

SOFTWARE SECURITY REQUIREMENTS FOR U-NII DEVICES

Date: May 14, 2021

ATTN: Pingan Dai

FCC

Subject: Attestation Letter regarding UNII devices

FCC ID: **2AZ3IMP250**, Software security questions and answers per KDB 594280 D02 v01r03:

General Description	
1	<p>Describe how any software/firmware updates for elements than can affect the device's RF parameters will be obtained, downloaded, validated and installed. For software that is accessed through manufacturer's website or device's management system, describe the different levels of security as appropriate.</p> <p>There is no downloadable software provided by the manufacturer that can modify critical radio transmitter parameters. All critical parameters are programmed in Chip memory at the factory and cannot be modified or overridden by third parties.</p>
2	<p>Describe the RF parameters that are modified by any software/firmware without any hardware changes. Are these parameters in some way limited such that any other software/firmware changes will not allow the device to exceed the authorized RF characteristics?</p> <p>There are no RF parameters that can be modified. All RF parameters are programmed in Chip memory at the factory and cannot be modified or overridden by third parties.</p>
3	<p>Describe in detail the authentication protocols that are in place to ensure that the source of the RF-related software/firmware is valid. Describe in detail how the RF-related software is protected against modification.</p> <p>The firmware in the factory has been fixed in to chip, can't change, so there is need for validation. Driver under it operating system provides a digital certificate authentication.</p>
4	<p>Describe in detail any encryption methods used to support the use of legitimate RF-related software/firmware.</p> <p>The firmware in the factory has been fixed in chip, can't be changed, there is no need for validation. Driver is in binary form, it is own closure, no need for verification.</p>
5	<p>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?</p> <p>Not applicable, this device only supports client without radar detection. The RF parameters has been fixed in the wifi module firmware and cannot be altered, so the user has no way to break the compliance on the device.</p>
Third-Party Access Control	
1	<p>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.</p> <p>Third parties do not have the capability to operate in any manner that is violation of the certification in the U.S</p>

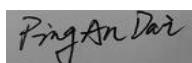
2	<p>Describe, if the device permits third-party software or firmware installation, what mechanisms are provided by the manufacturer to permit integration of such functions while ensuring that the RF parameters of the device cannot be operated outside its authorization for operation in the U.S. In the 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.</p> <p>RF parameters are programmed into Chip memory at the factory and cannot be reprogrammed or re-flashed by third parties.</p>
3	<p>For Certified Transmitter modular devices, describe how the module grantee ensures that host manufacturers 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 RF parameters are not modified outside the grant of authorization.</p> <p>There are no RF parameters that can be modified. All RF parameters are programmed in Chip memory at the factory and cannot be modified or overridden by third parties. The module is not controlled by driver software on the host and cannot override critical RF parameters stored in module Chip memory.</p>

USER CONFIGURATION GUIDE

1	<p>Describe the user configurations permitted through the UI. If different levels of access are permitted for professional installers, system integrators or end-users, describe the differences.</p> <p>No UI provided.</p> <p>a) What parameters are viewable and configurable by different parties?</p> <p>None</p> <p>b) What parameters are accessible or modifiable by the professional installer or system integrators?</p> <p>None</p> <p>1) Are the parameters in some way limited, so that the installers will not enter parameters that exceed those authorized?</p> <p>The module micro-code reads the parameters from the module Chip memory. These parameters cannot be modified or overridden by SW drivers.</p> <p>2) What controls exist that the user cannot operate the device outside its authorization in the U.S.?</p> <p>Default mode is always FCC compliant. Other country modes cannot be activated without receiving three independent country codes from different APs, otherwise remains in FCC default mode (always FCC compliant)</p> <p>c) What parameters are accessible or modifiable by the end-user?</p> <p>None</p> <p>1) Are the parameters in some way limited, so that the installers will not enter parameters that exceed those authorized?</p> <p>The module micro-code reads the parameters from the module Chip memory. These parameters cannot be modified or overridden by SW drivers.</p> <p>2) What controls exist so that the user cannot operate the device outside its authorization in the U.S.?</p> <p>Default mode is always FCC compliant. Other country modes cannot be activated without receiving three independent country codes from different APs, otherwise remains in FCC default mode (always FCC compliant)</p> <p>d) Is the country code factory set? Can it be changed in the UI?</p> <p>Default country code is set in the factory and no UI is provided for modification.</p> <p>1) If it can be changed, what controls exist to ensure that the device can only operate within its authorization in the U.S.?</p> <p>Programmed for default mode which is always FCC compliant. Always set for default for all start-ups, resets, timeouts or other host or network events.</p>
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	e) What are the default parameters when the device is restarted? Always FCC compliant
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. No, it can't work in the bridge or the mesh mode
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. If the device acts as a master in some bands and client in others, how is this configured to ensure compliance? It can only work in client mode, and cannot be configured.
4	For a device that can be configured as different types of access points, such as point-to-point or point-to-multipoint, and use different types of antennas, describe what controls exist to ensure compliance with applicable limits and the proper antenna is used for each mode of operation. (See Section 15.407(a)) This device is not an access point.

Signature:



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