

Under Development

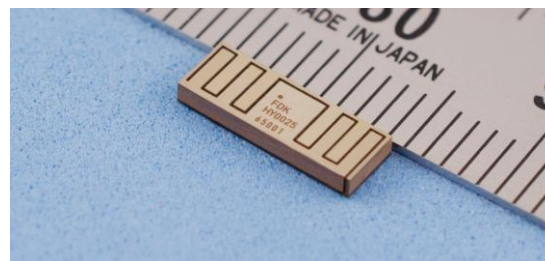
FDK

Bluetooth® LE module HY0025

A module equipped with the nRF54L15 that supports Bluetooth version 6. Channel Sounding enables high-accuracy distance measurement.

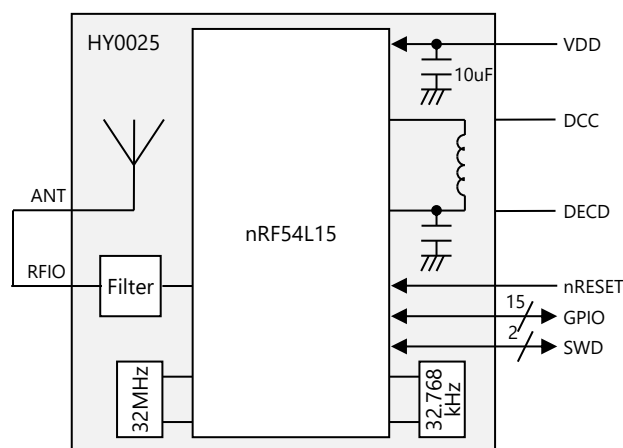
Features

- Slot Antenna on Shielded Package*1
 - Ultra-small module with slot antenna built into shielded package
 - Large area restrictions are not required. One of the smallest board-level occupied areas in the world.
- Bluetooth v6
 - Low energy 2Mbps
 - Coded PHY (Long Range)
 - Channel Sounding
 - Maximum output power : +8 dBm
 - Sensitivity : -96 dBm (1Mbps)
- Chip: Nordic nRF54L15
 - Arm® Cortex®-M33, 128 MHz
 - 1524KB NVM / 256KB RAM
- Digital interface: SPI, TWI, I2S, UART, PDM, PWM, QDEC
- 14-bit ADC
- GPIO: 15 GPIO + nRESET
- With integrated 32MHz clock
- With integrated 32.768kHz clock
- Supply voltage : 1.7 to 3.6 V
- With integrated DC-DC circuit components
- Op. temp. range : -40°C to +105°C
- Dimensions : 3.5 x 10 x 1.3 mm
- RoHS compliant / Lead free
- Certification / Qualification
 - Bluetooth (Planned)
 - MIC Japan
 - FCC (Planned)
 - ISED (Planned)
 - (ETSI EN300 328 V2.2.2) (Planned)



Pin Compatible with HY0020

Block Diagram



Evaluation Board

An evaluation board with HY0025 is also available. Please use it for checking the characteristics of this module and for your software development.



Applications

- Smart Key
- Smart Tag
- Health Care
- IoT Device
- Game + PC Accessory
- Remote Control

*1 FDK Corporation designs, manufactures and sells these modules under license of Slot Antenna on Shielded Package technology patented by Toshiba Corporation.

*2 The Bluetooth® word mark is a registered trademark owned by Bluetooth SIG, Inc.

*3 Arm and Cortex are registered trademarks of Arm Limited (or its subsidiaries) in the US and/or elsewhere.

*4 Product specifications are subject to change without notice.

	HY0020	HY0021	HY0025
Bluetooth SoC	nRF52832	nRF52805	nRF54L15
MCU	Arm Cortex-M4F 64 MHz	Arm Cortex-M4 64 MHz	Arm Cortex-M33 128 MHz
Memory	512 KB Flash 64 KB RAM	192 KB Flash 24 KB RAM	1524 KB NVM 256 KB RAM
Bluetooth Version	5.4	5.4	6.0
LE 2M*1	Yes	Yes	Yes
LE Coded (Long Range)*2	—	—	Yes
Direction Finding*3	—	—	Yes
LE Audio*4	—	—	—
Channel Sounding*5	—	—	Yes
Mesh Networking*6	Yes	—	Yes
TX power	+4 dBm	+4 dBm	+8 dBm
RX sensitivity (1 Mbps)	-94 dBm	-94 dBm	-96 dBm
Multi protocol	ANT	N/A	802.15.4 Thread Zigbee Matter
GPIO	16 GPIO	8 GPIO	15 GPIO + nRESET
High frequency clock	Built-in	Built-in	Built-in
Low frequency clock	Built-in	Built-in	Built-in
LC Components for DC-DC	Built-in	Built-in	Built-in
Operation Temp. Range	-40°C to +85°C	-40°C to +85°C	-40°C to +105°C
Operation Volt. Range	1.7 V to 3.6 V	1.7 V to 3.6 V	1.7 V to 3.6 V
Dimension (mm)	3.5 x 10.0 x 1.0	3.5 x 10.0 x 1.0	3.5 x 10.0 x 1.3
Package	29-pins LGA	24-pins LGA	29-pins LGA

*1 A high-speed communication mode in which the communication range becomes shorter.

*2 A mode that enables long-range communication, with reduced data throughput.

*3 A function that enables direction detection and requires the counterpart device to be equipped with an antenna array.

*4 The next-generation Bluetooth audio technology.

*5 A technology that enables high-accuracy distance measurement between devices.

*6 A network technology in which many devices communicate by interconnecting in a mesh topology.

Inquiry

If you have any questions or inquiries, please contact us without reservation!

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