**Application Note-06** 



## GENERAL DESCRIPTION

In order to enhance the function of 2M FWH/LPC devices, Winbond provides a new 2M FWH/LPC chips in which the hardware write protect feature has been added. The detail specification of this new feature is described as following.

# **DETAIL DESCRIPTION**

There are two key pins, #TBL and #WP, related to this new hardware write protect feature.

#### 1. #TBL Function:

The #TBL pin is used to protect the top boot block under chip write (program/erase) command. When this pin is set to low before program/erase command, the top boot block will be protected. This function is compatible with SST's SST49LF002A/ SST49LF020.

#### 2. #WP Function:

The #WP pin is used to protect the whole chip, i.e., when the pin is set to low, the whole chip including the top boot block will not be programmed/erased, regardless the state of #TBL. This function is not fully compatible with SST's SST49LF002A/SST49LF020. For SST, the #TBL pin protects the whole chip except the boot block.

The following diagram shows the difference between Winbond and SST devices:

#WP #TBL vs. Memory Map:

SST Devices, SST49LF002A/SST49LF020			Winbond De W49V002F	evices, A/W49V002A
#TBL	- 3FFFFh 3C000h	Block 15 Boot Block	Block 6 Boot Block	3FFFFh #TBL
	3BFFFh 38000h 37FFFh 34000h	Block 14	Block 5	3BFFFh 3A000h
		Block 13	Block 4	39FFFh _ 38000h
#WP for Block 0 to 1	33FFFh 4	Block 12 to Block 0	Block 3 to Block 0	37FFFh #WP for Whole Chip
	_ 00000h			00000hV



### CONCLUSION

For hardware designers or software designers, the wirings and usage of these two pins are all the same between Winbond and competitors. But the hardware write protect feature of Winbond devices is not 100% fully compatible with other competitors' devices. When alternatively using these different brand devices, system users who want to protect this device should notice the difference and to prevent any unintentionally mistake occurs.

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