11g was occurred at 54Mbps data rate. The final test was executed under this condition and recorded in this report individually.

2.3 Test equipment

| Equipment | Brand | Frequency range | Model No. | Intertek ID No. | Next Cal. Date |
|-----------------------------------|-----------------|-----------------|---------------------|-----------------|----------------|
| EMI Test Receiver | Rohde & Schwarz | 9kHz~2.75GHz | ESCS 30 | EC303 | 04/13/2005 |
| EMI Test Receiver | Rohde & Schwarz | 20Hz~26.5GHz | ESMI | EC317 | 07/14/2005 |
| Spectrum Analyzer | Rohde & Schwarz | 9kHz~30GHz | FSP 30 | EC353 | 07/13/2005 |
| Spectrum Analyzer | Rohde & Schwarz | 20Hz~40GHz | FSEK 30 | EC365 | 10/18/2005 |
| Horn Antenna | EMCO | 1GHz~18GHz | 3115 | EC338 | 08/16/2005 |
| Horn Antenna | SCHWARZBECK | 14GHz~40GHz | BBHA 9170 | EC351 | 07/08/2005 |
| Bilog Antenna | SCHWARZBECK | 25MHz~1.7GHz | VULB 9160 | EC368 | 05/20/2005 |
| Pre-Amplifier | MITEQ | 100MHz~26.5GHz | 919981 | EC373 | 4/13/2005 |
| Pre-Amplifier | MITEQ | 26GHz~40GHz | 828825 | EC374 | 1/28/2005 |
| Wideband Peak Power Meter/ Sensor | Anritsu | 100MHz~18GHz | ML2497A/ MA2491A | EC396 | 10/18/2005 |
| Controller | HDGmbH | N/A | HD 100 | EP317-1 | N/A |
| Antenna Tower | HDGmbH | N/A | MA 240 | EP317-2 | N/A |
| Turn Table | HDGmbH | N/A | DS 420S | EP317-3 | N/A |
| LISN | Rohde & Schwarz | 9KHz~30MHz | ESH3-Z5 | EC344 | 01/14/2005 |

Note: The above equipments are within the valid calibration period.

3. Maximum Output Power test

3.1 Operating environment

Temperature: 25 °C
 Relative Humidity: 52 %
 Atmospheric Pressure: 1023 hPa

3.2 Test setup & procedure

The power output per FCC §15.247(b) was measured on the EUT using a 50 ohm SMA cable connected to peak power meter via power sensor. Power was read directly and cable loss correction (1.5 dB) was added to the reading to obtain power at the EUT antenna terminals. The test was performed at 3 channels (lowest, middle and highest channel).

3.3 Measured data of Maximum Output Power test results

Test Mode: 802.11b (DSSS Modulation) operating mode

| Channel | Freq. (MHz) | C.L. (dB) | Reading (dBm) | Conducted Peak Output Power | | Limit (dBm) |
|--------------|-------------|-----------|---------------|-----------------------------|--------|-------------|
| | | | | (dBm) | (mW) | |
| 1 (lowest) | 2412 | 1.5 | 22.01 | 23.51 | 224.39 | 30 |
| 6 (middle) | 2437 | 1.5 | 22.05 | 23.55 | 226.46 | 30 |
| 11 (highest) | 2462 | 1.5 | 21.97 | 23.47 | 222.33 | 30 |

Remark:

Conducted Peak Output Power = Reading + C.L.

Test Mode: 802.11g (OFDM Modulation) operating mode

| Channel | Freq. (MHz) | C.L. (dB) | Reading (dBm) | Conducted Peak Output Power | | Limit (dBm) |
|--------------|-------------|-----------|---------------|-----------------------------|--------|-------------|
| | | | | (dBm) | (mW) | |
| 1 (lowest) | 2412 | 1.5 | 22.58 | 24.08 | 255.86 | 30 |
| 6 (middle) | 2437 | 1.5 | 22.61 | 24.11 | 257.63 | 30 |
| 11 (highest) | 2462 | 1.5 | 22.57 | 24.07 | 255.27 | 30 |

Remark:

Conducted Peak Output Power = Reading + C.L.

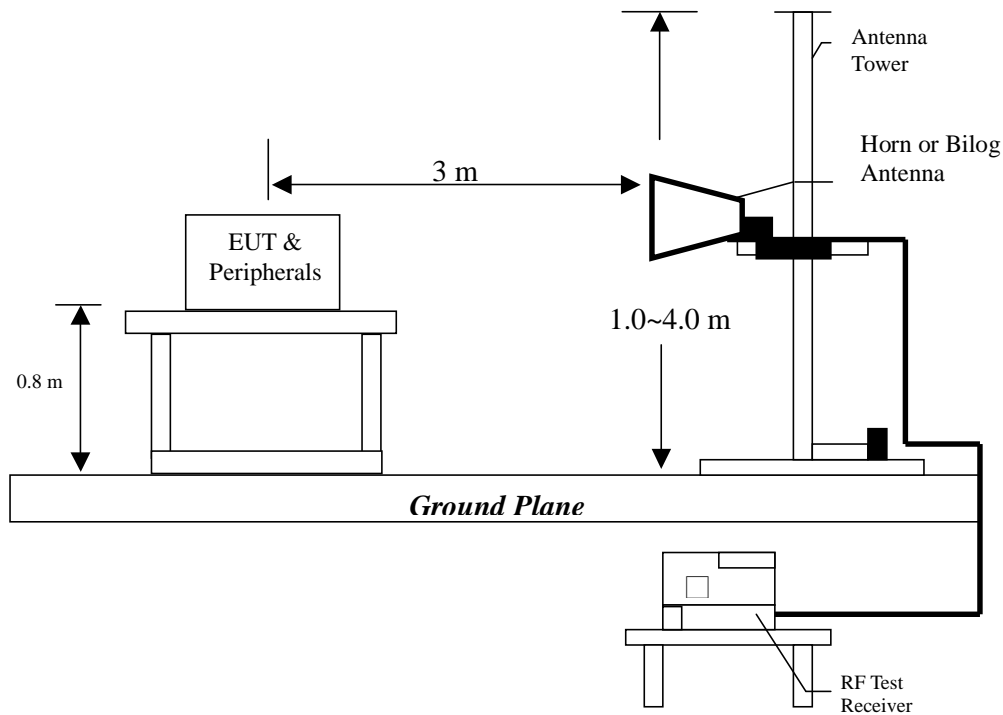
4. Radiated Emission test

4.1 Operating environment

Temperature: 22 °C (10-40°C)
 Relative Humidity: 50 % (10-90%)
 Atmospheric Pressure: 1023 hPa (860-1060hPa)

4.2 Test setup & procedure

The Diagram below shows the test setup, which is utilized to make these measurements.



Radiated emissions were investigated cover the frequency range from 30MHz to 1000MHz using a receiver RBW of 120kHz record QP reading, and the frequency over 1GHz using a spectrum analyzer RBW of 1MHz and 10Hz VBW record Average reading. (15.209 paragraph), the Peak reading (1MHz RBW/VBW) recorded also on the report.

The EUT for testing is arranged on a wooden turntable. If some peripherals apply to the EUT, the peripherals will be connected to EUT and the whole system. During the test, all cables were arranged to produce worst-case emissions. The signal is maximized through rotation. The height of antenna and polarization is changing constantly for exploring for maximum signal level. The height of antenna can be up to 4 meters and down to 1 meter.

The measurement for radiated emission will be done at the distance of three meters unless the signal level is too low to measure at that distance. In the case of the reading under noise floor, a pre-amplifier is used and/or the test is conducted at a closer distance. And then all readings are extrapolated back to the equivalent three meter reading using inverse scaling with distance.

The EUT configuration please refer to the “Spurious set-up photo.pdf”.

4.3 Emission limits

The spurious Emission shall test through the 10th harmonic. In addition, radiated emissions which fall in the restricted bands, as defined in §15.205(a), must also comply with the radiated emission limits specified in §15.209(a).

| Frequency (MHz) | Limits (dB μ V/m@3m) |
|-----------------|--------------------------|
| 30-88 | 40 |
| 88-216 | 43.5 |
| 216-960 | 46 |
| Above 960 | 54 |

Remark:

1. In the above table, the tighter limit applies at the band edges.
2. Distance refers to the distance in meters between the measuring instrument antenna and the closed point of any part of the device or system

Uncertainty was calculated in accordance with NAMAS NIS 81.

Expanded uncertainty (k=2) of radiated emission measurement is ± 4.98 dB.

4.4 Radiated spurious emission test data

4.4.1 Measurement results: frequencies equal to or less than 1 GHz

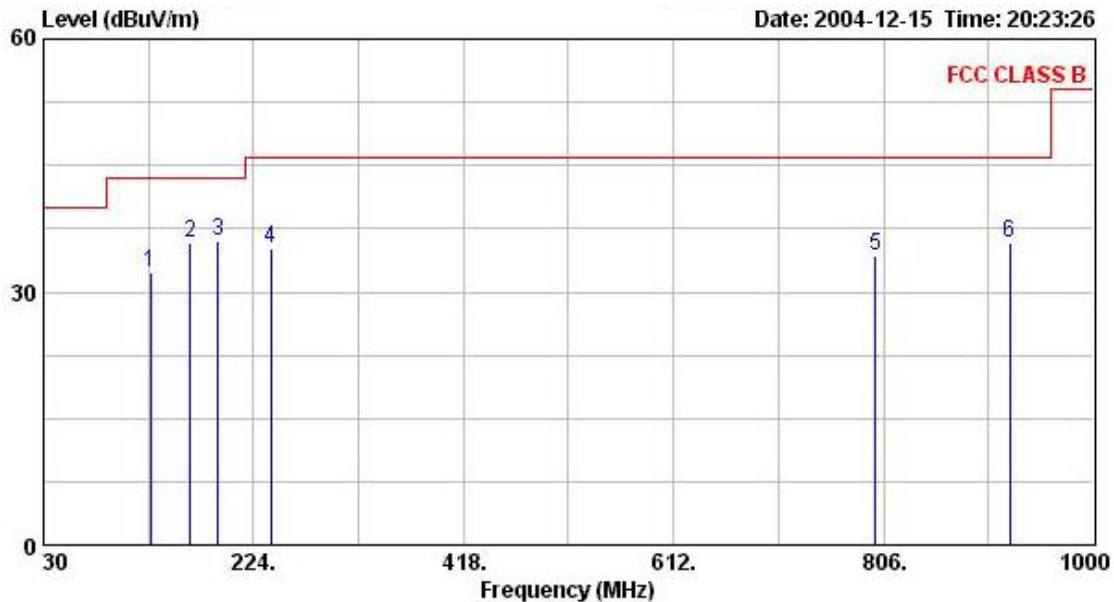
The test was performed on EUT under 802.11b continuously transmitting mode channel 1, 6, 11 were verified. The worst case occurred at 802.11b Tx channel 1.

Phase: Line
 Model No.: XG-650MB
 Worst Case: 802.11b Tx channel 1

| Freq | Pol/Phase | Factor | Read Level | Level | Limit | Over | Ant | Table | Remark |
|---------|-----------|--------|------------|--------|--------|--------|-----|-------|--------|
| MHz | | dB | dBuV | dBuV/m | dBuV/m | dB | cm | deg | |
| 128.900 | VERTICAL | 13.20 | 19.10 | 32.30 | 43.50 | -11.20 | 105 | 169 | QP |
| 165.800 | VERTICAL | 14.58 | 21.31 | 35.89 | 43.50 | -7.61 | 110 | 258 | QP |
| 191.000 | VERTICAL | 13.39 | 22.61 | 36.00 | 43.50 | -7.50 | 126 | 112 | QP |
| 240.000 | VERTICAL | 12.42 | 22.79 | 35.21 | 46.00 | -10.79 | 189 | 300 | QP |
| 798.200 | VERTICAL | 24.32 | 9.93 | 34.25 | 46.00 | -11.75 | 147 | 15 | QP |
| 922.400 | VERTICAL | 25.47 | 10.40 | 35.87 | 46.00 | -10.13 | 135 | 262 | QP |

Remark:

1. Corr. Factor (dB) = LISN Factor (dB) + Cable Loss (dB)
2. Margin (dB) = Level (dBuV) – Limit (dBuV)

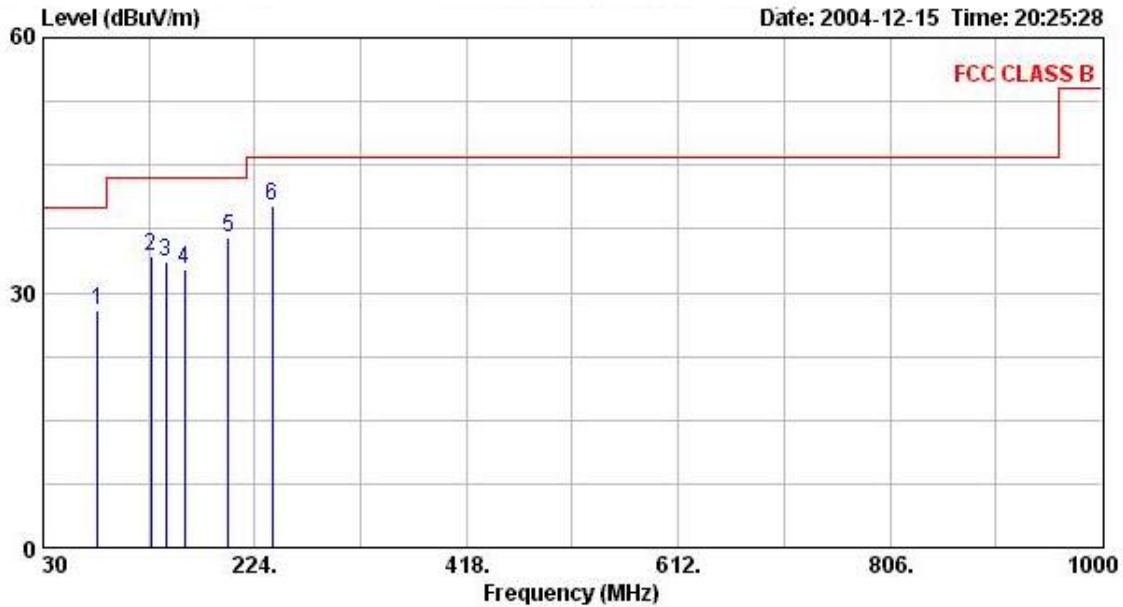


Phase: Neutral
 Model No.: XG-650MB
 Worst Case: 802.11b Tx channel 1

| Freq | Pol/Phase | Factor | Read Level | Limit Level | Over Limit | Ant Pos | Table Pos | Remark |
|---------|------------|--------|------------|-------------|------------|---------|-----------|--------|
| MHz | | dB | dBuV | dBuV/m | dBuV/m | dB | cm | deg |
| 80.100 | HORIZONTAL | 10.05 | 17.93 | 27.98 | 40.00 | -12.02 | 354 | 101 QP |
| 128.900 | HORIZONTAL | 13.20 | 21.06 | 34.26 | 43.50 | -9.24 | 300 | 115 QP |
| 142.500 | HORIZONTAL | 14.18 | 19.47 | 33.65 | 43.50 | -9.85 | 314 | 219 QP |
| 160.000 | HORIZONTAL | 14.92 | 17.73 | 32.65 | 43.50 | -10.85 | 251 | 95 QP |
| 200.100 | HORIZONTAL | 12.91 | 23.56 | 36.47 | 43.50 | -7.03 | 285 | 106 QP |
| 240.100 | HORIZONTAL | 12.42 | 27.83 | 40.25 | 46.00 | -5.75 | 166 | 278 QP |

Remark:

1. Corr. Factor (dB)= LISN Factor (dB) + Cable Loss (dB)
2. Margin (dB) = Level (dBuV) – Limit (dBuV)



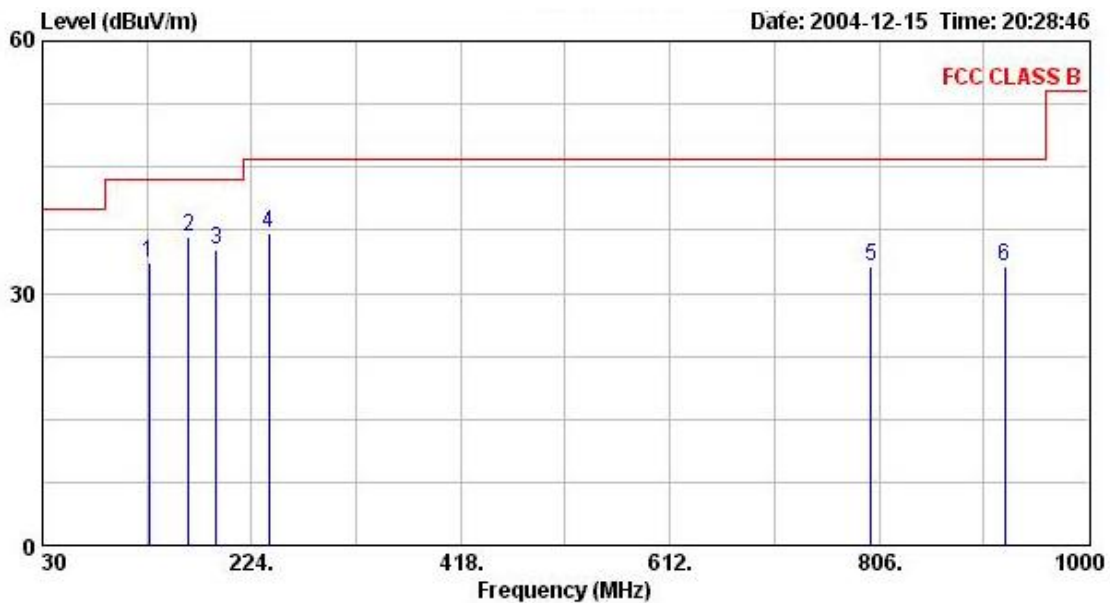
The test was performed on EUT under 802.11g continuously transmitting mode channel 1, 6, 11 were verified. The worst case occurred at 802.11g Tx channel 1.

Phase: Line
 Model No.: XG-650MB
 Worst Case: 802.11g Tx channel 1

| Freq | Pol/Phase | Factor | Read Level | Limit Level | Over Limit | Ant Pos | Table Pos | Remark |
|---------|-----------|--------|------------|-------------|------------|---------|-----------|--------|
| MHz | | dB | dBuV | dBuV/m | dBuV/m | dB | cm | deg |
| 128.920 | VERTICAL | 13.20 | 20.36 | 33.56 | 43.50 | -9.94 | 115 | 282 QP |
| 165.890 | VERTICAL | 14.58 | 22.16 | 36.74 | 43.50 | -6.76 | 100 | 145 QP |
| 191.000 | VERTICAL | 13.39 | 21.82 | 35.21 | 43.50 | -8.29 | 138 | 25 QP |
| 240.100 | VERTICAL | 12.42 | 24.83 | 37.25 | 46.00 | -8.75 | 200 | 171 QP |
| 798.260 | VERTICAL | 24.34 | 8.93 | 33.27 | 46.00 | -12.73 | 132 | 258 QP |
| 922.520 | VERTICAL | 25.48 | 7.64 | 33.12 | 46.00 | -12.88 | 100 | 106 QP |

Remark:

1. Corr. Factor (dB)= LISN Factor (dB) + Cable Loss (dB)
2. Margin (dB) = Level (dBuV) – Limit (dBuV)

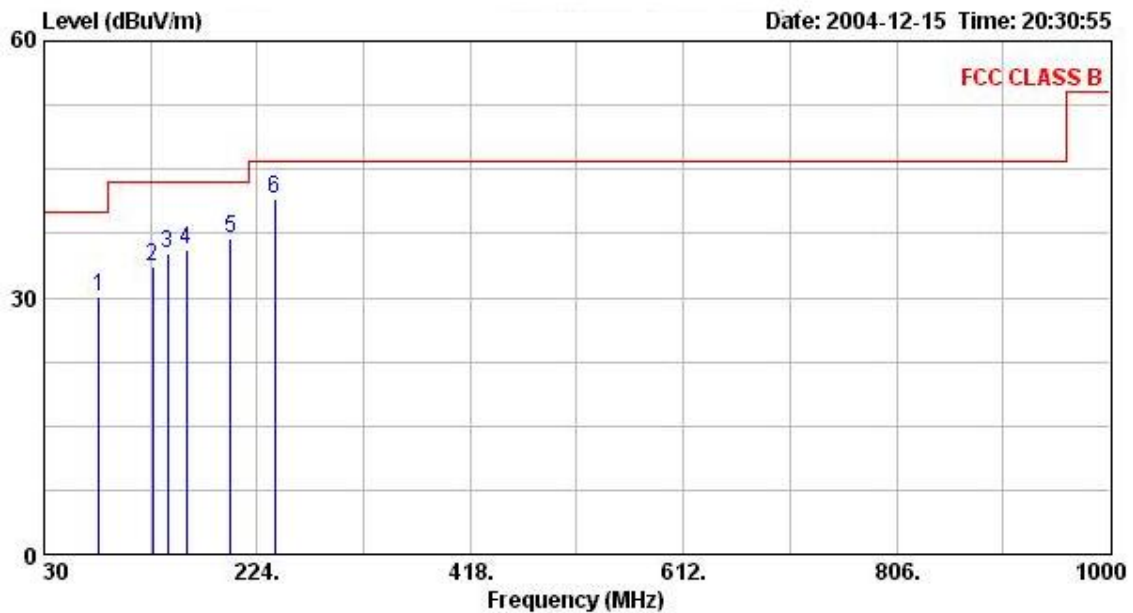


Phase: Neutral
 Model No.: XG-650MB
 Worst Case: 802.11g Tx channel 1

| Freq MHz | Pol/Phase | Factor dB | Read | | Limit | Over | Ant Pos cm | Table Pos deg | Remark |
|-------------|------------|--------------|---------------|-----------------|----------------|-------------|------------------|---------------------|--------|
| | | | Level dBuV | Level dBuV/m | Line dBuV/m | Limit dB | | | |
| 80.000 | HORIZONTAL | 10.05 | 20.14 | 30.19 | 40.00 | -9.81 | 400 | 62 | QP |
| 128.930 | HORIZONTAL | 13.20 | 20.42 | 33.62 | 43.50 | -9.88 | 352 | 168 | QP |
| 142.590 | HORIZONTAL | 14.37 | 20.77 | 35.14 | 43.50 | -8.36 | 341 | 111 | QP |
| 160.000 | HORIZONTAL | 14.92 | 20.71 | 35.63 | 43.50 | -7.87 | 230 | 299 | QP |
| 200.180 | HORIZONTAL | 12.91 | 24.10 | 37.01 | 43.50 | -6.49 | 275 | 14 | QP |
| 240.000 | HORIZONTAL | 12.42 | 29.21 | 41.63 | 46.00 | -4.37 | 193 | 85 | QP |

Remark:

1. Corr. Factor (dB) = LISN Factor (dB) + Cable Loss (dB)
2. Margin (dB) = Level (dBuV) – Limit (dBuV)



4.4.2 Measurement results: frequency above 1GHz

Polarity: : Vertical
 EUT : XG-650MB
 Test Condition : 802.11b Tx channel 1

| Frequency (MHz) | Spectrum Analyzer Detector | Antenna Polariz. (H/V) | Preamp (dB) | Correction Factor (dB/m) | Reading (dBuV) | Corrected Level (dBuV) | Limit @ 3 m (dBuV) | Margin (dB) | Antenna high (cm) | Turn Table angle (degree) |
|-----------------|----------------------------|------------------------|-------------|--------------------------|----------------|------------------------|--------------------|-------------|-------------------|---------------------------|
| 4076.000 | PK | V | 39.61 | 35.57 | 50.58 | 46.54 | 74 | -27.46 | 167 | 209 |
| 4076.000 | AV | V | 39.61 | 35.57 | 45.66 | 41.62 | 54 | -12.38 | 167 | 209 |

Remark:

1. Corrected Level = Reading + Correction Factor – Preamp
2. Correction Factor = Antenna Factor + Cable Loss
3. The frequency measured ranges from 1GHz to 25GHz. The data value listed above which is higher than the noise floor, the others please refer to noise floor level.

Noise floor level is :

For PK:

- 1GHz-3GHz: 20dBuV
- 3GHz-14GHz: 27dBuV
- 14GHz-26.5GHz: 39dBuV

For AV:

- 1GHz-3GHz: 10dBuV
- 3GHz-14GHz: 16dBuV
- 14GHz-26.5GHz: 28dBuV

Polarity: : Horizontal
EUT : XG-650MB
Test Condition : 802.11b Tx channel 1

Test Result:

No spurious emission was found above the spectrum analyzer's noise floor.

The noise floor are listed as below:

For PK:

1GHz-3GHz: 20dBuV

3GHz-14GHz: 27dBuV

14GHz-26.5GHz: 39dBuV

For AV:

1GHz-3GHz: 10dBuV

3GHz-14GHz: 16dBuV

14GHz-26.5GHz: 28dBuV

Polarity: : Vertical
 EUT : XG-650MB
 Test Condition : 802.11b Tx channel 6

| Frequency (MHz) | Spectrum Analyzer Detector | Antenna Polariz. (H/V) | Preamp (dB) | Correction Factor (dB/m) | Reading (dBuV) | Corrected Level (dBuV) | Limit @ 3 m (dBuV) | Margin (dB) | Antenna high (cm) | Turn Table angle (degree) |
|--------------------|----------------------------------|------------------------------|----------------|--------------------------------|-------------------|------------------------------|--------------------------|----------------|-------------------------|---------------------------------|
| 4126.000 | PK | V | 39.61 | 35.57 | 49.92 | 45.88 | 74 | -28.12 | 171 | 192 |
| 4126.000 | AV | V | 39.61 | 35.57 | 45.35 | 41.31 | 54 | -12.69 | 171 | 192 |

Remark:

1. Corrected Level = Reading + Correction Factor – Preamp
2. Correction Factor = Antenna Factor + Cable Loss
3. The frequency measured ranges from 1GHz to 25GHz. The data value listed above which is higher than the noise floor, the others please refer to noise floor level.

Noise floor level is :

For PK:

- 1GHz-3GHz: 20dBuV
- 3GHz-14GHz: 27dBuV
- 14GHz-26.5GHz: 39dBuV

For AV:

- 1GHz-3GHz: 10dBuV
- 3GHz-14GHz: 16dBuV
- 14GHz-26.5GHz: 28dBuV

Polarity: : Horizontal
EUT : XG-650MB
Test Condition : 802.11b Tx channel 6

Test Result:

No spurious emission was found above the spectrum analyzer's noise floor.

The noise floor are listed as below:

For PK:

1GHz-3GHz: 20dBuV

3GHz-14GHz: 27dBuV

14GHz-26.5GHz: 39dBuV

For AV:

1GHz-3GHz: 10dBuV

3GHz-14GHz: 16dBuV

14GHz-26.5GHz: 28dBuV

Polarity: : Vertical
 EUT : XG-650MB
 Test Condition : 802.11b Tx channel 11

| Frequency (MHz) | Spectrum Analyzer Detector | Antenna Polariz. (H/V) | Preamp (dB) | Correction Factor (dB/m) | Reading (dBuV) | Corrected Level (dBuV) | Limit @ 3 m (dBuV) | Margin (dB) | Antenna high (cm) | Turn Table angle (degree) |
|--------------------|----------------------------------|------------------------------|----------------|--------------------------------|-------------------|------------------------------|--------------------------|----------------|-------------------------|---------------------------------|
| 4176.000 | PK | V | 39.61 | 35.57 | 50.39 | 46.35 | 74 | -27.65 | 168 | 233 |
| 4176.000 | AV | V | 39.61 | 35.57 | 45.26 | 41.22 | 54 | -12.78 | 168 | 233 |

Remark:

1. Corrected Level = Reading + Correction Factor – Preamp
2. Correction Factor = Antenna Factor + Cable Loss
3. The frequency measured ranges from 1GHz to 25GHz. The data value listed above which is higher than the noise floor, the others please refer to noise floor level.

Noise floor level is :

For PK:

1GHz-3GHz: 20dBuV
 3GHz-14GHz: 27dBuV
 14GHz-26.5GHz: 39dBuV

For AV:

1GHz-3GHz: 10dBuV
 3GHz-14GHz: 16dBuV
 14GHz-26.5GHz: 28dBuV

Polarity: : Horizontal
EUT : XG-650MB
Test Condition : 802.11b Tx channel 11

Test Result:

No spurious emission was found above the spectrum analyzer's noise floor.

The noise floor are listed as below:

For PK:

1GHz-3GHz: 20dBuV

3GHz-14GHz: 27dBuV

14GHz-26.5GHz: 39dBuV

For AV:

1GHz-3GHz: 10dBuV

3GHz-14GHz: 16dBuV

14GHz-26.5GHz: 28dBuV

Polarity: : Vertical
 EUT : XG-650MB
 Test Condition : 802.11g Tx channel 1

| Frequency (MHz) | Spectrum Analyzer Detector | Antenna Polariz. (H/V) | Preamp (dB) | Correction Factor (dB/m) | Reading (dBuV) | Corrected Level (dBuV) | Limit @ 3 m (dBuV) | Margin (dB) | Antenna high (cm) | Turn Table angle (degree) |
|--------------------|----------------------------------|------------------------------|----------------|--------------------------------|-------------------|------------------------------|--------------------------|----------------|-------------------------|---------------------------------|
| 4076.000 | PK | V | 39.61 | 35.57 | 50.31 | 46.27 | 74 | -27.73 | 111 | 78 |
| 4076.000 | AV | V | 39.61 | 35.57 | 44.96 | 40.92 | 54 | -13.08 | 111 | 78 |

Remark:

1. Corrected Level = Reading + Correction Factor – Preamp
2. Correction Factor = Antenna Factor + Cable Loss
3. The frequency measured ranges from 1GHz to 25GHz. The data value listed above which is higher than the noise floor, the others please refer to noise floor level.

Noise floor level is :

For PK:

1GHz-3GHz: 20dBuV
 3GHz-14GHz: 27dBuV
 14GHz-26.5GHz: 39dBuV

For AV:

1GHz-3GHz: 10dBuV
 3GHz-14GHz: 16dBuV
 14GHz-26.5GHz: 28dBuV

Polarity: : Horizontal
EUT : XG-650MB
Test Condition : 802.11g Tx channel 1

Test Result:

No spurious emission was found above the spectrum analyzer's noise floor.

The noise floor are listed as below:

For PK:

1GHz-3GHz: 20dBuV
3GHz-14GHz: 27dBuV
14GHz-26.5GHz: 39dBuV

For AV:

1GHz-3GHz: 10dBuV
3GHz-14GHz: 16dBuV
14GHz-26.5GHz: 28dBuV

Polarity: : Vertical
 EUT : XG-650MB
 Test Condition : 802.11g Tx channel 6

| Frequency (MHz) | Spectrum Analyzer Detector | Antenna Polariz. (H/V) | Preamp (dB) | Correction Factor (dB/m) | Reading (dBuV) | Corrected Level (dBuV) | Limit @ 3 m (dBuV) | Margin (dB) | Antenna high (cm) | Turn Table angle (degree) |
|--------------------|----------------------------------|------------------------------|----------------|--------------------------------|-------------------|------------------------------|--------------------------|----------------|-------------------------|---------------------------------|
| 4126.000 | PK | V | 39.61 | 35.57 | 51.96 | 47.92 | 74 | -26.08 | 103 | 87 |
| 4126.000 | AV | V | 39.61 | 35.57 | 46.85 | 42.81 | 54 | -11.19 | 103 | 87 |

Remark:

1. Corrected Level = Reading + Correction Factor – Preamp
2. Correction Factor = Antenna Factor + Cable Loss
3. The frequency measured ranges from 1GHz to 25GHz. The data value listed above which is higher than the noise floor, the others please refer to noise floor level.

Noise floor level is :

For PK:

- 1GHz-3GHz: 20dBuV
- 3GHz-14GHz: 27dBuV
- 14GHz-26.5GHz: 39dBuV

For AV:

- 1GHz-3GHz: 10dBuV
- 3GHz-14GHz: 16dBuV
- 14GHz-26.5GHz: 28dBuV

Polarity: : Horizontal
EUT : XG-650MB
Test Condition : 802.11g Tx channel 6

Test Result:

No spurious emission was found above the spectrum analyzer's noise floor.

The noise floor are listed as below:

For PK:

1GHz-3GHz: 20dBuV

3GHz-14GHz: 27dBuV

14GHz-26.5GHz: 39dBuV

For AV:

1GHz-3GHz: 10dBuV

3GHz-14GHz: 16dBuV

14GHz-26.5GHz: 28dBuV

Polarity: : Vertical
 EUT : XG-650MB
 Test Condition : 802.11g Tx channel 11

| Frequency (MHz) | Spectrum Analyzer Detector | Antenna Polariz. (H/V) | Preamp (dB) | Correction Factor (dB/m) | Reading (dBuV) | Corrected Level (dBuV) | Limit @ 3 m (dBuV) | Margin (dB) | Antenna high (cm) | Turn Table angle (degree) |
|--------------------|----------------------------------|------------------------------|----------------|--------------------------------|-------------------|------------------------------|--------------------------|----------------|-------------------------|---------------------------------|
| 4176.000 | PK | V | 39.61 | 35.57 | 50.17 | 46.13 | 74 | -27.87 | 192 | 131 |
| 4176.000 | AV | V | 39.61 | 35.57 | 44.93 | 40.89 | 54 | -13.11 | 192 | 131 |

Remark:

1. Corrected Level = Reading + Correction Factor – Preamp
2. Correction Factor = Antenna Factor + Cable Loss
3. The frequency measured ranges from 1GHz to 25GHz. The data value listed above which is higher than the noise floor, the others please refer to noise floor level.

Noise floor level is :

For PK:

1GHz-3GHz: 20dBuV
 3GHz-14GHz: 27dBuV
 14GHz-26.5GHz: 39dBuV

For AV:

1GHz-3GHz: 10dBuV
 3GHz-14GHz: 16dBuV
 14GHz-26.5GHz: 28dBuV

Polarity: : Horizontal
EUT : XG-650MB
Test Condition : 802.11g Tx channel 11

Test Result:

No spurious emission was found above the spectrum analyzer's noise floor.

The noise floor are listed as below:

For PK:

1GHz-3GHz: 20dBuV

3GHz-14GHz: 27dBuV

14GHz-26.5GHz: 39dBuV

For AV:

1GHz-3GHz: 10dBuV

3GHz-14GHz: 16dBuV

14GHz-26.5GHz: 28dBuV

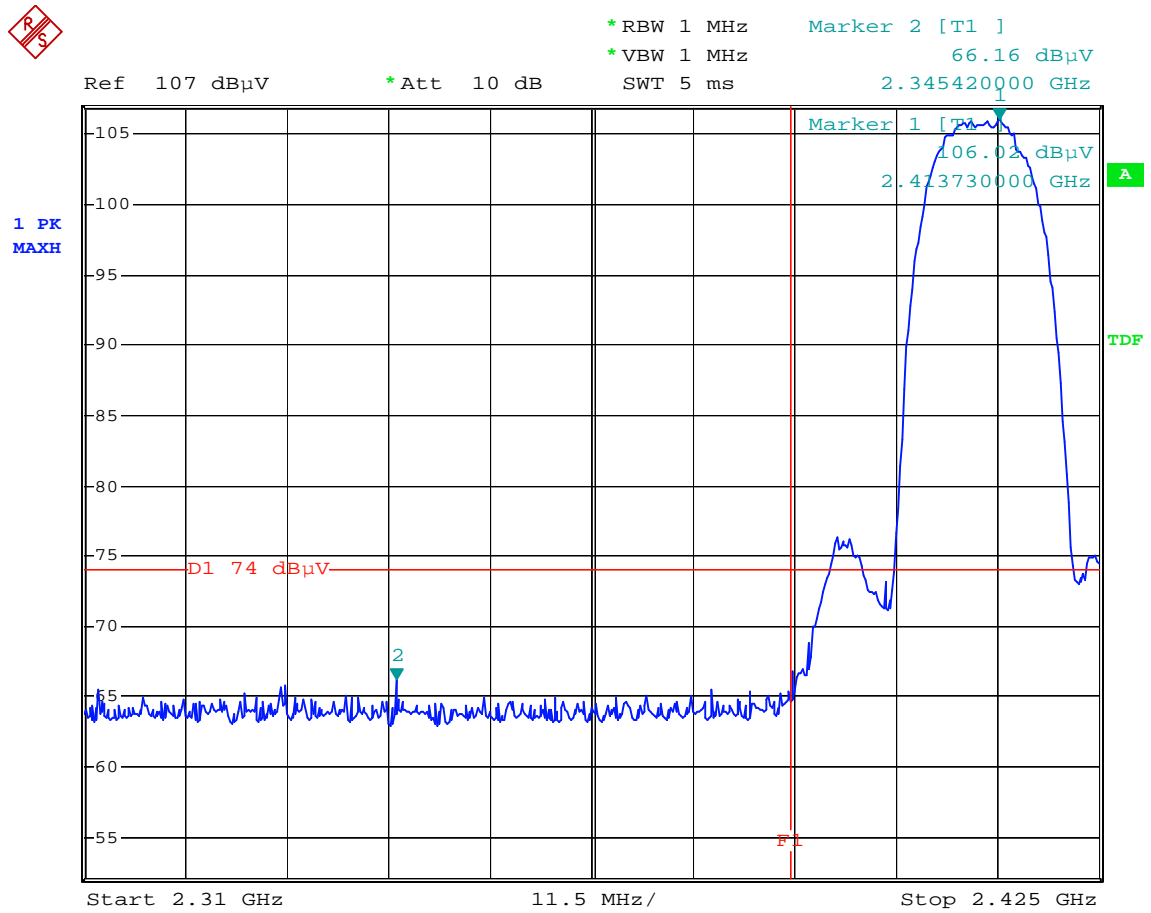
5. Emission on the band edge §FCC 15.247(C)

In any 100kHz bandwidth outside the frequency band in which the spread spectrum intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 KHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement.

Please see the plot below.

5.1 Band-edge (Radiated method)

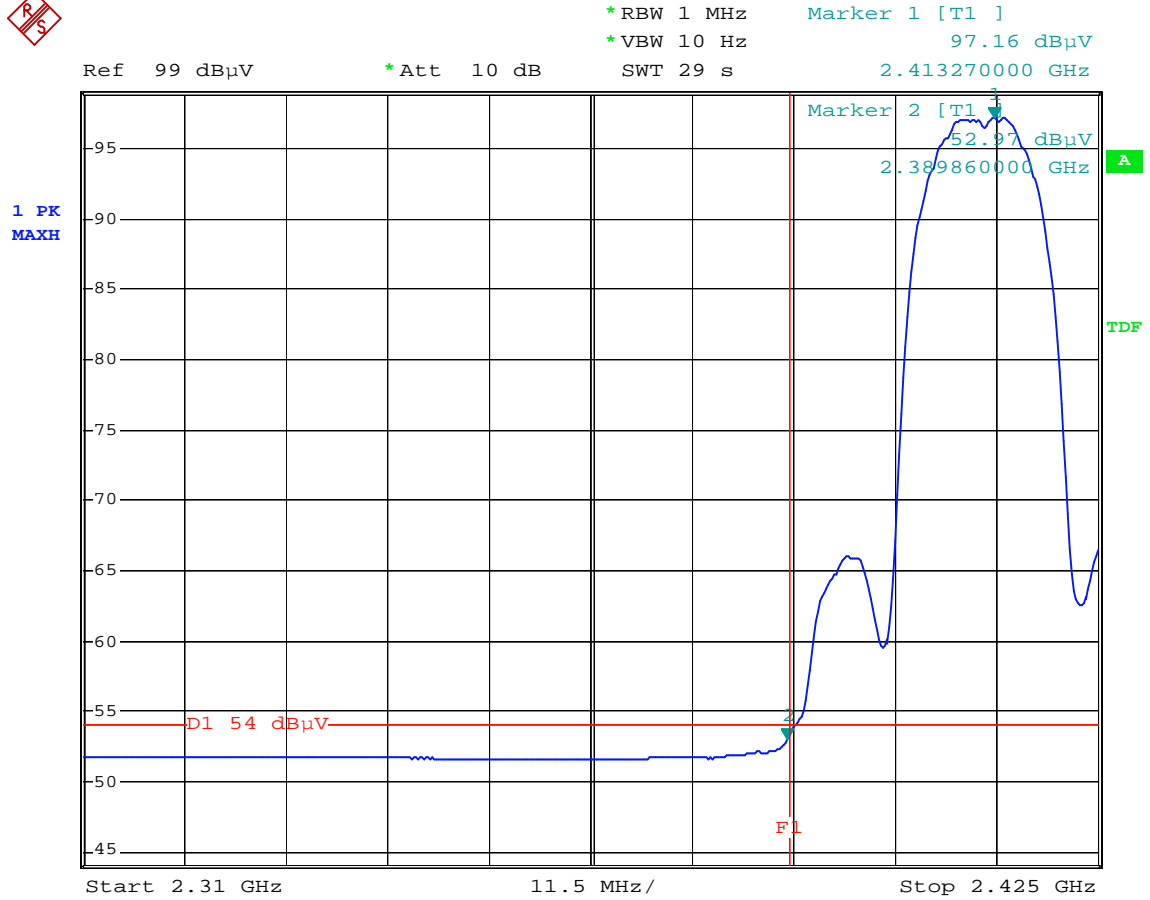
Test Mode: 802.11b (DSSS Modulation) operating mode



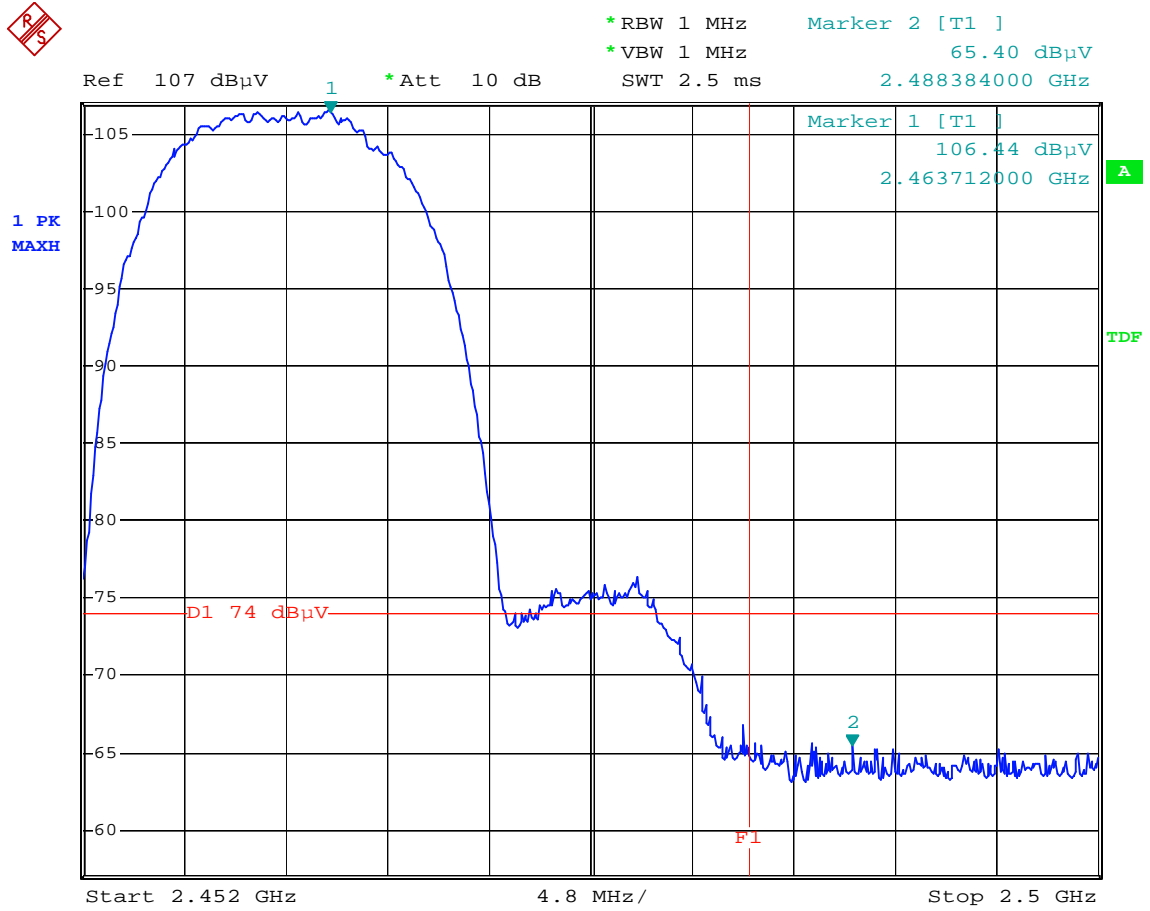
Comment: Band-edge test at low channel

Comment: Peak detector F1=2390MHz 11b

Date: 19.NOV.2004 10:53:16



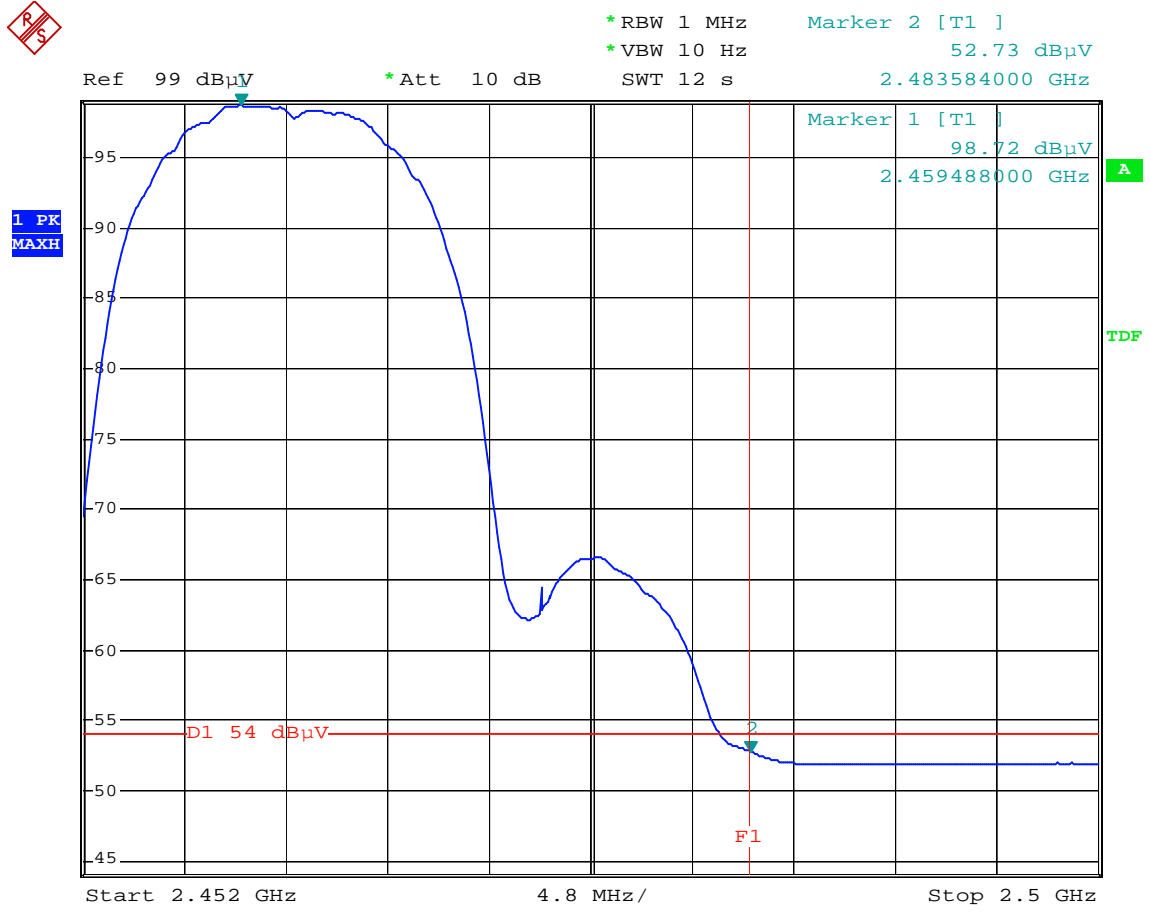
Comment: Band-edge test at low channel
 Comment: Average detector F1=2390MHz 11b
 Date: 19.NOV.2004 11:11:50



Comment: Band-edge test at high channel

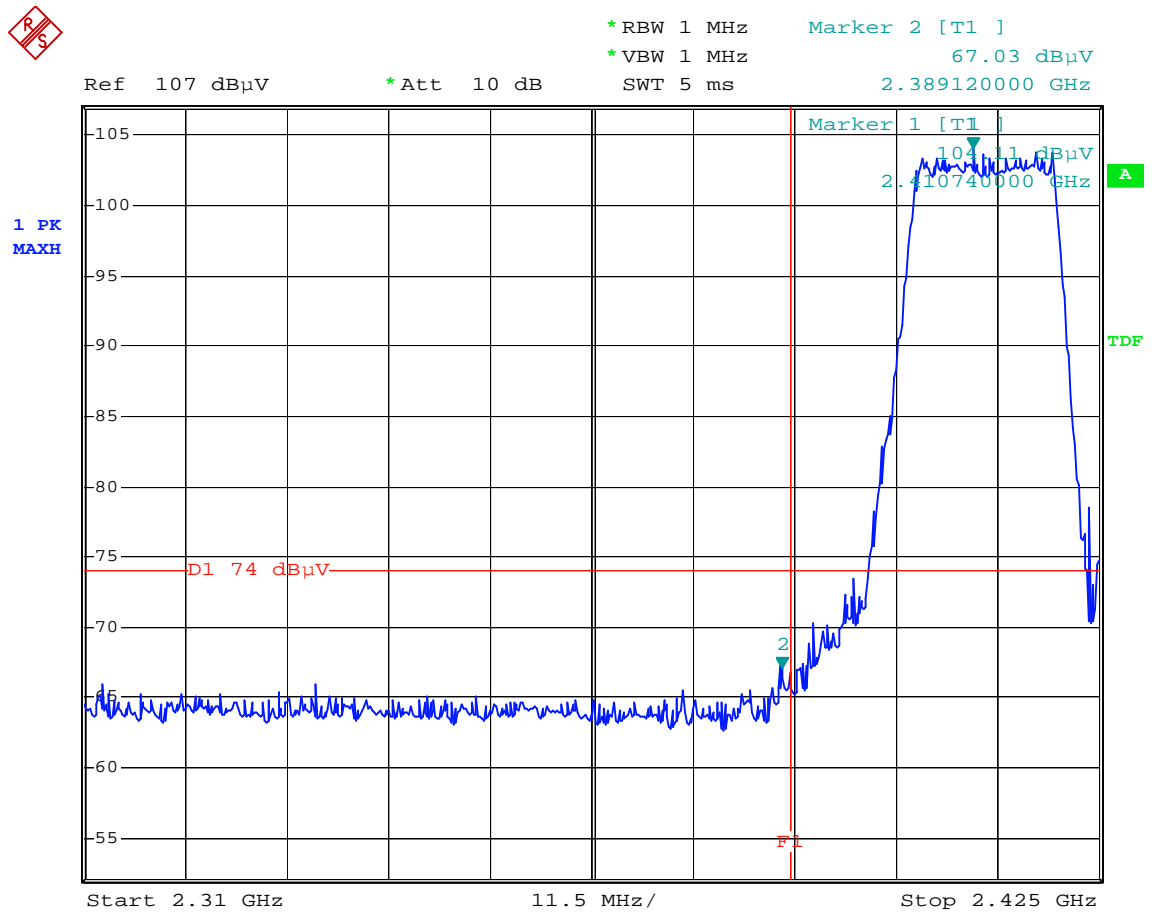
Comment: Peak detector F1=2483.5MHz 11b

Date: 19.NOV.2004 10:57:35



Comment: Band-edge test at high channel
 Comment: Average detector F1=2483.5MHz 11b
 Date: 19.NOV.2004 10:58:50

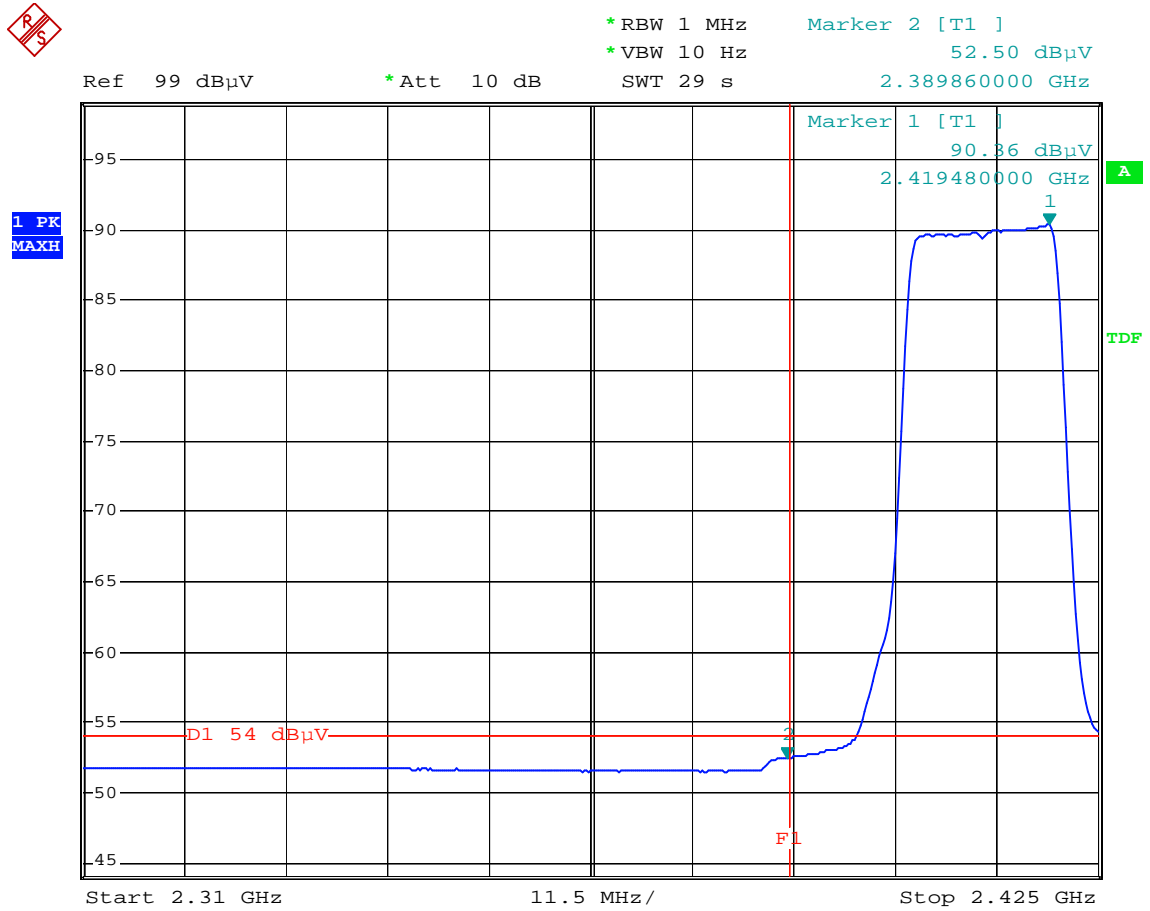
Test Mode: 802.11g (OFDM Modulation) operating mode



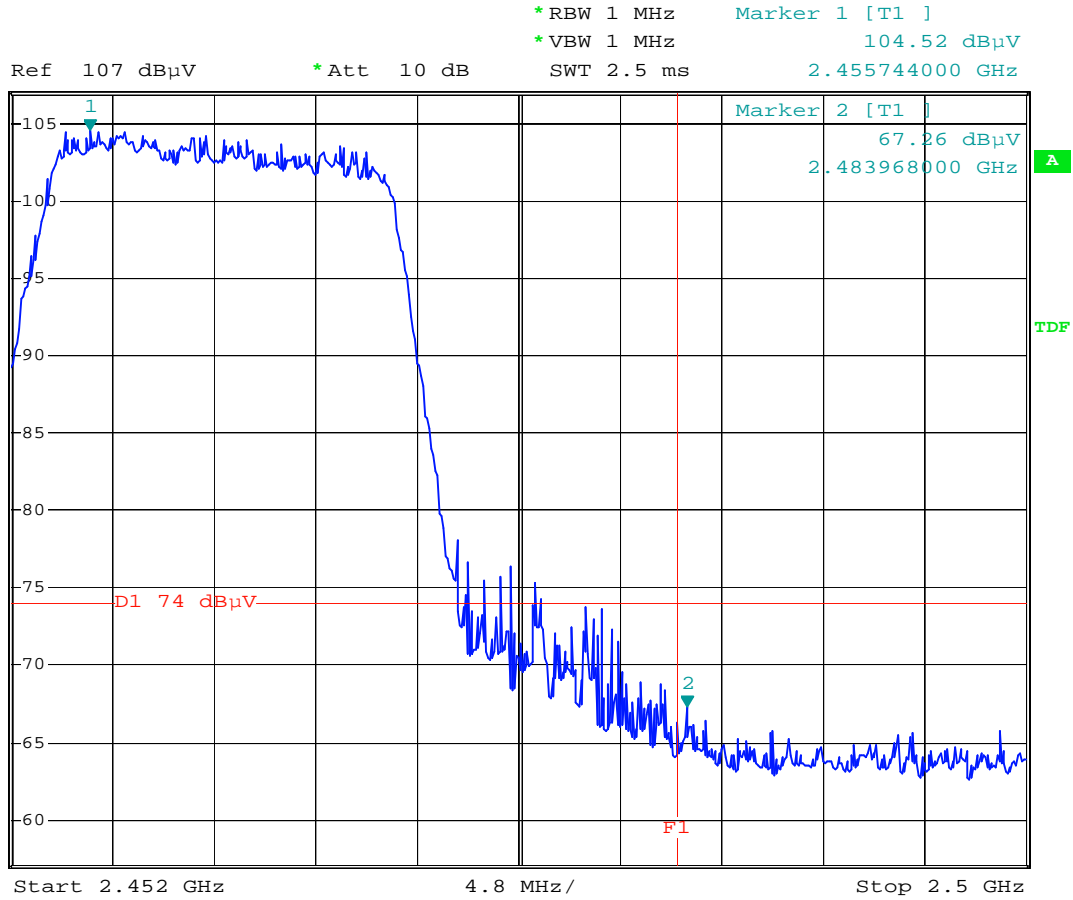
Comment: Band-edge test at low channel

Comment: Peak detector F1=2390MHz 11g

Date: 19.NOV.2004 11:06:11



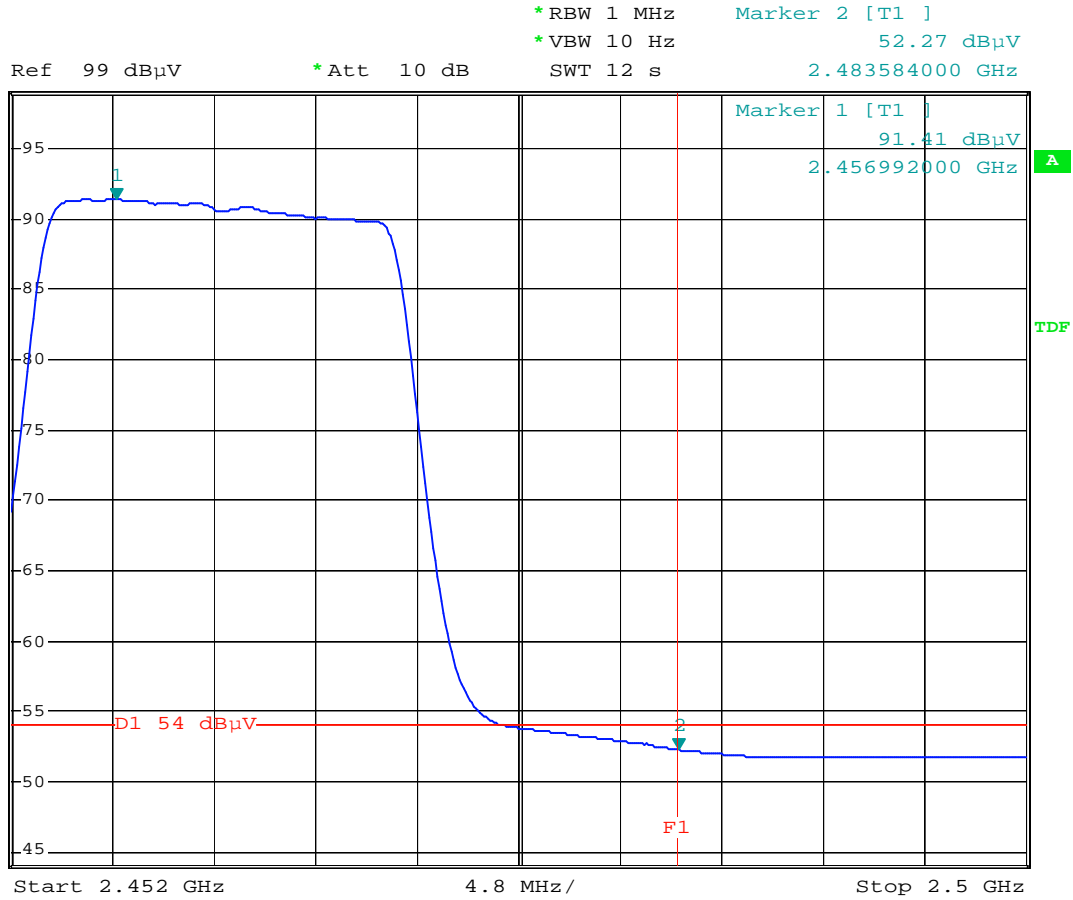
Comment: Band-edge test at low channel
 Comment: Average detector F1=2390MHz 11g
 Date: 19.NOV.2004 11:09:04



Comment: Band-edge test at high channel

Comment: Peak detector F1=2483.5MHz 11g

Date: 19.NOV.2004 11:02:20



Comment: Band-edge test at high channel
 Comment: Average detector F1=2483.5MHz 11g
 Date: 19.NOV.2004 11:03:27