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July 7, 2023

Federal Communications Commission
Office of Engineering and Technology Laboratory Division
7435 Oakland Mills Road
Columbia, MD 21046

RE: Request for Confidentiality for FCC ID: 2AS22-LUMACH2

To whom it may concern,

We seek a limited split modular approval for our module. Below is a justification, based on the requirements for modular transmitters, as to why this classification is appropriate for our device.

Modular Approval Requirements

Item	Requirement	Meets	Justification
1	The radio elements must have the radio frequency circuitry shielded. Physical components and tuning capacitor(s) may be located external to the shield, but must be on the module assembly.	Yes	The module has an integrated heatsink and RF shield on the component side, and there are no RF tracks or components on the solder side. Please refer to the block diagram and photos associated with this application.
2	The module must have buffered modulation/data inputs to ensure that the device will comply with Part 15 requirements with any type of input signal.	Yes	The FPGA on the module has a built-in I/O and logic buffer.
3	The module must contain power supply regulation on the module.	Yes	The device has integrated power supply regulation for all voltages on the module.
4	The module must contain a permanently attached antenna, or contain a unique antenna connector, and be marketed and operated only with specific antenna(s), per §§ 15.203, 15.204(b), 15.204(c), 15.212(a), 2.929(b).	No	As a split-modular transmitter, the module is only authorized for operation within a specific host enclosure. In said enclosure (which includes the only antenna with which the product is marketed and operated), the module is mated to a specific antenna, and therefore the modular transmitter meets all the applicable part 15 requirements under the operating conditions in which the transmitter will be used.
5	The module must demonstrate compliance in a stand-alone configuration.	No	As a split-modular transmitter, the device is not capable of demonstrating compliance in a stand-alone configuration, nor is it required to do so. See Requirement 3 in the "Split Modular Approval Requirements" section of this letter for more detail.



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6	The module must be labeled with its permanently affixed FCC ID label, or use an electronic display (see KDB Publication 784748).	Yes	The module will have an FCC ID label permanently affixed as illustrated in the labeling exhibit attached with this submission. The module will always be inside another enclosure during actual use. The host device will have "Contains FCC ID 2AS22-LUMACH2"
7	The module must comply with all specific rules applicable to the transmitter, including all the conditions provided in the integration instructions by the grantee.	Yes	The module will only be integrated by the manufacturer into the specific hosts included in this equipment authorization application. As such, the test report attached with this submission serves as sufficient proof of compliance with the applicable rules (47 CFR Parts 15 and 96).
8	The module must comply with RF exposure requirements.	Yes	The module is compliant with all applicable RF exposure requirements. RF Exposure is addressed in the RF exposure exhibit included in this submission.

Split Modular Approval Requirements

Item	Requirement	Meets	Justification
1	Only the radio front-end must be shielded. The physical components, crystal, and tuning capacitor(s) may be located external to the shielded radio elements. The interface between the split sections of the modular system must be digital, with a minimum signaling amplitude of 150 mV peak-to-peak.	Yes	<p>The radio front end for the module is shielded as noted above. Additional shielding is provided by the host enclosure.</p> <p>The interface between the split sections is comprised of:</p> <ul style="list-style-type: none"> Two differential pairs which encapsulate radio packets in and out of the onboard baseband processor. For radio transmission, one of the differential pairs sends the onboard processing element which transforms the encoded user data into time synchronized I/Q data and relays it to the radio integrated circuit. Receive data is performed in the reverse order and sent up the second differential pair. There are 13 signals which are used to configure the processing element from the host and subsequently are used for out-of-band communications. There are 7 signals which are used to communicate with and enable the onboard power subsystem.



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			<ul style="list-style-type: none"> One differential pair brings in a low noise system-synchronous clock for the radio and the processing element. The minimum signaling amplitude of these differential pairs is 150mV peak-to-peak.
2	Control information and other data may be exchanged between the transmitter control elements and the radio front-end.	Yes	As detailed in item 1 directly above, the interface between the radio front end and the onboard processor includes I/Q baseband data and control signaling.
3	The sections of a split-modular transmitter are installed for testing on a host platform that is representative of the platform(s) intended for use. It is the responsibility of the applicant to demonstrate the appropriateness of the test platform for compliance to a widespread range of common host platforms, i.e., not restricted to a specific host. For example, compliance may be demonstrated on an open (not within a specific host enclosure) reference-design circuit board, to demonstrate conformity independent of the host environment. Therefore, note that when compliance is tested with the module enclosed in a specific host, then the split module must be limited.	No	<p>Compliance testing for this module requires enclosure within a specific host (described in other portions of this application). Therefore, per the text of the requirement as written in KDB 996369, this module must be classified as a limited split module.</p> <p>When enclosed in the aforementioned host, the device is capable of meeting all other modular requirements.</p>
4	The radio front-end and transmitter control element must be certified as amalgamated elements by the responsible party. The responsible party must demonstrate the authentication method, to guarantee that only this coupling will operate the radio. Manufacturers may use means including, but not limited to, coding in hardware and electronic signatures in software, to meet these requirements, and the methods must be described in the application for equipment authorization.	Yes	The radio front end can only be powered on by a proprietary sequence. Once the radio is powered on, the processing element is unconfigured and requires a proprietary bitstream to be loaded to gain access to control of the transmit elements and the radio. After this, the radio itself must be programmed with proprietary microcode using the out of band interface. Once all that is done, the radio element is only accessible after the processing element is properly configured and a proprietary differential protocol is required to send in baseband data to be transformed for the radio and transmitted. Because of the complexity and proprietary nature of each of these 5 steps, these modules could practically only be hosted and made to transmit with Skylark proprietary hardware and host processor. The module and host processors are not available for sale through any other channel. Skylark is aware of applicable FCC requirements and performs the necessary system integration steps to ensure that



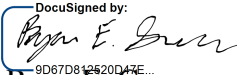
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			transmissions are compliant with all rules and regulations.
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The product is an RF module for use in Skylark Wireless' FarosV2 System. The product will not be sold as a separate product to consumers.

Sincerely,

DocuSigned by:

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Ryan E. Guerra
Skylark Wireless LLC
CEO