

IVR-AAC

Cable and Antenna Analyzer + Spectrum Analyzer



Product images are for illustrative purposes only and may differ from the actual product.

IVR-AAC cable and antenna analyzer with spectrum analyzer can test DTF/ Frequency Return Loss, VSWR, Cable Loss, RF Power and Spectrum. IVR-AAC integrates two functions: cable and antenna measurements and spectrum analysis. Cable and antenna analyzer with frequency range 1 MHz – 6000 MHz and 60 dB dynamic range can suitable for 2G/3G/4G/WiMAX system etc.

The spectrum analysis module supports frequency of 300 MHz - 4000 MHz and 100dB dynamic range. IVR-AAC series is essential measuring instrument for testing new generation of wireless network and indoor signal distribution.

- Cable and Antenna analyzer, Spectrum Analyzer, Terminal RF Power Meter and RF In-Line Digital Power Meter Function
- Cable and Antenna analyzer function: Frequency range: 1MHz to 6GHz, Dynamic Rang up to 60dB
- Spectrum Analyzer function: Frequency range:300MHz to 4GHz, Dynamic Rang up to 100dB
- Cable and Antenna analyzer function and Spectrum Analyzer function share port test
- Suitable for 2G/3G/4G/WiMAX system etc
- Intelligent limit /marker /curve calculations
- More than 8 hours long battery life
- 7 inch color LCD touch screen
- Optimized batch file management: edit/delete/filter
- Excellent Man-Machine interface for easy operation

Functions

1. Multiple Standard measurement mode

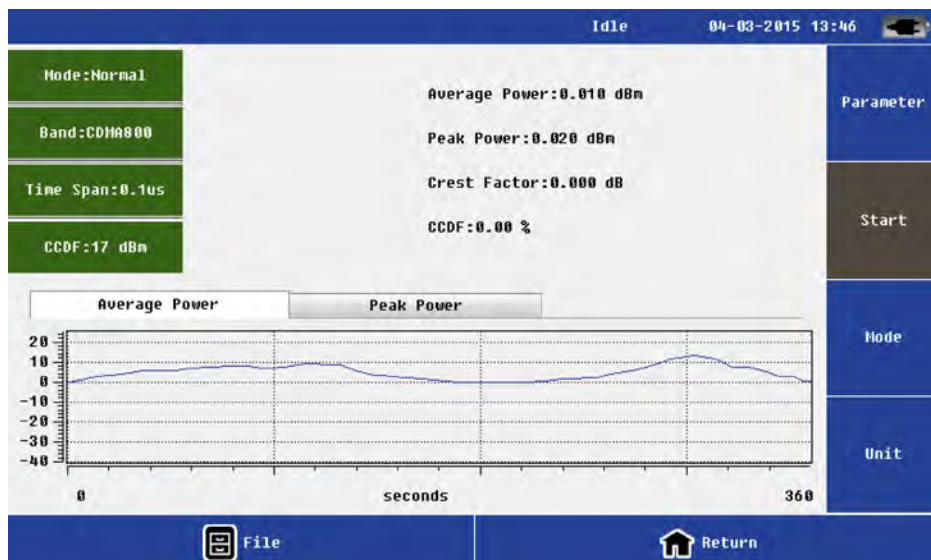
Spectrum, Power meter, Distance-to-fault (DTF) Return Loss, DTF Voltage Standing Wave Ratio (VSWR), Frequency Return Loss, Frequency VSWR and Cable Loss testing. Main interface designs beautifully, user operation is convenient.



2. Optional Power Meter

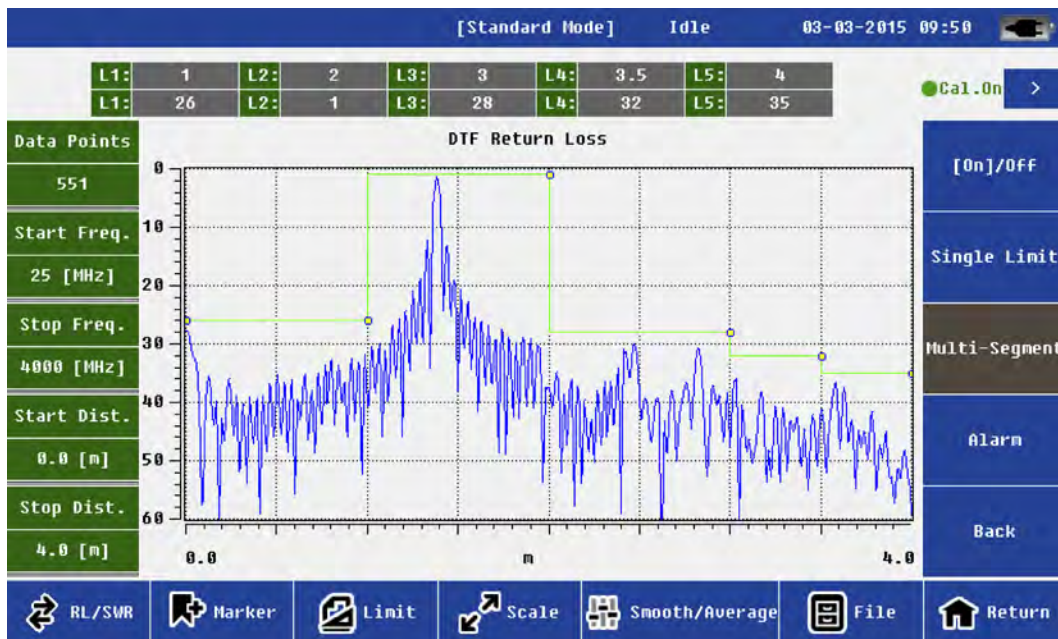
USB high-precision power meter probe not only can connect the instrument to test and display the power, but also can connect the PC to analyze the result.

Terminating power meter and In Line Digital Power Meter can test a variety of signal, which can meet the demand of different level users.



3. Intelligent analysis and judgment the trace

IVR-AAC series can analyze single or multi-segment limit line, marker and the curve calculation accurately.



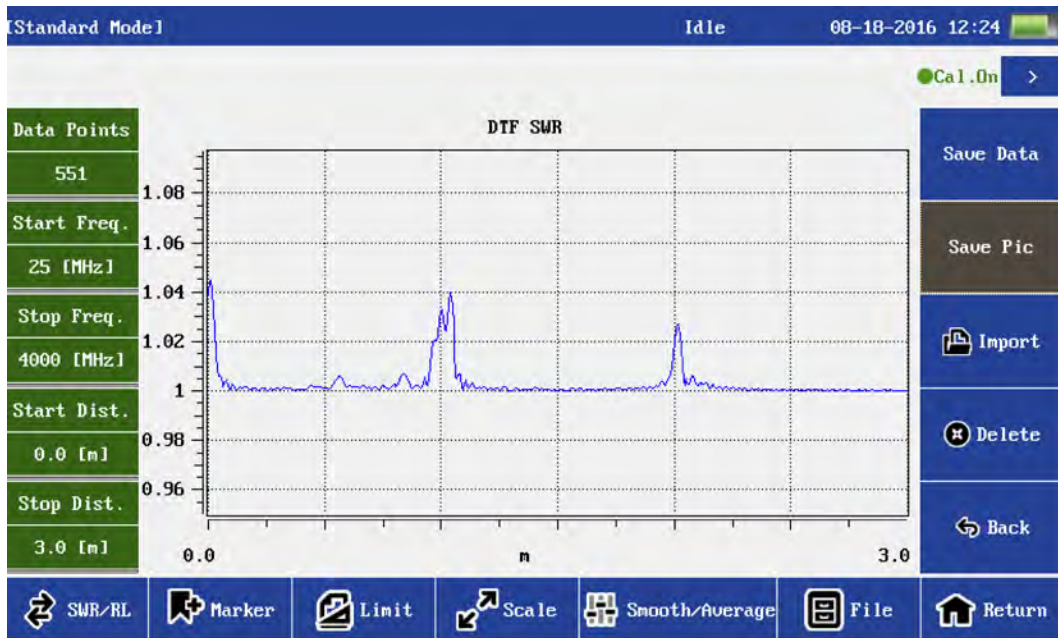
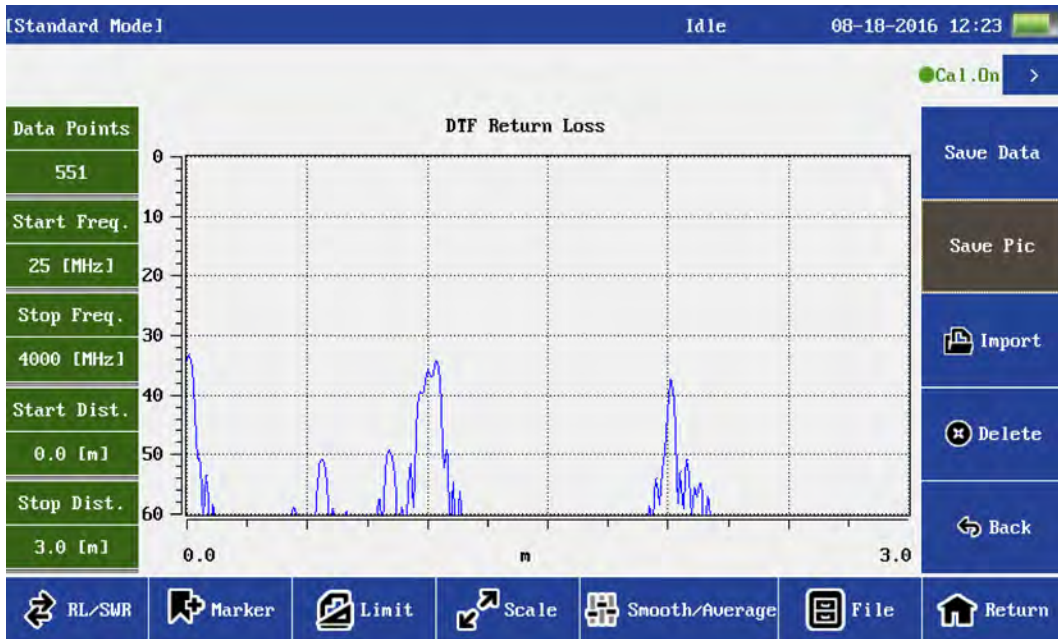
4. Convenient and precise calibrator: 1-port "T-type" Calibration Kit & ECAL Electronic calibrator

It can calibrate precisely and conveniently. When the calibrated data points decreases, there is no need to recalibrate, which will increase the service efficiency. Electronic calibrator ECAL provides consistent calibration results, and removal of possible error of manual calibration.



5. Instant switching the Return Loss and VSWR

IVR-AAC Cable and Antenna analyzer function can test the return loss and VSWR simultaneously, and switch the result instantly.



6. Optimized batch file management function

IVR-AAC series file filter function is easy to implement batch editing and analysis of the results.



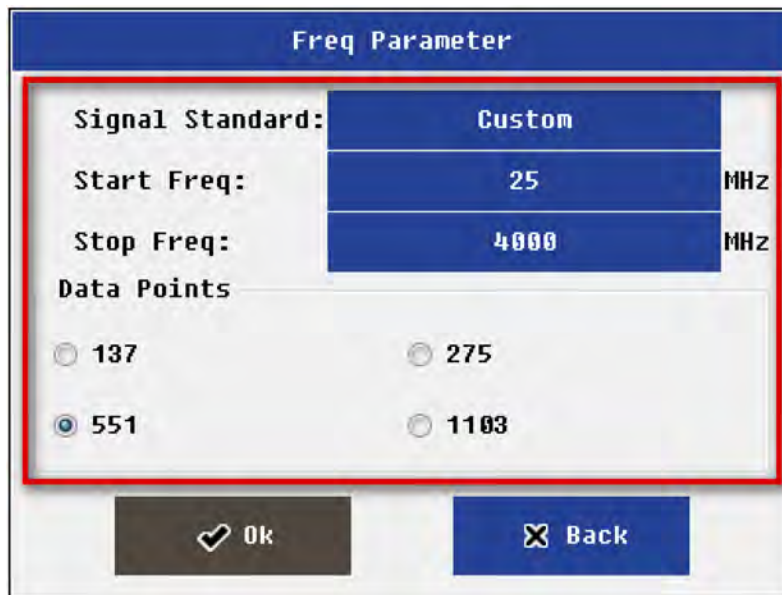
7. Field calibration cable and obtaining the parameters

IVR-AAC series can supply user input the cable parameters (propagation velocity, cable loss) or choose a known cable type. If user knows nothing about the cable parameters, he can make a field calibration by the equipment cable Calibration tool to get the accurate cable parameters.



8. Manually set frequency or select the preset frequency

According to the demand, it is convenient for user to manually set or select the preset frequency.



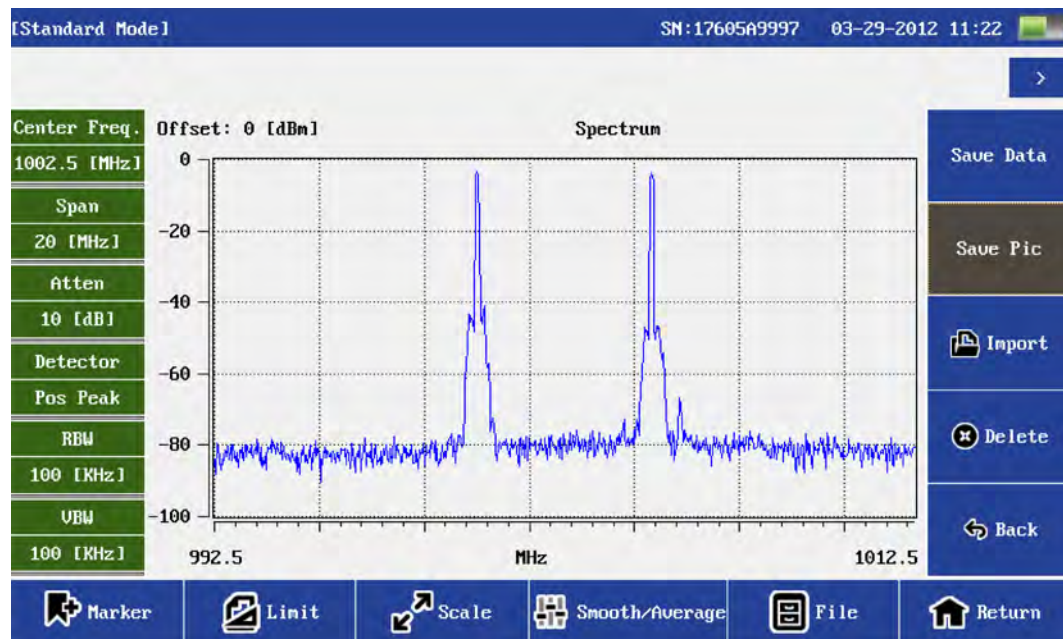
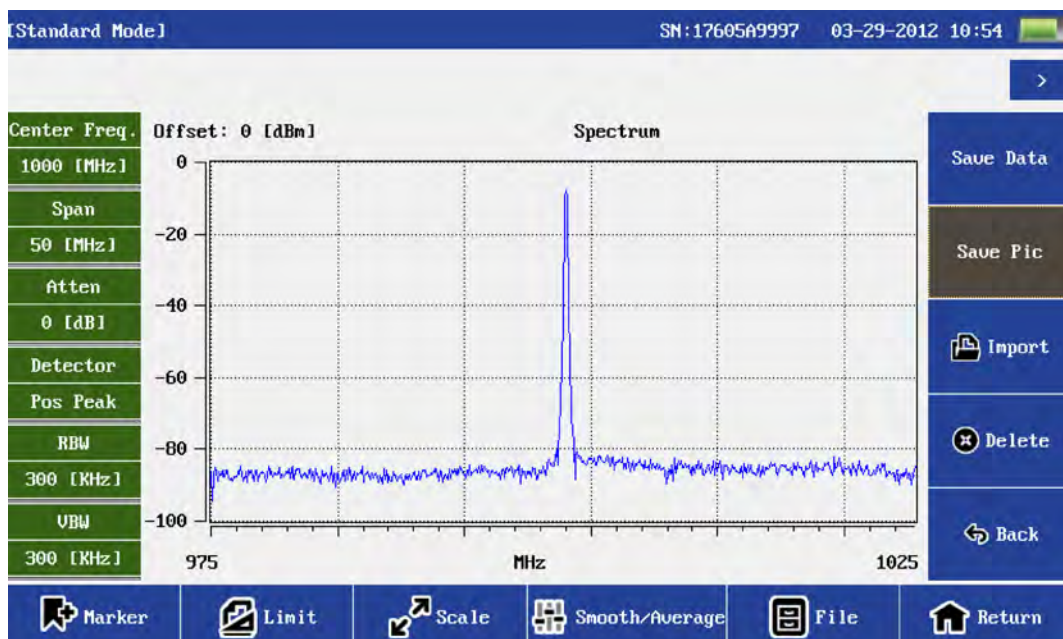
9. Energy saving, environmental protection and human interface design

IVR-AAC series is low-power designing, has high- capacity rechargeable lithium battery and AC adapter dual power supply, and more than 8 hours of continuous battery operation. The shortcut keys can set up four display modes: normal, black and white, highlight and night vision for different ambient.

10. Spectrum analysis module

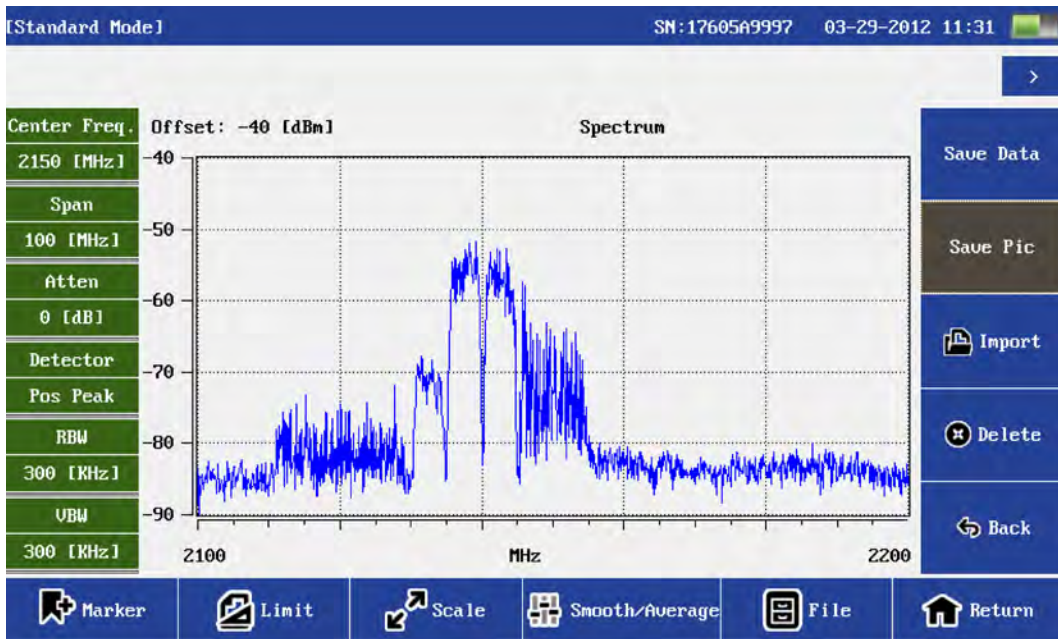
The spectrum analysis module is covered 300 MHz - 4 GHz, 100 dB dynamic range, -130 dBm DANL @ RBW=1kHz. It can supply the spectrum measurement, field strength analysis, interference and other testing.

Spectrum Test Function

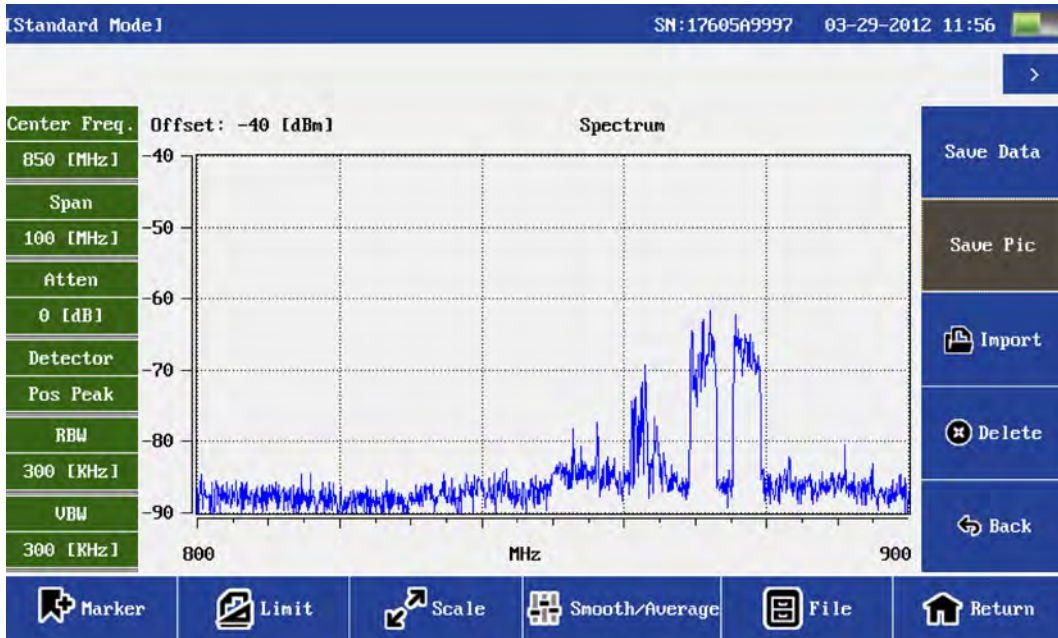


Antenna Test Function

WCDMA



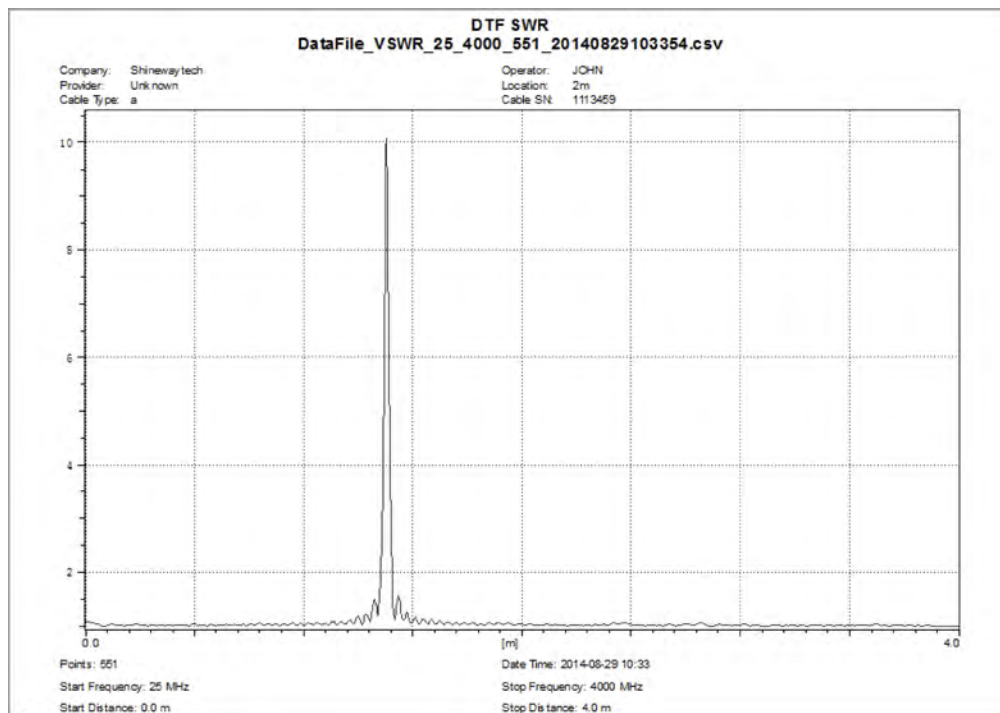
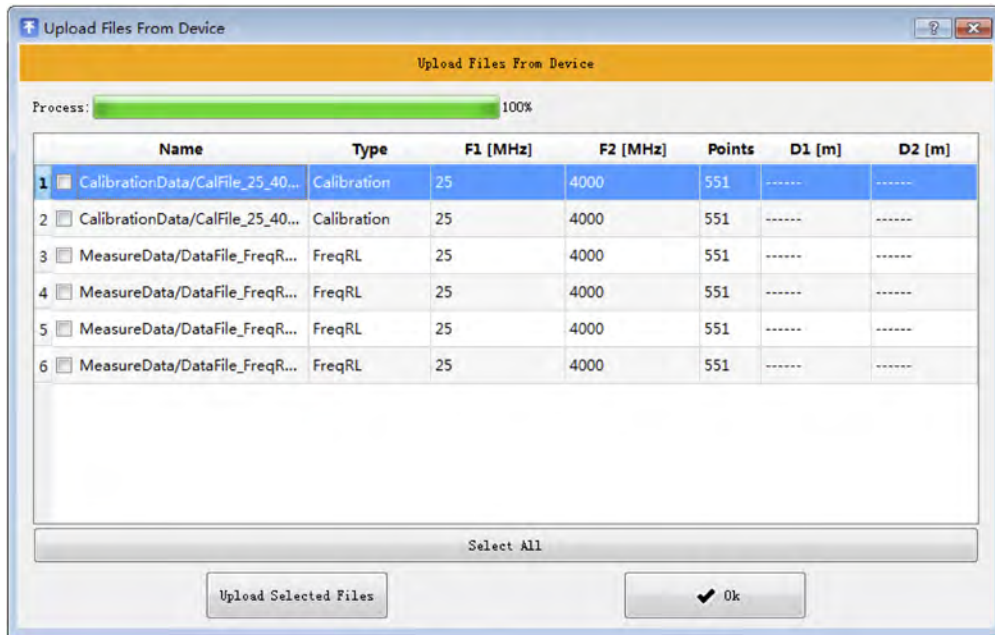
CDMA



11. Cable and Antena Analyzer Workbench PC software

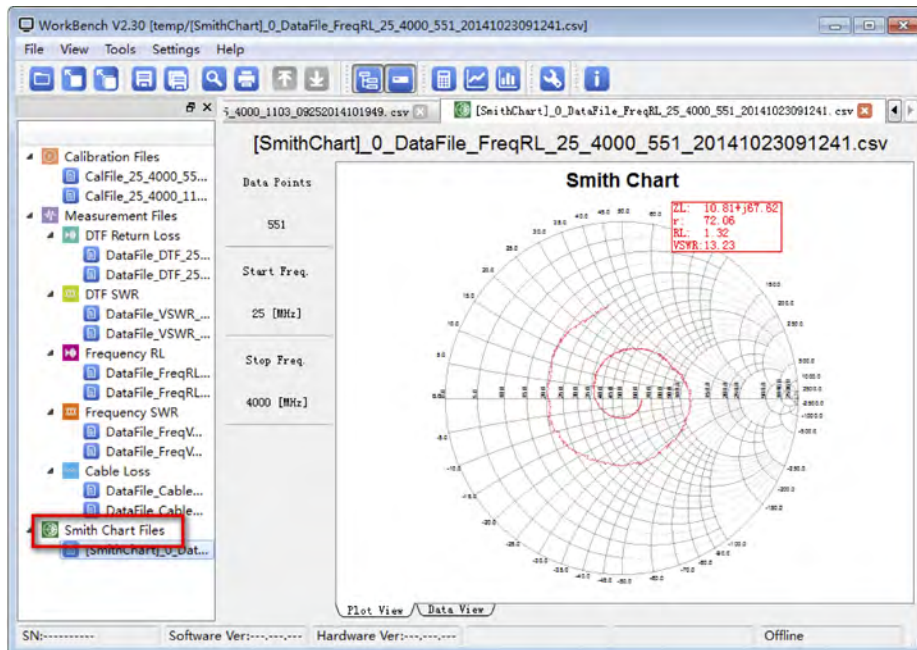
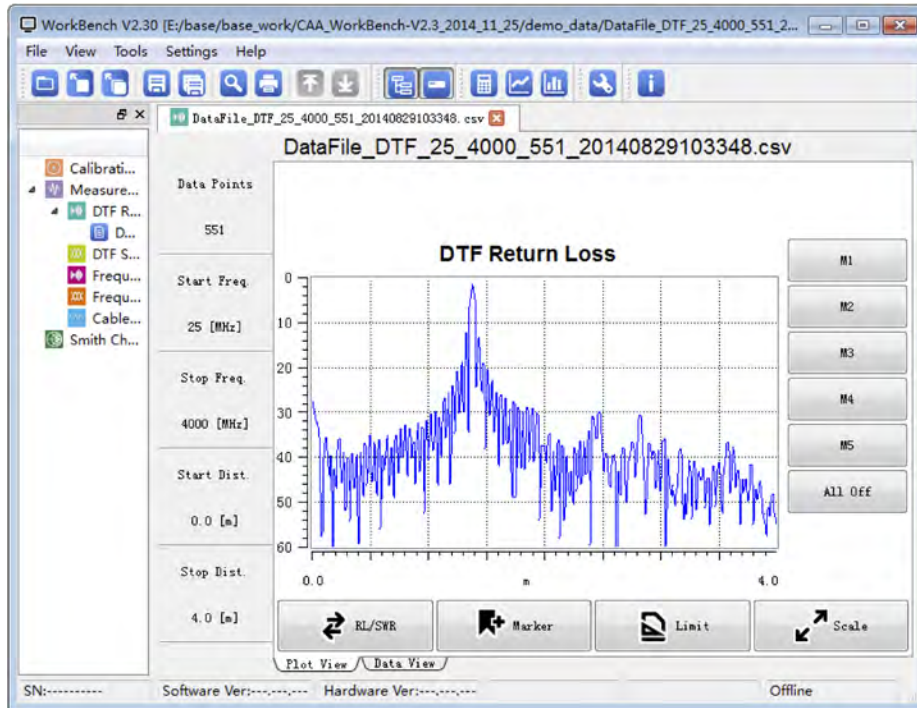
Data Management Function

- Uploading and downloading files between the IVR-AAC host and PC
- Interact files with PC, including open the local file and save the file to the local
- Support report print preview and print. Fully display the information such as company name, test parameters and measuring time etc.



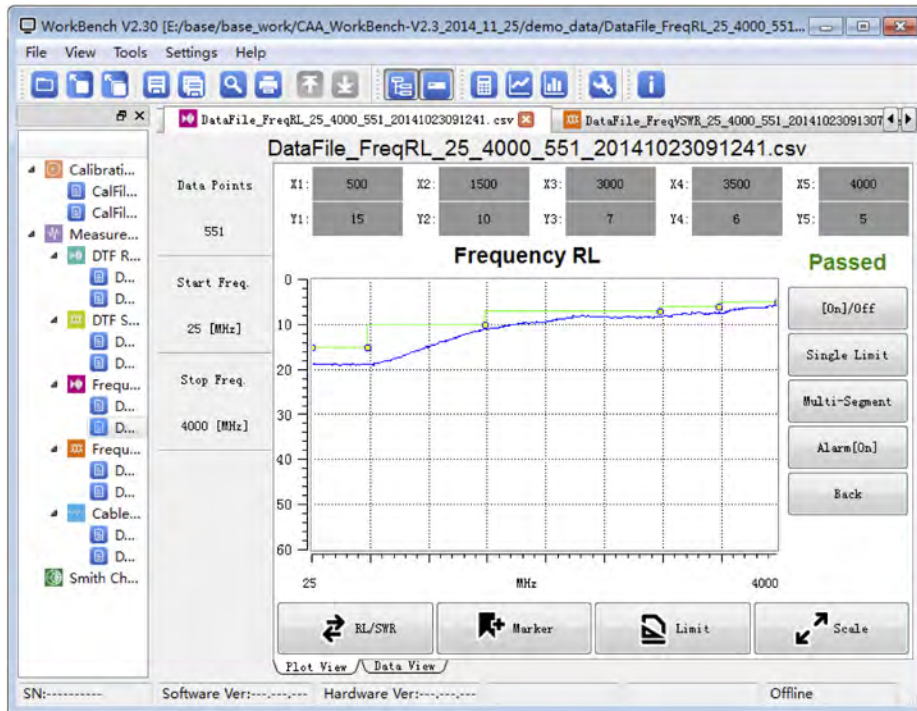
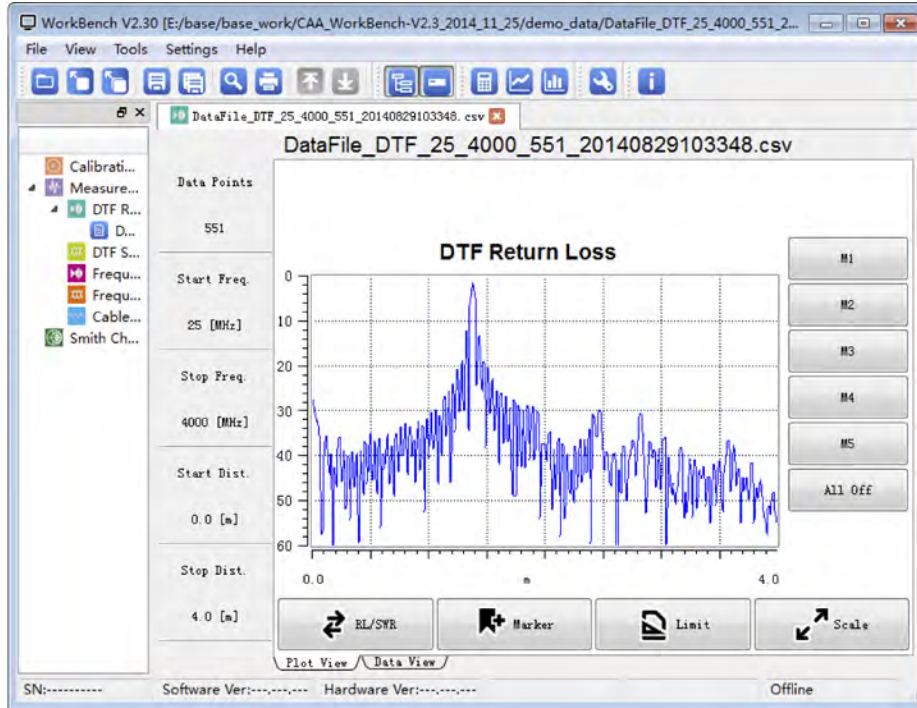
Application Tools Function

- Distance-To-Fault
- Transform into Smith Chart
- Calculator
- Edit Signal Standard
- Edit Cable Parameter



Data Analysis

- Marker
- Limit line
- Scale
- Switching the Return Loss and VSWR



Specifications

Cable & Antenna Analyzer Function	
Frequency Range	1 - 6000 MHz
Frequency Resolution	1 kHz
Frequency Accuracy	±2.5 ppm
Output Power	0 dBm (typ.)
Measurement Speed	2 ms/pt
Data Points	137, 275, 551, 1103
Directivity	42 dB (after calibration)
Anti-jamming Capability	17 dBm@ Channel, -5 dBm@ Frequency
Frequency	
Return Loss Range	0 - 60 dB
Return Loss Resolution	0.01 dB
VSWR Range	1 - 65
VSWR Resolution	0.01
Cable Loss Range	0 - 30 dB
Cable Loss Resolution	0.01 dB
Distance-to-Fault	
Distance-to-Fault Return loss Range	0 - 60 dB
Distance-to-Fault VSWR Range	1 - 65 dB
Measuring Range	1500 m
Resolution Ratio	$1.5 \cdot 10^8 \cdot V_p / (F_2 - F_1)$ Vp: the cable's relative propagation velocity F1/F2: start/stop frequency

Spectrum Analyzer Function

Frequency	
Frequency Range	300 - 4000 MHz
Frequency Resolution	1 kHz
Frequency Accuracy	±2.5 ppm
Frequency span	1 - 3700 MHz
Resolution Bandwidth (RBW)	1 k - 300 kHz (1, 3, 10 step)
Video Bandwidth (VBW)	1 k - 300 kHz (1, 3, 10 step)
RBW/VBW	1, 3, 10
Amplitude	
Attenuator Range	30 dB
Attenuator Step	5 dB
Max. Continuous Input	+26 dBm
Third-Order Intercept	>+15 dBm (typ.)
Second harmonic distortion	<-70 dBc
Displayed Average Noise Level (DANL)	<-130 dBm/Hz
Measurement Accuracy	±1.5 dB @ 25 ± 5°C (typ.)
SSB Phase Noise @1GHz	-85 dBc/Hz @ 10 kHz offset -120 dBc/Hz @ 1 MHz offset
Residual Spurious	<-85 dBm
Display	
Dynamic Range	≤100 dB
Measurement Range	DANL to 20 dBm
Reference Level Range	-80 dBm, -30 dBm
Amplitude Units	Logarithmically (dBm, dBv, dBmv, dBuv)
Detection	Sample, Peak, Negative, RMS, Standard
Triggers	Free Run, Video
VSWR	2.2:1 (typ.)

General Information	
Connector Type	N - Type female
Input Impedance	50 Ohm
Display	7 inch resistor touch screen, resolution 800×480
Data Interface	1↑ USB Host Port, 1↑ USB Device Port, 1↑ 10M / 100M Adaptive LAN Port
Memory Space	>2000 traces
Language	Chinese, English, Spanish
Internal Battery	11.1 V, 7800 mAh Rechargeable Lithium Battery
External Adapter	110 - 240V , 50 - 60Hz, AC input; 16V, 3.75A, DC output
Operating Temp. Range	-10 °C - 50 °C
Storage Temp. Range	-40 °C - 70 °C
Humidity	0 - 85% (Non-Condensing)
Weight	2.5 kg
Dimensions (L x W x H)	290×175×75 mm

TPM Module (Optional)--RF Terminal Power Meter	
Frequency Range	50 - 4000 MHz
Power Range	-40 - 20 dBm
Maximum Power	<23 dBm
Measure Uncertainty	≤±0.3 db (15 - 35 °C); ≤± 0.5 dB (0 - 50 °C)
Input VSWR	<1.2
Burst Width	1 μs - 60 ms
Min Repetition Period	15 Hz
Video Band	5 MHz
Minimum Pulse Width	200 ns
Time Resolution	0.1 μs, 1 μs, 15 μs, 150 μs
Peak Average Ratio	<12 dB
CCDF Range	0.1 % - 100 %
CCDF Uncertainty	±3 %
Duty cycle	0.1 % - 100 %
Power Supply	USB
Operating Temp. Range	0 °C - 50 °C

Storage Temp. Range	-20 °C - 70 °C
Humidity	0 - 85 % (Non-Condensing)
Weight	0.3 kg
Dimensions (L x W x H)	125x45x35 mm

DPM Module (Optional)--RF In Line Digital Power Meter

Average Power Measurement

Frequency Range	300 - 4200 MHz
Power Range	100 mW - 200 W
Dynamic Range	≥ 33 dB
Insertion Loss	≤ 0.1 dB
VSWR	1.05 to 99.9
Directivity	≥30 (<3 GHz); ≥28 (>3 GHz)
Accuracy	± 4% + 0.05 W (0 °C - +15 °C or +35 °C - +50 °C increase 3%)
Impedance	50 Ω
Connector	N (Female)
Data Interface	USB

Peak Power Measurement

Peak Power Range	100mW to 500W
Peak Power Accuracy	Burst width >200 us: ±7 % 1 us < Burst width <200 us: ±10 % 0.5 us < Burst width < 1 us: ±15 % Burst width < 0.5 us: ±20 %
Peak Average Ratio	0 to 12 dB

CCDF

Measurement Range	0.1 to 100 %
Measurement Accuracy	±3 %
Threshold Measurement Range	0.05 W to 500 W

Burst Power

Burst Power Range	100 mW to 200 W
Burst Width	1 us to 60 ms
Min. Measurement Frequency	15 Hz
Measurement Accuracy	±6% + 0.05 W
Duty Cycle	0.0001 to 1

General Specifications	
Power Supply	USB
Operating Temperature	-10 °C to 50 °C
Storage Temperature	-20 °C - to 70 °C
Relative Humidity	0 to 85 % (Non-condensing)
Weight	0.48 kg
Dimensions (HxWxT)	130xx124x34 mm

* Specifications subject to change without notice

Order Information

Standard Package:

CAA-100 Host, Lithium Battery, AC Adapter, CD(PC Software, User Manual), Carrying Case, T-type Calibration Kits, Quick Reference, Warranty card

Optional:

- TPM Module (Optional)--RF Terminal Power Meter
- DPM Module(Optional)—RF In Line Digital Power Meter

Test Cables

- 1.5m, N(m)-N(f), DC to 6GHz, 50 Ohm
- 1.5m, N(m)-N(m), DC to 6GHz, 50 Ohm
- 1.5m, N(m)-7/16 DIN(f), DC to 6GHz, 50 Ohm
- 1.5m, N(m)-7/16 DIN(m), DC to 6GHz, 50 Ohm
- 3m, N(m)-N(f), DC to 6GHz, 50 Ohm
- 3m, N(m)-N(m), DC to 6GHz, 50 Ohm

Adapters

- SMA(m)-N(m), DC to 6GHz, 50 Ohm
- SMA(f)-N(m), DC to 6GHz, 50 Ohm
- SMA(m)-N(f), DC to 6GHz, 50 Ohm
- SMA(f)-N(f), DC to 6GHz, 50 Ohm
- BNC(f)-N(m), DC to 6GHz, 50 Ohm
- 7/16 DIN(f)-N(m), DC to 6GHz, 50 Ohm
- 7/16 DIN(f)-N(f), DC to 6GHz, 50 Ohm
- 7/16 DIN(m)-N(m), DC to 6GHz, 50 Ohm
- 7/16 DIN(m)-N(f), DC to 6GHz, 50 Ohm
- 7/16 DIN(m)-7/16DIN(m), DC to 6GHz, 50 Ohm
- 7/16 DIN(f)-7/16DIN(f), DC to 6GHz, 50 Ohm

- N(m)-N(m), DC to 6GHz, 50 Ohm
- N(f)-N(f), DC to 6GHz, 50 Ohm
- N(m) 50Ohm – N(f) 750hm, DC to 3GHz
- N(f) 500hm – N(m) 750hm, DC to 3GHz

Calibrators

- ECAL calibrator, N(m), 1MHz to 4GHz, 50 Ohm

Antenna

- 880 MHz -- 960 MHz, N(m), 13 dBi, Yagi
- 1710 MHz -- 1990 MHz, N(m), 13 dBi, Yagi
- 1920 MHz -- 2170 MHz, N(m), 13 dBi, Yagi
- 2400 MHz -- 2500 MHz, N(m), 13 dBi, Yagi
- 890MHz-960MHz, 1710MHz--1990MHz, N(m), 3dBi, 50Ω, Rod
- 1920 MHz -- 2170 MHz, N(m), 50 Ω, 3dBi,Rod
- 2400 MHz -- 2483 MHz, N(m), 50 Ω, 5dBi, Rod
- 890MHz-960MHz, 1710MHz-1990Mhz, 50Ω, N(m), 3.5dBi,Sucker
- 890MHz-960MHz, 1710MHz-1990Mhz, 50Ω, N(m), 3dBi, Sucker
- 2400MHz-2483MHz, 50Ω, N(m), 7dBi, Sucker
- 890MHz-960MHz, 50Ω, N(m), 6dBi, FRP
- 2400MHz-2483MHz, 50Ω, N(m), 10dBi, FRP
- 700 MHz -2.5 GHz, 50Ω, N(m), 4dBi, Logarithm
- 700 MHz - 4 GHz, 50Ω, N(m), 4dBi, Logarithm

● *InterVRE reserves the right to alter and amend the design, characteristics and specifications without notice or obligation.*

Sales Contact and Technical Support

Tel: +52 5584374485 / +52 5621385218 / +52 5514749712

Email: jessica.garcia@intervre.com / heber.vallejo@intervre.com

Address: Av. Río Consulado 1674, Vallejo, Gustavo A. Madero, P.C. 07870, Ciudad de México, México

Web: www.intervre.com