

PCTEST Engineering Lab.

SPECTRUM ANALYZER PRESENTATION

FCC ID:A3LSPHA450

SAMSUNG

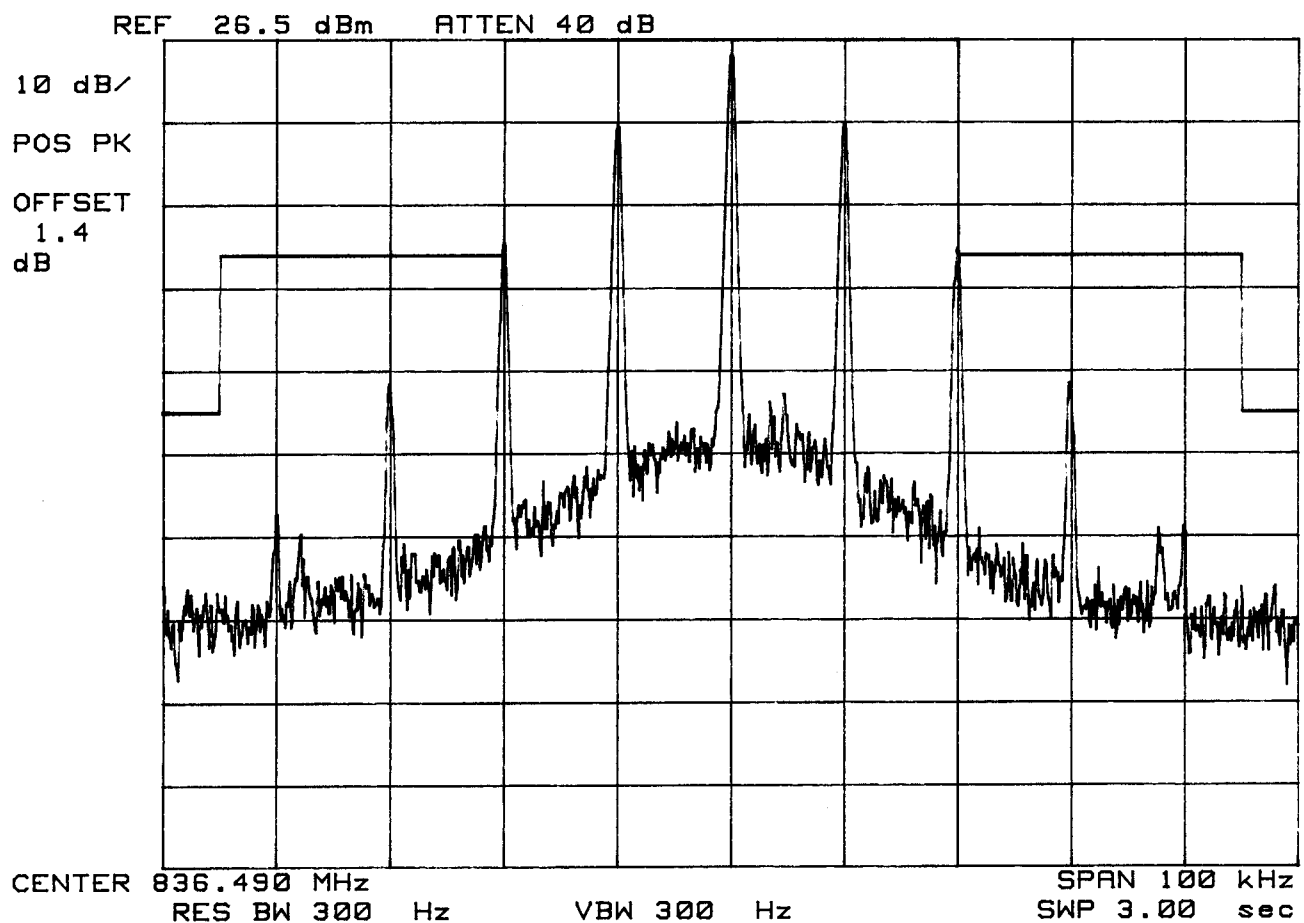
Tri-Mode Phone

FM Channel 383

Operating Frequency: 836.490 MHz

Output Power : 26.5 dBm

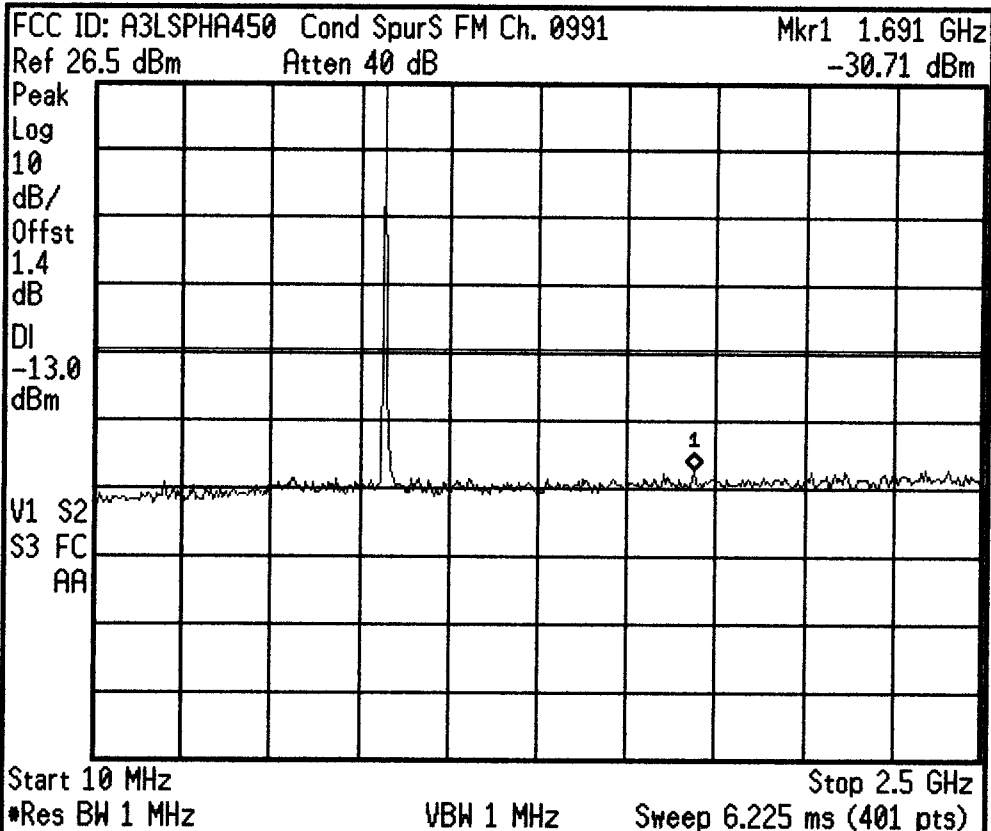
Test Mode:ST



[illegible]

```
START 869.00 MHz      STOP 894.00 MHz
#RES BW 100 KHZ      #VBW 300 KHZ
                        SWP 20 msec
```

* Agilent 09:29:05 Nov 20, 2001



Freq/Channel

Center Freq
 1.25500000 GHz

Start Freq
 10.0000000 MHz

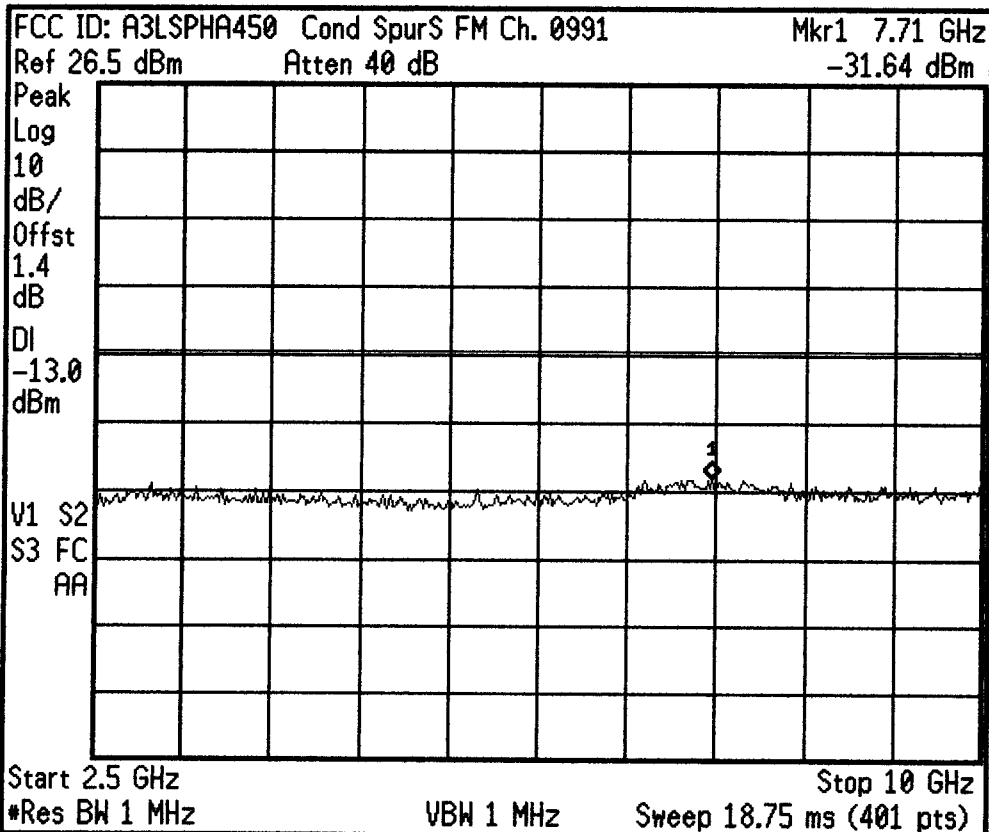
Stop Freq
 2.50000000 GHz

CF Step
 249.000000 MHz
 Auto Man

Freq Offset
 0.00000000 Hz

Signal Track
 On Off

* Agilent 09:30:09 Nov 20, 2001



Freq/Channel

Center Freq
 6.25000000 GHz

Start Freq
 2.50000000 GHz

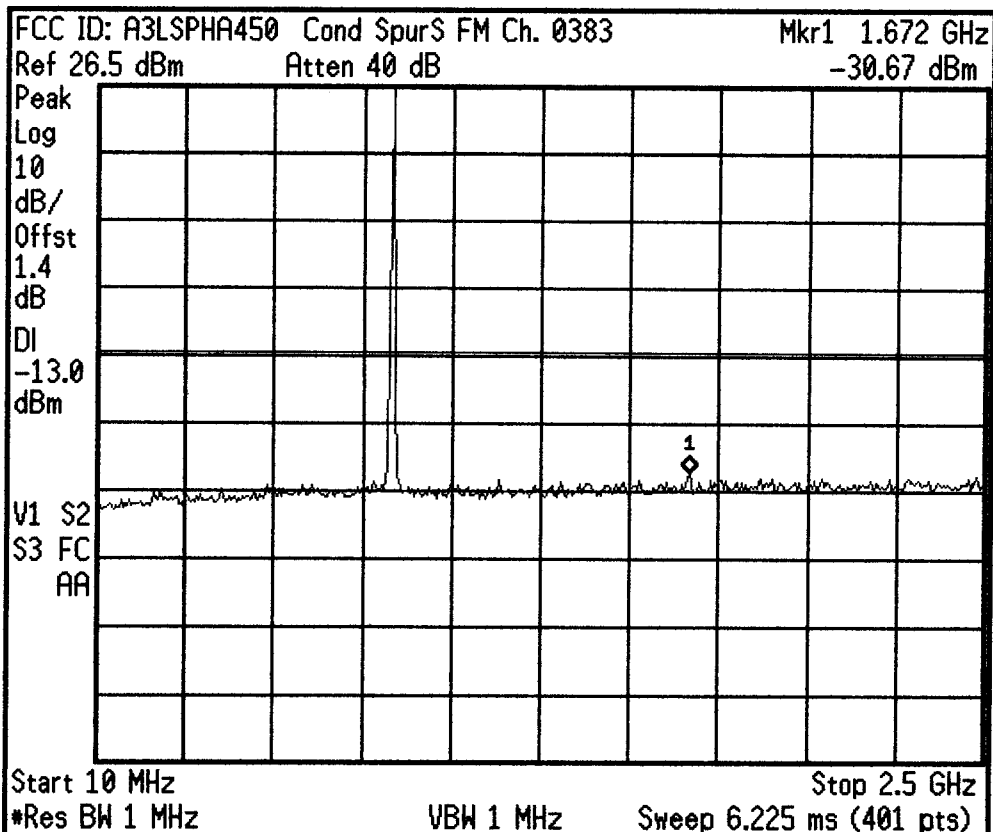
Stop Freq
 10.0000000 GHz

CF Step
 750.000000 MHz
 Auto Man

Freq Offset
 0.00000000 Hz

Signal Track
 On Off

* Agilent 09:31:31 Nov 20, 2001



Freq/Channel

Center Freq
 1.25500000 GHz

Start Freq
 10.0000000 MHz

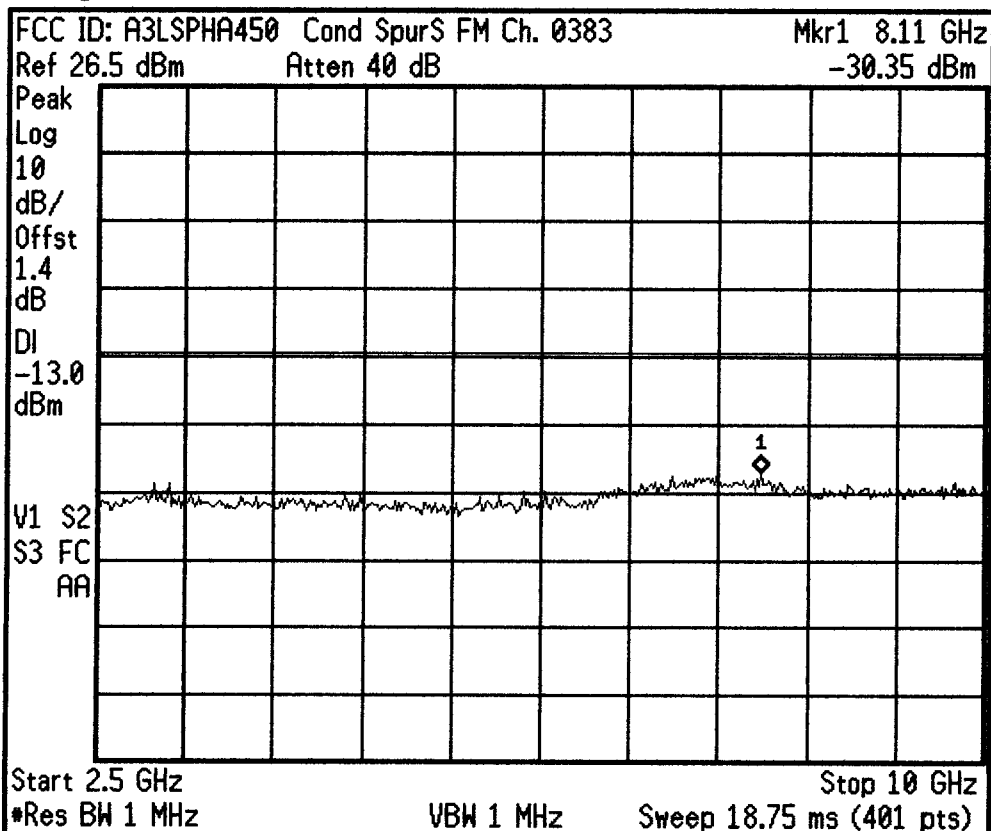
Stop Freq
 2.50000000 GHz

CF Step
 249.000000 MHz
 Auto Man

Freq Offset
 0.00000000 Hz

Signal Track
 On Off

* Agilent 09:32:39 Nov 20, 2001



Freq/Channel

Center Freq
 6.25000000 GHz

Start Freq
 2.50000000 GHz

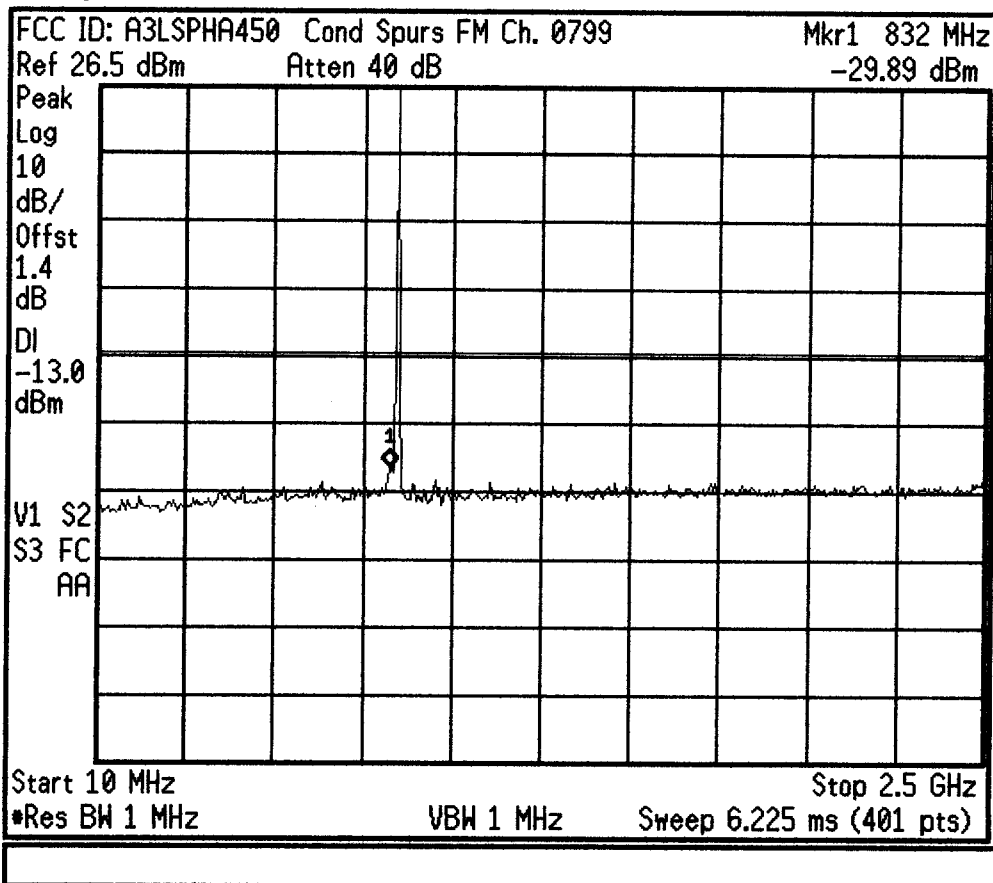
Stop Freq
 10.0000000 GHz

CF Step
 750.000000 MHz
 Auto Man

Freq Offset
 0.00000000 Hz

Signal Track
 On Off

* Agilent 09:34:33 Nov 20, 2001



Freq/Channel

Center Freq
 1.25500000 GHz

Start Freq
 10.0000000 MHz

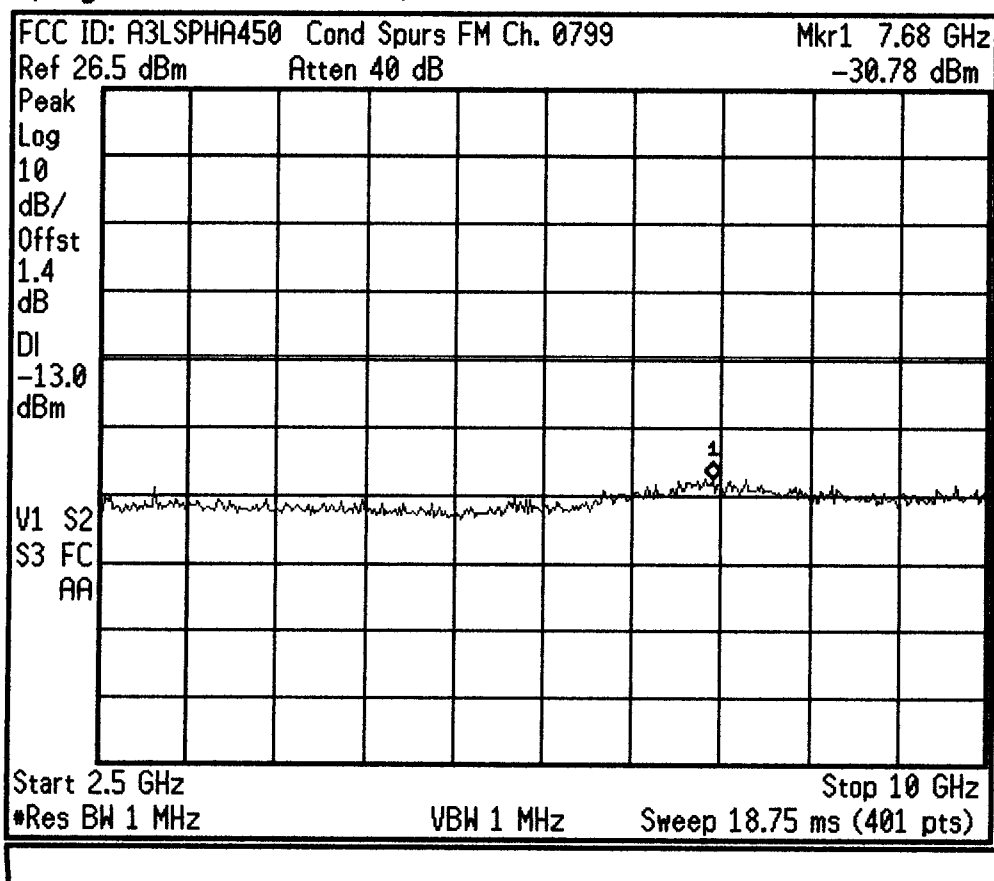
Stop Freq
 2.50000000 GHz

CF Step
 249.000000 MHz
 Auto Man

Freq Offset
 0.00000000 Hz

Signal Track
 On Off

* Agilent 09:35:30 Nov 20, 2001



Freq/Channel

Center Freq
 6.25000000 GHz

Start Freq
 2.50000000 GHz

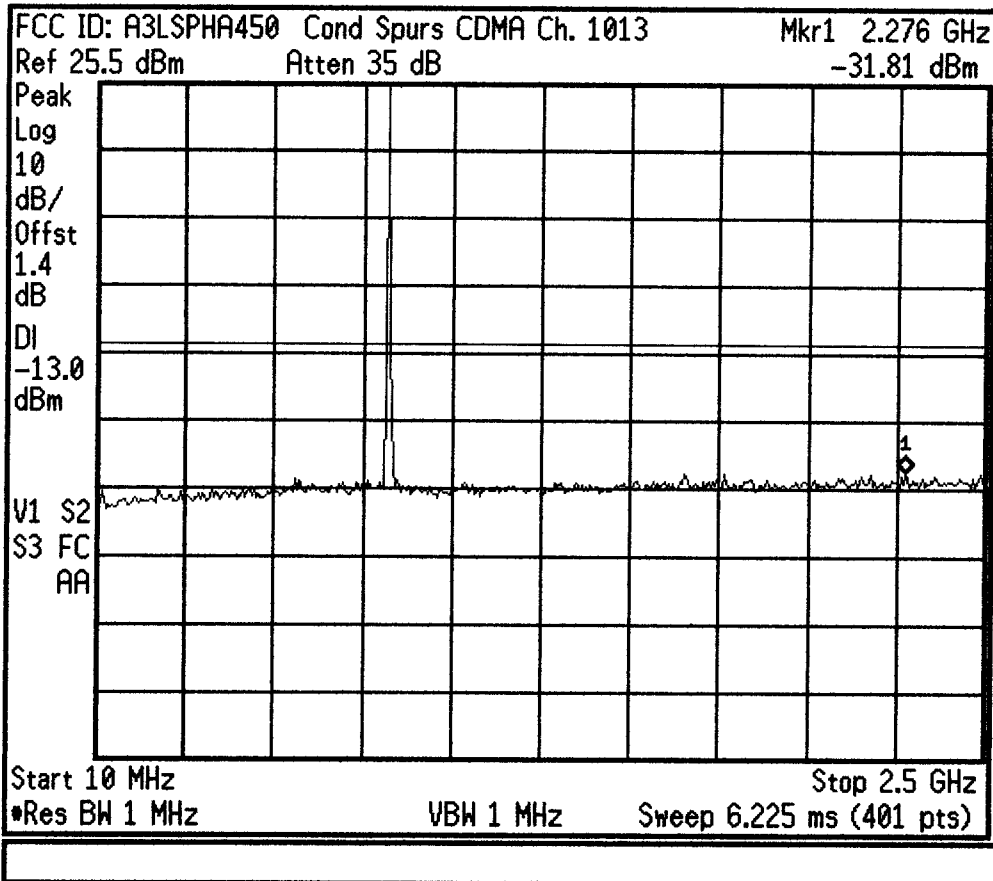
Stop Freq
 10.0000000 GHz

CF Step
 750.000000 MHz
 Auto Man

Freq Offset
 0.00000000 Hz

Signal Track
 On Off

* Agilent 11:53:10 Nov 20, 2001



Freq/Channel

Center Freq
 1.25500000 GHz

Start Freq
 10.0000000 MHz

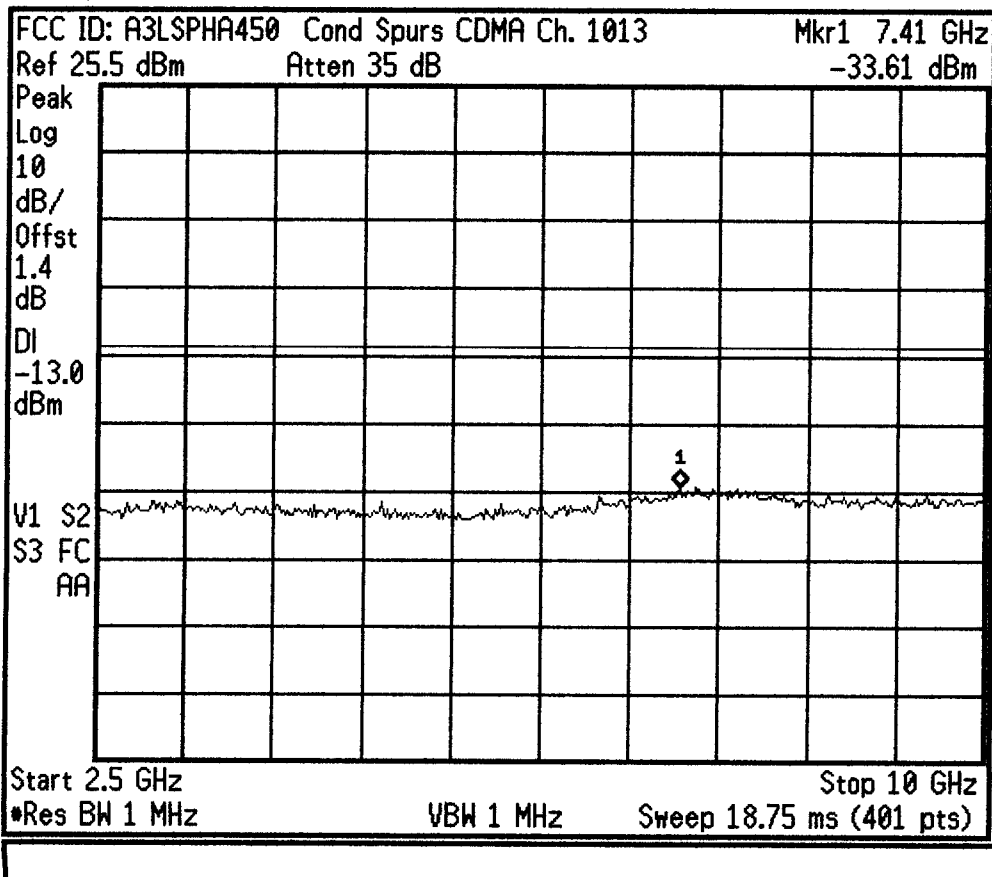
Stop Freq
 2.50000000 GHz

CF Step
 249.000000 MHz
 Auto Man

Freq Offset
 0.00000000 Hz

Signal Track
 On Off

* Agilent 11:54:08 Nov 20, 2001



Freq/Channel

Center Freq
 6.25000000 GHz

Start Freq
 2.50000000 GHz

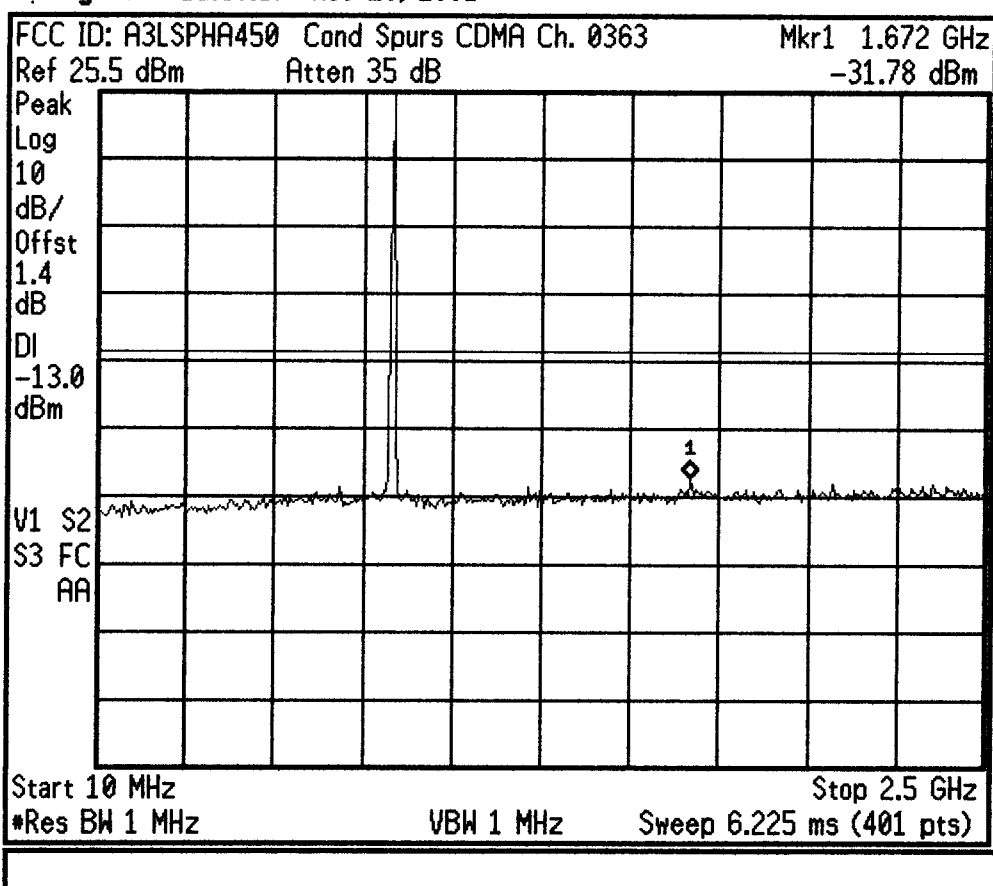
Stop Freq
 10.0000000 GHz

CF Step
 750.000000 MHz
 Auto Man

Freq Offset
 0.00000000 Hz

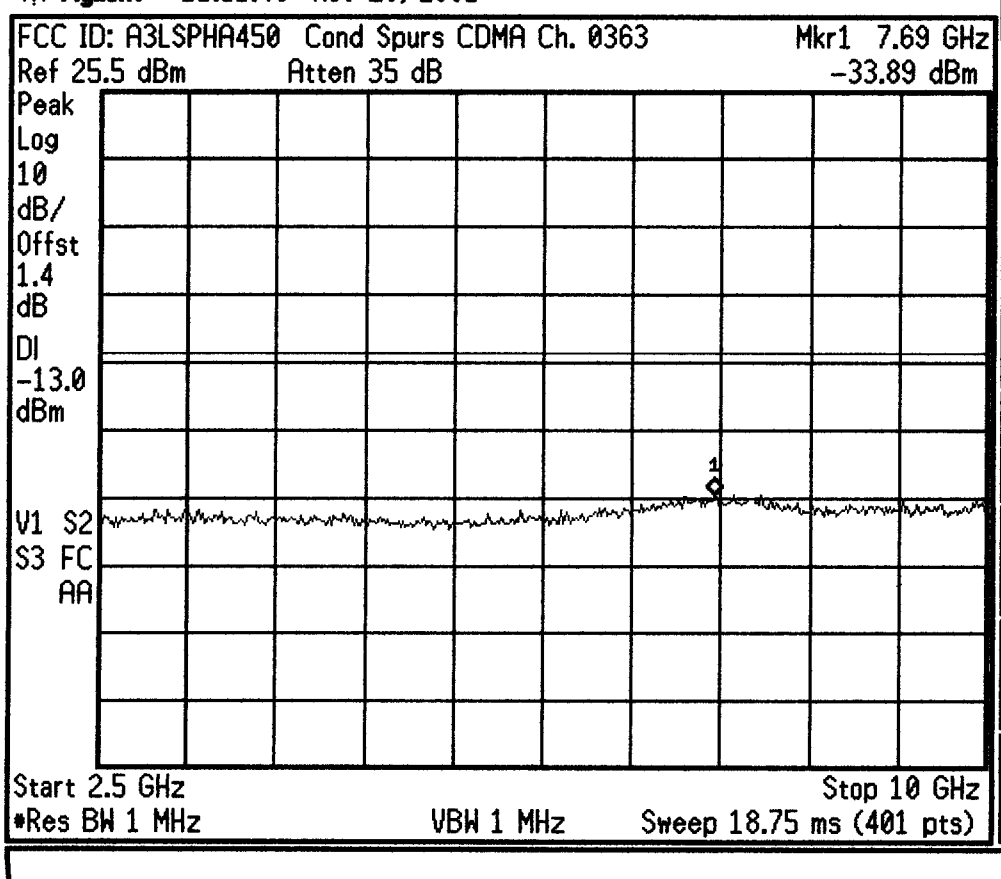
Signal Track
 On Off

* Agilent 11:50:57 Nov 20, 2001



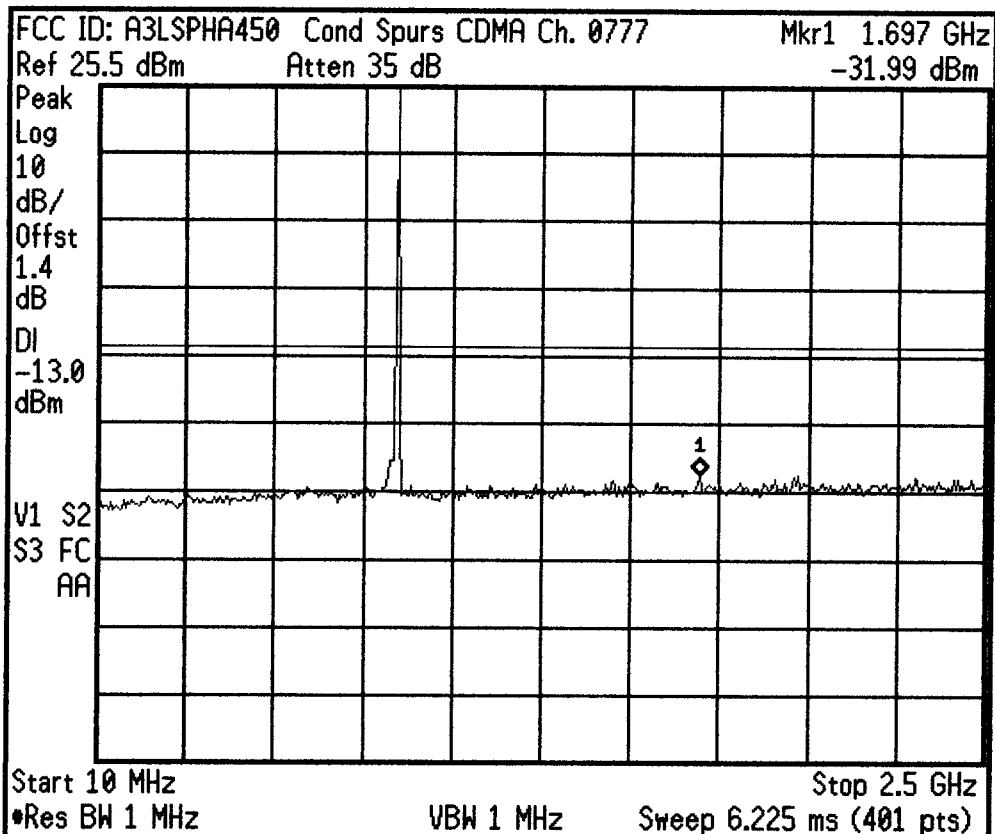
Freq/Channel
Center Freq 1.25500000 GHz
Start Freq 10.0000000 MHz
Stop Freq 2.50000000 GHz
CF Step 249.000000 MHz Auto Man
Freq Offset 0.00000000 Hz
Signal Track On Off

* Agilent 11:51:48 Nov 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 11:48:25 Nov 20, 2001



Freq/Channel

Center Freq
 1.25500000 GHz

Start Freq
 10.0000000 MHz

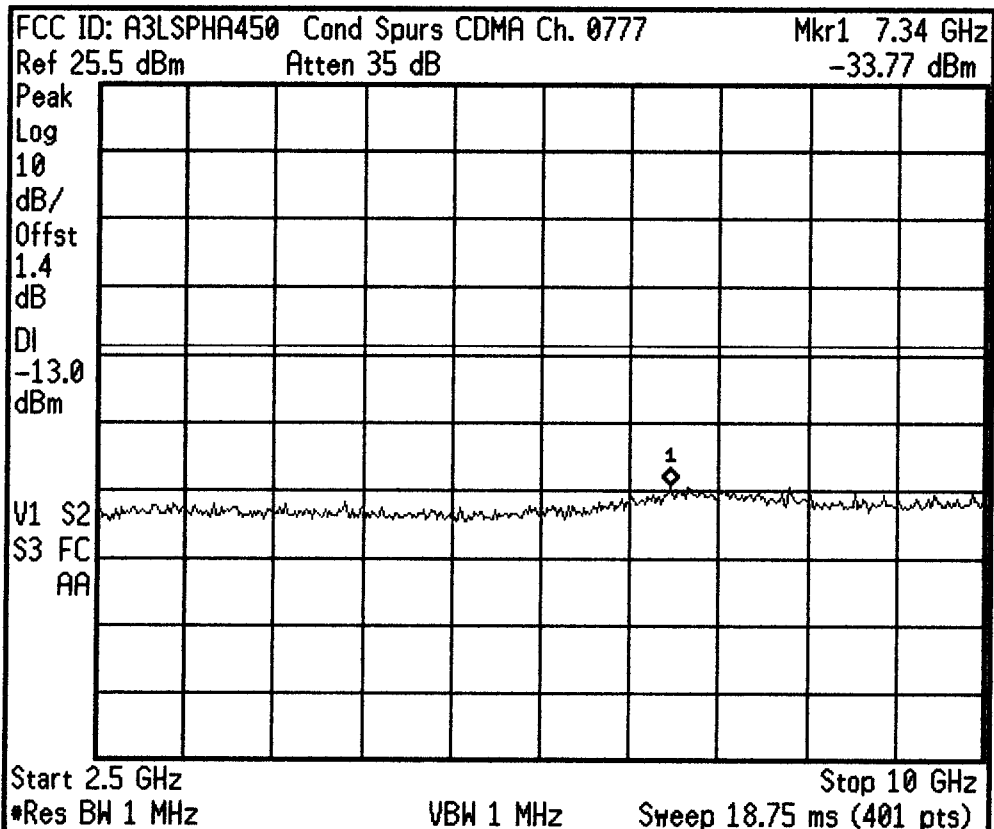
Stop Freq
 2.50000000 GHz

CF Step
 249.000000 MHz
 Auto Man

Freq Offset
 0.00000000 Hz

Signal Track
 On Off

* Agilent 11:49:42 Nov 20, 2001



Freq/Channel

Center Freq
 6.25000000 GHz

Start Freq
 2.50000000 GHz

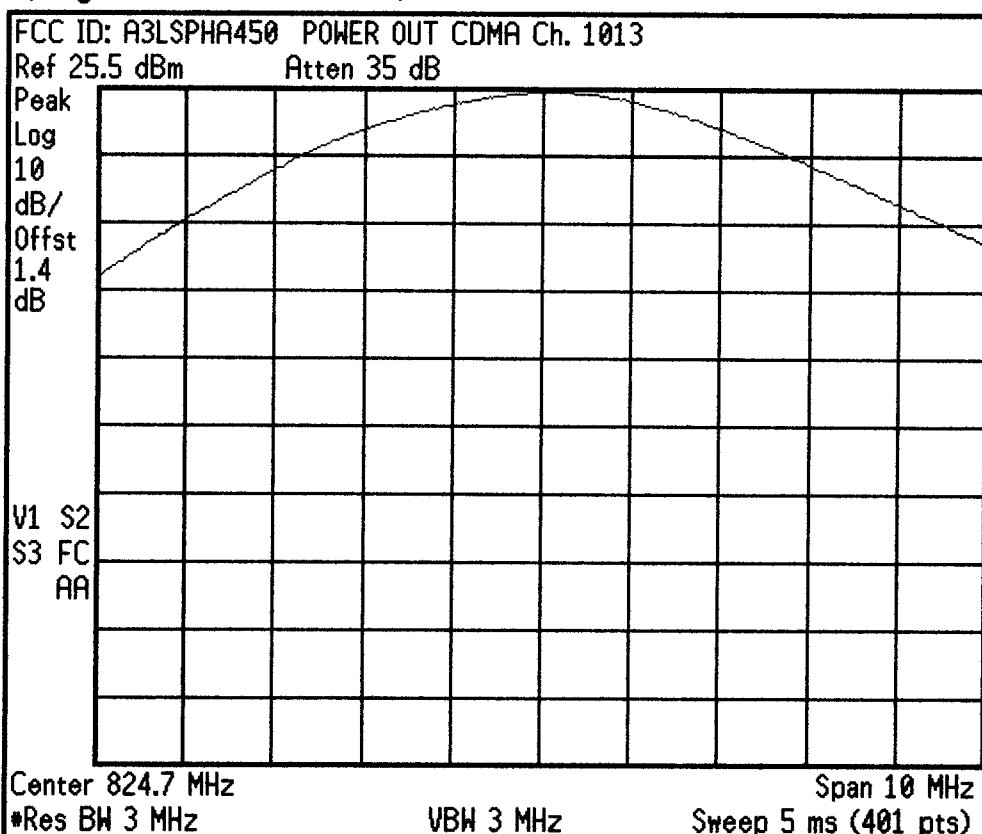
Stop Freq
 10.0000000 GHz

CF Step
 750.000000 MHz
 Auto Man

Freq Offset
 0.00000000 Hz

Signal Track
 On Off

* Agilent 11:56:53 Nov 20, 2001



Freq/Channel

Center Freq
 824.700000 MHz

Start Freq
 819.700000 MHz

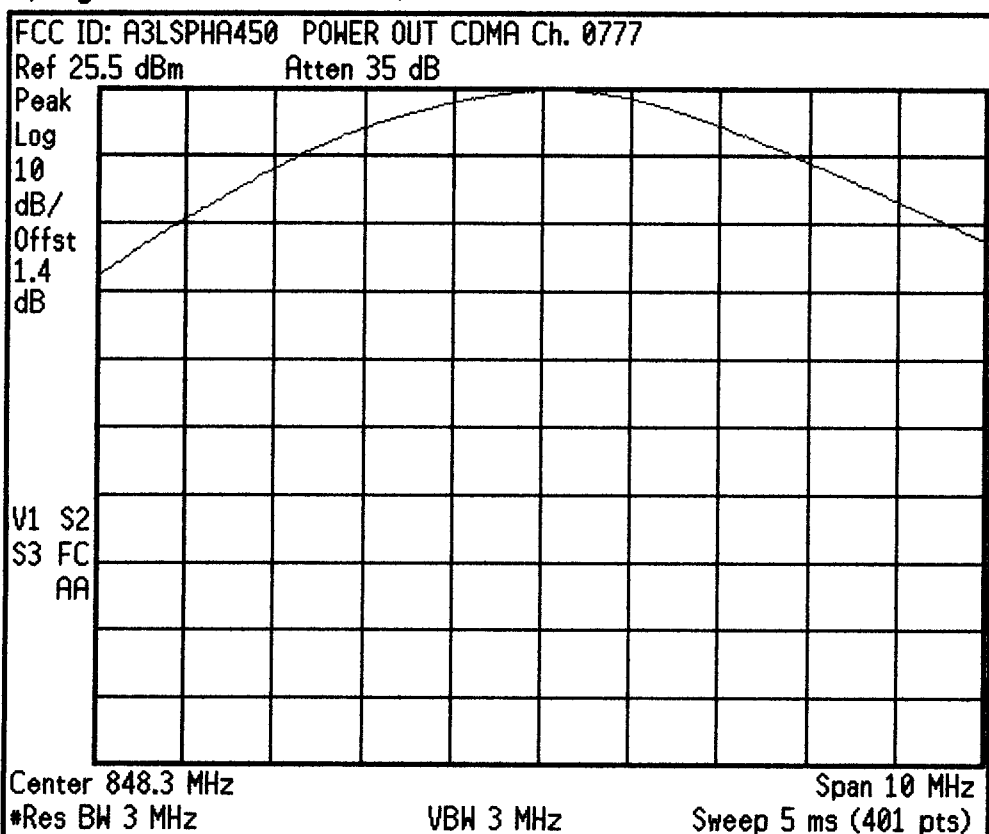
Stop Freq
 829.700000 MHz

CF Step
 1.00000000 MHz
 Auto Man

Freq Offset
 0.00000000 Hz

Signal Track
 On Off

* Agilent 11:59:30 Nov 20, 2001



Freq/Channel

Center Freq
 848.300000 MHz

Start Freq
 843.300000 MHz

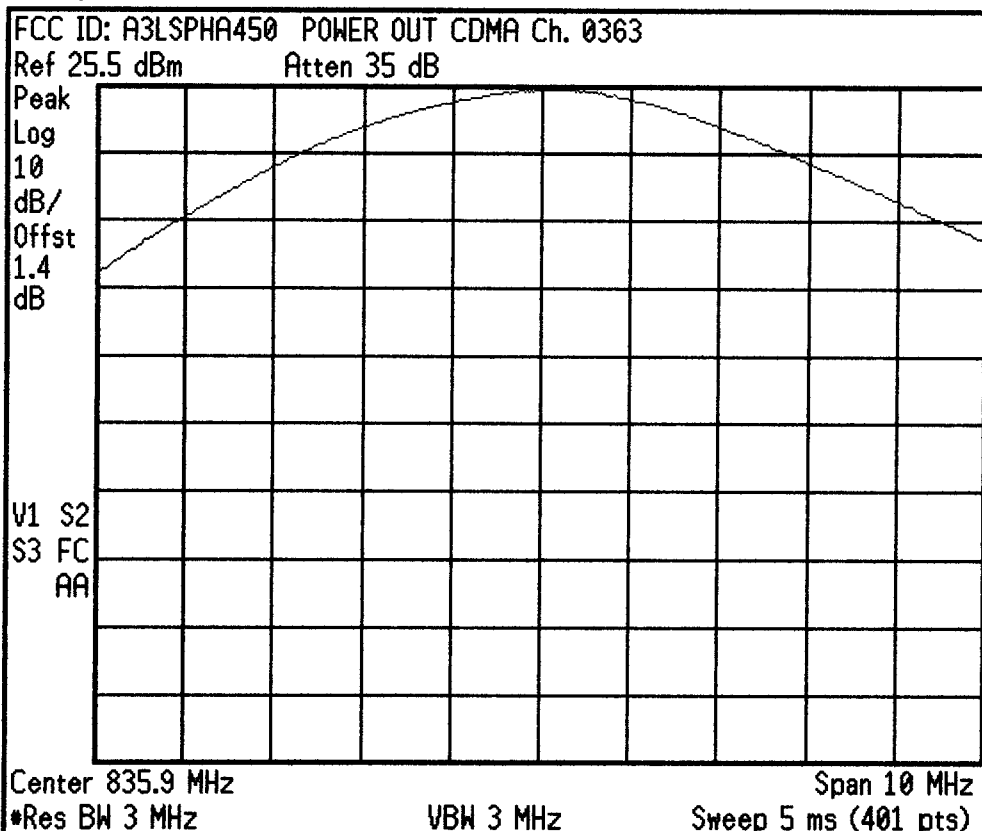
Stop Freq
 853.300000 MHz

CF Step
 1.00000000 MHz
 Auto Man

Freq Offset
 0.00000000 Hz

Signal Track
 On Off

* Agilent 12:00:54 Nov 20, 2001



Freq/Channel

Center Freq
835.900000 MHz

Start Freq
830.900000 MHz

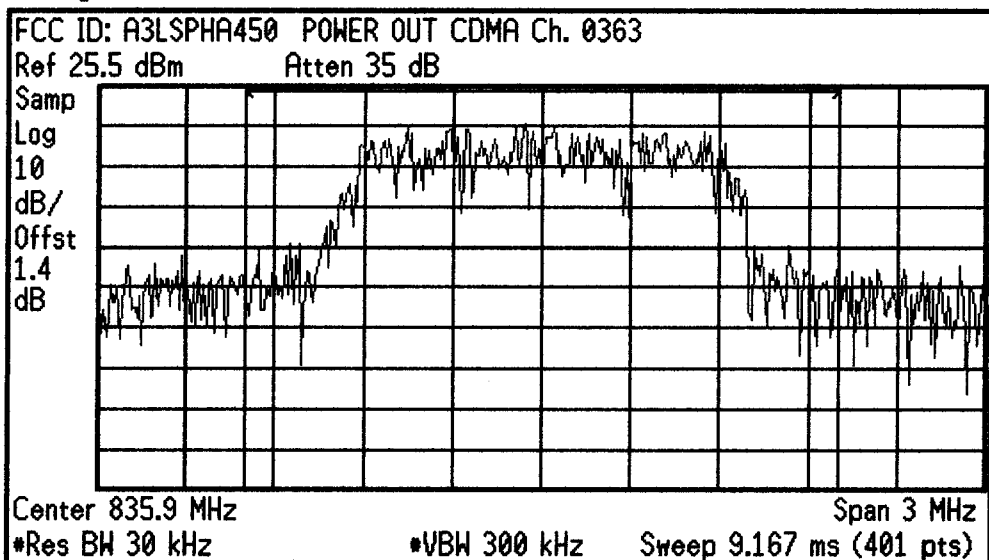
Stop Freq
840.900000 MHz

CF Step
1.00000000 MHz
Auto Man

Freq Offset
0.00000000 Hz

Signal Track
On Off

* Agilent 12:03:43 Nov 20, 2001



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

Signal Track
On Off

Channel Power Results (idle)

Channel Power
25.51 dBm

Integration BW 2.000 MHz

Density -37.50 dBm/Hz

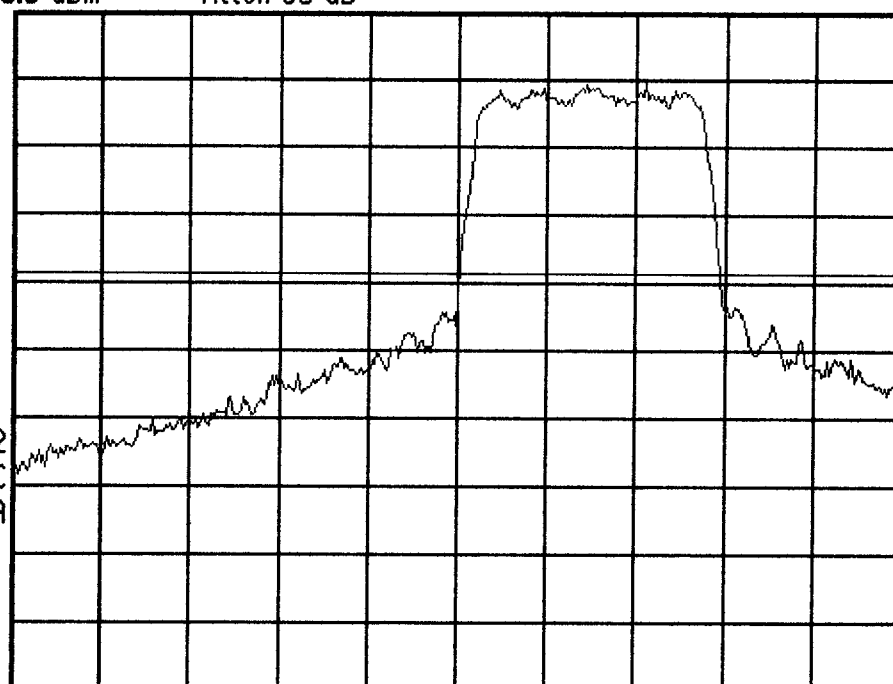
* Agilent 12:10:18 Nov 20, 2001

FCC ID: A3LSPHA450 BAND EDGE CDMA Ch. 1013

Ref 25.5 dBm Atten 35 dB

Peak
Log
10
dB/
Offst
1.4
dB
DI
-13.0
dBm

V1 S2
S3 FC
AA



Center 824 MHz

Span 5 MHz

*Res BW 30 kHz

VBW 30 kHz

Sweep 13.89 ms (401 pts)

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

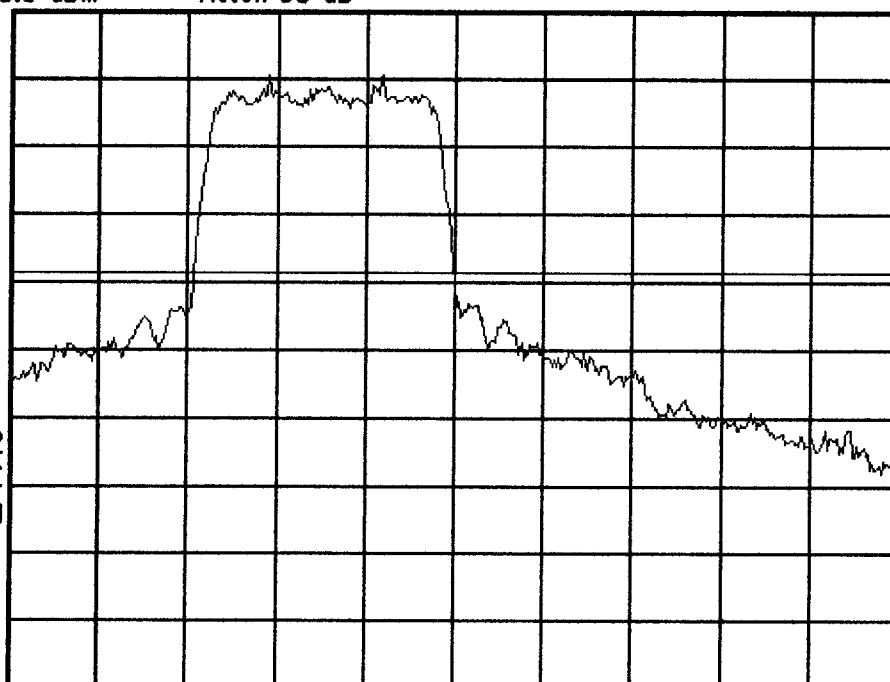
* Agilent 12:15:25 Nov 20, 2001

FCC ID: A3LSPHA450 BAND EDGE CDMA Ch. 0777

Ref 25.5 dBm Atten 35 dB

Peak
Log
10
dB/
Offst
1.4
dB
DI
-13.0
dBm

V1 S2
S3 FC
AA



Center 849 MHz

Span 5 MHz

*Res BW 30 kHz

VBW 30 kHz

Sweep 13.89 ms (401 pts)

Freq/Channel

Center Freq

849.000000 MHz

Start Freq

846.500000 MHz

Stop Freq

851.500000 MHz

CF Step

500.000000 kHz

Auto Man

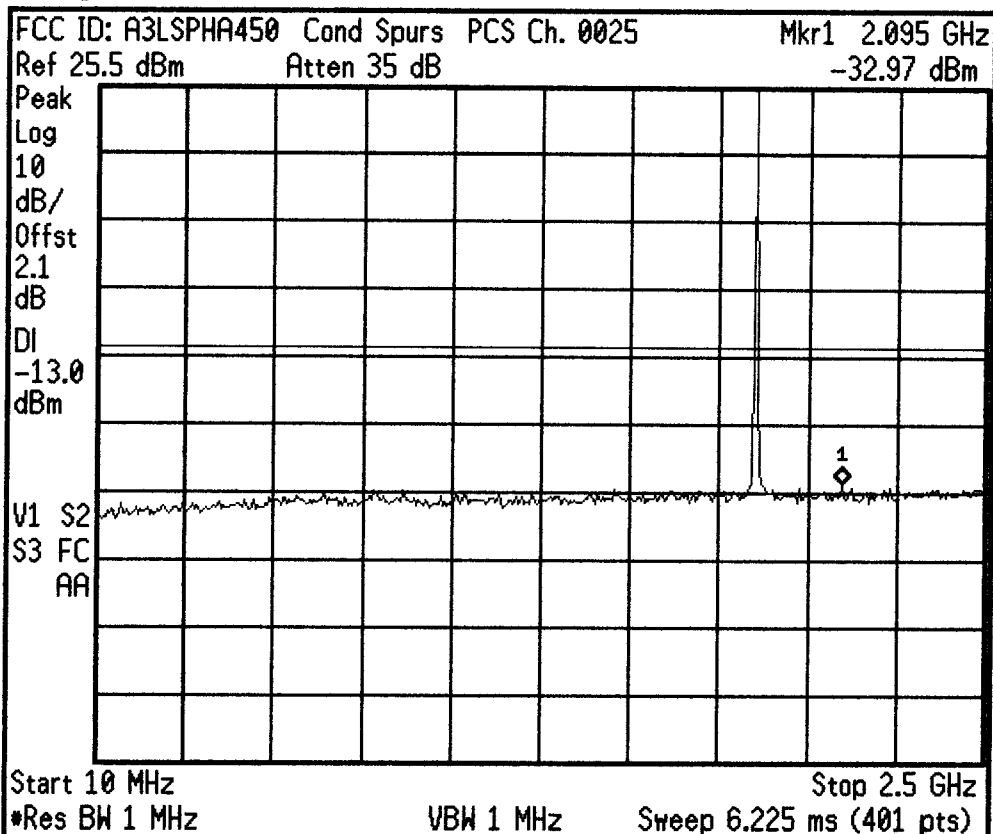
Freq Offset

0.00000000 Hz

Signal Track

On Off

* Agilent 12:23:00 Nov 20, 2001



Freq/Channel

Center Freq
1.25500000 GHz

Start Freq
10.0000000 MHz

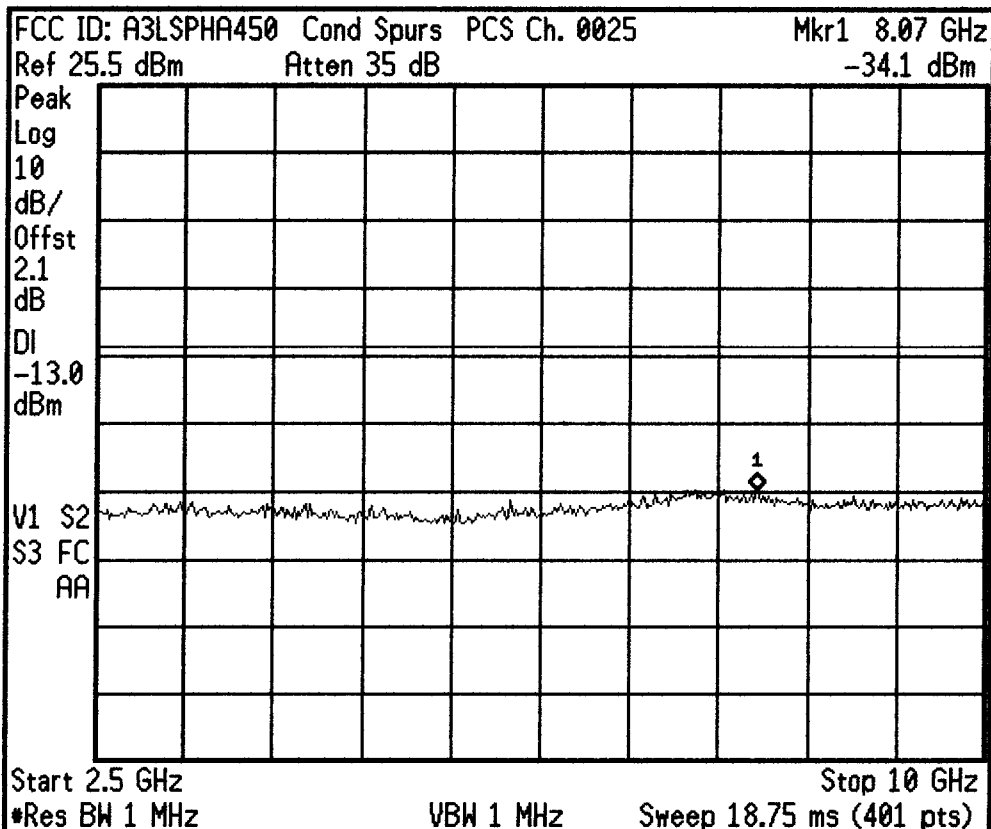
Stop Freq
2.50000000 GHz

CF Step
249.000000 MHz
Auto Man

Freq Offset
0.00000000 Hz

Signal Track
On Off

* Agilent 12:23:39 Nov 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

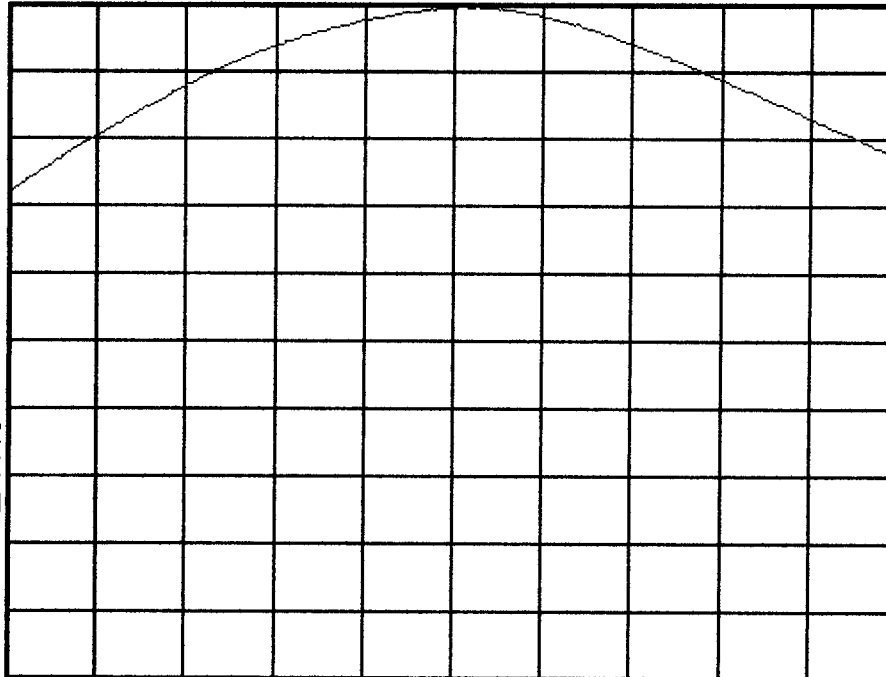
* Agilent 12:31:03 Nov 20, 2001

FCC ID: A3LSPHA450 POWER OUT PCS Ch. 0600

Ref 25.5 dBm Atten 35 dB

Peak
Log
10
dB/
Offst
2.1
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

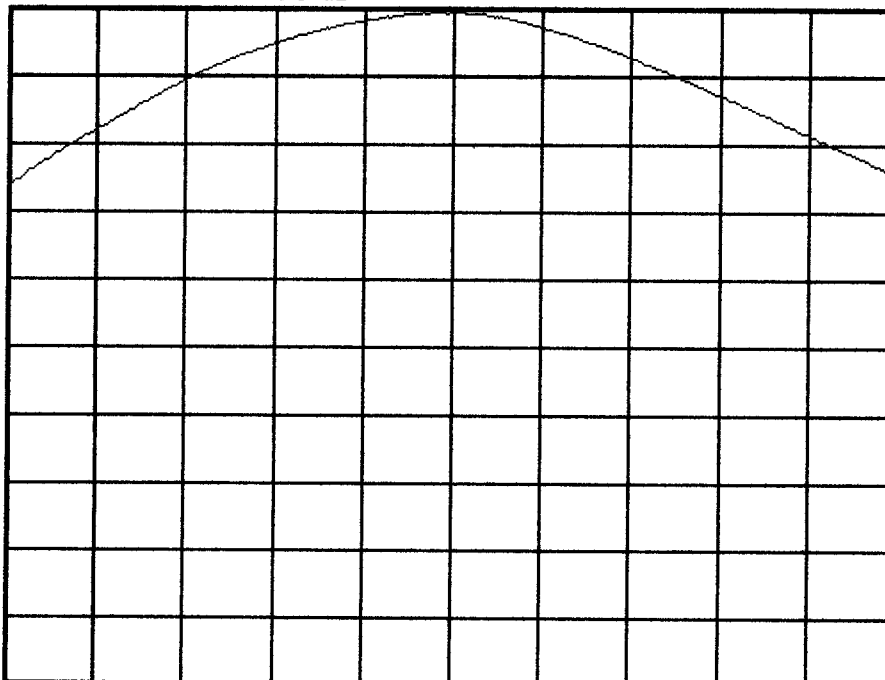
* Agilent 12:32:15 Nov 20, 2001

FCC ID: A3LSPHA450 POWER OUT PCS Ch. 1175

Ref 25.5 dBm Atten 35 dB

Peak
Log
10
dB/
Offst
2.1
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

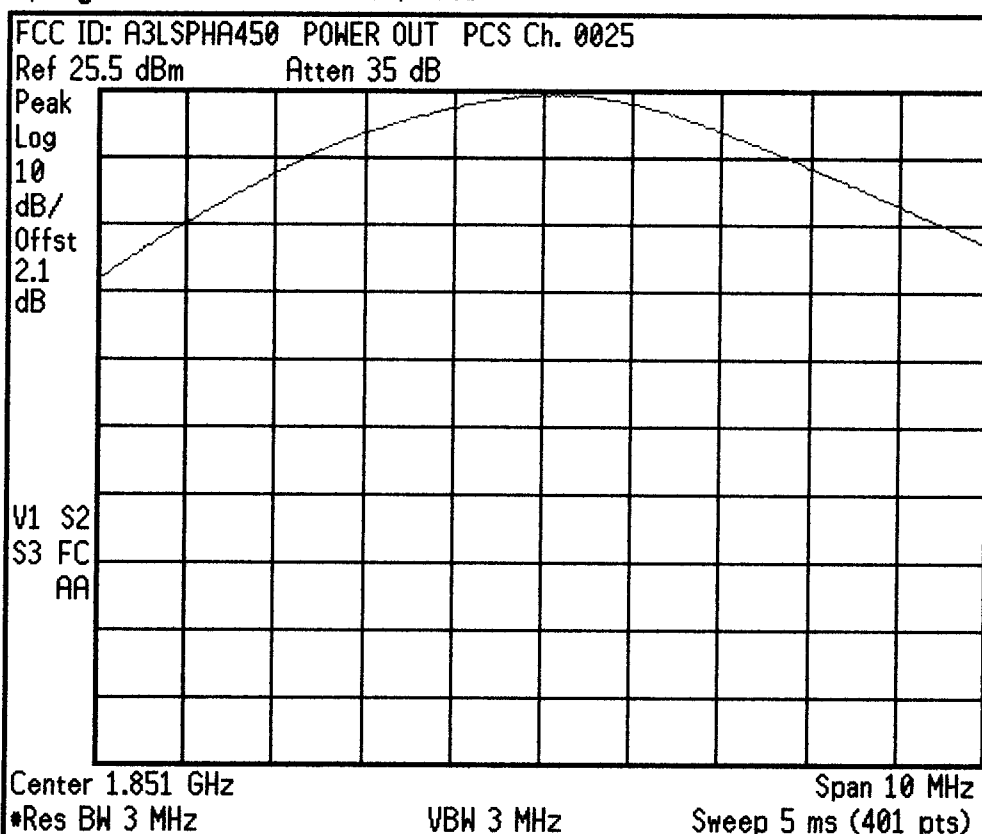
0.00000000 Hz

Signal Track

On

Off

* Agilent 12:34:30 Nov 20, 2001



Freq/Channel

Center Freq
1.85100000 GHz

Start Freq
1.84600000 GHz

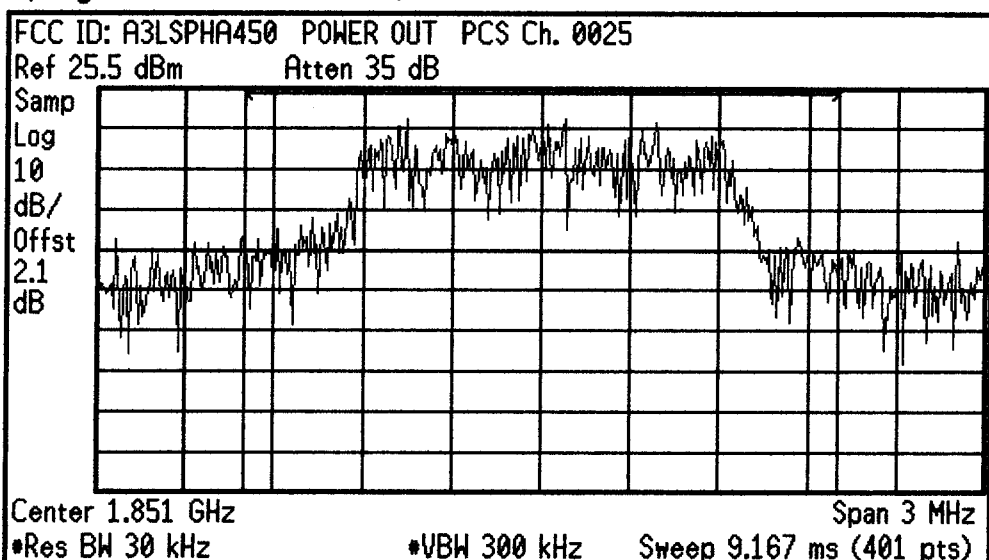
Stop Freq
1.85600000 GHz

CF Step
1.00000000 MHz
Auto Man

Freq Offset
0.00000000 Hz

Signal Track
On Off

* Agilent 12:37:43 Nov 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

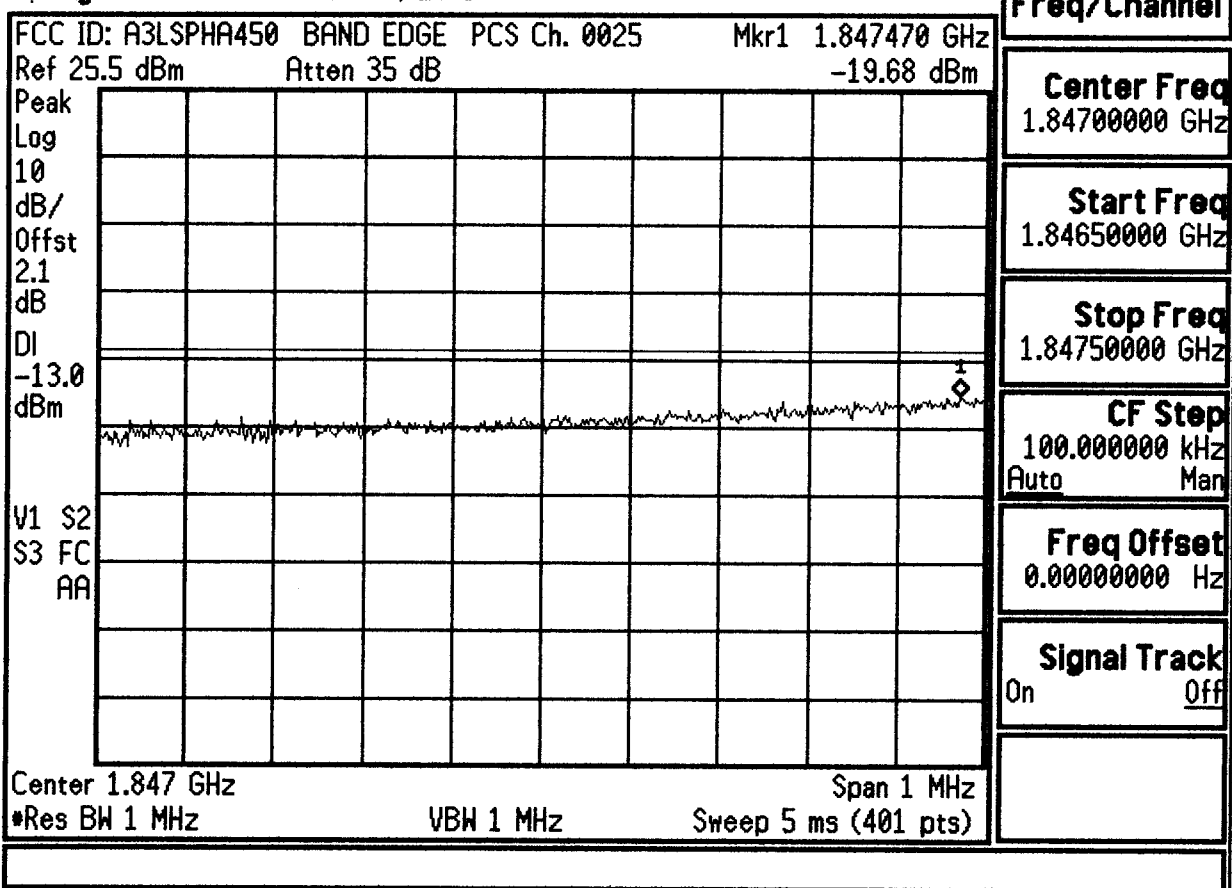
Channel Power Results (idle)

Channel Power
25.50 dBm

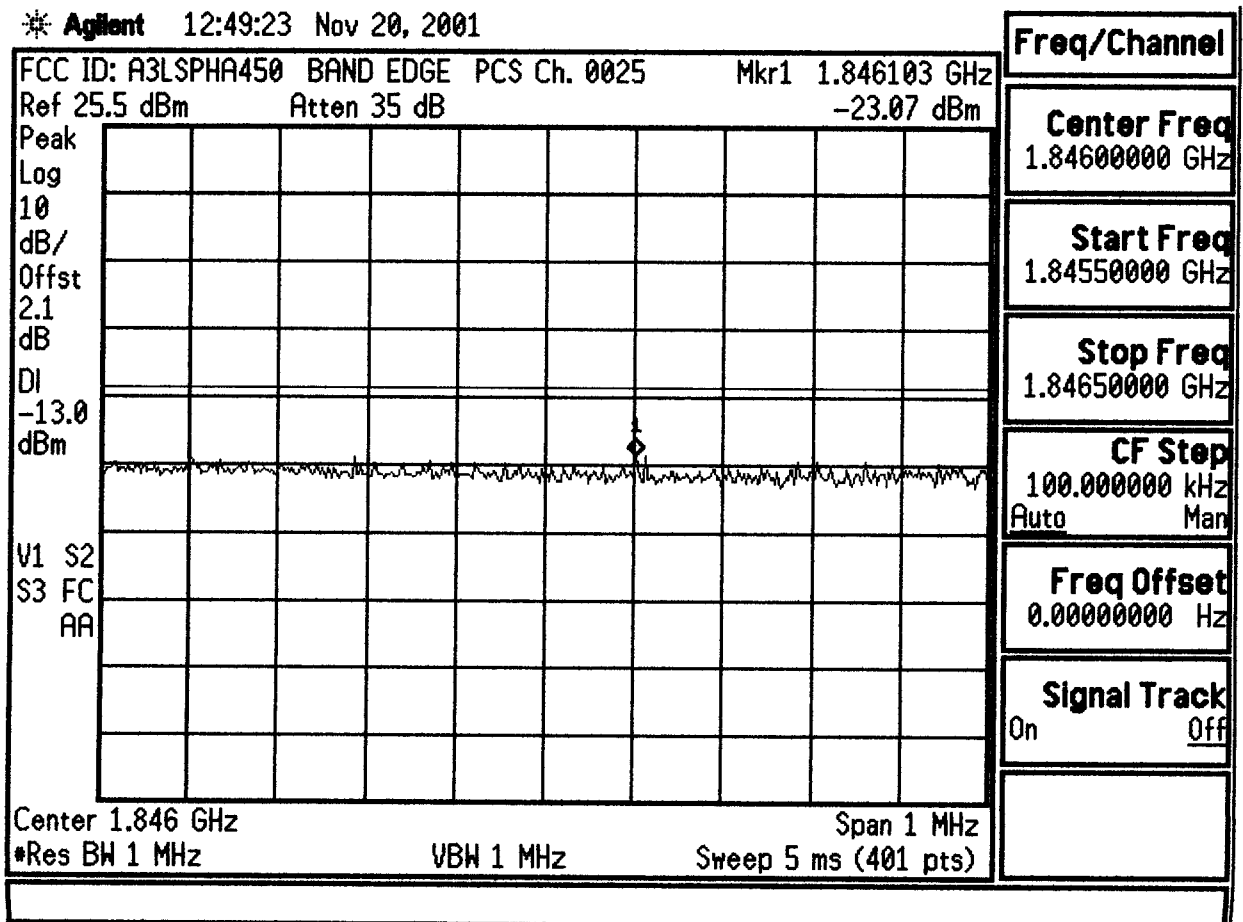
Integration BW 2.000 MHz

Density -37.51 dBm/Hz

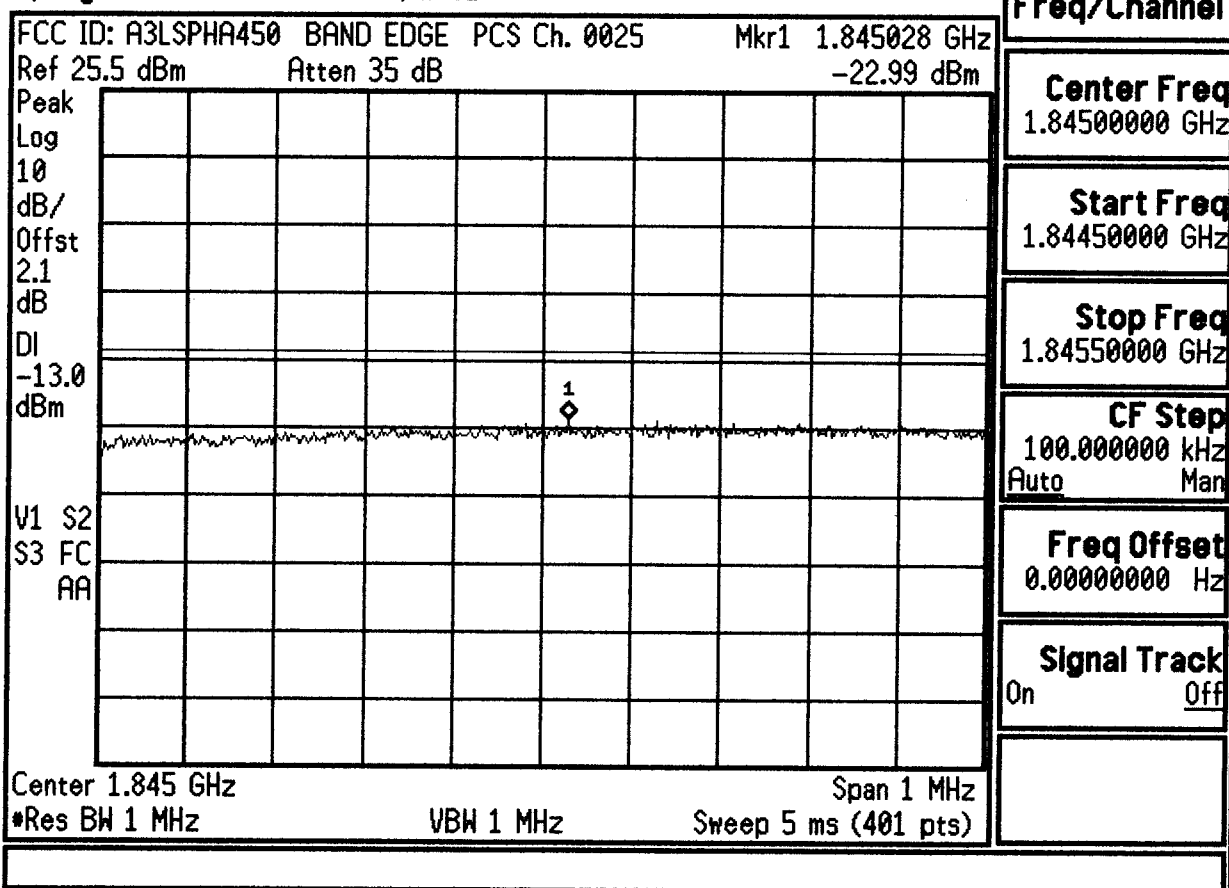
* Agilent 12:47:53 Nov 20, 2001



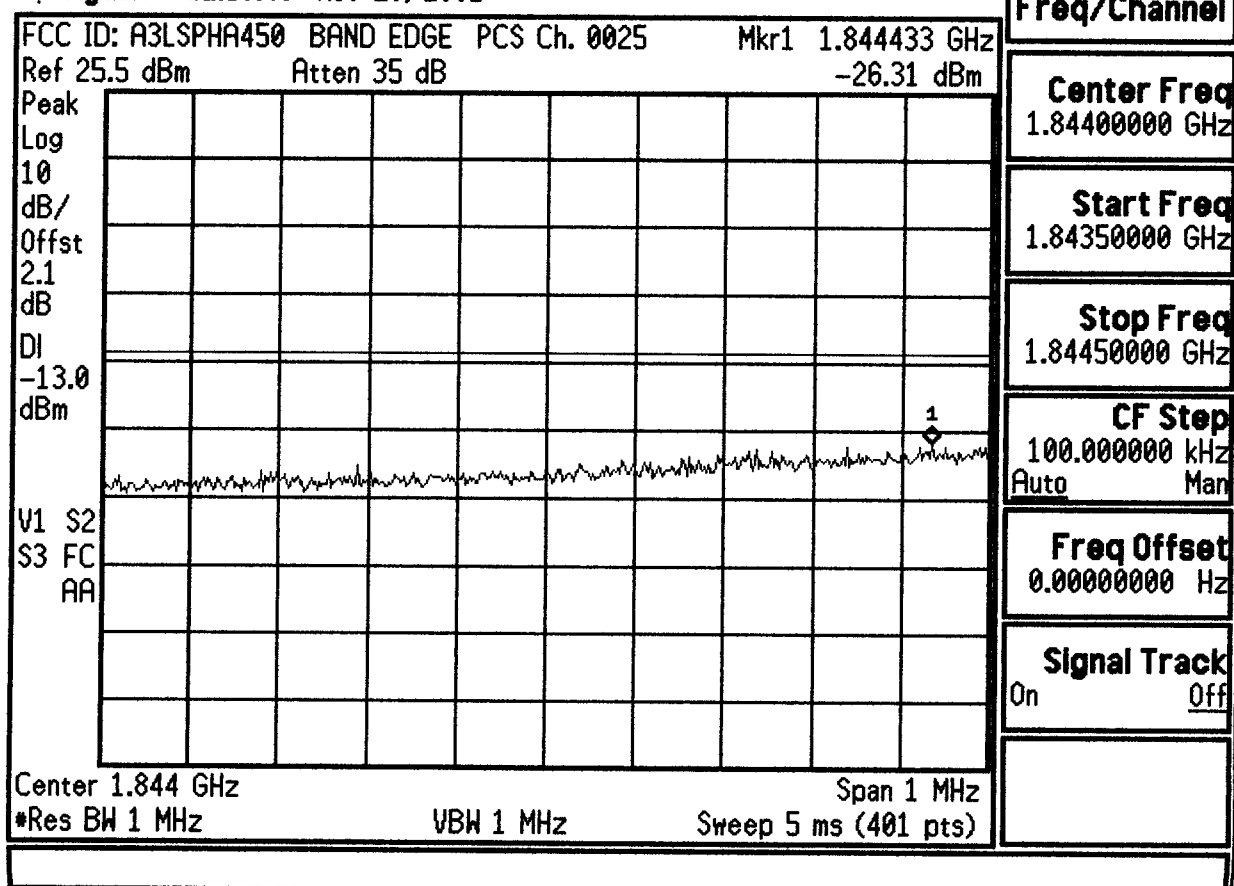
* Agilent 12:49:23 Nov 20, 2001



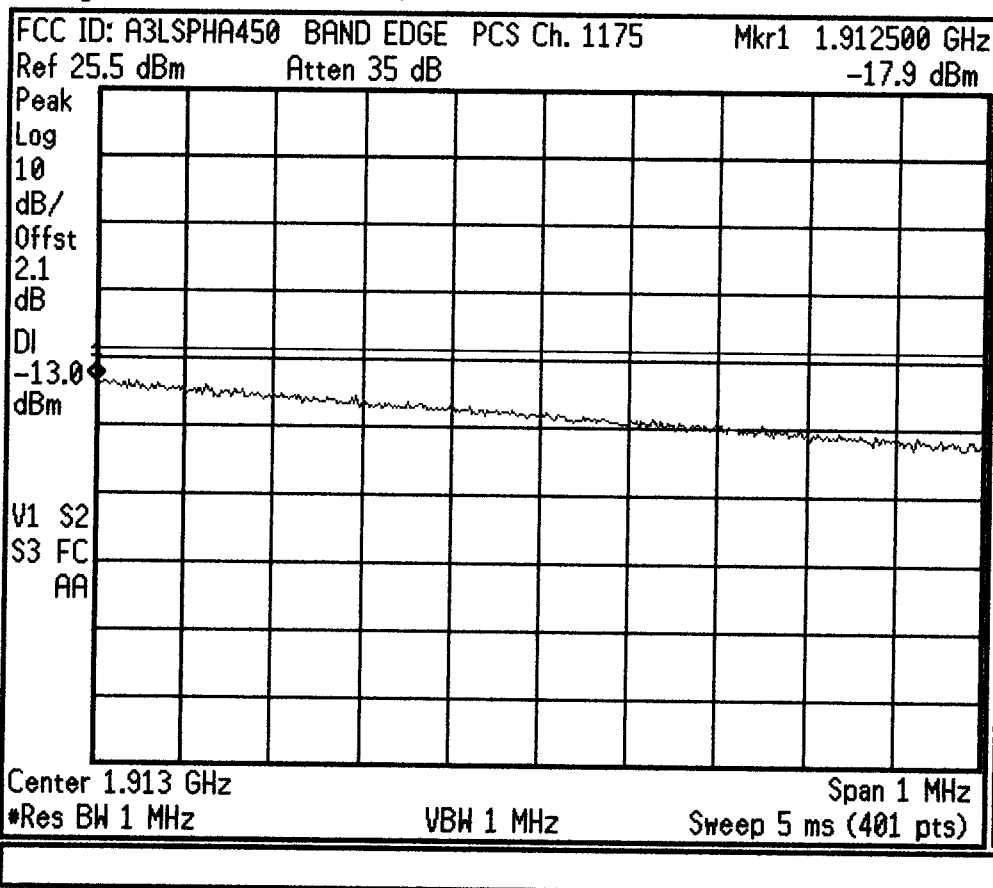
* Agilent 12:50:05 Nov 20, 2001



* Agilent 12:50:40 Nov 20, 2001

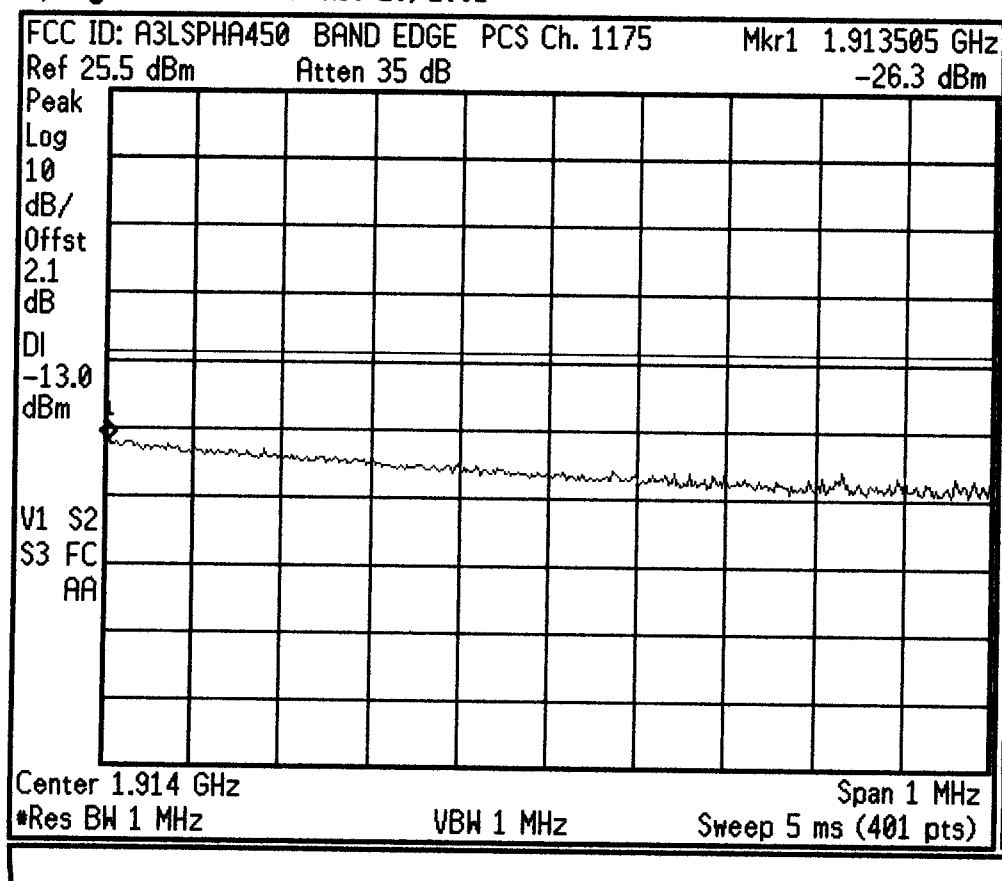


* Agilent 12:57:01 Nov 20, 2001



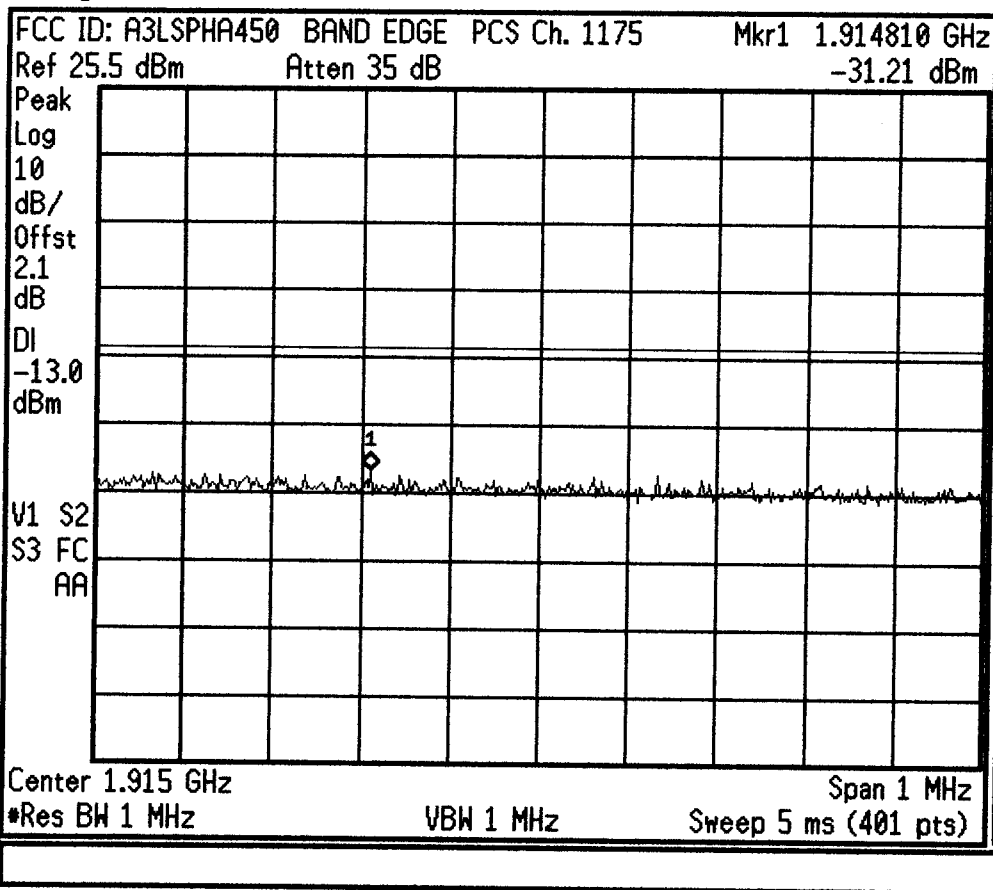
Freq/Channel
Center Freq 1.91300000 GHz
Start Freq 1.91250000 GHz
Stop Freq 1.91350000 GHz
CF Step 100.000000 kHz Auto Man
Freq Offset 0.00000000 Hz
Signal Track On Off

* Agilent 12:57:35 Nov 20, 2001



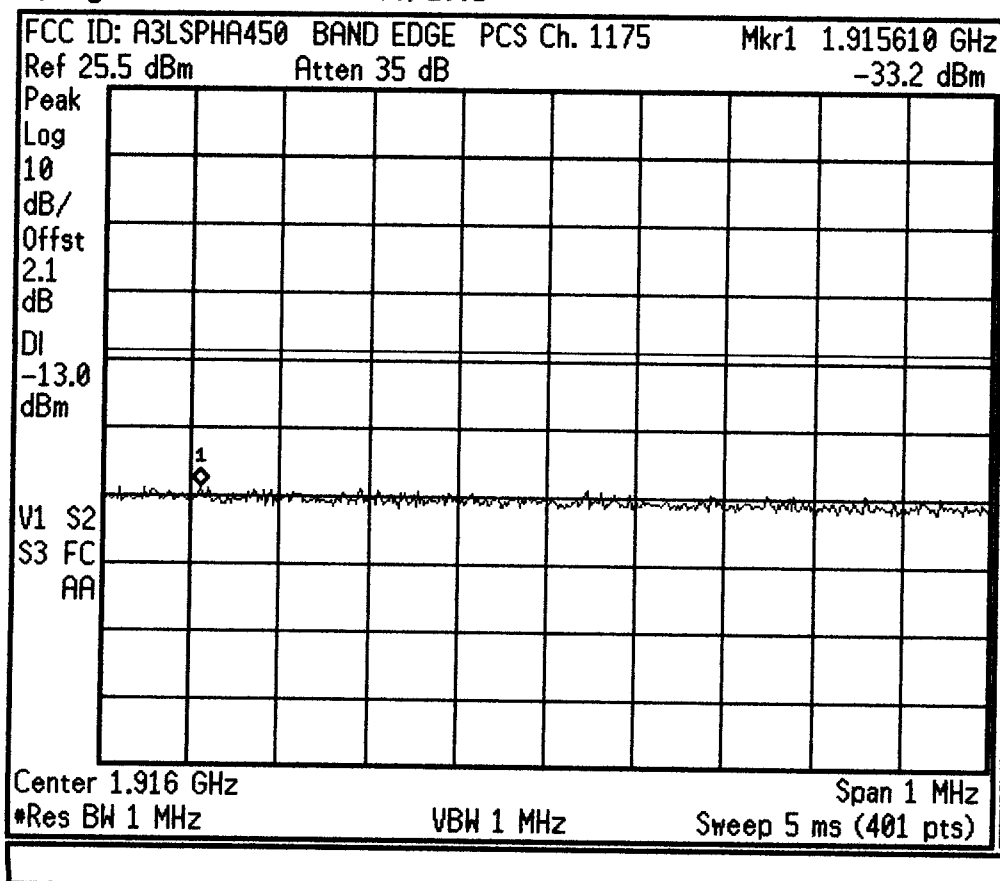
Freq/Channel
Center Freq 1.91400000 GHz
Start Freq 1.91350000 GHz
Stop Freq 1.91450000 GHz
CF Step 100.000000 kHz Auto Man
Freq Offset 0.00000000 Hz
Signal Track On Off

* Agilent 12:58:33 Nov 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 12:59:45 Nov 20, 2001



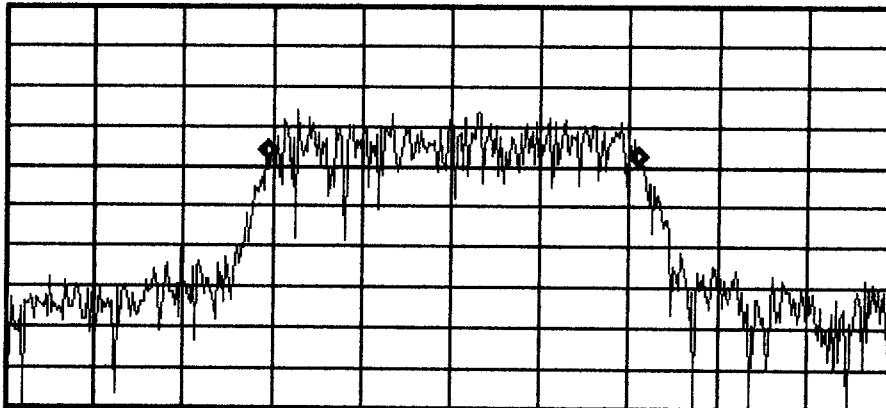
Freq/Channel
Center Freq 1.91600000 GHz
Start Freq 1.91550000 GHz
Stop Freq 1.91650000 GHz
CF Step 100.000000 kHz Auto Man
Freq Offset 0.00000000 Hz
Signal Track On Off

* Agilent 13:06:02 Nov 20, 2001

FCC ID: A3LSPPH450 POWER OUT CDMA Ch. 0600

Ref 25.5 dBm Atten 35 dB

Samp
Log
10
dB/
Offst
2.1
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 %

1.251 MHz

Transmit Freq Error 7.165 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

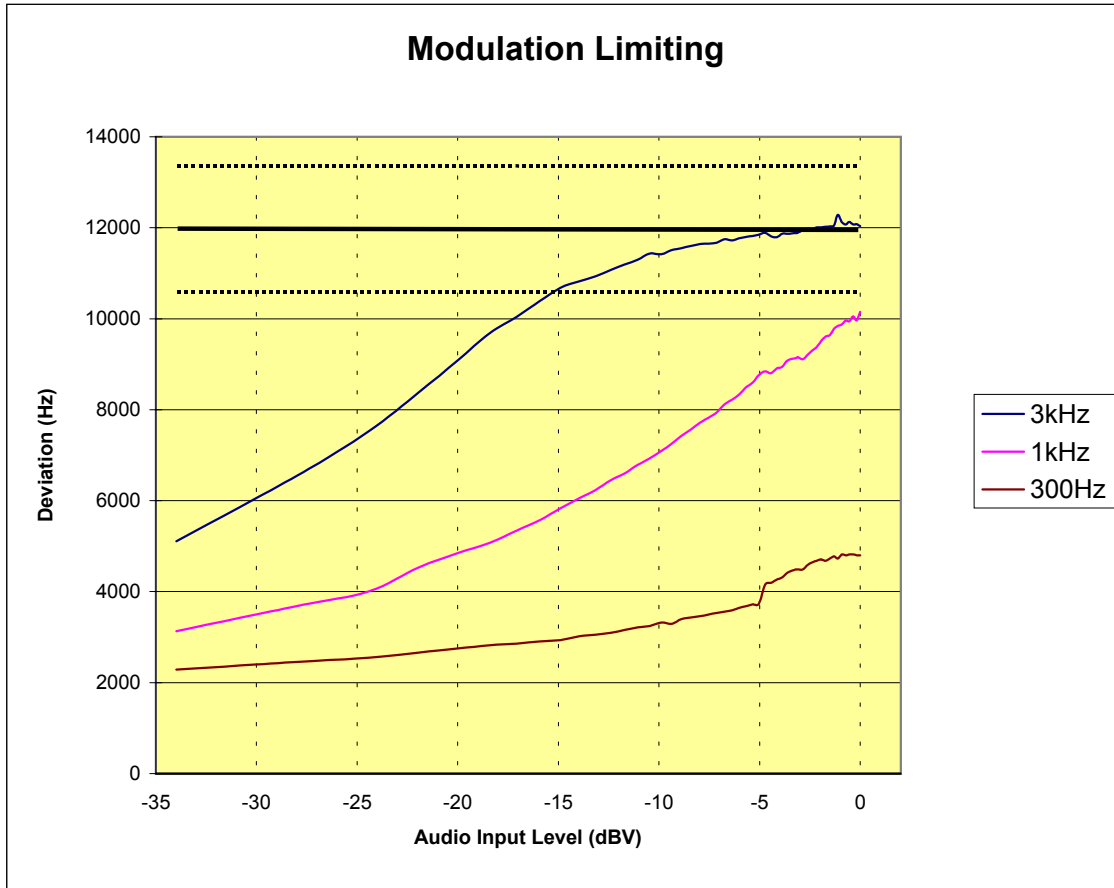
PCTEST Engineering Lab., Inc.

SUBJECT: Modulation Characteristics
FCC Part 24/22

Test Report No.: 24/22.211026550.A3L
Test Date: 10.26.01

EUT: SAMSUNG Dual-Band Analog/PCS Phone (AMPS/CDMA)
Model: SPH-A450
FCC ID: A3LSPHA450

REFERENCE: 1 kHz = 0 dB



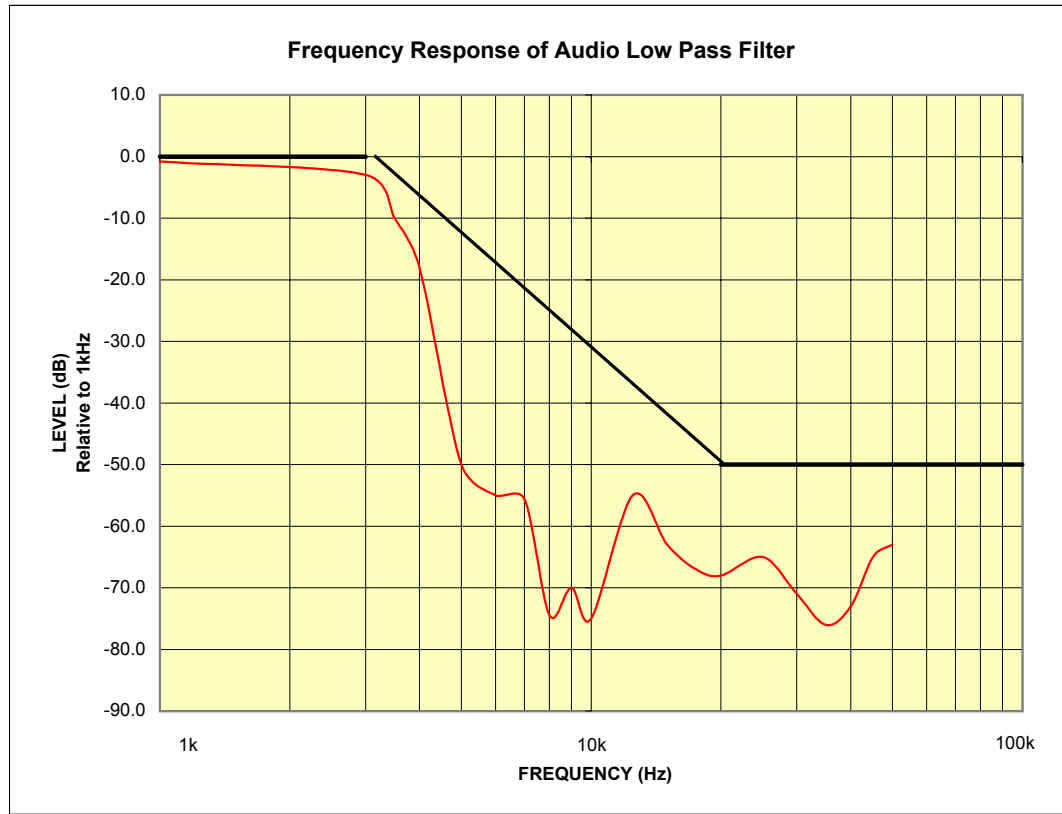
PCTEST Engineering Lab., Inc.

SUBJECT: Modulation Characteristics
FCC Part 24/22

Test Report No.: 24/22.211026550.A3L
Test Date: 10.26.01

EUT: SAMSUNG Dual-Band Analog/PCS Phone (AMPS/CDMA)
Model: SPH-A450
FCC ID: A3LSPHA450

REFERENCE: 1 kHz = 0 dB



PCTEST Engineering Lab., Inc.

SUBJECT: Modulation Characteristics
FCC Part 24/22

Test Report No.: 24/22.211026550.A3L
Test Date: 10.26.01

EUT: SAMSUNG Dual-Band Analog/PCS Phone (AMPS/CDMA)
Model: SPH-A450
FCC ID: A3LSPHA450

REFERENCE: 1 kHz = 0 dB

