



**Federal Communications Commission
Office of Engineering and Technology
Laboratory Division**

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U-NII CLIENT DEVICES WITHOUT RADAR DETECTION CAPABILITY

Devices to be approved as U-NII client devices without radar detection capability must be compliant with all the general requirements of clients as specified in Section 15.202, in addition to the appropriate technical requirements of Part 15 Subpart E. According to the requirements of Section 15.202, a client device must rely on a master device to initiate a network. This requires that such a client device cannot initiate, or be configured to initiate, any transmissions including transmissions from probes, beacons or support ad-hoc modes (or other peer to peer modes) of operation without permission from an approved master device with radar detection capability. This places certain restrictions on such devices, for example:

- See KDB Publication 594280 D01 for further information and other considerations for client devices with software configurations.
- The operation of a client device as a Group Owner for Wi-Fi Direct® or TDLS in the U-NII bands is limited; it is permitted only where it is either communicating with a device approved as a master according to the requirements of Section 15.202 or if the device is operating under control of an approved master. Wi-Fi client devices that do not maintain full association with the access point may be permitted to operate as “listen-only” clients if they meet certain criteria as discussed in KDB Publication 594280 D01 Section B.3 and such devices must have their protocol pre-approved by the FCC. .
- Client devices cannot operate in Wi-Fi® “hotspot” modes. Devices with “hotspot” capabilities must have DFS and radar detection capabilities.

The following information should be included in the test report:

- (a) A complete test report for a client device without radar detection as described in Section 8 (DFS Test Report Guidelines) in the appropriate DFS Test Procedure specified in KDB Publication 905462 D02.

Special case for IEEE 802.11ac clients operating with 80 MHz BW modes: Client devices with 80 MHz BW mode can be tested with an approved master operating in 40 MHz BW mode. Test procedures for client devices with 80 + 80 MHz and 160 MHz BW modes must be approved using Pre-Approval Guidance (PAG) procedures (KDB Publication 388624). This is an interim solution until a few IEEE 802.11ac master devices with the various BW modes are approved.

- (b) A test report attachment, for the client operating in an associated mode as discussed in the first example above, that includes documentation for the following:

1. Test results demonstrating an associated client link is established with the master on a test frequency; if a client device operates in a “listen only” mode to a master without formally “associating” with it the test report must include tests for such modes.
 2. The devices must be tested with a master device operating in the same band and operation modes.
 3. If two client devices can communicate directly with each other while maintaining an association with a master or if the client operates on a frequency band while “listening” to a master, such modes must be tested with the master device active.
 4. The client and DFS-certified master device are associated, and a movie can be streamed as specified in the DFS Order for a non-occupancy period test
 5. The test frequency has been monitored to ensure no transmission of any type has occurred for 30 minutes. Note: If the client moves with the master, the device is considered compliant if nothing appears in the client non-occupancy period test. For devices that shut down (rather than moving channels), no beacons should appear.
 6. An analyzer plot that contains a single 30-minute sweep on the original channel
- (b) A complete User’s Manual and/or Professional Installers Manual. If the manual is not complete, upload an initial manual and later an updated User’s Manual exhibit.
 - (c) A Statement of Conformity for the Client in Non-Associated mode is required. The Form 731 application must include a Cover Letter Attachment stating that the client software and associated drivers will not initiate any transmission on DFS frequencies without initiation by a master. This includes restriction on transmissions for beacons and support for ad-hoc peer-to-peer modes.
 - (d) A channel/frequency plan for the device showing the channels that have active scanning or passive scanning. Active scanning is where the device can transmit a probe (beacon) and passive scanning is where the device can listen only without probes.
 - (e) Software security description as specified in KDB Publication 594280 D02 must be included in the filing.

Change Notice

08/14/2014: 905462 D03 Client Without DFS New Rules v01 has been replaced by 905462 D02 Client Without New Rules v01r01. Guidance on “listen only” client devices was added.

08/22/2016: 905462 D03 Client Without DFS New Rules v01r01 has been replaced by 905462 D02 Client Without New Rules v01r02. Updated references to Pre-Approval Guidance procedure.