



# **Return Loss limit modification proposal**

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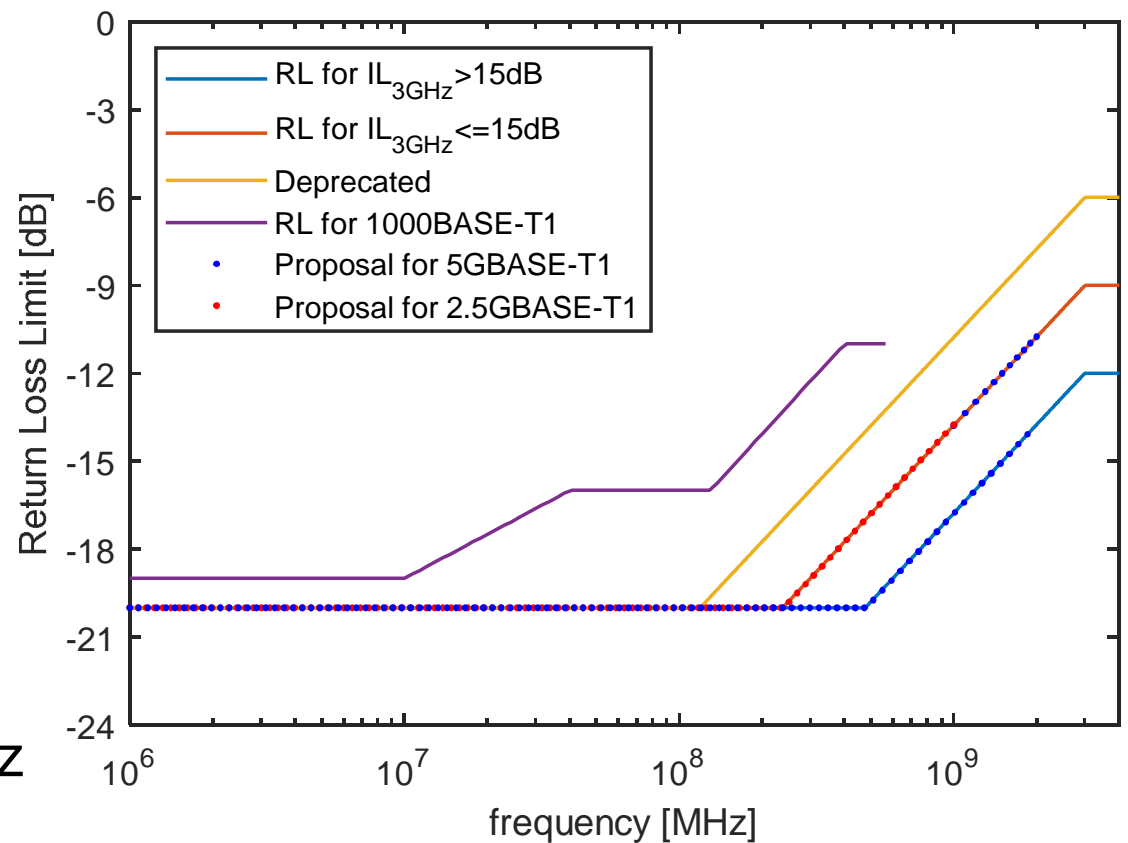
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# Return Loss

- ▶ Flat extension of plateau down to 1MHz for all speeds
- ▶ Actual channel data showed that our worst case return loss curve is never closely approached
- ▶ Can reduce diversity on RL curves from 3 to 2 limit lines

# Return Loss



## ▶ 2.5Gbps

- Red dotted line up to 1GHz

## ▶ 5 Gbps

- Red line up to 2GHz if  $IL @ 1.5GHz < 15dB$
- Blue line up to 2GHz if  $IL @ 1.5GHz \geq 15dB$

## ▶ 10 Gbps

- Red line up to 4GHz if  $IL @ 3GHz < 15dB$
- Blue line up to 4GHz if  $IL @ 3GHz \geq 15dB$

# Motion

# Motion #

- ▶ Move to adopt Return Loss limit for 2½Gbps

operation to: 
$$\begin{cases} 20dB & f = 1 - 240MHz \\ 20 - 10\log\left(\frac{f}{240}\right)dB & f = 240 - 1000MHz \end{cases}$$

- ▶ M: Gerrit den Besten
- ▶ S: Josef Ohni

# Motion #

- ▶ Move to adopt Return Loss limit for 5Gbps operation

$$\begin{cases} IL @ 1.5GHz \leq 15dB & \rightarrow N = 1 \\ IL @ 1.5GHz > 15dB & \rightarrow N = 0 \end{cases}$$

$$RL \leq \begin{cases} 20dB & \text{for } f = 1 - 480 / 2^N \text{ MHz} \\ 20 - 10 \log \left( \frac{2^N \cdot f}{480} \right) dB & \text{for } f = 480 / 2^N - 2000 \text{ MHz} \end{cases}$$

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# Motion #

- ▶ Move to adopt Return Loss limit for 10Gbps operation

$$\begin{cases} IL @ 3GHz \leq 15dB & \rightarrow N = 1 \\ IL @ 3GHz > 15dB & \rightarrow N = 0 \end{cases}$$

$$RL \leq \begin{cases} 20dB & \text{for } f = 1 - 480 / 2^N \text{ MHz} \\ 20 - 10 \log \left( \frac{2^N \cdot f}{480} \right) dB & \text{for } f = 480 / 2^N - 3000 \text{ MHz} \\ 12 - 3N & \text{for } f = 3000 - 4000 \text{ MHz} \end{cases}$$

- ▶ M: Gerrit den Besten
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