If this is your First-Time-Use of PacketExpert™ 10G unit, then we recommend you follow all the steps explained in PacketExpert-10G-Quick-Install-Guide before proceeding with the steps below.

Quick Verification

“RFC 2544” is a basic application available within the PacketExpert™ software. No additional license installation is required.

*For ‘RFC 2544’ functional verification, self-test can be performed using a single PacketExpert™ 10G unit.*

“RFC 2544” test scenario can be demonstrated on 1G ports by directly connecting Port 1 to 2 through Ethernet cable (for Electrical Interface test)

OR “RFC 2544” test scenario can be demonstrated on 10G ports by directly connecting Port 1 to 2 through SFP and Optical cable (for Optical interface test).

**Step 1: Connect the cables**

**Perform Test on 10G Optical Interface**

*Note:* Optical Interface Test is possible on 10G Port 1 and Port 2 only.

- Plug-in SFP Transceivers to the optical ports and cross connect LC optical cable between Port 1 and Port 2 as shown in the figure below.

*Note:* Make sure SFP is properly locked and the optical cable is properly plugged-in.

**Perform Test on 1G (Electrical or Optical Interface)**

- For 1G Electrical Interface type, cross-connect 1G: Port 1 to 2 using Ethernet CAT5 cable as shown in the figure below.
- For 1G Optical Interface type, plug-in SFP Transceivers to the optical ports and connect LC optical cable to 1G: Ports 1 & 2, (refer to figure).

*Note:* Make sure SFP is properly locked and the optical cable is properly plugged-in.
Step 2: Launch PacketExpert 10G Application

- Double click on the PacketExpert 10G shortcut icon on the desktop to launch PacketExpert 10G application as shown in the figure below.
- Click on Launch 10G option, to invoke the application with 10G ports.
- Or click on Launch 1G option, to invoke the application with 1G ports.

Note: The application may take some time to get started due to hardware and software initializations.

On launch, All Port Bert application is loaded, by default. To load RFC2544, select RFC2544 from the Applications drop-down list as shown in the figure. Also, a default configuration file is automatically loaded with the pre-configured settings.

Step 3: Configure Interface parameters

For 10G Optical connections,

On the RHS side, in the Interface pane, select the ports from the drop-down list and verify the following settings for each port.

- Interface Type = Optical
- Speed = 10000Mbps
- Verify IP Addresses for 10G: Ports 1 & 2 are configured as listed below:
  ➢ Port1: 192.168.1.102
  ➢ Port2: 192.168.1.103

Note: For 1G Electrical or Optical connections,

On the RHS side, in the Interface pane, select the ports from the Port Selection drop-down list and set the following for each port:

- Select Interface Type = Electrical (or) Optical (depending on the ports connected)
- Speed = 1000Mbps
- Verify IP Addresses for 1G: Ports 1 & 2, which are configured as listed below:
  ➢ Port1: 192.168.1.101
  ➢ Port2: 192.168.1.104
- Click on the Apply button (this will set the Interface Type in the hardware)
- Verify that the Link Status is UP on both ports, that is, the function tree should display Port 1 and Port 2 with green LEDs link status (refer to figure).

Note: If the LED shows red, then link is down. Refer to PacketExpert™ Quick Install Guide for Troubleshooting steps to get the links UP.
Step 5: Default Test Parameter Settings

- RFC2544 function includes default values for all test parameters (refer to figure). User can run the self-test without any changes to these values.

- **Global configuration** provides configurations common to all the tests, while each of the test has separate options as shown in the screen.

- On the function tree, double click on **Throughput**, observe the default **Throughput** test configurations, which includes Trial Duration, Number of Trials, Min and Max bandwidth for either directions (Port1 to Port2 and Port2 to Port1) configurations.

- On the function tree, double click on **Latency**, observe the default **Latency** test configurations, which includes Trial Duration, Number of Trials and bandwidth for either directions (Port1 to Port2 and Port2 to Port1).

- On the function tree, double click on **Frame Loss**, observe the default **Frame Loss** test configurations, which includes Trial Duration, Number of Trials, Min and Max bandwidth for either directions (Port1 to Port2 and Port2 to Port1).
On the function tree, double click on Back-to-Back, Observe the default **Back-to-Back** test configurations, which includes Trial Duration, Number of Trials, Bursts Size in msec and No. of Bursts for either directions (Port1 to Port2 and Port2 to Port1).

**Step 6: Start test**

- Select **RFC2544 (P2->P3)** in the Function Menu list and click **Start** to run the test.

**Step 7: Verify Results**

- While the test is running, verify the **Results** in the RHS pane.
- Results start displaying after the **Time Duration** selected by the user for each test.
- From the function tree, double-click **Results** and observe that the Results pane opens up in one of the 4 RHS panes.
- The Results pane -> Status tab shows the status while the test is running indicating the sending test frames. For each and every trial, prior to sending the test frames, RFC 2544 learning frames are sent, which can be observed in the figure below.
• Tabular and Graphical results can be viewed for each of the test procedure, that is Statistics as well as Graph results.

➢ **Throughput** Statistics and Graph Results

![Throughput Graph Result](image1)

➢ **Latency** Statistics and Graph Results

![Latency Graph Result](image2)
➢ **Back-to-Back** Statistics and Graph Results

![Back-to-Back Statistics and Graph Results](image1)

➢ **Frame Loss** Statistics and Graph Results

![Frame Loss Statistics and Graph Results](image2)