SPUTNIX
BY SITRONICS

Small satellite for ultra-high resolution remote sensing



The small satellite is a spacecraft for remote sensing of the Earth that solves the problems of optoelectronic observa-tion of the surface when operating in a sun-synchronous orbit with an altitude of 500-600 km. The platform as part of the spacecraft allows to observation of objects on the Earth's surface with the ADCS accuracy necessary to obtain images of areas of the surface with a resolution of 0.7-0.8 meters * and the subsequent transmission of information to ground receiving stations.

The spacecraft was created on the basis of the Pallada microsatellite platform developed by SPUTNIX, which is a constructive module with a functional set of service systems and ensures the placement and functioning of the payload.



Remote sensing camera



Spacecraft appearance





* depends on the altitude of the orbit

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Technical parameters of satellite:

Altitude	500 — 600, km
Active lifetime	5 years
Launch method	Cluster specialized or piggyback launch of single spacecraft
Mass	Up to 160 kg
Dimensions of the spacecraft (with deployed antennas)	2,0 x 0,9 x 1,3 m
Frequency ranges	UHF, S, X
Payload channel speed (X-band)	800-1000 Mbit/s
Orientation determination	not worse than 30″
Orientation maintenance	± 0,05°
Angular velocity maintenance	± 0,001°/s
The maximum angle of rotation of the spacecraft relative to the direction to the nadir	± 30°
Reorientation rate	not less than 0,7°/s
Spectral bands of shooting	PAN, multispectral
Resolution in nadir (from 600 km) Panchromatic Multispectral	 0,8 m 3,2 m
Capture lane in nadir (from 600 km)	7,4 km
Spectral bands	– in PC – from 0.45 to 0.75 microns; – in MS: 0.45 to 0.51 microns; 0.51 to 0.58 microns; 0.63 to 0.69 microns; 0.77 to 0.86 microns

SPUTNIX LLC is a Russian private company manufacturing high-tech small satellite components and platforms, as well as ground equipment for smallsat testing, ground-based satellite stations, and equipment for aerospace education.

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