NRC7292 Evaluation Kit User Guide (Board Data Editor)

Ultra-low power & Long-range Wi-Fi

Ver 1.1.1
Aug 28, 2020

NEWRACOM, Inc.

NRC7292 Evaluation Kit User Guide (Board Data Editor)
Ultra-low power & Long-range Wi-Fi

Office

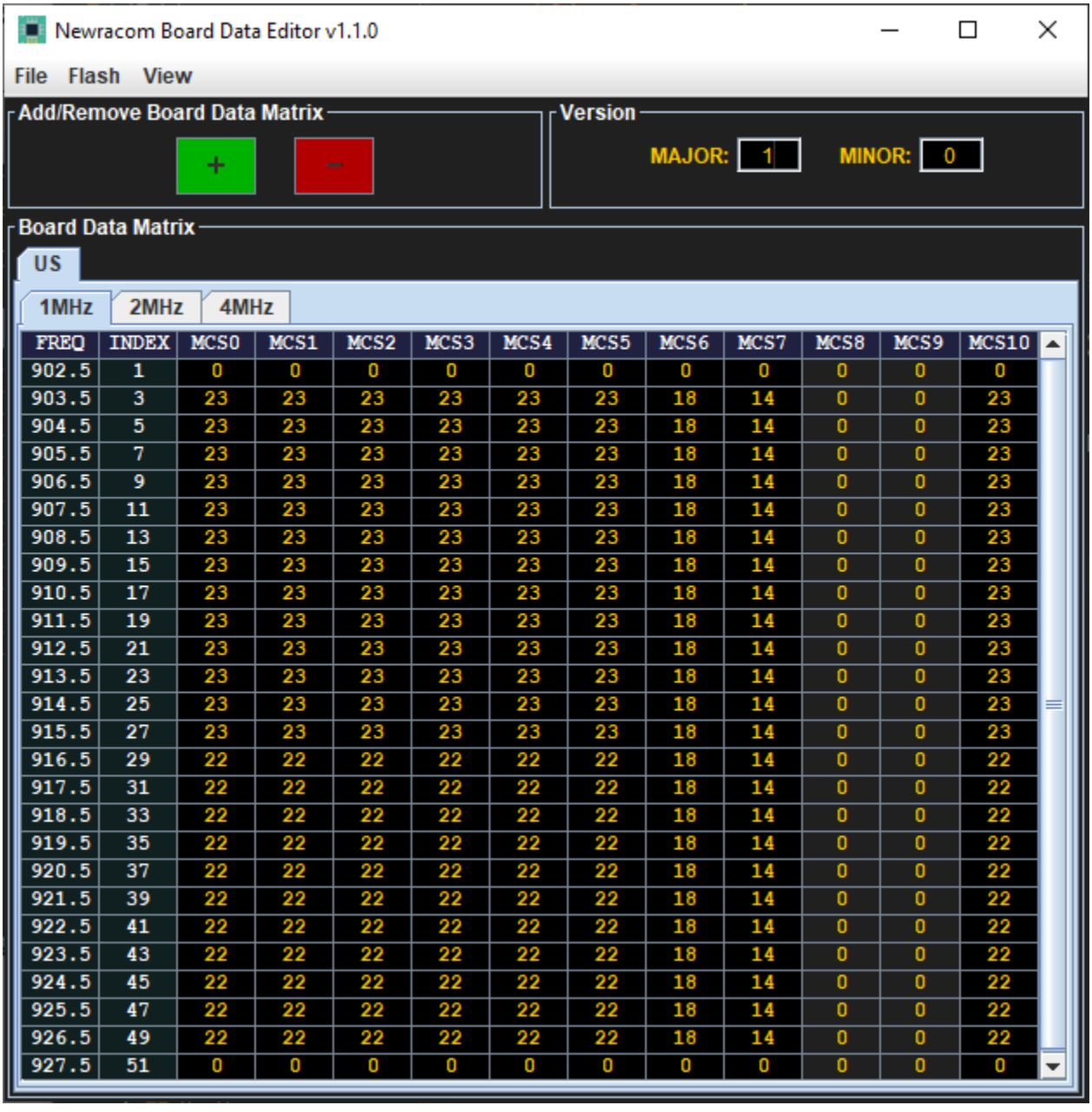
Newracom, Inc.
25361 Commercentre Drive, Lake Forest, CA 92630 USA
http://www.newracom.com

Contents

List of Figures

1 Introduction

The Newracom Board Data Editor is a GUI tool for creating, viewing, editing, and validating TX power level board data binary file.



FREQ	INDEX	MCS0	MCS1	MCS2	MCS3	MCS4	MCS5	MCS6	MCS7	MCS8	MCS9	MCS10
902.5	1	0	0	0	0	0	0	0	0	0	0	0
903.5	3	23	23	23	23	23	23	18	14	0	0	23
904.5	5	23	23	23	23	23	23	18	14	0	0	23
905.5	7	23	23	23	23	23	23	18	14	0	0	23
906.5	9	23	23	23	23	23	23	18	14	0	0	23
907.5	11	23	23	23	23	23	23	18	14	0	0	23
908.5	13	23	23	23	23	23	23	18	14	0	0	23
909.5	15	23	23	23	23	23	23	18	14	0	0	23
910.5	17	23	23	23	23	23	23	18	14	0	0	23
911.5	19	23	23	23	23	23	23	18	14	0	0	23
912.5	21	23	23	23	23	23	23	18	14	0	0	23
913.5	23	23	23	23	23	23	23	18	14	0	0	23
914.5	25	23	23	23	23	23	23	18	14	0	0	23
915.5	27	23	23	23	23	23	23	18	14	0	0	23
916.5	29	22	22	22	22	22	22	18	14	0	0	22
917.5	31	22	22	22	22	22	22	18	14	0	0	22
918.5	33	22	22	22	22	22	22	18	14	0	0	22
919.5	35	22	22	22	22	22	22	18	14	0	0	22
920.5	37	22	22	22	22	22	22	18	14	0	0	22
921.5	39	22	22	22	22	22	22	18	14	0	0	22
922.5	41	22	22	22	22	22	22	18	14	0	0	22
923.5	43	22	22	22	22	22	22	18	14	0	0	22
924.5	45	22	22	22	22	22	22	18	14	0	0	22
925.5	47	22	22	22	22	22	22	18	14	0	0	22
926.5	49	22	22	22	22	22	22	18	14	0	0	22
927.5	51	0	0	0	0	0	0	0	0	0	0	0

Figure 1.1 Newracom Board Data Editor

2 Usage

2.1 File Menu

The **File** menu at the top right corner of the program contains the following items:

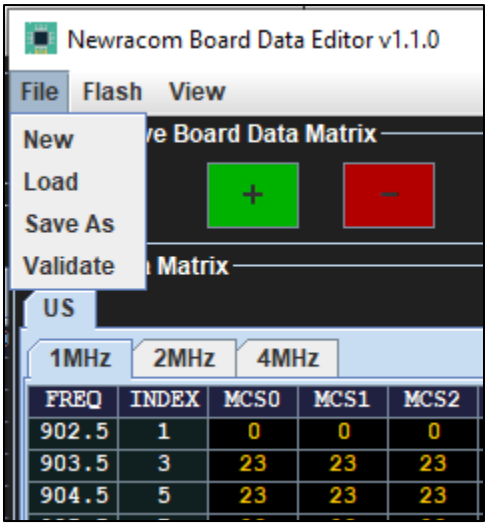


Figure 2.1 File Menu

1. **New:**
   - Create a new board data file.

2. **Load:**
   - Load an existing board data file.

3. **Save As:**
   - Save the current board data file as another file.

4. **Validate:**
   - Checks if an existing file is a valid board data file.

2.2 Flash Menu (Standalone Mode Only)

The flash read-write functionalities contained in the Flash menu are for standalone operation only. For host mode operation, refer to the document UG-7292-015-Transmit_Power_Control.pdf.

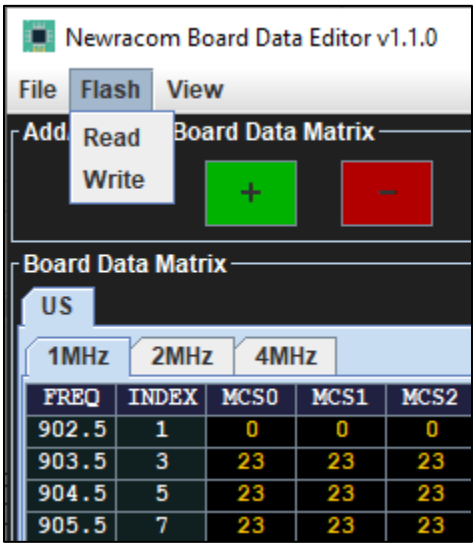


Figure 2.2 Flash Menu

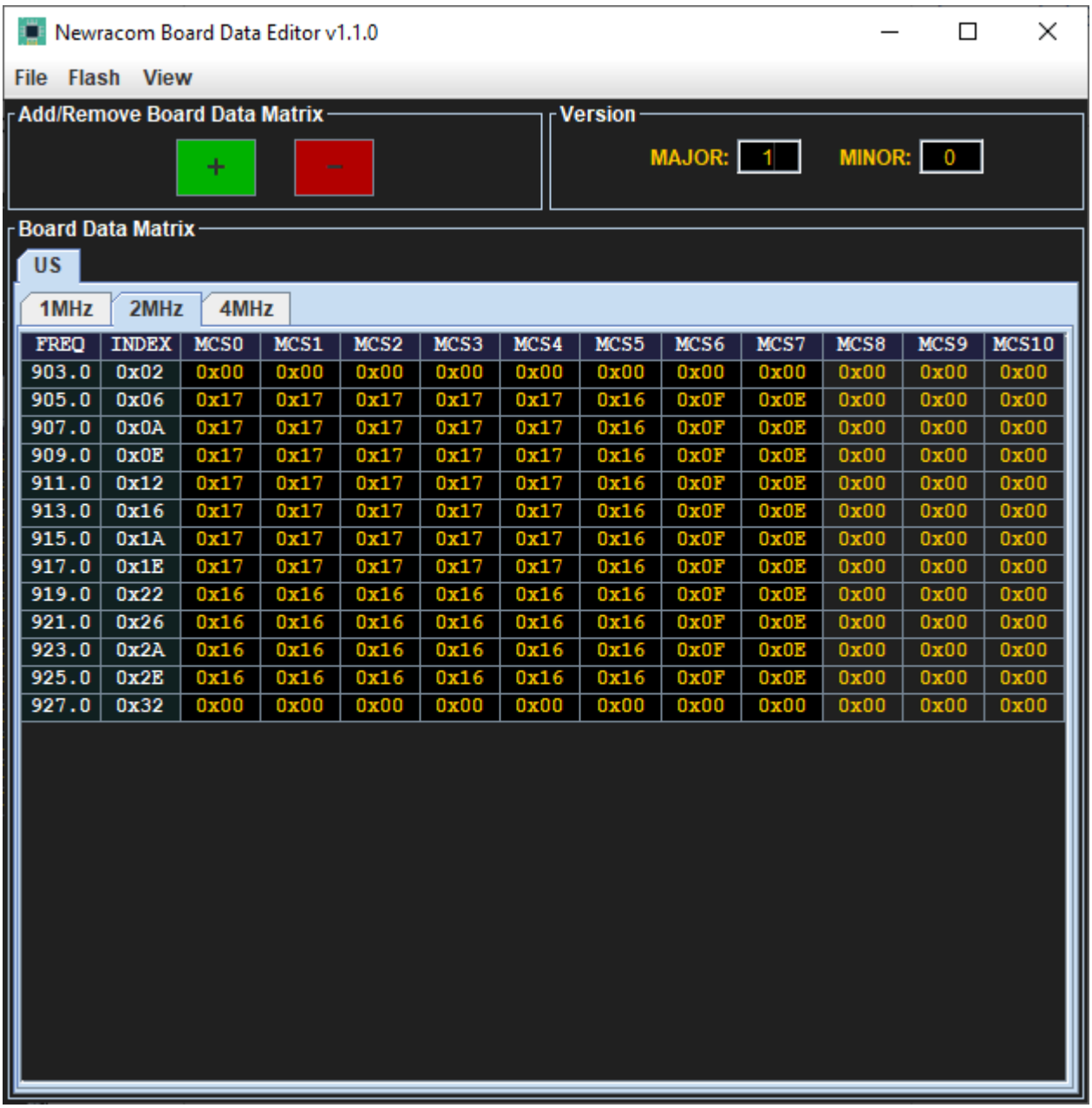
The flash menu contains the following items:

1. **Read:**
   - Read the board data usage flag (bdf_use) and the board data stored from the module flash.
2. **Write:**
   - Write the board data usage flag (bdf_use) and the board data to the module flash.

2.3 View Menu

The entries of the board data can be displayed either in decimal base or hexadecimal base.

The base (DEC or HEX) can be selected from the **View** menu:



FREQ	INDEX	MCS0	MCS1	MCS2	MCS3	MCS4	MCS5	MCS6	MCS7	MCS8	MCS9	MCS10
903.0	0x02	0x00	0x00	0x00	0x00	0x00	0x00	0x00	0x00	0x00	0x00	0x00
905.0	0x06	0x17	0x17	0x17	0x17	0x17	0x16	0x0F	0x0E	0x00	0x00	0x00
907.0	0x0A	0x17	0x17	0x17	0x17	0x17	0x16	0x0F	0x0E	0x00	0x00	0x00
909.0	0x0E	0x17	0x17	0x17	0x17	0x17	0x16	0x0F	0x0E	0x00	0x00	0x00
911.0	0x12	0x17	0x17	0x17	0x17	0x17	0x16	0x0F	0x0E	0x00	0x00	0x00
913.0	0x16	0x17	0x17	0x17	0x17	0x17	0x16	0x0F	0x0E	0x00	0x00	0x00
915.0	0x1A	0x17	0x17	0x17	0x17	0x17	0x16	0x0F	0x0E	0x00	0x00	0x00
917.0	0x1E	0x17	0x17	0x17	0x17	0x17	0x16	0x0F	0x0E	0x00	0x00	0x00
919.0	0x22	0x16	0x16	0x16	0x16	0x16	0x16	0x0F	0x0E	0x00	0x00	0x00
921.0	0x26	0x16	0x16	0x16	0x16	0x16	0x16	0x0F	0x0E	0x00	0x00	0x00
923.0	0x2A	0x16	0x16	0x16	0x16	0x16	0x16	0x0F	0x0E	0x00	0x00	0x00
925.0	0x2E	0x16	0x16	0x16	0x16	0x16	0x16	0x0F	0x0E	0x00	0x00	0x00
927.0	0x32	0x00	0x00	0x00	0x00	0x00	0x00	0x00	0x00	0x00	0x00	0x00

Figure 2.3 View Menu

2.4 Editor

A single data group consists of three data matrices per country code. The **+ button** or the **– button** can be used to add or remove a data group. A board data file can consist of multiple data groups but at most one data group per country code is allowed. Each data matrix in a data group corresponds to one of three bandwidths: 1MHz, 2MHz or 4MHz. The data matrix cells correspond to the power levels and can be directly edited using the editor. The background of a given cell will turn red if an invalid value is typed in by the use. All configurable power levels must be given as integers between 1 and 30. A value of 0 corresponds to an invalid (as defined by the user) or illegal (as defined by the 802.11ah specification) configuration parameters. In the latter case, the corresponding cells are not editable, and their values are fixed to be 0.

WARNING: As of the current version, a board data file must contain no more than a single data group. (No multiple data groups corresponding to multiple country codes in a single board data file). Multiple-country support will be added in the future.

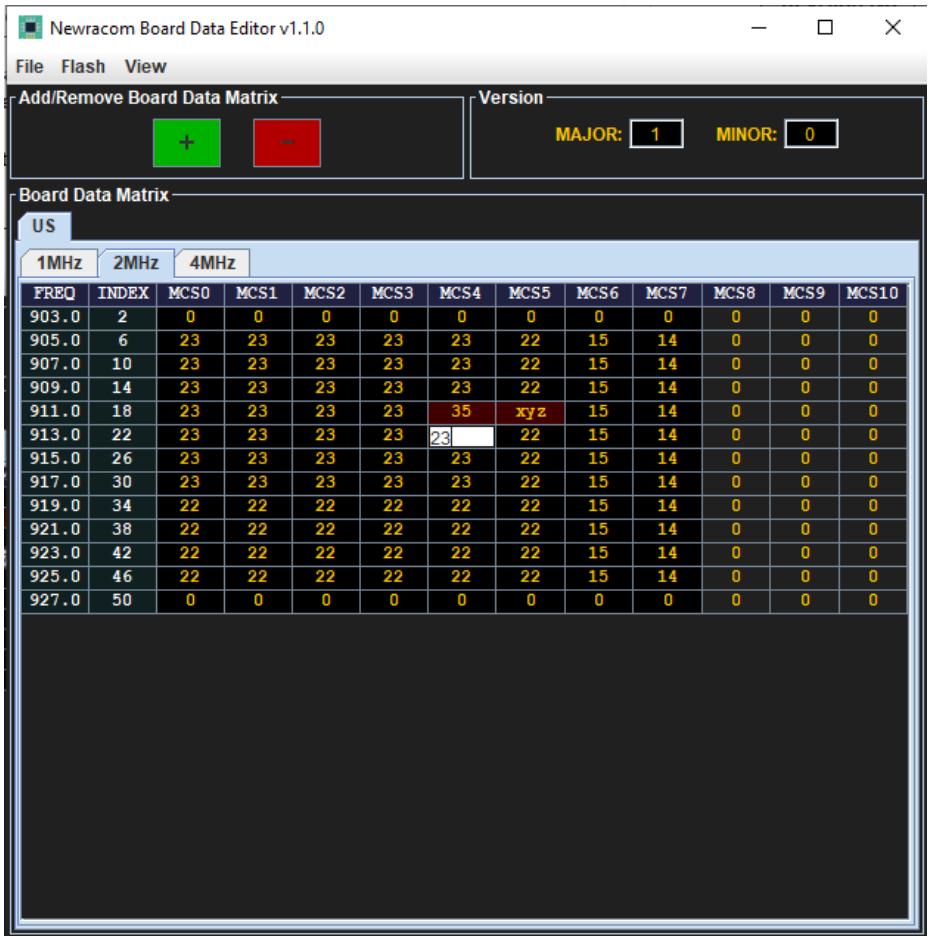


Figure 2.4 Editor

The board data major/minor version numbers (0~255) can be specified using the **Version** fields.

3 Revision History

Revision No	Date	Comments
Ver 1.0	08/20/2020	First version.
Ver 1.1.0	8/27/2020	Flash functionality added.
Ver 1.1.1	8/28/2020	No multiple data groups (multiple country codes) in a single board data file is allowed.