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BuildGo automated testing platform introduction V4.0.8

1. Product Introduction

BuildGo is an automated software platform independently developed by MegaSig, specifically tailored for sound and vibration testing tasks. BuildGo incorporates comprehensive signal processing modules related to sound and vibration. During the development of testing tasks, users can simply drag and drop components to configure and deploy the testing system, significantly reducing the testing software development process and enabling faster implementation of automatic testing and verification systems. This allows customers to focus more on their product business, saves their testing and development costs, and accelerates the time to market for their products.

2. Product Advantage Analysis

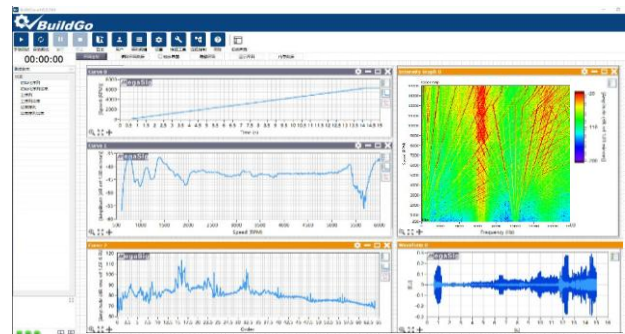
- 2.1 Flexibility of the Software
- 2.2 Completeness of the Algorithms
- 2.3 Openness of the Hardware
- 2.4 Progressiveness Keeping Pace with the Times

2.1 Flexibility of the Software

BuildGo is equipped with a powerful sequence execution capability, which includes a sequence editor and a sequence execution engine. The sequence editor comes with a manual testing mode that allows for step-by-step execution and immediate acquisition of test results, greatly facilitating configuration and debugging.

The platform also includes a rich set of commonly used controls, with an interface that is entirely user-defined. Users can adjust the display content of the interface according to their preferences, tailoring the interface to show the test data they care about and meeting the specific testing needs of their industry.

- Waveform chart
- Time-frequency XY chart
- IV curve chart
- Tablecontrol
- Boolean lamp control
- String control



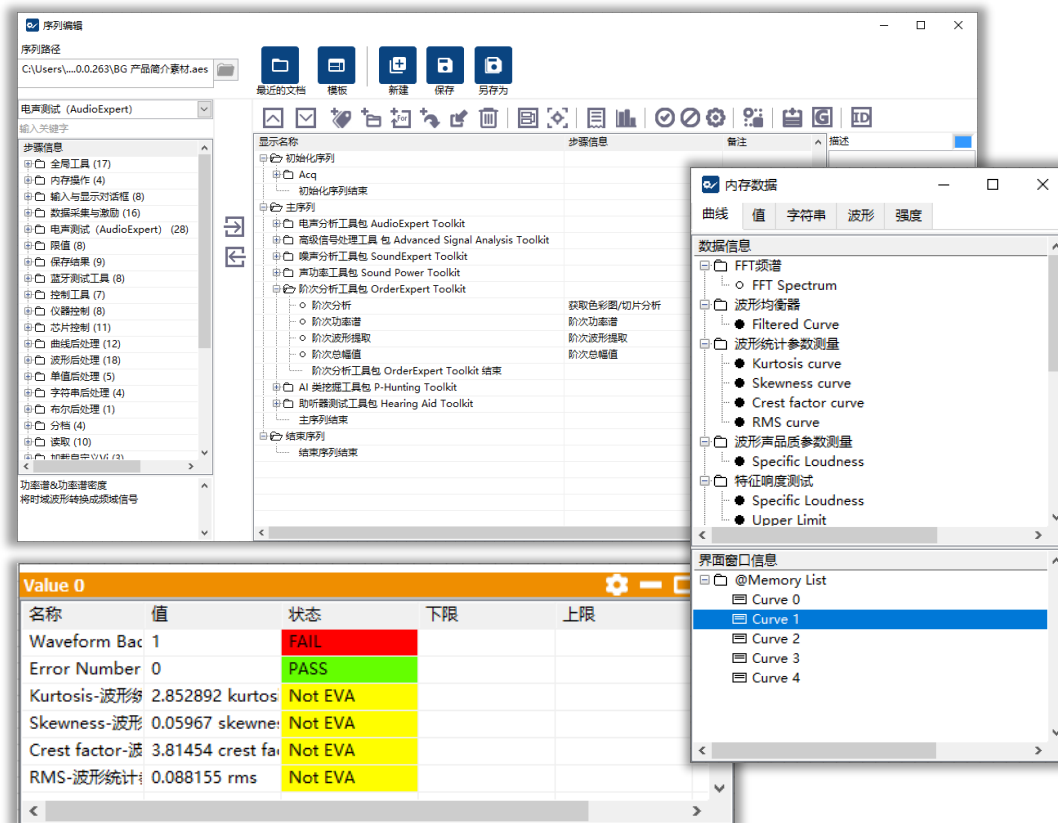
2.2 Completeness of the Algorithms

BuildGo utilizes powerful PC computing capabilities to integrate post-processing algorithms for segmented industries, classifying them into toolkits for various industries, including the complete electroacoustic analysis toolkit AudioExpert Toolkit, advanced signal processing toolkit Advanced Signal Analysis Toolkit, noise analysis toolkit SoundExpert Toolkit, sound power toolkit, order analysis toolkit OrderExpert Toolkit, AI mining toolkit P-Hunting Toolkit, hearing aid testing toolkit Hearing Aid Toolkit, curve post-processing toolkit Post Processing Curve, waveform post-processing toolkit Post Processing WAV, ANC toolkit Full ANC Toolkit, voice quality toolkit Voice Quality Toolkit, Bluetooth HA toolkit Bluetooth Chipsets Hearing Aid Toolkit, remote control toolkit Remote Call Function, QualiSight AI Recognition Toolkit, etc., achieve coverage of measurement capabilities in various segmented fields.

Voice Quality Toolkit	Model	Acronym	PN
BuildGo Automated Testing Platform V4.0.1	Basic Sequence Function	BSF	980010-01
Electroacoustic Analysis Toolkit	AudioExpert Toolkit	AET	980010-02
Advanced Signal Processing Toolkit	Advanced Signal Analysis Toolkit	ASAT	980010-03
Noise Analysis Toolkit	SoundExpert Toolkit	SET	980010-04
Sound Power Toolkit	Sound Power Toolkit	SPT	980010-05
Order Analysis Toolkit	OrderExpert Toolkit	OET	980010-06
AI Mining Toolkit	P-Hunting Toolkit	PHT	980010-07
Voice Quality Toolkit	Voice Quality Toolkit	VQT	980010-08
Post-Processing Curve Toolkit	Post Processing Curve	PPC	980010-09
Post-Processing Waveform Toolkit	Post Processing WAV	PPW	980010-10
Hearing Aid Testing Toolkit	Hearing Aid Toolkit	HAT	980010-11
ANC Toolkit	Full ANC Toolkit	FAT	980005-12
Bluetooth Hearing Aid Toolkit	Bluetooth Chipsets Hearing Aid Toolkit	BCHAT	980010-13
Remote Control	Remote Call Function	RCF	980010-14
QualiSight AI Recognition Toolkit	QualiSight AI Toolkit	QSAT	980010-15

1) BuildGo Automated Testing Platform V 4.0.1 Basic Sequence Function 【PN 980010-01】

- Automated Sequence Execution Framework
- Memory Data Management
- Customizable User Interface
- Basic Function Package

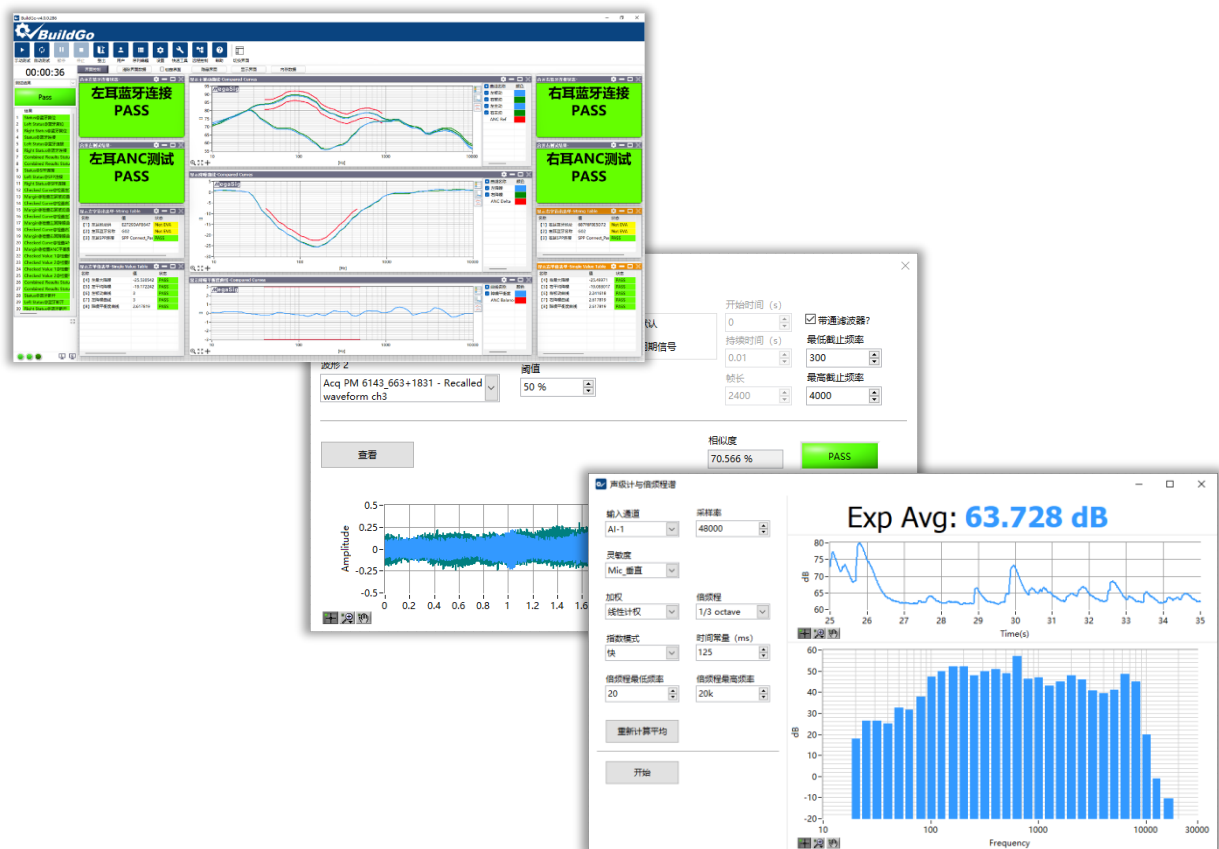


Basic Function Package

- Global Tools
- Memory Operation
- Input And Display Dialog Box
- Data Acquisition And Stimulation
- Limit Setting
- Save Result
- Bluetooth Testing Tool
- Control Tools
- Instrument Control
- Chip Control
- Single-Value Post-Processing
- String Post-Processing
- Boolean Post-Processing
- Classification or binning
- Read or Load
- Load Custom Vi
- Display

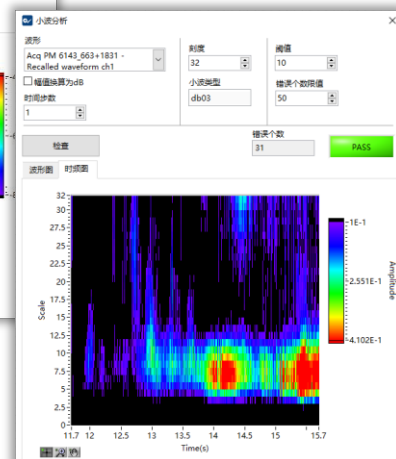
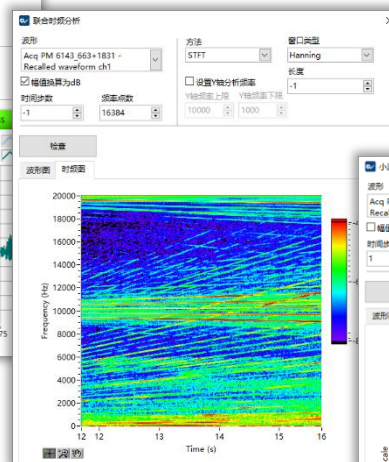
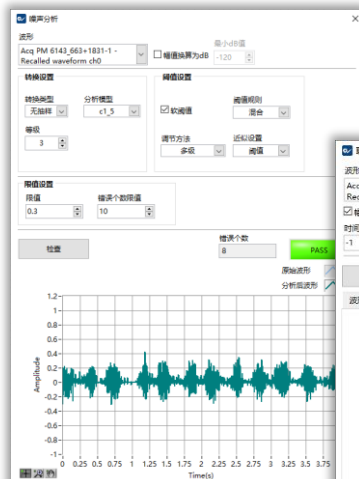
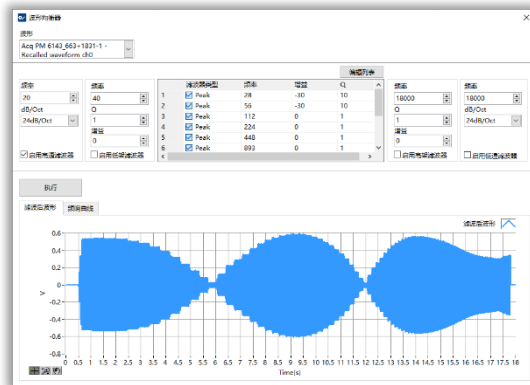
2) AudioExpert Toolkit 【PN 980010-02】

- Level & Gain
- Frequency Response
- THD / THD+N
- SNR
- Sensitivity
- Chirp Frequency Swept
- Noise Measure
- ANC Analysis
- ENC Mic Control (Currently supports almost all ENC chipsets available on the market)
- Crosstalk
- Wav Recall Analysis
- Polarity Analysis
- Phase Response
- Stepped Frequency Swept
- AES17 Dynamic Range
- Rub & Buzz
- Impedance Curve
- Thiele-Small



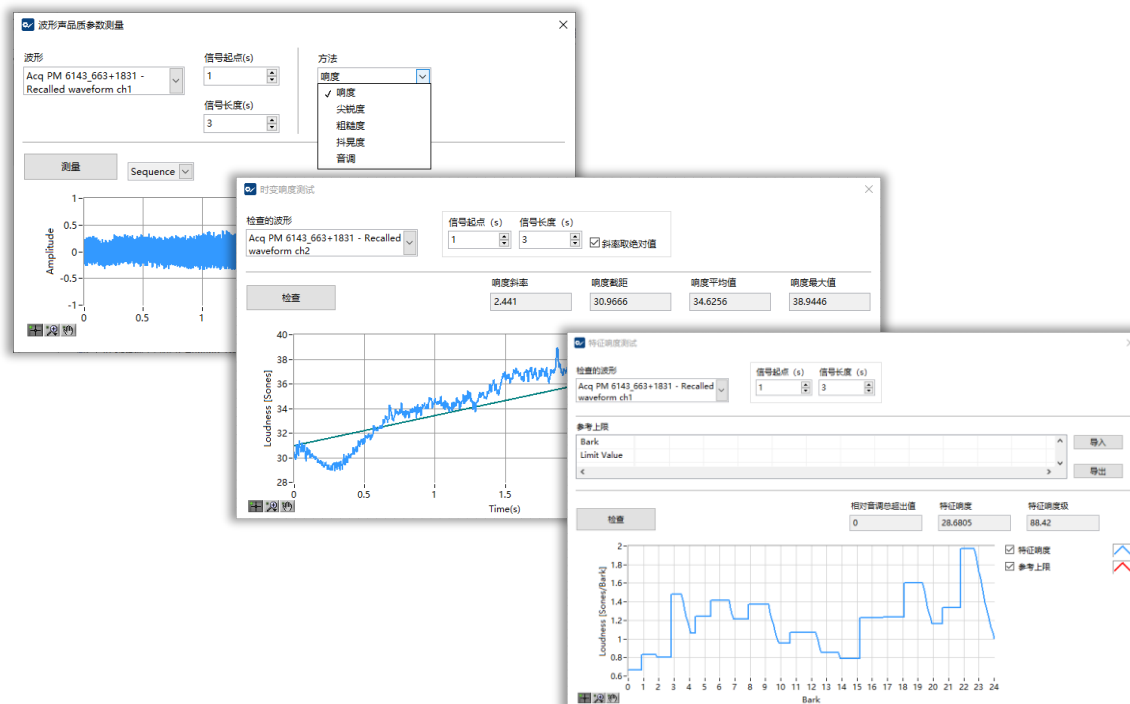
3) Advanced Signal Analysis Toolkit 【PN 980010-03】

- Waveform Equalizer
- Noise Analysis
- Joint Time-Frequency Analysis
- Waveform Envelope
- Waveform Envelope Testing
- Wavelet And Joint Time-Frequency Analysis
- Wavelet Analysis



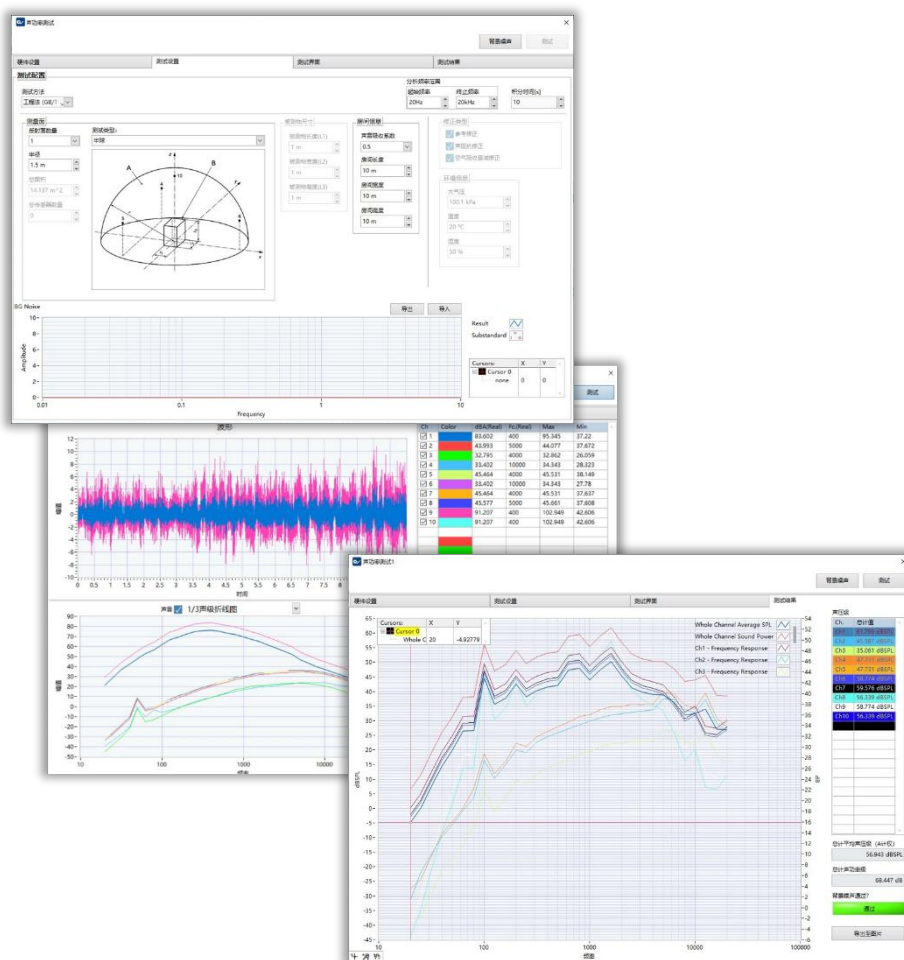
4) SoundExpert Toolkit 【PN 980010-04】

- Flutter Test
- Impulse Loudness Test
- Characteristic Loudness Test
- Time-Varying Loudness Test
- ProminenceRatio
- Acoustic Quality Parameter Measurement
- Waveform Statistical Parameter Measurement



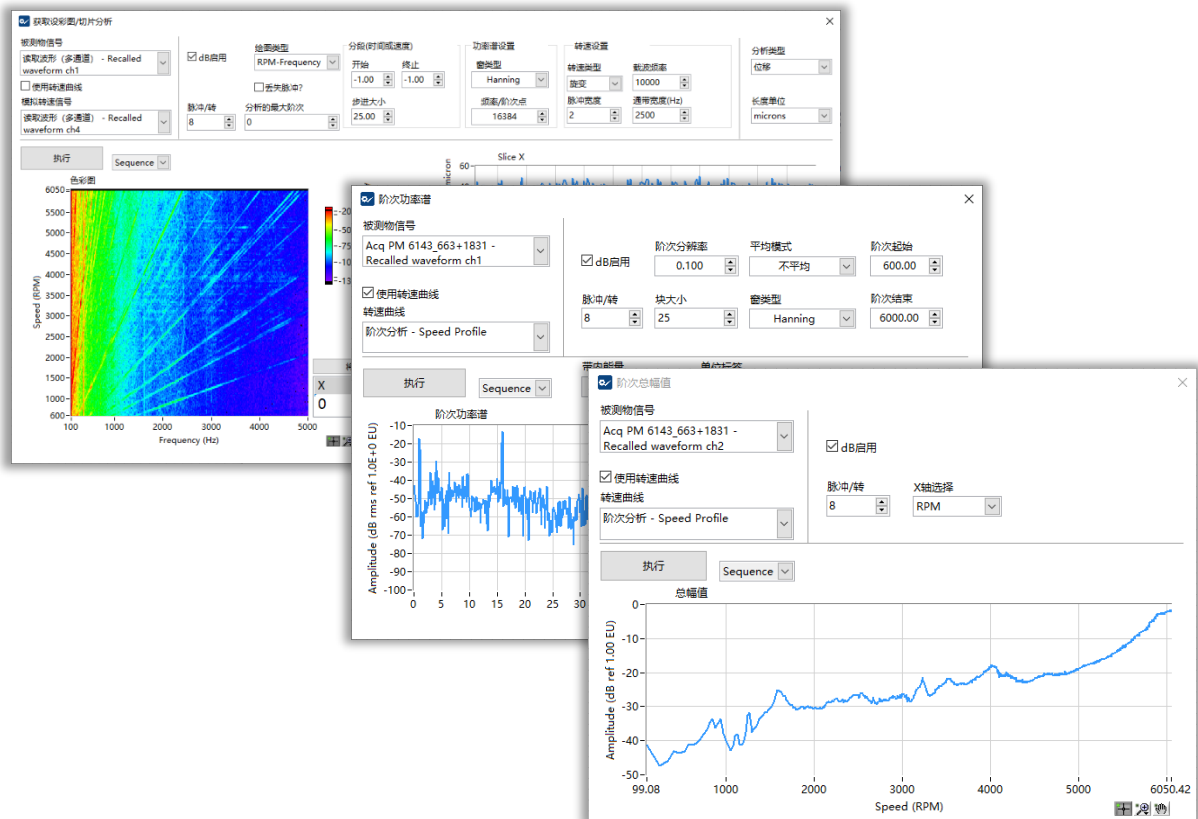
5) Sound Power Toolkit 【PN 980010-05】

- GB/T 3768 - 2017 / ISO 3746:2010
(Simplified Method Using the Enveloping Surface Above the Reflective Surface)
- GB/T 3767 - 2016 / ISO 3744:2010
(Engineering Method for an Approximate Free Field on the Reflective Surface)
- GB/T 6682 - 2016 / ISO 3745:2012
(Precision Method in Anechoic Chambers and Hemi-Anechoic Chambers)



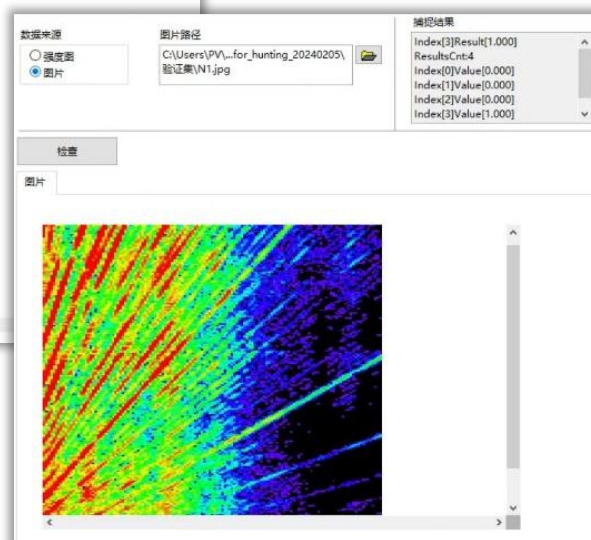
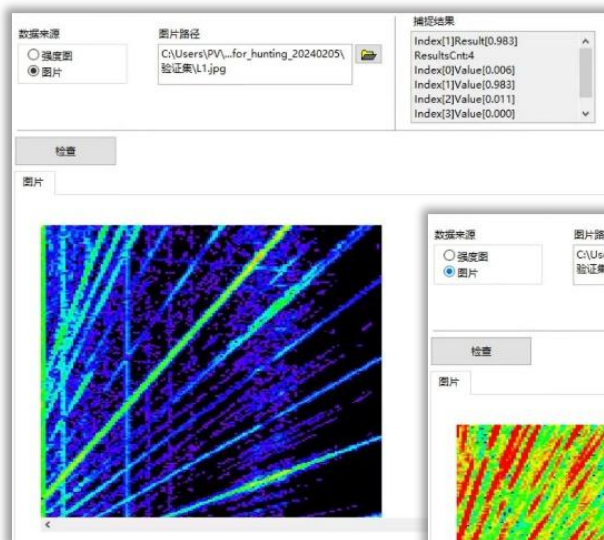
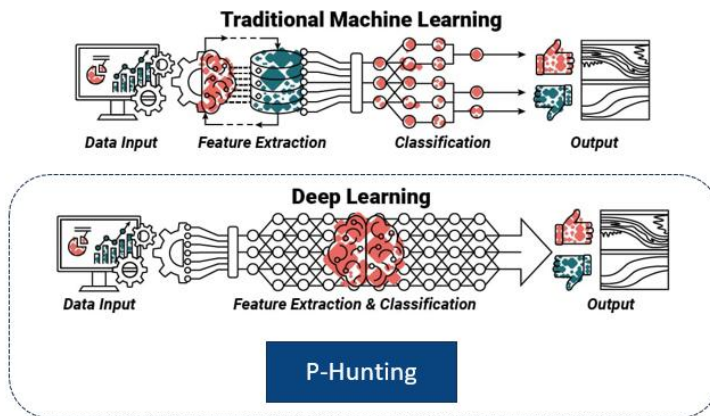
6) OrderExpert Toolkit 【PN 980010-06】

- Obtain Color Map/Slice Analysis
- Order Waveform Extraction
- Order Power Spectrum
- Total Amplitude of Orders



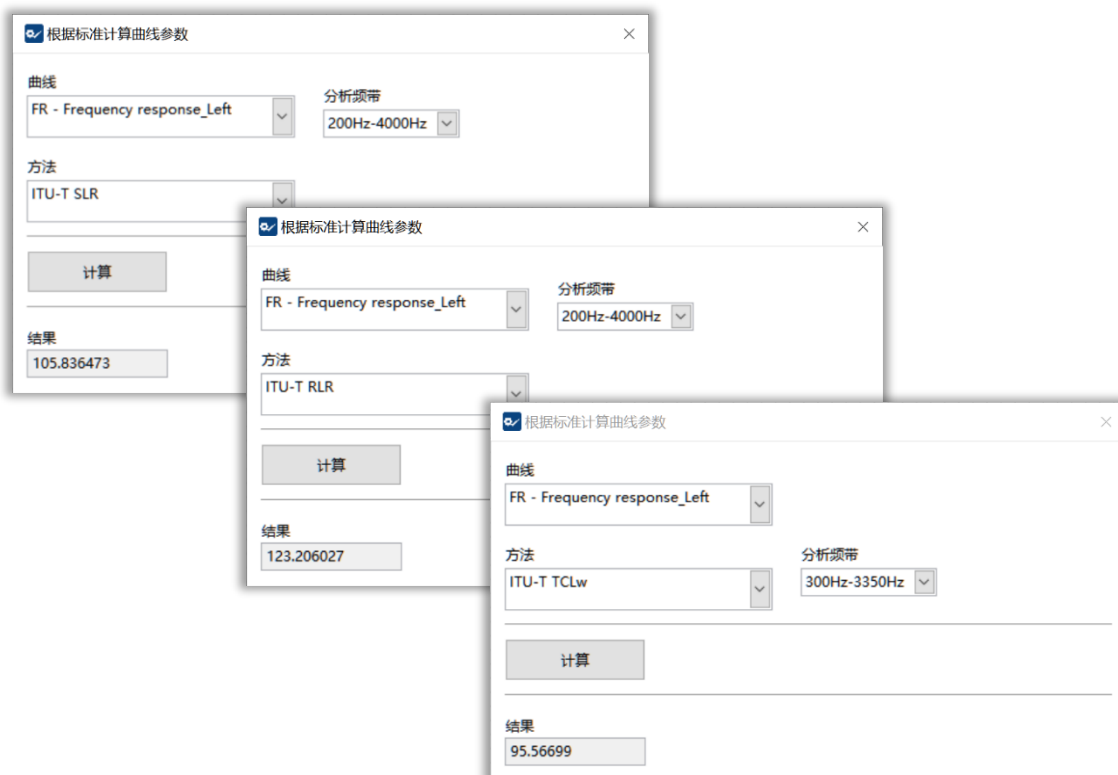
7) P-Hunting Toolkit 【PN 980010-07】

- Model Learning
- Model Recognition



8) Voice Quality Toolkit 【PN 980010-08】

- Calculate Curve Parameters According to Standards
SLR
RLR
TCLw



The image displays three overlapping screenshots of a software dialog box titled "根据标准计算曲线参数" (Calculate Curve Parameters According to Standards). Each screenshot shows the same interface with different settings and results.

Dialog Box Details:

- 标题 (Title):** 根据标准计算曲线参数
- 曲线 (Curve):** FR - Frequency response_Left
- 分析频带 (Analysis Band):** 200Hz-4000Hz
- 方法 (Method):** ITU-T SLR
- 计算 (Calculate):** [按钮]
- 结果 (Result):** 105.836473

Dialog Box Details:

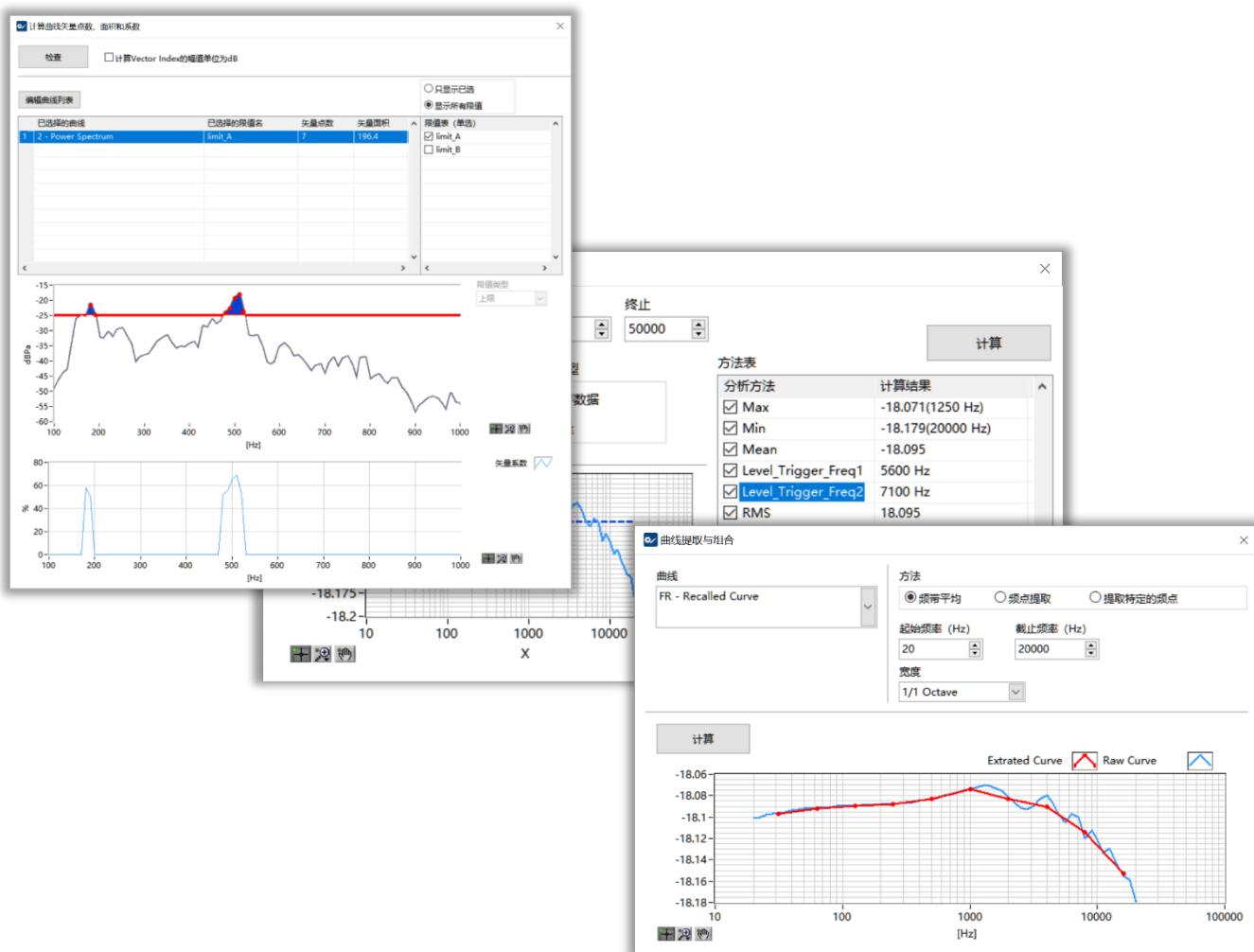
- 标题 (Title):** 根据标准计算曲线参数
- 曲线 (Curve):** FR - Frequency response_Left
- 分析频带 (Analysis Band):** 200Hz-4000Hz
- 方法 (Method):** ITU-T RLR
- 计算 (Calculate):** [按钮]
- 结果 (Result):** 123.206027

Dialog Box Details:

- 标题 (Title):** 根据标准计算曲线参数
- 曲线 (Curve):** FR - Frequency response_Left
- 分析频带 (Analysis Band):** 300Hz-3350Hz
- 方法 (Method):** ITU-T TCLw
- 计算 (Calculate):** [按钮]
- 结果 (Result):** 95.56699

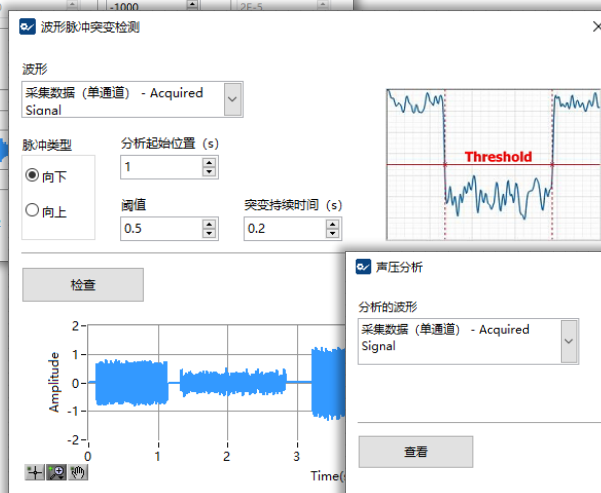
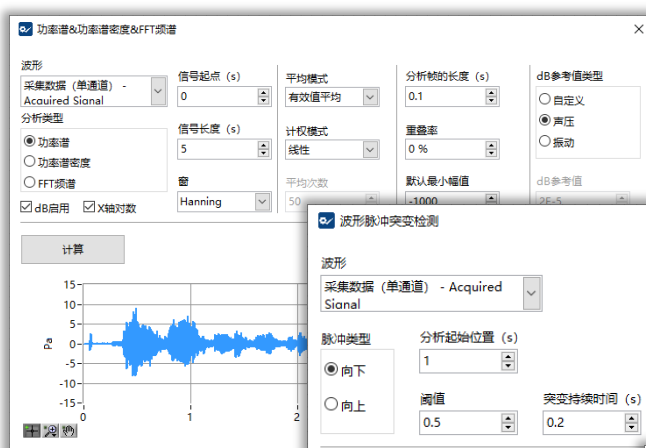
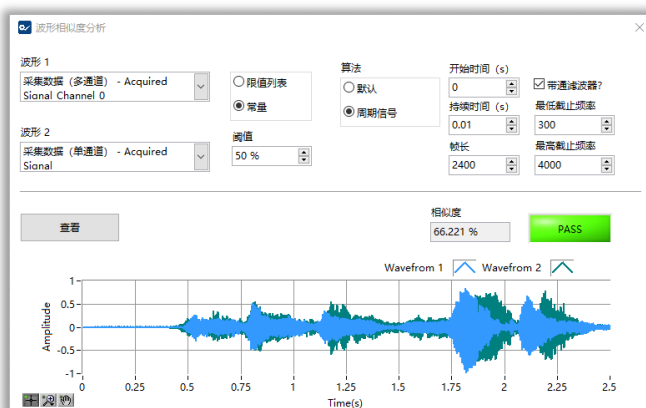
9) Post Processing Curve 【PN 980010-09】

- Calculate Curve Vector Points area, and coefficients
- Curve Extraction and Combination
- Curve Parameter Measurement
- Curve Operation
- Curve Smoothing
- Curve Interchange
- Curve Golden Machine Calibration and Compensation
- Extract Single Values from the Curve
- Operation of Curve with Single Values
- Calculate the Difference Between Curves



10) Post Processing WAV 【PN 980010-10】

- Sound Pressure Test
- Sound Pressure Analysis
- Cross-Spectral Analysis
- Power Spectrum & Power Spectral Density Weighted Filter & FFT Spectrum
- Create or Split Mixed Waveforms
- Waveform Parameter Measurement
- Quasi-Peak Detection
- Translate Waveform
- Acquire Synchronization Time
- Calculate Waveform Difference
- Digital Filter
- Weighted Filter
- Waveform Abrupt Change Removal
- Waveform Pulse Abrupt Change Detection
- Waveform Similarity Analysis
- Waveform Interchange



11) Hearing Aid Toolkit 【PN 980010-11】

- GB/T 14199-2010 Standard
- OTC Hearing Adi Standard



12) Full ANC Toolkit 【PN 980010-12】

- Airoha ANC Debugging
- AMS ANC Debugging
- BES ANC Debugging
- QCC ANC Debugging
- Acoustic Technology ANC Debugging
- 炬芯 ANC Debugging
- JuRui ANC Debugging
- Audiowise ANC Debugging
- Broadcom ANC Debugging
- SmartLink ANC Debugging
- JieLi ANC Debugging
- WuQi ANC Debugging



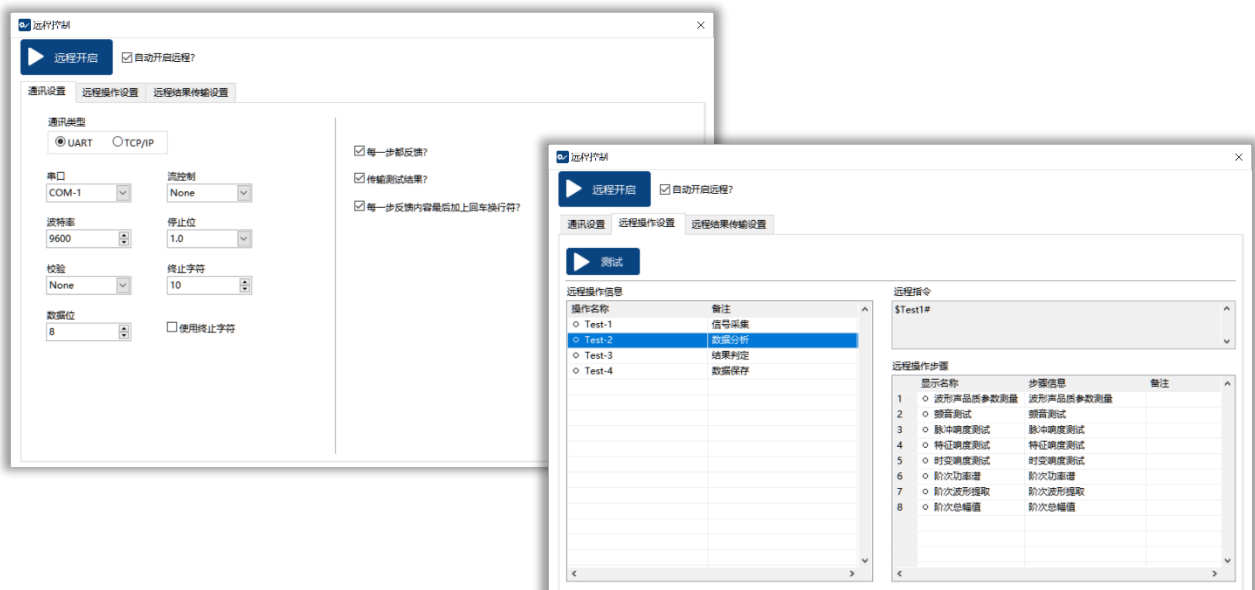
13) Bluetooth Chipsets Hearing Aid Toolkit 【PN 980010-13】

- Audiowise ANC Debugging
- Airoha HA Debugging
- Inside HA Debugging



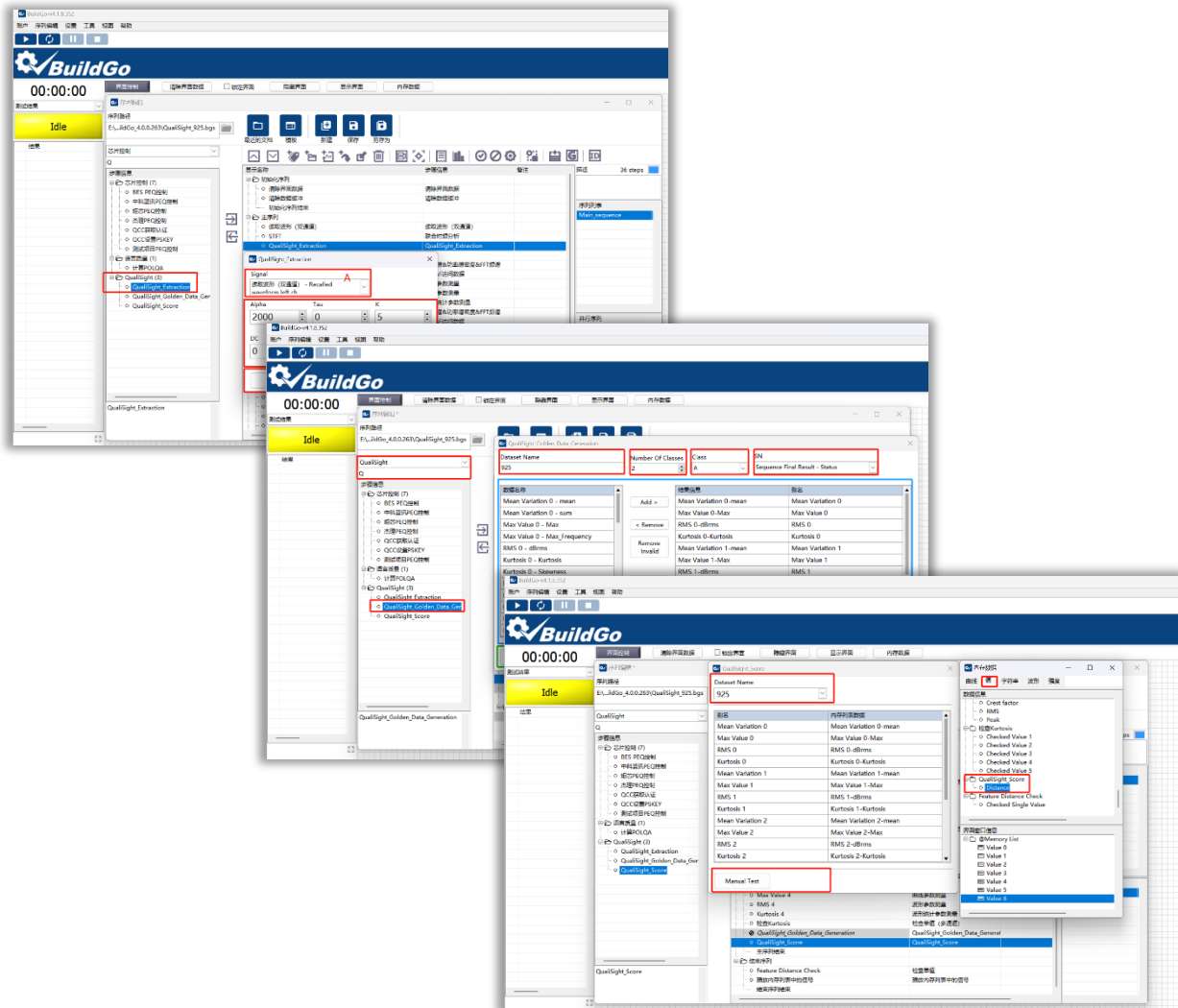
14) Remote Call Function 【PN 980010-14】

- Supports UART and TCP/IP communication
- Supports custom communication protocols



15) QualiSight AI Speech Recognition Toolkit QualiSight AI [PN 980010-15]

- Support signal decomposition
- Supports AI recognition of voice signals
- Support AI scoring system



2.3 Openness of the Hardware

BuildGo not only integrates analysis algorithms from various industries but also consolidates industry instrument interfaces, supporting common instrument interfaces such as LAN, PXI, GPIB, serial ports, USB, ADB, and more. It includes built-in control for a wide range of commonly used instruments on the market, covering but not limited to data acquisition cards, oscilloscopes, signal generators, multimeters, switch modules, AC/DC power supplies, electronic loads, etc., achieving the automated control capability of general-purpose instruments.

2.4 Progressiveness Keeping Pace with the Times

BuildGo has expanded from its original focus on acoustic testing to applications such as automotive multimedia testing, noise testing for automotive auxiliary motors, order analysis for automotive power motors, noise testing for white goods, power supply noise testing, and testing for audio chips. These products have stringent requirements for sound and vibration characteristics and demand a rapid time to market.

Megasig has established long-term and stable cooperative relationships with top-tier clients in the industry who value quality. This ensures that the BuildGo platform keeps pace with the times and meets the ever-evolving demands of product R&D testing and mass production testing. It ensures that end-users who choose BuildGo maintain an advanced position in testing technology, accelerating the process of product development and mass production, and reducing the time it takes for customer products to hit the market.

In summary, the BuildGo Automated Testing Platform offers a one-time investment that can handle the continuous emergence of various new products and new testing requirements. There is no need to purchase additional testing systems; simply add the corresponding software packages or hardware as needed.

3. Supported Test Objects

- 1) Loudspeakers
- 2) Microphones (electret, silicon, etc.)
- 3) Telephones and mobile phones
- 4) Various types of headphones (wired, USB, Bluetooth, Wi-Fi, ANC, Type C, etc.)
- 5) Hearing aids
- 6) Communication devices for voice transmission
- 7) Smart wearable devices
- 8) USB music products
- 9) wifi music products
- 10) Amplifier products
- 11) Automotive power motors
- 12) Automotive auxiliary motors
- 13) Power tools
- 14) Automotive amplifiers
- 15) Automotive multimedia T-Box
- 16) Air conditioners
- 17) Microwave ovens
- 18) Power adapters



4. Current Customers Using MegaSig Products

