

Test Of: Raytheon Marine Pathfinder R75RC

To: FCC Part 80 and FCC Part 2

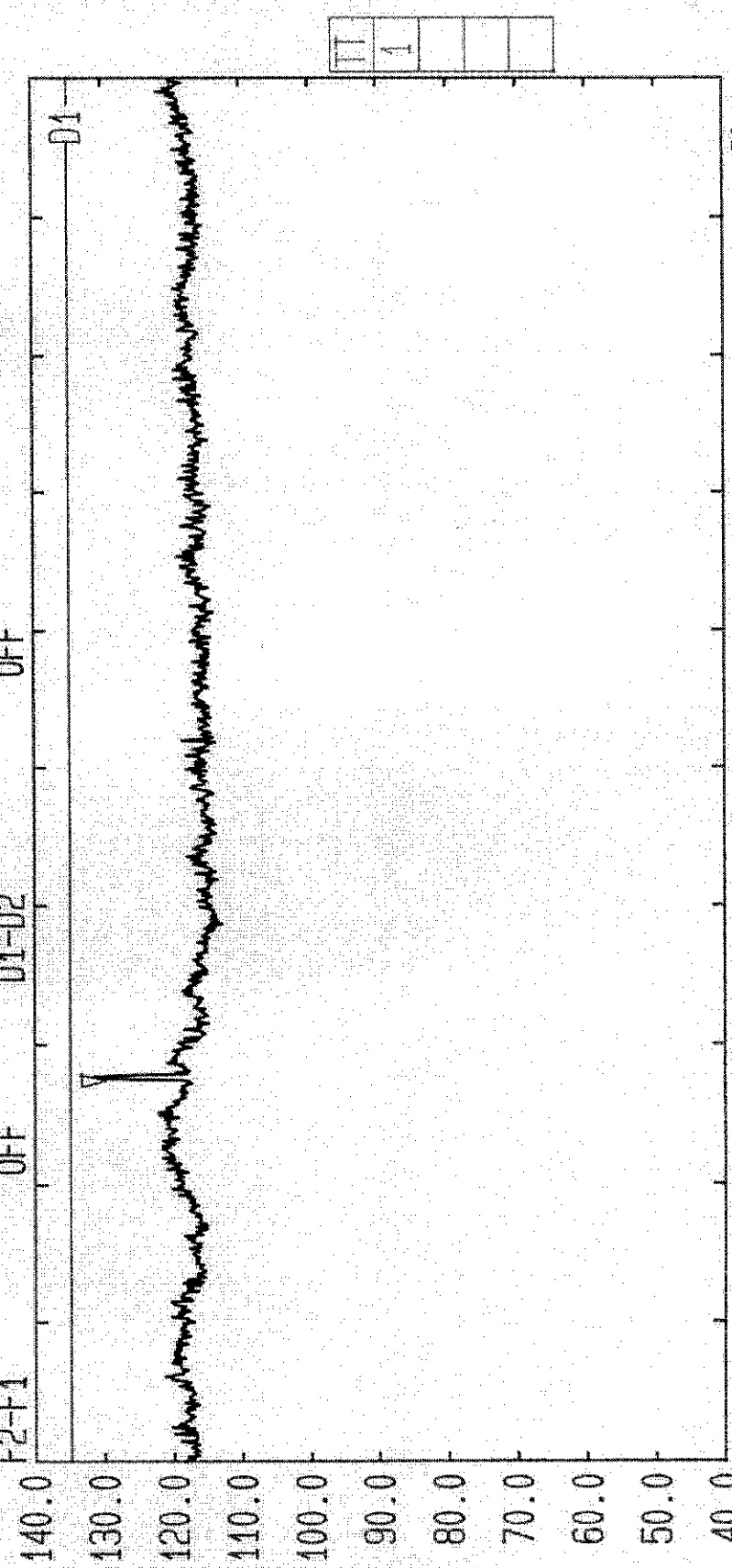
**Appendix 4. Graphical Test Results**

This appendix contains the following graphs:

<b>Graph Reference Number</b>	<b>Title P.R.F Graphs</b>
GPH/38756/001	60ns, 3 kHz PRF ½ mile range
GPH/38756/002	90ns, 3 kHz PRF, ½ mile range, Pulse Expansion On
GPH/38756/003	150ns, 3 kHz PRF, ¾ mile range, Pulse Expansion On
GPH/38756/004	250ns, 3 kHz PRF, 1 ½ mile range
GPH/38756/005	350ns, 2 kHz PRF, 1 ½ mile range
GPH/38756/006	450ns, 1.6 kHz PRF, 3 mile range
GPH/38756/007	600ns, 1.2 kHz PRF, 3 mile range, Pulse Expansion On
GPH/38756/008	1ns, 740 Hz PRF, 6 mile range
<b>Graph Reference Number</b>	<b>Title Radiated Spurious Emissions</b>
GPH/38756/JD01/901	Spurious Emissions 8.2 GHz to 12.5 GHz
GPH/38756/JD01/902	Spurious Emissions 12.5 GHz to 18 GHz
GPH/38756/JD01/903	Spurious Emissions 18 GHz to 26.5 GHz
GPH/38756/JD01/904	Spurious Emissions 26.5 GHz to 40 GHz
GPH/38756/JD01/905	Spurious Emissions 40 GHz to 60 GHz
GPH/38756/JD01/906	Spurious Emissions 59 GHz to 74.999 GHz
GPH/38756/JD01/907	Spurious Emissions 74.999 GHz to 95.010 GHz
GPH/38756/JD01/908	Spurious Emissions 4 GHz to 6 GHz
GPH/38756/JD01/909	Spurious Emissions 6 GHz to 8.2 GHz
GPH/38756/JD01/910	Spurious Emissions 1 GHz to 2 GHz
GPH/38756/JD01/911	Spurious Emissions 2 GHz to 4 GHz
GPH/38756/JD01/912	Spurious Emissions 9 kHz to 150 kHz
GPH\38673\JD01\ETF01\005	Scan of radiated emissions, transmit mode (30 MHz to 1 GHz)
GPH\38673\JD01\ETF01\007	Scan of radiated emissions, transmit mode (150 MHz to 30 MHz)
<b>Graph Reference Number</b>	<b>Title Conducted Spurious Emissions</b>
GPH/38756/JD01/001	Spurious Emissions 9 kHz to 150 kHz
GPH/38756/JD01/002	Spurious Emissions 0.15 MHz to 30 MHz
GPH/38756/JD01/003	Spurious Emissions 30 MHz to 1 GHz
GPH/38756/JD01/004	Spurious Emissions 1 GHz to 8 GHz

LVLOFF '99 Time 13:26:43  
 Date 19 Apr 1999  
 Ref.Lvl 140.00 dBx  
 Marker 129.70 dBx  
 9.3848 GHz  
 Res.Bw 1.0 MHz [3dB]  
 CF.Stp 430.000 MHz  
 RF.Att 60 dB  
 Vid.Bw 1 MHz  
 Unit [dBuV/m]

F1 OFF D1 134.84 dBx  
 F2 OFF D2 OFF  
 F2-F1 OFF D1-D2 OFF



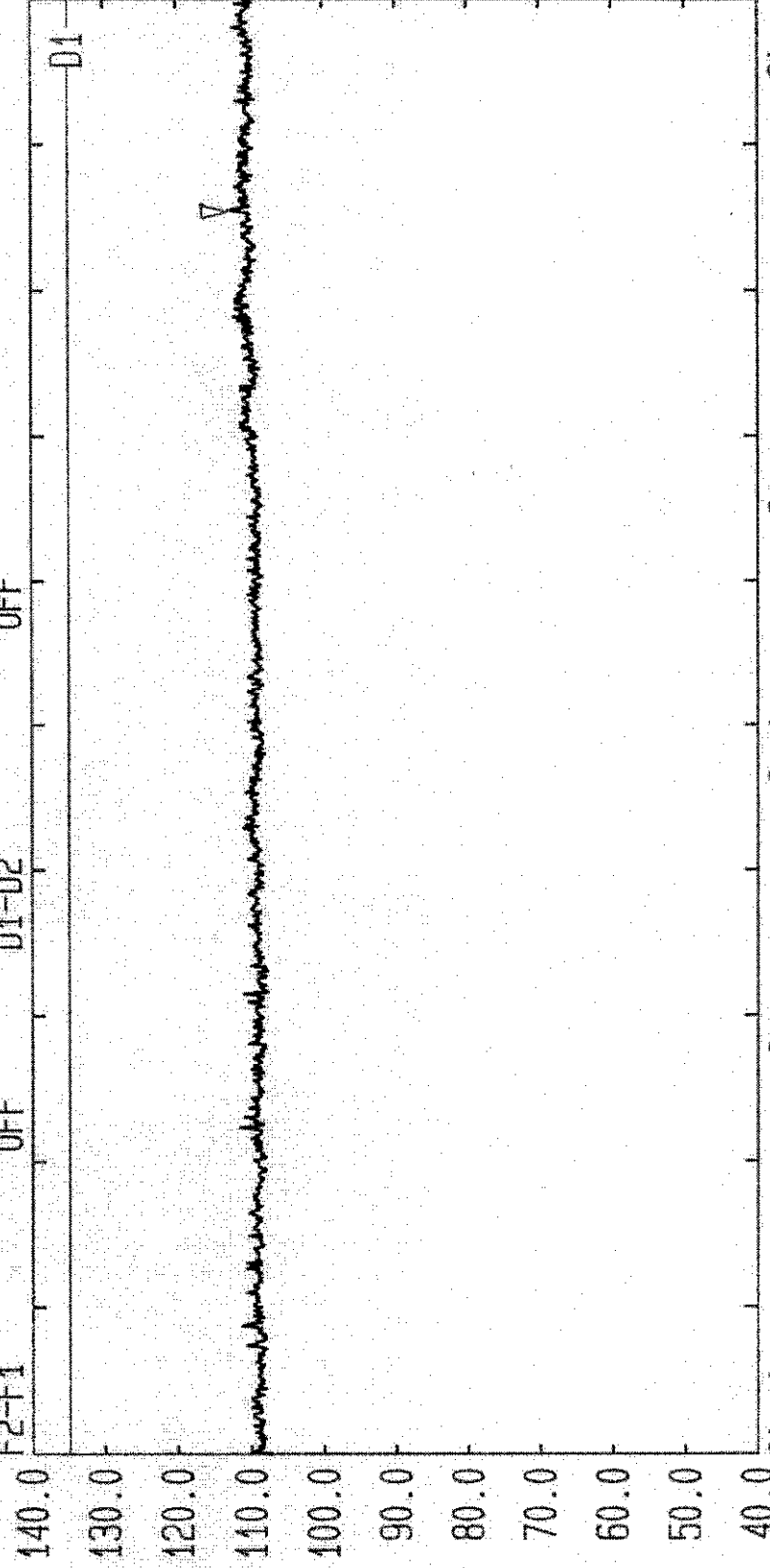
III
1

Start 8.2 GHz  
 Stop 12.5 GHz  
 Span 4.3 GHz  
 Center 10.35 GHz  
 Sweep 20 ms  
 FCC 80.211 (f) 2.993  
 GPH/38756JD01/901

3 Metre OATS. Test Sample: R75RC.  
 Pulse width 450ns.

LVLOFF '99 Time 13:40:49 Res.Bw 1.0 MHz [3dB] Vid.Bw 1 MHz  
 Date 19.Apr. Marker 113.09 dB\* CF.Stp 550.000 MHz RF.Att 40 dB  
 Ref.Lvl 140.00 dB\* 17.2055 GHz Unit [dBµV/m]

F1 OFF D1 134.84 dB\*  
 F2 OFF D2 OFF  
 F2-F1 OFF D1-D2 OFF

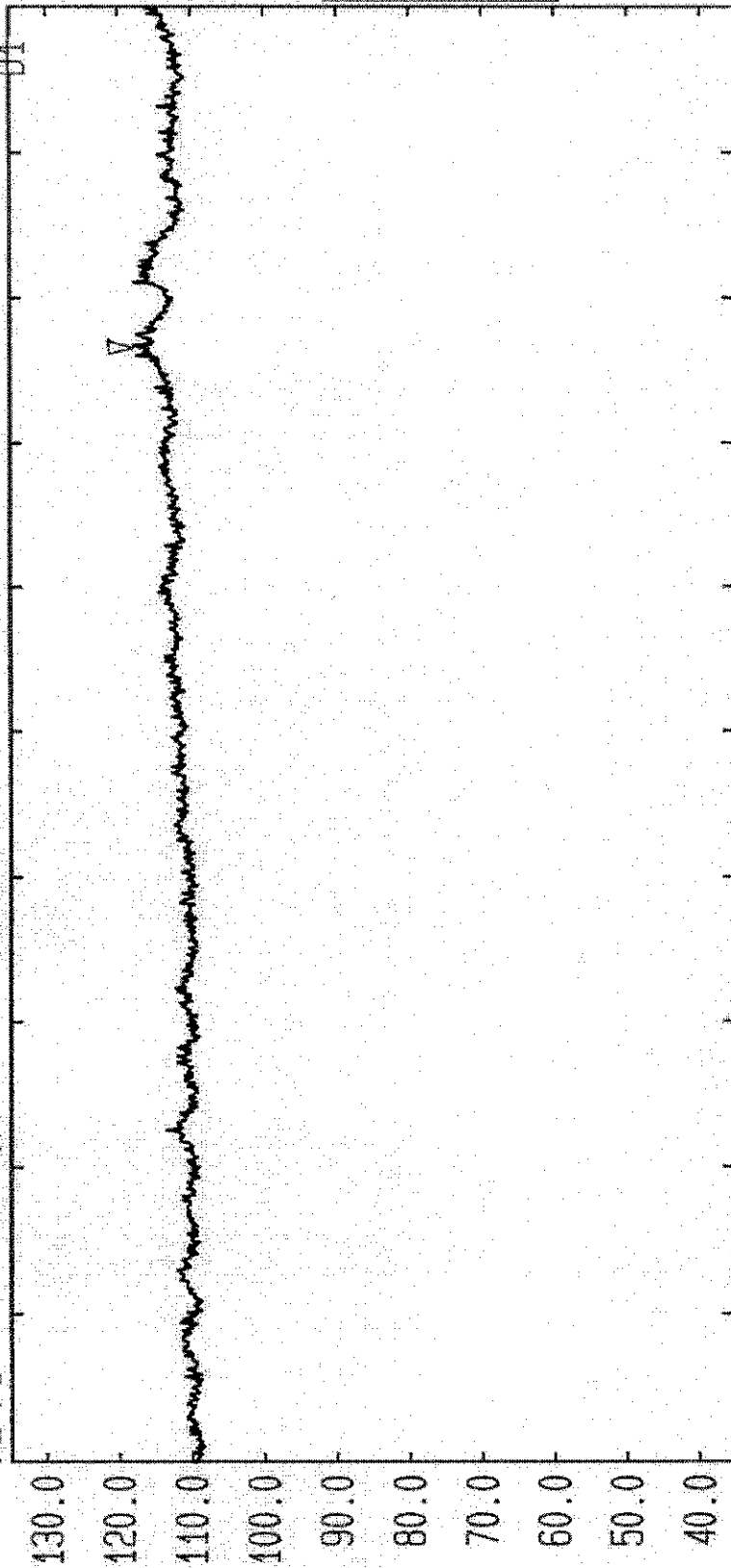


Start 12.5 GHz Span 5.5 GHz Center 15.25 GHz Sweep 60 ms Stop 18 GHz  
 3 Metre OATS, Test Sample: R75RC. FCC 80.211(f) 2.993  
 Pulse width 450ns GPH/38756JD01/902

LVLOFF '99 Time 13:52:00  
 Date 19.Apr. '99 Time 13:52:00  
 Res.Bw 1.0 MHz [3dB] Vid.Bw 1 MHz  
 Ref.Lvl 135.00 dB\* Marker 117.81 dB\* CF.Stp 850.000 MHz RF.Att 35 dB  
 135.00 dB\* 24.5261 GHz Unit [dB $\mu$ V/m]

F1 OFF D1 134.84 dB\*  
 F2 OFF D2 OFF  
 F2-F1 OFF D1-D2 OFF

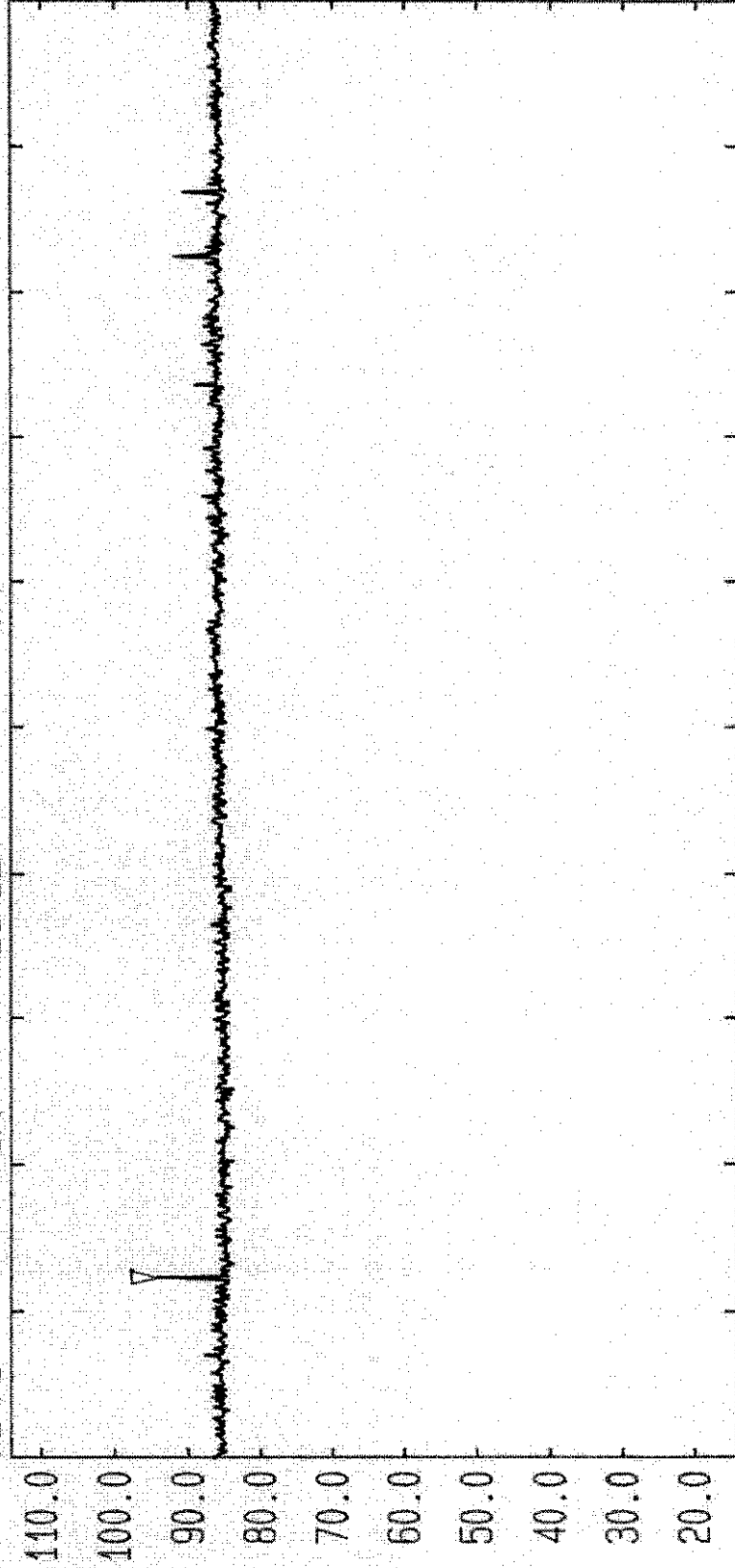
11	
1	



Start 18 GHz Span 8.5 GHz Center 22.25 GHz Sweep 40 ms Stop 26.5 GHz  
 3 Metre OATS, Test Sample: R75RC. FCC 80.211(f) 2.993  
 Pulse width 450ns. GPH/38756JD01/903

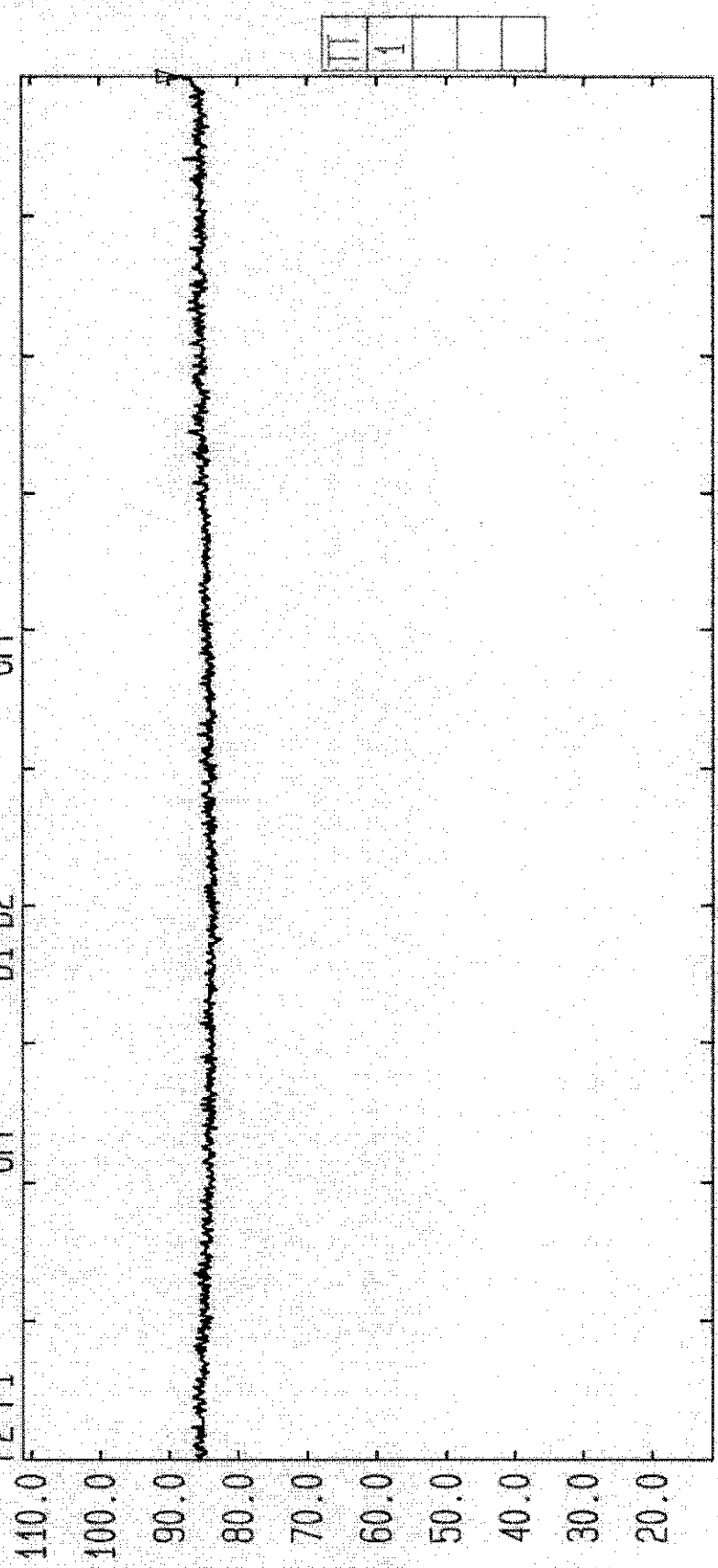
LVLOFF  
 Date 19.Apr. '99 Time 14:26:18  
 Ref.Lvl 114.00 dB\*  
 Marker 94.02 dB\*  
 28.1650 GHz  
 Res.Bw 1.0 MHz [3dB] Vid.Bw 1 MHz  
 CF.Stp 1.350 GHz RF.Att 0 dB  
 Unit [dBµV/m]

F1 OFF D1 OFF  
 F2 OFF D2 OFF  
 F2-F1 OFF D1-D2 OFF



Start 26.5 GHz Span 13.5 GHz Center 33.25 GHz Sweep 60 ms Stop 40 GHz  
 3 Metre OATS. Test Sample: R75RC. FCC 80.211(f) 2.993  
 Pulse width 450ns. Calculated Limit: 134.84 dBµV/m GPH/3R756.1001/904

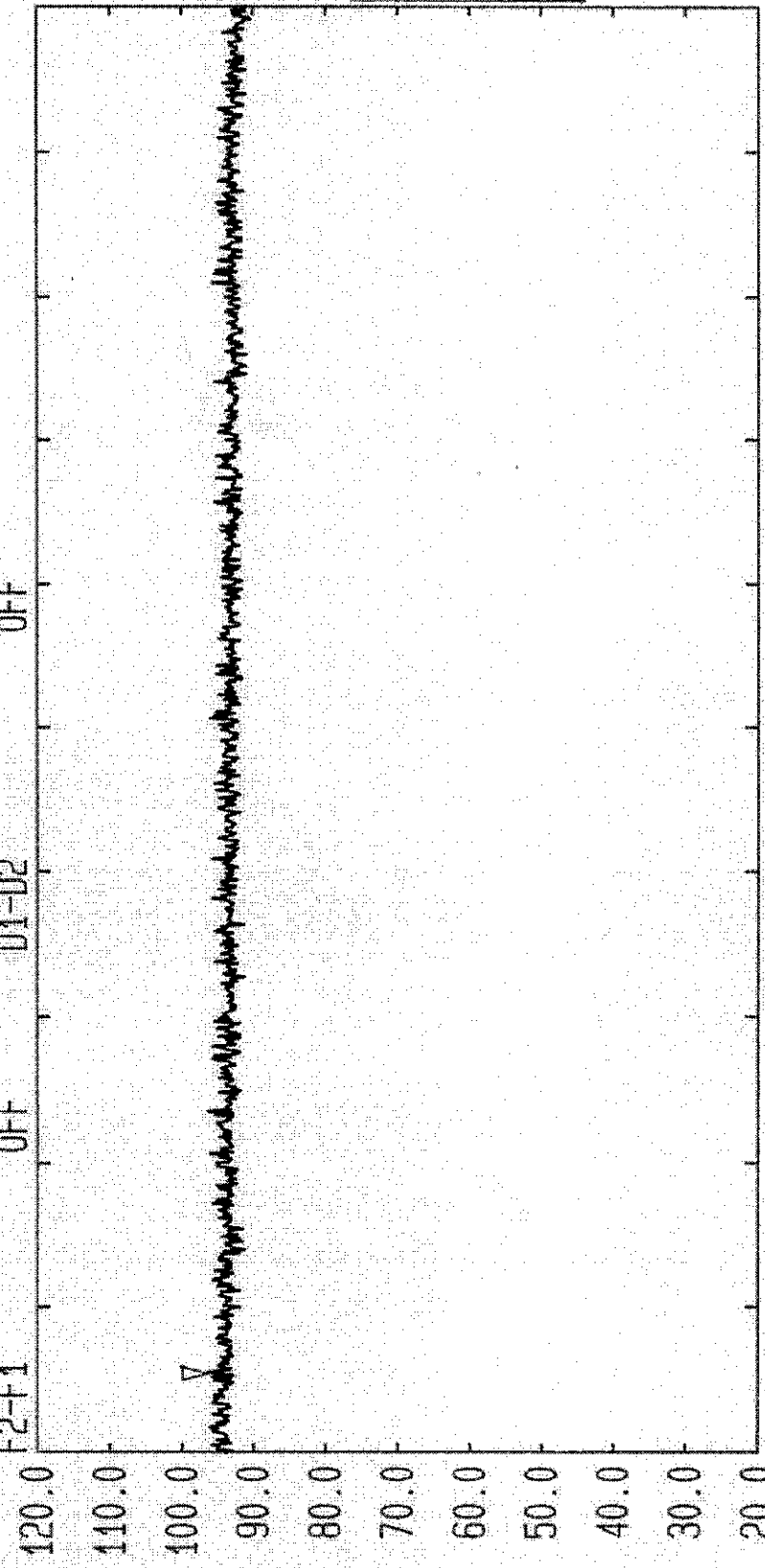
LVLOFF '99 Time 14:41:32 Res.Bw 1.0 MHz [3dB] Vid.Bw 1 MHz  
 Date 19.Apr. Marker 87.85 dB\* CF.Stp 2.000 GHz RF.Att 0 dB  
 Ref.Lvl 111.00 dB\* 60.0000 GHz Unit [dBµV/m]  
 F1 OFF D1 OFF  
 F2 OFF D2 OFF  
 F2-F1 OFF D1-D2 OFF



Start 40 GHz Stop 60 GHz  
 Span 20 GHz Sweep 60 ms  
 Center 50 GHz  
 FCC 80.211 (f) 2.993  
 3 Metre OATS, Test Sample: R75RC. GPH/38756JD01/905  
 Pulse width 450ns. Calculated limit: 134.84 dBµV/m

LVLOFF '99 Time 15:13:03 Res.Bw 1.0 MHz [3dB] Vid.Bw 1 MHz  
 Date 19.Apr. '99 Time 15:13:03 Res.Bw 1.0 MHz [3dB] Vid.Bw 1 MHz  
 Ref.Lvl 120.00 dBx Marker 96.77 dBx CF.Stp 1.599 GHz RF.Att 0 dB  
 120.00 dBx 59.8888 GHz Unit [dBuV/m]

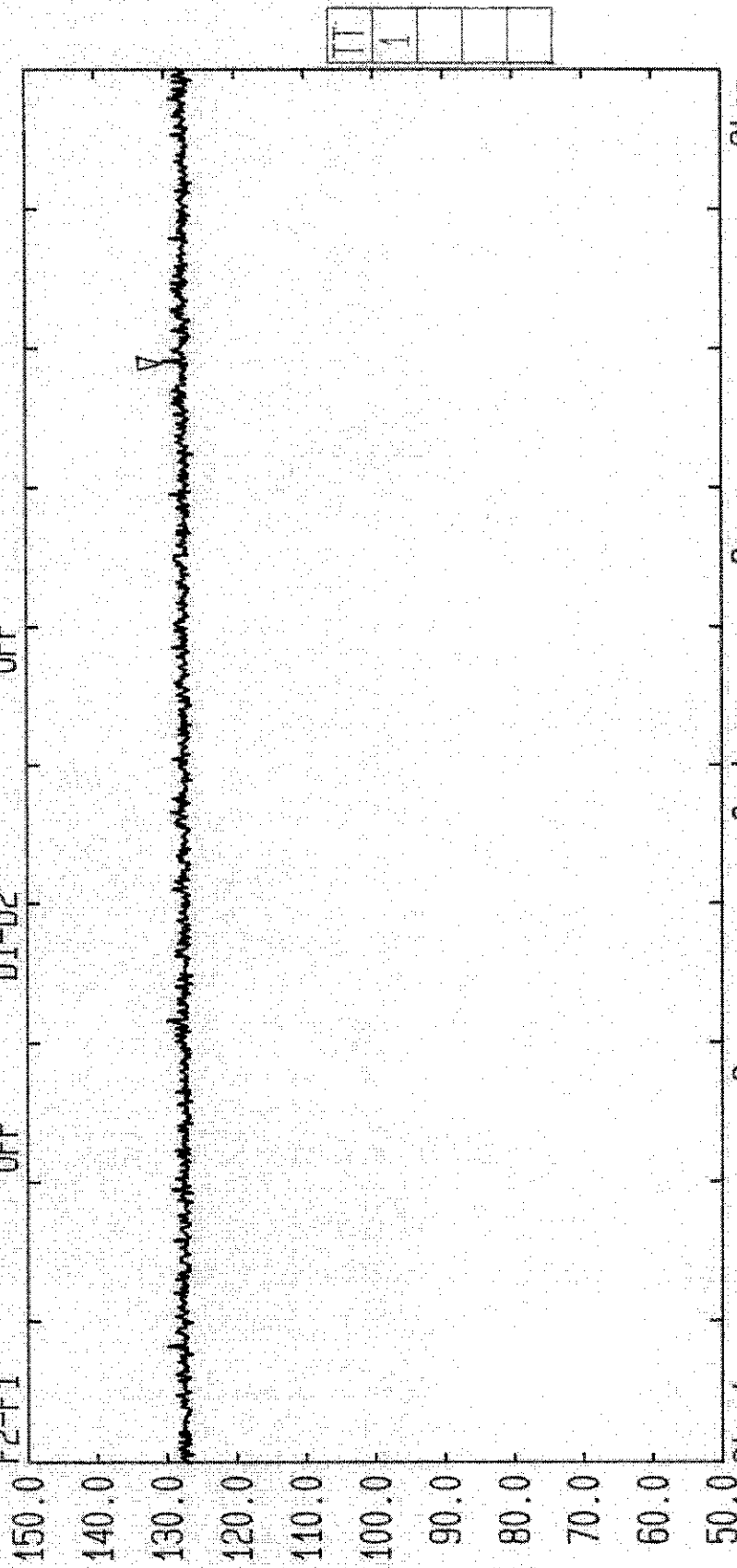
F1 OFF D1 OFF  
 F2 OFF D2 OFF  
 F2-F1 OFF D1-D2 OFF



1
1

Start 59 GHz Span 15.99 GHz Center 66.999 GHz Sweep 60 ms Stop 74.999 GHz  
 3 Metre OATS. Test Sample: R75RC. FCC 80.211(f) 2.993  
 Pulse width 450ns. Calculated limit: 134.84 dBuV/m GPH/38756JD01/906

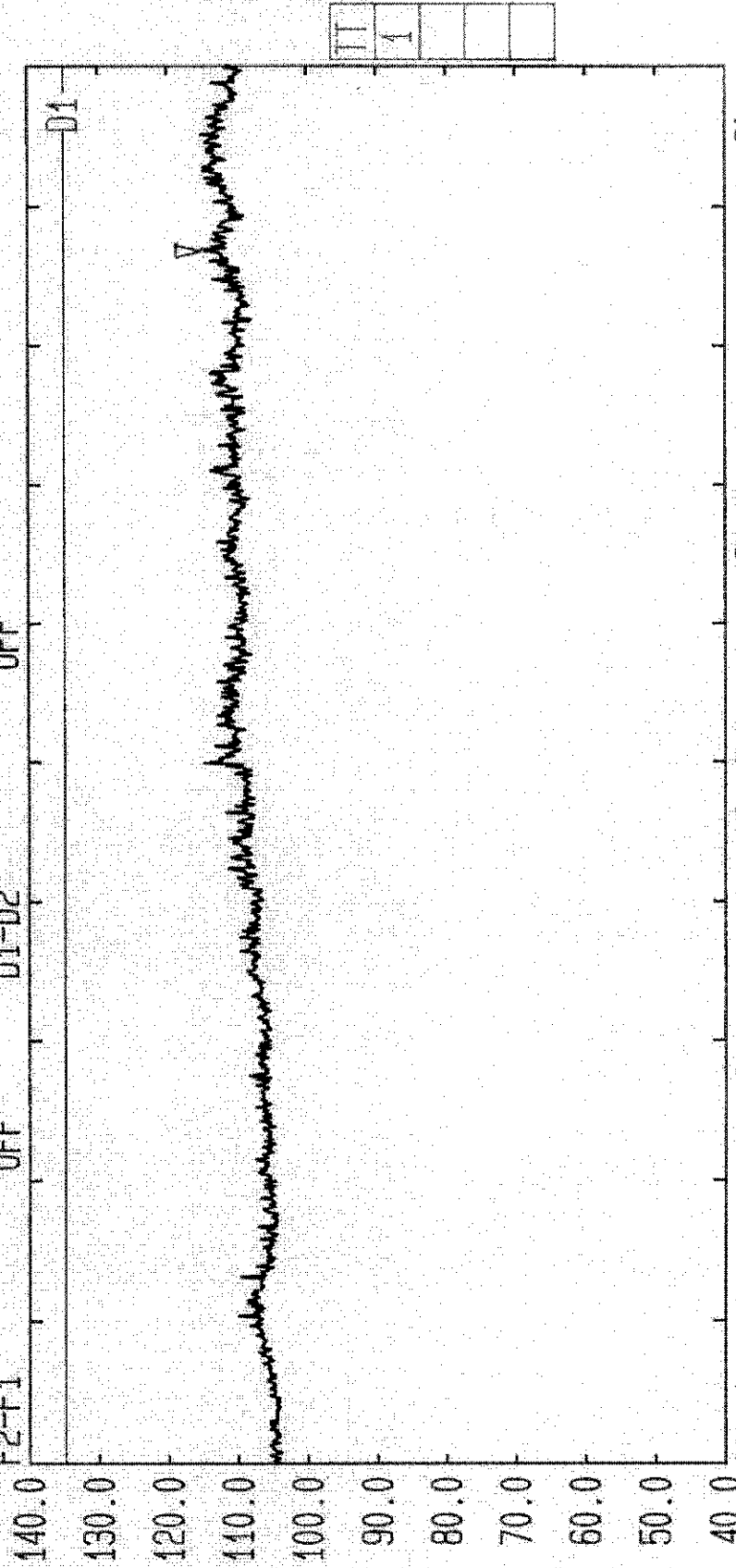
LVLOFF  
 Date 19 Apr '99 Time 15:22:01  
 Ref.Lvl 150.00 dBx  
 Marker 130.48 dBx  
 90.8307 GHz  
 F1 OFF D1  
 F2 OFF D2  
 F2-F1 OFF D1-D2  
 Res.Bw 1.0 MHz [3dB]  
 CF.Stp 2.001 GHz  
 Vid.Bw 1 MHz  
 RF.Att 0 dB  
 Unit [dBuV/m]



Start 74.999 GHz Span 20.01 GHz Center 85.005 GHz Sweep 60 ms Stop 95.010 GHz  
 3 Metre OATS, Test Sample: R75RC. FCC 80.211(f) 2.993  
 Pulse width 450ns. Calculated Limit: 134.84 dBuV/m GPH/38756JD01/907



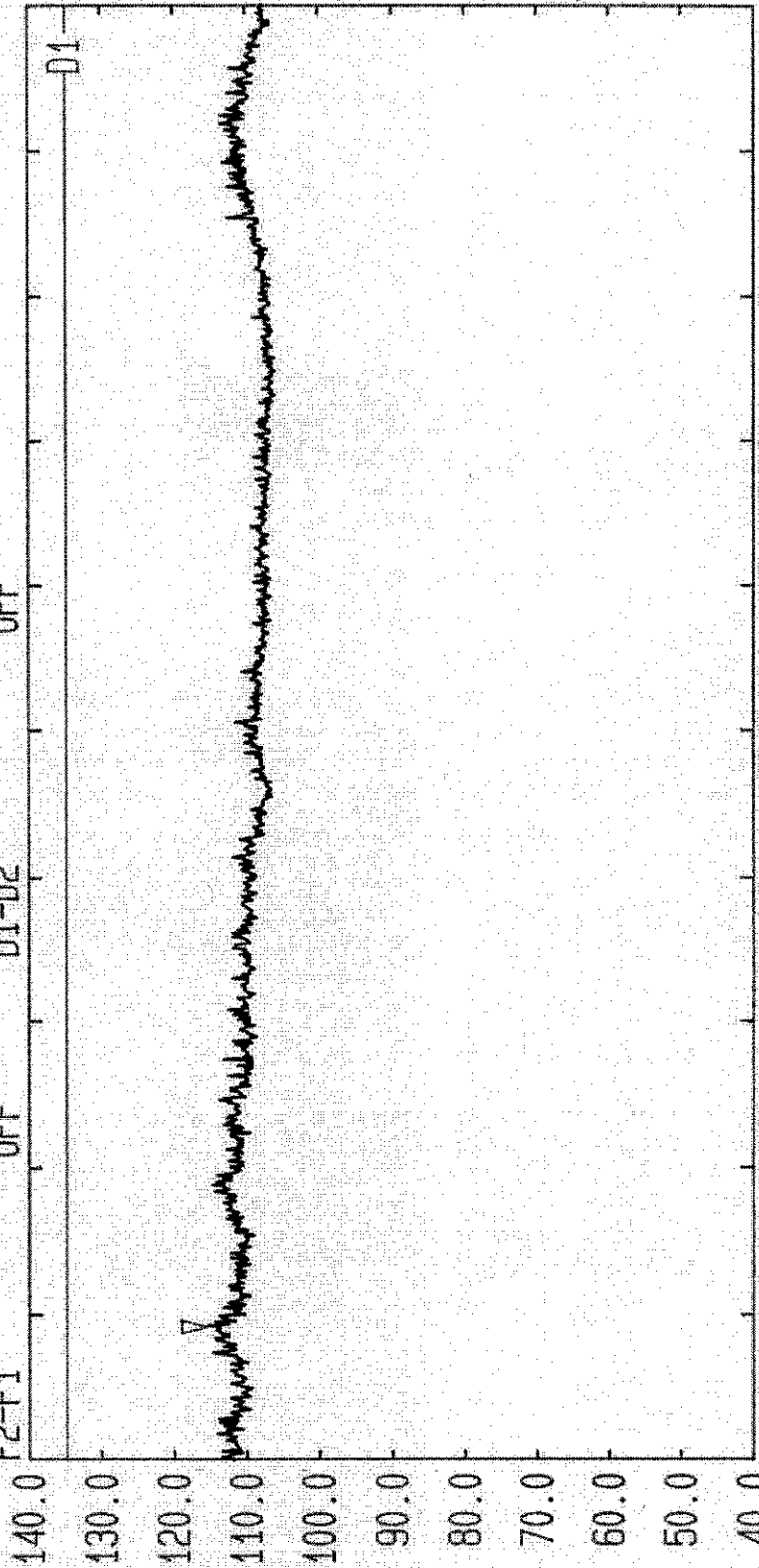
LVLOFF  
 Date 19, Apr, '99 Time 15:58:12  
 Ref.Lvl 140.00 dBx  
 Marker 115.30 dBx  
 5.7377 GHz  
 F1 OFF D1  
 F2 OFF D2  
 F2-F1 OFF D1-D2  
 Res.Bw 1.0 MHz [3dB]  
 CF.Stp 200.000 MHz  
 134.84 dBx  
 Vid.Bw 1 MHz  
 RF.Att 55 dB  
 Unit [dB $\mu$ V/m]



Start 4 GHz  
 Span 2 GHz  
 Center 5 GHz  
 Sweep 20 ms  
 Stop 6 GHz  
 3 Metre OATS, Test Sample: R75RC  
 Pulse width 450ns. Calculated limit: 134.84 dBuV/m  
 FCC 80.211 (f) 2.993  
 GPH/38756JD01/908

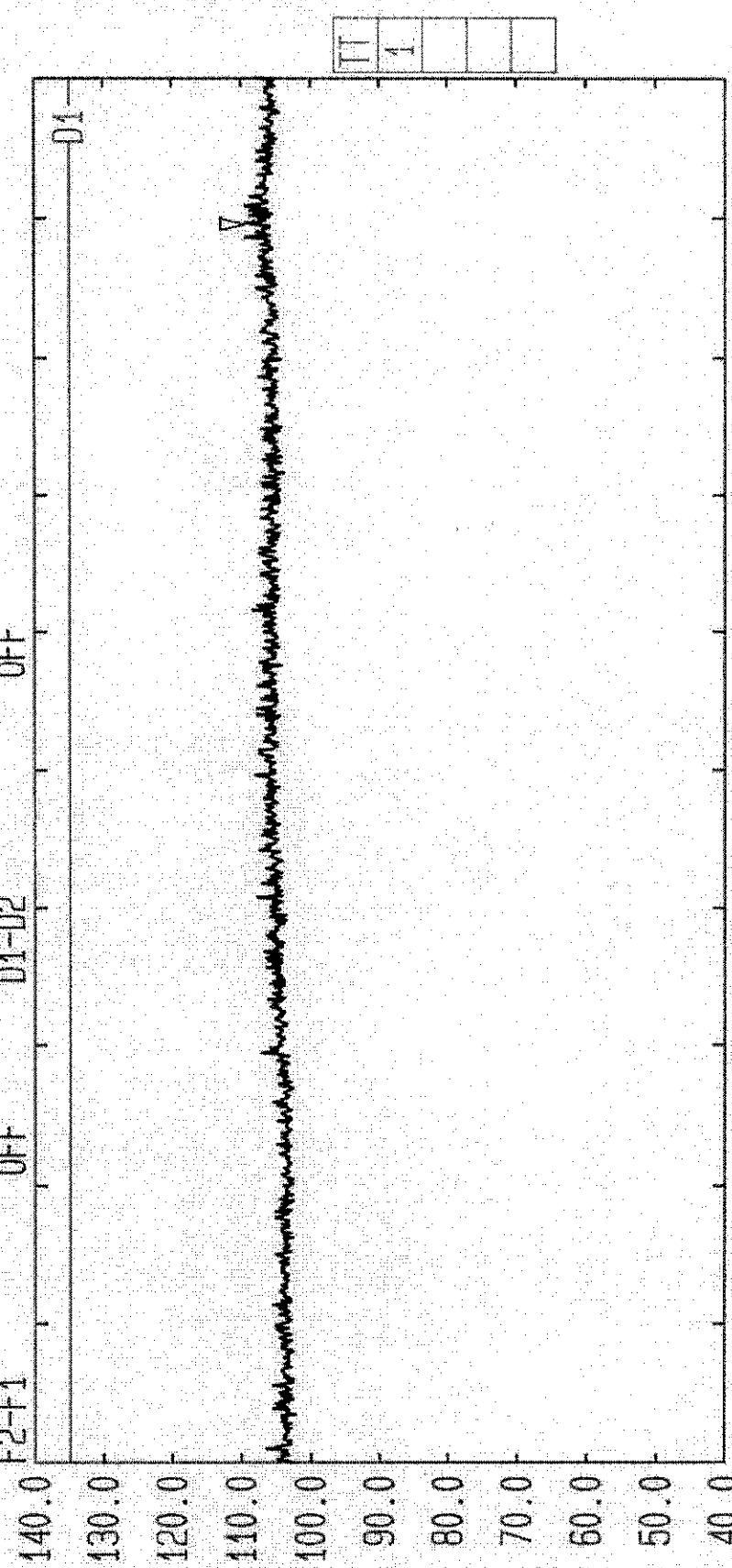
LVLOFF '99 Time 15:48:44  
 Date 19.Apr. '99 Time 15:48:44  
 Ref.Lvl 140.00 dBx  
 Marker 115.68 dBx  
 6.2028 GHz  
 Res.Bw 1.0 MHz [3dB] Vid.Bw 1 MHz  
 CF.Stp 220.000 MHz RF.Att 55 dB  
 Unit [dBuV/m]

F1 OFF D1 134.84 dBx  
 F2 OFF D2  
 F2-F1 OFF D1-D2



Start 6 GHz Span 2.2 GHz Center 7.1 GHz Sweep 20 ms Stop 8.2 GHz  
 3 Metre OATS, Test Sample: A75RC.  
 Pulse width 450ns. Calculated Limit: 134.84 dBuV/m  
 FCC 80.211(f) 2.993  
 GPH/38756.JN01/909

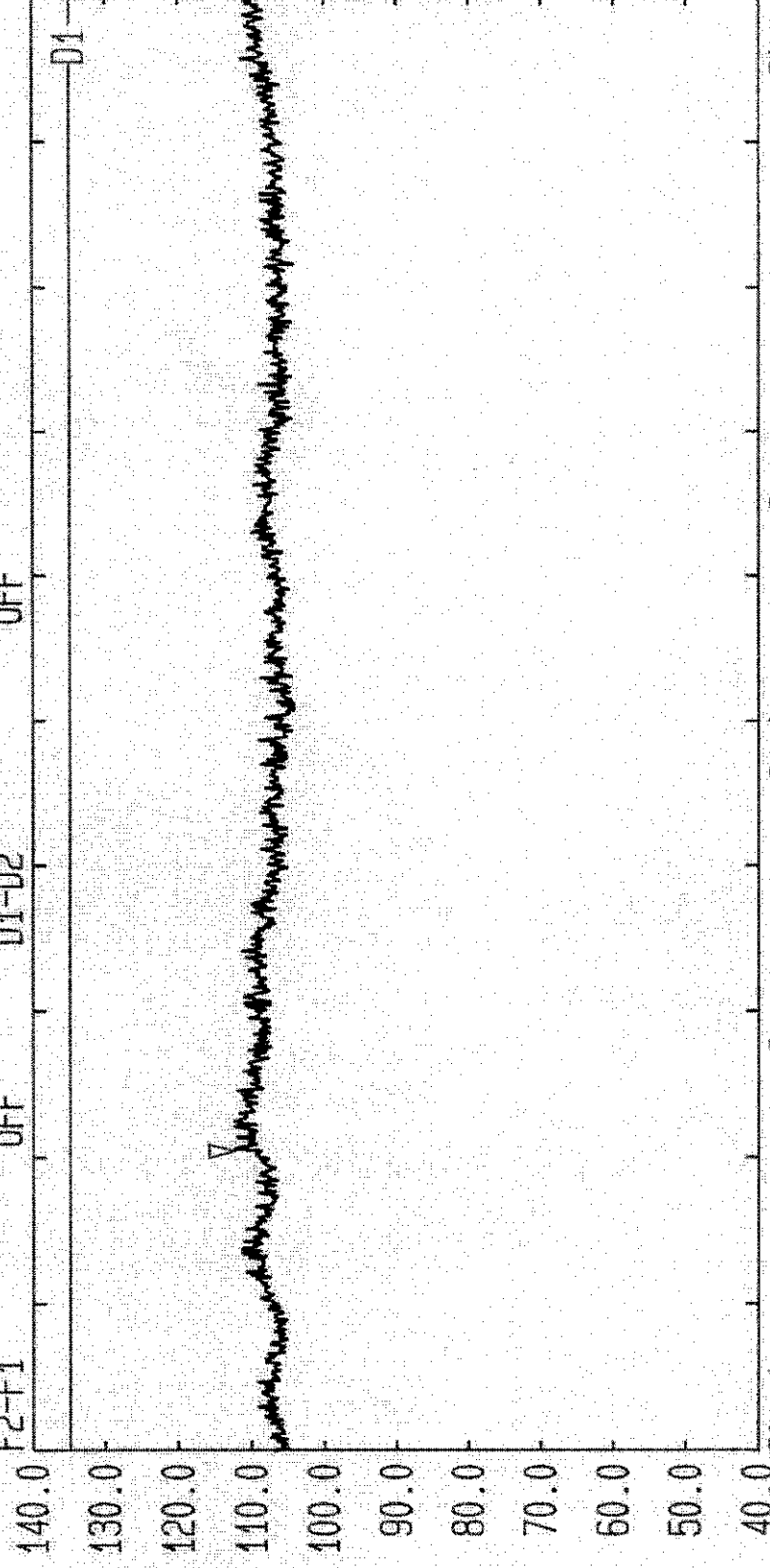
LVLOFF  
 Date 19. Apr. '99 Time 16:05:32  
 Ref. Lvl 140.00 dBx  
 Marker 109.43 dBx  
 1.8966 GHz  
 F1 OFF D1  
 F2 OFF D2  
 F2-F1 OFF D1-D2  
 Res. Bw 1.0 MHz [3dB]  
 CF. Stp 100.000 MHz  
 134.84 dBx  
 OFF  
 OFF  
 Vid. Bw 1 MHz  
 RF. Att 60 dB  
 Unit [dBuV/m]



Start 1 GHz  
 Span 1 GHz  
 Center 1.5 GHz  
 Sweep 20 ms  
 Stop 2 GHz  
 3 Metre OATS. Test Sample: R75RC.  
 Pulse width 450ns. Calculated limit: 134.84 dBuV/m  
 FCC: 80.211 (f) 2.993  
 GPH/38756JD01/910

LVLOFF '99 Time 16:09:28  
 Date 19.Apr.'99 Time 16:09:28  
 Ref.Lvl 140.00 dB\* Marker 112.50 dB\* CF.Stp 200.000 MHz Res.Bw 1.0 MHz [3dB] Vid.Bw 1 MHz  
 140.00 dB\* 2.4111 GHz Unit 60 dB [dBµV/m]

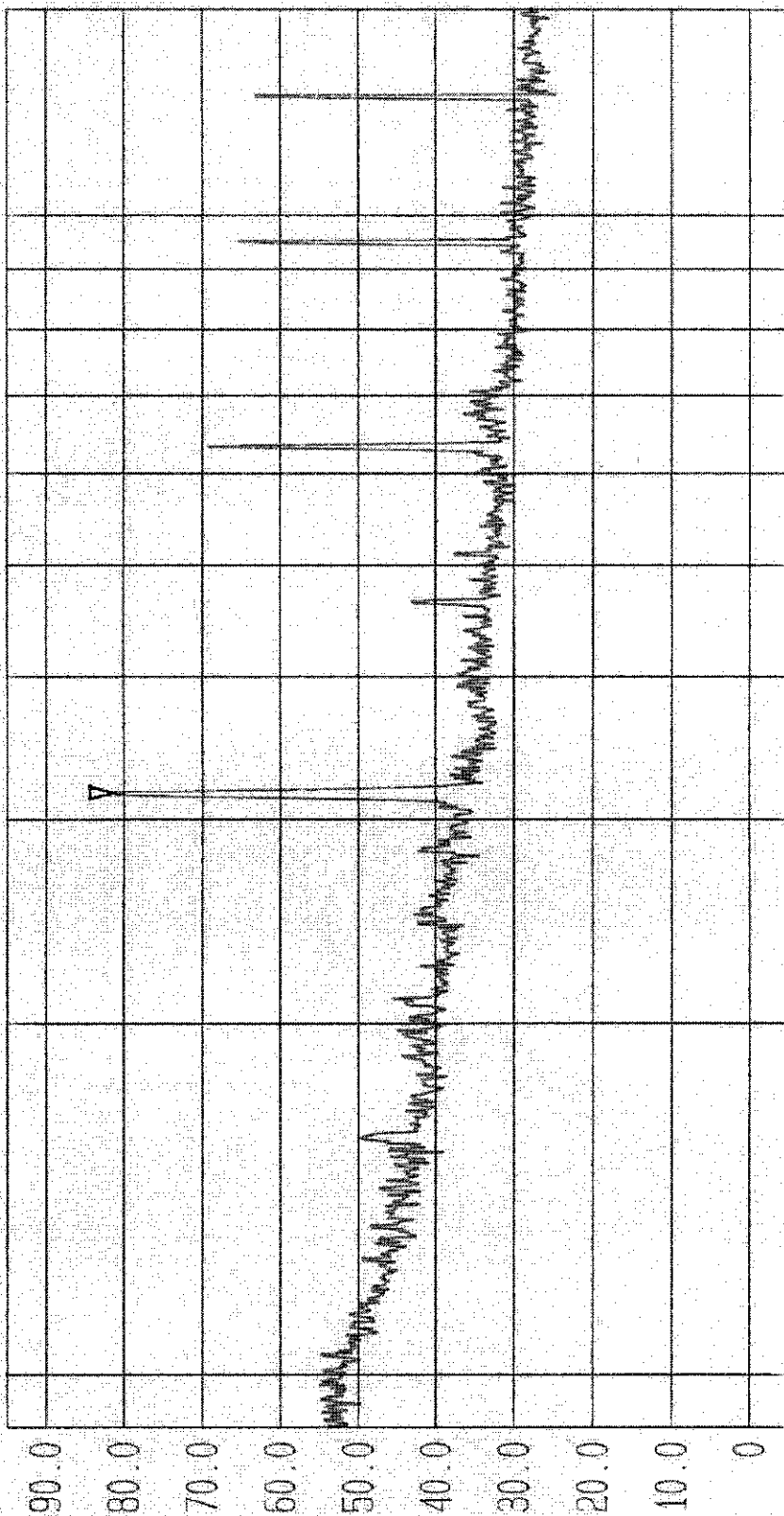
F1 OFF D1 134.84 dB\*  
 F2 OFF D2 OFF  
 F2-F1 OFF D1-D2 OFF



11
1

Start 2 GHz Span 2 GHz Center 3 GHz Sweep 20 ms Stop 4 GHz  
 3 Metre OATS. Test Sample: R75RC. FCC 80.211(f) 2.993  
 Pulse width 450ns. Calculated limit: 134.84 dBµV/m GPH/38756.D001/911

Date 19.Apr.'99 Time 16:28:12  
 Ref Lvl 95.00 dBx Marker 81.34 dBx  
 Res.Bw 200 Hz [imp] Vid.Bw 3 kHz  
 TG Lvl off  
 CF.Stp 14.100 kHz RF.Att 20 dB  
 Unit [aBuV/m]

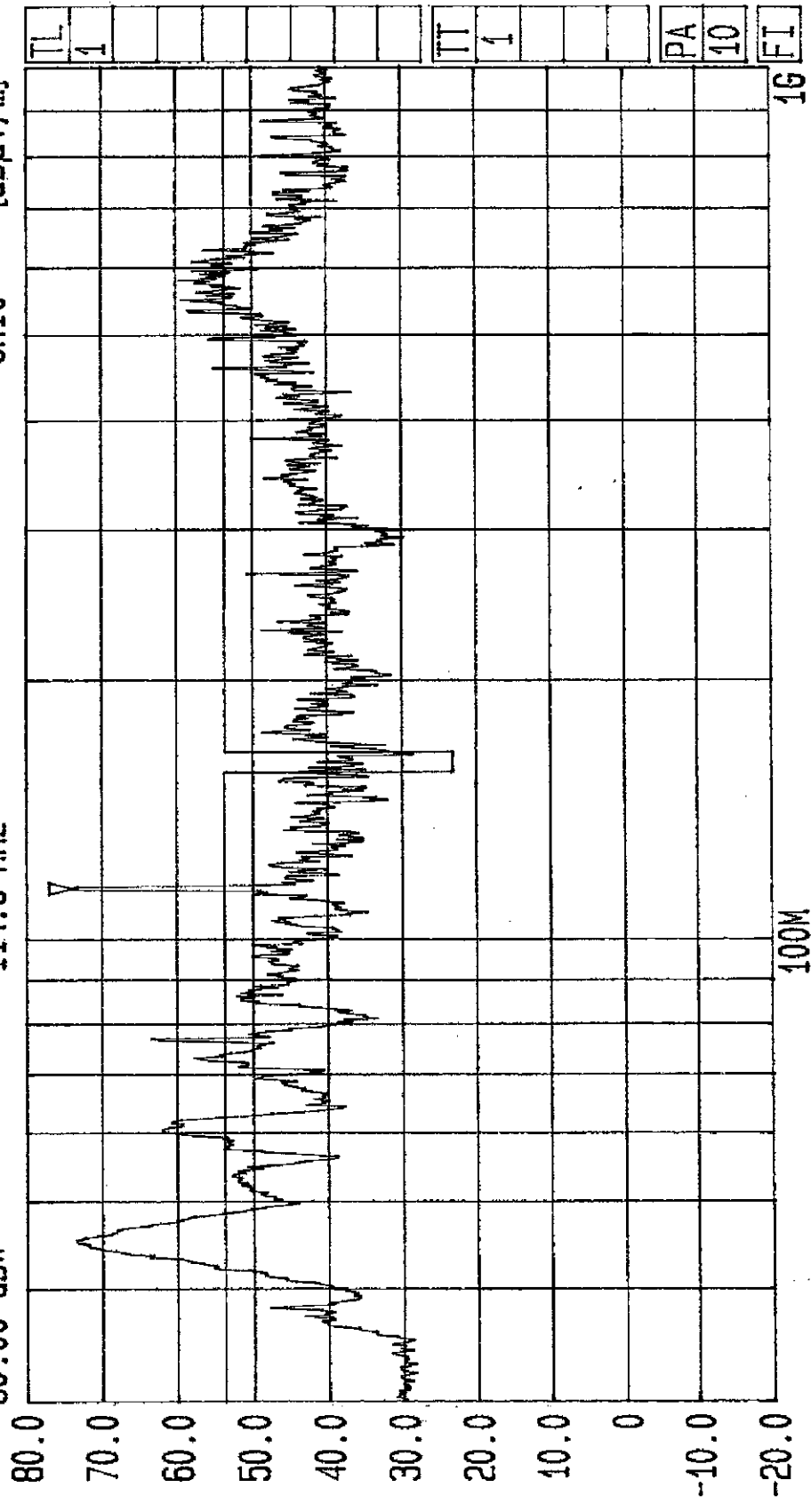


10k 100k  
 Start 9 kHz Center 36.742 kHz Sweep 4.4 s Stop 150 kHz  
 Span 141 kHz  
 FCC 80.211 (f) 22.993  
 GPH/38756JD1/912  
 3 Metre screened room scan. Test sample: R75RC.  
 Pulse width 450ns. Calculated limit: 134.84 dBuV/m



Date 23.Mar.'99 Time 00:40:08  
 Ref.Lvl 80.00 dB\*  
 Marker 74.09 dB\*  
 114.6 MHz

Res.Bw 120 kHz [imp]  
 TG.Lvl Off  
 CF.Stp 97.000 MHz  
 Vid.Bw 100 kHz  
 RF.Att 0 dB  
 Unit [dBuV/m]



Start 30 MHz  
 Span 970 MHz  
 Center 173.2 MHz  
 Sweep 380 ms  
 Stop 1 GHz

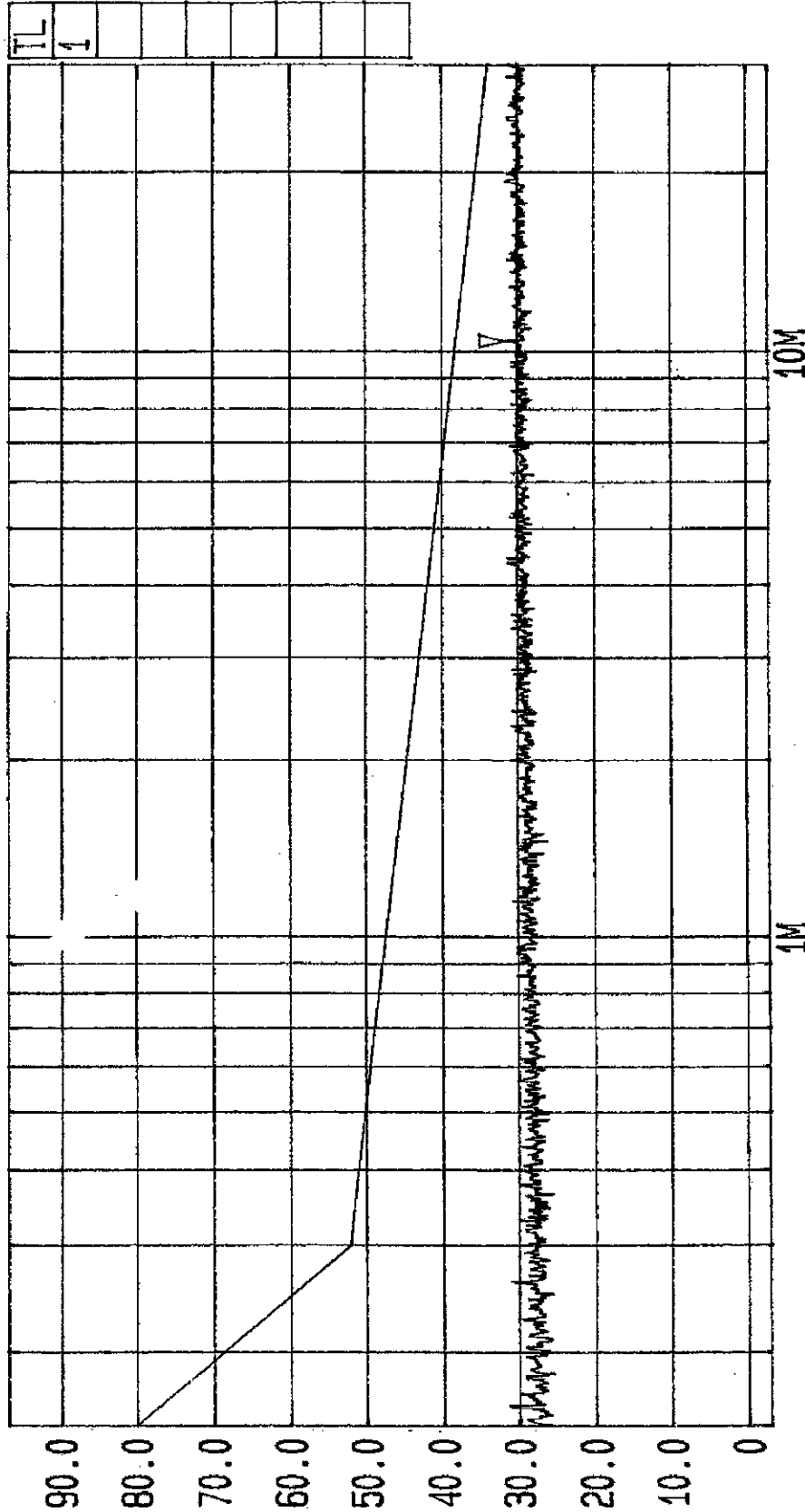
RADIATED, Tested by RFI for RAYTHEON. EUT: R75RC  
 Limit: 1-Q/P. Transmit Mode.

BS EN 60945: 1997  
 GPH/386673/JD01/ETF01/005



Date 23.Mar.'99 Time 01:56:39  
Ref.Lvl 31.74 dBx  
Marker 10.39 MHz

Res.Bw 9 kHz [imp]  
TG.Lvl Off  
CF.Stp 2.985 MHz  
Vid.Bw 100 kHz  
RF.Att 0 dB  
Unit [dBuV/m]



Start 150 kHz  
Span 29.85 MHz  
Center 2.12132 MHz  
Sweep 1.94 s  
Stop 30 MHz  
BS EN 60945:1997  
GPH/38673/JD01/ETF01/007

RADIATED. Tested by RFI for RAYTHEON. EUT : R75RC  
Limits : 1-Q/P. Transmit Mode.