



NewNet WiMAX WiMAX CPEi 885 Series

Convenient, reliable wireless broadband access with integrated Wi-Fi in the sleekest design yet



High end design

With a balanced blend of power, performance, reliability and “wow” simplicity, the CPEi 885 WiMAX CPE includes a built-in Wi-Fi router in addition to ATA ports for Voice over IP (VoIP). Following on NewNet Communication Technologies history of exceptional design, the CPEi 885 includes all this technology in a unique ultra-thin form factor. Extensive market research went into the CPEi 885’s design to assure that this is a CPE that would enhance any home and allow CSPs to differentiate and profit from their infrastructure investments.

Reliable and efficient

This 802.16e WiMAX CPE has substance and elegance. Network CSPs can count on the performance as well as reliability of this device. It has multiple data and voice access ports, a firewall for security, and an integrated Wi-Fi router, providing an effective all-in-one solution to home networking needs. Factors such as integrated design, no moving parts and efficient ventilation further improve the operational life span of this device. Easy-to-read signal strength

indicators and WiMAX network, data and Wi-Fi status indicators in the front of the device make it intuitive for users to check the status of the device. A highly sensitive receiver in the CPEi 885 exceeds the RCT specified receive sensitivity requirements. This effectively increases the area within the cell that can support higher throughputs, and may allow reduction in the base station infrastructure requirements for a CSP. Higher throughput could also provide improved subscriber experience and the ability for CSPs to offer more services that require specific QoS levels, such as voice and video.

State of the Art Antenna Technology

Device’s antenna design and implementation factors impact not only the performance of the device and resultant subscriber satisfaction, but also the overall network capacity. Factors such as orientation losses can affect the uplink performance of the device and subscriber may have to orient the device for optimal performance. In addition, integration of Wi-Fi components and antennas may also affect the overall performance of the device as well as affect the sensitivity of the WiMAX receiver.

NewNet's CPEi 885 employs orthogonally polarized high gain antennas with switched transmit diversity for hassle free installation and optimal performance. Also, additional interference protection mechanisms employed in CPEi 885 for co-existence of WiMAX and Wi-Fi, including 2 x 2 Wi-Fi 'n', ensure virtually no performance degradation.

Dual adaptively switching WiMAX antennas to support diversity techniques such as switched transmit antenna diversity on the uplink, as well as MRC Maximum Ratio Combining (MRC), and MIMO Matrix A and B on the downlink. Combined with multi-antenna operations at the access points such as open and closed-loop adaptive antenna techniques, the combined solution of NewNet access points and CPE provides CSPs with best-in-class range and indoor penetration to CSPs, reducing the overall CAPEX requirements.

Convenience

The CPEi 885 is user-friendly, reducing expensive support costs and making a strong positive impact on a WiMAX CSP's bottom line. All access ports in the plug and play CPEi 885 are integrated and all the necessary device drivers are pre-loaded. Pre-loaded device drivers mean no CDs are required for end-user installation. It operates with Windows, MAC and LINUX operating systems without any user intervention. Subscribers just connect the device to their computer and voice handsets and the device is ready to offer a unique all-in-one WAN/ LAN/ VoIP residential communications network. The network will automatically detect the device and perform the necessary authentication processes. Finally, zero-install design and over the air (OTA) software upgrades eliminate the need for costly truck rolls or CSP intervention.

The LEDs on the CPEi 885 have also been designed for user convenience, and to make it easier and less costly for CSPs to support the device. The LEDs offer a clear sign of what the device is doing. In addition, the LEDs support fault reporting modes. If a user's CPE stops working, a specific combination of LEDs will be lit that correspond to a fault code.

Performance

NewNet continues to leverage a rich heritage in RF performance in the CPEi 885. With over 80 years in RF experience and as a leader in wireless broadband, NewNet can consistently offer devices with best-in-class performance characteristics. The performance of the CPEi 885 sets new standards in transmit power and receive sensitivity, enhancing the experience for users, and decreasing infrastructure costs for a lower total cost of ownership for CSPs.

CPE device performance factors considered in the CPEi 885 include antenna gain, receiver sensitivity, orientation, diversity techniques and effective transmitter power. The radiated performance of WiMAX CPE devices can differ dramatically. In a typical environment, 3 to 6dB low-end performance by CPEs on the network can translate to the need for over two times as many access points in order to provide the same level of service. This factor needs special attention particularly during the initial commercial launch of the network. A CSP's most important customers are often the first customers to use the network.

Control

NewNet's CPEi 885 supports remote management capability allowing management and health monitoring of the devices from a centralized network management system. NewNet CPEs support a wide range of statistics for the CSP to look at the network performance from the device perspective. In addition, advanced security and authentication protocols protect the end-user and the CSP from external threats.

Why NewNet

NewNet is leading the industry with award winning, end-to-end WiMAX solutions that address the full scope of an operator's deployment needs. The NewNet WiMAX solutions portfolio includes access, core, devices, network management and services. NewNet's best-in-class quality assurance processes, along with a track record of WiMAX commercial deployments worldwide, offer service providers the confidence that they are getting a high-quality, reliable solution.

NewNet's comprehensive wireless broadband portfolio addresses the needs of the wireless broadband market with end-to-end solutions covering all aspects of the broadband wireless access deployment. Our deep and extensive product and services portfolio, decades of R&D investment, and experience as a global supplier of broadband wireless access solutions allow us to offer the best in class WiMAX solutions.



CPEi 885 Series Specifications

Frequency Band	CPEi 23885 (2300 - 2400 MHz) CPEi 25885 (2496 - 2690 MHz) CPEi 35885 (3400 - 3600 MHz)
Connectivity	2 data (RJ45) ports 2 ATA (RJ11) ports 802.11 g/b/n (WLAN)
Radio Performance	Peak EIRP 32dBm Switched Transmit Antenna Diversity 5dB better receive sensitivity on an average than RCT specifications Two branch Maximum Ratio Combining Diversity (MRC) Convolution Turbo Coding (CTC) Hybrid Automatic Repeat request (HARQ)
Channel Support	5MHz, 7MHz and 10MHz channel support
Throughput	>5 Mbps downlink and >2 Mbps uplink **
Modulation Schemes	QPSK, 16QAM, 64QAM
Quality of Service Classes	BE (Best Effort) UGS (Unsolicited Grant Service) RTPS (Real Time Polling Service) NRTPS (Non Real Time Polling Service) ERTPS (Extended Real Time Polling Service)
Security	Device authentication based on X.509 digital certification Authentication methods according to IEEE 802.16e, EAP-TLS and EAP-TTLS AES (128-bit CCM) data encryption and authentication Wi-Fi Protected Setup (WPS) WEP, WPA, WPA2 Residential firewall
Remote Configuration & Software Upgrade	OTA (Over The Air) field upgradeable TR-069 Agent
OS & Browser Compatibility	Windows Mac LINUX
Mechanical and Electrical	External power: 100-240 volts AC input Operating temp: 0°C to 40°C Operating humidity: 5% to 95%, non-condensing Country specific plug support
Environmental and Regulatory	Asia Europe Latin America



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