



Product Name	BeagleConnect Freedom
Original Design	Beagleboard.org®
Manufacturer	Seeed Studio
Manufacturer Part Number	102110577
Working Temperature	0°C ~ 70°C
Certification	CE, FCC, RoHS, UKCA, REACH
ECCN	EAR99
EU HSCODE	8517180000
US HSCODE	8517180050

BeagleConnect Freedom is an open-hardware wireless hardware platform developed by BeagleBoard.org and built around the TI CC1352P7 microcontroller, which supports both 2.4-GHz and long-range, low-power Sub-1 GHz wireless protocols. Rapidly prototyping of IoT applications is accelerated by hardware compatibility with over 1,000 mikroBUS add-on sensors, acutators, indicators



and additional connectivity and storage options, and backed with software support utilizing the Zephyr scalable and modular real-time operating system, allowing developers to tailor the solution to their specific needs. BeagleConnect Freedom further includes MSP430F5503 for USB-to-UART functionality, temperature and humidity sensor, light sensor, SPI flash, battery charger, buzzer, LEDs, and JTAG connections to make it a comprehensive solution for IoT development and prototyping.

The TI CC1352P7 microcontroller (MCU) includes a 48-MHz Arm Cortex-M4F processor, 704KB Flash memory, 256KB ROM, 8KB Cache SRAM, 144KB of ultra-low leakage SRAM, and over-the-air upgrades (OTA) capability. This MCU provides flexible support for many different protocols and bands making it suitable for many different communication requirements.

Expand the reach of your BeaglePlay up to 1km!

With 2x mikroBUS connections, there are over 1,000 different add-on options. On board sensors include temperature, humidity and light level. There's even a battery charger to assist with battery-backed-up designs. Based on a TI SimpleLink CC1352 wireless MCU running Zephyr and Micropython, utilizing the 2.4GHz and sub1GHz IEEE 802.15.4 wireless networks are made easy.

Numerous additional wireless networking stacks are available from TI, including Wi-SUN and Amazon Sidewalk, enabling you to take your IoT designs wherever you might want to go!

- TI BLE/SubG CC1352P7 M4+M0 with BeagleConnect firmware
- Power input with USB Type-C
- Support 2x 2*8P mikroBUS connector
- 1*2P for battery
- 1*RST button
- 1* USER BOOT button