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# Creating a Robust LRM Standard

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# Comment Summary

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- I am recommending that 802.3 specify a single launch for each fiber type
  - Offset launch for OM1 and OM2
  - Center launch for OM3
- Resolution covers comments 46, 49, 51 and 72-76

# Launch Specifications

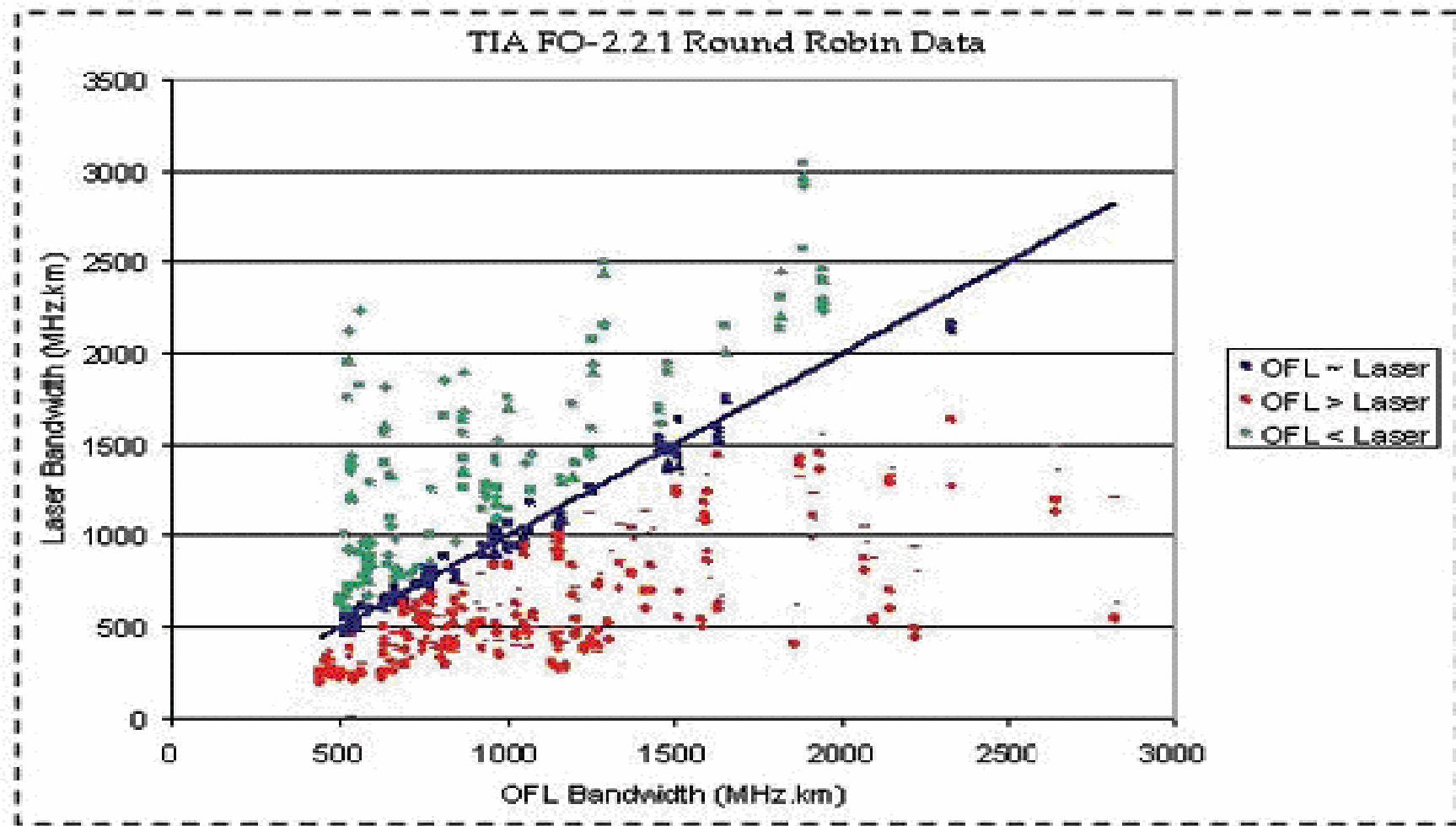
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- 1000BASE-LX specifies a single launch, the MCPC, to support the specified data rate and link length
- 10GBASE-LX4 specifies a single launch, the MCPC, to support the specified data rate and link length
- LRM specifies two launches, a preferred launch, the MCPC, and an alternative launch, the CL
- OM1 and OM2 are not specified to support center launches
- MCPC has been proven and “guarantees” a minimum effective modal bandwidth for laser based systems
- Why are we going away from a proven and accepted launch already specified in previous standards?

# Minimum Required Effective Modal Bandwidth

Application	Data Rate (Gbps)	Link Length (m)	Min Required EMB (MHz•km)
1000BASE-LX	1	550	400
10GBASE-LX4	2.5	300	500
10GBASE-LRM	10	220	700

# TIA Round Robin Data



# Summary

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- The installed base of fiber is not specified to support a center launch
- The specification of the alternative launch does not guarantee that the link will work
- The dual launch has been specified to mitigate risk
  - “dual launch”– try an offset launch and if it doesn’t work try a center launch.....
  - success based on flawed statistics
    - that is, there is no guarantee that a fiber that fails the offset launch will pass the center launch
  - does not support plug and play
- **Bottom-line: We cannot guarantee that the installed base of fiber will support 10GBASE-LRM based on the current specifications**