

Saronic Technologies, Inc. Experimental License Application

Saronic Technologies, Inc. (Saronic) seeks a modification of its experimental license authority under call sign WQ2XOF which permits testing at Aberdeen Proving Ground, Maryland (Aberdeen) and Eglin Air Force Base, Florida (Eglin). Saronic requires a modification to its existing grant of authorization to include an additional test site at Eglin, as this new location resulted from subsequent coordination discussions with the Air Force regarding operational testing needs. The modification would allow Saronic to conduct limited field testing of advanced radar sensing capabilities in the 3.3–3.4 GHz and 9.4–10.6 GHz frequency bands in support of maritime uncrewed surface vessel (USV) operations. Testing will enable verification of reliable detection, tracking, and system integration under realistic maritime conditions to inform the design of future maritime radar systems. To expedite coordination, Saronic has already secured site approval to conduct testing activities through Air Force point of contact Ryan Smith (Ryan.Smith.167@us.af.mil).

Purpose of Experimentation

Testing objectives include basic functional and radio frequency (RF) health verification, detection probability versus range characterization, and target tracking accuracy assessment. Testing will also evaluate system robustness against sea clutter, multipath propagation, and vessel motion-induced effects. Electromagnetic interference and electromagnetic compatibility testing will be conducted with all onboard RF systems operating simultaneously, under representative thermal and vibration conditions.

Grant of the requested modification will serve the public interest by advancing the development of radar sensing technologies critical to the safe and autonomous operation of USVs in maritime environments. As USVs assume an increasingly important role in commercial, scientific, and defense-related maritime operations, robust and reliable radar sensing capabilities are essential to ensure safe navigation, collision avoidance, and situational awareness in complex sea conditions.

The proposed testing will generate empirical data on radar detection probability, target tracking accuracy, and system performance under realistic environmental conditions that are not replicable through laboratory simulation or using currently certificated commercial equipment. This data will directly inform the design and optimization of future maritime radar systems, contributing to the broader development of safe, reliable, and spectrally efficient autonomous maritime platforms that will have significant implications for national security, maritime domain awareness, and the protection of U.S. interests at sea. Granting this modification advances the Commission's longstanding policy of fostering innovation through experimental licensing and supports the development of next-generation technologies for defense and critical infrastructure applications.

Company Background

Saronic is a U.S.-based defense technology company developing intelligent, dual-use autonomous surface vessels for commercial applications and to support Department of Defense maritime operations and other national security missions. Saronic's platforms extend maritime domain awareness, provide persistent coastal and offshore surveillance, and reduce risk to

warfighters by enabling uncrewed execution of missions in contested or hazardous environments. Saronic's systems are built for interoperability, modularity, and rapid integration of various sensing and communications payloads to meet evolving operational requirements in both the commercial and defense sectors.

Saronic's address and FCC Registration Number (FRN) are as follows:

Saronic Technologies, Inc.
1312 Dalton Lane
Austin, TX 78742
FRN: 0037569944

Need for Experimental Authorization

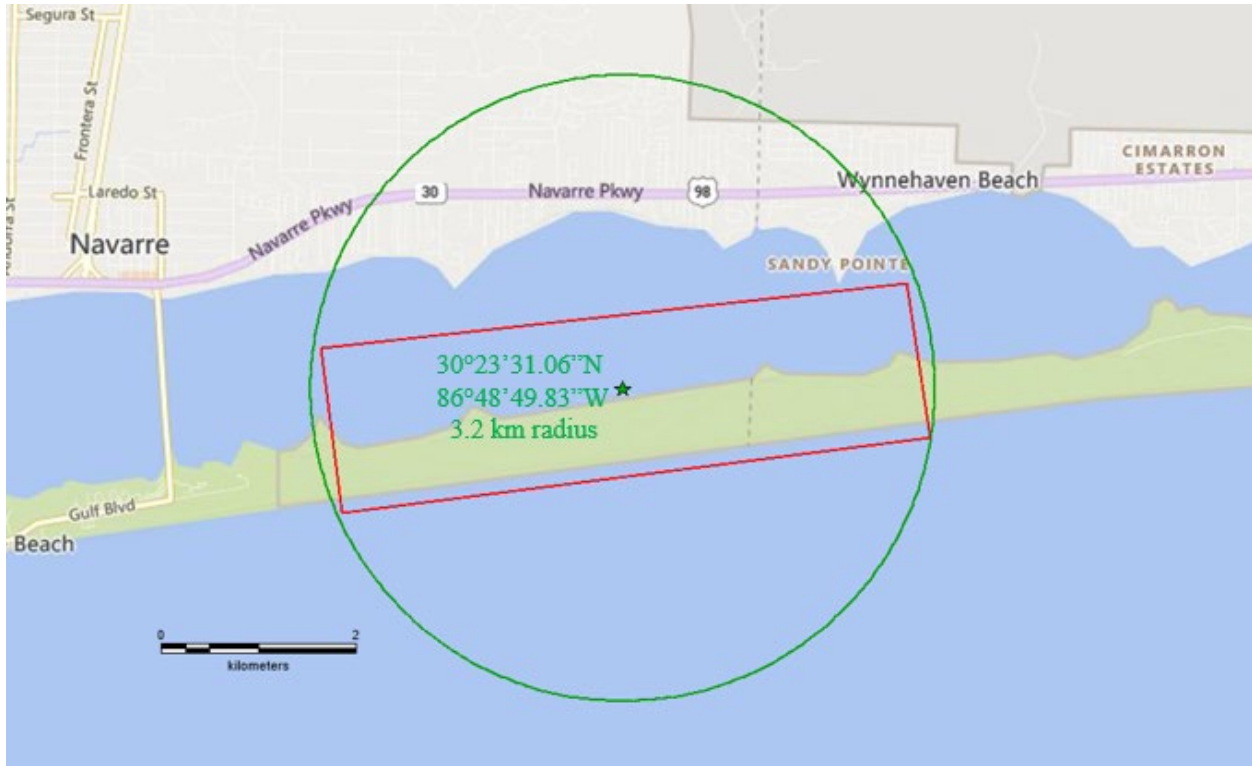
Saronic requires experimental authorization to evaluate system performance when deploying the radar aboard a moving uncrewed surface vessel in a maritime environment. Maritime operations present distinct technical challenges, such as vessel motion, salt spray, multipath effects, and sea-state-dependent clutter, that materially affect radar detection and tracking performance.

Neither laboratory testing nor terrestrial deployments can replicate these conditions. Accordingly, Saronic must conduct limited experimental operations in a maritime environment to validate system integration, assess detection reliability, and refine operational concepts for uncrewed maritime sensing. The proposed testing will advance innovation in maritime domain awareness while remaining subject to strict limits on duration, geography, and technical parameters.

Experimental Location and Geographic Scope

Saronic will conduct operations in defined maritime test areas selected to minimize interaction with commercial shipping lanes, populated areas, and sensitive radio facilities. Saronic's existing authorization already permits operations at one Aberdeen site and four Eglin sites. Modification to the authorization would allow Saronic to conduct testing in cooperation with the Department of Defense at one additional offshore location near Santa Rosa Island at Eglin. Fixed and mobile operations will remain within the stated radius surrounding the designated center point, as reflected in the application materials and as depicted on the map below. Transmissions from offshore vessels will occur within a 3.2 km radius of 30°23'31.06" N, 86°48'49.83" W."¹ Saronic will conduct testing only during the authorized period and only within the approved geographic area. In actuality, testing will occur within the rectangular area identified on the map below.

¹ Due to formatting limitations in the Experimental Licensing System, the application form accepts coordinates only to whole seconds. The coordinates in this narrative reflect a more precise site location; any discrepancy is solely the result of rounding in the form.



Equipment and Technical Parameters

Saronic seeks authority to operate two radar devices under the following technical parameters:

	Leonardo DRS RADA RPS-42	Leonardo DRS RADA nMHR
Frequency	3.3–3.4 GHz	9400-10600 MHz
Necessary Bandwidth	43.0 MHz 8.8 MHz 21.5 MHz 7.3 MHz 17.6 MHz 5.5 MHz 14.7 MHz 4.4 MHz 11.0 MHz 3.7 MHz	20 MHz 10 MHz
Transmitter Power	328 W	1000 W
Antenna Gain	22 dBi	28 dBi
EIRP (Peak)	47.16 dBW	58 dBW

Operations will be conducted strictly within the frequency ranges, emission characteristics, bandwidths, and power levels specified in the application. All emissions will remain within authorized band edges, and Saronic will operate using the minimum power necessary to conduct the proposed experimentation. The equipment will be operated solely for experimental evaluation and system testing purposes. These technical parameters apply uniformly across all authorized sites.

Duration and Duty Cycle

The requested experimental authorization is limited in duration and is intended to support discrete testing activities. Operations will be intermittent and conducted only during periods necessary to perform testing. Continuous operation is not contemplated, and transmissions will cease when experimentation is not underway.

Interference Protection and Mitigation

Saronic fully anticipates the need to coordinate Federal spectrum operations through NTIA processes and seeks experimental authorization only for the minimum frequencies and power levels necessary to support its experimental objectives, consistent with the coordination previously completed for its existing authorization. Saronic will complete any required NTIA coordination for the additional Eglin location prior to commencing operations in Federal-allocated spectrum there, and will conduct all such operations, at the new location and under its existing authorization alike, in strict accordance with the same conditions and limitations established through that process.

The operations are designed to minimize the potential for interference with authorized operations. First, testing will be conducted in offshore areas removed from densely populated coastal zones, which significantly reduces the population of co-channel devices in the vicinity of Saronic's transmissions. Second, operations will be intermittent and conducted on a low-duty-cycle basis, limiting the duration and geographic extent of any potential interference. Third, Saronic will operate at the minimum power necessary to achieve experimental objectives. For all these reasons, the proposed operations are unlikely to cause harmful interference to any authorized service.

RF Safety and Environmental Considerations

Saronic will comply with all applicable FCC rules governing human exposure to radiofrequency energy. The proposed operations involve an uncrewed surface vessel with no onboard personnel, which inherently reduces RF exposure risks. Any personnel involved in monitoring or supporting the experiment will be knowledgeable regarding RF safety and will operate in a manner consistent with Commission requirements.

Grant of the requested modification will not result in any construction or environmental effects requiring review under section 1.1307 of the Commission's rules.

Experimental Nature of Authorization

Saronic acknowledges that any authorization granted under part 5 is temporary and experimental in nature and confers no right to continued operation or to use any frequency beyond the scope and duration authorized. Saronic will not market, sell, or lease equipment, nor will it conduct any commercial service or market trial, under this authority.

“Stop Buzzer” Contact Information

If Saronic is required to modify or terminate operations due to any interference concerns, the individual best able to respond promptly to such issues and to act as the technical and interference (“stop buzzer”) point of contact is as follows:

Dustin Kennedy
Mission Operations Lead
Saronic Technologies, Inc.
Telephone: +1 (706) 400-0794
Email: dustin.kennedy@saronic.com

This individual will be available during testing operations and will have the authority to suspend transmissions immediately if necessary to resolve any interference concerns.

Station Identification

Saronic respectfully requests a waiver of the station identification requirements of section 5.115(a) of the Commission’s rules. In lieu of over-the-air identification, Saronic will maintain detailed operational records and make such records available to the Commission upon request. Given the limited duration, geographic scope, and experimental nature of the operations, grant of this waiver is consistent with the public interest.

Conclusion

For the foregoing reasons, Saronic respectfully requests that the Commission grant the requested experimental authorization modification to permit the proposed operations at the additional location consistent with part 5 of the Commission’s rules.