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| REVISION REQUEST |
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DATE: 2023/10/19

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REQUESTED REVISION:
  STANDARD: IEEE Std 802.3ck-2022
  CLAUSE NUMBER: 163
  CLAUSE TITLE: Physical Medium Dependent (PMD) sublayer and baseband medium, type 100GBASE-KR1, 200GBASE-KR2, and 400GBASE-KR4

PROPOSED REVISION TEXT:
In 163.9.2.1 add the following sentence, similar to text in 93.8.1.1:
"The connection from TP0v to the test equipment is AC-coupled."
In 163.9.3.2 add the following sentence, similar to text in 93.8.2.1:
"The connection from the test equipment to TP5v is AC-coupled."

RATIONALE FOR REVISION:
The 100 Gb/s KR channel is defined to include a DC block as shown in Figure 163-2 and as specified in 163.10.7. One might therefore expect that the transmitter need not be affected by a DC termination to an arbitrary voltage level as set by the receiver common-mode. Thus it would be reasonable and expected to test the transmitter with a DC block. However, in the transmitter characteristics subclause 163.9.2, the text fixture definition in 163.9.2.1, the TP0v method in Annex 163A there is no mention of a DC block. This is a departure from 25 Gb/s backplane (Clause 93) and 50 Gb/s backplane (Clause 92).
For 25 Gb/s backplane, a DC block is explicitly defined in 93.8.1.1. For 50 Gb/s backplane, the same is specified in 137.9.1 by reference back to 93.8.1.1. It seems that somehow this was lost for 100 Gb/s backplane in 802.3ck.

IMPACT ON EXISTING NETWORKS:
Given that 100 Gb/s KR transmitters and receivers are designed to support a channel with AC-coupling they are likely intended to be tested with a DC block. Furthermore, adding a requirement for DC block to the test fixture definition should not affect conformance of tranmitters or receivers already in use. There should be no adverse impact on existing networks. On the other hand, this update would alleviate some questions regarding how a KR transmitter or receiver should be tested.

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|Please attach supporting material, if any                                |
|Submit to:-   David Law, Chair IEEE 802.3                                |
|and copy:-    Adam Healey, Vice-Chair IEEE 802.3                         |
|                                                                         |
|At:-          E-Mail: stds-802-3-maint-req@ieee.org                      |
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|             |  REV REQ NUMBER: 1423                     |               |
|             |  DATE RECEIVED: 8 November 2023           |               |
|             |  EDITORIAL/TECHNICAL                      |               |
|             |  ACCEPTED/DENIED                          |               |
|             |  BALLOT REQ'D    YES/NO                   |               |
|             |  COMMENTS:                                |               |
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| For information about this Revision Request see -                       |
|http://www.ieee802.org/3/maint/requests/revision_history.html#REQ1423    |
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