

# **LG DWAM82-DB Module for Hx995**

## **FCC Test S/W manual**

**Module: DWAM82-DB**

**Date: Jun 03, 2010**

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Date	Revision	Location	Change	Author
Jun 03, 2010	0.1	SG	First Draft	Won

### Hardware used:

4CH EVK.

DWAM82-DB module

### Test software used:

- For EvK : 20100603\_FCC\_DWAM82-D\_12288MHz\_ForEVK.hex
- For DWM82-DB module : 20100603\_FCC\_DWAM82-D\_12288MHz\_ForEVK.hex

### Objective

Showing how to change each mode needed for FCC Test.

## Classification by index number.

< 2400MHz ~ 2483.5MHz >

RF Band	Mod/UnMod	Tx/Rx	Ant A/B	Index	Remarks
2.4G	Modulated	Continuous Tx	Ant A	0x01	Ch 1, Freq : 2412MHz
				0x02	Ch 2, Freq : 2438MHz
				0x03	Ch 3, Freq : 2464MHz
			Ant B	0x04	Ch 1, Freq : 2412MHz
				0x05	Ch 2, Freq : 2438MHz
				0x06	Ch 3, Freq : 2464MHz
		Continuous Rx	Ant A	0x07	Ch 1, Freq : 2412MHz
				0x08	Ch 2, Freq : 2438MHz
				0x09	Ch 3, Freq : 2464MHz
			Ant B	0x0a	Ch 1, Freq : 2412MHz
				0x0b	Ch 2, Freq : 2438MHz
				0x0c	Ch 3, Freq : 2464MHz
	Unmodulated	Continuous Tx	Ant A	0x0d	Ch 1, Freq : 2412MHz
				0x0e	Ch 2, Freq : 2438MHz
				0x0f	Ch 3, Freq : 2464MHz
			Ant B	0x10	Ch 1, Freq : 2412MHz
				0x11	Ch 2, Freq : 2438MHz
				0x12	Ch 3, Freq : 2464MHz
Continuous Rx	Ant A		0x13	Ch 1, Freq : 2412MHz	
			0x14	Ch 2, Freq : 2438MHz	
			0x15	Ch 3, Freq : 2464MHz	
	Ant B		0x16	Ch 1, Freq : 2412MHz	
			0x17	Ch 2, Freq : 2438MHz	
			0x18	Ch 3, Freq : 2464MHz	

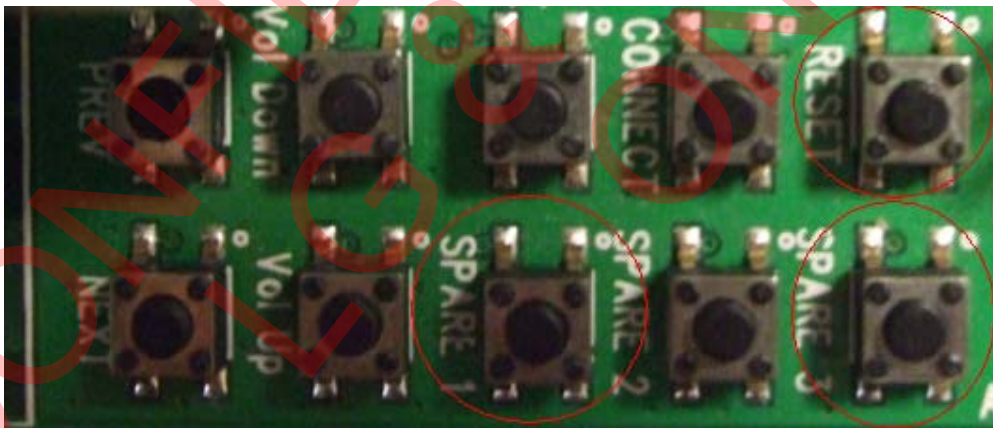
- The index number can be changed by pressing “Spare 3” button on the EVK.
- For more detailed, you can find at the page 9.

< 5725MHz ~ 5825MHz >

RF Band	Mod/UnMod	Tx/Rx	Ant A/B	Index	Remarks
5.8G	Modulated	Continuous Tx	Ant A	0x21	Ch 1, Freq : 5736MHz
				0x22	Ch 2, Freq : 5762MHz
				0x23	Ch 3, Freq : 5814MHz
			Ant B	0x24	Ch 1, Freq : 5736MHz
				0x25	Ch 2, Freq : 5762MHz
				0x26	Ch 3, Freq : 5814MHz
		Continuous Rx	Ant A	0x27	Ch 1, Freq : 5736MHz
				0x28	Ch 2, Freq : 5762MHz
				0x29	Ch 3, Freq : 5814MHz
	Ant B	0x2a	Ch 1, Freq : 5736MHz		
		0x2b	Ch 2, Freq : 5762MHz		
		0x2c	Ch 3, Freq : 5814MHz		
	Unmodulated	Continuous Tx	Ant A	0x2d	Ch 1, Freq : 5736MHz
				0x2e	Ch 2, Freq : 5762MHz
				0x2f	Ch 3, Freq : 5814MHz
			Ant B	0x30	Ch 1, Freq : 5736MHz
				0x31	Ch 2, Freq : 5762MHz
				0x32	Ch 3, Freq : 5814MHz
Continuous Rx		Ant A	0x33	Ch 1, Freq : 5736MHz	
			0x34	Ch 2, Freq : 5762MHz	
			0x35	Ch 3, Freq : 5814MHz	
Ant B	0x36	Ch 1, Freq : 5736MHz			
	0x37	Ch 2, Freq : 5762MHz			
	0x38	Ch 3, Freq : 5814MHz			

- The index number can be changed by pressing "Spare 3" button on the EVK.
- For more detailed, you can find at the page 9.

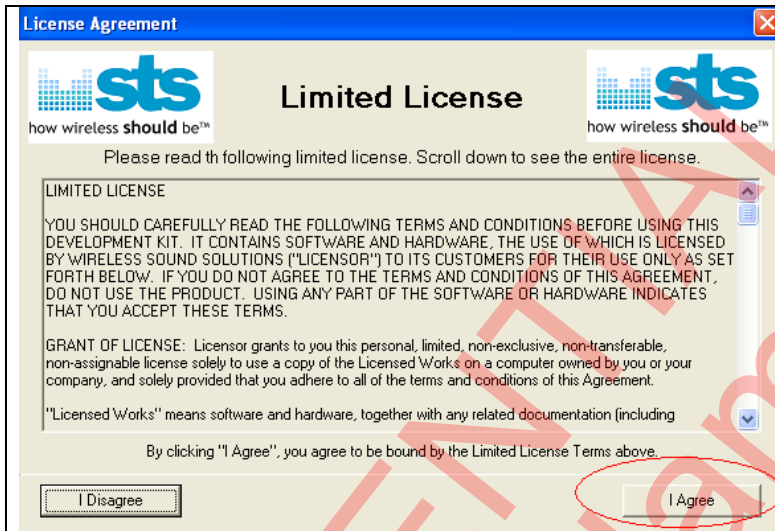
## Button descriptions on EVK.



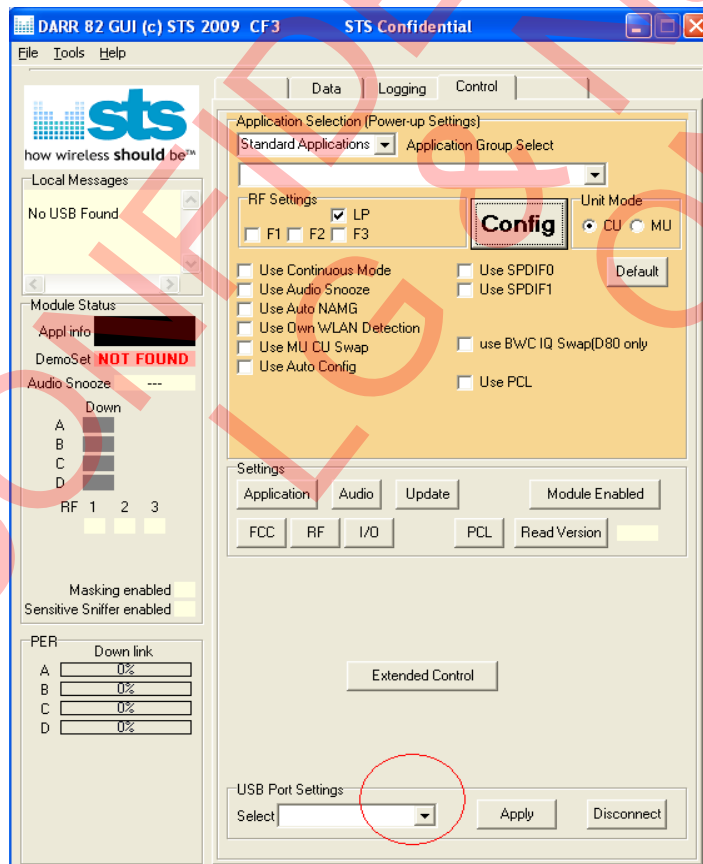
- **Reset** : To reset the whole system and start newly.
- **SPARE\_1** : To switch RF band between 2.4G and 5.8G.  
There is more detailed information at the page 10.
- **SPARE\_3** : To select a index number which has own functionality as written above.  
There is more detailed information at the page 9.

## GUI tool descriptions.

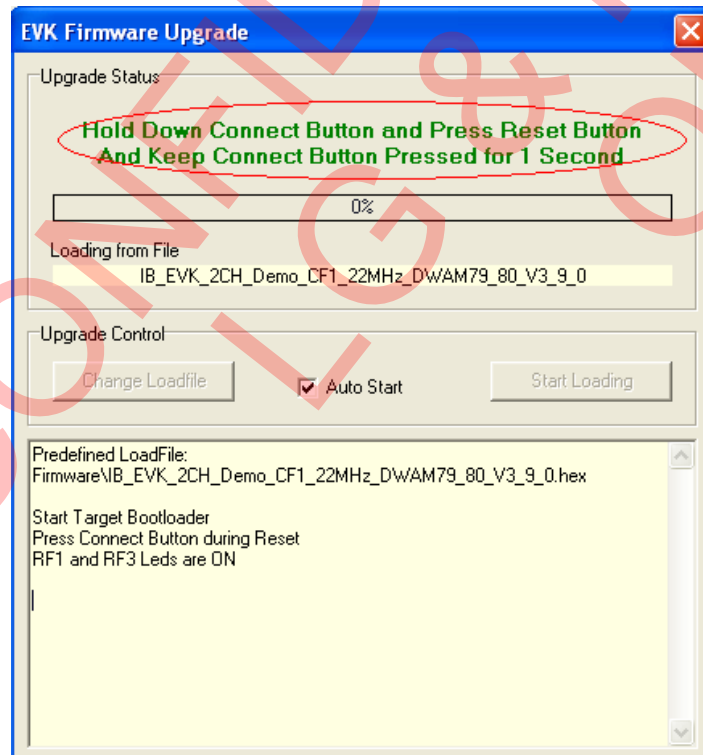
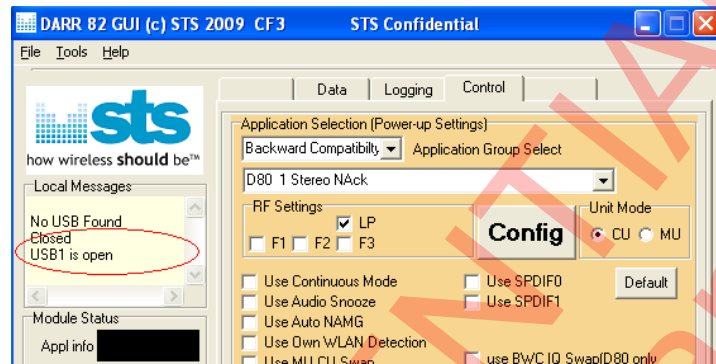
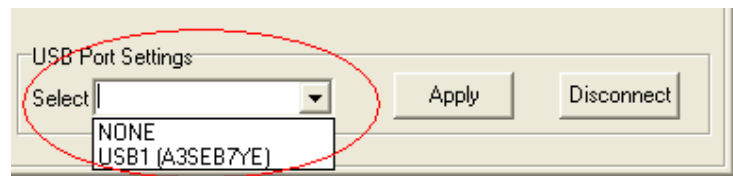
### - How to update Serial-Com SW for ATMEL MCU.



- Double click the GUI tools named "DARR82\_GUI\_demo\_5Ghz\_2\_6\_1.exe"
- Once the photos as shown left appear, please click "I Agree" button.



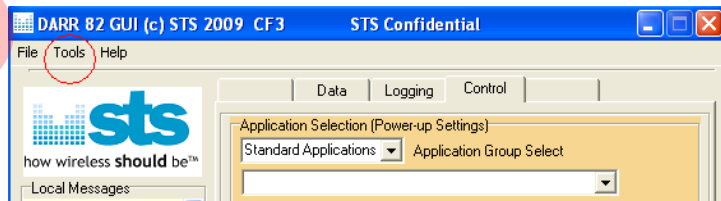
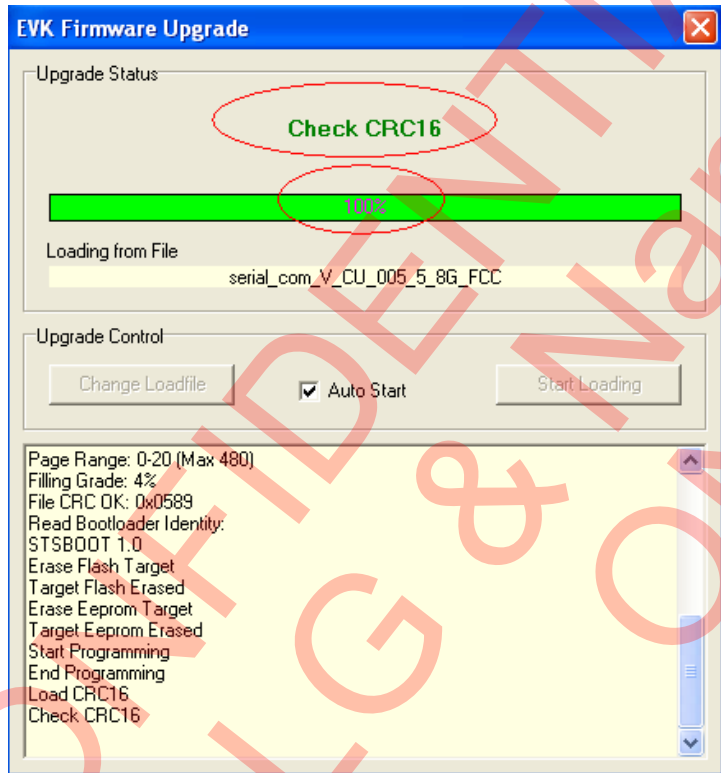
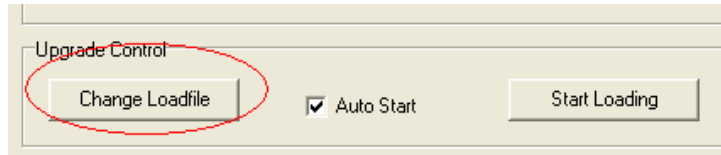
- Go to "USB Port Settings" box at the bottom of GUI tool
- Select the triangle button.



- At this time, select “USB1(A3SEB7YE) and press the “Apply” button to confirm the settings.
- Do not pay any attention to USB serial number. It may differ from each computer.

- You could see that the port of USB1 is open.

- Go to **Tools** on the top of GUI
- Select “EVK Upgrade” under Tools’s submenu.
- Please press the button as shown left .



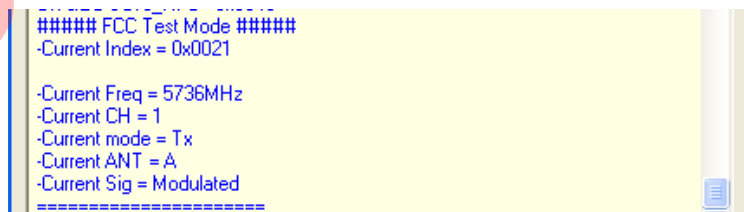
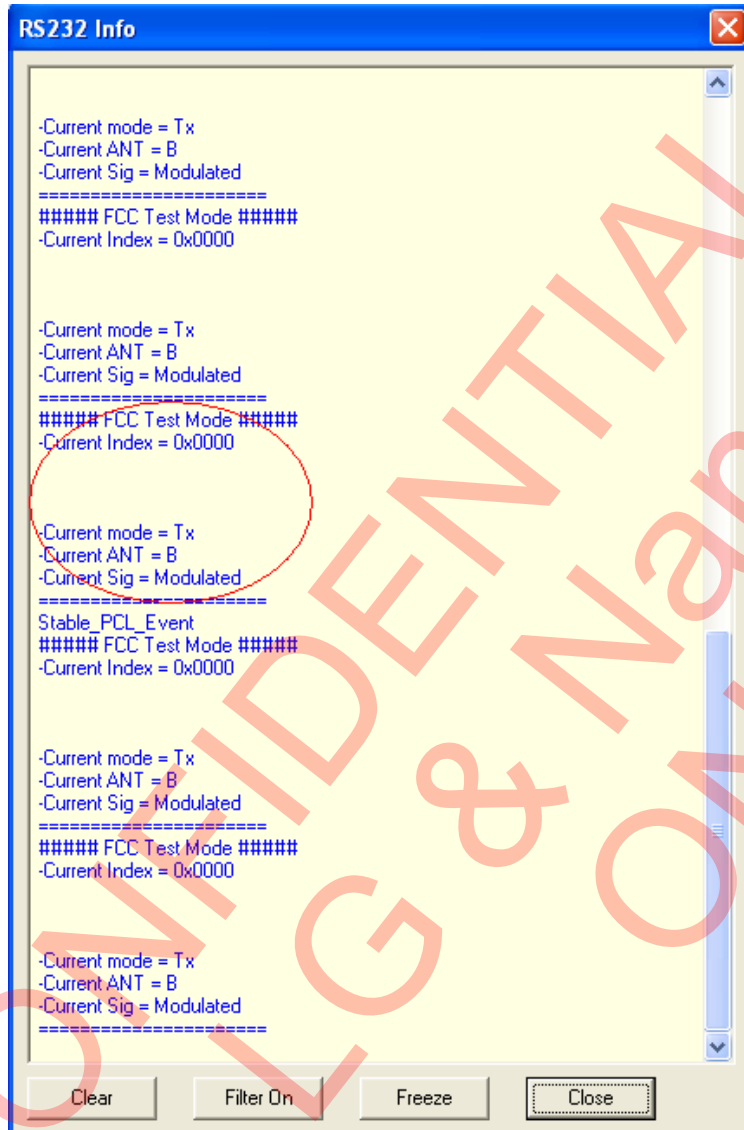
- As shown left, if the button of “Change Loadfile” is activated, please select the serial\_com\_V\_CU\_005\_5\_8G\_FCC. hex located at “SWFor\_EVK”
- And then press the “Start Loading” button to update the EVK.

- Once this update process is successfully done, success message of “Check CRC16” will be shown up and disappear a moment later.

- Go to Tools menu on the top of GUI and select it.
- **Among a few submenus under Tools please select “RS232 Info”.**



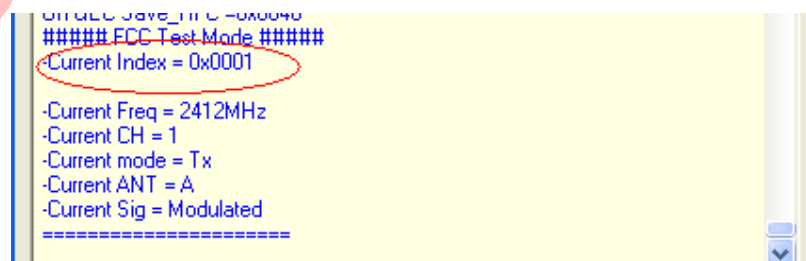
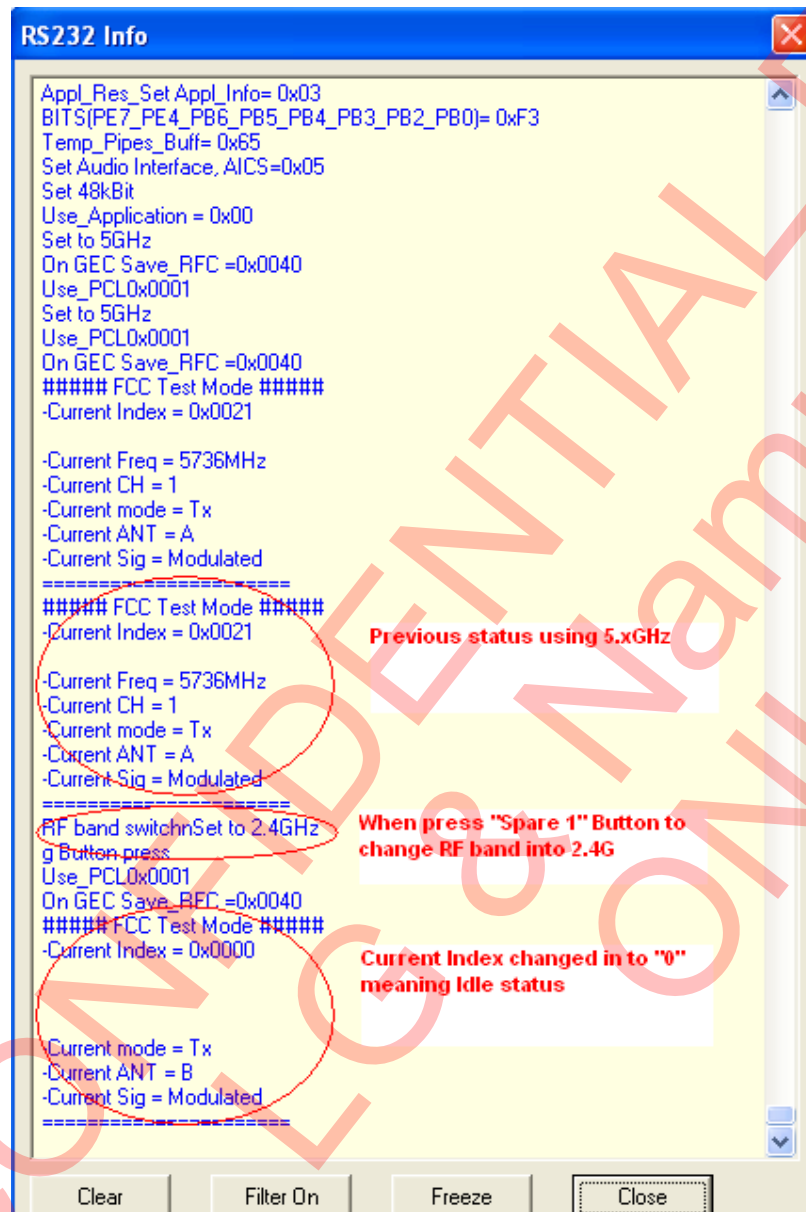
< Index switching at either 2.4GHz or 5.8G>



- The pop up window will come out after you select “RS232 Info”.
- If you look into the red circle, you can see the current index number. Index 0 means the idle status.
- At this time, please press “Spare 3” button to change current index.

- Every time you press “Spare 3 button, the Current Index number will change.
- The detailed information about Index number is at the page 3 and 4.

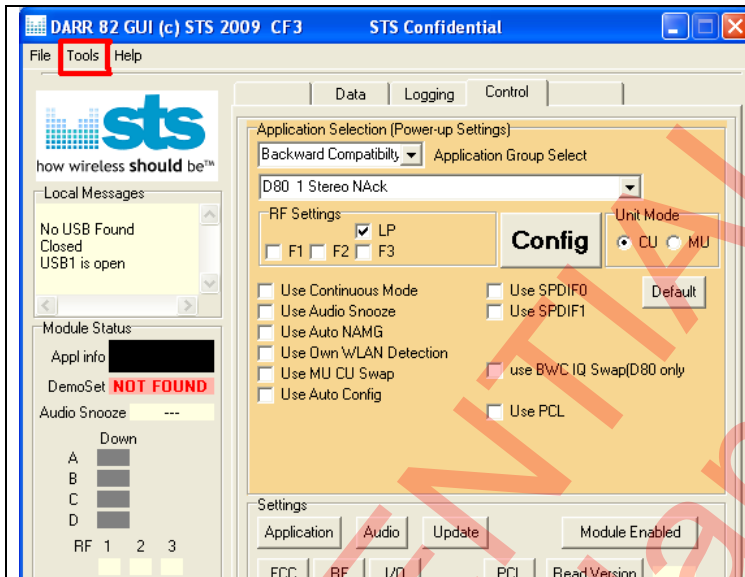
< Band switching between 2.4G and 5.8G >



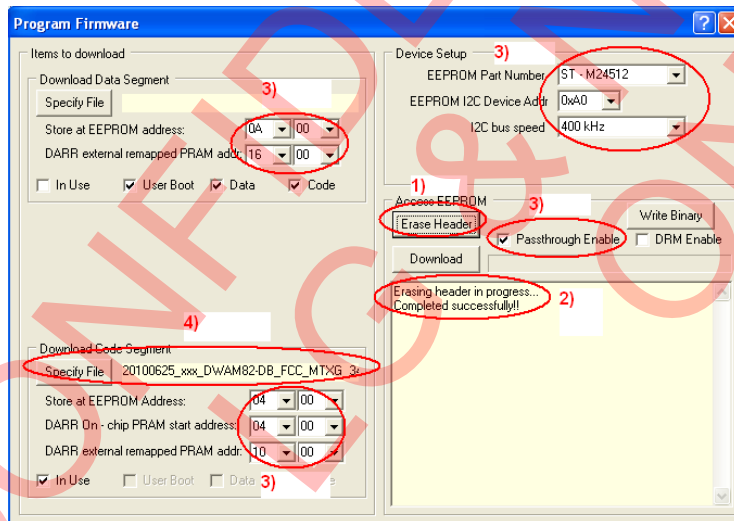
- The captured photo shows how to change RF Band from 5.xGHz to 2.xGHz.
- Press "Spare 1" button on the EVK => Current Index will set to "0"

- The index from 0x01 to 0x18 will be available to select by pressing "Spare 3" button.

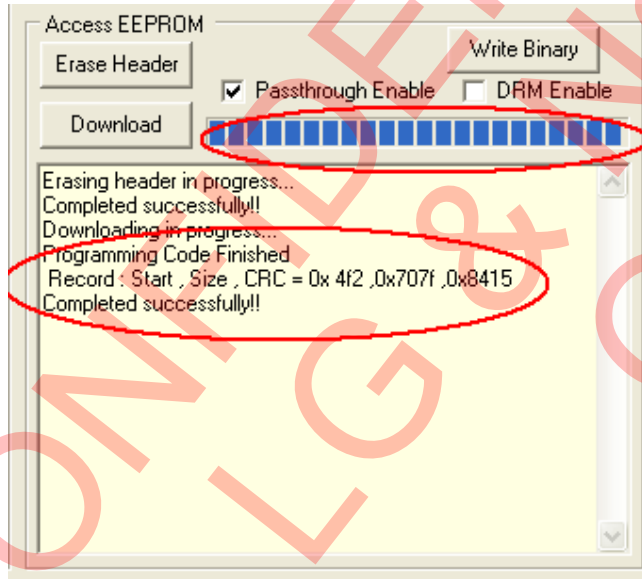
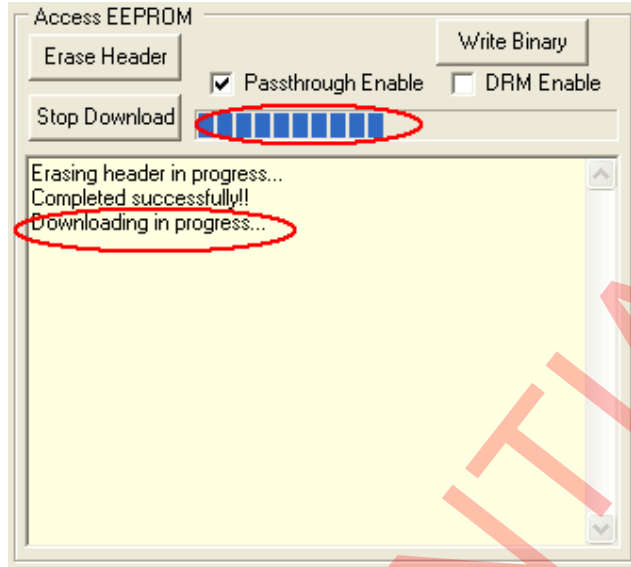
- How to update EEPROM on DWAM82-DB.



- Go to "Tools" at the top menu and select "Program 8052 Firmware".



- 1) Press "Erase Button"
- 2) Check the message of "Completed successfully".
- 3) Make sure the values are same as snap-shot.
- 4) Search and select the hex file ou need to update with.
- Press "Download button" to start to update EEPROM.



- The bar should be in progress.

- After successful update, message will show like left snapshot.
- CRC value may be different from each software.
- Press "Reset" button on EVK.

This device complies with part 15 of FCC Rules. Operation is subject to the following two conditions:

1. This device may not cause harmful interference received.
2. This device must accept any interference received. Including interference that may cause undesired operation.

#### FCC WARNING

This equipment may generate or use radio frequency energy.

Changes or modifications to this equipment may cause harmful interference unless the modifications are expressly approved in the instruction manual. The user could lose the authority to operate this equipment if an unauthorized change or modification is made.

To satisfy FCC exterior labeling requirements, the following text must be placed on the exterior of the end product.

Contains Transmitter Module FCC ID: BEJ9QK-DWAM82DB

The antenna must be installed such that 20 cm is maintained between the antenna and users, and the transmitter module may not be co-located with any other transmitter or antenna.

End users cannot modify this transmitter device. Any Unauthorized modification could void the user's authority to operate this device.