g GE Energy	**Functional Testing Specification**
Parts & Repair Services ***Louisville, KY***	**LOU-GED-IS200MVRP**

Test Procedure for a MK VIe Core Power Distributor card

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

REV.	DESCRIPTION	SIGNATURE	REV. DATE
A	Initial release	M Starling	1/6/2014
B	Corrected misidentified voltages and test points (7.2.3.1 & 7.2.5.1) and added notes on LED on/off (7.1.4 & 7.2.8.4)	F. Howard	8/4/2014
C			

PREPARED BY	REVIEWED BY	REVIEWED BY	QUALITY APPROVAL
M. Starling	F. Howard		Charlie Wade
DATE	**DATE**	**DATE**	**DATE**
1/6/2014	8/4/2014		1/9/2014

1. SCOPE

1.1 This is a functional testing procedure for a MK VIe Core Power Distributor 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.
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		125 VDC Power Supply
1	H190114	IS200MVRP Test Fixture
1		15VDC Power Supply

6. Modifications/Upgrades

6.1 Fill out if applicable.

7. Testing Process

7.1 Setup

7.1.1 Hook J1 connector to 125VDC power supply (Black-125VDC) (White-COM)

7.1.2 Connect JS1 and J28 connectors to the IS200MVRP board.

7.1.3 Connect 16 PIN fan out board to JC connector via ribbon cable.

7.1.4 Apply 125VDC power to test fixture. LED DS1 should be on.

Note: The following COM points are available as follows:

BCOM - JP1-1, JP2-1

PCOM – JP1-4, JP1-6, JP2-4, JP2-6, JC-6, X1, PB1

ICOMA – JC-2

7.2 Testing Procedure

7.2.1 Measure voltages at JC-15 and JC-16 with reference to PCOM. Record voltages.

7.2.2 Add recorded voltages together and then multiply the result by 51. The result of the calculation should be approx. equal to the input voltage.

7.2.2.1 EXAMPLE: (JC-15) 1.2281 + (JC-16) 1.2296 = 2.4577

2.4577 * 51 = **125.3427**VDC

7.2.3 Measure the voltages at JC-9 (P28S), JC-7 (P15S) and JC-8 (N15S) with reference to PCOM and record the results. Multiply the results of each recorded voltage by 6.

7.2.3.1 EXAMPLE: JC-9 (P28S) = 4.6686 * 6 = **28.0116**VDC

JC-7 (P15S) = 2.638 * 6 = **15.828**VDC

JC-8 (N15S) = 2.6082 * 6 = **15.6492**VDC

Results should be within +/- 1.0VDC. JC-8 (N15S) will be a positive voltage reading.

7.2.4 Check the following voltages with reference to PCOM. 2PL-1 (P28), 2PL-4 (P5), 2PL-7 (P15) and 2PL-8 (N15). Voltages should be within +/- 1.0VDC.

7.2.5 Check the following voltages with reference to BCOM.

7.2.5.1 Check JP1-2 and JP2-2 for -15VDC +/- 1.0VDC.

7.2.5.2 Check JP1-3 and JP2-3 for 15VDC +/- 1.0VDC.

7.2.6 Check the following voltages with reference to PCOM.

7.2.6.1 Check JC-5 for 5VDC +/- .75VDC.

7.2.6.2 Check JP1-5 and JP2-5 for 5VDC +/- .75VDC.

7.2.6.3 Check JP1-7 and JP2-7 for 28VDC +/- 1.0VDC

7.2.7 Check the following voltages with reference to ICOM.

7.2.7.1 Check JC-1 for 15VDC +/- 1.0VDC.

7.2.7.2 Check JC-3 for -15VDC +/- 1.0VDC.

7.2.8 Set an external power supply to 15VDC, connect the positive lead to JC-4 and the negative lead to PCOM. NOTE: A banana plug fits the PB1 connector very well for the PCOM connection.

7.2.8.1 Make sure the pot on the test fixture is set fully clockwise.

7.2.8.2 Turn on the 15VDC supply and check voltage of the following points.

7.2.8.3 JC-11, JC-12, JC-13 and JC-14. All points should read approx. 0 VDC i.e. About 0.162VDC.

7.2.8.4 Turn the pot fully counter-clockwise and recheck the same points. All points should now read approx. 15VDC and LED DS1 should be off.

7.2.8.5 Turn the pot back fully clockwise, remove external supply power and turn off 125VDC power to fixture.

7.3 ***TEST COMPLETE ***

8. Notes

8.1 None at this time.

9. Attachments

9.1 None at this time.