Application for Special Temporary Authority
Airspan Networks
August 2018
File No. 1513-EX-ST-2018

NARRATIVE EXPLANATION OF OPERATION AND FREQUENCY COORDINATION

This application seeks a grant of Special Temporary Authority for research, development, and testing of a direct trackside broadband system ("DTBS"). The applicant, Airspan Networks ("Airspan"), is a supplier of wireless equipment for various broadband network protocols. Airspan is currently in the process of developing an LTE-based direct trackside-to-train communications system that will provide broadband connectivity and Internet service to freight trains during normal operations.

Airspan proposes to operate, for a limited time period for test operations, up to 9 temporary fixed terrestrial test sites along a twenty-mile section of railroad track located west of Denton, Texas. Airspan will install base station radios on existing trackside towers over this twenty-mile stretch. Two mobile test platforms containing mobile user equipment will be used in conjunction with the nine potential terrestrial trackside sites.

Each terrestrial trackside site will consist of two sectors with an integrated antenna connected to each radio. (At one to-be-determined trackside site, there will be three sectors and three base station radios.) Each sector will have its antenna system configured to minimize and if necessary mitigate any potential terrestrial interference. All operational sectors will transmit during scheduled testing periods and will have their transmitters disabled during non-test periods. Testing will be conducted utilizing an approved and certified train/engine platform containing installed user equipment (two radios initially) and measuring equipment inside the train cabin. This test bed will be used to collect data over the twenty miles of test track between the test locations, in order to assist in the development of the DTBS system.

Airspan's experimental test runs will consist of one train engine travelling along the twenty miles of railroad track at a constant speed, with data and radio condition measurements collected as the train travels along the track. The communications system being tested is at 2484 to 2494 MHz. The emission designator for these experimental operations will be 10M0G7W. The trackside base station radios will operate at a maximum transmitted power of 30 dBm and at an EIRP of up to 36 dBm, while the mobile user equipment will operate at a maximum transmitted power of 23 dBm and at an EIRP up to 31 dBm.

Airspan's proposed experimental operations at 2484-2494 MHz will occur in spectrum where Globalstar Licensee LLC and Globalstar USA, LLC (together, "Globalstar") are authorized for ancillary terrestrial low-power operations under their mobile satellite service ("MSS") licenses. Airspan's experimental operations will comply with the applicable power limits for Globalstar's authorized terrestrial low-power operations. The 2484-2494 MHz band is also utilized by broadcast auxiliary service ("BAS") licensees in the United States. Airspan will conduct prior

coordination as necessary with the Society of Broadcast Engineers and other existing microwave users, but no interference in this band is expected given the applicant's limited testing plan.

"Stop Buzzer" contacts for the eleven terrestrial trackside sites are as follows: Mr. Brian Roberts at +1-561-843-2732; Mr. Nicholas Pritchard at +1-561-654-5926