



GE Energy

Functional Testing Specification

*Parts & Repair Services
Louisville, KY*

LOU-TOFFEE-IS220PPDA

Test Procedure for an IS220PPDAH1A card tested on the Toffee System

DOCUMENT REVISION STATUS: Determined by the last entry in the "REV" and "DATE" column


REV.	DESCRIPTION	SIGNATURE	REV. DATE
A	Initial release	E. Rouse	2/23/2010
B	Transferred procedure from a general group to a specific single document. Also added asset numbers to section 5.	F. Howard	6/28/2010
C	Added functional testing and burn of the module in steps 6.3 and 6.4	J. Francis	2/14/2014

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DATE 02/23/2010	DATE 6/28/2010	DATE 2/14/2014	DATE 02/23/2010

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Functional test procedure for IS220PPDAH1A card tested on the Toffee Test system

1. SCOPE

- 1.1 This is a functional test procedure for the IS220PPDAH1A I/O PDM Diagnostics Module.

2. STANDARDS OF QUALITY

- 2.1 Refer to the current revision of the IPC-A-610 standard for workmanship standards.

3. APPLICABLE DOCUMENTS

- 3.1 The following document(s) shall form part of this specification to the extent specified herein. Unless otherwise indicated, the latest issue shall apply.
- 3.1.1 Check the board's electronic folder for more information.

4. ENGINEERING REQUIREMENTS

- 4.1 Equipment Cleaning
- 4.1.1 Equipment should be clean and free of debris prior to applying power unless performing an initial check. Refer to site specific SRA's for cleaning guidelines.
- 4.2 Equipment Inspection
- 4.2.1 Equipment should be visually inspected for any defects prior to applying power. This inspection should include the following as a minimum:
- 4.2.1.1 Wires broken or cracked
 - 4.2.1.2 Terminal strips / connectors broken or cracked
 - 4.2.1.3 Loose wires
 - 4.2.1.4 Components visually damaged
 - 4.2.1.5 Capacitors leaking
 - 4.2.1.6 Solder joints damaged or cold
 - 4.2.1.7 Circuit board burned or de-laminated
 - 4.2.1.8 Printed wire runs burned or damaged

5. EQUIPMENT REQUIRED

- 5.1 The following equipment is required to perform the process requirements. Equipment may be substituted provided that all accuracy's and test ratios are equivalent or better.

Qty	Reference #	Description
1	H188818	Toffee Test System #14
1	H188893	Toffee test fixture for IS220PPDAH1A
1	H190121	Mark VIe TMR Test Rack

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6. TESTING PROCESS

6.1 Setup

6.1.1 Install IS220PPDA fixture H188893 onto TOFFEE test System.

6.1.1 Install Unit Under Test into test fixture. Plug the black and white wire into back of unit. Plug the red Ethernet cable into the receptacle on the left and the blue Ethernet cable into the right.

6.2 Testing Procedure

6.2.1 Double click on the OPERATOR INTERFACE icon on screen.

6.2.2 On the user name dialogue box, choose either administrator or technician. If administrator password is NGTF2008*, technician password is KISS, case sensitive. The next window should say configuration management and you should always click on no.

6.2.3 Screen will flicker and box marked single pass will be highlighted. Click on it and it should put up another dialogue box that says Orange book is old. Click o.k. If Orange book needs to be updated, there is an icon for that but I would let Paul or Eric do it until user is familiar with system.

6.2.4 The next dialogue box should say select DUT (device under test) . Detected fixture should have the model number being tested and family name should say MVle. Click the drop down box DUT and your model number should be the only option. Select it and it should appear in the DUT model number. Put your revision level of unit being tested in DUT REV and click ok.

6.2.5 A delay dialogue box appears, counts down and then asks for a serial number, enter 14 and check the boxes marked RUN UPLOADS and DELETED LOGS. Click ok. If you logged on as an administrator, you will not get this dialogue box. The test will automatically run these.

6.2.6 A delay dialog box appears and counts down, do not stop it and then system runs test. You will get either a pass or fail message.

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6.3 Functional Testing- Installing the UUT into Mark VIe TMR Test Rack



Note: The following portions of the test assume you are familiar with using ToolboxST. You will need to perform downloads at least twice for UUT to be setup fully. You must also wait for approximately 3 minutes in between downloads for rack and UUT to reboot.

- 6.3.1** Remove power from test PPDA module.
- 6.3.2** Install UUT and apply power.
- 6.3.3** After applying power, you can wait approximately 5 minutes for ToolboxST to “AUTO CONFIGURE” unit.
- 6.3.4** From menu bar, select “**DEVICE**” then “**DOWNLOAD**” then “**DOWNLOAD WIZARD**”. All Items listed after scan should be equal.
- 6.3.5** From menu bar, select “**VIEW**” then “**LIVE VIEWS**” then choose “**PPDM**” by double-clicking in the dialog box. PPDM Live View window should open. R, S, and T Voltage indicators should be showing good. Dry Contact Inputs for R, S, and T should be GREEN. AUX Fuse Status for R, S, and T should also be GREEN.
- 6.3.6** Press and hold “**DRY CONTACT TEST**” button until R, S, and T Dry Contact indicators turn RED.
- 6.3.7** Release “**DRY CONTACT TEST**” button. R, S, and T Dry Contact indicators should turn back to GREEN.
- 6.3.8** Turn off Switch SW4 on JPDD card. Voltage indicator for “R” should go to zero and “R” AUX Fuse Status indicator should turn RED.
- 6.3.9** Turn on SW4 on JPDD card. Voltage indicator for “R” should return to good status and “R” AUX Fuse indicator should turn GREEN.
- 6.3.10** Turn off Switch SW5 on JPDD card. Voltage indicator for “S” should go to zero and “S” AUX Fuse Status indicator should turn RED.
- 6.3.11** Turn on SW5 on JPDD card. Voltage indicator for “S” should return to good status and “S” AUX Fuse indicator should turn GREEN.
- 6.3.12** Turn off Switch SW6 on JPDD card. Voltage indicator for “T” should go to zero and “T” AUX Fuse Status indicator should turn RED.

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6.3.13 Turn on SW6 on JPDD card. Voltage indicator for “T” should return to good status and “T” AUX Fuse indicator should turn GREEN.

6.4 Burn-In

6.4.1 Let unit run for at least 48 hours.

6.4.2 Cycle power to UUT.

6.4.3 Repeat steps 6.2.1.5 through 6.2.1.12.

6.4.4 If successful testing is complete.

6.5 *TEST COMPLETE *****

7. NOTES

7.1 Changes to the electronic Toffee test are recorded in the [Software Control Database](#)

8. ATTACHEMENTS

8.1 Picture of the Toffee Test System

