



ACCEPTANCE TEST PROCEDURE

DOC
CODE

PART NUMBER 4461 722 602 31

ATP

HIGHER ASSY
NO. 1723 003 106 14

ACCE RUGGED KEYBOARD WITH
TRACKER BALL

P1	PROVISIONAL
ISS No.	CN No.

ISSUE P1
HELD IN
HYD

SH No. 1
No. OF SH 19

PREPD. CH.SASIKALA
APPRD. P.MANJULATHA

DATE 04.10.16
DATE 21.10.16

PROJECT: GBMES

ACCEPTANCE TEST PROCEDURE

FOR

ACCE RUGGED KEYBOARD WITH TRACKER BALL

BEL Part No: 4461 722 602 31

(Designed by BEL – Hyderabad)

**Prepared By
BEL-Hyderabad**

**Checked By
BEL QC - Hyderabad**

**Approved By
DGAQA**

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Bharat Electronics
Industrial Estate, Nacharam,
Hyderabad -500076,
Telangana,
INDIA.

Telephone: 040 27194208

Fax: 040 27151243



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ACCE RUGGED KEYBOARD WITH TRACKER BALL

ISSUE
P1

SH No.
2

PREPD.
CH.SASIKALA

DATE	04.10.16
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P1	PROVISIONAL
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HELD IN

No. OF SH

APPRD.

DATE _____

ISS No.

CN No.

HVD

19


P.MANJULATHA


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ACCE RUGGED KEYBOARD WITH TRACKER BALL				ISSUE P1	SH No. 3	PREPD. CH.SASIKALA	DATE 04.10.16
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<p>This document describes the procedure for carrying out ACCEPTANCE Tests on ACCE RUGGED KEYBOARD WITH TRACKER BALL</p>							
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1.0 INTRODUCTION:

This document outlines the procedure for conducting ACCEPTANCE tests for the ACCE RUGGED KEYBOARD WITH TRACKER BALL which is part of LCD DISPLAY WITH KEYBOARD & TRACKBALL of GBMES system.

This item is listed under SI .No.15 of Manufacturer’s Recommended List of Spares (MRLS) in the contract for GBMES systems. Under this item ttwo components are being supplied , the rugged Keyboard and a rugged tracker ball.


This item is being supplied by M/s Datasol Pvt Limited, Bangalore.

1.1. Brief Description:

Keyboard SLP: 88 keys with 10-key numeric pad green backlighting keys integrated trackball. It is built into a rugged ABS polycarbonate case. The SLP-88 is completely sealed and designed to meet NEMA 4X specifications. It features green LED back-lighting for use in low-light environments,



Fig-1: Image of SLP-88 Key Board

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Trackball: Designed to replace a standard mouse, the small footprint EC series Tracker ball offers excellent precision cursor control and durability. The tracker ball is designed to give total reliability throughout the entire range of harsh industrial and commercial environments. The EC tracker ball is available with front sealing against water and dust ingress up to IP65 (NEMA 4) standards.



Fig-2: Image of Track Ball

1.2 REFERENCE DOCUMENTS

- 1.2.1 QTP Document Ref: QTP for p/no. 4461 722 602 31 ver P1 , dtd 10.06.16
- 1.2.2 ESS Tests: COC from OEM.
- 1.2.3 MDI/BOM Part no: Not applicable.
- 1.2.4 BEL PO No.. BEPO / HD4 / 4000057921 dated 05.04.2016

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- 1.2.5 Approved Specifications are as per BEL PP drawing.
- 1.2.6 Contract No. AIR HQ/S/96135/69/1/ASR Dated 31/07/2015.
- 1.2.7 SOFTWARE CERTIFICATION - Not applicable
- 1.2.8 FAILURE ANALYSIS - Refer Appendix-A
- 1.2.9 MTBF Value of the Sub Assy: Ref BEL letter no. 4706/07/12 dtd 19th Aug 2016 to AHQ.
- 1.2.10 Packing Drawing No: 9672 001 083 86
- 1.2.11 Delivery Set List: Enclosed at Annexure B.

2.0 TEST EQUIPMENT REQUIRED:

- 2.1 CPU of a standard PC with KVM Display or a monitor - 1 No. (Straight)
With the following
- 2.2 Power cables - 2 Nos.
- 2.3 Video cable - 1 No.
- 2.4 Keyboard test tool software

3.0 PHYSICAL INSPECTION:

3.1 Visual:

- 1.Check the Keyboard and Track Ball for any damages.
- 2.Note down the result in TDR-1.

3.2 Dimensions & Drawing Verification:

Physical inspection of the unit is to be carried out wrt dimensions, mounting and other details as per drawing and note down the measured dimensions in TDR-1.

Dimensions :

The following are the dimensions in mm of the parts:

- a) Functional Keyboard : 172.5(H) X 299.7 (W) X 34.3 (D: max).
- b) Track Ball : 58 (H)x 78 (W) x 36.17 (D)

Weight :

- a) Keyboard : < 0.76 Kgs
- b) Tracker ball : 0.25 Kgs(approx)

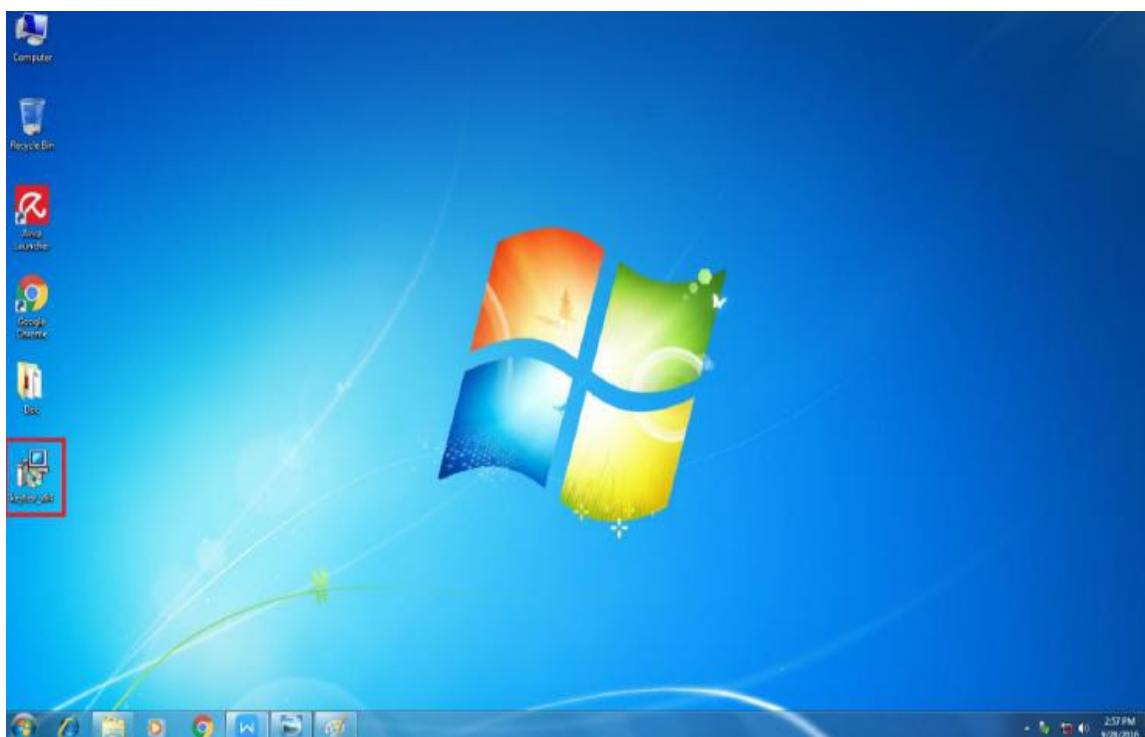
ACCE RUGGED KEYBOARD WITH TRACKER BALL

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4.0 FUNCTIONAL TEST PROCEDURE:

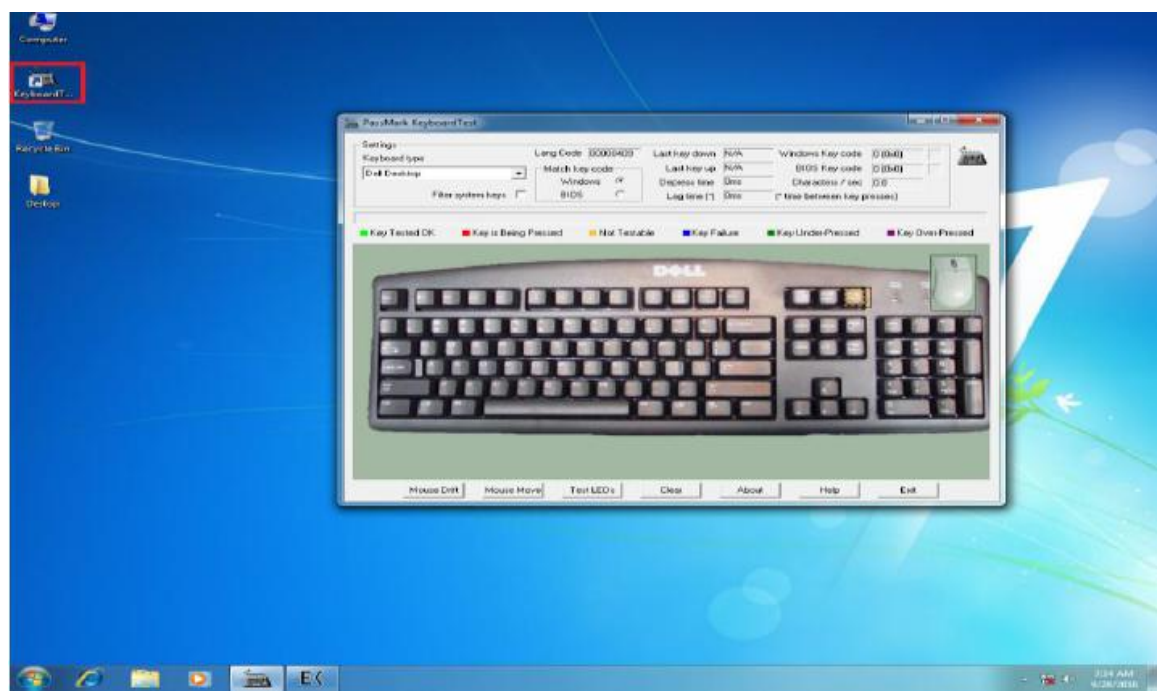
KEYBOARD & TRACK BALL:

1. After switching ON the power to KVM & PC check the system gets booted and display seen on the screen of KVM.
2. Install the key board test tool software.



3. Open the key board test tool software.

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ACCE RUGGED KEYBOARD WITH TRACKER BALL

ISSU
P1SH No.
10

PREPD.
CH.SASIKALA

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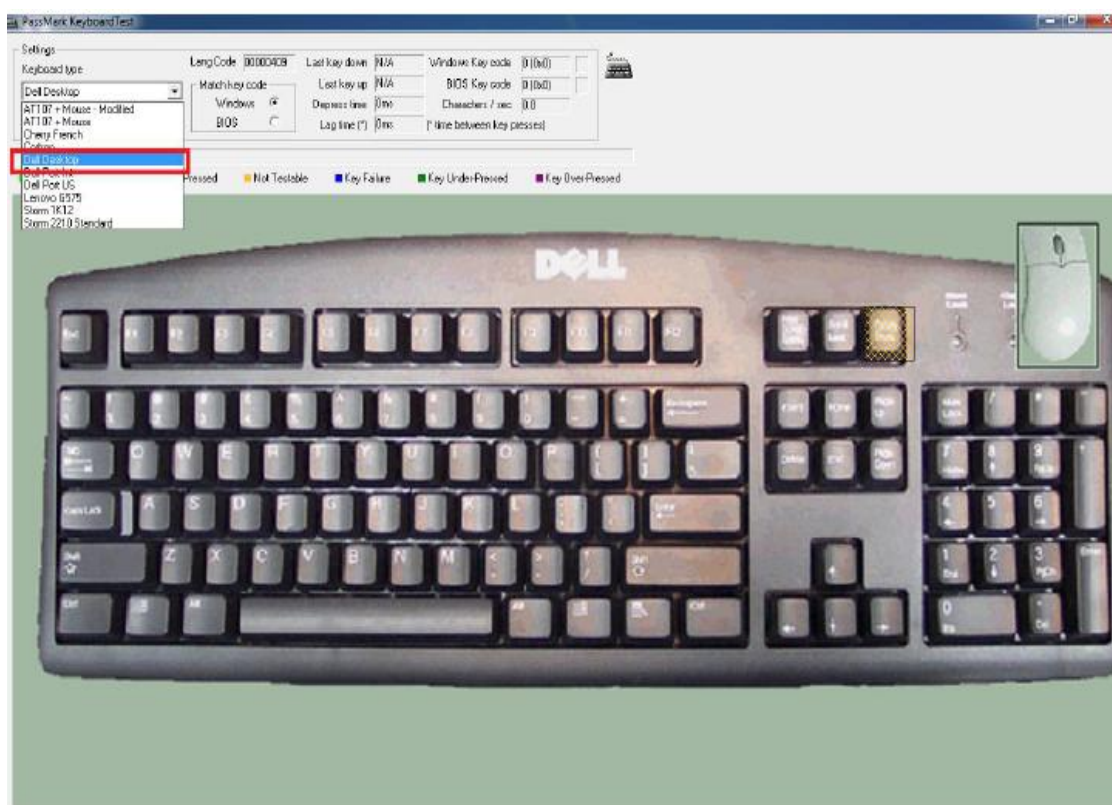
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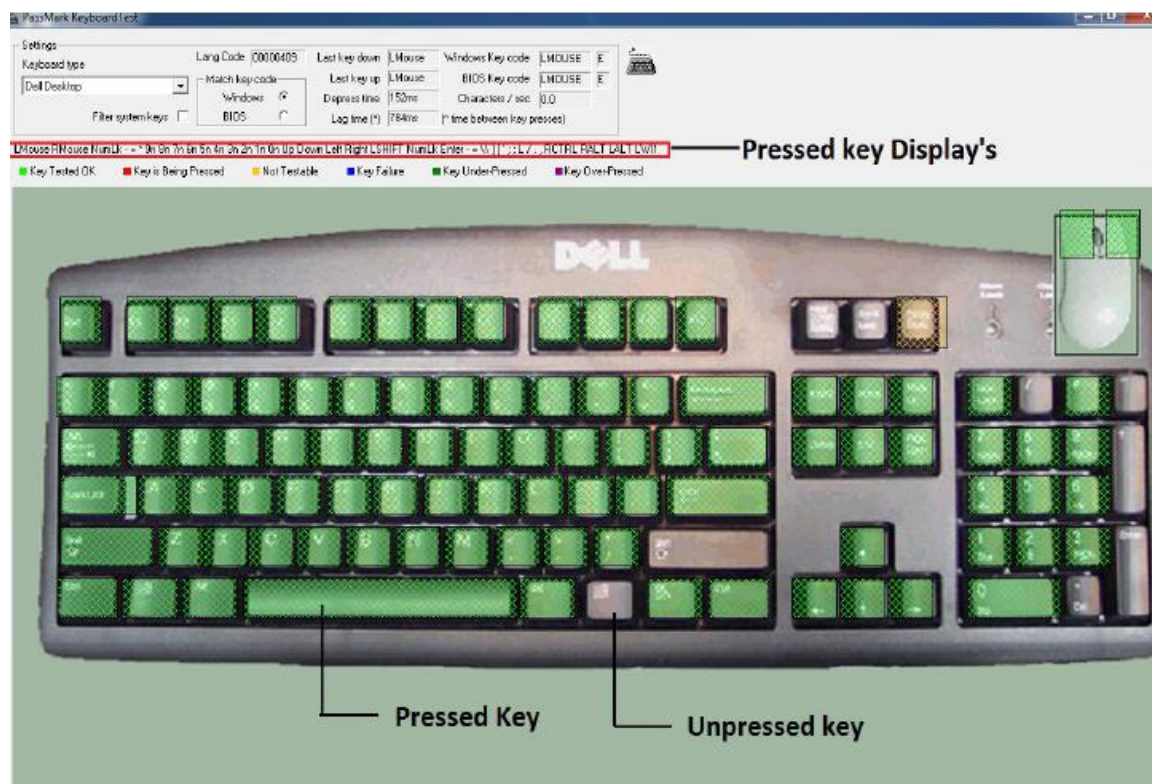
APPRD.
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4. Select the Key board layout.

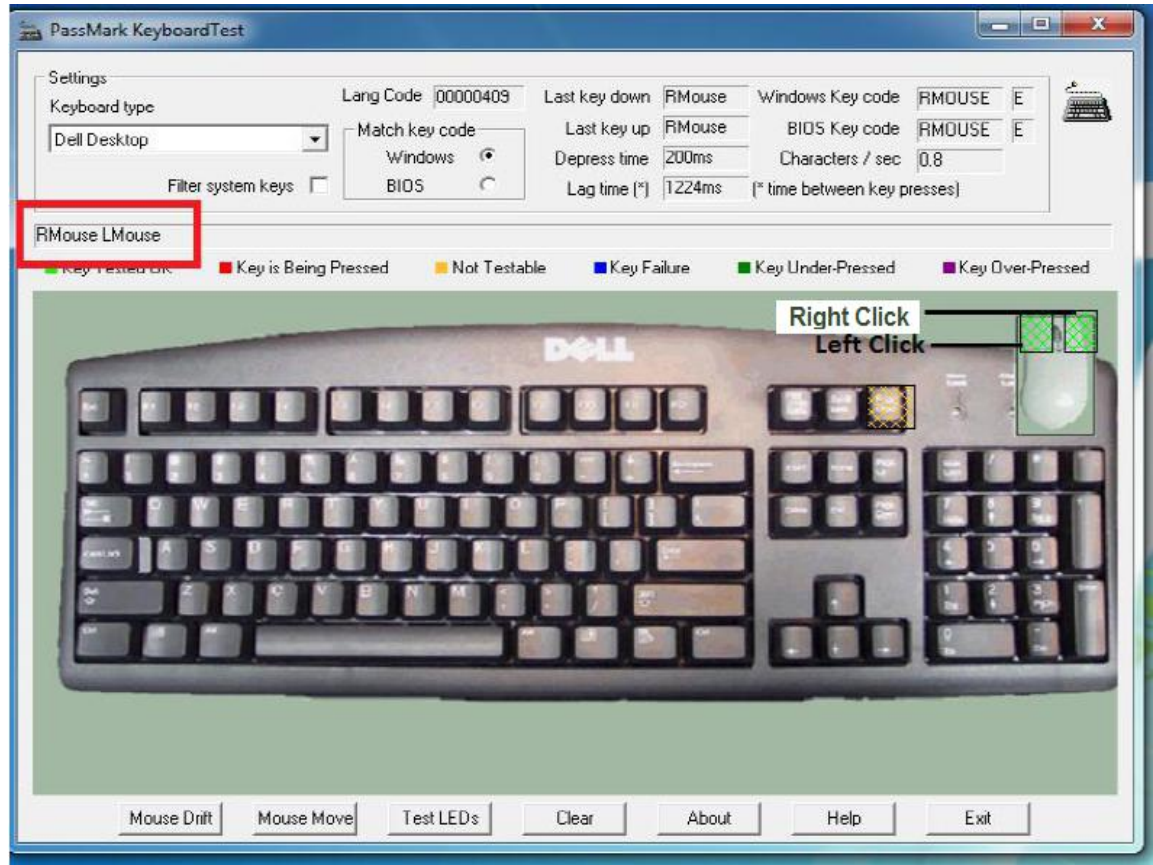



5. Press the all the keys. While pressing the keys it will show the key status and Green color indication. Record the results in TDR-2



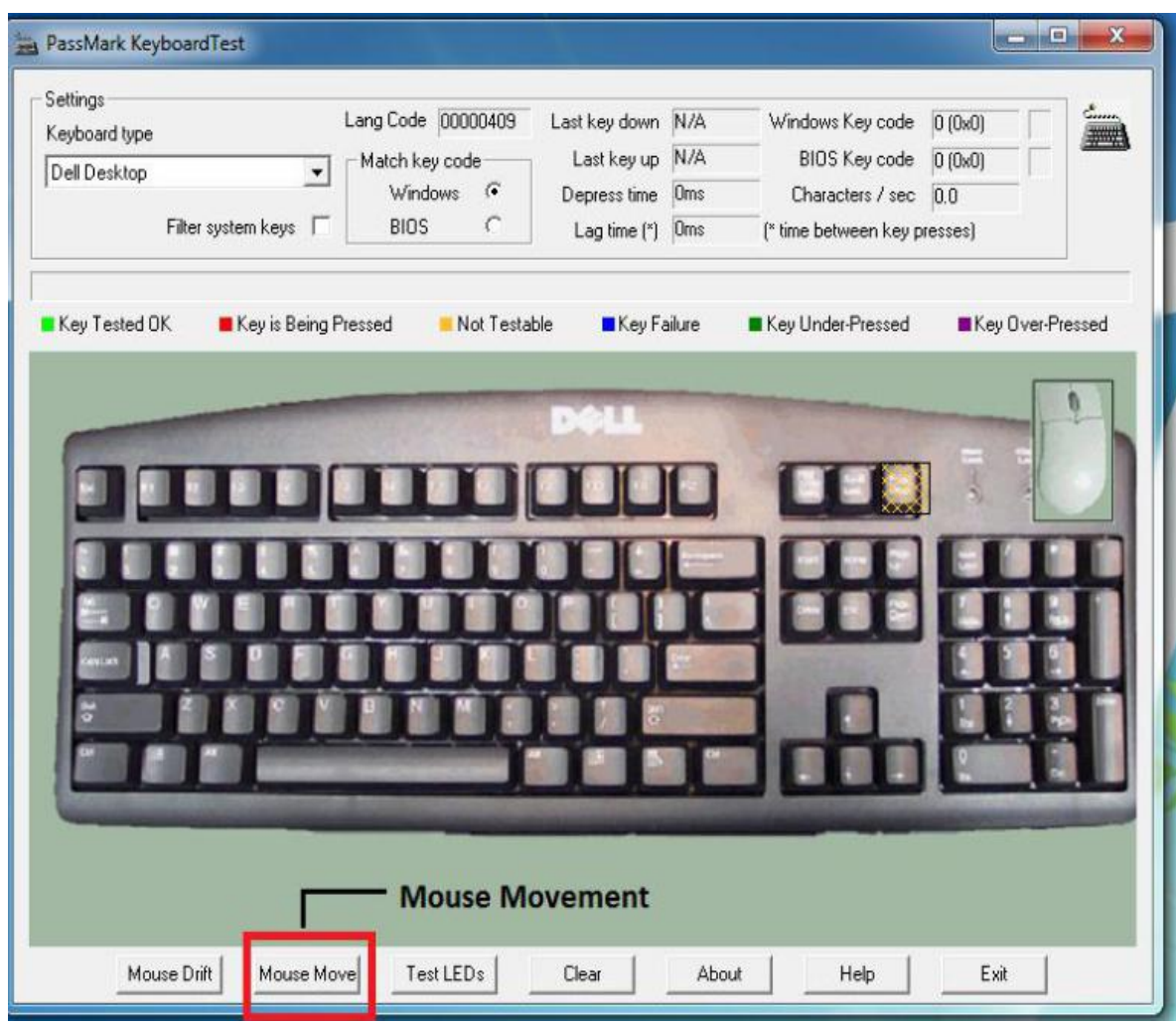
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ACCE RUGGED KEYBOARD WITH TRACKER BALL				ATP	HIGHER ASSY NO. 1723 003 106 14		
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6. Click the left and right .While pressing the keys it will show the key status and Green color indication.



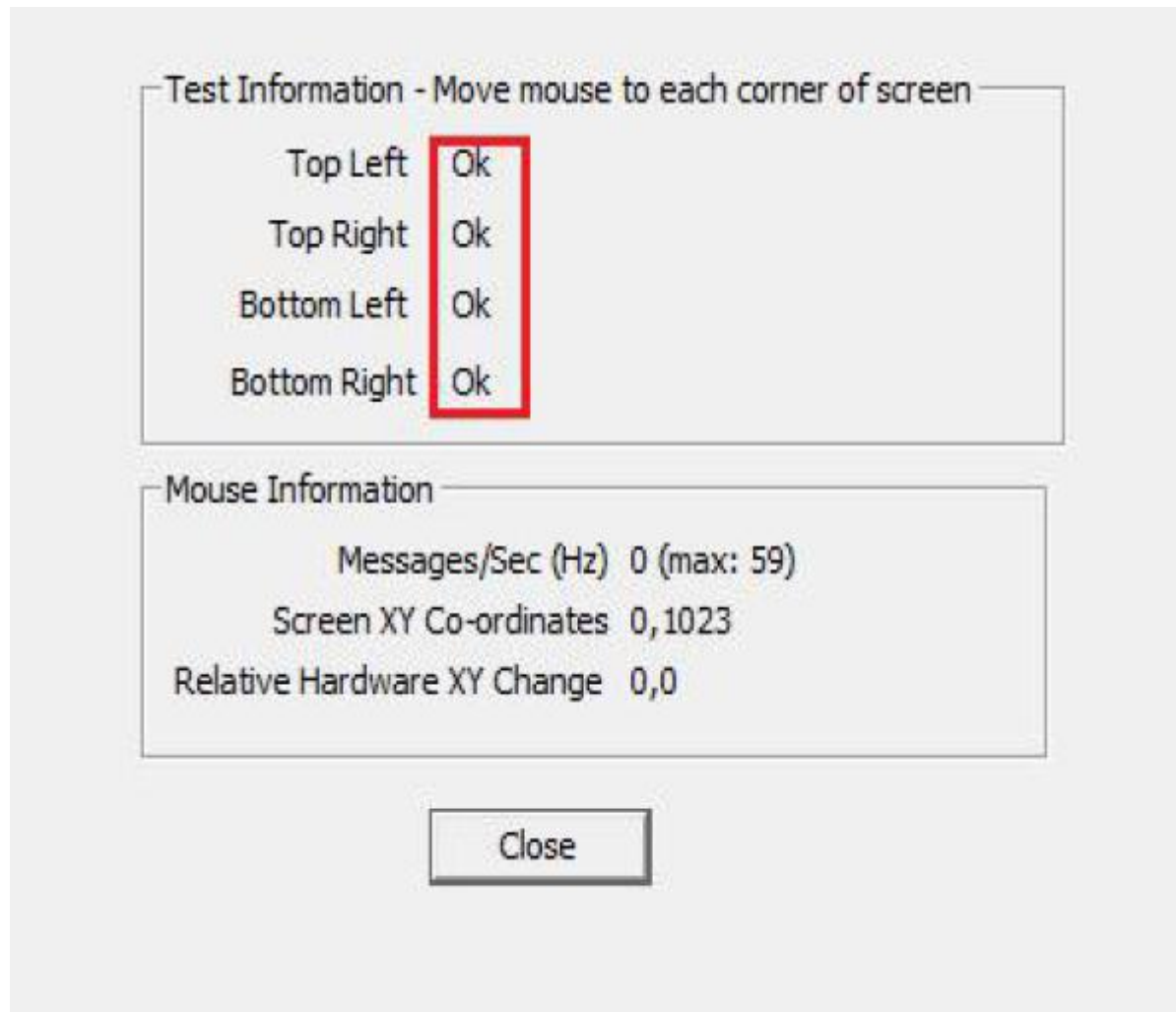
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ACCE RUGGED KEYBOARD WITH TRACKER BALL				ISSUE P1	SH No. 12	PREPD. CH.SASIKALA
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7. To check the Track Ball movement select Mouse move option.



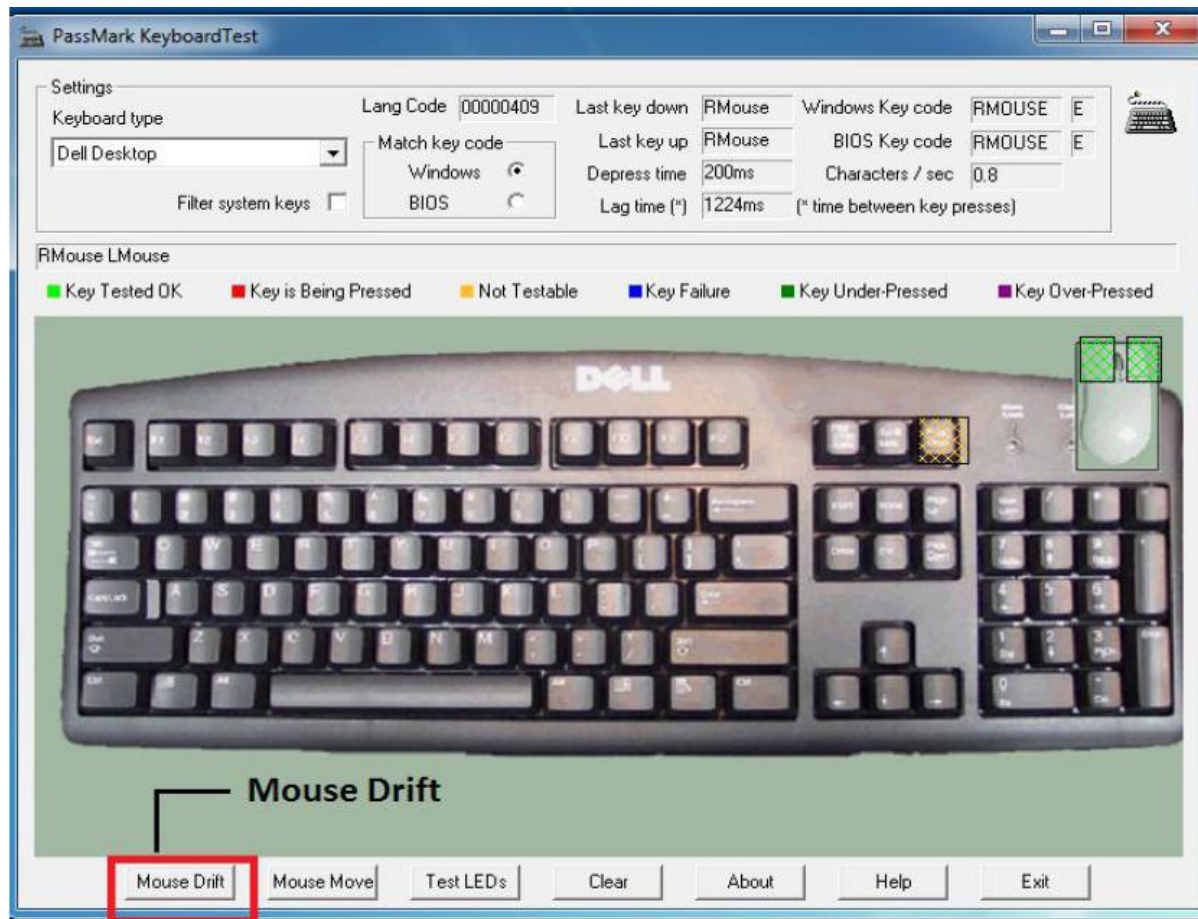
		ACCEPTANCE TEST PROCEDURE		DOC CODE ATP	PART NUMBER 4461 722 602 31 HIGHER ASSY NO. 1723 003 106 14				
ACCE RUGGED KEYBOARD WITH TRACKER BALL				ISSUE P1	SH No. 13	PREPD. CH.SASIKALA	DATE 04.10.16		
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8. Move the Track Ball Each corner of the screen.



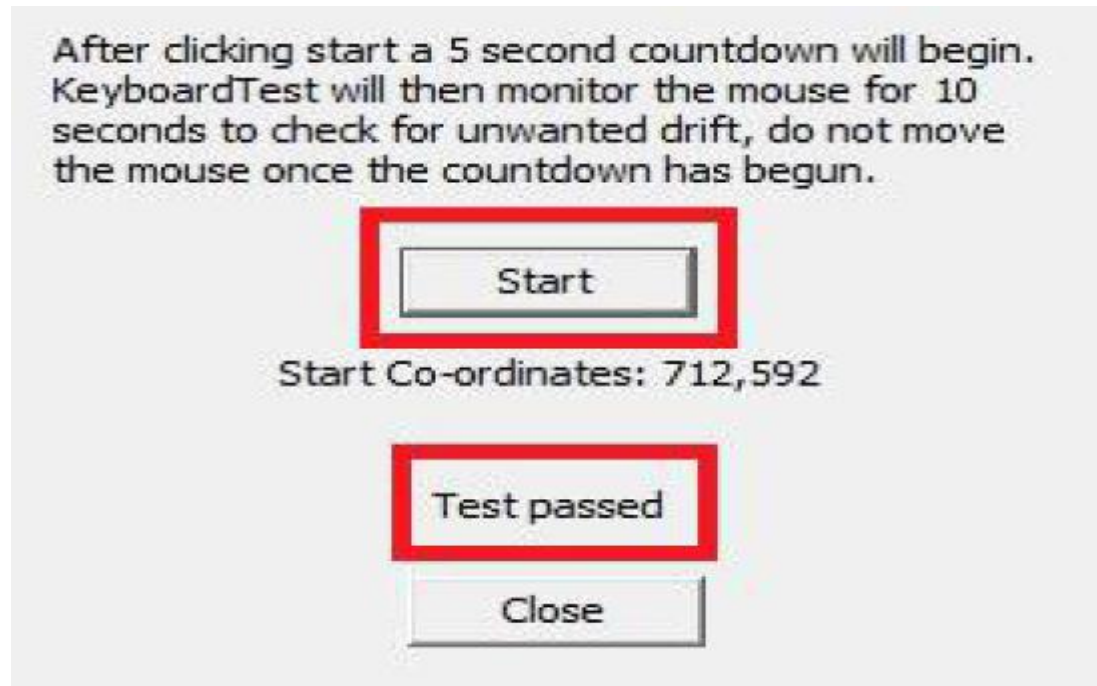
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ACCE RUGGED KEYBOARD WITH TRACKER BALL				ISSUE P1	SH No. 14	PREPD. CH.SASIKALA	DATE 04.10.16		
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9. To check the Mouse drift select mouse drift option.



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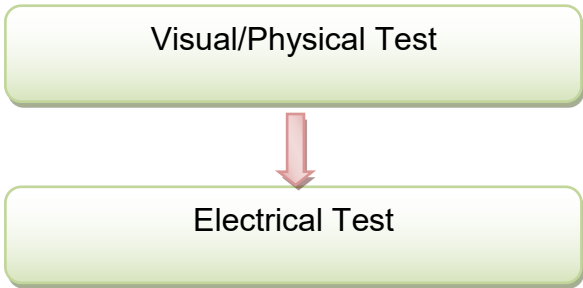
10. Click the start button. It will Check the unwanted drift, once start the test don't move the Track ball. After 10 Seconds it will show the test status. Record the results in TDR-2.



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ENVTRONMENTAL STRESS SCREENING (ESS):

As the items are off the shelf items, ESS shall not be done on these.



Flow Chart for ATP

6.0 Defect / Failure Analysis: Defect/failure investigation is to be done, entered in the format mentioned in **Appendix-A** for any failure during any of the tests and filed with the results.

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TEST DATA RECORD-1

Sl.no. _____ **Date:** _____

Test condition: _____

1. Physical Inspection:

S.No	Test	Requirement	Result
1	KVM damages check	No damages	OK /NOT OK
2	Tracker Ball	No damages	OK /NOT OK

2. Dimensional Check:

(I) for KEYBOARD

S.No	Description	Specified Dimensions(mm)	Measured Dimensions(mm)	Result
1	Width	299.7		OK /NOT OK
2	Height	172.5		OK /NOT OK
3	Depth	34.3		OK /NOT OK
4	Weight	< 0.76 Kg		OK /NOT OK

(I) for TRACKER BALL

S.No	Description	Specified Dimensions(mm)	Measured Dimensions(mm)	Result
1	Width	85.4		OK /NOT OK
2	Height	90.0		OK /NOT OK
3	Depth	38.0		OK /NOT OK
4	Weight	0.25 Kg		OK /NOT OK

RESULT : OK / NOT OK

OEM .Rep _____ BEL-QA.Rep _____ DGAQA Rep _____

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TEST DATA RECORD-2

Sl.no. **Date:**

Test condition:


FUNCTIONAL TEST:

S.No	TEST	REQUIREMENT	RESULT
1	<u>Functionality of Keyboard and Tracker Ball:</u> Functionality of the keyboard by typing & Tacker ball by right clicking / scrolling the ball.	Test by pressing the keys at keyboard & check the same is display on the screen at KVM. Right click on Track Ball & also by moving cursor to check the mouse is working fine.	OK / NOT OK

RESULT : OK / NOT OK

OEM .Rep BEL-QA.Rep DGAQA Rep

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Appendix A															
DIR <i>Defect Investigation Report</i>		Unit Description:													
		Unit Sl. No.:													
DI NO.		TYPE OF MODIFICATION													
DATE:		H/W		S/W		N/A		BOTH		N/A					
S/W VERSION: N/A						CHECK SUM:									
PROBLEM REPORTED DURING:															
PROBLEM DESCRIPTION:															
MODULE / COMPONENT AFFECTED:															
DEFECT ANALYSIS & CAUSE OF PROBLEM:															
REPAIR / REMEDIAL ACTION:															
FOLLOW UP ACTION:															
OEM .Rep				BEL Design Rep				BEL-QA.Rep				DGAQA Rep			