

From: Michael Miller

To: Leann Nguyen

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Subject: Request for Info - File # 0159-EX-CN-2021

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Message:

Question: What are the dimensions of the solar panels and of each Antenna?

Answer: The solar panels and the antennas, except for the GPS patch antennas, are illustrated in Figure 1 on page 6 of the ODAR report. The dimensions of each are listed here.

Solar panels: A total of 16 solar panels are used. Each panel is modeled as a flat plate with dimensions 0.2 meters x 0.266 meters. The panels are arranged in two arrays of 8 panels each. The arrays unfold as two parallel, back to back strings, extended about 2.1 meters from the body of the spacecraft.

Antennas:

Two GPS antennas are located on opposite sides of the spacecraft. They are modeled as cylinders 0.03 meters diameter x 0.035 meters height.

There are two 915 MHz antennas, which also function as small drag panels. These are modeled as flat plates, each is 0.08 meters x 0.366 meters.

There are two 156 MHz antennas. They are modeled as flat plates, each is 0.0254 meters x 0.48 meters.

There are two 24 MHz antennas. Each antenna is a composite of two elements held together by plastic shrink tubing. These elements are a nitinol wire 0.002 meters diameter x 6.08 meters length, and a copper alloy wire 0.0012 meters diameter x 6.08 meters length.