PoDL Questions for 1000BASE-T1

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Ripple and Impulse Noise Questions:

- The ripple and transient limits proposed in gardner_3bu_2_0915.pdf slide 15 were based on the following assumptions:
  - 100mVpp ripple and 100mV peak low-frequency noise at the PHY's termination is not a problem (see slide 9 for example).
  - 10mVpp ripple and 10mV peak impulse noise at the output of the PHY's internal high-pass filter is not a problem.
- Are these assumptions valid?

MDI Return Loss Questions

- Coupled inductors offer many compelling advantages as summarized in gardner_3bu_3_0915.pdf.

- The existing MDI return loss specification may preclude using currently available coupled inductors for PoDL (see slide 5 for return loss data for several representative devices from CoilCraft).

- Can the low frequency MDI RL limit be relaxed from 10MHz to 20MHz as proposed on slide 8?

  - It would appear that the SNR of the PHY will be degraded by ~0.1dB by the proposed change.
  - Is it possible to relax the low frequency limit to a frequency greater than 20MHz?

Thank you!