

# Comments on IEEE P802.15.4ad PAR & CSD

From IEEE 802.1

These comments are on the PAR and CSD found in:

- <https://mentor.ieee.org/802.15/dcn/23/15-23-0436-06-04ad-p802-15-4ad-draft-par-on-sun-phys.pdf>
- <https://mentor.ieee.org/802.15/dcn/23/15-23-0494-02-04ad-next-gen-sun-phys-draft-csd.docx>

# PAR

## 5.2.a *Scope of the complete standard*

- The old first sentence was split causing the new first sentence to lose the context found in the new second sentence. This does not seem to be the intent.
  - Change “. It defines” to “and”.
- Typos:
  - Change “modificatins” to “modifications”.
  - Change “boattery” to “battery”, per the original wording.

# PAR

## 5.2.b *Scope of the project*

- The first sentence uses “expands” without limiting the scope of such expansion. It also does not usefully belong in the scope and is already covered in 5.5 (using a “can”).
  - Delete the first sentence.
  - Once done, the two occurrences of “It defines” in the second and fourth sentences are not sufficiently clear.
    - Change both to “This amendment specifies”.

## PAR

### 5.2.b *Scope of the project*

- The second sentence is too long, causing possible misinterpretation. Parts of it are open-ended or without numerical target (“increasing”, “adding new [MCSs] schemes”, “extending [...] with a focus on”, “at least one”, “lower”). How the extension of the SUN PHY specifications is realized is not necessarily clear: is it realized using one of the two statements starting with “with” or using the statement starting with “by using”? Editorials: It is unclear how the listed PER relates to the listed payload; “@” is out of place; “SUN” is not expanded at first use.
  - Either split this sentence into several sentences or use bullet items, e.g. (depending on how “and/or” is to be interpreted):
    - a) Increasing the occupied bandwidth; and/or
    - b) Adding new modulation and coding schemes (MCSs); and
    - c) Extending [SUN PHY specifications...].
  - Regarding item a, quantify the increase of the occupied bandwidth.
  - Regarding item b, list in-scope MCSs rather than (again) using “at least one” in the third sentence.
  - Regarding item c:
    - Avoid the redundant use of “with” and the unbounded use of “with a focus on” by changing “with a focus on” to “for”.
    - List in-scope modes of the SUN-OFDM PHY other than that currently singled out.
    - Either provide a numerical target for “lower” or delete “lower” if the listed intended use is sufficient to determine the (lower) data rates.
    - If “by using [...] digital modulation system” is not how the SUN PHY specifications are extended, change “by” to “and”.
    - Rephrase “64 bytes (payload)” so that it clearly connects to the preceding text.
    - Change “@” to “at”, and “SUN” to “Smart Utility Network (SUN)”.

# PAR

## 5.2.b *Scope of the project*

- Editorials: The fourth sentence refers both to the “amended PHY” (singular) and “amended PHYs” (plural); “on updated regional regulations” appears to be missing a preceding “based”.
  - Change “PHY” to “PHYs” as appears to be the intent.
  - Insert “based” before “on updated regional regulations”.

# PAR

## 5.4 *Purpose*

- The first sentence associates “ultra” thrice and “low data rate” with four attributes instead of providing numerical targets. Editorials: “what is now commonly referred to as” is unneeded, and “Internet of Things” (IoT) is reused in 5.5.
  - Provide numerical targets.
  - Delete “what is now commonly referred to”.
  - Add “(IoT)” as an abbreviation here and use it in 5.5.
- The second sentence uses “alternate PHYs”, which is only used in the purpose of the base standard. It is unclear what these alternate PHYs are.
  - Delete “alternate” or clarify what these alternate PHYs are.

# PAR

## 5.5 *Need for the project*

- Editorial: “The” is not needed in front of “IEEE Std 802.15.4” in the first sentence.
  - Delete “The ”.
- Editorial: The second sentence uses “usefulness of the”, which is repeated in the third sentence.
  - Change “in order to expand the usefulness of the standard for” to “to support”.
- Editorial: Unneeded capitalization in “Smart Metering, Smart cities”.
  - Use all lower case.

# CSD

## 1.2.1 b) *Multiple vendors and numerous users*

- Editorial: “The” is not needed in front of “IEEE Std 802.15.4” in the first sentence.
  - Delete “The ”.

## 1.2.5 Economic Feasibility.

- Editorial: The last sentence repeats “implementation”.
  - Change “done in an economically feasible implementation” to “economically feasible ”.