wipelot FT-06FLC Collision Avoidance Anchor Instructions

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Contents

SETTING UP DEVICES & RF NETWORK

Rest of the manual guides you through the steps necessary for setting up and configuring your Wipelot devices. Please read this manual before system setup.

Safety

The device must be used solely with its original power adaptor. Please note that the adapter is 110/220V AC

Introduction

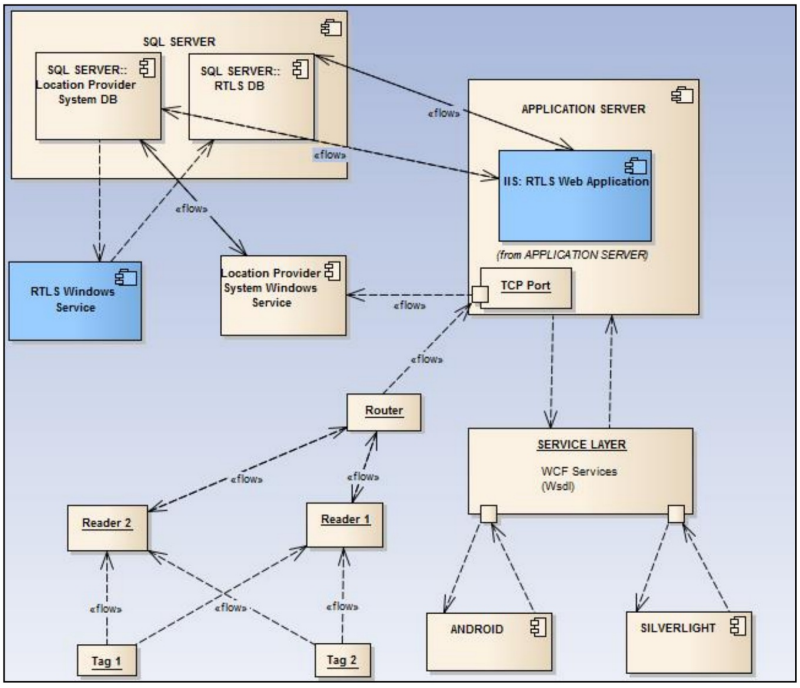
Wipelot devices are based on 2.4GHZ IEEE 802.15.4 compliant RF wireless network. To form a minimal 802.15.4 RF Network, you should have at least 1-Router, 1 Reader and Mobile Devices.

Main coordinator (router) establishes a mesh network once it is installed. Each plugged reader (receiver), attends this network automatically and relays data for the network. All reader nodes cooperate in the distribution of data in the network.

Wipelot's small sized newborn baby tag is affixed to the ankle of the newborn infant to be tracked. The tag contains an RF transmitter circuit. It transmits message signal, comprising unique identity information, to receivers which are strategically placed within the hospital. The message is propagated along a path by hopping from node to node until it reaches the port which is being listened by the Location Provider Service software

Location Provider Software calculates tags' positions by using RSSI (received signal strength indicator) levels, dimensions of the region to be tracked and fixed position information of the receivers on that region.

Component Interoperability



Calculated positions are being written on the Location Provider System database. These positions can also be used in real time by remoting technology. This architecture provides flexiblity in integration with third party softwares. Wipelot H-RTLS application comprises an independent service which listens the Location Provider System database. It interpretes fetched information and applies some business rules on it prior to UI interaction.

Tags comprise a conductive security element attachment having two ends, whose electrical state will change when stretched, severed, or removed by parting the end. When the electrical state changes an alarm code will be generated and sent to receivers. This information will then be processed as explained above.

Built in motion sensor is able to detect unnatural movements like falling, being idle for a certain period of time etc. Alarm will be generated as soon as this kind of movement is detected.

RF affecting factors

All devices' RF signals can affect some material some extent. If our devices' RF signal encounter some material especially high-level obstacle severity material as stated in Table 1. Router, Reader and Tags will be decreased

range of distance. For this reason, all device have to position as far as possible from especially obstruction of high level obstacle severity material as in Table 1.

Table-1 RF Obstacles Found Indoors

Obstruction	Obstacle Severity	Sample Use
Wood / Wood paneling	Low	Inside a wall or hollow door
Drywall	Low	İnside Walls
Furniture	Low	Couches or office partitions
Clear glass	Low	Windows
Tinted glass	Medium	Windows
People	Medium	High-volume traffic areas that have considerable pedestrian traffic
Ceramic tile	Medium	Walls
Concrete blocks	Medium/High	Outer wall construction
Mirrors	High	Mirror or reflective glass

Metals	High	Metal office partitions, doors, metal office furniture
Water	High	Aquariums, rain, fountains

Collision Avoidance Anchor (Wipelot Model No: FT-06FLC)

Wipelot FT-06FLC Collision avoidance anchor is high tech device which is measured distance of between vehicle and personal tags or forklift so that prevent collisions. Actually Collision Avodiance product has created safe zone for personal and other devices

Collision Avoidance anchor has give Radio frequently (RF and UWB) signal out. It detects personal and vehicle on safe zone. If there are any personal on safe zone, Collision Avoidance Reader sends a signal via RS-232 to vehicle

FT-06FLC powers up with vehicle voltage source. Feed voltage of feed can be 9 -32V. It is preferable. Blue cable is positive side, brown cable is ground side. Distance of safe zone can adjust. If there are any personal or vehicle on safe zone that adjusted, Red led turn on continuously. If there are any personal or vehicle on double safe zone that adjusted, Yellow led turn on continuously. If there are no personal or vehicle on double safe zone that adjusted, Green led turn on continuously. This zone is safety.

Wipelot FT-06FLC has a RF radio (jn5168 chip) that transmits at 2.4 GHz. The measured conducted output power level is +9.0 dBm and uses a 2.8 dBi gain flex patch antenna. The FT-06FLC also has a UWB module capable of operation in the 3.1 ~ 8 GHz via on board chip antenna. For application in the FT-06FLC the module is designed to operate only at 4.4GHz due to special reason. UWB Module (DWM1000) output power is fully adjustable from 0 dBm to 15.5 dBm via firmware from the factory.

Both the 2.4 GHz antenna and the UWB antenna are omnidirectional. Both antennas are permanent that’s why İt cannot be changed or reorient and relocate. The FT-06FLC can receive signals from every direction. If Wipelot FT-06FLC is obstructs by obstacle as depicited in Table 1, then the device’s RF signal will decrease as stated in Table 1. FT-06FLC can transmit up to 100 meters to readers if RF output power is at max level (unobstructed).

Figure 7: Wipelot FT-06FLC Collision Avoidance Anchor

FCC Information:

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.

Warning: Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate this 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.

This equipment complies with the FCC RF radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with a minimum distance of 20cm between the radiator and any part of your body.

Documents / Resources

 Real Time Location System Hardware Guide (RTLS)	wipelot FT-06FLC Collision Avoidance Anchor [pdf] Instructions FT-06FLC, FT06FLC, 2AUFI-FT-06FLC, 2AUFIFT06FLC, FT-06FLC Collision Avoidance Anchor, FT-06FLC, Collision Avoidance Anchor

References

- Endüstriyel IoT ve RTLS Çözümleri - WIPELOT
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