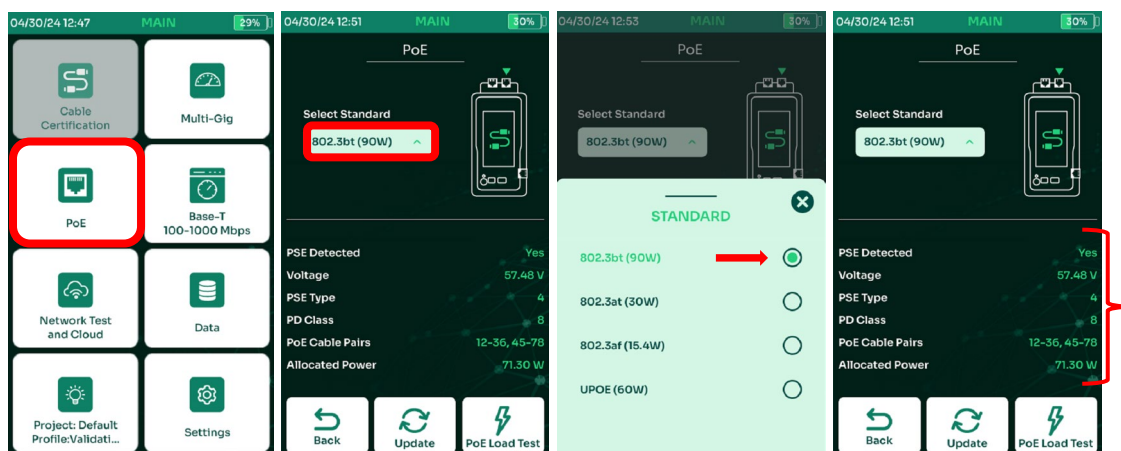




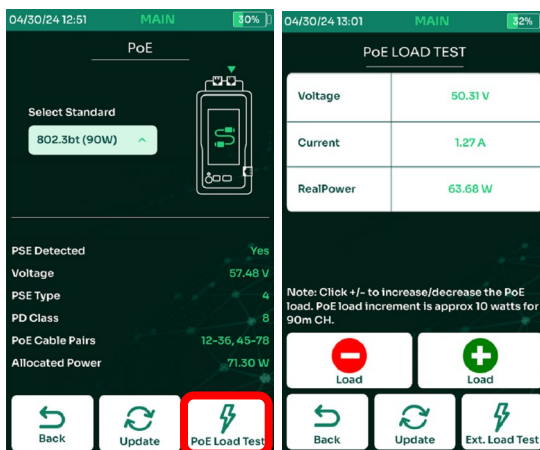
## Testing PoE Links and Switches

This article describes how to test an active PoE link to discover details about the level of PoE on the link as well as the power delivery performance under load when power is demanded from the PSE. This test may be performed with any TestPro using the AD-NET-CABLE adapter or with any Network Service Assistant using the AD-NSA adapter. This PoE test can be an effective troubleshooting tool when PoE issues arise.

1. Disconnect the cable providing PoE to the Powered Device (PD) and connect it to the port labeled 2.5G/5G/10G on the test adapter on the TestPro or NSA.
2. From the Home screen select the PoE icon.
3. From the PoE test screen, select the appropriate power level/PoE Standard from the Select Standard button by clicking the current Standard shown. Testing is supported for 802.3af(15W), 802.3at(30W), 802.3bt (90W) as well as UPoE (60W). After selecting the Standard, the PoE test summary screen will update to reflect the change.
4. Testing begins immediately and is updated in real time. Information displayed:
  - a. Is Power Sourcing Equipment (PSE) detected?
  - b. Measured voltage
  - c. PSE Type
  - d. PD (Powered Device) Class supported
  - e. PoE Cable Pairs
  - f. Allocated Power - advertised by PSE, does not take into account the impact of cabling on the PoE. To determine the true power level delivered at the end point, see the next step to conduct a PoE Load Test.



5. PoE Load Test – press the PoE Load Test in the lower right of the display, testing begins immediately.
  - a. Upon completion of the PoE Load Test, the results are displayed for Voltage, Current and Real Power.
  - b. In the example shown, we can see that the Real Power is lower than what was shown previously for Allocated Power. This is normal and is because the resistance of the cabling will reduce the amount of power delivered at the end point. The Allocated Power is theoretical and based on a good working link, while Real Power is measured under load. So long as sufficient power is delivered to meet the requirements of the Powered Device, it will function.
  - c. If the Real Power level is lower than expected and is resulting in Powered Device not functioning, troubleshooting using the PoE Test should be performed at the PSE to ensure the PSE is operating as expected. Additionally, testing should be performed at the PSE using the patch cable in use at that port to rule out a patch cord problem.
  - d. The PoE Load can be increased/decreased manually by pressing the Load +/- buttons. This PoE Load increment is approximately 10 watts.
  - e. The unit may be left in the PoE Load Test screen allowing use of the Update button to refresh the test after moving to another link or making any changes to cabling, replacing patch cords, updating switch settings, or the unit can be returned to the Home screen and a fresh test initiated when needed.



Note: The External Load Test button may be used to perform PoE and SNR monitoring for extended periods of time by connecting an optional External PoE Load. The External PoE Load test is something typically conducted in a laboratory environment rather than as a field test. For additional information on External PoE Load Testing, please email [customercare@aem-test.com](mailto:customercare@aem-test.com).