

PCTEST Engineering Lab.

SPECTRUM ANALYZER PRESENTATION

FCC ID:PP4TX-21B

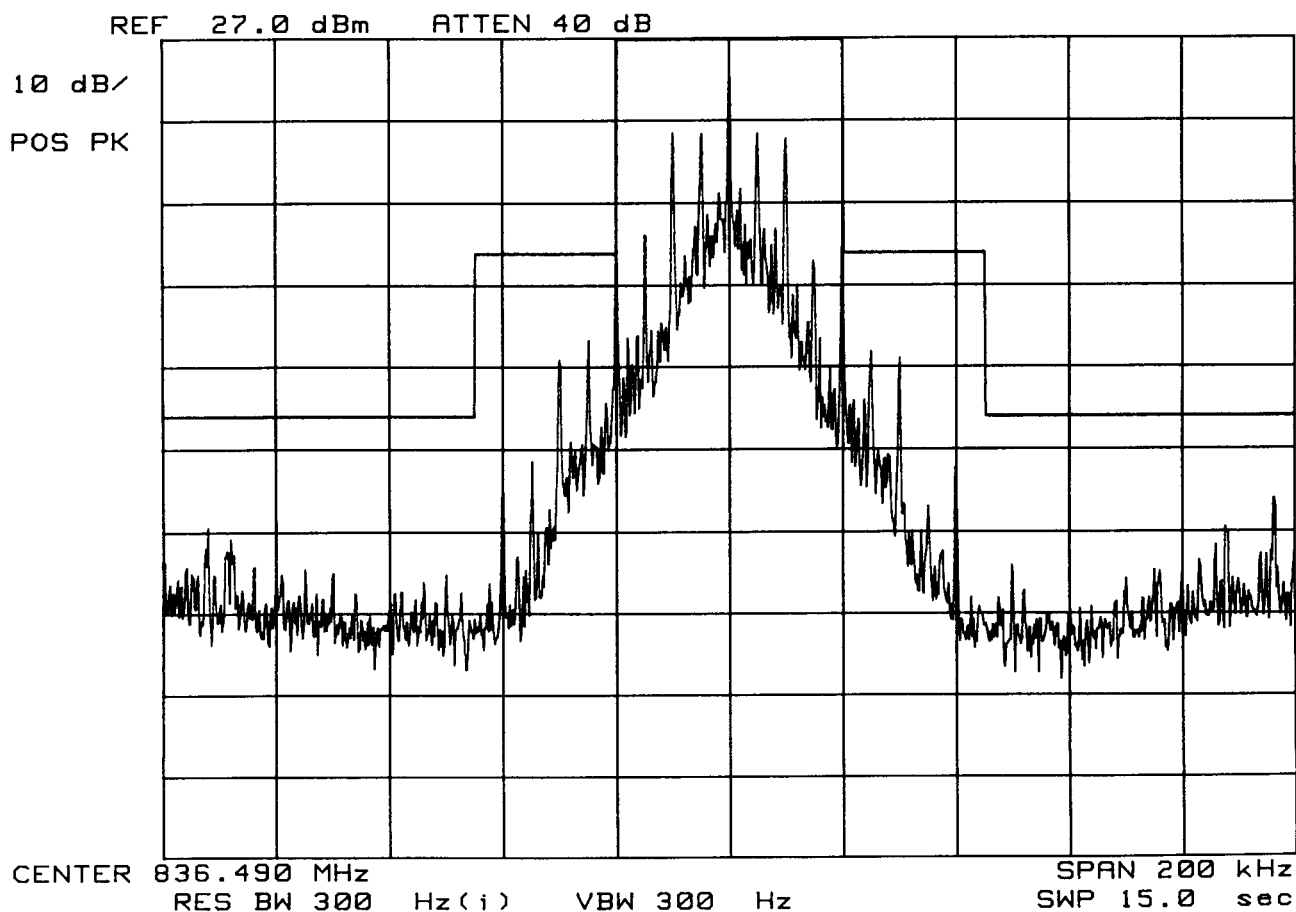
TRI-MODE PHONE

HYUNDAI

Operating Frequency: 836.490 MHz

Output Power : 27.0 dBm

Test Mode:Voice



PCTEST Engineering Lab.

SPECTRUM ANALYZER PRESENTATION

FCC ID:PP4TX-21B

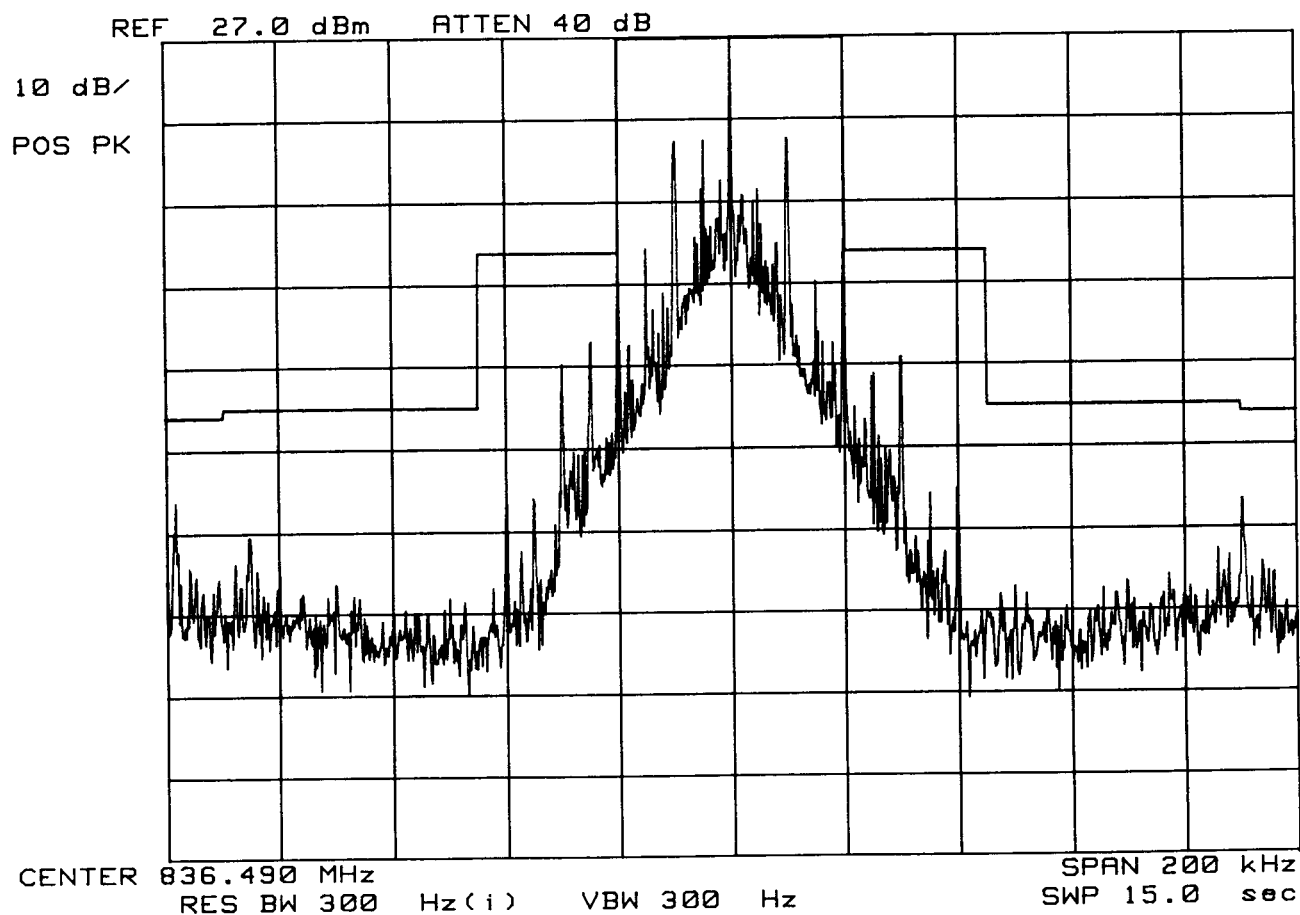
TRI-MODE PHONE

HYUNDAI

Operating Frequency: 836.490 MHz

Output Power : 27.0 dBm

Test Mode:Wide Band Data



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SPECTRUM ANALYZER PRESENTATION

FCC ID:PP4TX-21B

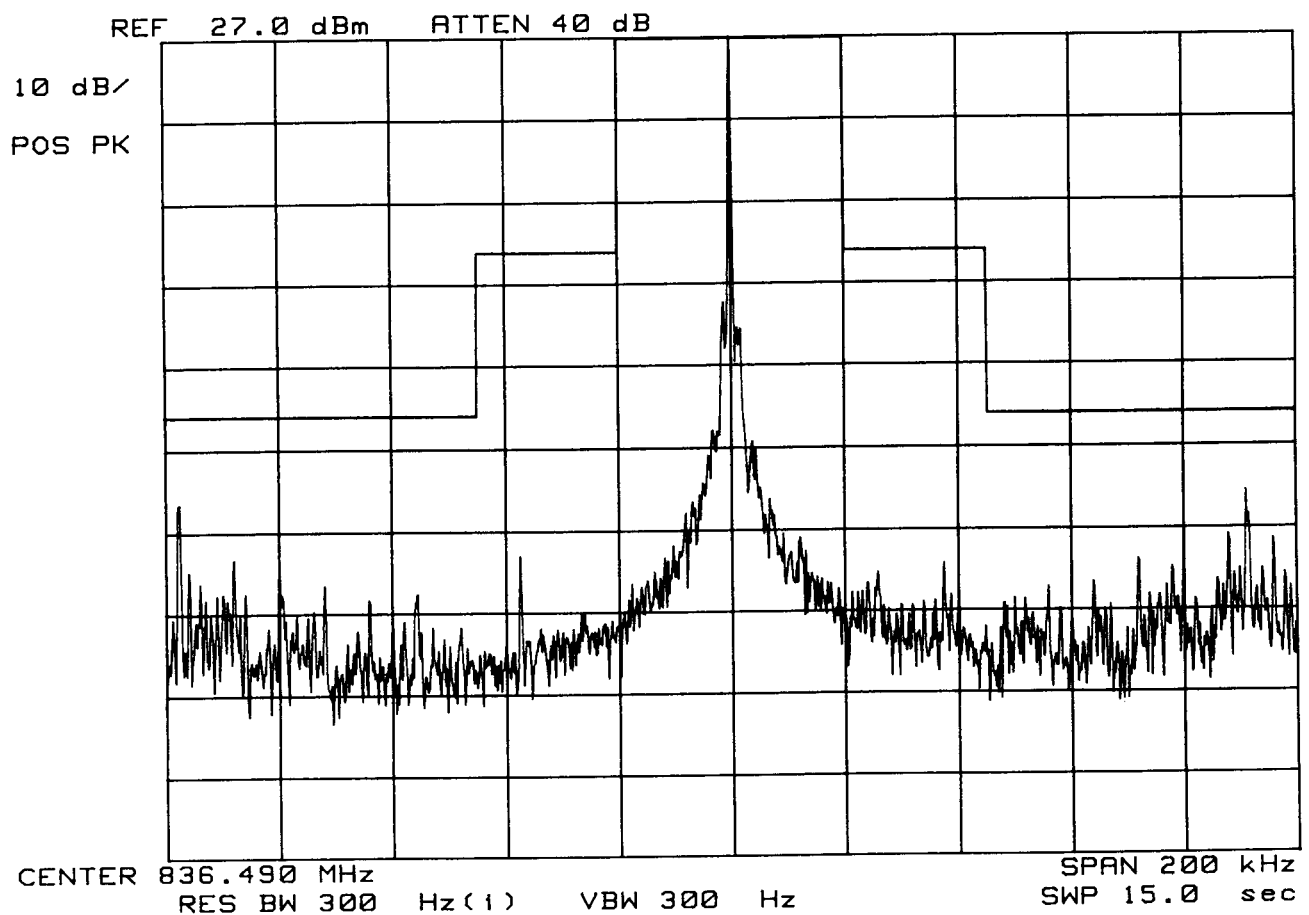
TRI-MODE PHONE

HYUNDAI

Operating Frequency: 836.490 MHz

Output Power : 27.0 dBm

Test Mode:Unmodulated Signal



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SPECTRUM ANALYZER PRESENTATION

FCC ID:PP4TX-21B

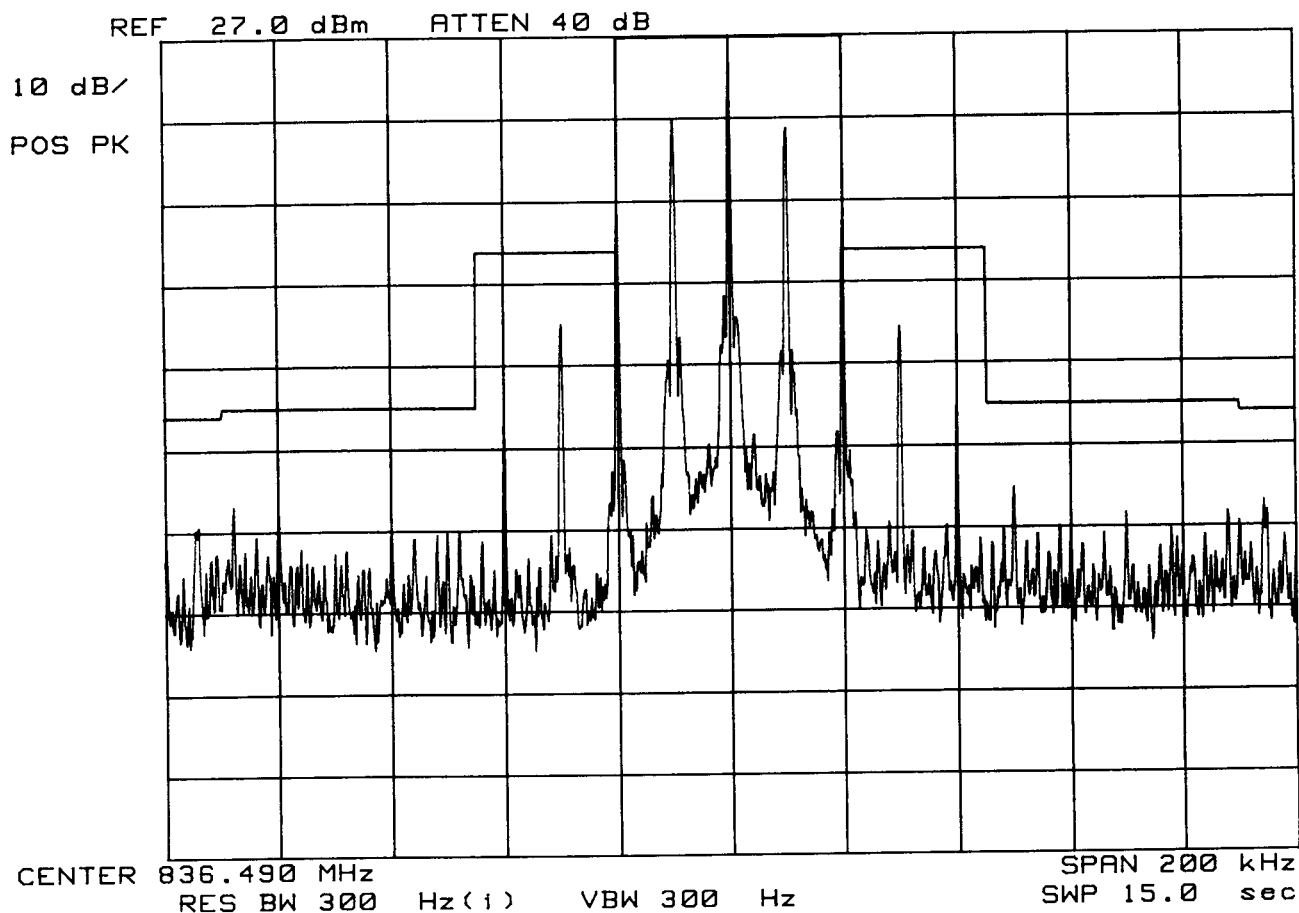
TRI-MODE PHONE

HYUNDAI

Operating Frequency: 836.490 MHz

Output Power : 27.0 dBm

Test Mode:ST



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SPECTRUM ANALYZER PRESENTATION

FCC ID:PP4TX-21B

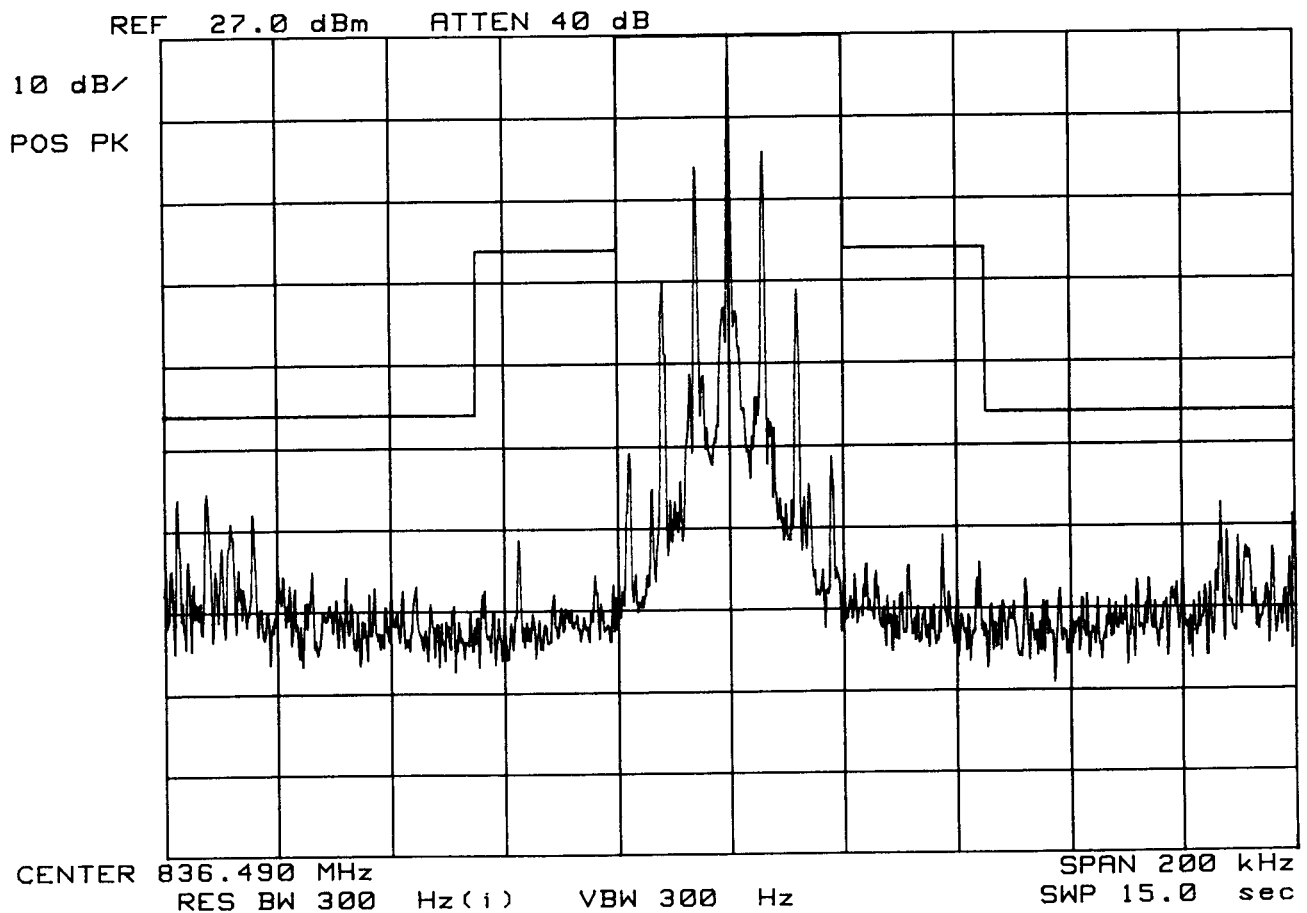
TRI-MODE PHONE

HYUNDAI

Operating Frequency: 836.490 MHz

Output Power : 27.0 dBm

Test Mode:SAT



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SPECTRUM ANALYZER PRESENTATION

FCC ID:PP4TX-21B

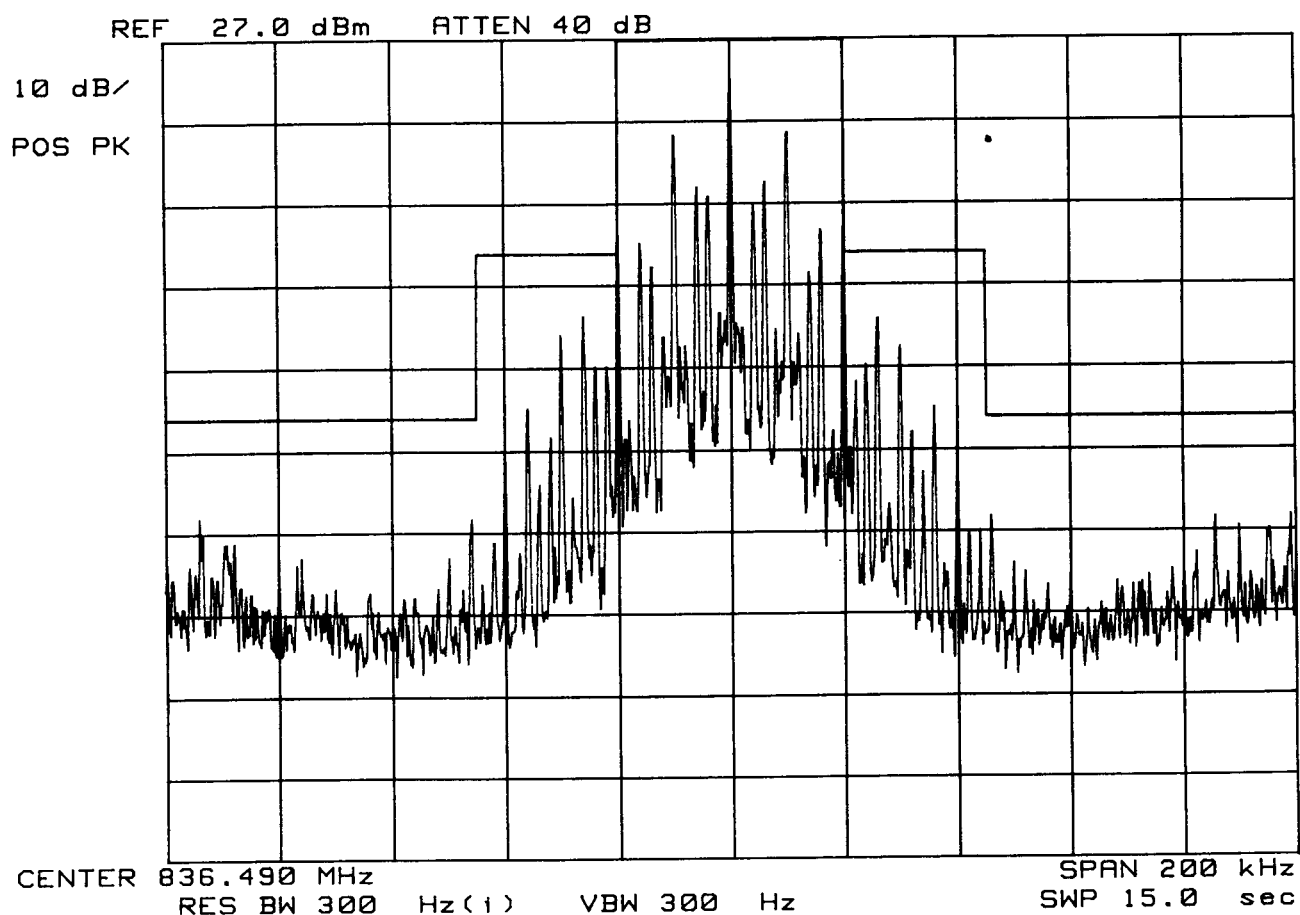
TRI-MODE PHONE

HYUNDAI

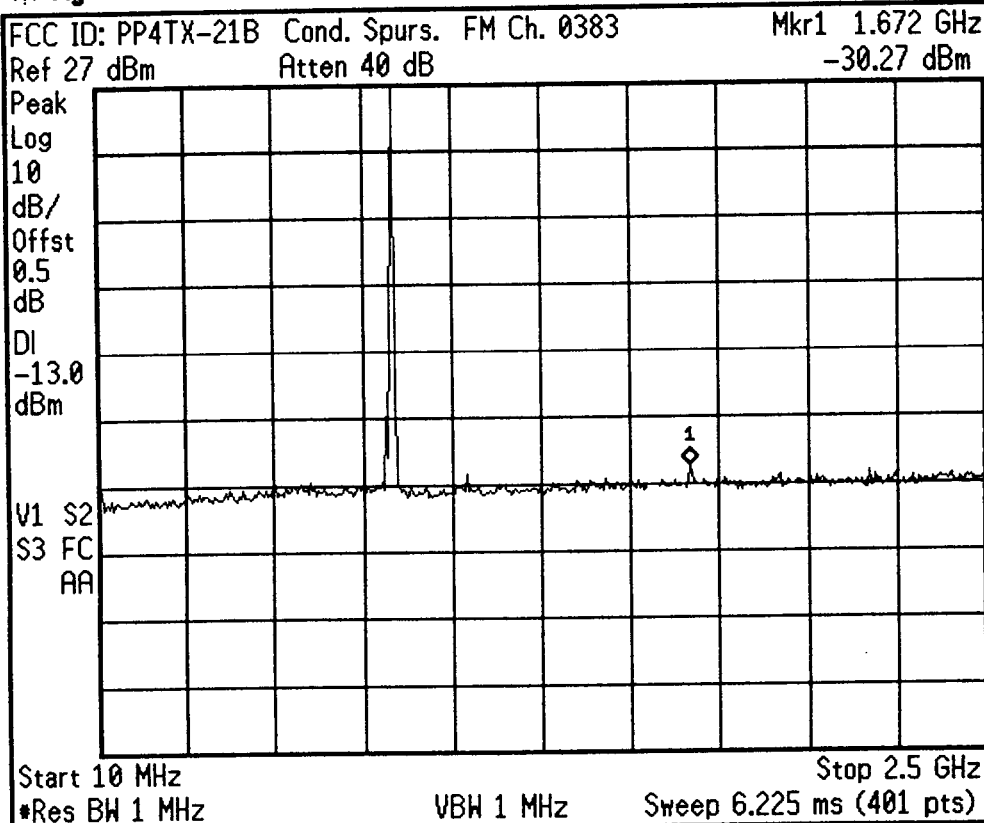
Operating Frequency: 836.490 MHz

Output Power : 27.0 dBm

Test Mode:SAT + ST



* Agilent 08:56:46 Jul 25, 2001



Freq/Channel

Center Freq

1.25500000 GHz

Start Freq

10.0000000 MHz

Stop Freq

2.50000000 GHz

CF Step

249.000000 MHz

Auto Man

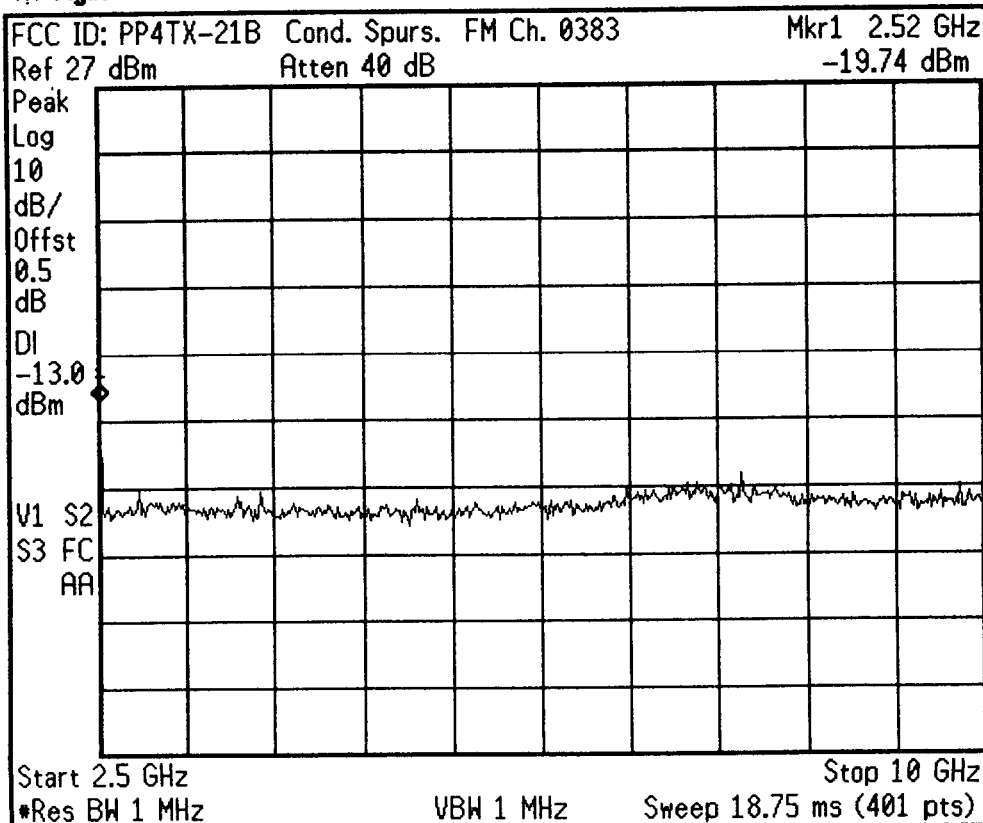
Freq Offset

0.00000000 Hz

Signal Track

On Off

* Agilent 08:58:12 Jul 25, 2001



Freq/Channel

Center Freq

6.25000000 GHz

Start Freq

2.50000000 GHz

Stop Freq

10.0000000 GHz

CF Step

750.000000 MHz

Auto Man

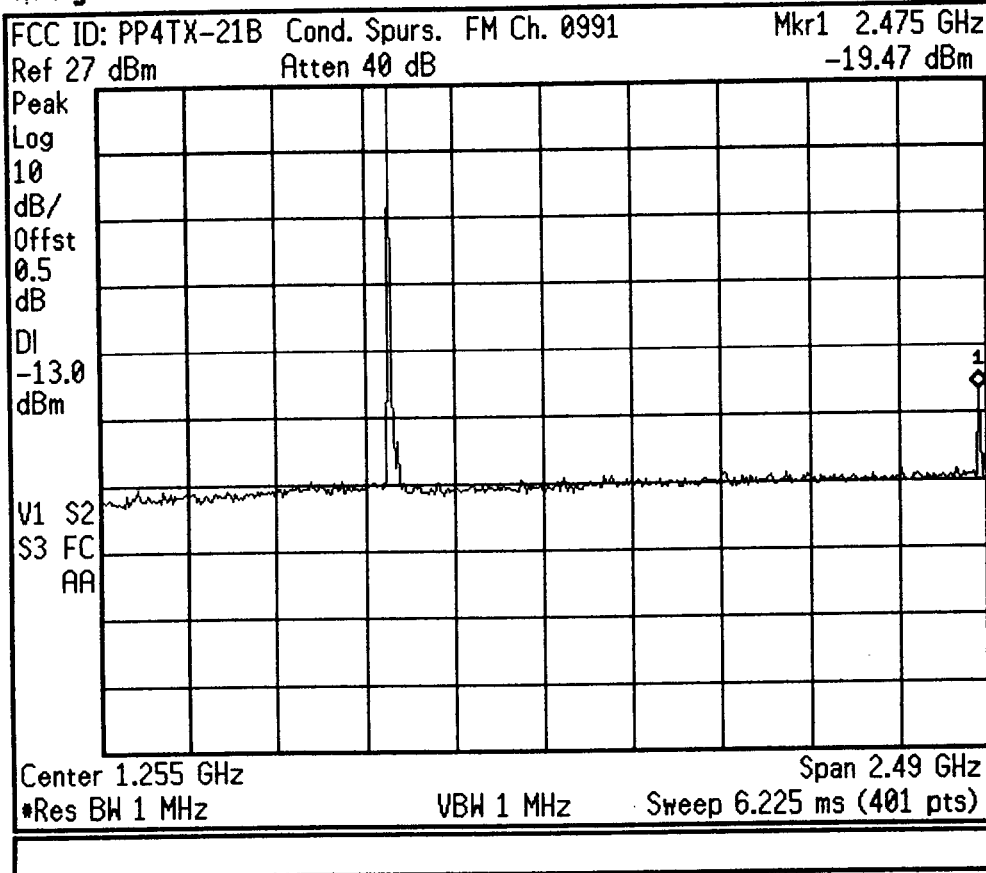
Freq Offset

0.00000000 Hz

Signal Track

On Off

* Agilent 08:54:37 Jul 25, 2001



Freq/Channel

Center Freq
 1.25500000 GHz

Start Freq
 10.0000000 MHz

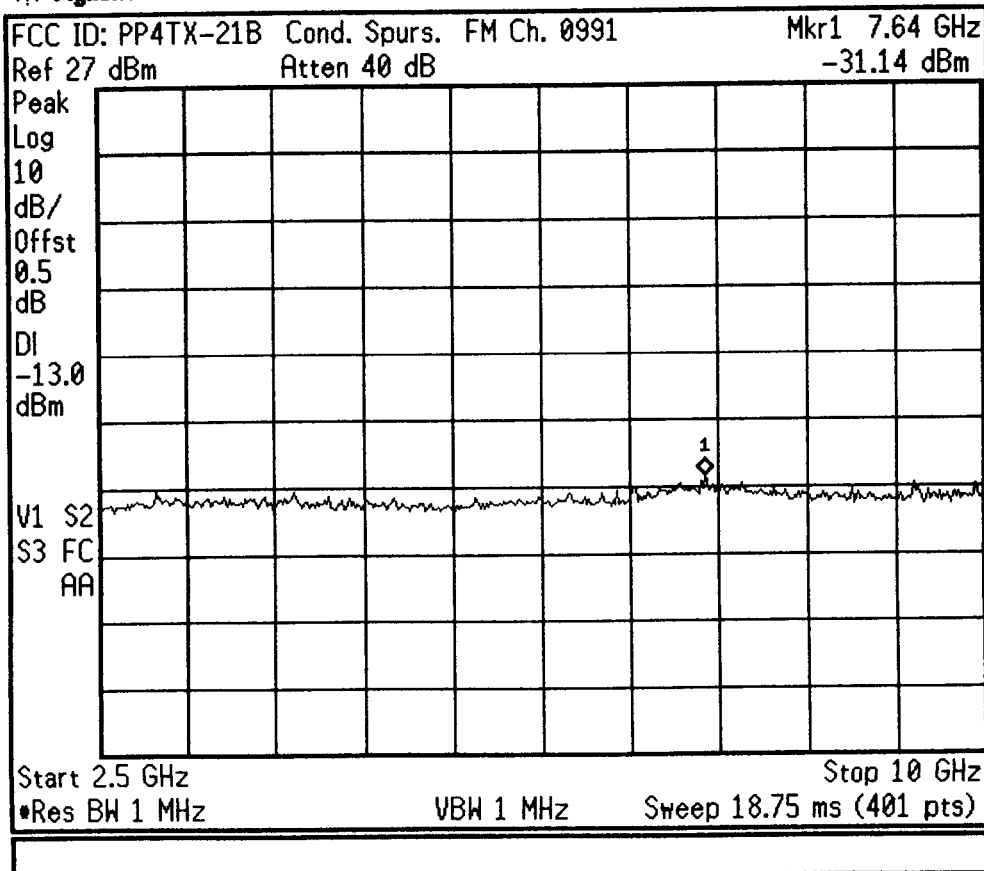
Stop Freq
 2.50000000 GHz

CF Step
 249.000000 MHz
 Auto Man

Freq Offset
 0.00000000 Hz

Signal Track
 On Off

* Agilent 08:55:17 Jul 25, 2001



Freq/Channel

Center Freq
 6.25000000 GHz

Start Freq
 2.50000000 GHz

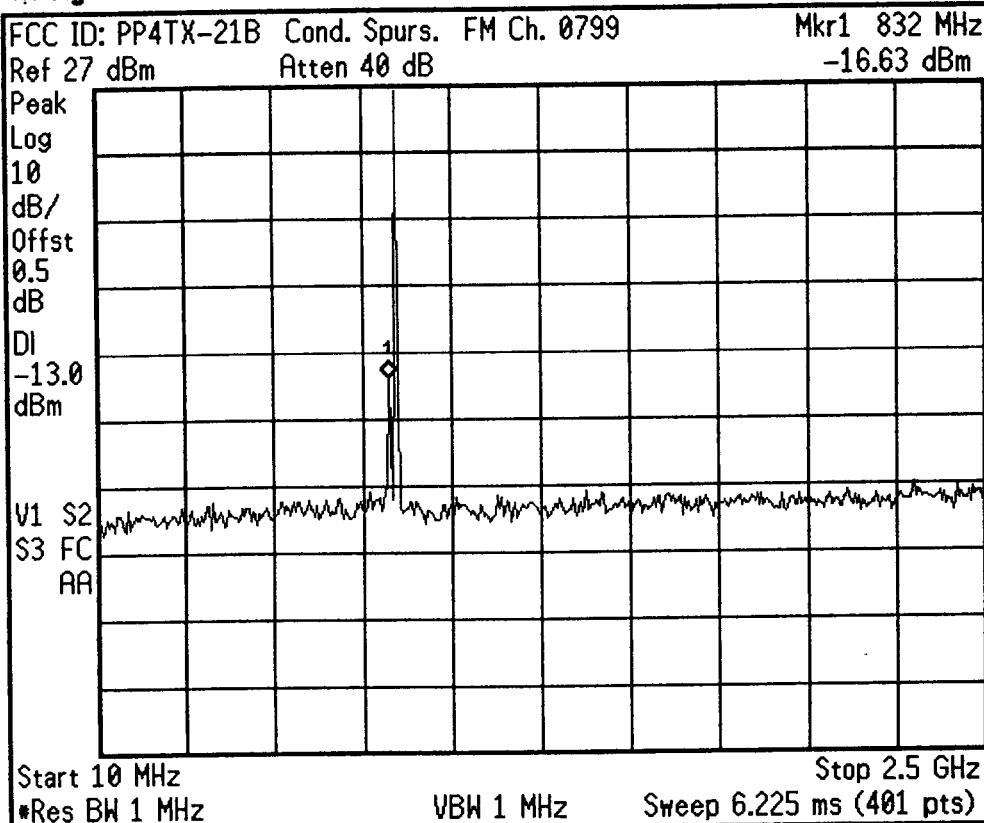
Stop Freq
 10.0000000 GHz

CF Step
 750.000000 MHz
 Auto Man

Freq Offset
 0.00000000 Hz

Signal Track
 On Off

* Agilent 09:16:33 Jul 25, 2001



Freq/Channel

Center Freq
 1.25500000 GHz

Start Freq
 10.0000000 MHz

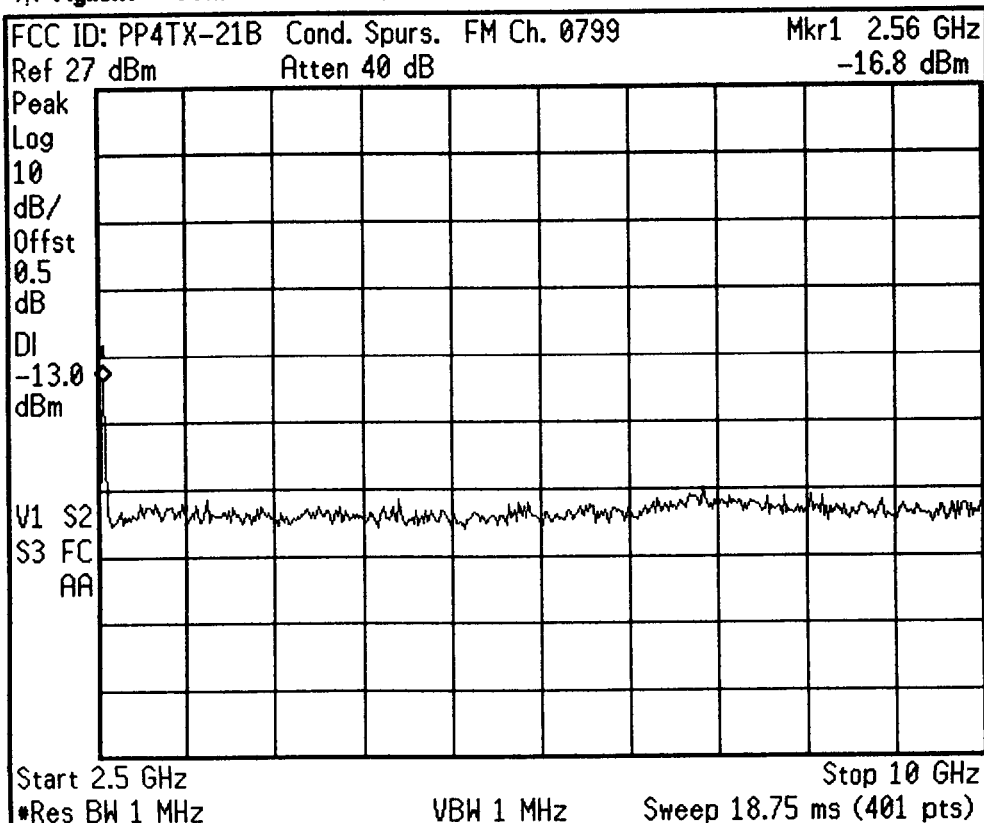
Stop Freq
 2.50000000 GHz

CF Step
 249.000000 MHz
 Auto Man

Freq Offset
 0.00000000 Hz

Signal Track
 On Off

* Agilent 09:17:37 Jul 25, 2001



Freq/Channel

Center Freq
 6.25000000 GHz

Start Freq
 2.50000000 GHz

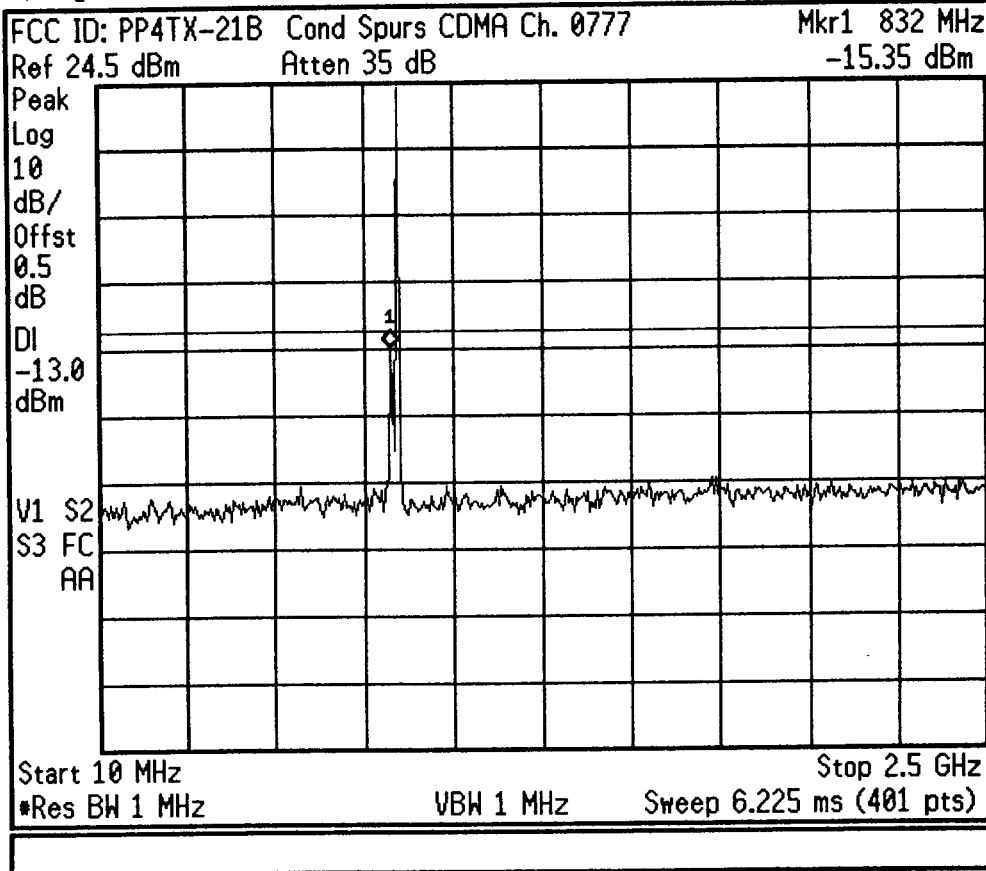
Stop Freq
 10.0000000 GHz

CF Step
 750.000000 MHz
 Auto Man

Freq Offset
 0.00000000 Hz

Signal Track
 On Off

Agilent 09:29:07 Jul 25, 2001



Freq/Channel

Center Freq
1.25500000 GHz

Start Freq
10.0000000 MHz

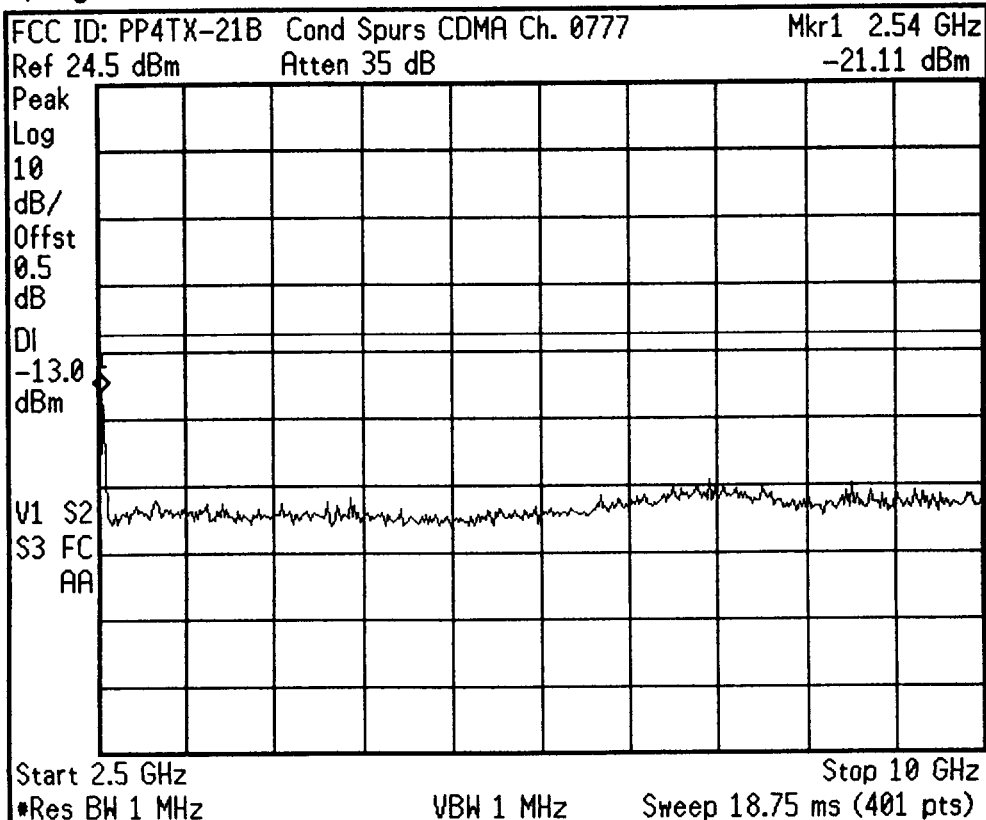
Stop Freq
2.50000000 GHz

CF Step
249.000000 MHz
Auto Man

Freq Offset
0.00000000 Hz

Signal Track
On Off

Agilent 09:35:04 Jul 25, 2001



Freq/Channel

Center Freq
6.25000000 GHz

Start Freq
2.50000000 GHz

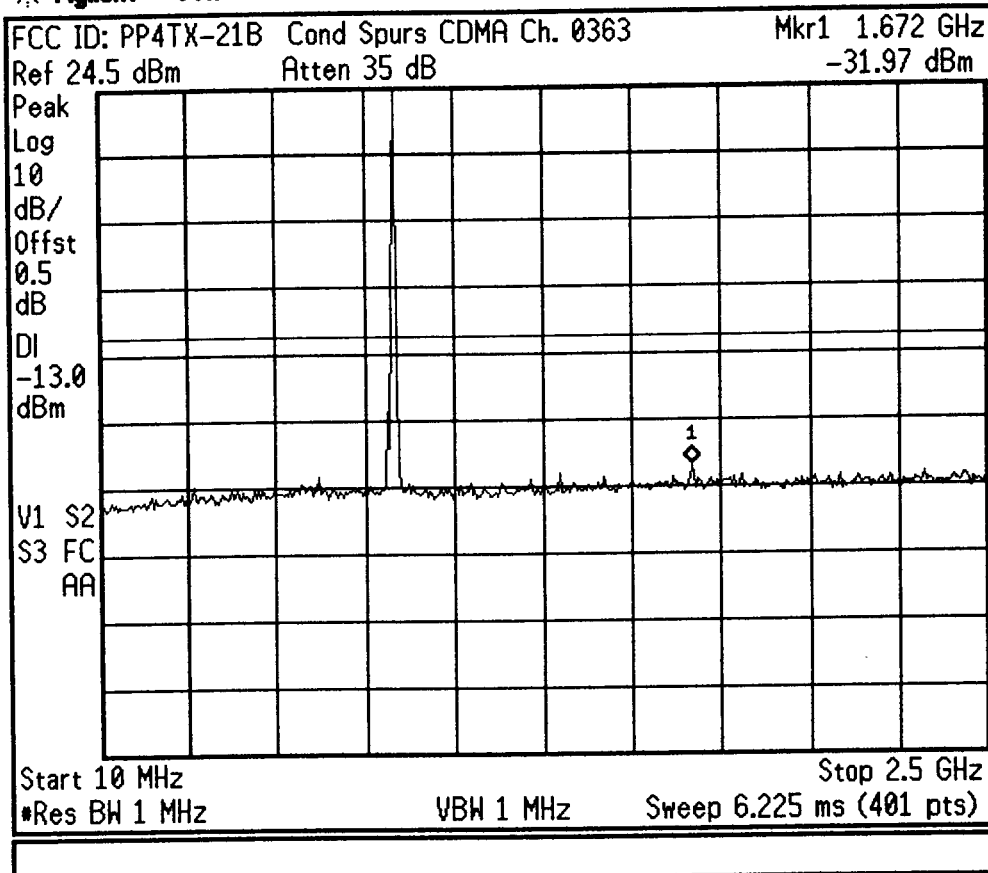
Stop Freq
10.0000000 GHz

CF Step
750.000000 MHz
Auto Man

Freq Offset
0.00000000 Hz

Signal Track
On Off

Agilent 09:24:10 Jul 25, 2001



Freq/Channel

Center Freq
 1.25500000 GHz

Start Freq
 10.0000000 MHz

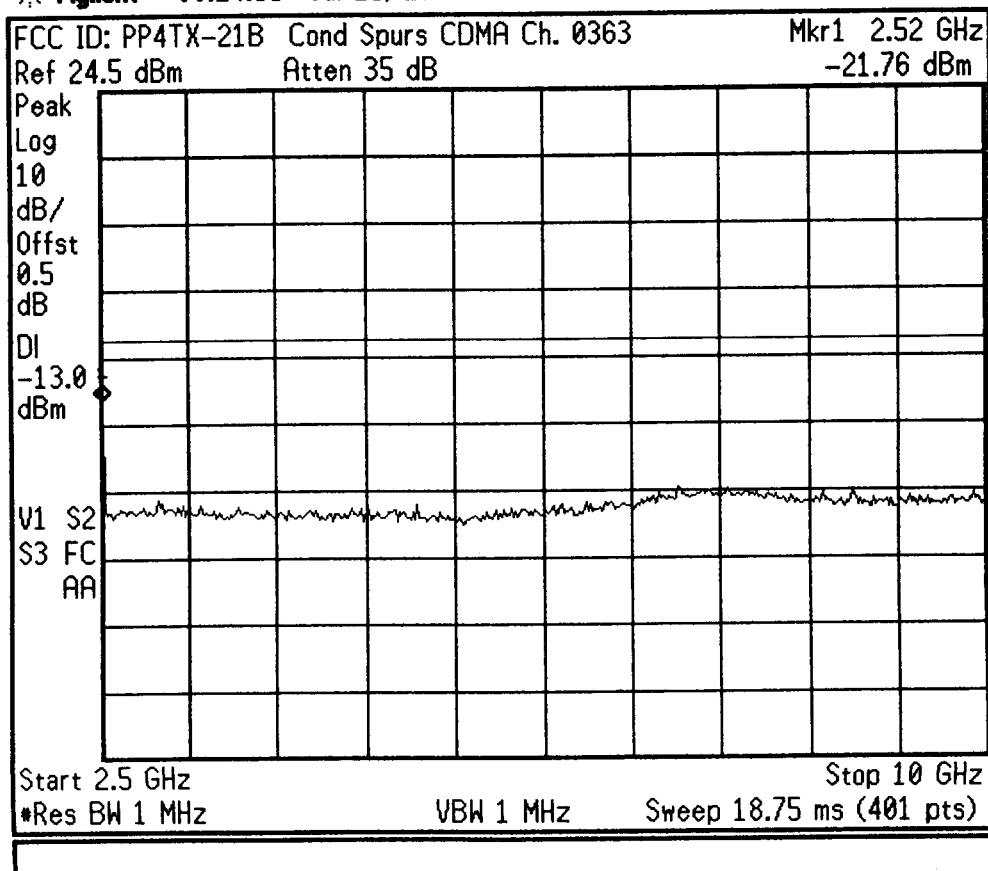
Stop Freq
 2.50000000 GHz

CF Step
 249.000000 MHz
 Auto Man

Freq Offset
 0.00000000 Hz

Signal Track
 On Off

Agilent 09:24:55 Jul 25, 2001



Freq/Channel

Center Freq
 6.25000000 GHz

Start Freq
 2.50000000 GHz

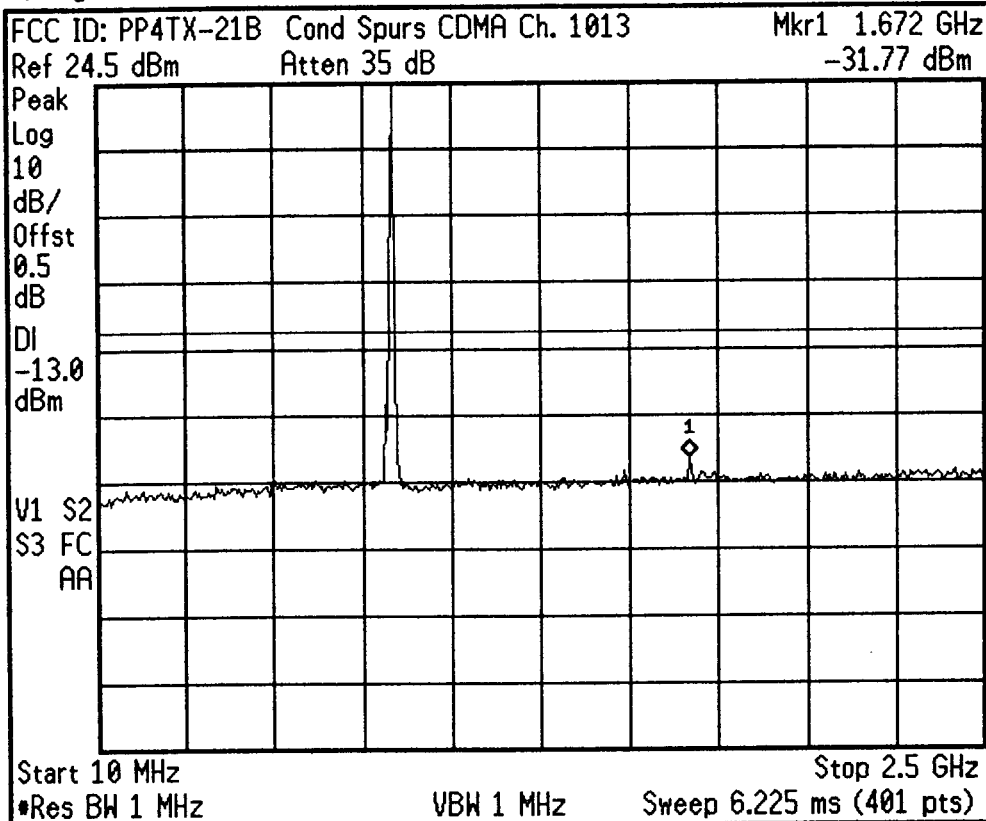
Stop Freq
 10.0000000 GHz

CF Step
 750.000000 MHz
 Auto Man

Freq Offset
 0.00000000 Hz

Signal Track
 On Off

* Agilent 09:20:55 Jul 25, 2001



Freq/Channel

Center Freq
 1.25500000 GHz

Start Freq
 10.0000000 MHz

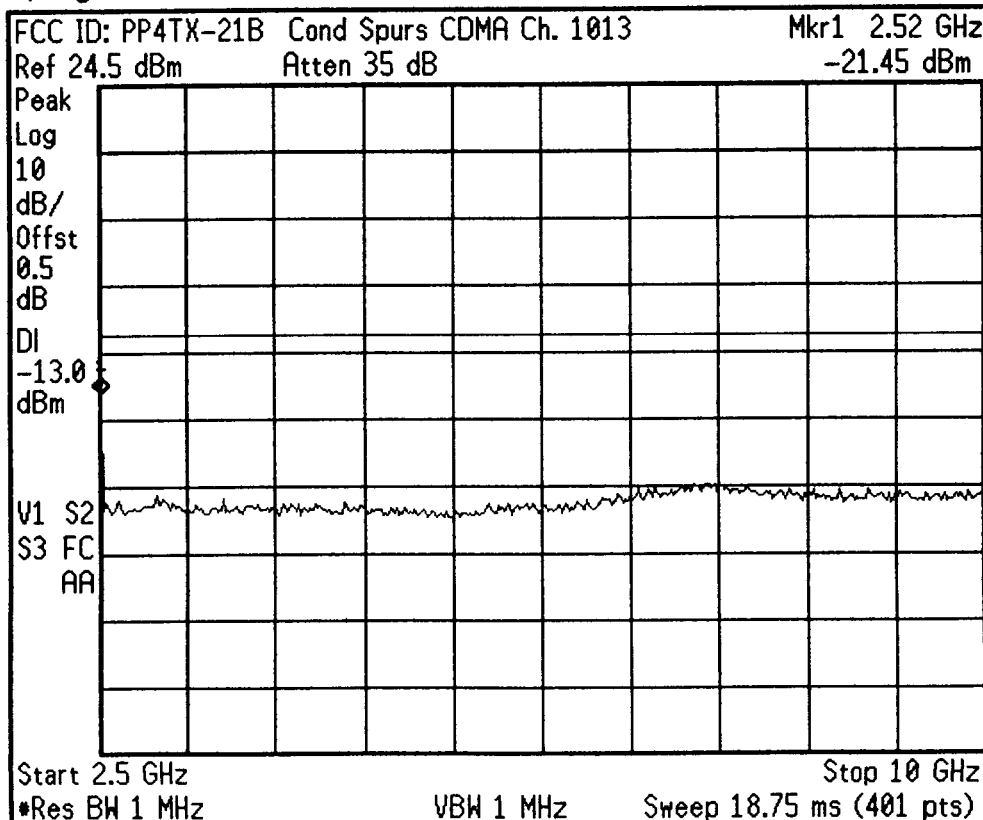
Stop Freq
 2.50000000 GHz

CF Step
 249.000000 MHz
 Auto Man

Freq Offset
 0.00000000 Hz

Signal Track
 On Off

* Agilent 09:21:41 Jul 25, 2001



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

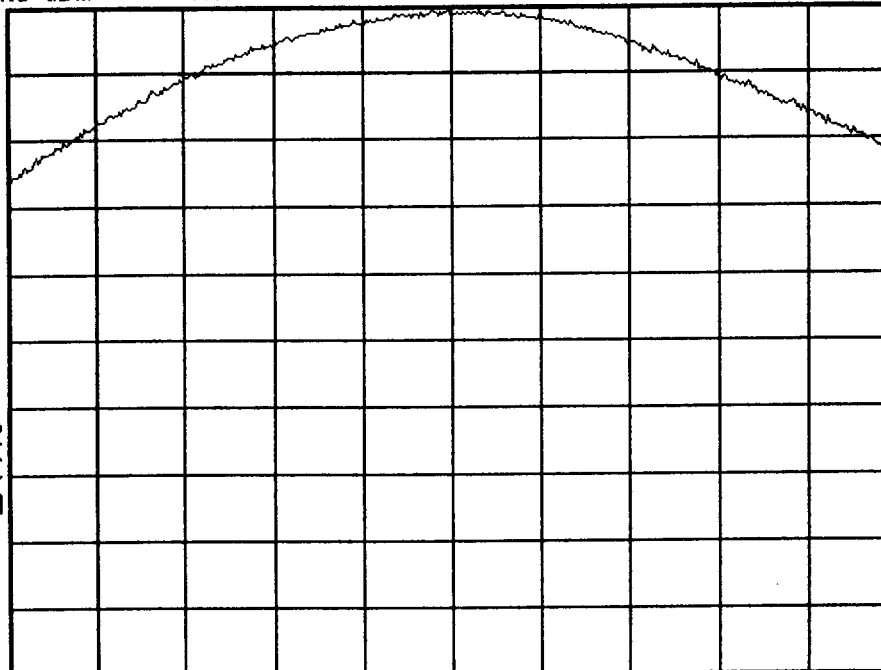
* Agilent 10:27:33 Jul 25, 2001

FCC ID: PP4TX-21B POWER OUT CDMA Ch. 0363

Ref 24.5 dBm Atten 35 dB

Peak
Log
10
dB/
Offst
0.5
dB

V1 S2
S3 FC
AA



Center 835.9 MHz

*Res BW 3 MHz

VBW 3 MHz

Span 10 MHz
Sweep 5 ms (401 pts)

Freq/Channel

Center Freq
835.900000 MHz

Start Freq
830.900000 MHz

Stop Freq
840.900000 MHz

CF Step
1.00000000 MHz
Auto Man

Freq Offset
0.00000000 Hz

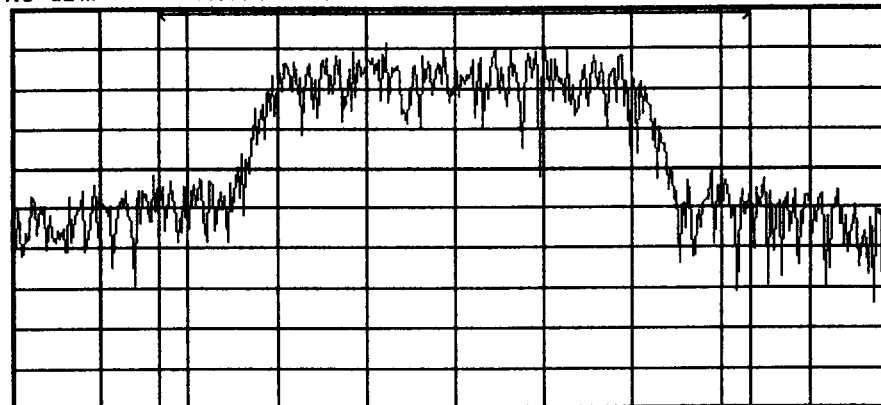
Signal Track
On Off

* Agilent 10:29:00 Jul 25, 2001

FCC ID: PP4TX-21B POWER OUT CDMA Ch. 0363

Ref 24.5 dBm Atten 35 dB

Samp
Log
10
dB/
Offst
0.5
dB



Center 835.9 MHz

*Res BW 30 kHz

*VBW 300 kHz

Span 3 MHz
Sweep 9.167 ms (401 pts)

Display

Full Screen

Display Line
-13.00 dBm
On Off

Limits

Channel Power Results (idle)

Channel Power
24.50 dBm

Integration BW 2.000 MHz

Density -38.51 dBm/Hz

Title

Preferences

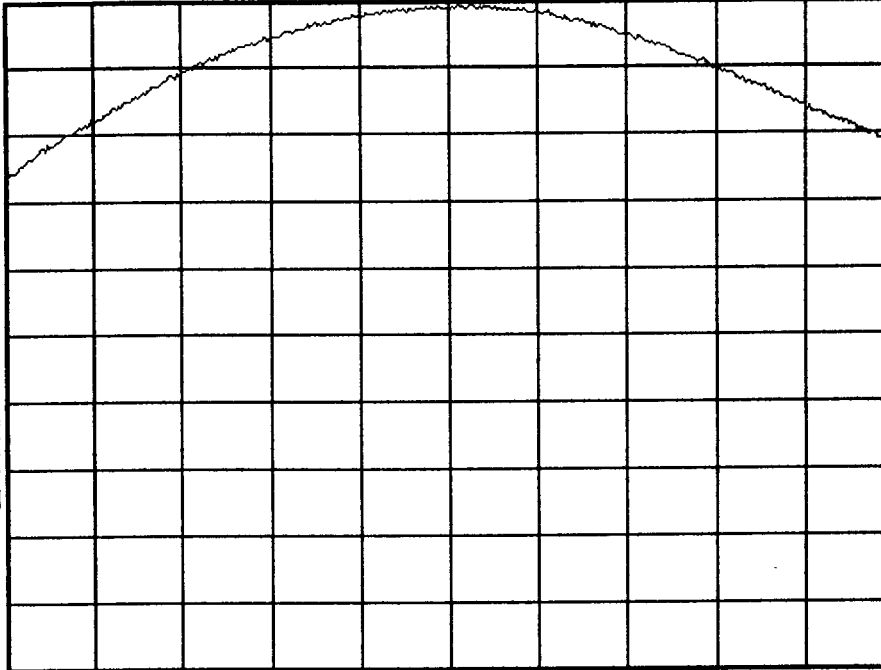
* Agilent 09:39:20 Jul 25, 2001

FCC ID: PP4TX-21B POWER OUT CDMA Ch. 0777

Ref 24.5 dBm Atten 35 dB

Peak
Log
10
dB/
Offst
0.5
dB

V1 S2
S3 FC
AA



Center 848.3 MHz

*Res BW 3 MHz

VBW 3 MHz

Span 10 MHz
Sweep 5 ms (401 pts)

Freq/Channel

Center Freq

848.300000 MHz

Start Freq

843.300000 MHz

Stop Freq

853.300000 MHz

CF Step

1.00000000 MHz

Auto

Man

Freq Offset

0.00000000 Hz

Signal Track

On

Off

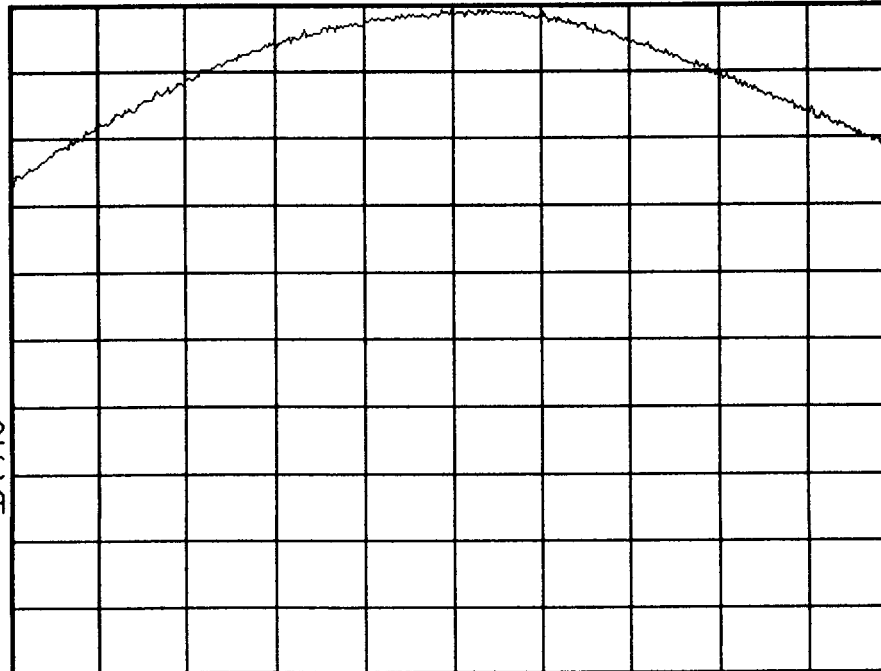
* Agilent 10:25:24 Jul 25, 2001

FCC ID: PP4TX-21B POWER OUT CDMA Ch. 1013

Ref 24.5 dBm Atten 35 dB

Peak
Log
10
dB/
Offst
0.5
dB

V1 S2
S3 FC
AA



Center 824.7 MHz

*Res BW 3 MHz

VBW 3 MHz

Span 10 MHz
Sweep 5 ms (401 pts)

Freq/Channel

Center Freq

824.700000 MHz

Start Freq

819.700000 MHz

Stop Freq

829.700000 MHz

CF Step

1.00000000 MHz

Auto

Man

Freq Offset

0.00000000 Hz

Signal Track

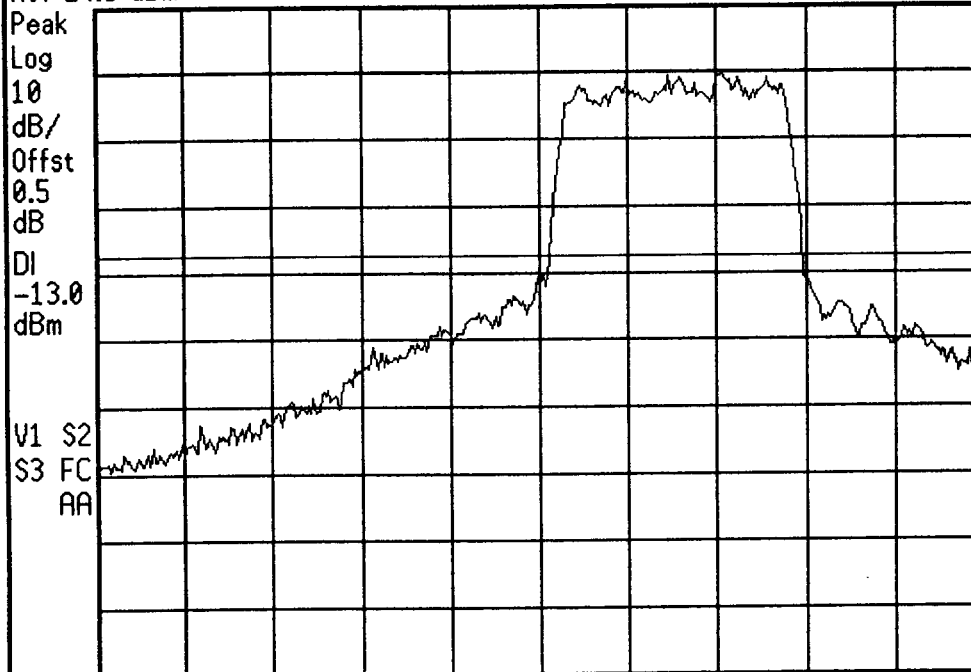
On

Off

* Agilent 10:31:40 Jul 25, 2001

FCC ID: PP4TX-21B BAND EDGE CDMA Ch. 1013

Ref 24.5 dBm Atten 35 dB



Trace

Trace

1 2 3

Clear Write

Max Hold

Min Hold

View

Blank

More
1 of 2

* Agilent 10:34:05 Jul 25, 2001

FCC ID: PP4TX-21B BAND EDGE CDMA Ch. 0777

Ref 24.5 dBm Atten 35 dB



Trace

Trace

1 2 3

Clear Write

Max Hold

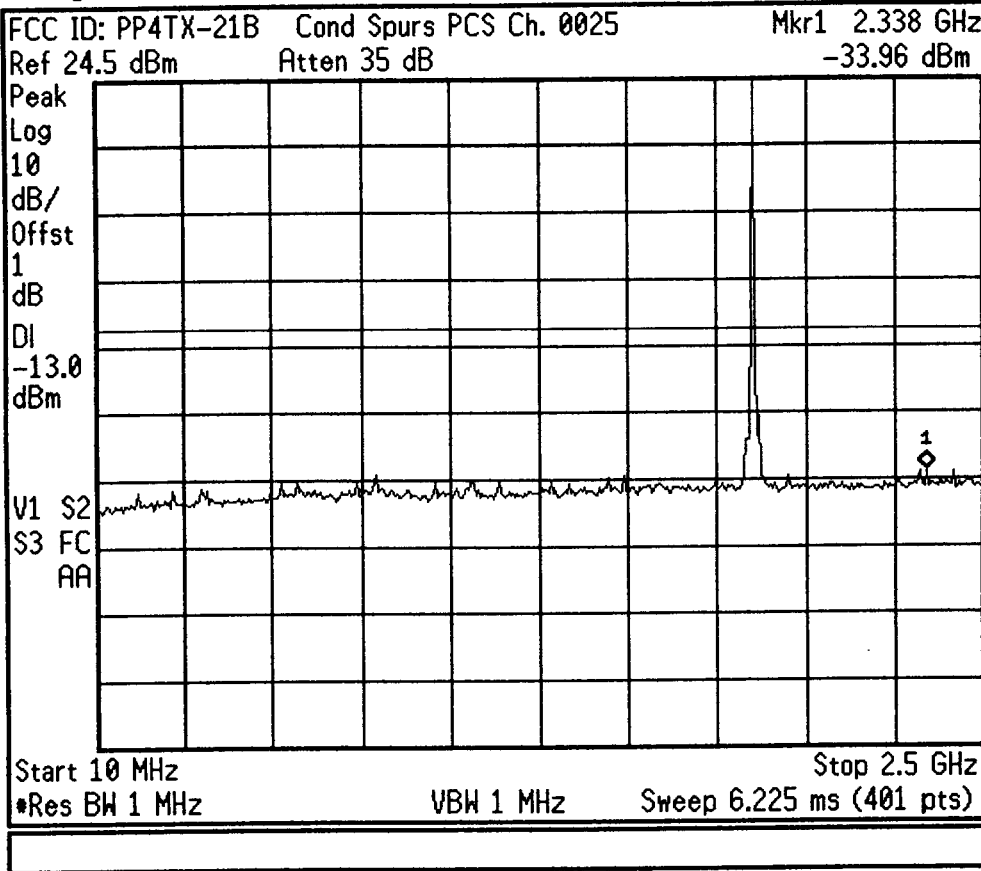
Min Hold

View

Blank

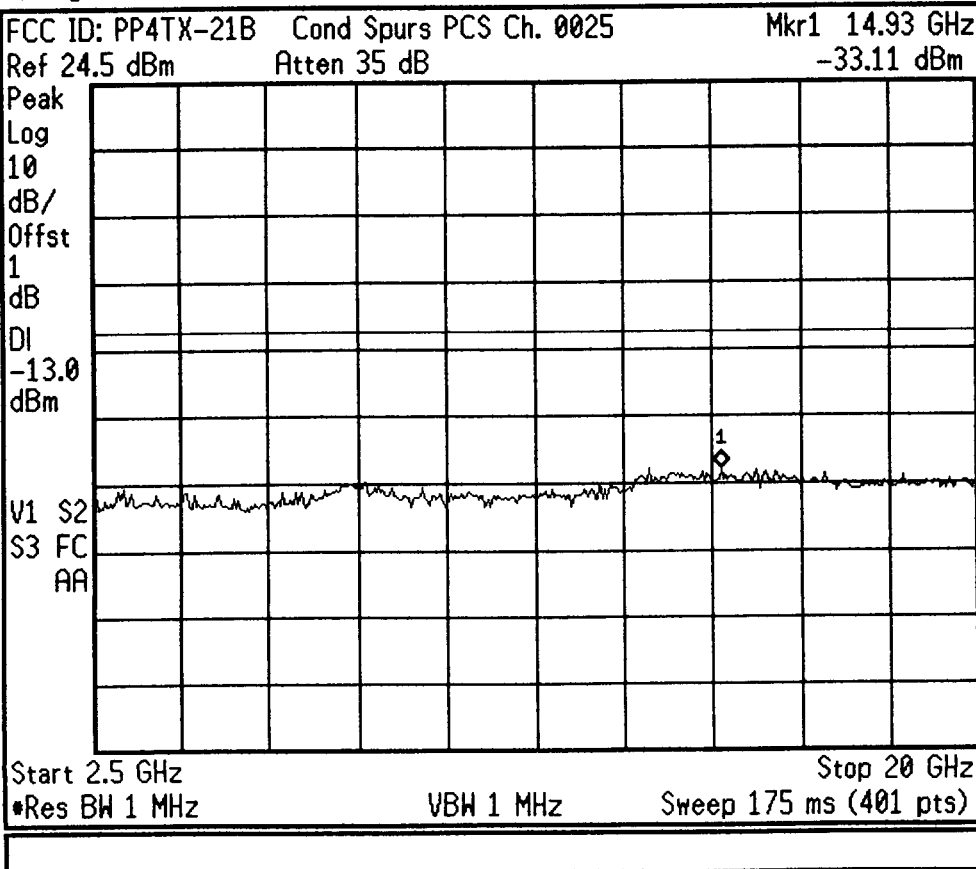
More
1 of 2

Agilent 10:37:00 Jul 25, 2001



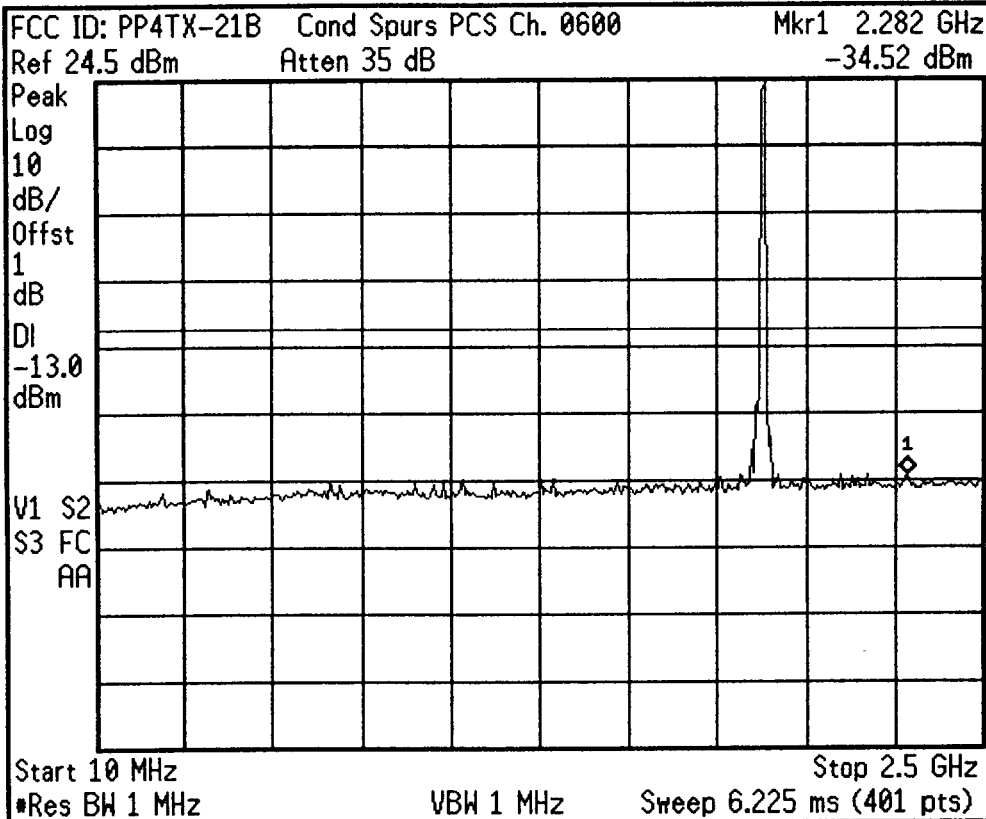
Freq/Channel	
Center Freq	1.25500000 GHz
Start Freq	10.0000000 MHz
Stop Freq	2.50000000 GHz
CF Step	249.000000 MHz Auto Man
Freq Offset	0.00000000 Hz
Signal Track	On Off

Agilent 10:37:35 Jul 25, 2001



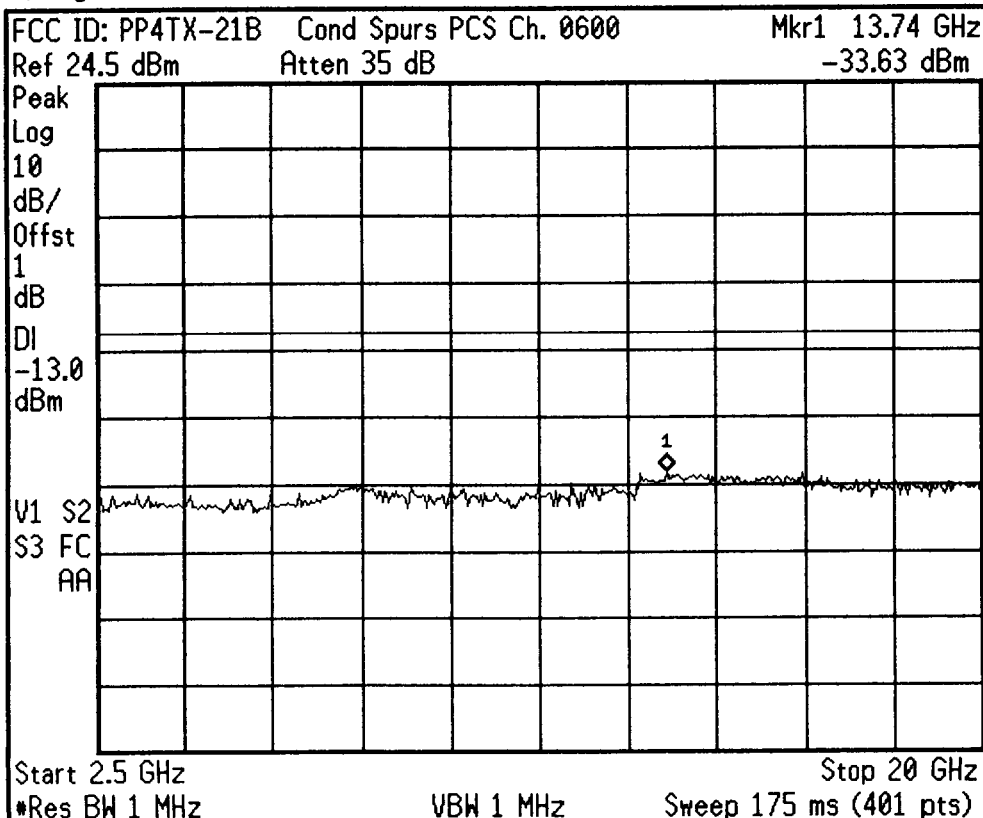
Freq/Channel	
Center Freq	11.2500000 GHz
Start Freq	2.50000000 GHz
Stop Freq	20.0000000 GHz
CF Step	1.75000000 GHz Auto Man
Freq Offset	0.00000000 Hz
Signal Track	On Off

* Agilent 10:42:50 Jul 25, 2001



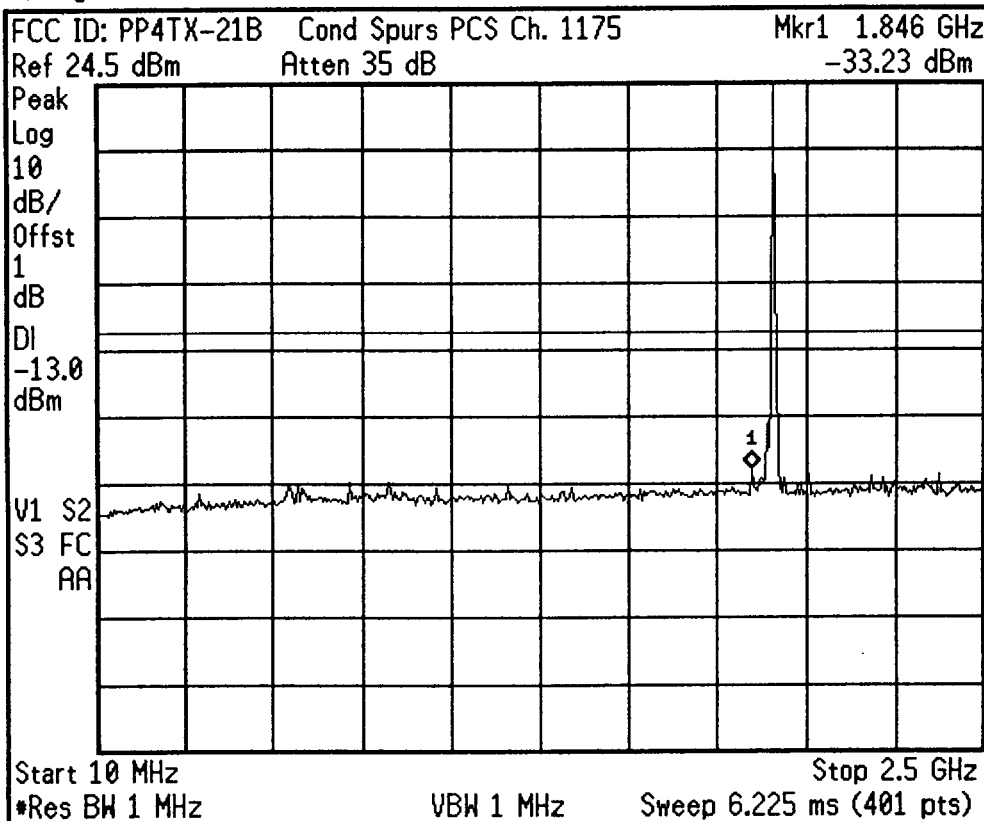
Freq/Channel
Center Freq 1.25500000 GHz
Start Freq 10.0000000 MHz
Stop Freq 2.50000000 GHz
CF Step 249.000000 MHz Auto Man
Freq Offset 0.00000000 Hz
Signal Track On Off

* Agilent 10:43:36 Jul 25, 2001



Freq/Channel
Center Freq 11.2500000 GHz
Start Freq 2.50000000 GHz
Stop Freq 20.0000000 GHz
CF Step 1.75000000 GHz Auto Man
Freq Offset 0.00000000 Hz
Signal Track On Off

* Agilent 10:45:40 Jul 25, 2001



Freq/Channel

Center Freq
 1.25000000 GHz

Start Freq
 10.0000000 MHz

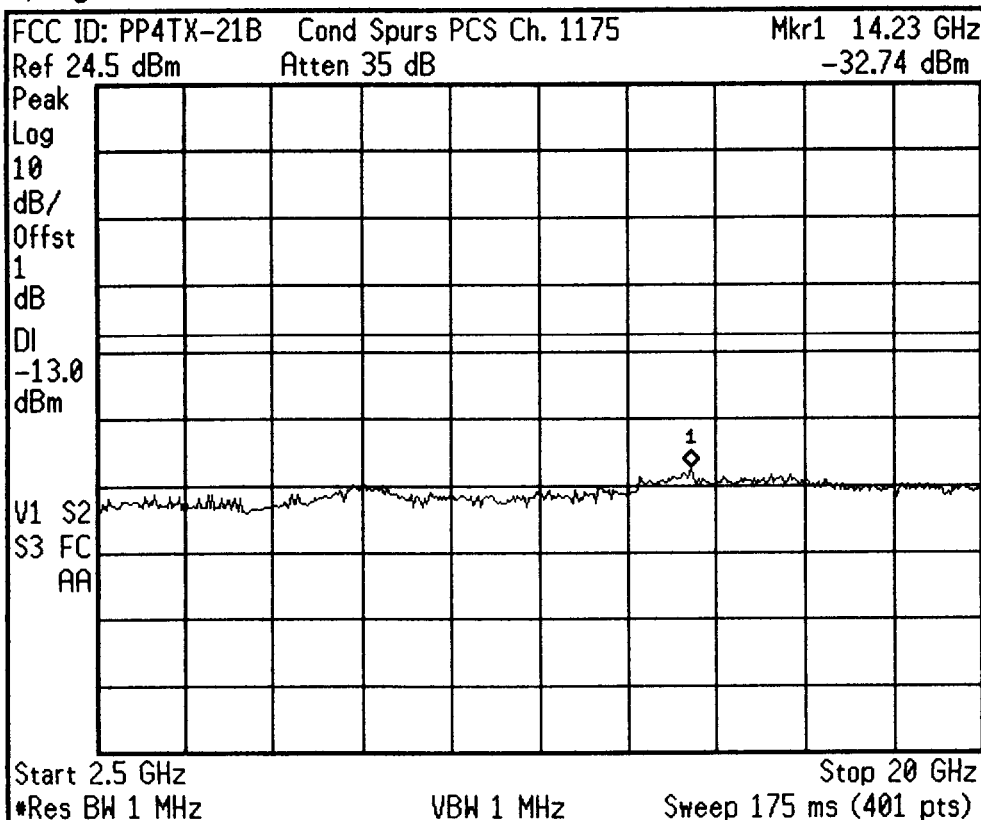
Stop Freq
 2.50000000 GHz

CF Step
 249.000000 MHz
 Auto Man

Freq Offset
 0.00000000 Hz

Signal Track
 On Off

* Agilent 10:46:31 Jul 25, 2001



Freq/Channel

Center Freq
 11.25000000 GHz

Start Freq
 2.50000000 GHz

Stop Freq
 20.00000000 GHz

CF Step
 1.75000000 GHz
 Auto Man

Freq Offset
 0.00000000 Hz

Signal Track
 On Off

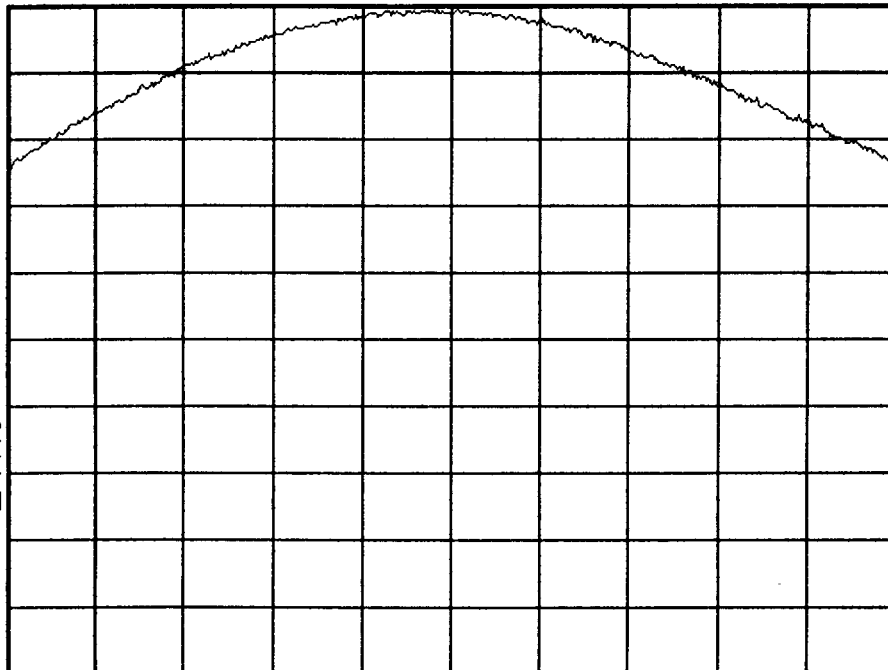
* Agilent 10:47:56 Jul 25, 2001

FCC ID: PP4TX-21B POWER OUT PCS Ch. 1175

Ref 24.5 dBm Atten 35 dB

Peak
Log
10
dB/
Offst
1
dB

V1 S2
S3 FC
AA



Center 1.909 GHz

*Res BW 3 MHz

VBW 3 MHz

Span 10 MHz

Sweep 5 ms (401 pts)

Freq/Channel

Center Freq

1.90900000 GHz

Start Freq

1.90400000 GHz

Stop Freq

1.91400000 GHz

CF Step

1.00000000 MHz

Auto

Man

Freq Offset

0.00000000 Hz

Signal Track

On

Off

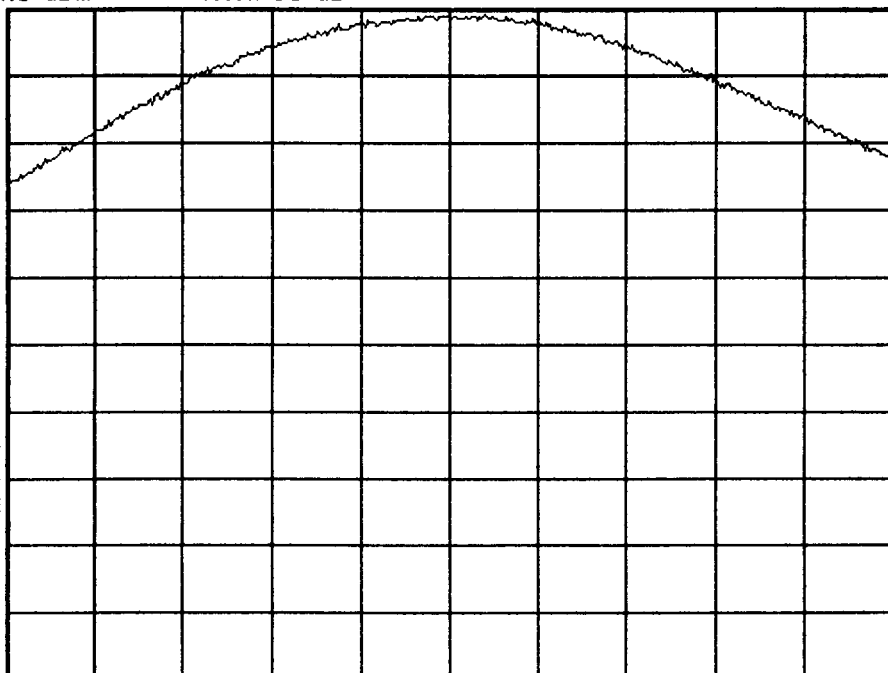
* Agilent 10:49:39 Jul 25, 2001

FCC ID: PP4TX-21B POWER OUT PCS Ch. 0600

Ref 24.5 dBm Atten 35 dB

Peak
Log
10
dB/
Offst
1
dB

V1 S2
S3 FC
AA



Center 1.88 GHz

*Res BW 3 MHz

VBW 3 MHz

Span 10 MHz

Sweep 5 ms (401 pts)

Freq/Channel

Center Freq

1.88000000 GHz

Start Freq

1.87500000 GHz

Stop Freq

1.88500000 GHz

CF Step

1.00000000 MHz

Auto

Man

Freq Offset

0.00000000 Hz

Signal Track

On

Off

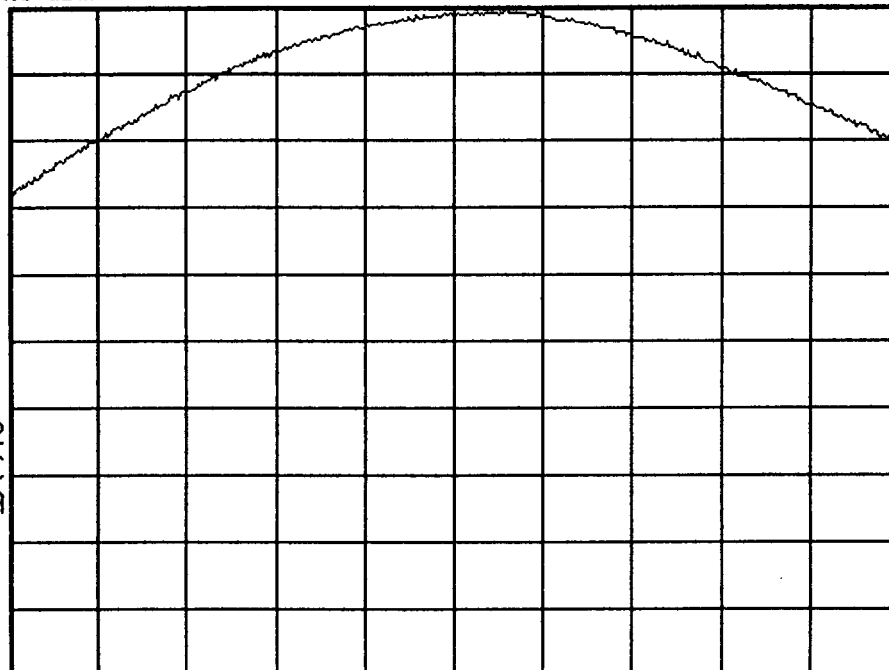
* Agilent 10:51:11 Jul 25, 2001

FCC ID: PP4TX-21B POWER OUT PCS Ch. 0025

Ref 24.5 dBm Atten 35 dB

Peak
Log
10
dB/
Offst
1
dB

V1 S2
S3 FC
AA



Center 1.851 GHz

*Res BW 3 MHz

VBW 3 MHz

Span 10 MHz

Sweep 5 ms (401 pts)

Freq/Channel

Center Freq
1.85100000 GHz

Start Freq
1.84600000 GHz

Stop Freq
1.85600000 GHz

CF Step
1.00000000 MHz
Auto Man

Freq Offset
0.00000000 Hz

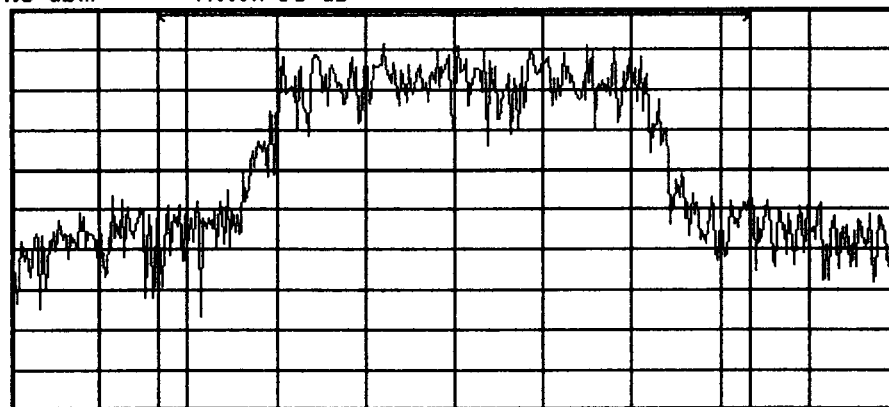
Signal Track
On Off

* Agilent 10:53:29 Jul 25, 2001

FCC ID: PP4TX-21B POWER OUT PCS Ch. 0025

Ref 24.5 dBm Atten 35 dB

Samp
Log
10
dB/
Offst
1
dB



Center 1.851 GHz

*Res BW 30 kHz

*VBW 300 kHz

Span 3 MHz

Sweep 9.167 ms (401 pts)

Trace

Trace
1 2 3

Clear Write

Max Hold

Min Hold

View

Blank

More
1 of 2

Channel Power Results (idle)

Channel Power

24.51 dBm

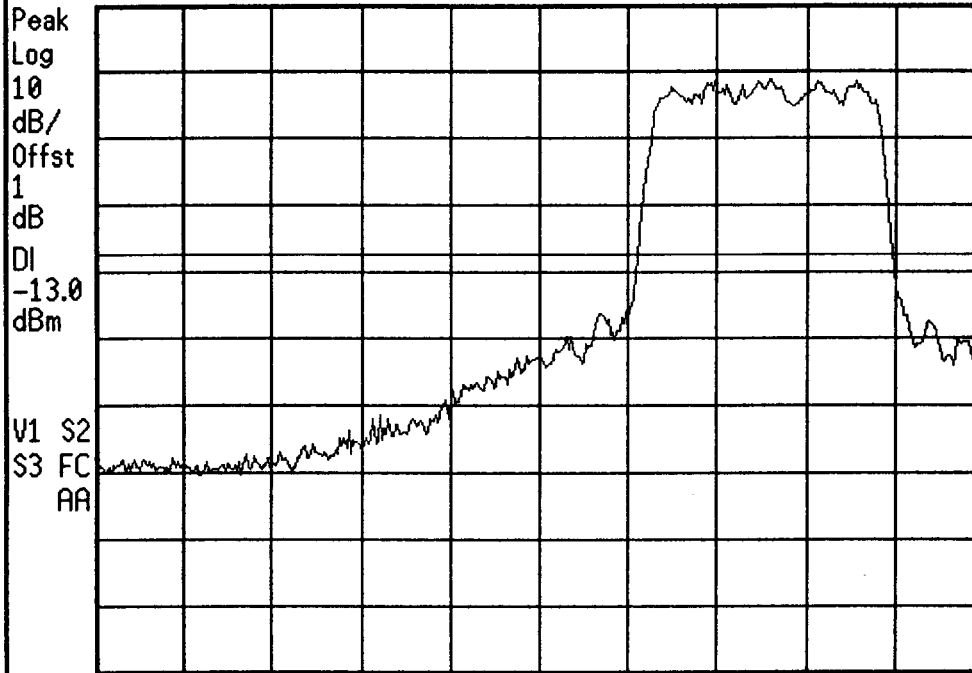
Integration BW 2.000 MHz

Density -38.50 dBm/Hz

* Agilent 10:56:07 Jul 25, 2001

FCC ID: PP4TX-21B BAND EDGE PCS Ch. 0025

Ref 24.5 dBm Atten 35 dB



Center 1.85 GHz

Span 5 MHz

*Res BW 30 kHz

VBW 30 kHz

Sweep 13.89 ms (401 pts)

Freq/Channel

Center Freq
1.85000000 GHz

Start Freq
1.84750000 GHz

Stop Freq
1.85250000 GHz

CF Step
500.000000 kHz
Auto Man

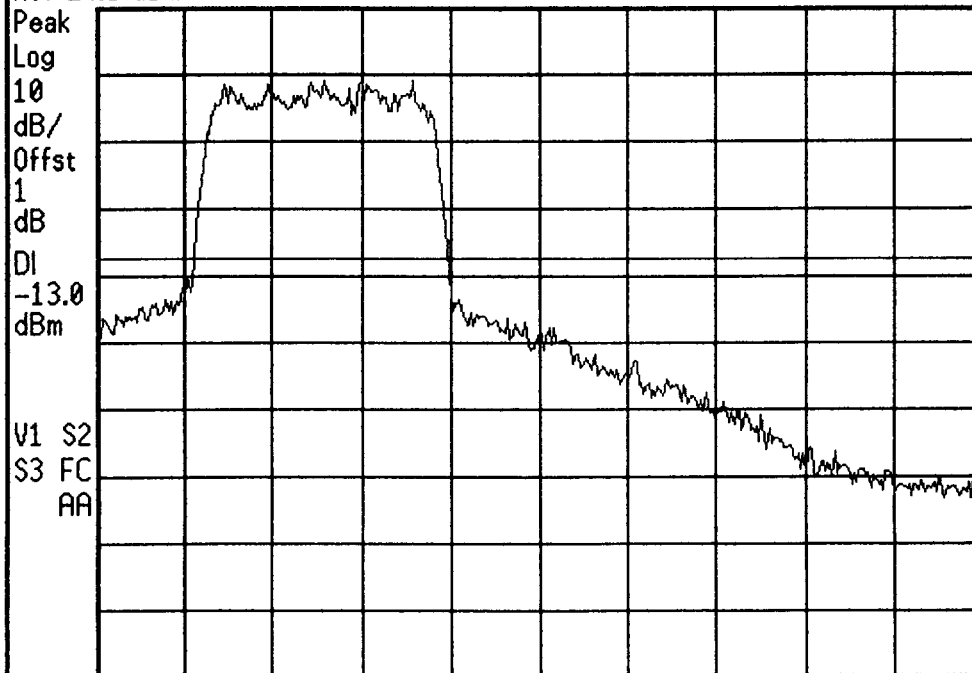
Freq Offset
0.00000000 Hz

Signal Track
On Off

* Agilent 10:58:31 Jul 25, 2001

FCC ID: PP4TX-21B BAND EDGE PCS Ch. 1175

Ref 24.5 dBm Atten 35 dB



Center 1.91 GHz

Span 5 MHz

*Res BW 30 kHz

VBW 30 kHz

Sweep 13.89 ms (401 pts)

Freq/Channel

Center Freq
1.91000000 GHz

Start Freq
1.90750000 GHz

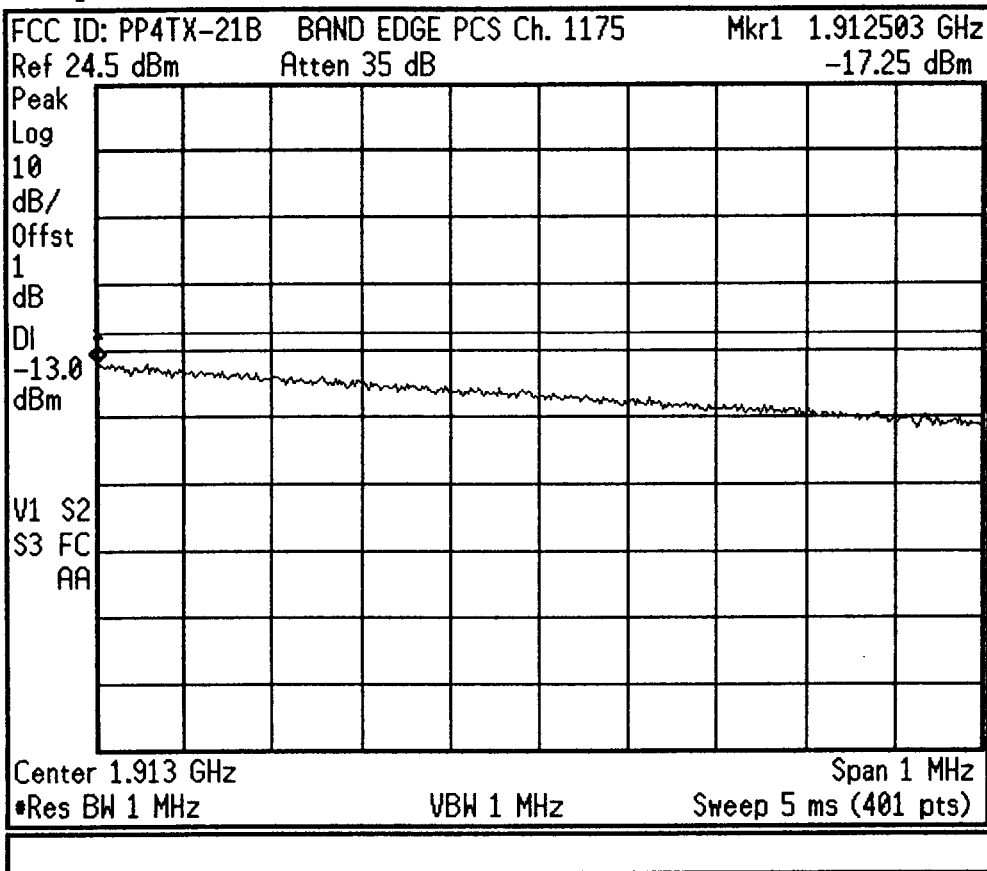
Stop Freq
1.91250000 GHz

CF Step
500.000000 kHz
Auto Man

Freq Offset
0.00000000 Hz

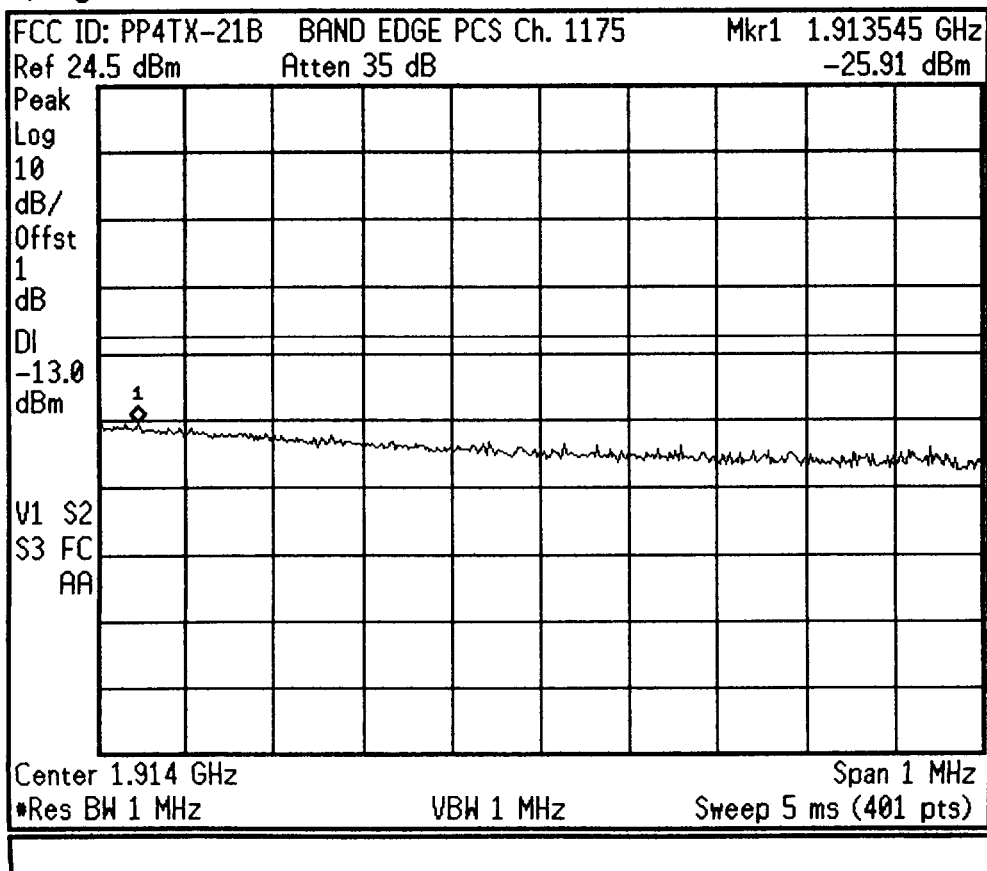
Signal Track
On Off

* Agilent 10:59:38 Jul 25, 2001



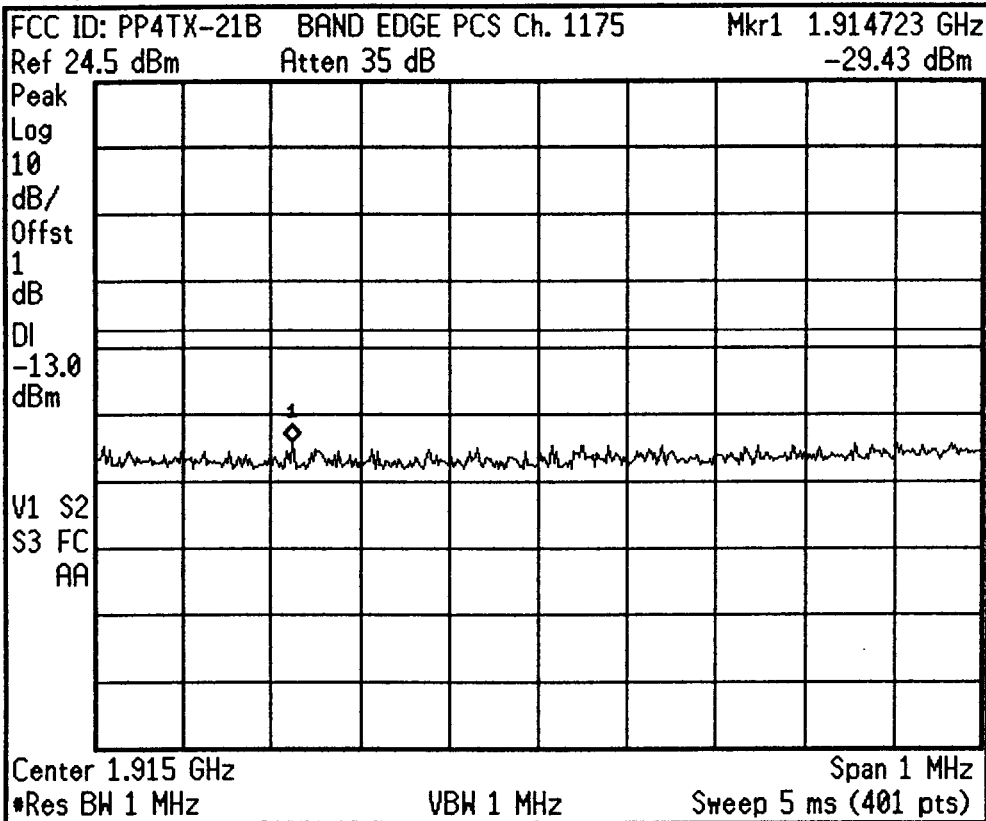
Freq/Channel
Center Freq 1.91300000 GHz
Start Freq 1.91250000 GHz
Stop Freq 1.91350000 GHz
CF Step 100.000000 kHz Auto Man
Freq Offset 0.00000000 Hz
Signal Track On Off

* Agilent 11:00:15 Jul 25, 2001



Freq/Channel
Center Freq 1.91400000 GHz
Start Freq 1.91350000 GHz
Stop Freq 1.91450000 GHz
CF Step 100.000000 kHz Auto Man
Freq Offset 0.00000000 Hz
Signal Track On Off

* Agilent 11:01:06 Jul 25, 2001



Freq/Channel

Center Freq
 1.91500000 GHz

Start Freq
 1.91450000 GHz

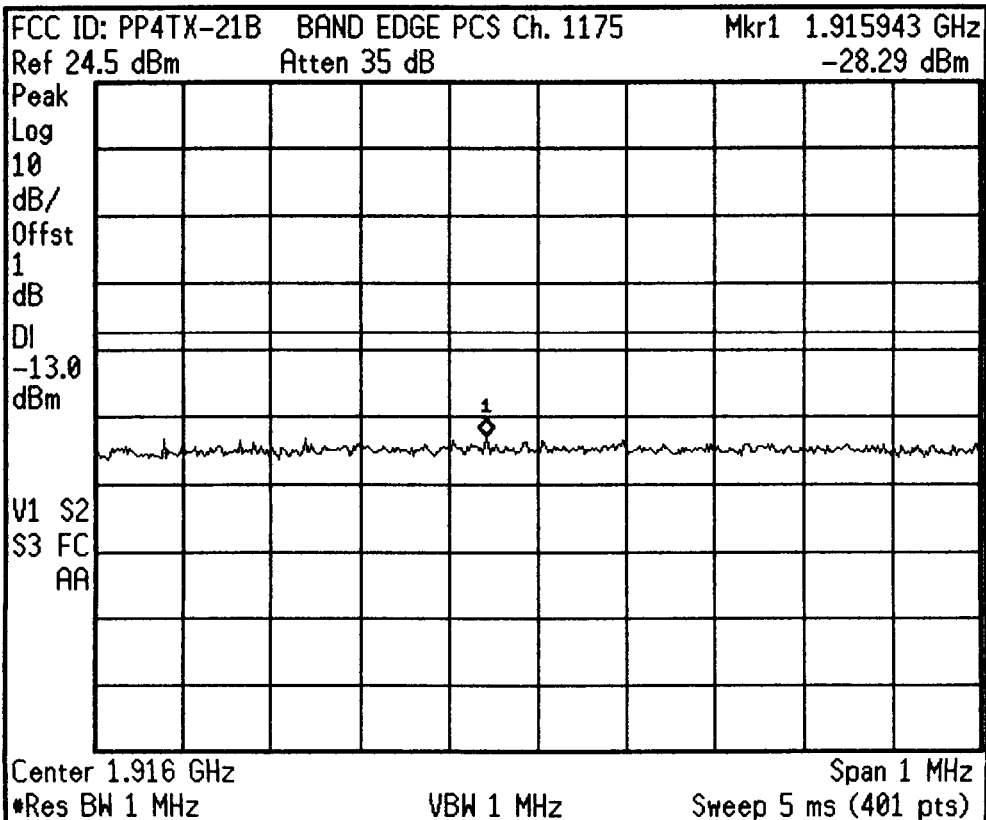
Stop Freq
 1.91550000 GHz

CF Step
 100.000000 kHz
 Auto Man

Freq Offset
 0.00000000 Hz

Signal Track
 On Off

* Agilent 11:01:51 Jul 25, 2001



Freq/Channel

Center Freq
 1.91600000 GHz

Start Freq
 1.91550000 GHz

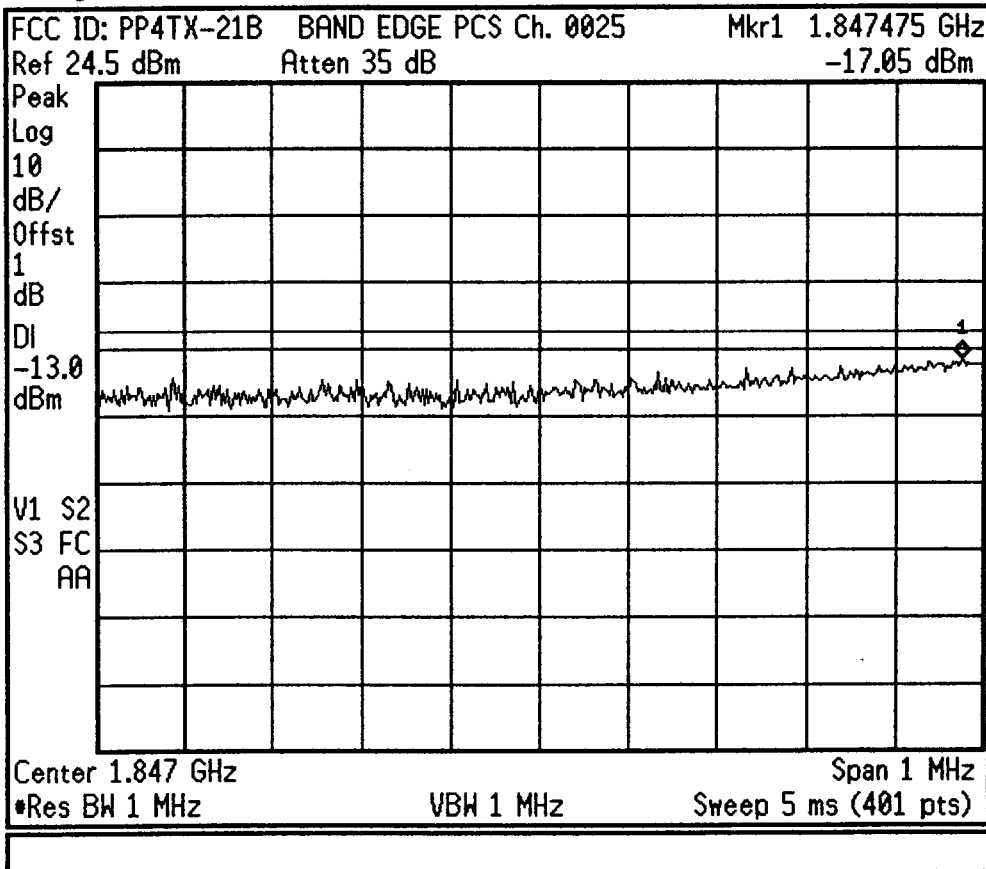
Stop Freq
 1.91650000 GHz

CF Step
 100.000000 kHz
 Auto Man

Freq Offset
 0.00000000 Hz

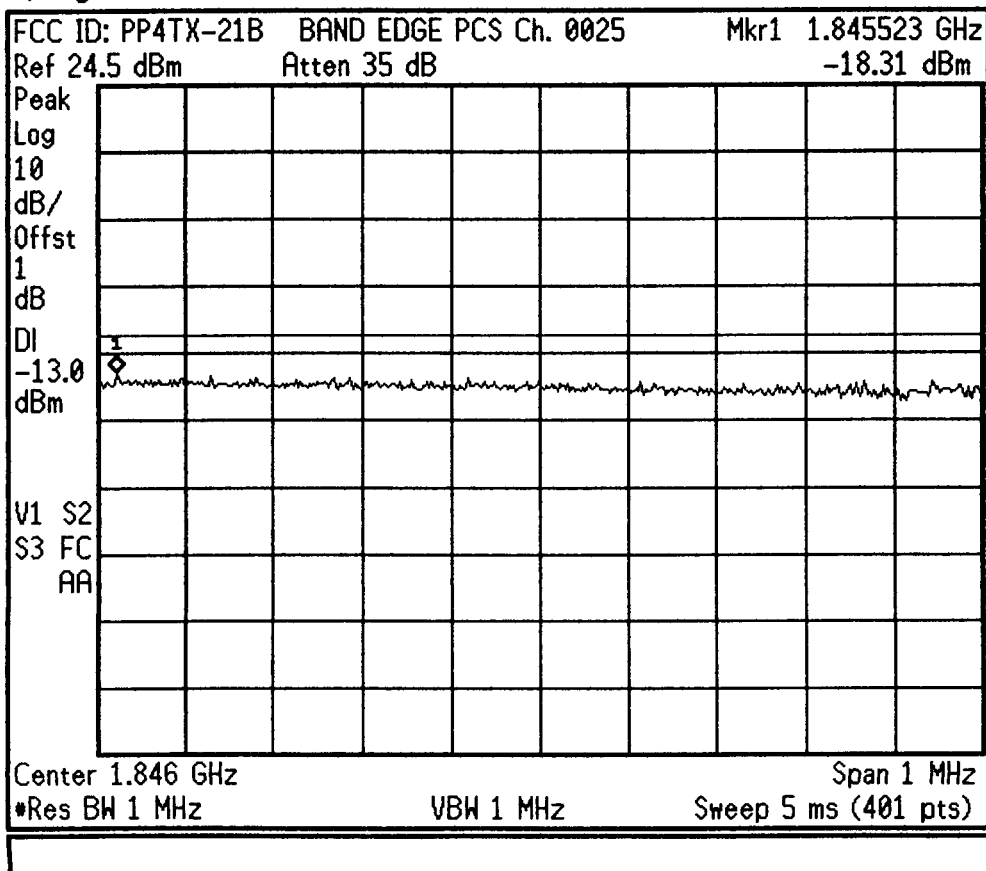
Signal Track
 On Off

* Agilent 11:03:48 Jul 25, 2001



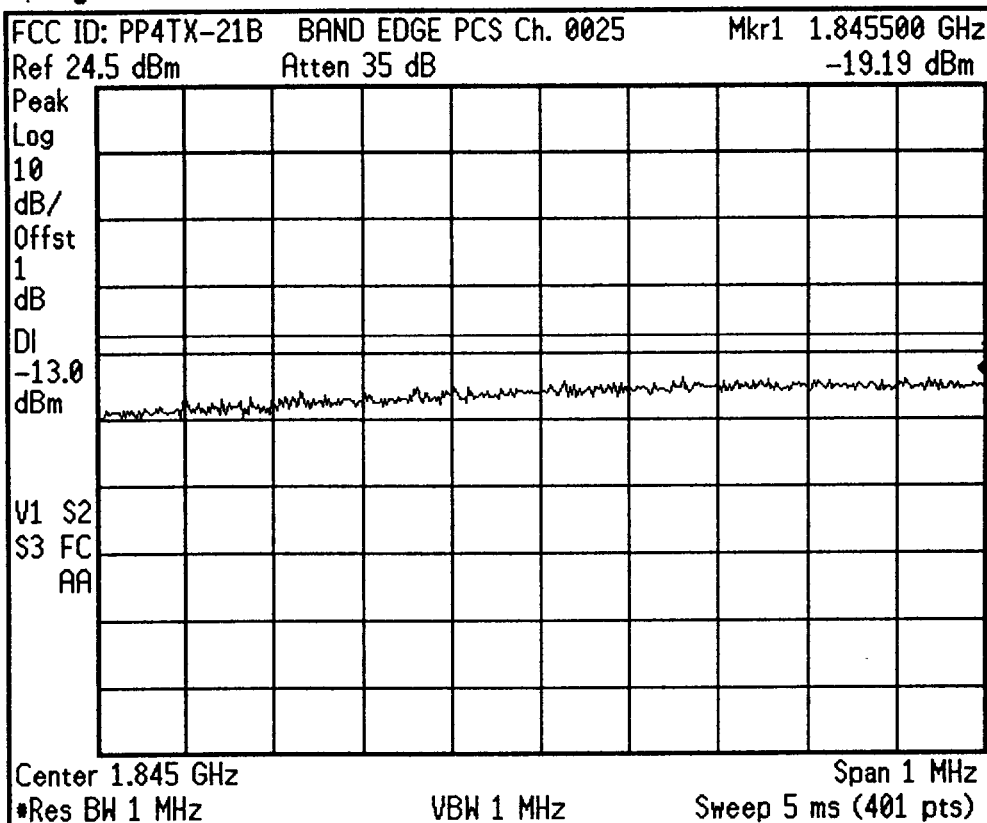
Freq/Channel
Center Freq 1.84700000 GHz
Start Freq 1.84650000 GHz
Stop Freq 1.84750000 GHz
CF Step 100.000000 kHz Auto Man
Freq Offset 0.00000000 Hz
Signal Track On Off

* Agilent 11:04:36 Jul 25, 2001



Freq/Channel
Center Freq 1.84600000 GHz
Start Freq 1.84550000 GHz
Stop Freq 1.84650000 GHz
CF Step 100.000000 kHz Auto Man
Freq Offset 0.00000000 Hz
Signal Track On Off

* Agilent 11:05:07 Jul 25, 2001



Freq/Channel

Center Freq
 1.84500000 GHz

Start Freq
 1.84450000 GHz

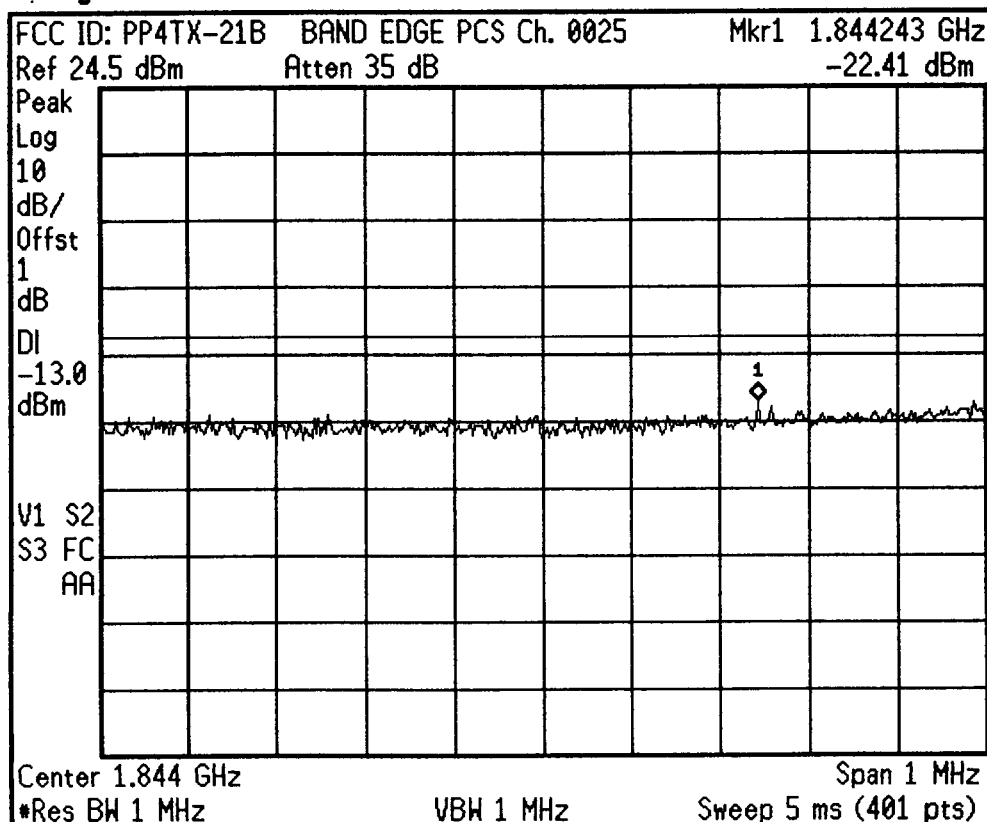
Stop Freq
 1.84550000 GHz

CF Step
 100.000000 kHz
 Auto Man

Freq Offset
 0.00000000 Hz

Signal Track
 On Off

* Agilent 11:05:44 Jul 25, 2001



Freq/Channel

Center Freq
 1.84400000 GHz

Start Freq
 1.84350000 GHz

Stop Freq
 1.84450000 GHz

CF Step
 100.000000 kHz
 Auto Man

Freq Offset
 0.00000000 Hz

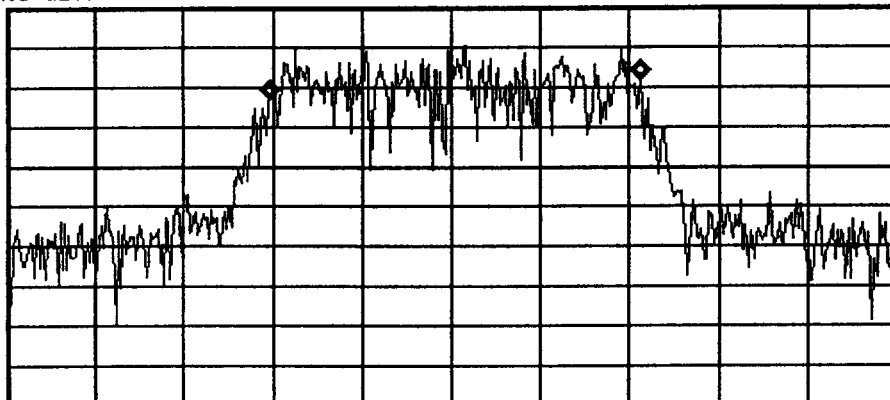
Signal Track
 On Off

* Agilent 11:08:09 Jul 25, 2001

FCC ID: PP4TX-21B POWER OUT PCS Ch. 0600

Ref 24.5 dBm Atten 35 dB

Samp
Log
10
dB/
Offst
1
dB



Center 1.88 GHz

Span 3 MHz

*Res BW 30 kHz

*VBW 300 kHz

Sweep 9.167 ms (401 pts)

Occupied Bandwidth Results (idle)

Occupied Bandwidth

Occ BW % Pwr 99.00 %

1.250 MHz

Transmit Freq Error 13.75 kHz

Freq/Channel

Center Freq

1.88000000 GHz

Start Freq

1.87850000 GHz

Stop Freq

1.88150000 GHz

CF Step

300.000000 kHz

Auto

Man

Freq Offset

0.00000000 Hz

Signal Track

On

Off