NEX1 Technologies Co., Ltd

Certification No.

NEX1 Technologies Co., Ltd.

50/125 ST/PC –MTRJ 1.8 mm

Duplex 1M Certification

August 10, 2005

Approved by	Reviewed by	Made by

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1 SUMMARY

This certification assures the 50/125 ST/PC-MTRJ 1.8mm duplex 1M and the related components conform to the following standards.

2 APPLICATION

This product is mainly applied to the connection between Optical Communication Equipment.

3 QUALITY STANDARD

The quality conforms to the criteria of GR 326 and JIS C5961.

4 DESCRIPTION / QUANTITY

Description (Please see Table 1)

Table 1

Numbers	Description	Length (m)	QTY	Remark
-001	50/125 ST/PC-MTRJ 1.8mm duplex Patch cord	1	1PCS	

5 SPECIFICATION

5.1 Appearance, Structure, and Dimension

5.1.1 Visual observation to ensure no scratches and contaminations existed.

End-Face Inspection Standards:

Within $\phi 25\,\mu$m (including Core): No any defects.

Within $\phi 125\,\mu$m:

- Less than 2 spots and $\phi 4\,\mu$m in diameter.
- Less than 2 lines and $1.5\,\mu$m width.
- No Contaminations.

Ferrule Inspection:

- Spots less than $\phi 20\,\mu$m in diameter.
- Lines less than $8\,\mu$m width.
- No Contaminations.

5.1.2 Materials, structure, and dimension must base on the following graphics (Please see Page 5)

5.2 Performance

Please see Page 6 for the Optical, Mechanical and Environmental Characteristics. As well, Page 7 demonstrates the Measurement of Optical Characteristics.

5.3 QC Flow Chart

Please see Page 8 for QC Flow Chart.

6 PRODCUTION PROCESS FLOW CHART

Please see Page 9 for Patch-cord production procedures.

7 QUALITY ASSUREANCE

7.1 Inspection

Examining the following items:

7.1.1 Insertion Loss

7.1.2 Return Loss

7.2 Test Report

All finished products must come with the Test Report bases on inspecting items of 7.1 (Please see Page 10 for example) to Purchasing Department.

7.3 Base on the Standards of this Certification to provide products that meet your standards of acceptability.

7.4 If factory inspection is required for ensuring the product quality, please contact handling personnel or company for more details and decision.

8 ENGINEERING DRAWING

8.1 To ensure the constant quality of the products, engineering drawings of product structure, dimension, marking, and other specific items will be provided to you for approval.

8.2 If conflicts occur between inspecting items and Engineering Drawing, base on Engineering Drawing for priority.

8.3 Before changing the product specification, please provide a written standard and modified Engineering Drawing (6 months in advance if possible).

9 PACKAGING

To avoid the damages during the delivery, all our products will package in an appropriate manner. In addition, the standard carton will be used and marked the following items on a suitable location.

9.1 Individual Product Description
9.2 Title or Code of Manufacturer.
9.3 Date or Code of Production.
9.4 Product Quantity.

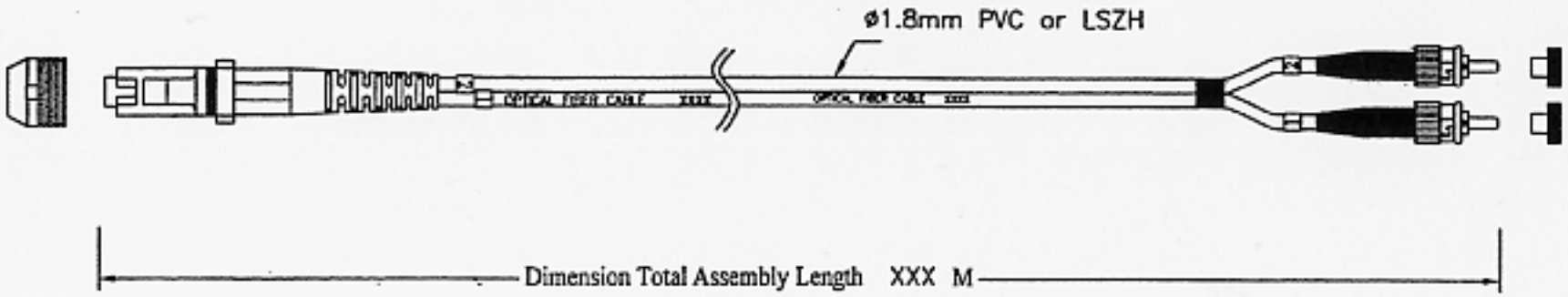
10 OTHER IMPORTANT MATTERS

10.1 Each standard patch cord will be 1M(+10/-0cm) in length. If other lengths are required, please notify and renegotiate when ordering.

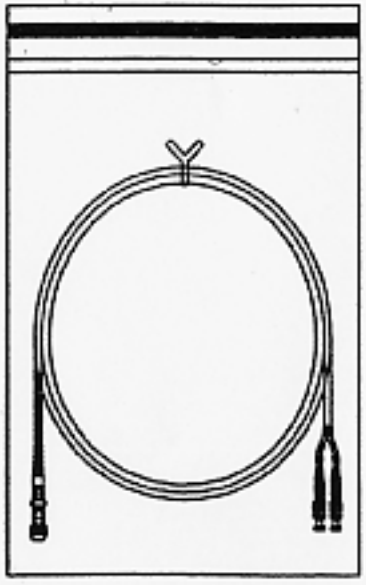
10.2 If conflicts arise regarding to this certification, we will contact your Technical Department immediately.

10.3 When any problems occur, review between both sides before disposition.

10.4 This Certification takes effect on August 4, 2005.



Performance & Specifications					
Fiber Type		Single-mode		Multi-mode (50/62.5)	
Connector Type		SC/ST/FC/LC/E2000	MT-RJ	SC/ST/FC/LC/E2000	MT-RJ
Insertion Loss		<0.3dB	<0.8dB	<0.3dB	<0.5dB
Return Loss (Typical)	PC	50dB	35dB		
	SPC				
	UPC	55dB			
	APC	65dB			
Mating Durability(500 cycles)		<0.2dB			
Temperature Stability		<0.3dB			
Operating Temperature °C		-40°C~+80°C			
Storage Temperature °C		-55°C~+85°C			



PACKAGE:

One Piece / 7# Zipper bag

NEX1 Technologies CO.,LTD.

Title.	MTRJ-ST 1.8mm Duplex					Rev.	
MATERIAL.		COATING.				Sheet.	
Q' TY.		UNIT.	mm	SCALE.		Date.	2005.08.04

PATCH CORD ENVIRONMENTAL TEST RESULT

1. INITIAL OPTICAL CHARACTERISTICS:

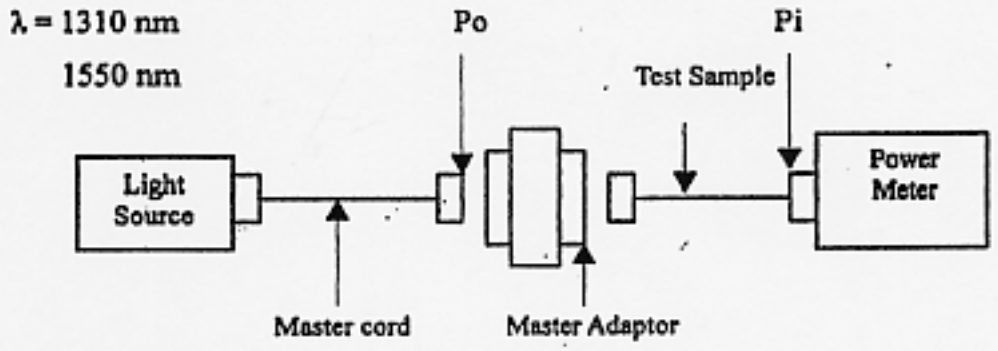
ITEMS	CONDITIONS	REQUIREMENTS
Insertion Loss	λ = 1310 nm;1550nm (for Single-mode)	≦0.3 dB
Return Loss	λ = 1310 nm;1550nm (Single-mode) λ = 1310 nm;850nm (Multi-mode)	≧50dB

2. MECHANCIAL CHARACTERISTICS:

ITEMS	CONDITIONS	TEST RESULTS	
		Insertion Loss Variation	Return Loss
Continuous Jolt Test	10mm above ground, naturally jolt 4,000times.	≦0.2 dB	≧50dB
Dropping Test	Drop from 1.5m above ground 3 times on an iron plate.	≦0.2 dB	≧50dB
Durability Test	Reconnect a total of 500 insertions.	≦0.2 dB	≧50dB
Vibration Test	Amplitude: 1.5mm p-p Frequency: 10-55Hz，3 principal axis for 2 hours each. Peak-Peak Amplitude: 1.55mm.	≦0.2 dB	≧50dB
Salt Spray Test	Salt content 5 %，96 hours in duration.	≦0.2 dB	≧50dB
Temperature Cycling Test	-20 ~ 80 °C, 30 min/cycle for 10 Cycles.	≦0.2 dB	≧50dB
Humidity Cycling Test	-10 ~ 25 ~ 85 °C，93 ± 3 % in humidity for 10 Cycles.	≦0.2 dB	≧50dB

METHOD OF MEASUREMENT

1. INSERTION LOSS (for Single-mode type)



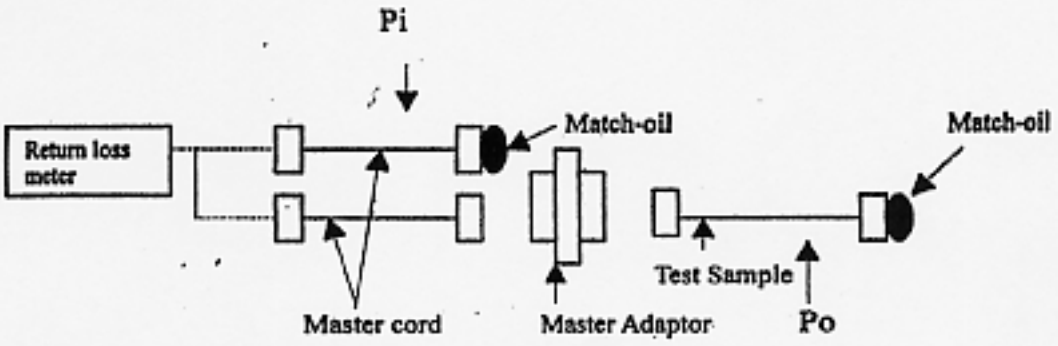
Insertion Loss = -10 Log (Pi / Po) dB

Figure 1

2. RETURN LOSS

λ = 1310 nm ; 1550 nm (for Single-mode)

λ = 1310 nm ; 850 nm (for Multi-mode)



Return Loss = -10 Log (Po / Pi) dB

Figure 2

Patch cord QC Engineering Procedure

PROCEDURE	INSPECTION CONTENT	INSPECTION POINT	OPERATION STANDARD	UNIT	REMARK
Material Receiving Inspection	Optical Cable Ceramic Sleeve Connector	Every New Coming	Storehouse Management System	Storekeeper	Test Report
Material Control	Assigned Location	Every New Coming	Storehouse Management System	Storekeeper	
Cable Cutting	Ensuring the amount of glue	Total Inspection	Cable Cutting Operation Standard	Operation Team	
Curing	Time, Temperature	Total Inspection	Curing Operation Standard	Operation Team	
After Treatment	Assuring the Adhesion	Total Inspection	After Treatment Operation Standard	Operation Team	
Polishing	Time, Pressure, Rotational Speed	Total Inspection	Polishing Operation Standard	Operation Team	Polishing Record
End-Face Appearance Inspection	End-Face	Total Inspection	End-Face Appearance Inspection Standard	Measurement Team	Inspection Record
Optical Characteristic Inspection	IL、BR	Total Inspection	Optical Characteristic Inspection Standard	Measurement Team	Inspection Record
End-Face Shape Inspection	Radius of Curvature, Apex Offset, Fiber Height	Sample Check	End-Face Shape Inspection Standard	Measurement Team	3D Image Report
Assembly	Appearance	Total Inspection	Assembly Operation Standard	Operation Team	
Final Inspection	End-Face、IL、BR	Total Inspection	Inspection Operation Standard	Measurement Team	Inspection Record
Packaging	Appearance, Quantity	Total Inspection	Packaging Operation Standard	Storekeeper	
Test Report Printing	Lot #, Measurement Statistic	Total Inspection	Information Management System	QA	Test Report
Pre-Delivery Inspection	Appearance, Quantity, Statistic Check	Sample Check	Pre-Delivery Operation Standard	QA	

Patch cord Production Procedure

PROCEDURE		INSPECTION CONTENT	RELATED STANDARD	PERSONNEL	RECORD FORM
Material Requesting		Description, Quantity	Storehouse Management System	Storekeeper	Material Requisite Form
Cable Cutting		Stripping the Jacket, Inserting Ceramic Sleeve, Installing Parts, 353ND Bonding	Cable Cutting Operation Standard	Operator	
Curing		Temperature, Time, Arrange in Order	Curing Operation Standard	Operator	
After Treatment		Ensuring the amount of Glue, Cutting Fiber, Epoxy Removal	After Treatment Operation Standard	Operator	
Polishing	Rough Polishing	Abrasive, Time, Pressure, Hardness, Speed	Polishing Operation Standard	Operator	Polishing Record
	Middle Polishing	Abrasive, Time, Pressure, Hardness, Speed			
	Buffing Polishing	Abrasive, Time, Pressure, Hardness, Speed			
In-Process Inspection	End-Face Appearance	Scratches, Pin Hole, Contaminations	End-Face Appearance Inspection Standard	Operator	Inspection Record
	Optical Characteristic	Insertion Loss, Return Loss	Optical Characteristic Inspection Standard		
	End-Face Shape	Radius of Curvature, Apex Offset, Fiber Height	End-Face Shape Inspection Standard		3D Image Report
Assembly		Quantity, Appearance	Assembly Operation Standard	Operator	
Final Inspection	Optical Characteristic	Insertion Loss, Return Loss	Optical Characteristic Inspection Standard	QA	Test Report
	End-Face Appearance	Scratches, Pin Hole, Contaminations	End-Face Appearance Inspection Standard		

NEX1 Technologies Co., Ltd

Optical fiber Patch cords/ Pig-tails Test Report

			Model Type:						
Date:			Order No:			Length:		Cable Cordage:	
NO.	S/N	端別	I.L.(dB)	R.L(dB)	NO.	S/N	端別	I.L.(dB)	R.L.(dB)
1		A1			11		A1		
		B1					B1		
		A2					A2		
		B2					B2		
2		A1			12		A1		
		B1					B1		
		A2					A2		
		B2					B2		
3		A1			13		A1		
		B1					B1		
		A2					A2		
		B2					B2		
4		A1			14		A1		
		B1					B1		
		A2					A2		
		B2					B2		
5		A1			15		A1		
		B1					B1		
		A2					A2		
		B2					B2		
6		A1			16		A1		
		B1					B1		
		A2					A2		
		B2					B2		
7		A1			17		A1		
		B1					B1		
		A2					A2		
		B2					B2		
8		A1			18		A1		
		B1					B1		
		A2					A2		
		B2					B2		
9		A1			19		A1		
		B1					B1		
		A2					A2		
		B2					B2		
10		A1			20		A1		
		B1					B1		
		A2					A2		
		B2					B2		

L.= Insertion Loss
uality control: Andy Lee

R.L.= Return Loss
S/N= Serial Number

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