



VT-WB1150 VT-WB2150 VT-WB5900

**Air Series High Speed 5.8GHz PoE
Wireless Bridges with Point-to-
Multi-Point (P2MP) Topology**

PRODUCT MANUAL



KEY FEATURES

- Low interference, High Stability, with up to 3.1 Mile Range (1km)
- Tool-free installation, with no computer necessary
- Innovative and easy-to-use 10-Switch DIP function, automatically syncs CPE and AP
- Wirelessly connect up to 4 CPE points to one AP point for true Point-to-Multi-Point (P2MP) Topology!
- 128 IP Groups, Automatic Matching Transmission
- Compact and stylish exterior is made with durable, weather-resistant ABS and PC Material (IP65 rating)
- Wired Equivalent Privacy (WEP), SNMP Management Information Base (MIB), Telnet, and Serial Management
- CSMA/CA, TCP/IP, IPX/SPX, NetBEUI, DHCP, NDIS3, NDIS4, NDIS5 Protocol
- 5180MHz~5240MHz / 5745MHz~5825MHz Channel
- WEP 64/128bits, WPA, WPA2, 802.1x Security Encryption
- 3-Year Warranty



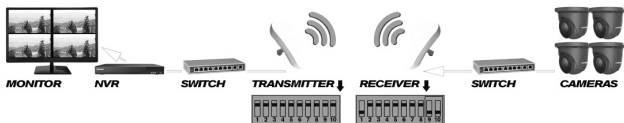
PLEASE NOTE:

Complete User Guide, Software, Tools, and Updates are available online. Scan the QR Code or visit:
<https://www.vitekccv.com>

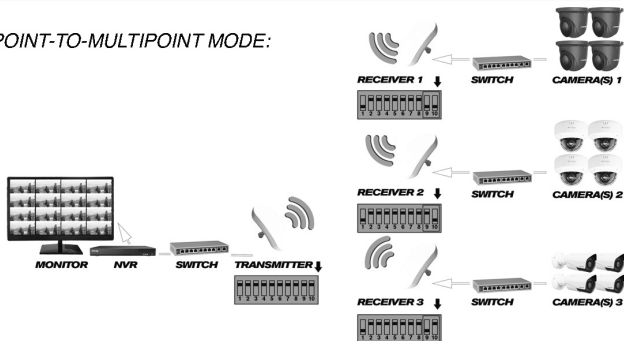
Installation / New Project Overview

Wireless Access Point / Customer Premise Equipment Modes:

POINT-TO-POINT MODE:



POINT-TO-MULTIPOINT MODE:



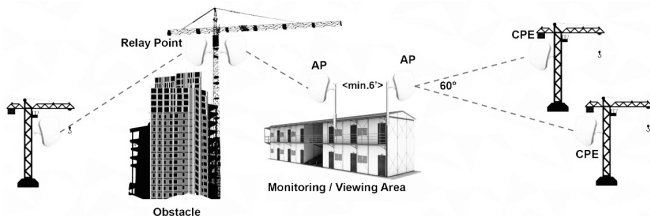
Installation

Before setting up a new project, survey the area for planning and design.

The access point connected to the NVR is called an AP (Access point) and the one connected to cameras is called a CPE (Customer Premise Equipment). One AP can be connected to a maximum of 4 CPE points. CPE units must be within the spectrum of the 60 degree angle from the face of the AP (see diagram on next page).

Installation / New Project Overview

New Project Overview / Requirements



**Note: To prevent rain or debris from entering the unit during installation, keep the cover closed and the network port (at the bottom of the unit) facing down.*

The same model of AP and CPE must be used to establish connections. The same group of APs and Customer Premise Equipment CPE must face one another in a configuration, with transmission angles adjusted accordingly (using additional brackets if necessary).

If installing access points in the same location, make sure they are separated by a distance of at least 6 feet. This also applies to relay points.

To ensure transmission stability, the space between the same group of APs and CPEs must be free from obstacles. In the event that there are obstacles between the AP and CPE, a relay point must be set up, with the unit(s) configured in Repeater Mode.

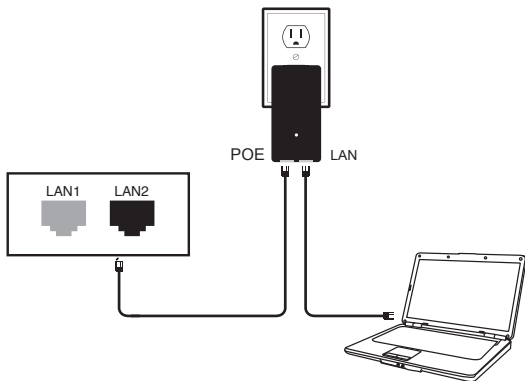
Repeater Mode is equivalent to two sets of point-to-point / point-to-multipoint mode, where a network cable is used to connect two sets of wireless APs to get circumvent the obstacle.

Wireless AP is set by the DIP function, which the remainder of this manual will cover.

Connecting Ethernet

Connecting diagram

Gigabit



POE Port connect with any port of AP

POE LAN port connect with PC(Switch or NVR)

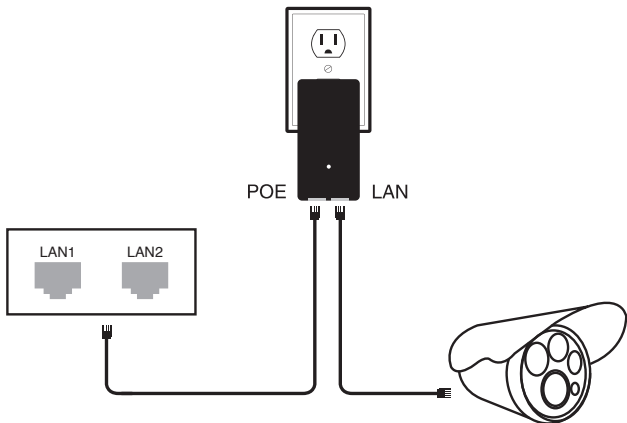
NOTE: 1.Both RJ45 ports(black and yellow) on AP are LAN connections.

2.If you want to enter web page, you need manually default IP address of PC

3.The PoE power adapter has 3 inputs. One is for the AC cord, and two are for networking.

4.Please note the PoE adapter and power cord are not designed for outdoor use and should be used indoors only.

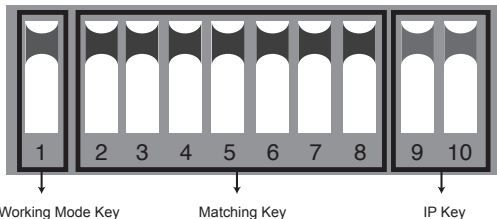
Connecting PoE Power



The bottom of the adapter has two RJ45 connections. One marked POE and one marked LAN.

Using one CAT5 cable(Network cable) , connect one end to "LAN" and the other end to your camera,recorder, PC, etc.

DIP device instructions

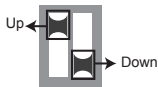


Button 1 changes the mode of the device. UP is access point (AP) mode for use with your recorder, PC, etc.. DOWN is for use with your camera.

Button 2 through 8 are for matching AP devices together. There are 128 various combinations that can be made from the 7 keys, which corresponds to 128 different SSIDs and 128 different segments. The Pages 8-15 below shows all possible combinations.

Button 9 & 10 are for point to multi-point functionality. To use up to 4 cameras with one recorder, configure the DIP switches as follows:

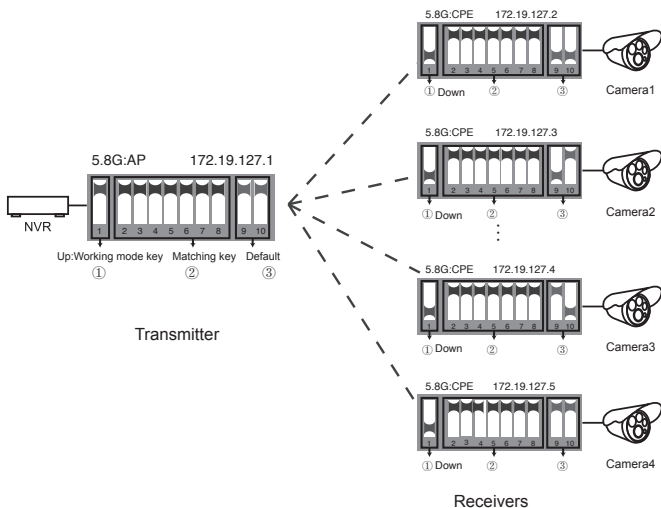
1. On the recorder/PC/Switch side, switches 9 and 10 should remain up.
2. On the camera side, select one of 4 configurations for switches 9 and 10:
 - a. Camera 1: 9 Down and 10 Down
 - b. Camera 2: 9 Down and 10 Up
 - c. Camera 3: 9 Up and 10 Down
 - d. Camera 4: 9 Up and 10 Up
3. You cannot duplicate the switch settings between Cameras for switches 9 & 10 or you will experience interference, thus the max of 4 points.



Remarks:

1. Turn off the AP power before setting the button.
2. The SSID of DIP type AP defaults is not broadcast, password has been set up and can be customized.
3. Make sure the IP address of the camera is different from AP

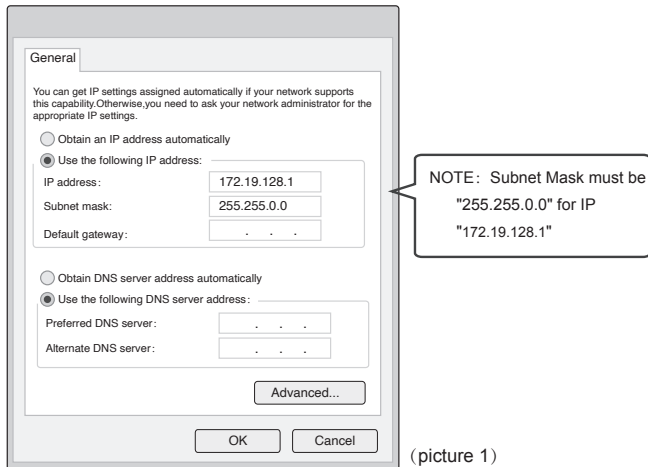
The specific operation for setting management



NOTE: For the point-to-point case, either of the four camera options above is available. Make sure the working mode key and matching Key are set right.

Signal power setting

Step 1 Manual disposes static IP address, as it's shown in figure1 (type coresponding device IP address at browser, default password: password)



The screenshot shows a 'General' network configuration window. It has a title bar and a 'General' tab. Below the tab, there is a paragraph of text: 'You can get IP settings assigned automatically if your network supports this capability. Otherwise, you need to ask your network administrator for the appropriate IP settings.' Below this text are two radio button options. The first is 'Obtain an IP address automatically' (unselected). The second is 'Use the following IP address:' (selected). To the right of the selected option are three input fields: 'IP address:' with the value '172.19.128.1', 'Subnet mask:' with the value '255.255.0.0', and 'Default gateway:' with the value ' . . . '. Below these are two more radio button options for DNS settings. The first is 'Obtain DNS server address automatically' (unselected). The second is 'Use the following DNS server address:' (selected). To the right of the selected option are two input fields: 'Preferred DNS server:' with the value ' . . . ' and 'Alternate DNS server:' with the value ' . . . '. At the bottom right of the window is an 'Advanced...' button. At the very bottom are 'OK' and 'Cancel' buttons. A callout box on the right points to the Subnet mask field with the text: 'NOTE: Subnet Mask must be "255.255.0.0" for IP "172.19.128.1"'. The caption '(picture 1)' is located at the bottom right of the image.

General

You can get IP settings assigned automatically if your network supports this capability. Otherwise, you need to ask your network administrator for the appropriate IP settings.

☐ Obtain an IP address automatically

☒ Use the following IP address:

IP address: 172.19.128.1

Subnet mask: 255.255.0.0

Default gateway: . . .

☐ Obtain DNS server address automatically

☒ Use the following DNS server address:

Preferred DNS server: . . .

Alternate DNS server: . . .

Advanced...

OK Cancel

NOTE: Subnet Mask must be "255.255.0.0" for IP "172.19.128.1"

(picture 1)

Signal power setting

Step 2 Type the IP address of corresponding AP device in IE browser to get into the WEP page, the default password is "password". Signal power can be set after logging.

Wireless Network	
Status	Transmit Power Configuration Power: 27 dBm(Max 27 dBm)
System > Transmit Power Mode Router Access Time Backup / Restore Update Firmware Reboot	Encryption Configuration Use Custom Key: ☐ ☐ show
	Distance Configuration Distance: 2KM ▼
	Client Signal Threshold Signal Threshold: Close ▼ (Only for Station)
	Country code Country code: Test (Text) ▼
Logout	Save Changes > Reset >

Transmit Power Configuration: The default is the maximum value, the transmit power should be reduced appropriately when the signal is too strong.

Encryption Configuration: Customized key can be used for security. (The same key should be set in the transmitter and receiver.)

Distance Configuration: Default value is two kilometers, it should be set according to practical situation. (The same distance value should be set in the transmitter and receiver. If not, it will lead to high latency, low bandwidth network connection.)

Country code: In text (manual) mode, the channels are determined by the the dial-up button. It is automatically selected in other modes.

Q&A

Q1: What should be noted when setting the AP button?

A1: Make sure the power is off.

Q2: How dose the AP work without power supply?

A2: The AP gets the power via the cable. It is called POE. Two cables are needed for the connection. STP CAT5e cable is strongly recommended for this case.

Q3: How long the POE cable can be?

A3: The length of the cable depends on the power voltage and cable quality. For 24V power, the length of the cable can be 40 meters, while 10-20 meters for 12V power.

Q4: Why the signal light does not work after switching the button?

A4: Please turn off the AP power first. It is recommended to do the troubleshooting test as below. For the transmitter, keep the button "1" to "10" UP. For the receiver, keep the button "1" DOWN, and the button from "2" to "10" UP. After finishing, turn on the power and wait for three minutes. The distance between the transmitter and the receiver should be more than 2 meters.



Transmitter



Receiver

Q5: Why the local network connection is choppy after the AP installation?

A5: Shoot the trouble with below methods:

1. Change the cable to see if it is a cable problem
2. Change the wireless channel to avoid the signal interference.

Q6: How to log in the WEP page?

A6: Set the computer with static IP address as shown in Page 4-5, and type the IP address of the corresponding device in IE browser.

Q7: After the connection of the AP and NVR, why the IP address of the camera can be found but no video available on the monitor?

A7: Connect the adapter which links to the NVR with the yellow LAN port of the AP.

Q8: The status of signal light

A8: Red: PWR: The power light. It will work when power is on.

Blue: WLAN: WIFI signal light. It will strobe when working.

LAN1,LAN2: The LAN1/LAN2 light. It will be on when working.

Orange: Wireless signal light from 1st - 4th

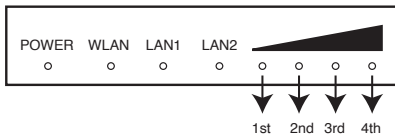
1st light on: the signal is too weak.

1st , 2nd lights on: signal is weak.

1st, 2nd, 3rd lights on: the signal is regular.

ONLY the 4th light on: the signal is too strong.

If four lights are on, the signal is in the best condition



Q9:How to reset the device?

A9:Long press the RST button for 6 seconds in the state of power-on.

The dial-up code corresponding to the text (manual) mode, the network segment and frequency can refer to the following table.

Group	2-8 Dial	IP segment	Frequency
No.1		172.19.0.X	5180
No.2		172.19.1.X	5200
No.3		172.19.2.X	5220
No.4		172.19.3.X	5240
No.5		172.19.4.X	5260
No.6		172.19.5.X	5280
No.7		172.19.6.X	5300
No.8		172.19.7.X	5320
No.9		172.19.8.X	5500
No.10		172.19.9.X	5520
No.11		172.19.10.X	5540
No.12		172.19.11.X	5560
No.13		172.19.12.X	5580
No.14		172.19.13.X	5600
No.15		172.19.14.X	5620
No.16		172.19.15.X	5640

Ps: The shadow marks are the national standard frequencies, and the remaining frequencies are only for testing. (X is the last IP address)

Group	2-8 Dial	IP segment	Frequency
No.17		172.19.16.X	5660
No.18		172.19.17.X	5680
No.19		172.19.18.X	5700
No.20		172.19.19.X	5720
No.21		172.19.20.X	5745
No.22		172.19.21.X	5765
No.23		172.19.22.X	5785
No.24		172.19.23.X	5805
No.25		172.19.24.X	5845
No.26		172.19.25.X	5180
No.27		172.19.26.X	5200
No.28		172.19.27.X	5220
No.29		172.19.28.X	5240
No.30		172.19.29.X	5260
No.31		172.19.30.X	5280
No.32		172.19.31.X	5300

Ps: The shadow marks are the national standard frequencies, and the remaining frequencies are only for testing. (X is the last IP address)

Group	2-8 Dial	IP segment	Frequency
No.33		172.19.32.X	5320
No.34		172.19.33.X	5500
No.35		172.19.34.X	5520
No.36		172.19.35.X	5540
No.37		172.19.36.X	5560
No.38		172.19.37.X	5580
No.39		172.19.38.X	5600
No.40		172.19.39.X	5620
No.41		172.19.40.X	5640
No.42		172.19.41.X	5660
No.43		172.19.42.X	5680
No.44		172.19.43.X	5700
No.45		172.19.44.X	5720
No.46		172.19.45.X	5745
No.47		172.19.46.X	5765
No.48		172.19.47.X	5785

Ps: The shadow marks are the national standard frequencies, and the remaining frequencies are only for testing. (X is the last IP address)

Group	2-8 Dial	IP segment	Frequency
No.49		172.19.48.X	5805
No.50		172.19.49.X	5845
No.51		172.19.50.X	5180
No.52		172.19.51.X	5200
No.53		172.19.52.X	5220
No.54		172.19.53.X	5240
No.55		172.19.54.X	5260
No.56		172.19.55.X	5280
No.57		172.19.56.X	5300
No.58		172.19.57.X	5320
No.59		172.19.58.X	5500
No.60		172.19.59.X	5520
No.61		172.19.60.X	5540
No.62		172.19.61.X	5560
No.63		172.19.62.X	5580
No.64		172.19.63.X	5600

Ps: The shadow marks are the national standard frequencies, and the remaining frequencies are only for testing. (X is the last IP address)

Group	2-8 Dial	IP segment	Frequency
No.65		172.19.64.X	5620
No.66		172.19.65.X	5640
No.67		172.19.66.X	5660
No.68		172.19.67.X	5680
No.69		172.19.68.X	5700
No.70		172.19.69.X	5720
No.71		172.19.70.X	5745
No.72		172.19.71.X	5765
No.73		172.19.72.X	5785
No.74		172.19.73.X	5805
No.75		172.19.74.X	5845
No.76		172.19.75.X	5180
No.77		172.19.76.X	5200
No.78		172.19.77.X	5220
No.79		172.19.78.X	5240
No.80		172.19.79.X	5260

Ps: The shadow marks are the national standard frequencies, and the remaining frequencies are only for testing. (X is the last IP address)

Group	2-8 Dial	IP segment	Frequency
No.81		172.19.80.X	5280
No.82		172.19.81.X	5300
No.83		172.19.82.X	5320
No.84		172.19.83.X	5500
No.85		172.19.84.X	5520
No.86		172.19.85.X	5540
No.87		172.19.86.X	5560
No.88		172.19.87.X	5580
No.89		172.19.88.X	5600
No.90		172.19.89.X	5620
No.91		172.19.90.X	5640
No.92		172.19.91.X	5660
No.93		172.19.92.X	5680
No.94		172.19.93.X	5700
No.95		172.19.94.X	5720
No.96		172.19.95.X	5745

Ps: The shadow marks are the national standard frequencies, and the remaining frequencies are only for testing. (X is the last IP address)

Group	2-8 Dial	IP segment	Frequency
No.97		172.19.96.X	5765
No.98		172.19.97.X	5785
No.99		172.19.98.X	5805
No.100		172.19.99.X	5845
No.101		172.19.100.X	5180
No.102		172.19.101.X	5200
No.103		172.19.102.X	5220
No.104		172.19.103.X	5240
No.105		172.19.104.X	5260
No.106		172.19.105.X	5280
No.107		172.19.106.X	5300
No.108		172.19.107.X	5320
No.109		172.19.108.X	5500
No.110		172.19.109.X	5520
No.111		172.19.110.X	5540
No.112		172.19.111.X	5560

Ps: The shadow marks are the national standard frequencies, and the remaining frequencies are only for testing. (X is the last IP address)

Group	2-8 Dial	IP segment	Frequency
No.113		172.19.112.X	5580
No.114		172.19.113.X	5600
No.115		172.19.114.X	5620
No.116		172.19.115.X	5640
No.117		172.19.116.X	5660
No.118		172.19.117.X	5680
No.119		172.19.118.X	5700
No.120		172.19.119.X	5720
No.121		172.19.120.X	5745
No.122		172.19.121.X	5765
No.123		172.19.122.X	5785
No.124		172.19.123.X	5805
No.125		172.19.124.X	5845
No.126		172.19.125.X	5180
No.127		172.19.126.X	5200
No.128		172.19.127.X	5220

Specifications: VT-WB1150

Chipset	Qualcomm Atheros AR9344 600MHz
Memory / Storage	DDR2 64MB / 8MB Flash
Range	~.62 Mile / 3280 Feet (1km)
IC	SiGe5012B
Port	10 / 100Mbps LANx1
Speed	11a: 54, 48, 36, 24, 18, 12, 9, 6Mbps / 11n: 7.2, 14.4, 21.7, 28.9, 43.3, 57.8, 65, 72.2, 14.4, 28.9, 43.3, 57.8, 86.7, 115.6, 130, 144.4, 150Mbps
Transmission	DSSS
Modulation	OFDM / BPSK / QPSK / CCK / DQPSK / DBPSK
Standard	IEEE802.11n, IEEE802.11a, IEEE802.3u
Protocol	CSMA / CA, TCP / IP, IPX / SPX, NetBEUI, DHCP, NDIS3, NDIS4, NDIS5
Channel	4900~6100MHz
Power dissipation	≤3W
Power / Output Power	DC 12V (1A) / 23dBm
RF@25 ±2dB Sensitivity 802.11a	6-24Mbps (23±2dBm), 36-48Mbps (22±2dBm), 54Mbps (21±2dBm)
RF@25 ±2dB Sensitivity 802.11n HT20	MCS 0-3 (23±2dBm), MCS 4 (22±2dBm), MCS 5 (21.5±2dBm), MCS 6 (21±2dBm), MCS 7 (20.5±2dBm)
RF@25 ±2dB Sensitivity 802.11n HT40	MCS 0-3 (22±2dBm), MCS 4 (21.5±2dBm), MCS 5 (21±2dBm), MCS 6 (20.5±2dBm), MCS 7 (20±2dBm)
Sensitivity 802.11a	6Mbps ≤ -89; 54Mbps ≤ -73
Sensitivity 802.11n	HT20: MCS 0 ≤ -86; MCS 7 ≤ -68 / HT40: MCS 0 ≤ -83; MCS 7 ≤ -65
Antenna Frequency	4900~6100MHz
Antenna Polarization	Vertical
Antenna Gain	10DBi
Management	WEP, SNMP MIB, Serial, Telnet
Security (MAC Address Control)	No
Security (Encryption)	WEP 64 / 128bits, WPA, WPA2, 802.1x
Ingress Protection	IP65
Operating Temperature	-22.0~165°F / -30~65°C
Storage Temperature	-58.0~176°F / -50~80°C
Humidity	≤95% Non-condensed
Dimensions / Weight	6.93 x 3.78 x 2.78 / 1.1lb (176 x 96 x 71mm / 0.3kg)

Specifications: VT-WB2150

Chipset	Qualcomm Atheros AR9344 600MHz
Memory / Storage	DDR2 64MB / 8MB Flash
Range	1.25 miles (2km)
IC	SiGe5012B
Port	2x - 10 / 100Mbps (LAN)
Speed	11a: 54, 48, 36, 24, 18, 12, 9, 6Mbps / 11n: 7.2, 14.4, 21.7, 28.9, 43.3, 57.8, 65, 72.2, 14.4, 28.9, 43.3, 57.8, 66.7, 115.6, 130, 144.4, 150Mbps
Transmission	DSSS
Modulation	OFDM / BPSK / QPSK / CCK / DQPSK / DBPSK
Standard	IEEE802.11n, IEEE802.11a, IEEE802.3u
Protocol	CSMA / CA, TCP / IP, IPX / SPX, NetBEUI, DHCP, NDIS3, NDIS4, NDIS5
Channel	4900~6100MHz
Power dissipation	≤3W
Power / Output Power	PoE24V (1A) / 23dBm
RF@25 ±2dB Sensitivity 802.11a	6-24Mbps (23±2dBm), 36-48Mbps (22±2dBm), 54Mbps (21±2dBm)
RF@25 ±2dB Sensitivity 802.11n HT20	MCS 0-3 (23±2dBm), MCS 4 (22±2dBm), MCS 5 (21.5±2dBm), MCS 6 (21±2dBm), MCS 7 (20.5±2dBm)
RF@25 ±2dB Sensitivity 802.11n HT40	MCS 0-3 22±2dBm, MCS 4 21.5±2dBm, MCS 5 21±2dBm, MCS 6 20.5±2dBm, MCS 7 20±2dBm
Sensitivity 802.11a	6Mbps ≤ -89; 54Mbps ≤ -73
Sensitivity 802.11n	HT20: MCS 0 ≤ -86; MCS 7 ≤ -68 / HT40: MCS 0 ≤ -83; MCS 7 ≤ -65
Antenna Frequency	4900~6100MHz
Antenna Polarization	Vertical
Antenna Gain	12DBi
Management	WEP, SNMP MIB, Serial, Telnet
Security (MAC Address Control)	No
Security (Encryption)	WEP 64 / 128bits, WPA, WPA2, 802.1x
Ingress Protection	IP65
Operating Temperature	-22.0~165°F / -30~65°C
Storage Temperature	-58.0~176°F / -50~80°C
Humidity	≤95% Non-condensed
Dimensions / Weight	8 x 8 x 5.21" / 1.1lb (205 x 205 x 132.3mm / 0.5kg)

Specifications: VT-WB5900

Chipset	QCA9563 + QCA9886
IC	SKY85728*2
Memory / Storage	128MByte DDR2 / 16MB Flash
Bandwidth	AC1200 (867Mbps)
Wireless Range	Up to 3.1 Miles (5km)
Wired Port	2x - 10/100/1000Mbps (LAN)
Modulation	OFDM: BPSK, QPSK, 16-QAM, 64-QAM 256QAM, DBPSK, DQPSK, CCK
Standard	IEEE802.11a, IEEE802.11n, IEEE802.3u, IEEE802.11ac
Channel	5180-5240GHz / 5745-5825GHz
RF@25 ±2dB Sensitivity 802.11a	6-24Mbps (26±2dBm), 36-48Mbps (25±2dBm), 54Mbps (24±2dBm)
RF@25 ±2dB Sensitivity 802.11n HT20	MCS 0-3 (26±2dBm), MCS 4 (25±2dBm), MCS 5 (24.5±2dBm), MCS 6 (24±2dBm), MCS 7 (23.5±2dBm)
RF@25 ±2dB Sensitivity 802.11n HT40	MCS 0-3 (25±2dBm), MCS 4 (24.5±2dBm), MCS 5 (24±2dBm), MCS 6 (23.5±2dBm), MCS 7 (23±2dBm)
RF@25 ±2dB Sensitivity 802.11n HT80	MCS 0-3 (18±2dBm), MCS 4 (18±2dBm), MCS 5 (18±2dBm), MCS 6 (18±2dBm), MCS 7 (18±2dBm)
Sensitivity 802.11a	6Mbps ≤ -89 / 54Mbps ≤ -73
Sensitivity 802.11n	HT20: MCS 0 ≤ -94; MCS 7 ≤ -76 / HT40: MCS 0 ≤ -92; MCS 7 ≤ -76 / HT80: MCS 0 ≤ -90; MCS 7 ≤ -67
Antenna Frequency	4900~6100MHz
Antenna Polarization	Vertical / Horizon
Antenna Gain	16DBi
Management	WEP, SNMP MIB, Serial, Telnet
Security (Encryption)	WEP 64 / 128bits, WPA, WPA2, 802.1x
Ingress Protection	IP65
Power Dissipation	≤7W
Power Input	POE 24V 1A
Operating Temperature	-22.0~165°F / -30~65°C
Humidity	≤95% Non-condensed
Dimensions / Weight	8 x 8 x 5.21" / 1.1lb (205 x 205 x 132.3mm / 0.5kg)

LIMITED PRODUCT WARRANTY

This VITEK product carries a three (3) year limited warranty. VITEK warrants to the purchaser that products manufactured by VITEK are free of any rightful claim of infringement or the like, and when used in the manner intended, will be free of defects in materials and workmanship for a period of three (3) years, or as otherwise stated above, from the date of purchase by the end user. This warranty is nontransferable and extends only to the original buyer or end user customer of a VITEK Authorized Reseller.

The product must have been used only for its intended purpose, and not been subjected to damage by misuse, willful or accidental damage, caused by excessive voltage or lightning.

The product must not have been tampered with in any way or the guarantee will be considered null and void.

This guarantee does not affect your statutory rights.

Contact your local VITEK Reseller should servicing become necessary.

VITEK makes no warranty or guarantee whatsoever with respect to products sold or purchased through unauthorized sales channels. Warranty support is available only if product is purchased through a VITEK Authorized Reseller.

CLASS A DIGITAL DEVICE (INDUSTRIAL & COMMERCIAL ENVIRONMENT)

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to CE and FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.



28492 CONSTELLATION ROAD VALENCIA, CA 91355
WWW.VITEKCCTV.COM