## 4.1 US - OPERATION TO AVOID INTERFERENCE WITH TDWR

The US FCC, NTIA, FAA, and industry are working to resolve interference to Terminal Doppler Weather Radar (TDWR) systems used near airports that has occurred from some outdoor wireless systems operating in the 5470 MHz – 5725 MHz band. These wireless devices are subject to Section 15.407. When operating as a master device they are required to implement radar detection and DFS functions and radios must not transmit on channels, which overlap the 5600-5650 MHz band used by TDWR.

Additional information is available from

- the FCC's Knowledge Database (KDB) Publication 443999 "Interim Plans to Approve UNII Devices Operating in the 5470-5725 MHz Band with Radar Detection and DFS Capabilities" available at https://fjallfoss.fcc.gov/kdb/GetAttachment.html?id=33781
- the Wireless Internet Service Providers Association (WISPA) in coordination with Spectrum Bridge: http://www.spectrumbridge.com/udia/home.aspx. 5.4-GHz radios must be professionally installed. The professional installer must have the following expertise:
- Understanding of the configurations outlined in Table 11: US FCC IDs and Industry Canada Certification Numbers and covered configurations, especially those applicable to the 5470-5725 MHz U-NII band.
- Understanding of the master/slave operation of the device.
- Understanding of the devices frequency scan selection settings and how they can be set to prevent scanning and therefore transmission on any specific frequencies.
- Understanding of the option to set primary and two alternate frequencies on the device.
- Ability to use the GUI to set the primary and alternate transmit frequencies on the device, scanned frequencies on an device, and Transmit Output Power of a radio.
- Ability to determine if a radio is within 35 km (21.75 mi) of any Terminal Doppler Weather Radar (TDWR) using the Search function available at http://www.spectrumbridge.com/udia/search.aspx, or using various mapping programs and the data from in Table 2: TDWR Location Information.
- Ability to set the device's transmit frequency (frequencies, if using alternate frequencies) and device's scanned frequencies at least 30 MHz (center-to-center) from any TDWR operating frequency or frequencies within 35 km of the radio.

To gain this expertise the following training is required:

- Study of the documentation
- Familiarization in a lab or test environment
- Hands-on training with an experienced installer.

Procedure 1 provides the specific instructions to avoid interfering with TDWR when using 5.4GHz devices

**Procedure 1: Avoiding interference with Terminal Doppler Weather Radar (TDWR)**

1. Use standard installation procedures with the additional steps outlined below.

2. For each 5.4-GHz device, determine if it is within 35 km (21.75 mi) of any Terminal Doppler Weather Radar (TDWR). This can be done using the map search tool at http://www.spectrumbridge.com/udia/search.aspx, or other mapping tools using the data from Table 2.

4. If an device is within 35 km (21.75 mi) of any TDWR, set the primary transmit frequency (and alternate frequencies, if used) to a frequency (or frequencies) at least 30 MHz (center-to-center) from the TDWR operation frequency shown on http://www.spectrumbridge.com/udia/search.aspx or in Table 2.

5. If a device is within 35 km (21.75) mi of any TDWR

- Ensure its device is using primary and alternate (if used) transmit frequencies that are at least 30MHz form the TDWR operation frequency
- Set the device scanned frequencies to not include frequencies within 30MHz of the TWDR operation frequency

Note, even if the primary device itself is more than 35 km from the TDWR, if any of its clients are within 35 km, it must operate at least 30 MHz from the TDWR operation frequency.

Note, in some instances a device may be within 35 km of multiple TDWRs. In this case, the device must use a frequency at least 30 MHz from all local TDWR operation frequencies.

6. Register each 5.4-GHz device operating within 35 km (21.75 mi) of any TDWR in the voluntary WISPA- sponsored database at http://www.spectrumbridge.com/udia/home.aspx.

Note, this database may help expedite resolution of any interference to TDWRs.

7. Registration includes, at a minimum, Latitude, Longitude, and External Antenna Model. When registering a device, choose whether to allow General Access or to have the device information viewable