

Certificate No. 24F

24PTP_0104240357

Page 1 of 3

Certificate of Calibration

EQUIPMENT : MODULE, ECG/SPO2/NIBP/IBP/TEMP

ID CODE : PTP03458

MANUFACTURER : PHILIPS

MODEL : M3001A

SERIAL No. : DE632F7999

LOCATION : Gastrointestinal & Liver Center

SUBMITTED BY : PHYATHAI PHAHOLYOTHIN HOSPITAL

670/1 Phaholyothin Road, Samsen Nai, Phaya Thai, Bangkok 10400

Tel: 02-271-7000 Fax: -

CALIBRATED DATE : 26 APRIL 2024

ISSUE DATE : 2 MAY 2024

Performed by:

Approved by :

USANEE CHALONGPHOKSILCHAI

PHUWASIN YIWKIM

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CONDITION OF THIS RESULT OF TEST

1. REFERENCE STANDARD INSTRUMENT:

MASTERMANUFACTURERMODELSERIAL NO.CERTIFICATE NO.DUE DATEVitalsign SimulatorFlukeProSim8254103123MD7777 Jun 2024

2. THIS CERTIFICATION IS TRACEABLE TO:

- Technology Promotion Association (Thai-Japan)

3. THIS RESULT OF TEST WAS FOUND ACCURATE AS SHOW ON DATE AND PLACE OF TEST ONLY



Certificate No. 24PTP_0104240357

Page 2 of 3

Calibration Report

EQUIPMENT : MODULE, ECG/SPO2/NIBP/IBP/TEMP

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SERIAL No. : DE632F7999

DATE OF CALIBRATION : 26 APRIL 2024

ENVIRONMENT : TEMPERATURE 25 °C

RELATIVE HUMIDITY 55 %

PROCEDURE USED:

This instrument was calibration by comparison with standard

MEASURMENT RESULT:

/	Without Adjustment		Before Adjustment		After Adjustment
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Systolic(NIBP)						
Standard Setting	UUC* Reading	Error	% Error	Uncertainty		
(mmHg)	(mmHg)	(mmHg)	(%)	(mmHg)		
60	61.00	1.00	1.67	± 0.9238		
120	117.00	-3.00	-2.50	± 1.2702		
200	194.00	-6.00	-3.00	± 1.7321		

Diastolic(NIBP)						
Standard Setting	UUC* Reading	Error	% Error	Uncertainty		
(mmHg)	(mmHg)	(mmHg)	(%)	(mmHg)		
30	32.00	2.00	6.67	± 0.7506		
80	83.00	3.00	3.75	± 1.0393		
150	153.00	3.00	2.00	± 1.4434		

Heart Rate						
Standard Setting	UUC* Reading	Error	% Error	Uncertainty		
(BPM)	(BPM)	(BPM)	(%)	(BPM)		
60	60.00	0.00	0.00	± 0.0150		
80	80.00	0.00	0.00	± 0.0460		
120	120.00	0.00	0.00	± 0.0460		

FI-BME-NHS-CP-029/1 Rev.03 Page 2/3 Issued Date 20/07/2023



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Page 3 of 3

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%Spo2						
Standard Setting	UUC* Reading	Error	% Error	Uncertainty		
(%SPO ₂)	(%SPO ₂)	(%SPO ₂)	(%)	(%SPO ₂)		
90	90.00	0.00	0.00	± 0.1039		
96	96.00	0.00	0.00	± 0.1109		
100	100.00	0.00	0.00	± 0.1155		

Temperature						
Standard Setting	UUC* Reading	Error	% Error	Uncertainty		
(°C)	(°C)	(°C)	(%)	(°C)		
35	35.00	0.00	0.00	± 0.0051		
37	37.00	0.00	0.00	± 0.0051		
39	39.00	0.00	0.00	± 0.0055		

Systolic(IBP)						
Standard Setting	UUC* Reading	Error	% Error	Uncertainty		
(mmHg)	(mmHg)	(mmHg)	(%)	(mmHg)		
10	10.00	0.00	0.00	± 0.1155		
24	24.00	0.00	0.00	± 0.2771		
120	120.00	0.00	0.00	± 1.3857		

Diastolic(IBP)						
Standard Setting	UUC* Reading	Error	% Error	Uncertainty		
(mmHg)	(mmHg)	(mmHg)	(%)	(mmHg)		
2	2.00	0.00	0.00	± 0.0231		
10	10.00	0.00	0.00	± 0.1155		
80	80.00	0.00	0.00	± 0.9238		

UUC*: Unit Under Calibration

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%