# Octonet Contact: The Superior Ethernet Contact System for MIL-DTL-38999, Series III

Amphenol® Aerospace

Pin for 24 awg

Socket for 24 awg

Pin PCB Tail

Socket PCB Tail

## OVERVIEW

Eight strategically spaced inner contacts form four 100 Ohm matched impedance differential pairs.

## FEATURES

- Available in size 8 crimp termination style
- Also available in PC Tails
- Can be installed in existing size 8 Quadrax cavities
- Meets performance specifications of CAT-6A cable
- 10G Ethernet compliant
- Overall higher bandwidth than standard CAT5E Quadrax-supports up to 4.0 Gbps per pair
- Enhanced crosstalk performance (compared to standard Quadrax)
- Supports wire ranges 26 to 24 gauge
- Requires modification of MIL-DTL-38999 connector to accommodate keyed contacts

## BENEFITS

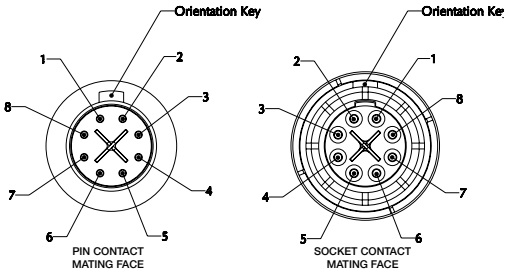
- Easy drop-in replacement to installed connectors no need to redesign
- Self removing contact feature - no extra contact extraction tool needed (24 Gauge only)

| Contact Style | Part Number | *Cable | AWG |
|---|---|---|---|
| Crimp Pin | 21-032904-001 | Thermax: MX10G-24HP | 24 |
| Crimp Socket | 21-032905-001 | Thermax: MX10G-24HP | |
| Crimp Pin | 21-032904-011 | W.L.Gore: RCN8966-24 | |
| Crimp Socket | 21-032905-011 | W.L.Gore: RCN8966-24 | |
| Crimp Pin | 21-032904-021 | PIC E6A3824 | |
| Crimp Socket | 21-032905-021 | PIC E6A3824 | |
| PCB Pin | 21-032906-001 | | |
| PCB Socket | 21-032907-001 | | |

*Not limited to cables shown

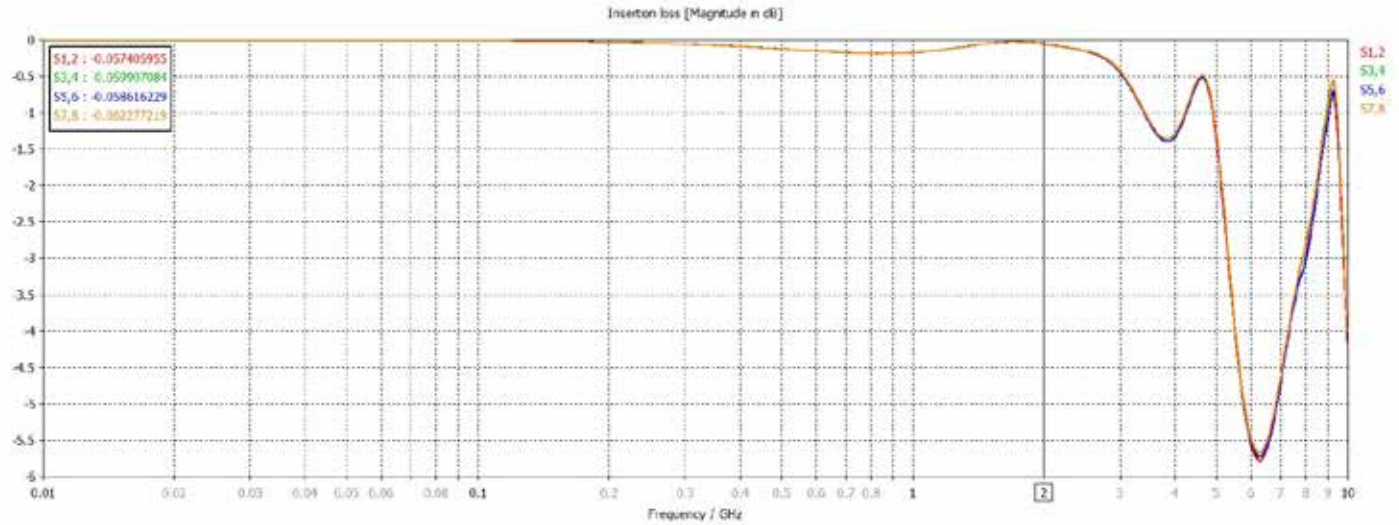
## SPECS

| | |
|---|---|
| Environmental Sealing: | IAW connector specification |
| Corrosion Resistance: | 500 hours salt spray |
| EMI Shielding: | 360 degree shielding on each pair |
| Mating Cycles: | 500 cycles |
| Voltage Rating: | 500 Vrms max @ sea level |
| Dielectric Withstanding Voltage: | 500 VAC RMS sea level |

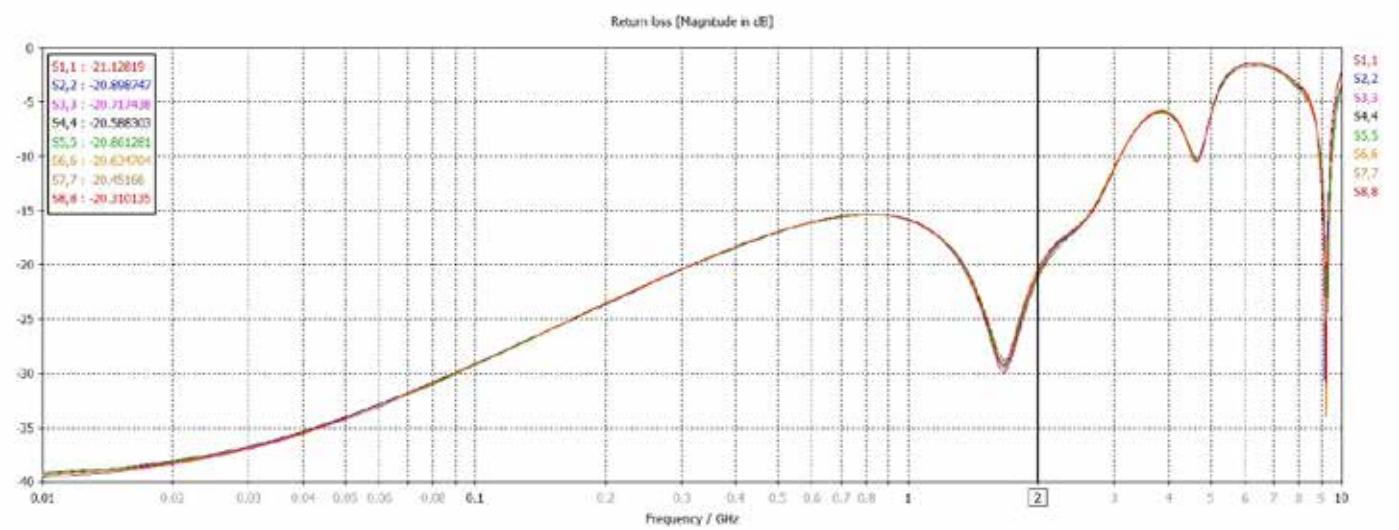



| DIFFERENTIAL PAIRING | |
|---|---|
| PAIR # | CONTACT IDS'S |
| 1 | 1-2 |
| 2 | 3-4 |
| 3 | 5-6 |
| 4 | 7-8 |

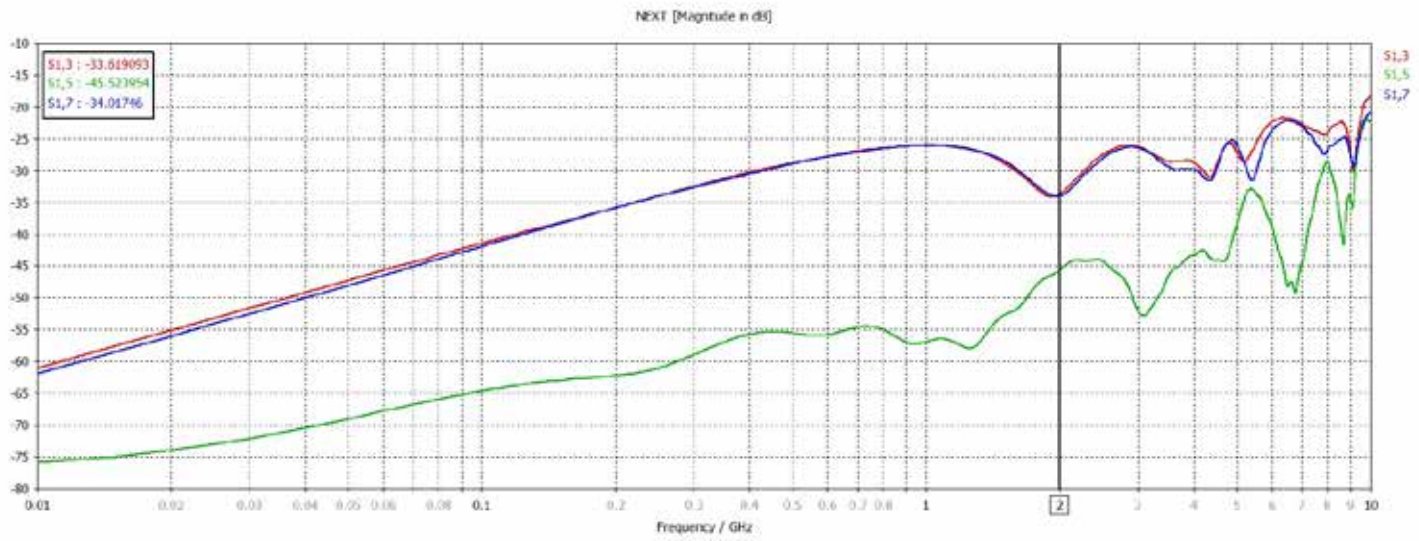
## Contact Differential Insertion Loss



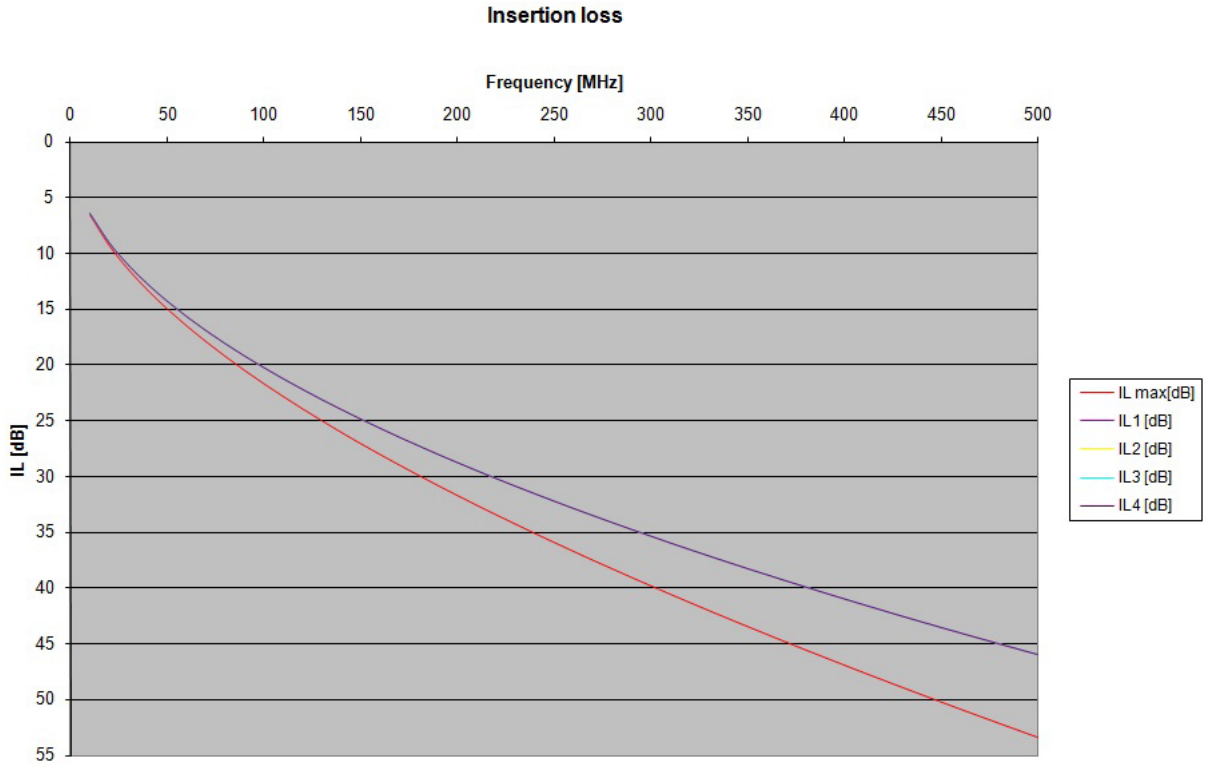

## Contact Differential Return Loss



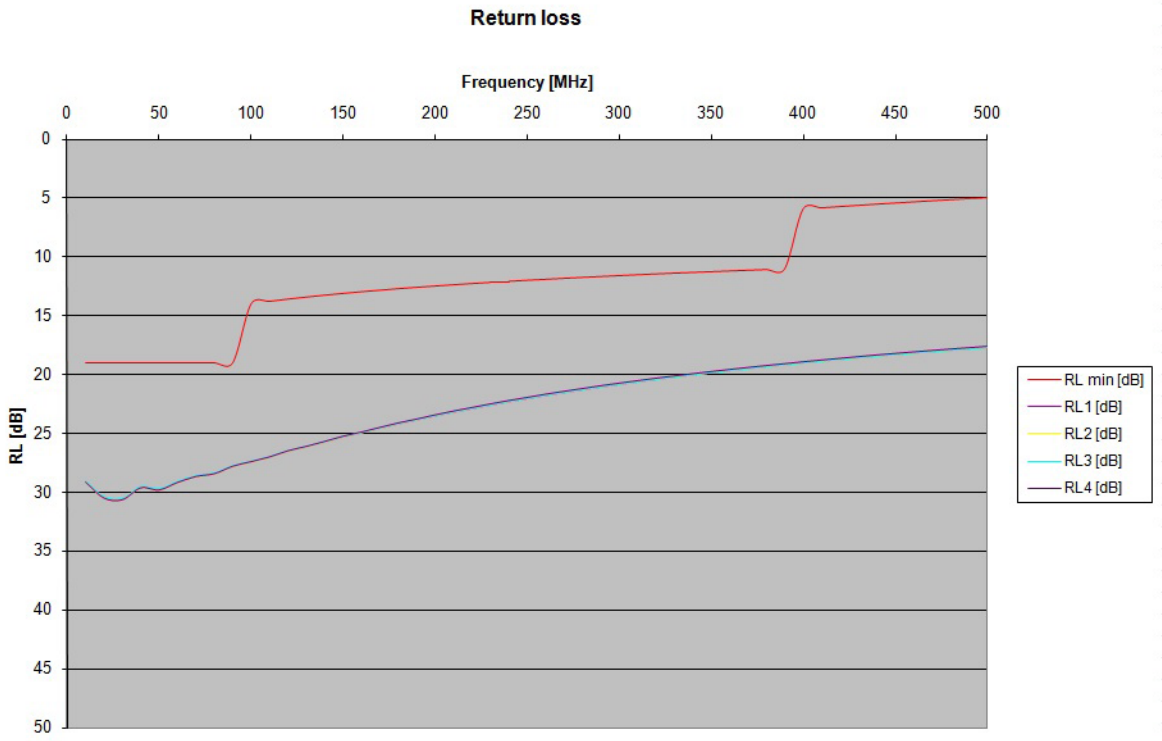
Contact Differential Rear-end Crosstalk



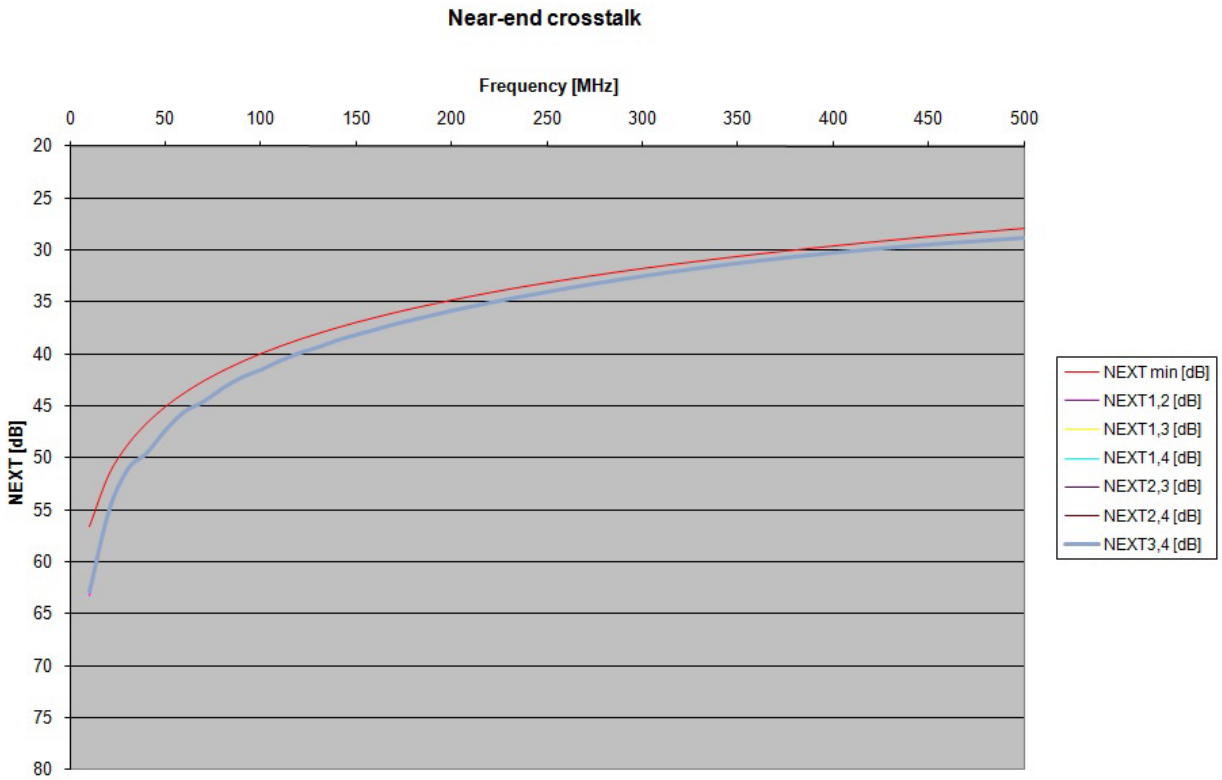

## 10GBASE-T data (two mated contacts on each end of 100 meter CAT6a cable)



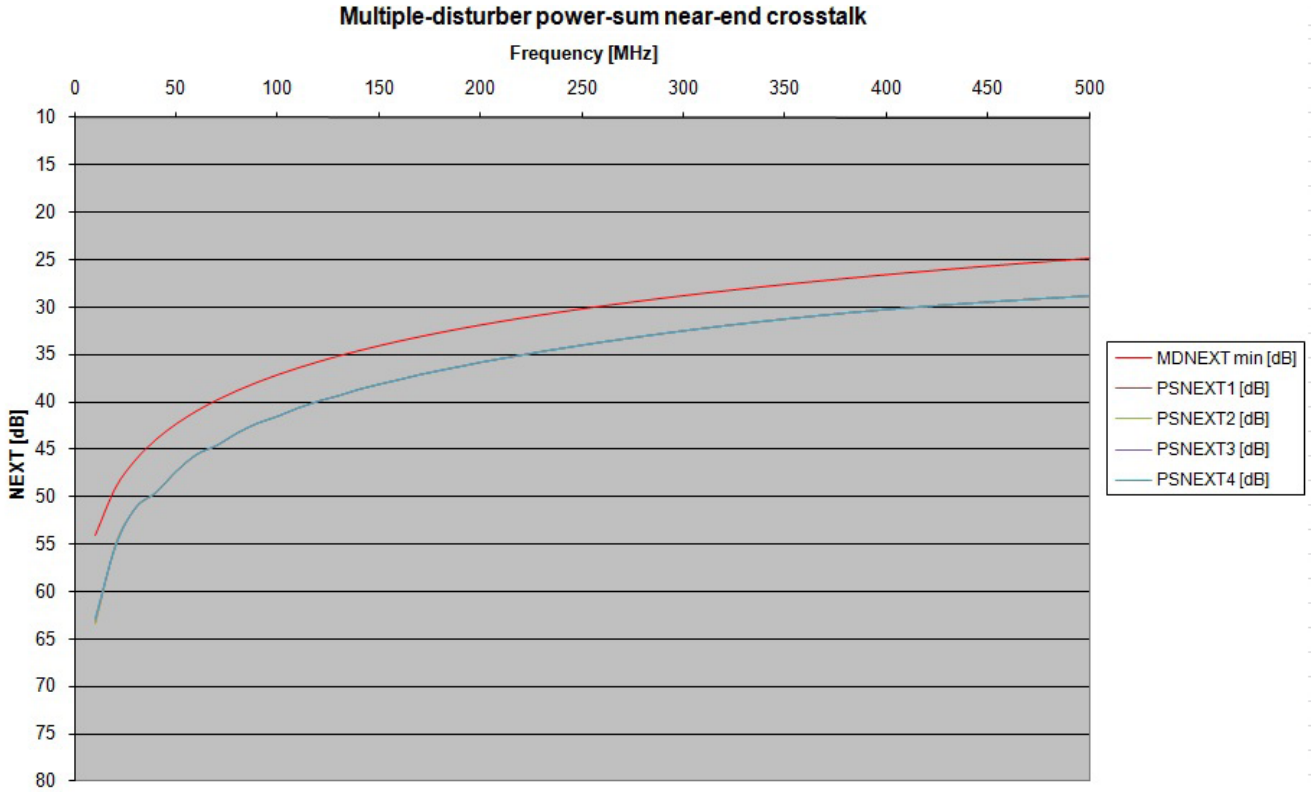

Cable assembly near-end crosstalk



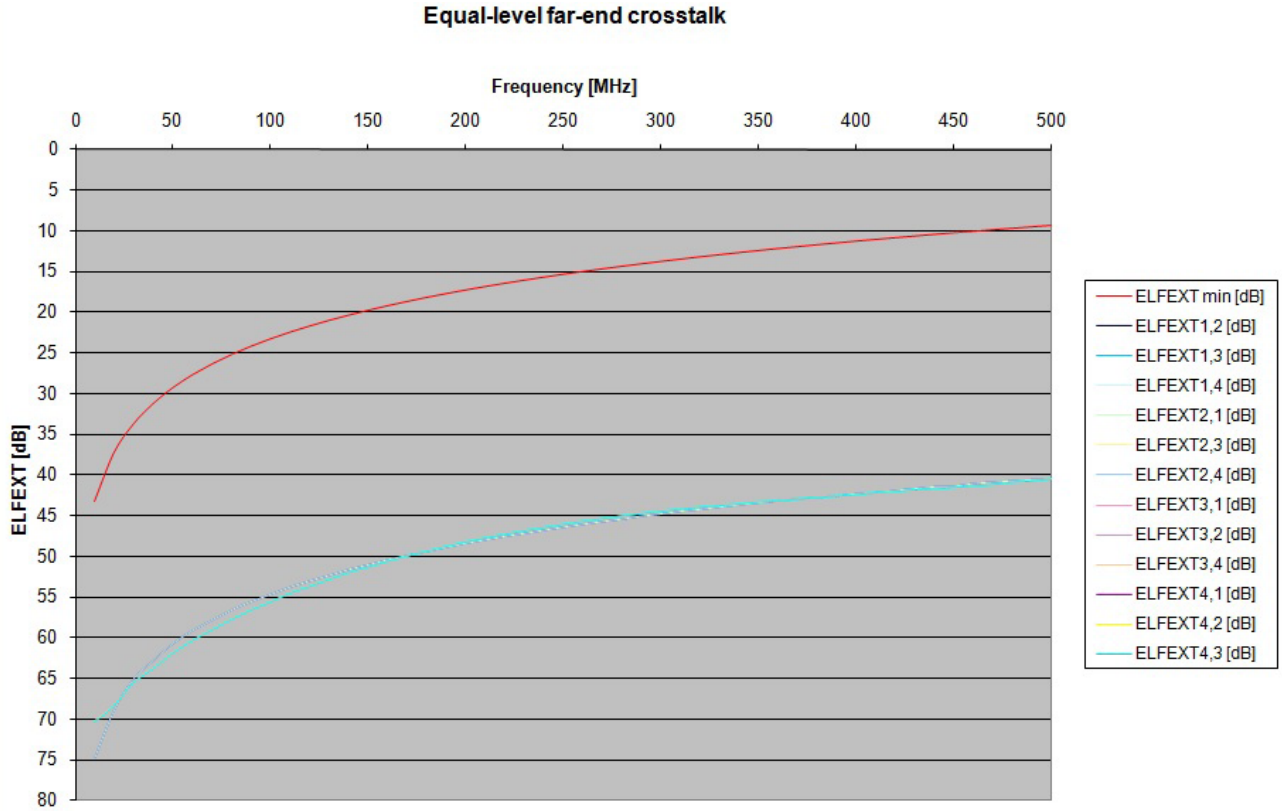

Cable assembly return loss



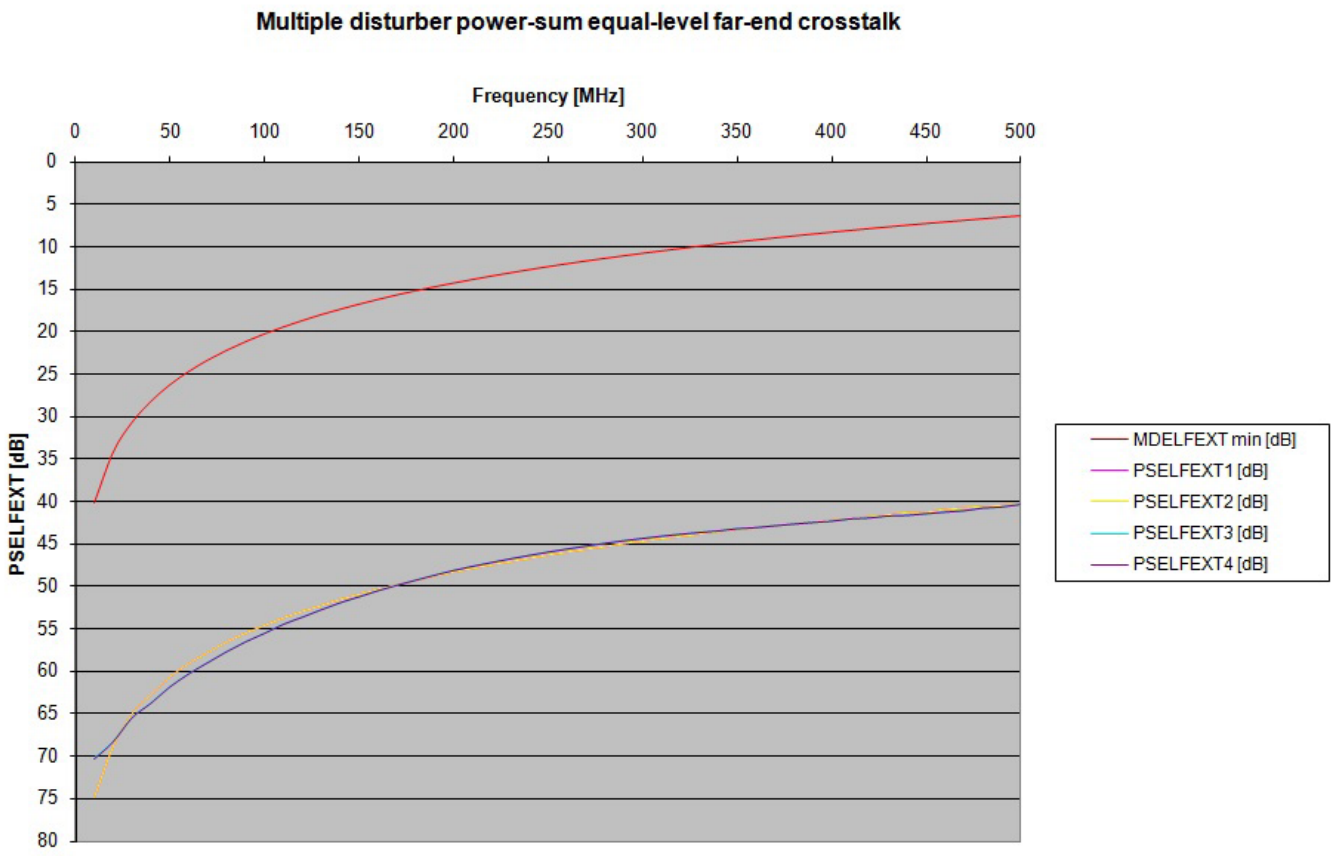

Cable assembly near-end crosstalk




Cable assembly multiple disturber power-sum near-end crosstalk




Cable assembly equal-level far-end crosstalk




Cable assembly multiple disturber power-sum equal-level far-end crosstalk

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