

# STB8829X Series Precision LCR Meter

## Features

- 800×RGB×480 7-inch TFT LCD display
- Basic accuracy: 0.05%
- Test signal frequency of 1MHz, resolution of 1mHz, 5-digit frequency input
- Strongest signal source selection:
  - 10V/100mA programmable AC test level
  - 10V/100mA programmable DC bias supply
  - 10V/50mA standalone DC voltage source
  - 1A/2A interior DC bias current source (optional)
  - 120A external bias source (optional)
- Maximum test speed: 9ms/time
- Simultaneous display of 4 kinds of test parameters
- 201 -point list sweep function
- Continuous curve scanning/graphical analysis function
- Internal storage of 100 sets of LCRZ setting files and 10 sets of GIF image
- GIF image and CSV data files can be saved to USB storage directly
- HANDLER, USB, LAN, RS232C, GPIB (option), DCI interface



RS232	USB HOST	USB DEVICE	HANDLER	LAN	GPIB
standard	standard	standard	standard	standard	option

## STB8829A/STB8829C

Dimension (mm): 400(W) x 132(H) x 385(D)  
Net weight : 13kg

## Applications

- **Passive component:**  
Impedance parameter estimation and performance analysis of capacitor, inductor, magnetic core, resistor, piezoelectric devices, transformers, chip components and network components
- **Semiconductor component**  
Parasitic parameter test and analysis of LED driver integrated circuit  
C-VDC features of varactors  
Parasitic parameter analysis of transistors or integrated circuit
- **Other components**  
Impedance assessment of printed circuit boards, relays, switches, cables, batteries

- **Dielectric material**  
Dielectric constant and loss angle evaluation of plastics, ceramics and other materials
- **Magnetic materials**  
Magnetic permeability and loss angle assessment of ferrite, amorphous body and other magnetic materials
- **Semiconductor materials**  
Dielectric constant, electrical conductivity and C-V characteristics of semiconductor materials
- **Liquid crystal cell**  
Dielectric constant, elastic constant and C-V characteristics of liquid crystal cell

## Specifications

Display	800×RGB×480 7-inch TFT LCD display		
Frequency of test signal	STB8829A	20Hz—300kHz	
	STB8829C	20Hz—1MHz	
	Minimum resolution	1mHz, 5-digit frequency input	
	Accuracy	0.01%	
AC Level	Voltage range of test signal		
	5mV—10Vrms		
	Minimum resolution of voltage		
	100μV, 3-digit input		
	Accuracy	ALC ON	10% x set voltage + 2mV
		ALC OFF	6% x set voltage + 2mV
Current range of test signal			
50μA—100mA			
Minimum resolution of current			
1μA, 3-digit input			
DC bias voltage source	Accuracy		
	ALC ON	10% x set current + 20μA	
	ALC OFF	6% x set voltage + 20μA	
	Voltage/Current range		
0V— ±10V / 0mA—±100mA			
Resolution		0.5mV / 5μA	
Voltage accuracy		1% x set voltage + 5mV	
ISO ON		Be used for the bias test of inductance and transformer	
AC Source impedance	ISO ON	100Ω	
	ISO OFF	30Ω, 50Ω, 100Ωselectable	
DCR Source impedance		30Ω, 50Ω, 100Ωselectable	
DC Independent voltage source	Voltage/current range		
	0V— ±10V / 0mA—±50mA		
	Resolution		
	0.5mV / 5μA		
Voltage accuracy		1% x set voltage + 5mV	
Output resistance		100Ω	
Test parameters of LCR		Z ,  Y , C, L, X, B, R, G, D, Q, θ, DCR, Vdc-Idc	
Parameter display of test page		Two sets of main/sub parameters, the second set can be set as ON/OFF; There can be 10 pages of list sweep and 15 points per page at most; Multiple parameters continuous sweep graphical analysis.	

Basic accuracy	LCR test parameter	0.05%
	Calibration	Warm-up time $\geq 30$ seconds; Environment temperature: $23 \pm 5^\circ\text{C}$ ; Signal voltage: 0.3Vrms-1Vrms ; Zeroing: After OPEN or SHORT; Length of test cable: 0 m
Measurement time ( $\geq 10$ kHz)		Fast: 9 ms / time ; Medium: 67 ms / time; Slow:187 ms / time Plus the refresh time of display character
Display range of LCR parameter	Z ,R, X,DCR	0.00001 $\Omega$ — 99.9999M $\Omega$
	Y ,G,B	0.00001 $\mu\text{s}$ — 99.9999s
	C	0.00001pF — 9.99999F
	L	0.00001 $\mu\text{H}$ — 99.9999kH
	D	0.00001 — 9.99999
	Q	0.00001 — 99999.9
	$\theta$ (DEG)	-179.999 $^\circ$ — 179.999 $^\circ$
	$\theta$ (RAD)	-3.14159 — 3.14159
$\Delta\%$		-999.999% — 999.999%
Equivalent circuit		Serial, Parallel
Range mode		Auto, Hold
Trigger mode		Internal, Manual, External, Bus
Average times		1-256
Calibration function		Open, short calibration with full frequency or dot frequency, Load
Math operation		Direct reading, $\Delta\text{ABS}$ , $\Delta\%$
Delay time setup		0-999, minimum resolution: 100us
Comparator	10-bin sorting, BIN1-BIN9, NG, AUX	
	Bin counter	
	PASS/FAIL on front panel, LED indication	
List sweep	·201 -point list sweep function	
	·List sweep of frequency, AC voltage/current, internal/external DC bias voltage/current and independent DC source voltage can be performed on each page. Each sweep point can be sorted separately.	
Graphical analysis	·Graph scanning and analysis of frequency, AC level and DC bias can be performed.	
	·Set the sweep start point, end point and each sweep point.	
	·Display the maximum value, minimum value and read any of the chosen sweep point	
	·Scanning graphs can be stored into internal or external USB memory.	
Internal nonvolatile memory		100 sets of LCRZ setting files memory, 201 times test results, 10 sets of GIF image, CSV data files
External USB memory		·GIF image, CSV data files ·LCRZ setting files memory ·Test data can be stored via USB memory directly.
Interface	1A bias current source	1A DC bias current source (optional) can be stalled
	I/O interface	HANDLER on rear panel
	SCI	USB, RS232C
	PCI	GPIB(optional)
	NI	LAN
	Memory interface	USB HOST(front panel)
General Specifications		
Operating temperature and humidity		0 $^\circ\text{C}$ – 40 $^\circ\text{C}$ , $\leq 90\%$ RH
Power supply	Voltage	99V – 121V, 198V – 242V AC
	Frequency	47Hz – 63Hz
Consumption		Max. 80 VA
Dimension(W×H×D)		400mm × 132mm × 385mm
Weight		Approx.13 kg

## Standard Accessories

Three core power cord

SBF0010 Gold-plated short circuit board

SBF0011AS 4 terminal pair Kelvin test clip leads(only STB8829A)

SBF0011BS 4 terminal pair Kelvin test clip leads(onlySTB8829C)

SBF0048 Four-terminal test fixture