g GE Energy	**Functional Testing Specification**
Parts & Repair Services ***Louisville, KY***	**LOU-GED-DS3800NSFC**

Test Procedure for a DS3800NSFC

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

REV.	DESCRIPTION	SIGNATURE	REV. DATE
A	Initial release	Steve Pharris	07/13/2009
B	Corrected incorrect step	Steve Pharris	12/01/2009
C			

PREPARED BY	REVIEWED BY	REVIEWED BY	QUALITY APPROVAL
Steve Pharris			Charlie Wade
DATE	**DATE**	**DATE**	**DATE**
07/13/2009			12/2/09

1. SCOPE

1.1 This is a functional testing procedure for a **DS3800NSFC**.

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

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)
1		21K Ohm Resistor
1	H033882	Rainbow Box
1	H033767	Standard Connector Box for DS38000
1	H033772	Power Supply for DS3800 Cards

6. TESTING PROCESS

6.1 Setup

6.1.1 Set J1 to INT

6.1.2 Remove U2 for duration of test and replace with new when finished.

6.1.3 Solder lead to pin 17 of U2

6.1.4 Make the following connections: PA1 to PA9; SW81 to PA2; SW82 to PA53; SW83 to PA14; SW86 to PA41; SW87 to PA48; SW88 to PA47; SW89 to PA50; SW90 to PA51; SW91 to PA49; SW92 to PA46; and SW93 to PA39.

6.1.5 Set the switches to the following: SW81 L; SW82 L; SW83 L; SW86 H; SW87 L; SW88 H; SW89 L; SW90 H; SW91 L; SW92 H; SW93 L.

Note:

6.2 Testing Procedure

6.2.1 Apply power to card.

6.2.2 Verify the following at U2 pins 1-8

Pin	State
1	H
2	L
3	H
4	L
5	H
6	L
7	H
8	L

6.2.3 Reverse SW86-SW93 and verify U2 pins 1-8 are as follows

Pin	State
1	L
2	H
3	L
4	H
5	L
6	H
7	L
8	H

6.2.4 Temporarily connect U2 pin 10 to +5VDC and verify PA71 is L.

6.2.5 Remove +5VDC from U2 pin 10.

6.2.6 Connect SW84 to PA52 and set to L

6.2.7 Connect SW85 to PA11 and set to H

6.2.8 Connect PA64 to PA1

6.2.9 Connect PA56 to +5VDC

6.2.10 Connect PA65 to SW95 and set to H

6.2.11 Connect PA42 to PA1

6.2.12 Connect PA36 to PA1

6.2.13 Connect PA59 to common

6.2.14 Set SW92 to H

6.2.15 Set SW86-SW91 to L

6.2.16 Toggle SW85 L-H

6.2.17 Toggle SW95 L-H

6.2.18 Verify test points SIG1-SIG6 are approx. +24VDC

6.2.19 Set SW86 H

6.2.20 Toggle SW85 then SW95 as before

6.2.21 Verify SIG1 is approx 2VDC

6.2.22 Set SW91 H

6.2.23 Repeat step 6.2.20

6.2.24 Verify SIG2 is approx 2VDC

6.2.25 Set SW87 H

6.2.26 Repeat step 6.2.20

6.2.27 Verify SIG3 is approx 2VDC

6.2.28 Set SW89 H

6.2.29 Repeat step 6.2.20

6.2.30 Verify SIG4 is approx 2VDC

6.2.31 Set SW88 H

6.2.32 Repeat step 6.2.20

6.2.33 Verify SIG5 is approx 2VDC

6.2.34 Set SW90 H

6.2.35 Repeat step 6.2.20

6.2.36 Verify SIG6 is approx 2VDC

6.2.37 Set SW86-SW91 L

6.2.38 Repeat step 6.2.20

6.2.39 Apply 5VDC to PA19 and verify + 5VDC at PA6 and –5VDC at PA29

6.2.40 Move 5VDC from PA19 to PA4

6.2.41 Verify +5VDC at PA8 and –5VDC at PA17

6.2.42 Move 5VDC from PA4 to PA10

6.2.43 Verify +5VDC at PA18 and –5VDC at PA20

6.2.44 Apply 5VDC to PA19, PA4, and PA10

6.2.45 Verify PA17, PA20, and PA29 are 0VDC

6.2.46 Connect 21Kohm resistor across DA1 and DA2

6.2.47 Apply 5VDC to JA34 and –15VDC to JA21

6.2.48 Verify PA30 is approx +14VDC and PA32 is approx –12.5VDC

6.2.49 Connect JA34 and JA21 to common

6.2.50 Connect lead from pin 17 of U2 to SW96 and set to L

6.2.51 Verify U7 Pins 2, 4, 6, 8, 15, and 17 are H.

6.2.52 Set SW96 H

6.2.53 Verify U7 pins 2, 4, 6, 8, 15, and 17 are L

6.3 ***TEST COMPLETE ***

7. NOTES

7.1 None at this time.

8. ATTACHMENTS

8.1 None at this time.