Vision System Validation
“How confident are you that your Vision system will operate without problems? The most underrated piece of the Vison System.....the cable....needs complete performance validation to ensure the user doesn’t need to make a support call. This presentation will outline how cables in each of the Vision standards should be validated to ensure consumer confidence.”
It’s vitally important that the cable is tested and verified to match or exceed the Pixel Clock requirement of the hardware being used in any one application. This can easily be done using the following....
A simple verification test really, using an off the shelf Network Analyzer which measures Near End and Far End crosstalk, Return loss and Attenuation. A standard electrical point to point test is not sufficient
GigE Vision

![Image of GigE instruments and a report]

**Cable ID:** RMA-2204
**Software Version:** 1.2.5.12 Build 1
**Calibration Date:** 2022-02-21
**Test Summary:** PASS

**Results:**
- **Length:** 3.36m
- **Provisional Length Margin:** 3.20m
- **Delay Error (ns):** 0.12
- **Effective Length (m):** 3.14m
- **Impedance (ohm):** 100.0
- **Attenuation (dB):** 8.47
- **Insertion Loss Margin (dB):** 3.32
- **Frequency (MHz):** 100.0
- **Limit (dB):** 2.00

**Results (Pass/Fail):**
- **Pass/Fail:** PASS

**Graphs:**
- Wire Map (100MHz)
- Pass/Fail

**Additional Information:**
- **Model:** CEI-2024
- **Date:** 2022-02-21
- **Report Number:** 1725254
- **Remote Adapter:** 03-01-0004

**Conclusion:**
The test results for the GigE cable meet the specified standards, with all measurements falling within the acceptable range.
Now with the release of the latest specification there is a need for two different verification tests.....one for CXP-6 and one for CXP-12. Again the cables need to tested and verified against the speed required for the chosen hardware in any application...
CXP-6 BERT Testing
CXP-12 BERT testing
CXP-12 VNA ECT testing
Two separate ways these cables can be verified as well. A Super Speed BERT test and a real world camera test.
Faster speeds mean better and more accurate testing and performance verification. Why not use the hardware that’s actually being used in a Vision application?
BERT and Diagnostic test
BERT and Diagnostic test