

# GSUB-0002

## [ Ultra-Small, Low Power UWB+BLE SiP Module ]

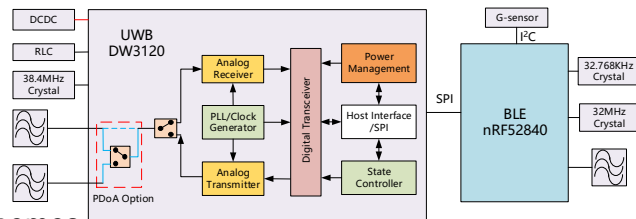
### Fully Integrated UWB+BLE SiP Solution for Smart Factories, Wearables, Smart Retail and IoT

Goermicro GSUB-0002 module is based on System-in-Package (SiP) technology which consists of a NORDIC nRF52840 Bluetooth SoC, a QORVO DW3120 UWB transceiver, a 3-axis accelerometer, a 1.6V step-down switching voltage regulator and the matched passive components. All these components are integrated in a tiny 97-pins **10.5x8.3x1.2 mm<sup>3</sup>** LGA package with sputter technology to achieve EMI shielding. GSUB-0002 can be used to scheme location application for IoT devices.



### Features

- UWB Transceiver: Qorvo DW3120
  - Supports channel 5&9(6489.6MHz&7987.2MHz)
  - Supports 2 Antennas
- BLE Transceiver: Nordic nRF52840
  - 2.4GHz BT5
  - 64MHz Cortex-M4
  - 1M Flash+256KB RAM
- Supports 2-way ranging, TDoA and PDoA location schemes
- High locating precision to 10cm
- Package Size : 97-pins 10.5 × 8.3 × 1.2 mm<sup>3</sup>
- Supply Voltage Range : VDD1/VDD2/VDDMCU: 2.5V ~ 3.6V



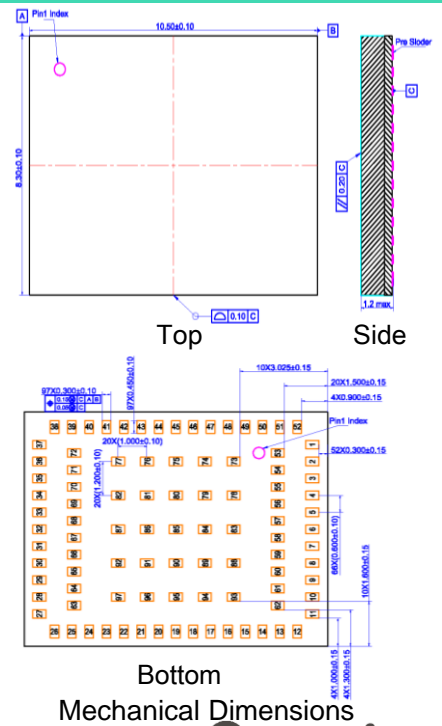
Block Diagram

### Applications

- Smart factory
- Smart retail
- Smart home
- Smart transport
- Smart phone
- Tag

### Descriptions

Items	Min	Typ	Max	Unit
Frequency Range	6240		8240	MHz
Center Frequency CH5		6489.6		MHz
Center Frequency CH9		7987.2		MHz
Channel Bandwidths		499.2		MHz
Output Power Spectral Density (programmable)			-41	dBm/MHz
Output Channel Power		-18		dBm
<b>Minimum Input Level Sensitivity</b>				
Data Rate 850 kbps (PER≤1%)		-96		dBm/500MHz
Data Rate 6.8 Mbps (PER≤1%)		-91		dBm/500MHz



Bottom Mechanical Dimensions