

Emission Test Report

Standard: FCC Part 15 Subpart C / IC RSS-210

Document Number : FCC 19-0186-0

Product Model: AIR-MPI 350-U58H004
(with IBM ThinkPad T30 Series, Single Transmitter Model)

FCC ID: MCLU58H004
IC: 2878-U58H004

March 28, 2002

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**MEASUREMENT / TECHNICAL REPORT – Part 15 Subpart C
(Intentional Radiator)**

**AIR-MPI350-U58H004
(with IBM ThinkPad T30 Series, Single Transmitter Model)**

FCC ID : MCLU58H004

March 28, 2002

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|--|
| <p>This report concerns: (check one)</p> <p>Original Grant <input checked="" type="checkbox"/></p> <p>Class I change <input type="checkbox"/></p> <p>Class II change <input type="checkbox"/></p> |
| <p>Equipment type: <u>Wireless LAN device</u></p> |
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| <p>The measurement results contained in this report relate only to the item which was tested.</p> |
| <p>Measurement procedure used is ANSI C63.4-1992 unless otherwise specified.</p> |
| <p>Other test procedure: _____</p> |
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A. GENERAL INFORMATION

APPLICANT : Intel Corporation
 TEST SITE : IBM Japan Ltd., Yamato Semi-anechoic chamber #2
 TEST SITE ADDRESS : 1623 – 14 Shimotsuruma, Yamato-shi, Kanagawa 242-8502 Japan
 Tel: +81-46-215-4779, Fax: +81-46-273-7420
 REGULATION : FCC Part 15 Subpart C
 Industry Canada RSS-210 (Issue No.5)
 MODEL NAME : AIR-MPI 350-U58H004
 FCC ID : MCLU58H004
 IC Certification Number : 2878-U58H004
 SERIAL NUMBER : 900AG10092F0
 PHYSICAL CONDITION : Preproduction
 KIND OF EQUIPMENT : IEEE802.11b Wireless LAN Mini-PCI card (DSSS)
 TESTED DATE : March 20, 26, and 27, 2002

A.1 Test Methodology

Both conducted and radiated testing were performed according to the procedures in ANSI C63.4-1992. Radiated testing was performed at an antenna to EUT distance of 3 meters.

A.2 Test Facility / NVLAP Accreditation

The semi-anechoic chamber #2 used to correct the data are located in Yamato Laboratory, IBM Japan.

- This facility has been fully described in a report dated September 1998, submitted to the FCC office, and accepted in a letter, dated Nov. 2, 1998 (31040/SIT).
- This facility is accepted by **Industry Canada** in a letter dated March 19, 2001 as number **IC 349E** for chamber #2, and January 25, 2002 as number **IC 4221** for chamber #1.
- IBM Yamato EMC Engineering is recognized under the National Voluntary Laboratory Accreditation Program for satisfactory compliance with Criteria established in Title 15, Part 285 Code of Federal Regulations. (NVLAP Lab code: 200198-0)

A.3 EUT details

Table A EUT details

| Model and S/N | FCC ID | Description |
|--|------------|--|
| AIR-MPI 350 900AG10092F0 | MCLU58H004 | Applying equipment Wireless LAN Mini-PCI card |
| ThinkPad T30 M/T 2366-52U (s/n ZZ-00005) | N/A | IBM Notebook PC CPU: Intel® Mobile Pentium® 4, clock 1.7GHz |
| P/N 02K6665 | N/A | Universal AC adapter 72W, Unshielded power cord |

B. SUMMARY OF TEST RESULTS

Table-B presents the list of the measurement items for Spread Spectrum, Direct Sequence devices under FCC Part 15 Subpart C and Industry Canada RSS-210.

The section numbers of upper portion are showing FCC number, and the other (lower) ones are for IC.

Table-B List of the measurements

| Section(s) | Test Items | | Condition | Result |
|---|---|--|----------------------------|--------|
| | Transmit mode (TX): | | | |
| 15.247(a)(2) 5.9.1 | Bandwidth at 6 dB below | | Conducted | Pass |
| 15.247(c) 5.9.1 6.2.2 (o) (e1) | Occupied BW (or Band-edge) Out of Band Emissions (Bandwidth at 20 dB below) | The radiated emission in any 100kHz of outband shall be at least 20dB below the highest inband spectral density. | Conducted | Pass |
| 15.247(b) 6.2.2 (o) (b) | Transmitter output power | | Conducted | Pass |
| 15.247(d) 6.2.2 (o) (b) | Transmitter power spectral Density | Shall not be greater than 8 dBm in any 3kHz band. | Conducted | Pass |
| 15.247(e) 6.2.2 (o) (b) | Processing gain | | Conducted | Pass* |
| 15.207 6.6 | AC Wireline Conducted Emissions 450kHz – 30MHz | Class B: 250µV | Conducted | Pass |
| 15.205 / 209 6.2.1 / 6.3 | General Field Strength Limits (Restricted Bands and Radiated Emission Limits) | Shall not exceed the limits specified in FCC 15.209 or RSS-210 Table3. | Radiated (30MHz - 1GHz) | Pass |
| | | | Radiated (1– 25GHz) | Pass |
| Receive mode (RX): | | | | |
| 15.207 7.4 | AC Wireline Conducted Emissions 450kHz – 30MHz | Class B: 250µV | Conducted | Pass |
| 15.209 7.3 | General Field Strength Limits (Radiated Emission Limits) | Shall not exceed the limits specified in RSS-210. | Radiated (30MHz - 1GHz) | Pass |
| | | | Radiated (1– 25GHz) | Pass |

* See “Processing Gain Report” by CISCO Systems, Inc..

C. OPERATION MODE OF EUT

All tests were performed using the “PRISM Test Utility Program”, Version 3.0.24. Three kinds of modulation are used for transmission with appropriate bit rates:

Table C-1 Transmit mode (TX)

| Operation Frequency [GHz] | Rated output power (conducted) [dBm] | | | Test performed* |
|---------------------------|--------------------------------------|------------------|-----------------|-----------------|
| | Bit rate 2Mbps | Bit rate 5.5Mbps | Bit rate 11Mbps | |
| 2.412 (Ch. 1) | +15 | +15 | +15 | X |
| 2.417 (Ch. 2) | +15 | +15 | +15 | |
| 2.422 (Ch. 3) | +15 | +15 | +15 | |
| 2.427 (Ch. 4) | +15 | +15 | +15 | |
| 2.432 (Ch. 5) | +15 | +15 | +15 | |
| 2.437 (Ch. 6) | +15 | +15 | +15 | X |
| 2.442 (Ch. 7) | +15 | +15 | +15 | |
| 2.447 (Ch. 8) | +15 | +15 | +15 | |
| 2.452 (Ch. 9) | +15 | +15 | +15 | |
| 2.457 (Ch. 10) | +15 | +15 | +15 | |
| 2.462 (Ch. 11) | +15 | +15 | +15 | X |

* Full testing with bit rate 11Mbps only

Table C-2 Receive mode (RX)

| Operation Frequency [GHz] | Test performed |
|---------------------------|----------------|
| 2.412 (Ch. 1) | |
| 2.417 (Ch. 2) | |
| 2.422 (Ch. 3) | |
| 2.427 (Ch. 4) | |
| 2.432 (Ch. 5) | |
| 2.437 (Ch. 6) | X |
| 2.442 (Ch. 7) | |
| 2.447 (Ch. 8) | |
| 2.452 (Ch. 9) | |
| 2.457 (Ch. 10) | |
| 2.462 (Ch. 11) | |

D. TEST INSTRUMENTS

Table-D List of Measuring Instruments

| Description | Model | Serial Number | Calibration Date | Calibration Interval |
|---|-----------------------------------|--|--|--|
| Computer | IBM 5551-L | #4 | N/A | N/A |
| Computer | IBM 6589-13J | 97-15613 | N/A | N/A |
| Spectrum Analyzer (100Hz-1.5GHz) | HP 85680B | 2732A03651 | 02/19/02 | 1 year |
| Spectrum Analyzer (100Hz-1.5GHz) | HP 85680B | 2841A04254 | 04/26/01 | 1 year |
| Spectrum Analyzer (100Hz-1.5GHz) | HP 85680B | 2841A04242 | 10/18/01 | 1 year |
| Spectrum Analyzer Display | HP 85662A | 2648A15255 | 02/19/02 | 1 year |
| Spectrum Analyzer Display | HP 85662A | 2816A16831 | 04/26/01 | 1 year |
| Spectrum Analyzer Display | HP 85662A | 2816A16827 | 10/18/01 | 1 year |
| Quasi-Peak Adapter | HP 85650A | 2521A00968 | 02/15/02 | 1 year |
| Quasi-Peak Adapter | HP 85650A | 2811A01156 | 04/26/01 | 1 year |
| Quasi-Peak Adapter | HP 85650A | 2811A01126 | 10/18/01 | 1 year |
| Amplifier (100KHz - 1.3GHz) - for 30-200MHz - for 200-1000MHz | HP 8447D HP 8447D | 2805A02919 2944A03506 | 04/16/01 04/16/01 | 1 year 1 year |
| Amplifier (1GHz - 26.5GHz) | HP 8449B | 3008A00582 | 05/23/01 | 1 year |
| Spectrum Analyzer EMI Test Receiver | R&S ESI26 | 836119/003 | 07/04/01 | 1 year |
| Receiver (9kHz-30MHz) | R&S ESH3 | 891806/012 | 09/28/01 | 1 year |
| Receiver (20MHz-1.3GHz) | R&S ESVP | 892111/030 | 05/21/01 | 1 year |
| Biconical Antenna (30-200MHz) | EMCO 3108 | 2241 | 05/11/01 | 1 year |
| Log-Periodic Antenna (200-1000MHz) | EMCO 3146 | 1584 | 05/10/01 | 1 year |
| Horn Antenna (1- 18GHz) | EMCO 3115 | 9903-5774 | 04/23/01 | 1 year |
| Horn Antenna (3.95- 5.85GHz) | EMCO 3160-5 | 1099 | 04/26/01 | 1 year |
| Horn Antenna (5.85- 8.20GHz) | EMCO 3160-6 | 9712-1044 | 04/26/01 | 1 year |
| Horn Antenna (18- 26.5GHz) | EMCO 3160-9 | 0004-1202 | 05/01/01 | 1 year |
| LISN | EMCO 3825/2 | 1426 | 09/01/01 | 1 year |
| Power Meter | HP 436A | 2604A24192 | 09/06/01 | 1 year |
| Power Sensor | HP 8482A | 2607A10987 | 09/07/01 | 1 year |
| Switch/control unit | HP 3488A | 2719A17226 2719A17228 | N/A N/A | N/A N/A |
| Plotter | HP 7550A | 2631A33619 | N/A | N/A |
| SF106 cables: - Horn Ant <=> RF Amp. - RF Amp.<=>Spectrum Analyzer | Length: 6 m 15m | - EM206SCO - EM215SCO | 08/07/01 08/07/01 | 1 year 1 year |
| N-Coax cables: - Bi-coni Ant <=> 10m Cable - 10m Cable <=> Shield Panel - Shield Panel <=> RF Amp - RF Amp <=> Power Splitter - Log-peri Ant <=> 10m Cable | 9 m 10 m 7 m 0.5m 9 m | - EM203L01 - EM203L02 - EM203L03 - EM203L04 - EM203H01 | 04/16/01 04/16/01 04/16/01 04/16/01 04/16/01 | 1 year 1 year 1 year 1 year 1 year |

| | | | | |
|---|------|------------|----------|--------|
| - 10m Cable <=> Shield Panel | 10 m | - EM203H02 | 04/16/01 | 1 year |
| - Shield Panel <=> RF Amp | 7 m | - EM203H03 | 04/16/01 | 1 year |
| - RF Amp <=> Power Splitter | 0.5m | - EM203H04 | 04/16/01 | 1 year |
| Coax cables: | | | | |
| - Lisn-L <=> SW/Con.unit (SW100) | 4 m | - EMIC-L | 04/16/01 | 1 year |
| - Lisn-N <=> SW/Con.unit (SW101) | 4 m | - EMIC-N | 04/16/01 | 1 year |
| - SW/Con.unit <=> RCVR (Input) | 1 m | - EMIC-R | 04/16/01 | 1 year |
| - SW/Con.unit<=> Spe Ana.(Signal In) | 1 m | - EMIC-S | 04/16/01 | 1 year |
| - Power Splitter <=> SW/Con.unit (SW110) | 1 m | - EM203L05 | 04/16/01 | 1 year |
| - Power Splitter <=> SW/Con.unit (SW300) | 1 m | - EM203L06 | 04/16/01 | 1 year |
| - Power Splitter <=> SW/Con.unit (SW100) | 1 m | - EM203H05 | 04/16/01 | 1 year |
| - Power Splitter <=> SW/Con.unit (SW301) | 1 m | - EM203H06 | 04/16/01 | 1 year |
| - SW/Con.unit <=> Receiver (Input) | 2 m | - EM2RCV | 04/16/01 | 1 year |
| - SW/Con.unit <=> Spe Ana.(Signal In) for 30- 200MHz | 2 m | - EM2SPL | 04/16/01 | 1 year |
| - SW/Con.unit <=> Spe Ana.(Signal In) for 200-1000MHz | 2 m | - EM2SPH | 04/16/01 | 1 year |

Notes.

- The above equipment calibration is traceable to National standards.
- HP: Hewlett Packard, R&S: Rohde & Schwarz

E. JUSTIFICATION

The EUT was investigated for both the main(left) and the auxiliary(right) antennas. The worse case data taken in this report represents the measurement results of the left antenna to have comparatively higher gain.

| | | |
|---------------|-----------------------|-------------------------------------|
| Left Antenna | Gain: 0.53 dBi (peak) | Conducted Power: 19.7 dBm (maximum) |
| Right Antenna | Gain:-0.80 dBi (peak) | Conducted Power: 19.5 dBm (maximum) |

F. MEASUREMENT UNCERTAINTY

Uncertainties of the both, the Yamato EMI radiated test facilities (EMI chambers, #1 and #2) and the Yamato EMI conducted test facility are derived with the NIS 81 " Treatment of uncertainty in EMC measurements" 1994.

Estimated site uncertainty values are as follows.

- EMI chamber #1 : 4.17dB
- EMI chamber #2 : 4.18dB
- EMI conducted measurement system : 2.4dB

Detail should be referred to "Treatment of Uncertainty, Calculations and Policy" report, document number TCR 10-0015.

G. Related Submittal(s)/Grant(s)/Notes

The host unit with full peripheral devices including the applying modular as an unintentional radiator is classified as a Digital Device under the FCC Part 15 Subpart B or the Industry Canada Class B Emission Compliance (ICES-003), and subject to SDoC.

1. Bandwidth at 6 dB below

1.1 Test Procedure

The bandwidth at 6 dB down from the highest inband spectral density is measured with a spectrum analyzer connected to the antenna terminal, while EUT is operating in transmission mode at the appropriate center frequency.

The spectrum analyzer is set to :

RBW=100kHz, VBW=100kHz*1, Span=30MHz, Sweep=suitable duration based on the EUT specification

*1: To be adjusted accordingly based on the spectrum stability

1.2 Test Instruments and Measurement Setup

Table 1-1 : 6 dB Bandwidth Test Instruments

| Description | Model | Serial Number |
|---|--------------------------------|---------------|
| Spectrum Analyzer EMI Test Receiver | R&S ESI26 | 836119/003 |
| Coax cables: - Spectrum Analyzer <=> EUT | Length: 120 cm Loss: 1.7 dB | |

Notes: - R&S: Rohde & Schwarz

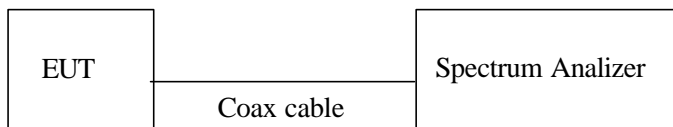


Figure 1: Measurement setup for 6dB bandwidth test

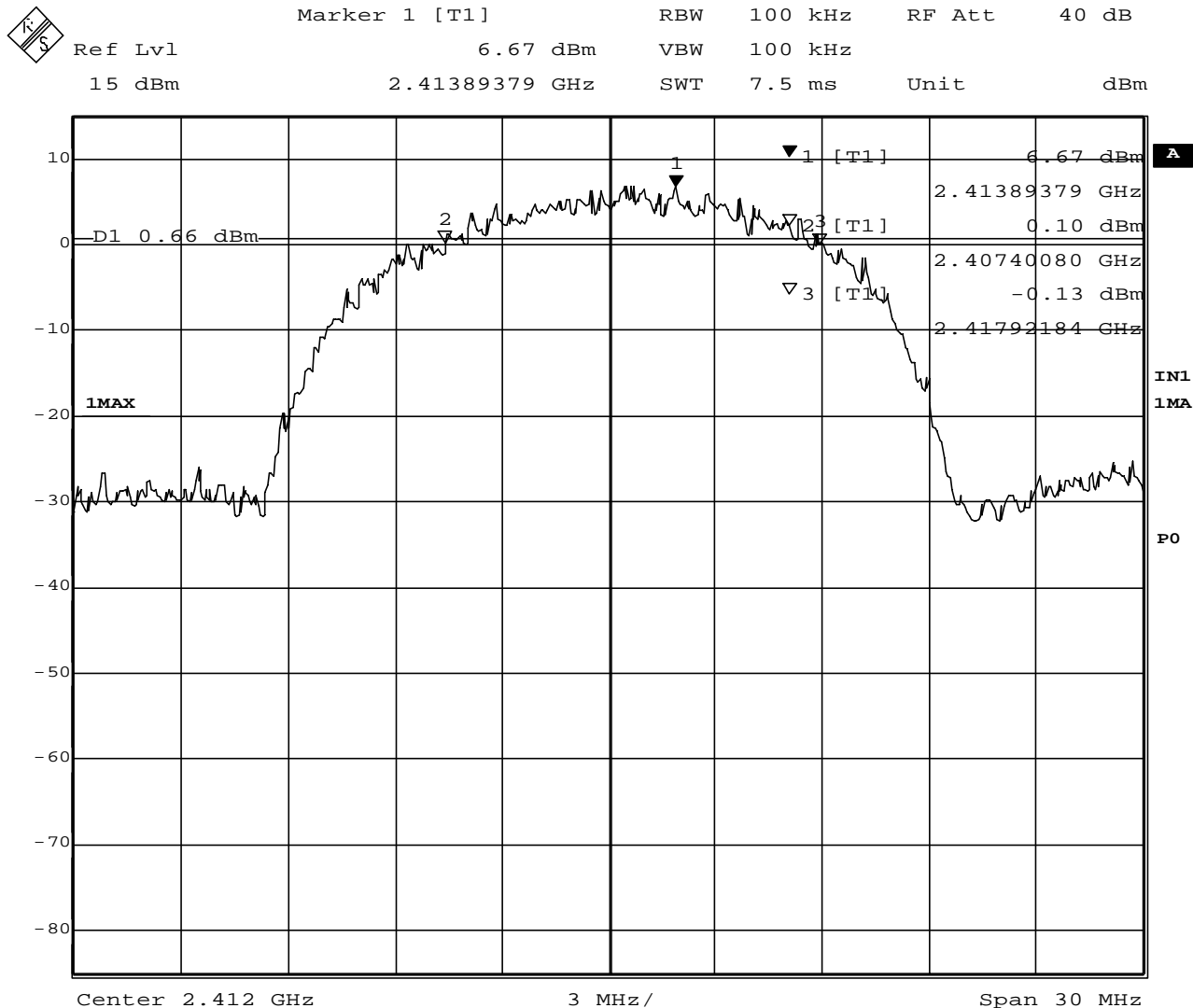
1.3 Measurement Results

Test Date: March 20, 2002

Table 1-2. EUT: M/T 2366-52U, s/n ZZ-00005 , TX mode 11Mbps

| Center Frequency (MHz) | Lower frequency (MHz) | Upper frequency (MHz) | Bandwidth at 6 dB below (MHz) |
|------------------------|-----------------------|-----------------------|-------------------------------|
| 2412 (ch. 1) | 2407.40 | 2417.92 | 10.52 |
| 2437 (ch. 6) | 2432.40 | 2442.56 | 10.16 |
| 2462 (ch. 11) | 2457.40 | 2467.92 | 10.52 |

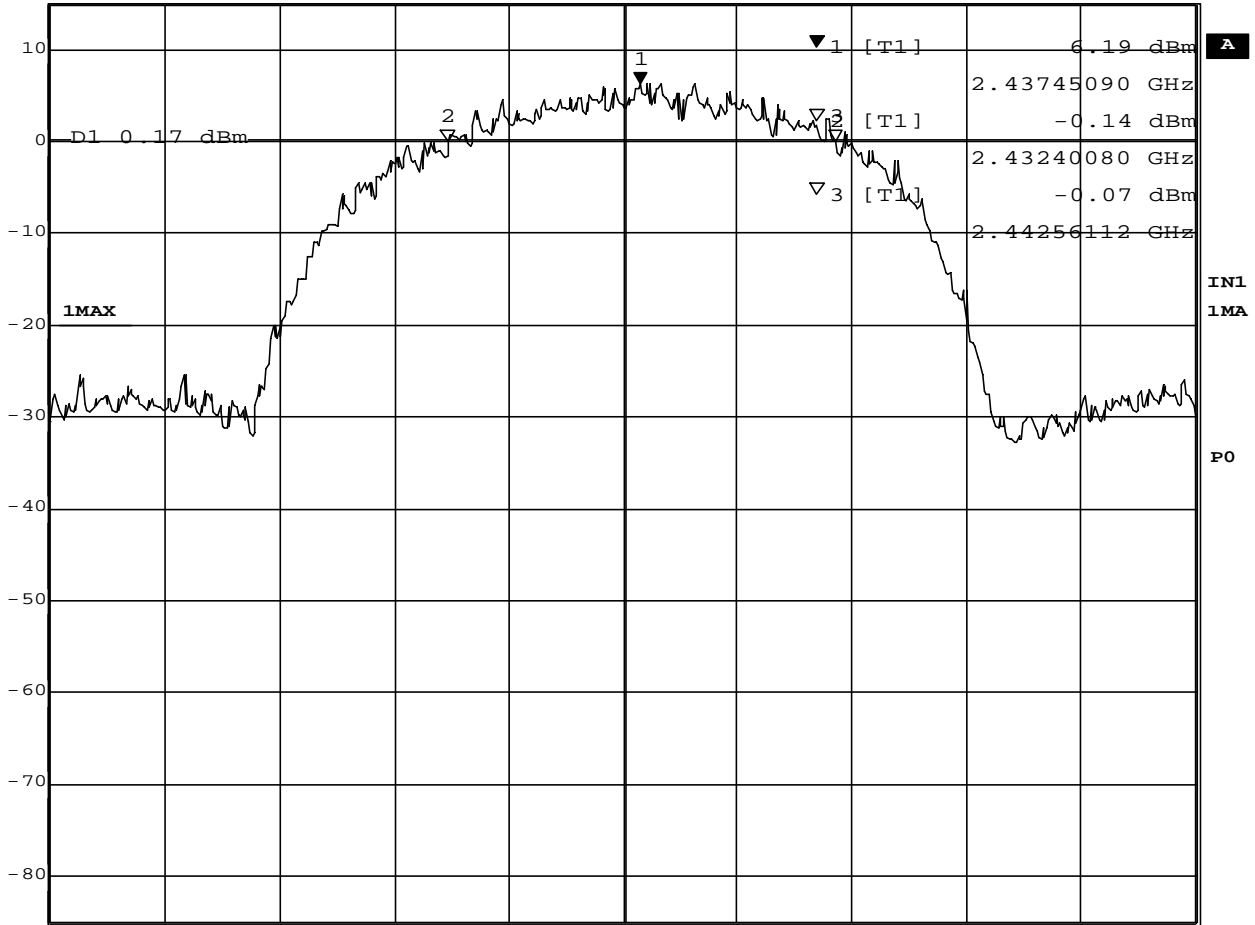
1.4 Trace Data



Date: 26.MAR.2002 16:28:57



| | | | | | | | |
|---------|--------|---------------|----------------|-----|---------|--------|-------|
| Ref Lvl | 15 dBm | Marker 1 [T1] | 2.43745090 GHz | RBW | 100 kHz | RF Att | 40 dB |
| | | | | VBW | 100 kHz | | |
| | | | | SWT | 7.5 ms | Unit | dBm |

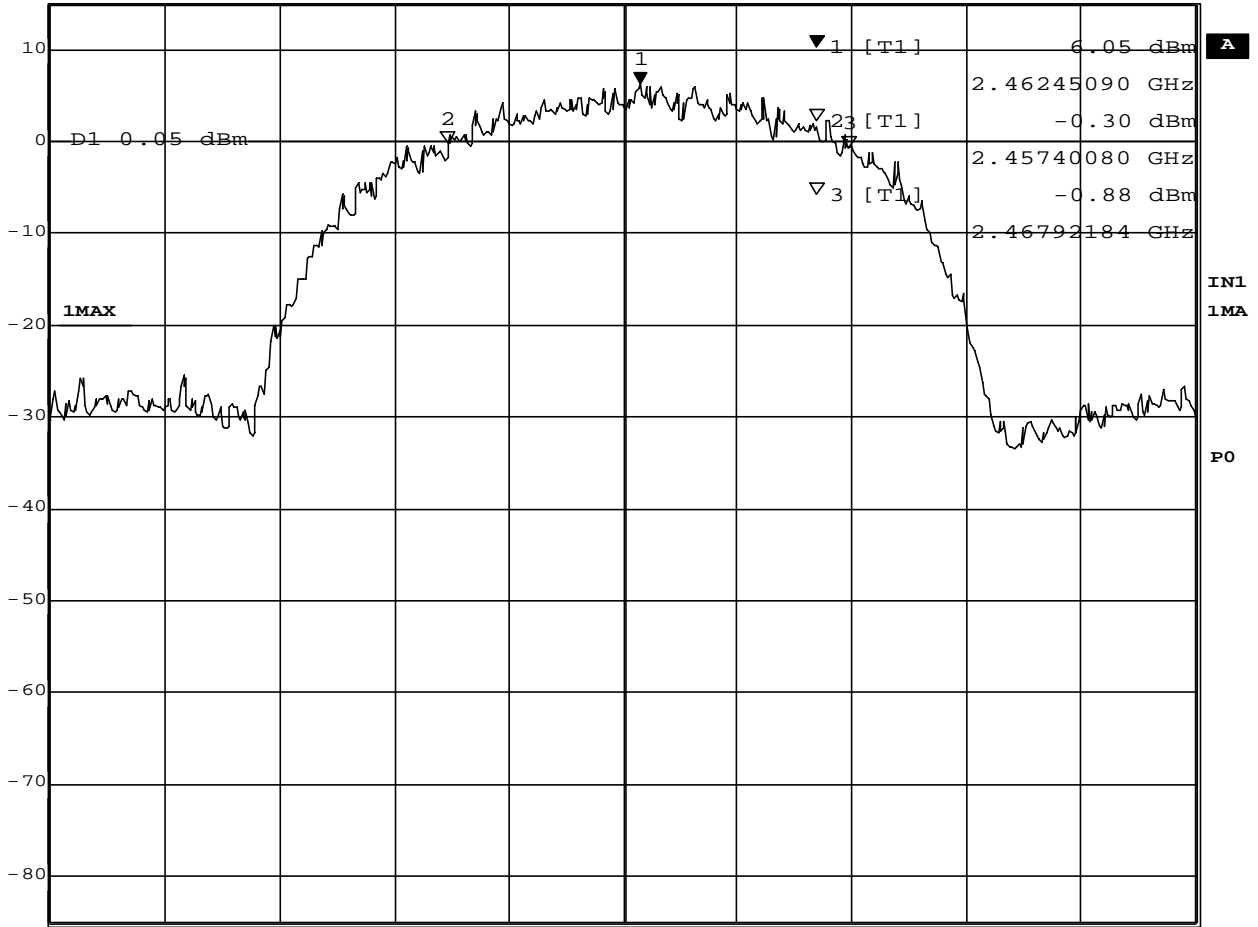


Center 2.437 GHz 3 MHz/ Span 30 MHz

Date: 26.MAR.2002 16:35:19



| | | | | | | | | |
|---------|--------|---------------|----------------|----------|-----|---------|--------|-------|
| Ref Lvl | 15 dBm | Marker 1 [T1] | 2.46245090 GHz | 6.05 dBm | RBW | 100 kHz | RF Att | 40 dB |
| | | | | | VBW | 100 kHz | | |
| | | | | | SWT | 7.5 ms | Unit | dBm |



Center 2.462 GHz 3 MHz/ Span 30 MHz

Date: 26.MAR.2002 16:36:58

2. Occupied Bandwidth / Band-edge (at 20 dB below), and Out of Band Emissions

2.1 Test Procedure

The bandwidth at 20 dB down from the highest inband spectral density is measured with a spectrum analyzer connected to the antenna terminal, while EUT is operating in transmission mode at the appropriate center frequency.

The spectrum analyzer is set to:

RBW=100kHz, VBW=100kHz*1, Span=30MHz, Sweep=suitable duration based on the EUT specification

*1: To be adjusted accordingly based on the spectrum stability

2.2 Test Instruments and Measurement Setup

Same as the Chapter 1(Table 1-1 & Figure 1).

2.3 Measurement Results of Occupied Bandwidth / Band-edge

Test Date: March 26, 2002

Table 2-1. EUT: M/T 2366-52U, s/n ZZ-00005 , TX mode 11Mbps

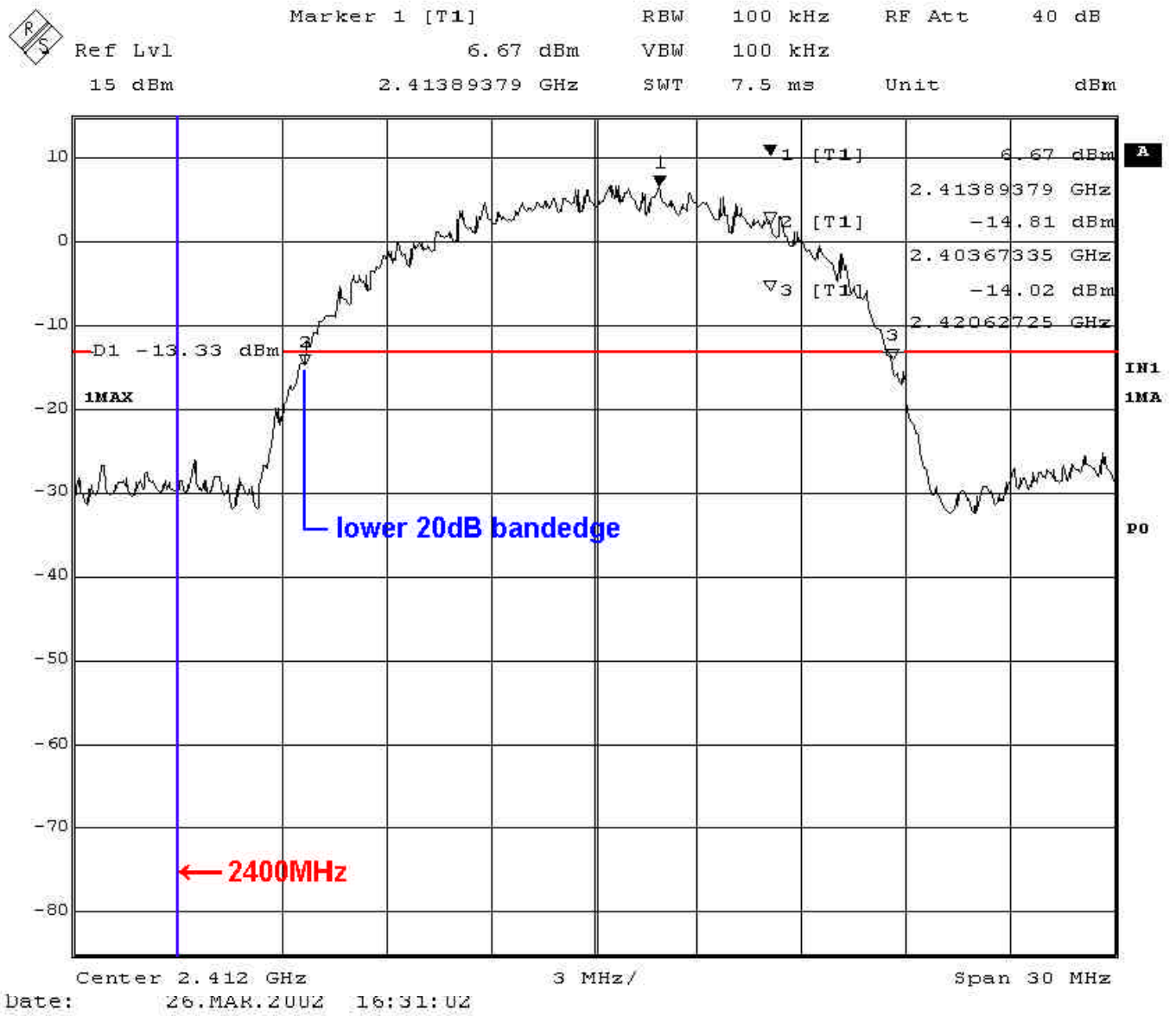
| Center Frequency (MHz) | Lower Frequency (MHz) | Upper Frequency (MHz) | Bandwidth at 20 dB below (MHz) | Margin to Lower limit (MHz) | Margin to Upper limit (MHz) |
|------------------------|-----------------------|-----------------------|--------------------------------|-----------------------------|-----------------------------|
| 2412 (ch. 1) | 2403.67 | 2420.62 | 16.95 | 3.67 | |
| 2437 (ch. 6) | 2428.67 | 2445.50 | 16.83 | | |
| 2462 (ch. 11) | 2453.67 | 2470.51 | 16.84 | | 12.99 |

2.4 Measurement Results of Out of Band Emissions

All conducted emission in any 100kHz bandwidth outside of the spread spectrum band was at least 20dB lower than the highest inband spectral density.

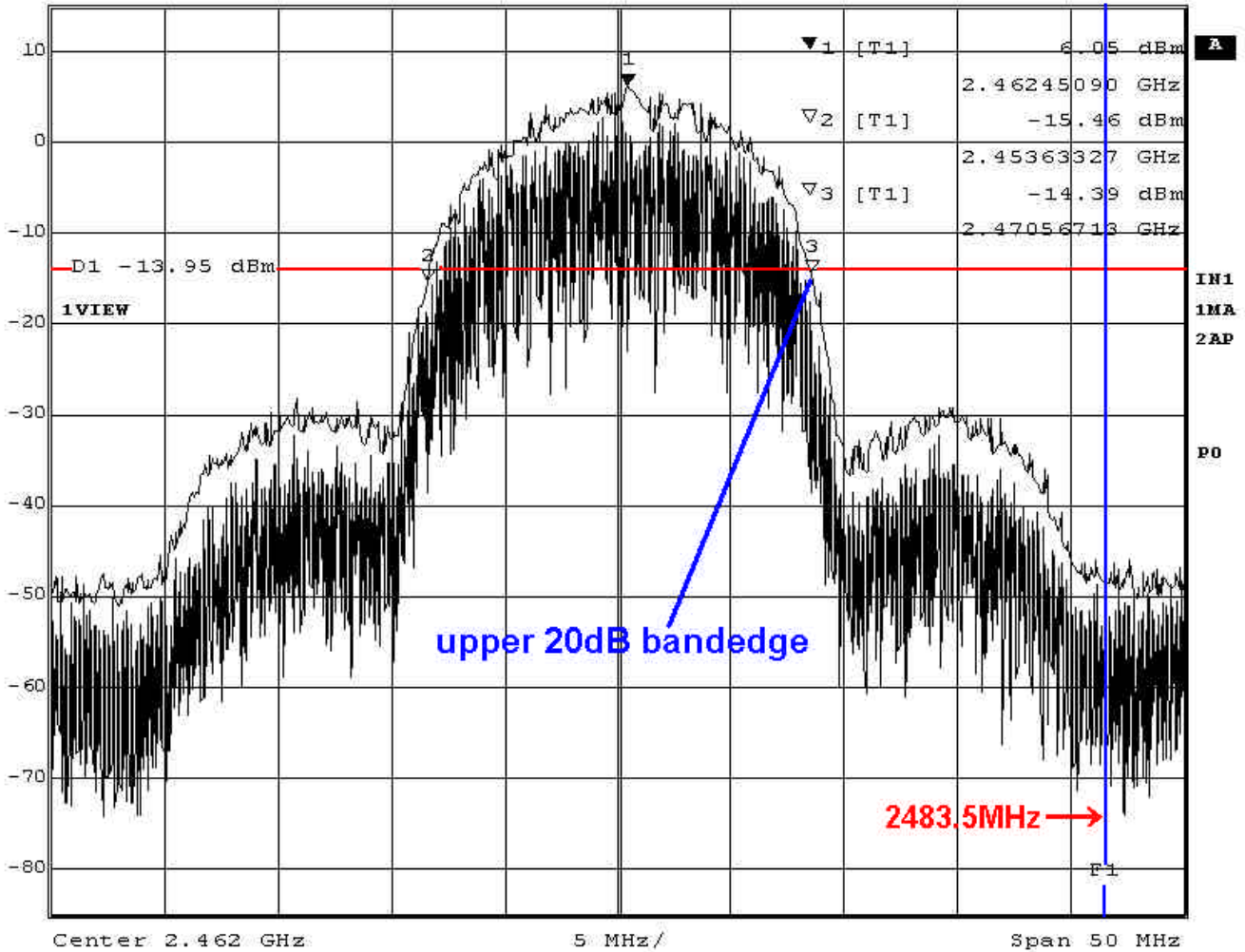
Test Date: March 26, 2002

2.5 Trace Data of Band-edge





UNCAL Marker 1 [T1] RBW 100 kHz RF Att 40 dB
 Ref Lvl 6.05 dBm VBW 100 kHz
 15 dBm 2.46245090 GHz SWT 7.5 ms Unit dBm



Date: 12.APR.2002 14:07:14

3. Transmitter Output Power

3.1 Test Procedure

- A transmitter antenna terminal of EUT is connected to the input of a RF power sensor.
- Measurement is made while EUT is operating in transmission mode at the appropriate center frequency.

Table 3-1: 6 dB Bandwidth Test Instruments

| Description | Model | Serial Number |
|--|---------------|---------------|
| Power Meter | HP 436A | 2604A24192 |
| Power Sensor | HP 8482A | 2607A10987 |
| Coax cables: - Power Sensor <=> EUT | Length: 30 cm | Loss: 1.1dB |

Notes: - HP: Hewlett Packard

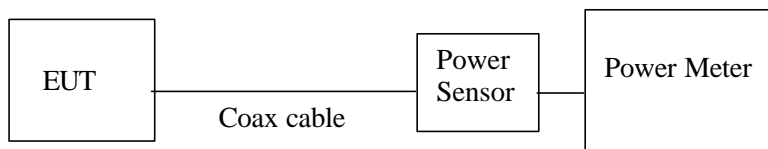


Figure 3: Measurement setup for RF output power

3.2 Measurement Results

Test Date: March 20, 2002

Table 3-2. EUT: M/T 2366-52U, s/n ZZ-00005, A0 port (left antenna), TX mode 11Mbps

| Measured Frequency (MHz) | Power Meter Reading (dBm) | Cable Loss (dB) | Results | | Limit [1W] (dBm) | Margin (dB) |
|--------------------------|---------------------------|-----------------|---------|--------|------------------|-------------|
| | | | (dBm) | (W) | | |
| 2412 (ch. 1) | 18.5 | 1.1 | 19.6 | 0.0912 | 30.0 | 10.4 |
| 2437 (ch. 6) | 18.6 | 1.1 | 19.7 | 0.0933 | 30.0 | 10.3 |
| 2462 (ch. 11) | 17.9 | 1.1 | 19.0 | 0.0794 | 30.0 | 11.0 |

Table 3-3. EUT: M/T 2366-52U, s/n ZZ-00005, A0 port (left antenna), TX mode 2Mbps

| Measured Frequency (MHz) | Power Meter Reading (dBm) | Cable Loss (dB) | Results | | Limit [1W] (dBm) | Margin (dB) |
|--------------------------|---------------------------|-----------------|---------|--------|------------------|-------------|
| | | | (dBm) | (W) | | |
| 2412 (ch. 1) | 18.3 | 1.1 | 19.4 | 0.0871 | 30.0 | 10.6 |
| 2437 (ch. 6) | 18.0 | 1.1 | 19.1 | 0.0813 | 30.0 | 10.9 |
| 2462 (ch. 11) | 17.7 | 1.1 | 18.8 | 0.0759 | 30.0 | 11.2 |

Table 3-3. EUT: M/T 2366-52U, s/n ZZ-00005, A1 port (right antenna), TX mode 11Mbps

| Measured Frequency (MHz) | Power Meter Reading (dBm) | Cable Loss (dB) | Results | | Limit [1W] (dBm) | Margin (dB) |
|--------------------------|---------------------------|-----------------|---------|--------|------------------|-------------|
| | | | (dBm) | (W) | | |
| 2412 (ch. 1) | 18.4 | 1.1 | 19.5 | 0.0891 | 30.0 | 10.5 |
| 2437 (ch. 6) | 17.9 | 1.1 | 19.0 | 0.0794 | 30.0 | 11.0 |
| 2462 (ch. 11) | 17.6 | 1.1 | 18.7 | 0.0794 | 30.0 | 11.3 |

Table 3-4. EUT: M/T 2366-52U, s/n ZZ-00005, A1 port (right antenna), TX mode 2Mbps

| Measured Frequency (MHz) | Power Meter Reading (dBm) | Cable Loss (dB) | Results | | Limit [1W] (dBm) | Margin (dB) |
|--------------------------|---------------------------|-----------------|---------|--------|------------------|-------------|
| | | | (dBm) | (W) | | |
| 2412 (ch. 1) | 18.1 | 1.1 | 19.2 | 0.0832 | 30.0 | 10.8 |
| 2437 (ch. 6) | 17.9 | 1.1 | 19.0 | 0.0794 | 30.0 | 11.0 |
| 2462 (ch. 11) | 17.5 | 1.1 | 18.6 | 0.0724 | 30.0 | 11.4 |

4. Transmitter Power Spectral Density

4.1 Test Procedure

The peak power density is measured with a spectrum analyzer connected to the antenna terminal, while EUT is operating in transmission mode at the appropriate center frequency.

The spectrum analyzer is set to:

RBW= 3kHz, VBW=100kHz, Span=10MHz, Sweep = 2.8 seconds

4.2 Test Instruments and Measurement Setup

Same as the Chapter 1(Table 1-1 & Figure 1).

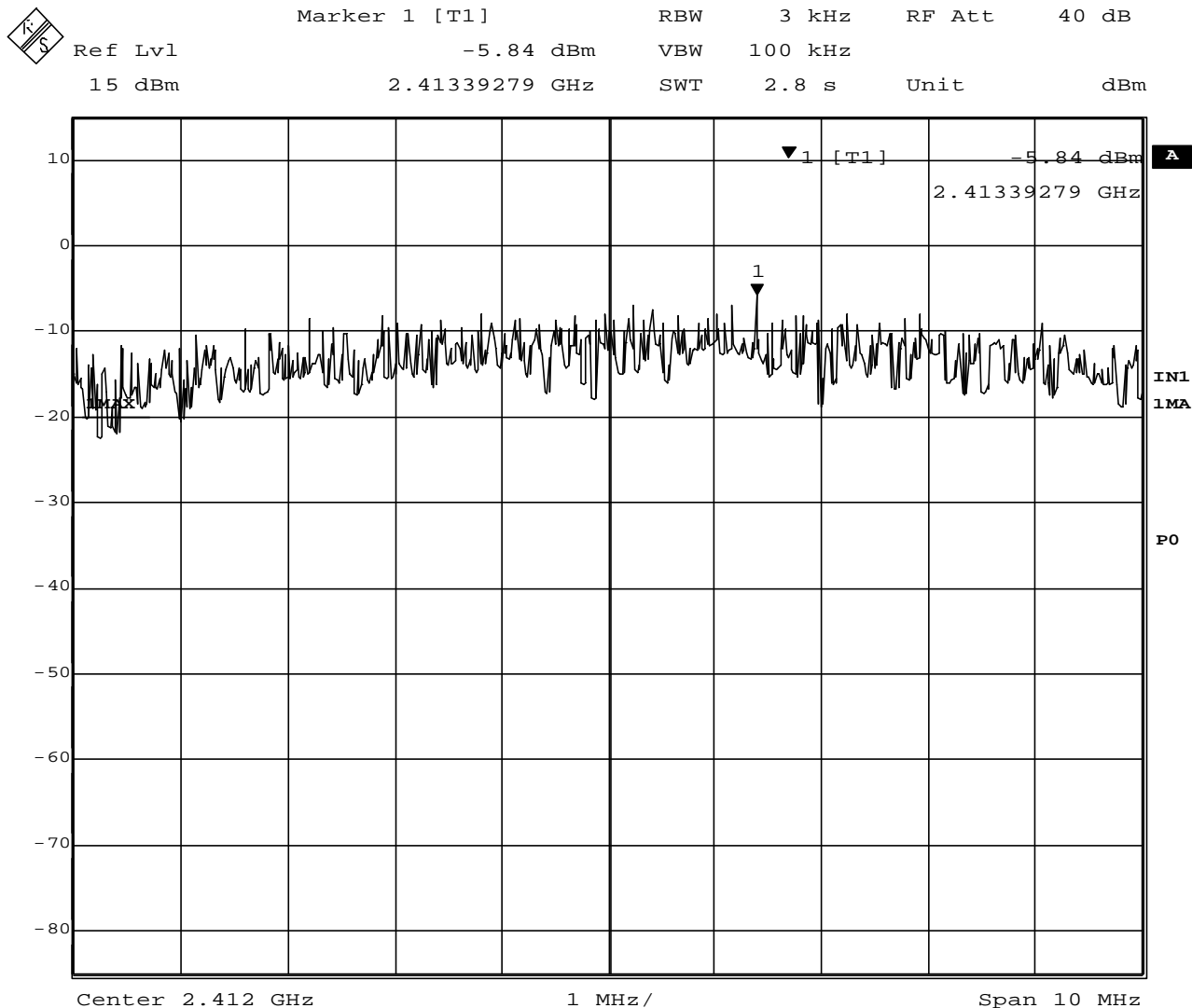
4.3 Measurement Results

Test Date: March 26, 2002

Table 4-1. EUT: M/T 2366-52U, s/n ZZ-00005 , TX mode 11Mbps

| Ch No. | Frequency (MHz) | Spectrum Analyzer Reading (dBm) | Cable loss (dB) | Result (dBm) | Limit (dBm) | Margin (dB) |
|--------|-----------------|---------------------------------|-----------------|--------------|-------------|-------------|
| 1 | 2413.39 | -5.8 | 1.7 | -4.1 | 8.0 | 12.1 |
| 6 | 2438.39 | -6.2 | 1.7 | -4.5 | 8.0 | 12.5 |
| 11 | 2463.39 | -6.3 | 1.7 | -4.6 | 8.0 | 12.6 |

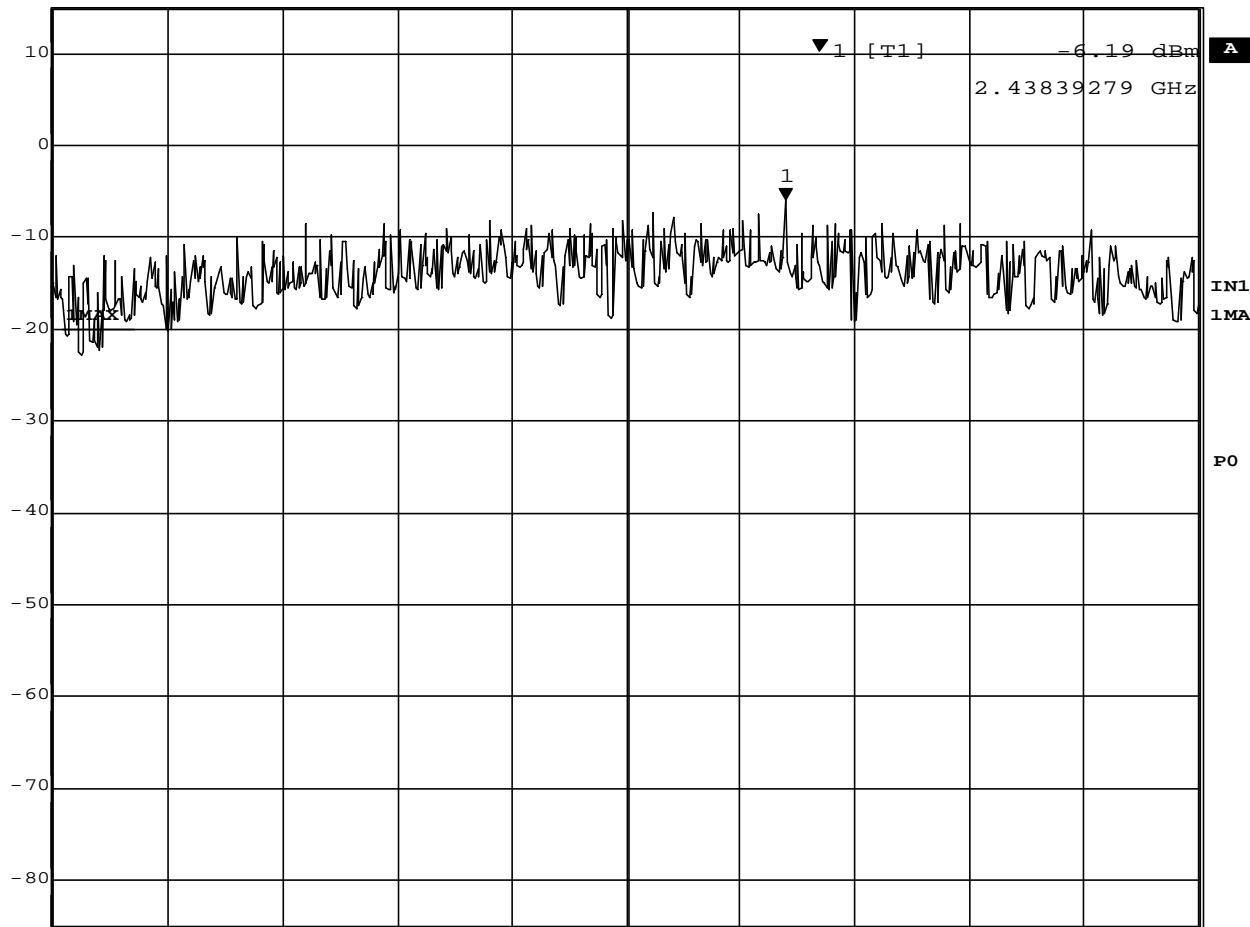
4.4 Trace Data



Date: 26.MAR.2002 16:47:30



Marker 1 [T1] RBW 3 kHz RF Att 40 dB
Ref Lvl -6.19 dBm VBW 100 kHz
15 dBm 2.43839279 GHz SWT 2.8 s Unit dBm

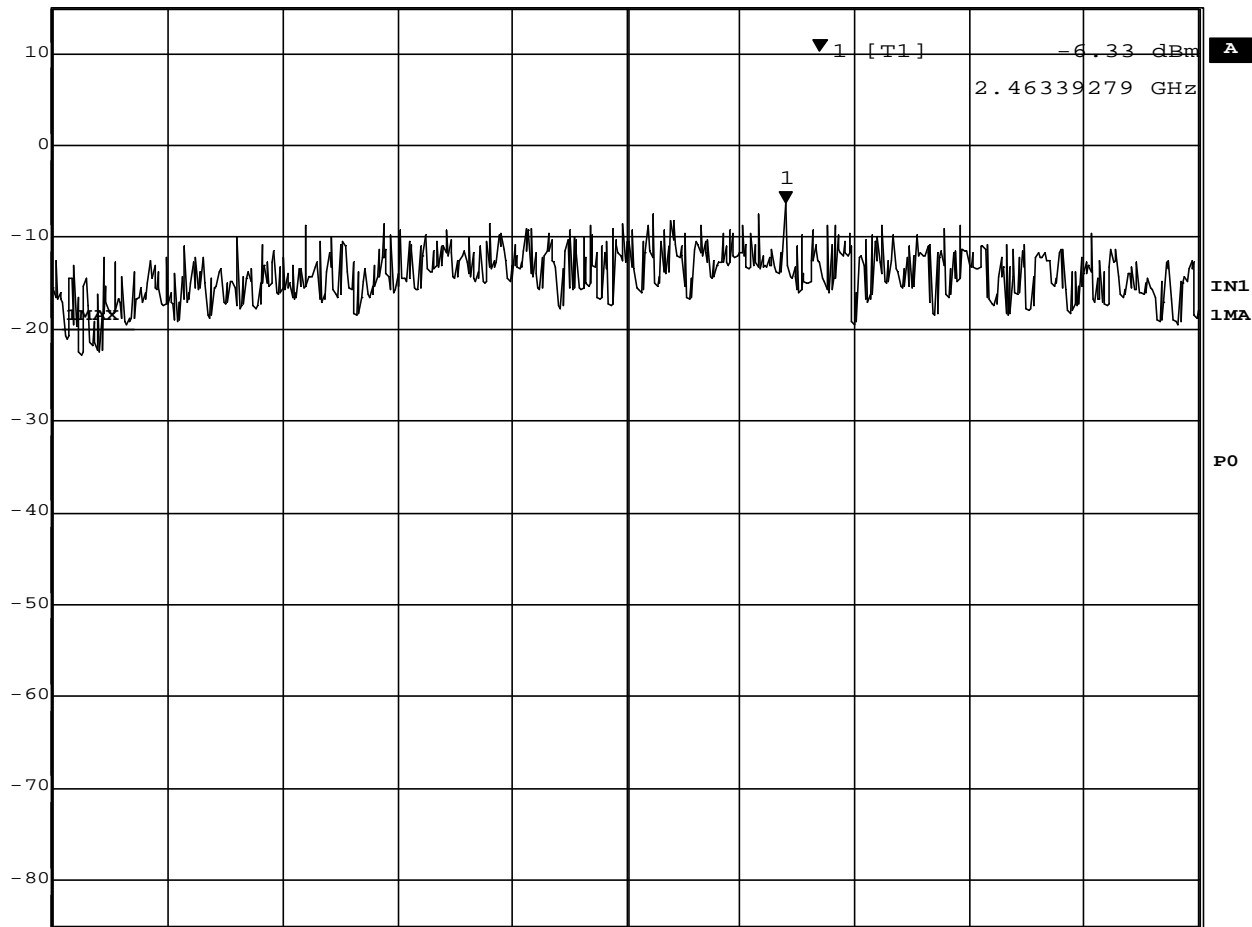


Center 2.437 GHz 1 MHz/ Span 10 MHz

Date: 26.MAR.2002 16:48:51



Marker 1 [T1] RBW 3 kHz RF Att 40 dB
Ref Lvl -6.33 dBm VBW 100 kHz
15 dBm 2.46339279 GHz SWT 2.8 s Unit dBm



Center 2.462 GHz 1 MHz/ Span 10 MHz

Date: 26.MAR.2002 16:49:28

5. AC WIRELINE CONDUCTED EMISSIONS (450KHz – 30MHz)

5.1 Test Procedure

The conducted emissions are measured in the IBM shielded room with a spectrum analyzer in peak hold. Emissions closest to the limit are measured in the quasi-peak mode (QP) with the tuned receiver using a bandwidth of 9KHz. The emissions are maximized further by cable manipulation. The highest emissions relative to the limit are listed.

5.2 Test Instruments and Measurement Setup

Table 5-1. Conducted Emission Test Instrumentation

| Description | Model | Serial Number |
|--|-------------------------------------|--|
| Computer | IBM 6589-13J | 97-15613 |
| Spectrum Analyzer (100Hz-1.5GHz) | HP 8568B | 2732A03651 |
| Spectrum Analyzer Display | HP 8568B | 2648A15255 |
| Quasi-Peak Adapter | HP 85650A | 2521A00968 |
| Receiver (9kHz-30MHz) | R&S ESH3 | 891806/012 |
| LISN | EMCO 3825/2 | 1426 |
| Switch/control unit | HP 3488A | 2719A17228 |
| Plotter | HP 7550A | 2631A33619 |
| Coax cables: - Lisen-L <=> SW/Con.unit (SW100) - Lisen-N <=> SW/Con.unit (SW101) - SW/Con.unit <=> RCVR (Input) - SW/Con.unit<=> Spe Ana.(Signal In) | Length: 4 m 4 m 1 m 1 m | - EMIC-L - EMIC-N - EMIC-R - EMIC-S |

Notes: - HP: Hewlett Packard, R&S: Rohde & Schwarz

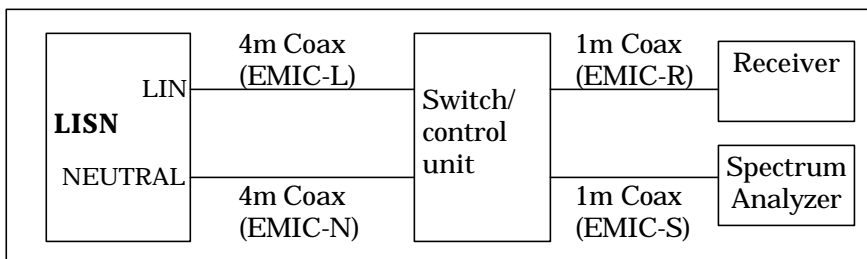


Figure 5. Cables for Conducted Emission Test

5.3 Measurement Results

The EUT was found to comply to the limits of FCC Part 15 Subpart C and RSS-210 with a margin of 13.9 dB. The 6 highest emissions relative to the limits are reported.

Test Date: March 27, 2002

1) EUT in transmission mode

Table 5-2-1. EUT: M/T 2366-52U, s/n ZZ-00005, Ch.1(2412MHz) TX mode 11Mbps

| Frequency (MHz) | QP Voltage (dBμV) | QP Limit (dBμV) | QP Voltage (μV) | QP Limit (μV) | Phase |
|-----------------|-------------------|-----------------|-----------------|---------------|---------|
| 0.4636 | 25.5 | 48 | 18.8 | 250 | LINE |
| 0.5263 | 32.0 | 48 | 39.8 | 250 | LINE |
| 0.5756 | 29.2 | 48 | 28.8 | 251 | NEUTRAL |
| 0.7343 | 13.3 | 48 | 4.6 | 252 | LINE |
| 0.7879 | 14.0 | 48 | 5.0 | 253 | NEUTRAL |
| 24.8349 | 16.3 | 48 | 6.5 | 253 | NEUTRAL |

Table 5-2-2. EUT: M/T 2366-52U, s/n ZZ-00005 , Ch.6(2437MHz) TX mode 11Mbps

| Frequency (MHz) | QP Voltage (dBμV) | QP Limit (dBμV) | QP Voltage (μV) | QP Limit (μV) | Phase |
|-----------------|-------------------|-----------------|-----------------|---------------|---------|
| 0.5214 | 32.3 | 48 | 41.2 | 250 | LINE |
| 0.5859 | 28.1 | 48 | 25.4 | 250 | NEUTRAL |
| 0.6553 | 33.3 | 48 | 46.2 | 251 | NEUTRAL |
| 10.2109 | 26.1 | 48 | 20.2 | 252 | NEUTRAL |
| 10.5327 | 26.3 | 48 | 20.7 | 253 | NEUTRAL |
| 25.8421 | 29.2 | 48 | 28.8 | 253 | NEUTRAL |

Table 5-2-3. EUT: M/T 2366-52U, s/n ZZ-00005, Ch.11(2462MHz) TX mode 11Mbps

| Frequency (MHz) | QP Voltage (dBμV) | QP Limit (dBμV) | QP Voltage (μV) | QP Limit (μV) | Phase |
|-----------------|-------------------|-----------------|-----------------|---------------|---------|
| 0.5207 | 33.1 | 48 | 45.2 | 250 | LINE |
| 0.5887 | 30.8 | 48 | 34.7 | 250 | NEUTRAL |
| 0.6528 | 34.1 | 48 | 50.7 | 251 | NEUTRAL |
| 0.8468 | 27.3 | 48 | 23.2 | 252 | NEUTRAL |
| 10.1962 | 26.7 | 48 | 21.6 | 253 | NEUTRAL |
| 25.9931 | 28.6 | 48 | 26.9 | 253 | NEUTRAL |

2) EUT in receiving mode

Table 5-2-4. EUT: M/T 2366-52U, s/n ZZ-00005, RX mode

| Frequency (MHz) | QP Voltage (dBμV) | QP Limit (dBμV) | QP Voltage (μV) | QP Limit (μV) | Phase |
|-----------------|-------------------|-----------------|-----------------|---------------|---------|
| 0.5229 | 34.0 | 48 | 50.1 | 250 | LINE |
| 0.5859 | 32.1 | 48 | 40.3 | 250 | NEUTRAL |
| 0.6521 | 34.0 | 48 | 50.1 | 251 | NEUTRAL |
| 0.7401 | 28.1 | 48 | 25.4 | 252 | NEUTRAL |
| 0.8477 | 28.9 | 48 | 27.9 | 253 | NEUTRAL |
| 25.9214 | 29.3 | 48 | 29.2 | 253 | NEUTRAL |

6. RESTRICTED BANDS RADIATIONS (30MHz – 1GHz)

6.1 Test Procedure

Preliminary radiated emissions are measured in the semi-anechoic chamber at a 3 meter distance on every azimuth in both horizontal and vertical polarity. The antennas are also scanned in height. The emissions are recorded with a spectrum analyzer in peak hold mode. The identified emissions are further maximized by a cable manipulation. Emissions closest to the limits are measured in the quasi-peak mode with the tuned receiver using a bandwidth of 120kHz. The highest emissions relative to the limit are listed.

6.2 Test Instruments and Measurement Setup

Table 6-1 Radiated Emission Test Instrumentation

| Description | Model | Serial Number |
|--|------------|---------------|
| Computer | IBM 5551-L | #4 |
| Spectrum Analyzer (100Hz-1.5GHz) for 30-200MHz | HP 85680B | 3019A05155 |
| Spectrum Analyzer Display for 30-200MHz | HP 85662A | 3026A19353 |
| Quasi-Peak Adapter for 30-200MHz | HP 85650A | 3033A01449 |
| Spectrum Analyzer (100Hz-1.5GHz) for 200-1000MHz | HP 85680B | 3019A05156 |
| Spectrum Analyzer Display for 200-1000MHz | HP 85662A | 3026A19366 |
| Quasi-Peak Adapter for 200-1000MHz | HP 85650A | 2811A01433 |
| Amplifier (100KHz-1.3GHz) | | |
| - for 30-200MHz | HP 8447D | 2805A02919 |
| - for 200-1000MHz | HP 8447D | 2944A03506 |
| Biconical Antenna (30-200MHz) | EMCO 3108 | 2241 |
| Log-Periodic Antenna (200-1000MHz) | EMCO 3146 | 1584 |
| Receiver (20MHz-1.3GHz) | R&S ESVP | 893202/018 |
| Switch/control unit | HP 3488A | 2719A17226 |
| N-Coax cables: | Length: | |
| - Bi-coni Ant <=> 10m Cable | 9 m | - EM203L01 |
| - 10m Cable <=> Shield Panel | 10 m | - EM203L02 |
| - Shield Panel <=> RF Amp | 7 m | - EM203L03 |
| - RF Amp <=> Power Splitter | 0.5m | - EM203L04 |
| - Log-peri Ant <=> 10m Cable | 9 m | - EM203H01 |
| - 10m Cable <=> Shield Panel | 10 m | - EM203H02 |
| - Shield Panel <=> RF Amp | 7 m | - EM203H03 |
| - RF Amp <=> Power Splitter | 0.5m | - EM203H04 |
| Coax cables: | | |
| - Power Splitter <=> SW/Con.unit (SW110) | 1 m | - EM203L05 |
| - Power Splitter <=> SW/Con.unit (SW300) | 1 m | - EM203L06 |
| - Power Splitter <=> SW/Con.unit (SW100) | 1 m | - EM203H05 |
| - Power Splitter <=> SW/Con.unit (SW301) | 1 m | - EM203H06 |
| - SW/Con.unit <=> Receiver (Input) | 2 m | - EM2RCV |

| | | |
|---|-----|----------|
| - SW/Con.unit <=> Spe Ana.(Signal In) for 30- 200MHz | 2 m | - EM2SPL |
| - SW/Con.unit <=> Spe Ana.(Signal In) for 200-1000MHZ | 2 m | - EM2SPH |

Notes:

- HP: Hewlett Packard, R&S: Rohde & Schwarz

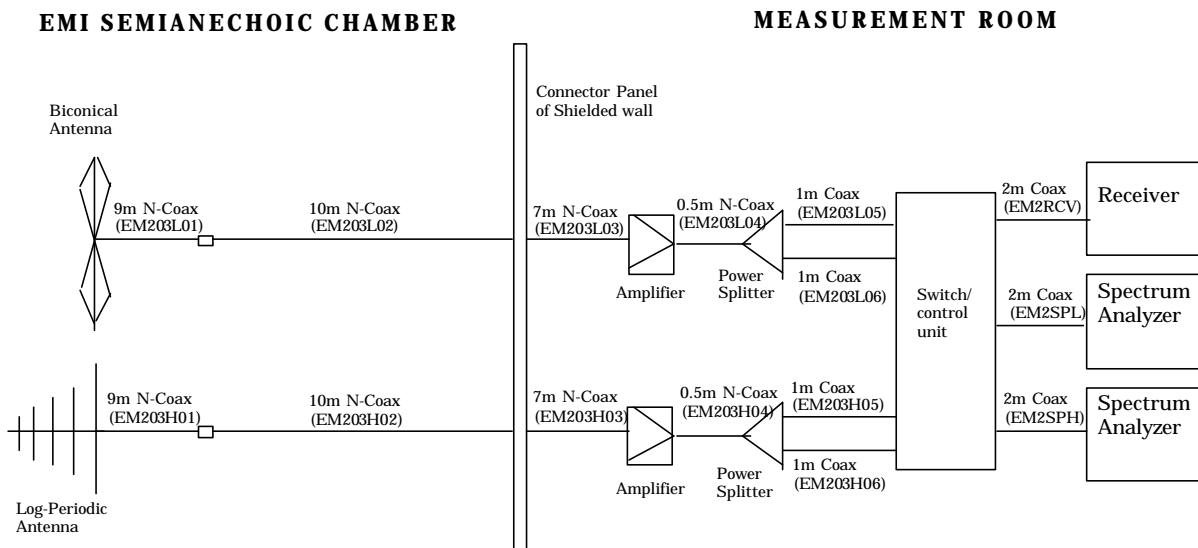


Figure 6 Cables for Radiated Emission Test

6.3 Field Strength Calculation

The field strength is calculated by adding the Antenna Factor and Cable Loss, and subtracting Amplifier Gain from the measured reading. In this test facility, the Antenna Factor, Cable Loss, and Amplifier Gains are loaded into the Rohde & Schwarz Receiver and the corrected field strength can be read directly on the receiver. All factors are included in the reported data.

$$FS = R + AF + CORR$$

where:

| | | |
|------|---|-----------------------------------|
| FS | = | Field Strength |
| R | = | Measured Receiver Input Amplitude |
| AF | = | Antenna Factor |
| CORR | = | Correction Factor = CL - AG |
| CL | = | Cable Loss |
| AG | = | Amplifier Gain |

For example :

Given a Receiver input reading of 51.5dB μ V; Antenna Factor of 8.5dB/m; Cable Loss of 1.3dB; and an Amplifier Gain of 26dB. The Field Strength of the measured emission is:

$$FS = 51.5 + 8.5 + 1.3 - 26.0 = 35.3\text{dB}\mu\text{V/m}$$

Conversion between dB μ V/m (or dB μ V) and μ V/m (or μ V) are done as:

$$\text{Level(dB}\mu\text{V/m)} = 20 \times \text{Log(Level}(\mu\text{V/m))}$$

$$40\text{dB}\mu\text{V/m} = 100\mu\text{V/m}$$

$$48\text{dB}\mu\text{V/m} = 250\mu\text{V/m}$$

6.4 Measurement Results

The EUT was found to comply to the limits of FCC Part 15 Subpart C and RSS-210 with a margin of 5.9 dB at 30MHz - 1000MHz band.

The 6 highest emissions relative to the limits are reported.

Test Date: March 26, 2002

1) EUT in transmission mode

Table 6-2-1. EUT: M/T 2366-52U, s/n ZZ-00005, Ch.1(2412MHz) TX mode 11Mbps

| Frequency (MHz) | Polarity (H/V) | Measured (dB μ V) | Antenna Factor (dB/m) | Corr. Factor (dB) | Field Strength (dB μ V/m) | Limit (dB μ V/m) | Field Strength (μ V/m) | Limit (μ V/m) |
|-----------------|----------------|-----------------------|-----------------------|-------------------|-------------------------------|----------------------|-----------------------------|--------------------|
| 48.346 | V | 25.4 | 10.9 | -19.8 | 16.5 | 40.0 | 6.7 | 100 |
| 62.674 | V | 35.9 | 8.7 | -19.6 | 25.0 | 40.0 | 17.8 | 100 |
| 107.373 | V | 34.9 | 10.2 | -19.2 | 25.9 | 43.5 | 19.7 | 150 |
| 299.831 | H | 28.4 | 14.2 | -14.6 | 28.0 | 46.0 | 25.1 | 200 |
| 364.520 | H | 32.3 | 14.2 | -14.4 | 32.1 | 46.0 | 40.3 | 200 |
| 729.040 | V | 33.2 | 20.6 | -13.7 | 40.1 | 46.0 | 101.2 | 200 |

Table 6-2-2. EUT: M/T 2366-52U, s/n ZZ-00005, Ch.6(2437MHz) TX mode 11Mbps

| Frequency (MHz) | Polarity (H/V) | Measured (dB μ V) | Antenna Factor (dB/m) | Corr. Factor (dB) | Field Strength (dB μ V/m) | Limit (dB μ V/m) | Field Strength (μ V/m) | Limit (μ V/m) |
|-----------------|----------------|-----------------------|-----------------------|-------------------|-------------------------------|----------------------|-----------------------------|--------------------|
| 37.958 | V | 33.6 | 12.3 | -19.7 | 26.2 | 40.0 | 20.4 | 100 |
| 59.264 | V | 36.1 | 9.2 | -19.6 | 25.7 | 40.0 | 19.3 | 100 |
| 192.511 | H | 31.1 | 13.4 | -17.8 | 26.7 | 43.5 | 21.6 | 150 |
| 364.520 | V | 31.4 | 14.2 | -14.4 | 31.2 | 46.0 | 36.3 | 200 |
| 729.040 | V | 31.6 | 20.6 | -13.7 | 38.5 | 46.0 | 84.1 | 200 |
| 959.953 | V | 27.1 | 23.2 | -11.5 | 38.8 | 46.0 | 87.1 | 200 |

Table 6-2-3. EUT: M/T 2366-52U, s/n ZZ-00005, Ch.11(2462MHz) TX mode 11Mbps

| Frequency (MHz) | Polarity (H/V) | Measured (dB μ V) | Antenna Factor (dB/m) | Corr. Factor (dB) | Field Strength (dB μ V/m) | Limit (dB μ V/m) | Field Strength (μ V/m) | Limit (μ V/m) |
|-----------------|----------------|-----------------------|-----------------------|-------------------|-------------------------------|----------------------|-----------------------------|--------------------|
| 58.930 | V | 37.0 | 9.3 | -19.6 | 26.7 | 40.0 | 21.6 | 100 |
| 192.153 | H | 30.6 | 13.4 | -17.7 | 26.3 | 43.5 | 20.7 | 150 |
| 299.710 | H | 29.3 | 14.2 | -14.6 | 28.9 | 46.0 | 27.9 | 200 |
| 364.521 | H | 32.6 | 14.2 | -14.4 | 32.4 | 46.0 | 41.7 | 200 |
| 729.040 | H | 31.4 | 20.6 | -13.7 | 38.3 | 46.0 | 82.2 | 200 |
| 959.951 | V | 27.4 | 23.2 | -11.5 | 39.1 | 46.0 | 90.2 | 200 |

2) EUT in receiving mode

Table 6-2-4. EUT: M/T 2366-52U, s/n ZZ-00005, RX mode

| Frequency (MHz) | Polarity (H/V) | Measured (dB μ V) | Antenna Factor (dB/m) | Corr. Factor (dB) | Field Strength (dB μ V/m) | Limit (dB μ V/m) | Field Strength (μ V/m) | Limit (μ V/m) |
|--------------------|-------------------|--------------------------|--------------------------|----------------------|----------------------------------|-------------------------|--------------------------------|-----------------------|
| 59.220 | V | 38.1 | 9.3 | -19.6 | 27.8 | 40.0 | 24.5 | 100 |
| 190.815 | H | 29.0 | 13.4 | -17.7 | 24.7 | 43.5 | 17.2 | 150 |
| 300.384 | H | 27.7 | 14.3 | -14.6 | 27.4 | 46.0 | 23.4 | 200 |
| 364.520 | H | 33.8 | 14.2 | -14.4 | 33.6 | 46.0 | 47.9 | 200 |
| 729.040 | H | 31.2 | 20.6 | -13.7 | 38.1 | 46.0 | 80.4 | 200 |
| 959.951 | V | 27.5 | 23.2 | -11.5 | 39.2 | 46.0 | 91.2 | 200 |

7. RESTRICTED BANDS RADIATIONS (1GHz – 25GHz)

7.1 Test Procedure

Radiated emissions were measured in the frequency range with 1 GHz to 25GHz in transmitting mode and 1 GHz to 12.5 GHz in receiving mode. All tests were performed in the semi-anechoic chamber at a 3-meter distance (except for the frequency range with 18 GHz to 25 GHz where test distance was reduced to 1 meter) on both horizontal and vertical polarities. The antenna was also scanned in height. The emissions are recorded with a spectrum analyzer in peak hold mode. The identified emissions are further maximized as a function of cable manipulation, azimuth, and antenna height. The emissions closest to the limits are measured in the peak mode with the tuned spectrum analyzer using a bandwidth of 1MHz and the average setting mode with the tuned spectrum analyzer using resolution bandwidth of 1MHz / video bandwidth of 1kHz. The highest emissions relative to the limit are listed.

7.2 Test Instruments and Measurement Setup

Table 7 Radiated Emission Test Instrumentation (1GHz – 25GHz)

| Description | Model | Serial Number |
|---|------------------------|--------------------------|
| Spectrum Analyzer EMI Test Receiver | R&S ESI26 | 836119/003 |
| Amplifier (1-26.5GHz) | HP 8449B | 3008A00582 |
| Horn Antenna (1- 18GHz) | EMCO 3115 | 9903-5774 |
| Horn Antenna (3.95 – 5.85GHz) | EMCO 3160-5 | 1099 |
| Horn Antenna (5.85 – 8.20GHz) | EMCO 3160-6 | 9712-1044 |
| Horn Antenna (18- 26.5GHz) | EMCO 3160-9 | 0004-1202 |
| SF106 cables: - Horn Ant => RF Amp. - RF Amp.<=>Spectrum Analyzer | Length: 6 m 15 m | - EM206SCO - EM215SCO |

Notes: - HP: Hewlett Packard, R&S: Rohde & Schwarz

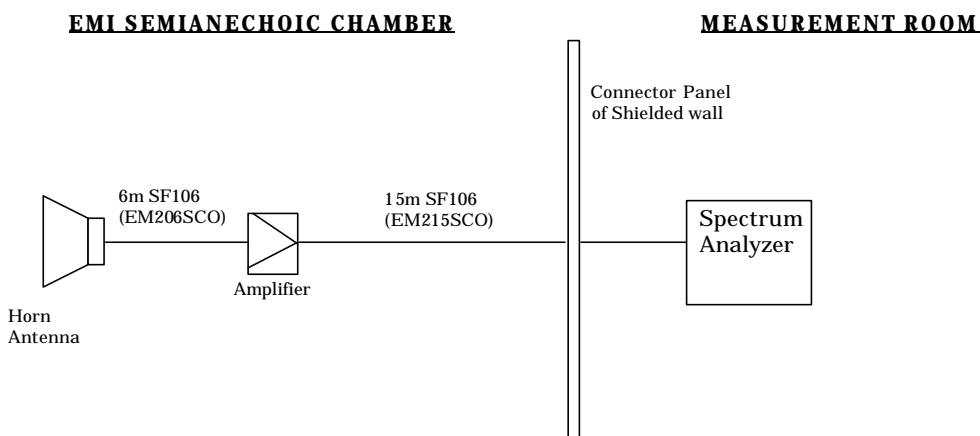


Figure 7 Cables for Radiated Emission Test

7.3 Field Strength Calculation

The field strength is calculated by adding the Antenna Factor and Cable Loss, and subtracting Amplifier Gain from the measured reading. All factors are included in the reported data.

$$FS = R + AF + CORR - FO$$

where:

FS = Field Strength

R = Measured Spectrum analyzer Input Amplitude

AF = Antenna Factor

CORR = Correction Factor = CL-AG

CL = Cable Loss

AG = Amplifier Gain

FO = Distance Falloff Factor

For example:

Given a Spectrum Analyzer input reading of 51.5 dB μ V; Antenna Factor of 8.5 dB/m; Cable Loss of 1.3 dB; Falloff Factor of 0 dB; and an Amplifier Gain of 26 dB. The Field Strength of the measured emission is:

$$FS = 51.5 + 8.5 + 1.3 - 26 - 0.0 = 35.6 \text{ dB}\mu\text{V/m}$$

Conversions between dB μ V/m (or dB μ V) and μ V/m (or μ V) are done as :

$$\text{Level(dB}\mu\text{V/m)} = 20 \times \text{Log}(\text{Level}(\mu\text{V/m}))$$

$$40 \text{ dB}\mu\text{V/m} = 100 \mu\text{V/m}$$

$$48 \text{ dB}\mu\text{V/m} = 250 \mu\text{V/m}$$

7.4 Measurement Results

The EUT was found to comply to the limits of FCC Part 15 Subpart C and RSS-210 with a margin of 3.1 dB. The measurement was done for the frequency range of 1 GHz to 25 GHz in TX mode and 1 GHz to 12.5GHz in RX mode.

Test Date: March 20 and March 25, 2002

1) EUT in transmission mode

Table 7-2-1. EUT: M/T 2366-52U, s/n ZZ-00005, Ch.1(2412MHz) TX mode 11Mbps

| Frequency (GHz) | Polarity (H/V) | Measured (dBµV/m) (<i>peak</i>) | Measured (dBµV/m) (<i>average</i>) | Antenna Factor (dB/m) | Corr Factor (dB) | Falloff Factor (dB) | Field Strength (dBµV/m) (<i>peak</i>) | FCC Limit (dBµV/m) (<i>peak</i>) | Field Strength (dBµV/m) (<i>average</i>) | FCC Limit (dBµV/m) (<i>average</i>) |
|-----------------|----------------|-----------------------------------|--------------------------------------|-----------------------|------------------|---------------------|---|------------------------------------|--|---------------------------------------|
| 1.032 | V | 55.9 | 44.0 | 24.2 | -31.5 | 0.0 | 48.6 | 74.0 | 36.7 | 54.0 |
| 1.093 | V | 56.0 | 46.2 | 24.3 | -31.3 | 0.0 | 49.0 | 74.0 | 39.2 | 54.0 |
| 1.624 | V | 57.5 | - | 25.8 | -30.2 | 0.0 | 53.1 | 74.0 | - | 54.0 |
| 2.398 | H | 79.8 | 73.5 | 28.2 | -28.4 | 0.0 | 79.6 | NRB* | 73.3 | NRB* |
| 2.413 | H | 115.1 | 107.3 | 28.2 | -28.4 | 0.0 | 114.9 | OB* | 107.1 | OB* |
| 4.828 | V | 48.5 | 37.1 | 33.0 | -23.7 | 0.0 | 57.8 | 74.0 | 46.4 | 54.0 |
| 7.238 | V | 40.5 | 30.7 | 35.8 | -24.6 | 0.0 | 51.7 | NRB* | 41.9 | NRB* |
| 7.244 | V | 41.3 | - | 35.9 | -24.8 | 0.0 | 52.4 | NRB* | - | NRB* |
| 18.533 | H | 33.9 | 21.7 | 40.3 | -11.3 | 0.0 | 62.9 | 74.0 | 50.7 | 54.0 |

*Note: OB means “operation band” (2400-2483.5MHz); in this case limit is 1W (measured conducted with power meter).
NRB means “non restricted band”.

Table 7-2-2. EUT: M/T 2366-52U, s/n ZZ-00005, Ch.6(2437MHz) TX mode 11Mbps

| Frequency (GHz) | Polarity (H/V) | Measured (dBµV/m) (<i>peak</i>) | Measured (dBµV/m) (<i>average</i>) | Antenna Factor (dB/m) | Corr Factor (dB) | Falloff Factor (dB) | Field Strength (dBµV/m) (<i>peak</i>) | FCC Limit (dBµV/m) (<i>peak</i>) | Field Strength (dBµV/m) (<i>average</i>) | FCC Limit (dBµV/m) (<i>average</i>) |
|-----------------|----------------|-----------------------------------|--------------------------------------|-----------------------|------------------|---------------------|---|------------------------------------|--|---------------------------------------|
| 1.093 | V | 56.4 | 46.0 | 24.3 | -31.3 | 0.0 | 49.4 | 74.0 | 39.0 | 54.0 |
| 1.630 | H | 57.5 | - | 25.8 | -30.2 | 0.0 | 53.1 | 74.0 | - | 54.0 |
| 2.036 | H | 58.9 | - | 27.5 | -29.5 | 0.0 | 56.9 | NRB* | - | NRB* |
| 2.438 | H | 114.2 | 106.3 | 28.3 | -28.4 | 0.0 | 114.1 | OB* | 106.2 | OB* |
| 4.876 | V | 47.6 | 35.0 | 33.1 | -23.7 | 0.0 | 57.0 | 74.0 | 44.4 | 54.0 |
| 18.547 | V | 33.0 | 21.7 | 40.3 | -11.1 | 0.0 | 62.2 | 74.0 | 50.9 | 54.0 |

*Note: OB means “operation band” (2400-2483.5MHz); in this case limit is 1W (measured conducted with power meter).
NRB means “non restricted band”.

Table 7-2-3. EUT: M/T 2366-52U, s/n ZZ-00163, Ch.11(2462MHz) TX mode 11Mbps

| Frequency (GHz) | Polarity (H/V) | Measured (dBµV/m) (<i>peak</i>) | Measured (dBµV/m) (<i>average</i>) | Antenna Factor (dB/m) | Corr Factor (dB) | Falloff Factor (dB) | Field Strength (dBµV/m) (<i>peak</i>) | FCC Limit (dBµV/m) (<i>peak</i>) | Field Strength (dBµV/m) (<i>average</i>) | FCC Limit (dBµV/m) (<i>average</i>) |
|-----------------|----------------|-----------------------------------|--------------------------------------|-----------------------|------------------|---------------------|---|------------------------------------|--|---------------------------------------|
| 1.093 | V | 55.8 | 46.1 | 24.3 | -31.3 | 0.0 | 48.8 | 74.0 | 39.1 | 54.0 |
| 1.633 | H | 57.3 | - | 25.8 | -30.2 | 0.0 | 52.9 | NRB* | - | NRB* |
| 2.088 | V | 57.5 | 46.6 | 27.6 | -29.3 | 0.0 | 55.8 | NRB* | - | NRB* |
| 2.462 | H | 113.6 | 105.7 | 28.3 | -28.3 | 0.0 | 113.6 | OB* | 105.7 | OB* |
| 2.484 | V | 59.7 | 48.2 | 28.4 | -28.2 | 0.0 | 59.9 | 74.0 | 48.4 | 54.0 |
| 4.926 | H | 46.9 | 35.7 | 33.2 | -23.6 | 0.0 | 56.5 | 74.0 | 45.3 | 54.0 |
| 7.389 | H | 37.3 | 26.1 | 36.2 | -25.0 | 0.0 | 48.5 | 74.0 | 37.3 | 54.0 |
| 7.421 | H | 38.7 | - | 36.2 | -25.1 | 0.0 | 49.8 | 74.0 | - | 54.0 |
| 18.547 | H | 33.8 | 21.5 | 40.3 | -11.1 | 0.0 | 63.0 | 74.0 | 50.7 | 54.0 |

*Note: OB means “operation band” (2400-2483.5MHz); in this case limit is 1W (measured conducted with power meter).
NRB means “non restricted band”.

2) EUT in receiving mode

Table 7-2-4. EUT: M/T 2366-52U, s/n ZZ-00005, RX mode

| Frequency (GHz) | Polarity (H/V) | Measured (dBµV/m) <i>(peak)</i> | Measured (dBµV/m) <i>(average)</i> | Antenna Factor (dB/m) | Corr Factor (dB) | Falloff Factor (dB) | Field Strength (dBµV/m) <i>(peak)</i> | FCC Limit (dBµV/m) <i>(peak)</i> | Field Strength (dBµV/m) <i>(average)</i> | FCC Limit (dBµV/m) <i>(average)</i> |
|--------------------|-------------------|---------------------------------------|--|-----------------------------|------------------------|---------------------------|--|--|---|---|
| 1.032 | V | 56.5 | 43.9 | 24.2 | -31.5 | 0.0 | 49.2 | 74.0 | 36.6 | 54.0 |
| 1.093 | V | 56.2 | 46.4 | 24.3 | -31.3 | 0.0 | 49.2 | 74.0 | 39.4 | 54.0 |
| 1.330 | H | 56.2 | - | 24.9 | -30.9 | 0.0 | 50.2 | 74.0 | - | 54.0 |
| 4.044 | V | 38.7 | 26.7 | 32.5 | -24.3 | 0.0 | 46.9 | 74.0 | 34.9 | 54.0 |
| 7.257 | V | 39.4 | - | 35.9 | -24.8 | 0.0 | 50.5 | 74.0 | - | 54.0 |
| 7.311 | H | 36.9 | 24.7 | 36.0 | -24.8 | 0.0 | 48.1 | 74.0 | 35.9 | 54.0 |