

# PCTEST Engineering Lab.

## SPECTRUM ANALYZER PRESENTATION

FCC ID:A3LSPHN270

TRI-MODE PHONE

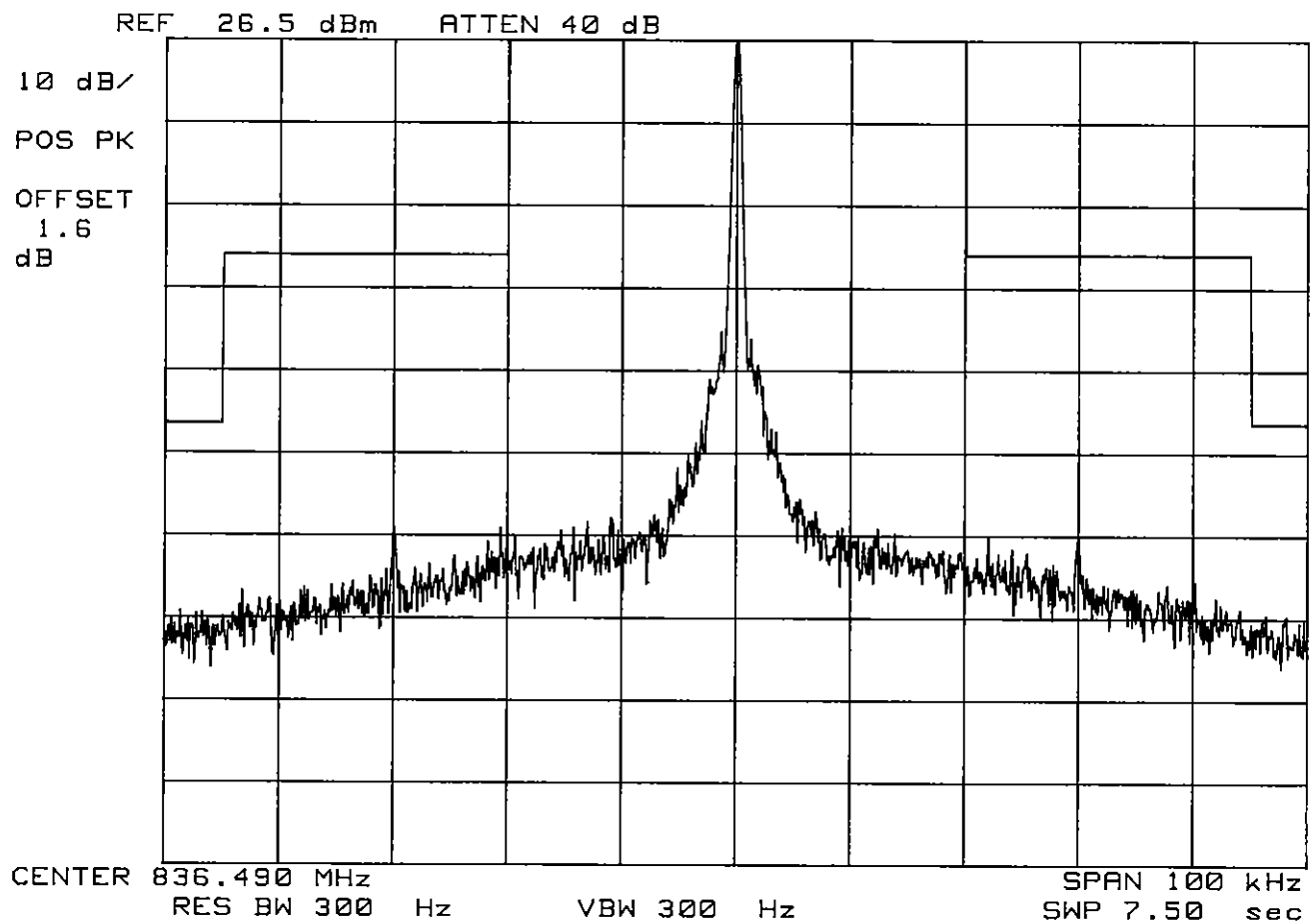
AMPS MODE

Channel 0383

Operating Frequency: 836.490 MHz

Output Power : 26.5 dBm

Test Mode:Unmodulated Signal



# PCTEST Engineering Lab.

## SPECTRUM ANALYZER PRESENTATION

FCC ID:A3LSPHN270

TRI-MODE PHONE

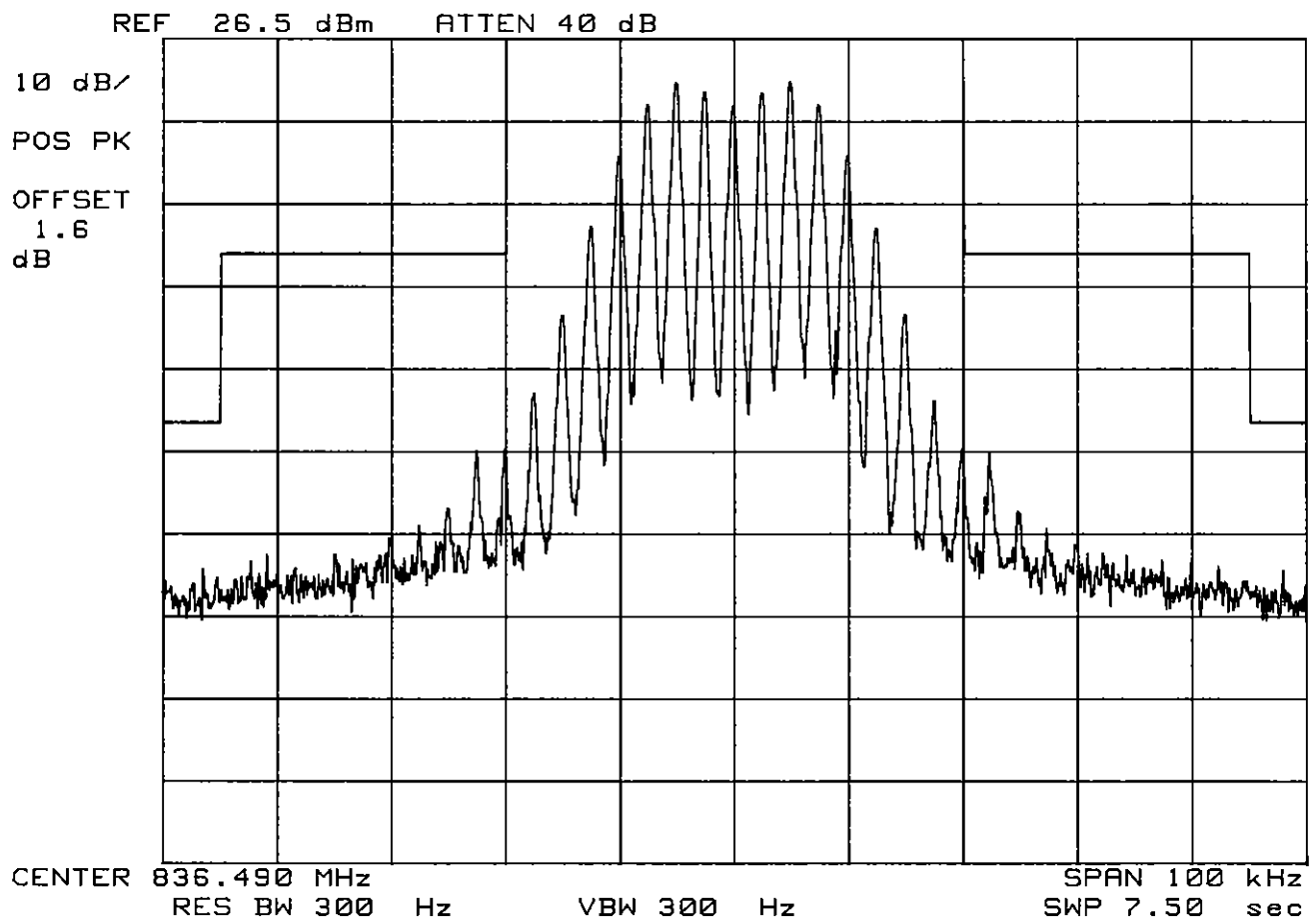
AMPS MODE

Channel 0383

Operating Frequency: 836.490 MHz

Output Power : 26.5 dBm

Test Mode:Voice



# PCTEST Engineering Lab.

## SPECTRUM ANALYZER PRESENTATION

FCC ID:A3LSPHN270

TRI-MODE PHONE

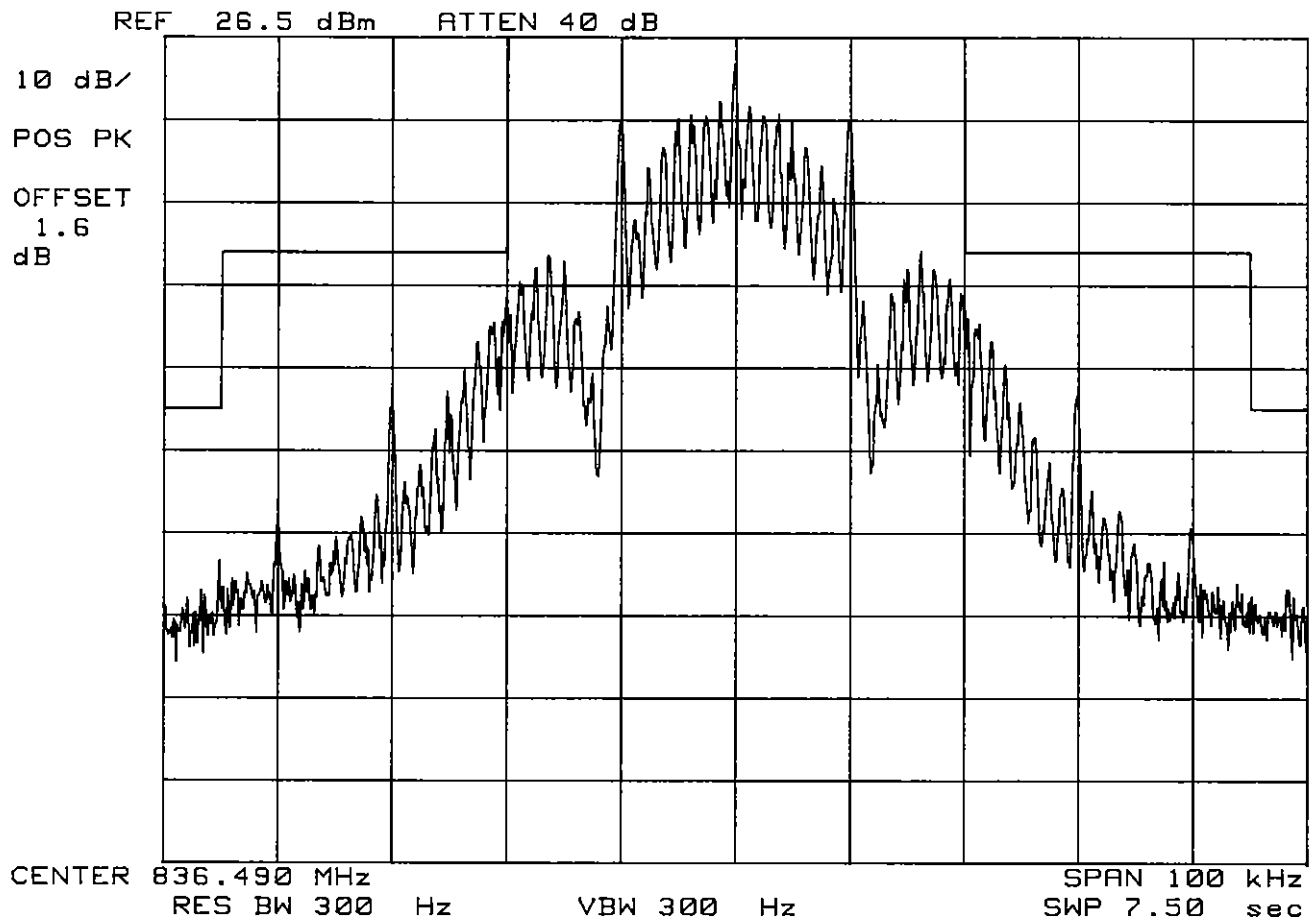
AMPS MODE

Channel 0383

Operating Frequency: 836.490 MHz

Output Power : 26.5 dBm

Test Mode:Wide Band Data

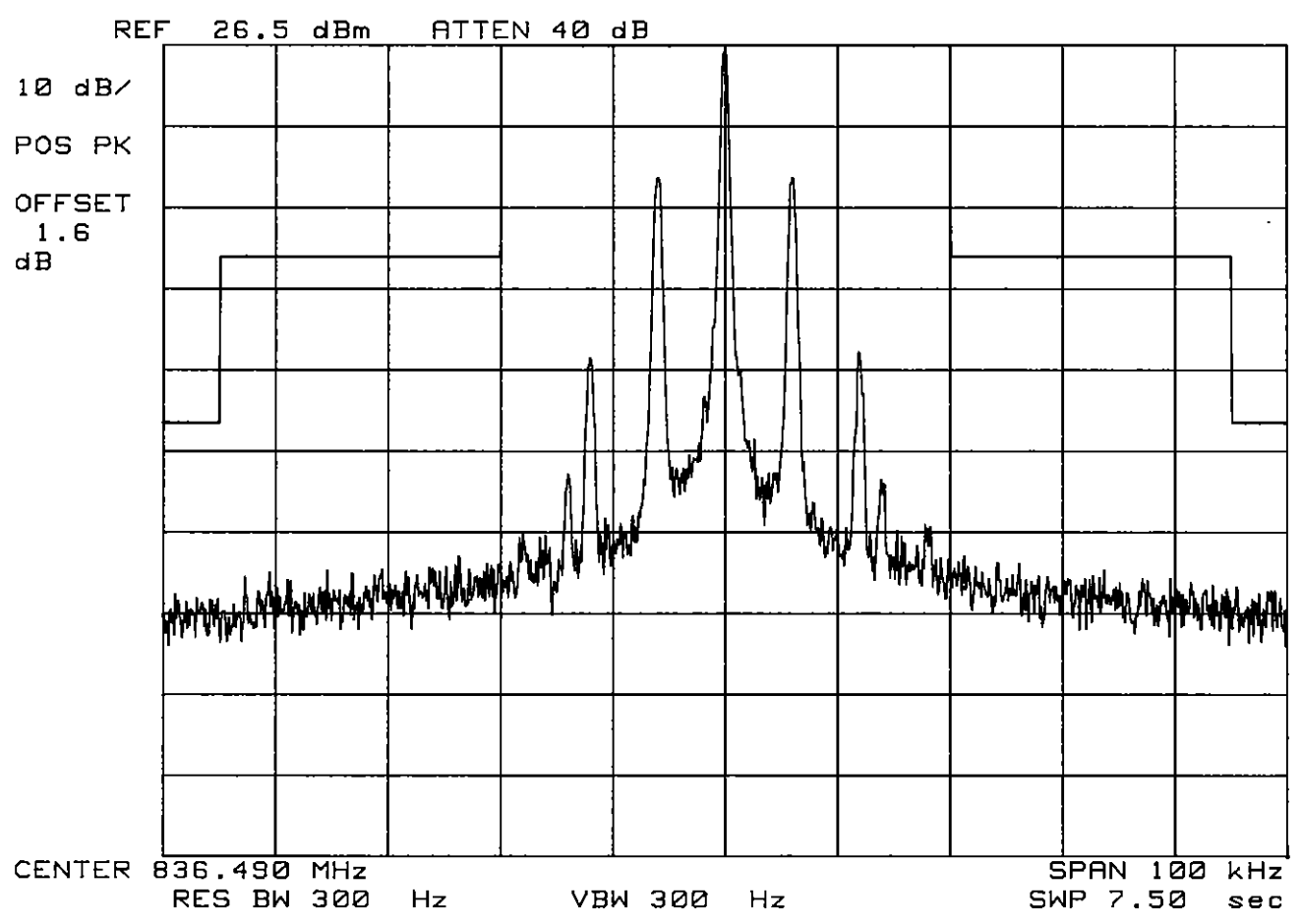


# PCTEST Engineering Lab.

## SPECTRUM ANALYZER PRESENTATION

FCC ID:A3LSPHN270  
TRI-MODE PHONE  
AMPS MODE  
Channel 0383  
Operating Frequency: 836.490 MHz  
Output Power : 26.5 dBm

Test Mode:SAT



# PCTEST Engineering Lab.

## SPECTRUM ANALYZER PRESENTATION

FCC ID:A3LSPHN270

TRI-MODE PHONE

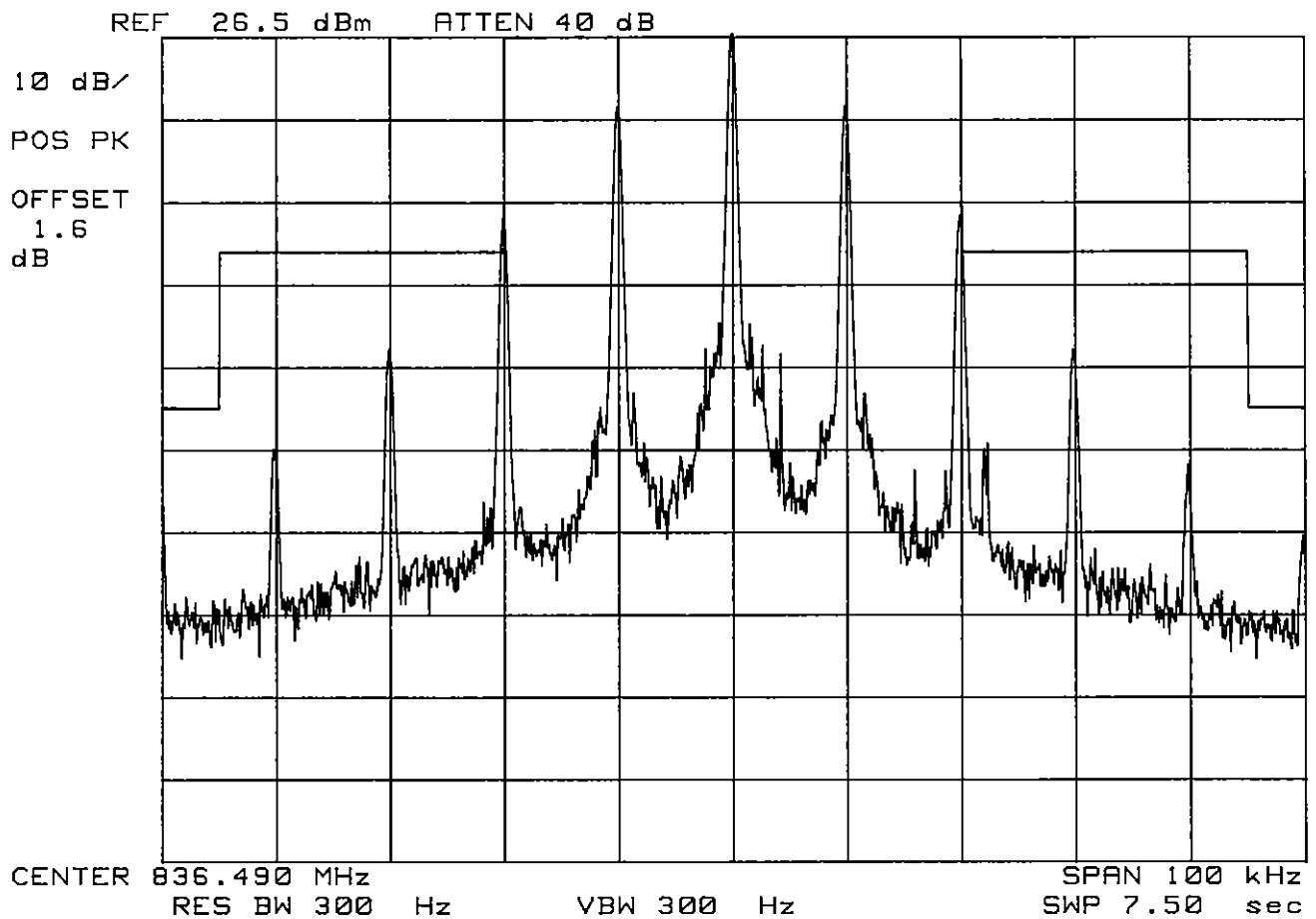
AMPS MODE

Channel 0383

Operating Frequency: 836.490 MHz

Output Power : 26.5 dBm

Test Mode:ST

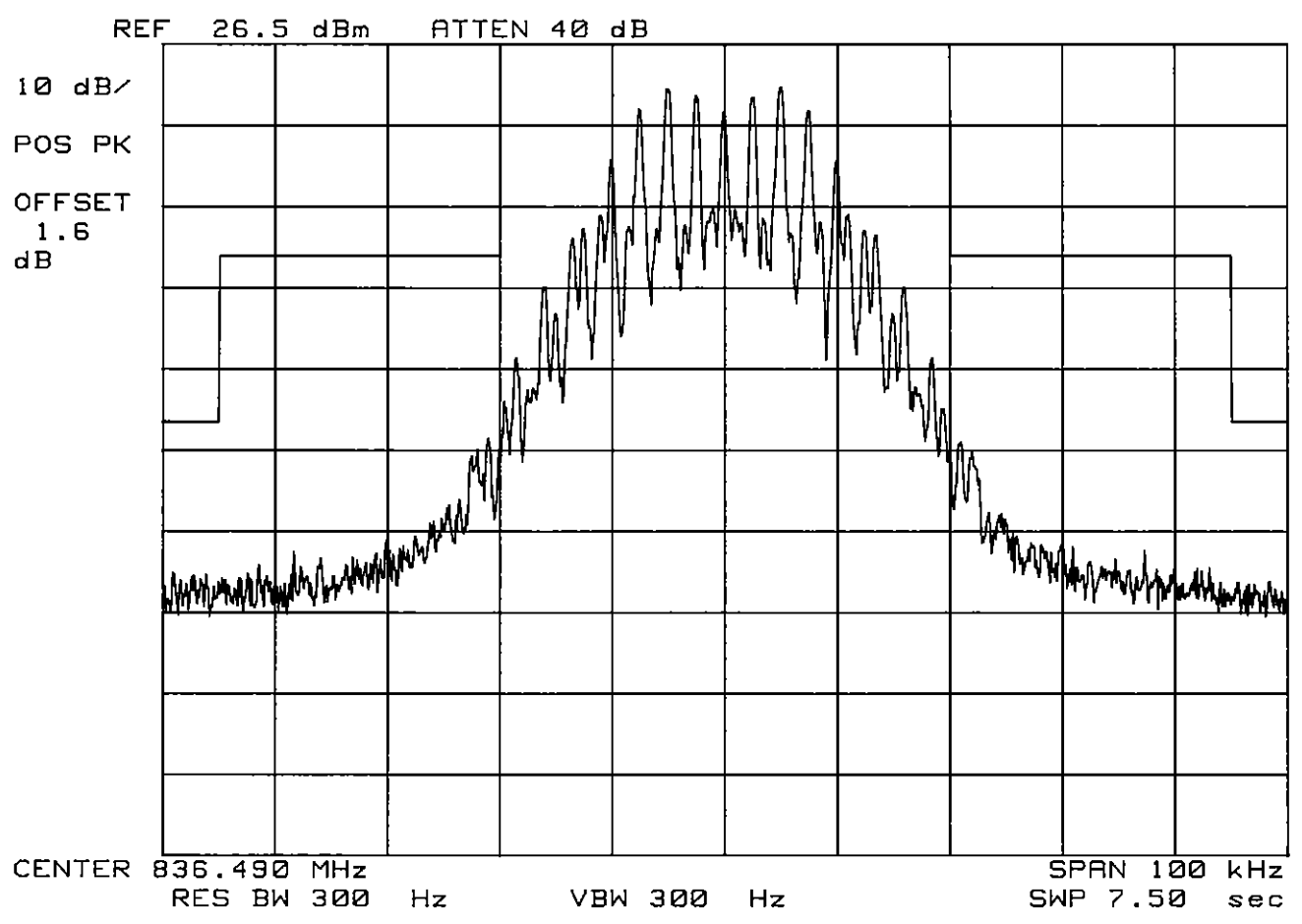


# PCTEST Engineering Lab.

## SPECTRUM ANALYZER PRESENTATION

FCC ID:A3LSPHN270  
TRI-MODE PHONE  
AMPS MODE  
Channel 0383  
Operating Frequency: 836.490 MHz  
Output Power : 26.5 dBm

Test Mode:SAT + Voice



# PCTEST Engineering Lab.

## SPECTRUM ANALYZER PRESENTATION

FCC ID:A3LSPHN270

TRI-MODE PHONE

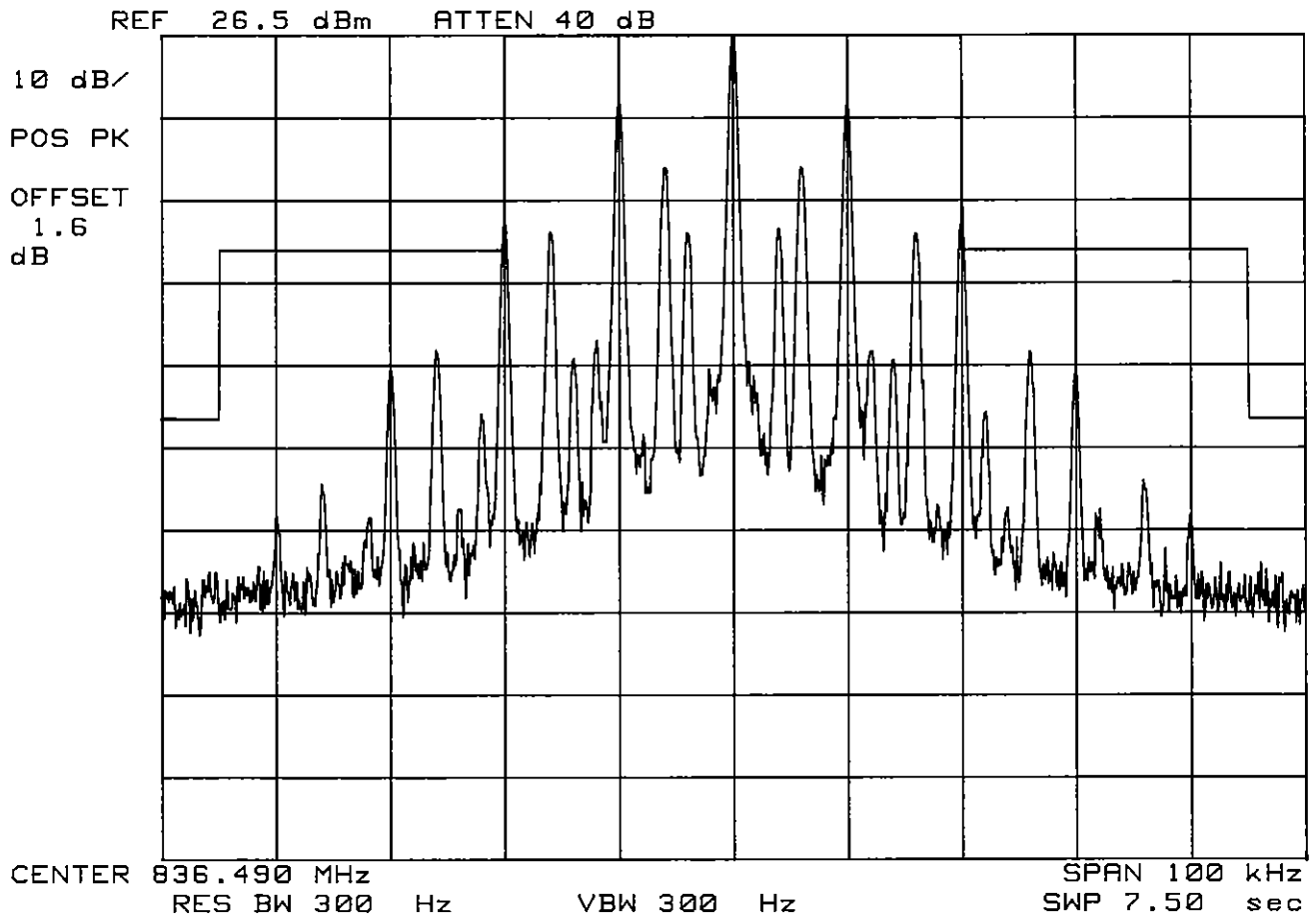
AMPS MODE

Channel 0383

Operating Frequency: 836.490 MHz

Output Power : 26.5 dBm

Test Mode:SAT + ST



# PCTEST Engineering Lab.

## SPECTRUM ANALYZER PRESENTATION

FCC ID:A3LSPHN270

TRI-MODE PHONE

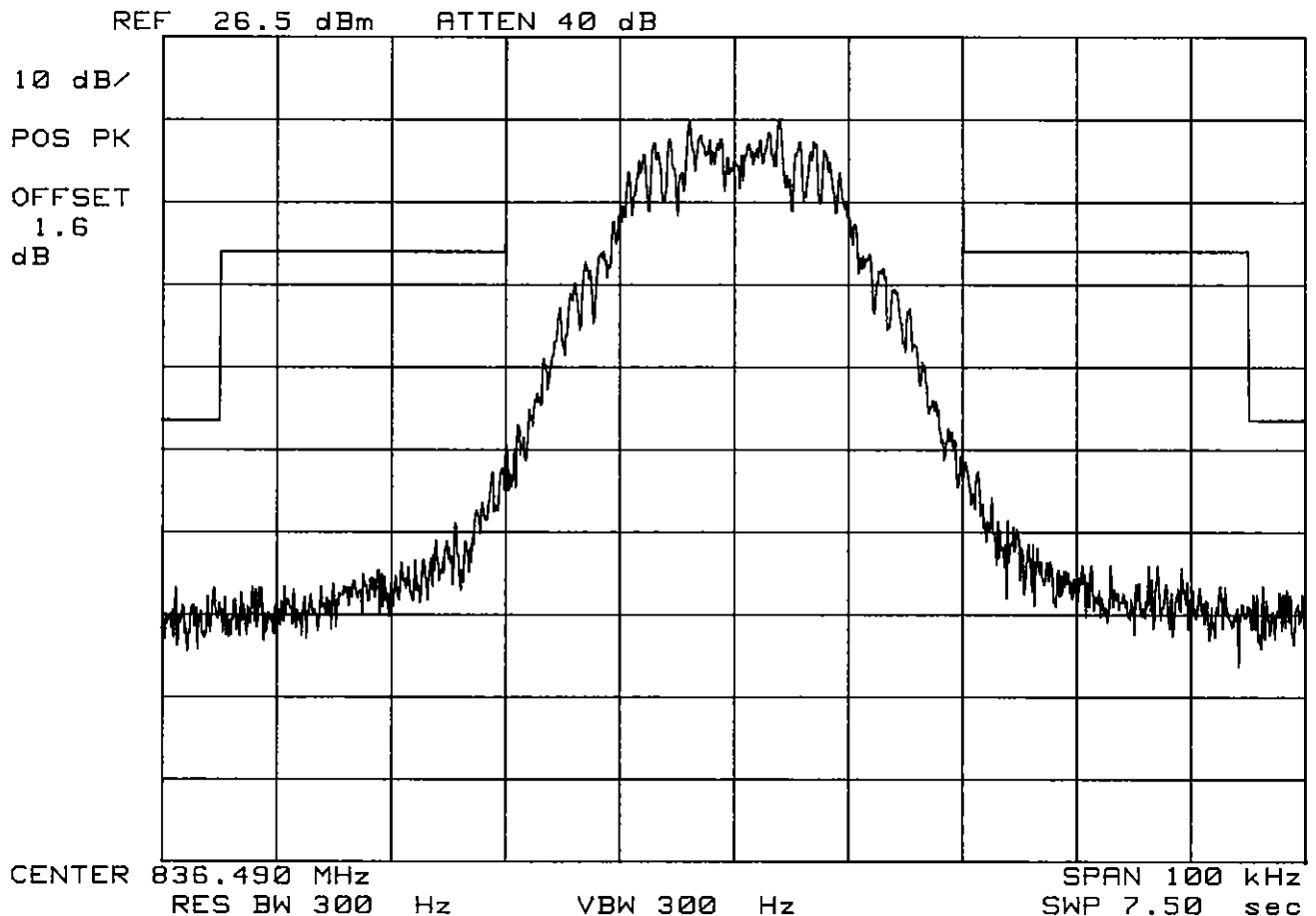
AMPS MODE

Channel 0383

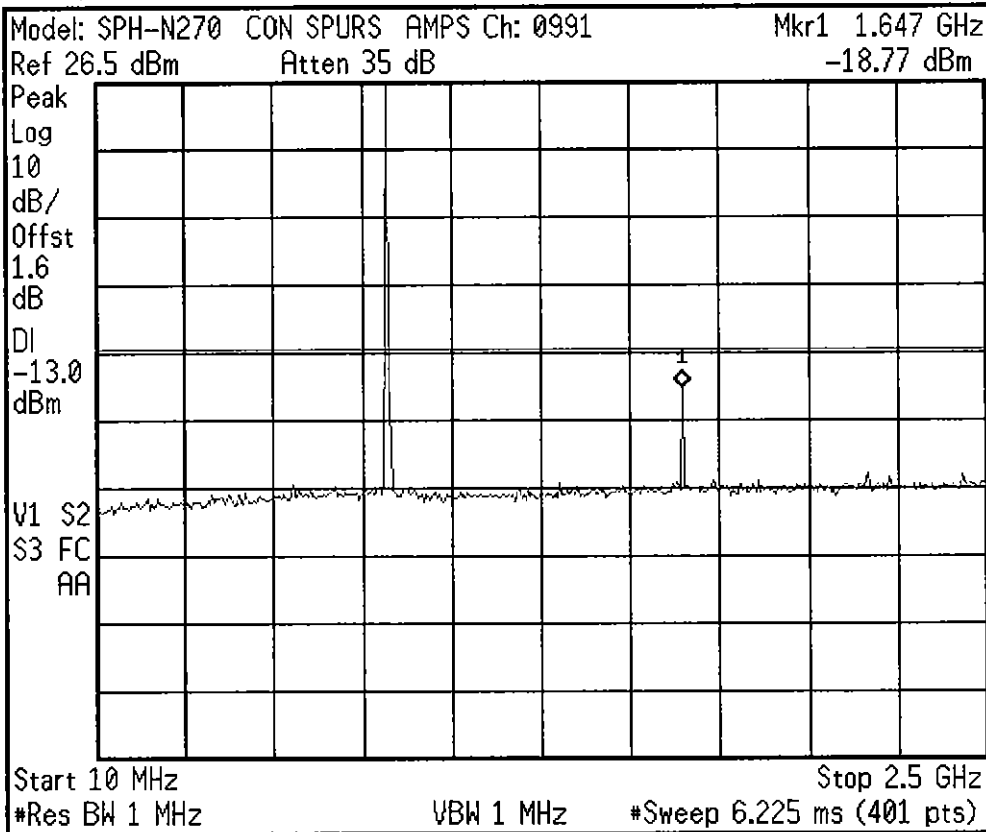
Operating Frequency: 836.490 MHz

Output Power : 26.5 dBm

Test Mode:SAT + DTMF

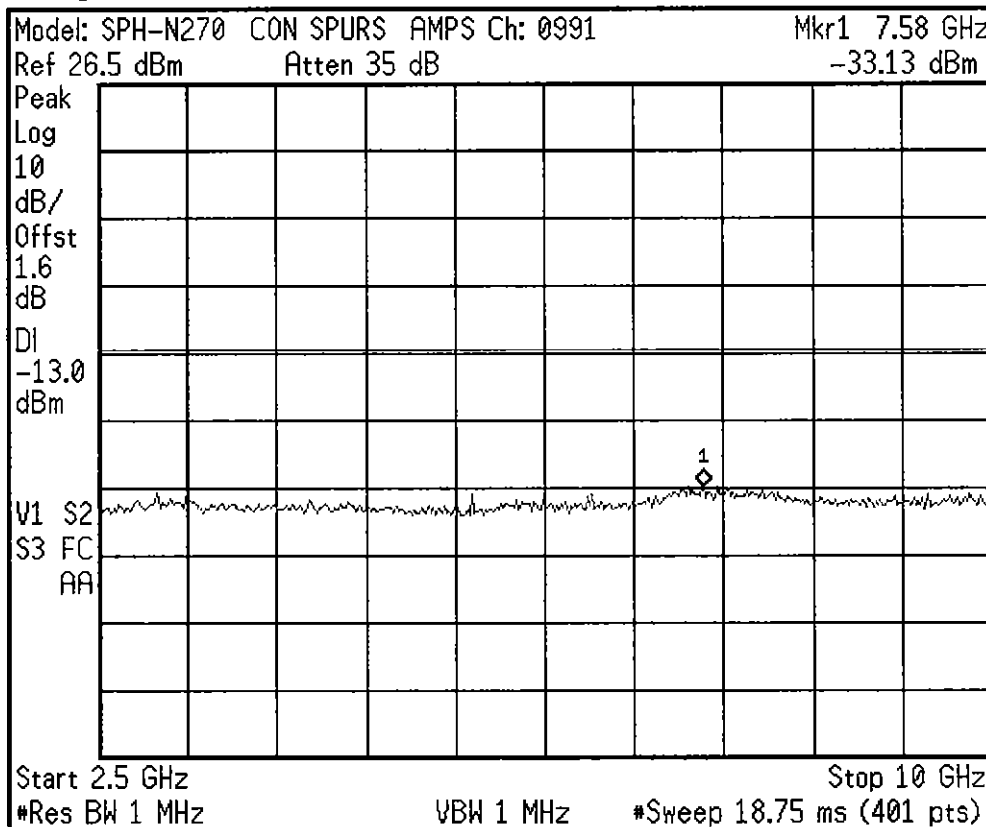


Agilent



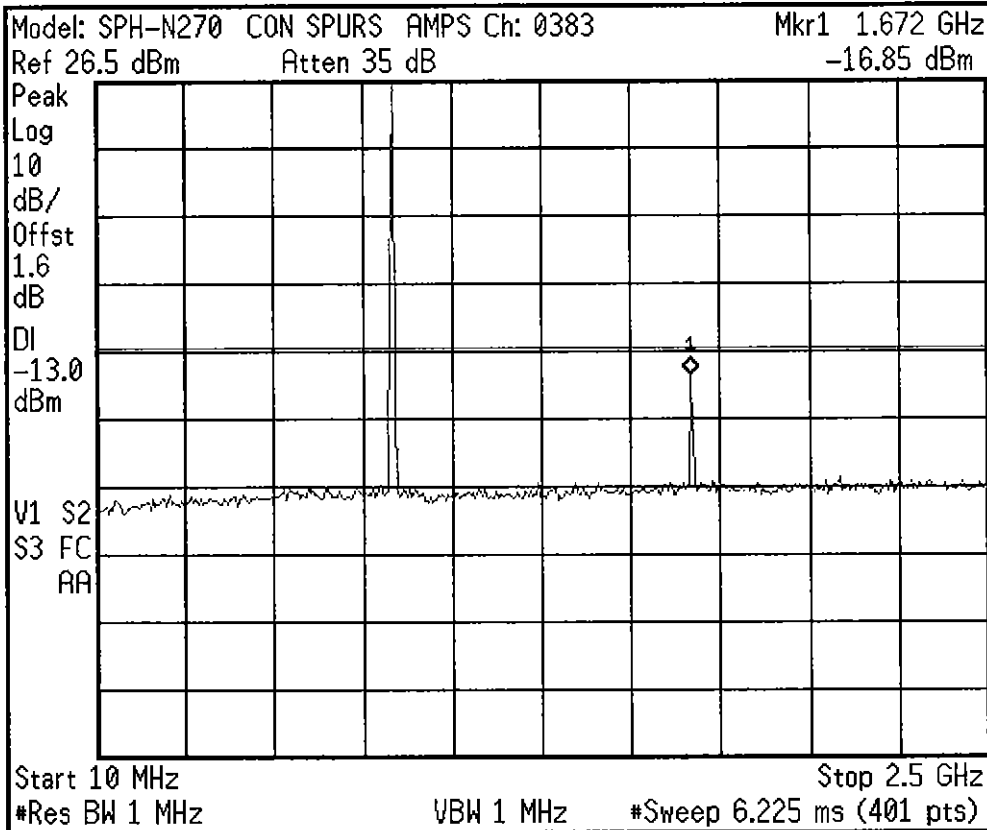
<b>Freq/Channel</b>
<b>Center Freq</b> 1.25500000 GHz
<b>Start Freq</b> 10.0000000 MHz
<b>Stop Freq</b> 2.50000000 GHz
<b>CF Step</b> 249.000000 MHz Auto Man
<b>Freq Offset</b> 0.00000000 Hz
<b>Signal Track</b> On Off
<b>Scale Type</b> Log Lin

Agilent



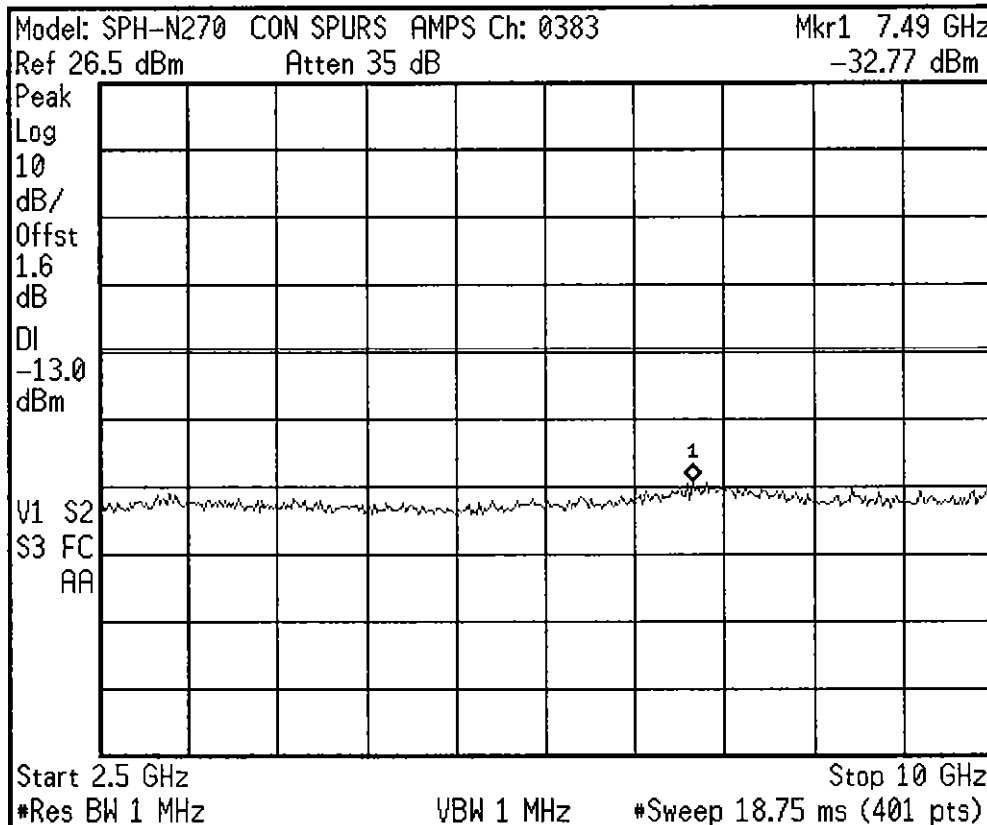
<b>Freq/Channel</b>
<b>Center Freq</b> 6.25000000 GHz
<b>Start Freq</b> 2.50000000 GHz
<b>Stop Freq</b> 10.0000000 GHz
<b>CF Step</b> 750.000000 MHz Auto Man
<b>Freq Offset</b> 0.00000000 Hz
<b>Signal Track</b> On Off
<b>Scale Type</b> Log Lin

Agilent



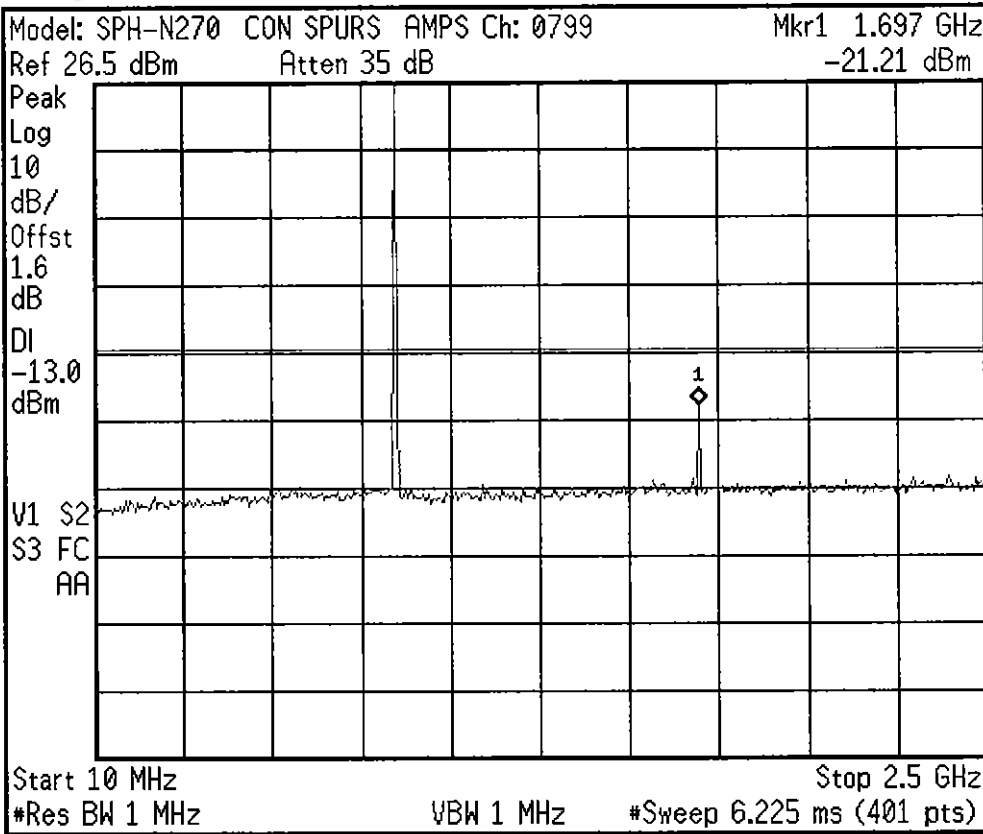
<b>Freq/Channel</b>
<b>Center Freq</b> 1.25500000 GHz
<b>Start Freq</b> 10.0000000 MHz
<b>Stop Freq</b> 2.50000000 GHz
<b>CF Step</b> 249.000000 MHz Auto Man
<b>Freq Offset</b> 0.00000000 Hz
<b>Signal Track</b> On Off
<b>Scale Type</b> Log Lin

Agilent



<b>Freq/Channel</b>
<b>Center Freq</b> 6.25000000 GHz
<b>Start Freq</b> 2.50000000 GHz
<b>Stop Freq</b> 10.0000000 GHz
<b>CF Step</b> 750.000000 MHz Auto Man
<b>Freq Offset</b> 0.00000000 Hz
<b>Signal Track</b> On Off
<b>Scale Type</b> Log Lin

Agilent



Freq/Channel

Center Freq  
1.25500000 GHz

Start Freq  
10.0000000 MHz

Stop Freq  
2.50000000 GHz

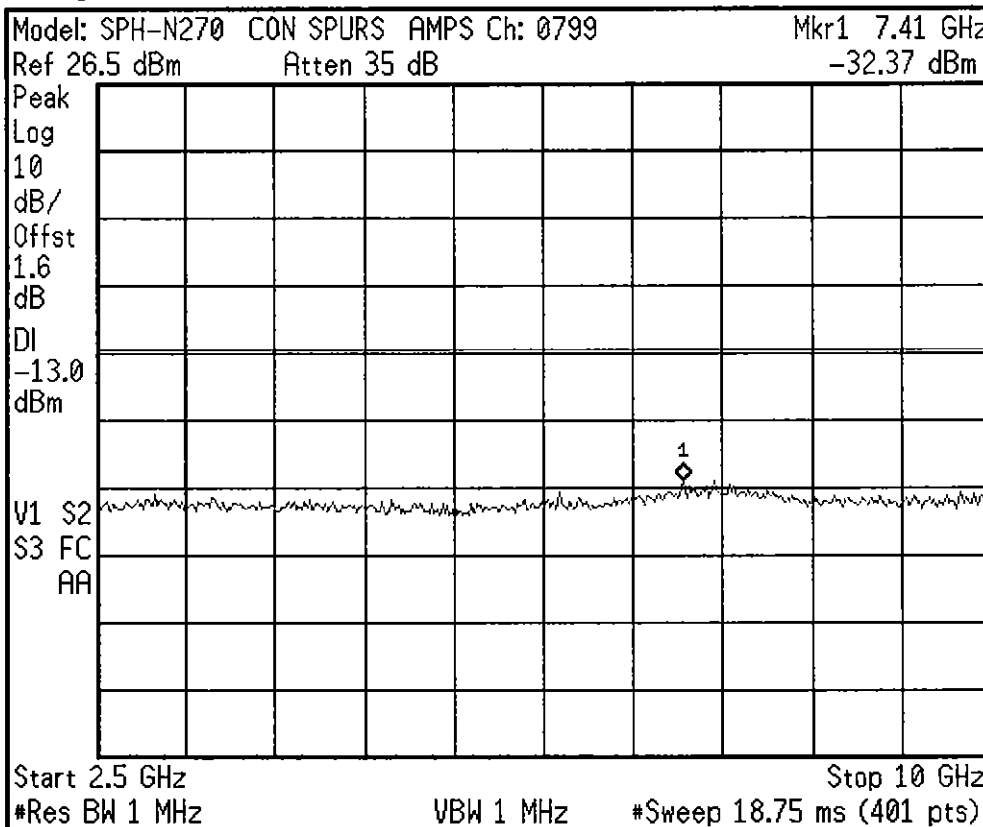
CF Step  
249.000000 MHz  
Auto Man

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

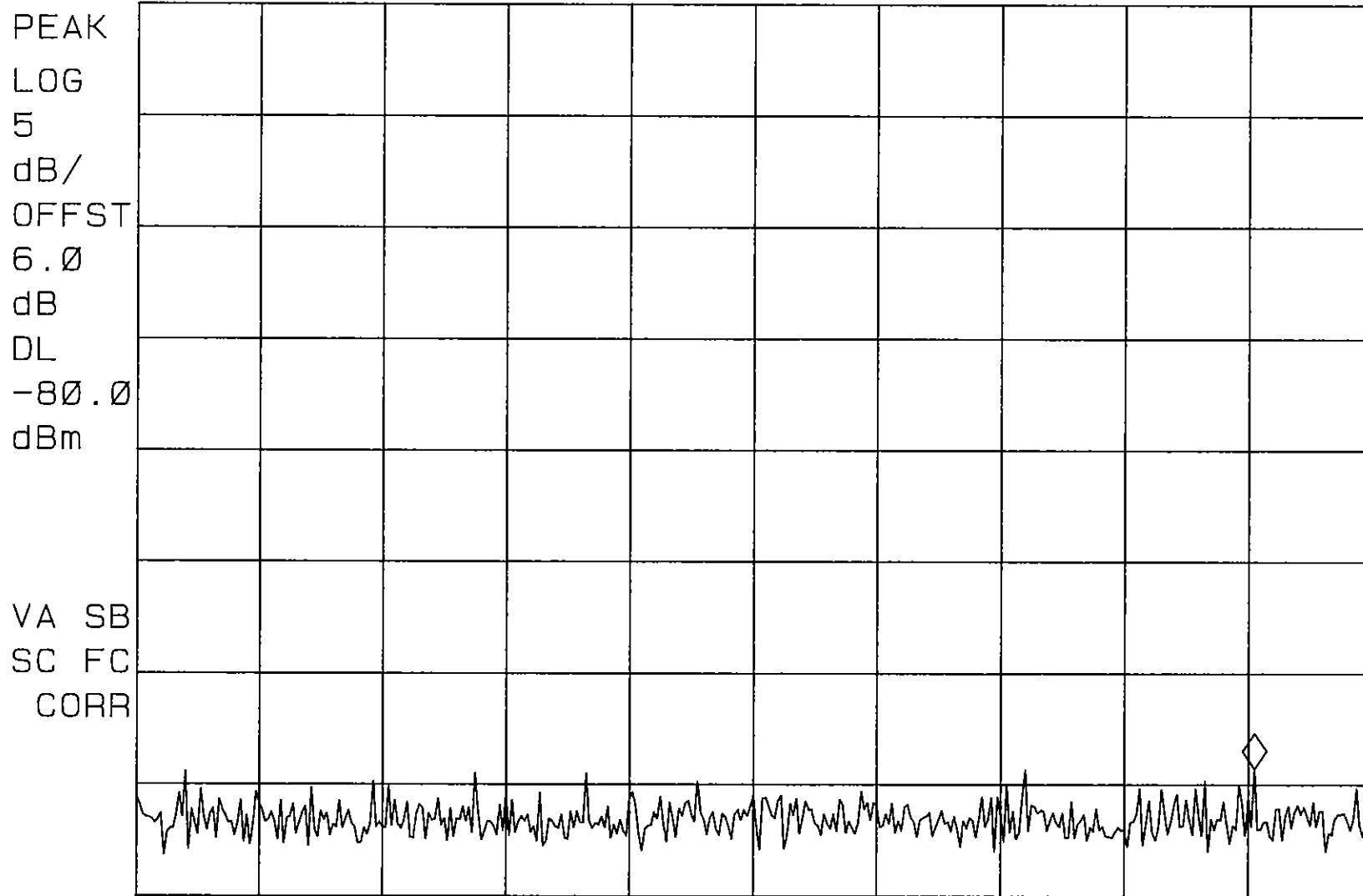
CF Step  
750.000000 MHz  
Auto Man

Freq Offset  
0.00000000 Hz

Signal Track  
On Off

Scale Type  
Log Lin

SAMSUNG Model: SPH-N270 AMPS MODE MKR 891.62 MHz  
REF -60.0 dBm ATTEN 10 dB PG 25.0 dB -94.28 dBm



START 869.00 MHz

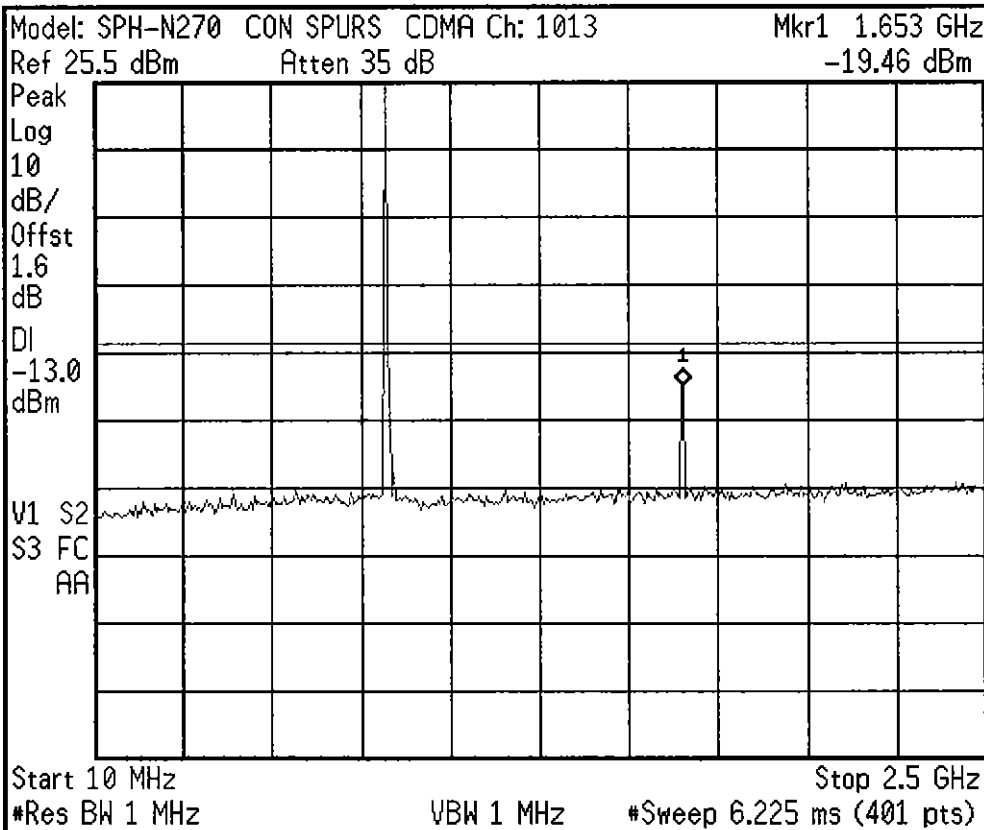
STOP 894.00 MHz

#RES BW 100 kHz

#VBW 300 kHz

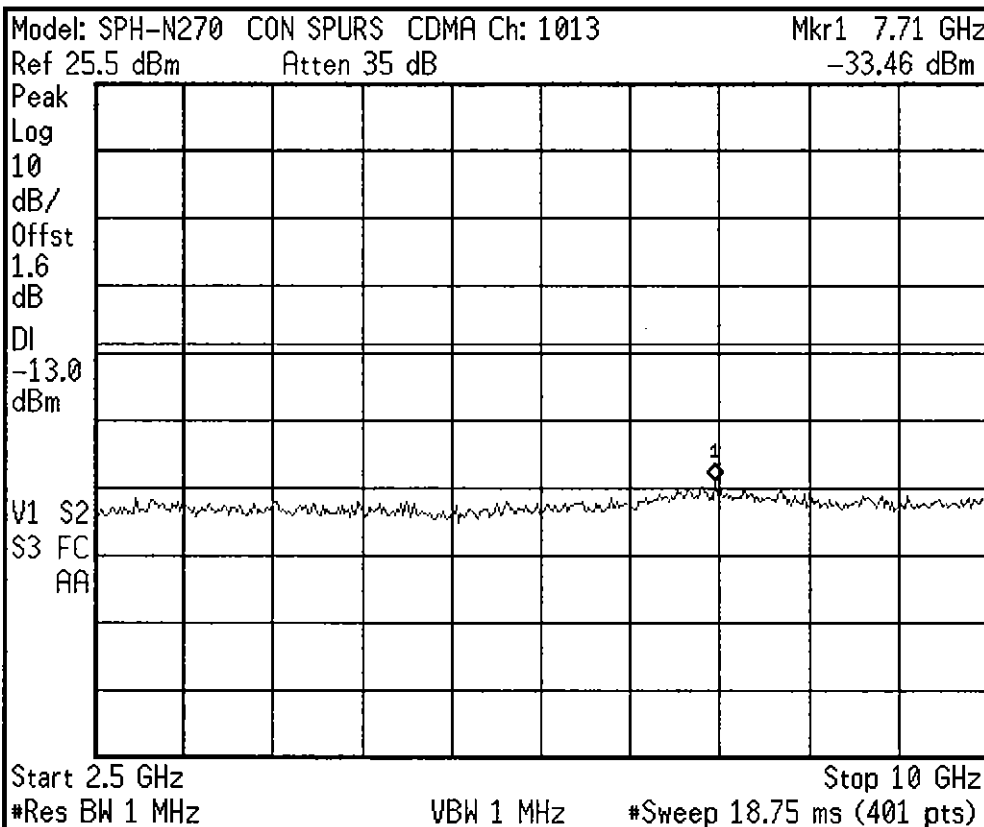
#SWP 100 msec

Agilent



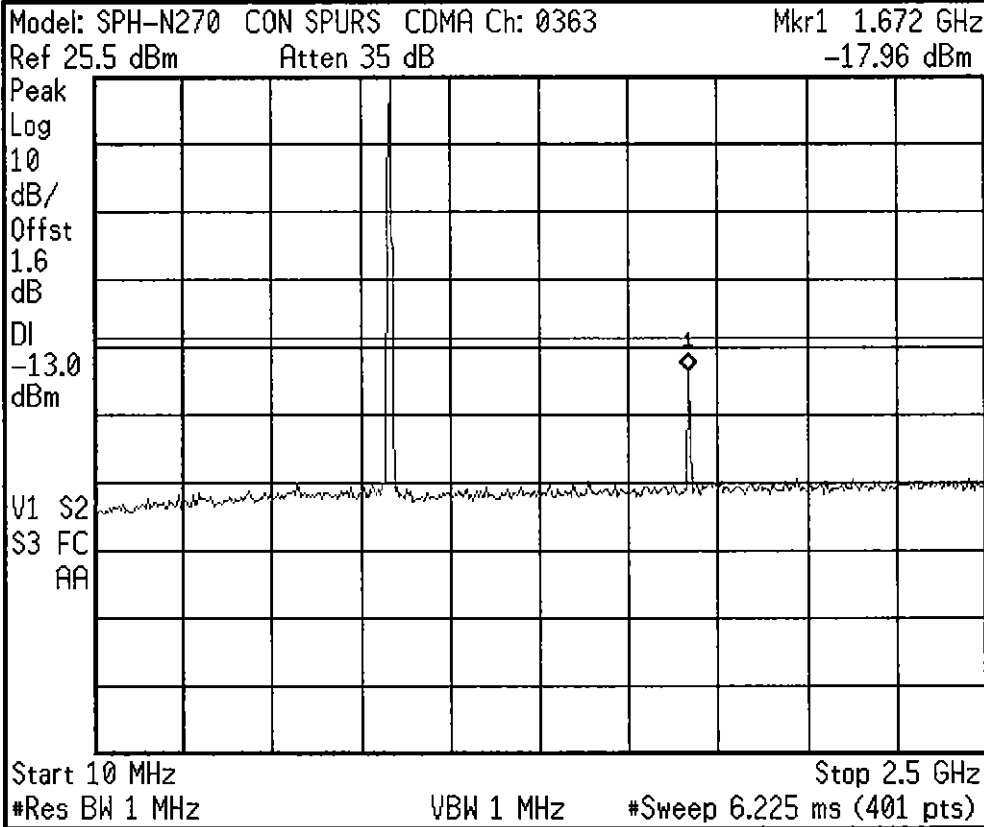
<b>Freq/Channel</b>
<b>Center Freq</b> 1.25500000 GHz
<b>Start Freq</b> 10.0000000 MHz
<b>Stop Freq</b> 2.50000000 GHz
<b>CF Step</b> 249.000000 MHz Auto Man
<b>Freq Offset</b> 0.00000000 Hz
<b>Signal Track</b> On Off
<b>Scale Type</b> Log Lin

Agilent



<b>Freq/Channel</b>
<b>Center Freq</b> 6.25000000 GHz
<b>Start Freq</b> 2.50000000 GHz
<b>Stop Freq</b> 10.0000000 GHz
<b>CF Step</b> 750.000000 MHz Auto Man
<b>Freq Offset</b> 0.00000000 Hz
<b>Signal Track</b> On Off
<b>Scale Type</b> Log Lin

Agilent



Freq/Channel

Center Freq  
1.25500000 GHz

Start Freq  
10.0000000 MHz

Stop Freq  
2.50000000 GHz

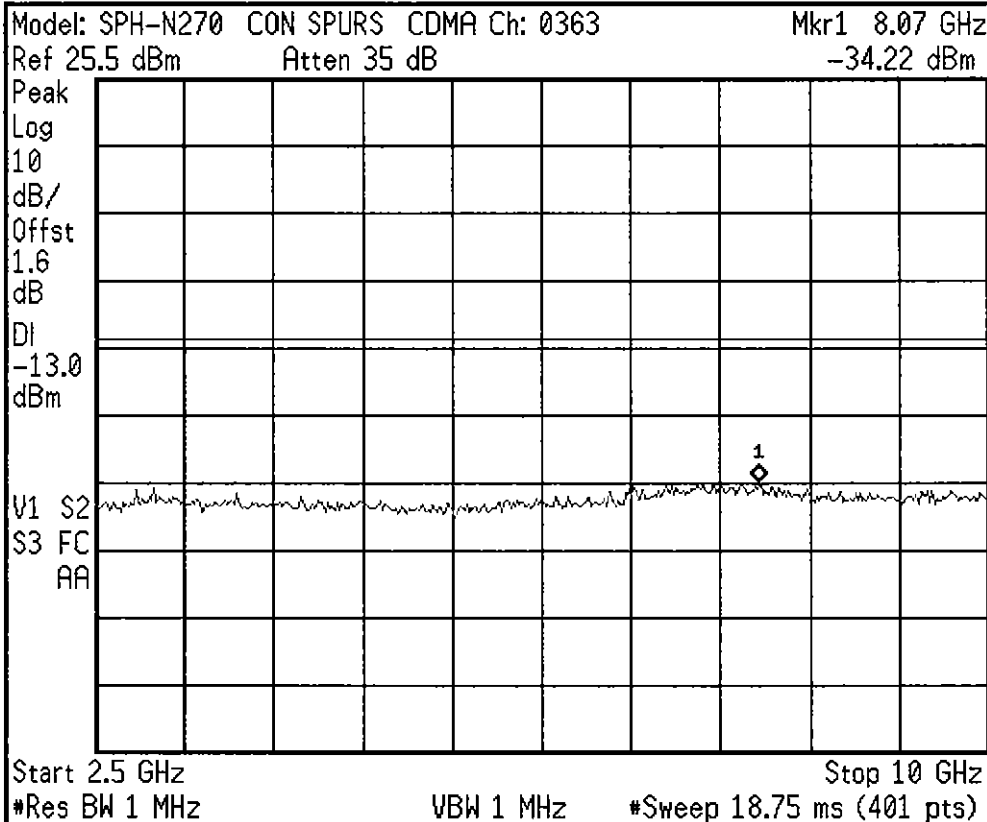
CF Step  
249.000000 MHz  
Auto Man

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

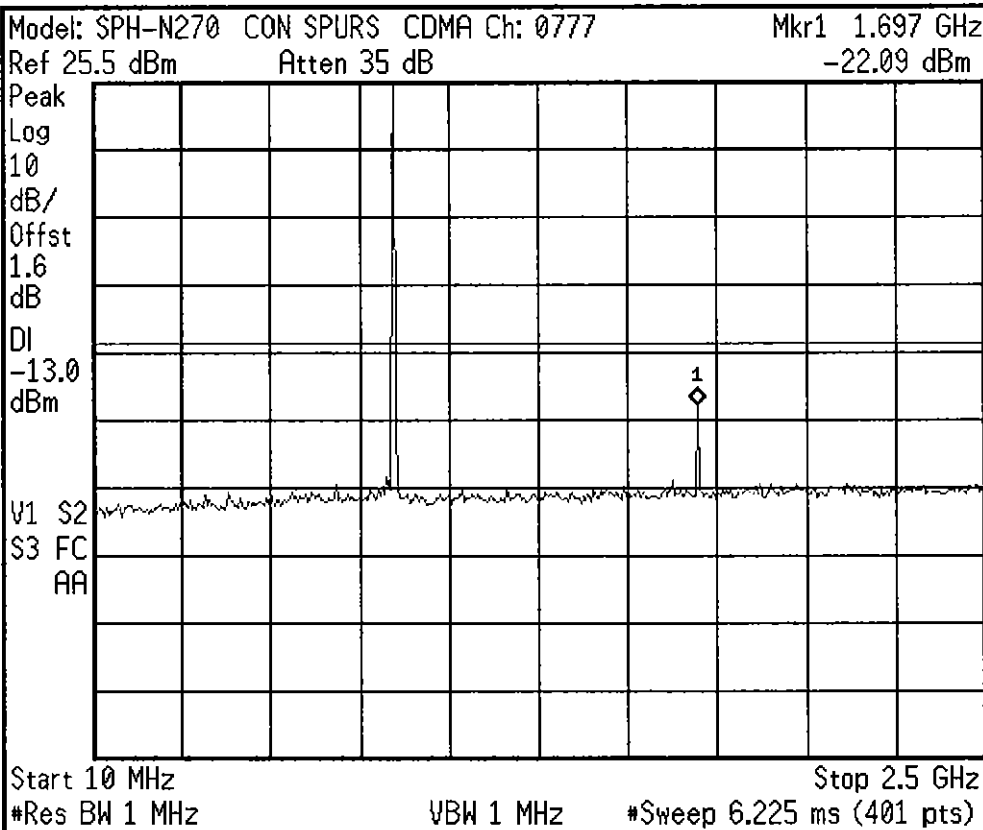
CF Step  
750.000000 MHz  
Auto Man

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

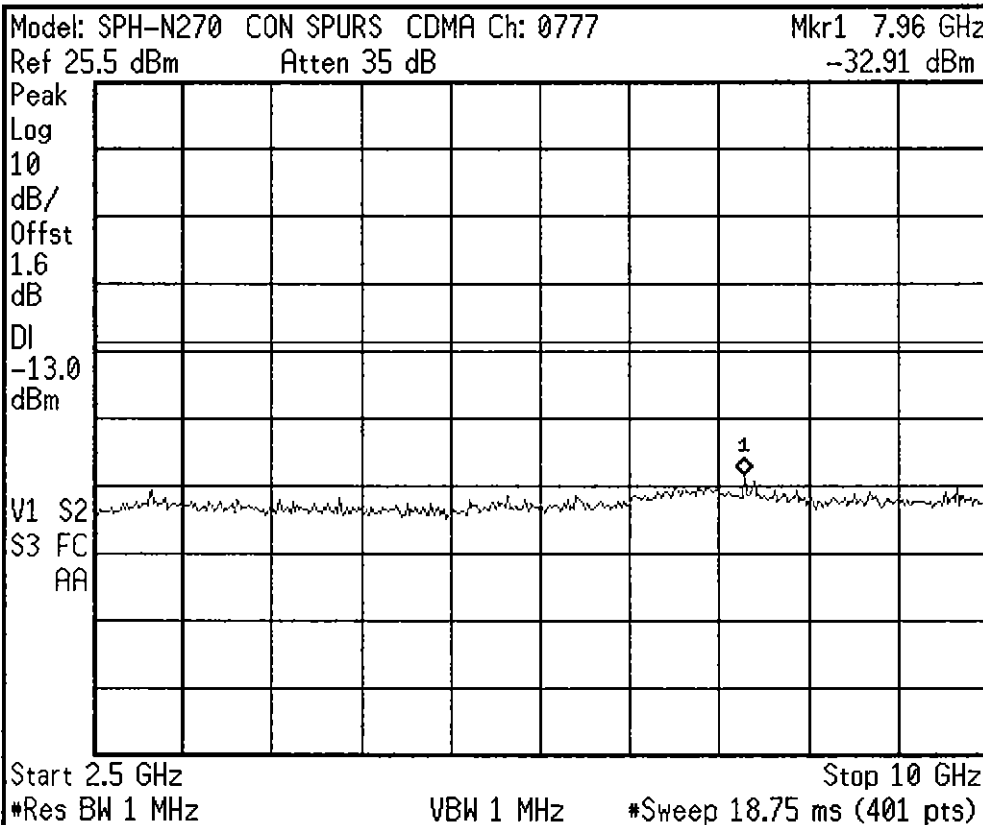
CF Step  
249.000000 MHz  
Auto Man

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

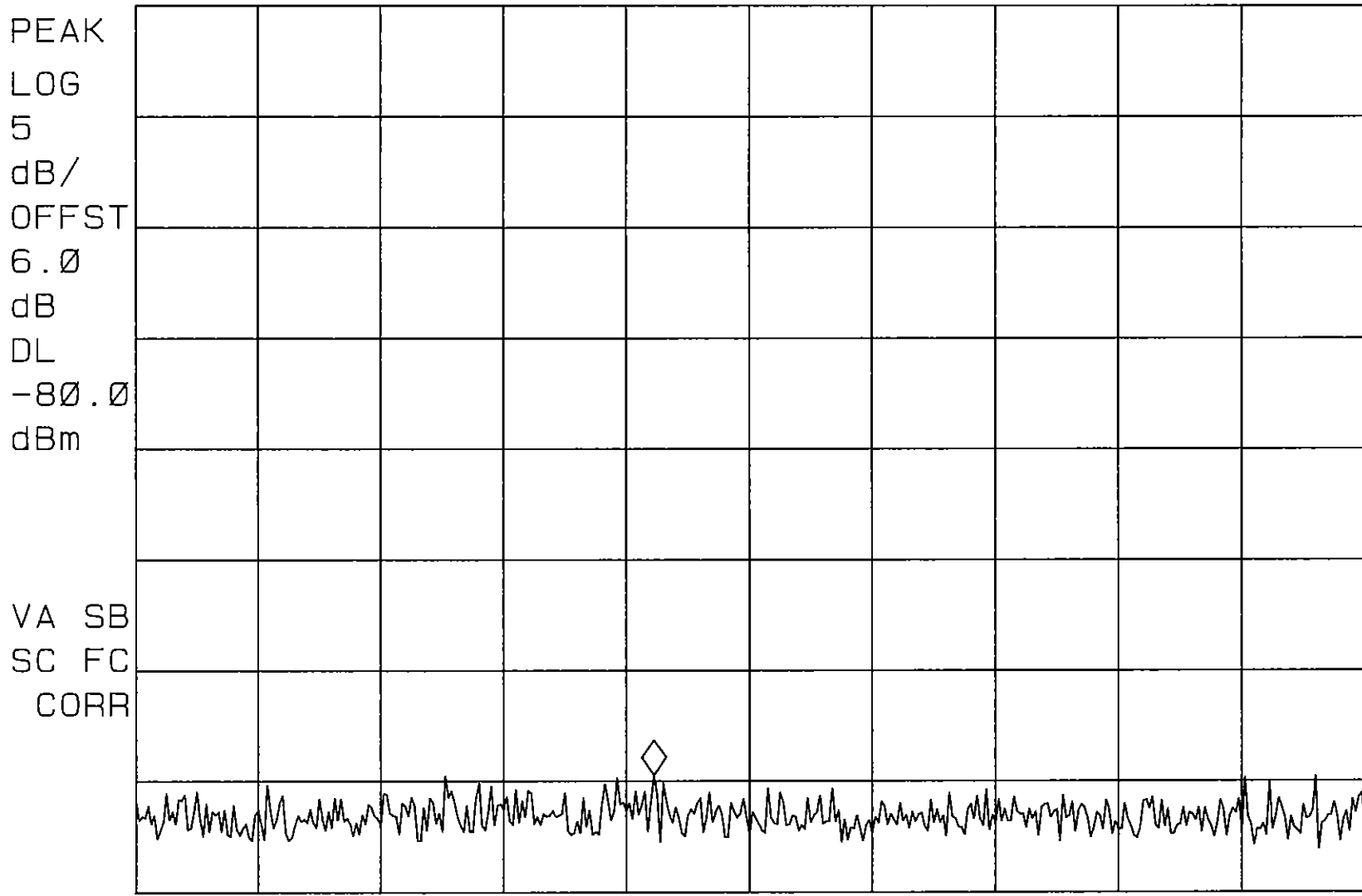
CF Step  
750.000000 MHz  
Auto Man

Freq Offset  
0.00000000 Hz

Signal Track  
On Off

Scale Type  
Log Lin

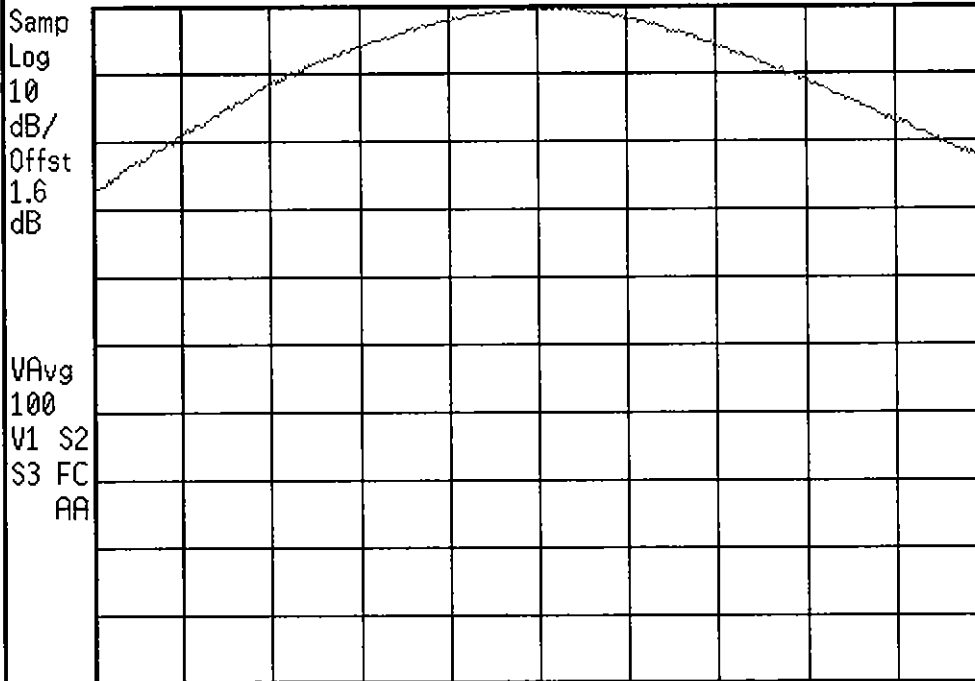
SAMSUNG Model: SPH-N270 CDMA MODE MKR 879.56 MHz  
REF -60.0 dBm ATTEN 10 dB PG 25.0 dB -94.72 dBm



START 869.00 MHz STOP 894.00 MHz  
#RES BW 100 kHz #VBW 300 kHz #SWP 100 msec

Agilent

Model: SPH-N270 PWR. OUT CDMA Ch: 1013  
Ref 25.5 dBm Atten 35 dB



Center 824.7 MHz Span 10 MHz  
#Res BW 3 MHz VBW 3 MHz #Sweep 5 ms (401 pts)

VAvg 100  
V1 S2  
S3 FC  
AA

Freq/Channel

Center Freq  
824.700000 MHz

Start Freq  
819.700000 MHz

Stop Freq  
829.700000 MHz

CF Step  
1.00000000 MHz  
Auto Man

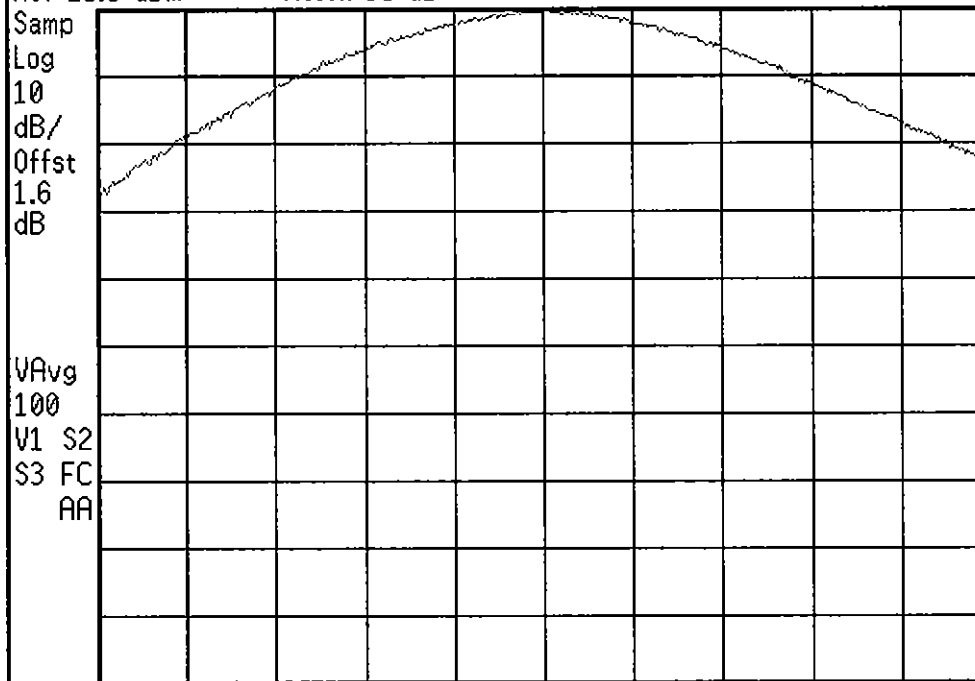
Freq Offset  
0.00000000 Hz

Signal Track  
On Off

Scale Type  
Log Lin

Agilent

Model: SPH-N270 PWR. OUT CDMA Ch: 0777  
Ref 25.5 dBm Atten 35 dB



Center 848.3 MHz Span 10 MHz  
#Res BW 3 MHz VBW 3 MHz #Sweep 5 ms (401 pts)

VAvg 100  
V1 S2  
S3 FC  
AA

Freq/Channel

Center Freq  
848.310000 MHz

Start Freq  
843.310000 MHz

Stop Freq  
853.310000 MHz

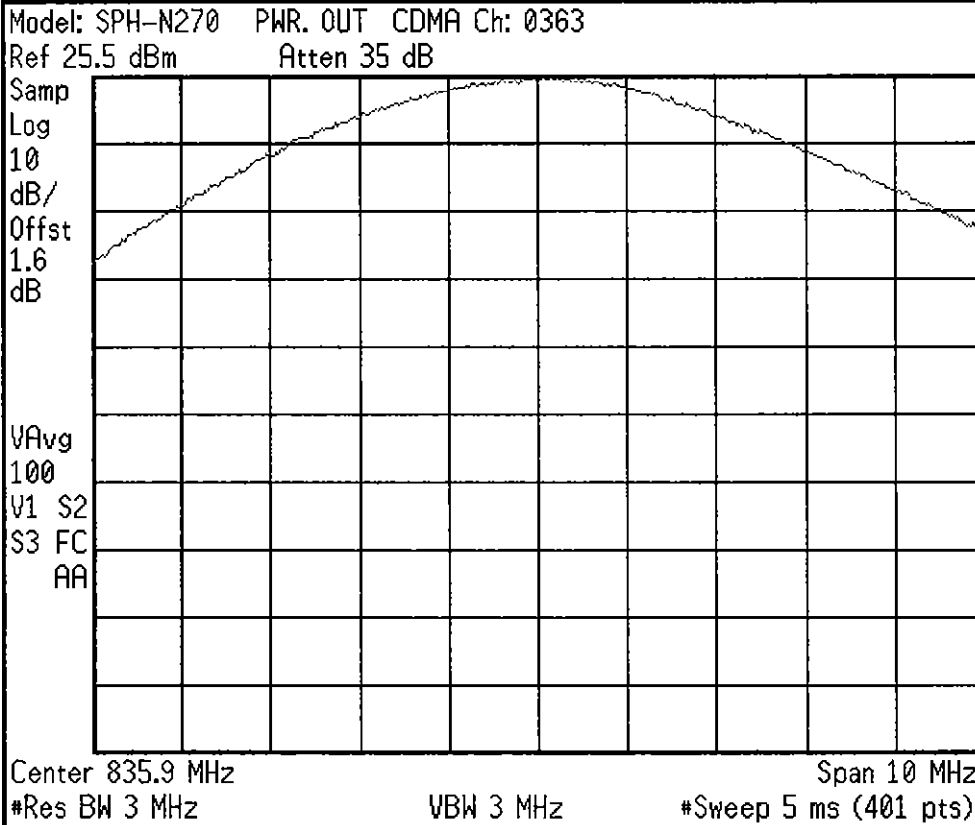
CF Step  
1.00000000 MHz  
Auto Man

Freq Offset  
0.00000000 Hz

Signal Track  
On Off

Scale Type  
Log Lin

\* Agilent



Freq/Channel

Center Freq  
835.900000 MHz

Start Freq  
830.900000 MHz

Stop Freq  
840.900000 MHz

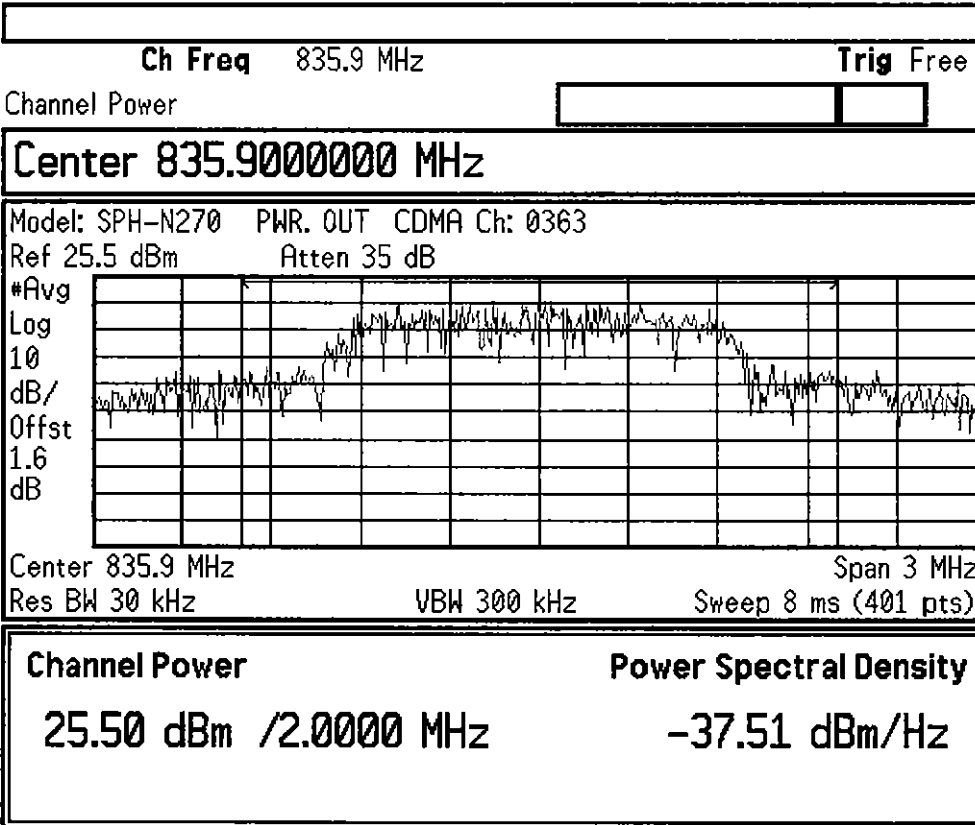
CF Step  
1.00000000 MHz  
Auto Man

Freq Offset  
0.00000000 Hz

Signal Track  
On Off

Scale Type  
Log Lin

\* Agilent



Freq/Channel

Center Freq  
835.900000 MHz

Start Freq  
834.400000 MHz

Stop Freq  
837.400000 MHz

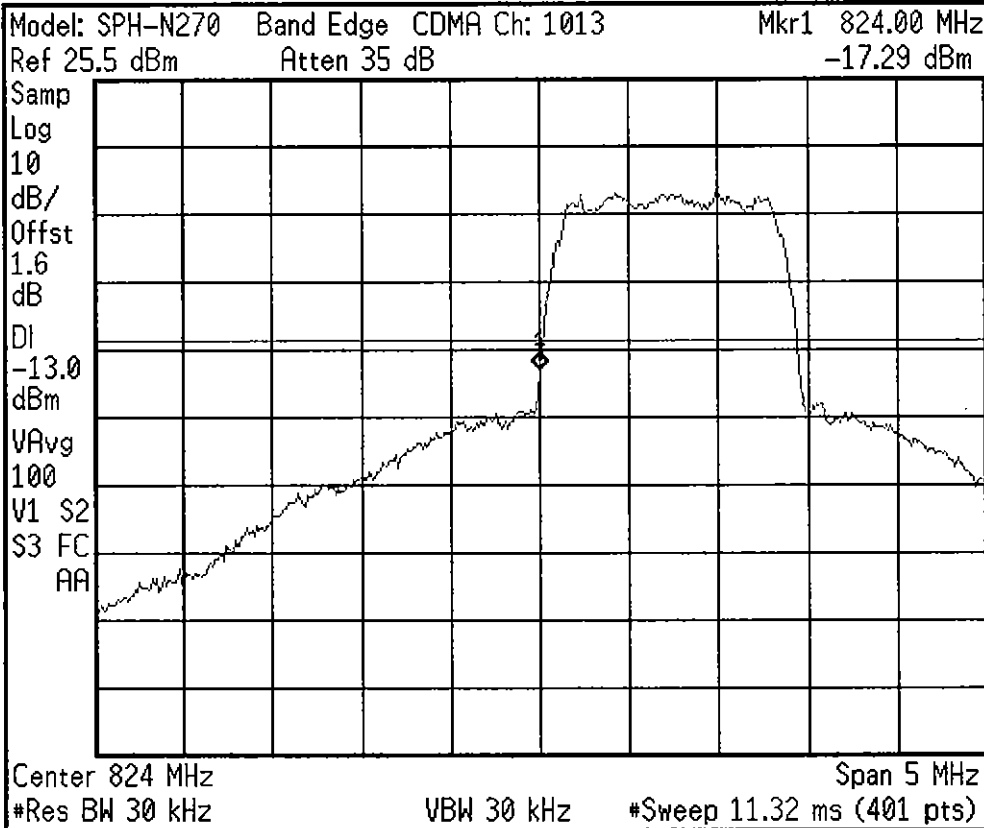
CF Step  
300.000000 kHz  
Auto Man

Freq Offset  
0.00000000 Hz

Signal Track  
On Off

Scale Type  
Log Lin

Agilent



Freq/Channel

Center Freq  
824.000000 MHz

Start Freq  
821.500000 MHz

Stop Freq  
826.500000 MHz

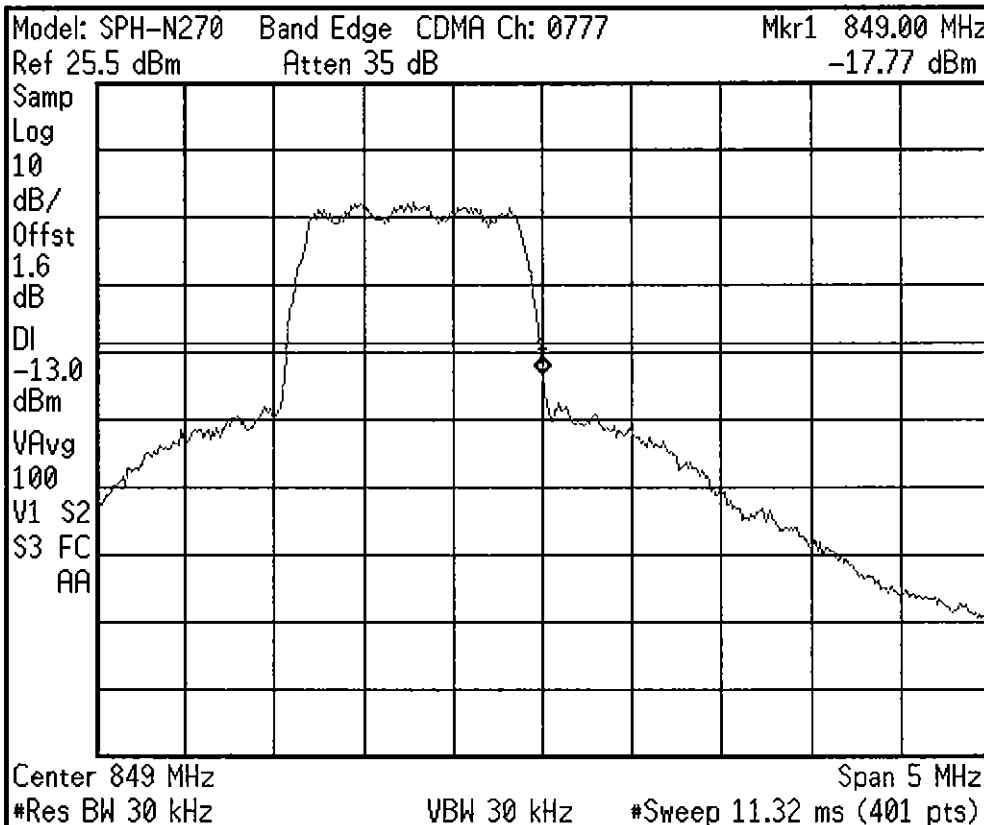
CF Step  
500.000000 kHz  
Auto Man

Freq Offset  
0.00000000 Hz

Signal Track  
On Off

Scale Type  
Log Lin

Agilent



Freq/Channel

Center Freq  
849.000000 MHz

Start Freq  
846.500000 MHz

Stop Freq  
851.500000 MHz

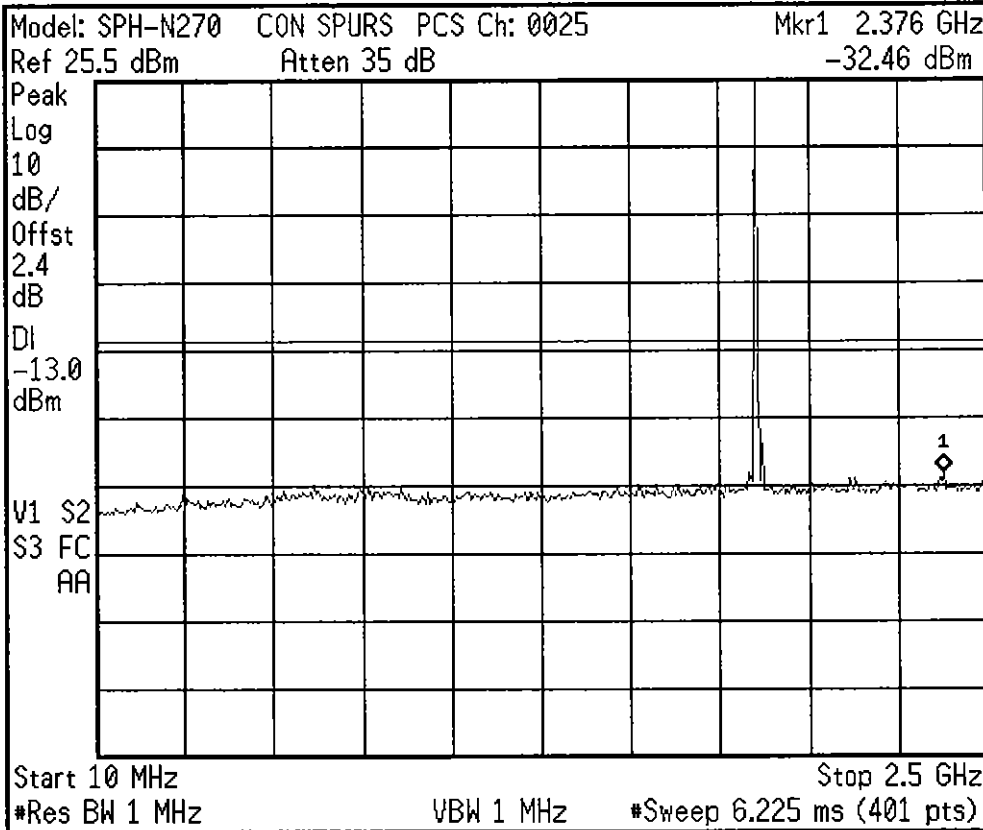
CF Step  
500.000000 kHz  
Auto Man

Freq Offset  
0.00000000 Hz

Signal Track  
On Off

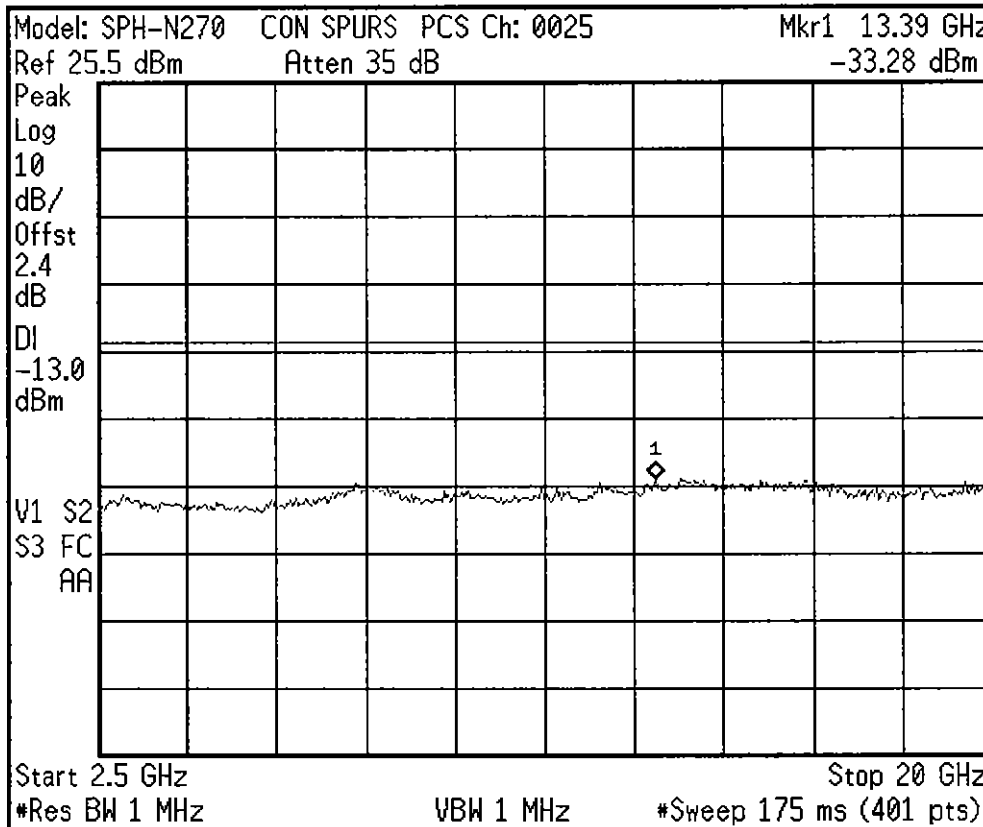
Scale Type  
Log Lin

Agilent



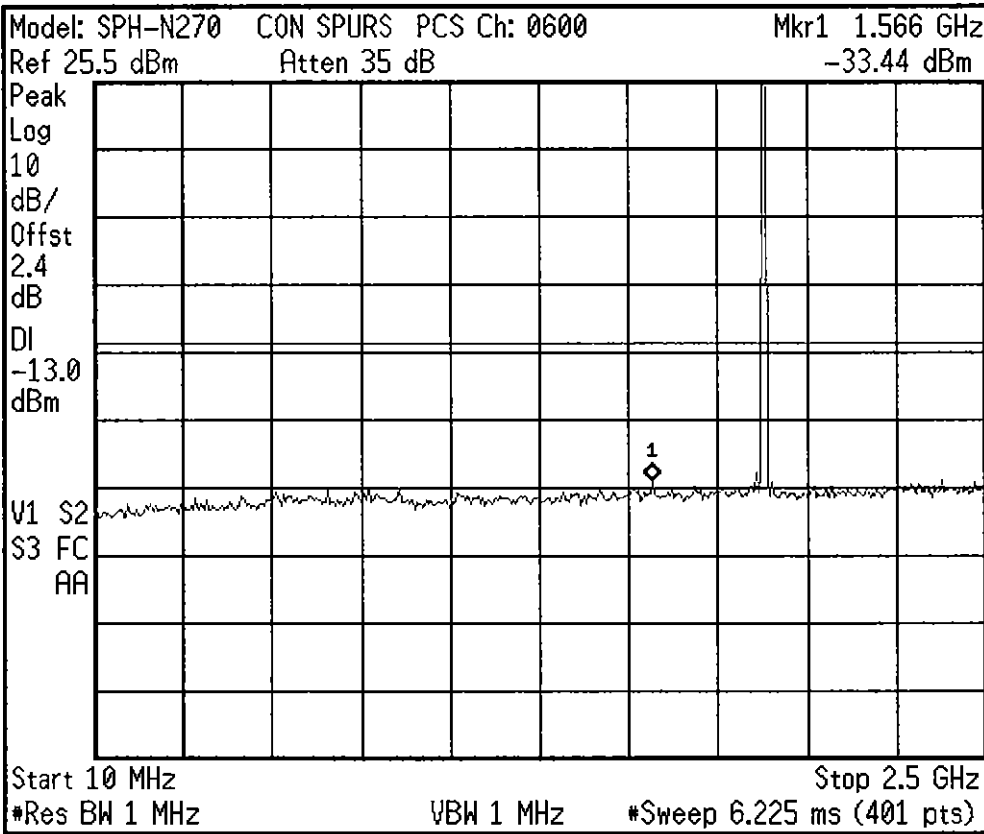
Freq/Channel
Center Freq 1.25500000 GHz
Start Freq 10.0000000 MHz
Stop Freq 2.50000000 GHz
CF Step 249.000000 MHz Auto Man
Freq Offset 0.00000000 Hz
Signal Track On Off
Scale Type Log Lin

Agilent



Freq/Channel
Center Freq 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
Scale Type Log Lin

Agilent



Freq/Channel

Center Freq  
 1.25500000 GHz

Start Freq  
 10.0000000 MHz

Stop Freq  
 2.50000000 GHz

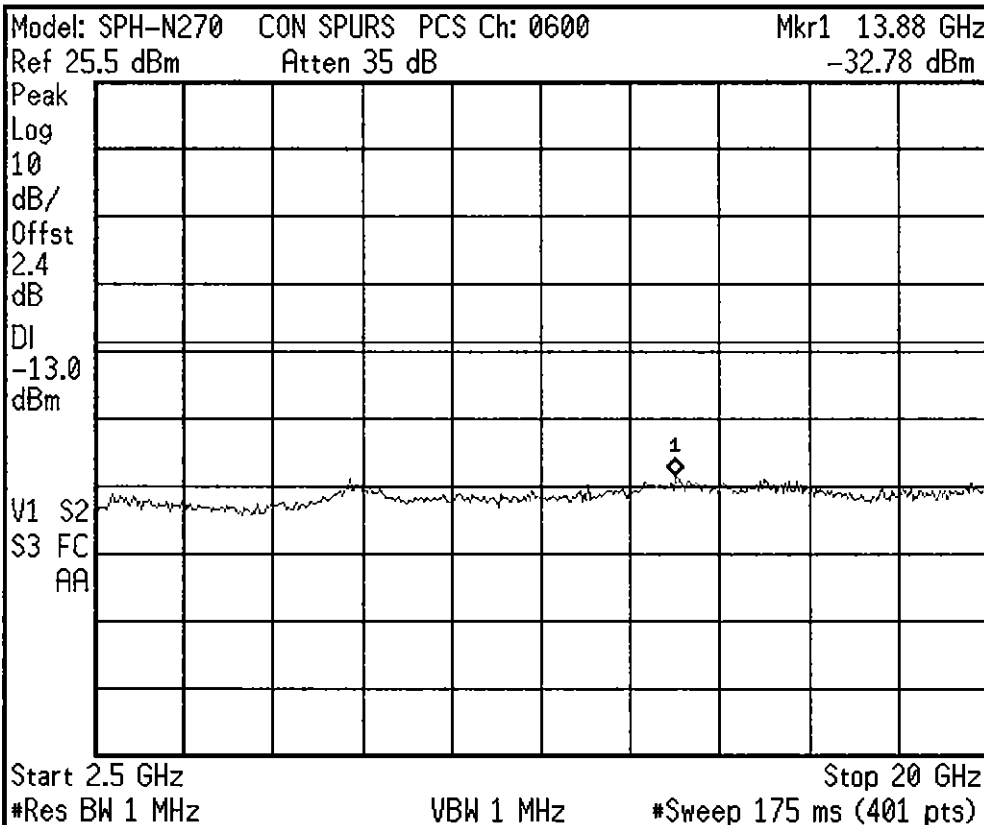
CF Step  
 249.000000 MHz  
 Auto Man

Freq Offset  
 0.00000000 Hz

Signal Track  
 On Off

Scale Type  
 Log Lin

Agilent



Freq/Channel

Center Freq  
 11.2500000 GHz

Start Freq  
 2.50000000 GHz

Stop Freq  
 20.0000000 GHz

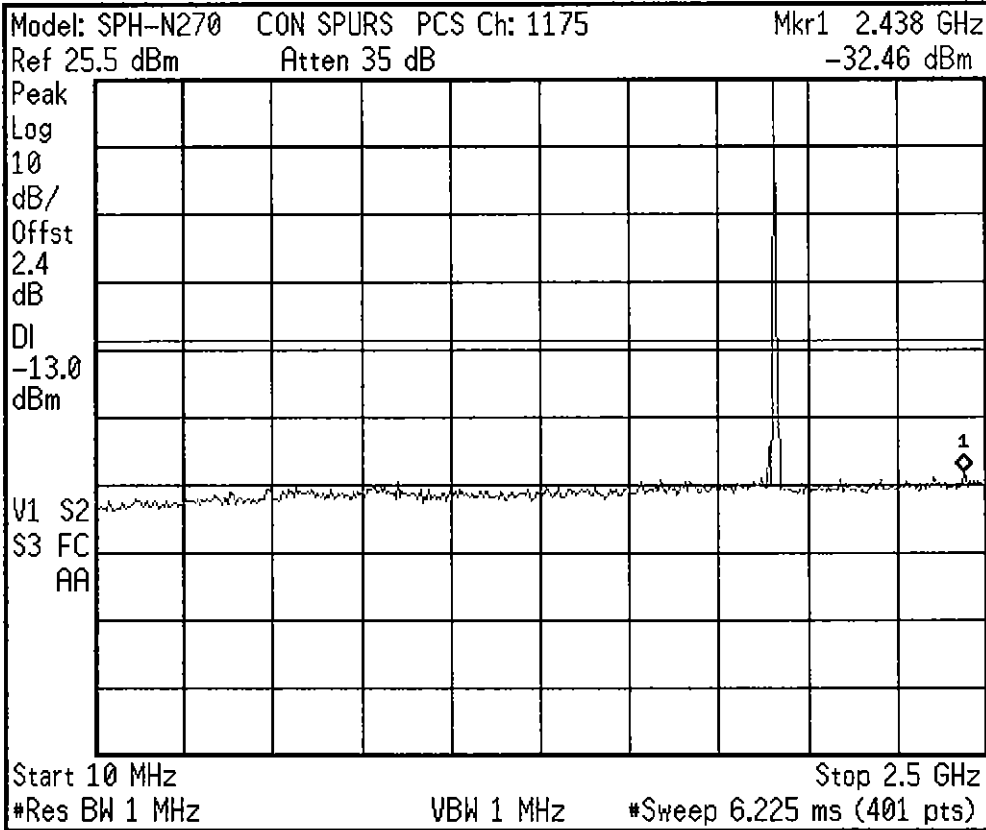
CF Step  
 1.75000000 GHz  
 Auto Man

Freq Offset  
 0.00000000 Hz

Signal Track  
 On Off

Scale Type  
 Log Lin

Agilent



Freq/Channel

Center Freq  
1.25500000 GHz

Start Freq  
10.0000000 MHz

Stop Freq  
2.50000000 GHz

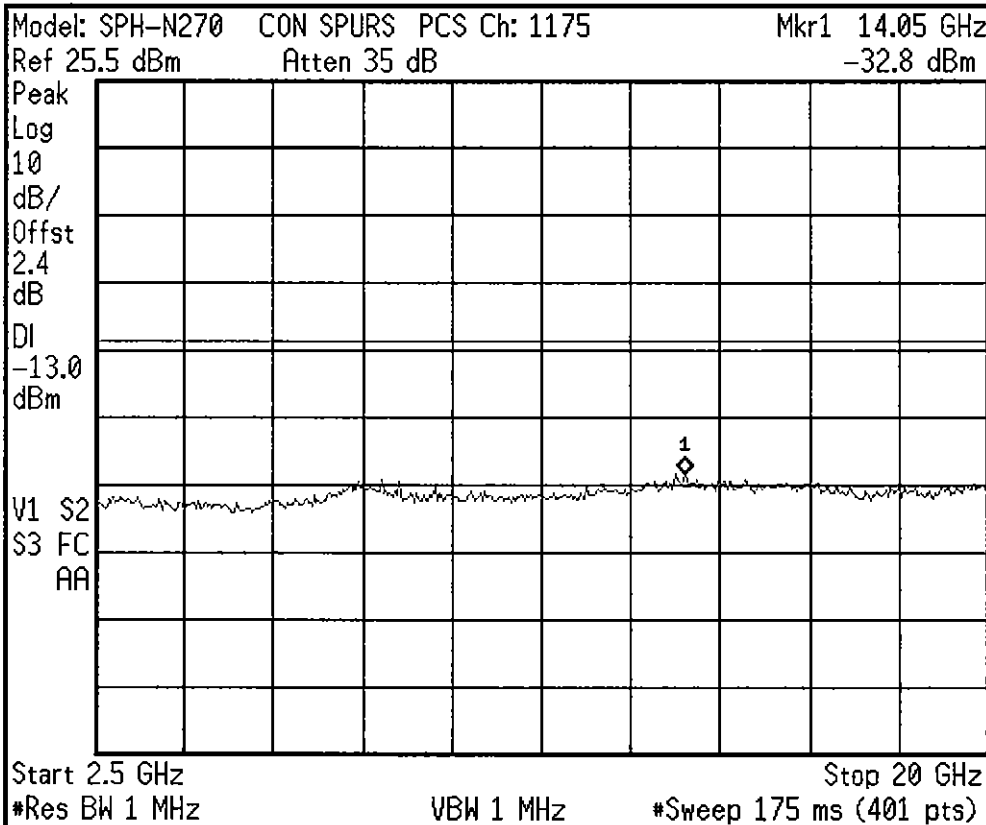
CF Step  
249.000000 MHz  
Auto Man

Freq Offset  
0.00000000 Hz

Signal Track  
On Off

Scale Type  
Log Lin

Agilent



Freq/Channel

Center Freq  
11.2500000 GHz

Start Freq  
2.50000000 GHz

Stop Freq  
20.0000000 GHz

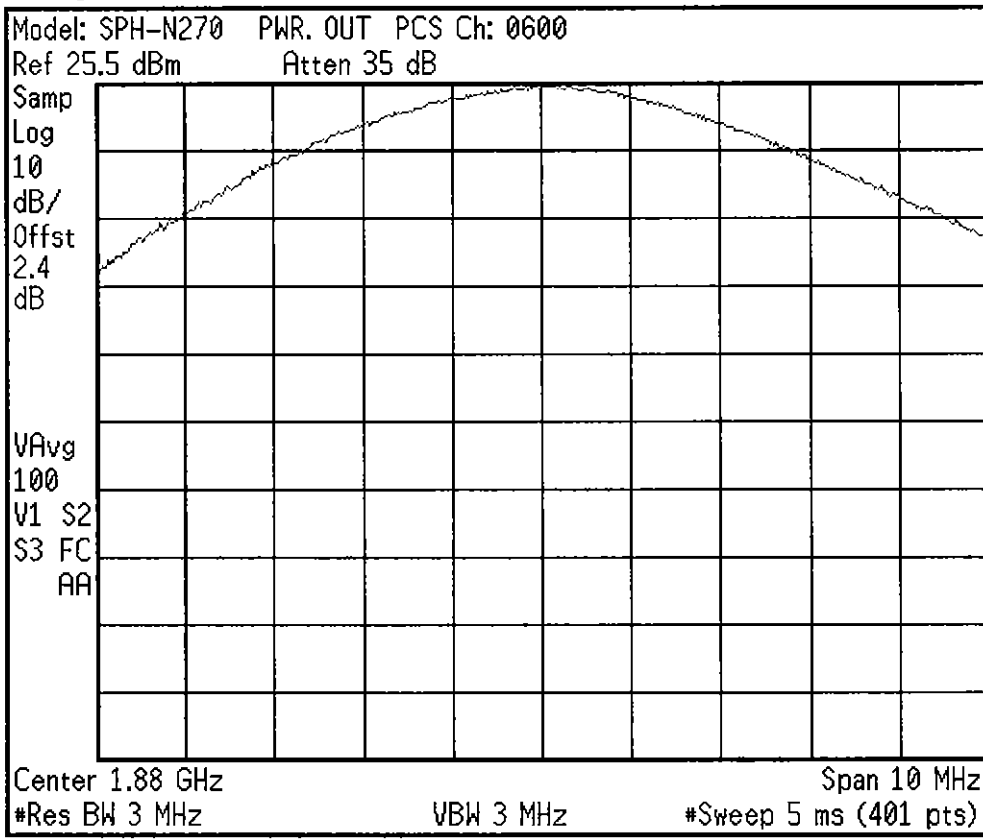
CF Step  
1.75000000 GHz  
Auto Man

Freq Offset  
0.00000000 Hz

Signal Track  
On Off

Scale Type  
Log Lin

\* Agilent



Freq/Channel

Center Freq  
1.88000000 GHz

Start Freq  
1.87500000 GHz

Stop Freq  
1.88500000 GHz

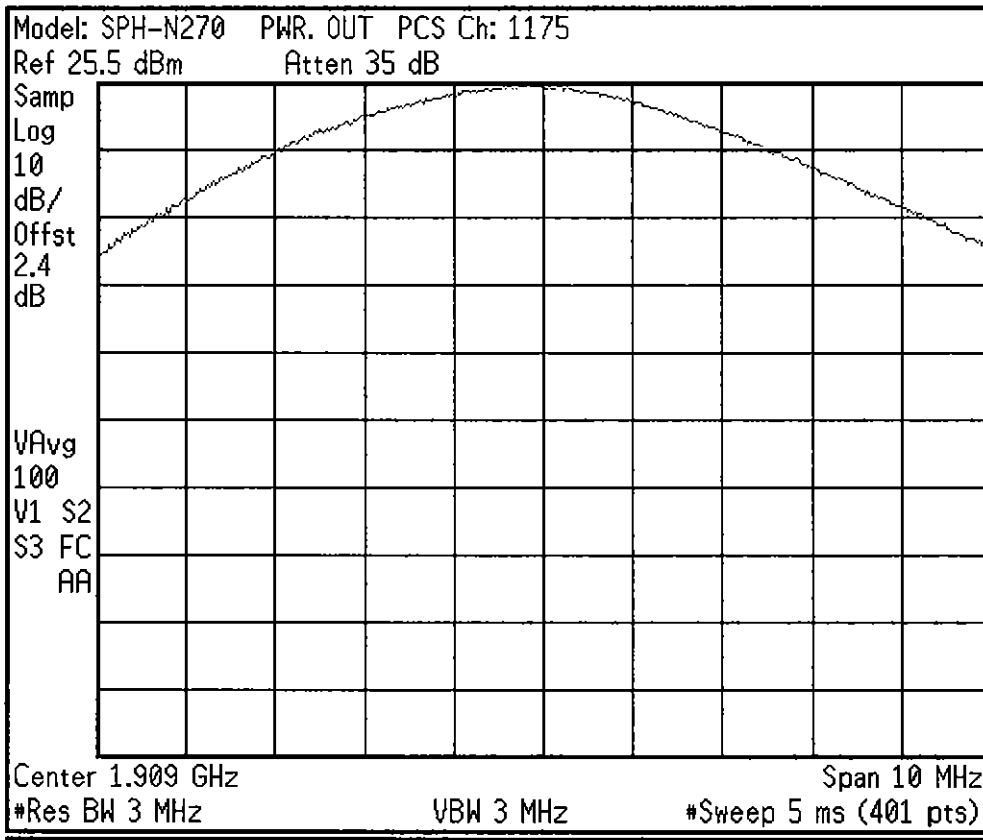
CF Step  
1.00000000 MHz  
Auto Man

Freq Offset  
0.00000000 Hz

Signal Track  
On Off

Scale Type  
Log Lin

\* Agilent



Freq/Channel

Center Freq  
1.90900000 GHz

Start Freq  
1.90400000 GHz

Stop Freq  
1.91400000 GHz

CF Step  
1.00000000 MHz  
Auto Man

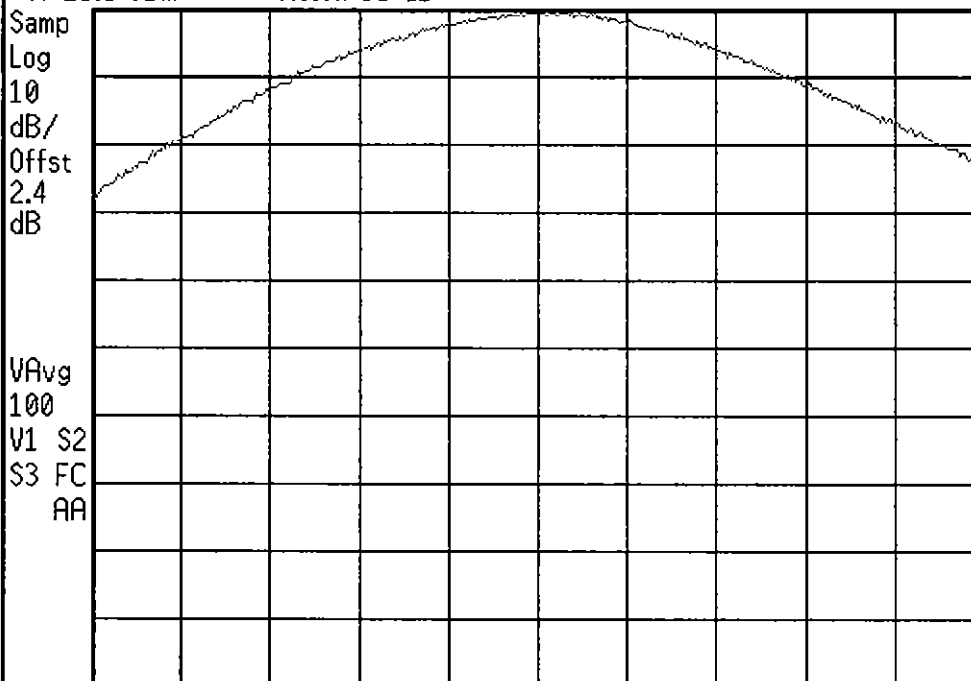
Freq Offset  
0.00000000 Hz

Signal Track  
On Off

Scale Type  
Log Lin

Agilent

Model: SPH-N270 PWR. OUT PCS Ch: 0025  
Ref 25.5 dBm Atten 35 dB



Center 1.851 GHz Span 10 MHz  
#Res BW 3 MHz VBW 3 MHz #Sweep 5 ms (401 pts)

Freq/Channel

Center Freq  
1.85125000 GHz

Start Freq  
1.84625000 GHz

Stop Freq  
1.85625000 GHz

CF Step  
1.00000000 MHz  
Auto Man

Freq Offset  
0.00000000 Hz

Signal Track  
On Off

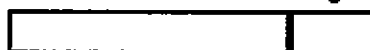
Scale Type  
Log Lin

Agilent

Ch Freq 1.85125 GHz

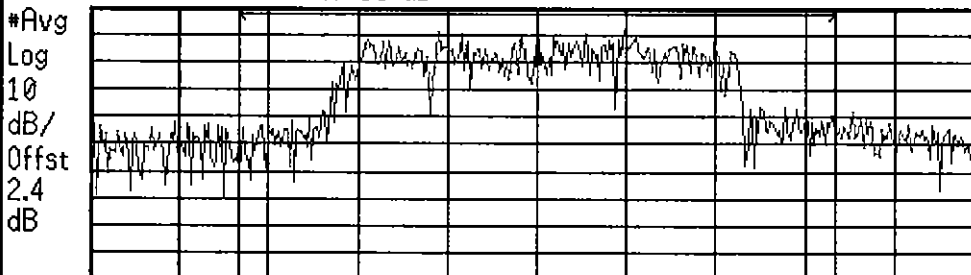
Trig Free

Channel Power



Center 1.851250000 GHz

Model: SPH-N270 PWR. OUT PCS Ch: 0025  
Ref 25.5 dBm Atten 35 dB



Center 1.851 GHz Span 3 MHz  
Res BW 30 kHz VBW 300 kHz Sweep 8 ms (401 pts)

Freq/Channel

Center Freq  
1.85125000 GHz

Start Freq  
1.84975000 GHz

Stop Freq  
1.85275000 GHz

CF Step  
300.000000 kHz  
Auto Man

Freq Offset  
0.00000000 Hz

Signal Track  
On Off

Scale Type  
Log Lin

Channel Power

25.50 dBm /2.0000 MHz

Power Spectral Density

-37.51 dBm/Hz

Agilent

Freq/Channel

Ch Freq 1.88 GHz Trig Free

Occupied Bandwidth

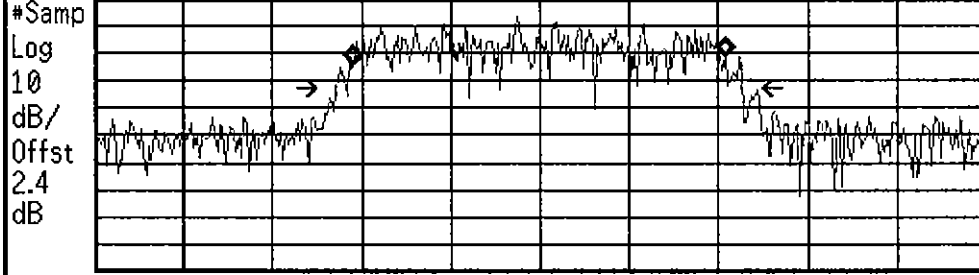
Center Freq 1.88000000 GHz

Center 1.880000000 GHz

Start Freq 1.87850000 GHz

Model: SPH-N270 PWR. OUT PCS Ch: 0600  
Ref 25.5 dBm Atten 35 dB

Stop Freq 1.88150000 GHz



CF Step 300.000000 kHz  
Auto Man

Center 1.88 GHz Span 3 MHz  
\*Res BW 30 kHz \*VBW 300 kHz Sweep 5.288 ms (401 pts)

Freq Offset 0.00000000 Hz

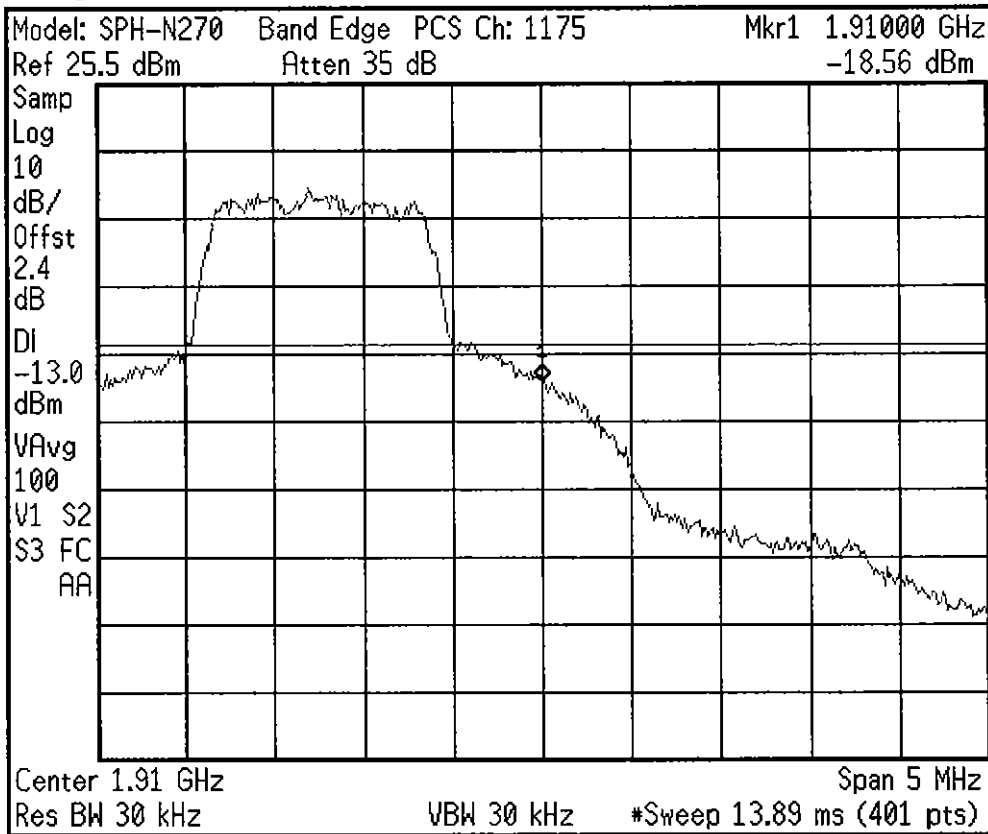
Occupied Bandwidth 1.2508 MHz  
Occ BW % Pwr 99.00 %  
x dB -26.00 dB

Signal Track On Off

Transmit Freq Error -2.800 kHz  
x dB Bandwidth 1.371 MHz\*

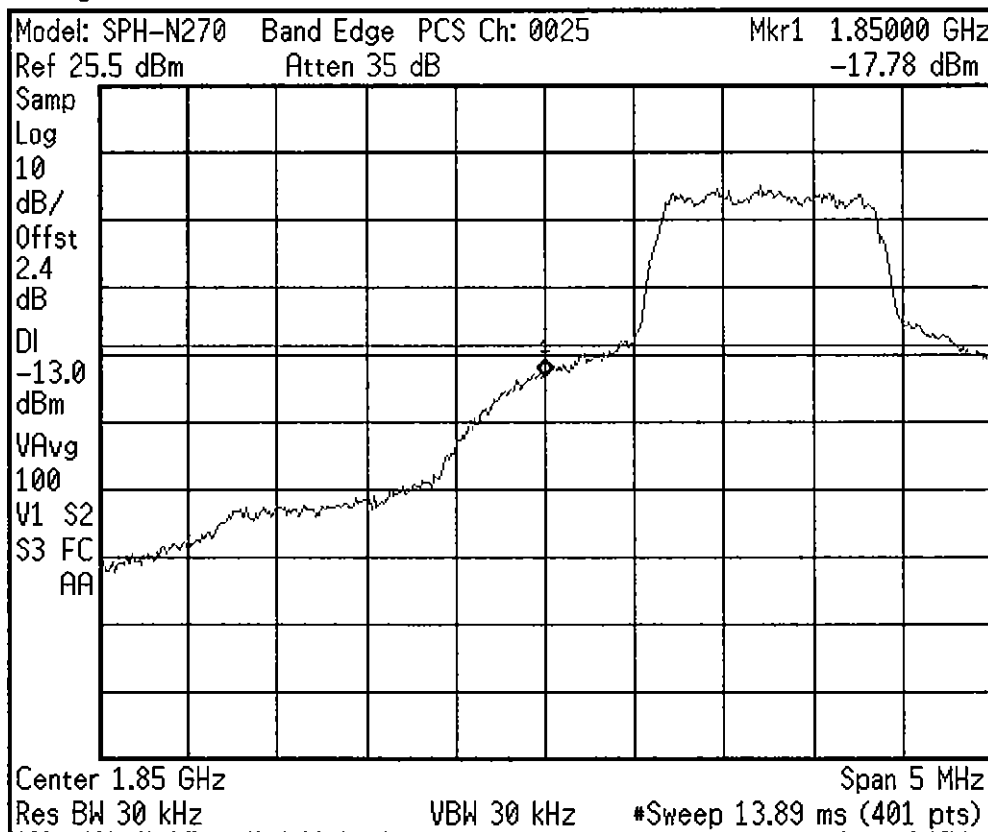
Scale Type Log Lin

\* Agilent



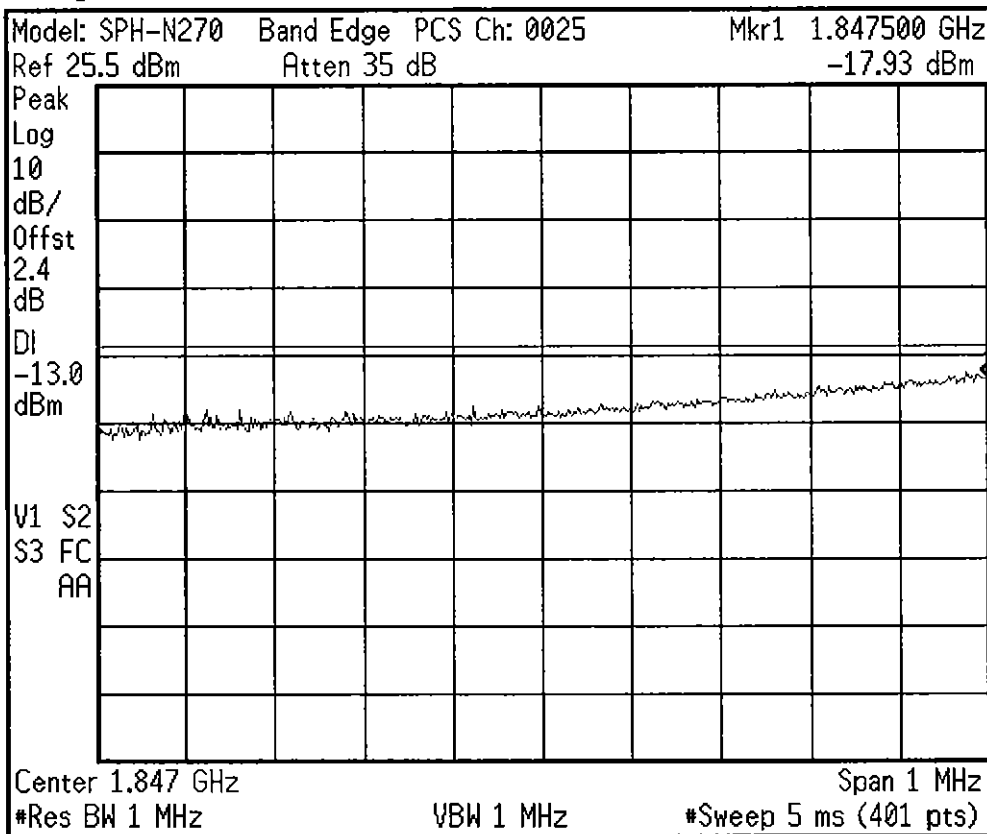
<b>Freq/Channel</b>
<b>Center Freq</b> 1.91000000 GHz
<b>Start Freq</b> 1.90750000 GHz
<b>Stop Freq</b> 1.91250000 GHz
<b>CF Step</b> 500.000000 kHz Auto Man
<b>Freq Offset</b> 0.00000000 Hz
<b>Signal Track</b> On Off
<b>Scale Type</b> Log Lin

\* Agilent



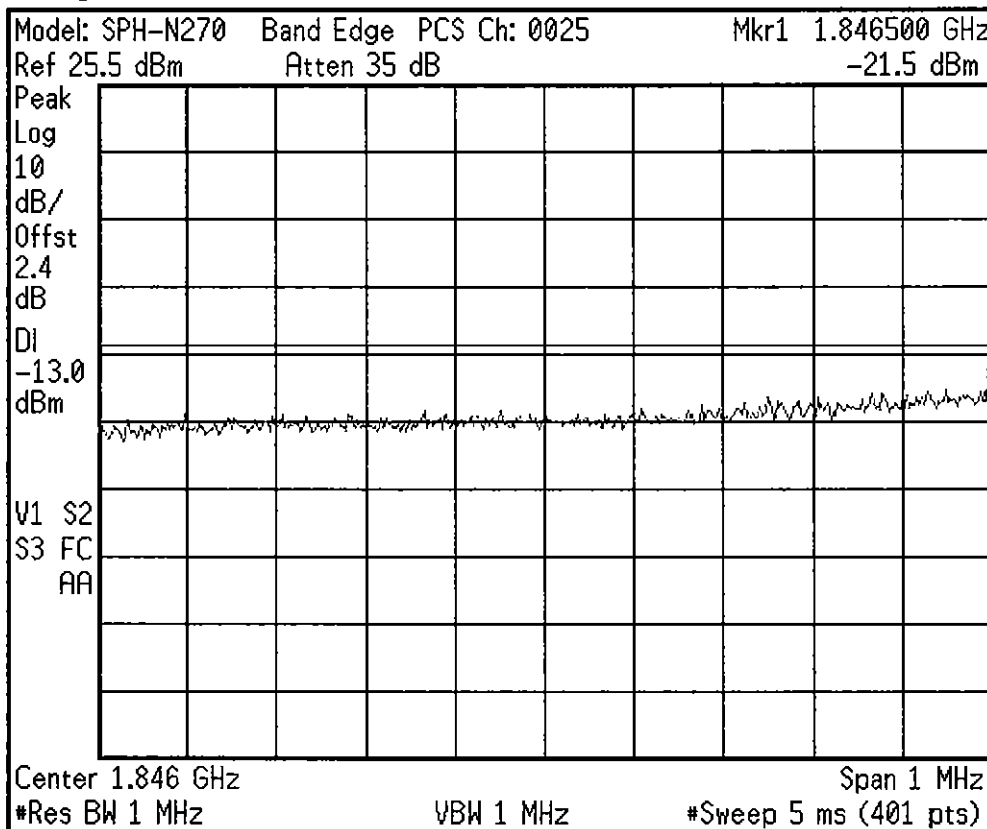
<b>Freq/Channel</b>
<b>Center Freq</b> 1.85000000 GHz
<b>Start Freq</b> 1.84750000 GHz
<b>Stop Freq</b> 1.85250000 GHz
<b>CF Step</b> 500.000000 kHz Auto Man
<b>Freq Offset</b> 0.00000000 Hz
<b>Signal Track</b> On Off
<b>Scale Type</b> Log Lin

Agilent



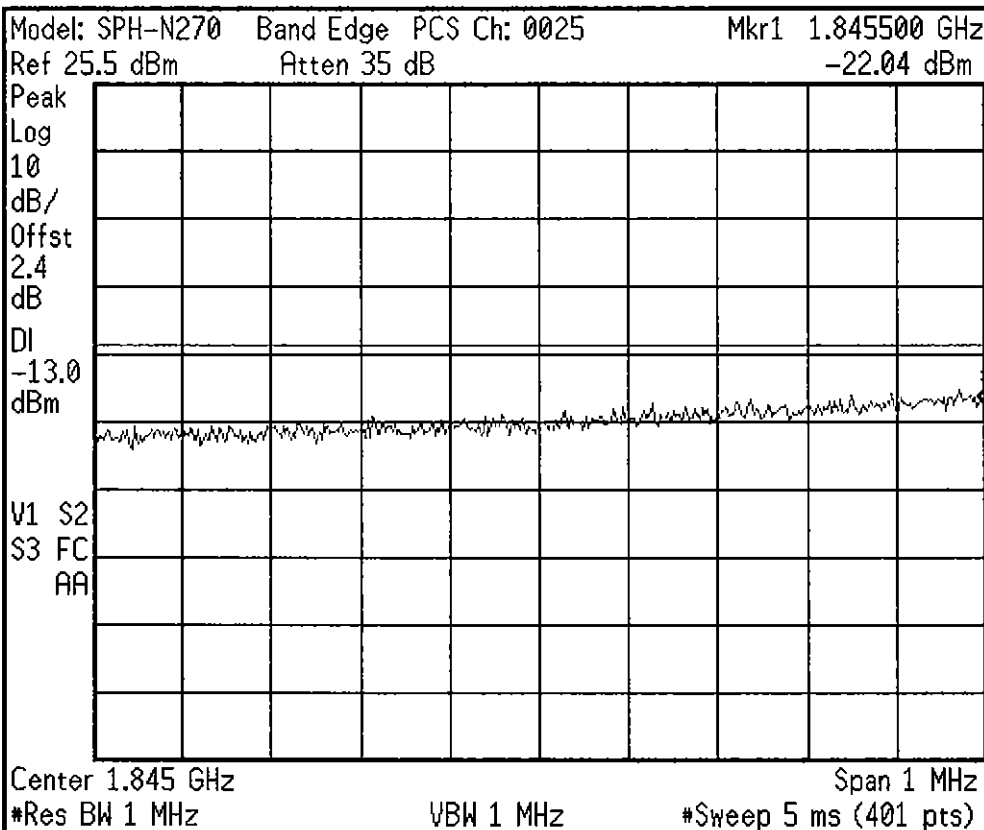
<b>Freq/Channel</b>
<b>Center Freq</b> 1.84700000 GHz
<b>Start Freq</b> 1.84650000 GHz
<b>Stop Freq</b> 1.84750000 GHz
<b>CF Step</b> 100.000000 kHz Auto Man
<b>Freq Offset</b> 0.00000000 Hz
<b>Signal Track</b> On Off
<b>Scale Type</b> Log Lin

Agilent



<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
<b>Scale Type</b> Log Lin

Agilent



Freq/Channel

Center Freq  
1.84500000 GHz

Start Freq  
1.84450000 GHz

Stop Freq  
1.84550000 GHz

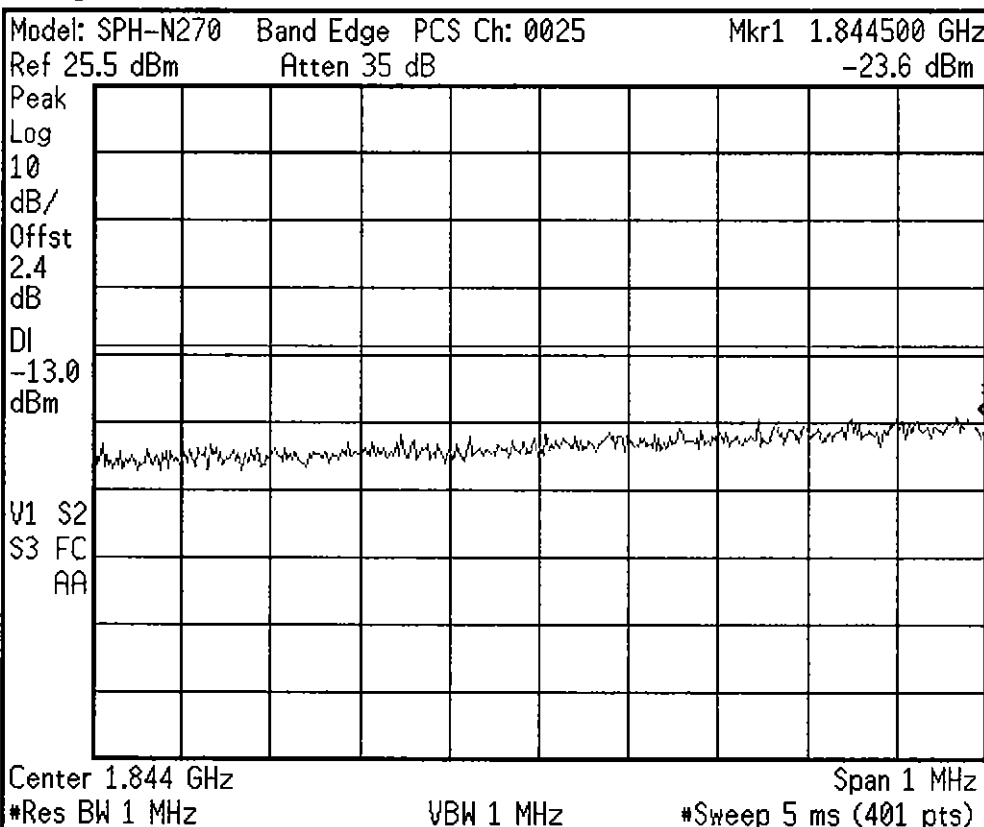
CF Step  
100.000000 kHz  
Auto Man

Freq Offset  
0.00000000 Hz

Signal Track  
On Off

Scale Type  
Log Lin

Agilent



Freq/Channel

Center Freq  
1.84400000 GHz

Start Freq  
1.84350000 GHz

Stop Freq  
1.84450000 GHz

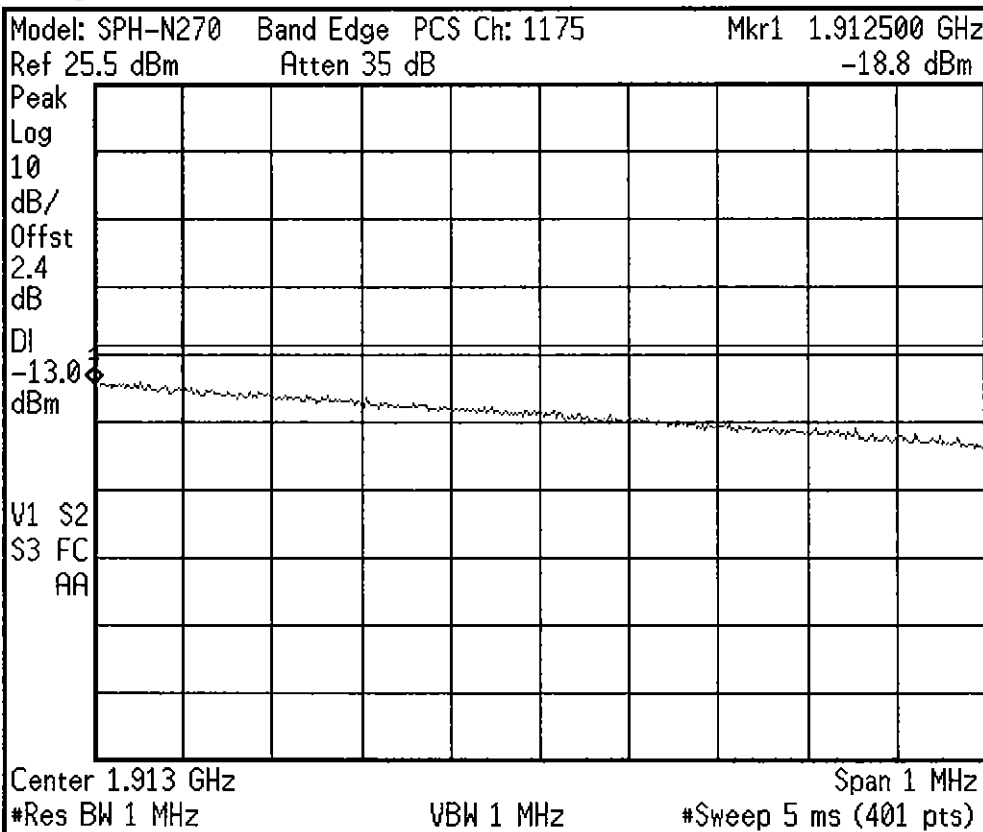
CF Step  
100.000000 kHz  
Auto Man

Freq Offset  
0.00000000 Hz

Signal Track  
On Off

Scale Type  
Log Lin

Agilent



Freq/Channel

Center Freq  
1.91300000 GHz

Start Freq  
1.91250000 GHz

Stop Freq  
1.91350000 GHz

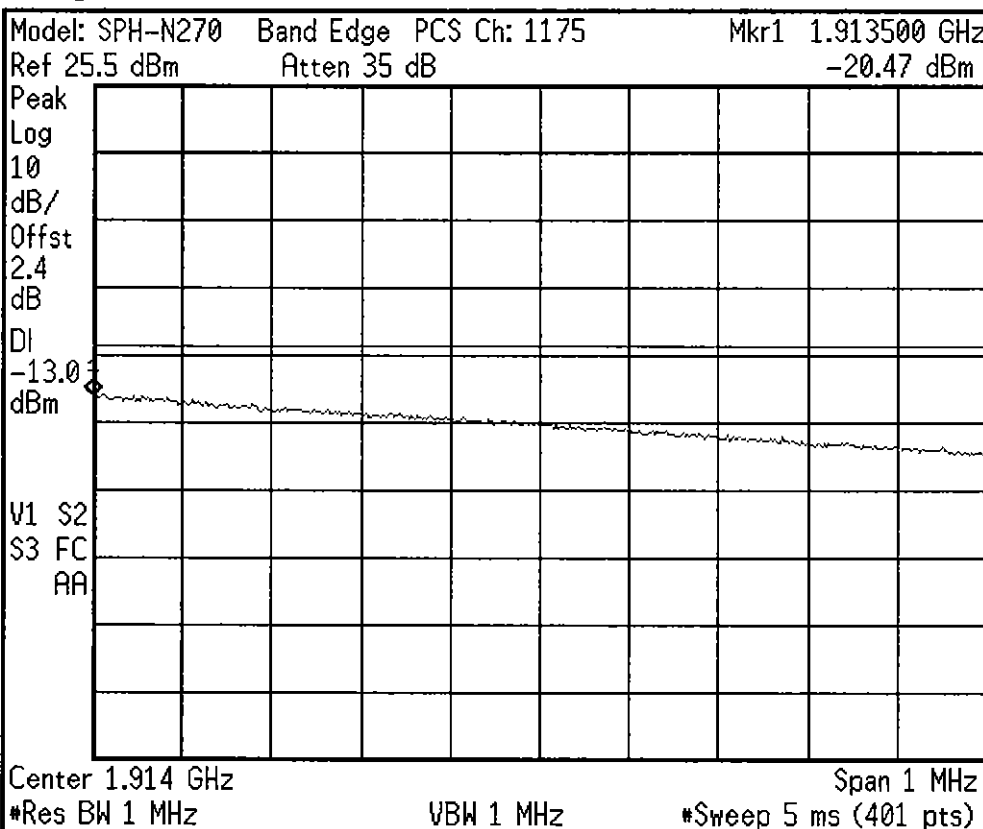
CF Step  
100.000000 kHz  
Auto Man

Freq Offset  
0.00000000 Hz

Signal Track  
On Off

Scale Type  
Log Lin

Agilent



Freq/Channel

Center Freq  
1.91400000 GHz

Start Freq  
1.91350000 GHz

Stop Freq  
1.91450000 GHz

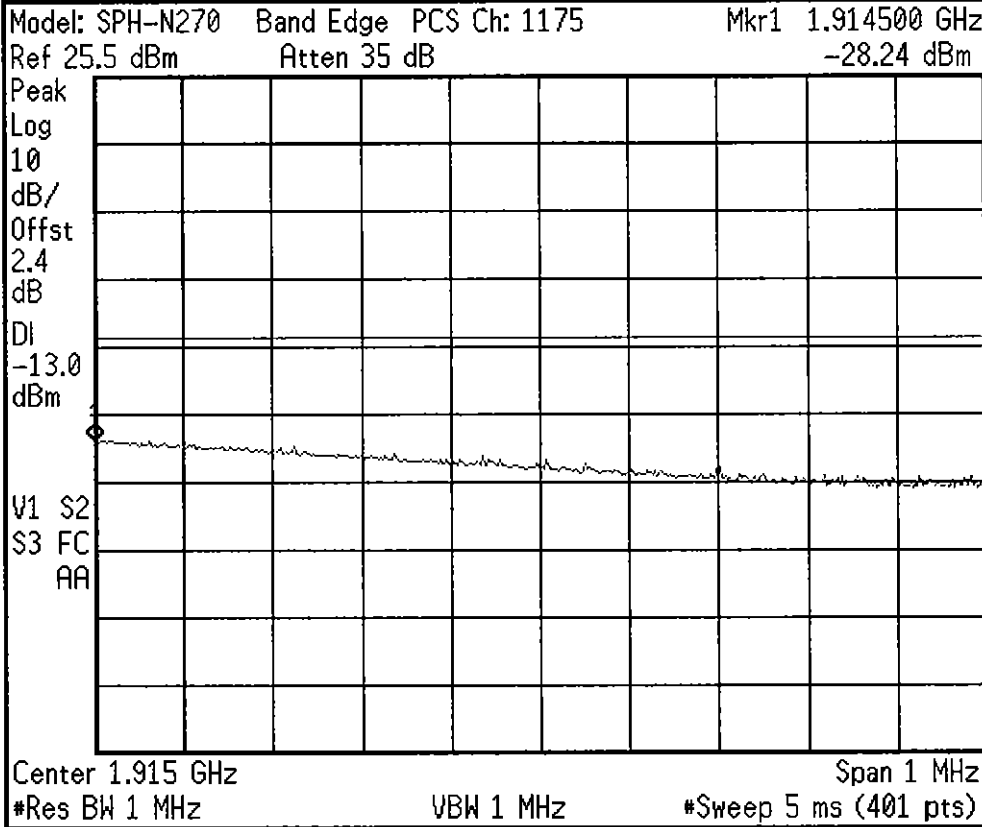
CF Step  
100.000000 kHz  
Auto Man

Freq Offset  
0.00000000 Hz

Signal Track  
On Off

Scale Type  
Log Lin

Agilent



Freq/Channel

Center Freq  
1.91500000 GHz

Start Freq  
1.91450000 GHz

Stop Freq  
1.91550000 GHz

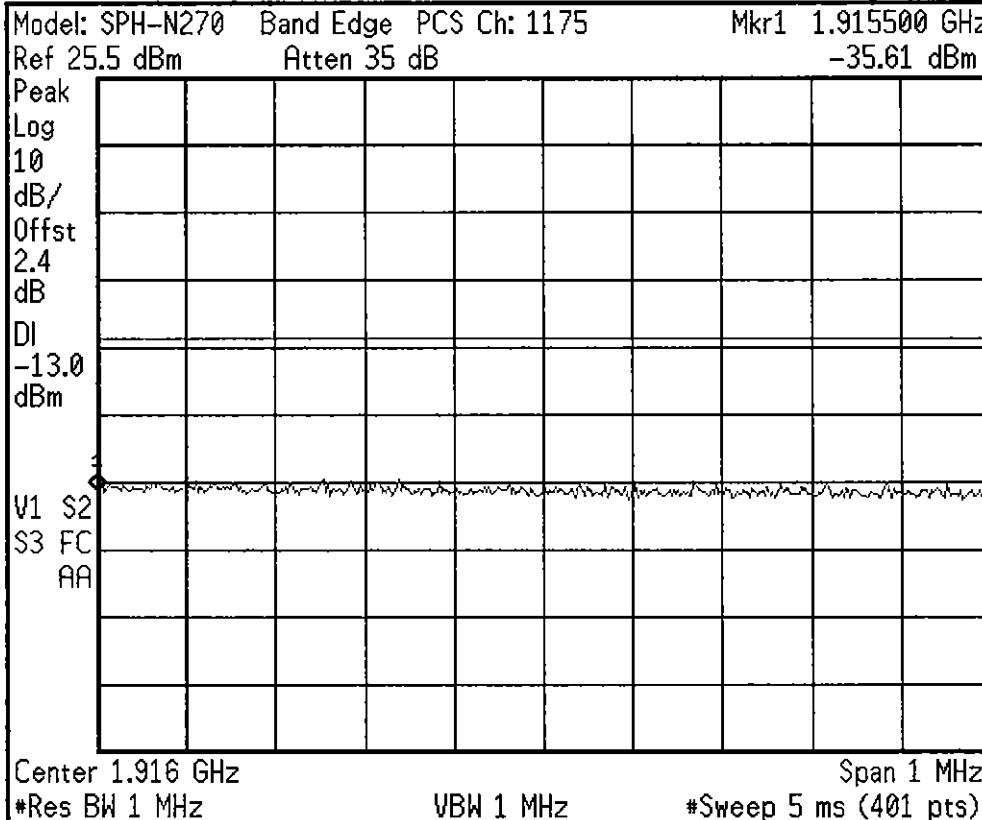
CF Step  
100.000000 kHz  
Auto Man

Freq Offset  
0.00000000 Hz

Signal Track  
On Off

Scale Type  
Log Lin

Agilent



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

Scale Type  
Log Lin

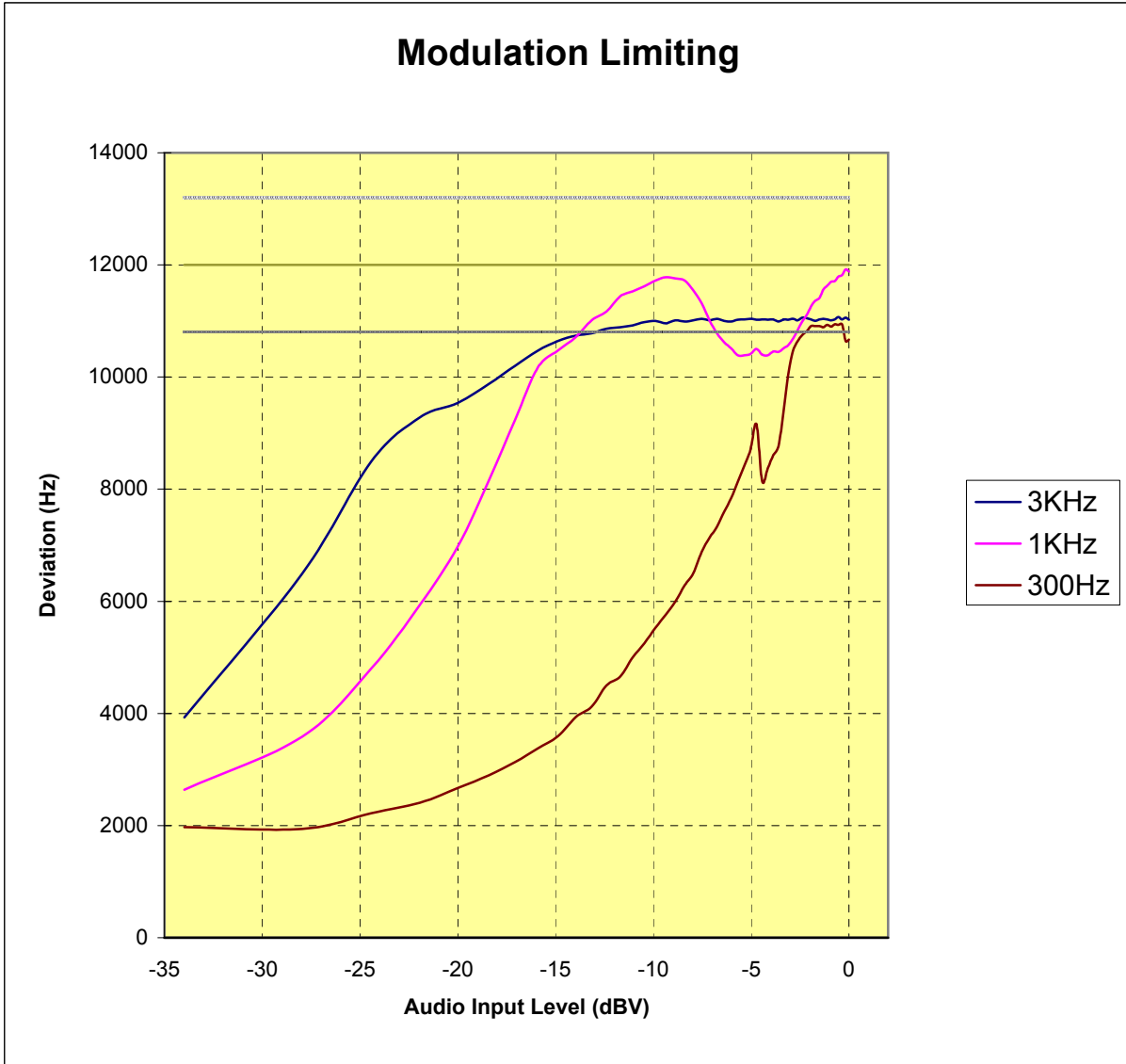
**PCTEST Engineering Lab., Inc.**

**SUBJECT:** Modulation Characteristics  
FCC Part 24/22

Test Report No.: 22/24.230219082.A3L  
Test Date: 02.19.2003

**EUT:** SAMSUNG Tri-Mode Dual-Band Analog/PCS Phone (AMPS/CDMA)  
**Model:** SPH-N270  
**FCC ID:** A3LSPHN270

**REFERENCE:** 1 kHz = 0 dB



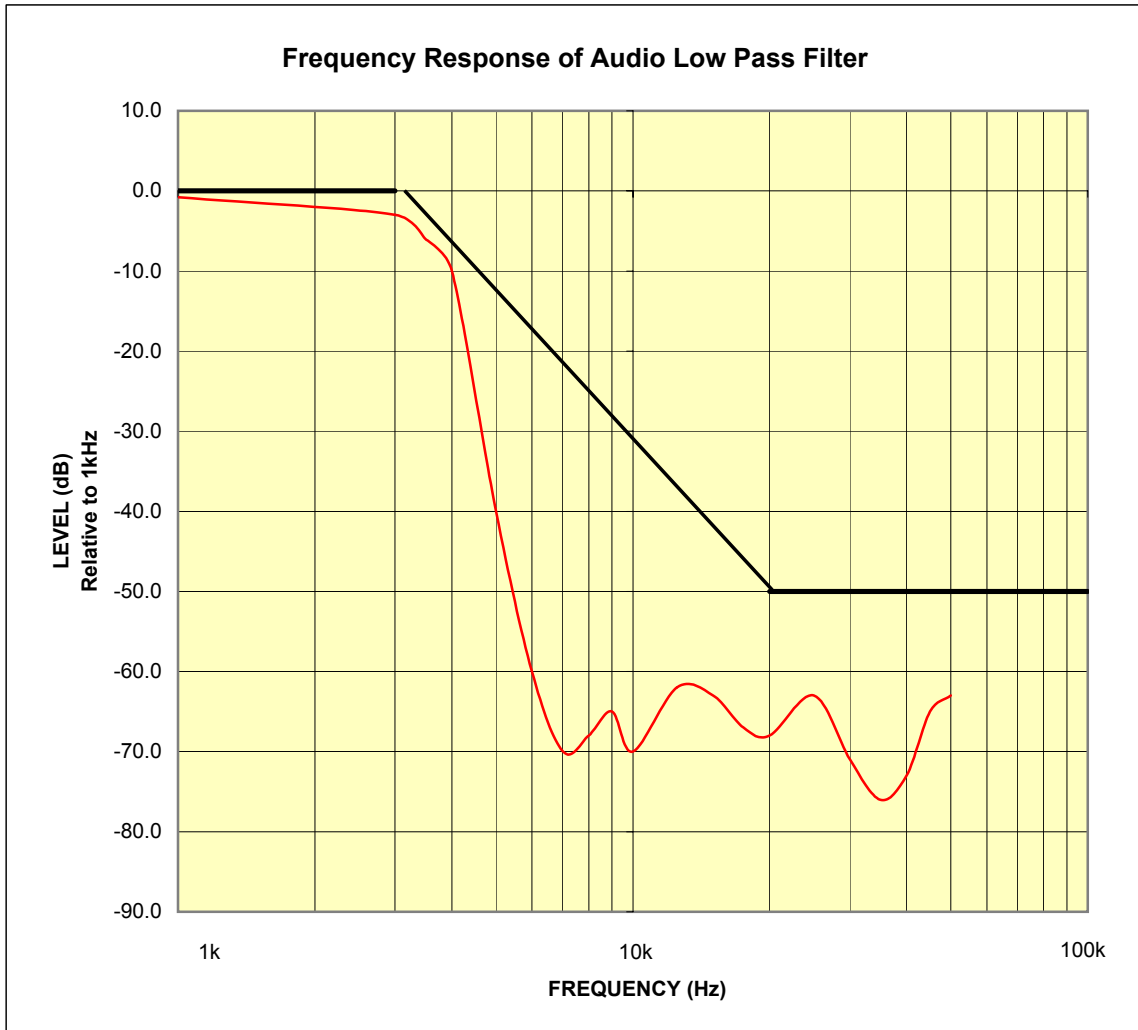
**PCTEST Engineering Lab., Inc.**

**SUBJECT:** Modulation Characteristics  
FCC Part 24/22

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**FCC ID:** A3LSPHN270

**REFERENCE:** 1 kHz = 0 dB

