



Figure 14A. Test Configuration For Occupied Bandwidth

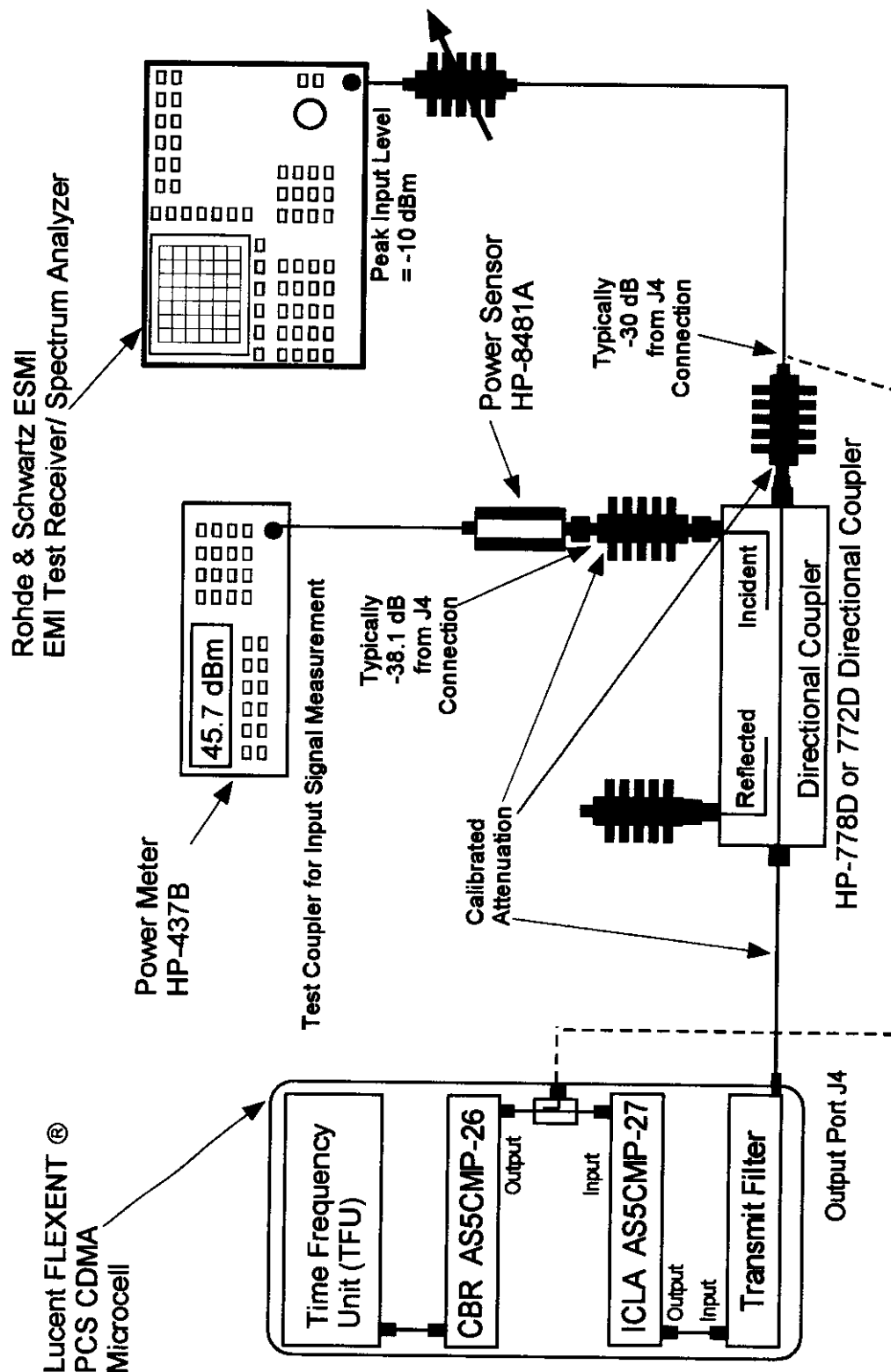


Exhibit 14

TEST SETUP FOR MEASUREMENT OF OCCUPIED BANDWIDTH

EQUIPMENT

RFTG:	Reference Frequency and Timing Generator, 15 MHz
BCR:	Baseband Combiner and Radio
ICLA:	Individual Channel Linear Amplifier Unit (FCC ID: AS5CMP-27)
Transmit Filter:	Cellular Band Transmit Filter appropriate for the investigated Band
Directional Coupler:	HP 778D Dual Directional Coupler
Power Meter:	HP 437B with HP 8481A Power Head
Plotter:	HP Model 7470A Plotter
Spectrum Analyzer:	Rohde & Schwarz ESMI EMI Test Receiver

RESULTS: The following exhibits illustrate the spectrums investigated and document compliance.

Very truly yours,

W. Steve Majkowski
FCC Test Engineer

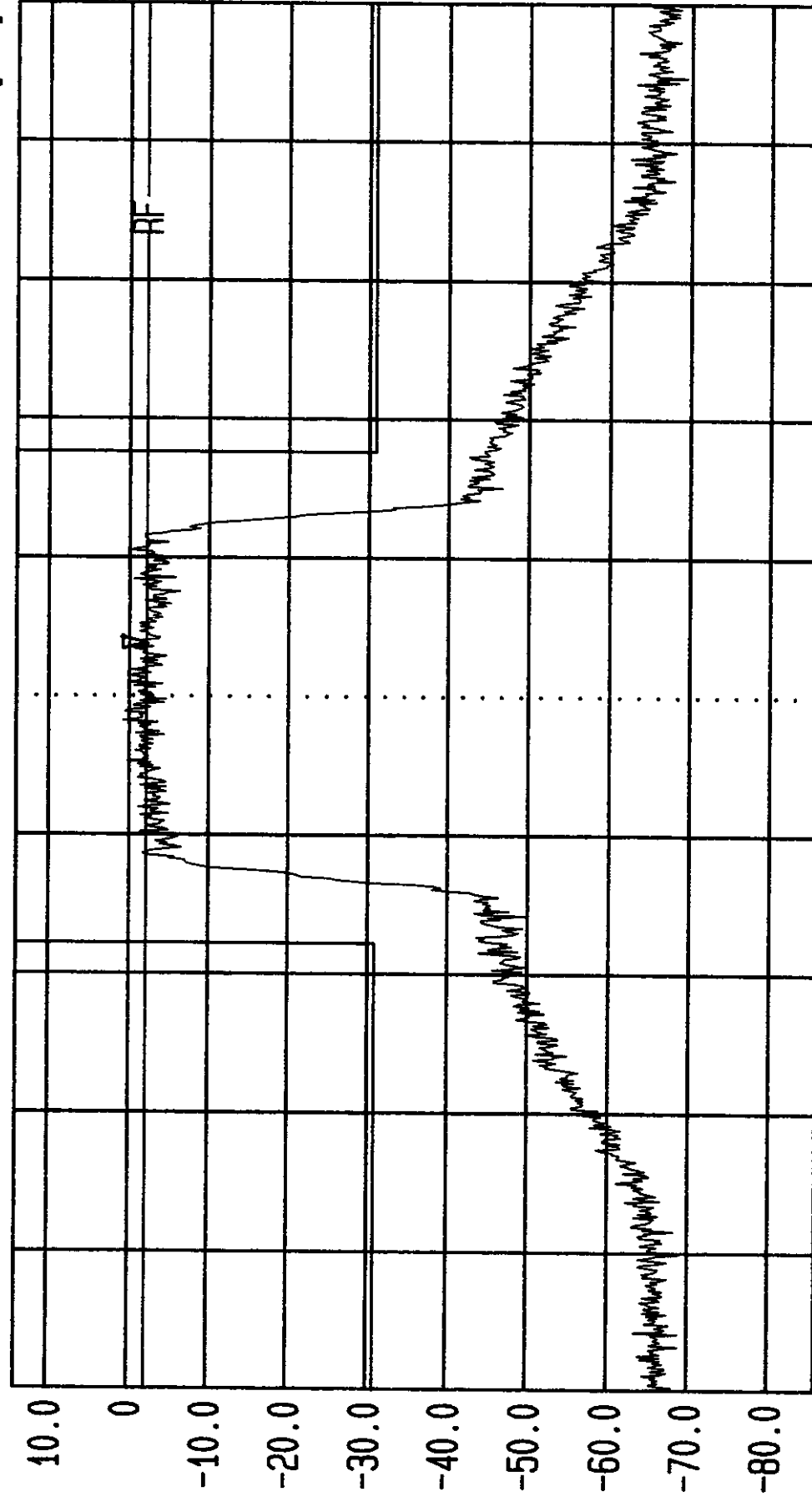


LVLOFF

Date 12.Nov.'98 Time 09:10:16

Ref.Lvl 14.00 dBm
Marker 1.931444 GHz

Res.Bw 30.0 kHz [3dB]
TG.Lvl off
CF.Stp 500.000 kHz
Vid.Bw 300 kHz
RF.Att 20 dB
Unit [dBm]

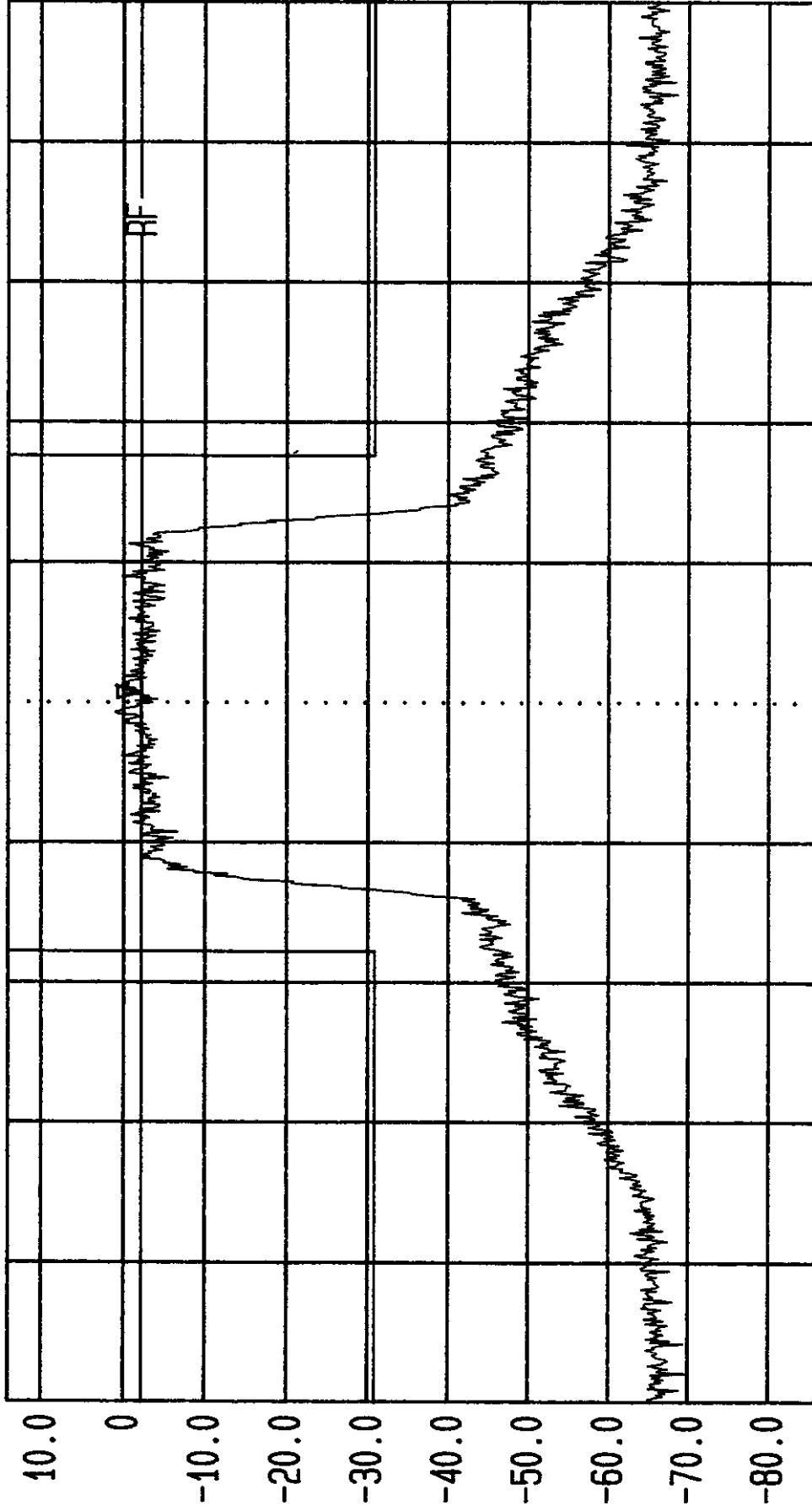


Start 1.92875 GHz
Span 5 MHz
Center 1.93125 GHz
Sweep 20 ms
Stop 1.93375 GHz

AS5CMP-26 CBR Output. FCC Occupied Bandwidth. 25 Avg.
Pwr = +14 dBm. Block A. Channel 25.



LVLOFF
Date 12.Nov.'98 Time 09:15:29
Ref.Lvl 14.00 dBm Marker -2.20 dBm
Res.Bw 30.0 kHz [3dB] off
TG.Lvl 500.000 kHz
CF.Stp 1.937538 GHz
Vid.Bw 300 kHz
RF.Att 20 dB
Unit [dBm]

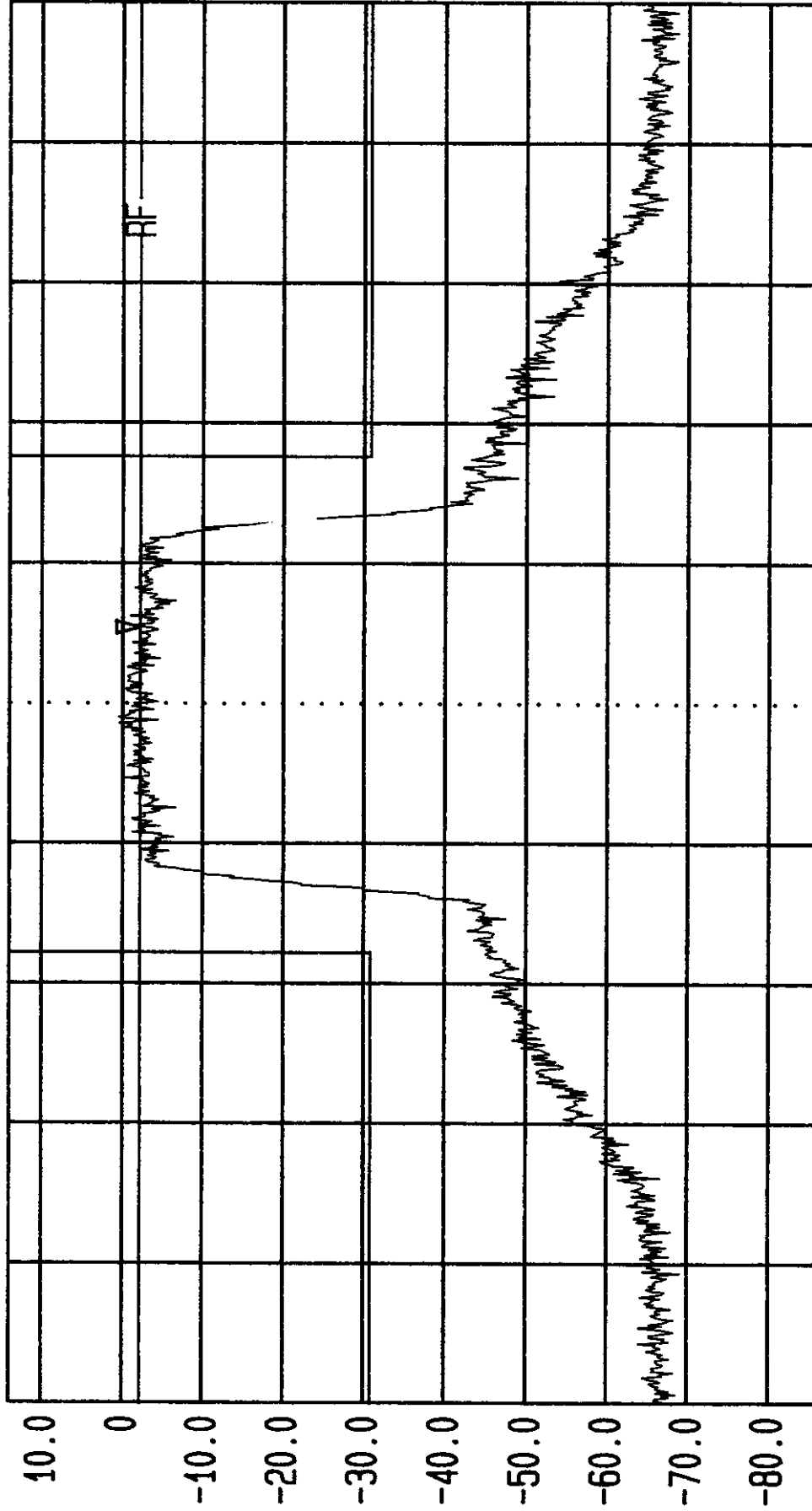


Start 1.935 GHz Center 1.9375 GHz Stop 1.94 GHz
Span 5 MHz Sweep 20 ms

AS5CMP-26 CBR Output. FCC Occupied Bandwidth. 25 Avg.
Pwr = +14 dBm. Block A. Channel 150.



LVLOFF
Date 12.Nov.'98 Time 09:22:10
Ref.Lvl 14.00 dBm Marker -2.22 dBm
Res.Bw 30.0 kHz [3dB] off
TG.Lvl
CF.Stp
Vid.Bw 300 kHz
RF.Att 20 dB
Unit [dBm]

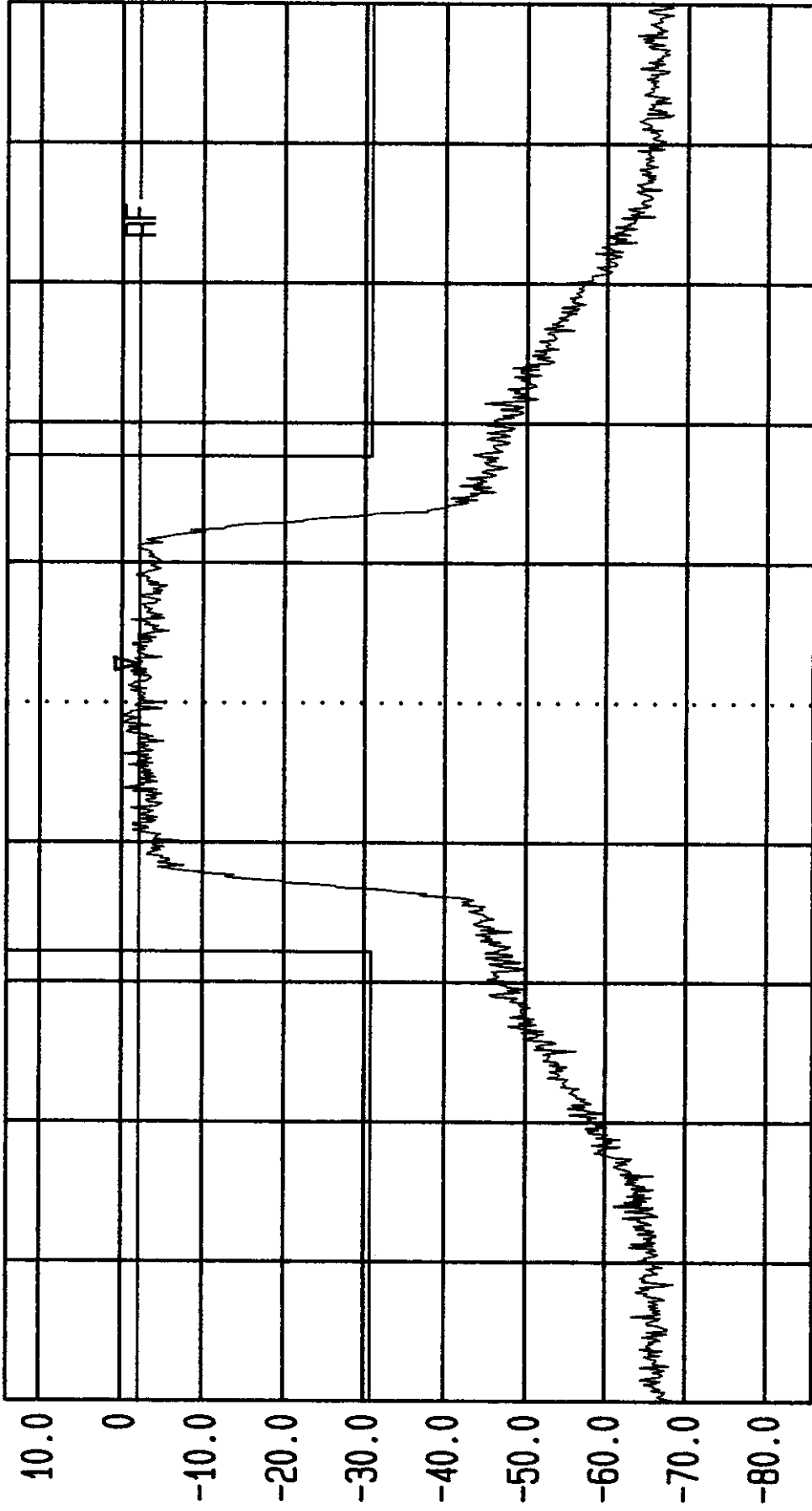


Start 1.94125 GHz Span 5 MHz Center 1.94375 GHz Sweep 20 ms Stop 1.94625 GHz

AS5CMP-26 CBR Output. FCC Occupied Bandwidth. 25 Avg.
Pwr = +14 dBm. Block A. Channel 275.



LVLOFF
Date 12.Nov.'98 Time 09:28:11
Ref.Lvl 14.00 dBm Marker -2.22 dBm
Res.Bw 30.0 kHz [3dB] off
CF.Stp 500.000 kHz
Vid.Bw 300 kHz
RF.Att 20 dB
Unit [dBm]

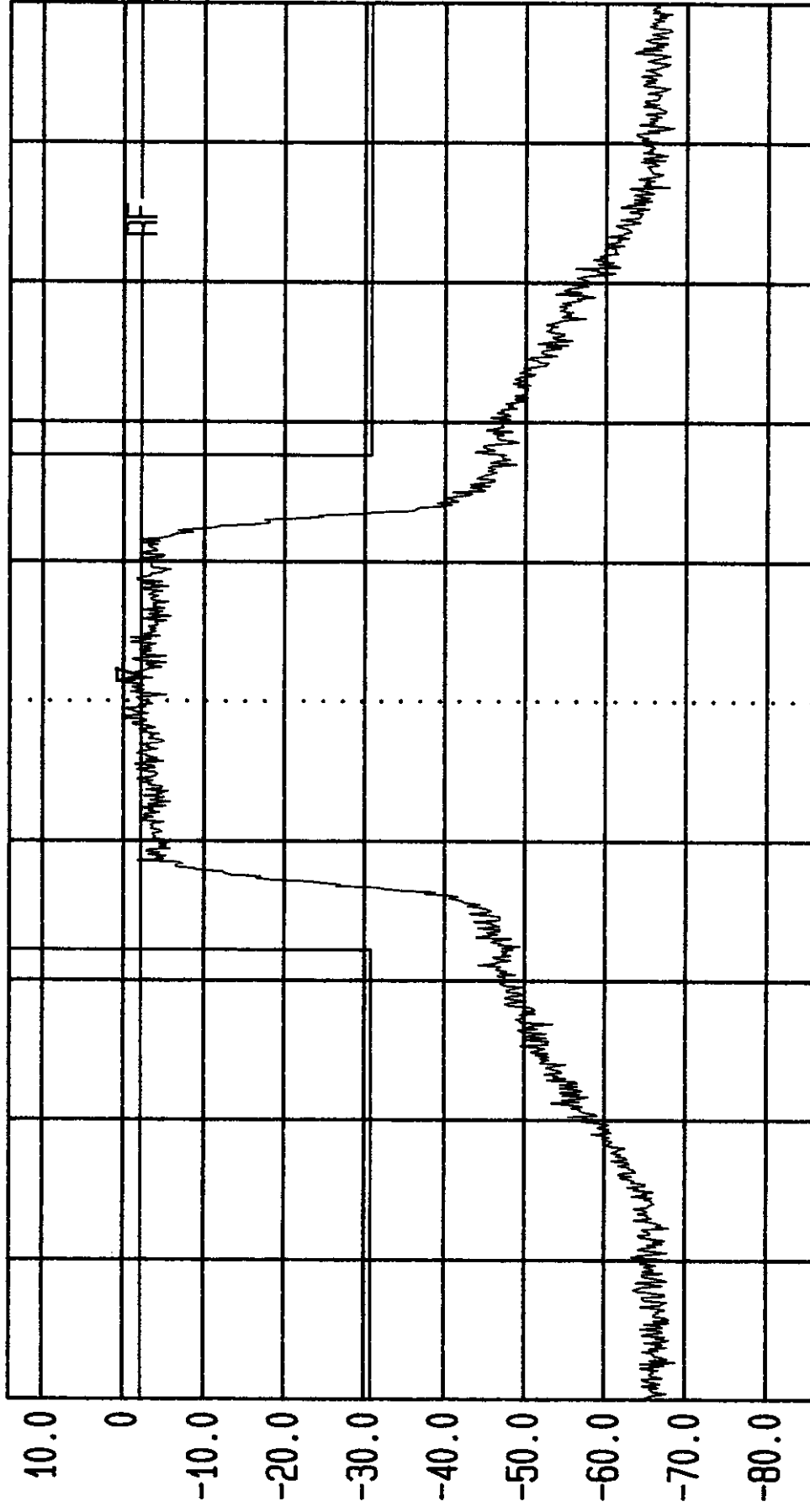


Start 1.94375 GHz Span 5 MHz Center 1.94625 GHz Sweep 20 ms Stop 1.94875 GHz

AS5CMP-26 CBR Output. FCC Occupied Bandwidth. 25 Avg.
Pwr = +14 dBm. Block D. Channel 325.



LVLOFF
Date 12.Nov.'98 Time 09:37:24
Ref.Lvl 14.00 dBm Marker -2.22 dBm
Res.Bw 30.0 kHz [3dB] off
TG.Lvl 500.000 kHz
CF.Stp 20 dB
Vid.Bw 300 kHz
Unit [dBm]



Start 1.945 GHz Span 5 MHz Center 1.9475 GHz Sweep 20 ms Stop 1.95 GHz

AS50MP-26 CBR Output. FCC Occupied Bandwidth. 25 Avg.
Pwr = +14 dBm. Block D. Channel 350.



LVLOFF

Date 12.Nov.'98 Time 09:40:44

Ref.Lvl 14.00 dBm

Marker -2.22 dBm

1.948694 GHz

Res.Bw

TG.Lvl

CF.Stp

30.0 kHz [3dB]

off

500.000 kHz

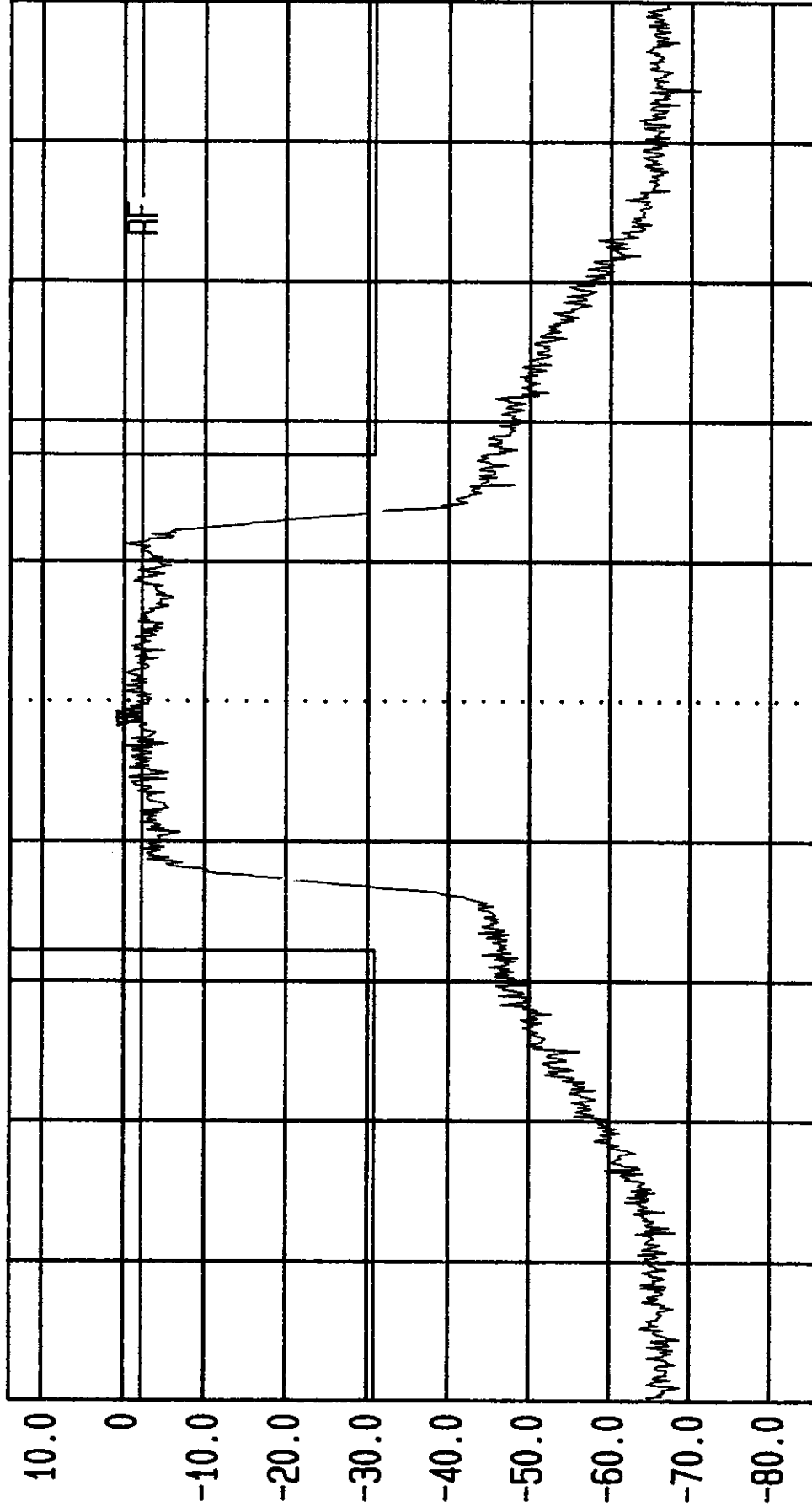
Vid.Bw

RF.Att

300 kHz

20 dB

[dBm]



Start

1.94625 GHz

Span

5 MHz

Center

1.94875 GHz

Sweep

20 ms

Stop

1.95125 GHz

AS5CMP-26 CBR Output. FCC Occupied Bandwidth. 25 Avg.

Pwr = +14 dBm. Block D. Channel 375.



LVLOFF

Date 12.Nov.'98 Time 09:55:42

Ref.Lvl 14.00 dBm

Marker -2.22 dBm

1.951288 GHz

Res.Bw

TG.Lvl

30.0 kHz [3dB]

off

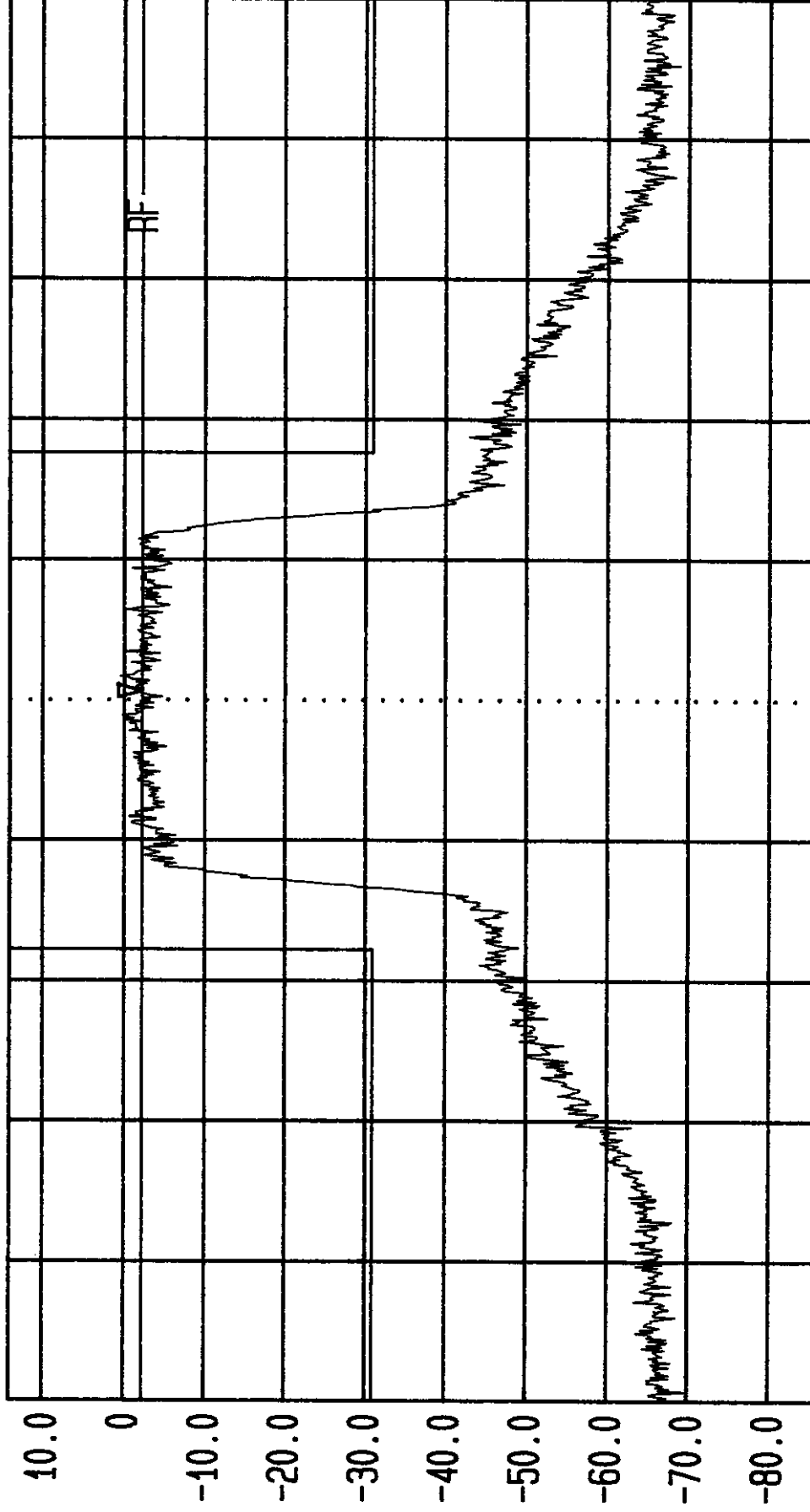
Vid.Bw

RF.Att

300 kHz

20 dB

[dBm]



Start

1.94875 GHz

Span

5 MHz

Center

1.95125 GHz

Sweep

20 ms

Stop

1.95375 GHz

AS5CMP-26 CBR Output. FCC Occupied Bandwidth. 25 Avg.

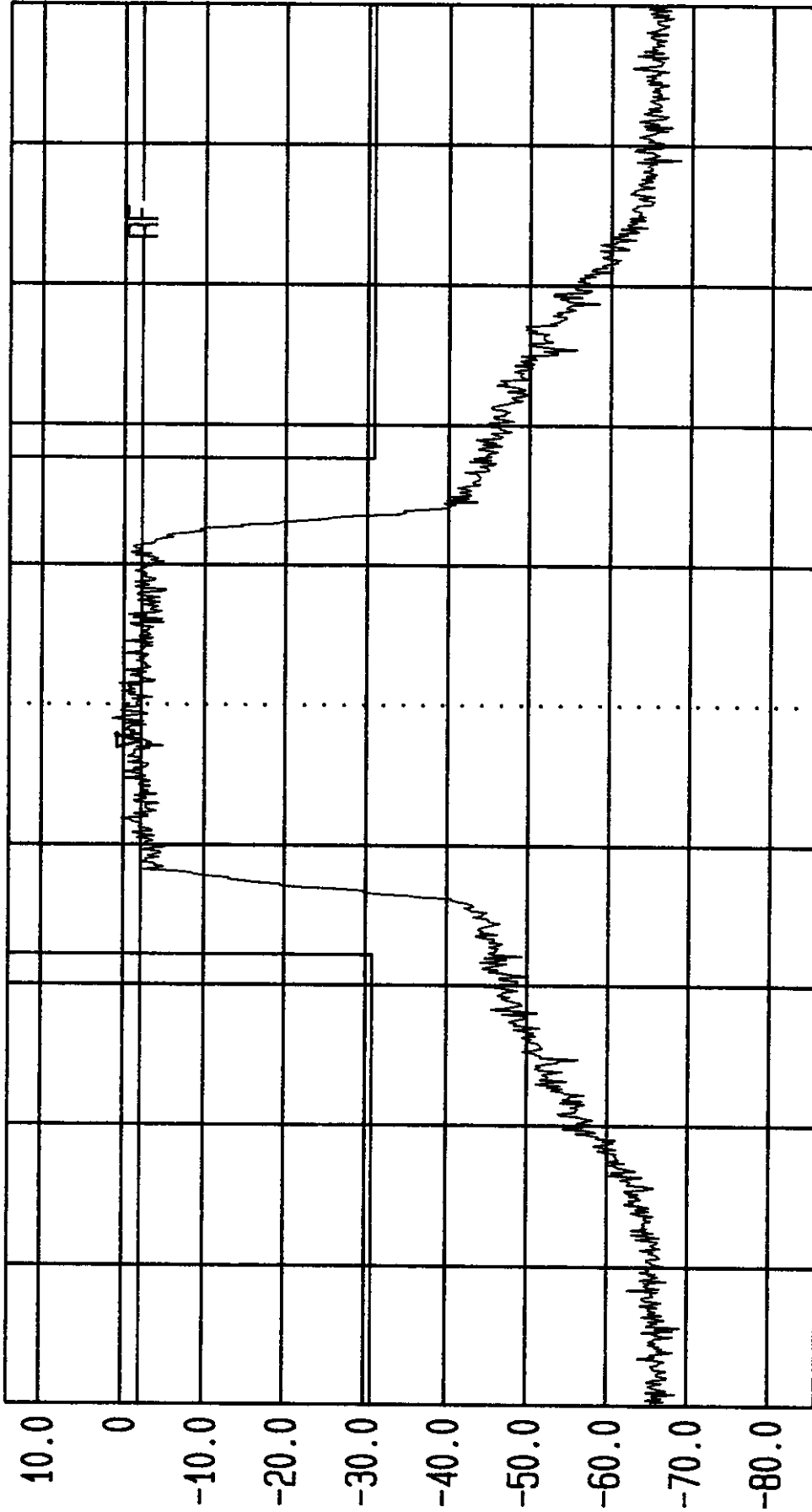
Pwr = +14 dBm. Block B. Channel 425.



LVLOFF

Date 11.Nov.'98 Time 17:37:02
Ref.Lvl 14.00 dBm
Marker -2.22 dBm
1.957377 GHz

Res.Bw 30.0 kHz [3dB]
TG.Lvl off
CF.Stp 500.000 kHz
Vid.Bw 300 kHz
RF.Att 20 dB
Unit [dBm]



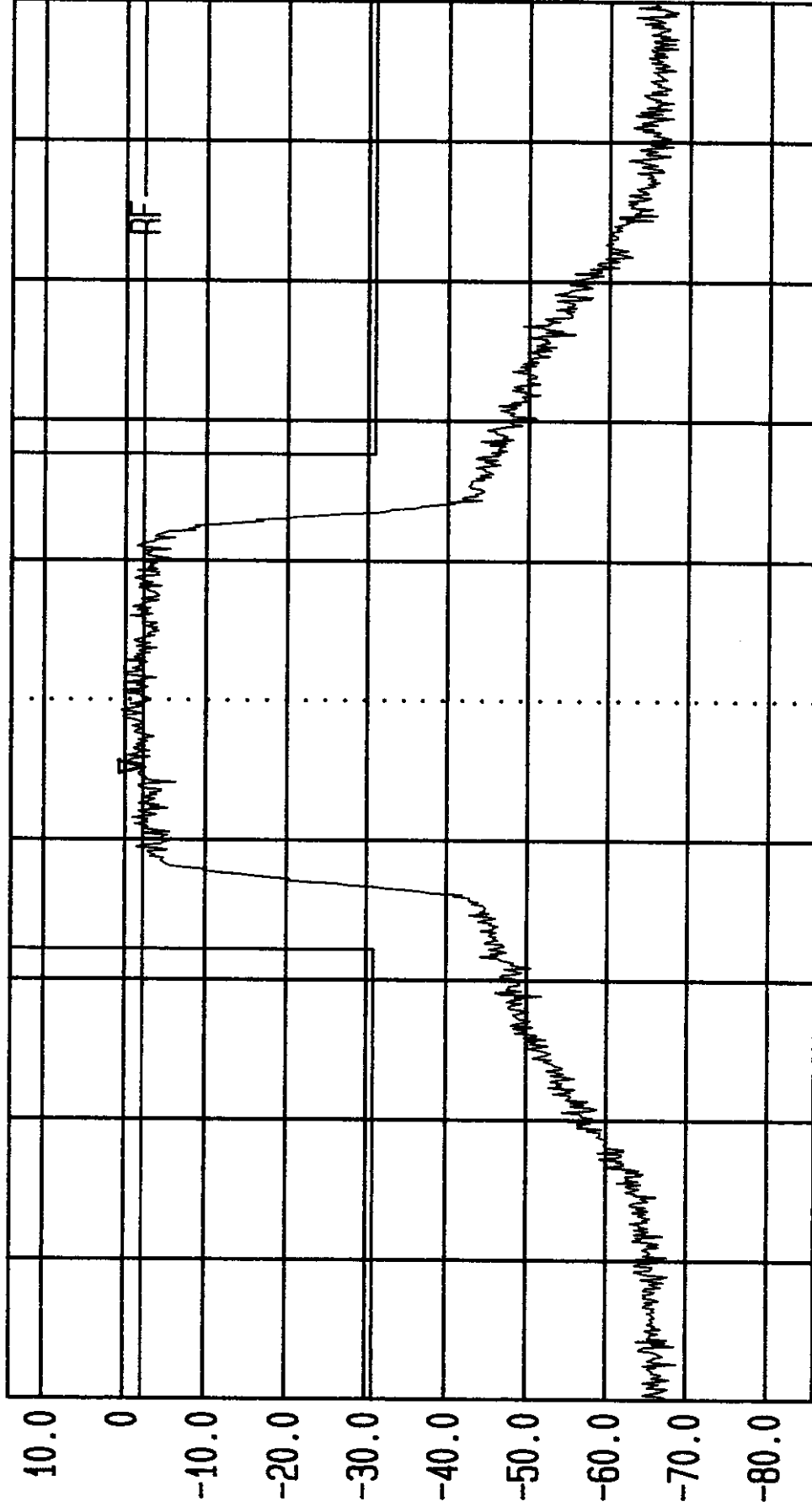
Start 1.955 GHz Center 1.9575 GHz Stop 1.96 GHz
Span 5 MHz Sweep 20 ms

AS5CMP-26 CBR Output. FCC Occupied Bandwidth. 25 Avg.
Pwr = +14 dBm. Block B. Channel 550.



LVLOFF

Date 12.Nov.'98 Time 10:02:43

Ref.Lvl 14.00 dBm
Marker -2.22 dBm
1.963516 GHzRes.BW 30.0 kHz [3dB]
TG.Lvl Off
CF.Stp 500.000 kHz
Vid.Bw 300 kHz
RF.Att 20 dB
Unit [dBm]

Start

1.96125 GHz

Span

5 MHz

Center

1.96375 GHz

Sweep

20 ms

Stop

1.96625 GHz

AS5CMP-26 CBR Output. FCC Occupied Bandwidth. 25 Avg.
Pwr = +14 dBm. Block B. Channel 675.



LVLOFF

Date 12.Nov.'98 Time 10:08:09

Ref.Lvl 14.00 dBm

Marker -2.15 dBm

Res.Bw 30.0 kHz [3dB]

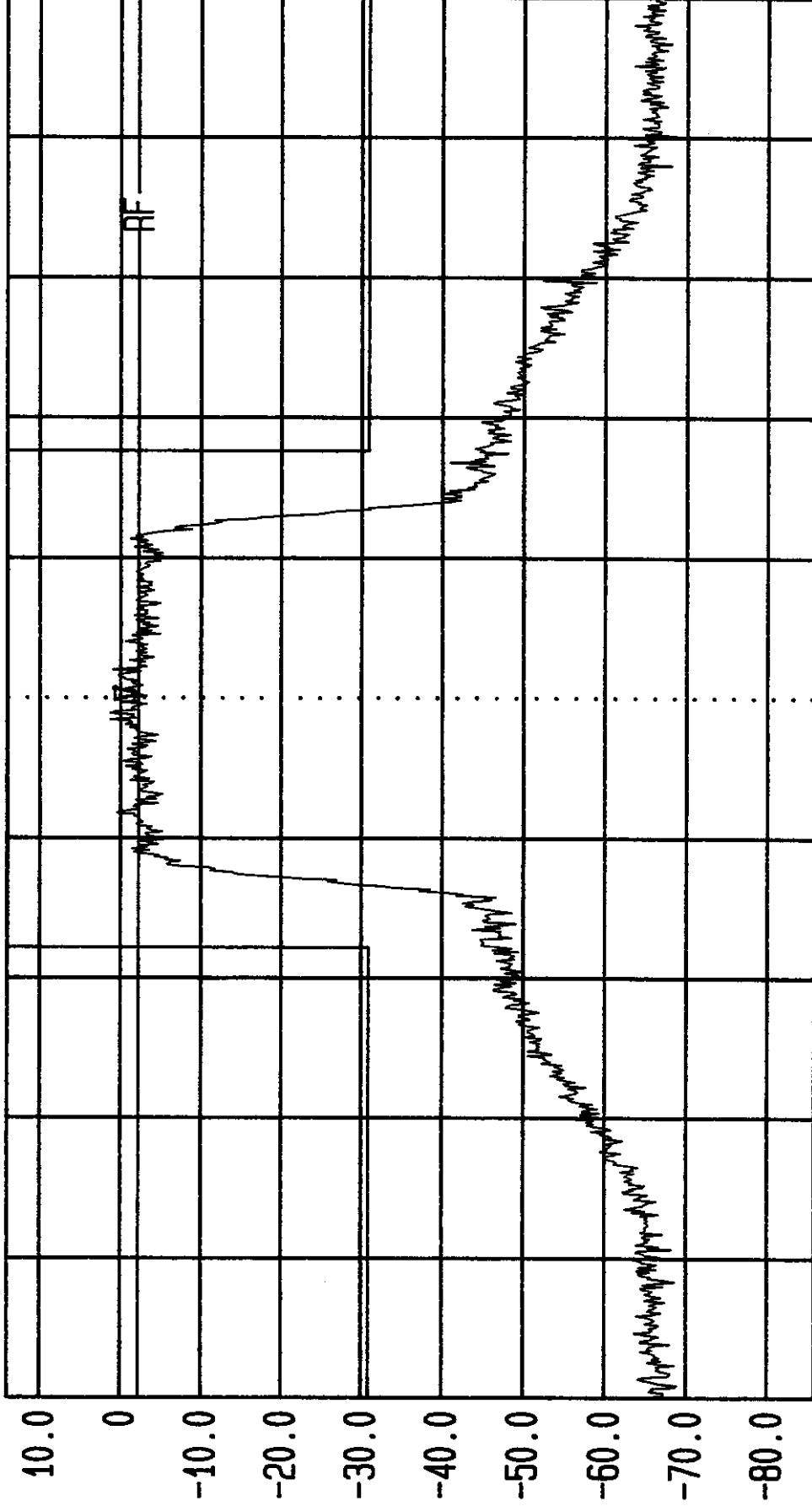
TG.Lvl off

CF.Stp 500.000 kHz

Vid.Bw 300 kHz

RF.Att 20 dB

Unit [dBm]

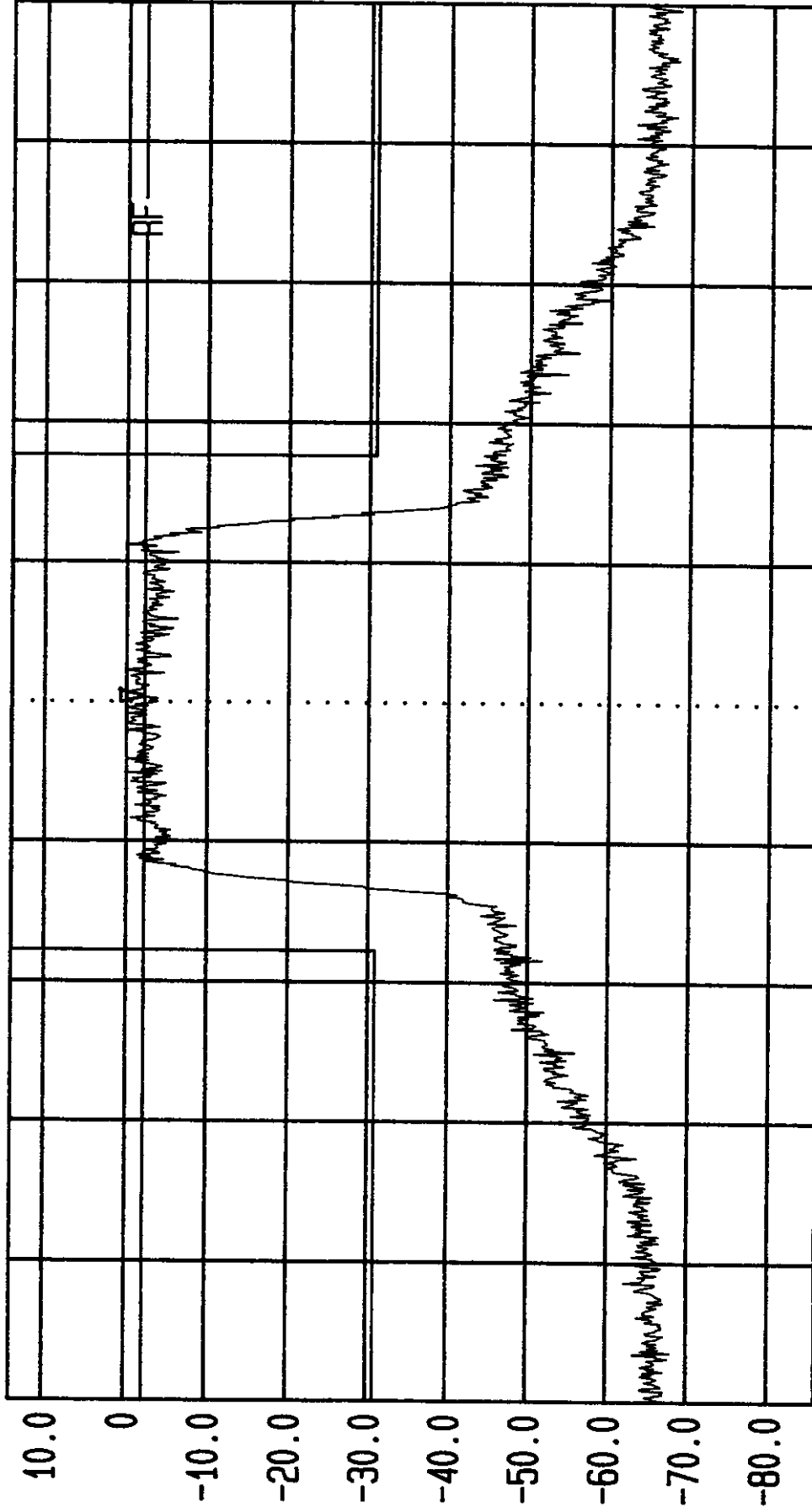


Start 1.96375 GHz Span 5 MHz Center 1.96625 GHz Sweep 20 ms Stop 1.96875 GHz

AS5CMP-26 CBR Output. FCC Occupied Bandwidth. 25 Avg.
Pwr = +14 dBm. Block E. Channel 725.



LVLOFF
Date 12.Nov.'98 Time 10:12:37
Ref.Lvl 14.00 dBm Marker -2.22 dBm
Res.Bw 30.0 kHz [3dB] off
TG.Lvl 500.000 kHz
CF.Stp 20 dB
Unit [dBm]
Vid.Bw 300 kHz

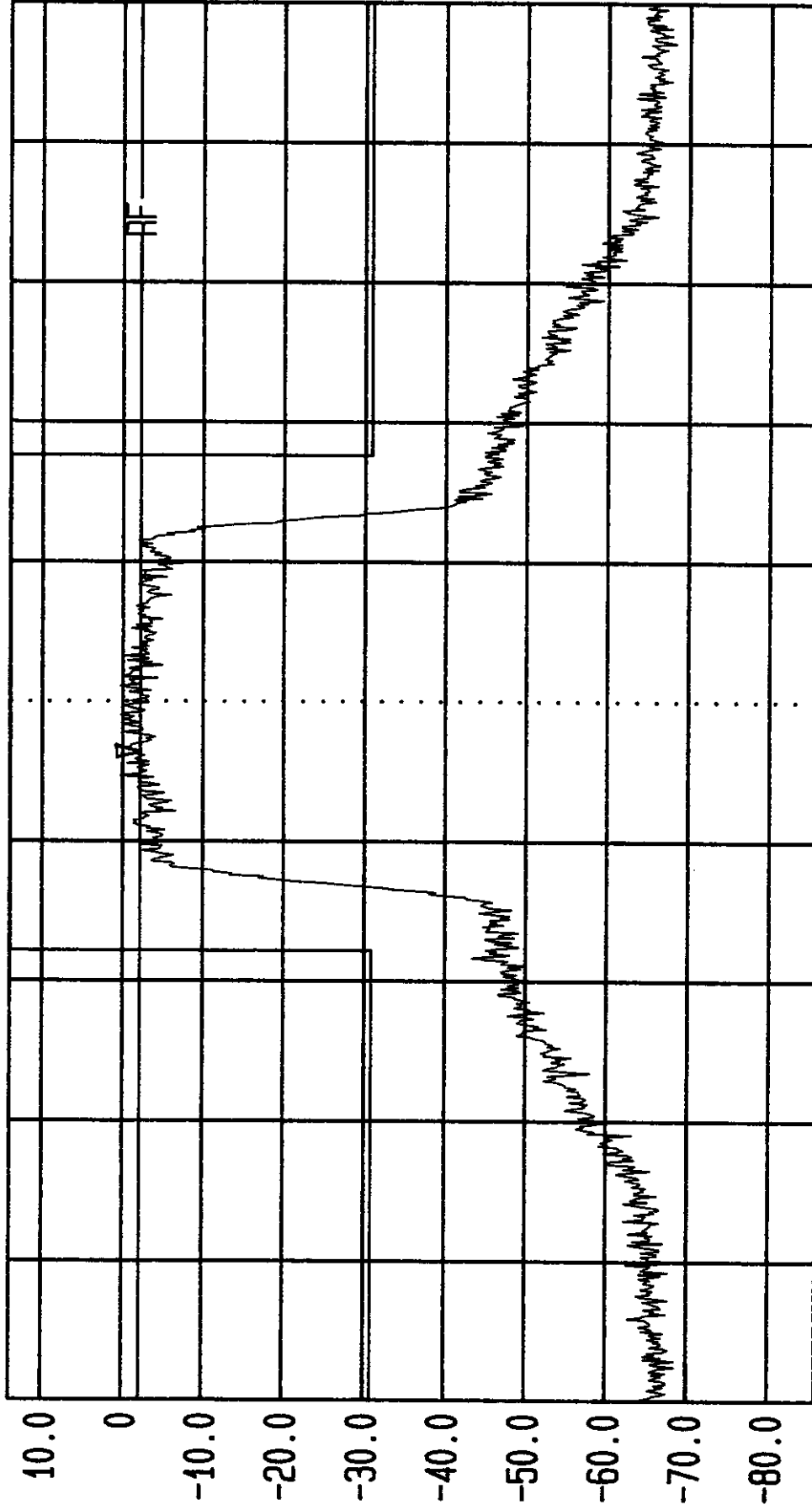


Start 1.965 GHz Span 5 MHz Center 1.9675 GHz Sweep 20 ms Stop 1.97 GHz

AS5CMP-26 CBR Output. FCC Occupied Bandwidth. 25 Avg.
Pwr = +14 dBm. Block E. Channel 750.



LVLOFF
Date 12.Nov.'98 Time 10:17:00
Ref.Lvl 14.00 dBm Marker -2.17 dBm
Res.Bw 30.0 kHz [3dB] off
TG.Lvl CF.Stp
Vid.Bw 300 kHz
RF.Att 20 dB
Unit [dBm]



Start 1.96625 GHz Span 5 MHz Center 1.96875 GHz Sweep 20 ms Stop 1.97125 GHz

AS5CMP-26 CBR Output. FCC Occupied Bandwidth. 25 Avg.
Pwr = +14 dBm. Block E. Channel 775.



LVLOFF

Date 12.Nov.'98 Time 10:23:18

Ref.Lvl 14.00 dBm

Marker -2.17 dBm

1.971244 GHz

Res.Bw 30.0 kHz [3dB]

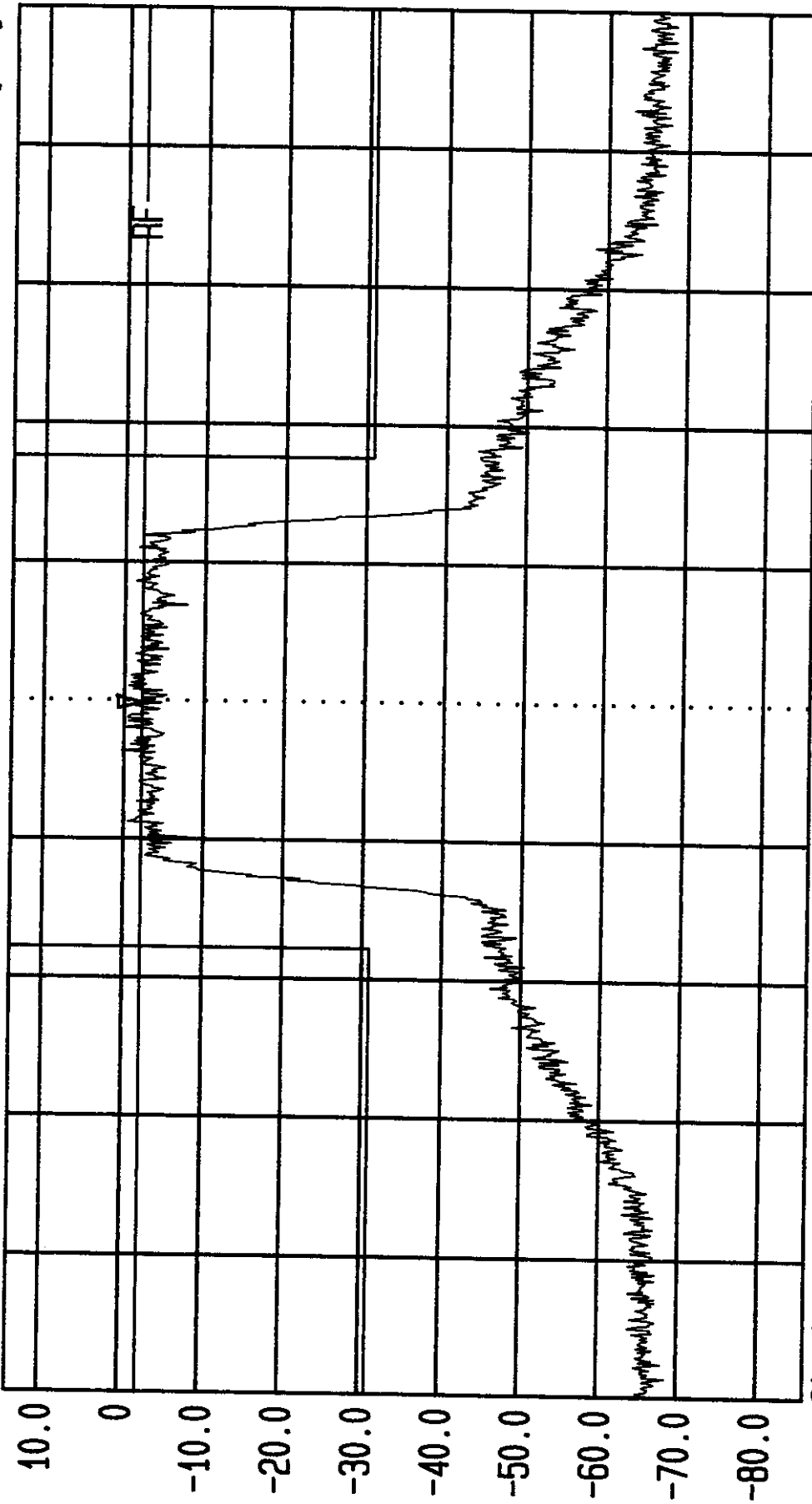
TG.Lvl off

CF.Stp 500.000 kHz

RF.Att 20 dB

Unit [dBm]

Vid.Bw 300 kHz



Start

1.96875 GHz

Span

5 MHz

Center

1.97125 GHz

Sweep

20 ms

Stop

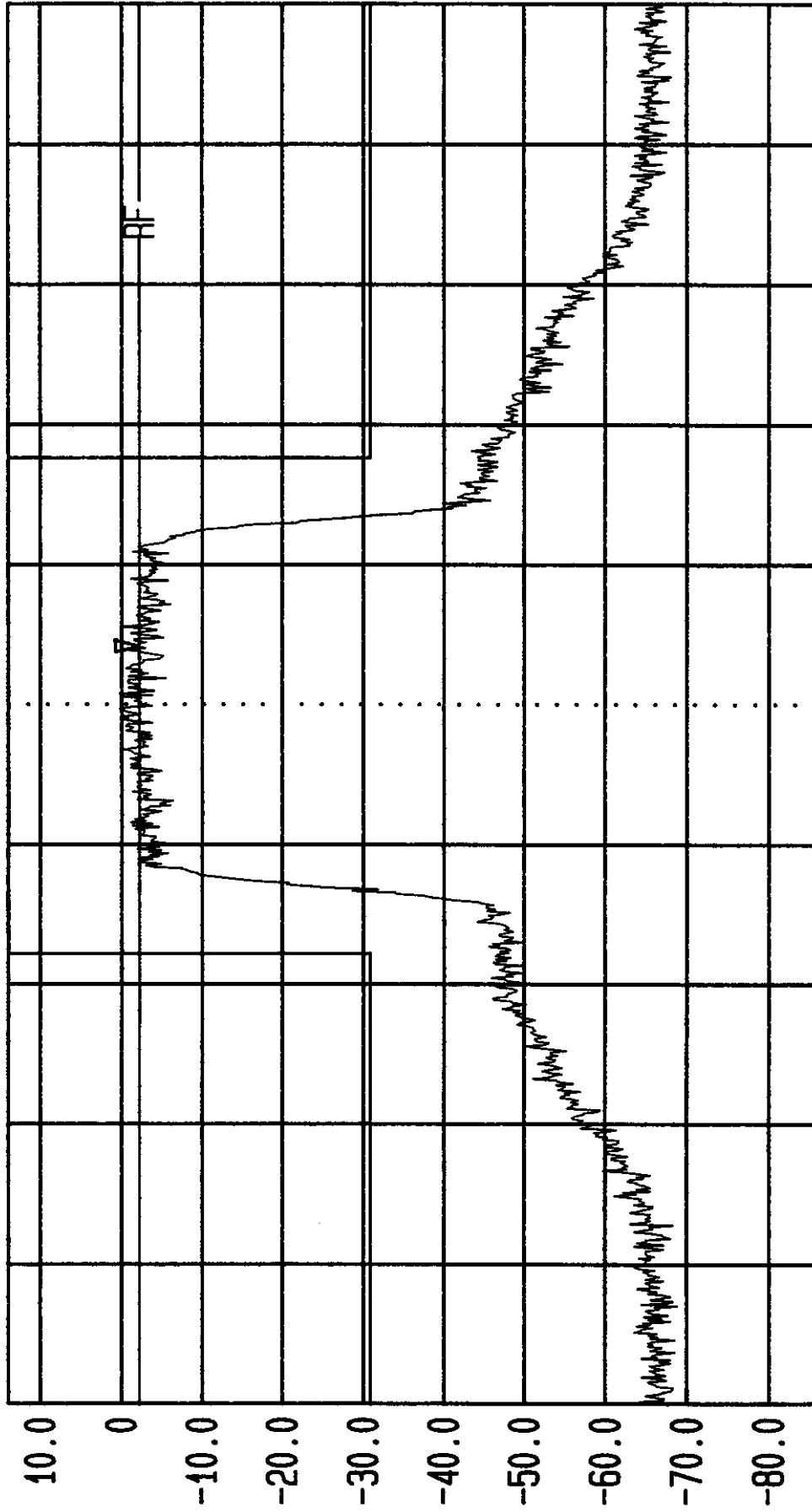
1.97375 GHz

AS5CMP-26 CBR Output. FCC Occupied Bandwidth. 25 Avg.

Pwr = +14 dBm. Block F. Channel 825.



LVLOFF
Date 12.Nov.'98 Time 10:27:51
Ref.Lvl 14.00 dBm
Marker -2.22 dBm
1.972711 GHz
Res.Bw 30.0 kHz [3dB]
TG.Lvl off
CF.Stp 500.000 kHz
Vid.Bw 300 kHz
RF.Att 20 dB
Unit [dBm]

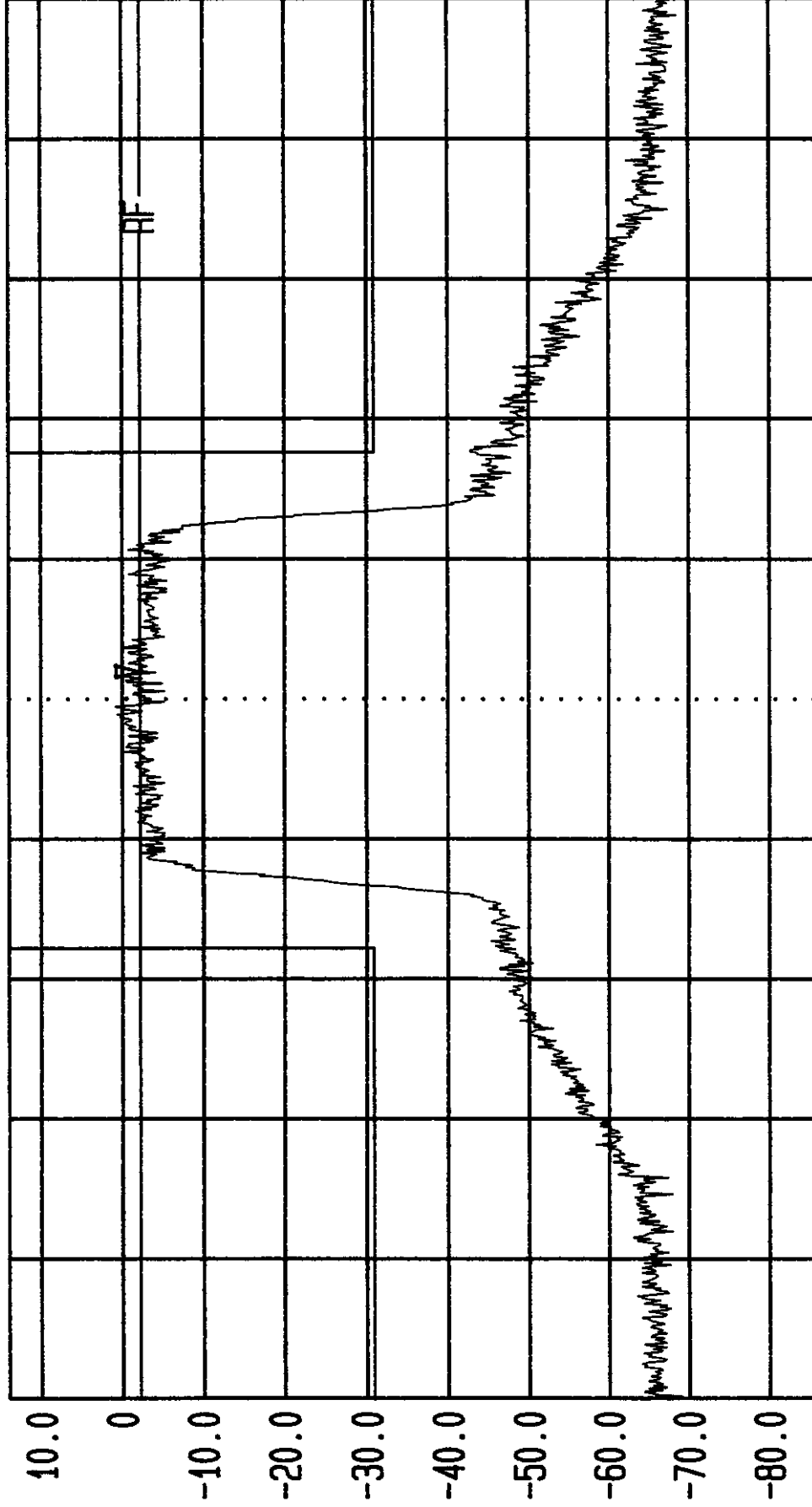


Start 1.97 GHz
Span 5 MHz
Center 1.9725 GHz
Sweep 20 ms
Stop 1.975 GHz

AS5CMP-26 CBR Output. FCC Occupied Bandwidth. 25 Avg.
PWR = +14 dBm. Block F. Channel 850.



LVLOFF
Date 12.Nov.'98 Time 10:31:13
Ref.Lvl 14.00 dBm Marker -2.22 dBm
Res.Bw 30.0 kHz [3dB] TG.Lvl off
CF.Stp 500.000 kHz RF.Att 20 dB
Unit [dBm] Vid.Bw 300 kHz



Start 1.97125 GHz Span 5 MHz Center 1.97375 GHz Sweep 20 ms Stop 1.97625 GHz

AS5CMP-26 CBR Output. FCC Occupied Bandwidth. 25 Avg.
Pwr = +14 dBm. Block F. Channel 875.



LVLOFF

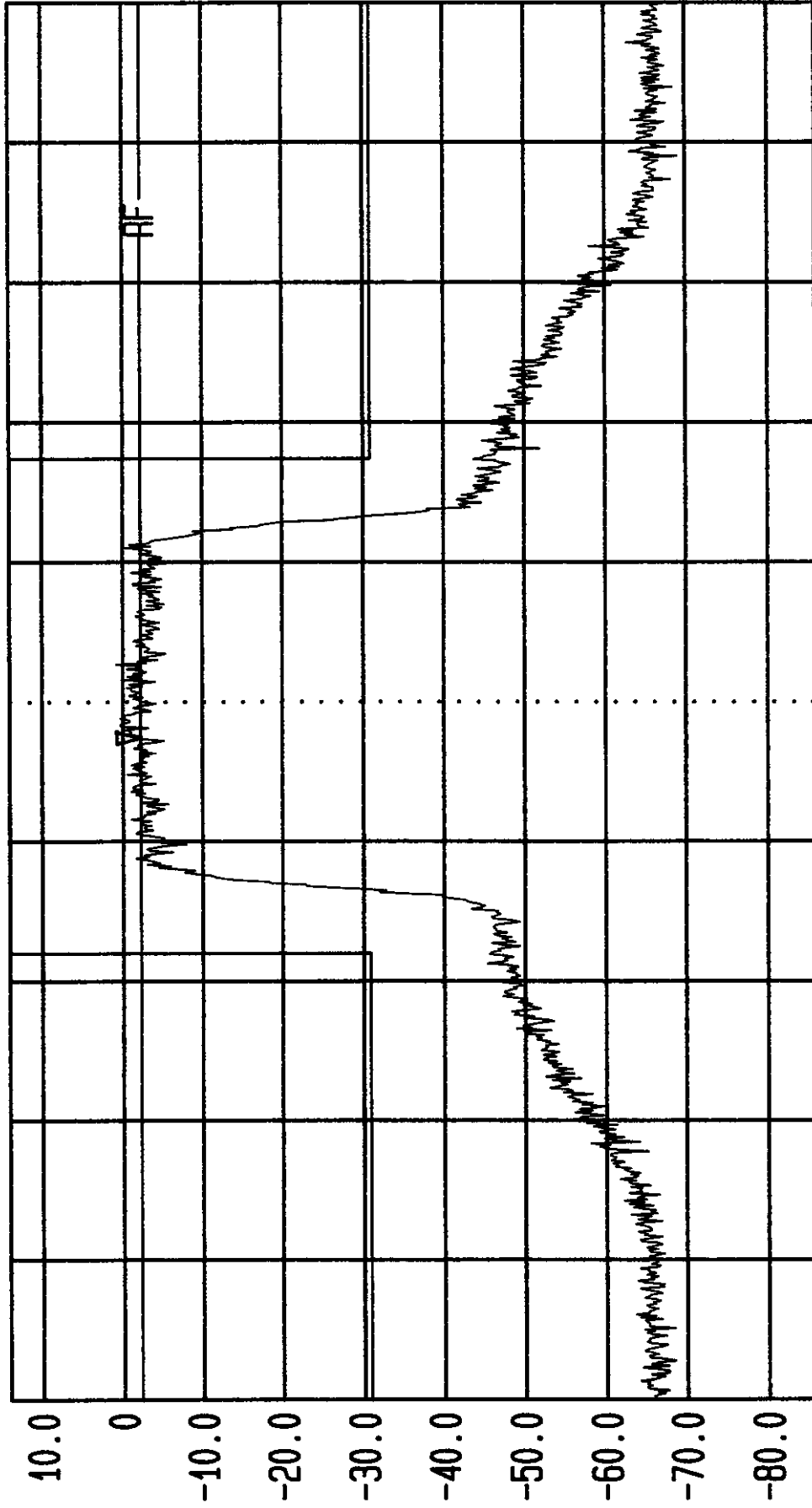
Date 12.Nov.'98 Time 10:43:54

Ref.Lvl Marker

14.00 dBm 1.976137 GHz

Res.Bw 30.0 kHz [3dB]
TG.Lvl off
CF.Stp 500.000 kHz

Vid.Bw 300 kHz
RF.Att 20 dB
Unit [dBm]



Start

1.97376 GHz

Span

5 MHz

Center

1.97626 GHz

Sweep

20 ms

Stop

1.97876 GHz

AS5CMP-26 CBR Output. FCC Occupied Bandwidth. 25 Avg.

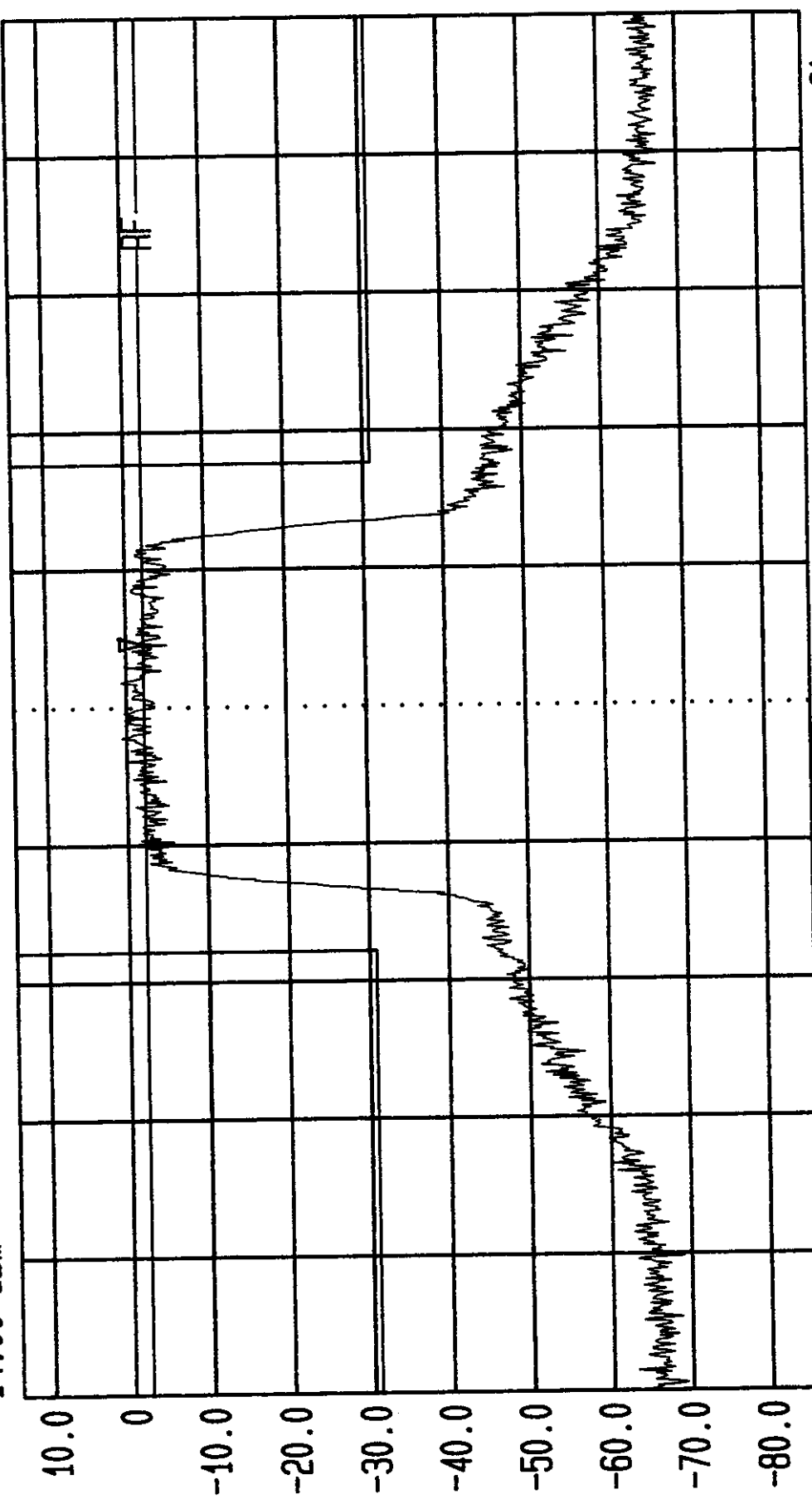
Pwr = +14 dBm. Block C. Channel 925.



LVLOFF

Date 12.Nov.'98 Time 10:49:19
Ref.Lvl 14.00 dBm
Marker 1.982733 GHz

Res.Bw 30.0 kHz [3dB]
TG.Lvl Off
CF.Stp 500.000 kHz
Vid.Bw 300 kHz
RF.Att 20 dB
Unit [dBm]

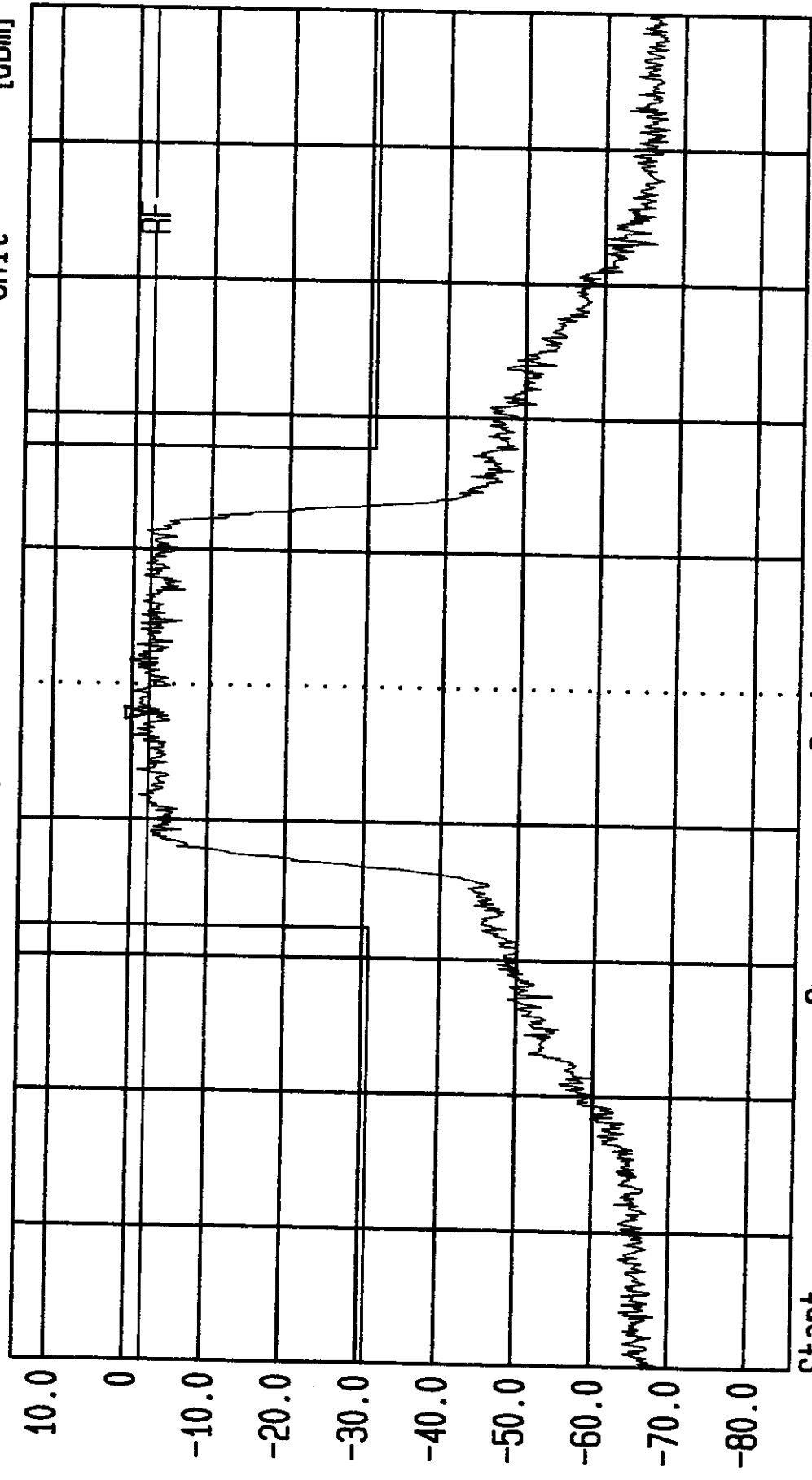


Start 1.98 GHz Span 5 MHz Center 1.9825 GHz Sweep 20 ms Stop 1.985 GHz

AS5CMP-26 CBR Output. FCC Occupied Bandwidth. 25 Avg.
Pwr = +14 dBm. Block C. Channel 1050.



LVLOFF
Date 12.Nov.'98 Time 10:53:56
Ref.Lvl 14.00 dBm Marker -2.17 dBm
Res.BW 30.0 kHz [3dB] off
TG.Lvl CF.Stp 500.000 kHz
Vid.Bw 300 kHz
RF.Att 20 dB
Unit [dBm]



Start 1.98625 GHz Span 5 MHz Center 1.98875 GHz Sweep 20 ms Stop 1.99125 GHz
AS5CMP-26 CBR Output. FCC Occupied Bandwidth. 25 Avg.
Pwr = +14 dBm. Block C. Channel 1175.

Exhibit 15:**Section 2.991****Spurious Emissions at Antenna Terminals**

Spurious Emissions at the antenna terminals were investigated over the frequency range of 10 MHz to the 10th harmonic of the carrier frequency. The test setup was as described in figure 15A. Measurements were made using a Rohde & Schwarz ESMI EMI Test Receiver and an HP Model 7470A Plotter. The RF output from the transmitter was reduced (to an amplitude usable by the spectrum analyzer) by using a calibrated attenuator. The RF power level was continuously monitored via the test setup in Figure 15A. The required emission limitation specified in Section 24.238 of The Code and ANSI-J-STD-008 Section 3.1.4. were applied to these tests. The applied signal met the recommended characteristics.

Based upon the criterion given in Section 24.238 of the Code the required emission limitation is equal to -27 dBc or -13 dBm.

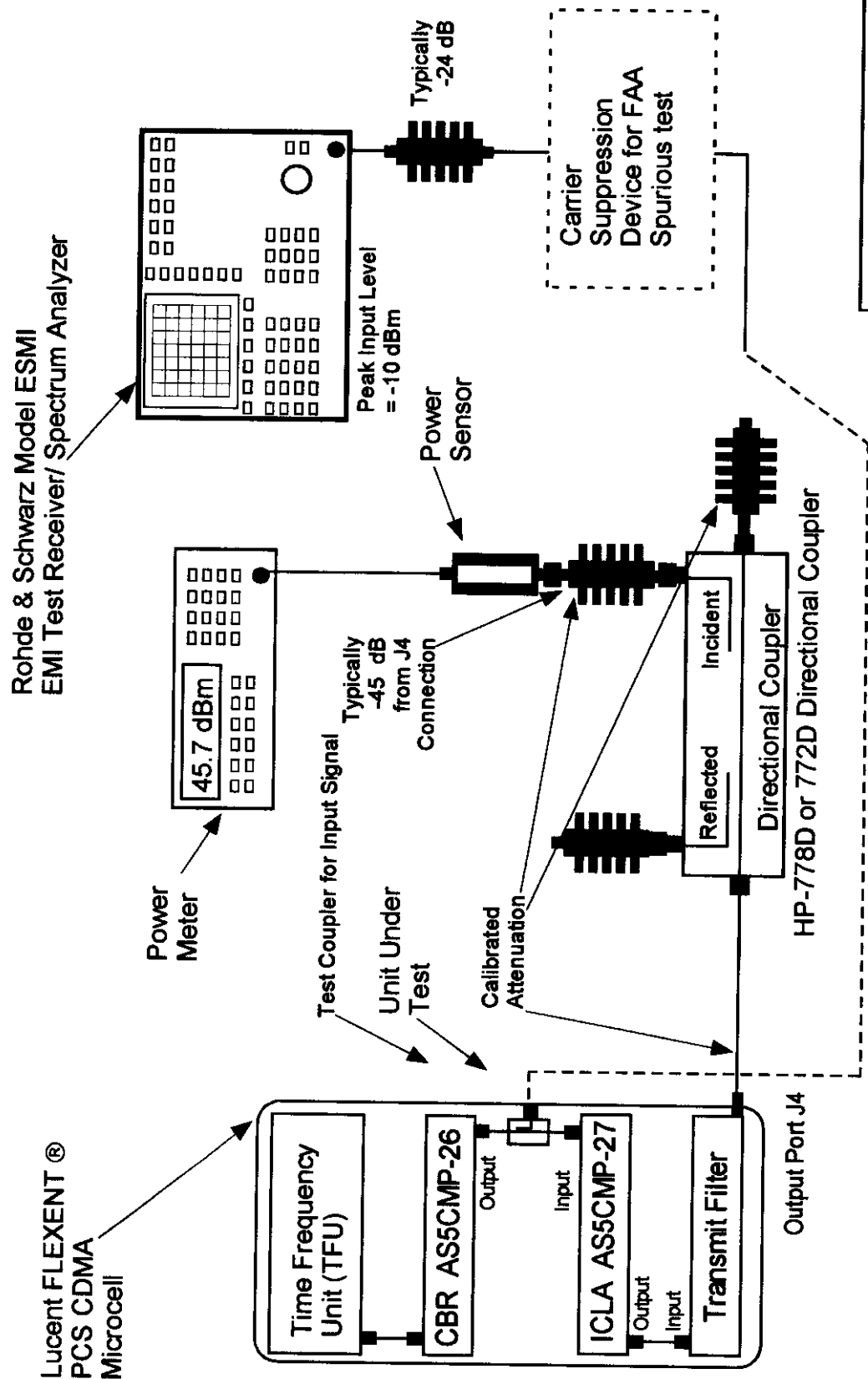
Type	Number of Channels	Fraction of Power (Linear)	Fraction of Power (dB)	Comments
Pilot	1	0.2000	-7.0	Walsh 0
Sync	1	0.0471	-13.3	Walsh 32, always 1/8 rate
Paging	1	0.1882	-7.3	Walsh 1, full rate only
Traffic	6	0.09412 each	-10.3 each	Variable Walsh Assignments, full rate only

TABLE 15.1 Base Station Test Model, Nominal**Results:**

The attached spectral plots document that there are no emissions above the applicable limit.



Figure 15A. Test Configuration For Conducted Spurious

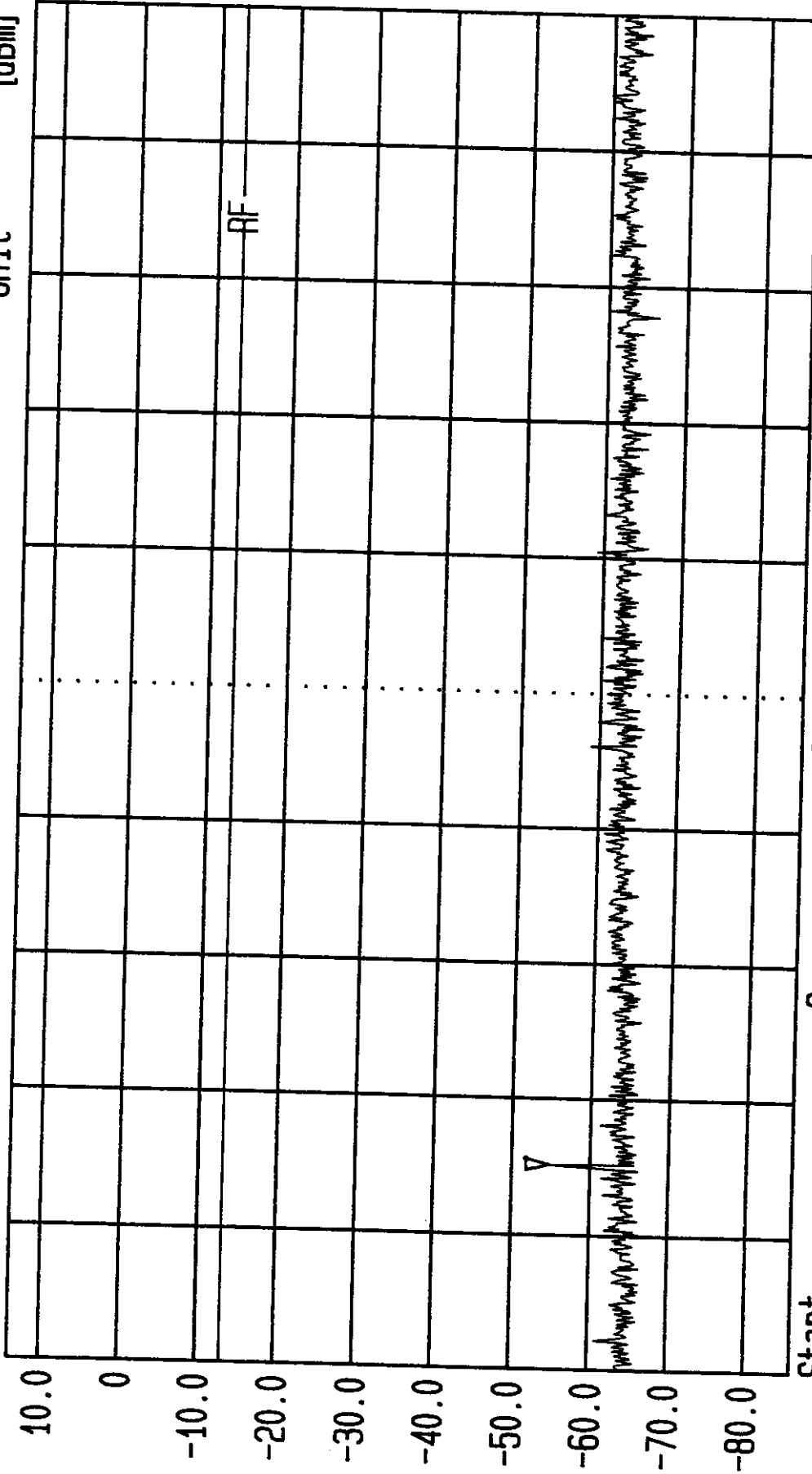




LVLOFF

Date 16.Nov.'98 Time 15:35:09
Ref.Lvl 14.00 dBm
Marker -54.84 dBm
159.6 MHz

Res.Bw 1.0 MHz [3dB]
TG.Lvl off
CF.Stp 99.000 MHz
Vid.Bw RF.Att
Unit 20 dB
[dBm]



Start 10 MHz Stop 1 GHz
Span 990 MHz Sweep 20 ms
Center 505 MHz

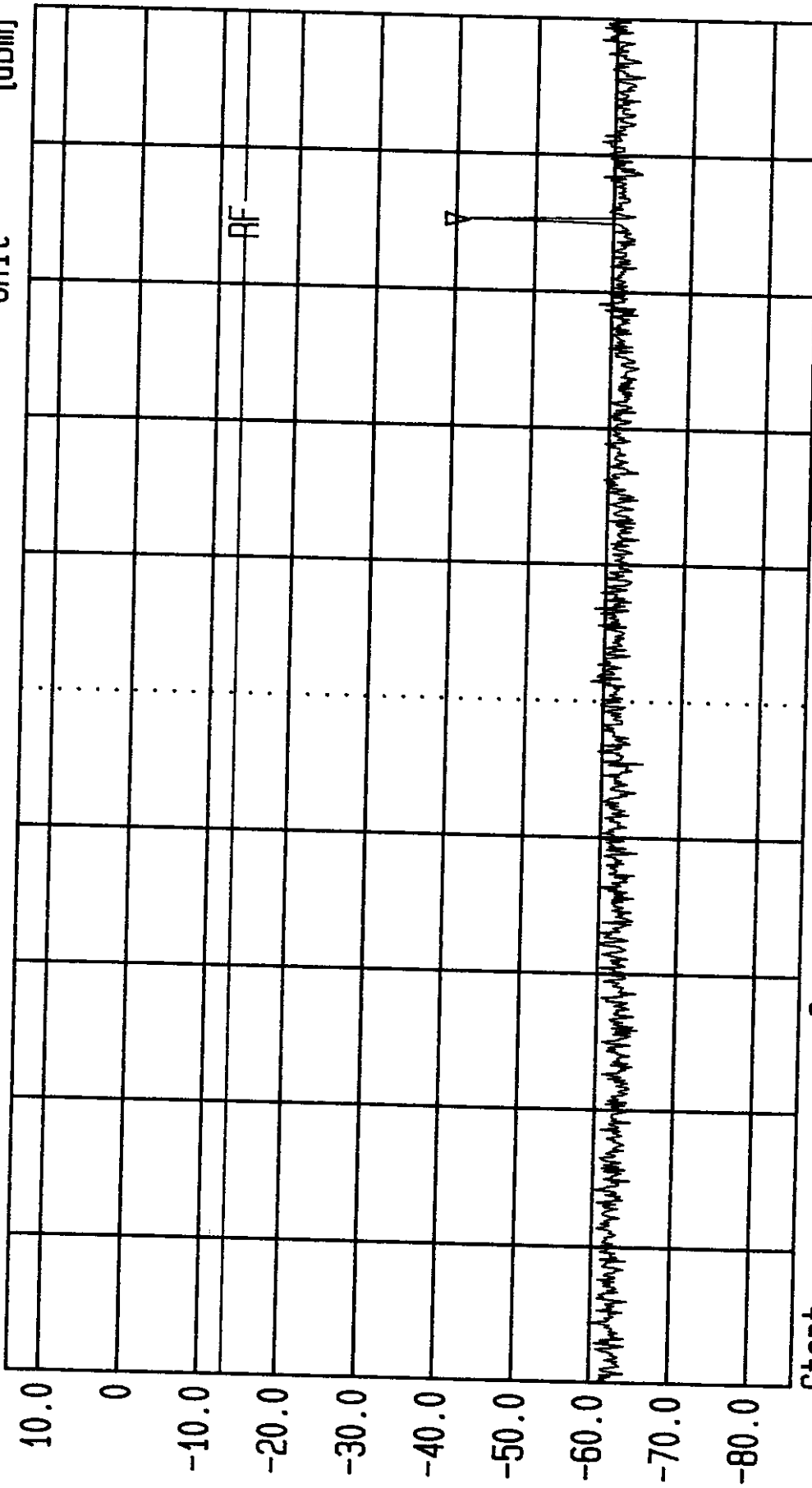
AS5CMP-26 CBR Output. FCC Conducted Spurious Emissions. 25 AVG.
PWR = +14.00 dBm. Block B. Channel 550.



LVLOFF

Date 16.Nov.'98 Time 15:42:10
Ref.Lvl 14.00 dBm
Marker -41.66 dBm
1.7925 GHz

Res.Bw 1.0 MHz [3dB]
TG.Lvl off
CF.Stp 93.000 MHz
Vid.Bw 3 MHz
RF.Att 20 dB
Unit [dBm]



Start
1 GHz

Span
930 MHz

Center
1.465 GHz

Sweep
20 ms

Stop
1.93 GHz

AS5CMP-26 CBR Output. FCC Conducted Spurious Emissions. 25 AVG.
PWR = +14.00 dBm. Block B. Channel 550.



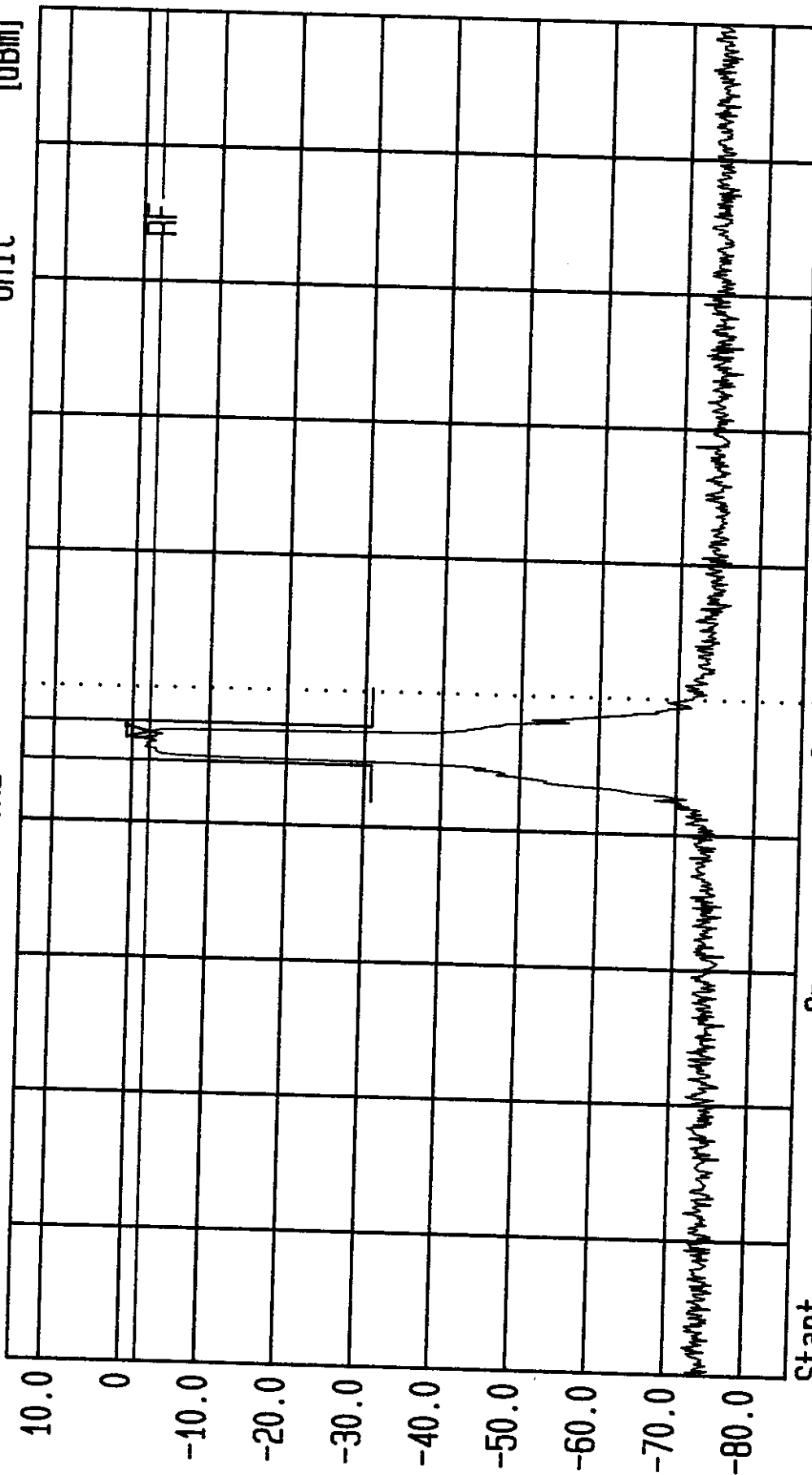
LVLOFF

Date 16.Nov.'98 Time 15:20:58
Ref.Lvl 14.00 dBm
Marker -2.12 dBm
1.95800 GHz

MSG

Res.Bw 30.0 kHz [3dB]
TG.Lvl off
CF.Stp 6.000 MHz

Vid.Bw 300 kHz
RF.Att 20 dB
Unit [dBm]



Start

1.93 GHz

Span

60 MHz

Center

1.96 GHz

Sweep

200 ms

Stop

1.99 GHz

AS5CMP-26 CBR Output. FCC Conducted Spurious Emissions. 25 AVG.
PWR = +14.00 dBm. Block B. Channel 550.



LVLOFF

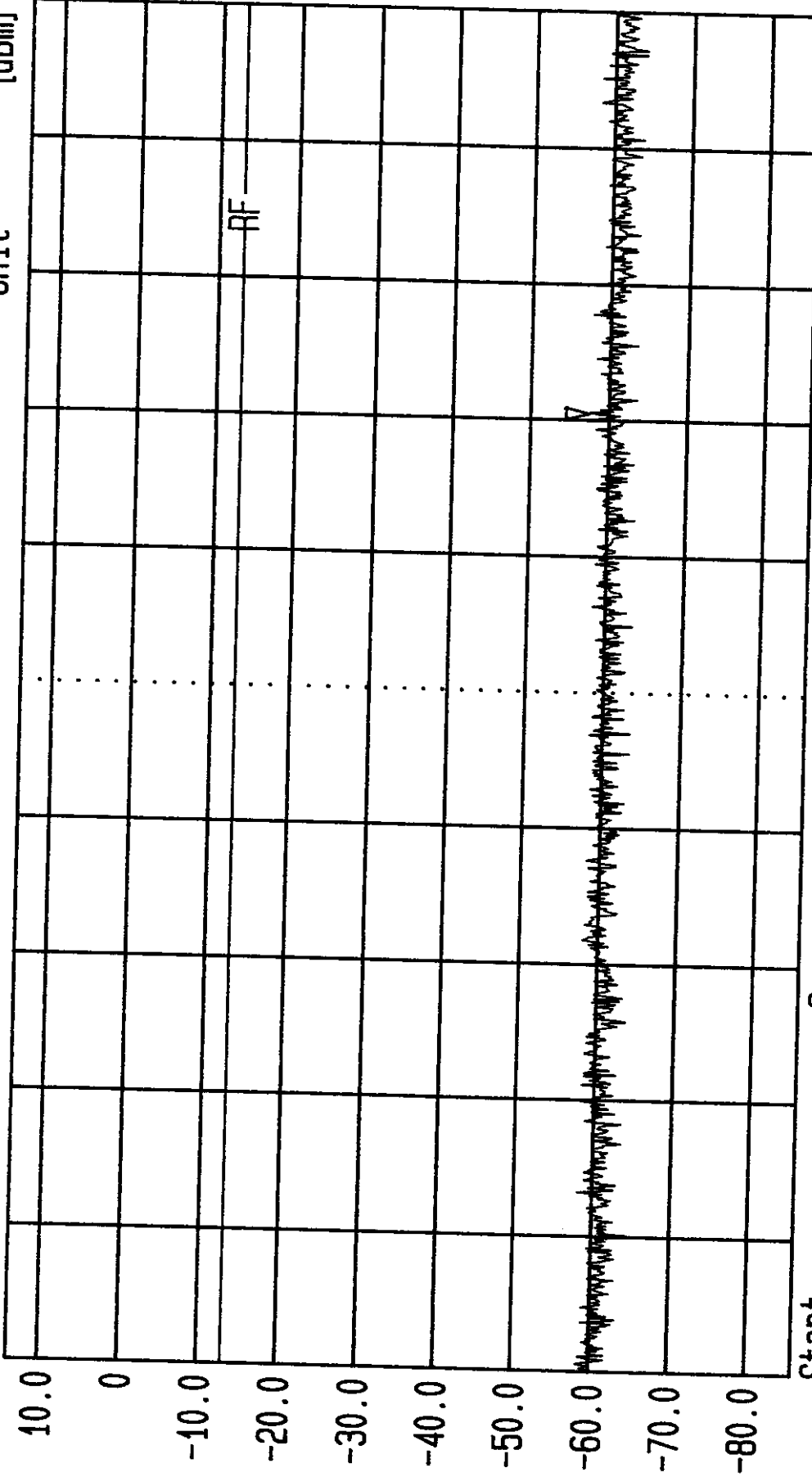
Date 16.Nov.'98 Time 15:45:37

Ref.Lvl 14.00 dBm

Marker -57.45 dBm
2.7026 GHz

Res.Bw 1.0 MHz [3dB]
TG.Lvl off
CF.Stp

Vid.Bw 3 MHz
RF.Att 20 dB
Unit [dBm]



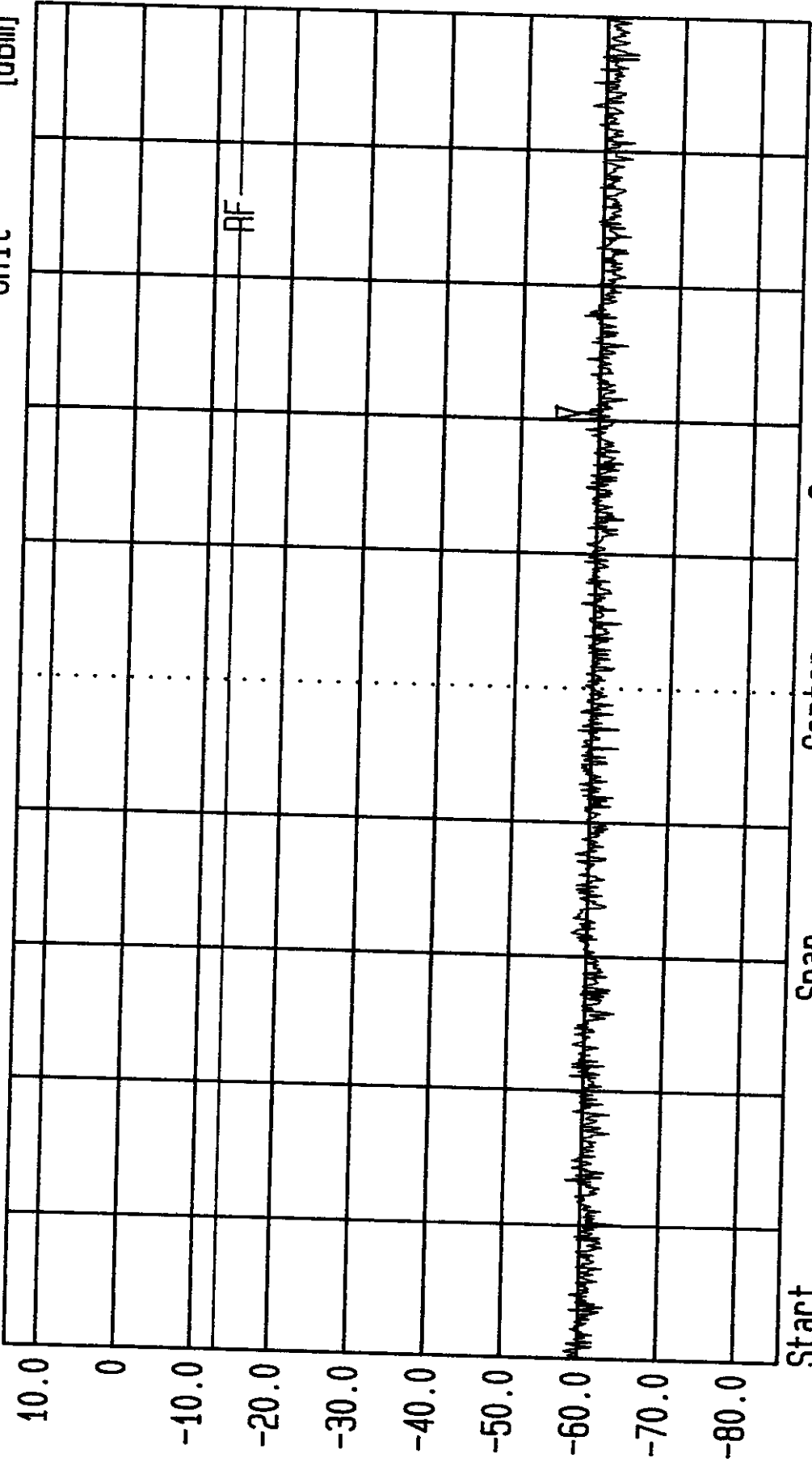
Start 1.99 GHz Span 1.01 GHz Center 2.495 GHz Sweep 20 ms Stop 3 GHz
AS5CMP-26 CBR Output. FCC Conducted Spurious Emissions. 25 AVG.
PWR = +14.00 dBm. Block B. Channel 550.



LVLOFF

Date 16.Nov.'98 Time 15:53:21
Ref.Lvl 14.00 dBm
Marker -57.45 dBm
3.7055 GHz

Res.Bw 1.0 MHz [3dB]
TG.Lvl off
CF.Stp 100.000 MHz
Vid.Bw 3 MHz
RF.Att 20 dB
Unit [dBm]



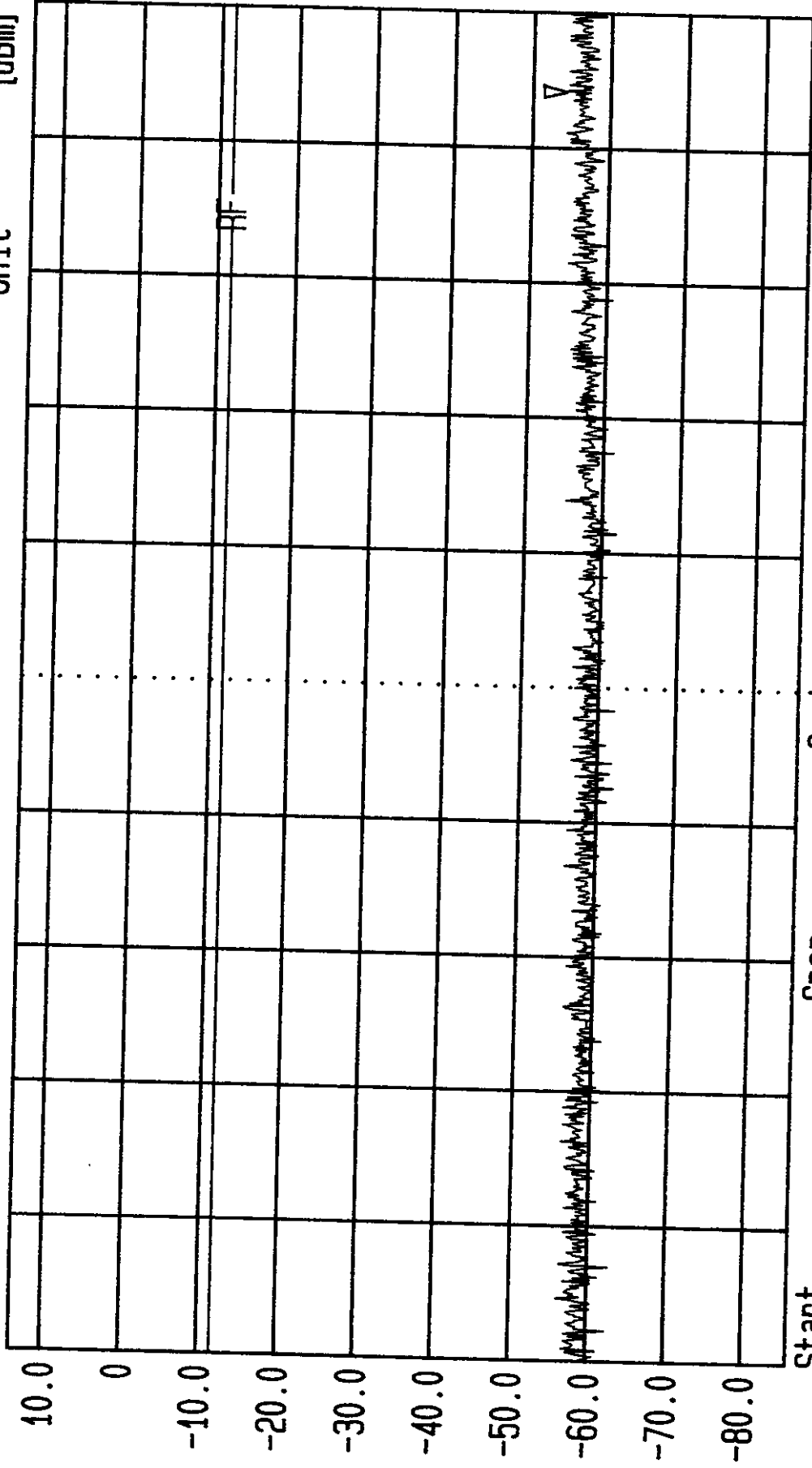
AS5CMP-26 CBR Output. FCC Conducted Spurious Emissions. 25 AVG.
PWR = +14.00 dBm. Block B. Channel 550.



LVLOFF

Date 16.Nov.'98 Time 15:56:38
Ref.Lvl 14.00 dBm
Marker -54.38 dBm
4.9422 GHz

Res.Bw 1.0 MHz [3dB]
TG.Lvl off
CF.Stp 100.000 MHz
Vid.Bw 3 MHz
RF.Att 20 dB
Unit [dBm]



Start
4 GHz

Span
1 GHz

Center
4.5 GHz

Sweep
20 ms

Stop
5 GHz

AS5CMP-26 CBR Output. FCC Conducted Spurious Emissions. 25 AVG.
PWR = +14.00 dBm. Block B. Channel 550.



LVLOFF

Date 16.Nov.'98 Time 16:00:09

Ref.Lvl 14.00 dBm

Marker -41.02 dBm

5.8755 GHz

Res.Bw 1.0 MHz [3dB]

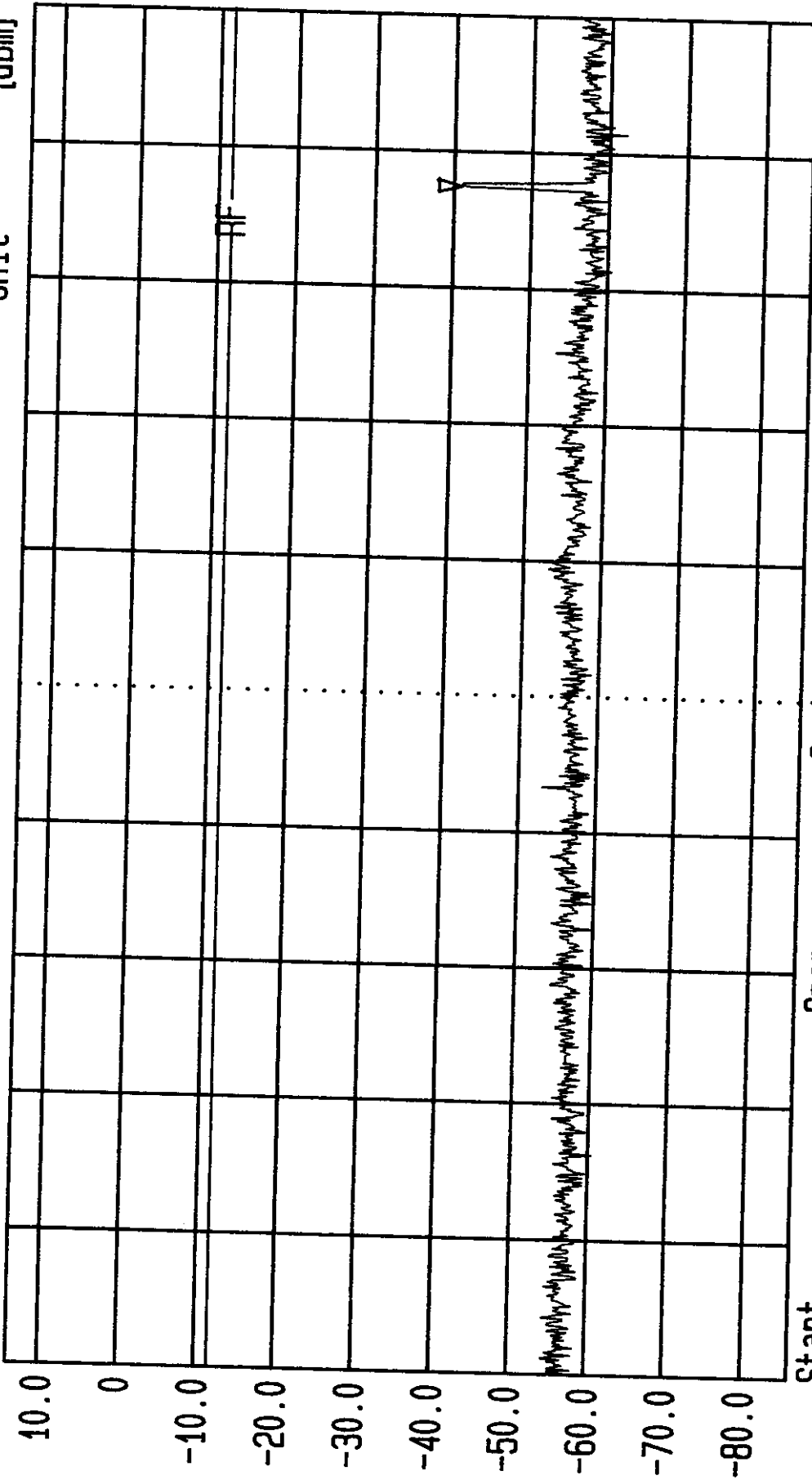
TG.Lvl off

CF.Stp 100.000 MHz

Vid.Bw 3 MHz

RF.Att 20 dB

[dBm]



Start 5 GHz

Span 1 GHz

Center 5.5 GHz

Sweep 20 ms

Stop 6 GHz

AS50MP-26 CBR Output. FCC Conducted Spurious Emissions. 25 AVG.
PWR = +14.00 dBm. Block B. Channel 550.



LVLOFF

Date 16.Nov.'98 Time 16:17:08

Ref.Lvl 14.00 dBm

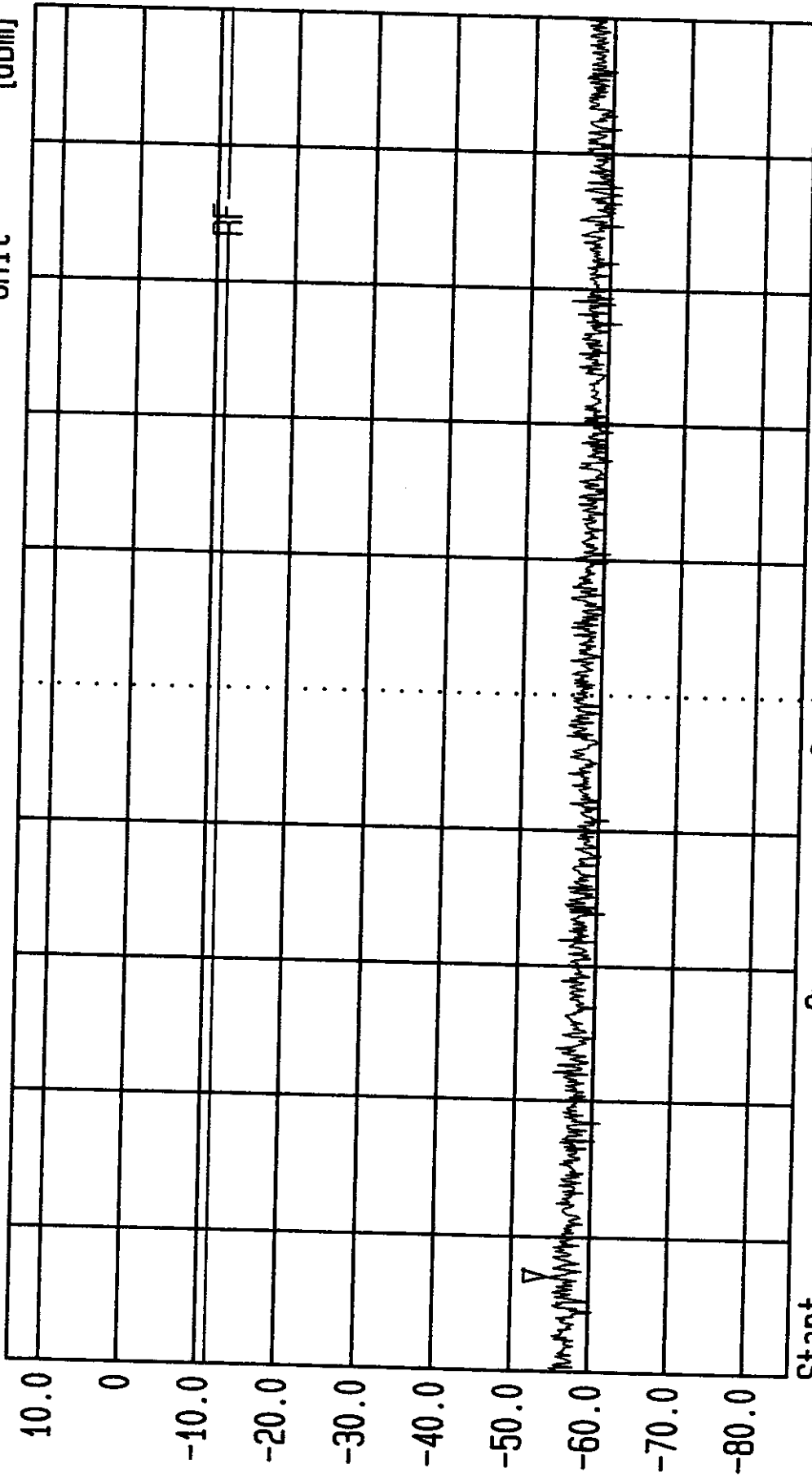
Marker -54.81 dBm
6.0700 GHz

Res.Bw
TG.Lvl
CF.Stp

1.0 MHz [3dB]
off
100.000 MHz

Vid.Bw
RF.Att
Unit

3 MHz
20 dB
[dBm]



Start
6 GHz

Span
1 GHz

Center
6.5 GHz

Sweep
20 ms

Stop
7 GHz

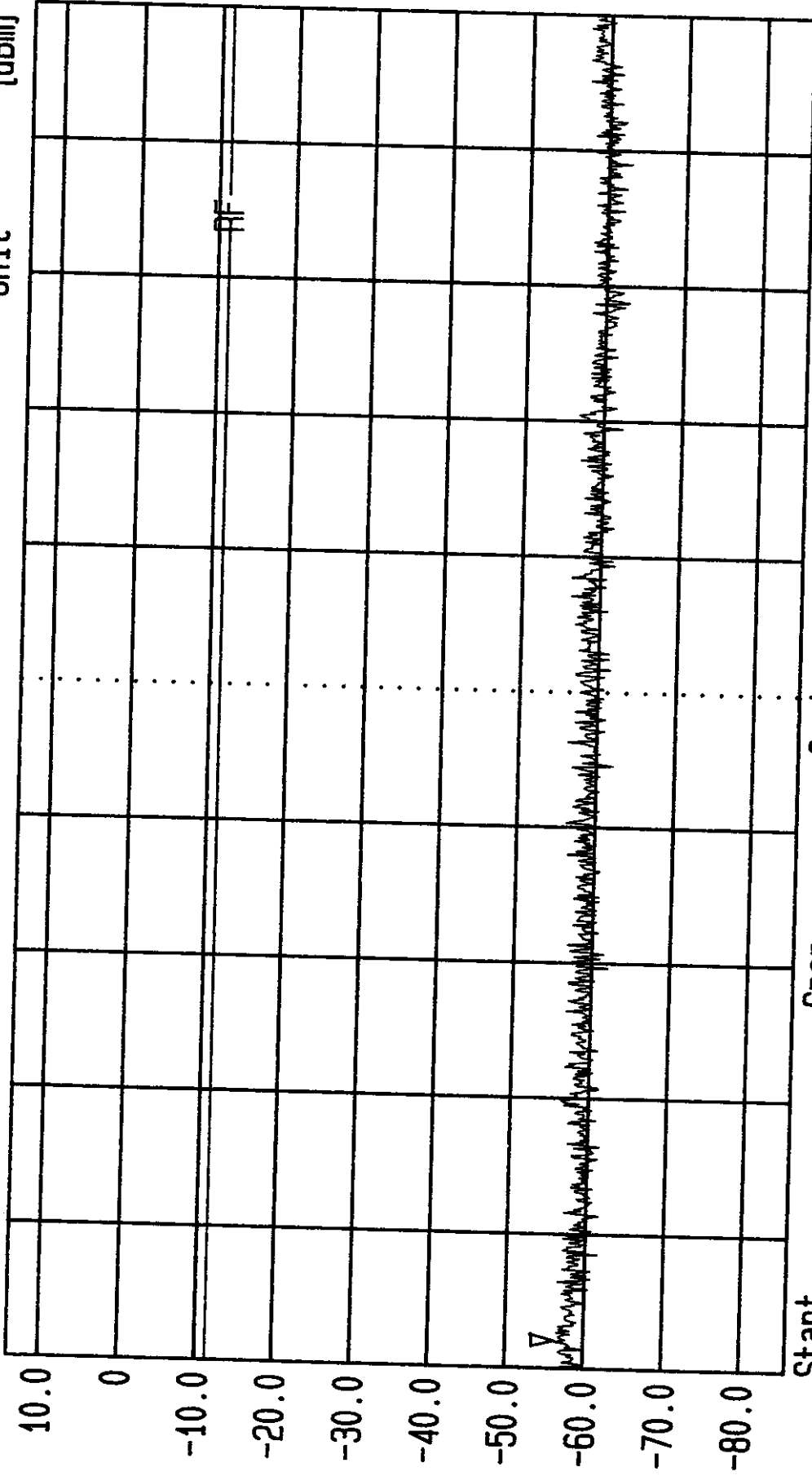
AS5CMP-26 CBR Output. FCC Conducted Spurious Emissions. 25 AVG.
PWR = +14.00 dBm. Block B. Channel 550.



LVLOFF

Date 16.Nov.'98 Time 16:20:54
Ref.Lvl 14.00 dBm
Marker -56.28 dBm
7.0200 GHz

Res.Bw 1.0 MHz [3dB]
TG.Lvl off
CF.Stp 100.000 MHz
Vid.Bw 3 MHz
RF.Att 20 dB
Unit [dBm]



AS5CMP-26 CBR Output. FCC Conducted Spurious Emissions. 25 AVG.
PWR = +14.00 dBm. Block B. Channel 550.



LVLOFF

Date 16.Nov.'98 Time 16:24:16

Ref.Lvl 14.00 dBm

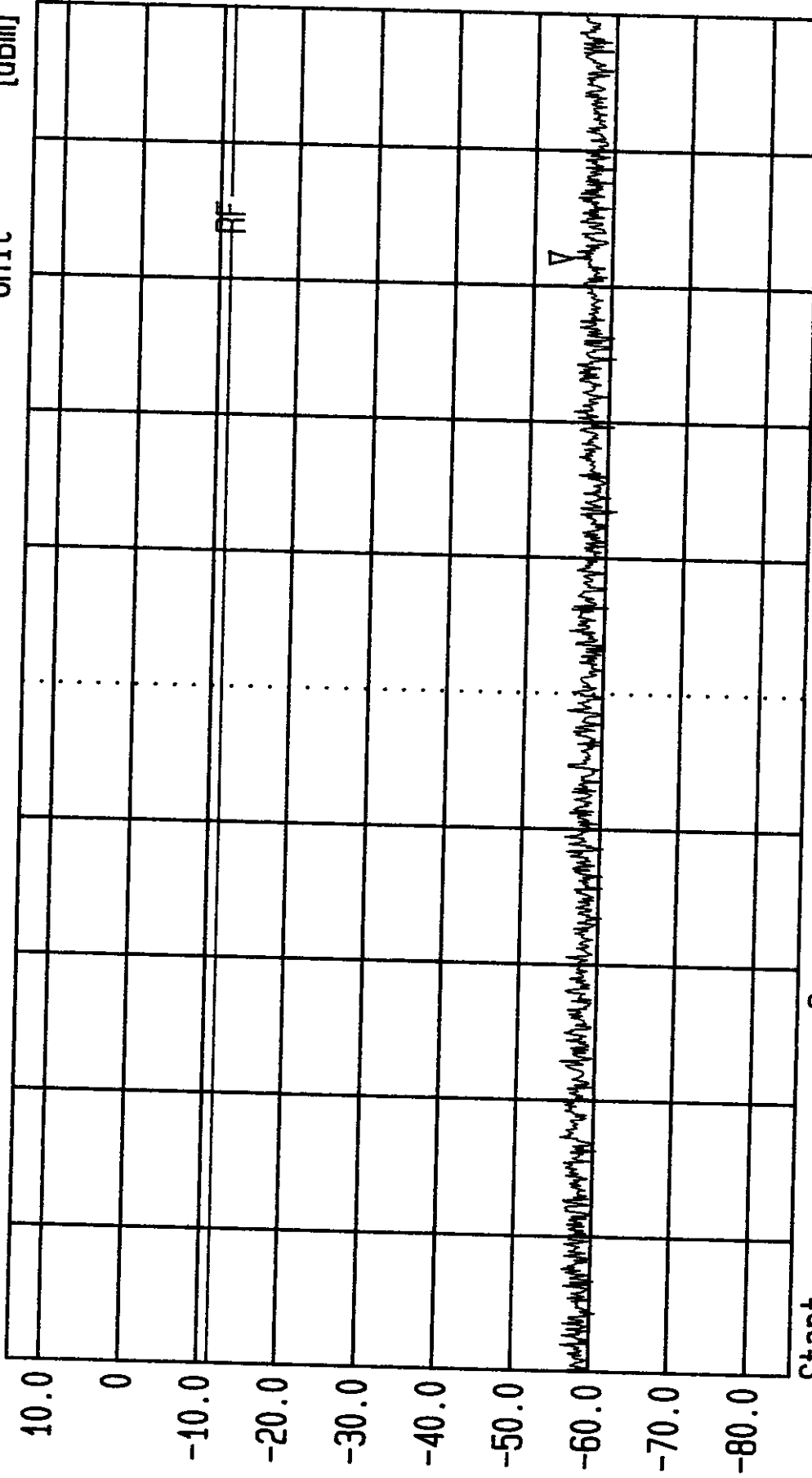
Marker -55.07 dBm
8.8211 GHz

Res.Bw
TG.Lvl
CF.Stp

1.0 MHz [3dB]
off
100.000 MHz

Vid.Bw
RF.Att
Unit

3 MHz
20 dB
[dBm]



Start
8 GHz

Span
1 GHz

Center
8.5 GHz

Sweep
20 ms

Stop
9 GHz

AS5CMP-26 CBR Output. FCC Conducted Spurious Emissions. 25 AVG.
PWR = +14.00 dBm. Block B. Channel 550.



LVLOFF

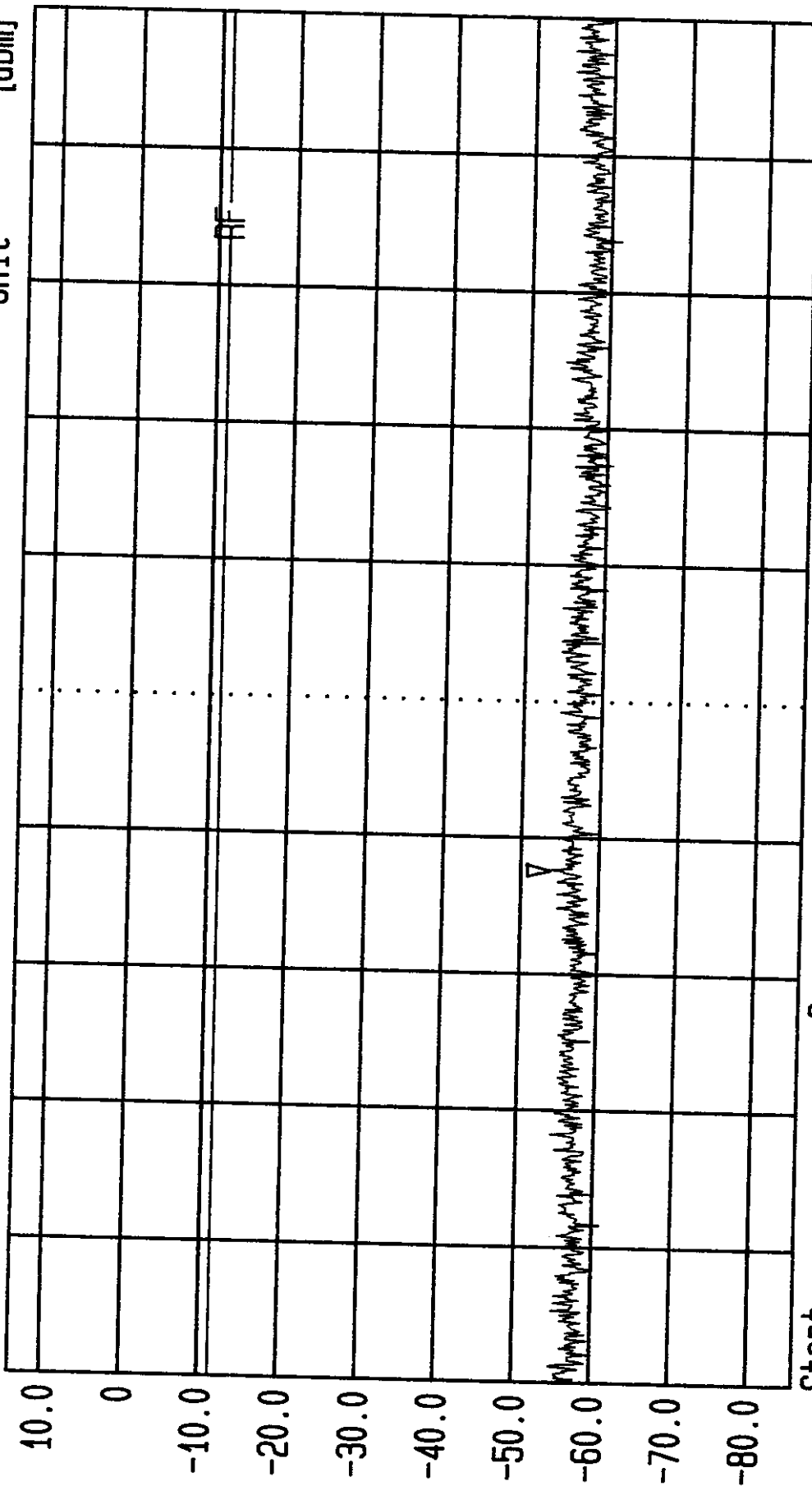
Date 16.Nov.'98 Time 16:27:26

Ref.Lvl 14.00 dBm

Marker -54.02 dBm
9.3766 GHz

Res.Bw 1.0 MHz [3dB]
TG.Lvl off
CF.Stp 100.000 MHz

Vid.Bw 3 MHz
RF.Att 20 dB
Unit [dBm]



Start 9 GHz

Span 1 GHz

Center 9.5 GHz

Sweep 20 ms

Stop 10 GHz

AS5CMP-26 CBR Output. FCC Conducted Spurious Emissions. 25 AVG.
PWR = +14.00 dBm. Block B. Channel 550.



LVLOFF

Date 16.Nov.'98 Time 16:32:48

Ref.Lvl Marker

14.00 dBm

Res.Bw
TG.Lvl
CF.Stp

-52.78 dBm

10.5766 GHz

1.0 MHz [3dB]
off

100.000 MHz

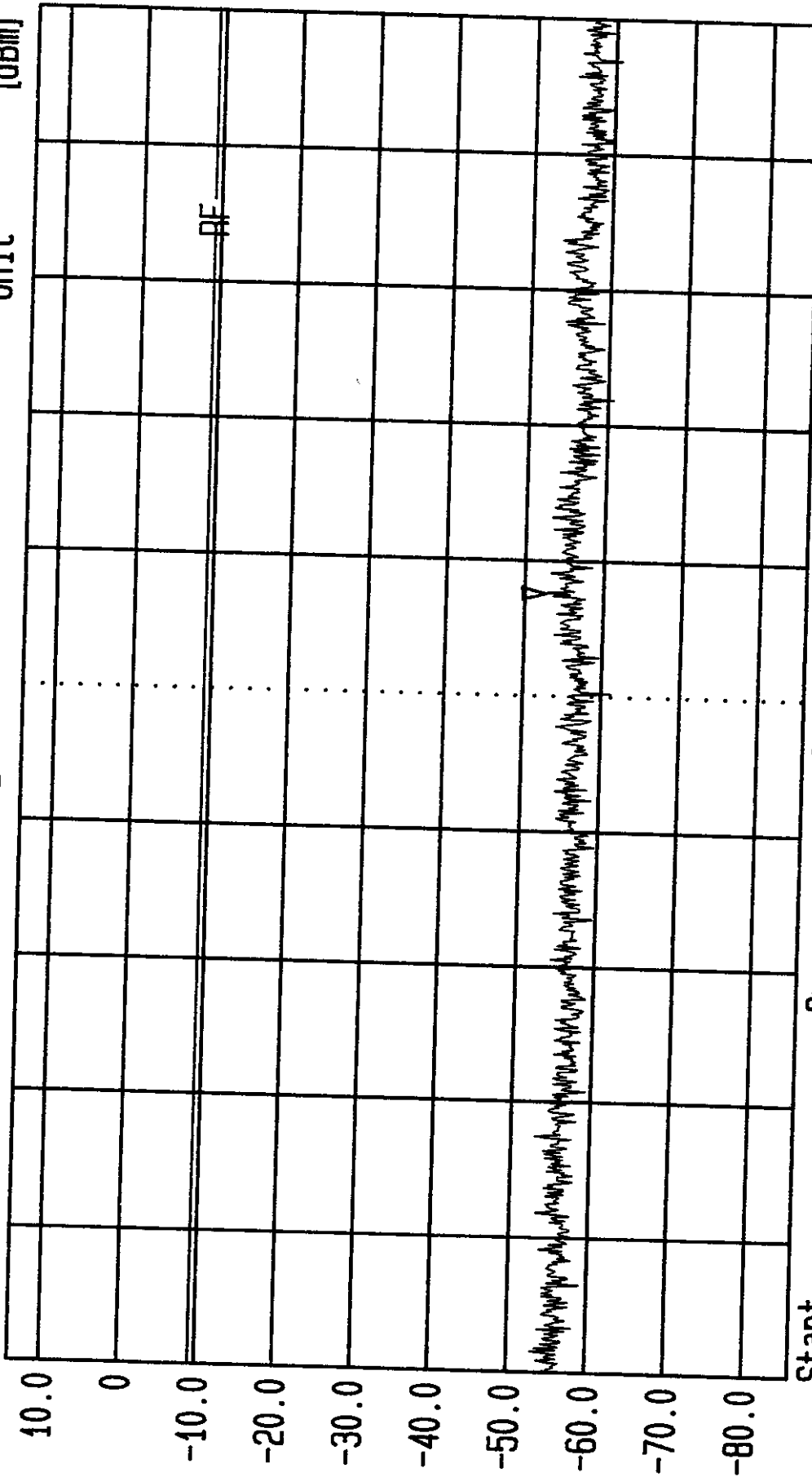
Vid.Bw

3 MHz

RF.Att

20 dB
[dBm]

Unit



Start
10 GHz

Span
1 GHz

Center
10.5 GHz

Sweep
20 ms

Stop
11 GHz

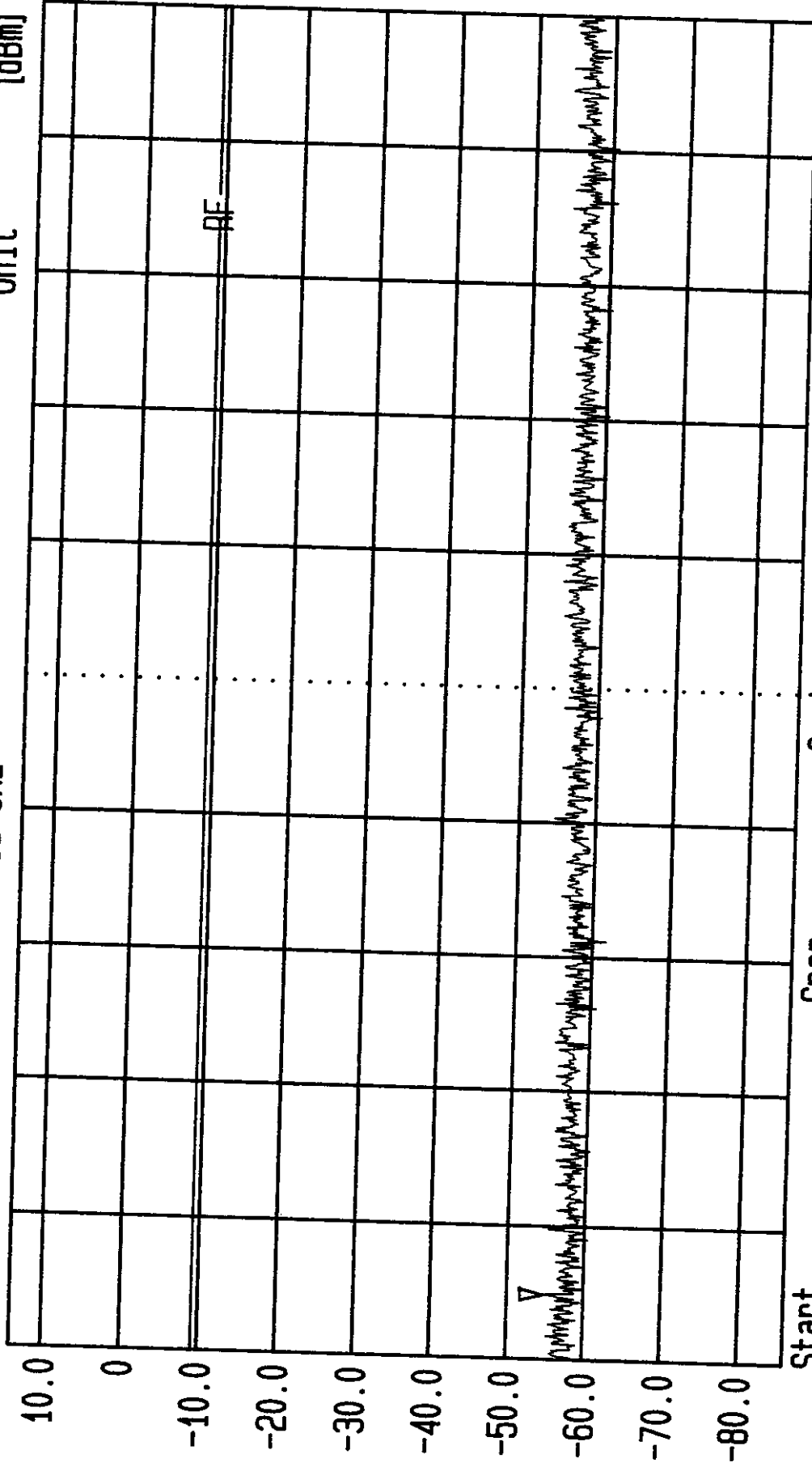
AS5CMP-26 CBR Output. FCC Conducted Spurious Emissions. 25 AVG.
PWR = +14.00 dBm. Block B. Channel 550.



LVLOFF

Date 16.Nov.'98 Time 16:36:23
Ref.Lvl 14.00 dBm
Marker -54.79 dBm
11.0488 GHz

Res.Bw 1.0 MHz [3dB]
TG.Lvl Off
CF.Stp 100.000 MHz
Vid.Bw 3 MHz
RF.Att 20 dB
Unit [dBm]



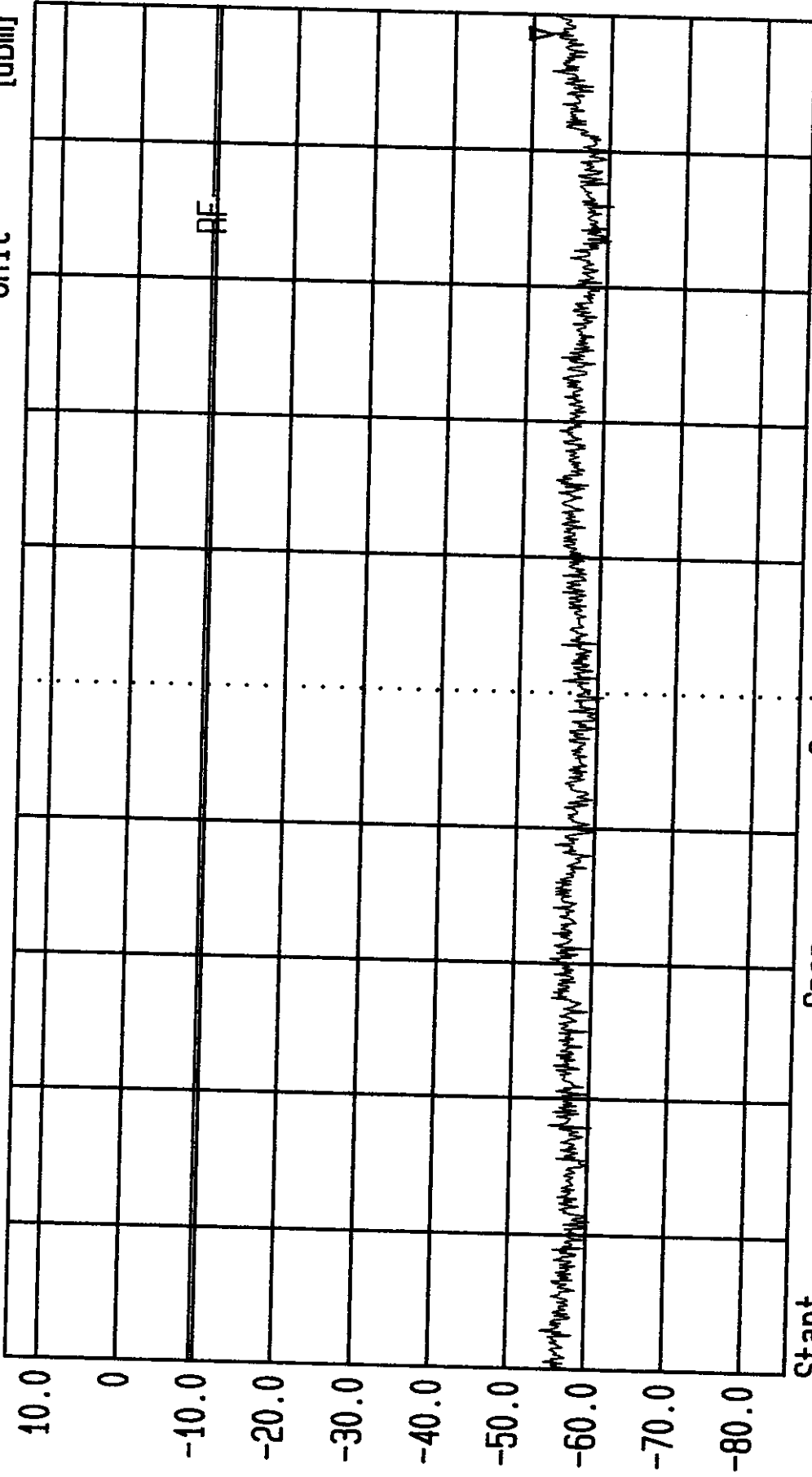
AS5CMP-26 CBR Output. FCC Conducted Spurious Emissions. 25 AVG.
PWR = +14.00 dBm. Block B. Channel 550.



LVLOFF

Date 16.Nov.'98 Time 16:39:50
Ref.Lvl 14.00 dBm Marker -52.53 dBm
12.9866 GHz

Res.Bw 1.0 MHz [3dB] 3 MHz
TG.Lvl off
CF.Stp 100.000 MHz
Vid.Bw RF.Att 20 dB
Unit [dBm]



Start 12 GHz Span 1 GHz Center 12.5 GHz Sweep 20 ms Stop 13 GHz
AS5CMP-26 CBR Output. FCC Conducted Spurious Emissions. 25 AVG.
PWR = +14.00 dBm. Block B. Channel 550.



LVLOFF

Date 16.Nov. '98 Time 16:43:11

Ref.Lvl 14.00 dBm

Marker -48.84 dBm

13.7788 GHz

Res.Bw

TG.Lvl

CF.Stp

1.0 MHz [3dB]

Off

100.000 MHz

Vid.Bw

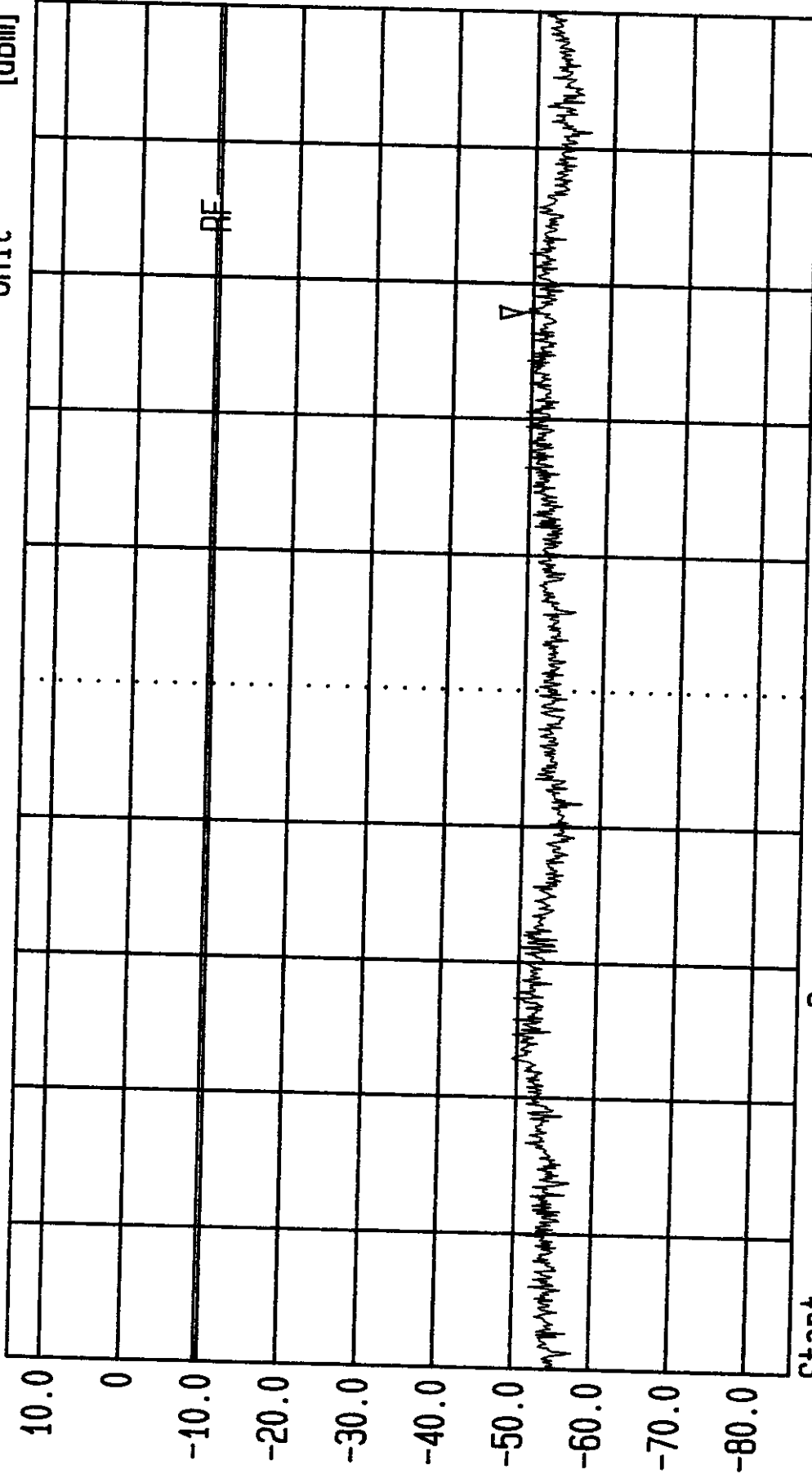
3 MHz

RF.Att

20 dB

Unit

[dBm]



Start
13 GHz

Span
1 GHz

Center
13.5 GHz

Sweep
20 ms

Stop
14 GHz

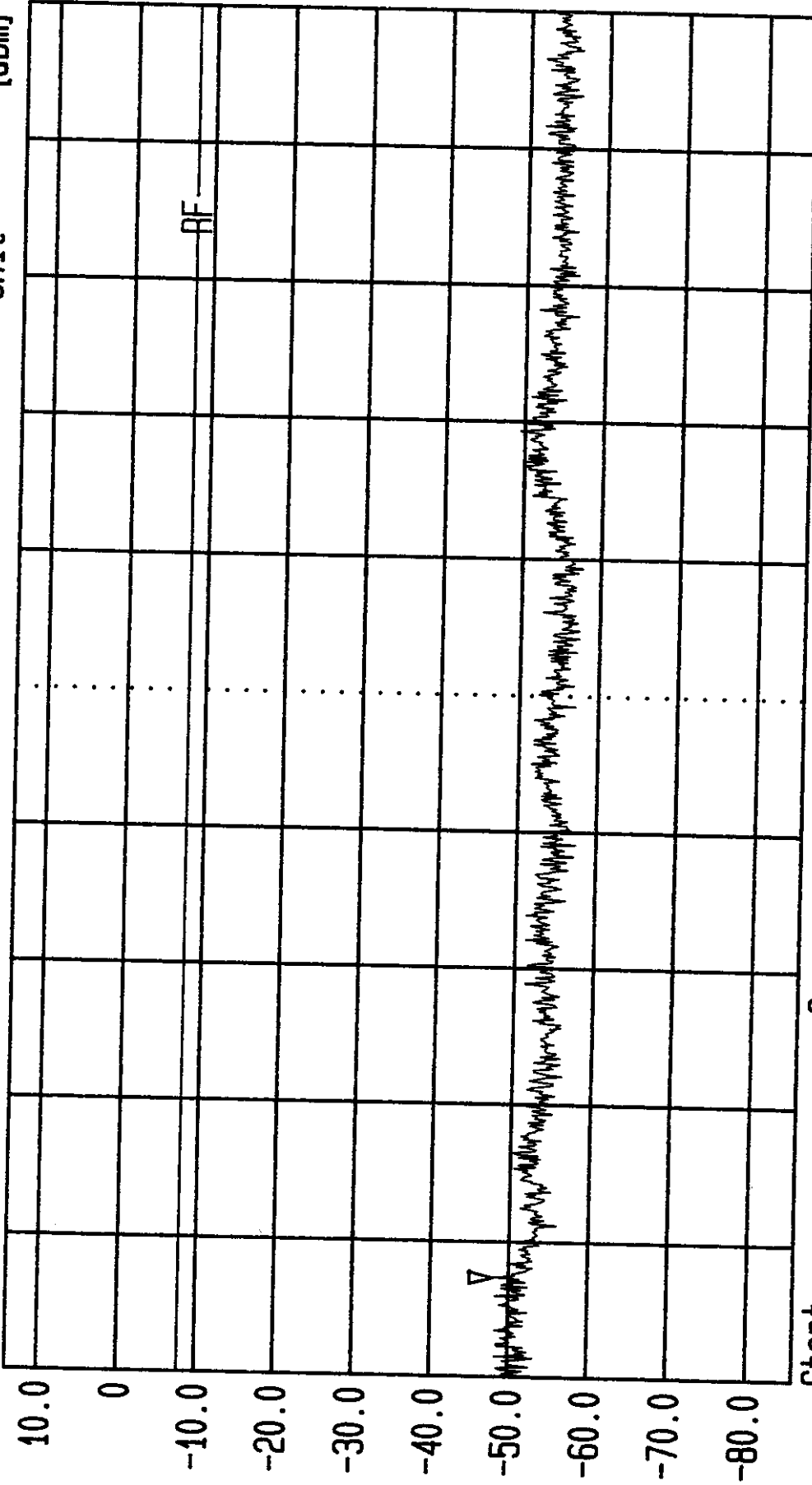
AS50MP-26 CBR Output. FCC Conducted Spurious Emissions. 25 AVG.
PWR = +14.00 dBm. Block B. Channel 550.



LVLOFF

Date 16.Nov.'98 Time 16:47:08
Ref.Lvl 14.00 dBm
Marker -48.06 dBm
14.0733 GHz

Res.Bw 1.0 MHz [3dB]
TG.Lvl off
CF.Stp 100.000 MHz
Vid.Bw 3 MHz
RF.Att 20 dB
Unit [dBm]



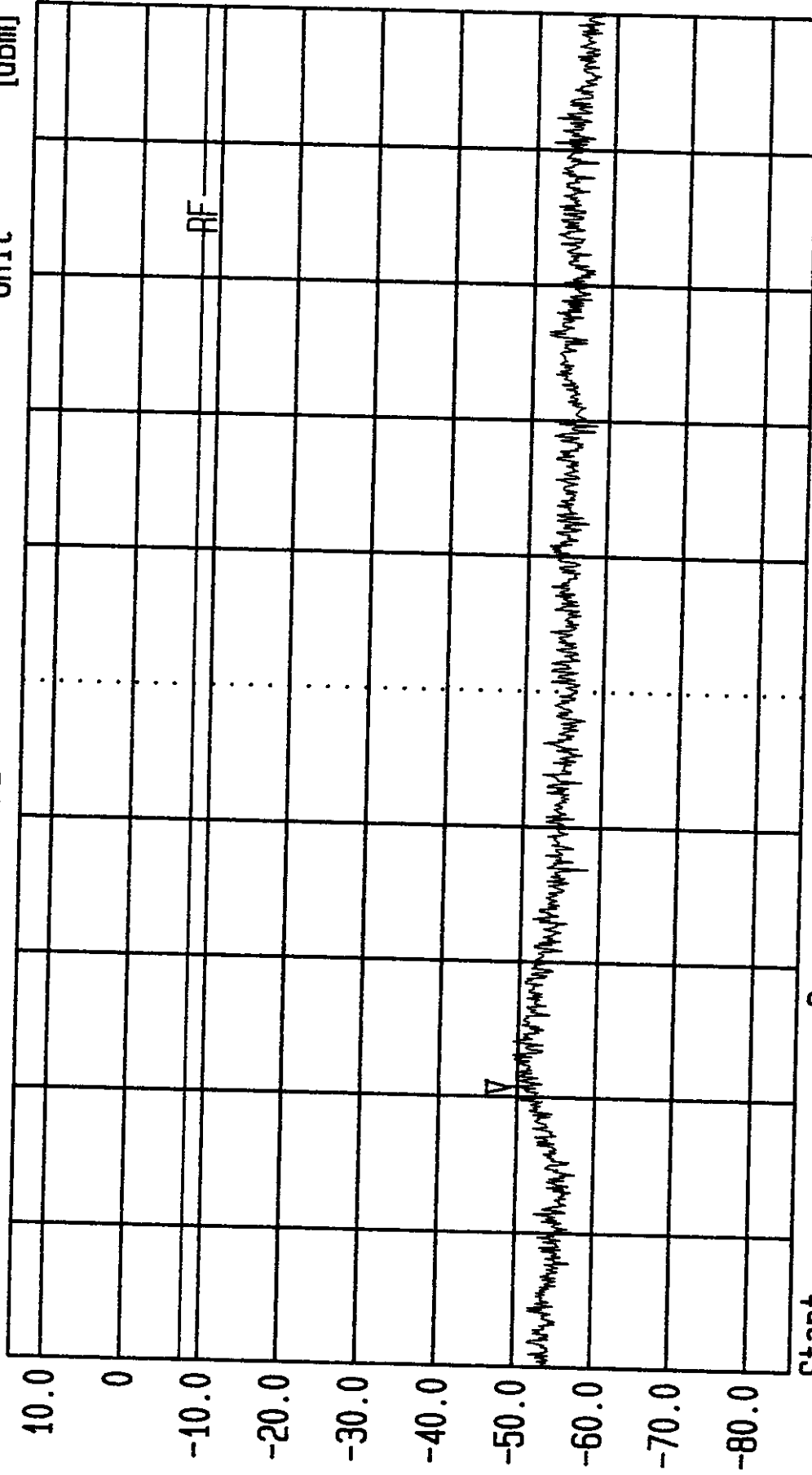
AS5CMP-26 CBR Output. FCC Conducted Spurious Emissions. 25 AVG.
PWR = +14.00 dBm. Block B. Channel 550.



LVLOFF

Date 16.Nov.'98 Time 16:50:48
Ref.Lvl 14.00 dBm
Marker -49.23 dBm
15.2077 GHz

Res.BW 1.0 MHz [3dB]
TG.Lvl off
CF.Stp 100.000 MHz
Vid.Bw 3 MHz
RF.Att 20 dB
Unit [dBm]



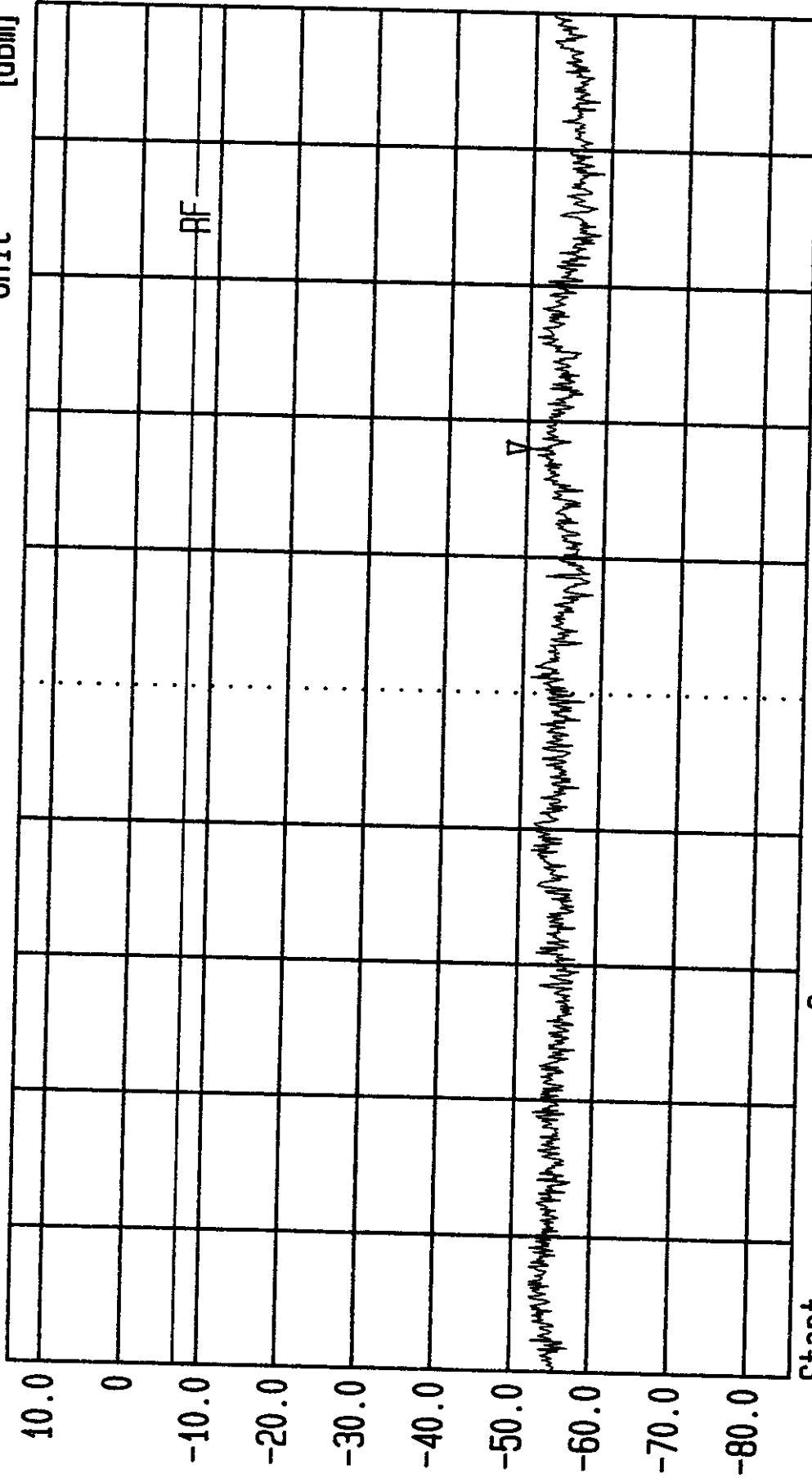
Start 15 GHz Stop 16 GHz
Span 1 GHz Sweep 20 ms
Center 15.5 GHz
AS5CMP-26 CBR Output. FCC Conducted Spurious Emissions. 25 AVG.
PWR = +14.00 dBm. Block B. Channel 550.



LVLOFF

Date 16.Nov.'98 Time 16:55:05
Ref.Lvl 14.00 dBm
Marker -50.60 dBm
16.6800 GHz

Res.Bw 1.0 MHz [3dB]
TG.Lvl off
CF.Stp 100.000 MHz
Vid.Bw 3 MHz
RF.Att 20 dB
Unit [dBm]



Start 16 GHz Stop 17 GHz
Span 1 GHz Sweep 20 ms
Center 16.5 GHz
AS5CMP-26 CBR Output. FCC Conducted Spurious Emissions. 25 AVG.
PWR = +14.00 dBm. Block B. Channel 550.



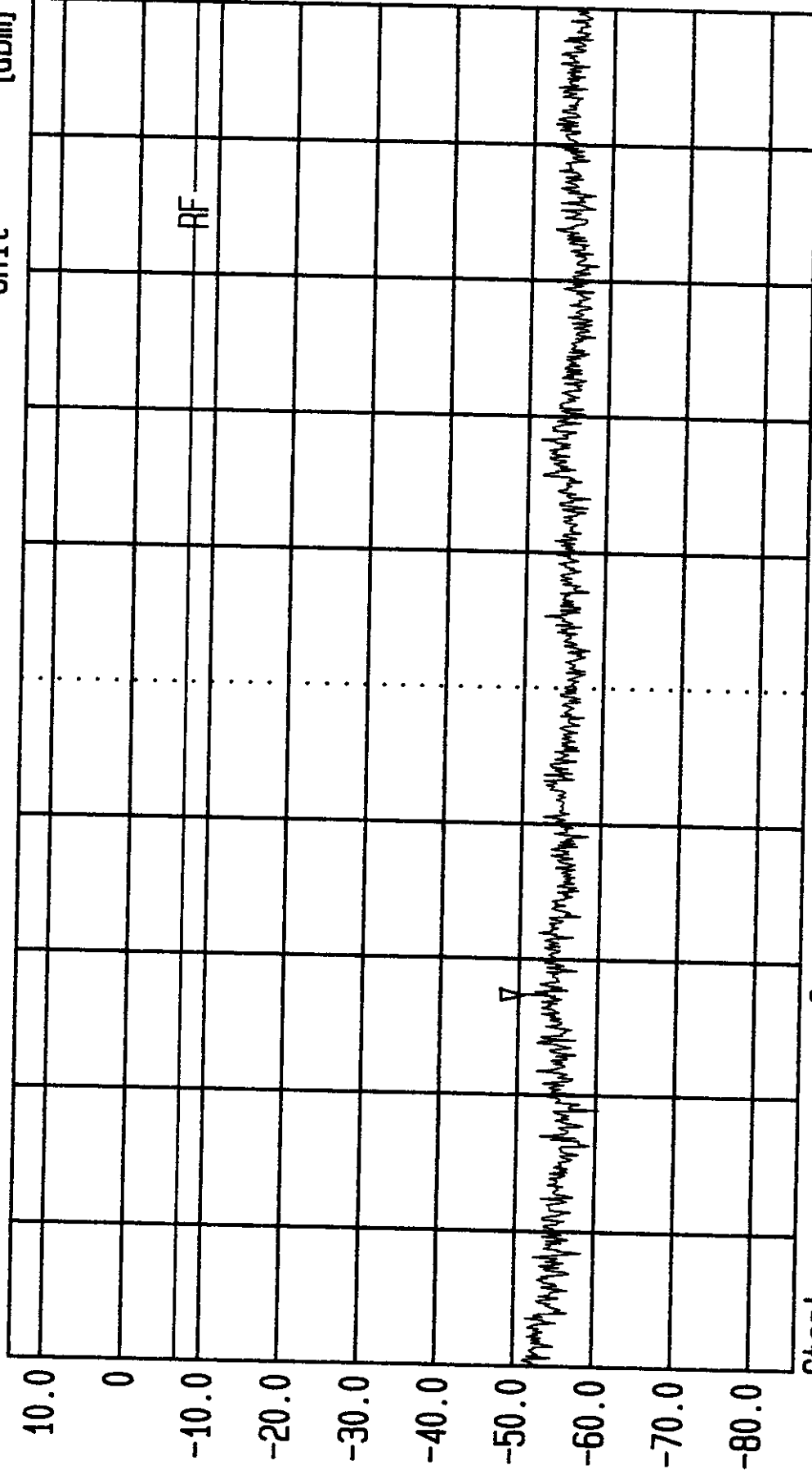
LVLOFF

Date 16.Nov.'98 Time 16:58:16

Ref.Lvl 14.00 dBm

Marker -50.82 dBm

17.2744 GHz

Res.Bw
TG.Lvl
CF.Stp1.0 MHz [3dB]
off
100.000 MHzVid.Bw
RF.Att
Unit3 MHz
20 dB
[dBm]

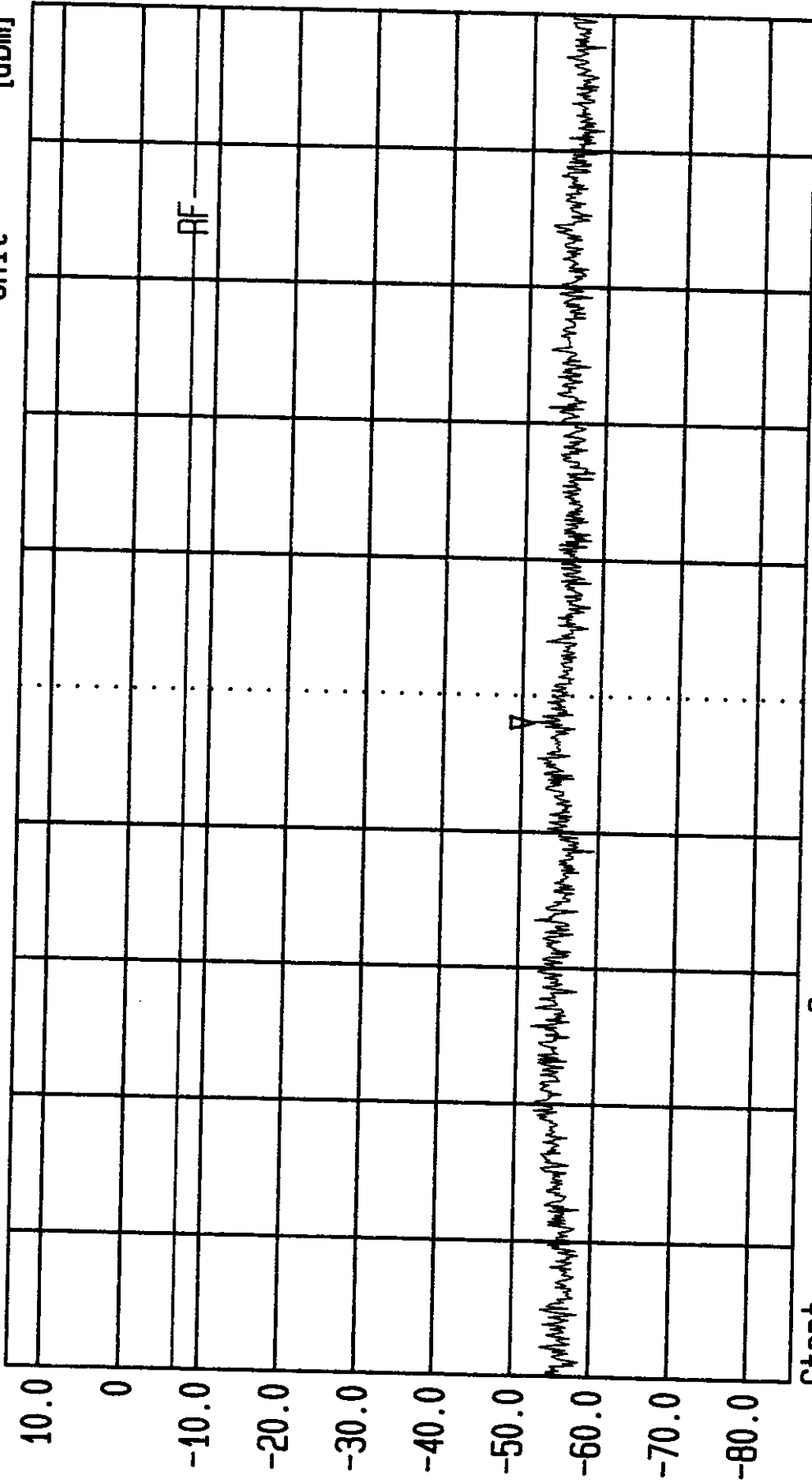
AS5CMP-26 CBR Output. FCC Conducted Spurious Emissions. 25 AVG.
PWR = +14.00 dBm. Block B. Channel 550.



LVLOFF

Date 16.Nov.'98 Time 17:01:39
Ref.Lvl 14.00 dBm Marker -51.74 dBm
18.4811 GHz

Res.Bw 1.0 MHz [3dB] Vid.Bw 3 MHz
TG.Lvl Off RF:Att 20 dB
CF.Stp Unit [dBm]



Start 18 GHz Stop 19 GHz
Span 1 GHz Sweep 20 ms
Center 18.5 GHz
AS5CMP-26 CBR Output. FCC Conducted Spurious Emissions. 25 AVG.
PWR = +14.00 dBm. Block B. Channel 550.

Exhibit 16**Section 2.993****RADIATED SPURIOUS EMISSIONS**

Field strength measurements of radiated spurious emissions were made at a ten meter test site (open field) maintained by Lucent Technologies Bell Laboratories Department JW861COO in Whippany, New Jersey. A complete description and full measurement data for the site have been placed on file with the Commission.

The CBR was assembled with an ICLA and all other associated equipment in an **FLEXENT**® PCS MicroCell. The spectrum from 10 MHz to the tenth harmonic of the carrier was searched for spurious radiation. Measurements were made using both horizontally and vertically polarized antennas. All emissions more than 20 dB below the specification limit were considered not reportable (Section 2.1053).

The calculated emission levels were found by:

$$P_{\text{meas}} (\text{dBm}) + \text{Cable Loss}(\text{dB}) + \text{Antenna Factor}(\text{dB}) + 107 (\text{dB}\mu\text{V}/\text{dBm}) - \text{Amplifier Gain} (\text{dB}) \\ = \text{Field Strength} (\text{dB}\mu\text{V}/\text{m})$$

Section 24.238 and 2.1053 contains the requirements for the levels of spurious radiation as a function of the level of the unmodulated carrier. The reference level for the unmodulated carrier is calculated as the field produced by an ideal dipole excited by the transmitter output power according to the following relation taken from Reference Data for Radio Engineers, page 676, 4th edition, IT&T Corp.

$$E = [(49.2 * P)^{1/2}] / R$$

$$20 \log (E * 10^6) - (43 + 10 \log P) = 73.9 \text{ dB } \mu\text{V}/\text{meter}$$

E = Field Intensity in Volts/ meter

P = Transmitted Power in watts = 12 W

R = Distance in meters = 10 m

RESULTS:

For this particular test, the field strength of any spurious radiation is required to be less than 73.9 dB μ V/meter. Reportable measurements are equal to or greater than 53.9 dB μ V/meter. Over the spectrum investigated, 10 MHz to tenth harmonic of the carrier, no reportable spurious emissions were detected. This demonstrates that the CDMA Baseband Radio (CBR), the subject of this application, complies with Sections 2.1053, 24.238 and 2.1057 of the Rules.

Additional testing to 47CFR Part 15 documented compliance with Class A requirements.
Receiver antenna terminal spurious tests documented compliance with 47CFR Part 15

Exhibit 17**SECTION 2.995****MEASUREMENT OF FREQUENCY STABILITY****RESPONSE:**

The frequency stabilization and accuracy of the CDMA signal amplified by the ICLA is a function of the input signal which it is provided from the CBR (FCC ID: AS5CMP-26). The Time Frequency Unit (TFU) provides the time and frequency reference used by the CBR (FCC ID: AS5CMP-26). The TFU is highly accurate time and frequency unit which relies upon a signal lock of GPS satellite signals to provide the primary discipline of system timing. In the event of loss of GPS lock the Oscillator Module (OM) can provides up to eight hours of freewheel operation. The system provides for automatic timing synchronization upon reacquisition of GPS lock. These units are powered by an AC-DC converter with battery backup to provide immunity to power fluctuations and failures.

This system exceeds the frequency stability requirements necessary for **FLEXENT** ® system compliance with FCC Rules for frequency stability. These devices are compliant with FCC Part 15 rules when powered by and installed in a Lucent Technologies Inc. **FLEXENT** ® MicroCell. The MicroCell's small size and circuit integration precluded individual testing outside the cabinet and the integrated performance is identical to the installed configuration.

The following frequency stability test data for the TFU, CBR and OM was measured as installed and tested in a **FLEXENT**® MicroCell. The entire MicroCell was subjected to the FCC specified environments while operating at full rated power. Both carrier center frequency and reference oscillator deviations were measured. The measurement setup is depicted in Figure 17.

Results:

The attached data documents that the worst case frequency stability over temperature and voltage was 0.015 ppm. The average stability was 0.0056 ppm.

Figure 17A. Test Configuration For Frequency Stability Power Output

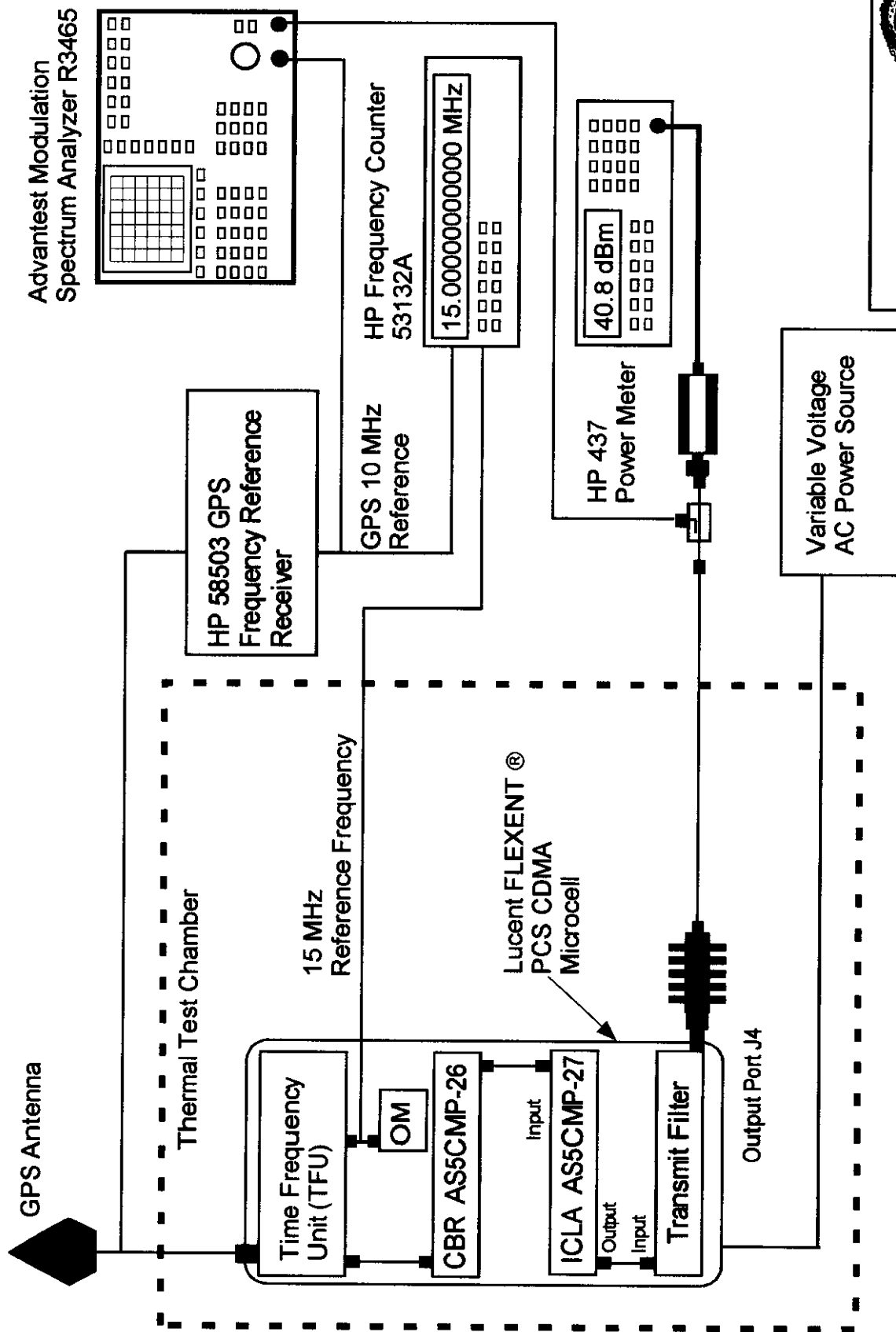


Exhibit 17: Measurement of Frequency Stability of FLEXENT® PCS Microcell

Reference and Transmit Frequency Deviation From GPS at -40°C at 115 volts		
Time (minutes)	15 MHz Deviation from GPS ($\times 10^{-4}$ Hz)	Transmit Carrier Deviation. (Hz)
0	-16	-13.4
0.5	-12	-10.3
1	-15	0.5
1.5	-15	18.2
2	-12	5.8
2.5	-15	-25.1
3	-16	-30.4
SPECIFICATION	+/-150000 (+/-1ppm)	+/-19575 (+/-1ppm)
RESULT	PASS	PASS

Reference and Transmit Frequency Deviation From GPS at -40°C over voltage range		
AC Voltage (Volts)	15 MHz Deviation from GPS ($\times 10^{-4}$ Hz)	Transmit Carrier Deviation. (Hz)
115	-12	4.7
97	-7	0.3
103	-7	-21.8
109	-6	-14.9
115	-8	
121	-7	-13.2
127	-8	-37.5
132	-12	-17.0
265	-12	9.2
SPECIFICATION	+/-150000 (+/-1ppm)	+/-19575 (+/-1ppm)
RESULT	PASS	PASS

The J4 RF Transmit power level deviation from 0°C = +0.32 dB

Exhibit 17: Measurement of Frequency Stability of FLEXENT® PCS Microcell

Reference and Transmit Frequency Deviation From GPS at -30°C at 115 volts		
Time (minutes)	15 MHz Deviation from GPS ($\times 10^{-4}$ Hz)	Transmit Carrier Deviation. (Hz)
0	-8	-9.9
0.5	-10	-3.6
1	-6	3.9
1.5	-7	4.6
2	-5	6.7
2.5	-10	9.1
3	-9	26
SPECIFICATION	+/-150000 (+/-1ppm)	+/-19575 (+/-1ppm)
RESULT	PASS	PASS

Reference and Transmit Frequency Deviation From GPS at -30°C over voltage range		
AC Voltage (Volts)	15 MHz Deviation from GPS ($\times 10^{-4}$ Hz)	Transmit Carrier Deviation (Hz)
115		
97	-17	6
103	-17	9.4
109	-18	-4.2
115	-18	2.6
121	-18	4
127	-17	-16.7
132	-20	27.2
265	-19	-10.4
SPECIFICATION	+/-150000 (+/-1ppm)	+/-19575 (+/-1ppm)
RESULT	PASS	PASS

The J4 RF Transmit power level deviation from 0°C = +0.05 dB

Exhibit 17: Measurement of Frequency Stability of FLEXENT® PCS Microcell

Reference and Transmit Frequency Deviation From GPS at -20°C at 115 volts		
Time (minutes)	15 MHz Deviation from GPS (x10⁻⁴ Hz)	Transmit Carrier Deviation (Hz)
0.5	6.0	-11.4
1	6	-0.1
1.5	7	7.2
2	7	2.0
2.5	4	4.3
3	7	-6.7
SPECIFICATION	+/-150000 (+/-1ppm)	+/-19575 (+/-1ppm)
RESULT	PASS	PASS

Reference and Transmit Frequency Deviation From GPS at -20°C over voltage range		
AC Voltage (Volts)	15 MHz Deviation from GPS (x10⁻⁴ Hz)	Transmit Carrier Deviation (Hz)
115	9	-11.4
97	6	
103	<99	
109	<99	
115	<99	
121	<99	
127	<99	
132	8	
265	8	
SPECIFICATION	+/-150000 (+/-1ppm)	+/-19575 (+/-1ppm)
RESULT	PASS	PASS

The J4 RF Transmit power level deviation from 0°C = +0.2 dB

Exhibit 17: Measurement of Frequency Stability of FLEXENT® PCS Microcell

Reference and Transmit Frequency Deviation From GPS at -10°C at 115 volts		
Time (minutes)	15 MHz Deviation from GPS ($\times 10^{-4}$ Hz)	Transmit Carrier Deviation (Hz)
0	2	-8.7
0.5	2	6.4
1	2	10.5
1.5	3	7.5
2	4	-3.3
2.5	3	-0.8
3	5	-3.4
SPECIFICATION	+/-150000 (+/-1ppm)	+/-19575 (+/-1ppm)
RESULT	PASS	PASS

Reference and Transmit Frequency Deviation From GPS at -10°C over voltage range		
AC Voltage (Volts)	15 MHz Deviation from GPS ($\times 10^{-4}$ Hz)	Transmit Carrier Deviation (Hz)
115	2	-8.7
97	8	
103	<99	
109	<99	
115	<99	10.5
121	<99	
127	<99	
132	10	
265	15	
SPECIFICATION	+/-150000 (+/-1ppm)	+/-19575 (+/-1ppm)
RESULT	PASS	PASS

The J4 RF Transmit power level deviation from 0°C = +0.13 dB

Exhibit 17: Measurement of Frequency Stability of FLEXENT® PCS Microcell

Reference and Transmit Frequency Deviation From GPS at -0°C at 115 volts		
Time (minutes)	15 MHz Deviation from GPS (x10⁻⁴ Hz)	Transmit Carrier Deviation (Hz)
0	9.96	17.3
0.5	9.98	14.9
1	9.95	9.4
1.5	9.92	25.4
2	9.93	28.2
2.5	9.97	18.6
3	9.96	16.0
SPECIFICATION	+/-150000 (+/-1ppm)	+/-19575 (+/-1ppm)
RESULT	PASS	PASS

Reference and Transmit Frequency Deviation From GPS at -0°C over voltage range		
AC Voltage (Volts)	15 MHz Deviation from GPS (x10⁻⁴ Hz)	Transmit Carrier Deviation (Hz)
115	9.95	-3.3
97	9.93	21.2
103	9.97	19.8
109	9.95	16.5
115	9.96	1.3
121	9.97	5.4
127	9.99	18.1
132	9.96	2.9
265	9.97	17.4
SPECIFICATION	+/-150000 (+/-1ppm)	+/-19575 (+/-1ppm)
RESULT	PASS	PASS

The J4 RF Transmit power level deviation from 20°C = +1.34 dB

The Reference level deviation from 20°C = +1 dB

Exhibit 17: Measurement of Frequency Stability of FLEXENT® PCS Microcell

Reference and Transmit Frequency Deviation From GPS at +10°C at 115 volts		
Time (minutes)	15 MHz Deviation from GPS ($\times 10^{-4}$ Hz)	Transmit Carrier Deviation (Hz)
0	9.94	14
0.5	9.92	34.8
1	9.95	20.8
1.5	9.91	38.6
2	9.92	10.9
2.5	9.94	22.3
3	9.91	-20.4
SPECIFICATION	+/-150000 (+/-1ppm)	+/-19575 (+/-1ppm)
RESULT	PASS	PASS

Reference and Transmit Frequency Deviation From GPS at +10°C over voltage range		
AC Voltage (Volts)	15 MHz Deviation from GPS ($\times 10^{-4}$ Hz)	Transmit Carrier Deviation (Hz)
115	9.49	31.4
97	9.47	20.3
103	9.46	25.4
109	9.39	4.9
115	9.45	19.3
121	9.45	43.6
127	9.36	3.8
132	9.37	10.3
265	9.35	18.1
SPECIFICATION	+/-150000 (+/-1ppm)	+/-19575 (+/-1ppm)
RESULT	PASS	PASS

The J4 RF Transmit power level deviation from 20°C = +0.86 dB

The Reference level deviation from 20°C = +0.5 dB

Exhibit 17: Measurement of Frequency Stability of FLEXENT® PCS Microcell

Reference and Transmit Frequency Deviation From GPS at +20°C at 115 volts		
Time (minutes)	15 MHz Deviation from GPS (x10⁻⁴ Hz)	Transmit Carrier Deviation (Hz)
0	8.98	28.7
0.5	9.01	24.0
1	9.05	15.2
1.5	9.01	11.2
2	9.05	19.5
2.5	9.01	28.0
3	9.04	31.3
SPECIFICATION	+/-150000 (+/-1ppm)	+/-19575 (+/-1ppm)
RESULT	PASS	PASS

Reference and Transmit Frequency Deviation From GPS at +20°C over voltage range		
AC Voltage (Volts)	15 MHz Deviation from GPS (x10⁻⁴ Hz)	Transmit Carrier Deviation (Hz)
115	9.12	11.0
97	9.05	41.3
103	9.12	36.1
109	9.11	4.5
115	9.17	26.0
121	9.11	6.4
127	9.15	4.2
132	9.09	11.1
265	9.11	20.1
SPECIFICATION	+/-150000 (+/-1ppm)	+/-19575 (+/-1ppm)
RESULT	PASS	PASS

The J4 RF Transmit power level deviation from 0°C = 0 dB

The Reference level deviation from 0°C = 0 dB

Exhibit 17: Measurement of Frequency Stability of FLEXENT® PCS Microcell

Reference and Transmit Frequency Deviation From GPS at +30°C at 115 volts		
Time (minutes)	15 MHz Deviation from GPS ($\times 10^{-4}$ Hz)	Transmit Carrier Deviation (Hz)
0	8.67	0.4
0.5	8.61	-6.5
1	8.71	-3.1
1.5	8.64	20.3
2	8.79	42.1
2.5	8.71	42.4
3	8.79	19.0
SPECIFICATION	+/-150000 (+/-1ppm)	+/-19575 (+/-1ppm)
RESULT	PASS	PASS

Reference and Transmit Frequency Deviation From GPS at +30°C over voltage range		
AC Voltage (Volts)	15 MHz Deviation from GPS ($\times 10^{-4}$ Hz)	Transmit Carrier Deviation (Hz)
115	8.79	-27.0
97	8.81	14.2
103	8.73	0.4
109	8.74	28.1
115	8.85	2.2
121	8.87	22.4
127	8.84	8.3
132	8.79	28.3
265	8.81	16.3
SPECIFICATION	+/-150000 (+/-1ppm)	+/-19575 (+/-1ppm)
RESULT	PASS	PASS

The J4 RF Transmit power level deviation from 20°C = -0.91 dB

The Reference level deviation from 20°C = -0.62dB

Exhibit 17: Measurement of Frequency Stability of FLEXENT® PCS Microcell

Reference and Transmit Frequency Deviation From GPS at 40°C at 115 volts		
Time (minutes)	15 MHz Deviation from GPS (x10⁻⁴ Hz)	Transmit Carrier Deviation (Hz)
0	8.27	16.8
0.5	8.34	23.6
1	8.21	-4.7
1.5	8.26	40.0
2	8.31	22.8
2.5	8.26	-1.1
3	8.29	10.4
SPECIFICATION	+/-150000 (+/-1ppm)	+/-19575 (+/-1ppm)
RESULT	PASS	PASS

Reference and Transmit Frequency Deviation From GPS at 40°C over voltage range		
AC Voltage (Volts)	15 MHz Deviation from GPS (x10⁻⁴ Hz)	Transmit Carrier Deviation (Hz)
115	8.31	37.8
97	8.29	36.6
103	8.29	36.7
109	8.28	36.9
115	8.29	
121	8.31	-4.4
127	8.36	29.3
132	8.38	-3.3
265	8.28	-11.1
SPECIFICATION	+/-150000 (+/-1ppm)	+/-19575 (+/-1ppm)
RESULT	PASS	PASS

The J4 RF Transmit power level deviation from 20°C = -1.86 dB

The Reference level deviation from 20°C = -1.2 dB

Exhibit 17: Measurement of Frequency Stability of FLEXENT® PCS Microcell

Reference and Transmit Frequency Deviation From GPS at 50°C at 115 volts		
Time (minutes)	15 MHz Deviation from GPS (x10⁻⁴ Hz)	Transmit Carrier Deviation (Hz)
0	8.21	28.8
0.5	8.19	3.0
1	8.23	2.0
1.5	8.24	1.1
2	8.26	4.4
2.5	8.24	-6.0
3	8.31	12.9
SPECIFICATION	+/-150000 (+/-1ppm)	+/-19575 (+/-1ppm)
RESULT	PASS	PASS

Reference and Transmit Frequency Deviation From GPS at 50°C over voltage range		
AC Voltage (Volts)	15 MHz Deviation from GPS (x10⁻⁴ Hz)	Transmit Carrier Deviation (Hz)
115	8.21	
97	8.24	43.4
103	8.23	42.5
109	8.16	13.6
115	8.20	38.8
121	8.16	35.2
127	8.20	39.4
132	8.13	50.0
265	8.18	20.4
SPECIFICATION	+/-150000 (+/-1ppm)	+/-19575 (+/-1ppm)
RESULT	PASS	PASS

The J4 RF Transmit power level deviation from 20°C = -2.6 dB

The Reference level deviation from 20°C = -1.9 dB

Exhibit 17: Measurement of Frequency Stability of FLEXENT® PCS Microcell

Reference and Transmit Frequency Deviation From GPS at 55°C at 115 volts		
Time (minutes)	15 MHz Deviation from GPS ($\times 10^{-4}$ Hz)	Transmit Carrier Deviation (Hz)
0.5	-8	4.2
1	-7	8.8
1.5	-8	1.9
2	-6	8.6
2.5	-7	-0.8
3	-6	6.2
SPECIFICATION	+/-150000 (+/-1ppm)	+/-19575 (+/-1ppm)
RESULT	PASS	PASS

Reference and Transmit Frequency Deviation From GPS at 55°C over voltage range		
AC Voltage (Volts)	15 MHz Deviation from GPS ($\times 10^{-4}$ Hz)	Transmit Carrier Deviation (Hz)
115	-7	3.1
97	-5	
103	<99	
109	<99	
115	<99	5.7
121	<99	
127	<99	
132	<99	
265	-6	
SPECIFICATION	+/-150000 (+/-1ppm)	+/-19575 (+/-1ppm)
RESULT	PASS	PASS

Exhibit 17: Measurement of Frequency Stability of FLEXENT® PCS Microcell
Upon Return to +20°C

Reference and Transmit Frequency Deviation From GPS at 20°C at 115 volts		
Time (minutes)	15 MHz Deviation from GPS ($\times 10^{-4}$ Hz)	Transmit Carrier Deviation (Hz)
0.5	9.96	5.1
1	9.98	6.3
1.5	9.95	0.9
2	9.92	17.9
2.5	9.93	10.7
3	9.97	19.9
SPECIFICATION	+/-150000 (+/-1ppm)	+/-19575 (+/-1ppm)
RESULT	PASS	PASS

Reference and Transmit Frequency Deviation From GPS at 20°C over voltage range		
AC Voltage (Volts)	15 MHz Deviation from GPS ($\times 10^{-4}$ Hz)	Transmit Carrier Deviation (Hz)
115	9.90	27.5
97	9.89	30.7
103	9.91	26.5
109	9.94	41.5
115	9.98	32.0
121	9.90	33.7
127	9.92	5.1
132	9.94	-12.2
265	9.97	13.6
SPECIFICATION	+/-150000 (+/-1ppm)	+/-19575 (+/-1ppm)
RESULT	PASS	PASS

The J4 RF Transmit power level deviation from 20°C Baseline = +0.04 dB

The Reference level deviation from 20°C Baseline = +0.4 dB

Exhibit 17: Measurement of Frequency Stability of FLEXENT® PCS Microcell

Upon return to 20°C and cell reset.

Reference and Transmit Frequency Deviation From GPS at 20°C at 115 volts		
Time (minutes)	15 MHz Deviation from GPS ($\times 10^{-4}$ Hz)	Transmit Carrier Deviation (Hz)
0	0.74	7.3
0.5	0.69	-4.6
1	0.69	3.2
1.5	0.64	6.1
2	0.62	7.5
2.5	0.59	12.2
3	0.66	6.9
SPECIFICATION	± 150000 (± 1 ppm)	± 19575 (± 1 ppm)
RESULT	PASS	PASS

Reference and Transmit Frequency Deviation From GPS at 20°C at 97 volts		
Time (minutes)	15 MHz Deviation from GPS ($\times 10^{-4}$ Hz)	Transmit Carrier Deviation (Hz)
0	0.49	10.3
0.5	0.56	-0.9
1	0.51	3.6
1.5	0.59	13.7
2	0.50	0.2
2.5	0.47	9.0
3	0.46	4.0
SPECIFICATION	± 150000 (± 1 ppm)	± 19575 (± 1 ppm)
RESULT	PASS	PASS

Reference and Transmit Frequency Deviation From GPS at 20°C at 133 volts		
Time (minutes)	15 MHz Deviation from GPS ($\times 10^{-4}$ Hz)	Transmit Carrier Deviation (Hz)
0	0.50	9.3
0.5	0.48	-2.1
1	0.49	21.2
1.5	0.49	8.1
2	0.53	22.8
2.5	0.52	-3.7
3	0.49	0.2
SPECIFICATION	± 150000 (± 1 ppm)	± 19575 (± 1 ppm)
RESULT	PASS	PASS

Exhibit 19

SECTION 2.1033(g)

Photographs (8"x10") of the equipment of sufficient clarity to reveal equipment construction and layout, including meters, if any, and labels for controls and meters and sufficient views of the internal construction to define component placement and chassis assembly. Insofar as these requirements are met by photographs or drawings contained in the instruction manuals supplied with the type acceptance request, additional photographs are necessary only to complete the required showing.

RESPONSE:

The following photographs show the construction and layout of the CBR.

Exhibit 20

Human Exposure Compliance Statement

After evaluation of this equipment by the Lucent Technologies Bell Laboratories "Radiation Protection Services" staff, Lucent Technologies, Inc. certifies that it complies with IEEE C95.1-1991, "IEEE Standards for Safety Levels with Respect to Human Exposure to Radio Frequency Electronic Fields, 3 kHz to 300s GHz" as measured using methods specified in IEEE C95.3-1991, "Recommended Practice for the Measurement of Potentially Hazardous Electromagnetic Fields - RF and Microwave." In recognition of the variation of characteristics from site to site, this certification is based on the measurement of any particular site which has been installed in compliance with the instructions supplies with this the equipment.