

## UniSat-5



UniSat-5 is the fifth microsatellite of the UniSat program of the University of Rome (Universita di Roma "La Sapienza", Scuola di Ingegneria Aerospaziale).

The launch of UniSat-5 satellite, boarded on the Dnepr rocket, took place on 21 November 2013 from Yasnny cosmodrome in Russia, marking an historical event in the world of CubeSats and nanosatellites. The spacecraft was inserted into a near-SSO orbit with an altitude of 634 km at 07:25:48 UTC.

### Payload

UniSat-5 carried four CubeSats:

PUCP-Sat-1 (Perù), ICUBE-1 (Pakistan), HUMSAT-D (Spain), Dove-4 (USA)

and four PocketQubes:

T-LogoQube (Eagle1-USA), \$50Sat (Eagle2-USA), WREN (Germany), QubeScout (USA)

These CubeSats and PocketQubes have all (except one, Dove-4) been released into orbit. PEPPOD and MRFOD Systems correctly released 4 PocketQubeSats and 3 CubeSats. PocketQubes have been successfully launched in space for the first time 6 out of 7 satellites have been received DOVE-4 was not deployed (safety procedure was not applied after customer request).

The following facts reveal the significance of this event:

First launch of Cubesats and PocketQubes from another nanosatellite

First launch of PocketQubes ever

First Peruvian satellites, PUCP-Sat-1 and PocketPUCP-Sat (that will be released from PUCP-Sat-1)

First test of Pulsed Plasma Thruster on a picosatellite (WREN by Sta.do.Ko)

UniSat-5 is a cuboid manufactured using aluminum honeycomb reinforced by aluminum internal panels.

In particular, two panels fixed in a X configuration characterize the satellite internal structure and allow to accommodate all the payloads and electronic boards.

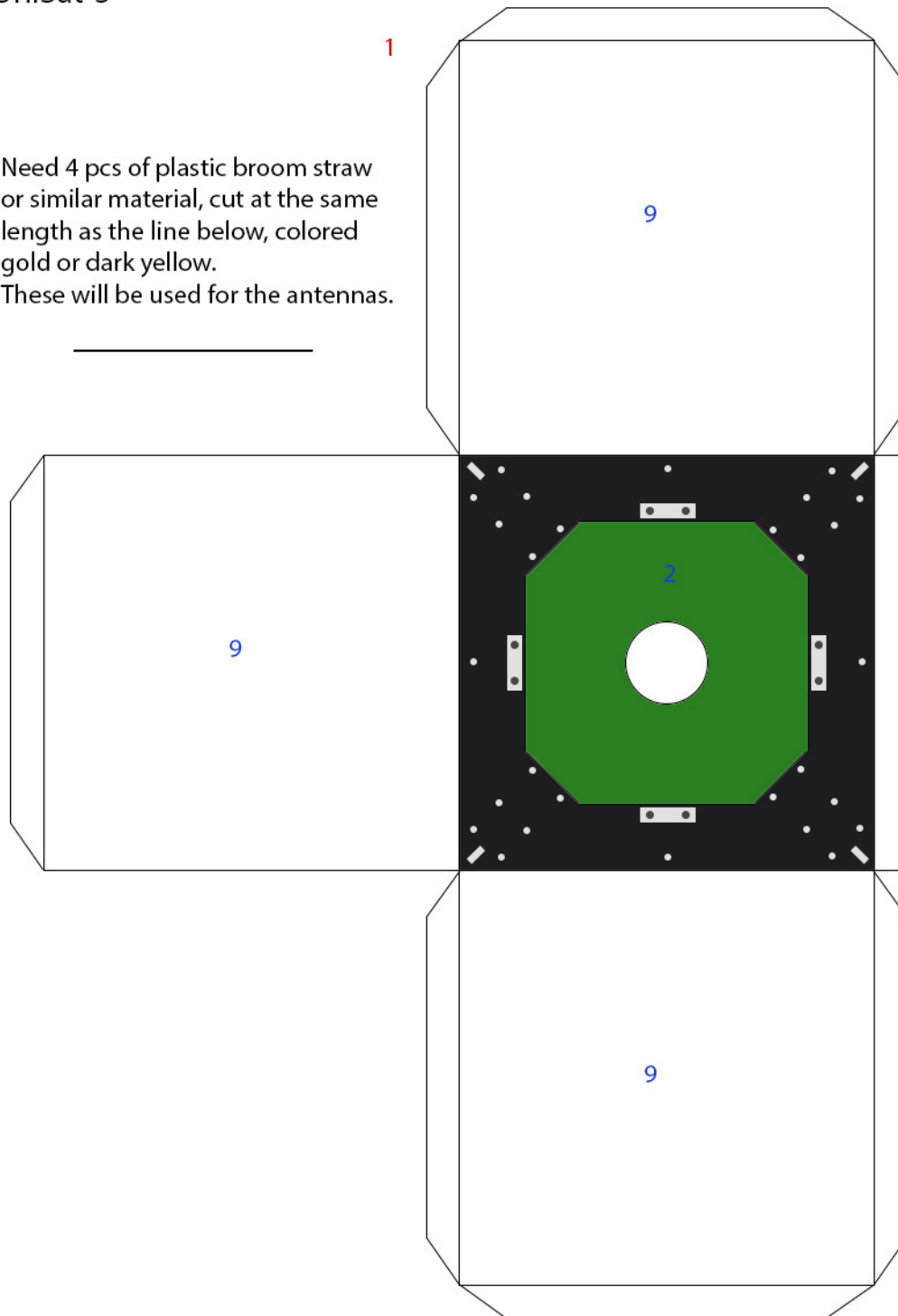
Its external side panels have a surface area of 50 cm x 50 cm (19.7 inches x 19.7 inches).

The total microsatellite mass is 28 kg.



# UniSat-5

Need 4 pcs of plastic broom straw or similar material, cut at the same length as the line below, colored gold or dark yellow. These will be used for the antennas.

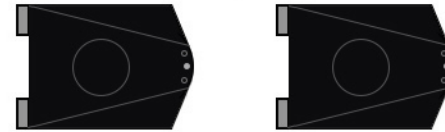


Poke small holes on the black dots



6

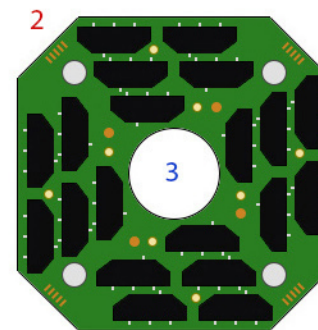
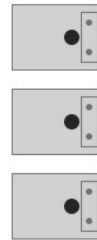
Glue these to 2 layers of cardstock



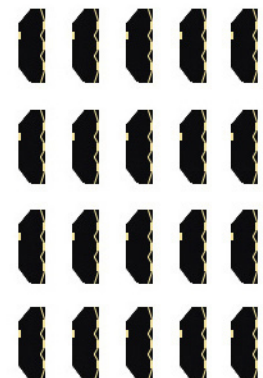
7



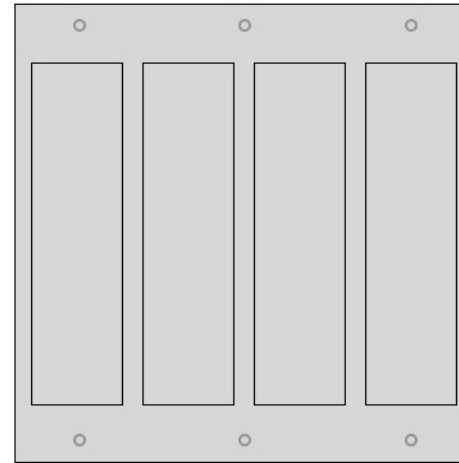
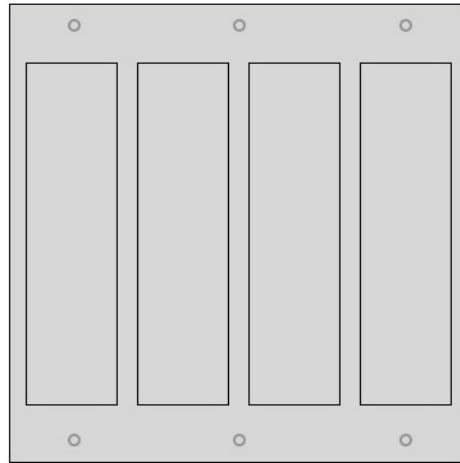
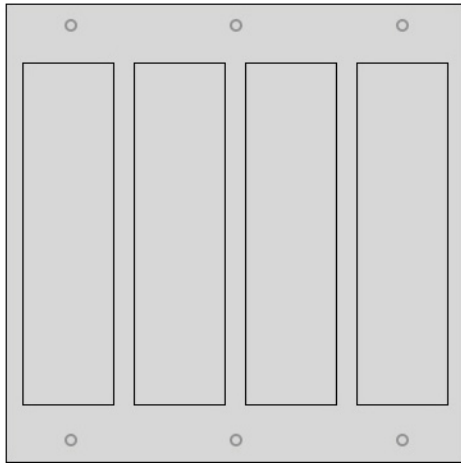
8



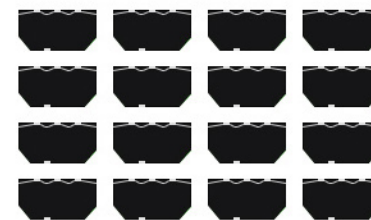
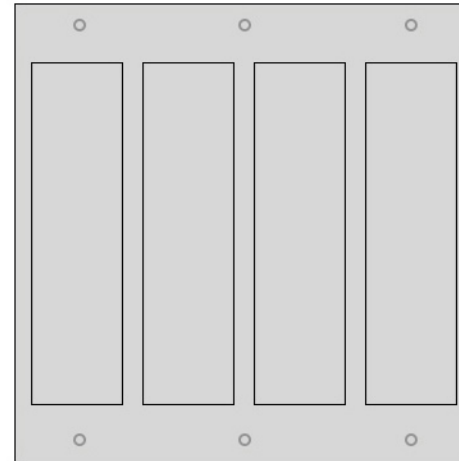
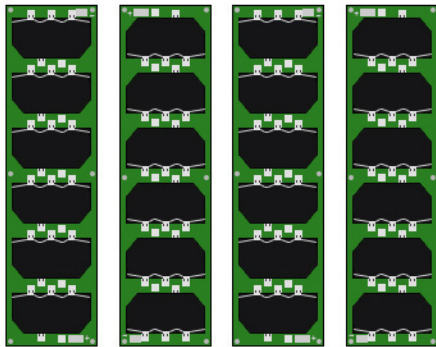
4



9



10



2 spares

Optional detail parts

11

