

Financial Services Technology Consortium (FSTC) & Digital Check Corporation (DCC) Check Image Quality Assurance Metrics

There are 16 different image quality assurance tests that have been identified by the Financial Services Technology Consortium (FSTC) which Digital Check is a member of. The following provides a list of the FSTC identified metrics together with the called routines available in Digital Check's new version 8 API. Using this API version can guarantee that your software will satisfy the bank's image quality requirements. If you have any queries please contact our support department.

- **1. Undersized Image**
 - **Check Document Size** - Allow the user to specify up to 32 different document sizes based on standard document widths and heights in tenths of inches. For example, most checks in the United States are personal size (6.0 inches by 2.8 inches) or business (8.5 inches by 3.5 inches). This function will return the associated size (0 to 31) or -1 if the scanned document does not fit any of the specified sizes. This function can find undersize documents, oversized documents, mis-cropped images or framing error, torn edges, and some piggyback documents.

- **2. Folded or Torn Corners**
 - **Corner Test** - Returns the number of pixels that each corner is bent. This allows the user control over how much of a bent corner is a problem. This is a good test to detect folded or torn corners and edges.

- **3. Folded or Torn Document Edges**
 - **Corner Test and Check Document Size**

- **4. Document Framing Error**
 - **CheckEdgeCrop** – Checks the amount of pixels bordering the image after cropping.
 - **Check Document Size**

- **5. Excessive Document Skew**
 - **CheckSkew** - Checks if one corner of the document is higher than the other. If this first test detects skew, then horizontal lines are checked on the image to verify the skew.
 - **MICRQualityTest** - Checks the results of Magnetic MICR against the OCR MICR. This will test magnetic MICR quality, bottom of the image quality, and whether the image has excessive skew. Note: most piggyback images have poor magnetic MICR results, since the MICR characters of both checks are analysis resulting in most overlapping characters being unreadable.

- **6. Oversize Image**
 - **Check Document Size**

- **7. Piggyback Document**
 - **Hardware Double Detect Sensor** – LED sensor calibrated to trigger an error on documents which are too thick and potentially a piggy back.
 - **Check Document Size**
 - **MICRQualityTest**

- **8. Image Too Light**
 - **Density Check** - Returns the percentage of black pixels in the entire image. A personal check usually has a valid density between 5 to 25 percent and business size checks are usually between 2 to 15 percent.
- **9. Image Too Dark**
 - **Density Check**
- **10. Horizontal Streaks**
 - **Streak Test** - Finds Streaks on the checks using multiple algorithms since streaks can appear in so many different forms.
- **11. Below Minimum Compressed Image Size**
 - **Get Compressed Image Size** - Returns the actual compressed image size in bytes.
- **12. Above Maximum Compressed Image Size**
 - **Get Compressed Image Size**
- **13. Excessive “Spot Noise” in the Image**
 - **Speckle Count** - This will count and remove the extra speckles on an image which will make other image quality tests more accurate and quicker. Security checks will be excessively speckled if thresholded at too low of a threshold or too low of a contrast step in EdgeDetection Thresholding.
- **14. Front-Rear Image Dimension Mismatch**
 - **VerifyDocumentSize** - Checks that the front and rear images have the same width and height.
- **15. Carbon Strip Detected**
 - **Carbon Strip Test** - Checks if the document has a carbon Strip on it.
- **16. Image “Out of Focus”**
 - **Focus/Grayscale Contrast Test** - Will determine if the image contrast or focus is out of range. This test is valid for grayscale images only.

In addition, we include other value added test features in the DCC API that were NOT included by FSTC to help ensure that DCC TellerScans provide the best performance and value on the marketplace today:

- **Endorsement Test** – Checks if endorsement was printed on the check.
- **CAR Test** – Checks if the CAR area contains valid looking data.
- **LAR/Payee/Date/Signature/Memo Present Tests** – Attempts to find these areas on personal checks and see if valid looking data is present. These tests were added to be complete but not really recommended.
- **Blob Test** – Check if Binary Black Large Objects are present on the image.

<p>Contact Arlan Converse or Jay Clark at Digital Check to get additional information about the API, (847-446-2285). ac@digitalcheck.com or jay.clark@digitalcheck.com</p>
