

Evaluation Copy



Compute Express Link™ (CXL™)

Engineering Change Notice to the Specification 2.0

September 2021

Compliance DOE 1B

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CXL ENGINEERING CHANGE NOTICE

TITLE:	Compliance DOE 1B
DATE:	Introduced date (03/17/2021) Updated date (04/15/2021)
AFFECTED DOCUMENT:	CXL 2.0 Spec
SPONSOR:	Nathan White (Intel) Dongsheng Bi (Intel)

Part I

1. Summary of Functional Changes

Test algorithm 1B was implemented as an injection of bogus writes against Test Algorithm 1A when it was written into the compliance DOE interface. This arrangement complicates the implementation of Algorithm 1B in device firmware. This change would re-assign the “Inject Bogus Writes” DOE Request (Request Code 5) to “Multiple Write Streaming with Bogus Writes”

2. Benefits as a Result of the Changes

This simplifies the implementation and use of Test Algorithm 1B.

3. Assessment of the Impact

This change is expected to change device firmware, and no changes to device hardware. Backwards compatibility should not be affected, since Compliance DOE is a new feature for 2.0

4. Analysis of the Hardware Implications

No hardware implications are expected

5. Analysis of the Software Implications

Device firmware will be less complicated. Device firmware will have all necessary information to implement Algorithm 1B in the initial request, and will not have to check on the status of the current “Bogus Writes” injection request to determine if it is implementing Algorithm 1A or Algorithm 1B

User mode software will be unaffected.

6. Analysis of the Compliance and Test Implications

Compliance and Test will be simplified with this change. Reduces the number of DOE requests to set up Algorithm 1B.

Part II

Evaluation Copy

Detailed Description of the change

Change the text of 14.16.4.6 to read:

14.16.4.6 Test Algorithm 1B Multiple Write Streaming with Bogus Writes

Replace Table 287 with the following table:

Table 287. Enable Algorithm 1B, Write Streaming with Bogus Writes

Data Object Byte Offset	Length	Description
0h	8	Standard DOE Request Header
8h	1	Request Code = 5, Test Algorithm 1B
9h	1	Version
0Ah	2	Reserved
0Ch	1	Protocol
0Dh	1	Virtual Address
0Eh	1	Self-checking
0Fh	1	Verify Read Semantics
10h	1	Num Increments
11h	1	Num Sets
12h	1	Num Loops
13h	1	Reserved
14h	8	Start Address
1Ch	8	Writeback Address
24h	8	Byte Mask
2Ch	4	Address Increment
30h	4	Set Offset
34h	4	Pattern "P"
38h	4	Increment Pattern "B"
3Ch	1	Bogus Writes Count
3Dh	3	Reserved
40h	4	Bogus Writes Pattern

Replace Table 288 with the following table:

Table 288. Algorithm 1B response

Data Object Byte Offset	Length	Description
0h	8	Standard DOE Request Header
8h	1	Response Code = 5 Test Algorithm 1B
9h	1	Version of Capability Returned
0Ah	1	Length of Capability Package
0Bh	1	Status: See table 276 for error codes