

From: Ryan McCourt

To: Leann Nguyen

Date: January 14, 2021

Subject: Request for Info - File # 0035-EX-CN-2021

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Message:

The budget is listed below. This language is contained in an attachment that was uploaded today.

The maximum equivalent isotropically radiated power (EIRP) must be such that the calculated emissions are no greater than -140 dBm/24 MHz as received by an isotropic antenna at a distance of 100 feet (30 meters) from the building where the test is being conducted. The calculations showing compliance with this requirement must be provided with the application for frequency assignment and should be based on free space propagation with no allowance for additional attenuation (e.g., building attenuation.)

At 100's, the free space path loss at 1.575 GHz is 66 dB. In order to maintain a -140 dBm emission at 100's from the building, TrellisWare will limit the EIRP from each individual antenna to < -84 dBm (accounting for the worst case 9.5dB impact caused by 9 rebroadcast antennas within the building). This will be accomplished by using antennas with +3 dBi maximum gain, and attenuating the antenna input to < -87 dBm at each antenna. Power control will be via a GPS Source GLI-METRO controller (or equivalent) to ensure that output power levels are automatically controlled.

This link budget does not include additional allowances for building attenuation, or the additional free space path loss required to propagate from the antenna to the perimeter of the building.