TANZANIA BUREAU OF STANDARDS

METROLOGY LABORATORY  
“a SADCAS Accredited Calibration Laboratory, No. CAL-15001”

This certificate of calibration is issued in accordance with section 4 (1) (b) of the Standards Act No.2 of 2009. The certificate has been issued without any alteration and may not be published other than in full, except with the prior written approval of the Director General of Tanzania Bureau of Standards (TBS), P O Box 9524, Dar es Salaam, Physical Address: Morogoro / Sam Nujoma Road, Ubungo.Tel. +255 22 2450206, Dir. +255 22 2450298, Fax No. +255 22 2450959

IDENTIFICATION:

EQUIPMENT: TIMER   
MANUFACTURER: Germany   
IDENTIFICATION NUMBER: TBS/LAB/01  
SERIAL NUMBER:99999   
READABILITY: 1s   
LOCATION: TBS Time and Frequency Lab Ubungo  
TBS JOB NO: 2021 - 999   
DATE OF CALIBRATION: 2021-11-04  
DATE OF ISSUE: 2021-11-04   
CALIBRATED FOR: Lordrick Apps,  
 P.O.BOX ,7713,  
 Dodoma,Tanzania.

1. CALIBRATION CONDITIONS

The calibration was carried out at an ambient temperature of 22,46°C and relative humidity of 50,0% RH

2. EQUIPMENT AND STANDARDS USED

Standard Timer with Identification number TBS 8-381, with certificate number 58469 Thermo-hygrometer with serial MAC:98:8B:AD:20:C2:9F, certificate number 45326 valid up to Dec -2021

3. CALIBRATION PROCEDURE

Timer was calibrated by comparison with the standard timer using Method MET - TF - 03

4. TRACEABILITY

The results are through regular calibration of the used equipment traceable to the Swedish National Laboratory for electrical quantities (RMP 01) at RISE Research Institutes of Sweden.

5. CALIBRATION RESULTS

|  |  |  |  |
| --- | --- | --- | --- |
| DUT Time   interval   (seconds) | Standard Time   interval   (seconds) | DUT Correction   (seconds) | Uncertainty of   Measurement   ±(seconds) |
| 60 | 61 | +1 | 1 |
| 300 | 301 | +1 | 1 |
| 600 | 600 | 0 | 1 |
| 900 | 899 | -1 | 1 |
| 1200 | 1199 | -1 | 1 |

6.0 UNCERTAINTY

6.1 The reported uncertainties of measurement were calculated in accordance with the BIPM,IEC, ISO, IUPAP, OIML document entitled “Guide to the Expression of Uncertainty in Measurement“(International Organisation for Standardisation, Geneva, Switzerland, 2008).

6.2 The reported expanded uncertainty of measurement is stated as the standard uncertainty of measurement multiplied by a coverage factor of k=2, which for a normal distribution approximates a level of confidence of 95%.

7.0 REMARKS

7.1 DUT Means device under test

“END OF CERTIFICATE”