

Azerspace/Africasat-1a

Hybrid C-band and Ku-band Commercial Communications Satellite



Mission Description

Under a contract with The Ministry of Communications and Information Technologies of the Republic of Azerbaijan (the Ministry), Orbital ATK designed and built the Azerspace/Africasat-1a commercial communications satellite. Based on Orbital ATK's flight-proven GEOStar-2™ platform, the hybrid C- and Ku-band satellite generates approximately five kilowatts of payload power and carries 36 active transponders. Azerspace/Africasat-1a provides communications services to Azerbaijan, Central Asia, Europe, and Africa from an orbital location at 46 degrees East Longitude through an arrangement between the Ministry and Measat of Malaysia, which owns the rights to the orbital slot.

The GEOStar™ Advantage

Orbital ATK's highly successful Geosynchronous Earth Orbit (GEO) communications satellites are based on the company's GEOStar spacecraft platform, which is able to accommodate all types of commercial communications payloads and is compatible with all major commercial launchers. The company's GEOStar product line includes the GEOStar-2 design, which is optimized for smaller satellite missions that can support up to 5.0 kilowatts of payload power. Orbital ATK has also developed the higher-power GEOStar-3 spacecraft design, delivering the next increment of payload power for applications between 5.0 and 8.0 kilowatts, allowing Orbital ATK to offer its innovative and reliable satellite design to the medium-class of communications satellites.

FACTS AT A GLANCE

Coverage:

Azerbaijan, Central Asia, Europe and Africa

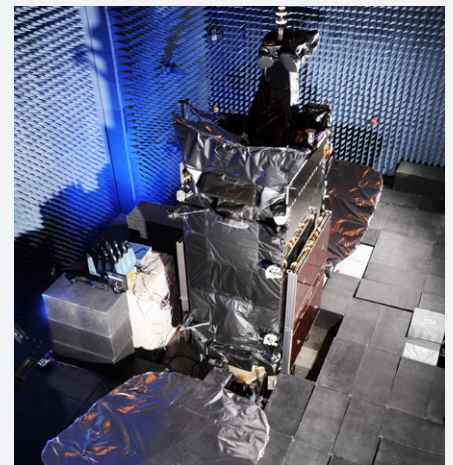


Mission:

C- and Ku-band communications

Customer:

Azercosmos OJSCo.



Azerspace/Africasat-1a in Orbital ATK's Dulles, Virginia satellite manufacturing facility

Azerspace/Africasat-1a

Specifications

Spacecraft

Launch Mass:	3,275 kg (7,220 lb.)
Solar Arrays:	Four panels per array, UTJ Gallium Arsenide cells
Stabilization:	3-axis stabilized; zero momentum system
Propulsion:	Liquid bi-propellant transfer orbit system; monopropellant (hydrazine) on-orbit system
Batteries:	Two >4840 W-Hr capacity Li-Ion batteries
Mission Life:	15 years
Orbit:	46° East Longitude

Hybrid Payload

C-band

Repeater:	24 active transponders
Antenna:	2.5 x 2.7 m single shell super-elliptical deployable reflector; 1.4 x 1.4 m single shell super-elliptical deck-mounted

Ku-band

Repeater:	12 active transponders
Antenna:	2.5 x 2.7 m single shell super-elliptical deployable reflector

Launch

Launch Vehicle:	Ariane 5
Site:	Kourou, French Guiana
Date:	February 7, 2013

Mission Partners

Azercosmos OJSCo.

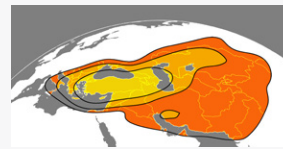
Orbital ATK

Prime Contractor for the Azerspace/Africasat-1a spacecraft and ground system

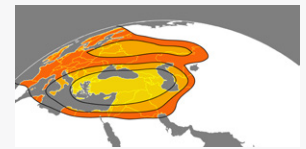
Coverage Contour Maps

Ku-band EIRP Contours – 11.2 GHz

East (Central Asia)

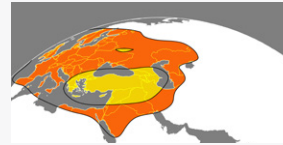


West (Europe)

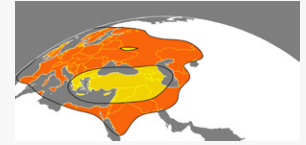


Ku-band G/T Contours – 14.0 GHz

East (Central Asia)

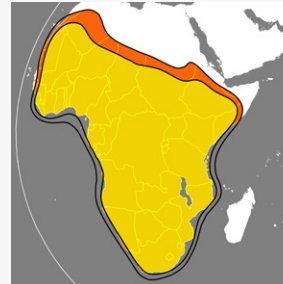


West (Europe)

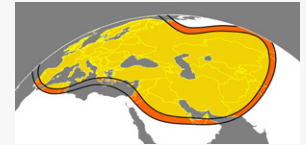


C-band EIRP Contours – 3,740 MHz

Africa and Europe

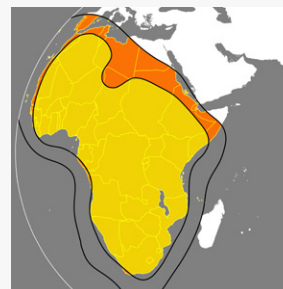


Central Asia and Europe



C-band G/T Contours – 5,965 MHz

Africa and Europe



Central Asia and Europe

