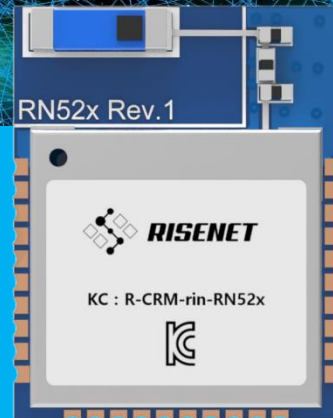


RN52x

BLE & 2.4Ghz RF Module



RN52x is an ultra-low power 2.4 GHz wireless System on Chip (SoC) module, a 32 bit ARM® Cortex™-M4F CPU, flash memory, and analog and digital peripherals.

RN52x can support **Bluetooth® Low Energy** and a range of proprietary 2.4 GHz protocols, such as Gazell from Nordic Semiconductor.

The RN52x is ready to take advantage of the considerable performance improvements for Bluetooth LE with the arrival of the Bluetooth 5 specification.

Of greatest importance is the support for longer range (up to x4 compared to Bluetooth 4.x) and doubling of on-air data-rate, up to 2Mbps from 1Mbps in Bluetooth 4.x

Application

- Internet of Things (IoT)
 - Home automation, Building automation
- Interactive entertainment devices
 - Remote control, 3D Glasses.
 - Gaming controller, Remote control toys
- Personal Area Networks
 - Health/fitness sensor and monitor devices
 - Medical devices, Key-fobs + wrist watch
- Mesh Network
 - BLE Mesh, Risenet Mesh

Features

- Bluetooth 5 ready multi-protocol radio
 - 2Mbps
 - Long range
 - Advertising extensions
 - Improved coexistence (CSA #2)
- IEEE 802.15.4 radio support
 - Thread
 - Zigbee
- ARM® Cortex®-M4 32-bit with FPU, 64 MHz
- Up to 111 dB link budget for Bluetooth mode
- Support for non-concurrent multiprotocol operation
 - On-air compatibility with nRF24L series
- Full-speed 12Mbps USB controller
- Programmable output power from +8dBm to -20dBm
- Arm CryptoCell CC310 cryptographic security module
- Wide supply voltage range + 1.7V to 5.5V
- 128 bit AES/ECB/CCM/AAR co-processor
- Single-ended antenna output (on-chip balun)



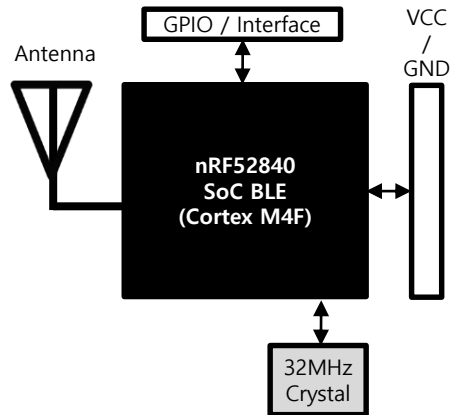
RISENET
RF SOLUTIONS FOR THE IOT

RN52x BLE & 2.4Ghz RF Module

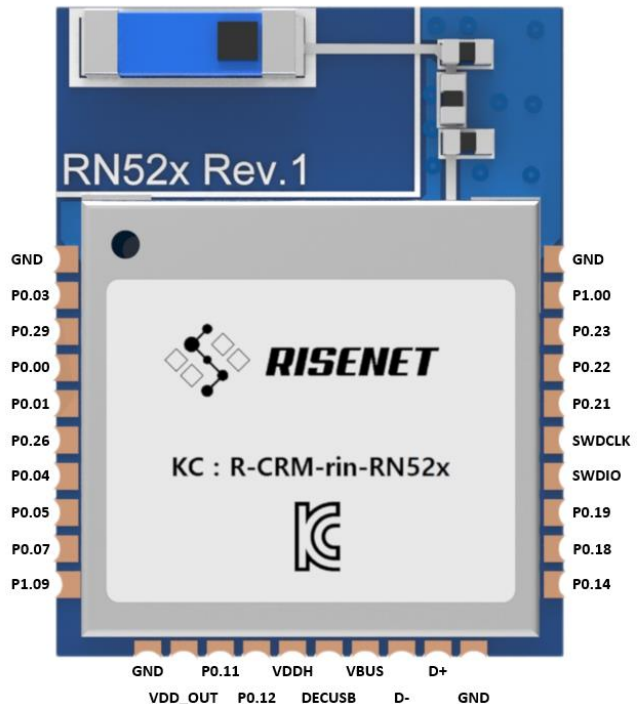
Features

Performance	
RF Chip	nRF52840
Data Rate (MAX)	2 Mbps
Transmit Power	< 8 dBm
Receiver Sensitivity	-103 dBm @ BLE mode at 125kbs
Features	
Frequency Band [MHz]	2400~2483.5 MHz
Modulation Techniques	GFSK
GPIO	18 Pins
Interface	SPI, UART, I2C, USB 2.0
Operating Temperature	-25°C to +75°C
Dimensions (L x W x H)	19.8 ± 0.3 mm x 14.6 ± 0.3 mm x 2.2 ± 0.3 mm
Programmability	
RAM Memory	256 kByte
Flash Memory	1 Mbyte
Networking and Security	
Encryption	AES
Power Requirements	
Operating Voltage	1.7 to 5.5 V LDO
Transmit Current consumption Radio	10.6 mA @ 0 dBm
Receiver Current consumption Radio	9.9 mA @ 1Mbps BLE
Regulatory Approvals	
KC	○

Block Diagram



Pin Configuration



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