

# Pixie

## LTE Small Cell Platform

### Overview

The Athena Pixie™ is a customizable LTE small cell platform. Pixie provides a flexible hardware design in a small form factor and field-proven LTE eNodeB software. It also provides a complete set of APIs to enable wireless OEMs and system integrators bring to market a differentiated small cell solution rapidly and cost-effectively.

The Pixie hardware design consists of a high-capacity LTE baseband modem, a powerful quad-core network processor, dual-path RF, and backhaul interfaces packaged in a small indoor or outdoor enclosure. The hardware design is convection-cooled and production-ready. It allows for fast customization of frequency bands (from 700MHz to 2700MHz), power levels (from 1 milliwatt to 2 watts), industrial design, and network interfaces, including integrated gigabit wireless.

Pixie is a fully-functional LTE eNodeB. The software has been operational on several commercial LTE networks since 2012. The Pixie software also includes well-defined APIs that enable OEMs to easily integrate their existing algorithms, parameters and proprietary interfaces. The result is a differentiated LTE small cell solution that has feature parity and full compatibility with their existing LTE macro cell solution. Pixie APIs include interfaces for management (OAM) and self-organizing networks (SON) servers, as well as for customizing key eNodeB connection control parameters such as admission control, scheduler, handovers, quality-of-service (QoS) and more.

The Athena Pixie enables OEMs and system integrators to create a differentiated LTE small cell solution in a shorter time and at a lower cost. *That's the power of Pixie.*

### About Athena Wireless

Founded in 2009, Athena Wireless is a privately-owned manufacturer of high capacity wireless connectivity systems. Athena's systems are built on an all-digital platform using cutting edge technology, allowing them to be ultra-small and very easy to install. For more information, visit [www.athenawave.com](http://www.athenawave.com)



Athena Wireless Communications

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### Key Benefits

Pixie enables cellular infrastructure OEMs and system integrators to create a differentiated LTE small cell solution faster and at a lower cost.

#### Hardware

- Small Size
- Low Power Consumption
- Indoor or Outdoor
- High Capacity

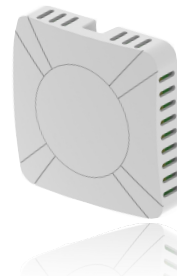
#### Software

- Complete eNodeB functionality
- Field-proven in commercial LTE networks
- APIs that enable differentiation

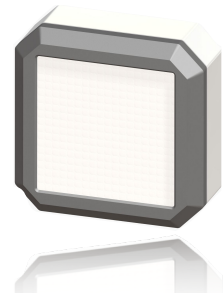
# Pixie

## LTE Small Cell Platform

### Specifications



Indoor Model



Outdoor Model

### Software APIs

Pixie enables OEMs to create a differentiated small cell solution by customizing various elements of the software exposed by APIs, including:

#### Connection Control

- Scheduler
- Admission Control
- Handovers
- QoS

#### Operations & Management (OAM)

- TR-69/TR-196 Management Interface
- Full FCAPS support

#### Self-Organizing Networks (SON)

- UE Measurements
- Neighbor Lists
- CQI Reports
- Tx Power and Resource Block allocation

#### Custom Applications

- Available MIPS64 Core

Type	LTE Small Cell Base Station (eNodeB)	
Air Interface	3GPP Release 9 LTE	
User Capacity	Up to 64 Users	
Frequency Bands	700 to 2700 MHz (E-UTRA Band Class 1, 3, 4, 7, 17, or 25)	
Max Output Power	2 x 125mW (250mW total)	2 x 1W (2W total)
RF Interface	Integrated MIMO Antennas	Dual N-type Connectors
Network Interface	RJ-45 Gigabit Ethernet	
Wireless Interface	N/A	Gigabit Wireless (60GHz for ½ mile or 80GHz for 1½ mile range)
Timing Support	IEEE1588	Built-in GPS and IEEE1588
Power Interfaces	Power over Ethernet (PoE++) or external AC/DC adapter	Power over Ethernet (PoE++) or dedicated -48VDC port
Peak Power Consumption	25.5W	26W (LTE Only) 45W (LTE + Gigabit Wireless)
Environmental	IP40 (indoor)	IP67 (fully outdoor)
Temperature	0C to +40C	-40C to +55C
Size (H x W x D)	6" x 6" x 1.5" (150 x 150 x 38 mm)	8" x 8" x 3" (200 x 200 x 75 mm)
Weight	5 lbs (2.3 Kg)	8 lbs (3.6 Kg)



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