

Mobile full page passport/document reader Regula model 7308



The most compact mobile full page passport reader with no moving parts inside.

Automatic reading and authenticity verification of passports, IDs, visas, driver's licenses and other identification documents.

Optical character recognition, reading of barcodes, RFID and SmartCard chips.

A mobile compact size model with a shoulder strap. The body is made of hard plastic (IP54). Full data processing onboard with a built-in PC. The reader can be connected to an external PC or any other visualization device (tablet PC, smart phone, etc.) via wireless network (Wi-Fi). Power supply: two rechargeable batteries (hot change is possible). No moving parts. Reliable, convenient and easy-to-use.

The device allows capturing images in white, infrared, ultraviolet and coaxial lights. It has a module for reading RFID chips. Optionally it can be equipped with a module for reading smart cards. The device is supplied with software development kit (SDK) for easy integration into existing end-user systems.

Optical reader

- Light sources:
 - white
 - infrared, nm — 870
 - ultraviolet, nm — 365
 - white coaxial (optional)
- Scanning area, mm — 90×130: full passport page
- Video sensor:
 - type — CMOS
 - colour depth — RGB
 - imaging, bit — 24
 - number of megapixels — 3,1:
 - resolution, ppi — 375
 - frame size, pixels — 2048×1536, 1024×768

Reader of radio frequency identification devices (RFID)

- Supported standards — ISO 14443: type A and B
- Data exchange rate, Kbaud — 106, 212, 424, 848
- Reading an RFID tag regardless of its position in the document
- Anti-collision: reading an RFID tag according to the MRZ

Smart card reader (optional)

- Supported standards — ISO/IEC 7816-1, -2, -3, -4; EMV2000 4.1, Level 1
- Data exchange rate, Kbaud — 2–500
- Smart card type — asynchronous, T = 0 and T = 1

Device technical specifications

- Built-in PC:
 - CPU — Intel® Atom™ Z530 1,6 GHz
 - DDR RAM, GB — 1
- Protection rating — IP54
- 2 external USB 2.0 ports for connection of peripherals (for example, fingerprint scanner)
- Connection interface with result visualization device – wireless network (Wi-Fi) with up to 150 Mbps speed (optionally – installation of Wi-Fi module with encrypted data transfer channel)
- Power supply — two rechargeable batteries Sony NP-F770 (4,4 Ah, 7,2 V)
- Time of autonomous operation with two fully charged batteries, not less than, h — 7,5
- Overall dimensions (DxWxH), mm — 225×170×102
- Weight, not more than, kg — 1,7

Functionality

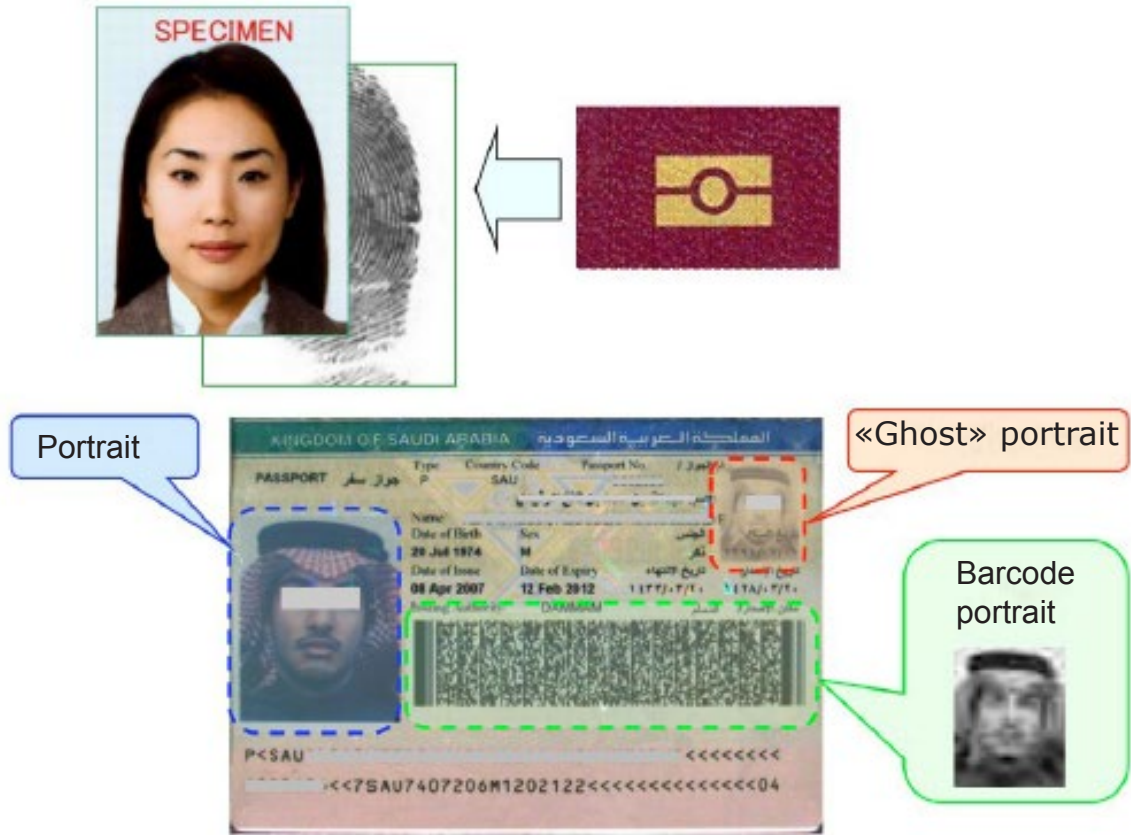
Document image capture and processing	
Document formats	<ul style="list-style-type: none"> • ID-1 (identity card) • ID-2 (passport card, visa) • ID-3 (passport) • other document formats up to 90×130 mm
Scanning process	<ul style="list-style-type: none"> • document detection sensor • automatic scanning after document detection • elimination of glare from laminate and holograms for white and infrared illumination • compensation of external light hitting during image capture in UV light (Smart UV) • automatic intensity selection of UV illumination for a certain document type • search and cropping of a document image from a received image
Machine readable zone (MRZ)	
Supported MRZ formats	<ul style="list-style-type: none"> • in conformity with ICAO 9303: <ul style="list-style-type: none"> — 44×2 — 30×3 — 36×2 • support of special MRZ data structure for documents of certain countries
Features	<ul style="list-style-type: none"> • search for the MRZ along the whole document image • MRZ recognition in infrared and white light • control of check digits and data structure in conformity with the requirements of ICAO 9303 and BSI TR-03105 Part 5.1 • evaluation of MRZ quality specifications in conformity with ICAO 9303, ISO 7501, 1831, 1073-2 standards.
Barcodes	
Supported formats	<ul style="list-style-type: none"> • 1D: Codabar, Code39 (+extended), Code93, Code128, EAN-8, EAN-13, IATA 2 of 5 (Airline), Interleaved 2 of 5 (ITF), Matrix 2 of 5, STF (Industrial), UPC-A, UPC-E • 2D: PDF417, Aztec Code, QR Code
Automatic document type recognition	
Order of document type recognition	<ul style="list-style-type: none"> • Country→Type→Series
Features	<ul style="list-style-type: none"> • receiving a document template from the SDK database containing the following information: <ul style="list-style-type: none"> — text and graphic fields position, — availability of barcodes and security features — authenticity verification and its parameters — RFID-chip availability — availability of additional document pages — a reference image from Information Reference Systems «Passport», «Autodocs», «Frontline Documents System» • processing of the received document images in compliance with the sample, including document image rotation by the angle given in the sample.

Graphic fields processing	
Types of graphic fields	<ul style="list-style-type: none"> • portrait of the document holder • signature • barcode • fingerprint, etc.
Features	<ul style="list-style-type: none"> • cropping and displaying graphic fields as separate images in compliance with the sample of the corresponding document • automatic searching of faces on the document image and cropping the document holder portrait if the document type is not recognized • document image rotation according to the document holder portrait position
OCR of the visual zone	
Recognition of character sets	<ul style="list-style-type: none"> • Central European and Eastern European Latin (1250) • Cyrillic (1251) • Western European Latin (1252) • Greek (1253) • Turkish (1254) • Baltic (1257) • other fonts of any size
Features	<ul style="list-style-type: none"> • dictionary support (name, surname, address, country, etc.) • automatic text division into separate fields (e.g. dividing the address into postal code, country, state, etc). • recognition of dates with complex formats • recognition of characters from different character sets in one line
RFID SDK	
Supported RFID-chip standards	<ul style="list-style-type: none"> • ISO/IEC 14443-2 (type A and B) • ISO/IEC 14443-3 (MIFARE® Classic Protocol) • ISO/IEC 14443-4
Data access modes	<ul style="list-style-type: none"> • Direct • BAC • EAC • PACE
Authentication	<ul style="list-style-type: none"> • active (AA) • passive (PA) • chip (CA v1, CA v2) • terminal (TA v1, TA v2)
Supported applications	<ul style="list-style-type: none"> • ePassport (DG1–DG16) • eID (DG1–DG21) • eSign
Certificate management	<ul style="list-style-type: none"> • local storage • receiving certificates online through the program interface • Master List, CRL support
Features	<ul style="list-style-type: none"> • reading RFID chips with extended length support • reading RFID chips in compliance with ICAO LDS 1.7, PKI 1.1 data formats • certified by BSI TR-03105 Part 5.1, BSI TR-03105 Part 5.2

Analysis and comparison of text data	
Document areas for cross-checking of the readout data	<ul style="list-style-type: none"> • MRZ • VIZ • RFID-chip • barcode • contact chip (Smart Card)
Verification	<ul style="list-style-type: none"> • validity of any dates • authenticity of names and surnames according to lists of wordstops • zero numbers of sample documents
Adjustment of formats and measuring units to those used in the user OS	<ul style="list-style-type: none"> • date • weight • height, etc.
Features	<ul style="list-style-type: none"> • complete or partial comparison of fields • integration of data received from several document pages • calculated field support (age, etc). • transliteration of Latin characters in compliance with ICAO 9303 standards for comparison with the MRZ
Authenticity verification	
Operation available for any document	<ul style="list-style-type: none"> • checking luminescence (UV Dull Paper) of: <ul style="list-style-type: none"> — the form — the MRZ area — the portrait area • checking the MRZ print contrast in compliance with ICAO 9303 (IR B900 Ink)
Operations available after document type recognition	<ul style="list-style-type: none"> • checking image patterns in white, IR and UV light • checking luminescence of UV protection fibers • detection of false luminescence • checking photo embedding type: printing or attachment • checking IR Visibility of: <ul style="list-style-type: none"> — elements of the form, — text data, — the photograph (main and additional) • detection of holograms/kinegrams (OVD), OVI • reading a luminescent text and comparing it with the data obtained from the MRZ and VIZ (OCR Security Text) • visualization of IPI (Invisible Personal Information) • checking retroreflective protection • checking barcode format
Features	<ul style="list-style-type: none"> • Checking operations are adjusted to documents with different degrees of wear and tear. • The choice of checking operations depends on security features available in a questioned document.

Additional SDK functions	
Image formats	<ul style="list-style-type: none"> • .BMP • .JPEG • .JPEG2000 • .PNG • .TIFF • other image formats are possible on request
Interoperability	<ul style="list-style-type: none"> • comparison modules: <ul style="list-style-type: none"> — fingerprint images from RFID chip and external fingerprint scanner — face images from passport data page, RFID chip and live • Information Reference Systems «Passport», «Autodocs», «Frontline Documents System»
Software update (at least twice a year)	<ul style="list-style-type: none"> • adding new functions and authenticity verification algorithms • adding new document templates into SDK database
OS compatibility	<ul style="list-style-type: none"> • Microsoft Windows XP (SP3), Windows 7 (x86, x64), Windows 8
Drivers	<ul style="list-style-type: none"> • Microsoft certified
Features	<ul style="list-style-type: none"> • simultaneous optical scanning and RFID chip reading • firmware upgrade via USB interface (automatic upgrade after installing new SDK version) • multilingual interface

GRAPHIC DATA READOUT



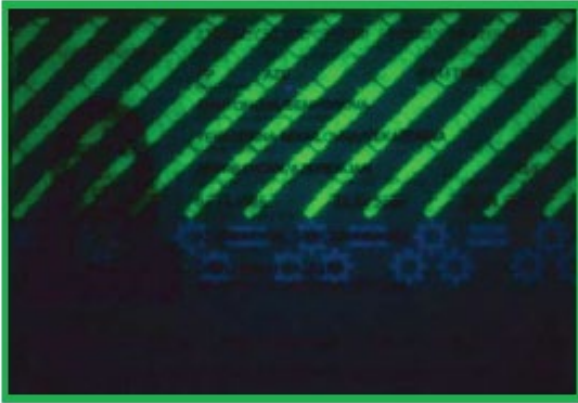
VISUALIZATION OF INVISIBLY EMBEDDED INFORMATION (IPI — invisible personal information)



DOCUMENT AUTHENTICITY VERIFICATION
SECURITY ELEMENTS UNDER UV LIGHT

– CHECKING THE PAPER LUMINESCENCE UNDER UV LIGHT (UV DULL PAPER CHECK)

Original



Forgery

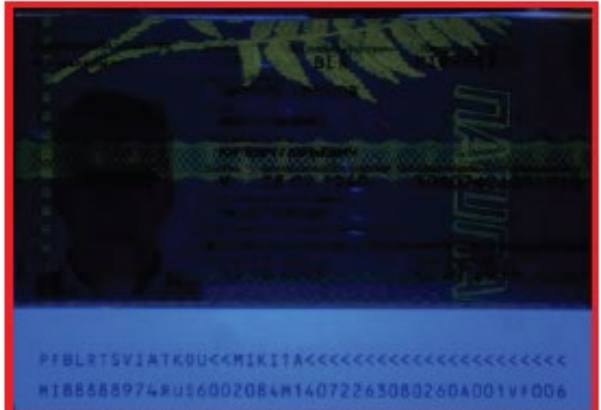


Detection of the full-page counterfeiting

Original



Forgery



Detection of MRZ counterfeiting

Original

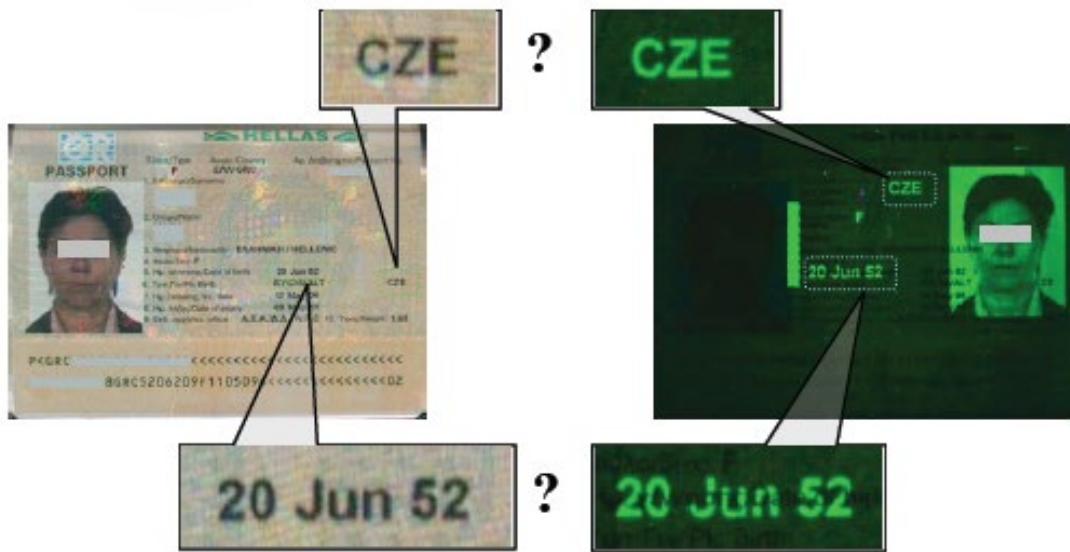


Forgery



Detection of the photo replacement

– READING OUT THE TEXT LUMINESCENT UNDER UV LIGHT AND COMPARING IT TO THE DATA FROM MRZ OR VIZ (OCR SECURITY TEXT)



SECURITY ELEMENTS UNDER IR LIGHT

– CHECKING THE CONTRAST OF MRZ PRINTING AGAINST DOC 9303 ICAO (IR B900 INK)



– CHECKING VISIBILITY OR INVISIBILITY OF CERTAIN FORM ELEMENTS, DOCUMENT TEXTUAL FILLING-IN ACCURACY AND THE PHOTO (IR VISIBILITY) UNDER IR LIGHT



CROSS-VERIFICATION OF THE REPEATED TEXTUAL DATA RETRIEVED FROM VARIOUS SOURCES OF THE DOCUMENT



MRZ		Visual zone	RFID-chip	Text data comparison	Security features	Messages log	
Field type	MRZ	Visual OCR	RFID-chip	MRZ <-> Visual	MRZ <-> RFID	RFID <-> Visual	Valid
Document Class Code	P	P	P	✓	✓	✓	✓
Issuing State Code	JPN	JPN	JPN	✓	✓	✓	✓
Surname And Given Names	GAIMU SAKURA		GAIMU SAKURA	—	✓	—	✓
Surname	GAIMU	GAIMU	GAIMU	✓	✓	✓	✓
Given names	SAKURA	SAKURA	SAKURA	✓	✓	✓	✓
Nationality Code	JPN		JPN	—	✓	—	✓
Sex	F	F	F	✓	✓	✓	✓
Date of birth	20.02.79	20.02.79	20.02.79	✓	✓	✓	✓
Date of birth CheckDigit	6		6	—	✓	—	✓
Date of expiry	20.03.16	20.03.16	20.03.16	✓	✓	✓	✓
Date of expiry CheckDigit	2		2	—	✓	—	✓
Document #	XS1234567	XS1234567	XS1234567	✓	✓	✓	✓
Document Number CheckDigit	3		3	—	✓	—	✓
Personal #	XXXXXXXXXXXX		XXXXXXXXXXXX	—	✓	—	✓
Personal # CheckDigit	0		0	—	✓	—	✓
Final CheckDigit	2		2	—	✓	—	✓
Date of issue		20.03.06		—	—	—	✓
Other		KAWAGAWA		—	—	—	✓
Nationality		JAPAN		—	—	—	✓

CHECKING THE PHOTO APPLICATION METHOD: PRINTED OR PASTED (PHOTO EMBEDDING TYPE)



OVI VERIFICATION:

