



SCOPE OF ACCREDITATION

| Laboratory Name : | ELECTRONICS REGIONAL TEST LABORATORY (EAST), BLOCK: DN, SECTOR-V, SALT LAKE CITY, KOLKATA, WEST BENGAL, INDIA | | | |
|------------------------|--|-----------------|------------|--|
| Accreditation Standard | ISO/IEC 17025:2017 | | | |
| Certificate Number | CC-2008 | Page No | 56 of 59 | |
| Validity | 21/01/2022 to 20/01/2024 | Last Amended on | 02/02/2022 | |

| S.No | Discipline / Group | Measurand or Reference Material/Type of instrument or material to be calibrated or measured / Quantity Measured /Instrument | Calibration or Measurement Method or procedure | Measurement range and additional parameters where applicable(Range and Frequency) | * Calibration and Measurement Capability(CMC)(±) |
|------|---|---|---|--|--|
| 70 | ELECTRO- TECHNICAL- TIME & FREQUENCY (Source) | Frequency | Using HIGH STABILITY FEQUENCY COUNTER , GPS controlled Frequency Standard, FUNCTION WAVEFORM GENERATOR, Signal Generator by Direct / Comparison Method | 10 Hz to 20 GHz | 5X10-6 to 6x10-10 |
| 71 | ELECTRO- TECHNICAL- TIME & FREQUENCY (Source) | Time Interval/Time Period | Using Func. Gen. Freq. Counter by Direct Method | 20 nsec to 2000 sec | 0.0002% |
| 72 | MECHANICAL- DIMENSION (BASIC MEASURING INSTRUMENT, GAUGE ETC.) | Surface Plate 1000 mm X 1000 mm | Using Electronic Level By comparison method | 300 X 300 mm to 1000 X 1000 mm | 1.0 xsqrt of (L+W)/ 150mm, where L & W in mm |
| 73 | MECHANICAL- PRESSURE INDICATING DEVICES | (Hydraulic Medium) Pressure Gauges, Pressure Transmitters | Using Digital Pressure Calibrator and and 6.5 digit multimeter as per DKD R-6-1 | 0 to 700 bar | 0.23bar |





SCOPE OF ACCREDITATION

Laboratory Name : Accreditation Standard Certificate Number Validity

ELECTRONICS REGIONAL TEST LABORATORY (EAST), BLOCK: DN, SECTOR-V, SALT LAKE CITY, KOLKATA, WEST BENGAL, INDIA

ISO/IEC 17025:2017 CC-2008

21/01/2022 to 20/01/2024

| Page No | 57 of 59 | |
|-----------------|------------|--|
| Last Amended on | 02/02/2022 | |

| S.No | Discipline / Group | Measurand or Reference Material/Type of instrument or material to be calibrated or measured / Quantity Measured /Instrument | Calibration or Measurement Method or procedure | Measurement range and additional parameters where applicable(Range and Frequency) | * Calibration and Measurement Capability(CMC)(±) |
|------|--|---|--|--|--|
| 74 | MECHANICAL- PRESSURE INDICATING DEVICES | Vacuum Gauges, Vacuum Transmitter | Using Digital Pressure Indicator & Digital Pressure Calibrator, 6.5 digit multimeter as per DKD R-6-1 | 0 to (-) 0.9 bar (g) | 0.0042 bar |
| 75 | MECHANICAL- WEIGHING SCALE AND BALANCE | Calibration of Balances: Class II and Coarser Readability: 100 mg | Using Standards Weights of Class E2 as per OIML R -76-1 | 0 to 12 kg | 66.52 mg |
| 76 | MECHANICAL- WEIGHING SCALE AND BALANCE | Calibration of Balances: Class I and Coarser Readability: 0.1 mg | Using Standards Weights of Class E2 as per OIML R -76-1 | 0 to 210 g | 0.1 mg |
| 77 | MECHANICAL- WEIGHING SCALE AND BALANCE | Calibration of Balances: Class II and Coarser Readability:10 mg | Using Standards Weights of Class E2 as per OIML R -76-1 | 0 to 3.2 kg | 7.0 mg |
| 78 | MECHANICAL- WEIGHING SCALE AND BALANCE | Calibration of Balances:Class II and Coarser Readability: 1 mg | Using Standards Weights of Class E2 as per OIML R -76-1 | 0 to 1000 g | 1.5 mg |
| 79 | OPTICAL- OPTICAL | x,y Colour coordinate | Using Standard Lamp (CFL/ TH) by Direct Method | x,y :0.001 to 1 | 0.049 |
| 80 | THERMAL- SPECIFIC HEAT & HUMIDITY | Relative Humidity :Environmental & Humidity Chambers @25°C | Using Data Loggers (minimum nine location)By spatial mapping Method | 35 %RH to 95 %RH | 2.5%RH |





SCOPE OF ACCREDITATION

| Laboratory Name : | ELECTRONICS REGIONAL TEST LABORATORY (EAST), BLOCK: DN, SECTOR-V, SALT LAKE CITY, KOLKATA, WEST BENGAL, INDIA | | | |
|------------------------|--|-----------------|------------|--|
| Accreditation Standard | ISO/IEC 17025:2017 | | | |
| Certificate Number | CC-2008 | Page No | 58 of 59 | |
| Validity | 21/01/2022 to 20/01/2024 | Last Amended on | 02/02/2022 | |

| S.No | Discipline / Group | Measurand or Reference Material/Type of instrument or material to be calibrated or measured / Quantity Measured /Instrument | Calibration or Measurement Method or procedure | Measurement range and additional parameters where applicable(Range and Frequency) | * Calibration and Measurement Capability(CMC)(±) |
|------|-------------------------|---|--|--|--|
| 81 | THERMAL- TEMPERATURE | Bath, Oven, Chamber, Incubator (for Non-Medical Application) & Autoclave (up to 121°C)(for Non- Medical Application) | Using RTDs & Data Loggers by single and multi-point (minimum 9) Method | -50 °C to 300 °C | 1.0 °C |
| 82 | THERMAL- TEMPERATURE | Dry Well Calibrator, Furnace, Hot Chamber | Using 'R' Type T/C & Four Channel Thermometer (single position) by Direct Method | 300 °C to 1300 °C | 3.0 °C |
| 83 | THERMAL- TEMPERATURE | Refrigerator & Cold Chamber | Using RTD & Data Logger with Minimum 9 Sensors by Direct Method | - 80 °C to 50 °C | 1.0 °C |
| 84 | THERMAL- TEMPERATURE | RTD/PRT /Thermocouple with or without Indicator, Temp. Gauge, Indicator with sensor of temp. Calibrator | Using SPRT, Dry Block Calibrator Liquid Baths Four Channel Thermometer By Comparison Method | 50 °C to 300 °C | 2°C |
| 85 | THERMAL- TEMPERATURE | RTD/PRT/Thermpcou ple with or without Indicator, Temp. Gauge, Indicator with sensor of temp. Calibrator | Using R Type Thermocouple, ,Dry block Calibrator, Four Channel Thermometer By Comparison Method | 300°C to 1200°C | 2°C |





SCOPE OF ACCREDITATION

| ELECTRONICS REGIONAL TEST LABORATORY (EAST), BLOCK: DN, SECTOR-V, SALT LAKE CITY, KOLKATA, WEST BENGAL, INDIA | | | |
|--|--|---|--|
| ISO/IEC 17025:2017 | | | |
| CC-2008 | Page No | 59 of 59 | |
| 21/01/2022 to 20/01/2024 | Last Amended on | 02/02/2022 | |
| | ELECTRONICS REGIONAL TEST LABOI LAKE CITY, KOLKATA, WEST BENGAL, ISO/IEC 17025:2017 CC-2008 21/01/2022 to 20/01/2024 | ELECTRONICS REGIONAL TEST LABORATORY (EAST), BLOCK LAKE CITY, KOLKATA, WEST BENGAL, INDIA ISO/IEC 17025:2017 CC-2008 Page No 21/01/2022 to 20/01/2024 Last Amended on | |

| S.No | Discipline / Group | Measurand or Reference Material/Type of instrument or material to be calibrated or measured / Quantity Measured /Instrument | Calibration or Measurement Method or procedure | Measurement range and additional parameters where applicable(Range and Frequency) | * Calibration and Measurement Capability(CMC)(±) |
|------|-------------------------|---|---|--|--|
| 86 | THERMAL- TEMPERATURE | Thermo Couple /RTD with or without Indicator, Dry Well Indicator & sensor | Using Dry Block Calibrator, SPRT, Digital Indicator (Black Stack), 4 Channel Thermometer by Comparison Method | 250 °C to 550 °C | 0.12°C |

* CMCs represent expanded uncertainties expressed at approximately the 95% level of confidence, using a coverage factor of k = 2.