



MAGICBus

ESPA-Class Microsatellite

AMA’s MAGICBus spacecraft provides a robust and configurable platform designed to accommodate an EELV Secondary Payload Adapter (ESPA) launch. The spacecraft is derived from AMA’s highly successful Kestrel Eye Block IIM spacecraft that was deployed from the International Space Station in 2017, avionics used in AMA’s line of CubeSats, and AMA’s heritage line of ADACS hardware. The bus provides a dedicated payload volume, various pointing modes, and a significant delta-v capability — thereby accommodating a wide variety of payloads and payload concepts of operation.

Specifications

Performance Item	Specification
Dimensions	Baseline 22.45 x 23.17 x 38 in stowed Configurable to 24 x 28 x 38 in stowed
Payload Volume	Baseline 22.25 x 18.25 x 17.75 in
System Mass	< 180 kg wet mass, up to 60 kg payload mass
Pointing Control	$\pm 0.1^\circ 3\sigma$
Position Knowledge	< 10 m
Slew Rate	1°/sec
Uplink	Options for S and L band
Downlink	Options for S and X band
Encryption	AES256 standard, options for Type 1 and TSAB
Delta-V	Up to 332 m/s, hydrazine system
Power	Configurable number of fixed arrays, up to 7 panels Accommodates up to 250 W orbit average payload load.
Design Lifetime	3 years
Standard Payload Interface	28 V Unregulated Power Switches (x4) RS-422 Data Interface (x1) 3.3 V Analog Inputs (x8) Bi-level Inputs/Outputs (x5)