

ISO/IEC 19794-3:2006-08 (E)

Information technology - Biometric data interchange formats - Part 3: Finger pattern spectral data

Contents		Page
Foreword		v
Introduction		vi
1	Scope	1
2	Conformance	1
3	Normative references	1
4	Terms and definitions	1
5	Symbols and abbreviated terms	4
6	Data conventions	5
6.1	Byte and bit ordering	5
6.2	Coordinate system	5
6.3	Greyscale precision	6
6.4	Image polarity	6
6.5	Angle direction of rotation	6
6.6	Phase and propagation angles	6
7	Determination of finger pattern spectral data	6
7.1	Overview	6
7.2	Step 0) [Optional] Image pre-processing	6
7.3	Step 1) Cellular partitioning	6
7.4	Step 2) Spectral component selection	7
7.4.1	Quantized co-sinusoidal triplets	7
7.4.2	Discrete Fourier Transform	10
7.4.3	Gabor filters	12
7.5	Quality	13
8	Finger pattern spectral data record	14
8.1	Record header	14
8.1.1	Format identifier	14
8.1.2	Version number	15
8.1.3	Length of record	15
8.1.4	Number of single finger records	15
8.1.5	x (horizontal) resolution	15
8.1.6	y (vertical) resolution	15
8.1.7	Number of cells in x-direction	15
8.1.8	Number of cells in y-direction	15
8.1.9	Number of pixels in cells in x-direction	15
8.1.10	Number of pixels in cells in y-direction	15
8.1.11	Number of pixels between cell centres in x-direction	15
8.1.12	Number of pixels between cell centres in y-direction	16
8.1.13	Spectral component selection method	16
8.1.14	Type of window	16
8.1.15	Standard deviation	16
8.1.16	Number of frequencies	17
8.1.17	Frequencies	17

8.1.18	Number of orientations	17
8.1.19	Number of spectral components to be retained per cell	17
8.1.20	Bit-depth of propagation angle of co-sinusoidal function	18
8.1.21	Bit-depth of wavelength of co-sinusoidal function	18
8.1.22	Bit-depth of phase	18
8.1.23	Bit-depth of magnitude	18
8.1.24	Bit-depth of quality score	18
8.1.25	Cell quality group granularity	19
8.1.26	Reserved bytes	19
8.2	Single finger record	19
8.2.1	Header	19
8.2.2	Finger pattern spectral data block	20
8.2.3	Extended data block	23
8.3	Summary of finger pattern spectral data record	28
9	Finger pattern spectral data card format	31
Annex A (informative)	Finger pattern spectral data record examples - quantized co-sinusoidal triplet spectral component selection method	33
A.1	Example 1	33
A.2	Example 2	34
A.3	Size comparisons	36
Annex B (informative)	Finger pattern spectral data record examples - Discrete Fourier Transform spectral component selection method	37
B.1	Example 1	37
B.2	Example 2	38
Annex C (informative)	Finger pattern spectral data record example - Gabor filter spectral component selection method	40
Bibliography	42