

# Bluetooth Selector Guide



## Bluetooth Low Energy Modules

Part Number	Supplier	Footprint (mmxmmxmm)	Bluetooth Standard	Transmit Power	Receive Sensitivity	Range (m)	Antenna	Current Consumption	MCU	Advantage/Benefit
BGM113	Silicon Labs	9.2 x 15.8 x 1.83	Bluetooth 4.2	Configurable up to +3 dBm	-92 dBm	50	High performance chip antenna	8.8 mA TX current @ 0 dBm output power	ARM Cortex M4 with 32 kB RAM & 256 kB Flash	Fully integrated module with MCU, Bluetooth stack & radio
BGM111	Silicon Labs	13 x 15 x 2.2	Bluetooth 4.2	Configurable up to +8 dBm	-92 dBm	200	High performance chip antenna	8.8 mA TX current @ 0 dBm output power	ARM Cortex M4 with 32 kB RAM & 256 kB Flash	Fully integrated module with MCU, Bluetooth stack & radio
BGM121	Silicon Labs	6.5 x 6.5 x 1.4	Bluetooth 4.2	Configurable up to +8 dBm	-90 dBm	200	Ceramic chip antenna or 50 ohm RF pin	8.2 mA TX current @ 0 dBm output power	ARM Cortex M4 with 32 kB RAM & 256 kB Flash	Long range with SiP Packaging
BGM123	Silicon Labs	6.5 x 6.5 x 1.4	Bluetooth 4.2	Configurable up to +3 dBm	-90 dBm	50	Ceramic chip antenna or 50 ohm RF pin	8.2 mA TX current @ 0 dBm output power	ARM Cortex M4 with 32 kB RAM & 256 kB Flash	Low power with SiP Packaging
BlueMod+S	Telit	17x10x2.6	Bluetooth 4.1	Configurable -30 dBm to +5 dBm	-88.5 dBm sensitivity	50	Ceramic Antenna	12 mA TX current @ 0 dBm output power	ARM Cortex M0 (Nordic nRF51822 inside)	Custom firmware from production
BlueMod+S42	Telit	17x10x2.6	Bluetooth 4.2	Configurable -20 dBm to +4 dBm	-96 dBm sensitivity	300	Ceramic Antenna	Max Power consumption 7.5 mA	Arm® Cortex M4F (Nordic nRF52832 inside)	Low Power
EYSHCNZSX	TAIYO YUDEN	9.6 x 12.9 x 2.0	Bluetooth 4.2	Configurable up to +4 dBm	-96 dBm sensitivity	200	High performance ceramic chip antenna	5.3 mA TX current @ 0 dBm output power	ARM Cortex M4F (Nordic nRF52832 inside)	Integrated module with Sleep Clock and LC for DC/DC
EYSHSNZWZ	TAIYO YUDEN	3.25 x 8.55 x 0.9	Bluetooth 5.0	Configurable up to +4 dBm	-93 dBm sensitivity	200	high performance PCB antenna	5.3 mA TX current @ 0 dBm output power	ARM Cortex M4F (Nordic nRF52832 inside)	Ultra compact Bluetooth module



## Bluetooth Classic Modules

Part Number	Supplier	Footprint (mmxmmmm)	Bluetooth Standard	Transmit Power	Receive Sensitivity	Range (m)	Antenna	Current Consumption	MCU	Advantage/Benefit
WT41u	Silicon Labs	35.55 x 14.50 x 5.65	Bluetooth v.2.1 + EDR	Transmit power: +20 dBm	Receiver sensitivity: -90 dBm	500+	Chip antenna or U.FL connector or PIN	85 mA for TX 2-DH5 mode	NA	Very Long Range
WT11u	Silicon Labs	35.75 x 14.50 x 2.6	Bluetooth v.2.1 + EDR	Transmit power: +17 dBm	Receiver sensitivity: -86 dBm	350 m line of sight	chip antenna or U.FL connector	88 mA for TX 2-DH5 mode	NA	Long Range
WT32i	Silicon Labs	35.75 x 14.50 x 2.6	Bluetooth v.3.0	Transmit power: +6.5 dBm	Receiver sensitivity: -90 dBm	50	chip antenna or U.FL connector	75 mA for A2DP audio streaming	NA	Audio Module

## Bluetooth Smart Ready Modules (BT Classic +BLE)

Part Number	Supplier	Footprint (mmxmmmm)	Bluetooth Standard	Transmit Power	Receive Sensitivity	Range (m)	Antenna	Current Consumption	MCU	Advantage/Benefit
BT121	Silicon Labs	11.0 x 13.9 x 2.2	Bluetooth 4.2 Smart Ready compliant	+12 dBm : BT BR/EDR +8 dBm : BLE	RX Sensitivity: -96 dBm	200-400 meter LoS range	Integated Antenna	15.8 mA @ 115kbps continuous transmissison	ARM Cortex M0 with 16kB RAM & 128kB Flash	Small Size
BlueMod+SR	Telit	17 x 10 x 2.6	Bluetooth 4.0 compliant	-23 to +8 dBm (software adjustable)	-91 dBm sensitivity	100	Ceramic antenna OR pin	15-27 mA	Cortex-M3 STM32F103 (CSR8811 BlueCore08 )	cost-effective & easy integration
EYSGCCAXX/ EYSGCCSXX	TAIYO YUDEN	15.4 x 10.0 x 2.0	Bluetooth v4.1 Certified	+12dBm Typical Output Power @Class1 Operation	spec available soon	spec available soon	High Performance On-board Antenna	5.6mA Typ. at 0dBm TX Power	Qualcomm/ CSR CSR85348 HCI Ready	Small Size, Low Power

# Bluetooth SoC

Part Number	Supplier	Footprint (mm x mm)	Bluetooth Standard	Transmit Power	Receive Sensitivity	Current Consumption	MCU	Peripherals	Advantage/Benefit
EFR32BG	Silicon Labs	QFN48 (7 x 7) BGA125 (7 x 7) QFN32 (5 x 5) WLCSP43 (3.3 x 3.14)	Bluetooth 4.2/5.0 Ready + 2.4 GHz & sub Ghz option	Programmable up to +19.5 dBm	- 94 dBm	8.2 mA at Tx 0dBm	ARM Cortex® -M4 with 256 kB Flash & 32kB SRAM	UART, I2C, Timers & 31 GPIO	Multi-radio, User friendly development tools
nRF52840	Nordic Semiconductor	AQFN73 (7 x 7)	Bluetooth 5.0 ANT, 802.15.4 2.4 GHz proprietary	Programmable -20 dBm to +8 dBm	- 96 dBm	5.3mA at TX 0dBm	ARM® Cortex® -M4F with 1MB Flash & 256 kB RAM	SPI/UART/PWM & 48 GPIO	Multiprotocol, Low Power, Large Memory
nRF52832	Nordic Semiconductor	QFN48 (6 x 6) WLCSP (3.0 x 3.2)	Bluetooth 4.2/5.0 Ready	Programmable -20 dBm to +4 dBm in 4 dB steps	- 96 dBm	5.3mA at TX 0dBm	ARM® Cortex® -M4 with 512 kB flash & 64 kB RAM	SPI,I2C,I2S UART & 48 GPIO	Low Power
RTL8762A	Realtek	QFN32 (5 x 5) QFN40 (5 x 5) QFN56 (7 x 7)	Bluetooth 4.2	0 dBm	-94.5 dBm	5.2mA at Tx 0dBm	ARM® Cortex™ -M0, 256KB eFlash, 80KB RAM	SPI, I2C, UART, PWM, Timers, RTC, IR Transceiver, 15 to 37 GPIOs	Low Power
RTL8761	Realtek	QFN32 (4 x 4)	Bluetooth 2.1/3.0/4.0	+8 dBm	-89 dBm	15mA @ ACL no traffic	HCI, No app MCU	UART/USB, PCM	Bluetooth Smart Ready (Dual mode)
RTL8763	Realtek	QFN40 (5 x 5) BGA81 (4.5 x 4.5)	Bluetooth 4.2/5.0 Ready	+8 dBm	-95 dBm	5.4 mA at Tx 0dBm	ARM® Cortex® -M4	Audio with I2S, ADC/DAC	Audio
MT2523D	Mediatek	TFBGA165 (6.2 x 5.8)	Bluetooth 2.1 + EDR, 4.0	+7.5 dBm (BT 2.1) +5 dBm (EDR) 0 dBm (BT 4.0)	-93 dBm (BT 2.1 + EDR) -96.5 dBm (BT 4.0)	16 mA at Tx 0dBm	ARM Cortex-M4 with FPU, 4MB flash, 4MB PSRAM	UART, I2C, SPI, I2S, PWM, SDIO, MSDC, USB, PCMIF, ADC and dual digital mic, up to 38 GPIOs	Bluetooth Smart Ready (Dual mode)
MT2523G	Mediatek	TFBGA246 (9.2 x 6)	Bluetooth 2.1 + EDR, 4.0 + GNSS	+7.5 dBm (BT 2.1) +5 dBm (EDR) 0 dBm (BT 4.0)	-93 dBm (BT 2.1 + EDR) -96.5 dBm (BT 4.0)	16 mA at Tx 0dBm	ARM Cortex-M4 with FPU, 4MB flash, 4MB PSRAM	UART, I2C, SPI, I2S, PWM, SDIO, MSDC, USB, PCMIF, ADC and dual digital mic, GPS+GLONASS, Galileo, Beidou, up to 38 GPIOs	Bluetooth Smart Ready (Dual mode) with GNSS



## Silicon Labs Blue Gecko Wireless Starter Kit



### Kit Features

- Sensors: temperature, humidity, accelerometer
- UI: Display, buttons, LEDs, joystick
- PC connectivity: USB
- Battery or USB powered

### Bluetooth Smart Ready Software

- BGScript™ development tools and example code
- BGLIB™ source code and example applications
- Profile Toolkit™ for building profiles
- iOS and Android applications

### Compatible radio boards (sold separately)

- EFR32BG Blue Gecko Bluetooth Smart SoC radio board (SLWRB4100A)
- BGM113 Blue Gecko Bluetooth Smart module radio board (SLWRB4301A)

### Kit Contents (Part # SLWSTK6101C)

- BGM111 Blue Gecko Bluetooth Smart Module Radio Board (SLWRB4300A)
- BGM121 Blue Gecko Bluetooth Smart SiP Radio Board (SLWRB4302A)
- Wireless Starter Kit main board
- Blue Gecko Module Kit Add-on Board
- CR2032 Lithium battery
- USB Type A to USB Mini-B cable

## Telit BlueEva+S42/BlueDev+S42 Kit



### Kit Features

- UI: Buttons, LEDs, Buzzer
- PC connectivity: USB
- Battery, USB or Externally powered
- UART TTL interface

### Software Features

- Terminal connection to PC
- NFC Handover Example for Android (BlueEva+S42)
- Terminal IO Utility App for iPhone

### Kit Contents - BlueEva+S42

- BlueEva+S42 board
- NFC Antenna Class6/V1.0
- Mini USB cable
- Battery CR2032
- Printed card with download instructions

### Kit Contents - BlueDev+S42

- Telit demo source code (requires nRF51 SDK v7v11.20.0, not included)
- BlueDev+S42 board
- NFC Antenna Class6/V1.0
- Mini USB cable
- Battery CR2032
- 10-pin debugger cable
- Printed card with download instructions

## Nordic nRF52840 Dev Kit Nordic Thingy:52



### Kit Contents (Part # NRF52840-PDK)

- nRF52840 dev board
- 2032 battery
- NFC antenna

### Kit Features

- Supports Bluetooth 5 development on nRF52840 SoC
- Arduino Uno shield compatible
- RF SMA connector for direct RF measurements
- NFC tag-A interface and antenna

### Part # nRF6936

The Nordic Thingy:52™ is a compact, power-optimized, multi-sensor development kit. It is an easy-to-use development platform, designed to help you build IoT prototypes and demos, without the need to build hardware or write firmware. The Nordic Thingy:52 is built around the nRF52832 Bluetooth® 5 SoC. It sends data to/from its sensors and actuators to an app and to the cloud.

## TAIYO YUDEN EYSHSN Eval Kit



### Kit Contents (Part # EKSHSNZWZ)

- EBSHSNZWZ Evaluation Board
- CD-ROM (DataReport, EVBManual)
- J-Link Lite (EKSHSNZWZ Only)

### Kit Features

- Easy connectivity to PC through USB
- Power supply with 3.3V from 3V3OUT of FT232RQ
- Serial Wire Debug included

### Software Features

- Can be used with Nordic-DK and Use Cases
- Software tools support: Keil uVersion 5, nRFgo Studio
- SoftDevice FW S132 can be written