

Test Of: Raytheon Marine Pathfinder R75RC

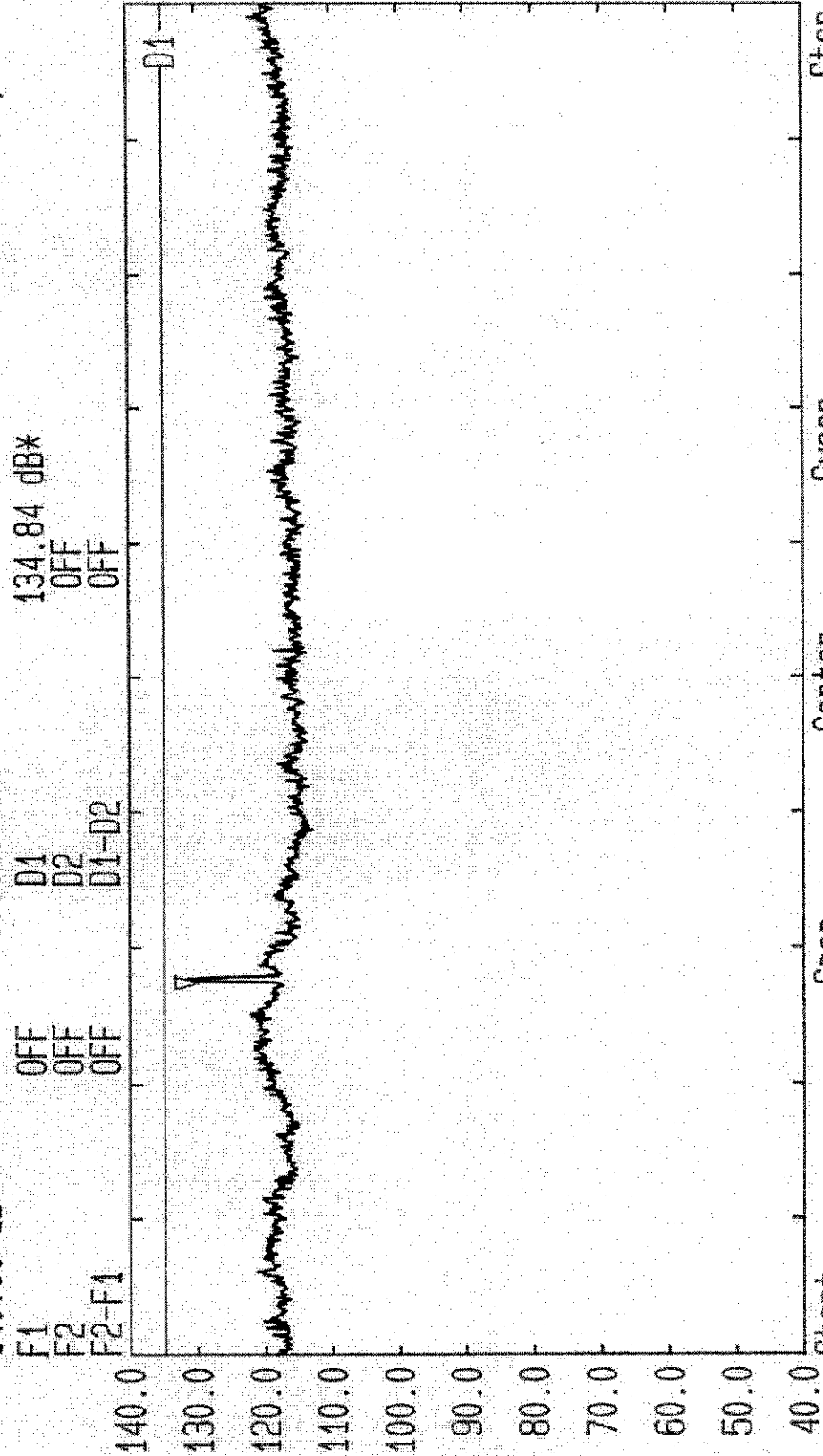
To: FCC Part 80 and FCC Part 2

Appendix 4. Graphical Test Results

This appendix contains the following graphs:

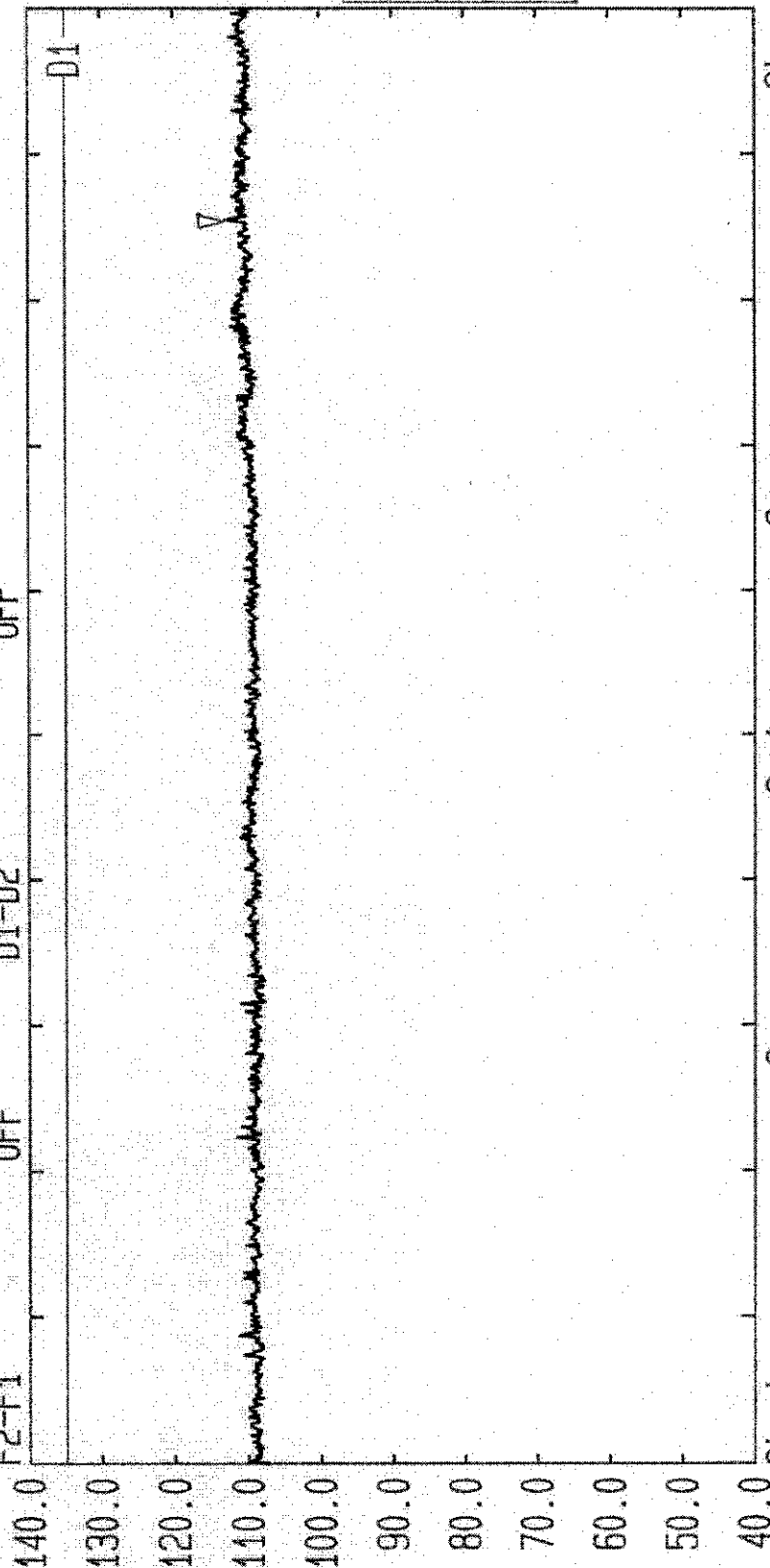
Graph Reference Number	Title P.R.F Graphs
GPH/38756/001	60ns, 3 kHz PRF, ½ mile range
GPH/38756/002	90ns, 3 kHz PRF, ½ mile range, Pulse Expansion On
GPH/38756/003	150ns, 3 kHz PRF, ¾ mile range, Pulse Expansion On
GPH/38756/004	250ns, 3 kHz PRF, 1 ½ mile range
GPH/38756/005	350ns, 2 kHz PRF, 1 ½ mile 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
Graph Reference Number	Title Radiated Spurious Emissions
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)
Graph Reference Number	Title Conducted Spurious Emissions
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

Date 19 Apr '99 Time 13:26:43
 Ref.Lvl 140.00 dBx
 Marker 129.70 dBx
 9.3848 GHz
 F1 OFF D1
 F2 OFF D2
 F2-F1 OFF D1-D2
 Res.Bw 1.0 MHz [3dB]
 CF.Stp 430.000 MHz
 Unit 60 dB
 [dBuV/m]
 Vid.Bw 1 MHz



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

LVLOFF '99 Time 13:40:49
 Date 19.Apr. '99
 Ref.Lvl 140.00 dB*
 Marker 113.09 dB*
 17.2055 GHz
 F1 OFF D1
 F2 OFF D2
 F2-F1 OFF D1-D2
 Res.Bw 1.0 MHz [3dB] Vid.Bw 1 MHz
 CF.Stp 550.000 MHz RF.Att 40 dB
 Unit [dBμV/m]



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

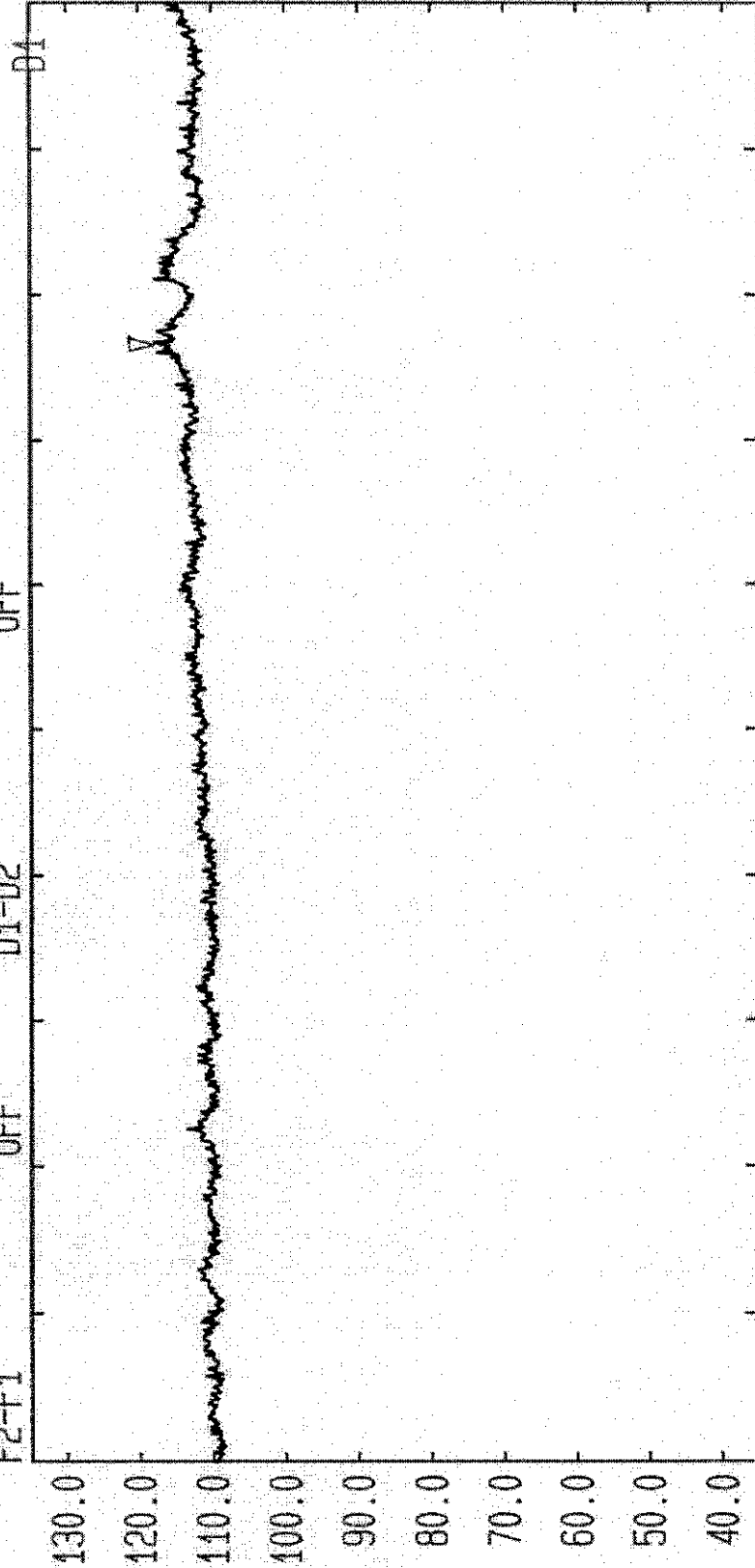
LVLOFF '99 Time 13:52:00
 Date 19 Apr. '99
 Ref.Lvl 135.00 dB*
 Marker 117.81 dB*
 24.5261 GHz
 F1 OFF D1
 F2 OFF D2
 F2-F1 OFF D1-D2

Res.Bw 1.0 MHz [3dB]
 CF.Stp 850.000 MHz
 RF.Att 35 dB
 Unit [dBuV/m]

134.84 dB*

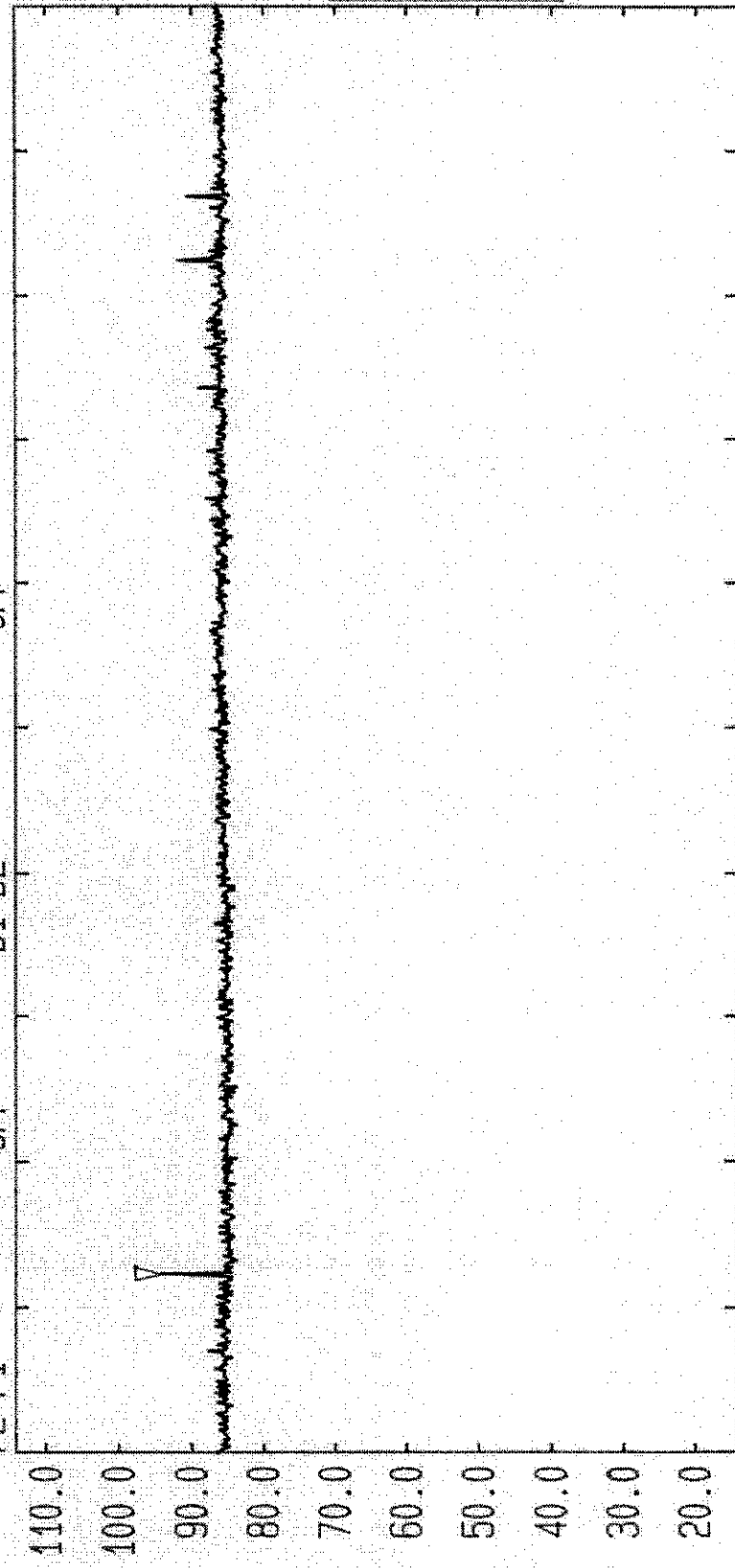
OFF
OFF

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

LVLOFF '99 Time 14:26:18
 Date 19.Apr. '99
 Ref.Lvl 114.00 dB*
 Marker 94.02 dB*
 28.1650 GHz
 F1 OFF D1
 F2 OFF D2
 F2-F1 OFF D1-D2
 Res.Bw 1.0 MHz [3dB]
 CF.Stp 1.350 GHz
 RF.Att 0 dB
 Unit [dBuV/m]
 Vid.Bw 1 MHz



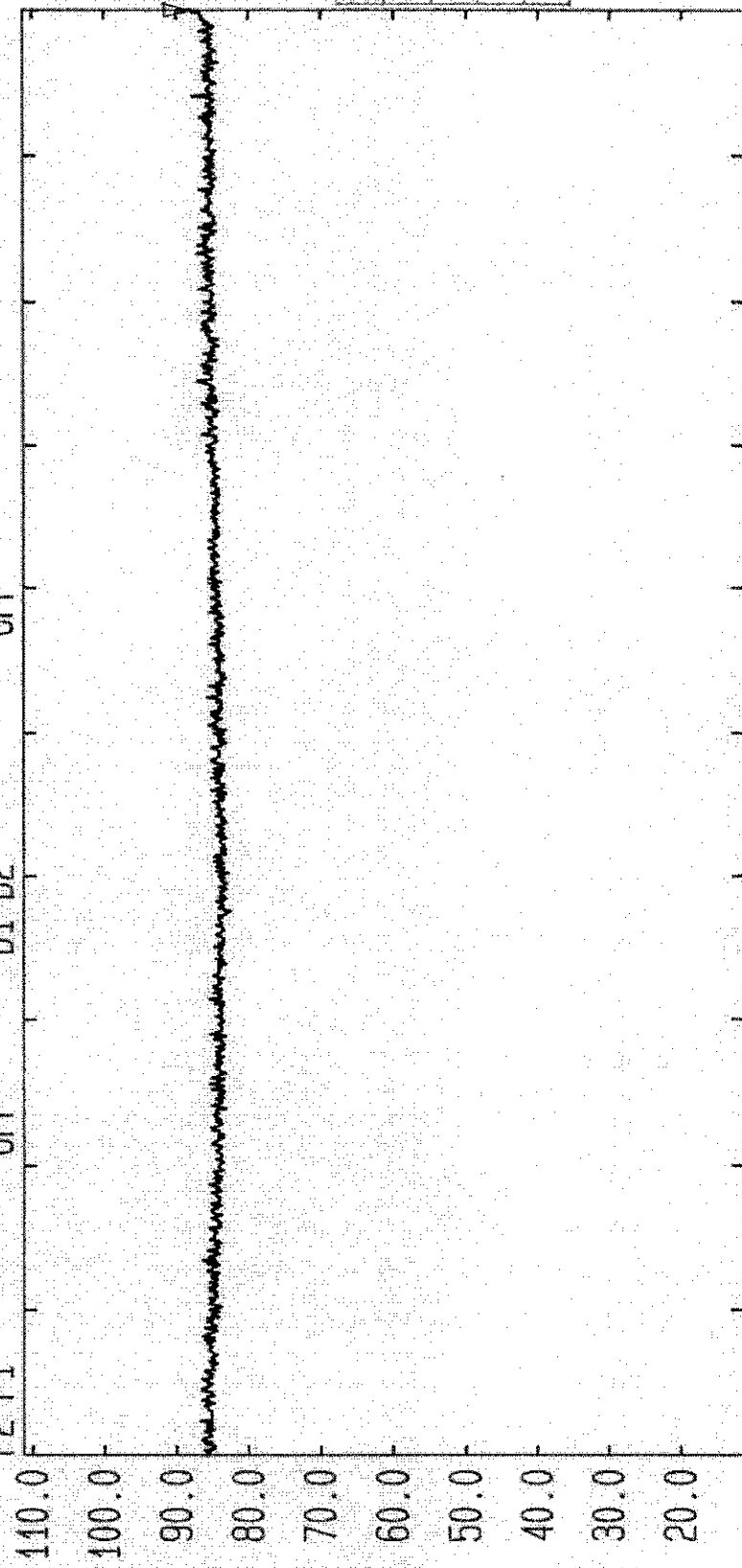
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Start 26.5 GHz
 Span 13.5 GHz
 Center 33.25 GHz
 Sweep 60 ms
 Stop 40 GHz
 FCC 80.211 (f) 2.993
 GPH/3R756.1D01/904
 3 Metre OATS. Test Sample: R75RC.
 Pulse width 450ns. Calculated limit: 134.84 dBuV/m

LVLOFF '99 Time 14:41:32
Date 19 Apr. 14:41:32
Ref.Lvl 111.00 dB*
Marker 87.85 dB*
F1 OFF D1
F2 OFF D2
F2-F1 OFF D1-D2

Res.Bw 1.0 MHz [3dB]
CF.Stp 2.000 GHz
Unit dBuV/m

Vid.Bw 1 MHz
RF.Att 0 dB



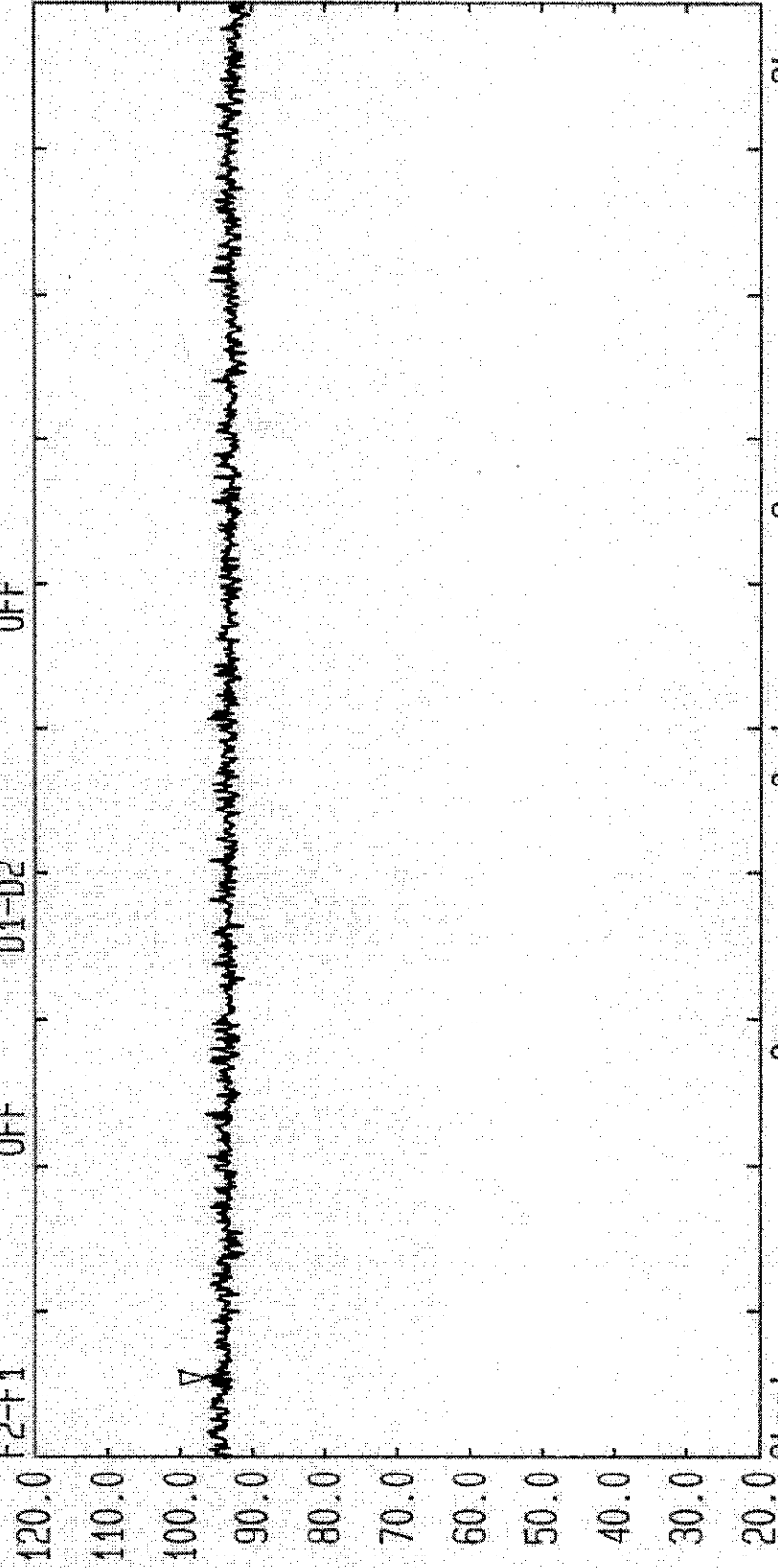
Start 40 GHz
Span 20 GHz
Center 50 GHz
Sweep 60 ms
Stop 60 GHz

3 Metre OATS. Test Sample: R75RC.
Pulse width 450ns. Calculated limit: 134.84 dBuV/m

FCC 80.211 (f) 2.993
GPH/38756JD01/905

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

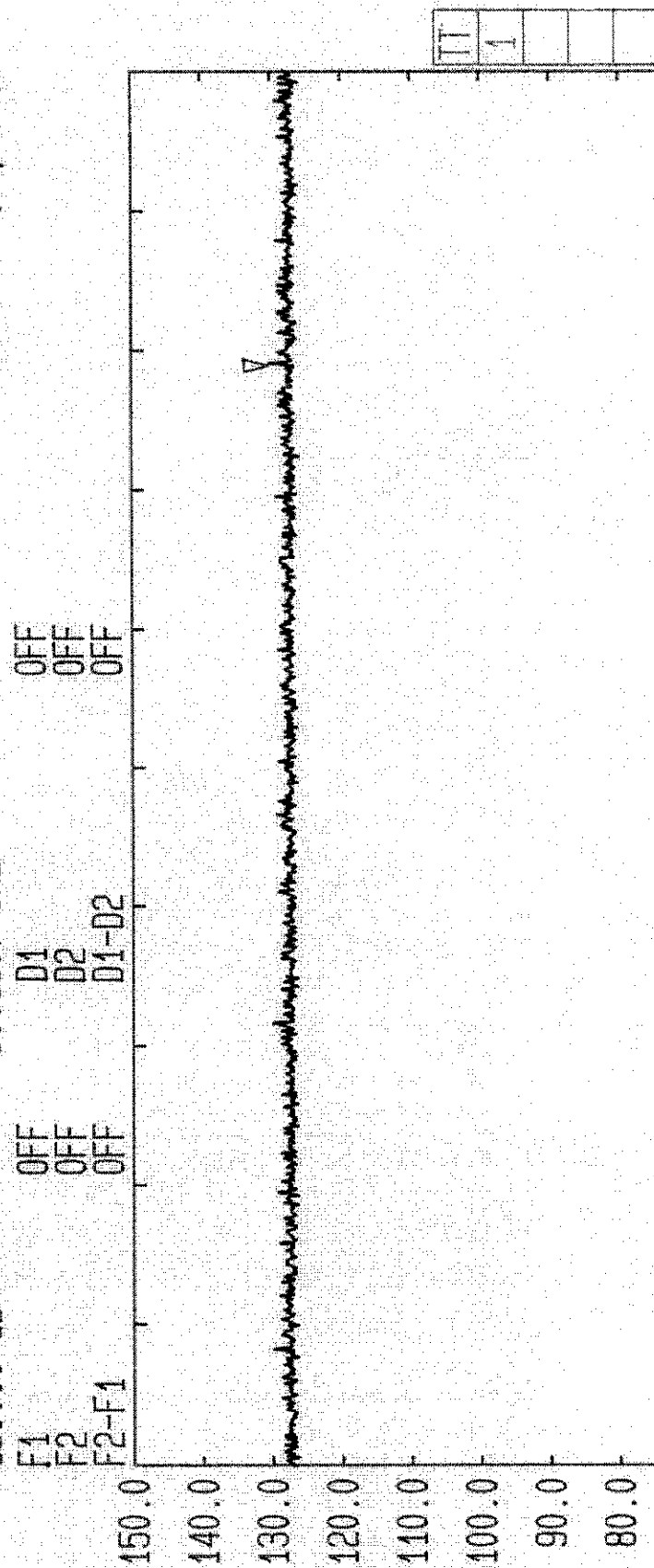
F1 OFF D1
 F2 OFF D2
 F2-F1 OFF D1-D2



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

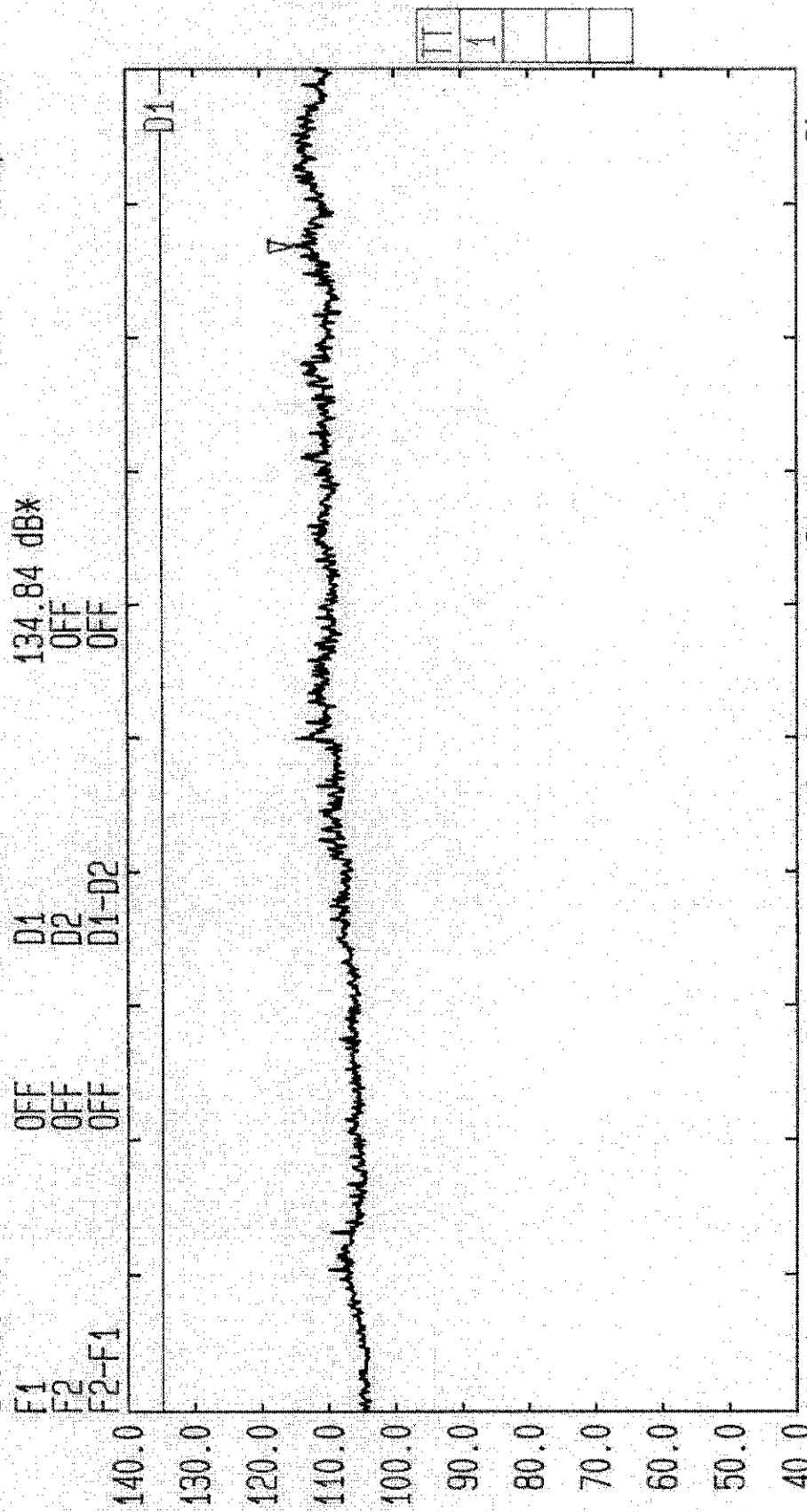
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Date 19 Apr '99 Time 15:22:01
 Ref.Lvl 150.00 dBx
 Marker 130.48 dBx
 Res.Bw 1.0 MHz [3dB]
 CF.Stp 2.001 GHz
 F1 OFF
 F2 OFF
 F2-F1 OFF
 LVLOFF
 Vid.Bw 1 MHz
 RF.Att 0 dB
 Unit [dBuV/m]



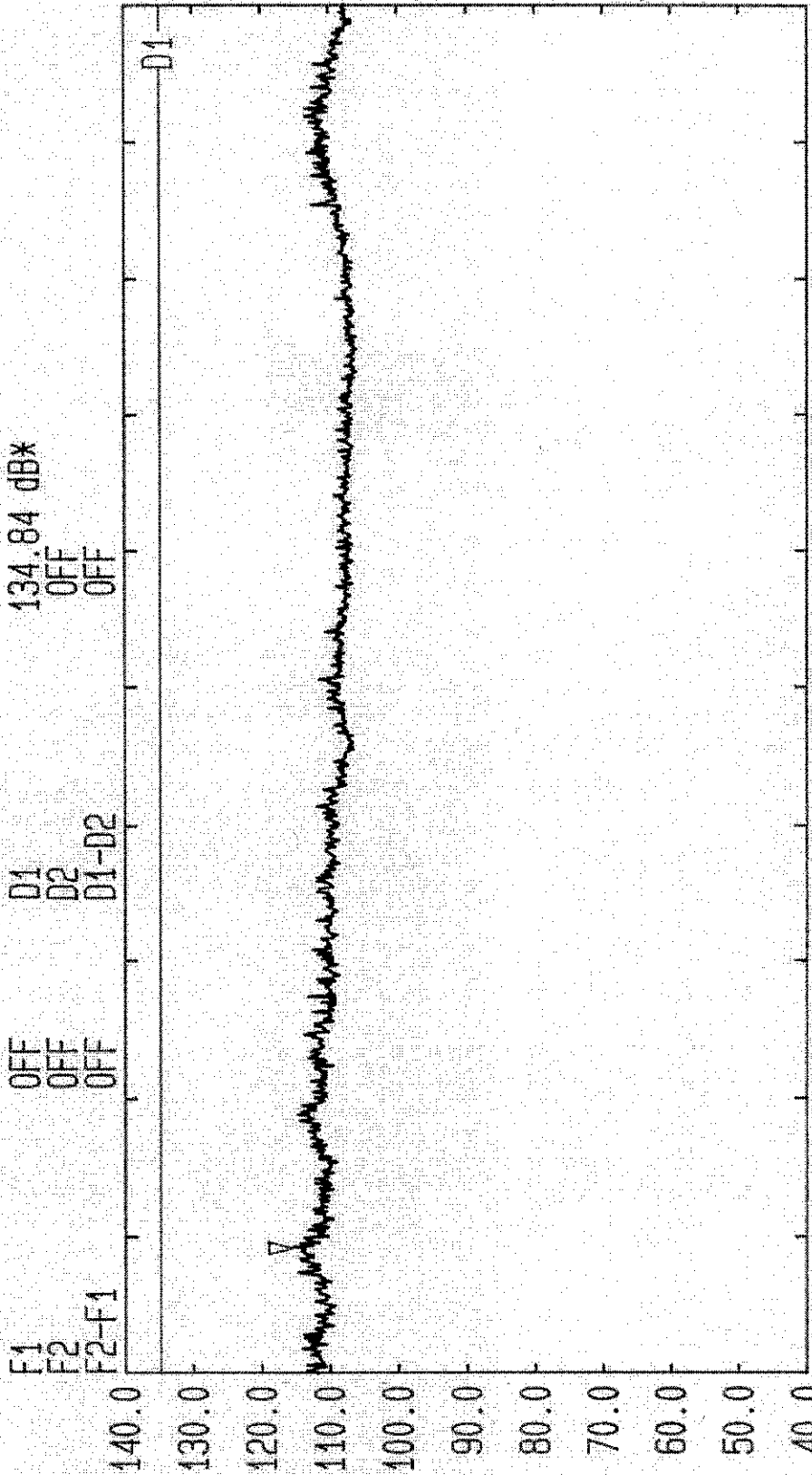
Start 74.999 GHz
 Span 20.01 GHz
 Center 85.005 GHz
 Sweep 60 ms
 Stop 95.010 GHz
 3 Metre OATS Test Sample: R75RC.
 Pulse width 450ns. Calculated limit: 134.84 dBuV/m
 FCC 80.211(f) 2.993
 GPH/38756JD01/907

LVLOFF
 Date 19 Apr '99 Time 15:58:12
 Ref.Lvl 140.00 dB*
 Marker 115.30 dB*
 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
 Unit 55 dB
 [dBuV/m]
 Vid.BW 1 MHz



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

Date 19-Apr-'99 Time 15:48:44
 Ref.Lvl 140.00 dBx
 Marker 115.68 dBx
 6.2028 GHz
 LVLOFF
 F1 OFF D1
 F2 OFF D2
 F2-F1 OFF D1-D2
 Res.Bw 1.0 MHz [3dB]
 CF.Stp 220.000 MHz
 134.84 dBx
 Vid.Bw 1 MHz
 RF.Att 55 dB
 Unit [dBuV/m]

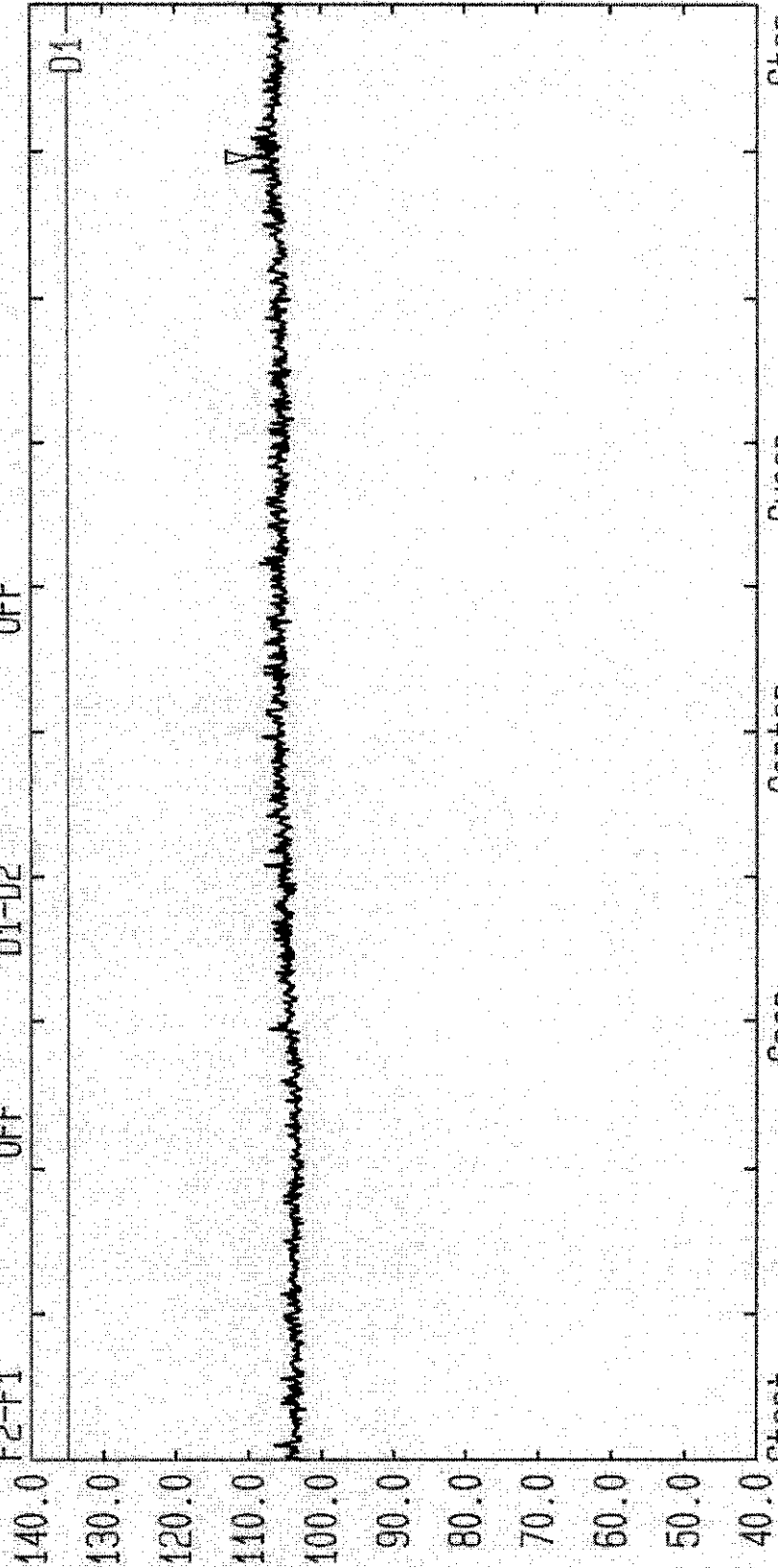


Start 6 GHz
 Span 2.2 GHz
 Center 7.1 GHz
 Sweep 20 ms
 Stop 8.2 GHz
 3 Metre OATS, Test Sample: A75RC.
 Pulse width 450ns
 Calculated Limit: 134.84 dBuV/m
 FCC 80.211(f) 2.993
 GPH/38756.J001/909

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LVLOFF
 Date 19. Apr. '99 Time 16:05:32
 Ref.Lvl 140.00 dB*
 Marker 109.43 dB*
 Res.Bw 1.0 MHz [3dB] Vid.Bw 1 MHz
 CF.Stp 100.000 MHz RF.Att 60 dB
 Unit [dBuV/m]

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

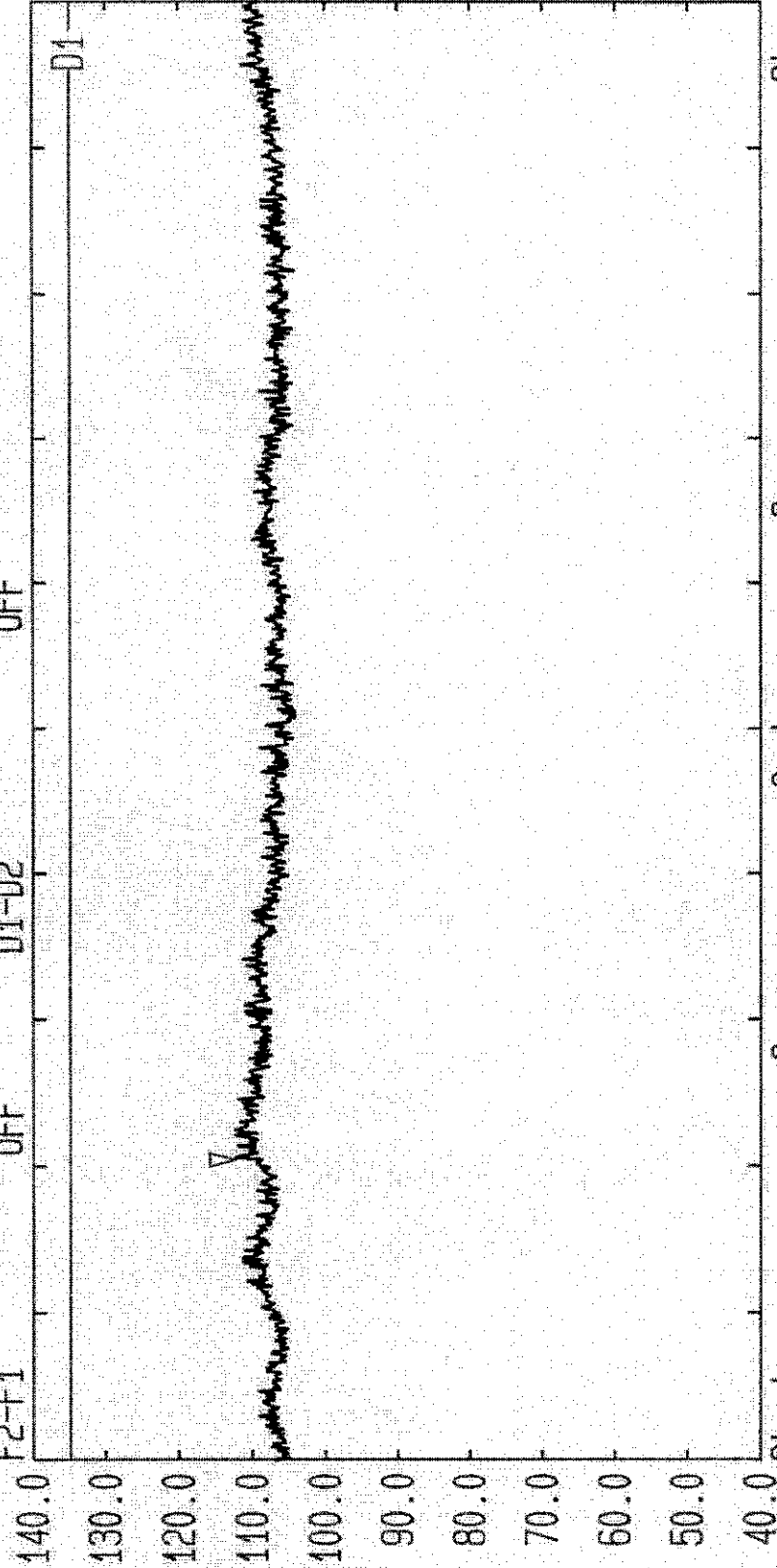


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Start 1 GHz
 Span 1 GHz
 Center 1.5 GHz
 Sweep 20 ms
 Stop 2 GHz
 3 Metre OATS. Test Sample: R75RC.
 Pulse width 450ns. Calculated limit: 134.84 dBuV/m
 FCC 80.211 (f) 2.993
 GPH/38756JD01/910

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

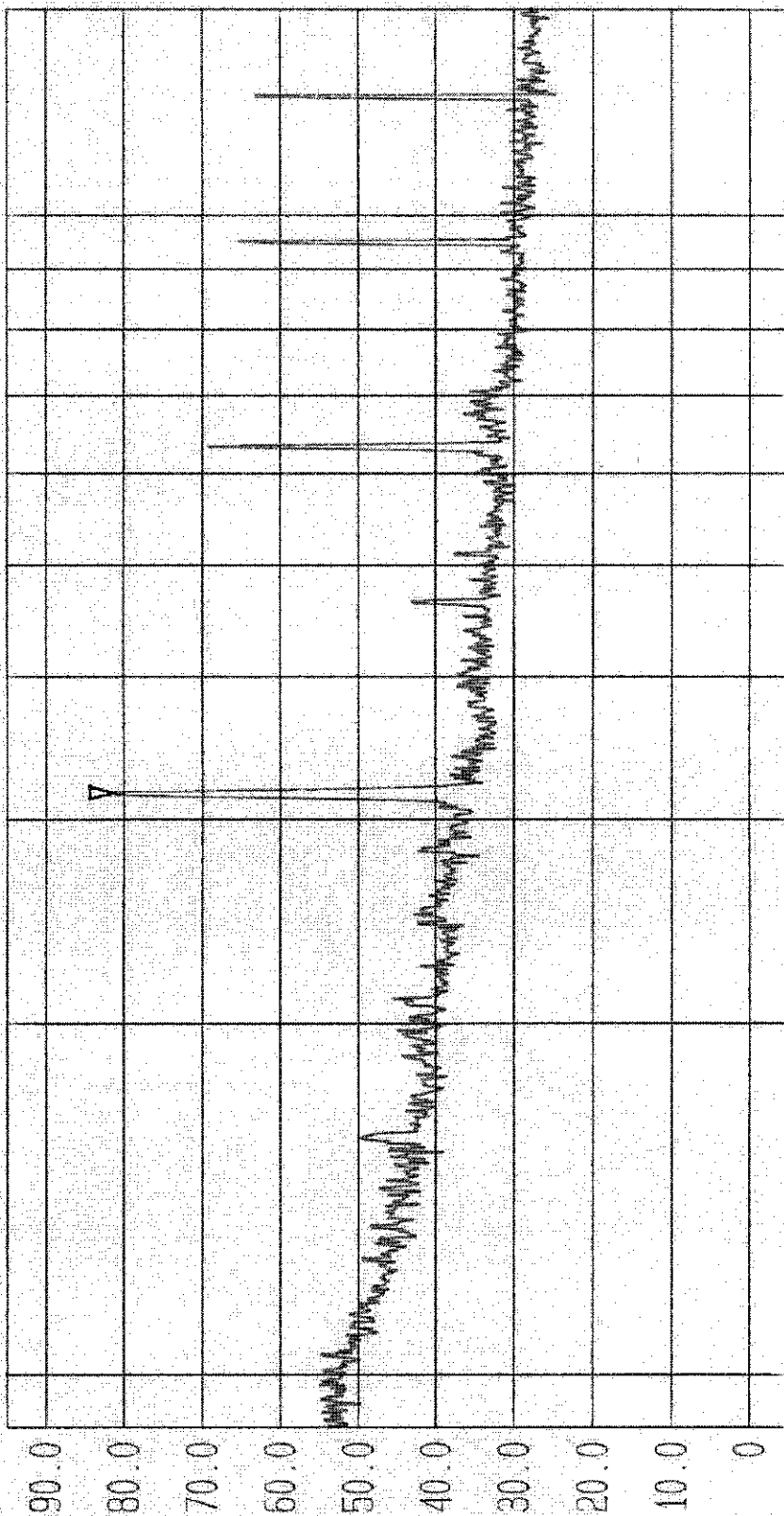
F1 OFF D1
 F2 OFF D2
 F2-F1 OFF D1-D2
 134.84 dB*
 OFF
 OFF



11
1

Start 2 GHz
 Span 2 GHz
 Center 3 GHz
 Sweep 20 ms
 Stop 4 GHz
 3 Metre OATS. Test Sample: R75RC.
 Pulse width 450ns. Calculated limit: 134.84 dBμV/m
 FCC 80.211(f) 2.993
 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] off
 TG.Lvl 14.100 kHz
 CF.Stp 31.72 kHz
 Vid.Bw 3 kHz
 RF.Att 20 dB
 Unit [aBuV/m]

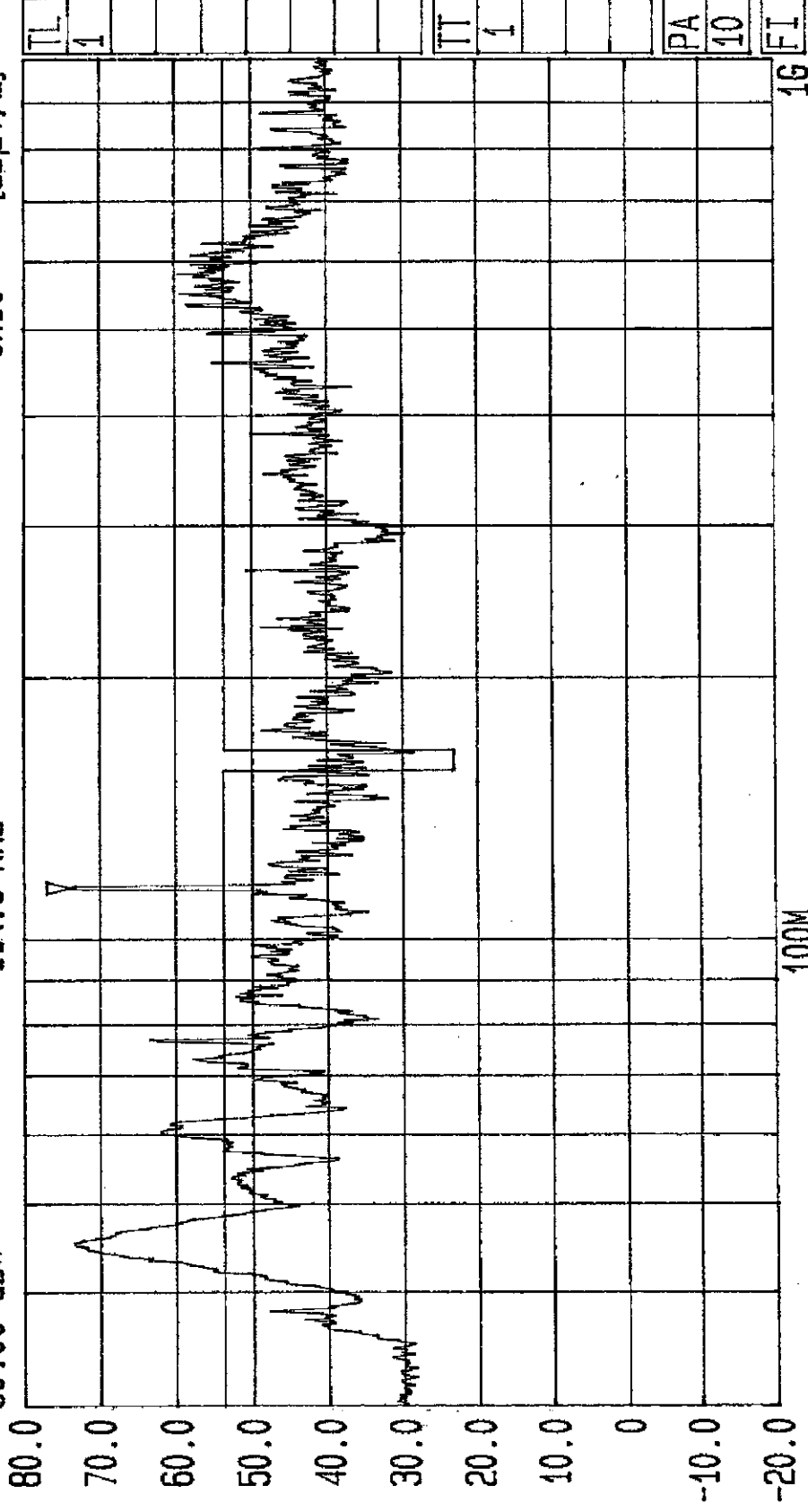


10k 100k
 Start 9 kHz Stop 150 kHz
 Span 141 kHz Center 36.742 kHz
 Sweep 4.4 s
 FCC 80.211 (f) 22.993
 GPH/38756JD1/912



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



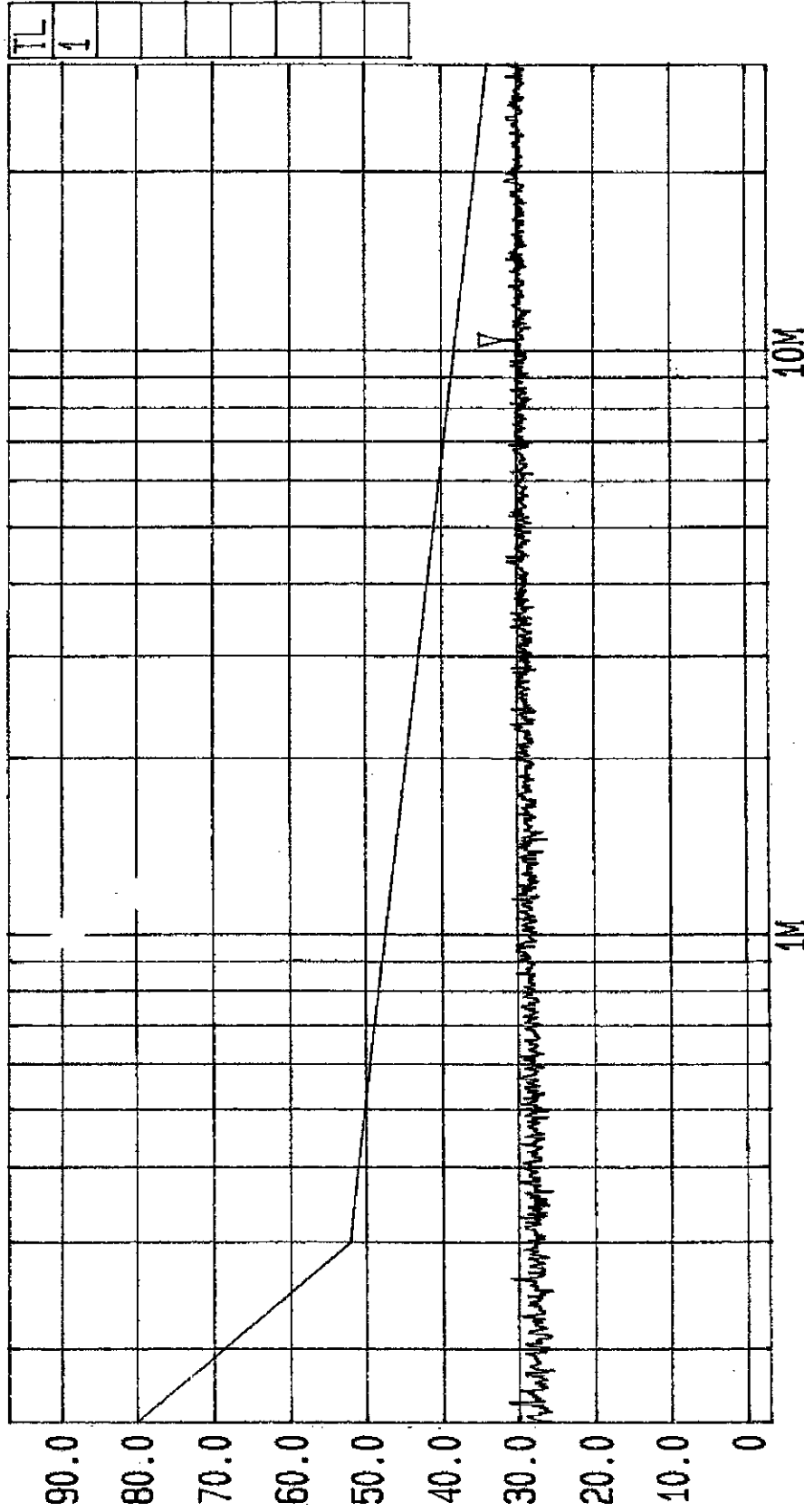
Date 23.Mar.'99 Time 01:56:39

Ref.Lvl 97.00 dBx

Marker 31.74 dBx
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

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

BS EN 60945:1997
GPH/38673/JD01/EIF01/007