

JEDEC STANDARD

Universal Flash Storage (UFS) Host Performance Booster(HPB) Extension

Version 1.0

JESD220-3

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Foreword

This standard has been prepared by JEDEC. The purpose of this standard is to define a UFS Host performance Booster(HPB) Extension specification. This document is 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.

This extension specification describes the Host Performance Booster(HPB) feature in UFS to improve read performance by utilizing the host side memory.

UFS HOST PERFORMANCE BOOSTER(HPB), VERSION 1.0

(From JEDEC Board Ballot JCB-19-29, formulated under the cognizance of the JC-64.1 Subcommittee on Electrical Specifications and Command Protocols (Item 135.29).)

1 SCOPE

This standard specifies the extension specification of the UFS electrical interface and the memory device. This document describes the extended feature, called Host Performance Booster (HPB), in UFS specification. It also provides some details in how to utilize the HPB for realizing high performance in UFS devices.

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.

[UFS], JEDEC JESD220E, *Universal Flash Storage (UFS), Version 3.1*

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.

3.1 Acronyms

HCI	Host Controller Interface
UFS	Universal Flash Storage
MIPI	Mobile Industry Processor Interface
RPMB	Replay Protected Memory Block
SBC	SCSI Block Commands
SPC	SCSI Primary Commands
LUN	Logical Unit Number
NA	Not applicable
KB	Kilobyte
eUFS	Embedded Universal Flash Storage
LBA	Logical Block Address
PBA	Physical Block Address