The Optimal Choice for Electronic Component Analysis!

High Frequency

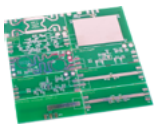
Speed< 3ms

6621-30 LCR Meter

10Hz~30MHz

Application

Magnetic material
μr''/ μr'



Dielectric / ceramics /Electrochemical materials
εr'/ εr''

Voice coil motor

Hearing aids

Ls / Q / Qm / SRF

Piezoelectric element

Quartz crystal

Cs / Cp / D / Fs / Fp/ Kp

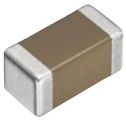
Wireless charging

NFC/ RFID

Ls / Q / SRF / DCR / Rs

Battery

Cs / Cp / D



MLCC

Capacitance

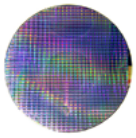
Cs / Cp / D / Q / DC Bias Voltage

Diode

Cs / Cp / D

Inductance

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



Wafer

C-V

LED Light board

Z / Cs / Cp / D

MOSFET

Cgd/Cgs/Cds

LCR Meter

6621 Series

Frequency Range
10Hz~30MHz

Component Tester

MICROTEST
www.microtest.com.tw

MICROTEST 6621 LCR Meter provides a wide frequency range of 10Hz to 30MHz for measuring the impedance characteristics of components and materials. The measured parameters include |Z| (Impedance), |Y| (Admittance), θ (Phase Angle), X (Reactance), R (Series/Parallel Resistance), G (Conductance), B (Susceptance), L (Inductance), D (Dissipation Factor), Q (Quality Factor), DCR (DC Resistance), C (Capacitance). It supports REMOTE/ Handler/ LAN/ USB Host/ USB Device/ RS-232/ GPIB (Optional) communication interfaces, making it compatible with automation equipment or human-machine interfaces (PLC).

Application

Passive Components I Capacitors, Inductors, Resistors, Transformers, Ceramic Resonators, Quartz Crystals

Other Components I Ultrasonic Sensors, Piezoelectric Devices

Features

- Frequency range: DC, 10Hz~1/ 3/ 5/ 10/ 20/ 30MHz
- Output Impedance 25Ω/ 100Ω, switchable
- Ultra-high measuring speed <3ms
- Basic accuracy up to ±0.05%
- Automatic Level Control Function (ALC)
- Open circuit/ Short circuit/ Load Correction Function
- Built-in DC Bias Voltage ±12V (Option OP-662102)
- Support Meter Mode and List Mode
- Display 4 Sets of Parameters at Once
- Simultaneous AC/ DC Measurement
- Comparator Function and Handler BIN Classification Function
- Support RS-232/ Handler/ LAN/ USB Host/ USB Device interfaces
- Supports GPIB Interface (Option OP-662101)
- Store Setup Files, Measurement Data, and Screenshots via USB
- Supports PC Link software

Standard Interfaces

RS-232 | USB Host | LAN
Handler | USB Device | REMOTE

Specification

Model	6621-1	6621-3	6621-5	6621-10	6621-20	6621-30
Frequency Range	10Hz~1MHz	10Hz~3MHz	10Hz~5MHz	10Hz~10MHz	10Hz~20MHz	10Hz~30MHz
Frequency Resolution	6-digits of setting					
Frequency Output Accuracy	±0.01%					
Basic Accuracy	±0.05%					
AC Drive Level	Voltage	10mV~2Vrms(FREQ. ≦ 1MHz), 10mV~1Vrms(FREQ.>1MHz or FREQ. ≦ 1MHz and RO=25Ω)				
	Current	100μA~20mArms(RO=100Ω), 200μA~40mArms(RO=25Ω)				
	Voltage Minimum Resolution		1mV			
	Current Minimum Resolution		10μA			
DC Drive Level	DCR Voltage	1Vdc (40mA max.)				
ALC	ALC ON：6% * Voltage ±2mV ALC OFF：10% * Voltage ±2mV					
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_r' ε_r''		0~100000			
	μ_r' μ_r''		0~100000			

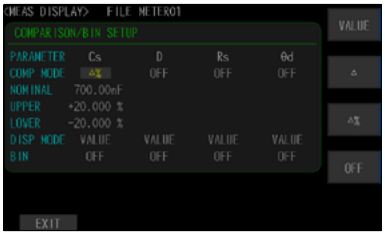
General

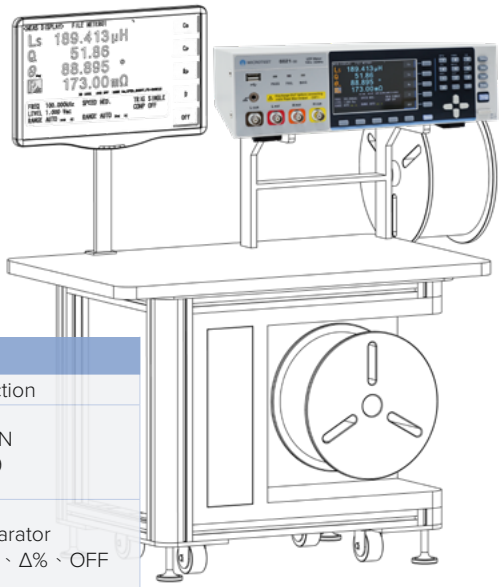
Measurement Mode	Meter Mode, List Mode
Measurement Circuit	Series/ Parallel
Correction	Open Circuit/ Short Circuit/ Load Correction
Cable Compensation	0/ 0.5/ 1/ 2m
List Mode	50 groups of Multi-Steps setting (Each group contains up to 15 steps)
BIN	9
Comparator	ABS/ ΔABS/ Δ%/ OFF
Built-in Storage	100 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/ Handler/ GPIB (Option OP-662101)
Interface	RS-232/ Handler/ REMOTE/ LAN/ USB Host/ USB Device/ GPIB (Option OP-662101)
PC Link Software	●
Power Supply	Voltage 100~240Vac
	Frequency 50~60Hz
Power Consumption	100VA
Display	4.3"TFT · Color LCD (800*480)
Environment	Temperature：10~40℃ , Humidity：20~80%RH
Dimension (W*H*D)	300x89.1x362.8 mm
Weight	3.4Kg

Functions

The Ideal LCR Meter for Component Sorting Systems

The 6621 LCR Meter is capable of displaying up to four measurement parameters simultaneously. It supports concurrent AC and DC measurements.

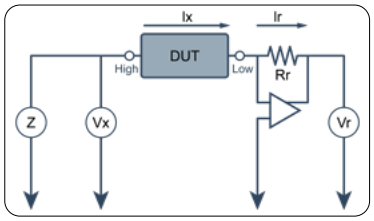


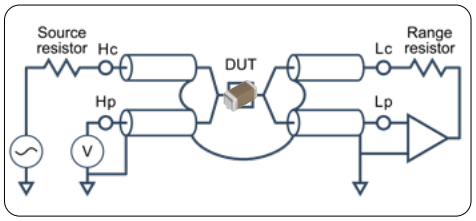


The Best Choice for Automated Component Testing | 6621 LCR Meter				
Measurement Speed		Trigger	Interface	Function
MAX	2.5ms (>10kHz)	Auto Manual RS-232 Handler	LAN USB Host USB Device Handler REMOTE GPIB(Optional)	BIN 9
Fast	50ms (>20Hz)			
Medium	100ms			Comparator ABS、ΔABS、Δ%、OFF
Slow	300ms			
Slow2	600ms			

Precision Calibration, Automatic Level Control (ALC), Selectable Output Impedance (25 Ω / 100 Ω)

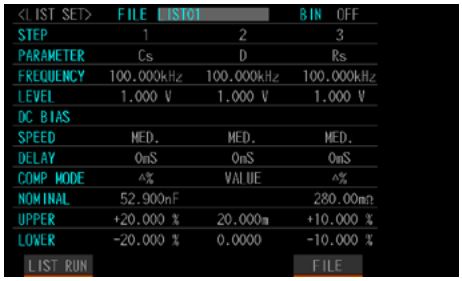
Utilizes automatic balancing bridge measurement technology, supporting both 25Ω and 100Ω output Impedance Modes to meet users requirements for compatibility with other instruments.

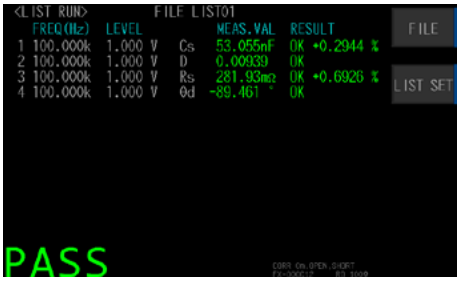




List Mode

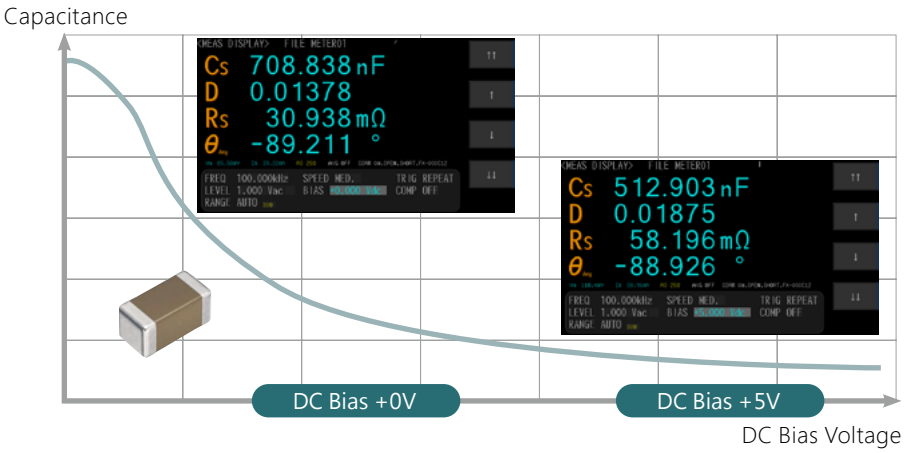
50 groups of List Mode setting (Each group contains up to 15 steps).





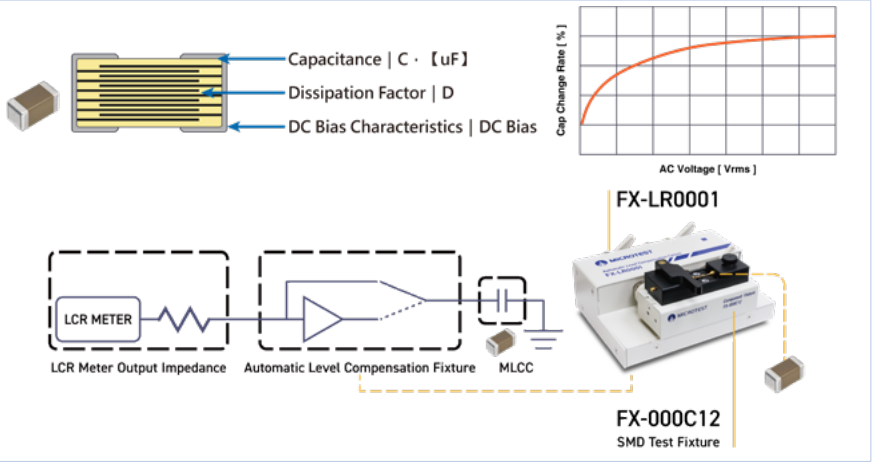
Built-in ±12 V DC bias voltage for measuring the bias characteristics of capacitors.

Although large-capacity and compact MLCCs offer high capacitance advantages, their use of high dielectric constant materials (such as $BaTiO_3$) results in capacitance reduction under DC bias.



6621 LCR Meter- MLCC Test Solution

Enhanced Measurement Solution with AC Signal Level Control

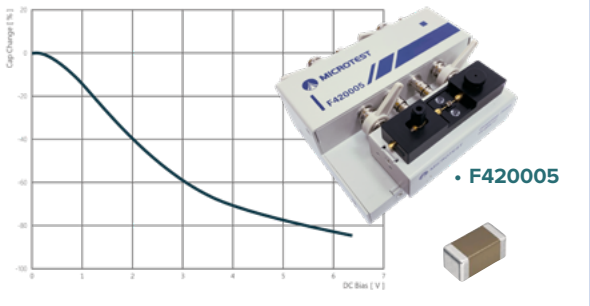


The regulation JIS C 5101-1-1998 specifies requirements for test signal conditions. When measuring the capacitance value of MLCCs, the LCR Meter must enable the Automatic Level Control (ALC) function. This function introduces a stable-level control circuit into the measurement path, which automatically corrects any signal level deviations and restores the voltage to the user-defined setting.

6621 LCR Meter supports an enhanced AC signal level control function to ensure compliance and measurement accuracy.

LCR Meter	Frequency Range	External AC Voltage Level Compensation Box		SMD Test Fixture	DIP Test Fixture
6621-1	10Hz~1MHz	FX-LR0001		FX-000C12	FX-000C19
6621-3	10Hz~3MHz				
6621-5	10Hz~5MHz				
6621-10	10Hz~10MHz	Frequency	100Hz~100kHz		
6621-20	10Hz~20MHz	Voltage (ALC ON)	0.1Vrms~1Vrms	Frequency DC~30MHz	Main unit up to DC~30MHz (single fixture up to 50 MHz)
6621-30	10Hz~30MHz	Current (ALC ON)	0.15A		

DC Bias Voltage Measurement Solution



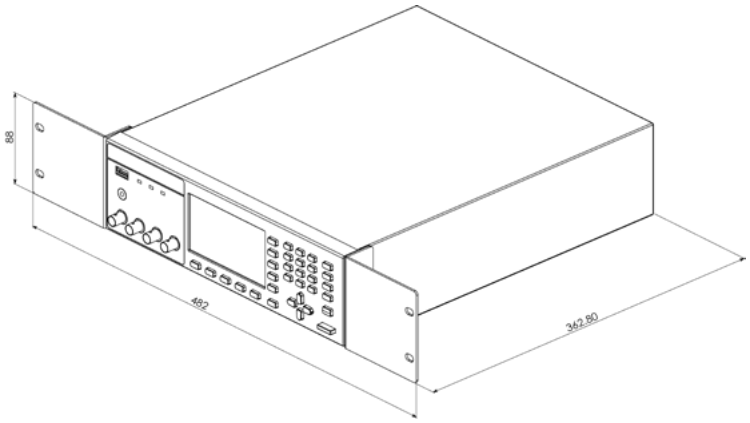
When measuring MLCCs, especially those with high dielectric constants such as X7R and Y5V types, DC bias characteristics are a critical factor that cannot be ignored. These capacitors may exhibit significant capacitance reduction when a DC bias is applied. In power supply filter design, failure to account for the DC bias effect of MLCCs can result in a substantial drop in actual capacitance, leading to degraded filtering performance and ineffective noise suppression.

6621 LCR Meter supports DC bias voltage measurements.

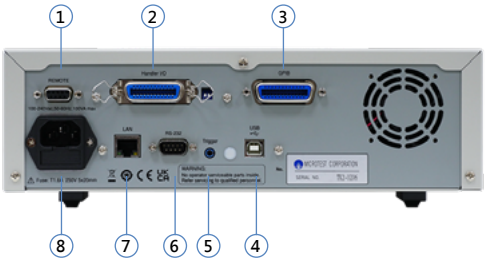
LCR Meter	Frequency Range	Built-in DC Bias ±12 V	External DC Bias ±40 V	SMD Test Fixture	DIP Test Fixture
6621-1	10Hz~1MHz		F420005	FX-000C12	FX-000C19
6621-3	10Hz~3MHz				
6621-5	10Hz~5MHz	Optional			
6621-10	10Hz~10MHz	OP-662102			
6621-20	10Hz~20MHz		Frequency DC~30MHz	Frequency DC~30MHz	Main unit up to DC~30MHz (single fixture up to 50 MHz)
6621-30	10Hz~30MHz				

Automatic Chassis Dimension

• Dimension (mm)



Appearance



1. Power switch
2. USB
3. PASS/ FAIL/ BIAS
4. LCD Screen
5. Function
6. Setup/ Numeric Key
7. Trigger
8. Direction
9. BNC terminal

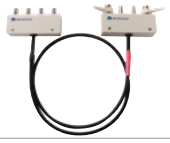
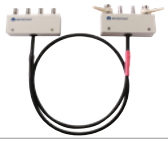
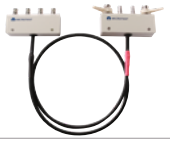
1. REMOTE
2. Handler
3. GPIB (Optional)
4. USB
5. Trigger
6. RS232
7. LAN
8. Power jack/ Fuse block

Ordering Information

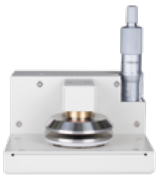
6621 LCR Meter Series	Standard	Optional
• 6621-1 (Frequency Range 10Hz~1MHz) • 6621-3 (Frequency Range 10Hz~3MHz) • 6621-5 (Frequency Range 10Hz~5MHz) • 6621-10 (Frequency Range 10Hz~10MHz) • 6621-20 (Frequency Range 10Hz~20MHz) • 6621-30 (Frequency Range 10Hz~30MHz)	• Power Cord	• F423906A Kelvin Clip Leads (100cm) • F423906B Kelvin Clip Leads (50cm) • F663001A BNC Test Leads (50cm) • F663001B BNC Test Leads (100cm) • F663001C BNC Test Leads (200cm) • F420001 External Voltage Bias (±200V/1MHz) • F420003 External Voltage Bias (±40V/1MHz) • F420005 External Voltage/ Current Bias (±40V/100mA) • F420006 External Voltage Bias (±2000V/1MHz) • FX-0000C6 DIP Test Fixture • FX-0000C7 Dielectric Material • FX-0000C8 Magnetic Material Test Fixture • FX-0000C9 Material Testing Fixture • FX-000C10 Bottom Electrode SMD Test Fixture • FX-000C11 SMD Tweezers Test Leads • FX-000C12 SMD Test Fixture • FX-000C19 DIP Test Fixture • FX-000C20 Liquid Dielectric Material Test Fixture • FX-LR0001 Automatic Level Compensation Fixture • FX-0000C4 DIP Test Fixture • TL-000003 RS-232 Cable (180cm) • TL-000007 USB Cable (180cm I Type-A TO Type-B) • OP-662101 GPIB Interface • OP-662102 Built-in DC Bias Voltage ±12V • PC Link Software

Fixture & Accessories

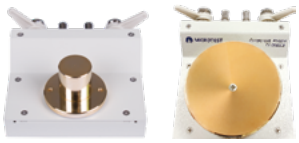
	FX-000C19 DIP Test Fixture	F423906A Kelvin Clip Leads (100cm)	F423906B Kelvin Clip Leads (50cm)
Frequency	DC~50MHz	DC~1MHz	DC~1MHz
Max. Voltage/ Current	±42V	±42V	±42V
DUT Size	-	Max. 6mm	Max. 6mm
Applicable Models	6632/ 6621/ 6630/ 6363~6367	6632/ 6621/ 6630/ 6363~6367	6632/ 6621/ 6630/ 6363~6367

	F663001A BNC Test Leads (50cm)	F663001B BNC Test Leads (100cm)	F663001C BNC Test Leads (200cm)
			
Frequency	DC~20M	DC~10M	DC~5MHz
Max. Voltage/ Current	±200V	±200V	±200V
DUT Size	-	-	-
Applicable Models	6632/ 6621/ 6630/ 6363~6367	6632/ 6621/ 6630/ 6363~6367	6632/ 6621/ 6630/ 6363~6367

	F420001 External Voltage Bias (±200V/1MHz)	F420003 External Voltage Bias (±40V/1MHz)	F420005 External Voltage/Current Bias (±40V/100mA)
Frequency	100Hz~1MHz	100Hz~1MHz	≤ 30 MHz
Max. Voltage/ Current	±200V	±40V	DC ±40V
Accessory Description	-	-	DC ±100mA
Applicable Models	6632/ 6621/ 6630/ 6363~6367	6632/ 6621/ 6630/ 6363~6367	6632/ 6621/ 6630

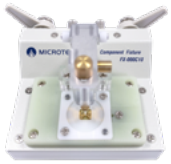
	F420006 External Voltage Bias (±2000V/1MHz)	FX-0000C6 DIP Test Fixture	FX-0000C7 Dielectric Material
			
Frequency	100Hz~1MHz	DC~30MHz	≤30MHz
Max. Voltage/ Current	±2000V	±42V	±42V
DUT Size	-	-	≤10mm (Electrode Diameter：38mm、5mm)
Applicable Models	6632/ 6621/ 6630/ 6363~6367	6632/ 6621/ 6630/ 6363~6367	6632/ 6621/ 6630

FX-0000C8
Magnetic Material Test Fixture



FX-0000C9
Material Testing Fixture

FX-000C10
Bottom Electrode SMD Test Fixture

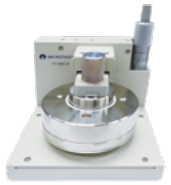


Frequency	≤30MHz	DC~30MHz	DC~30MHz
Max. Voltage/ Current	±42V	±42V	±42V
DUT Size	Type A：OD 8, ID 3.1, H 3mm Type B：OD 20.5, ID 4.8, H 11mm Type C：OD 65.5, ID 7.1, H 28mm	≤10mm	≤9x9x5mm
Applicable Models	6632/ 6621/ 6630	6632/ 6621/ 6630/ 6363~6367	6632/ 6621/ 6630/ 6363~6367

FX-000C11
SMD Tweezers Test Leads

FX-000C12
SMD Test Fixture

FX-000C20
Liquid Dielectric Material Test Fixture



Frequency	DC~10MHz	DC~30MHz	DC~30MHz
Max. Voltage/ Current	±42V	±42V	±42V
DUT Size	≤10mm	≤7mm	Electrode Diameter：38mm Gap of electrodes：0.3/0.5/1/2/3/5mm
Applicable Models	6632/ 6621/ 6630/ 6363~6367	6632/ 6621/ 6630/ 6363~6367	6632/ 6621/ 6630

FX-LR0001
Automatic Level Compensation Fixture

Frequency	100Hz~100kHz
Output Impedance	10 Ω (ON), 25 Ω/ 100 Ω (OFF)
Output Voltage Sweeping	AC 0.1 ~ 1V rms (ALC ON)
Max. Output Current	0.15A
Applicable Models	6632/ 6621/ 6630

FX-0000C4
DIP Test Fixture

Frequency	DC~1MHz
Max. Voltage/ Current	±42V
DUT Size	Max. 64mm
Applicable Models	6632/ 6621/ 6630/ 6363~6367

TL-000003
RS-232 Cable

TL-000007
USB Cable

Applicable Models	6632/ 6621/ 6630/ 6363~6367	6632/ 6621/ 6630
Accessory Description	180cm	Type-A TO Type-B I 180cm