



## Overview

Odyssey 8500 software platform provides a modular design for Odyssey 8500 Multiprotocol BWA Baseband processor. Odyssey 8500 platform is suitable for WiMAX Wave 2 based terminal designs in USB dongle, ExpressCard and Access Point form factor. It includes a complete software solution for Wavesat's Odyssey 8500 baseband together with a set of drivers and reference application software for the host PC. Odyssey 8500 S/W platform shortens the development cycle, reduces the development cost and accelerates the certification process.

## Baseband Software Solution

The baseband software includes a configurable air interface (PHY), media access control (MAC), extensible authentication protocol (EAP), diagnostic monitor, AT command manager, networking interface for communicating with the host PC and peripheral device drivers.

## Air Interface (PHY)

Air interface PHY supports OFDMA-based TDD and H-FDD network access compliant with WiMAX Wave2 standard. It supports scalable channel bandwidth up to 20MHz, FFT size of up to 1024, PSK and QAM modulation up to 256-QAM in downlink and uplink. Advanced features such as MIMO Matrix A and B, beam-forming and H-ARQ enable superior performance in non-line of sight (NLOS) mobile environment. The design is able to support raw data rate of up to 46.1 Mbps in the downlink and 11.7 Mbps in the uplink.

## Media Access Control (MAC)

The MAC module is structured into traffic plane, control plane, and management plane. The traffic plane controls classification, scheduling, policing, ARQ, transmission, and reception of data traffic. Control plane is comprised of components for service flow management, ranging, radio link management, mobility management, energy management, security and network entry management. Management plane provides an entity to support initialization, configuration and statistics reporting.

## PC Host Reference Software

The PC based software includes Windows XP and Windows Vista compatible USB drivers, baseband communication agent, interface to the MIH client, interface to the diagnostic monitor, interface to the connection manager and a sample connection manager.

## USB Class Drivers

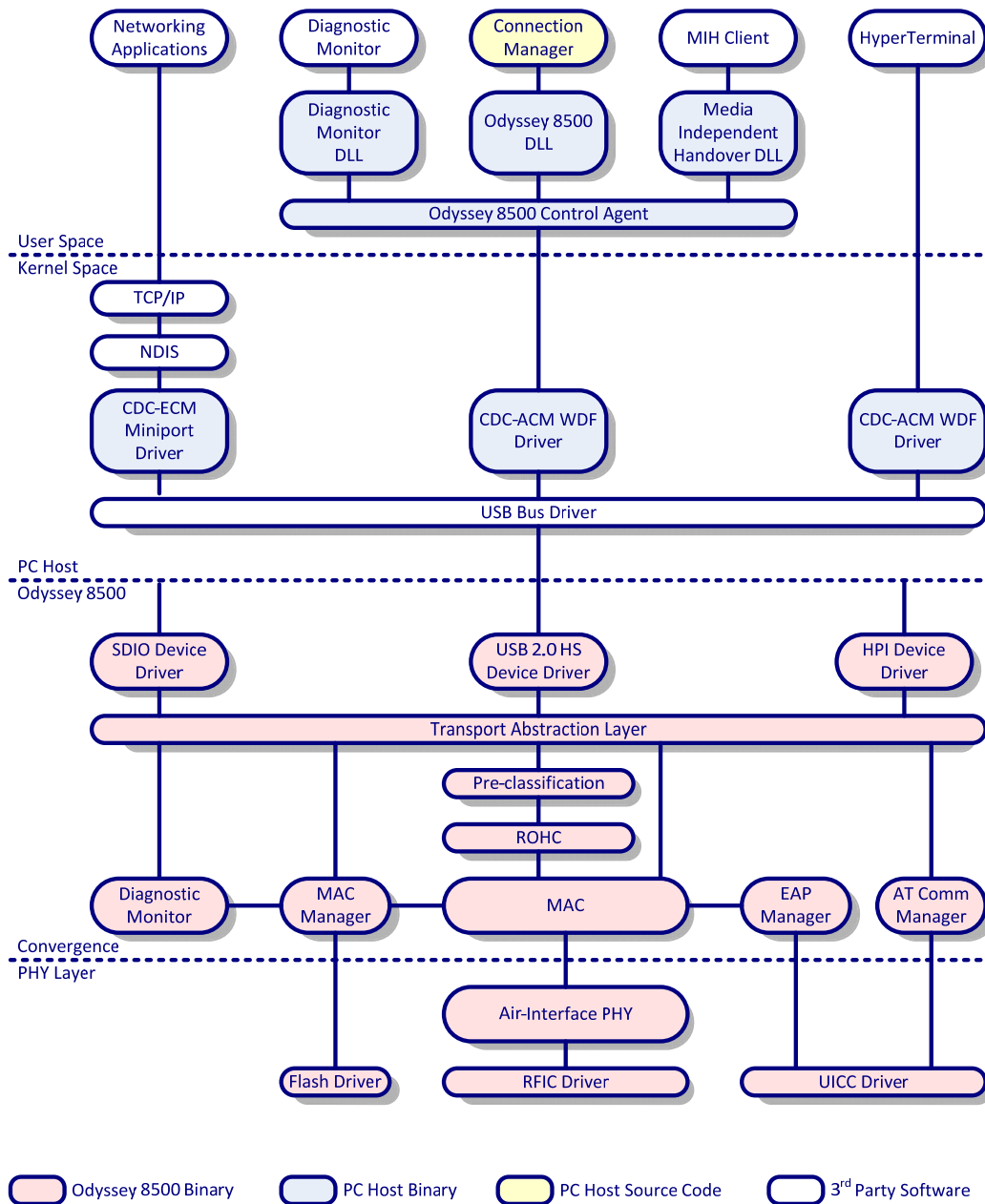
Odyssey 8500 S/W platform USB driver supports Ethernet Networking Control Model class for Ethernet data transfer, ACM Modem Class to provide two "COM ports" on a host PC for MAC management API and AT Commands respectively and a virtual serial port for vendor specific applications.

# Odyssey 8500 S/W

*Software Platform*

- WiMAX 802.16e-2005 Wave 2 compliant software platform supporting MIMO Matrix A and B, beam-forming and H-ARQ
- 46.1 Mbps DL and 11.7 Mbps UL data rate
- USB2.0 High Speed, SDIO device, and HPI device peripheral interface support
- Remote over the air configuration, service and diagnostic monitor
- Dynamic power management in Active, Idle and Sleep modes
- Enhanced Security Protocol
- Highly optimized scalable multi-class scheduling algorithm
- Innovative scheme for optimized handover and intelligent target Base Station Selection
- IEEE 802.21 Media Independent Handover compliant for full mobility support in multi-network environment
- Windows XP and Windows Vista support

## Software Architecture Diagram



## Ordering Information

OD-8500-DK	Odyssey 8500 Development Kit
OD-8500-MN	Odyssey 8500 Annual Maintenance Program
Odyssey family of products also includes reference designs for turn-key solution in USB Dongle, ExpressCard and Ethernet AP form factor. Consult separate product brief for detailed information.	

Specifications are subject to change without notice

