

Software Release Notes (Version 70.107.04.XX ??, Date 30th January 2024)

Calnex A-100G

100GbE, 40GbE, 25GbE & 10GbE High Speed Network Emulator

NEW Features

- Defect Fix to resolve an issue with IPG at 10G and 25G
- NTP Mode 6 Vulnerability Security Fix

Features Included

- 100GbE, 40GbE, 25GbE & 10GbE Interfaces (Optional functionality)
- FEC On/Off selection for 100G and 25G interfaces
- 25GbE: Port 1/Port 2 independent selection of FEC (example 25GbE Port 1 can be FEC Off and 25GbE Port 2 can be FEC On and vice versa)
- Support for Sync-E clock pass through (Optional Functionality)
- Support for external clock reference input (Optional Functionality)
- 4/8/16 Multi-Profiles Full Release (Optional functionality)
- Filter Builder
- Create Filter from imported pcap (full release)
- Dropped, Errored, Repeated, Mis-ordered Packet Corruptions (Burst & Rate with periodicity control)
- Latency/Delay
- Delay Boost plus Extended Delay (Optional functionality)
- Packet, Delay and Corruption Statistics including Symbol Errors
- Packet Jitter (Optional functionality)
- Script Recorder and Application API
- Copy/Clear Impairments
- Delete Profiles
- Switch between Profile Summary and Detailed Views
- POST – Power On Self-Test
- Symbol Error Generation

Notes

- Interfaces can take several seconds to link up. This is normal.
 - 100GbE CFP2 Interfaces: typically take 20-30 secs
 - 100GbE CXP Interfaces: typically take 3-5 secs
 - 40GbE QSFP+ Interfaces: typically take 3-5 secs
 - 25GbE SFP28 Interfaces (via adaptors supplied): typically take 30-35 secs
 - 10GbE SFP+ Interfaces: typically take 3-5 secs

Multi-profile Description (units with options -4P, -8P or -16P fitted)

Up to 16 impairment profiles can be run simultaneously (eight profiles in each direction). Each profile has a user configurable filter to target specific traffic to be impaired. These filters can be created manually using a template (Filter Builder) and/or imported from a Wireshark capture (pcap import). Delay and packet corruption impairments can be added to each profile independently. Memory used to provide packet delay can be flexibly allocated to each profile for optimum use of memory resource. When using the A-100G in Multi-profile mode at high bandwidth there may be corner case conditions where buffers overflow and packets are dropped. If this happens the Port Overflow alarm indicator will light. Further analysis using the Overflow Statistics page can be used to determine how many packets have been dropped from each profile as result of an overflow condition. This overflow condition is more likely to occur when multiple flows contain significant numbers of small packets. We recommend testing with larger (>128 byte) packets if this overflow condition occurs too readily during your testing.

Known Issues

1. Changing Memory Allocation with traffic flowing can cause FCS Error to occur. It is advised to stop traffic while changing Memory Allocation.
2. Available disk space is not checked prior to the user uploading Pcap files to the instrument. This could lead to very large files or numerous files filling the instrument hard disk.
3. Physical impairment symbol errors do not work on interfaces which use FEC – i.e. 25GbE SR and 100GbE SR4. This is because the FEC corrects any errors before transmission from A-100G.
4. PCAP Import - During remote control analysis, the filename being analysed is incorrectly reported on the GUI.