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## **Certification Exhibit**

**FCC ID: SM6-HUBTTU  
IC: 9235A-HUBTTU**

**FCC Rule Part: 15.247  
ISED Canada's Radio Standards Specification: RSS-247**

**TÜV SÜD Project Number: 72126877**

**Manufacturer: Mueller Systems, LLC  
Model: MiHUB-TTU**

## **Manual**



# MIHUB-TTU User Manual

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## 1. FCC Information:

**Changes or modifications not expressly approved by Mueller Systems could void the user's authority to operate the equipment.**

This equipment complies with radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with minimum distance 28 cm between the radiator and your body. This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.

**NOTE:** 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 or more 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.

## 2. IC Information

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.

*Conformément à la réglementation d'Industrie Canada, le présent émetteur radio peut fonctionner avec une antenne d'un type et d'un gain maximal (ou inférieur) approuvé pour l'émetteur par Industrie Canada. Dans le but de réduire les risques de brouillage radioélectrique à l'intention des autres utilisateurs, il faut choisir le type d'antenne et son gain de sorte que la puissance isotrope rayonnée équivalente (p.i.r.e.) ne dépasse pas l'intensité nécessaire à l'établissement d'une communication satisfaisante.*

*This device complies with Industry Canada licence-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.*

*Le présent appareil est conforme aux CNR d'Industrie Canada applicables aux appareils radio exempts de licence. L'exploitation est autorisée aux deux conditions suivantes : (1) l'appareil ne doit pas produire de brouillage, et (2) l'utilisateur de l'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement.*

This equipment complies with radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with minimum distance 41

cm between the radiator and your body. This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.”

*Cet équipement est conforme aux limites d'exposition aux radiations dans un environnement non contrôlé. Cet équipement doit être installé et utilisé à distance minimum de 41 cm entre le radiateur et votre corps. Cet émetteur ne doit pas être co-localisées ou opérant en conjonction avec tout autre antenne ou transmetteur.*

### 3. Authorized Antennas

*This radio transmitter has been approved by Industry Canada to operate with the antenna types listed below with the maximum permissible gain and required antenna impedance for each antenna type indicated. Antenna types not included in this list, having a gain greater than the maximum gain indicated for that type, are strictly prohibited for use with this device.*

*Cet émetteur a été approuvé par Industrie Canada et FCC à opérer avec les types d'antenne indiqués ci-dessous avec l'amplification maximale admissible et impédance d'antenne pour chaque type d'antenne indiqué. Il est strictement interdit d'utiliser les types d'antenne qui ne sont pas sur la liste avec une amplification plus de celle de ce type d'antenne.*

Antennas:

- 1) Omnidirectional Dipole, LCom Model HGV-906U, 50 $\Omega$  impedance, 6dBi gain.
- 2) Omnidirectional Dipole, LCom Model HG908U-PRO, 50 $\Omega$  impedance, 8dBi gain

### 4. Introduction

The MIHUB-TTU is intended for use as an unattended data collector for automatic meter monitoring and control applications. The MIHUB-TTU is only to be installed by trained professional personnel. There are no user accessible adjustments or components.

### 5. Maintenance

There are no user serviceable items within the MIHUB-TTU. No cleaning is required.

### 6. Product Labeling

The product includes two Product Identification Labels. One label is affixed to the Base MiHub enclosure –this label contains the FCC and IC IDs for the system. The second label is affixed to the outside of the external amplifier enclosure.

#### 6.1. Product Identification

This label is affixed to the Base MiHub module.

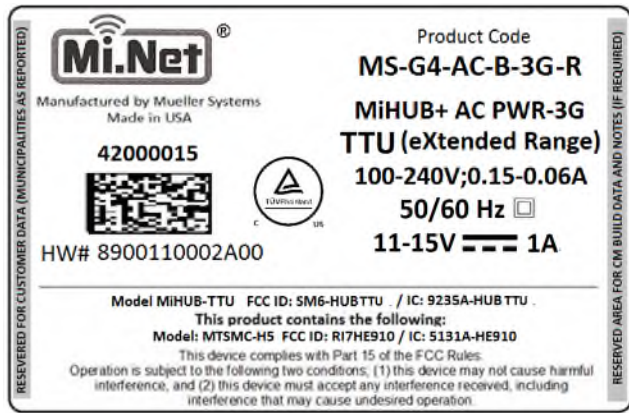


Figure 1- Product Identification Label for Base MiHub module

## 6.2. TTU Product Identification

This label is affixed to the outside of the MiHub External Amplifier.

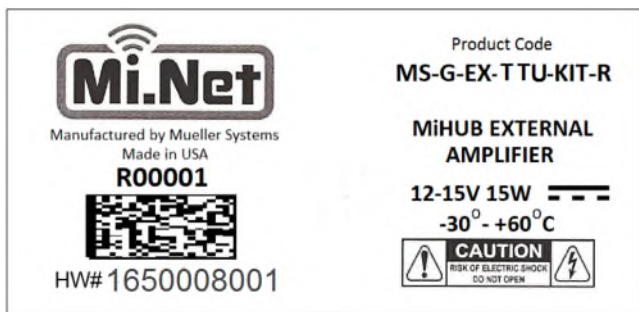


Figure 2- Product Identification Label for MiHub External Amplifier

## 6.3. Canadian Labeling Requirements

This Class B digital device complies with Canadian ICES-003  
Cet appareil numérique de la Classe B est conforme à la norme NMB-003 du Canada