

Federal Communications Commission
Authorization and Evaluation Division

Software Defined Radio (SDR) Application FCC ID: 2ALEPT0007871

It is possible to change the RF characteristics of the Kona Micro Gateway through software; TEKTELIC elects to classify the Kona Micro Gateway as a Software Defined Radio (SDR) for the purposes of certification with the FCC.

Radio Frequency (RF) parameters that are relevant to certification are stored in a Radio Database which is a file located on the gateway. This file is not accessible, nor can be modified, by anyone other than the manufacturer. RF parameters that can be modified by the software without any hardware changes are:

- RF channel Frequency range
- LoRaWAN modulation bandwidth (125kHz, 500kHz)
- Tx power

Access to the radio hardware is controlled by the Hardware Abstraction Layer (HAL) software module. The HAL provides a set of application programming interfaces (API) for software applications, such as a LoRaWAN packet forwarder, to access radio transmit (and receive) functionality. The HAL APIs can be made available to third parties, but the HAL module is completely under the control of the manufacturer. When RF transmission requests are made to the HAL via an application, the HAL module validates, on a packet-by-packet basis, the RF parameters in the request against the range limits in the Radio Database to ensure that conditions of the FCC grant are not violated.

Sincerely,



Tom Danshin
Manager, System Design