
Mobile Emul. Board Application Note

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Preliminary

Samsung Electronics

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Purpose

This application note will guide you to design reliable Flash emulation board. It describes how to make Emul.Board for mobile MCP with high-frequency RAM. This is helpful for mobile system engineers.

Definitions and Acronyms

Definitions and Acronyms	Description
/CS	Chip select for RAM
/CE	Chip Enable for Flash



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Preliminary

1. How to design high freq. MCP Emul Board.

To make reliable high frequency MCP Emul. Board, it can be a solution to separate Flash memory and high speed RAM. MCU can control high speed RAM on real board area and Flash on burn-in socket area. Flash on real board area should be disabled by connecting Flash Chip enable pin to memory Vcc. The same goes for RAM on Emul board area.

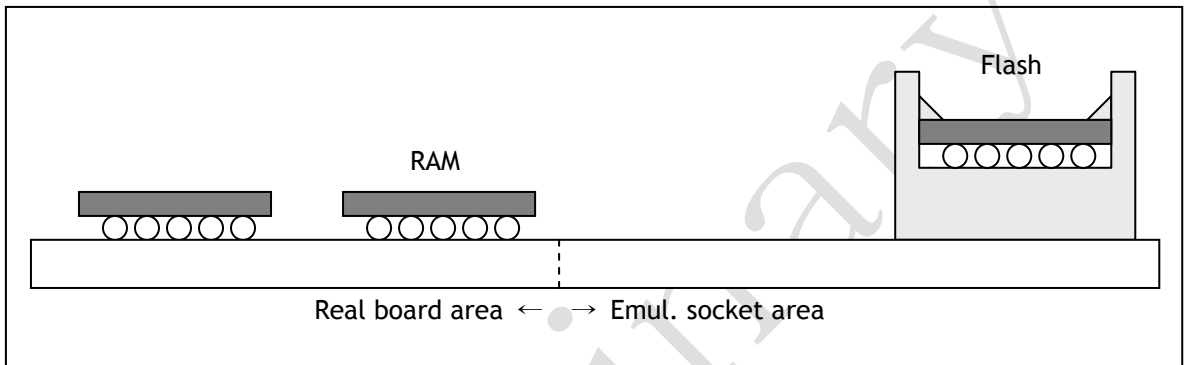


Figure1. High frequency reliable mobile MCP Emul. Board recommendation

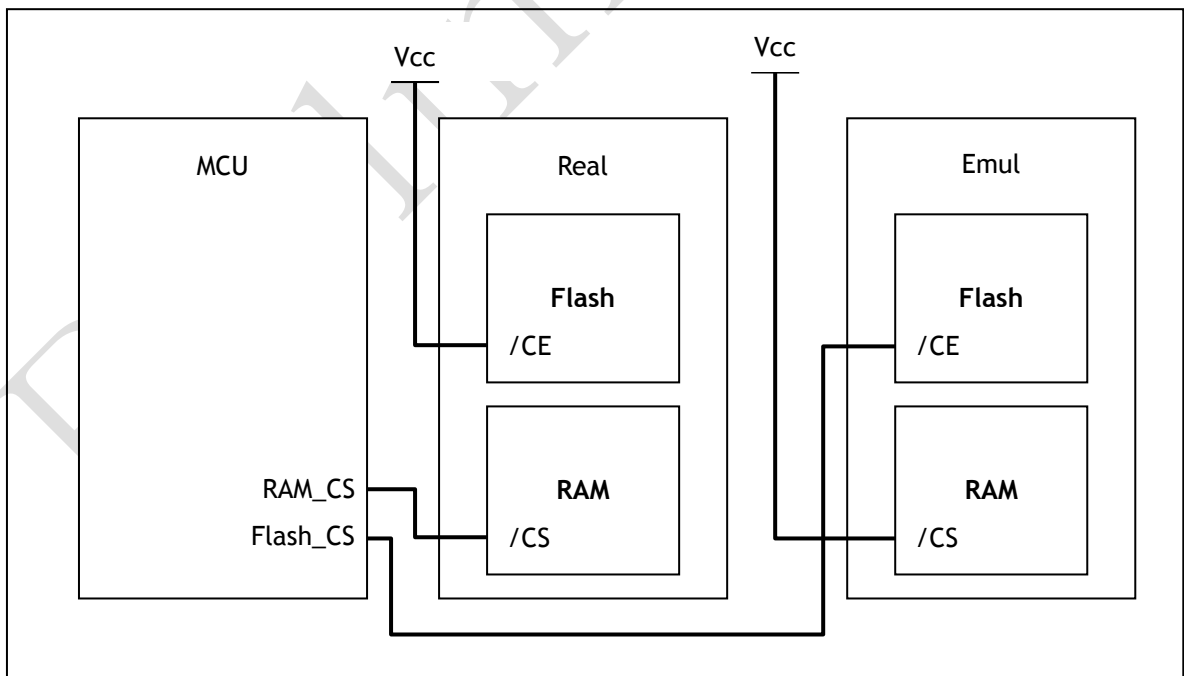


Figure2. Schematic for reliable high frequency MCP Emul. board

2. Risk of conventional Emul. Board design

Mobile system with burn-in socket has disadvantage of trace length between MCU and MCP. In case of high frequency environment, signal integrity of DQ bus can be worse than real board. (see figure 4)

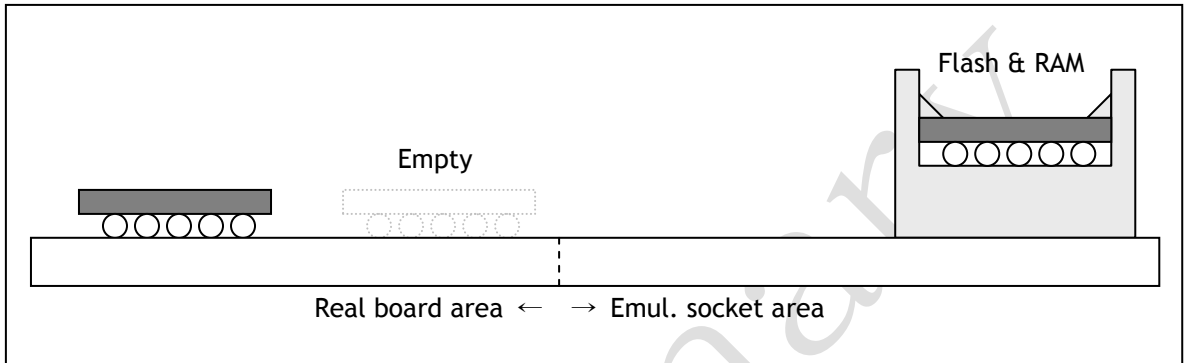


Figure3. Conventional type mobile MCP Emul. Board

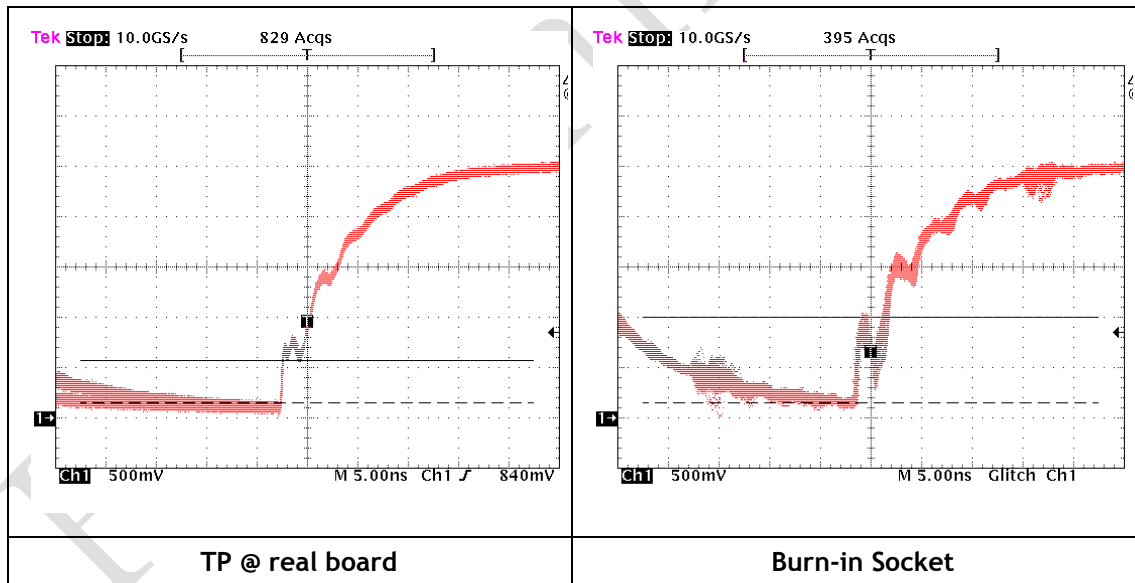


Figure4. Signal integrity comparison between Real & Emul board