

# RTPGE-PODL OVERLAP

---

Dave Dwelley

Linear Technology

January 2014 Indian Wells

# Two Specs are Mostly Orthogonal...

- By design, most aspects of PoDL shouldn't affect RTPGE (and vice versa)
- PoDL is intended to be generic enough to use with any non-baseband 2-wire physical layer
  - Copper only - obviously not fiber or radio...
- RTPGE should be unaware of the presence or absence of PoDL
  - No change to BER
  - No change to PHY behavior

## ...Except For:

- Coupling Network
- Channel
- Noise
- Startup Timing

# Areas of Overlap: Coupling Network

- Low-pass pole on power branch must be compatible with startup time and detection requirements
- DCR of power branch filter must meet PoDL spec (value TBD)
- High-pass pole on data branch must be compatible with data signaling requirements

# Areas of Overlap: Channel

- DCR must meet PoDL spec (value TBD)
- Connectors used must have adequate DC current capability (value TBD)
- Channel wiring must have adequate thermal dissipation to accommodate PoDL-caused temperature rise above ambient

# Areas of Overlap: Noise

- PoDL steady-state noise-vs-frequency spec must meet RTPGE noise mask
  - Anticipate future data specs?
- RTPGE must accommodate PoDL power-up, power-down transients
  - Must remain below noise mask, or...
  - Data error correction must accommodate (presumably infrequent) PoDL transients

# Areas of Overlap: Startup Timing

- PoDL startup timing specs when summed with RTPGE startup timing should meet industry needs
- PoDL startup includes:
  - PoDL system bootup time (after  $V > UVLO$ )
  - Detection and (optional) classification time
  - Slew-rate controlled turn-on
- PoDL objectives include “fast startup” modes to improve startup timing
- Startup timing may be a tricky spec to write, since the split between PoDL and RTPGE startup times is necessarily arbitrary

# RTPGE-PoDL Liason

- We won't move at the same pace – so some liason will be required
- It may be appropriate to create a liason ad-hoc with members from both groups attending
- Ad-hoc meetings to happen at interim/plenary sessions?