



Ethernet



Express Card



USB

Loop-W8320-2.5 GHz Loop-W8320-3.5 GHz INDOOR CPE

Description

The Loop-W8320 device is one of the most advanced, low power, indoor, WiMAX CPE devices on the market today. It is IEEE802.16e compliant and is available in two models. The 2.5 GHz model operates in the licensed 2.5 GHz to 2.7 GHz band and the 3.5 GHz model operates in the licensed 3.4 GHz to 3.6 GHz band. Three interface options are available: Ethernet, USB, and Express Card.

Features:

- Inter-operational with WiMax Forum Wave 2 Base Stations
- OFDMA (Orthogonal Frequency Division Multiple Access) supports non-line of sight operation
- Supports TDD mode
- QPSK/16QAM/64QAM adaptive modulation
- Hybrid channel equalization estimation
- Full feature QoS (Quality of Service):
 - UGS
 - rtPS
 - nrtPS
 - ErtPS
 - BE
- IEEE 802.16e 2005 compliant with WiMAX Profile Wave 2
- RoHS compliant

W8320 Ethernet Version

- Standard Ethernet interface
- Choice of 2.5 GHz or 3.5 GHz
- Built-in antennas (6 dBi patch and omni chip)
- 5V powered by USB (Portable) or AC/DC adaptor
- Pocket size: 71 x 90 x 31 mm (WxHxD), 85 g

W8320 Express Card Version

- Built-in antennas (omni chip)
- Supports 3.5 GHz
- Plug-and-play
- Powered by PC notebook
- Size: 54 x 3 x 120 mm (WxHxD), 20 g

W8320 USB Version

- Standard USB interface (plug-and-play)
- Choice of 2.5 GHz or 3.5 GHz
- Built-in antennas (6 dBi patch and omni chip)
- Powered by PC notebook
- Pocket size: 71 x 90 x 27 mm (WxHxD), 85 g

W8320-Ethernet

The W8320-Ethernet is a compact device with a standard Ethernet interface. It can be powered by either a 5V AC/DC adaptor or a USB cable connected to your computer. SIMO (Single Input Multiple Output) operations are supported. With W8320-Ethernet, Loop makes portable WiMAX available today on existing certified WiMAX networks. This allows operators to offer new services without waiting for WiMAX Mobile networks.

W8320-Express Card

The W8320-Express Card brings WiMAX services to laptops around the globe and moves today's WiMAX networks beyond the traditional residential/fixed WiMAX market. SIMO (Single Input Multiple Output) operations are supported.

W8320-USB

The W8320-USB is a compact, plug-and-play device with a standard USB interface that connects to your PC. With W8320-USB, operators can offer new services without waiting for WiMAX Mobile networks. SIMO (Single Input Multiple Output) operations are supported.






Ordering Information

Note: All W8320 devices and accessories are RoHS compliant.

To order specify:

Model	Description	Note
Loop-W8320-freq-int-ada-G	Indoor CPE with built-in antennas. Standard package varies according to frequency and interface selected. See ordering information below.	Choose frequency, interface and power adaptor below

Accessories

User's Manual		
Loop-W8320-ETH-UM	Optional, paper copy of User Manual. A CD version of the manual is already included as standard package.	
Loop-W8320-USB-UM		
Loop-W8320-PCE-UM		
AC/DC Power Adaptor for W8320-ETH Model (100-240 Vac 50-60Hz to 5V AC/DC, 5 Watts)		
Loop-ACC-ADA-USA	For Taiwan/America	
Loop-ACC-ADA-EU	For Europe	
Loop-ACC-ADA-UK	For UK	
Loop-ACC-ADA-AUS	For Australia	
Loop-ACC-ADA-CH	For China	
Cables (All cables are RoHS compliant)		
Loop-ACC-CAB-RJ45M-100-1RJ45M	RJ45/Male to one RJ45/Male Ethernet Cable; Length: 100 cm	For W8320-ETH only
Loop-ACC-CAB-USB-40-1JACK	USB to one DC Jack Cable, 40 cm	For W8320-ETH only
Loop-ACC-CAB-USB-150-1MUSB	USB to one mini-USB Cable, 150 cm	For W8320-USB only
Mounting Kit (All mounting kits are RoHS compliant)		
Loop-ACC-W8320-ETH-KIT	Mounting kit (bracket and fasteners)	For W8320-ETH only
Loop-ACC-W8320-USB-KIT	Mounting kit (bracket and fasteners)	For W8320-USB only

■ Where **freq** is used to select a frequency

2.5	Indoor 2.5 to 2.7 GHz CPE with built in antennas. Standard package varies according to interface selected. See interface ordering information below.	Choose interface and power adaptor below
3.5	Indoor 3.4 to 3.6 GHz CPE with built in antennas. Standard package varies according to interface selected. See interface ordering information below.	Choose interface and power adaptor below

■ Where **int** is used to select an interface

ETH	Ethernet Interface. Includes: one 5V AC/DC (5 Watt) adaptor that plugs into a 100-240 Vac 50-60 Hz power source, one 100 cm one RJ45/Male to one RJ45/Male Ethernet cable, one 40 cm USB to DC jack cable, one mounting kit	Receives power from PC Notebook or 5V AC/DC converter.
PCE	Express Card interface.	Receives power from PC Notebook. For 3.5 GHz option only
USB	USB interface. Includes: one 150 cm USB to mini USB cable, one mounting kit	Receives power from PC Notebook.

■ Where **ada** is used to select a power adaptor for the ETH model only. (100-240 Vac 50-60Hz to 5V AC/DC, 5 Watts)

USA	Adaptor for Taiwan/America	
EU	Adaptor for Europe	
UK	Adaptor for UK	
AUS	Adaptor for Australia	
CH	Adaptor for China	

Loop-W8320 PRODUCT SPECIFICATIONS

W8320-2.5 GHz

Radio Frequency Standard		IEEE 802.16e 2005 with WiMAX Profile Wave 2	Host Interface	Ethernet RJ45 or USB
Antenna	ETH and USB -embedded antennas (one 6 dBi patch and one omni chip)		Modulation	QPSK / 16QAM / 64QAM
Signal Type	OFDM 512/1024 FFT		Radio Access Channel Bandwidth	TDD 5 MHz, 10 MHz
Frequency Band	2.5 GHz to 2.7 GHz		ARQ	Stop and Wait, Go Back N
QoS	UGS, rtPS, nrtPS, ErtPS and BE		Equalization	Hybrid Channel Equalization Estimation
Error Correction Up Link Channelization	Reed-Soloman / Convolutional Viterbi Per IEEE 802.16e 2005 standard		Bandwidth Request	Per IEEE 802.16e 2005 standard
Payload Header Suppression	Ethernet, IPV4		Rx Sensitivity @ BER 10e-6, 5 MHz And 10 MHz	5 MHz: QPSK: -91dBm 16QAM: -85dBm 64QAM: -78dBm
Tx Output Power	20 dBm ± 2 dB			10 MHz: QPSK: -88dBm 16QAM: -82dBm 64QAM: -75dBm
Management Management		Ethernet: Web Page, Telnet, Private MIB SNMP		
Security	USB: Connection Manager Tool PKMv2		Authentication	EAP-TLS, and EAP-TTLS Certificate file: x.509 form
Electrical Power Supply		5V AC/DC adaptor or USB power	Power Consumption	Max. 5 W
Physical & Environmental				
Dimensions (WxHxD)	ETH interface – 71 x 90 x 31 mm		Weight	ETH interface – 85 g
	USB Interface – 71 x 90 x 27 mm			USB Interface – 85 g
Temperature	Operating: 0 to 55°C Storage: -40 to 85°C		Humidity	95% Condensing
Certification				
CE				

W8320-3.5 GHz

Radio Frequency

Standard	IEEE 802.16e 2005 with WiMAX Profile Wave 2
Antenna	ETH and USB - embedded antennas (one 6 dBi patch and one omni chip)
	PCE - two embedded omni chip antennas
Signal Type	OFDM 512/1024 FFT
Frequency Band	3.4 GHz to 3.6 GHz
QoS	UGS, rtPS, nrtPS, ErtPS and BE
Error Correction	Reed-Soloman / Convolutional Viterbi
Up Link	Per IEEE 802.16e 2005 standard
Channelization	
Payload Header Suppression	Ethernet, IPV4
Tx Output Power	20 dBm \pm 2 dB

Host Interface	Ethernet RJ45 or USB or ExpressCard/34
Modulation	QPSK / 16QAM / 64QAM

Radio Access Channel Bandwidth ARQ	TDD 5 MHz, 10 MHz Stop and Wait, Go Back N
---	--

Equalization	Hybrid Channel Equalization Estimation Per IEEE 802.16e 2005 standard
---------------------	--

Bandwidth Request	
Rx Sensitivity @ BER 10e-6, 5 MHz And 10 MHz	5 MHz: 10 MHz: QPSK: -91dBm QPSK: -88dBm 16QAM: -85dBm 16QAM: -82dBm 64QAM: -78dBm 64QAM: -75dBm

Management

Management	Ethernet: Web Page, Telnet, Private MIB SNMP USB/Express Card: Connection Manager Tool
Security	PKMv2

Authentication	EAP-TLS, and EAP-TTLS Certificate file: x.509 form
-----------------------	---

Electrical

Power Supply	5V AC/DC adaptor, USB power or by PC notebook
---------------------	---

Power Consumption	Max. 5 W
--------------------------	----------

Physical & Environmental

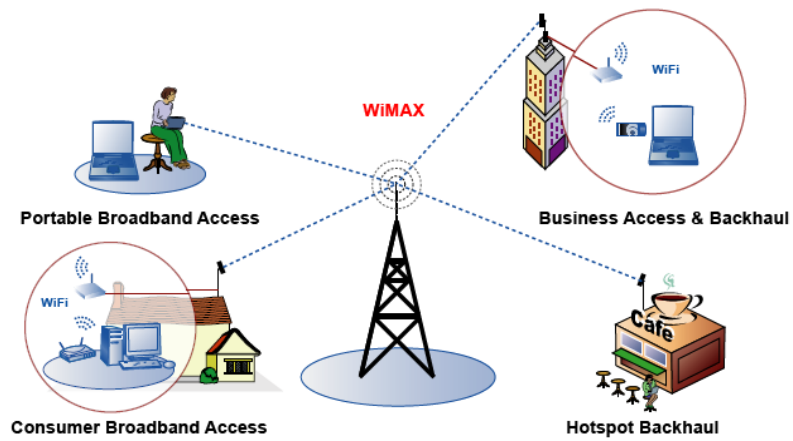
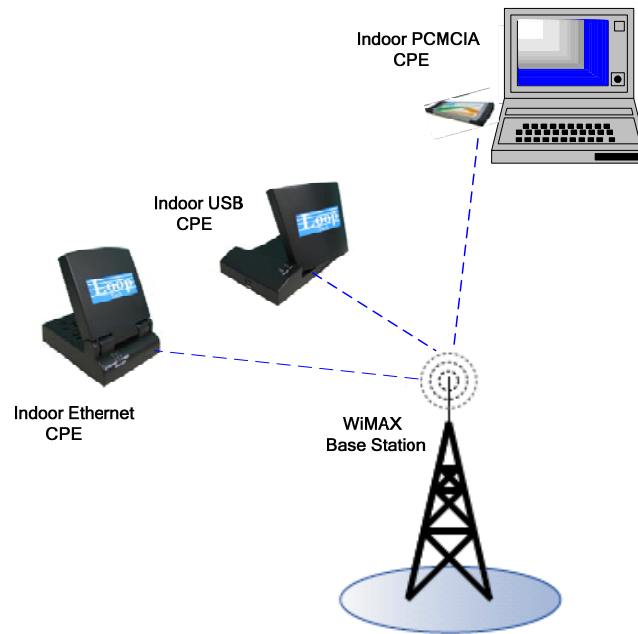
Dimensions (WxHxD)	ETH interface – 71 x 90 x 31 mm Express Card – 54 x 3 x 120 mm USB Interface – 71 x 90 x 27 mm
Temperature	Operating: 0 to 55°C Storage: -40 to 85°C

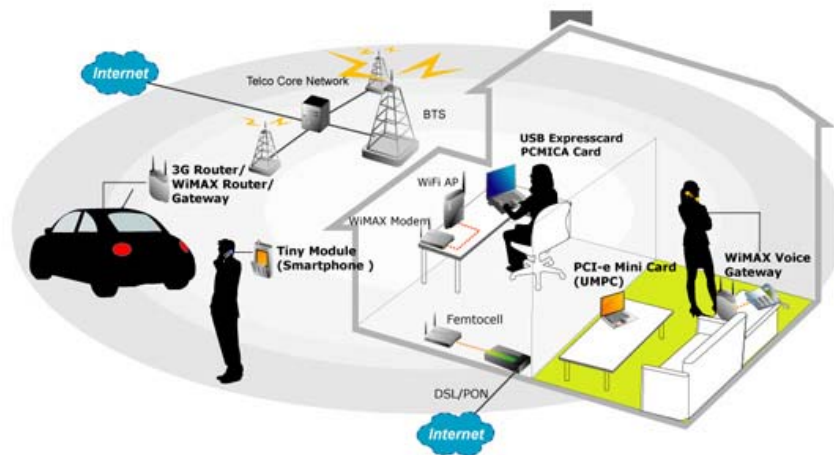
Weight	ETH interface – 85 g Express Card – 20 g USB Interface – 85 g
Humidity	95% Condensing

Certification

CE

Application Illustrations





LOOP TELECOMMUNICATION INTERNATIONAL, INC.
ISO 9001/ISO 14001

Worldwide

8F, No. 8, Hsin Ann Road,
 Science-Based Industrial Park
 Hsinchu, Taiwan 30078
 Tel: +886-3-578-7696
 Fax: +886-3-564-6272
 www.LoopTelecom.com
 sales@loop.com.tw

Taipei, Taiwan

6F, No. 36, Alley 38, Lane 358,
 Rueiguang Road,
 Neihu, Taiwan 11492
 Tel: +886-2-2659-0399
 Fax: +886-2-2659-2325
 michael_tzeng@loop.com.tw

North America

8 Carrick Road
 Palm Beach Gardens
 Florida 33418, U.S.A.
 Tel: +1-561-627-7947
 Fax: +1-561-627-6615
 jimber561@aol.com

Tianjin China

No. 240 Baidi Road
 Nankai District
 Tianjin 300192 China
 Tel: +86-22-8789-4027
 Fax: +86-22-8789-0344
 wym@loop-tj.com

© 2010 Loop Telecommunication International, Inc.
 Version 3 12 JAN 2010

All Rights Reserved
 Subject to change without notice