

# LCR Meter

## 6630

### Features

- 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, can used with various fixtures, such as: liquid dielectric material test fixture, dielectric material test fixture and magnetic material test fixture
- Ultra-high measuring speed < 3ms
- Open circuit/short circuit/load correction function
- Up to four component 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
- Support RS-232, GPIB, Handler, LAN, USB Host/Device interfaces
- PC connection data analysis software is available



CE RS-232 LAN USB Host/Device GPIB Handler

### 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
- DIP Test Fixture (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



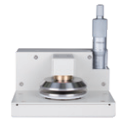
- FX-000C10 Bottom Electrode SMD Test Fixture



- FX-000C11 SMD Tweezer Test Leads



- FX-000C12 SMD Test Fixture



- FX-0000C7 Dielectric Material Test Fixture



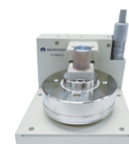
- FX-0000C8 Magnetic Material Test Fixture



- F663001 A/B/C BNC Test Leads



- FX-0000C9 Material Testing Fixture



- FX-000C20 Liquid Dielectric Material Test Fixture



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



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



- F420005 External Voltage/Current Bias ( $\pm 40V/100mA$ )



- F420006 External Voltage Bias ( $\pm 2000V/1MHz$ )

## Specifications

Model Name	6630-1	6630-3	6630-5	6630-10	6630-20	6630-30	6630-50
Test Frequency	10Hz-1MHz	10Hz-3MHz	10Hz-5MHz	10Hz-10MHz	10Hz-20MHz	10Hz-30MHz	10Hz-50MHz
Frequency Resolution	100mHz, 6-bit Frequency Input						
Frequency Output Accuracy	±0.01%						
Basic Accuracy	±0.05%						
AC Drive Level	Test Signal Voltage Level		10mV-2Vrms				
	Voltage Minimum Resolution		1mV				
	Accuracy		ALC OFF: 10%* Voltage ±2mV ALC ON: 6%* Voltage ±2mV				
	Test Signal Current Level		200μA-20mArms				
	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				
	ε' ε''		0-100000				
	μr' μr''		0-100000				

## General

Measurement Mode	Meter mode, list mode
Measurement Circuit	Series/Parallel
Correction	Open Circuit/Short Circuit/Load correction
Cable Compensation	0/ 0.5/ 1/ 2 m
List Mode	50 groups of Multi-steps setting (Each group contains up to 15 steps)
BIN	9
Comparator	ABS, ΔABS, Δ%, OFF
Built-in Storage	100 sets LCR Meter setting documents, 50 sets list mode setting documents
USB Host Storage	LCR setting documents, list mode setting documents, BMP graphics
Trigger Test	Auto, Manual, RS-232, GPIB, Handler
Interface	RS-232, GPIB, Handler, LAN, USB Host/Device
Power Supply	Voltage 90-264Vac
	Frequency 47-63Hz
	Low power consumption: Maximum 30W (Nominal value)
Power Consumption	30VA
Display	7.0" TFT, 800×480 color screen
Environment	Temperature: 10°C-40°C, Humidity: 20-90%RH
Dimension (W*H*D)	336×147×340mm
Weight	3kg

# 6630 Key Features

## A Function Introduction



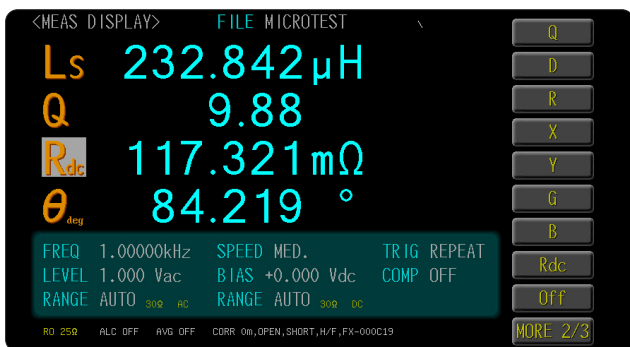
### Four Parameters Displayed Simultaneously

7.0" TFT, 800×480 color screen, and four parameters can be displayed simultaneously.



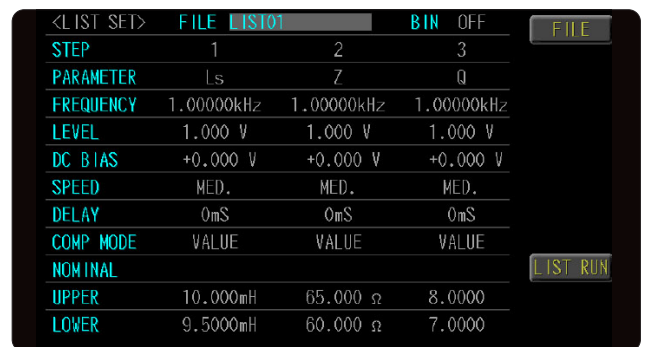
### Correction

Before measuring the DUT, you should select "Correction" button to do open, short, and HF Load or SPOT Load correction.



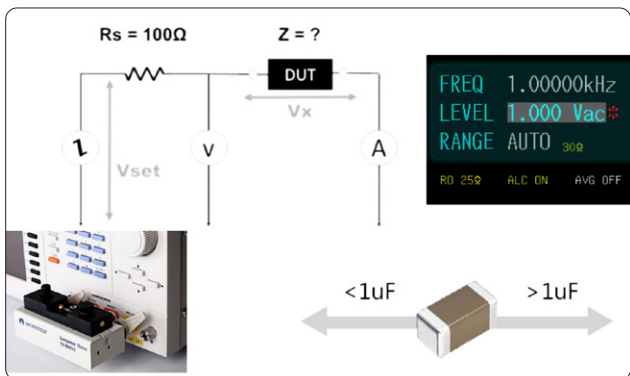
### Measure Inductor (DCR)

Inductor coil turns and winding materials will affect DCR value. The key parameters for inductor are Ls / Lp / Q / SRF / DCR.



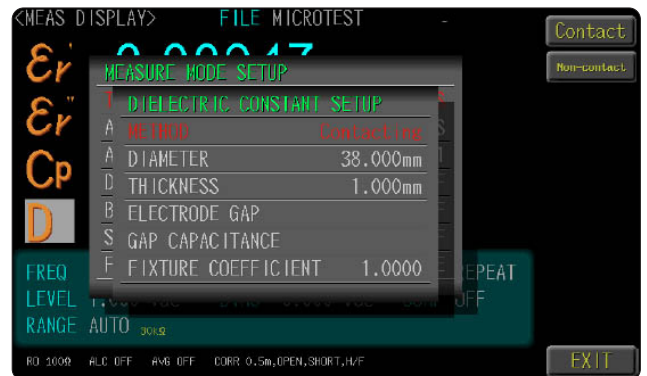
### List Mode

50 groups of list mode setting (Each group contains up to 15 steps).



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

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



### Dielectric Material Test Fixture (FX-0000C7)

Using the dielectric material test fixture for measuring PCB board or ceramic board. 6630 built-in formula to directly calculate the material dielectric value  $\epsilon_r'$ ,  $\epsilon_r''$ .



### Liquid Dielectric Material Test Fixture (FX-000C20)

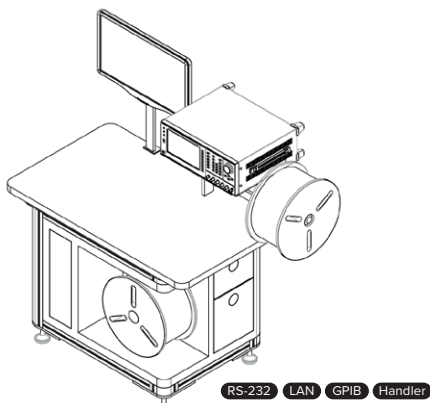
Using the liquid dielectric material test fixture for measuring the characteristics of electrochemical materials.



### 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  $\mu'$ ,  $\mu''$ .

## B High productivity



### Automatic Production Line

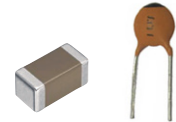
Connect 6630 RS-232, LAN, GPIB or Handler to automatic machine (measuring speed < 3ms).

## C Applications

### Passive Component



inductance  
Ls / Lp / Q / SRF / I sat / I rms

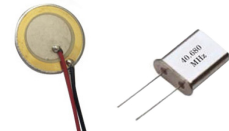


MLCC/capacitance  
Cs / Cp / D / Q / ESR / DC Bias Voltage

### Acoustic Components



Voice coil motor/Hearing aids  
Ls / Q / Qm / SRF

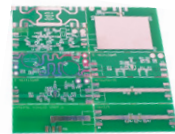


Piezoelectric element / quartz crystal  
Cs / Cp / D / Fs / Fp

### Material



Magnetic material  
 $\mu'$   $\mu''$



Dielectric/ceramics / Electrochemical materials  
 $\epsilon'$   $\epsilon''$

### Wireless RF / Power Supply



Wireless charging  
Ls / Q / SRF / DCR / Rs

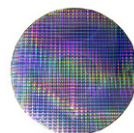


NFC/low Freq. RFID  
Ls / Q / SRF / DCR / Rs



battery  
ESR / Cs / Cp / D

### Semiconductor Components



Wafer  
C-V



LED Light board  
Z / Cs / Cp / D



diode  
Cs / Cp / D