

Persistent Systems, LLC
Request for Grant of Special Temporary Authority
File No. 0821-EX-ST-2020

NARRATIVE EXPLANATION OF OPERATION

Persistent Systems, LLC requests a grant of special temporary authorization for terrestrial-only point-to-point testing of an S-Band communications network system. The testing is in fulfillment of a contract for the United States Air Force Research Laboratory at locations at and near Malmstrom Air Force Base in Montana. This application is different from but supplemental to that granted previously by WN9XTB (See, 1988-EX-ST-2018 and 1251-EX-ST-2019, each of which pertained only to point-to-point testing of embedded modules utilizing C-band embedded antennas). This test is limited to S-Band, and also uses fixed Embedded Sector antennas at specific locations within a 100-mile radius of Malmstrom Air Force Base, Building 500.

In this case, as with WN9XTB, the locations for the specified fixed, embedded sector antennas are at or near Malmstrom United States Air Force Base and are used with permission. The circumstances are as follows:

The United States Air Force Research Lab (AFRL) has previously been granted a Radio Frequency Authorization (RFA) pursuant to Chapter 1 Part 1.1 Section 6.i of the NTIA Manual by the Department of Defense's US Air Force Frequency Management Agency (AFFMA). This authorization is set to expire July 31, 2023 and utilizes the Persistent Systems, LLC (Persistent) 6 Watt S-Band radio module. Reference Command Application Number: AFMC-18-1146, National Authority Number: J1427103 for existing approvals. Persistent has now transitioned to a more capable S-Band radio module. This radio module specifies a transmitter power output of 10 Watts and provides numerous enhancements. As such, AFRL and Persistent are working on resubmitting the RFA paperwork to account for the new radio module and to update the existing approvals. As of yesterday, Persistent received J/F-12 #11509 for the new radio module. It is Persistent's understanding that the COVID-19 impacts have significantly increased the approval times and created a backlog of requests. At the request of Major General Stoss, Commander of Twentieth Air Force, Air Force Global Strike Command, AFRL and Persistent are to provide a demonstration the week of 29 June 2020 at Malmstrom AFB, MT for the Generals replacement. We are requesting that a 90-day STA be granted to cover testing including and following this initial demonstration, subsequent demonstrations during the period, and testing, anticipating that thereafter, existing long-term approvals will be updated.

The mobile transmitting antennas at the Air Force Base are omnidirectional, with 5 dB of gain and a vertical beamwidth of 27 degrees. The fixed, embedded sector antennas each have 12 dB of antenna gain, an ERP of 96.61 watts maximum, a horizontal beamwidth of 120 degrees, 11 degrees of vertical beamwidth, antenna heights of 25, 30, 100 or 200 feet AGL, as shown in the attached spreadsheet which also shows the precise location of each sector antenna.

Throughout the testing period, complete shutdown of all antennas can be accomplished immediately. Should any interference be reported, all testing and demonstrations will cease

immediately and will not resume unless and until all such interference is resolved to the reasonable satisfaction of the complainant.

The stop buzzer contact for this operation is now Mr. Matthew Buhler, whose telephone number is 646-627-8174.

Other questions should be directed to undersigned communications counsel, who can be reached as follows:

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