

**To: T-10/SPI-4 Working Group**  
**From: Richard Moore**  
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**Subject: Vn for Or-Tied Signals**

SPI-4 Annex A (Table A.1) allows terminators with an impedance range of 100 to 110 ohms and bias voltage ranging from 100 to 125 mV. It also allows up to 16 devices, each with a leakage current of up to 20 uA. Table A.1 also specifies Vn for OR-tied signals to be a minimum of 100 mV. This requirement is incompatible with the terminator and leakage allowances, since  $100 \text{ mV} - (16 * 20 \text{ uA} * 110 \text{ ohms}/2) = 82.4 \text{ mV}$ .

To resolve this problem,

1. Change the minimum Vn for OR-tied signals to 80 mV; and
2. Add a note stating that the value in SPI-3 did not account for leakage current.