PX Series
SA Series
NX Series

PRODUCT
PORTFOLIO

Extend RF Boundaries.

SPECTRUM ANALYZER AND EMBEDDED RF SYSTEMS

UP TO 40 GHz

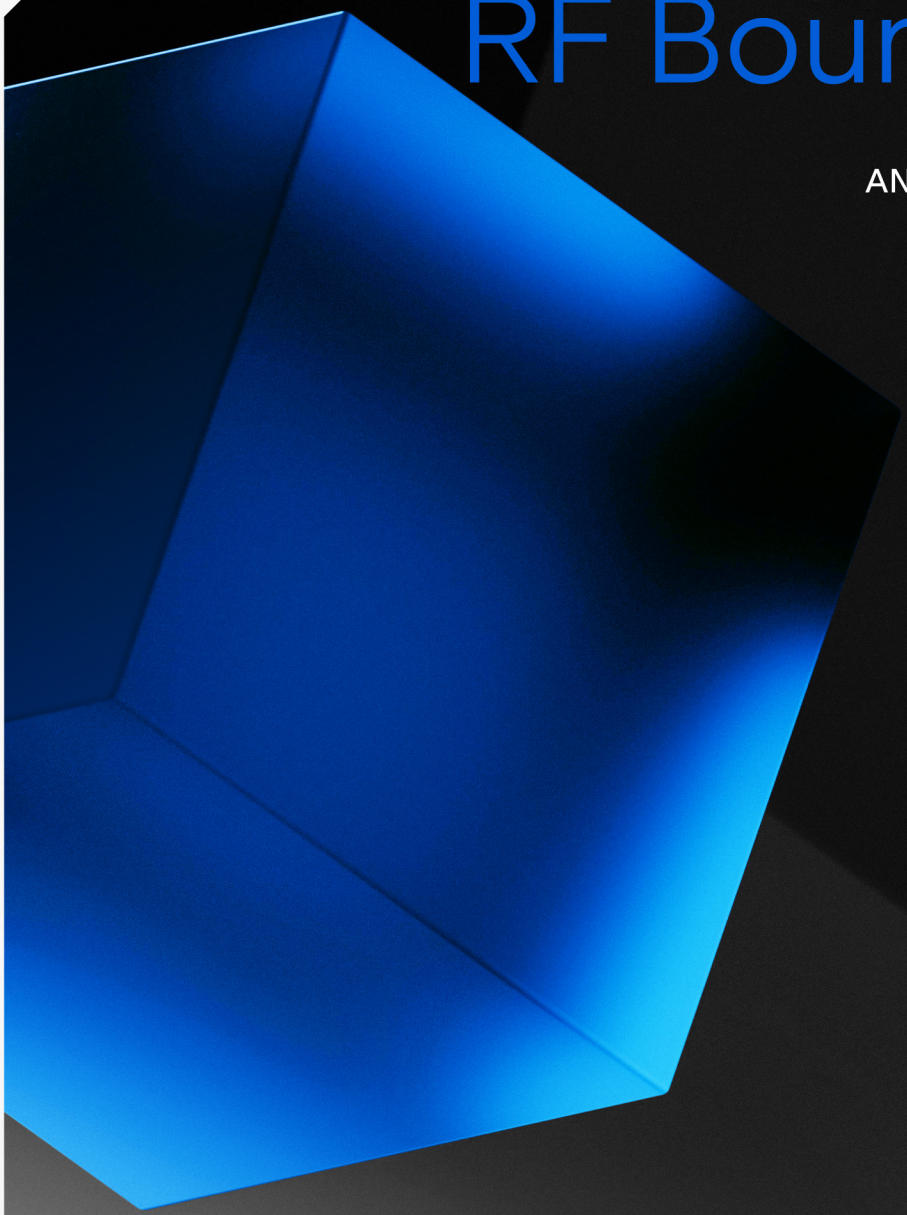
KAROGIC

V1.3 2603

HAROGIC

Extend RF Boundaries.

SPECTRUM ANALYZER AND EMBEDDED RF SYSTEMS
UP TO 40 GHz



HAROGIC combined compact, robust RF hardware with agile, intelligent software to help our customers extend RF boundaries. HAROGIC delivers innovative, flexible spectrum analyzers up to 40 GHz that empower engineers, researchers, and developers to create their own RF systems.

PX Series NX Series SA Series

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PX Series

PX Series Handheld Spectrum Analyzer

- Light as 1.5 kg with 10.1-inch touchscreen
- Frequency range up to 40 GHz
- 1 GHz phase noise < -100 dBc/Hz@10 kHz
- Channel power, AM/FM demodulation, OBW, auto phase noise and more (std.)
- Battery life: around 3 hours (typ.)

PX Series

PXZ Series Win11 Spectrum Analyzer

- Windows 11 operation system
- Frequency range: 9 kHz to 9.5/20/40 GHz
- CPU: high performance AMD Z1 Extreme
- 16 GB RAM and 512 GB SSD
- Open API for application development

SA Series

SA Series USB Spectrum Analyzer

- USB 3.0/2.0 type C interface supported
- Frequency range: 9 kHz to 4.5/6/9/20/40 GHz
- Sweep speed up to 1.1 THz/s (RBW=250 kHz)
- Compact module design
- Linux and Windows operating systems supported

PX Series

PXR Series Rugged Spectrum Analyzer

- IEC IP68 certified
- 2.5 kg lightweight, 10.1-inch touch screen
- Battery life: around 4 hours (typ.)
- Frequency range: 9 kHz to 9.5/20/40 GHz
- 100 MHz analysis bandwidth (std.)

HDA Series

HDA-100 Active Directional Antenna

- Frequency range: 500 MHz to 10 GHz
- Antenna gain: 5 dBi, Amplifier gain: 20 dB
- Typical noise figure (NF): ≤ 1.5 dB
- Compatible with all HAROGIC spectrum analyzers, automatic antenna factor loading
- Ergonomic design for extended outdoor use

NX Series

NX Series 1 GbE Spectrum Analyzer

- 1GbE connectivity and remote control supported
- Frequency range: 9 kHz to 4.5/6.3/9.5/20/40 GHz
- Sweep speed up to 657 GHz/s (RBW=250 kHz)
- Compact module design
- Linux and Windows operating systems supported

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PX Series

HAROGIC

Portable Makes Possible.

HANDHELD REAL-TIME SPECTRUM ANALYZER
UP TO 40 GHz

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PX Series
Portable Makes Possible.

HANDHELD REAL-TIME
SPECTRUM ANALYZER
UP TO 40 GHz

Multi-touchscreen Ease Operation

PX series spectrum analyzers offer a 10.1-inch multi-touch display, which is the intuitive interface consistent with benchtop instruments. Weighing as light as 1.5 kg (e.g., PXN-400), it allows effortless single-handed operation.

Benchtop-Class Solid RF Performance

PX series supports frequency from 9 kHz to 40 GHz with standard 100 MHz bandwidth. Its phase noise is typically < -100 dBc/Hz at a 1 GHz carrier and 10 kHz offset, ensuring accurate measurement.

Unlocking Premium Performance

With HAROGIC, you can stop paying extra for options. PX series provide most measurements for free.

PX Series Comparison Table

Model	PXE-90	PXE-200	PXN-400
Frequency range	9 kHz-9.5 GHz	9 kHz-20 GHz	9 kHz-40 GHz
Analysis bandwidth	100 MHz	100 MHz	100 MHz
Phase noise 1 GHz@10 kHz	-101.6 dBc/Hz	-99.7 dBc/Hz	-107 dBc/Hz
1 GHz DANL	-167.5 dBm/Hz	-166.3 dBm/Hz	-159.9 dBm/Hz
Sweep speed (RBW=250 kHz)	About 1.1 THz/s		
Touchscreen and weight	10.1-inch, 1.5 kg		
Typical battery life	About 3 h		
Standard measurement functions	Advanced measurements including channel power, OBW, automatic phase noise, automatic harmonic, SEM, AM/FM demodulation and more.		
Option code	34: external omnidirectional antenna: 400-8000 MHz, gain < 2 dBi 35: directional antenna: 500 MHz-10 GHz, active gain 25 dBi 71: basic digital demodulation: 2ASK, 2/4FSK, GMSK, BPSK, QPSK, 8PSK, 16/64/128/256QAM 72: pulse detection, auto pulse width, PRI and duty cycle		

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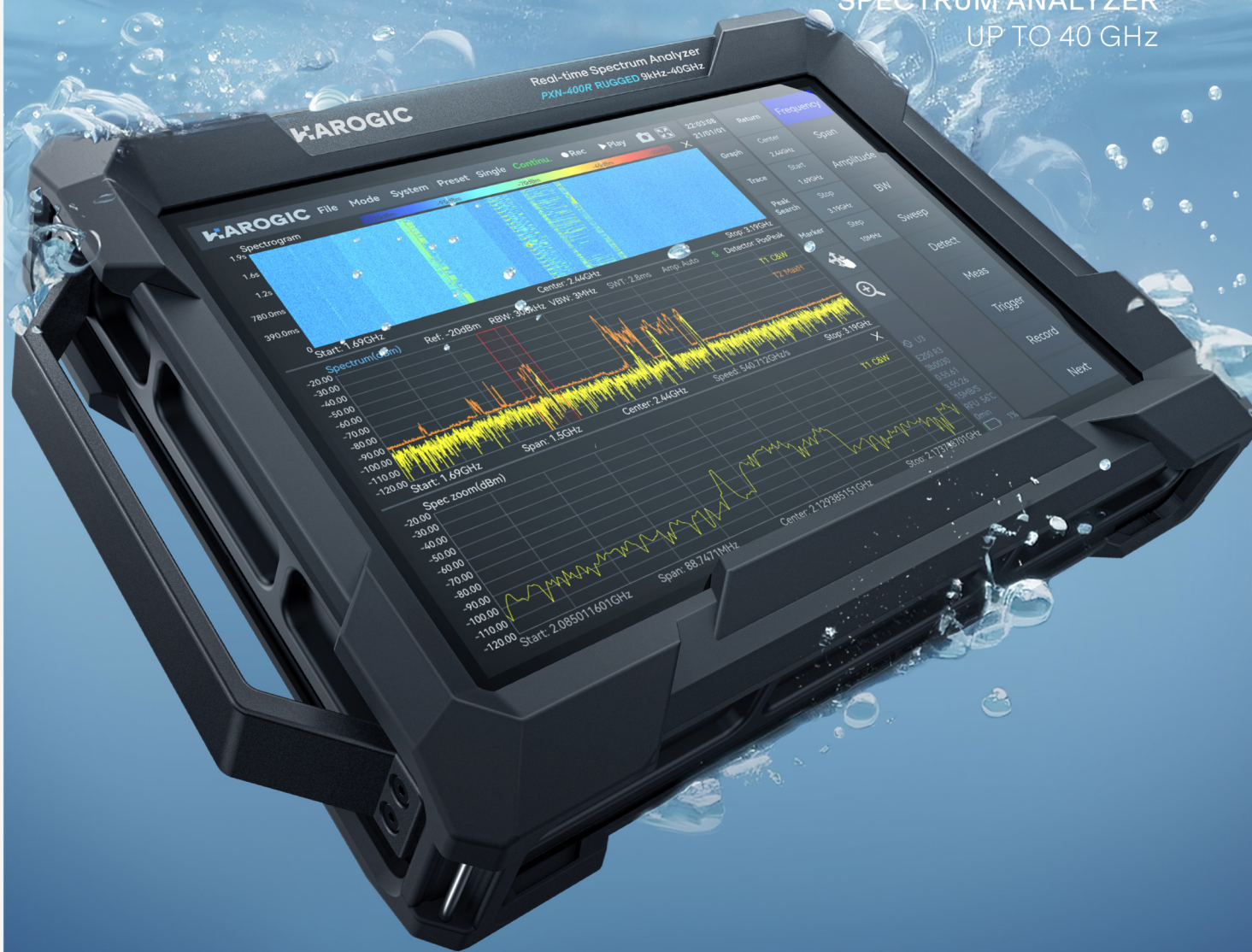
PX Series

HAROGIC

Rugged Performance Reliable Measurements.

IP68 RUGGED
SPECTRUM ANALYZER
UP TO 40 GHz



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PXR Series
Rugged Performance
Reliable Measurements.

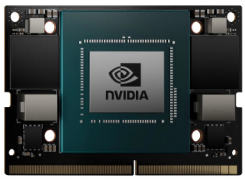
IP68 RUGGED
SPECTRUM ANALYZER
UP TO 40 GHz

Rigid Performance
Reliable Measurements

PXR series rugged spectrum analyzer is featured with IP68 standard for water, dust, and vibration protection, meeting the requirement of MIL-STD-810-512.6/514.8/516.8 standards.

All in One
AI Platform

The PXR series includes the Orin NX option, providing up to 117 TOPS of AI computing power. The analyzer also features a highly compatible API, positioning it as an efficient AI-powered spectrum analysis platform for fast spectrum identification and analysis.



PXR Series
Comparison Table

Model	PXE-90R	PXE-200R	PXN-400R
Frequency range	9 kHz-9.5 GHz	9 kHz-20 GHz	9 kHz-40 GHz
Analysis bandwidth	100 MHz	100 MHz	100 MHz
Sweep speed (RBW=250 kHz)	About 1.1 THz/s		
Environmental adaptability	IEC IP68 certified, MIL-STD-810H method-512.6/514.8/516.8 certified		
Touchscreen and weight	10.1-inch, 2.5 kg		
Typical battery life	About 4h		
Standard measurement functions	Advanced measurements including channel power, OBW, automatic phase noise, automatic harmonic, SEM, AM/FM demodulation and more.		
Option code	08: Jetson Orin NX, 117TOPS 34: external omnidirectional antenna: 400-8000 MHz, gain < 2 dBi 35: directional antenna: 500 MHz-10 GHz, active gain 25 dBi 71: basic digital demodulation: 2ASK, 2/4FSK, GMSK, BPSK, QPSK, 8PSK, 16/64/128/256QAM 72: pulse detection, auto pulse width, PRI and duty cycle		

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PX Series

HAROGIC

Monster of Field Computing.

WIN11
SPECTRUM ANALYZER
UP TO 40 GHz

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PXZ Series
Monster of Field Computing.

WIN11
SPECTRUM ANALYZER
UP TO 40 GHz

Monster of Field Computing

HAROGIC PXN-400Z handheld spectrum analyzer is based on Windows 11 operating system and AMD Z1 extreme CPU for effective field computing analysis.

Open Platform Complete Ecosystem

PXZ Series provides customers with a highly compatible API, allowing for online secondary development using languages such as C/C++/Python/LabVIEW/MATLAB.

PX/PXR/PXZ Series Comparison Table



Product Series	PXZ	PX	PXR
Frequency range	9 kHz-9.5/20/40 GHz		
Analysis bandwidth	100 MHz		
Operation system	Windows11	Linux	Linux
Memory and storage	16 GB RAM 512 GB SSD	4 GB RAM 32 GB EMMC	4 GB RAM 32 GB EMMC (8 GB RAM 256 GB SSD (opt.08))
Touchscreen and weight	8.8-inch, 1.2 kg	10.1-inch, 1.5 kg	10.1-inch, 2.5 kg
Typical battery life	About 3 h	About 3 h	About 4 h
Standard measurement functions	Advanced measurements including channel power, OBW, automatic phase noise, automatic harmonic, SEM, AM/FM demodulation and more.		
Option code	08: Jetson Orin NX, 117TOPS (for PXR series only) 34: external omnidirectional antenna: 400-8000 MHz, gain < 2 dBi 35: directional antenna: 500 MHz-10 GHz, active gain 25 dBi 71: basic digital demodulation: 2ASK, 2/4FSK, GMSK, BPSK, QPSK, 8PSK, 16/64/128/256QAM 72: pulse detection, auto pulse width, PRI and duty cycle		

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SA Series
NX Series

HAROGIC

Create Your RF System Now.

USB REAL-TIME
SPECTRUM ANALYZER
UP TO 40 GHz

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SA Series and NX Series
Create your RF System Now.

COMPACT MODULAR
SPECTRUM ANALYZER
UP TO 40 GHz

Create your RF System Now

This series is based on the SWaP-C optimized design concept. Its compact size and weight are comparable to mainstream smartphones, supporting flexible deployment for spectrum testing in various scenarios, embedded RF systems and mobile spectrum monitoring systems.

Open Platform Complete Ecosystem

The SA/NX Series provides customers with a highly compatible API, allowing for secondary development using languages such as C/C++/Python/LabVIEW/MATLAB.
Furthermore, the same API architecture is compatible with all spectrum analyzers, eliminating the need for customers to re-develop and thus expanding their application boundaries.

SA Series and NX Series Comparison Table

Series	SAN	SAE	NXN	NXE
Frequency range	9 kHz-4.5/6.3/40 GHz	9 kHz-9.5/20 GHz	9 kHz-4.5/6.3/40 GHz	9 kHz-9.5/20 GHz
Analysis bandwidth	6.25/25/100 MHz	100 MHz	6.25/25/100 MHz	100 MHz
Phase noise 1 GHz@10 kHz	-110 dBc/Hz	-100 dBc/Hz	-110 dBc/Hz	-100 dBc/Hz
Interface	USB3.0/2.0	USB3.0/2.0	1 GbE	1 GbE
Preselect filters	8/9/11	14/19	8/9/11	14/19
Standard measurement functions	Advanced measurements including channel power, OBW, automatic phase noise, automatic harmonic, SEM, AM/FM demodulation and more.			
Option code	34: external omnidirectional antenna: 400-8000 MHz, gain < 2 dBi 35: directional antenna: 500 MHz-10 GHz, active gain 25 dBi 71: basic digital demodulation: 2ASK, 2/4FSK, GMSK, BPSK, QPSK, 8PSK, 16/64/128/256QAM 72: pulse detection, auto pulse width, PRI and duty cycle			

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SA Series

HAROGIC

Cheaper Price Bigger Performance.

NEW SAN
SPECTRUM ANALYZER
UP TO 9 GHz

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NEW SA Series
Cheaper Price Bigger Performance.

NEW SAN
SPECTRUM ANALYZER
UP TO 9 GHz

Benchmark
USB Spectrum Analyzer/Receiver

The SAN Series sets a new standard for USBbased spectrum analyzer. Built on a highperformance superheterodyne architecture with up to 14-stage preselection filter, it delivers exceptional noise performance, wide dynamic range, and image rejection.

EASE of Use And Compact Design

The compact form factor allows easy system integration while maintaining high RF performance such as spectral purity, making it well suited for space- and cost-limited applications.

Unified API Support

All models share a unified API, enabling seamless hardware migration without code changes. Supports C/C++, C#, Python, MATLAB, Qt and LabVIEW on Windows and Linux.

New SAN Series Comparison Table

Model	SAN-45	SAN-60	SAN-90
Frequency range	9 kHz-4.5 GHz	9 kHz-6 GHz	9 kHz-9 GHz
Analysis bandwidth	50 MHz std/100 MHz opt		
Phase noise 1 GHz@10 kHz	-110 dBc/Hz		
1 GHz DANL	-168 dBm/Hz		
Preselect filters	Up to 14		
Start price	1,298 USD	1,998 USD	2,998 USD

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HDA Series

HAROGIC

Active Directional Antenna.

HAROGIC
DIRECTIONAL ANTENNA
500 MHz to 10 GHz

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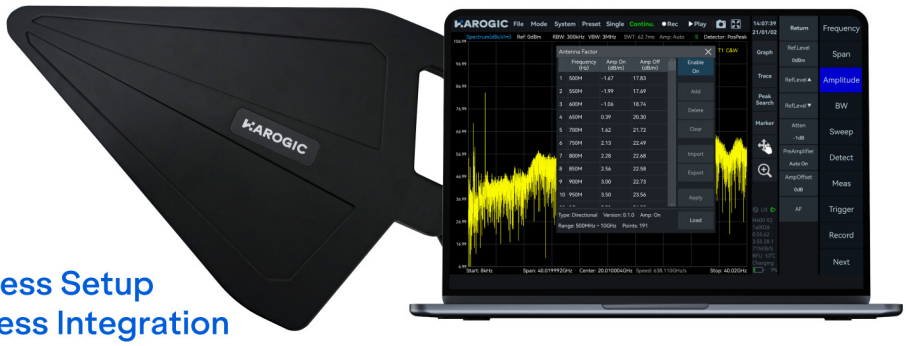
HDA Series
Active Directional Antenna

HAROGIC DIRECTIONAL ANTENNA
500 MHz to 10 GHz



Effortless Setup
Seamless Integration

Maximize
Sensitivity and Range

Optimized
for Fieldwork

HDA-100
Select Guide

Series	Active directional antenna
Model	HDA-100
Frequency range	500 MHz-10 GHz
Antenna gain	5 dBi
Amplifier gain	20 dB
VSWR	< 2.0 (typ.)
RF connection	N(F), 50 Ω

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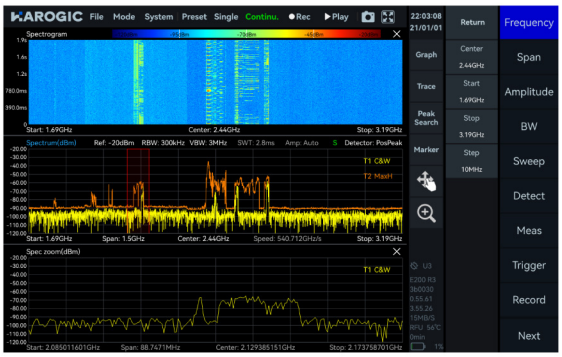
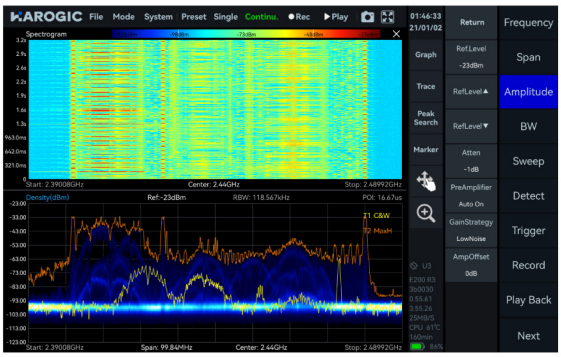
SAStudio4
Working Modes Overview



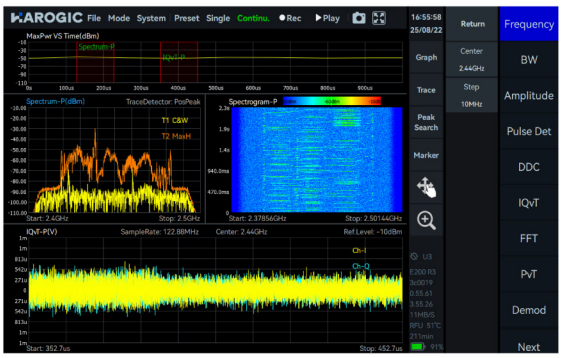
Standard Spectrum Analysis

The mode offers a full spectrum of measurement capabilities. Key functions include panoramic sweeping and dedicated measurement functions.



Real-Time Spectrum Analysis

This mode provides continuous signal monitoring. Specialized functions for frame rate compression and trace detection ensure complete data capture with no gaps or overlaps between the generated FFT frames.



IQ Streaming

The mode supports a maximum analysis bandwidth of 100 MHz, enabling wideband measurement and I/Q data output driven by a diverse selection of trigger methods.

Power Detection

The mode provides the ability to detect and analyze time-domain signals within the analysis bandwidth.

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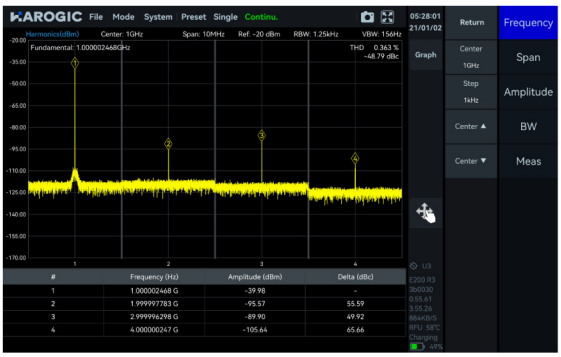
SAStudio4
Working Modes Overview

Memory Scan

This mode instructs the device to rapidly step through a list of pre-programmed memory channels or frequencies that the user has saved.

Digital Demodulation (Opt.)

This mode supports the demodulation of 2ASK, 2/4FSK, GMSK, BPSK, QPSK, 8PSK, 16/64/128/256QAM signals.



Harmonic Analysis

This mode supports the detection and measurement of harmonic components within 10 times, including harmonic peak, harmonic channel power measurement and THD.

Auto Phase Noise

This mode supports an offset range of 1Hz to 10MHz, which is used to evaluate the phase stability of the carrier.

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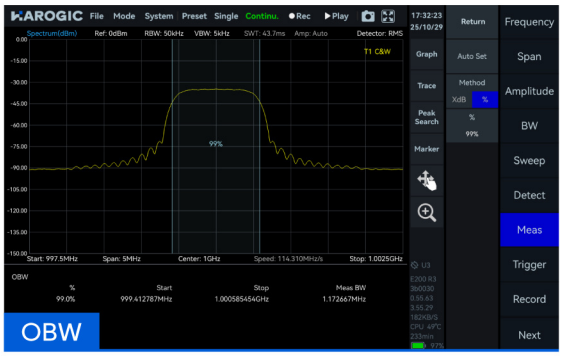
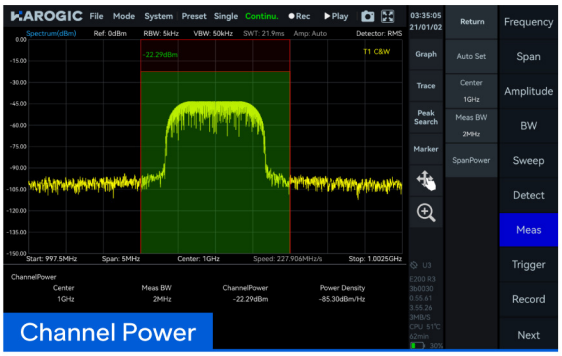
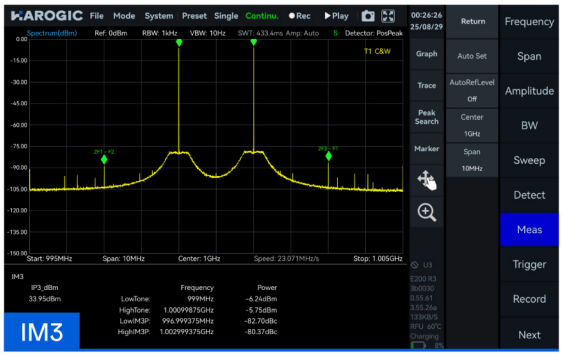
SAStudio4
Analysis Functions Overview







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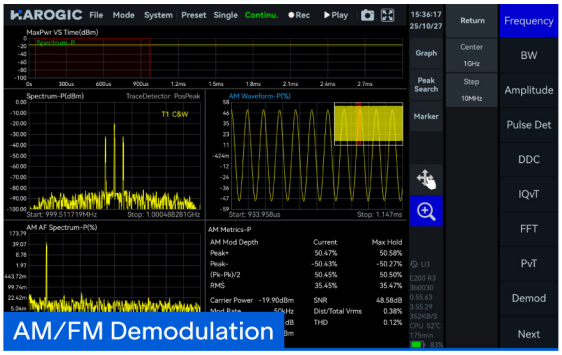

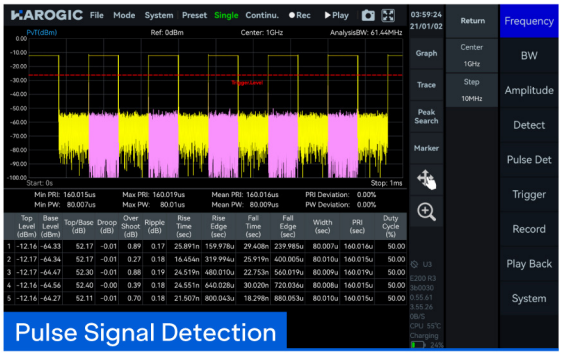

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API and SCPI VITA 49 Overview

HAROGIC provide HTRA API featured with

- Most interfaces are provided free of charge (excluding options)
- Compatible with all HAROGIC SA
- C/C++/C#/LabVIEW/MATLAB/Python language supported
- Windows and Linux OS supported

In addition to the API interface, HAROGIC provides a SCPI command set that complies with international standards.

- Based on a standardized command system, facilitating coordinated control and automated testing with other instruments.
- Remote calling via methods such as TCP Socket, enabling flexible integration across different platforms and environments.
- Seamlessly integrates with test software like LabVIEW and Python, enabling fast application within existing automated test platforms.
- VITA 49 data transmission format supported, further enhancing system-level interoperability.

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3-year Warranty

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