

From: Jake Schaffner

To: John Kennedy
Date: June 16, 2003

Subject:
FCC File #: 0063-EX-PL-2003

Message:

Mr. Kennedy,

Below is my response to your questions:

1. Area to mass ratio?

The surface area is 600 square centimeters, and the mass is 1kg. The area to mass ratio would then be $60 \times 10^{-3} \text{ m}^2/\text{kg}$. The ballistic coefficient is about $16.7 \text{ kg}/\text{m}^2$.

2. Expected orbital lifetime?

Based on the ballistic coefficient of $16.7 \text{ kg}/\text{m}^2$ and the orbit altitude of 500-600km, the orbital lifetime would be about 1-2 years, according to the charts I have.

3. Large orbital avoidance plan?

This satellite will launch from a Russian launch vehicle with 21 other payloads and the orbital avoidance plans will be put in place by the launch provider. We have no direct control over this.

4. Is there the ability to deorbit the satellite?

No. The expected orbital lifetime and LEO orbit does not seem to warrant adding capability to deorbit. We do, however, have the capability to cease all transmissions.

5. Is the lifetime is expected to be greater than 25 years?

No. The orbital lifetime is about 1-2 years and the mission itself only lasts about 30 days. After this, we plan to disable the spacecraft, ceasing all transmissions.

Let me know if you have any further questions.

Best Regards,

Jake Schaffner