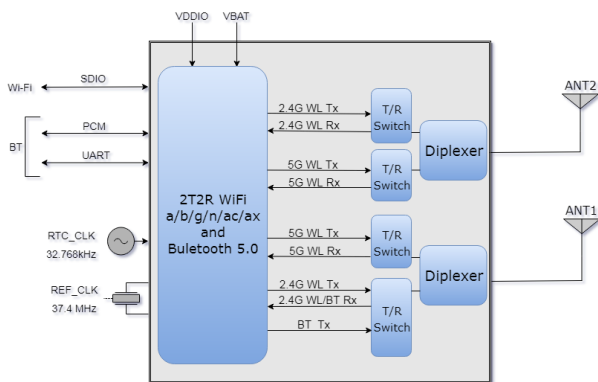# ALXC2AB – Wi-Fi and Bluetooth module

The Alinket ALXC2AB is a fully Wi-Fi and Bluetooth functionalities module with seamless roaming capabilities and advance security, also it could interact with different vendors' 802.11a/b/g/n/ac/ax 2x2 Access Points with MIMO standard and can accomplish up to speed of 1200Mbps with dual stream in 802.11ax to connect the wireless LAN. Furthermore ALXC2AB included SDIO interface for Wi-Fi, UART/ PCM interface for Bluetooth.

ALXC2AB

◾ System Architecture

◾ Highlights

● **IEEE 802.11 Key Feature**
  ● Lead Free design which is compliant with ROHS requirements.
  ● IEEE 802.11ax draft compliant.
  ● Dual-stream spatial multiplexing up to 1200 Mbps data rate.
  ● 20, 40, 80 MHz channels with optional SGI. (1024 QAM modulation)
  ● Full IEEE 802.11a/b/g/n/ac legacy compatibility with enhanced performance.
  ● Support U.FL connector , MIMO2∗2.
  ● Supports standard SDIO v3.0, compatible with SDIO v2.0

● **Bluetooth Key Feature**
  ● BT host digital interface:

    - HCI UART (up to 4 Mbps)

    - PCM for audio data
  ● Complies with BT 5.0 with provisions for supporting future specifications
  ● Supports extended synchronous connections (eSCO)
  ● Adaptive frequency hopping (AFH) for reducing radio frequency interference.
  ● A simplified block diagram of the module is depicted in the figure above.

◾ Applications

• Health & fitness equipment including heart rate monitors, blood pressure, weight scales, thermometers
• Control, automation, security and Alliance for Wireless Power wireless charging
• And more...

◼️ ALXC2AB Specification

Model Name	ALXC2AB	
Product Description	2T2R 802.11 a/b/g/n/ac/ax Wi-Fi + BT 5.0 Module	
WiFi Interface	Support SDIO V3.0/2.0	
BT Interface	UART / PCM	
Dimension	L x W：25 x 16 (typical) mm，H：2.35 (Maximum) mm	
Operating temperature	-30°C to 85°C	
Storage temperature	-40°C to 105°C	
Humidity	Operating Humidity 10% to 95% Non-Condensing	
WiFi 2.4 GHz	WLAN Standard	IEEE 802.11b/g/n & Wi-Fi compliant
	Frequency Range	2.400 GHz ~ 2.4835 GHz (2.4GHz ISM Band)
	Number of Channels	2.4GHz：Ch1 ~ Ch13
	Modulation	802.11b : DQPSK、DBPSK、CCK 802.11 g/n : OFDM /64-QAM、16-QAM、QPSK、BPSK
WiFi 5.8 GHz	WLAN Standard	IEEE 802.11a/n/ac/ax & Wi-Fi compliant
	Frequency Range	5.15~5.35GHz、5.47~5.725GHz、5.725~5.85GHz (5GHz UNII Band)
	Number of Channels	5.15~5.35GHz：Ch36 ~ Ch64 5.47~5.725GHz：Ch100 ~ Ch140 5.725~5.85GHz：Ch149 ~ Ch165
	Modulation	802.11a : OFDM /64-QAM、16-QAM、QPSK、BPSK 802.11n : OFDM /64-QAM、16-QAM、QPSK、BPSK 802.11ac : OFDM /256-QAM、64-QAM、16-QAM、QPSK、BPSK 802.11ax : OFDMA/1024-QAM、$256-QAM$、64-QAM、16-QAM、QPSK、BPSK
Bluetooth	Bluetooth Standard	GFSK、DQPSK、8DPSK、LE(1Mbps)、2LE(2Mbps)
	Host Interface	UART
	Frequency Band	2402 MHz ~ 2480 MHz
	Number of Channels	79 channels for classic、40 channels for BLE
	Modulation	FHSS, GFSK, DPSK, DQPSK

* Note: Please contact your local sales office or distributors for more information.

◼️ Contact

For more information, please contact: Alinket Electronic Technology (Shanghai) Co., Ltd.

Tel: +86 21 61048128, E-Mail to sales@alinket.com, or visit our website at www.alinket.com.

About Alinket Technology, INC.

Alinket offers a range of leading cloud-connected wireless communication controllers including Wi-Fi, Bluetooth, BLE, and Wi-Fi+BT/BLE. Alinket is building an effective eco-system for the IOT world.