UT69151 S\u00b5MMIT Auto Initialization

UTMC has identified the following deviation from intended operation for all versions of the UT69151 S\u00b5MMIT Enhanced family, S\u00b5MMIT RTE (MM022A), S\u00b5MMIT E (JA01A and JA01B), S\u00b5MMIT DXE (MM016A), S\u00b5MMIT LXE (MM017A and MM018A), S\u00b5MMIT XTE (MM019A, MM020A and MM021A). The deviation does not affect the old UT69151 S\u00b5MMIT family, S\u00b5MMIT E (SJ02C and TJ02C), S\u00b5MMIT DXE (MM010A), S\u00b5MMIT LXE (MM011A and MM012A), S\u00b5MMIT XTE (MM013A, MM014A and MM015A).

Background:
The UT69151 S\u00b5MMIT auto-initialization feature allows autonomous operation in the bus controller, remote terminal, and monitor modes. The S\u00b5MMIT automatically configures itself for operation from external non-volatile memory (PROM, ROM, EPROM, E\textsuperscript{2}PROM, etc.). The configuration sequence begins after the negation of input pin MRST, if AUTOEN is enabled.

An external auto-initialization bus allows configuration of the S\u00b5MMIT through external memory. To enable the auto-initialization function, assert the AUTOEN pin prior to the rising edge of MRST. The negation of MRST starts the auto-initialization sequence. The S\u00b5MMIT enables the boot memory by asserting control signals (e.g., ECS or ROMEN). For more detail on S\u00b5MMIT auto-initialization, please reference the S\u00b5MMIT Product Handbook, Section 7.0.

Problem:
Evaluation has determined that all UT69151 S\u00b5MMIT Enhanced products do not interrogate register 1 (Operational Status Register) to determine what operating mode the part is in (RT mode, MT mode, or BC mode). Instead, the contents of location 0001 hex of the auto-initialization PROM is used to determine operation. Therefore, even if you externally lock the mode the part will initialize based on what is located in memory location 0001 hex.

Figure 1. Auto-Initialization System Configuration
Work-Around:
To ensure what mode auto-initialization will operate in, you must have the appropriate data loaded into PROM location 0001 hex.

Example of prom memory location 0001 hex:
- Mode=RT
- Remote terminal address=1
- Parity=0

Contents of prom memory location 1 = 09xx hex