

Physical Activity Monitor Profile (PAMP)

Bluetooth® Implementation Conformance Statement (ICS) Proforma

- **Revision:** PAMP.ICS.p1 edition 2
- **Revision Date:** 2025-08-05
- **Prepared By:** Sports & Fitness Working Group
- **Published during TCRL:** TCRL.2024-1



This document, regardless of its title or content, is not a Bluetooth Specification as defined in the Bluetooth Patent/Copyright License Agreement (“PCLA”) and Bluetooth Trademark License Agreement. Use of this document by members of Bluetooth SIG is governed by the membership and other related agreements between Bluetooth SIG Inc. (“Bluetooth SIG”) and its members, including the PCLA and other agreements posted on Bluetooth SIG’s website located at www.bluetooth.com.

THIS DOCUMENT IS PROVIDED “AS IS” AND BLUETOOTH SIG, ITS MEMBERS, AND THEIR AFFILIATES MAKE NO REPRESENTATIONS OR WARRANTIES AND DISCLAIM ALL WARRANTIES, EXPRESS OR IMPLIED, INCLUDING ANY WARRANTY OF MERCHANTABILITY, TITLE, NON-INFRINGEMENT, FITNESS FOR ANY PARTICULAR PURPOSE, THAT THE CONTENT OF THIS DOCUMENT IS FREE OF ERRORS.

TO THE EXTENT NOT PROHIBITED BY LAW, BLUETOOTH SIG, ITS MEMBERS, AND THEIR AFFILIATES DISCLAIM ALL LIABILITY ARISING OUT OF OR RELATING TO USE OF THIS DOCUMENT AND ANY INFORMATION CONTAINED IN THIS DOCUMENT, INCLUDING LOST REVENUE, PROFITS, DATA OR PROGRAMS, OR BUSINESS INTERRUPTION, OR FOR SPECIAL, INDIRECT, CONSEQUENTIAL, INCIDENTAL OR PUNITIVE DAMAGES, HOWEVER CAUSED AND REGARDLESS OF THE THEORY OF LIABILITY, AND EVEN IF BLUETOOTH SIG, ITS MEMBERS, OR THEIR AFFILIATES HAVE BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES.

This document is proprietary to Bluetooth SIG. This document may contain or cover subject matter that is intellectual property of Bluetooth SIG and its members. The furnishing of this document does not grant any license to any intellectual property of Bluetooth SIG or its members.

This document is subject to change without notice.

Copyright © 2019–2025 by Bluetooth SIG, Inc. The Bluetooth word mark and logos are owned by Bluetooth SIG, Inc. Other third-party brands and names are the property of their respective owners.



Contents

| | | |
|----------|--|-----------|
| 1 | General principles | 4 |
| 1.1 | Implementation Under Test (IUT) identification | 4 |
| 1.2 | Enforcement of inter-layer dependencies | 4 |
| 2 | ICS declarations | 5 |
| 2.1 | Roles | 5 |
| 2.2 | Transports | 5 |
| 2.3 | Physical Activity Monitor Role | 5 |
| 2.3.1 | Services and Profiles – Physical Activity Monitor Role | 5 |
| 2.3.2 | DTP requirements – Physical Activity Monitor Role | 6 |
| 2.3.3 | DIS requirements – Physical Activity Monitor Role | 6 |
| 2.3.4 | GAP requirements – Physical Activity Monitor Role | 7 |
| 2.4 | Collector Role | 7 |
| 2.4.1 | Services and Profiles – Collector Role | 7 |
| 2.4.2 | UDS requirements – Collector Role | 8 |
| 2.4.3 | DTP requirements – Collector Role | 8 |
| 2.4.4 | GATT requirements – Collector Role | 9 |
| 2.4.5 | GAP requirements – Collector Role | 9 |
| 3 | References | 11 |
| 4 | Revision history and acknowledgments | 12 |

1 General principles

1.1 Implementation Under Test (IUT) identification

Using the Bluetooth SIG qualification tool, the implementer is expected to declare details about what will be implemented.

1.2 Enforcement of inter-layer dependencies

This ICS includes one or more tables with inter-layer dependencies (ILDs). ILDs are used for specification requirements that are dependent on other supporting specifications. ILDs can refer to an individual ICS item in a separate layer (individual ILD), or it can refer to the full layer (full-layer ILD).

ILDs residing in an X2Core layer will be enforced from the Bluetooth SIG qualification tool in the following conditions, depending on where the referred ILD is residing:

| Referred ILD resides in | Individual ILD | Full-layer ILD |
|-------------------------|---|---|
| Controller layer | Core-Complete configuration, or Referred layer is supported | N/A |
| Lower HCI layer | HCI is supported | N/A |
| Upper HCI layer | Core-Host configuration, or UHCI is supported | N/A |
| Host layer | Core-Host configuration, or Core-Complete configuration, or Referred layer is supported | N/A |
| X2Core layer | Core-Host configuration, or Core-Complete configuration, or Referred layer is supported | Core-Host configuration, or Core-Complete configuration |

Table 1.1: Enforcement of an ILD within the Bluetooth SIG qualification tool

2 ICS declarations

2.1 Roles

Table 1: Role Requirements

| Item | Role | Reference | Status |
|------|---------------------------|-----------|--------|
| 1 | Physical Activity Monitor | [1] 2.1 | C.1 |
| 2 | Collector | [1] 2.1 | C.1 |

C.1: Mandatory to support at least one.

2.2 Transports

Table 2: Transport Requirements

| Item | Transport | Reference | Status |
|------|-------------------------------|-----------|----------|
| 1 | Profile supported over BR/EDR | [1] 2.5 | C.1, C.3 |
| 2 | Profile supported over LE | [1] 2.5 | C.2, C.3 |

C.1: Excluded for this Profile IF CORE 41/2 “LE Core Configuration”.

C.2: Excluded for this Profile IF CORE 41/1 “BR/EDR Core Configuration”.

C.3: Mandatory to support at least one.

2.3 Physical Activity Monitor Role

Table 3: X.Y Versions (Physical Activity Monitor)

Prerequisite: PAMP 1/1 “Physical Activity Monitor”

| Item | Version | Reference | Status |
|------|-----------|-----------|--------|
| 1 | PAMP v1.0 | [1] | M |

Table 4: X.Y.Z Versions (Physical Activity Monitor)

Table number reserved but not yet in use

2.3.1 Services and Profiles – Physical Activity Monitor Role

Table 5: Services and Profiles Supported

Prerequisite: PAMP 1/1 “Physical Activity Monitor”

| Item | Capability | Reference | Status | Inter-Layer Dependency |
|------|-----------------------------------|-----------|--------|------------------------|
| 1 | Physical Activity Monitor Service | [1] 3 | M | [7] PAMS |
| 2 | Device Information Service | [1] 3 | M | [4] DIS |
| 3 | User Data Service | [1] 3 | C.1 | [5] UDS |
| 4 | Device Time Profile | [1] 3.4 | O | [6] DTP |



| Item | Capability | Reference | Status | Inter-Layer Dependency |
|------|---|-------------|--------|------------------------|
| 5 | PAMS UUID in AD Type field in GAP Discoverable Mode | [1] 3.1.1.1 | C.2 | N/A |
| 6 | Local Name included in AD | [1] 3.1.1.2 | C.3 | N/A |
| 7 | Local Name included in Scan Response Data | [1] 3.1.1.2 | C.3 | N/A |
| 8 | Writable Device Name | [1] 3.1.1.3 | O | N/A |
| 9 | Appearance included in AD | [1] 3.1.1.4 | C.4 | N/A |
| 10 | Appearance included in Scan Response Data | [1] 3.1.1.4 | C.4 | N/A |
| 11 | Multiple Users | [1] 3.2 | O | [7] PAMS 2/1 |

C.1: Mandatory IF PAMS 2/1 “Multiple Users”, otherwise Optional.

C.2: Optional IF PAMP 2/2 “Profile supported over LE”, otherwise Excluded.

C.3: Optional to support one and only one IF PAMP 2/2 “Profile supported over LE”, otherwise Excluded.

C.4: Optional to support one and only one IF PAMP 2/2 “Profile supported over LE”, otherwise Excluded.

2.3.2 DTP requirements – Physical Activity Monitor Role

Table 6: Device Time Profile Requirements

Prerequisite: PAMP 5/4 “Device Time Profile”

| Item | Capability | Reference | Status | Inter-Layer Dependency |
|------|------------|-----------|--------|------------------------|
| 1 | DTP Server | [1] 3.4 | M | [6] DTP 1/1 |

2.3.3 DIS requirements – Physical Activity Monitor Role

Table 7: Device Information Service Requirements

Prerequisite: PAMP 5/2 “Device Information Service”

| Item | Capability | Reference | Status | Inter-Layer Dependency |
|------|---|-----------|--------|------------------------|
| 1 | Manufacturer Name String Characteristic | [1] 3.3 | M | [6] DIS 2/2 |
| 2 | Model Number String Characteristic | [1] 3.3 | M | [6] DIS 2/3 |

2.3.4 GAP requirements – Physical Activity Monitor Role

Table 8: GAP Requirements – Physical Activity Monitor Role

Prerequisite: PAMP 1/1 “Physical Activity Monitor”

| Item | Capability | Reference | Status | Inter-Layer Dependency |
|------|--|-----------|--------|-------------------------|
| 1 | Peripheral | [1] 2.4.1 | C.1 | [3] GAP 5/3 OR GAP 38/3 |
| 2 | LE security mode 1 | [1] 6.1 | C.1 | [3] GAP 25/1 |
| 3 | Unauthenticated Pairing (LE security mode 1 level 2) | [1] 6.1 | C.2 | [3] GAP 25/8 |
| 4 | Authenticated Pairing (LE security mode 1 level 3) | [1] 6.1 | C.2 | [3] GAP 25/7 |

C.1: Mandatory IF PAMP 2/2 “Profile supported over LE”, otherwise not defined.

C.2: Mandatory to support at least one IF PAMP 2/2 “Profile supported over LE”, otherwise not defined.

2.4 Collector Role

Table 9: X.Y Versions (Collector)

Prerequisite: PAMP 1/2 “Collector”

| Item | Version | Reference | Status |
|------|-----------|-----------|--------|
| 1 | PAMP v1.0 | [1] | M |

Table 10: X.Y.Z Versions (Collector)

Table number reserved but not yet in use

2.4.1 Services and Profiles – Collector Role

Table 11: Client Services and Profiles Supported

Prerequisite: PAMP 1/2 “Collector”

| Item | Version | Reference | Status | Inter-Layer Dependency |
|------|--|-----------|--------|------------------------|
| 1 | Discover Physical Activity Monitor Service | [1] 4 | M | N/A |
| 2 | Discover Device Information Service | [1] 4 | O | N/A |
| 3 | Discover User Data Service | [1] 4 | M | N/A |
| 4 | Device Time Profile | [1] 4.9 | M | [6] DTP |
| 5 | Writing User Data Service Characteristics | [1] 4.6 | O | N/A |

Table 12: PAM Service Characteristic Support Requirements – Collector Role*Prerequisite: PAMP 11/1 “Discover Physical Activity Monitor Service”*

| Item | Version | Reference | Status |
|------|---|------------|--------|
| 1 | Physical Activity Monitor Features | [1] 4.4.1 | M |
| 2 | General Activity Instantaneous Data | [1] 4.4.2 | M |
| 3 | General Activity Summary Data | [1] 4.4.3 | M |
| 4 | CardioRespiratory Activity Instantaneous Data | [1] 4.4.4 | O |
| 5 | CardioRespiratory Activity Summary Data | [1] 4.4.5 | O |
| 6 | Step Counter Activity Summary Data | [1] 4.4.6 | O |
| 7 | Sleep Activity Instantaneous Data | [1] 4.4.7 | O |
| 8 | Sleep Activity Summary Data | [1] 4.4.8 | O |
| 9 | Physical Activity Monitor Control Point | [1] 4.4.9 | M |
| 10 | Physical Activity Current Session | [1] 4.4.10 | M |
| 11 | Physical Activity Session Descriptor | [1] 4.4.11 | M |

2.4.2 UDS requirements – Collector Role

Table 13: UDS Requirements – Collector Role*Prerequisite: PAMP 11/3 “Discover User Data Service”*

| Item | Version | Reference | Status |
|------|--|-----------|--------|
| 1 | Database Change Increment | [1] 4.6.1 | C.1 |
| 2 | User Control Point | [1] 4.6.2 | M |
| 3 | User Index | [1] 4 | M |
| 4 | Other UDS characteristics | [1] 4.6.3 | O |
| 5 | User Data Synchronization Procedure | [1] 4.6.4 | C.2 |
| 6 | Database Change Increment Notification | [1] 4.6.1 | C.3 |

C.1: Mandatory IF PAMP 11/5 “Writing User Data Service Characteristics”, otherwise Optional.

C.2: Optional IF PAMP 13/1 “Database Change Increment”, otherwise Excluded.

C.3: Mandatory IF PAMP 13/5 “User Data Synchronization Procedure”, otherwise Optional.

2.4.3 DTP requirements – Collector Role

Table 14: DTP Requirements – Collector Role*Prerequisite: PAMP 11/4 “Device Time Profile”*

| Item | Version | Reference | Status | Inter-Layer Dependency |
|------|------------|-----------|--------|------------------------|
| 1 | DTP Client | [1] 4.9 | M | [6] DTP 1/2 |

2.4.4 GATT requirements – Collector Role

Table 15: GATT Requirements – Collector Role

Prerequisite: PAMP 1/2 “Collector”

| Item | Version | Reference | Status | Inter-Layer Dependency |
|------|---|-----------|--------|------------------------|
| 1 | Discover All Primary Services | [1] 4.1 | C.1 | [2] GATT 3/2 |
| 2 | Discover Primary Services by Service UUID | [1] 4.1 | C.1 | [2] GATT 3/3 |
| 3 | Discover All Characteristics of a Service | [1] 4.1 | C.2 | [2] GATT 3/5 |
| 4 | Discover Characteristics by UUID | [1] 4.1 | C.2 | [2] GATT 3/6 |
| 5 | Discover All Characteristic Descriptors | [1] 4.1 | M | [2] GATT 3/7 |
| 6 | Read Characteristic Value | [1] 4.1 | M | [2] GATT 3/8 |
| 7 | Read Long Characteristic Values | [1] 4.1 | M | [2] GATT 3/10 |
| 8 | Write Characteristic Value | [1] 4.1 | M | [2] GATT 3/14 |
| 9 | Read Characteristic Descriptors | [1] 4.1 | M | [2] GATT 3/19 |
| 10 | Write Characteristic Descriptors | [1] 4.1 | M | [2] GATT 3/21 |
| 11 | GATT Client over LE | [1] 2.1 | C.3 | [2] GATT 1a/1 |
| 12 | GATT Client over BR/EDR | [1] 2.1 | C.4 | [2] GATT 1a/2 |

C.1: Mandatory to support at least one IF PAMP 2/2 “Profile supported over LE”, otherwise not defined.

C.2: Mandatory to support at least one.

C.3: Mandatory IF PAMP 2/2 “Profile supported over LE”, otherwise not defined.

C.4: Mandatory IF PAMP 2/1 “Profile supported over BR/EDR”, otherwise not defined.

2.4.5 GAP requirements – Collector Role

Table 16: GAP Requirements – Collector Role

Prerequisite: PAMP 1/2 “Collector”

| Item | Capability | Reference | Status | Inter-Layer Dependency |
|------|--|-----------|--------|-------------------------|
| 1 | Central | [1] 2.4.1 | C.1 | [3] GAP 5/4 OR GAP 38/4 |
| 2 | Initiation of dedicated bonding | [1] 6.3 | C.2 | [3] GAP 3/6 |
| 3 | Bondable mode | [1] 6.2 | C.1 | [3] GAP 34/2 |
| 4 | Bonding procedure | [1] 6.2 | C.1 | [3] GAP 34/3 |
| 5 | LE security mode 1 | [1] 6.1 | C.1 | [3] GAP 35/1 |
| 6 | Unauthenticated Pairing (LE security mode 1 level 2) | [1] 6.1 | C.1 | [3] GAP 35/8 |
| 7 | Authenticated Pairing (LE security mode 1 level 3) | [1] 6.1 | C.1 | [3] GAP 35/7 |
| 8 | Bondable mode | [1] 6.3 | C.3 | [3] GAP 1/7 |

C.1: Mandatory IF PAMP 2/2 “Profile supported over LE”, otherwise not defined.

C.2: Mandatory IF PAMS 2/1 “Multiple Users” AND PAMP 2/1 “Profile supported over BR/EDR”, otherwise not defined.



C.3: Mandatory IF PAMP 2/1 “Profile supported over BR/EDR”, otherwise not defined.

3 References

- [1] Physical Activity Monitor Profile (PAMP) Specification, Version 1.0
- [2] ICS Proforma for Generic Attribute Profile (GATT)
- [3] ICS Proforma for Generic Access Profile (GAP)
- [4] ICS Proforma for Device Information Service (DIS)
- [5] ICS Proforma for User Data Service (UDS)
- [6] ICS Proforma for Device Time Profile (DTP)
- [7] ICS Proforma for Physical Activity Monitor Service (PAMS)

4 Revision history and acknowledgments

Revision History

| Publication Number | Revision Number | Date | Comments |
|--------------------|-----------------|-------------------------|--|
| 0 | p0 | 2020-12-22 | Approved by BTI on 2020-12-07. PAMP v1.0 adopted by BoD on 2020-12-15. Prepared for publication. |
| | p1r00 | 2023-10-05 – 2023-10-06 | TSE 23950 (rating 2): Resolved GATT inter-layer dependencies. Made editorial edits to align the document with the latest ICS template, including updates to the IUT identification section, formatting updates to section and table titles, and removal of “is supported” language in conditionals. Updated C.1 for Tables 1 and 2. In Table 5, updated C.1–C.4. In Table 7, updated the Capability value for Items 1 and 2. In Table 8, updated the Status value for Item 1, the Capability value for Item 2, and conditionals C.1 and C.2. Updated the Capability value for Items 1–3 in Table 11. Corrected the heading in the Capability column for Tables 11–15. Updated the prerequisite for Tables 12 and 13. In Table 15, updated the Capability value for Items 5 and 7, added Items 11 and 12, updated C.1 and C.2, and added C.3 and C.4. In Table 16, updated the Capability values for Items 3–5 and the Status values for Items 4, 6, and 7; added Item 8; updated C.1 and C.2; deleted C.3 and C.4; and added a new C.3. Updated the formatting of the list of references. Updated the copyright page to align with v2 of the DNMD. Deleted draft revision history comments prior to p0. |
| 1 | p1 | 2024-07-01 | Approved by BTI on 2024-04-21. Prepared for TCRL 2024-1 publication. |
| | p1ed2r00 | 2025-07-08 | TSE 27377 (rating 1): Updated the Status for PAMP 2/1 and PAMP 2/2, added conditions C.1 and C.2, and renumbered the previous C.1 as C.3. |
| | p1 edition 2 | 2025-08-05 | Approved by BTI on 2025-08-05. Prepared for edition 2 publication. |

Acknowledgments

| Name | Company |
|------------------|--------------------------|
| Bogdan Alexandru | Bluetooth SIG, Inc. |
| Andrei Frincu | Bluetooth SIG, Inc. |
| Charlie Lenahan | Bluetooth SIG, Inc. |
| Jawid Mirani | Bluetooth SIG, Inc. |
| Florin Toma | Bluetooth SIG, Inc. |
| Javier Espina | Koninklijke Philips N.V. |