

From: Anthony Serafini [<mailto:Anthony.Serafini@fcc.gov>]
Sent: Thursday, May 25, 2017 6:28 PM
To: david.wolter@att.com
Subject: Questions for 0085-EX-CN-2017

Hello David

Our International Bureau has the following questions and comments concerning your application. Please respond to the following.

IB/SD has reviewed the subject request and has performed a worst-case analysis to assess the potential impact to license FSS received earth stations operating in the 3700-4200 MHz band.

3700 – 4200 MHz band

Our analysis in the **3700 – 4200 MHz band** indicates a high **potential of harmful interference to in-band** license FSS received earth stations from the experimental fixed and mobile stations operations.

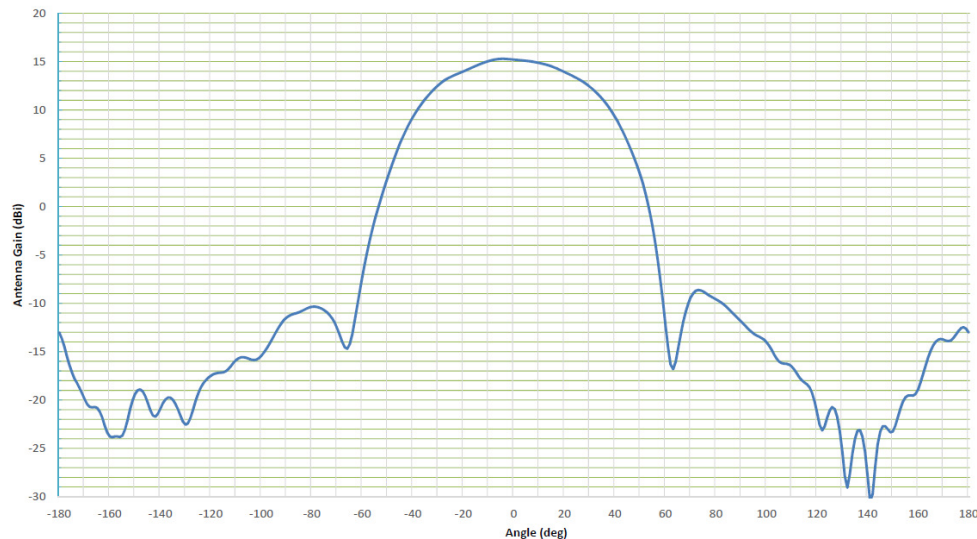
We will need additional information to determine the degree of potential of harmful interference in the 3700-4200 MHz band. We will need to know the exact antenna configuration/pointing directions, antenna altitudes, specific antenna gains & beamwidth and if antenna tilt-downwards.

- What is the maximum antenna height above ground level for each fixed stations and each mobile stations?

Sixteen (16) meters AG for fixed and three (3) meters for the mobile stations.

- Please provide an antenna pattern or a representative antenna pattern for the fixed and mobile stations.

Less than 16 dB of gain.



- What is the direction of each antenna pointing (azimuth and elevation angle)? Are they configured to provide a 360 degrees' coverage?

The fixed base station can be potentially directed at any azimuth and provide a 360 degree coverage.

- Will the fixed antenna be down tilted? If yes, what is the tilt angle?

The tilt angle would be zero to 15 degrees below horizon.

- Are mitigation methods being used to preclude interference to incumbent license FSS receive earth stations?

Yes. We have performed (using Comsearch Inc.) a search of C-band Part 25 satellite earth stations and Part 101 fixed microwave incumbents within 150 km of the license location (9825 Spectrum Dr., Austin TX), and found no unresolved interference objections. Other mitigation methods that we have used includes creation of "exclusion zones" in which we do not transmit at all so as to avoid causing interference. We also coordinate with ASRI (American Spectrum Resources, Inc.) prior to performing any testing to insure non-interference to any operation in the 3.7-4.2 GHz band.

27.5 – 28.35 GHz, 37-40 GHz bands

New NGSO satellite operators will be using the 27.5-28.35 GHz, 37-40 GHz and 64-71 GHz bands at a lower altitude and which will be susceptible to potential interference.

- Please provide antenna patterns or representative antenna pattern in the horizontal and vertical plane for each frequency band.

The antenna patterns for higher frequency bands are not available at this time pending vendor contracts, however, the gain for the 28 GHz band will be less than 25 dBi, and for the 39 GHz band will be less than 30 dBi. We also performed (using Comsearch Inc.) coordination notices for all existing and proposed terrestrial licensees within the coordination contours of the proposed experimental operation at 28 GHz and 39 GHz in Austin. Prior-notification letters were sent to the licensees and no objections were received from any of the incumbents.

- Please indicate if antennas will be pointing towards the south, south-west, south-east, east or west.

The antennas might potentially point at any direction.

- Indicate if the antenna will be pointing towards the ground or at the horizon. Is there any antenna that will be pointing above the horizon?

The tilt angle would be zero to 15 degrees below horizon pointing towards the ground.

Regards

Tony Serafini