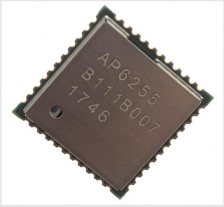
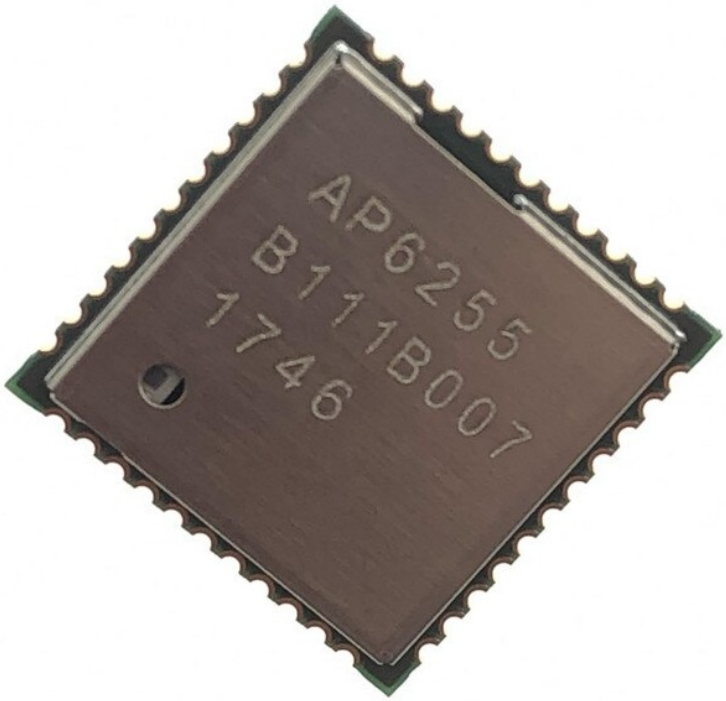


Vantron AP6255 Wi-Fi Module User Manual

Contents

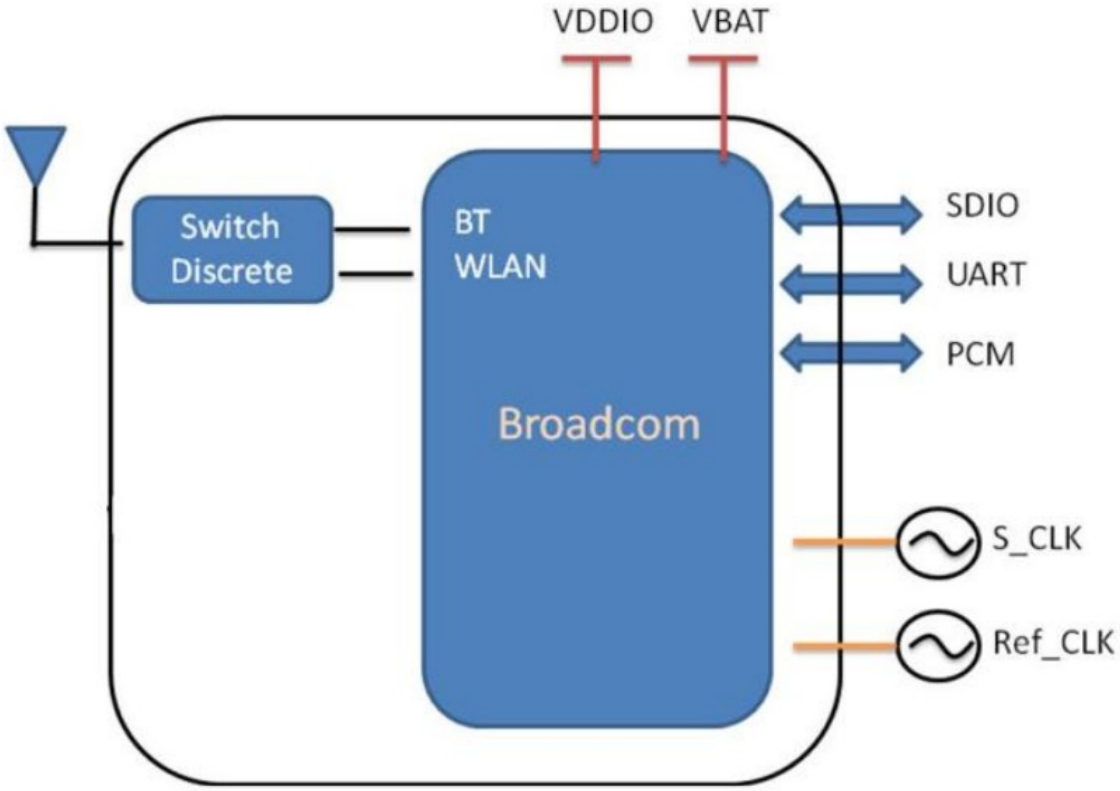
Vantron

Vantron AP6255 Wi-Fi Module



Features

- IEEE 802.11a/b/g/n/ac dual-band radio with virtual-simultaneous dual-band operation
- Single-stream spatial multiplexing up to 433.3 Mbps data rate.
- Supports 20, 40, and 80 MHz channels with optional SGI(256 QAM modulation)
- Supports Bluetooth V4.2+EDR with integrated PA for Class 1.5 and Low Energy (BLE).
- Concurrent Bluetooth, and WLAN operation
- Simultaneous BT/WLAN receive with a single antenna
- Supports standard SDIO v3.0 and backward compatible with SDIO v2.0 host interfaces.
    - SDIO v3.0(4-bit) — up to 208 MHz clock rate in SDR104 mode
- BT host digital interface:
    - UART (up to 4 Mbps)
- IEEE Co-existence technologies are integrated die solution
- ECI — enhanced coexistence support, ability to coordinate BT SCO transmissions around WLAN receives


VDDIO
VBAT
Switch
Discrete
BT
WLAN
Broadcom
SDIO
UART
PCM
S_CLK
Ref_CLK

Front view

Back view

General Specification

Model Name	AP6255
Product Description	Support Wi-Fi/Bluetooth functionalities
Dimension	L x W x H: 12 x 12 x 1.5 (typical) mm
WiFi Interface	SDIO v2.0/v3.0
BT Interface	UART / PCM
Operating temperature	-30°C to 65°C
Storage temperature	-40°C to 105°C
Humidity	Operating Humidity 10% to 95% Non-Condensing

Voltages

Absolute Maximum Ratings

Symbol	Description	Min.	Max.	Unit
VBAT	Input supply Voltage	-0.5	6	V
VDDIO	Digital/Bluetooth/SDIO/ I/O Voltage	-0.5	3.9	V

Recommended Operating Rating
The module requires two power supplies: VBAT and VDDIO.

	Min.	Typ.	Max.	Unit
Operating Temperature	-30	25	85	deg.C
VBAT	3.13	3.6	4.8	V
VDDIO	1.71	1.8	3.63	V

FCC Statement

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.

Any 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 equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with a minimum distance of 20cm between the radiator & your body

IC Warning
This device complies with Industry Canada licence-exempt RSS standard(s). 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.

This equipment complies with IC radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with a minimum distance of 20cm between the radiator & your body.

Antenna requirements

Antenna List

- **Antenna type:** PIFA Antenna
- **Connector Type:** USS RFI
- **BT Antenna Gain:** 2.8 dBi
- **Antenna impedance:** 50 (Ω)
- **Frequency range:** 2400-2500MHz/5150-5850MHz

This device is intended only for OEM integrators under the following conditions: (For module device use)

1. The antenna must be installed such that 20 cm is maintained between the antenna and users, and
2. The transmitter module may not be co-located with any other transmitter or antenna. As long as the 2 conditions above are met, further transmitter tests will not be required. However, the OEM integrator is still responsible for testing their end-product for any additional compliance requirements required with this module installed.

Radiation Exposure Statement
This equipment complies with IC radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with a minimum distance of 20 cm between the radiator & your body.

Documents / Resources

	Vantron AP6255 Wi-Fi Module [pdf] User Manual AP6255, 2AAGEAP6255, AP6255 Wi-Fi Module, Wi-Fi Module, Module