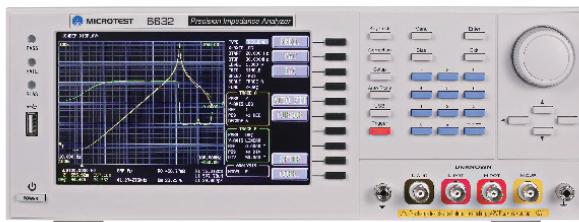


# Impedance Analyzer

## 6632

### Features

- Signal source frequency range: DC, 10Hz to 1/3/5/10/20/30/50MHz
- Basic accuracy up to  $\pm 0.08\%$  (typical  $\pm 0.05\%$ )
- ALC function
- Output impedance  $25 \Omega /100 \Omega$ , switchable
- Support meter mode and list mode, sweep mode, and equivalent circuit analysis (option) function
- Built-in DC Bias voltage  $\pm 12V$
- Measurement of piezoelectric element admittance circle, and can measure DC bias characteristic of capacitance value.
- Ultra-high measuring speed  $< 3ms$
- Open circuit/short circuit/load correction function
- Up to four parameters can be selected in the electric meter mode. The inductance and DCR values can be measured and displayed simultaneously
- Auto component classification: Comparator function and Handler BIN classification function
- Can be used with various fixtures, such as: liquid dielectric material test fixture, dielectric material test fixture and magnetic material test fixture.....etc.
- Using with DC bias current test system
- Support RS-232, GPIB, Handler, LAN, USB Host/Device interfaces
- Using in R & D department, process development and laboratory
- PC connection data analysis software is available



RS-232 Handler USB Host/Device GPIB LAN

### Applications

Passive Components: Capacitor, Inductor, Resistor, Transformer, Ceramic resonator, Quartz Crystal

Semiconductor Components: The CV characteristics analysis of varactor diodes, Diodes

Dielectric Material: Estimation on permittivity and consumption tangent of plastic, ceramic and PCB

Other Components: Estimation of the impedance of PCB components

### Accessories / Fixtures

#### Standard Accessories

- Power Cord
- User Manual (CD)
- FX-000C19



#### Optional Accessories

- PC Link software



- F423906A  
Kelvin Clip Leads  
(with BNC Box)



- F423503  
DIP Test Fixture



- F423504  
DIP Test Fixture



- FX-0000C6  
Test Fixture



- F423905  
SMD Test Fixture



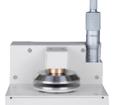
- FX-000C10  
Bottom Electrode  
SMD Test Fixture



- F423501  
SMD Tweezer Test  
Leads



- F423502  
SMD Test Fixture



- F423503  
DIP Test Fixture



- FX-0000C8  
Magnetic Material  
Test Fixture



- F420001  
External  
Voltage Bias (  $\pm$   
200V/1MHz)



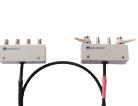
- F420002  
External  
Voltage Bias (  $\pm$   
40V/1MHz)



- FX-0000C9  
Material Testing  
Fixture



- F420003  
External  
Voltage Bias (  $\pm$   
40V/1MHz)



- F420004  
External  
Voltage Bias (  $\pm$   
200V/1MHz)



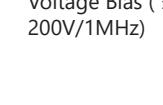
- FX-0000C11  
SMD Test Fixture



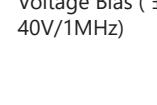
- F420005  
External  
Voltage Bias (  $\pm$   
200V/1MHz)



- F420006  
External  
Voltage Bias (  $\pm$   
40V/1MHz)



- FX-0000C12  
Dielectric Material  
Test Fixture



- F420007  
External  
Voltage Bias (  $\pm$   
200V/1MHz)



- F420008  
External  
Voltage Bias (  $\pm$   
40V/1MHz)



- FX-0000C13  
Liquid Dielectric  
Material Test Fixture



- F420009  
External  
Voltage Bias (  $\pm$   
200V/1MHz)



- F420010  
External  
Voltage Bias (  $\pm$   
40V/1MHz)



- FX-0000C14  
Other Components  
Test Fixture



- F420011  
External  
Voltage Bias (  $\pm$   
200V/1MHz)



- F420012  
External  
Voltage Bias (  $\pm$   
40V/1MHz)

**Specifications |** S model is an optional equivalent circuit analysis function

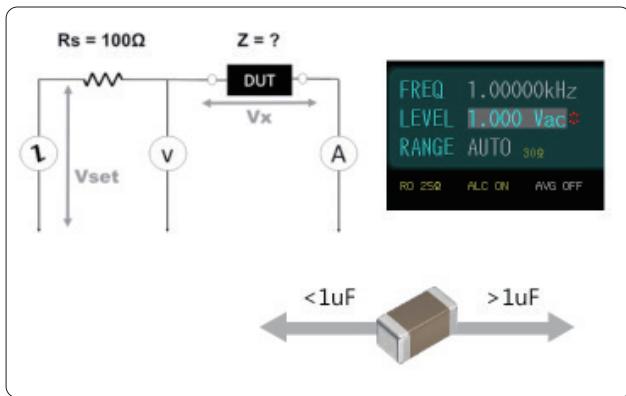
Model Name	6632-1/1S	6632-3/3S	6632-5/5S	6632-10/10S	6632-20/20S	6632-30/30S	6632-50/50S
Test Frequency	10Hz-1MHz	10Hz-3MHz	10Hz-5MHz	10Hz-10MHz	10Hz-20MHz	10Hz-30MHz	10Hz-50MHz
Frequency Resolution	Continuity						
Frequency Output Accuracy	100mHz, 6-bit Frequency Input						
Basic Accuracy	7ppm ±0.01%						
AC Drive Level	±0.08% (typical ±0.05%)						
	Test Signal Voltage Level	10mV - 2Vrms(Ro 100Ω)/10mV - 1Vrms(Ro 25Ω)					
	Voltage Minimum Resolution	1mV					
	Accuracy	ALC OFF: 10% * Voltage ±2mV ALC ON: 6% * Voltage ±2mV					
	Test Signal Current Level	200μA-20mAmps					
	Current Minimum Resolution	10μA					
	Accuracy	ALC OFF: 10% * Current ±20μA ALC ON: 6% * Current ±20μA					
DC Drive Level	1V (fixed)						
Output Impedance	25Ω, 100Ω (switchable)						
Test Time (Fastest)	<3mS						
Measurement Parameters and Ranges	Z	0.000mΩ-9999.99MΩ					
	R, X	±0.000mΩ-9999.99MΩ					
	Y	0.00000μS-999.999kS					
	G, B	±0.00000μS-999.999kS					
	θRAD	±0.00000-3.14159					
	θDEG	±0.000° -180.000°					
	Cs, Cp	±0.00000pF-9999.99F					
	Ls, Lp	±0.00nH-9999.99kH					
	D	0.00000-9999.99					
	Q	0.00-9999.99					
	Δ	±0.00%-9999.99%					
	Rdc	0.00mΩ-99.9999MΩ					
	εr' εr''	0-100000					
	μr' μr''	0-100000					
Bias	DC Bias 6210/6220/6240						

**General**

Measurement Mode	Meter mode, list mode, sweep mode, and optional equivalent circuit analysis function (S model)				
Measurement Circuit	Series/Parallel				
Correction	Open Circuit/ Short Circuit/Load correction				
List Mode	50 groups of Multi-steps setting (Each group contains up to 15 steps)				
Bult-in DC Bias	-12 to +12V, 0.3% ±1.5mV, 100Hz to 30MHz				
BIN	9				
Comparator	ABS, ΔABS, Δ%, OFF				
Bulit-in Storge	100 sets LCR setting documents, 50 groups of list mode setting				
USB Host Storge	LCR setting documents, list mode setting document, BMP graphics, Sweep screen and test result data				
Trigger Test	Auto, manual, RS-232, GPIB, Handler				
Interface	RS-232, GPIB, Handler, LAN, USB Host/Device				
Option	PC link software				
	Equivalent Circuit Analysis	Three elements (4 models), four elements (3 models)			
Power Supply	Voltage 90-264Vac				
	Frequency 47-63Hz				
	Low power consumption: Maximum 30W (Nominal value)				
Display	7.0" TFT, 800×480 color screen				
Environment	Temperature: 10-40°C, Humidity: 20-90%RH				
Dimension (W*H*D)	336×147×340mm				
Weight	3.95kg				

# 6632 Key Features

## A Function Introduction



Output Impedance 25Ω/100Ω and Auto Level Control (ALC)

The key parameters for capacitance are Cs/Cp/D/Q/ESR/DC Bias Voltage.



Evaluation of DC bias voltage characteristics with semiconductor wafer or ceramic multilayer capacitors

Multi-layer ceramic capacitors (MLCC) DC Bias measuring value from 9.7uF decrease to 1.46uF.



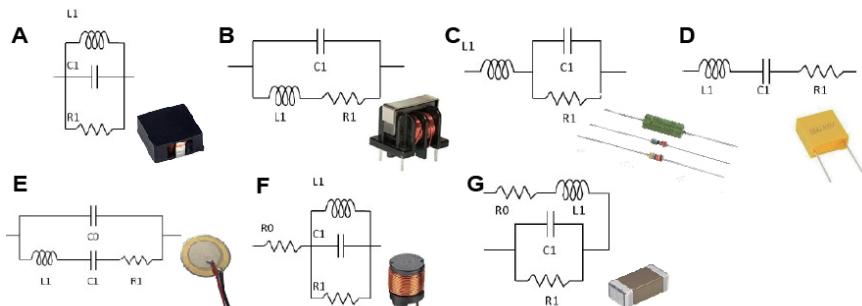
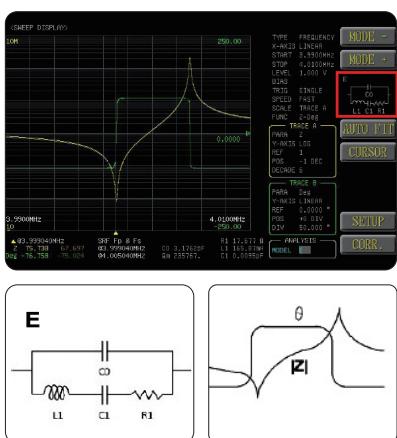
Liquid Dielectric Material Test Fixture (C20) / Dielectric Material Test Fixture (C7)

Using C20 for measuring the characteristics of electrochemical materials and using C7 or measuring PCB board or ceramic board.



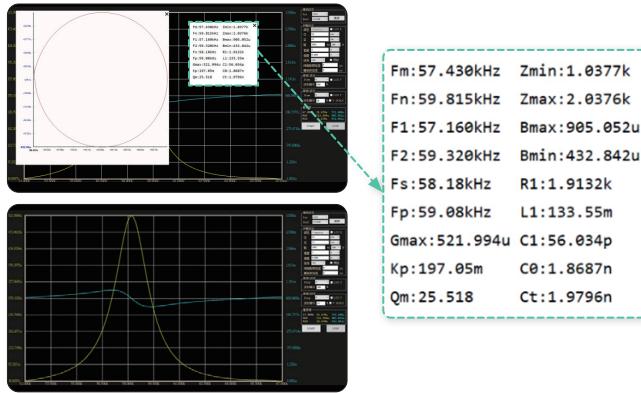
Magnetic Material Test Fixture (FX-0000C8)

Using the magnetic material test fixture for measuring of permeability of various toroidal cores or ferrite cores and electromagnetic shielding coating materials, 6630 built-in formula to directly calculate the permeability coefficient value  $\mu' r$ ,  $\mu'' r$ .



Equivalent Circuit Analysis

It has seven different models, combine with different types of parameters (R, L, C), you can see three or four elements value, and self-resonant frequency (SRF). You can simulate the impedance trace of your own equivalent circuit parameter values and then compare it with an accrual measurement trace.



Piezoelectric element/quartz crystal analysis frequency characteristics

The key parameters for Piezoelectric element /quartz crystal are Fs/Fp/Qm/Kp (Electromechanical coupling coefficient)



Evaluation impedance characteristics of RFID/ NFC/ automotive wireless of antennas

Using 6632 impedance analyzer equivalent circuit Analysis function.



Testing PC board inductance coil

The key parameters for 6632 impedance analyzer measuring PC board inductance coil are L/Q/DCR/Rs/SRF.

## C Components

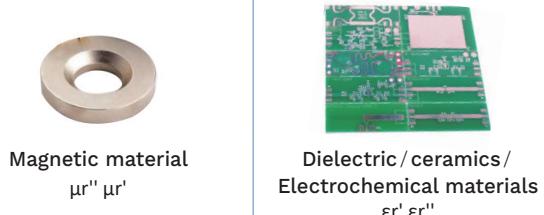
### Passive Component



### Acoustic Components



### Material



### Wireless RF / Power Supply



### Semiconductor Components

