Driver Customization Tool

MTK

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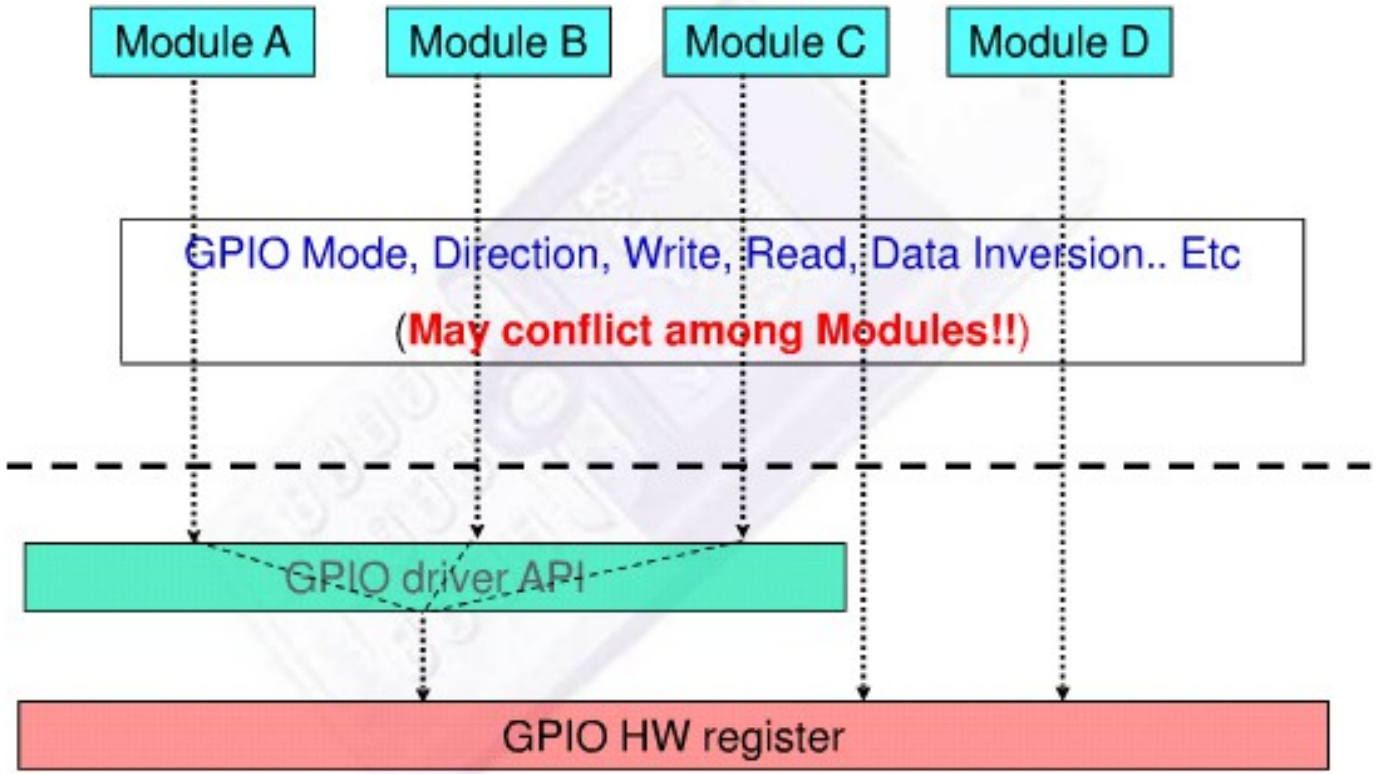
Old scheme for GPIO access



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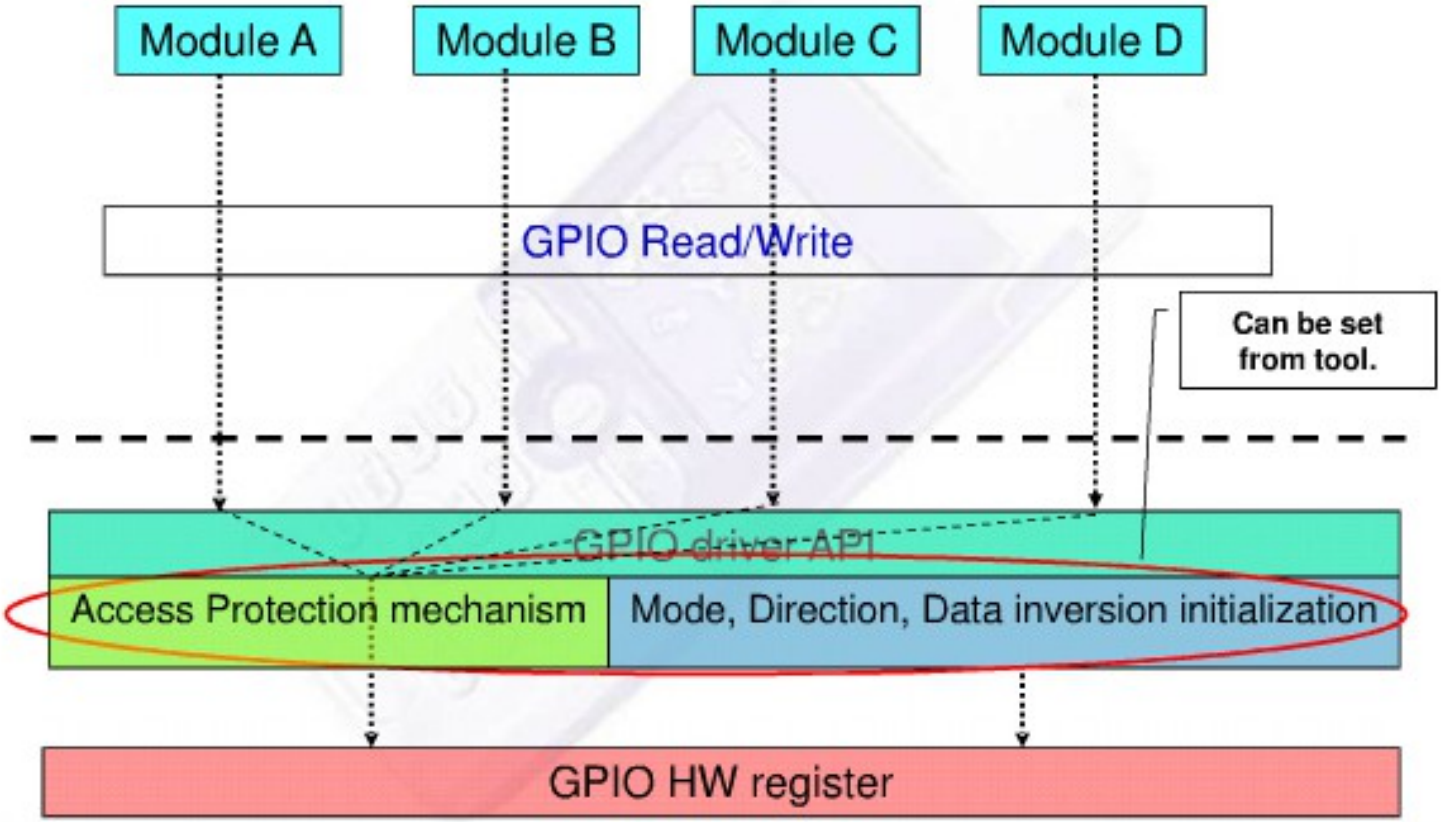
New scheme for GPIO access



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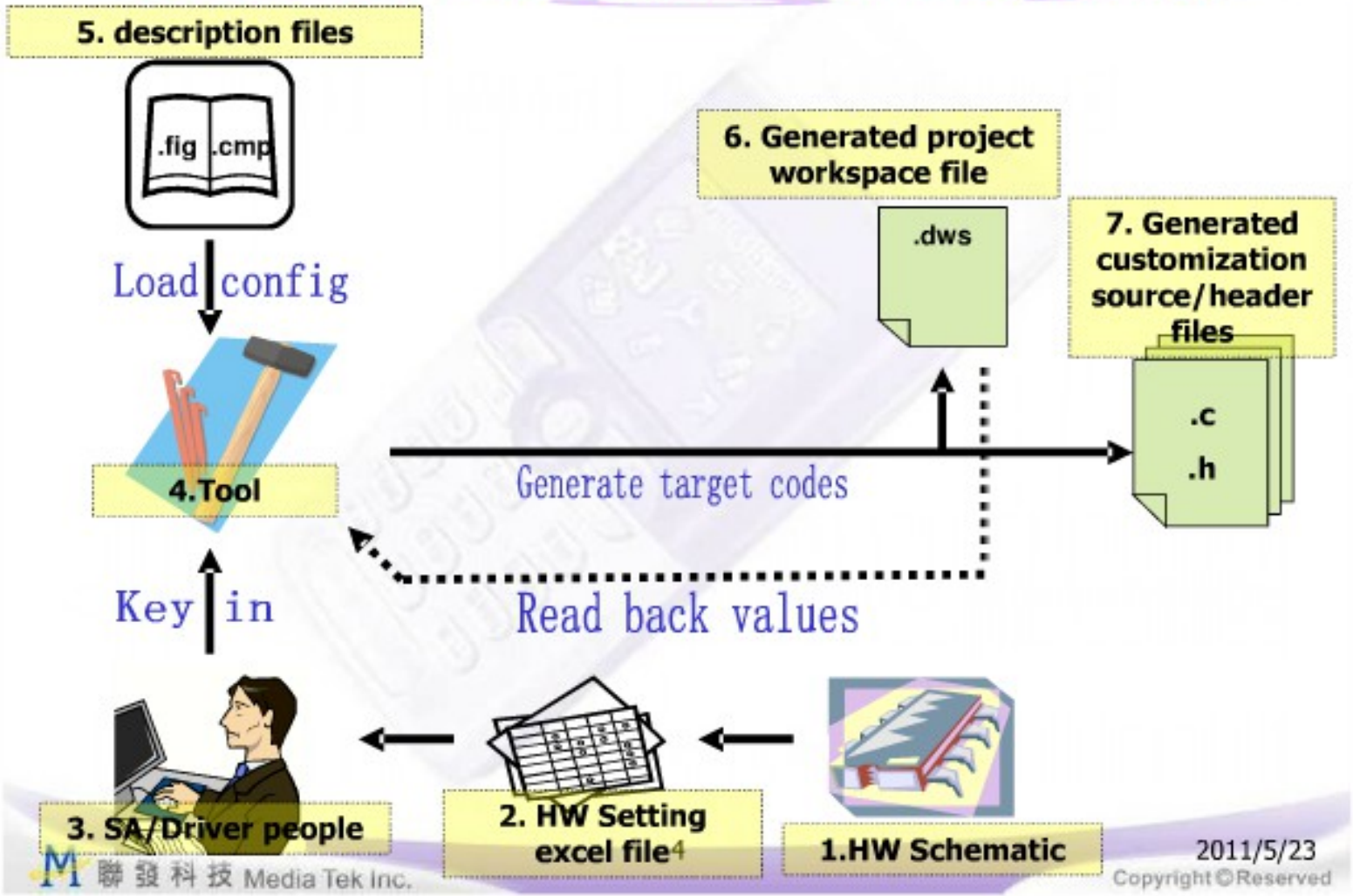
New customization architecture and flow



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Step1: Turn on feature

- In the Project_Name.mak file, turn on the customization tool feature as below:

```
DRV_CUSTOM_TOOL_SUPPORT   = TRUE          # TRUE or FALSE
```

- Note that when this feature is turned on, a compile option `__CUST_NEW__` will be defined.

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Step2: Create a data workspace file (1/4)

- Create a **codegen** folder
  - **\mcu\custom\drv\misc_drv\BOARD_VER\codegen** where **BOARD_VER** is the Baseband main board description in the Project_Name.mak.
  - For example, if **BOARD_VER = TOP_6227_BB** in **TOP6227_DEMO_GPRS.mak**, then create a **codegen** folder under **\mcu\custom\drv\misc_drv\TOP_6227_BB**

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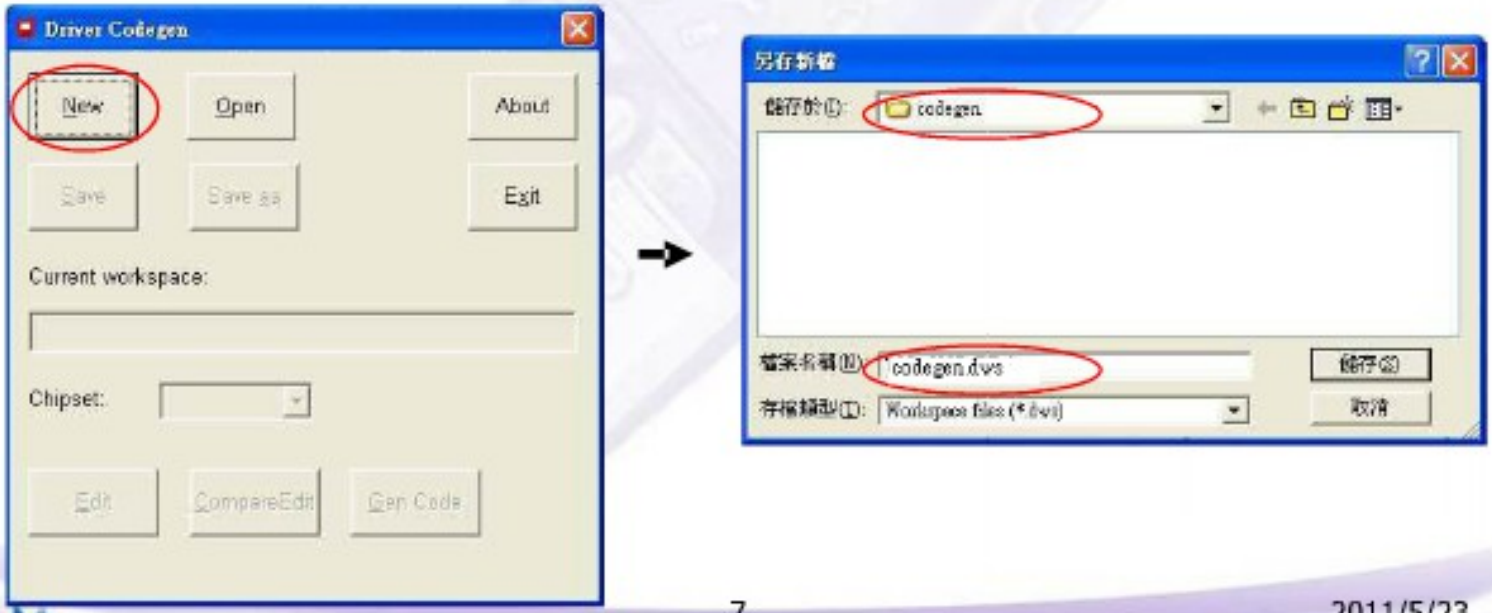
Step2: Create a data workspace file (2/4)

- **Create a data workspace file:**
  - New a data workspace by tool on the folder as mentioned above: **\mcu\custom\drv\misc_drv\BOARD_VER\codegen**. And the file name of this data workspace must be **codegen.dws**.



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Step2: Create a data workspace file (3/4)

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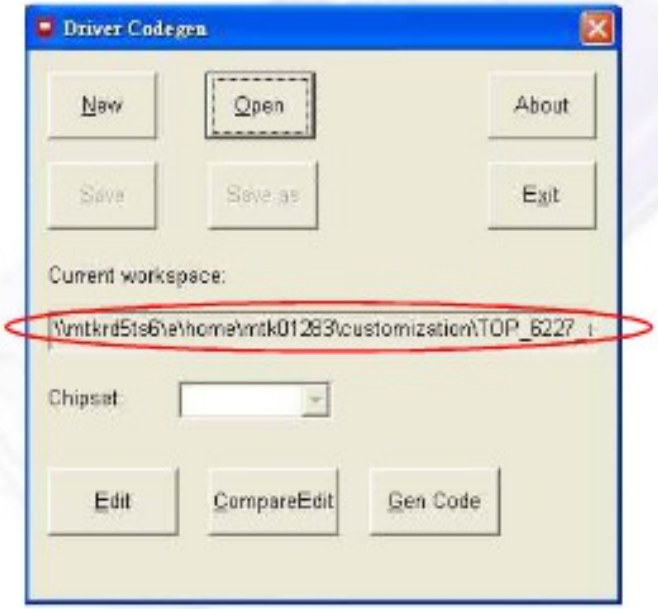
Step2: Create a data workspace file (4/4)



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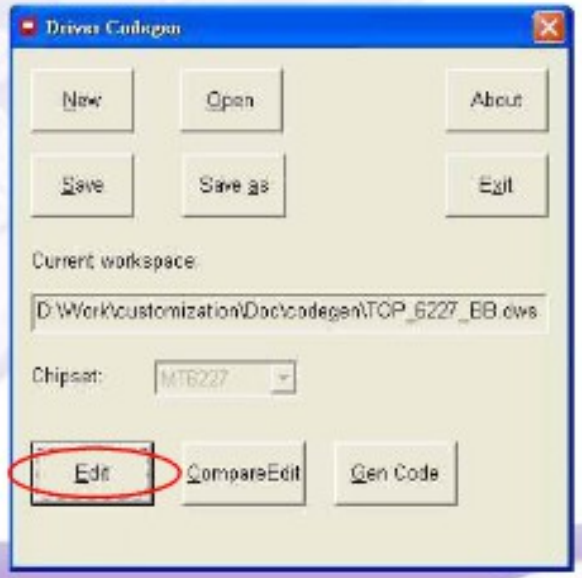
Step3: Edit Settings on tool

- **Chipset selection**

- **Press the "Edit" button**



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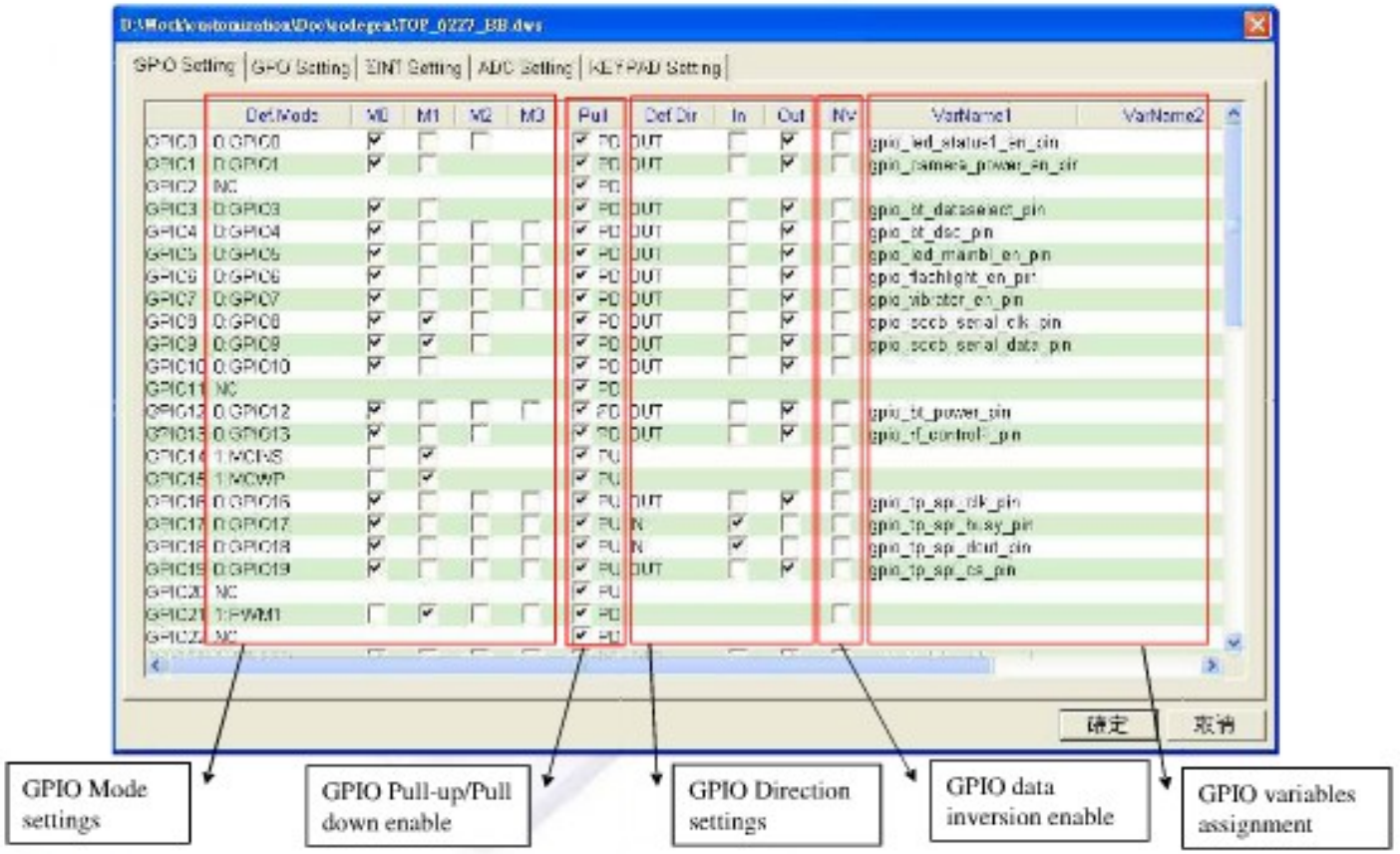
Step3-1: Edit GPIO Settings



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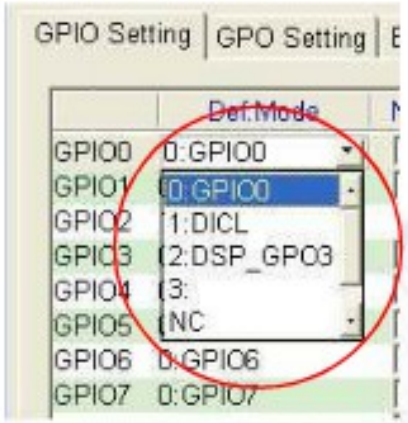
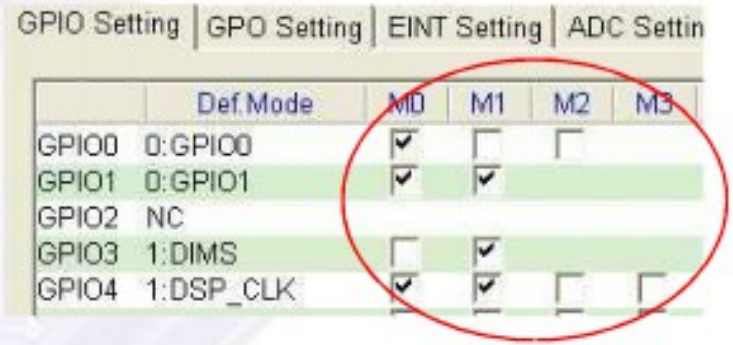
Step3-1: Edit GPIO Settings

- **Default Mode**



- **Allowed Mode**



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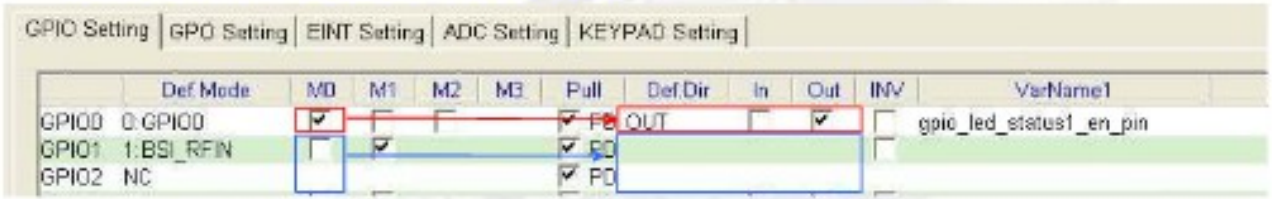
Step3-1: Edit GPIO Settings

- **Pull-up/Pull-down enable**: check box
- **Direction Settings**: This category contains three columns and they are only enabled when the allowed mode (M0, M1, M2 or M3) for the corresponding GPIO is checked.



  - Default direction:

  - Allowed direction: In & Out
- **Data inversion enable**: check box

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Step3-1: Edit GPIO Settings

- **Variables assignment**: It contains two columns: VarName1 and VarName2 and is enabled only when the allowed mode (M0, M1, M2 or M3) for the corresponding GPIO pin is checked.

- VarName2 is for special cases when a GPIO pin is shared between two applications or modules

VarName1	VarName2
gpio_led_status1_en_pin	gpio_flash_test_cmd_bit0_pin

- Note that no GPIO variable name can be assigned in any two different fields even in GPO Setting (GPIO variables names are shared with GPO Setting)

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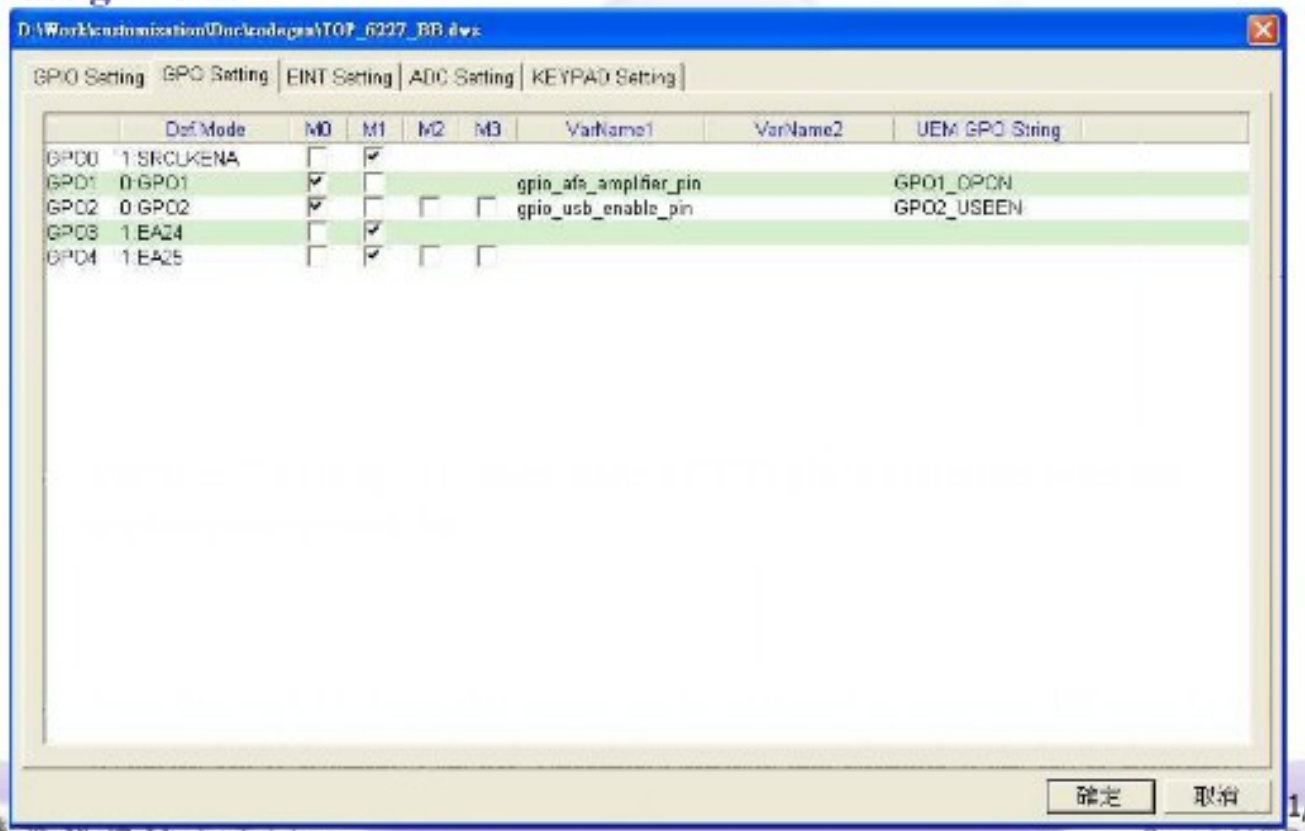
Step3-2: Edit GPO

- The GPO editing window is just like GPIO editing window except that it only contains two categories: **GPO mode settings** and **GPIO variables assignment**.



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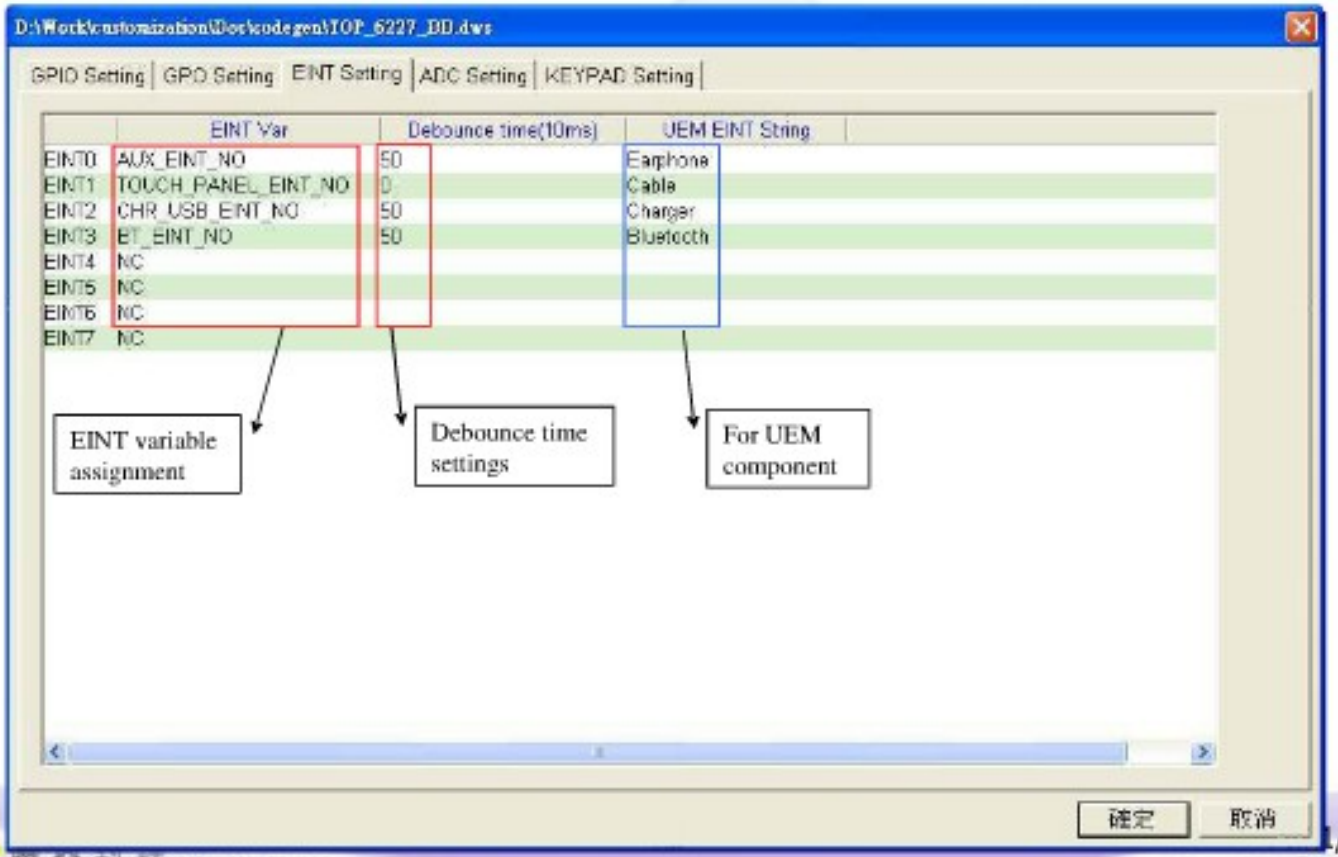
Step3-3: Edit EINT

- The EINT editing window contains two categories: **EINT variables assignment** and **Software debounce Time settings** as below.



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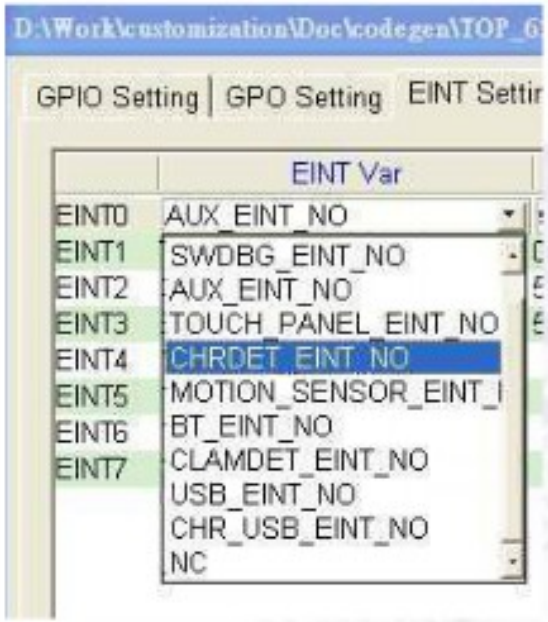
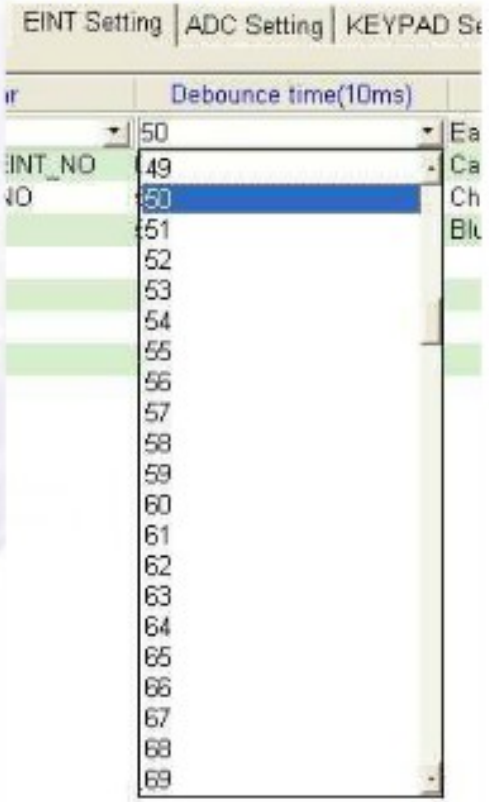
Step3-3: Edit EINT

- **Variables assignment:**



- **Software debounce time setting:**



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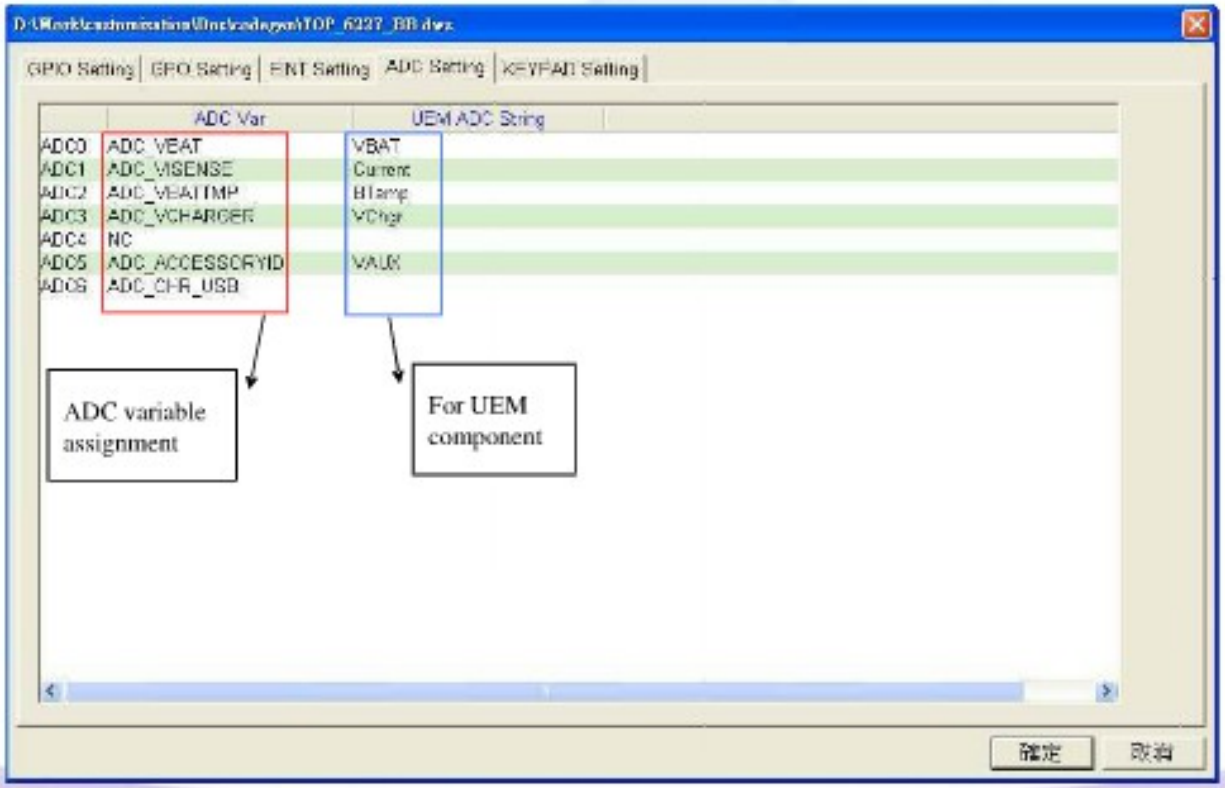
Step3-4: Edit ADC

- The ADC editing window contains just one category: **ADC variables assignment** as below.



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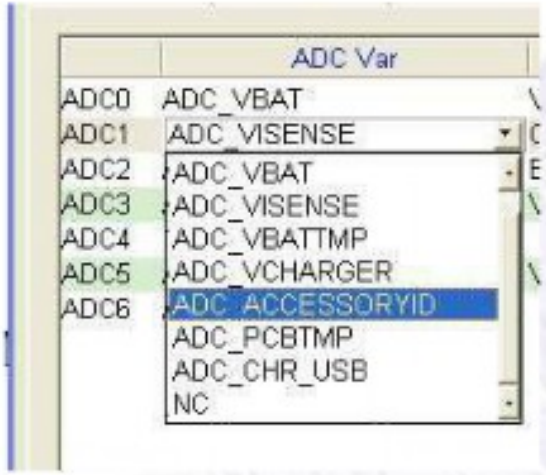
Step3-4: Edit ADC

- **Variables assignment:**



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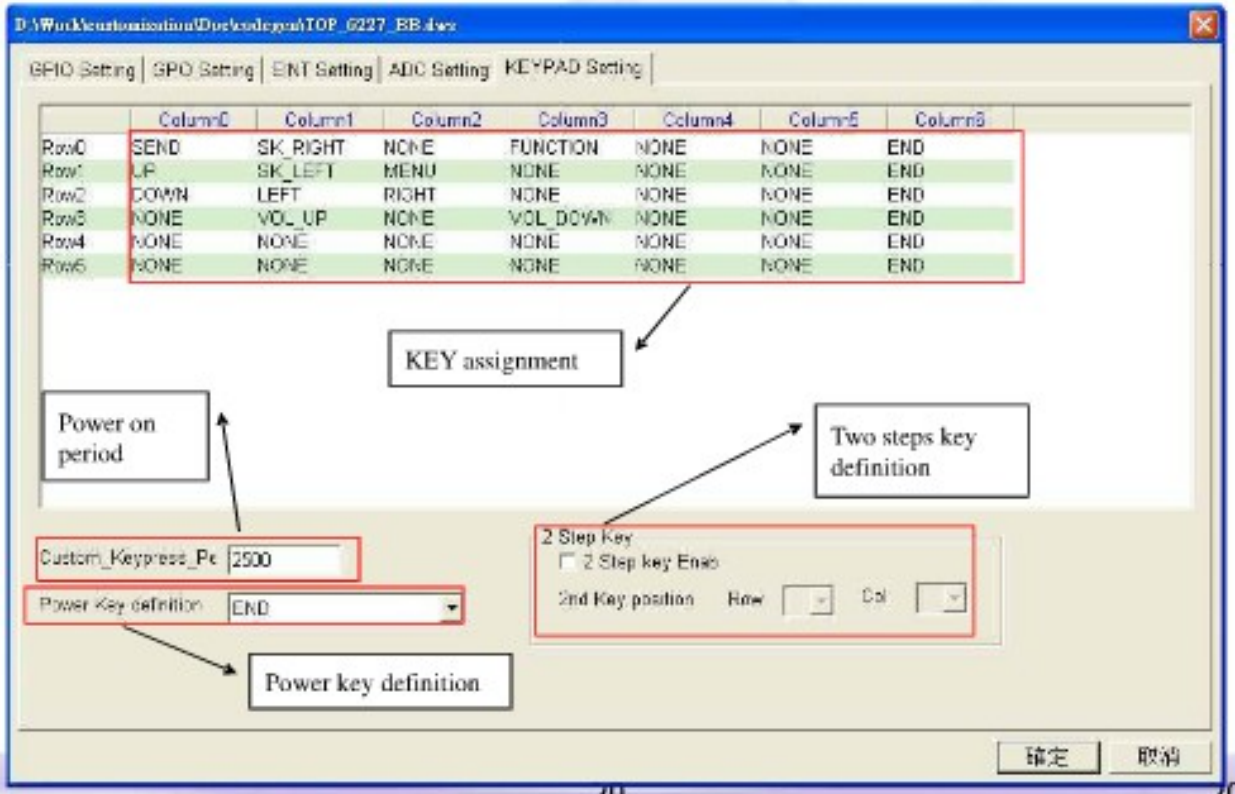
Step3-5: Edit KEYPAD

- The KEYPAD editing window contains just four categories: **KEY assignment, Power on period, Power key definition** and **two steps key definition**.



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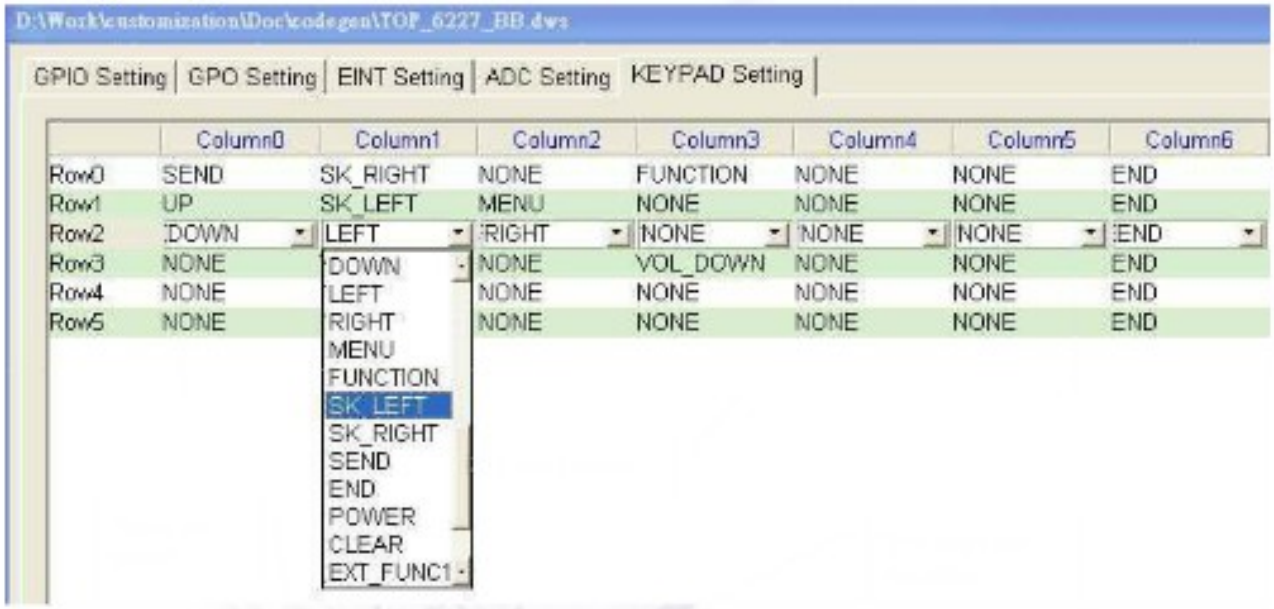
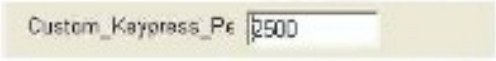
Step3-5: Edit KEYPAD

- **Key assignment:**



- **Power on period:**



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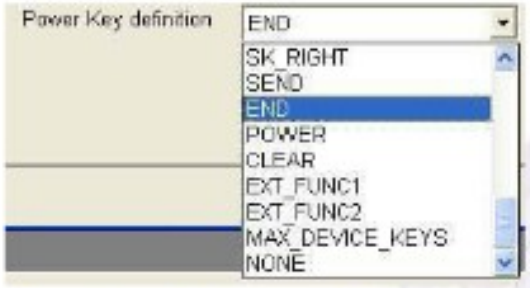
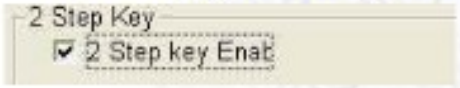
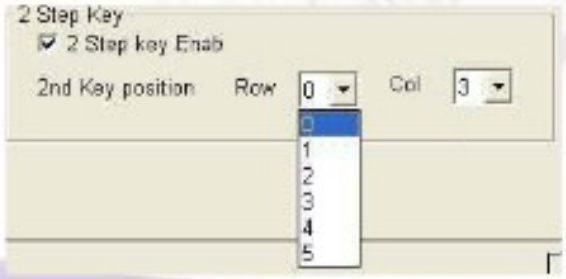
Step3-5: Edit KEYPAD

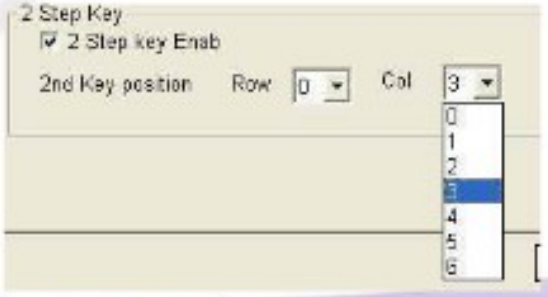
- **Power key definition**:



- **Two steps key enable**:
  - When this field is enabled, user can assign the full pressed position (2nd key position) on the keypad matrix for the two steps key.







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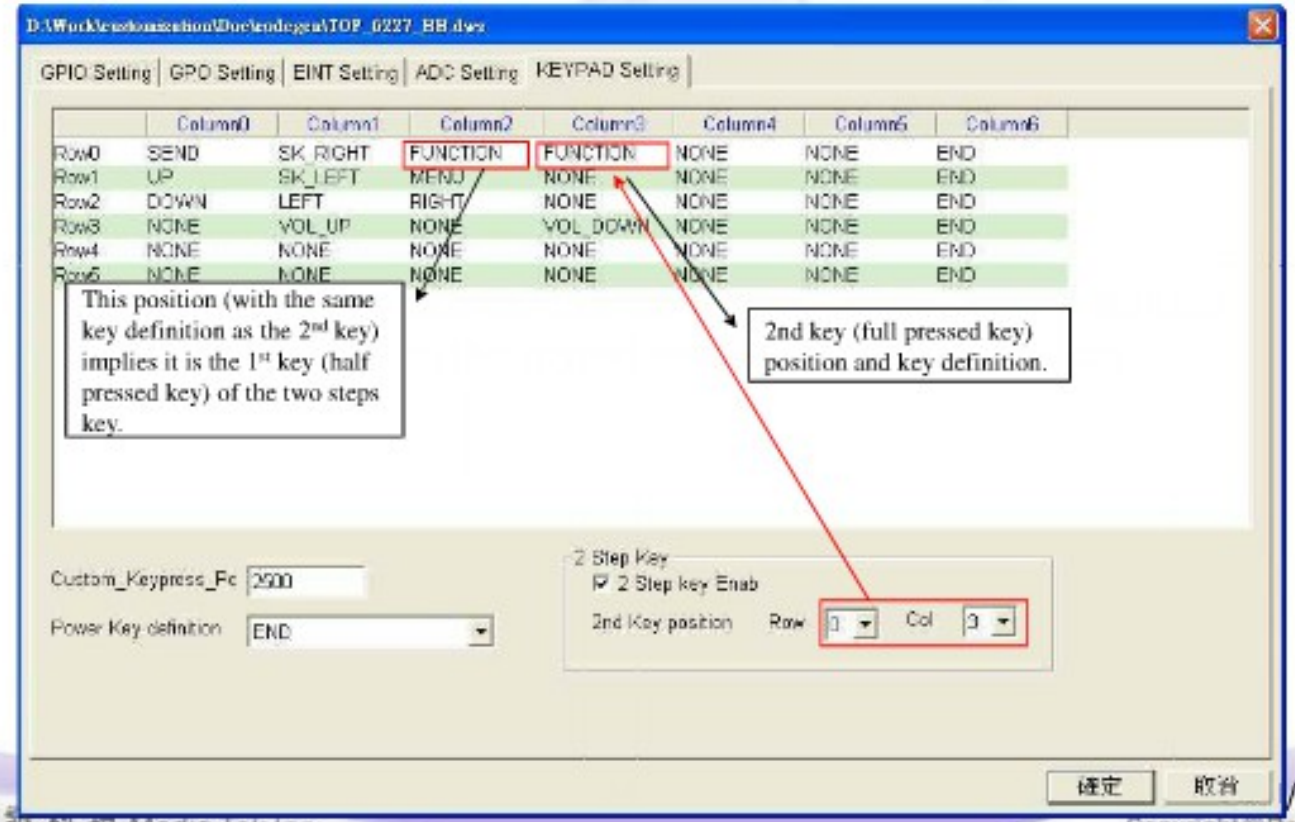
Step3-5: Edit KEYPAD

- The 1st key position (half pressed key position) is implied on the position which has the same key definition as the 2nd key. User should take care of having 1st key on the keypad matrix. **The tool would not check it.**



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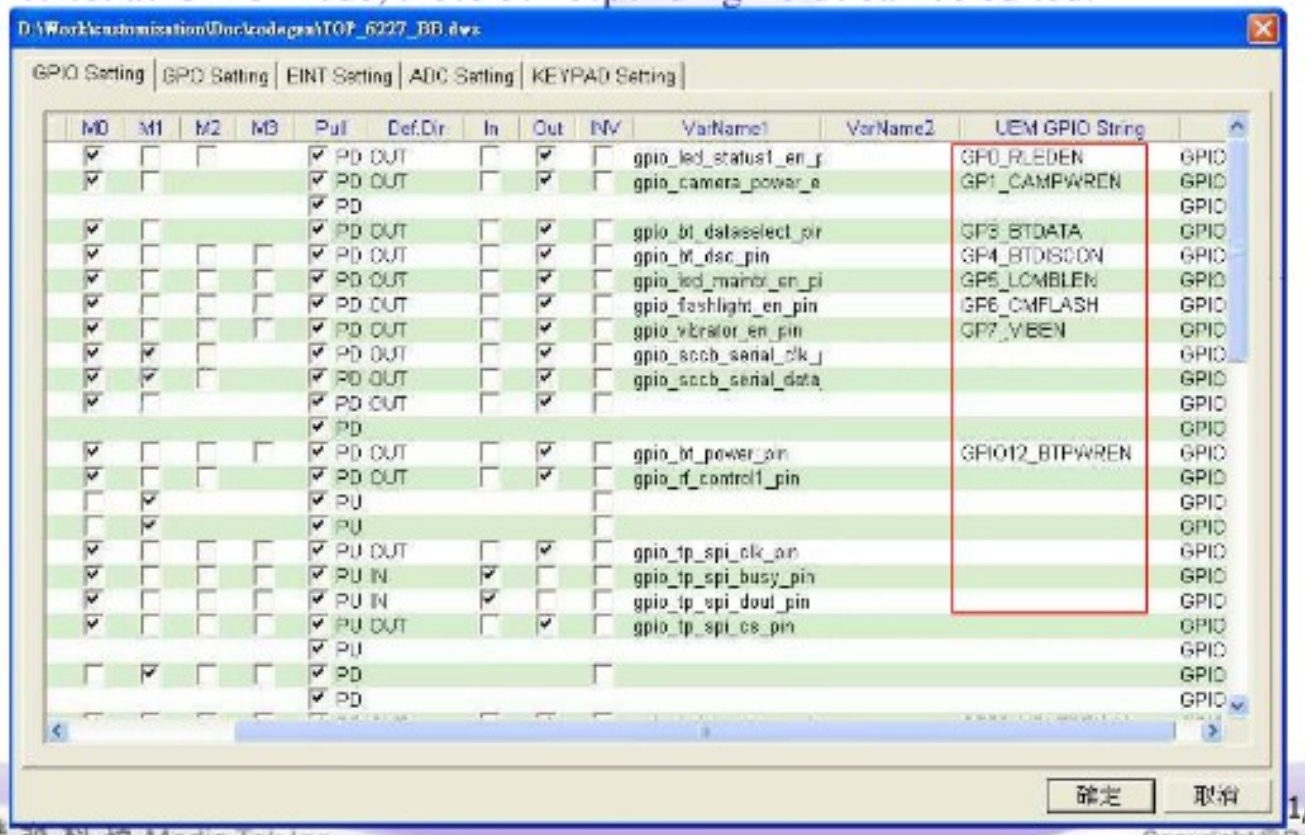
Step3-6: Edit UEM

- **UEM GPIO String Editing**: the field is in the last column of GPIO Setting window. Note that only for those GPIO ports which are permitted to set as GPIO mode, these corresponding fields can be edited.



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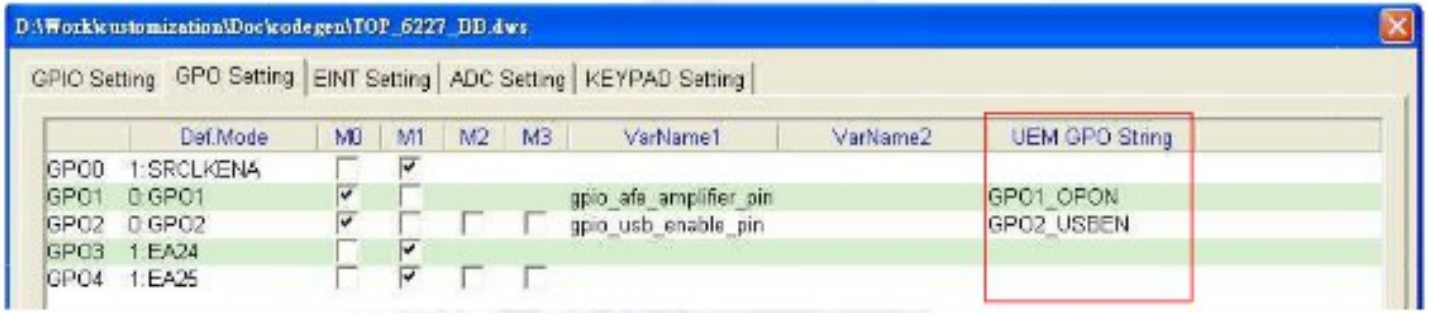
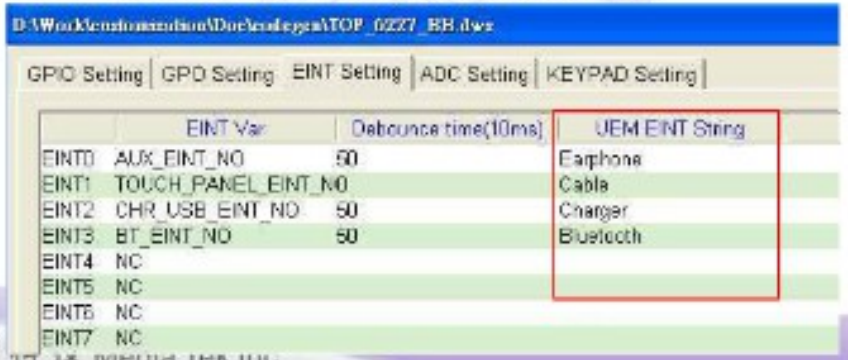
Step3-6: Edit UEM

- **UEM GPO String Editing**: the field is in the last column of GPO Setting window. Note that only for those GPO ports which are permitted to set as GPO mode, these corresponding fields can be edited.



- **UEM EINT String Editing**: field is in the last column of EINT Setting window. Note that only for those EINT pins which are assigned variables, these corresponding fields can be edited.



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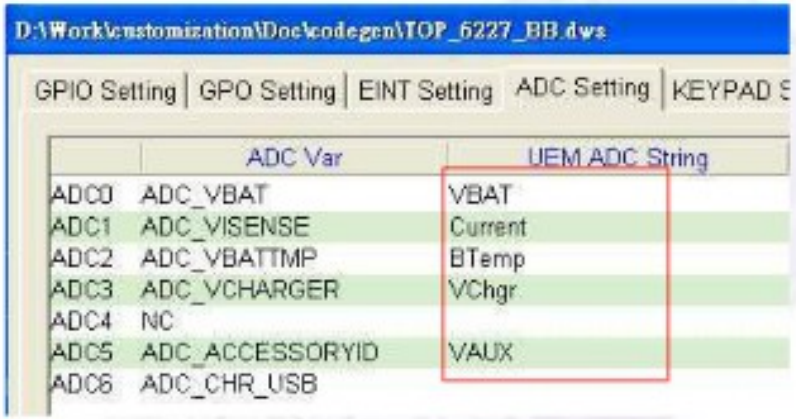
Step3-6: Edit UEM

- **UEM ADC String Editing**: the field is in the last column of ADC Setting window. Note that only for those ADC channel which are assigned variables, these corresponding fields can be edited.



	ADC Var	UEM ADC String
ADC0	ADC_VBAT	VBAT
ADC1	ADC_VISENSE	Current
ADC2	ADC_VBATTMP	BTemp
ADC3	ADC_VCHARGER	VChgr
ADC4	NC	
ADC5	ADC_ACCESSORYID	VAUX
ADC6	ADC_CHR_USB	

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