

APPLICATION BREAKDOWN:

Bar Code Quality Analysis



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
 1D: 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%**

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)

NOTE: Label height is less than recommended for SSCC

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

Traditional parameters Dimensional analysis 10-line grading Print

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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 us to try to improve their system performance to better than 99.9%. Rather than just throwing additional hardware at the problem, Sensors 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 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 Sensors 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 Integration.



507 Kelsey Street • Delano, MN 55328
 Phone 763-972-1040 Fax 763-972-1041
 Toll Free 888-920-0939
 Sensorsintegration.com