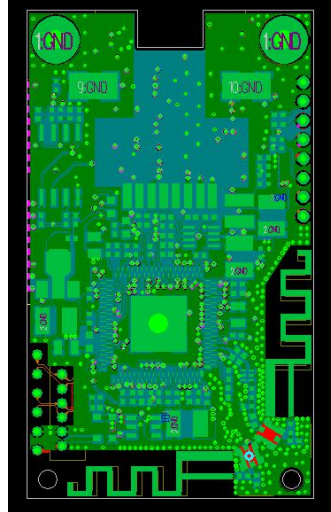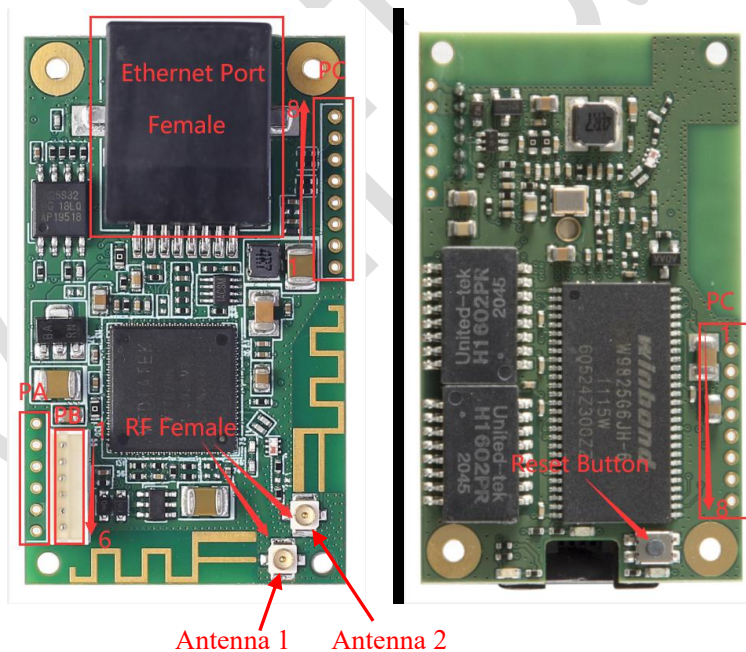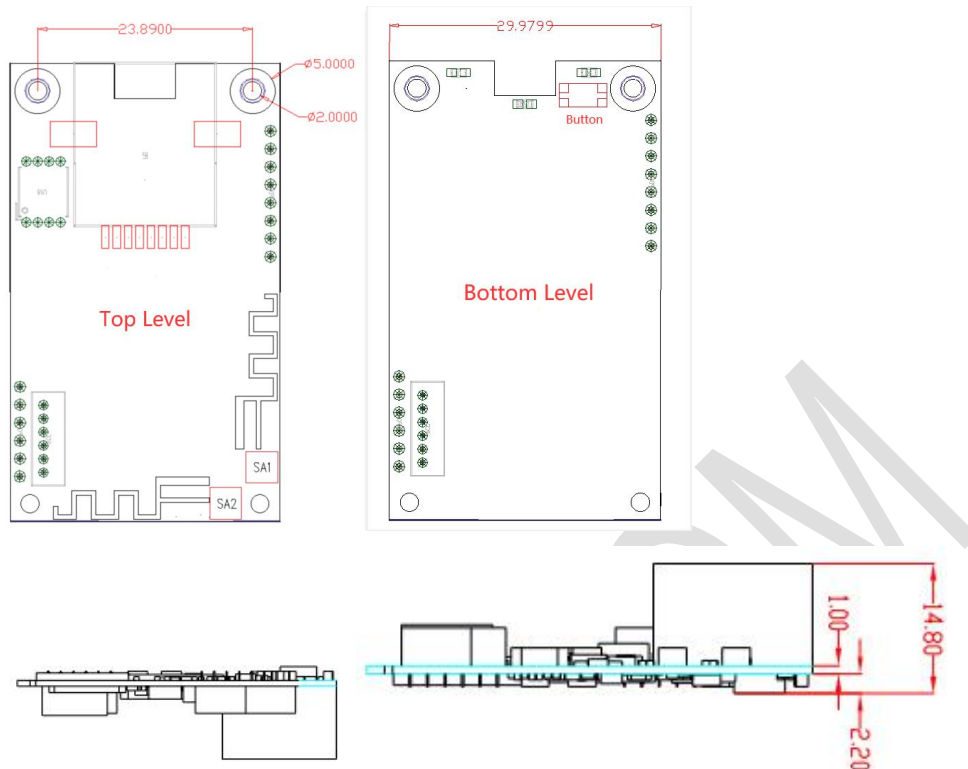# VM300-L and VM300-H Module Specifications

1. Features (PCB version: 4.0/5.0)

    1.1 Hardware Features

      ●   Top view screenshot:

      ●   Module packaging：

I'm a grain of sand on the beach, but I can be found in public...

HTTP://WWW.VONETS.COM

- Two hardware versions: Internal PCBA Antenna (VM300-L) and external antenna (VM300-H)
- Two external antenna RF female sockets (VM300-H only)
- Comes with a button to restore factory parameters
- Wide power supply working voltage: DC5V--15V
- Support power input overvoltage protection function (power supply voltage exceeds 15.5V automatically power down)
- Main chip: MT7620N, 580MHz
- 32MB SDRAM, can be expanded to 64MB; 4MB SPI Flash, can be expanded to 16MB (Byte)
- WiFi working frequency band: 2.4GHz, 2T2R dual antenna, 300MBps transmission rate
- Support 1--14 WiFi channels
- Rated average power consumption <2W
- Module RF output power 14.5dbm/16dbm (two levels of output power can be optional)
- Support temperature compensation and frequency stabilization technology (TAFC) to ensure the stability of WiFi signal.
- Support 802.11b/g/n protocol
- Working environment temperature: -25℃-- 55℃

I'm a grain of sand on the beach, but I can be found in public...

HTTP://WWW.VONETS.COM
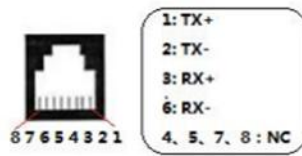
1.2 Function Features

- Two software-controllable working modes: router mode, bridge + repeater mode
- Support intelligent transparent bridge mode, and support AP Client and AP Station at the same time
- Support VDNS technology, use domain name to log in to the configuration page in bridge mode
- The relevant parameters of the device can be configured through the WEB page configuration or the VCC mobile phone APP
- Software adjustable two-level WiFi RF output power (14.5dbm/16dbm)
- WiFi hotspot memory, maximum memory 100 hotspots;
- Support connecting more than 20pcs WiFi terminal at the same time;
- Support SSA 1.2 version signal strength remote center alarm protocol
- Support VONETS-Configuration Management Protocol V2.3 (confidential)
- Support transparent transmission of serial and network data (VONETS-UART_UDP or TCP data forwarding instructions 3.0)
- Online software upgrade
- The main functional interfaces are as follows:

Female interface / Subinterface	6PIN female (PB)	6PIN pin interface (PA)	8PIN pin interface (PC)	RJ45 female	Description
VIN+	√	√			DC5V--15V
WAN				√	Software control interchangeable
LAN	√	√			
WAN status indication			√		1. MOS tube open circuit output, built-in 330Ω limit flow resistance 2. Output current: 10mA
WiFi bridge connection status indication			√		1. MOS tube open circuit output, built-in 330Ω limit flow resistance 2. Output current: 10mA
Reset signal input			√		Restore factory parameters
UART					Used for transparent transmission between serial port and network data

2.Hardware Interface Details

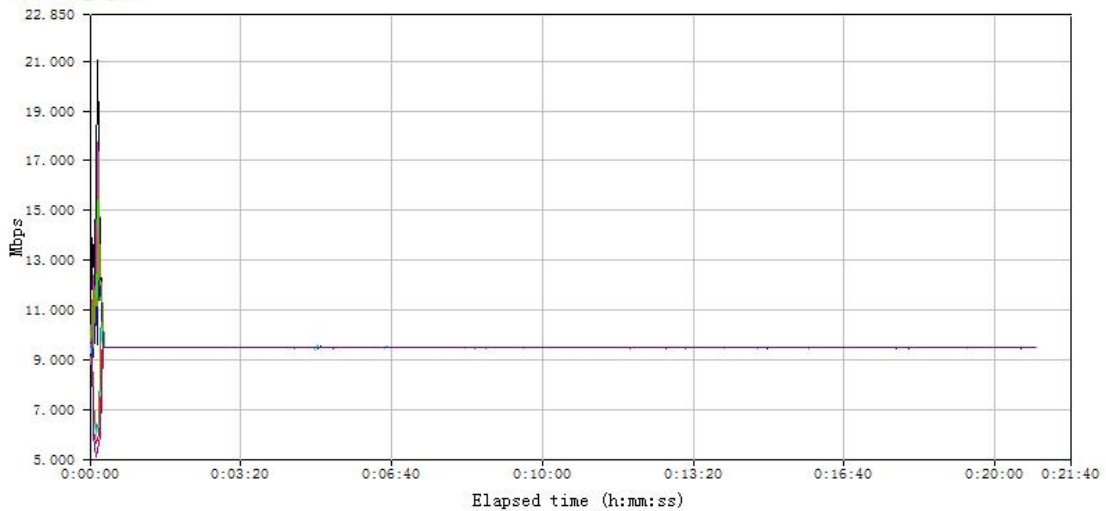| Female interface Subinterface	Hardware pin definition (PIN)			Description
	PA	PB	PC	
VIN+	6	6		DC5V--15V, the input voltage ripple is required to be less than 100mV, otherwise it will affect the WiFi transmission performance
GND	5	5	8、4	Module ground
LAN	1:RX- 2:RX+ 3:TX- 4:TX+	1:RX- 2:RX+ 3:TX- 4:TX+		
LAN Port Status Indication Output			3	1. MOS tube open circuit output, built-in 330Ω current limiting resistor 2. Output current: 10mA
WAN Port Status Indication Output			2	1. MOS tube open circuit output, built-in 330Ω current limiting resistor 2. Output current: 10mA
WiFi Status Indication Output			1	1. MOS tube open circuit output, built-in 330Ω current limiting resistor 2. Output current: 10mA
Reset Signal Input			5	After the module works normally, keep the low level for more than 3 seconds, the module will restore the factory parameters (less than 0.6V is the low level)
UART-TX			6	TX signal line of UART used for serial port transparent transmission, TTL level output
UART-RX			7	RX signal line of UART used for serial port transparent transmission, TTL level input

Standard RJ45 female socket pin definition reference	87654321	1: TX+ 2: TX- 3: RX+ 6: RX- 4、5、7、8: NC

3. Electrical Performance Parameters

1. Power Supply Parameters				
Supply voltage range	Input power	Typical power supply	Power ripple	Protection voltage upper limit
DC5-15V	≥5W	5V/1A	＜100mV	15.5V

2. Measured table of performance parameters of working electrical appliances (aMBient temperature: 27℃)			
Supply voltage	Work Stage	Working current (mA)	Main chip temperature (℃)
5V	Booting	80-270	27-43
	Standby	180-259	46
	transfer data	450-580	70

4. Network throughput test

● VM300-L throughput test fluctuation graph:

Throughput

● VM300-H throughput test fluctuation graph:

I'm a grain of sand on the beach, but I can be found in public...

HTTP://WWW.VONETS.COM

5. Supplied accessories

● Two 3dBi external antennas of VM300-H with RF cable buckle

I'm a grain of sand on the beach, but I can be found in public...

HTTP://WWW.VONETS.COM