

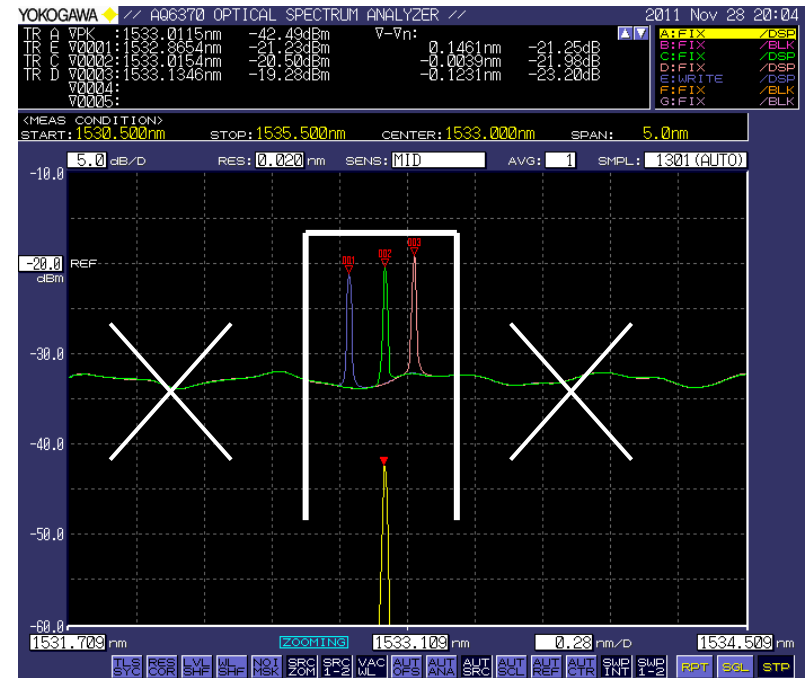
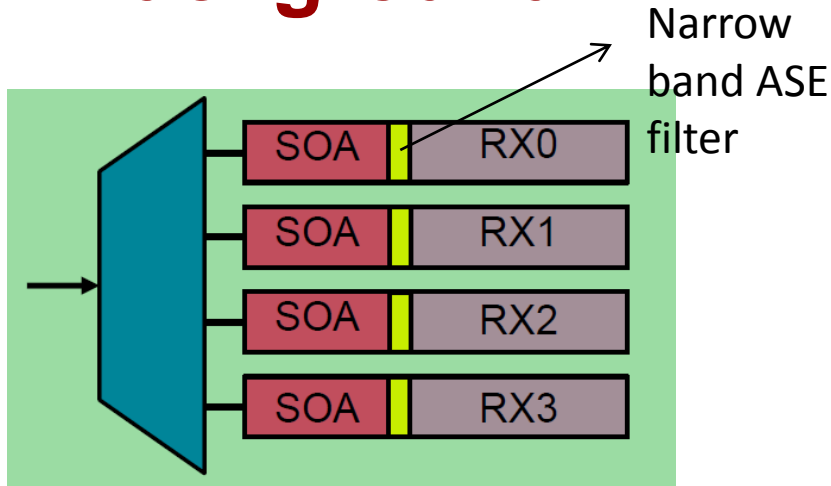
Security Level:

100G EPON coexistence issue discussion

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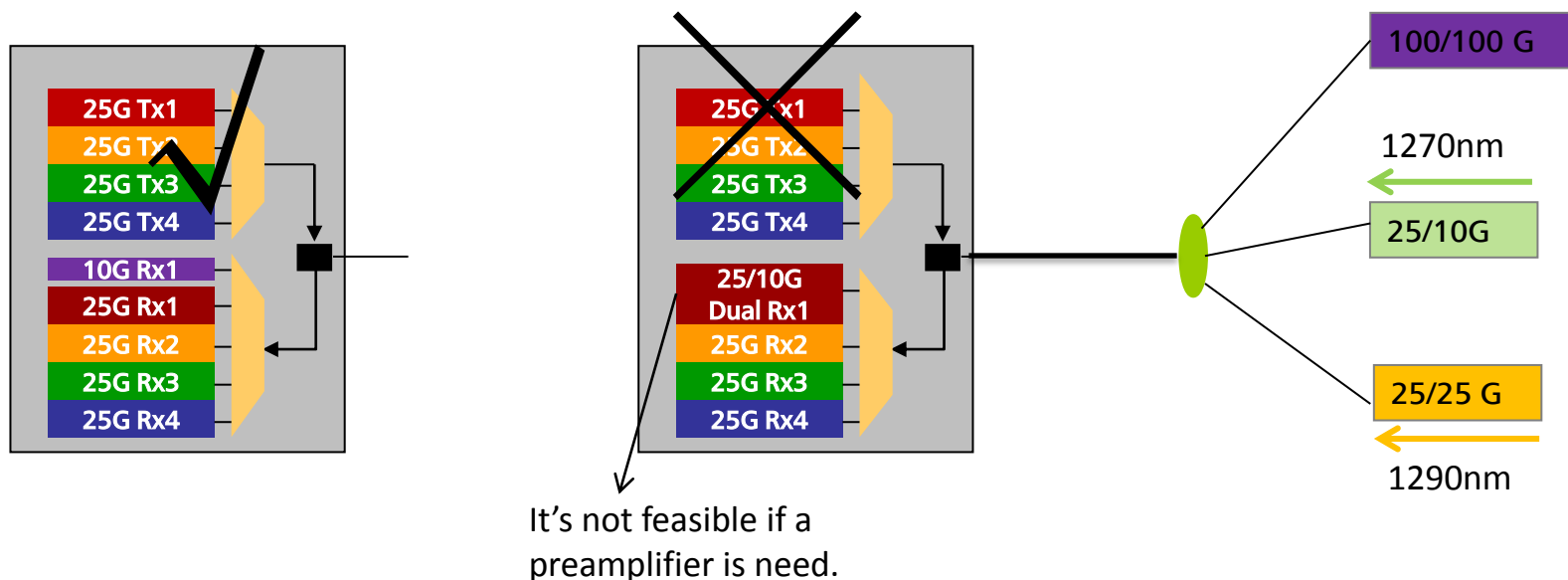
Background



- For the preamplifier, we always need a narrow band ASE filter to filter out the ASE noise out of laser spectrum.
- We can get noticeable gain by preamplifier only when the filter is narrow enough.
- Generally speaking, if the signal wavelength distributes randomly in 20nm, there is nearly no gain for present pre-amplifier.

Issue 1:

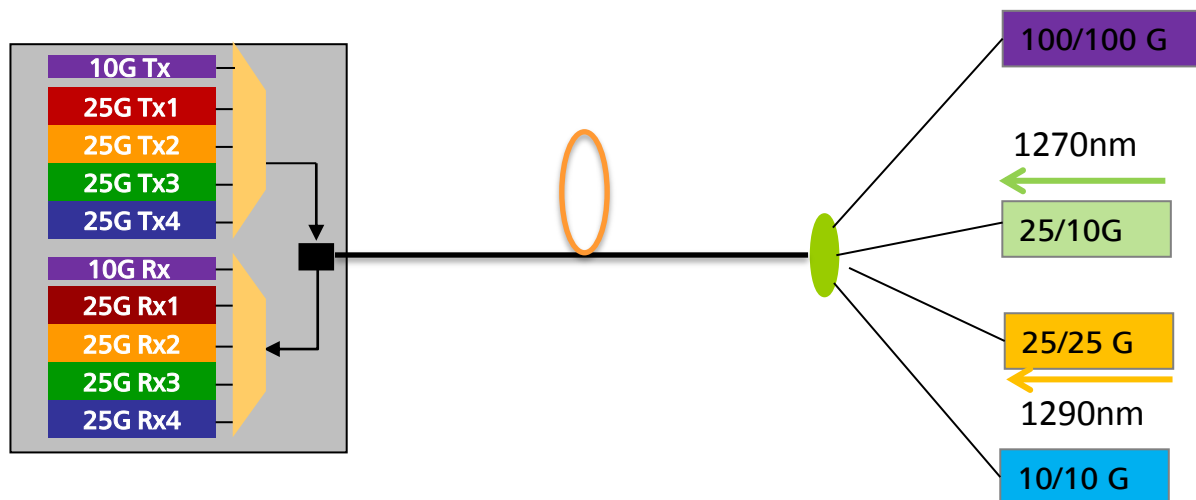
- 25/10G can only coexist with 25/25G by WDM if a preamplifier is need in OLT for 25G.



- The left configuration will result in an OLT with higher upstream capacity but lower downstream capacity, and bigger OLT module size, higher power consumption, consequently higher cost.

Issue 2:

- 100G EPON OLT must always carry on 10G optics when 10/10G and 25/10G ONU may exists in the ODN.



- This will result in very complex OLT module and big footprint, the consequent impact on OLT ports density needs further study .

Summary

- Some issues of “25/10G use a different upstream wavelength with 25/25G” are listed.
The consequent concerns should be considered when we consider and compare the wavelength plan.

Thank you

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