**IEEE P802.15**

**Wireless Personal Area Networks**

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| Project | IEEE P802.15 Working Group for Wireless Personal Area Networks (WPANs) | |
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| Date Submitted | [16-September-2021] | |
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| Re: |  | |
| Abstract | [CSD for 802.15.3ma] | |
| Purpose | [CSD and PAR development] | |
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# IEEE 802 LAN/MAN STANDARDS COMMITTEE (LMSC)

# CRITERIA FOR STANDARDS DEVELOPMENT (CSD)

Based on IEEE 802 LMSC Operations Manuals approved 4 August 2020

Last edited 31 August 2020

# IEEE 802 criteria for standards development (CSD)

The CSD documents an agreement between the WG and the Sponsor that provides a description of the project and the Sponsor's requirements more detailed than required in the PAR. The CSD consists of the project process requirements, 1.1, and the 5C requirements, 1.2.

## Project process requirements

### Managed objects

Describe the plan for developing a definition of managed objects. The plan shall specify one of the following:

1. The definitions will be part of this project. Yes. Definitions were already part of this standard and its completed amendments. In implementing this revision, no changes are contemplated with regard to these.
2. The definitions will be part of a different project and provide the plan for that project or anticipated future project.
3. The definitions will not be developed and explain why such definitions are not needed.

### Coexistence

A WG proposing a wireless project shall prepare a Coexistence Assessment (CA) document unless it is not applicable.

1. Will the WG create a CA document as part of the WG balloting process as described in Clause 13? (yes/no) Yes
2. If not, explain why the CA document is not applicable.

## 5C requirements

### Broad market potential

Each proposed IEEE 802 LMSC standard shall have broad market potential. At a minimum, address the following areas:

1. Broad sets of applicability.

The standard was originally developed to service a set of multi-media applications and applications requiring predictable Quality of Service (QoS) with a MAC optimized to that task rather than one optimized for WLANs. That need still exists for a set of consumer multimedia industry needs and is expected to grow as new applications areas are added serving wireless switched point-to-point applications in data centers at speeds up to 100Gbps, wireless backhaul/fronthaul intra-device communications, and a wide variety of additional use cases such as rapid large multimedia data downloads (in 250ms or less) and file exchanges between two devices in close proximity, including between mobile devices and stationary devices (kiosks, ticket gates, etc.), and/or wireless data storage devices.

1. Multiple vendors and numerous users.

There are a large number of multimedia, data center and backhaul/fronthaul equipment companies who are expected to serve this application space which is aimed at broad consumer and commercial markets, both of which are comprised of a large number of users. Participants in the standard include chip vendors, chip designers, technology suppliers, radio frequency (RF) equipment manufacturers, infrastructure providers, international wireless carriers/service providers, academic researchers, government research laboratories, communication equipment manufacturers, system integrators and consumers.

### Compatibility

Each proposed IEEE 802 LMSC standard should be in conformance with IEEE Std 802, IEEE 802.1AC, and IEEE 802.1Q. If any variances in conformance emerge, they shall be thoroughly disclosed and reviewed with IEEE 802.1 WG prior to submitting a PAR to the Sponsor.

1. Will the proposed standard comply with IEEE Std 802, IEEE Std 802.1AC and IEEE Std 802.1Q?

YES. As part of the last revision, the standard has been converted to use 48bit MAC addressing rather than 64 bit MAC addressing. IEEE Std. 802.15.3 includes a reference priority mapping using IEEE Std. 802.1D-2004. IEEE Std. 802.1D-2004 is being withdrawn. This revision will change the reference priority mapping to use IEEE Std. 802.1Q

1. If the answer to a) is no, supply the response from the IEEE 802.1 WG.

The review and response is not required if the proposed standard is an amendment or revision to an existing standard for which it has been previously determined that compliance with the above IEEE 802 standards is not possible. In this case, the CSD statement shall state that this is the case.

### Distinct Identity

Each proposed IEEE 802 LMSC standard shall provide evidence of a distinct identity. Identify standards and standards projects with similar scopes and for each one describe why the proposed project is substantially different.

### When this standard and its amendments were originally completed there were no other standards addressing this space. That situation has changed somewhat over the years as other standards have implemented some similar capabilities. With the completion of the amendments IEEE 802.15.3e and IEEE 802.15.3d made the standard unique. IEEE 802.15.3d is still the only wireless standard at carrier frequencies around 300 GHz. The current revision will also include the additional spectrum between 356 and 450 GHz, which has been identified at the World Radio Communications Conference 2019.

### Technical Feasibility

Each proposed IEEE 802 LMSC standard shall provide evidence that the project is technically feasible within the time frame of the project. At a minimum, address the following items to demonstrate technical feasibility:

a) Demonstrated system feasibility.

This is a revision rolling up 3 completed amendments adding additional spectrum, fixing a problem for backhaul/fronthaul applications by an extension of interframe space for supporting long distance transmission and replacing the reference priority mapping to use IEEE Std. 802.1Q. No new functionality is being introduced other than fixing the backhaul/fronthaul issue, the IEEE 802.1Q priority mapping issue and enabling the use of more spectrum.

1. Proven similar technology via testing, modeling, simulation, etc.

See a).

### Economic Feasibility

Each proposed IEEE 802 LMSC standard shall provide evidence of economic feasibility. Demonstrate, as far as can reasonably be estimated, the economic feasibility of the proposed project for its intended applications. Among the areas that may be addressed in the cost for performance analysis are the following:

1. Known cost factors.

The proposed amendment enhances capabilities defined in the existing standard and does not add any significant cost to either the infrastructure or the attached stations.

1. Balanced costs.

See a)

1. Consideration of installation costs.

See a)

1. Consideration of operational costs (e.g., energy consumption).

See a)

1. Other areas, as appropriate.