

P1752 Working Group Meeting

Sponsored by IEEE Engineering in Medicine & Biology (EMB) Standards Committee

Please mark your attendance at:
<https://tinyurl.com/yc3oxg6q>
(see chat window)

12 October 2021

Teleconference

Attendance

Attendance is important for determining voting rights, so please remember to “check in”. This document shows attendance of current and previous calls <https://tinyurl.com/rnaacvsz>(link in the chat window).

For today: mark your attendance at <https://tinyurl.com/rnaacvsz> with a 0 if you are non-voting or a 1 if you are a voting member, or put your name and affiliation in the chat window to “check in”

- If your name is not listed in <https://tinyurl.com/rnaacvsz>, or if you are joining only via phone, please email simona@openmhealth.org with “P1752 WG call” as subject

If you attended a previous call and your attendance was not noted, please email simona@openmhealth.org

IEEE Patent Policy

Participants have a duty to inform the IEEE

- Participants shall inform the IEEE (or cause the IEEE to be informed) of the identity of each holder of any potential Essential Patent Claims of which they are personally aware if the claims are owned or controlled by the participant or the entity the participant is from, employed by, or otherwise represents
- Participants should inform the IEEE (or cause the IEEE to be informed) of the identity of any other holders of potential Essential Patent Claims

**Early identification of holders of potential
Essential Patent Claims is encouraged**

Slide #1

Ways to inform IEEE

- Cause an LOA to be submitted to the IEEE-SA (patcom@ieee.org); or
- Provide the chair of this group with the identity of the holder(s) of any and all such claims as soon as possible; or
- Speak up now and respond to this Call for Potentially Essential Patents

If anyone in this meeting is personally aware of the holder of any patent claims that are potentially essential to implementation of the proposed standard(s) under consideration by this group and that are not already the subject of an Accepted Letter of Assurance, please respond at this time by providing relevant information to the WG Chair

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Other guidelines for IEEE WG meetings

- **All IEEE-SA standards meetings shall be conducted in compliance with all applicable laws, including antitrust and competition laws.**
 - **Don't discuss the interpretation, validity, or essentiality of patents/patent claims.**
 - **Don't discuss specific license rates, terms, or conditions.**
 - Relative costs of different technical approaches that include relative costs of patent licensing terms may be discussed in standards development meetings.
 - **Technical considerations remain the primary focus**
 - **Don't discuss or engage in the fixing of product prices, allocation of customers, or division of sales markets.**
 - **Don't discuss the status or substance of ongoing or threatened litigation.**
 - **Don't be silent if inappropriate topics are discussed ... do formally object.**

For more details, see *IEEE-SA Standards Board Operations Manual*, clause 5.3.10 and
Antitrust and Competition Policy: What You Need to Know at <http://standards.ieee.org/develop/policies/antitrust.pdf>

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Patent-related information

The patent policy and the procedures used to execute that policy are documented in the:

- *IEEE-SA Standards Board Bylaws*
(<http://standards.ieee.org/develop/policies/bylaws/sect6-7.html#6>)
- *IEEE-SA Standards Board Operations Manual*
(<http://standards.ieee.org/develop/policies/opman/sect6.html#6.3>)

Material about the patent policy is available at
<http://standards.ieee.org/about/sasb/patcom/materials.html>

If you have questions, contact the IEEE-SA Standards Board Patent Committee Administrator at patcom@ieee.org

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IEEE SA Copyright Policy

IEEE SA Copyright Policy (November 2019)

- **By participating in this activity, you agree to comply with the [IEEE Code of Ethics](#), all applicable laws, and all IEEE policies and procedures including, but not limited to, the IEEE SA Copyright Policy.**
 - Previously Published material (copyright assertion indicated) shall not be presented/submitted to the Working Group nor incorporated into a Working Group draft unless permission is granted.
 - Prior to presentation or submission, you shall notify the Working Group Chair of previously Published material and should assist the Chair in obtaining copyright permission acceptable to IEEE SA.
 - For material that is not previously Published, IEEE is automatically granted a license to use any material that is presented or submitted.

IEEE SA Copyright Policy

- The IEEE SA Copyright Policy is described in the IEEE SA Standards Board Bylaws and IEEE SA Standards Board Operations Manual
- IEEE SA Copyright Policy, see
 - Clause 7 of the IEEE SA Standards Board Bylaws
<https://standards.ieee.org/about/policies/bylaws/sect6-7.html#7>
 - Clause 6.1 of the IEEE SA Standards Board Operations Manual
<https://standards.ieee.org/about/policies/opman/sect6.html>
- IEEE SA Copyright Permission
 - <https://standards.ieee.org/content/dam/ieee-standards/standards/web/documents/other/permissionltrs.zip>
- IEEE SA Copyright FAQs
 - <http://standards.ieee.org/faqs/copyrights.html/>
- IEEE SA Best Practices for IEEE Standards Development
 - http://standards.ieee.org/develop/policies/best_practices_for_ieee_standards_development_051215.pdf
- Distribution of Draft Standards (see 6.1.3 of the SASB Operations Manual)
 - <https://standards.ieee.org/about/policies/opman/sect6.html>

Determination of Quorum

<https://tinyurl.com/rnaacvsz>

Approval of Agenda

1. Attendance
2. Call for Patents, Code of Ethics, Copyright Policy
3. Approval of agenda and minutes (if quorum present)
4. Update from subgroups
5. 1752.1 updates
6. 1752.1 schemas in more detail
7. Other business

Approval of Prior Minutes

(September 7, 2021)

Update from Subgroups

P1752.2 Metabolic Subgroup

- Blood glucose measure first
- Four use cases to develop:
 - Type 1 diabetes: CGM
 - Type 2 diabetes on oral treatment: BGM
 - Type 2 diabetes on insulin: CGM
 - Prediabetes/Quantified self/biohacker: CGM for response to food intake
- First step: landscape analysis of weight and glucose measuring solutions, then extract measures from the analysis
- Next call: Tuesday, October 26 at 8 am Pacific
<https://sagroups.ieee.org/1752/metabolic-subgroup/>

P1752.2 Cardio-respiratory Subgroup

- First call on Friday September 10
- Different biomedical signals including the ECG, PCG, PPG, etc. related to the cardio-respiratory measures were discussed
- Set of measures and features that are available with wearable devices were discussed to highlight the major objectives of the cardio-respiratory subgroup
- Technical presentation plan for each of the biomedical signals and their possible clinically relevant cardio-respiratory measures was discussed
- The presentation plan will be finalized based on the interests received from the members of this subgroup in the next meeting of CR subgroup.
- Next call: Friday, November 5 at 9 am Pacific (first Friday of the month)

1752.1 update

Standard document: 1752.1

- The Standard was published!
- IEEE Std 1752.1 is available through
- IEEE Standards Store: <https://www.techstreet.com/ieee/standards/ieee-1752-1-2021>
- IEEE Xplore: <https://ieeexplore.ieee.org/document/9540821>
- There are links to the Store and Xplore from the standard's web page at https://standards.ieee.org/standard/1752_1-2021.html
- 1752.1 members can download a complimentary PDF of 1752.1-2021 for personal use (no distribution)

1752.1 schemas in more detail

Intro to Schemas

- A schema defines how instance data should look like in terms of data types, properties, etc.
- 1752.1 schemas are written in JSON Schema
<https://json-schema.org/>
- Documentation available here
<https://json-schema.org/understanding-json-schema/index.html>
- 1752.1 schemas and sample data are available on the repo
<https://opensource.ieee.org/omh/1752/-/tree/main>

Example #1: Duration unit value

- Unit value <https://opensource.ieee.org/omh/1752/-/blob/main/schemas/utility/unit-value-1.0.json>
- Duration unit value <https://opensource.ieee.org/omh/1752/-/blob/main/schemas/utility/duration-unit-value-1.0.json>
- Unit schemas <https://opensource.ieee.org/omh/1752/-/tree/main/schemas/utility>

Units of measure

- unit-value.json is a generic schema
- It defines an object with two properties
 1. value of type *number*
 2. unit of type *string*
- It also requires both value and unit for data to be compliant

Duration unit value

- duration-unit-value schema references the unit-value schema
- it inherits properties and requirements
- adds a restriction on the unit property via a value set
- the reference section describes how the value set was chosen

Value sets

- a value set can be defined within a schema
- some schemas are just value sets (e.g., body posture
<https://opensource.ieee.org/omh/1752/-/blob/main/schemas/utility/body-posture-1.0.json>)
- a value set is an array of possible values (enumerated list)
- the reference section describes how the value set was chosen
- data must include one of the allowed values to be compliant
- may be exhaustive or not (in which case they can be expanded)

Example #2: Modeling of time

- Time interval

<https://opensource.ieee.org/omh/1752/-/blob/main/schemas/utility/time-interval-1.0.json>

- Date time

<https://opensource.ieee.org/omh/1752/-/blob/main/schemas/utility/date-time-1.0.json>

- Time frame = date time OR time interval (used to define property *effective time frame*, used in all quantitative schemas)

time schemas in utility folder

total sleep time <https://opensource.ieee.org/omh/1752/-/blob/main/schemas/sleep/total-sleep-time-1.0.json>

ambient temperature in environment folder

Example #3: Total sleep time

- Total sleep time
<https://opensource.ieee.org/omh/1752/-/blob/main/schemas/sleep/total-sleep-time-1.0.json>
- Schema referenced
 - duration unit value
 - time frame
- Sample data https://opensource.ieee.org/omh/1752/-/tree/main/sample_data/sleep

Example #4: Physical activity (PA) schema

- Physical activity

https://opensource.ieee.org/omh/1752/-/blob/main/schemas/physical_activity/physical-activity-1.0.json

- Sample data

https://opensource.ieee.org/omh/1752/-/tree/main/sample_data/physical_activity

Recap

- A schema defines how data should look like in terms of:
 - data type (number, string, object, array, etc.)
 - properties (which ones, required vs. not)
- A schema may reference other schemas and if so, the requirements of the referenced schemas apply (e.g., unit-value requires a number + a string)
- Validation checks that instance data matches the template (data type of all properties, required properties, values from value sets, etc.)
- Some constraints can be defined in JSON Schema (e.g., number must be non-zero, string must match a pattern, etc.)
- Additional logical constraints are at the implementation level

Summary of Action Items

Future Meetings

Upcoming Meetings

- P1752.2 WG call
 - Tuesday November 16 at 8 am Pacific
- Cardio-respiratory subgroup:
 - Friday November 5 at 9 am Pacific
- Metabolic subgroup:
 - Tuesday October 26 at 8 am Pacific

Adjournment