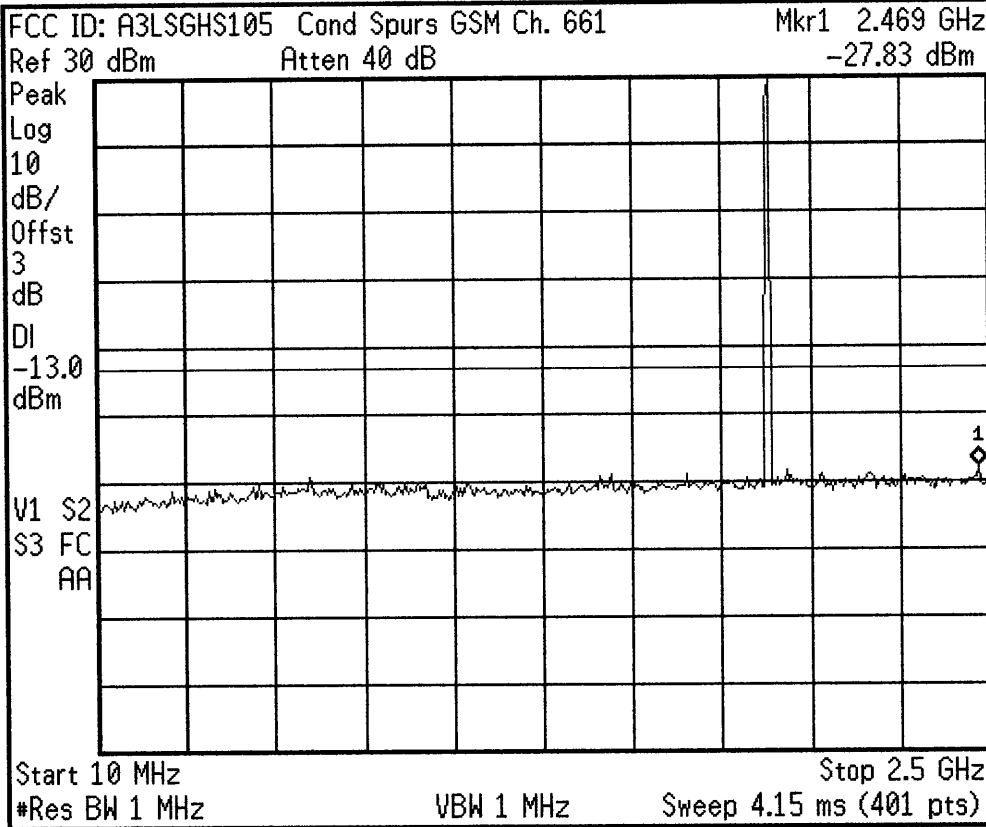


Agilent



Freq/Channel

Center Freq  
1.25500000 GHz

Start Freq  
10.0000000 MHz

Stop Freq  
2.50000000 GHz

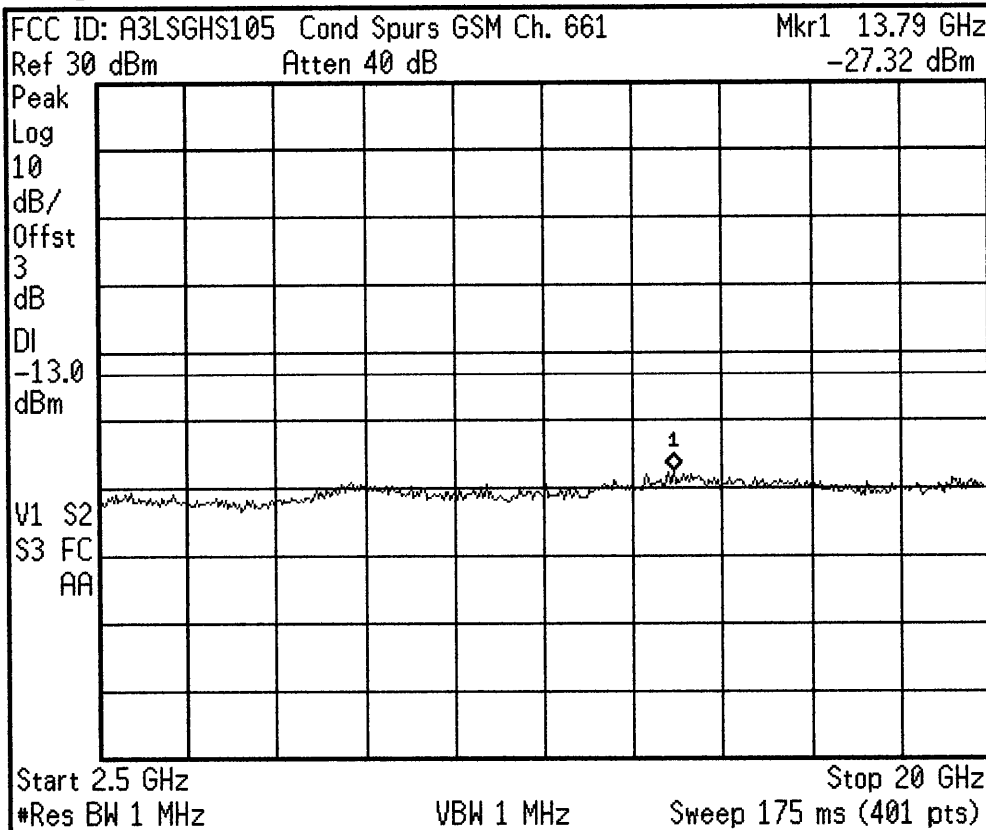
CF Step  
249.000000 MHz  
Auto Man

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

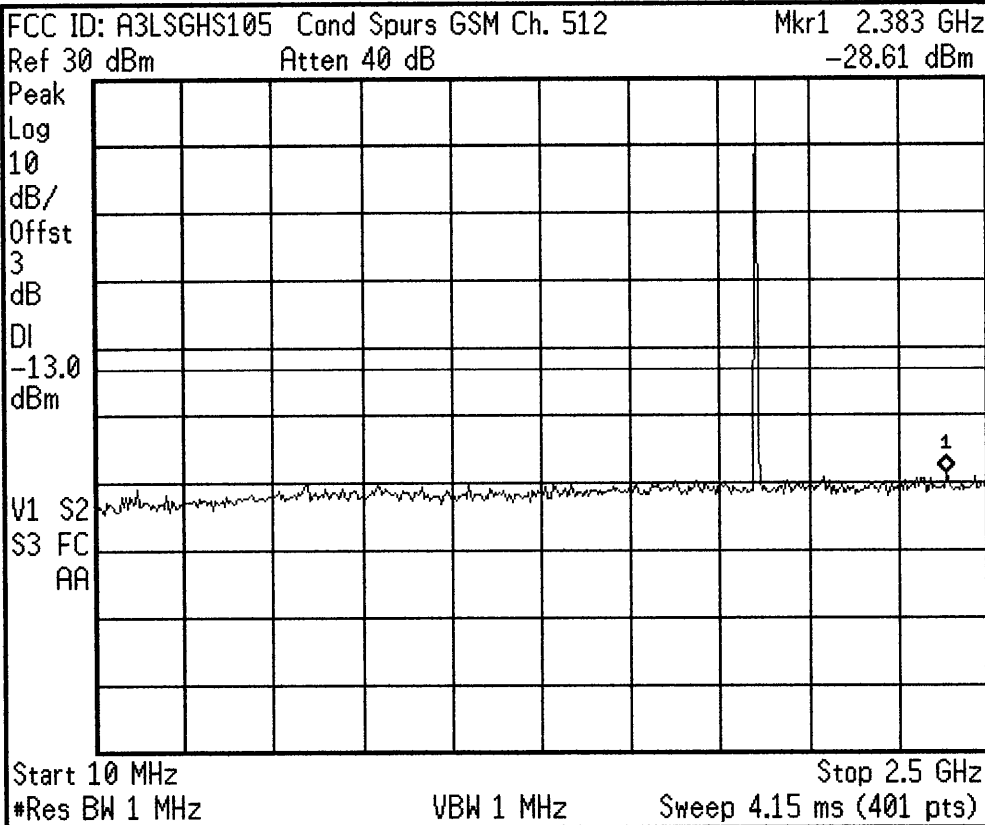
CF Step  
1.75000000 GHz  
Auto Man

Freq Offset  
0.00000000 Hz

Signal Track  
On Off

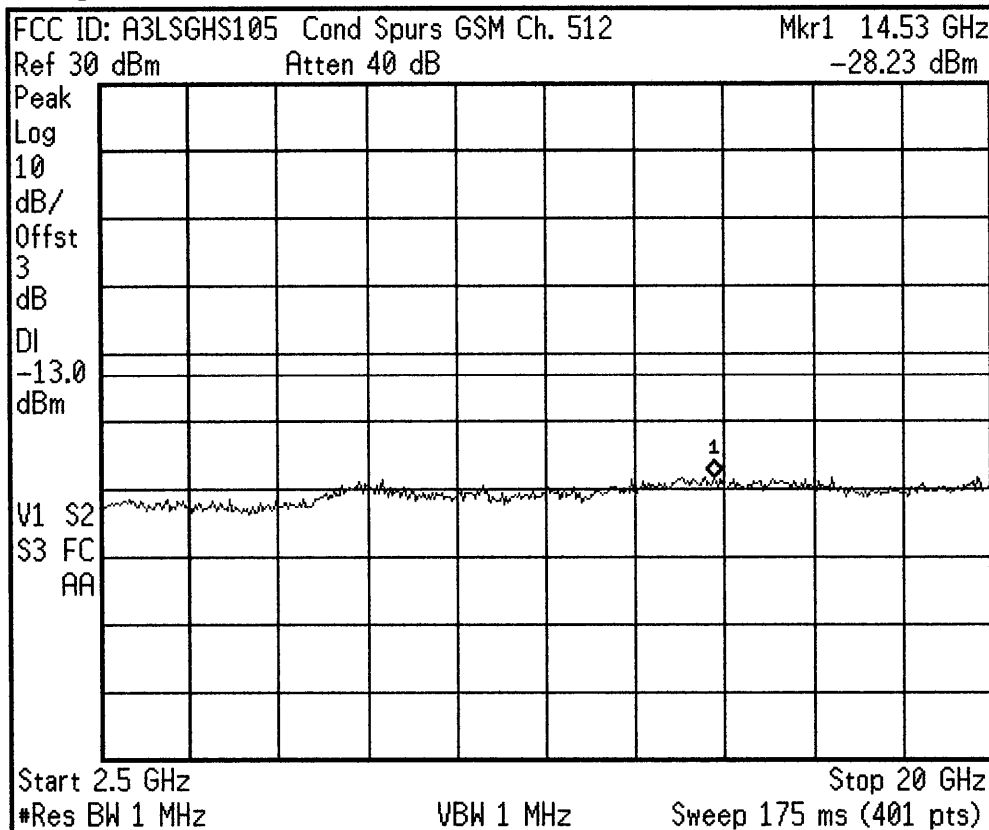
Scale Type  
Log Lin

Agilent



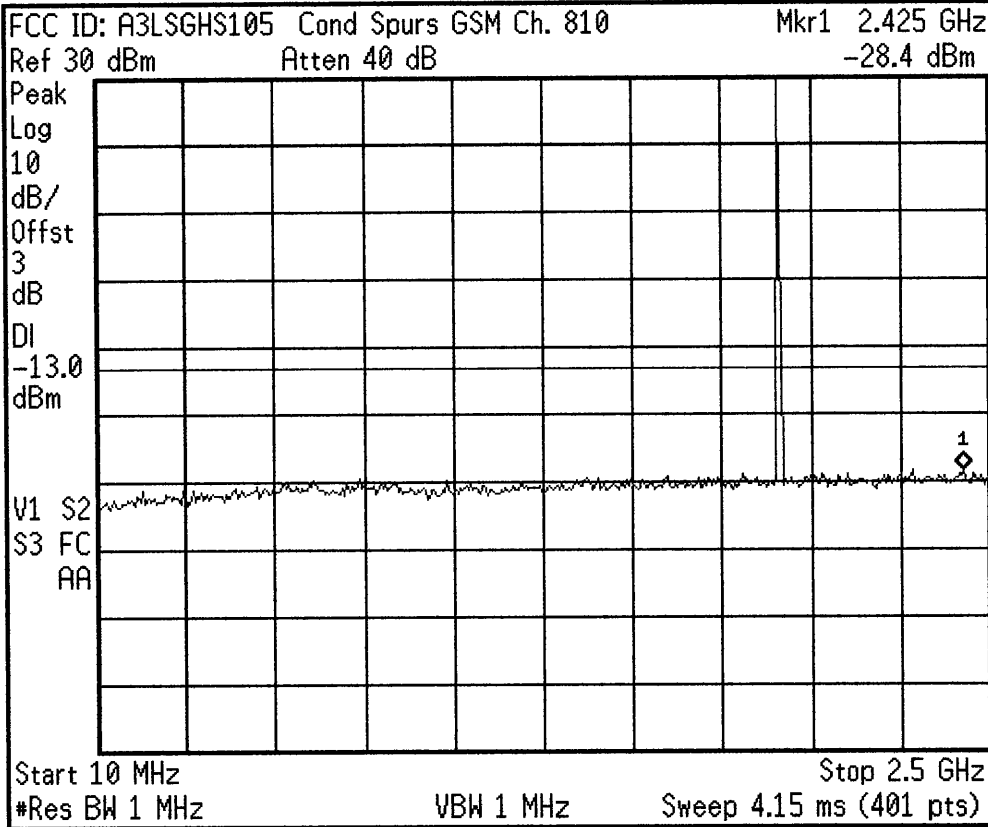
<b>Freq/Channel</b>
<b>Center Freq</b> 1.25500000 GHz
<b>Start Freq</b> 10.0000000 MHz
<b>Stop Freq</b> 2.50000000 GHz
<b>CF Step</b> 249.000000 MHz Auto Man
<b>Freq Offset</b> 0.00000000 Hz
<b>Signal Track</b> On Off
<b>Scale Type</b> Log Lin

Agilent



<b>Freq/Channel</b>
<b>Center Freq</b> 11.2500000 GHz
<b>Start Freq</b> 2.50000000 GHz
<b>Stop Freq</b> 20.0000000 GHz
<b>CF Step</b> 1.75000000 GHz 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

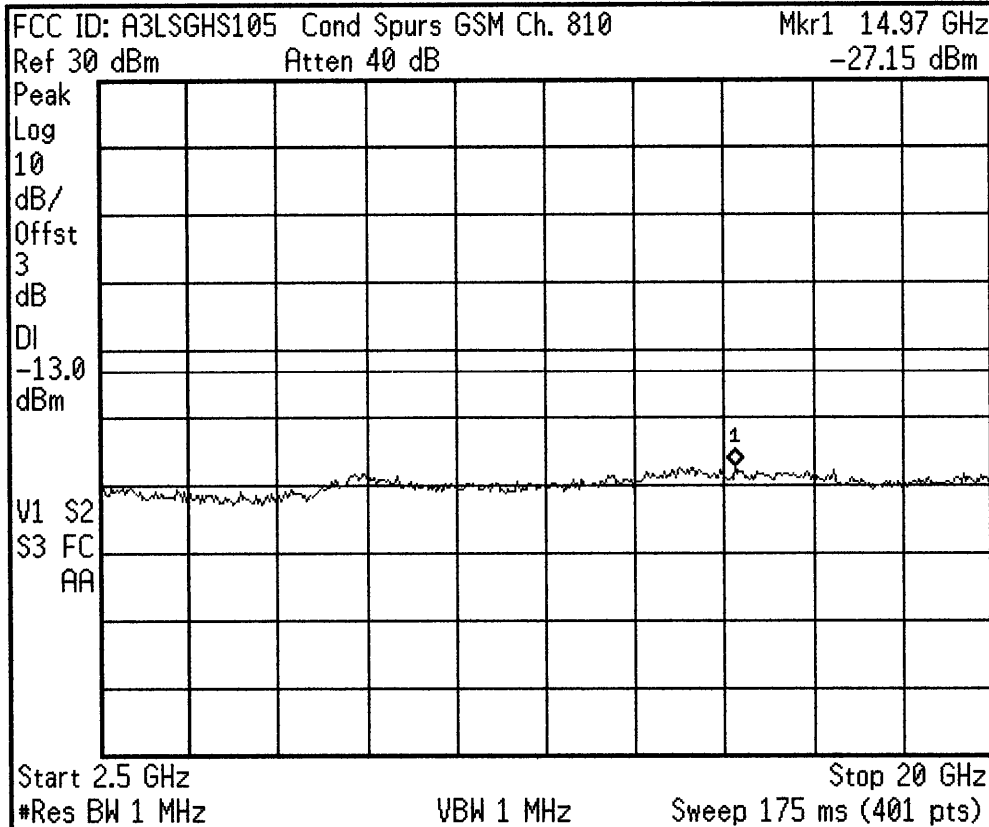
CF Step  
249.000000 MHz  
Auto Man

Freq Offset  
0.00000000 Hz

Signal Track  
On Off

Scale Type  
Log Lin

Agilent



Freq/Channel

Center Freq  
11.2500000 GHz

Start Freq  
2.50000000 GHz

Stop Freq  
20.0000000 GHz

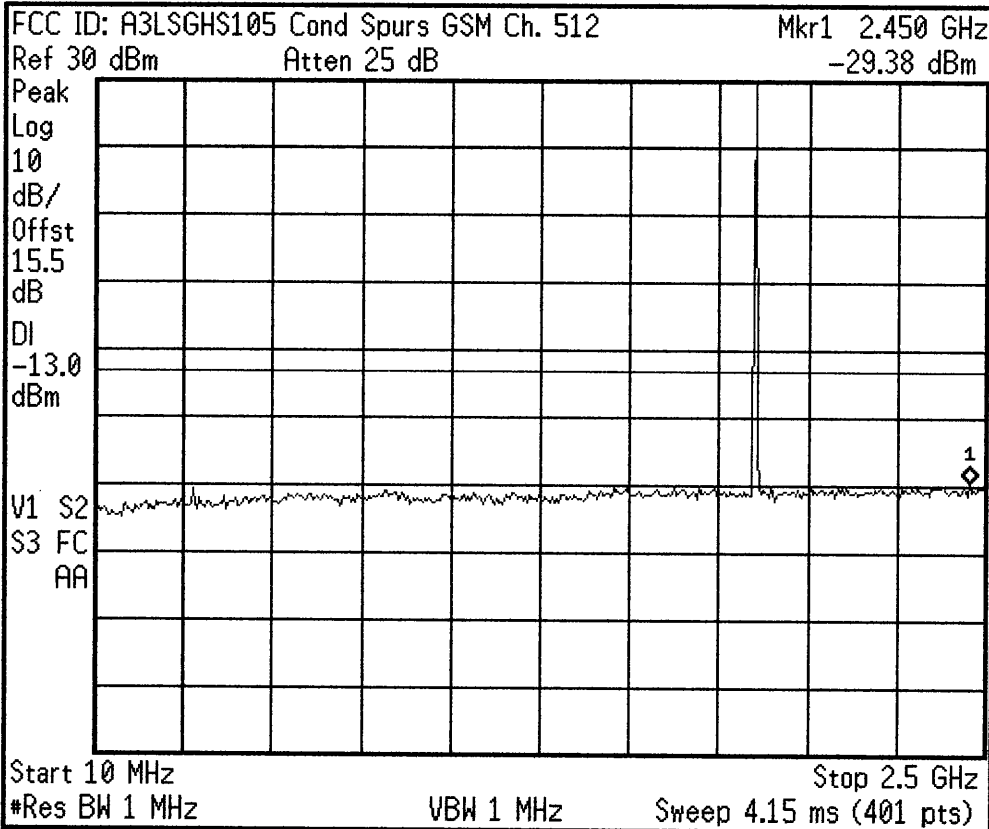
CF Step  
1.75000000 GHz  
Auto Man

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

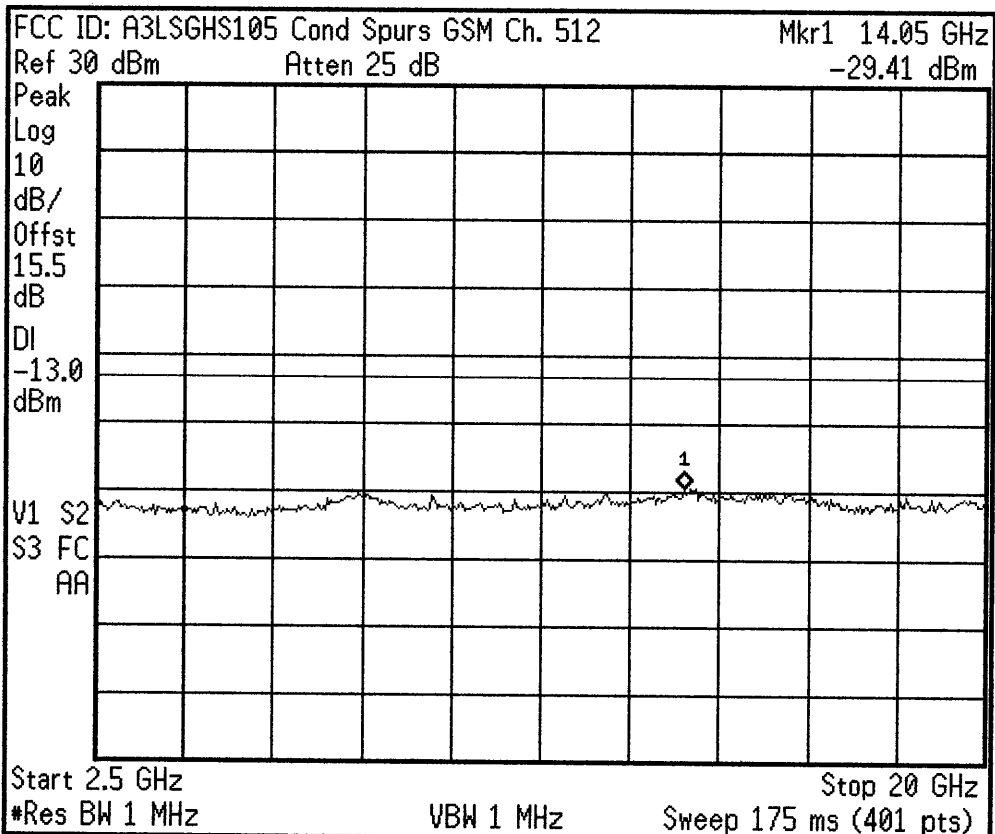
CF Step  
249.000000 MHz  
Auto Man

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

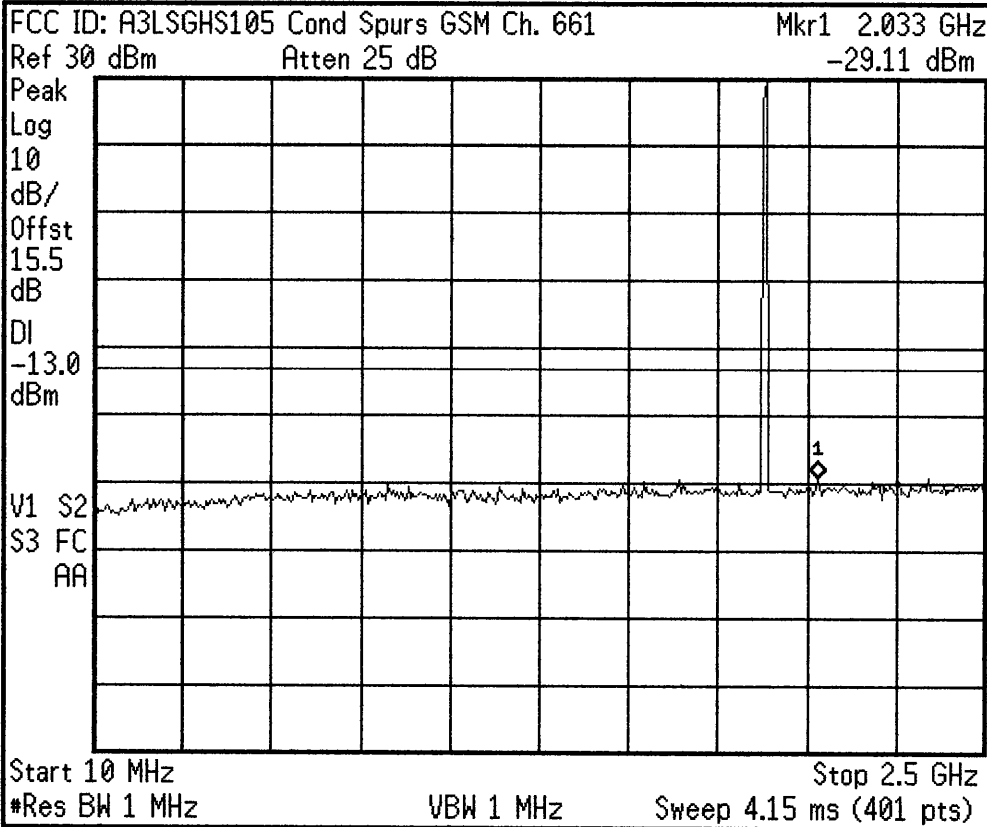
CF Step  
1.75000000 GHz  
Auto Man

Freq Offset  
0.00000000 Hz

Signal Track  
On Off

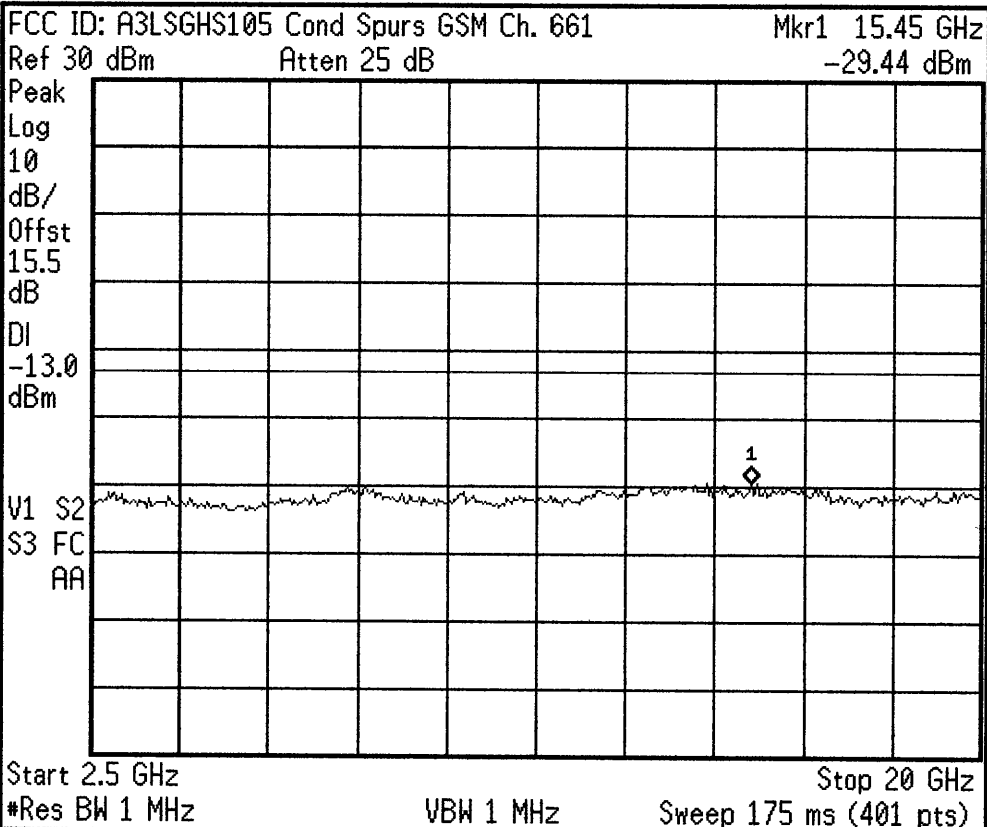
Scale Type  
Log Lin

\* Agilent



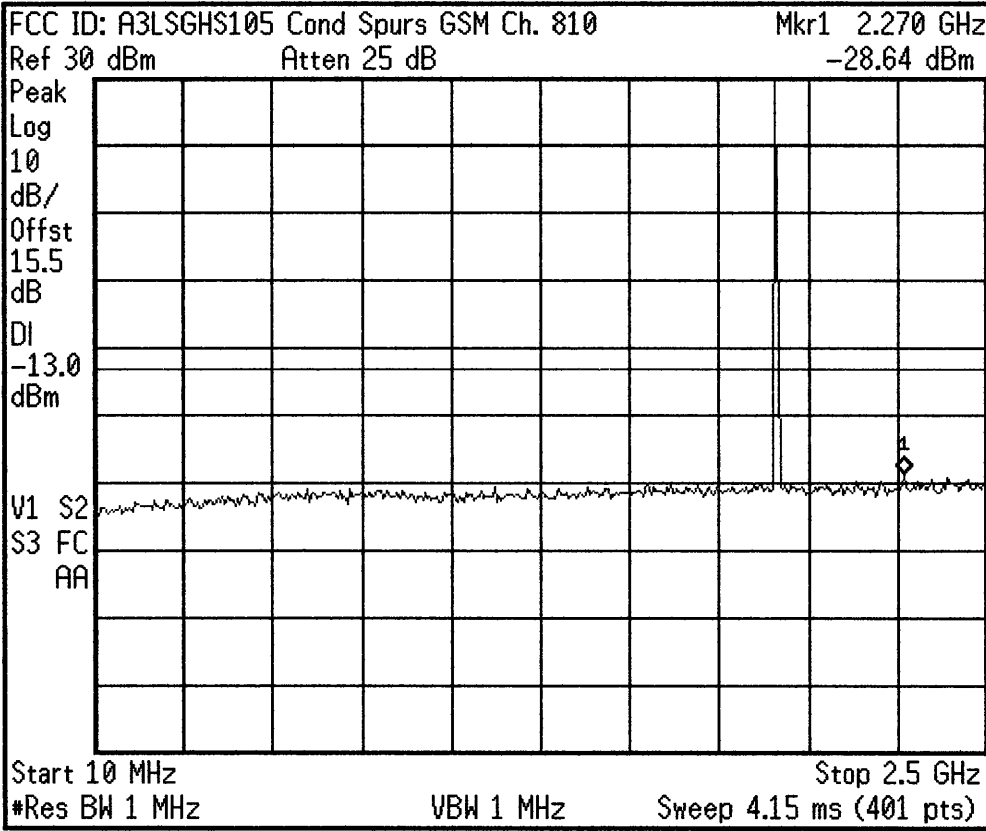
<b>Freq/Channel</b>
<b>Center Freq</b> 1.25500000 GHz
<b>Start Freq</b> 10.0000000 MHz
<b>Stop Freq</b> 2.50000000 GHz
<b>CF Step</b> 249.000000 MHz Auto Man
<b>Freq Offset</b> 0.00000000 Hz
<b>Signal Track</b> On Off
<b>Scale Type</b> Log Lin

\* Agilent



<b>Freq/Channel</b>
<b>Center Freq</b> 11.2500000 GHz
<b>Start Freq</b> 2.50000000 GHz
<b>Stop Freq</b> 20.0000000 GHz
<b>CF Step</b> 1.75000000 GHz 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

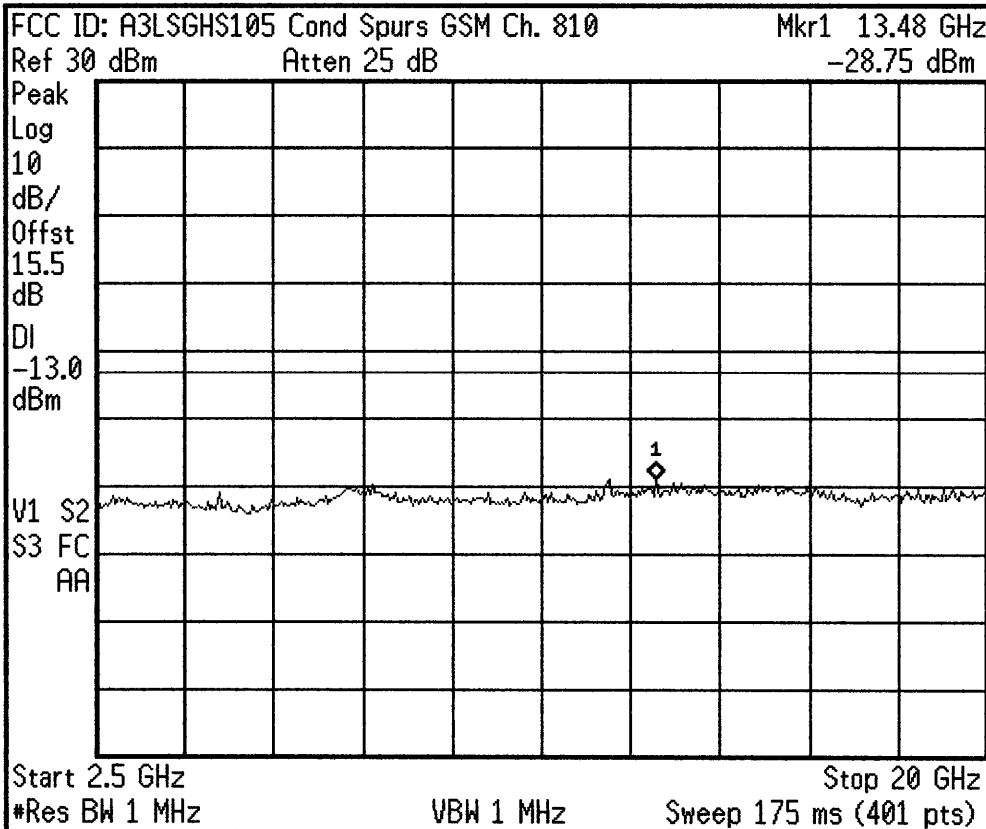
CF Step  
249.000000 MHz  
Auto Man

Freq Offset  
0.00000000 Hz

Signal Track  
On Off

Scale Type  
Log Lin

Agilent



Freq/Channel

Center Freq  
11.2500000 GHz

Start Freq  
2.50000000 GHz

Stop Freq  
20.0000000 GHz

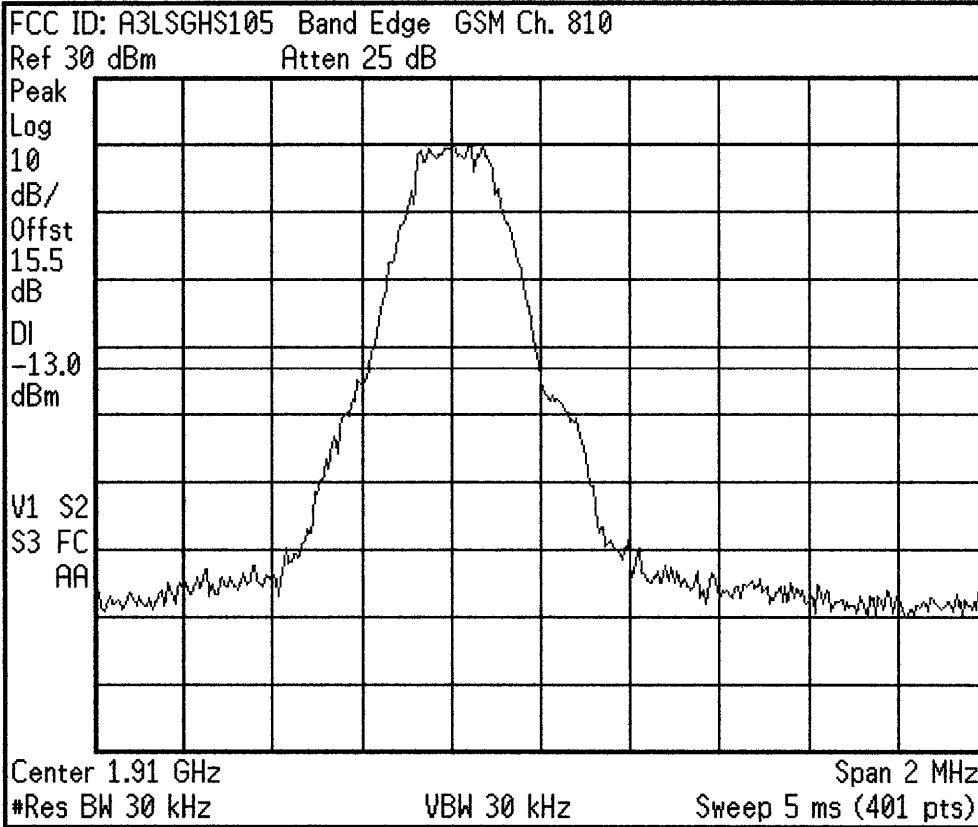
CF Step  
1.75000000 GHz  
Auto Man

Freq Offset  
0.00000000 Hz

Signal Track  
On Off

Scale Type  
Log Lin

Agilent



Freq/Channel

Center Freq  
1.91000000 GHz

Start Freq  
1.90900000 GHz

Stop Freq  
1.91100000 GHz

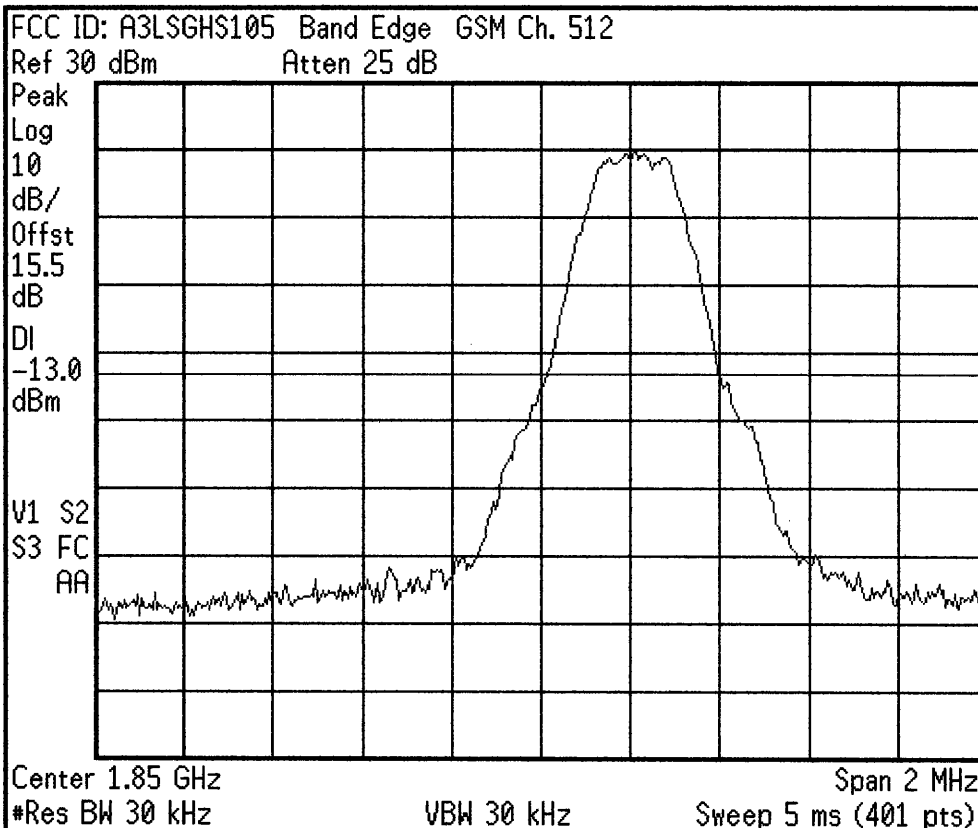
CF Step  
200.000000 kHz  
Auto Man

Freq Offset  
0.00000000 Hz

Signal Track  
On Off

Scale Type  
Log Lin

Agilent



Freq/Channel

Center Freq  
1.85000000 GHz

Start Freq  
1.84900000 GHz

Stop Freq  
1.85100000 GHz

CF Step  
200.000000 kHz  
Auto Man

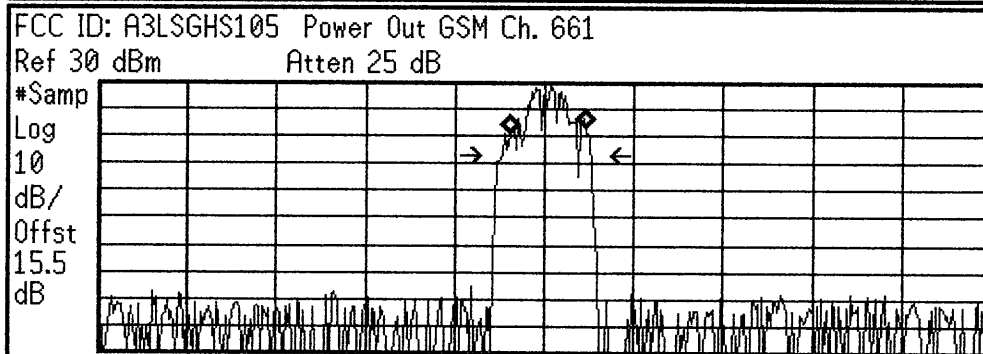
Freq Offset  
0.00000000 Hz

Signal Track  
On Off

Scale Type  
Log Lin

Ch Freq 1.88 GHz Trig Free  
 Occupied Bandwidth

FCC ID: A3LSGHS105 Power Out GSM Ch. 661  
 Ref 30 dBm Atten 25 dB



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

**Occupied Bandwidth** 250.3851 kHz  
**Occ BW % Pwr** 99.00 %  
**x dB** -26.00 dB  
**Transmit Freq Error** 7.182 kHz  
**x dB Bandwidth** 303.546 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  
**Scale Type** Log Lin

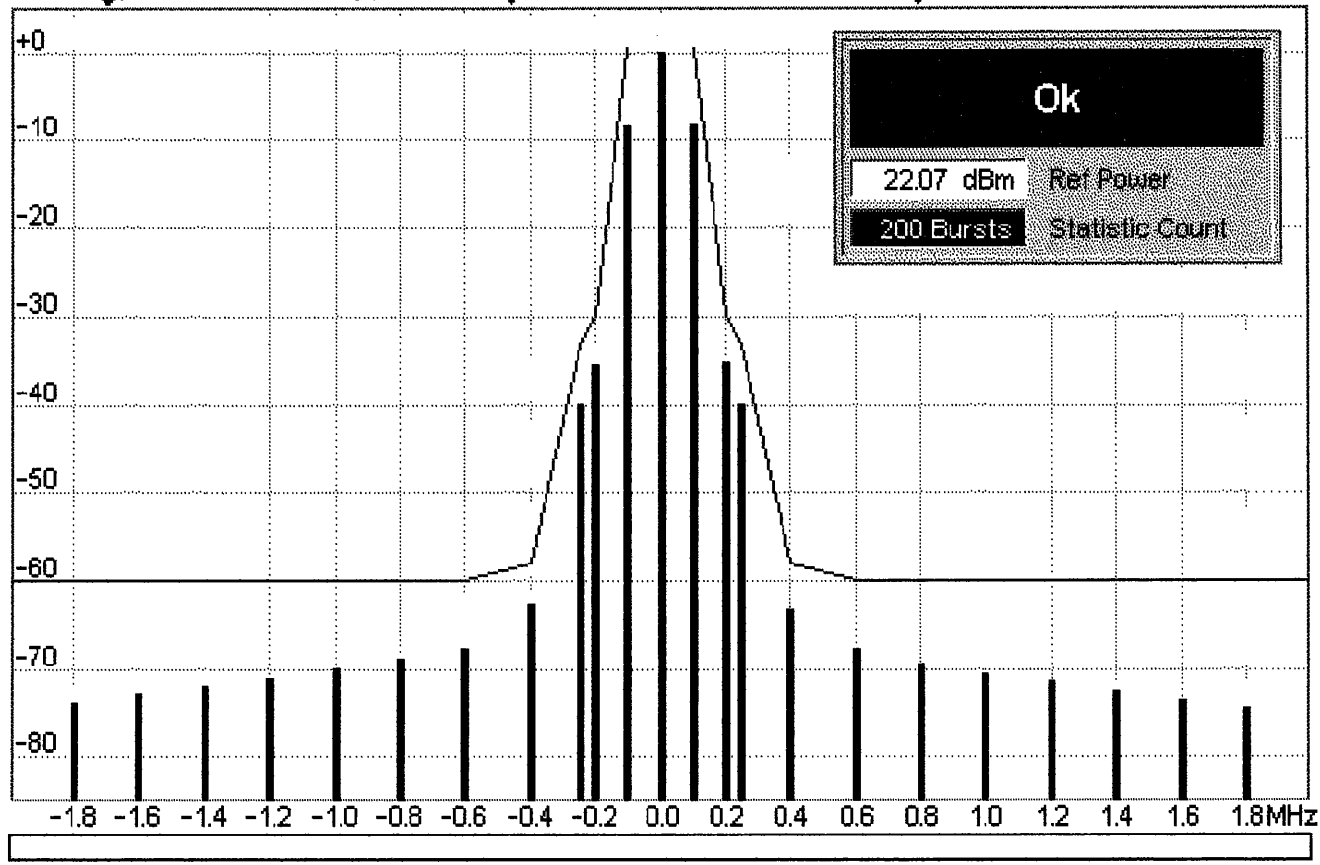
Group  
Config

# GSM 1900 Spectrum



Connect.  
Control

dBc Max. Level: Auto Low Noise PCL: 0 / 30.0 dBm Chan./Freq.: 810 / 1909.8 MHz  
↓: --- / Off ↓: --- / Off ↓: --- / Off



Modulation  
GMSK

Appli-  
cation

Analyzer  
Level

MS Signal

BS Signal

Marker

Menus

Overview

Power

Modulation

Spectrum

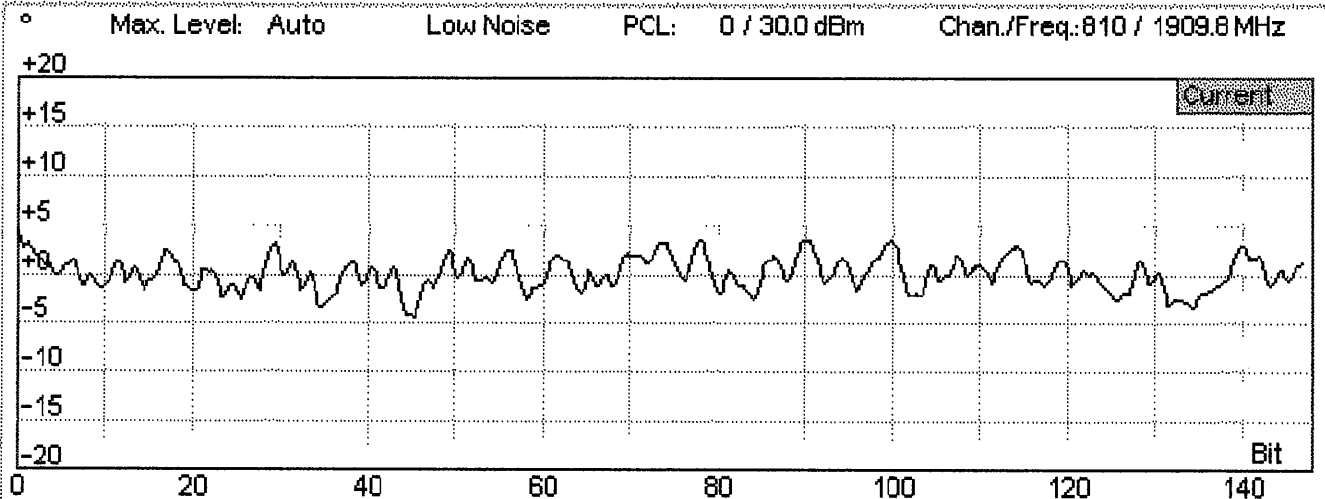
Receiver  
Quality

Group Config

# GSM 1900 Modulation



Connect. Control



Ext. Phase Err. GSMK

Analyzer Level

MS Signal

BS Signal

**GSM 0** TSC detected

	Current	Average	Max / Min
Phase Error	-4.3 °	5.8 °	9.5 °
Peak			
RMS	1.6 °	1.7 °	2.1 °
Origin Offset	-46.5 dB	-48.6 dB	-39.3 dB
I/Q Imbalance	-44.5 dB	-46.8 dB	-40.6 dB
Frequency Error	116 Hz	118 Hz	135 Hz

**-0.5 Bit** Timing Advance Error

**30.0 dBm** Avg. Burst Power (Cur.)

**100 Bursts** Statistic Count

**0.00 %** Bursts out of Tolerance

Overview

Power

Modulation

Spectrum

Receiver Quality

Menus

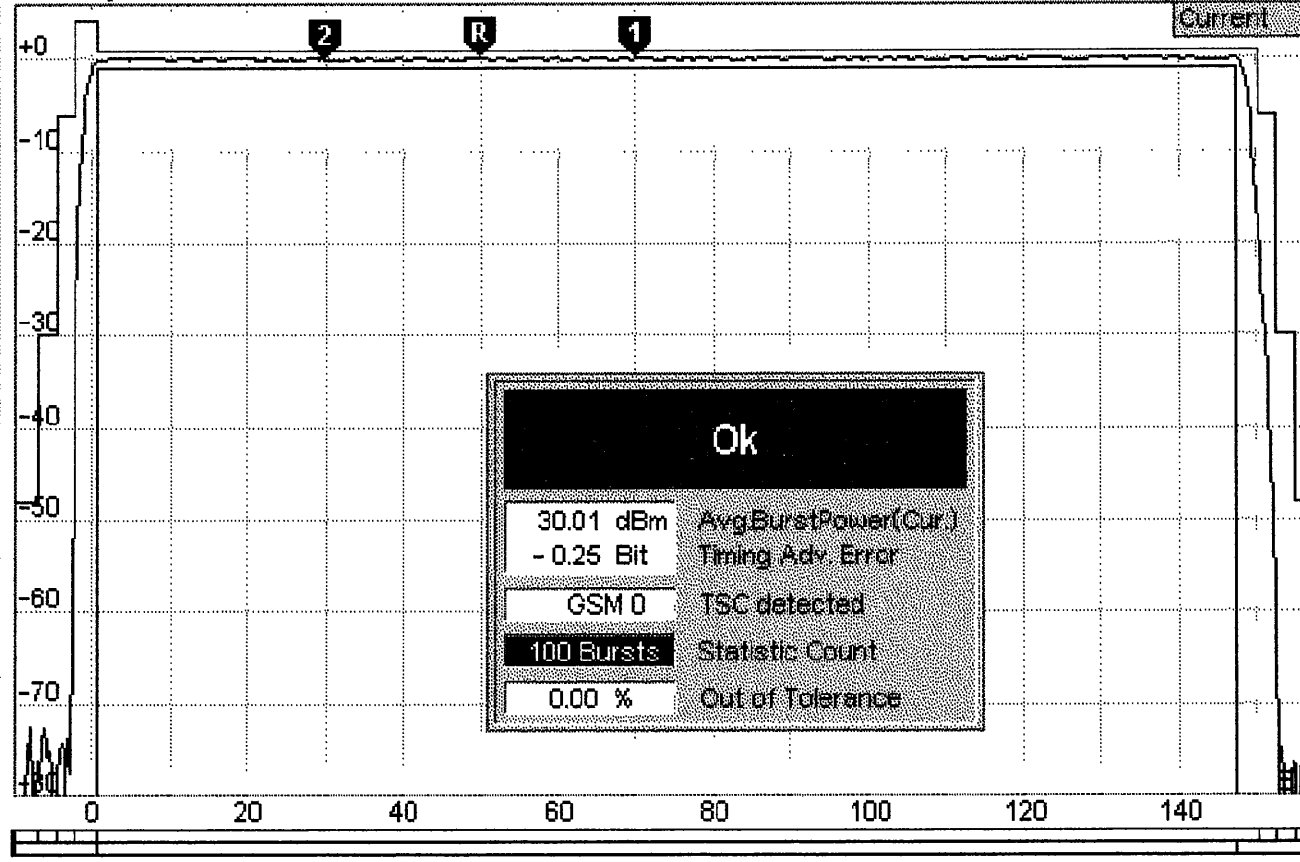
Group  
Config

# GSM 1900 Power



Connect.  
Control

dB Max. Level: Auto Low Noise PCL: 0 / 30.0 dBm Chan./Freq.: 810 / 1909.8 MHz  
↓: 30.1 dBm / 49.75 Bit ↓: -0.1 dB / +20.00 Bit ↓: -0.1 dB / -20.00 Bit



**Ok**

30.01 dBm	AvgBurstPower(Cur.)
-0.25 Bit	Timing Adv. Error
GSM 0	TSC detected
<b>100 Bursts</b>	Statistic Count
0.00 %	Out of Tolerance

CP/T Norm.  
GMSK

Appli-  
cation

Analyzer  
Level

MS Signal

BS Signal

Marker  
Display

Menus

Overview

Power

Modulation

Spectrum

Receiver  
Quality

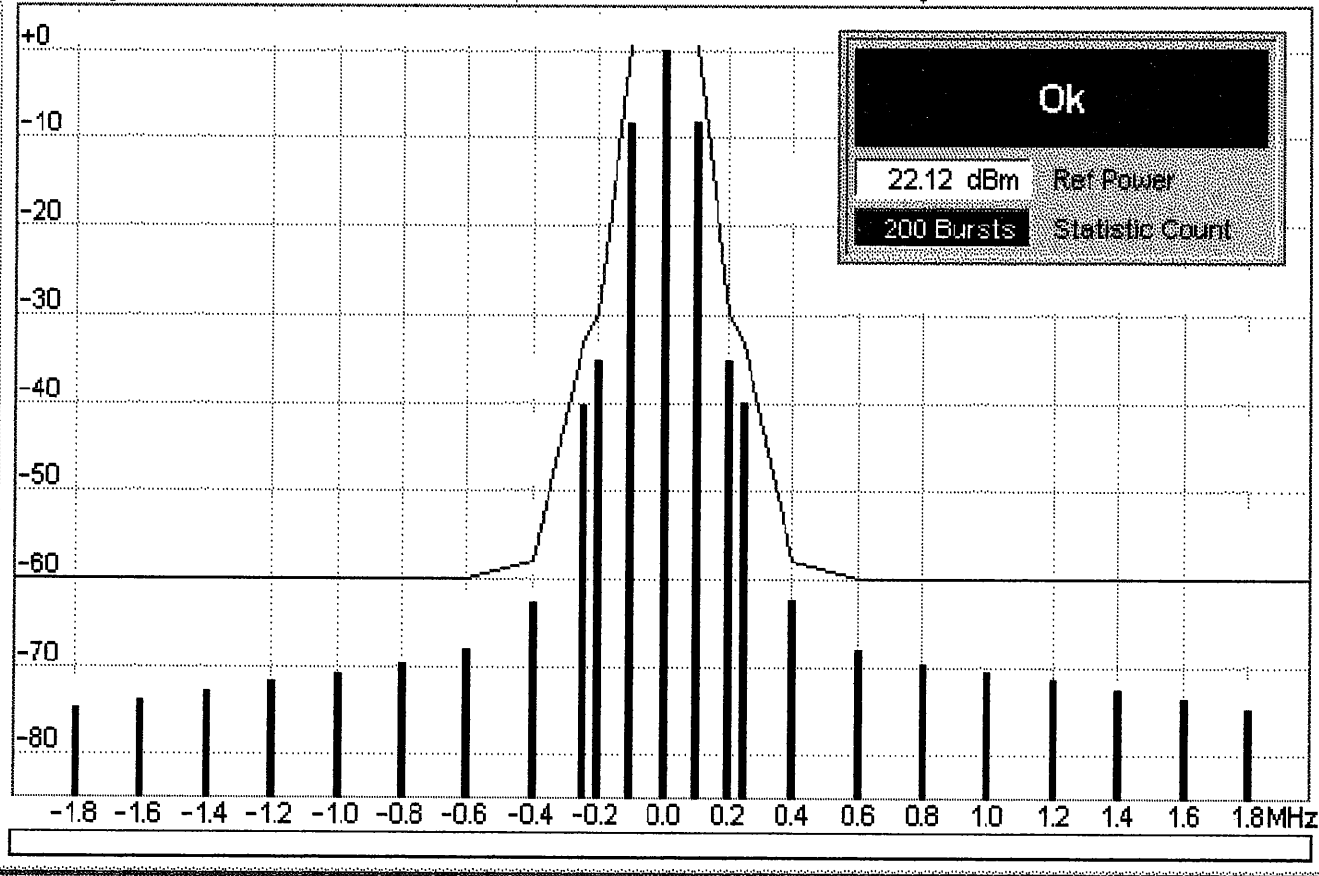
Group  
Config

# GSM 1900 Spectrum



Connect.  
Control

dBc Max. Level: Auto Low Noise PCL: 0 / 30.0 dBm Chan./Freq.: 661 / 1860.0 MHz  
↓: --- / Off ↓: --- / Off ↓: --- / Off



Modulation  
GMSK

Appli-  
cation

Analyzer  
Level

MS Signal

BS Signal

Marker

Menus

Overview

Power

Modulation

Spectrum

Receiver  
Quality

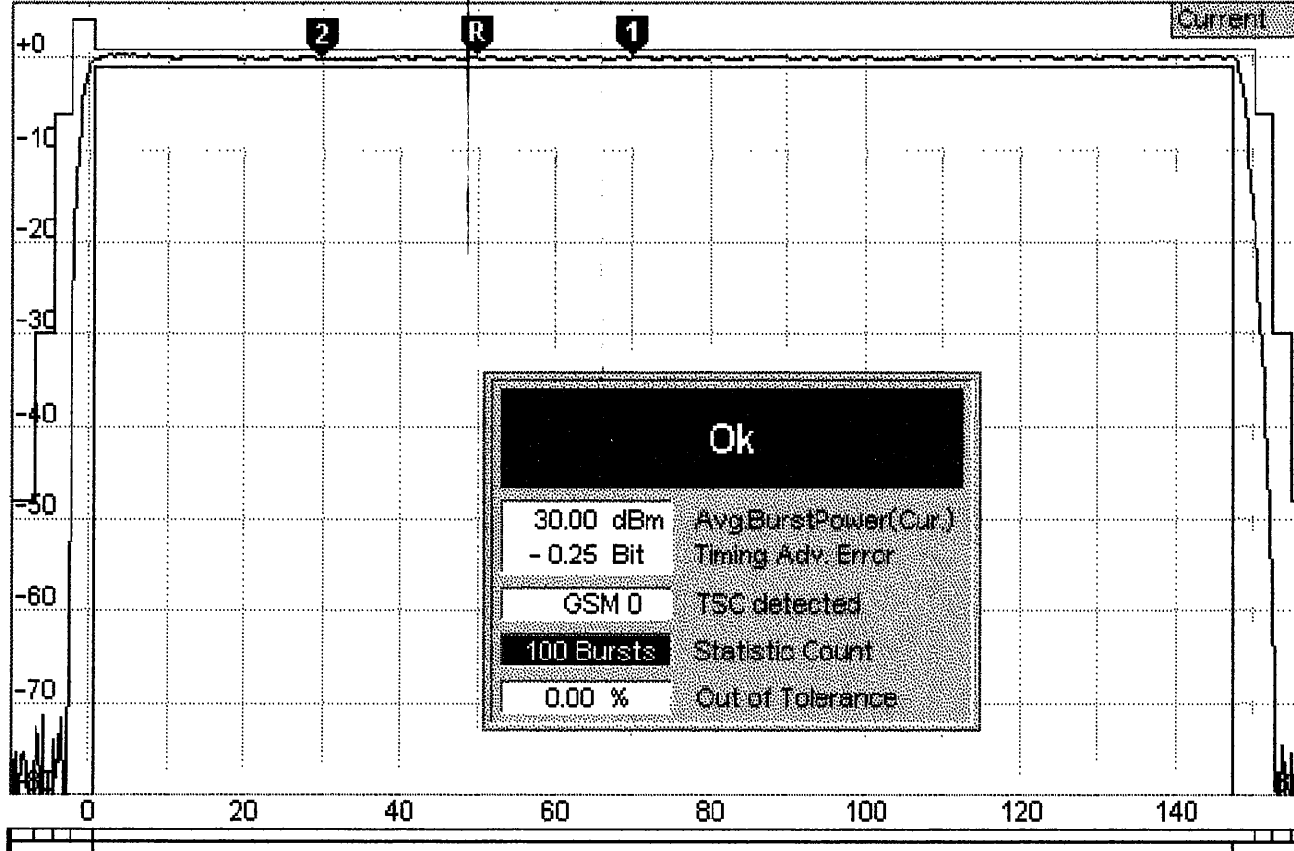
Group  
Config

# GSM 1900 Power



Connect.  
Control

dB Max. Level: Auto Low Noise PCL: 0 / 30.0 dBm Chan./Freq.: 661 / 1880.0 MHz  
30.0 dBm / 49.75 Bit -0.1 dB / +20.00 Bit -0.2 dB / -20.00 Bit



P/t Norm.  
GMSK

Appli-  
cation

Analyzer  
Level

MS Signal

BS Signal

Marker  
Display

Menus

Overview

Power

Modulation

Spectrum

Receiver  
Quality

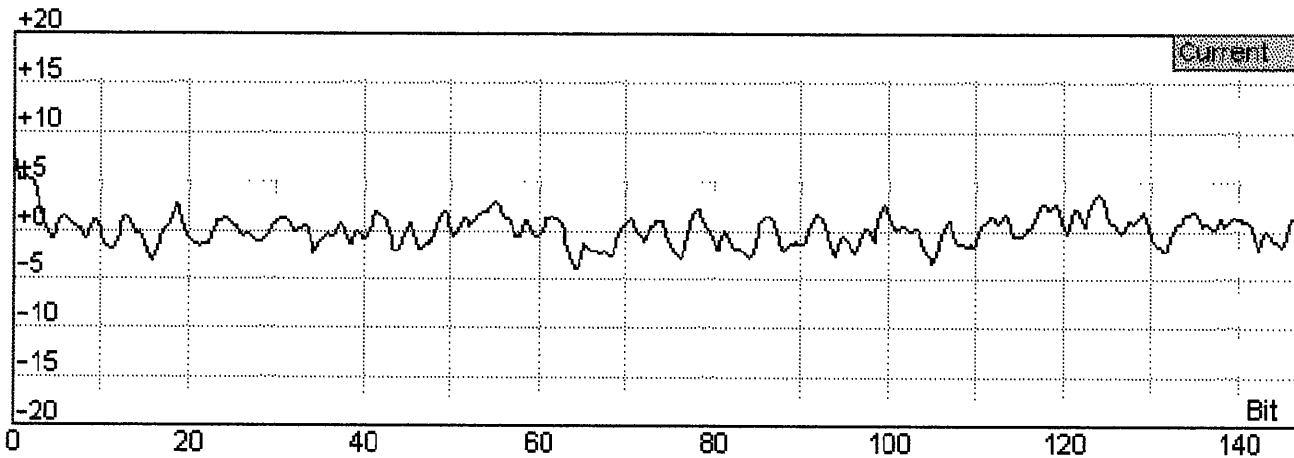
Group  
Config

# GSM 1900 Modulation



Connect.  
Control

Max. Level: Auto    Low Noise    PCL: 0 / 30.0 dBm    Chan./Freq.: 661 / 1880.0 MHz



Ext. Phase  
Err. GMSK

Analyzer  
Level

MS Signal

BS Signal

**GSM 0** TSC detected

	Current	Average	Max / Min
Phase Error	Peak 7.7 °	7.9 °	10.2 °
	RMS 1.6 °	1.8 °	2.1 °
Origin Offset	-55.4 dB	-48.6 dB	-41.1 dB
I/Q Imbalance	-49.0 dB	-48.4 dB	-41.6 dB
Frequency Error	106 Hz	101 Hz	117 Hz

**-0.3 Bit**  
Timing Advance Error

**30.0 dBm**  
Avg. Burst Power (Cur)

**100** Bursts  
Statistic Count

**0.00 %**  
Bursts out of Tolerance

Overview

Power

Modulation

Spectrum

Receiver  
Quality

Menus

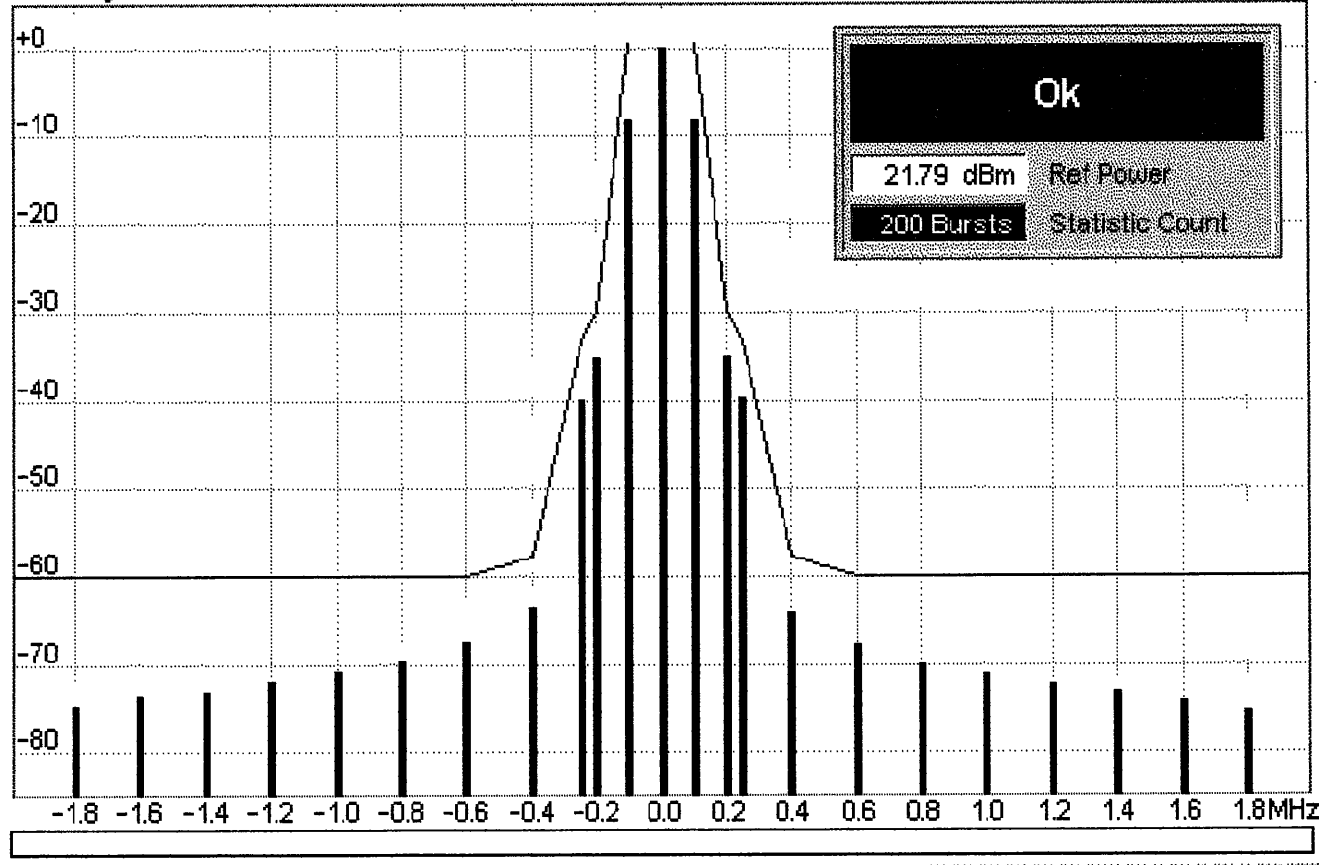
Group  
Config

# GSM 1900 Spectrum



Connect.  
Control

dBc Max. Level: Auto Low Noise PCL: 0 / 30.0 dBm Chan./Freq.: 512 / 1850.2 MHz  
↓: --- / Off ↓: --- / Off ↓: --- / Off



Modulation  
GMSK

Appli-  
cation

Analyzer  
Level

MS Signal

BS Signal

Marker

Menus

Overview

Power

Modulation

Spectrum

Receiver  
Quality

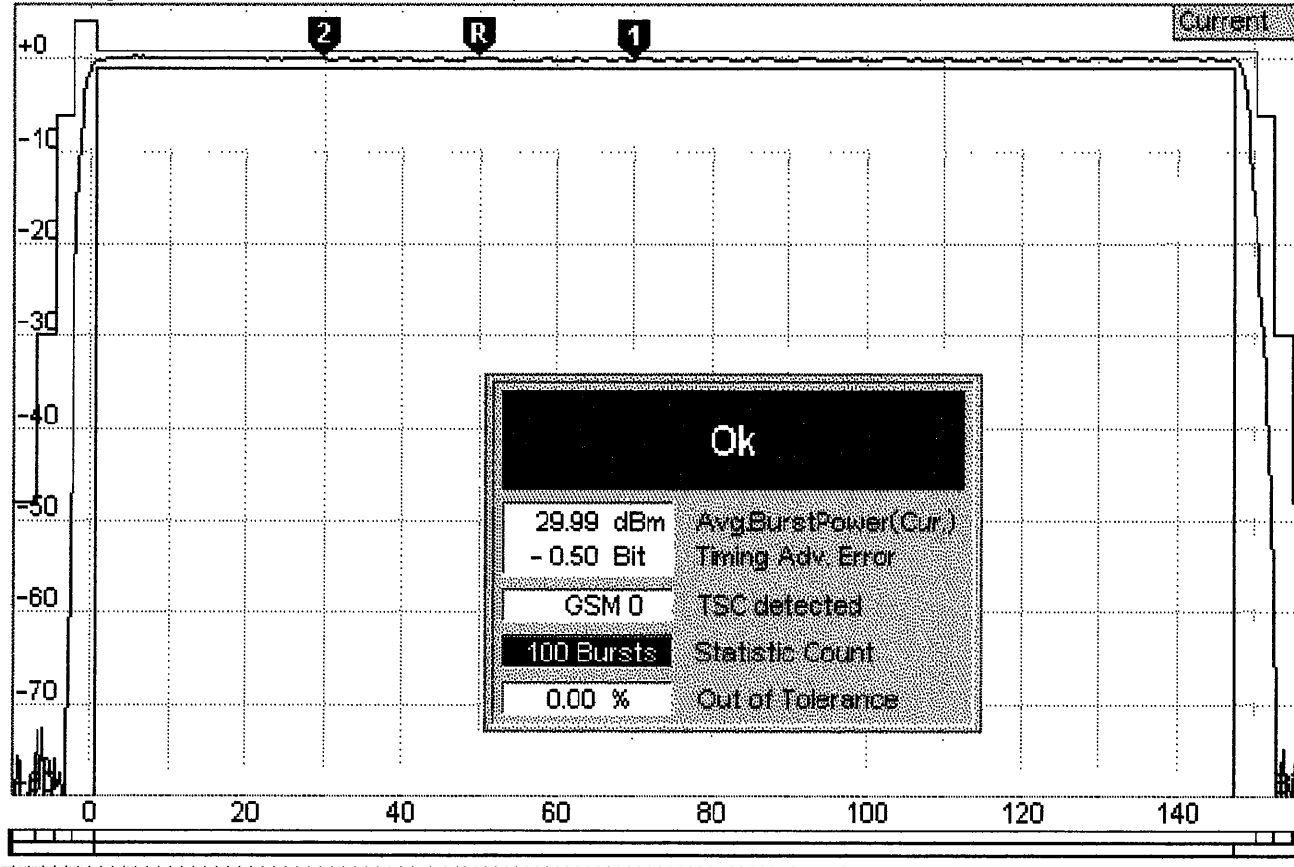
Group  
Config

# GSM 1900 Power



Connect.  
Control

dB Max. Level: Auto Low Noise PCL: 0 / 30.0 dBm Chan./Freq.: 512 / 1850.2 MHz  
1: 30.1 dBm / 49.75 Bit 0: -0.2 dB / +20.00 Bit 2: 0.0 dB / -20.00 Bit



P/t Norm.  
GMSK

Appli-  
cation

Analyzer  
Level

MS Signal

BS Signal

Marker  
Display

Menus

RF Max  
Level

RF  
Mode

RF  
Attenuation

Trigger  
Source

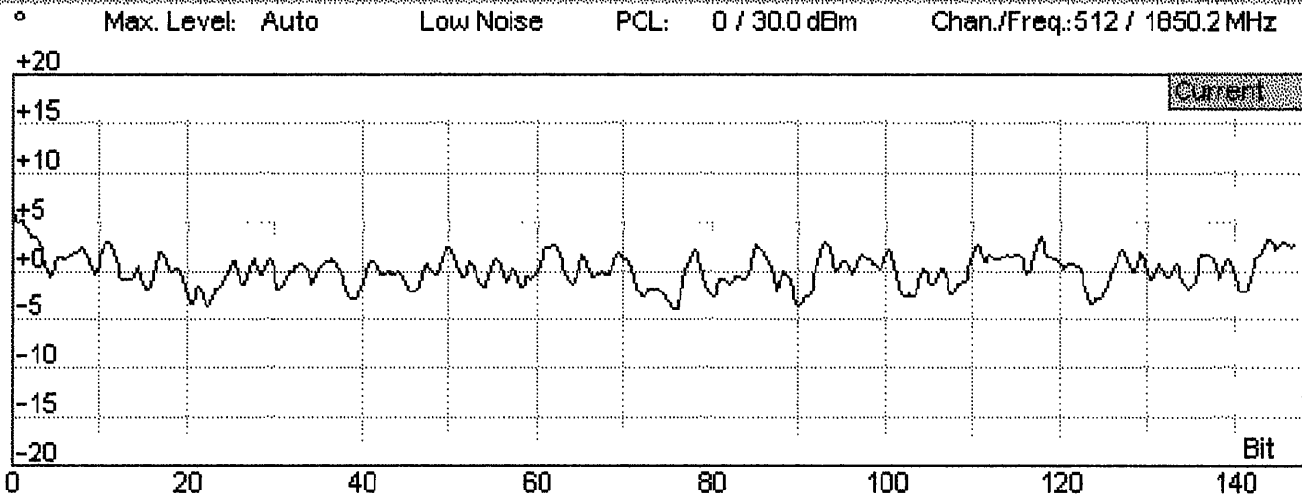
Trigger  
Level

Group  
Config

# GSM 1900 Modulation



Connect.  
Control



Ext. Phase  
Err. GSMK

Analyzer  
Level

MS Signal

BS Signal

**GSM 0** TSC detected

	Current	Average	Max / Min
Phase Error	Peak <b>6.4 °</b>	<b>6.3 °</b>	<b>8.8 °</b>
	RMS <b>1.7 °</b>	<b>1.7 °</b>	<b>2.1 °</b>
Origin Offset	<b>-46.9 dB</b>	<b>-48.8 dB</b>	<b>-39.1 dB</b>
I/Q Imbalance	<b>-56.6 dB</b>	<b>-48.1 dB</b>	<b>-40.7 dB</b>
Frequency Error	<b>106 Hz</b>	<b>94 Hz</b>	<b>113 Hz</b>

**-0.3 Bit**

Timing Advance Error

**30.0 dBm**

Avg. Burst Power (Cur)

**100** Bursts

Statistic Count

**0.00 %**

Bursts out of Tolerance

Overview

Power

Modulation

Spectrum

Receiver  
Quality

Menus