

ESPASatellite-HP™

High Reliability Operational Access to Space

The Northrop Grumman ESPASatellite-HP extends the capabilities of the flight-proven ESPASatellite product line to create new operational mission capability. Redundant components are utilized to increase the reliability of the platform.

The ESPASatellite-HP platform provides increased payload size, mass and power allocation, as well as increased ΔV for GEO missions five years in duration or greater. The ESPASatellite-HP uses the same heritage components from the successful, flight-proven ESPASatellite product line and provides key enhancements to support operational missions. Enhancements include an optional M-Code compatible

GPS receiver, fully redundant avionics, "4 for 3" reaction wheel assemblies, a redundant communication subsystem, and payload hosting capability on the equipment deck to augment the 12 PPICD compliant payload ports. The ESPASatellite-HP operational platform is ready to serve your mission payload needs.

ESPAStar-HP™

SPECIFICATIONS

SPACECRAFT

Orbit:	Optimized for GEO, adaptable for LEO and MEO missions
Targeted Mission Durations:	Five to seven years
Reliability:	$P_s > 0.8$ @ 5 yrs, Selective Redundancy
Dry Mass (no P/Ls):	< 900 kg (orbit-dependent)
Dimensions (no P/Ls):	157.5 cm dia. x 127 cm (62" dia. x 54" ht.)
Fuel Capacity:	558 kg
Payload Mass:	> 1,920 kg (> 320 kg per port)
Payload Power (OAP/PK):	3 kW (base), optionally up to 4 kW
Battery:	450 A-hr Li-ion
Downlink Rate:	400 kbps/5.6 Mbps via AFSCN, also USB compatible
Uplink Rate:	2.0 kbps via AFSCN
Payload Data Storage:	Up to 48 GB, dynamically allocated by mission integrator
Attitude Knowledge ^α :	< 10 μ rad (1 σ)
Attitude Control ^β :	< 50 μ rad (1 σ) via 3-Axis RWA control
Jitter at Payload Interface:	< 20 μ rad, (1 σ), > 0.1 Hz
Slew Rate:	≥ 0.5 deg/sec
Position Control:	12 x 0.9-N + 4 X 22 N REAs, 6 DoF control
Position Knowledge:	< 25 m (1 σ), < 5 m typical

FOR MORE INFORMATION

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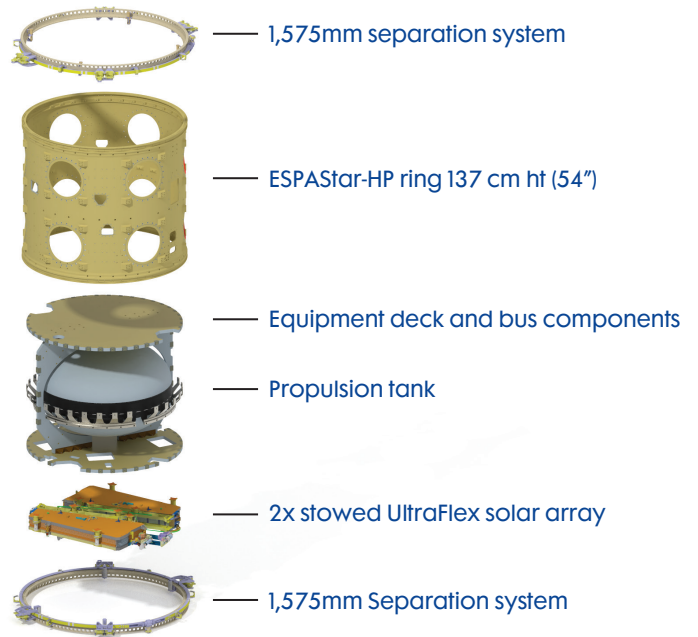
MISSION SERVICES

- Mission Analysis
- Payload Integration
- Testing and Verification
- Launch Vehicle Integration
- Launch Operations
- Mission Operation
- Safety & Mission Assurance

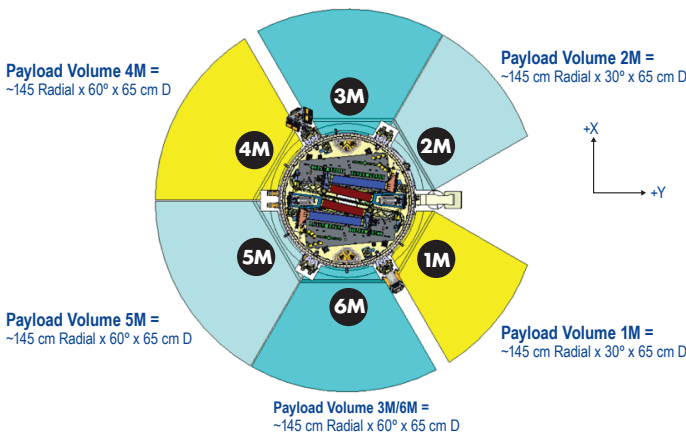
^α = Assumes additional contributions to attitude knowledge error are removed by adding additional star tracker head and/or payload data

^β = Assumes < 10 μ rad (1 σ) attitude knowledge error

ESPAStar-HP PLATFORM



Payload Volumes 1-6M



Payload Volumes 1-6P

