

RN4678 Firmware V1.24 Release Notes

June 2025



1. Introduction

Version 1.24 is the latest firmware release for the RN4678 modules. This document outlines the issues identified in the previous firmware release and details the fixes included in the Rev 1.24 firmware version of the RN4678 module. The firmware is available for download from the RN4678 webpage on the Microchip website

2. Enhancements & New Features

- Added new option Q,2,1 to the Q,2 command. With Q,2,1, Quiet Mode stays on after you disconnect and only turns off when you reset or power cycle the module.
- Added new option SA,<mode>,1 to the SA,<mode> command to turn on BLE Secure Connections during pairing. Using SA,<mode> or SA,<mode>,0 keeps secure connections off as before. Issuing GA, replies mode,1 if secure connections are ON or just mode if they are OFF.
- Added new EEPROM recovery feature: if the P3_3 pin toggles five times within one second of reset (the module starts watching at 400 ms), it restores factory defaults and reboots.
- Added new RN commands IAR, IBR, and ISR to retrieve the advertisement, beacon, and scan response payloads set by IA, IB, and IS, plus NAR, NBR, and NSR to retrieve the payloads set by NA, NB, and NS. Each command returns AD-type and value pairs.

3. Resolved Issues

- Fixed reported Vulnerability
 - Continuous pairing request Dos attack
 - CVE-2024-29155
 - Deviating behavior issues
 - CVE-2022-46400: Bypassing passkey entry in legacy pairing
 - CVE-2022-46401: Accepts PauseEncReqPlainText before pairing is complete
 - CVE-2022-46402: Accepts PairCon_rmSend with wrong values (send pairing confirm prior to public key in SC enabled)
 - CVE-2022-46403: Issue with reject messages (send an invalid public key)
 - ANSSI update – Impersonation in the passkey entry
 - CVE-2021-37577: it should not accept a public key from remote device whose X coordinate matches the X coordinate of local public key.
 - Accepts Malformed ConReq with Hop Filed Greater Than Defined Range
- Fixed the Characteristic Discovery response format so that responses are now consistent and reliable.
- Fixed BLE interoperability issue with Windows 11 to ensure reliable connections and smooth data transfer.

4. Known Bugs & Limitations

There are no known bugs or limitations.

5. Firmware Update Instructions for RN4678 Pictail

Microchip offers PC tools that enable firmware updates via a host computer. These tools can be downloaded from the RN4678 product page on the Microchip website at:

<https://www.microchip.com/wwwproducts/en/RN4678>

Detailed instructions and the necessary tools for updating firmware on evaluation boards, such as the RN4678 PICtail, are provided in Appendix A of the respective user guide. The user guide can be accessed at:

[RN4678 PICtail™/PICtail Plus Daughter Board User's Guide](#)

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