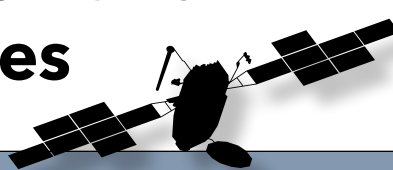
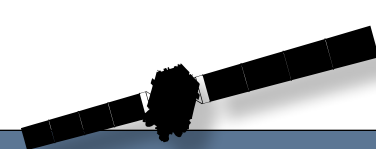


Next Generation and Legacy Satellites

Feature	Next Generation Satellites	Legacy Satellite
Orbital Positions	30°W (NG3), 29°E (NG1)	30°W
Frequency Bands	X, mil-Ka, UHF	X only
Cross Strapping	Full Ka-X	N/A
Antennas	X: Global Horn, Beam Shaping Ka: Parabolic, Global UHF: Helix (1 TX, 7 RX)	Global Horn, Parabolic
Polarization	X: Dual Polarization Ka: Single Polarization (RHCP Uplink/LHCP Downlink)	Dual Polarization
Payload	Digital Transparent Processor	Fixed Transponders
Beams	X: Global (1 per pol) and Shapable/ Steerable Spots (8 per pol) Ka: Hemispheric (1) and Steerable Spots (6) UHF: Global	Global (1 per Pol) and 2-3 Steerable Spots per Pol
Spot Beamwidth	X: Variable (2.2° to Global) Ka: 0.6m: 1.98°TX and 1.35°RX, 0.8m: 1.24°TX and 0.85°RX	Fixed: 4.5°
Channel Bandwidth	X and Ka: Variable and Independent UHF: 25 kHz (9)	72 MHz Fixed
Connectivity	X and Ka: Flexible per Channel	Limited per 72 MHz Transponder
Anti-Jamming (on-board)	X: Nulling, Limit Downlink, Geolocation Ka: Limit Downlink	None
Nuclear Hardened	Yes	No
Power Flexibility	X: Full Flexibility per Pol Ka: Flexibility Every Two Beams	No
Operation Modes	Fixed Gain Mode (FGM) and Automatic Level Control (ALC) at Channel Level	FGM and ALC at Transponder Level
Service Availability	NG1: In Service NG3: 2031	XTAR-LANT In Service