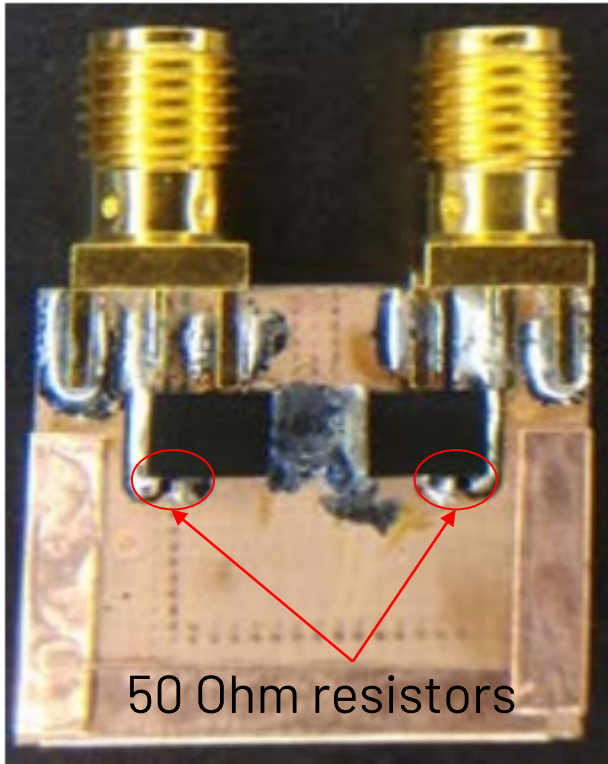


# PoDL MDI Return Loss Update

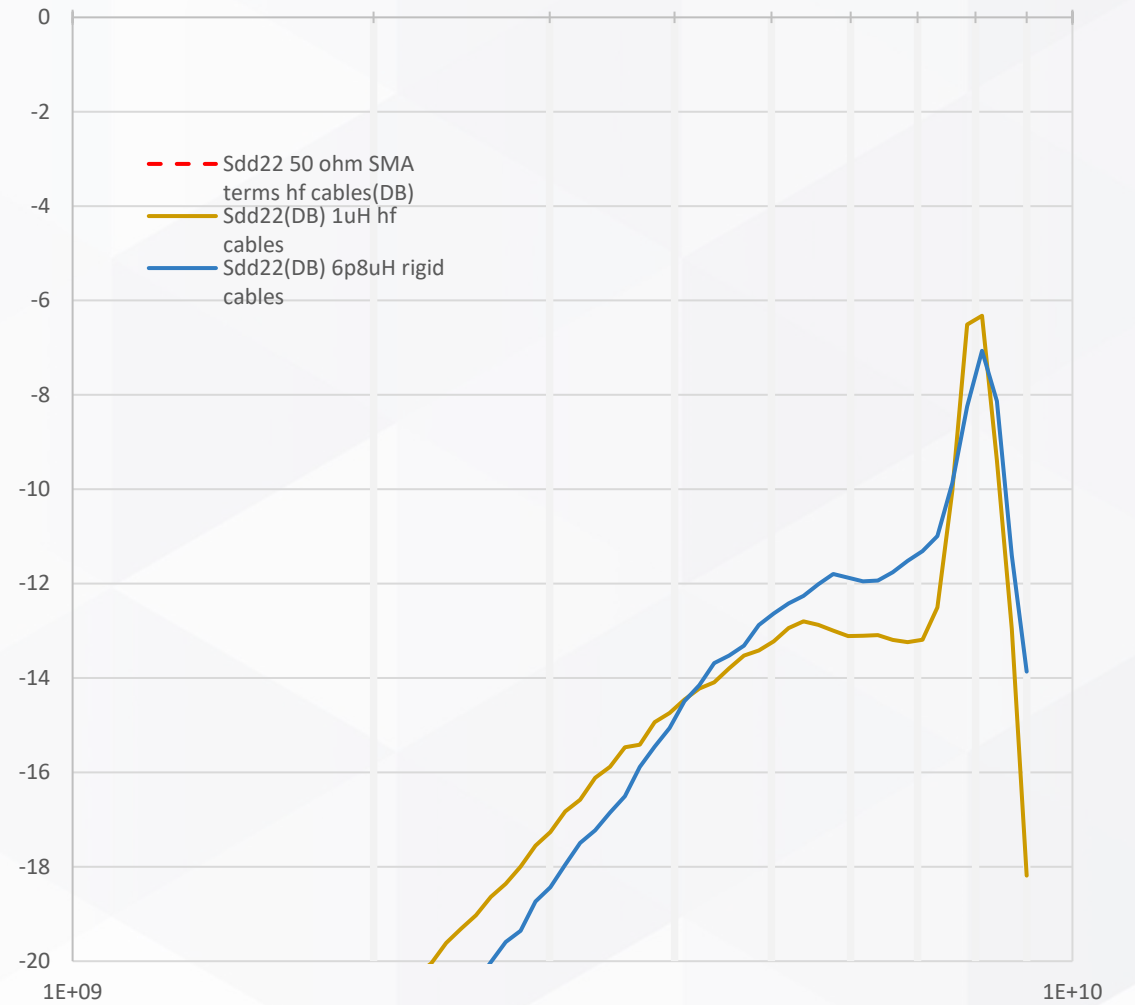
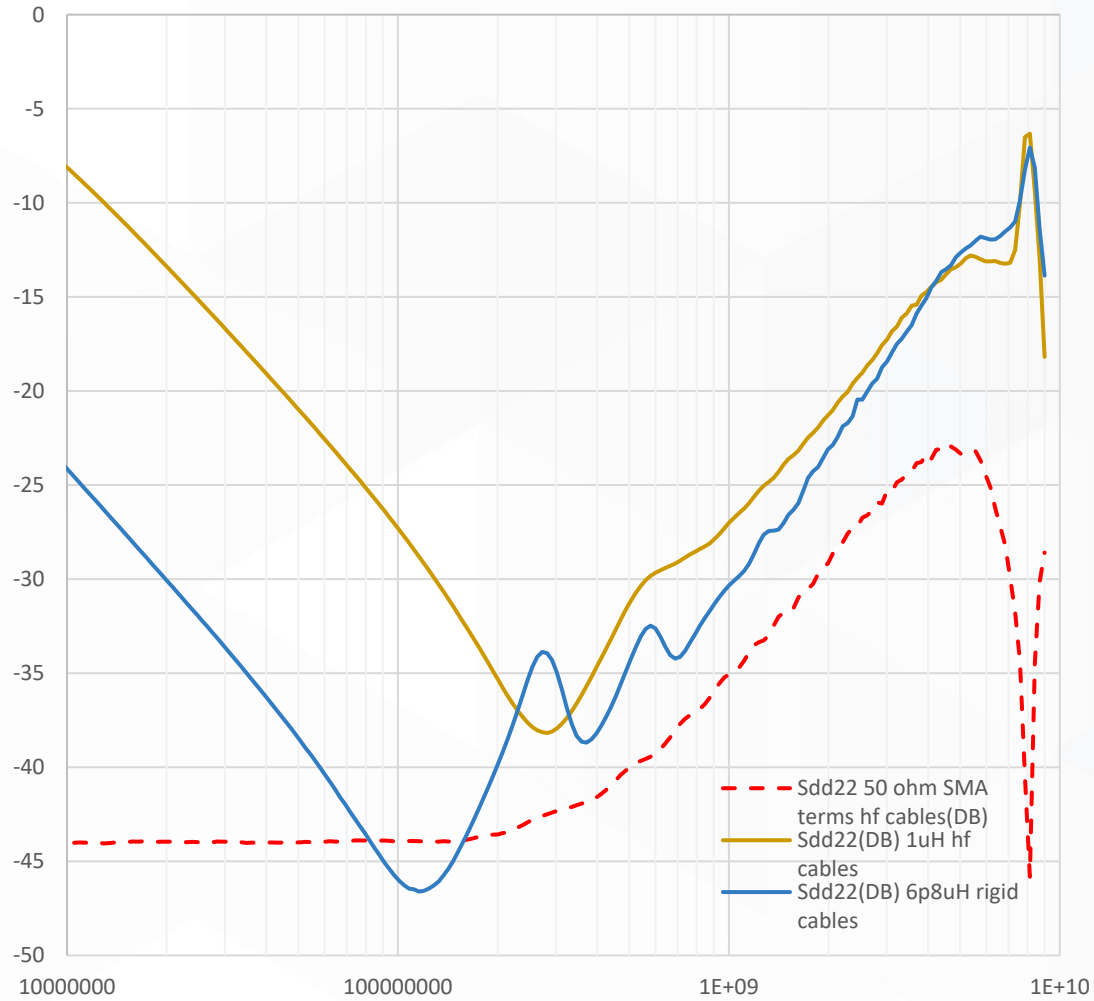
Andrew Gardner

- ▶ Compare return loss data for 1 $\mu$ H and 6.8 $\mu$ H PoDL inductors



- ▶ PFL4514
- ▶ 3.4mm x 4.9mm x 1.4mm footprint
- ▶ D/S ampacity at 105C (20C rise)
  - 6.8uH => 0.86A
  - 1uH => 1.5A DC

# Return Loss for 50 Ohm SMA terminations, 1uH and 6.8uH PoDL inductors



- ▶ 1uH inductor low frequency return loss reduced ~17dB relative to 6.8uH (as expected)
- ▶ 1uH high frequency return loss comparable to 6.8uH
- ▶ HF return loss may be constrained by 50 Ohm resistors' distance from SMA board edge connectors
  - Quarter wavelength at 10 GHz on FR4 about 15mm

- ▶ Investigate improved test fixture
  - Place 50 Ohm termination resistors placed as close as possible to SMA edge connectors
  - Use two or more chip resistors paralleled up to minimize parasitic inductance of 0201 package