

APPLICATION BREAKDOWN:



Bar Code Quality Analysis

The screenshot displays the Sensors Inc. software interface for bar code quality analysis. The main window shows the 'Grading' tab with the following data:

- Overall grade: 2.5/10/660 (B)
- Contrast: A=70, B=55-69, C=40-54, D=20-39, F=19. This is the difference between the highest and the lowest reflectance values found within a barcode symbol.
- ISO/IEC Parameters: 01D: linear, 2D: CC, PDF, DM, etc., 0000999991032188003
- Symbology: GS1-128, Xdim: 19.7 mils
- Edge determ: PASS
- Min Reflect: PASS
- Minimum EC: PASS 45%
- Decode: PASS 176
- Quiet zone: PASS
- Contrast: 2.5 (B) 55%
- Modulation: 4.0 (A) 82%
- Decodability: 4.0 (A) 85%
- Defects: 4.0 (A) 9%
- Blemish: 4.0 (A) 0%

A note at the bottom of the window states: "NOTE: Label height is less than recommended for SSCC".

The 'View' section includes the following options:

- Element reflectance
- Modulation (EC = edge contrast)
- Decodability (width of each element)
- Defects (inflection to element reflectance)
- Full screen waveform
- Traditional bar growth and shrinkage

The 'Traditional parameters' section shows a bar chart with the following values:

- 3.5 - 4.0 (A)
- 2.5 - 3.4 (B)
- 1.5 - 2.4 (C)
- 0.5 - 1.4 (D)
- 0.0 - 0.4 (F)

Sensors Inc. is at its heart a hardware company, but providing the best application solution to the customer is the priority, even when that does not translate into a short-term hardware sale. This application is an example of the right solution being a system change instead of a hardware change.

Barcodes are the foundation for the majority of automated data collection systems found in fulfillment/distribution facilities. Because of the volumes of objects passing through the system, a reading rate as high as 99.8% can be low enough to cause unacceptable system delays.

Read rates can be improved by upgrading the hardware: adding read-heads, upgrading to higher performing scanners, and adding image-based code readers are sound approaches to getting the best possible performance from the existing barcodes.

A customer asked Sensors Inc. to try to improve their system performance to better than 99.9%. Rather than just throwing additional hardware at the problem, Sensors Inc. started by evaluating the barcodes being used. The customer had been using a system of colored barcodes to delineate different product groups. Using their in-house barcode evaluation system, Sensors Inc. determined that two of the colors, green and blue, had a significantly lower contrast rating, which in turn exaggerated defects in the code. The lower readability scores represented a majority of the system no-reads.

The customer was able to replace those colors with higher contrast options, improving the read rate of the system, increasing throughput and lowering costs. They became one of Sensor Inc.'s biggest purchasers of Track and Trace systems.

If you have a complex application that might require extreme application experience, or extensive vision knowledge, do not hesitate to call the experts at Sensors Incorporated.



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