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Embedded Multimediacard *(e*•MMC) Security Extension

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EMBEDDED MULTIMEDIACARD (*e*•MMC) SECURITY EXTENSION

Contents

Foreword

This *e*•MMC Security Extension Standard has been prepared by JEDEC as an extension to the *e*•MMC Electrical Standard, JESD84-B51.

Introduction

The *e*•MMC Electrical Standard, JESD84-B51, defines a managed memory device capable of storing code and data. *e*•MMC devices are intended to offer the performance and features required by mobile devices while maintaining low power consumption. The *e*•MMC device contains features that support high throughput for large data transfers and performance for small random data accesses more commonly found in code usage. It also contains many desirable features for mobile applications.

This *e*•MMC Security Extension Standard describes the requirements to implement security functionality described in [IEEE1667], [TCGCore], [TCGOpal], [TCGAddDST], [TCGAddDST] and [TCGSIIS] in an *e*•MMC device. The document is considered an extension of the *e*•MMC Electrical Standard, JESD84-B51, [*e*•MMC] used as transport protocol for the security functionalities.

There are three external sets of requirements on the class of *e*•MMC device that support this security extension: IEEE 1667 layer requirements, TCG layer requirements, and requirements related to *e*•MMC security data transport and interaction with *e*•MMC functionality.

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(From JEDEC Board Ballot JCB-12-59, formulated under the cognizance of the JC-64.1 Subcommittee on Electrical Specifications and Command Protocols.)

1 Scope

This document provides a comprehensive definition of the *e*•MMC Security requirements for implementation of IEEE 1667 and TCG Opal security functionality. It also provides design guidelines and defines a tool box of macro functions and algorithms intended to reduce design-in overhead.

2 Normative reference

The following normative documents contain provisions that, through reference in this text, constitute provisions of this standard. For dated references, subsequent amendments to, or revisions of, any of these publications do not apply. However, parties to agreements based on this standard are encouraged to investigate the possibility of applying the most recent editions of the normative documents indicated. For undated references, the latest edition of the normative document referred to applies.

IEEE 1667 [IEEE1667], *IEEE P1667™ 2015 Standard for Discovery, Authentication, and Authorization in Host Attachments of Storage Devices.*.

Trusted Computing Group [TCGCore], *TCG Storage Architecture Core Specification*, Version 2.01, Revision 1.00

Trusted Computing Group [TCGOpal], *TCG Storage Security Subsystem Class: Opal Specification*, Version 2.01, Revision 1.00

Trusted Computing Group [TCGAddDST], *TCG Storage Opal SSC Feature Set: Additional DataStore Tables Specification*, Version 1.00, Revision 1.00

Trusted Computing Group [TCGSUM], *TCG Storage Opal SSC Feature Set: Single User Mode Specification*, Version 1.00, Revision 2.00

Trusted Computing Group [TCGSIIS], *TCG Storage Interface Interactions Specification (SIIS)*, Version 1.05, Revision 1.00

JEDEC JESD84-B51 [*e*•MMC], *Embedded Multi-Media Card (e•MMC), Electrical Standard (5.0).*