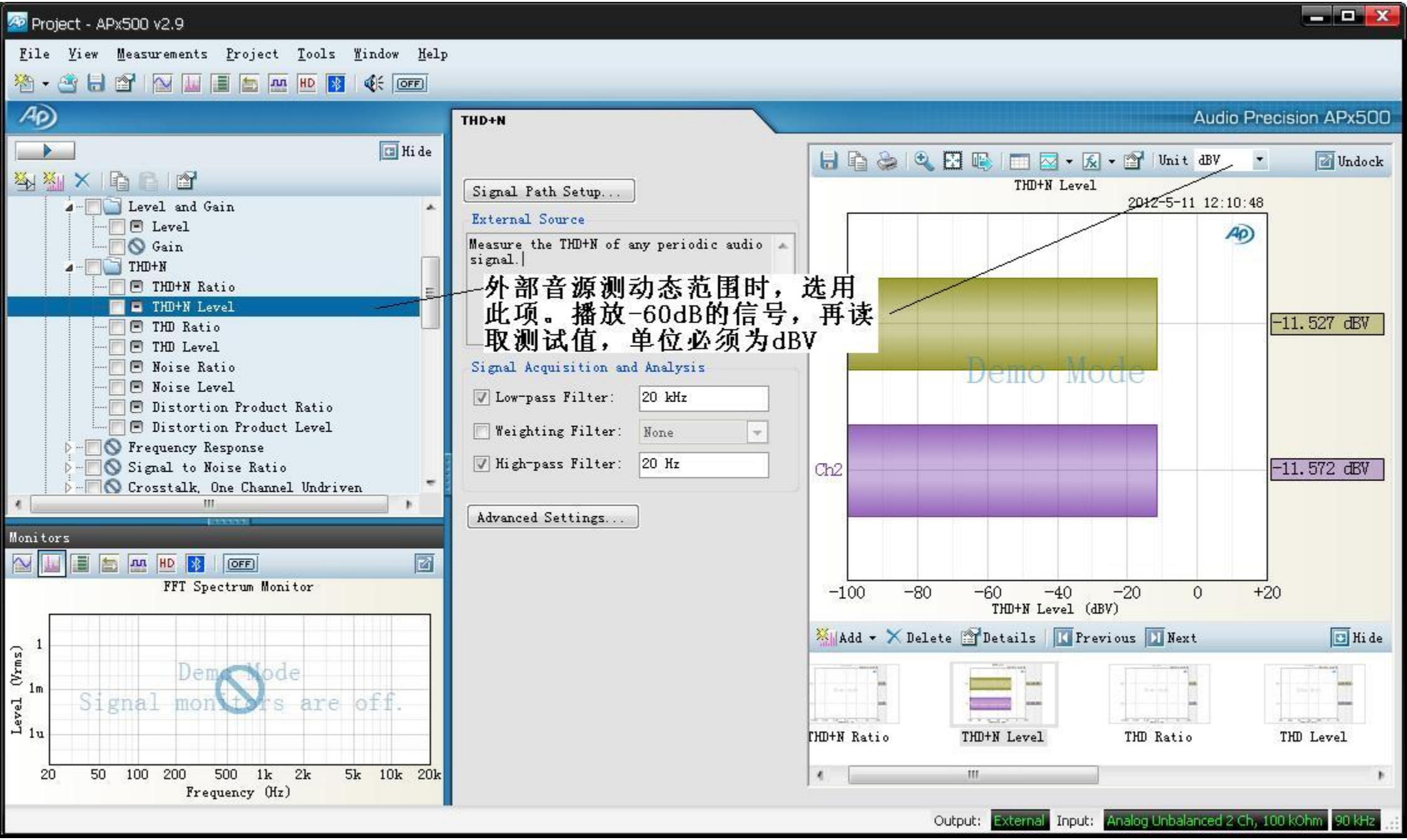
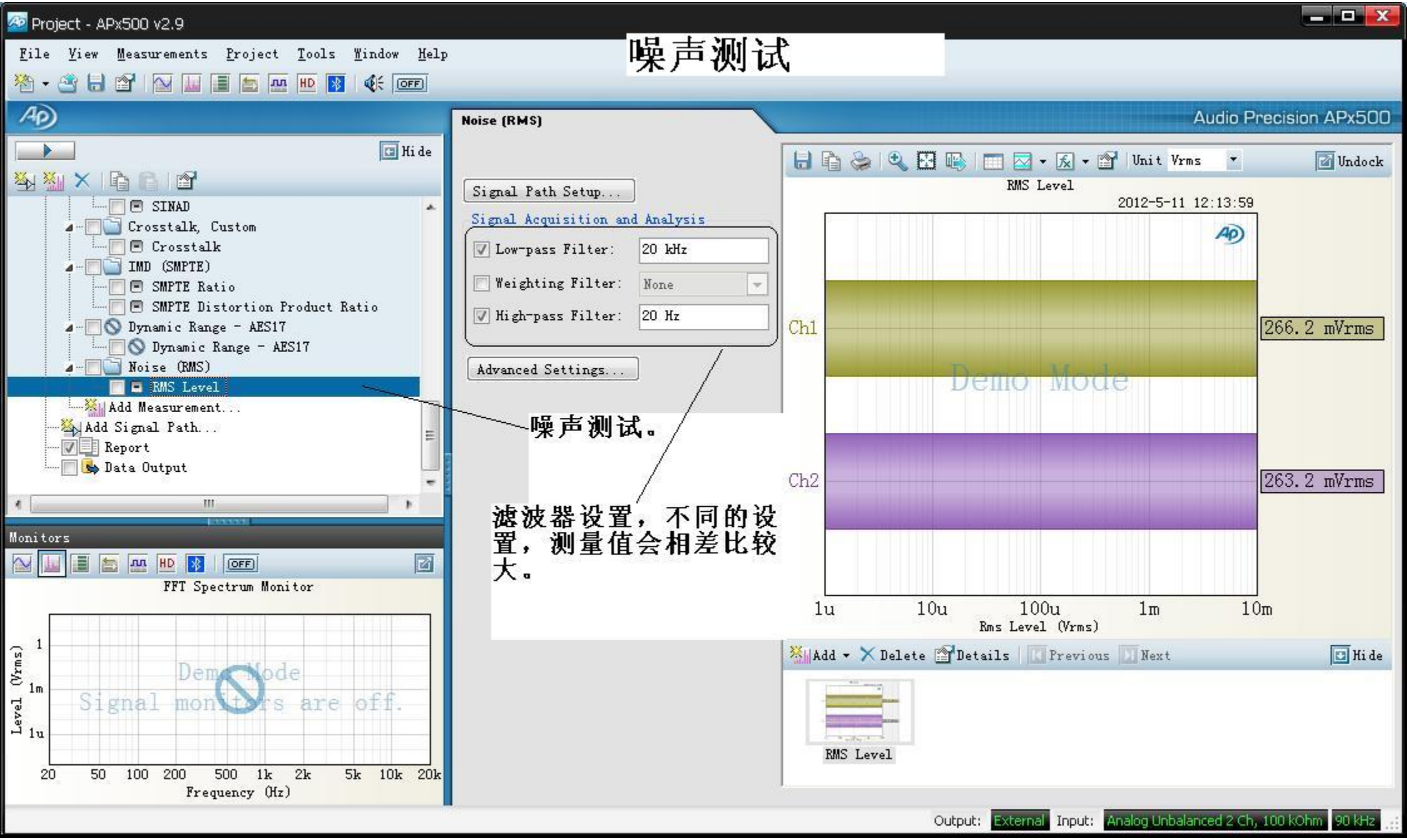
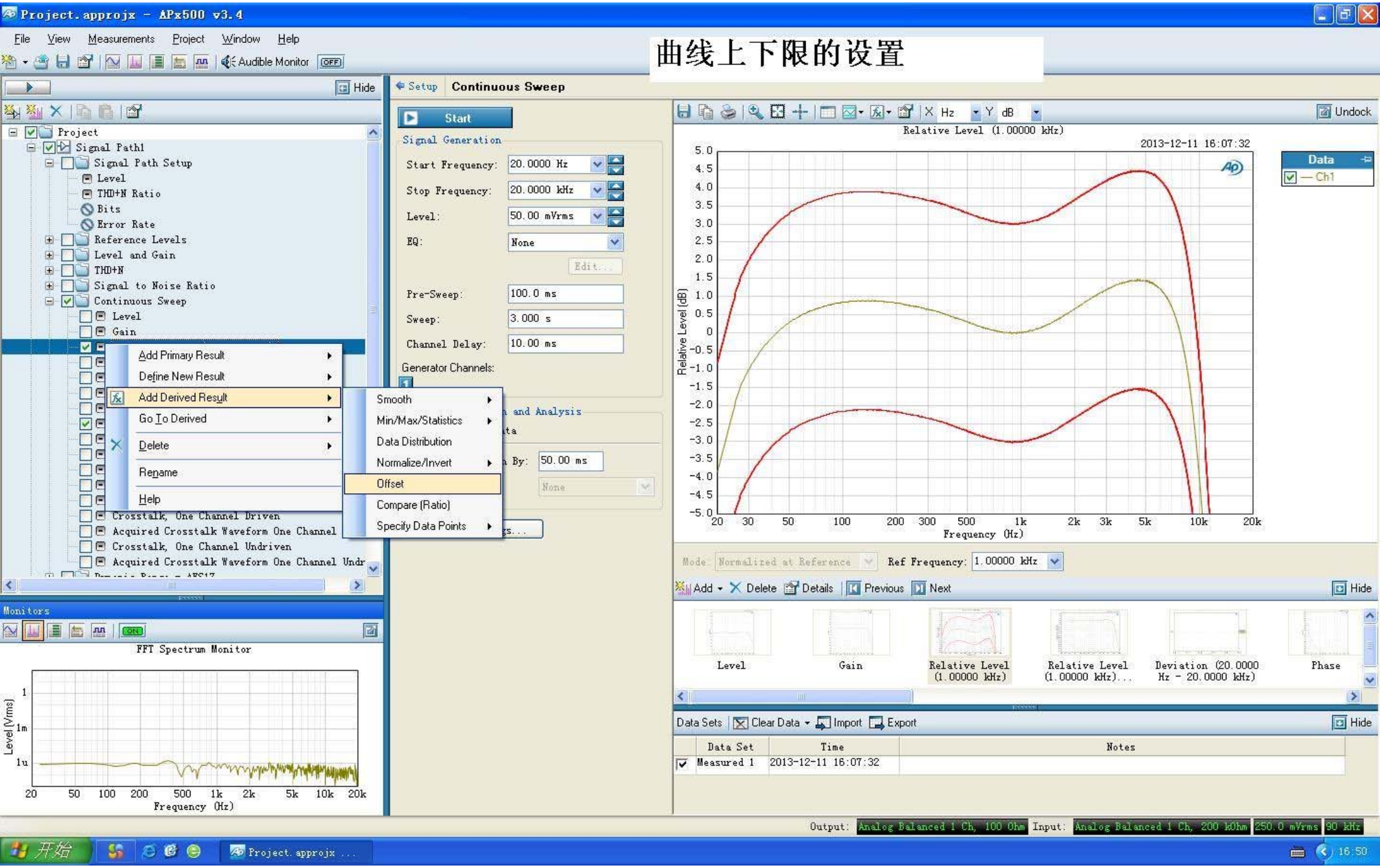

Project - APx500 v2.9
File View Measurements Project Tools Window Help
Audio Precision APx500
Hide
Level and Gain
Level
Gain
THD+N
THD+N Ratio
THD+N Level
THD Ratio
THD Level
Noise Ratio
Noise Level
Distortion Product Ratio
Distortion Product Level
Frequency Response
Signal to Noise Ratio
Crosstalk, One Channel Undriven
Monitors
FFT Spectrum Monitor
Level (Vrms)
1
1m
1u
Demo Mode
Signal monitors are off.
20 50 100 200 500 1k 2k 5k 10k 20k
Frequency (Hz)
THD+N
Signal Path Setup...
External Source
Measure the THD+N of any periodic audio signal.
外部音源测动态范围时，选用此项。播放-60dB的信号，再读取测试值，单位必须为dBV
Signal Acquisition and Analysis
Low-pass Filter: 20 kHz
Weighting Filter: None
High-pass Filter: 20 Hz
Advanced Settings...
Unit dBV
Undock
THD+N Level
2012-5-11 12:10:48
-11.527 dBV
-11.572 dBV
Ch2
Demo Mode
-100 -80 -60 -40 -20 0 +20
THD+N Level (dBV)
Add Delete Details Previous Next Hide
THD+N Ratio
THD+N Level
THD Ratio
THD Level
Output: External Input: Analog Unbalanced 2 Ch, 100 kOhm 90 kHz


Project - APx500 v2.9
File View Measurements Project Tools Window Help
噪声测试
Audio Precision APx500
Hide
SINAD
Crosstalk, Custom
Crosstalk
IMD (SMPTE)
SMPTE Ratio
SMPTE Distortion Product Ratio
Dynamic Range - AES17
Dynamic Range - AES17
Noise (RMS)
RMS Level
Add Measurement...
Add Signal Path...
Report
Data Output
Noise (RMS)
Signal Path Setup...
Signal Acquisition and Analysis
Low-pass Filter: 20 kHz
Weighting Filter: None
High-pass Filter: 20 Hz
Advanced Settings...
噪声测试。
滤波器设置，不同的设置，测量值会相差比较大。
Unit Vrms
Undock
RMS Level
2012-5-11 12:13:59
Ch1
266.2 mVrms
Ch2
263.2 mVrms
Demo Mode
1u 10u 100u 1m 10m
Rms Level (Vrms)
Add Delete Details Previous Next Hide
RMS Level
Monitors
FFT Spectrum Monitor
Level (Vrms)
1
1m
1u
Demo Mode
Signal monitors are off.
20 50 100 200 500 1k 2k 5k 10k 20k
Frequency (Hz)
Output: External Input: Analog Unbalanced 2 Ch, 100 kOhm 90 kHz


Project.approjx - APx500 v3.4
File View Measurements Project Window Help
Audible Monitor OFF
曲线上下限的设置
Hide
Setup Continuous Sweep
Start
Signal Generation
Start Frequency: 20.0000 Hz
Stop Frequency: 20.0000 kHz
Level: 50.00 mVrms
EQ: None
Edit...
Pre-Sweep: 100.0 ms
Sweep: 3.000 s
Channel Delay: 10.00 ms
Generator Channels:
Project
Signal Path1
Signal Path Setup
Level
THD+N Ratio
Bits
Error Rate
Reference Levels
Level and Gain
THD+N
Signal to Noise Ratio
Continuous Sweep
Level
Gain
Add Primary Result
Define New Result
Add Derived Result
Go To Derived
Delete
Rename
Help
Smooth
Min/Max/Statistics
Data Distribution
Normalize/Invert
Offset
Compare (Ratio)
Specify Data Points
Crosstalk, One Channel Driven
Acquired Crosstalk Waveform One Channel
Crosstalk, One Channel Undriven
Acquired Crosstalk Waveform One Channel Undr
Monitors
FFT Spectrum Monitor
Level (Vrms)
Frequency (Hz)
Undock
Relative Level (1.00000 kHz)
2013-12-11 16:07:32
Relative Level (dB)
Frequency (Hz)
Data
Ch1
Mode: Normalized at Reference
Ref Frequency: 1.00000 kHz
Add Delete Details Previous Next
Level
Gain
Relative Level (1.00000 kHz)
Relative Level (1.00000 kHz)...
Deviation (20.0000 Hz - 20.0000 kHz)
Phase
Data Sets Clear Data Import Export
Data Set
Time
Notes
Measured 1
2013-12-11 16:07:32
Output: Analog Balanced 1 Ch, 100 Ohm
Input: Analog Balanced 1 Ch, 200 kOhm 250.0 mVrms 90 kHz
开始
Project.approjx ...
16:50

Project.approjx - APx500 v3.4

File View Measurements Project Window Help

Audible Monitor OFF

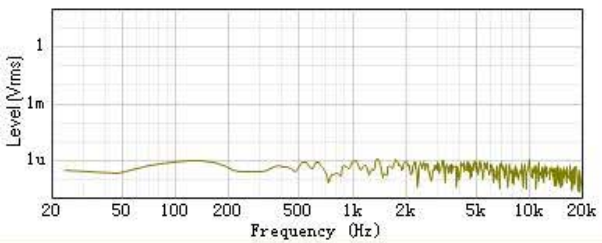
Hide

Project
- Signal Path1
  - Signal Path Setup
    - Level
    - THD+N Ratio
    - Bits
    - Error Rate
  - Reference Levels
  - Level and Gain
  - THD+N
  - Signal to Noise Ratio
  - Continuous Sweep
    - Level
    - Gain
    - Relative Level (1.00000 kHz)
    - Relative Level (1.00000 kHz) -> Offset
    - Deviation (20.0000 Hz - 20.0000 kHz)
    - Phase
    - Group Delay
    - THD Ratio
    - THD Level
    - Distortion Product Ratio (Ot2)
    - Distortion Product Level (Ot2)
    - Impulse Response
    - Acquired Waveform
    - Crosstalk, One Channel Driven
    - Acquired Crosstalk Waveform One Channel Driv
    - Crosstalk, One Channel Undriven
    - Acquired Crosstalk Waveform One Channel Undr

Monitors

ON

FFT Spectrum Monitor



Setup | Continuous Sweep

Start

Signal Generation

Start Frequency:	20.0000 Hz
Stop Frequency:	20.0000 kHz
Level:	50.00 mVrms
EQ:	None
	Edit...
Pre-Sweep:	100.0 ms
Sweep:	3.000 s
Channel Delay:	10.00 ms

Generator Channels: 1

Signal Acquisition and Analysis

Append Graph Data

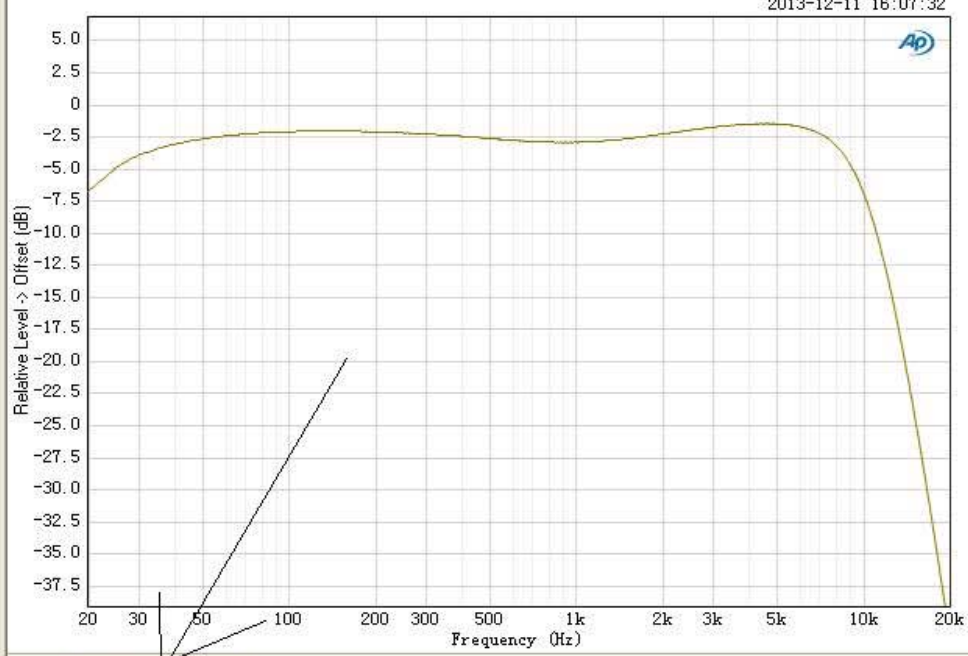
Extend Acquisition By:	50.00 ms
Crosstalk Mode:	None

Advanced Settings...

X Hz Y dB Undock

Relative Level (1.00000 kHz) -> Offset

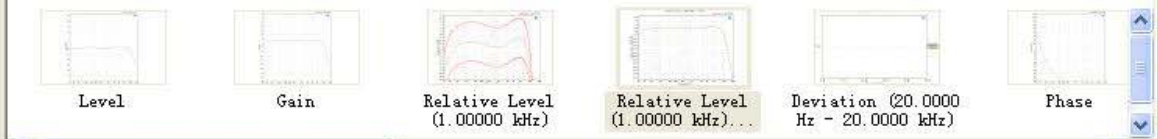
2013-12-11 16:07:32



Data
Ch1

Gain: -3.000 dB

Add Delete Details Previous Next Hide

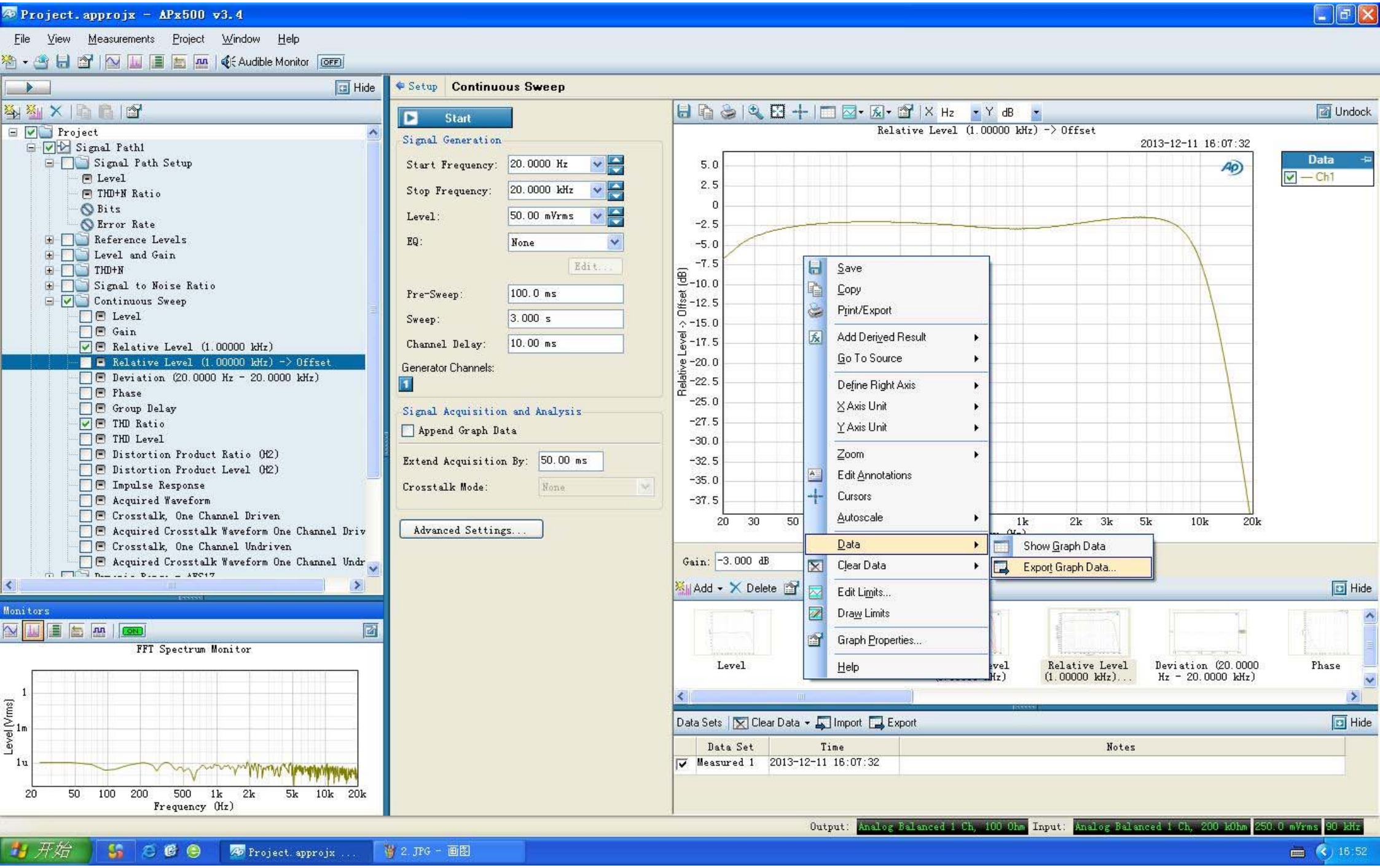


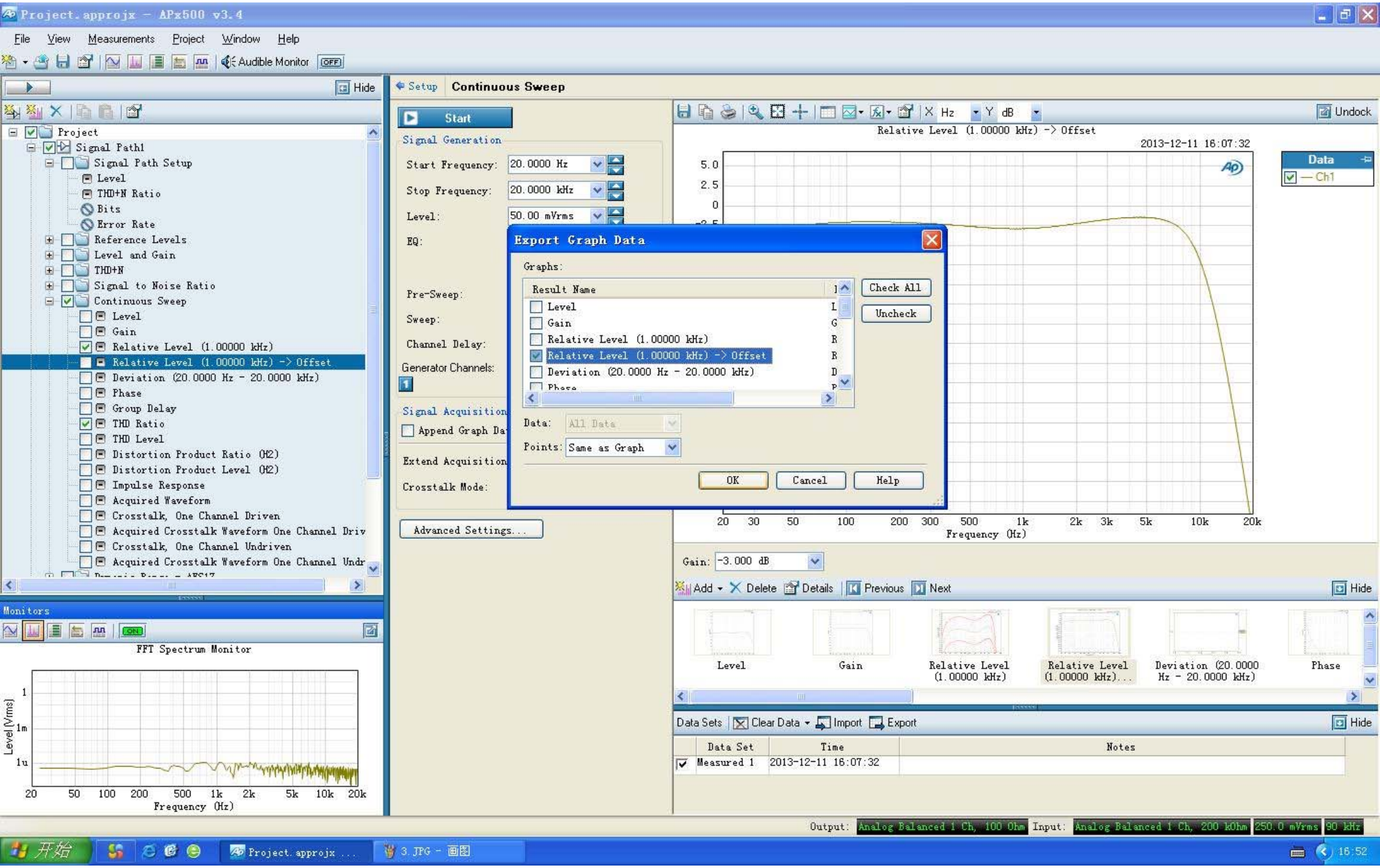
Data Sets | Clear Data | Import | Export | Hide

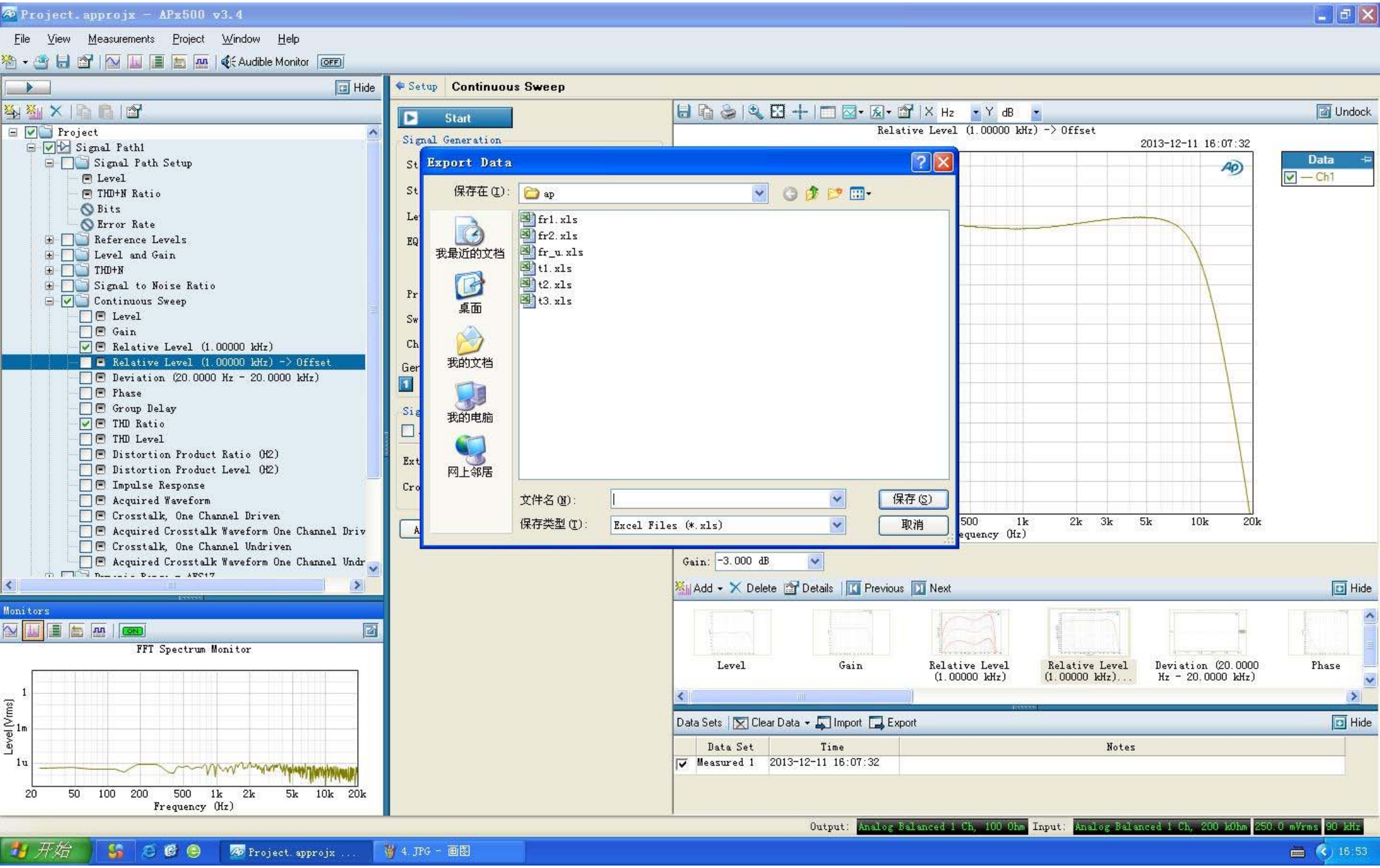
Data Set	Time	Notes
Measured 1	2013-12-11 16:07:32	

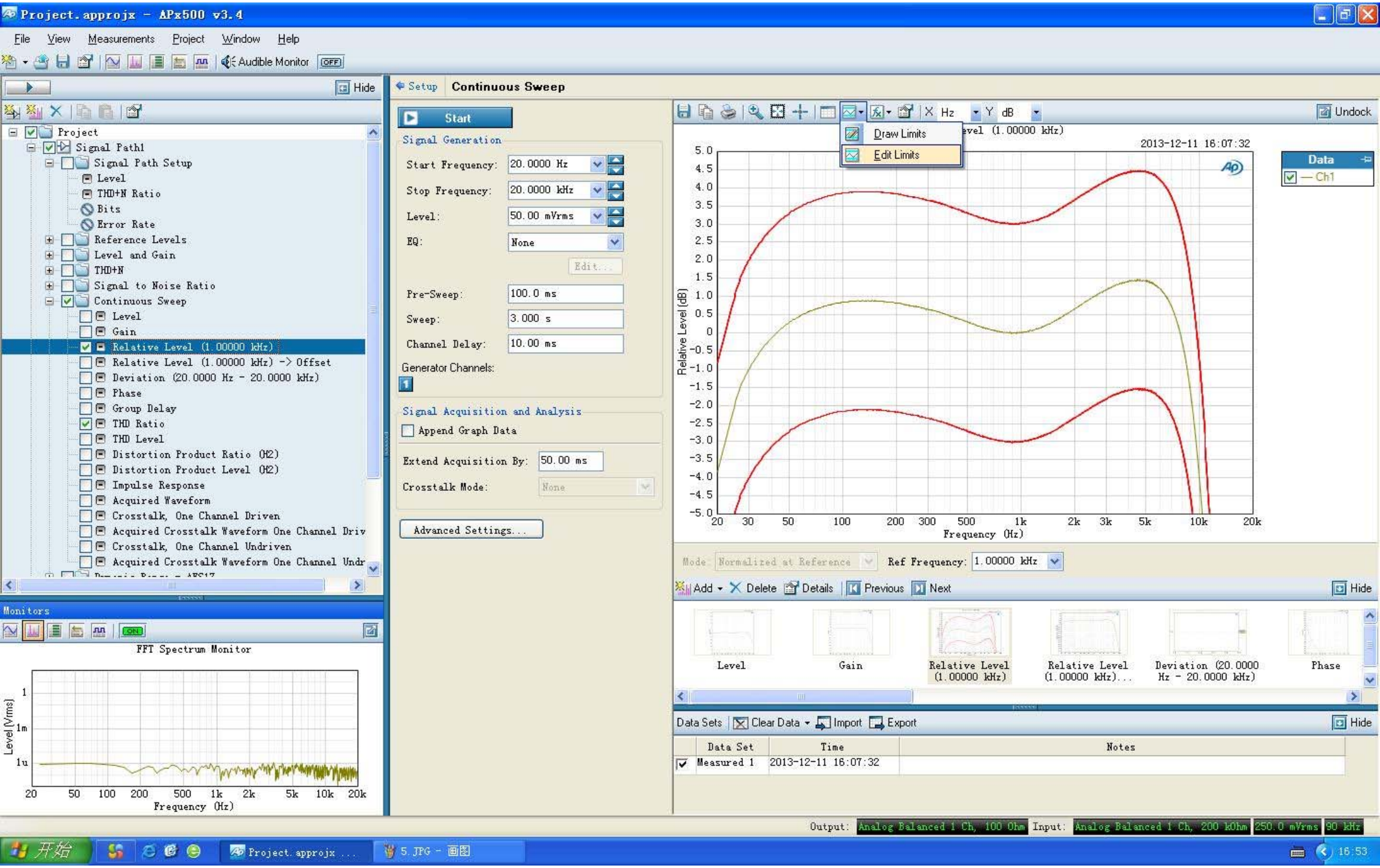
Output: Analog Balanced 1 Ch, 100 Ohm Input: Analog Balanced 1 Ch, 200 kOhm 250.0 mVrms 90 kHz

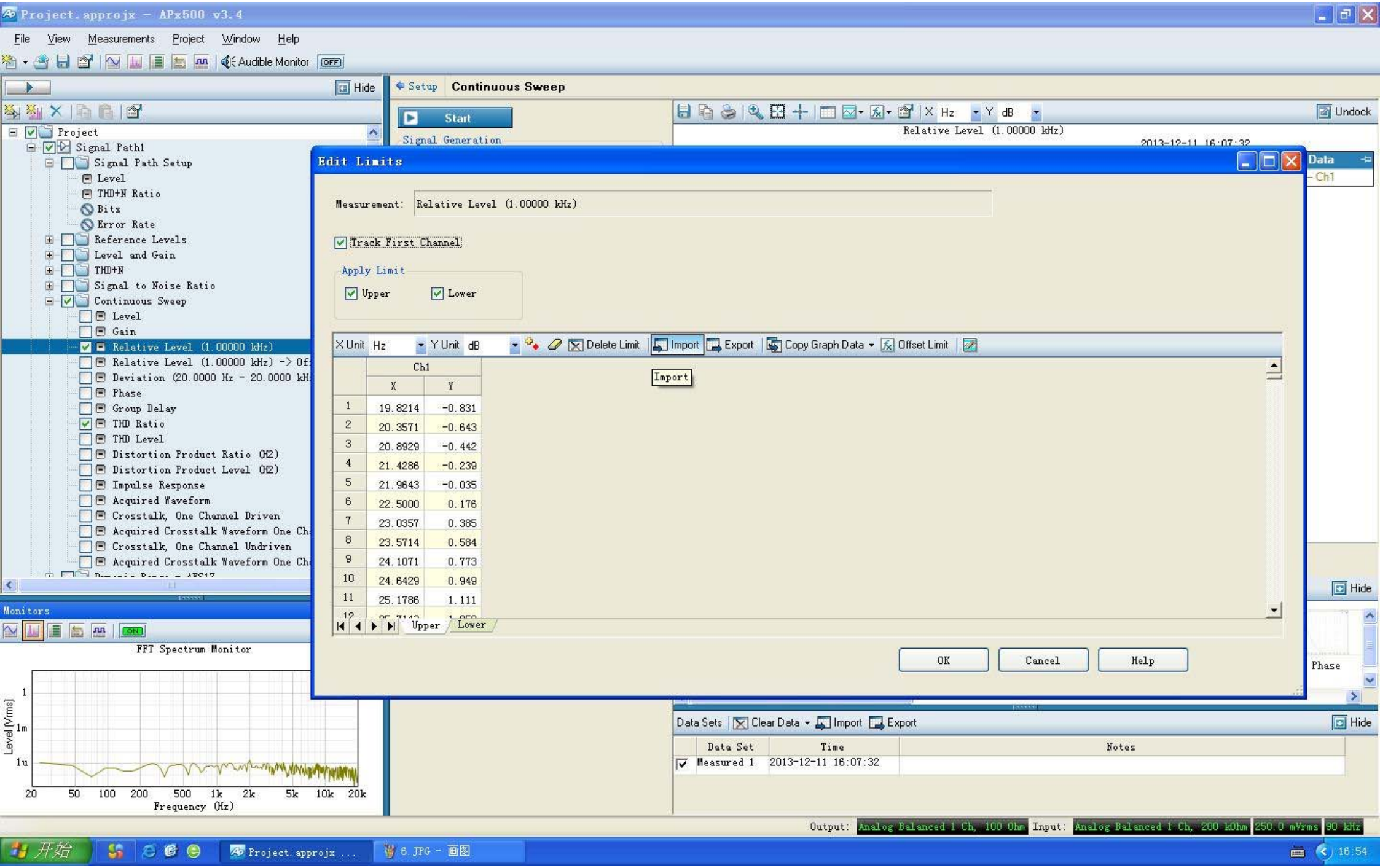
开始 Project.approjx ... 1.JPG - 画图 16:51

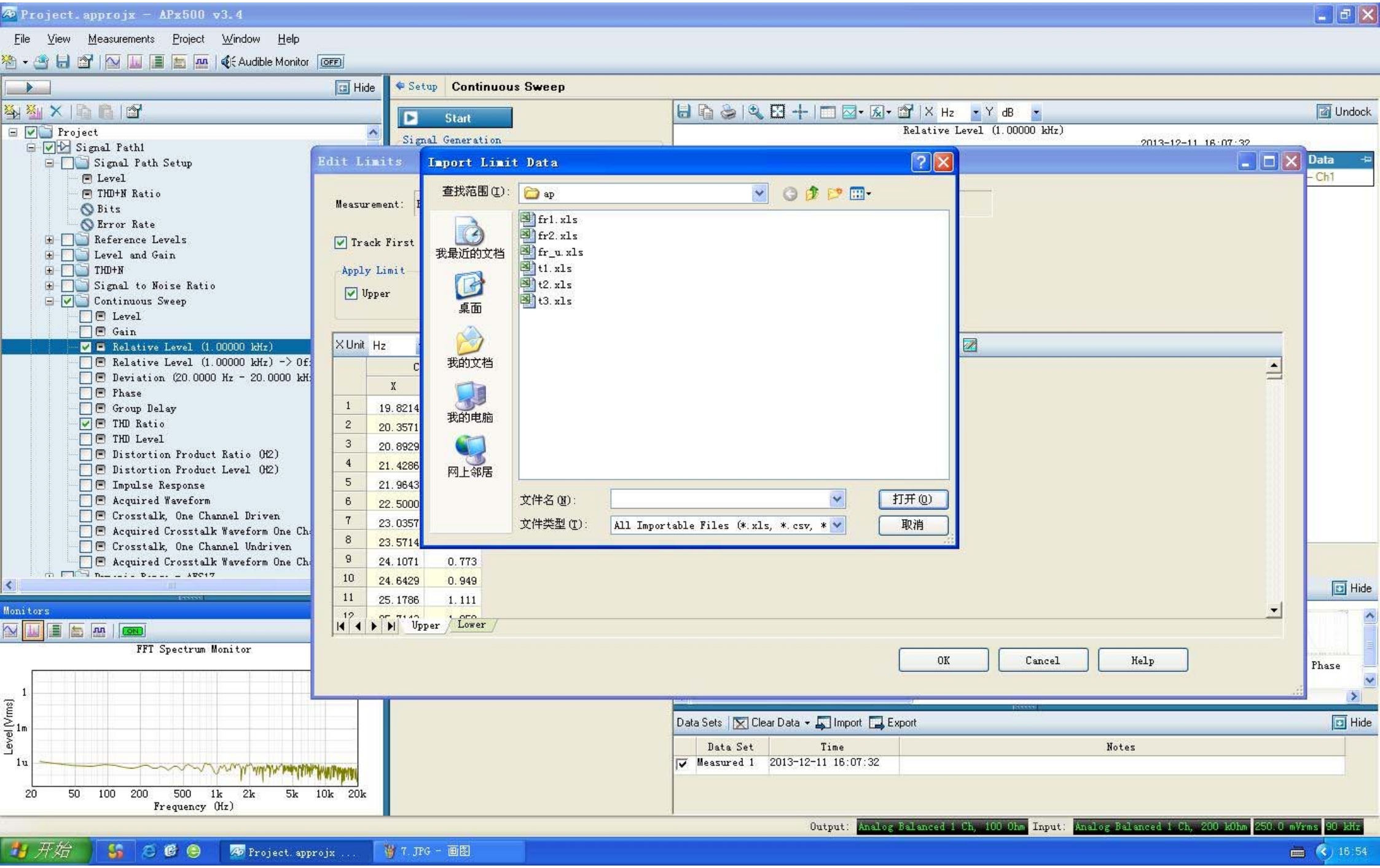

Project.approjx - APx500 v3.4
File View Measurements Project Window Help
Audible Monitor OFF
Hide
Project
Signal Path1
Signal Path Setup
Level
THD+N Ratio
Bits
Error Rate
Reference Levels
Level and Gain
THD+N
Signal to Noise Ratio
Continuous Sweep
Level
Gain
Relative Level (1.00000 kHz)
Relative Level (1.00000 kHz) -> Offset
Deviation (20.0000 Hz - 20.0000 kHz)
Phase
Group Delay
THD Ratio
THD Level
Distortion Product Ratio (H2)
Distortion Product Level (H2)
Impulse Response
Acquired Waveform
Crosstalk, One Channel Driven
Acquired Crosstalk Waveform One Channel Driv
Crosstalk, One Channel Undriven
Acquired Crosstalk Waveform One Channel Undr
Monitors
FFT Spectrum Monitor
Level (Vrms)
1
1m
1u
20 50 100 200 500 1k 2k 5k 10k 20k
Frequency (Hz)
Setup
Continuous Sweep
Start
Signal Generation
Start Frequency: 20.0000 Hz
Stop Frequency: 20.0000 kHz
Level: 50.00 mVrms
EQ: None
Edit...
Pre-Sweep: 100.0 ms
Sweep: 3.000 s
Channel Delay: 10.00 ms
Generator Channels:
Signal Acquisition and Analysis
Append Graph Data
Extend Acquisition By: 50.00 ms
Crosstalk Mode: None
Advanced Settings...
X Hz
Y dB
Undock
Relative Level (1.00000 kHz) -> Offset
2013-12-11 16:07:32
Relative Level -> Offset (dB)
5.0
2.5
0
-2.5
-5.0
-7.5
-10.0
-12.5
-15.0
-17.5
-20.0
-22.5
-25.0
-27.5
-30.0
-32.5
-35.0
-37.5
20 30 50 1k 2k 3k 5k 10k 20k
Data
Ch1
Save
Copy
Print/Export
Add Derived Result
Go To Source
Define Right Axis
X Axis Unit
Y Axis Unit
Zoom
Edit Annotations
Cursors
Autoscale
Data
Clear Data
Edit Limits...
Draw Limits
Graph Properties...
Help
Show Graph Data
Export Graph Data...
Gain: -3.000 dB
Add
Delete
Hide
Level
Relative Level (1.00000 kHz)...
Deviation (20.0000 Hz - 20.0000 kHz)
Phase
Data Sets
Clear Data
Import
Export
Hide
Data Set
Time
Notes
Measured 1
2013-12-11 16:07:32
Output: Analog Balanced 1 Ch, 100 Ohm
Input: Analog Balanced 1 Ch, 200 kOhm
250.0 mVrms
90 kHz
开始
Project.approjx ...
2.JPG - 画图
16:52


Project.approjx - APx500 v3.4
File View Measurements Project Window Help
Audible Monitor OFF
Hide
Project
Signal Path1
Signal Path Setup
Level
THD+N Ratio
Bits
Error Rate
Reference Levels
Level and Gain
THD+N
Signal to Noise Ratio
Continuous Sweep
Level
Gain
Relative Level (1.00000 kHz)
Relative Level (1.00000 kHz) -> Offset
Deviation (20.0000 Hz - 20.0000 kHz)
Phase
Group Delay
THD Ratio
THD Level
Distortion Product Ratio (H2)
Distortion Product Level (H2)
Impulse Response
Acquired Waveform
Crosstalk, One Channel Driven
Acquired Crosstalk Waveform One Channel Driv
Crosstalk, One Channel Undriven
Acquired Crosstalk Waveform One Channel Undr
Monitors
FFT Spectrum Monitor
Level (Vrms)
1
1m
1u
20 50 100 200 500 1k 2k 5k 10k 20k
Frequency (Hz)
Setup
Continuous Sweep
Start
Signal Generation
Start Frequency: 20.0000 Hz
Stop Frequency: 20.0000 kHz
Level: 50.00 mVrms
EQ:
Pre-Sweep:
Sweep:
Channel Delay:
Generator Channels:
Signal Acquisition
Append Graph Da
Extend Acquisition
Crosstalk Mode:
Advanced Settings...
Export Graph Data
Graphs:
Result Name
Level
Gain
Relative Level (1.00000 kHz)
Relative Level (1.00000 kHz) -> Offset
Deviation (20.0000 Hz - 20.0000 kHz)
Check All
Uncheck
Data: All Data
Points: Same as Graph
OK
Cancel
Help
X Hz
Y dB
Undock
Relative Level (1.00000 kHz) -> Offset
2013-12-11 16:07:32
5.0
2.5
0
20 30 50 100 200 300 500 1k 2k 3k 5k 10k 20k
Frequency (Hz)
Data
Ch1
Gain: -3.000 dB
Add Delete Details Previous Next
Hide
Level
Gain
Relative Level (1.00000 kHz)
Relative Level (1.00000 kHz)...
Deviation (20.0000 Hz - 20.0000 kHz)
Phase
Data Sets Clear Data Import Export
Hide
Data Set
Time
Notes
Measured 1
2013-12-11 16:07:32
Output: Analog Balanced 1 Ch, 100 Ohm Input: Analog Balanced 1 Ch, 200 kOhm 250.0 mVrms 90 kHz
开始
Project.approjx ...
3.JPG - 画图
16:52

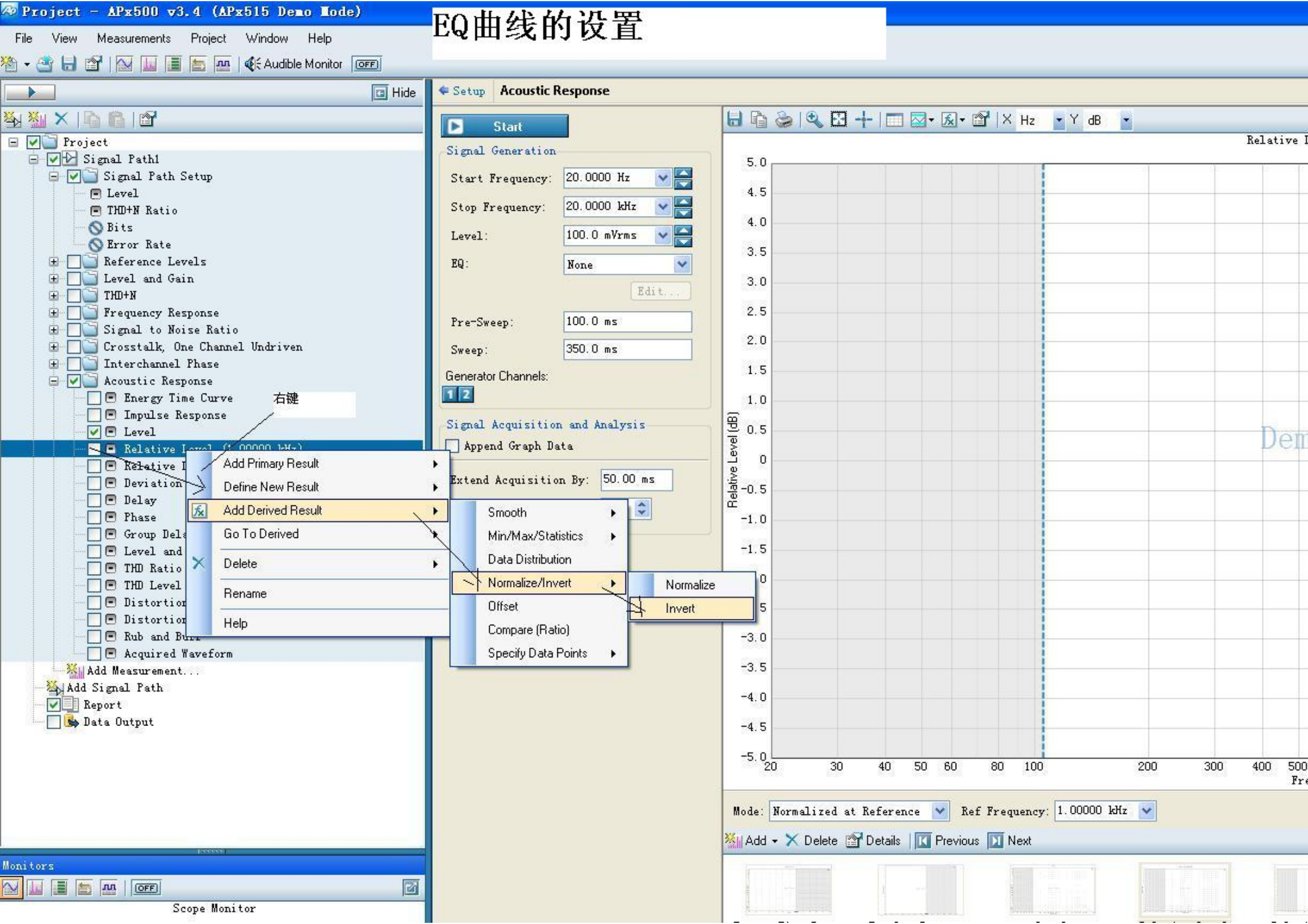

Project.approjx - APx500 v3.4
File View Measurements Project Window Help
Audible Monitor OFF
Hide
Project
Signal Path1
Signal Path Setup
Level
THD+N Ratio
Bits
Error Rate
Reference Levels
Level and Gain
THD+N
Signal to Noise Ratio
Continuous Sweep
Level
Gain
Relative Level (1.00000 kHz)
Relative Level (1.00000 kHz) -> Offset
Deviation (20.0000 Hz - 20.0000 kHz)
Phase
Group Delay
THD Ratio
THD Level
Distortion Product Ratio (H2)
Distortion Product Level (H2)
Impulse Response
Acquired Waveform
Crosstalk, One Channel Driven
Acquired Crosstalk Waveform One Channel Driv
Crosstalk, One Channel Undriven
Acquired Crosstalk Waveform One Channel Undr
Monitors
FFT Spectrum Monitor
Level (Vrms)
1
1m
1u
20 50 100 200 500 1k 2k 5k 10k 20k
Frequency (Hz)
Setup
Continuous Sweep
Start
Signal Generation
Export Data
保存在(I):
ap
fr1.xls
fr2.xls
fr_u.xls
t1.xls
t2.xls
t3.xls
我最近的文档
桌面
我的文档
我的电脑
网上邻居
文件名(N):
保存类型(T):
Excel Files (*.xls)
保存(S)
取消
X Hz
Y dB
Undock
Relative Level (1.00000 kHz) -> Offset
2013-12-11 16:07:32
Data
Ch1
500 1k 2k 3k 5k 10k 20k
equency (Hz)
Gain: -3.000 dB
Add
Delete
Details
Previous
Next
Hide
Level
Gain
Relative Level (1.00000 kHz)
Relative Level (1.00000 kHz)...
Deviation (20.0000 Hz - 20.0000 kHz)
Phase
Data Sets
Clear Data
Import
Export
Data Set
Time
Notes
Measured 1
2013-12-11 16:07:32
Output: Analog Balanced 1 Ch, 100 Ohm
Input: Analog Balanced 1 Ch, 200 kOhm
250.0 mVrms
90 kHz
开始
Project.approjx ...
4.JPG - 画图
16:53

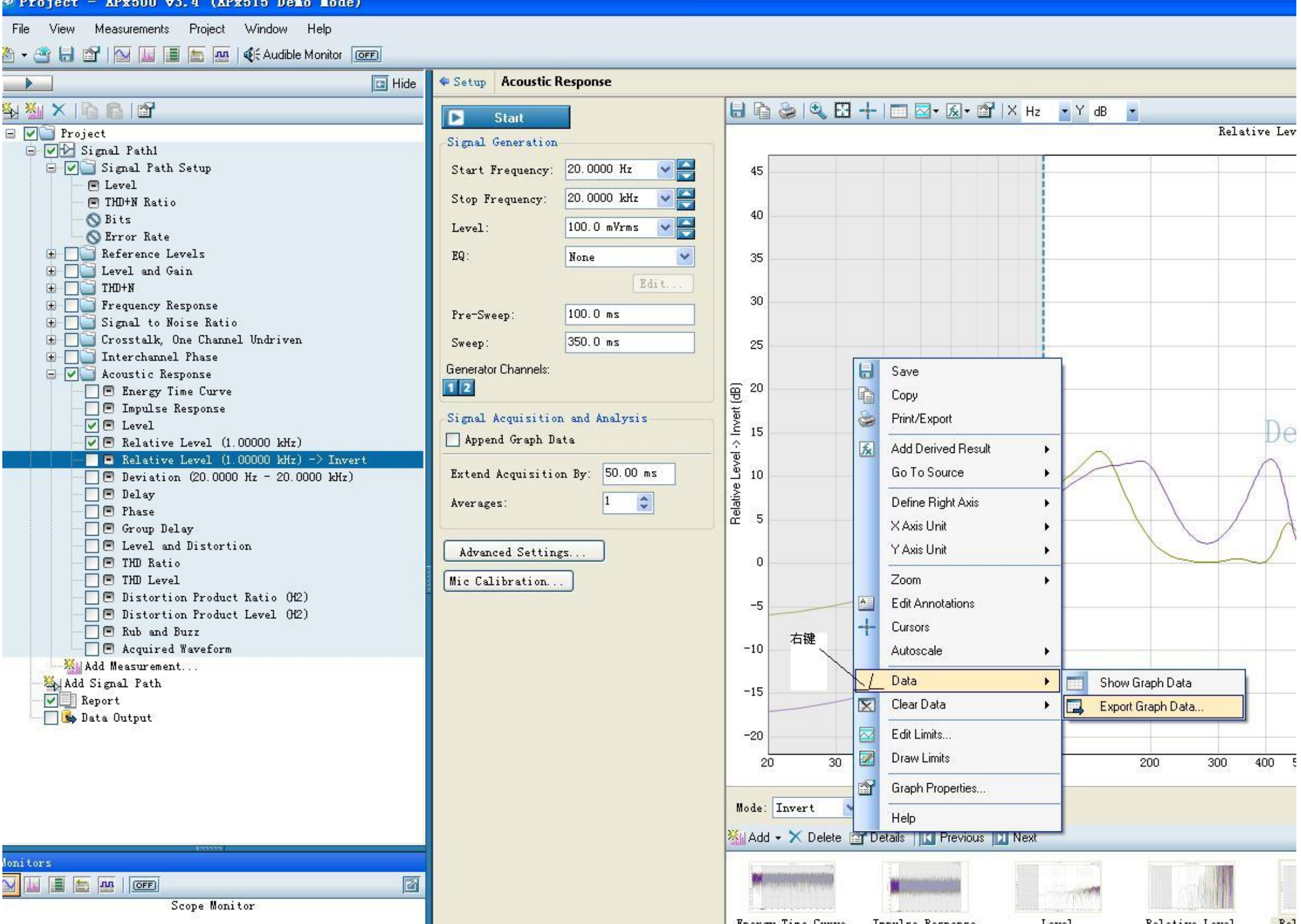

Project.approjx - APx500 v3.4
File View Measurements Project Window Help
Audible Monitor OFF
Hide
Project
Signal Path1
Signal Path Setup
Level
THD+N Ratio
Bits
Error Rate
Reference Levels
Level and Gain
THD+N
Signal to Noise Ratio
Continuous Sweep
Level
Gain
Relative Level (1.00000 kHz)
Relative Level (1.00000 kHz) -> Offset
Deviation (20.0000 Hz - 20.0000 kHz)
Phase
Group Delay
THD Ratio
THD Level
Distortion Product Ratio (H2)
Distortion Product Level (H2)
Impulse Response
Acquired Waveform
Crosstalk, One Channel Driven
Acquired Crosstalk Waveform One Channel Driv
Crosstalk, One Channel Undriven
Acquired Crosstalk Waveform One Channel Undr
Monitors
FFT Spectrum Monitor
Level (Vrms)
1
1m
1u
20 50 100 200 500 1k 2k 5k 10k 20k
Frequency (Hz)
Setup
Continuous Sweep
Start
Signal Generation
Start Frequency: 20.0000 Hz
Stop Frequency: 20.0000 kHz
Level: 50.00 mVrms
EQ: None
Edit...
Pre-Sweep: 100.0 ms
Sweep: 3.000 s
Channel Delay: 10.00 ms
Generator Channels:
1
Signal Acquisition and Analysis
Append Graph Data
Extend Acquisition By: 50.00 ms
Crosstalk Mode: None
Advanced Settings...
X Hz
Y dB
Undock
Draw Limits
Edit Limits
evel (1.00000 kHz)
2013-12-11 16:07:32
Data
Ch1
Relative Level (dB)
5.0 4.5 4.0 3.5 3.0 2.5 2.0 1.5 1.0 0.5 0 -0.5 -1.0 -1.5 -2.0 -2.5 -3.0 -3.5 -4.0 -4.5 -5.0
20 30 50 100 200 300 500 1k 2k 3k 5k 10k 20k
Frequency (Hz)
Mode: Normalized at Reference
Ref Frequency: 1.00000 kHz
Add Delete Details Previous Next
Hide
Level
Gain
Relative Level (1.00000 kHz)
Relative Level (1.00000 kHz)...
Deviation (20.0000 Hz - 20.0000 kHz)
Phase
Data Sets
Clear Data
Import
Export
Hide
Data Set
Time
Notes
Measured 1
2013-12-11 16:07:32
Output: Analog Balanced 1 Ch, 100 Ohm
Input: Analog Balanced 1 Ch, 200 kOhm
250.0 mVrms
90 kHz
开始
Project.approjx ...
5.JPG - 画图
16:53

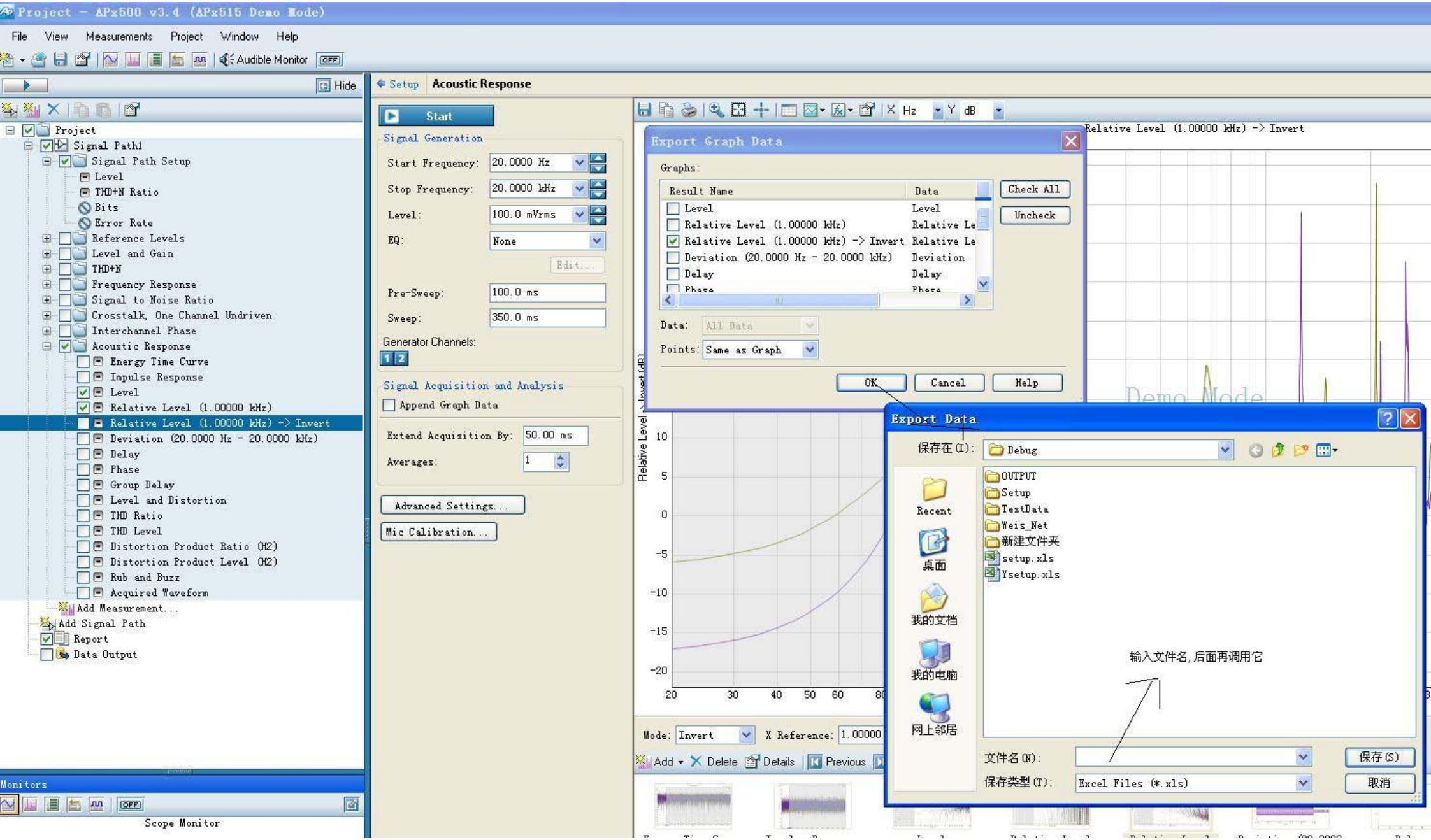

Project.approjx - APx500 v3.4
File View Measurements Project Window Help
Audible Monitor OFF
Hide
Setup Continuous Sweep
Start
Signal Generation
Undock
X Hz Y dB
Relative Level (1.00000 kHz)
2013-12-11 16:07:32
Project
Signal Path1
Signal Path Setup
Level
THD+N Ratio
Bits
Error Rate
Reference Levels
Level and Gain
THD+N
Signal to Noise Ratio
Continuous Sweep
Level
Gain
Relative Level (1.00000 kHz)
Relative Level (1.00000 kHz) -> Of
Deviation (20.0000 Hz - 20.0000 kH
Phase
Group Delay
THD Ratio
THD Level
Distortion Product Ratio (H2)
Distortion Product Level (H2)
Impulse Response
Acquired Waveform
Crosstalk, One Channel Driven
Acquired Crosstalk Waveform One Ch
Crosstalk, One Channel Undriven
Acquired Crosstalk Waveform One Ch
Edit Limits
Measurement: Relative Level (1.00000 kHz)
Track First Channel
Apply Limit
Upper
Lower
X Unit Hz
Y Unit dB
Delete Limit
Import
Export
Copy Graph Data
Offset Limit
Import
Ch1
X
Y
1 19.8214 -0.831
2 20.3571 -0.643
3 20.8929 -0.442
4 21.4286 -0.239
5 21.9643 -0.035
6 22.5000 0.176
7 23.0357 0.385
8 23.5714 0.584
9 24.1071 0.773
10 24.6429 0.949
11 25.1786 1.111
Upper
Lower
OK
Cancel
Help
Data
Ch1
Hide
Phase
Monitors
ON
FFT Spectrum Monitor
Level (Vrms)
1
1m
1u
20 50 100 200 500 1k 2k 5k 10k 20k
Frequency (Hz)
Data Sets
Clear Data
Import
Export
Hide
Data Set
Time
Notes
Measured 1
2013-12-11 16:07:32
Output: Analog Balanced 1 Ch, 100 Ohm
Input: Analog Balanced 1 Ch, 200 kOhm
250.0 mVrms
90 kHz
开始
Project.approjx ...
6.JPG - 画图
16:54

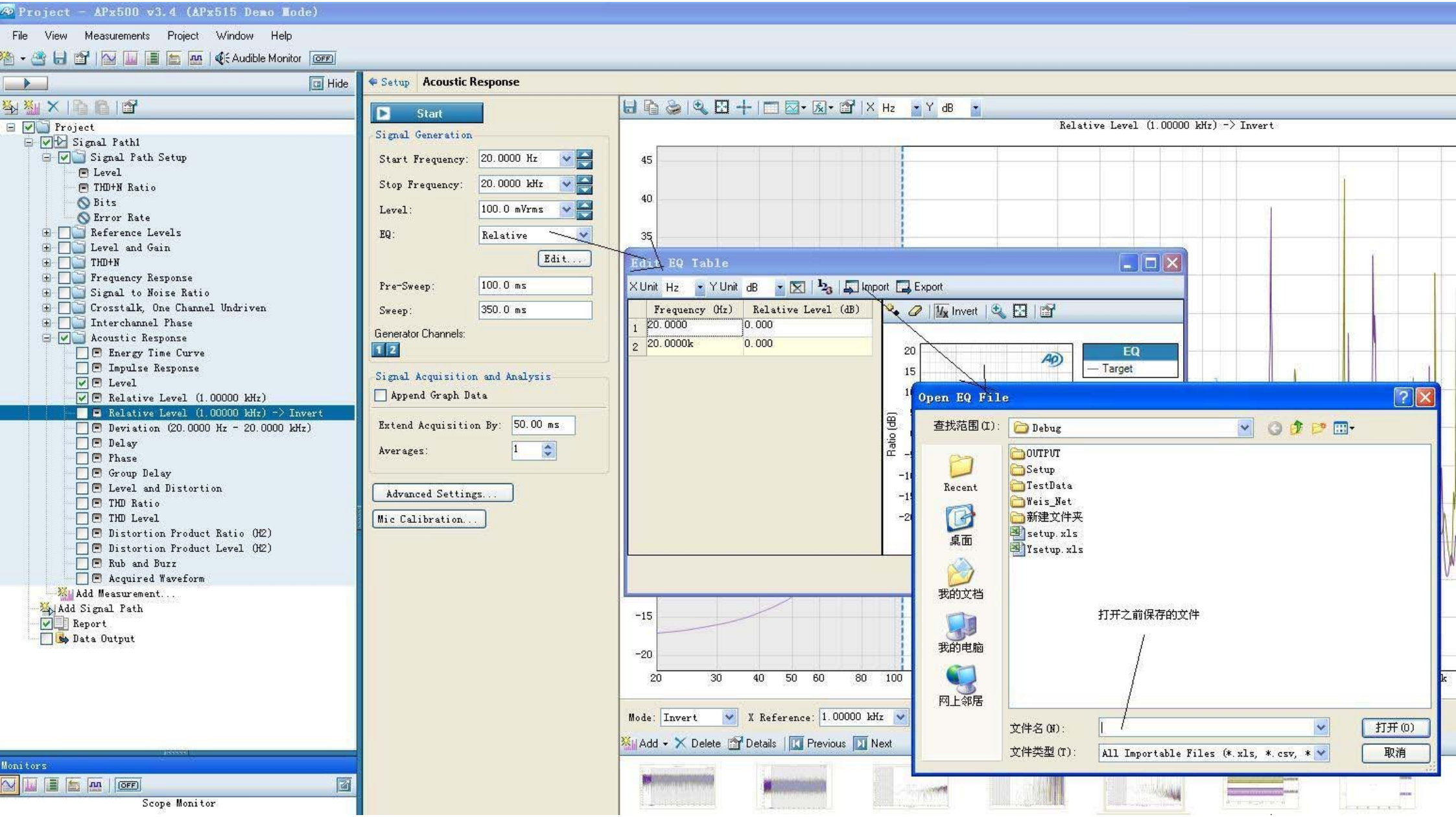

Project.approjx - APx500 v3.4
File View Measurements Project Window Help
Audible Monitor OFF
Hide
Project
Signal Path1
Signal Path Setup
Level
THD+N Ratio
Bits
Error Rate
Reference Levels
Level and Gain
THD+N
Signal to Noise Ratio
Continuous Sweep
Level
Gain
Relative Level (1.00000 kHz)
Relative Level (1.00000 kHz) -> Of
Deviation (20.0000 Hz - 20.0000 kH
Phase
Group Delay
THD Ratio
THD Level
Distortion Product Ratio (H2)
Distortion Product Level (H2)
Impulse Response
Acquired Waveform
Crosstalk, One Channel Driven
Acquired Crosstalk Waveform One Ch
Crosstalk, One Channel Undriven
Acquired Crosstalk Waveform One Ch
Monitors
FFT Spectrum Monitor
Level (Vrms)
1
1m
1u
20 50 100 200 500 1k 2k 5k 10k 20k
Frequency (Hz)
Setup
Continuous Sweep
Start
Signal Generation
X Hz Y dB
Undock
Relative Level (1.00000 kHz)
2013-12-11 16:07:32
Edit Limits
Measurement:
Track First
Apply Limit
Upper
Unit Hz
X
1 19.8214
2 20.3571
3 20.8929
4 21.4286
5 21.9643
6 22.5000
7 23.0357
8 23.5714
9 24.1071 0.773
10 24.6429 0.949
11 25.1786 1.111
Upper Lower
OK Cancel Help
Import Limit Data
查找范围(I): ap
我最近的文档
桌面
我的文档
我的电脑
网上邻居
fr1.xls
fr2.xls
fr_u.xls
t1.xls
t2.xls
t3.xls
文件名(N):
文件类型(T): All Importable Files (*.xls, *.csv, *
打开(O)
取消
Data
Ch1
Hide
Phase
Data Sets Clear Data Import Export
Hide
Data Set Time Notes
Measured 1 2013-12-11 16:07:32
Output: Analog Balanced 1 Ch, 100 Ohm Input: Analog Balanced 1 Ch, 200 kOhm 250.0 mVrms 90 kHz
开始
Project.approjx ...
7.JPG - 画图
16:54

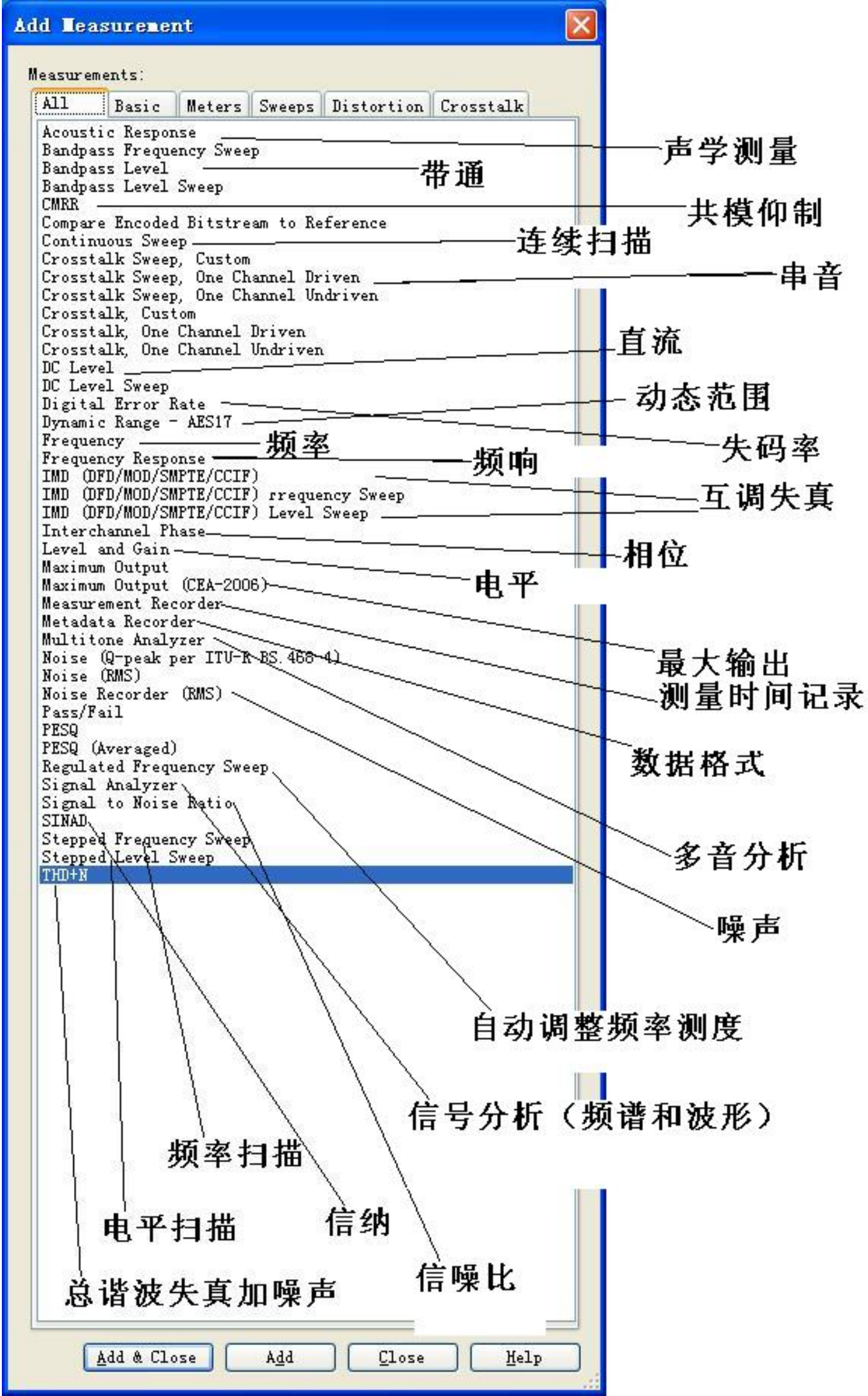
EQ曲线的设置

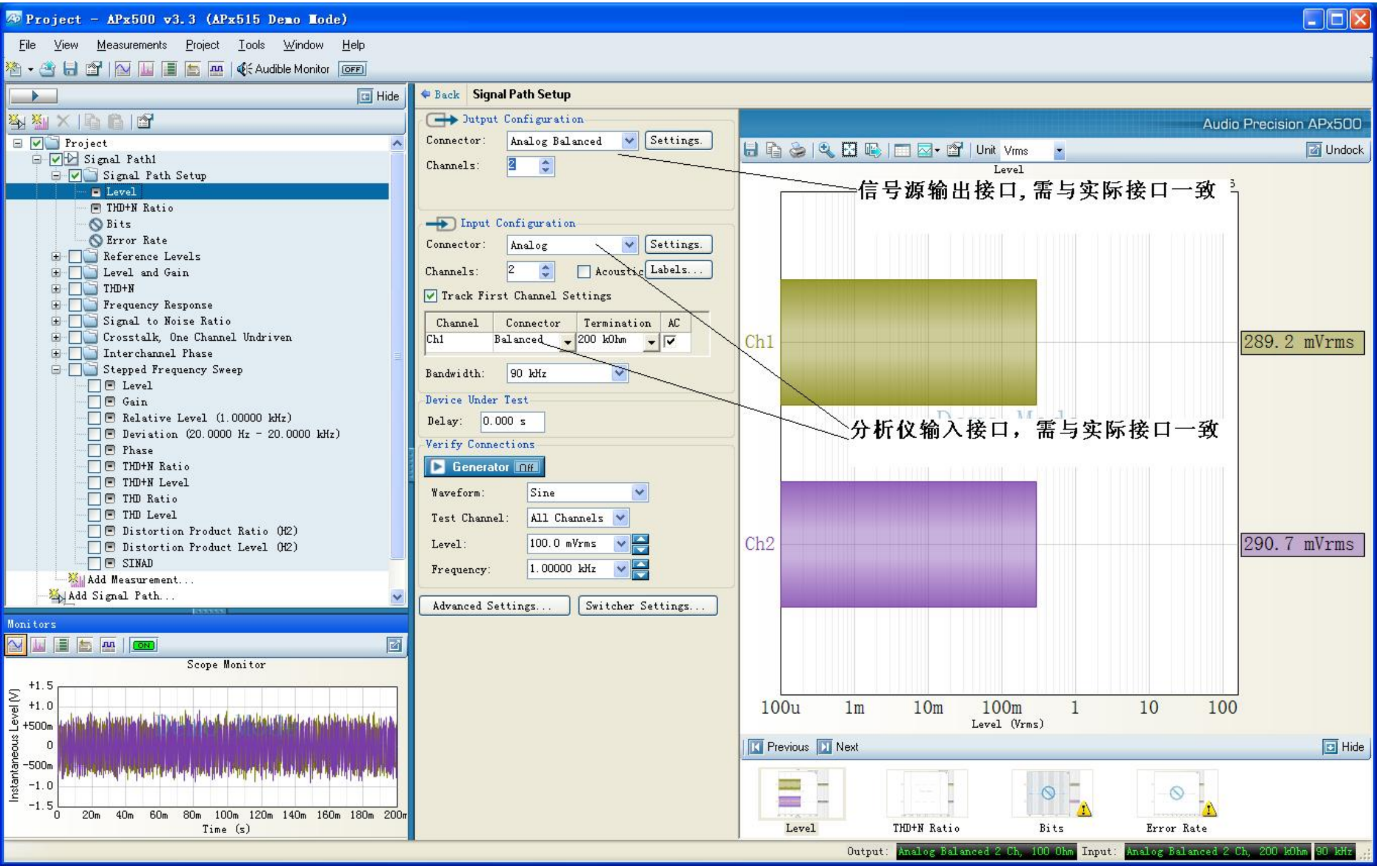

Project - APx500 v3.4 (APx515 Demo Mode)
File View Measurements Project Window Help
Audible Monitor OFF
Hide
Project
Signal Path1
Signal Path Setup
Level
THD+N Ratio
Bits
Error Rate
Reference Levels
Level and Gain
THD+N
Frequency Response
Signal to Noise Ratio
Crosstalk, One Channel Undriven
Interchannel Phase
Acoustic Response
Energy Time Curve
Impulse Response
Level
Deviation
Delay
Phase
THD Ratio
THD Level
Acquired Waveform
Add Measurement...
Add Signal Path
Report
Data Output
右键
Add Primary Result
Define New Result
Add Derived Result
Go To Derived
Delete
Rename
Help
Smooth
Min/Max/Statistics
Data Distribution
Normalize/Invert
Offset
Compare (Ratio)
Specify Data Points
Normalize
Invert
Monitors
Scope Monitor
Setup
Acoustic Response
Start
Signal Generation
Start Frequency: 20.0000 Hz
Stop Frequency: 20.0000 kHz
Level: 100.0 mVrms
EQ: None
Edit...
Pre-Sweep: 100.0 ms
Sweep: 350.0 ms
Generator Channels:
1 2
Signal Acquisition and Analysis
Append Graph Data
Extend Acquisition By: 50.00 ms
Hz
Y dB
Relative Level (dB)
5.0
4.5
4.0
3.5
3.0
2.5
2.0
1.5
1.0
0.5
0
-0.5
-1.0
-1.5
-2.0
-2.5
-3.0
-3.5
-4.0
-4.5
-5.0
20
30
40
50
60
80
100
200
300
400
Mode: Normalized at Reference
Ref Frequency: 1.00000 kHz
Add
Delete
Details
Previous
Next

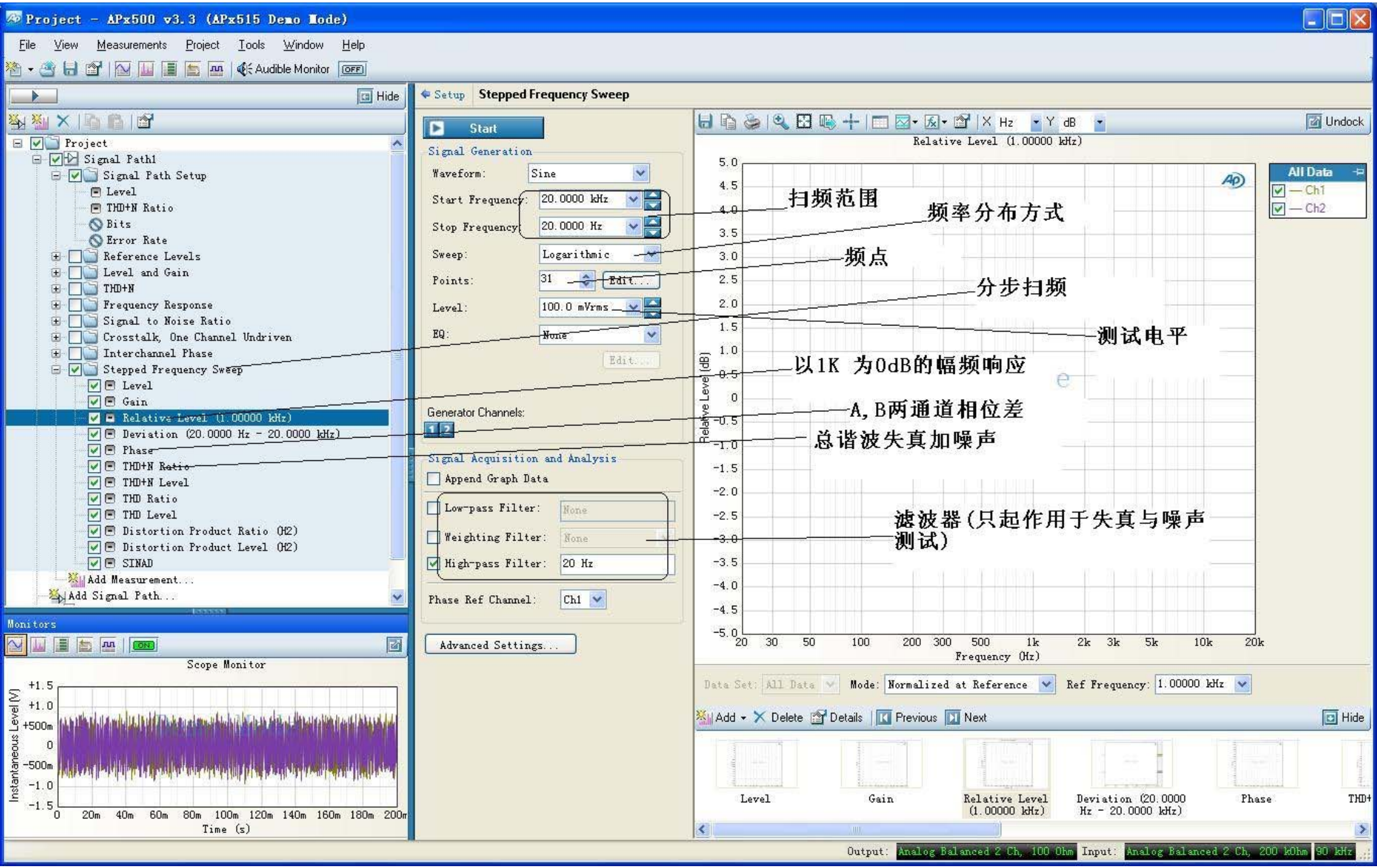

Project - APx500 v3.4 (APx515 Demo Mode)
File View Measurements Project Window Help
Audible Monitor OFF
Hide
Project
Signal Path1
Signal Path Setup
Level
THD+N Ratio
Bits
Error Rate
Reference Levels
Level and Gain
THD+N
Frequency Response
Signal to Noise Ratio
Crosstalk, One Channel Undriven
Interchannel Phase
Acoustic Response
Energy Time Curve
Impulse Response
Level
Relative Level (1.00000 kHz)
Relative Level (1.00000 kHz) -> Invert
Deviation (20.0000 Hz - 20.0000 kHz)
Delay
Phase
Group Delay
Level and Distortion
THD Ratio
THD Level
Distortion Product Ratio (H2)
Distortion Product Level (H2)
Rub and Buzz
Acquired Waveform
Add Measurement...
Add Signal Path
Report
Data Output
Monitors
OFF
Scope Monitor
Setup
Acoustic Response
Start
Signal Generation
Start Frequency: 20.0000 Hz
Stop Frequency: 20.0000 kHz
Level: 100.0 mVrms
EQ: None
Edit...
Pre-Sweep: 100.0 ms
Sweep: 350.0 ms
Generator Channels:
1 2
Signal Acquisition and Analysis
Append Graph Data
Extend Acquisition By: 50.00 ms
Averages: 1
Advanced Settings...
Mic Calibration...
Hz
Y dB
Relative Lev
Relative Level -> Invert (dB)
45
40
35
30
25
20
15
10
5
0
-5
-10
-15
-20
20
30
200
300
400
Save
Copy
Print/Export
Add Derived Result
Go To Source
Define Right Axis
X Axis Unit
Y Axis Unit
Zoom
Edit Annotations
Cursors
Autoscale
右键
Data
Clear Data
Edit Limits...
Draw Limits
Graph Properties...
Help
Show Graph Data
Export Graph Data...
Mode: Invert
Add
Delete
Details
Previous
Next

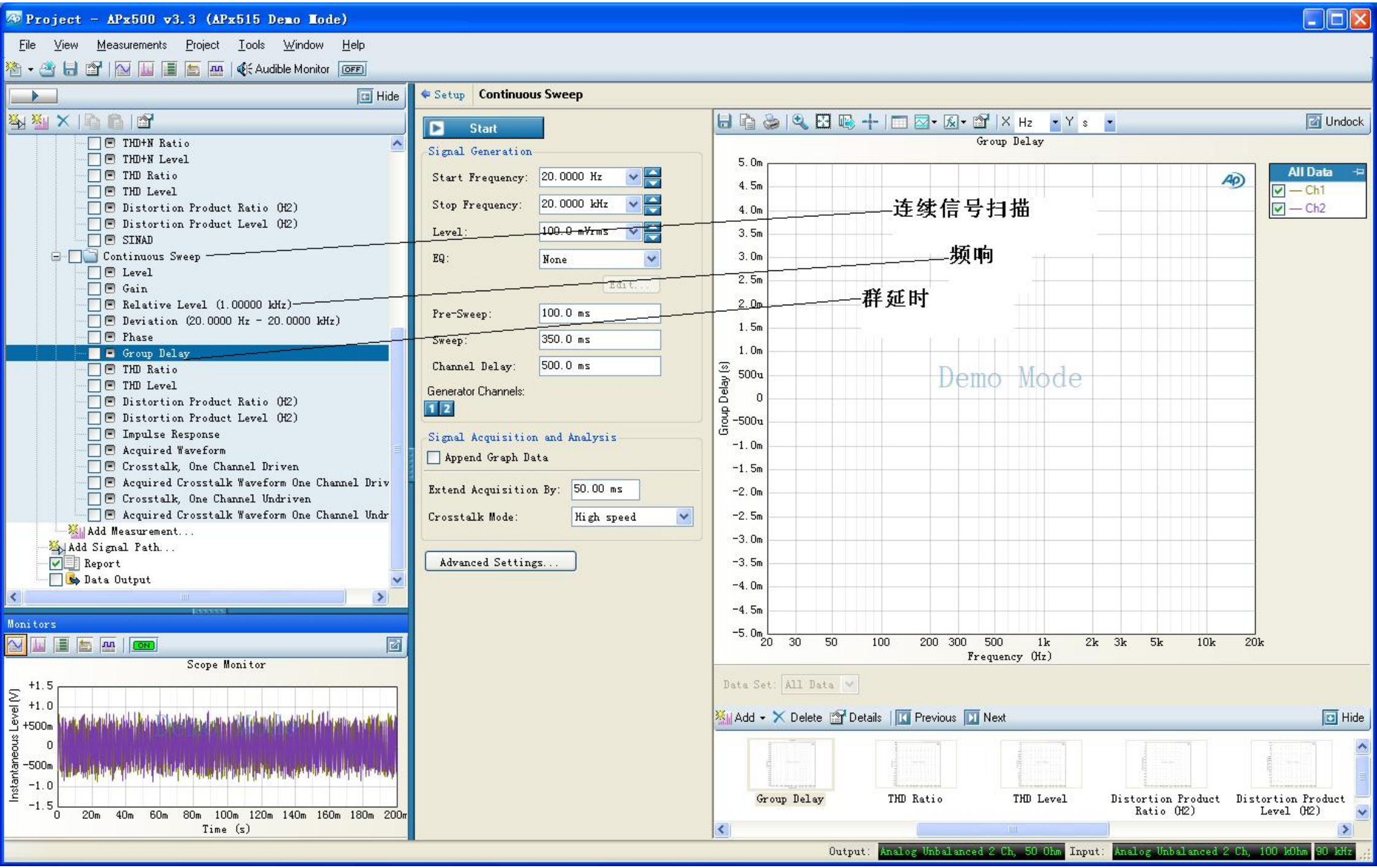

Project – APx500 v3.4 (APx515 Demo Mode)
File View Measurements Project Window Help
Audible Monitor OFF
Hide
Project
Signal Path1
Signal Path Setup
Level
THD+N Ratio
Bits
Error Rate
Reference Levels
Level and Gain
THD+N
Frequency Response
Signal to Noise Ratio
Crosstalk, One Channel Undriven
Interchannel Phase
Acoustic Response
Energy Time Curve
Impulse Response
Level
Relative Level (1.00000 kHz)
Relative Level (1.00000 kHz) -> Invert
Deviation (20.0000 Hz - 20.0000 kHz)
Delay
Phase
Group Delay
Level and Distortion
THD Ratio
THD Level
Distortion Product Ratio (H2)
Distortion Product Level (H2)
Rub and Buzz
Acquired Waveform
Add Measurement...
Add Signal Path
Report
Data Output
Monitors
Scope Monitor
Setup
Acoustic Response
Start
Signal Generation
Start Frequency: 20.0000 Hz
Stop Frequency: 20.0000 kHz
Level: 100.0 mVrms
EQ: None
Edit...
Pre-Sweep: 100.0 ms
Sweep: 350.0 ms
Generator Channels:
1 2
Signal Acquisition and Analysis
Append Graph Data
Extend Acquisition By: 50.00 ms
Averages: 1
Advanced Settings...
Mic Calibration...
X Hz Y dB
Export Graph Data
Graphs:
Result Name
Data
Level
Relative Level (1.00000 kHz)
Relative Level (1.00000 kHz) -> Invert
Deviation (20.0000 Hz - 20.0000 kHz)
Delay
Check All
Uncheck
Data: All Data
Points: Same as Graph
OK
Cancel
Help
Relative Level (1.00000 kHz) -> Invert
Demo Mode
Relative Level (Invert) (dB)
10
5
0
-5
-10
-15
-20
20
30
40
50
60
Mode: Invert
X Reference: 1.00000
Add
Delete
Details
Previous
Export Data
保存在(I): Debug
Recent
桌面
我的文档
我的电脑
网上邻居
OUTPUT
Setup
TestData
Weis_Net
新建文件夹
setup.xls
Ysetup.xls
输入文件名,后面再调用它
文件名(N):
保存(S)
保存类型(T): Excel Files (*.xls)
取消

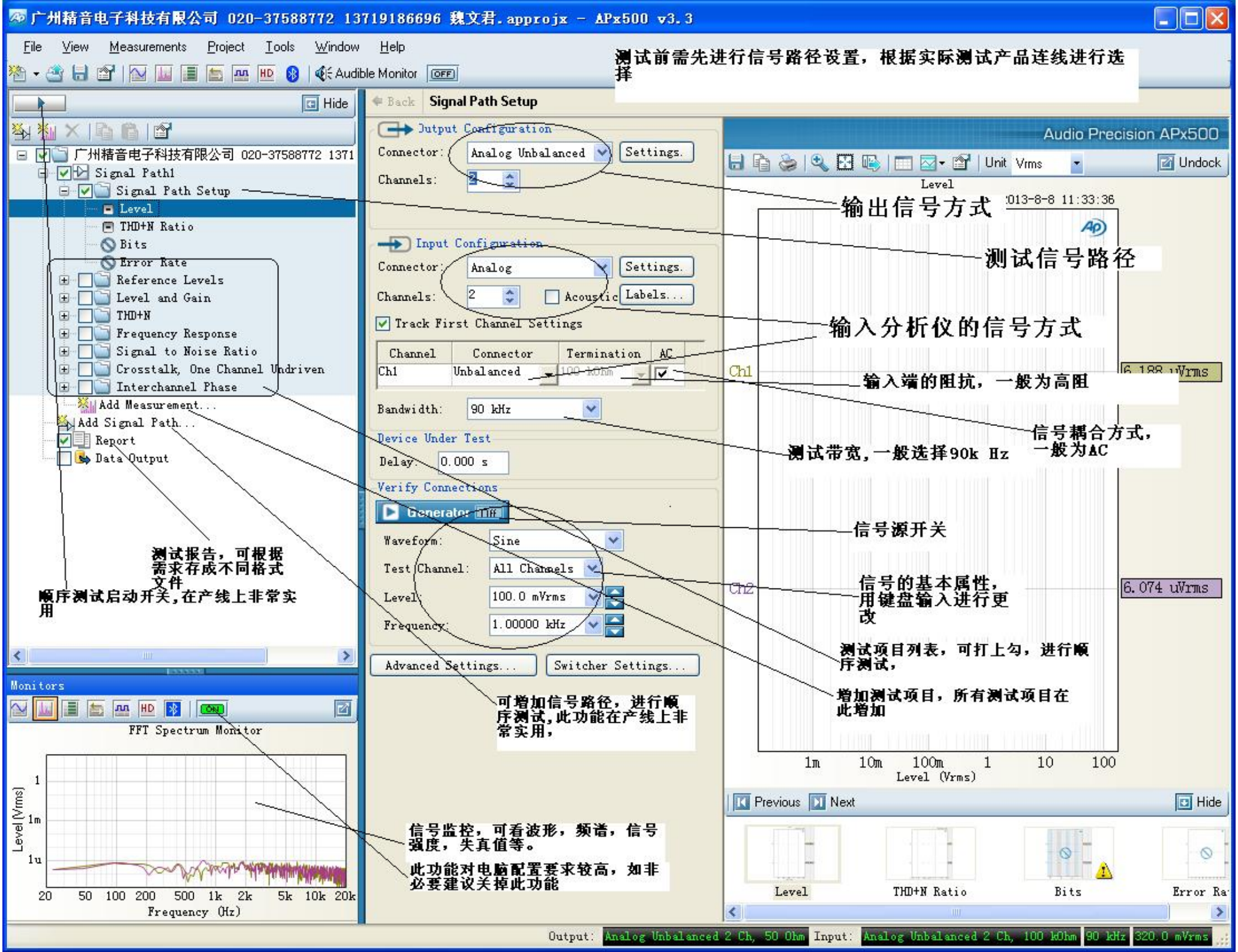

Project - APx500 v3.4 (APx515 Demo Mode)
File View Measurements Project Window Help
Audible Monitor
Hide
Project
Signal Path1
Signal Path Setup
Level
THD+N Ratio
Bits
Error Rate
Reference Levels
Level and Gain
THD+N
Frequency Response
Signal to Noise Ratio
Crosstalk, One Channel Undriven
Interchannel Phase
Acoustic Response
Energy Time Curve
Impulse Response
Level
Relative Level (1.00000 kHz)
Relative Level (1.00000 kHz) -> Invert
Deviation (20.0000 Hz - 20.0000 kHz)
Delay
Phase
Group Delay
Level and Distortion
THD Ratio
THD Level
Distortion Product Ratio (H2)
Distortion Product Level (H2)
Rub and Buzz
Acquired Waveform
Add Measurement...
Add Signal Path
Report
Data Output
Monitors
Scope Monitor
Setup
Acoustic Response
Start
Signal Generation
Start Frequency: 20.0000 Hz
Stop Frequency: 20.0000 kHz
Level: 100.0 mVrms
EQ: Relative
Edit...
Pre-Sweep: 100.0 ms
Sweep: 350.0 ms
Generator Channels:
1 2
Signal Acquisition and Analysis
Append Graph Data
Extend Acquisition By: 50.00 ms
Averages: 1
Advanced Settings...
Mic Calibration...
X Hz Y dB
Relative Level (1.00000 kHz) -> Invert
Edit EQ Table
X Unit Hz Y Unit dB
Import Export
Frequency (Hz) Relative Level (dB)
1 20.0000 0.000
2 20.0000k 0.000
Invert
EQ
Target
Ratio (dB)
Open EQ File
查找范围(I): Debug
OUTPUT
Setup
TestData
Weis_Net
新建文件夹
setup.xls
Ysetup.xls
Recent
桌面
我的文档
我的电脑
网上邻居
打开之前保存的文件
文件名(N):
文件类型(T): All Importable Files (*.xls, *.csv, *
打开(O)
取消
Mode: Invert
X Reference: 1.00000 kHz
Add Delete Details Previous Next

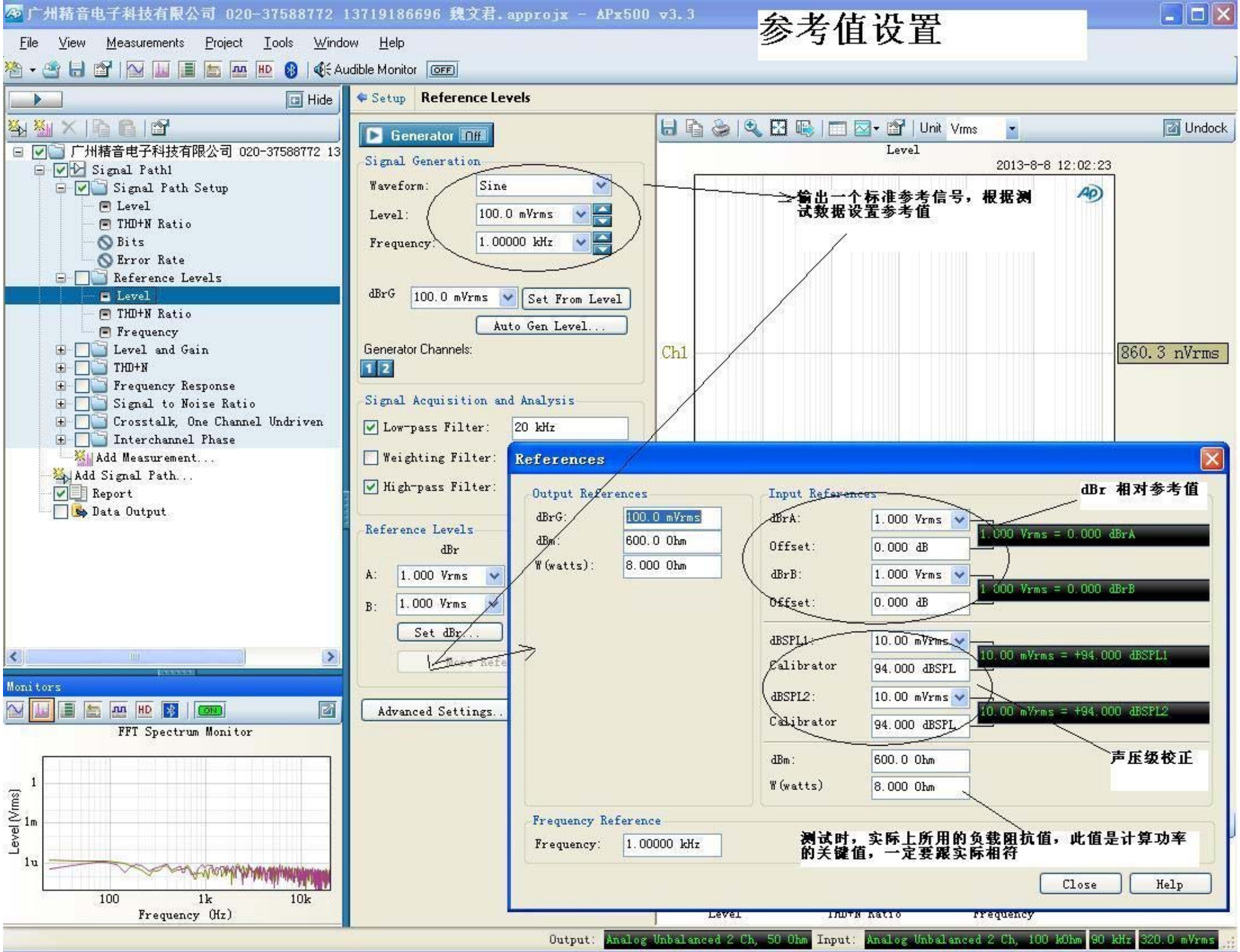

Add Measurement
Measurements:
All
Basic
Meters
Sweeps
Distortion
Crosstalk
Acoustic Response
Bandpass Frequency Sweep
Bandpass Level
Bandpass Level Sweep
CMRR
Compare Encoded Bitstream to Reference
Continuous Sweep
Crosstalk Sweep, Custom
Crosstalk Sweep, One Channel Driven
Crosstalk Sweep, One Channel Undriven
Crosstalk, Custom
Crosstalk, One Channel Driven
Crosstalk, One Channel Undriven
DC Level
DC Level Sweep
Digital Error Rate
Dynamic Range - AES17
Frequency
Frequency Response
IMD (DFD/MOD/SMPTE/CCIF)
IMD (DFD/MOD/SMPTE/CCIF) rrequency Sweep
IMD (DFD/MOD/SMPTE/CCIF) Level Sweep
Interchannel Phase
Level and Gain
Maximum Output
Maximum Output (CEA-2006)
Measurement Recorder
Metadata Recorder
Multitone Analyzer
Noise (Q-peak per ITU-R BS.468-4)
Noise (RMS)
Noise Recorder (RMS)
Pass/Fail
PESQ
PESQ (Averaged)
Regulated Frequency Sweep
Signal Analyzer
Signal to Noise Ratio
SINAD
Stepped Frequency Sweep
Stepped Level Sweep
THD+N
Add & Close
Add
Close
Help
声学测量
带通
共模仰制
连续扫描
串音
直流
动态范围
失码率
频率
频响
互调失真
相位
电平
最大输出
测量时间记录
数据格式
多音分析
噪声
自动调整频率测度
信号分析（频谱和波形）
频率扫描
电平扫描
信纳
信噪比
总谐波失真加噪声

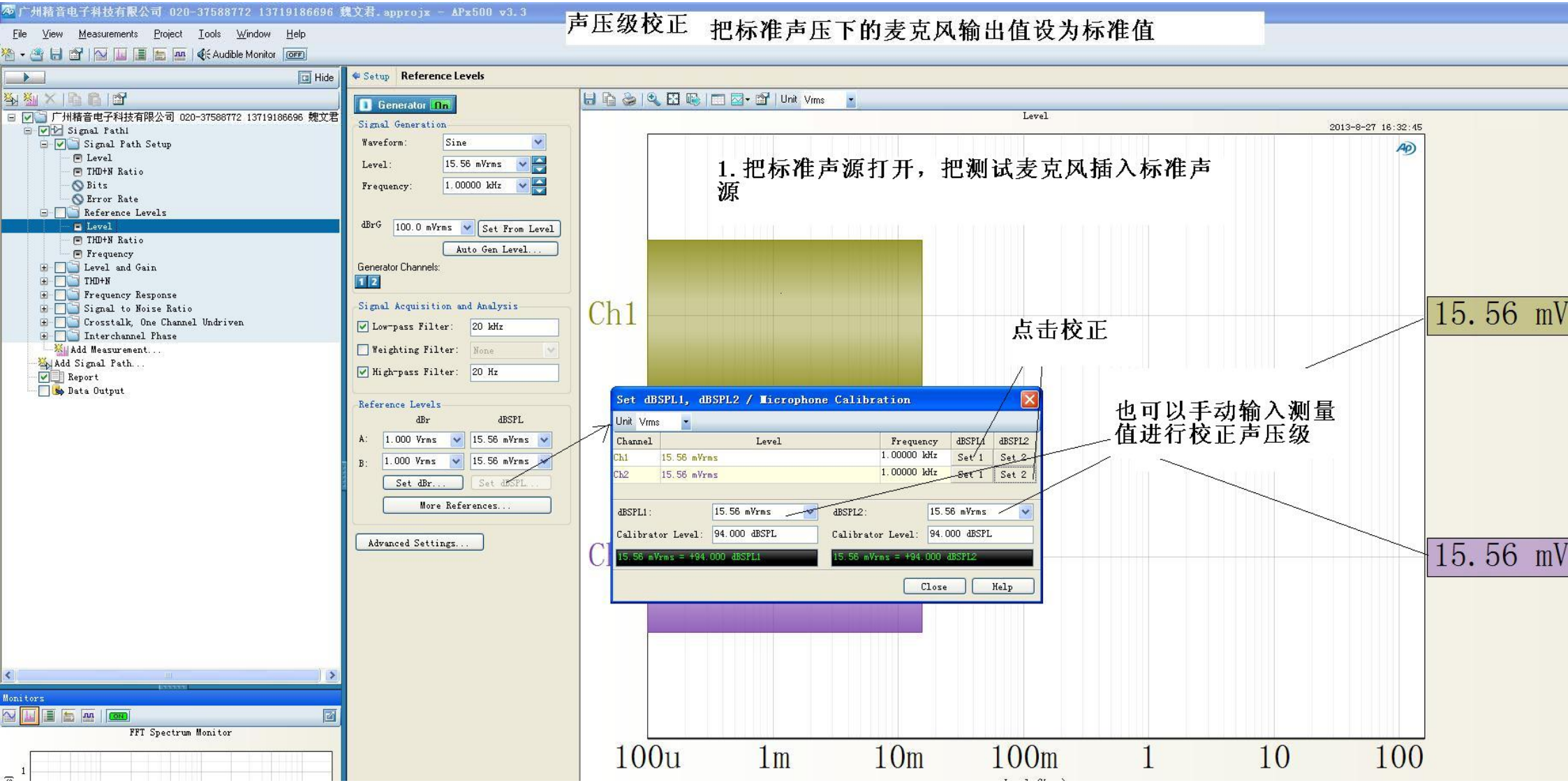

Project - APx500 v3.3 (APx515 Demo Mode)
File View Measurements Project Tools Window Help
Audible Monitor OFF
Hide
Project
Signal Path1
Signal Path Setup
Level
THD+N Ratio
Bits
Error Rate
Reference Levels
Level and Gain
THD+N
Frequency Response
Signal to Noise Ratio
Crosstalk, One Channel Undriven
Interchannel Phase
Stepped Frequency Sweep
Level
Gain
Relative Level (1.00000 kHz)
Deviation (20.0000 Hz - 20.0000 kHz)
Phase
THD+N Ratio
THD+N Level
THD Ratio
THD Level
Distortion Product Ratio (H2)
Distortion Product Level (H2)
SINAD
Add Measurement...
Add Signal Path...
Monitors
ON
Scope Monitor
Instantaneous Level (V)
+1.5
+1.0
+500m
0
-500m
-1.0
-1.5
0
20m
40m
60m
80m
100m
120m
140m
160m
180m
200m
Time (s)
Back
Signal Path Setup
Output Configuration
Connector: Analog Balanced
Settings.
Channels: 2
Input Configuration
Connector: Analog
Settings.
Channels: 2
Acoustic
Labels...
Track First Channel Settings
Channel
Connector
Termination
AC
Ch1
Balanced
200 kOhm
Bandwidth: 90 kHz
Device Under Test
Delay: 0.000 s
Verify Connections
Generator Off
Waveform: Sine
Test Channel: All Channels
Level: 100.0 mVrms
Frequency: 1.00000 kHz
Advanced Settings...
Switcher Settings...
信号源输出接口，需与实际接口一致
分析仪输入接口，需与实际接口一致
Audio Precision APx500
Unit Vrms
Undock
Level
Ch1
289.2 mVrms
Ch2
290.7 mVrms
100u
1m
10m
100m
1
10
100
Level (Vrms)
Previous
Next
Hide
Level
THD+N Ratio
Bits
Error Rate
Output: Analog Balanced 2 Ch, 100 Ohm
Input: Analog Balanced 2 Ch, 200 kOhm
90 kHz

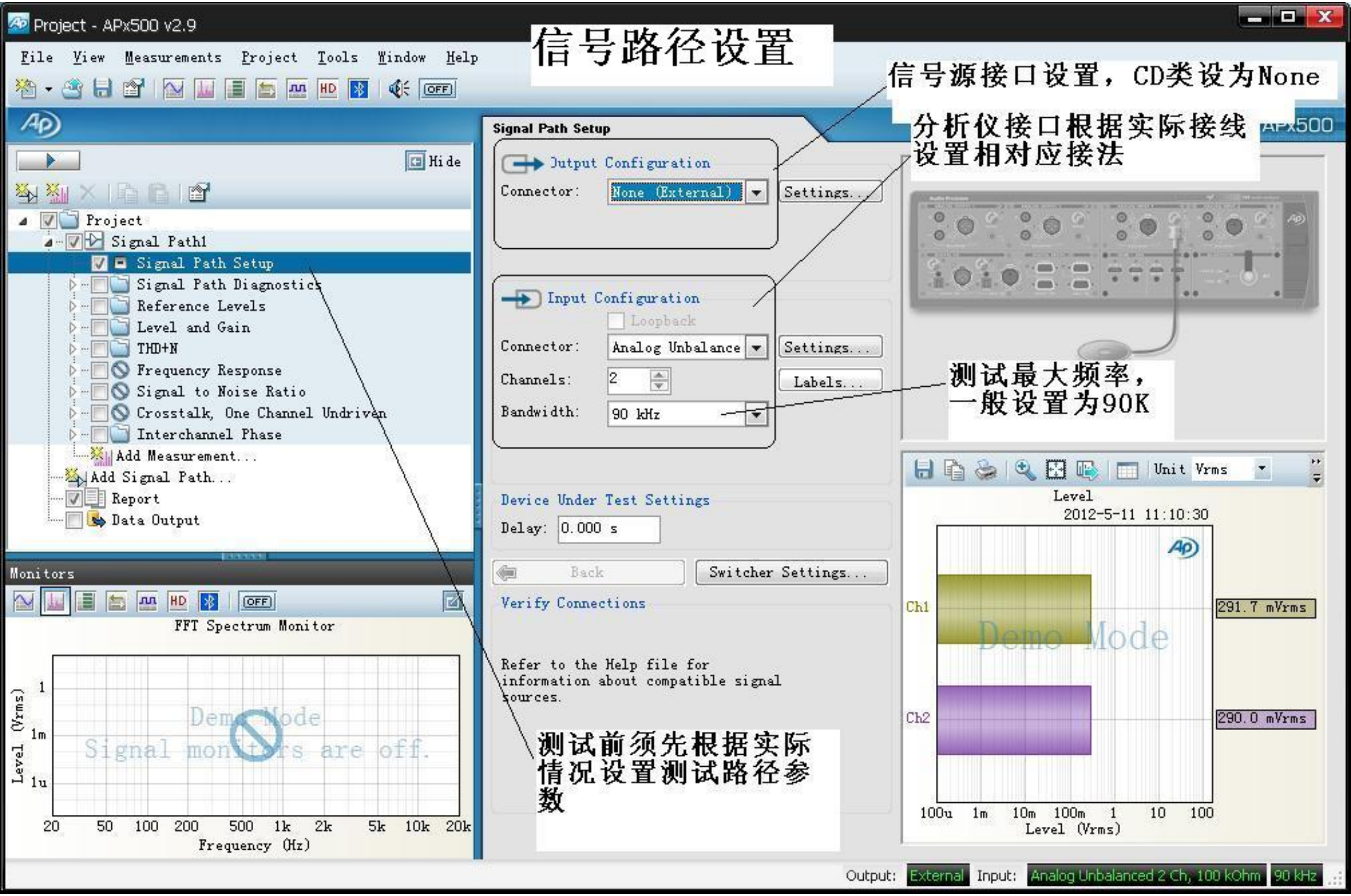

Project - APx500 v3.3 (APx515 Demo Mode)
File View Measurements Project Tools Window Help
Audible Monitor OFF
Hide
Project
Signal Path1
Signal Path Setup
Level
THD+N Ratio
Bits
Error Rate
Reference Levels
Level and Gain
THD+N
Frequency Response
Signal to Noise Ratio
Crosstalk, One Channel Undriven
Interchannel Phase
Stepped Frequency Sweep
Level
Gain
Relative Level (1.00000 kHz)
Deviation (20.0000 Hz - 20.0000 kHz)
Phase
THD+N Ratio
THD+N Level
THD Ratio
THD Level
Distortion Product Ratio (H2)
Distortion Product Level (H2)
SINAD
Add Measurement...
Add Signal Path...
Monitors
Scope Monitor
Instantaneous Level (V)
Time (s)
Setup
Stepped Frequency Sweep
Start
Signal Generation
Waveform: Sine
Start Frequency: 20.0000 kHz
Stop Frequency: 20.0000 Hz
Sweep: Logarithmic
Points: 31 Edit...
Level: 100.0 mVrms
EQ: None
Edit...
Generator Channels:
1 2
Signal Acquisition and Analysis
Append Graph Data
Low-pass Filter: None
Weighting Filter: None
High-pass Filter: 20 Hz
Phase Ref Channel: Ch1
Advanced Settings...
X Hz Y dB
Undock
Relative Level (1.00000 kHz)
All Data
Ch1
Ch2
Relative Level (dB)
Frequency (Hz)
扫频范围
频率分布方式
频点
分步扫频
测试电平
以1K 为0dB的幅频响应
A,B两通道相位差
总谐波失真加噪声
滤波器(只起作用于失真与噪声测试)
Data Set: All Data
Mode: Normalized at Reference
Ref Frequency: 1.00000 kHz
Add Delete Details Previous Next
Hide
Level
Gain
Relative Level (1.00000 kHz)
Deviation (20.0000 Hz - 20.0000 kHz)
Phase
Output: Analog Balanced 2 Ch, 100 Ohm
Input: Analog Balanced 2 Ch, 200 kOhm 90 kHz

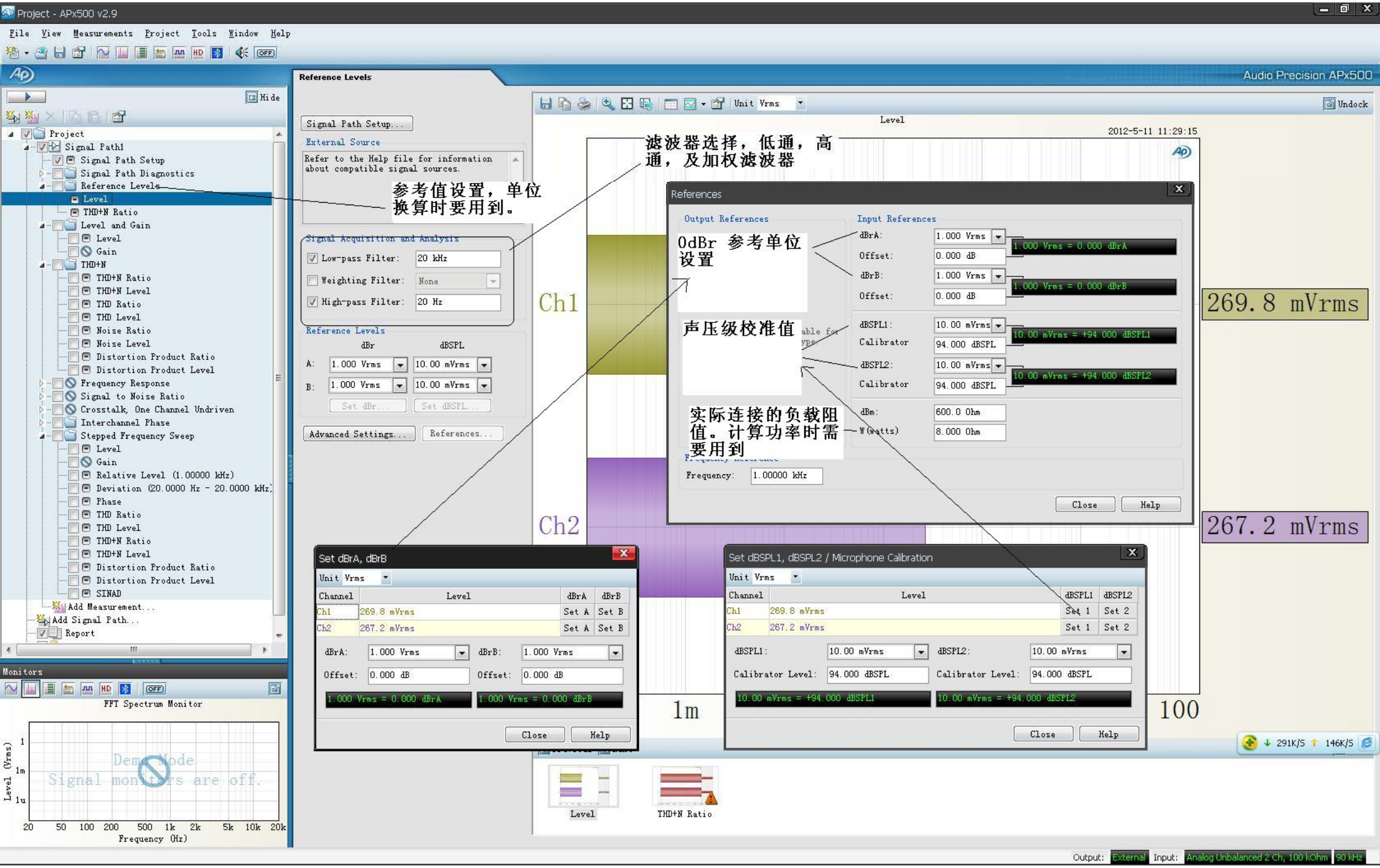

Project - APx500 v3.3 (APx515 Demo Mode)
File View Measurements Project Tools Window Help
Audible Monitor OFF
Hide
THD+N Ratio
THD+N Level
THD Ratio
THD Level
Distortion Product Ratio (H2)
Distortion Product Level (H2)
SINAD
Continuous Sweep
Level
Gain
Relative Level (1.00000 kHz)
Deviation (20.0000 Hz - 20.0000 kHz)
Phase
Group Delay
THD Ratio
THD Level
Distortion Product Ratio (H2)
Distortion Product Level (H2)
Impulse Response
Acquired Waveform
Crosstalk, One Channel Driven
Acquired Crosstalk Waveform One Channel Driv
Crosstalk, One Channel Undriven
Acquired Crosstalk Waveform One Channel Undr
Add Measurement...
Add Signal Path...
Report
Data Output
Monitors
ON
Scope Monitor
Instantaneous Level (V)
+1.5
+1.0
+500m
0
-500m
-1.0
-1.5
0 20m 40m 60m 80m 100m 120m 140m 160m 180m 200m
Time (s)
Setup
Continuous Sweep
Start
Signal Generation
Start Frequency: 20.0000 Hz
Stop Frequency: 20.0000 kHz
Level: 100.0 mVrms
EQ: None
Edit...
Pre-Sweep: 100.0 ms
Sweep: 350.0 ms
Channel Delay: 500.0 ms
Generator Channels:
1 2
Signal Acquisition and Analysis
Append Graph Data
Extend Acquisition By: 50.00 ms
Crosstalk Mode: High speed
Advanced Settings...
Hz
Y s
Undock
Group Delay
All Data
Ch1
Ch2
连续信号扫描
频响
群延时
Demo Mode
Group Delay (s)
5.0m
4.5m
4.0m
3.5m
3.0m
2.5m
2.0m
1.5m
1.0m
500u
0
-500u
-1.0m
-1.5m
-2.0m
-2.5m
-3.0m
-3.5m
-4.0m
-4.5m
-5.0m
20 30 50 100 200 300 500 1k 2k 3k 5k 10k 20k
Frequency (Hz)
Data Set: All Data
Add Delete Details Previous Next
Hide
Group Delay
THD Ratio
THD Level
Distortion Product Ratio (H2)
Distortion Product Level (H2)
Output: Analog Unbalanced 2 Ch, 50 Ohm
Input: Analog Unbalanced 2 Ch, 100 kOhm 90 kHz

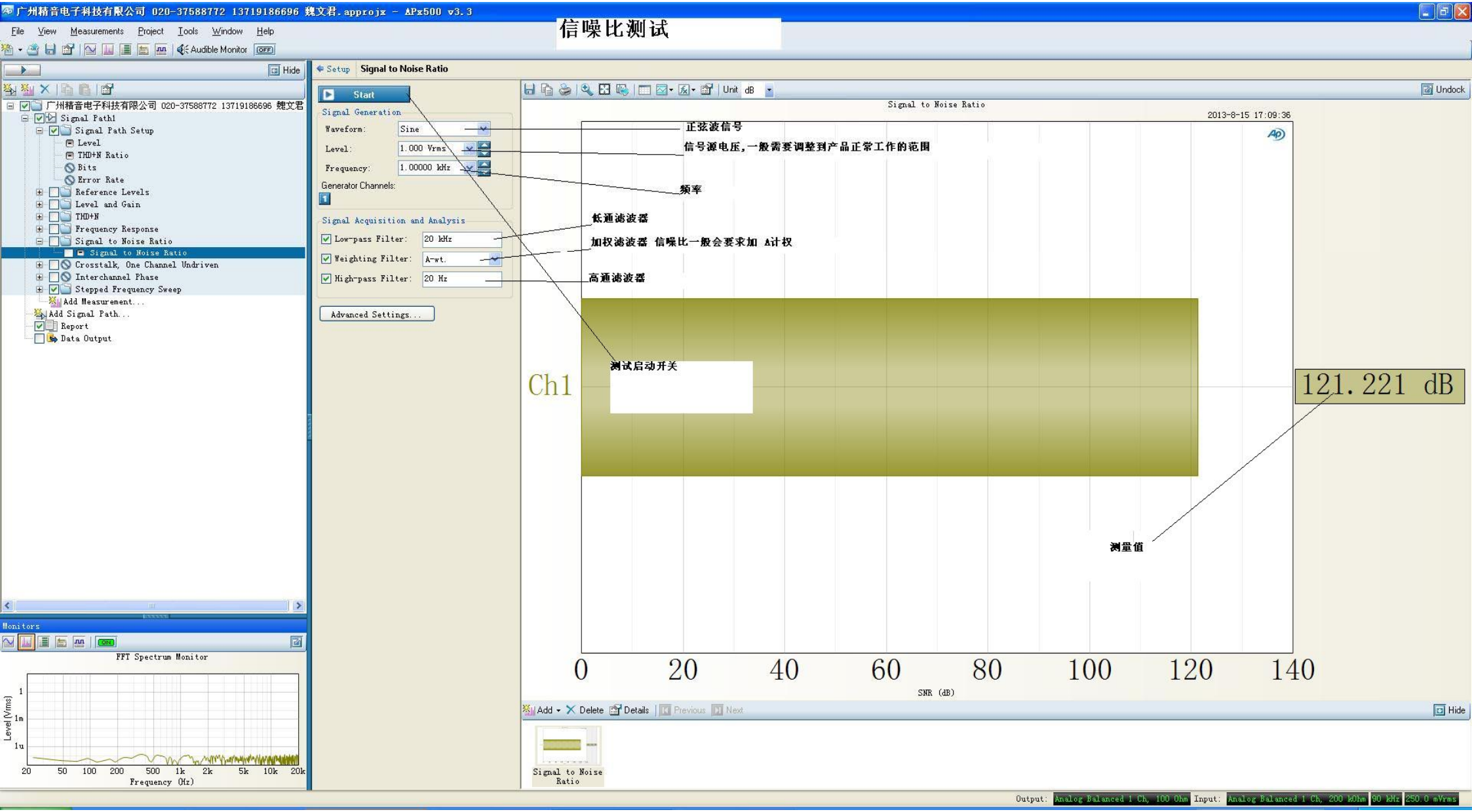

广州精音电子科技有限公司 020-37588772 13719186696 魏文君.approjx - APx500 v3.3
File View Measurements Project Tools Window Help
Audible Monitor OFF
测试前需先进行信号路径设置，根据实际测试产品连线进行选择
Hide
广州精音电子科技有限公司 020-37588772 1371
Signal Path1
Signal Path Setup
Level
THD+N Ratio
Bits
Error Rate
Reference Levels
Level and Gain
THD+N
Frequency Response
Signal to Noise Ratio
Crosstalk, One Channel Undriven
Interchannel Phase
Add Measurement...
Add Signal Path...
Report
Data Output
测试报告，可根据需求存成不同格式文件
顺序测试启动开关，在产线上非常实用
Monitors
FFT Spectrum Monitor
Level (Vrms)
Frequency (Hz)
信号监控，可看波形，频谱，信号强度，失真值等。
此功能对电脑配置要求较高，如非必要建议关掉此功能
Back
Signal Path Setup
Output Configuration
Connector: Analog Unbalanced
Settings.
Channels: 2
输出信号方式
Input Configuration
Connector: Analog
Settings.
Channels: 2
Acoustic
Labels...
测试信号路径
输入分析仪的信号方式
Track First Channel Settings
Channel Connector Termination AC
Ch1 Unbalanced
输入端的阻抗，一般为高阻
Bandwidth: 90 kHz
测试带宽，一般选择90k Hz
信号耦合方式，一般为AC
Device Under Test
Delay: 0.000 s
Verify Connections
Generator
信号源开关
Waveform: Sine
Test Channel: All Channels
Level: 100.0 mVrms
Frequency: 1.00000 kHz
信号的基本属性，用键盘输入进行更改
Advanced Settings...
Switcher Settings...
测试项目列表，可打上勾，进行顺序测试，
增加测试项目，所有测试项目在此增加
可增加信号路径，进行顺序测试，此功能在产线上非常实用，
Audio Precision APx500
Unit Vrms
Undock
Level
2013-8-8 11:33:36
Ch1
6.188 uVrms
Ch2
6.074 uVrms
Level (Vrms)
Previous
Next
Hide
Level
THD+N Ratio
Bits
Error Ra
Output: Analog Unbalanced 2 Ch, 50 Ohm
Input: Analog Unbalanced 2 Ch, 100 kOhm 90 kHz 320.0 mVrms

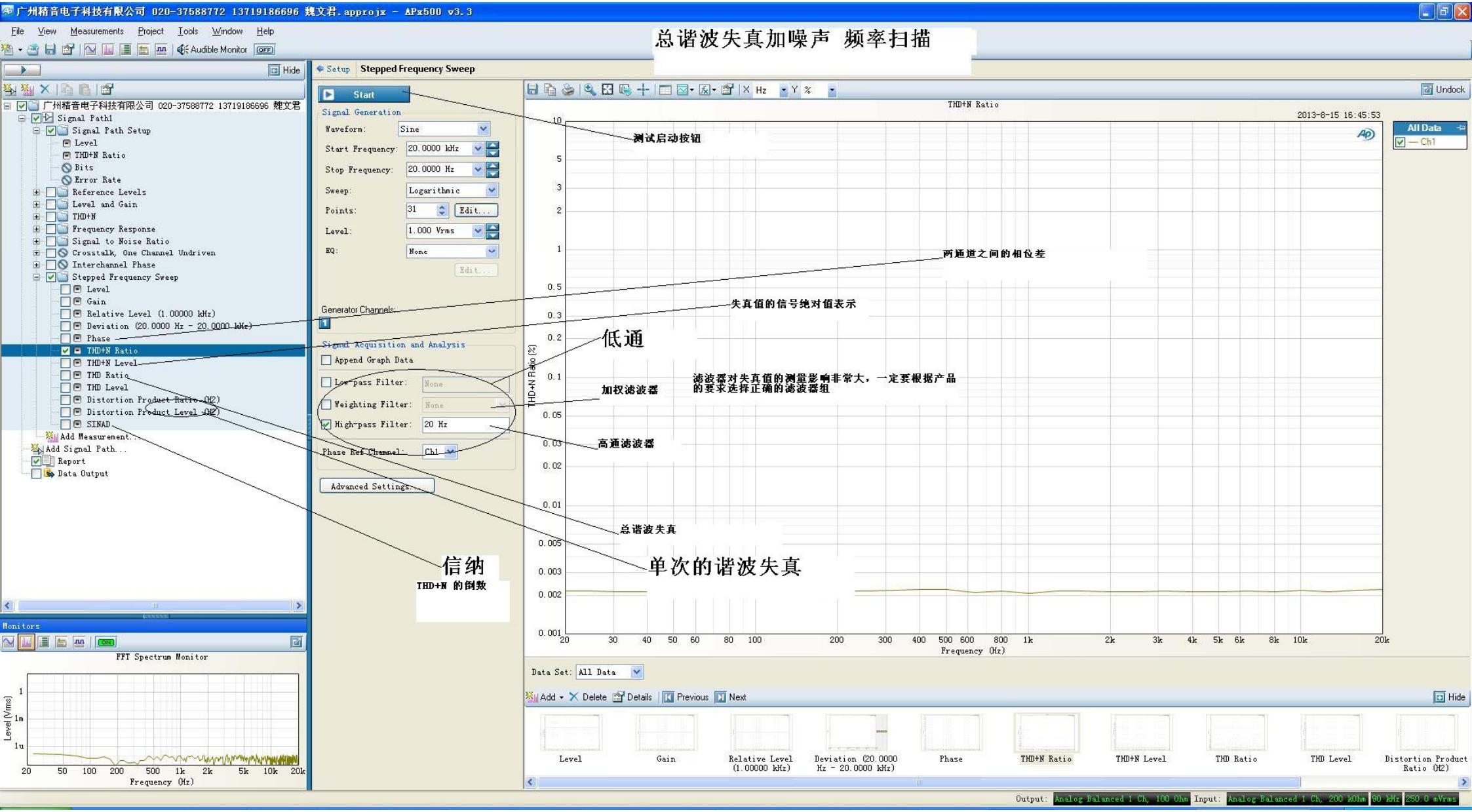

广州精音电子科技有限公司 020-37588772 13719186696 魏文君.approjx - APx500 v3.3
参考值设置
File View Measurements Project Tools Window Help
Audible Monitor OFF
Hide
广州精音电子科技有限公司 020-37588772 13
Signal Path1
Signal Path Setup
Level
THD+N Ratio
Bits
Error Rate
Reference Levels
Level
THD+N Ratio
Frequency
Level and Gain
THD+N
Frequency Response
Signal to Noise Ratio
Crosstalk, One Channel Undriven
Interchannel Phase
Add Measurement...
Add Signal Path...
Report
Data Output
Monitors
FFT Spectrum Monitor
Level (Vrms)
1
1m
1u
100
1k
10k
Frequency (Hz)
Setup
Reference Levels
Generator Off
Signal Generation
Waveform: Sine
Level: 100.0 mVrms
Frequency: 1.00000 kHz
dBrG 100.0 mVrms
Set From Level
Auto Gen Level...
Generator Channels:
1 2
Signal Acquisition and Analysis
Low-pass Filter: 20 kHz
Weighting Filter:
High-pass Filter:
Reference Levels
dBr
A: 1.000 Vrms
B: 1.000 Vrms
Set dBr...
Advanced Settings..
Unit Vrms
Undock
Level
2013-8-8 12:02:23
输出一个标准参考信号，根据测试数据设置参考值
Ch1
860.3 nVrms
References
Output References
dBrG: 100.0 mVrms
dBm: 600.0 Ohm
W(watts): 8.000 Ohm
Input References
dBrA: 1.000 Vrms
Offset: 0.000 dB
dBrB: 1.000 Vrms
Offset: 0.000 dB
dBr 相对参考值
1.000 Vrms = 0.000 dBrA
1.000 Vrms = 0.000 dBrB
dBSPL1: 10.00 mVrms
Calibrator 94.000 dBSPL
dBSPL2: 10.00 mVrms
Calibrator 94.000 dBSPL
10.00 mVrms = +94.000 dBSPL1
10.00 mVrms = +94.000 dBSPL2
声压级校正
dBm: 600.0 Ohm
W(watts) 8.000 Ohm
Frequency Reference
Frequency: 1.00000 kHz
测试时，实际上所用的负载阻抗值，此值是计算功率的关键值，一定要跟实际相符
Close
Help
Level
THD+N Ratio
Frequency
Output: Analog Unbalanced 2 Ch, 50 Ohm
Input: Analog Unbalanced 2 Ch, 100 kOhm 90 kHz 320.0 mVrms

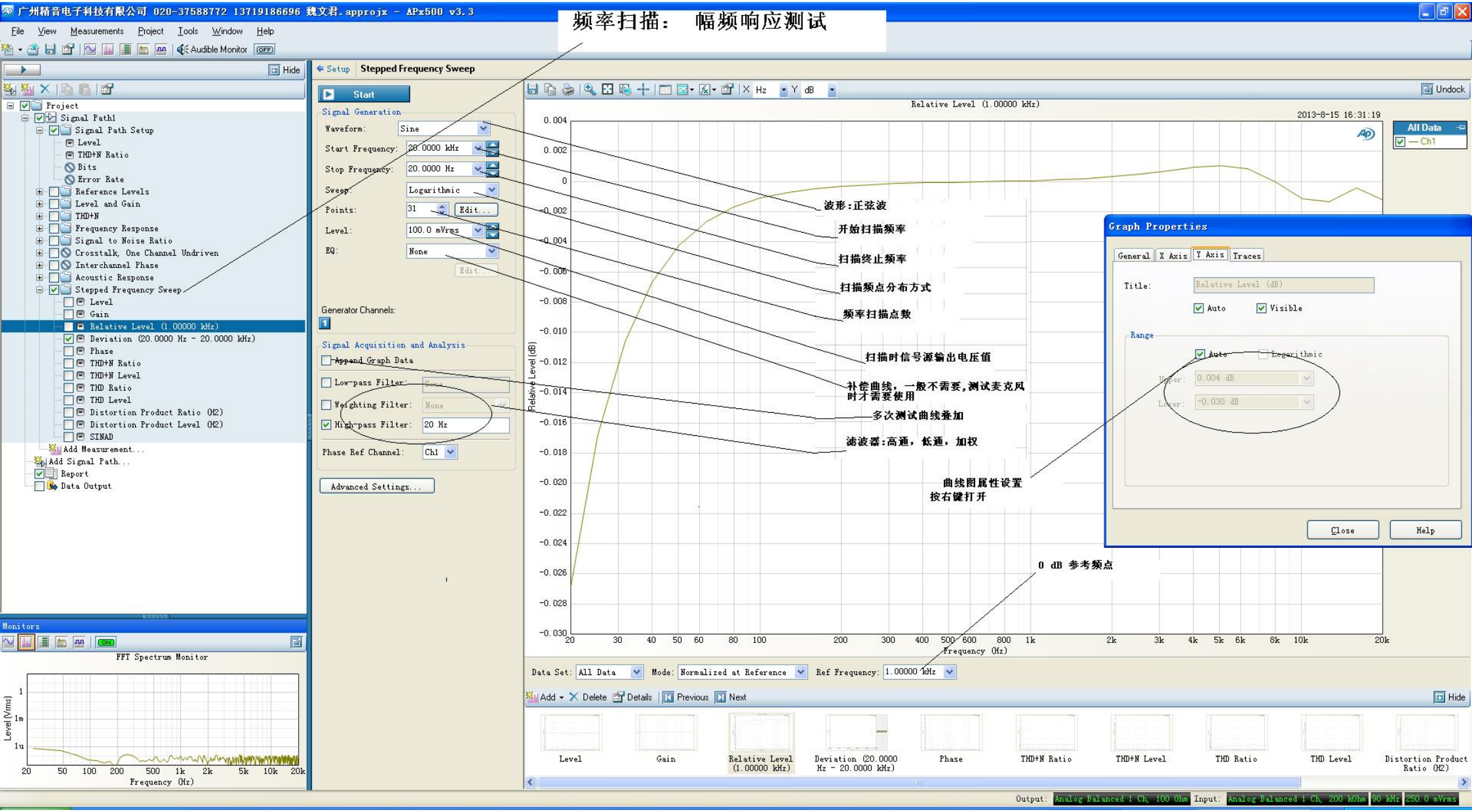

广州精音电子科技有限公司 020-37588772 13719186696 魏文君.approjx - APx500 v3.3
声压级校正 把标准声压下的麦克风输出值设为标准值
File View Measurements Project Tools Window Help
Audible Monitor
Hide
广州精音电子科技有限公司 020-37588772 13719186696 魏文君
Signal Path1
Signal Path Setup
Level
THD+N Ratio
Bits
Error Rate
Reference Levels
Level
THD+N Ratio
Frequency
Level and Gain
THD+N
Frequency Response
Signal to Noise Ratio
Crosstalk, One Channel Undriven
Interchannel Phase
Add Measurement...
Add Signal Path...
Report
Data Output
Monitors
FFT Spectrum Monitor
Setup
Reference Levels
Generator
Signal Generation
Waveform: Sine
Level: 15.56 mVrms
Frequency: 1.00000 kHz
dBrG 100.0 mVrms
Set From Level
Auto Gen Level...
Generator Channels:
1 2
Signal Acquisition and Analysis
Low-pass Filter: 20 kHz
Weighting Filter: None
High-pass Filter: 20 Hz
Reference Levels
dBr dBSPL
A: 1.000 Vrms 15.56 mVrms
B: 1.000 Vrms 15.56 mVrms
Set dBr...
Set dBSPL...
More References...
Advanced Settings...
Unit Vrms
Level
2013-8-27 16:32:45
1. 把标准声源打开，把测试麦克风插入标准声源
Ch1
点击校正
Set dBSPL1, dBSPL2 / Microphone Calibration
Unit Vrms
Channel Level Frequency dBSPL1 dBSPL2
Ch1 15.56 mVrms 1.00000 kHz Set 1 Set 2
Ch2 15.56 mVrms 1.00000 kHz Set 1 Set 2
dBSPL1: 15.56 mVrms
dBSPL2: 15.56 mVrms
Calibrator Level: 94.000 dBSPL
Calibrator Level: 94.000 dBSPL
15.56 mVrms = +94.000 dBSPL1
15.56 mVrms = +94.000 dBSPL2
Close Help
也可以手动输入测量值进行校正声压级
15.56 mV
15.56 mV
100u 1m 10m 100m 1 10 100

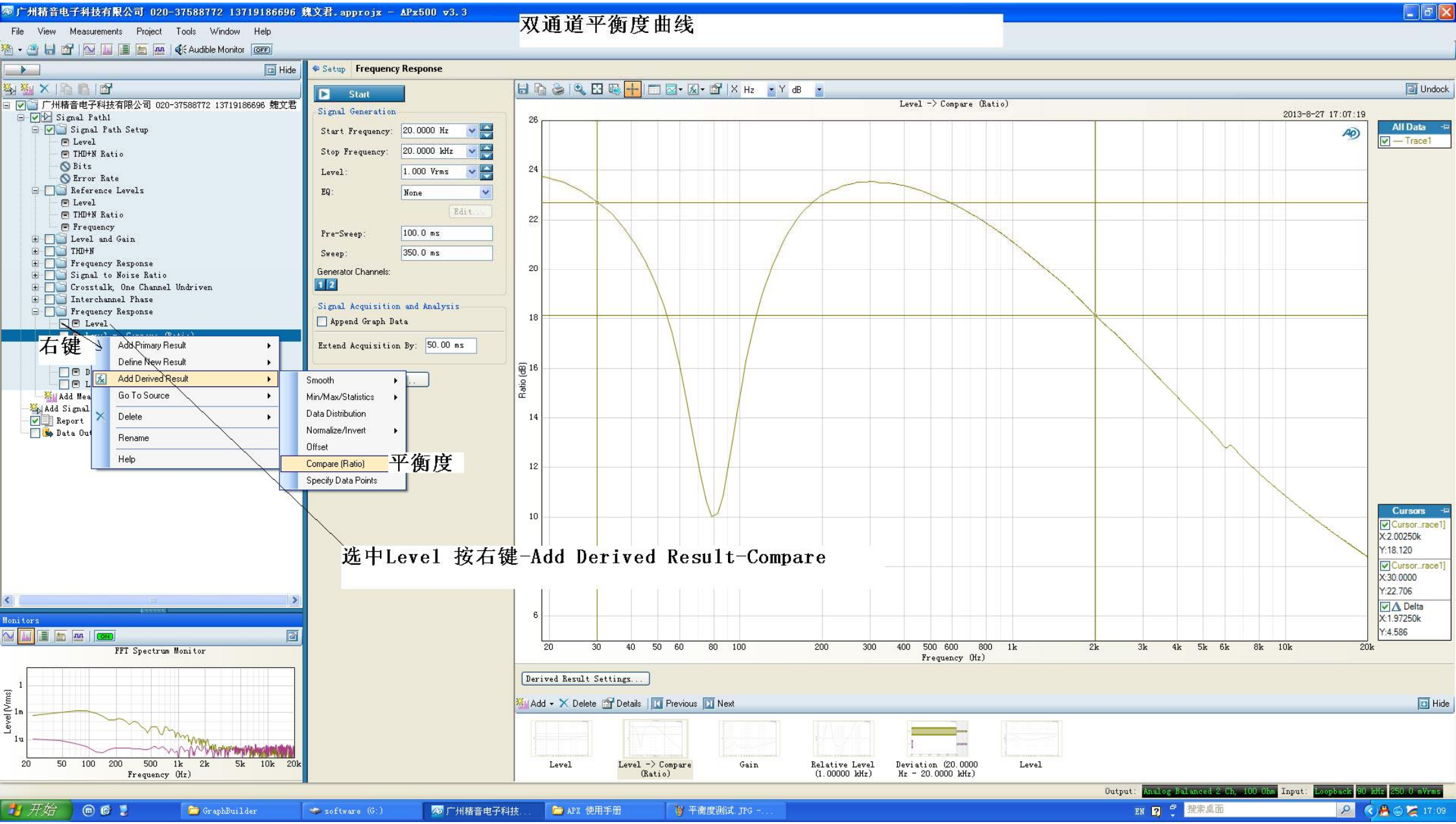

Project - APx500 v2.9
File View Measurements Project Tools Window Help
信号路径设置
信号源接口设置，CD类设为None
分析仪接口根据实际接线
设置相对应接法
Signal Path Setup
Output Configuration
Connector: None (External)
Settings...
Input Configuration
Loopback
Connector: Analog Unbalance
Settings...
Channels: 2
Labels...
Bandwidth: 90 kHz
测试最大频率，
一般设置为90K
Device Under Test Settings
Delay: 0.000 s
Back
Switcher Settings...
Verify Connections
Refer to the Help file for information about compatible signal sources.
测试前须先根据实际情况设置测试路径参数
Hide
Project
Signal Path1
Signal Path Setup
Signal Path Diagnostics
Reference Levels
Level and Gain
THD+N
Frequency Response
Signal to Noise Ratio
Crosstalk, One Channel Undriven
Interchannel Phase
Add Measurement...
Add Signal Path...
Report
Data Output
Monitors
FFT Spectrum Monitor
Demo Mode
Signal monitors are off.
Level (Vrms)
Frequency (Hz)
Unit Vrms
Level
2012-5-11 11:10:30
Ch1
Ch2
291.7 mVrms
290.0 mVrms
Demo Mode
Level (Vrms)
Output: External Input: Analog Unbalanced 2 Ch, 100 kOhm 90 kHz

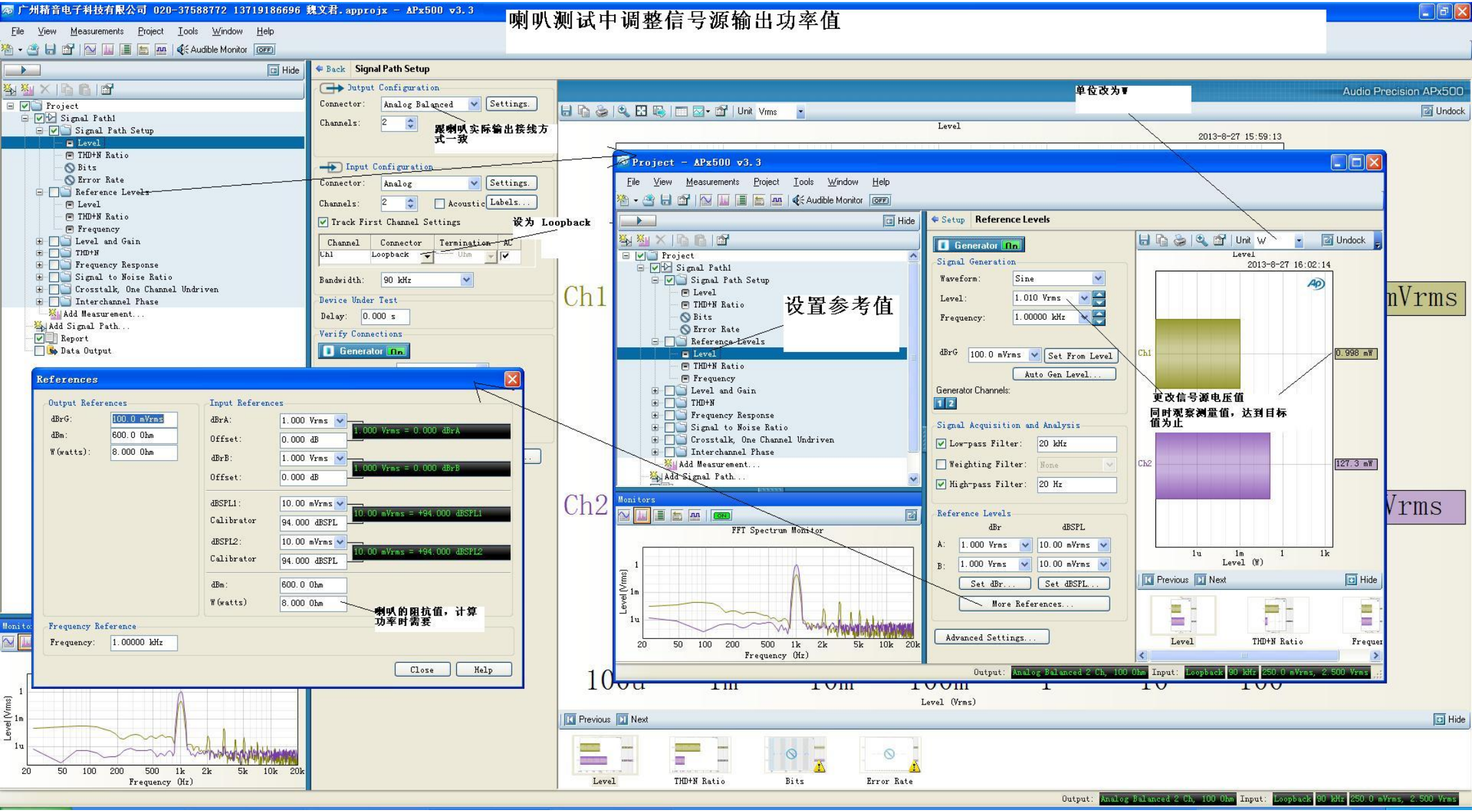

Project - APx500 v2.9
File View Measurements Project Tools Window Help
Audio Precision APx500
Reference Levels
Signal Path Setup...
External Source
Refer to the Help file for information about compatible signal sources.
参考值设置，单位换算时要用到。
Signal Acquisition and Analysis
Low-pass Filter: 20 kHz
Weighting Filter: None
High-pass Filter: 20 Hz
Reference Levels
dBr dBSPL
A: 1.000 Vrms 10.00 mVrms
B: 1.000 Vrms 10.00 mVrms
Set dBr... Set dBSPL...
Advanced Settings... References...
滤波器选择，低通，高通，及加权滤波器
References
Output References
0dBr 参考单位设置
声压级校准值
实际连接的负载阻值。计算功率时需要用到
Input References
dBrA: 1.000 Vrms
Offset: 0.000 dB
dBrB: 1.000 Vrms
Offset: 0.000 dB
dBSPL1: 10.00 mVrms
Calibrator 94.000 dBSPL
dBSPL2: 10.00 mVrms
Calibrator 94.000 dBSPL
dBm: 600.0 Ohm
W(watts) 8.000 Ohm
Frequency: 1.00000 kHz
Close Help
Set dBrA, dBrB
Channel Level dBrA dBrB
Ch1 269.8 mVrms Set A Set B
Ch2 267.2 mVrms Set A Set B
dBrA: 1.000 Vrms dBrB: 1.000 Vrms
Offset: 0.000 dB Offset: 0.000 dB
Set dBSPL1, dBSPL2 / Microphone Calibration
Channel Level dBSPL1 dBSPL2
Ch1 269.8 mVrms Set 1 Set 2
Ch2 267.2 mVrms Set 1 Set 2
dBSPL1: 10.00 mVrms dBSPL2: 10.00 mVrms
Calibrator Level: 94.000 dBSPL
10.00 mVrms = +94.000 dBSPL1
10.00 mVrms = +94.000 dBSPL2
Ch1
Ch2
269.8 mVrms
267.2 mVrms
1m
100
Level
2012-5-11 11:29:15
Project
Signal Path1
Signal Path Setup
Signal Path Diagnostics
Reference Levels
Level
THD+N Ratio
Level and Gain
Gain
THD+N
Frequency Response
Signal to Noise Ratio
Crosstalk, One Channel Undriven
Interchannel Phase
Stepped Frequency Sweep
Relative Level (1.00000 kHz)
Deviation (20.0000 Hz - 20.0000 kHz)
Phase
SINAD
Add Measurement...
Add Signal Path...
Report
Monitors
FFT Spectrum Monitor
Demo Mode
Signal monitors are off.
Level (Vrms)
Frequency (Hz)
THD+N Ratio
Output: External Input: Analog Unbalanced 2 Ch, 100 kOhm 90 kHz

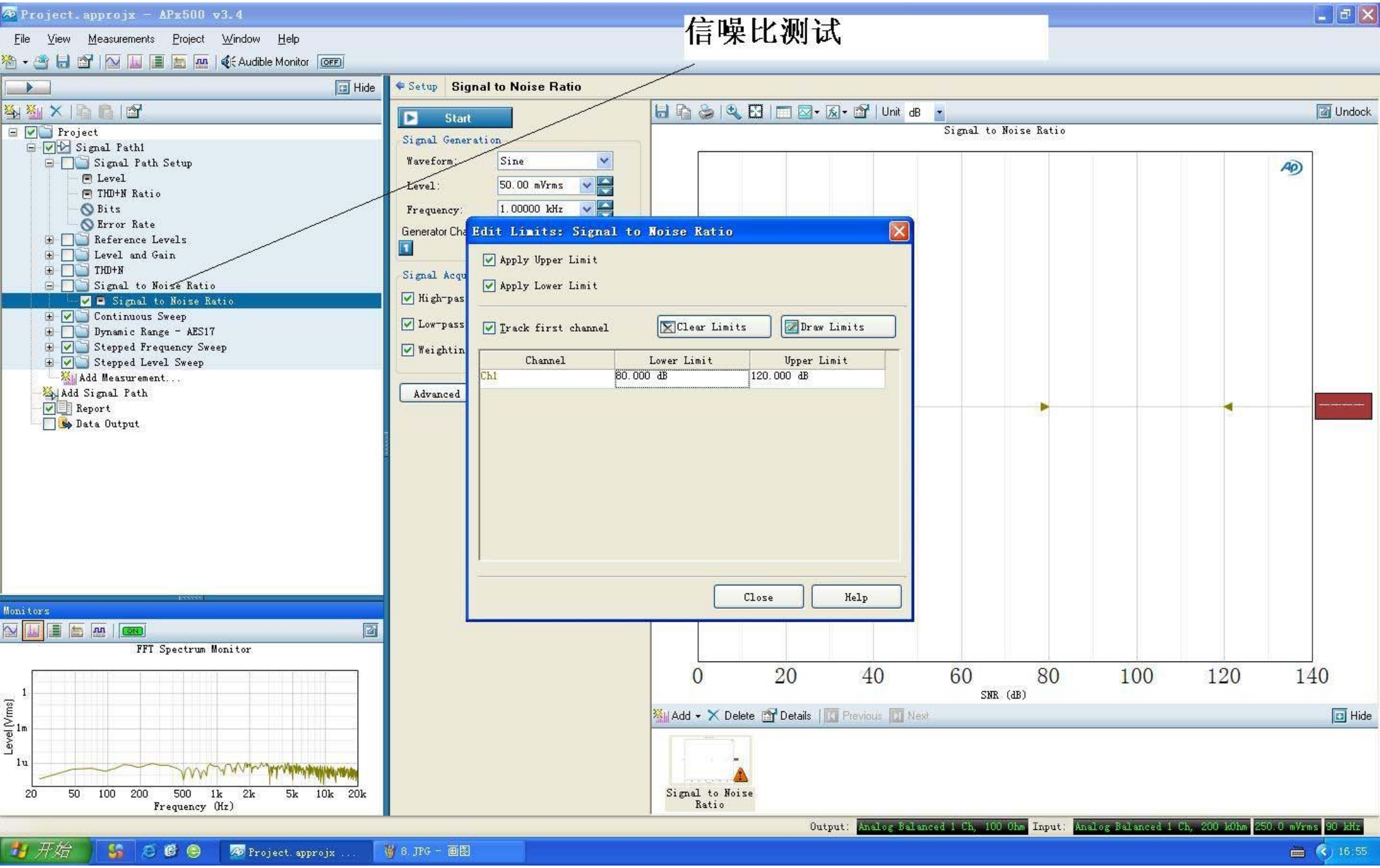

广州精音电子科技有限公司 020-37588772 13719186696 魏文君.approjx - APx500 v3.3
信噪比测试
File View Measurements Project Tools Window Help
Audible Monitor
Hide
Setup
Signal to Noise Ratio
Start
Signal Generation
Waveform: Sine
Level: 1.000 Vrms
Frequency: 1.00000 kHz
Generator Channels:
Signal Acquisition and Analysis
Low-pass Filter: 20 kHz
Weighting Filter: A-wt.
High-pass Filter: 20 Hz
Advanced Settings...
Unit dB
Undock
Signal to Noise Ratio
2013-8-15 17:09:36
正弦波信号
信号源电压，一般需要调整到产品正常工作的范围
频率
低通滤波器
加权滤波器 信噪比一般会要求加 A计权
高通滤波器
测试启动开关
Ch1
121.221 dB
测量值
0 20 40 60 80 100 120 140
SNR (dB)
Add Delete Details Previous Next
Hide
Signal to Noise Ratio
Signal Path1
Signal Path Setup
Level
THD+N Ratio
Bits
Error Rate
Reference Levels
Level and Gain
THD+N
Frequency Response
Signal to Noise Ratio
Crosstalk, One Channel Undriven
Interchannel Phase
Stepped Frequency Sweep
Add Measurement...
Add Signal Path...
Report
Data Output
Monitors
FFT Spectrum Monitor
Level (Vrms)
Frequency (Hz)
20 50 100 200 500 1k 2k 5k 10k 20k
Output: Analog Balanced 1 Ch, 100 Ohm Input: Analog Balanced 1 Ch, 200 kOhm 90 kHz 250.0 mVrms

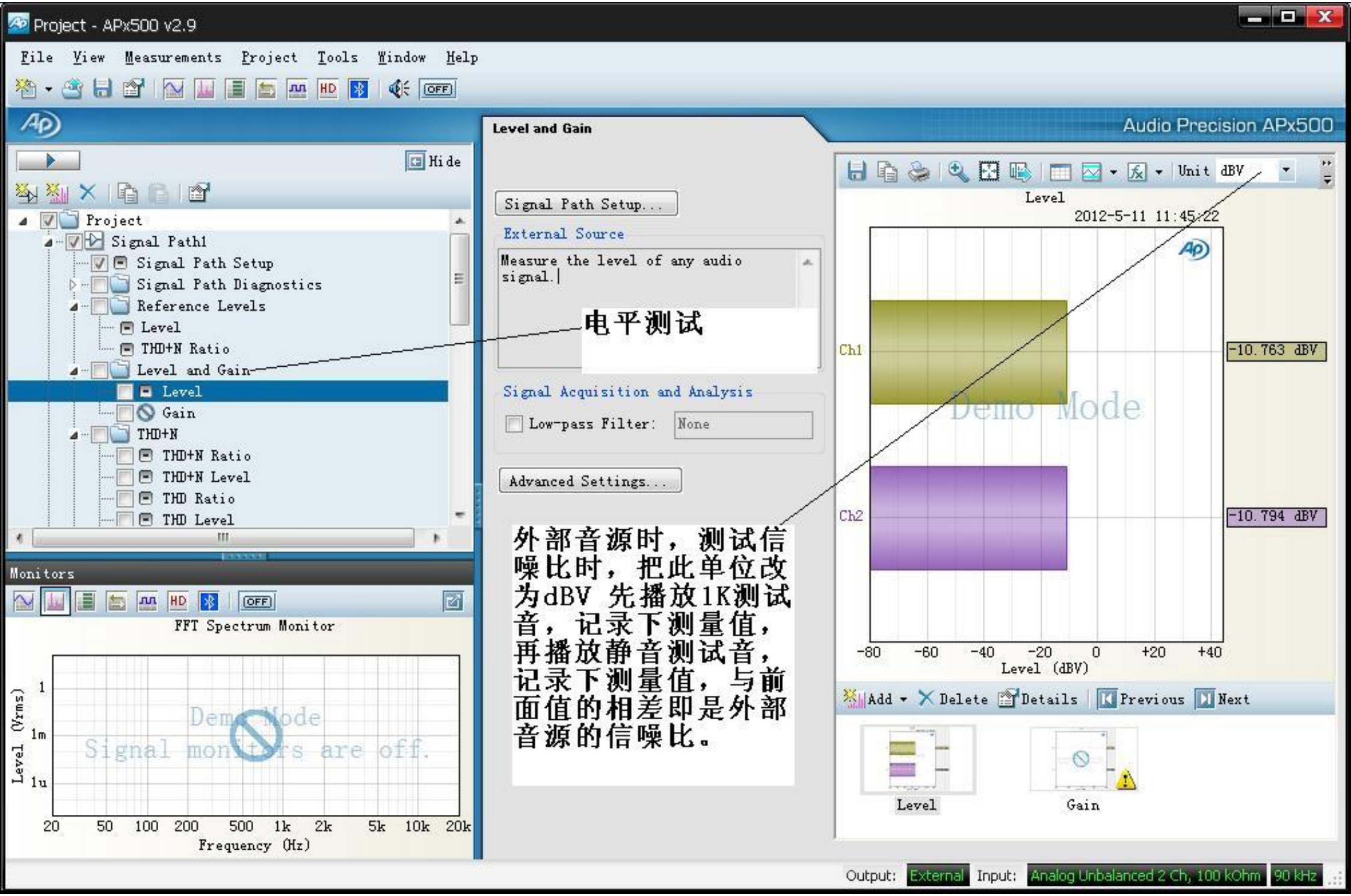

广州精音电子科技有限公司 020-37588772 13719186696 魏文君.approjx - APx500 v3.3
File View Measurements Project Tools Window Help
Audible Monitor
总谐波失真加噪声 频率扫描
Hide
Setup
Stepped Frequency Sweep
Start
测试启动按钮
Signal Generation
Waveform: Sine
Start Frequency: 20.0000 kHz
Stop Frequency: 20.0000 Hz
Sweep: Logarithmic
Points: 31 Edit...
Level: 1.000 Vrms
EQ: None
Edit...
Generator Channels:
Signal Acquisition and Analysis
Append Graph Data
Low-pass Filter: None
Weighting Filter: None
High-pass Filter: 20 Hz
Phase Ref Channel: Ch1
Advanced Settings...
Signal Path1
Signal Path Setup
Level
THD+N Ratio
Bits
Error Rate
Reference Levels
Level and Gain
THD+N
Frequency Response
Signal to Noise Ratio
Crosstalk, One Channel Undriven
Interchannel Phase
Stepped Frequency Sweep
Level
Gain
Relative Level (1.00000 kHz)
Deviation (20.0000 Hz - 20.0000 kHz)
Phase
THD+N Ratio
THD+N Level
THD Ratio
THD Level
Distortion Product Ratio (H2)
Distortion Product Level (H2)
SINAD
Add Measurement...
Add Signal Path...
Report
Data Output
两通道之间的相位差
失真值的信号绝对值表示
低通
滤波器对失真值的测量影响非常大，一定要根据产品的要求选择正确的滤波器组
加权滤波器
高通滤波器
总谐波失真
单次的谐波失真
信纳
THD+N 的倒数
Undock
THD+N Ratio
2013-8-15 16:45:53
All Data
Ch1
THD+N Ratio (%)
Frequency (Hz)
Data Set: All Data
Add Delete Details Previous Next
Hide
Level
Gain
Relative Level (1.00000 kHz)
Deviation (20.0000 Hz - 20.0000 kHz)
Phase
THD+N Ratio
THD+N Level
THD Ratio
THD Level
Distortion Product Ratio (H2)
Monitors
FFT Spectrum Monitor
Level (Vrms)
Frequency (Hz)
Output: Analog Balanced 1 Ch, 100 Ohm Input: Analog Balanced 1 Ch, 200 kOhm 90 kHz 250.0 mVrms

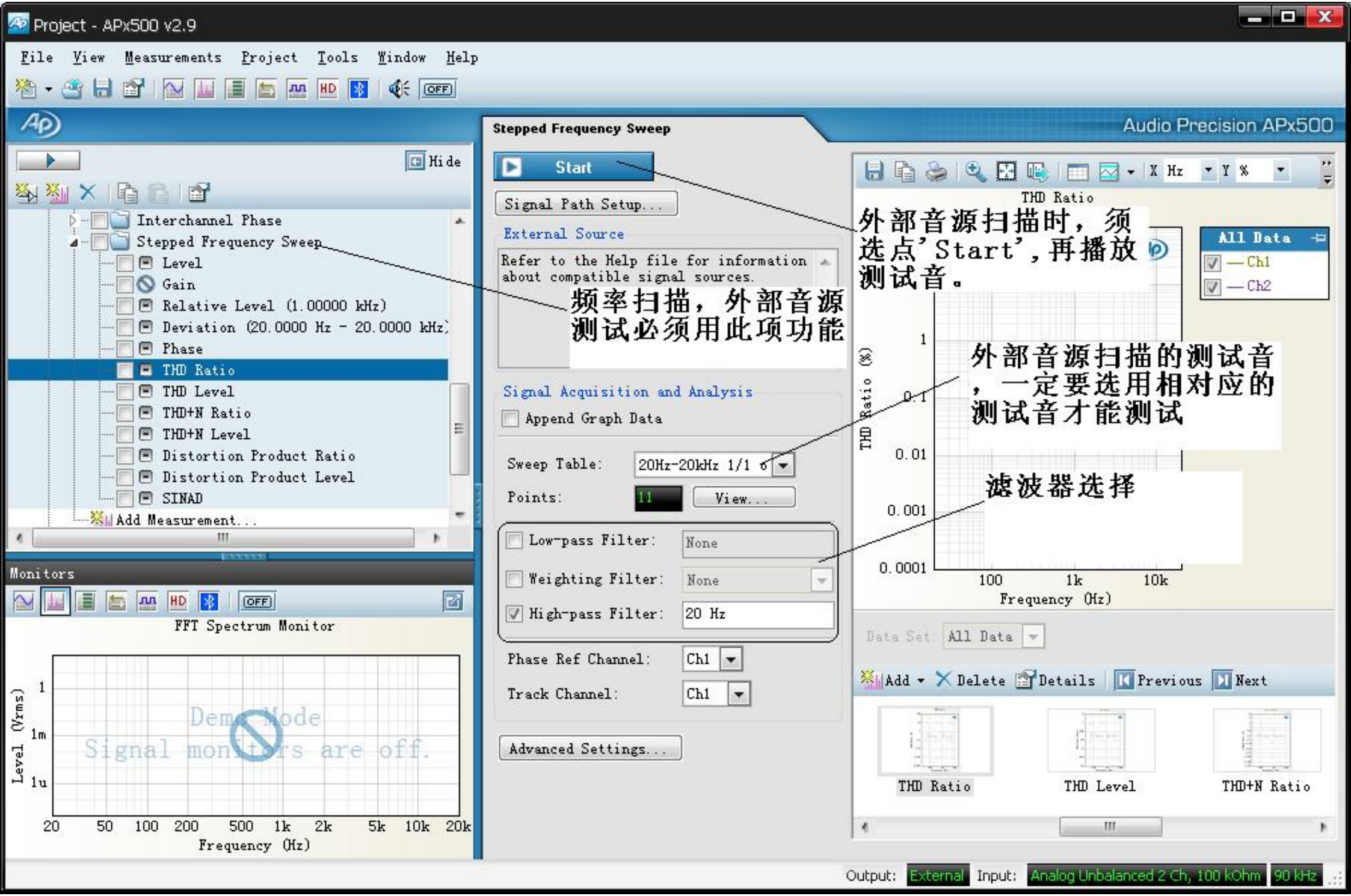

广州精音电子科技有限公司 020-37588772 13719186696 魏文君.approjx - APx500 v3.3
频率扫描： 幅频响应测试
File View Measurements Project Tools Window Help
Audible Monitor
Hide
Project
Signal Path1
Signal Path Setup
Level
THD+N Ratio
Bits
Error Rate
Reference Levels
Level and Gain
THD+N
Frequency Response
Signal to Noise Ratio
Crosstalk, One Channel Undriven
Interchannel Phase
Acoustic Response
Stepped Frequency Sweep
Level
Gain
Relative Level (1.00000 kHz)
Deviation (20.0000 Hz - 20.0000 kHz)
Phase
THD+N Ratio
THD+N Level
THD Ratio
THD Level
Distortion Product Ratio (H2)
Distortion Product Level (H2)
SINAD
Add Measurement...
Add Signal Path...
Report
Data Output
Monitors
FFT Spectrum Monitor
Level (Vrms)
Frequency (Hz)
Setup
Stepped Frequency Sweep
Start
Signal Generation
Waveform: Sine
Start Frequency: 20.0000 kHz
Stop Frequency: 20.0000 Hz
Sweep: Logarithmic
Points: 31 Edit...
Level: 100.0 mVrms
EQ: None
Edit...
Generator Channels:
Signal Acquisition and Analysis
Append Graph Data
Low-pass Filter: None
Weighting Filter: None
High-pass Filter: 20 Hz
Phase Ref Channel: Ch1
Advanced Settings...
Hz
Y dB
Undock
Relative Level (1.00000 kHz)
2013-8-15 16:31:19
All Data
Ch1
Relative Level (dB)
Frequency (Hz)
波形：正弦波
开始扫描频率
扫描终止频率
扫描频点分布方式
频率扫描点数
扫描时信号源输出电压值
补偿曲线，一般不需要，测试麦克风时才需要使用
多次测试曲线叠加
滤波器：高通，低通，加权
曲线图属性设置
按右键打开
0 dB 参考频点
Graph Properties
General X Axis Y Axis Traces
Title: Relative Level (dB)
Auto Visible
Range
Auto Logarithmic
Upper: 0.004 dB
Lower: -0.030 dB
Close Help
Data Set: All Data
Mode: Normalized at Reference
Ref Frequency: 1.00000 kHz
Add Delete Details Previous Next
Hide
Level
Gain
Relative Level (1.00000 kHz)
Deviation (20.0000 Hz - 20.0000 kHz)
Phase
THD+N Ratio
THD+N Level
THD Ratio
THD Level
Distortion Product Ratio (H2)
Output: Analog Balanced 1 Ch, 100 Ohm
Input: Analog Balanced 1 Ch, 200 kOhm 90 kHz 250.0 mVrms

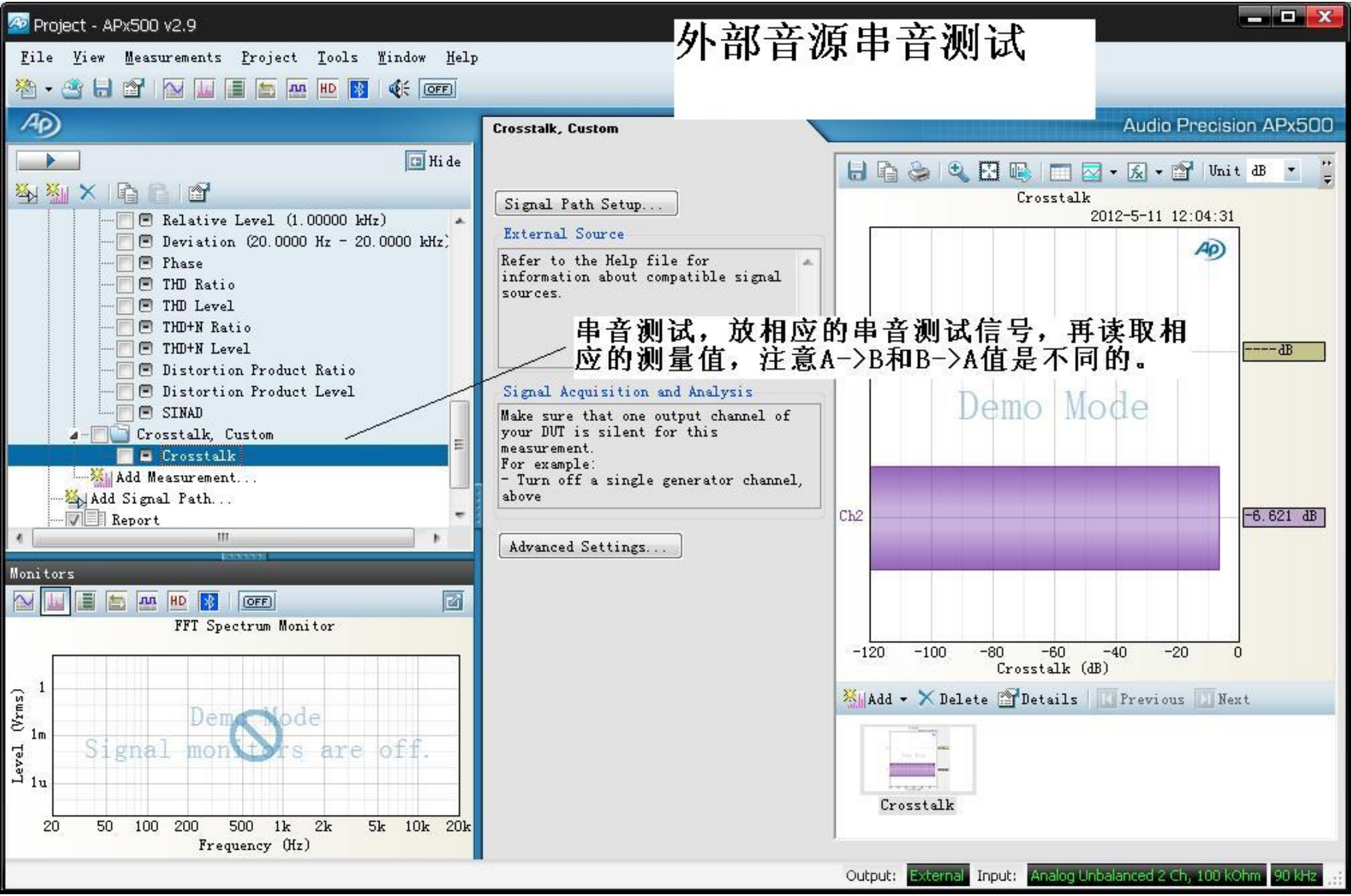

广州精音电子科技有限公司 020-37588772 13719186696 魏文君.approjx - APx500 v3.3
双通道平衡度曲线
File View Measurements Project Tools Window Help
Audible Monitor
Hide
Setup
Frequency Response
Start
Signal Generation
Start Frequency: 20.0000 Hz
Stop Frequency: 20.0000 kHz
Level: 1.000 Vrms
EQ: None
Edit...
Pre-Sweep: 100.0 ms
Sweep: 350.0 ms
Generator Channels: 1 2
Signal Acquisition and Analysis
Append Graph Data
Extend Acquisition By: 50.00 ms
广州精音电子科技有限公司 020-37588772 13719186696 魏文君
Signal Path1
Signal Path Setup
Level
THD+N Ratio
Bits
Error Rate
Reference Levels
Level
THD+N Ratio
Frequency
Level and Gain
THD+N
Frequency Response
Signal to Noise Ratio
Crosstalk, One Channel Undriven
Interchannel Phase
Frequency Response
Level
右键
Add Primary Result
Define New Result
Add Derived Result
Go To Source
Delete
Rename
Help
Smooth
Min/Max/Statistics
Data Distribution
Normalize/Invert
Offset
Compare (Ratio)
Specify Data Points
平衡度
选中Level 按右键-Add Derived Result-Compare
Monitors
FFT Spectrum Monitor
Level (Vrms)
Frequency (Hz)
Undock
Level -> Compare (Ratio)
2013-8-27 17:07:19
Ratio (dB)
Frequency (Hz)
All Data
Trace1
Cursors
Cursor..race1]
X:2.00250k
Y:18.120
Cursor..race1]
X:30.0000
Y:22.706
Delta
X:1.97250k
Y:4.586
Derived Result Settings...
Add Delete Details Previous Next
Level
Level -> Compare (Ratio)
Gain
Relative Level (1.00000 kHz)
Deviation (20.0000 Hz - 20.0000 kHz)
Level
Output: Analog Balanced 2 Ch, 100 Ohm Input: Loopback 90 kHz 250.0 mVrms
开始
GraphBuilder
software (G:)
广州精音电子科技...
APX 使用手册
平衡度测试.JPG -...
17:09


广州精音电子科技有限公司 020-37588772 13719186696 魏文君.approjx - APx500 v3.3
喇叭测试中调整信号源输出功率值
File View Measurements Project Tools Window Help
Audible Monitor
Back Signal Path Setup
Output Configuration
Connector: Analog Balanced
Settings.
Channels: 2
跟喇叭实际输出接线方式一致
Input Configuration
Connector: Analog
Settings.
Channels: 2
Acoustic
Labels...
Track First Channel Settings
设为 Loopback
Channel Connector Termination AC
Ch1 Loopback
Bandwidth: 90 kHz
Device Under Test
Delay: 0.000 s
Verify Connections
Generator
Project
Signal Path1
Signal Path Setup
Level
THD+N Ratio
Bits
Error Rate
Reference Levels
Level
THD+N Ratio
Frequency
Level and Gain
THD+N
Frequency Response
Signal to Noise Ratio
Crosstalk, One Channel Undriven
Interchannel Phase
Add Measurement...
Add Signal Path...
Report
Data Output
References
Output References
dBrG: 100.0 mVrms
dBm: 600.0 Ohm
W(watts): 8.000 Ohm
Input References
dBrA: 1.000 Vrms
1.000 Vrms = 0.000 dBrA
Offset: 0.000 dB
dBrB: 1.000 Vrms
1.000 Vrms = 0.000 dBrB
Offset: 0.000 dB
dBSPL1: 10.00 mVrms
10.00 mVrms = +94.000 dBSPL1
Calibrator 94.000 dBSPL
dBSPL2: 10.00 mVrms
10.00 mVrms = +94.000 dBSPL2
Calibrator 94.000 dBSPL
dBm: 600.0 Ohm
W(watts): 8.000 Ohm
喇叭的阻抗值，计算功率时需要
Frequency Reference
Frequency: 1.00000 kHz
Close
Help
Level (Vrms)
Frequency (Hz)
单位改为W
Audio Precision APx500
Undock
Unit Vrms
Level
2013-8-27 15:59:13
Ch1
Ch2
mVrms
Vrms
Project - APx500 v3.3
File View Measurements Project Tools Window Help
Audible Monitor
Hide
Setup Reference Levels
Generator
Signal Generation
Waveform: Sine
Level: 1.010 Vrms
Frequency: 1.00000 kHz
dBrG 100.0 mVrms
Set From Level
Auto Gen Level...
Generator Channels: 1 2
Signal Acquisition and Analysis
Low-pass Filter: 20 kHz
Weighting Filter: None
High-pass Filter: 20 Hz
Reference Levels
dBr dBSPL
A: 1.000 Vrms 10.00 mVrms
B: 1.000 Vrms 10.00 mVrms
Set dBr...
Set dBSPL...
More References...
Advanced Settings...
Unit W
Undock
Level
2013-8-27 16:02:14
Ch1 0.998 mW
Ch2 127.3 mW
Level (W)
更改信号源电压值
同时观察测量值，达到目标值为止
Monitors
FFT Spectrum Monitor
Level (Vrms)
Frequency (Hz)
设置参考值
Previous Next
Hide
Level
THD+N Ratio
Bits
Error Rate
Output: Analog Balanced 2 Ch, 100 Ohm Input: Loopback 90 kHz 250.0 mVrms, 2.500 Vrms


信噪比测试
Project.approjx - APx500 v3.4
File View Measurements Project Window Help
Audible Monitor OFF
Hide
Project
Signal Path1
Signal Path Setup
Level
THD+N Ratio
Bits
Error Rate
Reference Levels
Level and Gain
THD+N
Signal to Noise Ratio
Signal to Noise Ratio
Continuous Sweep
Dynamic Range - AES17
Stepped Frequency Sweep
Stepped Level Sweep
Add Measurement...
Add Signal Path
Report
Data Output
Monitors
FFT Spectrum Monitor
Level (Vrms)
1
1m
1u
20 50 100 200 500 1k 2k 5k 10k 20k
Frequency (Hz)
Setup
Signal to Noise Ratio
Start
Signal Generation
Waveform: Sine
Level: 50.00 mVrms
Frequency: 1.00000 kHz
Advanced
Unit dB
Undock
Signal to Noise Ratio
0 20 40 60 80 100 120 140
SNR (dB)
Edit Limits: Signal to Noise Ratio
Apply Upper Limit
Apply Lower Limit
Track first channel
Clear Limits
Draw Limits
Channel
Lower Limit
Upper Limit
Ch1
80.000 dB
120.000 dB
Close
Help
Add
Delete
Details
Previous
Next
Hide
Signal to Noise Ratio
Output: Analog Balanced 1 Ch, 100 Ohm Input: Analog Balanced 1 Ch, 200 kOhm 250.0 mVrms 90 kHz
开始
Project.approjx ...
8.JPG - 画图
16:55


Project - APx500 v2.9
File View Measurements Project Tools Window Help
Audio Precision APx500
Hide
Project
Signal Path1
Signal Path Setup
Signal Path Diagnostics
Reference Levels
Level
THD+N Ratio
Level and Gain
Level
Gain
THD+N
THD+N Ratio
THD+N Level
THD Ratio
THD Level
Level and Gain
Signal Path Setup...
External Source
Measure the level of any audio signal.
电平测试
Signal Acquisition and Analysis
Low-pass Filter:
None
Advanced Settings...
外部音源时，测试信噪比时，把此单位改为dBV 先播放1K测试音，记录下测量值，再播放静音测试音，记录下测量值，与前面值的相差即是外部音源的信噪比。
Unit dBV
Level
2012-5-11 11:45:22
Ch1
-10.763 dBV
Ch2
-10.794 dBV
Demo Mode
-80 -60 -40 -20 0 +20 +40
Level (dBV)
Add Delete Details Previous Next
Level
Gain
Monitors
FFT Spectrum Monitor
Level (Vrms)
1
1m
1u
Demo Mode
Signal monitors are off.
20 50 100 200 500 1k 2k 5k 10k 20k
Frequency (Hz)
Output: External Input: Analog Unbalanced 2 Ch, 100 kOhm 90 kHz


Project - APx500 v2.9
File View Measurements Project Tools Window Help
Audio Precision APx500
Hide
Interchannel Phase
Stepped Frequency Sweep
Level
Gain
Relative Level (1.00000 kHz)
Deviation (20.0000 Hz - 20.0000 kHz)
Phase
THD Ratio
THD Level
THD+N Ratio
THD+N Level
Distortion Product Ratio
Distortion Product Level
SINAD
Add Measurement...
Monitors
FFT Spectrum Monitor
Level (Vrms)
Frequency (Hz)
Demo Mode
Signal monitors are off.
Stepped Frequency Sweep
Start
Signal Path Setup...
External Source
Refer to the Help file for information about compatible signal sources.
频率扫描，外部音源测试必须用此项功能
Signal Acquisition and Analysis
Append Graph Data
Sweep Table:
20Hz-20kHz 1/1 o
Points:
11
View...
Low-pass Filter:
None
Weighting Filter:
None
High-pass Filter:
20 Hz
Phase Ref Channel:
Ch1
Track Channel:
Ch1
Advanced Settings...
外部音源扫描时，须选点'Start'，再播放测试音。
外部音源扫描的测试音，一定要选用相对应的测试音才能测试
滤波器选择
THD Ratio
THD Ratio (%)
Frequency (Hz)
All Data
Ch1
Ch2
Data Set:
All Data
Add
Delete
Details
Previous
Next
THD Ratio
THD Level
THD+N Ratio
Output:
External
Input:
Analog Unbalanced 2 Ch, 100 kOhm
90 kHz


Project - APx500 v2.9
外部音源串音测试
File View Measurements Project Tools Window Help
Audio Precision APx500
Hide
Relative Level (1.00000 kHz)
Deviation (20.0000 Hz - 20.0000 kHz)
Phase
THD Ratio
THD Level
THD+N Ratio
THD+N Level
Distortion Product Ratio
Distortion Product Level
SINAD
Crosstalk, Custom
Crosstalk
Add Measurement...
Add Signal Path...
Report
Crosstalk, Custom
Signal Path Setup...
External Source
Refer to the Help file for information about compatible signal sources.
串音测试，放相应的串音测试信号，再读取相应的测量值，注意A->B和B->A值是不同的。
Signal Acquisition and Analysis
Make sure that one output channel of your DUT is silent for this measurement.
For example:
- Turn off a single generator channel, above
Advanced Settings...
Unit dB
Crosstalk
2012-5-11 12:04:31
----dB
Demo Mode
Ch2
-6.621 dB
-120 -100 -80 -60 -40 -20 0
Crosstalk (dB)
Add Delete Details Previous Next
Crosstalk
Monitors
FFT Spectrum Monitor
Level (Vrms)
1
1m
1u
Demo Mode
Signal monitors are off.
20 50 100 200 500 1k 2k 5k 10k 20k
Frequency (Hz)
Output: External Input: Analog Unbalanced 2 Ch, 100 kOhm 90 kHz