



PCS & PMA proposal

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PCS and PMA proposal



- **perezaranda_3dh_02a_2209_pcspma.pdf** gave a comprehensive tutorial about why 802.3cz did not reuse BASE-SR and explained the distinctive features of BASE-U PCS & PMA
- BASE-U PCS & PMA design obeys to specific requirements of functionality, performance and environmental conditions of the targeted automotive application
- BASE-U PCS & PMA meets the P802.3dh project's **objectives**
- BASE-U PCS & PMA is **technically complete and mature** (P802.3cz is currently in **RevCom**)
- BASE-U PCS & PMA meet **automotive requirements**:
 - support all the targeted **data-rates**
 - support **OAM** channel
 - support **EEE**

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- BASE-U PCS & PMA is designed to **approach** channel **capacity** limit. Specially relevant for GI-POF (P802.3dh) that has lower bandwidth and higher attenuation than OM3 (P802.3cz)
- BASE-U PCS & PMA support fully **adaptive receiver** implementations:
 - Compensate impairments due to large parametric deviation → high production **yield**
 - Maximize RX **sensitivity** → support of much higher insertion losses for optical connections targeted to harsh environments
 - Enable the use of automotive qualified and high volume low-cost **bulk CMOS** sub-micron tech nodes
- Adoption of BASE-U PCS & PMA in P802.3dh will minimize automotive **market fragmentation**, e.g. same PHYs can be used for OM3 and GI-POF
- Link budget analysis for 10 and 25 Gb/s for OM3 and GI-POF channels have were also presented considering BASE-U PCS/PMA: channel **insertion losses** and **link budget** are **similar** in P802.3cz and P802.3dh



Thank you