

FCC Certifications

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.

CAUTION:

Any changes or modifications not expressly approved by the grantee of this device could void the user's authority to operate the equipment.

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.

FCC RF Radiation Exposure Statement

This equipment complies with FCC RF 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 and your body.

CE Mark Warning

This is a Class B product. In a domestic environment, this product may cause radio interference, in which case the user may be required to take adequate measures. All trademarks and brand names are the property of their respective proprietors. Specifications are subject to change without prior notification.

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INTRODUCTION

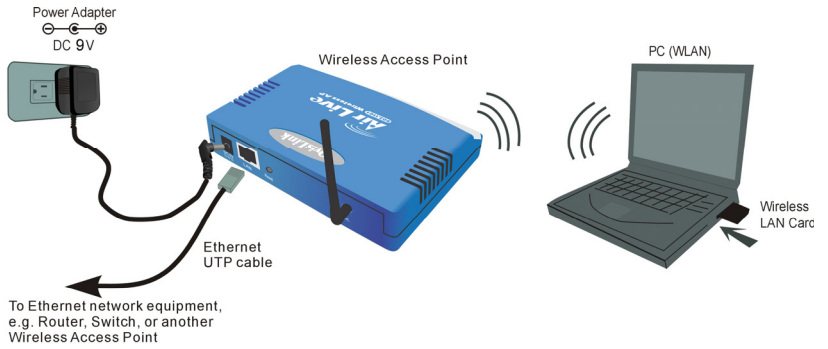
The **Wireless 802.11b+g Access Point (AP)** is an IEEE802.11g compliant access point. It not only provides a high transfer rate up to 54Mbps, which is almost five times faster than the already existing 11Mbps 802.11b products, but is also backward compatible with the Wireless B equipments.

The **AP** provides 40/128/256 bit WEP encryption, WPA and **IEEE802.1x**, which ensures a high level of security to protects users' data and privacy. The MAC Address control prevents the banned or unauthorized MAC Addresses from accessing your Wireless LAN. Your network security is therefore double assured.

Placed anywhere along with an Ethernet LAN, the **AP** allows up to 200 wireless stations within its area of coverage to access transparently to the corporate network.

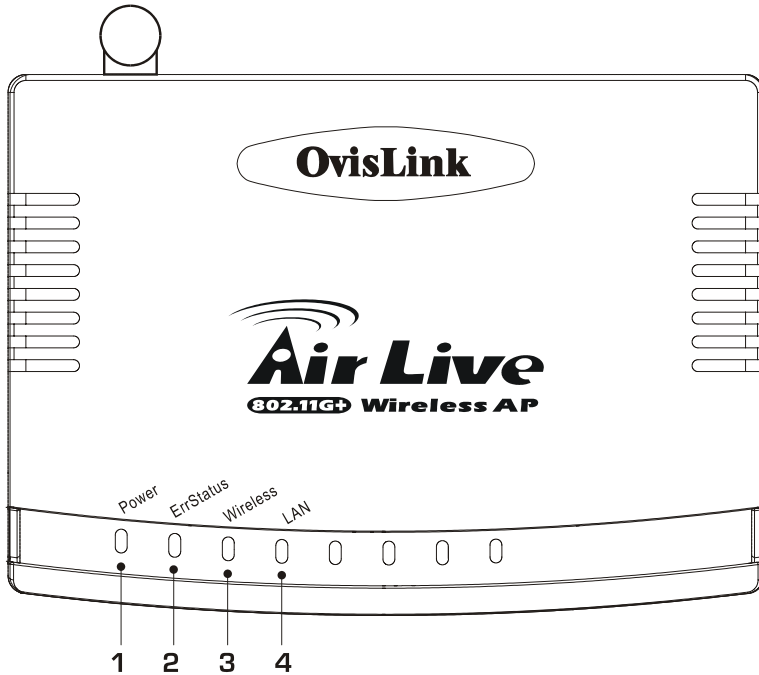
The web-based configuration utility allows users to configure via web browser. Advanced setup and firmware upgrade can be done easily.

Application



Parts Names and Functions

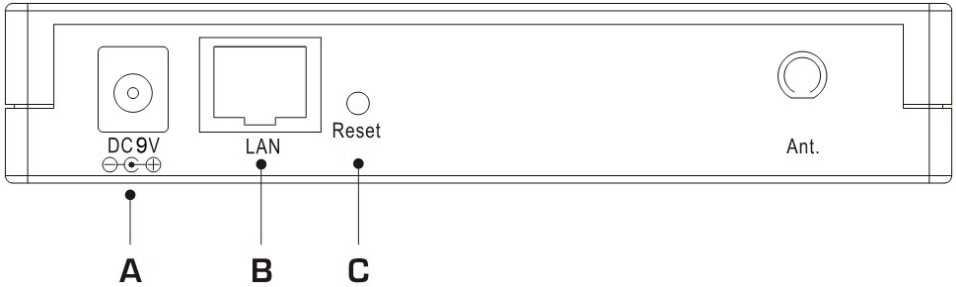
1. Top Panel: (LED Indicators)



	LED Indicator	Color	Status	
			Solid	Flashing
1	Power	Green	Turns solid green when power is applied to this device.	N/A.
2	ErrStatus	Red	Turns solid red when the device is not working properly.	When power on self-test failure occurs.
3	Wireless Link/Act.	Green	Turns solid green when connected and associated to at least a client station.	Receiving/ Sending data
4	LAN	<u>Green</u>	<u>Turns solid green when linked to a local network.</u>	<u>Receiving/ Sending data</u>

Table 1: LED Indicators

2. Rear Panel: Connection Ports



	Port/button	Functions
A	9V DC	Connects to the power adapter plug
B	LAN	Connects to Ethernet
C	(Factory) RESET	Press for 5 seconds to reboot this device and restore factory settings. Performing the Factory Reset will erase all previously entered device settings.

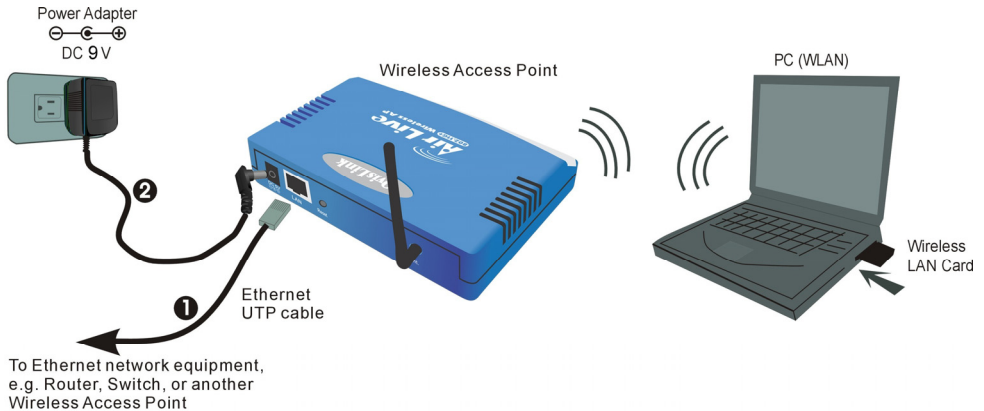
Table 2: Connection Ports

Factory Default Settings

Setting	Wireless Access Point
Device Name	Wireless AP
SSID	Default value: ovislink
Channel	6
WEP	Default value: Disabled
IP Address	192.168.1. 252

SETUP

Note: Before your starting hardware connection, you are advised to find an appropriate location to place the Access Point. Usually, the best place for the Access Point is at the center of your wireless network, with line of straight to all your wireless stations. Also, remember to adjust the antenna; usually the antenna is placed higher, the performance will be better.



1. **Connect to your local area network:**

Connect an Ethernet cable to the Ethernet port of this Wireless Access Point, and the other end to a hub, switch, router, or another wireless access point.

2. **Power on the device:**

Connect the included AC power adapter to the Wireless Access Point's power port and the other end to a wall outlet.

Check the LEDs:

The **Power**, **Wireless Link/Act.** and **LAN** should be **ON**. **Wireless Link/Act.** and **LAN** will blink if the data is being transmitted or received.

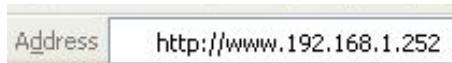
3. **Configure your PC:**

Make sure your local PC(s) has wireless network adapter installed.

CONFIGURATION

Login

1. Start your computer. Connect an Ethernet cable between your computer and the Wireless Access Point.
2. Make sure your wired station is set to the same subnet as the Wireless Access Point, i.e. 192.168.1.10
3. Start your WEB browser. In the *Address* box, enter the following:
[HTTP://192.168.1.252](http://192.168.1.252)



The configuration menu includes: **Basic Setup, Advanced Setup, IP Setting, Privacy, Manage, Download, and Statistics.** The details for the configuration menu are described as follows.

Basic Setup

The Setup page displays basic local and WLAN settings for the AP and enable you to change the settings.

FW Version	The current version of the firmware installed in this device.
SW Version	The current version of the software installed in this device.
Wireless	
Enable/Disable AP	Enable/Disable Click to enable/disable the AP.
Domain	The AP's domain determines the channel number.
MAC address/BSSID	The AP's MAC address/BSSID. BSSID displays the ID of current BSS, which uniquely identifies each BSS. It is also the MAC address of this Access Point.
SSID	SSID is the unique name shared among all points in your wireless network. It is case-sensitive and must not exceed 32 characters. It must be identical for all points in the network. Make sure that all points in the network are the same.
Channel	The number of channels supported depends on the region of this Access Point. All stations communicating with the Access Point must use the same channel.
Save	After completing the settings, Click Save to save the settings.
Cancel	Click Cancel to discard the data you have entered since last time you press Save .

Advanced Setup

It is not recommended that settings in this page to be changed unless advanced users want to change to meet their wireless environment for optimal performance.

Configuration Parameters	
Beacon Period:	<input type="text" value="200"/> msec (range: 50 ~ 65535)
DTIM Period:	<input type="text" value="2"/> beacons (range: 1 ~ 255)
RTS Threshold:	<input type="text" value="4096"/> bytes (range: 0 ~ 4096)
Fragmentation Threshold:	<input type="text" value="4096"/> bytes (range: 256 ~ 4096)(must be even)
Output Power Level:	<input checked="" type="radio"/> Full <input type="radio"/> 50% <input type="radio"/> 25% <input type="radio"/> 12% <input type="radio"/> 6%
b/g Mode:	<input checked="" type="radio"/> Mixed <input type="radio"/> b only <input type="radio"/> b+ <input type="radio"/> 11g only
Hidden SSID Support	<input type="radio"/> Enabled <input checked="" type="radio"/> Disabled
TI Turbo Mode	<input type="radio"/> Enabled <input checked="" type="radio"/> Disabled
Interference Avoidance	<input checked="" type="radio"/> Enabled <input type="radio"/> Disabled
TI VideoBlast Support:	<input type="text" value="0"/> <input type="text" value="0"/> <input type="text" value="0"/> <input type="text" value="0"/> Destination IP Address
	<input type="text" value="Not Used"/> Protocol <input type="text" value="0"/> Port Number
	<input type="text" value="Not Used"/> Protocol <input type="text" value="0"/> Port Number
	<input type="text" value="Not Used"/> Protocol <input type="text" value="0"/> Port Number

Beacon Period	Beacon Period is the amount of time between beacon transmissions. Before a station enters power save mode, the station needs the beacon period to know when to wake up to receive the beacon (and learn whether there are buffered frames at the access point). The default value is 200 .
DTIM Period	DTIM stands for Delivery Traffic Indication Message . A DTIM is a countdown field informing clients of the next window for listening to broadcast and multicast messages. When the access point has buffered broadcast or multicast message for associated clients, it sends the next DTIM with a DTIM Period value. Access point clients hear and awaken to receive the broadcast and multicast messages. The default DTIM period is '2' .
RTS Threshold	RTS (Request To Send) is a control frame sent from the transmitting station to the receiving station requesting permission to transmit. This value is recommended to remain at its default setting of 4096 . Should you encounter inconsistent

	data flow, only minor modifications of this value are recommended.
Fragment Threshold	Fragmentation mechanism is used for improving the efficiency when high traffic flows along in the wireless network. The value can be set from 256 to 4096. The default value is 4096 .
Output Power Level	You can choose the percentage of maximum power to meet your requirement. The default is Full .
b/g Mode	You can choose one mode of the following you need. <input type="radio"/> Mixed : 802.11b supported rate and 802.11g supported rate. <input type="radio"/> b only : 802.11b supported rate only. <input type="radio"/> b+ : 802.11b supported rate and 22 Mbps PBCC rate. <input type="radio"/> 11g only : 802.11g supported rate only. The default is Mixed mode.
Hidden SSID Support	Click <input type="radio"/> Enabled or <input type="radio"/> Disabled to hide or broadcast the SSID.
TI Turbo Mode	Click <input type="radio"/> Enabled or <input type="radio"/> Disabled to enable or disable enhancing throughput rate.
Interference Avoidance	Click <input type="radio"/> Enabled or <input type="radio"/> Disabled to enable or disable the Access Point's energy detection mechanism.
TI Video Blast Support	<input type="radio"/> Enabled / <input type="radio"/> Disabled : enable or disable the vHCF feature. Destination IP Address : The destination IP address with preferred bandwidth. Protocol : The destination AP's protocol. Port Number : The destination AP's port number.
Save	After completing the settings, Click Save to save the settings.
Defaults	Click to restore the AP to factory default settings.
Cancel	Click Cancel to discard the data you have entered since last time you press Save .

IP Setting

The IP Settings page displays the IP address for the AP.

LAN	
IP Address:	192 168 1 252
Subnet Mask:	255 255 255 0
Default Gateway:	192 168 1 254

Save Cancel

IP Address	This field can be modified only when DHCP Client is disabled. If your system manager assigned you static IP settings, then you will have to enter the information provided.
Subnet Mask	Enter the information provided by your system manager.
Default Gateway	Enter the information provided by your system manager.
Save	After completing the settings, Click Save to save the settings.
Cancel	Click Cancel to discard the data you have entered since last time you press Save .

Privacy

The Privacy page displays WLAN security settings. You can select **WEP**, **802.1x**, or **WPA** to be the privacy mode for the AP.

WEP

Privacy

Turn privacy on and off when security is set to WEP. When security is set to 802.1x or WPA, privacy is turned on automatically.

Authentication Type

Open: If the type is selected, the associated station should set the same Authentication type as AP.

Shared: If the type is selected, there must be a key to be shared between the AP and the associated station.

Both: Both **Open** and **Shared** are selected.

WEP Keys

Tx Key

The selected key for transmission when WEP is selected.

Key Value	<p>Please set the Key Value according to the WEP Cipher you select.</p> <p>If 40bits is selected, 10 Hex characters are needed.</p> <p>If 128bits is selected, 26 Hex characters are needed.</p> <p>If 256bits is selected, 58 Hex characters are needed.</p>
WEP Cipher	You can choose one from <input checked="" type="radio"/> 40bits <input type="radio"/> 128bits <input type="radio"/> 256bits. 256bits is the highest WEP level among the three.

RADIUS

Not Required.

Save	After completing the settings, Click Save to save the settings.
Cancel	Click Cancel to discard the data you have entered since last time you press Save .

The screenshot shows a configuration page with the following sections:

- Security Configuration:**
 - WEP: WEP, 802.1x, WPA
 - Privacy: On, Off
 - Authentication Type: Open (dropdown)
 - Group Key Interval: 3600 seconds
 - 802.1x: 802.1x, PSK
 - PSK: Hex (0000000000000000), String (PSK12345)
- WEP Keys:**

Tx Key	Key Value	WEP Cipher
<input checked="" type="radio"/> 0	0000000000	<input checked="" type="radio"/> 40 bits
<input type="radio"/> 1	0000000000	<input type="radio"/> 128 bits
<input type="radio"/> 2	0000000000	<input type="radio"/> 256 bits
<input type="radio"/> 3	0000000000	
- RADIUS:**
 - Server IP Address: 192.168.1.1
 - Port: 1812
 - Secret: RADIUS-SECRET

Buttons: **Save** and **Cancel**

802.1x

Group Key Interval Please enter the value to decide how long it should change the

Group Keys. The default is **3600** seconds.

WEP Keys

Not Required.

RADIUS

Server IP Address	Enter the RADIUS Server's IP Address provided by your ISP.
Port	Enter the RADIUS Server's port number provided by your ISP. The default is 1812 .
Secret	Enter the secret phrase that the AP shares with the RADIUS Server.

Save	After completing the settings, Click Save to save the settings.
Cancel	Click Cancel to discard the data you have entered since last time you press Save .

The screenshot shows a configuration page with tabs for Basic Setup, Advanced Setup, IP Setting, Privacy, Manage, Download, and Statistics. The Privacy tab is active, showing Security Configuration, WEP Keys, and RADIUS settings.

Security Configuration

- WEP: WEP, 802.1x, WPA
- Privacy: On, Off
- Authentication Type: Open
- Group Key Interval: 3600 seconds
- 802.1x: PSK, Hex (0000000000000000), String (PSK12345)

WEP Keys

Tx Key	Key Value	WEP Cipher
<input type="radio"/> 0	0000000000	<input checked="" type="radio"/> 40 bits
<input type="radio"/> 1	0000000000	<input type="radio"/> 128 bits
<input type="radio"/> 2	0000000000	<input type="radio"/> 256 bits
<input type="radio"/> 3	0000000000	

RADIUS

Server IP Address: 192 168 1 1
Port: 1812
Secret: RADIUS-SECRET

Buttons: Save, Cancel

WPA

802.1x	WPA stations authenticate with RADIUS Server over 802.1x. Enter a period of time in Group Key Interval field to decide how long to change group keys.
PSK Hex	WPA stations share the pre-shared key (PSK) with AP, you have to enter 64 characters for the key. Enter a period of time

	in Group Key Interval field to decide how long to change group keys.
PSK String	WPA stations share the pre-shared key (PSK) with AP, 8-63 characters are needed for the key. Enter a period of time in Group Key Interval field to decide how long to change group keys.
WEP Keys	
Not Required.	
RADIUS	
Server IP Address	Enter the RADIUS Server's IP Address provided by your ISP.
Port	Enter the RADIUS Server's port number provided by your ISP. The default is 1812 .
Secret	Enter the secret phrase shared between the AP and the RADIUS Server.
Save	After completing the settings, Click Save to save the settings.
Cancel	Click Cancel to discard the data you have entered since last time you press Save .

Manage

The management page displays information about stations that are currently associated with the AP.

The screenshot shows the 'Manage' tab selected in a navigation menu. Below the menu is a 'Refresh' button. The main content area is titled 'Associated Station Table' and contains a table with the following data:

Mac Address	State	SSID #	Active Rate	Ban STA	Security Status
00-E0-98-C4-D9-D6	Authorized	802.11SSID	11 Mbit/sec	<input type="checkbox"/>	Trusty

Below the table, the text 'No Associated Station' is displayed in red. Further down, there are two configuration sections:

Allowed / Banned STA MAC Addresses
 Allowed Banned Disabled
 Add: Mac Address: []-[]-[]-[]-[]-[]
 Delete Allowed/Banned Mac address: Mac Address: 00-E0-98-C4-D9-D6

Multiple SSID Support
 Enabled Disabled
 Add: SSID: []-[]-[]-[]-[]-[]
 Delete Multiple SSID: SSID: 802_11_SSID # 1
Note: After adding SSID to list, you should click Save button to make it work.
 Save

Refresh Click **Refresh** to update the Associated Station Table.

Associated Station Table	
Mac Address	The Mac address of the station associated with the AP.
State	The current state between the associated station and the AP.
SSID	The SSID for the associated station.
Active Rate	The current data transmitting/receiving rate.
Ban STA (wireless)	Press the button to remove the Mac Address from the table if

station)	Banned is selected in Allowed/Banned STA MAC Address . Press the button to add the Mac Address in the table if Allowed is selected in Allowed/Banned STA MAC Address . If Allowed/Banned STA MAC Address is disabled, there will be no effect when pressing the button.
Security Status	The station 's security Status.

Allowed/Banned STA MAC Address

<input type="radio"/> Allowed <input type="radio"/> Banned <input type="radio"/> Disable	<input type="radio"/> Allowed: only the stations shown in the table can associate with the AP. <input type="radio"/> Banned: the stations shown in the table can't associate with the AP. <input type="radio"/> Disable: The table is disabled.
Add/Mac Address	Enter a Mac address in Mac Address field and click Add to add the address. Click Save on the bottom left corner to let the change take effect.
Delete Allowed/Banned Mac Address	Click Delete to remove the address from the Mac Address field.

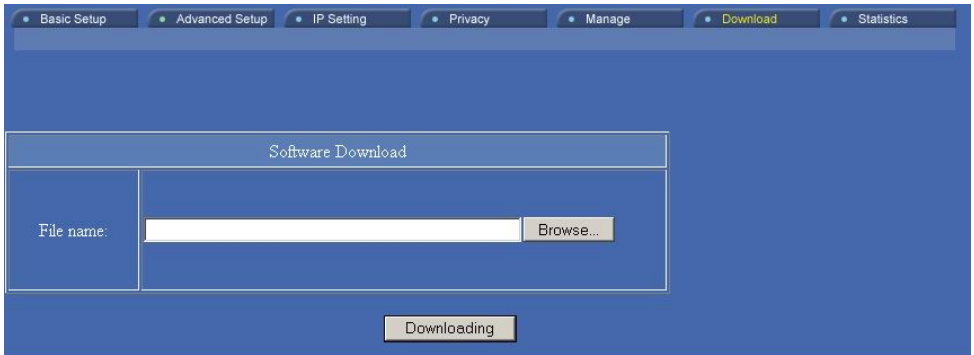
Multiple SSID Support

- The table can only be enabled when Privacy is set to WEP with Privacy **off**.
- When the table is enabled, you cannot change privacy settings.
- SSID strings can be added or removed at any time.
- Enabling or disabling the table requires an AP reboot.

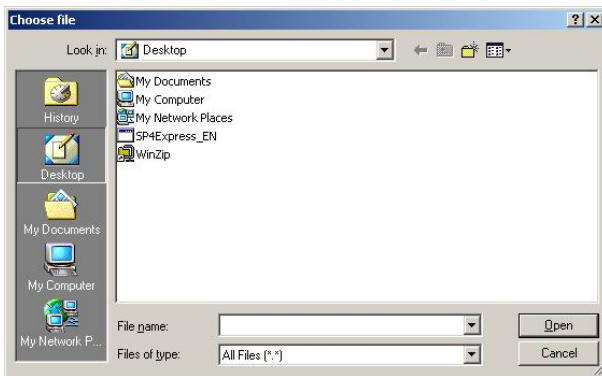
<input type="radio"/> Enabled <input type="radio"/> Disabled	Click to enable or disable Multiple SSID Support.
Add SSID	Click Add to add the SSID entered in SSID field. The SSID can be up to 32 characters. You have to click Save to make it work.
Delete SSID	Click Delete to remove added SSID(s) in the table.

Download

You can download the latest firmware (from your distributor) and upgrade the Wireless Point.




Browse...	Enter the new firmware's path and file name (i.e. C:\FIRMWARE\firmware.bin). Or, click the Browse... button, find and open the firmware file (the browser will display to correct file path).
Downloading	Click Downloading to start downloading the file.



Statistics

The Statistics table shows the packets sent/received over wireless and ethernet LAN respectively.

Click **Refresh** to update the data.



Refresh			
LAN	Send	Unicasts frames	0
		Multicasts frames	0
	Receive	Unicasts frames	0
		Multicasts frames	6
Wireless	Send	MPDU _s	0
		MSDU _s	0
		Multicast MSDU _s	6
		Failed MSDU _s	0
		Retry MSDU _s	0
	Receive	MPDU _s	0
		MSDU _s	0
		Multicast MSDU _s	0
		FCS Error MPDU _s	20
		Mic Failure MSDU _s	0
Decrypt Error MPDU _s	0		