

## ATTACHMENT D – TEST PLOTS

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# PCTEST Engineering Lab.

## SPECTRUM ANALYZER PRESENTATION

FCC ID:PP4TX-25B

HYUNDAI Electronics

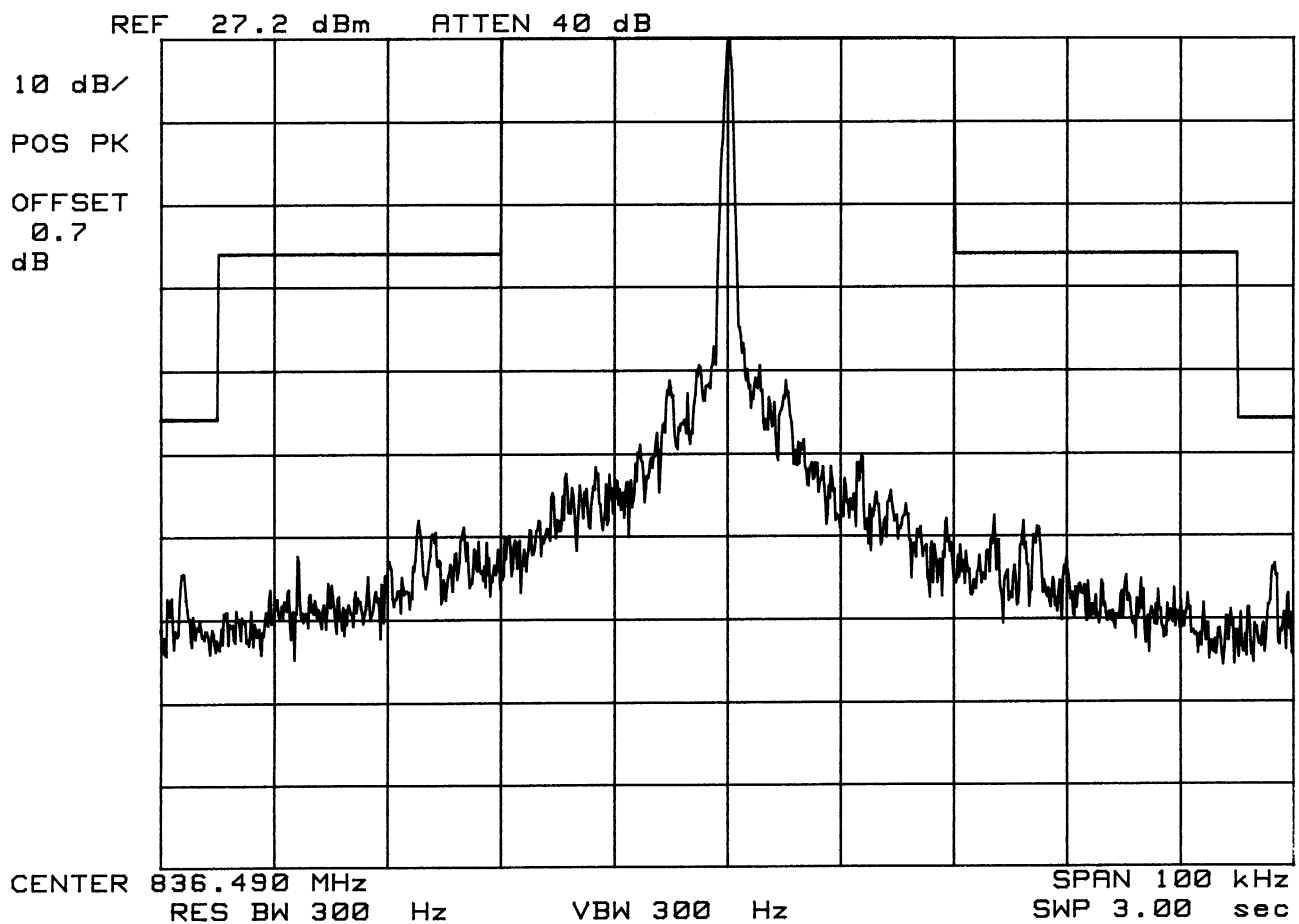
Tri-Mode Phone

FM Channel 0383

Operating Frequency: 836.490 MHz

Output Power : 27.2 dBm

Test Mode:Unmodulated Signal



# PCTEST Engineering Lab.

## SPECTRUM ANALYZER PRESENTATION

FCC ID:PP4TX-25B

HYUNDAI Electronics

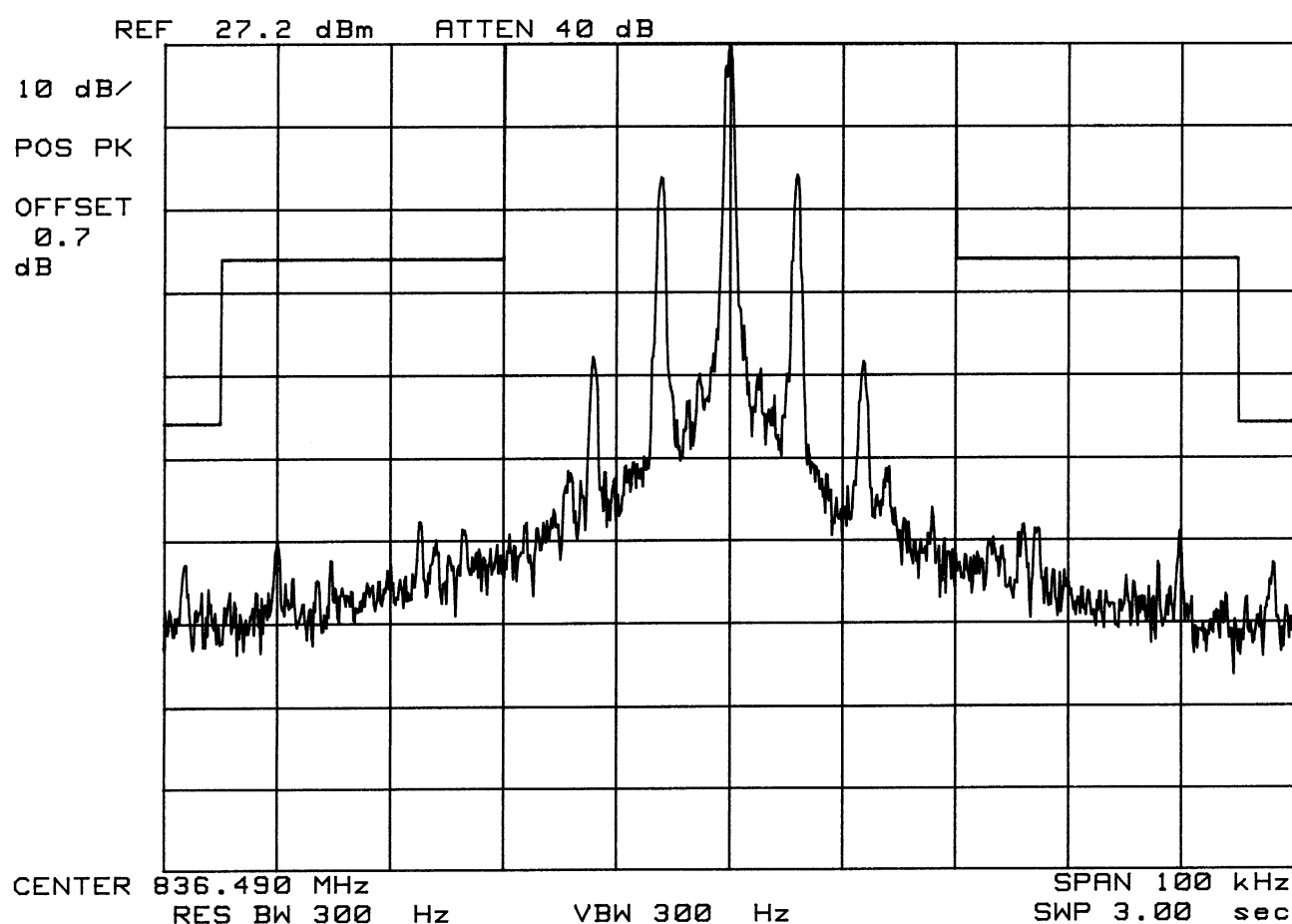
Tri-Mode Phone

FM Channel 0383

Operating Frequency: 836.490 MHz

Output Power : 27.2 dBm

Test Mode:SAT



# PCTEST Engineering Lab.

## SPECTRUM ANALYZER PRESENTATION

FCC ID:PP4TX-25B

HYUNDAI Electronics

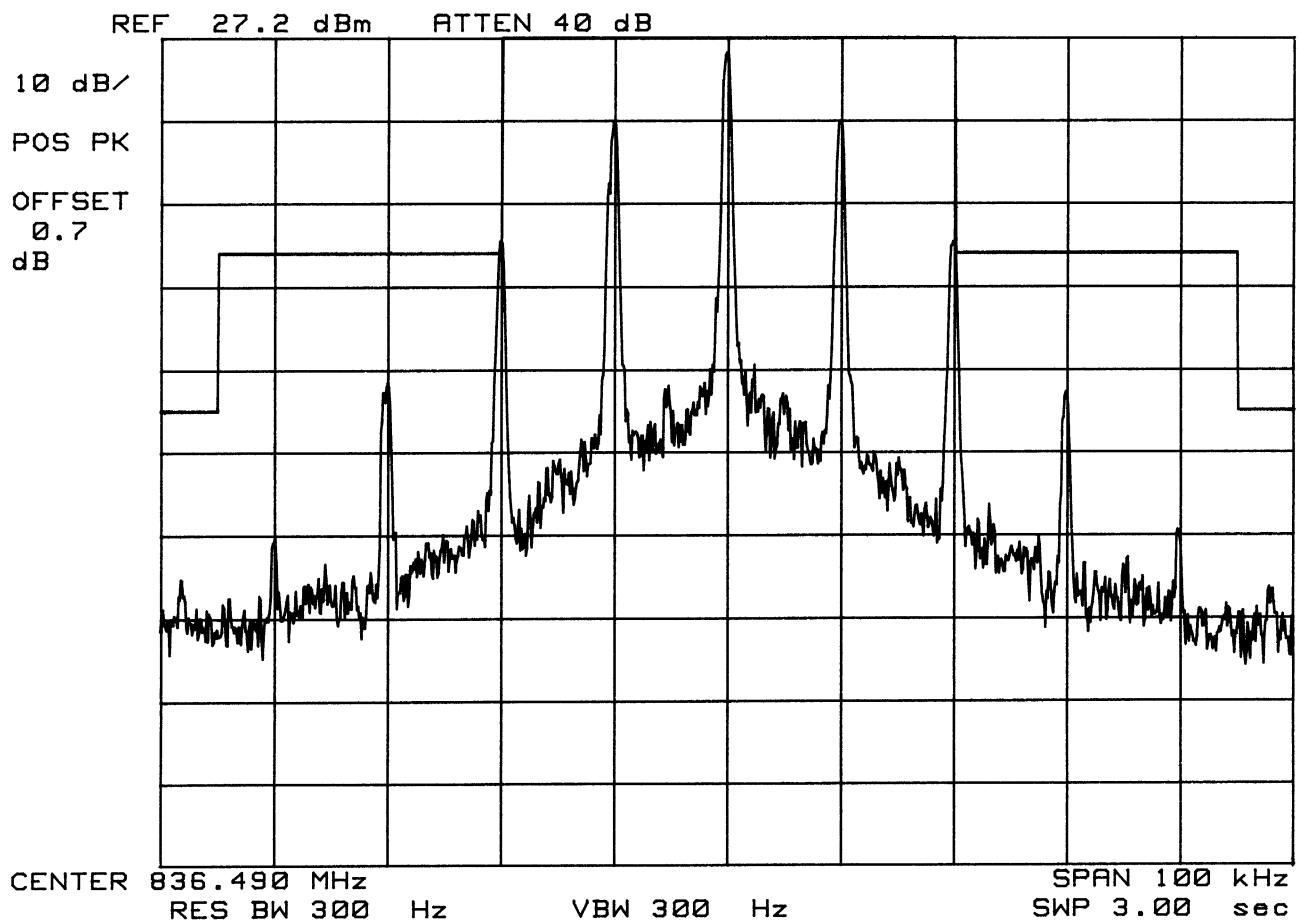
Tri-Mode Phone

FM Channel 0383

Operating Frequency: 836.490 MHz

Output Power : 27.2 dBm

Test Mode:ST



# PCTEST Engineering Lab.

## SPECTRUM ANALYZER PRESENTATION

FCC ID:PP4TX-25B

HYUNDAI Electronics

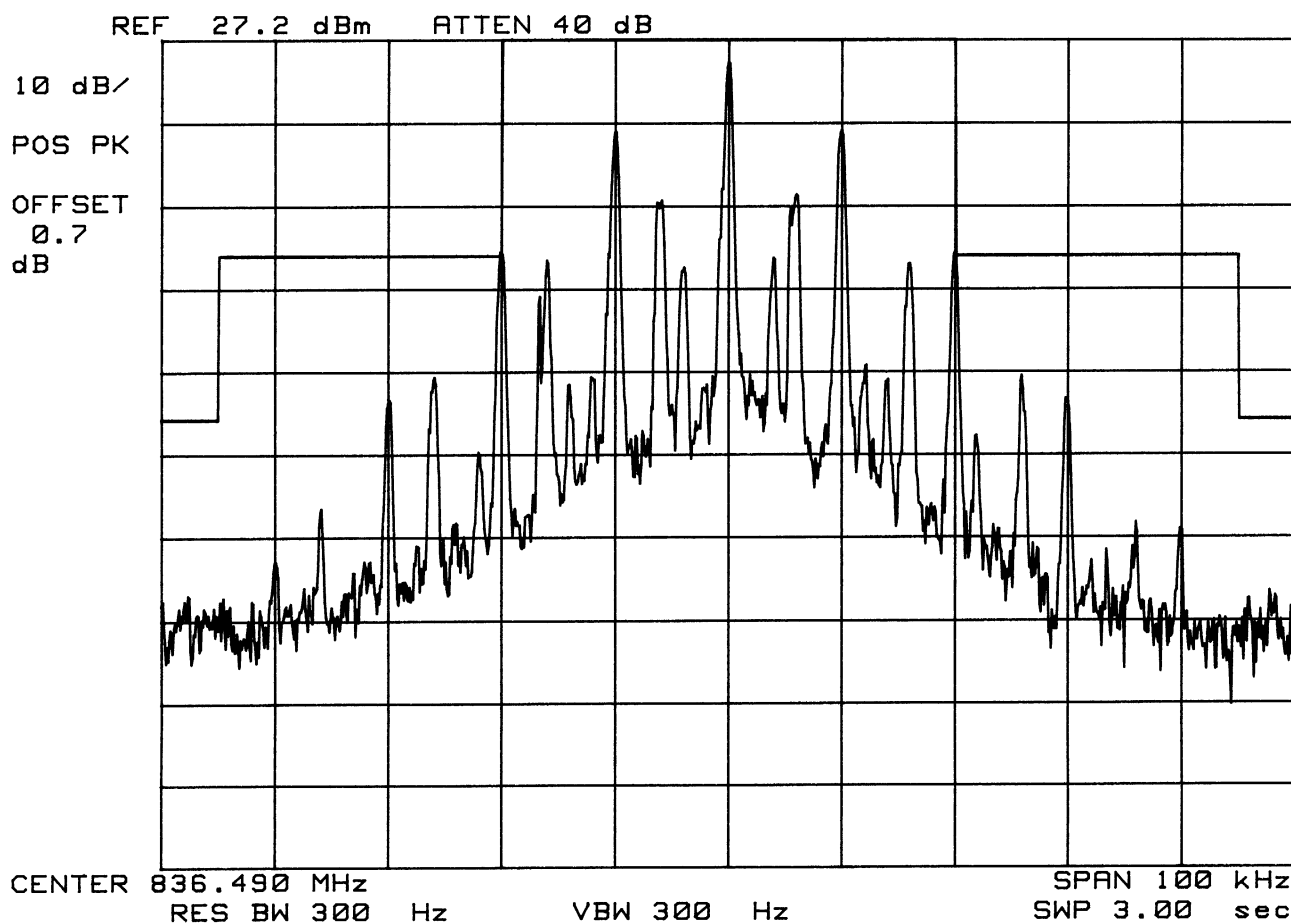
Tri-Mode Phone

FM Channel 0383

Operating Frequency: 836.490 MHz

Output Power : 27.2 dBm

Test Mode:SAT + ST



# PCTEST Engineering Lab.

## SPECTRUM ANALYZER PRESENTATION

FCC ID:PP4TX-25B

HYUNDAI Electronics

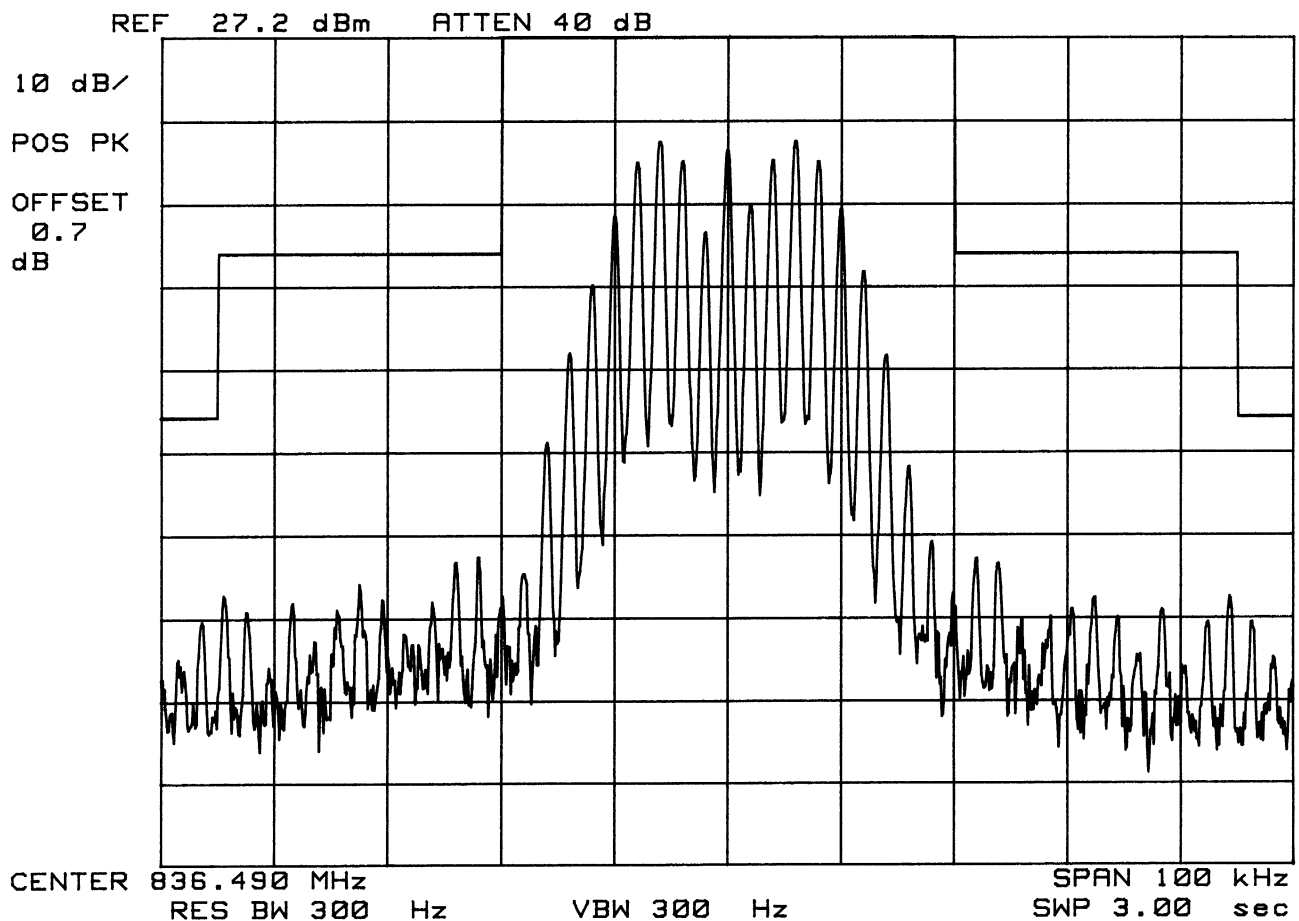
Tri-Mode Phone

FM Channel 0383

Operating Frequency: 836.490 MHz

Output Power : 27.2 dBm

Test Mode:Voice



# PCTEST Engineering Lab.

## SPECTRUM ANALYZER PRESENTATION

FCC ID:PP4TX-25B

HYUNDAI Electronics

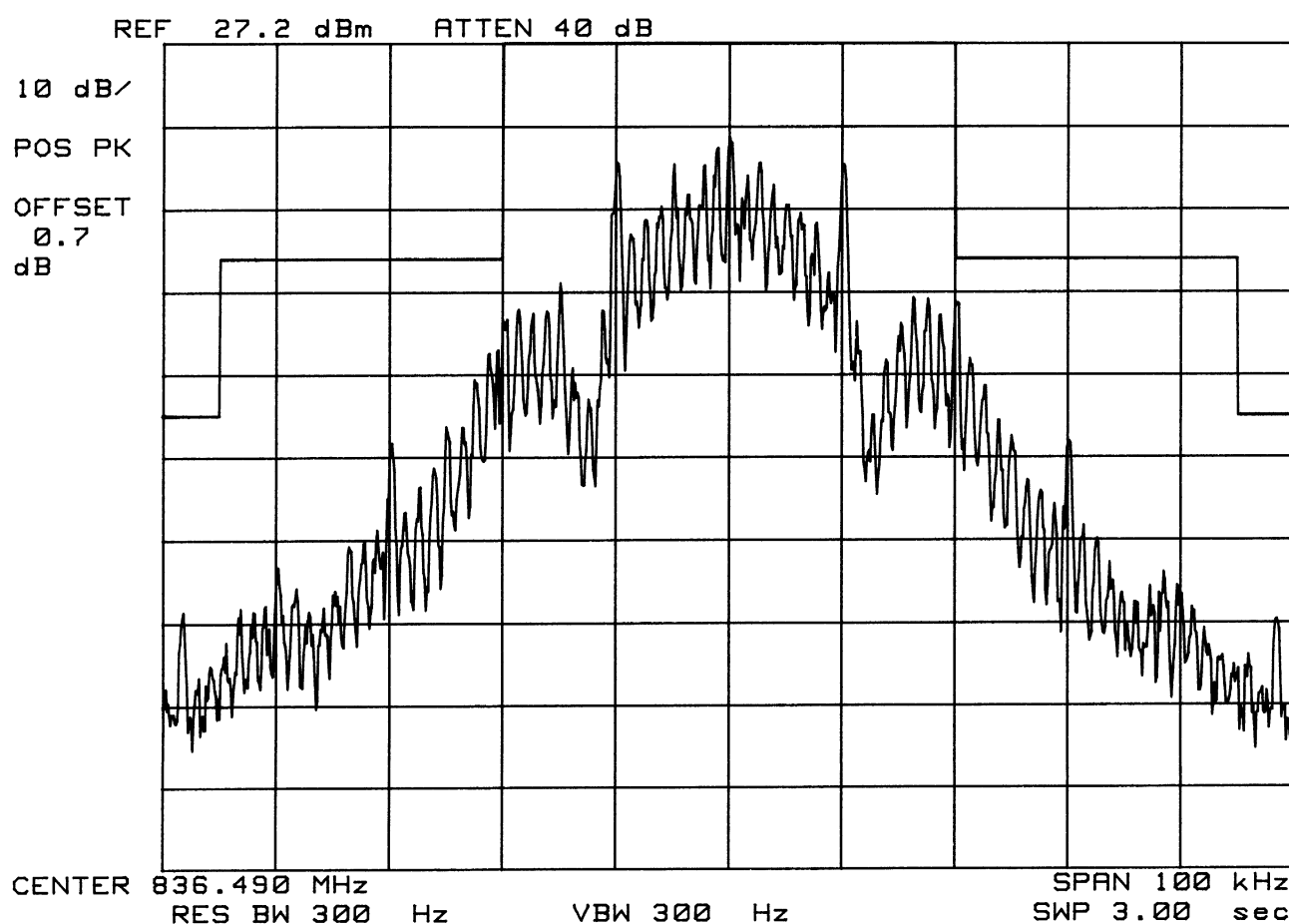
Tri-Mode Phone

FM Channel 0383

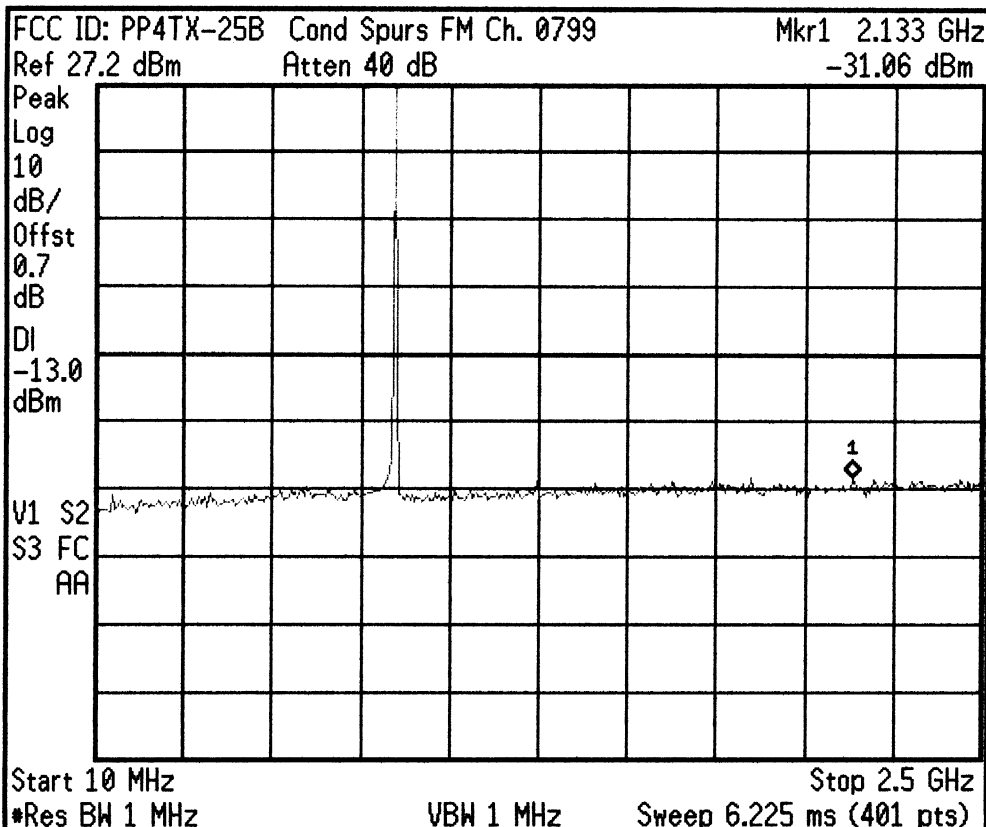
Operating Frequency: 836.490 MHz

Output Power : 27.2 dBm

Test Mode:Wide Band Data



\* Agilent 07:03:13 Aug 20, 2001



Freq/Channel

Center Freq  
 1.25500000 GHz

Start Freq  
 10.0000000 MHz

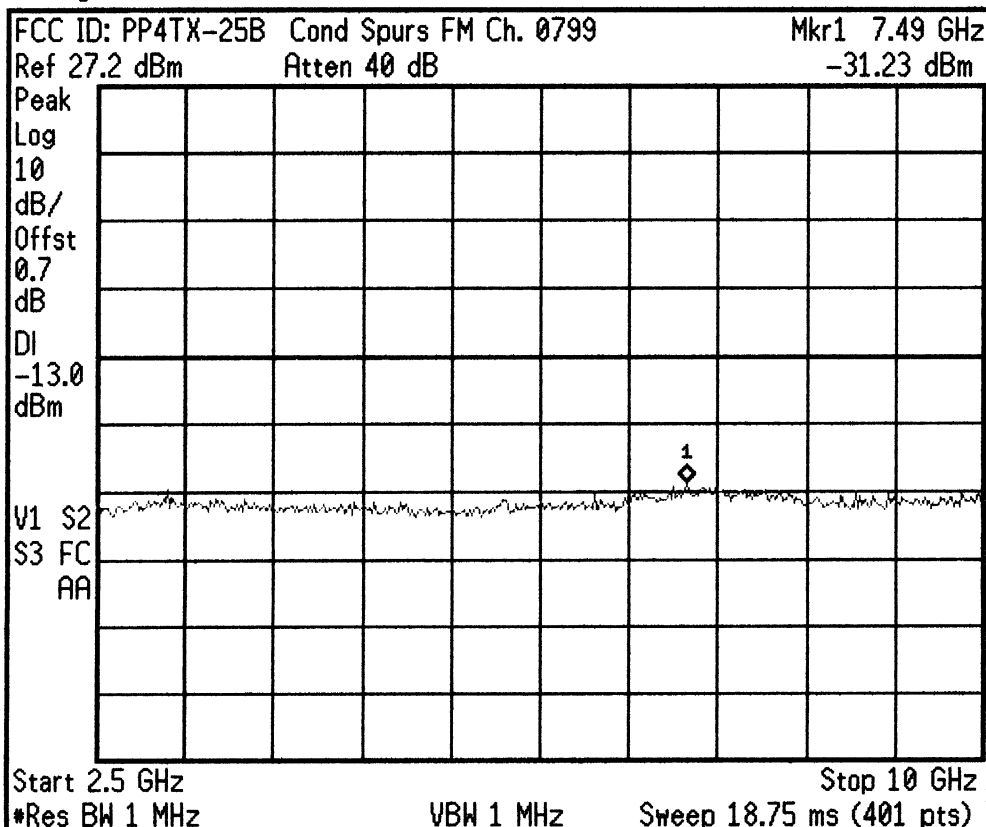
Stop Freq  
 2.50000000 GHz

CF Step  
 249.000000 MHz  
 Auto Man

Freq Offset  
 0.00000000 Hz

Signal Track  
 On Off

\* Agilent 07:04:09 Aug 20, 2001



Freq/Channel

Center Freq  
 6.25000000 GHz

Start Freq  
 2.50000000 GHz

Stop Freq  
 10.0000000 GHz

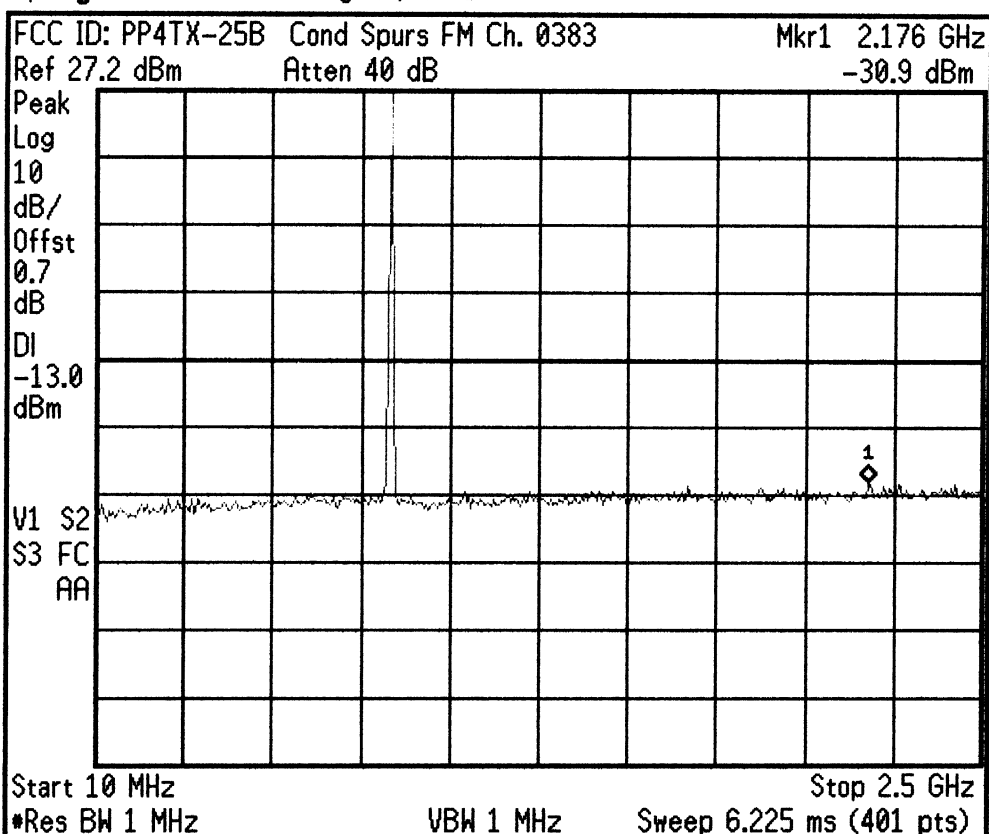
CF Step  
 750.000000 MHz  
 Auto Man

Freq Offset  
 0.00000000 Hz

Signal Track  
 On Off



\* Agilent 06:59:09 Aug 20, 2001



Freq/Channel

Center Freq  
 1.25500000 GHz

Start Freq  
 10.0000000 MHz

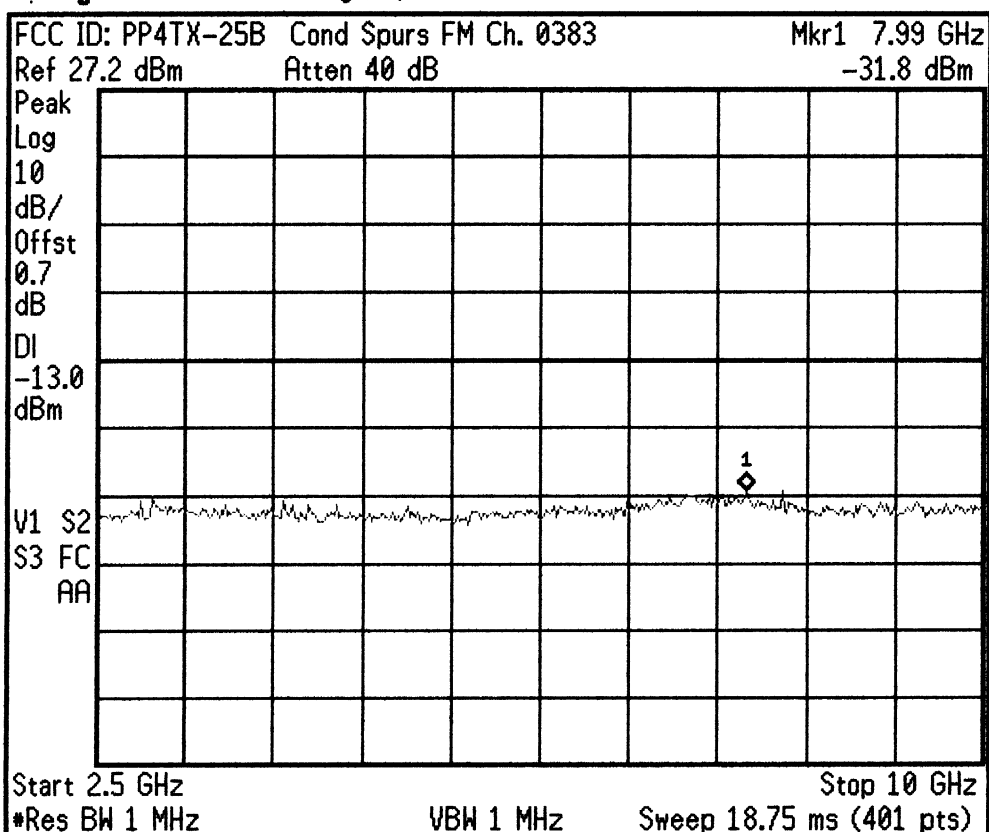
Stop Freq  
 2.50000000 GHz

CF Step  
 249.000000 MHz  
 Auto Man

Freq Offset  
 0.00000000 Hz

Signal Track  
 On Off

\* Agilent 06:59:57 Aug 20, 2001



Freq/Channel

Center Freq  
 6.25000000 GHz

Start Freq  
 2.50000000 GHz

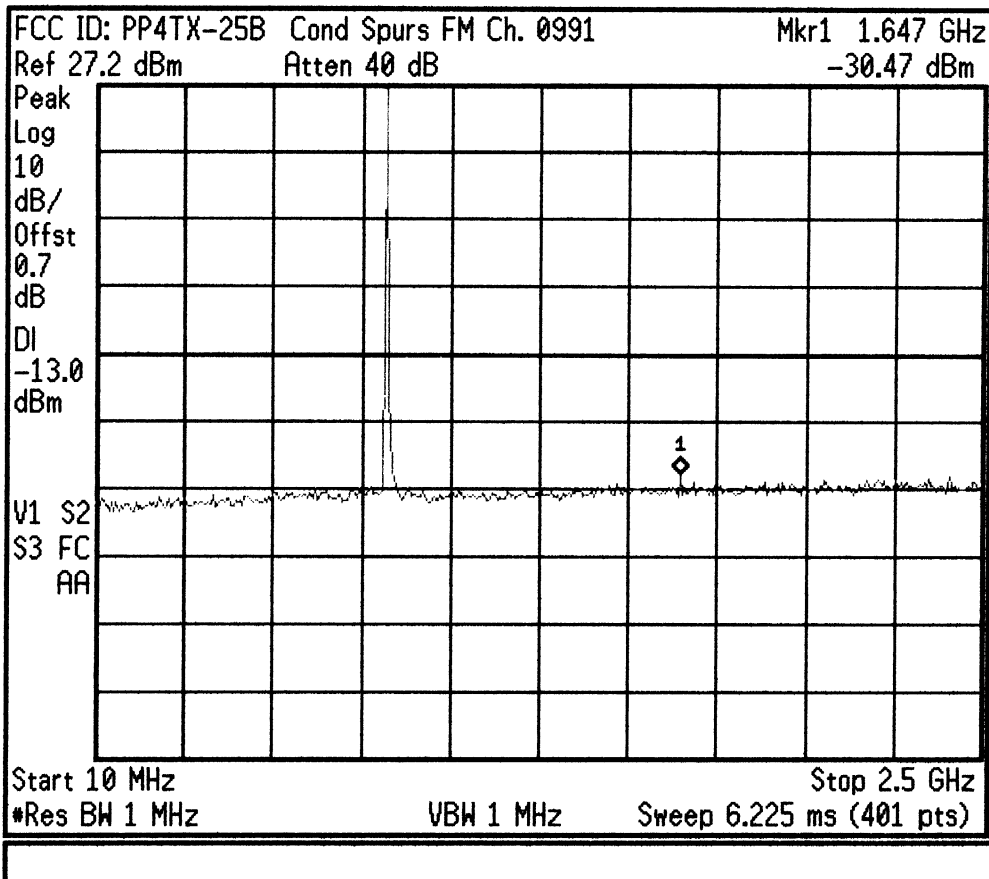
Stop Freq  
 10.0000000 GHz

CF Step  
 750.000000 MHz  
 Auto Man

Freq Offset  
 0.00000000 Hz

Signal Track  
 On Off

\* Agilent 06:55:26 Aug 20, 2001



Freq/Channel

Center Freq  
 1.25500000 GHz

Start Freq  
 10.0000000 MHz

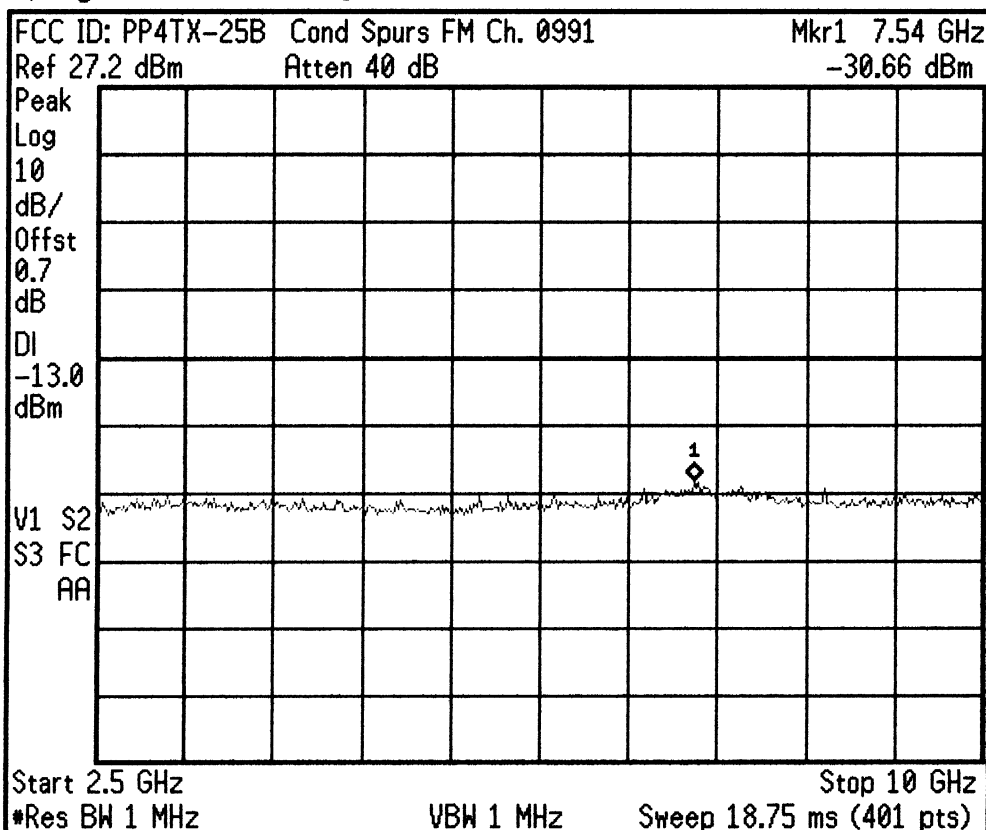
Stop Freq  
 2.50000000 GHz

CF Step  
 249.000000 MHz  
 Auto Man

Freq Offset  
 0.00000000 Hz

Signal Track  
 On Off

\* Agilent 06:56:30 Aug 20, 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

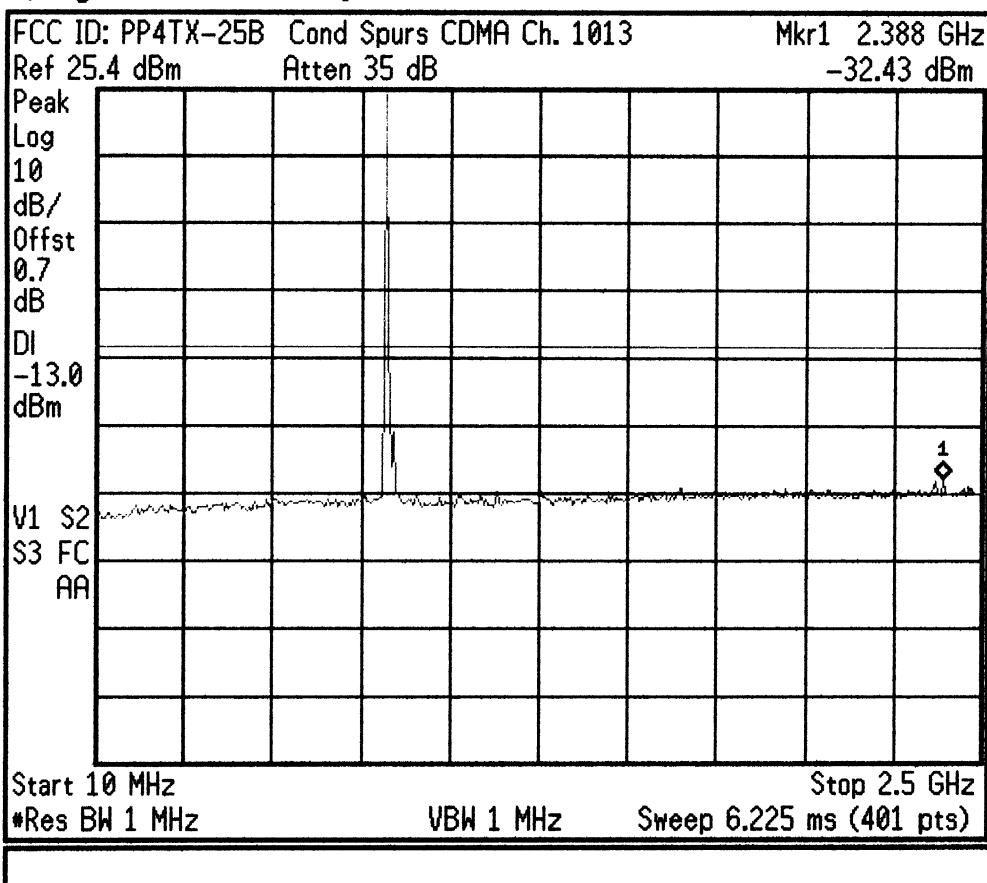
Freq Offset  
 0.00000000 Hz

Signal Track  
 On Off

[illegible]

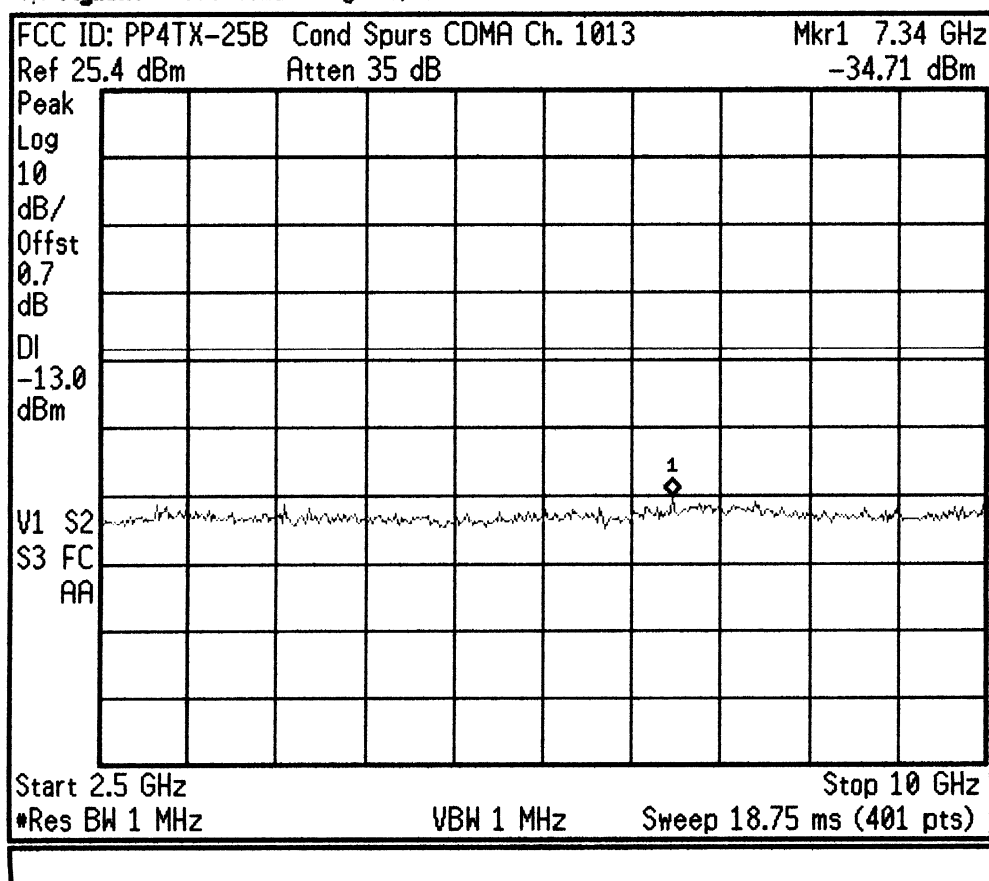
CENTER 881.50 MHz  
#RES BW 100 KHZ  
#VBW 100 KHZ  
SPAN 25.00 MHz  
SWP 20 msec

\* Agilent 07:47:59 Aug 20, 2001



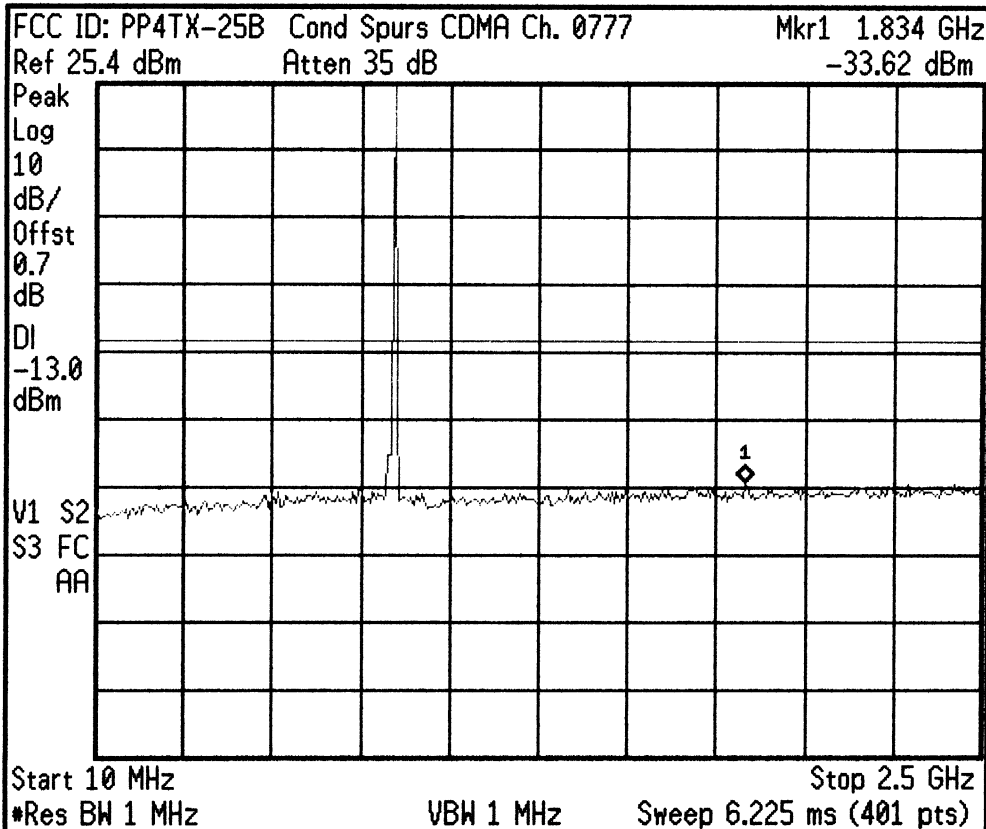
Freq/Channel
Center Freq 1.25500000 GHz
Start Freq 10.0000000 MHz
Stop Freq 2.50000000 GHz
CF Step 249.000000 MHz Auto Man
Freq Offset 0.00000000 Hz
Signal Track On Off

\* Agilent 07:48:25 Aug 20, 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 07:51:23 Aug 20, 2001



Freq/Channel

Center Freq  
 1.25500000 GHz

Start Freq  
 10.0000000 MHz

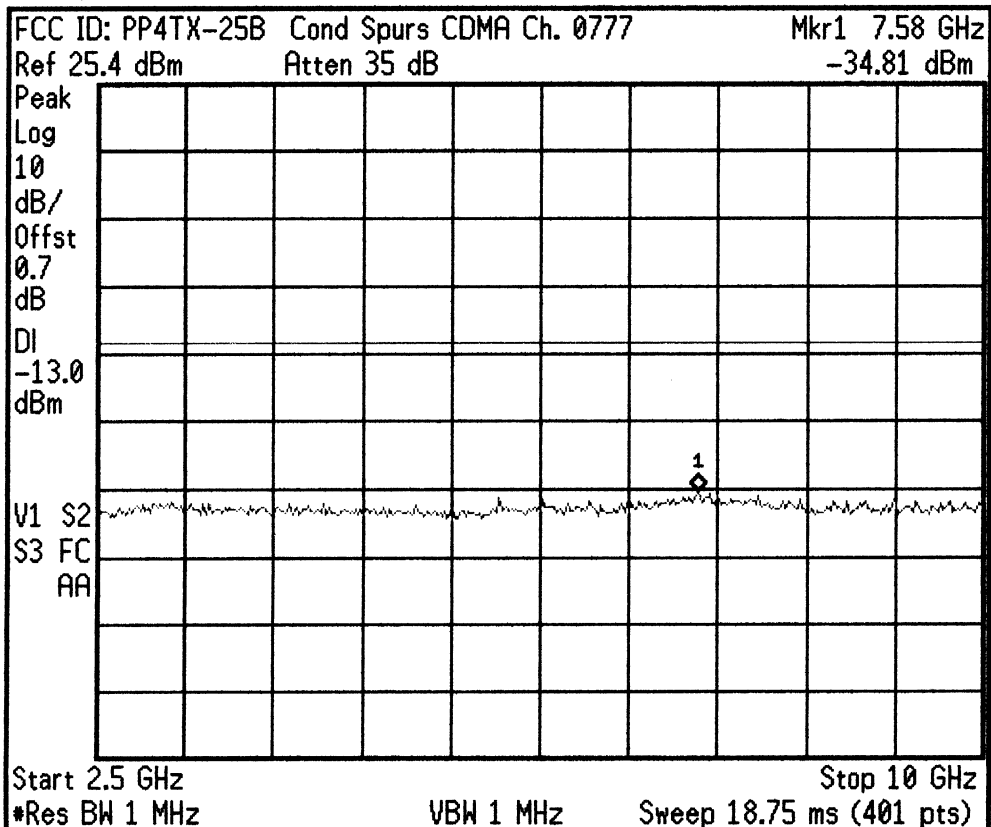
Stop Freq  
 2.50000000 GHz

CF Step  
 249.000000 MHz  
 Auto Man

Freq Offset  
 0.00000000 Hz

Signal Track  
 On Off

✱ Agilent 07:52:07 Aug 20, 2001



Freq/Channel

Center Freq  
 6.25000000 GHz

Start Freq  
 2.50000000 GHz

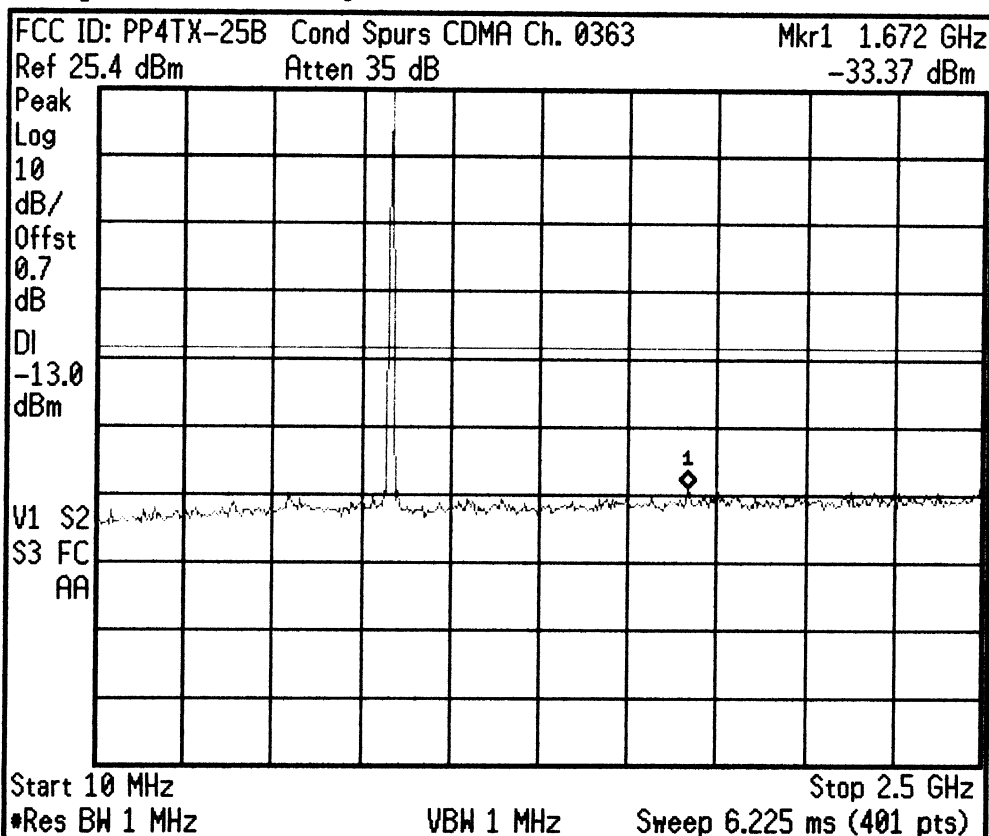
Stop Freq  
 10.0000000 GHz

CF Step  
 750.000000 MHz  
 Auto Man

Freq Offset  
 0.00000000 Hz

Signal Track  
 On Off

\* Agilent 07:54:39 Aug 20, 2001



Freq/Channel

Center Freq  
 1.25500000 GHz

Start Freq  
 10.0000000 MHz

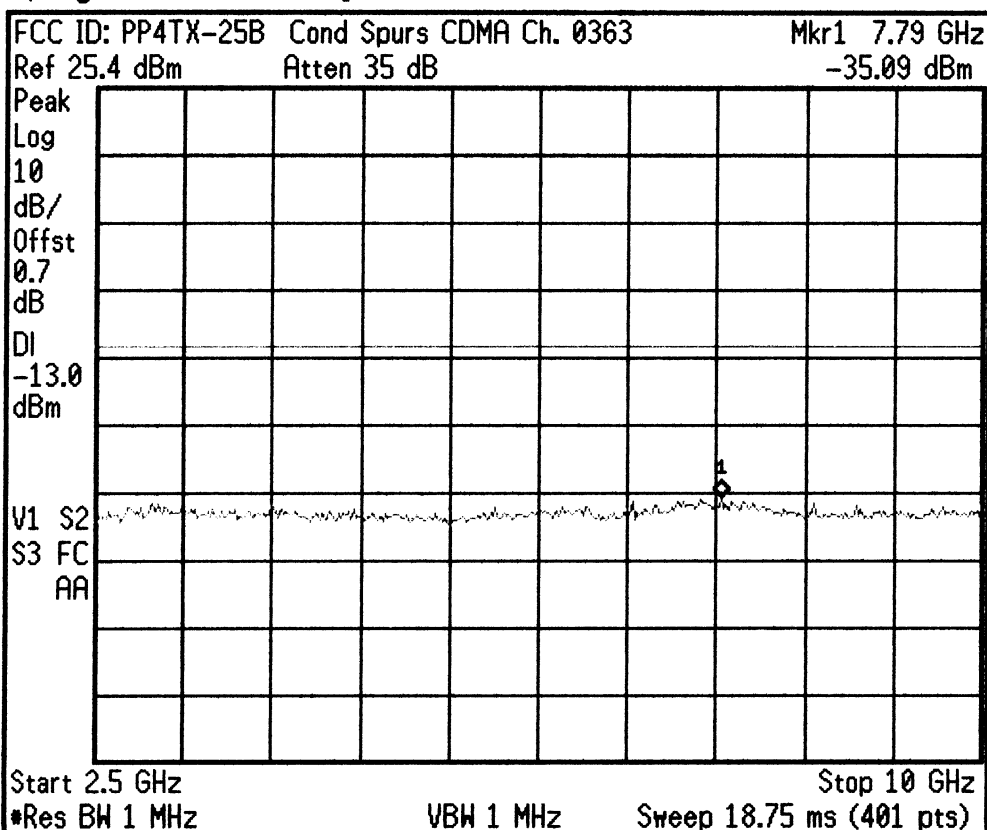
Stop Freq  
 2.50000000 GHz

CF Step  
 249.000000 MHz  
 Auto Man

Freq Offset  
 0.00000000 Hz

Signal Track  
 On Off

\* Agilent 07:55:11 Aug 20, 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

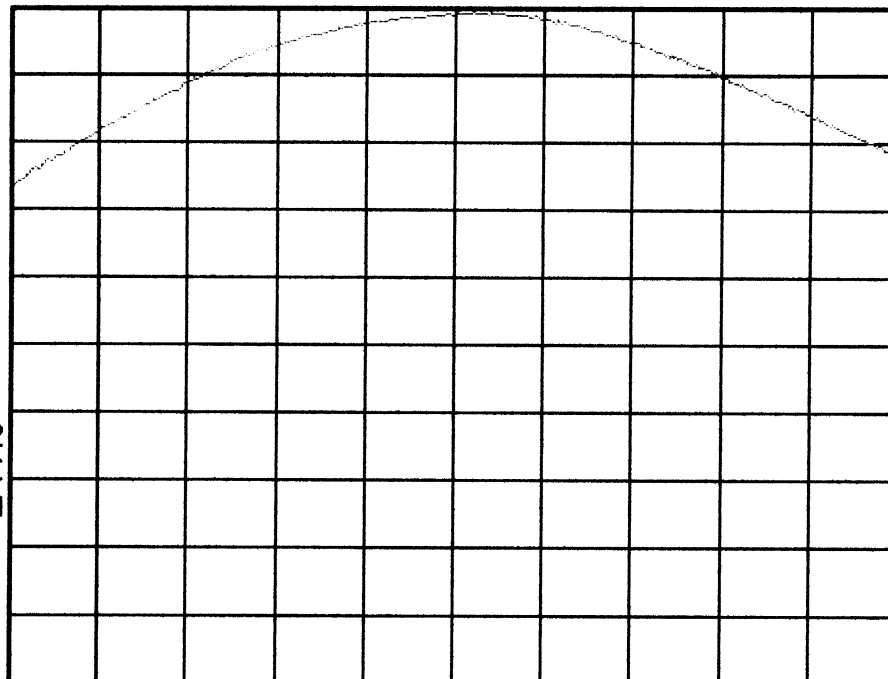
\* Agilent 08:12:48 Aug 20, 2001

FCC ID: PP4TX-25B POWER OUT CDMA Ch. 0363

Ref 25.4 dBm Atten 35 dB

Peak  
Log  
10  
dB/  
Offst  
0.7  
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

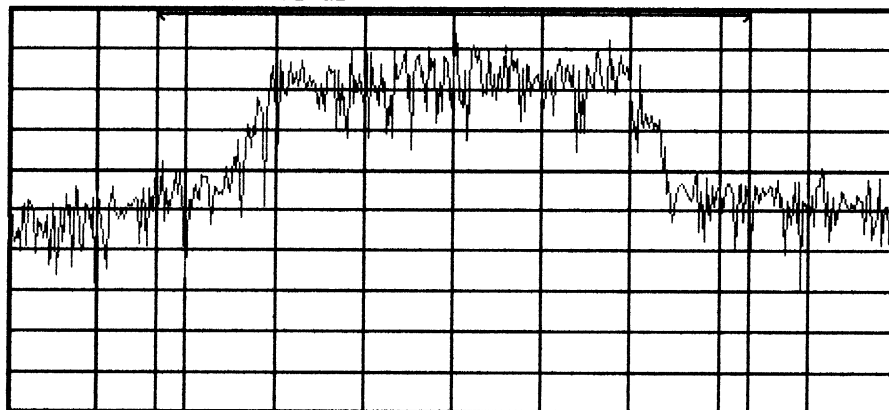
Signal Track  
On Off

\* Agilent 08:15:28 Aug 20, 2001

FCC ID: PP4TX-25B POWER OUT CDMA Ch. 0363

Ref 25.4 dBm Atten 35 dB

Samp  
Log  
10  
dB/  
Offst  
0.7  
dB



Center 835.9 MHz

\*Res BW 30 kHz

\*VBW 300 kHz

Span 3 MHz  
Sweep 9.167 ms (401 pts)

Freq/Channel

Center Freq  
835.900000 MHz

Start Freq  
834.400000 MHz

Stop Freq  
837.400000 MHz

CF Step  
300.000000 kHz  
Auto Man

Freq Offset  
0.00000000 Hz

Channel Power Results (idle)

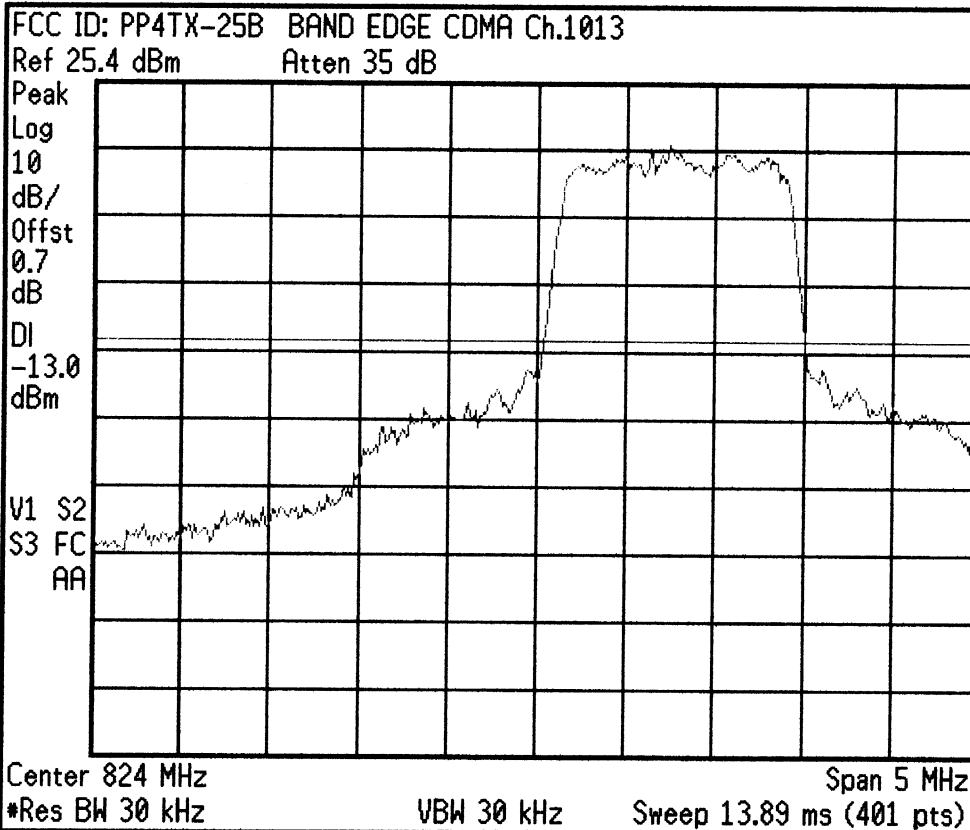
Channel Power  
25.45 dBm

Integration BW 2.000 MHz

Density -37.56 dBm/Hz

Signal Track  
On Off

\* Agilent 08:25:28 Aug 20, 2001



Freq/Channel

Center Freq  
 824.000000 MHz

Start Freq  
 821.500000 MHz

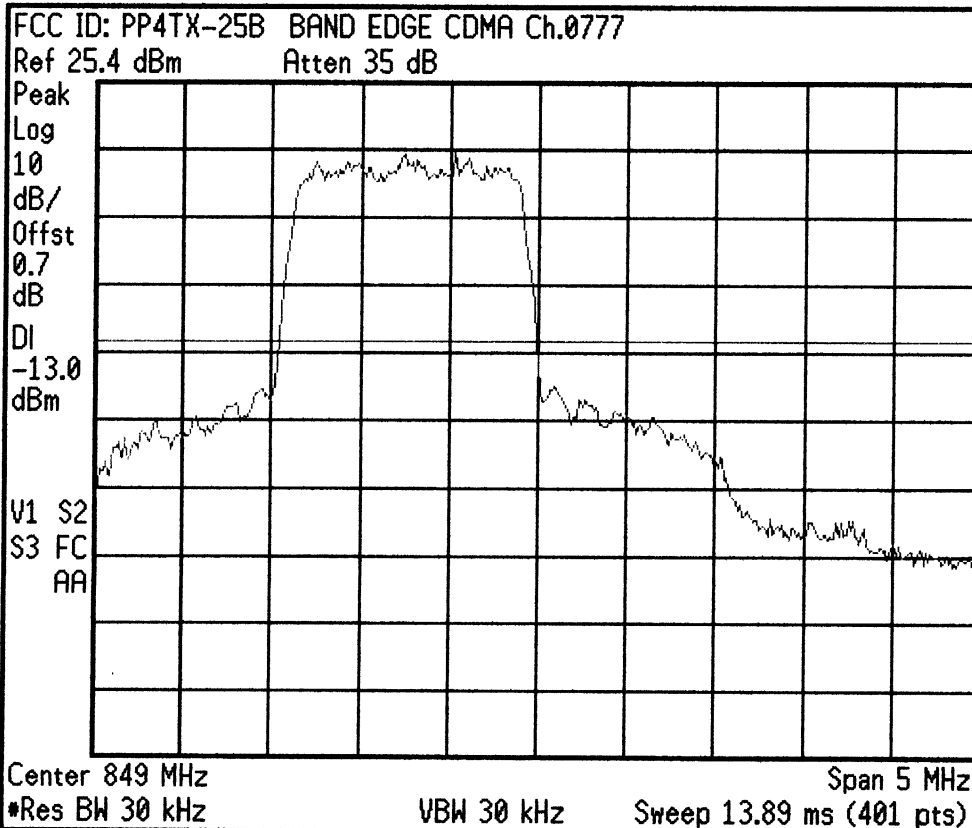
Stop Freq  
 826.500000 MHz

CF Step  
 500.000000 kHz  
 Auto Man

Freq Offset  
 0.00000000 Hz

Signal Track  
 On Off

\* Agilent 08:28:36 Aug 20, 2001



Freq/Channel

Center Freq  
 849.000000 MHz

Start Freq  
 846.500000 MHz

Stop Freq  
 851.500000 MHz

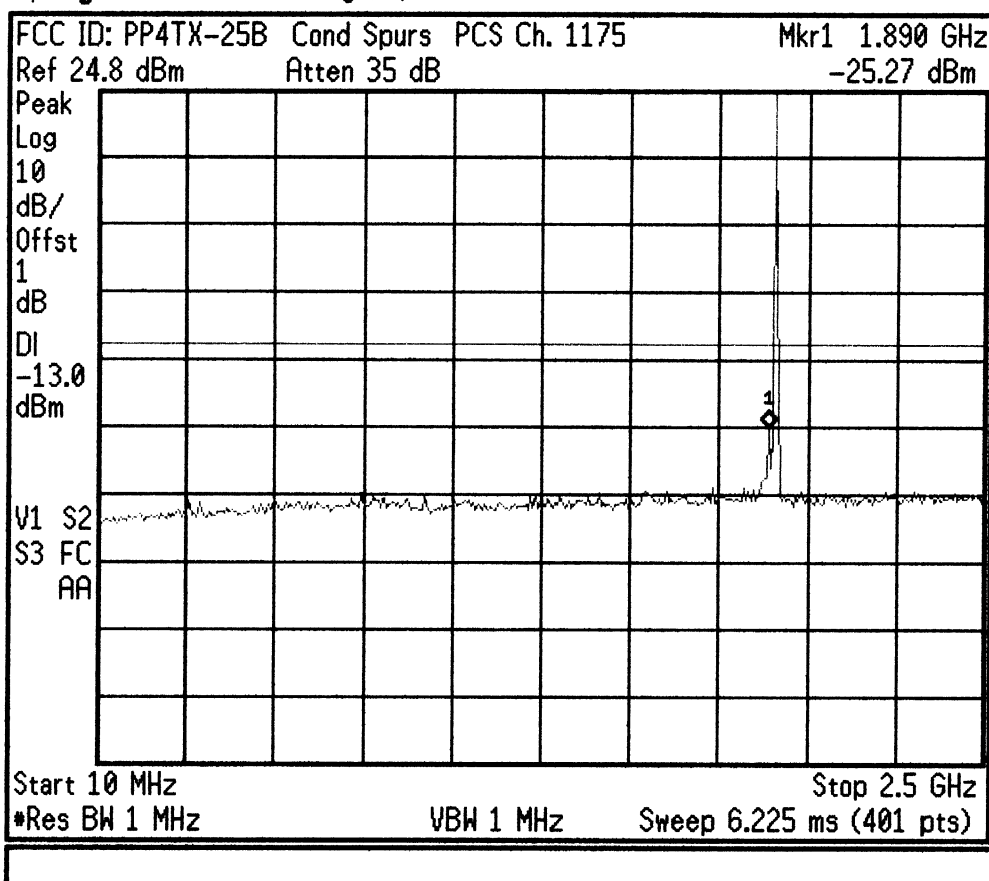
CF Step  
 500.000000 kHz  
 Auto Man

Freq Offset  
 0.00000000 Hz

Signal Track  
 On Off

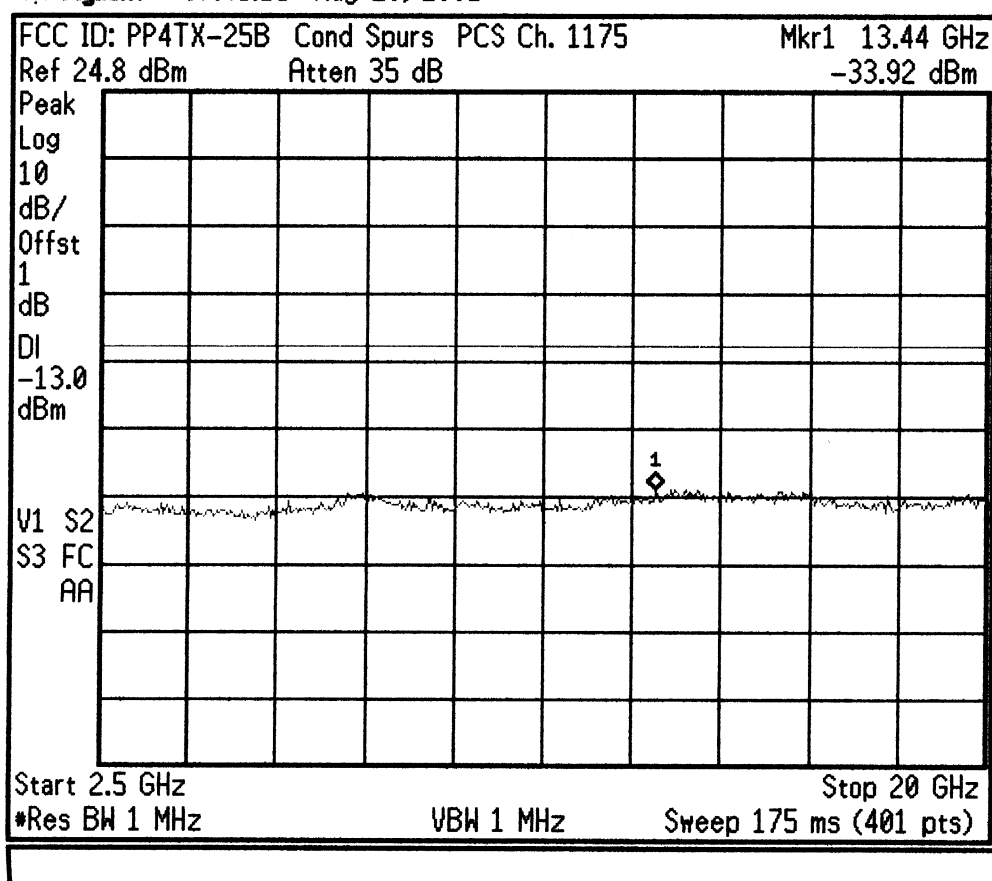


\* Agilent 07:44:41 Aug 20, 2001



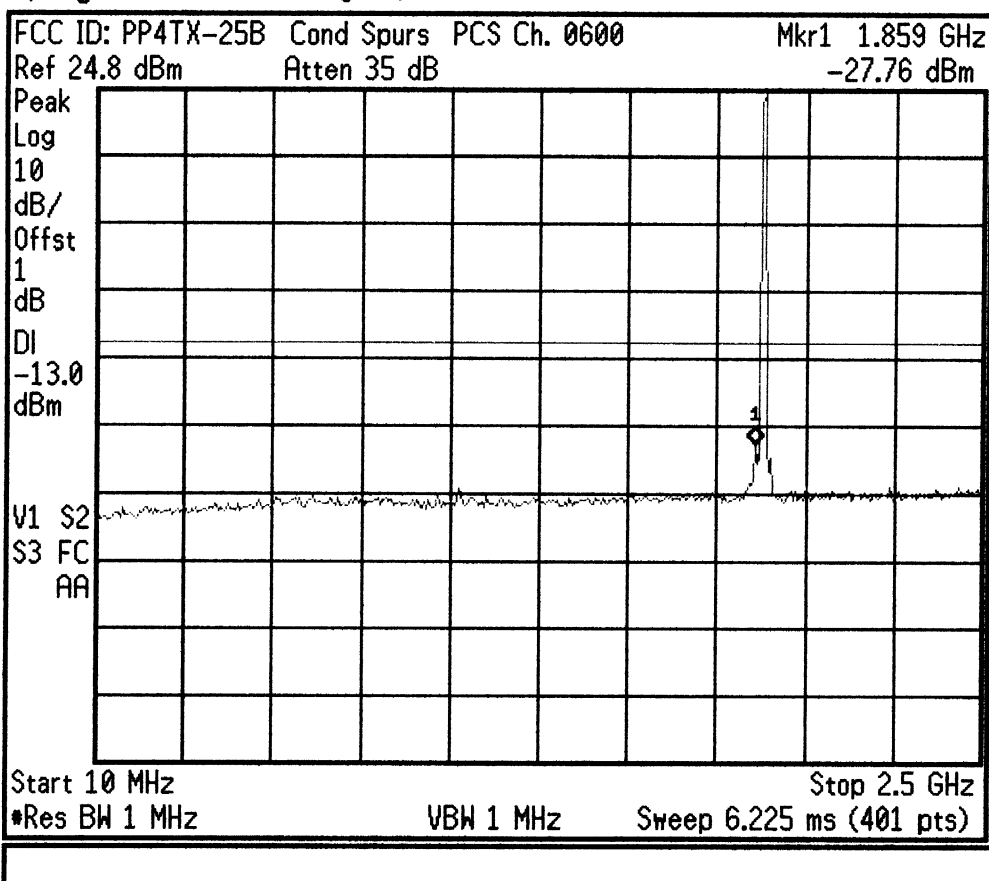
Freq/Channel
Center Freq 1.25500000 GHz
Start Freq 10.0000000 MHz
Stop Freq 2.50000000 GHz
CF Step 249.000000 MHz Auto Man
Freq Offset 0.00000000 Hz
Signal Track On Off

\* Agilent 07:45:15 Aug 20, 2001



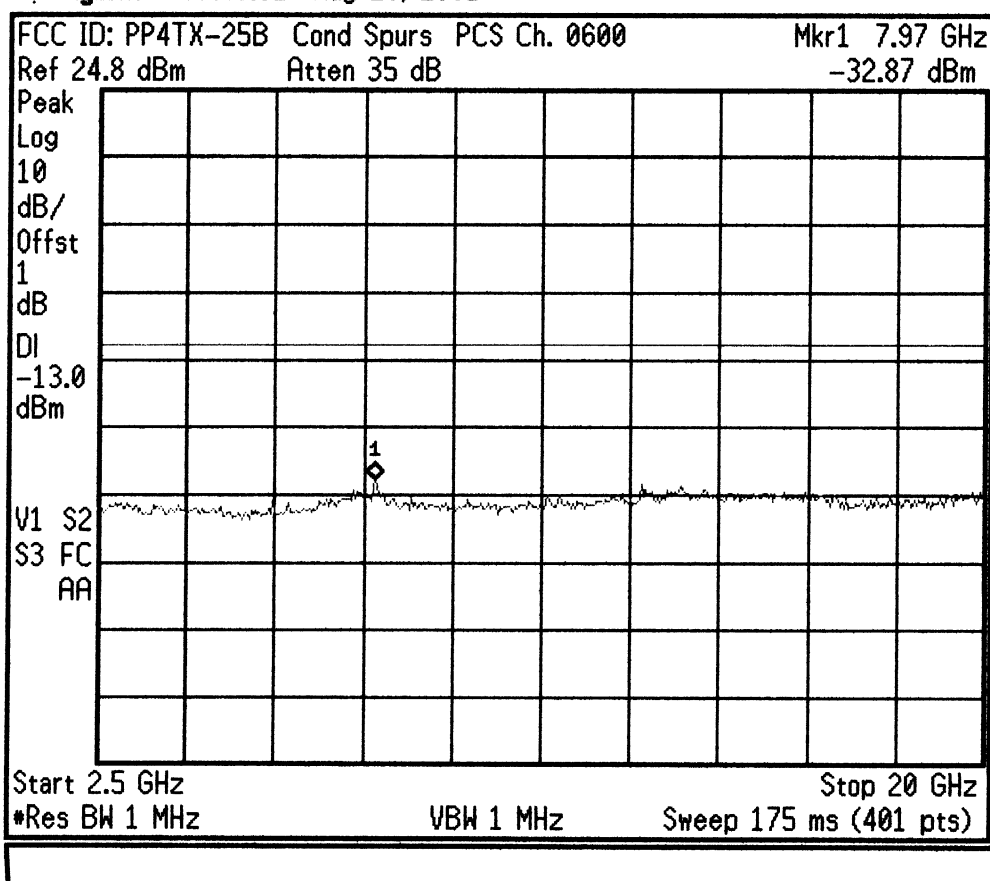
Freq/Channel
Center Freq 11.2500000 GHz
Start Freq 2.50000000 GHz
Stop Freq 20.0000000 GHz
CF Step 1.75000000 GHz Auto Man
Freq Offset 0.00000000 Hz
Signal Track On Off

\* Agilent 07:42:40 Aug 20, 2001



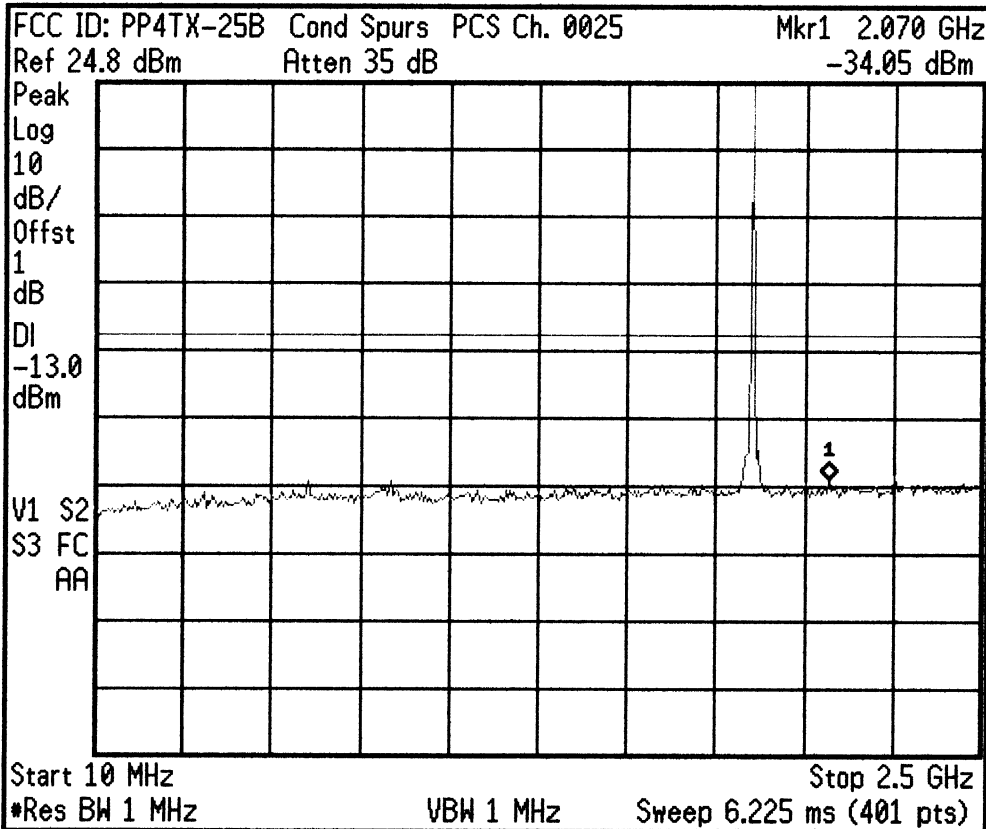
Freq/Channel
Center Freq 1.25500000 GHz
Start Freq 10.0000000 MHz
Stop Freq 2.50000000 GHz
CF Step 249.000000 MHz Auto Man
Freq Offset 0.00000000 Hz
Signal Track On Off

\* Agilent 07:43:31 Aug 20, 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 07:39:56 Aug 20, 2001



Freq/Channel

Center Freq  
 1.25500000 GHz

Start Freq  
 10.0000000 MHz

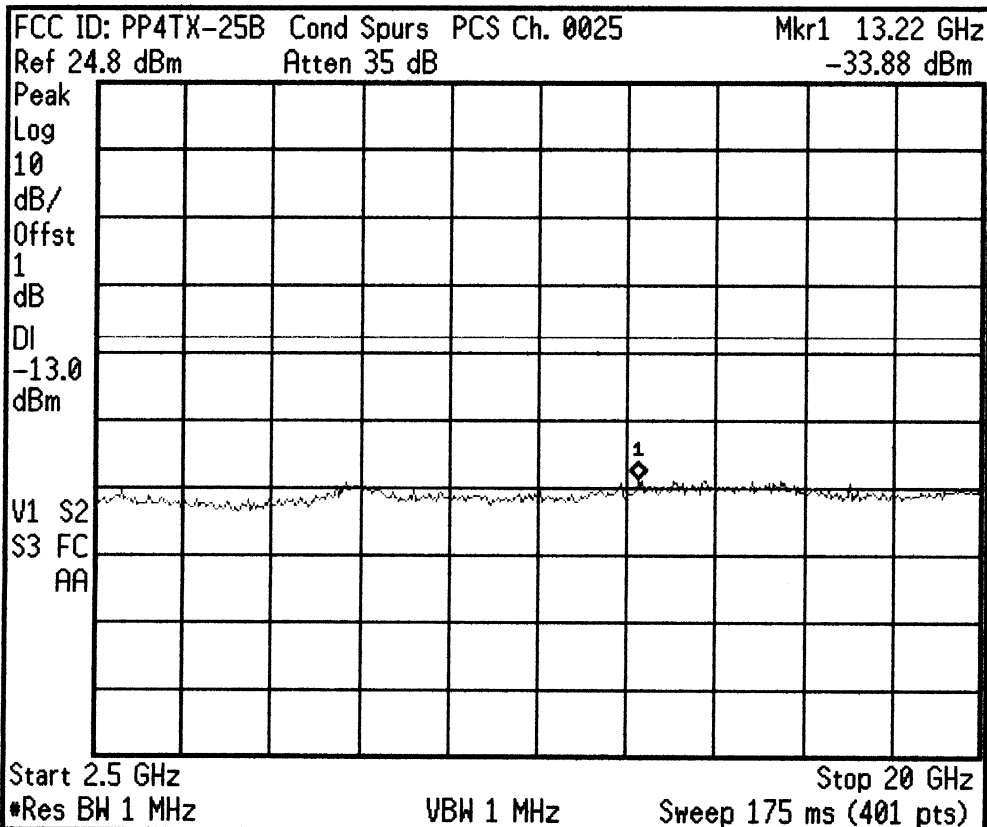
Stop Freq  
 2.50000000 GHz

CF Step  
 249.000000 MHz  
 Auto Man

Freq Offset  
 0.00000000 Hz

Signal Track  
 On Off

\* Agilent 07:40:31 Aug 20, 2001



Freq/Channel

Center Freq  
 11.2500000 GHz

Start Freq  
 2.50000000 GHz

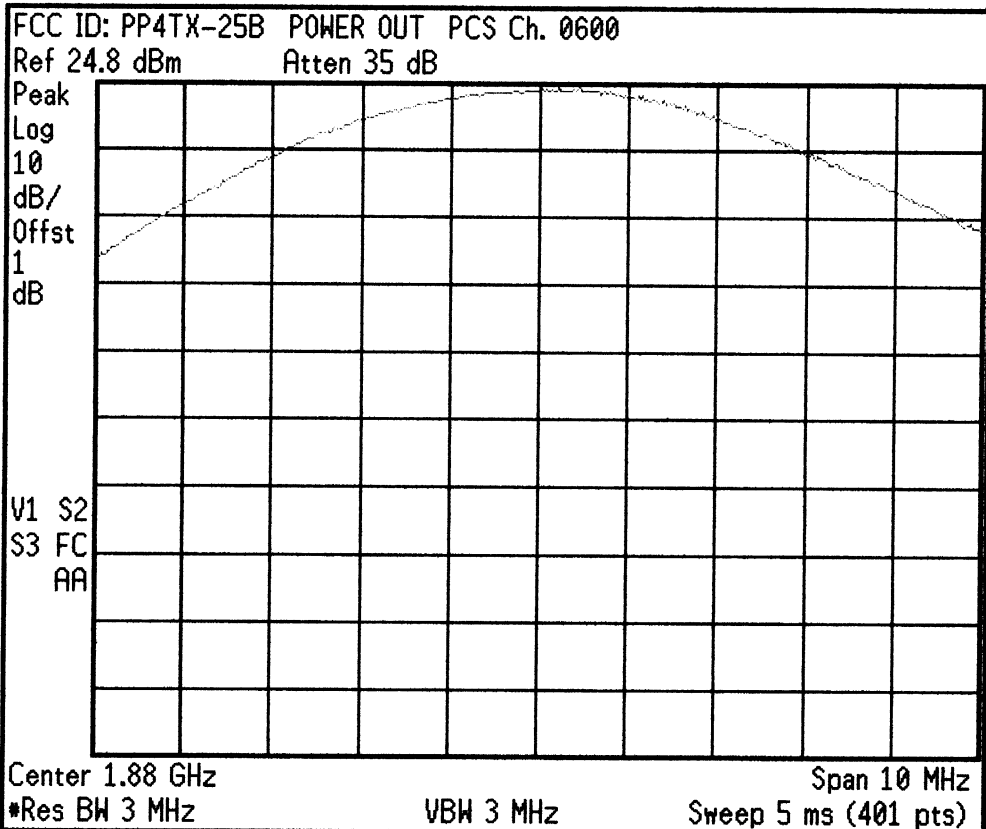
Stop Freq  
 20.0000000 GHz

CF Step  
 1.75000000 GHz  
 Auto Man

Freq Offset  
 0.00000000 Hz

Signal Track  
 On Off

Agilent 08:58:59 Aug 20, 2001



Trace

Trace

1 2 3

Clear Write

Max Hold

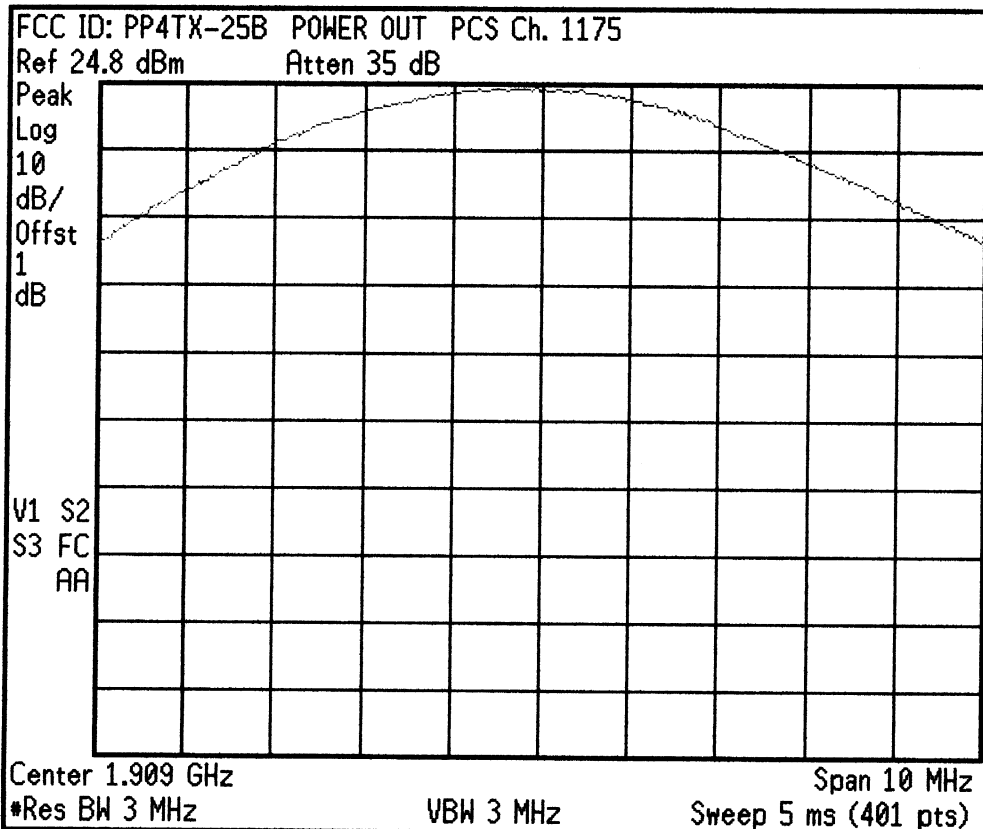
Min Hold

View

Blank

More  
 1 of 2

Agilent 09:05:56 Aug 20, 2001



Freq/Channel

Center Freq  
 1.90900000 GHz

Start Freq  
 1.90400000 GHz

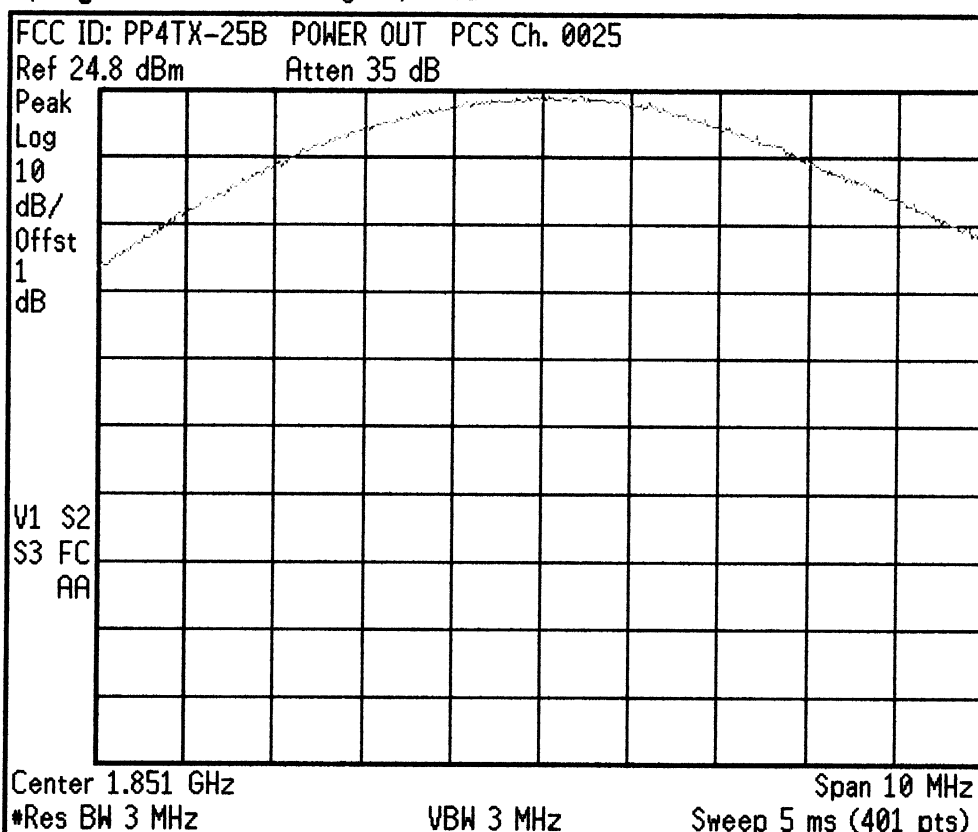
Stop Freq  
 1.91400000 GHz

CF Step  
 1.00000000 MHz  
 Auto Man

Freq Offset  
 0.00000000 Hz

Signal Track  
 On Off

\* Agilent 08:52:25 Aug 20, 2001



Freq/Channel

Center Freq  
 1.85100000 GHz

Start Freq  
 1.84600000 GHz

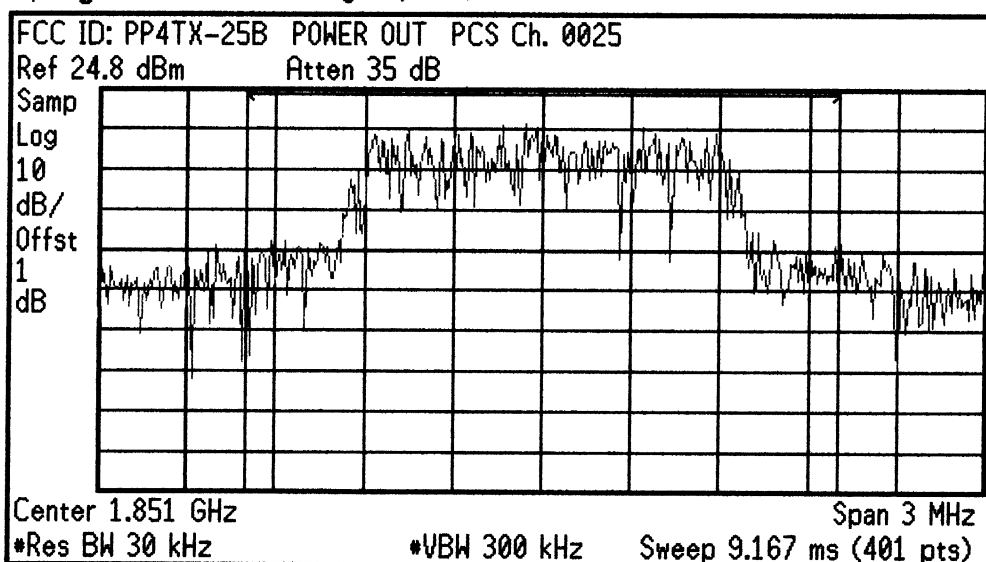
Stop Freq  
 1.85600000 GHz

CF Step  
 1.00000000 MHz  
 Auto Man

Freq Offset  
 0.00000000 Hz

Signal Track  
 On Off

\* Agilent 08:57:09 Aug 20, 2001



Freq/Channel

Center Freq  
 1.85100000 GHz

Start Freq  
 1.84950000 GHz

Stop Freq  
 1.85250000 GHz

CF Step  
 300.000000 kHz  
 Auto Man

Freq Offset  
 0.00000000 Hz

Signal Track  
 On Off

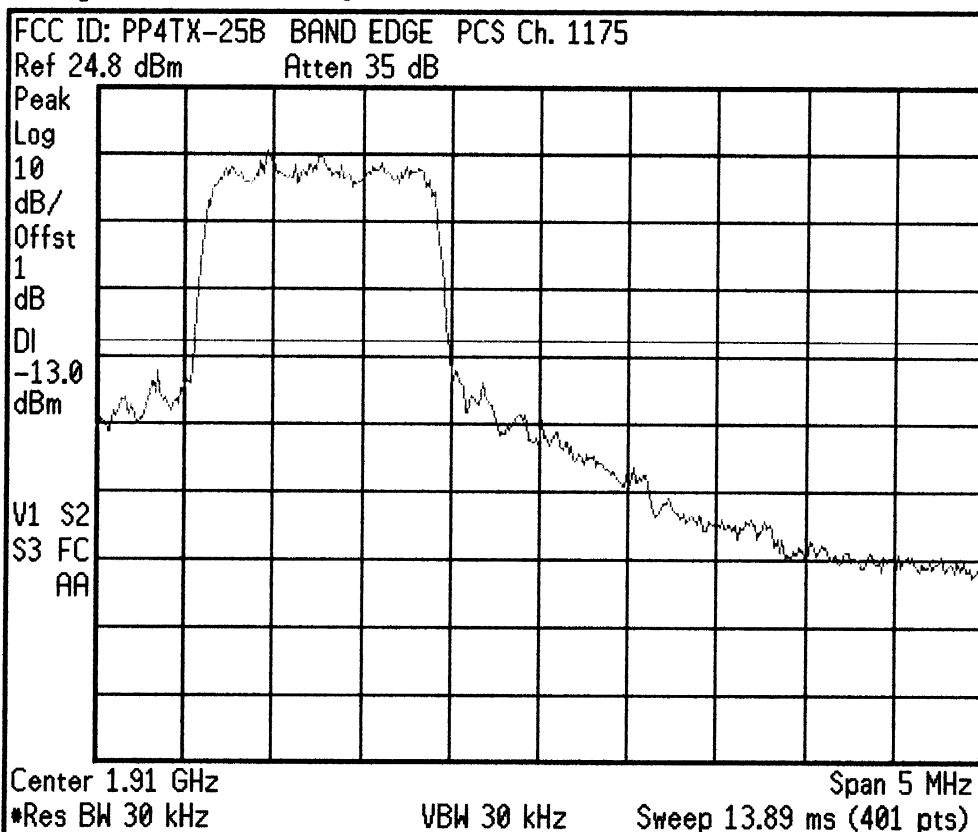
Channel Power Results (idle)

Channel Power  
 24.82 dBm

Integration BW 2.000 MHz

Density -38.19 dBm/Hz

\* Agilent 09:15:24 Aug 20, 2001



Freq/Channel

Center Freq  
 1.91000000 GHz

Start Freq  
 1.90750000 GHz

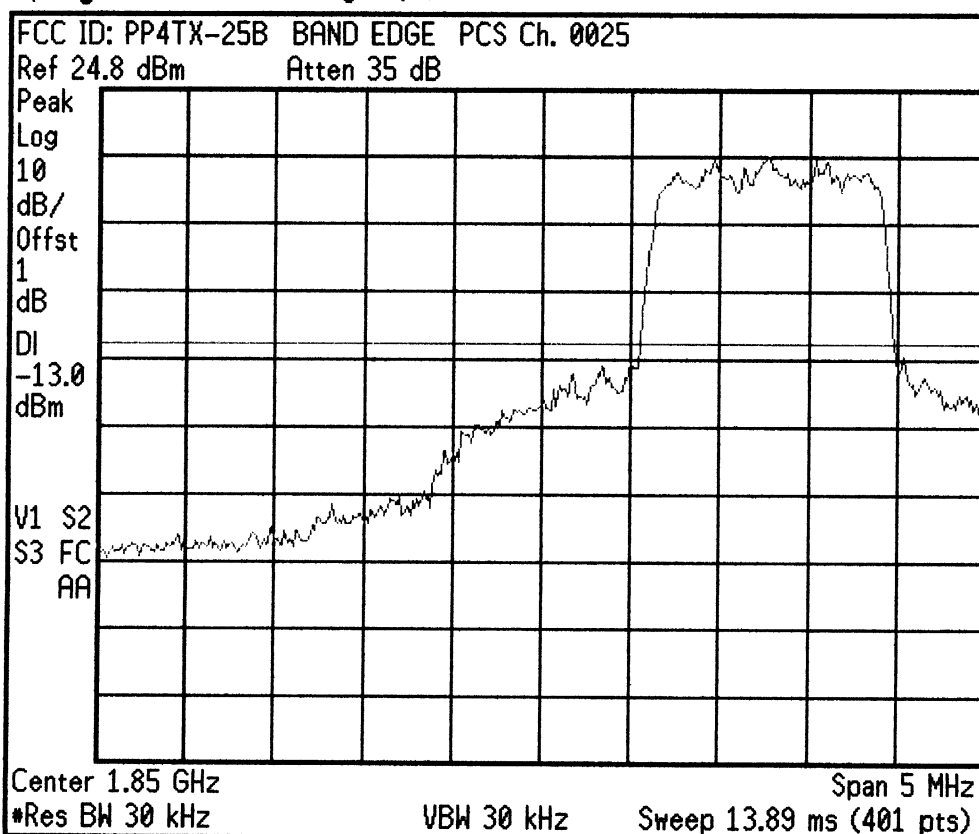
Stop Freq  
 1.91250000 GHz

CF Step  
 500.000000 kHz  
 Auto Man

Freq Offset  
 0.00000000 Hz

Signal Track  
 On Off

\* Agilent 09:17:25 Aug 20, 2001



Freq/Channel

Center Freq  
 1.85000000 GHz

Start Freq  
 1.84750000 GHz

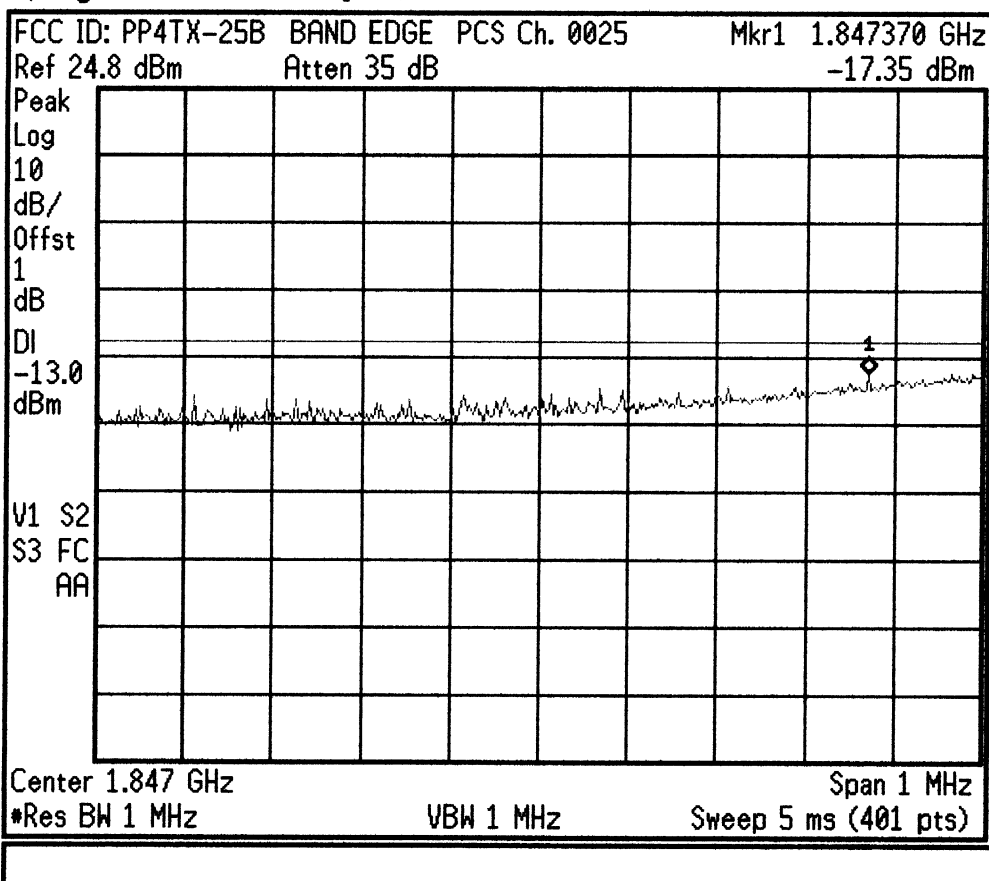
Stop Freq  
 1.85250000 GHz

CF Step  
 500.000000 kHz  
 Auto Man

Freq Offset  
 0.00000000 Hz

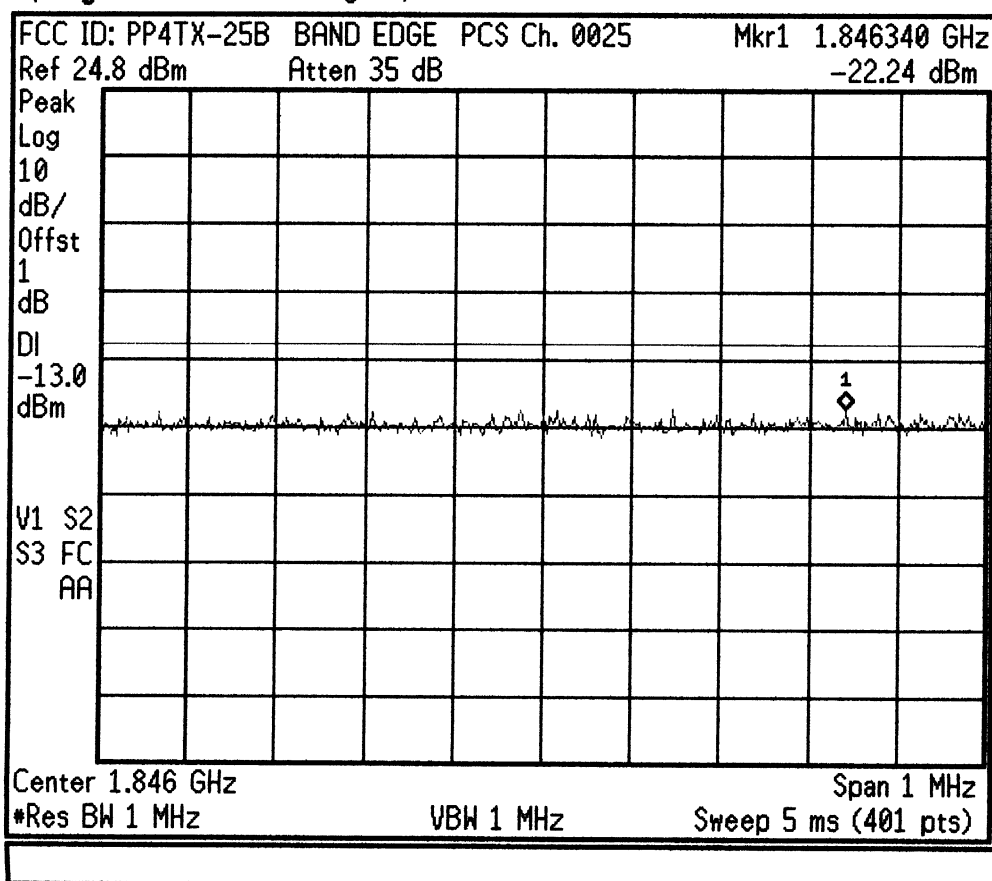
Signal Track  
 On Off

\* Agilent 09:20:13 Aug 20, 2001



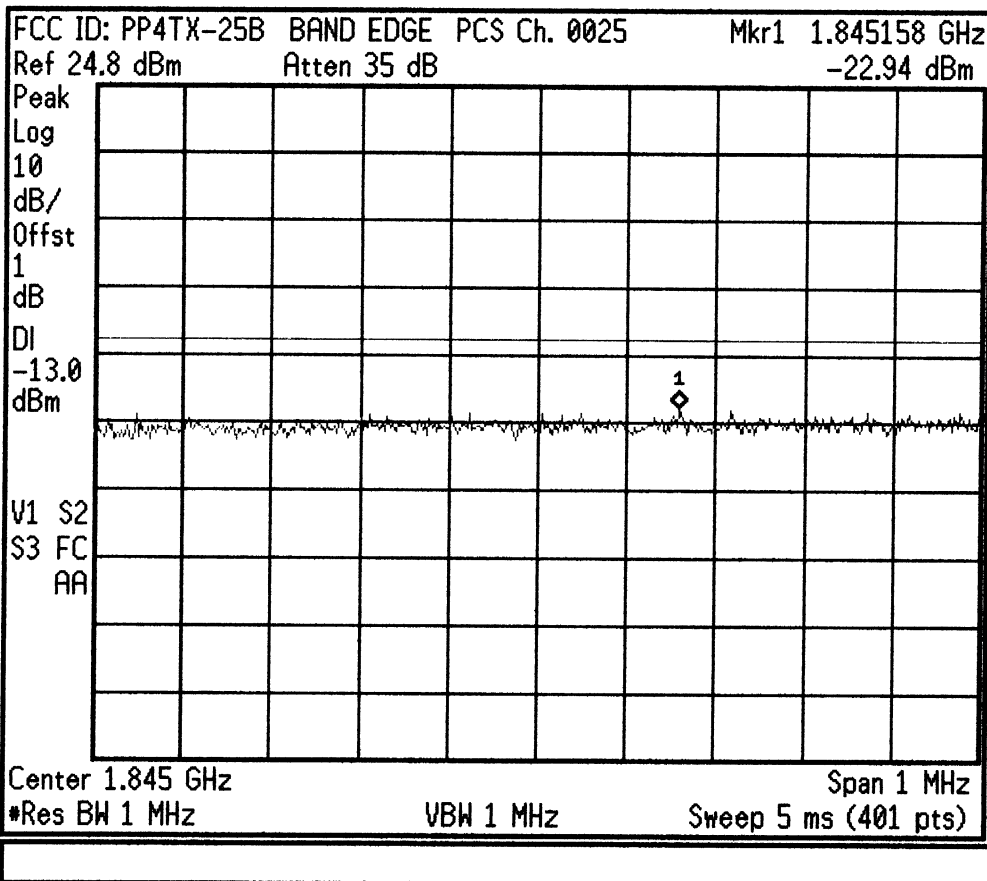
<b>Freq/Channel</b>
<b>Center Freq</b> 1.84700000 GHz
<b>Start Freq</b> 1.84650000 GHz
<b>Stop Freq</b> 1.84750000 GHz
<b>CF Step</b> 100.000000 kHz Auto Man
<b>Freq Offset</b> 0.00000000 Hz
<b>Signal Track</b> On Off

\* Agilent 09:20:54 Aug 20, 2001



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

\* Agilent 09:21:32 Aug 20, 2001



Freq/Channel

Center Freq  
 1.84500000 GHz

Start Freq  
 1.84450000 GHz

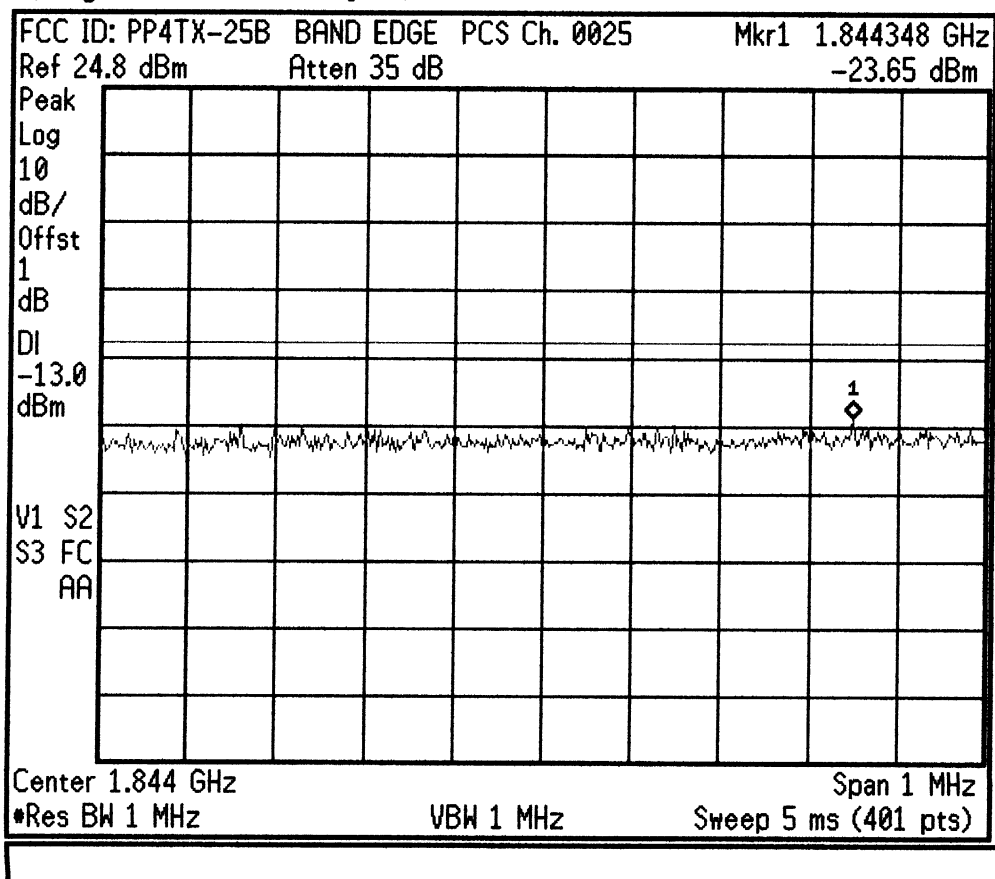
Stop Freq  
 1.84550000 GHz

CF Step  
 100.000000 kHz  
 Auto Man

Freq Offset  
 0.00000000 Hz

Signal Track  
 On Off

\* Agilent 09:22:00 Aug 20, 2001



Freq/Channel

Center Freq  
 1.84400000 GHz

Start Freq  
 1.84350000 GHz

Stop Freq  
 1.84450000 GHz

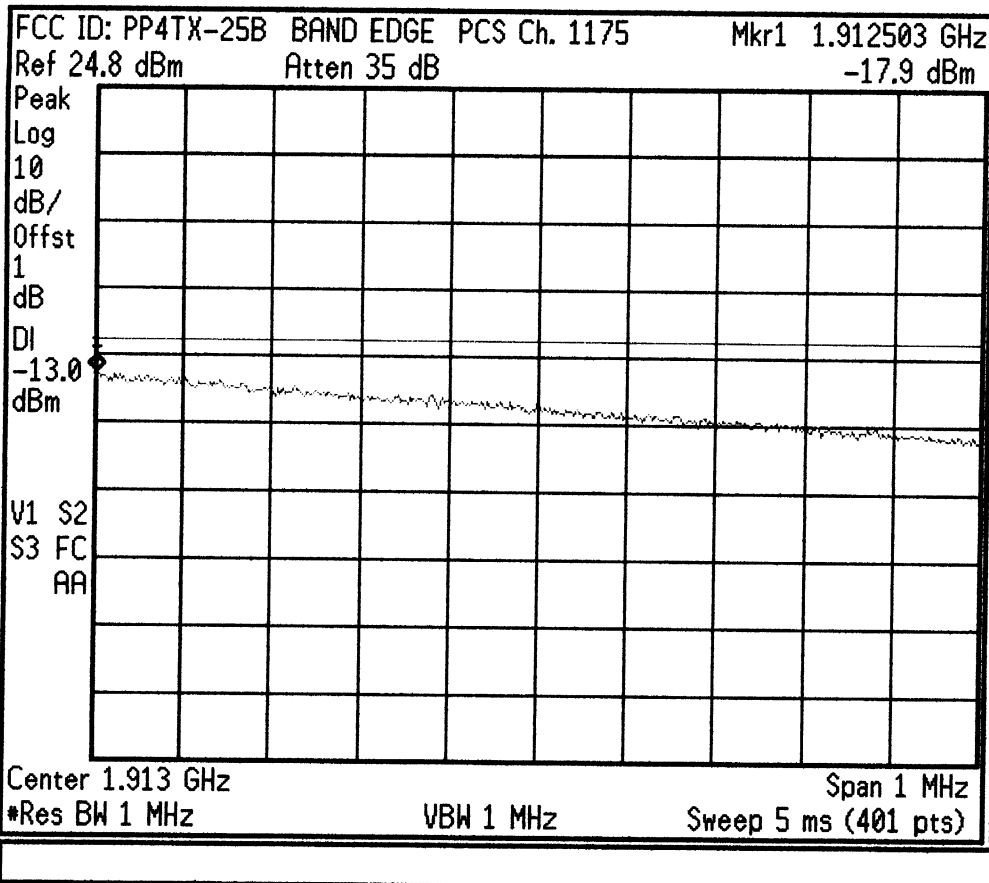
CF Step  
 100.000000 kHz  
 Auto Man

Freq Offset  
 0.00000000 Hz

Signal Track  
 On Off



\* Agilent 09:23:36 Aug 20, 2001



Freq/Channel

Center Freq  
 1.91300000 GHz

Start Freq  
 1.91250000 GHz

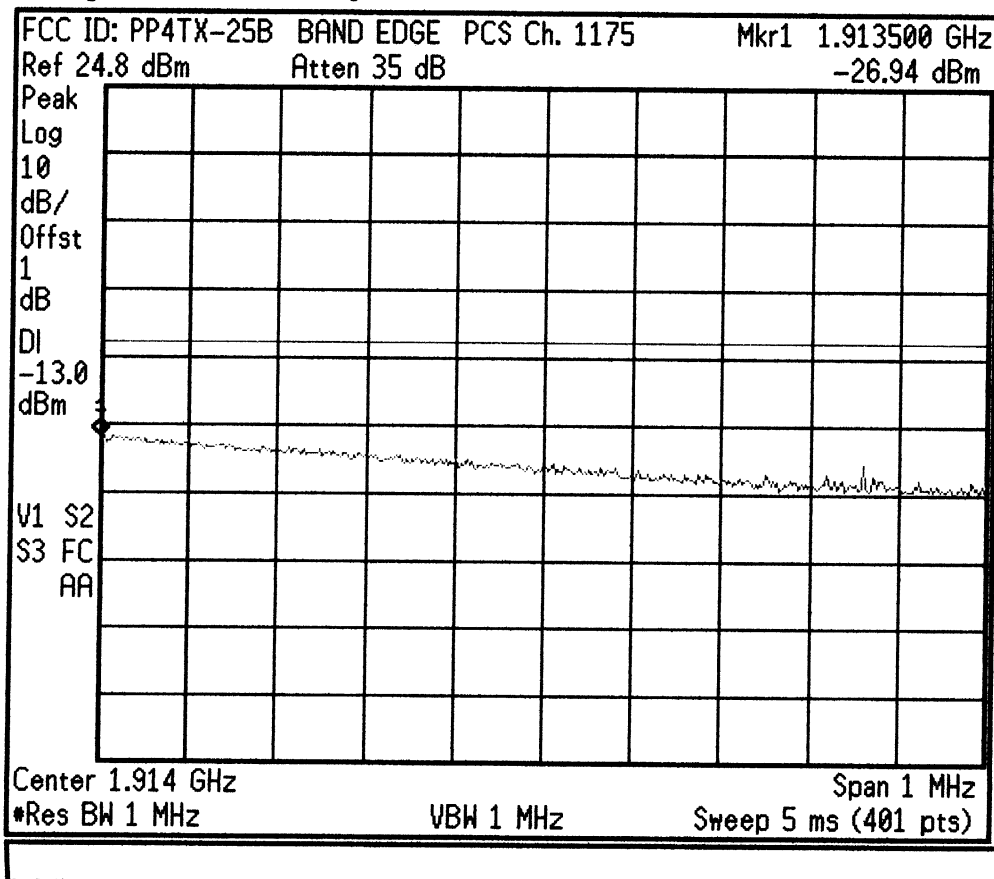
Stop Freq  
 1.91350000 GHz

CF Step  
 100.000000 kHz  
 Auto Man

Freq Offset  
 0.00000000 Hz

Signal Track  
 On Off

\* Agilent 09:24:17 Aug 20, 2001



Freq/Channel

Center Freq  
 1.91400000 GHz

Start Freq  
 1.91350000 GHz

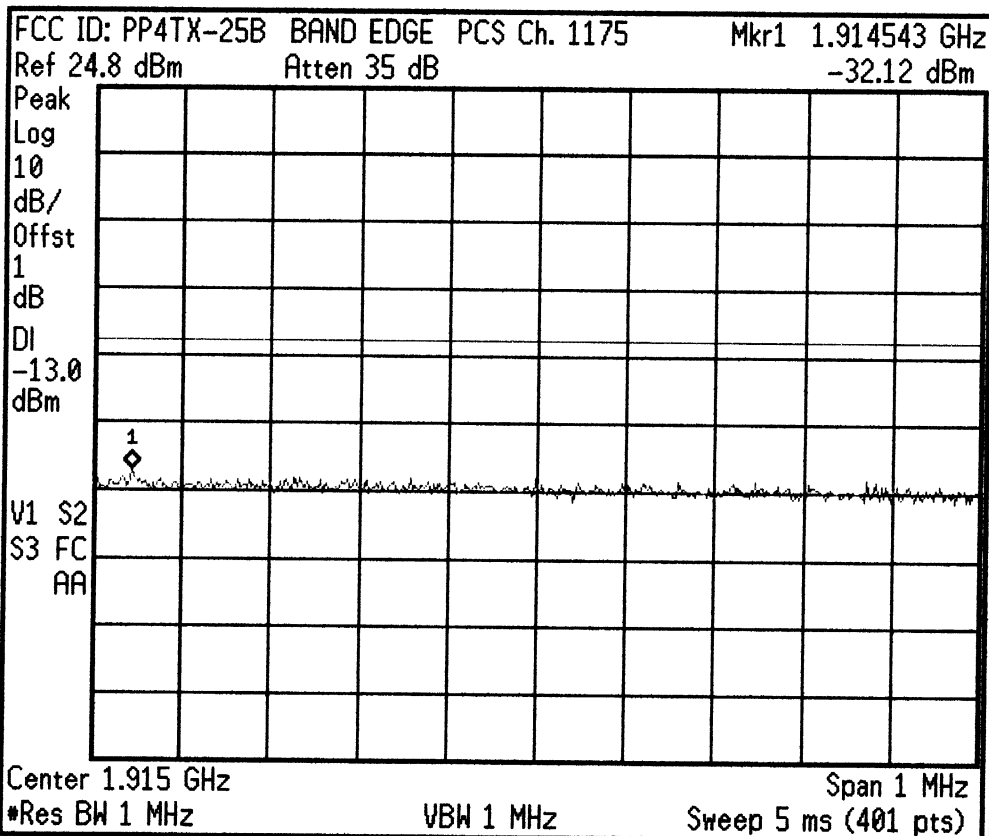
Stop Freq  
 1.91450000 GHz

CF Step  
 100.000000 kHz  
 Auto Man

Freq Offset  
 0.00000000 Hz

Signal Track  
 On Off

\* Agilent 09:24:49 Aug 20, 2001



Freq/Channel

Center Freq  
 1.91500000 GHz

Start Freq  
 1.91450000 GHz

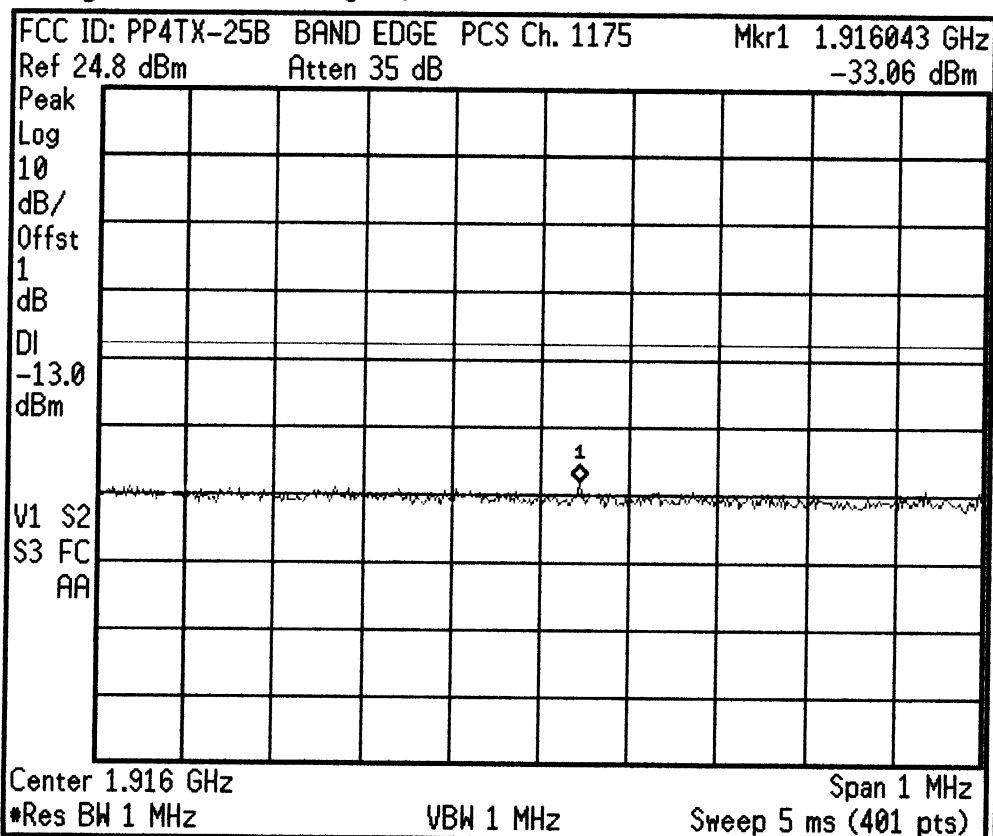
Stop Freq  
 1.91550000 GHz

CF Step  
 100.000000 kHz  
 Auto Man

Freq Offset  
 0.00000000 Hz

Signal Track  
 On Off

\* Agilent 09:25:24 Aug 20, 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 09:28:48 Aug 20, 2001

FCC ID: PP4TX-25B POWER OUT PCS Ch. 0600

Ref 24.8 dBm Atten 35 dB

Samp

Log

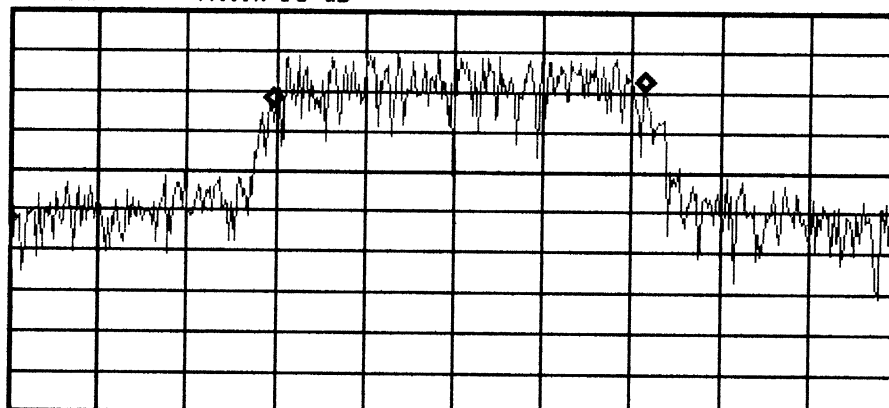
10

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

1.251 MHz

Occ BW % Pwr

99.00 %

Transmit Freq Error 20.90 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