

WINGS OF FIRE

Payload Guidelines



About STAR:

STAR - Space Technology & Aeronautical Rocketry is a space education and launch service based startup that aspires to make space accessible for everyone.

About KALAM:

KALAM is an experimental sounding rocket designed to launch students' experiments to space into a suborbital trajectory and provide access to space at an affordable cost.

About Wings of Fire:

Wings of Fire is the 1st flight demonstration mission of KALAM that will carry 12 students-built experiments up to the altitude of 150 km and return them back safely.

Mission timeline:

Event announcement	5 th November 2021
Abstract submission	10 th December 2021
Round-1 screening results	10 th January 2022
Preliminary Design Review (PDR)	15 th February 2022
Round-2 screening results	25 th February 2022
Detailed Project Report (DPR) submission	5 th April 2022
Critical Design Review (CDR)	10 th April 2022
Final team selection	14 th April 2022
Satellite building & shipment	10 th July 2023
Launch	15 th August 2023
Satellite shipment back to the owner	15 th September 2023

Payload Criteria:

1. Satellite shall have dimensions as stated below:
 - Size: 10 x 10 x 10 cm (1U cubesat)
 - Mass: < 500 g
2. Satellite shall not have any deployable or ejectable part or component.
3. Satellite shall not have any pyrotechnic component
4. Satellite is not supposed to be deployed from the rocket
5. Satellite structure and components shall be able to tolerate 15G of the launch acceleration and 10G of the launch shock.
6. Satellite shall not use radio frequency based device or components for communication and shall only use data logging components to store and acquire satellite data for research.
7. All electronics and other subsystems should be hard mounted using proper mounts
8. Power source shall use Nickel-Cadmium, Zinc-Carbon, Lithium-Ion, or Alkaline batteries. Use of Lithium polymer battery is prohibited.
9. Satellite shall run or operate for a minimum of 2 hours when integrated into the rocket