Date: 04 March 2016

### **English Language Test Description**

MIPR # M9545012MP24797 CDRL F001

for

#### **Unit Under Test**

UUT Nomenclature: Power Drive CCA, SLEP UUT Part Number: 00004A2205-1

#### from

LAV-25A2

#### **ATE SYSTEM**

AN/USM-657B – Third Echelon Test System (TETS) AN/USM-717 – Virtual Instrument Portable Equipment Repair/Test (VIPER/T)

### Developed by

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## **ELTD REVISION SUMMARY**

Revision Number	Date	Reason	Approved By – Date Approved B. Nimmick 3/4/2016
-	04 Mar 2016	ORIGINAL ISSUE	B. Nimmick 3/4/2016

Date: 04 March 2016

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### 1.0 Reference Documents

1.1 Virtual Instrument Portable Equipment Repair/Test (VIPER/T)

IEEE Std 716-1989 IEEE Standard Common

Abbreviated Test Language

for All Systems

TM TBD-CD VIPER/T IETM (Interactive

Electronic Technical Manual)

System Design Document Doc # 7992008 VIPER/T AN/USM-717

VIPER/T P/N 7992021 VIPER/T CPM (Computer

**Programming Manual**)

1.2 Third Echelon Test System (TETS-B)

TM 10530A-CD TETS IETM (Interactive

Electronic Technical Manual)

System Design Description Third Echelon Test System

(TETS)

Doc # 93006A0018 AN/USM-657

TETS P/N 93006A0026 TETS CPM (Computer

Programming Manual)

1.3 Unit Under Test

UUT P/N: 00004A2205-1

UUT Nomenclature: Power Drive SLEP CCA, A2

**UUT Type: SRU** 

<u>DESCRIPTION</u> <u>NUMBER</u> <u>REVISION</u> <u>DATE</u>

Parts List None

LRU QA Specification ES12869 D 11-27-2007

Circuit Card Assy, 00004A2205-1

Power Drive SLEP, A2

Schematic Diagram, 00004A2205-1

Power Drive SLEP CCA,

A2

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#### 1.4 Reference Drawings

Refer to the following schematics when diagnosing connection paths.

ID Schematic



13020A0001 (SYSTEM INTERCONN

W5 Schematic



13020A7501 (CABLE, W5, SCHEMATIC).pdf

## 2.0 English Language Test Description Steps

#### 2.1 Interface ID

Refer to Reference Drawings when diagnosing connection paths.

#### Step 1

#### Description:

Connect R111 (324 ohms) to Bus 5. Connect R109 (698 ohms) to Bus 6. R109 and R111 are now in series between Bus 5 and 6. Connect DMM HI to Bus 5. Connect DMM LO to Bus 6. Expected Resistance: 1022 ohms +/- 5%.

From I	D P20-2 (DMM-HI)	to	ID	A1P14.49
From I	D A1J14.49	to	ID	A1J8.28
From I	D A1P8.28	to	ID	P10-203 (S503-1)
From I	D P10-137 (S503-7)	to	ID	A1P6.47
From I	D A1J6.47	to	ID	BUS 5
From I	D P20-3 (DMM-LO)	to	ID	A1P14.50
From I	D A1J14.50	to	ID	A1J8.26
From I	D A1P8.26	to	ID	P10-139 (S503-2)
From I	D P10-170 (S503-8)	to	ID	A1P6.38
From I	D A1J6.38	to	ID	BUS 6
From I	D BUS 5	to	ID	A1J8.47
From I	D A1P8.47	to	ID	P10-73 (S301-48)
From I	D P10-7 (S301-47)	to	ID	A1P7.23

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From ID A1J7.23 to ID A1J4.15 From ID A1P4.15 to R111

From ID BUS 6 to ID A1J8.48 From ID A1P8.48 to ID P10-171 (S301-50) From ID P10-42 (S301-49) to ID A1P7.24 From ID A1J7.24 to ID A1J4.16 From ID A1P4.16 to R109

#### 2.2 Safe To Turn On

#### Step 2

#### Description:

Connect TB1-1 to Bus 1. Connect TB1-3 to Bus 2. Connect DMM Hi to Bus 1. Connect DMM Lo to Bus 2. Verify resistance between TB1-1 and TB1-3. Resistance should be between 750 and 1100 ohms

From ID J3-1	to W5 P1-1 to ID A1P3.27 to ID A1J12.23 to ID P12-85 (S201-45)
	to ID A1P11.42 to ID A1J10.6 to ID P11-203 (S508-1) to ID A1P9.15 to ID BUS 1
From W5 P2-3 (UUT TB1-3) From ID J3-5 From ID A1J3.31 From ID A1P12.27	to W5 P1-5 to ID A1P3.31 to ID A1J12.27 to ID P12-55 (S201-47)
From ID AlJ11.46	to ID A1P11.46 to ID A1J10.2 to ID P11-39 (S507-1) to ID A1P9.27 to ID BUS 2
From ID AlJ14.49 From ID AlP8.28	to ID A1P14.49 to ID A1J8.28 to ID P10-203 (S503-1) to ID A1P6.13 to ID BUS 1
From ID P20-3 (DMM-LO) From ID A1J14.50 From ID A1P8.26 From ID P10-12 (S503-4) From ID A1J6.23	to ID A1P14.50 to ID A1J8.26 to ID P10-139 (S503-2) to ID A1P6.23 to ID BUS 2

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### Step 3

#### Description:

Connect TB1-3 to DC4-HI and TB1-4 to GND. Connect TB1-9 to DC10-LO. Connect S101-32 to DMM-Hi. Connect DMM-Lo to GND. Verify that TB1-3 is not shorted to TB1-4. Expected Resistance is greater than 10 MEG

From W5 P2-3 (UUT TB1-3)	to W5 P1-28
From ID J3-28	to ID A1P3.20
From ID A1J3.20	to ID A1J2.37
From ID A1P2.37	to ID P11-152 (S101-31)
From ID P11-216 (S101-32)	to ID A1P2.30
From ID A1J2.30	to ID A1J7.13
From ID A1P7.13	to ID P10-226 (S301-3)
From ID P10-99 (S301-4)	to ID A1P7.44
From ID A1J7.44	to ID A1J15.49
From ID A1P15.49	to P20-2 (DMM-HI)
From W5 P2-4 (UUT TB1-4)	to W5 P1-27
From ID J3-27	to ID A1P3.21
From ID A1J3.21	to ID A1J2.36
From ID A1P2.36	to ID P11-24 (S101-29)
From ID P11-152 (S101-30)	to ID A1P2.22
From ID A1J2.22	to ID A1J1.4
From ID A1P1.4	to DC10-LO
From W5 P2-9 (UUT TB1-9)	to W5 P1-24
From ID J3-24	to ID A1P3.4
From ID A1J3.4	to ID A1J7.6
From ID A1P7.6	to ID P10-100 (S301-13)
From ID P10-228 (S301-14)	to ID A1P7.20
From ID A1J7.20	to ID A1J1.4
From ID A1P1.4	to DC10-LO
From ID P20-2 (DMM-HI)	to ID AlP14.49
From ID AlJ14.49	to ID A1J7.44
From ID A1P7.44	to ID P10-99 (S301-4)
From ID P10-226 (S301-3)	
From ID A1J7.13	to ID A1J2.31
From ID A1P2.31	to ID P10-87 (S101-6)
From ID P10-23 (S101-5)	to ID A1P2.4
From ID A1J2.4	to ID A1J1.3
From ID A1P1.3	to ID P1-10 (DC4-HI)
From ID P20-3 (DMM-LO)	to ID A1J7.38
From ID A1P7.38	to ID P10-130 (S301-23)
From ID P10-229 (S301-24)	
From ID A1J7.36	to DMM-GND

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#### 2.3 MODULE 1 - STATIC TESTS

#### Description:

This module verifies the static resistance between UUT pins. This will check for correct operation of all resistors, as well as, check for shorts in the semiconductors.

Refer to **Reference Drawings** when diagnosing connection paths.

#### Step 101

#### Description:

Verify the resistance between TB1-7 and TB1-9 is 100K ±5% Ohm.

From ID P20-2 (DMM-HI)	to ID A1P14.49
From ID AlJ14.49	to ID A1J8.28
From ID A1P8.28	to ID P10-203 (S503-1)
From ID P10-77 (S503-3)	to ID A1P6.13
From ID A1J6.13	to ID BUS 1
From ID P20-3 (DMM-LO)	to ID A1P14.50
From ID A1J14.50	to ID A1J8.26
From ID A1P8.26	to ID P10-139 (S503-2)
From ID P10-12 (S503-4)	to ID A1P6.23
From ID A1J6.23	to ID BUS 2
From W5 P2-7 (UUT TB1-7	
From ID J3-7	to ID A1P3.33
From ID A1J3.33	to ID A1J12.29
From ID A1P12.29	to ID P12-24 (S202-7)
From ID P12-59 (S202-1)	to ID AlP11.38
From ID AlJ11.38	to ID AlJ10.10
From ID A1011.36	to ID P11-177 (S509-1)
From ID P11-18 (S509-3)	
From ID AlJ9.19	to ID BUS 1
FIOM ID ALU9.19	CO ID BOS I
From W5 P2-9 (UUT TB1-9	) to W5 P1-9
From ID J3-9	to ID A1P3.35
From ID A1J3.35	to ID A1J12.31
From ID A1P12.31	to ID P12-57 (S202-13)
From ID P13-93 (S202-3)	
From ID A1J13.49	to ID A1J10.48
From ID A1P10.48	to ID P11-52 (S510-1)
From ID P11-147 (S510-4	
From ID A1J9.31	to ID BUS 2

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### Step 102

### Description:

Verify the resistance between TB1-7 and TB1-11 is greater than 10  $\,$  MEG.

#### Connection Path is as follows:

From ID P20-2 (DMM-HI) From ID A1J14.49 From ID A1P8.28 From ID P10-77 (S503-3) From ID A1J6.13	to ID A1P14.49 to ID A1J8.28 to ID P10-203 (S503-1) to ID A1P6.13 to ID BUS 1
From ID P20-3 (DMM-LO) From ID A1J14.50 From ID A1P8.26 From ID P10-12 (S503-4) From ID A1J6.23	to ID A1P14.50 to ID A1J8.26 to ID P10-139 (S503-2) to ID A1P6.23 to ID BUS 2
From W5 P2-7 (UUT TB1-7) From ID J3-7 From ID A1J3.33 From ID A1P12.29	to W5 P1-7 to ID A1P3.33 to ID A1J12.29 to ID P12-24 (S202-7)
From ID P12-59 (S202-1) From ID A1J11.38 From ID A1P10.10 From ID P11-17 (S509-4) From ID A1J9.29	to ID A1J10.10 to ID P11-177 (S509-1)
From W5 P2-11 (UUT TB1-11) From ID J3-8 From ID A1J3.32 From ID A1P12.30	to W5 P1-8 to ID A1P3.32 to ID A1J12.30 to ID P12-56 (S202-8)
From ID P13-29 (S202-4) From ID A1J13.50 From ID A1P10.50 From ID P11-180 (S510-3) From ID A1J9.21	to ID A1P13.50 to ID A1J10.50 to ID P11-244 (S510-2) to ID A1P9.21 to ID BUS 1

### Step 103

#### Description:

Verify the resistance between TB1-8 and TB1-12 is greater than 10  $\,$  MEG.

From ID P20-2 (DMM-HI)	to ID A1P14.49
From ID A1J14.49	to ID A1J8.28
From ID A1P8.28	to ID P10-203 (S503-1)
From ID P10-77 (S503-3)	to ID A1P6.13

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From	ID	A1J6.13	to	ID	BUS 1
			to	ID	A1P14.50
From	ID	A1J14.50	to	ID	A1J8.26
From	ID	A1P8.26	to	ID	P10-139 (S503-2)
From	ID	P10-12 (S503-4)	to	ID	A1P6.23
From	ID	A1J6.23	to	ID	BUS 2
From	W5	P2-8 (UUT TB1-8)	to	W5	P1-11
From	ID	J3-11	to	ID	A1P3.37
_		A1J3.37			A1J12.33
From	ID	A1P12.33	to	ID	P12-26 (S202-15)
From	ID	P12-59 (S202-1)	to	ID	A1P11.38
From	ID	A1J11.38	to	ID	A1J10.10
From	ID	A1P10.10	to	ID	P11-177 (S509-1)
From	ID	P11-17 (S509-4)	to	ID	A1P9.29
From	ID	A1J9.29	to	ID	BUS 2
From	W5	P2-12 (UUT TB1-12)	to	W5	P1-12
From	ID	Ј3-12	to	ID	A1P3.36
From	ID	A1J3.36	to	ID	A1J12.34
From	ID	A1P12.34	to	ID	P12-58 (S202-16)
From	ID	P12-90 (S202-2)	to	ID	A1P11.36
From	ID	A1J11.36	to	ID	A1J10.12
${\tt From}$	ID	A1P10.12	to	ID	P11-242 (S509-2)
${\tt From}$	ID	P11-18 (S509-3)	to	ID	A1P9.19
From	ID	A1J9.19	to	ID	BUS 1

### Step 104

### Description:

Verify the resistance between TB1-6 and TB1-3 is from 500 to  $787 \mathrm{ohms}$ .

From ID P20-2 (DMM-HI) From ID A1J14.49 From ID A1P8.28 From ID P10-77 (S503-3) From ID A1J6.13	to ID A1P14.49 to ID A1J8.28 to ID P10-203 (S503-1) to ID A1P6.13 to ID BUS 1
From ID P20-3 (DMM-LO) From ID A1J14.50 From ID A1P8.26 From ID P10-12 (S503-4) From ID A1J6.23	to ID A1P14.50 to ID A1J8.26 to ID P10-139 (S503-2) to ID A1P6.23 to ID BUS 2
From W5 P2-6 (UUT TB1-6) From ID J3-4 From ID A1J3.28 From ID A1P12.26	to W5 P1-4 to ID A1P3.28 to ID A1J12.26 to ID P12-25 (S202-6)

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From ID P12-90 (S202-2) From ID A1J11.36 From ID A1P10.12 From ID P11-18 (S509-3) From ID A1J9.19	to ID A1P11.36 to ID A1J10.12 to ID P11-242 (S509-2) to ID A1P9.19 to ID BUS 1
From W5 P2-3 (UUT TB1-3) From ID J3-5 From ID A1J3.31 From ID A1P12.27	to W5 P1-5 to ID A1P3.31 to ID A1J12.27 to ID P12-55 (S201-47)
From ID P12-16 (S201-1) From ID A1J11.42 From ID A1P10.6 From ID P11-12 (S508-4) From ID A1J9.25	to ID A1P11.42 to ID A1J10.6 to ID P11-203 (S508-1) to ID A1P9.25 to ID BUS 2

## Step 105

### Description:

Verify the resistance between TB1-1 and TB1-3 is from 750 to 1100 Ohm.

From ID P20-2 (DMM-HI) From ID A1J14.49 From ID A1P8.28 From ID P10-77 (S503-3) From ID A1J6.13	to ID A1P14.49 to ID A1J8.28 to ID P10-203 (S503-1) to ID A1P6.13 to ID BUS 1
From ID P20-3 (DMM-LO) From ID A1J14.50 From ID A1P8.26 From ID P10-12 (S503-4) From ID A1J6.23	to ID A1P14.50 to ID A1J8.26 to ID P10-139 (S503-2) to ID A1P6.23 to ID BUS 2
From W5 P2-1 (UUT TB1-1) From ID J3-1 From ID A1J3.27 From ID A1P12.23	to W5 P1-1 to ID A1P3.27 to ID A1J12.23 to ID P12-85 (S201-45)
From ID P12-20 (S201-3) From ID A1J11.46 From ID A1P10.2 From ID P11-168 (S507-3) From ID A1J9.17	to ID A1P11.46 to ID A1J10.2 to ID P11-39 (S507-1) to ID A1P9.17 to ID BUS 1
From W5 P2-3 (UUT TB1-3) From ID J3-5 From ID A1J3.31 From ID A1P12.27	to W5 P1-5 to ID A1P3.31 to ID A1J12.27 to ID P12-55 (S201-47)

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From ID P12-16 (S201-1) to ID A1P11.42 from ID A1J11.42 to ID A1J10.6 from ID A1P10.6 to ID P11-203 (S508-1) from ID P11-12 (S508-4) to ID A1P9.25 from ID A1J9.25 to ID BUS 2

#### Step 106

#### Description:

Verify the resistance between TB1-2 and TB1-3 is greater than 10 MEG.  $\,$ 

#### Connection Path is as follows:

	to ID A1P14.49 to ID A1J8.28 to ID P10-203 (S503-1) to ID A1P6.13 to ID BUS 1
From ID P20-3 (DMM-LO) From ID A1J14.50 From ID A1P8.26 From ID P10-12 (S503-4) From ID A1J6.23	to ID A1P14.50 to ID A1J8.26 to ID P10-139 (S503-2) to ID A1P6.23 to ID BUS 2
From W5 P2-2 (UUT TB1-2)	to W5 P1-2
From ID J3-2	to ID A1P3.26
From ID AlJ3.26	to ID A1J12.24
From ID A1P12.24	to ID P12-21 (S201-46)
From ID P12-52 (S201-4)	to ID AlP11.44
From ID AlJ11.44	to ID A1J10.4
	to ID P11-71 (S507-2)
· · · · · · · · · · · · · · · · · · ·	to ID A1P9.27
From ID A1J9.27	to ID BUS 2
From W5 P2-3 (UUT TB1-3)	to W5 P1-5
From ID J3-5	to ID A1P3.31
From ID A1J3.31	to ID A1J12.27
From ID A1P12.27	to ID P12-55 (S201-47)
From ID P12-16 (S201-1)	
From ID A1J11.42	to ID A1J10.6
From ID A1P10.6	to ID P11-203 (S508-1)
From ID P11-77 (S508-3)	
From ID AlJ9.15	to ID BUS 1

#### Step 107

#### Description:

Verify the resistance between TB1-5 and TB1-3 is greater than 10 MEG.  $\,$ 

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#### Connection Path is as follows:

From ] From ]	ID P20-2 (DMM-HI) ID A1J14.49 ID A1P8.28 ID P10-77 (S503-3) ID A1J6.13	to to to	ID ID ID	A1P14.49 A1J8.28 P10-203 (S503-1) A1P6.13 BUS 1
FIOUL 1	ID A100.13	LO	ID	BU5 I
From ] From ]	ID P20-3 (DMM-LO) ID A1J14.50 ID A1P8.26 ID P10-12 (S503-4) ID A1J6.23	to to to	ID ID ID	A1P14.50 A1J8.26 P10-139 (S503-2) A1P6.23 BUS 2
From ]	N5 P2-5 (UUT TB1-5) ID J3-3 ID A1J3.29 ID A1P12.25	to to	ID ID	P1-3 A1P3.29 A1J12.25 P12-89 (S202-5)
From ] From ]	ID P12-59 (S202-1) ID A1J11.38 ID A1P10.10 ID P11-17 (S509-4) ID A1J9.29	to to to	ID ID ID	A1P11.38 A1J10.10 P11-177 (S509-1) A1P9.29 BUS 2
From ]	N5 P2-3 (UUT TB1-3) ID J3-5 ID A1J3.31 ID A1P12.27	to to	ID ID	P1-5 A1P3.31 A1J12.27 P12-55 (S201-47)
From ] From ]	ID P12-16 (S201-1) ID A1J11.42 ID A1P10.6 ID P11-77 (S508-3) ID A1J9.15	to to to	ID ID ID	A1P11.42 A1J10.6 P11-203 (S508-1) A1P9.15 BUS 1

### Step 108

#### Description:

Verify the resistance between TB1-5 and TB1-4 is greater than 10 MEG.  $\,$ 

From ID P20-2 (DMM-HI)	to ID A1P14.49
From ID A1J14.49	to ID A1J8.28
From ID A1P8.28	to ID P10-203 (S503-1)
From ID P10-77 (S503-3)	to ID A1P6.13
From ID A1J6.13	to ID BUS 1
From ID P20-3 (DMM-LO)	to ID A1P14.50
From ID A1J14.50	to ID A1J8.26
From ID A1P8.26	to ID P10-139 (S503-2)
From ID P10-12 (S503-4)	to ID A1P6.23

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From ID AlJ6.23 From W5 P2-5 (UUT TB1-5) From ID J3-3 From ID AlJ3.29 From ID AlP12.25	to ID BUS 2 to W5 P1-3 to ID A1P3.29 to ID A1J12.25 to ID P12-89 (S202-5)
From ID P12-59 (S202-1) From ID A1J11.38 From ID A1P10.10 From ID P11-18 (S509-3) From ID A1J9.19	to ID A1P11.38 to ID A1J10.10 to ID P11-177 (S509-1) to ID A1P9.19 to ID BUS 1
From W5 P2-4 (UUT TB1-4) From ID J3-6 From ID A1J3.30 From ID A1P12.28	to W5 P1-6 to ID A1P3.30 to ID A1J12.28 to ID P12-86 (S201-48)
From ID P12-80 (S201-2) From ID A1J11.40 From ID A1P10.8 From ID P11-12 (S508-4) From ID A1J9.25	to ID A1P11.40 to ID A1J10.8 to ID P11-139 (S508-2) to ID A1P9.25 to ID BUS 2

### Step 109

## Description:

Verify the resistance between TB1-2 and TB1-4 is greater than 10 MEG.

From ID P20-2 (DMM-HI) From ID A1J14.49 From ID A1P8.28 From ID P10-77 (S503-3) From ID A1J6.13	to ID A1P14.49 to ID A1J8.28 to ID P10-203 (S503-1) to ID A1P6.13 to ID BUS 1
From ID P20-3 (DMM-LO) From ID A1J14.50 From ID A1P8.26 From ID P10-12 (S503-4) From ID A1J6.23	to ID A1P14.50 to ID A1J8.26 to ID P10-139 (S503-2) to ID A1P6.23 to ID BUS 2
From W5 P2-2 (UUT TB1-2) From ID J3-2 From ID A1J3.26 From ID A1P12.24	to W5 P1-2 to ID A1P3.26 to ID A1J12.24 to ID P12-21 (S201-46)
From ID P12-52 (S201-4) From ID A1J11.44 From ID A1P10.4 From ID P11-168 (S507-3) From ID A1J9.17	to ID A1P11.44 to ID A1J10.4 to ID P11-71 (S507-2) to ID A1P9.17 to ID BUS 1

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From W5 P2-4 (UUT TB1-4) to W5 P1-6
From ID J3-6 to ID A1P3.30
From ID A1J3.30 to ID A1J12.28
From ID A1P12.28 to ID P12-86 (S201-48)

From ID P12-80 (S201-2) to ID A1P11.40
From ID A1J11.40 to ID A1J10.8
From ID A1P10.8 to ID P11-139 (S508-2)
From ID P11-12 (S508-4) to ID A1P9.25
The A1J9.25 to ID BUS 2

#### Step 110

#### Description:

Verify the resistance between TB1-5 and TB1-6 is greater than  $10 \, \mathrm{MEG}$ .

From ID A1J14.49 From ID A1P8.28	to ID A1P14.49 to ID A1J8.28 to ID P10-203 (S503-1) to ID A1P6.13 to ID BUS 1
From ID A1J14.50 From ID A1P8.26	to ID A1P14.50 to ID A1J8.26 to ID P10-139 (S503-2) to ID A1P6.23 to ID BUS 2
From W5 P2-5 (UUT TB1-5) From ID J3-3 From ID A1J3.29 From ID A1P12.25	to W5 P1-3 to ID A1P3.29 to ID A1J12.25 to ID P12-89 (S202-5)
	to ID A1P11.38 to ID A1J10.10 to ID P11-177 (S509-1) to ID A1P9.29 to ID BUS 2
From W5 P2-6 (UUT TB1-6) From ID J3-4 From ID A1J3.28 From ID A1P12.26	to W5 P1-4 to ID A1P3.28 to ID A1J12.26 to ID P12-25 (S202-6)
From ID P12-90 (S202-2) From ID A1J11.36 From ID A1P10.12 From ID P11-18 (S509-3) From ID A1J9.19	to ID A1P11.36 to ID A1J10.12 to ID P11-242 (S509-2) to ID A1P9.19 to ID BUS 1

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### Step 111

### Description:

Verify the resistance between TB1-1 and TB1-2 is greater than 10 MEG.  $\,$ 

#### Connection Path is as follows:

From ID P20-2 (DMM-HI) From ID A1J14.49 From ID A1P8.28 From ID P10-77 (S503-3) From ID A1J6.13	to ID A1P14.49 to ID A1J8.28 to ID P10-203 (S503-1) to ID A1P6.13 to ID BUS 1
	to ID A1P14.50 to ID A1J8.26 to ID P10-139 (S503-2) to ID A1P6.23 to ID BUS 2
From W5 P2-1 (UUT TB1-1) From ID J3-1 From ID A1J3.27 From ID A1P12.23	to W5 P1-1 to ID A1P3.27 to ID A1J12.23 to ID P12-85 (S201-45)
	to ID A1P11.42 to ID A1J10.6 to ID P11-203 (S508-1) to ID A1P9.15 to ID BUS 1
From W5 P2-2 (UUT TB1-2) From ID J3-2 From ID A1J3.26 From ID A1P12.24	to W5 P1-2 to ID A1P3.26 to ID A1J12.24 to ID P12-21 (S201-46)
From ID AlJ11.40	to ID A1P11.40 to ID A1J10.8 to ID P11-139 (S508-2) to ID A1P9.25 to ID BUS 2

### Step 112

#### Description:

Verify the resistance between TB1-11 and TB1-12 is less than 5 ohms.

From ID P20-2 (DMM-HI)	to ID A1P14.49
From ID A1J14.49	to ID A1J8.28
From ID A1P8.28	to ID P10-203 (S503-1)
From ID P10-77 (S503-3)	to ID A1P6.13
From ID A1J6.13	to ID BUS 1

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From ID P20-3 (DMM-LO) From ID A1J14.50 From ID A1P8.26 From ID P10-12 (S503-4) From ID A1J6.23	to ID A1P14.50 to ID A1J8.26 to ID P10-139 (S503-2) to ID A1P6.23 to ID BUS 2
From W5 P2-11 (UUT TB1-11) From ID J3-8 From ID A1J3.32 From ID A1P12.30	to W5 P1-8 to ID A1P3.32 to ID A1J12.30 to ID P12-56 (S202-8)
From ID P12-90 (S202-2) From ID A1J11.36 From ID A1P10.12 From ID P11-18 (S509-3) From ID A1J9.19	to ID A1P11.36 to ID A1J10.12 to ID P11-242 (S509-2) to ID A1P9.19 to ID BUS 1
From W5 P2-12 (UUT TB1-12) From ID J3-12 From ID A1J3.36 From ID A1P12.34	to W5 P1-12 to ID A1P3.36 to ID A1J12.34 to ID P12-58 (S202-16)
From ID P13-29 (S202-4) From ID A1J13.50 From ID A1P10.50 From ID P11-147 (S510-4) From ID A1J9.31	to ID A1P13.50 to ID A1J10.50 to ID P11-244 (S510-2) to ID A1P9.31 to ID BUS 2

## Step 113

### Description:

Verify the resistance between TB1-9 and TB1-10 is less than 5 ohms.

From ID P20-2 (DMM-HI) From ID A1J14.49 From ID A1P8.28 From ID P10-77 (S503-3) From ID A1J6.13	to ID A1P14.49 to ID A1J8.28 to ID P10-203 (S503-1) to ID A1P6.13 to ID BUS 1
From ID P20-3 (DMM-LO) From ID A1J14.50 From ID A1P8.26 From ID P10-12 (S503-4) From ID A1J6.23	to ID A1P14.50 to ID A1J8.26 to ID P10-139 (S503-2) to ID A1P6.23 to ID BUS 2
From W5 P2-9 (UUT TB1-9) From ID J3-9 From ID A1J3.35 From ID A1P12.31  From ID P12-59 (S202-1) From ID A1J11.38	to W5 P1-9 to ID A1P3.35 to ID A1J12.31 to ID P12-57 (S202-13)  to ID A1P11.38 to ID A1J10.10

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From ID A1P10.10 to ID P11-177 (S509-1) From ID P11-18 (S509-3) to ID A1P9.19 to ID BUS 1

From W5 P2-10 (UUT TB1-10) to W5 P1-10 to ID A1P3.34 from ID A1J3.34 to ID A1J12.32 from ID A1P12.32 to ID P12-88 (S202-14)

From ID P12-90 (S202-2) to ID A1P11.36 from ID A1J11.36 to ID A1J10.12 from ID A1P10.12 to ID P11-242 (S509-2) from ID P11-17 (S509-4) to ID A1P9.29 from ID A1J9.29 to ID BUS 2

#### Step 114

#### Description:

Verify the resistance between TB1-8 and TB1-9 is 100K ±5% Ohm.

From ID P20-2 (DMM-HI) From ID A1J14.49 From ID A1P8.28 From ID P10-77 (S503-3) From ID A1J6.13	to ID A1P14.49 to ID A1J8.28 to ID P10-203 (S503-1) to ID A1P6.13 to ID BUS 1
From ID P20-3 (DMM-LO) From ID A1J14.50 From ID A1P8.26 From ID P10-12 (S503-4) From ID A1J6.23	to ID A1P14.50 to ID A1J8.26 to ID P10-139 (S503-2) to ID A1P6.23 to ID BUS 2
From W5 P2-8 (UUT TB1-8) From ID J3-11 From ID A1J3.37 From ID A1P12.33	to W5 P1-11 to ID A1P3.37 to ID A1J12.33 to ID P12-26 (S202-15)
From ID P12-59 (S202-1) From ID A1J11.38 From ID A1P10.10 From ID P11-18 (S509-3) From ID A1J9.19	to ID A1J10.10 to ID P11-177 (S509-1)
From W5 P2-9 (UUT TB1-9) From ID J3-9 From ID A1J3.35 From ID A1P12.31	to W5 P1-9 to ID A1P3.35 to ID A1J12.31 to ID P12-57 (S202-13)
From ID P13-93 (S202-3) From ID A1J13.49 From ID A1P10.48 From ID P11-147 (S510-4)	to ID P11-52 (S510-1)

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From ID AlJ9.31

to ID BUS 2

#### 2.4 MODULE 2 - BJT TESTS

#### Description:

This module will verify the on and off characteristics of the BJTs, as well as their protection devices.

Refer to Reference Drawings when diagnosing connection paths.

#### Step 201

### Description:

This test verifies the correct behavior of DIODE CR1 in the forward current path. Current is passed through CR1 from Anode to Cathode using DC10 as a source in series with a 280 ohm resistor - a Voltage drop of <= 1 volts is expected while current is flowing and is verified using the DMM.

From ID P10-37 (S301-22)	to ID A1P3.3 to ID A1J7.8 to ID P10-227 (S301-21)
	to ID A1P14.49 to ID A1J8.28 to ID P10-203 (S503-1) to ID A1P6.13 to ID BUS 1
From ID A1J14.50 From ID A1P8.26	to ID A1P14.50 to ID A1J8.26 to ID P10-139 (S503-2) to ID A1P6.23 to ID BUS 2
From W5 P2-4 (UUT TB1-4) From ID J3-6 From ID A1J3.30 From ID A1P12.28	to W5 P1-6 to ID A1P3.30 to ID A1J12.28 to ID P12-86 (S201-48)
From ID AlJ11.40	to ID A1P11.40 to ID A1J10.8 to ID P11-139 (S508-2) to ID A1P9.15 to ID BUS 1
From W5 P2-5 (UUT TB1-5) From ID J3-3	to W5 P1-3 to ID A1P3.29

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From ID A1J3.29 From ID A1P12.25	to ID A1J12.25 to ID P12-89 (S202-5)
From ID P12-59 (S202-1) From ID A1J11.38 From ID A1P10.10 From ID P11-17 (S509-4) From ID A1J9.29	to ID A1P11.38 to ID A1J10.10 to ID P11-177 (S509-1) to ID A1P9.29 to ID BUS 2
From W5 P2-4 (UUT TB1-4) From ID J3-17 From ID A1J3.5 From ID A1P2.29 From ID P10-217 (S101-16) From ID A1J2.21 From ID A1P1.6	to W5 P1-17 to ID A1P3.5 to ID A1J2.29 to ID P10-153 (S101-15) to ID A1P2.21 to ID A1J1.6 to ID P1-28 (DC10-HI)

### Step 202

#### Description:

This test verifies the correct behavior of DIODE CR2 in the forward current path. Current is passed through CR2 from Anode to Cathode using DC10 as a source in series with a 280 ohm resistor - a Voltage drop of <= 1 volts is expected while current is flowing and is verified using the DMM.

From W5 P2-2 (UUT TB1-2) From ID J3-22 From ID A1J3.2 From ID A1P7.10 From ID P10-132 (S301-20) From ID A1J7.28 From ID A1P4.20	to W5 P1-22 to ID A1P3.2 to ID A1J7.10 to ID P10-3 (S301-19) to ID A1P7.28 to ID A1J4.20 to R101
From W5 P2-4 (UUT TB1-4) From ID J3-17 From ID A1J3.5 From ID A1P2.29 From ID P10-217 (S101-16) From ID A1J2.21 From ID A1P1.6	to ID A1P3.5 to ID A1J2.29 to ID P10-153 (S101-15)
From ID P20-2 (DMM-HI) From ID A1J14.49 From ID A1P8.28 From ID P10-77 (S503-3) From ID A1J6.13  From ID P20-3 (DMM-LO)	to ID A1P14.49 to ID A1J8.28 to ID P10-203 (S503-1) to ID A1P6.13 to ID BUS 1
From ID A1J14.50 From ID A1P8.26 From ID P10-12 (S503-4)	to ID A1J8.26 to ID P10-139 (S503-2) to ID A1P6.23

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From ID A1J6.23	to ID BUS 2
From W5 P2-4 (UUT TB1-4) From ID J3-6 From ID A1J3.30 From ID A1P12.28	to W5 P1-6 to ID A1P3.30 to ID A1J12.28 to ID P12-86 (S201-48)
From ID P12-80 (S201-2) From ID A1J11.40 From ID A1P10.8 From ID P11-77 (S508-3) From ID A1J9.15	to ID A1P11.40 to ID A1J10.8 to ID P11-139 (S508-2) to ID A1P9.15 to ID BUS 1
From W5 P2-2 (UUT TB1-2) From ID J3-2 From ID A1J3.26 From ID A1P12.24	to W5 P1-2 to ID A1P3.26 to ID A1J12.24 to ID P12-21 (S201-46)
From ID P12-52 (S201-4) From ID A1J11.44 From ID A1P10.4 From ID P11-72 (S507-4) From ID A1J9.27	to ID A1P11.44 to ID A1J10.4 to ID P11-71 (S507-2) to ID A1P9.27 to ID BUS 2

### Step 203

### Description:

This test verifies Q1 is open without base drive applied. The collector voltage is measured with a collector load resistor connected to GND.

From W5 P2-5 (UUT TB1-5) From ID J3-20 From ID A1J3.23 From ID A1P2.34 From ID P11-215 (S101-28) From ID A1J2.8 From ID A1P4.4	to ID A1P3.23 to ID A1J2.34 to ID P11-151 (S101-27)
From ID P20-2 (DMM-HI) From ID A1J14.49 From ID A1P8.28 From ID P10-77 (S503-3) From ID A1J6.13	to ID A1P14.49 to ID A1J8.28 to ID P10-203 (S503-1) to ID A1P6.13 to ID BUS 1
From ID P20-3 (DMM-LO) From ID A1J14.50 From ID A1P8.26 From ID P10-12 (S503-4) From ID A1J6.23 From W5 P2-5 (UUT TB1-5)	to ID A1P14.50 to ID A1J8.26 to ID P10-139 (S503-2) to ID A1P6.23 to ID BUS 2

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From ID J3-3 From ID A1J3.29 From ID A1P12.25	to ID A1P3.29 to ID A1J12.25 to ID P12-89 (S202-5)
From ID A1J11.38 From ID A1P10.10	to ID A1P11.38 to ID A1J10.10 to ID P11-177 (S509-1) to ID A1P9.19 to ID BUS 1
From W5 P2-4 (UUT TB1-4) From ID J3-6 From ID A1J3.30 From ID A1P12.28	to W5 P1-6 to ID A1P3.30 to ID A1J12.28 to ID P12-86 (S201-48)
From ID A1J11.40 From ID A1P10.8	to ID A1P11.40 to ID A1J10.8 to ID P11-139 (S508-2) to ID A1P9.25 to ID BUS 2
From W5 P2-3 (UUT TB1-3) From ID J3-28 From ID A1J3.20 From ID A1P2.37 From ID P11-216 (S101-32) From ID A1J2.30 From ID A1P2.31 From ID P10-23 (S101-5) From ID A1J2.4	to W5 P1-28 to ID A1P3.20 to ID A1J2.37 to ID P11-152 (S101-31) to ID A1P2.30 to ID A1J2.31 to ID P10-87 (S101-6) to ID A1P2.4 to ID A1J1.3
From ID A1P1.3	to P1-11 (DC4-HI)

## Step 204

#### Description:

This test verifies operation of Q1 with base drive applied. The voltage from collector to GND is verified with a collector load resistor connected to GND to be VCC minus Emitter to Collector drop.

From W5	P2-5 (UUT TB1-5)	to	W5	P1-20	
From ID	J3-20	to	ID	A1P3.23	
From ID	A1J3.23	to	ID	A1J2.34	
From ID	A1P2.34	to	ID	P11-151	(S101-27)
From ID	P11-215 (S101-28)	to	ID	A1P2.8	
From ID	A1J2.8	to	ID	A1J4.4	
From ID	A1P4.4	to	R10	)4	
From W5	P2-3 (UUT TB1-3)	to	W5	P1-28	
From ID	J3-28	to	ID	A1P3.20	
From ID	A1J3.20	to	ID	A1J2.37	
From ID	A1P2.37	to	ID	P11-152	(S101-31)
From ID	P11-216 (S101-32)	to	ID	A1P2.30	

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From ID A1J2.30 From ID A1P2.31 From ID P10-23 (S101-5) From ID A1J2.4 From ID A1P1.3	to ID A1J2.31 to ID P10-87 (S101-6) to ID A1P2.4 to ID A1J1.3 to P1-11 (DC4-HI)
From ID P20-2 (DMM-HI) From ID A1J14.49 From ID A1P8.28 From ID P10-77 (S503-3) From ID A1J6.13	to ID A1P14.49 to ID A1J8.28 to ID P10-203 (S503-1) to ID A1P6.13 to ID BUS 1
From ID P20-3 (DMM-LO) From ID A1J14.50 From ID A1P8.26 From ID P10-12 (S503-4) From ID A1J6.23	to ID A1P14.50 to ID A1J8.26 to ID P10-139 (S503-2) to ID A1P6.23 to ID BUS 2
From W5 P2-5 (UUT TB1-5) From ID J3-3 From ID A1J3.29 From ID A1P12.25	to W5 P1-3 to ID A1P3.29 to ID A1J12.25 to ID P12-89 (S202-5)
From ID P12-59 (S202-1) From ID A1J11.38 From ID A1P10.10 From ID P11-18 (S509-3) From ID A1J9.19	to ID A1P11.38 to ID A1J10.10 to ID P11-177 (S509-1) to ID A1P9.19 to ID BUS 1
From W5 P2-4 (UUT TB1-4) From ID J3-6 From ID A1J3.30 From ID A1P12.28	to W5 P1-6 to ID A1P3.30 to ID A1J12.28 to ID P12-86 (S201-48)
From ID P12-80 (S201-2) From ID A1J11.40 From ID A1P10.8 From ID P11-12 (S508-4) From ID A1J9.25	to ID A1P11.40 to ID A1J10.8 to ID P11-139 (S508-2) to ID A1P9.25 to ID BUS 2

### Step 205

### Description:

This test verifies Q2 is open without base drive applied. The voltage from collector to GND is measured with a collector load resistor connected to GND.

From W5 P	2-2 (UUT TB1-2)	to	W5	P1-19
From ID J	3-19	to	ID	A1P3.11
From ID A	.1J3.11	to	ID	A1J2.19
From ID A	.1P2.19	to	ID	P11-23 (S101-25)
From ID P	11-87 (S101-26)	to	ID	A1P2.9

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From ID	A1J2.9	to	ID	A1J4.3
From ID	A1P4.3	to	R10	)5
From W5	P2-3 (UUT TB1-3)	to	₩5	P1-28
From ID	J3-28	to	ID	A1P3.20
From ID	A1J3.20	to	ID	A1J2.37
From ID	A1P2.37	to	ID	P11-152 (S101-31)
From ID	P11-216 (S101-32)	to	ID	A1P2.30
From ID	A1J2.30	to	ID	A1J2.31
From ID	A1P2.31	to	ID	P10-87 (S101-6)
From ID	P10-23 (S101-5)	to	ID	A1P2.4
From ID	A1J2.4	to	ID	A1J1.3
From ID	A1P1.3	to	P1-	-11 (DC4-HI)
	P20-2 (DMM-HI)			A1P14.49
	A1J14.49			A1J8.28
	A1P8.28			P10-203 (S503-1)
	P10-77 (S503-3)			A1P6.13
From ID	A1J6.13	to	ID	BUS 1
				-4-44 -0
	P20-3 (DMM-LO)			A1P14.50
	A1J14.50			A1J8.26
	A1P8.26			P10-139 (S503-2)
	P10-12 (S503-4)			A1P6.23
From ID	A1J6.23	to	TD	BUS 2
From W5	P2-2 (UUT TB1-2)	t.o	W5	P1-2
From ID				A1P3.26
_	A1J3.26			A1J12.24
	A1P12.24			P12-21 (S201-46)
110 12				111 11 (2101 10)
From ID	P12-52 (S201-4)	to	ID	A1P11.44
From ID	A1J11.44	to	ID	A1J10.4
From ID	A1P10.4	to	ID	P11-71 (S507-2)
From ID	P11-168 (S507-3)	to	ID	A1P9.17
From ID	A1J9.17	to	ID	BUS 1
	P2-4 (UUT TB1-4)			P1-6
From ID				A1P3.30
	A1J3.30			A1J12.28
From ID	A1P12.28	to	ID	P12-86 (S201-48)
From ID	P12-80 (S201-2)	t.o	TD	A1P11.40
	A1J11.40			A1J10.8
	A1P10.8			P11-139 (S508-2)
	P11-12 (S508-4)			A1P9.25
	A1J9.25			BUS 2
110111 110			-1	

### Step 206

#### Description:

This test verifies operation of Q2 with base drive applied. The voltage from collector to GND is verified with a collector load resistor connected to GND to be VCC minus Emitter to Collector drop.

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From	W5	P2-2 (UUT TB1-2)	t.o	W5	P1-19
		J3-19			A1P3.11
		A1J3.11			A1J2.19
					P11-23 (S101-25)
		P11-87 (S101-26)			
					A1J4.3
		A102.9 A1P4.3			
FLOIII	ΙD	AIP4.3	LO	R10	75
From	W5	P2-3 (UUT TB1-3)	to	W5	P1-28
		Ј3-28	to	ID	A1P3.20
From	ID	A1J3.20	to	ID	A1J2.37
From	ID	A1P2.37	to	ID	P11-152 (S101-31)
From	ID	P11-216 (S101-32)			A1P2.30
		A1J2.30			A1J2.31
		A1P2.31			P10-87 (S101-6)
		P10-23 (S101-5)			A1P2.4
		A1J2.4			A1J1.3
		A1P1.3			-11 (DC4-HI)
riom	דע	AIF1.5	CO	ГI	II (DC4 III)
From	ID	P20-2 (DMM-HI)	to	ID	A1P14.49
		A1J14.49	to	ID	A1J8.28
From	ID	A1P8.28	to	ID	P10-203 (S503-1)
		P10-77 (S503-3)			A1P6.13
From	ID	A1J6.13			BUS 1
From	ID	P20-3 (DMM-LO)	to	ID	A1P14.50
From	ID	A1J14.50	to	ID	A1J8.26
From	ID	A1P8.26	to	ID	P10-139 (S503-2)
From	ID	P10-12 (S503-4)	to	ID	A1P6.23
		A1J6.23			BUS 2
		P2-2 (UUT TB1-2)			
From					A1P3.26
		A1J3.26			A1J12.24
From	ID	A1P12.24	to	ID	P12-21 (S201-46)
From	TD	P12-52 (S201-4)	tο	TD	Δ1P11 44
		A1J11.44			A1J10.4
		A1P10.4			P11-71 (S507-2)
		P11-168 (S507-3)			A1P9.17
		Alj9.17			BUS 1
FIOIII	עד	A109.17	LO	דח	BUS I
From	W5	P2-4 (UUT TB1-4)	to	W5	P1-6
From	ID	J3-6	to	ID	A1P3.30
From	ID	A1J3.30	to	ID	A1J12.28
		A1P12.28			P12-86 (S201-48)
Ezer	TD	D12 00 /G201 2\	+ ~	TD	או 1011 או
		P12-80 (S201-2)			A1P11.40
		A1J11.40			A1J10.8
		A1P10.8			P11-139 (S508-2)
		P11-12 (S508-4)			A1P9.25
F'rom	TD	A1J9.25	to	TD	BUS 2

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From W5 P2-1 (UUT TB1-1) to W5 P1-1
From ID J3-1 to ID A1P3.27
From ID A1J3.27 to ID A1J12.23
From ID A1P12.23 to ID P12-85 (S201-45)

From ID P12-20 (S201-3) to ID A1P11.46
From ID A1J11.46 to ID A1J10.2
From ID A1P10.2 to ID P11-39 (S507-1)
From ID P11-5 (S507-8) to ID A1P9.24
From ID A1J9.24 to ID BUS 6

From ID BUS 6 to ID A1J8.50
From ID A1P8.50 to ID P10-138 (S301-54)
From ID P10-9 (S301-53) to ID A1P7.26
From ID A1J7.26 to ID A1J4.18
From ID A1P4.18 to R108

#### 2.5 MODULE 3 - FET TESTS

#### Description:

This module will verify the on and off characteristics of the FETs, as well as their protection devices.

Refer to Reference Drawings when diagnosing connection paths.

#### Step 301

#### Description:

This step will verify that VR1 has the proper voltage drop of  $43 \pm 10\%$ . DC10 will be used as a source through R102 of 280 Ohms. DC10 is set to 52 volts.

From W5 P2-9 (UUT TB1-9) From ID J3-24 From ID A1J3.4 From ID A1P7.6 From ID P10-228 (S301-14) From ID A1J7.20 From ID A1P1.4	to W5 P1-24 to ID A1P3.4 to ID A1J7.6 to ID P10-100 (S301-13) to ID A1P7.20 to ID A1J1.4 to DC10-LO
From W5 P2-11 (UUT TB1-11) From ID J3-21 From ID A1J3.1 From ID A1P4.14	to W5 P1-21 to ID A1P3.1 to ID A1J4.14 to R102
From R102 From ID A1J4.19 From ID A1P7.27 From ID P10-4 (S301-18) From ID A1J7.11 From ID A1P1.6	to ID A1P4.19 to ID A1J7.27 to ID P10-67 (S301-17) to ID A1P7.11 to ID A1J1.6 to ID P1-28 (DC10-HI)

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From ID P20-2 (DMM-HI) From ID A1J14.49 From ID A1P8.28 From ID P10-77 (S503-3) From ID A1J6.13	to ID A1P14.49 to ID A1J8.28 to ID P10-203 (S503-1) to ID A1P6.13 to ID BUS 1
From ID P20-3 (DMM-LO) From ID A1J14.50 From ID A1P8.26 From ID P10-12 (S503-4) From ID A1J6.23	to ID A1P14.50 to ID A1J8.26 to ID P10-139 (S503-2) to ID A1P6.23 to ID BUS 2
From W5 P2-11 (UUT TB1-11) From ID J3-8 From ID A1J3.32 From ID A1P12.30	to W5 P1-8 to ID A1P3.32 to ID A1J12.30 to ID P12-56 (S202-8)
	to ID A1P11.36 to ID A1J10.12 to ID P11-242 (S509-2) to ID A1P9.19 to ID BUS 1
From W5 P2-9 (UUT TB1-9) From ID J3-9 From ID A1J3.35 From ID A1P12.31	to W5 P1-9 to ID A1P3.35 to ID A1J12.31 to ID P12-57 (S202-13)
From ID P13-93 (S202-3) From ID A1J13.49 From ID A1P10.48 From ID P11-147 (S510-4) From ID A1J9.31	to ID A1P13.49 to ID A1J10.48 to ID P11-52 (S510-1) to ID A1P9.31 to ID BUS 2

### Step 302

### Description:

This step will verify operation of Q3 in the off state Q3 Drain Source Voltage will be measured to verify that is it off. R103 will be tied from VCC (using DC10) to the Drain of the FET.

From W5 P2-9 (UUT TB1-9)	to W5 P1-24
From ID J3-24	to ID A1P3.4
From ID A1J3.4	to ID A1J7.6
From ID A1P7.6	to ID P10-100 (S301-13)
From ID P10-228 (S301-14)	to ID A1P7.20
From ID A1J7.20	to ID A1J1.4
From ID A1P1.4	to DC10-LO
From ID P20-2 (DMM-HI)	to ID A1P14.49
From ID A1J14.49	to ID A1J8.30
From ID A1P8.30	to ID P10-41 (S301-42)

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From	ID	P10-199 (S301-41)	to	ID	A1P7.2
From	ID	A1J7.2	to	ID	A1J2.29
From	ID	A1P2.29	to	ID	P10-153 (S101-15)
From	ID	P10-217 (S101-16)	to	ID	A1P2.11
					A1J1.6
From	ID	A1P1.6	to	ID	P1-28 (DC10-HI)
					,
From	ID	P20-3 (DMM-LO)	to	ID	A1J7.38
			to	ID	P10-130 (S301-23)
From	ID	P10-229 (S301-24)			
		A1J7.36			M-GND
From	W5	P2-12 (UUT TB1-12)	to	W5	P1-18
					A1P3.22
			to	ID	A1J2.35
					P10-214 (S101-4)
					A1P2.12
			to	ID	A1J4.13
		A1P4.13	to	R10	03
From	R10	)3	to	ID	A1P4.1
From	ID	A1J4.1	to	ID	A1J2.11
					P10-26 (S101-17)
					A1P2.1
		A1J2.1	to	ID	A1J1.6
From	ID	A1P1.6			P1-28 (DC10-HI)
					- ( ,
From	W5	P2-7 (UUT TB1-7)	to	W5	P1-7
From			to	ID	A1P3.33
From	ID	A1J3.33	to	ID	A1J12.29
From	ID	A1P12.29	to	ID	P12-24 (S202-7)
From	W5	P2-8 (UUT TB1-8)	to	W5	P1-11
From	ID	J3-11	to	ID	A1P3.37
From	ID	A1J3.37	to	ID	A1J12.33
From	ID	A1P12.33	to	ID	P12-26 (S202-15)
From	ID	P13-93 (S202-3)	to	ID	A1P13.49
From	ID	A1J13.49	to	ID	A1J10.48
From	ID	A1P10.48	to	ID	P11-52 (S510-1)
From	ID	P11-20 (S510-8)	to	ID	A1P9.28
From	ID	A1J9.28			BUS 6
From	ID	BUS 6	to	ID	A1J8.48
		A1P8.48	to	ID	P10-171 (S301-50)
		P10-42 (S301-49)			A1P7.24
		A1J7.24			A1J4.16
		A1P4.16		R1(	

## Step 303

## Description:

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This step will verify operation of Q3 by turning it on. Q3 Drain Source Voltage will be measured to verify that is it on. R103 will be tied from VCC (using DC10) to the Drain of the FET.

From W5 P2-9 (UUT TB1-9)	to W5 P1-24
From ID J3-24	to ID A1P3.4
From ID A1J3.4	to ID A1J7.6
	to ID P10-100 (S301-13)
From ID P10-228 (S301-14)	
	to ID A1J1.4
From ID AlP1.4	to DC10-LO
FION ID AIPI.4	CO DCIO-LO
From W5 P2-12 (UUT TB1-12)	to W5 D1-18
·	to ID A1P3.22
	to ID A1J2.35
	to ID P10-214 (S101-4)
From ID P10-150 (S101-3)	
	to ID A1J4.13
From ID A1P4.13	to R103
From R103	to ID A1P4.1
	to ID AlJ2.11
	to ID P10-26 (S101-17)
	to ID A1P2.1
	to ID A1J1.6
From ID AlP1.6	to ID P1-28 (DC10-HI)
From W5 P2-8 (UUT TB1-8)	to W5 P1-11
From ID J3-11	to ID A1P3.37
From ID A1J3.37	to ID AlJ12.33
From ID A1P12.33	to ID P12-26 (S202-15)
From ID P13-93 (S202-3)	to ID A1P13.49
From ID AlJ13.49	to ID A1J10.48
From ID A1P10.48	to ID P11-52 (S510-1)
From ID P11-20 (S510-8)	to ID A1P9.28
From ID AlJ9.28	to ID BUS 6
110m 1D A109.20	CO 1D DOD 0
From ID BUS 6	to ID A1J8.48
From ID A1P8.48	to ID P10-171 (S301-50)
From ID P10-42 (S301-49)	to ID A1P7.24
From ID AlJ7.24	to ID A1J4.16
From ID AlP4.16	to R109
TIOM ID MITTING	CO ICIO
From ID P20-2 (DMM-HI)	to ID A1P14.49
From ID AlJ14.49	to ID A1J8.28
From ID A1P8.28	to ID P10-203 (S503-1)
From ID P10-77 (S503-3)	to ID A1P6.13
From ID AlJ6.13	to ID BUS 1
	<del>-</del>
From ID P20-3 (DMM-LO)	to ID A1P14.50
From ID A1J14.50	to ID A1J8.26

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From ID A1P8.26 From ID P10-12 (S503-4) From ID A1J6.23	to ID P10-139 (S503-2) to ID A1P6.23 to ID BUS 2
From W5 P2-12 (UUT TB1-12) From ID J3-12 From ID A1J3.36 From ID A1P12.34	to W5 P1-12 to ID A1P3.36 to ID A1J12.34 to ID P12-58 (S202-16)
From ID P12-90 (S202-2) From ID A1J11.36 From ID A1P10.12 From ID P11-18 (S509-3) From ID A1J9.19	to ID A1P11.36 to ID A1J10.12 to ID P11-242 (S509-2) to ID A1P9.19 to ID BUS 1
From W5 P2-10 (UUT TB1-10) From ID J3-10 From ID A1J3.34 From ID A1P12.32	to W5 P1-10 to ID A1P3.34 to ID A1J12.32 to ID P12-88 (S202-14)
	to ID A1P13.50 to ID A1J10.50 to ID P11-244 (S510-2) to ID A1P9.31 to ID BUS 2

### Step 304

#### Description:

This step will verify operation of Q4 by turning it on. Q4 Drain Source Voltage will be measured to verify that is it on. R103 will be tied from VCC (using DC10) to the Drain of both FETs.

From W5 P2-9 (UUT TB1-9) From ID J3-24 From ID A1J3.4 From ID A1P7.6 From ID P10-228 (S301-14) From ID A1J7.20 From ID A1P1.4	to W5 P1-24 to ID A1P3.4 to ID A1J7.6 to ID P10-100 (S301-13) to ID A1P7.20 to ID A1J1.4 to DC10-LO
From W5 P2-12 (UUT TB1-12) From ID J3-18 From ID A1J3.22 From ID A1P2.35 From ID P10-150 (S101-3) From ID A1J2.12 From ID A1P4.13	to W5 P1-18 to ID A1P3.22 to ID A1J2.35 to ID P10-214 (S101-4) to ID A1P2.12 to ID A1J4.13 to R103
From R103 From ID A1J4.1 From ID A1P2.11	to ID A1P4.1 to ID A1J2.11 to ID P10-26 (S101-17)

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From ID P1	10-90 (S101-18)	to :	ID	A1P2.1
From ID Al				A1J1.6
From ID Al				P1-28 (DC10-HI)
TIOM ID A	111.0		עב	II 20 (DCIO III)
Erom WE D'	2-7 (UUT TB1-7)	+ 0 1	۸7 F.	D1_7
From ID J3				A1P3.33
From ID Al				A1J12.29
From ID Al	IP12.29	to.	TD	P12-24 (S202-7)
E ID D1	12 02 (0202 2)		T D	71012 40
	,			A1P13.49
From ID Al				A1J10.48
From ID Al				P11-52 (S510-1)
				A1P9.28
From ID Al	1J9.28	to :	ID	BUS 6
From ID BU				A1J8.48
From ID Al				P10-171 (S301-50)
From ID Pl	10-42 (S301-49)	to :	ID	A1P7.24
From ID Al		to I	ID	A1J4.16
From ID Al	1P4.16	to I	R10	19
From ID P2	20-2 (DMM-HI)	to I	ID	A1P14.49
From ID Al	1J14.49	to :	ID	A1J8.28
From ID Al	1P8.28	to :	ID	P10-203 (S503-1)
From ID P1				A1P6.13
From ID Al				BUS 1
From ID P2	20-3 (DMM-LO)	to :	ID	A1P14.50
From ID Al	1J14.50	to :	ID	A1J8.26
From ID Al				P10-139 (S503-2)
				A1P6.23
From ID Al				BUS 2
110111 111	100.23			200 2
From W5 P2	2-12 (UUT TB1-12)	to I	w5	P1-12
From ID J3				A1P3.36
From ID Al				A1J12.34
From ID Al				P12-58 (S202-16)
FIOIII ID AI	1512.54	. 00	ΙD	F1Z-30 (3Z0Z-10)
From ID D1	12-90 (S202-2)	to -	TD	A1P11.36
From ID Al				A1J10.12
From ID Al				P11-242 (S509-2)
				A1P9.19
From ID Al	109.19	to.	TD	BUS 1
T 145 D	0 10 /HHM MD1 10)		F	D1 10
				P1-10
From ID J3				A1P3.34
From ID Al				A1J12.32
From ID Al	IP12.32	to :	ΙD	P12-88 (S202-14)
_	10.00.4000			-1-10 50
				A1P13.50
From ID Al				A1J10.50
From ID Al				P11-244 (S510-2)
				A1P9.31
From ID Al	1J9.31	to :	ID	BUS 2

Date: 04 March 2016

# 3. 0 Functional Flow Chart (FFC)

