

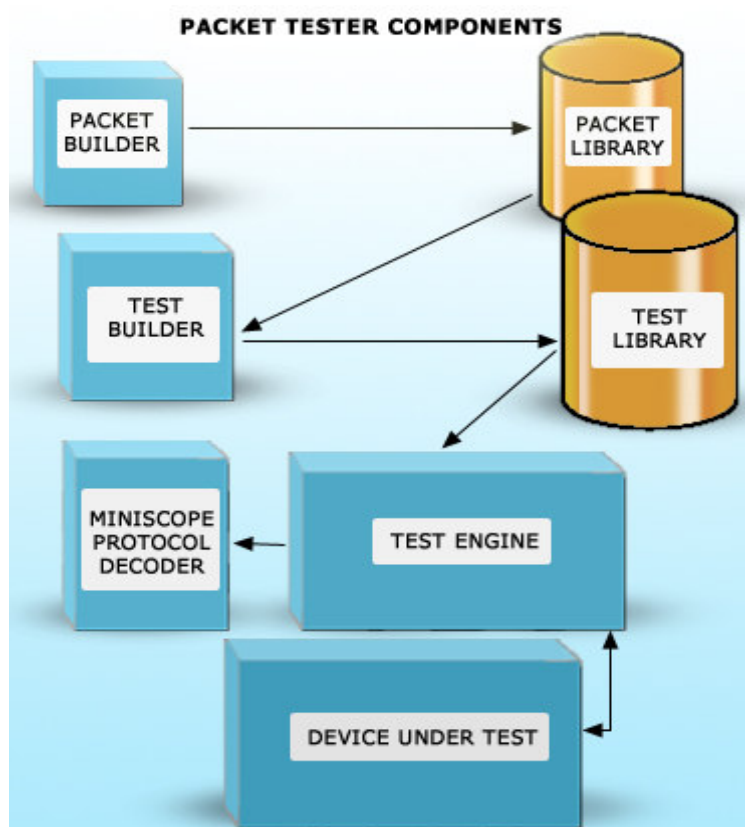
## ALE 1.1 Protocol Conformance Tester

The ALE 1.1 Protocol Conformance Tester is a generic software test platform and is composed of four modules:

**PacketBuilder** (builds protocol packets)

**TestBuilder** (creates GUI-based test scripts)

**TestEngine** (runs test scripts, does several runtime configuration) and **Miniscope** (our custom-made protocol decoder/analyzer)



The Protocol Conformance Tester combines EPCglobal's conformance tests with additional protocol/performance tests (created by Polaris Networks). User-defined tests can also be added to the Tester very easily.

The ALE 1.1 Conformance Tester would be an ideal tool for RFID reader and middleware vendors/developers who wish to conform to EPCglobal standard interfaces (RP/LLRP/ALE). The tester is useful for in-house QA/regression testing and certification validation.

### System Specifications

The following system requirements are recommended to run the tester properly:

#### Operating System:

- Windows XP Professional (ServicePack2) 32-Bit
- Windows Vista Home Basic 32-Bit (with minor restrictions)
- Windows Vista Ultimate 32-Bit (with minor restrictions)

#### Software Requirements:

Adobe Acrobat Reader Version 7.x is required for reading the tester support documents

## Hardware Requirements:

Particulars	Minimum Requirement	Recommended Requirement
Machine Configuration	Pentium 4 or equivalent	Anything above minimum
RAM	128 MB	256 MB
Disc Space	60 MB	Anything above minimum

## Tester Modules

### PacketBuilder

PacketBuilder is a stand-alone module of the PacketTester application and is used to build or edit protocol packets. PacketBuilder is a versatile application, in the sense that it can build different bindings of packets, viz. binary, xml and text packets. This makes the application very convenient for use as EPCGlobal RFID protocols use any one of these three bindings.

The built packets are saved by the PacketBuilder in a 'Packet Library'. This Packet Library is shared across other constituent modules of the PacketTester platform.

The major features of PacketBuilder are:

- Cloning and editing of existing packets
- Excellent GUI with a preview of built packets
- Several data types are supported, including string, IP address etc
- Easy navigation from other modules of the PacketTester platform

### TestBuilder

TestBuilder is used to write protocol-specific test scripts. TestBuilder uses the resources of the 'Packet Library' to build test scripts. The unique feature of TestBuilder is its GUI-based approach of building test scripts. Using TestBuilder, the user can select an existing packet, and use this packet to write a 'send' or an 'expect' step. Apart from 'send' and 'expect' steps, TestBuilder can create a wait timer, configuration instruction etc.

Like PacketBuilder, TestBuilder also saves the test scripts in a 'Test Library'. This 'Test Library' is shared by TestEngine for executing the test scripts. Also, TestBuilder is readily navigable from TestEngine.

### TestEngine

TestEngine (TE) is the heart of the RFID PacketTester platform in the sense that it actually runs the test scripts, displays and saves the test result, logs the test procedure etc. Following are the key features of TestEngine:

- TE can connect to a device under test (DUT) using several connection options, for example, TCP, UDP or HTTP. This is very useful in RFID protocol testing, since these are the most popular connection mechanisms.

- TE has the option to open an asynchronous channel, other than the existing synchronous command channel. The Asynchronous channel-type can be TCP, HTTP etc.
- TE can save test results in the '.csv' format, and test summaries in the '.txt' format. The test results and test summary can also be viewed from the View menu in the TE Menu bar.
- TE provides the user with a very useful option that allows changes to be made to some packet or test specific parameters during runtime. The user can make these changes without actually editing the packets or tests. These parameters are saved in a file named 'Vendor.properties'. This file is created on the Desktop (default path) and can be edited from the TE to suit the requirements of any test. The details of these parameters are found in the ReadMe/ Quick Start Guide provided with the setup.
- A convenient option of highlighting a selected packet is available in both TE and Miniscope.
- TestBuilder and PacketBuilder can be navigated from the TE easily, to view and edit existing test scripts and packets.
- Test groups can be created in the TE and run in an 'unattended'-mode.

## Miniscope

The Miniscope is a general-purpose protocol decoder developed by Polaris Networks based on ethereal platform. This platform has been used for other wireless protocols such as WiFi (802.11), WiMax (802.16) and ZigBee (802.15.4).

The Miniscope packet decoder is integrated in the Tester software and is launched along with the TestEngine. The TestEngine forwards all transmitted and received packets to Miniscope, which provides a detailed decode of the protocol packet for user analysis. The Miniscope can be run on a remote machine or can be turned off, if not required. The Miniscope decodes can also be saved and viewed later, offline.

## RFID Conformance Tester Family

Polaris Networks currently has five products in the RFID Conformance Protocol Tester family. These are: **ALE 1.0**, **RP 1.1**, **RM 1.0**, **LLRP 1.0** and the latest **ALE 1.1**.

Polaris Networks' tester tools were used by EPCglobal for ALE 1.0 and RP 1.1 Certification testing. Polaris Networks also plays an active role in EPCglobal standards development process.

## Ordering Information

For detailed information on how you can use the ALE1.1 Conformance tester in your test lab as a tool to aid your development efforts, contact Polaris Networks at:

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