

Wi-Fi 6 with Bluetooth LE 5.4 for Low Power Industrial IoT

Introducing the newest member of the Sona™ Wi-Fi 6 product line from Laird Connectivity, the TI351, based upon Texas Instruments CC3551 chipset. A truly robust industrial IoT module: one that's rugged, small, globally certified, has reliable connectivity, and is easy to integrate.

Our new Sona™ TI351 answers the call for next-gen wireless IoT. The Sona™ TI351 is purpose-built for industrial IoT connectivity with access to SDIO and UART interfaces, industrial operating temp range, latest generation Wi-Fi and BT LE combined with both pluggable card and SMT M.2 packaging.

When matched with our industry leading services and support, the Sona TI351 is the only Wi-Fi module of its kind, addressing all your Wi-Fi 6 needs.

Compatible: Our Linux Backports package supports many Linux kernels including v6.x

Reliable: Integrated PA (Power Amplifier) and LNA (Low Noise Amplifier) with 1x1 SISO antenna for reliable connectivity in harsh RF environments.

Robust: Rich feature-set including 802.11ax Wi-Fi 6 and BT LE v5.4. Reliable industrial temperature range, and solder-down module make it suitable for industrial rugged applications.

Secure: Supports the latest WPA2/3 personal and Enterprise security standards.



- 1x1 **Wi-Fi 6** (802.11ax), **Bluetooth 5.4**
- Support for 2.4 and 5GHz ISM bands
- 802.11ax STA mode and Soft AP mode
- **Bluetooth 5.4** Bluetooth Low Energy (BLE)
- Integrated **Wi-Fi + Bluetooth coexistence** for seamless connectivity
- High Speed host interface:
 - SDIO 2.0 (Wi-Fi) and HS-UART (BT)
- Industrial Temperature Rating (-40° to +85 °C)
- **Ultra-small footprint** (12 mm x 16 mm) including on-board MHF4 antenna connector and chip antenna options
- Module options: On-board MHF4 connector, M.2 2230 Key E Plug-in module, M.2 1216 SMT module, Embedded chip antenna
- **Rugged Design** – solder down form factor
- **Global Certifications** – FCC, IC, CE, UKCA, MIC, RCM, KCC, BT SIG
- **Ezurio Linux Connectivity Stack** for broad kernel support. Android 12/13 support.

Key Features



Dual-Band Wi-Fi 6

2.4/5 GHz spectrum availability for flexibility and higher performance.



Reliable Connectivity

802.11ax Wi-Fi with integrated PA and LNA combined add up to a reliable module for harsh RF conditions.



Software Flexibility and Speed to Market

Open-Source software and Linux Backports ensures compatibility with a wide variety of Linux kernels and latest security standards.



Industrial Operating Range

Designed to the industrial temperature range of -40°C to +85°C for every component utilized.



Global Approvals

Carries worldwide FCC, IC, CE, UKCA, RCM, MIC, KCC and Bluetooth SIG approvals.

Application Areas



Medical Devices (Infusion pumps, HD Imaging, Vitals Monitoring, Gateways, Beds, blood analyzers)



Industrial IoT Sensors, access control, wireless security cameras, HVAC Controllers, EV charging



Rugged Handheld Devices, POS terminals, UAV, industrial robots, printers

Specifications

Category	Feature	Specification
Wireless Specification	Wi-Fi	Wi-Fi 6 (802.11 a/b/g/n/ax)
	Bluetooth®	v5.4 (BLE)
	Frequency	Dual-Band 2.4 GHz & 5 GHz
	Transmit Power	+ 18 dBm (maximum)
	Antenna Configuration	1 x 1, shared Wi-Fi/BT
	Antenna Options	On-board MHF4 connector On-board chip antenna Shared Wi-Fi and BT antenna RF connections
	Raw Data Rates (PHY)	2.4/5 GHz: Up to 86 Mbps, 64-QAM, Single stream
Key Wi-Fi Features	Wi-Fi 6 (802.11ax)	<ul style="list-style-type: none"> • 20MHz wide channels, 64 QAM • Integrated PA/LNA • On-board MHF4 connectors • Supports OFDMA, TWT, Multirole/Multichannel (MRMC), BSS Coloring • 802.11d/h/k/r/v/w/ai
Host Interface and Peripherals	Network Interfaces	SDIO 2.0 (Wi-Fi) and HCI using HS-UART (BT)
Key Bluetooth Features	Bluetooth Low Energy	<ul style="list-style-type: none"> • LE 2 Mbps PHY • LE Long Range (LE-LR) • UART baud rates up to 4 Mbps • Advertising Extensions
Supply Voltage		3.3VDC (Supply) and 1.8VDC (I/O)
Physical	Dimensions	12 mm x 16 mm x 1.75 mm (M.2 1216 SMT Module) 22 mm x 30 mm x 3.1 mm (M.2 E-Key Module)
Environmental	Operating Temp Range	-40°C to +85°C
Miscellaneous	Lead Free	Lead-free and RoHS-compliant
	Development Kit	Development board, accessories, and evaluation software
Regulatory	Approvals	FCC/IC/CE/UKCA/MIC/RCM/KCC (Pending)
Qualifications	Bluetooth SIG	Bluetooth SIG Approval

Ordering Information

Part #	Description
453-00199R	Module, Sona TI351, 1216, MHF4L, Tape and Reel
453-00199C	Module, Sona TI351, 1216, MHF4L, Cut Tape
453-00200R	Module, Sona TI351, 1216, Chip Antenna, Tape and Reel
453-00200C	Module, Sona TI351, 1216, Chip Antenna, Cut Tape
453-00209	Module, Sona TI351, M.2, Key E, SDIO, UART
453-00200-K1	Development Kit, Sona TI351, Chip Antenna, SDIO, UART