



RIGOL

# RIGOL Company Overview

普源精电科技股份有限公司

RIGOL TECHNOLOGIES CO., LTD.

# CONTENTS

- 01 | **Company & Industry**
- 02 | **Technology & Product**
- 03 | **Marketing & Application**

**01**

**Company & Industry**

# Science originates from measurement.



Dmitri Mendeleev  
(1834-1907)



Nano



Universe



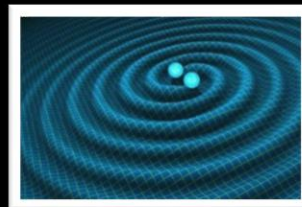
Time



Space



Weak interaction  
force



Gravitational  
wave



Quality



Energy

In the world of science, measurement is everywhere

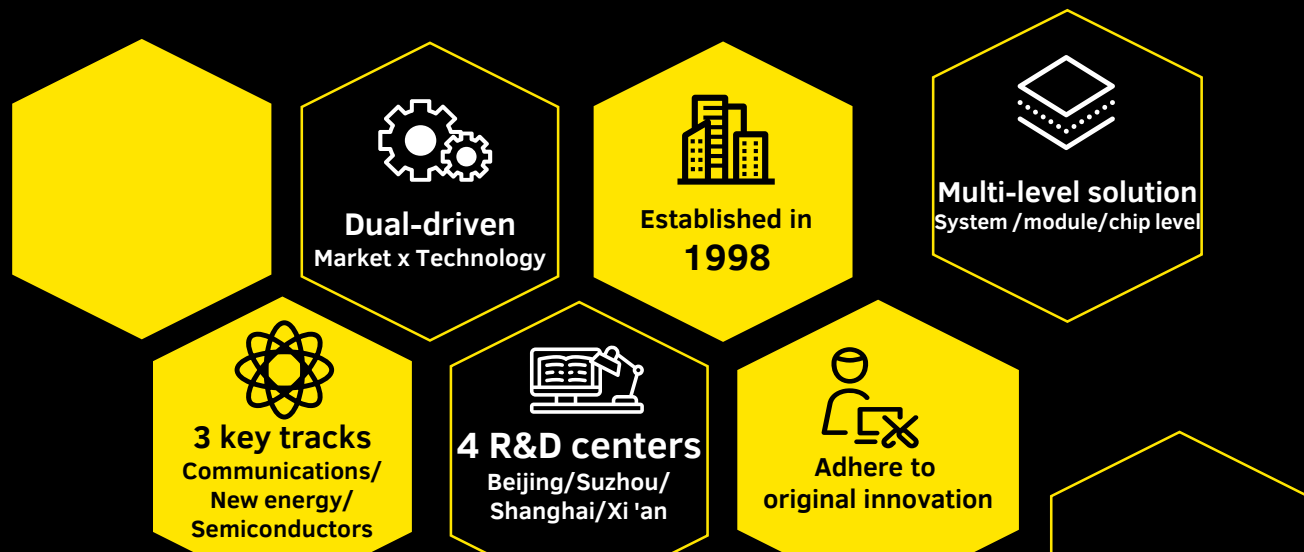
# RIGOL Possibilities and More

**RIGOL TECHNOLOGIES CO., LTD.**

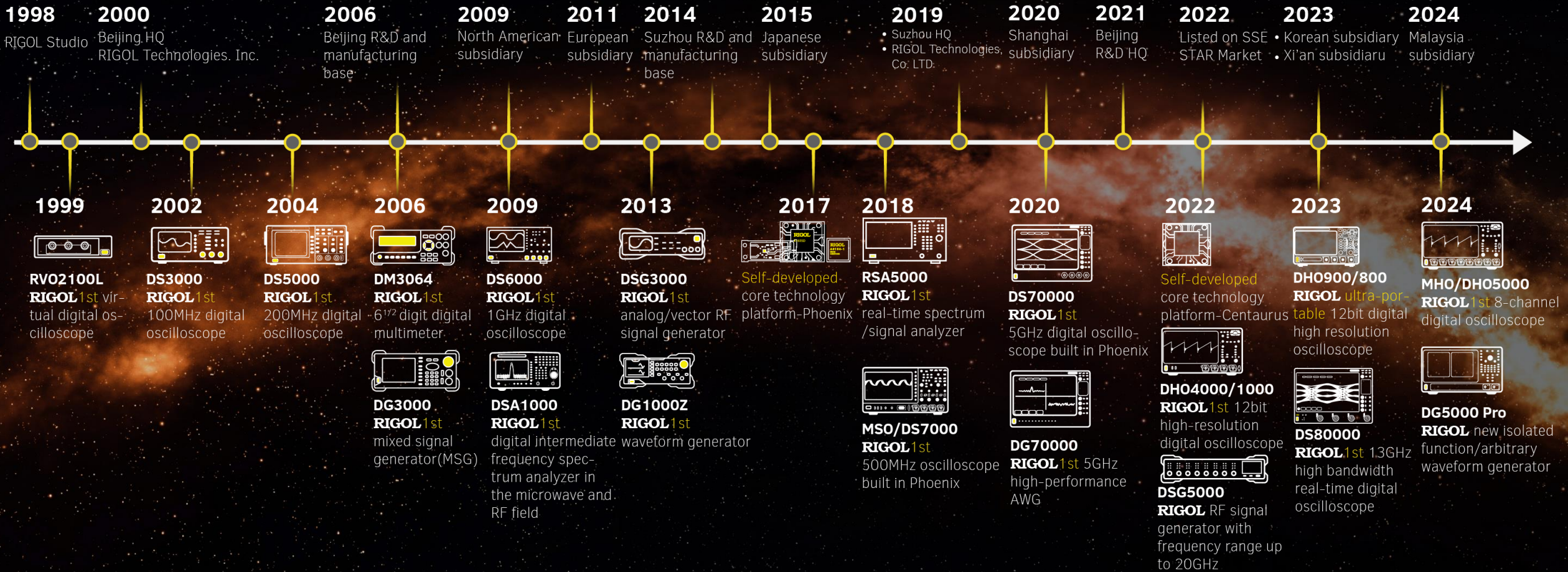


Make cutting-edge technology developments and breakthroughs in the field of general electronic measurements.

Provide T&M products and solutions for the smart world and technological innovation.



# RIGOL Innovation in Last 26 Years, to Achieve Possibilities and More



Beyond Measure

Innovation or Nothing

Possibilities and More

1998 — 2013

2014 — 2018

2019 — Present

# RIGOL Listed on Shanghai Stock Exchange STAR Market



On April 8, 2022, RIGOL Technology Co., Ltd. (“RIGOL”, stock code: 688337.SH) is officially listed on Shanghai Stock Exchange (SSE) STAR Market.

RIGOL The only thing that will last forever is culture

## Core Values of RIGOL



### Mission

Enabling Technology Exploration,  
Empowering Possibilities and More

### Vision

To become the world's pre-eminent  
Test and Measurement brand

唯有

文化

生生不息



**RIGOL**

# **RIGOL R&D Layout**



**Beijing  
R&D HQ**



**Xi'an  
R&D Center**

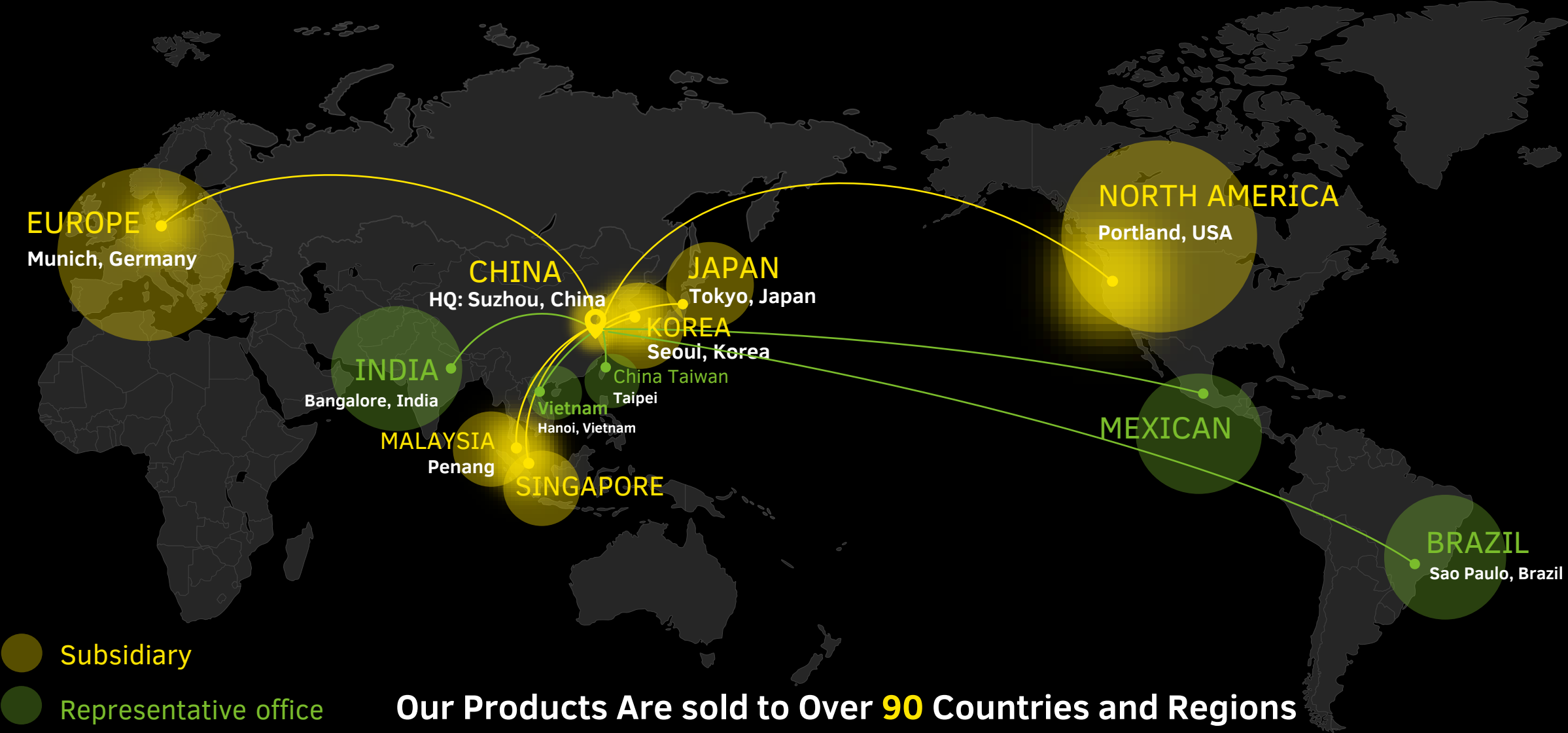


**Suzhou  
HQ**



**Shanghai  
R&D Center**

# RIGOL Global Marketing Network



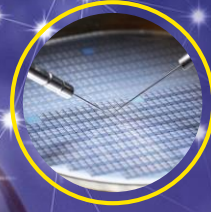
Our Products Are sold to Over 90 Countries and Regions

# RIGOL Empower Customer Success

INTELLIGENT  
MANUFACTURE



SEMICONDUCTOR



EDUCATION &  
RESEARCH



COMMUNICATION



SYSTEM  
INTEGRATION

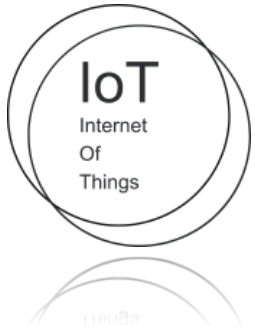


NEW ENERGY

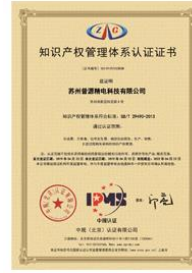


Provide T&M products and solutions for customers

# RIGOL Industry Recognition



- **R&D100 Awards**
- **EDN Innovation Award** - Leading Product Award
- **World Electronics Achievement Awards** - T&M of the Year
- **China IoT Product Golden Lion Award**
- **China IoT Innovation Award** - Technology Innovation Award
- **Contemporary Good Design**



- **National intellectual property advantage enterprise**
- **China Top 500 Enterprises for Patents**
- **China Patent Gold Award**
- **Effective Invention Patent List of Sci-Tech Innovation Board Listed Companies -21st**
- **Second Prize of China Machinery Industry Science and Technology Award**
- **Science and Technology Award of China Instrument and Control Society** - Second Prize of Science and Technology Progress
- **Suzhou Science and Technology Progress Award**
- **First prize of Suzhou Patent Award**



- **Most Valuable Company for Investment of the Year**
- **Excellent Enterprise Case of 21st Century**-‘Star of Innovation and Entrepreneurship’
- **Blue Book of Management: Annual Value Case of Chinese Management**
- **Ten Billion Market Value Listed Companies**

**RIGOL Dual-powered strategy**

**Marketing**



**Technology**

**MATCH**

01100  
10110  
11110



# Three Tracks

COM

Communication

NE

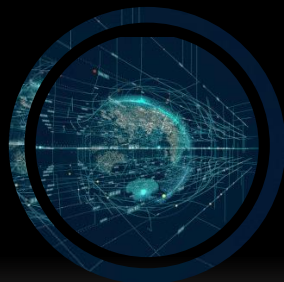
New Energy

SEMI

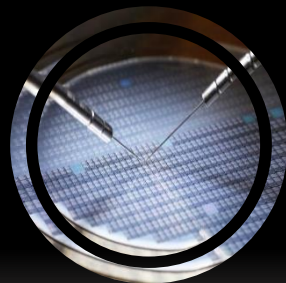
Semiconductor



# RIGOL Centering on Solutions



## Communication



## Semiconductor



## New Energy

Tracks

- 5G Cellular-5G/WIFI
- UWB/RFID/ ZIGBEE
- Digital bus/Ethernet
- Optical communication

- Digital/analog/RF chip
- Memory and MCU chip
- GaN 3rd generation semiconductor
- Solar PV cell

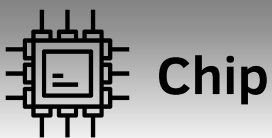
- NEVs
- Photovoltaic/inverter
- Power Supply Test
- Automotive electronics

Solutions

Product



Basic



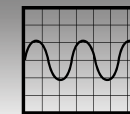
Chip



Hardware

01100  
10110  
11110

Algorithm



Software

The background is a solid black color. On the left side, there is a vertical yellow bar. A black L-shaped line starts from the top of the yellow bar, goes right, then down, then right again, forming a corner cutout in the top-left. The numbers '02' are large, bold, yellow, and sans-serif, positioned in the upper right quadrant.

# 02

**Technology & Product**



# RIGOL Patent

Authorized patent<sup>1</sup>

**494**

Invention patent<sup>1</sup>

**421**

Software copyright<sup>1</sup>

**85.22%**

Listed in the China **Top 500** Enterprises for Patents in 2019 and 2020

Won the **China Patent Gold Award** in 2023

\*1 : The data is up to 30/06/2024

# RIGOL RIGOL Core technology

## Oscilloscope product technology patent amount

- High bandwidth and high integration oscilloscope AFE chip technology **2**
- High bandwidth and high sampling rate oscilloscope DSP chip technology **2**
- High bandwidth low noise analog front-end technology **14**
- Data acquisition technology of high sampling oscilloscope **15**
- Display technology of high refresh rate oscilloscope **14**
- Oscilloscope technology platform software technology **17**
- Broadband Oscilloscope probe technology **15**
- High precision waveform analysis technology **1**

## Function/arbitrary waveform generator technology patent amount

- SiFi III High fidelity arbitrary signal synthesis technology **7**
- SiFi II High fidelity arbitrary signal synthesis technology **5**
- SiFi I High fidelity arbitrary signal synthesis technology **7**
- Pulse signal generation technology **4**

Self-developed core technology of RIGOL  
products accounted for more than **90%**

## RF product technology patent amount

- UltraReal Technology **1**
- Digital IF Technology **3**
- Digital Automatic Level Control **4**
- Multi-channel phase calibration and synchronization **1**

## Other product technology patent amount

- High precision DC voltage measurement with large dynamic range **2**
- High precision large range current measurement technology **2**
- High precision and fast capacitance measurement technology **1**
- Power output state control technology **4**

# Product Family

1

## Digital Oscilloscopes

DH04000/1000/900/800 Series  
DS70000 Series  
MS08000 Series  
.....

2

## Waveform Generators

DG900 Pro/800 Pro Series  
DG70000 Series  
DG5000 Series  
.....

3

## Spectrum Analyzers

RSA5000 Series  
RSA3000 Series  
.....

4

## RF-Signal Generators

DSG5000 Series  
DSG3000B Series  
.....

5

## DC Power Supply

DP2000/900/800 Series  
DP5000/3000 Series  
.....

6

## DC Electronic Load

DL3000 Series

7

## Multimeters

DM858  
DM3068  
DM3058/E

8

## Data Acquisitions

M300 Series



# RIGOL Digital Oscilloscopes



## DS7000 Series

Bandwidth: 5GHz  
Sample Rate: 20GSa/s  
Vertical Resolution: 8bit~16bit  
Waveform Capture Rate: >1,000,000wfms/s

## DH0900/800 Series

Bandwidth : 250MHz  
Sample Rate : 1.25GSa/s  
Vertical Resolution : 12bit  
Waveform Capture Rate : 1,000,000wfms/s

## MS07000 Series

Bandwidth : 500MHz  
Sample Rate : 10GSa/s  
Waveform Capture Rate : > 600,000wfms/s

## DH04000/1000 Series

Bandwidth : 800MHz  
Sample Rate : 4GSa/s  
Vertical Resolution : 12bit  
Waveform Capture Rate : 1,500,000wfms/s

## MS08000A Series

Bandwidth : 3GHz  
Sample Rate : 10GSa/s  
Waveform Capture Rate : > 600,000wfms/s

## MS05000 Series

Bandwidth : 350MHz  
Sample Rate : 8GSa/s  
Waveform Capture Rate : > 600,000wfms/s

# RIGOL Waveform Generators



## DG70000 Series

Max. Output Frequency: 5GHz  
Max. Sample Rate: 5GSa/s (12GSa/s interpolated)  
Vertical Resolution: 16bit  
Arbitrary Wave Length: 1.5Gpts

## DG4000 Series

Max. Output Frequency : 200MHz  
Max. Sample Rate : 500MSa/s  
Vertical Resolution : 14bit  
Arbitrary Wave Length : 16K

## DG5000 Series

Max. Output Frequency: 350MHz  
Max. Sample Rate: 1GSa/s  
Vertical Resolution: 14bit  
Arbitrary Wave Length: 128M

## DG2000 Series

Max. Output Frequency: 100MHz  
Max. Sample Rate: 250MSa/s  
Vertical Resolution: 16bit  
Arbitrary Wave Length: 16M

## DG900 Pro Series

Max. Output Frequency: 200MHz  
Max. Sample Rate: 1.25GSa/s  
Vertical Resolution: 16bit  
Arbitrary Wave Length: 16M (32M opt.)

## DG800 Pro Series

Max. Output Frequency: 50MHz  
Max. Sample Rate: 625MSa/s  
Vertical Resolution: 16bit  
Arbitrary Wave Length: 2M (8M opt.)

# RIGOL Spectrum Analyzers



## RSA5000 Series

Frequency Range: 9kHz~6.5GHz  
Max. Real-time Bandwidth: 40MHz  
RBW: 1Hz~10MHz  
Phase Noise: -108dBc/Hz@10kHz

## RSA3000/E Series

Frequency Range : 9kHz~4.5GHz  
Max. Real-time Bandwidth : 40MHz  
RBW: 1Hz~10MHz  
Phase Noise : -102dBc/Hz@10kHz

## DSA800 Series

Frequency Range : 9kHz~7.5GHz  
Max. Real-time Bandwidth : 10Hz~1MHz  
Phase Noise : -98dBc/Hz@10kHz

## DSA700 Series

Frequency Range : 100kHz~1GHz  
Max. Real-time Bandwidth : 100Hz~1MHz  
Phase Noise : -80dBc/Hz@10kHz

# RIGOL RF Signal Generators



## DSG5000 Series

Frequency Range: 9kHz~20GHz  
Amplitude Indicators Range: -30dBm~+25dBm  
Amplitude Accuracy: <0.5dB  
SSB Phase Noise: <-133dBc/Hz@1GHz,10kHz offset  
Modulation Function: AM/FM/ØM/Pulse



## DSG3000B Series

Frequency Range : 9kHz~13.6GHz  
Amplitude Indicators Range : -110dBm~+20dBm  
Amplitude Accuracy : <0.5dB  
SSB Phase Noise : <-116dBc/Hz@1GHz,20kHz offset  
Modulation Function : AM/FM/ØM/Pulse/IQ



## DSG800 Series

Frequency Range : 9kHz~3.6GHz  
Amplitude Indicators Range : -110dBm~+13dBm  
Amplitude Accuracy : <0.5dB  
SSB Phase Noise : <-112dBc/Hz@1GHz,20kHz offset  
Modulation Function : AM/FM/ØM/Pulse/IQ

# RIGOL DC Power & DC Load



## DP2000 Series

### Programmable linear DC power supply

Total Power: 222W

Programming Resolution: 1mV/0.1mA

Display resolution: 1mV/0.1mA

Communication interface: USB、LAN、RS232、Digital IO

## DP900 Series

### Programmable linear DC power supply

Total Power : 210W

Programming Resolution : 1mV/1mA

Display resolution : 10mV/1mA

Communication interface : USB、LAN、opt-Digital IO

## DP800 Series

### Programmable linear DC power supply

Total Power : 200W

Programming Resolution : 1mV/0.1mA

Display resolution : 10mV/10mA

Communication interface : USB、LAN、RS232、Digital IO、USB-GPIB

## DL3000 Series

### Programmable DC Electronic Load

Total Power: 350W

Voltage: 150V

Current: 60A

Highest Frequency: 30kHz



# RIGOL Multimeters and Data-aquisition



## DM858 Series Digital Multimeter

Precision: 5.5 digits

DCV Annual Accuracy: 0.03%

Fastest Test Rate: 125 rdgs/s

Connectivity : USB, LAN (LXI-C), 10.1 inch screen



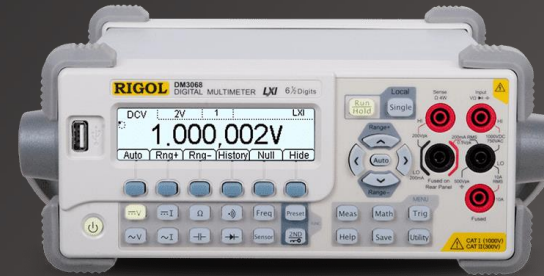
## DM3058/E Series Digital Multimeter

Precision: 5.5 digits

DCV Annual Accuracy: 0.015%

Fastest Test Rate: 123 rdgs/s

Connectivity : USB, GPIB (only DM3058) , LAN(only DM3058), RS232



## DM3068 Series Digital Multimeter

Precision: 6.5 digits

DCV Annual Accuracy: 0.0035%

Fastest Test Rate: 10K rdgs/s

Connectivity: USB, GPIB, LAN(LXI-C), RS232



## M300 Data Acquisition Switch System

Number of Slots: 5

Type: 8

Built in: 6½ digits

Max. Scanning Speed: 60 Ch/s

Max. Number of Channels Per Unit: 320

**03**

**Marketing & Application**

# RIGOL Focus on customers and provide multi-level solutions

## New Energy

Electric vehicle battery test  
Power supply test  
Vehicle electronic test  
Loop response test  
Bidirectional motor test  
Power harmonic test  
Power ripple test  
Power aging/temperature rise test

## Communication

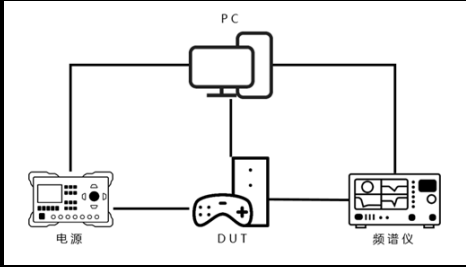
Cellular-5G  
Bluetooth  
Bus  
RFID  
WIFI-MIMO  
Wired optical communication  
WLAN/WIFI  
Ethernet  
WIMAX  
Serial bus debugging  
MIMO beamforming and simulation  
Low power Bluetooth performance test

## Semiconductor

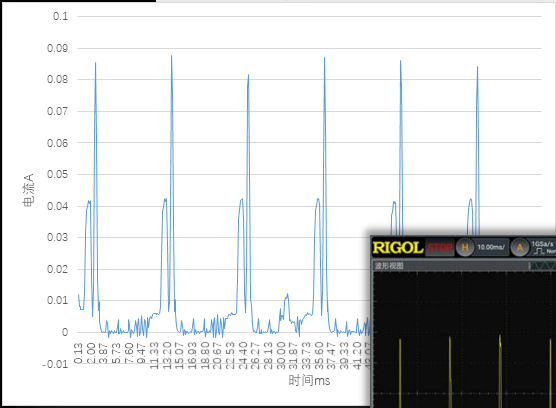
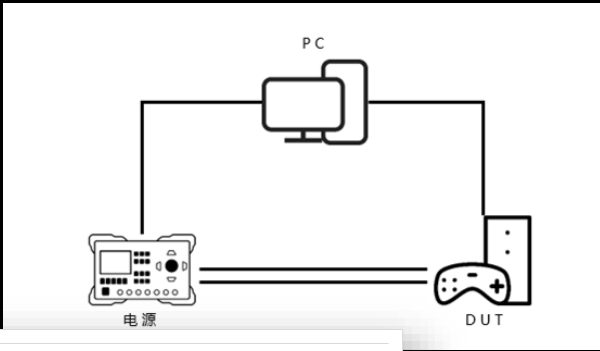
IGBT test  
MEMS test  
C-V testing of semiconductor components  
High speed ADC test  
High-speed I/O chip test\_LVDS  
MOSFET test solution  
Chip low power mode analysis



## Consumer Electronics Factory Test-Test solution of rapid change current



▲ Traditional test solution **RIGOL new test solution ▼**



In the design and production processes of consumer electronics, there may be issues with unstable wireless signal transmission functionality, leading to a series of problems such as wireless delays and inaccurate signal transmission. These issues can severely impact the user experience. To address this, a simple, fast, efficient, and cost-effective factory testing of products can be achieved by quickly monitoring the current changes during the wireless signal transmission of consumer electronics. This allows for a rapid determination of whether the wireless signal can be transmitted properly and whether the product can function correctly.

### ● Test Object

Consumer Electronics Wireless Signal Functionality Test



### ● Test Solution

Utilizing RIGOL programmable linear DC power supply to power the testing system, simultaneously utilizing the power supply's feedback feature to monitor the current fluctuations of consumer electronics during wireless signal transmission.

### ● Application

R&D  
Industrial production

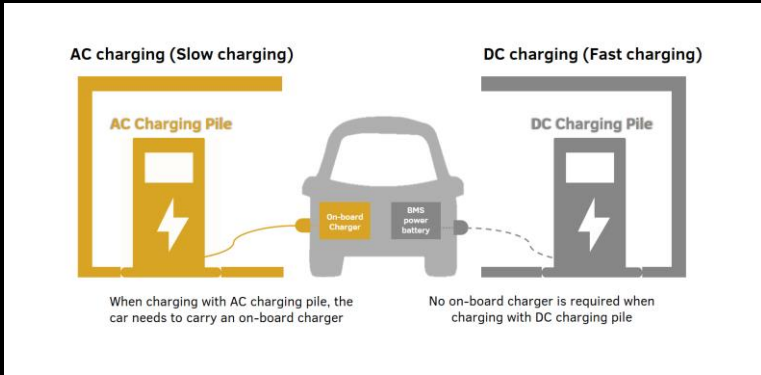
### ● Production

RIGOL DP2000 series programmable linear DC power supply

### ● Advantage

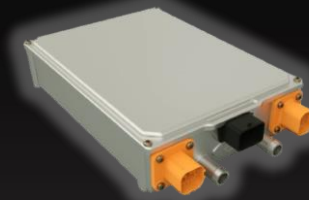
No need for spectrum analyzers, save test cost  
High current readback accuracy

# OBC Test of New Energy Vehicle On-board Charger



## ● Test Object

On-board Charger



## ● Application

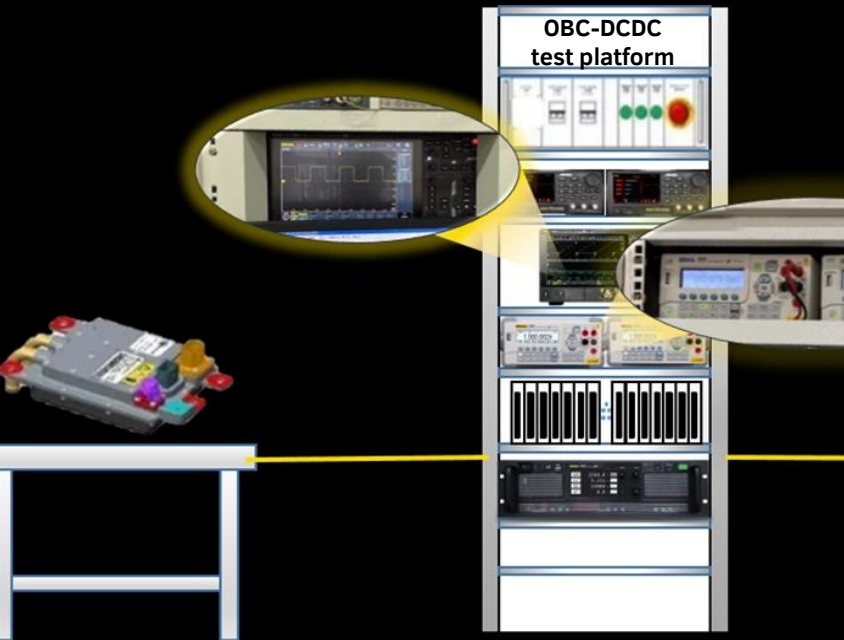
Automotive R&D  
 Industrial production

## ● Production

DH04000 series high-resolution digital oscilloscope  
 DP2000 series programmable linear DC power supply  
 DM3068 series 6.5 digits digital multimeter  
 DG2000 series function/arbitrary waveform generator

## ● Test Solution

SN	Test Item	SN	Test Item
1	Low voltage power-on test	9	DCDC startup test
2	Signal and wake test	10	Calibration test
3	Power-on test	11	Post-calibration test
4	Calibration test	12	Output short-circuit test
5	Post-calibration test	13	Output ripple efficiency test
6	High voltage performance test	14	Write logistics information
7	Input undervoltage test	15	Modules and checks
8	Input overvoltage test		



# In-Car Networking Solution

USB2.0  
Compliance  
Test  
Solution



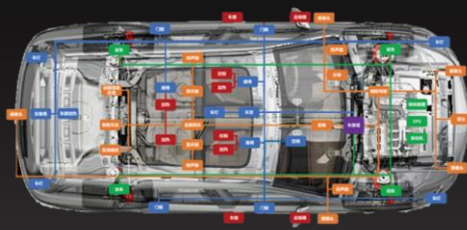
As the number of foreseeable sensors increases and their sensitivity improves, a vast amount of data is generated. To help ensure the safe and reliable operation of these systems, the importance of in-vehicle network testing continues to rise throughout the entire lifecycle of a vehicle.



Bus protocol decoding and triggering

## Test Object

Vehicle network



## Application

Automotive R&D  
Industrial production

## Production

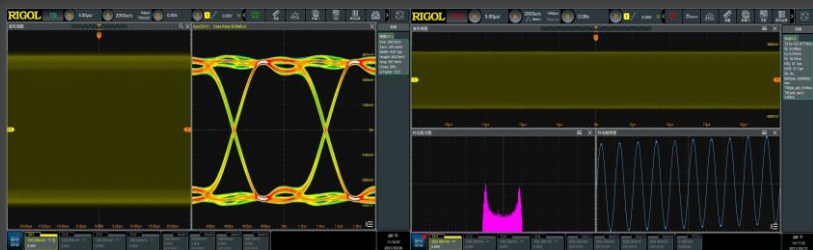
DS70000 Series Digital Oscilloscope

USB2.0 Compliance Test Solution

## Advantage

Comprehensive coverage of equipment functions, saving test costs;  
DS70000 series oscilloscope has strong performance, can reach 20GSa/s sampling rate, 5GHz real-time bandwidth, maximum 2Gpts storage depth, to meet a variety of test needs.

Eye diagram and jitter analysis test





**THANK YOU**