From: Justin Robinson

To: Doug Young
Date: April 29, 2020

Subject: Request for Info - File # 0053-EX-CN-2020

Message:

In response to the Request for Info - File # 0053-EX-CN-2020.
Reference number : 54479

Submit the following information so that processing can continue
1. The PFD level calculation at the surface of the earth
2. The PFD level calculation at the GEO belt
Reference number: 54479

The antenna is ground mounted inside a roughly spherical radome. For the PDF calculation on the surface of the earth I estimated that the PFD at the radome is level over the front half of the radome. Please respond if I misinterpreted this.

For the 1.2M Antenna:
1) PFD level calculation at the surface of earth.

PFD=(Pr/4*pi*R^2)*2
PFD=25W/(4*pi*0.6^2)*2
PFD= 11W/m^2 (10.43 dBW/m^2)

2) PFD level calculation at the GEO belt.

PFD=ERP/(4*pi*r^2)
PFD= 96182.52/(4*pi*35786000^2)
PFD= 5.9767e-12 W/m^2 (-112.2 dBW/m^2)

For the 2.4M Antennas:
1) PFD level calculation at the surface of earth.

PFD=(Pr/4*pi*R^2)*2
PFD=25W/(4*pi*1.2^2)*2
PFD= 2.76 W/m^2 (4.41 dBW/m^2)

2) PFD level calculation at the GEO belt.

PFD=ERP/(4*pi*r^2)
PFD= 382909.5/(4*pi*35786000^2)
PFD= 2.37936-11 W/m^2 (-106.2 dBW/m^2)

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