Tridium 8000-WiFi

User Manual

Note: *This User Manual is for internal Tridium use only. The 8000-WiFi module is a device that is be incorporated into a final assembly. The final assemblies using this module would each have an appropriate User Manual specific to their features/functions.*

8000-WiFi Module Features:

The Tridium 8000-Wifi module includes the following features:

- WLAN Baseband Processor and RF Transceiver support of IEEE Std. 802.11a, 802.11b, 802.11g, and 802.11n
- printed circuit board layout for an eight layer pcb
- PCB space approximately: 1.5 X 1.5 inches
- WLAN 2.4 GHz SISO (20 MHz channels) and 5 GHz SISO (20 and 40 MHz channels)
- Designed for use with the Texas Instruments AM3352 processor
- WLAN core that is software- and hardware-compatible with prior WL127x, WL128x, and BL6450 offerings for smooth migration to device
- Supports access point and client modes of operation
- Shared host-controller-interface (HCI) for WLAN using 4-bit SDIO
- RP-SMA connector for use with external antenna
- easy-to-use FCC, IC, ETSI, certified module

Approved Antenna Types and Maximum Gain Values:

This device is intended only for integration into Tridium products under the following conditions:

- The antenna(s) used for this transmitter must not transmit simultaneously with any other antenna or transmitter, except in accordance with FCC multi-transmitter product procedures.
- The radio transmitter can operate only using an antenna of a type and maximum (or lesser) gain approved by Tridium. Table 2 lists the antennas approved by Tridium for use with the radio transmitter along with maximum allowable gain values. Antenna types not included in the list or having a gain greater than the maximum indicated are strictly prohibited for use with this transmitter.

Table 2. Approved Antenna Types and Maximum Gain Values

Antenna Type	Brand	Part Number	Max Gain 2.4 GHz	Max Gain 4.9 to 5.9 GHz	Unit
Dipole	Linx Technologies	ANT-DB1-RAF-RPS	2.5	4.6	dBi

FCC and Industry Canada Compliance Statements:

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:
1. This device may not cause harmful interference, and
2. This device must accept any interference received, including interference that may cause undesired operation.

Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one of the following measures:
- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

This Device complies with Industry Canada License-exempt RSS standard(s). Operation is subject to the following two conditions: 1) this device may not cause interference, and 2) this device must accept any interference, including interference that may cause undesired operation of the device.

Cet appareil est conforme à la norme d'Industrie Canada, exempts de licence standard RSS (s). Son fonctionnement est soumis aux deux conditions suivantes: 1) le dispositif ne doit pas causer d'interférences, et 2) le dispositif doit accepter toute interférence, y compris les interférences qui susceptible de provoquer un mauvais fonctionnement de l'appareil.

Under Industry Canada regulations, this radio transmitter may only operate using an antenna of a type and maximum (or lesser) gain approved for the transmitter by Industry Canada. To reduce potential radio interference to other users, the antenna type and its gain should be so chosen that the equivalent isotropically radiated power (e.i.r.p.) is not more than that necessary for successful communication.

En vertu des règlements d'Industrie Canada, cet émetteur de radio ne peut fonctionner qu'en utilisant une antenne d'un type et maximale (ou moins) gain approuvé pour l'émetteur d'Industrie Canada. Pour réduire les interférences radio potentielles aux autres utilisateurs, le type d'antenne et son gain doivent être choisis afin que la puissance isotrope rayonnée équivalente (e.i.r.p.) ne soit pas plus que ce qui est nécessaire pour une communication réussie.

The device for operation in the band 5150–5250 MHz is only for indoor use to reduce the potential for harmful interference to co-channel mobile satellite systems.

Les dispositifs fonctionnant dans la bande 5150-5250 MHz sont réservés uniquement pour une utilisation à l'intérieur afin de réduire les risques de brouillage préjudiciable aux systèmes de satellites mobiles utilisant les mêmes canaux

WARNING - Users should also be advised that high-power radars are allocated as primary users (i.e. priority users) of the bands 5250–5350 MHz and 5650–5850 MHz and that these radars could cause interference and/or damage to LE-LAN devices.

Avertissement - De plus, les utilisateurs devraient aussi être avisés que les utilisateurs de radars de haute puissance sont désignés utilisateurs principaux (c.-à-d., qu'ils ont la priorité) pour les bandes 5250-5350 MHz et 5650-5850 MHz et que ces radars pourraient causer du brouillage et/ou des dommages aux dispositifs LAN-EL.

Tridium Responsibilities to comply with FCC and Industry Canada Regulations

The 8000-WiFi Module has been certified for integration into products only by Tridium under the following conditions:

To comply with FCC and Industry Canada RF exposure limits for general population / uncontrolled exposure, the antenna(s) used for this transmitter must be installed to provide a separation distance of at least 20cm from all persons and operating in conjunction with any other antenna or transmitter.

If the module is used in a multi-transmitter or simultaneous transmission host then the module must be evaluated and approved to one of the host platform exposure conditions. (Mobile exposure, Portable exposure or Mixed Mobile and Portable exposure).

However, the OEM integrator is still responsible for testing their end-product for any additional compliance requirements required with this module installed (for example, digital device emissions, PC peripheral requirements, etc.).

IMPORTANT NOTE: In the event that this condition cannot be met (for certain configurations or co-location with another transmitter), then the FCC and Industry Canada authorizations are no longer considered valid and the FCC ID and IC Certification Number cannot be used on the final product. In these circumstances Tridium will be responsible for re-evaluating the end product (including the transmitter) and obtaining a separate FCC and Industry Canada authorization.

End Product Labeling
The 8000-WiFi Module is labeled with its own FCC ID and IC Certification Number. If the FCC ID and IC Certification Number are not visible when the module is installed inside another device, then the outside of the device into which the module is installed must also display a label referring to the enclosed module. In that case, the final end product must be labeled in a visible area with the following:

"**Contains Transmitter Module FCC ID: W98-12977**"
"**Contains Transmitter Module IC: 8339A-12977**"
or
"**Contains FCC ID: W98-12977**"
"**Contains IC: 8339A-12977**"

Tridium's module must only use the approved antenna(s) listed above, which have been certified with this module. Tridium has to be aware not to provide information to the end user regarding how to install or remove this RF module or change RF related parameters in the user manual of the end product.

The user manual for the end product must include the following information in a prominent location:
"This device is granted for configurations in which the antennas used for this transmitter must be installed to provide a separation distance of at least 20cm from all person and not be co-located with any other transmitters except in accordance with FCC and Industry Canada multi-transmitter product procedures."

Le manuel d'utilisation pour le produit final doit comporter les informations suivantes dans unendroit bien en vue:

Ce dispositif est accordée pour les configurations dans lesquelles les antennes utilisées pour cet émetteur doit être installé pour fournir une distance de séparation d'au moins 20cm de toute personne et ne pas être co-localisés avec d'autres émetteurs sauf en conformité avec la FCC et d'Industrie Canada produit de l'émetteur multiples procédures.