Sept. 10, 2003

FCC ID# H8NWLL220CL

Applicant:	**Askey Computer Corp.**
Correspondence Reference Number:	**25290**
731 Confirmation Number:	**EA 185640**

A3) Details of power measurement made for SAR. Are these peak or average? What is BW of measurement equipment?

Response:

There is a typo in the caption of Table 1on p. 12 of the SAR report . The caption should read " Peak conducted RF power" rather than Average conducted RF power. The procedure for conducted output power measurements used the channel power function of the Spectrum Analyzer Model FSEK 30. Attach an appendix giving the power outputs for various channels.

Appendix

1. PEAK TRANSMIT POWER MEASUREMENT

2. LIMITS OF PEAK TRANSMIT POWER MEASUREMENT

Frequency Band	Limit
5.15 – 5.25 GHz	The lesser of 50mW (17dBm) or 4dBm + 10logB
5.25 – 5.35 GHz	The lesser of 250mW (24dBm) or 11dBm + 10logB
5.725 – 5.825 GHz	The lesser of 1W (30dBm) or 17dBm + 10logB

Note: Where B is the 26dB emission bandwidth in MHz.

3. TEST INSTRUMENTS

Description & Manufacturer	Model No.	Serial No.	Calibrated Until
SPECTRUM ANALYZER	FSEK30	100049	July 24, 2003

NOTE:
The calibration interval of the above test instruments is 12 months and the calibrations are traceable to NML/ROC and NIST/USA.

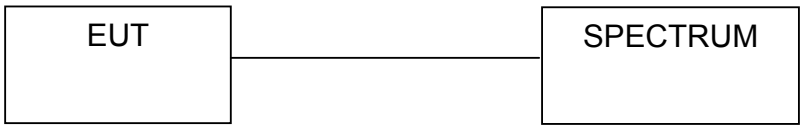
4. TEST PROCEDURE

1. The transmitter output was connected to the spectrum analyzer.
2. Set span to encompass the entire emission bandwidth of the signal.
3. Set RBW to 1MHz, VBW to 300kHz.
4. Using the spectrum analyzer's channel power measurement function to measure the output power.

5. DEVIATION FROM TEST STANDARD

No deviation

6. TEST SETUP



7. EUT OPERATING CONDITIONS

The software provided by client to enable the EUT under transmission condition continuously at specific channel frequencies individually.

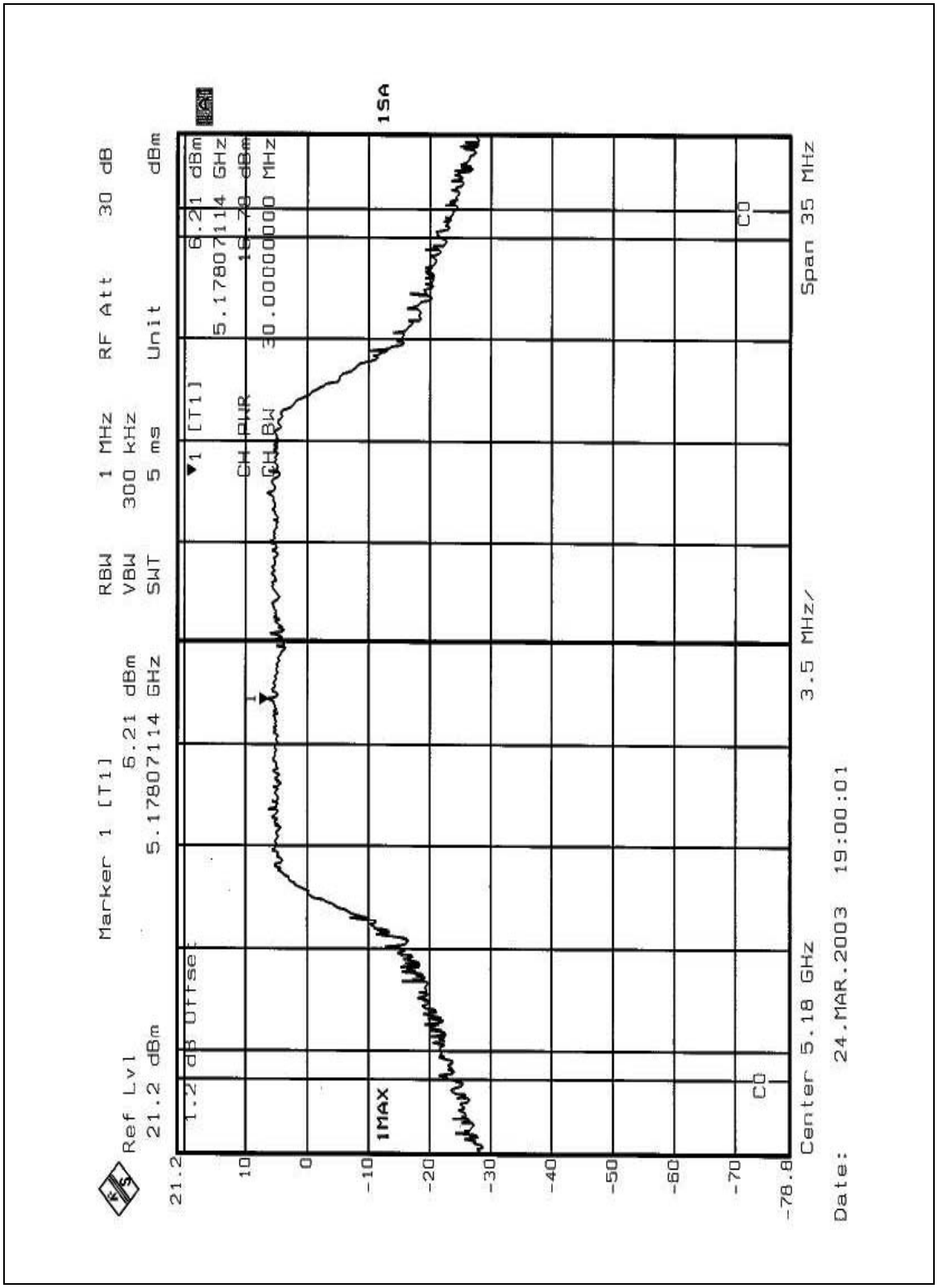
8. TEST RESULTS

EUT	2.4GHz/5GHz Mini - PCI Card	**MODEL**	WLL220
MODE	Normal	**INPUT POWER (SYSTEM)**	120Vac, 60 Hz
ENVIRONMENTAL CONDITIONS	19deg. C, 69RH, 991 hPa	**TESTED BY**	Ansen Lei

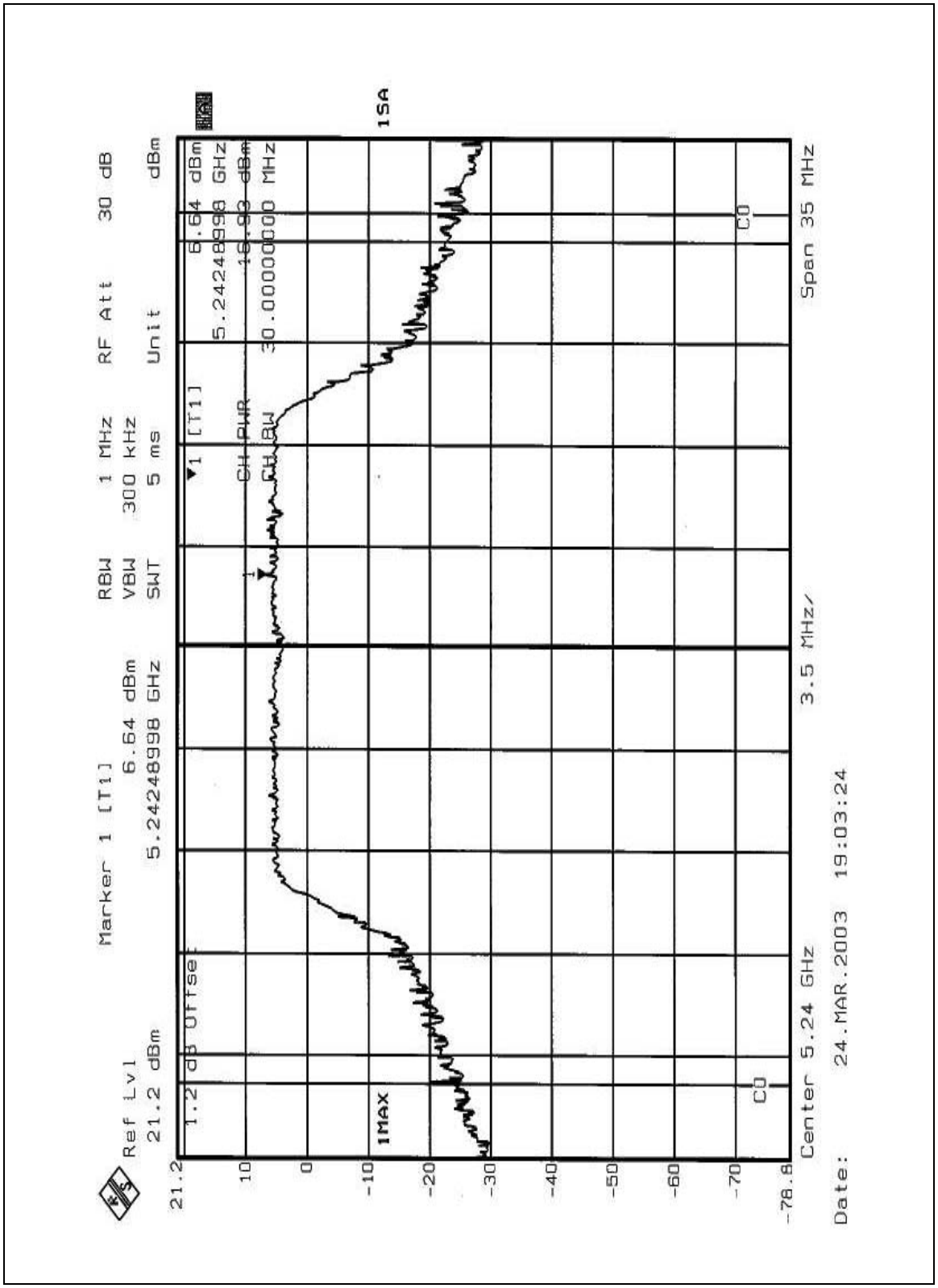
CHANNEL	CHANNEL FREQUENCY (MHz)	PEAK POWER OUTPUT (dBm)	PEAK POWER LIMIT (dBm)	26dBc Occupied Bandwidth (MHz)	PASS/FAIL
1	5180	16.78	17.00	28.27	PASS
4	5240	16.93	17.00	28.83	PASS
5	5260	22.51	24.00	27.99	PASS
8	5320	22.37	24.00	28.69	PASS
9	5745	17.08	30.00	30.37	PASS
12	5805	18.43	30.00	31.14	PASS

NOTE: The 26dBc Occupied Bandwidth plot, please refer to the following pages.

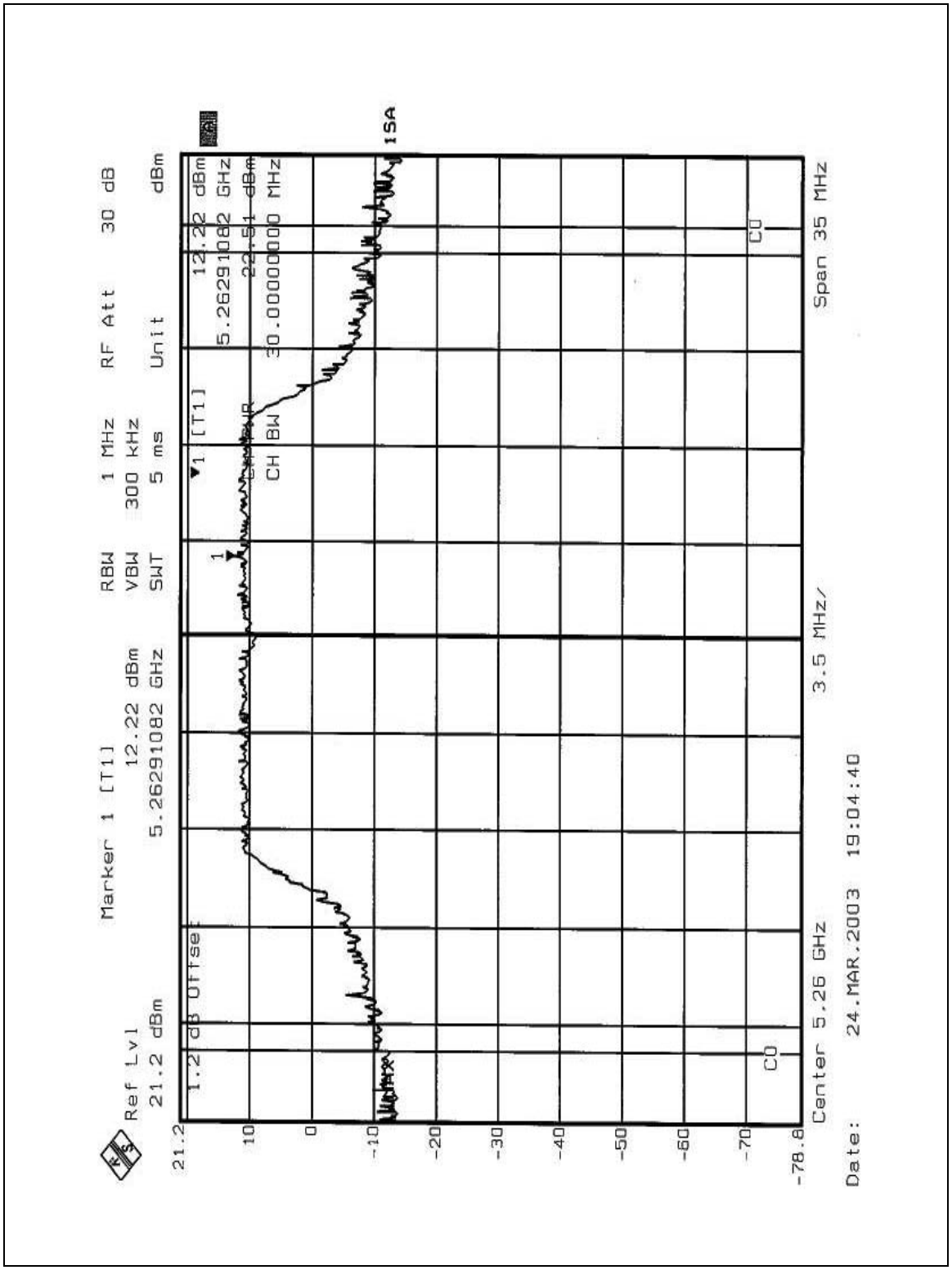
CHANNEL 1


Marker 1 [T1]
5.21 dBm
5.17807114 GHz
RBW 1 MHz
VBW 300 kHz
SWT 5 ms
RF Att 30 dB
Unit dBm
Ref Lvl
21.2 dBm
1.2 dB Offset
1MAX
1SA
CH PWR
CH BW
Center 5.18 GHz
3.5 MHz/
Span 35 MHz
Date: 24.MAR.2003 19:00:01

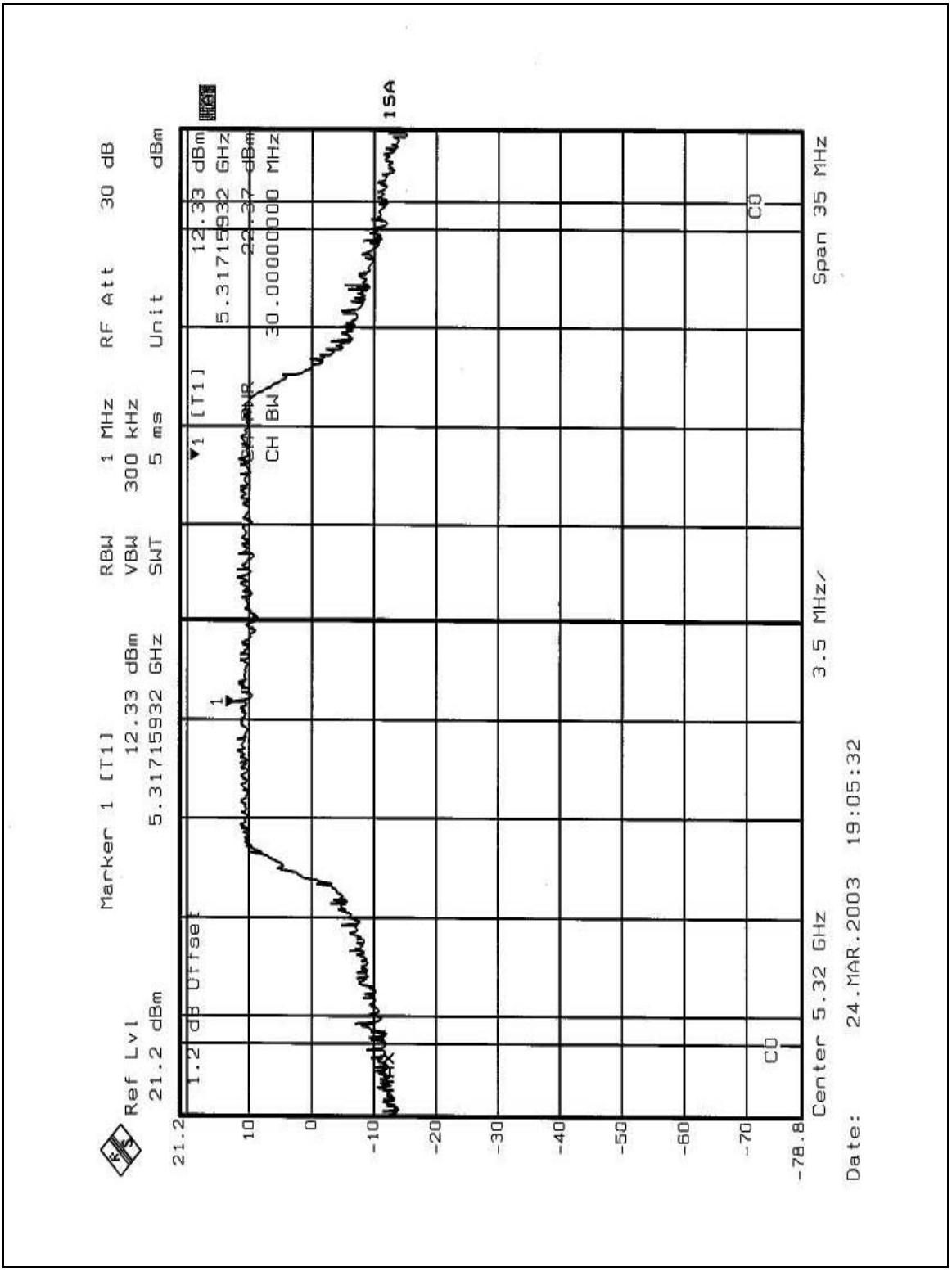
CHANNEL 4


Ref Lvl
21.2 dBm
1.2 dB Offset
Marker 1 [T1]
6.64 dBm
5.24248998 GHz
RBW 1 MHz
VBW 300 kHz
SWT 5 ms
RF Att 30 dB
Unit dBm
1SA
1MAX
CO
Center 5.24 GHz
3.5 MHz/
Span 35 MHz
Date: 24.MAR.2003 19:03:24

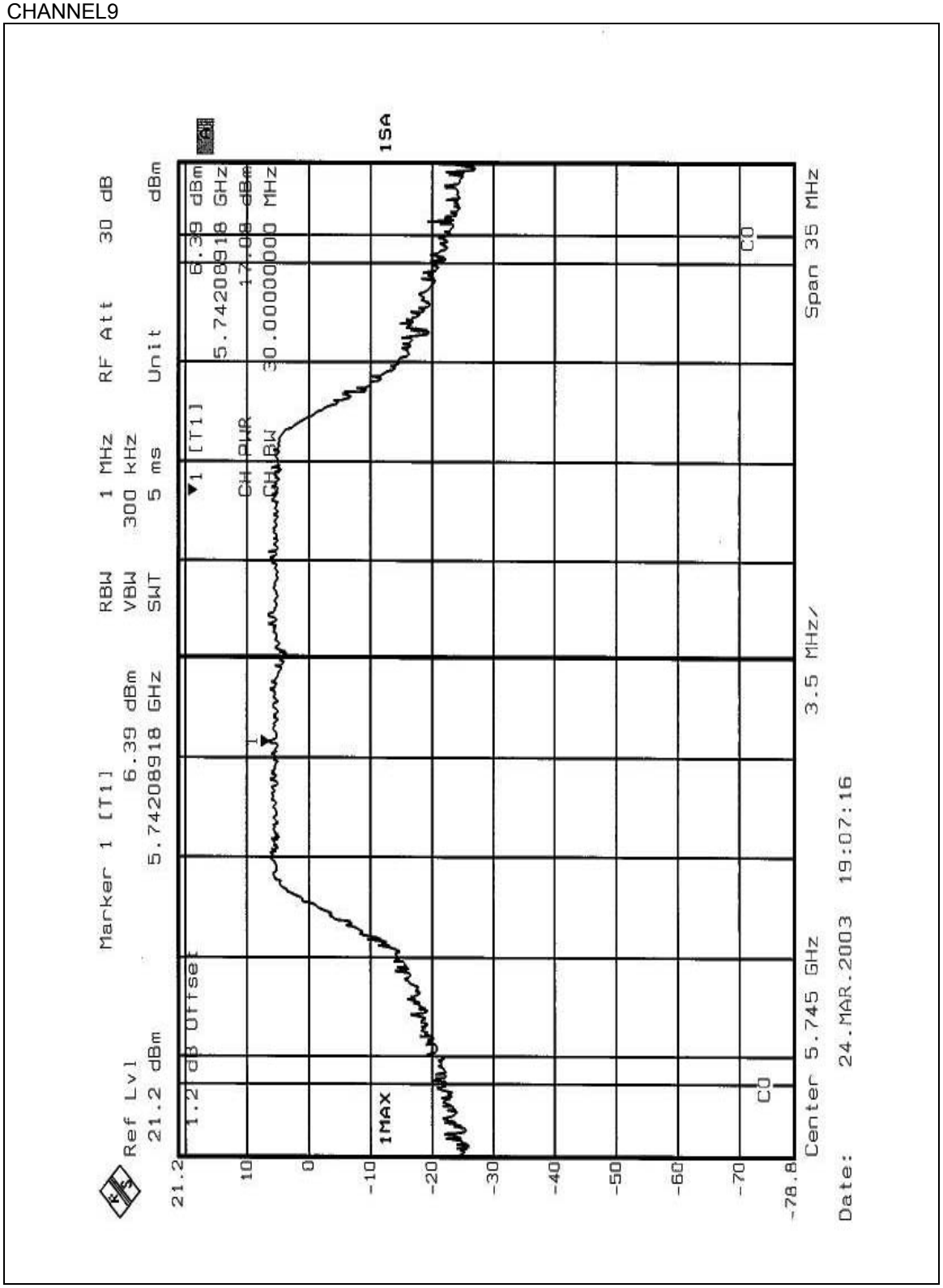
CHANNEL 5


Ref Lvl
21.2 dBm
1.2 dB Offset
Marker 1 [T1]
12.22 dBm
5.26291082 GHz
RBW 1 MHz
VBW 300 kHz
SWT 5 ms
RF Att 30 dB
Unit dBm
1 [T1]
12.22 dBm
5.26291082 GHz
CH PWR 22.51 dBm
CH BW 30.000000000 MHz
1SA
CO
Center 5.26 GHz
3.5 MHz/
Span 35 MHz
Date: 24.MAR.2003 19:04:40

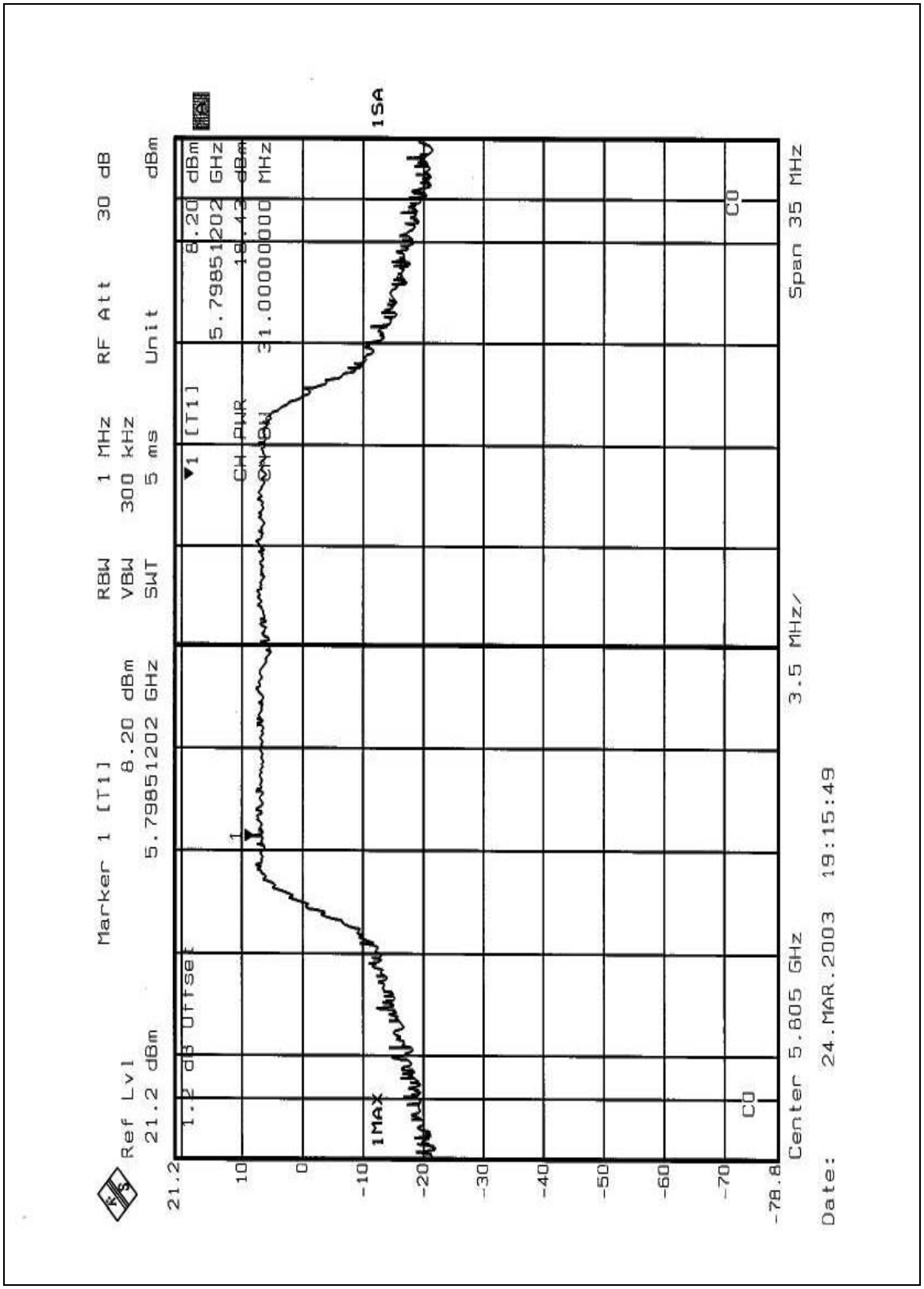
CHANNEL8


Ref Lvl
21.2 dBm
1.2 dB Offset
Marker 1 [T1]
12.33 dBm
5.31715932 GHz
RBW 1 MHz
VBW 300 kHz
SWT 5 ms
RF Att 30 dB
Unit dBm
1 [T1]
12.33 dBm
5.31715932 GHz
CH BW 22.37 dBm
30.000000000 MHz
1SA
21.2
10
0
-10
-20
-30
-40
-50
-60
-70
-78.8
CO
Center 5.32 GHz
3.5 MHz/
Span 35 MHz
Date: 24.MAR.2003 19:05:32

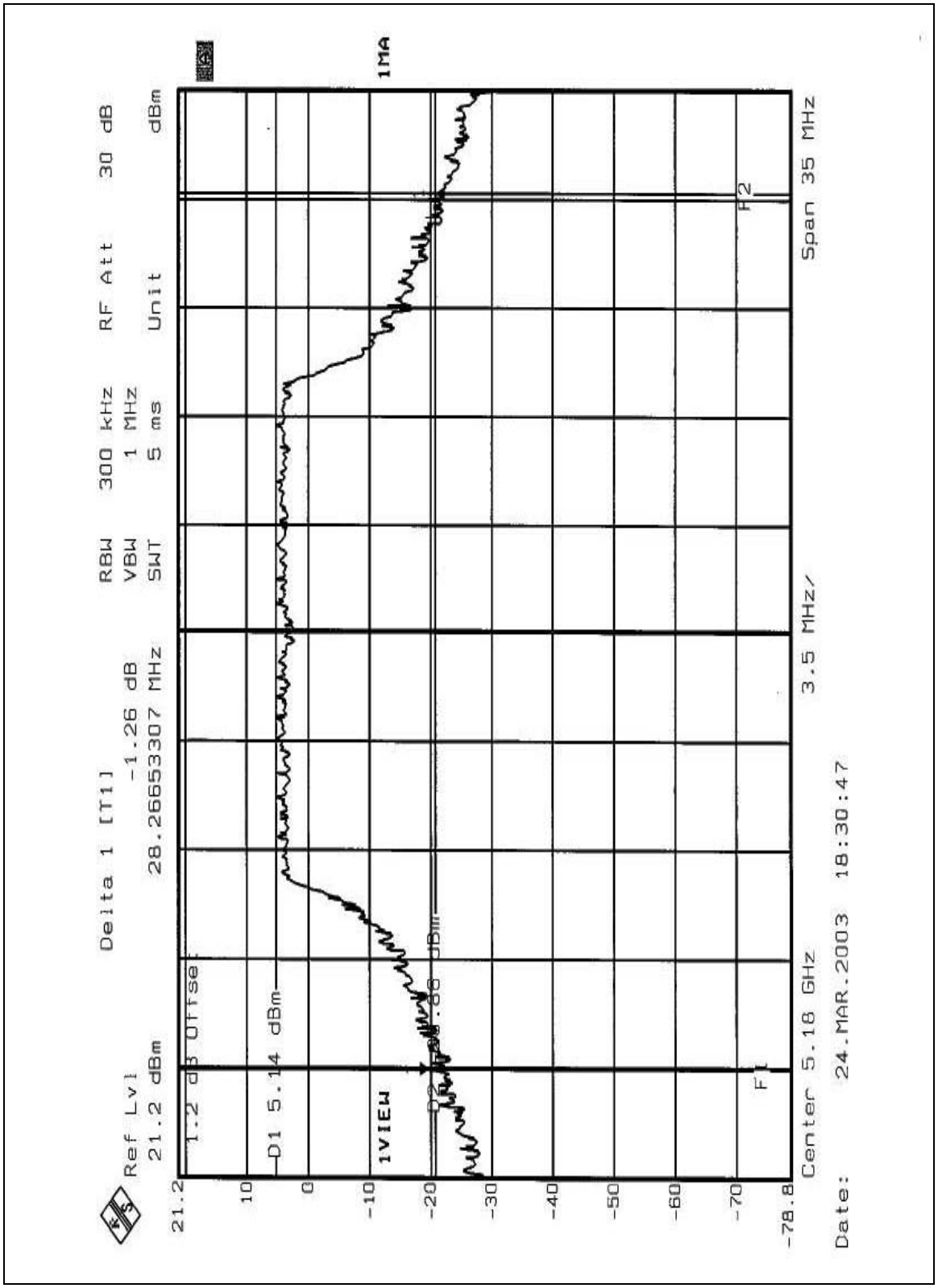
CHANNEL9


Ref Lvl
21.2 dBm
1.2 dB Offset
Marker 1 [T1]
6.39 dBm
5.74208918 GHz
RBW 1 MHz
VBW 300 kHz
SWT 5 ms
RF Att 30 dB
Unit dBm
1SA
1MAX
CO
Center 5.745 GHz
3.5 MHz/
Span 35 MHz
Date: 24.MAR.2003 19:07:16

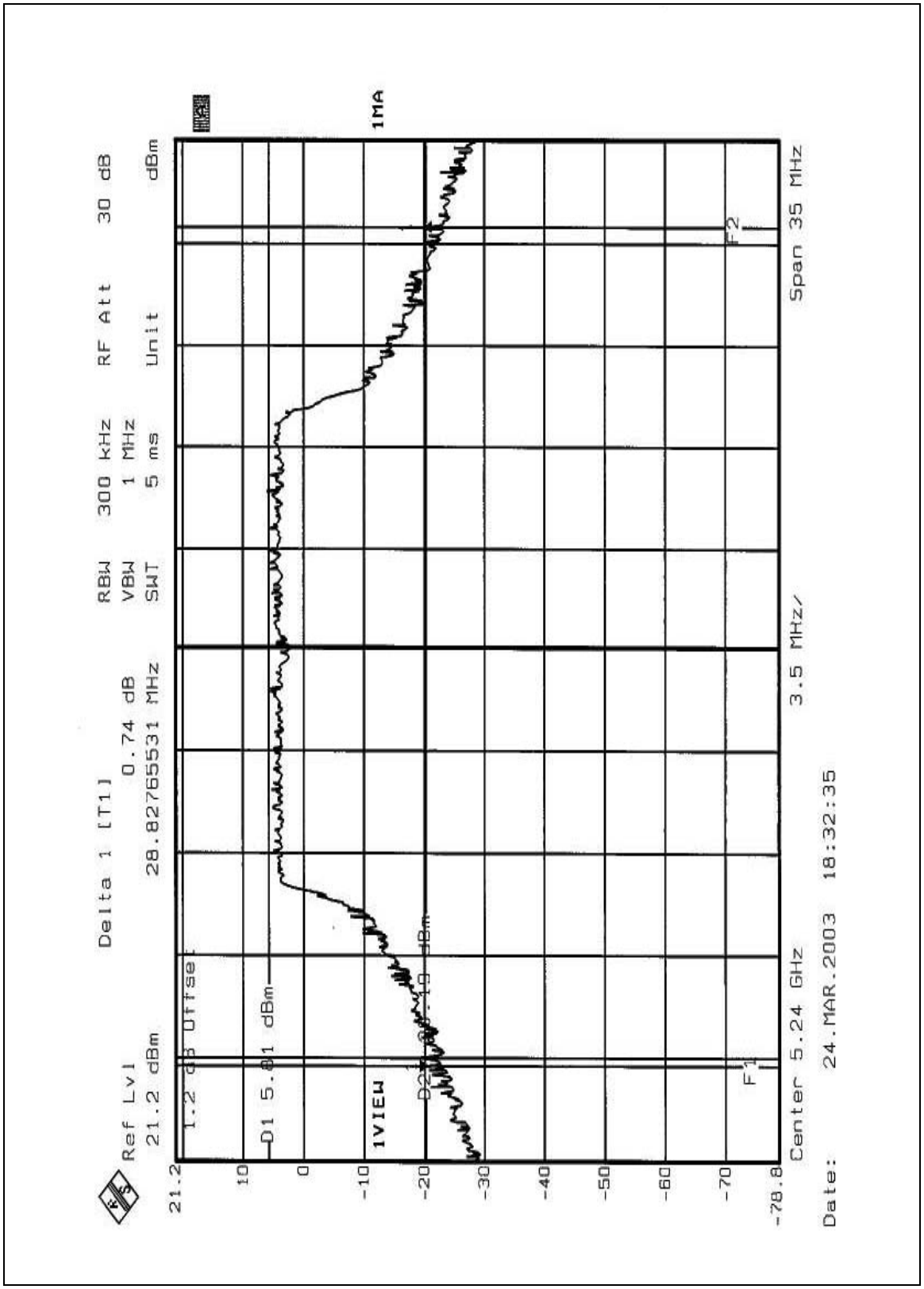
CHANNEL12


Ref Lvl
21.2 dBm
1.2 dB Offset
Marker 1 [T1]
8.20 dBm
5.79851202 GHz
RBW 1 MHz
VBW 300 kHz
SWT 5 ms
RF Att 30 dB
Unit dBm
1 [T1]
8.20 dBm
5.79851202 GHz
CH PWR 18.43 dBm
OCNBW 31.00000000 MHz
1SA
1MAX
Center 5.805 GHz
3.5 MHz/
Span 35 MHz
Date: 24.MAR.2003 19:15:49

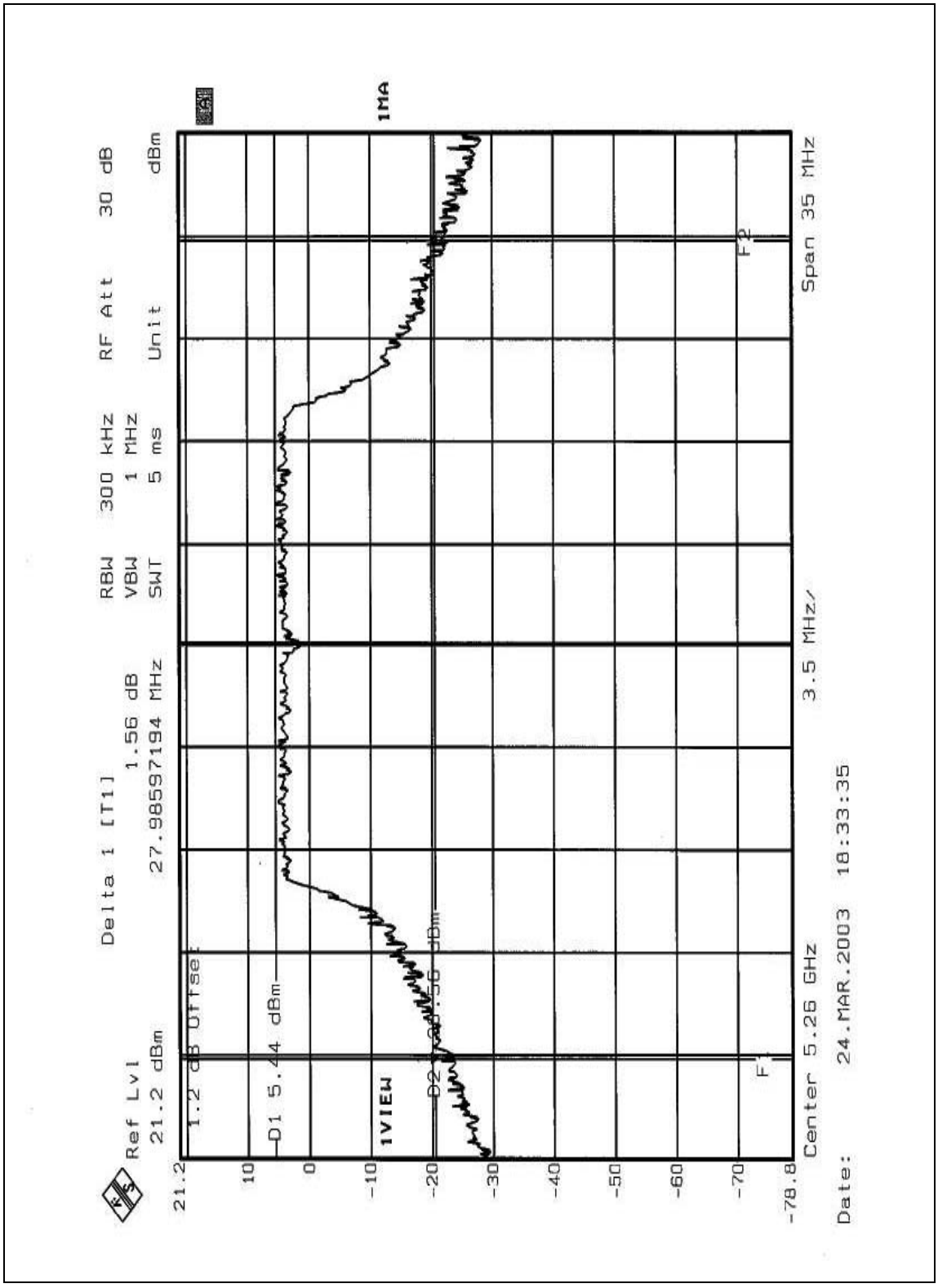
CHANNEL 1


Ref Lvl
21.2 dBm
1.2 dB Offset
Delta 1 [T1]
-1.26 dB
28.26653307 MHz
RBW 300 kHz
VBW 1 MHz
SWT 5 ms
RF Att 30 dB
Unit dBm
1MA
1VIEW
D1 5.14 dBm
D2
F1
F2
21.2
10
0
-10
-20
-30
-40
-50
-60
-70
-78.8
Center 5.18 GHz
3.5 MHz/
Span 35 MHz
Date: 24.MAR.2003 18:30:47

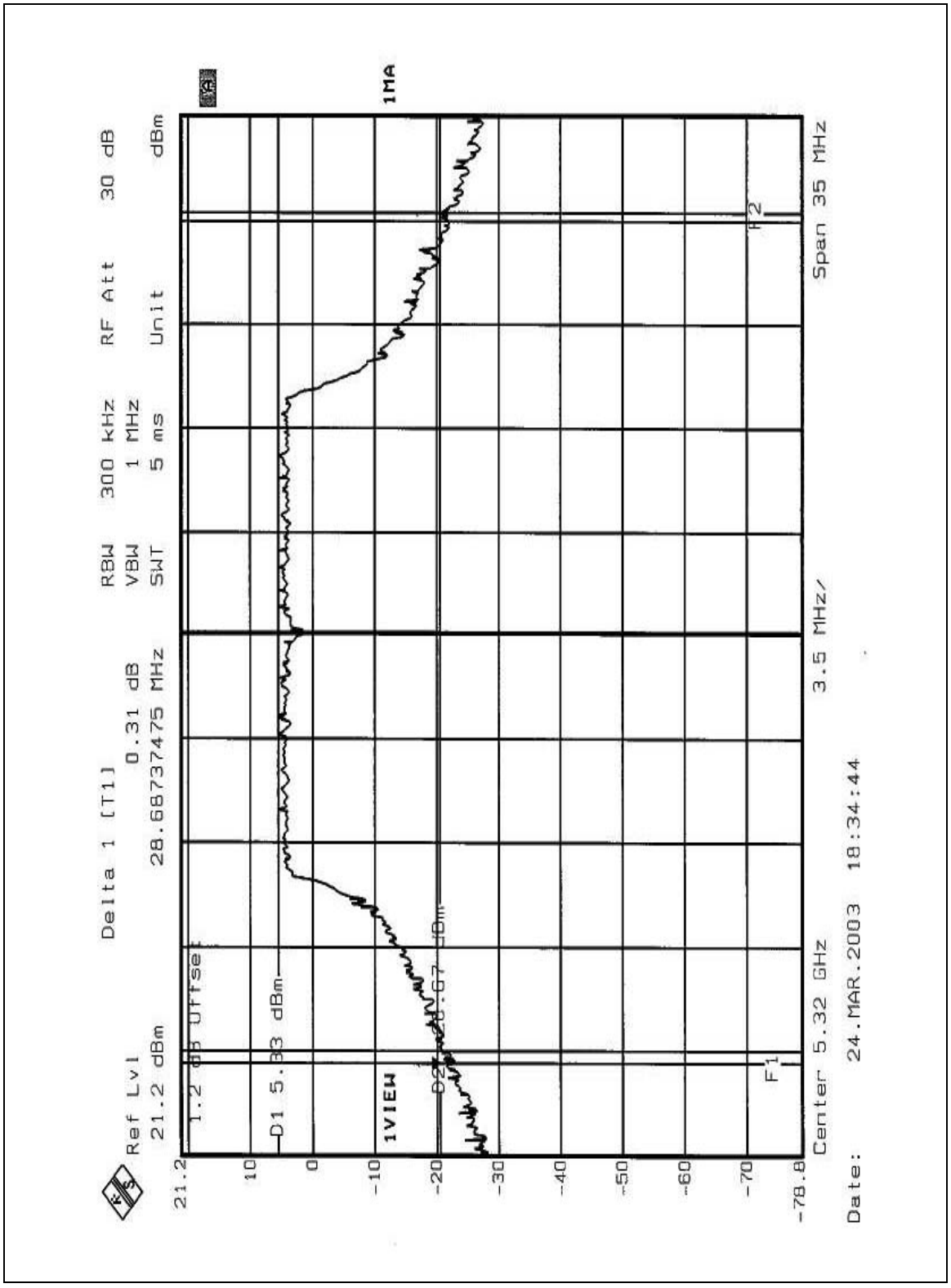
CHANNEL 4


Ref Lvl
21.2 dBm
1.2 dB Offset
Delta 1 [T1]
0.74 dB
28.82765531 MHz
RBW 300 kHz
VBW 1 MHz
SWT 5 ms
RF Att 30 dB
Unit dBm
1MA
1VIEW
D1 5.81 dBm
F1
F2
Center 5.24 GHz
3.5 MHz/
Span 35 MHz
Date: 24.MAR.2003 18:32:35

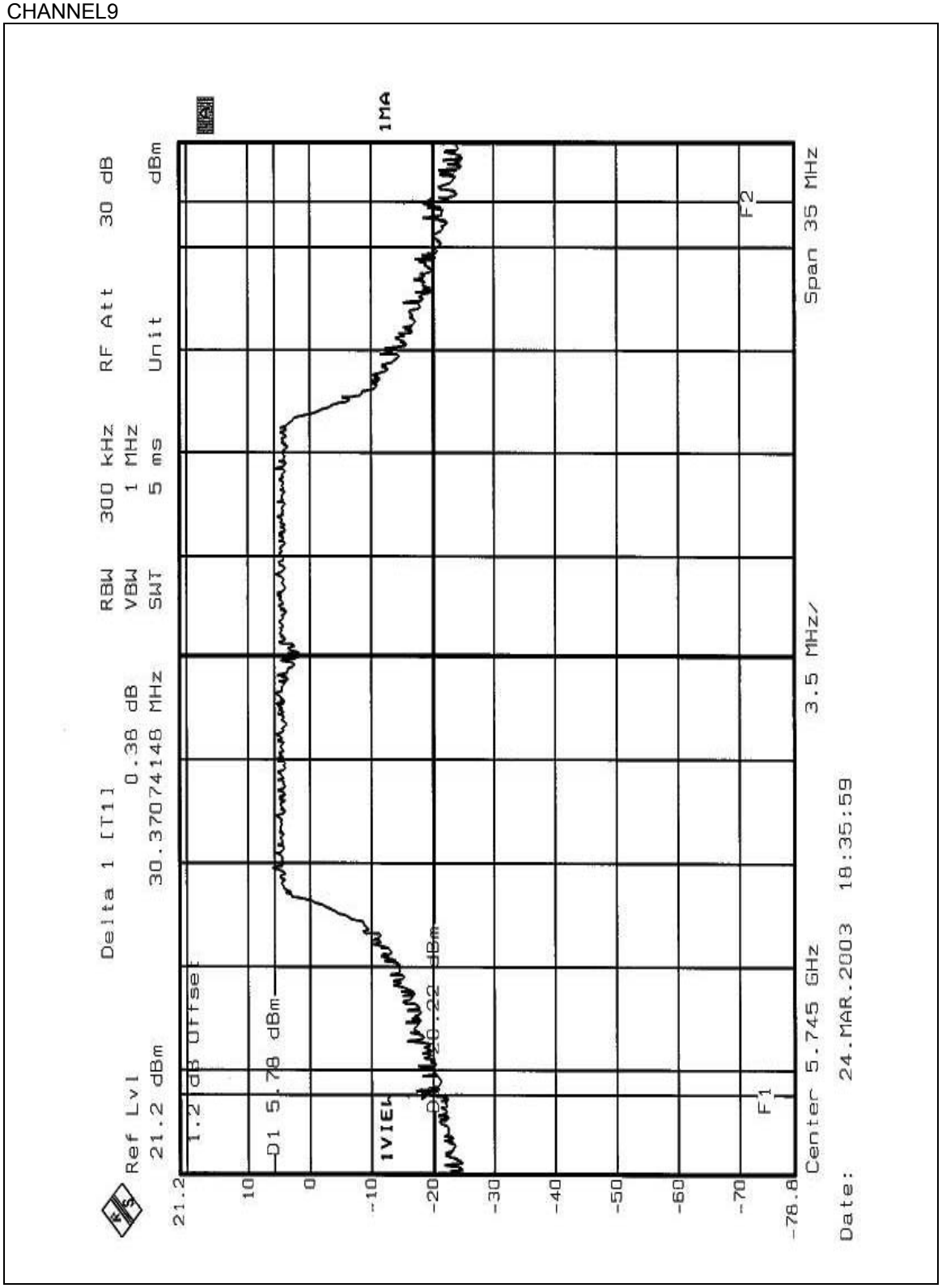
CHANNEL 5


Ref Lvl
21.2 dBm
1.2 dB Offset
Delta 1 [T1]
1.56 dB
27.98597194 MHz
RBW 300 kHz
VBW 1 MHz
SWT 5 ms
RF Att 30 dB
Unit dBm
1MA
D1 5.44 dBm
1VIEW
D2 -22.56 dBm
F1
F2
21.2
10
0
-10
-20
-30
-40
-50
-60
-70
-78.8
Center 5.26 GHz
3.5 MHz/
Span 35 MHz
Date: 24.MAR.2003 18:33:35

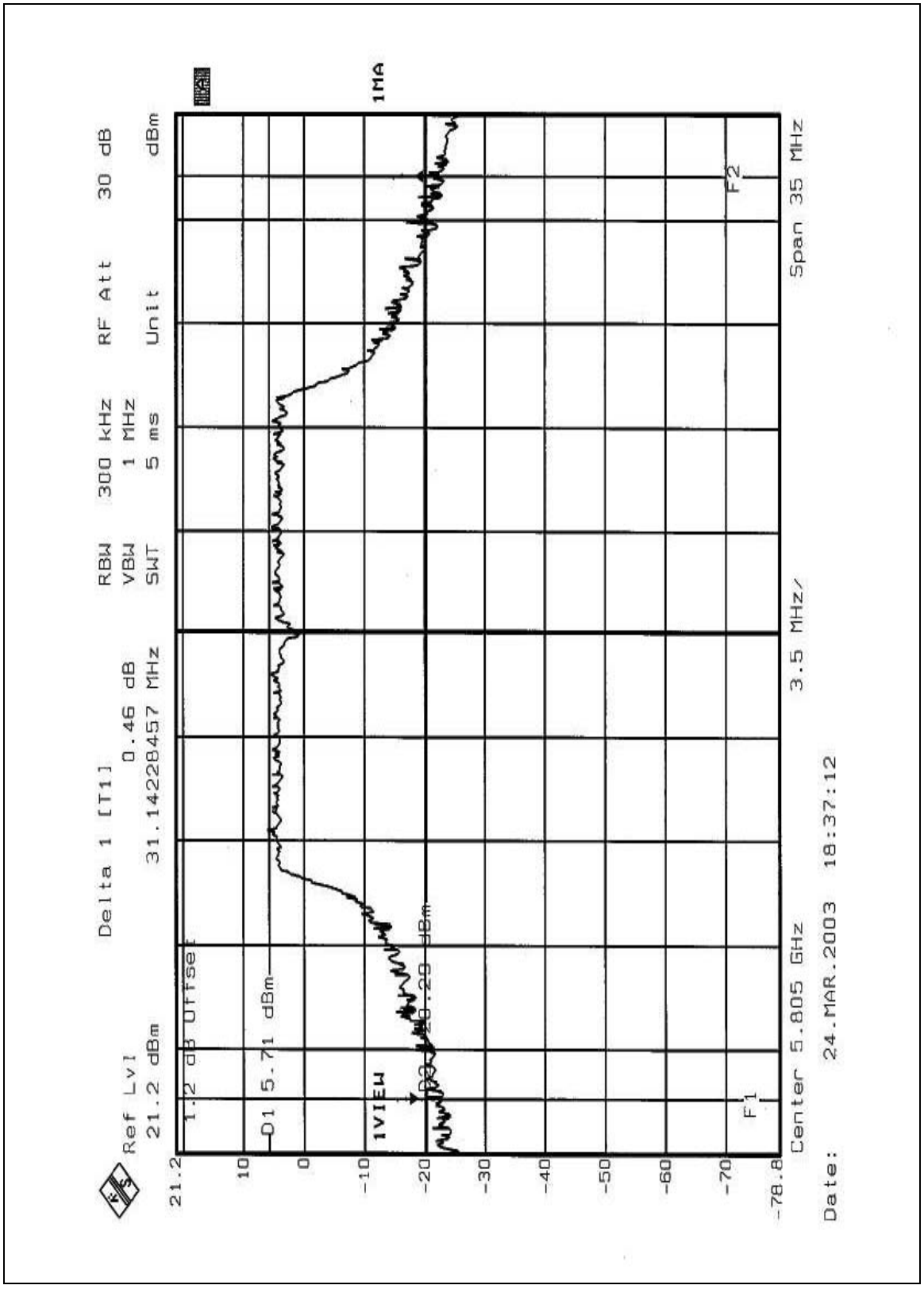
CHANNEL 8


Delta 1 [T1]
0.31 dB
28.68737475 MHz
RBW 300 kHz
VBW 1 MHz
SWT 5 ms
RF Att 30 dB
Unit dBm
1MA
Ref Lvl
21.2 dBm
1.2 dB Offset
D1 5.33 dBm
1VIEW
D2 -28.67 dBm
F1
F2
Center 5.32 GHz
3.5 MHz/
Span 35 MHz
Date: 24.MAR.2003 18:34:44
21.2
10
0
-10
-20
-30
-40
-50
-60
-70
-78.8

CHANNEL9


Ref Lvl
21.2 dBm
1.2 dB Offset
Delta 1 [T1]
0.38 dB
30.37074148 MHz
RBW 300 kHz
VBW 1 MHz
SWT 5 ms
RF Att 30 dB
Unit dBm
1MA
D1 5.78 dBm
MKR
20.22 dBm
F1
F2
Center 5.745 GHz
3.5 MHz/
Span 35 MHz
Date: 24.MAR.2003 18:35:59

CHANNEL12

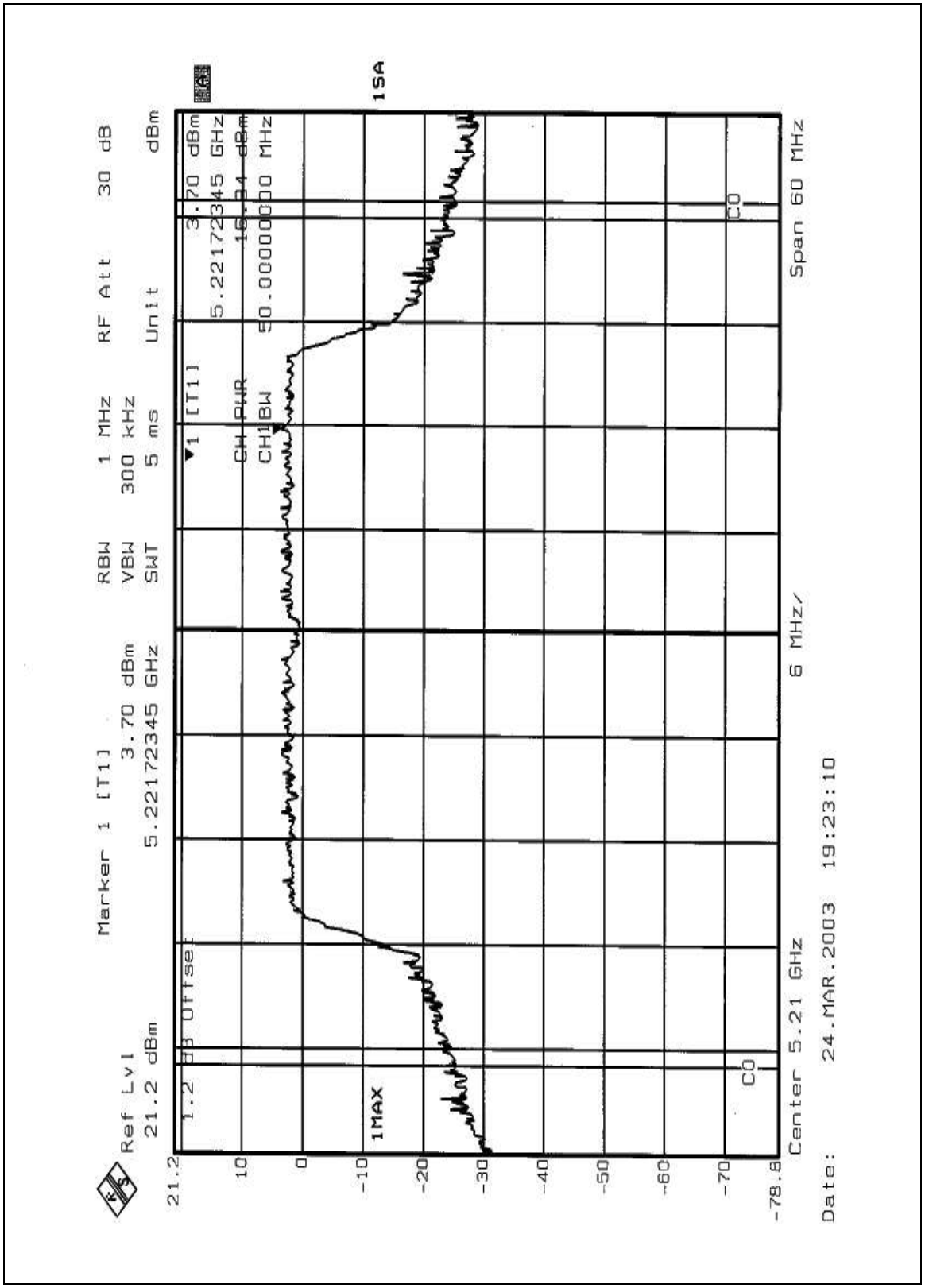

Ref Lvl
21.2 dBm
1.2 dB Offset
Delta 1 [T1]
0.46 dB
31.14228457 MHz
RBW 300 kHz
VBW 1 MHz
SWT 5 ms
RF Att 30 dB
Unit dBm
1MA
D1 5.71 dBm
1VIEW
D2 -18.29 dBm
F1
F2
21.2
10
0
-10
-20
-30
-40
-50
-60
-70
-78.8
Center 5.805 GHz
3.5 MHz/
Span 35 MHz
Date: 24.MAR.2003 18:37:12

EUT	2.4GHz/5GHz Mini - PCI Card	**MODEL**	WLL220
MODE	Turbo	**INPUT POWER (SYSTEM)**	120Vac, 60 Hz
ENVIRONMENTAL CONDITIONS	19 deg. C, 69RH, 991 hPa	**TESTED BY**	Ansen Lei

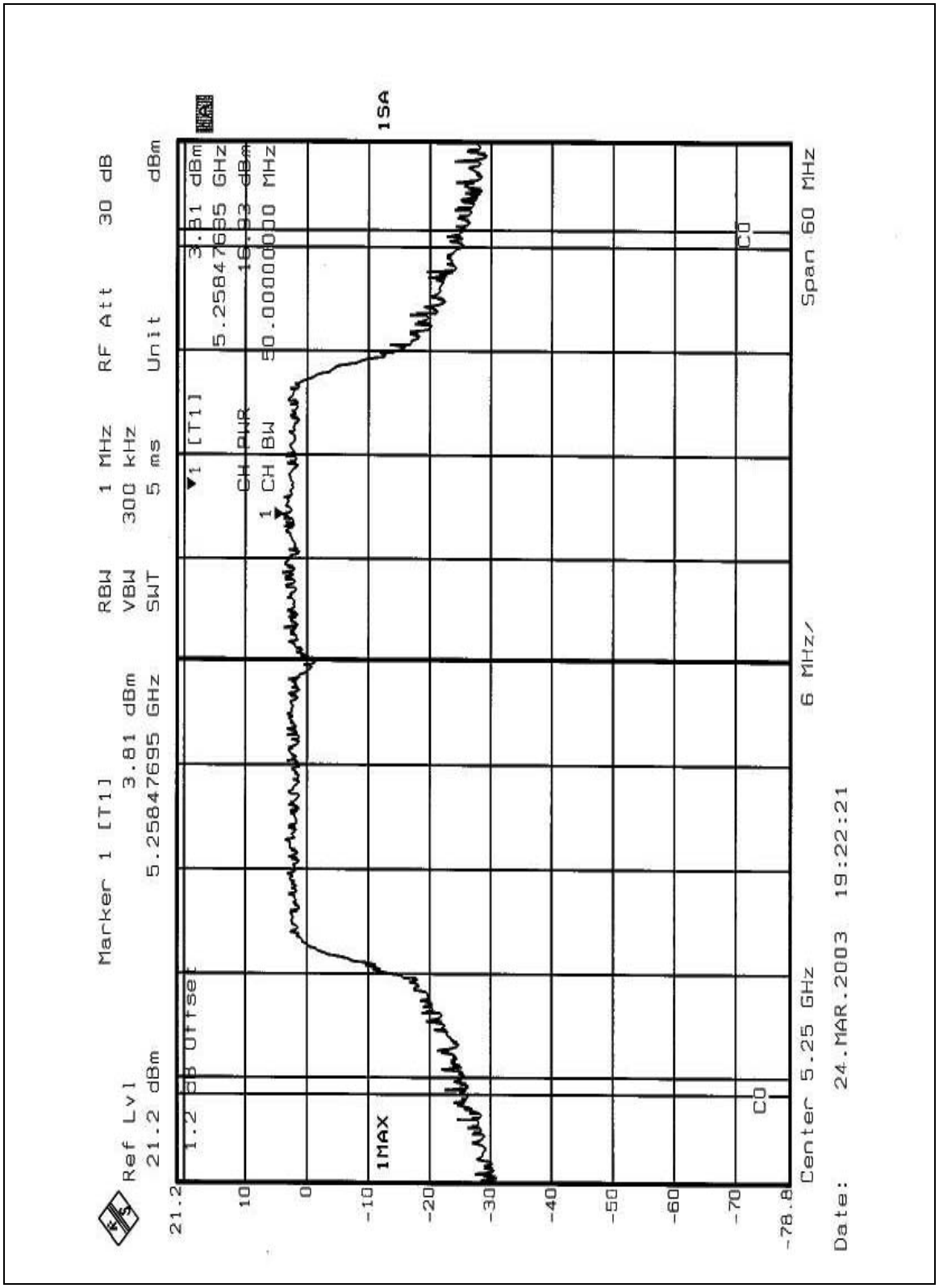
CHANNEL	CHANNEL FREQUENCY (MHz)	PEAK POWER OUTPUT (dBm)	PEAK POWER LIMIT (dBm)	26dBc Occupied Bandwidth (MHz)	PASS/FAIL
1	5210	16.94	17.00	48.34	PASS
2	5250	16.93	17.00	46.77	PASS
3	5290	21.76	24.00	49.54	PASS
4	5760	19.14	30.00	54.83	PASS
5	5800	16.03	30.00	51.82	PASS

NOTE: The 26dBc Occupied Bandwidth plot, please refer to the following pages.

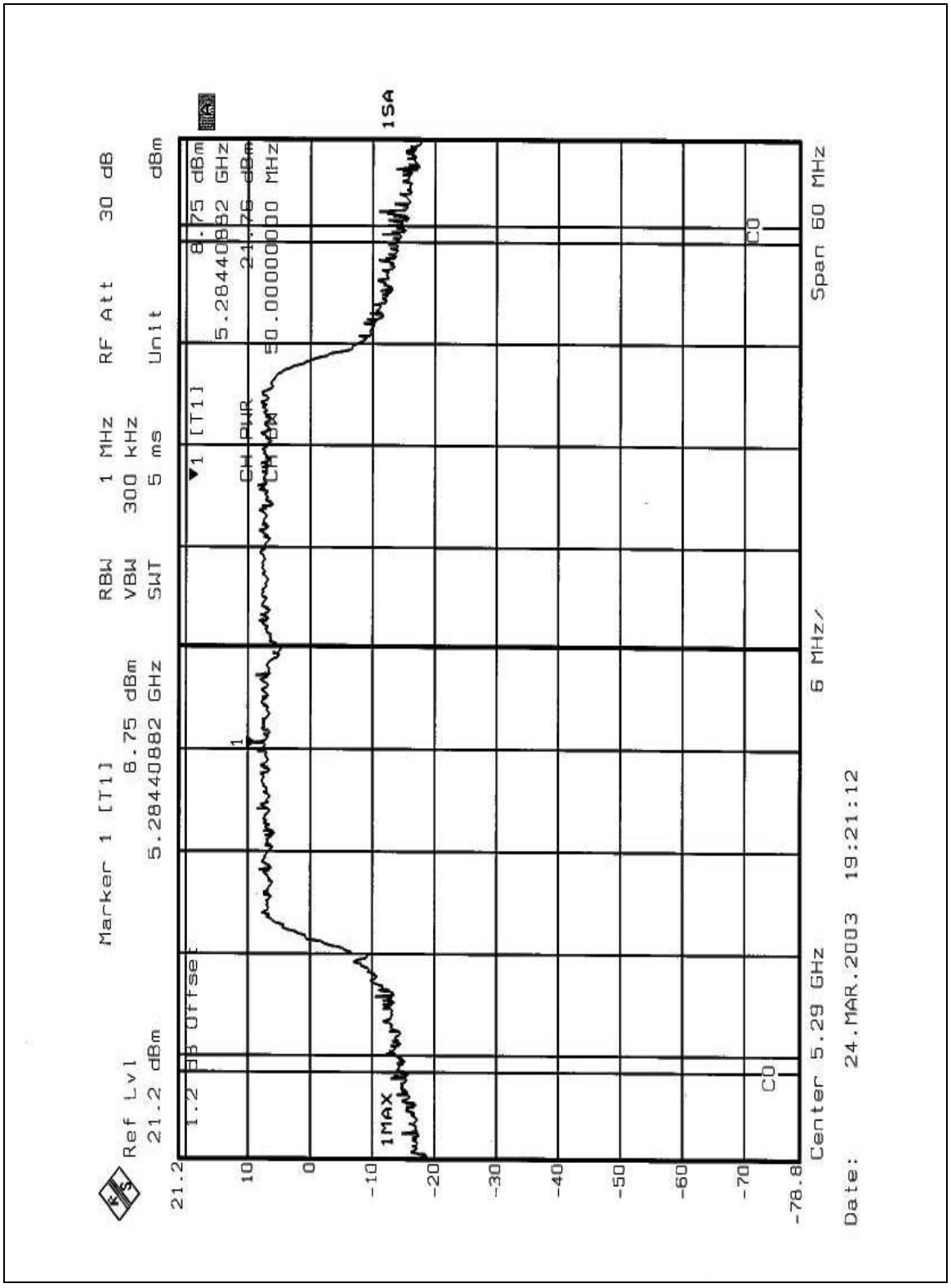
CHANNEL 1


Ref Lvl
21.2 dBm
1.2 dB Offset
Marker 1 [T1]
3.70 dBm
5.22172345 GHz
RBW 1 MHz
VBW 300 kHz
SWT 5 ms
RF Att 30 dB
Unit dBm
1 [T1]
3.70 dBm
5.22172345 GHz
CH PWR 16.34 dBm
CH1BW 50.000000000 MHz
1SA
1MAX
CO
Center 5.21 GHz
6 MHz/
Span 60 MHz
Date: 24.MAR.2003 19:23:10

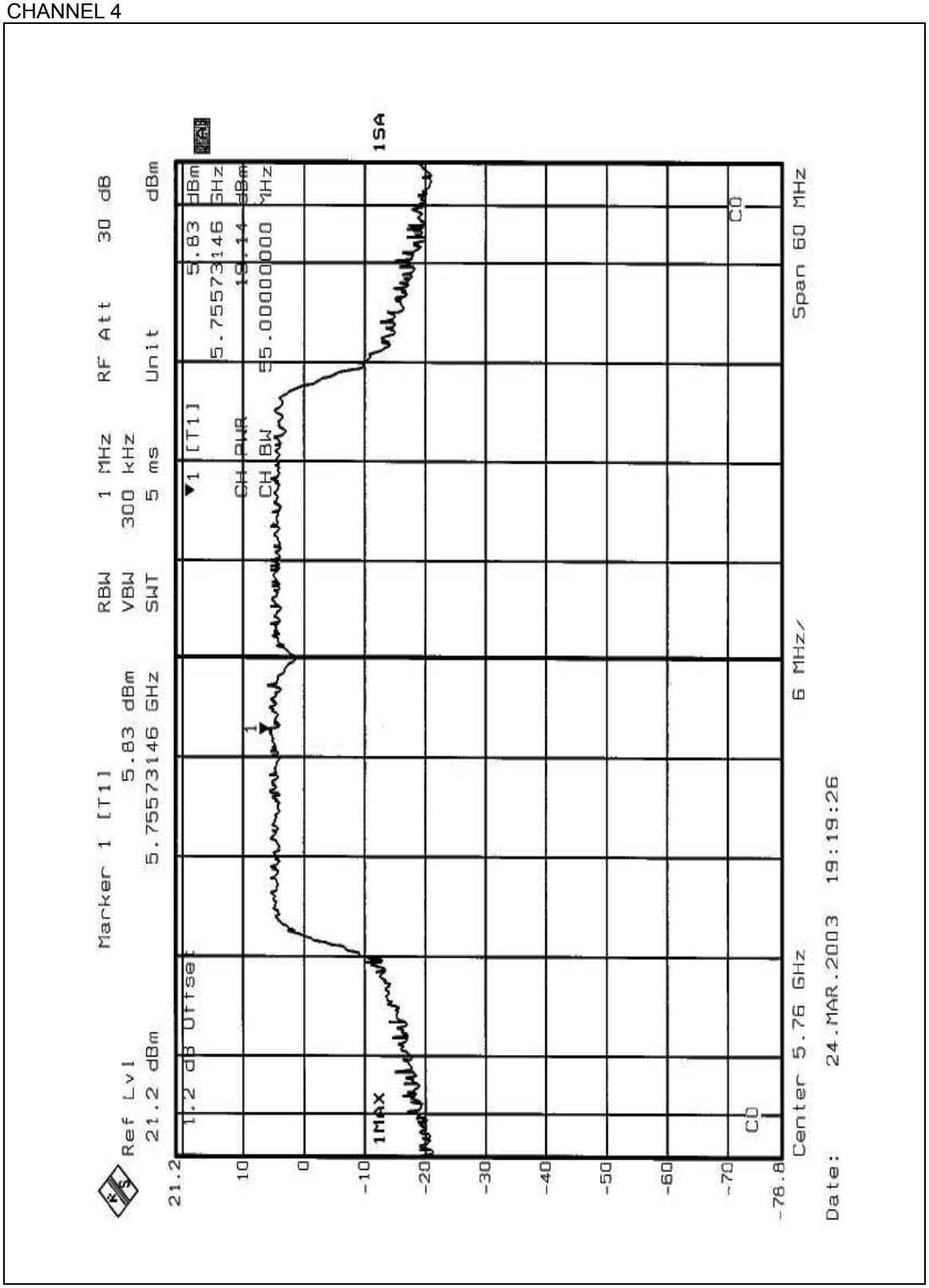
CHANNEL 2


Ref Lvl
21.2 dBm
1.2 dB Offset
Marker 1 [T1]
3.81 dBm
5.25847695 GHz
RBW 1 MHz
VBW 300 kHz
SWT 5 ms
RF Att 30 dB
Unit dBm
1SA
1MAX
CO
Center 5.25 GHz
6 MHz/
Span 60 MHz
Date: 24.MAR.2003 19:22:21

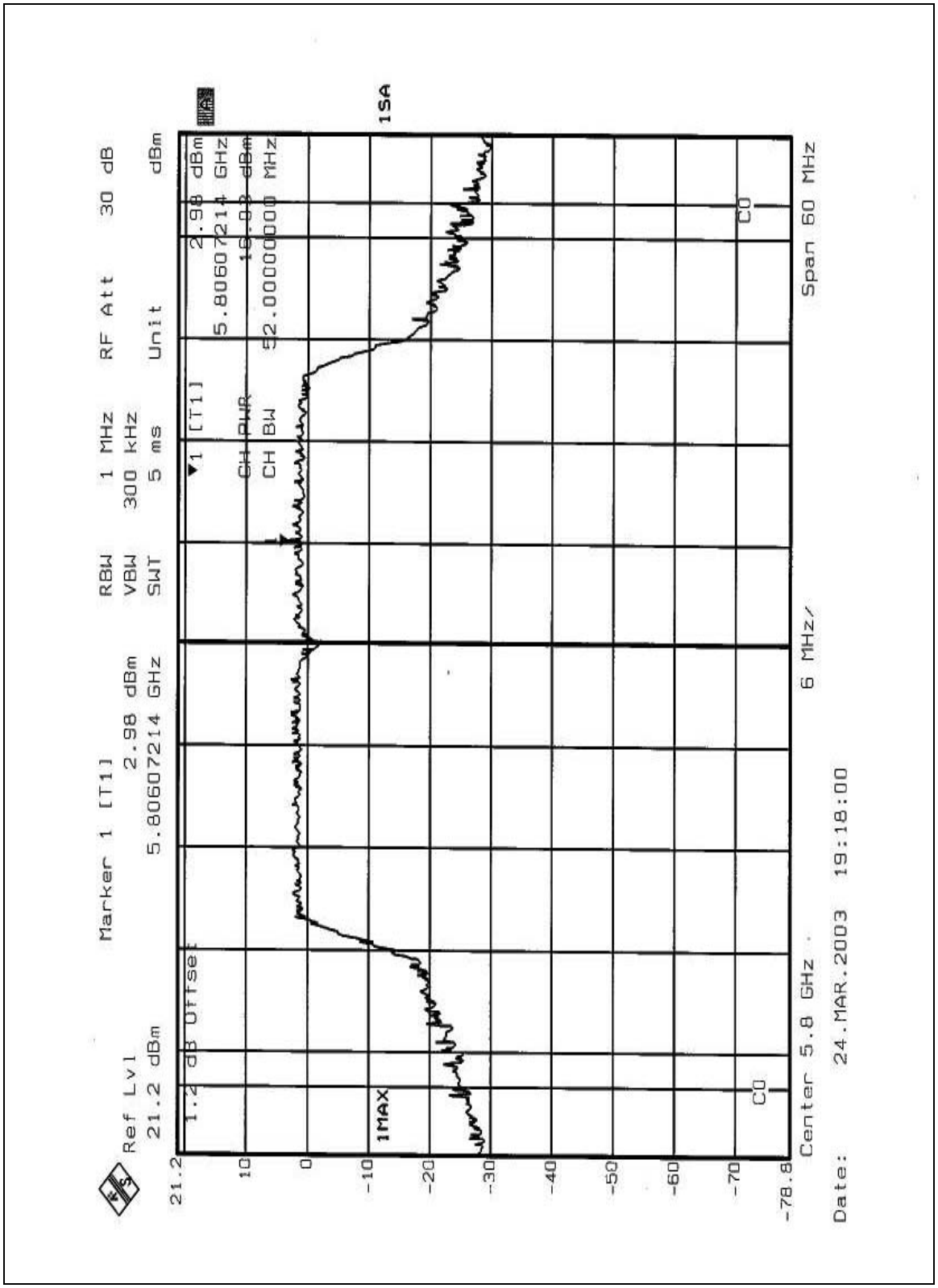
CHANNEL 3


Ref Lvl
21.2 dBm
1.2 dB Offset
Marker 1 [T1]
8.75 dBm
5.28440882 GHz
RBW 1 MHz
VBW 300 kHz
SWT 5 ms
RF Att 30 dB
Unit dBm
1 [T1]
8.75 dBm
5.28440882 GHz
CH PWR 21.76 dBm
CH BW 50.000000000 MHz
1SA
1MAX
CO
Center 5.29 GHz
6 MHz/
Span 60 MHz
Date: 24.MAR.2003 19:21:12

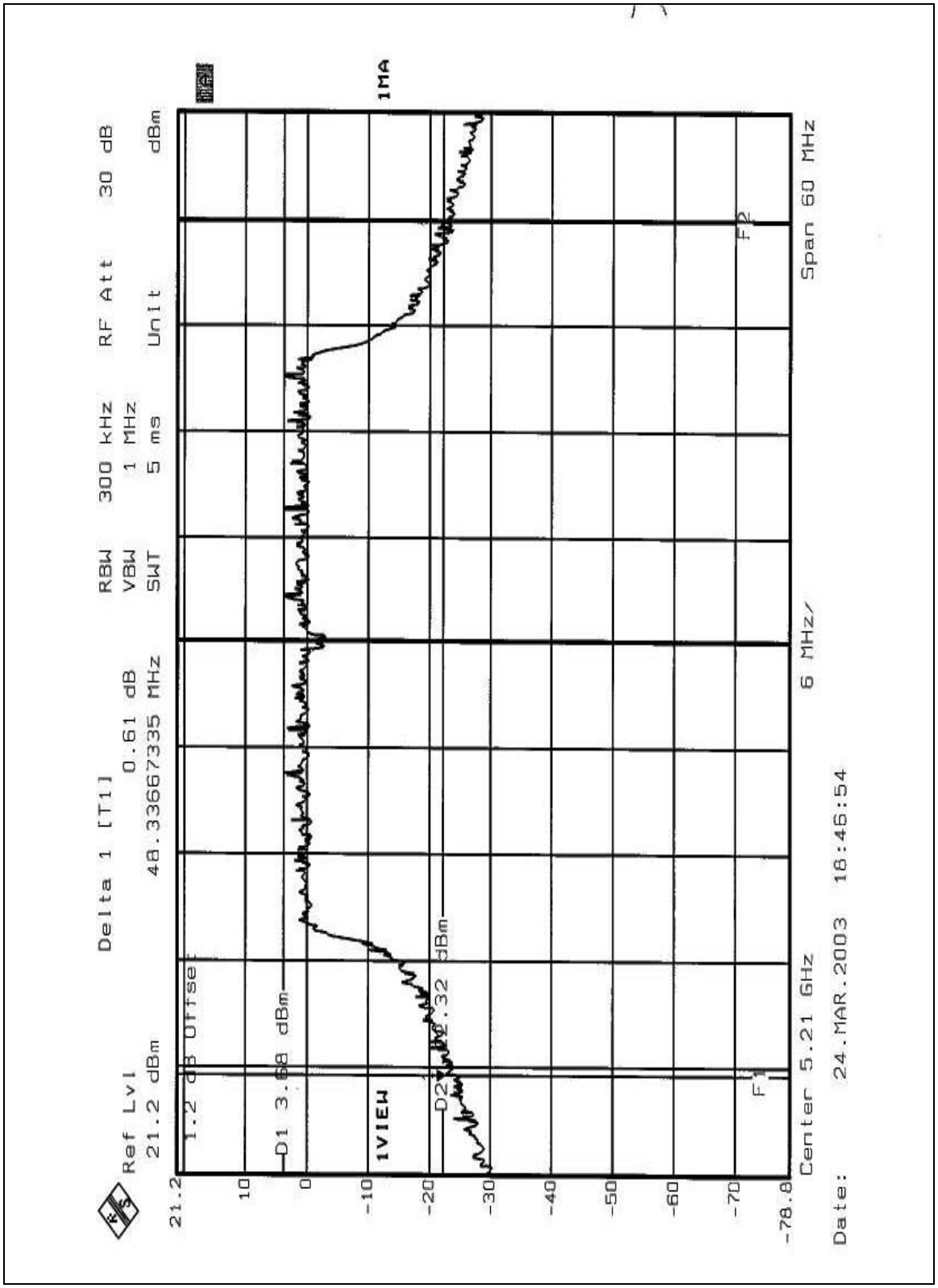
CHANNEL 4


Marker 1 [T1]
5.83 dBm
5.75573146 GHz
Ref Lvl
21.2 dBm
1.2 dB Offset
RBW 1 MHz
VBW 300 kHz
SWT 5 ms
RF Att 30 dB
Unit dBm
1 [T1]
5.83 dBm
5.75573146 GHz
CH PWR 18.14 dBm
CH BW 55.000000000 MHz
1SA
1MAX
CO
Center 5.76 GHz
6 MHz/
Span 60 MHz
Date: 24.MAR.2003 19:19:26

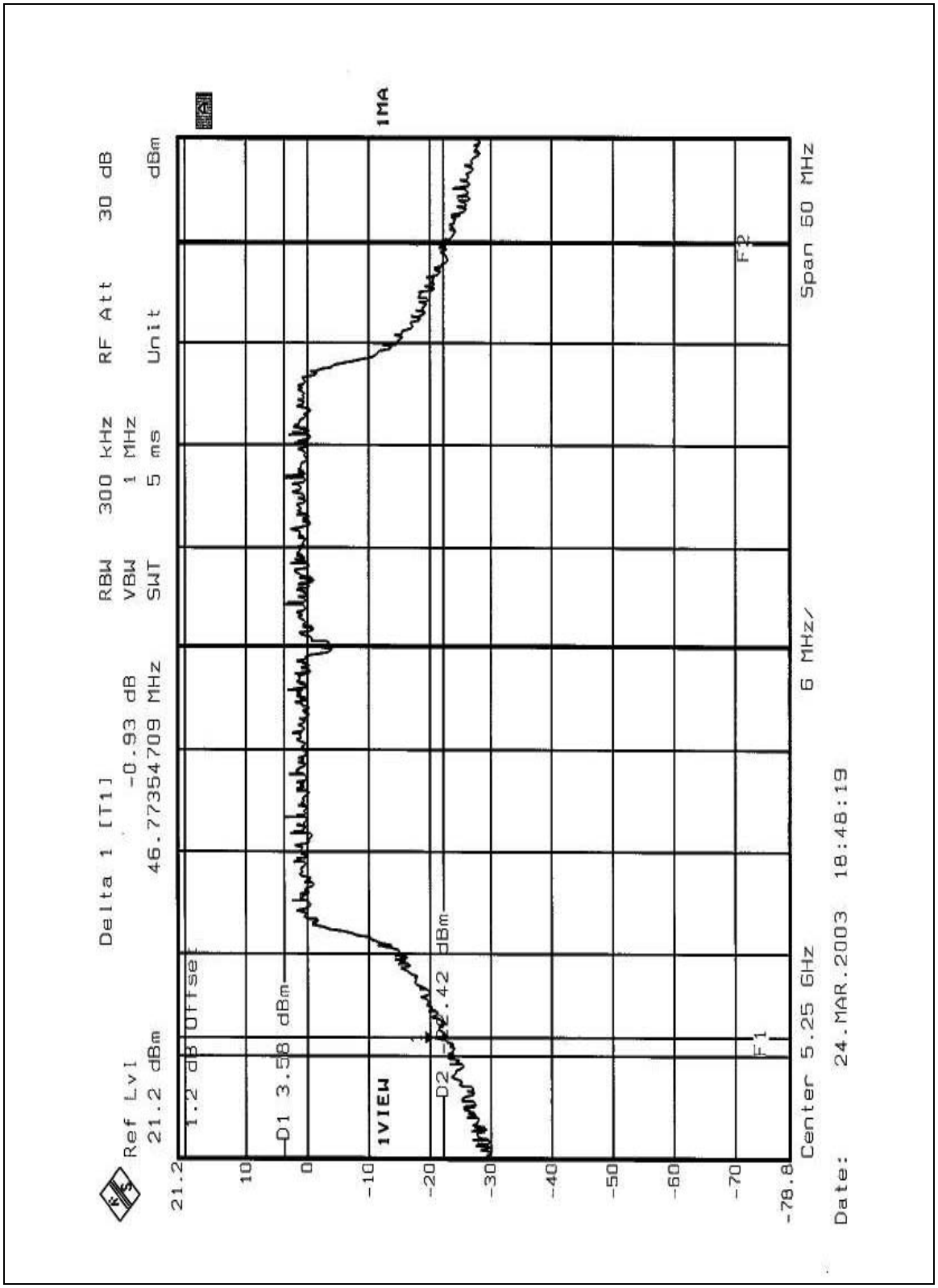
CHANNEL 5


Ref Lvl
21.2 dBm
1.2 dB Offset
Marker 1 [T1]
2.98 dBm
5.80607214 GHz
RBW 1 MHz
VBW 300 kHz
SWT 5 ms
RF Att 30 dB
Unit dBm
1SA
1MAX
CO
Center 5.8 GHz
6 MHz/
Span 60 MHz
Date: 24.MAR.2003 19:18:00

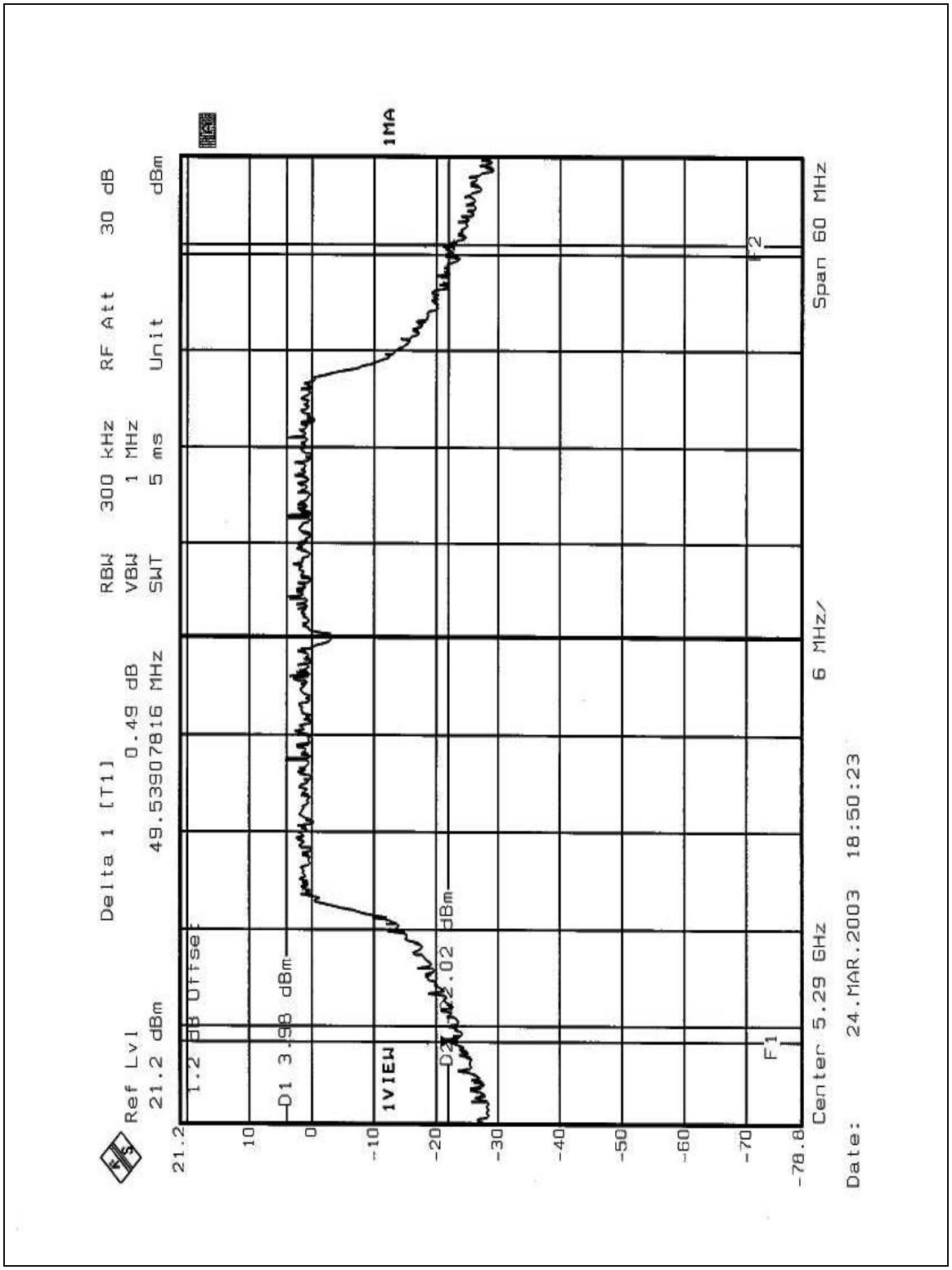
CHANNEL 1


Ref Lvl
21.2 dBm
1.2 dB Offset
Delta 1 [T1]
0.61 dB
48.33667335 MHz
RBW 300 kHz
VBW 1 MHz
SWT 5 ms
RF Att 30 dB
Unit dBm
1MA
1VIEW
D1 3.68 dBm
D2 -2.32 dBm
F1
F2
21.2
10
0
-10
-20
-30
-40
-50
-60
-70
-78.8
Center 5.21 GHz
6 MHz/
Span 60 MHz
Date: 24.MAR.2003 18:46:54

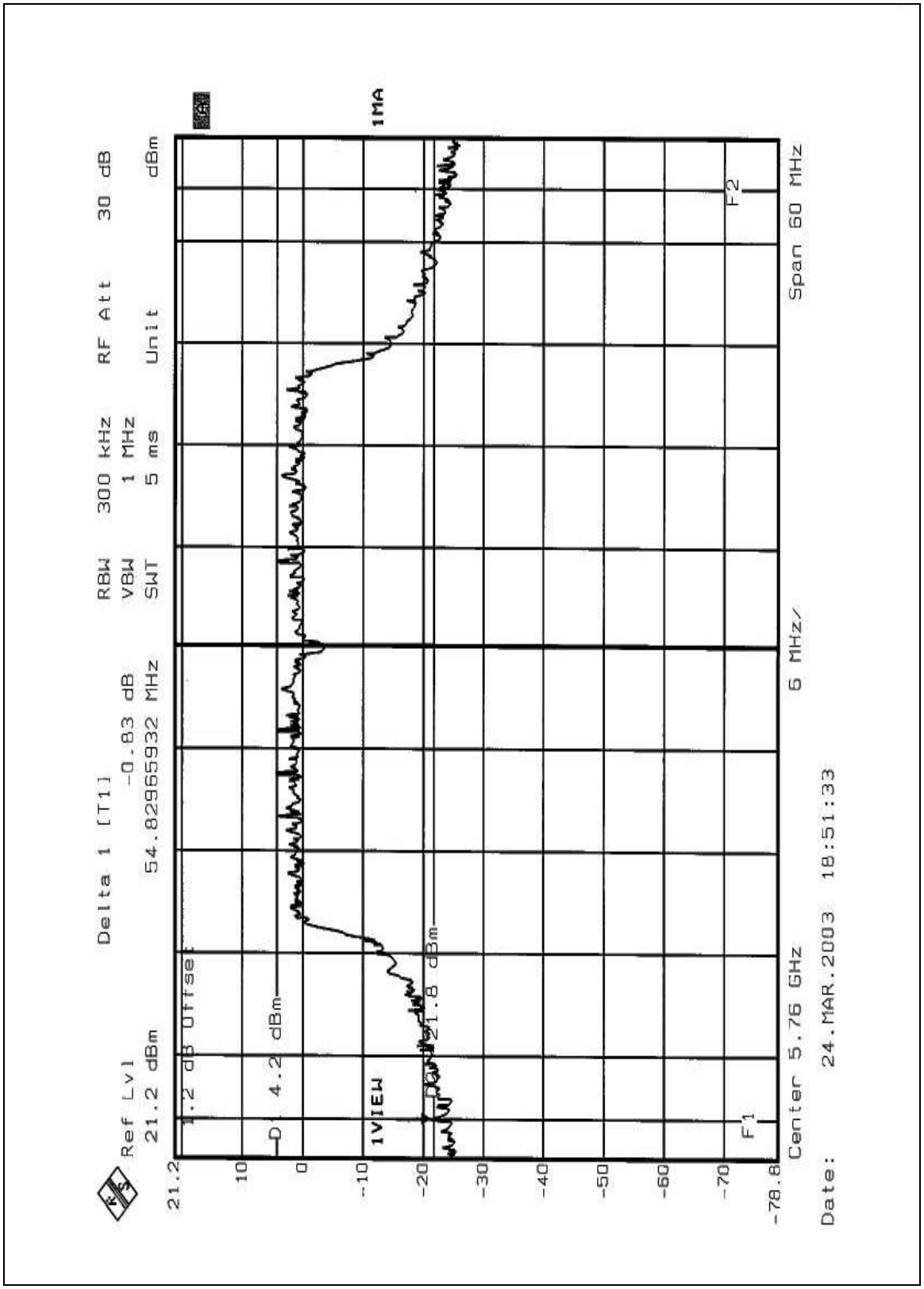
CHANNEL 2


Delta 1 [T1]
-0.93 dB
46.77354709 MHz
RBW 300 kHz
VBW 1 MHz
SWT 5 ms
RF Att 30 dB
Unit dBm
Ref Lvl
21.2 dBm
1.2 dB Offset
D1 3.58 dBm
D2 -2.42 dBm
1VIEW
1MA
F1
F2
Center 5.25 GHz
6 MHz/
Span 60 MHz
Date: 24.MAR.2003 18:48:19

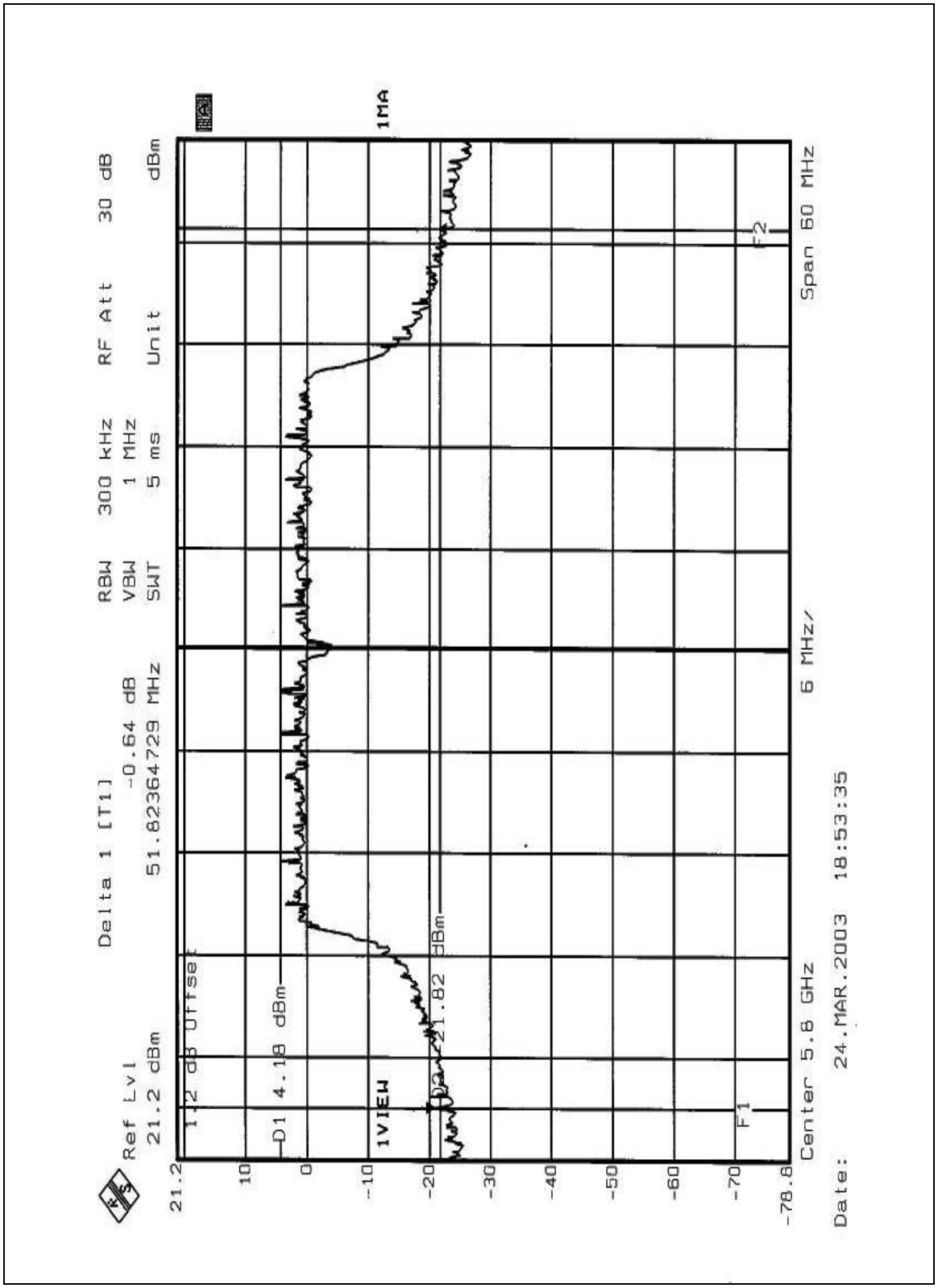
CHANNEL 3


Ref Lvl
21.2 dBm
1.2 dB Offset
Delta 1 [T1]
0.49 dB
49.53907816 MHz
RBW 300 kHz
VBW 1 MHz
SWT 5 ms
RF Att 30 dB
Unit dBm
1MA
1VIEW
D1 3.98 dBm
D2 2.02 dBm
F1
F2
21.2
10
0
-10
-20
-30
-40
-50
-60
-70
-78.8
Center 5.29 GHz
6 MHz/
Span 60 MHz
Date: 24.MAR.2003 18:50:23

CHANNEL 4


Ref Lvl
21.2 dBm
1.2 dB Offset
Delta 1 [T1]
-0.83 dB
54.82965932 MHz
RBW 300 kHz
VBW 1 MHz
SWT 5 ms
RF Att 30 dB
Unit dBm
1MA
1VIEW
D 4.2 dBm
21.8 dBm
F1
F2
Center 5.76 GHz
6 MHz/
Span 60 MHz
Date: 24.MAR.2003 18:51:33

CHANNEL 5


Delta 1 [T1]
-0.64 dB
51.82364729 MHz
RBW 300 kHz
VBW 1 MHz
SWT 5 ms
RF Att 30 dB
Unit dBm
Ref Lvl
21.2 dBm
1.2 dB Offset
D1 4.18 dBm
D2 -21.82 dBm
1VIEW
1MA
F1
F2
Center 5.8 GHz
6 MHz/
Span 60 MHz
Date: 24.MAR.2003 18:53:35