



Ring
1523 26th Street
Santa Monica CA 90404
USA

2020/09/10

FCC C2PC / ISED C3PC Permissive change letter

Federal Communications Commission
7435 Oakland Mills Road
Columbia, MD 21046

Certification and Engineering Bureau
ISED Canada
3701 Carling Avenue (Building 94)
Ottawa, Ontario
K2H 8S2

To whom it may concern,

We, Ring LLC. apply for certification of the below described changes to the following existing certifications:

FCC ID: 2AEUPBHAMS001, initial grant data: 2019-01-03

IC: 20271-BHAMS001, HVIN: 5SM1S8, approval date: 2019-03-14

under FCC Class 2 Permissive Change rules according to FCC §2.1043 (b)(2) and ISED Class 3 Permissive Change rules according to ISED RSP-100, issue 12, section 10.

For ISED, the updated products will be identified with the following dedicated FVIN: 1.7.16-56 (IC ID and HVIN remain unchanged).

The purpose of this application is to add the following hopping modes by SW activation, to the existing initial certification which was for non-hopping mode (DTS) only:

LoRa DTS 500KHz 902.5-926.5MHz(Channel Separation:800KHz)---31channels
LoRa FHSS 125KHz 902.2-927.8MHz(Channel Separation:200KHz)---129channels
FSK FHSS 50Kbps 902.2-927.8MHz(Channel Separation:200KHz)---129channels
FSK FHSS 150Kbps 902.4-927.6MHz(Channel Separation:400KHz)---64channels
FSK FHSS 250Kbps 902.5-927.5MHz(Channel Separation:500KHz)---51channels



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In addition, we introduce the following HW modification for further production units.
HW modification:

(1) CC3 and CC4 changed from 8pF to NC (Remove SX1262 32MHz crystal load capacitors)

In SX1262 datasheet explain this:

The SX1261/2 does not require the user to set external foot capacitors on the XTAL supplying the 32 MHz clock. Indeed, the device is fitted with internal programmable capacitors connected independently to the pins XTA and XTB of the device.

(2) RA1 changed from 0R to 1.5pF (Improve Bluetooth performance)

(3) L1 changed from 0R to 3.9nH (Improve Bluetooth performance)

(4) CA6 changed from NC to 0.8pF(Improve Bluetooth performance)

Ongoing compliance with all limits according to FCC 15.247 and ISED RSS-247 issue 2 for non-hopping and hopping modes has been verified by testing in accredited and recognized laboratories of TÜV Rheinland / CCIC (Ningbo) Co., Ltd. and is documented in related test reports, as listed below:

Test Report number 50361124 001

We confirm, that all changes are within the boundaries of the FCC C2PC and ISED C3PC rules.

Sincerely,

Hand signed signature

Printed name Carro Hsieh
title Engineer

Company name and address

Ring LLC
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