g GE Energy	**Functional Testing Specification**
Parts & Repair Services ***Louisville, KY***	**LOU-GED-DS3800NATD**

Test Procedure for a DS3800NATD

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

REV.	DESCRIPTION	SIGNATURE	REV. DATE
A	Initial release	Steve Pharris	5/2/2011
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PREPARED BY	REVIEWED BY	REVIEWED BY	QUALITY APPROVAL
Steve Pharris			Charlie Wade
DATE	**DATE**	**DATE**	**DATE**
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1. SCOPE

1.1 This is a functional testing procedure for a DS3800NATD.

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 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, 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		Tenma Dual Power Supply
1		O-Scope
1		Function Generator

6. Modifications/Upgrades

6.1 None.

7. Testing Process

7.1 Setup

7.1.1 Set dual power supply for + and – 15VDC.

7.1.2 Connect +15VDC to JB1

7.1.3 Connect -15VDC to JB3

7.1.4 Connect common from power supplies to JB2

7.1.5 Set function generator for 3Vpk-pk sine wave @ 1Khz

7.1.6 Resistance readings should be within +/- 5%

7.2 Testing Procedure

7.2.1 Apply Power.

7.2.2 Connect function generator to JB5 with respect to TP10 and apply signal.

7.2.3 Verify the following points = 8.2Vpk-pk @ 1Khz sine wave

TP17

JG1

JG3

JG5

JG7

JG9

JG10

7.2.4 Disconnect function generator

7.2.5 Remove power from card

7.2.6 Verify the following points are shorted (< than 1 ohm resistance)

JE3-JB5

JE3-TP8

JB1-TP11

TP16-TP9

TP9-JE1

JE1-JB9

TP15-JF1

JA20-TP3

TP3-TP18

TP18-JH1
TP18-JH3
TP18-JH5
TP18-JH7
TP18-JH9
TP18-JH10
JA19-TP4
JA1-TP14
JC12-TP1
TP1-JF12
JC7-TP6
TP6-JD19
TP6-JD20
TP6-JD22
TP6-JD24
TP6-JD28
TP6-JD30
TP6-JD34
TP6-JD32
TP6-JD26
TP6-JD18
TP6-JD10
TP6-JD2
TP6-JD4
TP6-JD6
TP6-JD8
TP6-JD12
TP6-JD13
TP6-JD14
JJ4-JJ5
JJ5-TP19
JJ2-TP21
JJ8-JJ9
JJ9-TP22

JJ6-TP23

TP24-JK29

TP25-JK31

JK30-TP10

TP10-JK32

TP12-JC11

JC14-TP2

TP2-JC9

TP2-JK24

TP2-JK22

TP2-JK20

TP2-JK18

TP2-JK16

TP2-JK14

TP2-JK12

TP2-JK10

TP2-JK8

TP2-JK6

TP2-JK4

TP2-JK2

JK1-TP20

TP5-JD11

7.2.7 Connect com from DMM (Set for Diode) to JC14 and other lead to JC16

7.2.8 Verify proper diode voltage drop

7.2.9 Connect com from DMM (Set for Diode) to JC12 and other lead to JC18

7.2.10 Verify proper diode voltage drop

7.2.11 Connect DMM (Set for Ohms) from JC5 to JC7

7.2.12 Verify resistance is 575 Ohms

7.2.13 Push PB1 and verify meter reads short.

7.2.14 Verify when button is released meter again reads 575 Ohms

7.2.15 Connect DMM from JC11 to JC9

7.2.16 Verify resistance is 575 Ohms

7.2.17 Push PB2 and verify meter reads short.

7.2.18 Verify when button is released meter again reads 575 Ohms

7.2.19 Verify the following resistance measurements between the specified points. Resistance readings should be within +/- 5%

JF15-JF16=475 Ohms

JF17-JF18=475

JF19-JF20=475

JF21-JF22=475

JF23-JF24=475

JF25-JF26=475

JA12-JA18=1.21K

JA14-JA16=1.21K

TP3-JA3=20

TP3-JA7=40

TP3-JA9=40

TP3-JA5=60

TP3-JA11=60

TP3-JA1=60

TP3-TP4=100

JC18-JF10=475

JF8-JF14=1K

JF14-JF12=110

JF12-TP5=175

TP5-JD7=100

TP5-JD5=175

TP5-JD3=245

TP5-TP13=300

TP5-JD1=300

TP13-JD9=100

TP13-JD17=175

TP13-JD25=245

TP13-JD31=300

JD31-JD33=100

JD33-JD29=100

JD29-JD27=100

JD27-JD23=100

JD23-JD21=100

JD21-TP6=100

JB10-JK29=4.75K

JK29-TP10=200

TP10-TP25=100

JJ1-JJ4=10

JJ4-JJ2=10

JJ2-JJ3=500

JJ10-JJ9=10

JJ9-JJ6=10

JJ6-JJ7=500

JC16-TP20=453

JK1-JK3=56.2

JK3-TP12=56.2

TP12-JK5=14

JK3-JK5=56.8

JK5-JK7=56.2

JK7-JK9=56.2

JK9-JK11=56.2

JK11-JK13=56.2

JK13-JK15=56.2

JK15-JK17=56.2

JK17-JK19=56.2

JK19-JK21=56.2

JK21-JK23=56.2

JK23-JK24=56.2

7.2.20 Verify the following resistance measurements between the specified points. Resistance readings should be within +/- 5%.

7.3 ***TEST COMPLETE ***

8. Notes

8.1 None at this time.

9. Attachments

9.1 None at this time.