g GE Energy	**Functional Testing Specification**
Parts & Repair Services ***Louisville, KY***	**LOU-GED-DS3800NRXA**

Test Procedure for a DS3800NRXA

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

REV.	DESCRIPTION	SIGNATURE	REV. DATE
A	Initial release	John Wychulis	9/4/2008
B	Added note to step 6.2.1	Steve Pharris	10/28/08
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PREPARED BY	REVIEWED BY	REVIEWED BY	QUALITY APPROVAL
John Wychulis	Steve Pharris		Charlie Wade
DATE	**DATE**	**DATE**	**DATE**
9/4/2008	10/28/2008		10/28/2008

1. SCOPE

1.1 This is a functional testing procedure for a Card.

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.

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 the local documented procedures 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, cracked, or loosely connected
4.2.1.2 Terminal strips / connectors - broken or cracked
4.2.1.3 Components - visually damaged
4.2.1.4 Capacitors - bloated or leaking
4.2.1.5 Solder joints - damaged or cold
4.2.1.6 Circuit board - burned or de-laminated
4.2.1.7 Printed wire runs / Traces - 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		Fluke 87 DMM (or Equivalent)
2		Variable DC power supplies
1		Signal Generator
1		Current Source

6. TESTING PROCESS

6.1 Power Supply Test

6.1.1 Put 12V at JEXT-8(+) JEXT-7(-).

6.1.2 Verify 11.4 V across C20.

6.1.3 Verify TP7(+) TP4(-) is 5V.

6.1.4 Verify TP9(+) TP4(-) is 12V.

6.1.5 Verify TP8(+) TP4(-) is -12V.

6.1.6 LED CR4 is on.

6.1.7 Adjust R102 until TP1(+) TP4(-) is -8V.

6.1.8 Connect power supply #2 JEXT-10(+) JEXT –9(-).

6.1.9 Increase supply until CR5 turns on (AC Power on)

6.1.10 Connect voltmeter across C19, should be 9VDC +/- .25V

6.1.11 Decrease supply until CR5 is off.

6.1.12 Verify 8V across C19 +/- .25V.

6.1.13 Disconnect variable supply #2 and set to 12VDC then connect to JEXT-12(+) JEXT-10(-).

6.1.14 Repeat steps 6.1.3 thru 6.1.6 plus CR5 should be on.

6.1.15 Disconnect variable supply and reconnect 12VDC to JEXT-9(+) JEXT-12(-).

6.1.16 Repeat steps 6.1.3 thru 6.1.6 plus CR5 should be on.

6.1.17 Verify Voltage at TP10(+) TP4(-) is 10.5VDC

6.2 Signal Conditioning and Driver Test

6.2.1 Connect Load across TBI-1(+) TBI-2(-).

6.2.1.1 Load is 2 1N5624 diodes and a 1-Ohm 10W resistor in series.

6.2.2 Apply 10VDC to JEXT 9 (+) & JEXT10(-)

6.2.3 Apply a 300Hz 5Vp-p square wave to JEXT-2(+) JEXT-1(-).

6.2.4 Verify waveform is 4Vp-p at 3.3ms at TP5.

6.2.5 Verify waveform is 1Vp-p at 3.3ms at load between diode and resistor.

6.2.6 Disconnect 10V from JEXT-9 & JEXT-12. CR5 is off and verify load resistor waveform drops to .6V at 3.3ms

6.3 Current Limit Test

6.3.1 Jumper at 6.5 current limit.

6.3.2 Connect current source from TBI-2(+) and TBI-3(-)

6.3.3 Increase to 6.5A. Voltage at TP6 should be zero (0V).

6.3.4 Switch current source off.

6.4 Field Heating

6.4.1 Adjust R101 full CCW.

6.4.2 Apply -10V to TP3(-) TP4(+).

6.4.3 TP2 should be -5.1V

6.4.4 Disconnect -10V and adjust R101 CW

6.4.5 Apply 5V TP3(+) and TP4(-)

6.4.6 TP2 is >5.1V

6.4.7 Adjust R101 until TP2 is 5.1V

6.4.8 Apply -5V to JEXT-3(-) and TP4(+)

6.4.9 Use TP4 for common and measure JEXT-4=0 and JEXT-5=.6

6.4.10 Apply 12VDC to JEXT-10(+) and JEXT-9(-)

6.4.11 Verify CR5 LED is on.

6.4.12 Output at JEXT-5(+) and TP4(-) is -5V.

6.4.13 JEXT-4(+) and TP4(-) is 4.6V.

6.4.14 Disconnect -5V from JEXT3(-) and TP4(+).

6.4.15 Apply -8V to TP3(+) and TP4(-)

6.4.16 Should read JEXT-5(+) and TP4(-) = -6.2V

6.5 ***TEST COMPLETE ***

7. NOTES

7.1 None noted at this time

8. ATTACHMENTS

8.1 None at this time