LC5A Device Specification

Overview

This document provides technical details of the LC5A device. The LC5A device is a hardware solution designed to function as a Gateway Node within a Real-Time Location System (RTLS). Its flexibility and adaptability make it ideal for various tracking and monitoring applications.

Figure 1: The Front view of the device

Key Features

- The host MCU is based on the Microchip's MCU SAM E70, a high-performance 32-bit Arm® Cortex®-M7 processor that provides connectivity via 10/100 Ethernet MAC with IEEE 1588.
- An integrated ATWINC1500 Wifi module - a low-power consumption 802.11 b/g/n IoT (Internet of Things) module, Specifically optimized for low-power IoT applications, and Supports IEEE 802.11 WEP, WPA and WPA2 security.
- The Ultra-Wideband Sub-system runs on Qorvo's DWM1001C module that integrates DW1000 Ultra-Wideband (UWB) transceiver IC and Nordic Semiconductor MCU with Bluetooth nRF52832:
  - Ranging accuracy to within +-20cm.
  - UWB Channel 5 printed PCB antenna (6.5 GHz)
  - 6.8 Mbps data rate IEEE 802.15.4-2011 UWB compliant.
  - Integrates UWB and Bluetooth® antenna and all RF circuitry.
  - Integrated Motion sensor: 3-axis accelerometer.
- Supports Ethernet or WIFI connectivity with the LEAPS Server.
- Contains a status LED and the UWB status LED.
- Supplies the power from a USB cable (5 VDC) or an external source (7~32 VDC).
- A complete software package free of charge that includes software infrastructure, configuration and visualization tools (with support for various platforms from Android, Windows, macOS, and Linux platforms).
- An open online documentation and community forum.

Software Compatibility

It is compatible with PANS PRO and LEAPS RTLS. The default firmware is PANS PRO, supplied by the production.

Electrical Parameters

Parameter	Value
VDC power supply	7 ~ 32 @3W max
USB (power and data)	5V @ 500mA max
PoE	802.3AF, 4W max
Operating temperature	-40°C - +85°C
UWB supported channels	UWB-CH5 - 6240–6739.2 MHz
UWB transmit powers	ETSI, FCC: -41.3 dBm/MHz max
WIFI Frequency Range	Single band 2.4GHz b/g/n IoT
WIFI RX Sensitivity	-95 dBm
WIFI TX Output Power	18.5 dBm
WIFI Encryption	WEP, WPA-TKIP, WPA2, CCMP-AES
WIFI Country Code	01 (world safe)

Mechanical Parameters

Parameter	Value
Size	100 x 100 x 35 mm
Weight	110g
Color	White
Mounting	Connect any clamp mount with 1/4” screwball head

Device Overview

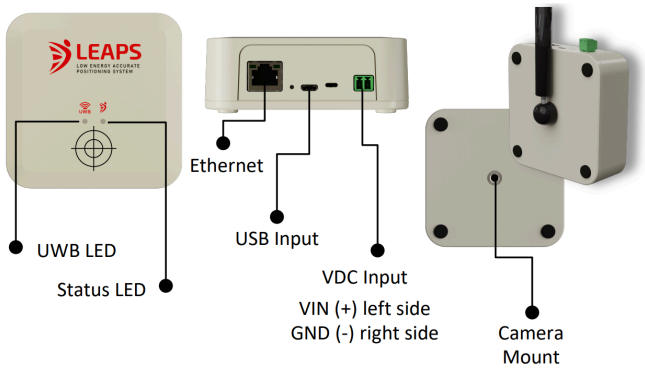

Figure 2: Hardware Interfaces of the device

Safety Instructions

- Do not expose devices to water or moisture while in operation.
- Do not expose devices to heat from any source. The product is designed for reliable operation at industrial temperature.

Warnings

- This product shall only be connected to the external power supply rated at 7˜32DC, USB power, and a minimum current supply of 0.5 A.
- Any external power supply used with this product shall comply with relevant regulations and standards applicable in the country of intended use.
- This product should be operated in a ventilated environment with a non-condensing environment and should not be covered when being operated.
- There are no user-serviceable parts inside the product, and opening the unit will likely damage the product and l invalidate the warranty.
- The cables and connectors of all peripherals used with this product must have adequate insulation to meet relevant safety requirements.

Order Information

- Part **number**: PP-LC5A / LR-LC5A
- HS Code: 8517.69.9000
- Packaging: paper box,1.5 cm x 10 cm x 4 cm 0.15kg

About Us

LEAPS is the creator of the popular DWM1001C and PANS RTLS. LEAPS has been focusing on providing RTLS hardware and software, design services, and technology licensing.

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