PMS150B/PMS154 Application Note

Applied for: PMS150B/PMS154

Since some bugs are found in the PMS150B/PMS154 series MCU recently, please take care of the application notes mentioned below when developing your program.

1. Switching system operating frequency
    Due to some unstable situations may be happened when switching the system operating frequency directly, so the command "goto $+1" is always requested to be next added after CLKMD command, no matter what frequency be switched, the example as follows：

    ….

$ CLKMD	IHRC/2,En_IHRC,En_ILRC	// Use CLKMD to switch the system operating frequency
goto	$+1	// Must add this command here

    ….

2. When using stopsys/stopexe for PMS150B MCU
    When using "stopsys/stopexe" to enter into power-saving mode, in order to avoid occurring the abnormalities during the wakeup procedure, the following steps must be followed before executing stopsys/stopexe commands：

    (i)   Disable LVR first before issuing stopsys/stopexe command, then enable LVR after waking up. Please do NOT use EOSCR.0=1 and EOSCR.0=0 to enable/disable LVR, means that LVR is always kept as normal condition (EOSCR.0=0).
    (ii) The selected LVR voltage level in Code_Option cannot be higher than 2.0V, meanwhile, the system operating frequency (CLK) of MCU must be restricted under 2 MIPS.
    (iii) Please switch system operating frequency to ILRC/1 before issuing stopsys/stopexe command, then switch back to the original system operating frequency after waking up, the example shown below for reference:

    ….

$ MISC	LVD_Disable,Fast_Wake_Up,WT_T64;	// Disable LVR
$ CLKMD	ILRC/1,En_IHRC,En_ILRC	// Switch CLK to ILRC
goto	$+1	// Must add this command here
stopsys;		// Use stopsys or stopexe
$ CLKMD	IHRC/8,En_IHRC,En_ILRC	// Switch back to the original CLK after waking up
goto	$+1	// Must add the command here
$ MISC	Fast_Wake_Up,WT_T64;	// Enable LVR by requirement

    ….

V003 – Aug. 28, 2015

3. <u>When using stopsys/stopexe for PMS154</u>

When using stopsys/stopexe to enter into power-saving mode, in order to avoid occurring the abnormalities during the wakeup procedure, please switch the system operating frequency to ILRC/1 before executing stopsys/stopexe commands. After waking up, please switch it back to the original frequency, the example shown below for reference:

….

$ CLKMD	ILRC/1,En_IHRC,En_ILRC	// Switch CLK to ILRC/1
goto	$+1	// Must add this command here
stopsys;		// Use stopsys or stopexe
$ CLKMD	IHRC/2,En_IHRC,En_ILRC	// Switch back to the original CLK after waking up
goto	$+1	// Must add the command here

....

For PMS154, the selected LVR voltage level in Code_Option must be under restriction as below:

2MIPS（IHRC/8）：LVR $\geqq$ 1.8V

4MIPS（IHRC/4）：LVR $\geqq$ 2.2V

8MIPS（IHRC/2）：LVR $\geqq$ 2.75V

IDE 0.68 or above versions must be used for further automatic checking accordingly.

If you have further questions to the application, please consult to our agent at your nearest location or contact us at fae@padauk.com.tw.