

Date: 28/11/2023

Subject: Letter explaining Compliance strategy used for SC2124 FCC/ISED certification

SC2124 is a TETRA mobile radio in the frequency range 403-470MHz with optional features of Bluetooth, Wi-Fi and GNSS. Earlier SC2124 has been certified under following FCC/ISED ID:

FCC ID: XX6SC2124 and IC: 8739A-SC2124

However, due to the availability issues for the current Bluetooth and Wi-Fi module (LBEP5CLWTC-631 Type WT), and GNSS module (Ublox M8), SC2124 has undergone a design change with new BT/Wi-Fi module - LBEE59B1LV-278 Type 1LV and a new GNSS module (Ublox M10).

New BT/Wi-Fi module is already certified under following FCC/ISED ID:

FCC ID: XX6LBEE59B1LV and IC ID: 8739A-LBEE59B1LV

This letter is to explain what testing strategy has been used by Sepura for SC2124 FCC and ISED certification for implementation of new module:

a) Bluetooth tests (47 CFR Part 15.247 / RSS-247 Issue 2 / ANSI C63.10)

Bluetooth feature has been implemented without any modifications to manufacturer's specifications. The module itself supports 1Mbps and 2Mbps for BLE, however SC2124 radio supports only 1Mbps for BLE. Hence, majority of Bluetooth test results have been leveraged from manufacturer's testing. However, to make sure there is no degradation in performance, radiated spurious emission and output power checks have been performed on new design.

b) Wi-Fi (47 CFR Part 15.247 /RSS-247 Issue 2 / ANSI C63.10)

Wi-Fi output power has been reduced from what is recommended by manufacturer by implementing some software changes. Considering the modifications have been made in power, complete Wi-Fi testing has been performed on new design.

c) TETRA (FCC part 90 (Edition10-1-2020) /RSS-119 Issue 12)

No changes have been made to TETRA circuitry/transmitter or output power. However, to make sure there is no degradation in performance, radiated spurious emission and output power checks have been performed on new design..

e) [Simultaneous transmission \(47 CFR Part 2.947\(f\)\)](#)

SC2124 supports simultaneous transmission of TETRA and Wi-Fi or TETRA and Bluetooth. Intermodulation testing has been performed to make sure there is no degradation in performance.

f) [Unintentional radiator testing \(47 CFR Part 15B / ICES-003 Issue 7 / ANSI C63.4\)](#)

Part 15B testing has been performed on new design of SC2124 to make sure there is no degradation in performance with design changes. This testing is also used to make sure there is no degradation in performance due to change in GNSS chip.

g) [RF Exposure calculation](#)

Complete SAR calculations have been performed on new design of SC2124.

Sincerely,



By: Chris Beecham
Title: Principal Conformance Engineer
Company: Sepura Limited
Telephone: +44 (0) 1223 876000
e-mail: chris.beecham@sepura.com / conformance@sepura.com