

## CERTIFICATE OF CALIBRATION

*Calibrated for:* Advance Devices, Inc.      *Certificate No:* 16468  
*Serial Number:* 21155      *Software Version:* R.1.04  
*Temperature:* 23±2C      *Relative Humidity:* 50+20%  
*Model:* ST5S      *Procedure Used:* 4/6RES3.07  
*Certificate Date:* 5/31/2015 9:10:23 PM

**This certified that above product was calibrated using applicable procedure.**

*As received condition:* Factory tested  
*As shipped condition:* At the completion of calibration this product meets published specification  
*Special Requirements:* Re-certification of calibration will be performed upon request  
*Calibration Equipment Used:* Smart Tweezers ST5S Calibration Module LVC139-CAL  
(Certificate of calibration #136455 by Navair Technologies, Inc.)

### Accuracy Specification

Parameter	Measurement Range	Basic Measurement Accuracy*
Resistance	100 Ω to 10 kΩ	Better than 0.2%
	0.1 Ω to 9.9 MΩ	Better than 0.7%
Capacitance	10 nF to 100 μF	Better than 0.5%
	100 pF to 1000 μF	Better than 2.0%
Inductance	1 μH to 1 H	Better than 0.5%
	1.0 μH to 999 mH	Better than 1.0%

### Maximum measurement ranges

Resistance R: 0.05 Ω to 9.9 MΩ      Capacitance C: 0.5 pF to 999 μF  
Inductance L: 0.5 μH to 999 mH      Quality factor Q: 0.001 to 1000  
Dissipation factor D: 0.001 to 1000

### Maximum resolution

Resistance: 10 mΩ      Capacitance: 0.1 pF      Inductance: 0.1 μH

*\* with 4-wire bench calibration at optimum test frequencies, ranges, DUT value, without offset.  
2-wire measurements may introduce precision uncertainty up to 0.1%*

Parameter	Measurement Range	Test frequency
Resistance	0.05 Ω to 9.9 MΩ	1 kHz
	0.5 pF to 999 pF	10 kHz
Capacitance	1000 pF to 1 μF	1 kHz
	> 1 μF	100 Hz
Inductance	0.5 μH to 999 μH	10 kHz
	1 mH to 99 mH	1 kHz
	> 100mH	100 Hz

### Typical offset:

Resistance: 25 mΩ      Capacitance: 0.35 pF      Inductance: 0.1 μH

*Offset value should be subtracted from measurement result for small values (R < 10Ω, C < 100 pF, L < 10 μH)*