

# Proposal for Launch Condition for TP2 Test Procedure Intension

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- Define conditioned launch for 1300nm transmission on MM fiber
  - for 62,5μm fiber
  - for 50μm fiber
  
- Background
  - Conditioned launch is defined for 10GBit/s transmission with 850nm on 50μm GI-fiber using encircled flux distribution
  - For 1300nm transmission on GI-fibers there exist some very rough definition of the launch condition in the GbE standard:
    - a) Coupled Power Ratio (CPR)
    - b) offset single mode launch (offset patchcords)

# Proposal for Launch Condition for TP2 Test Procedure

## What shall to be tested?

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- TP2 should test the power distribution in the multimode fiber which is used for the transmission
- Position of TP2 should be located after the (offset) patchcord
  - ➔ enabling of other technical solutions than offset patchcords

# Proposal for Launch Condition for TP2 Test Procedure Guideline

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## ■ Reduce optical power in the center of the fiber core:

- Cancel the effect of central dip in the core profile
- Keep the proved border of the 10G-Base-SX for all fibers and wavelength:

➔ Resulting condition: Encircled Flux Power ( $R < 4,5\mu\text{m}$ )  $< 0,30$

## ■ Reduce optical power at the core boundary:

- Cancel effects of profile deviations at the core – cladding transition
- Scale the definition for large radii for the core radius of  $50\mu\text{m}$  fiber up to the  $62,5\mu\text{m}$  diameter

➔ Condition: EF Power ( $R > 24\mu\text{m}$ )  $> 0,86$  for  $62,5\mu\text{m}$  GI-fiber

# Proposal for Launch Condition for TP2 Test Procedure

## Proposal

- Use the 10G-Base-SX test of the EFD for 50μm fiber and define borders for 1300nm for 50μm and 62,5μm fiber

EFD	Standard	New proposal	
	50μm 850nm 10G-Base-SX	50μm 1300nm	62,5μm 1300nm
R < 4,5μm	< 0,30	< 0,30	< 0,30
R > 19μm	> 0,86	> 0,86	-
R > 24μm	-	-	> 0,86

- One test procedure for all fiber types
- One specification for the 50μm fiber for both wavelength