

PCTEST Engineering Lab.

SPECTRUM ANALYZER PRESENTATION

FCC ID:A3LSPHA540

SAMSUNG

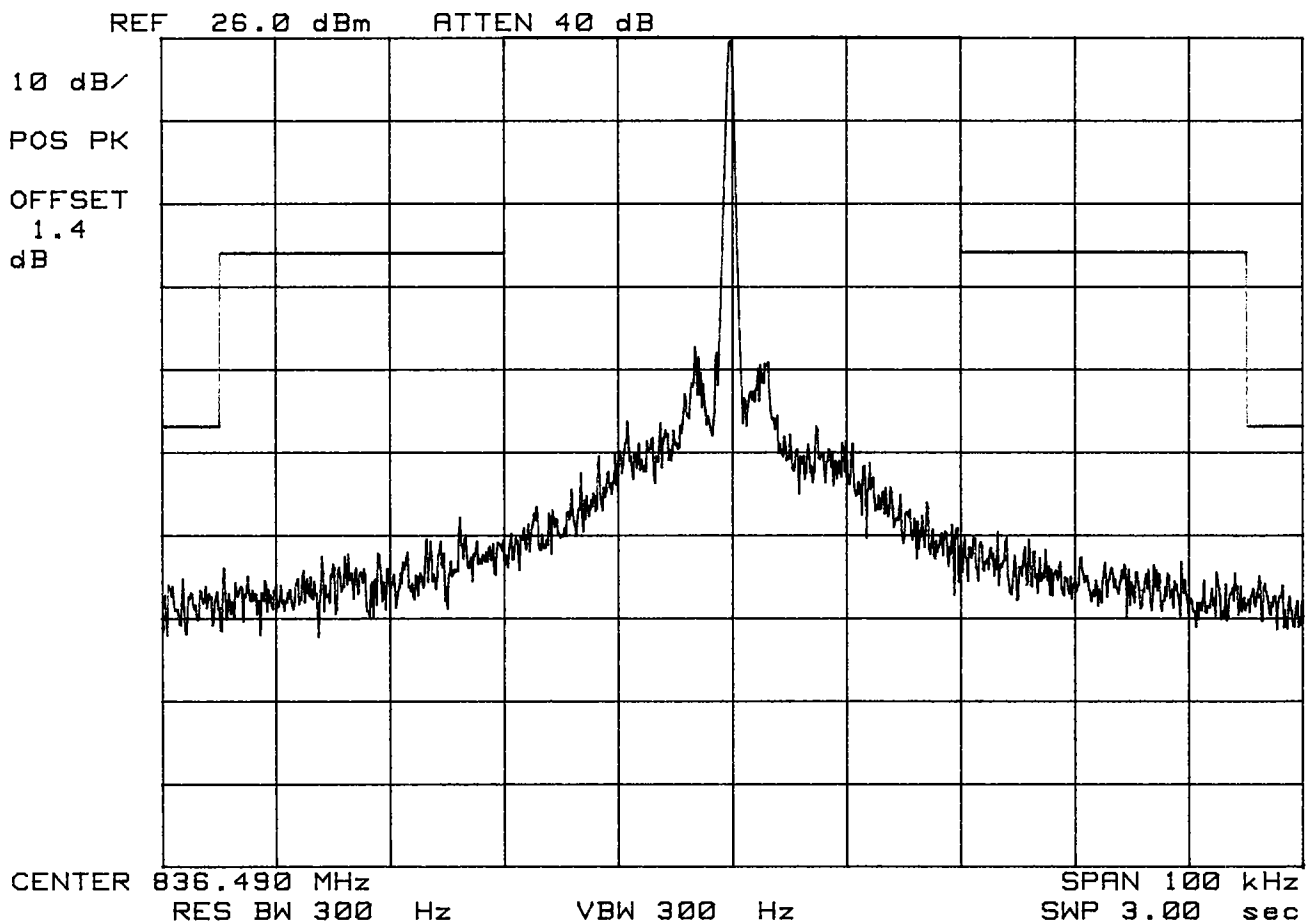
Tri-Mode Phone

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:A3LSPHA540

SAMSUNG

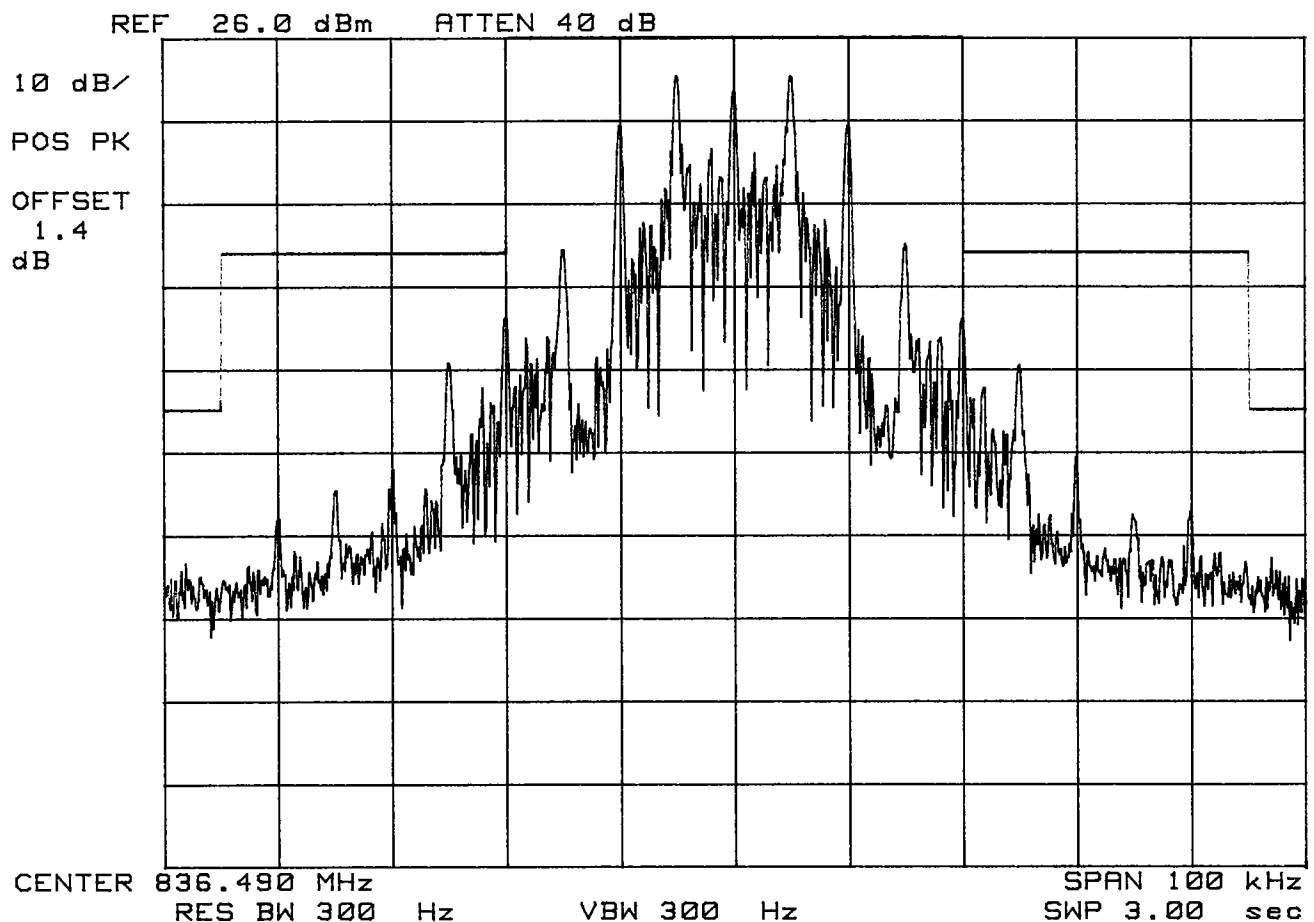
Tri-Mode Phone

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:A3LSPHA540

SAMSUNG

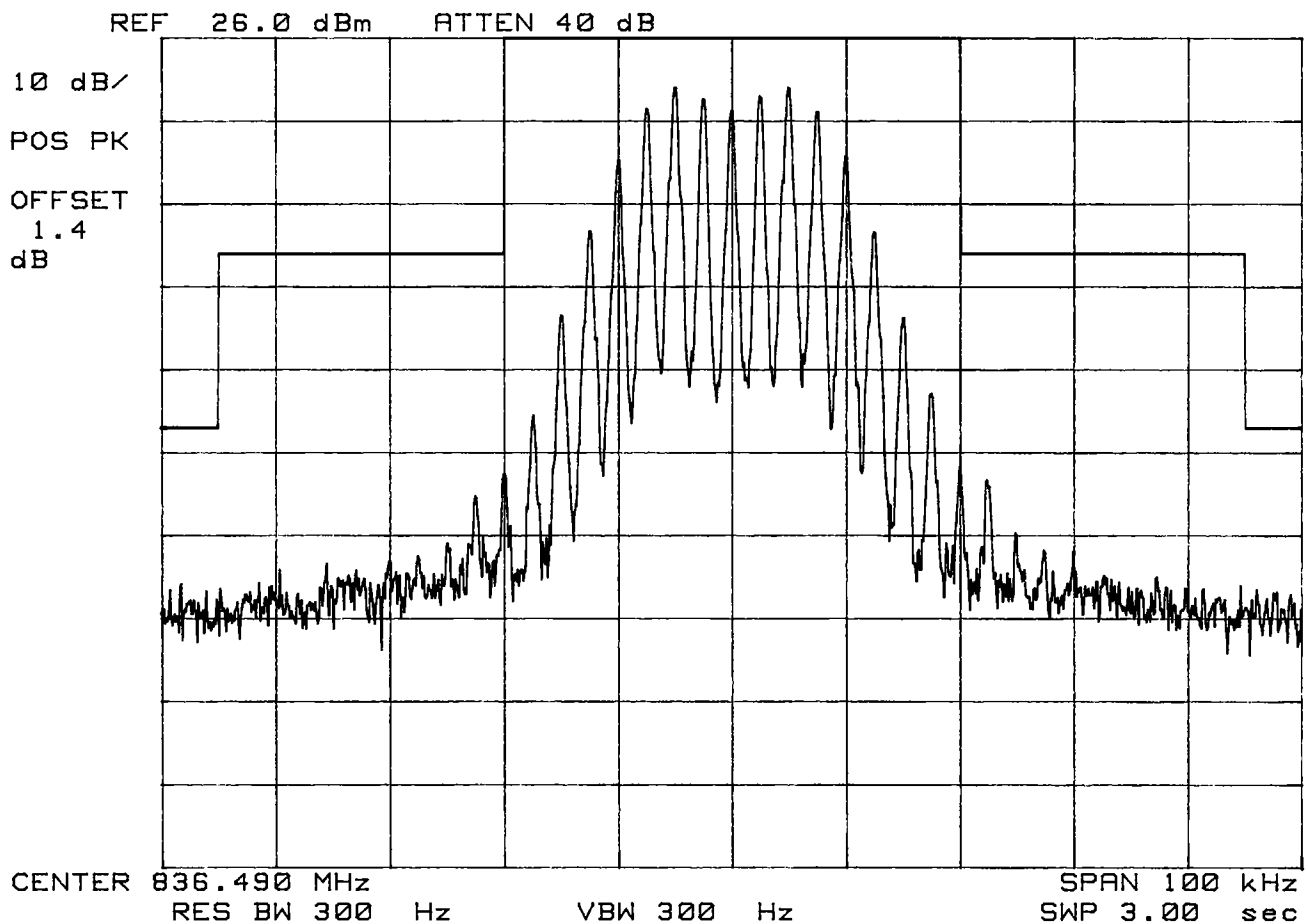
Tri-Mode Phone

FM Channel 383

Operating Frequency: 836.490 MHz

Output Power : 26.0 dBm

Test Mode:Voice



PCTEST Engineering Lab.

SPECTRUM ANALYZER PRESENTATION

FCC ID:A3LSPHA540

SAMSUNG

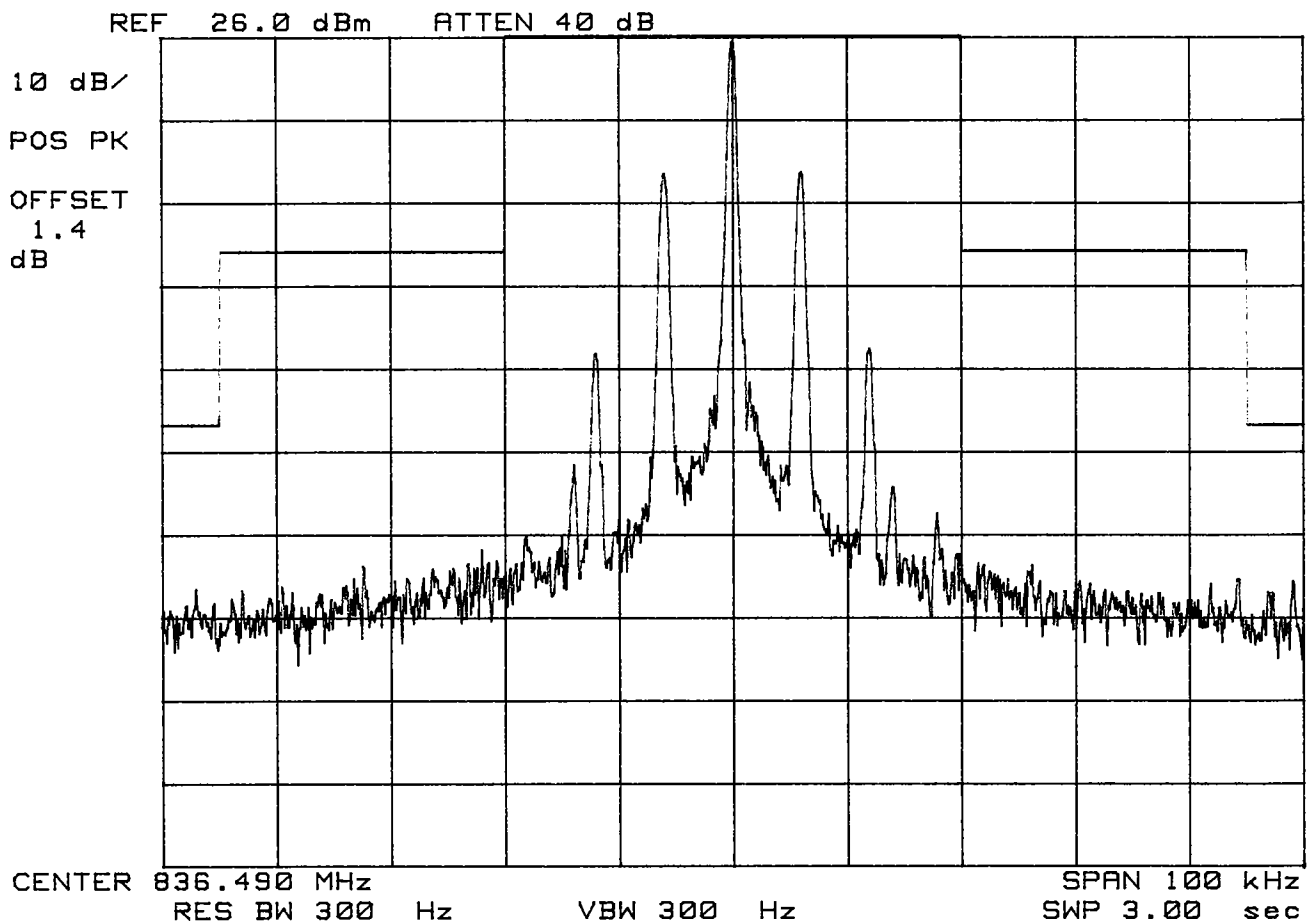
Tri-Mode Phone

FM Channel 383

Operating Frequency: 836.490 MHz

Output Power : 26.0 dBm

Test Mode:SAT



PCTEST Engineering Lab.

SPECTRUM ANALYZER PRESENTATION

FCC ID:A3LSPHA540

SAMSUNG

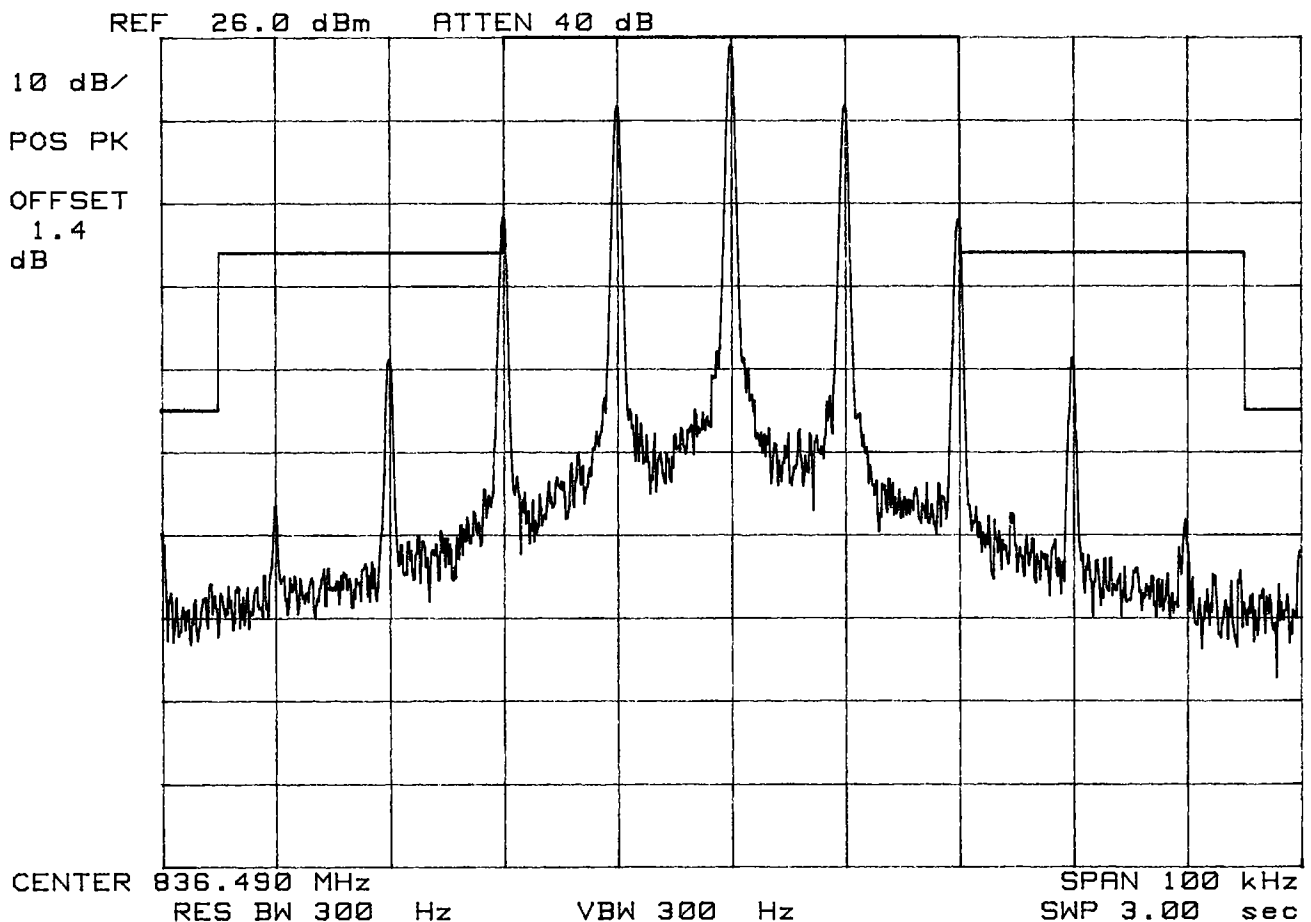
Tri-Mode Phone

FM Channel 383

Operating Frequency: 836.490 MHz

Output Power : 26.0 dBm

Test Mode:ST



PCTEST Engineering Lab.

SPECTRUM ANALYZER PRESENTATION

FCC ID:A3LSPHA540

SAMSUNG

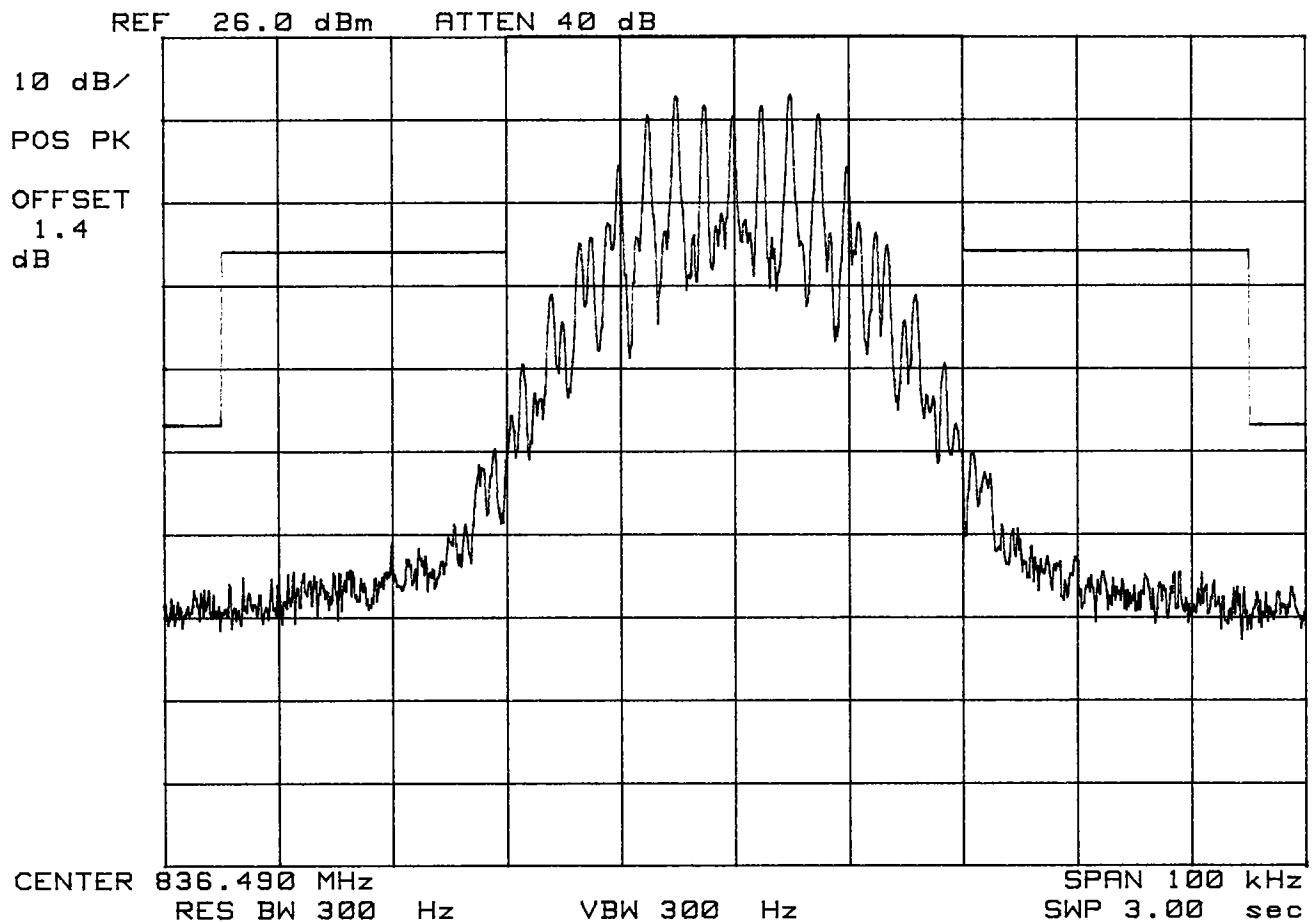
Tri-Mode Phone

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:A3LSPHA540

SAMSUNG

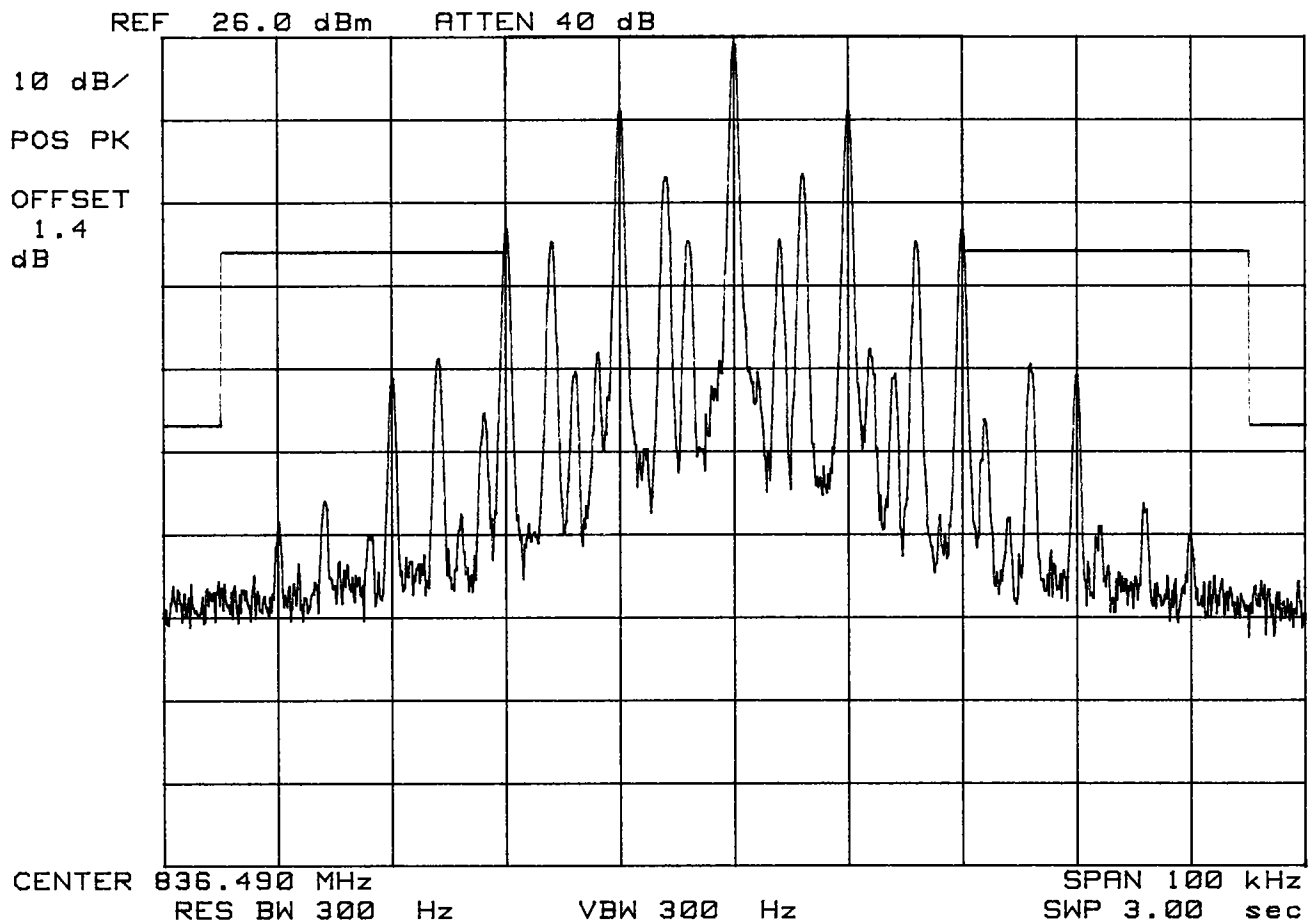
Tri-Mode Phone

FM Channel 383

Operating Frequency: 836.490 MHz

Output Power : 26.0 dBm

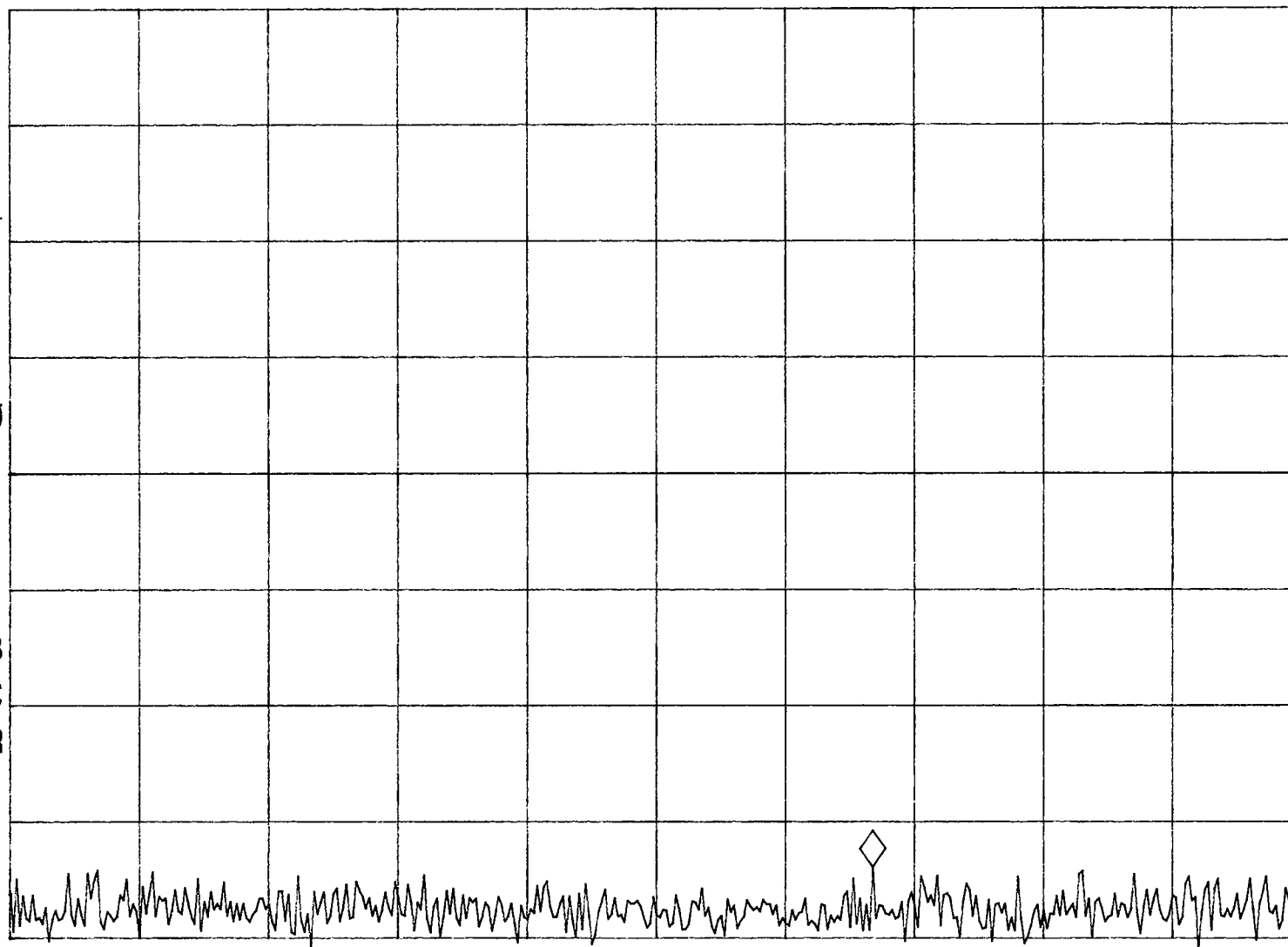
Test Mode:SAT + ST



~~h~~ FCC ID: A3LSPHA540 FM MODE MKR 885.69 MHz
REF -60.0 dBm #ATTEN 10 dB PG 25.0 dB -96.94 dBm

PEAK
LOG
5
dB/
OFFST
6.0
dB
DL
-80.0
dBm

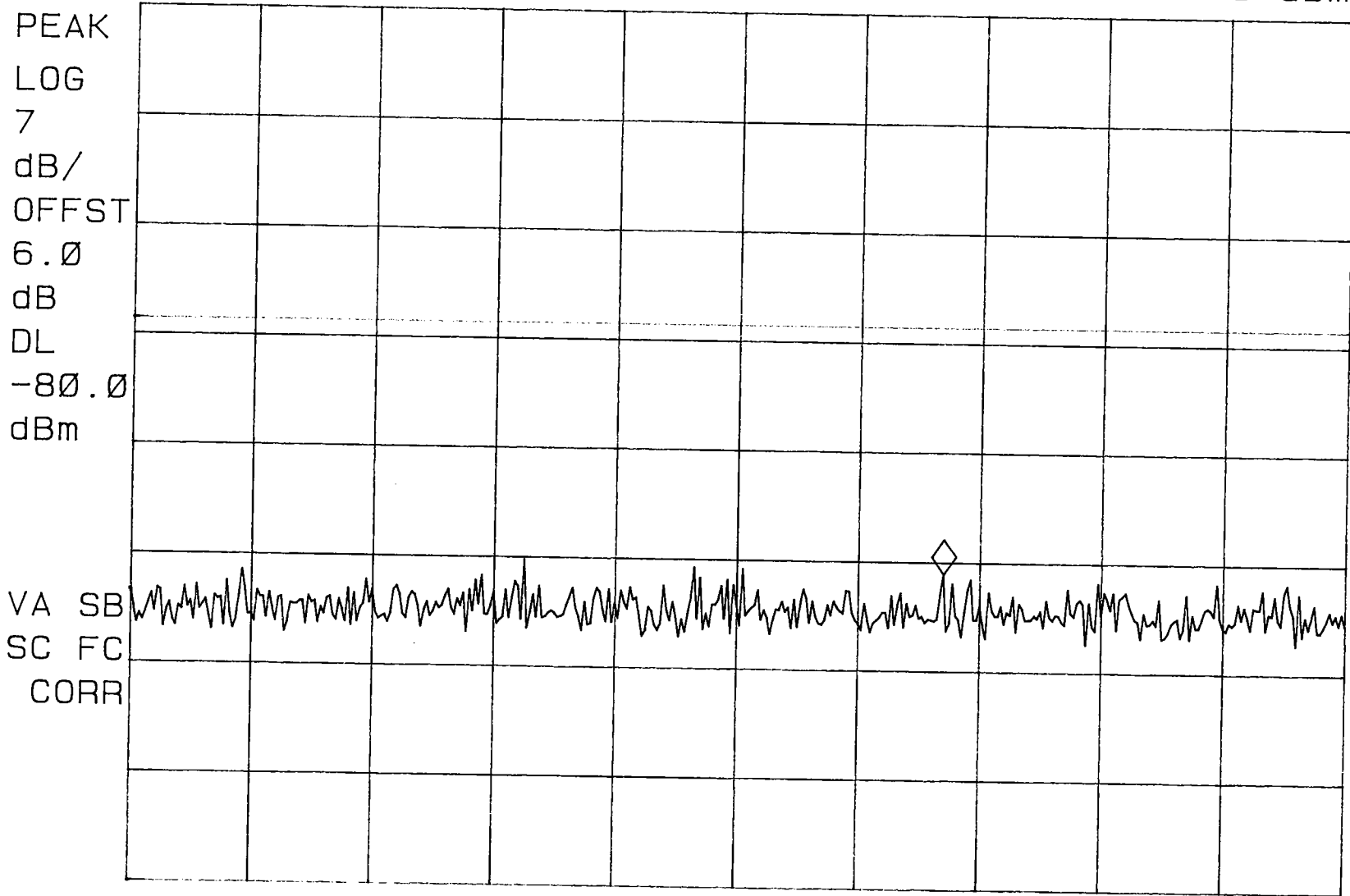
VA SB
SC FC
CORR



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

hp FCC ID: A3LSPHA540 CDMA MODE
REF -60.0 dBm ATTN 10 dB PG 25.0 dB

MKR 885.75 MHz
-95.75 dBm



START 869.00 MHz

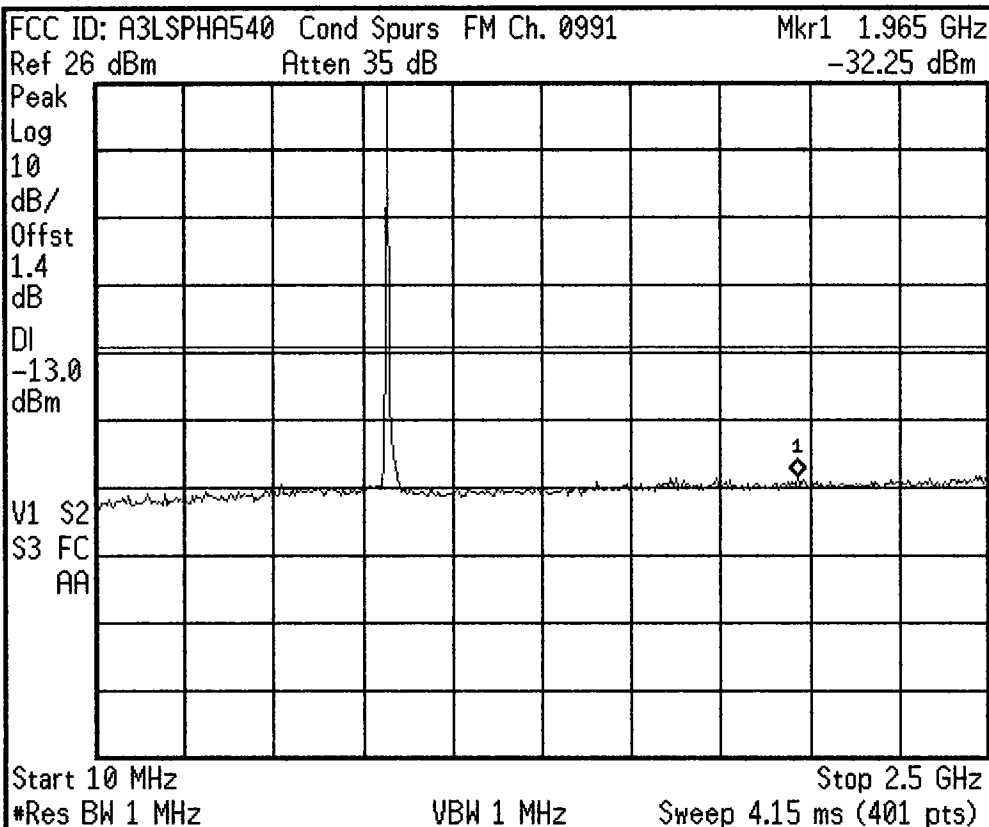
#RES BW 100 kHz

#VBW 300 kHz

STOP 894.00 MHz

SWP 20 msec

Agilent



Freq/Channel

Center Freq
 1.25500000 GHz

Start Freq
 10.0000000 MHz

Stop Freq
 2.50000000 GHz

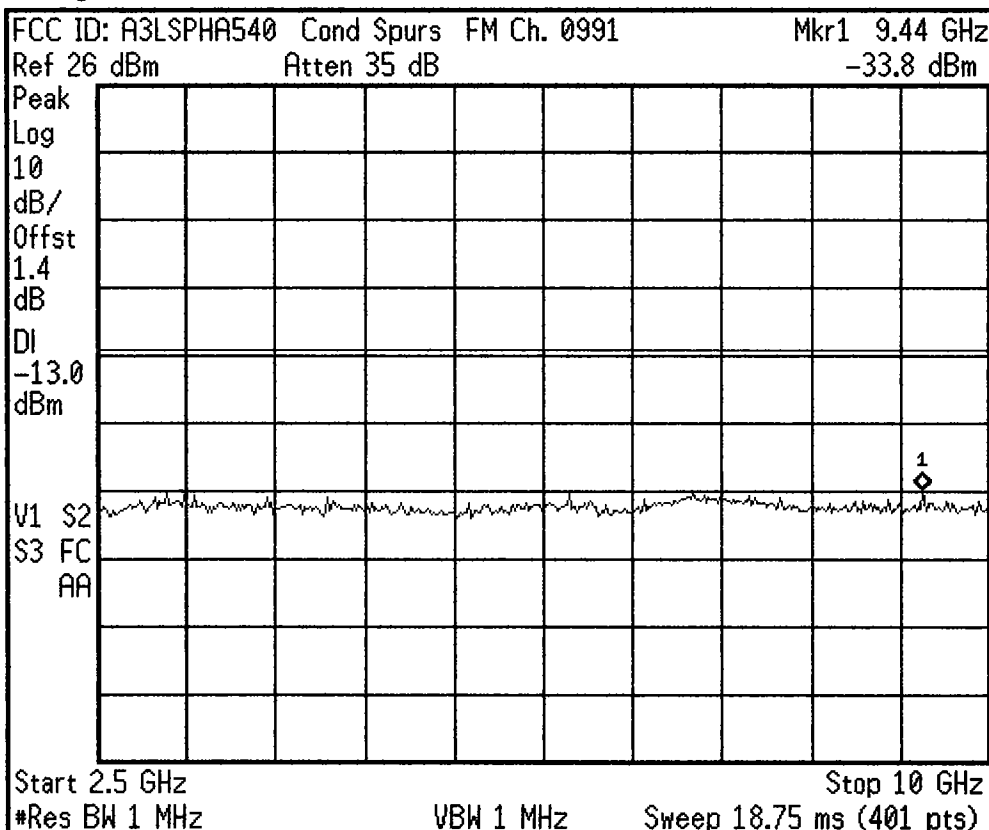
CF Step
 249.000000 MHz
 Auto Man

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

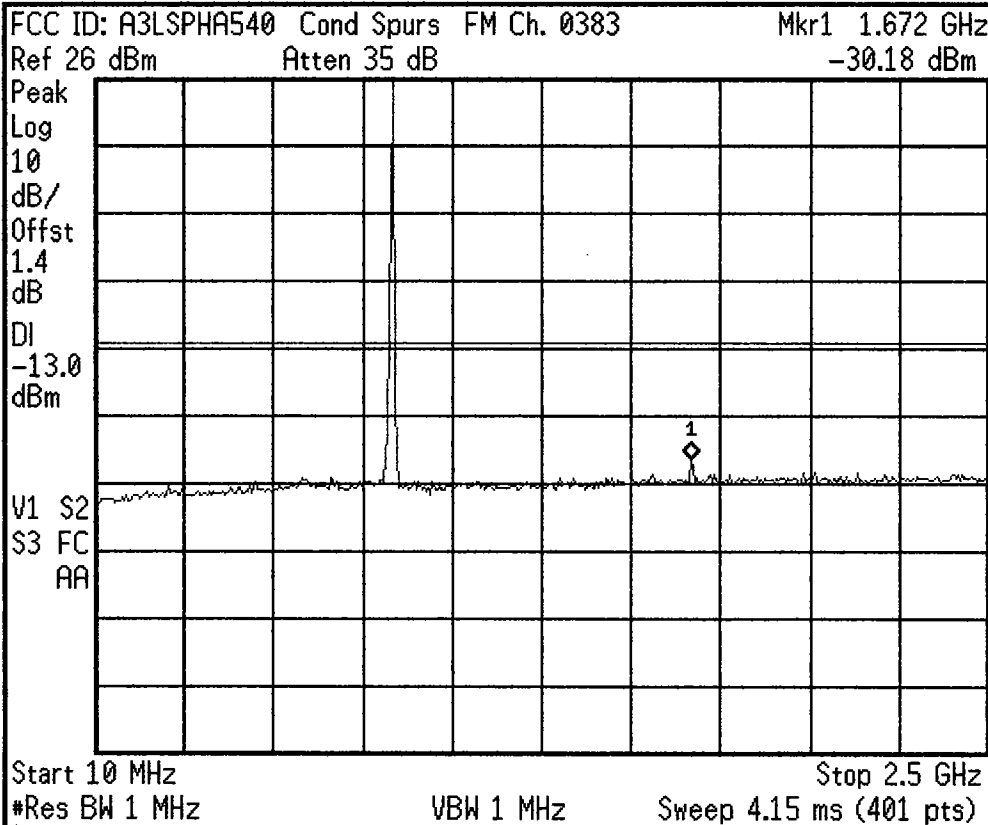
CF Step
 750.000000 MHz
 Auto Man

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

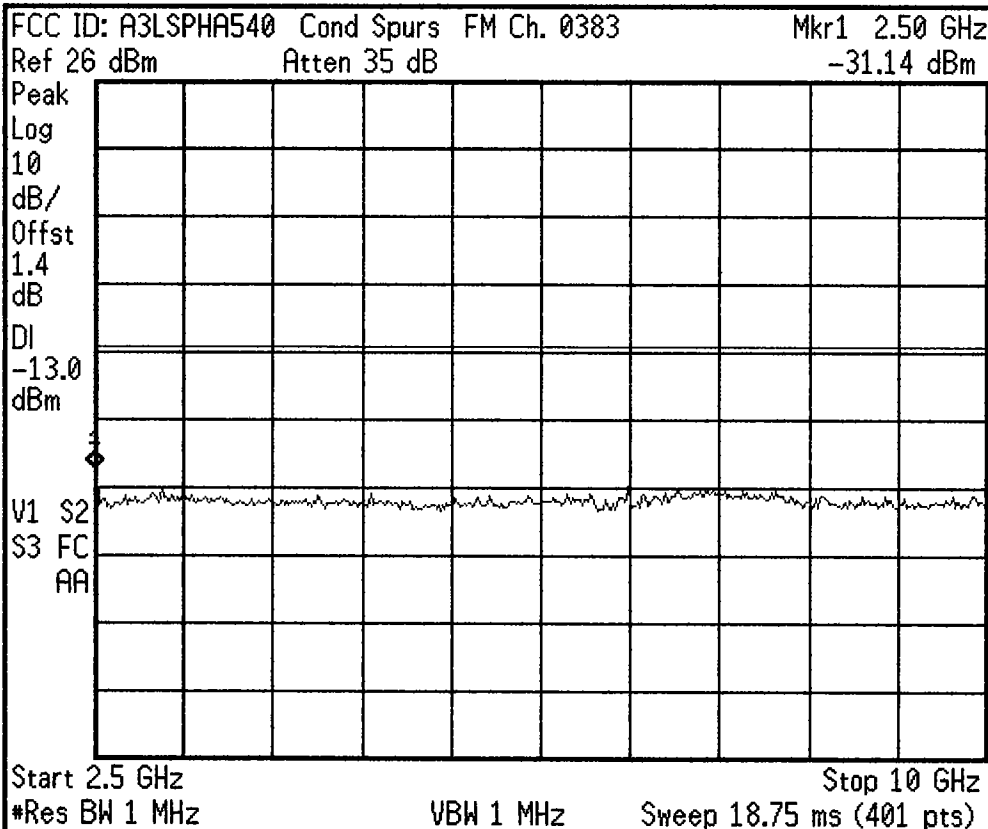
CF Step
 249.000000 MHz
 Auto Man

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

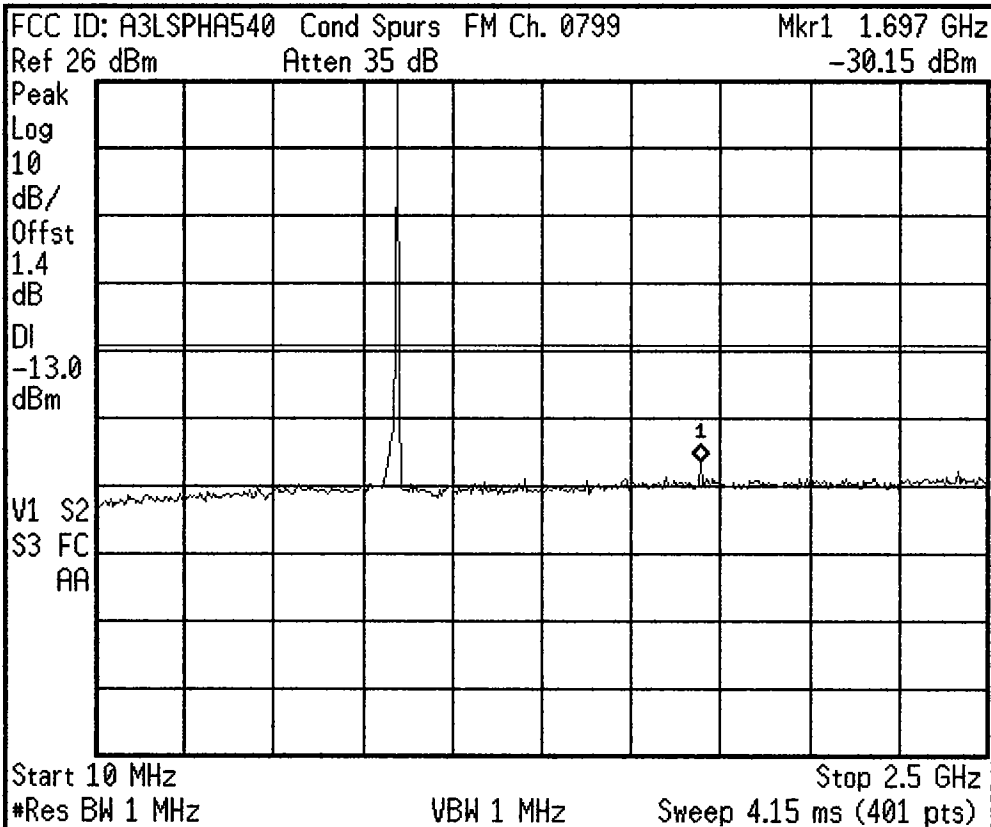
CF Step
 750.000000 MHz
 Auto Man

Freq Offset
 0.00000000 Hz

Signal Track
 On Off

Scale Type
 Log Lin

Agilent



Freq/Channel

Center Freq
 1.25500000 GHz

Start Freq
 10.0000000 MHz

Stop Freq
 2.50000000 GHz

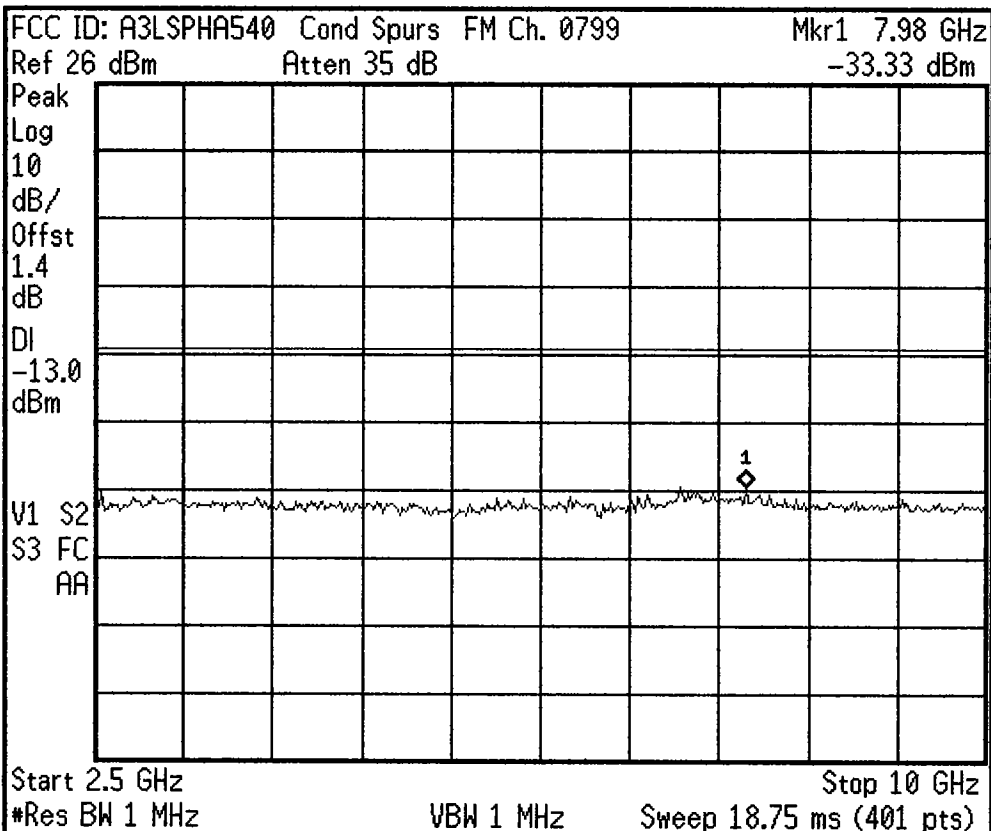
CF Step
 249.000000 MHz
 Auto Man

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

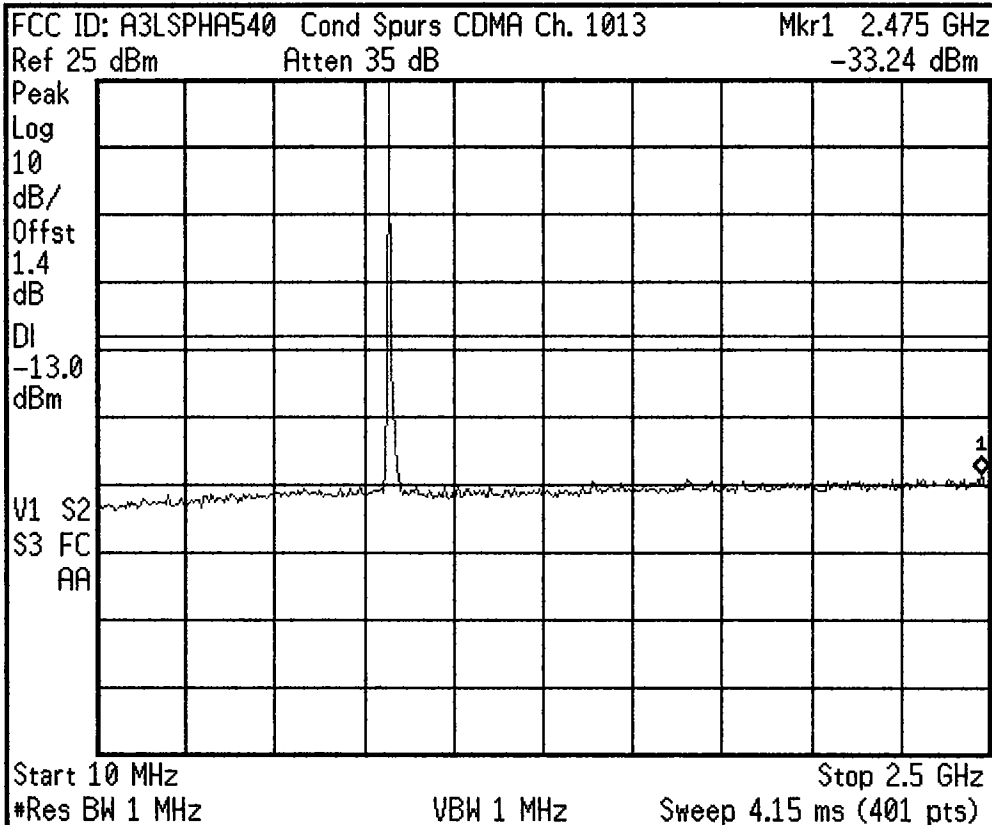
CF Step
 750.000000 MHz
 Auto Man

Freq Offset
 0.00000000 Hz

Signal Track
 On Off

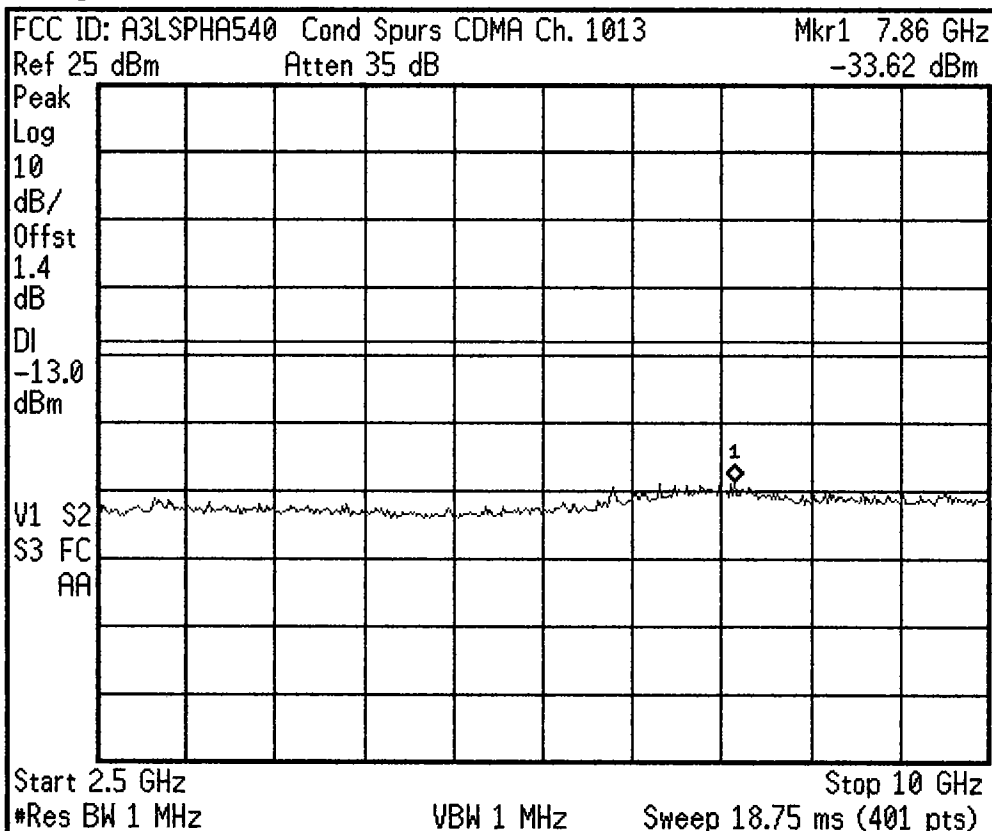
Scale Type
 Log Lin

Agilent



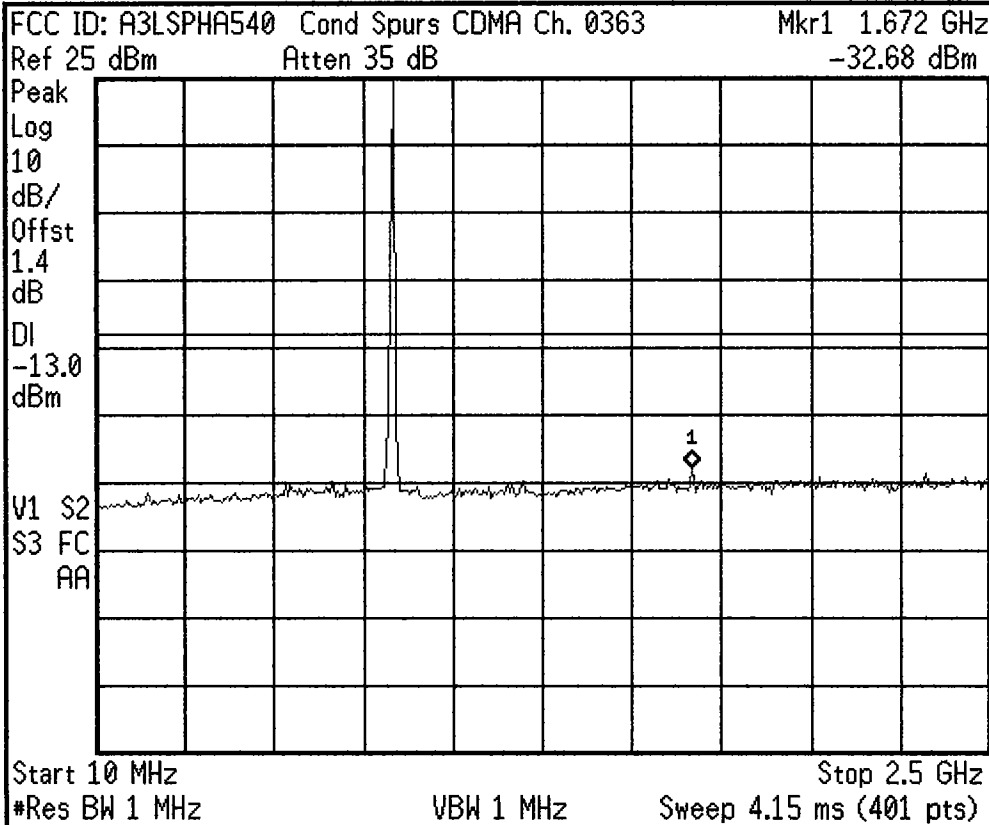
Freq/Channel
Center Freq 1.25500000 GHz
Start Freq 10.0000000 MHz
Stop Freq 2.50000000 GHz
CF Step 249.000000 MHz Auto Man
Freq Offset 0.00000000 Hz
Signal Track On Off
Scale Type Log Lin

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

Agilent



Freq/Channel

Center Freq
 1.25500000 GHz

Start Freq
 10.0000000 MHz

Stop Freq
 2.50000000 GHz

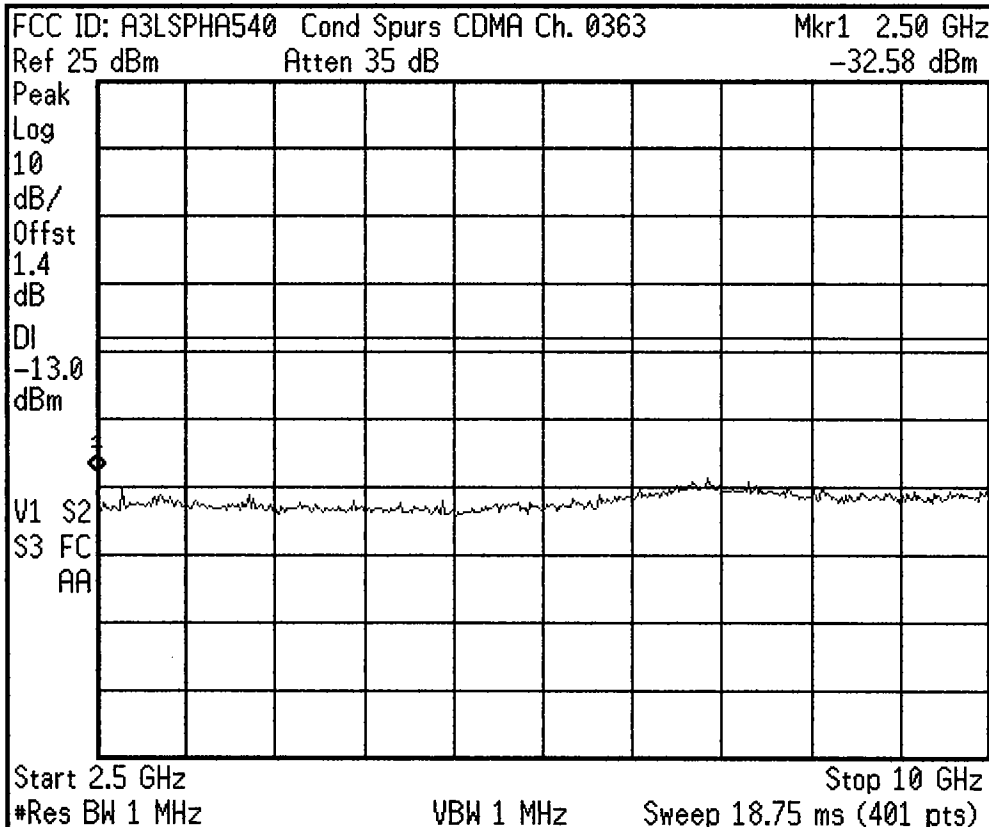
CF Step
 249.000000 MHz
 Auto Man

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

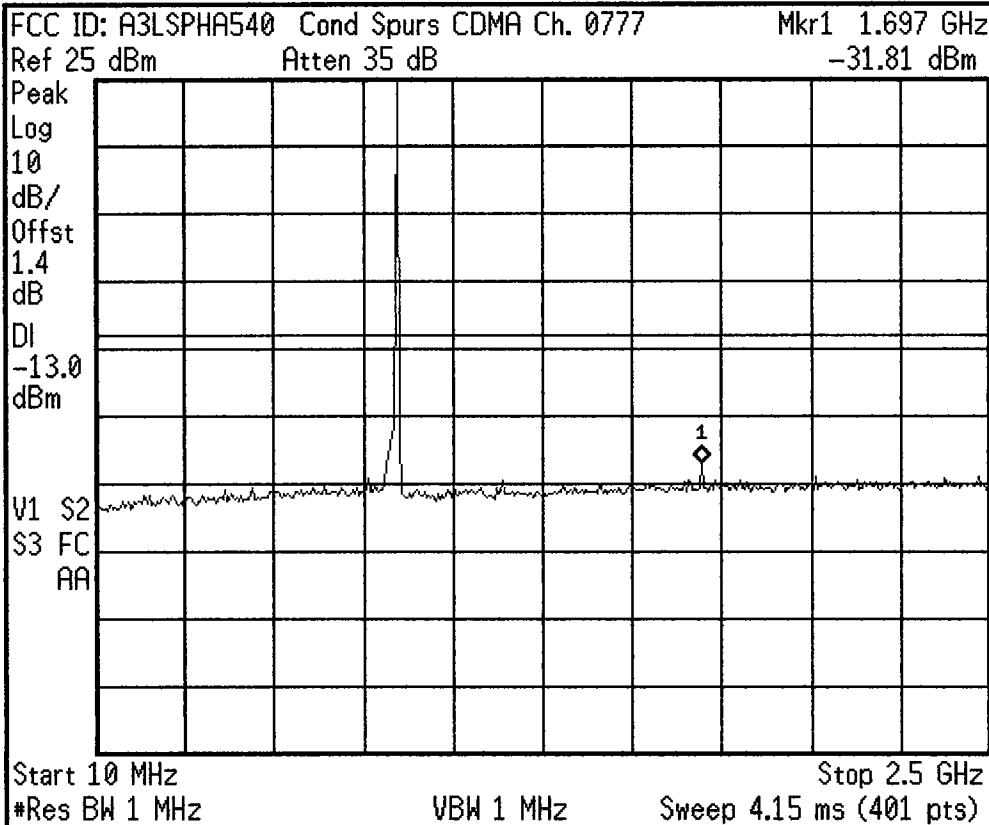
CF Step
 750.000000 MHz
 Auto Man

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

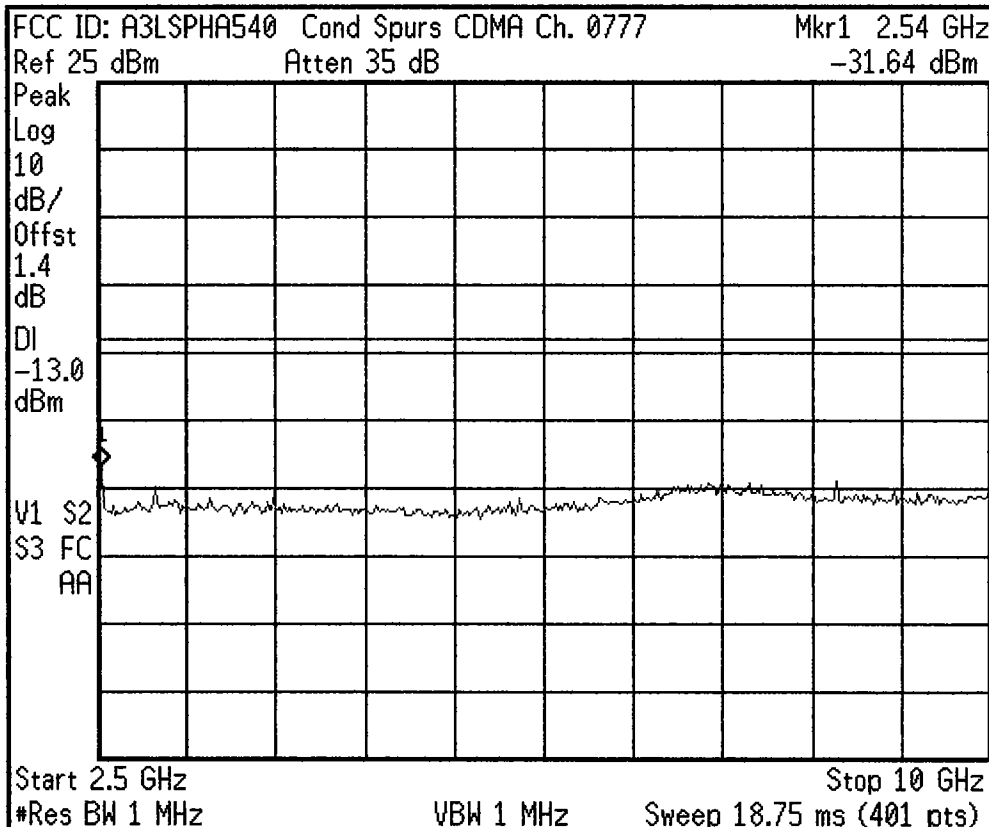
CF Step
 249.000000 MHz
 Auto Man

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

Agilent

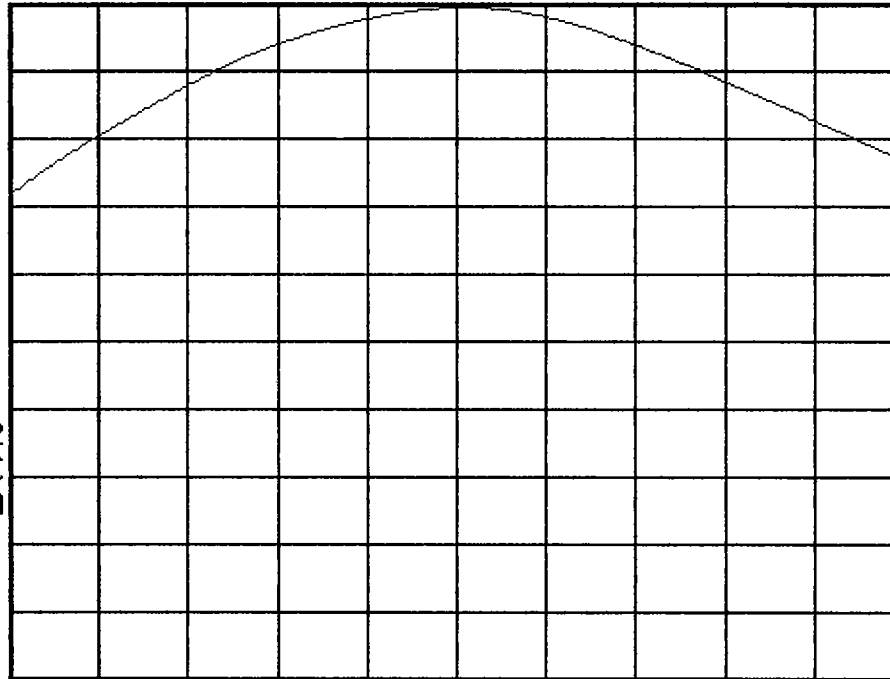
FCC ID: A3LSPA540 Power Out CDMA Ch. 1013

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

*Res BW 3 MHz

VBW 3 MHz

Span 10 MHz

Sweep 4 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

Scale Type

Log

Lin

Agilent

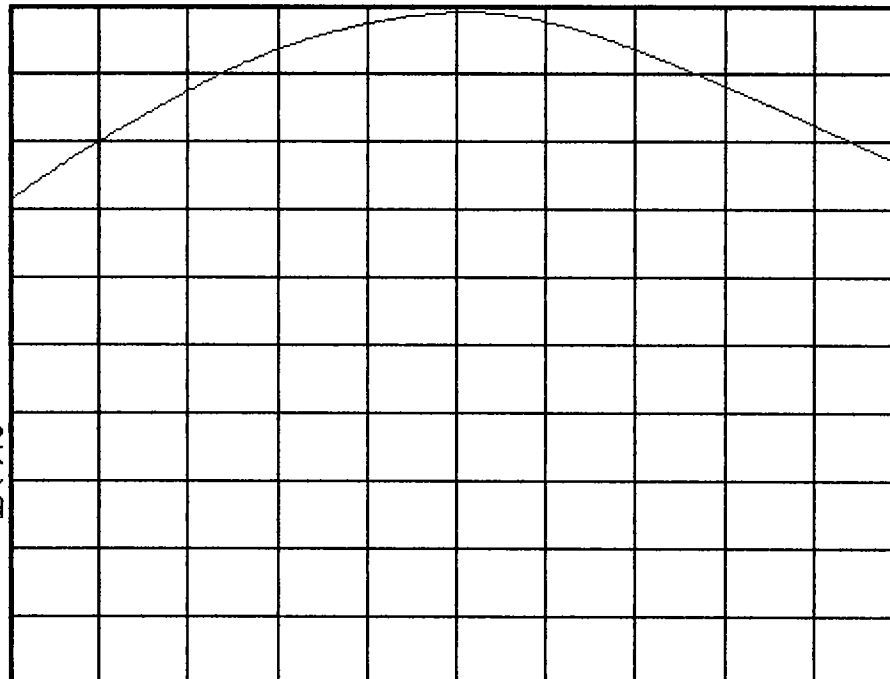
FCC ID: A3LSPA540 Power Out CDMA Ch. 0777

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

*Res BW 3 MHz

VBW 3 MHz

Span 10 MHz

Sweep 4 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

Scale Type

Log

Lin

Agilent

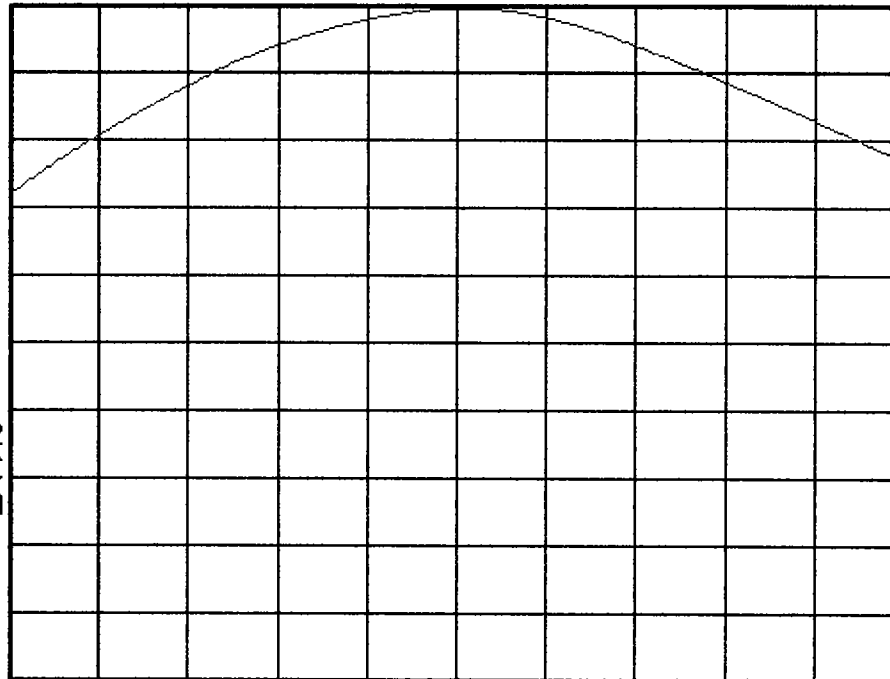
FCC ID: A3LSPHA540 Power Out CDMA Ch. 0363

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 4 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

Scale Type
Log Lin

Agilent

Ch Freq 835.9 MHz

Trig Free

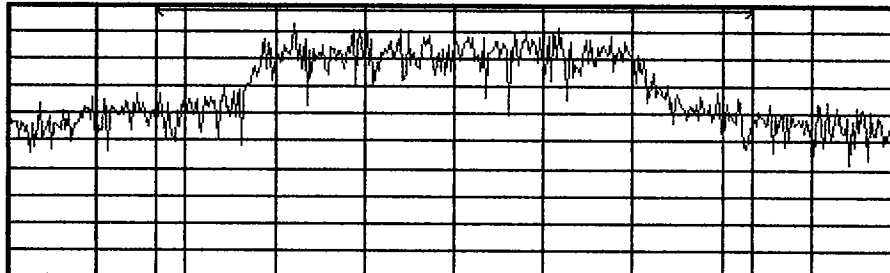
Channel Power

FCC ID: A3LSPHA540 Power Out CDMA Ch. 0363

Ref 25 dBm

Atten 35 dB

#Avg
Log
10
dB/
Offst
1.4
dB



Center 835.9 MHz

Res BW 30 kHz

VBW 300 kHz

Span 3 MHz
Sweep 8 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

Scale Type
Log Lin

Channel Power

25.00 dBm /2.0000 MHz

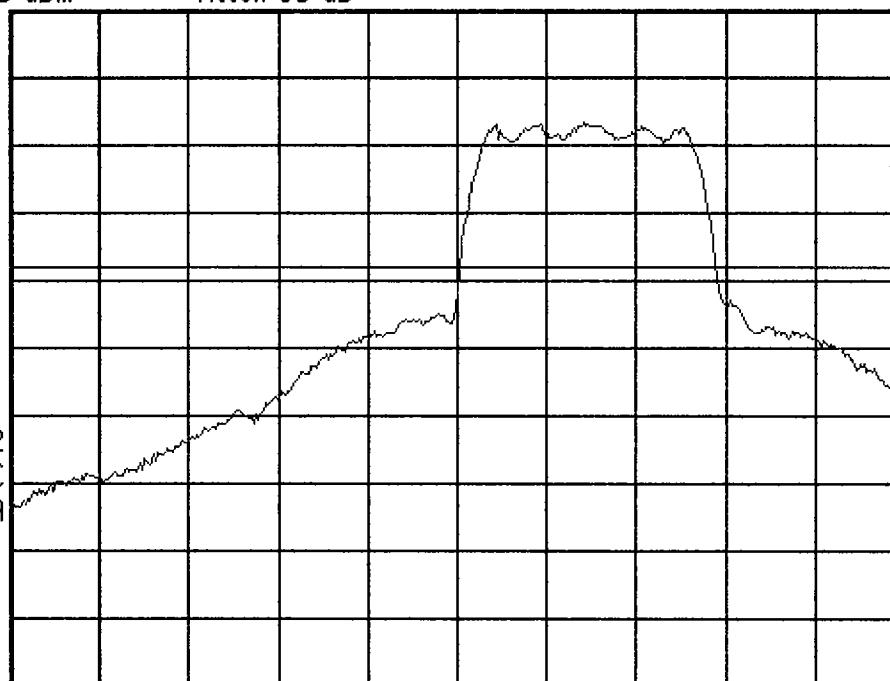
Power Spectral Density

-38.01 dBm/Hz

Agilent

FCC ID: A3LSPHA540 Band Edge CDMA Ch. 1013
Ref 25 dBm Atten 35 dB

Samp
Log
10
dB/
Offst
1.4
dB
DI
-13.0
dBm
VAv
100
V1 S2
S3 FC
AA



Center 824 MHz Span 5 MHz
*Res BW 30 kHz VBW 30 kHz Sweep 11.32 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

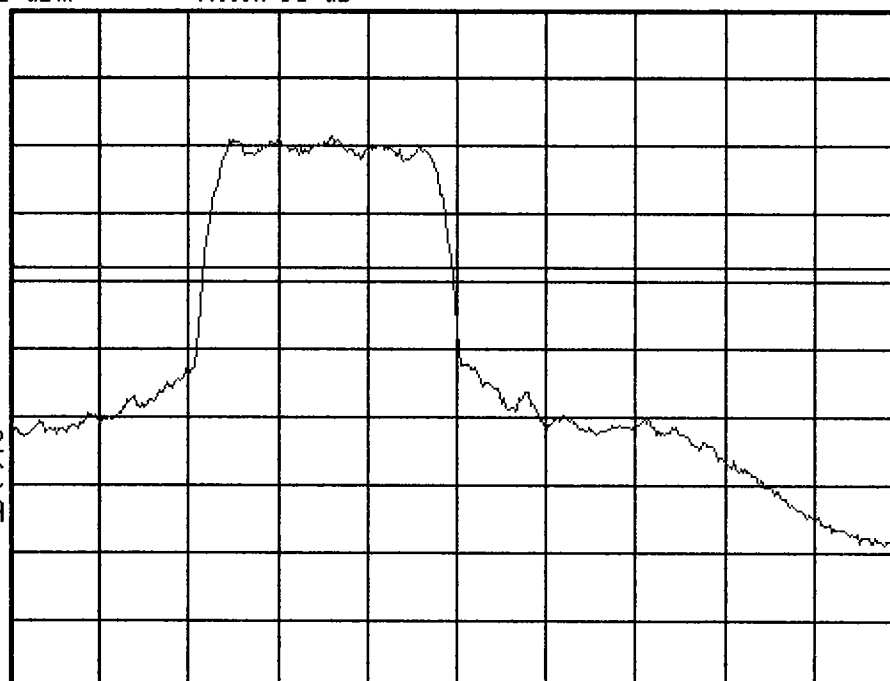
Signal Track
On Off

Scale Type
Log Lin

Agilent

FCC ID: A3LSPHA540 Band Edge CDMA Ch. 0777
Ref 25 dBm Atten 35 dB

Samp
Log
10
dB/
Offst
1.4
dB
DI
-13.0
dBm
VAv
100
V1 S2
S3 FC
AA



Center 849 MHz Span 5 MHz
*Res BW 30 kHz VBW 30 kHz Sweep 11.32 ms (401 pts)

Freq/Channel

Center Freq
849.000000 MHz

Start Freq
846.500000 MHz

Stop Freq
851.500000 MHz

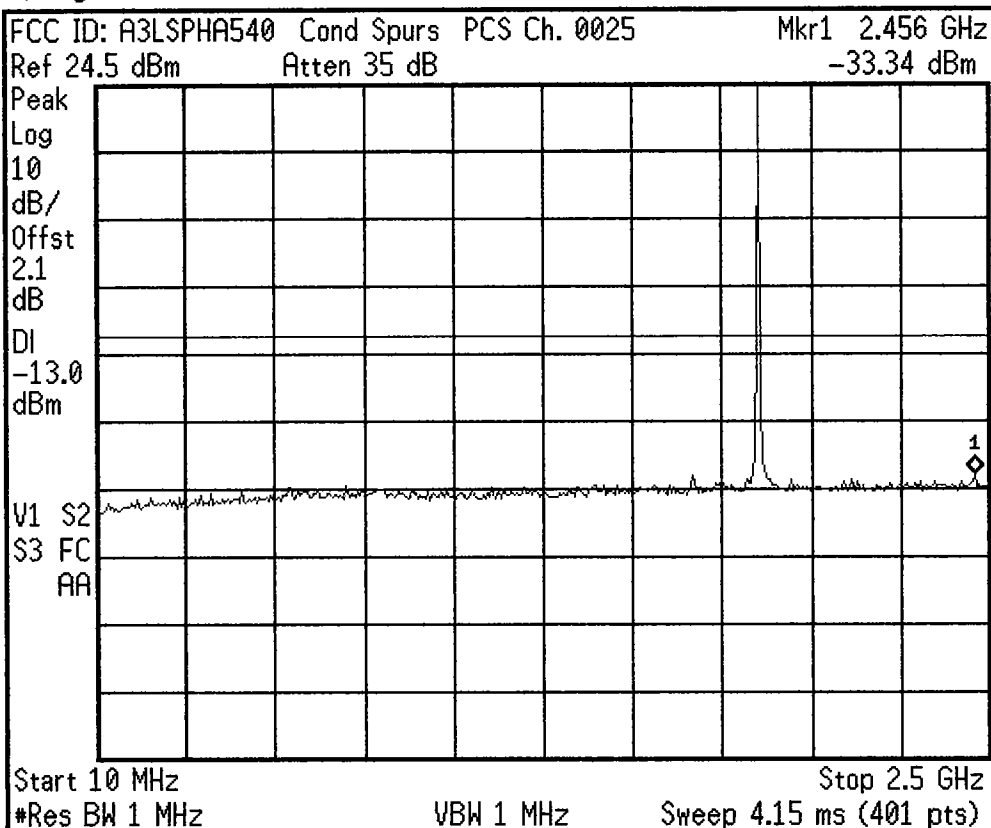
CF Step
500.000000 kHz
Auto Man

Freq Offset
0.00000000 Hz

Signal Track
On Off

Scale Type
Log Lin

Agilent



Freq/Channel

Center Freq
 1.25500000 GHz

Start Freq
 10.0000000 MHz

Stop Freq
 2.50000000 GHz

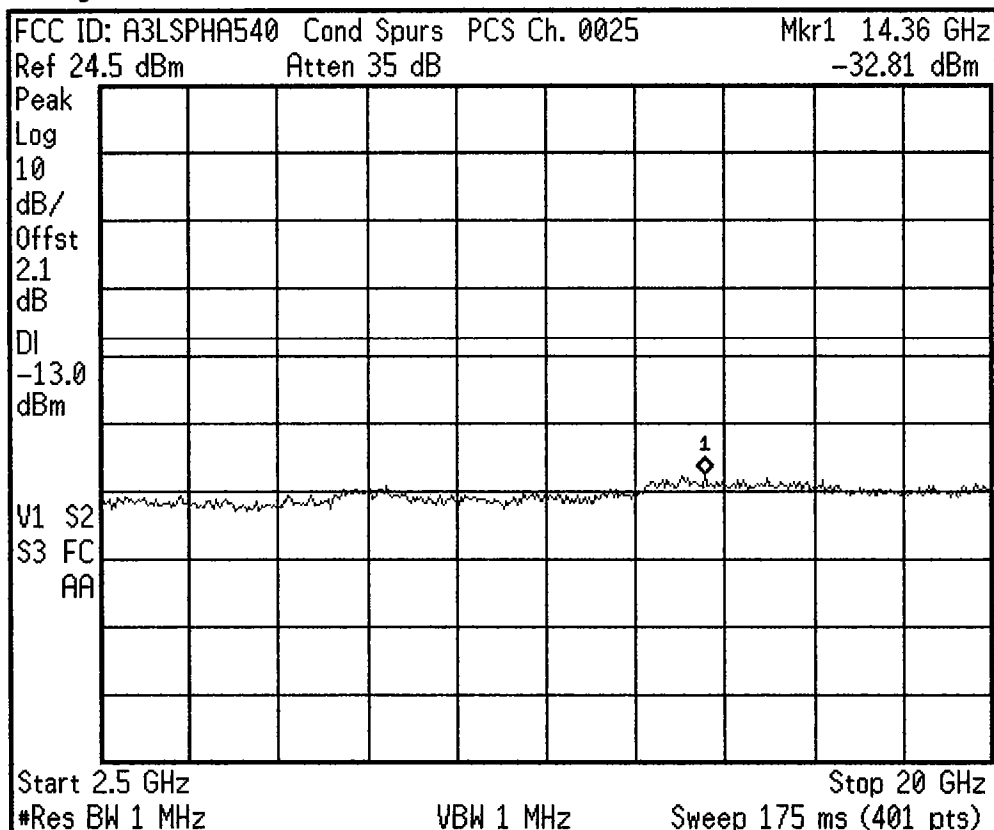
CF Step
 249.000000 MHz
 Auto Man

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

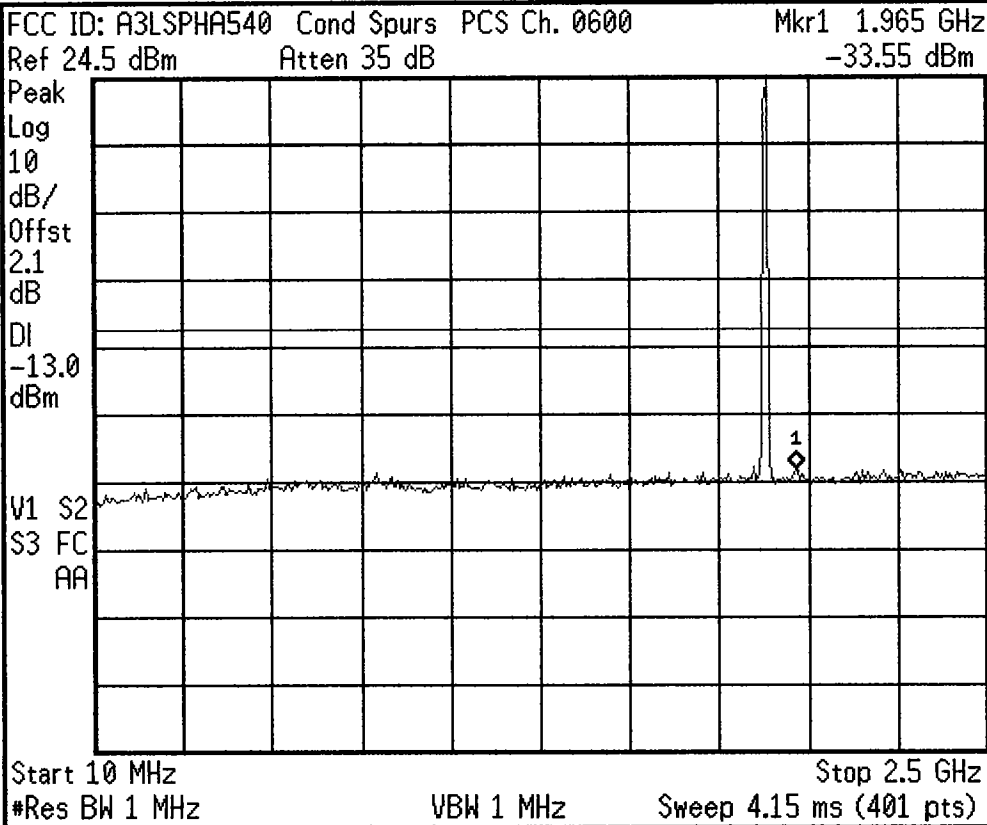
CF Step
 1.75000000 GHz
 Auto Man

Freq Offset
 0.00000000 Hz

Signal Track
 On Off

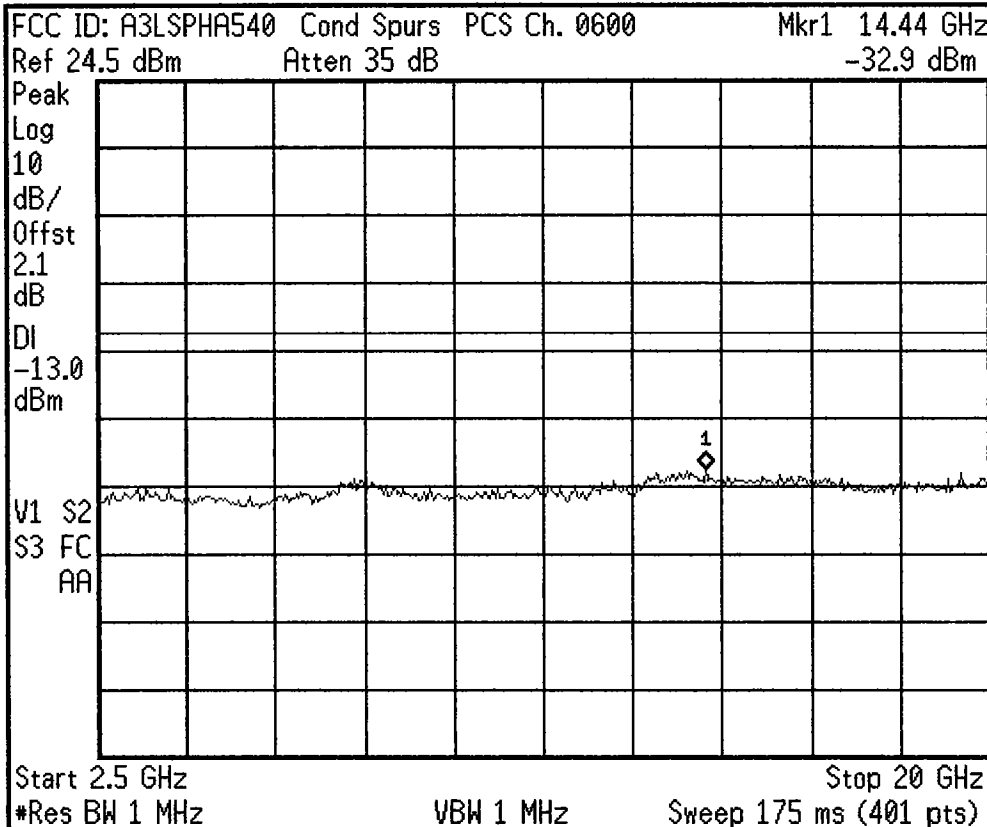
Scale Type
 Log Lin

Agilent



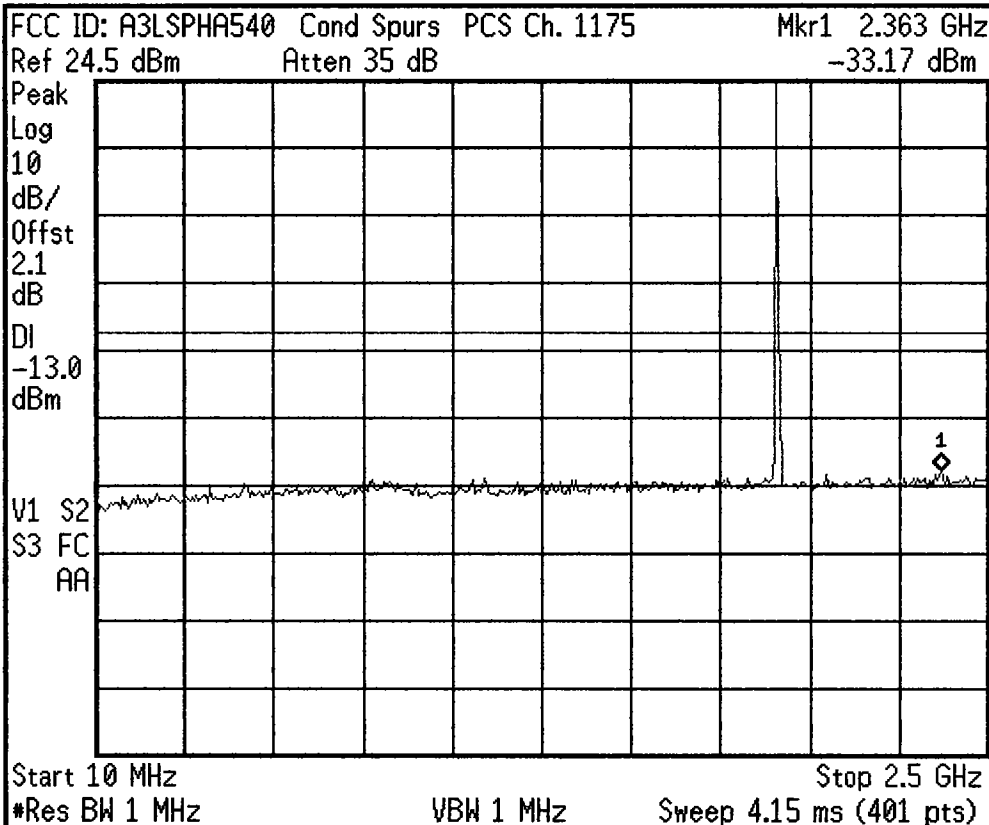
Freq/Channel
Center Freq 1.25500000 GHz
Start Freq 10.0000000 MHz
Stop Freq 2.50000000 GHz
CF Step 249.000000 MHz Auto Man
Freq Offset 0.00000000 Hz
Signal Track On Off
Scale Type Log Lin

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

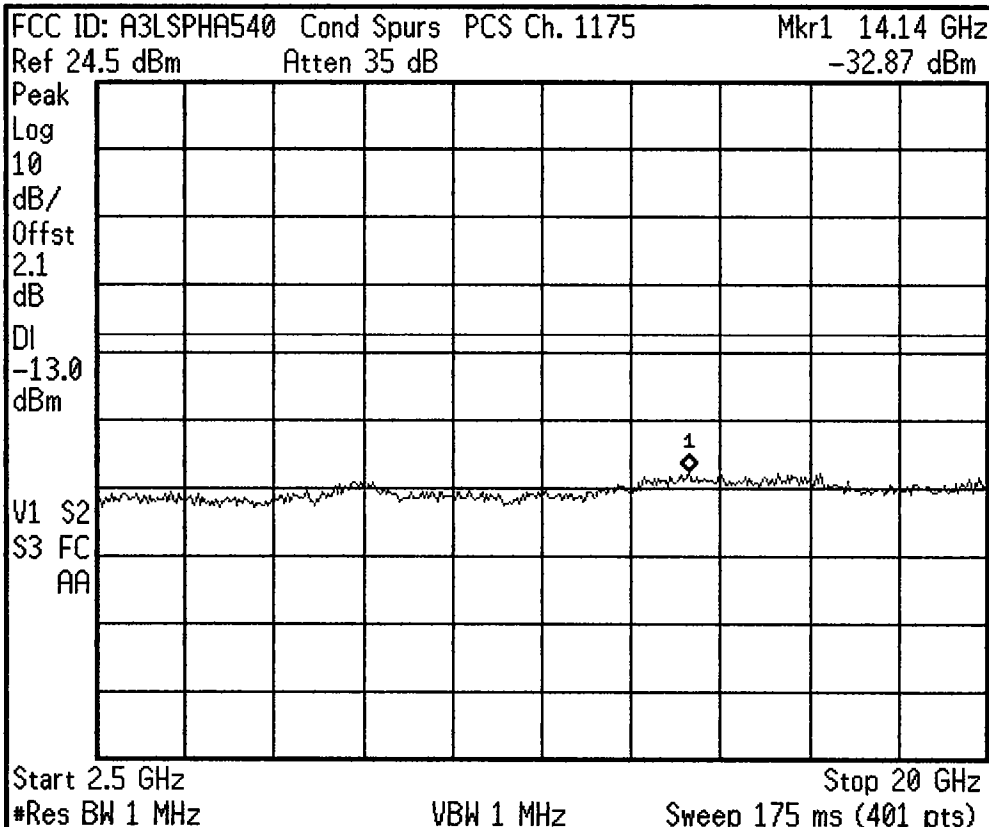
CF Step
 249.000000 MHz
 Auto Man

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

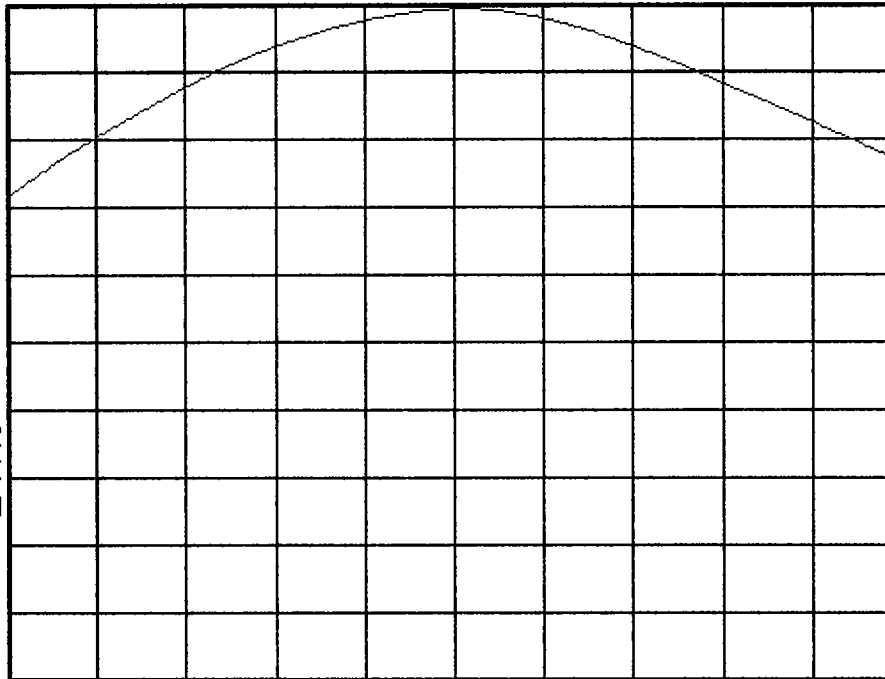
Agilent

FCC ID: A3LSPHA540 Power Out PCS Ch. 0600

Ref 24.5 dBm Atten 35 dB

Samp
Log
10
dB/
Offst
2.1
dB

VAvg
100
V1 S2
S3 FC
AA



Center 1.88 GHz

*Res BW 3 MHz

VBW 3 MHz

Span 10 MHz

Sweep 4 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

Scale Type

Log

Lin

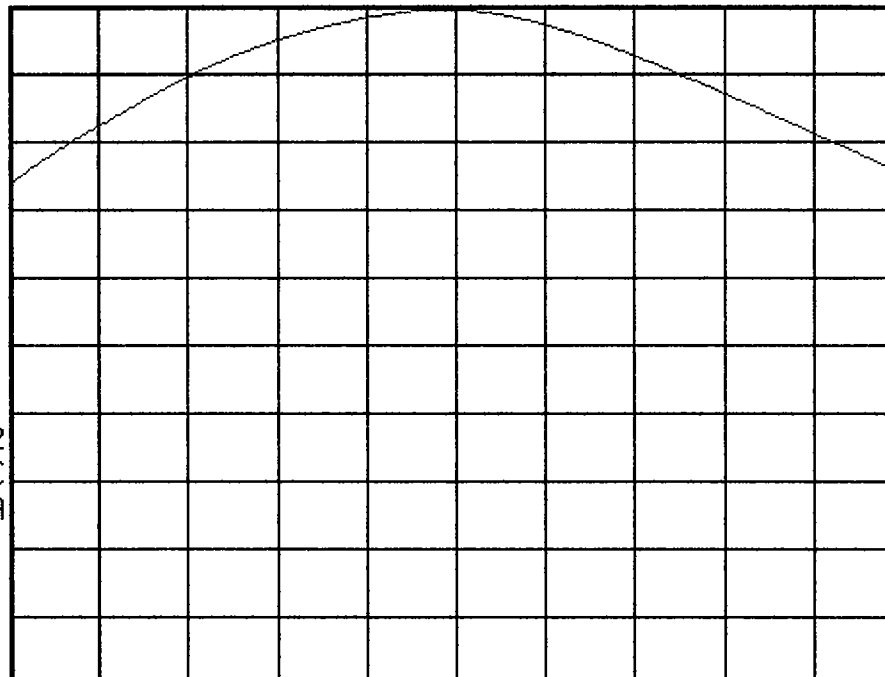
Agilent

FCC ID: A3LSPHA540 Power Out PCS Ch. 1175

Ref 24.5 dBm Atten 35 dB

Samp
Log
10
dB/
Offst
2.1
dB

VAvg
100
V1 S2
S3 FC
AA



Center 1.909 GHz

*Res BW 3 MHz

VBW 3 MHz

Span 10 MHz

Sweep 4 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

Scale Type

Log

Lin

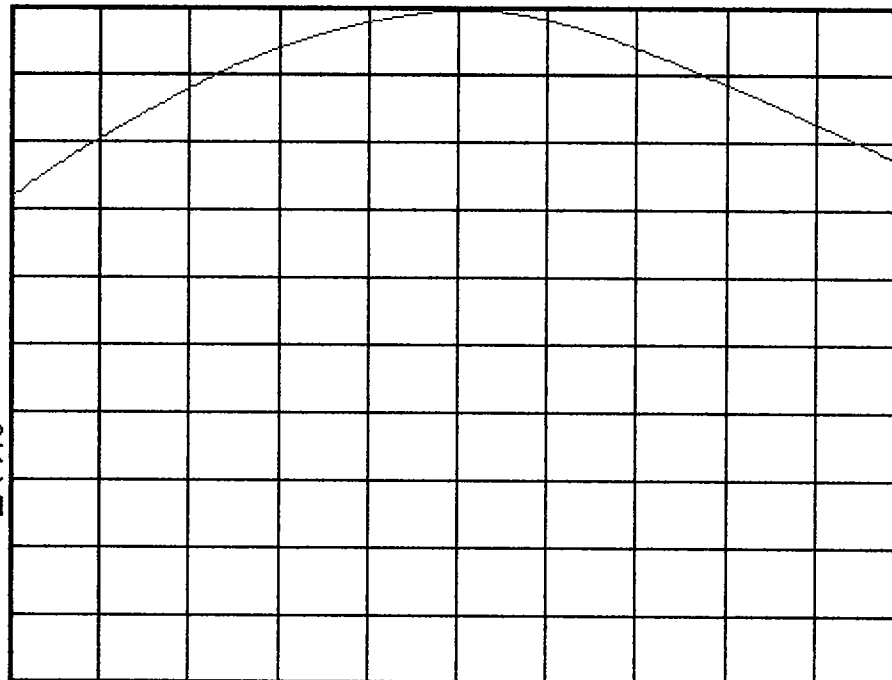
Agilent

FCC ID: A3LSPA540 Power Out PCS Ch. 0025

Ref 24.5 dBm Atten 35 dB

Samp
Log
10
dB/
Offst
2.1
dB

VAvg
100
V1 S2
S3 FC
AA



Center 1.851 GHz

*Res BW 3 MHz

VBW 3 MHz

Span 10 MHz
Sweep 4 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

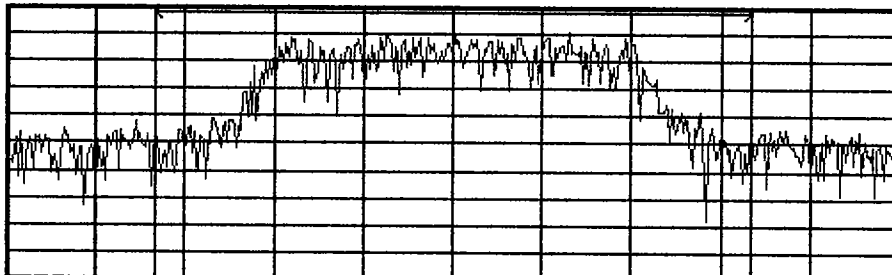
Trig Free

Channel Power

FCC ID: A3LSPA540 Power Out PCS Ch. 0025

Ref 24.5 dBm Atten 35 dB

*Avg
Log
10
dB/
Offst
2.1
dB



Center 1.851 GHz

Res BW 30 kHz

VBW 300 kHz

Span 3 MHz
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

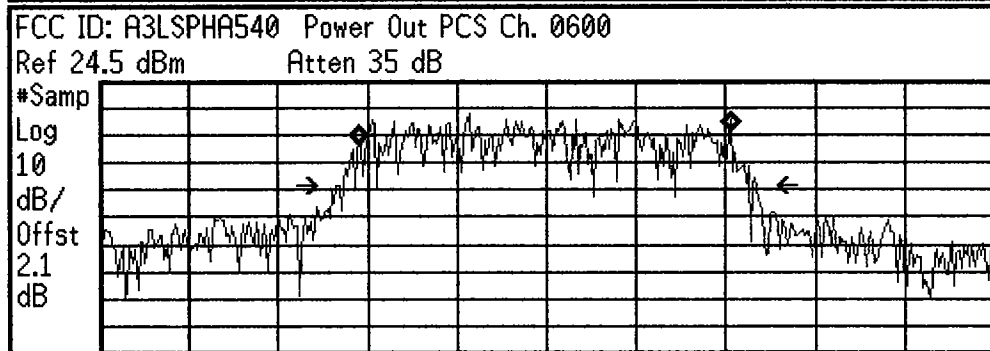
24.53 dBm /2.0000 MHz

Power Spectral Density

-38.48 dBm/Hz

Agilent

Ch Freq 1.88 GHz Trig Free
Occupied Bandwidth



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

Occupied Bandwidth Occ BW % Pwr 99.00 %
1.2503 MHz x dB -26.00 dB

Transmit Freq Error -8.376 kHz
x dB Bandwidth 1.407 MHz*

Freq/Channel

Center Freq
1.88000000 GHz

Start Freq
1.87850000 GHz

Stop Freq
1.88150000 GHz

CF Step
300.000000 kHz
Auto Man

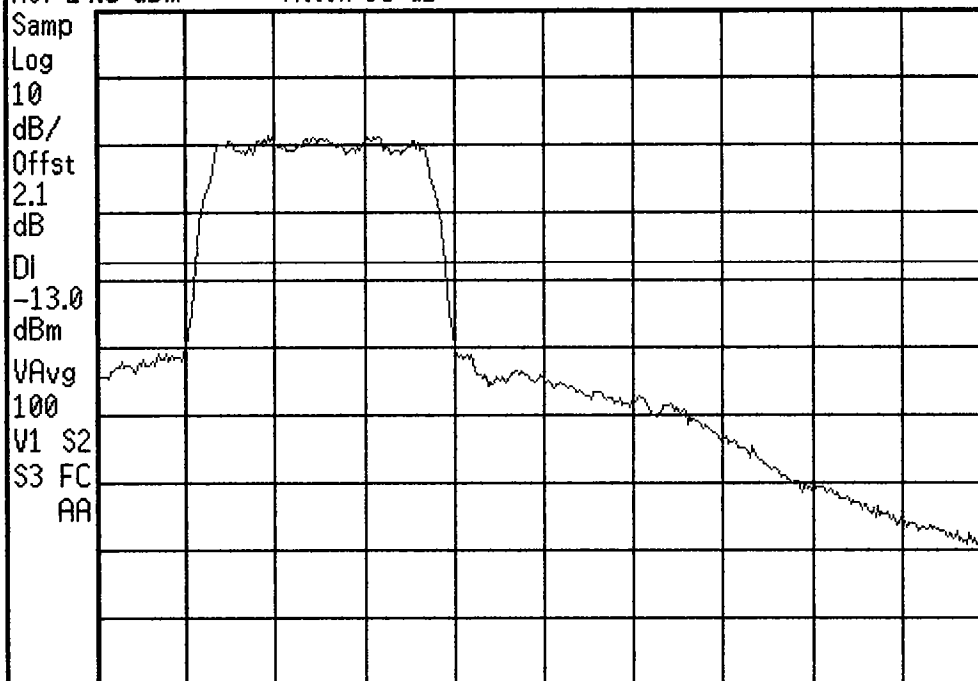
Freq Offset
0.00000000 Hz

Signal Track
On Off

Scale Type
Log Lin

* Agilent

FCC ID: A3LSPA540 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 11.32 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

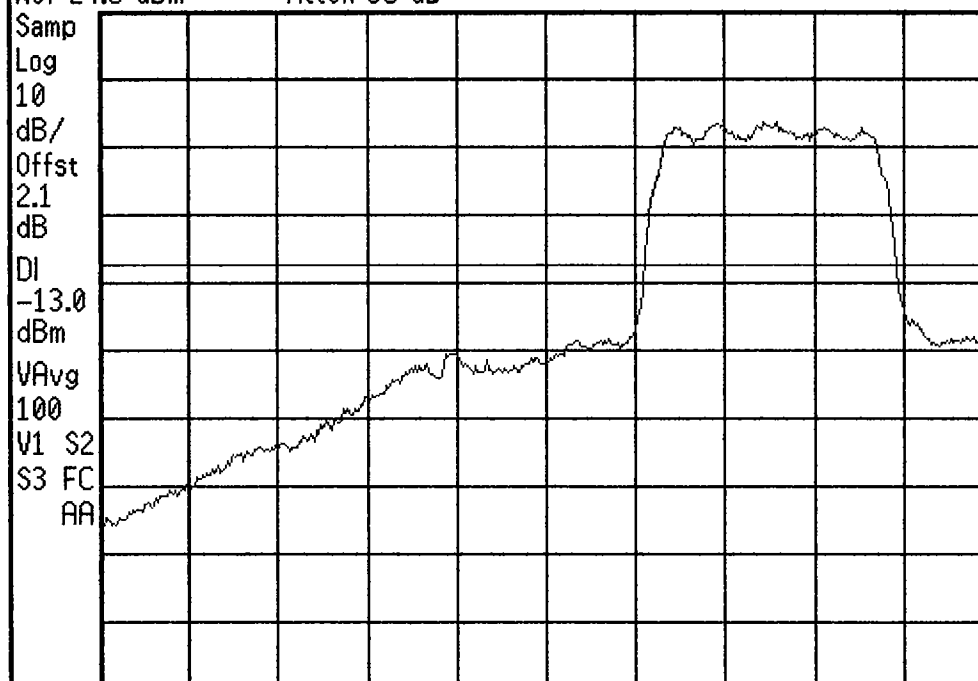
Freq Offset
0.00000000 Hz

Signal Track
On Off

Scale Type
Log Lin

* Agilent

FCC ID: A3LSPA540 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 11.32 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

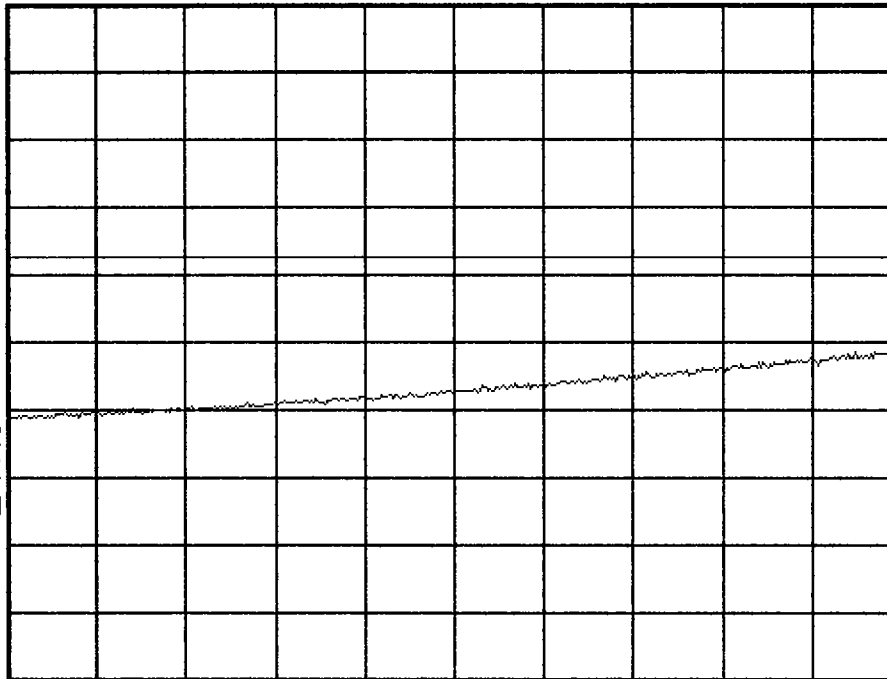
Signal Track
On Off

Scale Type
Log Lin

Agilent

FCC ID: A3LSPHA540 Band Edge PCS Ch. 0025
Ref 24.5 dBm Atten 35 dB

Samp
Log
10
dB/
Offst
2.1
dB
DI
-13.0
dBm
VAv
100
V1 S2
S3 FC
AA



Center 1.847 GHz

*Res BW 1 MHz

VBW 1 MHz

Span 1 MHz
Sweep 5 ms (401 pts)

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

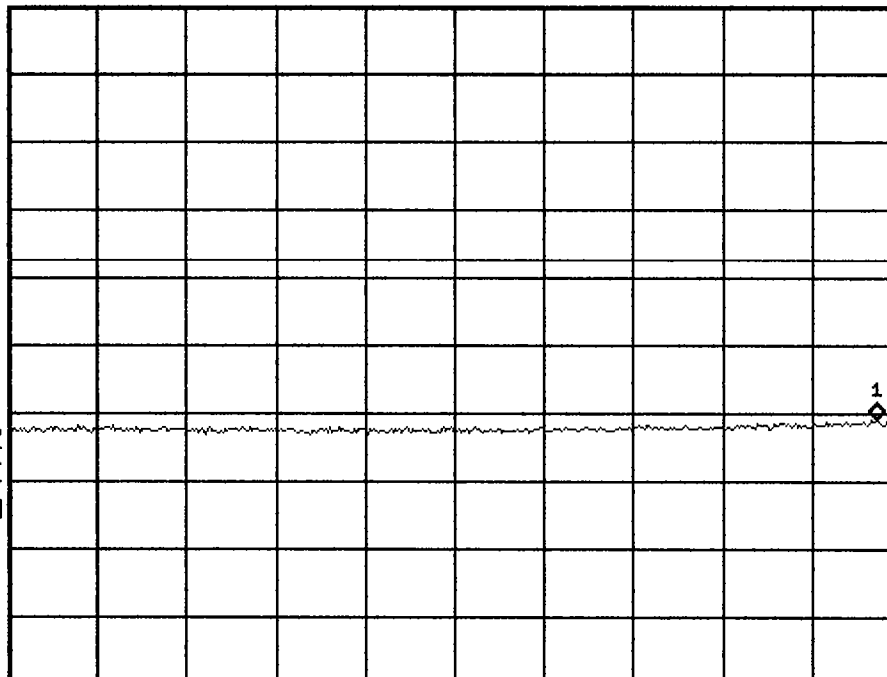
Signal Track
On Off

Scale Type
Log Lin

Agilent

FCC ID: A3LSPHA540 Band Edge PCS Ch. 0025 Mkr1 1.846473 GHz
Ref 24.5 dBm Atten 35 dB -36.42 dBm

Samp
Log
10
dB/
Offst
2.1
dB
DI
-13.0
dBm
VAv
100
V1 S2
S3 FC
AA



Center 1.846 GHz

*Res BW 1 MHz

VBW 1 MHz

Span 1 MHz
Sweep 5 ms (401 pts)

Freq/Channel

Center Freq
1.84600000 GHz

Start Freq
1.84550000 GHz

Stop Freq
1.84650000 GHz

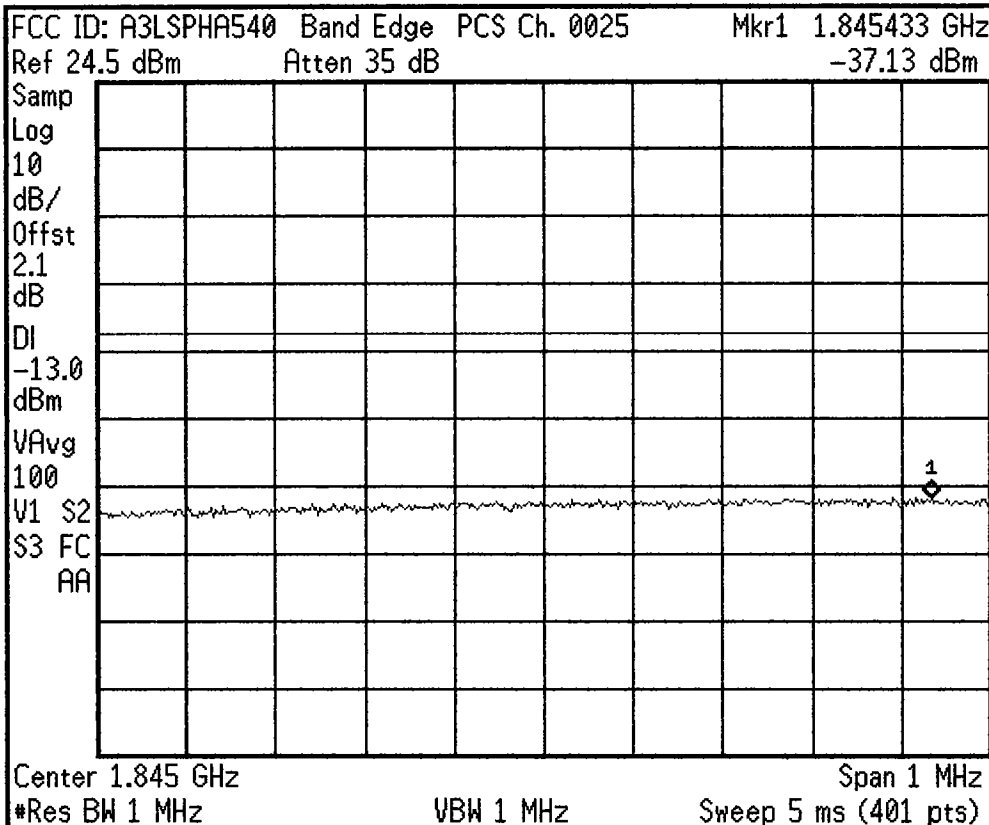
CF Step
100.000000 kHz
Auto Man

Freq Offset
0.00000000 Hz

Signal Track
On Off

Scale Type
Log Lin

Agilent



Freq/Channel

Center Freq
 1.84500000 GHz

Start Freq
 1.84450000 GHz

Stop Freq
 1.84550000 GHz

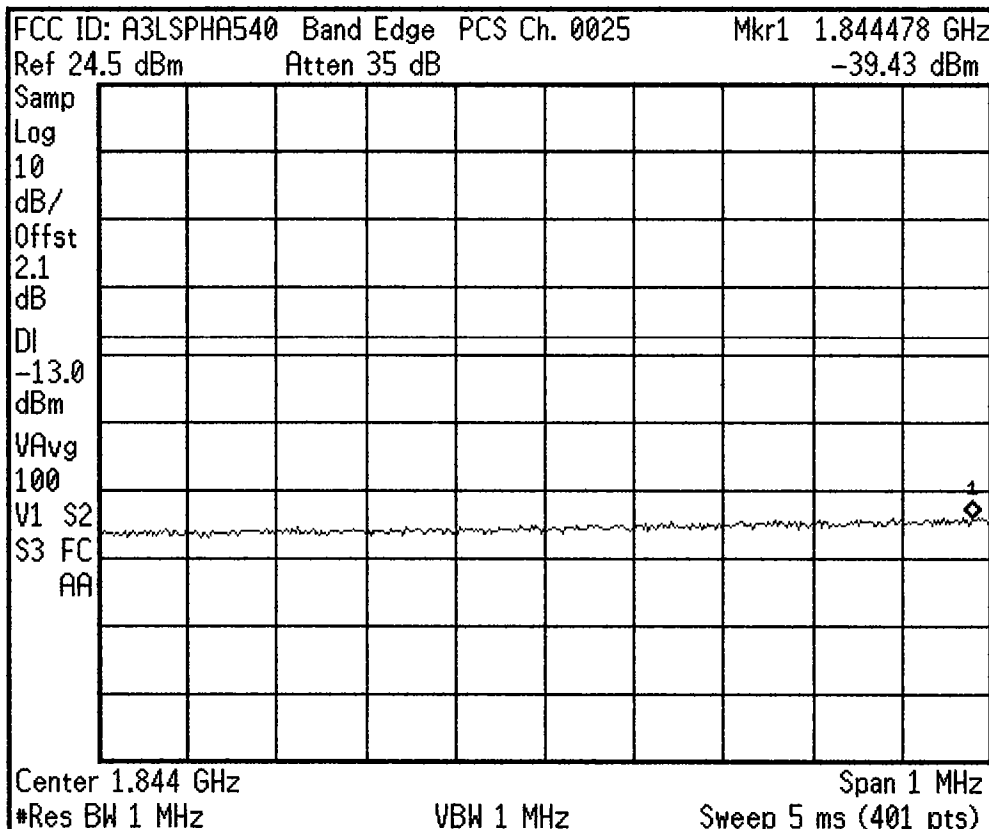
CF Step
 100.000000 kHz
 Auto Man

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

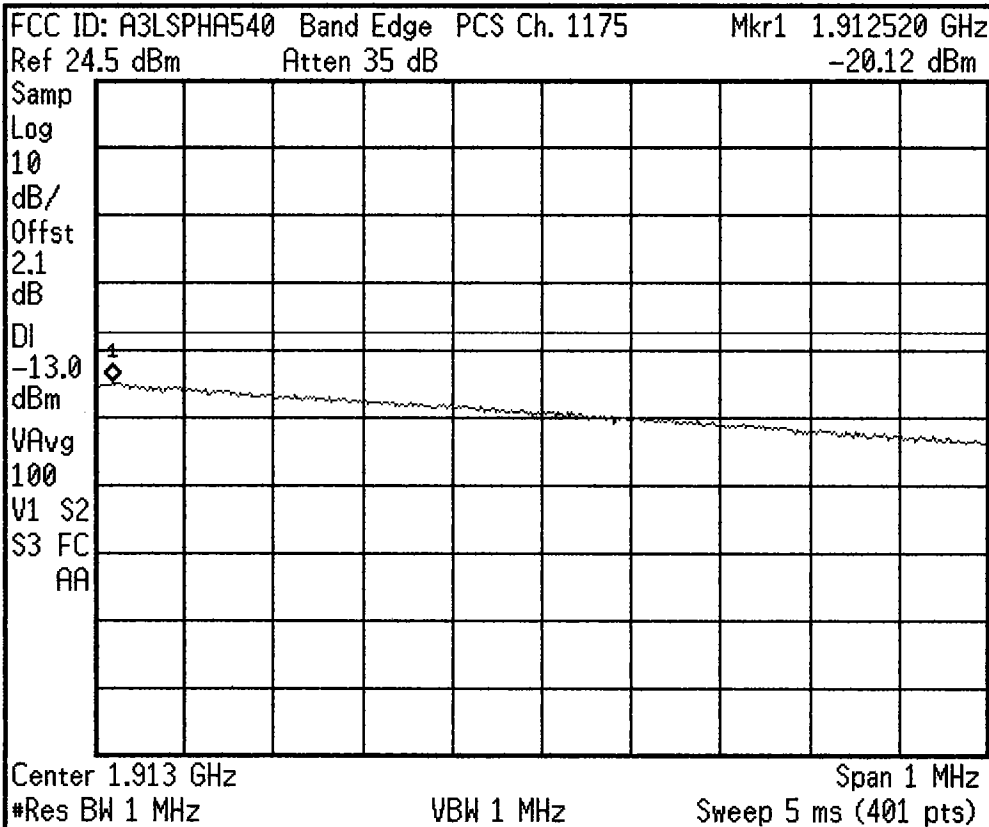
CF Step
 100.000000 kHz
 Auto Man

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

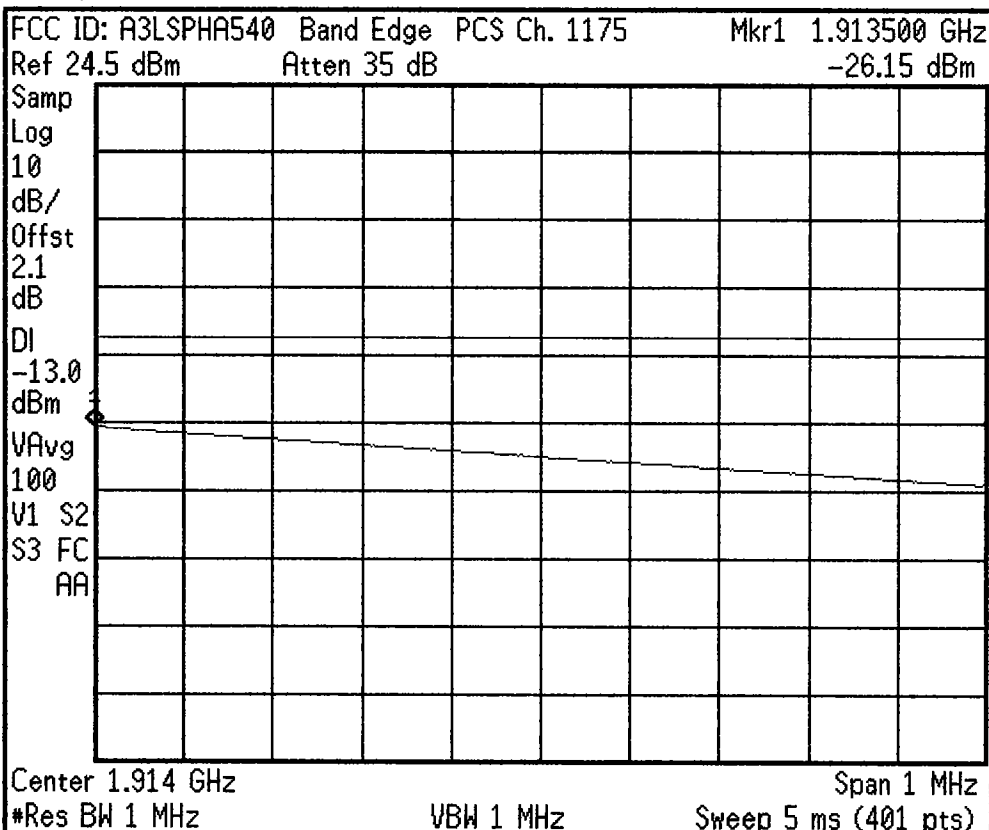
CF Step
100.000000 kHz
Auto Man

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

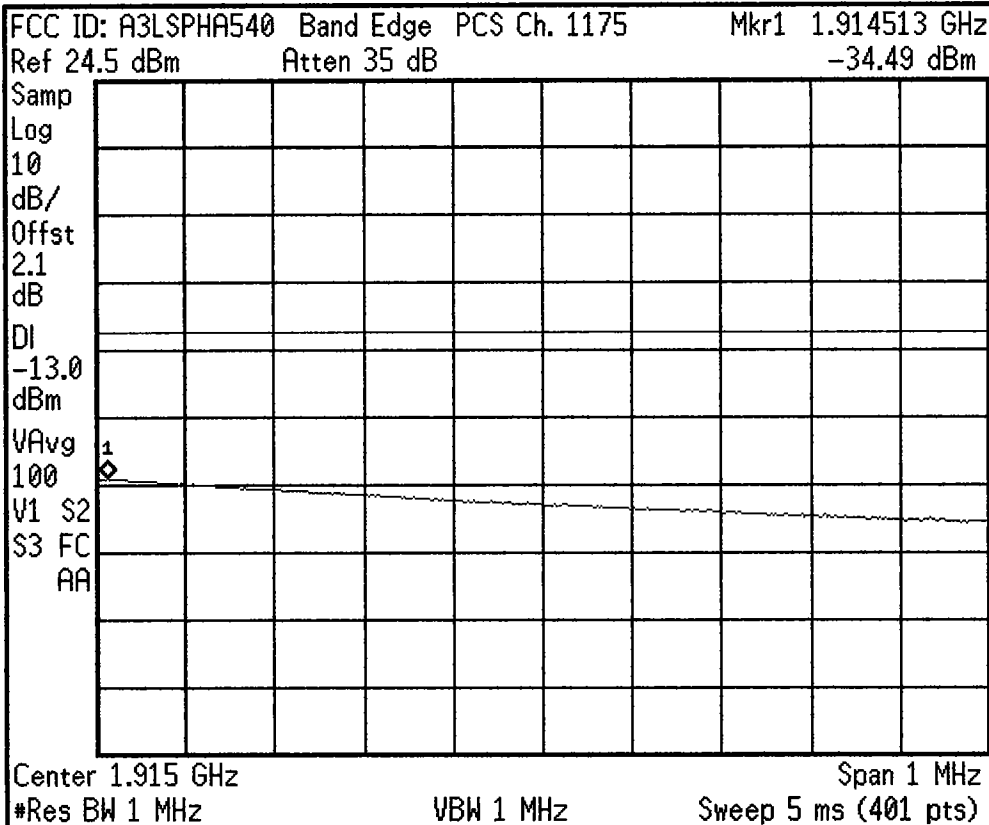
CF Step
100.000000 kHz
Auto Man

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

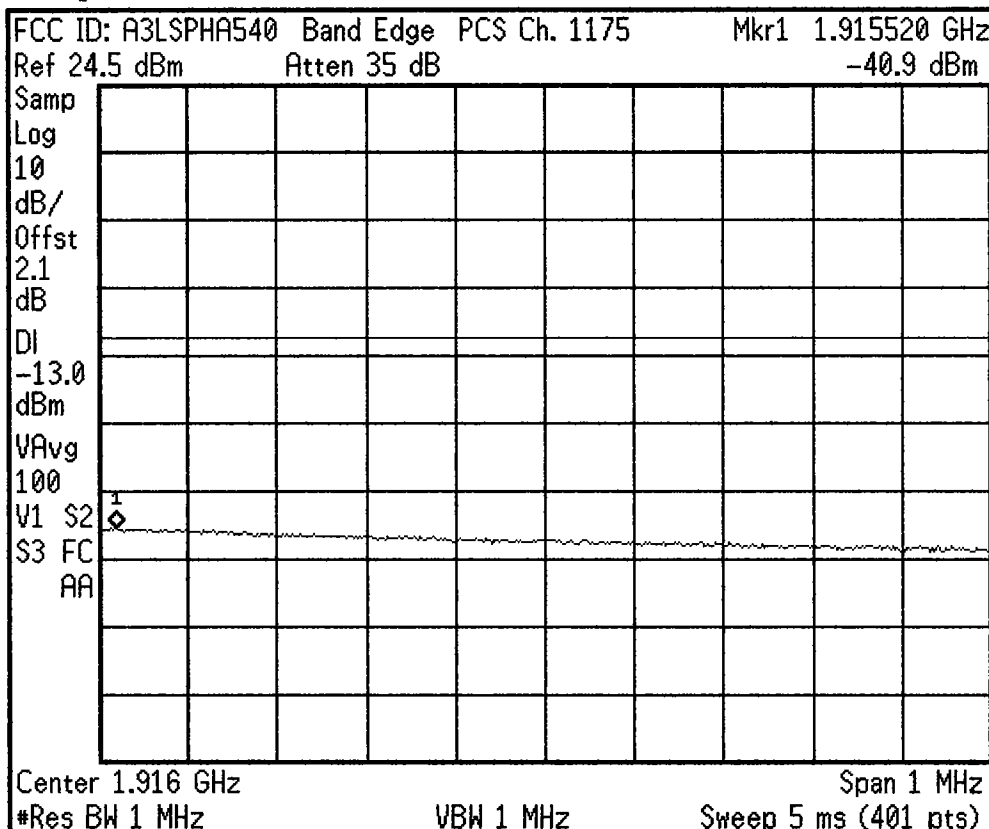
CF Step
 100.000000 kHz
 Auto Man

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

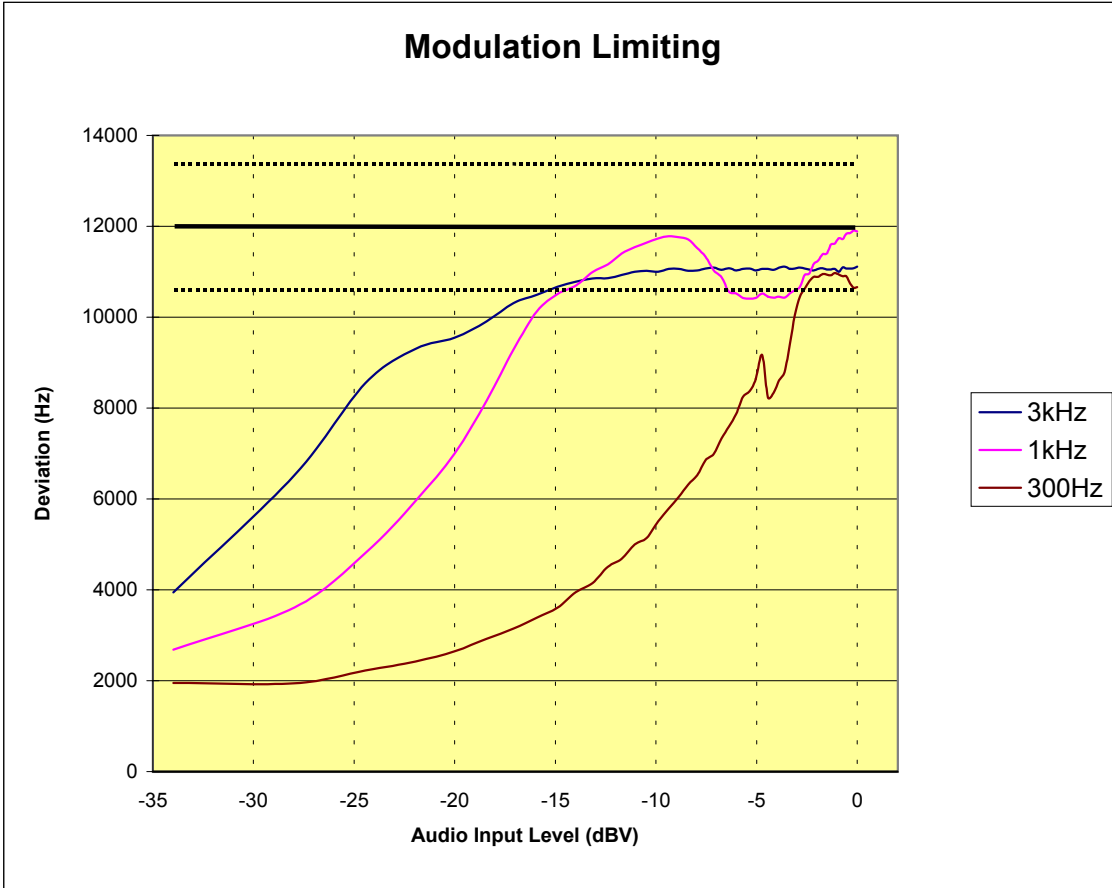
PCTEST Engineering Lab., Inc.

SUBJECT: Modulation Characteristics
FCC Part 24/22

Test Report No.: 24/22.220327138.A3L
Test Date: 03.28-29.2002

EUT: SAMSUNG Tri-Mode Dual-Band Analog/PCS Phone (AMPS/CDMA)
Model: SPH-A540
FCC ID: A3LSPHA540

REFERENCE: 1 kHz = 0 dB



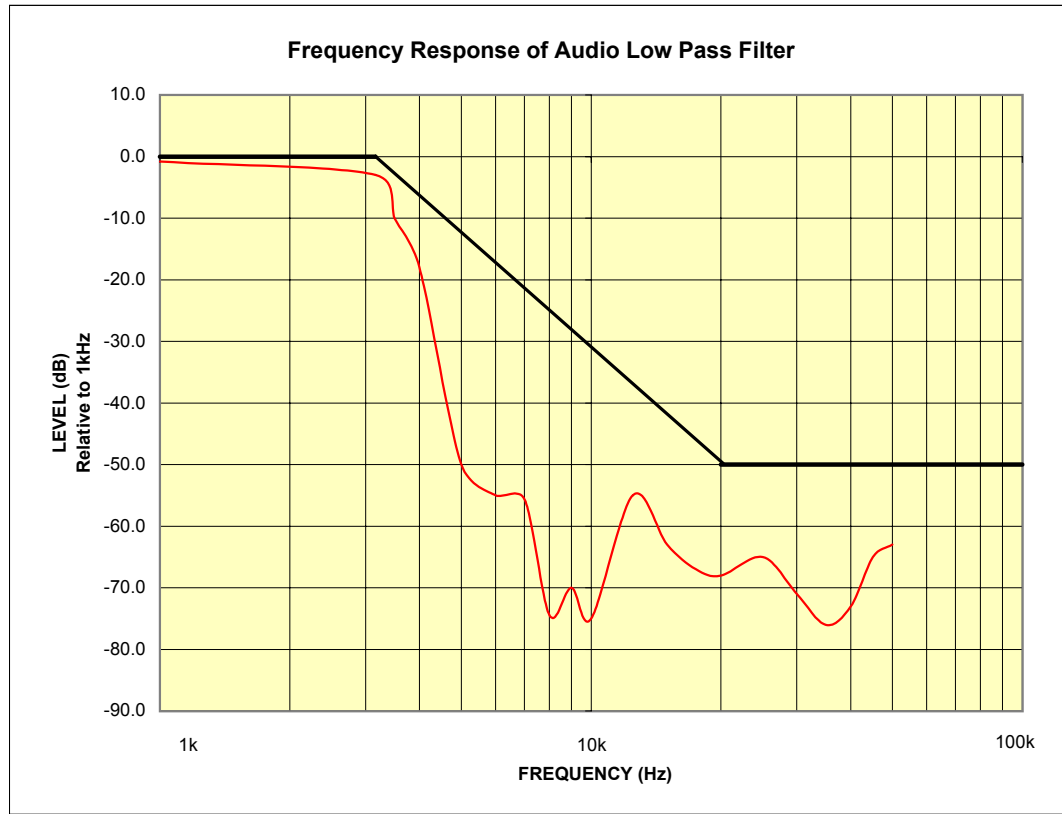
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