

Test Instructions

Product / Product Series: Magix Beacon B54D
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Document Approval

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Manager:

Date: 30th May 2019 Signature: _____



1. Overview

The purpose of this document is to define the procedures required to perform production testing of the following Magix Beacon B54D assemblies:

- 440FTZ275 B54D Electronic Unit Sub-Assembly
- 440FT0983 B54D

Refer to the latest Assembly Family Tree for details regarding the higher-level assemblies.

Attention: Observe proper ESD handling and storage precautions for handling electrostatic-sensitive devices while performing the following procedures.

1.1. Abbreviations

PCB	Printed Circuit Board
UUT	Unit Under Test
EU	Electronic Unit
GSM	Global System for Mobile Communications
PC	Personal Computer
UPS	Uninterruptible Power Supply
BoN	Bed of Nails
SA	Sub-Assembly

1.2. Test Equipment / Jig and Fixtures / Tools

See Appendix for images of the below-mentioned items:

- [A] NI PXI Controller Chassis
- [B] UPS
- [C] 2D Barcode Scanner
- [D] Magix Beacon B54D Final Test PC
- [E] Magix Beacon B54D Final Test Bed-of-Nails

2. Final Test Procedure

2.1. Test Description

This test will be performed by the TestStand PC test software. The user will be required to insert two UUTs into the Magix Beacon B54D Final Test BoN and start the appropriate PC test.

2.2. Pre-test Requirements

2.2.1. Ensure that the following items are powered up (NOTE: Switch these on if they are not already powered up):

- Mains power
- UPS
- NI CDAQ Chassis
- Magix Beacon B54D Final Test BoN
- Magix Beacon B54D Final Test PC
- 2D barcode scanner

2.2.2. Windows should automatically log into the Tester profile. In the event that the Windows log-in screen, however, does appear, use the following details to log into Windows:

- Domain: MIXMANU
- Username: Tester
- Password: Password!@#

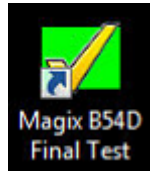
Wait 3-minutes for Windows to completely log in before launching the Magix Beacon B54D Test Application.

2.2.3. Ensure that the air pressure supplied to the BoN is set to a minimum of 4.5 bar.

2.2.4. NOTE: If/when shutting down Windows after all testing has been completed; first ensure that all test software has been completely exited. DO NOT "force shutdown" or "force close" any test software. Contact MiX Telematics Test Engineering in the event that the test software stops responding.

2.3. Test Procedure

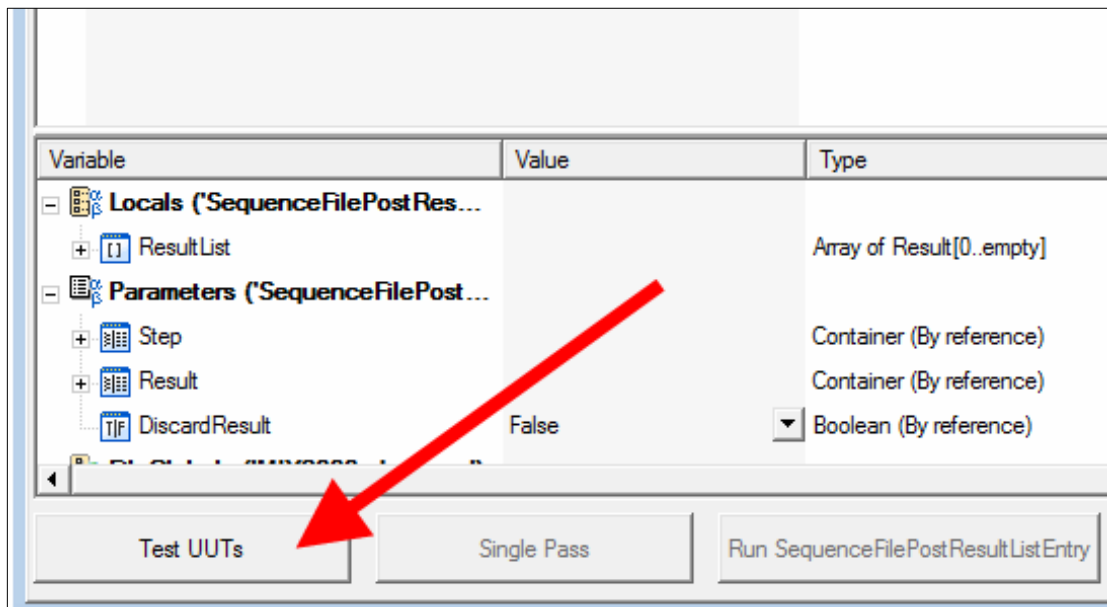
- 2.3.1. On the Test PC, double-click the Magix Beacon B54D Final Test icon located on the desktop. The test application will launch and a Login dialog box will appear.



- 2.3.2. Select the appropriate User name from the drop-down menu. Enter your assigned Password and then click OK.

A login dialog box with a white background. It contains a 'User' label, a drop-down menu with 'please select user' and a small arrow icon, a 'Password' label, and an empty text box. Below these are 'OK' and 'Cancel' buttons. At the bottom is the mX | TELEMATICS MOBILE INFORMATION EXCHANGE logo.

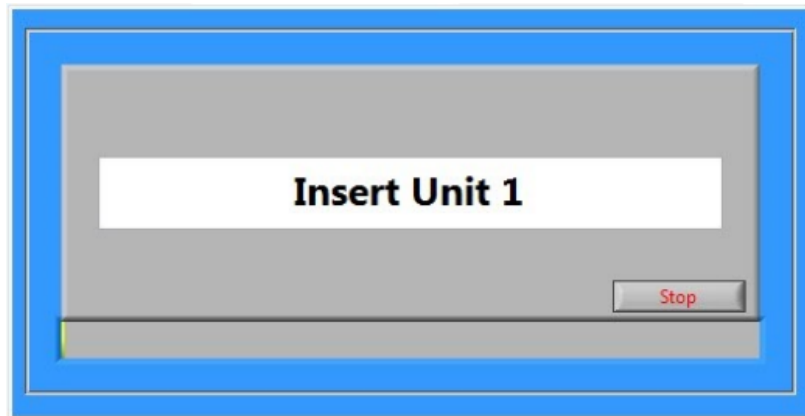
- 2.3.3. Click the "Test UUTs" button in the lower left corner of the window to initialise the test sequence.



- 2.3.4. A prompt will appear requesting the user to "Please Scan PCB Tracking Number". Use the barcode scanner to scan the 2D barcode.

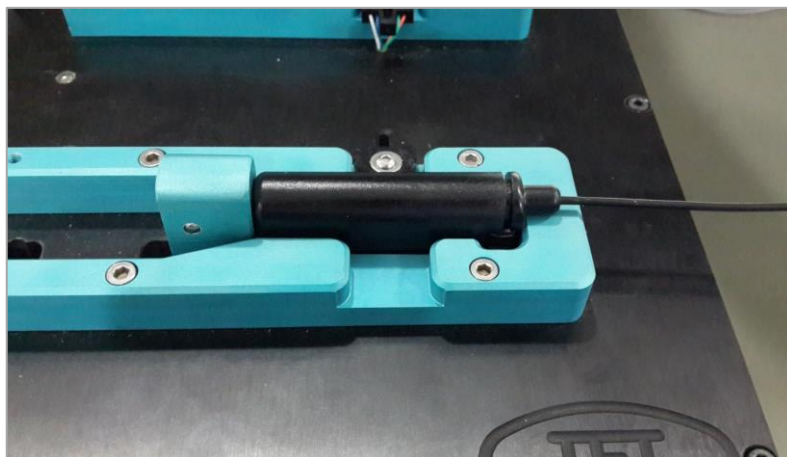


- 2.3.5. Once the barcode has been scanned, the user will be requested to "Insert Unit 1" into the test jig. Alternatively, click "STOP" should you wish to NOT use the BoN Location 1.

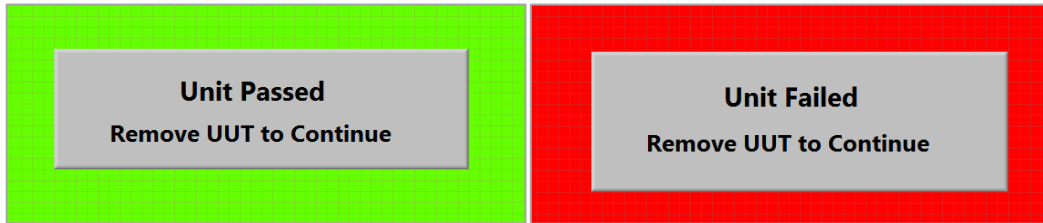


- 2.3.6. Pair the PCB with a lower housing and battery assembly, and place the UUT into the Magix Beacon B54D Final Test BoN. The test will begin automatically once the BoN detects the presence of the UUT.

NOTE: The UUT LED should FLASH for a few seconds when the PCB makes contact with the batteries.



- 2.3.7. A prompt to "Insert Unit 2" will now display. Repeat Step 2.3.6 for Unit 2. Alternatively, click "STOP" should you wish not to test a unit in the BoN Location 2.
- 2.3.8. A PASS/FAIL prompt will be displayed once the test has completed.



- **NOTE:** The "PASS/FAIL" prompt for Unit 1 will not appear unless steps 2.3.4 to 2.3.8 have been completed for Unit 2, or BoN Location 2 has been disabled. The result will only display once Step 2.3.8 has been completed.

Similarly, the PASS/FAIL result for Unit 2 will not display until Steps 2.3.4 to 2.3.8 have been completed for the next Unit 1.

- **If the test PASSED:** The result is written to the results database. Remove the UUT from the BoN. The Label Printer will automatically print a Housing Serial Number label and a set of Admin Labels. Refer to the relevant factory Work Instruction for the positioning and placement of these labels.

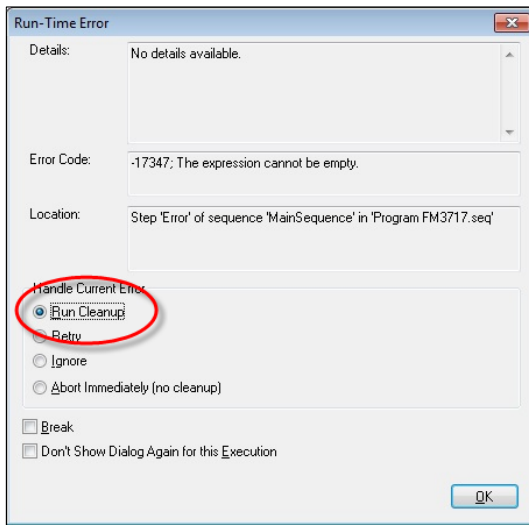
As instructed by the screen prompts, scan the passed UUT's Housing Label Serial Number and Admin Label Serial Number, and then place the UUT in the appropriate PASS tray.

Please Scan Housing Label Serial #	Please Scan Admin Label Serial #
Housing Label Serial # 	Admin Label Serial # 
	

- **If the test FAILED:** Remove the UUT from the BoN and retest the UUT. If it fails a second time, remove the UUT from the BoN and refer to the appropriate factory Work Instruction for further actions.

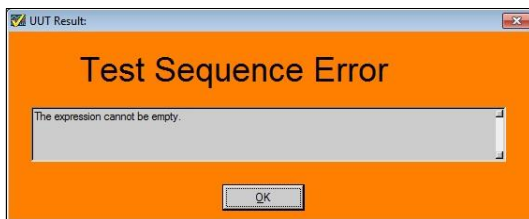
3. Troubleshooting

3.1.1. In the event that an error occurs during the test sequence, the following steps shall be followed:

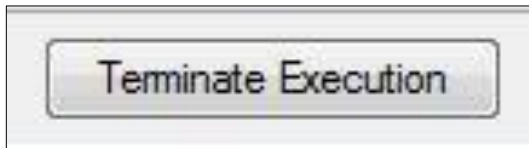


If an unrecoverable error occurs within an individual test sequence, a "Run-Time Error" window will appear.

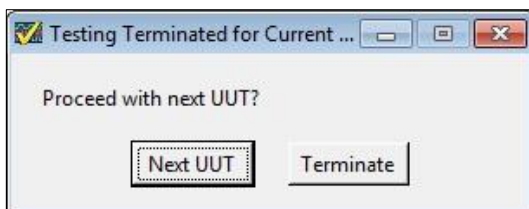
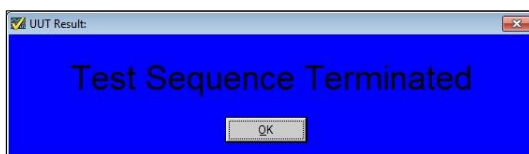
- Select "Run Cleanup" under the Handle Current Error heading and click OK. This will execute a test software cleanup to recover the test sequence.
- Once the CleanUp has been completed, a "Test Sequence Error" message will appear. Click OK to restart the test sequence.
- Remove the UUT from the test jig.
- If the fault persists after three consecutive tries, exit all test software and restart Windows.



3.1.2. If a test sequence hangs for some reason and the user wishes to terminate the test sequence, the following steps shall be followed:

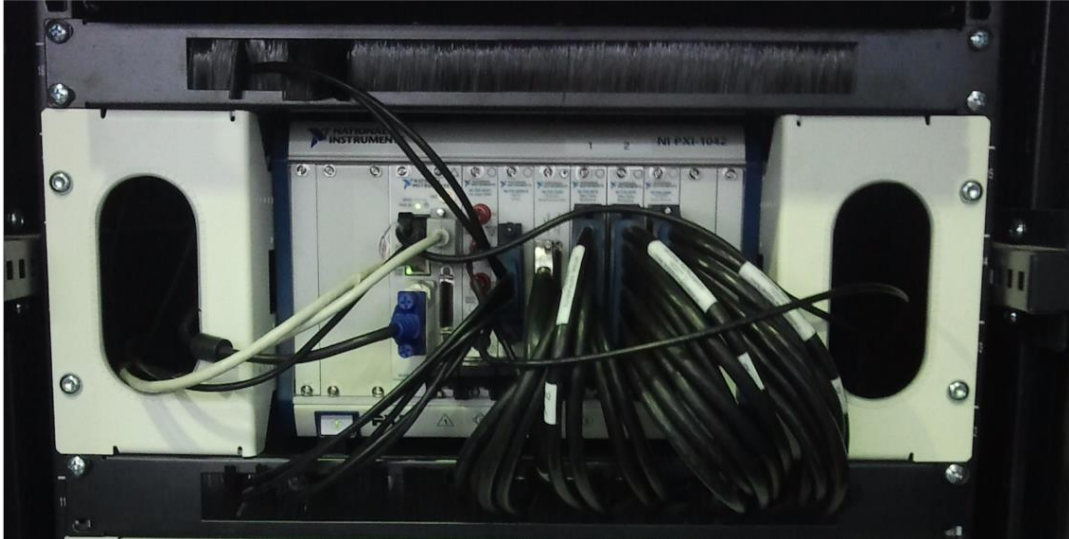


- Click the "Terminate Execution" button to abort the test sequence.
- Wait until the "Test Sequence Terminated" message appears before removing the UUT from the Test Jig. Click OK.
- A prompt will appear asking whether the user would like to proceed with the next UUT. Clicking "Next UUT" will restart the test procedure.

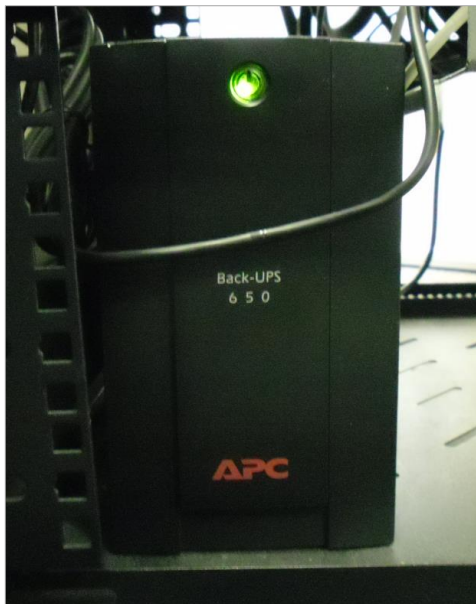


4. Appendix

[A] NI PXI Controller Chassis



[B] UPS



[C] 2D Barcode Scanner



[D] Magix Beacon B54D Final Test PC



[E] Magix Beacon B54D Final Test Bed-of-Nails

