Saronic Technologies, Inc.
Special Temporary Authority Application

Saronic Technologies, Inc. ("Saronic") respectfully requests special temporary authorization ("STA") pursuant to part 5 of the Commission's rules to conduct short-term, limited field testing to evaluate and characterize line-of-sight ("LOS") wireless communications in the 2221.5-2246.5 MHz and 2395-2483.5 MHz bands for maritime unmanned surface vessel ("USV") operations. Testing will assess link reliability, throughput, latency, and interference tolerance over water under controlled experimental conditions to inform future maritime command, control, and situational-awareness system designs.

Grant of the requested STA will serve the public interest by accelerating development of autonomous maritime systems capable of operating in contested, hazardous, and operationally demanding environments where manned operations are impractical or unsafe. The proposed testing will generate empirical data on maritime wireless link performance that is not obtainable through laboratory simulation and that cannot be replicated using currently certificated commercial equipment. This data will directly inform the design of reliable, low-latency command, control, and situational-awareness systems for unmanned surface vessels that will have significant implications for national security, maritime domain awareness, and the protection of U.S. interests at sea. Granting this authorization advances the Commission's longstanding policy of fostering innovation through experimental licensing and supports the development of next-generation communications 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

Purpose of Experimentation

Saronic requires STA to evaluate system performance when deploying the test equipment aboard a moving unmanned surface vessel in a maritime environment pursuant to contract number N68335-26-G-0006/N68335-26-F-1022 ECD:06 JAN 2031. The U.S. government point of contact for the contract is Angela Harris (805-989-7338). Saronic will integrate customer-provided hardware into USVs to support test flight events over water. This testing must proceed on a set schedule to support program milestones pursuant to the contract. Maritime operations present distinct technical challenges, such as vessel motion, salt spray, multipath effects, and sea-state-

dependent clutter, that materially affect tracking performance. Neither laboratory testing nor terrestrial deployments can replicate these conditions. Accordingly, Saronic must conduct limited experimental operations at sea to validate system integration, assess reliability, and refine operational concepts for unmanned maritime command, control, and situational-awareness system designs. The proposed testing will advance innovation in maritime domain awareness while remaining subject to strict limits on duration, geography, and technical parameters.

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 is providing sea-based test support for a customer's 2026–2027 flight test campaign pursuant to a government contract. The proposed effort includes using customer-furnished hardware integrated aboard USVs, covering internal integration and flight test events. The operations under this application will not include airborne communications. Transmissions will occur between offshore vessels within a 56.33-kilometer radius of 33°42'11.4" N, 119°23'26.96" W near Port Hueneme, California.[1] Saronic will conduct testing only during the authorized period and only within the approved geographic areas.

A visualization of the test area is included 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.

Test Location – Port Hueneme, California

Equipment and Technical Parameters

Saronic seeks authority to operate Silvus Technologies, Inc. SC4400X and SC4200EP radios. The devices would operate under technical parameters broader than those typically authorized for comparable devices under part 15 to achieve the experiment's objectives. The operations will incorporate Southwest Antennas Part # 1009-066, which is a 2x2 MIMO directional antenna. Each of up to three sectors will be oriented with azimuth angles separated by 120 degrees to ensure omni-directional coverage and each sector will consist of up to two 2x2 MIMO antennas.

Saronic will conduct testing in two potential MIMO configurations: 2x2 MIMO using a single antenna with the second antenna held in cold standby, and 4x4 MIMO using both antennas. The 2x2 MIMO configuration will be the primary test mode, with 4x4 MIMO mode tested as resources and schedule permit. In both cases, the native output power will be a total of 20 W. Considering the theoretically maximum beamforming gain of 3 dB for the 2x2 MIMO mode and 6 dB for the 4x4 MIMO mode results in "effective" output power levels of 40 W and 80 W, respectively. Despite that the actual native power is 20 W in both modes, the "effective" power

levels are reflected on the STA form because the form does not support a field for beamforming gain.

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 experiment. The equipment will be operated solely for experimental evaluation and system testing purposes.

Duration and Duty Cycle

The requested STA is for an 180-day period. The duration is necessary to accommodate the necessary testing described herein. Authorization is limited in duration and is intended to support discrete testing activities. Operations will occur in intermittent blocks of 4-6 hours and 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

All operations will be conducted on a non-interference, non-protected basis. Saronic will take immediate corrective action if any interference to authorized service occurs or is suspected, including modification of operation parameters or suspension of transmissions.

Saronic requires STA to operate within the 2200–2290 MHz band, which is allocated exclusively for Federal use under the U.S. Table of Frequency Allocations and therefore subject to NTIA coordination. Saronic fully anticipates the need to coordinate Federal spectrum operations through appropriate NTIA processes and has sought experimental authorization only for the minimum frequencies and power levels necessary to support its experimental objectives. Because Saronic's unmanned surface vessel systems are designed and deployed to support Department of Defense missions, access to this federally-allocated spectrum is necessary to conduct the testing required to validate these systems' operational readiness in furtherance of national security objectives. Saronic will complete any required NTIA coordination prior to commencing operations in Federal-allocated spectrum and will conduct all such operations in strict accordance with any conditions or limitations established through that process.

The 2400–2483.5 MHz band likewise supports a wide range of part 15 devices, including Wi-Fi and Bluetooth equipment, and Saronic acknowledges that this band experiences significant utilization in coastal and near-shore environments. However, the proposed operations are designed to minimize any potential for interference. First, testing will be conducted predominantly in an offshore area 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 interaction with part 15 devices. Third, Saronic will operate at the minimum power necessary to achieve experimental objectives. Finally, part 15 devices are not entitled to protection from interference from other users of the ISM band, and experimental operations on a non-interference basis present no greater risk to part 15 users than other lawful ISM-band emissions. 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 unmanned 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 experimental authorization 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:

Robert Jackson
(972) 834-7919
Robert.Jackson@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

Saronic respectfully requests that the Commission grant the requested STA to permit the proposed operations consistent with part 5 of the Commission's rules.