



## Simulating TDP and SRS for 100GBASE-SR4

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- Setting the detailed specifications for TDP and stressed sensitivity correctly is important and takes care and consideration of multiple factors
- Numbers in the specification could be validated in several ways:
  - Use spreadsheet model
  - Use simulations
  - Use experimental results
- This ongoing work takes a simulation approach and seeks to compare with the spreadsheet approach
  
- Items to be found
  - Receiver bandwidth for TDP test
  - Decision timing offset for TDP test
  - TDP limit
  - VECP (or other metric of eye height) and J2, J4 for stressed sensitivity test
  
- These numbers should be consistent

- The reference receiver in the TDP test represents the modal dispersion of a worst 100 m OM4 fibre, the chromatic dispersion of a widest spectral width transmitter with 100 m OM4 fibre, and (roughly) a product receiver, concatenated.
- Modal and chromatic dispersion are modelled as Gaussian filters
- Product receiver response is modelled as a fourth order Bessel-Thomson filter
- Reference receiver response is a fourth order Bessel-Thomson response
- Seek to find the reference receiver bandwidth that for the worst transmitter gives the same TDP as the three filters concatenated
  - This may not be the same bandwidth

*To be continued*

Thank You

