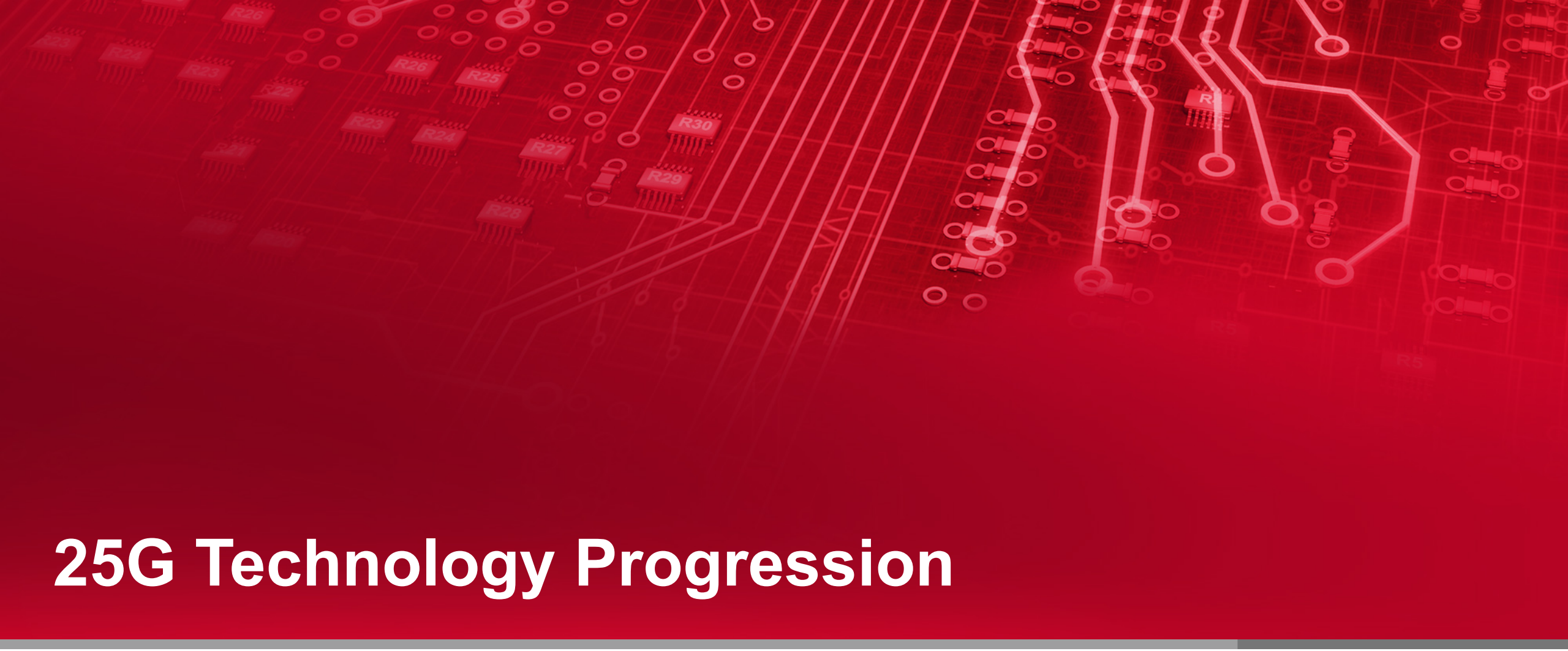

25G Technology Progression

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802.3cy Approved Objectives P802.3cy – May 21, 2020

- “Support full duplex operation only”
- “Define the performance characteristics of an automotive link segment and an electrical PHY to support 25 Gb/s point-to-point operation over this link segment supporting up to 2 inline connectors for at least 11 m on at least one type of automotive cabling”
- How to build on the successful standard 802.3ch?
  - Multi-Gig Automotive Ethernet
  - 2.5G / 5G / 10G

Considerations for Step from 10G to 25G

- Frequency scale 802.3ch and extend to the 25G/50G/100G 802.3cy standard
  - Cable specification: https://www.ieee802.org/3/cy/public/nov20/zimmerman_3cy_01a_1120.pdf
  - PCB specification: https://www.ieee802.org/3/cy/public/adhoc/diminico_3cy_01a_1_5_21.pdf
  - Cable measurements: https://www.ieee802.org/3/cy/public/adhoc/mueller_3cy_01_12_01_20.pdf
- How to implement the PHY
  - "IEEE does not specify receivers"
  - Keep TX power specification in anticipation of smaller drawn line width
  - Lower analog noise specifications by 4dB to support larger TX bandwidth
- Achievement: feasibility of 802.3cy's objective
  - "Define the performance characteristics of an automotive link segment and an electrical PHY to support 25 Gb/s point-to-point operation over this link segment supporting up to 2 inline connectors for at least 11 m on at least one type of automotive cabling"
- Compete successfully with other technologies under development
- Challenges
  - High temperature and aging behavior of cable may need improvement
  - Increased EMI specifications for cable/connector/housing
  - PHY area and power

Thank you