

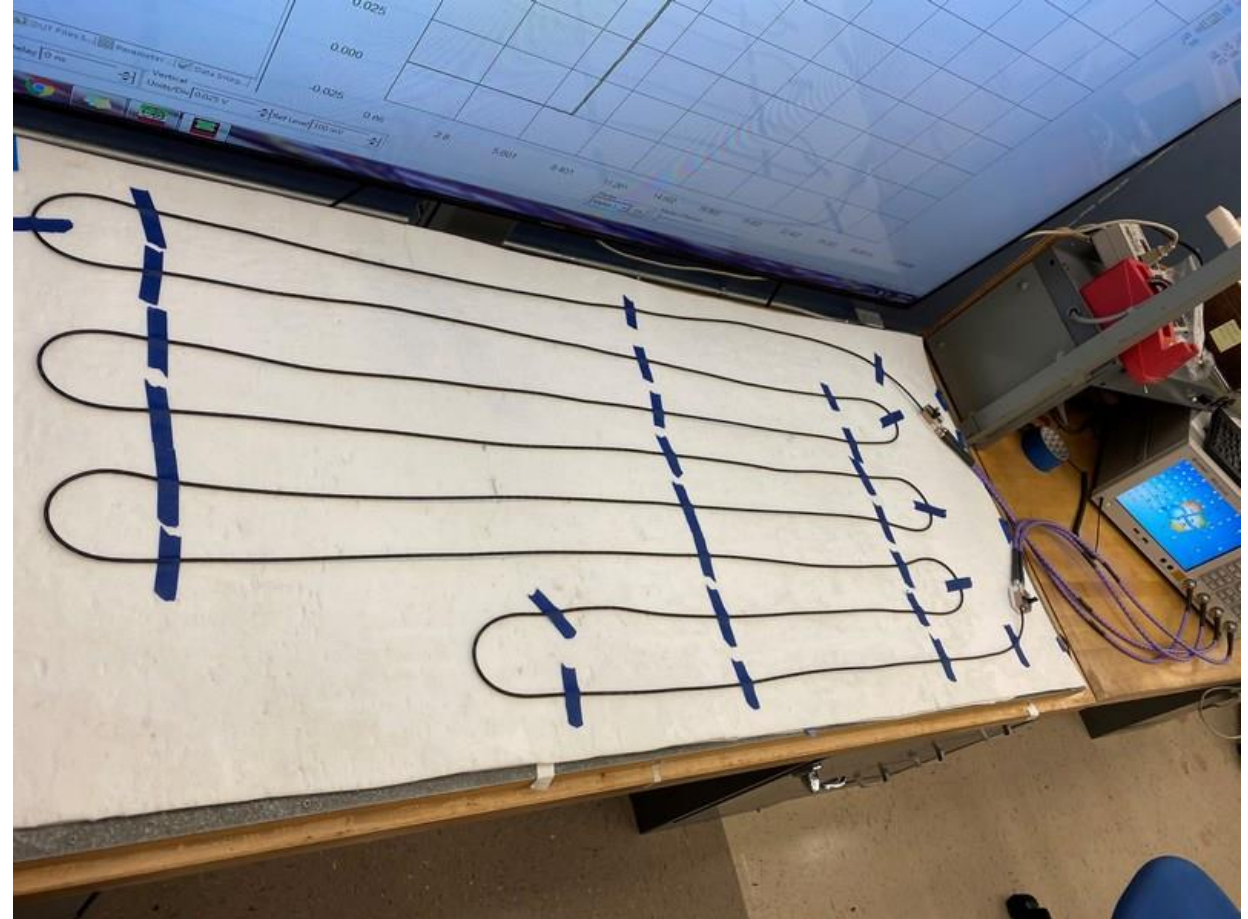
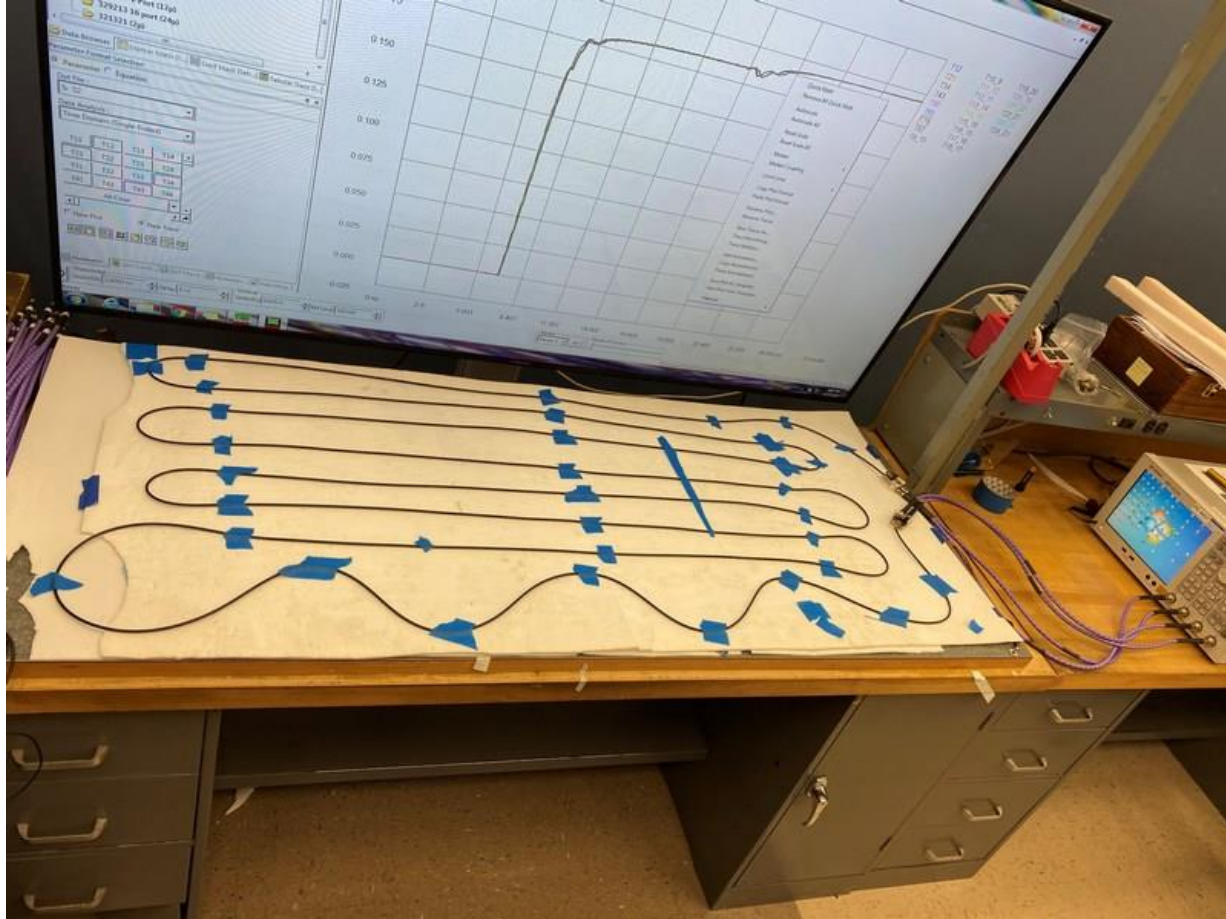
IEEE 802.3cy Greater than 10 Gb/s Electrical Automotive Ethernet TF

14 OCT 2020 Ad Hoc teleconference

Cable Insertion Loss Measurements

Rich Boyer

10 meter Sample Test Setup



Cable Tested

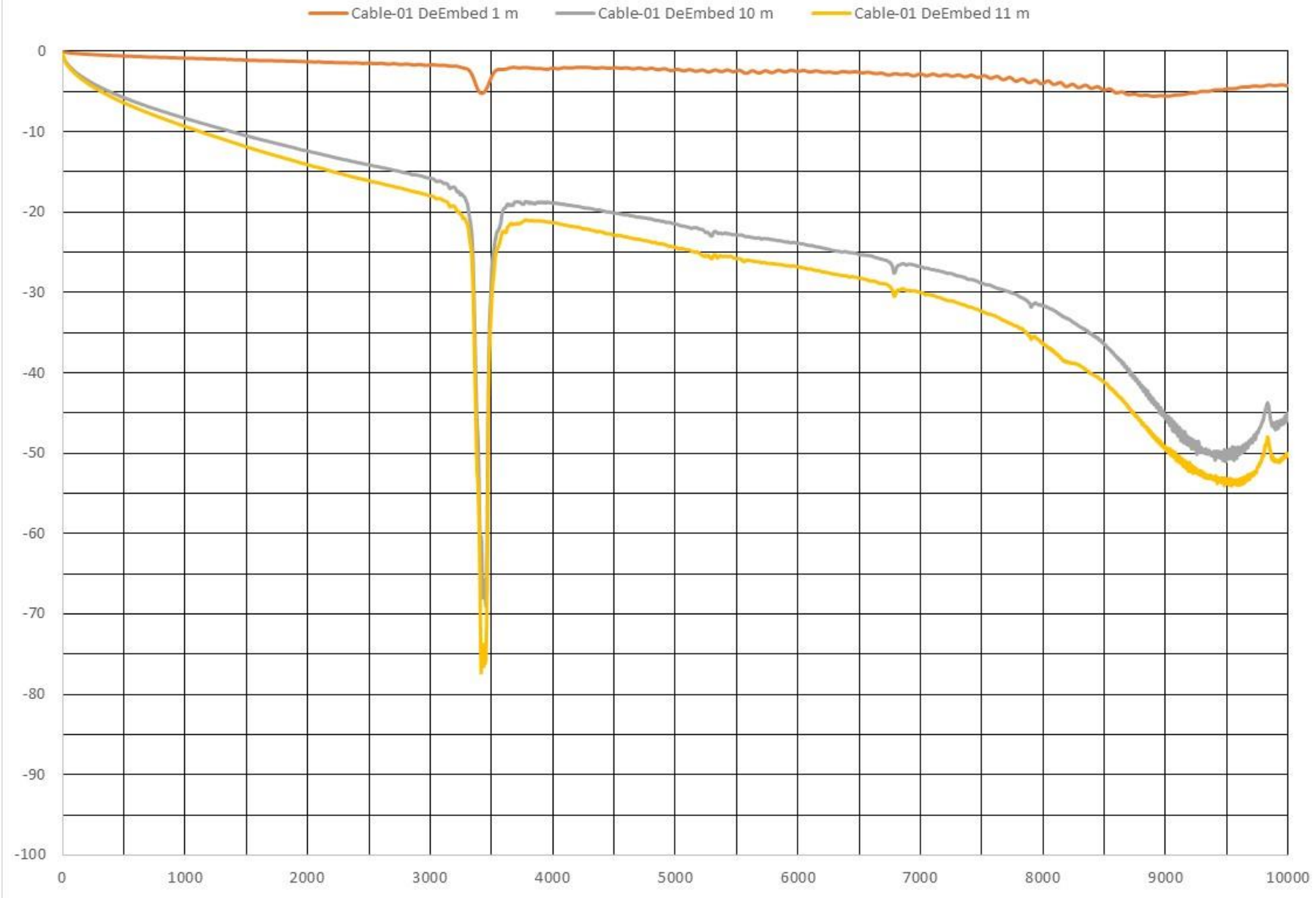
- 2-different cables test, both types were of different construction.
- Both cables were;
 - Shielded Twisted Pair (STP).
 - Each cable core: 7-strands of tinned copper.
 - Shielding; >85% braid and aluminum foil.
 - 0.13 mm² (26 Ga.)
 - Characteristic impedance: $100 \pm 5 \Omega$.
 - Temperature rating: 105°
- Sample Length:
 - Cable 1; (1, 10, and 11) meters.
 - Cable 2; 10 meters.

Equipment Setup

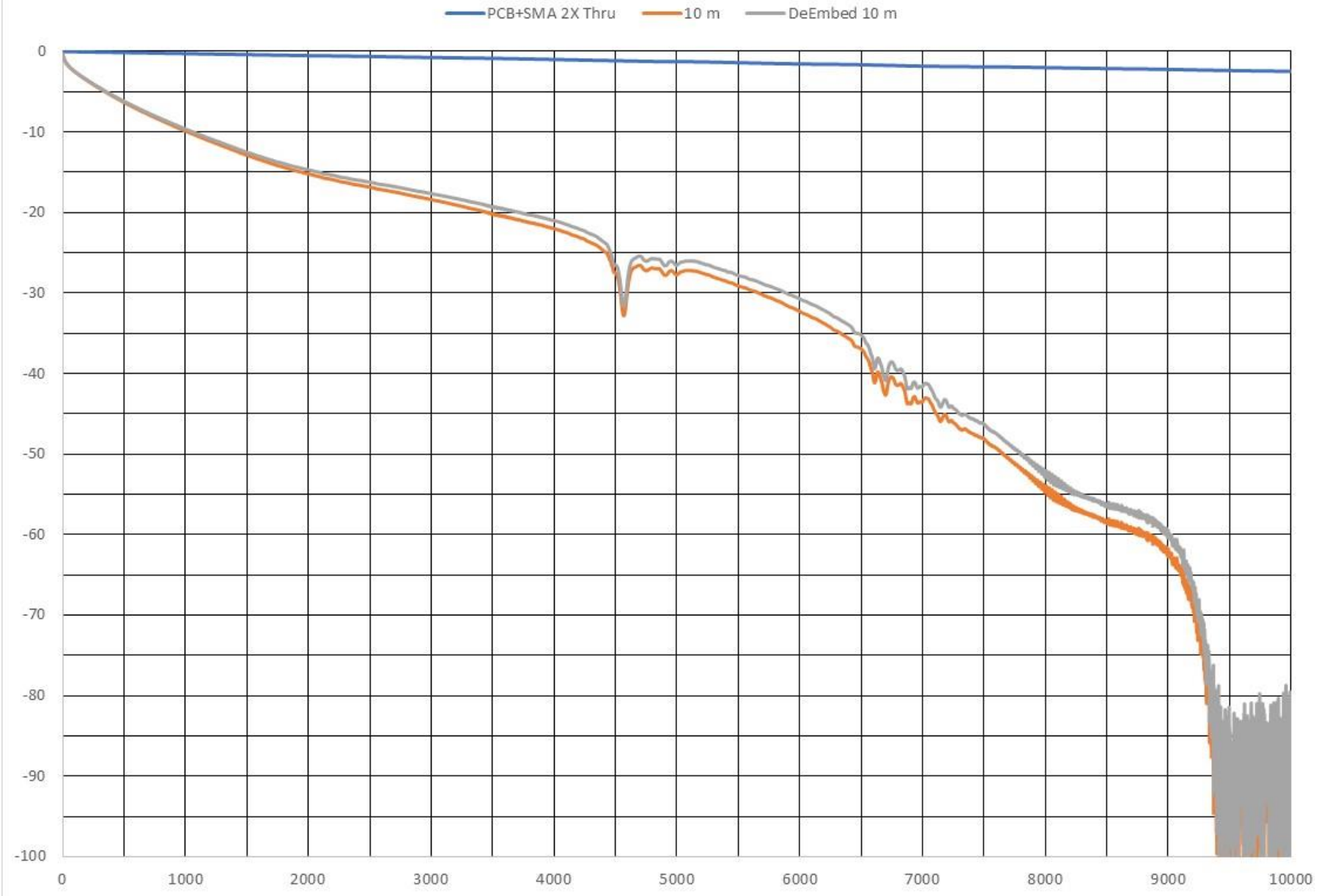
- Keysight ENA 5071C.
- Frequency; 1 MHz – 10 GHz; 10,000 points; 1 MHz linear spacing.
- 1 kHz IFBW
- Output power: -5 dBm
- Port assignment:
 - Diff 1 - Port 1/3
 - Diff 2 - Port 2/4
- Cable test fixture; SMA and 30 mm of topside PCB (2X Through 4-SMA 60 mmm of topside PCB)
- Keysight PLTS 2020 with Automatic Fixture Removal (AFR) Option.
- Touchstone files of cables with de-embed of 2X through posted at 802.3cy site.



Cable 1 De-embed 2X through



Cable 2 With and Without De-embed of 2X through



Cable 1 and 2 With De-embed of 2X through

