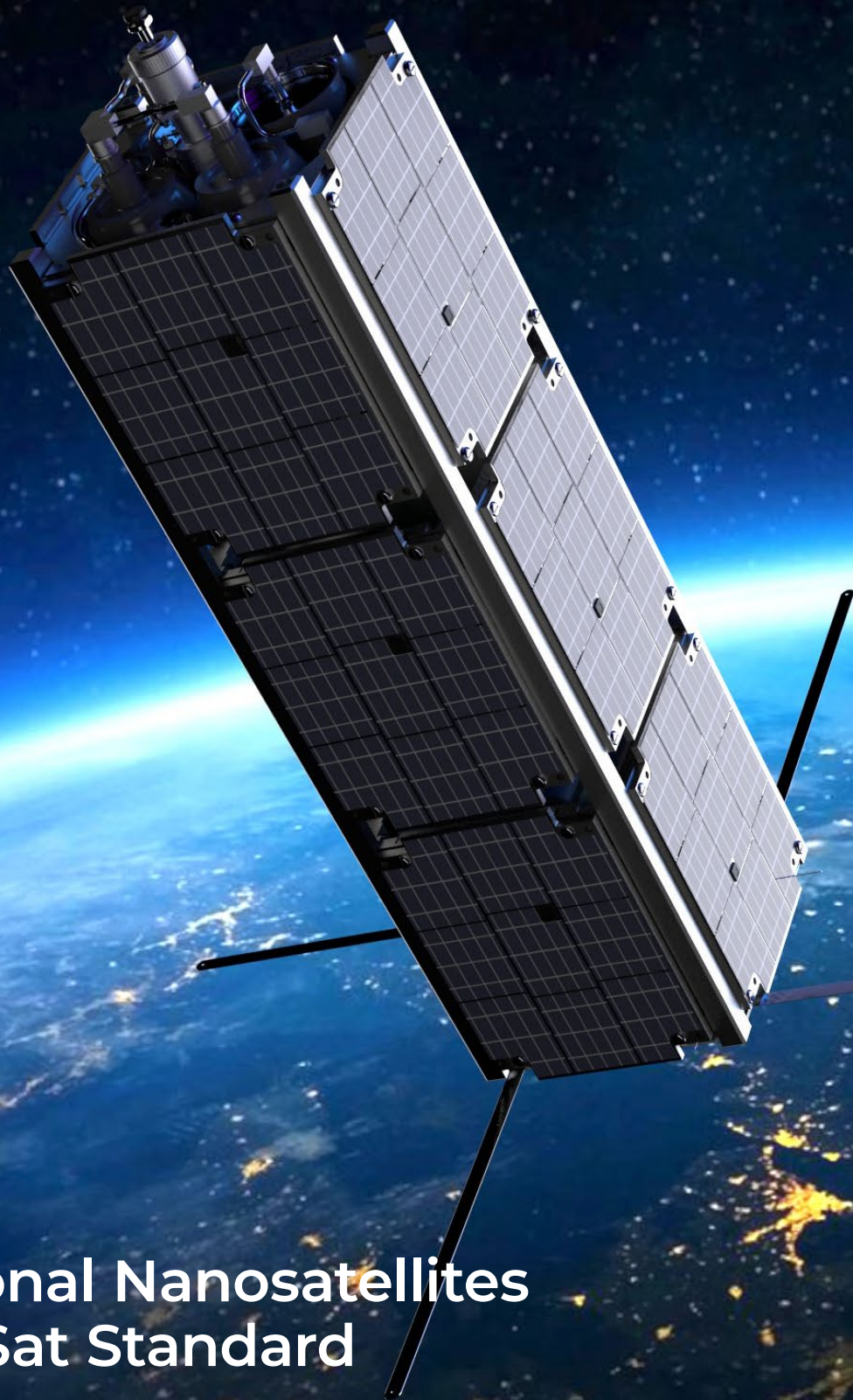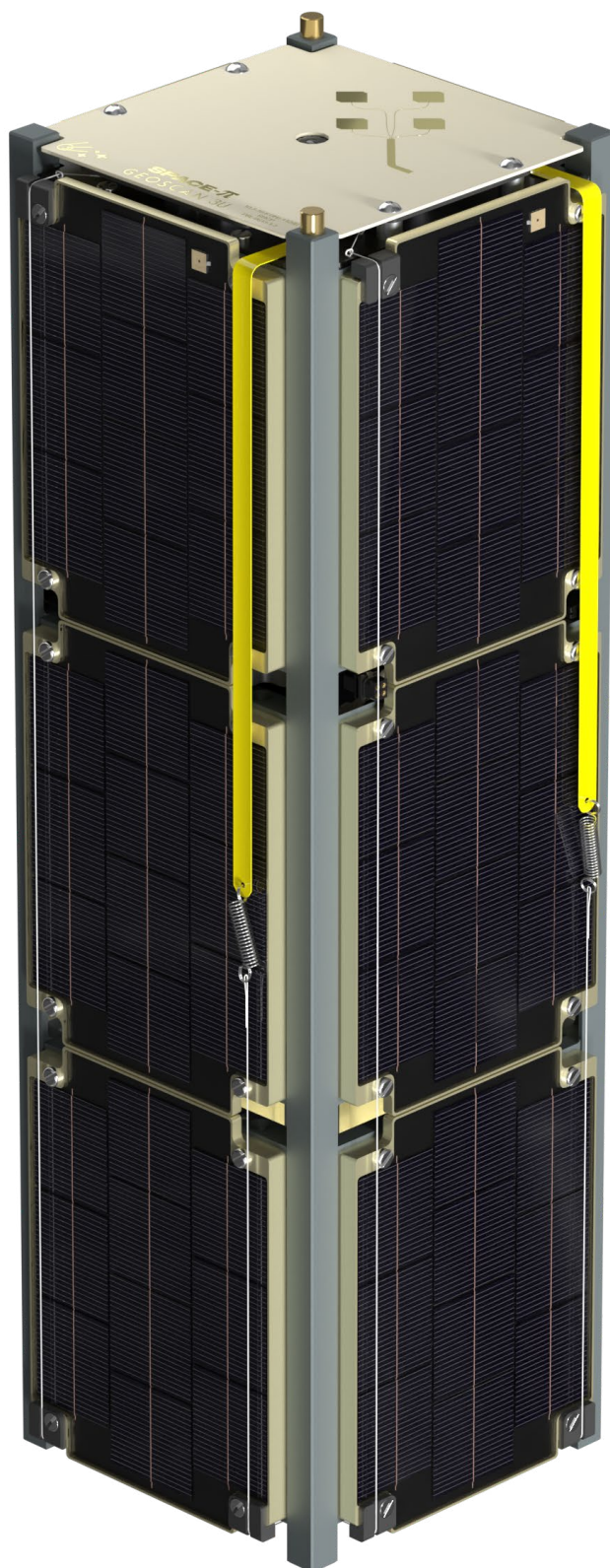# GEOSCAN

Geoscan
Educational Nanosatellites
of CubeSat Standard

The platform allows combination
of components and adaptation
to specific payloads

Geoscan 3U

Table. Geoscan 3U specifications

Specification	Modification 1 (truncated configuration)	Modification 2 (full set)
Assembled weight (without a payload), kg	1,8	2,3
Maximum weight of a payload, kg	4,2	3,7
Maximum weight including a payload, kg	6	6
Dimensions folded (with separation system locked), mm	100×100×340,5 (100×100×376,5 with Tuna Can)	
Available volume for a payload, mm	95×95×180 (~2U)	
Radiation protection	aluminum sheet 1,2 mm	
Available supply for a payload	stabilized 3,3…12 B / 2 A, unstabilized 7…8,4 B / 2A	
Payload average power at LEO (specified for a specific orbit), W	2	
Available maximum output of a payload (specified for a specific orbit), W	15	
Storage battery capacity, W*h	50	
Battery type	Li-ion 2S 7200 mAh	
Number of solar panels, pcs.	up to 12 (silicon)	
Peak output produced on 1 solar panel in LEO, W	at least 1	
Onboard interface	CAN	
Payload interface	CAN / UART / SPI, others on request	
Low-speed radio channel frequency, MHz	435–438	
Data transmission speed through low-speed radio channel, bit/s	2400, 9600, 57600	

Specification	Modification 1 (truncated configuration)	Modification 2 (full set)
High-speed transmitter frequency, GHz	—	10,45–10,5
High-speed radio channel data rate, Mbit/s	—	up to 250
Radio command channel signal modulation type	frequency	
Type of modulation of a high-speed radio channel signal	—	phase
Antenna type of low-speed radio channel	turnstile	turnstile
Antenna type of high-speed radio channel	—	antenna array
Maximum transmitter power, dBm	30...32	
Orientation system	magnetometers, solar sensors, horizon sensor, inertial module	magnetometers, solar sensors, horizon sensor, inertial module GNSS receiver
Attitude support system	magnetic coils	magnetic coils, flywheels
Stabilization modes	B-Dot	B-Dot triaxial orientation: • in the sun, • at nadir, • to a point on Earth
Orientation accuracy	up to 1°	
Attitude system accuracy	—	up to 1°
Additionally	2 MP technology camera, Software update via low-speed radio channel, Management of small spacecraft for 1 year after launch	
Documentation	Passport, Manual	

GEOSCAN

Geoscan is one of the leading Russian developers and manufacturers of unmanned aerial systems (UAS) for aerial photography and geological exploration. The company engaged in the development of small spacecrafts in 2021. CubeSat standard small satellites developed under the educational Space-π project of the Foundation for Assistance to Innovations. The company's main task in developing satellites is to increase in permissible mass and volume payload.