

# P802.19.1 Assumptions

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# Abstract

**This contribution proposes assumptions for P802.19.1  
Assumptions will serve as a framework for developing  
requirements and system architecture**

**Also, assumptions select some directions within the scope  
of P802.19.1**

## Assumptions 1/5

- **Each TVBD network is aware of its location and other information required to determine its coverage area.**
- **Each TVBD network has spectrum sensing capability. At least two levels of spectrum sensing are considered:**
  - TVBD network can detect presence of a signal in a channel, but cannot distinguish whether this is signal of primary or secondary user
  - TVBD network can detect presence of a signal in a channel and in some cases can distinguish whether this is signal of primary or secondary user.

## Assumptions 2/5

- **According to FCC requirements, each TVBD network has capability to leave its operating TV channel(s). This capability can be reused for TVWS coexistence.**
- **If TVBD network detects a signal in a TV channel and does not identify it as a primary signal, then the TVBD network assumes that this TV channel is allowed for secondary usage.**

## Assumptions 3/5

- **Interface between TWBD network and TVWS DB is available. In some cases P802.19.1 can obtain TVWS DB information from TWBD network. In other cases P802.19.1 need to have interface with TVWS DB.**
- **TVBD networks that require coexistence do not always have capability to communicate directly with each other by using their MAC and PHY protocols.**

## Assumptions 4/5

- **Each TVBD network has connection to IP-based network. This IP-based network can be used as transport means for TVWS coexistence.**
- **Depending on deployment scenario, both centralized and distributed solutions for managing TVWS coexistence can be beneficial. Correspondingly, P802.19.1 supports both types of solutions.**

## Assumptions 5/5

- **Not all secondary TVBD networks will use P802.19.1 coexistence methods. In other words, there will be some TVBD networks that will operate autonomously without taking care of any other TVBD networks. This can happen even if P802.19.1 provides considerable advantages to the TVBD networks following its coexistence protocol.**

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