

# UB-A100

UWB Anchor

## Quick Reference Guide

1<sup>st</sup> Ed – 30 July 2019

### Copyright Notice

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## FCC Statement



THIS DEVICE COMPLIES WITH PART 15 FCC RULES. OPERATION IS SUBJECT TO THE FOLLOWING TWO CONDITIONS:

(1) THIS DEVICE MAY NOT CAUSE HARMFUL INTERFERENCE.

(2) THIS DEVICE MUST ACCEPT ANY INTERFERENCE RECEIVED INCLUDING INTERFERENCE THAT MAY CAUSE UNDESIRE OPERATION.

THIS EQUIPMENT HAS BEEN TESTED AND FOUND TO COMPLY WITH THE LIMITS FOR A CLASS "A" DIGITAL DEVICE, PURSUANT TO PART 15 OF THE FCC RULES.

THESE LIMITS ARE DESIGNED TO PROVIDE REASONABLE PROTECTION AGAINST HARMFUL INTERFERENCE WHEN THE EQUIPMENT IS OPERATED IN A COMMERCIAL ENVIRONMENT. THIS EQUIPMENT GENERATES, USES, AND CAN RADIATE RADIO FREQUENCY ENERGY AND, IF NOT INSTALLED AND USED IN ACCORDANCE WITH THE INSTRUCTION MANUAL, MAY CAUSE HARMFUL INTERFERENCE TO RADIO COMMUNICATIONS.

OPERATION OF THIS EQUIPMENT IN A RESIDENTIAL AREA IS LIKELY TO CAUSE HARMFUL INTERFERENCE IN WHICH CASE THE USER WILL BE REQUIRED TO CORRECT THE INTERFERENCE AT HIS OWN EXPENSE.

## A Message to the Customer

### ***Avalue Customer Services***

Each and every Avalue's product is built to the most exacting specifications to ensure reliable performance in the harsh and demanding conditions typical of industrial environments. Whether your new Avalue device is destined for the laboratory or the factory floor, you can be assured that your product will provide the reliability and ease of operation for which the name Avalue has come to be known.

Your satisfaction is our primary concern. Here is a guide to Avalue's customer services. To ensure you get the full benefit of our services, please follow the instructions below carefully.

### ***Technical Support***

We want you to get the maximum performance from your products. So if you run into technical difficulties, we are here to help. For the most frequently asked questions, you can easily find answers in your product documentation. These answers are normally a lot more detailed than the ones we can give over the phone. So please consult the user's manual first.

To receive the latest version of the user's manual; please visit our Web site at:

<http://www.avalue.com.tw/>

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# 1. Getting Started

## 1.1 Safety Precautions

### Warning!



Always completely disconnect the power cord from your chassis whenever you work with the hardware. Do not make connections while the power is on. Sensitive electronic components can be damaged by sudden power surges. Only experienced electronics personnel should open the PC chassis.

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

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.

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

### Caution!



Always ground yourself to remove any static charge before touching the CPU card. Modern electronic devices are very sensitive to static electric charges. As a safety precaution, use a grounding wrist strap at all times. Place all electronic components in a static-dissipative surface or static-shielded bag when they are not in the chassis.

## 1.2 Packing List

- 1 x Power Cord
- 1 x Adapter
- 1 x UWB Antenna
- 1 x Wi-Fi Antenna
- 2 x Bracket
- 1 x Screws pack



If any of the above items is damaged or missing, contact your retailer.

## 1.3 System Specifications

UWB RF Specifications (UWB)	
<b>Chip</b>	Decawave DW1000
<b>Frequency</b>	4.5 GHz for USA, Europe
<b>Bandwidth</b>	500MHz
<b>Physical rate</b>	6.8 Mbps
<b>Antenna peak gain</b>	4.2dBi
2.4G Wi-Fi RF Specifications	
<b>Chip</b>	AI7688H
<b>Frequency</b>	802.11b/g/n
<b>Antenna</b>	3dBi
Software	
<b>UWB operating mode</b>	TDoA
<b>Accuracy</b>	30cm
<b>Network mode</b>	Bridge mode
<b>WLAN operating mode</b>	AP Station AP + Station
<b>Protocol</b>	DHCP
<b>Security</b>	WPA WPA2
External I/O	
<b>LAN Port</b>	1 x RJ-45 (10/100Mbps), support Powered LAN (802.3af/at)
<b>Indicator Light</b>	Blue : Power When power on, LED indicator remains lit. Green : LAN When the data of Ethernet is transmitted, the LED indicator flashes. Green : UWB When UWB work normally, the LED indicator flashes. Orange : Wi-Fi When the data is transmitted, the LED indicator flashes.
<b>Others</b>	2 x Reset button 1 x RP-SMA(F) for UWB antenna 1 x RP-SMA(F) for Wi-Fi antenna 1 x USB
Mechanical	

## UB-A100

<b>Power Type</b>	AT (*whcih means no power switch or button on chassis)
<b>Power Connector Type</b>	1 x DC-in
<b>Power Requirement</b>	+12V DC-in Or Powered LAN (802.3af/at)
<b>Mounting</b>	Wall mount VESA 75 x 75
<b>Dimension</b>	156 x 106 x 25mm
<b>Weight</b>	0.5kg
<b>Color</b>	Black, Blue
<b>Fanless</b>	Fanless
<b>Reliability</b>	
<b>EMI Test</b>	CE/FCC ClassB
<b>Safety</b>	UL/CB design compatible
<b>Operating Temperature</b>	-20°C~55°C
<b>Operating Humidity</b>	40°C @ 95% Relative Humidity, Non-condensing
<b>Storage Temperature</b>	-40°C~90°C



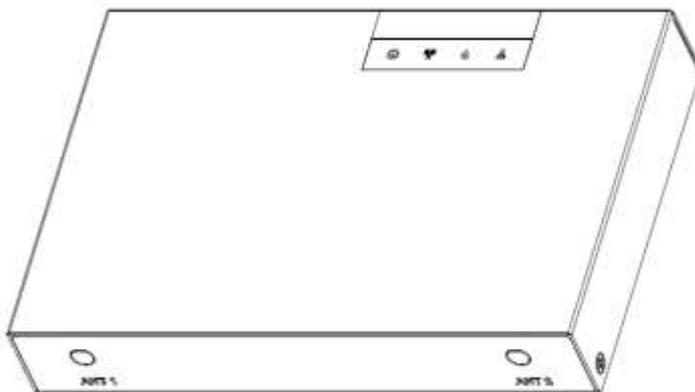
**Note:** Specifications are subject to change without notice.

## 1.4 How to use

This manual is to be used by certified technician which were specifically authorized by Avalue to install and modify its positioning system. Anyone does not qualify as such should not attempt to install, relocate or modify an UB-A100 device.

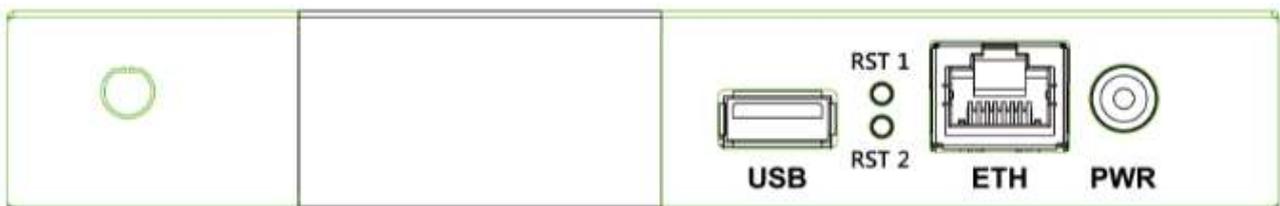
The UB-A100 is one of the devices comprising Avalue system, serving as an anchor either in a time-difference-of-arrival (TDoA) or Two-way-Ranging implementations. The device is stationary, installed in a fixed position and for indoor usage only.

1. UB-A100 Anchor would automatically turn on when plugged with power adapter, and blue LED indicator remains lit
2. Green LED indicator will flashes when data of Ethernet is transmitted
3. All configuration of UB-A100 Anchor is only allow to operated by trained and certified employees.
4. USB port is ONLY for firmware update, does not support any USB device.



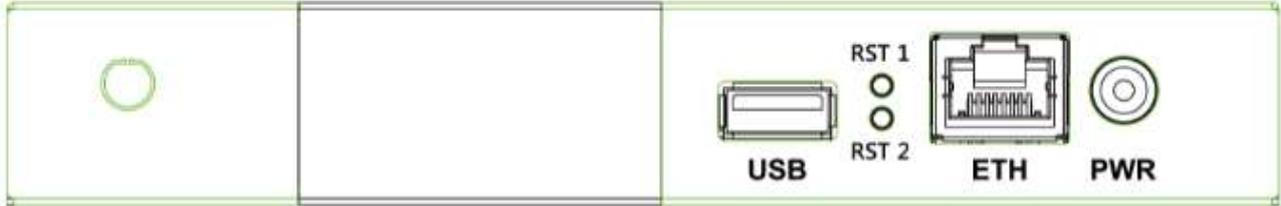
A : Power  
 B : LAN  
 C : UWB  
 D : Wi-Fi

<b>Indicator Light</b>	Blue : Power
	When power on, LED indicator remains lit.
	Green : LAN
	When the data of Ethernet is transmitted, the LED indicator flashes.
	Green : UWB
	When UWB work normally, the LED indicator flashes.
	Orange : Wi-Fi
	When the data is transmitted, the LED indicator flashes.

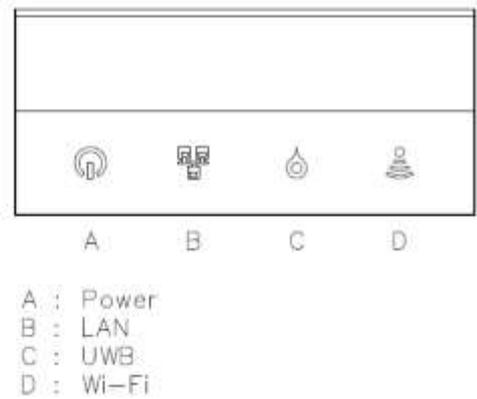
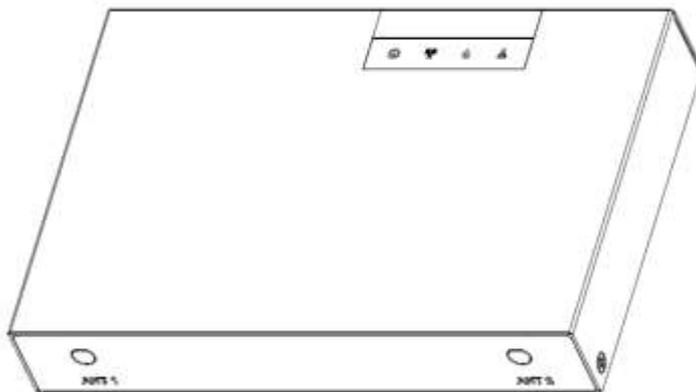


## 1.5 System Overview

### 1.5.1 Top View



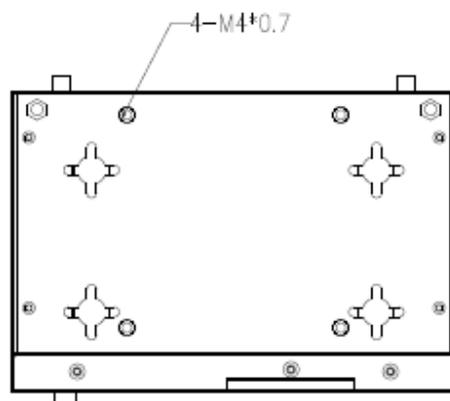
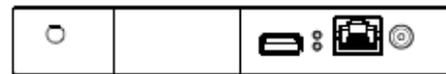
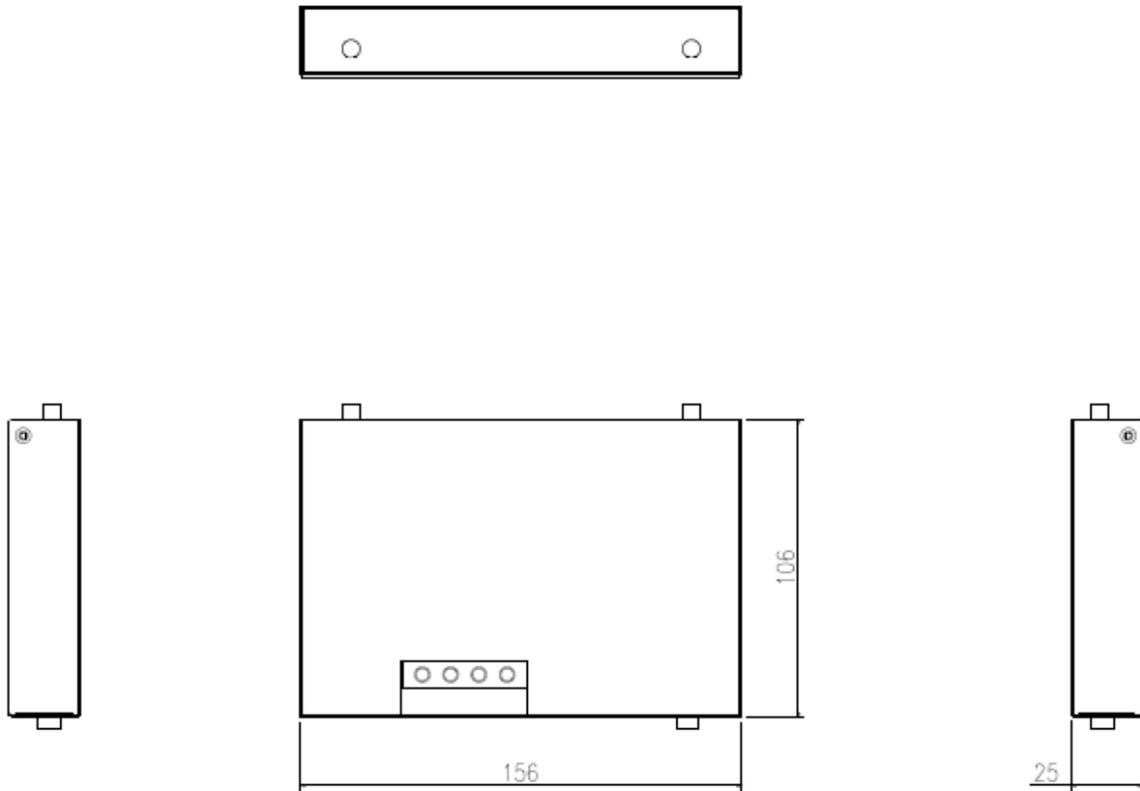
### 1.5.2 Rear View



#### Connector

Label	Function
PWR	DC-IN +12V
ETH	RJ-45 Ethernet
USB	USB 2.0 connector
RST 1/2	Reset
ANT 1	Wi-Fi Antenna connector
ANT 2	UWB Antenna connector

## 1.6 System Dimensions



(Unit: mm)

