AC4 Orbital Debris Statement (0423-EX-ST-2012)

The AC4 CubeSat is a 1.3 kg satellite consisting of circuit boards, batteries, and an aluminum frame. The overall size consists of a main body that is 4x4x4 inches in dimension and two deployable wings that are 4x4x.25 inches in dimension. See Figure below. The largest mass element is the body, constructed of 6061-T6 aluminum and weighing 179 grams. All other pieces are less mass. There are no high melting point materials that might survive re-entry. No debris is released from the satellite throughout its lifetime – everything stays attached. There are no pressurized vessels on this spacecraft except for batteries which are contained within the spacecraft and which have been tested to show proper operation of built-in safety vents. Orbital debris analysis predicts a lifetime between 12.3 and 21.2 years (see “orbit lifetime” Exhibit). We do not expect anything to survive re-entry.