

DESIGN BRIEF

Barcode Print Verification

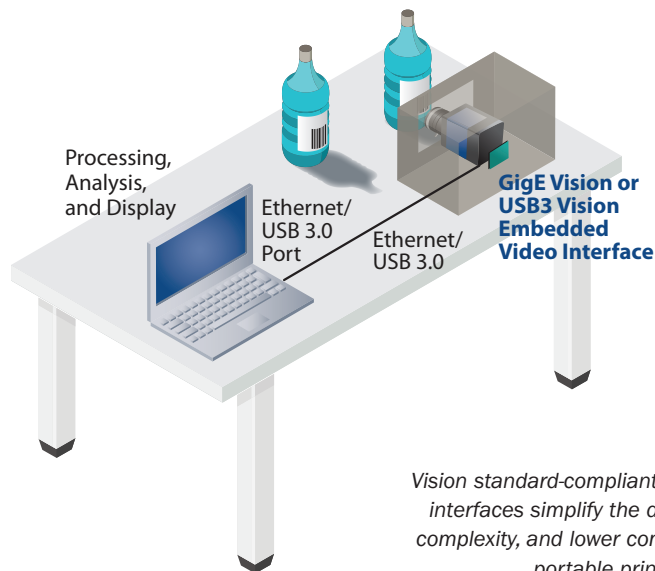
Embedded video interface simplifies cabling and enables use of lower-cost computing platforms for display and analysis

Barcode print verification systems help lower costs, increase productivity, and reduce errors by providing detailed quality analysis to ensure high read rates in automated quality inspection and warehouse processes. If printing errors are not detected quickly and automated reading systems can't identify the product, then barcodes may need to be manually entered into supply chain systems or unverified products must be destroyed. This results in disrupted manufacturing processes and additional costs.

Print verification systems rely on machine vision hardware and software to ensure barcodes meet industry standards for readability in automated processes. As illustrated below, GigE Vision and USB3 Vision-compliant embedded video interface products can help lower the costs of these systems. By identifying quality integration early in the manufacturing processes, labelling or marking systems can be upgraded or replaced before unreadable barcodes are produced.

In this application, the portable barcode verification unit employs a CMOS image sensor and specially designed lighting to capture a high-resolution image of the barcode. Pleora's **Embedded Video Interface**, which features a standardized, parallel LVTTTL/LVCMOS interface including image, line, and pixel framing signals, converts the image into a GigE Vision or USB3 Vision-compliant image stream. Images are then transmitted over an off-the-shelf Ethernet cable directly to a port on a computing platform where barcode readability is verified.

By eliminating the need for a PCIe frame grabber to capture image data, system manufacturers and integrators can employ lower-cost computing platforms, including laptops, for barcode analysis and verification. Power over Ethernet (PoE) or USB Power Delivery simplify cabling and lower component costs. The embedded video interface also features a sophisticated on-board programmable logic controller (PLC), which allows users to precisely synchronize sensor exposure, image capture, and lighting.



Vision standard-compliant embedded video interfaces simplify the design, reduce the complexity, and lower component costs for portable print verifier systems.