

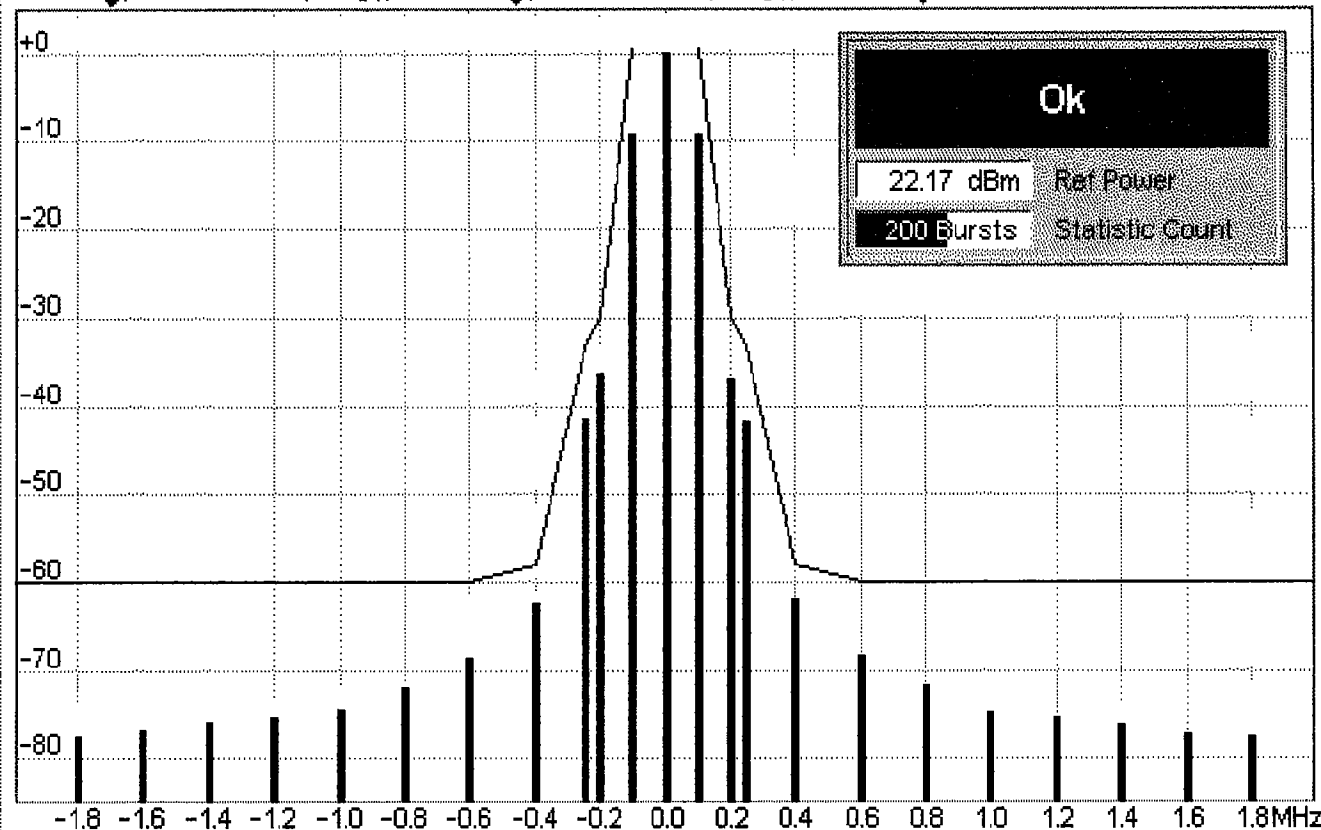
Group
Config

GSM 1900 Spectrum



Connect.
Control

dBc Max. Level: Auto Low Noise PCL: 0 / 30.0 dBm Chan./Freq.: 512 / 1850.2 MHz
B: --- / Off D: --- / Off E: --- / Off



Modulation
GMSK

Appli-
cation

Analyzer
Level

MS Signal

BS Signal

Marker

Menus

Overview

Power

Modulation

Spectrum

Receiver
Quality

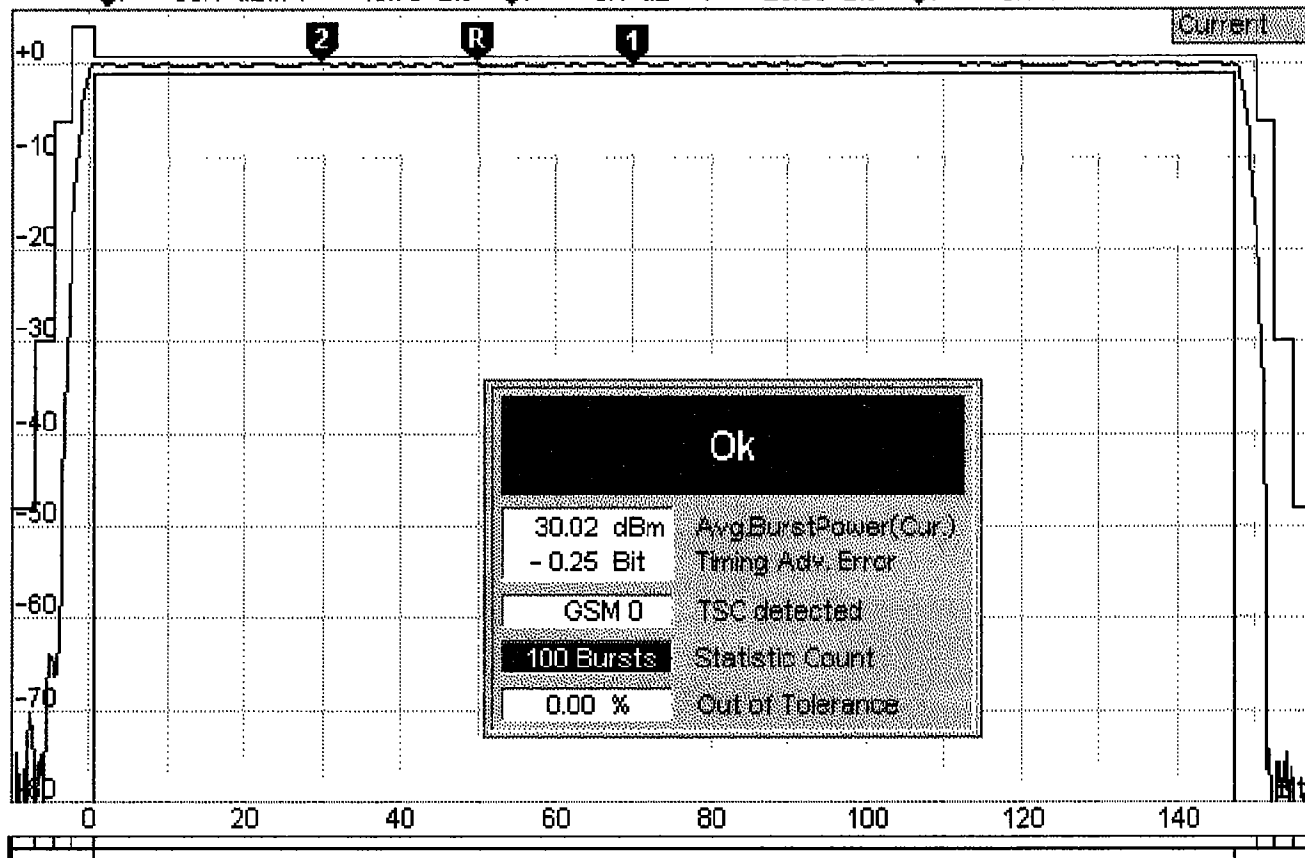
Group
Config

GSM 1900 Power



Connect.
Control

dB Max. Level: Auto Low Noise PCL: 0 / 30.0 dBm Chan./Freq.: 512 / 1850.2 MHz
1: 30.1 dBm / 49.75 Bit 0: -0.1 dB / +20.00 Bit 2: 0.0 dB / -20.00 Bit



P/t Norm.
GMSK

Appli-
cation

Analyzer
Level

MS Signal

BS Signal

Marker
Display

Menus

Overview

Power

Modulation

Spectrum

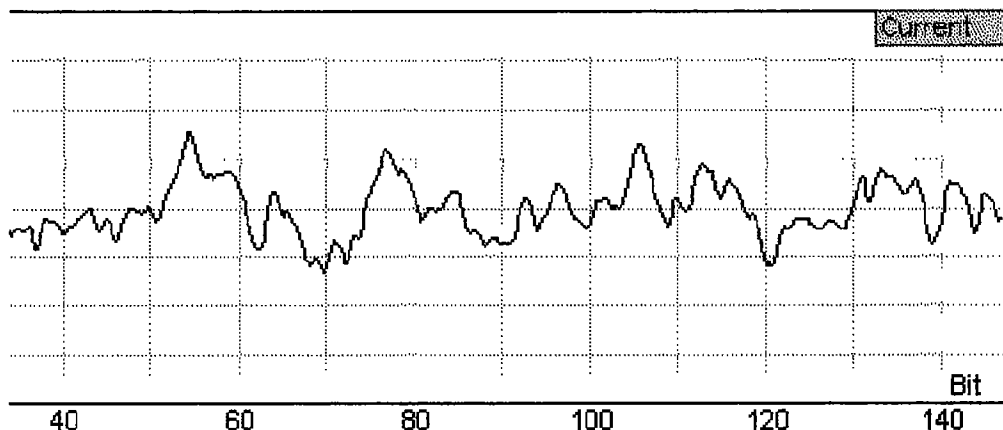
Receiver
Quality

M1900 Modulation



Connect.
Control

Low Noise PCL: 0 / 30.0 dBm Chan./Freq.: 512 / 1850.2 MHz



C detected

Current	Average	Max / Min
7.7 °	7.6 °	- 10.6 °
2.6 °	2.6 °	3.4 °
- 42.4 dB	- 41.1 dB	- 34.5 dB
- 47.3 dB	- 49.1 dB	- 40.0 dB
- 3 Hz	- 3 Hz	21 Hz

- 0.3 Bit
Timing Advance Error

29.9 dBm
Avg. Burst Power (Cur)

100 Bursts
Statistic Count

0.00 %
Bursts out of Tolerance

Modulation

Spectrum

Receiver
Quality

Ext. Phase
Err. GMSK

Analyzer
Level

MS Signal

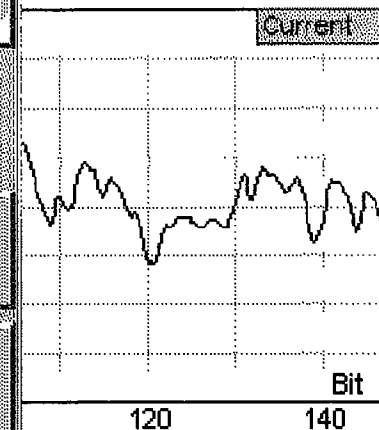
BS Signal

Menus



Connect.
Control

Chan./Freq.: 512 / 1850.2 MHz



- 0.3 Bit
Timing Advance Error

29.9 dBm
Avg. Burst Power (Cur)

100 Bursts
Statistic Count

0.00 %
Bursts out of Tolerance

Receiver
Quality

Ext. Phase
Err. GMSK

Analyzer
Level

MS Signal

BS Signal

Menus

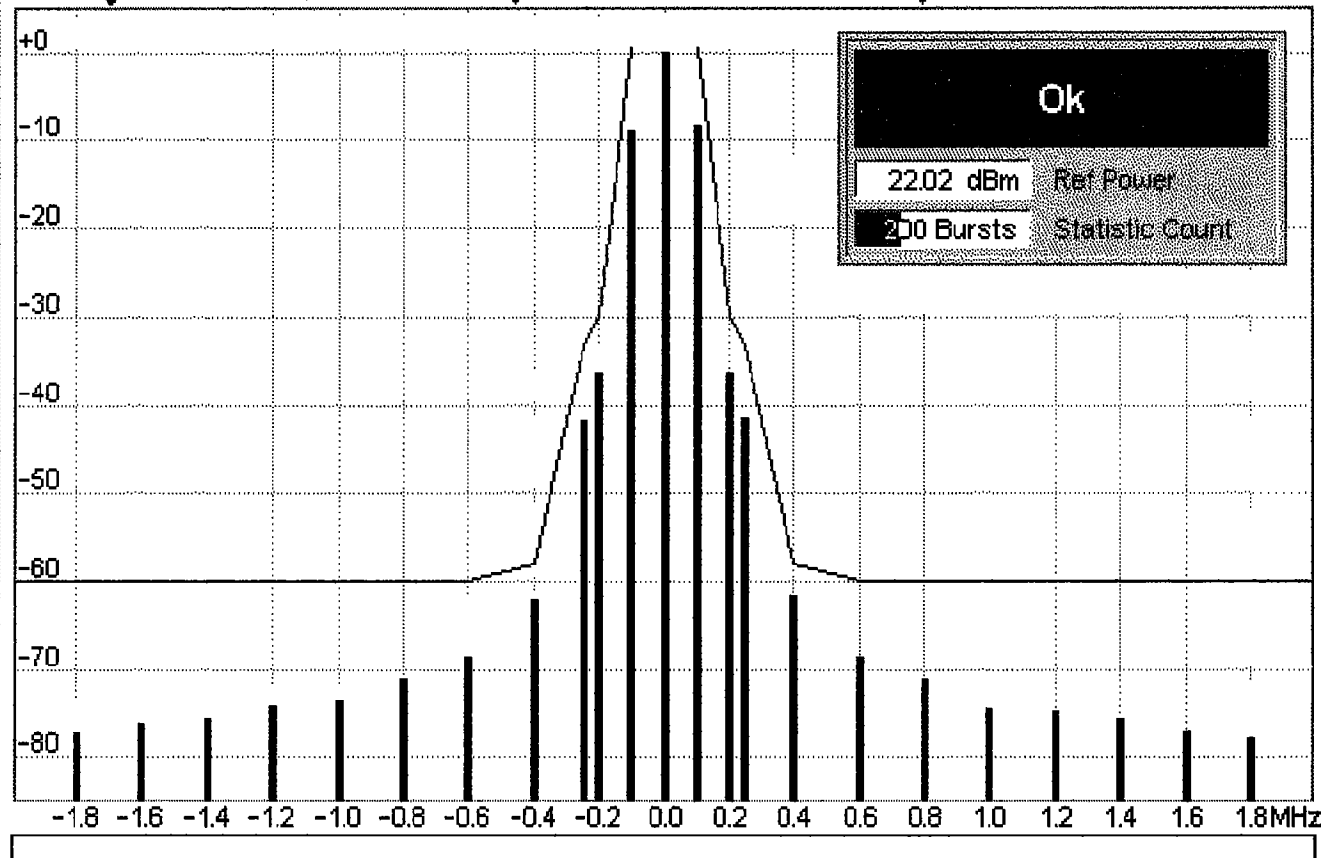
Group
Config

GSM 1900 Spectrum



Connect.
Control

dBc Max. Level: Auto Low Noise PCL: 0 / 30.0 dBm Chan./Freq.: 661 / 1680.0 MHz
↓: --- / Off ↓: --- / Off ↓: --- / Off



Modulation
GMSK

Appli-
cation

Analyzer
Level

MS Signal

BS Signal

Marker

Menus

Overview

Power

Modulation

Spectrum

Receiver
Quality

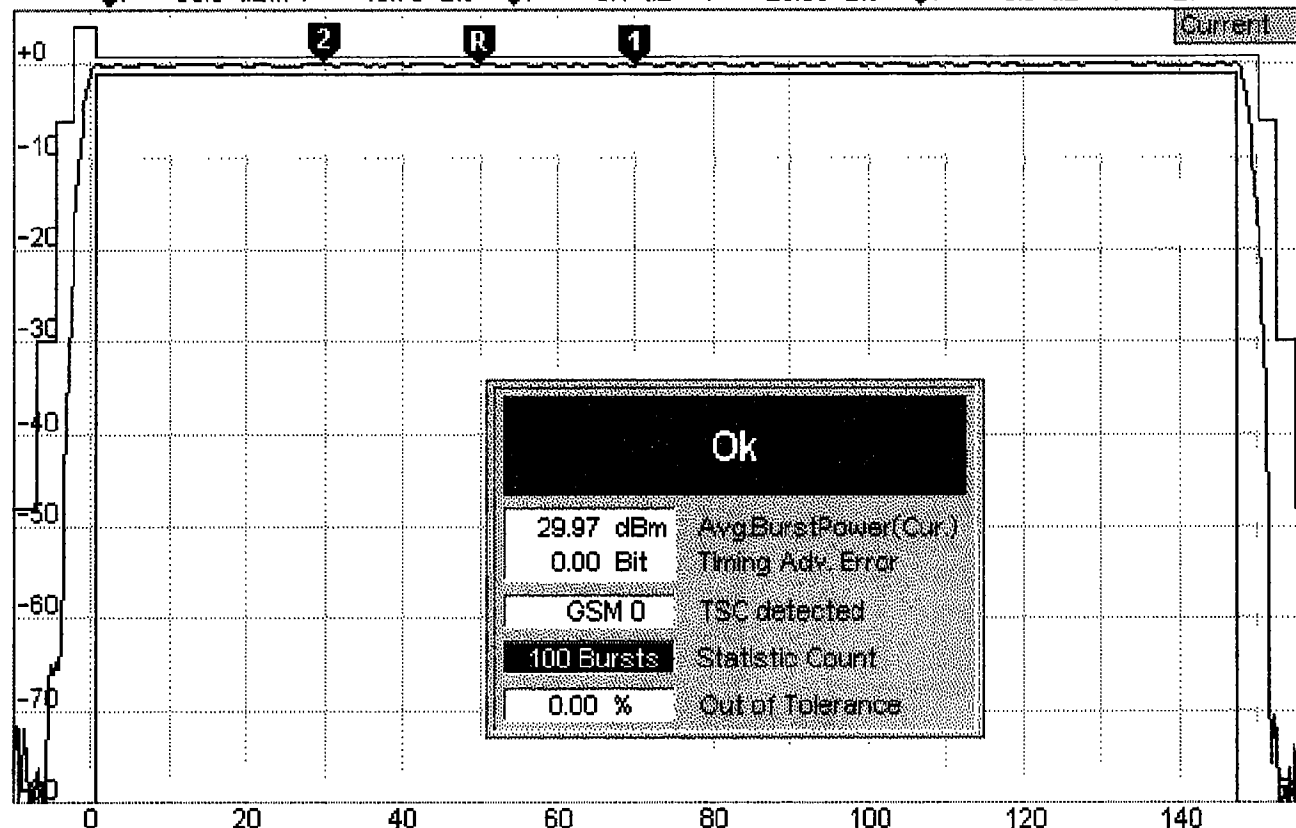
Group
Config

GSM 1900 Power



Connect.
Control

dB Max. Level: Auto Low Noise PCL: 0 / 30.0 dBm Chan./Freq.: 661 / 1860.0 MHz
1: 30.0 dBm / 49.75 Bit 2: -0.1 dB / +20.00 Bit 3: 0.0 dB / -20.00 Bit



P/t Norm.
GMSK

Appli-
cation

Analyzer
Level

MS Signal

BS Signal

Marker
Display

Menus

Overview

Power

Modulation

Spectrum

Receiver
Quality

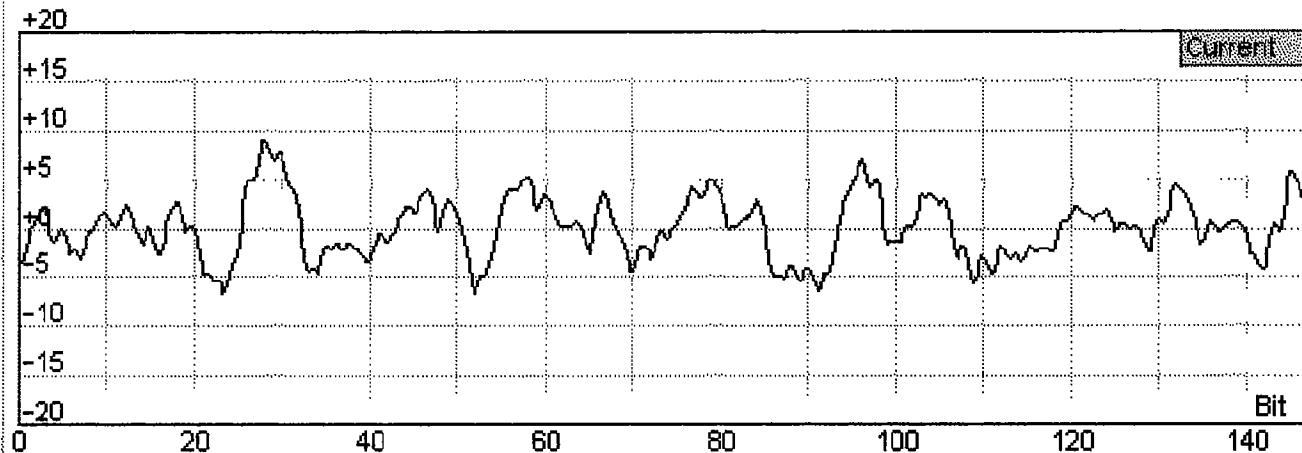
Group
Config

GSM 1900 Modulation



Connect.
Control

Max. Level: Auto Low Noise PCL: 0 / 30.0 dBm Chan./Freq.: 661 / 1880.0 MHz



Ext.Phase
Err.GMSK

Analyzer
Level

MS Signal

BS Signal

GSM 0 TSC detected

0.0 Bit

	Current	Average	Max / Min	Timing Advance Error
Phase Error	9.1 °	8.6 °	- 12.8 °	30.0 dBm
Peak				Avg Burst Power (Cur)
RMS	3.0 °	3.1 °	4.1 °	100 Bursts
Origin Offset	- 40.6 dB	- 39.7 dB	- 32.7 dB	Statistic Count
I/Q Imbalance	- 46.9 dB	- 48.1 dB	- 38.6 dB	0.00 %
Frequency Error	- 3 Hz	- 2 Hz	- 23 Hz	Bursts out of Tolerance

Overview

Power

Modulation

Spectrum

Receiver
Quality

Menus

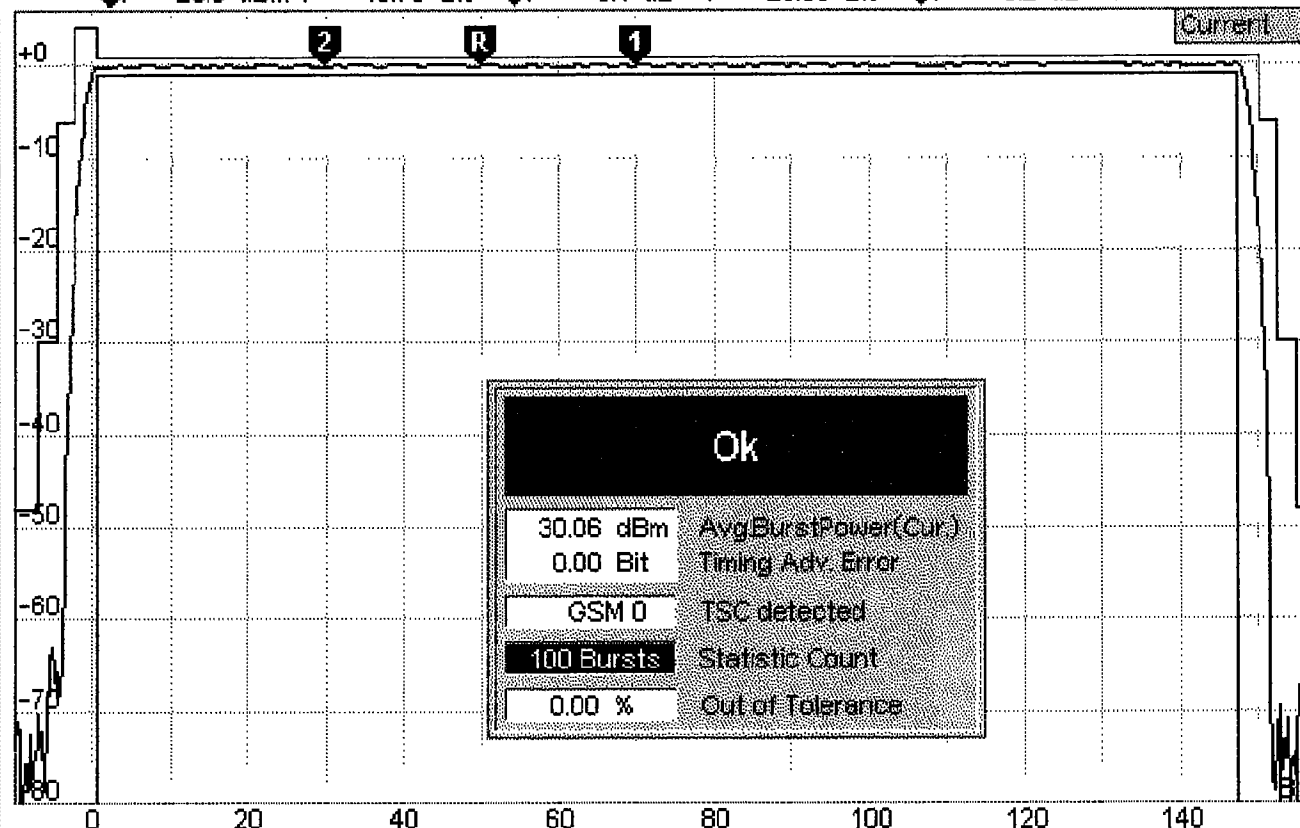
Group
Config

GSM 1900 Power



Connect.
Control

dB Max. Level: Auto Low Noise PCL: 0 / 30.0 dBm Chan./Freq.: 810 / 1909.8 MHz
1: 29.9 dBm / 49.75 Bit 0: 0.1 dB / + 20.00 Bit 2: 0.2 dB / - 20.00 Bit



P/t Norm.
GMSK

Appli-
cation

Analyzer
Level

MS Signal

BS Signal

Marker
Display

Menus

Overview

Power

Modulation

Spectrum

Receiver
Quality

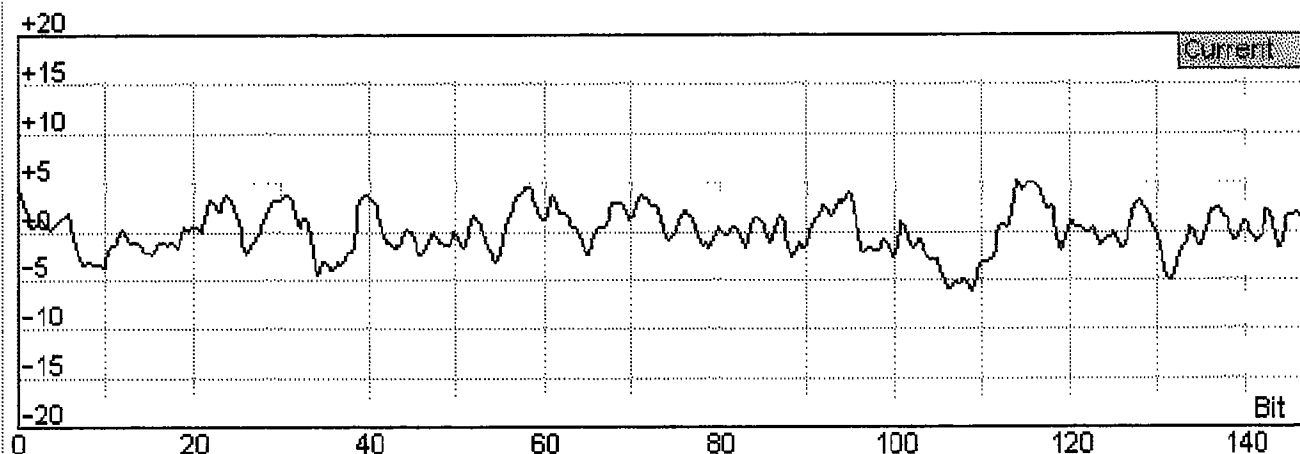
Group
Config

GSM 1900 Modulation



Connect.
Control

Max. Level: Auto Low Noise PCL: 0 / 30.0 dBm Chan./Freq.: 810 / 1909.8 MHz



GSM 0 TSC detected

Phase Error

Peak
RMS

Current

Average

Max / Min

- 6.1 °

7.0 °

10.5 °

2.3 °

2.4 °

3.1 °

Origin Offset

- 43.2 dB

- 45.1 dB

- 37.2 dB

I/Q Imbalance

- 49.0 dB

- 51.2 dB

- 40.6 dB

Frequency Error

- 12 Hz

- 13 Hz

- 24 Hz

0.0 Bit

Timing Advance Error

30.0 dBm

Avg. Burst Power (Cur.)

100 Bursts

Statistic Count

0.00 %

Bursts out of Tolerance

Ext. Phase
Err. GMSK

Analyzer
Level

MS Signal

BS Signal

Overview

Power

Modulation

Spectrum

Receiver
Quality

Menus

Agilent

FCC ID:A98-MP6J1E1-1F BAND EDGE C-512

Ref 30 dBm

Atten 30 dB

Peak

Log

10

dB/

Offst

10.5

dB

DI

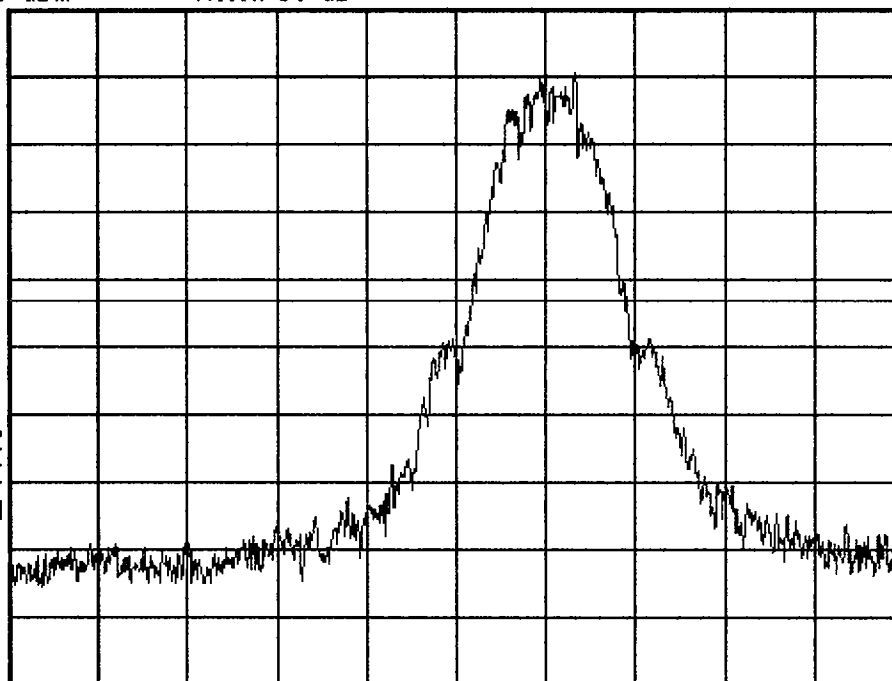
-13.0

dBm

V1 S2

S3 FC

AA



Center 1.85 GHz

Span 2 MHz

*Res BW 10 kHz

VBW 10 kHz

Sweep 25.77 ms (999 pts)

Freq/Channel

Center Freq

1.85000000 GHz

Start Freq

1.84900000 GHz

Stop Freq

1.85100000 GHz

CF Step

200.000000 kHz

Auto

Man

Freq Offset

0.00000000 Hz

Signal Track

On

Off

Scale Type

Log

Lin

Agilent

FCC ID:A98-MP6J1E1-1F BAND EDGE C-810

Ref 30 dBm

Atten 30 dB

Peak

Log

10

dB/

Offst

10.5

dB

DI

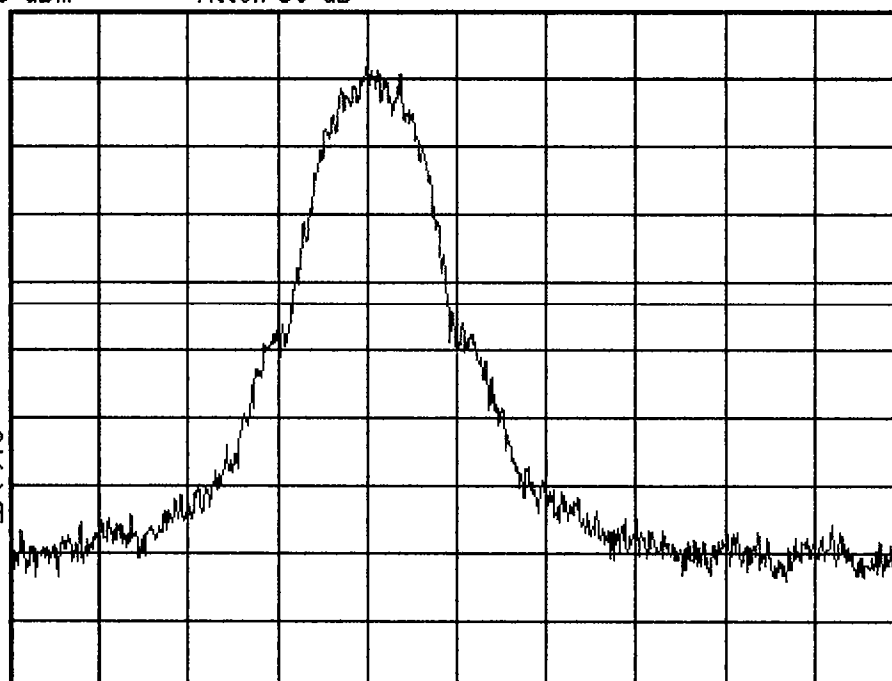
-13.0

dBm

V1 S2

S3 FC

AA



Center 1.91 GHz

Span 2 MHz

*Res BW 10 kHz

VBW 10 kHz

Sweep 25.77 ms (999 pts)

Freq/Channel

Center Freq

1.91000000 GHz

Start Freq

1.90900000 GHz

Stop Freq

1.91100000 GHz

CF Step

200.000000 kHz

Auto

Man

Freq Offset

0.00000000 Hz

Signal Track

On

Off

Scale Type

Log

Lin

NEC -A98-MP6J1E1-1F CON SPURS C661

MKR 1.897 GHz

hp

REF 30.0 dBm ATTN 30 dB + 30 dB

-33.10 dBm

10 dB/

POS PK

OFFSET

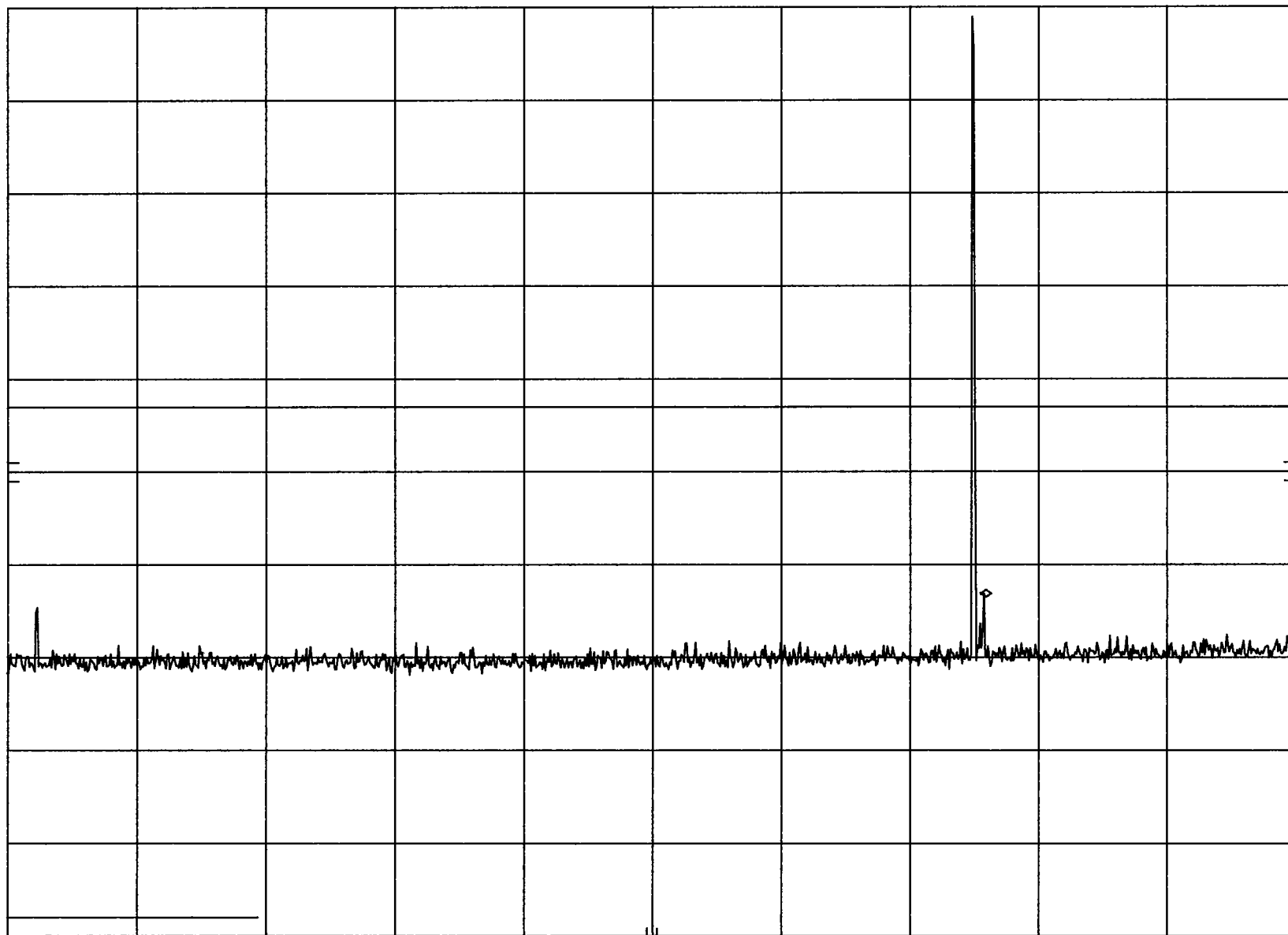
11.0

dB

DL

-13.0

dBm



START 10 MHz

STOP 2.50 GHz

RES BW 1 MHz (i)

VBW 1 MHz

SWP 62.3 msec

hp NEC -A98-MP6J1E1-1F CON SPURS C512
REF 30.0 dBm ATTN 30 dB + 30 dB

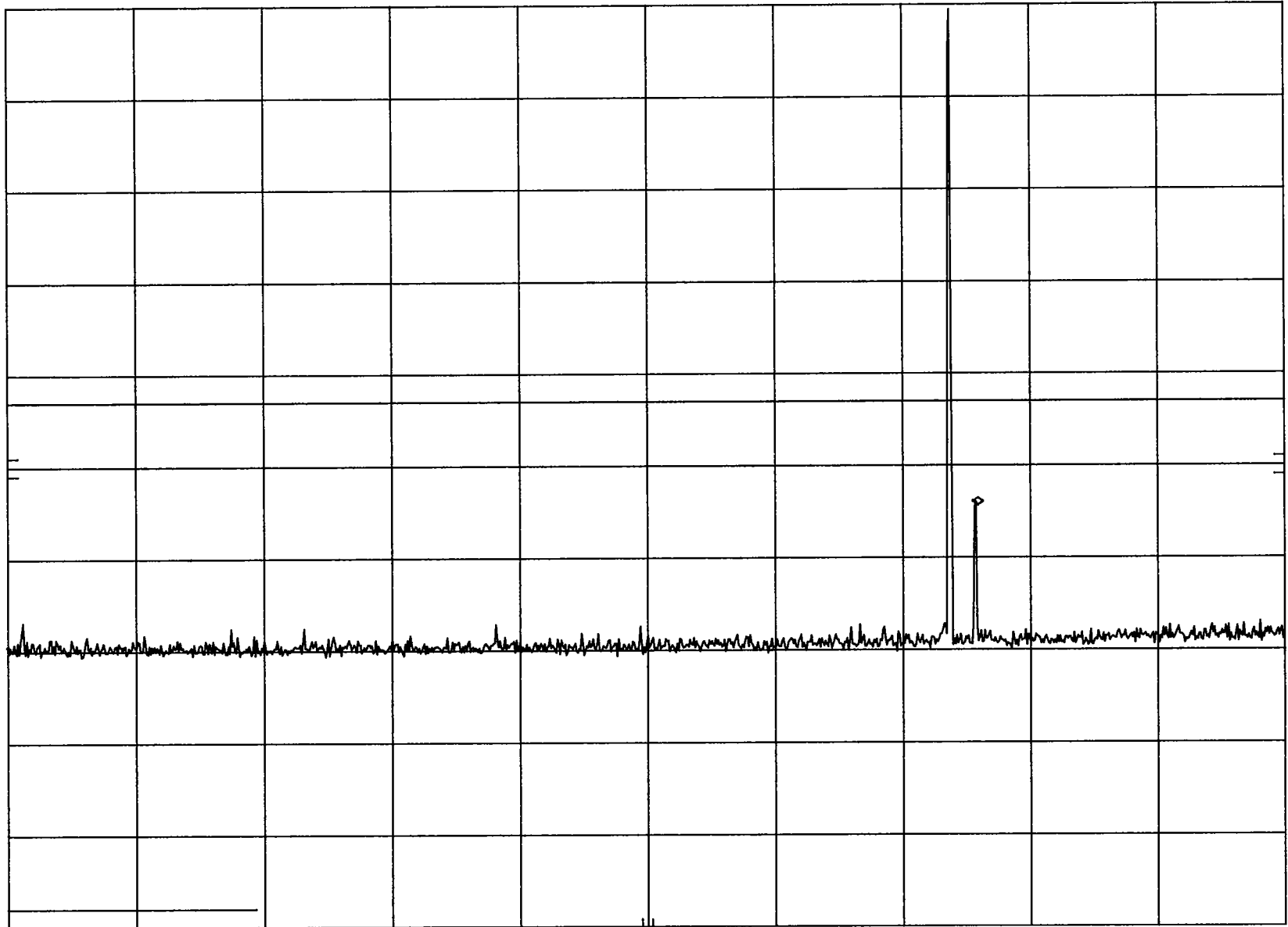
MKR 1.897 GHz
-23.90 dBm

10 dB/

POS PK

OFFSET
11.0
dB

DL
-13.0
dBm



START 10 MHz

RES BW 1 MHz (i)

VBW 1 MHz

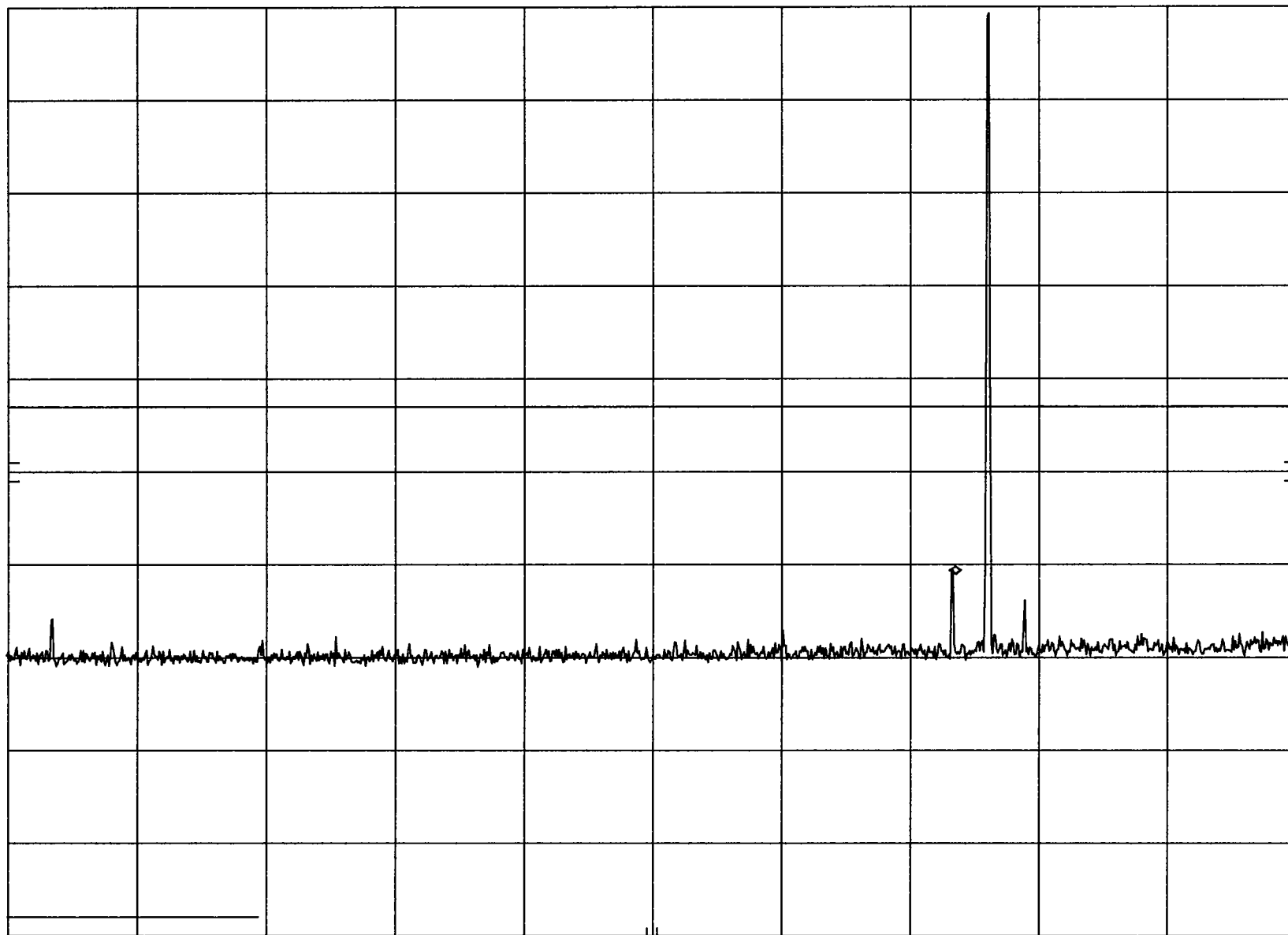
STOP 2.50 GHz

SWP 62.3 msec

NEC -A98-MP6J1E1-1F CON SPURS C 810
REF 30.0 dBm ATTN 30 dB + 30 dB

MKR 1.838 GHz
-30.60 dBm

hp
10 dB/
POS PK
OFFSET
11.0
dB
DL
-13.0
dBm



START 10 MHz STOP 2.50 GHz
RES BW 1 MHz (i) VBW 1 MHz SWP 62.3 msec

hp NEC -A98-MP6J1E1-1F CON SPURS C512
REF 30.0 dBm ATTEN 30 dB + 30 dB

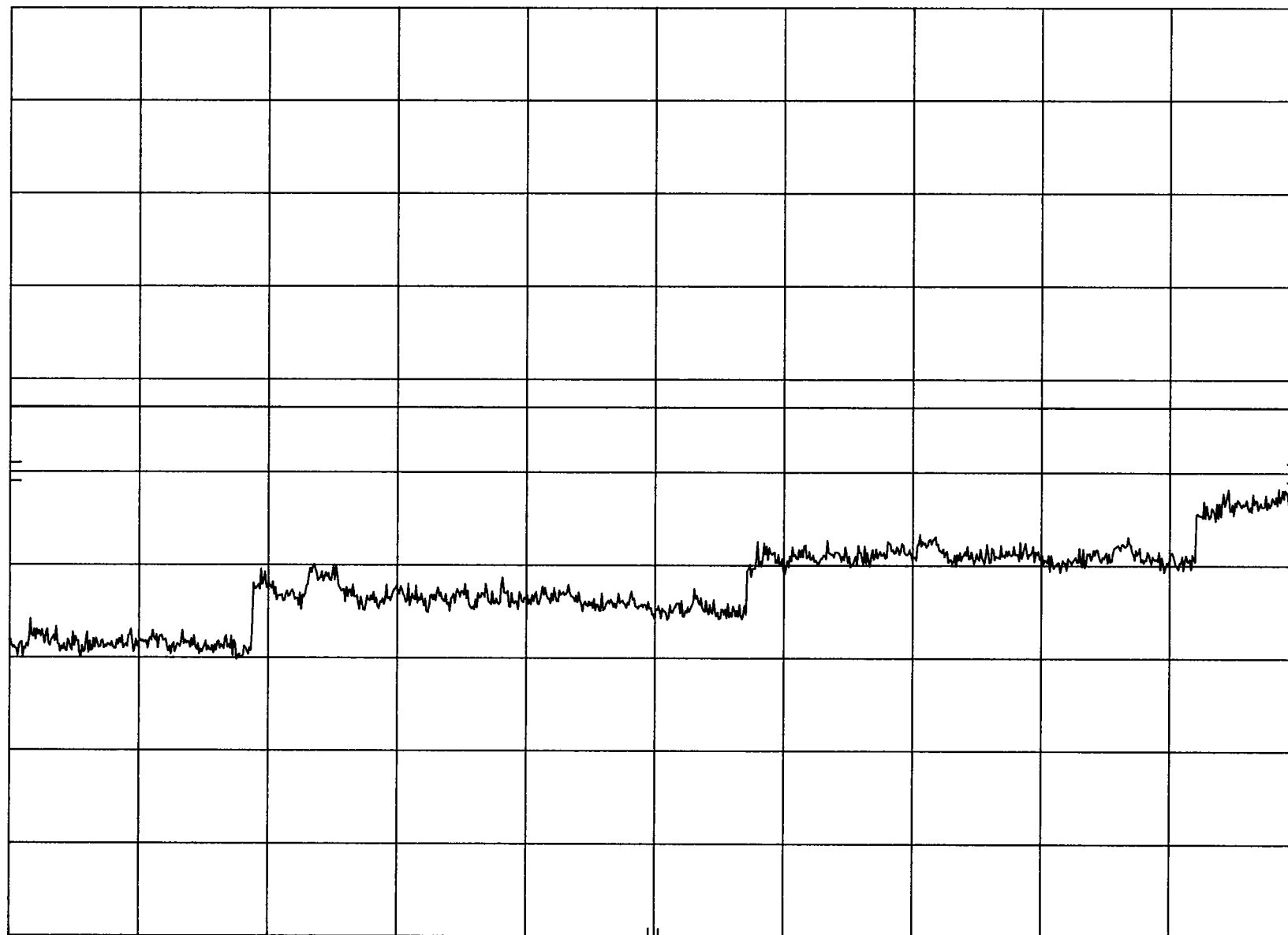
MKR 19.93 GHz
-21.00 dBm

10 dB/

POS PK

OFFSET
11.0
dB

DL
-13.0
dBm



START 2.5 GHz

RES BW 1 MHz (i)

VBW 1 MHz

STOP 20.0 GHz

SWP 438 msec

NEC -A98-MP6J1E1-1F CON SPURS

REF 30.0 dBm ATTEN 30 dB + 30 dB

hp

10 dB/

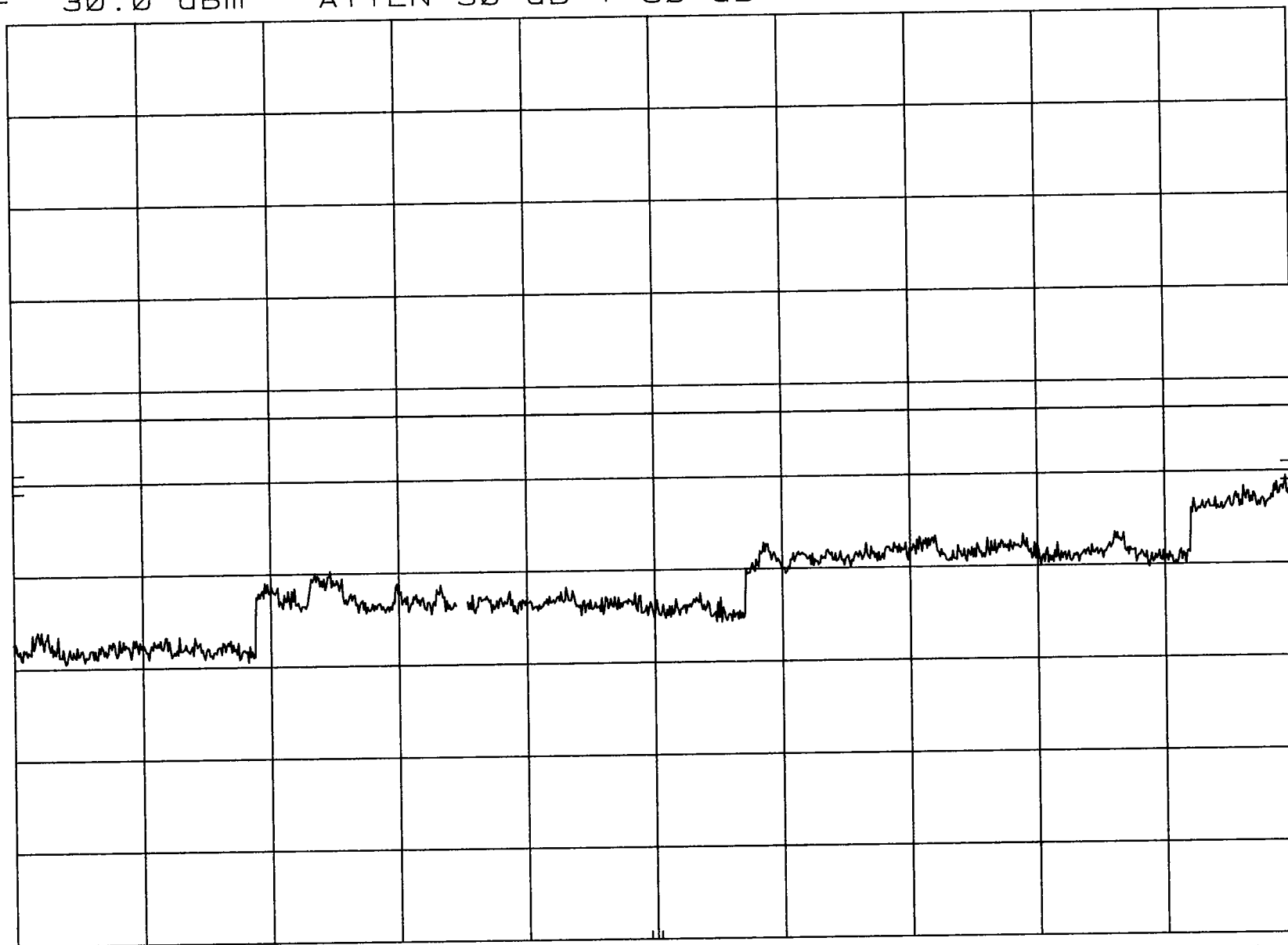
POS PK

OFFSET

11.0
dB

DL

-13.0
dBm



START 2.5 GHz

RES BW 1 MHz (i)

VBW 1 MHz

STOP 20.0 GHz

SWP 438 msec

hp NEC -A98-MP6J1E1-1F CON SPURS C810
REF 30.0 dBm ATTEN 30 dB + 30 dB

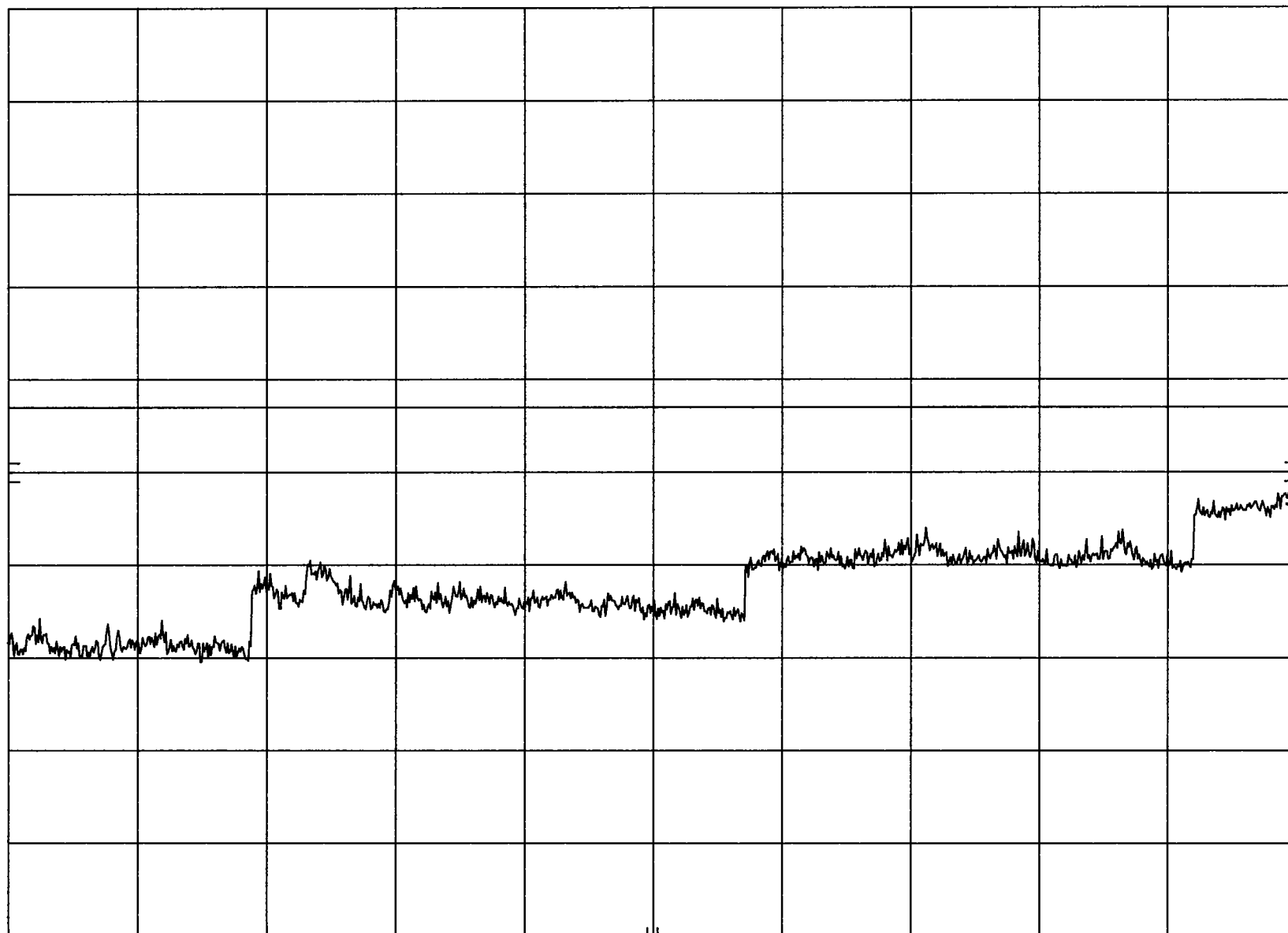
MKR 19.93 GHz
-23.50 dBm

10 dB/

POS PK

OFFSET
11.0
dB

DL
-13.0
dBm



START 2.5 GHz

RES BW 1 MHz (i)

VBW 1 MHz

STOP 20.0 GHz

SWP 438 msec

Agilent

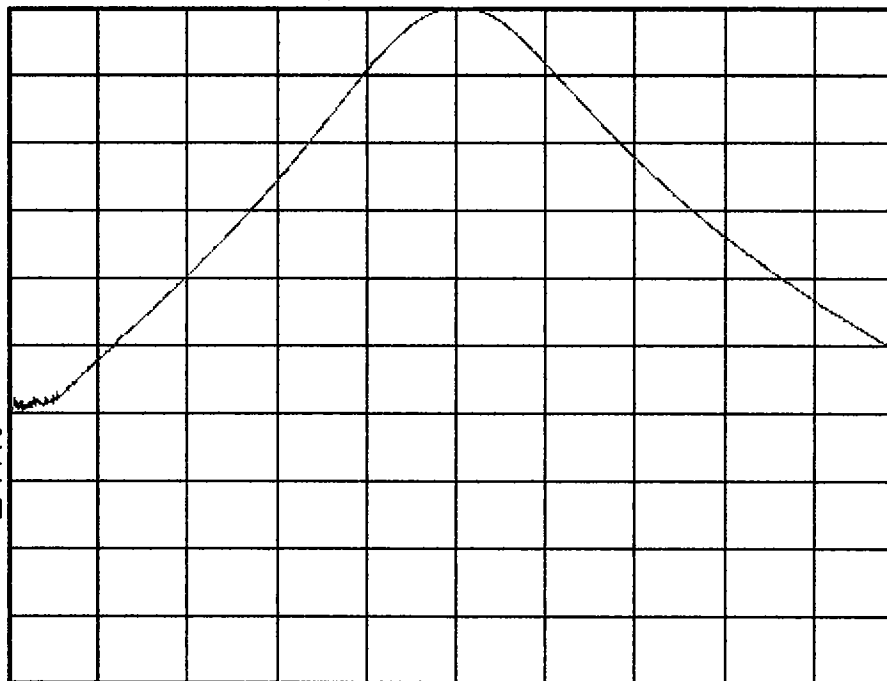
FCC ID:A98-MP6J1E1-1F 800 MHz BAND C-128 PWR 0.0

Ref 28 dBm

Atten 30 dB

Peak
Log
10
dB/
Offst
9.5
dB

M1 S2
S3 FC
AA



Center 824.2 MHz

Span 10 MHz

*Res BW 1 MHz

VBW 1 MHz

Sweep 9.98 ms (999 pts)

Freq/Channel

Center Freq
824.200000 MHz

Start Freq
819.200000 MHz

Stop Freq
829.200000 MHz

CF Step
1.00000000 MHz
Auto Man

Freq Offset
0.00000000 Hz

Signal Track
On Off

Scale Type
Log Lin

Agilent

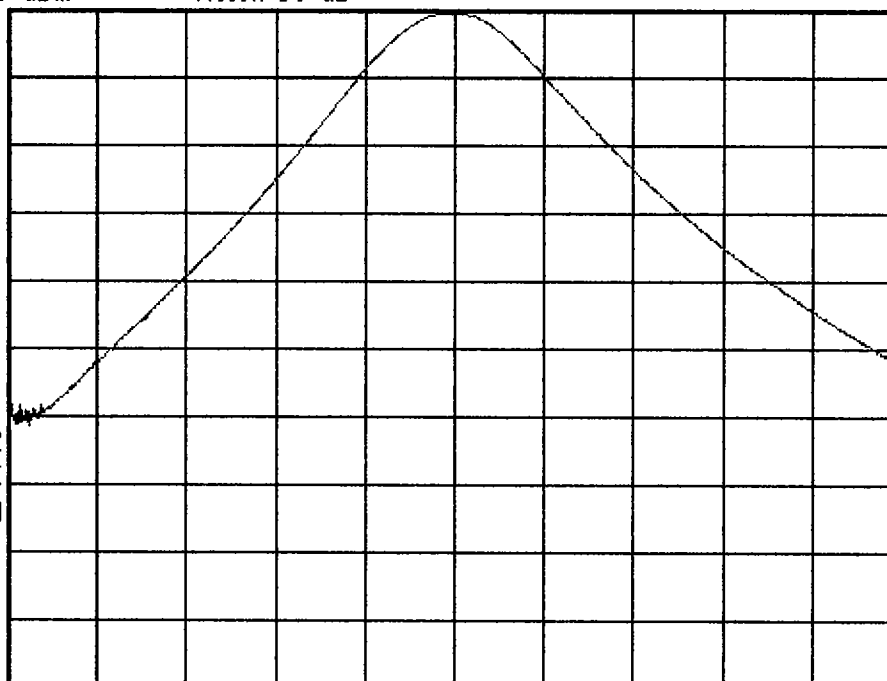
FCC ID:A98-MP6J1E1-1F 800 MHz BAND C-190

Ref 28 dBm

Atten 30 dB

Peak
Log
10
dB/
Offst
9.5
dB

V1 S2
S3 FC
AA



Center 836.7 MHz

Span 10 MHz

*Res BW 1 MHz

VBW 1 MHz

Sweep 9.98 ms (999 pts)

Freq/Channel

Center Freq
836.670000 MHz

Start Freq
831.670000 MHz

Stop Freq
841.670000 MHz

CF Step
1.00000000 MHz
Auto Man

Freq Offset
0.00000000 Hz

Signal Track
On Off

Scale Type
Log Lin

Agilent

FCC ID:A98-MP6J1E1-1F 800 MHz BAND C-190 PWR out

Ref 28 dBm

Atten 30 dB

Peak

Log

10

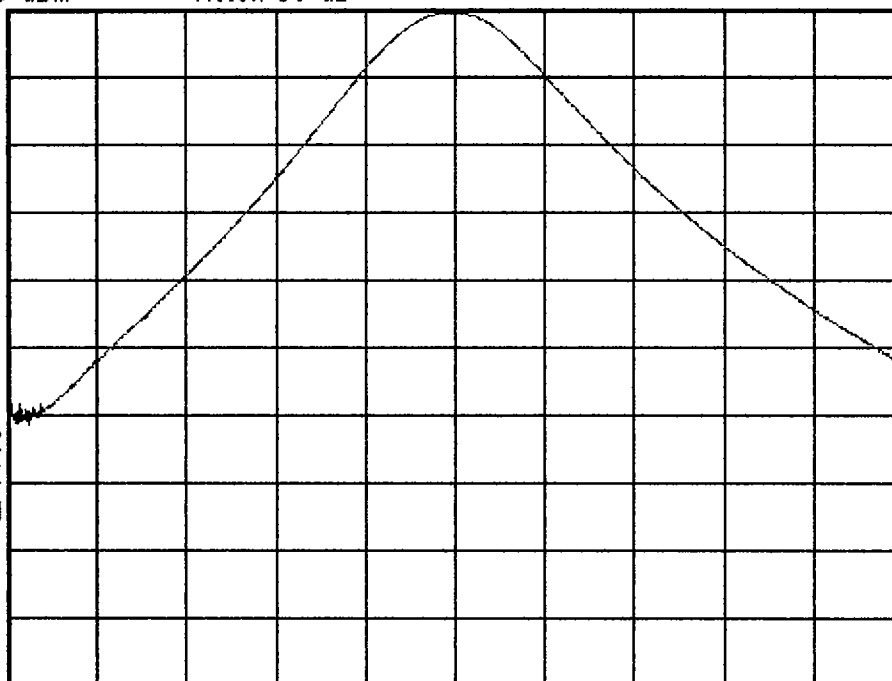
dB/

Offst

9.5

dB

V1 S2
S3 FC
AA



Center 836.7 MHz

Span 10 MHz

#Res BW 1 MHz

VBW 1 MHz

Sweep 9.98 ms (999 pts)

Freq/Channel

Center Freq

836.670000 MHz

Start Freq

831.670000 MHz

Stop Freq

841.670000 MHz

CF Step

1.00000000 MHz

Auto

Man

Freq Offset

0.00000000 Hz

Signal Track

On

Off

Scale Type

Log

Lin

Agilent

FCC ID:A98-MP6J1E1-1F 800 MHz BAND C-251

Ref 28 dBm

Atten 30 dB

Peak

Log

10

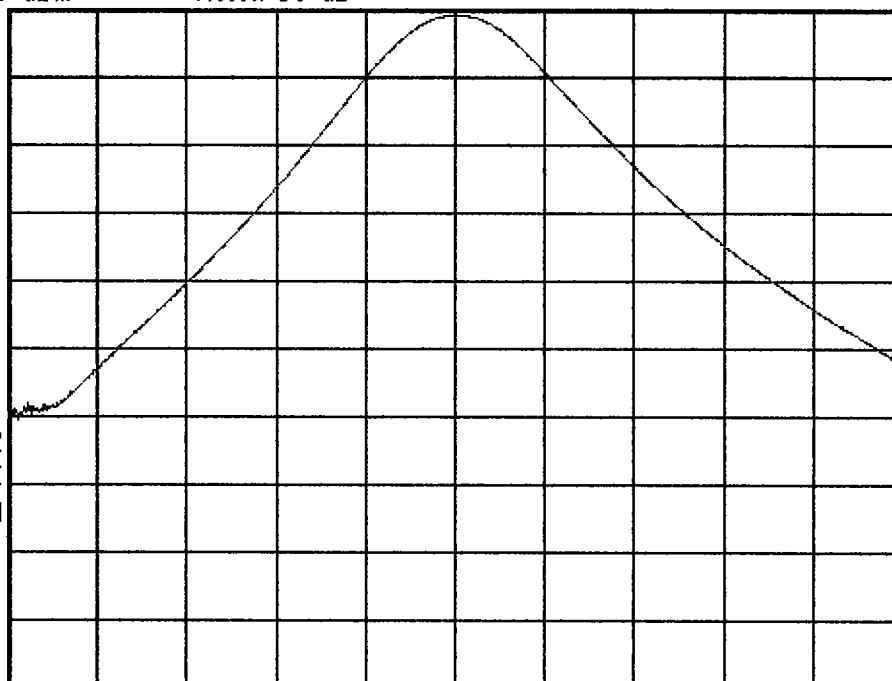
dB/

Offst

9.5

dB

M1 S2
S3 FC
AA



Center 848.8 MHz

Span 10 MHz

#Res BW 1 MHz

VBW 1 MHz

Sweep 9.98 ms (999 pts)

Freq/Channel

Center Freq

848.810000 MHz

Start Freq

843.810000 MHz

Stop Freq

853.810000 MHz

CF Step

1.00000000 MHz

Auto

Man

Freq Offset

0.00000000 Hz

Signal Track

On

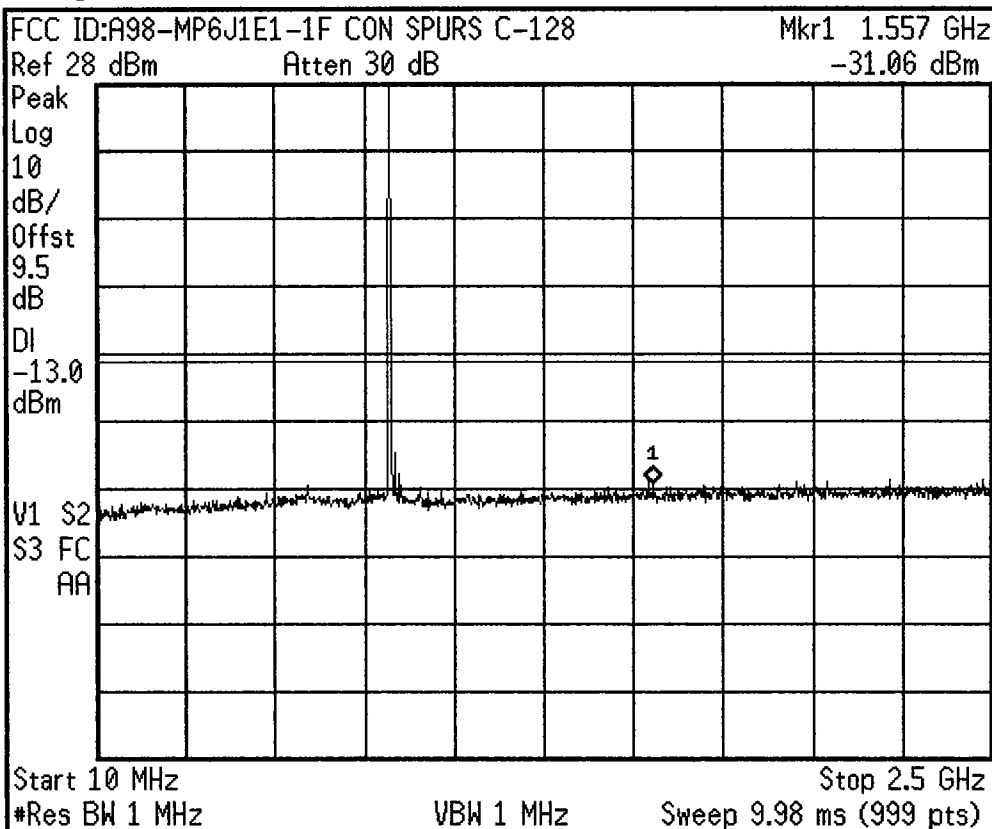
Off

Scale Type

Log

Lin

Agilent



Freq/Channel

Center Freq

1.25500000 GHz

Start Freq

10.0000000 MHz

Stop Freq

2.50000000 GHz

CF Step

249.000000 MHz

Auto Man

Freq Offset

0.00000000 Hz

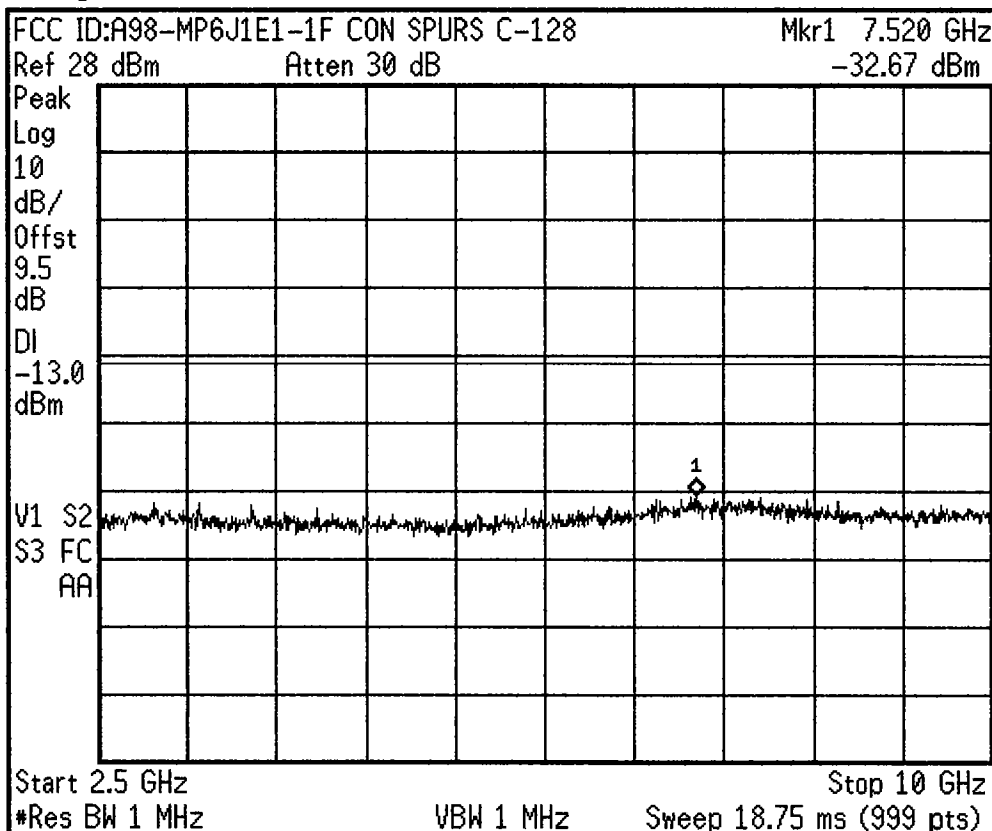
Signal Track

On Off

Scale Type

Log Lin

Agilent



Freq/Channel

Center Freq

6.25000000 GHz

Start Freq

2.50000000 GHz

Stop Freq

10.0000000 GHz

CF Step

750.000000 MHz

Auto Man

Freq Offset

0.00000000 Hz

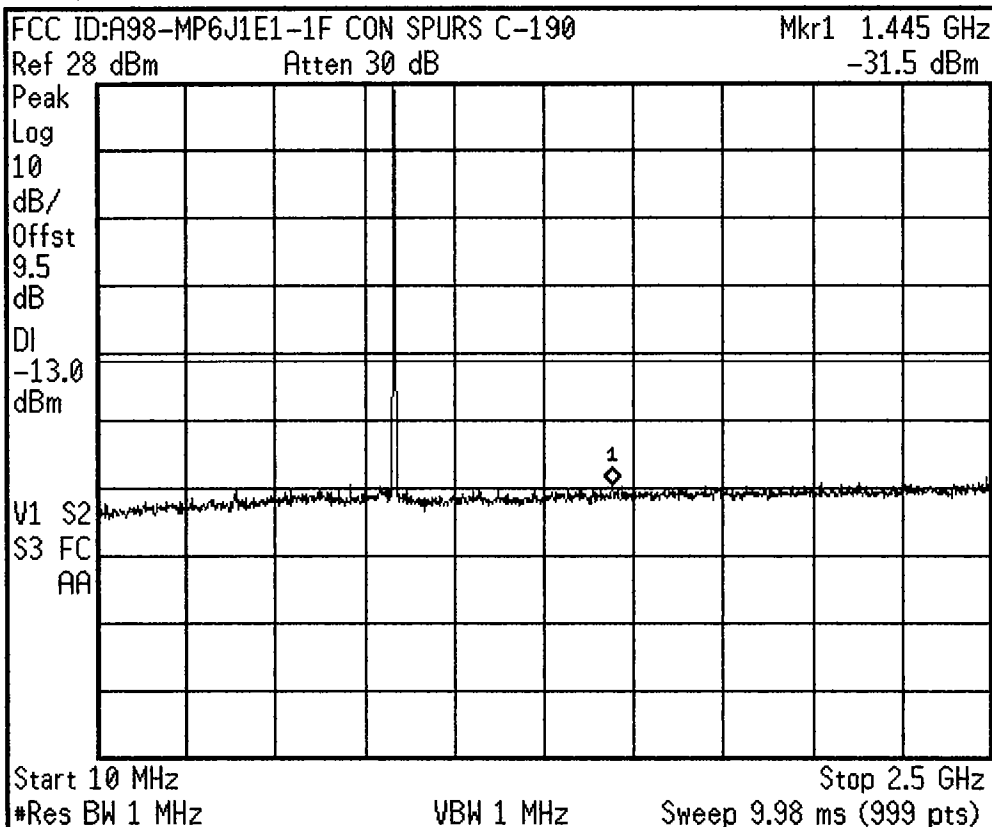
Signal Track

On Off

Scale Type

Log Lin

Agilent



Freq/Channel

Center Freq

1.25500000 GHz

Start Freq

10.0000000 MHz

Stop Freq

2.50000000 GHz

CF Step

249.000000 MHz

Auto Man

Freq Offset

0.00000000 Hz

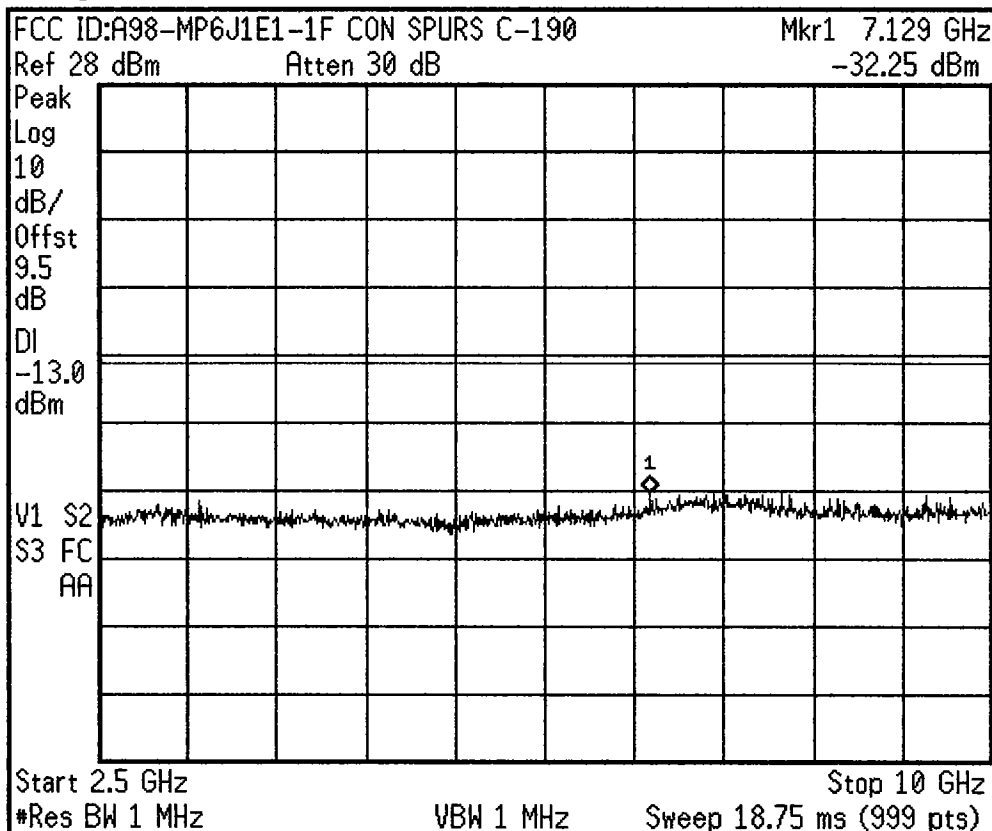
Signal Track

On Off

Scale Type

Log Lin

Agilent



Freq/Channel

Center Freq

6.25000000 GHz

Start Freq

2.50000000 GHz

Stop Freq

10.0000000 GHz

CF Step

750.000000 MHz

Auto Man

Freq Offset

0.00000000 Hz

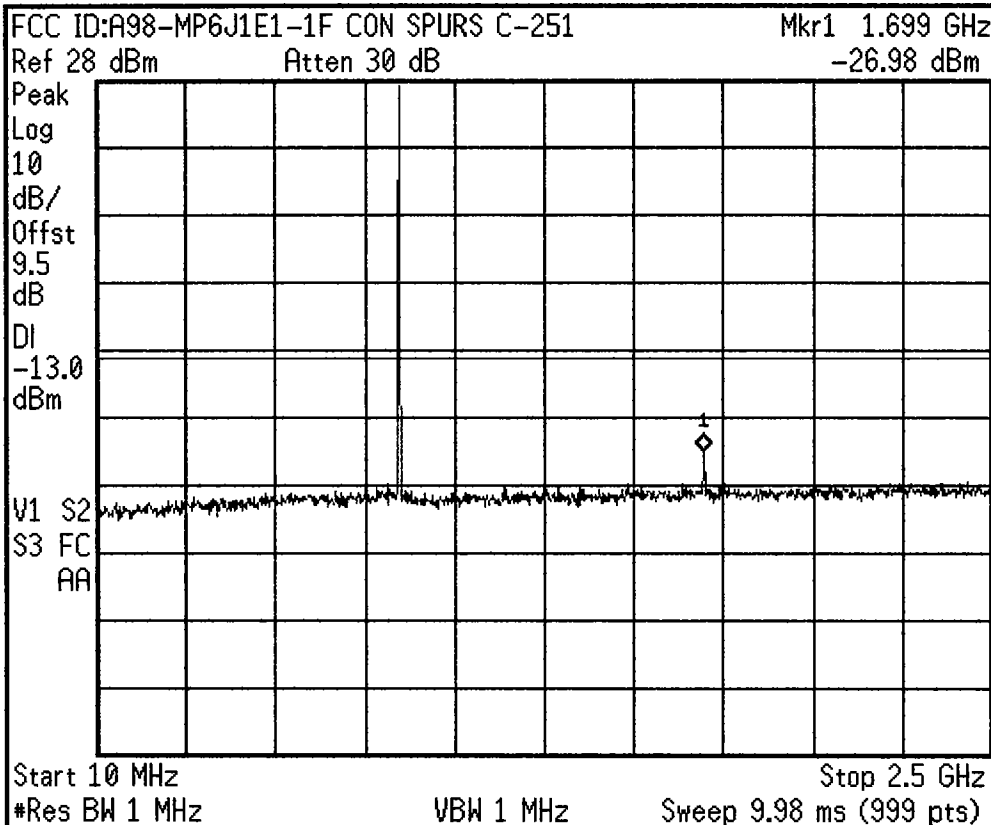
Signal Track

On Off

Scale Type

Log Lin

Agilent



Freq/Channel

Center Freq
 1.25500000 GHz

Start Freq
 10.0000000 MHz

Stop Freq
 2.50000000 GHz

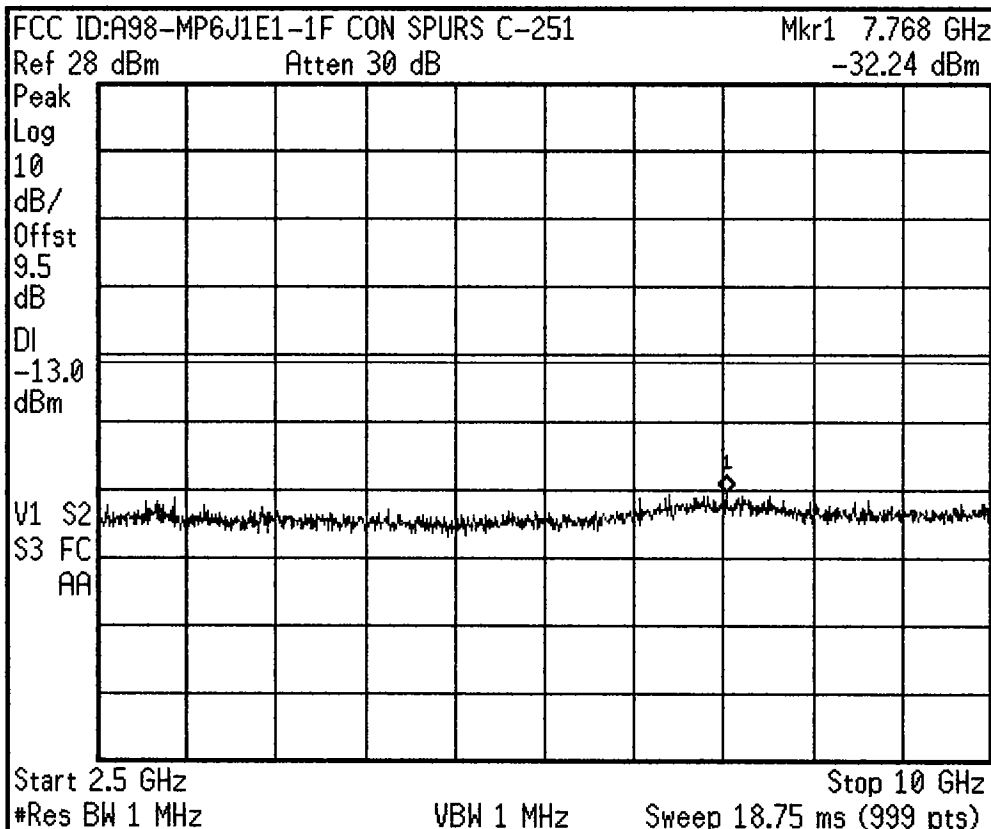
CF Step
 249.000000 MHz
 Auto Man

Freq Offset
 0.00000000 Hz

Signal Track
 On Off

Scale Type
 Log Lin

Agilent



Freq/Channel

Center Freq
 6.25000000 GHz

Start Freq
 2.50000000 GHz

Stop Freq
 10.0000000 GHz

CF Step
 750.000000 MHz
 Auto Man

Freq Offset
 0.00000000 Hz

Signal Track
 On Off

Scale Type
 Log Lin

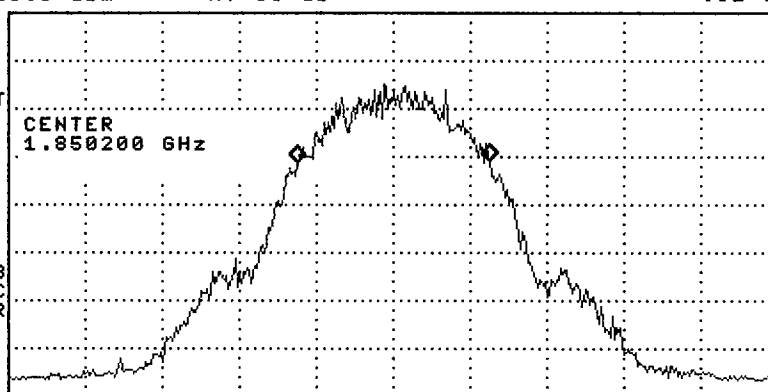
FCC ID:A98-MP6J1E1-1F 0BW C-512 PCS

REF 29.0 dBm AT 30 dB

.51 dB

PEAK
LOG
10
dB/
OFFST
10.5
dB

VA SB
SC FC
CORR



CENTER 1.850200 GHz
#RES BW 3.0 kHz

VBW 3 kHz

SPAN 1.000 MHz
SWP 333 msec

CENTER
FREQ

START
FREQ

STOP
FREQ

CF STEP
AUTO MAN

FREQ
OFFSET

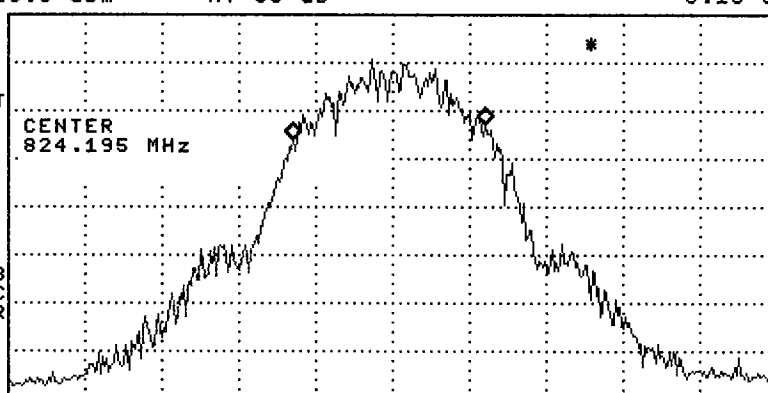
FCC ID:A98-MP6J1E1-1F 0BW C-128 (850 BAND)

REF 29.0 dBm AT 30 dB

3.13 dB

PEAK
LOG
10
dB/
OFFST
10.5
dB

VA SB
SC FC
CORR



CENTER 824.195 MHz
#RES BW 3.0 kHz

VBW 3 kHz

SPAN 1.000 MHz
SWP 333 msec

CENTER
FREQ

START
FREQ

STOP
FREQ

CF STEP
AUTO MAN

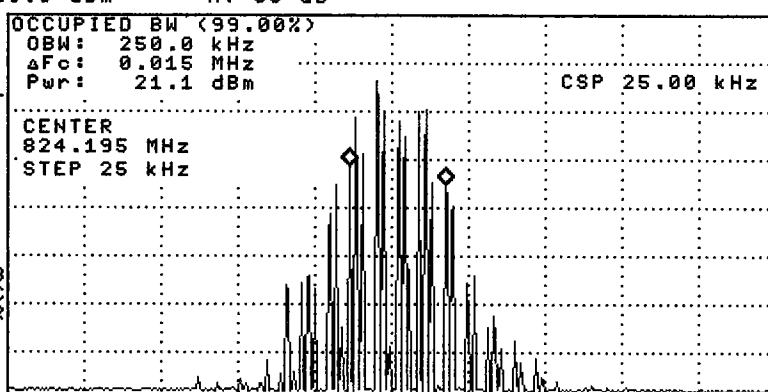
FREQ
OFFSET

FCC ID:A98-MP6J1E1-1F 0BW C-128 (850 BAND)

REF 29.0 dBm AT 30 dB

SMPL
LOG
10
dB/
OFFST
10.5
dB

VA SB
SC FC
CORR



CENTER 824.195 MHz
#RES BW 3.0 kHz

#VBW 10 kHz

SPAN 2.000 MHz
SWP 667 msec

CENTER
FREQ

START
FREQ

STOP
FREQ

CF STEP
AUTO MAN

FREQ
OFFSET

* Agilent

FCC ID:A98-MP6J1E1-1F BAND EDGE C-128

Ref 28 dBm

Atten 30 dB

Peak

Log

10

dB/

Offst

9.5

dB

DI

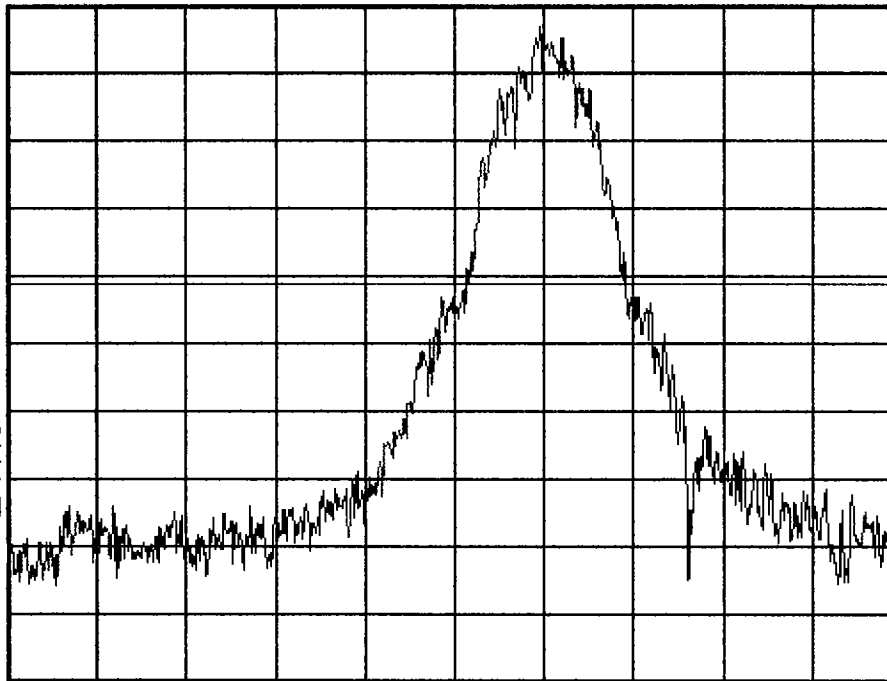
-13.0

dBm

V1 S2

S3 FC

AA



Center 824 MHz

Span 2 MHz

*Res BW 10 kHz

VBW 10 kHz

Sweep 25.77 ms (999 pts)

Freq/Channel

Center Freq

824.000000 MHz

Start Freq

823.000000 MHz

Stop Freq

825.000000 MHz

CF Step

200.000000 kHz

Auto

Man

Freq Offset

0.00000000 Hz

Signal Track

On

Off

Scale Type

Log

Lin

* Agilent

FCC ID:A98-MP6J1E1-1F BAND EDGE C-251

Ref 28 dBm

Atten 30 dB

Peak

Log

10

dB/

Offst

9.5

dB

DI

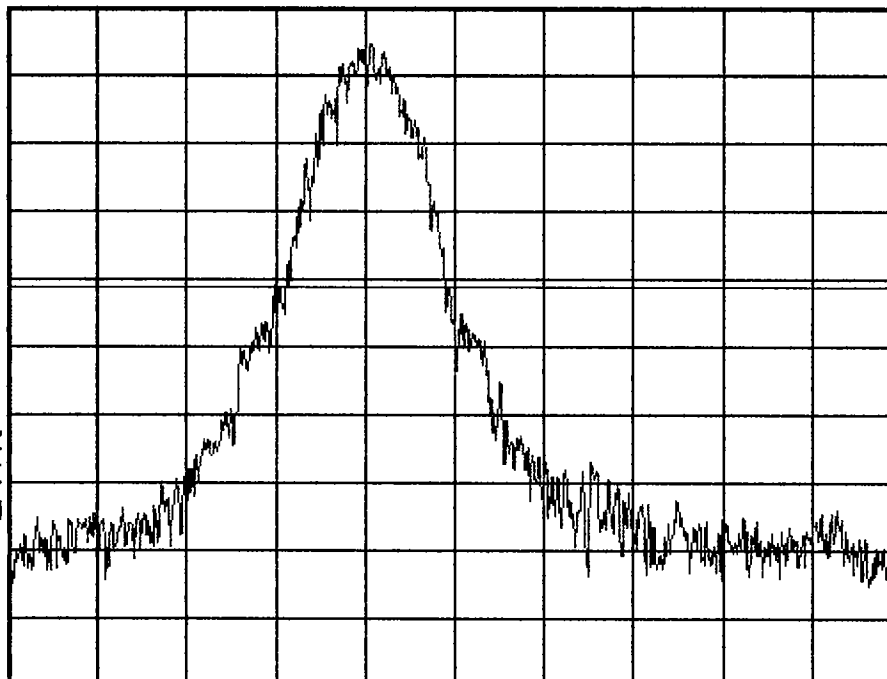
-13.0

dBm

V1 S2

S3 FC

AA



Center 849 MHz

Span 2 MHz

*Res BW 10 kHz

VBW 10 kHz

Sweep 25.77 ms (999 pts)

Freq/Channel

Center Freq

849.000000 MHz

Start Freq

848.000000 MHz

Stop Freq

850.000000 MHz

CF Step

200.000000 kHz

Auto

Man

Freq Offset

0.00000000 Hz

Signal Track

On

Off

Scale Type

Log

Lin