



KazEOSat-2

Technical Sheet

Following tables outline the main characteristics of the KazEOSat-2 space and ground segments:

1. Main Characteristics of the Space Segment:

Number of satellites	1
Manufacturer	Surrey Satellite Technology Ltd. (SSTL)
Operator	Kazakhstan Gharysh Sapary (KGS)
Launch	Jun. 19 th , 2014 – Dnepr-1 launcher
Design lifetime	7 years
Size	0.7 m x 0.8 m x 0.9 m
Launch mass	185 kg

TABLE 1: MAIN CHARACTERISTICS OF THE SPACE SEGMENT

2. Orbital Characteristics and Viewing Capability :

Orbit	Sun-synchronous; 10:30 AM local time on descending node
Altitude	630 km
Inclination	97.9°
Period	97.2 minutes
Incidence angle	Up the +/-35° off-nadir angle
Revisit	3 days over medium latitude ¹
Pointing agility	60° slew in 90 s
Acquisition capacity	Up to 1,000,000 km ² daily
Nominal imaging mode	77km-swath strips, up to 4000km long
Stereo capability	Single pass stereo (Fore and aft mode)

TABLE 2: ORBITAL CHARACTERISTICS AND VIEWING CAPABILITY

3. Characteristics of the Optical Instrument

Optical system	KEIS instrument designed and developed by Jena-Optronik GmbH (RapidEye constellation heritage), with a 145 mm aperture diameter.
Spectral bands (specification)	Blue: 0.44-0.51µm Green: 0.52-0.59µm Red: 0.63-0.685µm Red-Edge: 0.69-0.73µm Near Infrared: 0.76-0.85µm <i>The 5 bands are always acquired simultaneously.</i>
Spatial resolution	6.5m
Swath	77km at nadir
Dynamic range at acquisition	12 bits per pixel

¹ Depends on the latitude of the area of interest

Instrument telemetry link rate

X-band channel - 160 Mbits/s

TABLE 3: CHARACTERISTICS OF THE OPTICAL INSTRUMENT

4. Location of the KazEOSat-2 Ground Segment:

Main receiving station	Astana (Kazakhstan)
S-Band uplink station	Astana (Kazakhstan)
Programming centre	Astana (Kazakhstan)
Production centre	Astana (Kazakhstan)
Satellite control centre	Astana (Kazakhstan)

TABLE 4: LOCATION OF THE KAZEOSAT-2 GROUND SEGMENT

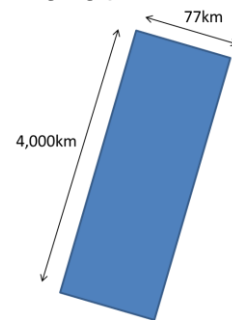
5. KazEOSat-2 Single Pass Collection Modes:

Imaging mode

Strip mode

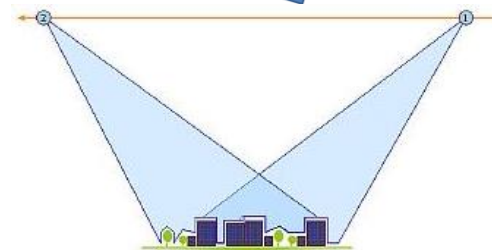
is conducted for the imaging along the route of the spacecraft, with the width of 77 km and length up to 4,000 km.

Imaging possibilities



Stereo mode

is conducted along the maneuver of the spacecraft with possibility to make images of the same territory with different imaging angles with width of 77 km and length up to 90 km.



Mosaic mode

is conducted along the maneuver of the spacecraft with the possibility to make the images of two adjacent strips (each of 20 km) with width of 140 km and length up to 90 km.

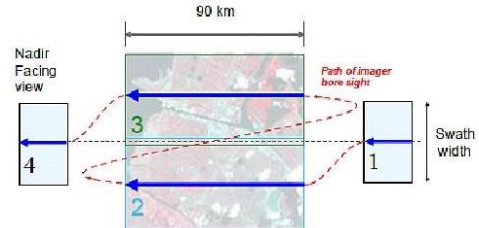


TABLE 5: KAZEOSAT-2 SINGLE PASS COLLECTION MODES