Key Performance Requirements

Mirror Effective Area	3 m^2 @1.25 keV 0.65 m^2 @ 6 keV with a goal of 1 m^2 150 cm^2 @ 30 keV with a goal of 350 cm^2	Black hole evolution, large scale structure, cosmic feedback, Strong gravity, EOS Cosmic acceleration, strong gravity
Spectral Resolution (FWHM)	ΔE = 2.5 eV within 2 x 2 arc min (0.3 – 7 keV) . ΔE = 10 eV within 5 x 5 arc min (0.3 - 7 keV) ΔE =150 eV at 6 keV within 18 arc min diameter (0.1 - 15 keV) E/ΔE = 3000 (0.3–1 keV) with an area of 1,000 cm^2 and a goal of 3000 cm^2 for point sources ΔE = 1 keV within 8 x 8 arc min (10 – 40 keV)	Black Hole evolution, Large scale structure Missing baryons using tens of background AGN
Angular Resolution	≤5 arc sec HPD (0.1 – 7 keV) 30 arc sec HPD (7 - 40 keV); goal of 5 arc sec	Large scale structure, cosmic feedback, black hole evolution, missing baryons
Count Rate	1 Crab with >90% throughput. ΔE < 150 eV @ 6 keV (0.1 – 15 keV)	Strong gravity, EOS
Polarimetry	1% MDP on 1 mCrab,100 ksec, 3σ, 2 - 6 keV	AGN geometry, strong gravity
Astrometry	1 arcsec at 3σ confidence	Black hole evolution
Absolute Timing	50 μsec	Neutron star studies