



Anduril Industries | 2722 Michelson Drive | Irvine, CA 92612 | U.S.A.

Narrative

Anduril Industries, Inc. respectfully requests experimental authority to conduct cold weather testing of specific radios and radars at the Nenana Municipal Airport in Nenana, Alaska starting **February 6, 2023**. Josh Verhagen, Mayor of the City of Nenana, confirmed that “[t]he Nenana Municipal Airport does not foresee or anticipate any spectrum-related disruption from operation of the Anduril products.”¹

1) Company Background

Anduril Industries, Inc. is headquartered in Irvine, California. Its address and FCC Registration Number are as follows:

Anduril Industries, Inc.
1375 Sunflower Avenue
Costa Mesa, CA 92626
FRN: 0028824514

Anduril is a private, for-profit engineering company devoted to technology development for security and defense applications by the U.S. Government. Approximately 80% of Anduril’s business is for the U.S. Government.

2) Need for Experimental Authority

Anduril seeks experimental authority to conduct cold weather testing and research involving radios and radars at Nenana Municipal Airport in Nenana, Alaska. Specifically, Anduril requests to test ten Silvus StreamCaster 4200 and 4400 (“StreamCaster”) radios and four Anduril 101-3575 radars (“Anvil 3D radars”). The testing involves uncrewed aircraft vehicle (“UAV”) operations. StreamCaster radios would be placed on UAVs in flight with its corresponding radio pair fixed to the ground to allow for communication between the radios. The Anvil 3D radars would be placed on the UAVs in flight to locate and track objects. The UAVs would fly at a maximum altitude of 800 meters above ground level.

Grant of experimental authority would allow Anduril to support observation, monitoring, and evaluation of the devices and operating parameters throughout the two-year contract period. A term of two years will offer flexibility should issues with inclement weather, variations in government travel requirements, or other logistical problems arise.

¹Letter from Josh Verhagen, Mayor of City of Nenana, to Duncan O’Brien, Mission Operations, Anduril Industries (Dec. 22, 2022) [“Exhibit A”].

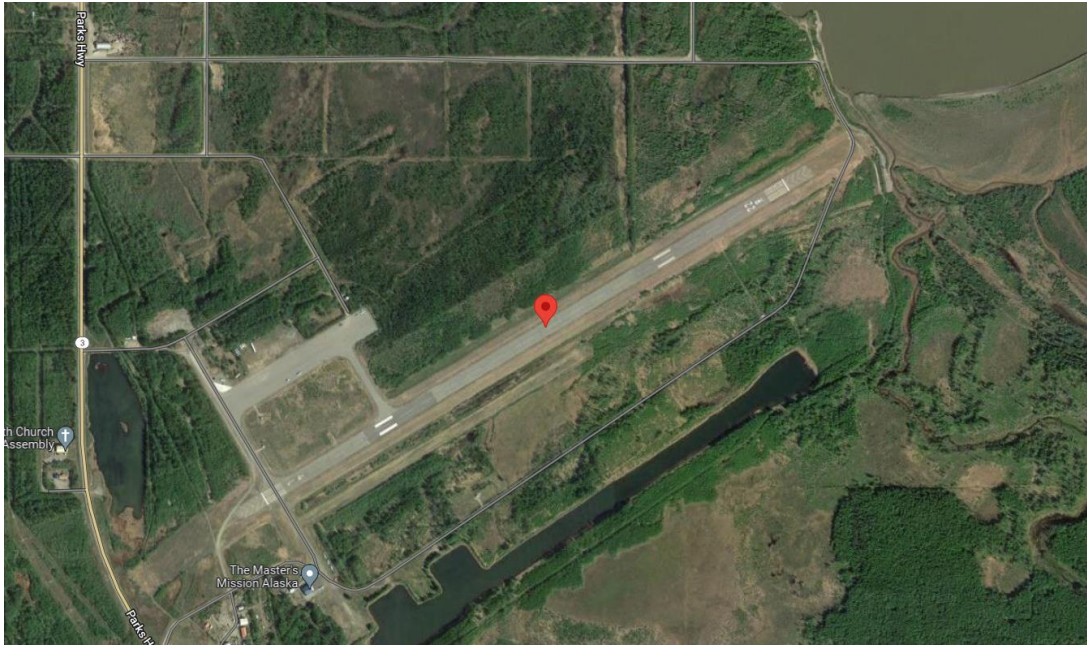
The following table summarizes the proposed frequencies of use and other key operating parameters of the proposed operations.

Equipment	Frequency Range (MHz)	Station Class	ERP (W)	Frequency Tolerance (ppm)	Emission Designators	Modulation Signal
Silvus StreamCaster radios	2260-2310	Fixed and Mobile	193 (max)	.5	5M64D7W 11M3D7W 22M6D7W	OFDM
	2395-2500					
	4400-4940					
Anvil 3D radars	77000-77480	Mobile	155 mW	.2	480MF8N	Linear FM

3) Station Location

Anduril seeks authority to test radiocommunication equipment at Nenana Municipal Airport. An image of the site appears below.

Station Location: 64° 32' 50.3" N, 149° 4' 26.4" W



4) Request for Waiver of Station Identification Requirements

Anduril requests a waiver of the station identification requirements in Section 5.115 of the Commission's rules.² Grant of the requested waiver will promote the public interest by allowing Anduril to determine the most effective operating capabilities of the antennas and associated equipment as part of this experiment.

5) Frequencies Desired

Anduril seeks authority to use the 2260-2310, 2395-2500, 4400-4940, and 77000-77480 MHz bands on a temporary, non-protected, non-interference basis within a 3 km radius of the site location.

6) Power Levels

Anduril will operate with the minimum necessary power to conduct its operations, but it will not exceed the power levels specified in this application. The StreamCaster radios would operate using effective radiated power between 4 watts and 193 watts.

7) Type of Emission, Modulation Technique, and Bandwidth Required

Anduril will operate with the emissions, modulation techniques, and frequency ranges specified in this application. If other emission modes and modulation techniques are used, in no event will the emissions extend beyond the frequency bandwidths or bands requested.

8) Duty Cycle

Testing of the radars and radios would occur on an intermittent basis—for less than 10 hours during any 24-hour period. Anduril understands that other stations may be licensed on the channels it has requested. If any interference occurs, Anduril will operate on another authorized frequency, discontinue its operations immediately, or take other immediate steps to resolve the interference.

9) Safety

Anduril will comply with all Federal Aviation Administration ("FAA") and FCC rules and regulations regarding the installation and operation of antennas and their support structures. All power levels will comply with the limits set forth in the FCC's rules, including those relating to human exposure to radiofrequency radiation. In addition, all personnel who will operate the equipment are knowledgeable as to the effects of radiofrequency energy and will have the ability to control their exposure.

² See 47 C.F.R. § 5.115.

10) Interference Protection

Anduril recognizes that the operation of any equipment under experimental authority must not cause harmful interference to authorized facilities. Anduril also recognizes that its proposed operations may require coordination not only with the Interdepartment Radio Advisory Committee (“IRAC”) of the National Telecommunications and Information Administration (“NTIA”), but also with existing non-Federal government licensees authorized on the requested frequencies. Anduril will fully coordinate and operate on a non-interference, non-protected basis with anyone affected or reasonably likely to be affected.

Anduril’s experimental operations are unlikely to cause interference. Its operations will be conducted only on a limited basis as described above. Anduril will also limit the power and transmitting times of the proposed operations to the minimum necessary to conduct its evaluations. Should interference occur, Anduril will take immediate steps to resolve the interference. For instance, it will operate on another authorized frequency, provided such frequency is not within the restricted frequencies set forth in 47 C.F.R. § 15.205, or will discontinue operation.

11) Restrictions on Operation

Anduril recognizes that permission to operate under FCC experimental authority confers no long-term rights.

Anduril does not propose to market, sell, or lease equipment to end users or conduct a market trial in conjunction with this test.

12) Technical and “Stop Buzzer” Contact Information

Troy Brown is the technical point of contact for this request, and he will serve as the “stop buzzer” if operations must be terminated because of any interference concerns. His contact information is as follows:

Troy Brown
Senior RF Systems Engineer
Anduril Industries, Inc.
1375 Sunflower Avenue
Costa Mesa, CA 92626
Telephone: [949-690-6342](tel:949-690-6342)
Email: tbrown@anduril.com