



NATIONAL TECHNICAL SYSTEMS

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DATA REPORT PREPARED

for

Zebra Technologies Corporation



Issued: December 22, 2004

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CLIENT INFORMATION	
Company Name:	Zebra Technologies Corporation
Company Contact:	Richard Bergeron
Address:	30 Plan Way
City, State, Zip:	Warwick, RI 02886-1012
Purchase Order Number:	4500033170
Purchase Order Date:	October 8, 2004

NTS CONTRACT INFORMATION	
NTS Master Job Order (MJO) Number:	39799-04A
NTS Quotation Number:	B-0904A-5126
Quotation Revision:	0
Quotation Date:	September 29, 2004

REFERENCES

- ISO/IEC 17025, General Requirements for the Competence of Testing and Calibration Laboratories, 1999
- CEI IEC 529, Second Edition 1987-11, Degree of Protection Provided by Enclosures (IP Code)

Prepared by: 

Approved by: 

Reviewed by: 



Test Name:	Protection Against Solid Objects
Specification:	IEC 529
Spec. Date:	2001-02
Para. / Method:	13.2

Unit(s) Under Test:	RW420 Portable Printer
Quantity:	1
M/N(s):	RW420
S/N(s):	XXRC04-37-0008

TEST SETUP AND RESULTS

Test Started:	10/19/2004	Test Completed:	10/19/2004
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Unit Under Test Information	Y	N	N/A	Comments			
Tested in shipping container:		X					
Operating during test:		X					
Operated by Client:		X					
Powered during testing:		X		V	A	AC/DC	
Passes post-test functionals:	X						
Physical damage noted:		X					
Does unit(s) pass requirements:	X			No egress of probe .			

Date	Time	Log Entry	Initial
10/19/04	915	Test set- up completed.	JG
		Conditions: A probe of 2.5 mm diameter. is pushed against any openings of the enclosure with the force of 3 nektons.	
		Acceptance Criteria: The protection is satisfactory, if the full diameter of the probe doesn't pass through any openings.	
	920	Test begins. The force meter outfitted with a 2.5mm probe subjects the test unit in various points. Please see photo page.	JG
	925	Test completed.	JG
	930	Unit has passed this test. (IP3)	JG



Test Unit



Test Unit



Test Unit



Test Name:	Dust
Specification:	IEC 529
Spec. Date	2001-02
Para. / Method:	13.4 Cat.2

Unit(s) Under Test:	RW420 Portable Printer
Quantity:	1
M/N(s):	RW420
S/N(s):	XXRC04-37-0001

TEST SETUP AND RESULTS

Test Started:	10/19/2004	Test Completed:	10/19/2004
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Unit Under Test Information	Y	N	N/A	Comments
Tested in shipping container:		X		
Operating during test:		X		
Operated by Client:		X		
Powered during testing:		X	V	A AC/DC
Passes post-test functionals:	X			
Physical damage noted:		X		
Does unit(s) pass requirements:	X			Post test Unit is operable.

Date	Time	Log Entry	Initial
10/19/04	900	Test set- up completed.	JG
		Conditions of test: Duration - 8 hours	
		Talc shall remain in suspension for duration.	
		The test unit will experience no pressure difference relative to the surrounding air.	
		Acceptance Criteria: The protection is satisfactory if, on inspection talc has not accumulated in quantity, or location such that it could interfere with the correct operation of the equipment or impair safety.	
	930	Test unit is placed into dust chamber.	JG
	945	Test begins.	JG
	1745	Test completed.	JG
10/20/04	830	Test unit is removed from chamber for inspection. Unit is lightly brushed off to remove excess dust .	JG
	835	Customer does post test checkout on unit. Unit operates correctly.	
		Next, the battery pack is removed. Gasketed battery contacts are OK.	JG
		Label paper door is opened and roll removed. A small amount of dust is present. Please see photo page.	
	840	Test unit has passed the dust test (IP5).	JG



Test Unit



Test Unit in Chamber (Pretest)



Test Unit in Chamber (Posttest)



Posttest Unit is Operable



Inspection of Test Unit -Traces of Dust Found →



Test Name:	Oscillating Tube
Specification:	IEC 529
Spec. Date	2001-02
Para. / Method:	14.2.4

Unit(s) Under Test:	RW420 Thermal Printer
Quantity:	1
P/N(s):	RW420
S/N(s):	XXRC04-37-0007

TEST SETUP AND RESULTS

Test Started:	10/19/2004	Test Completed:	10/19/2004
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Unit Under Test Information	Y	N	N/A	Comments
Tested in shipping container:		X		
Operating during test:		X		
Operated by Client:		X		
Powered during testing:		X		V <input type="checkbox"/> A <input type="checkbox"/> AC/DC <input type="checkbox"/>
Passes post-test functionals:	X			Unit printed out labels post test.
Physical damage noted:		X		
Does unit(s) pass requirements:	X			modified unit

Date	Time	Log Entry	Initial
10/19/04	1030	Test setup completed	JG
		Conditions: The oscillating tube has holes over the hole 180° of the semicircle.	
		The flow rate is 2.6l/min	
		The tube will oscillate through an angle of almost 360°.	
		Time of 1 complete oscillation - approx. 12 sec.	
		Duration of test - 10 min.	
		Acceptance Criteria: If any water has entered, it shall not interfere with the correct operation of the equipment or impair safety.	
	1100	Test unit is placed on test stand.	JG
	1105	Test begins.	JG
	1115	Test completed Inspection will follow.	JG
	1120	Customer performs post test checkout. Unit is operating correctly and safely.	JG
	1125	This unit has passed. (IPX4)	JG



Test Unit



Test Unit on Stand



Test Setup



Posttest - Unit Printing Label



Test Name:	Oscillating Tube
Specification:	IEC 529
Spec. Date	2001-02
Para. / Method:	14.2.4

Unit(s) Under Test:	RW420 Thermal Printer
Quantity:	1
P/N(s):	RW420
S/N(s):	XXRC04-37-0008

TEST SETUP AND RESULTS

Test Started:	10/19/2004	Test Completed:	10/19/2004
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Unit Under Test Information	Y	N	N/A	Comments
Tested in shipping container:		X		
Operating during test:		X		
Operated by Client:		X		
Powered during testing:		X		V <input type="checkbox"/> A <input type="checkbox"/> AC/DC <input type="checkbox"/>
Passes post-test functionals:	X			Unit printed out labels posttest.
Physical damage noted:		X		
Does unit(s) pass requirements:	X			Unmodified test unit

Date	Time	Log Entry	Initial
10/19/04	1140	Test setup completed	JG
		Conditions: The oscillating tube has holes over the hole 180° of the semicircle.	
		The flow rate is 2.6l/min	
		The tube will oscillate through an angle of almost 360°.	
		Time of 1 complete oscillation - approx. 12 sec.	
		Duration of test - 10 min.	
		Acceptance Criteria: If any water has entered, it shall not interfere with the correct operation of the equipment or impair safety.	
	1145	Test unit is placed on test stand.	JG
	1150	Test begins.	JG
	1205	Test completed Inspection will follow.	JG
	1210	Customer performs posttest checkout. Unit is operating correctly and safely.	JG
	1220	This unit has passed. (IPX4)	JG



Test Unit



Test Unit on Stand



Test Setup



Posttest - Unit Printing Label



Receiver

DR : 39799-04A

Unit(s) Received by:	Jim Gregoriou	Date:	10/19/2004
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ITEM	QTY.	P/N	S/N	Description	OK
1	1	RW420	XXRC04-37-0001	Portable Printer	X
2	1	RW420	XXRC04-37-0007	Portable Printer	X
3	1	RW420	XXRC04-37-0008	Portable Printer	X
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