75 GHz Filter Data in support of 64 channel 400GBASE-ZR Links

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- Mark Filer, Microsoft
- David Lewis, Lumentum
- Liang Du, Google
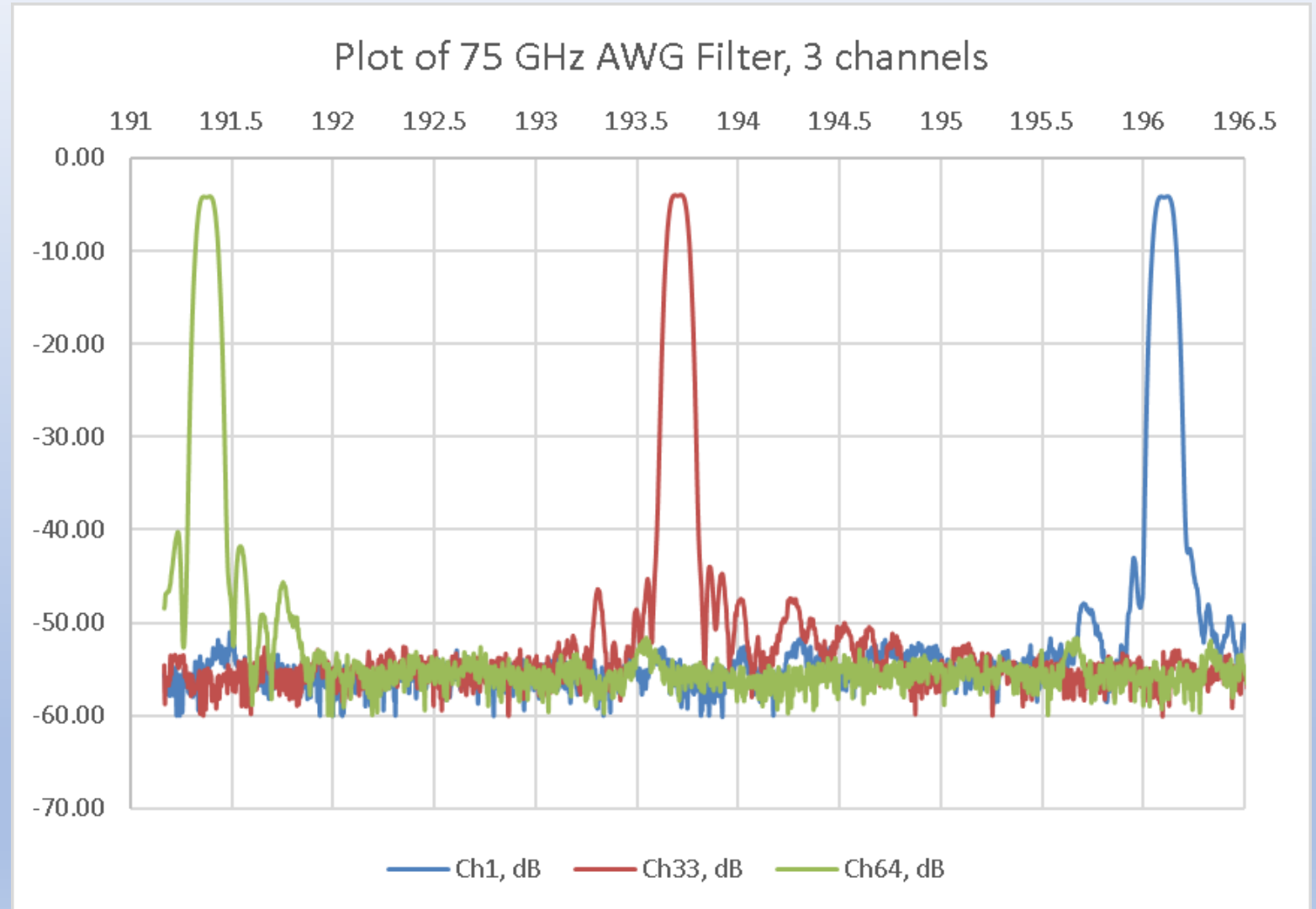- Jeff Maki, Juniper

References in this Contribution

- "Coherent 100G and 400G PMD Layer WDM Considerations" http://www.ieee802.org/3/cn/public/18_11/deandrea_3cn_01c_1118.pdf

- "802.3ct wavelength grid considerations" http://www.ieee802.org/3/ct/public/19_07/lewis_3ct_01a_0719.pdf

- "Motivation of 75-GHz spacing for 400G DWDM" http://www.ieee802.org/3/ct/public/tf_interim/19_0829/du_3ct_01_190829.pdf
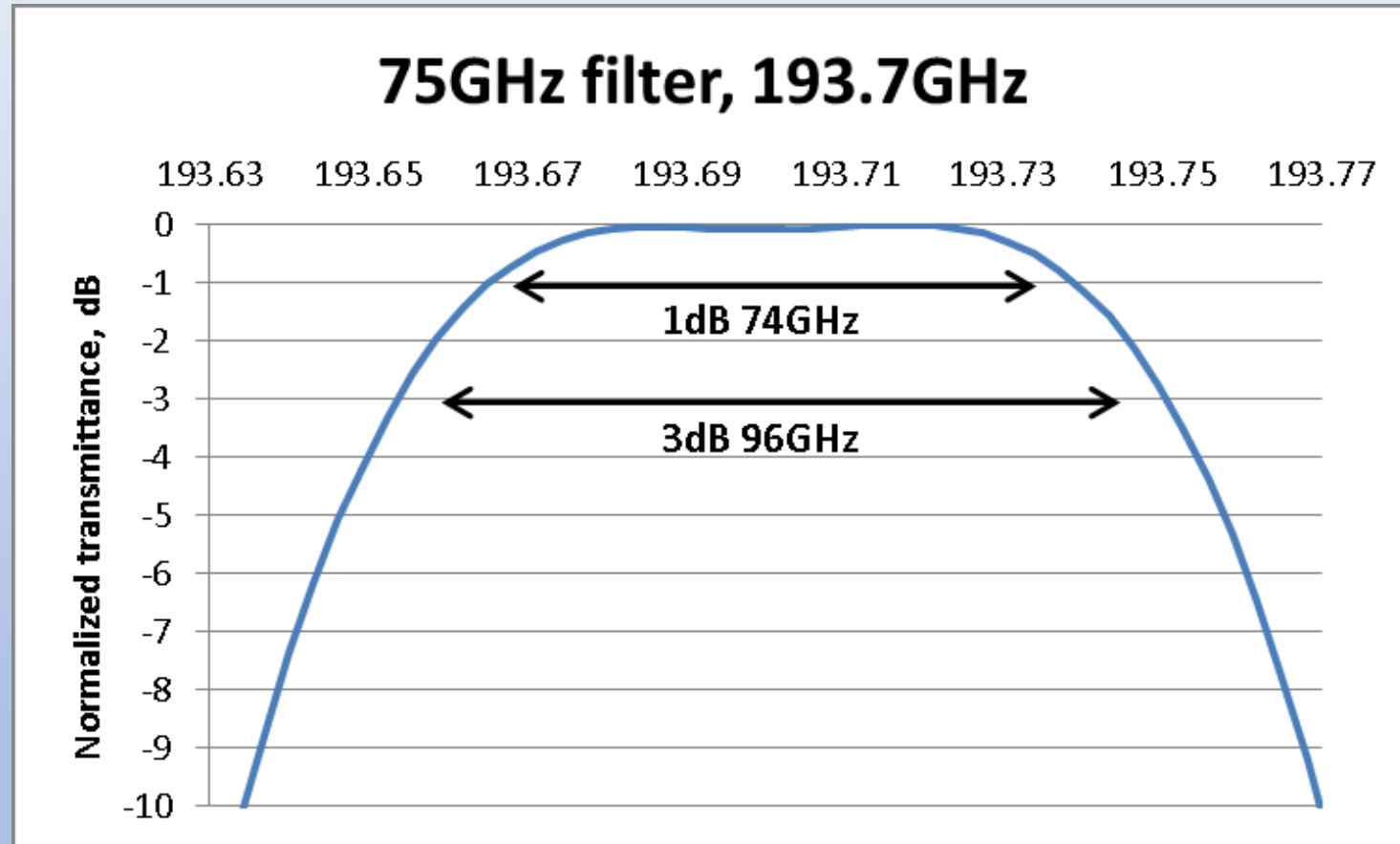
Introduction:

- Data will be presented on AWG type 75 GHz Passive Filter
- Center channel of a 64 channel chip will be shown in detail
- 1 db and 3 db bandwidth data of passband

Plot, 3 channels across C-band

- Passband response of filter

- Channel 191.375 THz
- Channel 193.700 THz
- Channel 196.100 THz

Plot of 75 GHz AWG Filter, 3 channels

Channel33, 193.700 THz

75GHz filter, 193.7GHz

Wrap Up and recommendation

- A preliminary designed 75GHz filter shows potential for support of 400GBASE-ZR Black Link.

- 64 channels can be supported per DCI request

- Filter profiles and bandwidth to be used in full black link model to analyze laser tolerance and Tx optical spectrum tolerance for the 80 km objective

- The AWG design is subject to change for optimization according to 400G link model analysis.

- 20 db bandwidth to be investigated as to potential specification and link impact