



**APPENDIX E**

***DATA SHEETS***



***RADIATED EMISSIONS***

***DATA SHEETS***

**FCC 15.247**

Thales Navigation

Date: 04/21/05

GPS Receiver

Lab: B

Model: MobileMapper CE

Tested By: Benigno Chavez

Configuration: With Internal Antenna

**X-Axis****Low Channel - 2402 MHz Fundamental****Transmit Mode**

| Freq.<br>(MHz) | Level<br>(dBuV) | Pol (v/h) | Limit | Margin | Peak /<br>QP /<br>Avg | Ant.<br>Height<br>(m) | Table<br>Angle<br>(deg) | Comments     |
|----------------|-----------------|-----------|-------|--------|-----------------------|-----------------------|-------------------------|--------------|
| 4804           |                 | V         | 74    | -74    | Peak                  |                       |                         | No Emissions |
| 4804           |                 | V         | 54    | -54    | Avg                   |                       |                         | Detected     |
| 7206           |                 | V         | 74    | -74    | Peak                  |                       |                         | No Emissions |
| 7206           |                 | V         | 54    | -54    | Avg                   |                       |                         | Detected     |
| 9608           |                 | V         | --    | --     | Peak                  |                       |                         | No Emissions |
| 9608           |                 | V         | --    | --     | Avg                   |                       |                         | Detected     |
| 12010          |                 | V         | 74    | -74    | Peak                  |                       |                         | No Emissions |
| 12010          |                 | V         | 54    | -54    | Avg                   |                       |                         | Detected     |
| 14412          |                 | V         | 74    | -74    | Peak                  |                       |                         | No Emissions |
| 14412          |                 | V         | 54    | -54    | Avg                   |                       |                         | Detected     |
| 16814          |                 | V         | --    | --     | Peak                  |                       |                         | No Emissions |
| 16814          |                 | V         | --    | --     | Avg                   |                       |                         | Detected     |
| 19216          |                 | V         | 74    | -74    | Peak                  |                       |                         | No Emissions |
| 19216          |                 | V         | 54    | -54    | Avg                   |                       |                         | Detected     |
| 21618          |                 | V         | --    | --     | Peak                  |                       |                         | No Emissions |
| 21618          |                 | V         | --    | --     | Avg                   |                       |                         | Detected     |
| 24020          |                 | V         | --    | --     | Peak                  |                       |                         | No Emissions |
| 24020          |                 | V         | --    | --     | Avg                   |                       |                         | Detected     |

**FCC 15.247**

Thales Navigation

Date: 04/21/05

GPS Receiver

Lab: B

Model: MobileMapper CE

Tested By: Benigno Chavez

Configuration: With Internal Antenna

**X-Axis****Low Channel - 2402 MHz Fundamental****Transmit Mode**

| Freq.<br>(MHz) | Level<br>(dBuV) | Pol (v/h) | Limit | Margin | Peak /<br>QP /<br>Avg | Ant.<br>Height<br>(m) | Table<br>Angle<br>(deg) | Comments     |
|----------------|-----------------|-----------|-------|--------|-----------------------|-----------------------|-------------------------|--------------|
| 4804           |                 | H         | 74    | -74    | Peak                  |                       |                         | No Emissions |
| 4804           |                 | H         | 54    | -54    | Avg                   |                       |                         | Detected     |
| 7206           |                 | H         | 74    | -74    | Peak                  |                       |                         | No Emissions |
| 7206           |                 | H         | 54    | -54    | Avg                   |                       |                         | Detected     |
| 9608           |                 | H         | --    | --     | Peak                  |                       |                         | No Emissions |
| 9608           |                 | H         | --    | --     | Avg                   |                       |                         | Detected     |
| 12010          |                 | H         | 74    | -74    | Peak                  |                       |                         | No Emissions |
| 12010          |                 | H         | 54    | -54    | Avg                   |                       |                         | Detected     |
| 14412          |                 | H         | 74    | -74    | Peak                  |                       |                         | No Emissions |
| 14412          |                 | H         | 54    | -54    | Avg                   |                       |                         | Detected     |
| 16814          |                 | H         | --    | --     | Peak                  |                       |                         | No Emissions |
| 16814          |                 | H         | --    | --     | Avg                   |                       |                         | Detected     |
| 19216          |                 | H         | 74    | -74    | Peak                  |                       |                         | No Emissions |
| 19216          |                 | H         | 54    | -54    | Avg                   |                       |                         | Detected     |
| 21618          |                 | H         | --    | --     | Peak                  |                       |                         | No Emissions |
| 21618          |                 | H         | --    | --     | Avg                   |                       |                         | Detected     |
| 24020          |                 | H         | --    | --     | Peak                  |                       |                         | No Emissions |
| 24020          |                 | H         | --    | --     | Avg                   |                       |                         | Detected     |

**FCC 15.247**

Thales Navigation

Date: 04/21/05

GPS Receiver

Lab: B

Model: MobileMapper CE

Tested By: Benigno Chavez

Configuration: With Internal Antenna

**Y-Axis****Low Channel - 2402 MHz Fundamental****Transmit Mode**

| Freq.<br>(MHz) | Level<br>(dBuV) | Pol (v/h) | Limit | Margin | Peak /<br>QP /<br>Avg | Ant.<br>Height<br>(m) | Table<br>Angle<br>(deg) | Comments     |
|----------------|-----------------|-----------|-------|--------|-----------------------|-----------------------|-------------------------|--------------|
| 4804           |                 | V         | 74    | -74    | Peak                  |                       |                         | No Emissions |
| 4804           |                 | V         | 54    | -54    | Avg                   |                       |                         | Detected     |
|                |                 |           |       |        |                       |                       |                         |              |
| 7206           |                 | V         | 74    | -74    | Peak                  |                       |                         | No Emissions |
| 7206           |                 | V         | 54    | -54    | Avg                   |                       |                         | Detected     |
|                |                 |           |       |        |                       |                       |                         |              |
| 9608           |                 | V         | --    | --     | Peak                  |                       |                         | No Emissions |
| 9608           |                 | V         | --    | --     | Avg                   |                       |                         | Detected     |
|                |                 |           |       |        |                       |                       |                         |              |
| 12010          |                 | V         | 74    | -74    | Peak                  |                       |                         | No Emissions |
| 12010          |                 | V         | 54    | -54    | Avg                   |                       |                         | Detected     |
|                |                 |           |       |        |                       |                       |                         |              |
| 14412          |                 | V         | 74    | -74    | Peak                  |                       |                         | No Emissions |
| 14412          |                 | V         | 54    | -54    | Avg                   |                       |                         | Detected     |
|                |                 |           |       |        |                       |                       |                         |              |
| 16814          |                 | V         | --    | --     | Peak                  |                       |                         | No Emissions |
| 16814          |                 | V         | --    | --     | Avg                   |                       |                         | Detected     |
|                |                 |           |       |        |                       |                       |                         |              |
| 19216          |                 | V         | 74    | -74    | Peak                  |                       |                         | No Emissions |
| 19216          |                 | V         | 54    | -54    | Avg                   |                       |                         | Detected     |
|                |                 |           |       |        |                       |                       |                         |              |
| 21618          |                 | V         | --    | --     | Peak                  |                       |                         | No Emissions |
| 21618          |                 | V         | --    | --     | Avg                   |                       |                         | Detected     |
|                |                 |           |       |        |                       |                       |                         |              |
| 24020          |                 | V         | --    | --     | Peak                  |                       |                         | No Emissions |
| 24020          |                 | V         | --    | --     | Avg                   |                       |                         | Detected     |
|                |                 |           |       |        |                       |                       |                         |              |

**FCC 15.247**

Thales Navigation

Date: 04/21/05

GPS Receiver

Lab: B

Model: MobileMapper CE

Tested By: Benigno Chavez

Configuration: With Internal Antenna

**Y-Axis****Low Channel - 2402 MHz Fundamental****Transmit Mode**

| Freq.<br>(MHz) | Level<br>(dBuV) | Pol (v/h) | Limit | Margin | Peak /<br>QP /<br>Avg | Ant.<br>Height<br>(m) | Table<br>Angle<br>(deg) | Comments     |
|----------------|-----------------|-----------|-------|--------|-----------------------|-----------------------|-------------------------|--------------|
| 4804           |                 | H         | 74    | -74    | Peak                  |                       |                         | No Emissions |
| 4804           |                 | H         | 54    | -54    | Avg                   |                       |                         | Detected     |
|                |                 |           |       |        |                       |                       |                         |              |
| 7206           |                 | H         | 74    | -74    | Peak                  |                       |                         | No Emissions |
| 7206           |                 | H         | 54    | -54    | Avg                   |                       |                         | Detected     |
|                |                 |           |       |        |                       |                       |                         |              |
| 9608           |                 | H         | --    | --     | Peak                  |                       |                         | No Emissions |
| 9608           |                 | H         | --    | --     | Avg                   |                       |                         | Detected     |
|                |                 |           |       |        |                       |                       |                         |              |
| 12010          |                 | H         | 74    | -74    | Peak                  |                       |                         | No Emissions |
| 12010          |                 | H         | 54    | -54    | Avg                   |                       |                         | Detected     |
|                |                 |           |       |        |                       |                       |                         |              |
| 14412          |                 | H         | 74    | -74    | Peak                  |                       |                         | No Emissions |
| 14412          |                 | H         | 54    | -54    | Avg                   |                       |                         | Detected     |
|                |                 |           |       |        |                       |                       |                         |              |
| 16814          |                 | H         | --    | --     | Peak                  |                       |                         | No Emissions |
| 16814          |                 | H         | --    | --     | Avg                   |                       |                         | Detected     |
|                |                 |           |       |        |                       |                       |                         |              |
| 19216          |                 | H         | 74    | -74    | Peak                  |                       |                         | No Emissions |
| 19216          |                 | H         | 54    | -54    | Avg                   |                       |                         | Detected     |
|                |                 |           |       |        |                       |                       |                         |              |
| 21618          |                 | H         | --    | --     | Peak                  |                       |                         | No Emissions |
| 21618          |                 | H         | --    | --     | Avg                   |                       |                         | Detected     |
|                |                 |           |       |        |                       |                       |                         |              |
| 24020          |                 | H         | --    | --     | Peak                  |                       |                         | No Emissions |
| 24020          |                 | H         | --    | --     | Avg                   |                       |                         | Detected     |
|                |                 |           |       |        |                       |                       |                         |              |

**FCC 15.247**

Thales Navigation

Date: 04/21/05

GPS Receiver

Lab: B

Model: MobileMapper CE

Tested By: Benigno Chavez

Configuration: With Internal Antenna

**Z-Axis****Low Channel - 2402 MHz Fundamental****Transmit Mode**

| Freq.<br>(MHz) | Level<br>(dBuV) | Pol (v/h) | Limit | Margin | Peak /<br>QP /<br>Avg | Ant.<br>Height<br>(m) | Table<br>Angle<br>(deg) | Comments     |
|----------------|-----------------|-----------|-------|--------|-----------------------|-----------------------|-------------------------|--------------|
| 4804           |                 | V         | 74    | -74    | Peak                  |                       |                         | No Emissions |
| 4804           |                 | V         | 54    | -54    | Avg                   |                       |                         | Detected     |
|                |                 |           |       |        |                       |                       |                         |              |
| 7206           |                 | V         | 74    | -74    | Peak                  |                       |                         | No Emissions |
| 7206           |                 | V         | 54    | -54    | Avg                   |                       |                         | Detected     |
|                |                 |           |       |        |                       |                       |                         |              |
| 9608           |                 | V         | --    | --     | Peak                  |                       |                         | No Emissions |
| 9608           |                 | V         | --    | --     | Avg                   |                       |                         | Detected     |
|                |                 |           |       |        |                       |                       |                         |              |
| 12010          |                 | V         | 74    | -74    | Peak                  |                       |                         | No Emissions |
| 12010          |                 | V         | 54    | -54    | Avg                   |                       |                         | Detected     |
|                |                 |           |       |        |                       |                       |                         |              |
| 14412          |                 | V         | 74    | -74    | Peak                  |                       |                         | No Emissions |
| 14412          |                 | V         | 54    | -54    | Avg                   |                       |                         | Detected     |
|                |                 |           |       |        |                       |                       |                         |              |
| 16814          |                 | V         | --    | --     | Peak                  |                       |                         | No Emissions |
| 16814          |                 | V         | --    | --     | Avg                   |                       |                         | Detected     |
|                |                 |           |       |        |                       |                       |                         |              |
| 19216          |                 | V         | 74    | -74    | Peak                  |                       |                         | No Emissions |
| 19216          |                 | V         | 54    | -54    | Avg                   |                       |                         | Detected     |
|                |                 |           |       |        |                       |                       |                         |              |
| 21618          |                 | V         | --    | --     | Peak                  |                       |                         | No Emissions |
| 21618          |                 | V         | --    | --     | Avg                   |                       |                         | Detected     |
|                |                 |           |       |        |                       |                       |                         |              |
| 24020          |                 | V         | --    | --     | Peak                  |                       |                         | No Emissions |
| 24020          |                 | V         | --    | --     | Avg                   |                       |                         | Detected     |
|                |                 |           |       |        |                       |                       |                         |              |

**FCC 15.247**

Thales Navigation

Date: 04/21/05

GPS Receiver

Lab: B

Model: MobileMapper CE

Tested By: Benigno Chavez

Configuration: With Internal Antenna

**Z-Axis****Low Channel - 2402 MHz Fundamental****Transmit Mode**

| Freq.<br>(MHz) | Level<br>(dBuV) | Pol (v/h) | Limit | Margin | Peak /<br>QP /<br>Avg | Ant.<br>Height<br>(m) | Table<br>Angle<br>(deg) | Comments     |
|----------------|-----------------|-----------|-------|--------|-----------------------|-----------------------|-------------------------|--------------|
| 4804           |                 | H         | 74    | -74    | Peak                  |                       |                         | No Emissions |
| 4804           |                 | H         | 54    | -54    | Avg                   |                       |                         | Detected     |
|                |                 |           |       |        |                       |                       |                         |              |
| 7206           |                 | H         | 74    | -74    | Peak                  |                       |                         | No Emissions |
| 7206           |                 | H         | 54    | -54    | Avg                   |                       |                         | Detected     |
|                |                 |           |       |        |                       |                       |                         |              |
| 9608           |                 | H         | --    | --     | Peak                  |                       |                         | No Emissions |
| 9608           |                 | H         | --    | --     | Avg                   |                       |                         | Detected     |
|                |                 |           |       |        |                       |                       |                         |              |
| 12010          |                 | H         | 74    | -74    | Peak                  |                       |                         | No Emissions |
| 12010          |                 | H         | 54    | -54    | Avg                   |                       |                         | Detected     |
|                |                 |           |       |        |                       |                       |                         |              |
| 14412          |                 | H         | --    | --     | Peak                  |                       |                         | No Emissions |
| 14412          |                 | H         | --    | --     | Avg                   |                       |                         | Detected     |
|                |                 |           |       |        |                       |                       |                         |              |
| 16814          |                 | H         | --    | --     | Peak                  |                       |                         | No Emissions |
| 16814          |                 | H         | --    | --     | Avg                   |                       |                         | Detected     |
|                |                 |           |       |        |                       |                       |                         |              |
| 19216          |                 | H         | 74    | -74    | Peak                  |                       |                         | No Emissions |
| 19216          |                 | H         | 54    | -54    | Avg                   |                       |                         | Detected     |
|                |                 |           |       |        |                       |                       |                         |              |
| 21618          |                 | H         | 74    | -74    | Peak                  |                       |                         | No Emissions |
| 21618          |                 | H         | 54    | -54    | Avg                   |                       |                         | Detected     |
|                |                 |           |       |        |                       |                       |                         |              |
| 24020          |                 | H         | --    | --     | Peak                  |                       |                         | No Emissions |
| 24020          |                 | H         | --    | --     | Avg                   |                       |                         | Detected     |
|                |                 |           |       |        |                       |                       |                         |              |

**FCC 15.247**

Thales Navigation

Date: 04/21/05

GPS Receiver

Lab: B

Model: MobileMapper CE

Tested By: Benigno Chavez

Configuration: With Internal Antenna

**X-Axis****Middle Channel - 2441 MHz Fundamental****Transmit Mode**

| Freq.<br>(MHz) | Level<br>(dBuV) | Pol (v/h) | Limit | Margin | Peak /<br>QP /<br>Avg | Ant.<br>Height<br>(m) | Table<br>Angle<br>(deg) | Comments     |
|----------------|-----------------|-----------|-------|--------|-----------------------|-----------------------|-------------------------|--------------|
| 4882           |                 | V         | 74    | -74    | Peak                  |                       |                         | No Emissions |
| 4882           |                 | V         | 54    | -54    | Avg                   |                       |                         | Detected     |
|                |                 |           |       |        |                       |                       |                         |              |
| 7323           |                 | V         | 74    | -74    | Peak                  |                       |                         | No Emissions |
| 7323           |                 | V         | 54    | -54    | Avg                   |                       |                         | Detected     |
|                |                 |           |       |        |                       |                       |                         |              |
| 9764           |                 | V         | --    | --     | Peak                  |                       |                         | No Emissions |
| 9764           |                 | V         | --    | --     | Avg                   |                       |                         | Detected     |
|                |                 |           |       |        |                       |                       |                         |              |
| 12205          |                 | V         | 74    | -74    | Peak                  |                       |                         | No Emissions |
| 12205          |                 | V         | 54    | -54    | Avg                   |                       |                         | Detected     |
|                |                 |           |       |        |                       |                       |                         |              |
| 14646          |                 | V         | --    | --     | Peak                  |                       |                         | No Emissions |
| 14646          |                 | V         | --    | --     | Avg                   |                       |                         | Detected     |
|                |                 |           |       |        |                       |                       |                         |              |
| 17087          |                 | V         | --    | --     | Peak                  |                       |                         | No Emissions |
| 17087          |                 | V         | --    | --     | Avg                   |                       |                         | Detected     |
|                |                 |           |       |        |                       |                       |                         |              |
| 19528          |                 | V         | 74    | -74    | Peak                  |                       |                         | No Emissions |
| 19528          |                 | V         | 54    | -54    | Avg                   |                       |                         | Detected     |
|                |                 |           |       |        |                       |                       |                         |              |
| 21969          |                 | V         | --    | --     | Peak                  |                       |                         | No Emissions |
| 21969          |                 | V         | --    | --     | Avg                   |                       |                         | Detected     |
|                |                 |           |       |        |                       |                       |                         |              |
| 24410          |                 | V         | --    | --     | Peak                  |                       |                         | No Emissions |
| 24410          |                 | V         | --    | --     | Avg                   |                       |                         | Detected     |
|                |                 |           |       |        |                       |                       |                         |              |

**FCC 15.247**

Thales Navigation

Date: 04/21/05

GPS Receiver

Lab: B

Model: MobileMapper CE

Tested By: Benigno Chavez

Configuration: With Internal Antenna

**Y-Axis****Middle Channel - 2441 MHz Fundamental****Transmit Mode**

| Freq.<br>(MHz) | Level<br>(dBuV) | Pol (v/h) | Limit | Margin | Peak /<br>QP /<br>Avg | Ant.<br>Height<br>(m) | Table<br>Angle<br>(deg) | Comments     |
|----------------|-----------------|-----------|-------|--------|-----------------------|-----------------------|-------------------------|--------------|
| 4882           |                 | V         | 74    | -74    | Peak                  |                       |                         | No Emissions |
| 4882           |                 | V         | 54    | -54    | Avg                   |                       |                         | Detected     |
|                |                 |           |       |        |                       |                       |                         |              |
| 7323           |                 | V         | 74    | -74    | Peak                  |                       |                         | No Emissions |
| 7323           |                 | V         | 54    | -54    | Avg                   |                       |                         | Detected     |
|                |                 |           |       |        |                       |                       |                         |              |
| 9764           |                 | V         | --    | --     | Peak                  |                       |                         | No Emissions |
| 9764           |                 | V         | --    | --     | Avg                   |                       |                         | Detected     |
|                |                 |           |       |        |                       |                       |                         |              |
| 12205          |                 | V         | 74    | -74    | Peak                  |                       |                         | No Emissions |
| 12205          |                 | V         | 54    | -54    | Avg                   |                       |                         | Detected     |
|                |                 |           |       |        |                       |                       |                         |              |
| 14646          |                 | V         | --    | --     | Peak                  |                       |                         | No Emissions |
| 14646          |                 | V         | --    | --     | Avg                   |                       |                         | Detected     |
|                |                 |           |       |        |                       |                       |                         |              |
| 17087          |                 | V         | --    | --     | Peak                  |                       |                         | No Emissions |
| 17087          |                 | V         | --    | --     | Avg                   |                       |                         | Detected     |
|                |                 |           |       |        |                       |                       |                         |              |
| 19528          |                 | V         | 74    | -74    | Peak                  |                       |                         | No Emissions |
| 19528          |                 | V         | 54    | -54    | Avg                   |                       |                         | Detected     |
|                |                 |           |       |        |                       |                       |                         |              |
| 21969          |                 | V         | --    | --     | Peak                  |                       |                         | No Emissions |
| 21969          |                 | V         | --    | --     | Avg                   |                       |                         | Detected     |
|                |                 |           |       |        |                       |                       |                         |              |
| 24410          |                 | V         | --    | --     | Peak                  |                       |                         | No Emissions |
| 24410          |                 | V         | --    | --     | Avg                   |                       |                         | Detected     |
|                |                 |           |       |        |                       |                       |                         |              |

**FCC 15.247**

Thales Navigation

Date: 04/21/05

GPS Receiver

Lab: B

Model: MobileMapper CE

Tested By: Benigno Chavez

Configuration: With Internal Antenna

**X-Axis****Middle Channel - 2441 MHz Fundamental****Transmit Mode**

| Freq.<br>(MHz) | Level<br>(dBuV) | Pol (v/h) | Limit | Margin | Peak /<br>QP /<br>Avg | Ant.<br>Height<br>(m) | Table<br>Angle<br>(deg) | Comments     |
|----------------|-----------------|-----------|-------|--------|-----------------------|-----------------------|-------------------------|--------------|
| 4882           |                 | H         | 74    | -74    | Peak                  |                       |                         | No Emissions |
| 4882           |                 | H         | 54    | -54    | Avg                   |                       |                         | Detected     |
|                |                 |           |       |        |                       |                       |                         |              |
| 7323           |                 | H         | 74    | -74    | Peak                  |                       |                         | No Emissions |
| 7323           |                 | H         | 54    | -54    | Avg                   |                       |                         | Detected     |
|                |                 |           |       |        |                       |                       |                         |              |
| 9764           |                 | H         | --    | --     | Peak                  |                       |                         | No Emissions |
| 9764           |                 | H         | --    | --     | Avg                   |                       |                         | Detected     |
|                |                 |           |       |        |                       |                       |                         |              |
| 12205          |                 | H         | 74    | -74    | Peak                  |                       |                         | No Emissions |
| 12205          |                 | H         | 54    | -54    | Avg                   |                       |                         | Detected     |
|                |                 |           |       |        |                       |                       |                         |              |
| 14646          |                 | H         | --    | --     | Peak                  |                       |                         | No Emissions |
| 14646          |                 | H         | --    | --     | Avg                   |                       |                         | Detected     |
|                |                 |           |       |        |                       |                       |                         |              |
| 17087          |                 | H         | --    | --     | Peak                  |                       |                         | No Emissions |
| 17087          |                 | H         | --    | --     | Avg                   |                       |                         | Detected     |
|                |                 |           |       |        |                       |                       |                         |              |
| 19528          |                 | H         | 74    | -74    | Peak                  |                       |                         | No Emissions |
| 19528          |                 | H         | 54    | -54    | Avg                   |                       |                         | Detected     |
|                |                 |           |       |        |                       |                       |                         |              |
| 21969          |                 | H         | --    | --     | Peak                  |                       |                         | No Emissions |
| 21969          |                 | H         | --    | --     | Avg                   |                       |                         | Detected     |
|                |                 |           |       |        |                       |                       |                         |              |
| 24410          |                 | H         | --    | --     | Peak                  |                       |                         | No Emissions |
| 24410          |                 | H         | --    | --     | Avg                   |                       |                         | Detected     |
|                |                 |           |       |        |                       |                       |                         |              |

**FCC 15.247**

Thales Navigation

Date: 04/21/05

GPS Receiver

Lab: B

Model: MobileMapper CE

Tested By: Benigno Chavez

Configuration: With Internal Antenna

**Y-Axis****Middle Channel - 2441 MHz Fundamental****Transmit Mode**

| Freq.<br>(MHz) | Level<br>(dBuV) | Pol (v/h) | Limit | Margin | Peak /<br>QP /<br>Avg | Ant.<br>Height<br>(m) | Table<br>Angle<br>(deg) | Comments     |
|----------------|-----------------|-----------|-------|--------|-----------------------|-----------------------|-------------------------|--------------|
| 4882           |                 | H         | 74    | -74    | Peak                  |                       |                         | No Emissions |
| 4882           |                 | H         | 54    | -54    | Avg                   |                       |                         | Detected     |
|                |                 |           |       |        |                       |                       |                         |              |
| 7323           |                 | H         | 74    | -74    | Peak                  |                       |                         | No Emissions |
| 7323           |                 | H         | 54    | -54    | Avg                   |                       |                         | Detected     |
|                |                 |           |       |        |                       |                       |                         |              |
| 9764           |                 | H         | --    | --     | Peak                  |                       |                         | No Emissions |
| 9764           |                 | H         | --    | --     | Avg                   |                       |                         | Detected     |
|                |                 |           |       |        |                       |                       |                         |              |
| 12205          |                 | H         | 74    | -74    | Peak                  |                       |                         | No Emissions |
| 12205          |                 | H         | 54    | -54    | Avg                   |                       |                         | Detected     |
|                |                 |           |       |        |                       |                       |                         |              |
| 14646          |                 | H         | --    | --     | Peak                  |                       |                         | No Emissions |
| 14646          |                 | H         | --    | --     | Avg                   |                       |                         | Detected     |
|                |                 |           |       |        |                       |                       |                         |              |
| 17087          |                 | H         | --    | --     | Peak                  |                       |                         | No Emissions |
| 17087          |                 | H         | --    | --     | Avg                   |                       |                         | Detected     |
|                |                 |           |       |        |                       |                       |                         |              |
| 19528          |                 | H         | 74    | -74    | Peak                  |                       |                         | No Emissions |
| 19528          |                 | H         | 54    | -54    | Avg                   |                       |                         | Detected     |
|                |                 |           |       |        |                       |                       |                         |              |
| 21969          |                 | H         | --    | --     | Peak                  |                       |                         | No Emissions |
| 21969          |                 | H         | --    | --     | Avg                   |                       |                         | Detected     |
|                |                 |           |       |        |                       |                       |                         |              |
| 24410          |                 | H         | --    | --     | Peak                  |                       |                         | No Emissions |
| 24410          |                 | H         | --    | --     | Avg                   |                       |                         | Detected     |
|                |                 |           |       |        |                       |                       |                         |              |

**FCC 15.247**

Thales Navigation

Date: 04/21/05

GPS Receiver

Lab: B

Model: MobileMapper CE

Tested By: Benigno Chavez

Configuration: With Internal Antenna

**Z-Axis****Middle Channel - 2441 MHz Fundamental****Transmit Mode**

| Freq.<br>(MHz) | Level<br>(dBuV) | Pol (v/h) | Limit | Margin | Peak /<br>QP /<br>Avg | Ant.<br>Height<br>(m) | Table<br>Angle<br>(deg) | Comments     |
|----------------|-----------------|-----------|-------|--------|-----------------------|-----------------------|-------------------------|--------------|
| 4882           |                 | V         | 74    | -74    | Peak                  |                       |                         | No Emissions |
| 4882           |                 | V         | 54    | -54    | Avg                   |                       |                         | Detected     |
|                |                 |           |       |        |                       |                       |                         |              |
| 7323           |                 | V         | 74    | -74    | Peak                  |                       |                         | No Emissions |
| 7323           |                 | V         | 54    | -54    | Avg                   |                       |                         | Detected     |
|                |                 |           |       |        |                       |                       |                         |              |
| 9764           |                 | V         | --    | --     | Peak                  |                       |                         | No Emissions |
| 9764           |                 | V         | --    | --     | Avg                   |                       |                         | Detected     |
|                |                 |           |       |        |                       |                       |                         |              |
| 12205          |                 | V         | 74    | -74    | Peak                  |                       |                         | No Emissions |
| 12205          |                 | V         | 54    | -54    | Avg                   |                       |                         | Detected     |
|                |                 |           |       |        |                       |                       |                         |              |
| 14646          |                 | V         | --    | --     | Peak                  |                       |                         | No Emissions |
| 14646          |                 | V         | --    | --     | Avg                   |                       |                         | Detected     |
|                |                 |           |       |        |                       |                       |                         |              |
| 17087          |                 | V         | --    | --     | Peak                  |                       |                         | No Emissions |
| 17087          |                 | V         | --    | --     | Avg                   |                       |                         | Detected     |
|                |                 |           |       |        |                       |                       |                         |              |
| 19528          |                 | V         | 74    | -74    | Peak                  |                       |                         | No Emissions |
| 19528          |                 | V         | 54    | -54    | Avg                   |                       |                         | Detected     |
|                |                 |           |       |        |                       |                       |                         |              |
| 21969          |                 | V         | --    | --     | Peak                  |                       |                         | No Emissions |
| 21969          |                 | V         | --    | --     | Avg                   |                       |                         | Detected     |
|                |                 |           |       |        |                       |                       |                         |              |
| 24410          |                 | V         | --    | --     | Peak                  |                       |                         | No Emissions |
| 24410          |                 | V         | --    | --     | Avg                   |                       |                         | Detected     |
|                |                 |           |       |        |                       |                       |                         |              |

**FCC 15.247**

Thales Navigation

Date: 04/21/05

GPS Receiver

Lab: B

Model: MobileMapper CE

Tested By: Benigno Chavez

Configuration: With Internal Antenna

**Z-Axis****Middle Channel - 2441 MHz Fundamental****Transmit Mode**

| Freq.<br>(MHz) | Level<br>(dBuV) | Pol (v/h) | Limit | Margin | Peak /<br>QP /<br>Avg | Ant.<br>Height<br>(m) | Table<br>Angle<br>(deg) | Comments     |
|----------------|-----------------|-----------|-------|--------|-----------------------|-----------------------|-------------------------|--------------|
| 4882           |                 | H         | 74    | -74    | Peak                  |                       |                         | No Emissions |
| 4882           |                 | H         | 54    | -54    | Avg                   |                       |                         | Detected     |
|                |                 |           |       |        |                       |                       |                         |              |
| 7323           |                 | H         | 74    | -74    | Peak                  |                       |                         | No Emissions |
| 7323           |                 | H         | 54    | -54    | Avg                   |                       |                         | Detected     |
|                |                 |           |       |        |                       |                       |                         |              |
| 9764           |                 | H         | --    | --     | Peak                  |                       |                         | No Emissions |
| 9764           |                 | H         | --    | --     | Avg                   |                       |                         | Detected     |
|                |                 |           |       |        |                       |                       |                         |              |
| 12205          |                 | H         | 74    | -74    | Peak                  |                       |                         | No Emissions |
| 12205          |                 | H         | 54    | -54    | Avg                   |                       |                         | Detected     |
|                |                 |           |       |        |                       |                       |                         |              |
| 14646          |                 | H         | --    | --     | Peak                  |                       |                         | No Emissions |
| 14646          |                 | H         | --    | --     | Avg                   |                       |                         | Detected     |
|                |                 |           |       |        |                       |                       |                         |              |
| 17087          |                 | H         | --    | --     | Peak                  |                       |                         | No Emissions |
| 17087          |                 | H         | --    | --     | Avg                   |                       |                         | Detected     |
|                |                 |           |       |        |                       |                       |                         |              |
| 19528          |                 | H         | 74    | -74    | Peak                  |                       |                         | No Emissions |
| 19528          |                 | H         | 54    | -54    | Avg                   |                       |                         | Detected     |
|                |                 |           |       |        |                       |                       |                         |              |
| 21969          |                 | H         | --    | --     | Peak                  |                       |                         | No Emissions |
| 21969          |                 | H         | --    | --     | Avg                   |                       |                         | Detected     |
|                |                 |           |       |        |                       |                       |                         |              |
| 24410          |                 | H         | --    | --     | Peak                  |                       |                         | No Emissions |
| 24410          |                 | H         | --    | --     | Avg                   |                       |                         | Detected     |
|                |                 |           |       |        |                       |                       |                         |              |

**FCC 15.247**

Thales Navigation

Date: 04/21/05

GPS Receiver

Lab: B

Model: MobileMapper CE

Tested By: Benigno Chavez

Configuration: With Internal Antenna

**X-Axis****High Channel - 2480 MHz Fundamental****Transmit Mode**

| Freq.<br>(MHz) | Level<br>(dBuV) | Pol (v/h) | Limit | Margin | Peak /<br>QP /<br>Avg | Ant.<br>Height<br>(m) | Table<br>Angle<br>(deg) | Comments     |
|----------------|-----------------|-----------|-------|--------|-----------------------|-----------------------|-------------------------|--------------|
| 4960           |                 | V         | 74    | -74    | Peak                  |                       |                         | No Emissions |
| 4960           |                 | V         | 54    | -54    | Avg                   |                       |                         | Detected     |
|                |                 |           |       |        |                       |                       |                         |              |
| 7440           |                 | V         | 74    | -74    | Peak                  |                       |                         | No Emissions |
| 7440           |                 | V         | 54    | -54    | Avg                   |                       |                         | Detected     |
|                |                 |           |       |        |                       |                       |                         |              |
| 9920           |                 | V         | --    | --     | Peak                  |                       |                         | No Emissions |
| 9920           |                 | V         | --    | --     | Avg                   |                       |                         | Detected     |
|                |                 |           |       |        |                       |                       |                         |              |
| 12400          |                 | V         | 74    | -74    | Peak                  |                       |                         | No Emissions |
| 12400          |                 | V         | 54    | -54    | Avg                   |                       |                         | Detected     |
|                |                 |           |       |        |                       |                       |                         |              |
| 14880          |                 | V         | --    | --     | Peak                  |                       |                         | No Emissions |
| 14880          |                 | V         | --    | --     | Avg                   |                       |                         | Detected     |
|                |                 |           |       |        |                       |                       |                         |              |
| 17360          |                 | V         | --    | --     | Peak                  |                       |                         | No Emissions |
| 17360          |                 | V         | --    | --     | Avg                   |                       |                         | Detected     |
|                |                 |           |       |        |                       |                       |                         |              |
| 19840          |                 | V         | 74    | -74    | Peak                  |                       |                         | No Emissions |
| 19840          |                 | V         | 54    | -54    | Avg                   |                       |                         | Detected     |
|                |                 |           |       |        |                       |                       |                         |              |
| 22320          |                 | V         | 74    | -74    | Peak                  |                       |                         | No Emissions |
| 22320          |                 | V         | 54    | -54    | Avg                   |                       |                         | Detected     |
|                |                 |           |       |        |                       |                       |                         |              |
| 24410          |                 | H         | --    | --     | Peak                  |                       |                         | No Emissions |
| 24410          |                 | H         | --    | --     | Avg                   |                       |                         | Detected     |
|                |                 |           |       |        |                       |                       |                         |              |

**FCC 15.247**

Thales Navigation

Date: 04/21/05

GPS Receiver

Lab: B

Model: MobileMapper CE

Tested By: Benigno Chavez

Configuration: With Internal Antenna

**X-Axis****High Channel - 2480 MHz Fundamental****Transmit Mode**

| Freq.<br>(MHz) | Level<br>(dBuV) | Pol (v/h) | Limit | Margin | Peak /<br>QP /<br>Avg | Ant.<br>Height<br>(m) | Table<br>Angle<br>(deg) | Comments     |
|----------------|-----------------|-----------|-------|--------|-----------------------|-----------------------|-------------------------|--------------|
| 4960           |                 | H         | 74    | -74    | Peak                  |                       |                         | No Emissions |
| 4960           |                 | H         | 54    | -54    | Avg                   |                       |                         | Detected     |
|                |                 |           |       |        |                       |                       |                         |              |
| 7440           |                 | H         | 74    | -74    | Peak                  |                       |                         | No Emissions |
| 7440           |                 | H         | 54    | -54    | Avg                   |                       |                         | Detected     |
|                |                 |           |       |        |                       |                       |                         |              |
| 9920           |                 | H         | --    | --     | Peak                  |                       |                         | No Emissions |
| 9920           |                 | H         | --    | --     | Avg                   |                       |                         | Detected     |
|                |                 |           |       |        |                       |                       |                         |              |
| 12400          |                 | H         | 74    | -74    | Peak                  |                       |                         | No Emissions |
| 12400          |                 | H         | 54    | -54    | Avg                   |                       |                         | Detected     |
|                |                 |           |       |        |                       |                       |                         |              |
| 14880          |                 | H         | --    | --     | Peak                  |                       |                         | No Emissions |
| 14880          |                 | H         | --    | --     | Avg                   |                       |                         | Detected     |
|                |                 |           |       |        |                       |                       |                         |              |
| 17360          |                 | H         | --    | --     | Peak                  |                       |                         | No Emissions |
| 17360          |                 | H         | --    | --     | Avg                   |                       |                         | Detected     |
|                |                 |           |       |        |                       |                       |                         |              |
| 19840          |                 | H         | 74    | -74    | Peak                  |                       |                         | No Emissions |
| 19840          |                 | H         | 54    | -54    | Avg                   |                       |                         | Detected     |
|                |                 |           |       |        |                       |                       |                         |              |
| 22320          |                 | H         | 74    | -74    | Peak                  |                       |                         | No Emissions |
| 22320          |                 | H         | 54    | -54    | Avg                   |                       |                         | Detected     |
|                |                 |           |       |        |                       |                       |                         |              |
| 24410          |                 | H         | --    | --     | Peak                  |                       |                         | No Emissions |
| 24410          |                 | H         | --    | --     | Avg                   |                       |                         | Detected     |
|                |                 |           |       |        |                       |                       |                         |              |

**FCC 15.247**

Thales Navigation

Date: 04/21/05

GPS Receiver

Lab: B

Model: MobileMapper CE

Tested By: Benigno Chavez

Configuration: With Internal Antenna

**Y-Axis****High Channel - 2480 MHz Fundamental****Transmit Mode**

| Freq.<br>(MHz) | Level<br>(dBuV) | Pol (v/h) | Limit | Margin | Peak /<br>QP /<br>Avg | Ant.<br>Height<br>(m) | Table<br>Angle<br>(deg) | Comments     |
|----------------|-----------------|-----------|-------|--------|-----------------------|-----------------------|-------------------------|--------------|
| 4960           |                 | V         | 74    | -74    | Peak                  |                       |                         | No Emissions |
| 4960           |                 | V         | 54    | -54    | Avg                   |                       |                         | Detected     |
|                |                 |           |       |        |                       |                       |                         |              |
| 7440           |                 | V         | 74    | -74    | Peak                  |                       |                         | No Emissions |
| 7440           |                 | V         | 54    | -54    | Avg                   |                       |                         | Detected     |
|                |                 |           |       |        |                       |                       |                         |              |
| 9920           |                 | V         | --    | --     | Peak                  |                       |                         | No Emissions |
| 9920           |                 | V         | --    | --     | Avg                   |                       |                         | Detected     |
|                |                 |           |       |        |                       |                       |                         |              |
| 12400          |                 | V         | 74    | -74    | Peak                  |                       |                         | No Emissions |
| 12400          |                 | V         | 54    | -54    | Avg                   |                       |                         | Detected     |
|                |                 |           |       |        |                       |                       |                         |              |
| 14880          |                 | V         | --    | --     | Peak                  |                       |                         | No Emissions |
| 14880          |                 | V         | --    | --     | Avg                   |                       |                         | Detected     |
|                |                 |           |       |        |                       |                       |                         |              |
| 17360          |                 | V         | --    | --     | Peak                  |                       |                         | No Emissions |
| 17360          |                 | V         | --    | --     | Avg                   |                       |                         | Detected     |
|                |                 |           |       |        |                       |                       |                         |              |
| 19840          |                 | V         | 74    | -74    | Peak                  |                       |                         | No Emissions |
| 19840          |                 | V         | 54    | -54    | Avg                   |                       |                         | Detected     |
|                |                 |           |       |        |                       |                       |                         |              |
| 22320          |                 | V         | 74    | -74    | Peak                  |                       |                         | No Emissions |
| 22320          |                 | V         | 54    | -54    | Avg                   |                       |                         | Detected     |
|                |                 |           |       |        |                       |                       |                         |              |
| 24410          |                 | H         | --    | --     | Peak                  |                       |                         | No Emissions |
| 24410          |                 | H         | --    | --     | Avg                   |                       |                         | Detected     |
|                |                 |           |       |        |                       |                       |                         |              |

**FCC 15.247**

Thales Navigation

Date: 04/21/05

GPS Receiver

Lab: B

Model: MobileMapper CE

Tested By: Benigno Chavez

Configuration: With Internal Antenna

**Y-Axis****High Channel - 2480 MHz Fundamental****Transmit Mode**

| Freq.<br>(MHz) | Level<br>(dBuV) | Pol (v/h) | Limit | Margin | Peak /<br>QP /<br>Avg | Ant.<br>Height<br>(m) | Table<br>Angle<br>(deg) | Comments     |
|----------------|-----------------|-----------|-------|--------|-----------------------|-----------------------|-------------------------|--------------|
| 4960           |                 | H         | 74    | -74    | Peak                  |                       |                         | No Emissions |
| 4960           |                 | H         | 54    | -54    | Avg                   |                       |                         | Detected     |
|                |                 |           |       |        |                       |                       |                         |              |
| 7440           |                 | H         | 74    | -74    | Peak                  |                       |                         | No Emissions |
| 7440           |                 | H         | 54    | -54    | Avg                   |                       |                         | Detected     |
|                |                 |           |       |        |                       |                       |                         |              |
| 9920           |                 | H         | --    | --     | Peak                  |                       |                         | No Emissions |
| 9920           |                 | H         | --    | --     | Avg                   |                       |                         | Detected     |
|                |                 |           |       |        |                       |                       |                         |              |
| 12400          |                 | H         | 74    | -74    | Peak                  |                       |                         | No Emissions |
| 12400          |                 | H         | 54    | -54    | Avg                   |                       |                         | Detected     |
|                |                 |           |       |        |                       |                       |                         |              |
| 14880          |                 | H         | --    | --     | Peak                  |                       |                         | No Emissions |
| 14880          |                 | H         | --    | --     | Avg                   |                       |                         | Detected     |
|                |                 |           |       |        |                       |                       |                         |              |
| 17360          |                 | H         | --    | --     | Peak                  |                       |                         | No Emissions |
| 17360          |                 | H         | --    | --     | Avg                   |                       |                         | Detected     |
|                |                 |           |       |        |                       |                       |                         |              |
| 19840          |                 | H         | 74    | -74    | Peak                  |                       |                         | No Emissions |
| 19840          |                 | H         | 54    | -54    | Avg                   |                       |                         | Detected     |
|                |                 |           |       |        |                       |                       |                         |              |
| 22320          |                 | H         | 74    | -74    | Peak                  |                       |                         | No Emissions |
| 22320          |                 | H         | 54    | -54    | Avg                   |                       |                         | Detected     |
|                |                 |           |       |        |                       |                       |                         |              |
| 24410          |                 | H         | --    | --     | Peak                  |                       |                         | No Emissions |
| 24410          |                 | H         | --    | --     | Avg                   |                       |                         | Detected     |
|                |                 |           |       |        |                       |                       |                         |              |

**FCC 15.247**

Thales Navigation

Date: 04/21/05

GPS Receiver

Lab: B

Model: MobileMapper CE

Tested By: Benigno Chavez

Configuration: With Internal Antenna

**Z-Axis****High Channel - 2480 MHz Fundamental****Transmit Mode**

| Freq.<br>(MHz) | Level<br>(dBuV) | Pol (v/h) | Limit | Margin | Peak /<br>QP /<br>Avg | Ant.<br>Height<br>(m) | Table<br>Angle<br>(deg) | Comments     |
|----------------|-----------------|-----------|-------|--------|-----------------------|-----------------------|-------------------------|--------------|
| 4960           |                 | V         | 74    | -74    | Peak                  |                       |                         | No Emissions |
| 4960           |                 | V         | 54    | -54    | Avg                   |                       |                         | Detected     |
|                |                 |           |       |        |                       |                       |                         |              |
| 7440           |                 | V         | 74    | -74    | Peak                  |                       |                         | No Emissions |
| 7440           |                 | V         | 54    | -54    | Avg                   |                       |                         | Detected     |
|                |                 |           |       |        |                       |                       |                         |              |
| 9920           |                 | V         | --    | --     | Peak                  |                       |                         | No Emissions |
| 9920           |                 | V         | --    | --     | Avg                   |                       |                         | Detected     |
|                |                 |           |       |        |                       |                       |                         |              |
| 12400          |                 | V         | 74    | -74    | Peak                  |                       |                         | No Emissions |
| 12400          |                 | V         | 54    | -54    | Avg                   |                       |                         | Detected     |
|                |                 |           |       |        |                       |                       |                         |              |
| 14880          |                 | V         | --    | --     | Peak                  |                       |                         | No Emissions |
| 14880          |                 | V         | --    | --     | Avg                   |                       |                         | Detected     |
|                |                 |           |       |        |                       |                       |                         |              |
| 17360          |                 | V         | --    | --     | Peak                  |                       |                         | No Emissions |
| 17360          |                 | V         | --    | --     | Avg                   |                       |                         | Detected     |
|                |                 |           |       |        |                       |                       |                         |              |
| 19840          |                 | V         | 74    | -74    | Peak                  |                       |                         | No Emissions |
| 19840          |                 | V         | 54    | -54    | Avg                   |                       |                         | Detected     |
|                |                 |           |       |        |                       |                       |                         |              |
| 22320          |                 | V         | 74    | -74    | Peak                  |                       |                         | No Emissions |
| 22320          |                 | V         | 54    | -54    | Avg                   |                       |                         | Detected     |
|                |                 |           |       |        |                       |                       |                         |              |
| 24410          |                 | H         | --    | --     | Peak                  |                       |                         | No Emissions |
| 24410          |                 | H         | --    | --     | Avg                   |                       |                         | Detected     |
|                |                 |           |       |        |                       |                       |                         |              |

**FCC 15.247**

Thales Navigation

Date: 04/21/05

GPS Receiver

Lab: B

Model: MobileMapper CE

Tested By: Benigno Chavez

Configuration: With Internal Antenna

**Z-Axis****High Channel - 2480 MHz Fundamental****Transmit Mode**

| Freq.<br>(MHz) | Level<br>(dBuV) | Pol (v/h) | Limit | Margin | Peak /<br>QP /<br>Avg | Ant.<br>Height<br>(m) | Table<br>Angle<br>(deg) | Comments     |
|----------------|-----------------|-----------|-------|--------|-----------------------|-----------------------|-------------------------|--------------|
| 4960           |                 | H         | 74    | -74    | Peak                  |                       |                         | No Emissions |
| 4960           |                 | H         | 54    | -54    | Avg                   |                       |                         | Detected     |
|                |                 |           |       |        |                       |                       |                         |              |
| 7440           |                 | H         | 74    | -74    | Peak                  |                       |                         | No Emissions |
| 7440           |                 | H         | 54    | -54    | Avg                   |                       |                         | Detected     |
|                |                 |           |       |        |                       |                       |                         |              |
| 9920           |                 | H         | --    | --     | Peak                  |                       |                         | No Emissions |
| 9920           |                 | H         | --    | --     | Avg                   |                       |                         | Detected     |
|                |                 |           |       |        |                       |                       |                         |              |
| 12400          |                 | H         | 74    | -74    | Peak                  |                       |                         | No Emissions |
| 12400          |                 | H         | 54    | -54    | Avg                   |                       |                         | Detected     |
|                |                 |           |       |        |                       |                       |                         |              |
| 14880          |                 | H         | --    | --     | Peak                  |                       |                         | No Emissions |
| 14880          |                 | H         | --    | --     | Avg                   |                       |                         | Detected     |
|                |                 |           |       |        |                       |                       |                         |              |
| 17360          |                 | H         | --    | --     | Peak                  |                       |                         | No Emissions |
| 17360          |                 | H         | --    | --     | Avg                   |                       |                         | Detected     |
|                |                 |           |       |        |                       |                       |                         |              |
| 19840          |                 | H         | 74    | -74    | Peak                  |                       |                         | No Emissions |
| 19840          |                 | H         | 54    | -54    | Avg                   |                       |                         | Detected     |
|                |                 |           |       |        |                       |                       |                         |              |
| 22320          |                 | H         | 74    | -74    | Peak                  |                       |                         | No Emissions |
| 22320          |                 | H         | 54    | -54    | Avg                   |                       |                         | Detected     |
|                |                 |           |       |        |                       |                       |                         |              |
| 24410          |                 | H         | --    | --     | Peak                  |                       |                         | No Emissions |
| 24410          |                 | H         | --    | --     | Avg                   |                       |                         | Detected     |
|                |                 |           |       |        |                       |                       |                         |              |

**FCC 15.247**

Thales Navigation

Date: 04/21/05

GPS Receiver

Lab: B

Model: MobileMapper CE

Tested By: Benigno Chavez

Configuration: With Internal Antenna

**Receive Mode for the GPS Portion****Note: The EUT had no emissions from the Receiver of the Bluetooth Portion**

| Freq.<br>(MHz) | Level<br>(dBuV) | Pol (v/h) | Limit | Margin | Peak /<br>QP /<br>Avg | Ant.<br>Height<br>(m) | Table<br>Angle<br>(deg) | Comments |
|----------------|-----------------|-----------|-------|--------|-----------------------|-----------------------|-------------------------|----------|
| 1404.8         | 34.13           | H         | 80    | -45.87 | Peak                  | 1.62                  | 180                     |          |
| 1404.8         | 22.75           | H         | 60    | -37.25 | Avg                   | 1.62                  | 180                     |          |
|                |                 |           |       |        |                       |                       |                         |          |
| 2809.8         | 37.65           | H         | 80    | -42.35 | Peak                  | 2.28                  | 225                     |          |
| 2809.8         | 24.54           | H         | 60    | -35.46 | Avg                   | 2.28                  | 225                     |          |
|                |                 |           |       |        |                       |                       |                         |          |
| 4214.6         | 41.13           | H         | 80    | -38.87 | Peak                  | 1.39                  | 225                     |          |
| 4214.6         | 29.14           | H         | 60    | -30.86 | Avg                   | 1.39                  | 225                     |          |
|                |                 |           |       |        |                       |                       |                         |          |
| 5619.5         | 45.13           | H         | 80    | -34.87 | Peak                  | 1.9                   | 315                     |          |
| 5619.5         | 32.25           | H         | 60    | -27.75 | Avg                   | 1.9                   | 315                     |          |
|                |                 |           |       |        |                       |                       |                         |          |
| 1404.8         | 33.92           | V         | 80    | -46.08 | Peak                  | 1.47                  | 225                     |          |
| 1404.8         | 24.31           | V         | 60    | -35.69 | Avg                   | 1.47                  | 225                     |          |
|                |                 |           |       |        |                       |                       |                         |          |
| 2809.8         | 38.61           | V         | 80    | -41.39 | Peak                  | 1.39                  | 225                     |          |
| 2809.8         | 26.6            | V         | 60    | -33.4  | Avg                   | 1.39                  | 225                     |          |
|                |                 |           |       |        |                       |                       |                         |          |
| 4214.6         | 41.44           | V         | 80    | -38.56 | Peak                  | 1.34                  | 180                     |          |
| 4214.6         | 29.22           | V         | 60    | -30.78 | Avg                   | 1.34                  | 180                     |          |
|                |                 |           |       |        |                       |                       |                         |          |
| 5619.5         | 56.34           | V         | 80    | -23.66 | Peak                  | 1.47                  | 315                     |          |
| 5619.5         | 37.6            | V         | 60    | -22.4  | Avg                   | 1.47                  | 315                     |          |
|                |                 |           |       |        |                       |                       |                         |          |
|                |                 |           |       |        |                       |                       |                         |          |

[illegible]

Test Location : Compatible Electronics  
 Customer : Thales Navigation  
 Manufacturer : Thales Navigation  
 Eut name : GPS Receiver  
 Model : Mobille Mapper  
 Serial # :  
 Specification : FCC B  
 Distance correction factor ( $20 * \log(\text{test}/\text{spec})$ ) : 0.00  
 Test Mode : Vertical and Horizontal Polarizations  
 MobileMapper CE - Qualification Scan  
 Test Range: 10 kHz to 300 MHz  
 Tested By: Benigno Chavez

Page : 1/1  
 Date : 4/19/2005  
 Time : 20:34:51  
 Lab : A  
 Test Distance : 3.0 Meters

| Pol | Freq<br>MHz | Rdng<br>dBuV | Cable<br>loss<br>dB | Ant<br>factor<br>dB | Amp<br>gain<br>dB | Cor'd<br>rdg = R<br>dBuV | Limit<br>= L<br>dBuV/m | Delta<br>R-L<br>dB |
|-----|-------------|--------------|---------------------|---------------------|-------------------|--------------------------|------------------------|--------------------|
| 1V  | 39.534      | 57.30        | 1.79                | 10.90               | 33.01             | 36.98                    | 40.00                  | -3.02              |
| 2V  | 41.666      | 58.90        | 1.84                | 10.69               | 33.02             | 38.41                    | 40.00                  | -1.59              |
| 3V  | 41.668Qp    | 56.05        | 1.84                | 10.69               | 33.02             | 35.56                    | 40.00                  | -4.44              |
| 4V  | 45.403      | 59.30        | 1.91                | 10.39               | 33.06             | 38.55                    | 40.00                  | -1.45              |
| 5V  | 45.409Qp    | 55.24        | 1.91                | 10.39               | 33.06             | 34.49                    | 40.00                  | -5.51              |
| 6V  | 46.332      | 57.30        | 1.93                | 10.60               | 33.07             | 36.77                    | 40.00                  | -3.23              |
| 7V  | 79.544      | 52.20        | 2.50                | 6.25                | 33.20             | 27.75                    | 40.00                  | -12.25             |
| 8V  | 87.022      | 49.90        | 2.57                | 7.63                | 33.13             | 26.97                    | 40.00                  | -13.03             |
| 9V  | 104.034     | 61.00        | 2.77                | 10.75               | 33.18             | 41.34                    | 43.50                  | -2.16              |
| 10V | 104.044Qp   | 58.13        | 2.77                | 10.75               | 33.18             | 38.47                    | 43.50                  | -5.03              |
| 11V | 106.111     | 58.20        | 2.81                | 11.08               | 33.17             | 38.91                    | 43.50                  | -4.59              |
| 12V | 108.140     | 54.60        | 2.84                | 11.39               | 33.16             | 35.66                    | 43.50                  | -7.84              |
| 13H | 108.153     | 48.00        | 2.84                | 11.39               | 33.16             | 29.07                    | 43.50                  | -14.43             |
| 14V | 109.200     | 54.60        | 2.86                | 11.55               | 33.16             | 35.85                    | 43.50                  | -7.65              |
| 15H | 110.217     | 47.20        | 2.87                | 11.70               | 33.16             | 28.62                    | 43.50                  | -14.88             |
| 16V | 110.619     | 53.90        | 2.88                | 11.76               | 33.15             | 35.39                    | 43.50                  | -8.11              |
| 17H | 118.039     | 44.00        | 3.00                | 12.83               | 33.13             | 26.70                    | 43.50                  | -16.80             |
| 18V | 127.594     | 54.80        | 3.11                | 12.31               | 33.09             | 37.13                    | 43.50                  | -6.37              |
| 19H | 128.258     | 51.40        | 3.11                | 12.29               | 33.09             | 33.71                    | 43.50                  | -9.79              |
| 20V | 131.343     | 55.50        | 3.13                | 12.18               | 33.07             | 37.74                    | 43.50                  | -5.76              |
| 21V | 133.720     | 55.30        | 3.14                | 12.10               | 33.06             | 37.48                    | 43.50                  | -6.02              |
| 22H | 134.060     | 52.20        | 3.14                | 12.09               | 33.06             | 34.37                    | 43.50                  | -9.13              |
| 23V | 138.521     | 54.50        | 3.16                | 11.95               | 33.04             | 36.56                    | 43.50                  | -6.94              |
| 24H | 140.564     | 45.50        | 3.16                | 11.89               | 33.04             | 27.52                    | 43.50                  | -15.98             |
| 25V | 144.323     | 50.80        | 3.18                | 11.86               | 33.02             | 32.81                    | 43.50                  | -10.69             |
| 26V | 150.433     | 48.40        | 3.20                | 11.87               | 33.00             | 30.47                    | 43.50                  | -13.03             |

Test Location : Compatible Electronics  
 Customer : Thales Navigation  
 Manufacturer : Thales Navigation  
 Eut name : GPS Receiver  
 Model : Mobille Mapper  
 Serial # :  
 Specification : FCC B  
 Distance correction factor ( $20 * \log(\text{test}/\text{spec})$ ) : 0.00  
 Test Mode : Vertical and Horizontal Polarizations  
             MobileMapper CE - Qualification Scan  
             Test Range: 300 MHz to 1 GHz  
             Tested By: Benigno Chavez

Page : 1/1  
 Date : 4/19/2005  
 Time : 21:49:54  
 Lab : A  
 Test Distance : 3.0 Meters

| Pol | Freq<br>MHz | Rdng<br>dBuV | Cable<br>loss<br>dB | Ant<br>factor<br>dB | Amp<br>gain<br>dB | Cor'd<br>rdg = R<br>dBuV | Limit<br>= L<br>dBuV/m | Delta<br>R-L<br>dB |
|-----|-------------|--------------|---------------------|---------------------|-------------------|--------------------------|------------------------|--------------------|
| 1H  | 314.727     | 52.50        | 4.42                | 12.87               | 32.94             | 36.85                    | 46.00                  | -9.15              |
| 2V  | 324.257     | 45.80        | 4.55                | 12.97               | 32.90             | 30.42                    | 46.00                  | -15.58             |
| 3V  | 343.309     | 47.40        | 4.81                | 13.17               | 32.83             | 32.56                    | 46.00                  | -13.44             |

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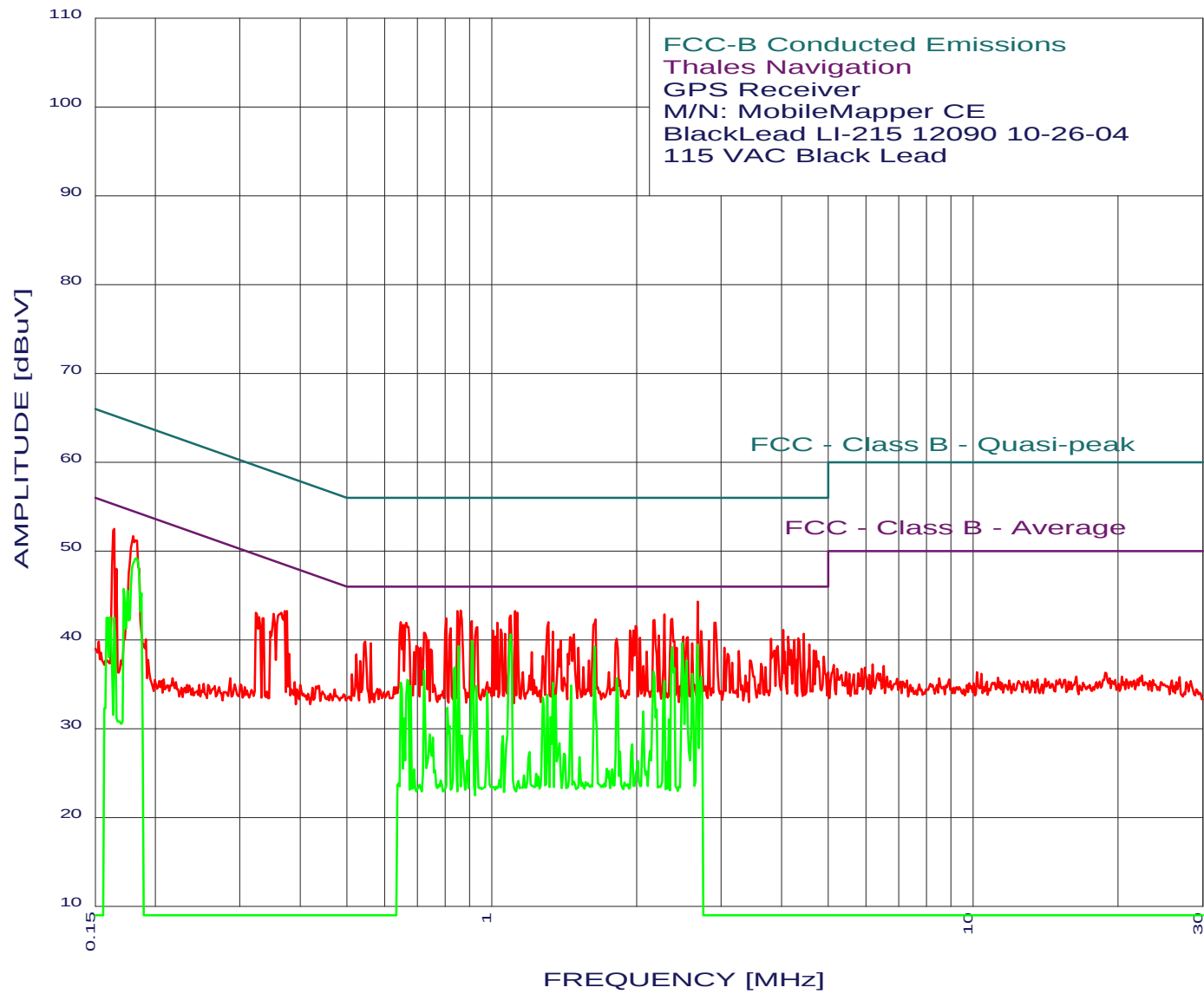


***CONDUCTED EMISSIONS***

***DATA SHEETS***

EMISSION LEVEL [dBuV] PEAK  
Graph for Peak & Average

4/19/2005 23:03:50





4/19/2005 23:03:50

Thales Navigation  
GPS Receiver  
M/N: MobileMapper CE  
115 VAC Black Lead  
TEST ENGINEER : Benigno Chavez

-----  
39 highest peaks above -50.00 dB of FCC - Class B - Average limit line

Peak criteria : 1.00 dB, Curve : Peak

| Peak# | Freq(MHz) | Amp(dBuV) | Limit(dB) | Delta(dB) |
|-------|-----------|-----------|-----------|-----------|
| 1     | 2.679     | 44.29     | 46.00     | -1.71*    |
| 2     | 0.862     | 43.31     | 46.00     | -2.69*    |
| 3     | 1.118     | 43.24     | 46.00     | -2.76*    |
| 4     | 0.164     | 52.46     | 55.25     | -2.79*    |
| 5     | 0.849     | 43.21     | 46.00     | -2.79*    |
| 6     | 0.180     | 51.65     | 54.50     | -2.85*    |
| 7     | 1.130     | 43.05     | 46.00     | -2.95*    |
| 8     | 2.286     | 42.85     | 46.00     | -3.15     |
| 9     | 1.094     | 42.74     | 46.00     | -3.26     |
| 10    | 0.805     | 42.40     | 46.00     | -3.60     |
| 11    | 2.371     | 42.36     | 46.00     | -3.64     |
| 12    | 1.646     | 42.25     | 46.00     | -3.75     |
| 13    | 2.179     | 42.24     | 46.00     | -3.76     |
| 14    | 0.909     | 42.11     | 46.00     | -3.89     |
| 15    | 0.648     | 41.99     | 46.00     | -4.01     |
| 16    | 1.311     | 41.98     | 46.00     | -4.02     |
| 17    | 1.027     | 41.93     | 46.00     | -4.07     |
| 18    | 2.916     | 41.91     | 46.00     | -4.09     |
| 19    | 0.665     | 41.89     | 46.00     | -4.11     |
| 20    | 0.655     | 41.69     | 46.00     | -4.31     |
| 21    | 1.992     | 41.52     | 46.00     | -4.48     |
| 22    | 0.934     | 41.41     | 46.00     | -4.59     |
| 23    | 0.822     | 41.30     | 46.00     | -4.70     |
| 24    | 1.043     | 41.13     | 46.00     | -4.87     |
| 25    | 4.029     | 41.12     | 46.00     | -4.88     |
| 26    | 1.006     | 41.02     | 46.00     | -4.98     |
| 27    | 1.971     | 41.01     | 46.00     | -4.99     |
| 28    | 1.939     | 41.01     | 46.00     | -4.99     |
| 29    | 2.722     | 40.99     | 46.00     | -5.01     |
| 30    | 1.338     | 40.89     | 46.00     | -5.11     |
| 31    | 0.375     | 43.21     | 48.38     | -5.18     |
| 32    | 0.724     | 40.79     | 46.00     | -5.21     |
| 33    | 0.371     | 43.21     | 48.47     | -5.26     |
| 34    | 4.456     | 40.67     | 46.00     | -5.33     |
| 35    | 1.066     | 40.63     | 46.00     | -5.37     |
| 36    | 1.480     | 40.62     | 46.00     | -5.38     |
| 37    | 2.226     | 40.44     | 46.00     | -5.56     |
| 38    | 2.501     | 40.37     | 46.00     | -5.63     |
| 39    | 4.137     | 40.33     | 46.00     | -5.67     |

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\* Please See the Average Readings on the Next Page and on the Plot



**COMPATIBLE  
ELECTRONICS**

4/19/2005 23:03:50

Thales Navigation  
GPS Receiver  
M/N: MobileMapper CE  
115 VAC Black Lead  
TEST ENGINEER : Benigno Chavez

-----  
40 highest peaks above -50.00 dB of FCC - Class B - Average limit line

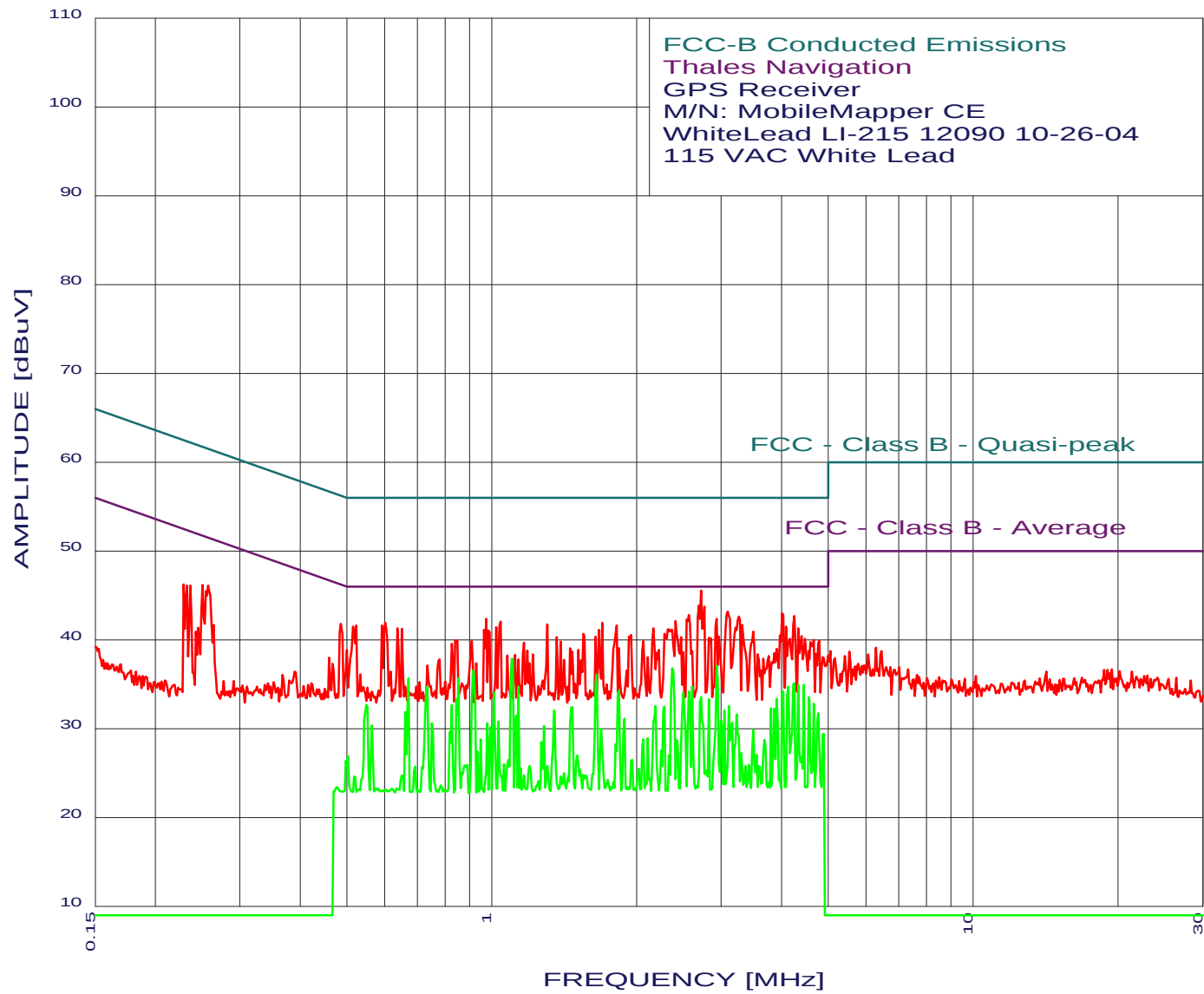
Peak criteria : 0.10 dB, Curve : Average

| Peak# | Freq(MHz) | Amp(dBuV) | Limit(dB) | Delta(dB) |
|-------|-----------|-----------|-----------|-----------|
| 1     | 0.183     | 49.15     | 54.37     | -5.22     |
| 2     | 1.094     | 40.61     | 46.00     | -5.39     |
| 3     | 0.909     | 39.86     | 46.00     | -6.14     |
| 4     | 2.488     | 39.63     | 46.00     | -6.37     |
| 5     | 2.679     | 39.44     | 46.00     | -6.56     |
| 6     | 0.853     | 39.26     | 46.00     | -6.74     |
| 7     | 1.637     | 39.21     | 46.00     | -6.79     |
| 8     | 2.371     | 39.16     | 46.00     | -6.84     |
| 9     | 2.540     | 37.66     | 46.00     | -8.34     |
| 10    | 0.187     | 45.21     | 54.15     | -8.94     |
| 11    | 0.839     | 36.88     | 46.00     | -9.12     |
| 12    | 0.172     | 45.70     | 54.86     | -9.15     |
| 13    | 0.175     | 45.56     | 54.72     | -9.16     |
| 14    | 2.397     | 36.75     | 46.00     | -9.25     |
| 15    | 0.724     | 36.53     | 46.00     | -9.47     |
| 16    | 2.168     | 36.39     | 46.00     | -9.61     |
| 17    | 2.610     | 36.17     | 46.00     | -9.83     |
| 18    | 2.722     | 35.83     | 46.00     | -10.17    |
| 19    | 1.820     | 35.63     | 46.00     | -10.37    |
| 20    | 0.669     | 35.44     | 46.00     | -10.56    |
| 21    | 2.286     | 35.33     | 46.00     | -10.67    |
| 22    | 0.648     | 35.19     | 46.00     | -10.81    |
| 23    | 1.338     | 35.14     | 46.00     | -10.86    |
| 24    | 1.464     | 34.84     | 46.00     | -11.16    |
| 25    | 0.679     | 34.78     | 46.00     | -11.22    |
| 26    | 0.929     | 34.77     | 46.00     | -11.23    |
| 27    | 0.979     | 34.01     | 46.00     | -11.99    |
| 28    | 1.304     | 33.80     | 46.00     | -12.20    |
| 29    | 1.359     | 33.69     | 46.00     | -12.31    |
| 30    | 1.276     | 33.50     | 46.00     | -12.50    |
| 31    | 0.164     | 42.46     | 55.25     | -12.79    |
| 32    | 0.161     | 42.46     | 55.43     | -12.97    |
| 33    | 0.158     | 42.46     | 55.56     | -13.10    |
| 34    | 0.809     | 32.36     | 46.00     | -13.64    |
| 35    | 2.201     | 32.17     | 46.00     | -13.83    |
| 36    | 2.066     | 31.90     | 46.00     | -14.10    |
| 37    | 1.325     | 31.29     | 46.00     | -14.71    |
| 38    | 0.658     | 31.16     | 46.00     | -14.84    |
| 39    | 2.334     | 31.02     | 46.00     | -14.98    |
| 40    | 0.818     | 30.26     | 46.00     | -15.74    |

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EMISSION LEVEL [dBuV] PEAK  
Graph for Peak & Average

4/19/2005 23:09:03





4/19/2005 23:09:03

Thales Navigation  
GPS Receiver  
M/N: MobileMapper CE  
115 VAC White Lead  
TEST ENGINEER : Benigno Chavez

-----  
39 highest peaks above -50.00 dB of FCC - Class B - Average limit line

Peak criteria : 1.00 dB, Curve : Peak

| Peak# | Freq(MHz) | Amp(dBuV) | Limit(dB) | Delta(dB) |
|-------|-----------|-----------|-----------|-----------|
| 1     | 2.722     | 45.52     | 46.00     | -0.48*    |
| 2     | 2.693     | 43.82     | 46.00     | -2.18*    |
| 3     | 2.766     | 43.73     | 46.00     | -2.27*    |
| 4     | 3.091     | 43.16     | 46.00     | -2.84*    |
| 5     | 4.008     | 42.96     | 46.00     | -3.04     |
| 6     | 2.568     | 42.80     | 46.00     | -3.20     |
| 7     | 4.249     | 42.68     | 46.00     | -3.32     |
| 8     | 3.260     | 42.58     | 46.00     | -3.42     |
| 9     | 2.932     | 42.34     | 46.00     | -3.66     |
| 10    | 0.974     | 42.32     | 46.00     | -3.68     |
| 11    | 2.410     | 42.09     | 46.00     | -3.91     |
| 12    | 1.043     | 42.04     | 46.00     | -3.96     |
| 13    | 0.601     | 41.88     | 46.00     | -4.12     |
| 14    | 1.699     | 41.88     | 46.00     | -4.12     |
| 15    | 1.304     | 41.69     | 46.00     | -4.31     |
| 16    | 3.311     | 41.69     | 46.00     | -4.31     |
| 17    | 1.820     | 41.60     | 46.00     | -4.40     |
| 18    | 0.592     | 41.58     | 46.00     | -4.42     |
| 19    | 0.524     | 41.57     | 46.00     | -4.43     |
| 20    | 0.486     | 41.77     | 46.23     | -4.45     |
| 21    | 4.092     | 41.47     | 46.00     | -4.53     |
| 22    | 0.516     | 41.47     | 46.00     | -4.53     |
| 23    | 1.021     | 41.43     | 46.00     | -4.57     |
| 24    | 0.637     | 41.29     | 46.00     | -4.71     |
| 25    | 4.339     | 41.29     | 46.00     | -4.71     |
| 26    | 2.168     | 41.26     | 46.00     | -4.74     |
| 27    | 0.651     | 41.19     | 46.00     | -4.81     |
| 28    | 2.334     | 41.18     | 46.00     | -4.82     |
| 29    | 0.963     | 41.12     | 46.00     | -4.88     |
| 30    | 1.671     | 41.07     | 46.00     | -4.93     |
| 31    | 0.984     | 41.03     | 46.00     | -4.97     |
| 32    | 3.492     | 40.91     | 46.00     | -5.09     |
| 33    | 1.552     | 40.64     | 46.00     | -5.36     |
| 34    | 0.258     | 46.06     | 51.51     | -5.45     |
| 35    | 1.950     | 40.53     | 46.00     | -5.47     |
| 36    | 0.251     | 46.17     | 51.73     | -5.56     |
| 37    | 4.408     | 40.39     | 46.00     | -5.61     |
| 38    | 1.646     | 40.36     | 46.00     | -5.64     |
| 39    | 2.963     | 40.35     | 46.00     | -5.65     |

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\* Please See the Average Readings on the Next Page and on the Plot



Thales Navigation  
 GPS Receiver  
 M/N: MobileMapper CE  
 115 VAC White Lead  
 TEST ENGINEER : Benigno Chavez

-----  
 40 highest peaks above -50.00 dB of FCC - Class B - Average limit line

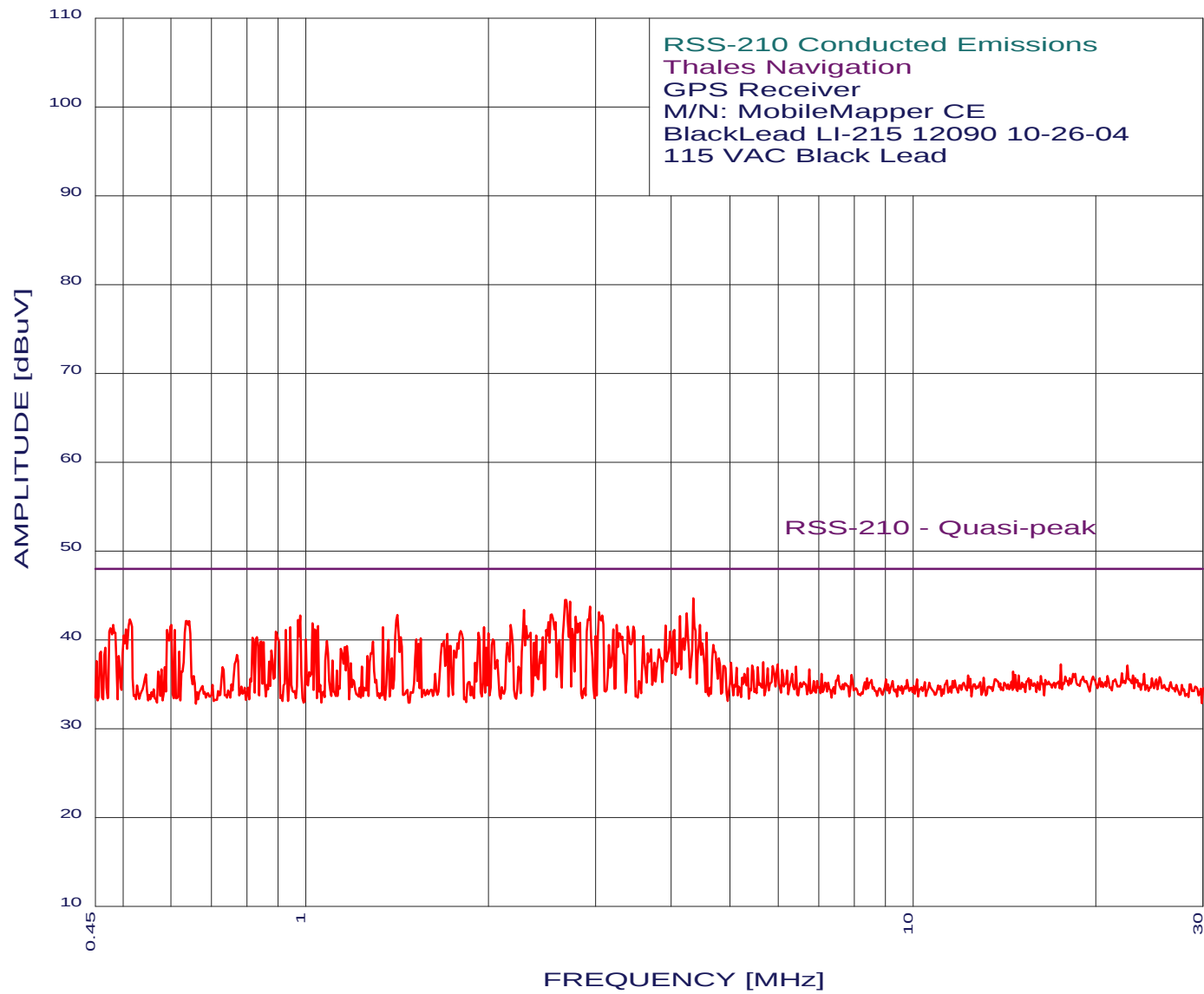
Peak criteria : 0.10 dB, Curve : Average

| Peak# | Freq(MHz) | Amp(dBuV) | Limit(dB) | Delta(dB) |
|-------|-----------|-----------|-----------|-----------|
| 1     | 1.100     | 37.86     | 46.00     | -8.14     |
| 2     | 2.932     | 37.03     | 46.00     | -8.97     |
| 3     | 2.371     | 36.77     | 46.00     | -9.23     |
| 4     | 0.914     | 36.51     | 46.00     | -9.49     |
| 5     | 1.654     | 36.09     | 46.00     | -9.91     |
| 6     | 0.853     | 35.68     | 46.00     | -10.32    |
| 7     | 0.672     | 35.64     | 46.00     | -10.36    |
| 8     | 4.249     | 35.11     | 46.00     | -10.89    |
| 9     | 4.456     | 34.93     | 46.00     | -11.07    |
| 10    | 4.339     | 34.91     | 46.00     | -11.09    |
| 11    | 4.137     | 34.71     | 46.00     | -11.29    |
| 12    | 2.610     | 34.71     | 46.00     | -11.29    |
| 13    | 1.136     | 34.71     | 46.00     | -11.29    |
| 14    | 0.735     | 34.63     | 46.00     | -11.37    |
| 15    | 1.840     | 34.31     | 46.00     | -11.69    |
| 16    | 4.029     | 34.19     | 46.00     | -11.81    |
| 17    | 2.568     | 34.13     | 46.00     | -11.87    |
| 18    | 1.011     | 34.04     | 46.00     | -11.96    |
| 19    | 2.501     | 34.02     | 46.00     | -11.98    |
| 20    | 2.722     | 33.55     | 46.00     | -12.45    |
| 21    | 4.552     | 33.52     | 46.00     | -12.48    |
| 22    | 3.903     | 33.36     | 46.00     | -12.64    |
| 23    | 0.844     | 33.31     | 46.00     | -12.69    |
| 24    | 2.826     | 33.30     | 46.00     | -12.70    |
| 25    | 4.672     | 32.81     | 46.00     | -13.19    |
| 26    | 0.826     | 32.66     | 46.00     | -13.34    |
| 27    | 0.550     | 32.63     | 46.00     | -13.37    |
| 28    | 3.107     | 32.54     | 46.00     | -13.46    |
| 29    | 2.190     | 32.54     | 46.00     | -13.46    |
| 30    | 2.286     | 32.47     | 46.00     | -13.53    |
| 31    | 1.472     | 32.39     | 46.00     | -13.61    |
| 32    | 3.800     | 32.28     | 46.00     | -13.72    |
| 33    | 3.862     | 32.24     | 46.00     | -13.76    |
| 34    | 3.043     | 32.03     | 46.00     | -13.97    |
| 35    | 1.345     | 32.00     | 46.00     | -14.00    |
| 36    | 0.662     | 31.86     | 46.00     | -14.14    |
| 37    | 4.774     | 31.73     | 46.00     | -14.27    |
| 38    | 3.226     | 31.61     | 46.00     | -14.39    |
| 39    | 1.124     | 31.46     | 46.00     | -14.54    |
| 40    | 1.889     | 31.07     | 46.00     | -14.93    |

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EMISSION LEVEL [dBuV] PEAK  
Graph for Peak

4/19/2005 22:47:07





4/19/2005 22:47:07

Thales Navigation  
GPS Receiver  
M/N: MobileMapper CE  
115 VAC Black Lead  
TEST ENGINEER : Benigno Chavez

-----  
40 highest peaks above -50.00 dB of RSS-210 - Quasi-peak limit line

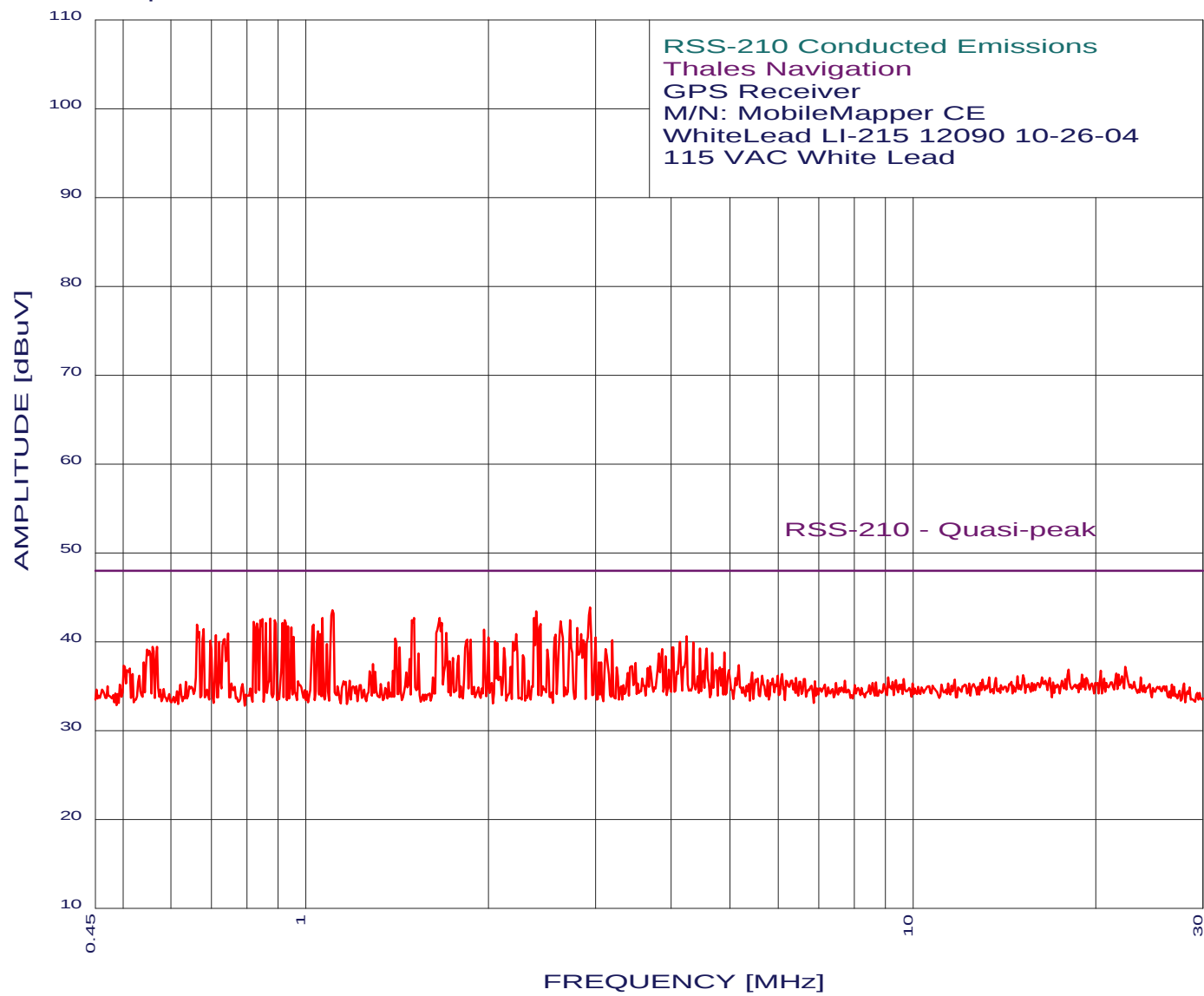
Peak criteria : 0.10 dB, Curve : Peak

| Peak# | Freq(MHz) | Amp(dBuV) | Limit(dB) | Delta(dB) |
|-------|-----------|-----------|-----------|-----------|
| 1     | 4.348     | 44.65     | 48.00     | -3.35     |
| 2     | 2.682     | 44.49     | 48.00     | -3.51     |
| 3     | 2.727     | 44.29     | 48.00     | -3.71     |
| 4     | 2.942     | 43.71     | 48.00     | -4.29     |
| 5     | 2.287     | 43.35     | 48.00     | -4.65     |
| 6     | 3.042     | 43.12     | 48.00     | -4.88     |
| 7     | 4.239     | 42.94     | 48.00     | -5.06     |
| 8     | 2.540     | 42.87     | 48.00     | -5.13     |
| 9     | 1.416     | 42.80     | 48.00     | -5.20     |
| 10    | 3.081     | 42.73     | 48.00     | -5.27     |
| 11    | 0.979     | 42.72     | 48.00     | -5.28     |
| 12    | 4.134     | 42.63     | 48.00     | -5.37     |
| 13    | 2.786     | 42.60     | 48.00     | -5.40     |
| 14    | 0.513     | 42.27     | 48.00     | -5.73     |
| 15    | 0.971     | 42.22     | 48.00     | -5.78     |
| 16    | 0.643     | 42.09     | 48.00     | -5.91     |
| 17    | 0.638     | 42.09     | 48.00     | -5.91     |
| 18    | 2.582     | 41.98     | 48.00     | -6.02     |
| 19    | 2.508     | 41.97     | 48.00     | -6.03     |
| 20    | 2.833     | 41.90     | 48.00     | -6.10     |
| 21    | 1.025     | 41.83     | 48.00     | -6.17     |
| 22    | 2.809     | 41.80     | 48.00     | -6.20     |
| 23    | 0.601     | 41.68     | 48.00     | -6.32     |
| 24    | 0.481     | 41.68     | 48.00     | -6.32     |
| 25    | 4.457     | 41.67     | 48.00     | -6.33     |
| 26    | 3.254     | 41.65     | 48.00     | -6.35     |
| 27    | 2.174     | 41.64     | 48.00     | -6.36     |
| 28    | 3.915     | 41.61     | 48.00     | -6.39     |
| 29    | 2.305     | 41.55     | 48.00     | -6.45     |
| 30    | 1.047     | 41.53     | 48.00     | -6.47     |
| 31    | 3.466     | 41.47     | 48.00     | -6.53     |
| 32    | 3.392     | 41.46     | 48.00     | -6.54     |
| 33    | 0.943     | 41.42     | 48.00     | -6.58     |
| 34    | 1.965     | 41.41     | 48.00     | -6.59     |
| 35    | 1.341     | 41.39     | 48.00     | -6.61     |
| 36    | 0.477     | 41.28     | 48.00     | -6.72     |
| 37    | 2.750     | 41.20     | 48.00     | -6.80     |
| 38    | 0.506     | 41.17     | 48.00     | -6.83     |
| 39    | 3.212     | 41.14     | 48.00     | -6.86     |
| 40    | 1.034     | 41.13     | 48.00     | -6.87     |

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EMISSION LEVEL [dBuV] PEAK  
Graph for Peak

4/19/2005 23:12:34





Thales Navigation  
 GPS Receiver  
 M/N: Mobile Mapper CE  
 115 VAC White Lead  
 TEST ENGINEER : Benigno Chavez

-----  
 40 highest peaks above -50.00 dB of RSS-210 - Quasi-peak limit line

Peak criteria : 0.10 dB, Curve : Peak

| Peak# | Freq(MHz) | Amp(dBuV) | Limit(dB) | Delta(dB) |
|-------|-----------|-----------|-----------|-----------|
| 1     | 2.942     | 43.84     | 48.00     | -4.16     |
| 2     | 1.106     | 43.55     | 48.00     | -4.45     |
| 3     | 2.395     | 43.38     | 48.00     | -4.62     |
| 4     | 2.375     | 42.68     | 48.00     | -5.32     |
| 5     | 1.661     | 42.67     | 48.00     | -5.33     |
| 6     | 1.065     | 42.64     | 48.00     | -5.36     |
| 7     | 1.509     | 42.64     | 48.00     | -5.36     |
| 8     | 0.874     | 42.61     | 48.00     | -5.39     |
| 9     | 0.849     | 42.51     | 48.00     | -5.49     |
| 10    | 1.496     | 42.43     | 48.00     | -5.57     |
| 11    | 2.727     | 42.42     | 48.00     | -5.58     |
| 12    | 0.923     | 42.42     | 48.00     | -5.58     |
| 13    | 0.889     | 42.41     | 48.00     | -5.59     |
| 14    | 0.842     | 42.41     | 48.00     | -5.59     |
| 15    | 2.627     | 42.31     | 48.00     | -5.69     |
| 16    | 0.820     | 42.21     | 48.00     | -5.79     |
| 17    | 0.915     | 42.12     | 48.00     | -5.88     |
| 18    | 0.859     | 42.11     | 48.00     | -5.89     |
| 19    | 1.675     | 42.07     | 48.00     | -5.93     |
| 20    | 0.831     | 42.01     | 48.00     | -5.99     |
| 21    | 2.435     | 41.99     | 48.00     | -6.01     |
| 22    | 1.029     | 41.93     | 48.00     | -6.07     |
| 23    | 0.662     | 41.89     | 48.00     | -6.11     |
| 24    | 0.935     | 41.72     | 48.00     | -6.28     |
| 25    | 0.947     | 41.62     | 48.00     | -6.38     |
| 26    | 2.798     | 41.53     | 48.00     | -6.47     |
| 27    | 0.679     | 41.39     | 48.00     | -6.61     |
| 28    | 1.965     | 41.33     | 48.00     | -6.67     |
| 29    | 1.047     | 41.14     | 48.00     | -6.86     |
| 30    | 0.668     | 41.09     | 48.00     | -6.91     |
| 31    | 1.704     | 40.98     | 48.00     | -7.02     |
| 32    | 0.745     | 40.90     | 48.00     | -7.10     |
| 33    | 2.220     | 40.86     | 48.00     | -7.14     |
| 34    | 1.056     | 40.84     | 48.00     | -7.16     |
| 35    | 2.845     | 40.83     | 48.00     | -7.17     |
| 36    | 2.582     | 40.80     | 48.00     | -7.20     |
| 37    | 0.711     | 40.69     | 48.00     | -7.31     |
| 38    | 4.239     | 40.58     | 48.00     | -7.42     |
| 39    | 0.955     | 40.52     | 48.00     | -7.48     |
| 40    | 3.004     | 40.45     | 48.00     | -7.55     |

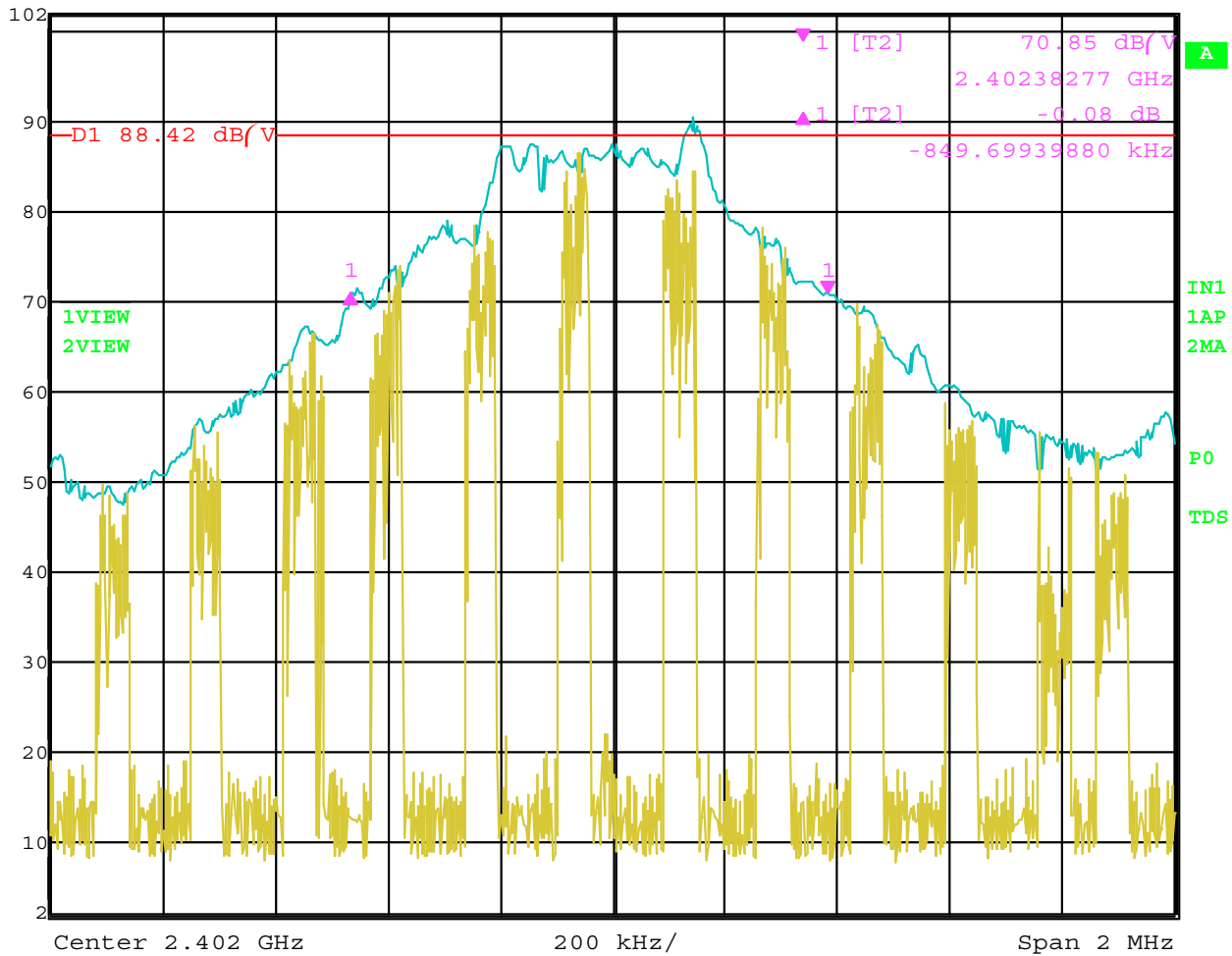
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***-20 dB BANDWIDTH***

***DATA SHEETS***



Delta 1 [T2] RBW 50 kHz RF Att 10 dB  
Ref Lvl -0.08 dB VBW 50 kHz  
102 dB/V -849.69939880 kHz SWT 5 ms Unit dB/V

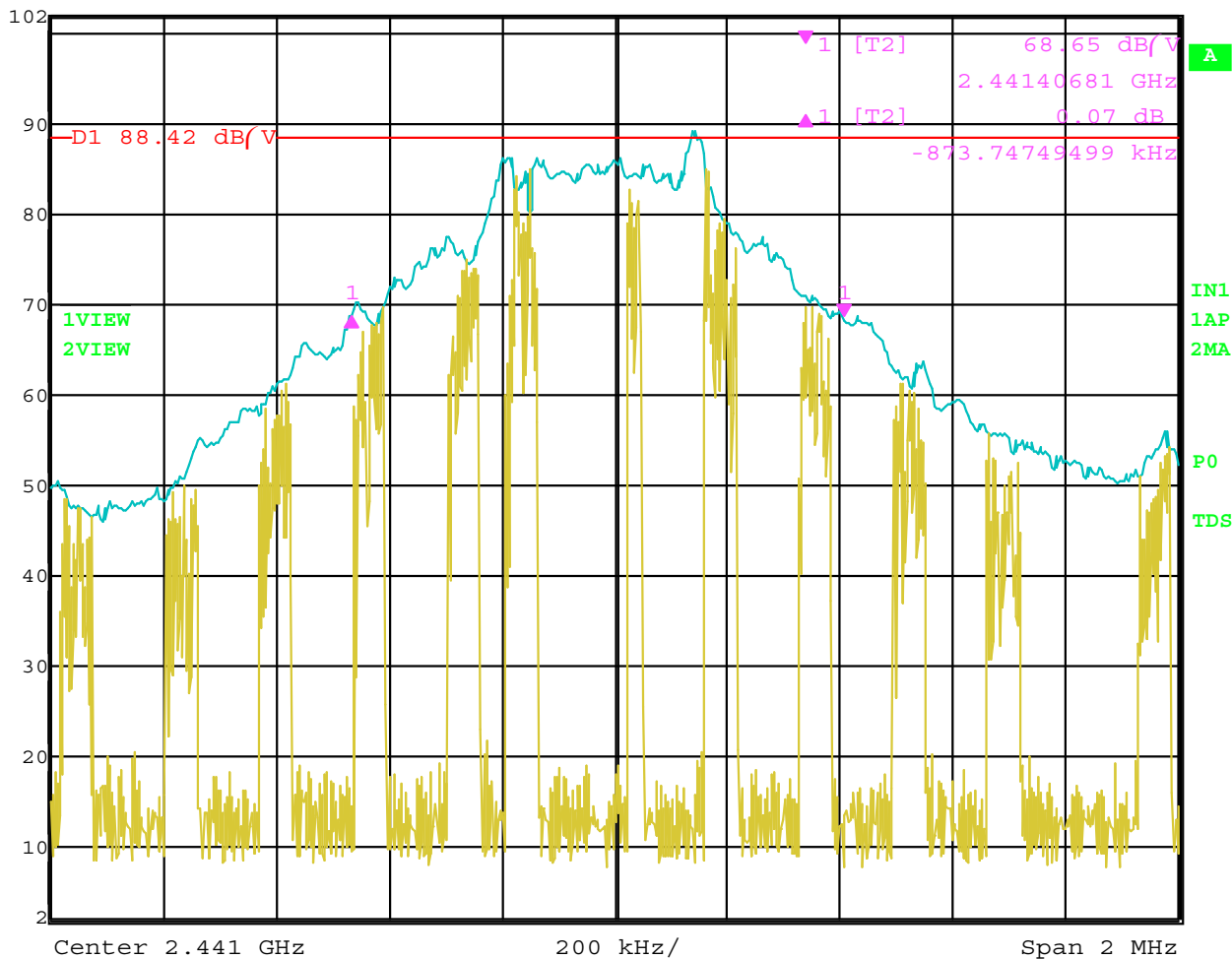


Date: 22.APR.2005 21:33:59

-20 dB Bandwidth – Low Channel



Ref Lvl 102 dB/V  
Delta 1 [T2] 0.07 dB  
RBW 50 kHz  
VBW 50 kHz  
SWT 5 ms  
RF Att 10 dB  
Unit dB/V

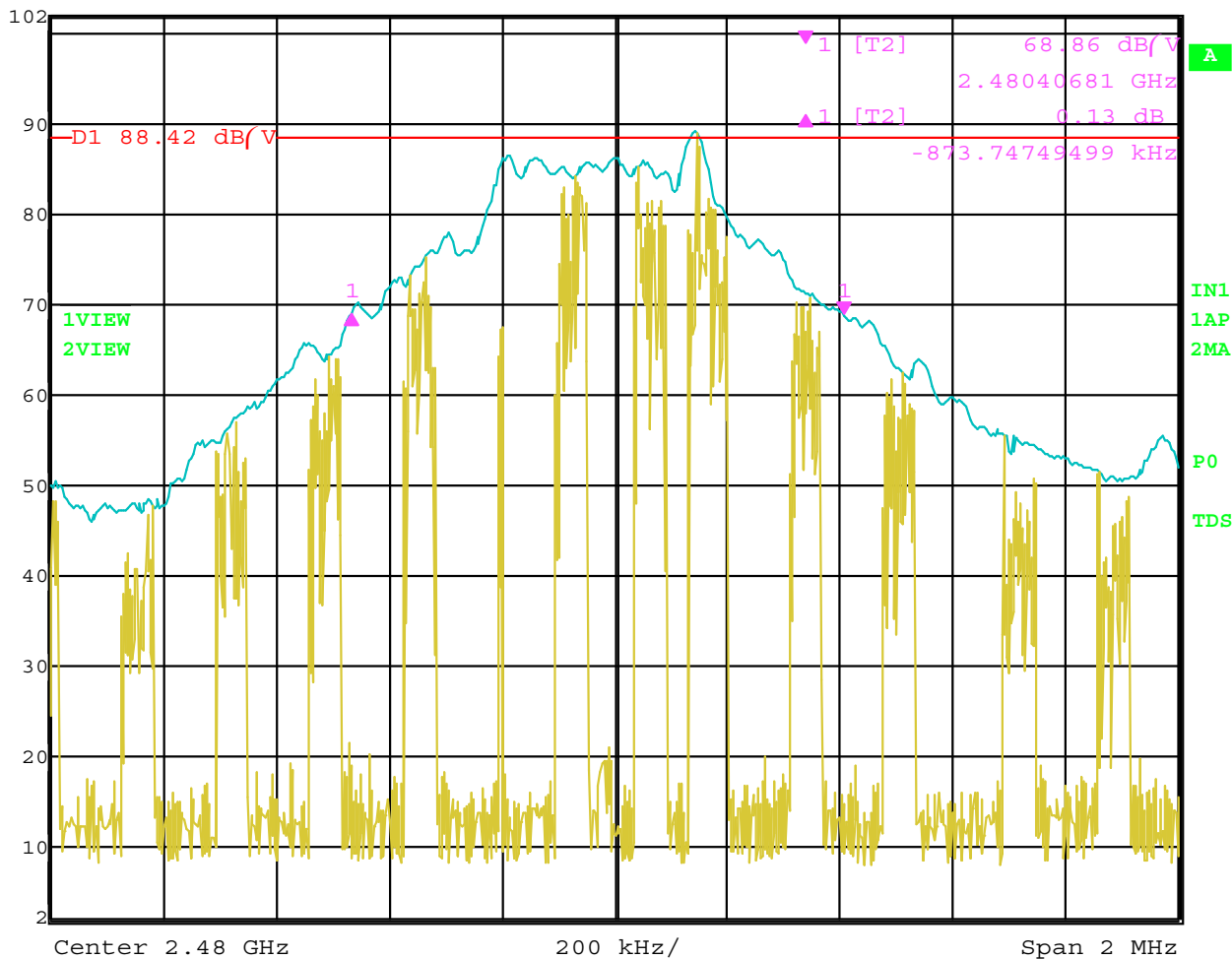


Date: 22.APR.2005 21:37:52

-20 dB Bandwidth – Middle Channel



Ref Lvl 102 dB/V  
Delta 1 [T2] 0.13 dB  
RBW 50 kHz  
VBW 50 kHz  
SWT 5 ms  
RF Att 10 dB  
Unit dB/V



Date: 22.APR.2005 21:40:02

-20 dB Bandwidth – High Channel



***PEAK POWER OUTPUT***

***DATA SHEETS***

**FCC 15.247**

Thales Navigation

Date: 04/19/05

GPS Receiver

Lab: B

Model: MobileMapper CE

Tested By: Benigno Chavez

Configuration: With Internal Antenna

**Peak Output Power****Worst Case Axis for Vertical Polarization = X-Axis****Worst Case Axis for Horizontal Polarization = X-Axis**

| Freq.<br>(MHz) | Level<br>(dBuV) | Level (V/m) | Antenna<br>Gain<br>(dBi) | Numeric<br>Gain | Power<br>Output<br>(Watts) | Power<br>Output<br>(mW) | Power<br>Output<br>(dBm) | Comments   |
|----------------|-----------------|-------------|--------------------------|-----------------|----------------------------|-------------------------|--------------------------|------------|
| 2402           | 86.86           | 0.0220293   | 2                        | 1.584893        | 9.186E-05                  | 0.09186                 | -10.369                  | Vertical   |
| 2441           | 85.84           | 0.0195884   | 2                        | 1.584893        | 7.263E-05                  | 0.07263                 | -11.389                  | Vertical   |
| 2480           | 86.58           | 0.0213304   | 2                        | 1.584893        | 8.612E-05                  | 0.08612                 | -10.649                  | Vertical   |
| 2402           | 88.42           | 0.0263633   | 2                        | 1.584893        | 0.0001316                  | 0.13156                 | -8.8088                  | Horizontal |
| 2441           | 86.61           | 0.0214042   | 2                        | 1.584893        | 8.672E-05                  | 0.08672                 | -10.619                  | Horizontal |
| 2480           | 86              | 0.0199526   | 2                        | 1.584893        | 7.536E-05                  | 0.07536                 | -11.229                  | Horizontal |

The Power in Watts is obtained by the following Formula Below:

$$P = [(E \cdot D)^2] / (30 \cdot G)$$

P = Power in Watts

E = The Measured Maximum Field Strength in V/m

G = The Numeric Gain of the Transmitting Antenna over an Isotropic Radiator

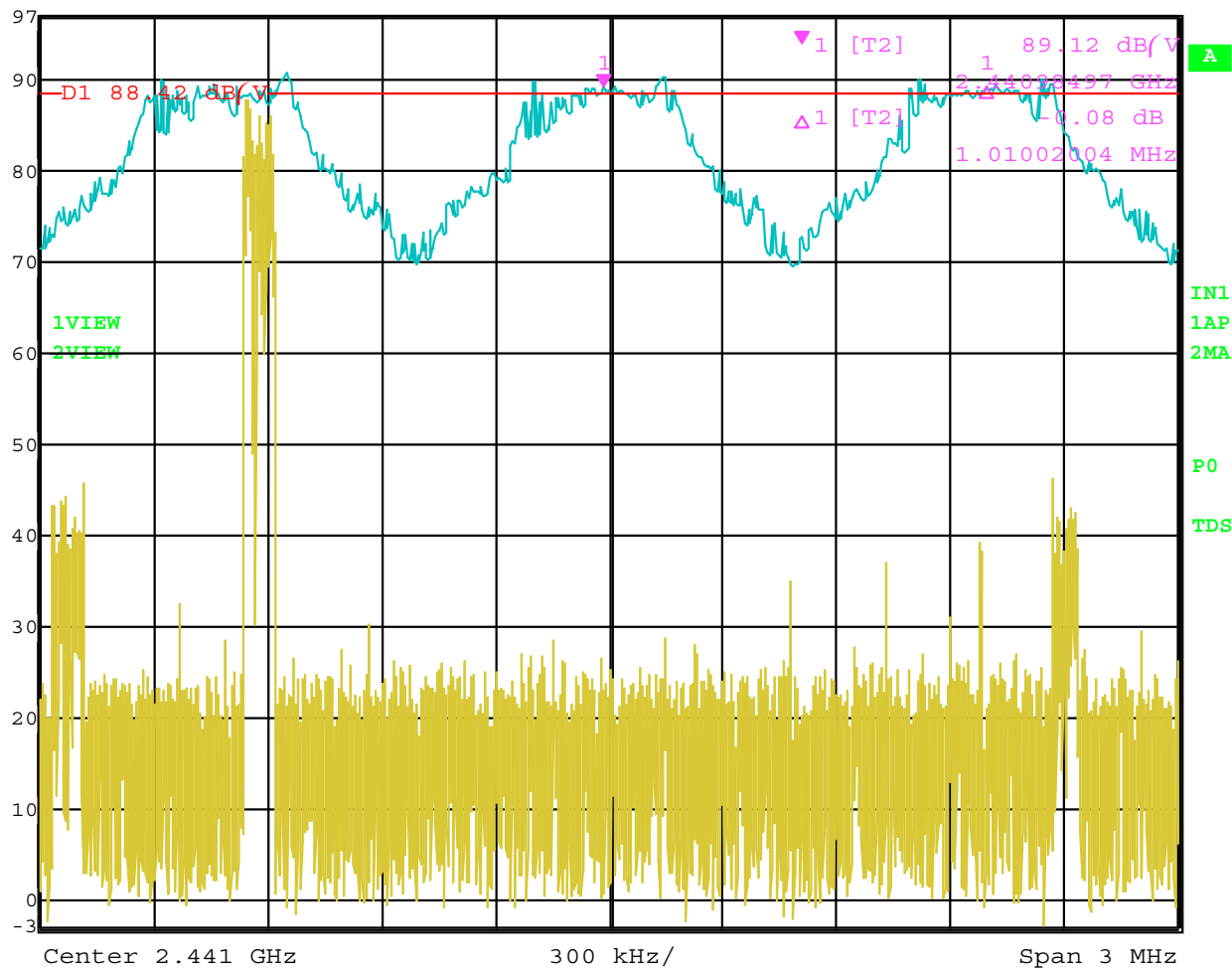


***CHANNEL HOPPING SEPARATION***

***DATA SHEET***



Ref Lvl 97 dB/V  
Marker 1 [T2] 89.12 dB/V  
2.44098497 GHz  
RBW 100 kHz  
RF Att 10 dB  
VBW 1 MHz  
SWT 5 ms  
Unit dB/V



Date: 22.APR.2005 21:52:16

Channel Frequency Separation Test

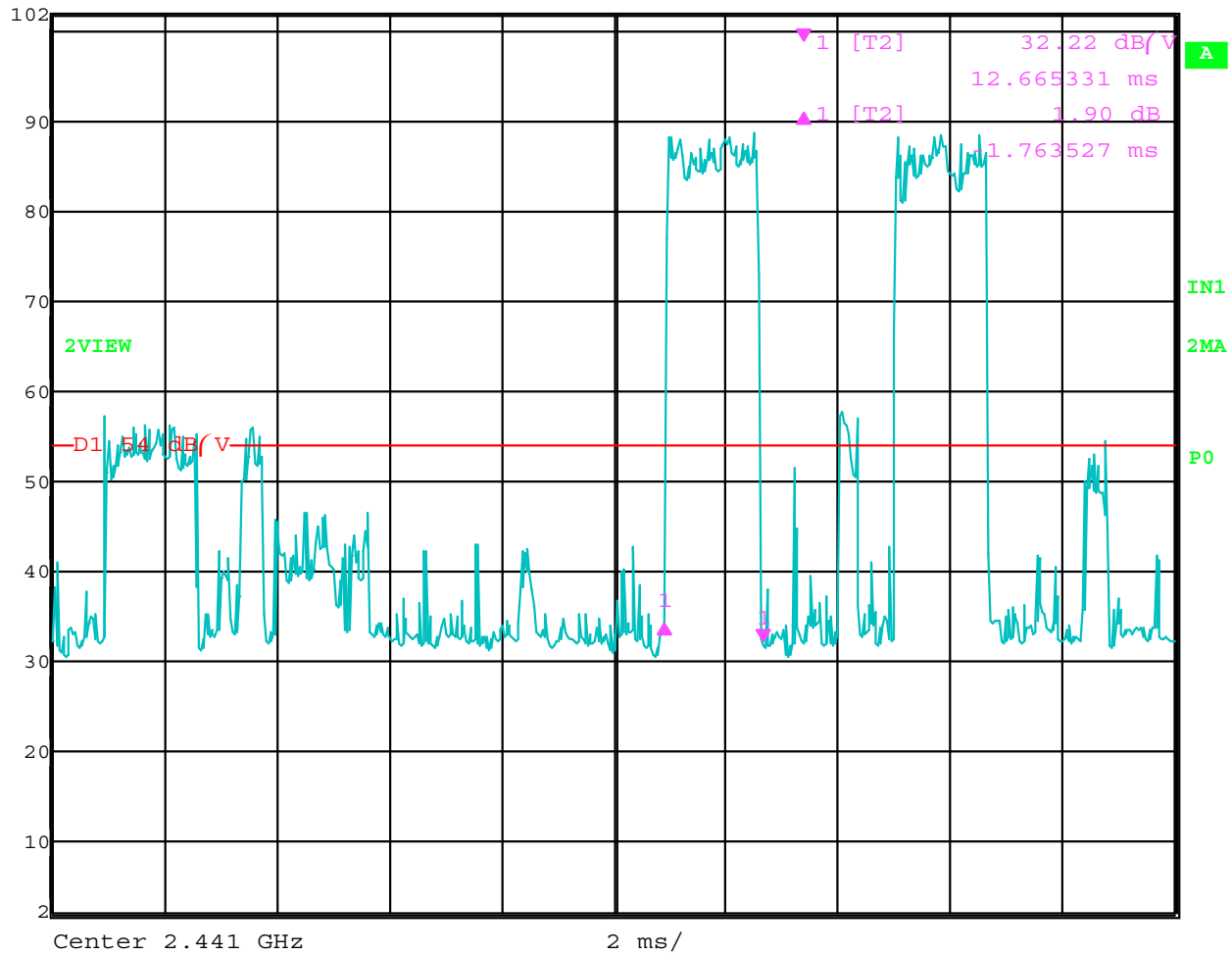


***AVERAGE TIME OF OCCUPANCY***

***DATA SHEETS***



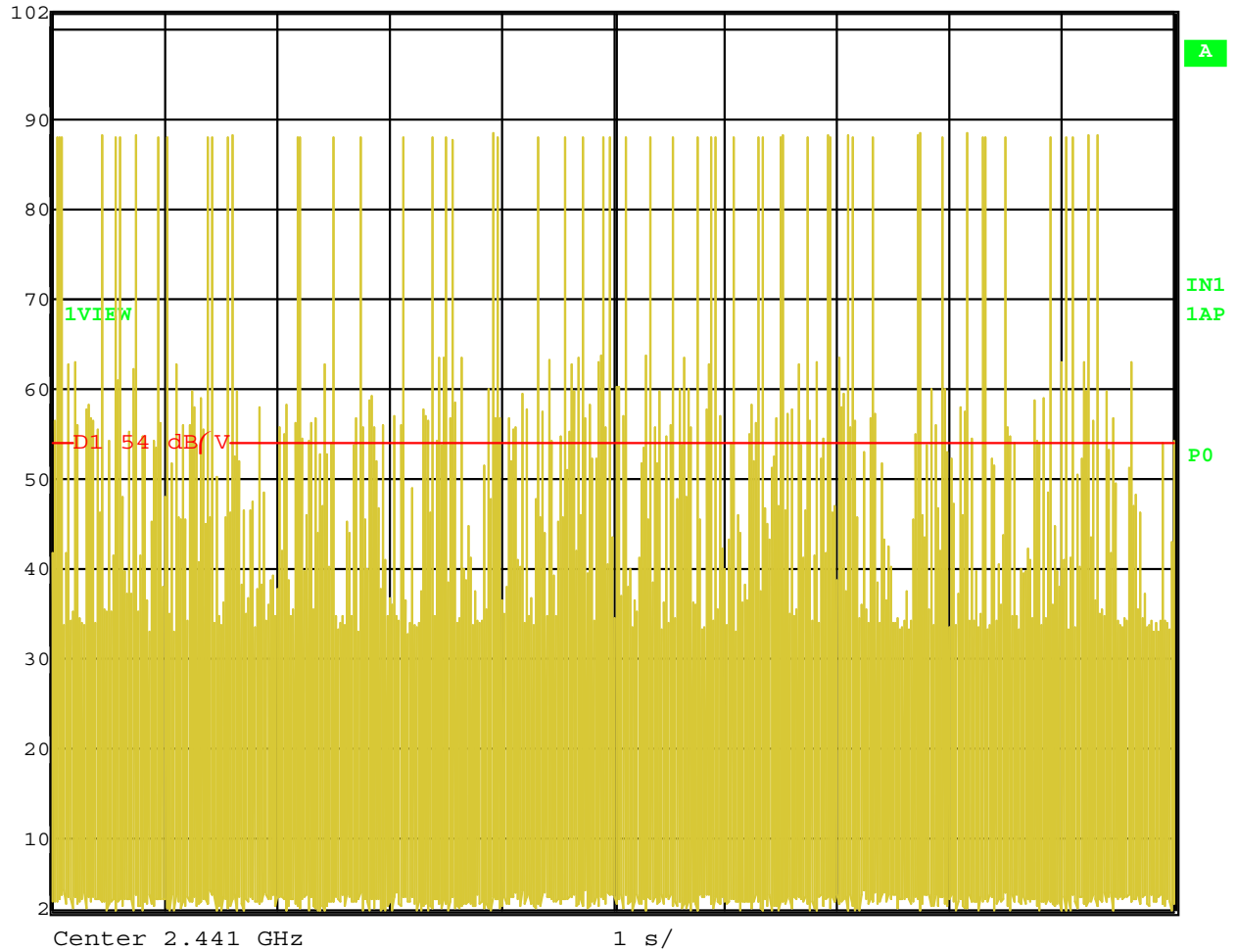
Delta 1 [T2] RBW 100 kHz RF Att 10 dB  
Ref Lvl 1.90 dB VBW 1 MHz  
102 dB/V -1.763527 ms SWT 20 ms Unit dB/V





Ref Lvl  
102 dB/V

RBW 100 kHz RF Att 10 dB  
VBW 1 MHz  
SWT 10 s Unit dB/V



Date: 28.APR.2005 12:21:37

58 Pulses in a 10 Second Period = 183.28 Pulses in a 31.6 second period  
Total On time per 31.6 seconds = 1.763527 mS \* 183.28 = 323.21922856 mS



***SPECTRAL DENSITY OUTPUT***

***DATA SHEETS***

**FCC 15.247**

Thales Navigation

Date: 04/19/05

GPS Receiver

Lab: B

Model: MobileMapper CE

Tested By: Benigno Chavez

Configuration: With Internal Antenna

**Spectral Density Test****Worst Case Axis for Vertical Polarization = X-Axis****Worst Case Axis for Horizontal Polarization = X-Axis**

| Freq.<br>(MHz) | Level<br>(dBuV) | Level<br>(V/m) | Antenna<br>Gain<br>(dBi) | Numeric<br>Gain | Power<br>Output<br>(Watts) | Power<br>Output<br>(mW) | Power<br>Output<br>(dBm) | Comments               |
|----------------|-----------------|----------------|--------------------------|-----------------|----------------------------|-------------------------|--------------------------|------------------------|
| 2402           | 73.62           | 0.0048         | 2                        | 1.584893        | 4.3563E-06                 | 0.00436                 | -23.609                  | (Vert) Limit = +8 dBm  |
| 2441           | 70.41           | 0.00332        | 2                        | 1.584893        | 2.0803E-06                 | 0.00208                 | -26.819                  | (Vert) Limit = +8 dBm  |
| 2480           | 73.44           | 0.0047         | 2                        | 1.584893        | 4.1795E-06                 | 0.00418                 | -23.789                  | (Vert) Limit = +8 dBm  |
| 2402           | 75.34           | 0.00585        | 2                        | 1.584893        | 6.4732E-06                 | 0.00647                 | -21.889                  | (Horiz) Limit = +8 dBm |
| 2441           | 71.28           | 0.00366        | 2                        | 1.584893        | 2.5417E-06                 | 0.00254                 | -25.949                  | (Horiz) Limit = +8 dBm |
| 2480           | 72.83           | 0.00438        | 2                        | 1.584893        | 3.6318E-06                 | 0.00363                 | -24.399                  | (Horiz) Limit = +8 dBm |

Level in dBuV obtained by maximizing fundamental emission then setting the EMI Receiver to  
 RBW = 3 kHz, VBW = 10 kHz, Span = 300 kHz, Sweep Time = 100 Seconds

The Power in Watts is obtained by the following Formula Below:

$$P = [(E \cdot D)^2] / (30 \cdot G)$$

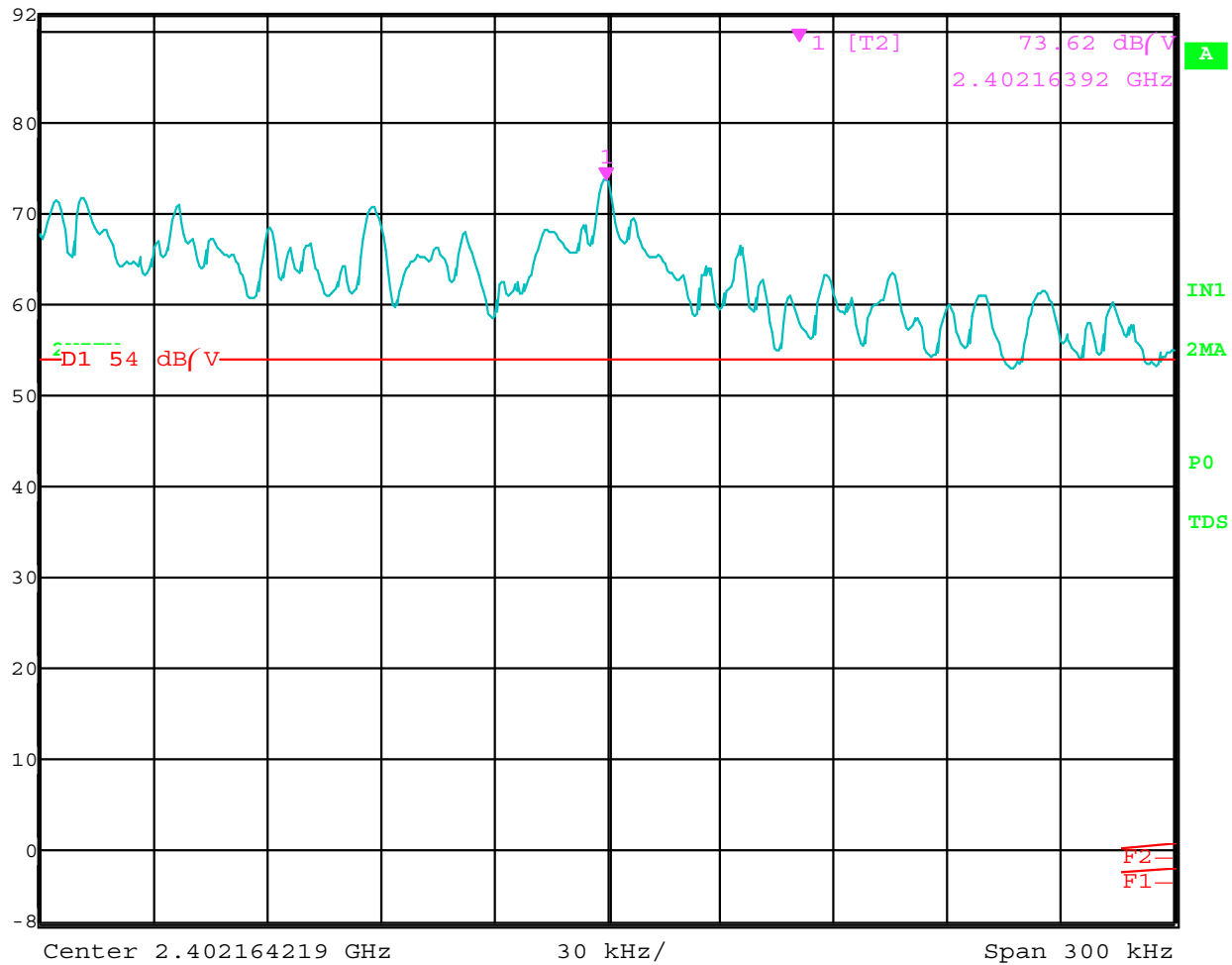
P = Power in Watts

E = The Measured Maximum Field Strength in V/m

G = The Numeric Gain of the Transmitting Antenna over an Isotropic Radiator



Ref Lvl 92 dB/V  
Marker 1 [T2] 73.62 dB/V  
2.40216392 GHz  
RBW 3 kHz  
VBW 10 kHz  
SWT 100 s  
RF Att 0 dB  
Unit dB/V

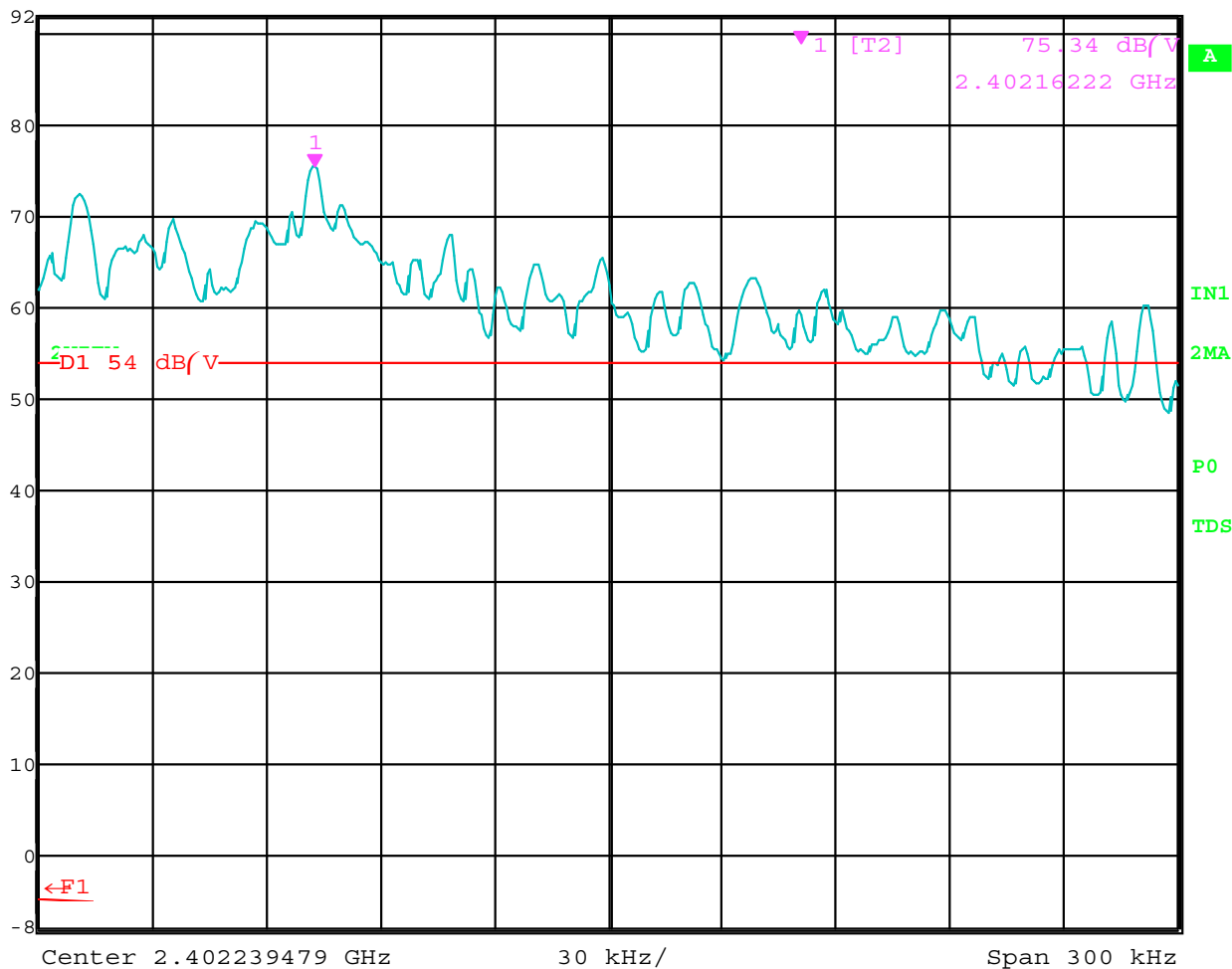


Date: 21.APR.2005 22:27:26

PPSD - Low Channel - Vertical Polarization



Ref Lvl 92 dB/V  
Marker 1 [T2] 75.34 dB/V  
2.40216222 GHz  
RBW 3 kHz  
VBW 10 kHz  
SWT 100 s  
RF Att 0 dB  
Unit dB/V

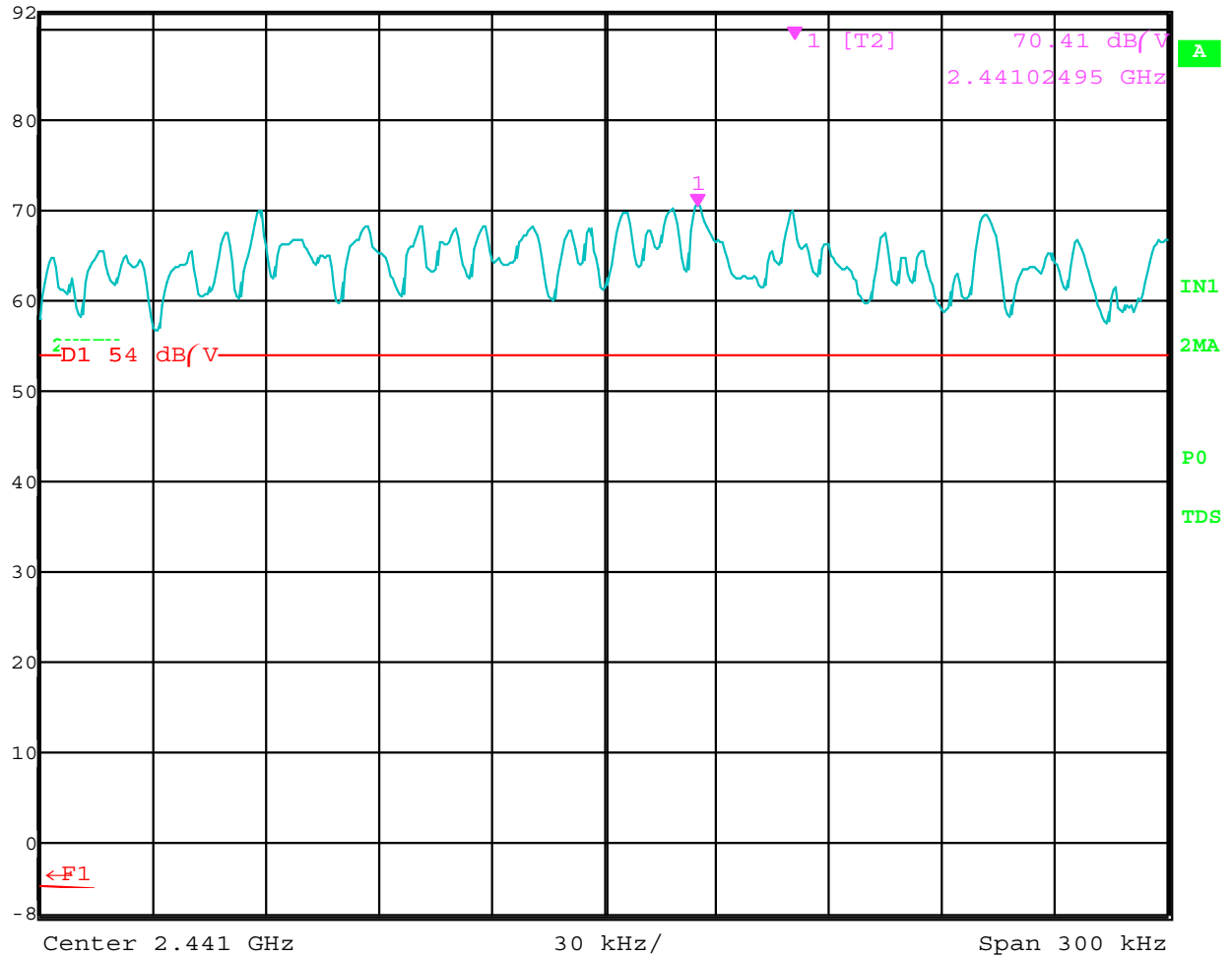


Date: 21.APR.2005 21:16:04

PP PSD – Low Channel – Horizontal Polarization



Ref Lvl 92 dB/V  
Marker 1 [T2] 70.41 dB/V  
2.44102495 GHz  
RBW 3 kHz  
VBW 10 kHz  
SWT 100 s  
RF Att 0 dB  
Unit dB/V



Date: 21.APR.2005 21:50:08

P PPSD – Middle Channel – Vertical Polarization



Ref Lvl 92 dB/V

Marker 1 [T2] 71.28 dB/V

2.44102375 GHz

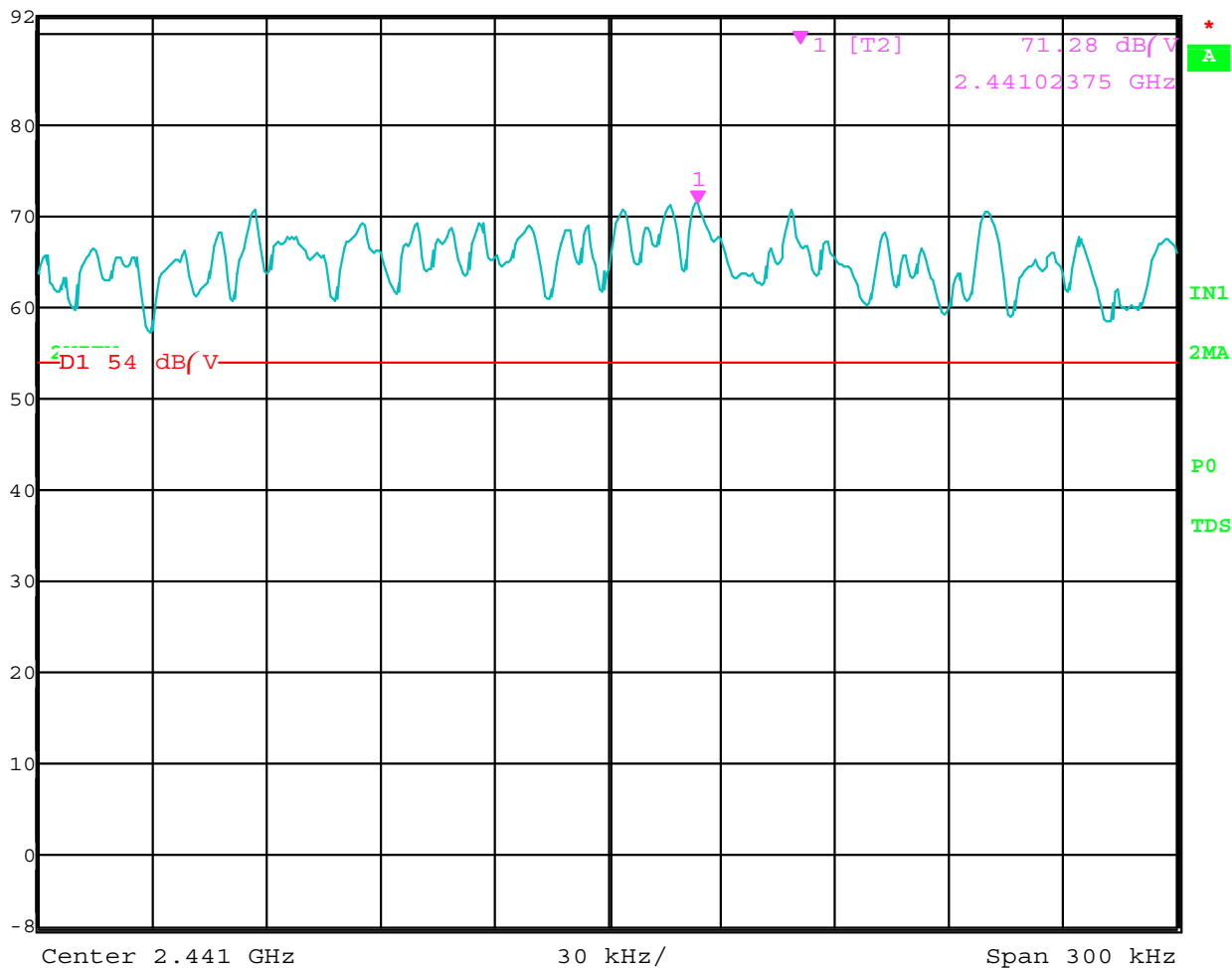
RBW 3 kHz

VBW 10 kHz

SWT 100 s

RF Att 0 dB

Unit dB/V



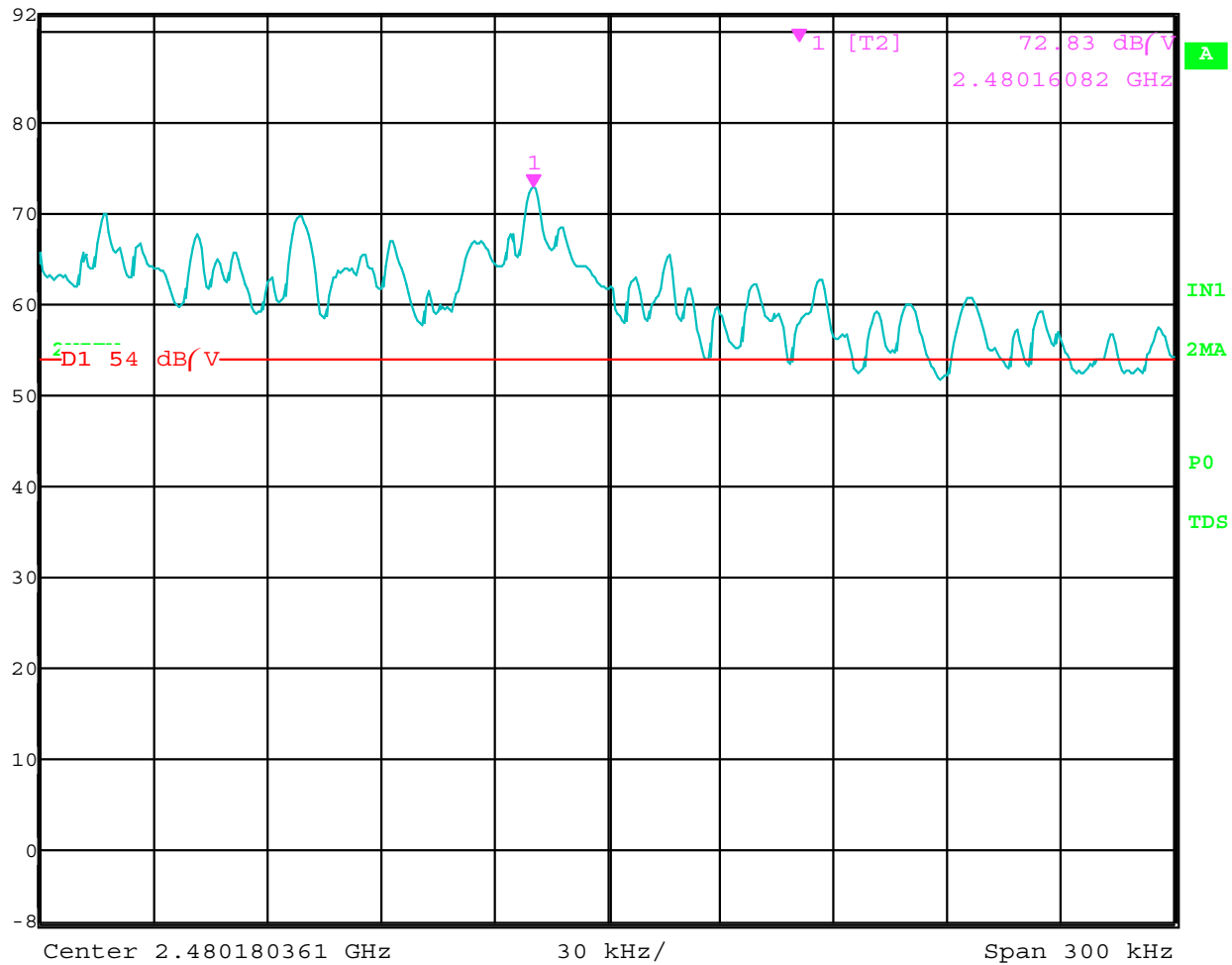
Date: 21.APR.2005 21:04:53

PPSD – Middle Channel – Horizontal Polarization

PPSD – Hi Channel – Vertical Polarization



Ref Lvl 92 dB/V  
Marker 1 [T2] 72.83 dB/V  
2.48016082 GHz  
RBW 3 kHz  
VBW 10 kHz  
SWT 100 s  
RF Att 0 dB  
Unit dB/V



Date: 21.APR.2005 20:56:10

PPSD – Hi Channel – Horizontal Polarization

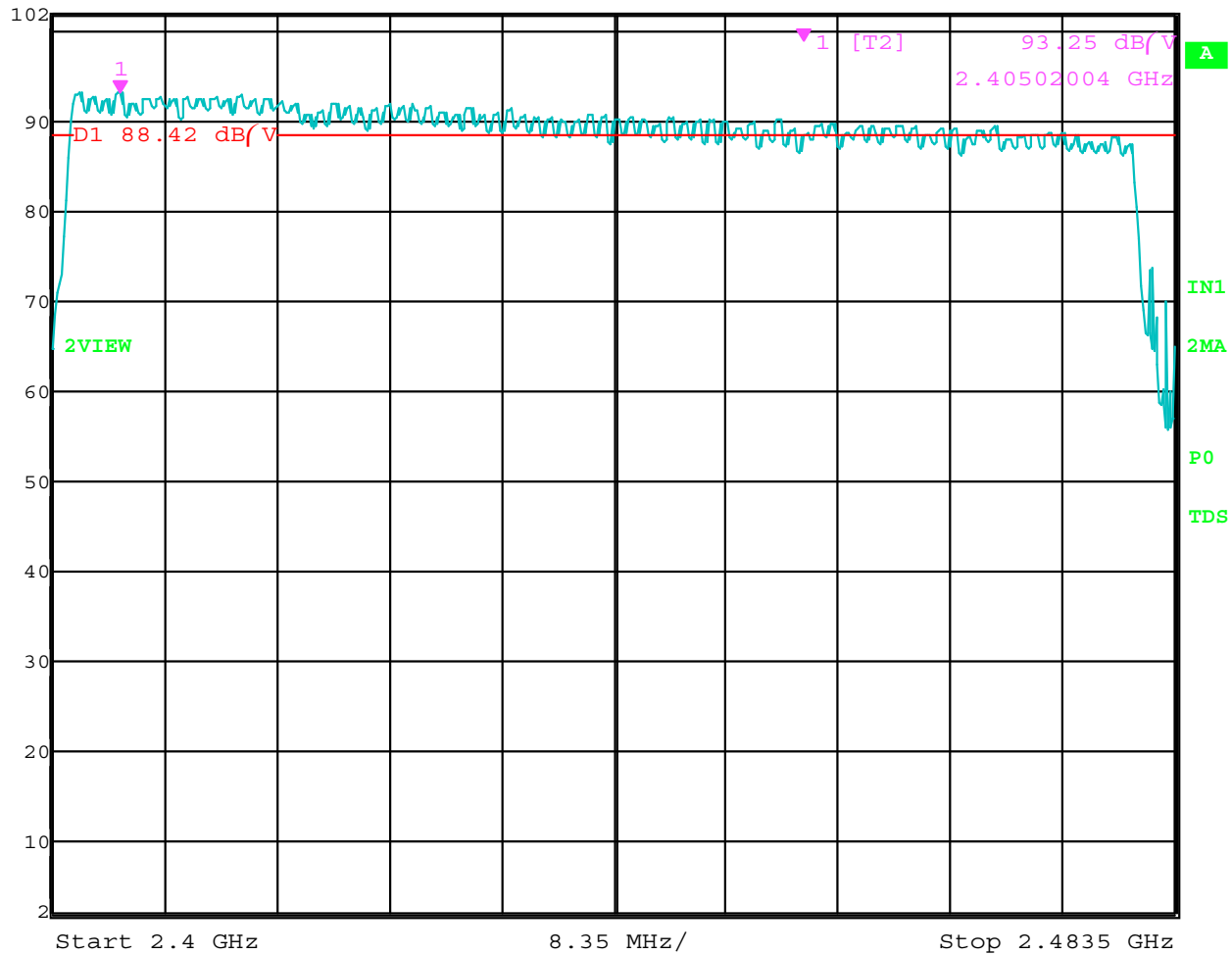


## ***NUMBER OF HOPPING FREQUENCIES***

### ***DATA SHEET***

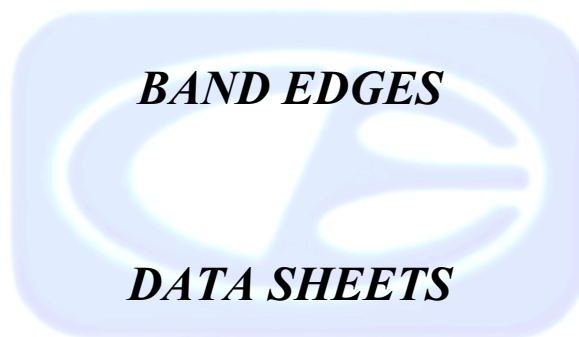


Ref Lvl 102 dB/V  
Marker 1 [T2] 93.25 dB/V  
2.40502004 GHz  
RBW 1 MHz  
RF Att 10 dB  
VBW 1 MHz  
SWT 5 ms  
Unit dB/V



Date: 22.APR.2005 21:44:05

Number of Frequencies – 79 Total



**FCC 15.247**

Thales Navigation

Date: 04/21/05

GPS Receiver

Lab: B

Model: MobileMapper CE

Tested By: Benigno Chavez

Configuration: With Internal Antenna

**Worst Case - X-axis for EUT itself****Low Channel - 2402 MHz Fundamental****Mid Channel - 2441 MHz Fundamental****High Channel - 2480 MHz Fundamental****Transmit Mode**

| Freq.<br>(MHz) | Level<br>(dBuV) | Pol (v/h) | Limit | Margin | Peak /<br>QP /<br>Avg | Ant.<br>Height<br>(m) | Table<br>Angle<br>(deg) | Comments                      |
|----------------|-----------------|-----------|-------|--------|-----------------------|-----------------------|-------------------------|-------------------------------|
| 2402           | 86.86           | V         | --    | --     | Peak                  | 1.92                  | 315                     | Fundamental of Low Channel    |
| 2402           | 43.7            | V         | --    | --     | Avg                   | 1.92                  | 315                     | @ 3 meters                    |
|                |                 |           |       |        |                       |                       |                         |                               |
| 2389.8         | 48.35           | V         | 74    | -25.65 | Peak                  | 1.92                  | 315                     | <b>No</b> Marker Delta Method |
| 2333.4         | 27.98           | V         | 54    | -26.02 | Avg                   | 1.92                  | 315                     | Method Used                   |
|                |                 |           |       |        |                       |                       |                         |                               |
| 2441           | 85.84           | V         | --    | --     | Peak                  | 1.95                  | 315                     | Fundamental of Middle Channel |
| 2441           | 42.99           | V         | --    | --     | Avg                   | 1.95                  | 315                     | @ 3 meters                    |
|                |                 |           |       |        |                       |                       |                         |                               |
| 2480           | 86.58           | V         | --    | --     | Peak                  | 1.94                  | 315                     | Fundamental of High Channel   |
| 2480           | 43.82           | V         | --    | --     | Avg                   | 1.94                  | 315                     | @ 3 meters                    |
|                |                 |           |       |        |                       |                       |                         |                               |
| 2483.5         | 63.89           | V         | 74    | -10.11 | Peak                  | 1.94                  | 315                     | <b>No</b> Marker Delta Method |
| 2483.5         | 25.57           | V         | 54    | -28.43 | Avg                   | 1.94                  | 315                     | Method Used                   |
|                |                 |           |       |        |                       |                       |                         |                               |

**FCC 15.247**

Thales Navigation

Date: 04/21/05

GPS Receiver

Lab: B

Model: MobileMapper CE

Tested By: Benigno Chavez

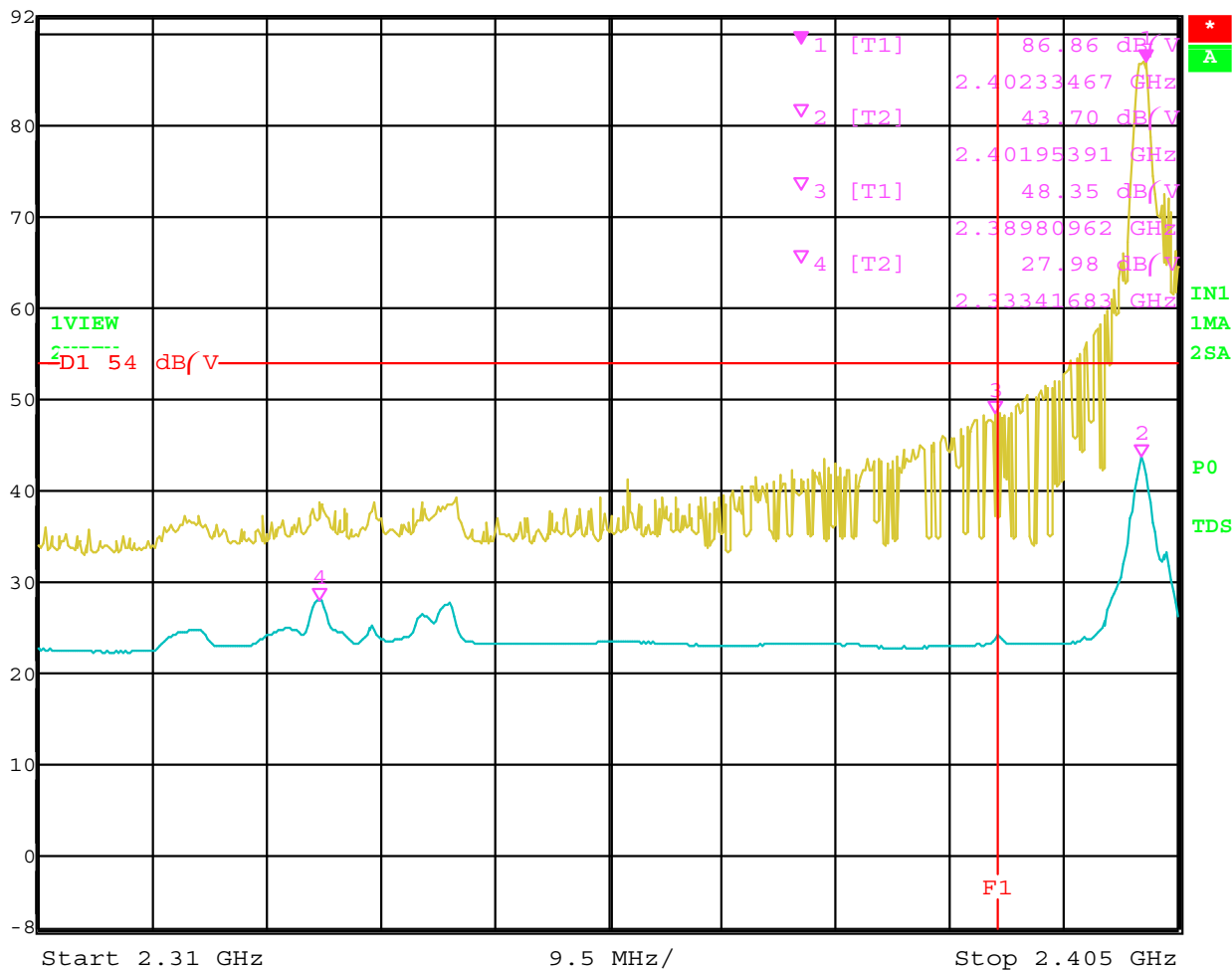
Configuration: With Internal Antenna

**Worst Case - X-axis for EUT itself****Low Channel - 2402 MHz Fundamental****Mid Channel - 2441 MHz Fundamental****High Channel - 2480 MHz Fundamental****Transmit Mode**

| Freq.<br>(MHz) | Level<br>(dBuV) | Pol (v/h) | Limit | Margin | Peak /<br>QP /<br>Avg | Ant.<br>Height<br>(m) | Table<br>Angle<br>(deg) | Comments                      |
|----------------|-----------------|-----------|-------|--------|-----------------------|-----------------------|-------------------------|-------------------------------|
| 2402           | 88.42           | H         | --    | --     | Peak                  | 1.34                  | 180                     | Fundamental of Low Channel    |
| 2402           | 44.14           | H         | --    | --     | Avg                   | 1.34                  | 180                     | @ 3 meters                    |
| 2390           | 49.4            | H         | 74    | -24.6  | Peak                  | 1.34                  | 180                     | <b>No</b> Marker Delta Method |
| 2333.2         | 27              | H         | 54    | -27    | Avg                   | 1.34                  | 180                     | Method Used                   |
| 2441           | 86.61           | H         | --    | --     | Peak                  | 1.34                  | 180                     | Fundamental of Middle Channel |
| 2441           | 44.66           | H         | --    | --     | Avg                   | 1.34                  | 180                     | @ 3 meters                    |
| 2480           | 86.08           | H         | --    | --     | Peak                  | 1.72                  | 180                     | Fundamental of High Channel   |
| 2480           | 43.64           | H         | --    | --     | Avg                   | 1.72                  | 180                     | @ 3 meters                    |
| 2483.5         | 63.29           | H         | 74    | -10.71 | Peak                  | 1.72                  | 180                     | <b>No</b> Marker Delta Method |
| 2483.5         | 25.73           | H         | 54    | -28.27 | Avg                   | 1.72                  | 180                     | Method Used                   |



Ref Lvl 92 dB/V  
Marker 1 [T1] 86.86 dB/V  
2.40233467 GHz  
RBW 1 MHz  
VBW 10 Hz  
SWT 24 s  
RF Att 0 dB  
Unit dB/V

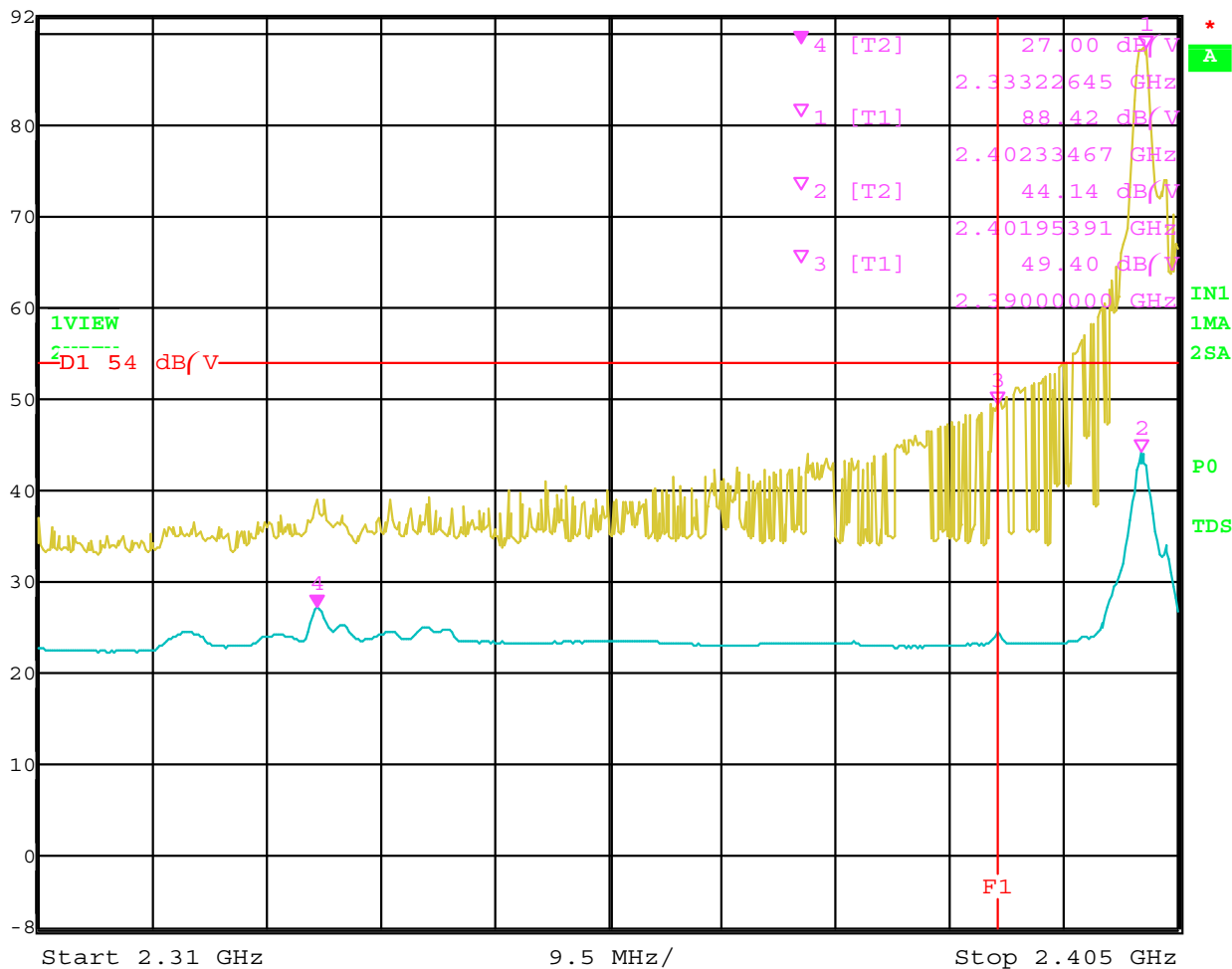


Date: 21.APR.2005 21:41:33

Band Edge – Low – Vertical Polarization



Ref Lvl 92 dB/V  
Marker 4 [T2] 27.00 dB/V  
2.33322645 GHz  
RBW 1 MHz  
VBW 10 Hz  
SWT 24 s  
RF Att 0 dB  
Unit dB/V

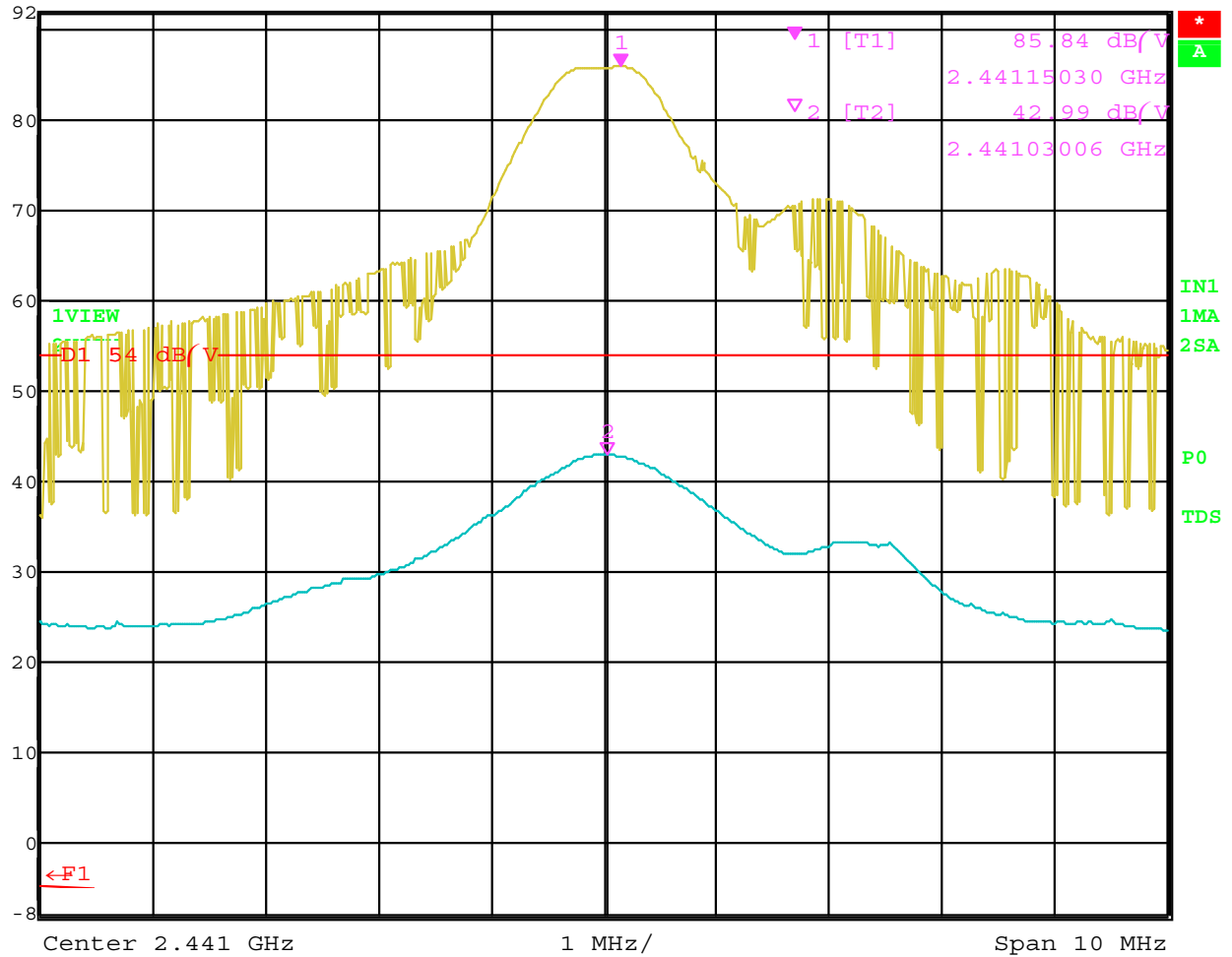


Date: 21.APR.2005 21:18:18

Band Edge – Low – Horizontal Polarization



Ref Lvl 92 dB/V  
Marker 1 [T1] 85.84 dB/V  
2.44115030 GHz  
RBW 1 MHz  
VBW 10 Hz  
SWT 2.5 s  
RF Att 0 dB  
Unit dB/V

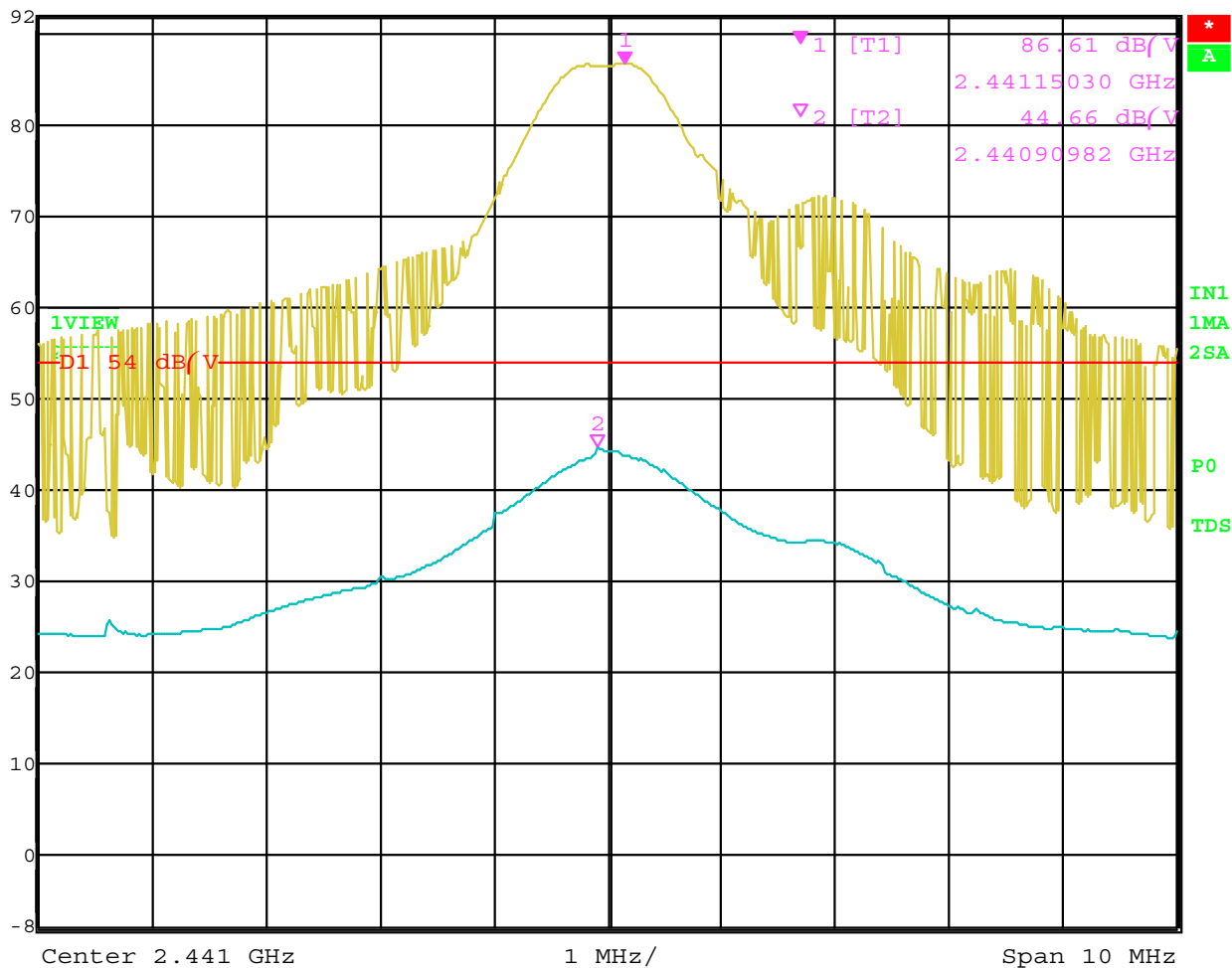


Date: 21.APR.2005 21:47:32

Band Edge – Middle – Vertical Polarization



Ref Lvl 92 dB/V  
Marker 1 [T1] 86.61 dB/V  
2.44115030 GHz  
RBW 1 MHz  
VBW 10 Hz  
SWT 2.5 s  
RF Att 0 dB  
Unit dB/V

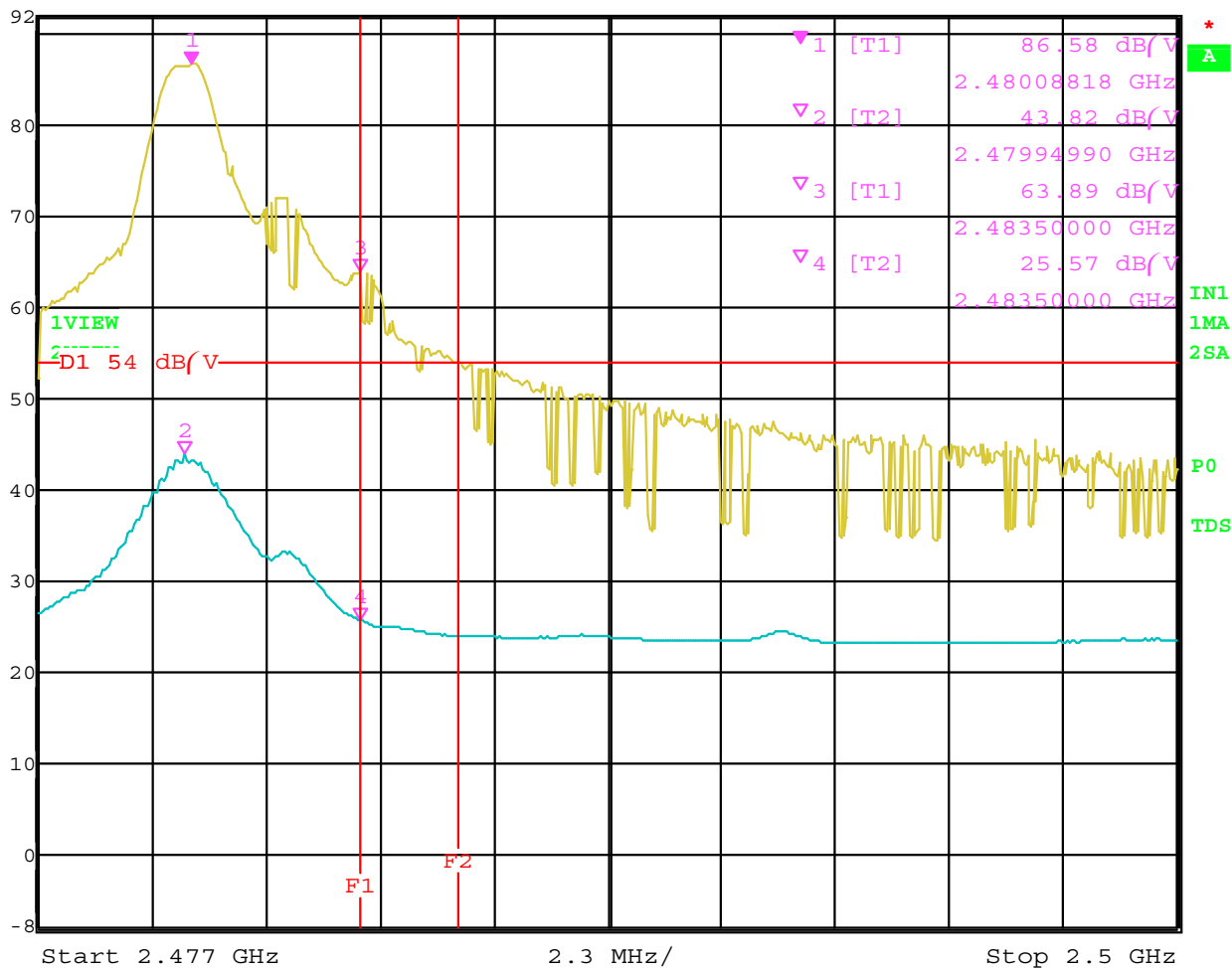


Date: 21.APR.2005 21:01:31

Band Edge – Middle – Horizontal Polarization



Ref Lvl 92 dB/V  
Marker 1 [T1] 86.58 dB/V  
2.48008818 GHz  
RBW 1 MHz  
RF Att 0 dB  
VBW 10 Hz  
SWT 5.8 s  
Unit dB/V

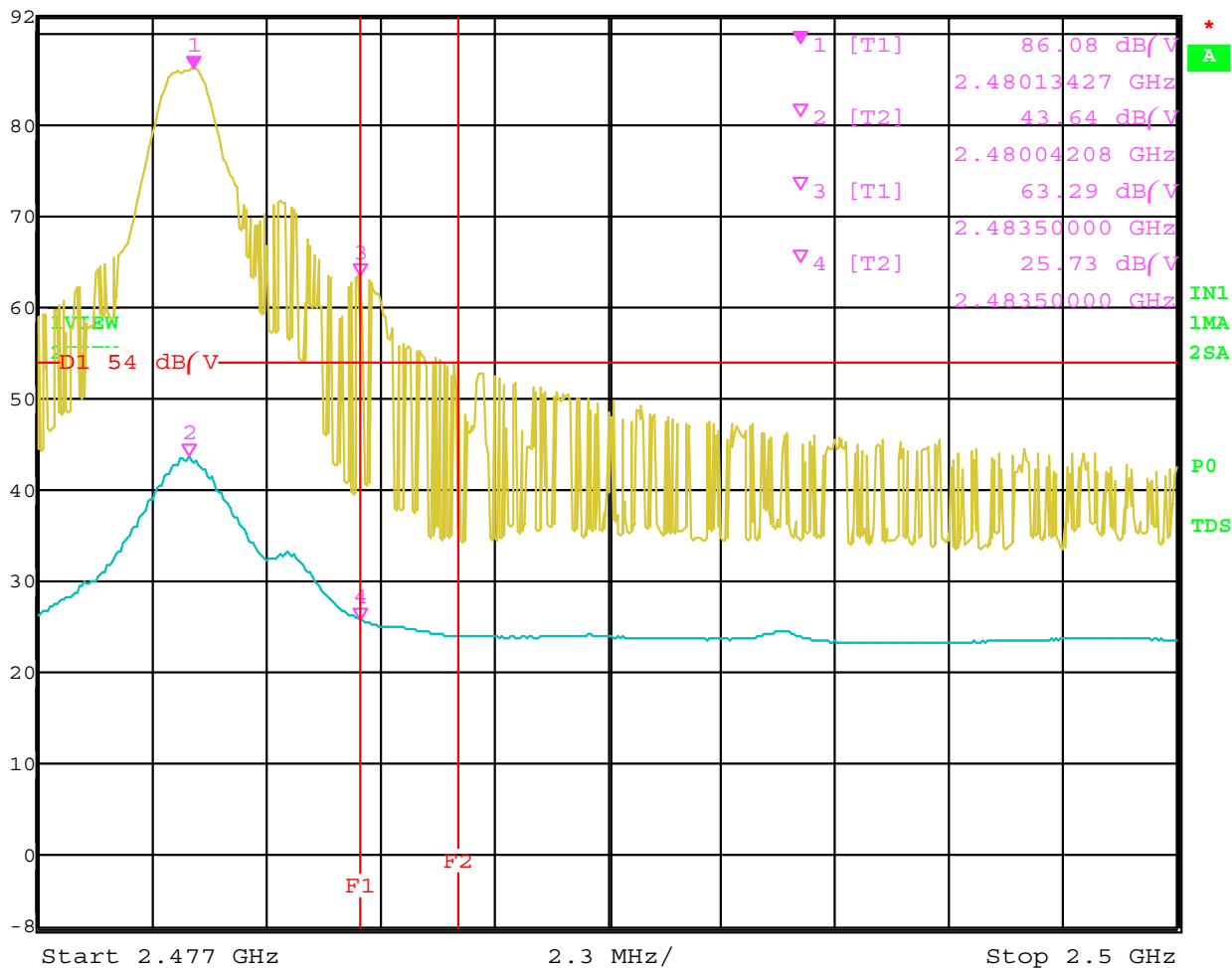


Date: 21.APR.2005 21:54:50

Band Edge – Hi – Vertical Polarization

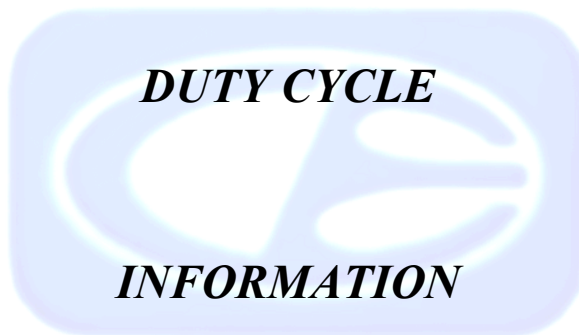


Ref Lvl 92 dB/V  
Marker 1 [T1] 86.08 dB/V  
2.48013427 GHz  
RBW 1 MHz  
RF Att 0 dB  
VBW 10 Hz  
SWT 5.8 s  
Unit dB/V



Date: 21.APR.2005 20:57:58

Band Edge – Hi – Horizontal Polarization



|                                       |                                   |                 |                 |
|---------------------------------------|-----------------------------------|-----------------|-----------------|
| <b>Company:</b> 15.247 Interpretation | <b>Subject:</b> Spurious emission | 1227            |                 |
| <b>Remarks:</b>                       |                                   | <b>Keyword:</b> |                 |
| <b>Rule Parts:</b> 15.247             | <b>City:</b>                      | <b>State:</b>   | <b>Country:</b> |

INQUIRY: I'm writing the regulatory sections for a new wireless standard, the IEEE 802.15.4 Personal Area Network standard. This is the IEEE's answer to a need for something a bit lower cost than Bluetooth. Since these standards have in the past not done a particularly good job of documenting and interpreting FCC and other applicable regs, I'm really making a special effort to get it right for these guys. However, I've run into a problem on interpretation of Part 15.247 that no one knows the answer to, though it is quite fundamental and should have probably been spelled out in the rules. 15.247 allows harmonics at -20 dBc (easy) for ISM band spread spectrum equipment, but where the harmonics fall in the restricted bands of FCC 15.205 the general level of FCC 15.209 must be met. This is 500 uV/m at 3 meters, or -41.2 dBm ERP. The 2nd, 3rd, and 5th harmonics of 2400 MHz band gear falls into restricted, as does the 3rd and 5th of 902-928 MHz. At a transmit power level of 100 mW steady state, the equipment must attain -61 dBc harmonic rejection, or with higher antenna gain (say on the third where a quarterwave whip resonates) it must get even more. This is a real bear for cheap gear to meet. Now it is common practice to use the provisions of FCC 15.35 to average the transmission over 100 mS and allow the electric field strength to go up inversely with the average from 0 to 100% duty cycle. This may be done to a maximum of 20 dB allowed higher spurious emissions. For example, at 10% duty cycle over 100 mS, the electric field of harmonics may go up 10X, and since power is the square of electric field the peak power of spurs landing in restricted bands may go up 100X, or 20 dB. This is the max allowed, and in this case it makes a hell of a difference. Now the key question is: Do the averaging provisions of FCC 15.35 apply to hoppers? This is true if the standard practice when measuring frequency hopping systems for harmonics is to let the transmitter hop while the test system takes its data in a fixed 1 MHz channel that the system hops through. Or, has the standard practice been to FORCE the transmitter to transmit on a fixed non-hopping frequency and measure harmonics on a fixed channel using the averaging detector? I have pinged the Part 15 author, John Reed, and he is apparently not sure how he intended this to be interpreted when he wrote the rules. Both he and Ray Laforge have referred me to you on this key question. If a policy on this has not been previously spelled out, then whatever is standard practice on Bluetooth would seem to be the standard for all ISM band hopping systems. On the Bluetooth standard with 79 channels. 1600 hops per second. and an average of two hits on a test channel per 100 mS test period. the full 20 dB relaxation on spurious emissions would be attained. This basically allows about 40 dB harmonic suppression (not so hard to get) vs. 60 if the relaxation via averaging does not apply RESPONSE: The spurious emissions that fall in the restricted bands above 1 GHz would be subject to a peak field strength level at 3 meters of 74 dBuV/m (5000uV/m) and an average field strength level of 54 dBuV/m(500uV/m) . The following procedure should be used when measuring the peak level. During these tests the hopping function is disabled. I understand that the hopping channels may overlap in a 1 MHz band in this new proposal. Therefore, the duty factor should take this into account. This was not an issue in the current bluetooth specification as the channel separation is 1 MHz and the 20 db bandwidths do not overlap. Spurious Radiated Emissions This test is required for any spurious emission or modulation product that falls in a Restricted Band, as defined in Section 15.205. It must be performed with the highest gain of each type of antenna proposed for use with the EUT. Use the following spectrum analyzer settings: Span = wide enough to fully capture the emission being measured RBW = 1 MHz for f > 1 GHz, 100 kHz for f < 1 GHz VBW > RBW Sweep = auto Detector function = peak Trace = max hold Follow the guidelines in ANSI C63.4-1992 with respect to maximizing the emission by rotating the EUT, measuring the emission while the EUT is situated in three orthogonal planes (if appropriate), adjusting the measurement antenna height and polarization, etc. A pre-amp and a high pass filter are required for this test, in order to provide the measuring system with sufficient sensitivity. Allow the trace to stabilize. The peak reading of the emission, after being corrected by the antenna factor, cable loss, pre-amp gain, etc., is the peak field strength, which must comply with the limit specified in Section 15.35(b). Submit this data. Now set the VBW to 10 Hz, while maintaining all of the other instrument settings. This peak level, once corrected, must comply with the limit specified in Section 15.209. If the dwell time per channel of the hopping signal is less than 100 ms, then the reading obtained with the 10 Hz VBW may be further adjusted by a "duty cycle correction factor", derived from 20log(dwell time/100 ms), in an effort to demonstrate compliance with the 15.209 limit. Submit this data.

**Supporting Images:**

| ID | Description | File Type |
|----|-------------|-----------|
|    |             |           |