

SCR

AMUT03

HR-TAG-LDn

SPECIFICATIONS

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Ver 0.13



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

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HR-TAG-LDn

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

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 – Activity based tag with 2.4GhZ transceiver & IRDA receiver.

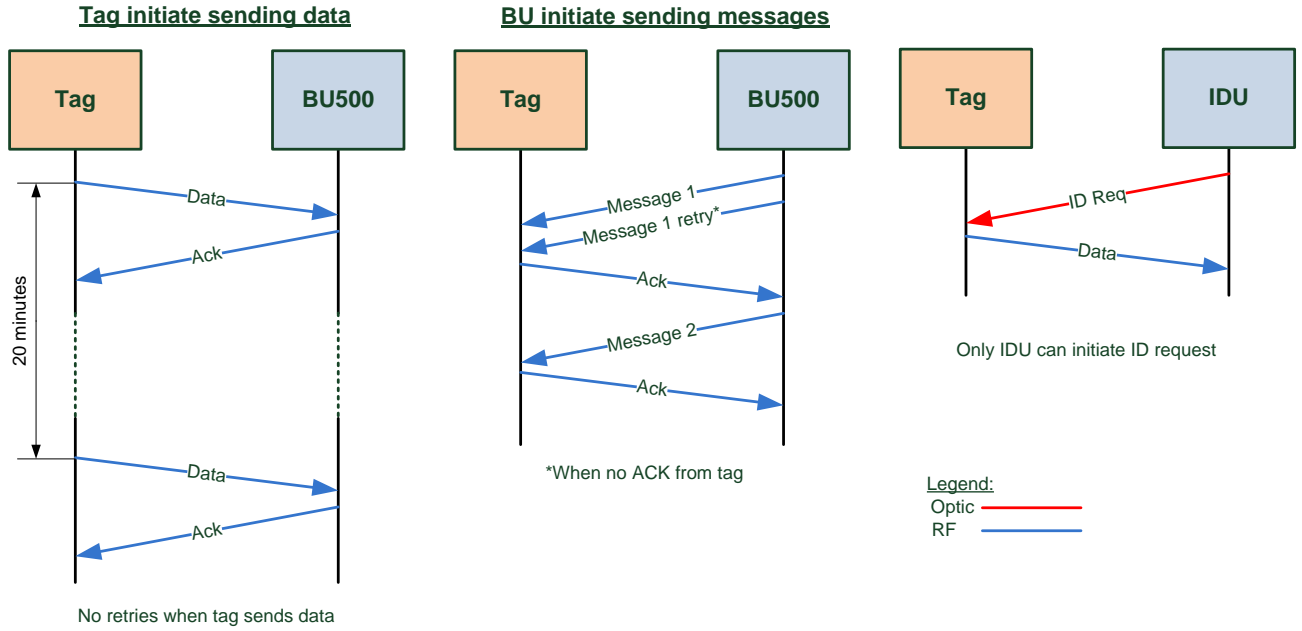
IDU530 – Tag identification unit with CAN-Bus network interface, IRDA transmitter & 2.4GhZ Receiver ONLY .

IDU510 – Tag identification unit with SCR C.L. network interface, IRDA transmitter & 2.4GhZ Receiver ONLY.

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

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

1.2 TAG/IDU/BU communication overview



2 HR-TAG-LDn Specifications

2.1 General description

Tag is a unit 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 predefine sequence or upon request from IDUxx via IRDA receiver or BUxx units via 2.4GHz link.

Outdoor installation, sealed unit, powered from 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

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

Output power: 3.5dBm

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 2.4GHz link in aim to identify specific animal in specific location as milking station or passing gate.

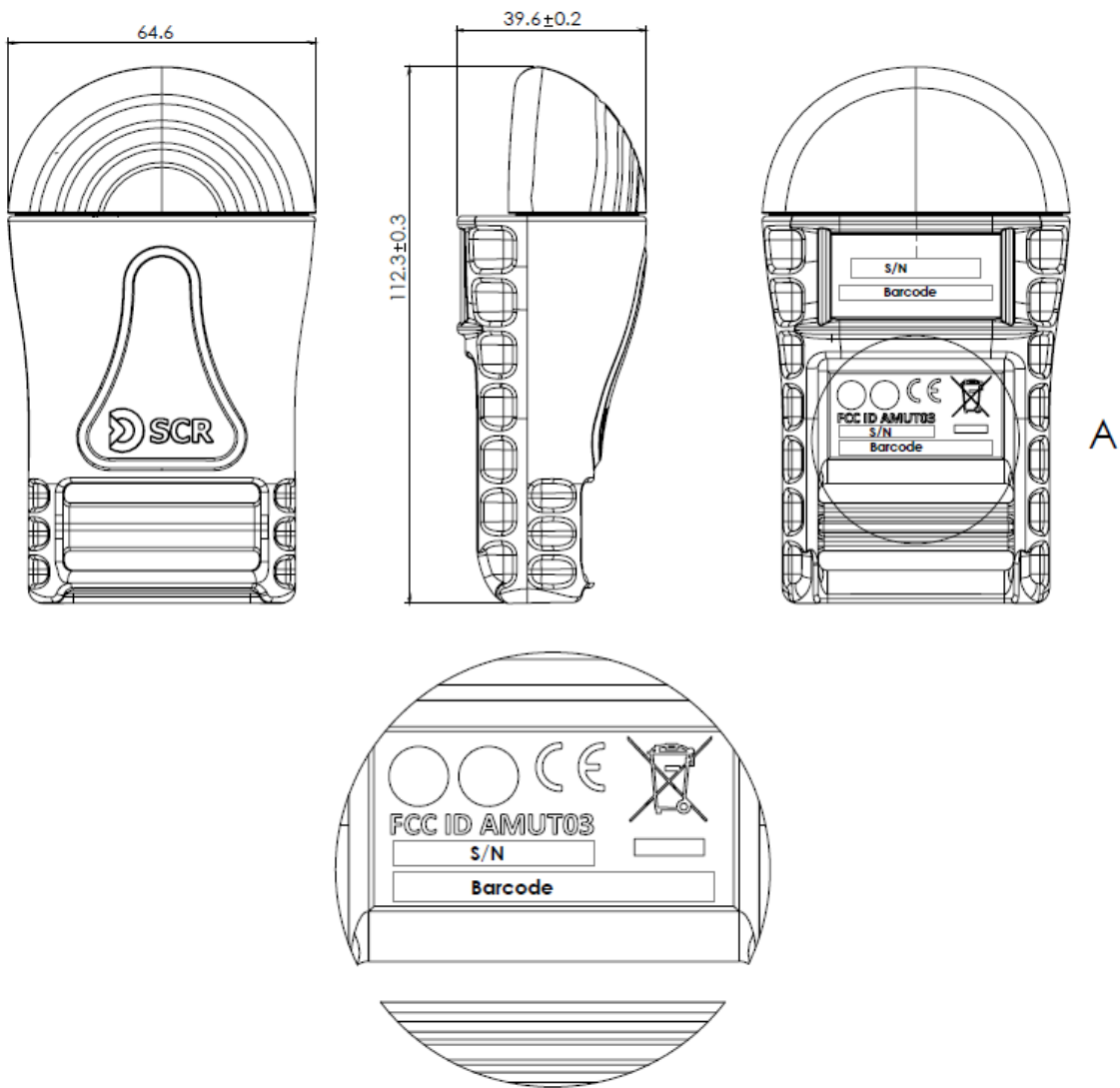
2.4 NFC Parameters

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

2.5 Mechanical dimensions

All dimensions in mm



DETAIL A
SCALE 2 : 1

4 Installing the tag

It is important to correctly attach the tags 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
 - 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:

