ENVIRONMENTAL & MECHANICAL LABORATORY

TEST REPORT

CELLOTRACK NANO

For

POINTER

16/03/2016

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DOCUMENT CONTROL

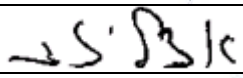
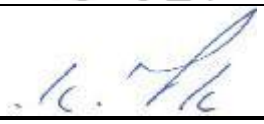
DOCUMENT HISTORY

The following table records information regarding released editions of this document and briefly describes their file location, purpose, and changes made to them.

Edition ID	Release Date	Responsible Author	File Reference, Purpose and Description of Changes
01	16/03/2016	Dina Klebansky	**File Reference:** W:\Reports\TR\Proj2016\Pointer CELLOTRACK NANO 2016-03-15 .doc **Purpose:** **Changes:**

DOCUMENT APPROVALS

This edition has been approved by:

	Name	Title	Signature	Date
Compiled	Dina Klebansky	Technical Writer		16/03/2016
Tested	Zion Asslizada	Test Engineer		16/03/2016
Approved	Eli Avital	Environmental, HALT and HASS Labs Manager		16/03/2016

OPEN ISSUES

This part of the document control section is used to record and track open issues and/or unresolved questions. As the development of this document proceeds, these issues and questions should be resolved and then removed from the list.

No.	Subject/Section	Description
1.		
2.		

EXECUTIVE SUMMARY

The following table summarizes the tests that have been performed in QualiTech - Environmental & Mechanical Laboratory.
POINTER had performed the functional tests and the tests results are his sole responsibility.
The stated results apply only to the specific UUT that were currently tested.

No.	Test Name	Pass/Fail	Job Number	Notes
1.	Water Jet Test	Pass	16/5701	
2.	Dust (With Vacuum) Test	Pass	16/5702	

Statement of Compliance with test requirements:
QualiTech - Environmental & Mechanical Lab. declare that the UUT CELLOTRACK NANO was tested to comply with the requirements of the applicable environmental test specification.

A2LA symbol in the front page is applicable only to the tests under the scope of QualiTech accreditations.
QualiTech has A2LA accreditation to ISO/IEC 17025:2005 for test types as listed in the following link:
https://www.a2la.org/scopepdf/1633-02.pdf

TABLE OF CONTENTS

1. INTRODUCTION

1.1. PURPOSE

The purpose of this report is to outline the test results of the CELLOTRACK NANO, which was tested according to the applicable documents (see section 1.3), at ECI Telecom Environmental & Mechanical Lab.

1.2. GLOSSARY

1.	ETR	Environmental Test Report
2.	ETS	European Telecommunication Standard
3.	IEC	International Electronic Community
4.	N/A	Not Applicable
5.	NCR	No Calibration Required
6.	RH	Relative Humidity
7.	TBD	To Be Defined
8.	UUT	Unit Under Test

1.3. APPLICABLE DOCUMENTS

This section contains a list of resources referenced by or related to this document.

- IEC 60529.

2. WATER JET TEST- 16/5701

2.1. UNIT UNDER TEST OVERVIEW

Test Date	15/03/2016
Customer Representative	Adi Levi
Customer Name	POINTER
Unit Name	MULTISENSE-TH
Item Manufacturer	POINTER
Catalog Number	2 PCB Options: GC9770001-000 GC9771004-000
Item Quantity	1 unit

2.2. TECHNICAL SOURCE

- IEC 60529 IPx6, Paragraph 14.2.6

2.3. TEST INSTRUMENTATION

No.	Instrumentation Name	Due Cal.
1.	Hose Nozzle 6.3mm	NCR.

2.4. LAB'S ENVIRONMENTAL CONDITIONS

Parameter Name	Parameter Value	Tolerance Value	Measure Unit
Temperature	25	± 10	Degree Celsius (°C).
Humidity	55	± 27	% R.H.
Mains Voltage	230	± 23	Volts
Mains Frequency	50	± 2	Hertz
Site Air Pressure	760	± 5	mmHg
	1012	± 5	millibar

2.5. TEST PROCEDURE

2.5.1. EXCLUSIONS FROM THE TEST METHOD

None.

2.5.2. WATER TEST PROCEDURE DESCRIPTION

Volume of Water	100 L/min.
Water Temperature	21°C.
Distance from Target	2.5-3 m.
Test Duration	3 minutes.

2.5.3. TEST PERFORMANCE

Functional Test	• At the end of test. • Performed by customer representative.
Visual Test	• At the end of test. • Performed by customer representative.

2.5.4. TEST PICTURES


GPI
CALIBRATE
1015

2.6. TEST RESULTS

During visual inspection at completion the test, no water penetration was observed in the inner parts of the unit after opening. See pictures below.
Based on the customer's declaration - The unit under test has PASSED the test.


MAC: 00:33
ID: 965374
PB1009 REV:A


711-20081
Lithium Ion Polymer Battery Pack
1000 mAh 3.7Volt 3.7Wh
Date of Man'f: 4814
94V–0
BRN1433
RoHS

3. DUST (WITH VACUUM) TEST - 16/5702

3.1. UNIT UNDER TEST OVERVIEW

Test Date	15/03/2016
Customer Representative	Adi Levi
Customer Name	POINTER
Unit Name	CELLOTRACK NANO
Item Manufacturer	POINTER
Catalog Number	2 PCB Options: GC9770001-000 GC9771004-000
Item Quantity	1 unit

3.2. TECHNICAL SOURCE

- IEC 60529 IP6x, Category 2, Paragraph 13.4

3.3. TEST INSTRUMENTATION

No.	Instrumentation Name	Due Cal.
1.	Dust Chamber: PLT-P 14.43	30/12/2016

3.4. LAB'S ENVIRONMENTAL CONDITIONS

Parameter Name	Parameter Value	Tolerance Value	Measure Unit
Temperature	25	± 10	Degree Celsius (°C).
Humidity	55	± 27	% R.H.
Mains Voltage	230	± 23	Volts
Mains Frequency	50	± 2	Hertz
Site Air Pressure	760	± 5	mmHg
	1012	± 5	millibar

3.5. TEST PROCEDURE

3.5.1. EXCLUSIONS FROM THE TEST METHOD

None.

3.5.2. DUST TEST PROCEDURE DESCRIPTION

Dust (Talcum Powder):	<75μm
Chamber Temperature	25°C - 35°C.
Depression	-20 mBar
Test Duration:	8 Hours.

3.5.3. **TEST PERFORMANCE**

Functional Test	• At the end of test. • Performed by customer representative.
Visual Test	• At the end of test. • Performed by customer representative.

3.5.4. CELLOTRACK NANO LOCATED IN TEST ROOM

3.6. TEST RESULTS

During visual inspection at completion the test, no dust penetration was observed it the inner parts of the unit after opening. See pictures below.
Based on the customer's declaration - The unit under test has PASSED the test.

4. PARAMETERS ACCURACY & UNCERTAINTY BALANCE

ENVIRONMENTAL & MECHANICAL LABORATORIES
PARAMETERS ACCURACY & UNCERTAINTY **

Manufacturer	Model	Description	Parameter	Accuracy *	Uncertainty
AALBORG	DFC36	Gas Flow Controller	LPM	0.5	0.3
ASSOCIATED	SK-3102	Temperature Chamber	Deg C	1.5	1.5
ASSOCIATED	ZHH-2108	Temperature Chamber	Deg C	2.7	1.4
ASSOCIATED	ZHH-2127	Temp/Humidity Chamber	Deg C	1.5	1.37
			RH%	6.1	3.31
BRABENDER	KKW10.000/60	Temperature & Humidity Chamber	Deg C	1	1.45
			RH%	4.6	3.6
LANSMONT	PDT-56ED	Drop Tester	cm	0.1	0.1
MONARCH	PLT200	RPM Meter	rpm	2	0.5
TENNEY	36S	Altitude/Heat Chamber	Deg C	0.5	0.8
			Feet	100	100
TENNEY	JUNIOR	Temperature Chamber	Deg C	0.7	1.5
TENNEY	T30 RC	Temp/Humidity Chamber	Deg C	1.5	1.51
			RH%	5	3.6
TENNEY	T40 RC	Temp/Humidity Chamber	Deg C	2.1	1.6
			RH%	2.8	3.6
TENNEY	T-5S	Temperature Chamber	Deg C	2.1	1.28
THERMOTRON	F-40-CHMV-25-25 -2	Temperature & Humidity Agree Chamber	Deg C	0.5	2
			RH%	3.4	2.94
THERMOTRON	F-64-CHAMV-10-10 S	Temp. & Humidity & Altitude Chamber	Deg C	3.5	1.6
			RH%	2.5	3.6
THERMOTRON	TS-8-3Z-5-5-Ln2	Thermal Shock Chamber	Deg C	0.9	1.6
U&D	VWIN 2000	Controlled Vibration Machine	g (%)	3	3
WEISS	SNT-400	Salt Fog Chamber	Salt (%)	3	3
			Deg C	0.5	0.3
			pH	0.01	0.01
LAB	SC-1000	Bounce Machine	RPM	1	0.5

*** Accuracy in (%) only where parameter is defined in (%)**
**** Unless otherwise specified in the report these are the parameters values.**

END OF REPORT