TECHNOLOGY PROMOTION ASSOCIATION (THAILAND-JAPAN)
CORPORATE SERVICES 3: EQUIPMENT CALIBRATION AND TESTING SERVICES
534/4 PATTANAKARN ROAD SOI 18, SUANLUANG, SUANLUANG, BANGKOK 10250
TEL. 0-2717-3000-24 FAX. 0-2719-9484

NSC-TISI-TIS17025
CALIBRATION 0008

Certificate of Calibration

Certificate No. : 20E2545

Equipment : Quartz Stop Watch
Manufacturer: Citizen
Model : QT9017-A
Serial No.: 088
ID No.: -
Condition As-Received: Used Item
Received Date: 21 June 2020
Calibration Date: 21 July 2020

Reference: 2006-0721DSC
Ambient Temperature: (23 ± 2) °C
Relative Humidity: (50 ± 10) %

Submitted by: Medical Devices Division,Faculty of Medicine Siriraj Hospital, Mahidol University 2 Prannok Rd., Bangkoknoi Bangkok 10700

Procedure used: Calibration were conducted using In-house calibration procedure CP-E47 According to Time base measurement method with Stopwatch calibrator. The calibration result indicates a diviation from the reference standard in seconds per day.

Condition of this result of calibration

1.Reference standards instuments :

Instrument	Model	Serial No.	Certificate No.	Due Date
1) Timometer	4500	7002117319	EF-0024-19	13 Jun 2021

2.This result of calibration was made on requested at the point specified by customer.

3.The certificate is valid only to the item calibrated on date and place of calibration.

4.This Certification is traceable to the International System of Unit maintained at:-

-National Institute of Metrology Thailand (NIMT)

Calibrated by : Wutchareeporn Wongchutikrane
Issue Date : 23 July 2020

Approved Signatory :

[✓] Phalinee Prabpaipal
[ ] Nuntawat Khamchai
[ ] Pornthippa Tameyakul

Result of calibration:- (*) Without adjustment ( ) After adjustment

Measured Value	Uncertainty
(s/day)	(± s/day)
-0.23	0.17

Equation for calculation.

$$\text{Actual time (s)} = \left\{ \left(\frac{\text{Measured Value (s)}}{\text{86,400 (s)}} \right) \text{ x Time (s)} \right\} + \text{Time (s)}$$

$$\text{Uncertainty (s)} = \left(\frac{\text{Uncertainty (s)}}{\text{86,400 (s)}} \right) \text{ x Time (s)}$$

Note . 86,400 seconds is the time in a day.

The reported uncertainty of measurement was based on a standard uncertainty multiplied by a coverage factor k = 2, providing a level of confidence of approximately 95 %, but excluding the effects of display resolution of Quartz Stop Watch.

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