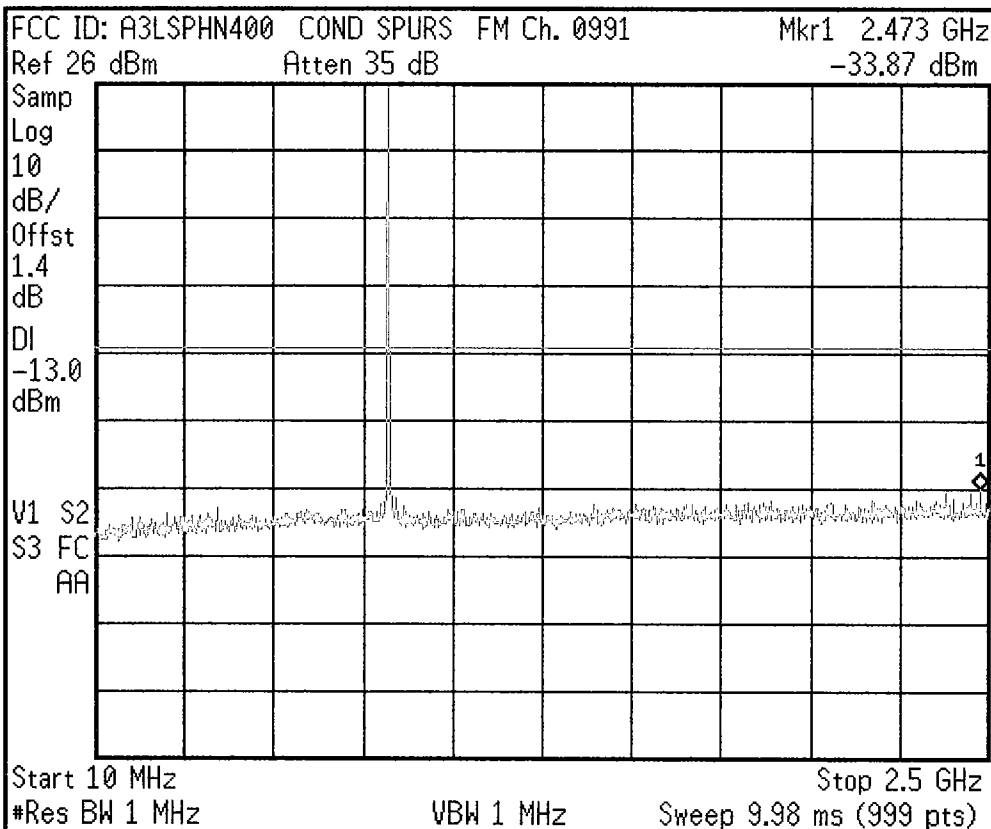


* Agilent 09:21:12 Feb 12, 2002



Freq/Channel

Center Freq

1.25500000 GHz

Start Freq

10.0000000 MHz

Stop Freq

2.50000000 GHz

CF Step

249.000000 MHz

Auto Man

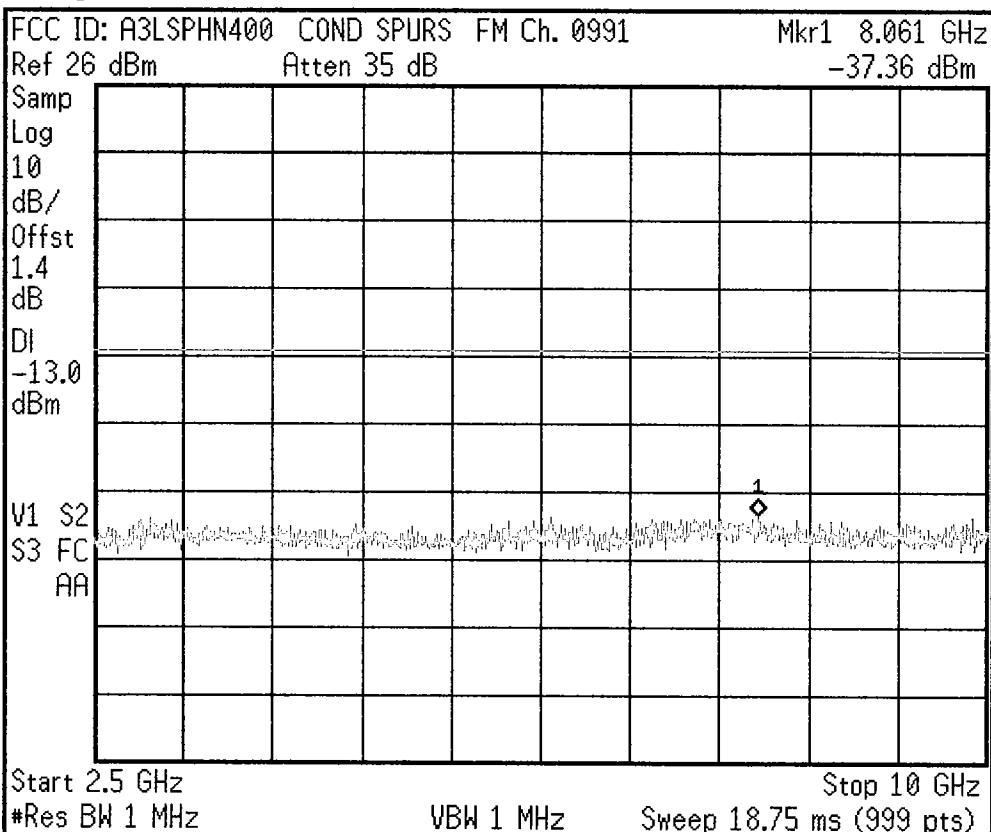
Freq Offset

0.00000000 Hz

Signal Track

On Off

* Agilent 09:21:49 Feb 12, 2002



Freq/Channel

Center Freq

6.25000000 GHz

Start Freq

2.50000000 GHz

Stop Freq

10.0000000 GHz

CF Step

750.000000 MHz

Auto Man

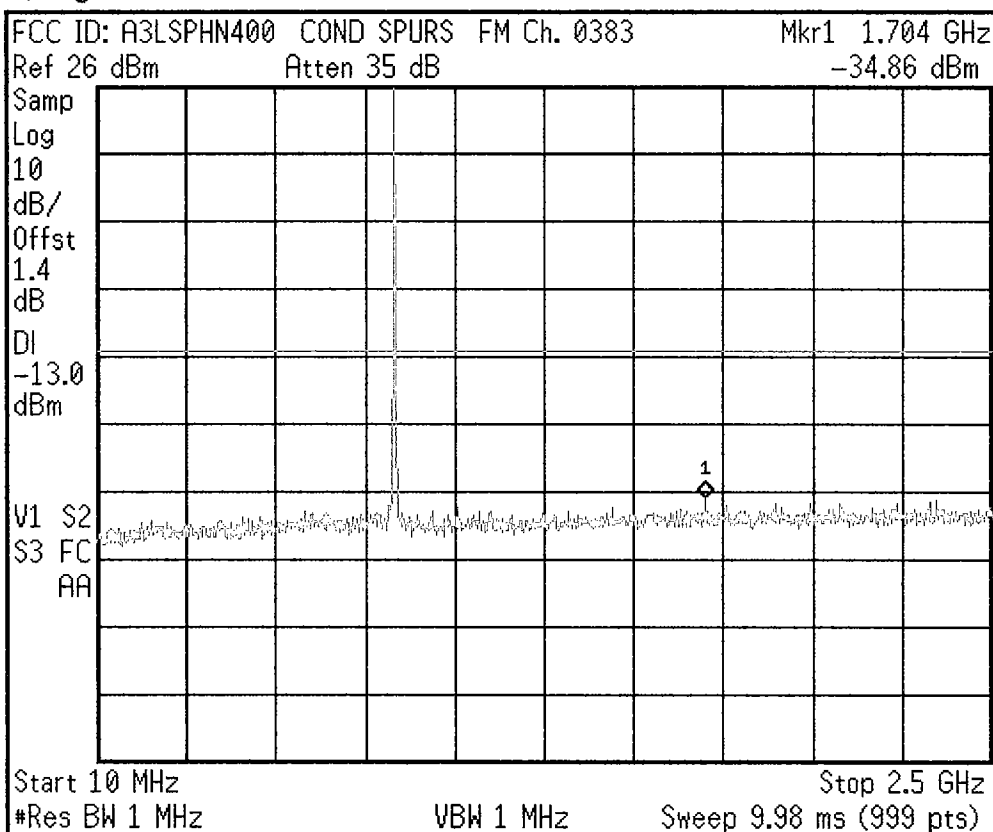
Freq Offset

0.00000000 Hz

Signal Track

On Off

* Agilent 09:22:51 Feb 12, 2002



Freq/Channel

Center Freq
 1.25500000 GHz

Start Freq
 10.0000000 MHz

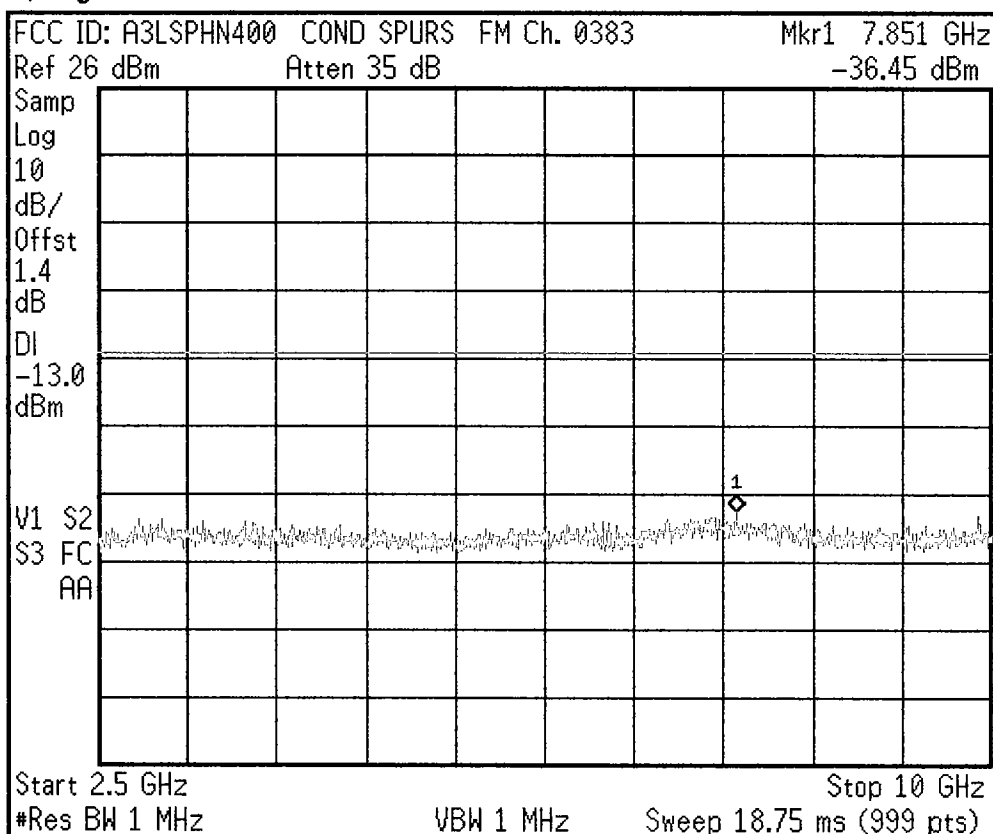
Stop Freq
 2.50000000 GHz

CF Step
 249.000000 MHz
 Auto Man

Freq Offset
 0.00000000 Hz

Signal Track
 On Off

* Agilent 09:23:43 Feb 12, 2002



Freq/Channel

Center Freq
 6.25000000 GHz

Start Freq
 2.50000000 GHz

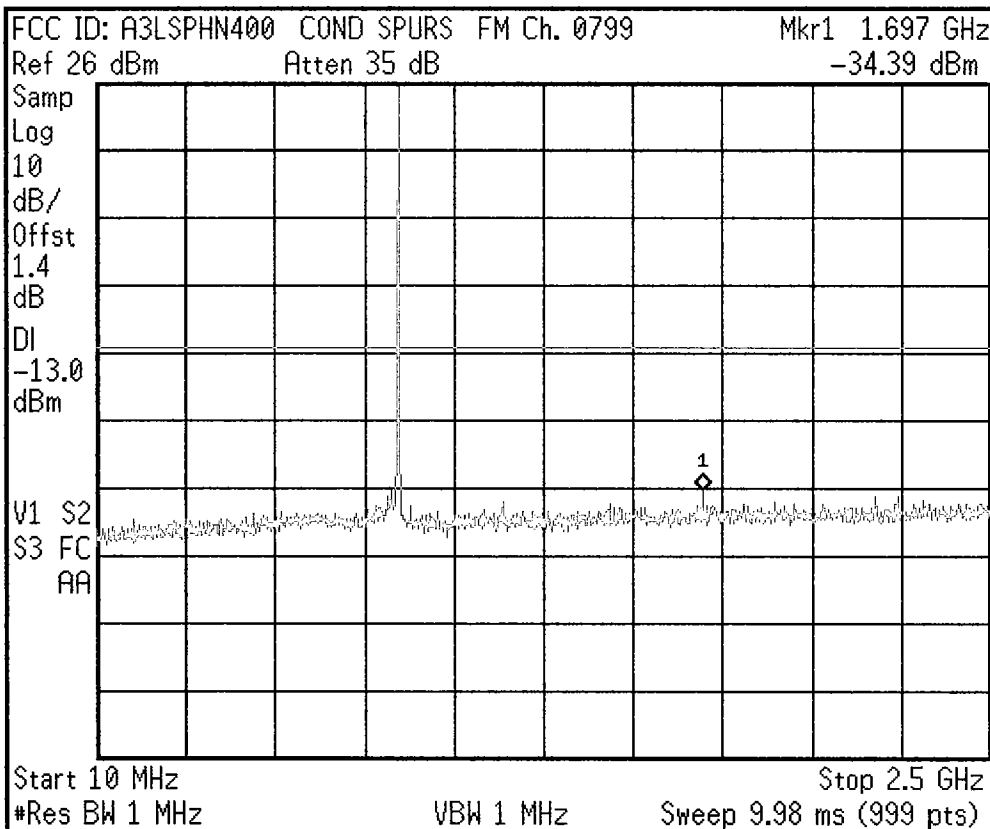
Stop Freq
 10.0000000 GHz

CF Step
 750.000000 MHz
 Auto Man

Freq Offset
 0.00000000 Hz

Signal Track
 On Off

* Agilent 09:25:06 Feb 12, 2002



Freq/Channel

Center Freq

1.25500000 GHz

Start Freq

10.0000000 MHz

Stop Freq

2.50000000 GHz

CF Step

249.000000 MHz

Auto Man

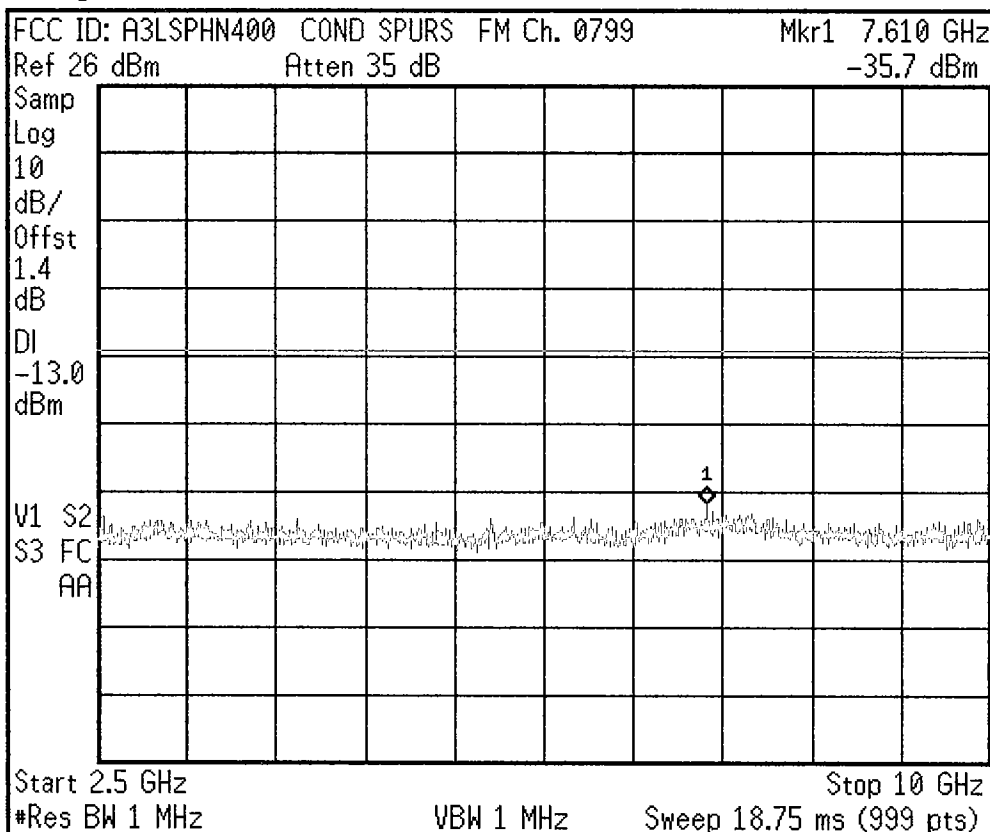
Freq Offset

0.00000000 Hz

Signal Track

On Off

* Agilent 09:26:01 Feb 12, 2002



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

PCTEST Engineering Lab.

SPECTRUM ANALYZER PRESENTATION

FCC ID:A3LSPHN400

SAMSUNG

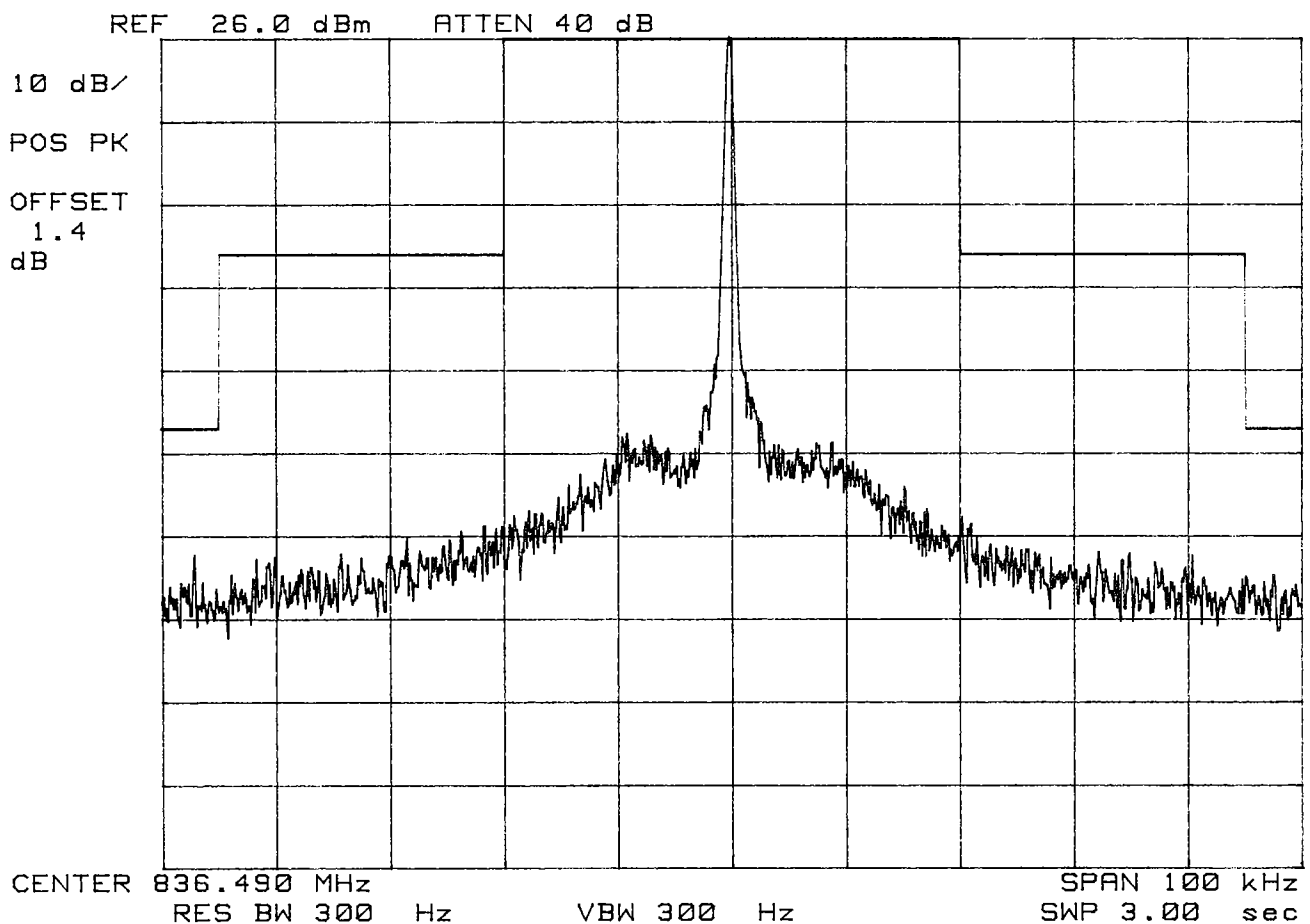
Tri-Mode Phone

FM Channel 383

Operating Frequency: 836.490 MHz

Output Power : 26.0 dBm

Test Mode:Unmodulated Signal



PCTEST Engineering Lab.

SPECTRUM ANALYZER PRESENTATION

FCC ID:A3LSPHN400

SAMSUNG

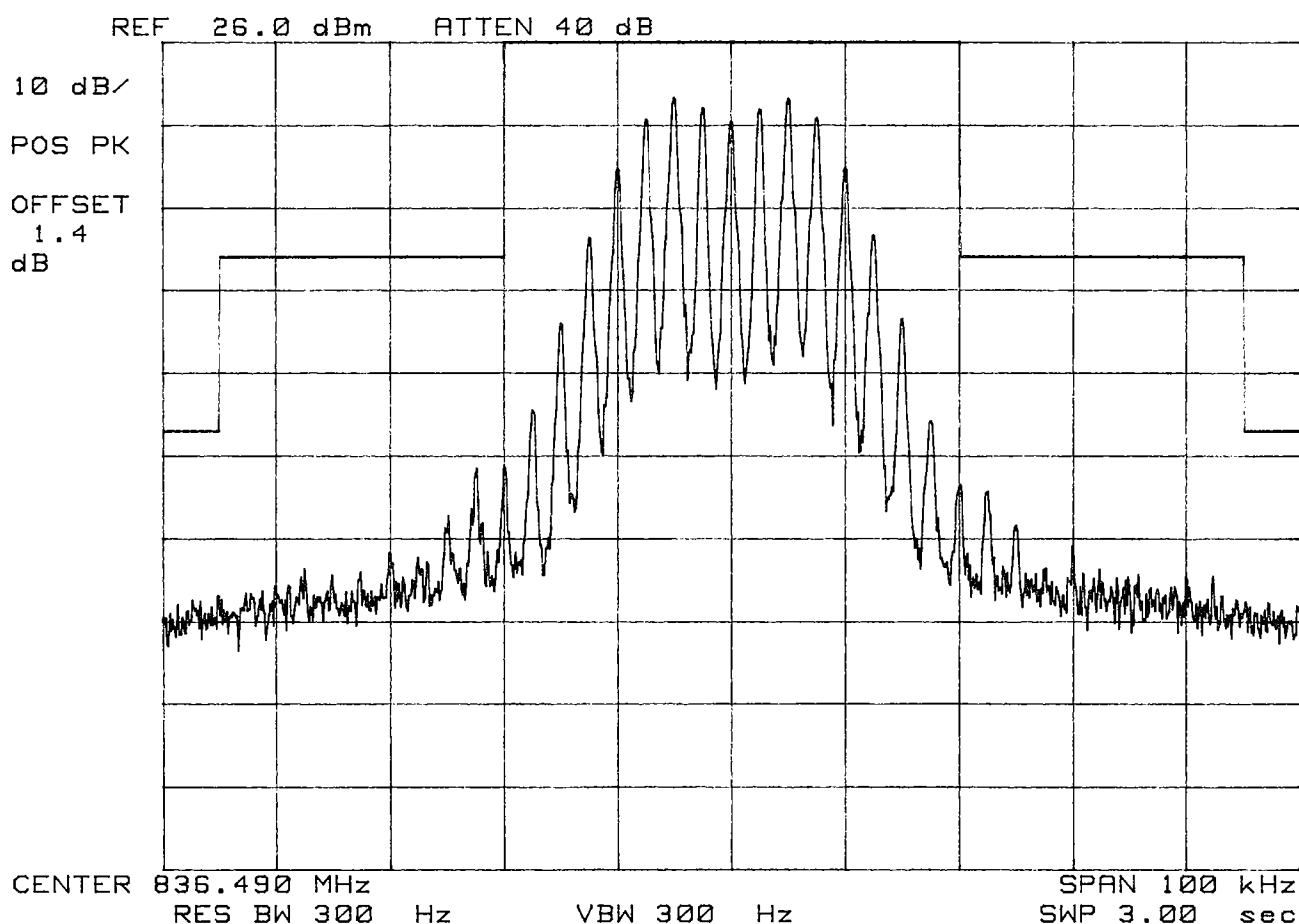
Tri-Mode Phone

FM Channel 383

Operating Frequency: 836.490 MHz

Output Power : 26.0 dBm

Test Mode:Voice



PCTEST Engineering Lab.

SPECTRUM ANALYZER PRESENTATION

FCC ID:A3LSPHN400

SAMSUNG

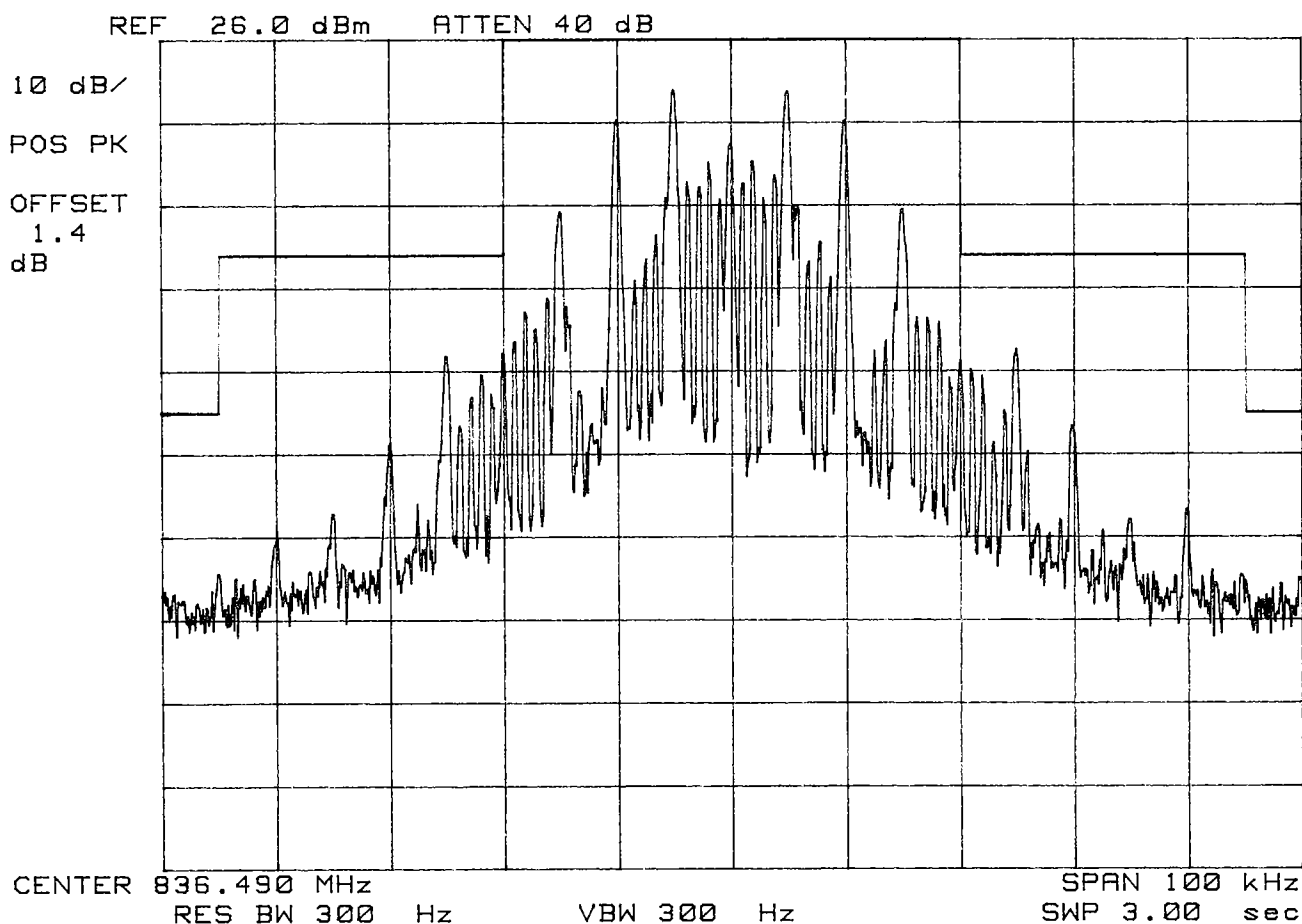
Tri-Mode Phone

FM Channel 383

Operating Frequency: 836.490 MHz

Output Power : 26.0 dBm

Test Mode:Wide Band Data



PCTEST Engineering Lab.

SPECTRUM ANALYZER PRESENTATION

FCC ID:A3LSPHN400

SAMSUNG

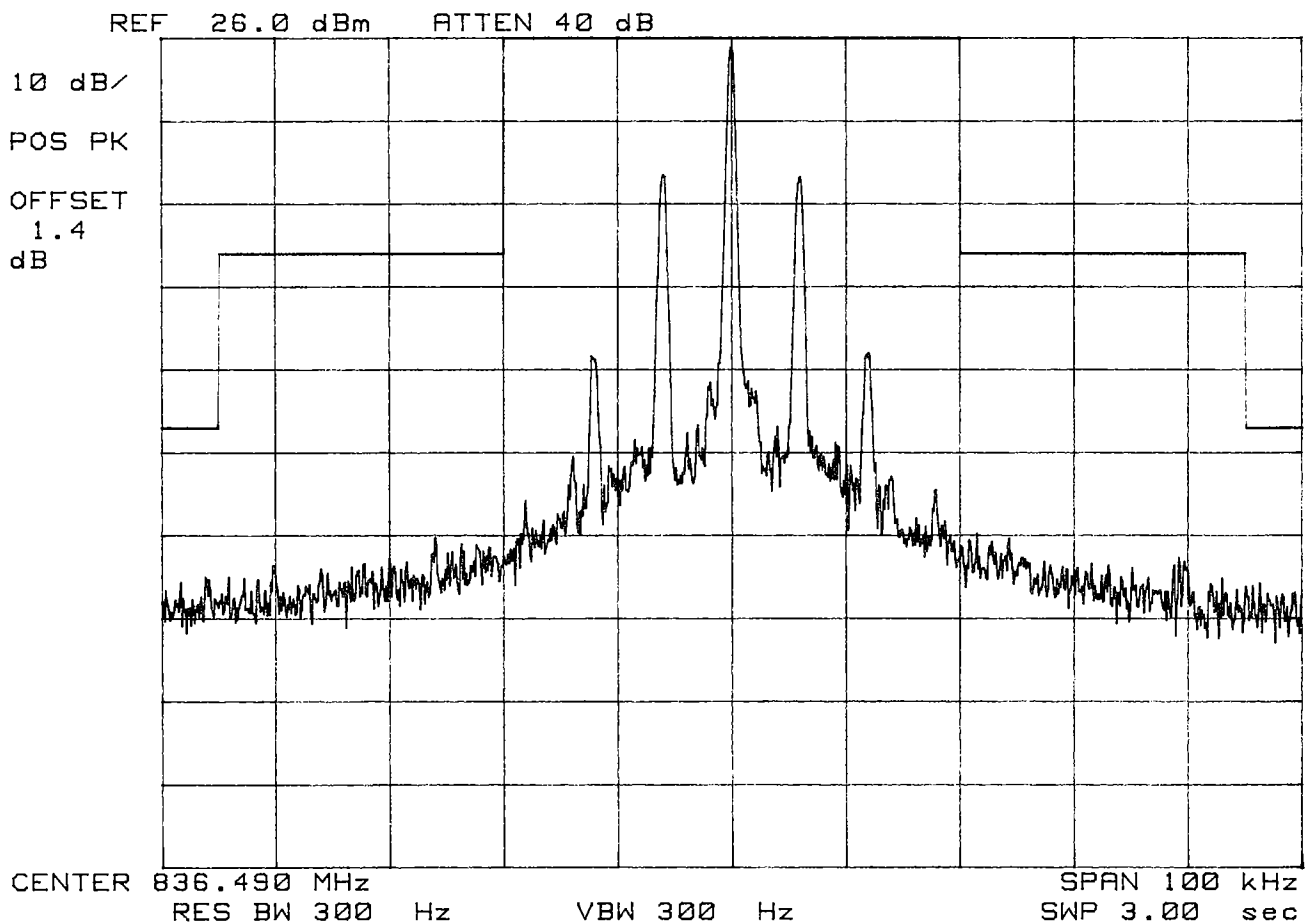
Tri-Mode Phone

FM Channel 383

Operating Frequency: 836.490 MHz

Output Power : 26.0 dBm

Test Mode:SAT



PCTEST Engineering Lab.

SPECTRUM ANALYZER PRESENTATION

FCC ID:A3LSPHN400

SAMSUNG

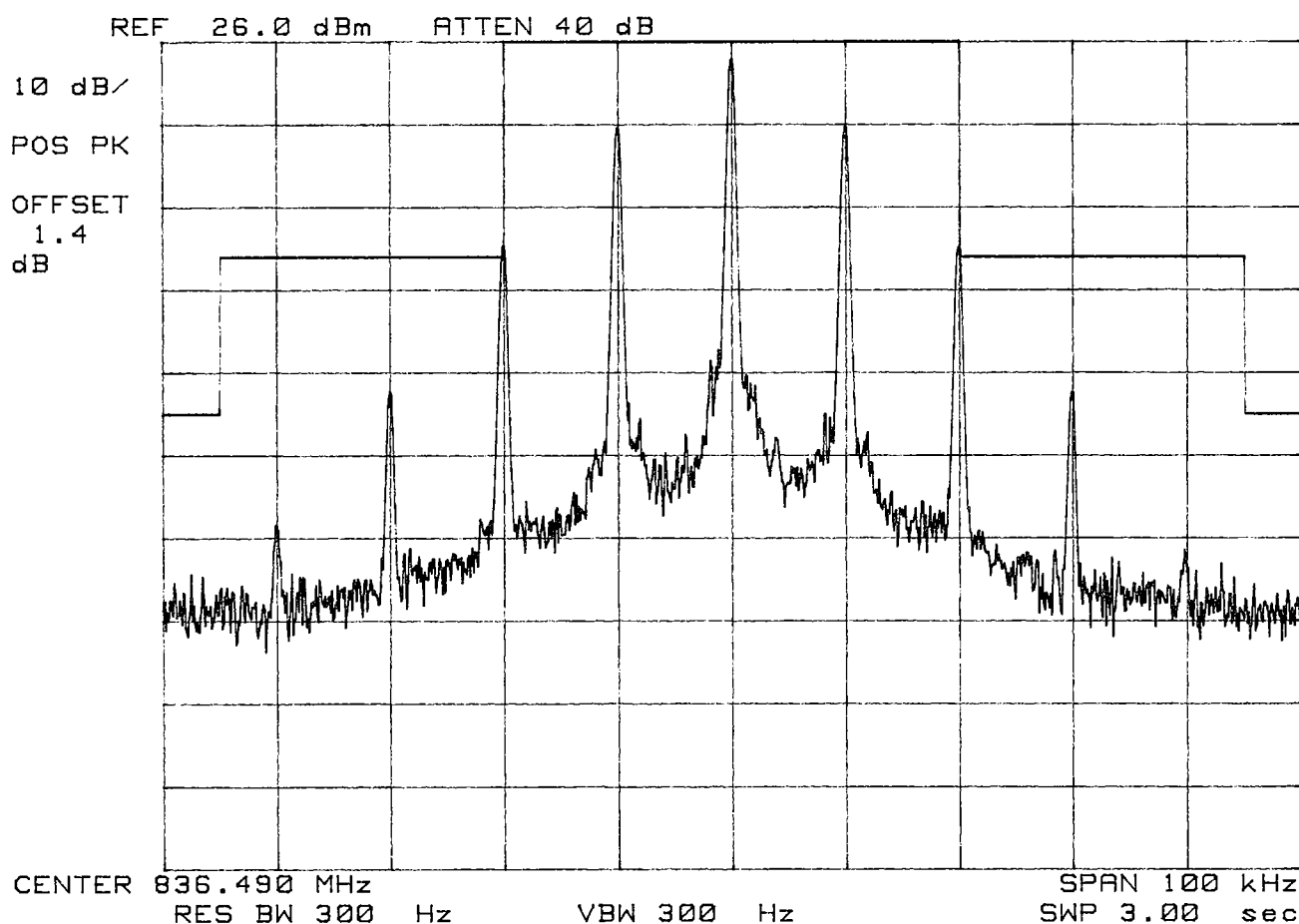
Tri-Mode Phone

FM Channel 383

Operating Frequency: 836.490 MHz

Output Power : 26.0 dBm

Test Mode:ST



PCTEST Engineering Lab.

SPECTRUM ANALYZER PRESENTATION

FCC ID:A3LSPHN400

SAMSUNG

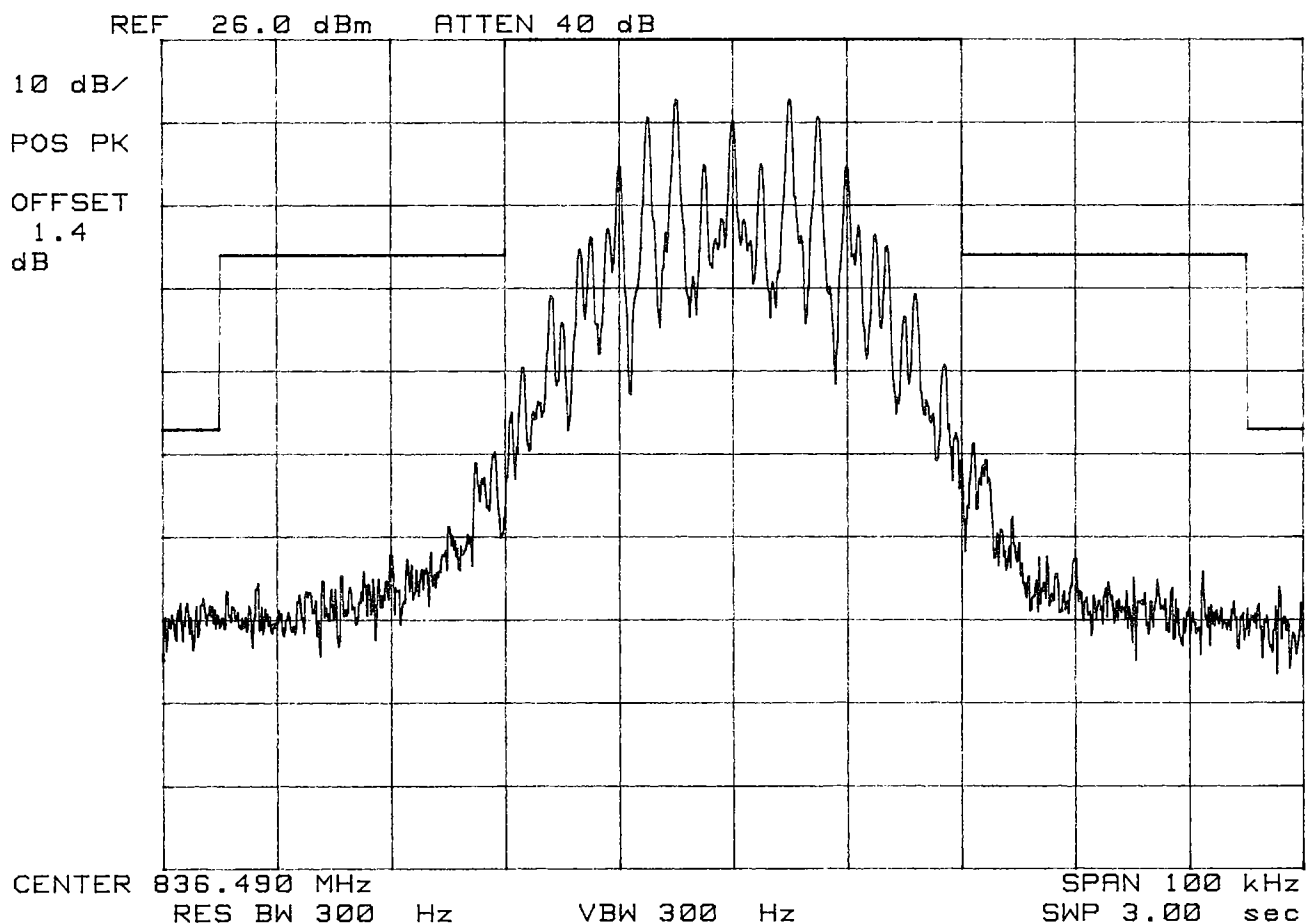
Tri-Mode Phone

FM Channel 383

Operating Frequency: 836.490 MHz

Output Power : 26.0 dBm

Test Mode:SAT + Voice



PCTEST Engineering Lab.

SPECTRUM ANALYZER PRESENTATION

FCC ID:A3LSPHN400

SAMSUNG

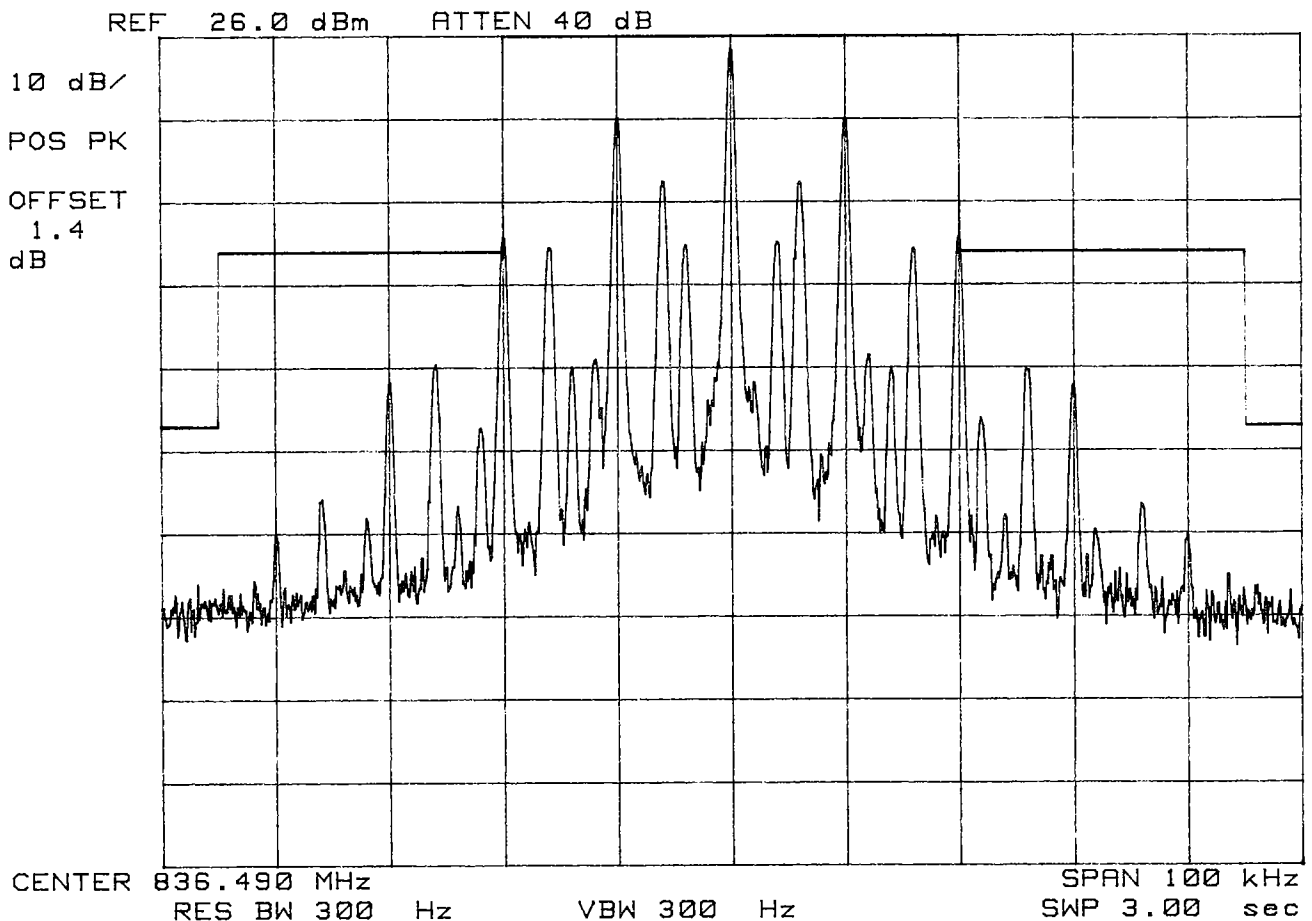
Tri-Mode Phone

FM Channel 383

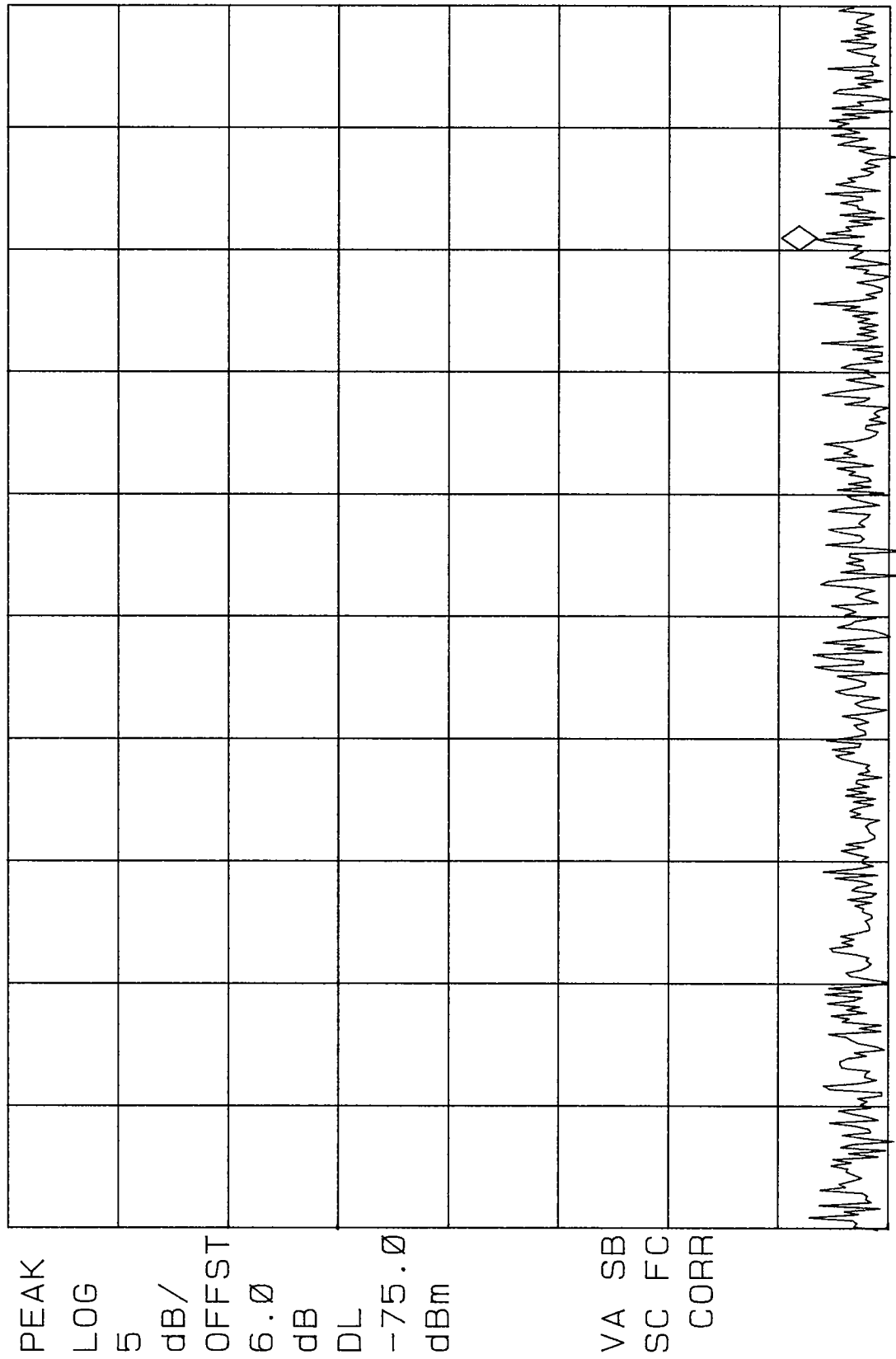
Operating Frequency: 836.490 MHz

Output Power : 26.0 dBm

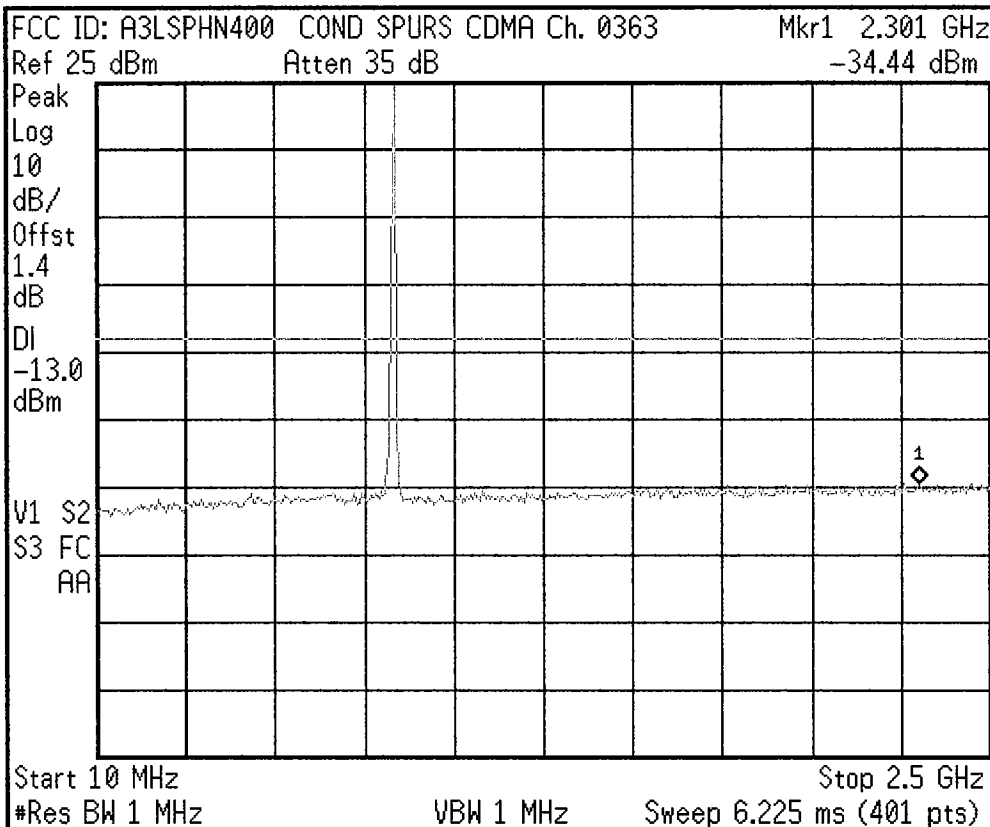
Test Mode:SAT + ST



FCC ID: A3LSPHN400 FM MODE MKR 889.25 MHz
REF -60.0 dBm #ATTEN 10 dB PG 25.0 dB -96.70 dBm



* Agilent 08:32:25 Feb 12, 2002



Freq/Channel

Center Freq
 1.25500000 GHz

Start Freq
 10.0000000 MHz

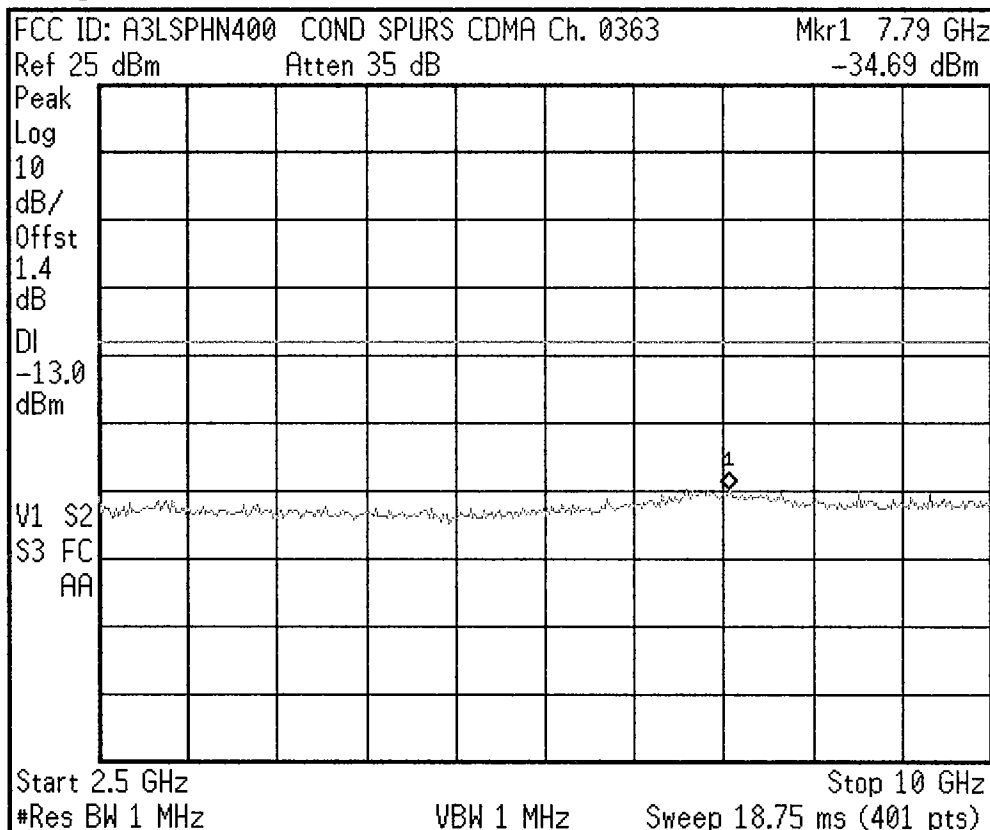
Stop Freq
 2.50000000 GHz

CF Step
 249.000000 MHz
 Auto Man

Freq Offset
 0.00000000 Hz

Signal Track
 On Off

* Agilent 08:33:10 Feb 12, 2002



Freq/Channel

Center Freq
 6.25000000 GHz

Start Freq
 2.50000000 GHz

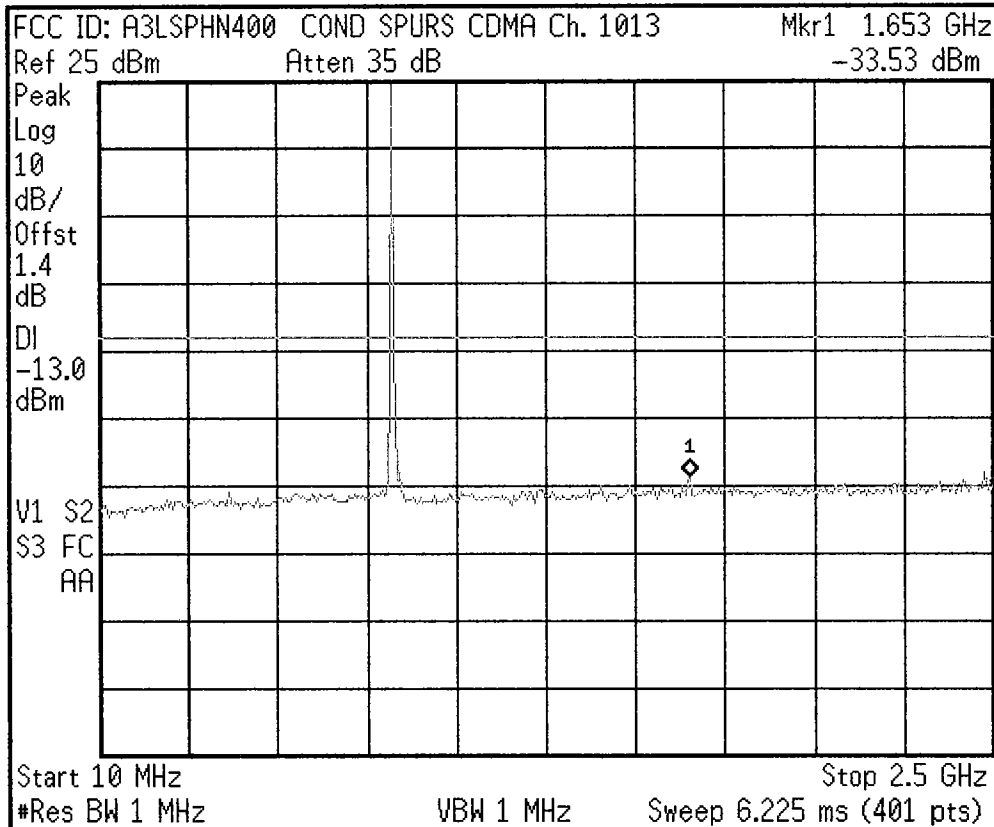
Stop Freq
 10.0000000 GHz

CF Step
 750.000000 MHz
 Auto Man

Freq Offset
 0.00000000 Hz

Signal Track
 On Off

✱ Agilent 08:34:42 Feb 12, 2002



Freq/Channel

Center Freq
 1.25500000 GHz

Start Freq
 10.0000000 MHz

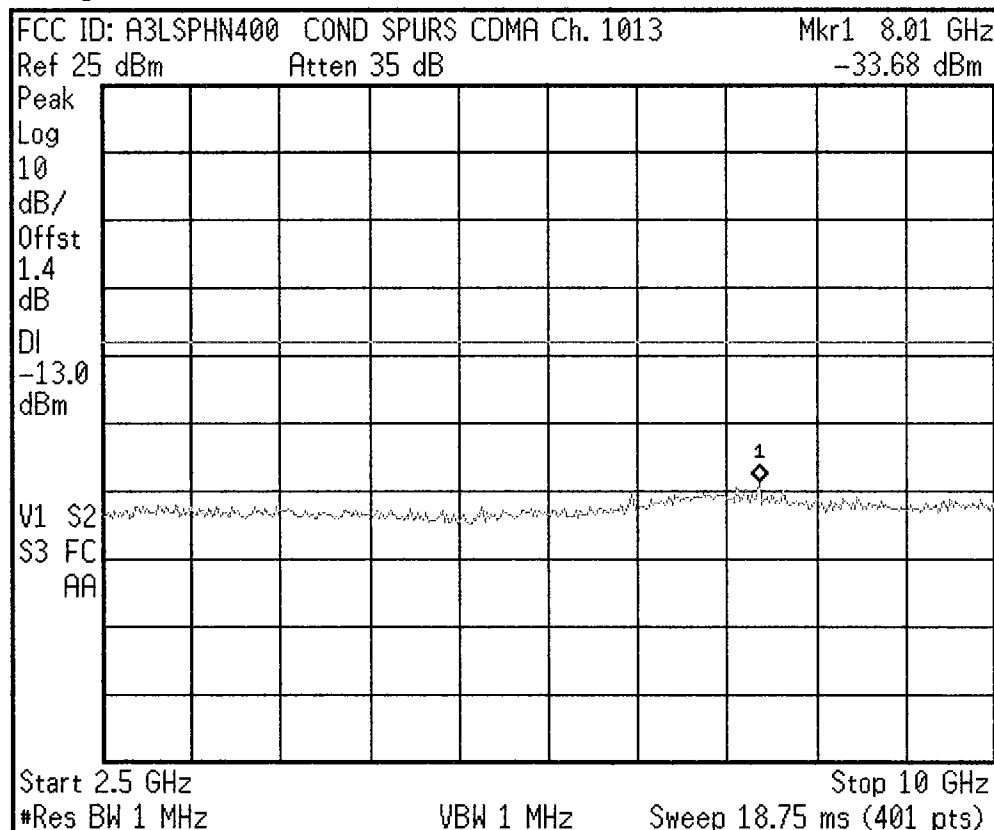
Stop Freq
 2.50000000 GHz

CF Step
 249.000000 MHz
 Auto Man

Freq Offset
 0.00000000 Hz

Signal Track
 On Off

✱ Agilent 08:35:23 Feb 12, 2002



Freq/Channel

Center Freq
 6.25000000 GHz

Start Freq
 2.50000000 GHz

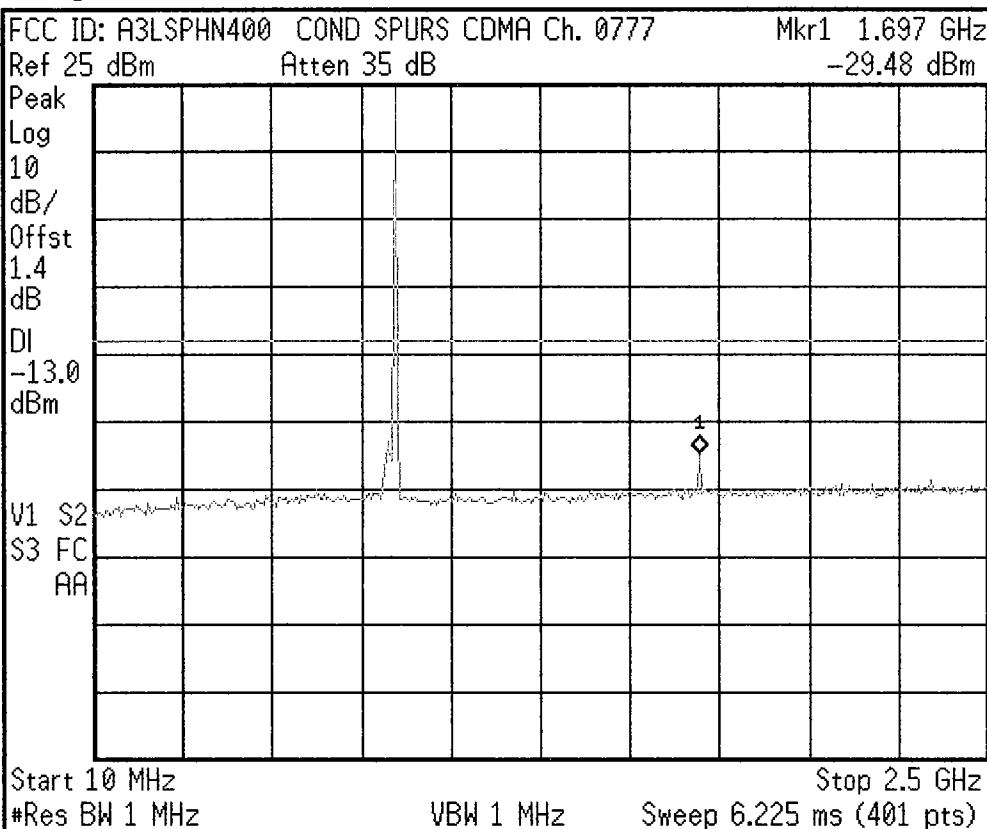
Stop Freq
 10.0000000 GHz

CF Step
 750.000000 MHz
 Auto Man

Freq Offset
 0.00000000 Hz

Signal Track
 On Off

* Agilent 08:37:17 Feb 12, 2002



Freq/Channel

Center Freq

1.25500000 GHz

Start Freq

10.0000000 MHz

Stop Freq

2.50000000 GHz

CF Step

249.000000 MHz

Auto Man

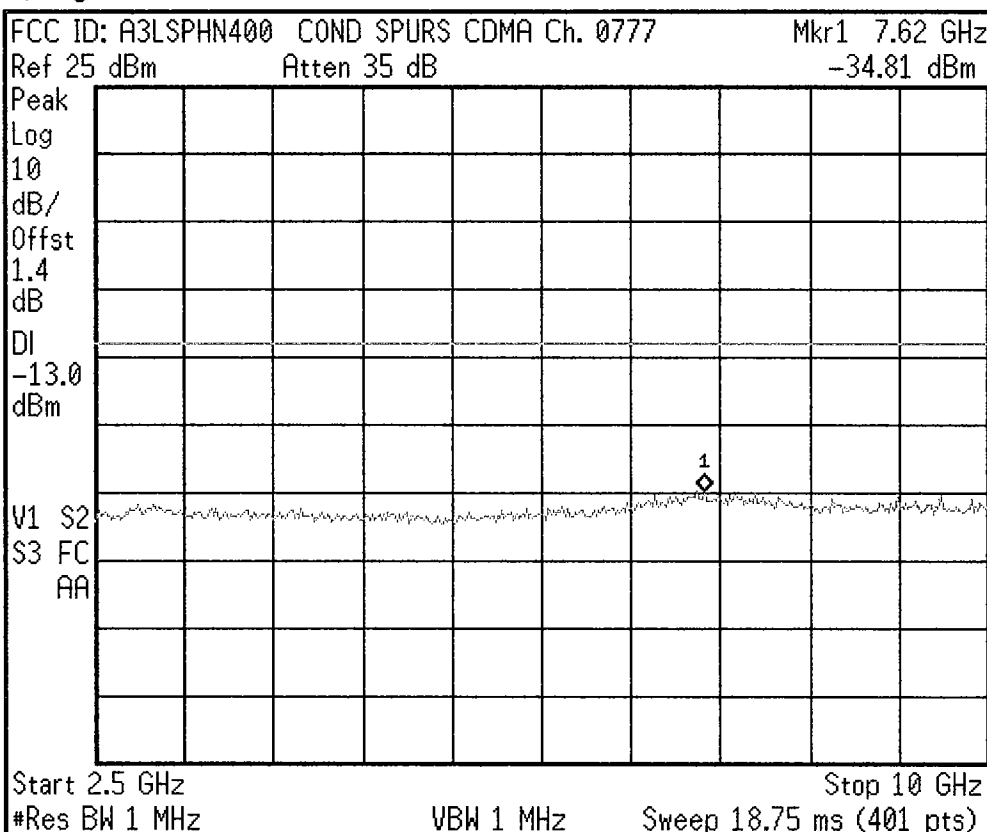
Freq Offset

0.00000000 Hz

Signal Track

On Off

* Agilent 08:38:35 Feb 12, 2002



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 08:59:42 Feb 12, 2002

FCC ID: A3LSPHN400 POWER OUT CDMA Ch. 1013

Ref 25 dBm

Atten 35 dB

Samp

Log

10

dB/

Offst

1.4

dB

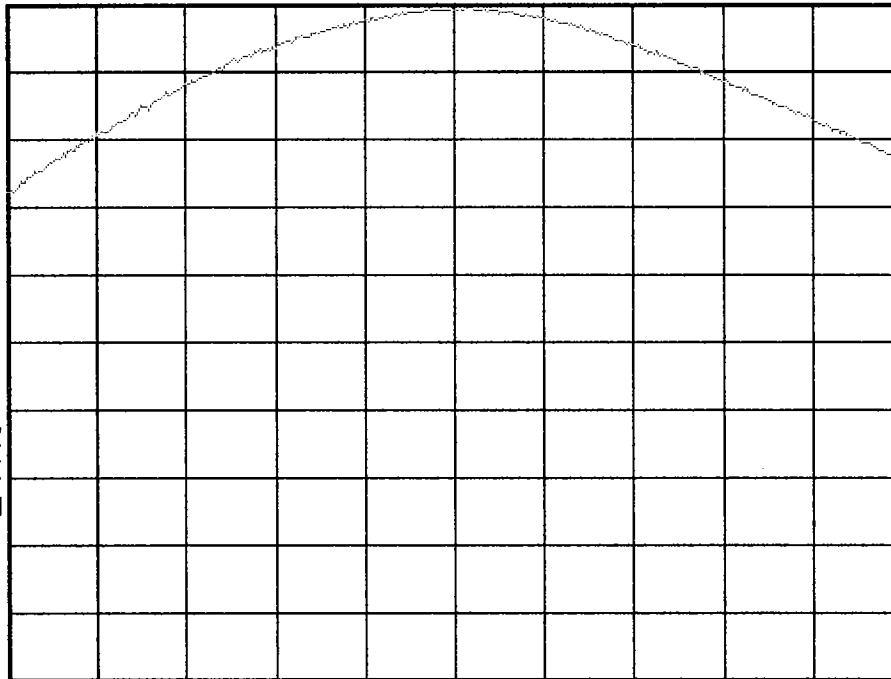
VAvg

100

V1 S2

S3 FC

AA



Center 824.7 MHz

Span 10 MHz

#Res BW 3 MHz

VBW 3 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 09:02:19 Feb 12, 2002

FCC ID: A3LSPHN400 POWER OUT CDMA Ch. 0777

Ref 25 dBm

Atten 35 dB

Samp

Log

10

dB/

Offst

1.4

dB

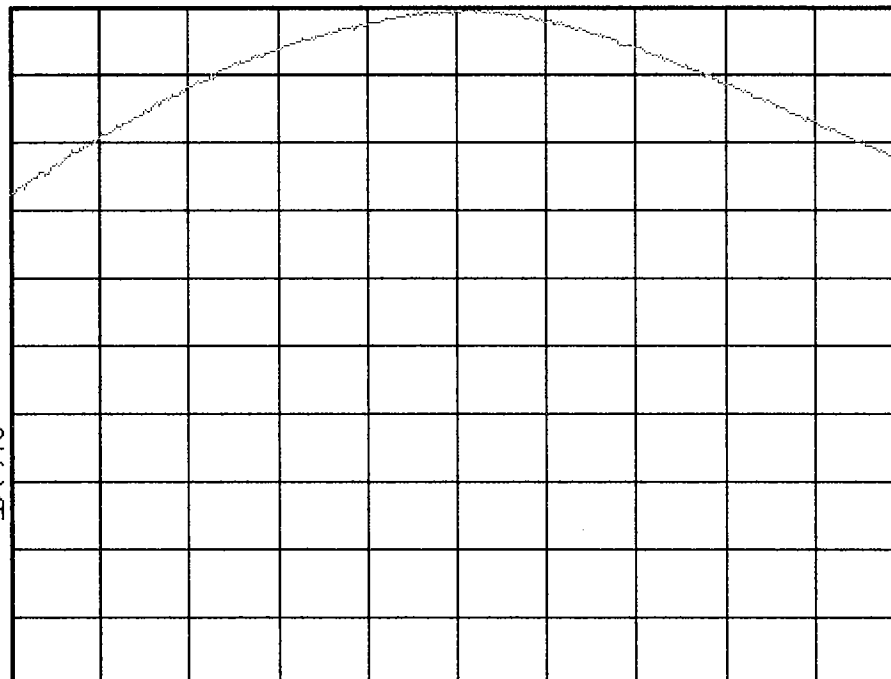
VAvg

100

V1 S2

S3 FC

AA



Center 848.3 MHz

Span 10 MHz

#Res BW 3 MHz

VBW 3 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 08:55:49 Feb 12, 2002

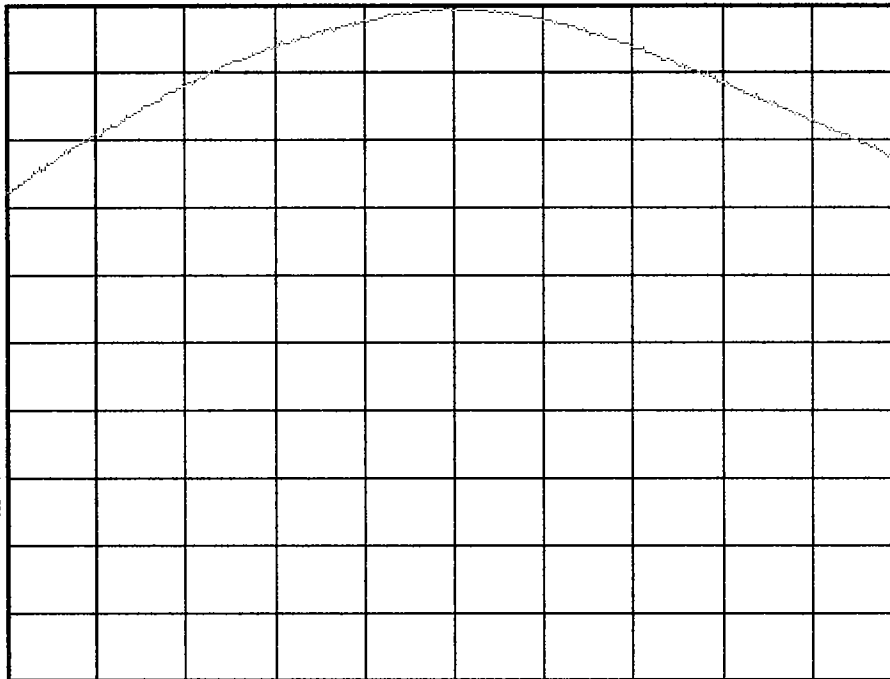
FCC ID: A3LSPHN400 POWER OUT CDMA Ch. 0363

Ref 25 dBm

Atten 35 dB

Samp
Log
10
dB/
Offst
1.4
dB

VAvg
100
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

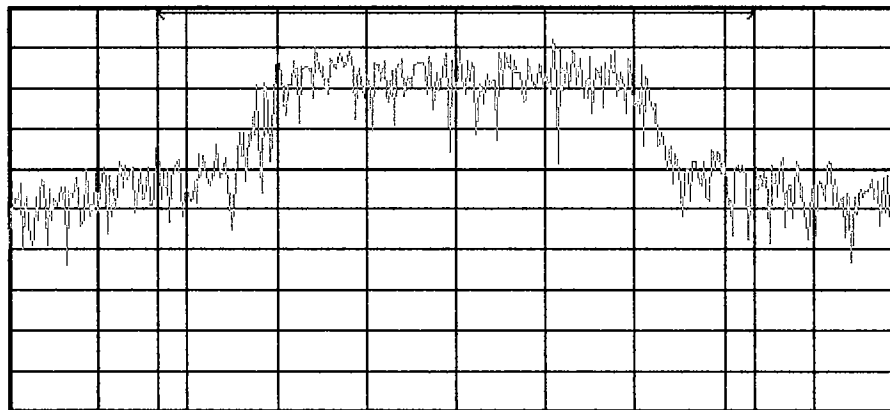
* Agilent 08:56:25 Feb 12, 2002

FCC ID: A3LSPHN400 POWER OUT CDMA Ch. 0363

Ref 25 dBm

Atten 35 dB

Samp
Log
10
dB/
Offst
1.4
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

Signal Track

On

Off

Channel Power Results (idle)

Channel Power

25.00 dBm

Integration BW

2.000 MHz

Density

-38.01 dBm/Hz

* Agilent 09:11:05 Feb 12, 2002

FCC ID: A3LSPHN400 BAND EDGE CDMA Ch. 1013

Ref 25 dBm

Atten 35 dB

Samp

Log

10

dB/

Offst

1.4

dB

DI

-13.0

dBm

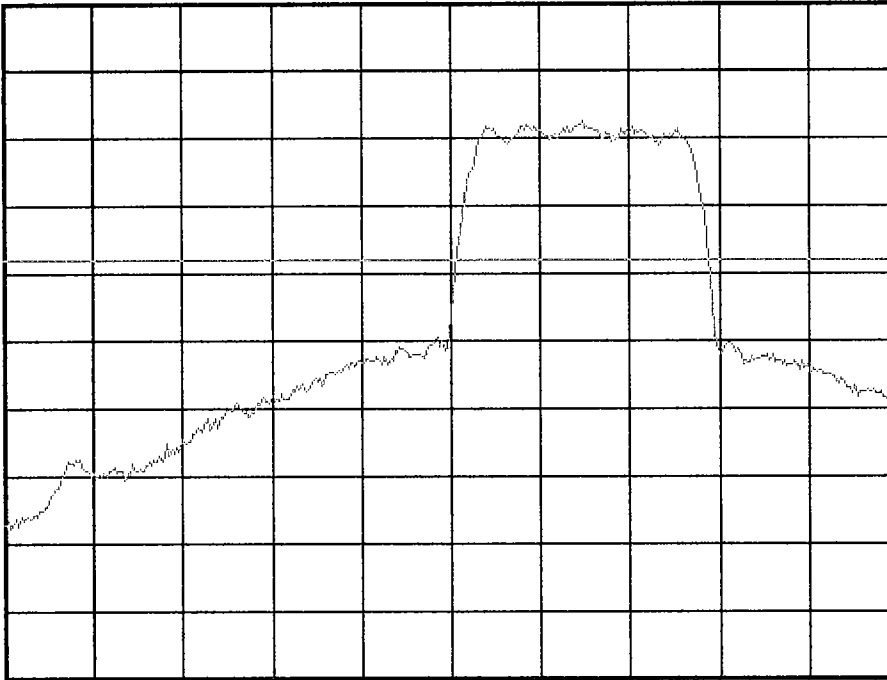
VAvg

100

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 09:12:56 Feb 12, 2002

FCC ID: A3LSPHN400 BAND EDGE CDMA Ch. 0777

Ref 25 dBm

Atten 35 dB

Samp

Log

10

dB/

Offst

1.4

dB

DI

-13.0

dBm

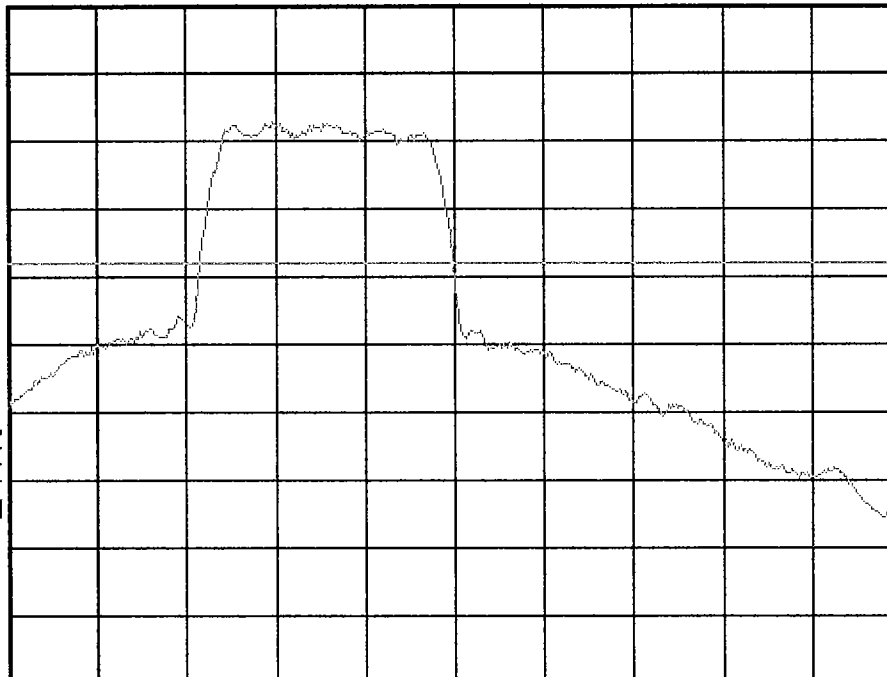
VAvg

100

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

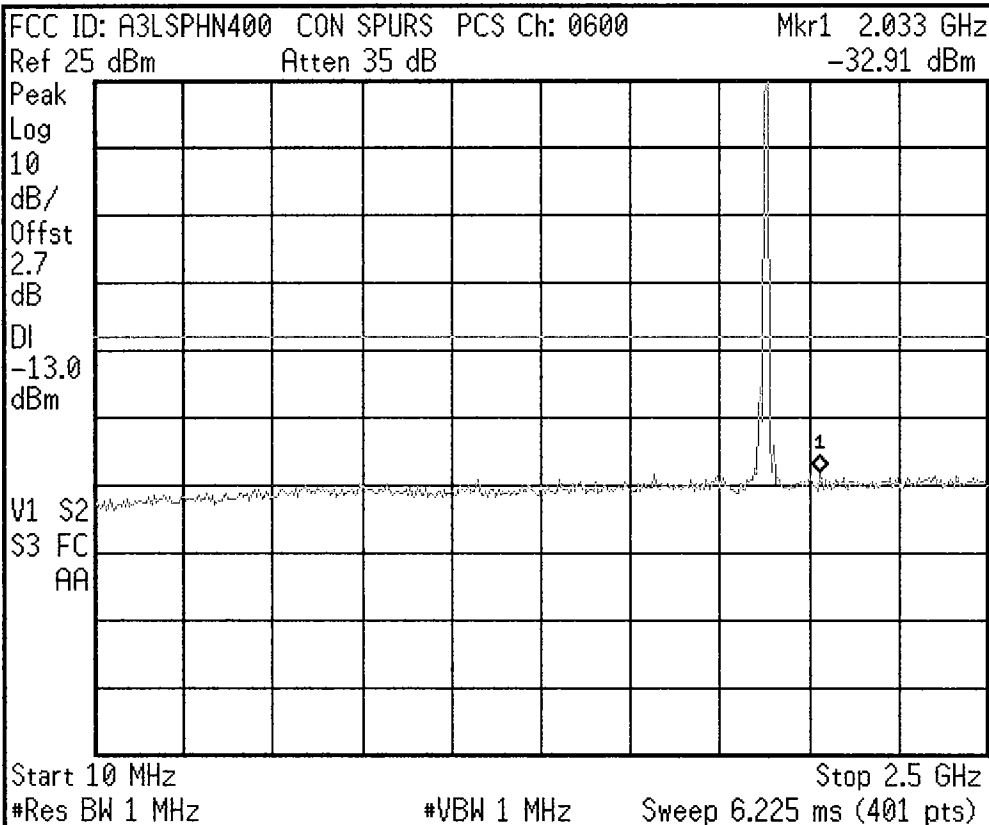
Freq Offset

0.00000000 Hz

Signal Track

On Off

* Agilent 16:00:28 Feb 11, 2002



Freq/Channel

Center Freq
 1.25500000 GHz

Start Freq
 9.99999900 MHz

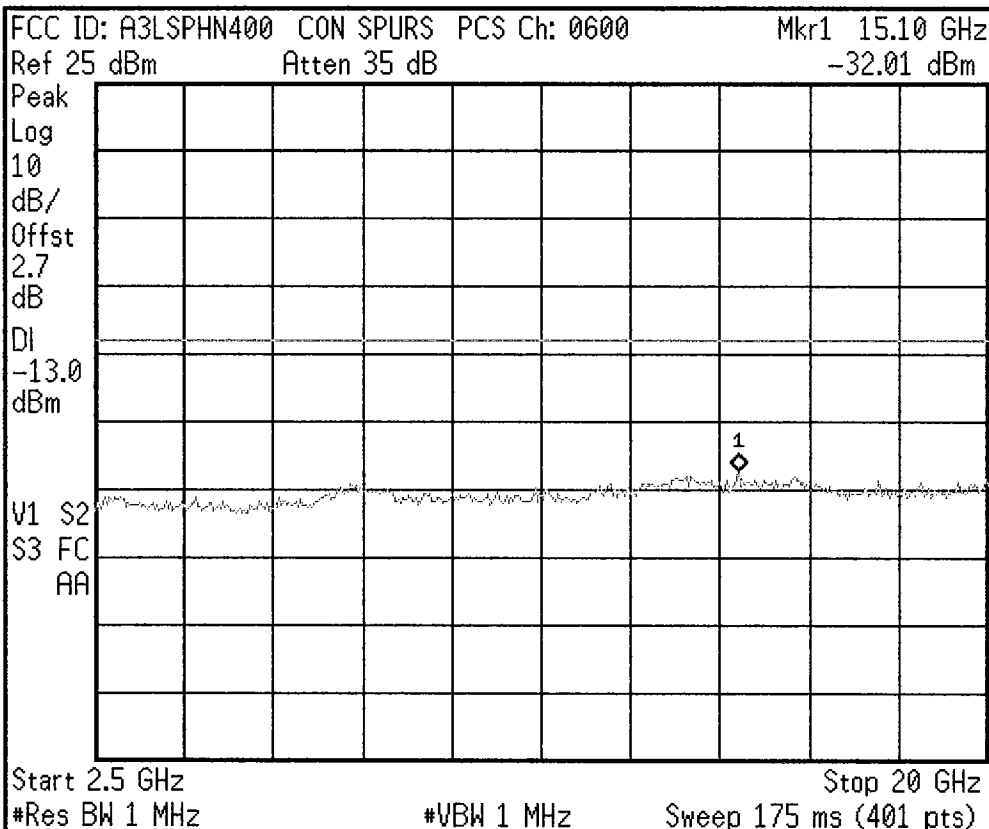
Stop Freq
 2.50000000 GHz

CF Step
 249.000000 MHz
 Auto Man

Freq Offset
 0.00000000 Hz

Signal Track
 On Off

* Agilent 16:02:33 Feb 11, 2002



Freq/Channel

Center Freq
 11.25000000 GHz

Start Freq
 2.50000000 GHz

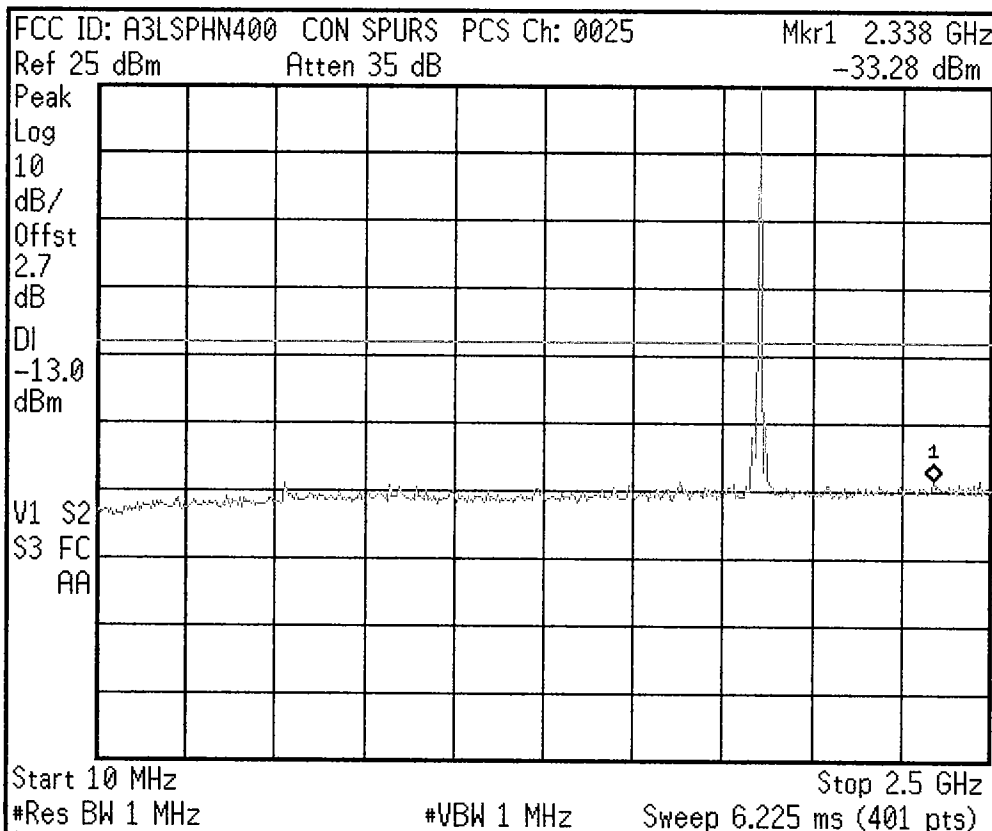
Stop Freq
 20.00000000 GHz

CF Step
 1.75000000 GHz
 Auto Man

Freq Offset
 0.00000000 Hz

Signal Track
 On Off

* Agilent 15:56:08 Feb 11, 2002



Freq/Channel

Center Freq
 1.25500000 GHz

Start Freq
 10.0000000 MHz

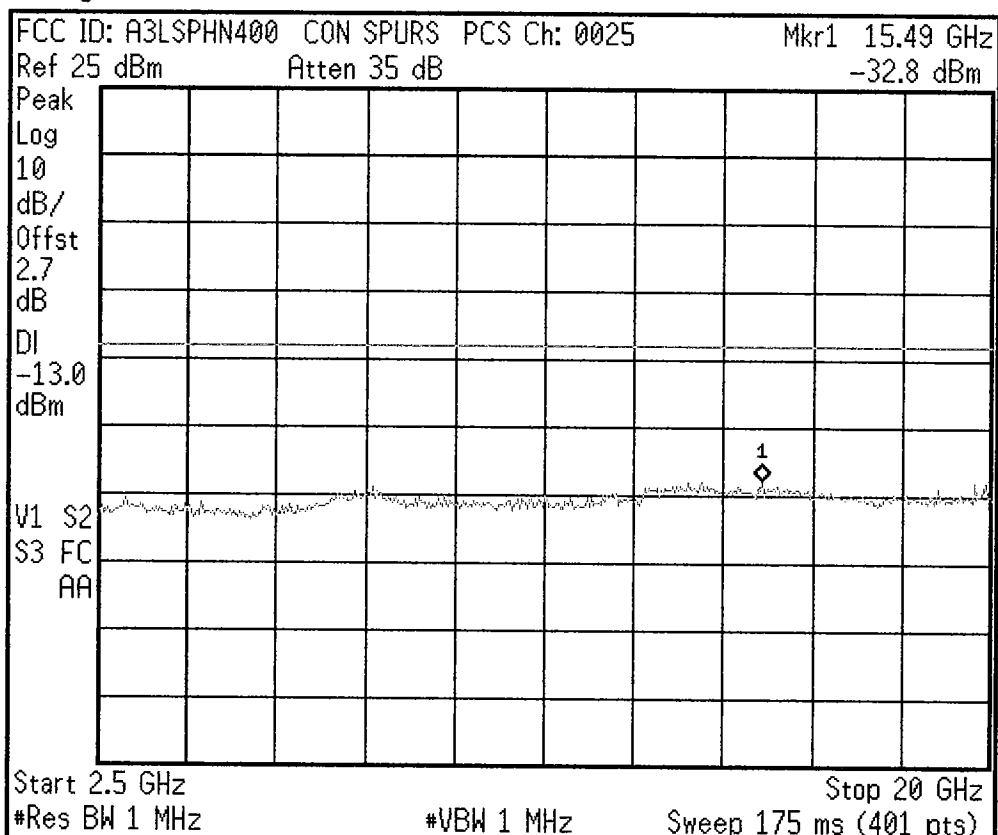
Stop Freq
 2.50000000 GHz

CF Step
 249.0000000 MHz
 Auto Man

Freq Offset
 0.00000000 Hz

Signal Track
 On Off

* Agilent 15:57:22 Feb 11, 2002



Freq/Channel

Center Freq
 11.2500000 GHz

Start Freq
 2.50000000 GHz

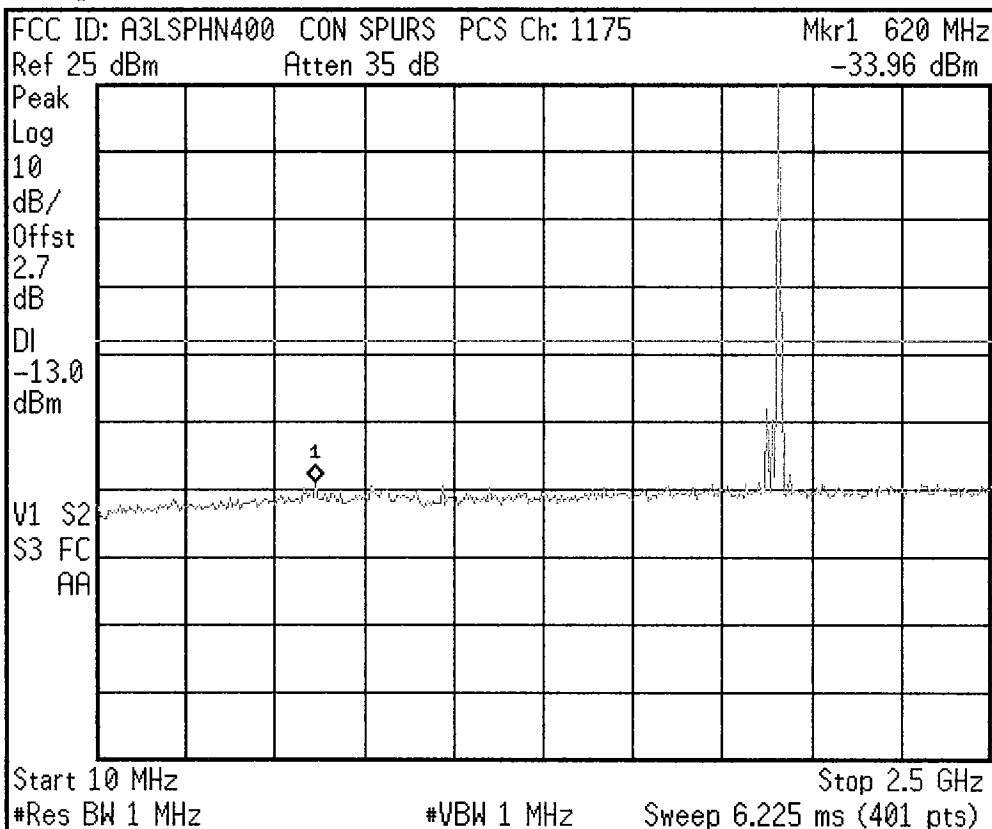
Stop Freq
 20.0000000 GHz

CF Step
 1.75000000 GHz
 Auto Man

Freq Offset
 0.00000000 Hz

Signal Track
 On Off

* Agilent 15:51:51 Feb 11, 2002



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

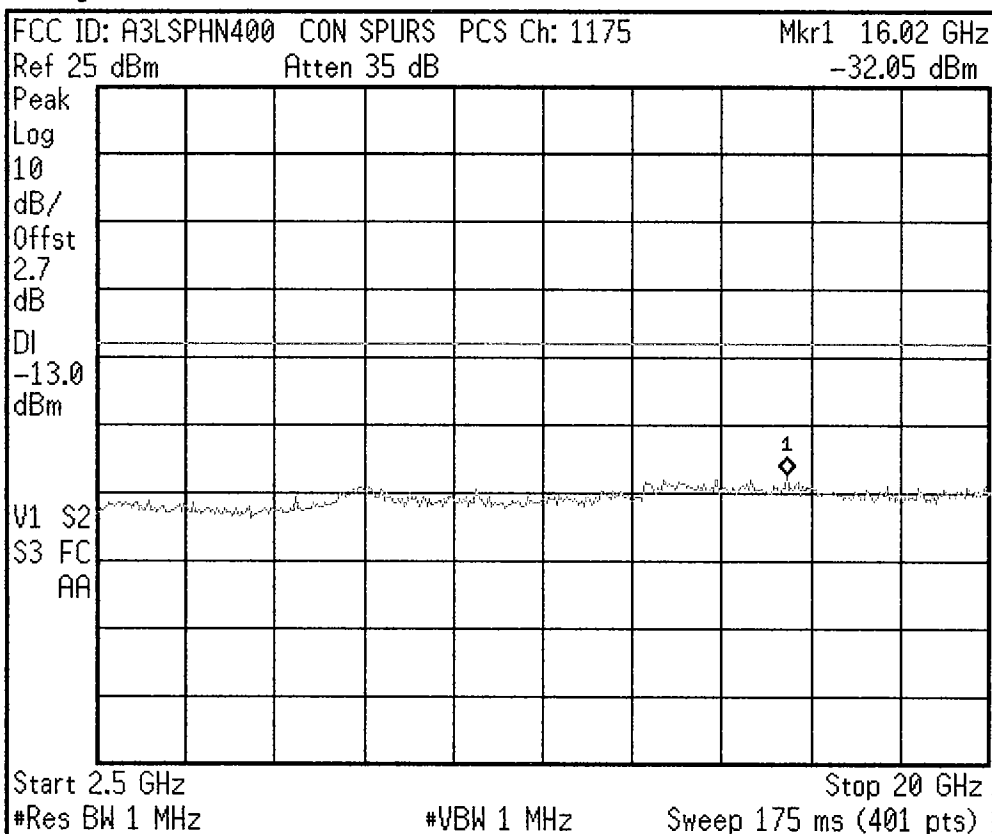
0.00000000 Hz

Signal Track

On

Off

* Agilent 15:52:54 Feb 11, 2002



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

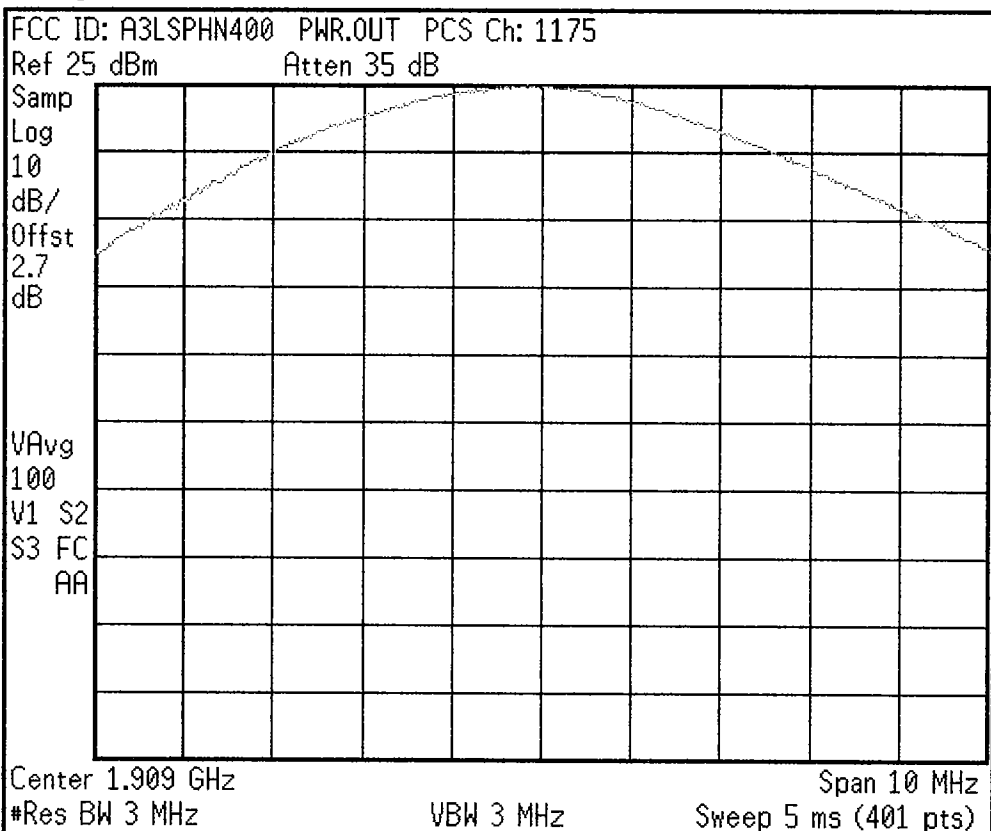
0.00000000 Hz

Signal Track

On

Off

* Agilent 13:55:28 Feb 11, 2002



Freq/Channel

Center Freq

1.90900000 GHz

Start Freq

1.90400000 GHz

Stop Freq

1.91400000 GHz

CF Step

1.00000000 MHz

Auto Man

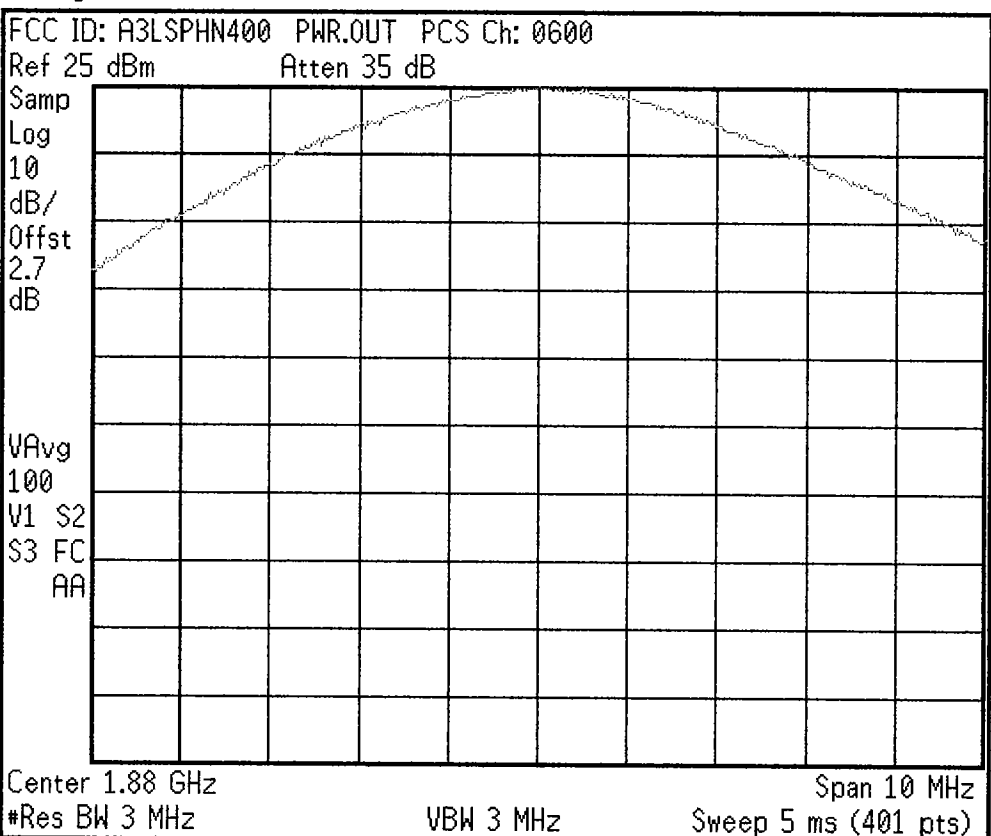
Freq Offset

0.00000000 Hz

Signal Track

On Off

* Agilent 13:58:38 Feb 11, 2002



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 14:31:06 Feb 11, 2002

FCC ID: A3LSPHN400 PWR.OUT PCS Ch: 0600

Ref 25 dBm

Atten 35 dB

Samp

Log

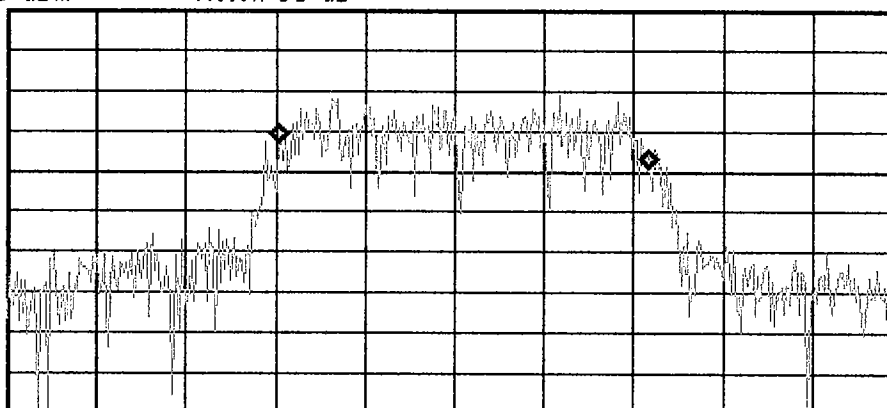
10

dB/

Offst

2.7

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 30.91 kHz

Freq/Channel

Center Freq

1.87997000 GHz

Start Freq

1.87847000 GHz

Stop Freq

1.88147000 GHz

CF Step

300.000000 kHz

Auto

Man

Freq Offset

0.00000000 Hz

Signal Track

On

Off

* Agilent 14:46:50 Feb 11, 2002

FCC ID: A3LSPHN400 BAND EDGE PCS Ch: 1175

Ref 25 dBm

Atten 35 dB

Samp

Log

10

dB/

Offst

2.7

dB

DI

-13.0

dBm

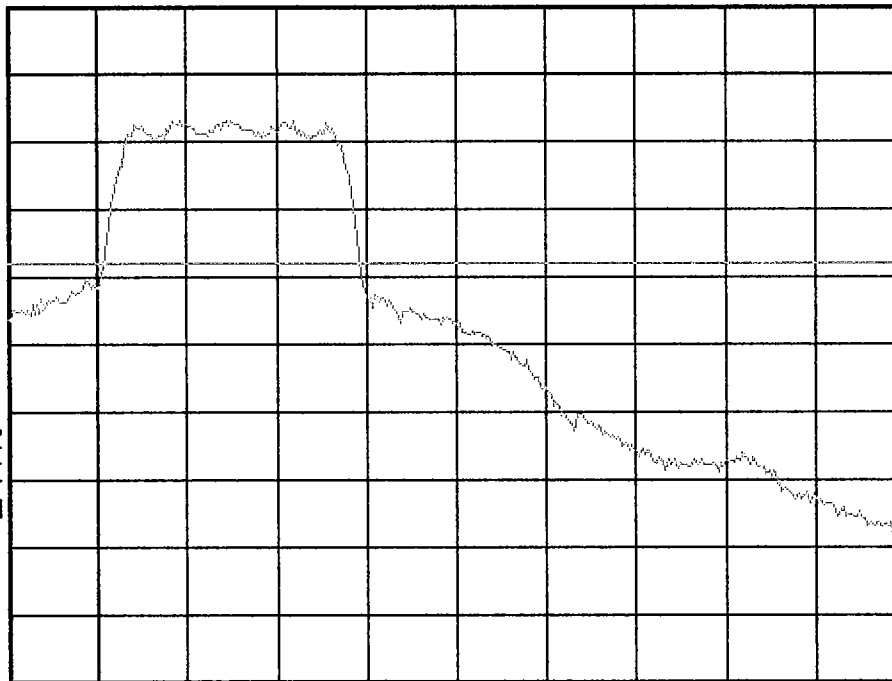
PAvg

100

V1 S2

S3 FC

AA



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 14:51:23 Feb 11, 2002

FCC ID: A3LSPHN400 BAND EDGE PCS Ch: 0025

Ref 25 dBm

Atten 35 dB

Samp

Log

10

dB/

Offst

2.7

dB

DI

-13.0

dBm

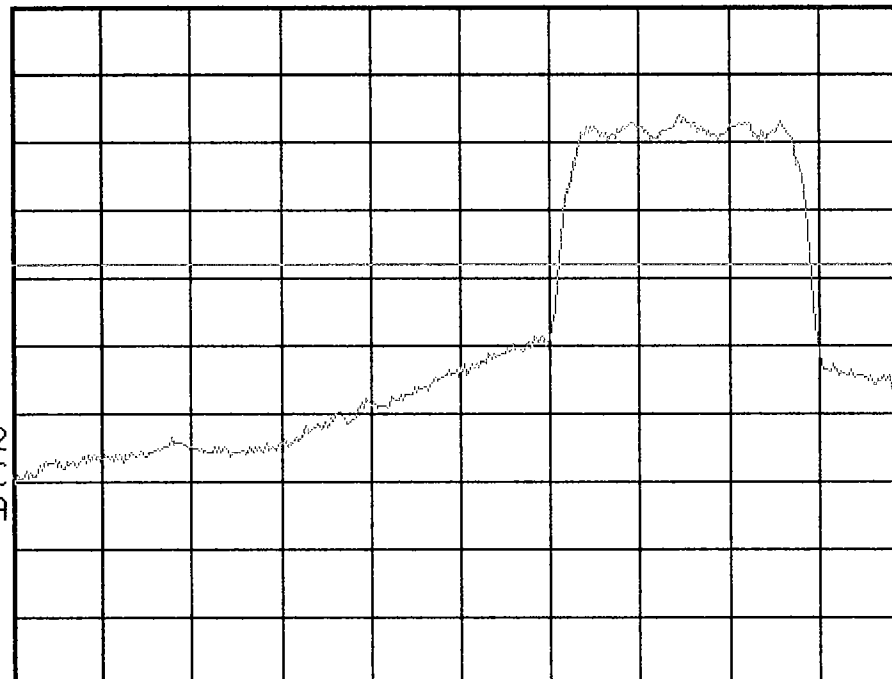
PAvg

100

V1 S2

S3 FC

AA



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

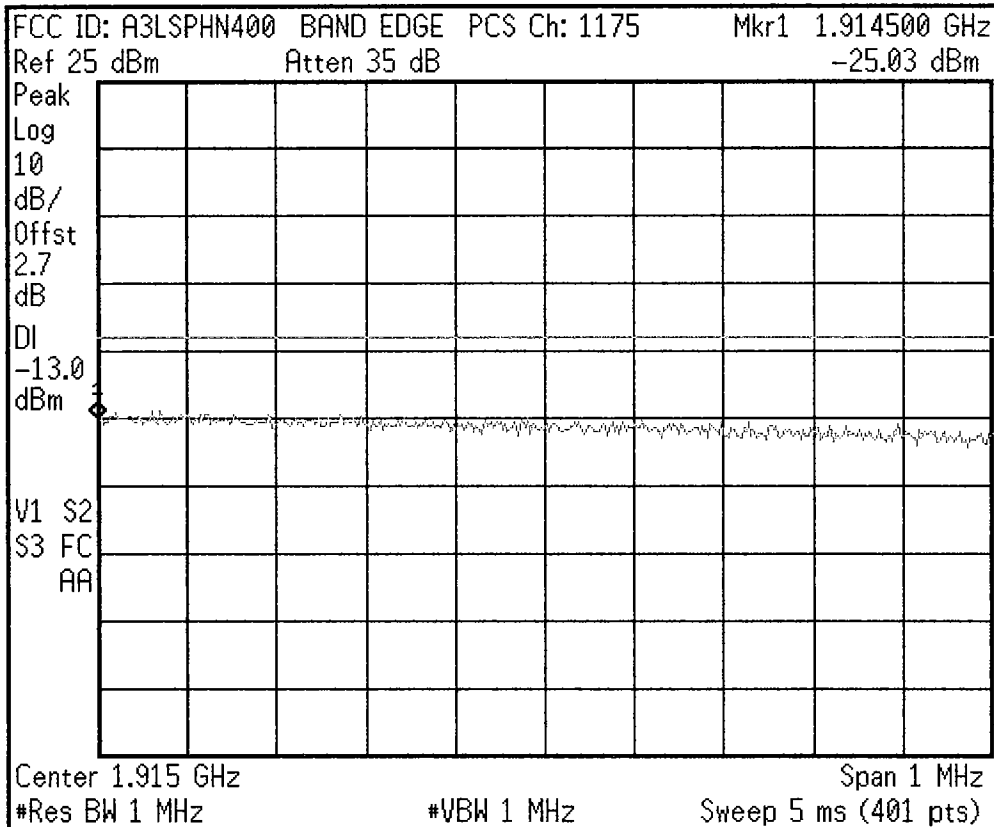
0.00000000 Hz

Signal Track

On

Off

* Agilent 15:45:12 Feb 11, 2002



Freq/Channel

Center Freq
 1.91500000 GHz

Start Freq
 1.91450000 GHz

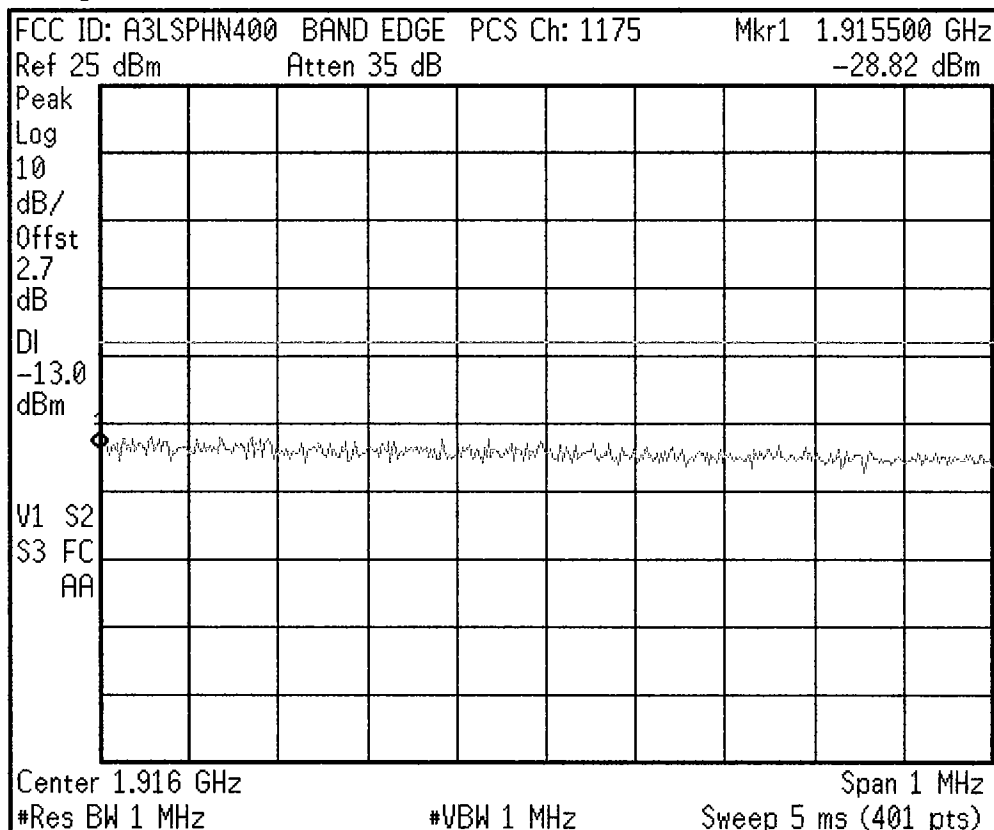
Stop Freq
 1.91550000 GHz

CF Step
 100.000000 kHz
 Auto Man

Freq Offset
 0.00000000 Hz

Signal Track
 On Off

* Agilent 15:46:33 Feb 11, 2002



Freq/Channel

Center Freq
 1.91600000 GHz

Start Freq
 1.91550000 GHz

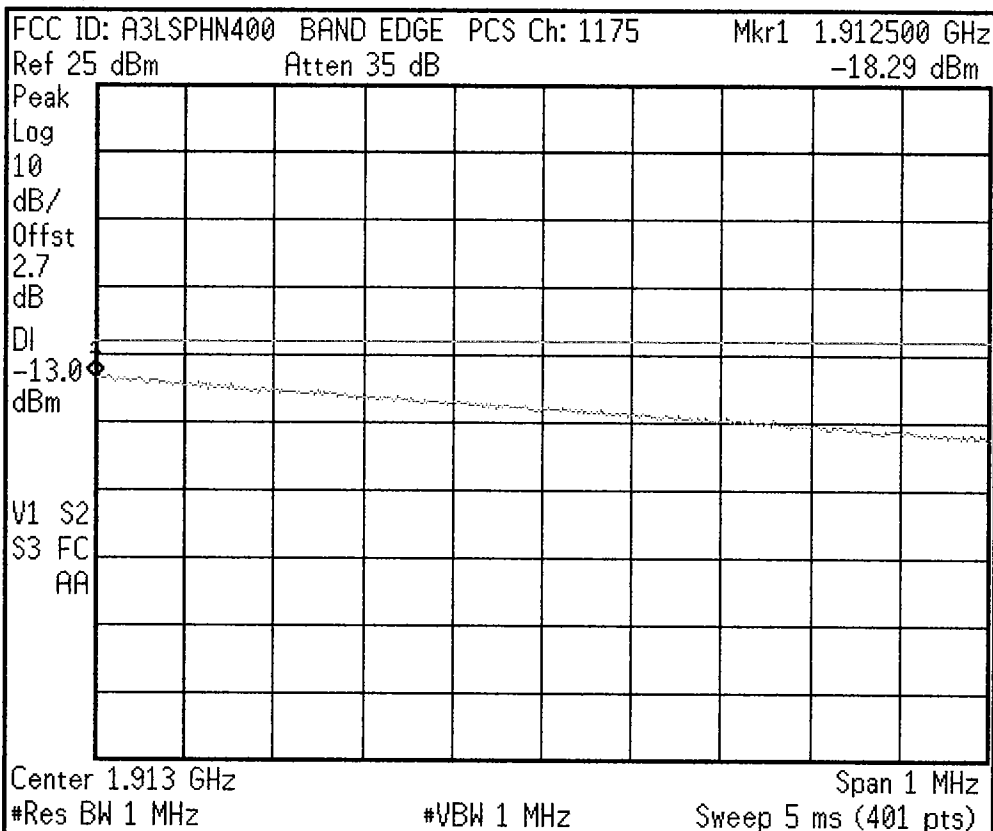
Stop Freq
 1.91650000 GHz

CF Step
 100.000000 kHz
 Auto Man

Freq Offset
 0.00000000 Hz

Signal Track
 On Off

* Agilent 15:41:47 Feb 11, 2002



Freq/Channel

Center Freq

1.91300000 GHz

Start Freq

1.91250000 GHz

Stop Freq

1.91350000 GHz

CF Step

100.000000 kHz

Auto Man

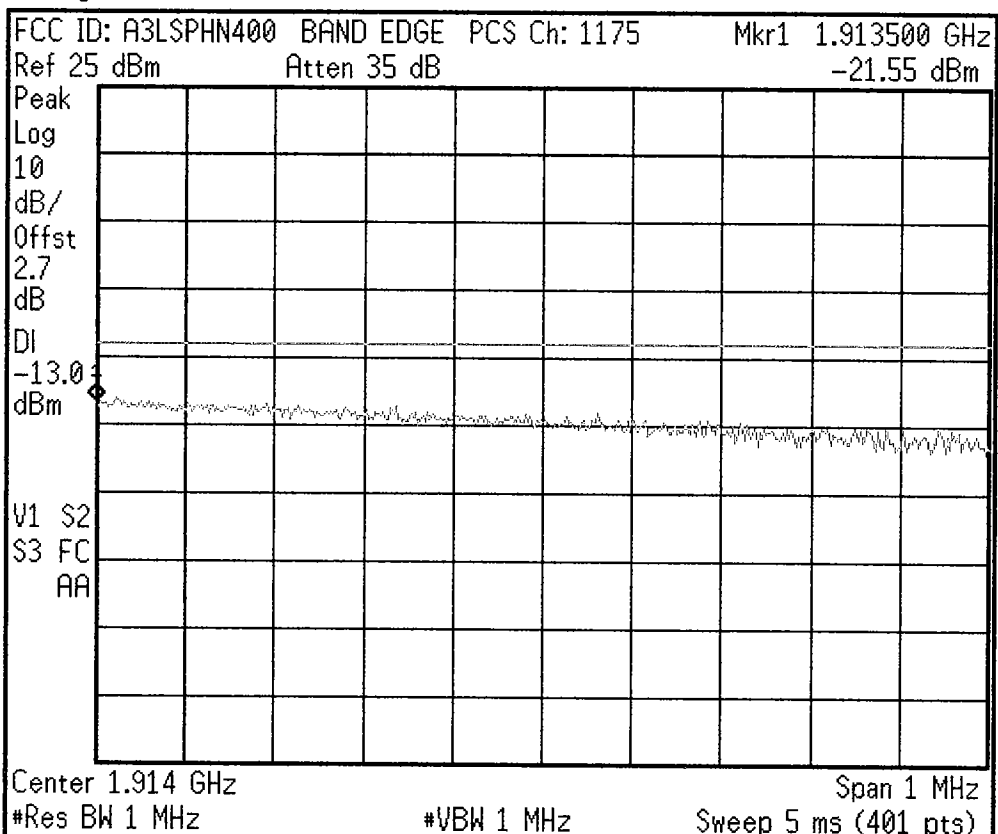
Freq Offset

0.00000000 Hz

Signal Track

On Off

* Agilent 15:43:33 Feb 11, 2002



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 14:04:25 Feb 11, 2002

FCC ID: A3LSPHN400 PWR.OUT PCS Ch: 0025

Ref 25 dBm

Atten 35 dB

Samp

Log

10

dB/

Offst

2.7

dB

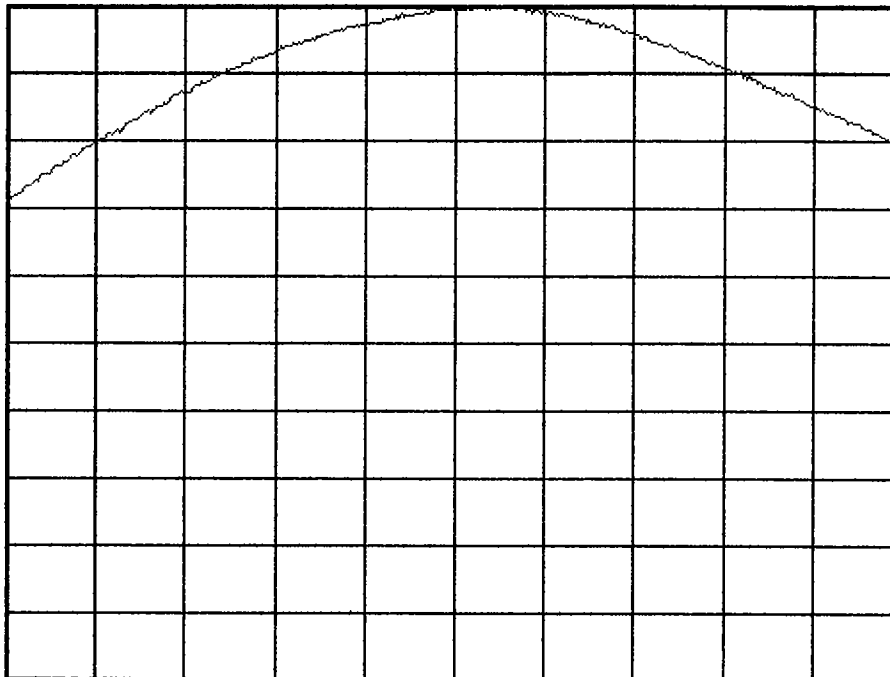
PAvg

100

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

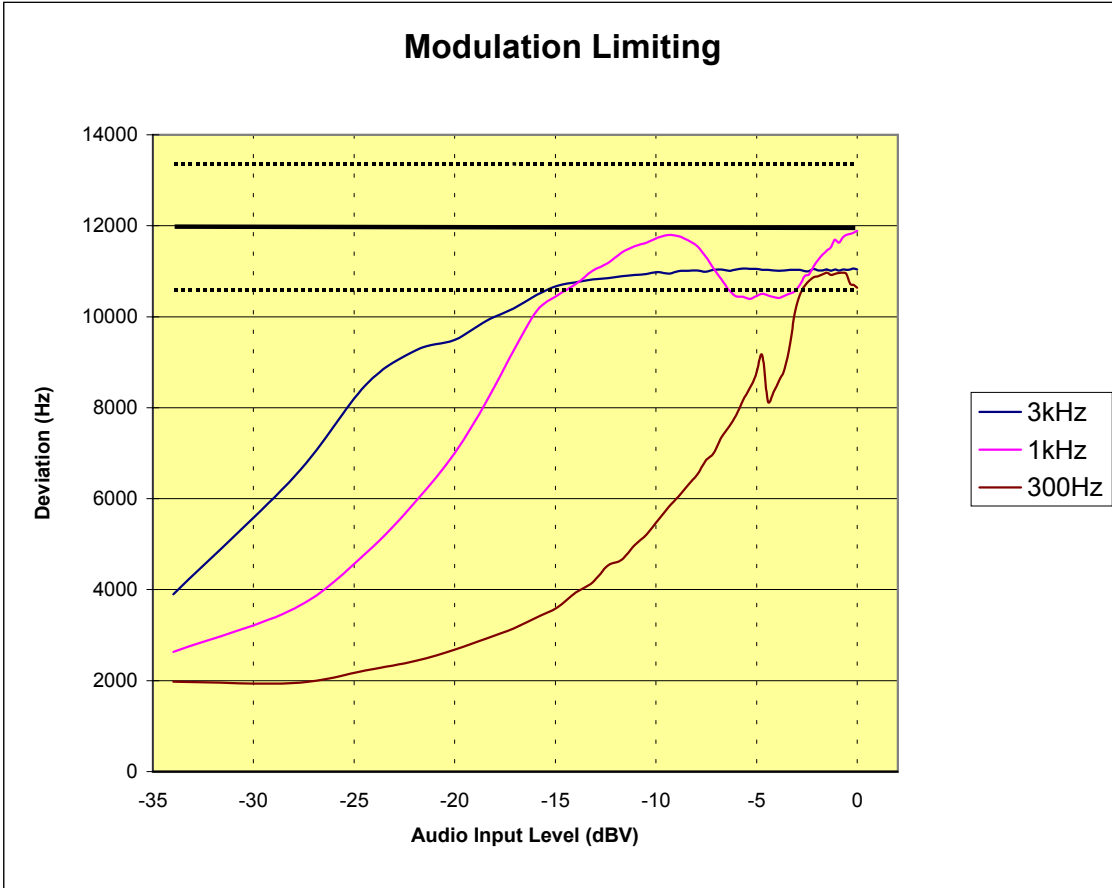
PCTEST Engineering Lab., Inc.

SUBJECT: Modulation Characteristics
FCC Part 24/22

Test Report No.: 24/22.220208055.A3L
Test Date: 02.08-09.2002

EUT: SAMSUNG Tri-Mode Dual-Band Analog/PCS Phone (AMPS/CDMA)
Model: SPH - N400
FCC ID: A3LSPHN400

REFERENCE: 1 kHz = 0 dB



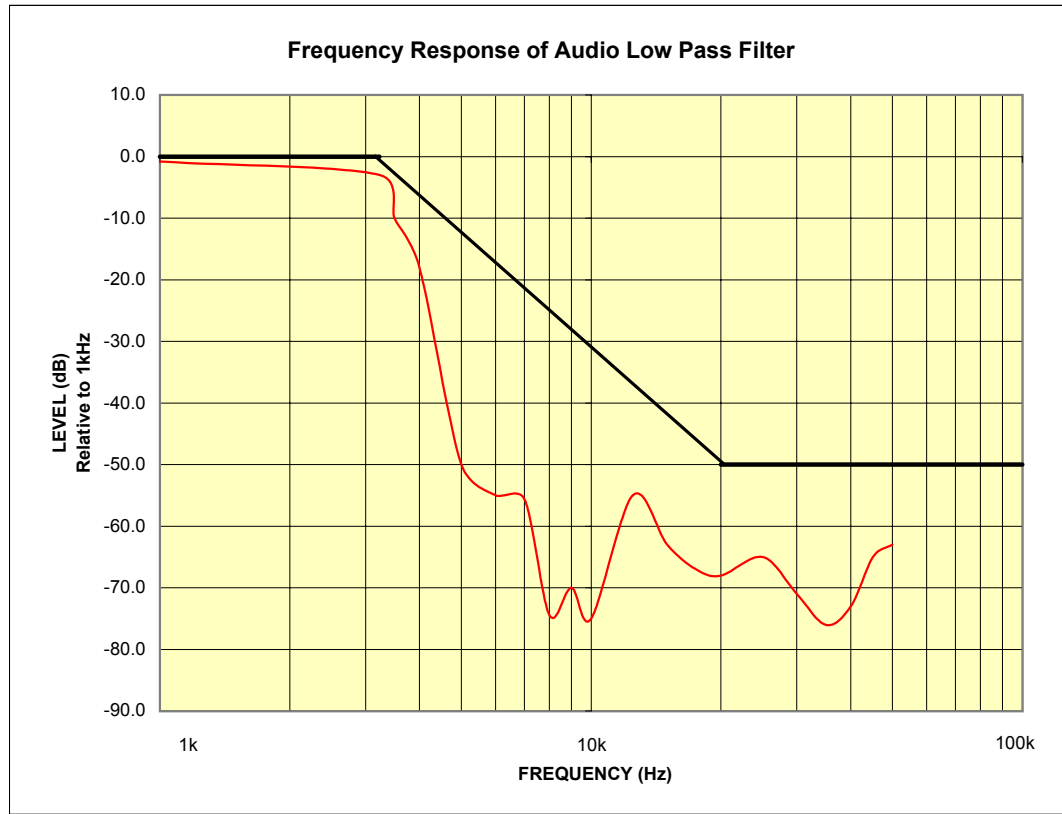
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