



RN487x Firmware 1.30 Release Note

March 18, 2018

1 Overview

Version 1.30 is a firmware release for RN4870/71 modules. 1.30 addresses some issues that were identified in the previous 1.28.3. This firmware is also made available on Microchip's web site for existing RN4870/RN4871 modules.

2 Resolved Issues

- To address a reported issue where configuration device settings or program flash were inadvertently modified, a software write protect feature is provided in 1.28.3 along with a backup and restore feature of device settings. If the flash modification operations are called inadvertently then the write protect feature ensures that the flash is not modified.

3 Known Issues

- The total number of private characteristics that can be created using PS and PC commands are limited to 24 (3 services with 8 characteristics each). Any native services and characteristics enabled by SS command count towards the total characteristics limit.
- The LS command outputs incomplete service table when the service table is large with more than 16 characteristics.

4 New Features

- No user accessible features were introduced in 1.30 since the previous 1.28.3 firmware.

5 Recommendations

5.1 Migrating from 1.18.3

If an application is being migrated from 1.18.3 to 1.30 it is highly recommended to review the new features and changes introduced in 1.28.3 as 1.30 includes these updates. Refer to the 1.28.3 release note for a description of changes.

5.2 Hardware Flow Control

When using Transparent UART for streaming data application, it is important to include the RTS/CTS hardware lines, and enable the hardware control feature. Without hardware flow control, it is possible for host to cause buffer overflow on RN4870 UART, which can result in instability.

When issuing frequent RN487x GATT access commands (SHW, SHR, SUW, SUR, CHW, CHR, CUW, CUR), higher command throughput is achieved by disabling flow control. The host MCU issuing the GATT commands must wait for a response, such as “AOK” before issuing the next command.

5.3 Connectable advertisements on Android devices

When using NA or IA commands to create custom connectable advertisements, the connectable FLAGS field must be included in order for Android devices to connect. This is done by preceding flags advertisement payload with the “NA,01,06” command. See the example below.

```
NA,Z
NA,01,06
NA,FF,CD00F014AD11CF40063F11E5BE3E0002A5D5C51B00BC00BD
```

5.4 Handle enumeration after clearing GATT services

If clearing or updating the GATT service and characteristic tables ensure that they remain same and not changed when using static characteristic handle values in a script or by a remote BLE Client. If the characteristic handle values change please ensure to update the script or remote BLE client with the new handle values.

5.5 LS command workaround for large service table

As a workaround to “LS” command unable to list all the services in a large service table, first issue “LS,P” command to only list all the private services. Then issue “LS,<ServiceUUID>” for each service listed in “LS,P” command to list the characteristics of each private service.

6 Ordering Information

Below are the part numbers to order RN4870/71 modules with 1.30 firmware. The 1.30 firmware image is also available on the www.microchip.com product pages for the RN4870/71.

Part numbers:

- RN4870: RN4870-I/RM130
- RN4871: RN4871-I/RM130

7 Firmware Update Instructions for RN4870/BM70 PICtail & CDB

The instructions and tools used to update firmware on evaluation boards such as the RN4871 PICtail, and RN4870 PICtail SNSR board, are in appendix A of the user guide for of these boards. The links to the user guide is:

[RN4870/71 PICtail/PICtail Plus Daughter Board User's Guide](#)