



PCI-SIG ENGINEERING CHANGE NOTICE

TITLE:	M.2 SSIC Eye Limits Definition
DATE:	December 02, 2015
AFFECTED DOCUMENT:	M.2 Spec Revision 1.0
SPONSOR:	Intel Corp

Part I

1. Summary of the Functional Changes

Definition of electrical eye limits (Eye Height and Eye Width) at the M.2 connector for SSIC host and device transmitter is proposed to be added in the specification.

2. Benefits as a Result of the Changes

Will allow to test the interoperability between SSIC host and SSIC device at the M.2 socket level.

3. Assessment of the Impact

This will not affect current usage of these signals.

4. Analysis of the Hardware Implications

N/A

5. Analysis of the Software Implications

N/A

6. Analysis of the C&I Test Implications

N/A

Part II

Detailed Description of the change

Update section 1.3 Specification References as follows:

- ❑ *PC BUS Specifications, Version 2.1, January 2000*
- ❑ *EIA-364 Electrical Connector/Socket Test Procedures including Environmental Classifications*
- ❑ *EIA-364-1000.01: Environmental Test Methodology for Assessing the Performance of Electrical Connectors and Sockets Used in Business Office Applications*
- ❑ *M-PHY- M/PI® Alliance Specification for M-PHYSM, Version 3.0*

Add section 6.7 in Chapter 6:

6.7 Eye Limits For SSIC at the M.2 Connector

Transmitter Eye Height and Eye Width limits at the M.2 connector for SSIC Host and SSIC Device transmitter are defined in Table X. This helps to test the interoperability between SSIC host and SSIC device at the M.2 connector. The eye diagrams are evaluated after the behavioral CDR defined in the MPHY Specification is applied. The eye limits given below are recommendations only.

Table X: SSIC Transmitter Eye Limits at the connector

	Eye Height at M.2 Socket (mV)	Eye Width at M.2 Socket (UI _{HS})	Comments
SSIC Device Transmitter	140	0.61	Note 1-6
SSIC Host Transmitter	95	0.55	Note 1-6
1 Assumes that the signal has been captured using a break-out fixture that is ~1” long (~ -0.33dB loss @ 1.455 GHz) 2 The recommended sample size for this measurement is at least 10 ⁶ UI 3 Eye measurements require that CRPAT (Refer to M-PHY specification) is being transmitted during the test 4 The measurements are applicable to Terminated HS mode of MPHY 5 The Eye Width limits are applicable at Target BER of 10 ⁻¹⁰ 6 The eye limits are applicable to the MPHY HS gears G1, G2 and G3			