

# LocationAssurance Device®

## UMTS Version

### About LocationAssurance Manager® (LAM)

LAM is a service quality management and reporting platform for wireless location networks enabling carriers to achieve and maintain peak operating performance of their location infrastructure and services. LAM proactively monitors the end-to-end location system, identifies trouble spots and analyzes the Quality of Service (QoS) experienced by the subscriber. This allows wireless operators to reduce operating costs, mitigate business and regulatory risks and deliver superior levels of service. A location and air interface neutral solution, LAM has the ability to assess the performance of any commercially deployed location network (AGPS, GPS, TDOA, UTDOA, RFS) including CDMA, GSM, iDEN, and UMTS.

### About LAM LocationAssurance Device® (LAD)

LAM LocationAssurance Device test probes are a combination of hardware and software that automates in-field test call processes associated with testing, verifying, calibrating and evaluating the performance of location networks.

LADs behave like standard wireless handsets in the network and may be configured for mobile, or fixed operating modes. LADs autonomously generate test events based on their operating mode and localized environmental triggers. LADs are programmed over-the-air and utilize the wireless data network to deliver test event data to the LAM Network Server.


LADs are location-enabled to match the technology of the location network used by the carrier. Mobile and stationary LADs are equipped with a standalone GPS receiver (with support for multiple DGPS/SBAS systems including WAAS, EGNOS and MSAS) used to measure ground truth reference data for each test event. Fixed LADs are pre-programmed with a surveyed ground truth reference. Each LAD is equipped with a micro-controller (CPU) and associated scripts for call initiation, termination and test personalities.

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### INDEPENDENT LOCATION TECHNOLOGY

16-Channel GPS (SBAS enabled)  
2.5 meter CEP (with SA off)

Positioning technology  
provided by 

### COMMUNICATION MODES

UMTS	GSM
GPRS	EDGE
HSDPA	HSUPA

### INTEGRATED COMMUNICATION MODULE

UMTS/GSM Sierra Wireless MC8790V  
gpsOne® CP/UP Location (Qualcomm MSM6290™)



### VOICE GENERATION

Up to 15 minutes digitally recorded/stored voice

### TEST EVENT MODES

Location Quality of Service

- Mobile-originated voice (911/411)
- Network-initiated (idle mode)
- Mobile-originated (User Plane)

RF Network Performance Measurement

- Active channel data collection
- Idle channel data collection

### SIZE

6.5" X 3.5" X 1.75"

### WEIGHT

8 ounces

### POWER SOURCE

Input Voltage Range: 9 – 30 VDC (SAE J1455)  
AC/DC power adapter option (wall plug module)

### POWER CONSUMPTION

Average: 100mA at 13.8 VDC  
Peak: 2000mA for 50ms transmit burst (0.1%  
transmit duty cycle typical)  
Sleep: 10mA

### ENVIRONMENTAL

Operating Temperature: -25° C to 60° C  
Storage Temperature: -30° C to 85° C

### SHOCK & VIBRATION

U.S. Military Standard 202G and 810F, SAE  
J1455

### EMC/EMI

SAE J1113

### MOUNTING

Flanges for tie wraps or screws

### STATUS INDICATORS

2 built-in LEDs for modem and GPS status  
Over-the-air status messaging

### CONNECTORS

SMC - Cellular/PCS antenna  
Reverse SMA – Passive GPS antenna  
SMA – Reference GPS antenna, 3.3v  
8 Pin Molex connector for Power and I/O  
16 Pin Molex connector for expansion interface

### CONFIGURATION / PROGRAMMING

Provisioning  
• Serial RS-232 (via provisioning cable)  
Firmware Updates  
• Over-the-air via data network  
Script/Parameter Changes  
• Over-the-air via data network

### ACCESSORIES

Mobile Kit  
• GPS antenna (through hole or magnetic mount)  
• Comm antenna (combined PCS/cellular, passive GPS)  
• 3-wire vehicle harness  
Indoor Kit  
• Comm antenna (combined PCS/cellular, passive GPS)  
• AC/DC power adapter  
• 3-wire fixed harness  
Outdoor Kit  
• GPS antenna (through hole or magnetic mount)  
• Comm antenna (combined PCS/cellular, passive GPS)  
• AC/DC power adapter  
• 3-wire fixed harness

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