

Intellion AG
Schuppisstrasse 10
9016 St. Gallen
Switzerland

intellion

T 0041-71-280 81 81
E info@intellion.com
www intellion.com

User Manual

LotTrack UWB Anchor

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1. Functional Use

The LotTrack UWB Anchor is the communication centre of the LotTrack System. The LotTrack UWB Anchor is used to receive UWB signals from active RFID tags and transmits them to the LotTrack Control Suite, the software that uses time-difference of arrival (TDoA) algorithms to calculate the location of each tag. The UWB Anchor is time-synchronized (nano-second level) with other UWB Anchors in its vicinity. This is realized via an over-the-air time synchronization between UWB Anchors, where packages (CCPs, clock correction package) are exchanged frequently (4 times/second).



Figure 1: LotTrack UWB Anchor

LotTrack UWB Anchor – Datasheet – Technical Specifications

Timebase	
TCXO	38.4 MHz
Frequency tolerance	± 1.5 ppm
ETH IN PoE+	
Connector	RJ45
Ethernet	10/100, Full Duplex, Auto-MDIX
Power	PoE+, IEEE 802.3at, 2 W
ETH OUT PoE+	
Connector	RJ45
Ethernet	10/100, Full Duplex, Auto-MDIX
Power Source	PoE+, IEEE 802.3at
Other Interfaces	
Power 48VDC	Not used
USB	only for diagnostics purposes

Internal UWB Transceiver 1	
	Not used
Internal UWB Transceiver 2	
Antenna Type	Omni linear
Maximum rated output power	-6.5 dBm EIRP (average)
Frequency	6489.6 MHz
Bandwidth	500 MHz
Indicators	
LEDs	6x Dual LEDs
Ethernet LEDs	2x 2 LEDs
Environmental	
Operating temperature	10°C ... +40°C
Storage temperature	0°C ... +50°C
Enclosure Rating	IP 20
Dimensions	
LxWxH	240 x 170 x 26 mm
Material	ABS
Weight	approx. 425 g
Mounting	Screwed

2. General handling instructions

Important Notice: Before starting to use the **LotTrack UWB Anchor** in the fab, carefully read all general handling and user instructions documented in this section.

General terms of use for cleaning, storage and transport of the Controller G4

- The UWB Anchor is intended to be **solely used indoor** when implemented in a fab.
- Gently wipe the surface using a clean room compliant towel that is moistened with Isopropanol. Do not spray the Isopropanol directly on the UWB Anchor.
- Do not use sharp devices for cleaning.
- Do not drop, kick or throw the UWB Anchor.
- Do not hit the UWB Anchor against surfaces of e.g. desks, push-cards or equipment, nor impose strong mechanical pressure, e.g. on the antennas.
- Do not expose the UWB Anchor to water or other liquids, varnishes, gases, heat or steam.
- Do not open the UWB Anchor.
- For storage and transport, only use the recommended storage and transport devices for the UWB Anchor. All storage and transport devices shall be kept clean before use; the environment shall be kept dry.
- Do not install or place the UWB Anchor near sources of strong electromagnetic fields and/or strong ultrasound sources.

3. Compliance Information

3.1 USA: Regulatory Notes

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.

Class B digital device. A digital device that is marketed for use in a residential environment notwithstanding use in commercial, business and industrial environments. Examples of such devices include, but are not limited to, personal computers, calculators, and similar electronic devices that are marketed for use by the general public.

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.

CAUTION:

Any changes or modifications not expressly approved by the grantee of this device could void the user's authority to operate the equipment.

RF exposure warning

This equipment must be installed and operated in accordance with provided instructions and the antenna(s) used for this transmitter must be installed to provide a separation distance of at least 20 cm from all persons and must not be co-located or operating in conjunction with any other antenna or transmitter. End-users and installers must be provide with antenna installation instructions and transmitter operating conditions for satisfying RF exposure compliance.

Important:

This equipment may only be operated indoors. Operation outdoors is in violation of 47 U.S.C. 301 and could subject the operator to serious legal penalties according to Part 15.517 (f).

3.2 Europe: Declaration of Conformity (DoC)

[Name of manufacturer] = Intellion AG

[designation of type of radio equipment] = UWB Anchor

[Your web site address] = www.intellion.com/en/eu-doc/

BG

С настоящото [Name of manufacturer] декларира, че този тип радиосъоръжение [designation of type of radio equipment] е в съответствие с Директива 2014/53/ЕС. Цялостният текст на ЕС декларацията за съответствие може да се намери на следния интернет адрес: [Your web site address]

CS

Tímto [Name of manufacturer] prohlašuje, že typ rádiového zařízení [designation of type of radio equipment] je v souladu se směrnicí 2014/53/EU. Úplné znění EU prohlášení o shodě je k dispozici na této internetové adrese: [Your web site address]

DA

Hermed erklærer [Name of manufacturer] , at radioudstyrstypen [designation of type of radio equipment] er i overensstemmelse med direktiv 2014/53/EU. EU-overensstemmelseserklæringens fulde tekst kan findes på følgende internetadresse: [Your web site address]

DE

Hiermit erklärt [Name of manufacturer] , dass der Funkanlagentyp [designation of type of radio equipment] der Richtlinie 2014/53/EU entspricht. Der vollständige Text der EU-Konformitätserklärung ist unter der folgenden Internetadresse verfügbar: [Your web site address]

EL

Με την παρούσα ο/η [Name of manufacturer] , δηλώνει ότι ο ραδιοεξοπλισμός [designation of type of radio equipment] πληροί την οδηγία 2014/53/ΕΕ. Το πλήρες κείμενο της δήλωσης συμμόρφωσης ΕΕ διατίθεται στην ακόλουθη ιστοσελίδα στο διαδίκτυο: [Your web site address]

EN

Hereby, [Name of manufacturer] declares that the radio equipment type [designation of type of radio equipment] is in compliance with Directive 2014/53/EU. The full text of the EU declaration of conformity is available at the following internet address: [Your web site address]

ES

Por la presente, [Name of manufacturer] declara que el tipo de equipo radioeléctrico [designation of type of radio equipment] es conforme con la Directiva 2014/53/UE. El texto completo de la declaración UE de conformidad está disponible en la dirección Internet siguiente: [Your web site address]

ET

Käesolevaga deklareerib [Name of manufacturer] , et käesolev raadioseadme tüüp [designation of type of radio equipment] vastab direktiivi 2014/53/EL nõuetele. ELi vastavusdeklaratsiooni täielik tekst on kättesaadav järgmisel internetiaadressil: [Your web site address]

FI

[Name of manufacturer] vakuuttaa, että radiolaitetyyppi [designation of type of radio equipment] on direktiivin 2014/53/EU mukainen. EU-vaatimustenmukaisuusvakuutuksen täysimittainen teksti on saatavilla seuraavassa internetosoitteessa: [Your web site address]

FR

Le soussigné, [Name of manufacturer] , déclare que l'équipement radioélectrique du type [designation of type of radio equipment] est conforme à la directive 2014/53/UE. Le texte complet de la déclaration UE de conformité est disponible à l'adresse internet suivante: [Your web site address]

HR

[Name of manufacturer] ovime izjavljuje da je radijska oprema tipa [designation of type of radio equipment] u skladu s Direktivom 2014/53/EU. Cjeloviti tekst EU izjave o sukladnosti dostupan je na sljedećoj internetskoj adresi: [Your web site address]

HU

[Name of manufacturer] igazolja, hogy a [designation of type of radio equipment] típusú rádióberendezés megfelel a 2014/53/EU irányelvnek. Az EU-megfelelőségi nyilatkozat teljes szövege elérhető a következő internetes címen: [Your web site address]

IT

Il fabbricante, [Name of manufacturer] , dichiara che il tipo di apparecchiatura radio [designation of type of radio equipment] è conforme alla direttiva 2014/53/UE. Il testo completo della dichiarazione di conformità UE è disponibile al seguente indirizzo Internet: [Your web site address]

LT

Aš, [Name of manufacturer] , patvirtinu, kad radijo įrenginių tipas [designation of type of radio equipment] atitinka Direktyvą 2014/53/ES. Visas ES atitikties deklaracijos tekstas prieinamas šiuo interneto adresu: [Your web site address]

LV

Ar šo [Name of manufacturer] deklarē, ka radioiekārta [designation of type of radio equipment] atbilst Direktīvai 2014/53/ES. Pilns ES atbilstības deklarācijas teksts ir pieejams šādā interneta vietnē: [Your web site address]

MT

B'dan, [Name of manufacturer] , niddikjara li dan it-tip ta' tagħmir tar-radju [designation of type of radio equipment] huwa konformi mad-Direttiva 2014/53/UE. It-test kollu tad-dikjarazzjoni ta' konformità tal-UE huwa disponibbli f'dan l-indirizz tal-Internet li ġej: [Your web site address]

NL

Hierbij verklaar ik, [Name of manufacturer] , dat het type radioapparatuur [designation of type of radio equipment] conform is met Richtlijn 2014/53/EU. De volledige tekst van de EU-conformiteitsverklaring kan worden geraadpleegd op het volgende internetadres: [Your web site address]

PL

[Name of manufacturer] niniejszym oświadcza, że typ urządzenia radiowego [designation of type of radio equipment] jest zgodny z dyrektywą 2014/53/UE. Pełny tekst deklaracji zgodności UE jest dostępny pod następującym adresem internetowym: [Your web site address]

PT

O(a) abaixo assinado(a) [Name of manufacturer] declara que o presente tipo de equipamento de rádio [designation of type of radio equipment] está em conformidade com a Diretiva 2014/53/UE. O texto integral da declaração de conformidade está disponível no seguinte endereço de Internet: [Your web site address]

RO

Prin prezenta, [Name of manufacturer] declară că tipul de echipamente radio [designation of type of radio equipment] este în conformitate cu Directiva 2014/53/UE. Textul integral al declarației UE de conformitate este disponibil la următoarea adresă internet: [Your web site address]

SK

[Name of manufacturer] týmto vyhlasuje, že rádiové zariadenie typu [designation of type of radio equipment] je v súlade so smernicou 2014/53/EÚ. Úplné EÚ vyhlásenie o zhode je k dispozícii na tejto internetovej adrese: [Your web site address]

SL

[Name of manufacturer] potrjuje, da je tip radijske opreme [designation of type of radio equipment] skladen z Direktivo 2014/53/EU. Celotno besedilo izjave EU o skladnosti je na voljo na naslednjem spletnem naslovu: [Your web site address]

SV

Härmed försäkrar [Name of manufacturer] att denna typ av radioutrustning [designation of type of radio equipment] överensstämmer med direktiv 2014/53/EU. Den fullständiga texten till EU-försäkran om överensstämmelse finns på följande webbadress: [Your web site address]