# CPE (SWT225)

# User Manual

June, 2011

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# Section 1. SWT225 Components

SWT225 CPE provides the WiFi service to users using the WiMAX service in the region where the WiMAX service is available. In this manual, [terminal] stands for all devices which can use wireless LAN (WiFi), such as laptops, smart phones, and other devices.

## 1.1 Components


**Figure 1. Components of SWT225**

| Component | Quantity |
|---|---|
| Main body | 1EA |
| Bracket (screws included) | 1EA |
| LAN cable | 1EA |
| Adapter | 1EA |

## 1.2 Front View


**Figure 2. Front LEDs**

| Items | | Descriptions |
|---|---|---|
| Power | ⏻ | Indicates power supply to the device. Flashes green when normal. |
| WiFi | | Indicates the state of wireless LAN (WiFi). Flashes green when normal. Blinks while data is transferred. |
| LAN1 | LAN1 | Indicates the state of LAN Port 1. |
| LAN2 | LAN2 | Indicates the state of LAN Port 2. |
| WiMAX1 | | Indicates the state of WiMAX Module 1. |
| WiMAX2 | | Indicates the state of WiMAX Module 2. |

## 1.3 Rear View

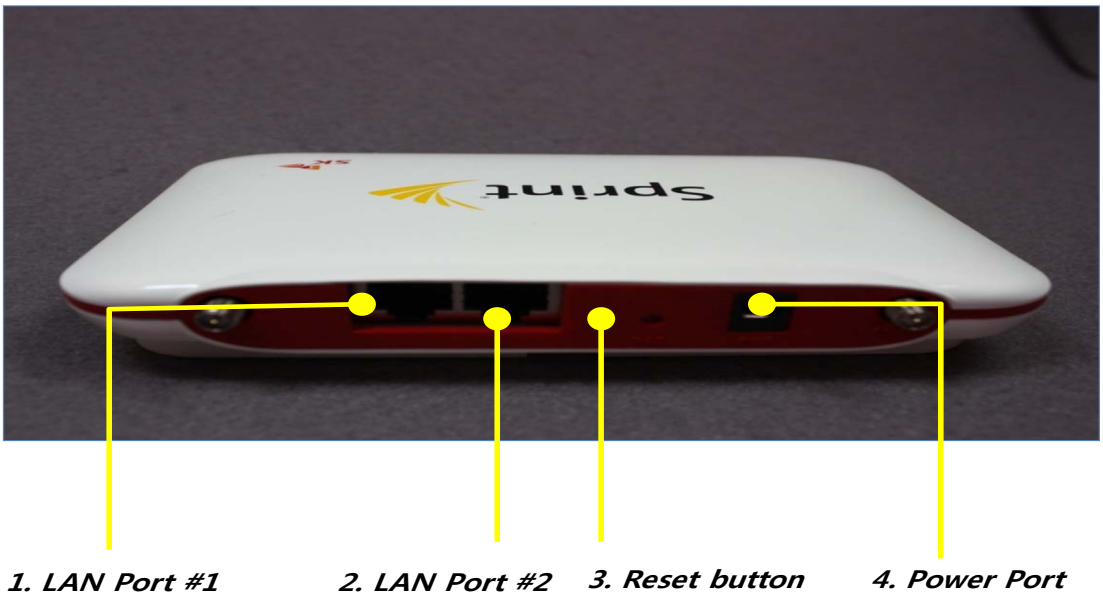



**Figure 3. Rear Ports**

| No. | Items | Descriptions |
|---|---|---|
| 1 | LAN1 | Provides wired connection to a terminal. A terminal connected into this port will be allocated an IP address automatically (via DHCP). |
| 2 | LAN2 | Provides wired connection to a terminal. A terminal connected into this port will be allocated an IP address automatically (via DHCP). |
| 3 | RST (Reset) | Used to reset the device. Press and hold for less than 2 seconds for rebooting and for 10 seconds or longer for factory initialization. |
| 4 | PWR (power) | The power adapter, one of the device components, is connected into this slot. |

# Section 2. Installation

## 2.1 Antenna connection

Connect a pair of antennas to the main body respectively as shown in Figure 4.

**Figure 4. Antenna connection**

## 2.2 Adapter connection

Connect the adapter to the main body as show in Figure 5. SWT225 has no power switch. Therefore power is supplied to the device upon connection of the adapter.

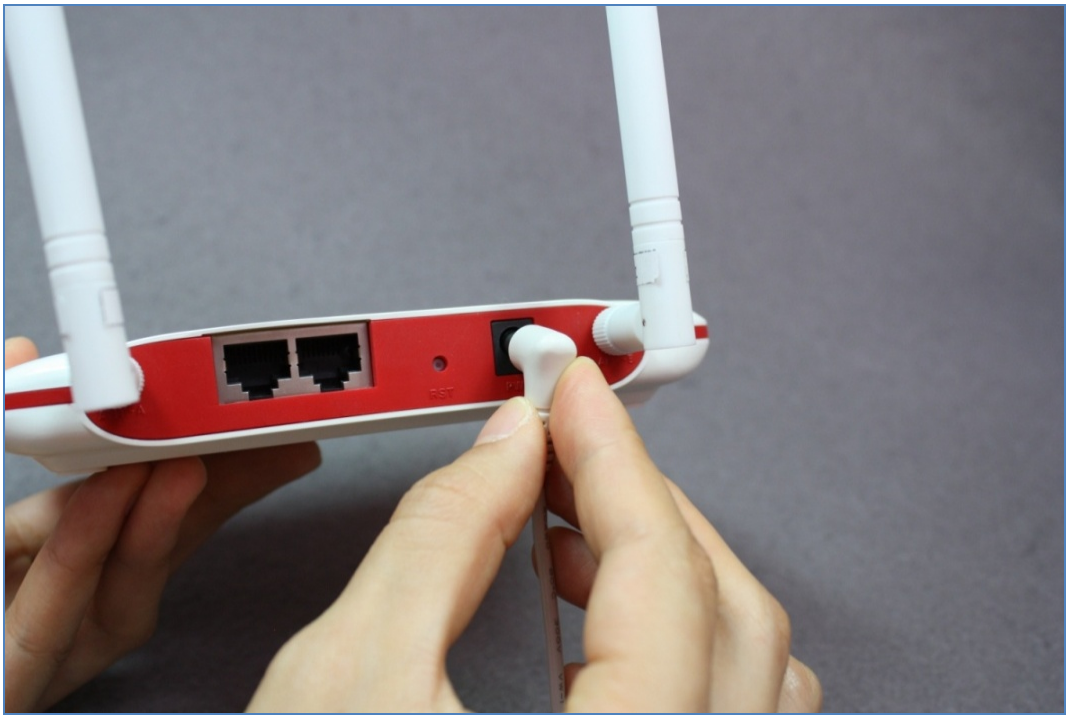


**Figure 5. Adapter connection**

## 2.3 Station connection

Fasten the two screws to the bottom of the main body of SWT225 as shown in Figure 6 to mount the stand.

**Figure 6. Fastening of screws**

**Figure 7. A view of the bottom after the screws are fastened**

Mount the stand onto the device using the screws as shown in Figure 8.

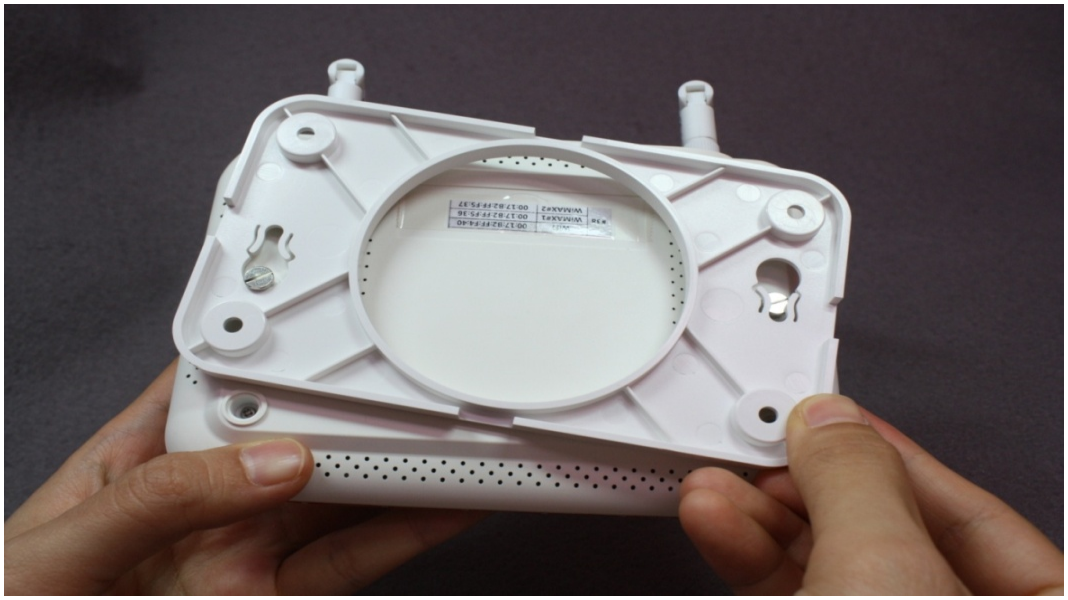


**Figure 8. Mounting of the stand**

# Section 3. Internet access

You can access the Internet via either WiFi or LAN.

## 3.1 Access via WiFi (wireless)

### 3.1.1 Detection of wireless network and access

Run wireless network detection on your computer and see what networks exist around it.
If SWT225 is included in the list of networks, double click on the SSID to access WiFi.

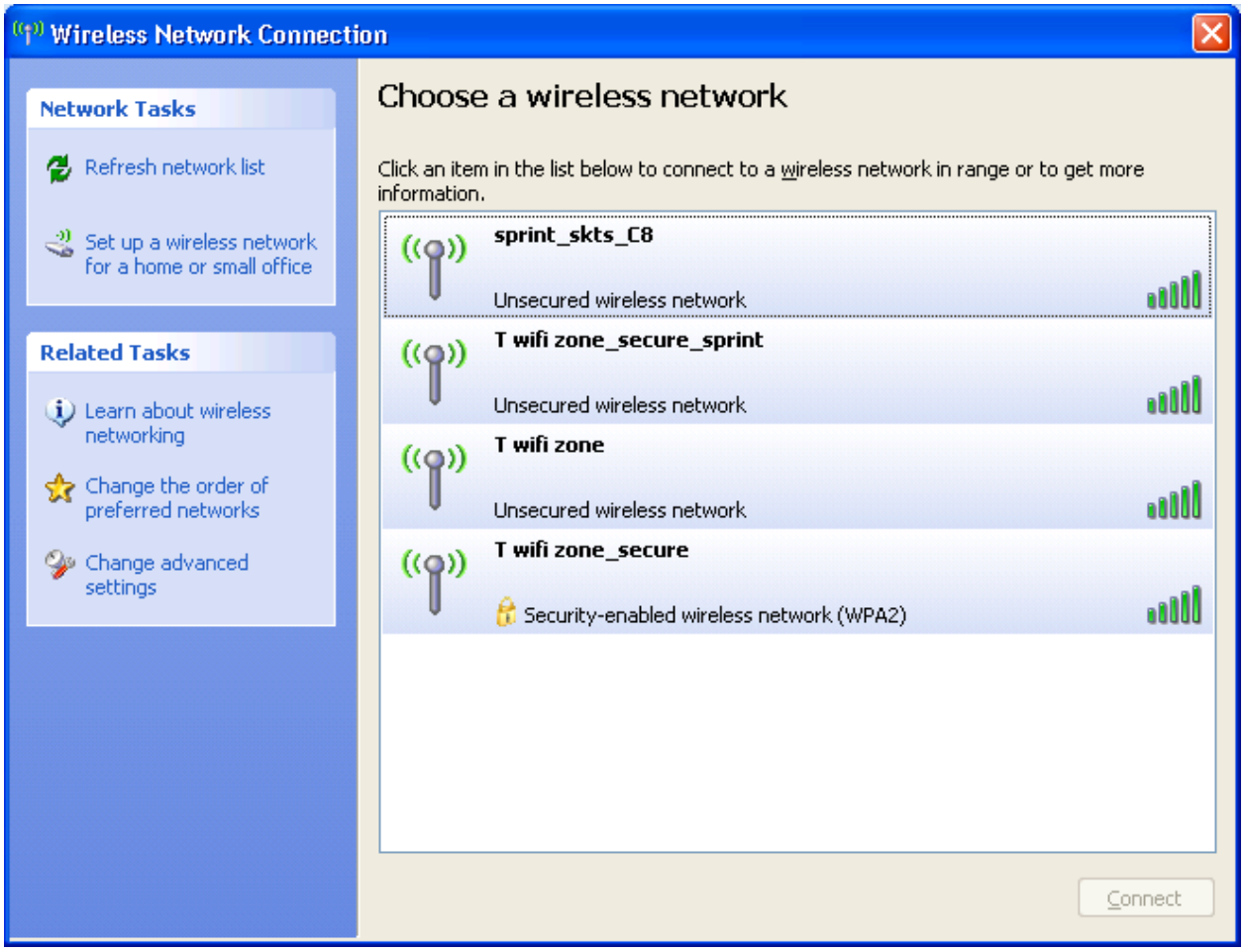



**Figure 9. Wireless network detection**

### 3.1.2 View access to wireless network

Once access via WiFi is made, information is displayed as shown in Figure 10.

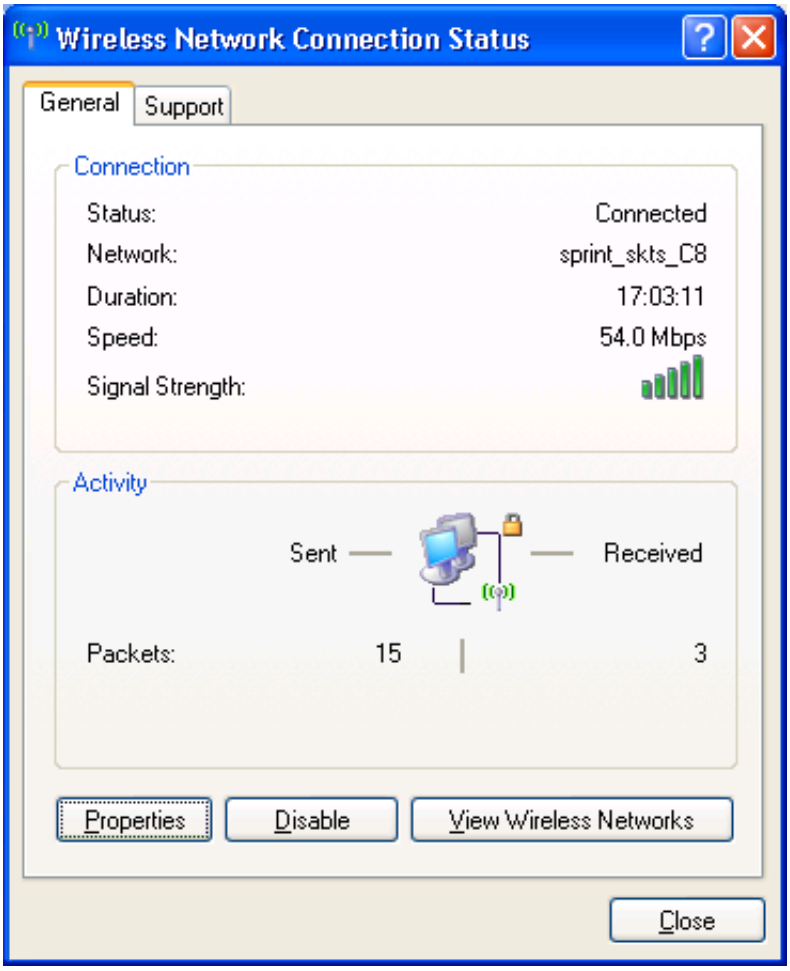



**Figure 10. View access to wireless network**

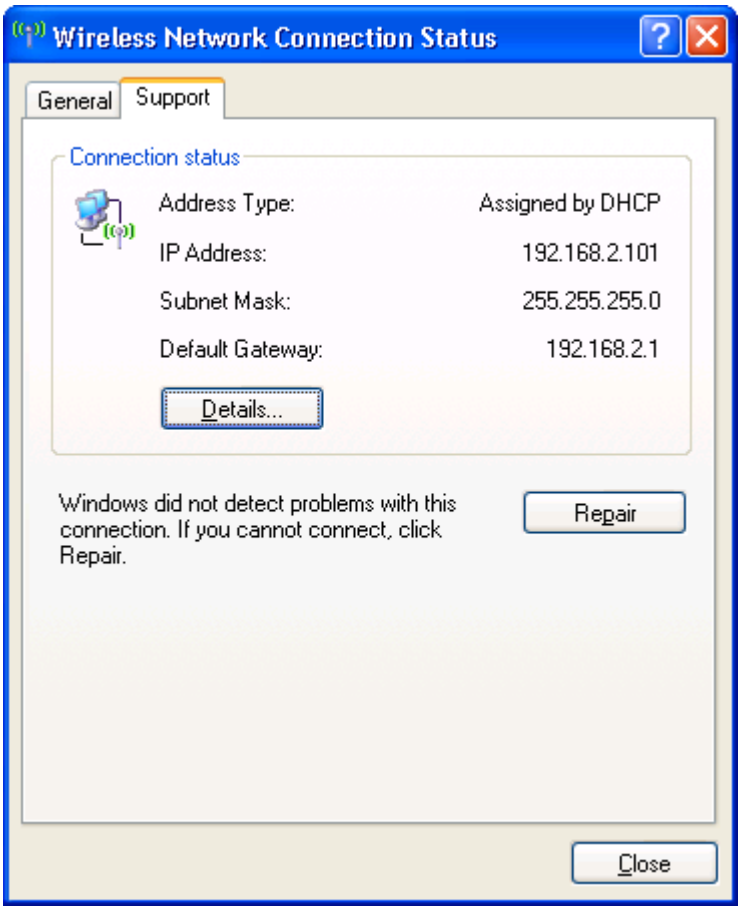



**Figure 11. View access to wireless network (IP address)**

## 3.2 Access via LAN (wired)

### 3.2.1 Connection between SWT225 and PC

Connect between the LAN port of SWT225 and the Ethernet port of your PC using the LAN cable provided with the device.

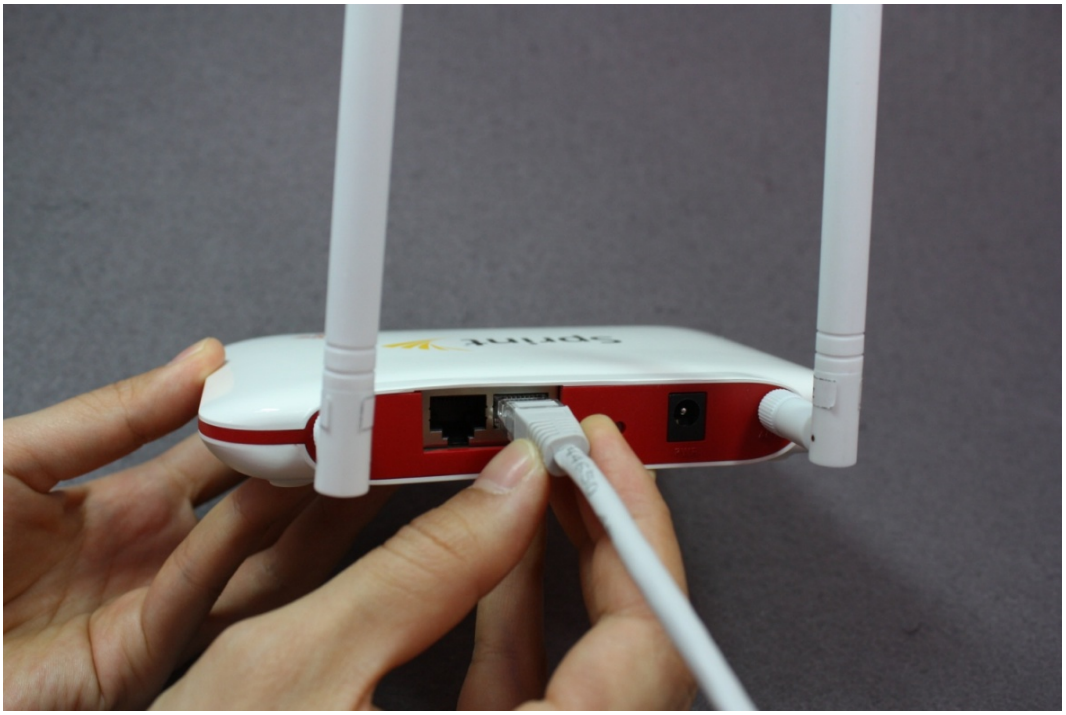


**Figure 12. Connection to the LAN port**

### 3.2.2 View access to wired network

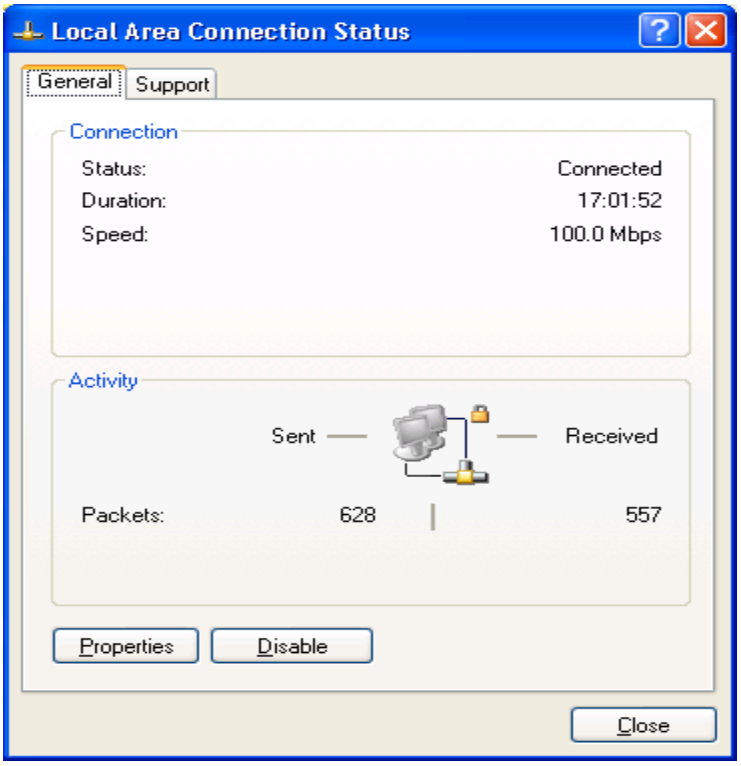



**Figure 13. View access to wired network**

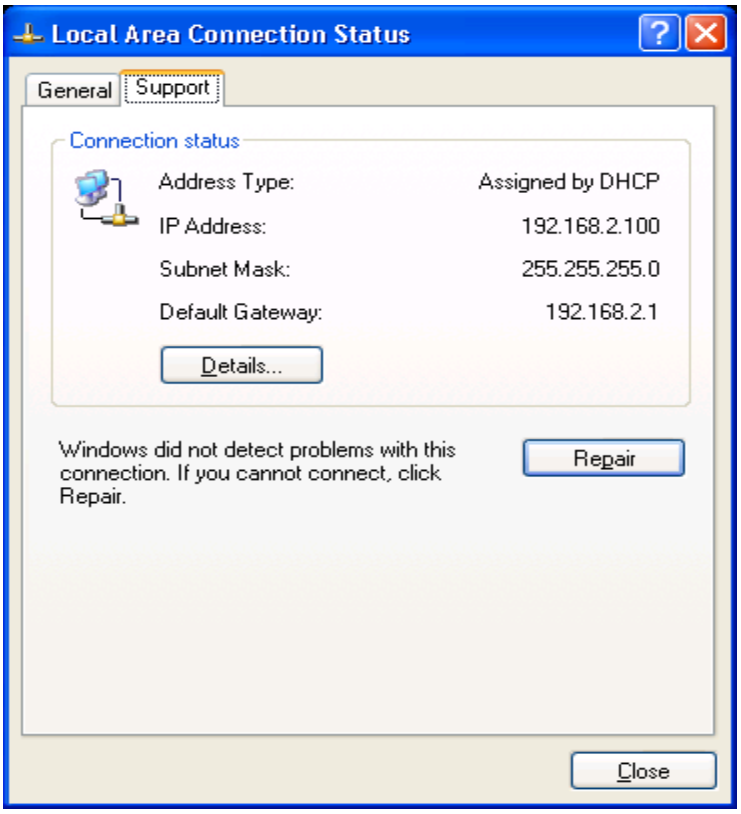



**Figure 14. View access to wired network (IP address)**

# Section 4. Trouble Shooting

For an uninterrupted Internet access, always make sure that the WiMAX modem is properly connected. No Internet access is available if the WiMAX modem is not connected to the base station. WEB CM access via WiFi or LAN, however, is available even when the WiMAX modem is not connected to the base station.

## 4.1 Checking via LEDs

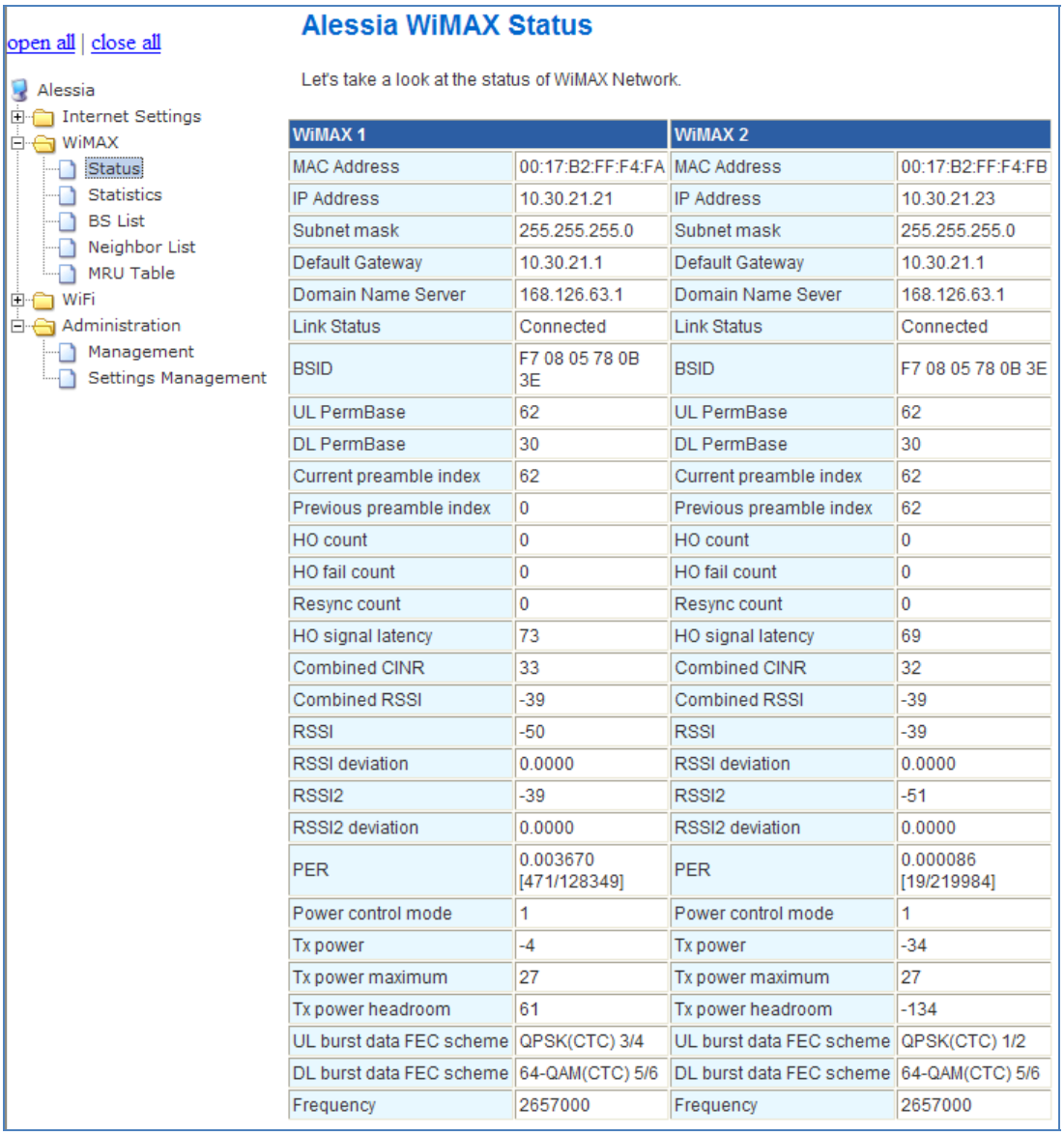
You can verify that you have an Internet access based on the indication of the LEDs on SWT225.

| LED | Color(s) | | Function |
|---|---|---|---|
| Power |  | Flashes green | When power is supplied |
| WiFi |  | Flashes green | When WiFi AP is on |
| |  | Blinks green | When data is transmitted via WiFi |
| LAN1/2 | LAN1 | Flashes green | When access is made via LAN |
| |  | Blinks green | When data is transmitted via LAN |
| WiMAX |  | Flashes green | WiMAX strong electric field |
| |  | Flashes yellow | WiMAX weak electric field |
| |  | Flashes red | Out of zone |
| |  | Blinks yellow (every one min) | Connecting |

| | | | |
|---|---|---|---|
| |  | Blinks green and yellow | When WiMAX data is transmitted. Turned off when data is transmitted while on |
| |  | Flashes blue | Idle |

## 4.2 Checking through WEB CM

You can verify that you have an Internet access at the WEB CM of SWT225.
Access via wireless network (WiFi): If your terminal is connected to SWT225 via wireless network (WiFi), bring up the web browser on the terminal and type http://192.168.2.1 to access the WEB CM of SWT225.
Access via the LAN port: If your terminal is connected to SWT225 via the LAN port (wired), bring up the web browser on the terminal and type http://192.168.2.1 to access the WEB CM of SWT225.
Login name and password for WEB CM access: Sktelesys and sktelesys
In the WEB CM page, go to WiMAX and Status to view connection information.




| WiMAX 1 | | WiMAX 2 | |
|---|---|---|---|
| MAC Address | 00:17:B2:FF:F4:FA | MAC Address | 00:17:B2:FF:F4:FB |
| IP Address | 10.30.21.21 | IP Address | 10.30.21.23 |
| Subnet mask | 255.255.255.0 | Subnet mask | 255.255.255.0 |
| Default Gateway | 10.30.21.1 | Default Gateway | 10.30.21.1 |
| Domain Name Server | 168.126.63.1 | Domain Name Sever | 168.126.63.1 |
| Link Status | Connected | Link Status | Connected |
| BSID | F7 08 05 78 0B 3E | BSID | F7 08 05 78 0B 3E |
| UL PermBase | 62 | UL PermBase | 62 |
| DL PermBase | 30 | DL PermBase | 30 |
| Current preamble index | 62 | Current preamble index | 62 |
| Previous preamble index | 0 | Previous preamble index | 62 |
| HO count | 0 | HO count | 0 |
| HO fail count | 0 | HO fail count | 0 |
| Resync count | 0 | Resync count | 0 |
| HO signal latency | 73 | HO signal latency | 69 |
| Combined CINR | 33 | Combined CINR | 32 |
| Combined RSSI | -39 | Combined RSSI | -39 |
| RSSI | -50 | RSSI | -39 |
| RSSI deviation | 0.0000 | RSSI deviation | 0.0000 |
| RSSI2 | -39 | RSSI2 | -51 |
| RSSI2 deviation | 0.0000 | RSSI2 deviation | 0.0000 |
| PER | 0.003670 [471/128349] | PER | 0.000086 [19/219984] |
| Power control mode | 1 | Power control mode | 1 |
| Tx power | -4 | Tx power | -34 |
| Tx power maximum | 27 | Tx power maximum | 27 |
| Tx power headroom | 61 | Tx power headroom | -134 |
| UL burst data FEC scheme | QPSK(CTC) 3/4 | UL burst data FEC scheme | QPSK(CTC) 1/2 |
| DL burst data FEC scheme | 64-QAM(CTC) 5/6 | DL burst data FEC scheme | 64-QAM(CTC) 5/6 |
| Frequency | 2657000 | Frequency | 2657000 |

**Figure 15. Checking of WiMAX connection at WEB CM**

# 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.

(2)This device must accept any interference received, including interference that may cause undesired operation.

15.105 Federal Communications Commission (FCC) Requirements, Part 15

**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*.**

FCC RF Radiation Exposure Statement

The antenna(s) used for this transmitter must be installed to provide a separation distance of at least 20 cm from all persons and must not be co-located or operation in conjunction with any other antenna or transmitter.