DOEWE
TEST SOLUTION EXPERT

# COMPANY PROFILE

Doewe Technologies, headquartered in Beijing, has been operating for a decade and currently has branches including the Beijing R&D Center, Chengdu R&D Center, Doewe Shanghai, Doewe Shenzhen, and Doewe Hong Kong. The company is fully committed to building its independent brand "Doewe," with its business covering two main categories: Advanced Sensing Measurement and Control (ASMC) and Professional Test and Measurement Solutions (PTMS).

The ASMC product line provides innovative high-precision sensing acquisition and data analytics solutions. PTMS focuses on industry-specific test and measurement solutions for audio, video, and RF applications. It has established the 5XC product system, serving sectors such as transportation, broadcasting, automotive electronics, consumer electronics, and university research institutes.

Through relentless effort, several of the company's products have become benchmark test instruments in their respective industries. Doewe Technologies also holds multiple core patents and software copyrights, participates in relevant industry standards working groups, and contributes to the formulation of national and industry standards. Building on past achievements, Doewe continues to increase its R&D investment. We have never forgotten our original aspiration, firmly believing that only profound technological accumulation creates value. We persistently pursue innovation in test and measurement technology, dedicated to technology development, application software services, and research in test and measurement solutions.

Leveraging its Beijing headquarters, related technical centers, and subsidiaries, Doewe Technologies has gradually established a nationwide pre-sales and after-sales service network, providing customers with professional technical consultation. Guided by the principles of "Rigorous, Efficient, Professional, Innovative," Doewe Technologies will continue steadfastly on this path, living up to the trust of every customer.

The journey ahead is long and challenging. We will accompany you on this path of growth to create a new future of technology together.

# Overview

- Wide frequency range：9KHz ~1800MHz
- High sensitivity
- Large dynamic range
- IF bandwidth continuously adjustable from 1 Hz to 15 kHz and good internal spurious interference suppression
- Real-time spectrum analysis
- High-sensitivity signal display
- Audio and IF recording and playback
- Measurement and testing tools
- Support for third-party software development

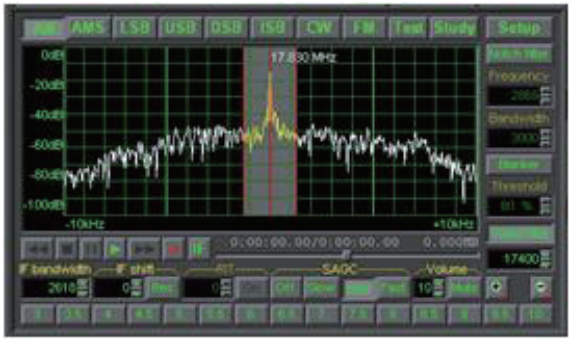
The application software includes numerous practical functions:

- Various modulation modes
- 1 Hz ~ 15 kHz adjustable IF bandwidth
- 20 kHz wide real-time spectrum with 16 Hz resolution
- Graphical IF offset, notch filter, and noise suppression


The G315Plus portable broadcast receiver tester offers high cost-performance. In addition to being widely used in the broadcasting field, it also supports applications in military, security, communications, radio management, and other fields.

The receiver front-end is based on DDS dual-conversion superheterodyne, and the final IF processing is completed by DSP without relying on the computer sound card. Being software-defined reduces components, improves performance and reliability, and allows adding demodulation or decoding methods by modifying the software.

The high-sensitivity signal meter can display signal levels in units of dBm, μV, or field strength levels, with a minimum noise floor of -140 dBm.



The module can record audio and 20 kHz wide IF signals, which can be demodulated with different IF filter bandwidths, notch filters, noise suppression, or demodulation methods. It allows repeated "re-reception" of the same signal to optimize the reception effect of weak or interfered signals to the greatest extent.

Frequency Sweep Function

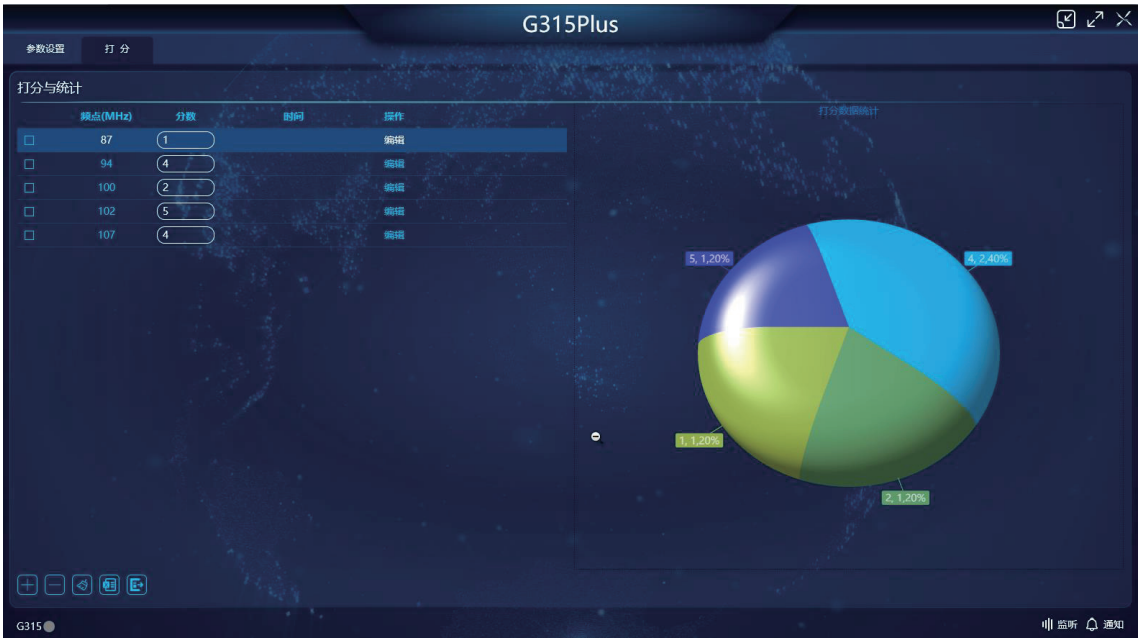
Wide-band scanning spectrum display for quick spectrum scanning and display,search for signal peaks, save and print the spectrum.

Product Physical Map

## Customized Receiver Testing and Scoring Software

In addition to the spectrum analysis software, G315 Plus supports a customized receiver testing and scoring software, which combines monitoring, testing, and broadcast quality scoring functions and supports importing monitoring frequency lists. It supports real-time display of hardware device connection status and data statistics functions.

The monitoring and testing function is used for testing broadcast signals and can be upgraded with multiple demodulation modes, including AM, AMS, LSB, USB, DSB, ISB, CW, FM, etc. It also supports one-click switching to the next frequency point according to the testing list.




- Frequency point switching reminder function: reminds when the current frequency point reaches the listening time
- Real-time demodulation and monitoring function: real-time demodulation of broadcast audio for monitoring and scoring
- Frequency fine-tuning function: adjusts the frequency during real-time monitoring without re-setting the center frequency
- Real-time notification function: notifies users in real-time of abnormalities in the instrument or scoring table
- Support for setting multiple groups of lists for scoring; the scoring table can input multiple frequency points simultaneously for arbitrary switching between monitoring and scoring
- Support for importing frequency lists from preset operation diagrams and direct import of scoring lists without manual input
- Support for one-click export of scoring results and generation of scoring reports after completion
- Support for connecting different devices and software upgrades for connecting multiple hardware models

# Parameter Setting Interface and Monitoring Notification

## Parameter Setting Interface

The Parameter Setting interface allows selecting the currently used device and disconnecting/connecting at any time. The software automatically displays the name of connected devices for easy selection.Features a refresh function; clicking refresh recognizes newly connected devices, making operation convenient and fast.

After selecting the current device, click Connect. During connection, the status light updates according to the device's real-time status and displays in different colors (Disconnected: Gray; Connected Successfully: Green; Connection Exception: Red).

Features frequency point switching interval reminder; the reminder time can be set. Once set, it will periodically remind the user to switch from frequency points that have reached their listening duration. Staff using the software no longer need to time manually; when the monitoring duration for a frequency point ends, an automatic prompt will occur.


## Monitoring and Notification

The Monitoring interface allows setting the mode, frequency point, fine-tune frequency, volume, and controlling play/pause. It features demodulation capability, allowing selection of the current demodulation mode, such as FM mode.

The required center frequency can be set. During monitoring, the center frequency can also be adjusted by clicking the fine-tune button, with an adjustment step of 100KHz, facilitating frequency point switching while listening.

# Monitoring Notification & Scoring Interface

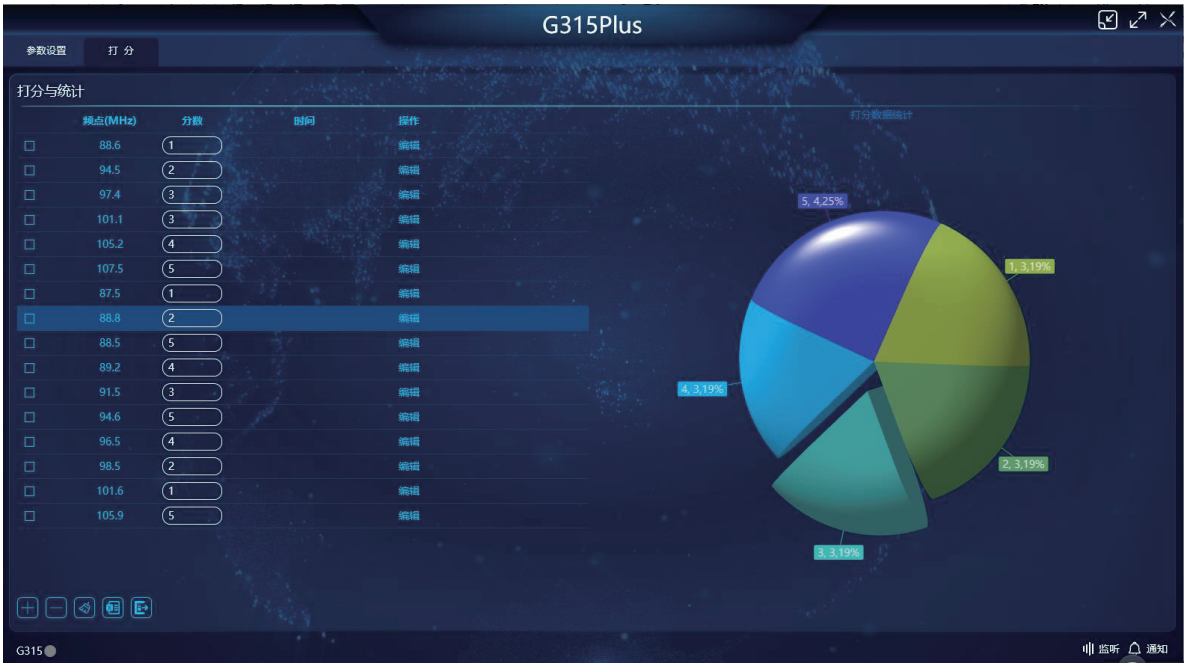
## Monitoring and Notification

After selecting the demodulation mode and confirming the center frequency, the current IF bandwidth and audio bandwidth are automatically displayed. Demodulated audio can be monitored in real-time, and volume can be adjusted in real-time. Features real-time notification; the software detects the current operating status. If issues arise with the instrument connection (e.g., instrument not connected, instrument disconnected) or anomalies occur with the scoring sheet (e.g., frequency point anomaly, scoring anomaly), it notifies the operator to check, enabling timely problem resolution and preventing incidents.


## Scoring Interface

Features a scoring sheet where multiple frequency point lists can be added simultaneously. Added frequency points can be edited freely. Clicking on any frequency point allows immediate monitoring and scoring. Scoring results are displayed in a pie chart, with the highest score being 5 points. The pie chart differentiates the proportion of each score and provides statistical display.

Unconfirmed new data can be automatically deleted to avoid errors caused by operational mistakes. Features a one-click clear function to clear all lists conveniently and quickly.



DOEWE
TEST SOLUTION EXPERT

# Technical Specifications

| Parameter | Specification | | |
|---|---|---|---|
| Frequency Range | 9 kHz - 1800 MHz (**Extendable to 3500MHz**) | | |
| Tuning Resolution | 1 Hz | | |
| Operating Modes | AM、AMS、LSB、USB、DSB、ISB、CW、NFM、WFM (**Option**) | | |
| Image Rejection | 1.8~150MHz：60 dB 150~1800MHz：50dB | | |
| Dynamic Range | 90 dB (**Spurious Free**) | | |
| IP3 | +14.5 dBm @ 50kHz (**Preamp OFF**)<br>+4 dBm @ 50kHz (**Preamp ON**) | | |
| Signal Resolution | -135 dBm | | |
| Phase Noise | -148dBc/Hz @100Hz | | |
| Internal Spurs | **Below -115 dBm Equivalent Input** | | |
| RSSI Accuracy | 2 dB | | |
| RSSI Sensitivity | -137 dBm | | |
| Bandwidth | 1~15000 Hz (**Adjustable, 1Hz steps**) | | |
| Scan Rate | **50 channels/sec, 500 steps/sec @ 1kHz steps** | | |
| Intermediate Frequencies | IF1: 109.65MHz IF2: 16 kHz | | |
| Tuning Accuracy | 1 ppm (25° C±2° C) | | |
| Frequency Stability | 0.5 ppm (0 ~ 60° C) | | |
| Antenna Input | 50Ω (**SMA Connector**) | | |
| Output | 600Ω **Line Audio** | | |
| Interface | WR-G315i: PCI 2.2 W WR -G315e: USB2.0 | | |
| Dimensions / Weight | WR-G315i: 195 x 19 x 99 mm / 330**g** WR-G315e: 166 x 96 x 41 mm / 430 **g** | | |
| Sensitivity | **Mode** | 0.15~500 MHz | 500~1800 MHz |
| | AM, AMS (30%**modulation**) | -108dBm (0.89μV) | -104dBm (1.40μV) |
| | AM, AMS (80%**modulation**) | -116dBm (0.35μV) | -112dBm (0.56μV) |
| | LSB,USB ISB,DSB | -119dBm (0.25μV) | -115dBm (0.40μV) |
| | CW | -126dBm (0.11μV) | -122dBm (0.18μV) |
| | NFM | -113dBm (0.5μV) | -122dBm (0.18μV) |
| | **Note: Below 150kHz, sensitivity gradually decreases. Typical (CW):**<br>100kHz: -124dBm; 50kHz: -118dBm;<br>25kHz: -116dBm; 10kHz:-110dBm | | |

DOEWE
TEST SOLUTION EXPERT

# Beijing Doewe Technologies Co., Ltd


**Beijing Headquarters**

Address: Room 1821, Building 2, Soubao Business Center, No. 16 South Third Ring Road West, Fengtai District, Beijing.

**Technology Center**

Address: Room 1812, Building 2, Soubao Business Center, No. 16 South Third Ring Road West, Fengtai District, Beijing.

**Doewe Technologies (Shanghai) Co., Ltd.**

Address: Room 212, Kaidi Commercial Building, No. 688 Huajiang Road, Jiangqiao Town, Jiading District, Shanghai.

Phone：010-64327909

Website：https://www.doewe.com

Email：info@doewe.com


Scan the or code to visit
the official website