Eagle IW066X

Wi-Fi 6 & Bluetooth 5.2 & 802.15.4 Module

14.0 mm
13.0 mm
2.0 mm
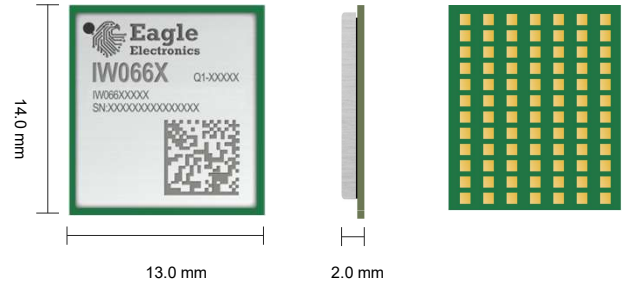
IW066X is a high-performance Wi-Fi 6 and Bluetooth 5.2 and 802.15.4 module in LGA package launched by Eagle. Under the IEEE 802.11ax standard protocol, it supports MCS 0–MCS 9 rates in a 20 MHz bandwidth with 256QAM supported. The module is designed with a reliable SDIO 3.0 or USB2.0 interface to provide WLAN capability.

With an ultra-compact size of 14.0 mm × 13.0 mm × 2.0 mm, IW066X optimizes the size and cost for end-products, which fully meets the demands of size-sensitive applications.

Surface-mount Technology (SMT) makes IW066X an ideal solution for durable and rugged designs. The low profile and small size of LGA package ensure that the module can be easily embedded into size-constrained applications and provide reliable connectivity with these applications. The advanced package, integrated shielding cover and the laser-engraved label with better heat dissipation and indelible markings allow for large-scale automated manufacturing that has strict requirements on cost and efficiency. Coupled with its compact size and wide operating temperature range, IW066X is suitable for a variety of smart home and industrial applications.

Key Features

✔ 2.4 GHz/ 5 GHz Wi-Fi bands, Bluetooth 5.2 and 802.15.4

✔ SDIO 3.0 or USB2.0 interface that supports higher data transmission rate and enables lower power consumption

✔ Faster time-to-market: simple design minimizes design-in time and development efforts

✔ Wide operating temperature range: -40 ℃ to +85 ℃

IEEE 802.11 a/b/g/n/ac/ax

Bluetooth 5.2

LGA Package

SDIO 3.0 Interface (option)

Operating Temperature Range: -40 ℃ to +85 ℃

USB2.0 Interface (Option)

Ultra-compact Size

Wi-Fi 6 & Bluetooth 5.2 & 802.15.4	IW066X
WLAN Protocol	IEEE 802.11 a/b/g/n/ac/ax
Wi-Fi Frequency Band	2.4 GHz/ 5 GHz
Wi-Fi Antenna	1 × 1
Wi-Fi Modulation Mode	DSSS/ OFDM/ DBPSK/ DQPSK/ CCK/ BPSK/ QPSK/ 16QAM/ 64QAM/ 256QAM/ OFDMA
Encryption Mode	WPA2/ WPA3
Wi-Fi Operating Mode	AP/ STA/ AP+STA
802.15.4	Supported
Bluetooth Protocol	Bluetooth 5.2
Dimensions	14.0 mm × 13.0 mm × 2.0 mm
Weight	TBD
Temperature Range	
Operating Temperature	-40 °C to +85 °C
Storage Temperature	-45 °C to +95 °C
Physical Rate (Max.)	
802.11a	54 Mbps
802.11b	11 Mbps
802.11g	54 Mbps
802.11n	72.2 Mbps
802.11ac	86.7 Mbps
802.11ax	114.7 Mbps
Interfaces	
Option 1	SDIO3.0× 1 (for Wi-Fi)
	Uart× 1 (for BLE)
	SPI × 1 (for 802.15.4)
Option 2	USB2.0× 1 (for Wi-Fi & BLE)
	SPI × 1 (for 802.15.4)
Electrical Features	
Power Supply Voltage	VBAT_3V3: 3.14–3.46 V, Typ. 3.3 V
I/O Power Supply Voltage	VIO: • 3.14–3.46 V, Typ. 3.3 V • 1.71–1.89 V, Typ. 1.8 V
VIO_RF Power Supply	VIO_RF: • 3.14–3.46 V, Typ. 3.3 V • 1.71–1.89 V, Typ. 1.8 V
VIO_SD Power Supply	VIO_SD: • 3.14–3.46 V, Typ. 3.3 V • 1.71–1.89 V, Typ. 1.8 V
Power Consumption	Max. current at Tx mode: • TBD
Certifications	
Regulatory (* means planning)	**Europe:** CE* **America:** FCC* **Canada:** IC* **Australia/New Zealand:** RCM*

Model	Ordering Code	Antenna	Note	Coexistence with Cellular Module	Development Board
IW066X	IW066XAAMD	Two antenna	SDIO, Uart, SPI Interface	-	TBD
IW066X	IW066XABMD	Two antenna	USB SPI Interface	-	TBD

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