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November 16, 2021

Federal Communications Commission
Office of Engineering and Technology Laboratory Division
7435 Oakland Mills Rd
Columbia MD 21046-1609

RE: Class II Permissive Change Request (C2PC) for FCC ID: IPH-0282320
Ref: KDB Pub. 388624 (C2PCPX Procedure) and FCC correspondence

To Whom It May Concern:

Thank you for your response to the subject Knowledge Database (KDB) inquiry. According, a Class II Permissive Change is requested for FCC ID: IPH-0282320, where a portion of the MURS transmitter is proposed to change from one VHF transceiver IC and associated discrete components, to an IC by a different manufacturer which is not pin-for-pin compatible, along with different associated discrete components.

The following evidence is provided to fulfill the nine conditions outlined in the KDB response, for consideration in the Pre-Approval Guidance (PAG) submittal and C2PC application:

1. Refer to the attached block diagram, 'T5_mini-TT15_mini_Block_Diagram.pdf.' Only the block "SiLabs Si4461_C" is being replaced. The 26 MHz reference clock is unchanged, and the characteristics of the MURS transmitter are unchanged, including the fundamental frequencies, modulation (2GFSK), and maximum output power.
2. The form, functions and identification of the device have not changed since the original certification or any subsequent Permissive Changes; it still consists of a MURS transceiver, a 2.4 GHz transceiver (DSSS), and a GNSS receiver, with no changes to the transmitter characteristics (fundamental frequencies, modulation, output power, and the like).
3. The Printed Circuit Board is the same size and outline, and the PCB changes are limited to a small area for the VHF transceiver. Refer to the old and new internal photographs, 'Mini_Internal_Photos.pdf' and '011-03820-42_Internal_Photos_R2.pdf', respectively.
4. This C2PC will not add, remove, augment, or change capabilities, such as transmitters, increased bandwidth, additional rule parts, bands, etc.
5. The required test report 'R20210524-21-E1A-TNT.pdf' and internal photographs (noted above) are provided for the PAG submission. The EUT contained other radios i.e. an ANT transceiver and a GNSS receiver, which were investigated. In particular, the output power was checked and found to be within permissible tolerances and the worst-case radiated spurious emissions were found to be below the limits.
6. We acknowledge that the modified product must not be marketed until C2PC certification is granted.
7. The subject product is not a Software Defined Radio (SDR). However, if it were, we acknowledge that if the C2PCPX procedure were applied, subsequent software changes could not be Class III Permissive Changes.
8. We further acknowledge that a rule change requiring a software change and a corresponding permissive change to add an equipment class would still be eligible, as specified in KDB Pub. 178919 section (V) (E), Software Changes.
9. This is not a Class I Permissive Change (C1PC) application, which would disqualify use of the C2PCPX PAG item.

Moreover, additional exhibits for this C2PC application are provided as appropriate, including test setup photos and schematic diagrams.

Additionally, in response to correspondence from the FCC to American Certification Body, Inc., (ACB) on November 2, 2021, SAR testing was completed on this product on November 8-11, 2021, with passing results indicated in the test report 'SAR.20211108' and accompanying test setup photos. A duty cycle of 3% was applied to the VHF transmitter, which transmits for 75 milli-seconds every 2.5 seconds, worst-case. This is the highest duty cycle setting, set in software, and cannot be increased by the end user.

Thank you for your consideration of this C2PC application for certification.

Sincerely,

A handwritten signature in black ink, appearing to read "Dan Irish". The signature is written in a cursive, flowing style.

Dan Irish
Lead Compliance Engineer