N-CW7
Product Requirements Specification
250204-800

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1. Document Information

1.1 Current Release Document Control & Authorisation

	Name	Signature	Date
Prepared by:	Emilio La Greca	*Emilio*	04/02/25
Modified by:			
Checked by:	Emilio La Greca	*Emilio*	04/02/25
Approved by:	Ramin Mousavi	*Ramin*	04/02/25

1.2 Change History

Issue	Date	Change Details	Change by	Approved by
1.0	04/02/25	First release.	*Emilio*	*Ramin*

2. References

The following documents and standards listed in Table 2a have been used as references in the preparation of this Product Requirements Specification.

Document Name	Document No.	Issue Number Used

TABLE 2a: Documents referred to within this document

3. Definitions

Abbreviation	Description
USB	Universal Serial Bus
API	Application Programmers Interface
SWD	Serial Wire Debug
UART	Universal Asynchronous Receiver-Transmitter
I^2C	Inter-Integrated Circuit
RS232	Recommended Standard 232
RS485	Recommended Standard 485
TI	Texas Instruments

4. Purpose

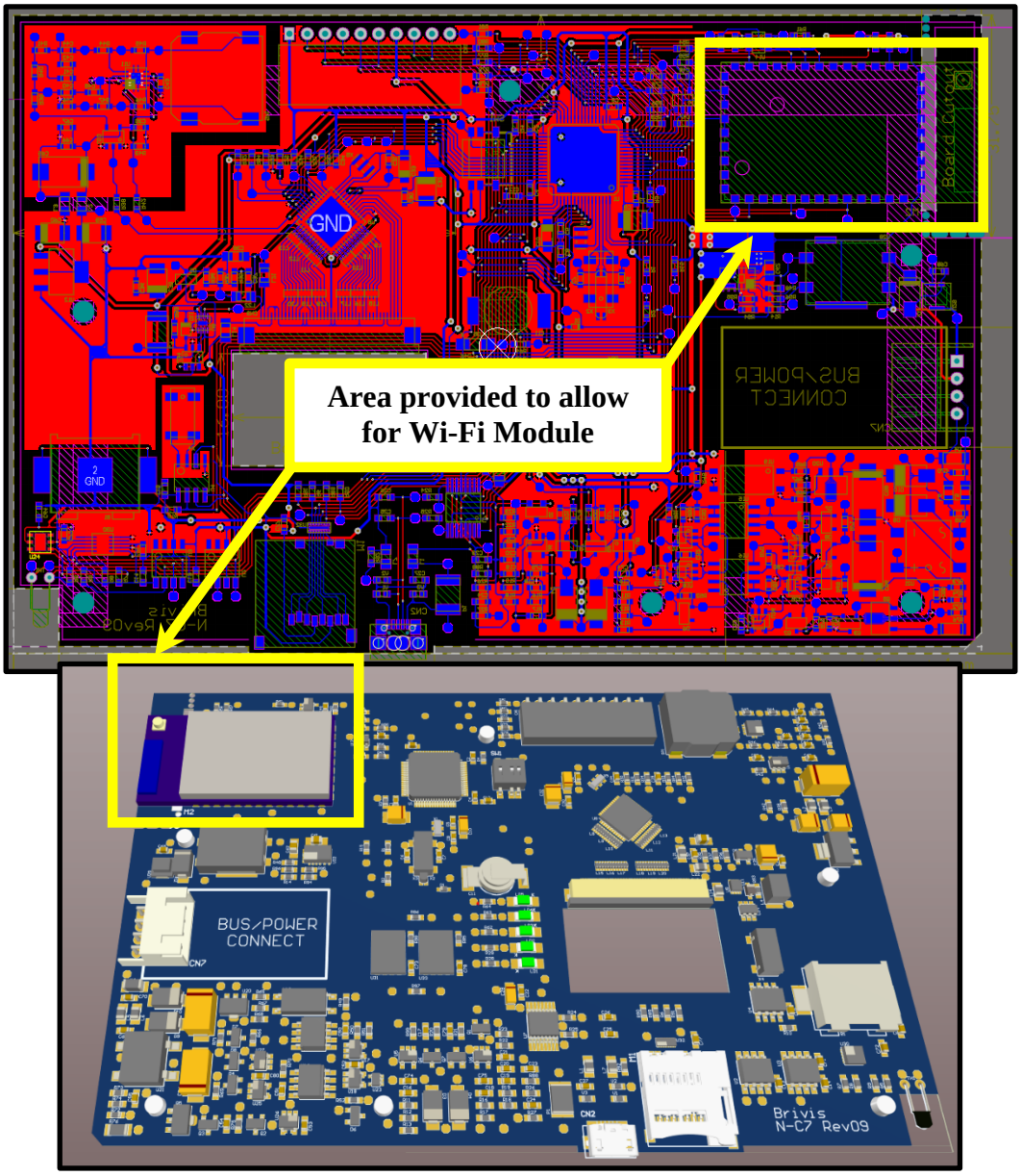
The purpose of this document is to broadly detail the requirements of the N-CW7 Networker Controller that includes embedded Wi-Fi as an option.

5. Requirements

The existing Rinnai N-C7 Touchscreen controller platform is to be upgraded to include embedded Wi-Fi as an option. This is a 3-tier project that encompasses the following distinct areas:

- Hardware modification of existing hardware platform.
- Firmware modification of existing firmware.
- Software modification of test / debug Windows based software.

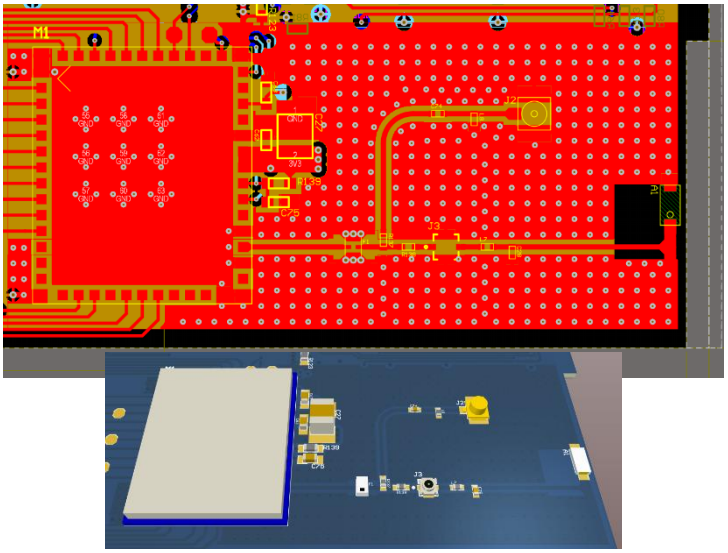
The scope of this requirement specification is the **<u>hardware modification</u>** of the existing hardware platform illustrated below:



<u>Existing N-C7 Hardware Platform</u>

Requirements summary:

- The hardware upgrade is to allow for a Wi-Fi module to be integrated based on the TI CC3200 family, starting with the current in-use CC3200MODR1M2AMOBT device which is used in the Rinnai N-BW2 Touch Wi-Fi Module:



Existing N-BW2 Wi-Fi Module

- The CC3200 module is to be provided on a solderable PCB interfaced via castellated pads so this module can be easily replaced with minor modification to the N-CW7 baseboard allowing for future Wi-Fi based modules (future proofing).
- USB access to the CC3200 module is to be provided to program and monitor its operation with direct connection access to the STM32 microcontroller currently used in the touchscreen controller.
- Remove unused hardware peripherals on the touchscreen controller:

  - Audio output.
  - SD card reader.
  - External RTC.

- Upgrade all components to Innotechs standard 3D-Bodies.
- Strictly follow the Wi-Fi module track routing and placement guidelines stipulated by TI.

Schematic / PCB files in Altium format will be provided for both products.