2.5 mm Connector Adapters

1. INTRODUCTION

1.1. Purpose

The purpose of this test was to determine the conformance of 2.5 mm connector adapters, listed in paragraph 1.4., to the requirements stated within this document.

1.2. Scope

This report covers the mechanical performance of the listed adapters, manufactured by the Fiber Optics Business Unit of Tyco Electronics. Testing was performed between 15Sep03 and 09Oct03.

1.3. Conclusion

All test specimens listed in paragraph 1.4., with the exception of one, passed the test criteria of 0.10 dB maximum range of optical transmittance at 1310 nm. The outlier contained a flawed component, as shown in Appendix A, and was removed from the graphs and statistical calculations.

1.4. Test Specimens

The following specimens were manufactured by Tyco Electronics, Fiber Optics Business Unit, using normal manufacturing means:

Part Number	Quantity	Description
1278348-3	300	Metal SC/SC Simplex Receptacle with a Ceramic Alignment Sleeve
501506-1	200	Metal FC/FC Simplex Receptacle with a Ceramic Alignment Sleeve

2. SUMMARY OF TESTING

All specimens met the 0.10 dB maximum range of optical transmittance requirement over four alignment sleeve positions. Optical measurements were recorded at 1310 nm. Refer to Appendix B for data charts.

Specimen Description	Maximum Range for any Individual Specimen	
	Requirement	Actual
SC Adapter	0.10 dB	0.08 dB
FC Adapter		0.06 dB

Figure 1

* Trademark
| Indicates change

3. METHOD

The following procedure was used to determine the range for each specimen.

3.1. The adapter under test was unpackaged, the dust caps removed, and the ceramic sleeve blown out with compressed air.

3.2. The test consisted of a 4-point rotation of the ceramic sleeve inside of the adapter. The slot in the ceramic sleeve was aligned with the slot of the adapter, which corresponds to the key feature of the connector.

3.3. The launch lead and receive lead were cleaned, inspected and mated with the adapter under test. The initial optical power reading in dBm, recorded at 1310 nm, was taken with the key/ceramic sleeve slot up, or both at the 12 o'clock position.

3.4. The leads were then uncoupled and the sleeve rotated 90 degrees to the 3 o'clock position (with respect to the side which was coupled to the launch lead). Leads were cleaned, inspected, and re-mated with the adapter under test.

3.5. Paragraphs 3.2. through 3.4. were repeated for both the 6 o'clock and 9 o'clock positions.

3.6. The range of optical transmittance was calculated, using all 4 positions, and compared to the criteria of 0.10 dB maximum.

4. TEST EQUIPMENT

All optical measurements were recorded using the following:

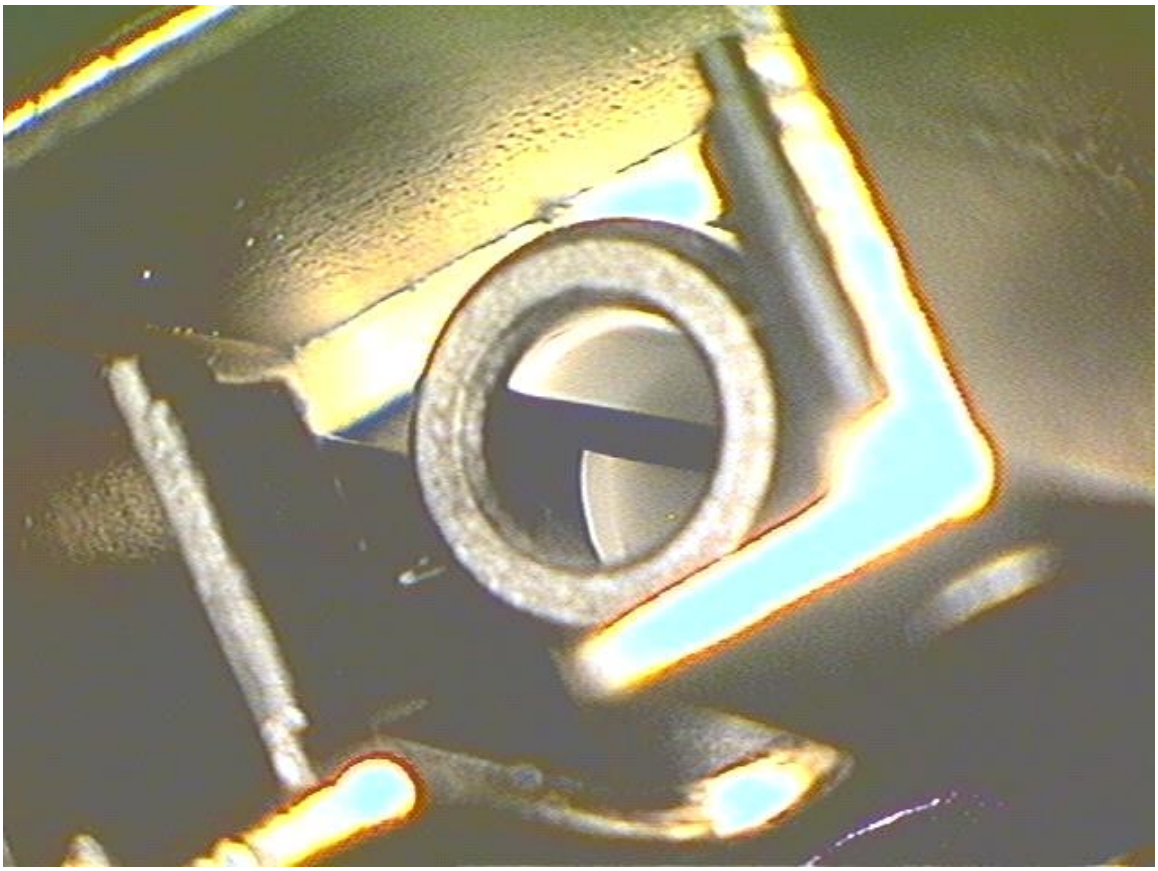
4.1. Test Equipment

- 3M Photodyne 17XTF Fiber Optic Power Meter Calibrated February 28,2003, Number E8025-0633
- RIFOCS 671R Super Controller, Serial Number 110370
- Adapter under test (specimens listed in paragraph 1.4.)
- Two (2) SM Reference Quality Leads (one for launch and one for receive)
- Adapter Fixturing
- Westover Bench top Inspection Microscope

4.2. Cleaning Materials

- Kim Wipes Lint Free Cloths
- Propanol-2
- Swabs (to rotate sleeve)

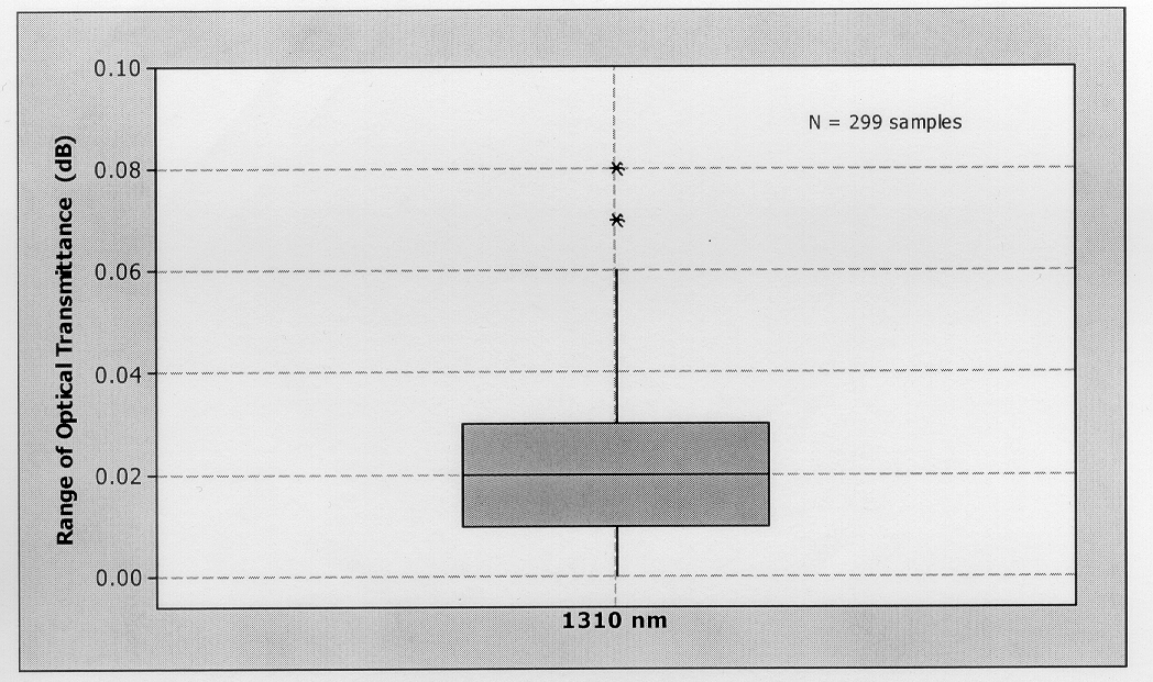
APPENDIX A



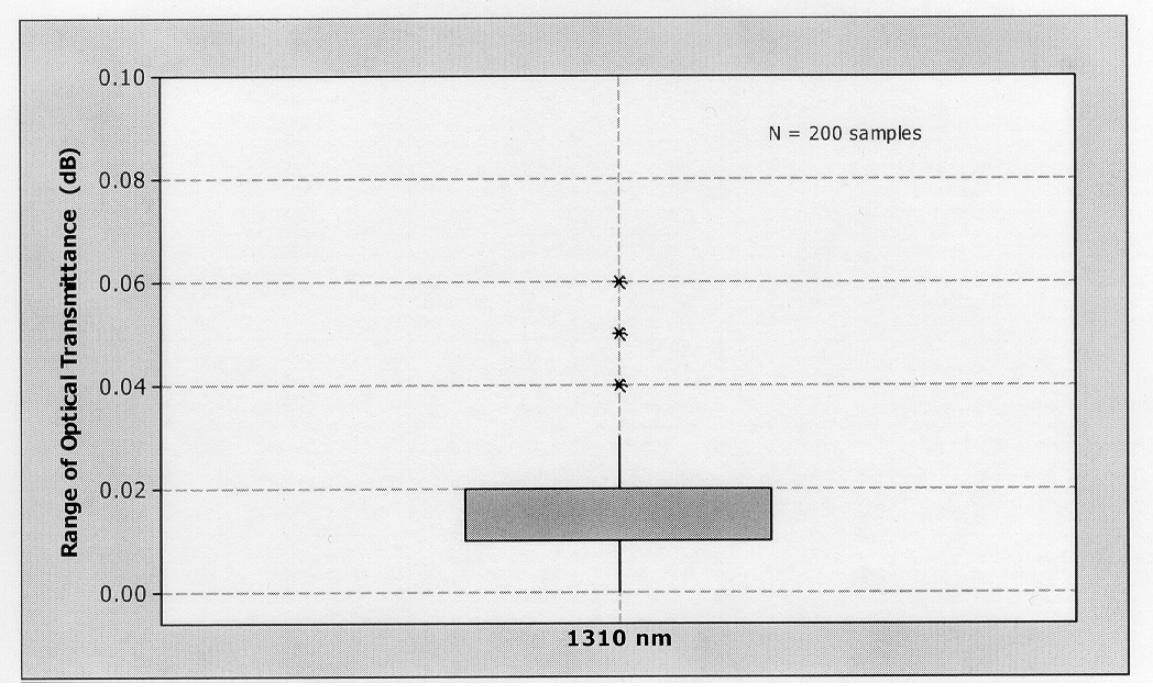
NOTE *Failure mode for the unacceptable specimen was a broken alignment sleeve, as illustrated in the photo. Data from above adapter was excluded from the graphs and statistical calculations.*

APPENDIX B

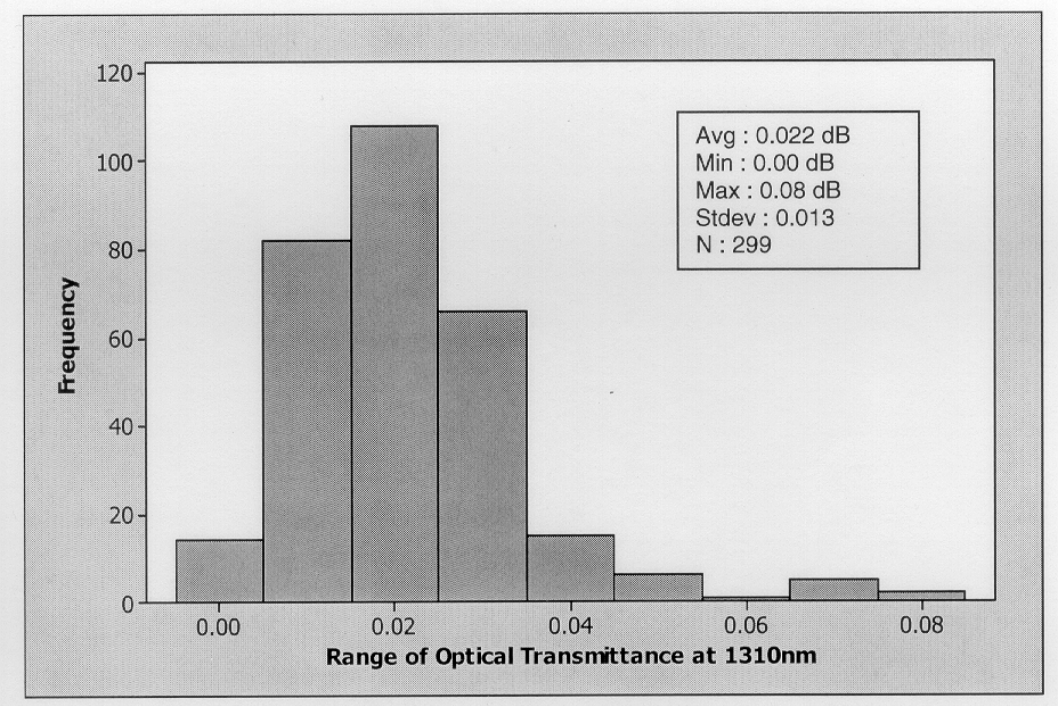
1278348-3 SC/SC Simplex Receptacle



501506-1 FC/FC Simplex Receptacle



1278348-3 SC/SC Simplex Receptacle



501506-1 FC/FC Simplex Receptacle