

DartTag
UWT-2100/UWX100

User's Manual



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Contents

1	Introduction	4
2	Installation and Operation	4
3	Technical Specifications	5
	UWT-2100/UWX100 Orientation & Mounting	5
	UWT-2100/UWX100 Specifications	5
4	Adjustment	6
5	Regulatory Information	6
	US Regulatory Information.....	6
	Canada Regulatory Information	7
	EU Regulatory Information.....	7
	Other Regulatory Information.....	8
	RF Notice	8

1 Introduction

DartTags are a wireless ultra-wideband (UWB) device from Zebra Technologies that are used for real-time tracking and identification of assets and personnel. DartTags transmit UWB pulses which are detected by a series of Dart UWB receivers. Dart receivers report detected tag events to the Dart RTLS location processing hub where tag location information is computed and reported.

DartTags provide extended range and precision that is unmatched by conventional RFID solutions. These UWB tags uniquely provide reliability and accuracy in difficult electromagnetic and multipath environments, along with superb battery life for use in demanding industrial requirements.

2 Installation and Operation

DartTags are shipped with the transmitter off. With a proper Dart RTLS system in place, the installation of DartTags is complete when the tag is activated. Tag transmitters are turned on (activated) using a ZLS configuration tool. DartTags transmitting continuously at one blink per second are expected to last multiple years. Batteries are non-replaceable.

3 Technical Specifications

UWT-2100/UWX100 Orientation & Mounting

The UWT-2100/UWX100 (wrap-around tag) is designed to resolve problems of human body blockage by synchronizing the transmissions from both UWX100 transmitter modules at the same time keeping optimal performance. The picture below shows tentative configuration of a controller and two modules, Tx1 and Tx2.



The UWT-2100/UWX100 is designed with a plastic enclosure for convenient mounting on player sportswear. No additional mounting options are provided.

UWT-2100/UWX100 Specifications

UWT-2100/UWX100 Tag Specifications	
Center Frequency	6.55 GHz
Transmit Frequency	6.35 – 6.75 GHz
Typical Battery Life (25°C)	1 year @ 1Hz
Operating Temperature	-40°C to 70°C (-40°F to 158°F)
Power	CR1616
Dimensions	2(2.5 x 2 x 0.4cm) + 3 x 3 x 0.5cm
Weight	16.7g

4 Adjustment

No adjustment is necessary once a DartTag is activated. The user may choose to program the tag transmit rate with a Zebra configuration tool.

5 Regulatory Information

US Regulatory Information

FCC ID: XWXUWX100.

This device complies with FCC Part 15.250 (c).

Operation is subject to the following two conditions:

- (1) This device may not cause harmful interference*
- (2) This device must accept any interference which may cause undesired operation*

Additionally,

- (1) Operation on board an aircraft or satellite is prohibited.*
- (2) Devices operating under this section may not be employed for the operation of toys.*
- (3) Except for operation onboard a ship or terrestrial transportation vehicle, the use of a fixed outdoor infrastructure is prohibited. A fixed infrastructure includes antennas mounted on outdoor structures, e.g., antennas mounted on the outside of a building or on a telephone pole.*

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.*

Canada Regulatory Information

IC: 8701A-UWX100.

This device complies with ICES-003, RS-220, and RSS-GEN for indoor use only.

Operation is subject to the following two conditions:

- (1) This device may not cause harmful interference*
- (2) This device must accept any interference which may cause undesired operation*

Cet appareil est conforme à la norme NMB-003, RS-220 et RSS-GEN pour une utilisation en intérieur

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.*

EU Regulatory Information

The UWB transmitter equipment conforming to ETSI EN 302 500-1 shall not be:

- installed at a fixed outdoor location;
- installed or used in flying models, aircraft and other forms of aviation;
- installed or used in a road or rail vehicle.

The UWT-2100/UWX DartTag is Class I transmitter approved for use in the following countries.

AT	BE	BG	CY	CZ	DK	EE
FI	FR	DE	GR	HU	IE	IT
LV	LT	LU	MT	NL	PL	PT
RO	SK	SI	ES	SE	GB	
IS	LI	NO	CH			

Other Regulatory Information

RF Notice

Any changes or modifications to Zebra equipment not expressly approved by Zebra Technologies Corporation could void the user's authority to operate the equipment.