

From: Christopher Wilkins

To: Doug Young
Date: May 02, 2017

Subject: Request for Info - STA File #0448-EX-ST-2017

Message:

Justification for operation at 402.7 kW ERP:

For the 17.303GHz and 18.0974GHz uplink frequencies, there is a ground dish antenna (with AGL of approximately 1m) aligned with the fairing on the launch pad. The gain of this antenna, which is 45.1dB is required to close the re-rad link over the air. With this antenna gain and transmit power of 20W, the ERP levels will be around 56dBW or 402.7KW. The ERP value is due to multiplication of gain and transmitter power, with the half-power beamwidth of 0.62 degrees pointed directly toward the fairing.

Note that the 600uW ERP values mentioned in the 2nd section of STA application, for these same frequencies, are for indoor operation with no over the air transmission, and because of that, the ERP is lower. This configuration and power level is not applicable to the configuration described above.