

Federal Communications Commission
Oakland Mills Road
Columbia MD 21046

2019-11-15

Model: NFC7YWW01161024, NFC5YWW018512

FCC ID: 2ARB5-ULTRAONE

Subject: Software security requirements for U-NII device.

The information within this section of the Operational Description is to show compliance against the Software Security Requirements laid out within KDB 594280 D02 U-NII Device Security v01r03.

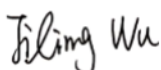
General Description	
1. Describe how any software/firmware update will be obtained, downloaded, and installed. Software that is accessed through manufacturer's website or device's management system, must describe the different levels of security.	The software/firmware will be obtained by the factory for production. The updates will not be obtained by the distributor. The software/firmware is a compiled binary, not readable, and no parameters can be changed after the file has been created. The upgrade program verifies the checksum of the binary and installs only if it's a valid one. The upgrade process proceeds automatically once user accepts to update and install.
2. Describe all the radio frequency parameters that are modified by any software/firmware without any hardware changes. Are these parameters in some way limited, such that, it will not exceed the authorized parameters?	RF Parameters are determined by the binary image. The user cannot modify RF parameters.
3. Describe in detail the authentication protocols that are in place to ensure that the source of the software/firmware is legitimate. Describe in detail how the software is protected against modification.	Checksum is used to verify the software/firmware is valid.
4. Describe in detail the verification protocols in place to ensure that installed software/firmware is legitimate.	SFTP for image transmission

5. For a device that can be configured as a master and client (with active or passive scanning), explain how the device ensures compliance for each mode? In particular if the device acts as master in some band of operation and client in another; how is compliance ensured in each band of operation?	The device works as a master in the factory default state, and switch to client mode after configured by Application running on the Notebook. The device acting as a master only operate in UNII-1 and UNII-3 bands and choice one legal channel randomly. And it acting as a client operate in UNII-1, UNII-2A, UNII-2C and UNII-3 bands, follow the band of master, and the band is fixed in software.
3rd Party Access Control	
1. Explain if any third parties have the capability to operate a U.S.-sold device on any other regulatory domain, frequencies, or in any manner that may allow the device to operate in violation of the device's authorization if activated in the U.S.	No third parties have the capability to operate this device on any regulatory domain frequencies, or in any manner that may allow the device to operate in violation of the device's authorization if activated in the United States
2. Describe, if the device permits third-party software or firmware installation, what mechanisms are provided by the manufacturer to permit integration of such functions while ensuring that the RF parameters of the device cannot be operated outside its authorization for operation in the U.S. In the description include what controls and/or agreements are in place with providers of third-party functionality to ensure the devices' underlying RF parameters are unchanged and how the manufacturer verifies the functionality.	Third-party software installation is not permitted on the device.
3. For Certified Transmitter modular devices, describe how the module grantee ensures that hosts manufactures fully comply with these software security requirements for U-NII devices. If the module is controlled through driver software loaded in the host, describe how the drivers are controlled and managed such that the modular transmitter parameters are not modified outside the grant of authorization.	This is not modular devices.
SOFTWARE CONFIGURATION DESCRIPTION	
1. To whom is the UI accessible? (Professional installer, end user, other.)	None of the mentioned parameters are viewable, thus not configurable (frequency of operation, power settings, antenna types, DFS settings, receiver thresholds, or country code settings.

a) What parameters are viewable to the professional installer/end-user?	No parameters are accessible or modifiable by any parties.
b) What parameters are accessible or modifiable to the professional installer?	No parameters are accessible or modifiable by professional installers or system integrators.
i) Are the parameters in some way limited, so that the installers will not enter parameters that exceed those authorized?	None of the mentioned parameters are adjustable or viewable.
ii) What controls exist that the user cannot operate the device outside its authorization in the U.S.?	None of the mentioned parameters are adjustable or viewable, thus not configurable.
c) What configuration options are available to the end-user?	None of the mentioned parameters are adjustable or viewable, thus not configurable (frequency of operation, power settings, antenna types, DFS settings, receiver thresholds, or country code settings).
i) Are the parameters in some way limited, so that the installers will not enter parameters that exceed those authorized?	Yes
ii) What controls exist that the user cannot operate the device outside its authorization in the U.S.?	None of the mentioned parameters are adjustable or viewable, thus not configurable (frequency of operation, power settings, antenna types, DFS settings, receiver thresholds, or country code settings).
d) Is the country code factory set? Can it be changed in the UI?	Yes. It cannot be changed in UI.
i) If so, what controls exist to ensure that the device can only operate within its authorization in the U.S.?	None of the mentioned parameters are adjustable or viewable, thus not configurable (frequency of operation, power settings, antenna types, DFS settings, receiver thresholds, or country code settings).
e) What are the default parameters when the device is restarted?	The previously used settings will be loaded.
2. Can the radio be configured in bridge or mesh mode? If yes, an attestation may be required. Further information is available in KDB Publication 905462 D02.	The radio cannot be operated in bridge or mesh mode.

<p>3. For a device that can be configured as a master and client (with active or passive scanning), if this is user configurable, describe what controls exist, within the UI, to ensure compliance for each mode.</p> <p>If the device acts as a master in some bands and client in others, how is this configured to ensure compliance?</p>	<p>The device works as a master in the factory default state, and switch to client mode after configured by Application running on the Notebook.</p> <p>It is designed to meet the requirement of KDB905462 channel plan in both modes (master/client).</p>
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Best Regards



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