

# LCR METERS AND IMPEDANCE ANALYZERS

## For your component manufacturing workflow



### What makes them unique?

- Fast, accurate and versatile
- Upgradeable frequency range
- Measurement functions for all requirements
- DC bias options for voltage and current
- LCX features high-resolution touchscreen with versatile test fixtures
- MFIA LabOne® software provides UI, Toolset (Sweeper, Plotter, DAQ, Scope) with APIs for Python, MATLAB®, LabVIEW™ and .NET

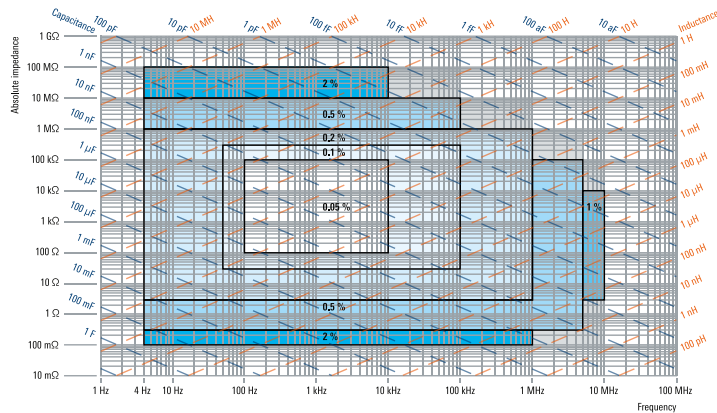
### The perfect choice for

R&S®LCX	MFIA	Key specifications	R&S®LCX	MFIA
Component production	Materials science	Test frequencies	DC, 4 Hz to 300 kHz (500 kHz, 1 MHz, 10 MHz)	1mHz to 500 kHz (5 MHz)
Quality assurance	R & D	Basic impedance measurement accuracy	±0.05 %	
		Impedance measurement range	10 mΩ to 100 MΩ	1 mΩ to 1 TΩ
		Measurement functions	Cp, Cs, Lp, Ls, D, Q, G, Rp, Rs, Rdc, R, X, Z, Y, Θd, Θr, B, M, N	Cp, Cs, Lp, Ls, D, Q, G, Rp, Rs, Rdc, R, X, Z, Y, Θd, Θr, B
		Test signal voltage	10 mV to 10 V	1 μV to 10 V

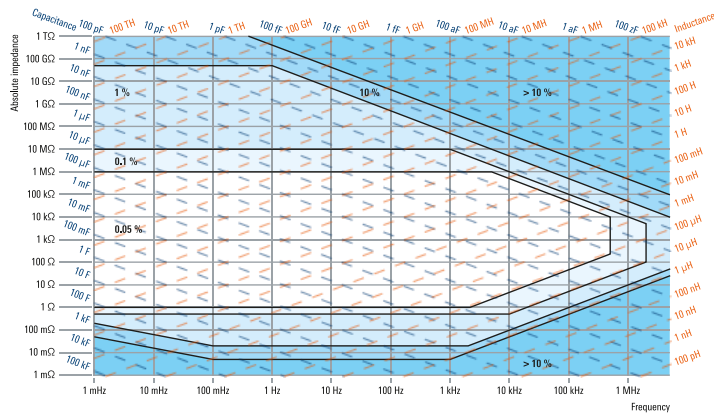
Your benefit	Features
Versatile functionality, all frequently used measurements supported	<ul style="list-style-type: none"> <li>► The R&amp;S®LCX performs the full range of measurements required to characterize resistors, capacitors, inductors and transformers</li> <li>► MFIA is a perfect choice for material research, semiconductor characterization, and bioimpedance spectroscopy</li> </ul>
Advanced options and features	<ul style="list-style-type: none"> <li>► The R&amp;S®LCX offers extended bias (voltage and current), binning and dynamic impedance measurement functions</li> <li>► The MFIA offers fastest impedance measurements at a fixed frequency, covers a wide impedance range, and allows for low frequency measurements down to 1 mHz</li> </ul>
Easy to use	<ul style="list-style-type: none"> <li>► Choose between modern and intuitive interfaces</li> <li>► LCX offers a large high-contrast capacitive touchscreen</li> <li>► MFIA LabOne® software provides UI, Toolset (Sweeper, Plotter, DAQ, Scope) with APIs for Python, MATLAB®, LabVIEW™ and .NET</li> </ul>



### R&S®LCX200 at a source impedance of 100Ω



**MFIA**



The Bode plot displays the frequency response of the system. The magnitude plot (blue line) shows a roll-off rate of -40 dB/decade, starting from a magnitude of approximately 100 dB at 0.1 Hz and reaching about -100 dB at 1000 Hz. The phase plot (orange line) shows a phase shift from 0 degrees at 0.1 Hz to approximately -180 degrees at 1000 Hz. The plot includes a grid and axes labeled 'Frequency' and 'Magnitude'.

## Test fixtures for a wide range of applications



Ordering information	R&S®LCX
Base model	
LCR meter, 300 kHz	R&S®LCX100
LCR meter, 500 kHz	R&S®LCX200
Options	

IEEE-488 (GPIB) interface for R&amp;S®NGP/LCX R&amp;S®NG-B105

MFITF Test fixture (included with MFIA)	MFITF
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Ordering information	MFIA
Base Model	
Impedance Analyzer MFIA 500 kHz	MFIA
Options	
MF-F5M Frequency extension to 5 MHz	MF-F5M
MF-DIG Digitizer	MF-DIG
MF-MD Multi-demodulator	MF-MD