
Radxa Wireless Module A8

an M.2 Module supporting WiFi6 and BT5.2

Revision 1.4
2024-07-15



Contents

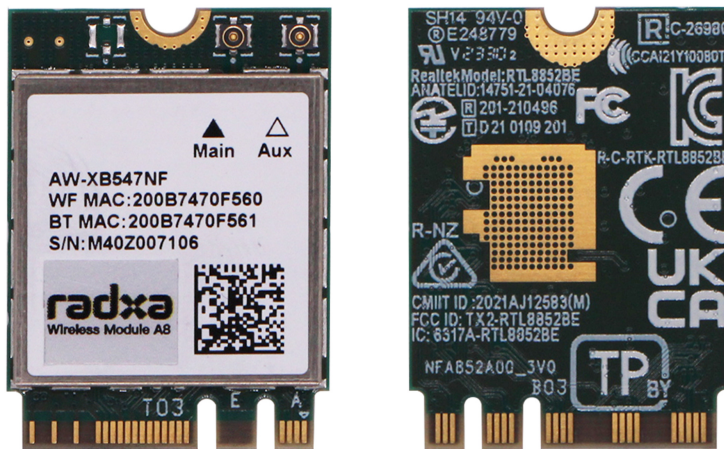
- 1 Revision Control Table 2
- 2 Introduction 3
- 3 Features 3
- 4 Block Diagram 4
- 5 Specification 4
 - 5.1 WLAN 4
 - 5.2 Bluetooth 5
- 6 Pin Description 5
- 7 Mechanical Specification 6
- 8 Compatible Single Board Computers 6
- 9 Operating Conditions 7
- 10 Availability 7
- 11 Support 7

1 Revision Control Table

Version	Date	Changes from previous version
1.0	10/05/2023	First Version
1.1	29/08/2023	Update information
1.2	04/12/2023	Update information
1.3	03/08/2024	Add WLAN specification and operation conditions
1.3	15/07/2024	Updated V2 Version

2 Introduction

The Radxa Wireless Module A8 is a standard M.2 2230 wireless module that utilizes Realtek RTL8852BE technology, supporting WiFi 6 and Bluetooth 5.2. Additionally, it features dual antennas specifically designed for the Radxa Wireless Module A8, constructed with high-quality FPC and coaxial materials, ensuring outstanding performance and reliability.

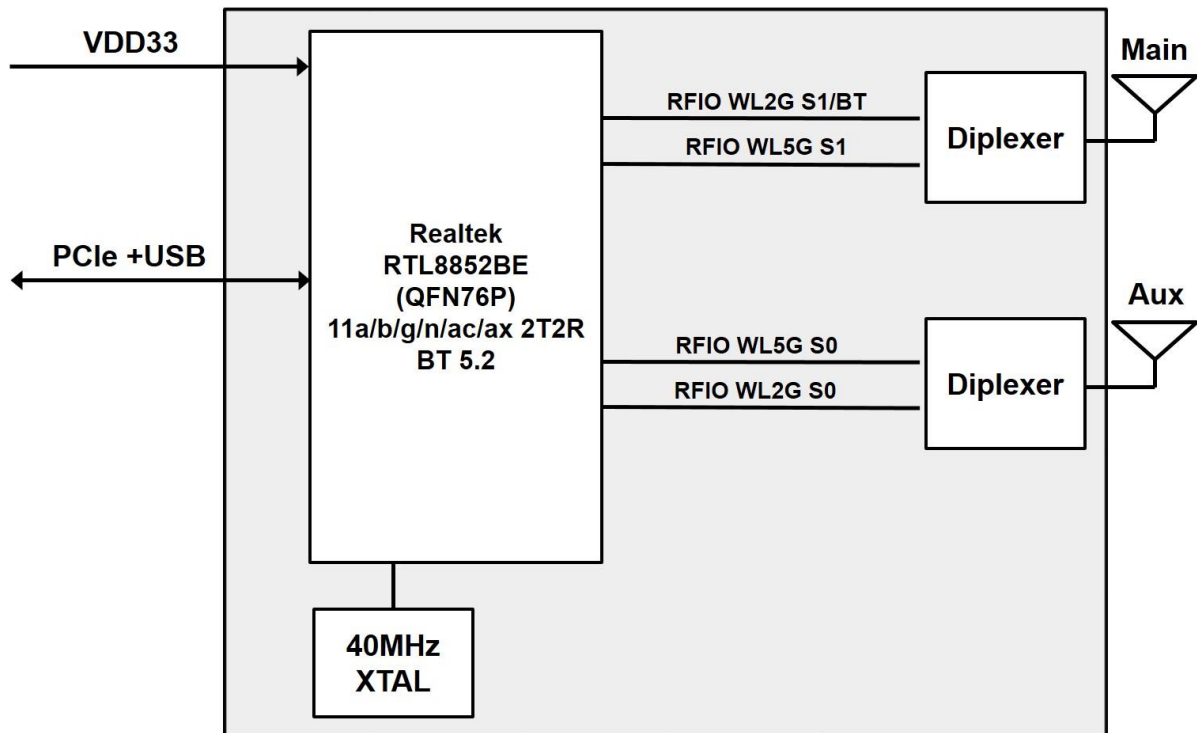


3 Features

- IEEE 802.11 a/b/g/n/ac /ax 2T2R and Bluetooth 5.2 Combo Module (M.2 2230)
- Chipset: Realtek RTL8852BE
- WLAN Frequency Range
 - 2.4GHz 2.412 ~ 2.484GHz
 - 5GHz 4.915 ~ 5.925GHz
- BT Frequency Range: 2402~2480MHz
- Host Interface: Wi-Fi: PCIe BT: USB
- Dimension: 22mm x 30mm x 2.25mm
- Form Factor: M.2 2230 E Key
- Antenna: 1 PEX MHF4 Connector

- Operating Temperature: 0 to +70°C
 - ANT1(Main): WiFi/Bluetooth -> TX/RX
 - ANT2(AUX): WiFi -> TX/RX
- Weight: 3g

4 Block Diagram



5 Specification

5.1 WLAN

Item	Description
WLAN Standard	IEEE 802.11 a/b/g/n/ac/ax 2T2R
WLAN VID/PID	10EC / B852

WLAN SVID/SPID	1A3B / 5470
Frequency Range	2.4 GHz: 2.412 ~ 2.484 GHz 5 GHz: 4.915 ~5.925GHz
Modulation	DSSS, OFDM, DBPSK, DQPSK, CCK, 16-QAM, 64-QAM, 256-QAM, 1024-QAM
Number of Channels	2.4GHz <ul style="list-style-type: none"> • USA, North America, Canada and Taiwan – 1 ~ 11 • China, Australia, Most European Countries – 1 ~ 13 • Japan, 1 ~ 14 (CH14 only for 802.11b)
	5GHz <ul style="list-style-type: none"> • USA, Europe – 36, 40, 44, 48, 52, 56, 60, 64, 100, 104, 108, 112, 116, 120, 124, 128, 132, 136, 140, 149, 153, 157, 161, 165

5.2 Bluetooth

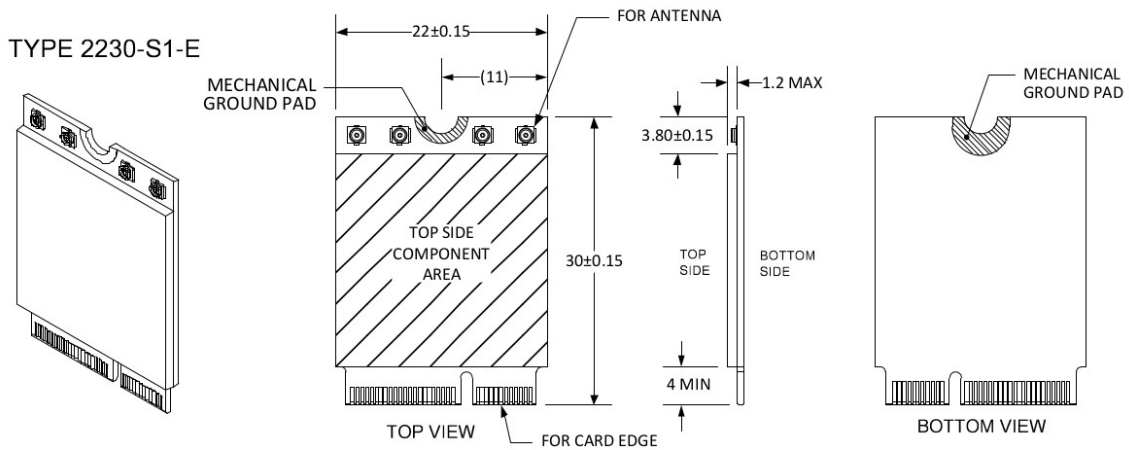
Item	Description
Bluetooth Standard	Bluetooth 5.2
Bluetooth VID/PID	13D3 / 3570
Frequency Range	2402 ~ 2480MHz
Modulation	GFSK (1Mbps), $\pi/4$ DQPSK (2Mbps) and 8DPSK (3Mbps)

6 Pin Description

PIN	Name	Description	PIN	Name	Description
1	GND	Ground	21	GND	Ground
2	HSDP	HSDP	22	GND	Ground
3	HSDM	HSDM	23	GND	Ground
4	GND	Ground	24	LED_BT	LED_BT
5	GND	Ground	25	GND	Ground
6	HSIP	HSIP	26	X0005	X0005
7	HSIN	HSIN	27	UART_TX	UART_TX
8	GND	Ground	28	UART_RX	UART_RX
9	HSOP	HSOP	29	UART_RTS	UART_RTS
10	HSON	HSON	30	UART_CTS	UART_CTS

PIN	Name	Description	PIN	Name	Description
11	GND	Ground	31	HOST_WAKE_BT	HOST_WAKE_BT
12	REFCLK+	REFCLK+	32	SUSCLK	SUSCLK
13	REFCLK-	REFCLK-	33	PERSTN	PERSTN
14	GND	Ground	34	BT_DIS_N	BT_DIS_N
15	CLKREQN	CLKREQN	35	WL_DIS_N	WL_DIS_N
16	WQKEN	WQKEN	36	ANT1	ANT1
17	GND	Ground	37	ANT2	ANT2
18	GND	Ground	38	ANT3	ANT3
19	GND	Ground	39	VD33	VD33
20	GND	Ground	40	VD33	VD33

7 Mechanical Specification



8 Compatible Single Board Computers

- Radxa ROCK 3A
- Radxa ROCK 3B
- Radxa ROCK 5A
- Radxa ROCK 5B / 5B+
- Radxa ROCK 5 ITX
- Radxa CM5 IO Board

9 Operating Conditions

Item	Description
Voltage	Power supply for host: 3.3V
Operating Temperature	0°C~70°C
Operating Humidity	less than 85% R.H.
Storage Temperature	-30°C~ 85°C
Storage Humidity	less than 60% R.H.

10 Availability

Radxa guarantees availability of the Radxa Wireless Module A8 until at least September 2029.

11 Support

For support, please see the support documentation section of the [Radxa website](#) website and post questions on the [Radxa Forum](#).