

Ameba Mptool Userguide

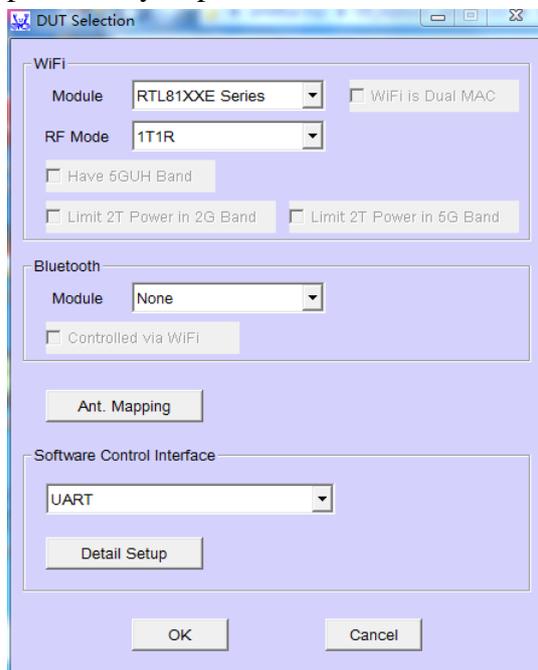
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For the convenience of customers to test and debug ameba, we offer our customers a windows-based system UI_mptool; The tool contains four sub-interface Main, PSD, Efuse, Reg.

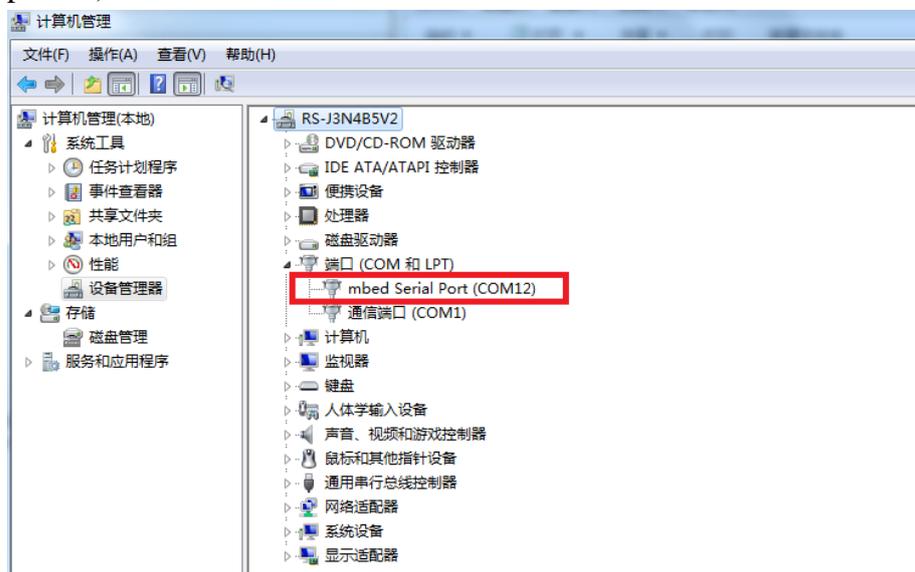
Operation steps:

1. Open "Setup\Realtek_DUT_Selection.exe", and set every item according to the picture below, Module、RF Mode、Software Control Interface setup Items are particularly important.



2. Open "Setup\Realtek_DUT_Selection.ini", and set the UART parameters

Device1_PortNo =12(Vary by PC, you can check the value by the following picture)



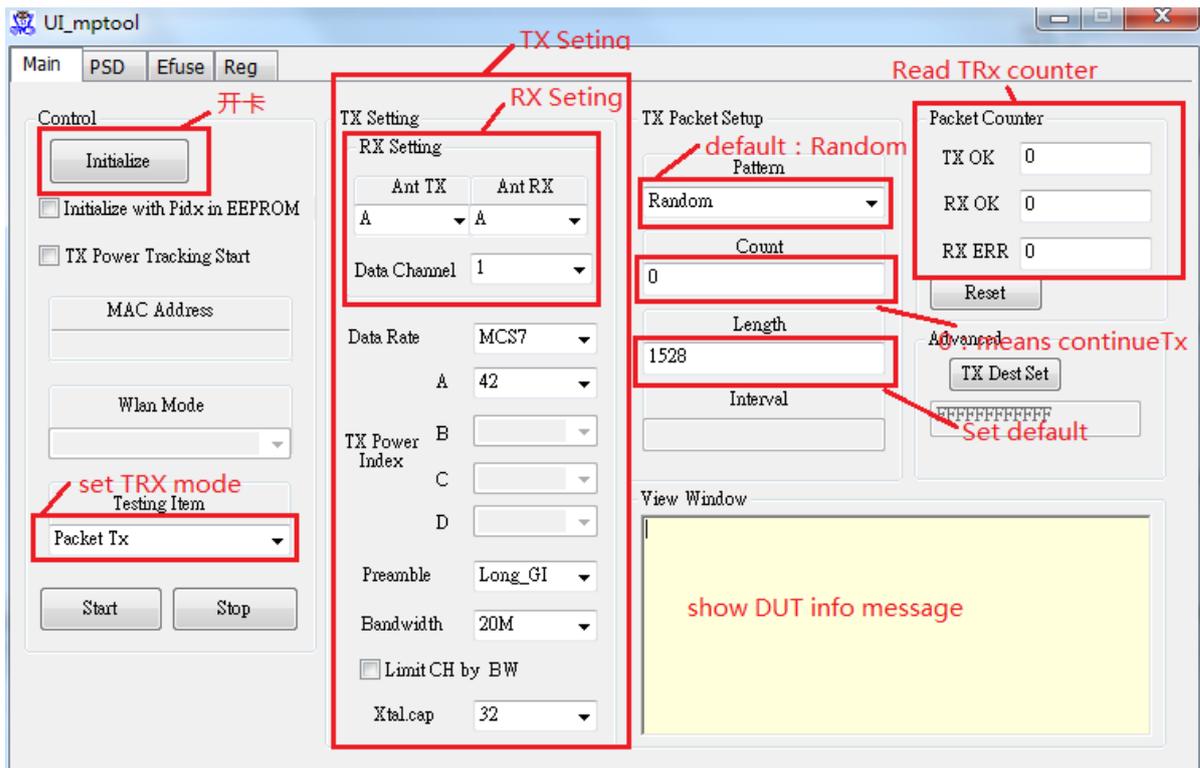


3.Open " UI_mptool.exe". Firstly, you must initialize the DUT,and then the four sub interface: Main,PSD,Efuse,Reg can be operated.

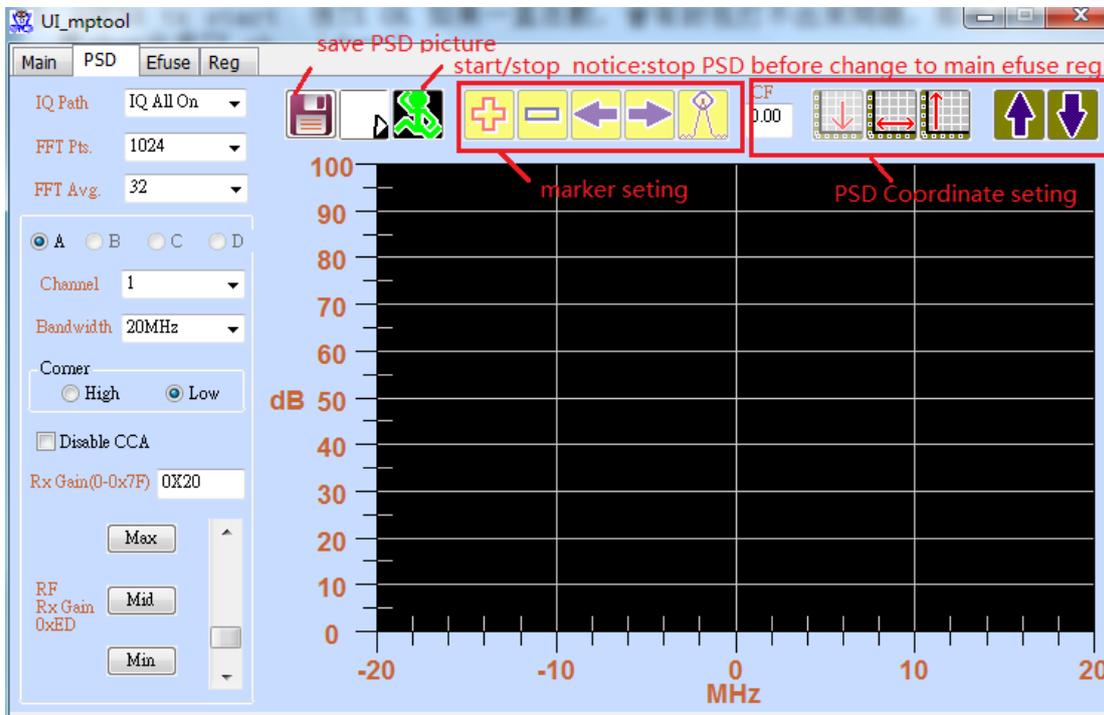
4.Main:

Note: When you select "Initialize with Pidx in EEPROM",

- a) It means that TX Power Index Column A will show the Efuse Index Value, which also have been limited by “Power by rate table” (limit power by rate in each mode) and “Power limit table” (limit power by channel plan value) before shown.
- b) If you want to load power index only from Efuse, not count in the “Power by rate table”and“Power limit table”,you can modify the “\WiFiChip\Realtek_WiFi_Device_Setup” to “CalculateIndexByDriver=0”.If TX Power Index show “0”, It's probably that the MAC address have not been programmed in Efuse, thus you should PG Efuse entirely in Another Page.

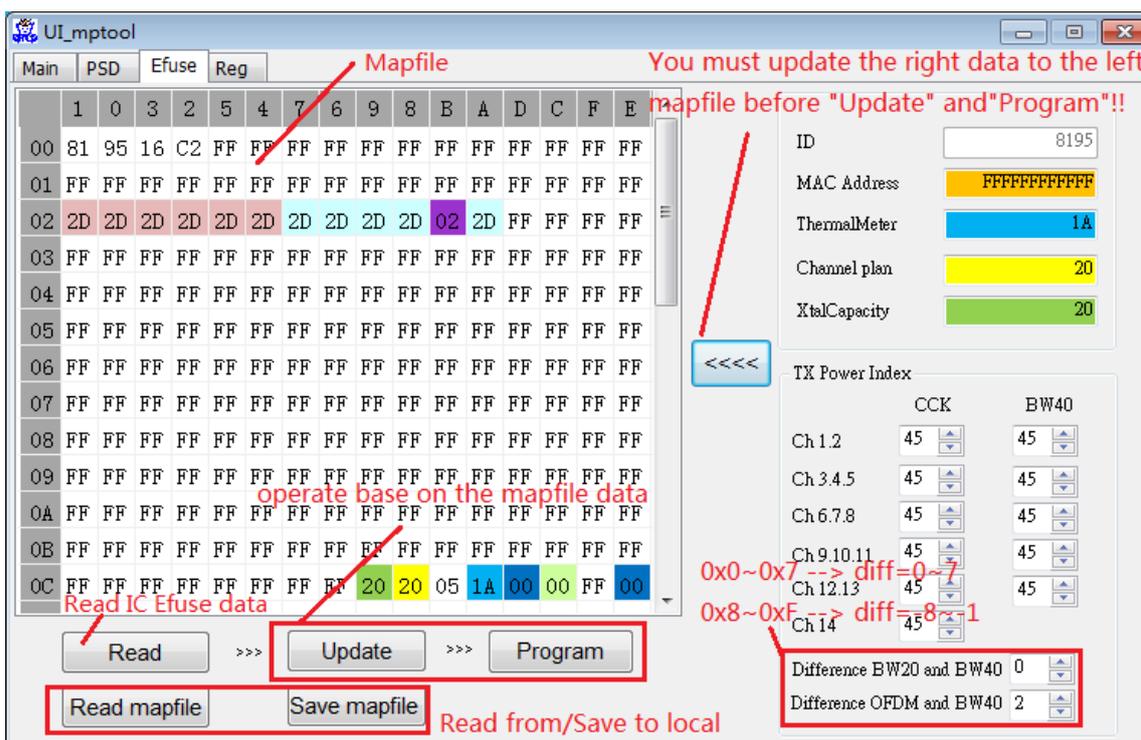


5.PSD:



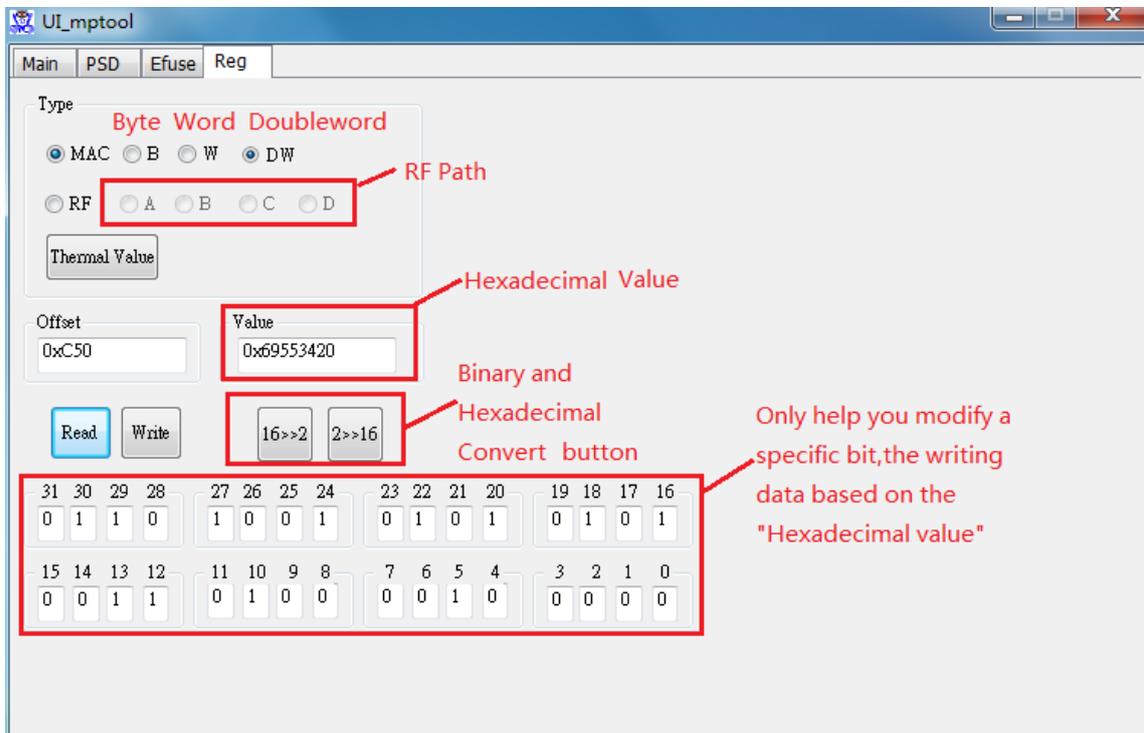
6.Efuse:

The picture below is the description of Efuse. To be attention: Writing data to Ameba is base on the mapfile, so you must update your calibration data to map. If you are familiar with the Efuse contents, you can modify the calibration data on the map directly.



offset	name	1	0	3	2	5	4	7	6	9	8	B	A	D	C	F	E
20~25	CCK Index	00	81	95	16	C2	FF										
26~2A	BW40 Index	01	FF														
2B	Difference BW20-1S and BW40-1S.	02	2D	02	2D	FF	FF	FF	FF								
C8	channel plan	03	FF														
C9	Crystal Calibration	04	FF														
CA	Thermal meter	05	FF														
CB	IQK/LCK	06	FF														
CC	2G/5G PA type	07	FF														
CD~CE	2G path A,B LNA type	08	FF														
11A~11F	MAC	09	FF														
131	Board option	0A	FF														
132	feature options	0B	FF														
133	BT Setting	0C	FF	20	20	05	1A	00	00	FF							
134	Version	0D	00	3E	02	01	00	23	FC	00	04	20	02	4C	87	11	02
136	2G Tx BB Swing Setting	0E	00	0C	04	22	08	00	32	00	21	FF	0C	02	22	00	01
138	Tx Power Calibrator rate	0F	00	01	00	00	00	00	00	00	00	00	00	00	00	02	FF
139	TRx antenna Options	10	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00
		11	EB	00	6E	00	00	01	00	00	FF	00	FF	FF	FF	FF	FF
		12	FF														
		13	01	FF	10	00	FF	00	FF	00	00	00	00	00	00	00	00
		14	FF														
		15	FF														
		16	FF														
		17	FF														
		18	FF														
		19	FF														
		1A	FF														
		1B	FF														
		1C	FF														
		1D	FF														
		1E	FF														
		1F	FF														

7.Reg:



The screenshot shows the 'Reg' tab of the UI_mptool software. The interface includes the following elements:

- Type:** Radio buttons for MAC, B, W, and DW (selected). Below this are radio buttons for RF Path: A, B, C, and D (selected).
- Value:** A text field containing the hexadecimal value '0x69553420'.
- Offset:** A text field containing the hexadecimal value '0xC50'.
- Buttons:** 'Read' and 'Write' buttons. Below them are '16>>2' and '2>>16' buttons, which are part of a 'Binary and Hexadecimal Convert' button.
- Bit Field:** A grid of 32 bit indicators (bits 31 down to 0) showing their current state (0 or 1).

Red annotations with arrows point to these specific features:

- 'RF Path' points to the RF Path radio buttons (A, B, C, D).
- 'Hexadecimal Value' points to the Value text field.
- 'Binary and Hexadecimal Convert button' points to the 16>>2 and 2>>16 buttons.
- 'Only help you modify a specific bit, the writing data based on the "Hexadecimal value"' points to the bit field grid.