



**Alinket Electronic Technology (Shanghai) Co, .Ltd**

# **ALXC1X Wireless IoT Controller User Manual**

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# 1. PIN Definitions

## 2.1 PIN Configuration

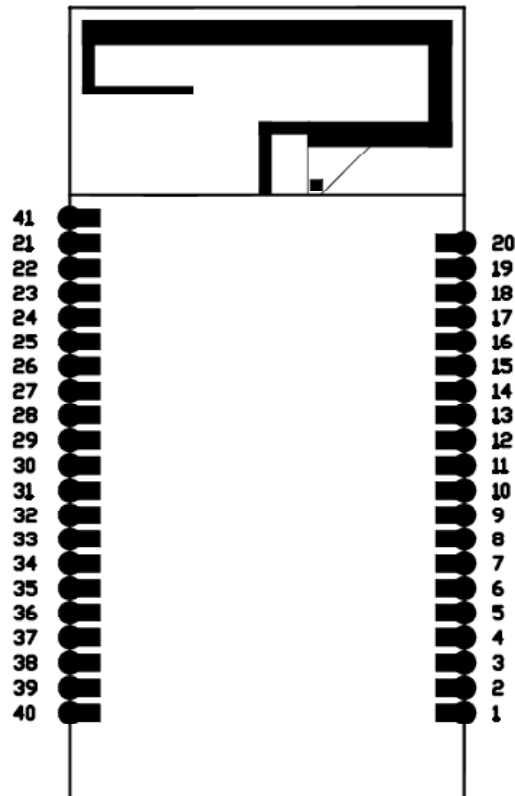


Figure 1 ALXC1X PIN Configuration

## 2.2 PIN Definitions

Pins	Name	Type	functions
1	NC	-	No function
2	PB2	I/O	GPIO PIN
3	NC	-	No function
4	SPI1_MOSI/PA7	I/O	SPI_MOSI

5	SPI1_NSS/PA4	I/O	SPI_NSS
6	SPI1_SCK/PA5	I/O	SPI_SCK
7	SPI1_MISO/PB4	I/O	SPI_MISO
8	USART2_TX/PA2	I/O	GPIO PIN
9	NC	-	No function
10	VBAT		MCU operating voltage input (power supply for RTC, external clock, 32 kHz oscillator and backup registers (through power switch) when VDD is not present.)
11	NC	-	No function
12	USART2_RX/PA3	I/O	GPIO PIN
13	MICRO_RST_N	I/O	MCU Reset
14	WAKE_UP	I/O	Wake up
15	NC	-	No function
16	NC	-	No function
17	I2C2_SCL/PB10	I/O	I2C_SCL
18	I2C2_SDA/PB9	I/O	I2C_SDA
19	I2C2_SMBA/PB12		
20	GND	-	Ground
21	GND	-	Ground
22	JTAG_TDO/PB3	I/O	JTAG_TDO
23	JTAG_TDI/PA15	I/O	JTAG_TDI
24	NC	I/O	No function
25	JTAG_TCK/PA14	I/O	JTAG_TCK

26	JTAG_TMS/PA13	I/O	JTAG_TMS
27	NC	-	No function
28	NC	-	No function
29	NC	-	No function
30	NC	-	No function
31	PB8	I/O	GPIO PIN
32	NC	-	No function
33	NC	-	No function
34	NC	-	No function
35	NC	-	No function
36	PB0	I/O	GPIO PIN
37	PB1	I/O	GPIO PIN
38	NC	-	No function
39	VDD_3V3	V	Power supply input
40	VDD_3V3	V	Power supply input
41	ANT	O	RF OUTPUT(option)

## 2. General Specification

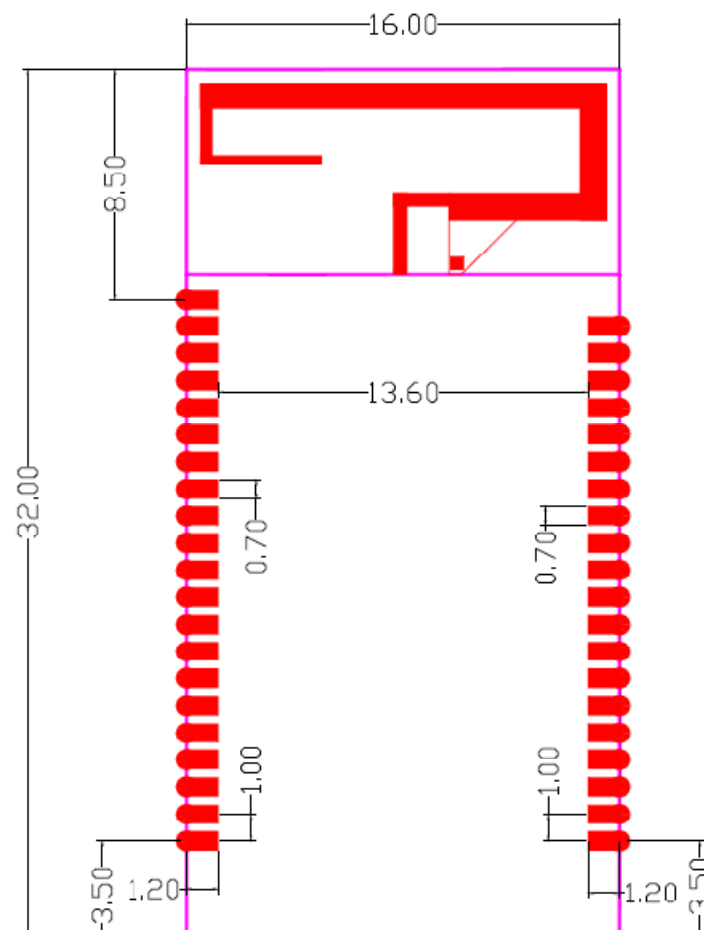
### 3.1 General Specification

Model Name	ALXC1X
Product Description	Wi-Fi 802.11b/g/n + BT 4.1 + MCU Module
Dimension	16 mm x 32 mm x 3.1mm    0.5mm

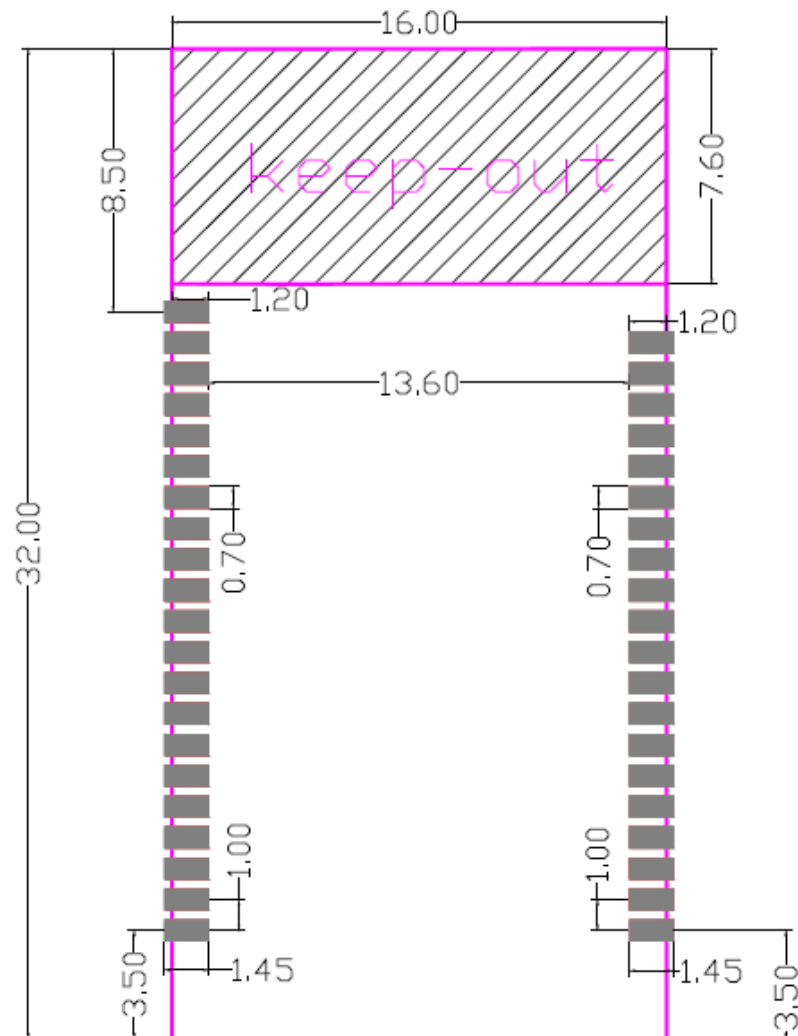
Module Interface	SPI/JTAG/UART/I2C
Chipset & CPU	Broadcom Wi-Fi Chip and ST ARM Cortex-M4 MCU @100MHz
Memory	RAM:128KB/FLASH:1.5MB
OS	Free RTOS/Thread X

## 3.2 Dimensions

### 6.1 Physical Dimensions



## 6.2 Top View



## 3. Recommended Reflow Profile

Referred to IPC/JEDEC Standard

Peak Temperature < 250 °C

Number of Times <= 2Times



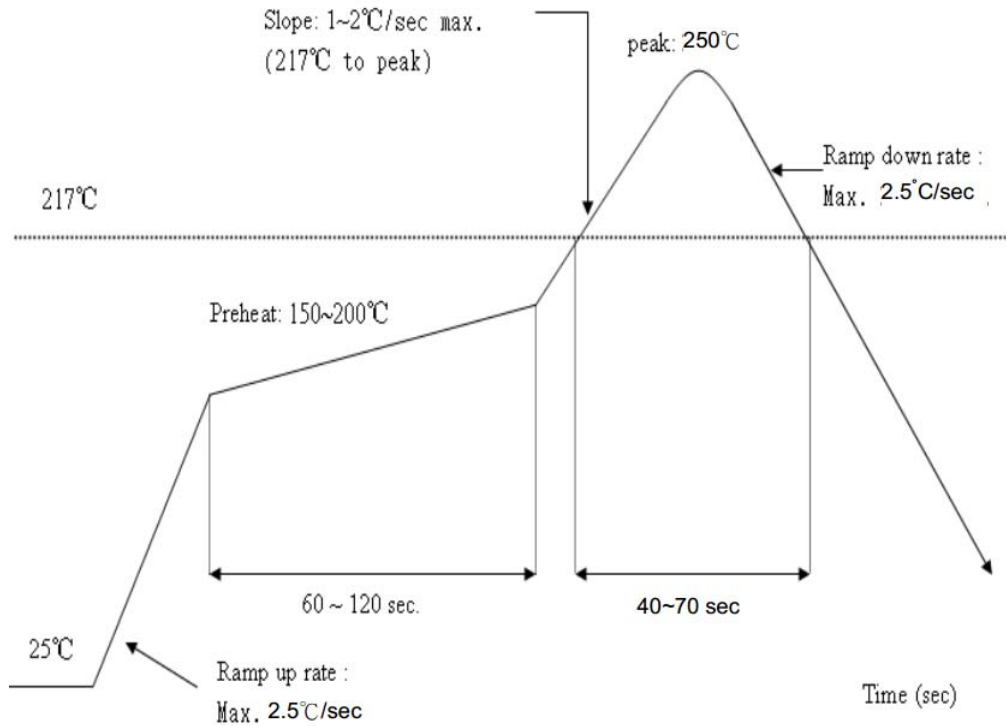


Figure 2 Recommended Reflow Profile

## 4. Packing and Marking Information

The following marking information may be printed on a permanent label affixed to the module shield or permanently laser written into the module shield itself. The two-dimensional code is used for internal purpose.

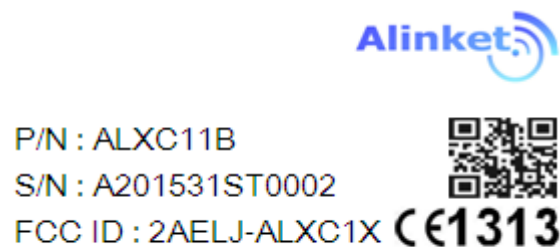


Figure 3 ALXC1X Wi-Fi Controller Marking information

## 5. FCC Label Instructions

The OEM or final integrator must ensure that FCC labeling requirements are met. This includes an additional label

on the outside of the final product housing with the following contents:

Company Name

Model:ALXC11B

FCC ID:2AELJ-ALXC1X

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions:

- (1) This device may not cause harmful interference, and
- (2) this device must accept any interference received, including interference that may cause undesired operation.

To satisfy FCC RF Exposure requirements for this transmission devices, a separation distance of 20cm or more should be maintained between the antenna of this device and persons during operation. To ensure compliance, operation at closer than this distance is not recommended. The antenna(s) used for this transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.

Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

The modular transmitter must be equipped with either a permanently affixed label or must be capable of electronically displaying its FCC identification number:

(A) If using a permanently affixed label, the modular transmitter must be labeled with its own FCC identification number, and, if the FCC identification number is not visible when the module is installed inside another device, then the outside of the device into which the module is installed must also display a label referring to the enclosed module. This exterior label can use wording such as the following: "Contains Transmitter Module FCC ID: 2AELJ-ALXC1X" or "Contains FCC ID: 2AELJ-ALXC1X." Any similar wording that expresses the same meaning may be used. The Grantee may either provide such a label, an example of which must be included in the application for equipment authorization, or, must provide adequate instructions along with the module which explain this requirement. In the latter case, a copy of these instructions must be included in the application for equipment authorization

## 6. RoHS Declaration

To the best of our present knowledge, given our supplier declarations, this product does not contain substance that are banned by Directive 2002/95/EC or contain a maximum concentration of 0.1% by weight in homogeneous materials for:

- Lead and Lead compounds
- Mercury and mercury compounds
- Chromium (VI)
- PBB (poly brominated biphenyl)
- PBDE (poly brominated biphenyl ether)

And a maximum concentration of 0.01% by weight in homogeneous materials for:

- Cadmium and cadmium compounds

## 7. MSL Level / Storage condition


	<p><b>CAUTION</b></p> <p>This bag contains</p> <p><b>MOISTURE-SENSITIVE DEVICES</b></p>	<p><b>LEVEL</b></p> <div style="border: 1px solid black; padding: 5px; display: inline-block;"> <p style="margin: 0;">3</p> </div> <p><small>If blank, see adjacent bar code label</small></p>
<p>1. Calculated Shelf life in sealed bag: 12 months at &lt; 40°C and &lt; 90%Relative humidity (RH)</p> <p>2. Peak package body temperature <u>250</u> °C <small>If blank, see adjacent bar code label</small></p> <p>3. After bag is opened, Devices that will be subjected to reflow solder or other high temperature process must</p> <p>(a) Mounted within: <u>168</u> hrs. Of factory conditions ≤ 30°C/60% RH, OR <small>If blank, see adjacent bar code label</small></p> <p>(b) Stored at &lt; 10°C RH.</p> <p>4. Devices require bake, before mounting, if:</p> <p>(a) Humidity indicator Card is &gt;10% when read at 23±5°C</p> <p>(b) 3a or 3b not met.</p> <p>5. If baking is required, Devices may be baked for 24 hrs at 125±5°C</p> <p><small>Note: If device containers cannot be subjected to high temperature Or shorter bake times are desired. Reference IPC/JEDEC J-STD-033 for bake procedure</small></p> <p>Bag Seal Date: _____ <small>Note: Level and body temperature defined by IPC/JEDEC J-STD-020</small> <small>If blank, see adjacent bar code label</small></p>		

Figure 4 MSL Level / Storage condition