

JEDEC STANDARD

Universal Flash Storage (UFS) Card Extension

Version 1.1

JESD220-2A

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JEDEC SOLID STATE TECHNOLOGY ASSOCIATION



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Foreword

This standard has been prepared by JEDEC. The purpose of this standard is to define a UFS card specification. This document will be extension of the UFS Standard, JESD220.

Introduction

The UFS device (embedded/removable) is a universal data storage and communication media. It is designed to cover a wide area of applications as smart phones, VR(virtual reality) device, AR(augmented reality) device, Drone, 3D games, surveillance system, cameras, organizers, PDAs, digital recorders, MP3 players, internet tablets, electronic toys, etc.

UNIVERSAL FLASH STORAGE (UFS) CARD EXTENSION, Version 1.1

(From JEDEC Board Ballot JCB-17-38, formulated under the cognizance of the JC-64.1 Subcommittee on Electrical Specifications and Command Protocols.)

1 Scope

This standard specifies the characteristics of the UFS card electrical interface and the memory device. This document defines the added/modified features in UFS card compared to embedded UFS device. For other common features JESD220C, UFS, Version 2.1, will be referenced.

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 listed. For undated references, the latest edition of the normative document referred to applies.

[MIPI-M-PHY], MIPI Alliance Specification for M-PHYSM Specification, Version 3.0

[MIPI-UniPro], MIPI Alliance Specification for Unified Protocol (UniProSM), Version 1.6

[MIPI-DDB], MIPI Alliance Specification for Device Descriptor Block (DDB), Version 1.0

[SAM], SCSI Architecture Model – 5 (SAM–5), Revision 05, 19 May 2010

[SPC], T10 Specification: SCSI Primary Commands – 4 (SPC-4), Revision 27, 11 October 2010

[SBC], T10 Specification: SCSI Block Commands – 3 (SBC–3), Revision 24, 05 August 2010

[UFS], JEDEC JESD220B, Universal Flash Storage (UFS), Version 2.1

[UFS], JEDEC JEP95, MO-320, UFS Card Form Factor

3 Terms and Definitions

For the purpose of this standard, the terms and definitions given in the documents included in section 2 “Normative Reference” and the following apply.

byte: An 8-bit data value with most significant bit labeled as bit 7 and least significant bit as bit 0.

device: An addressable device on the UFS bus usually a target that contains at least one LUN.

host: An addressable device on the UFS bus which is usually the main CPU that hosts the UFS bus.