New Space Mission 1

Payload user guide brief

The following document will outline fundamental details of the planned high-altitude balloon mission for potential payload suppliers. If you are interested to have a payload on board, please forward payload details of mass, dimensions and short description of the payload to the email address provided below.

Flight environment characteristics

Altitude: approximately 30km

External temperature ranges: -70 degree C to +20 degree C

Internal Payload Bay temperature ranges: 10 degree C to 35 degree C

Descent rate: 5-8m/s

Recovery System: Parachute and emergency remote payload detach mechanism

Tracking System: APRS radio downlink and Commercial Spot GPS services

Mission Flight time: Approximately 2 hours

Flight conditions: Highly dependent on weather conditions. Expect the payload to experience high degrees of rotation along length of payload line and experience pendulum motion during cross winds.

Payload Bay Details

Heavy duty Styrofoam box

Internal volume dimensions: 240 x 190 x 205mm

External dimensions: 370 x 340 x 305mm

Secure point: Single eye bolt connected to main payload line connecting to tracking system.

Exterior will be taped with Aluminium tape for radar reflectance.

Payload Requirements

Mass: <= 2.5kg

Radio emissions: Frequencies in between 430-450MHz and 145.175MHz are prohibited. All other frequencies acceptable. Must consult with organisers to ensure no interference with other payloads.

Dimensions: Must fit within the internal volume dimensions.

Individual Payload Enclosures: Must not exhibit lose cabling. Payload should be housed in a non-conductive enclosure to separate payloads between each other.

Access to outside environment: Must consult with organisers to discuss payload box modifications to enable sensing of external environment.