Digi XBee 3 BLU Development Kit

Complete Digi XBee 3 BLU development platform to integrate compact, flexible Bluetooth Low Energy connectivity for IoT devices

The **Digi XBee® 3 BLU Development Kit** offer an easy-to-use Bluetooth® development platform for designers, OEMs and solution providers supporting Bluetooth 5.4 Low Energy for industrial wireless IoT connectivity. The module supports an industrial temperature range of −40 °C to 85 °C (−40 °F to 185 °F) making it robust for a variety of industrial applications.

Pre-certified modules and tools for development

The pre-certified modules offer MicroPython programmability, beaconing, Bluetooth sensor support and the **Digi XBee Mobile App** to accelerate use in industrial wireless projects.

Standard Digi XBee API frames and AT commands, as well as MicroPython and **Digi XBee Studio**, make it simple to set up, configure and test modules or update their functionality.

Digi XBee Bluetooth Low Energy modules are a key offering in the **Digi XBee ecosystem** of wireless modules, adapters, tools and software — all engineered to accelerate product and application development, deployment and management.

Built-in **Digi TrustFence®** security, identity and data privacy features use multiple layers of control to protect against new and evolving cyber threats. Bluetooth Low Energy also adds security via pairing & bonding, encrypted advertising along with existing XBee security including secure boot, hardware cryptographic acceleration and true random number generation.

Proven experience and expert support

Our decades of embedded experience and millions of deployed devices tell our story; Digi is a trusted solutions provider dedicated to simplifying the way OEMs design, build, deploy and maintain secure connected products.

Digi Wireless Design Services (WDS) provides additional connectivity integration support, certification assistance, and custom design and build services to get your products to market smarter and faster, and support you wherever you are along your development path.

DIGI XBee Studio

Connect this device with Digi XBee Studio.
Create. Configure. Deploy. Manage.

The kit includes:

- ✓ (1) **Digi XBee 3 BLU modules**: MMT with chip antenna
- ✓ (1) **XBIB interface boards**
- ✓ **Digi XBee Studio** and **Digi XBee Tools**
- ✓ Additional documentation and examples

PART NUMBER	DESCRIPTION
XK3-B5M-WBT	Digi XBee 3 BLU Development Kit

Key features, benefits and applications

- Designed for a range of use cases, from maker projects to industrial applications
- Industrial-rated operating temperature on a Bluetooth module
- Integrated MicroPython programmability for edge compute
- Bluetooth® Low Energy for beaconing, connecting to sensors and local configuration using the **Digi XBee Mobile App**
- Easily detect modules and connect to smart devices
- Low power consumption optimized for long battery life
- Integrated with **Digi TrustFence** security framework
- Manage with **Digi XBee Studio** and **Digi IoT Mobile SDK**
- Digi XBee API functionality and support
- Over-the-air (OTA) firmware updates with **Digi XBee Mobile App**
- Complete Bluetooth 5.4 Low Energy software stack

Management and Configuration

Digi XBee Studio

Free multi-platform application that enables developers to manage Digi XBee devices through a simple-to-use graphical interface

Digi XBee Studio is the definitive tool to manage and configure Digi XBee devices. This next generation configuration tool suite supersedes **Digi XCTU**® and offers an advanced set of tools that make it easy to set up, configure, communicate with and test Digi XBee modules and devices

The first thing you need to do in order to work with XBee devices in XBee Studio is to add them to the tool. In XBee Studio, this is easier than ever.

Simple setup and connectivity

Just after startup, XBee Studio will automatically look for XBee devices connected to your computer. As modules are found, they will appear in the Device Browser view. The Device Browser view displays all the devices connected to your computer, but you can also manage remote Digi XBee devices registered in a **Digi Remote Manager**® account switching to the Cloud mode.

Digi XBee Studio also features pre-loaded quick setup options for **Digi XBee 3 BLU Development Kit**. Visit the **get started** documentation to learn more.

View and manage your Digi XBee devices

View all of your Digi XBee devices in one table, or if they are geo-located, you can switch to the map view and see the location of each one. Digi XBee Studio also offers a simple and step-by-step way to access and manage devices, including additional options for configuration, diagnostics, development, remote management and other utilities.

Proven experience and expert support

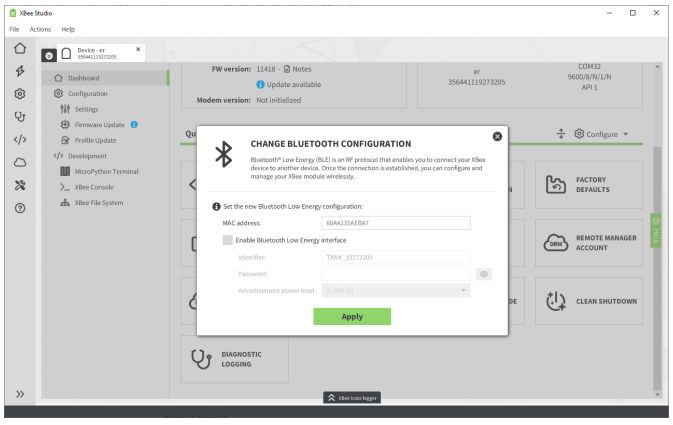
Our decades of embedded experience and millions of deployed devices tell our story; Digi is a trusted solutions provider dedicated to simplifying the way OEMs design, build, deploy and maintain secure connected products. **Digi Wireless Design Services** (WDS) is an engineering team that provides additional connectivity integration support, certification assistance, and custom design and build services to get your products to market smarter and faster.

Learn more at digi.com/xbee-studio.

Key features

- **Deploy on multiple platforms:** Digi XBee Studio is compatible with the most popular operating systems, including Microsoft Windows, macOS and Linux.
- **Discover your devices:** Automatically discover XBee devices connected to your computer, regardless of their port connections or configured settings.
- **Configure any device:** Manage and configure multiple XBee devices at once, including devices enrolled in your **Digi Remote Manager** account located anywhere in the world.
- **Communicate with your devices:** Use the new smart XBee console to communicate with your devices regardless of whether they are configured for API mode or transparent mode..
- **Access a range of tools:** Use embedded tools to perform operations like creating XBee profiles or recovering your devices.
- **Get automatic updates:** Automatically update the application itself, as well as the radio firmware library, without downloading any extra files.

Download Digi XBee Studio:
https://hub.digi.com/support/products/xbee-studio



Management and Security

Digi IoT Mobile SDK

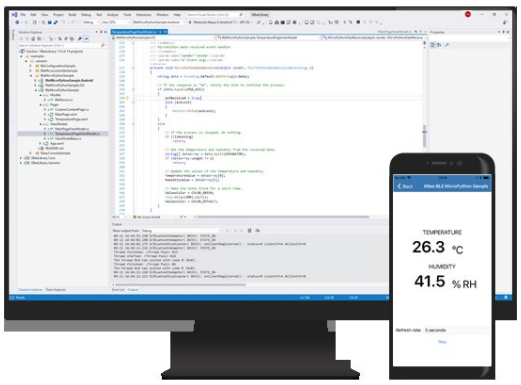
Digi IoT Mobile SDK is a set of libraries, code examples and documentation designed to simplify the creation of iOS and Android mobile apps that interact with Digi XBee 3 BLU modules via Bluetooth.

Bluetooth enables local connectivity to Digi XBee modules via a mobile device to streamline network deployment, configuration and troubleshooting. Bluetooth Low Energy can also be used as a communication channel to create a Human Machine Interface (HMI) in a smartphone or tablet to monitor and control a device that does not have a display.

Digi IoT Mobile SDK helps speed up the development of mobile applications that interact with Digi XBee devices over the Bluetooth Low Energy interface. Access to the software libraries, examples and documentation can be found on the **Digi support site**.

Custom Bluetooth app examples include configuring Digi XBee firmware settings during deployment, exchanging data between a mobile application and a MicroPython application running on Digi XBee 3 BLU, or exchanging data between a mobile application and the host microcontroller.

Learn more at digi.com/xbee.



Create mobile applications that connect Digi XBee modules via Bluetooth

Digi IoT Mobile SDK includes:

- Well-documented APIs to handle the complexity of the Bluetooth authentication, encryption and communication processes
- Two libraries to simplify mobile app development:
  - A Digi XBee library for Xamarin, to develop native cross-platform (iOS and Android) mobile applications using C#
  - A Digi XBee library for Android, to develop native Android applications using Java
- Comprehensive documentation
- Example applications for both libraries

Download Digi IoT Mobile SDK:

https://hub.digi.com/support/products/digi-iot-mobile-sdk

Digi TrustFence

Built-in security. Delivered.

Designed for mission-critical applications, **Digi TrustFence** enables users to easily integrate device security, device identity, and data privacy capabilities into product design. Digi TrustFence security for IoT devices is designed to grow and adapt with new and evolving threats.

Learn more at digi.com/trustfence.

Digi TrustFence is a device security framework that simplifies the process of securing connected devices.

- **Secure boot:** Programs and code running on the device are validated to be from an approved source or manufacturer.
- **Protected hardware ports:** Internal and external I/O ports are hardened and access-controlled to prevent unwanted intrusion.
- **Authentication:** TrustFence provides data authentication and device identity management options and ensures that products are not shipped with default user and password settings.
- **Secure connections:** These connections utilize the latest encryption protocols for data in motion and over-the-air (OTA) transmissions to ensure the integrity of network data.
- **Ongoing monitoring and support:** Digi provides ongoing threat measurement and monitoring services and performs external security audits.

DIGI XBEE 3 BLU DEVELOPMENT KIT

Digi XBee Ecosystem, Tools and Supporting Services

Digi XBee Ecosystem

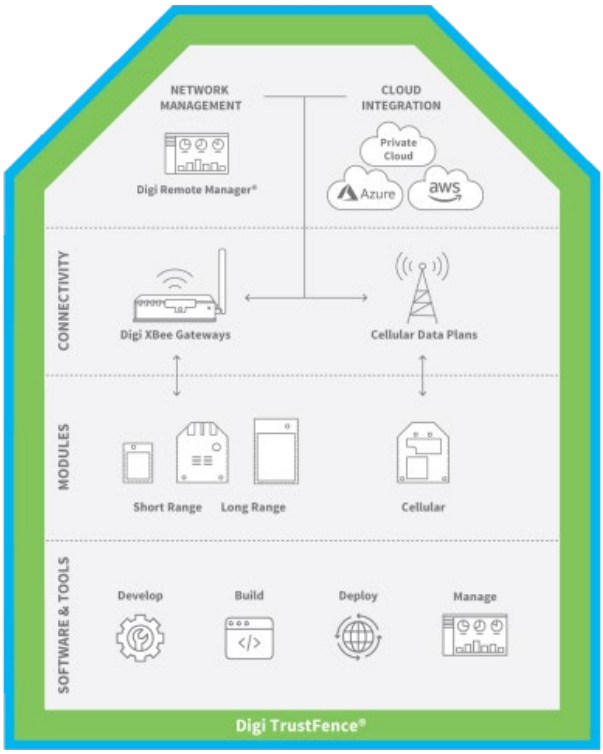
The world-renowned XBee module is part of a family of cellular modems and RF modules that provide ultimate flexibility for IoT application developers, with three programmable form factors, and a range of popular wireless protocols. The XBee family also includes IoT gateways and management tools to connect, monitor and manage your XBee network.

Learn more at digi.com/xbee.

Digi XBee Tools

DEVELOP BUILD DEPLOY MANAGE

The **Digi XBee Ecosystem** is fully supported with the award-winning **Digi XBee Tools** suite. Designed to support the full product lifecycle, from prototyping and development to deployment and ongoing monitoring, Digi XBee Tools includes code libraries, testing and prototyping tools, product development and manufacturing support, and tools for deploying and managing end devices in the field.



Digi Wireless Design Services

Digi WDS supports new designs and redesigns

We offer services to support you wherever you are along your development path, with a record that speaks for itself.

- Proof of concept
- Architecture consultation
- Requirements definition
- System, software and electrical design
- Design reviews
- Certifications
- Prototype build
- Manufacturing test fixtures
- 250+ product development projects
- 100+ certification failure rescues
- 100 million connected devices around the globe

DEFINITION DEVELOPMENT CERTIFICATION MANUFACTURING

Get to market faster with Digi WDS

Digi Wireless Design Services (WDS) has a proven history of helping clients speed down the path to success by guiding them through the technological and regulatory certification pitfalls that botch budgets and disrupt product introductions.

We begin by actively listening to your business and technical requirements, and then leverage our proven methodology, world-class engineering expertise and library of IP to design a cost-effective solution that is tailored to your specific needs. Accelerate toward the solution that is right for you and your customers.

Contact Digi WDS to find out how we can guide you to success.

DIGI XBEE 3 BLU DEVELOPMENT KIT

Specifications

Manage and configure Digi XBee 3 BLU modules with Digi XBee Studio

Specifications	Digi XBee 3 BLU
BLUETOOTH PERFORMANCE	
TRANSCEIVER CHIPSET	Silicon Labs EFR32MG SoC
BLUETOOTH LOW ENERGY VERSION	Supports Bluetooth Low Energy 5.4 and capable of interoperating with Bluetooth Low Energy 5.4 devices that support 1M and 2M PHY
MAXIMUM RF DATA RATE	1 Mbps with 1M PHY and 2 Mbps with 2M PHY
INDOOR/URBAN RANGE*	Up to 15 m (49 ft)
OUTDOOR/RF LINE-OF-SIGHT RANGE*	Up to 300 m (984 ft)
TRANSMIT POWER	+8 dBm
RECEIVER SENSITIVITY	–97 dBm
FEATURES	
SERIAL DATA INTERFACE	UART, SPI
CONFIGURATION METHOD	API or AT commands, local or over-the-air (OTA)
FREQUENCY BAND	ISM 2.4 GHz
FORM FACTOR	Micro (MMT), through-hole (TH)
INTERFERENCE IMMUNITY	FSK (Frequency-shift keying)
ADC INPUTS	(4) 10-bit ADC inputs
DIGITAL I/O	13
ANTENNA OPTIONS	Micro: U.FL antenna, RF pad, chip antenna Through-hole: PCB antenna, U.FL connector
OPERATING TEMPERATURE	–40 °C to 85 °C (–40 °F to 185 °F)
DIMENSIONS	Micro: 13 mm x 19 mm x 2 mm (0.533 in x 0.76 in x 0.087 in) Through-hole: 2.438 cm x 2.761 cm (0.96 in x 1.087 in)
MEMORY	1 MB / 96 kB RAM
NETWORKING AND SECURITY	
PROTOCOL	Bluetooth Low Energy 5.4
ENCRYPTION	128/256-bit AES
RELIABLE PACKET DELIVERY	Retries/acknowledgements
IDS	PAN ID and addresses, cluster IDs and endpoints (optional)
CHANNELS	40 channels
SECURITY	**Digi TrustFence** security with secure boot and protected JTAG
CONFIGURATION TOOLS	**Digi XBee Studio** and **Digi XBee Mobile App**
EMBEDDED PROGRAMMABILITY	MicroPython

DIGI XBEE 3 BLU DEVELOPMENT KIT

Specifications

Manage and configure Digi XBee 3 BLU modules with Digi XBee Studio

Specifications	Digi XBee 3 BLU
POWER REQUIREMENTS	
SUPPLY VOLTAGE	1.71 to 3.8 V
TRANSMIT CURRENT	32 mA at 3.3 V, +8 dBm
RECEIVE CURRENT	13.5 mA
IDLE CURRENT	7.5 mA
SLEEP CURRENT	8 µA at 25 °C (77 °F)
REGULATORY AND CARRIER APPROVALS**	
FCC, IC (NORTH AMERICA)	Complete
ETSI (EUROPE)	Complete
WARRANTY	
PRODUCT WARRANTY	1-year

*Range figure estimates are based on free-air terrain with limited sources of interference. Actual range will vary based on transmitting power, orientation of transmitter and receiver, height of transmitting antenna, height of receiving antenna, weather conditions, interference sources in the area, and terrain between receiver and transmitter, including indoor and outdoor structures such as walls, trees, buildings, hills, and mountains.
*Visit **digi.com/resources/certifications** for latest certifications and approvals.

Bluetooth®

DIGI XBEE 3 BLU DEVELOPMENT KIT

Part Numbers

Part Numbers	Digi XBee 3 BLU Development Kit
XK3-B5M-WBT	Digi XBee 3 BLU Development Kit

Part Numbers	Digi XBee 3 BLU
XB3-24B5UM-J	Digi XBee 3 BLU — Bluetooth Low Energy 5.4, U.FL, MMT
XB3-24B5CM-J	Digi XBee 3 BLU — Bluetooth Low Energy 5.4, chip antenna, MMT
XB3-24B5RM-J	Digi XBee 3 BLU — Bluetooth Low Energy 5.4, RF pad, MMT
XB3-24B5UT-J	Digi XBee 3 BLU — Bluetooth Low Energy 5.4, U.FL, TH
XB3-24B5PT-J	Digi XBee 3 BLU — Bluetooth Low Energy 5.4, PCB antenna, TH

The kit includes:

(1) **Digi XBee 3 BLU modules**: MMT with chip antenna

(1) **XBIB interface boards**

Digi XBee Studio and **Digi XBee Tools**

Additional documentation and examples

For more information, visit digi.com.

For more information about the Digi XBee 3 BLU Development Kit, visit **digi.com/xbee-3-blu-kit**.

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