

Supplemental Technical Information

Background

On 4/29/2005, Hughes Network Systems License Sub, LLC (“Hughes”) filed an application to allow testing of wheeled vehicles equipped with Ku-band fixed-satellite service earth terminals capable of communicating with satellites while on the move. These vehicles are being developed in the United States for use by the Department of Defense in deployments overseas. On 6/3/2005, the FCC granted an STA which has been used by Hughes in order to test HughesNet VSAT modems with General Dynamics antennas.¹

Given the success of this testing, Hughes filed an application on 1/30/2006 to convert the experimental STA into a permanent experimental license.² On 5/5/2006, Hughes amended its application to, among other things, add new types of vehicle antennas.³ The International Bureau subsequently requested additional technical information regarding the different antennas to be deployed. The Bureau indicated that this information was needed to allow an assessment of off-axis EIRP levels to be made. Hughes provides this Supplemental Technical Information to the Commission, in the form of an amendment to its pending application, in response to the Bureau’s request.

Antenna Models

The new antenna models being proposed for deployment in Hughes’ May 2006 Amendment are as follows:

- a. General Dynamics – 30 inch reflector
- b. General Dynamics – 24 inch reflector
- c. General Dynamics – 20 inch reflector
- d. General Dynamics – 18 inch reflector

¹ FCC OET Experimental STA application filed on 4/29/2005 under file number 0207-EX-ST-2005 (Call Sign WC9XET) and granted on 6/3/2005. This STA has been extended several times, and remains current.

² FCC OET Experimental application filed on 1/30/2006 under file number 0011-EX-PL-2006 (Call Sign WC9XET).

³ Amendment to FCC OET Experimental application filed on 5/5/2006 under file number 0011-EX-PL-2006 (Call Sign WC9XET).

The antenna gain patterns for these antennas are shown below in Figures 1 and 2. These patterns were submitted to the Commission on 10/26/2005 by General Dynamics as part of General Dynamics' own application under File No. 0117-EX-ML-2005 for Ku-band FSS earth terminals on wheeled vehicles. That application was subsequently granted by the Office of Engineering and Technology. A copy of General Dynamics' October 2005 submission is attached hereto. Hughes notes that none of the four new antennas comply with Section 25.209 of the Commission's Rules. In order to ensure that harmful interference is not received at adjacent satellites, Hughes proposes to reduce the power at the flange so that the off-axis EIRP produced by its General Dynamics terminals is no greater than the off-axis EIRP that would be caused by a Section 25.209-compliant terminal.

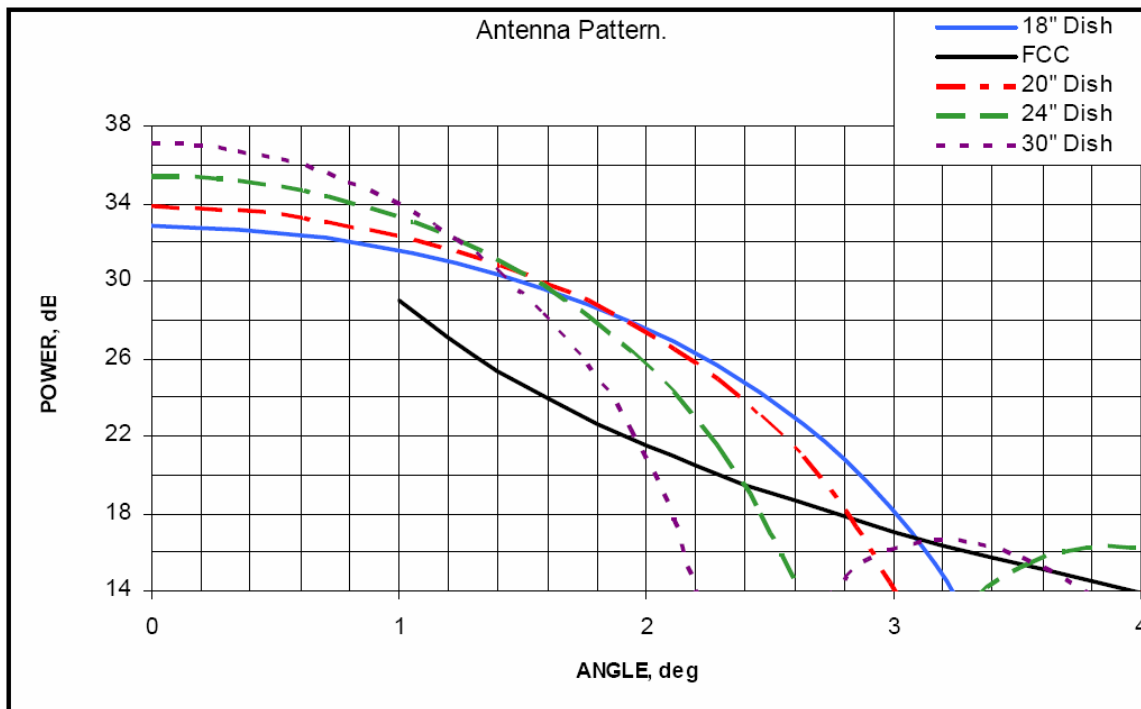


Figure 1 – Antenna Gain (Close In)

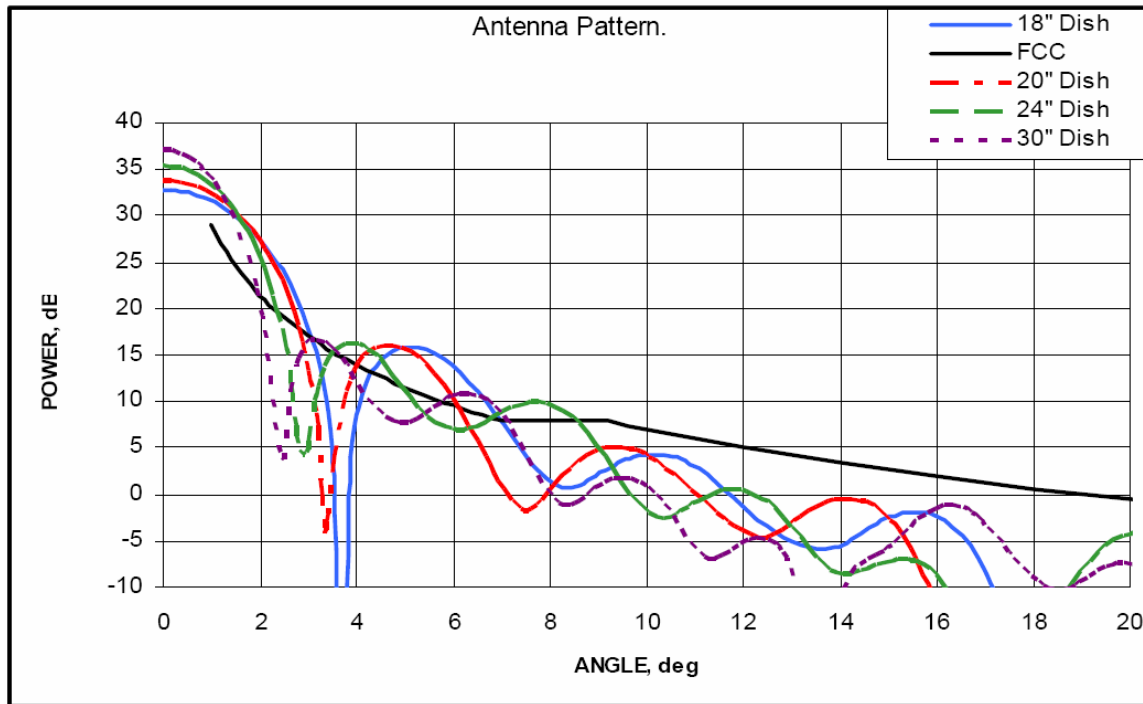


Figure 2 – Antenna Gain (Up to 20 Degrees)

In its submission to the FCC, General Dynamics proposed to limit the power density at the flange to -21 dBW/4 kHz for the 30 inch antenna and to -22 dBW/4kHz for the other antenna sizes. By limiting the flange power to these more conservative levels, the off-axis EIRP should be no more than that caused by a terminal compliant with Section 25.209 of the Commission's rules and using the maximum flange power of -14 dBW/4kHz. Hughes proposes to abide with the maximum power density levels that were derived by General Dynamics and approved by the Commission in its grant of File No. 0117-EX-ML-2005, and would welcome such a restriction as a condition on its authorization in the instant proceeding.

ATTACHMENT