yLez CF-2002

Compact Flash Wireless Network Interface Card

Product Manual

Revision 1

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yLez Technologies Pte Ltd

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Federal Communications Commission (FCC) Statement

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 Radiation Exposure Statement

This equipment complies with the limits of a Class B digital device, pursuant to 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

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with the minimum distance between your body and the antenna as shown in the table below:

Integrated PCMCIA Antenna	1.8 cm (0.7 inches)

RF EXPOSURE

Warning:	For compliance with the RF exposure requirements regulated by the FCC (Federal Communications Commissions), the transmitter's antenna is contained within the equipment enclosure and an additional separation distance of 20 cm shall be maintained between the transmitter enclosure, and any part of the user's body.

Table of Contents

Chapter 1 Introduction

Welcome to the yLez Technologies CF-2002 User Manual. This manual covers the installation, control, and maintenance of your CF-2002 Compact Flash Wireless Network Interface Adapter.

The package you have received should contain the following items:

- CF-2002 Compact Flash Wireless Network Interface Card
- Compact Disc (CD) containing CF-2002 WLAN Configuration Application and drivers

Note: If anything is missing, please contact your vendor.

The CD contains both the drivers and Configuration Application. The WLAN Configuration Application is used to manage the CF-2002 Compact Flash Wireless Network Interface Adapter.

The CF-2002 drivers are used to setup the CF-2002 Compact Flash Wireless Network Interface Adapter on Windows CE 3.0 platforms.

1.1 CF-2002 Compact Flash WLAN Adapter

This chapter provides the information on the CF-2002 Compact Flash WLAN Adapter, along with an overview of Wireless Local Area Network (WLAN), including Adhoc (pear-to-pear) and Infrastructure networks. In addition, information is also provided on spread spectrum technology, and security.

With the yLez CF-2002 Compact Flash WLAN Card, you can connect the PDAs and handheld devices to the 802.11b wireless LANs. It provides a high-speed and cable-free communication to PDA device mobile users.

The CF-2002 is designed for PDA devices with CF Type I/II extended card slots. Powered with Intersil PRISM II.V chipset, the CF-2002 fully supports the Microsoft Windows for Pocket PC.

Designed for interoperability, the CF-2002 is designed to the latest IEEE 802.11b High Rate (HR) standard. The CF-2002 is used with any IEEE 802.11b compliant Access Points to connect a mobile device to an existing wired Ethernet LAN infrastructure. Simply speaking, the CF-2002 provides a transparent wireless connection to a wired network.

A high-performance spread spectrum transceiver delivers robust and error-free communications at a maximum data rate of 11 Mbps. The CF-2002 has an automatic backoff capability to 5.5 Mbps, 2 Mbps, or 1 Mbps if necessary as specified by the IEEE 802.11b High Rate (HR) standard.

The Cf-2002 supports the Windows CE 3.0 for Pocket PC, and even the latest Microsoft Merlin OS for Pocket PC.

The CF-2002 comes with the following main features:

- CompactFlash form factor, designed specially for handheld and PDA devices with CF Type I/II extended card slots
- Fully support Microsoft Windows CE 3.0 Pocket PC and Merlin OS
- Compliant to IEEE 802.11b High Data Rate wireless LAN standard.
- Indoor range of 120 ft (37 M) in a typical office environment, 400 ft
- Outdoor range of 400 ft (100 M) line of sight
- Automatic Rate scaling at 11, 5.5, 2, and 1 Mbps data transfer rate for maximum range

- WEP security with 40 bit or 128 bit encryption
- Advanced power management for low power consumption
- Fully compatibility with the Pocket PC and handheld devices in the current market, such as HP Jornada 540 series, Compaq iPaQ H3600 series and etc.

Chapter 2 Overview of IEEE 802.11 Wireless LAN Technology

2.1 Introduction to Wireless LAN

A wireless LAN (WLAN) is a flexible data communication system implemented as an extension to, or as an alternative for, a wired LAN within a building or campus. Using radio frequency (RF) technology, WLAN transmit and receive data over the air, minimizing the need for wired connections. Thus, WLAN combine data connectivity with user mobility, and, through simplified configuration, enable movable LANs.

Wireless LANs provide all the functionality of wired LANs, but without the physical constraints of the wire itself. Wireless LAN configurations include independent networks, offering peer-to-peer connectivity, and infrastructure networks, supporting fully distributed data communications.

The widespread strategic reliance on networking among competitive businesses and the meteoric growth of the Internet and online services are strong testimonies to the benefits of shared data and shared resources. With wireless LANs, users can access shared information without looking for a place to plug in, and network managers can set up or augment networks without installing or moving wires. Wireless LANs offer the following productivity, service, convenience, and cost advantages over traditional wired networks.

Mobility-Wireless LAN systems can provide LAN users with access to real-time information anywhere in their organization. This mobility supports productivity and service opportunities not possible with wired networks.

2.2 IEEE 802.11b High Data Rate (HR) Standard

The IEEE 802.11b standard has been developed through the standards work of the Institute of Electronic and Electrical Engineers(IEEE). A group of industry members have spent years devising a set of rules that will allow systems that conform to the standard to inter-communicate.

CF-2002 WLAN Card is designed to operate with other IEEE 802.11b compliant radio cards and access points.

The standard covers many aspects of communication including radio characteristic, protocol, sharing of radio resources, security and network identification.

2.3 Frequency Channels

The CF-2002 uses DSSS (direct sequence spread spectrum) technology. The DSSS is radio techniques, which scrambles the data prior to transmission and uses a correlation technique on receive to improve the signal to noise ratio and improve range. IEEE 802.11b specifies operation in a frequency band from roughly 2.4GHz to 2.485GHz. In the USA there are 11 frequency bands on which the system can operate. The number of bands available varies from country to country. This is analogous to tuning to different stations on an audio radio.

2.4 Scanning, Beaconing & ESSID

When a wireless station (e.g. a notebook computer) is initialized it is necessary for it to find and communicate with the correct group of wireless devices, including the Access Point (AP). It may be programmed for a fixed frequency channel or it may search all the frequency bands – a process called “scanning”.

There may be multiple Access Points and networks operating at the same time. It may be necessary to ensure that the station joins with the correct network during the scanning process. To achieve this, each Access Point is assigned to be part of a logical group called the ESS (Extended Service Set). The name of this logical group is the ESSID. The ESSID is a string of characters up to 30 characters long. When roaming is operating there may be several Access Points as part of the same ESS.

After powering up, the wireless station will listen on its default frequency channel. It will be listening for “beacons” sent by another wireless station or access point. A beacon is a short message containing the ESSID that will be broadcast roughly ten times a second.

If the wireless station hears a beacon, it checks to see if the ESSID in the beacon matches its own. If there is a match, the station knows that it is on the correct channel and can communicate with its group.

If no beacons are seen, or if the ESSID does not match, the wireless station may move to the next frequency channel and repeat this listening procedure.

If all the frequency channels have been searched and the station has not found its group, it will assume that it is the first station in the group to wake up and will return to its default channel and start to issue beacons itself.

This process is known as scanning. In Direct Sequence Spread Spectrum this process occurs at start up and may also occur when the station roams between Access Points.

2.5 The Benefits of Wireless LANs

Wireless LANs offer the following advantages over traditional wired networks:

Advantage	Description
Mobility	Provides LAN users with access to real-time information anywhere in their organizations
Installation Speed and Simplicity	Eliminates the need to pull cable through walls and ceilings
Installation Flexibility	Allows the network to go where wire cannot
Reduced Cost-of-Ownership	Reduces overall installation expenses and life-cycle costs
Scalability	Allows various configurations to meet the needs of specific applications and installations. Configurations are easily changed and range from peer-to-peer networks suitable for a small number of users to full infrastructure networks of thousands of users that allow roaming over a broad area

2.6 Designing and building a Wireless LAN System

The following factors should be considered when designing and building wireless LAN systems:

Factor	Consideration
Range/Coverage	The distance over which radio frequency waves (RF) can communicate is a function of product design and the propagation path. Interactions with typical building objects, including walls, metal, and even people, can affect how energy propagates, and thus what range and coverage a particular system achieves. Most wireless LAN systems use RF because radio waves can penetrate many indoor walls and surfaces. The range (or radius of coverage) for typical WLAN systems varies from under 100 feet to more than 300 feet. Coverage can be extended, and true freedom of mobility via roaming, provided through micro cells.
Throughput	Factors that affect throughput include airwave congestion (number of users), propagation factors such as range and multipath, the type of WLAN system used, as well as the latency and bottlenecks on the wired portions of the WLAN.
Mulitpath Effects	Radio signals take multiple paths from a transmitter to a receiver. Reflections of the signals can cause them to become stronger or weaker, which affects data throughput
Interoperability with Wired Infrastructure	Standards-based interoperability makes the wireless portion of a network completely transparent to the reset of the network.
Interoperability with Wireless Infrastructure	The interoperability between wireless LANs will depend both on technology choice and on the specific vendor's implementation. Products from different vendors employing the same technology and the same implementation typically allow for the interchange of adapters and access points. An eventual goal of the IEEE 802.11 specification is to allow compliant products to interoperate without explicit collaboration between vendors.

Interference and Coexistence	The unlicensed nature of radio-based wireless LANs means that other products that transmit energy in the same frequency spectrum can potentially provide some measure of interference to a WLAN system. Micro-wave ovens are a potential concern, but most WLAN manufacturers design their products to account for microwave interference. Another concern is the co-location of multiple WLAN systems. While co-located WLANs from different vendors may interfere with each other, others coexist without interference. This issue is best addressed directly with the appropriate vendors.
Simplicity/Ease of Use	Lack of cabling makes moves, adds, and changes trivial operations.
Security	Security provisions are typically built into wireless LANs, making them more secure than most wired LANs. It is extremely difficult for unintended receivers (eavesdroppers) to listen in on wireless LAN traffic. Complex encryption techniques make it impossible for all but the most sophisticated to gain unauthorized access to network traffic. In general, individual nodes must be security-enabled before they are allowed to participate in network traffic.
Cost	It is generally cheaper to install and maintain a wireless LAN than a traditional wired LAN for two reasons. First of all, WLAN elminates the direct costs of cabling. Second of all, it simplifies moves, adds, and changes, thereby reducing the indirect costs of user downtime and administration overhead.
Scalability	Wireless networks can be designed to be extremely simple or quite complex. Wireless networks can support large numbers of nodes and/or large physical areas by adding access points to boost or extend coverage.
Safety	The output power of wireless LAN systems is very low, much less than that of a hand-held cellular phone. Since radio waves fade rapidly over distance, very little exposure to RF energy is provided to those in the area of a wireless LAN system. Wireless LANs must meet

	stringent government and industry regulations for safety. No adverse health affects have ever been attributed to wireless LANs.

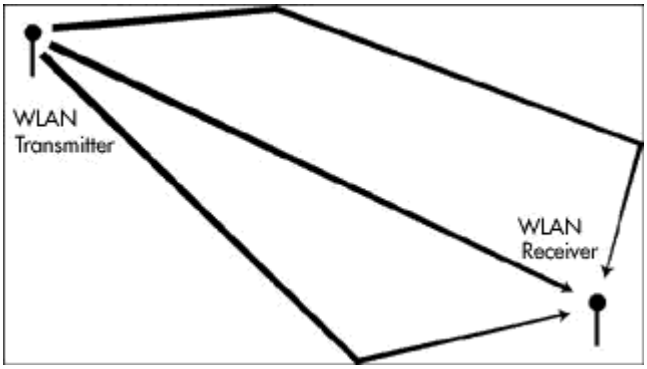

Figure 1. Radio Signals Traveling over Multiple Paths

2.7 WLAN Configuration

There are two types of WLANs: Adhoc (peer-to-peer) network or infrastructure network. The following sections provide more information on these types of WLANs.

2.7.1 Adhoc (Peer-to-Peer) Network

The simplest WLAN configuration is an independent (or peer-to-peer) WLAN that connects a set of PCs with wireless adapters. These portable computers need to have the same workgroup name, ESSID, and password (if applicable). Any time two or more wireless adapters are within range of each other, they can set up an independent network (Figure 4). These on-demand networks typically require no administration or pre-configuration.

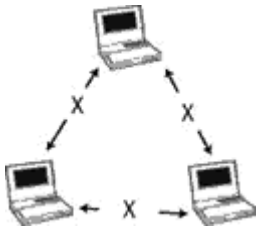

Figure 4. Independent WLAN

Access points can extend the range of independent WLANs by acting as a repeater (see Figure 5), effectively doubling the distance between wireless PCs.

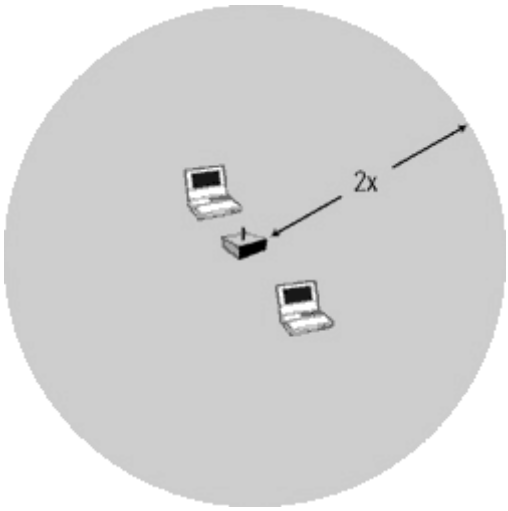

Figure 5. Extended-Range Independent WLAN Using Access Point as Repeater

2.7.2 Infrastructure Network

There are two types of infrastructure networks: infrastructure WLAN and overlapping infrastructure WLAN.

Infrastructure WLAN

In an Infrastructure network, multiple access points link the WLAN to the wired network and allow users to efficiently share network resources. The access points not only provide communication with the wired network but also mediate wireless network traffic in the immediate neighborhood. Multiple access points can provide wireless coverage for an entire building or campus.

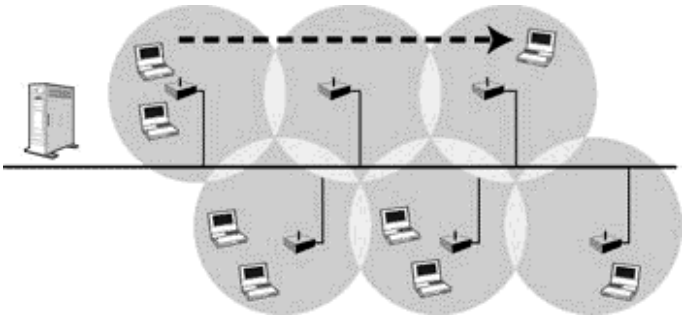

Figure 6 Infrastructure WLAN

Overlapping Infrastructure WLAN (Roaming)

Wireless communication is limited by how far signals carry for given power output. WLANs use cells, called micro cells, similar to the cellular telephone system to extend the range of wireless connectivity. At any point in time, a mobile PC equipped with a WLAN adapter is associated with a single access point and its micro cell, or area of coverage. Individual micro cells overlap to allow continuous communication within wired network. They handle low-power signals and “hand off” users as they roam through a given geographic area.

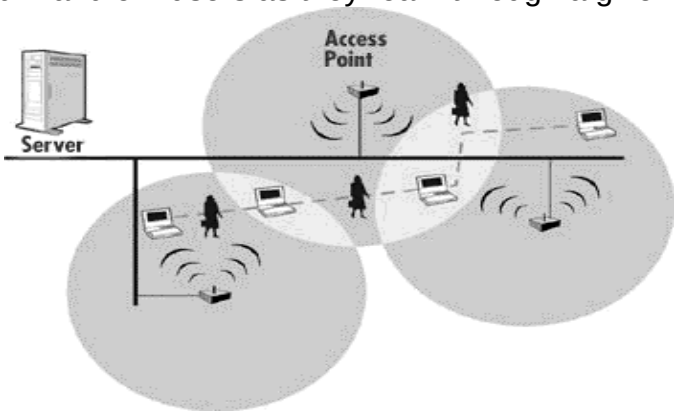

Figure 7 Handing off the WLAN Connection between Access Points

2.8 Wireless LAN Security

yLez Technologies Wireless LAN products give mobile users access to all their networking resources from anywhere within a building or campus environment.

This section describes how security is implemented in the Cf-2002 WLAN Card.

User Association – ESSID

In addition to radio transmission technique used for spread spectrum technology, CF-2002 provides an ESSID (Extended Service Set Identification), which allows system administrators to dictate who can access the wireless network. Only wireless devices with matching ESSID are allowed to communicate with each other.

Cf-2002 WLAN Card specifies ESSID setting during setup. It offers the capability of providing a 31-character alphanumeric ESSID, which allows for $6x10^{53}$ possible choices.

Distance – Physical Security

Owing to FCC regulations, wireless LAN devices must comply with power requirements that affect the transmission range of data between distances of 500 and 1000 feet. This range limits the area within which outsiders can attempt to access the wireless network.

Encryption – IEEE 802.11 WEP Security

The highest level of security is achieved by the addition of an encryption product on the network as a whole. This encryption product runs at the application level. Using hardware or software, the data in the packets is scrambled before it is sent over the LAN. Only stations with the correct decryption key can unscramble and read the data.

The IEEE 802.11 standard includes a Shared Key data privacy mechanism called “Wired Equivalent Privacy. To prevent eavesdropping, the WEP algorithm uses a pseudo random number generator, which is initialized by a shared secret key.

Features of WEP are:

- Data encryption using a 40 bit shared key
- No Key distribution mechanism. The shared key (password) must be distributed manually to all personnel and either be remembered or stored somewhere on the hard disk
- Simple authentication of clients based on hardware address

Chapter 3 Installing and Configuring the Driver in Windows CE

3.1 Installing the CF-2002 Windows CE Driver and Application Program

The following section will assist you to install the CF-2002 wireless LAN adapter successfully.

The driver and wlan application is provided in the Installation CDROM. The WLAN application can be used to monitor and configure the status and settings of CF-2002.

Before installing the Windows CE driver and application, you need to connect the handheld device or pocket PC to a Microsoft Windows PC via the Microsoft ActiveSync utility.

Procedures:

To download the CF-2002 NDIS network driver and applications from the driver installation CDROM to a Pocket PC or handheld devices:

1. Attach the 9-pin serial cable included with the Pocket PC or handheld PC between the desktop computer and the Pocket PC or handheld PC
2. Run the Microsoft ActiveSync program on the desktop computer and start the connection service to the mobile device
3. Make sure that the device is connected to the desktop computer via Microsoft ActiveSync
4. Click My Computer and select the desktop computer CDROM drive.
5. Click on the CF2002-CE3-PPC-XXX from the WinCE folder, where XXX refers to the embedded CPU on your devices. The Processor information can be found out by clicking the Start->Settings->System->About icon. For example, the HP Jornada 548 pocket PC comes with SH3 processor. Therefore, the file name to be selected is CF2002-CE3-PPC-SH3.EXE.
6. Follow the instructions on the setup program.
7. Select the destination (location) to receive the driver and application files from the desktop computer. It is advised to use the default settings. Click Next.
8. A Setup Complete dialog box appears. Click finish.
9. From the Microsoft ActiveSync Windows CE Services dialog box, click Yes to launch the driver download from the desktop computer to the handheld computer.

   A progress bar appears as the files download from the desktop computer to the Pocket PC. The Setup dialog box appears on the pocket PC when the file download is completed.

10. Proceed to section 3.2 to configure the CF-2002.

3.2 Configuring the CF-2002 Windows CE Driver and Application Program

To configure the CF-2002, you need to run the “Configuration” utility.

Procedure:

1. Locate the “Configuration” icon by clicking the Start->Program.
2. Click on the “Configuration” icon.
3. Configure the CF-2002 according to your current Wireless LAN setup.
4. Press the **OK button** in the application to activate the changes.
5. When the updates are completed successfully, then “yLezLink-2.5 CF Info” dialog box appears.
6. The parameters are described as follows:

Parameters	Options	Explanation
Network	Infrastructure	Select this option to enable the CF-2002 to transmit and receive data with and access point. (Default setting)
	802.11 Adhoc	To enable the CF-2002 to form a peer-to-peer network with other wireless stations without an access point.
	Adhoc	Propriety adhoc mode.
SSID		This is the 802.11 Extended Service Set Identifier, which is a 32-character (maximum) string identifying the wireless local area network. It is required for Intrastructure network, and the NIC is required to match the SSID of the access point, in order for them to communicate.
Data Rate	Fully Auto Auto 1 or 2 Mbps 1 Mbps 2 Mbps 5.5 Mbps 11 Mbps	To specify the rate at which the radio of CF-2002 transmits and receives data.
Channel	1 to 11 (US) 1 to 13 (Europe) 1 to 14 (Japan)	When communicating in AdHoc or Pseudo AdHoc mode, you must specify a channel on which communications will take place. To specify a channel, click the up or down arrow at the right of the AdHoc Channel field until the channel you want to set appears, and then click the Apply button.

PS Mode	Disable Enable	The IEEE 802.11 standard provides a Power Save Mode. For Access Points that support power save mode and for stations equipped with WLAN cards, enabling this mode can significantly reduce power consumption, which is particularly important if the host computer is operating on battery power. However, be aware that power save mode also results in lowered transmission and reception speed on the wireless LAN.
Ethernet Conversion	RFC 1042 802.1h None (Encapsulated)	The DIX Ethernet frames are converted using SNAP header based on RFC1042. This mode will also convert any RFC1042 SNAP header frames to DIX Ethernet frames The DIX Ethernet frames are tunneled using a full selective translation table. This mode does not convert RFC1042 SNAP header frames to DIX Ethernet before transmission to the Ethernet interface. This setting takes the entire Ethernet frame, including the Ethernet Header, and puts it into an 802.11 frame. It uses for the compatibility with some older 802.11 implementations.
WEP	WEP Encryption	
Encryption	Disabled WEP 64 bit 128 bit	The Encryption menu lets you enable encryption and set the encryption keys. To see the available encryption methods, click the down arrow at the right of the Encryption {WEP} field. There are two encryption methods available. The IEEE 802.11 specification defines Wired Equivalent Privacy (WEP) using a 64-bit key. This capability was extended by the industry to allow a 128 bit key.
Passphrase		To create encryption keys using a passphrase, click the radio button next to Create Key with Passphrase and type a character string in the Passphrase field. As you type, the Configuration Utility uses an algorithm to generate four keys used for encryption.

Default Key ID Key 1 – Key 4		The Default Key field lets you specify which of the four encryption keys you use to transmit data on your wireless LAN. You can change the default key by clicking on the down arrow at the right of this field, selecting the number of the key you want to use, and then clicking the Apply button. As long as the Access Point or station with which you are communicating has the same key in the same position, you can use any of the keys as the default. When you click this button, the cursor appears in the field for Key 1. For 64-bit encryption, you must type *exactly* 10 hexadecimal digits in each of the four key fields; for 128-bit encryption, you must type *exactly* 26 hexadecimal digits.

OK Button This button updates the driver with the user-selected parameters.

CANCEL Button This button un-do the all settings to previous settings.

7. Restart and reset the Pocket PC and remove and reinsert the CF-2002 for the configuration changes to take effect.

3.3 Driver and Application Un-installation for Windows CE

To uninstall the Windows CE Drivers and application, the user can click “Remove Programs” icon on the Control Panels.

Select the “yLez Technologies Pte Ltd CF2002” and click the “Remove” button to uninstall the driver and application programs.

Chapter 4 WLAN Connection Monitoring Application

To run the “Connection” utility, click Start->Program->Connection.

The details of the Connection utility are described as follows:

Parameter	Descriptions
YLez Status	Show the association states of the Pocket PC with the wireless LAN.
Channel	Show the channel on which the connection is made.
Link	Show the highest transmit rate of the current association
Throughput (Tx/Rx)	Show the short term transmit and receive throughput in bytes/second, and is continuously updated
Signal Strength	Based on the received signal strength measurement of the baseband processor of the Beacon signal.
Signal Quality	Based on the quality of the received signal of the Access Point beacon.
Advanced	
Network	Show the current mode of operation
ESSID	Show the current ESSID in Infrastructure mode.
WEP	Show the state of WEP
AP Mac Address	Show the associated AP MAC address
NIC Mac Address	Show the current NIC MAC address

Chapter 5 Technical Specifications of CF-2002

General Specifications	
General Description:	▪ 2.4 GHz ISM Band, Direct Sequence Spread Spectrum, Wireless LAN CF Card- Type I Compliant. Compact Flash Card developed based on Intersil PRISM 2.5 technologies with IEEE 802.11b compliance. Type II form factor may be available upon request
Host Interface:	▪ Compact Flash CF-Type I
Mobility:	▪ Seamless roaming across cell boundaries and APS
Antenna:	▪ Micro-strip Antenna or Integrated Antenna (with small form factor)
Power:	▪ 3.3 VCD +/- 10%
Security:	▪ IEEE standard Wired Equivalent Privacy (WEP) 40/128 bits for maximum enhanced security
Environmental:	▪ 0°C to 55°C operating ▪ -20°C to 70°C storing ▪ 95% humidity
LED Indicators:	▪ Power/Wireless connectivity

Radio Characteristics	
Standards Compliance:	▪ IEEE 802.11b (Direct Sequence Spread Spectrum) ▪ FCC Part 15 Class B ▪ CE Mark
Range Coverage:	▪ Open space 120m ▪ Office typical 50m
Radio/modem:	▪ 11 Mbps, 5.5 Mbps (CCK Modulation) per channel ▪ 2 Mbps (DQPSK Modulation) per channel ▪ 1 Mbps (DBPSK Modulation) per channel ▪ Dynamic Auto Fall Back
Operating Frequencies & Channels:	▪ 14 channels for Japan (2.412-2.484 GHz) ▪ 13 channels for Europe ETSI (2.412-2.472 GHz) ▪ 11 channels for N. America (2.412-2.462 GHz) ▪ 4 channels for France (2.457- 2.472 GHz)

Sensitivity:	▪ Typically between -83dBm & -91 dBm for 11 Mbps to 1 Mbps

Network Characteristics	
Standards Compliance:	▪ Supports TCP/IP, IPX/SPX and NetBEUI
Operating System:	▪ Windows CE 3.0 (Strong ARM, SH3, MIPS) ▪ Linux
Utility Software:	▪ Diagnostics tool through yLezLink 2.5 Wizard
Architecture:	▪ Supports ad-hoc (peer-to-peer) ▪ Infrastructure (communications to wired networks via Access Points ▪ Roaming (standard IEEE 802.11b compliant)

Chapter 6 Channels

The channel identifiers and the channel center frequencies of each 22 MHz wide channel are shown in the table below, as appropriate for the various areas or regulatory agencies.

Channel Identifier	Center Frequency	Regulatory Domains				
		North American	ETSI	Spain	France	Japan
1	2412 MHz	X	X	-	-	X
2	2417 MHz	X	X	-	-	X
3	2422 MHz	X	X	-	-	X
4	2417 MHz	X	X	-	-	X
5	2432 MHz	X	X	-	-	X
6	2437 MHz	X	X	-	-	X
7	2442 MHz	X	X	-	-	X
8	2447 MHz	X	X	-	-	X
9	2452 MHz	X	X	-	-	X
10	2457 MHz	X	X	-	X	X
11	2462 MHz	X	X	-	X	X
12	2467 MHz	-	X	X	X	X
13	2472 MHz	-	X	X	X	X
14	2484 MHz	-	-	-	-	X

Chapter 7 Technical Support

Technical Support

Communications

Use the following information to contact the yLez Technologies Pte Ltd Technical Support group:

Email **:** **help@ylez.com**

Web Site

For additional product information and technical support, including the capability to download new firmware and drivers, use the yLez Technologies Pte Ltd website at:

http://www.ylez.com

Direct line/Fax:

Technical Support
yLez Technologies Pte Ltd
No 1 Tannery Road
#09-03 Cencon 1
Singapore 347719

Dir: (65) 741 3832
Fax: (65) 842 2839