TECHNICAL RECOMMENDATION FOR URTIME 800

Description:

This document gives you all the technical recommendations and all the installation advises that you need to use the URTIME 800 device in general. Some use cases are not specified in the list below, but based on this document, you will be able to find a solution by your own.

Contents:

1. MATS

1. Antenna mat (vertical polarization)

The mats have a handle that can be used to carry it and, on the field, and to connect each mat to another. In the middle there is an antenna which reads tags. And a grommet that is sufficient to put the 8 RF cable and more if needed.

Avoid vehicles to pass over the mats to preserve them.

Avoid high pressure on the antenna to make them last longer. (Trucks, trailers, etc…)

The orange arrow shows you the way runner should cross them. The slope is almost insignificant, runners won't be disturbed by this.

> ⚠ CAUTION: Do not cover antenna with anything because it will reduce or alter the detection range.

> ⚠ CAUTION: The antenna is polarized, use vertical tag only.

2. Dummy mat

Dummy mats have a handle that can be used to carry them and, on the field, to connect each mat to another Use them as a grommet if you need to pass cable across a road. There are no antennas inside them.

Alternate antenna and dummy on a same line, except on specific use case. If you have 2 consecutive lines, make sure that there is always an antenna in front on a dummy like below.
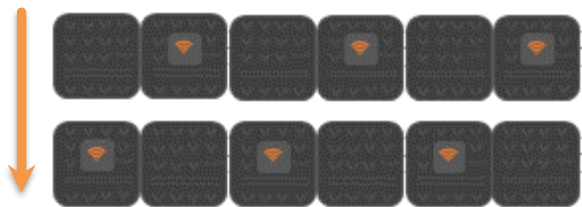
2. CONNECTION BEHIND THE URTIME800

1. Connexion A1 to B4
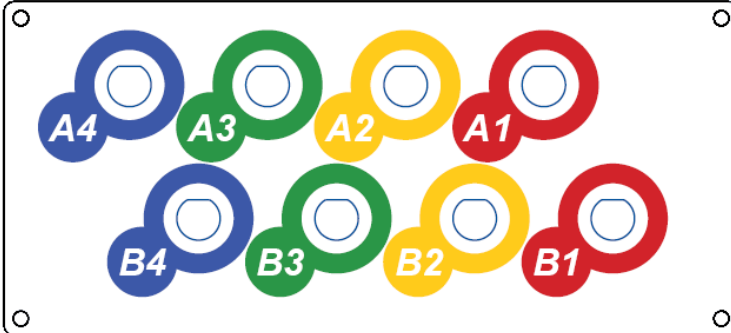
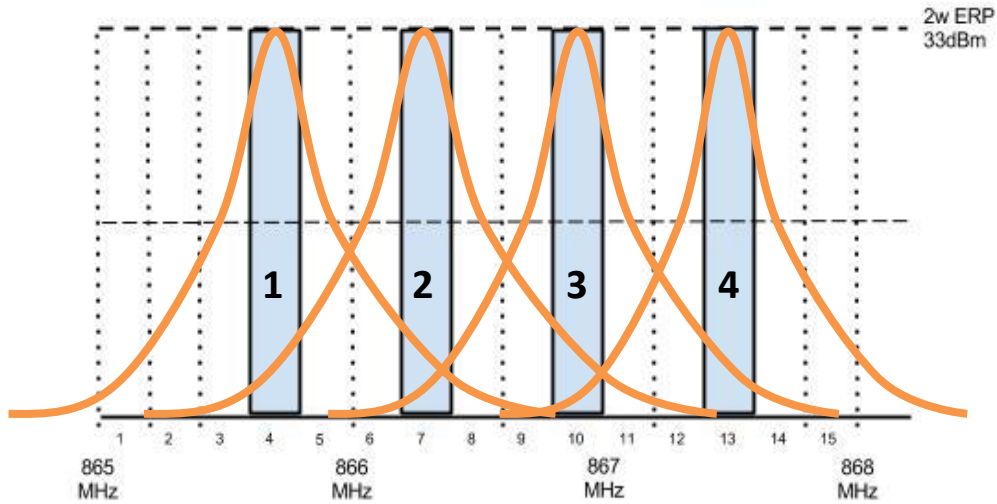
Inside of the u800 are 2 RFID reader.

Reader A has 4 ports: **A1** to **A4**.

Reader B has 4 ports: **B1** to **B4**.

2. Assign the channel to the RFID reader. (Europe)

In the device, the notion of channel is present in the section **Settings** then **Reader**. If you click on the pencil, you will be able to modify channels.
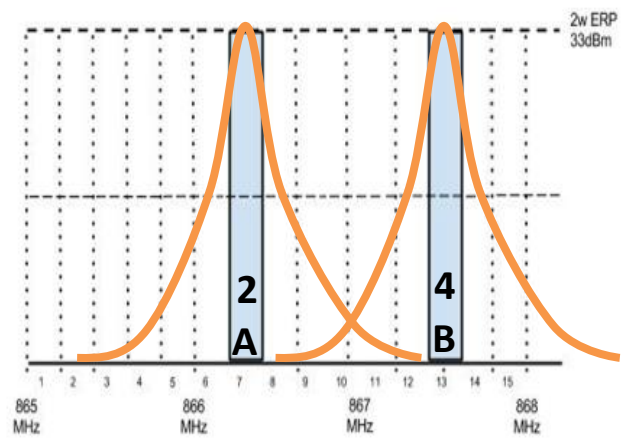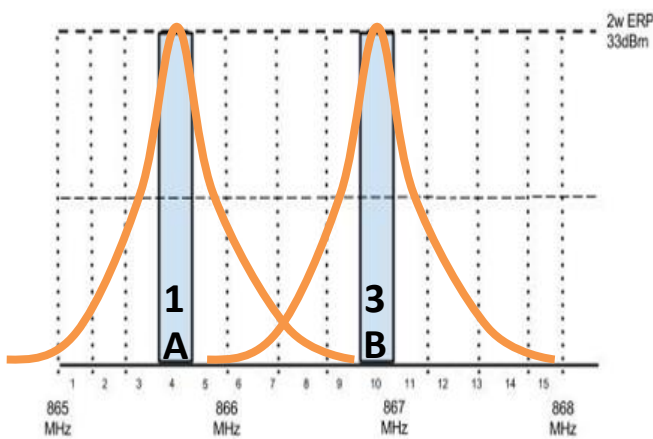
2 settings are available:

- Channels 1 and 3:
    - o Reader A is assigned to channel 1
    - o Reader B is assigned to channel 3
- Channels 2 and 4:
    - o Reader A is assigned to channel 2
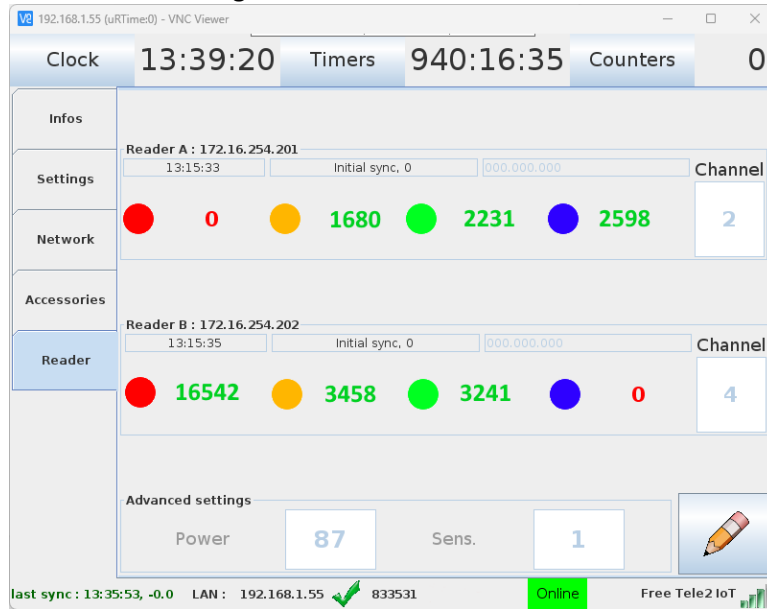   - o Reader B is assigned to channel 4

Channels work by pairs:

- 1 and 3 will always be together.
- 2 and 4 will always be together.

3. TEST OF ANTENNAS

1. Reader section

Go above each antenna mats with a tag and check that the numbers increase for all the plugged inputs.
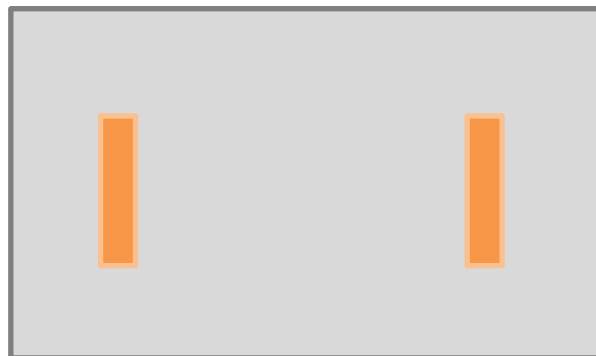

If there is still **0**, the cable or the antenna may have a fault.

4. TAG LOCATION ON A BIB

1. Double vertical tag

Paste tags on each bib. The tags must be vertical and place like shown on the schematic right below.

⚠ CAUTION: This shows the placement on a bib for a vertical polarization.
⚠ Make sure that the antenna used is the right one for your location.

5. RF MODE

1. Specific modes

There are 3 modes available:

- 8m line. (1 line with 1 device)
- Main & Backup (2 lines with 1 device), the detections from the reader A are prioritized over the detections from the reader B.
- 2x 4m Single (2 simple independent lines with 1 device). This can be used for a double checkpoint for example.
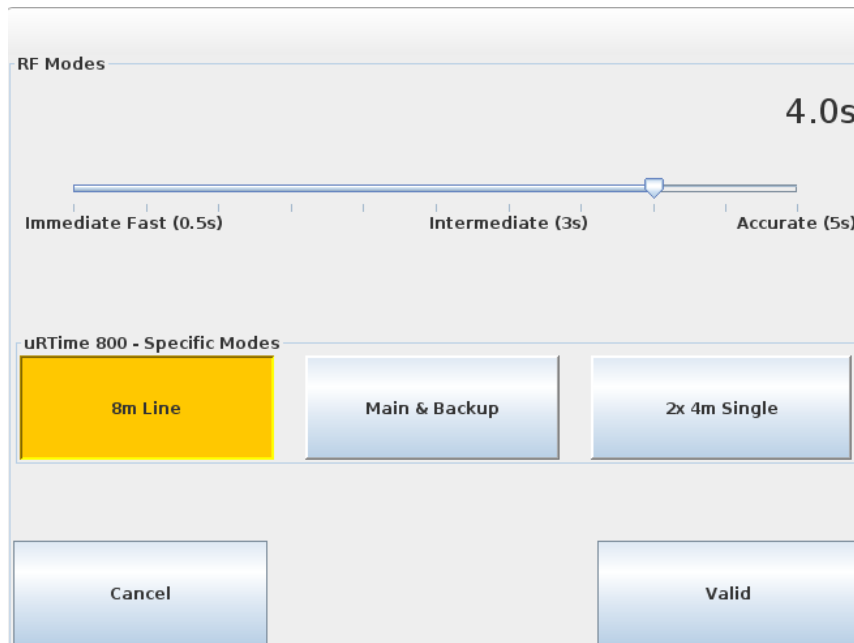
The notion of calculation time is available in this section with the cursor on the top of the page.

This one allows you to change the calculation time and availability of the information.

If you want timing data to be accurate and you don't need the information to be quickly displayed, then move cursor to the right. If you need to give the information as quick as possible and accuracy is not critical, then move cursor to the left. Change it according to your need for your race.

6. ANKLE TAGS

If you use ankle tags, you must use antenna mats only and not alternate with dummy mats.

The antenna mats do not disturb each other when they are use side by side.
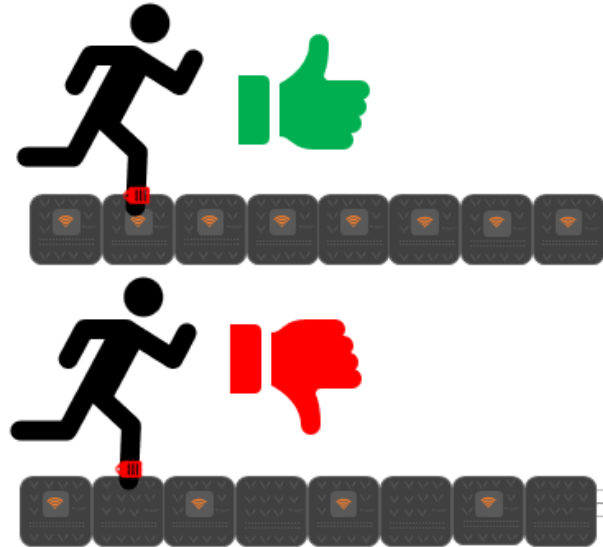
⚠ CAUTION: The tag must be worn on top of the wetsuits.

7. SETUP WITH MATS

There are a few setups that you can use for most races, according to your specific needs. This is also here to give you the general specifications of distance that you need to put between 2 lines.

1. 5m main & backup

For a start or finish from low to high density.
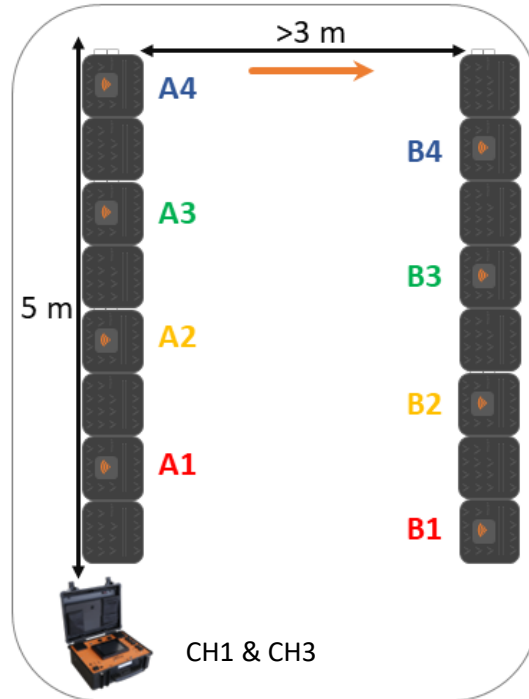
CH1 & CH3

The channel of the device can be either 1 and 3 or 2 and 4, this isn't important because there is only 1 system.
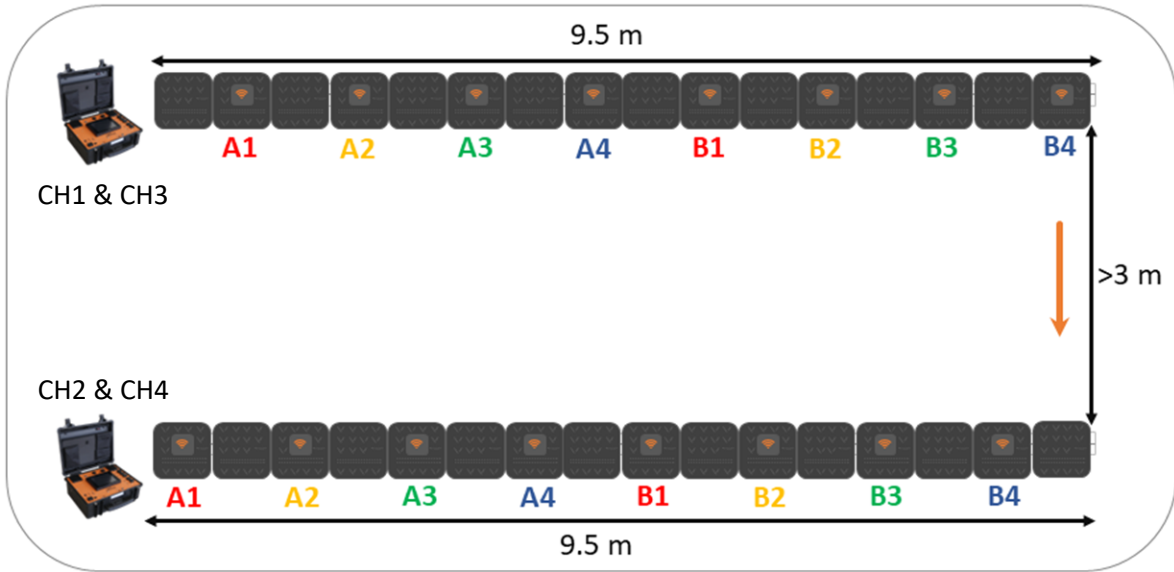
The runners must cross the 2 lines according to the orange arrow on the picture, they will cross the main line (A1 to A4) and after that the backup line (B1 to B4).

The URTIME800 must be set to *Main and Backup*.

Main & Backup

2. 9.5m main et backup

For a start or finish from low to high density.

The channel of the device can be either 1 and 3 or 2 and 4 if the distance between the 2 lines is followed but should not be the same for both devices.

The runners must cross the 2 lines according to the orange arrow on the schematic, they will cross the main line (**A1** to **B4**) and after that the backup line (**A1** to **B4**).

The URTIME800 must be set to *8m line*.

3. 18m main

For a start or finish from low to high density.

The channel of the device can be either 1 and 3 or 2 and 4 but should not be the same for both devices.

The devices URTIME800 must be set to *8m line.*

4. Use of side antennas

The recommendation with them is to have at least 2 meters from any other RFID antenna. If they are used with only 1 system, they can be oriented a little towards the runners coming their way. However, if there is more than 1 system, the side antennas must be straight, facing one another. The side antenna should be at the height of the tags. If you are using a bib or a trail tag, put the antenna at an average height of the stomach. If you have an ankle tag, lower the height as needed.

⚠ CAUTION: If you need to have an accurate time, do not use side antennas.

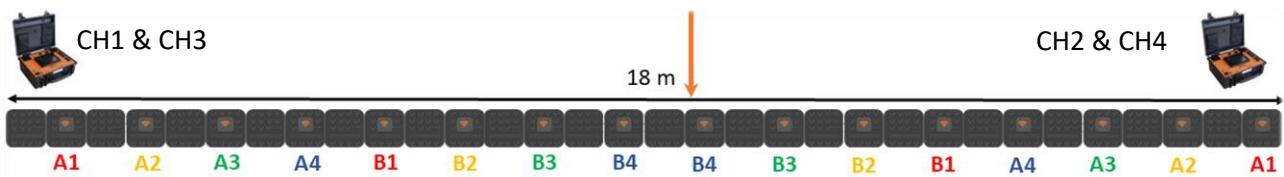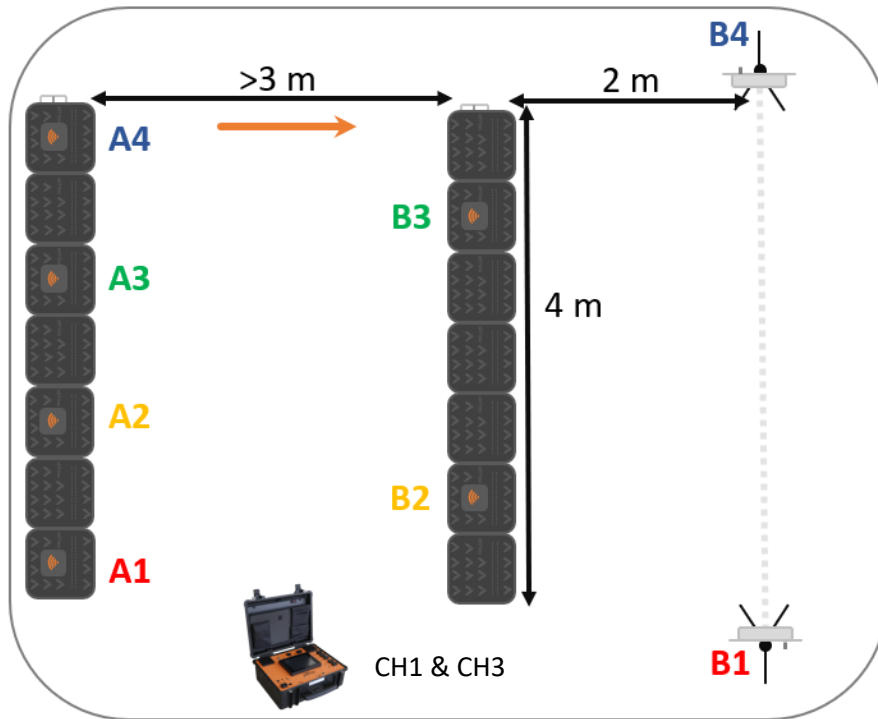The channel of the device can be eighter 1 and 3 or 2 and 4, this isn't important because there is only 1 system.

The runners must cross the 2 lines according to the orange arrow on the schematic, they will cross the main line (**A1** to **A4**) and after that the backup line (**B1** to **B4**). The side antennas are on ports **B1** and **B4**.

The URTIME800 must be set to *Main and Backup.*

5. Using 2 systems

When you have 2 systems for a single point, either start/finish or checkpoint, make sur that the channels aren't the same on both devices. If you are using only 4 ports on 2 devices, make sure to wire them on the reader A and use channel 1 for the first device and channel 4 for the second one.

Remember, if 2 devices are used on the same point, make sure that the side antenna are facing each other.

1.1 Long line with lateral antenna
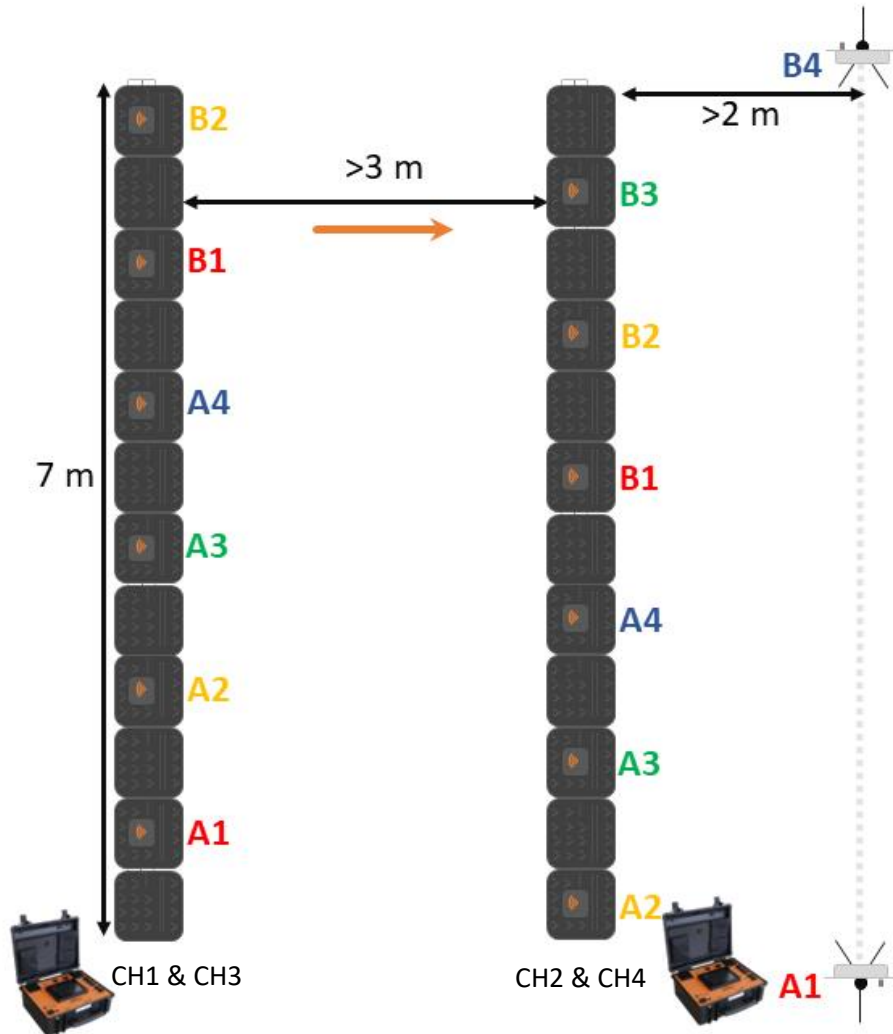
The channel of the device can be either 1 and 3 or 2 and 4 if the distance between the 2 lines is respected but should not be the same for both devices.

The runners must cross the 2 lines according to the orange arrow on the picture, they will cross the main line (**A1** to **B2**) and after that the backup line (**A1** to **B4**). The laterals are on port **A1** and **B4** of the second device.

The devices URTIME800 must be set to *8m line.*

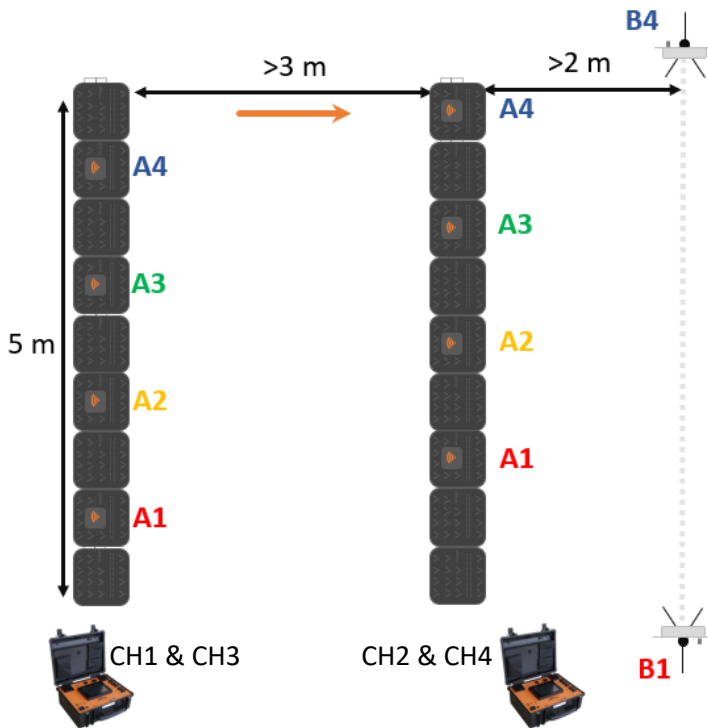## 1.2 Long line with lateral antenna

The channel of the device can be either 1 and 3 or 2 and 4 if the distance between the 2 lines is respected but should not be the same for both devices.

The runners must cross the 2 lines according to the orange arrow on the picture, they will cross the main line (**A1** to **A4**) and after that the backup line (**A1** to **B4**). The laterals are on port **B1** and **B4** of the second device.

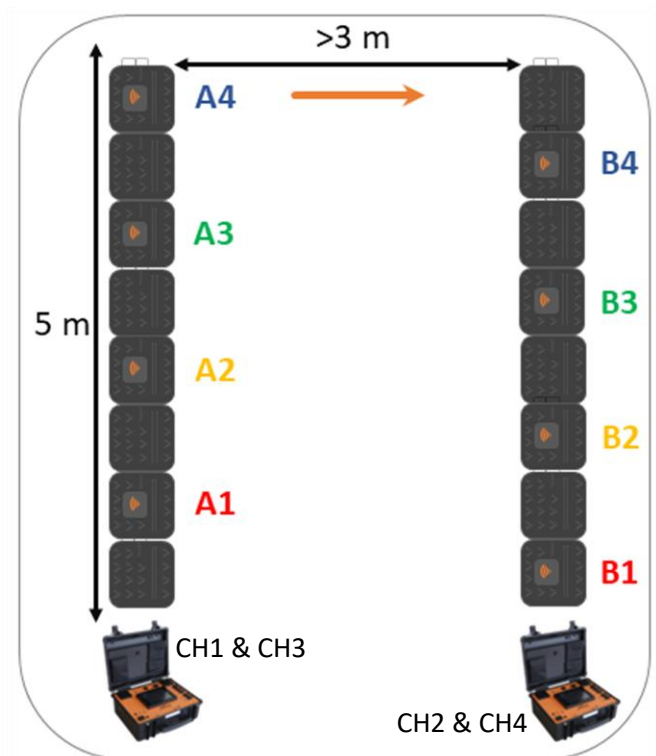The devices URTIME800 must be set to *8m line.*

1.3 2 lines

The channel of the device can be either 1 and 3 or 2 and 4 if the distance between the 2 lines is followed but should not be the same for both devices.

If you can use the reader B on the second device, it will be even better to be channel 4.

The devices URTIME800 must be set to *8m line.*

8m Line

CH1 & CH3

CH2 & CH4

6. Line for triathlon

The channel of the device can be either 1 and 3 or 2 and 4, this isn't important because there is only 1 system.

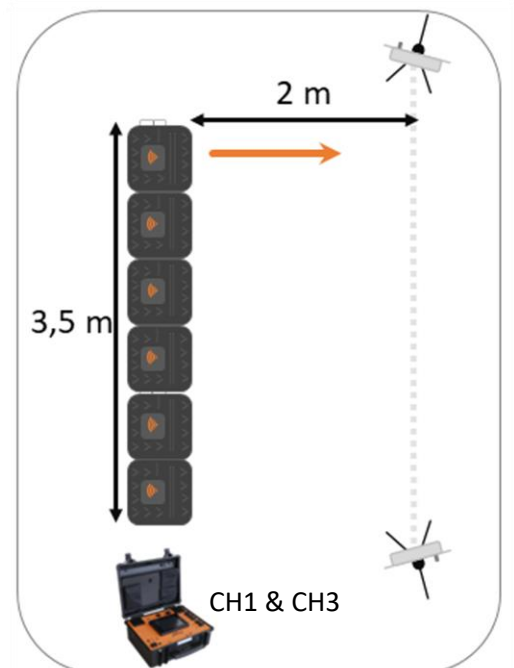The runners must cross the 2 lines according to the orange arrow on the schematic, they will cross the main line (**A1** to **B4**). The laterals are on port **A1** and **B4** of the device.

8m Line

The URTIME800 must be set to *8m line.*

WARNING: If you use ankle tags, you must use antenna mats only and not alternate with dummy mats.

The antenna mats do not disturb each other when they are use side by side.

CH1 & CH3

⚠ CAUTION: The tag must be worn on top of the wetsuits and as specified in section 6

7. Start & finish

This is a specific use case for triathlon. If the start line is used for the finish line too and you can't rotate the mats between gun time and the first arrival, you can setup the line like this.

The channel of the device can be either 1 and 3 or 2 and 4, this isn't important because there is only 1 system.

The runners must cross the 2 lines according to the orange arrow on the schematic, they will cross the main line (A1 to B4). The laterals are on port A1 and B4 of the device.

The black arrow is for the finish direction.

The URTIME800 must be set to *8m line*.