Laboratory	**KVTEK Power Systems Private Limited, Plot No. 283-286, Sector- 8, IMT Manesar, Gurgaon, Haryana**
Accreditation Standard	**ISO/IEC 17025: 2005**
Certificate Number	**CC-2968** **Page 1 of 3**
Validity	**14.03.2019 to 13.03.2021** **Last Amended on -**

"In view of the transition for ISO/IEC 17025:2017, the validity of this accreditation certificate will cease on 30.11.2020"

	Quantity Measured / Instrument	Range/Frequency	*Calibration Measurement Capability (±)	Remarks
	ELECTRO TECHNICAL CALIBRATION			
I.	**SOURCE**			
1.	PD Amplifier[#] Frequency Response	**1 V** 30kHz to 1 MHz	 0.1 %	Using Signal Generator 3205 A by Direct Method
2.	Impulse Analyzer[#] Magnitude Rise Time Fall Time	 ±(100V to 1000V) 0.84 µs 60.0 µs	 3.3 % 5.2% 5.2%	Using Impulse Calibrator by Direct Method
3.	Current Transformer[#] Ratio Error Phase Error	 120% to 20% 5% 120% to 20% 5%	 0.016 % 0.020 % 0.67 min 0.79 min	Using Current Transformer with Automated Instrument Transformer Test Set 5A-2000A by Direct Method
4.	EVD/PT[#] Ratio Error Phase Error	 1kV to 100 kV 1kV to 100 kV	 0.09 % 0.67 min.	Using Capacitor with Voltage Channel and Automated Instrument Transformer Test Set by Direct Method
5.	Automated Instrument Transformer Test Set[#] (CT Mode) Ratio Error Phase error	 120% to 20% 5% 120% to 20% 5%	 0.016% 0.020% 0.67 min. 0.78 min.	Using Current Transformer and Automated Instrument Transformer Test Set by Comparison Method

Shally Sharma
Convenor

Battal Singh
Program Manager

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	Quantity Measured / Instrument	Range/Frequency	*Calibration Measurement Capability (±)	Remarks
	(PT Mode) Ratio Error Phase error	1 kV to 100 kV	0.022 % 0.67 min.	Using Voltage Channel and Automated Instrument Transformer Test Set by Comparison Method
6.	Resistance[#]	1 m Ω to 100 Ω	2.3 %	Using High Current Resistance Meter by V/I Method
II.	**MEASURE**			
1.	AC High Voltage [#]	**50 Hz** 1kV to 200 kV	1.3%	Using Kilovolt meter with Divider K-21, 011 by Comparison Method
2.	DC High Voltage[#]	1 kV to 100 kV	1.3%	Using Kilovolt meter with Divider K-21, 011 by Comparison Method
3.	AC Current[#]	5 A to 2000 A	0.2%	Using CT with Power Analyzer Infratec 106A by Direct Method
4.	PD Calibrator[#] (1 pC to 1000 pC) a. Amplitude b. Rise Time c.Pulse Frequency d.Duty Cycle	 10 mV to 10 V 10ns to 500 ms 50 Hz 50 %	 1.2 % 0.12 % 0.08 % 0.1 %	Using Digital Oscilloscope by Direct Method
5.	Capacitance and Tan Delta[#] Capacitance Tan Delta	 100 pF to 50 µF 0.00001 to 0.001	 0.17% 0.00008	Using Capacitance Inductance & Tan Delta Test Set/ C & Tan Delta Box Capacitor by Direct / Comparison Method

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	Quantity Measured / Instrument	Range/Frequency	*Calibration Measurement Capability (±)	Remarks
6.	Current Transformer#			Using Current Transformer with AITTS 5A-2000A by Direct Method
	Ratio Error	120% to 20%	0.016 %	
		5%	0.020 %	
	Phase Error	120% to 20%	0.67 min	
		5%	0.79 min	
7.	Impulse Calibrator#	**50 Hz**		Using Digital Oscilloscope by Direct Method
	Magnitude	±(100V to 1000V)	1.2 %	
	Rise Time	0.84 µs	2.39 %	
	Fall Time	60.0 µs	2.33 %	
8.	Impulse Voltage Divider#	**50 Hz**		Using Digital Oscilloscope and Capacitance & Tan Delta test kit with high and low capacitance measurement by Direct Method
	a. Step response Oscilloscope	≥20 ns	2.9 %	
	b. Range for Capacitance(HV/LV) (Impulse Divider Ratio)	100pF to 1000 pF (100 to 60000)	0.31 %	

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

 # The laboratory is also capable for site calibration however, the uncertainty at site depends on the prevailing actual environmental conditions and master equipment used.

Shally Sharma
Convenor

Battal Singh
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