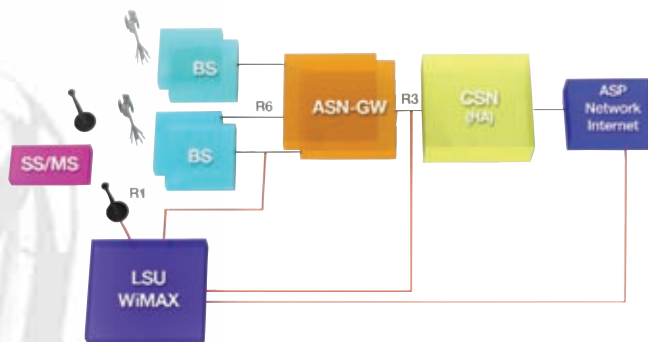


# LSU WiMAX

*Just one device for a complete WiMAX testbed*

## SIMULATE HUNDREDS OR EVEN THOUSANDS OF SUBSCRIBER STATIONS

The PRISMA LSU WiMAX is the complete solution for all your WiMAX testing needs. A single hardware platform can simulate hundreds or even thousands of subscriber stations, and stress test user applications (such as video, voice, or tiered-data services) in a simulated WiMAX network, allowing testing or monitoring of both the air interface and the core network. Not only this, but it can also perform functional tests and monitor all parts of the network including the radio interface.



*The LSU WiMAX can stress test and monitor all WiMAX network elements and interfaces, including the radio interface, in a single device allowing end-to-end WiMAX testing with thousands of simulated SS/MS*



*Monitoring allows decodes of control plane and data plane traffic at all layers*

## SIMULATE EVERY WiMAX NETWORK INTERFACE (R1-R6)

This single system can simulate every WiMAX network interface (R1 to R6) and its multi-user, scalable client server architecture provides maximum flexibility, making it easy to implement customized or proprietary protocols.

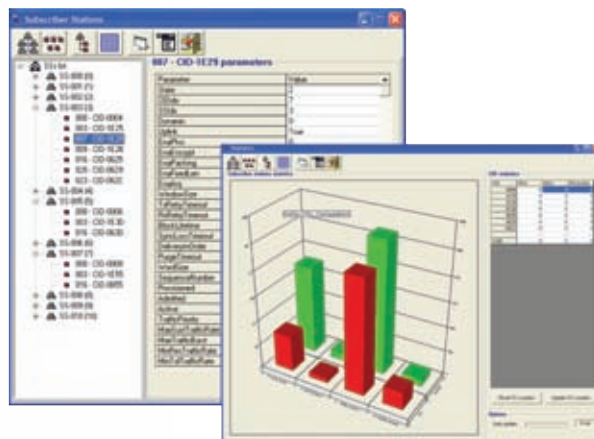
## MOST USER FRIENDLY TEST MANAGER SOFTWARE INCLUDED

PRISMA has leveraged more than a decade of load & stress testing experience in the cellular wireless industry to create the industry's most flexible and easy-to-use management software. Two user test tools – the WiMAX Test Manager (primarily for WiMAX equipment vendors) and the Quick GUI (primarily for WiMAX operators) – are available, the Quick GUI providing pass/fail type testing scenarios with the Test Manager allowing for more complex analysis.

## READY-TO-USE LIBRARY OF TEST SCRIPTS

Prisma provides also an unrivaled set of ready-to-use test scripts that can be run right out of the box, enabling the tester to execute even complex testing plans without needing create special scripts.

*The LSU WiMAX user friendly Test Manager makes it easy to create tests with thousands of simulated SSs/CPEs*



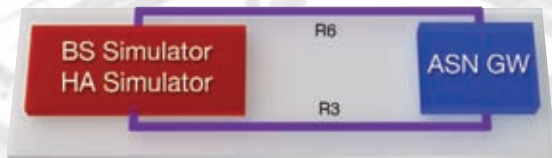
**PRISMA Engineering**  
Telecom Testing Solutions



## LOAD & STRESS TESTING ON R1 INTERFACE

The LSU WiMAX can be used as either the sole test tool or as a provider of background load while other devices

are used to test a specific application. Thousands of CPEs may be simulated and used to generate the load. Different network scenarios (e.g. interworking of different vendors' base stations, differently parameterized base stations, etc.) can be simulated and analyzed.



## CORE DEVICE SIMULATION (R3-R6 INTERFACES)

A single LSU WiMAX can oversubscribe most core network devices, and traffic can be reduced if

appropriate control plane signals are received. Simulate as needed: ASN GW if testing base stations or Home Agent, BS and HA if testing ASN GW.

## MONITORING

The LSU WiMAX can monitor all interfaces (simultaneously), and in parallel to the simulation. The traffic can be captured and replayed in simulations. Not only data but also control plane messages are captured and decoded for further analysis and customized decodes of proprietary protocols are available.

## LSU WiMAX PRODUCT FEATURES

### Highly user-friendly Test Manager and Quick GUI Software Suites

- No need to use a programming language
- Wide range of ready-to-run test scripts provided
- Versatile scripting options available for any additional tests required
- Simple to configure multiple instances of SSs / CPEs and related service flows
- Real-time monitoring windows to track test progress

### Scalable solution

- Multi-sector support in one device
- Client application controls multiple LSU WiMAX in parallel to simulate complex networks or larger numbers of CPEs
- Two families of simulators are available - one for field and one for laboratory equipment testing
- LSU WiMAX interworking for simulating MS mobility

### Internal IP data traffic generator

- FTP, HTTP, VoIP and video-streaming packets with or without encryption
- Simulate thousands of active end-user devices

### Functional testing

- Multiple state machines handle the control plane of each SS / CPE
- Manage all messages exchanged with the base stations

### Radio Capabilities

- Supports all frequency bands (2.4, 3.5 GHz, etc.) and channel widths
- Distance effect simulation by modification of the power of the signal transmitted

## WiMAX Load & Stress in one single device

- Simulate thousands of subscriber stations and every (R1-R6) interface
- Test radio interface and core network
- Distance effects testing supported
- Internal IP data traffic generator (FTP, HTTP, VoIP, video streaming traffic)

## WiMAX Monitoring

- Monitor all interfaces (simultaneously), and in parallel to simulation
- Capture traffic to replay in simulations
- Capture and decode control plane messages for analysis
- Decoders for proprietary protocols available

## Product Versions

- Lab and field versions available
- Modular
- Multi-sector support in one device
- Custom HW/SW modules available

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