

Form 442 File Number: 0100-EX-PL-2012

Description of Research Project

The Dove 2 mission is an internal company technology demonstration experiment to test the capabilities of a low-cost spacecraft constrained to the 3U cubesat form factor to host a small payload.

Dove 2 will do this by transmitting health and payload data to the ground. The payload data consists of image data taken from an on board nadir pointing camera. The images will be downlinked over the ISM frequency band at 2.4 GHz and the earth observation frequency band at 8.2 GHz.

The dimensions of the spacecraft are consistent with CubeSat and P-POD standards. It is a single unit with the dimensions of 10 cm X 10 cm X 33 cm. The total mass is about 5.8 kg.

One important metric of mission success is the ability to build a solar panel/battery/power distribution system that will last for years in orbit, so the mission duration will be one year. The spacecraft will launch on August 31st into an elliptical orbit of 290 km by 575 km with a 64.9 degree inclination.

Equipment List

Manufacturer	Model Number	Number of Units	Experimental
Cosmogia	D3-2425	1	Yes
Cosmogia	D3-8225	1	Yes
NAL Research	9602-I	1	No
Microhard	MHX-2420-FT	1	No