

DIGI Xbee Product Comparison

Digi Xbee® cellular module comparison chart



	Digi Xbee 3 Global LTE Cat 4	Digi Xbee 3 Global and North America LTE Cat 1	Digi Xbee 3 Global and Low-Power LTE-M/NB-IoT
Chipset / Form	Thales PLS83-W / Digi Xbee® 20-pin through-hole		Telit ME310-WW (Global), Telit ME310-W1 (Low-Power) / Digi Xbee® 20-pin through-hole
Antenna Options	2 U.FL: cellular diversity, 1 U.FL: GNSS; embedded Bluetooth® antenna	1 U.FL: cellular diversity, 1 U.FL: GNSS; embedded Bluetooth® antenna	1 U.FL: cellular diversity, 1 U.FL Bluetooth®, 1 U.FL: GNSS
Dimensions	30.48 mm x 43.18 mm (1.2 in x 1.7 in)		24.38 x 32.94 mm (0.96 x 1.3 in)
Operating Temp	-40 °C to 80 °C (-40 °F to 176 °F)		-40 °C to 85 °C (-40 °F to 185 °F)
SIM / Data Interface	4FF Nano / UART, SPI, USB		
Operating Modes	Transparent and API over serial, PPP over USB		Transparent and API over serial, PPP over USB, UDP (low-power)
Security	Digi TrustFence® security with secure boot and protected JTAG		
Configuration Tools	Digi Xbee Studio (local), Digi Remote Manager® (OTA)		
Programmability	MicroPython with 8 MB flash / 64 kB RAM		MicroPython with 1024 kB flash / 64 kB RAM
I/O	4 ADC lines (10-bit), 13 digital I/O, 12C		
Bluetooth	Bluetooth Low Energy		
Transmit Power	4G: 23 dBm; 3G: 23.5 dBm; 2G: 30 to 33 dBm	4G: 23 dBm; 3G: 23.5 dBm; 2G: 30 to 33 dBm (Global)	LTE-M/NB-IoT: up to 23 dBm; 2G: up to 33 dBm
Receive Sensitivity	4G: -103 dBm; 3G: -110 dBm; 2G: -108 dBm	4G: -103 dBm; 3G: -110 dBm; 2G: -108 dBm (Global)	LTE-M: -105 dBm; NB-IoT: -113 dBm
Supported Bands	LTE: B1, B2, B3, B4, B5, B7, B8, B12, B13, B18, B19, B20, B26, B28, B38, B40, B41, B66; 3G: B1, B2, B3, B4, B5, B6, B8, B19; 2G: 850, 900, 1800, 1850	Global LTE: B1, B1, B2, B3, B4, B5, B7, B8, B12, B13, B18, B19, B20, B25, B26, B28, B38, B40, B41, B66; NA: B2, B4, B12, B13, B25, B26, B66, B71	Global LTE: B1, B2, B3, B4, B5, B8, B12, B13, B18, B19, B20, B25, B26, B27, B28, B66, B71, B85; 2G: B2, B3, B5, B8; low-power: B1, B2, B3, B4, B5, B8, B12, B13, B18, B19, B20, B25, B26, B27, B66, B71, B85
Downlink/Uplink	LTE: 150 Mbps downlink, 50 Mbps uplink; 3G: 14.4 Mbps downlink, 5.76 Mbps uplink; 2G: 237 kbps downlink and uplink	LTE: 10 Mbps downlink, 5 Mbps uplink (USB); 921 kbps downlink and uplink (UART)	LTE-M: Up to 588 kbps down, up to 1 Mbps up; NB-IoT: up to 120 kbps down, up to 160 kbps up; 2G: up to 264 kbps down, up to 210 kbps up
Duplex Mode	Full-duplex		Half-duplex
Power / Current	2.8 - 5.5 V / 890 mA (avg. transmit current), 320 mA (avg. receive current)		3.3-4.2 V / LTE-M: 1.25 A peak, 410 mA avg (GM2); 450 mA peak, 200 mA avg (GM1); NB-IoT: LTE-M: 1.3 A peak, 410 mA avg (GM2); 400 mA peak, 270 mA avg (GM1); 2G: 2.1 A peak, 320 mA avg (GM2)
Peak Transmit	1050 mA with Bluetooth disabled; 1090 mA with Bluetooth enabled		550 mA with Bluetooth disabled; 610 mA with Bluetooth enabled
Certifications	FCC, ISSED, CE/RED, UKCA, Anatel, PTCRB, AT&T, Verizon		FCC, ISSED, CE/RED, UKCA, Anatel, PTCRB, AT&T, Verizon
Development Kits	Digi Xbee 3 Global LTE Cat 4 Development Kit	Digi Xbee 3 Global LTE Cat 1 Development Kit	Digi Xbee 3 Global LTE-M/NB-IoT Development Kit

DIGI X Bee Product Comparison

Digi XBee® 2.4 GHz RF module comparison chart



	Digi XBee 3 Zigbee 3 RF	Digi XBee 3 802.15.4 RF	Digi XBee 3 DigiMesh 2.4 RF
Chipset / Form	Silicon Labs EFR32MG SoC; micro, through-hole, surface mount		
Data Rate	RF 250 Kbps, serial up to 1 Mbps		
Range	Indoor: 60 m (200 ft), PRO: 90 m (300 ft); outdoor: 1200 m (4000 ft), PRO: 3200 m (2 miles)		
Transmit / Sensitivity	+8 dBm, PRO: +19 dBm / -103 dBm normal mode		
Bluetooth	Bluetooth Low Energy 4.2 (5.0 capable), 1 Mbps, indoor: 15 m (49 ft), outdoor: 300 m (984 ft), +8 dBm, -95 dBm normal mode		
Interface / Config	UART, SPI, I2C / API or AT commands, local or over-the-air (OTA)		
Features	ISM 2.4 GHz, DSSS, (4) 10-bit ADC inputs, (15) digital I/O		
Antenna Options	Through-hole: PCB antenna, U.FL connector, RPSMA connector SMT: RF pad, PCB antenna, U.FL connector Micro: U.FL antenna, RF pad, chip antenna		
Programmability	Memory: 1 MB / 128 kB RAM (32 kB for MicroPython)	Memory: 1 MB / 128 kB RAM; HCS08 / up to 50.33 MHz	
Dimensions	Through-hole: 2.438 x 2.761 cm (0.960 x 1.087 in) SMT: 2.199 x 3.4 x 0.305 cm (0.866 x 1.33 x 0.120 in) Micro: 13 x 19 x 2 mm (0.533 x 0.76 x 0.087 in)		
Operating Temp	-40 °C to 85 °C (-40 °F to 185 °F)		
Protocol	Zigbee 3.0	802.15.4	DigiMesh
Security	128/256 bit AES, 16 channels, retries/acknowledgements; PAN ID and addresses, cluster IDs and endpoints (optional); Digi TrustFence		
Management	Digi XCTU ® (local), Digi Remote Manager (OTA)		
Power / Current	2.1 – 3.6 V / Transmit: 40 mA at 8 dBm (PRO: 140 mA at 19 dBm); receive: 17 mA	2.1 – 3.6 V / Transmit: 135 mA at 19 dBm; receive: 15 mA	2.1 – 3.6 V / Transmit: 135 mA at 19 dBm; receive: 17 mA
Power-Down	2 µA at 25 °C (77 °F)		
Approvals	FCC, IC, ETSI (Europe), RCM (Australia), Anatel (Brazil), Telect MIC (Japan), KCC (South Korea); PRO: FCC, IC, RCM (Australia), Anatel (Brazil), KCC (South Korea)		
Development Kits	Digi XBee 3 Zigbee Mesh Kit		

DIGI X Bee Product Comparison

Digi XBee® 2.4 GHz RF module comparison chart



	Digi XBee RR Zigbee 3 RF	Digi XBee RR 802.15.4 RF	Digi XBee RR DigiMesh® 2.4 RF
Chipset / Form	Silicon Labs EFR32MG SoC / Micro, through-hole, surface mount		
Data Rate	RF 250 Kbps, serial up to 1 Mbps		
Range	Indoor: 60 m (200 ft), PRO: 90 m (300 ft); outdoor: 1200 m (4000 ft), PRO: 3200 m (2 miles)		
Transmit / Sensitivity	6.3 mW (+8 dBm), PRO: 79 mW (+19 dBm) / Channel 26 max power: +3 dBm; -103 dBm normal mode		
Bluetooth	Bluetooth Low Energy 4.2 (5.0 capable), 1 Mbps, indoor: 15 m (49 ft), outdoor: 300 m (984 ft), +8 dBm, -95 dBm normal mode		
Interface / Config	UART, SPI / API or AT commands, local or over-the-air (OTA)		
Features	ISM 2.4 GHz, DSSS, (4) 10-bit ADC inputs, (13) digital I/O		
Antenna Options	Through-hole: PCB antenna, U.FL connector, RPSMA connector SMT: RF pad, PCB antenna, U.FL connector Micro: U.FL antenna, RF pad, chip antenna		
Programmability	Memory: 1 MB / 96 kB RAM		
Dimensions	Through-hole: 2.438 x 2.761 cm (0.960 x 1.087 in) SMT: 2.199 x 3.4 x 0.305 cm (0.866 x 1.33 x 0.120 in) Micro: 13 x 19 x 2 mm (0.533 x 0.76 x 0.087 in)		
Operating Temp	-40 °C to 85 °C (-40 °F to 185 °F)		
Protocol	Zigbee 3.0	802.15.4	DigiMesh
Security	128/256 bit AES, 16 channels, retries/acknowledgements; PAN ID and addresses, cluster IDs and endpoints (optional); Digi TrustFence		
Management	Digi XCTU (local), Digi Remote Manager (OTA)		
Power / Current	1.7 – 3.8 V / Transmit: 32 mA at 3.3 V, 8 dBm; PRO: 193 mA at 3.3 V, 19 dBm; receive: 14 mA		
Power-Down	8 µA at 25 °C (77 °F)		
Approvals	FCC, IC, ETSI (Europe); PRO: FCC, IC		
Development Kits	Digi XBee RR Development Kit		

DIGI Xbee Product Comparison

Digi Xbee® Sub-1 GHz RF module comparison chart



	Digi Xbee XR 900	Digi Xbee XR 868	Digi Xbee SX 900 RF	Digi Xbee SX 868 RF
Chipset / Form	EFR32FG13P231F512 transceiver at 40 MHz; 902 – 928 MHz / Micro	EFR32FG13P231F512 transceiver at 40 MHz; 863 – 870 MHz / Micro	ADF7023 transceiver, Cortex®-M3 EFM32LG230F256 at 48 MHz; 902 – 928 MHz / Micro	ADF7023 transceiver, Cortex®-M3 EFM32LG230F256 at 48 MHz; 863 – 870 MHz / Micro
Data Rate	RF: 10 kbps (low), 110 kbps (middle), 250 kbps (high); UART: up to 921.6 kbps; SPI: up to 5 Mbps	RF: 10 or 80 Kbps, software selectable; UART: up to 921.6 kbps; SPI: up to 5 Mbps	RF: 10 kbps (low), 110 kbps (middle), 250 kbps (high)	RF: 10 or 80 Kbps, software selectable; UART: up to 921 kbps; SPI: up to 6 Mbps
Range	17 km (10.5 miles) rural, up to 3 km (1.8 mi) urban	14.5 km (9.01 miles) with 2.1 dBi antenna	14.5 km (9.01 miles) rural, 2.5 km (1.5 mi) urban, 100 m (330 ft) indoor; PRO: 105 km (65 mi) rural, 18 km (11 mi) urban, 300 m (1000 ft) indoor	14.5 km (9.01 miles) with 2.1 dBi antenna
Transmit / Sensitivity	Up to 19 dBm ERP / -113 dBm (low), -108 dBm (middle), -104 dBm (high)	Up to 13 dBm ERP / -107 dBm at 80 kbps, -112 dBm at 10 kbps	Up to 13 dBm; PRO: up to 30 dBm / -106 dBm at 80 kbps, -113 dBm at 10 kbps	Up to 13 dBm ERP / -106 dBm at 80 kbps, -113 dBm at 10 kbps
I/O	(15) Digital I/O	(13) Digital I/O	10 hopping sequences share 50 frequencies; 101 available channel frequencies (low and middle data), 50 available channel frequencies (high data rate)	(13) Digital I/O
Analog Inputs	4 channels 10-bit	4 channels 10-bit		4 channels 10-bit
Networking	Point-to-point/point-to-multipoint, DigiMesh	DigiMesh, repeater	Peer-to-peer (master/slave not required), point-to-point/point-to-multipoint, mesh	DigiMesh, repeater, point-to-point, point-to-multipoint, peer-to-peer
Antenna Options	Micro: U.FL antenna, RF pad	Micro: U.FL antenna, RF pad	U.FL antenna, RF pad	U.FL antenna, RF pad
Dimensions	Micro: 13 x 19 x 2 mm (0.533 x 0.76 x 0.087 in)	Micro: 13 x 19 x 2 mm (0.533 x 0.76 x 0.087 in)	SMT: 3.38 x 2.21 x 1.29 cm (1.33 x 0.87 x 0.12 in)	SMT: 3.38 x 2.21 x 1.29 cm (1.33 x 0.87 x 0.12 in)
Operating Temp	-40 °C to 85 °C (-40 °F to 185 °F)	-40 °C to 85 °C (-40 °F to 185 °F)	-40 °C to 85 °C (-40 °F to 185 °F)	-40 °C to 85 °C (-40 °F to 185 °F)
Security	256-bit AES encryption	128-bit AES encryption	Optional 256-bit AES CBC encryption	128-bit AES encryption
Management	Digi XCTU (local), Digi Remote Manager (OTA)			
Power / Current	2.1 – 3.6 VDC (3.3 typical) / Transmit: 88 – 110 mA; receive: 28 mA	1.8 – 3.6 VDC / Transmit: 76 mA; receive: 26 mA	2.4 – 3.6 VDC / Transmit: 55 mA at 13 dBm, 45 mA at 10 dBm, 35 mA at 0 dBm; PRO: 900 mA at 30 dBm, 640 mA at 27 dBm, 330 mA at 20 dBm; receive: 40 mA;	2.4 – 3.6 VDC / Transmit: 55 mA; receive: 40 mA
Sleep Current	1.2 uA	1.5 uA	2.5 uA	1.8 uA
Approvals	FCC (USA), ISCED (Canada), ROHS	ETSI (Europe): CE, RED; ROHS	FCC (USA), ISCED (Canada), RCM (Australia), RSM (New Zealand), Anatel (Brazil), IFT (Mexico), ROHS; PRO: FCC (USA), ISCED (Canada), RCM (Australia), ROHS	ETSI (Europe): CE, RED; ROHS
Development Kits	Digi Xbee XR 900 Development Kit	Digi Xbee XR 868 Development Kit	Digi Xbee SX 900 Development Kits	Digi Xbee SX 868 Development Kit

DIGI X Bee Value

The world-renowned **Digi XBee** module is part of a complete developer ecosystem, including 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 ecosystem also includes IoT gateways and management tools to connect, monitor and manage your XBee network. **Digi TrustFence** is a complete device security framework that simplifies building secure, connected products.

THE DEVELOPER ECOSYSTEM THAT SUPPORTS YOUR GOALS END-TO-END

Your time is valuable. You can spend it wisely or reinvent the wheel. Develop your next wireless solution with the robust, secure and versatile Digi XBee ecosystem — a complete collection of modules, tools and resources supporting your product development journey. Digi's extensive development and connectivity expertise help reduce design complexity and accelerate time-to-market.



802.15.4



868 MHZ

DigiMesh



900 MHZ



Simple — With easy-to-use tools, APIs, code libraries, and optional Bluetooth configuration and MicroPython programmability, Digi XBee is easy to develop, deploy, manage, and maintain. Get to market faster with pre-certified solutions and leverage **Digi Remote Manager** for cloud-based configuration and management.



Reliable — Field-hardened Digi XBee solutions are built for the long haul with industrial lifespans, harsh environments and mission-critical applications in mind. Digi XBee is trusted by global leaders in every sector, including energy, agriculture, healthcare, smart city, aerospace and **Industry 4.0**.



Versatile — Whether your application demands short or long-range connectivity, public or private networking, point-to-point or mesh topology, multi-regional support or alternate antenna configurations, you can count on Digi XBee's unmatched versatility. A common platform with global certifications and hardware/software compatibility gives you today's leading IoT protocols and the assurance of a future-proof design.



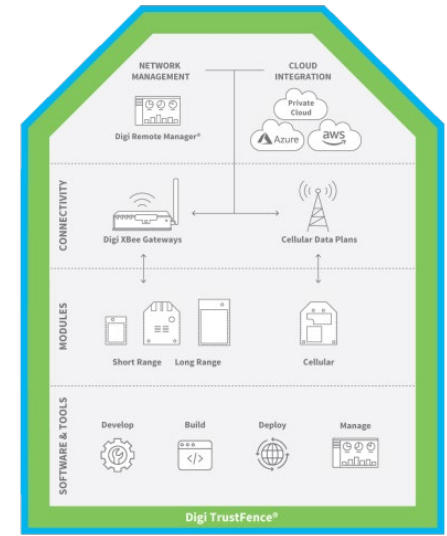
Secure — With Digi XBee, security is built-in. Our **Digi TrustFence** framework gives you the key protections you need, like secure boot, key management, and comprehensive security controls to protect your applications and devices from new and emerging threats. And with the network management capabilities of **Digi XBee Tools** and **Digi Remote Manager**, you'll be able to adapt to new and evolving threats.



Scalable — The main hurdle for commercialized IoT projects is scalability. Digi XBee modules can grow with you from initial proof of concept to applications involving hundreds of thousands of connected devices. When you need smart deployment today and growth tomorrow, Digi XBee has you covered.



Complete — With Digi XBee, you have all the supporting tools and resources you need for rapid, successful development. Digi surrounds your solution with a complete ecosystem of software, gateways, certifications, data plans, security, remote management, support and documentation.



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.



DEVELOP



BUILD



DEPLOY



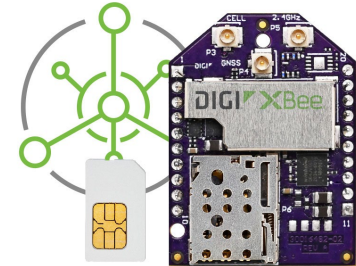
MANAGE

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.

[Learn more at digi.com/xbee.](https://www.digi.com/xbee)

DIGI X Bee Development and Management

With **Digi XBee**, you can develop robust, high-performance connected products faster and more effectively. The complete Digi XBee ecosystem includes modules, code libraries, the award-winning tool suite, **Digi XBee Tools**, as well as IoT gateways and **Digi Remote Manager** to connect your XBee network to the Internet and perform ongoing monitoring and management. **Digi Wireless Design Services** helps companies integrate wireless technologies with engineering and support from concept to certification and manufacturing.



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

Digi XBee Studio is the definitive tool to manage and configure Digi XBee cellular devices. The application includes embedded tools that make it easy to set up, configure, communicate with and test XBee cellular modems.

- ✓ **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 what operating mode they are configured for (API or transparent).

Next Generation Configuration Platform for XBee/RF Solutions

Digi XCTU is a free multi-platform application designed to enable developers to interact with Digi RF modules through a simple-to-use graphical interface. It includes new tools that make it easy to set-up, configure and test XBee® RF modules. XCTU includes all of the tools a developer needs to quickly get up and running with XBee.



Digi Remote Manager

Digi Remote Manager (Digi RM) is a proven technology platform that brings networks to the next level, empowering networks — and the people who manage them — to work smarter. Digi RM transforms a multitude of dispersed IoT devices into a dynamic, intelligent network, and diligently safeguards your entire Digi ecosystem.

Digi XBee Cellular Data Plans

Digi XBee Cellular Data Plans optimize connectivity with 5G and LTE for your devices and deployments.

- ✓ Simple cellular connectivity and cost-effective solution that accelerates time-to-value
- ✓ Tiered data plans start with a single megabyte up to multi-gigabyte options and pay-per-use plans for changing connectivity needs



Digi Wireless Design Services (WDS)

Digi WDS helps companies solve business problems and create innovative IoT products with embedded SOMs, wireless technologies, a library of proven IP and a dedicated team of creative designers and engineers.

- ✓ World-class engineering expertise
- ✓ Technological and regulatory certification
- ✓ Consulting, architecture, design, prototyping, manufacturing support and management services