

ENGINEERING PRACTICES STUDY

PROJECT NUMBER: 60GP-2008-015

TITLE:

Insertion Loss Testing of Expanded Beam Optical Connectors

3 July 2008

FINAL REPORT

- I. **OBJECTIVE:** The objective of this study was to determine what unique insertion loss testing requirements if any apply to expanded beam connectors. Information obtained through this EPS will be incorporated into MIL-DTL-83526/20 and /21.
- II. **BACKGROUND:** Contacted manufacturers and a Navy SME requesting input on insertion loss testing of expanded beam connectors, with a possible alteration and/or modification to the insertion loss test requirements presently contained in MIL-DTL-83526.
- III. **RESULTS:** The information obtained indicated that TIA-455-34 with the appropriate test method specified is adequate.
- IV. **CONCLUSIONS:** Based on the results, no deviation from the insertion loss requirements of MIL-DTL-83526 will be required except for the test limits. That is, test multimode to TIA-EIA-455-34 method A and single mode to TIA/EIA-455-34 method B.
- V. **RECOMMENDATIONS:** For insertion loss testing in MIL-DTL-83526/20 and /21, specify, "Insertion loss: When tested in accordance with MIL-DTL-83526, the maximum per channel insertion loss for any single specimen before and after testing shall be 2.0 dB for multimode applications and 2.5 for single mode applications."

Prepared by:

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