

AMUT03

Monitoring Neck TAG

SPECIFICATIONS



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Disclaimer

The information in this manual was accurate and reliable at the time of its release. However, we reserve the right to change the specifications of the product described in this manual without notice at any time.

Registered Trademarks

All other proprietary names mentioned in this manual are the trademarks of their respective owners.

Revision 19

Issued by: Zeev Kapelnik

Approved by:

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Version History:

0.10	Initial version
0.11	Add NFC
0.12	Change product name to HR-TAG-LDn
0.13	Update product name to AMUT03
0.14	Update Occupied bandwidth
0.15	Add product name cSense Flex
0.16	Add Anatel logo and ID
0.17	Update tag to upper case TAG and product name to cSense Flex
0.18	Add Monitoring Neck TAG
0.19	Warnings for Canada and e-labeling

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AMUT03

FCC ID: AMUT03

Manufacturer: SCR Engineers Ltd.

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.

The FCC Wants You to know

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.

FCC Warning

Changes or modifications to this equipment not expressly approved by the party responsible for compliance (SCR Engineers Ltd.) could void the user's authority to operate the equipment

ISED Warning

SCR engineers Ltd n'approuve aucune modification apportée à l'appareil par l'utilisateur, quelle qu'en soit la nature. Tout changement ou modification peuvent annuler le droit d'utilisation de l'appareil par l'utilisateur.

RF Exposure Warnings

RF Exposure - This device has been tested for compliance with FCC RF exposure limits in a portable configuration. This device must not be used with any other antenna or transmitter that has not been approved to operate in conjunction with this device.

Industry Canada Notice:

IC: 26436-AMUT03

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

This device complies with Industry Canada ICES-003 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.

Interference statement

This device complies with Part 15 of the FCC Rules and 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.

Wireless notice

This device complies with FCC/ISED radiation exposure limits set forth for an uncontrolled environment and meets the FCC radio frequency (RF) Exposure Guidelines and RSS-102 of the ISED radio frequency (RF) Exposure rules. This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.

Le présent appareil est conforme à l'exposition aux radiations FCC / ISED définies pour un environnement non contrôlé et répond aux directives d'exposition de la fréquence de la FCC radiofréquence (RF) et RSS-102 de la fréquence radio (RF) ISED règles d'exposition. L'émetteur ne doit pas être colocalisé ni fonctionner conjointement avec à autre antenne ou autre émetteur.



2201-16-2501

“Este equipamento não tem direito à proteção contra interferência prejudicial e não pode causar interferência em sistemas devidamente autorizados.”

Warning

This is a class A product. In a domestic environment this product may cause radio interference in which case the user may be required to take adequate measures.

1 Global system specifications

All units are for outdoor use, required Radio regulations according to target market & Low voltage 24VDC regulation (except for TAGs which powered by internal battery).

1.1 System components

HR-TAG-LDn / cSense Flex/ Monitoring Neck Tag Flex – Activity-based TAG with 2.4GhZ transceiver & IRDA receiver.

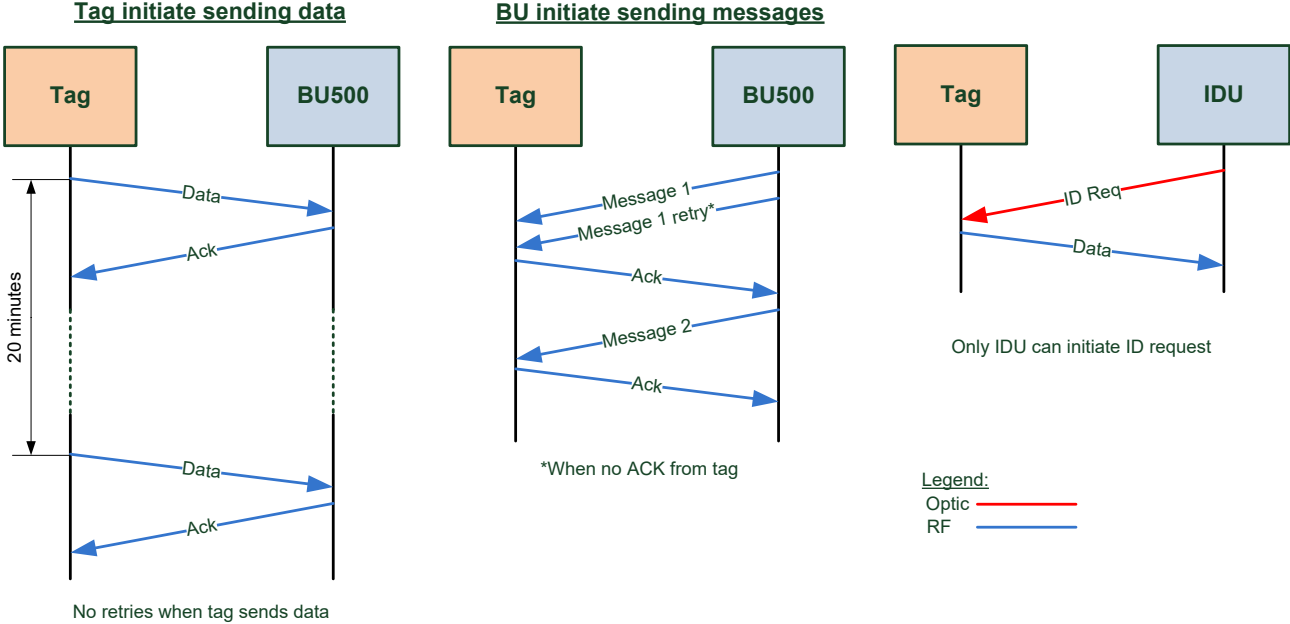
IDUxxx – Local TAG identification unit with a serial network interface (CAN BUS or Current Loop), IRDA transmitter & 2.4GhZ Receiver ONLY.

BU-500 – LD Base unit, with the RS-485 network interface and 2.4GhZ transceiver.

BU-500E – LD Base unit, with 10BASE-T/100BASE-TX Ethernet network interface.

SH – SenseHub Controller – same communication protocol with TAGs as BUxxx

1.2 TAG/IDU/BU/SH communication overview



2 TAG Specifications

Product Model/Name

Product Name - AMUT03 – Cow Monitoring Neck TAG

Model 1 – HR-TAG-LDn

Model 2 – cSense Flex

Model 3 –Monitoring Neck Tag Flex

The difference between models is SW and enclosure color ONLY.

2.1 General description

A neck TAG mounted on a collar on the animal neck, used for the following:

1. Identification of animal using 2.4GHz transceiver and optical IRDA receiver and/or NFC reader unit.
2. Measure various animal parameters, processes and transmit them via 2.4 GHz to the base unit (BU500/E) and/or local IDUxx.

The TAG initiates transmissions of few messages each hour by predefined sequence or upon request from IDUxxx via IRDA receiver or BUxxx/SenseHub units via the 2.4GHz link.

Outdoor installation, sealed unit, powered from the internal 3.6V battery.

2.2 2.4GhZ Transceiver Parameters

RF Transceiver: Atmel AT86RF233

RF Frequency: 2.405-2.48GHz

Modulation type: QPSK

RF Channels: 5MHz separation 16ch (2.45MHz Occupied Bandwidth)

Baud Rate: 250K Bit/Sec (Not configurable)

Output power: 7.5 dBm (Max)

Antenna type: PCB Omni-directional

Antenna gain: Average 0dBi (Max gain: 1.5dBi)

Average RF data: 3 messages/hour, 1mSec/message, ~30bytes/message.



2.3 Optic Parameters

IRDA Receiver – using to initialize TAG parameters and ID transmission via the 2.4GHz link an aim to identify specific animal in a specific location as milking station or passing gate.

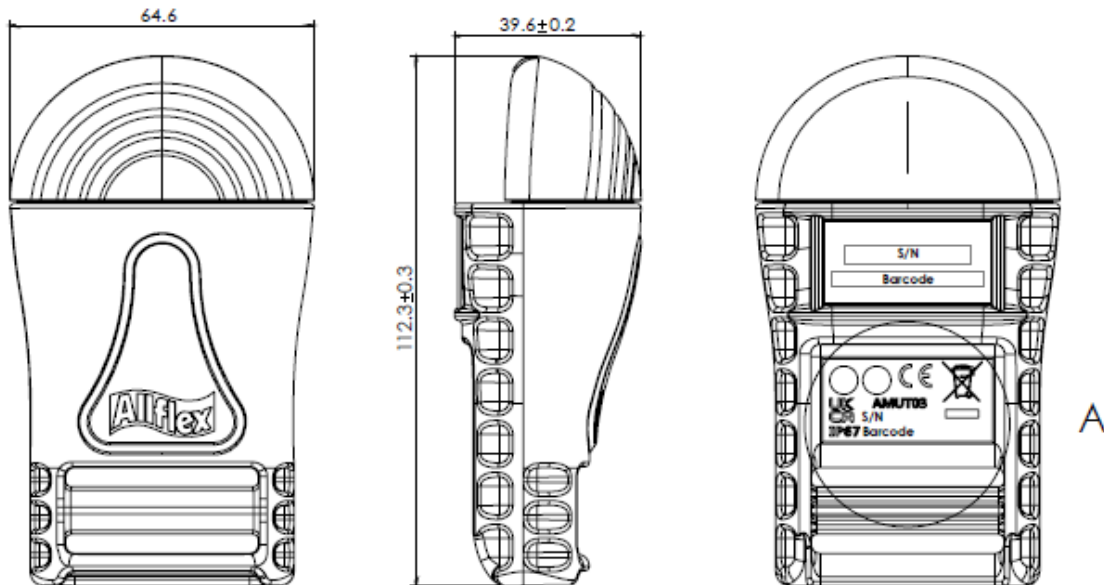
2.4 NFC Parameters

Utilizing **Passive** internal NFC High-Frequency inlay (IC and Antenna) complying with the following standards

- ISO/IEC 15693-2, -3
- ISO/IEC 18000-3 Compliant
- 13.56-MHz Operating Frequency
- Occupied bandwidth 0.5MHz

2.5 Mechanical dimensions

All dimensions in mm



3 Environmental Conditions

1. IP – IP67.
 2. Operational temperature -33°C to 50°C.
 3. Storage – TBD
 4. Transportation
- Complies with ETS 300 019 -2-2 T2.3
Complies with ETS 300 019 -2-1 T 1.2

4 Installing the TAG

It is important to correctly attach the TAG to the cow's neck in a secure manner in order to avoid them from turning or falling off.

To securely attach the TAG to the cow's neck:

1. Ensure that your TAG assembly kit includes the following parts:
 - i. HR-TAG-LDn or cSense Flex
 - ii. Belt, Weight & Buckle

2. Open the outside locker of buckle using the buckle opener (supplied with each system) or a large flat screwdriver.
3. Mount the belt on the cow's neck in a way that the TAG is positioned on the upper left side of the cow's neck (when looking from behind).
4. Closely fasten the belt around the cow's neck with a maximum of 1-2 fingers gap between the belt & the neck.
5. Tighten the buckle's lever to lock the belt. Make sure that the buckle is completely closed and secured (pushed in all the way)

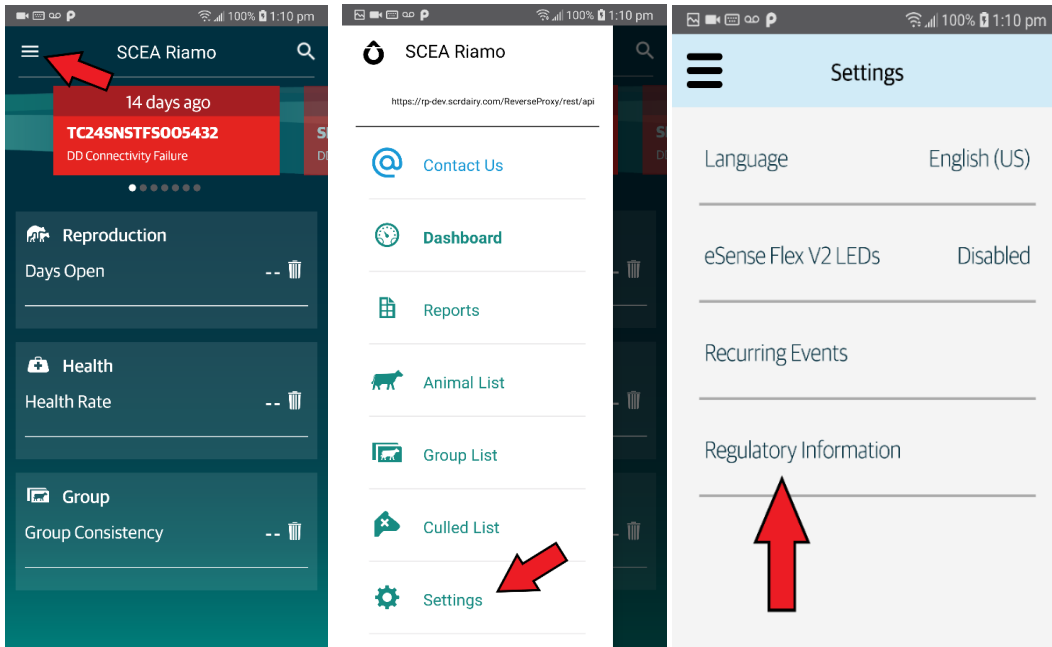
A properly mounted TAG should look like this picture:



5 Product marking – Regulatory ID – e-Labeling

Access to regulatory information is available via the management web application or mobile application.

Accessible option to FCC ID and IC (no more than 3 steps) – see below the IDs access:



After these 3 steps see below regulatory page

Product AMUT03
Model 1 – HR-TAG-LDn
Model 2 – cSense Flex tag
Model 3 – Monitoring Neck Tag Flex

regulatory certifications

Region	ID
US	FCC ID: AMUT03
Canada	IC: 26436-AMUT03