



NABL

Department of Science & Technology, India

SCOPE OF ACCREDITATION

Laboratory	Tektronix (India) Pvt. Ltd., St. Marks Road, Bangalore		
Accreditation Standard	ISO/IEC 17025: 2005		
Field	Electro-Technical Calibration	Issue Date	19.07.2012
Certificate Number	C- 0830	Valid Until	18.07.2014
Last Amended on	-	Page	1 of 4

Quantity Measured / Instrument	Range/ Frequency	* Calibration Measurement Capability (\pm)	Remarks
AT LAB			
SOURCE			
1. DC VOLTAGE	10 mV to 100 mV	52 ppm to 15 ppm	Using Fluke5720A Calibrator by Direct Method
	100 mV to 1V	15 ppm to 7 ppm	
	1V to 10 V	7 ppm to 4 ppm	
	10 V to 100 V	4 ppm to 6 ppm	
	100 V to 1000 V	6 ppm to 8 ppm	
2. AC VOLTAGE	40 Hz to 1 kHz		Using Calibrator Fluke 5720A Calibrator by Direct Method
	2 mV to 19 mV	0.24 % to 0.035 %	
	19 mV to 100 mV	0.035 % to 0.02 %	
	100 mV to 100 V	0.02 % to 0.011 %	
	100 V to 1000 V	0.011 % to 0.009 %	
	1 kHz to 20 kHz		
	1.9 mV to 19 mV	0.25 % to 0.035 %	
	19 mV to 100 mV	0.035 % to 0.018 %	
	100 mV to 1V	0.018 % to 0.006 %	
	1V to 100 V	0.006 % to 0.008 %	
	20 kHz to 100 kHz		
	19 mV to 100 mV	0.018 % to 0.02 %	
	100 mV to 1V	0.02 % to 0.011 %	
	1V to 100 V	0.011% to 0.022 %	
	3. DC CURRENT	190 μ A to 1.9 mA	
1.9 mA to 190 mA		50 ppm to 60 ppm	
190 mA to 1.9A		60 ppm to 165 ppm	
1.9 A to 10A		165 ppm to 480 ppm	
10 A to 500 A		0.048% to 0.75%	Using Calibrator Fluke 5500 A with Current Coil by Direct Method

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4. AC CURRENT	40 Hz to 1 kHz			
	19 μ A to 190 mA	0.19 % to 0.02 %	Using Calibrator Fluke 5720A, 5725 by Direct Method	
	190 mA to 1.9 A	0.02 % to 0.035 %		
	1.9 A to 10 A	0.035 % to 0.06 %		
	1 kHz to 5 kHz			
	19 μ A to 190 mA	0.19% to 0.04%		
	190 mA to 1.9A	0.04% to 0.06%		
	1.9A to 10A	0.06% to 0.12%		
	50Hz			
	10 A to 100 A	0.12% to 0.4%	Using Calibrator Fluke 5500 A with Current Coil by Direct Method	
	100 A to 500 A	0.4% to 1.8%		
	5 kHz to 10 kHz			
190 μ A to 190 mA	0.17%	Using Calibrator Fluke 5720 A, 5725 by Direct Method		
190 mA to 1.9 A	0.17 to 0.07%			
5. RESISTANCE	1 Ω to 10 Ω	120 ppm to 30 ppm	Using Calibrator Fluke 5720A by Direct Method	
	10 Ω to 100 k Ω	30 ppm to 15 ppm		
	100 k Ω to 1M Ω	15 ppm to 30 ppm		
	1 M Ω to 100 M Ω	30 ppm to 140 ppm		
6. CAPACITANCE	1kHz			
	1 nF to 10 nF	1.75% to 0.45%	Using Calibrator Fluke 5500A by Direct Method	
	10 nF to 100 nF	0.45% to 0.65%		
	100 nF to 1 μ F	0.65 % to 0.45%		
	1 μ F to 100 μ F	0.45% to 0.65%		
100 μ F to 0.8 mF	0.65% to 1.25%			

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7. OSCILLOSCOPE (I) AMPLITUDE (DC SIGNAL)	1 mV to 100 mV 100 mV to 50 V	2.0 % to 0.04% 0.04% to 0.02%	Using Oscilloscope Calibrator Fluke 9500B by Direct Method
(II) BAND WIDTH	50 kHz and 10 MHz (Ref.) 50 kHz to 8 GHz 8 GHz to 18 GHz	0.4 dB to 0.5 dB	Using Calibrator Fluke 9500B Power Meter E 4418 B with Sensor H -18
(III) TIME MARKER	1 nS to 20 mS 20 mS to 5 S	7 ppm to 10 ppm 10 ppm to 120 ppm	Using Calibrator Fluke 9500 B by Direct Method
8. RF POWER	10 MHz to 18 GHz -60 dBm to 10 dBm (1nW to 10mW)	4.6 to 5%	Using Signal Generator Anritsu MG 3694 C & Agilent Power Meter with Sensor E 4418 B/ E 9304A-H18 by Direct Method
9. RF ATTENUATION	10 MHz to 18 GHz 1 dB to 60 dB	0.4 dB to 0.6dB	Using Signal Generator Anritsu MG 3694 C & Agilent Power Meter with Sensor E 4418 B/ E 9304A-H18 by Ratio Method
10. VSWR	10 MHz to 18 GHz 1 to 2	0.1 to 0.3	Using 50Ohm Open and Short circuit termination.

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11. FREQUENCY	100 Hz to 10 MHz 10 MHz to 20 GHz	10 ppm to 0.35 ppm 0.35 ppm to 0.25 ppm	Using Agilent 53151 A Microwave Frequency Counter and Signal Generator Anritsu MG 3694 C & Fluke 5500 A By Direct Method
MEASURE			
12. DC VOLTAGE	10mV to 1V 1V to 1000 V	45 ppm to 60 ppm 60 ppm to 8 ppm	Using 8½ DMM Agilent 3458A by Comparison Method
13. AC VOLTAGE	1 kHz 100 mV to 1V 1V to 10V 10 V to 100 V 100 V to 700 V	0.014% to 0.011% 0.011% 0.011 % to 0.03% 0.03% to 0.05%	Using 8½ DMM Agilent 3458A by Comparison Method
14. DC CURRENT	100µA to 1mA 1mA to 100 mA 100 mA to 1A	40 ppm to 30 ppm 30 ppm to 50 ppm 50 ppm to 144 ppm	Using 8½ DMM Agilent 3458A by Comparison Method
15. AC CURRENT	1 kHz 100 µA to 1 mA 1 mA to 100 mA 100 mA to 1A	100 to 60 ppm 60 ppm 60 ppm to 150ppm	Using 8½ DMM Agilent 3458A by Comparison Method
16. RESISTANCE	1Ω to 10 Ω 10 Ω to 100 kΩ 100 kΩ to 10 MΩ	90 ppm to 20 ppm 20 ppm to 13 ppm 13 ppm to 75 ppm	Using 8½ DMM Agilent 3458A by Comparison Method

* Measurement Capability is expressed as an uncertainty (\pm) at a confidence probability of 95%

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