

BP OD channel analysis

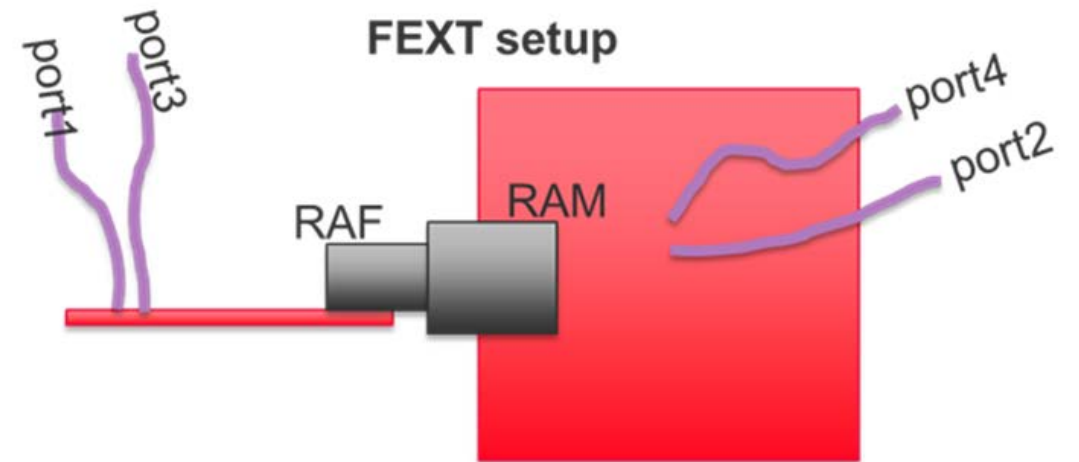
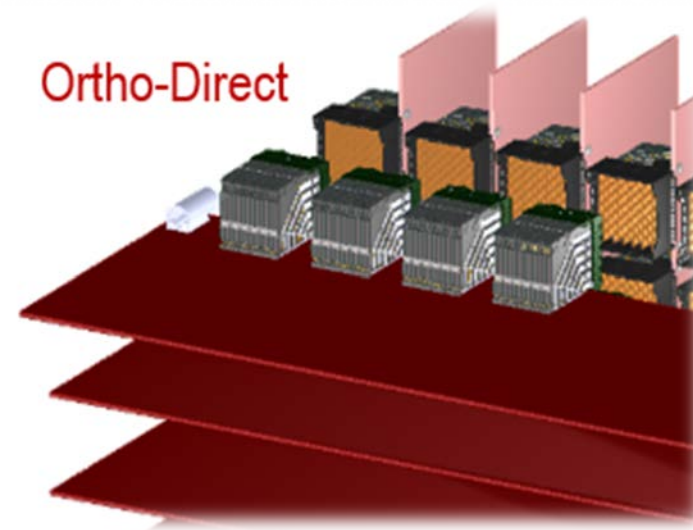
Tom Palkert (Molex)
2019 Nov 07
palkert_3ck_04_1119

Contributors & Supporters

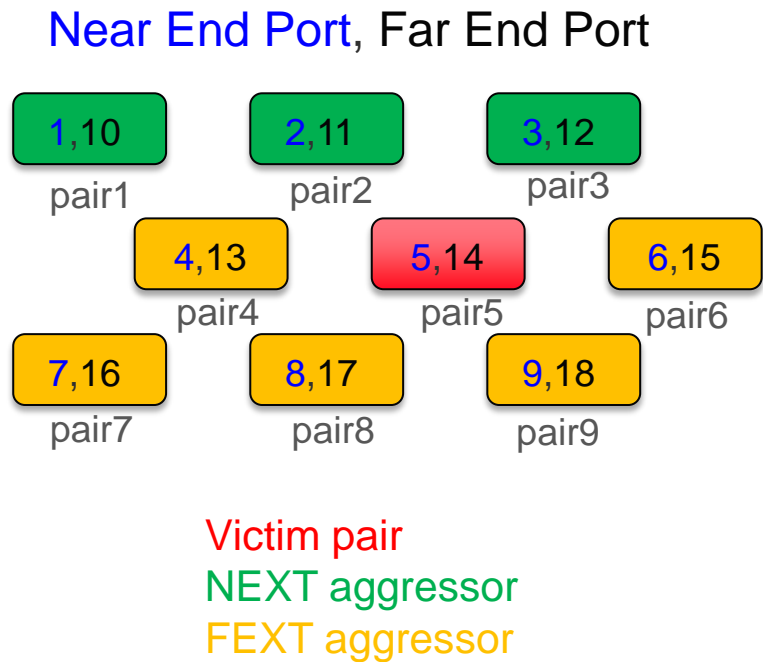
- Contributors: Robin Tsai, Michael Rost, Liz Hardin, Timothy Elo, Chuck Crandley (Molex)

OD Channel Details

- IL target: [-28.5dB@26.56GHz](#)
- Impedance: 90 ohm
(Plots in this report are with respect to 100 ohm)
- Channel length:
400mm(15.75inch) + OD connector +
440mm(17.32inch)
- Trace width/spacing – 5.5/6.5mil
- Dk- 3.4; Df- 0.004
- Via stub – 12mil (0.3048mm)

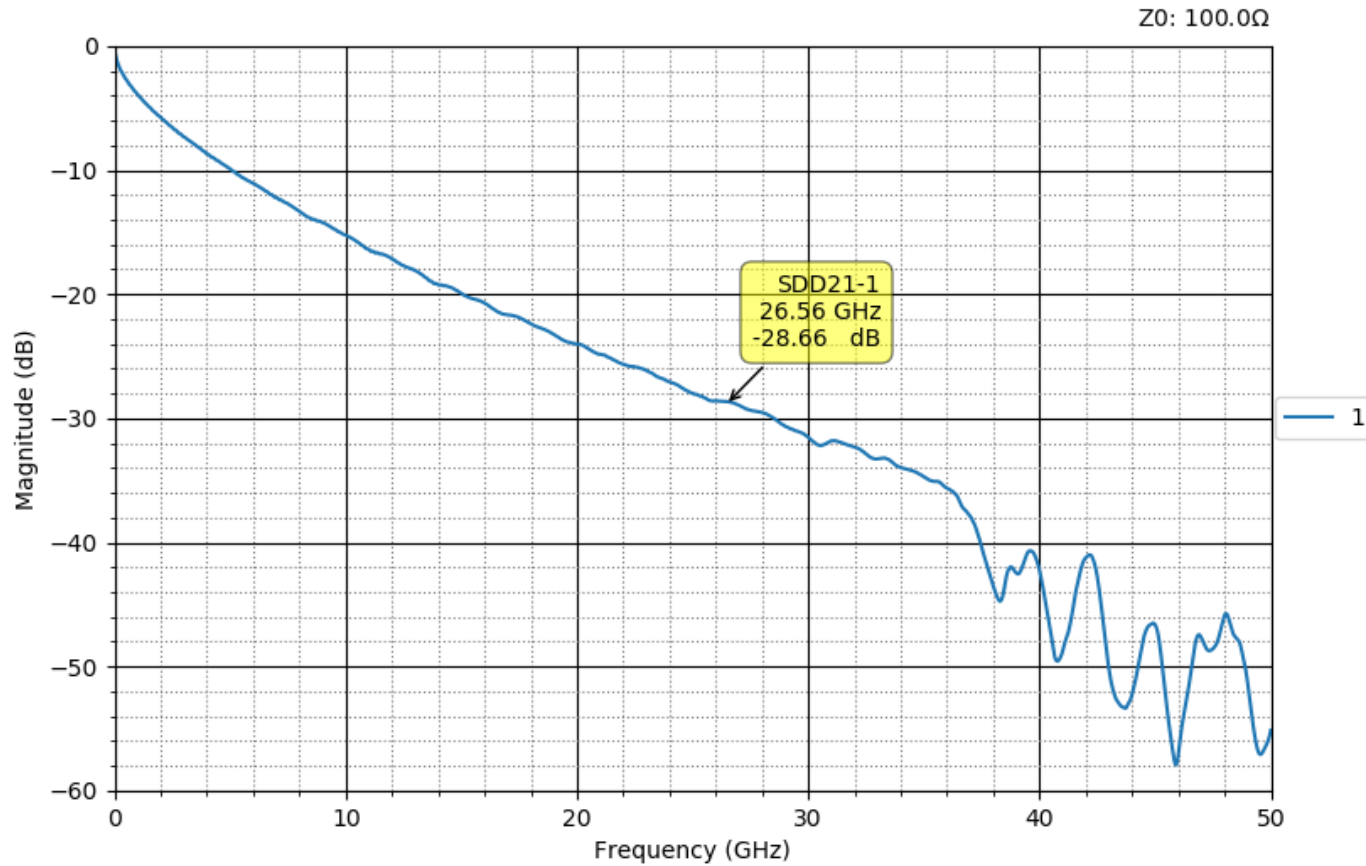


Pin mapping and file setup

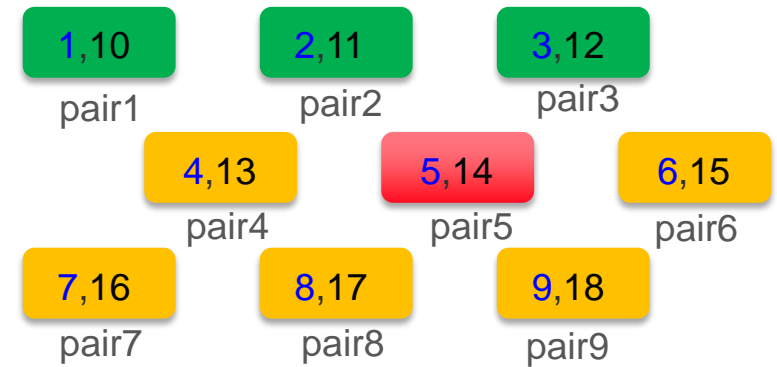


- Pair 5 is the victim pair
- Surround by 8Xtalk aggressor of 3NEXT and 5FEXT.
- From 0GHz to 50GHz with 0.01GHz steps
- The S parameter package includes separated .s4p files for Thru pairs and Xtalk pairs
- A# in s4p file name corresponds to near end diff port numbering

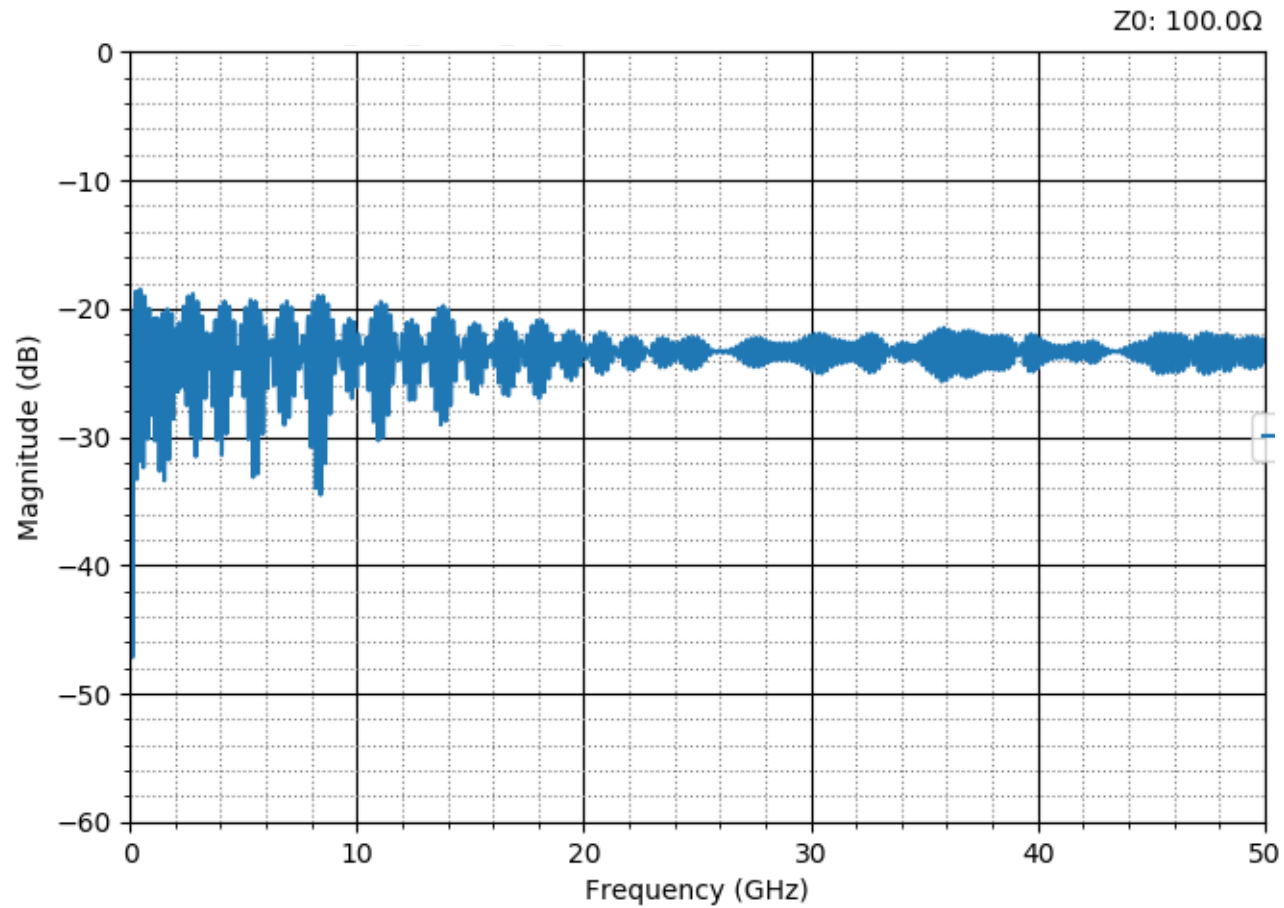
SDD21



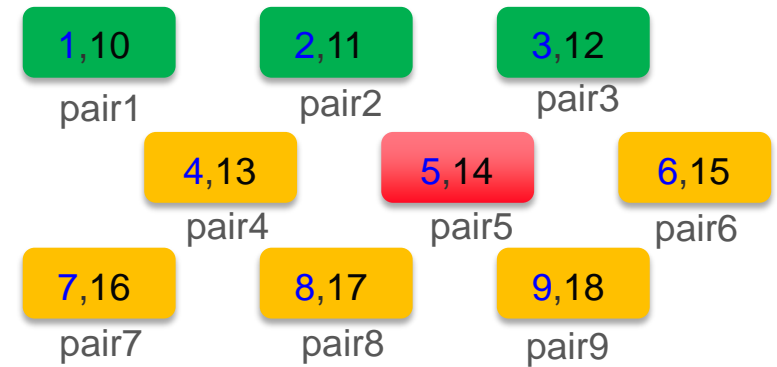
Near End Port, Far End Port



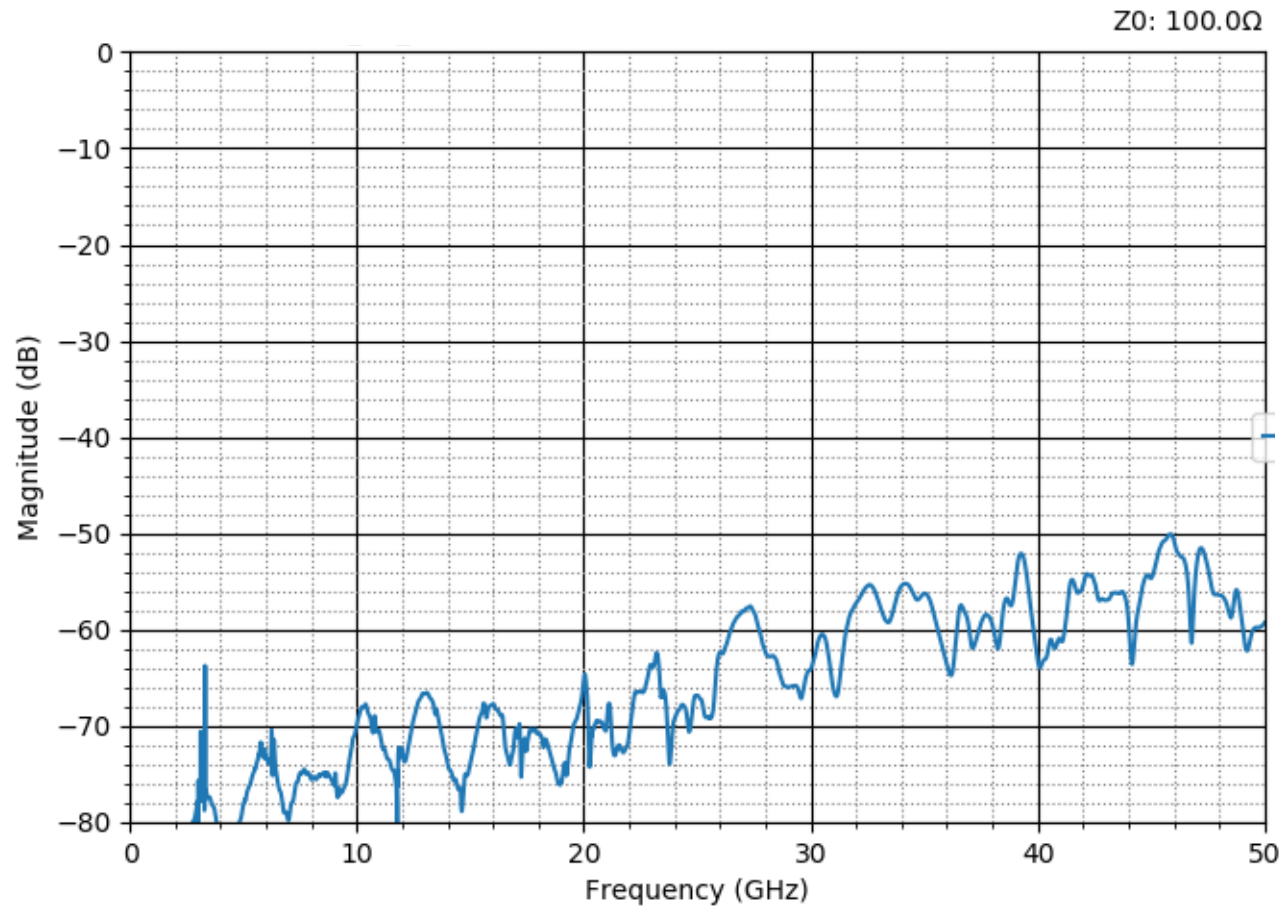
SDD11



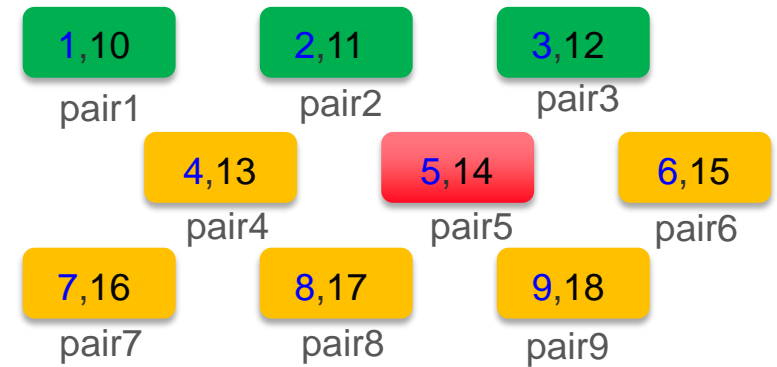
Near End Port, Far End Port



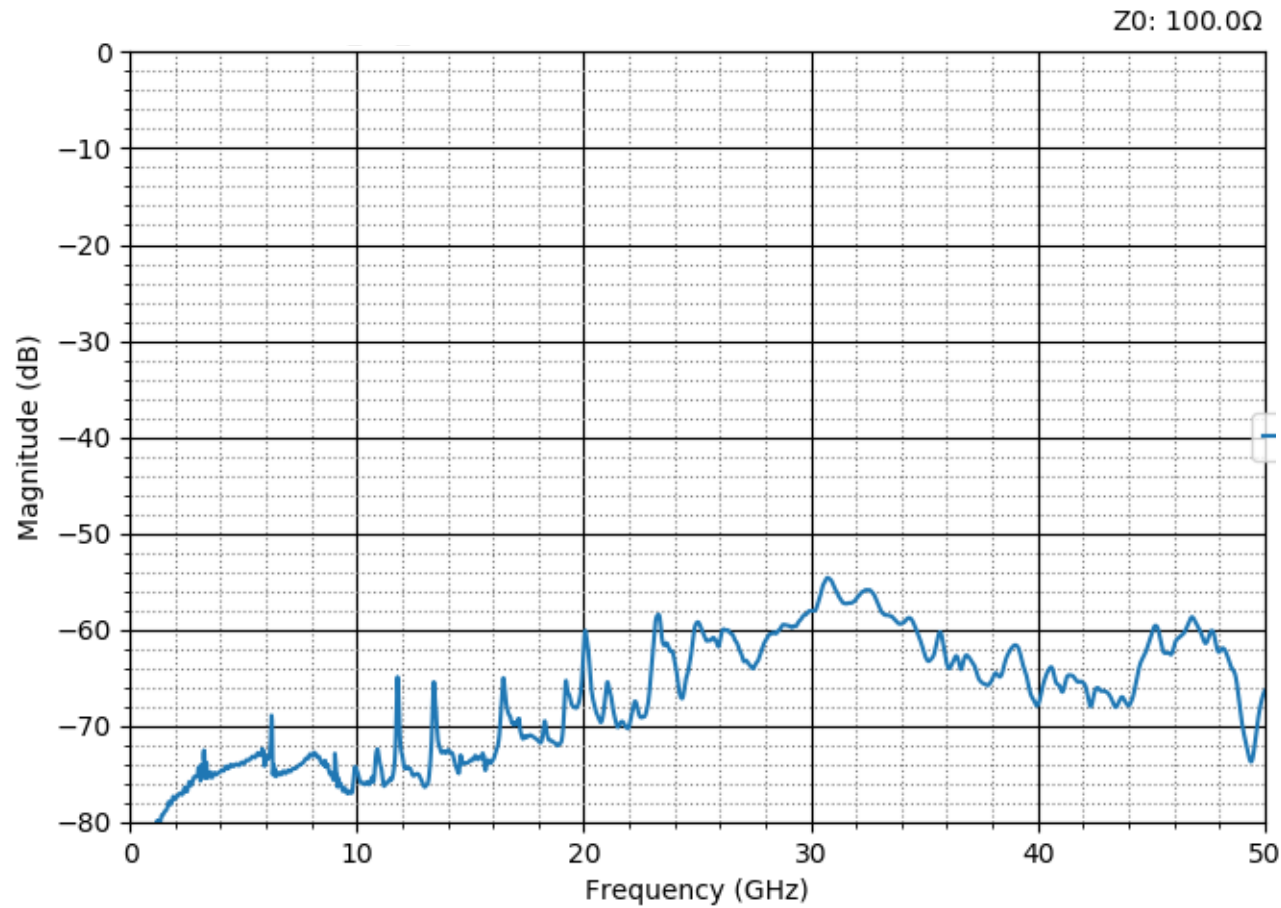
PSNEXT_DIFFERENTIAL_5



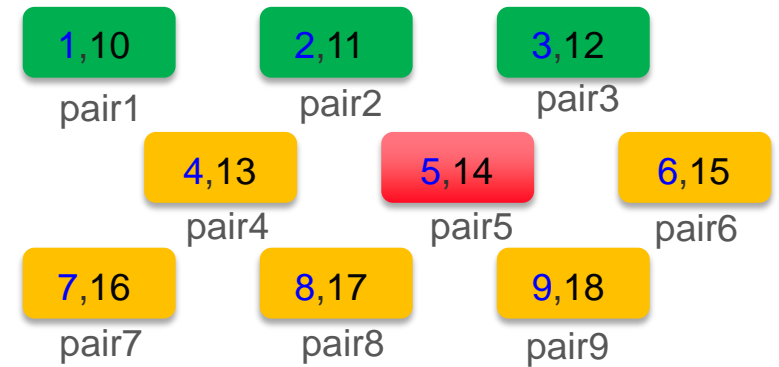
Near End Port, Far End Port



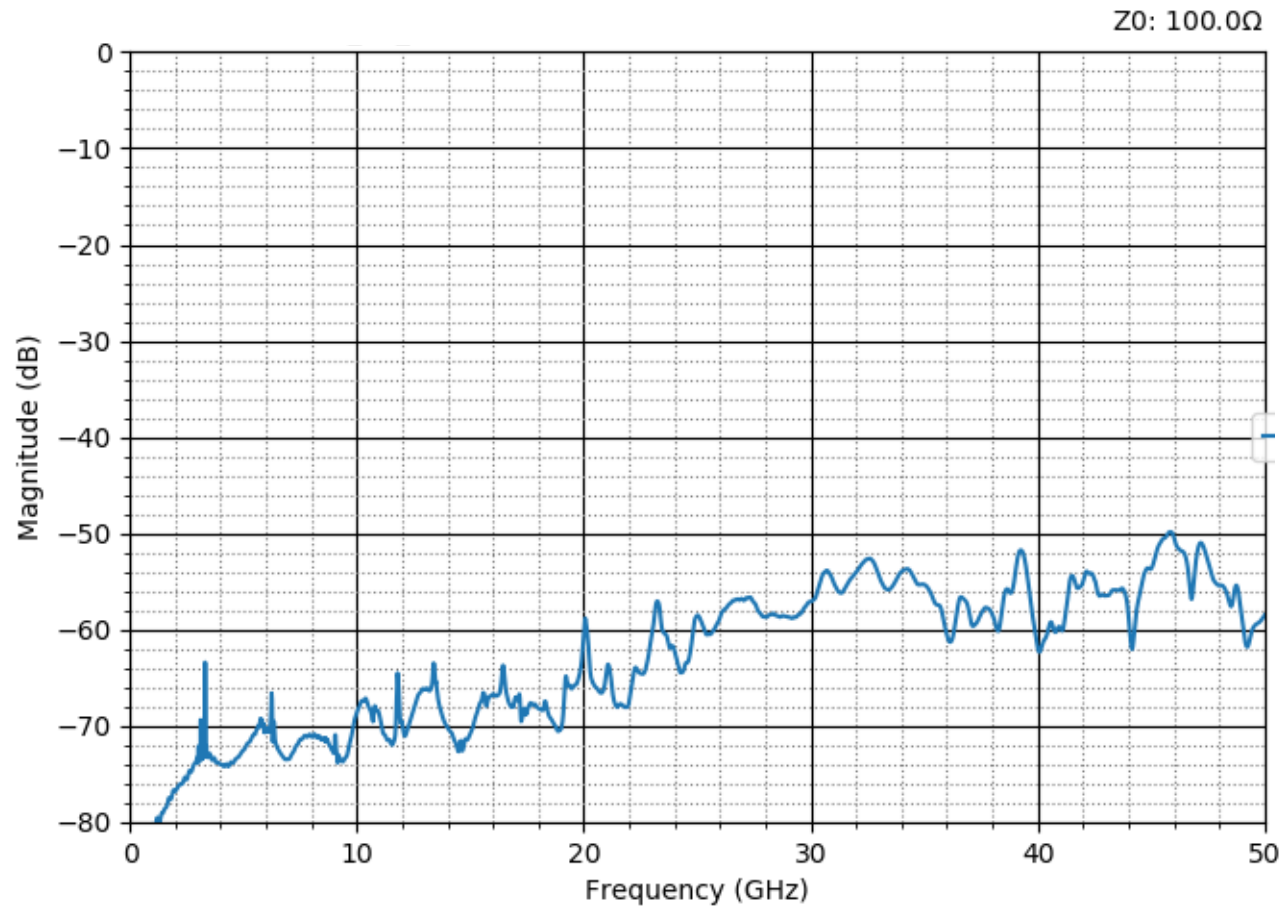
PSFEXT_DIFFERENTIAL_5



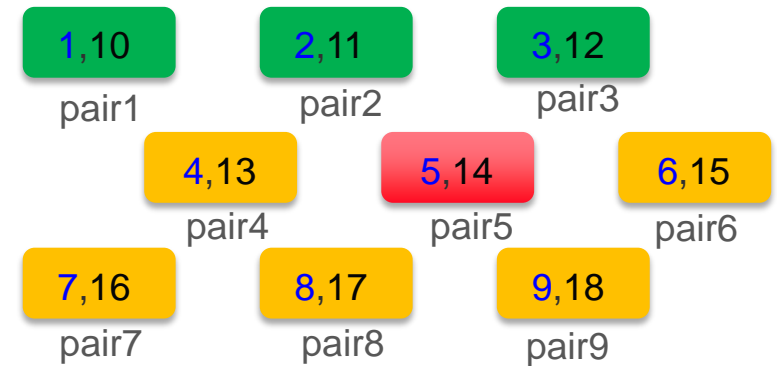
Near End Port, Far End Port



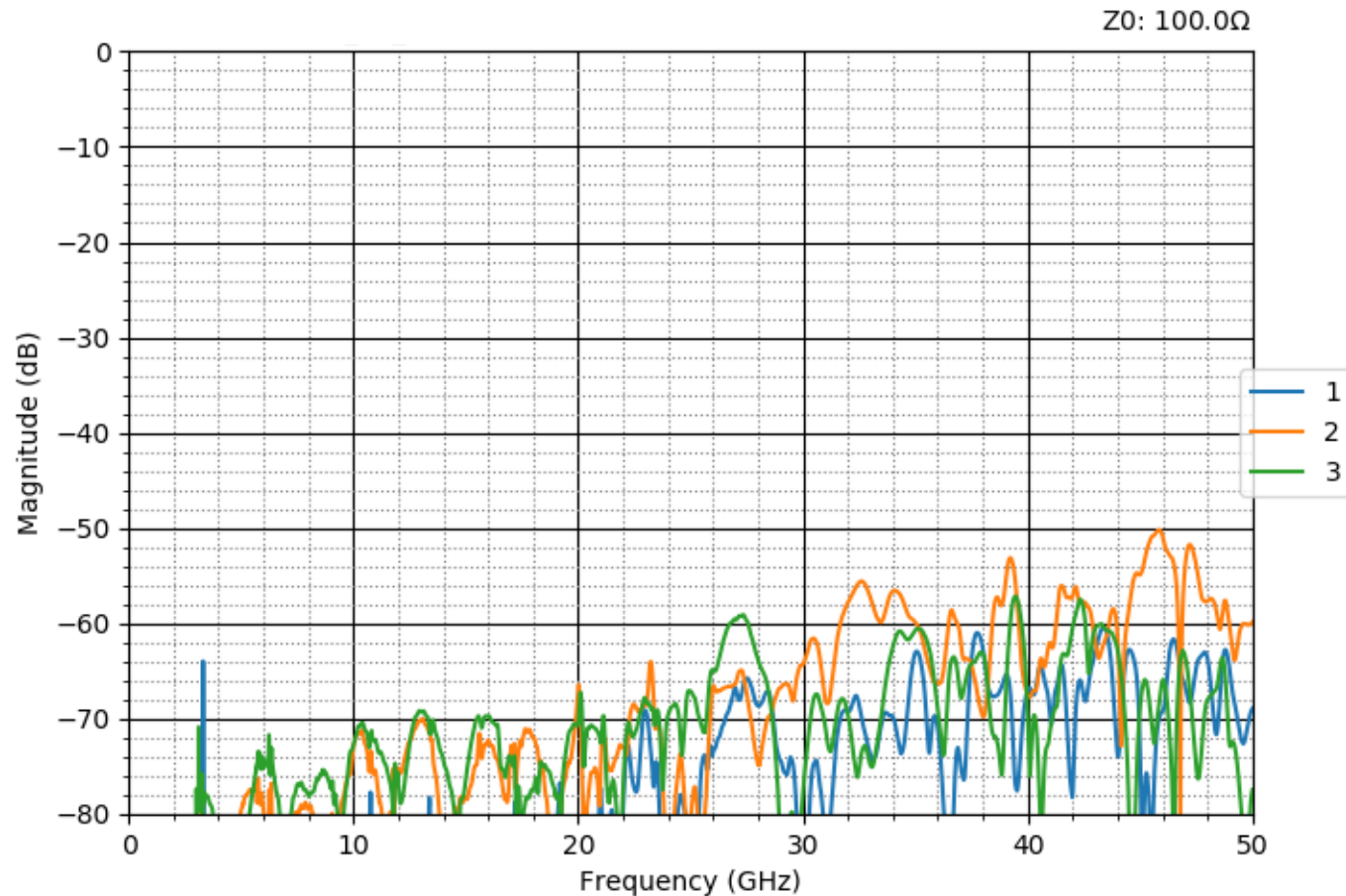
PSXTLK_DIFFERENTIAL_5



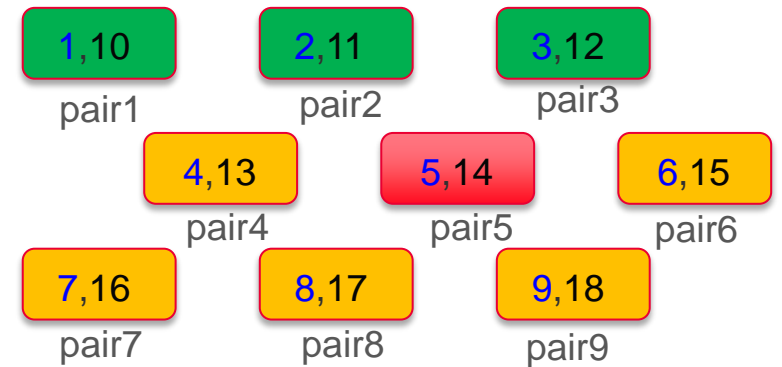
Near End Port, Far End Port



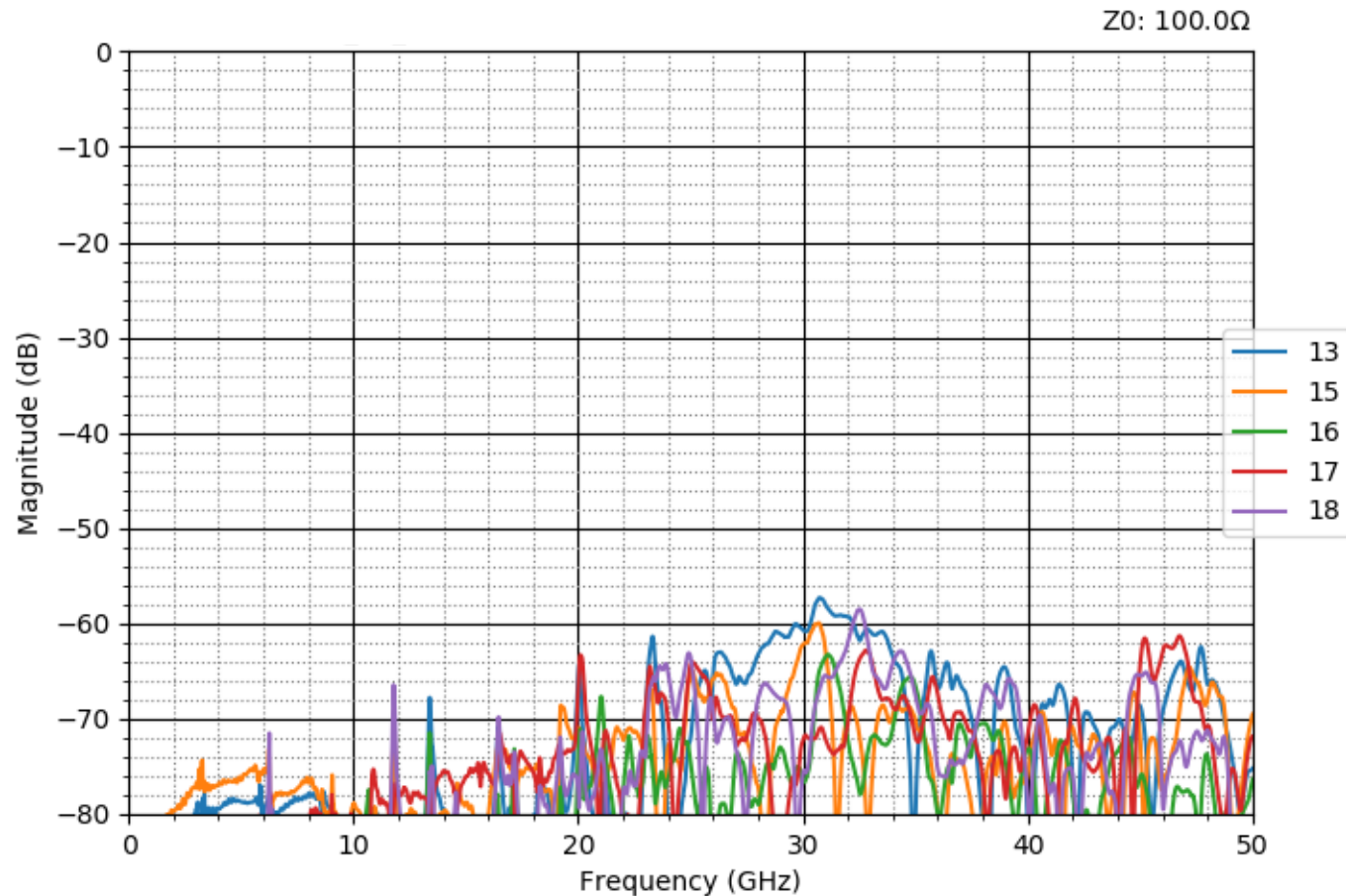
NEXT_DIFFERENTIAL_5_individual



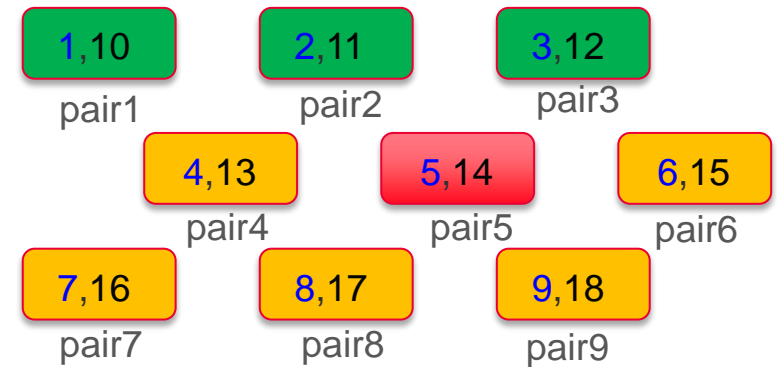
Near End Port, Far End Port



FEXT_DIFFERENTIAL_5_individual



Near End Port, Far End Port



COM calculation

COM version 2.75

Config file name:

config_com_ieee8023_93a=3ck_KR_mellitz_01_100219.xls

Case1:

COM : 5.8486dB

ERL: 25.1612dB

Case2

COM : 4.6272dB

ERL: 25.1612dB