IEEE802.3bt
PSE Rsense Noise Margin

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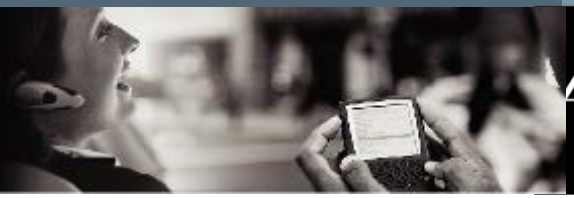
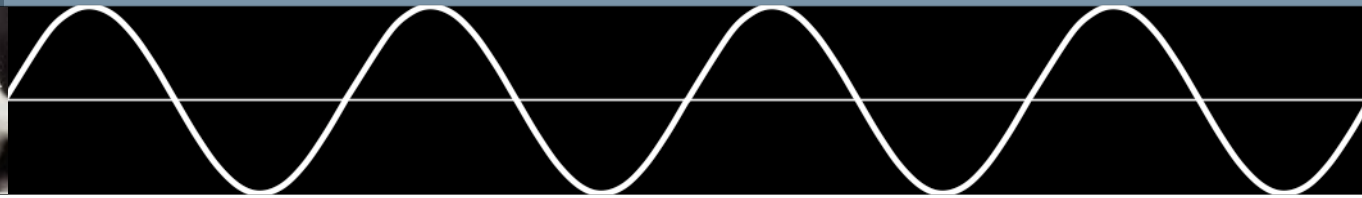




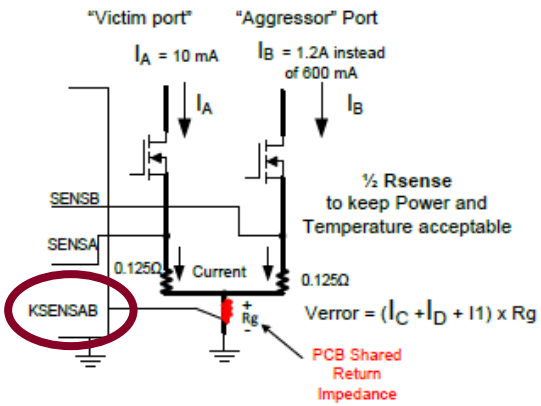
Goal of this Presentation

- Clarify and correct Rsense common resistance statements from Indian Wells TI presentation picard_1_0114.pdf

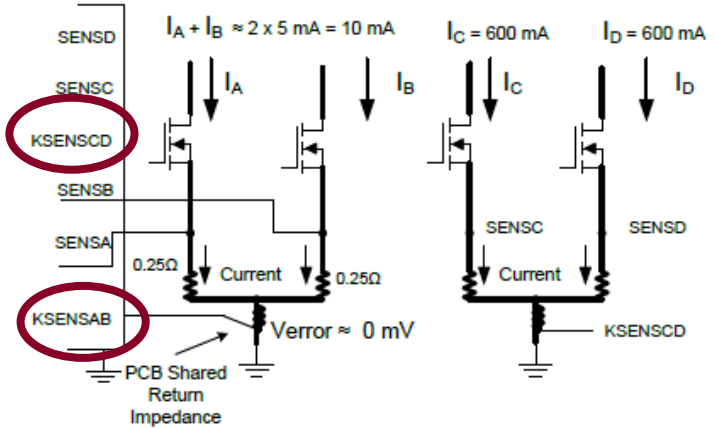
The slide indicates that there is zero common mode error with 2xN architectures and 0.625mV of error with an equivalent 1xN architecture

- The problem with this conclusion is the common resistance assumptions are incorrect

- Example if **1-power channel** solution: 0.125 ohm x 10mA = 1.25 mV. If the "victim" port shares same return impedance with **one** 1.2A aggressor port, only 0.52 mohm can result in **+ 0.625mV error**



Single-PSE power channel solution



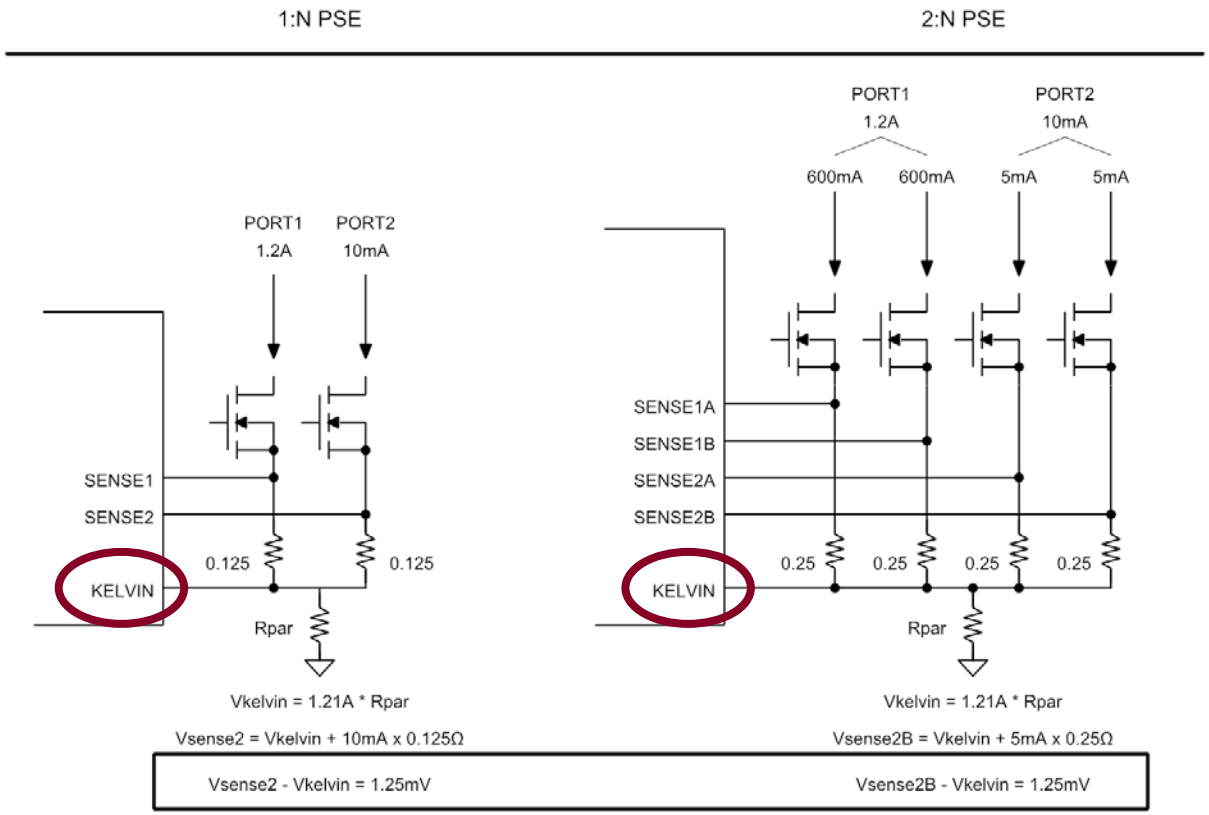
2-PSE power channel solution

TEXAS INSTRUMENTS

LINEAR TECHNOLOGY

This is an apples to apples comparison

- Here is the math using the same number of Kelvin Connections



Conclusions

- There is no difference in the difficulty measuring DC Disconnect between 2xN and 1xN PSE topologies due to equal common resistance and the same number of Kelvin connections per channel