

PEGAS 2.0



Universal Passport Reading Terminal (UPRT)



General description

The UPRT «PEGAS» 2.0 is a compact device developed on the basis of the domestic «LIME 2» system board.

It is designed for optical and electronic reading of identity documents that contain electronic data carriers.

The device provides:



Capturing an image of the document page in the visible, infrared, and ultraviolet spectra



Contactless reading of information from the document chip: the holder's personal data, photograph, fingerprints



Recognition of data from the document page, including the machine-readable zone (MRZ)



Operations for activating the passport chip and verifying the electronic signature



Implementation of both foreign and domestic protocols for accessing document chip data



Local processing or transmission of the received data to an information system

The UPRT is designed as a compact desktop device with a two-line LED display, powered from a 110/220 V AC mains supply. All structural components of the device, the system board, and the software are designed and manufactured in Russia.

Features and advantages:

[1] Support for modern cryptographic algorithms	[2] High upgrade potential thanks to the use of a single-board computer in the design and performing all operations inside the terminal	[3] A wide choice of interfaces for connecting to an information system
[4] Ability to visually inspect the security features of identity documents	[5] Two antennas ensuring data reading regardless of the chip's position within the document being read	[6] Low cost compared to equivalent solutions



TECHNICAL SPECIFICATIONS



The device runs on Linux. It uses proprietary in-house software. Cryptographic protocols are implemented using the MarPro EAC crypto core.

The UPRT runs on the «LIME 2» system board, a compact single-board computer with an open hardware platform. It is powered from the AC mains, and an optional 3 Ah battery can also be installed for standalone operation without a UPS.

Key specifications

Housing	Plastic
Display	Two-line
System board	LIME 2
Processor	Allwinner A20 dual-core Cortex-A7, 1 GHz, with dual-core Mali 400 GPU
RAM	1 GB DDR3
Storage	8 GB NAND Flash
External memory	MicroSD (TF) card slot
USB	1 × USB port, version 2.0 / 1 × mini USB-OTG port
Ethernet	1000 Mbps
Additional board extensions	·Illumination units for the visible, IR, and UV ranges / ·A board with internal USB interfaces for connecting a crypto token (optional)
Optical module	8 MP sensor resolution
Battery	Capacity 3 Ah
Other components	NFC reader with two antennas

External specifications

Dimensions	200 × 143 × 140 mm (L × W × H)
Weight	1 kg

Supported data-reading standards

reading and recognition of MRZ in accordance with ICAO Doc 9303;
chip access control protocols: BAC, EAC, PACE, RKD, SESPAKE;
Russian cryptographic standards GOST R 34.10-2012, GOST R 34.11-2012, GOST 28147-89, GOST 34.12-2018;
foreign cryptographic standards DSA/ECDSA, RSA, AES, 3DES.

