|  |  |
| --- | --- |
| Project | **IEEE 802.15 Wireless Specialty Networks Working Group <**<http://ieee802.org/15>**>** |
| Title | **IEEE 802.15.16t System Description Document**  |
| Date Submitted | **2021-01-12** |
| Source(s) | 16t Task Group | Voice: E-mail:  |
| Re: | 16t Task Group: Licensed Narrowband Amendment |
| Abstract | Template for System Description Document |
| Purpose | System Description Document |
| Notice | *This document does not represent the agreed views of the IEEE 802.15 Working Group or any of its subgroups*. It represents only the views of the participants listed in the “Source(s)” field above. It is offered as a basis for discussion. It is not binding on the contributor(s), who reserve(s) the right to add, amend or withdraw material contained herein. |
| Copyright Policy | The contributor is familiar with the IEEE-SA Copyright Policy <http://standards.ieee.org/IPR/copyrightpolicy.html>. |
| Patent Policy | The contributor is familiar with the IEEE-SA Patent Policy and Procedures:<<http://standards.ieee.org/guides/bylaws/sect6-7.html#6>> and < is located at <<http://standards.ieee.org/board/pat/pat-material.html>> and <<http://standards.ieee.org/board/pat>>. |

IEEE 802.16t

System Description Document

January 2021

# Introduction

This document describes the technical approach for IEEE 802.16 operation in channels less than 1.25 MHz bandwidth.

PAR Scope (From [802.15-20-0196r1](https://mentor.ieee.org/802.15/dcn/20/15-20-0196-01-016t-licensed-narrowband-amendment-par.pdf)):

*This project specifies operation in licensed spectrum with channel bandwidths greater than or equal to 5 kHz and less than 100 kHz. The project will specify a new PHY, and changes to the MAC as necessary to support the PHY. The amendment is frequency independent but focuses on spectrum less than 2 GHz. The range and data rate supported by the narrower channels are commensurate with those of the base standard, as scaled by the reduced channel bandwidth. The project also amends IEEE Std 802.16 as required to support aggregated operation in adjacent and non-adjacent channels.*

# Informative Section – rationale for changes:

## System-level PHY Design Aspects

### Performance Analysis (derived from SRD:)

# PHY Description

TDD

FDD

# MAC Changes related to overhead reduction

## MAC Layer Modifications for efficiency (From 16-16-0059r0)

### Modified DL MAP IE structure

### Modified UL MAP IE structure

###

### MAC Management Message (MMM) Structure