Moko Technology LW004-CT LoRaWAN Node Instructions

LW004-CT

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Product Introduction

LW004-CT is a LoRaWAN-Based network IoT button specifically designed for contact tracing purposes. It is compact, small in size, and easy to use. It can be used to track close contact and social safety distance reminders. A panic button can be used for SOS function or user-defined panic event. All of the close contact information will be obtained by scanning the incoming data from nearby BLE beacons or LW004-CT. And it will send these data to the nearest LoRaWAN gateway. The LoRaWAN gateway then transmits this data over to the cloud server. Once this data reaches the cloud, it is accessible all over the world 24/7.

Type	Parameter
Lora Protocol Lora Frequency Sensitivity LoRa Communication Distance BLE Communication Distance MCU Lora Chipset Power Supply Operating Current Charging Port Charging Time Operating Temperature IP Rating	LoRaWAN Node 915MHz -140dBm @SF12 300bps >=5000 @ open area >=50m @ open area Nordic NRF52832 SX1262 500mA rechargable battery < 120mA Type C 2.5 hours@5V/1A Charing: 0~45℃, Discharge:-10~60℃ IP65

Related Bluetooth chip introduction:
The nRF52 Series 2.4 GHz RF transceiver is designed and optimized to operate in the worldwide ISM frequency band at 2.402 to 2.48 GHz. Radio modulation modes and configurable packet structure enable interoperability with Bluetooth® low energy (BLE), ANT™, Enhanced ShockBurst™, and other 2.4 GHz protocol implementations. The transceiver receives and transmits data directly to and from system memory for flexible and efficient packet data management. The nRF52832 Series transceiver has the following features:

- General modulation features
- GFSK modulation
- Data whitening
- On-air data rates
- 250 kbps
- 1 Mbps

By using the reference signal (32MHz) currently used by the external clock input, a stable RF signal and the table baseband clock are generated. For more information, please refer to the following website.
https://www.nordicsemi.com/eng/Products/Bluetooth-low-energy/nRF52832

Related Lora chip introduction:
SX1262 highly efficient integrated power amplifiers.
The radio is suitable for systems targeting compliance with radio regulations including but not limited to ETSI EN 300 220, FCC CFR 47 Part 15, China regulatory requirements, and the Japanese ARIB T-108. Continuous frequency coverage from 150 MHz to 960 MHz allows the support of all major sub-GHz ISM bands around the world.
Features

- Lora and GFSK Modem
- Low RX current of 4.6 mA
- Programmable bit rate up to 62.5 kbps LoRa and 300 kbps GFSK
- High sensitivity: down to -148 dBm
- 88 dB blocking immunity at 1 MHz offset
- Co-channel rejection of 19 dB in LoRa mode
- Built-in bit synchronizer for clock recovery
- Automatic Channel Activity Detection (CAD) with ultra-fast AFC For more information, please refer to the following website.

FCC Instructions:

This product 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 product 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 communication. However, there is no guarantee that interference will not occur in a particular installation. If the product 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 product and receiver.
– Connect the product 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.
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
(2) this device must accept any interference received, including interference that may cause undesired operation.
Warning: Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the product. FCC Radiation Exposure Statement:
The equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with a minimum distance 5mm between the radiator and your body. For more information, please refer to the following website. **https://www.semtech.com/products/wireless-rf/lora-transceivers/sx1262**

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Documents / Resources

	**Moko Technology LW004-CT LoRaWAN Node** [pdf] Instructions LW004-CT, LW004CT, 2AO94-LW004-CT, 2AO94LW004CT, LW004-CT LoRaWAN Node, LW004-CT, LoRaWAN Node

References

- nRF52832 - Versatile Bluetooth 5.2 SoC - nordicsemi.com