RIGOL

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RIGOL Product Overview

普源精电科技股份有限公司

RIGOL TECHNOLOGIES CO., LTD.

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

RIGOL

Product Family

1 Digital Oscilloscopes

DHO4000/1000/900/800 Series
DS70000 Series
MSO8000 Series
……

2 Waveform Generators

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

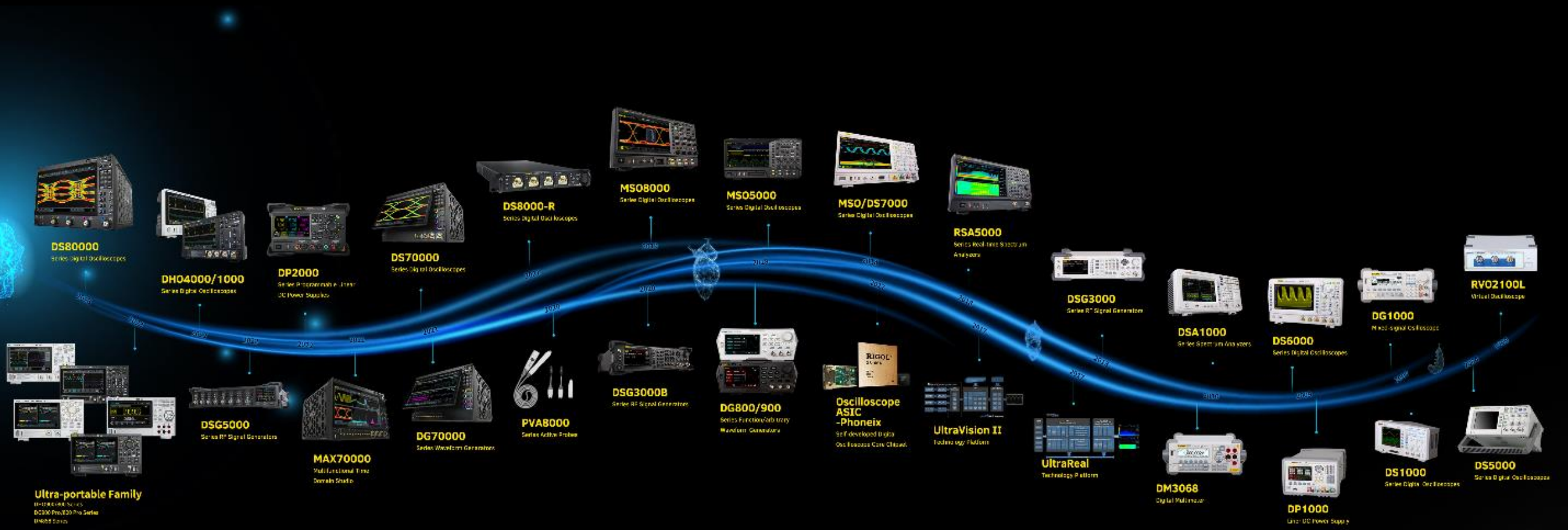
DM3068
DM3058/E

8 Data Acquisitions

M300 Series

Product history in 25 years

Satisfy your daily working without compromise



RIGOL Digital Oscilloscopes

DS70000 Series

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

DHO900/800 Series

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

MSO7000 Series

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

DHO4000/1000 Series

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

MSO8000A Series

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

MSO5000 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

DG900 Series

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

DG5000 Series

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

DG2000 Series

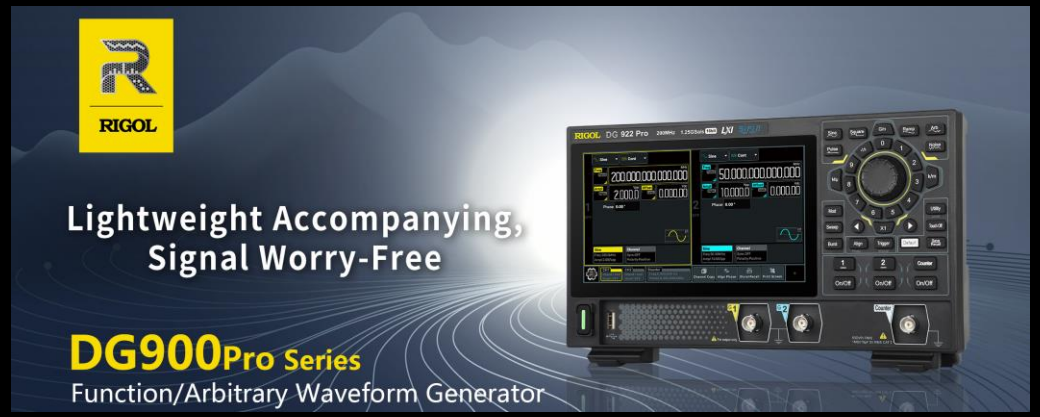
Max. Output Frequency：100MHz
Max. Sample Rate：250MSa/s
Vertical Resolution：16bit
Arbitrary Wave Length：16M

DG800 Series

Max. Output Frequency：35MHz
Max. Sample Rate：125MSa/s
Vertical Resolution：16bit
Arbitrary Wave Length：2M (8M opt.)

RIGOL Waveform Generators: Launched this year!

- 25/50 MHz Sine Frequency
- 16-bit Vertical Resolution
- 625 MSa/s Max. sample Rate
- Arb Length of 2 Mpts/CH (8 Mpts/CH optional)
- 40 MHz Square Frequency, 25 MHz Pulse Frequency
- Rise Time as Low as 3 ns
- Waveform Jitter as Low as 200ps
- A 7 Digits/s Counter with 500 MHz Bandwidth



- 70/150/200 MHz Sine Frequency
- 16-bit Vertical Resolution
- 1.25 GSa/s Max. sample Rate
- Arb Length of 16 Mpts/CH (32 Mpts/CH optional)
- 60 MHz Square Frequency, 50 MHz Pulse Frequency
- Rise Time as Low as 3 ns
- Waveform Jitter as Low as 200ps
- A 7 Digits/s Counter with 1 GHz Bandwidth

RIGOL Spectrum Analyzers

RSA5000 Series

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

DSA800 Series

Frequency Range： 9kHz～4.5GHz
Max. Real-time Bandwidth： 10Hz~1MHz
Phase Noise： -98dBc/Hz@10kHz

RSA3000/E Series

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

DSA700 Series

Frequency Range： 9kHz～4.5GHz
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

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

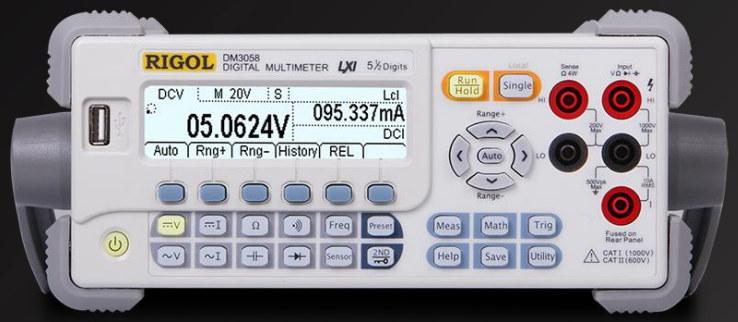
DP900 Series
Programmable linear DC power supply

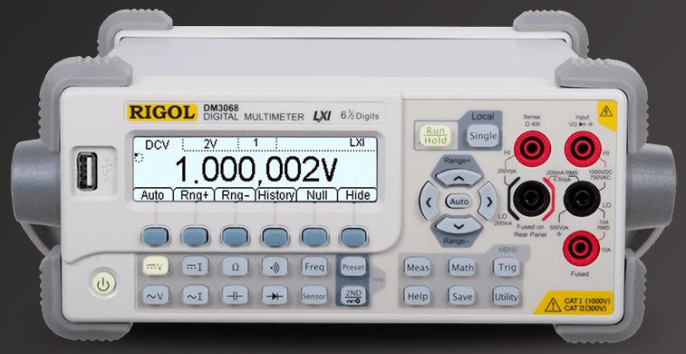
Total Power ： 210W
Programming Resolution ： 1mV/1mA
Display resolution ： 10mV/1mA
Communication interface ： USB、 LAN、 opt-Digital IO

DL3000 Series
Programmable DC Electronic Load

Total Power： 350W
Voltage： 150V
Current： 60A
Highest Frequency： 30kHz

RIGOL Multimeters and Data-aquisition





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

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

M300
Data Acquisition Switch System

Number of Slots：5
Type：8
Built in：6½ digits
最大扫描速度：60 Ch/s
单机最大通道数：320

RIGOL Digital multimeter: Launched this year!

DM858:

- 5½ digits readings resolution
- Up to 125 rdgs/s measurement speed
- 500,000 points logging memory
- Provides a 0.03% annual accuracy
- Measures 11 input signals
- Trend chart, histogram, and bar table - three visual display options
- Standard interfaces: USB , LAN
- 7’’ color touchscreen display
- Type-C power interface

DM858E:

- 5½ digits readings resolution
- Up to 80 rdgs/s measurement speed
- 200,000 points logging memory
- Provides a 0.06% annual accuracy
- Measures 11 input signals
- Trend chart, histogram, and bar table - three visual display options
- Standard interfaces: USB , LAN
- 7’’ color touchscreen display
- Type-C power interface

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

MEMS test

IGBT 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

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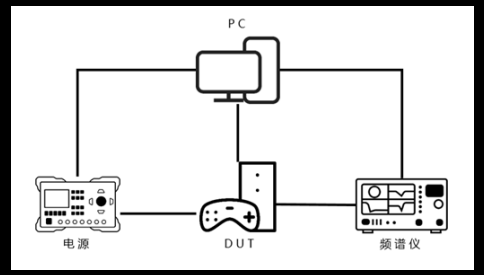
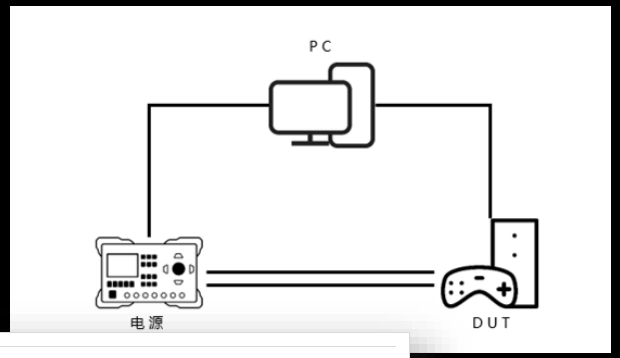
Consumer Electronics Factory Test-Test solution of rapid change current

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.



▲Traditional test solution

RIGOL new test solution▼



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

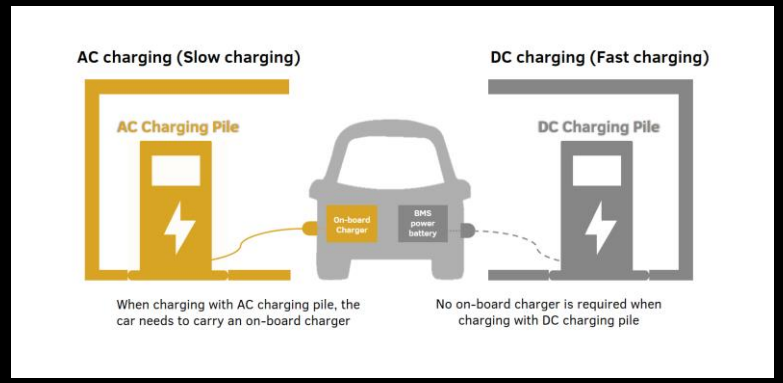
Advantage

No need for spectrum analyzers, save test cost

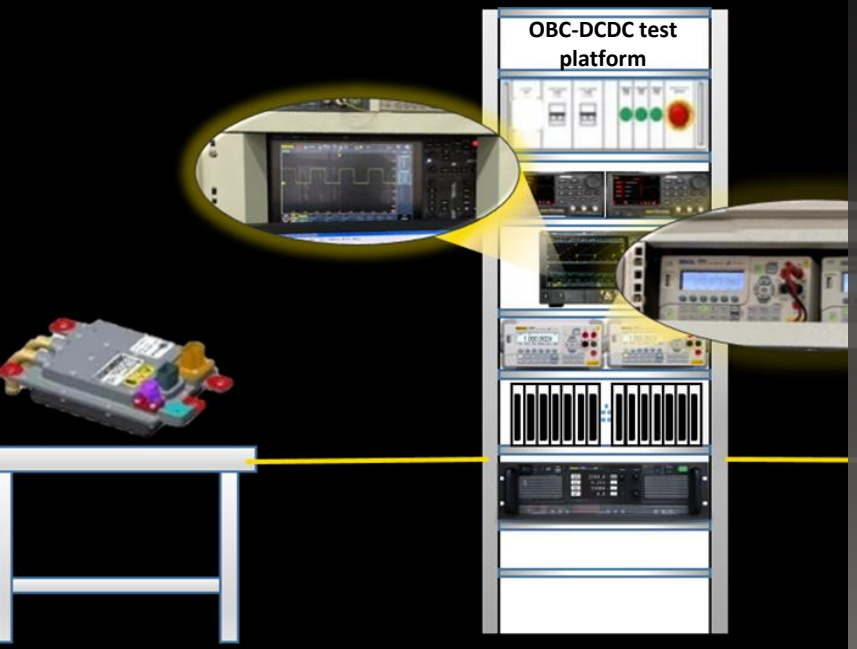
High current readback accuracy

RIGOL

OBC Test of New Energy Vehicle On-board Charger

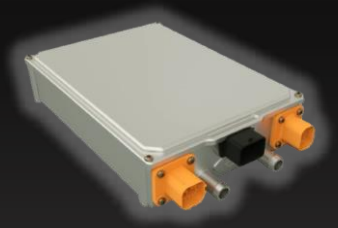


As a core component of new energy vehicles, the on-board power supply is responsible for converting AC mains power to the battery pack and converting the DC output of the battery pack to auxiliary DC power. The performance and efficiency of the on-board power supply directly affect the real-time driving range of the battery pack, so testing the on-board power supply is particularly important. RIGOL provides testing equipment support specifically for on-board chargers that are compatible with AC charging stations.



Test Object

On-board Charger



Application

Automotive R&D

Industrial production

Production

DHO4000 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		

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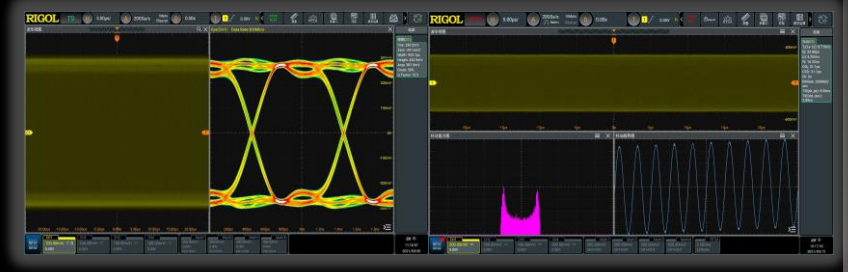
In-Car Networking Solution

USB2.0 Compliance Test Solution ▶

◀ Bus protocol decoding and triggering

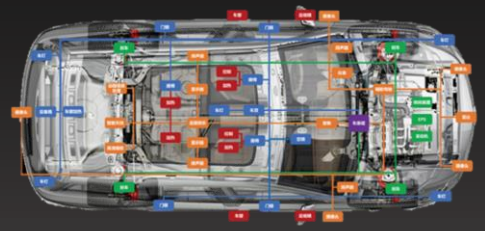


▲Eye diagram and jitter analysis test

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.

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.

THANK YOU