

SFM5500

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SFM5500

(FBI) WSQ

3.1

115,200 bps UART
4-bit

SFM

PC



(a) Original gray image



(b) Binarized image

[Figure 1] Compromised fingerprint image quality caused by binarization

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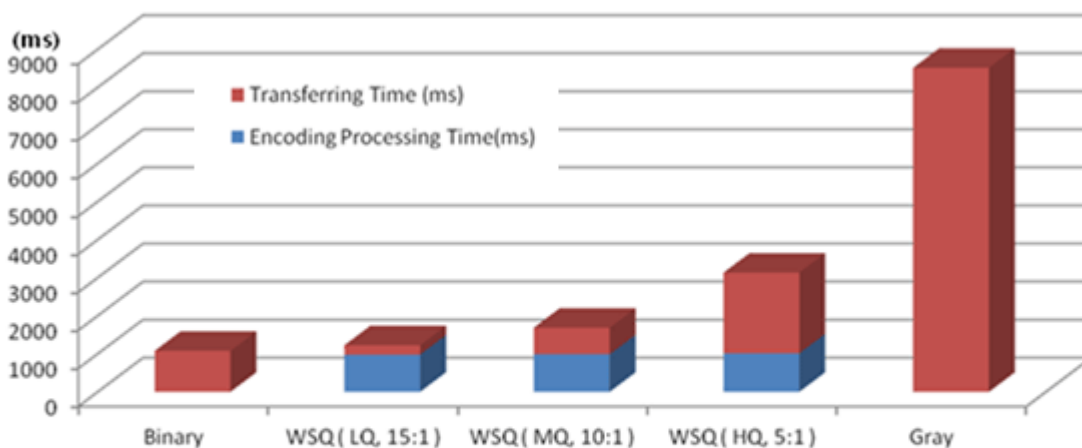
, 10%

10%



(a) Original gray image (b) Compressed image by WSQ (5:1) (c) Compressed image by WSQ (15:1)

[Figure 2] Different image qualities according to WSQ compression ratio (minimal difference)



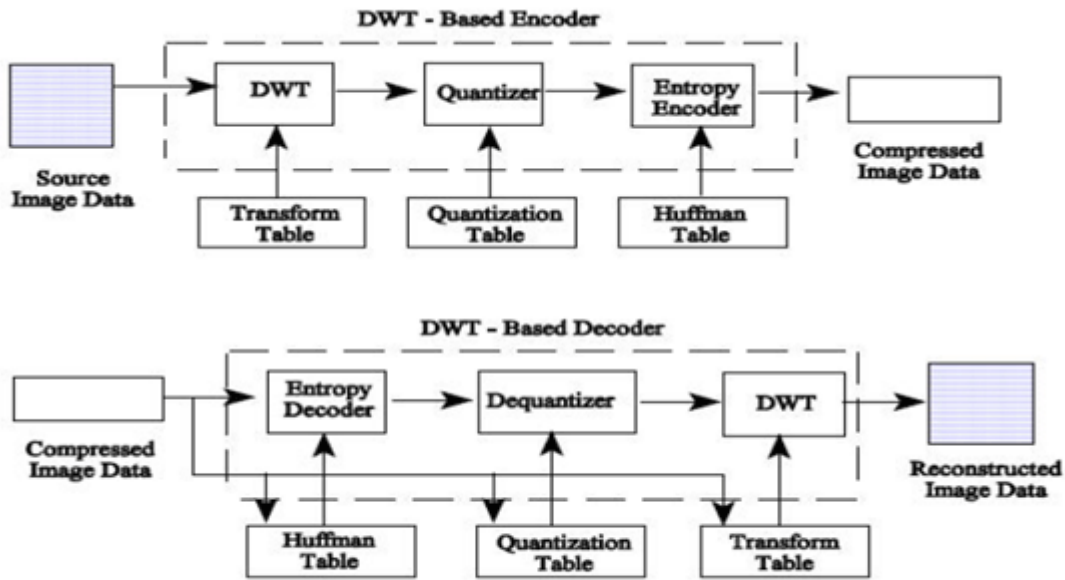
[Figure 3] Comparison of transfer speeds of a single fingerprint image according to WSQ compression ratio: In the case of a 15:1 compression ratio, the transfer speed is similar to that of a binary image, including the encoding

, SFM SDK V1.6

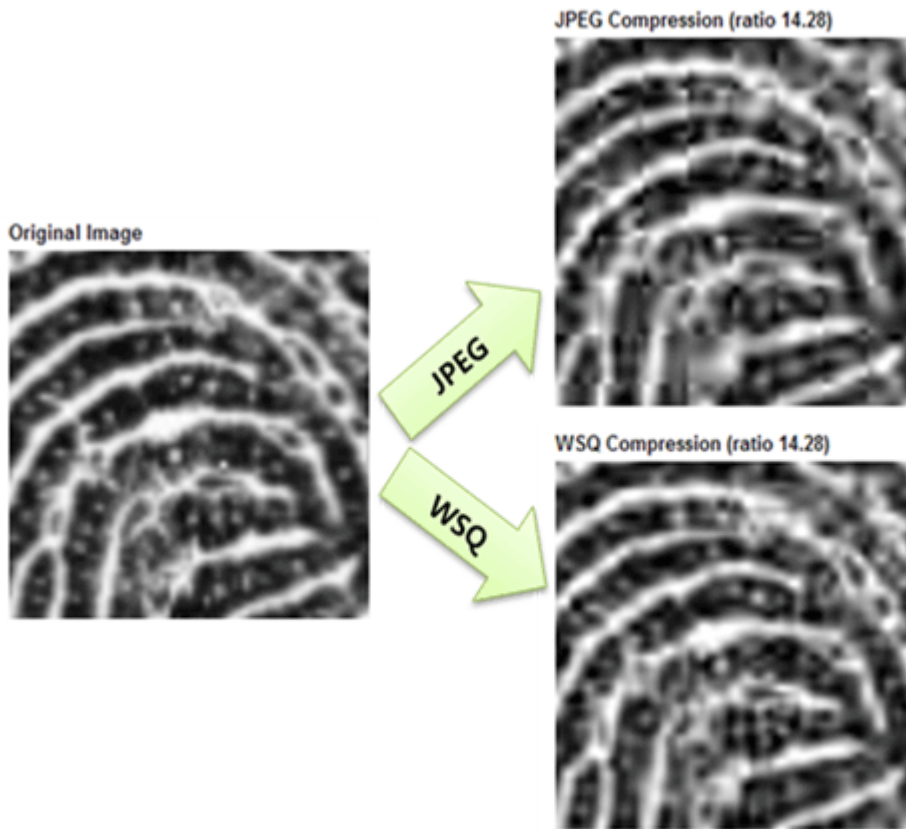
SFM
. WSQ

WSQ
JPEG

WSQ



[Figure 4] WSQ Image Compression Algorithm



[Figure 5] Quality comparison of JPEG and WSQ fingerprint images based on the same compression ratio: In JPEG, discontinuation of ridges occur due to blocking artifact

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SFM

NIST FBI
WSQ

FBI

NIST

WSQ



[Figure 6] WSQ Certification on SFM5500 Series by the FBI

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