

Rambutan is a dual-band (2.4 or 5 GHz) module with a fast 720 MHz CPU, Gigabit Ethernet port and 128 MB of RAM and Flash

Rambutan is based on QCA 9557 or 9550 SoC and comes in two temperature ranges: commercial (Rambutan-C) and industrial (Rambutan-I).

IT is a surface mountable, dual-sided, Wi-Fi enabled Linux module.

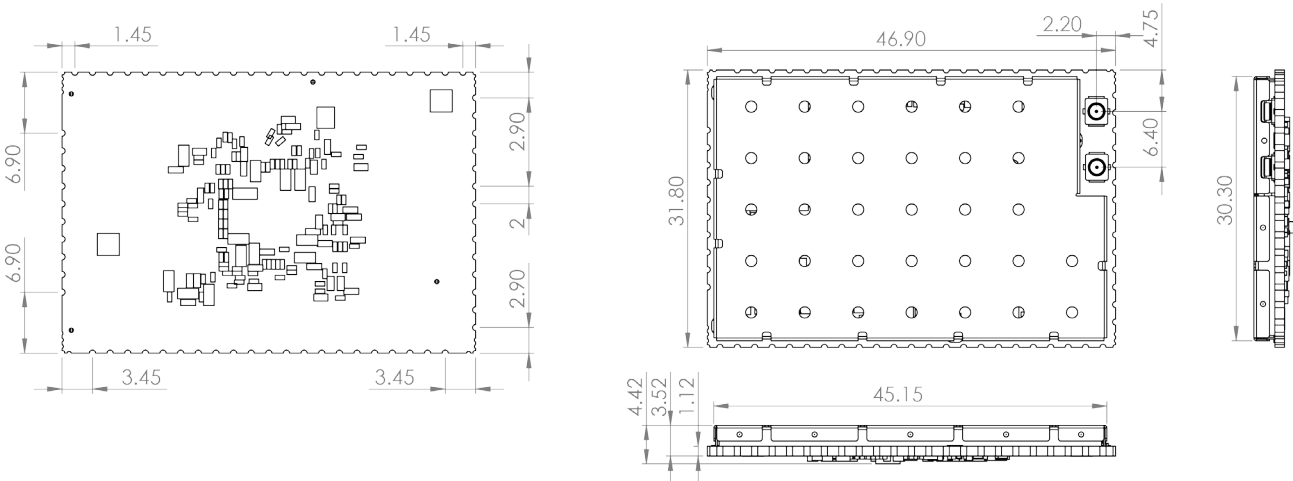
Dual-band radio (2.4 or 5 GHz), powerful 720 MHz CPU, 300 Mbps data-rate, 128 MB RAM and Flash, Gigabit Ethernet port and a development kit with multiple interfaces (e.g. PCIe, hardware SPI etc.) are the main advantages of the Rambutan module.

OpenWRT linux distribution source code is available on GitHub <https://github.com/8devices> and is supported by our growing community on http://www.8devices.com/community_forum.

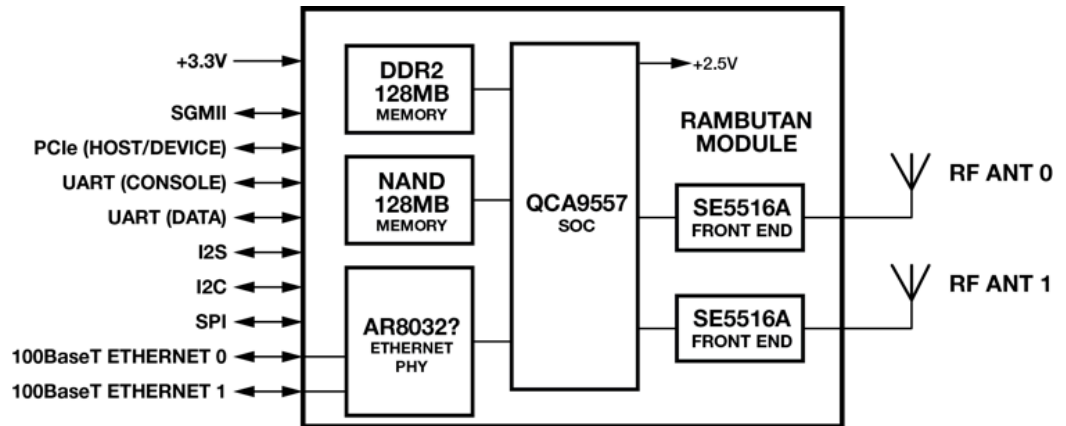
Quick specs

- 802.11 a/b/g/n, 2.4 or 5 GHz, 2x2 MIMO, 300 Mbps data rate, 21 dB per chain output power
- U.FL connectors for external antenna
- 128 MB FLASH, 128 MB DDR2 RAM
- Linux friendly, OpenWRT flash image and source code are available for download on www.8devices.com/wiki_rambutan
- CPU – QCA 9557 or 9550 (720 MHz)
- 54 by 70 mm size
- Surface mountable, dual-side design
- Industrial and commercial temperature range models
- Available interfaces - 2 x USB 2.0, 2 x serial port, 2 x Ethernet (1000 Base-T and 100 Base-T), I2S, SPI, I2C, PCIe, GPIO

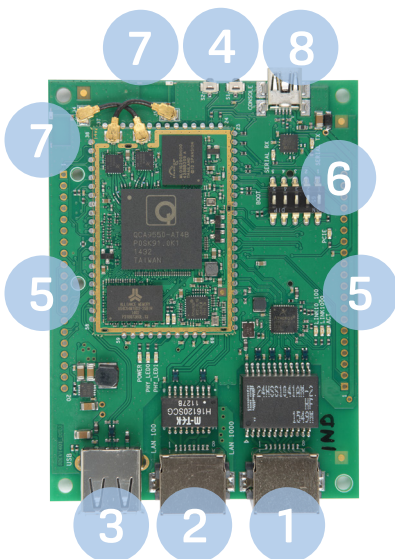
Module dimensions



Block diagram

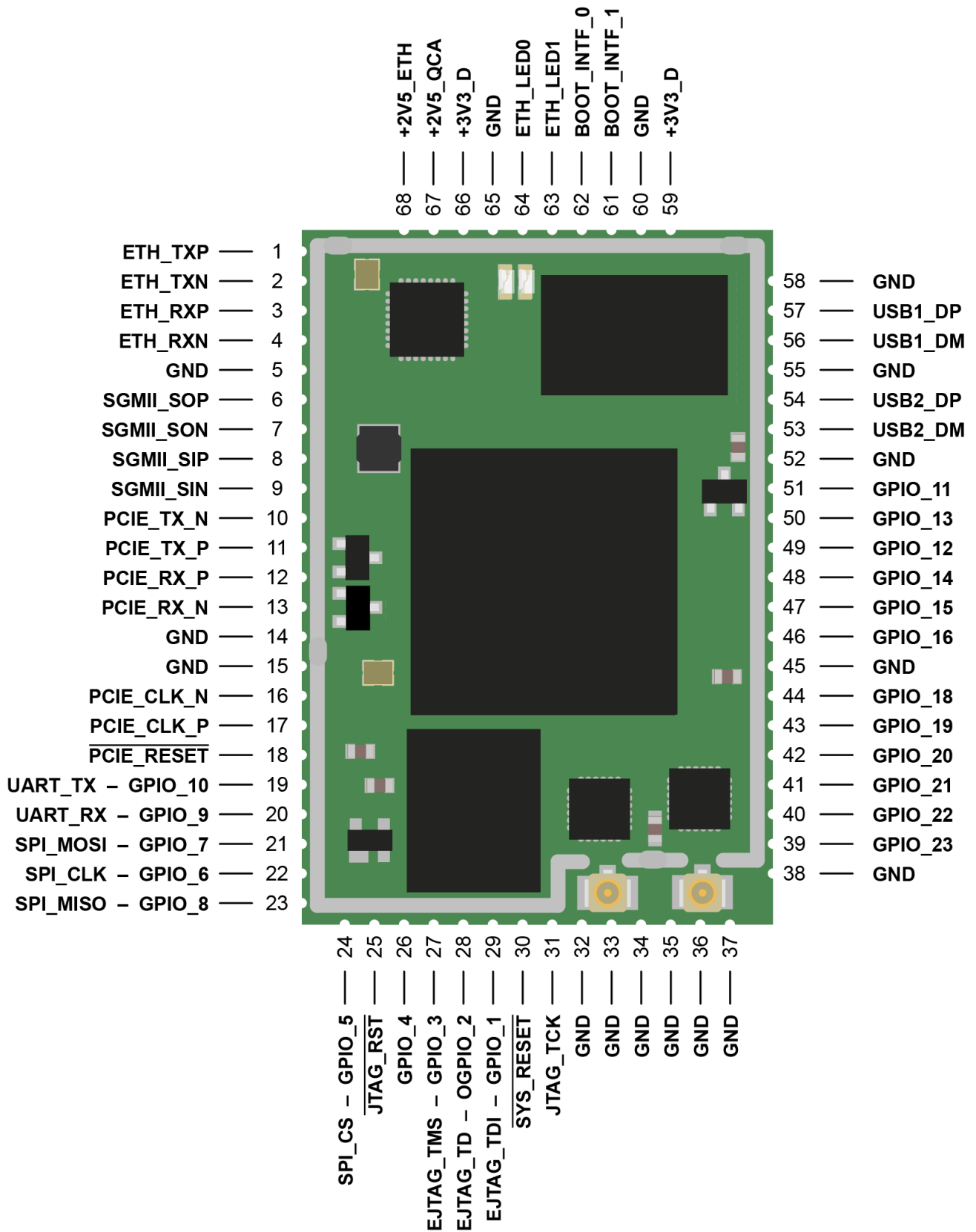


Development kit



- 1 - 1000 Base-T Ethernet port
- 2 - 100 Base-T Ethernet port
- 3 - USB Type-A socket
- 4 - Buttons (reset and user - GPIO connected)
- 5 - 2.45 mm pitch prototyping area holes
- 6 - DIP switch for bootstrap options
- 7 - Two integrated antennas
- 8 - Mini USB Type-A socket (console + power)
- 9 - PCIe socket

Module pinout



Antenna Information
 For 5G band
 Antenna type: Ceramic Antenna
 Antenna gain: 5 dBi (5150~5250MHz indoor, 5725~5850MHz)
 Antenna type: Rod Antenna
 Antenna gain: 10 dBi (5725~5850MHz only)
 Manufacturer: Nanhai Microwave Communications Equipment Co.,Ltd

For 2.4G band
 Antenna type: Ceramic Antenna
 Antenna gain: 3 dBi
 Antenna type: External Antenna
 Antenna gain: 10 dBi
 Manufacturer: Nanhai Microwave Communications Equipment Co.,Ltd

Operation Frequency:	2412MHz~2472MHz (802.11b/802.11g/802.11n(HT20))
	2422MHz~2462MHz (802.11n(HT40))
	Band 1: 5150MHz-5250MHz
	Band 4: 5725MHz-5850MHz

FCC Warning:

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.

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

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: Z9W-RMB", when the module is installed inside another device, the user manual of this device must contain below warning statements;

1. 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.
 - (2) This device must accept any interference received, including interference that may cause undesired operation.
2. Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

NOTE:

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

This modular complies with FCC RF radiation exposure limits for an uncontrolled environment. This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter. This modular must be installed and operated with a minimum distance of 20 cm between the radiator and user body.

The device indoor use only for 5150MHz~5250MHz.

IC Warning:

This device complies with Industry Canada's licence-exempt RSSs. Operation is subject to the following two conditions:

- (1) This device may not cause interference; and
- (2) This device must accept any interference, including interference that may cause undesired operation of the device.

Cet appareil est conforme aux CNR exemptes de licence d'Industrie Canada . Son fonctionnement est soumis aux deux conditions suivantes :

- (1) Ce dispositif ne peut causer d'interférences ; et
- (2) Ce dispositif doit accepter toute interférence , y compris les interférences qui peuvent causer un mauvais fonctionnement de l'appareil.

This modular complies with IC RF radiation exposure limits set forth for an uncontrolled environment. This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.

If the IC 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 IC: 11468A-RMB"

when the module is installed inside another device, the user manual of this device must contain below warning statements;

1. This device complies with Industry Canada's licence-exempt RSSs. Operation is subject to the following two conditions:

- (1) This device may not cause interference; and
- (2) This device must accept any interference, including interference that may cause undesired operation of the device.

2. Cet appareil est conforme aux CNR exemptes de licence d'Industrie Canada . Son fonctionnement est soumis aux deux conditions suivantes :

- (1) Ce dispositif ne peut causer d'interférences ; et
- (2) Ce dispositif doit accepter toute interférence , y compris les interférences qui peuvent causer un mauvais fonctionnement de l'appareil.

The devices must be installed and used in strict accordance with the manufacturer's instructions as described in the user documentation that comes with the product

This modular complies with FCC RF radiation exposure limits for an uncontrolled environment. This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter. This modular must be installed and operated with a minimum distance of 20 cm between the radiator and user body.

The device indoor use only for 5150MHz~5250MHz.