

Test of: Raymarine Ltd.  
 Pathfinder RL72RC PLUS  
 FCC Part 80: 1998 and  
 FCC Part 2: 1998

## **Appendix D Graphical Test Results**

| <b>Graph No.</b> | <b>Software</b>   | <b>Description</b>                                 |
|------------------|-------------------|----------------------------------------------------|
| RE/555/1000/01   | R&S EsXs-k1       | Radiated Emissions 450ns PW 9 kHz to 150 kHz       |
| RE/555/1000/02   | R&S EsXs-k1       | Radiated Emissions 450ns PW 150 kHz to 30 MHz      |
| RE/555/1000/03   | R&S EsKs-k1       | Radiated Emissions 450ns PW 30 MHz to 300 MHz      |
| RE/555/1000/04   | R&S EsKs-k1       | Radiated Emissions 450ns PW 300 MHz to 1 GHz       |
| RE/555/1000/05   | H-P 85878A        | Radiated Emissions 450ns PW 1 GHz to 2 GHz         |
| RE/555/1000/06   | P&HT Plottergeist | Radiated Emissions 450ns PW 2 GHz to 6.5 GHz       |
| RE/555/1000/07   | P&HT Plottergeist | Radiated Emissions 450ns PW 6.5 GHz to 8.92 GHz    |
| RE/555/1000/08   | P&HT Plottergeist | Radiated Emissions 75ns PW 8.9 GHz to 9.92 GHz     |
| RE/555/1000/09   | P&HT Plottergeist | Radiated Emissions 450ns PW 8.9 GHz to 9.92 GHz    |
| RE/555/1000/10   | P&HT Plottergeist | Radiated Emissions 1000ns PW 8.9 GHz to 9.92 GHz   |
| RE/555/1000/11   | P&HT Plottergeist | Radiated Emissions 450ns PW 9.9 GHz to 14 GHz      |
| RE/555/1000/12   | P&HT Plottergeist | Radiated Emissions 450ns PW 14 GHz to 18 GHz       |
| RE/555/1000/13   | P&HT Plottergeist | Radiated Emissions 450ns PW 18 GHz to 22 GHz       |
| RE/555/1000/14   | P&HT Plottergeist | Radiated Emissions 450ns PW 22 GHz to 26.5GHz      |
| RE/555/1000/15   | P&HT Plottergeist | Radiated Emissions 450ns PW 26.5 GHz to 31 GHz     |
| RE/555/1000/16   | P&HT Plottergeist | Radiated Emissions 450ns PW 31 GHz to 35.5 GHz     |
| RE/555/1000/17   | P&HT Plottergeist | Radiated Emissions 450ns PW 35.5 GHz to 40 GHz     |
| CE/555/1000/01   | P&HT Plottergeist | Conducted Emissions 450ns PW 6 GHz to 8.91 GHz     |
| CE/555/1000/02   | P&HT Plottergeist | Conducted Emissions 75ns PW 8.91 GHz to 9.35 GHz   |
| CE/555/1000/03   | P&HT Plottergeist | Conducted Emissions 450ns PW 8.91 GHz to 9.35 GHz  |
| CE/555/1000/04   | P&HT Plottergeist | Conducted Emissions 1000ns PW 8.91 GHz to 9.35 GHz |
| CE/555/1000/05   | P&HT Plottergeist | Conducted Emissions 1000ns PW 9.45 GHz to 9.93 GHz |
| CE/555/1000/06   | P&HT Plottergeist | Conducted Emissions 75ns PW 9.45 GHz to 9.93 GHz   |
| CE/555/1000/07   | P&HT Plottergeist | Conducted Emissions 450ns PW 9.45 GHz to 9.93 GHz  |
| CE/555/1000/08   | P&HT Plottergeist | Conducted Emissions 450ns PW 9.91 GHz to 26.5 GHz  |
| CE/555/1000/09   | P&HT Plottergeist | Conducted Emissions 450ns PW 26.5 GHz to 40 GHz    |
| PP/555/1000/01   | HP8991A Plot      | Peak Power & Pulsewidth 75ns                       |
| PP/555/1000/02   | HP8991A Plot      | Peak Power & Pulsewidth 100ns                      |
| PP/555/1000/03   | HP8991A Plot      | Peak Power & Pulsewidth 150ns                      |
| PP/555/1000/04   | HP8991A Plot      | Peak Power & Pulsewidth 250ns                      |
| PP/555/1000/05   | HP8991A Plot      | Peak Power & Pulsewidth 350ns                      |
| PP/555/1000/06   | HP8991A Plot      | Peak Power & Pulsewidth 450ns                      |
| PP/555/1000/07   | HP8991A Plot      | Peak Power & Pulsewidth 600ns                      |
| PP/555/1000/08   | HP8991A Plot      | Peak Power & Pulsewidth 1000ns                     |
| PRF/555/1000/01  | HP8991A Plot      | Jitter Band – 740 Hz PRF                           |
| PRF/555/1000/02  | HP8991A Plot      | Averaged PRF – 740 Hz                              |
| PRF/555/1000/03  | HP8991A Plot      | Jitter Band – 1000 Hz PRF                          |
| PRF/555/1000/04  | HP8991A Plot      | Averaged PRF – 1000 Hz                             |
| PRF/555/1000/05  | HP8991A Plot      | Jitter Band – 1400 Hz PRF                          |
| PRF/555/1000/06  | HP8991A Plot      | Averaged PRF – 1400 Hz                             |
| PRF/555/1000/07  | HP8991A Plot      | Jitter Band – 1800 Hz PRF                          |
| PRF/555/1000/08  | HP8991A Plot      | Averaged PRF – 1800 Hz                             |
| PRF/555/1000/09  | HP8991A Plot      | Jitter Band – 2500 Hz PRF                          |
| PRF/555/1000/10  | HP8991A Plot      | Averaged PRF – 2500 Hz                             |
| PRF/555/1000/11  | HP8991A Plot      | Jitter Band – 3000 Hz PRF                          |
| PRF/555/1000/12  | HP8991A Plot      | Averaged PRF – 3000 Hz                             |

**RAYMARINE LTD.**

**EMC Department**

**Test of: Raymarine Ltd.  
Pathfinder RL72RC PLUS  
FCC Part 80: 1998 and  
FCC Part 2: 1998**

**TEST REPORT**

**No. 555/1000**

**Page 33 of 80**

**Issue Date: 29-10-2002**

---

|                                   |                                                  |
|-----------------------------------|--------------------------------------------------|
| OBW/555/1000/01 P&HT Plottergeist | Occupied Bandwidth Upper Edge – 75ns Pulsewidth  |
| OBW/555/1000/02 P&HT Plottergeist | Occupied Bandwidth Lower Edge – 75ns Pulsewidth  |
| OBW/555/1000/03 P&HT Plottergeist | Occupied Bandwidth Upper Edge – 100ns Pulsewidth |
| OBW/555/1000/04 P&HT Plottergeist | Occupied Bandwidth Lower Edge – 100ns Pulsewidth |
| OBW/555/1000/05 P&HT Plottergeist | Occupied Bandwidth Upper Edge – 150ns Pulsewidth |
| OBW/555/1000/06 P&HT Plottergeist | Occupied Bandwidth Lower Edge – 150ns Pulsewidth |
| OBW/555/1000/07 P&HT Plottergeist | Occupied Bandwidth Upper Edge – 250ns Pulsewidth |
| OBW/555/1000/08 P&HT Plottergeist | Occupied Bandwidth Lower Edge – 250ns Pulsewidth |
| OBW/555/1000/09 P&HT Plottergeist | Occupied Bandwidth Upper Edge – 350ns Pulsewidth |
| OBW/555/1000/10 P&HT Plottergeist | Occupied Bandwidth Lower Edge – 350ns Pulsewidth |
| OBW/555/1000/11 P&HT Plottergeist | Occupied Bandwidth Upper Edge – 450ns Pulsewidth |
| OBW/555/1000/12 P&HT Plottergeist | Occupied Bandwidth Lower Edge – 450ns Pulsewidth |
| OBW/555/1000/13 P&HT Plottergeist | Occupied Bandwidth 600ns Pulsewidth              |
| OBW/555/1000/14 P&HT Plottergeist | Occupied Bandwidth 1000ns Pulsewidth             |

RAYMARINE LTD.

EMC Department

Test of: Raymarine Ltd.  
Pathfinder RL72RC PLUS  
FCC Part 80: 1998 and  
FCC Part 2: 1998

TEST REPORT

No. 555/1000

Page 34 of 80

Issue Date: 29-10-2002

TP/555/1000

01 Oct 2002 13:55

Radiated Emissions @ 3m (Loop Antenna)

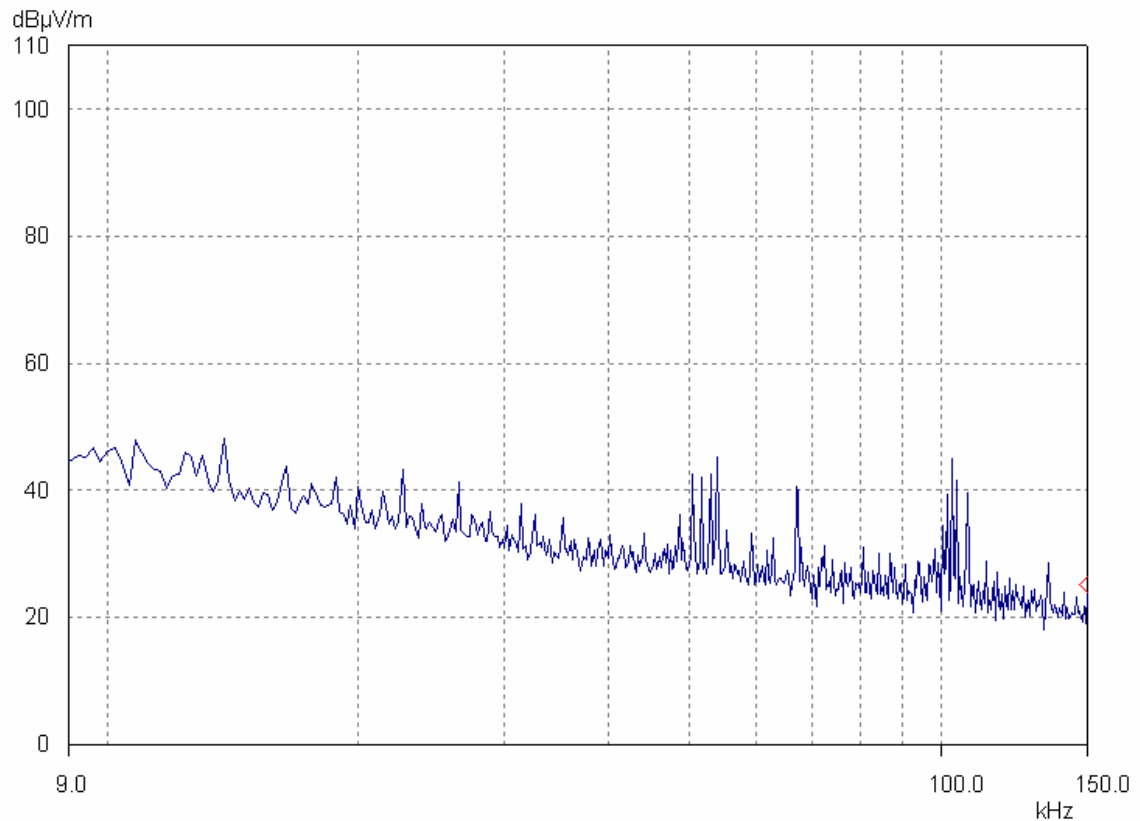
EUT: RL72RC HB

Mfr: Raymarine Ltd.

Op.Cond: 12V supply.

Operator: P.Bowen

| Start F | Stop F | BW    | Step  | Det. | Dwell  | Atten. | Preamp | OpRge |
|---------|--------|-------|-------|------|--------|--------|--------|-------|
| 9kHz    | 150kHz | 200Hz | 200Hz | PK   | 10msec | Auto   | OFF    | 60dB  |



Graph RE/555/1000/01

RAYMARINE LTD.

EMC Department

Test of: Raymarine Ltd.  
Pathfinder RL72RC PLUS  
FCC Part 80: 1998 and  
FCC Part 2: 1998

TEST REPORT

No. 555/1000

Page 35 of 80

Issue Date: 29-10-2002

TP/555/1000

01 Oct 2002 12:44

Radiated Emissions @ 3m (Loop Antenna)

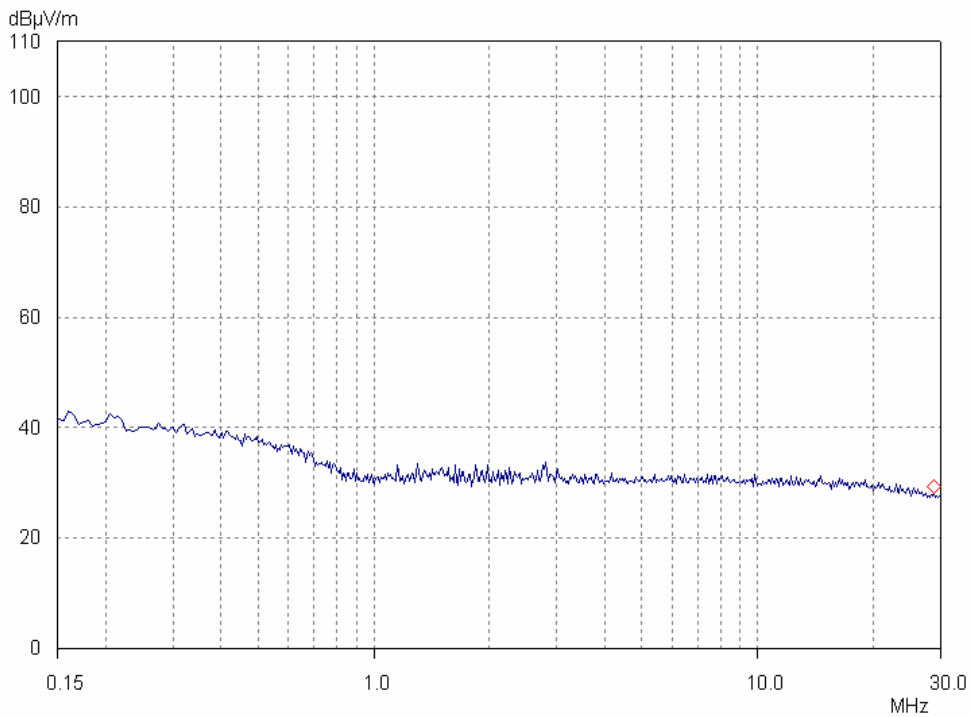
EUT: RL72RC PLUS

Mfr: Raymarine Ltd.

Op.Cond: 12V supply.

Operator: P.Bowen

| Start F | Stop F | BW    | Step | Det. | Dwell  | Atten. | Preamp | OpRge |
|---------|--------|-------|------|------|--------|--------|--------|-------|
| 150kHz  | 30MHz  | 10kHz | 5kHz | PK   | 10msec | 0dB    | ON     | 60dB  |



Graph RE/555/1000/02

Test of: Raymarine Ltd.  
Pathfinder RL72RC PLUS  
FCC Part 80: 1998 and  
FCC Part 2: 1998

TP/555/1000

30 Sep 2002 15:52

Radiated Emissions @ 3m

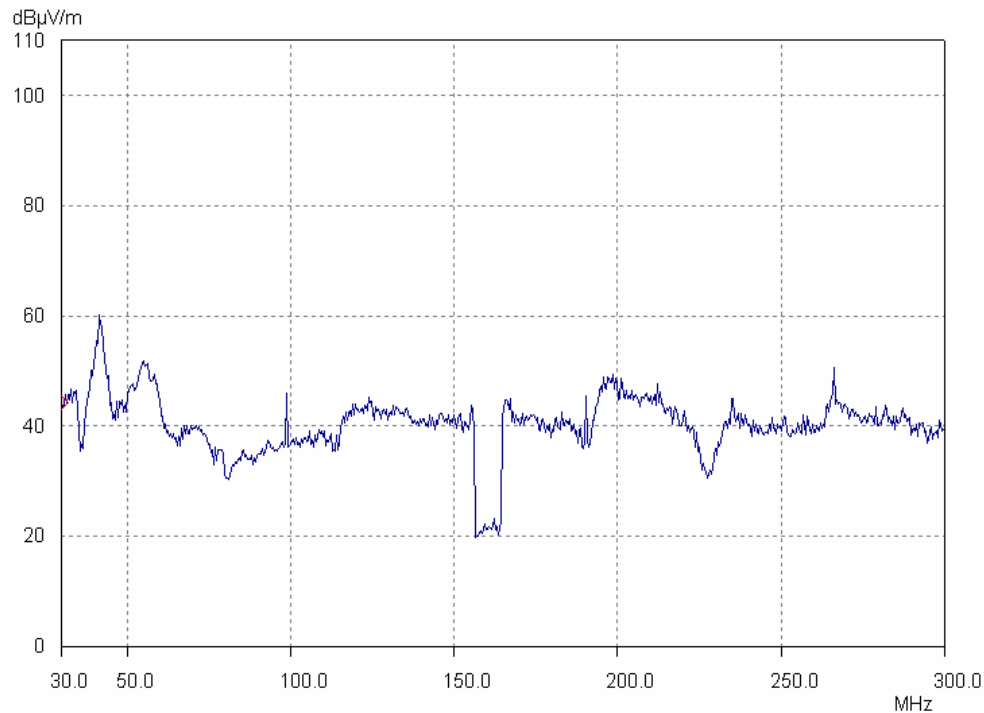
EUT: RL72RC PLUS

Mfr: Raymarine Ltd.

Op.Cond: 12V supply.

Operator: P.Bowen

| Start F | Stop F | Step  | BW     | Det. | Dwell | Atten. | Preamp | OpRge |
|---------|--------|-------|--------|------|-------|--------|--------|-------|
| 30MHz   | 156MHz | 60kHz | 120kHz | PK   | 5msec | 0 dB   | ON     | 60dB  |
| 156MHz  | 165MHz | 5kHz  | 10kHz  | PK   | 5msec | 0 dB   | ON     | 60dB  |
| 165MHz  | 300MHz | 60kHz | 120kHz | PK   | 5msec | 0 dB   | ON     | 60dB  |



Graph RE/555/1000/03

**Note:** The change in the noise floor level near the centre of the frequency range is due to a bandwidth change from 120kHz to 10kHz to accommodate a requirement for European EMC testing of marine products over the range 156-165MHz. It has no relevance to FCC testing.

RAYMARINE LTD.

EMC Department

Test of: Raymarine Ltd.  
Pathfinder RL72RC PLUS  
FCC Part 80: 1998 and  
FCC Part 2: 1998

TEST REPORT

No. 555/1000

Page 37 of 80

Issue Date: 29-10-2002

TP/555/1000

30 Sep 2002 12:43

Radiated Emissions @ 3m

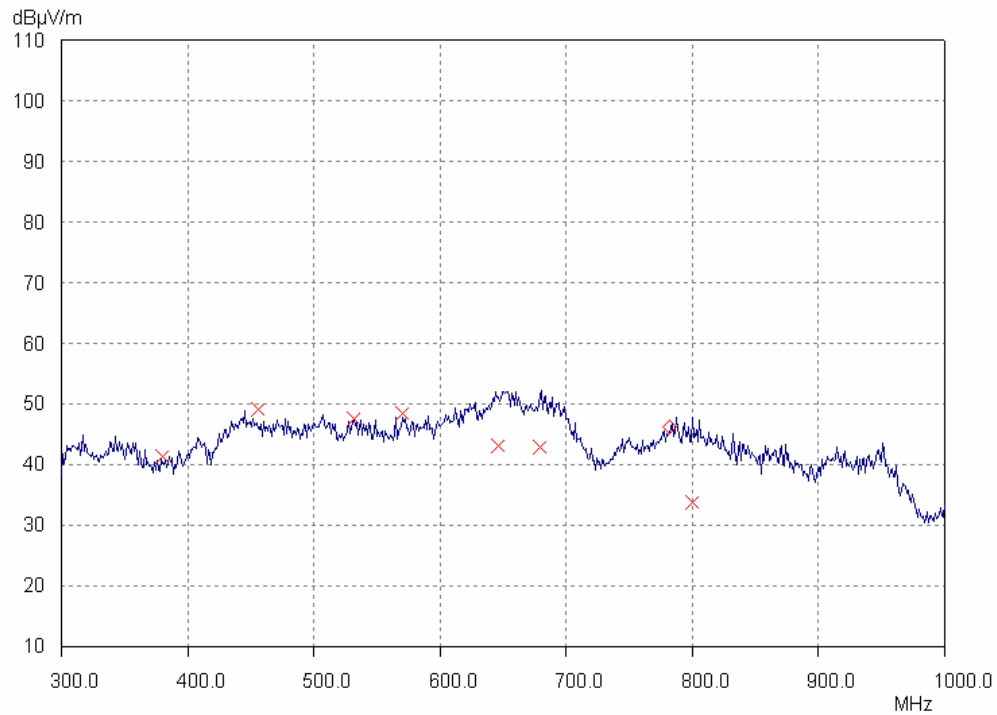
EUT: RL72RC PLUS

Mfr: Raymarine Ltd.

Op.Cond: 12V supply.

Operator: P.Bowen

| Start F | Stop F  | Step  | BW     | Det. | Dwell  | Atten. | Preamp | OpRge |
|---------|---------|-------|--------|------|--------|--------|--------|-------|
| 300MHz  | 1000MHz | 60kHz | 120kHz | PK   | 10msec | 0 dB   | ON     | 60dB  |



Graph RE/555/1000/04

RAYMARINE LTD.

EMC Department

Test of: Raymarine Ltd.  
Pathfinder RL72RC PLUS  
FCC Part 80: 1998 and  
FCC Part 2: 1998

TEST REPORT

No. 555/1000

Page 38 of 80

Issue Date: 29-10-2002

TP/555/1000

30 Sep 2002 15:13

Radiated Emissions @ 3m

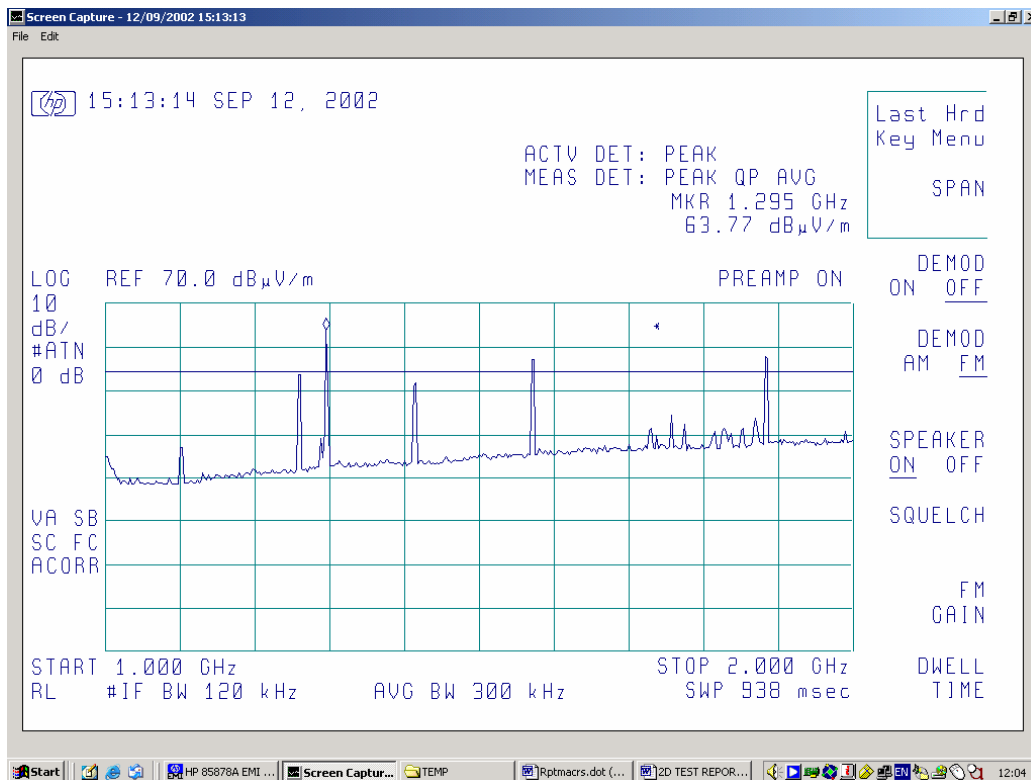
EUT: RL72RC PLUS

Mfr: Raymarine Ltd.

Op.Cond: 12V supply.

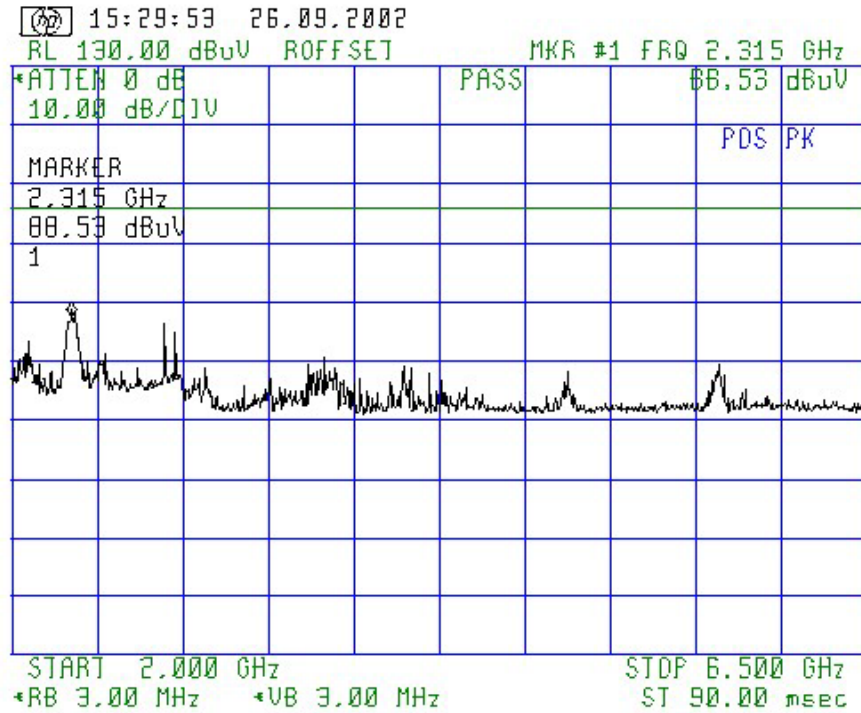
Operator: P.Bowen

| Start F | Stop F | Step  | BW     | Det. | Sweep   | Atten. | Preamp | OpRge |
|---------|--------|-------|--------|------|---------|--------|--------|-------|
| 1.0GHz  | 2.0GHz | 60kHz | 120kHz | PK   | 938msec | 0 dB   | ON     | 80dB  |



Graph RE/555/1000/05

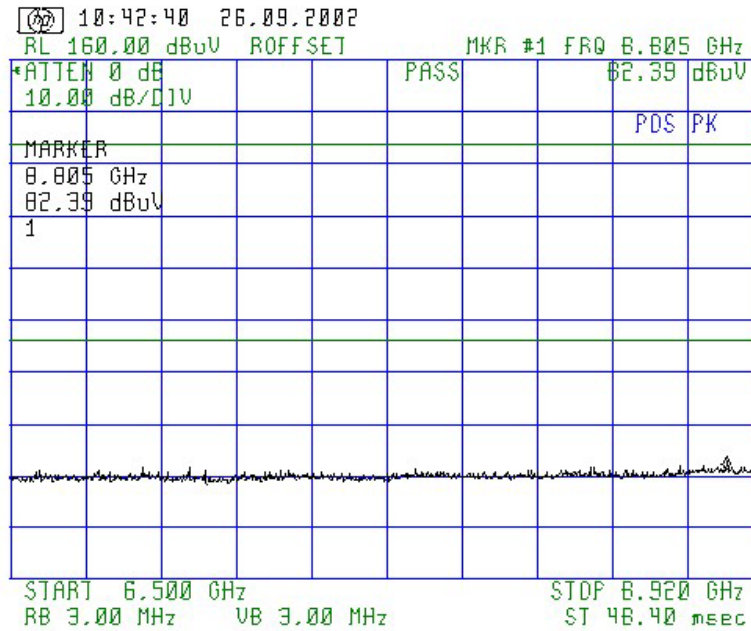
Test of: Raymarine Ltd.  
Pathfinder RL72RC PLUS  
FCC Part 80: 1998 and  
FCC Part 2: 1998



Graph RE/555/1000/06

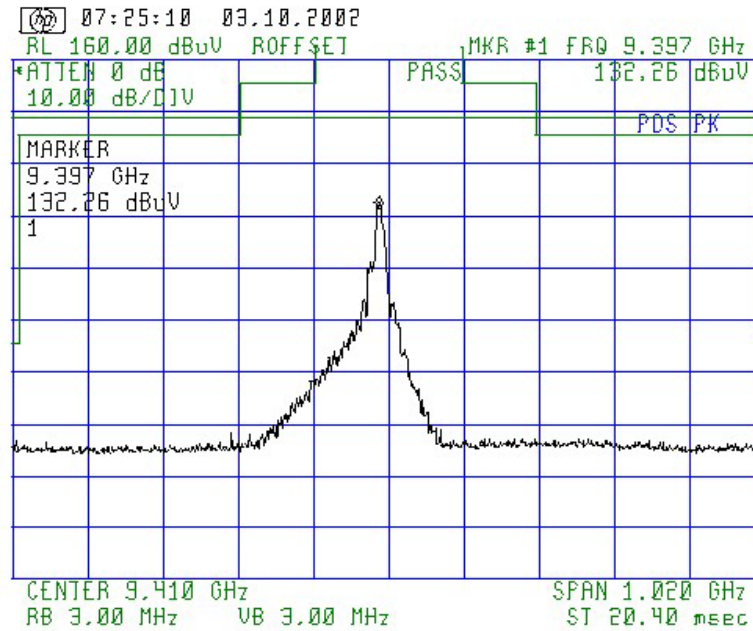


Test of: Raymarine Ltd.  
Pathfinder RL72RC PLUS  
FCC Part 80: 1998 and  
FCC Part 2: 1998



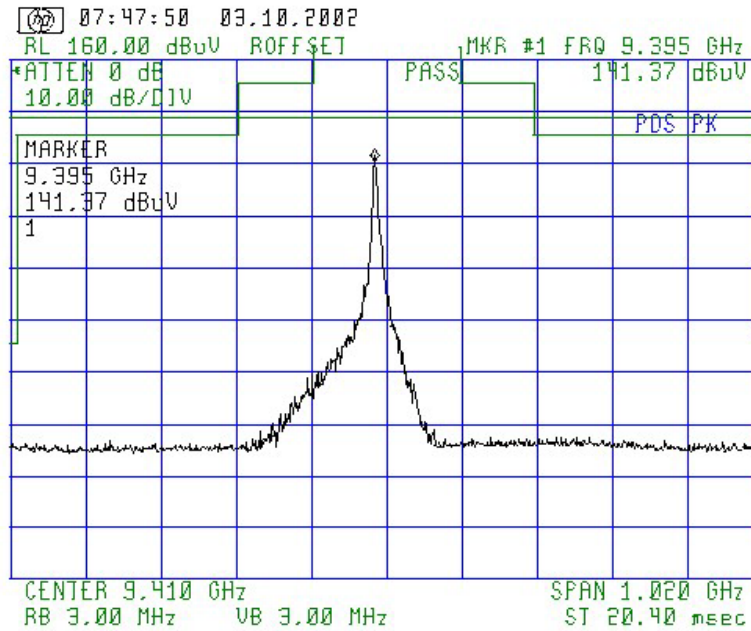
Graph RE/555/1000/07

Test of: Raymarine Ltd.  
Pathfinder RL72RC PLUS  
FCC Part 80: 1998 and  
FCC Part 2: 1998



Graph RE/555/1000/08

Test of: Raymarine Ltd.  
Pathfinder RL72RC PLUS  
FCC Part 80: 1998 and  
FCC Part 2: 1998



Graph RE/555/1000/09

RAYMARINE LTD.

EMC Department

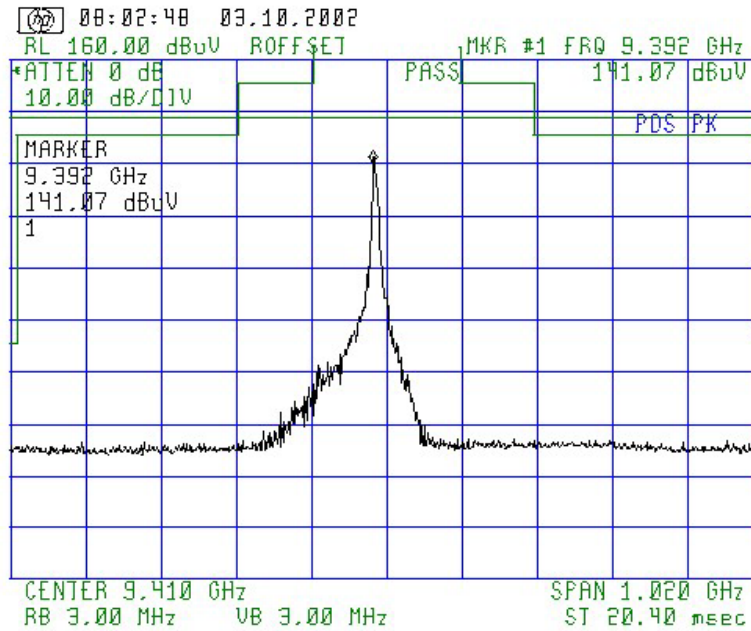
Test of: Raymarine Ltd.  
Pathfinder RL72RC PLUS  
FCC Part 80: 1998 and  
FCC Part 2: 1998

TEST REPORT

No. 555/1000

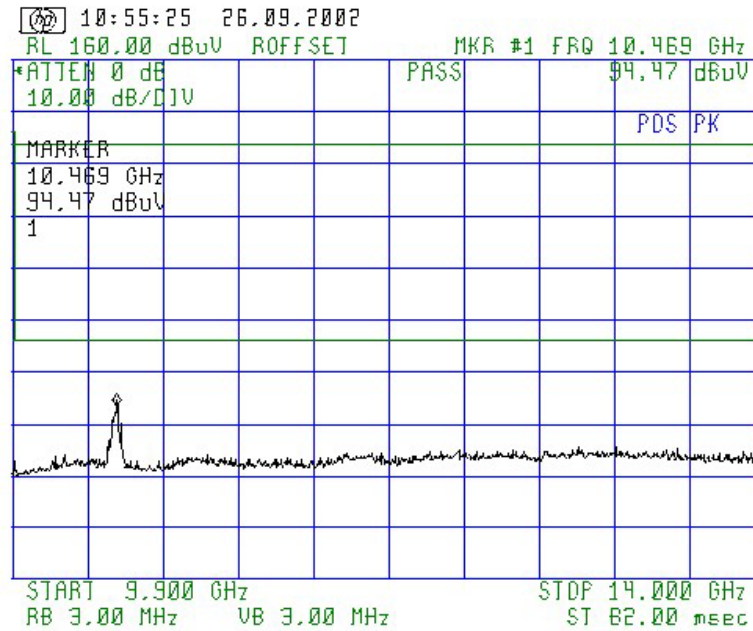
Page 43 of 80

Issue Date: 29-10-2002



Graph RE/555/1000/10

Test of: Raymarine Ltd.  
Pathfinder RL72RC PLUS  
FCC Part 80: 1998 and  
FCC Part 2: 1998



Graph RE/555/1000/11



**Graph RE/555/1000/13**

**Graph RE/555/1000/14**



RAYMARINE LTD.

EMC Department

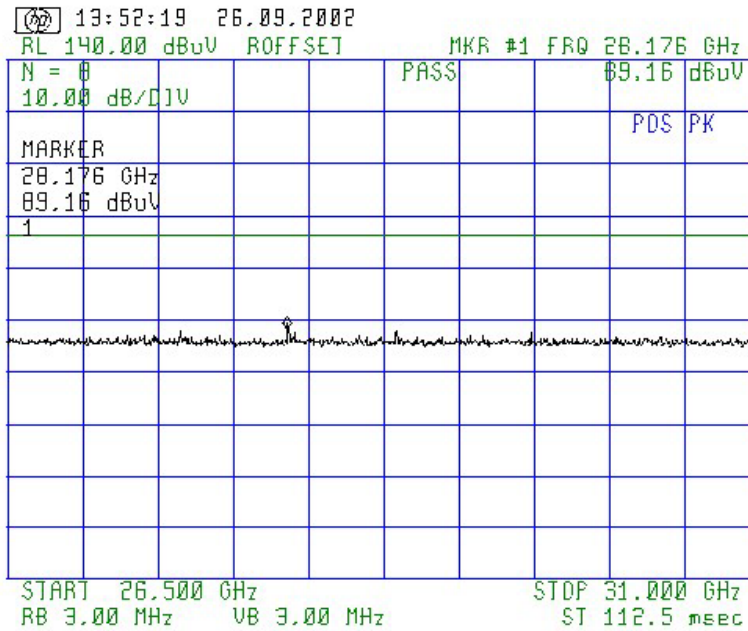
Test of: Raymarine Ltd.  
Pathfinder RL72RC PLUS  
FCC Part 80: 1998 and  
FCC Part 2: 1998

TEST REPORT

No. 555/1000

Page 48 of 80

Issue Date: 29-10-2002



Graph RE/555/1000/15

**Graph RE/555/1000/16**

RAYMARINE LTD.

EMC Department

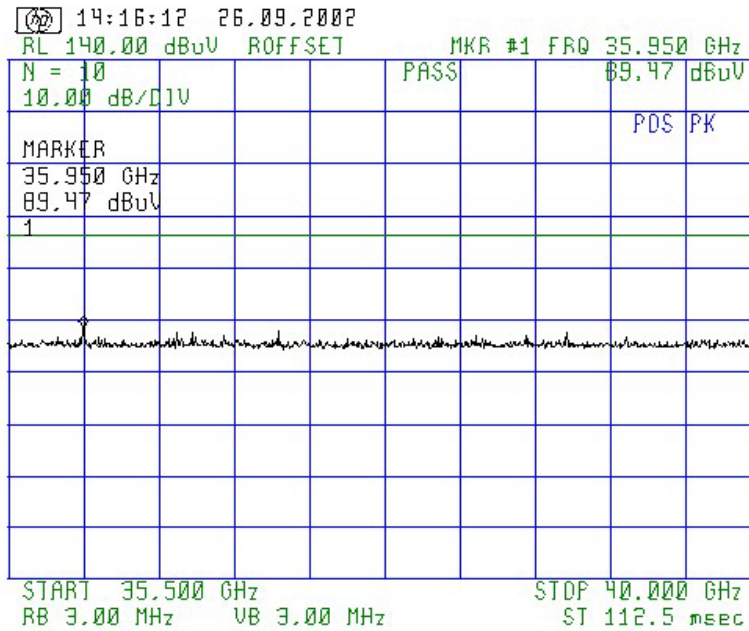
Test of: Raymarine Ltd.  
Pathfinder RL72RC PLUS  
FCC Part 80: 1998 and  
FCC Part 2: 1998

TEST REPORT

No. 555/1000

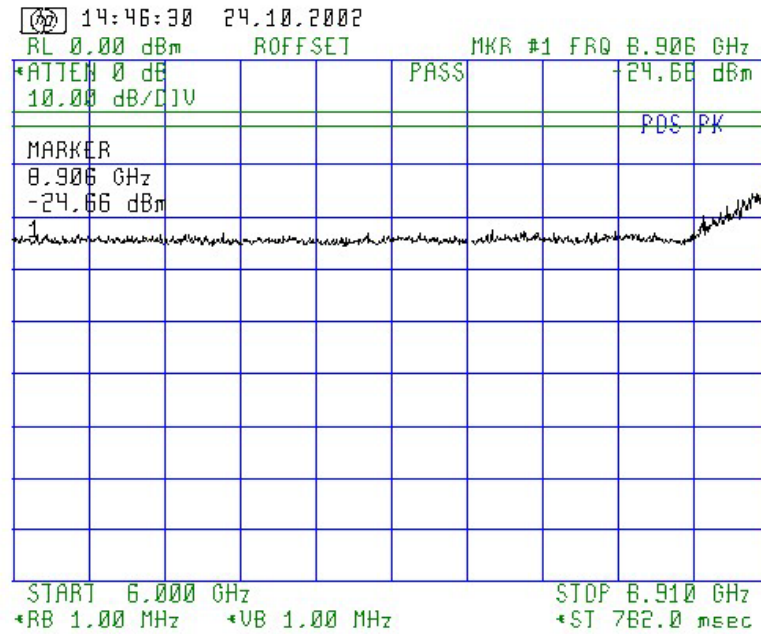
Page 50 of 80

Issue Date: 29-10-2002



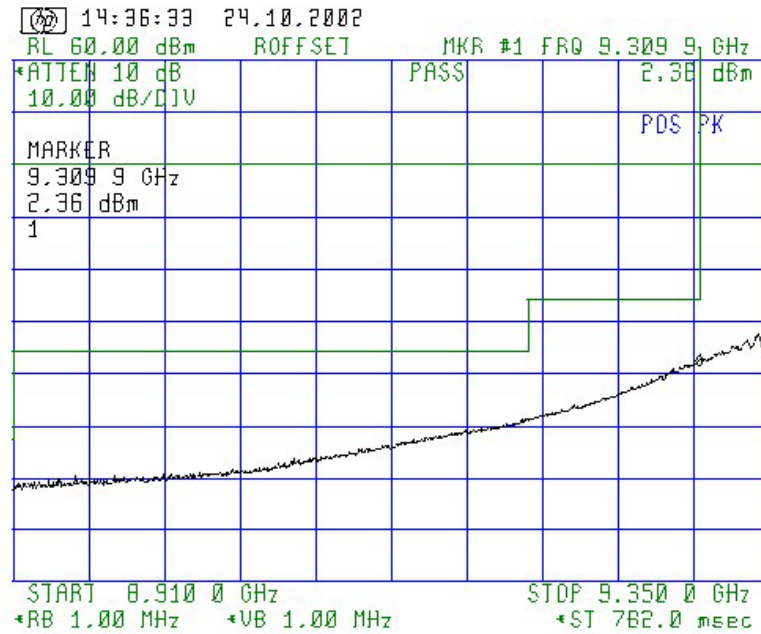
Graph RE/555/1000/17

Test of: Raymarine Ltd.  
Pathfinder RL72RC PLUS  
FCC Part 80: 1998 and  
FCC Part 2: 1998



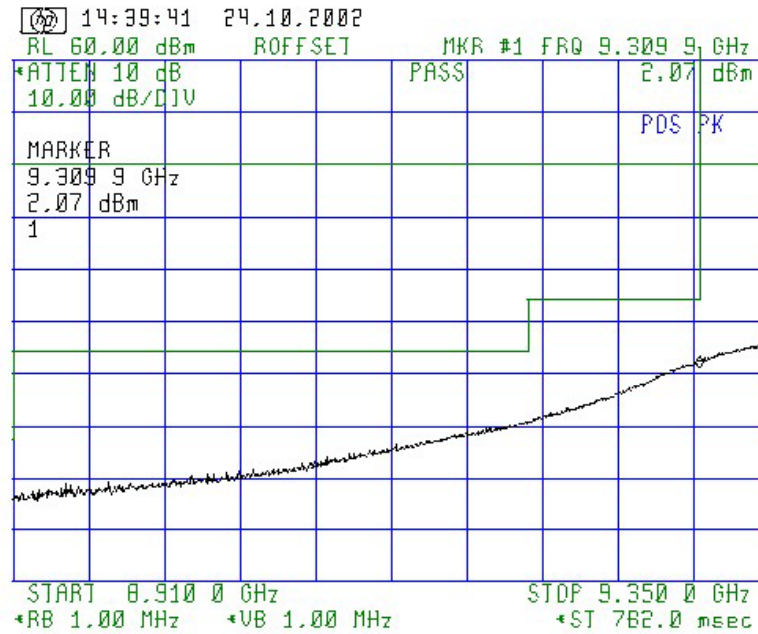
Graph CE/555/1000/01

Test of: Raymarine Ltd.  
Pathfinder RL72RC PLUS  
FCC Part 80: 1998 and  
FCC Part 2: 1998



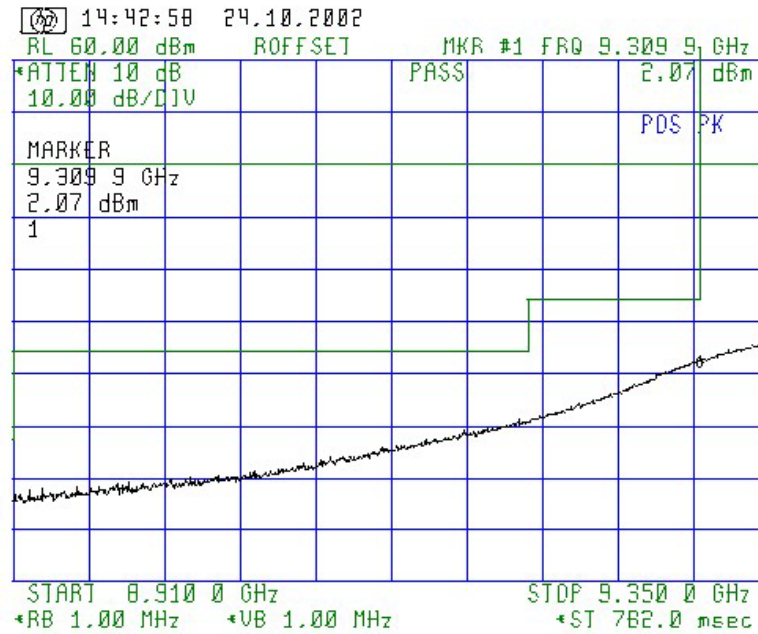
Graph CE/555/1000/02

Test of: Raymarine Ltd.  
Pathfinder RL72RC PLUS  
FCC Part 80: 1998 and  
FCC Part 2: 1998



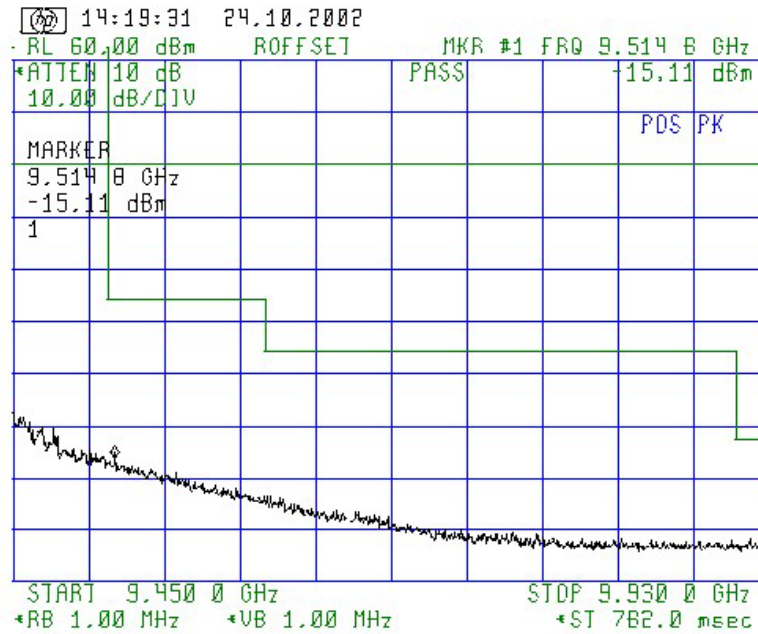
Graph CE/555/1000/03

Test of: Raymarine Ltd.  
Pathfinder RL72RC PLUS  
FCC Part 80: 1998 and  
FCC Part 2: 1998



Graph CE/555/1000/04

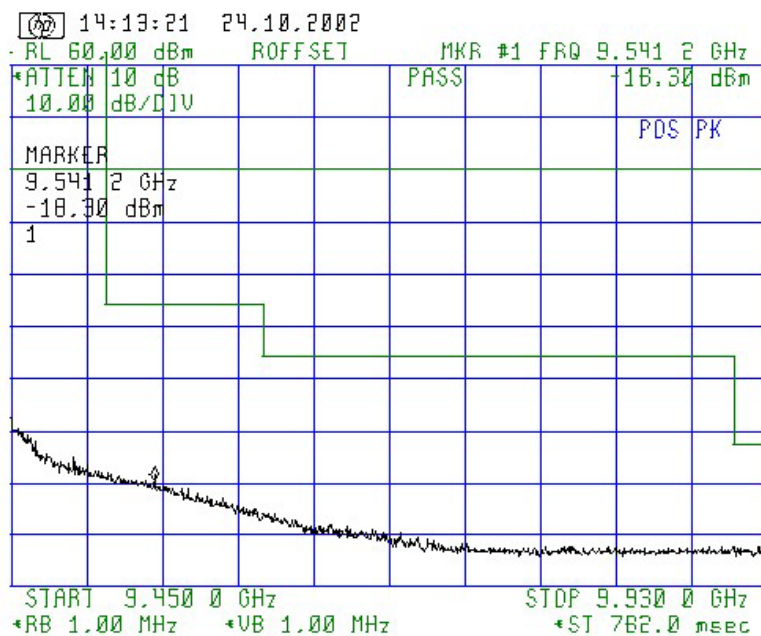
Test of: Raymarine Ltd.  
Pathfinder RL72RC PLUS  
FCC Part 80: 1998 and  
FCC Part 2: 1998



Graph CE/555/1000/05

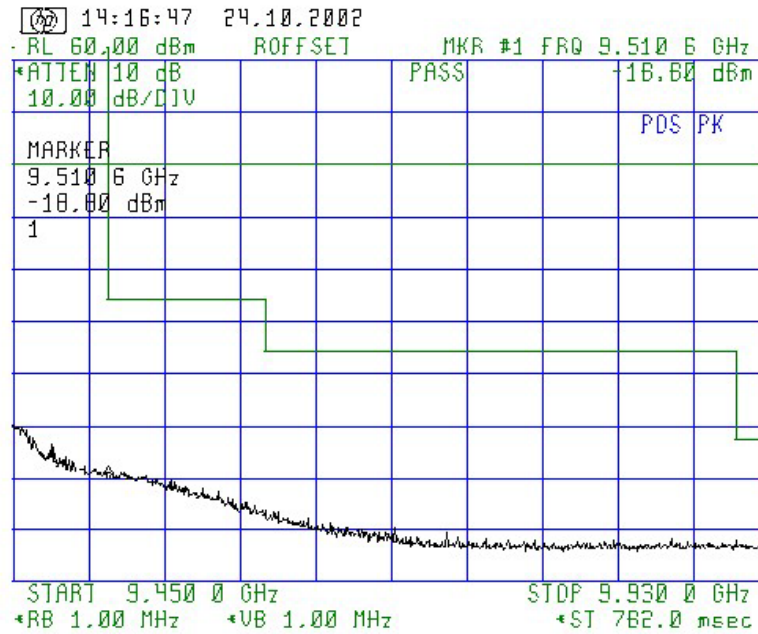


Test of: Raymarine Ltd.  
Pathfinder RL72RC PLUS  
FCC Part 80: 1998 and  
FCC Part 2: 1998



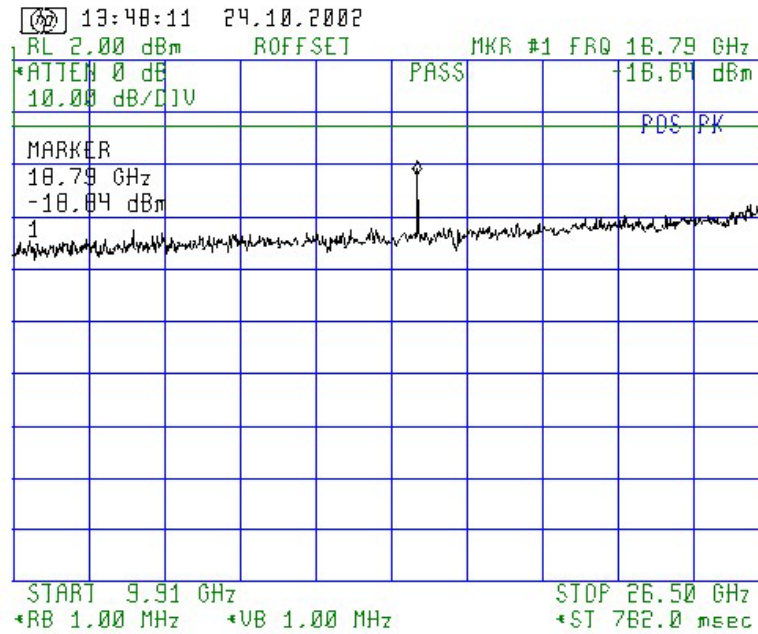
Graph CE/555/1000/06

Test of: Raymarine Ltd.  
Pathfinder RL72RC PLUS  
FCC Part 80: 1998 and  
FCC Part 2: 1998



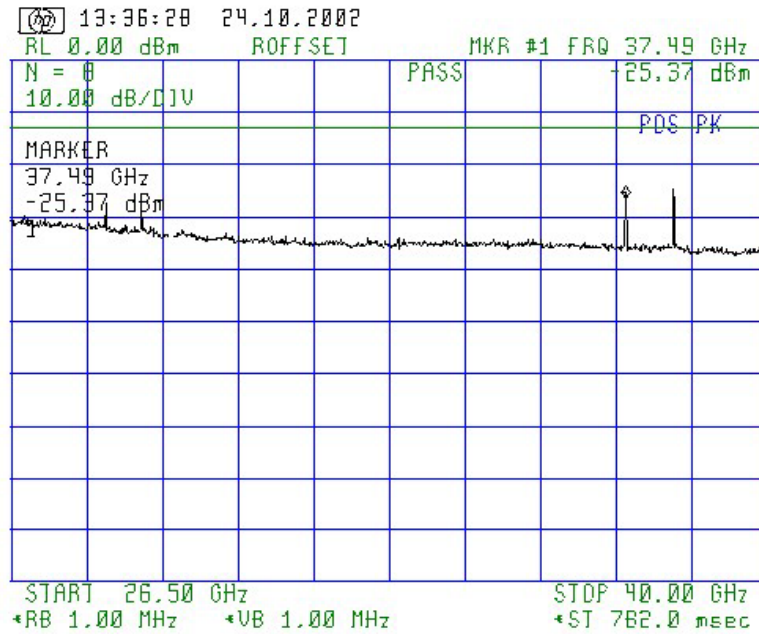
Graph CE/555/1000/07

Test of: Raymarine Ltd.  
Pathfinder RL72RC PLUS  
FCC Part 80: 1998 and  
FCC Part 2: 1998



Graph CE/555/1000/08

Test of: Raymarine Ltd.  
Pathfinder RL72RC PLUS  
FCC Part 80: 1998 and  
FCC Part 2: 1998



Graph CE/555/1000/09