

ITU-T

TELECOMMUNICATION
STANDARDIZATION SECTOR
OF ITU

H.848

(04/2017)

SERIES H: AUDIOVISUAL AND MULTIMEDIA SYSTEMS

E-health multimedia services and applications –
Interoperability compliance testing of personal health
systems (HRN, PAN, LAN, TAN and WAN)

Conformance of ITU-T H.810 personal health system: Personal Health Devices interface Part 8: Continua Design Guidelines for Bluetooth Low Energy: Personal Health Gateway

Recommendation ITU-T H.848



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Recommendation ITU-T H.848

Conformance of ITU-T H.810 personal health system: Personal Health Devices interface Part 8: Continua Design Guidelines for Bluetooth Low Energy: Personal Health Gateway

Summary

Recommendation ITU-T H.848 provides a test suite structure (TSS) and the test purposes (TP) for personal health gateways using Bluetooth Low Energy transport in the Personal Health Devices (PHD) interface, based on the requirements defined in the Recommendations of the ITU-T H.810 sub-series, of which Recommendation ITU-T H.810 (2016) is the base Recommendation. The objective of this test specification is to provide a high probability of interoperability at this interface.

Recommendation ITU-T H.848 is a transposition of Continua Test Tool DG2016, Test Suite Structure & Test Purposes, Personal Health Devices Interface; Part 8: Continua Design Guidelines. Personal Health Gateway BLE (Version 1.4, 2016-09-20), that was developed by the Personal Connected Health Alliance. A number of versions of this specification existed before transposition.

This Recommendation includes an electronic attachment with the protocol implementation conformance statements (PICS) and the protocol implementation extra information for testing (PIXIT) required for the implementation of Annex A.

History

Edition	Recommendation	Approval	Study Group	Unique ID*
1.0	ITU-T H.848	2015-01-13	16	11.1002/1000/12277
2.0	ITU-T H.848	2016-07-14	16	11.1002/1000/12955
3.0	ITU-T H.848	2017-04-13	16	11.1002/1000/13237

Keywords

Bluetooth Low Energy (BLE), conformance testing, Continua Design Guidelines, e-health, ITU-T H.810, personal area network, personal connected health devices, Personal Health Devices interface, touch area network, Personal Health Gateway.

* To access the Recommendation, type the URL <http://handle.itu.int/> in the address field of your web browser, followed by the Recommendation's unique ID. For example, <http://handle.itu.int/11.1002/1000/11830-en>.

FOREWORD

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The World Telecommunication Standardization Assembly (WTSA), which meets every four years, establishes the topics for study by the ITU-T study groups which, in turn, produce Recommendations on these topics.

The approval of ITU-T Recommendations is covered by the procedure laid down in WTSA Resolution 1.

In some areas of information technology which fall within ITU-T's purview, the necessary standards are prepared on a collaborative basis with ISO and IEC.

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Electronic attachment: This Recommendation includes an electronic attachment with the protocol implementation conformance statements (PICS) and the protocol implementation extra information for testing (PIXIT) required for the implementation of Annex A.

Introduction

This Recommendation is a transposition of Continua Test Tool DG2016, Test Suite Structure & Test Purposes, Personal Health Devices Interface; Part 8: Continua Design Guidelines. Personal Health Gateway BLE (Version 1.4, 2016-09-20), that was developed by the Personal Connected Health Alliance. The table below shows the revision history of this test specification; it may contain versions that existed before transposition.

Version	Date	Revision history
1.0	2012-10-05	Initial release for Test Tool DG2011.
1.1	2013-05-24	Initial release for Test Tool DG2012. This uses "TSS&TP_DG2011_PAN-LAN-TAN_PART_8_v1.0.doc" as a baseline and adds new features included in [b-CDG 2012]: • BPM and HR profiles
1.2	2014-01-24	Initial release for Test Tool DG2013. This uses "TSS&TP_DG2012_LP-PAN PART_8_v1.1.doc" as a baseline and adds new features included in [b-ITU-T H.810 (2013)]/[b-CDG 2013]: • Adds glucose meter BLE • Adds BLE SSP support • Adds NFC new transport • Adds INR device specialization
1.3	2014-04-24	TM Lite & Doc Enhancements (Test Tool v4.0 Maintenance Release 1). It uses "TSS&TP_DG2013_LP-PAN_PART_8_v1.2.doc" as a baseline and adds new features included in Documentation Enhancements: • "Other PICS" row has been added
1.3	2015-07-01	Initial release for Test Tool DG2015. It is the same version as "TSS&TP_DG2013_LP-PAN_PART_8_v1.2.doc" because the new features included in [b-ITU-T H.810 (2015)]/[b-CDG 2015] do not affect the test procedures specified in this document.
1.4	2016-09-20	It uses "TSS&TP_DG2015_PLT_PART_8_v1.3.doc" as a baseline and adds new features included in [ITU-T H.810 (2016)]/[b-CDG 2016]

Recommendation ITU-T H.848

Conformance of ITU-T H.810 personal health system: Personal Health Devices interface Part 8: Continua Design Guidelines for Bluetooth Low Energy: Personal Health Gateway

1 Scope

The scope of this Recommendation¹ is to provide test suite structure (TSS) and the test purposes (TP) for the Personal Health Devices interface based on the requirements defined in the Continua Design Guidelines (CDG) [ITU-T H.810 (2016)]. The objective of this test specification is to provide a high probability of interoperability at this interface.

The TSS and TP for the Personal Health Devices interface have been divided into the parts specified below. This Recommendation covers Part 8.

- Part 1: Optimized exchange protocol. Personal Health Device
- Part 2: Optimized exchange protocol. Personal Health Gateway
- Part 3: Continua design guidelines. Personal Health Device
- Part 4: Continua design guidelines. Personal Health Gateway
- Part 5: Device specializations. Personal Health Devices interface. This document is divided into the following subparts:
 - Part 5A: Weighing scales
 - Part 5B: Glucose meter
 - Part 5C: Pulse oximeter
 - Part 5D: Blood pressure monitor
 - Part 5E: Thermometer
 - Part 5F: Cardiovascular fitness and activity monitor
 - Part 5G: Strength fitness equipment
 - Part 5H: Independent living activity hub
 - Part 5I: Adherence monitor
 - Part 5J: Insulin pump
 - Part 5K: Peak expiratory flow monitor
 - Part 5L: Body composition analyser
 - Part 5M: Basic electrocardiograph
 - Part 5N: International normalized ratio monitor
 - Part 5O: Sleep apnoea breathing therapy equipment
 - Part 5P: Continuous glucose monitor (CGM)
- Part 6: Device specializations. Personal Health Gateway
- Part 7: Continua Design Guidelines. BLE Personal Health Device
- **Part 8: Continua Design Guidelines. BLE Personal Health Gateway**

¹ This Recommendation includes an electronic attachment with the protocol implementation conformance statements (PICS) and the protocol implementation extra information for testing (PIXIT) required for the implementation of Annex A.

- Part 9: Personal Health Devices Transcoding Whitepaper. Personal Health Devices
- Part 10: Personal Health Devices Transcoding Whitepaper. Personal Health Gateway

2 References

The following ITU-T Recommendations and other references contain provisions which, through reference in this text, constitute provisions of this Recommendation. At the time of publication, the editions indicated were valid. All Recommendations and other references are subject to revision; users of this Recommendation are therefore encouraged to investigate the possibility of applying the most recent edition of the Recommendations and other references listed below. A list of the currently valid ITU-T Recommendations is regularly published. The reference to a document within this Recommendation does not give it, as a stand-alone document, the status of a Recommendation.

- | | |
|------------------------------|---|
| [ITU-T H.810 (2016)] | Recommendation ITU-T H.810 (2016), <i>Interoperability design guidelines for personal health systems</i> . |
| [Bluetooth PHDT v1.4] | Bluetooth SIG (2013), <i>Personal Health Devices Transcoding White Paper</i> , v1.4.
https://www.bluetooth.org/DocMan/handlers/DownloadDoc.ashx?doc_id=294539 |
| [Bluetooth PHDT v1.5] | Bluetooth SIG (2014), <i>Personal Health Devices Transcoding White Paper</i> , v1.5.
https://www.bluetooth.org/DocMan/handlers/DownloadDoc.ashx?doc_id=272346 |
| [Bluetooth PHDT v1.6] | Bluetooth SIG (2015), <i>Personal Health Devices Transcoding White Paper</i> , v1.6.
https://www.bluetooth.org/DocMan/handlers/DownloadDoc.ashx?doc_id=310657 |
| [ISO/IEEE 11073-104xx] | ISO/IEEE 11073-104xx (in force), <i>Health informatics – Personal health device communication – Device specialization</i> .
NOTE – Shorthand is used to refer to the collection of device specialization standards that utilize [ISO/IEEE 11073-20601-2015A], where xx can be any number from 01 to 99, inclusive. |
| [ISO/IEEE 11073-20601-2015A] | ISO/IEEE 11073-20601:2010, <i>Health informatics – Personal health device communication – Part 20601: Application profile – Optimized exchange protocol</i> , including ISO/IEEE 11073-20601:2010 Amd. 1:2015.
https://www.iso.org/standard/54331.html with
https://www.iso.org/standard/63972.html |
| [ISO/IEEE 11073-20601-2016C] | ISO/IEEE 11073-20601:2016, <i>Health informatics – Personal health device communication – Part 20601: Application profile – Optimized exchange protocol</i> , including ISO/IEEE 11073-20601:2016/Cor.1:2016.
https://www.iso.org/standard/66717.html with
https://www.iso.org/standard/71886.html |

3 Definitions

3.1 Terms defined elsewhere

None.