

## Inventory Tag

Model 2.0 User Manual v1.0.0

Manufacture's name: Christie Lites Enterprises USA

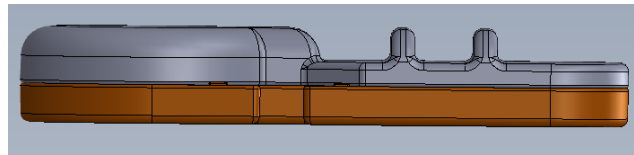
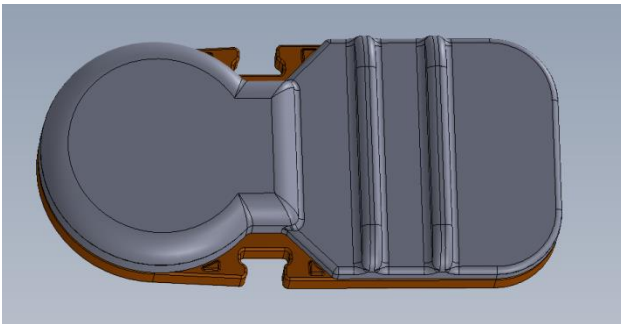
Address: 6990 Lake Ellenor Drive, Orlando, Florida 32809, United States

### Introduction

The Wireless RFID Asset Tag is a small, durable, battery operated device that utilizes a proprietary communication protocol to communicate. When used in conjunction with a local BLE Gateway device and Network Management Software, the Tag Device can provide useful data to business owners and managers. Its uses are numerous but the overriding purpose is tracking of assets valuable to a company's operations or sales.

Upon receipt, devices are in a deep sleep mode and no processing or radio activity is present. This manual provides the necessary steps to unpack, commission and install the Wireless RFID Asset Tag on assets for tracking within a facility having BLE Gateways and its accompanying Network Manager Software Installed.

### Photo of Tag Device



## Warnings

- a) Failure to follow all Tag Device User Instructions may result in improper operation of tag device, failure of device or other hazard.
- b) Choking Hazard – infants or small children may choke on Tag Device; keep out of reach of children.
- c) The RFID Asset Tag is powered with a lithium Ion battery that is not user replaceable.
- d) Swallowing a lithium ion battery or device containing a lithium ion battery may result in serious bodily injury or death.
- e) Do not crush Tag Device – Battery Damage and Fire Hazard may exist.
- f) The Tag Device has no user serviceable parts or components.
- g) Opening the Tag Device plastic enclosure voids all warranties.
- h) Explosion Hazard - Do not incinerate or dispose of Tag Device in fire or store in area of high temperature above 60C/140F.



Keep away from  
children

## Unpacking

- a) The RFID Asset Tag is supplied in bulk packaging, open container and remove an individual tag.
- b) Remove Tag from its plastic bag and discard the bag properly for recycling.
- c) Unused Tags may be stored for 24 months with no appreciable loss of battery life.

## Tag Commissioning for Use

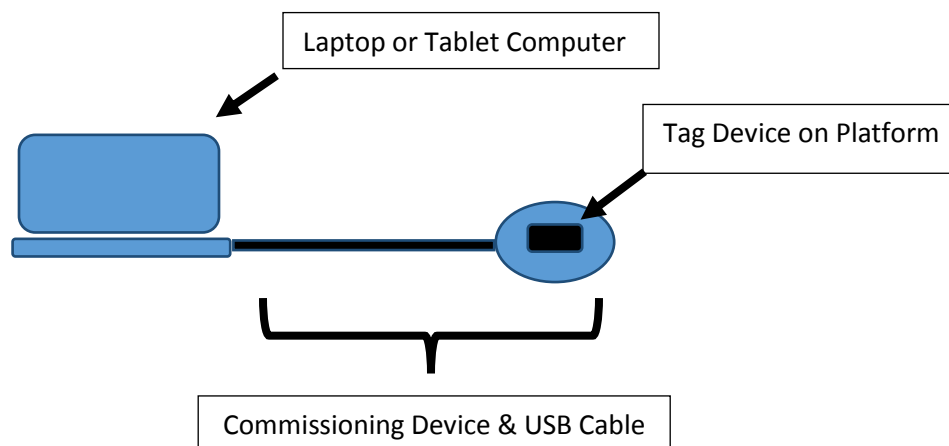
Prior to Installation on an asset, Tag Device must be commissioned. Only the System Commissioning equipment provided with the BLE Gateway will wake the tag from deep sleep and begin proper operation.

A user provided laptop or tablet computer is required for commissioning purposes. Desktop Computers may be substituted but lack portability that may be required.

A user provided barcode scanner is also required for the commissioning process and will be used to scan the barcode of an asset prior to install of a Tag Device.

Assets that are to have a Tag Device installed must have an existing inventory control barcode or one must be generated for use during the commissioning process. This barcode must be unique to the item to which the Tag Device is being applied.

**Tag Commissioning Graphic**



## Commissioning Instructions

- a) Install the Commissioning App “TagComm” from Google Play or the Apple Store to user-supplied laptop or tablet computer.
- b) Connect the Commissioning Device via its USB Cable to an unused USB port of the laptop or tablet.
- c) Connect a user supplied handheld barcode scanner to laptop or tablet computer.
- d) Open the App “ TagComm”.
- e) Select an asset to which the Tag Device is to be affixed.
- f) Select a Tag Device.
- g) Place the Tag Device on the center of Commissioning Device platform maintaining 3 feet min. separation from Commissioning platform and other tags.

**Note – During Commissioning, it is necessary to maintain 3 feet or more separation between bulk containers of Tag Devices and the Commissioning Equipment. Only the Tag Device being commissioned is to be in the area of the Commissioning Device. In the event the Commissioning Device awakens more than one intended Tag Device, an error will occur and display on the App screen. Should this occur, move un-commissioned tag devices further from commissioning station and repeat the process with selected tag device.**

- h) Using barcode scanner, scan the barcode of the asset to which Tag Device will be affixed.
- i) Immediately after scanning the asset barcode, the Tag Device placed on the Commissioning Platform is awakened from the Sleep State.
- j) The Commissioning Platform reads the Tag Device unique identification (ID) and sends it along with the asset barcode number scanned to the Inventory Management System via the Network Manager system installed at the facility.
- k) For complete details on this process and integration of the Tag Device, BLE Gateway and Network Manager in an Inventory Control System, see the Network Manager Interface User Manual.

## Installing the Tag Device on an Asset – See Photos.

Once a Tag Device has been commissioned, its ID is joined to the assets barcode number permanently.

It is important that the tag be immediately installed on the intended asset to prevent inadvertently installing it on the wrong asset.

The Tag Device may be installed using one or more of the following methods;

- a) VHB Tape – 3M 5952 or TESA acxPlus VHB tapes are excellent, high strength materials for affixing a Tag Device on bare metal, painted or powder coated metal, most plastics, glass and composite surfaces. Follow the VHB tape manufacturer’s instructions for preparation of Tag Device and Asset surfaces before application of VHB tape to surfaces.
- b) Cable Ties – A variety of plastic, metal or coated metal cable ties are suitable to affix the Tag Device to the intended asset. Use of a controlled force installation tool for cable ties is recommended to ensure the cable tie is secure yet, not overtightened onto Tag Device and Asset. Overtightening of cable tie may deform the Tag Device plastic enclosure and damage the internal electronics or battery. Cable Tie width may not exceed 4.6 mm to fit in the appropriate area as shown by photos below. Stainless Steel Cable Ties are recommended, two required.
- c) Self Tapping Screws – The Tag Device has two semicircular areas, one on either long edge that are designed to accept a #6 or metric equivalent self-tapping screw. Use of a self-tapping screw is one possible way of securing the Tag Device to wood, plastic or composite surfaces of an asset. Predrilling of some materials may be helpful and should be considered length of screw should be selected to ensure no damage to internal parts under installation surface.

- d) Combination – For some assets it may be desirable to use a combination of the aforementioned techniques to install a Tag Device to an Asset. VHB tape is useful for prepositioning a Tag Device prior to affixing with screws or cable ties, this is just one example.
- e) It is highly recommended the user study each asset and select a suitable tag installation site and method of affixing Tag Devices to an asset prior to start of installation. Creation of a standard procedure for the installation of Tag Devices on each different asset type is also recommended to ensure consistent results of installation.

### Installation Photos

Sample Tag mounted with dual, 4.6mm wide cable ties



Sample Tag surface mounted with VHB tape (3M5952)



Sample Tag surface mounted with Self Tapping Screw



## FCC WARNING

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.

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

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.

To maintain compliance with FCC's RF Exposure guidelines, This equipment should be installed and operated with minimum distance between 20cm the radiator your body: Use only the supplied antenna.

Equipment:	Inventory Tag
Trade Name:	Christie Lites Enterprises
Model Name:	2.0
Operation Frequency:	2405-2480MHz
Modulation Type:	GFSK
Antenna Type:	PCB antenna
Antenna Gain:	TX:1dBi
Max. Field Strength:	97.0dBuV/m@3m
Power Source:	DC 3V by battery
Battery:	DC 3V

Hardware Version:	1.02
Software Version:	1.01t

## IC Caution:

Radio Standards Specification RSS-Gen, issue 5

IC Caution:

RSS-Gen Issue 5 March 2019 "&" RSS-Gen numéro 5 mars 2019

- English:

This device contains licence-exempt transmitter(s)/receiver(s) that comply with Innovation, Science and Economic Development Canada's licence-exempt RSS(s). Operation is subject to the following two conditions:

- (1) This device may not cause interference.
- (2) This device must accept any interference, including interference that may cause undesired operation of the device.

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

RF exposure statement:

The equipment complies with IC Radiation exposure limit set forth for uncontrolled environment. This equipment should be installed and operated with minimum distance 20cm between the radiator and your body.

- French:

Cet appareil contient des émetteurs / récepteurs exemptés de licence conformes aux RSS (RSS) d'Innovation, Sciences et Développement économique Canada. Le fonctionnement est soumis aux deux conditions suivantes:

- (1) Cet appareil ne doit pas causer d'interférences.
- (2) Cet appareil doit accepter toutes les interférences, y compris celles susceptibles de provoquer un fonctionnement indésirable de l'appareil.

Tout changement ou modification non expressément approuvé par la partie responsable de la conformité pourrait annuler l'autorité de l'utilisateur à utiliser l'équipement.

Déclaration d'exposition RF:

L'équipement est conforme à la limite d'exposition aux radiations de la IC établie pour un environnement non contrôlé. Cet équipement doit être installé et utilisé avec une distance minimale de 20 cm entre le radiateur et votre corps.

Manufacturer's Name: Christie Lites Enterprises USA

Sample Description: Inventory Tag

Trade Mark: Christie Lites Enterprises

Model number: 2.0

Operating Temperature: -10° C to 40° C

This product is a fixed location. To comply with RF exposure requirements, a minimum separation distance of 20cm must be maintained between the user's

body and the device, including the antenna. Use only the supplied or an approved antenna.

This device in compliance with the essential requirements and other relevant provisions of Directive 2014/53/EU. All essential radio test suites have been carried out.

1. CAUTION : RISK OF EXPLOSION IF BATTERY IS REPLACED BY AN INCORRECT TYPE. DISPOSE OF USED BATTERIES ACCORDING TO THE INSTRUCTIONS

2. The device complies with RF specifications when the device used at 20cm from your body

Function	Operation Frequency	Max RF Outputpower (dBm)	Limit (dBm)
SRD	2405-2480MHz	-1.230	10

