ATP DOCUMENT FOR LEVEL II SIMULATOR

**PURCHASE ORDER NO: ASL/IA/RCI/R/IA6/0213/14/089/090 (Dated – 31/12/2015)**

**: ASL/DD2/RCI/R/DD23/0213/14/2580/2597 (Dated – 31/12/2015)**

**: ASL/SFD/RCI/R/DD1/0213/14/550/533 (Dated – 30/12/2015)**

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | | **PREPARED BY :** | | | **CHECKED BY:** | | | | **Mr. Srinivas K Mr. Edwin Raju**  **M/S DATASOL (B) Pvt Ltd** | | | **Mr. Mohan Babu Mrs. Sabitha Rani**  **M/S DATASOL (B) Pvt Ltd** | | | | **REVIEWED BY :** | | | | | | | **Mr. KAREEM REDDY Sc ‘C’**  **(SINT-CHECKOUT, ASL)** | **Mrs. NOMI SONOWAL**  **(Sc ‘D’, SINT-CHECKOUT, ASL)** | | | | **Mr. MUKESH KUMAR**  **(SC- ‘E’, R & QA, ASL)** | | **VERIFIEDBY :** | | | | | | | **Mr. L. PARIDA**  **(Sc ‘F’, SINT-CHECKOUT, ASL)** | | **(SSQAG REP)** | | **Mr. GIRIDHAR RAO**  **(SC- ‘F’, R & QA, ASL)** | | | **APPROVED BY:** | | | | | | | **Mrs. R SHEENA RANI**  **(SC -‘G’, Tech. Dir. Checkout)** | | | **Mr. BRIG A PRADHAN**  **(PRINCIPLE DIR. SSQAG)** | | | | **ISSUE AUTHORISED BY:** | | | | | | | **Dr. TESSY THOMAS**  **(SC- ‘H’, DIRECTOR, ASL)** | | | | | | | | | | |
|  | |  |  | |
|  |  | | |  |
| **Manufactured By:**  **DATASOL (B) PVT.LTD.**  “Datasol House”, #793, 17th Cross,  Vyalikaval HBCS, (Behind BEL Corporate Office),  Veeranna Palya, Nagawara, BANGALORE - 560045 | | | | |
|  | | | | |

**Record of Revisions**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| S/N | RevNo. | Date | Section (s) changed | Changed  By  (Datasol) | Details of Revisions |
|  |  |  |  |  |  |
|  |  |  |  |  |  |
|  |  |  |  |  |  |
|  |  |  |  |  |  |
|  |  |  |  |  |  |
|  |  |  |  |  |  |
|  |  |  |  |  |  |
|  |  |  |  |  |  |
|  |  |  |  |  |  |
|  |  |  |  |  |  |
|  |  |  |  |  |  |
|  |  |  |  |  |  |
|  |  |  |  |  |  |
|  |  |  |  |  |  |

**Distribution table:**

|  |  |  |
| --- | --- | --- |
| **Copy No.** | **Distributed To** | **No of copies** |
| 01 | R & QA | 01 |
| 02 | SSQAG | 02 |
| 03 | End User (ASL) | 01 |
| 04 | Datasol (B) Pvt. Ltd. | 01 |

LIST OF ABBREVIATIONS:

* SIU - SIMULATOR INTERFACE UNIT
* MIU - MISILE INTERFACE UNIT
* SIMPC - SIMULATOR PC
* SBC - SINGLE BOARD COMPUTER
* KVM - KEYBOARD, VIDEO, MOUSE
* LJB - LAUNCHER JUNCTION BOX
* LIU - LAUNCHER INTERFACE UNIT
* SSD - SOLID STATE DRIVE
* RAM - RANDOM ACCESS MEMORY
* CPU - CENTRAL PROCESSING UNIT
* DVD - DIGITAL VIDEO DISK
* I/O - INPUT / OUTPUT
* PREET - Pre-Environmental Testing (Parameters to be monitored before environmental tests)
* INSET - In-Situ Environmental Testing (Parameters to be monitored during the environmental test)
* POET - Post environmental testing (Parameters to be monitored after the test completion).

|  |  |  |
| --- | --- | --- |
| **S NO** | **TABLE OF CONTENTS** | **PAGE** |
| **1.0** | **SCOPE** | 6 |
| 1.1 | OVERVIEW | 6 |
| 1.2 | REFERENCE DOCUMENTS | 6 |
| 1.3 | LIST OF DELIVERABLES | 7 |
| 1.4 | LEVEL II SIMULATOR RACK | 8 |
| **2.0** | **IDENTIFICATION** | 9 |
| 2.1 | HARDWARE DESCRIPTION OF MODULES | 9 |
| 2.1.1(A) | AIMB-584 MOTHER BOARD | 10 |
| 2.1.2(B) | STORAGE DEVICE(SATADOM) | 13 |
| 2.1.3(C) | FILTER MODULE SPECIFICATION | 14 |
| 2.1.4(D) | POWER SUPPLY MODULE SPECIFICATION | 15 |
| 2.1.5(E) | DDC-1553B Dual node BU-67110i200R-JL0 | 16 |
| **3.0** | **ELECTRICAL CONFIGURATION** | 19 |
| 3.1 | SIMULATOR PC TEST REPORT | 19 |
| 3.2 | CHECK LIST FOR SPC | 19 |
| 3.2.1 | AC I/P WIRING CHECK LIST | 19 |
| 3.2.2 | KVM POWER WIRING CHECKLIST | 20 |
| 3.2.3 | 1553 CONNECTOR WIRING CHECK LIST | 20 |
| 3.2.4 | LAN WIRING CHECK LIST | 21 |
| 3.2.5 | USB WIRING CHECK LIST | 21 |
| 3.3 | COLD TEST REPORT FOR SPC | 21 |
| 3.3.1 | INPUT POWER | 22 |
| 3.3.2 | KVM POWER | 22 |
| 3.3.3 | 1553 CONNECTOR | 23 |
| 3.4 | RETENTION TEST | 23 |
| 4.0 | KVM (KEYBOARD/MONITOR/TP)DBPL-LEVEL2SIM-RKVM | 25 |
| 4.1 | LCD DISPLAY SPECIFICATIONS | 26 |
| 4.2 | KEYBOARD SPECIFICATIONS | 26 |
| 4.3 | KVM TEST REPORTS | 27 |
| 4.3.1 | KVM CHECK LIST | 27 |
| 4.3.2 | KVM COLD TEST | 27 |
| 4.3.3 | KVM RETENTION TEST | 28 |
| **5.0** | **SIMULATOR PC TO KVM CABLE LOOMS TEST REPORTS** | 29 |
| 5.1 | CONTINUITY TEST | 29 |
| 5.2 | MEGGER TEST | 33 |
| 5.3 | RETENTION TEST | 35 |
| **6.0** | **SIMULATOR PC(DBPL-LEVEL2SIM -SPC)** | 38 |
| 6.1 | VGA TEST | 38 |
| 6.2 | CPU SPEED,MAIN MEMORY,HDD&SATA DOM TESTS | 40 |
| 6.3 | TEST PROCEDURE FOR MAIN MEMORY | 41 |
| 6.4 | TEST PROCEDURE FOR HARD DISK DRIVE | 41 |
| 6.5 | TEST PROCEDURE FOR SATADOM | 42 |
| 6.6 | TEST PROCEDURE FOR ETHERNET PORT | 42 |
| 6.7 | USB TEST | 44 |
| 6.8 | DDC 1553 CARD TEST | 45 |
| 6.9 | MIL STANDARD 1553 TESTS | 47 |
| **7.0** | **SIMULATOR INTERFACE UNIT** | 56 |
| 7.1 | SYSTEM OVERVIEW | 56 |
| 7.1.1 | CURRENT LIMITING RESISTOR AND OPTO ISOLATOR CIRCUIT | 59 |
| 7.1.2 | VOLTAGE LEVEL SHIFTING CIRCUIT | 59 |
| 7.1.3 | RELAY CIRCUIT TO BE OPERATED BY MIU DOP | 60 |
| 7.1.4 | BATTERY SIMULATION | 60 |
| 7.1.5 | POWER SUPPLY CIRCUIT | 61 |
| 7.1.6 | POWER SUPPLY SPECIFICATIONS | 61 |
| 7.2 | **ELECTRICAL CONFIGURATION FOR SIU** | 62 |
| 7.2.1 | CHECK LIST | 62 |
| 7.2.2 | COLD TEST REPORT | 78 |
| 7.2.3 | RETENTION TEST | 106 |
| **8.0** | **MIU TO SIU LOOMS** | 124 |
| 8.1 | CONTINUITY TEST REPORT | 124 |
| 8.2 | MEGGER TEST REPORT | 131 |
| 8.3 | RETENTION TEST | 137 |
| **9.0** | **SIU TO UMBILICAL LOOMS** | 151 |
| 9.1 | CONTINUITY TEST REPORT | 151 |
| 9.1.1 | A5 LOOMS | 151 |
| 9.1.2 | A4 LOOMS | 159 |
| 9.1.3 | A3 LOOMS | 164 |
| 9.2 | MEGGER TEST REPORT | 169 |
| 9.2.1 | A5 LOOMS | 169 |
| 9.2.2 | A4 LOOMS | 175 |
| 9.2.3 | A3 LOOMS | 179 |
| 9.3 | RETENTION TEST REPORT | 182 |
| 9.3.1 | A5 LOOMS | 182 |
| 9.3.2 | A4 LOOMS | 196 |
| 9.3.3 | A3 LOOMS | 204 |
| 9.4 | SIMULATOR INTERFACE UNIT(SIU UNIT LEVEL TEST) | 212 |
| 9.4.1 | MIU TEST JIG MONITORING PANEL | 214 |
| 9.4.2 | UMB TEST JIG MONITORING PANEL | 215 |
| **10.0** | **ENVIRONMENTAL TESTING(ENTEST)** | 236 |
| 10.1 | ENVIRONMENTAL TEST GRAPH | 239 |
| 10.1.1 | RANDOM VIBRATION GRAPH | 239 |
| 10.1.2 | TEMPERATURE CYCLING (For SPC & KVM) | 239 |
| 10.1.3 | TEMPERATURE CYCLING (For SIU) | 240 |
| 10.2 | EMI/EMC TESTS SPECIFICATIONS | 241 |
| 10.2.1 | EMI/EMC TEST GRAPHS | 244 |
| 10.3 | ENDURANCE TEST SPECIFICATIONS | 248 |
| 11.0 | ANNEXURE “A” BOM | A of 1 - 19 |
| 12.0 | ANNEXURE “B” SIGNAL FLOW OF LEVEL II SIMULATOR | B of 1 - 33 |
| 13.0 | ANNEXURE “C” BOM Process Flow Chart & its Description | C of 1 - 7 |
| 14.0 | ANNEXURE “D” QA matrix | D of 1 - 3 |
| 15.0 | ANNEXURE “E” QUALITY PROCESS REPORTS | E of 1 - 7 |

### 1.0 SCOPE

This Acceptance test procedure document (ATP) for **“Level II Simulator”** presents the complete design and operational aspects of **Level II Simulator** System developed by M/s Datasol (B) Pvt. Ltd. Bangalore, based on the hardware/software specifications given by ASL, Hyderabad.

This document gives the technical specification of the **“Level II Simulator”** system and design details of each sub module to meet the specification of overall system. The document covers the block diagrams of overall system as well as its sub modules and test set up details.

**1.1** OVER VIEW

Level IISimulator is used to test the total checkout system connectivity and to validate the command‐response protocol.

**Level II Simulator consists of**

1. Simulator Rack along with

2. Simulator PC **(GSE Class 2)**

3. Simulator Interface units **(GSE Class 2)**

4. MIU & Cable tray

5. Set of interfacing cables

The Industrial PC consists of two nodes 1553 card for communication with embedded computer (MIU‐missile interface unit) and checkout system. MIU has got all the digital and analog inputs and outputs that collects umbilical data from checkout system periodically and posts them to industrial PC. Simulator Interface Unit consists of the signal conditioner, power supply and the external interface connectors.

### 1.2 REFERENCE DOCUMENTS

The following list of references may be helpful for you to understand the concept of the custom design.

Specification: Technical Specification as given in the P.O.

User Manual: AIMB 584 mother board & DDC Card 1553.

## 1.3 LIST OF DELIVERABLES

As per the Purchase Order Deliverable are listed below:

|  |  |  |
| --- | --- | --- |
| **SL No** | **Item Description** | **Quantity** |
| 1 | 19” Rack with front and rear door, cable tray & mounting tray, AC power extension point. | 17 Sets |
| **Model No: DBPL-L2SIM-SPC (DSL-SIMPC)**  19” Half Rack mount 5U **Level II Simulator** PC with DDC make BU-67110i200R-JL0: PCI dual node 1553B card and I/O’s are terminated on MIL-Series D38999 connector. |
| **Model No:DBPL-L2SIM-RKVM (DSL-KVM15)**  19” rack mount 2U, 15” Display with keyboard and touchpad with mating cables. |
| **Model No:DBPL-L2SIM-SIU (DSL-SIU)**  19” rack mount 4U simulator interface unit. |
| MIL-STD-1553B Data Bus Network.  Make – CompuPower |
| 2 | Simulator Interfacing Cables | 17 Sets |
| 3 | SIU TO LJB Cables for type –1 configuration | 05 Sets |
|  | SIU TO LJB Cables for type –2 configuration | 06 Sets |
|  | SIU TO LJB Cables for type –3 configuration | 06 Sets |
| 4 | **Model No: DBPL-L2SIM-TESTJIG (DSL-TESTJIG)**  Simulator Test Jig with interfacing cables with simulator PC test software | 02 Sets |
| 5 | REDHAT Enterprise Linux 6.0 or above with media and 1 year support | 03 Sets |
| 6 | Driver Software & Test Software for 1553B Card | 01 Set |
| 7 | Simulator PC test software | 01 No |
| 8 | External USB based DVD drive | 01 No |
| **SPARES** | | |
| 9 | DC-DC Converter Murata UMR-5/2000/D24E-C 28V/5V-2A | 10 no’s |
| 10 | Relay 1A DPDT/28 Coil supply | 10 no’s |

**1.4 LEVEL II Simulator Rack**



## Specifications of Simulator Rack P/N: DBPL-01-16-LEVEL2SIM-12

1. Dimension: Width x Height x depth: 19” x 18U x 600mm
2. Front panel & Rear panel hinged, made up of CRCA sheet 2.0mm thick.
3. Rack specification-IP65 Standard without any ventilation or louvers on the rack.
4. Caster wheels-willbe able to withstand the total load of the units in the rack during static and mobile conditions.
5. Power distribution unit with spike buster with required number of AC sockets and cable tray.
6. Facial panels for covering unused space.

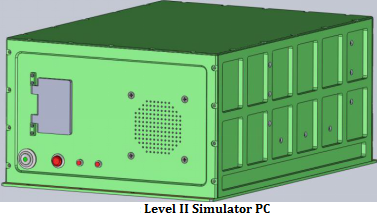
## 2.0 IDENTIFICATION

The “Level II simulator” supplied by DATASOL to ASL, Hyderabad will be hereafter being identified as given below.

Title : ACCEPTANCE TEST PROCEDURE of “Level II Simulator”.

System : LEVEL II SIMULATOR

Part No : DBPL-01-16-L2SIM-12



## 2.1 HARDWARE DESCRIPTION OF MODULES

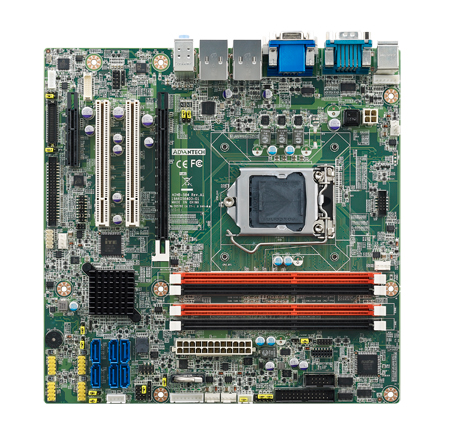
Simulator PC having below mentioned modules assembled inside

* 2.1.1 (A) - MOTHER BOARD
* 2.1.2 (B) - SATADOM STORAGE 32GB
* 2.1.3 (C)- FILTER MODULE
* 2.1.4 (D) - POWER SUPPLY MODULE
* 2.1.5(E) - DDC 1553 COMMUNICATION CARD

**2.1.1 (A) AIMB-584 MOTHER BOARD**

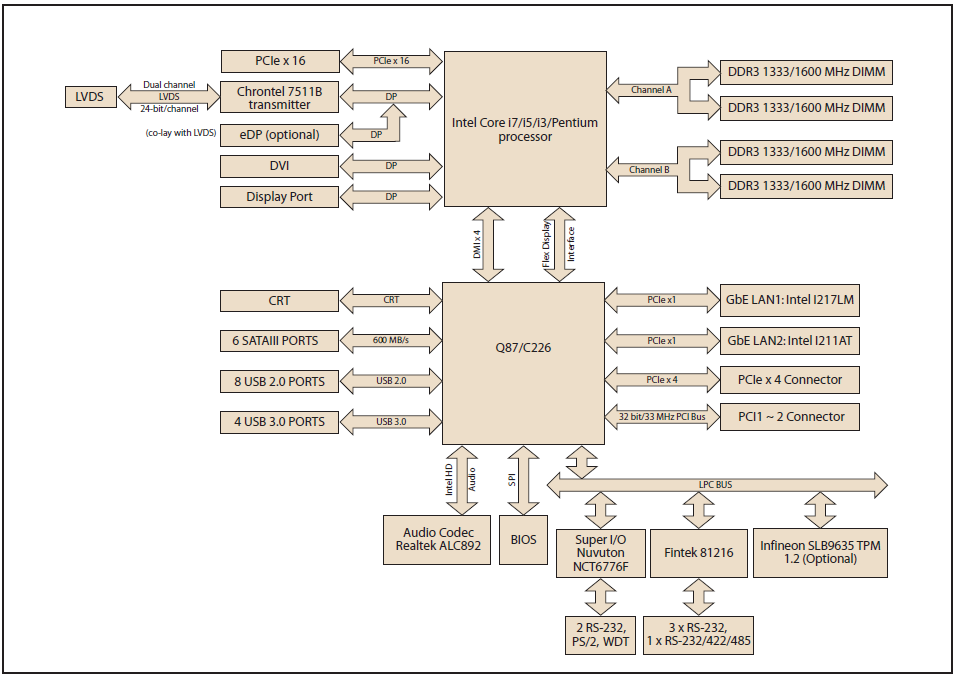
**MOTHER BOARD FEATURES:**

AIMB-584 is designed with the Intel Q87/C226 for industrial applications that require both performance computing and enhanced power management capabilities. The motherboard supports Intel Core i7 Xeon E3-1275v3 3.5GHz/ E3-1225v3 3.2GHz/E3-1268L 2.3GHz/ Core i7-4790 3.4GHz/ Core i5-4570 2.9GHz/ Core i3 4330 3.5GHz/ Pentium G3420 3.2 GHz/ Celeron G3320TE 2.3 GHz processor up to 8 MB L3cache and DDR3 1333/1600 up to 32GB up to 16 GB. A rich I/O connectivity of 6serial ports, 8 USB 2.0, 4 USB 3.0, dual GbELAN, 6 SATA III ports.



**Fig 3: AIMB-584 QG2 MOTHER BOARD**

**MOTHER BOARD AIMB-584 BLOCK DIAGRAM**

****

**Fig 4: Schematic showing Connectivity**

### Mother Board AIMB -584QG2 SPECIFICATIONS:

* **CPU :**Intel 4th generation Xeon E3 and Core i7/i5/i3 processor
* **System chipset** : Intel® Q87/C226
* **Memory :** Up to 32 GB in 4 slots 240-pin DIMM sockets. Supports dual-channelDDR3 1333/1600MHz SDRAM – AIMB-584QG2 supports non-ECC unbuffered DIMMs and do not support any memory configuration that mixes non-ECC with ECC unbuffered DIMMs.
* **Graphics :** Intel® HD Graphics
* **VGA :** Supports VGA up to resolution 2048 x 1536 @ 75Hz refresh rate.
* **USB :** Supports up to 8 USB 2.0 ports with transmission rates up to 80Mbps and 4 USB 3.0 ports with transmission rates up to 5 Gbps
* **SATA :** Six on-board SATA connectors with data transmission rate up to 600 MB
* **LAN :** Supports dual 10/100/1000 Mbps Ethernet port (s) via PCI Express x1 bus which provides 500 MB/s data transmission rate
* **Controller:** LAN1: Intel I217LM; LAN2: Intel I211AT

### Mechanical and environmental specifications:

* Operating temperature: 0 ~ 60° C (32 ~ 140° F, Depending on CPU)
* Storage temperature: -40 ~ 85° C (-40 ~ 185° F)
* Humidity: 5 ~ 95% non-condensing
* Power supply voltage: +3.3 V, +5 V, +12 V, -12 V, 5 Vsb
* Board size: 240 mm x 240 mm (9.6" x 9.6")
* Board weight: 0.365 kg

### 2.1.2 (B) STORAGE DEVICE (SATADOM)



**Fig 5: SATADOM**

### Technical Specifications:

|  |  |
| --- | --- |
| Connector Type | Standard 7 Pin SATA Connector |
| Flash Type | SLC (Single Level Cell) |
| Density | 2GB, 4GB, 8GB, 16GB, 32GB |
| Transfer Mode | SATA II, SATA I, PIO 0~4,MDMA 0~2, UDMA 0~6 |
| Sustained R/W Performance | Read: 135 MB/sec (max.)Write: 130 MB/sec (max.) |

### Environmental Specifications:

|  |  |
| --- | --- |
| DC Input | +5V DC ± 5% |
| Power consumption (Max.) | Read: 180 mA  Write: 200 mA  Idle: 110 mA |
| Operating Temperature | 0°C ~ +70°C (Standard Grade)  -40°C~+85°C (Industrial Grade) |
| StorageTemperature | -55° C~+95° C |
| Humidity | Relative Humidity: 10-95%,non-condensing |
| Flash Endurance | 100,000 program/erase cycles |
| MTBF | > 4,000,000 hours |
| Certification | CE, FCC, RoHS |

### 2.1.3(C) FILTER MODULE SPECIFICATION

### Initial EMI/EMC Protection



**Fig 6: MF-510 FILTER**

**Technical Specification:**

* Maximum Continuous
* Operating Voltage: 250 VAC
* Operating Frequency: 50/60Hz
* Rated Currents: 1A to 6 A
* High Potential test voltage: L to G 1500VAC, L to L 1414VDC
* Overload Capability: 6 x Rated current for 8 secs
* Temperature Range: -25 °C to 85 ° c

## 2.1.4(D) POWER SUPPLY MODULE SPECIFICATION

APPLICATION

**Fig 7:PS8-350FATX-XE**

**Features:**

* Product: PS8-350FATX-XE
* Product Description: Delta AC to DC 100-240V FLEX ATX 350W Switch Power Supply with PFC
* Application: Switch Power Supply
* Manufacturer: Delta Electronics
* Form Factor: FLEX
* Output Power : 350W
* Output: +3.3V @ 16;+5V @ 16A;+12V1 @ 18A;+12V2 @ 18A;-12V @ 0.3;+5Vsb(DC) @ 3A
* Efficiency : 82%
* Main Connector : ATX (20 + 4pin)
* Input Voltage Range : 100 - 240V
* Input Current : 115V@7A maximum
* Input Frequency : 47 - 63Hz
* Input Current Type: AC to DC
* Storage Temp: -40 - 75°C
* Storage Humidity :95% RH
* MTBF: 200K hours at 25°C
* FAN Speed Control: Yes
* Power Switch Function: No
* Safety and EMC: Class B
* RoHS Status : Yes
* EOL :Q4 / 2020
* Replacement Model : TBA
* Maximum Power:300W - 399W

**2.1.5(E) DDC Card - 1553B Dual node BU-67110i200R-JL0**

## MAKE: DDC

## PART NO: BU-67110i200R-JL0

## DIGITAL COMMUNICATION CARD

The 1553B with part #: BU-67110i is a PCI card. The BU-67110i200R-JL0 contains twodual redundant MIL-STD-1553 channels and is a perfect fit for military aerospace applications. The PCI versions offer front panel I/O and include a cable to easily interface to all 1553 channels. The unique I/O mix and high channel count on a single card saves space, power, weight, and cost-making this ideal solution for systems with limited space.

The card includes the AceXtreme® MIL-STD-1553 C Software Development Kit (SDK) and drivers to support all modes of operation for Linux, VxWorks and Windows 2000/XP/Vista/7, including source code samples and detailed documentation. A common SDK exists across all operating systems for all cards allowing the programmer portability across different –platforms. The BusTrACEr Graphical User Interface is optionally available and has point and click application source code generation capability to reduce risk and shorten development cycles.

All bus relative configurations, such as base memory and interrupt assignment, are automatically controlled by BIOS software.3U Compact PCI with Rear I/O has following features.

* **1553B CARD FEATURES**
* Up to (8) Dual Redundant MIL-STD-1553 Channels.
* Multi – Function: BC/MT or Multi – RT/MT.
* 1553 Bus Playback on all models.
* Supports MIL-STD-1553 A/B & MIL-STD-1760
* Transformer and / or direct coupled.
* BC Disable for RT only applications.
* Tx inhibit for MT only applications.
* 2 External RT address Inputs

* **1553B CARD BENEFITS**
* Rugged PMC Design for Harsh Environments.
* Available in PCI form factors with cable for test environment
* Unique I/O Mix & High Channel Count Reduces: Space, Power, Weight, and Cost.
* Shorten Development Cycle and Reduce Risk with Automated Code Generation
* IRIG-106 Chapter 10 On-board formatting.
* On-Board DMA engine for low CPU-PCI utilization.
* **DDC-BU-67110i200R-JL0 (Hardware Configuration and Operation)**

The BU-67x10F/M/I/T card utilizes the PCI interface, and as such does not require any jumpers or switches to set the Base address or interrupt values. The job of configuration for Plug-and-Play PCI is performed by the operating system. During the initial power on boot process, the system performs an enumeration of the PCI bus and allocates a resource configuration that satisfies the card requirements. The system will save the configuration information in the BU-67x10i PCI configuration space registers. These registers are configured at the factory to contain information that identifies the card type, vendor, required memory sizes, and interrupts resources. When the driver loads, it will access the configuration registers and identify how the system has configured the card. After identifying each of the installed cards, the device driver will enumerate each of the channels on the card and create a configuration structure that defines the allocated address and interrupt. This information is directly available to the MIL-STD-1553 AceXtreme® Software Development Kit and is necessary for read, write and interrupt operations.



**Fig. 8: BU-67x10i Front I/O PCI Card**

* **SIGNAL FLOW FOR 1553B bus Signals**

Level II Simulator is interfaced to the checkout system through launcher junction box and MIL‐STD‐1553 bus. The power to missile sub‐systems from checkout system is available through various umbilical connectors at the junction box. This will be monitored by either digital input or analog input of the MIU through signal conditioning at SIB.Level II Simulator communicates with launcher interface unit (LIU) in checkout system through MIL‐STD‐1553 bus. It receives the commands from checkout system through 1553 bus and responds to the same.

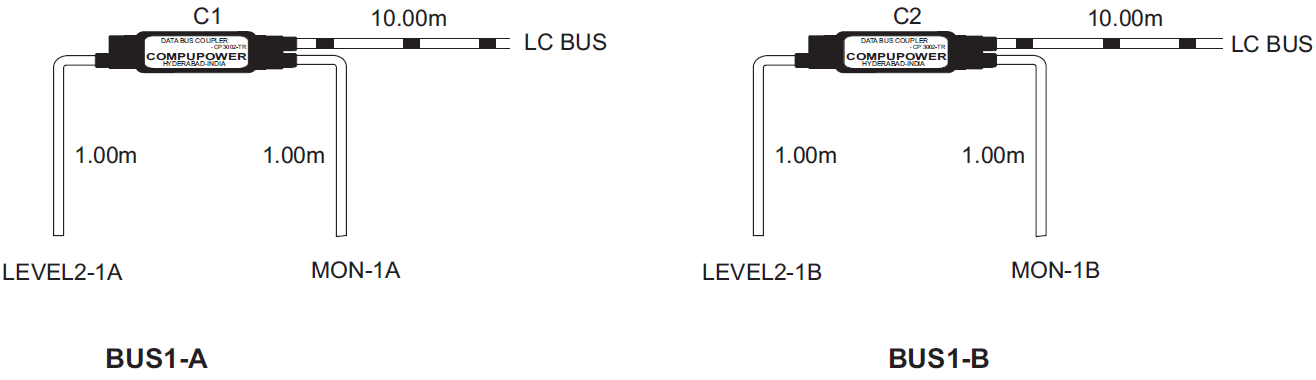
MIL‐STD‐1553B cables are to be integrated with molded inline stub coupler, terminators and respective type of connectors as shown in the schematic below.

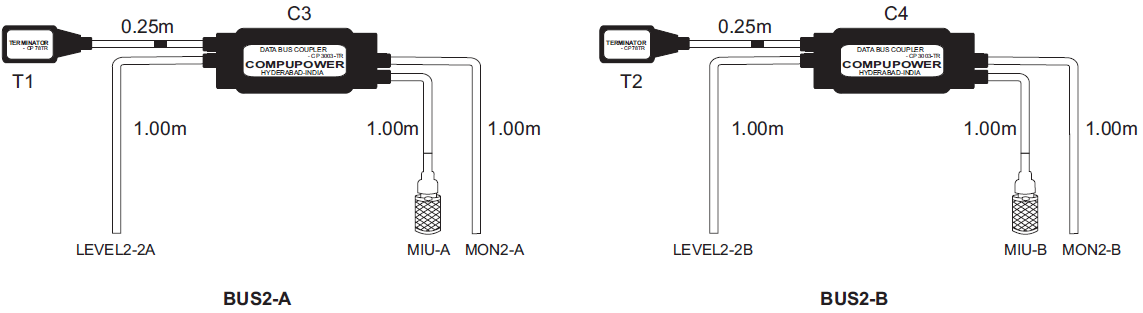
Four integrated cables are supplied for 2 MIL‐STD‐1553b nodes for both bus‐A and bus‐B.

Level IISimulator 1553B node‐1 (level2‐1A&B) will be used for communication with LIU in checkout system and Level II simulator 1553B node‐2 (level2‐2A&B) will be used for communication with MIU. All the 4 buses are terminated with a single 13 pin connectors on the simulator PC.

For node‐1 connectivity, a dual stub coupler with one end terminator and the other end of the bus extended 10pin connector as LC bus for LIU connectivity is used. The second stub line will be used for monitoring purpose if required. For bus‐B also same connectivity is repeated with LC bus termination on the same 10 pin connector.

For node‐2 connectivity, a three-stub coupler with terminators on both bus ends is used. The second stub connected to MIU‐bus‐A and the third stub line will be used for monitoring purpose if required. For bus‐B also same connectivity is repeated.



****

NOTE: CABLE: RAYCHEM 10614-9

LEVEL2-1A, LEVEL2-1B, LEVEL2-2A, LEVEL2-2B: D38999-26WB-35PN (1no).

MON-1A, MON-1B, MON2-A, MON2-B: CJ70-47 (4nos).

LC BUS: MS3475-W12-10PN (1no).

C1, C2: CP 3002-TR IN-LINE DUAL STUB COUPLER WITH TERMINATOR

C3, C4: CP 3003-TR IN-LINE THREE STUB COUPLER WITH TERMINATOR

T1, T2: CP 78TR MOULDED TERMINATOR

MIU-A, MIU-B: RAYCHEM DK621-0411S

**BUS INDICATION (**AT REGULAR INTERVALS OF 0.2m APPROXIMATELY)

**BUS2-A: YELLOW COLOR**

**BUS2-B: GREEN COLOR**

TOLERANCE ON CABLE LENGTHS: \_500mm IS +50mm

>500mm I +100mm

THE CABLE LENGTHS ARE TAKEN AS BARE CABLE LENGTHS ONLYAND DO NOT INCLUDE COUPLER/CONNECTOR LENGTHS.

**Fig 9: Cable Assembly (Drawing No: DYNA300-10)**

**3.0 ELECTRICAL CONFIGURATION**

All the cable used for wiring will be of LCSO approved PTFE insulated silver plated copper wire. The list of cables used is as below.

Teflon cables: 20/19/32V for KVM signal & power wiring

1553 Bus cable: RAYCHEM 10614-9 or equivalent

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **SL NO** | **CONNECTOR REF** | **CONNECTOR PART NO** | **NO. OF WIRES** | **AWG** | **USED PINS** | **UNUSED PINS** |
| 1 | 1553 | D38999/20WB-35SN | 12 | BUS CABLE | 1 to 5 & 7 to 13 | 6 |
| 2 | AC / IP | MS3470-W12-3P | 3 | 20 AWG | A, B, C | NIL |
| 3 | LAN | RJ 45 standard connector | 8 | Std CAT5 | 1 to 8 | NIL |
| 4 | USB | USB standard connector | 4 | Std CAT5 | 1 to 4 | NIL |
| 5 | KVM POWER | MS3470-W16-26S | 20 | 20 AWG | A to N, U to X, b & c | S, T, Y, Z, a, d & e |
| 6 | KVM I/P | MS3470-W16-26P | 20 | 20 AWG | A to N, U to X, b & c | S, T, Y, Z, a, d & e,P |

The signals like MIL-1553, LAN, USB, VGA, & AC Power input for simulator PC and KVM are routed through above connectors with the cables mentioned above.

**3.1 SIMULATOR PC TEST REPORT**

**3.2CHECK LIST FOR SPC**

Test Procedure: Checklist for the unit will be checked between the two connectors and respective pins mentioned below

1. PROCEDURE: keep Multi-meter in continuity mode
2. Connect any one end pin to multi-meter positive terminal and connect negative terminal to the other end pin as per the details given below
3. Expected: Resistance <5Ω/Beep sound

**3.2.1 AC I/P WIRING CHECKLIST**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **POWER SUPPLY PS8-350FATX-XE (350W)** | **MF-510** | **SPC MS3470-W12-3P**  **AC I/P** | **GUAGE** | **COLOUR** | **SIGNAL NAME** | **REMARKS** |
| LINE | LINE | A | 20 AWG | RED | PHASE |  |
| NEUTRAL | NEUTRAL | B | 20 AWG | BLACK | NEUTRAL |  |
| EARTH | EARTH | C | 20 AWG | GREEN | EARTH |  |

**OBSERVATIONS:**

**TEST Cleared / Not Cleared**

**PROJ QC Firm rep SSQAG REP**

**3.2.2 KVM POWER WIRING CHECKLIST**

| **CIRCULAR**  **MS3470-W16-26S**  **KVM POWER** | **VGA CPU CARD**  **DB15P** | **KB / TP**  **USB** | **GUAGE** | **COLOUR** | **SIGNAL NAME** | **REMARKS** |
| --- | --- | --- | --- | --- | --- | --- |
| A | 1 | - | STD | STD | Red |  |
| B | 2 | - | STD | STD | Green |  |
| C | 3 | - | STD | STD | Blue |  |
| D | 5 | - | STD | STD | GND |  |
| E | 6 | - | STD | STD | GND |  |
| F | 7 | - | STD | STD | GND |  |
| G | 8 | - | STD | STD | GND |  |
| J | 10 | - | STD | STD | GND |  |
| K | 12 | - | STD | STD | DDC DATA |  |
| L | 13 | - | STD | STD | HSYNC |  |
| M | 14 | - | STD | STD | VSYNC |  |
| N | 15 | - | STD | STD | DDC CLK |  |
| U |  | USB PIN1 | STD | STD | USB VCC |  |
| V |  | USB PIN2 | STD | STD | USB DATA - |  |
| W |  | USB PIN3 | STD | STD | USB DATA + |  |
| X |  | USB PIN4 | STD | STD | USB GND |  |
| b |  | - | STD | STD | PWR (+12V) |  |
| c |  | - | STD | STD | GND |  |

**OBSERVATIONS:**

**TEST Cleared / Not Cleared**

**PROJ QC Firm rep SSQAG REP**

**3.2.3 1553 CONNECTOR WIRING CHECKLIST**

| **1553**  **P/N: D38999-20WB-35SN** | **BNC** | **68 PIN SCSI CONNECTOR** | **GUAGE** | **COLOUR** | **SIGNAL NAME** | **REMARKS** |
| --- | --- | --- | --- | --- | --- | --- |
| 1 | BUS A 1 (+) | 37 | BUS CABLE | STD | CH 1 A BUS (+) |  |
| 2 | BUS A 1 (-) | 35 | BUS CABLE | STD | CH 1 A BUS (-) |  |
| 3 | SHIELD |  | BUS CABLE | STD |  |  |
| 9 | BUS B 1 (+) | 38 | BUS CABLE | STD | CH 1 B BUS (+) |  |
| 10 | BUS B 1 (-) | 36 | BUS CABLE | STD | CH 1 B BUS (-) |  |
| 11 | SHIELD |  | BUS CABLE | STD |  |  |
| 4 | BUS A 2 (+) | 3 | BUS CABLE | STD | CH 2 A BUS (+) |  |
| 5 | BUS A 2 (-) | 1 | BUS CABLE | STD | CH 2 A BUS (-) |  |
| 12 | SHIELD |  | BUS CABLE | STD |  |  |
| 7 | BUS B 2 (+) | 4 | BUS CABLE | STD | CH 2 B BUS (+) |  |
| 8 | BUS B 2 (-) | 2 | BUS CABLE | STD | CH 2 B BUS (-) |  |
| 13 | SHIELD |  | BUS CABLE | STD |  |  |

**OBSERVATIONS:**

**TEST Cleared / Not Cleared**

**PROJ QC Firm rep SSQAG REP**

**3.2.4 LAN WIRINGCHECKLIST**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Standard Connector RJ 45 female connector** | **Pin #** | **GUAGE** | **COLOUR** | **SIGNAL NAME** | **REMARKS** |
| 1 | 1 | CAT5/6 | White / Orange |  |  |
| 2 | 2 | CAT5/6 | Orange |  |  |
| 3 | 3 | CAT5/6 | White / Green |  |  |
| 4 | 4 | CAT5/6 | Blue |  |  |
| 5 | 5 | CAT5/6 | White / Blue |  |  |
| 6 | 6 | CAT5/6 | Green |  |  |
| 7 | 7 | CAT5/6 | White / Brown |  |  |
| 8 | 8 | CAT5/6 | Brown |  |  |

**OBSERVATIONS:**

**TEST Cleared / Not Cleared**

**PROJ QC Firm rep SSQAG REP**

**3.2.5 USB WIRINGCHECKLIST**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **USB 3.0**  Standard female connector | **Pin #** | **GUAGE** | **COLOUR** | **SIGNAL NAME** | **REMARKS** |
| 1 | 1 | STD | STD | VCC |  |
| 2 | 2 | STD | STD | Data - |  |
| 3 | 3 | STD | STD | Data + |  |
| 4 | 4 | STD | STD | GND |  |
| **USB 2.0** | **USB 2.0** |  |  | **USB 2.0** |  |
| Standard female connector |  |  |  |  |  |
| 1 | 1 | STD | STD | VCC |  |
| 2 | 2 | STD | STD | Data - |  |
| 3 | 3 | STD | STD | Data + |  |
| 4 | 4 | STD | STD | GND |  |

**OBSERVATIONS:**

**TEST Cleared / Not Cleared**

**PROJ QC Firm rep SSQAG REP**

**3.3COLD TEST REPORT FOR SPC**

The cold check involves the use of the Multi-meter. The resistance is measured between the two conductors and for the chassis in the same connector.

**PROCEDURE:** The positive probe is connected with the pin to test and the negative probe is connected to the all other pins listed in the table and the body of the connector. For certain signals the resistance with the other signals and ground will be indicated as 0 ohms, this is because of signals having a common ground point and common source these are mentioned in remarks.

**ACCEPTNCE CRITERIA:** The resistance measured should be as indicated in the table. (Exceptions mentioned in case of some signals)

**3.3.1 Input power**

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Connector MS3470-W12-3P**  **AC I/P** | | | | | | | |
| **PIN No.** | **Pin to Body IR** | | **PIN No.** | | **Pin to Pin IR** | | **Remarks** |
|  | **Expected Resistance** | **Measured Resistance** | **FROM** | **TO** | **Expected Resistance** | **Measured Resistance** |  |
| A | > 20 MΩ |  | A | B ,C | > 20 MΩ |  |  |
| B | > 20 MΩ |  | B | C | > 20 MΩ |  |  |
| C | > 20 MΩ |  |  |  |  |  |  |

**UNUSED PINS:** NIL

**OBSERVATIONS:**

**TEST Cleared / Not Cleared**

**PROJ QC Firm rep SSQAG REP**

**3.3.2 KVM POWER**

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Connector MS3470-W16-26S** | | | | | | | |
| **PIN No.** | **Pin to Body IR** | | **PIN No.** | | **Pin to Pin IR** | | **Remarks** |
|  | **Expected Resistance** | **Measured Resistance** | **FROM** | **TO** | **Expected Resistance** | **Measured Resistance** |  |
| A | > 20 MΩ |  | A | B to c | > 20 MΩ |  |  |
| B | > 20 MΩ |  | B | C to c | > 20 MΩ |  |  |
| C | > 20 MΩ |  | C | D to c | > 20 MΩ |  |  |
| D | > 20 MΩ |  | D | E to c | > 20 MΩ |  |  |
| E | > 20 MΩ |  | E | F to c | > 20 MΩ |  |  |
| F | > 20 MΩ |  | F | G to c | > 20 MΩ |  |  |
| G | > 20 MΩ |  | G | H to c | > 20 MΩ |  |  |
| H | > 20 MΩ |  | H | J to c | > 20 MΩ |  |  |
| J | > 20 MΩ |  | J | K to c | > 20 MΩ |  |  |
| K | > 20 MΩ |  | K | L to c | > 20 MΩ |  |  |
| L | > 20 MΩ |  | L | M to c | > 20 MΩ |  |  |
| M | > 20 MΩ |  | M | N to c | > 20 MΩ |  |  |
| N | > 20 MΩ |  | N | U to c | > 20 MΩ |  |  |
| U | > 20 MΩ |  | U | V to c | > 20 MΩ |  |  |
| V | > 20 MΩ |  | V | W to c | > 20 MΩ |  |  |
| W | > 20 MΩ |  | W | X to c | > 20 MΩ |  |  |
| X | > 20 MΩ |  | X | b to c | > 20 MΩ |  |  |
| b | > 20 MΩ |  | b | c | > 20 MΩ |  |  |
| c | > 20 MΩ |  |  |  |  |  |  |

**UNUSED PINS:** S, T, Y, Z, a, d, e, P

**OBSERVATIONS:**

**TEST Cleared / Not Cleared**

**PROJ QC Firm rep SSQAG REP**

**3.3.3 1553 CONNECTOR**

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Connector D38999-20WB-35SN** | | | | | | | |
| **PIN No.** | **Pin to Body IR** | | **PIN No.** | | **Pin to Pin IR** | | **Remarks** |
|  | **Expected Resistance** | **Measured Resistance** | **FROM** | **TO** | **Expected Resistance** | **Measured Resistance** |  |
| 1 | > 20 MΩ |  | 1 | 1 to 13 | > 20 MΩ |  |  |
| 2 | > 20 MΩ |  | 2 | 2 to 13 | > 20 MΩ |  |  |
| 3 | > 20 MΩ |  | 3 | 11,12,13 | < 5Ω |  |  |
| 4 to 10 | > 20 MΩ |  |
| 4 | > 20 MΩ |  | 4 | 5 to 13 | > 20 MΩ |  |  |
| 5 | > 20 MΩ |  | 5 | 6 to 13 | > 20 MΩ |  |  |
| 7 | > 20 MΩ |  | 7 | 7 to 13 | > 20 MΩ |  |  |
| 8 | > 20 MΩ |  | 8 | 8 to 13 | > 20 MΩ |  |  |
| 9 | > 20 MΩ |  | 9 | 9 to 13 | > 20 MΩ |  |  |
| 10 | > 20 MΩ |  | 10 | 10 to 13 | > 20 MΩ |  |  |
| 11 | > 20 MΩ |  | 11 | 12,13 | < 5Ω |  |  |
| 12 | > 20 MΩ |  | 12 | 13 | < 5Ω |  |  |
| 13 | > 20 MΩ |  |  |  |  |  |  |

**UNUSED PINS:** 6

**OBSERVATIONS:**

**TEST Cleared / Not Cleared**

**PROJ QC Firm rep SSQAG REP**

**3.4 RETENTION TEST for SPC**

**Procedure:** Before starting retention test, use correct retention tool as per the connector, retention tool to be inserted on the contact vertically. The unit / cable should be firm at one place during the test. If the unit / cable shake during test it damages the contact. Apply by hand and check retention of pin/sockets one by one, contacts required to check the retention is as below.

|  |  |  |
| --- | --- | --- |
| **AC I/P:**  **MS3470 W12-3PN** | **RETENTION TOOL HT210-20\**  **OK/ Not OK** | **REMARKS** |
| A |  |  |
| B |  |  |
| C |  |  |

**Unused pins**: NIL

**OBSERVATIONS:**

**TEST Cleared / Not Cleared**

**PROJ QC Firm rep SSQAG REP**

| **KVM POWER:**  **MS 3470-W16-26S** | **RETENTION TOOL HT210-20\**  **OK/ Not OK** | **REMARKS** |
| --- | --- | --- |
| A |  |  |
| B |  |  |
| C |  |  |
| D |  |  |
| E |  |  |
| F |  |  |
| G |  |  |
| H |  |  |
| J |  |  |
| K |  |  |
| L |  |  |
| M |  |  |
| N |  |  |
| U |  |  |
| V |  |  |
| W |  |  |
| X |  |  |
| b |  |  |
| c |  |  |

**UNUSED PINS:** S, T, Y, Z, a, d, e, P

**OBSERVATIONS:**

**TEST Cleared / Not Cleared**

**PROJ QC Firm rep SSQAG REP**

|  |  |  |
| --- | --- | --- |
| **1553:D38999-20WB-35SN** | **RETENTION TOOL HT210-20\**  **OK/ Not OK** | **REMARKS** |
| 1 |  |  |
| 2 |  |  |
| 3 |  |  |
| 4 |  |  |
| 5 |  |  |
| 7 |  |  |
| 8 |  |  |
| 9 |  |  |
| 10 |  |  |
| 11 |  |  |
| 12 |  |  |
| 13 |  |  |

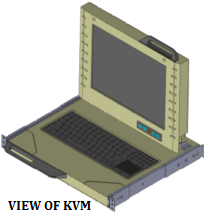
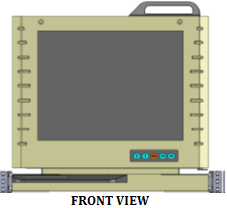
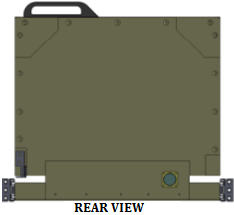
**UNUSED PINS:** 6

**OBSERVATIONS:**

**TEST Cleared / Not Cleared**

**PROJ QC Firm rep SSQAG REP**

### 4.0 KVM (KEYBOARD / MONITOR / TP) DBPL-LEVEL2SIM-RKVM



**Fig: 10**

**CONNECTOR MOUNTED ON THE REAR PANEL OF KVM - Part No: MS3470-W16-26P**

**4.1 Display Specifications**

****

**FIG 11**

**Part No: IDS-3115**

**15" XGA Industrial Open Frame Monitor**

* 15" XGA LCD panel with LED backlight for 20% power saving and environmental protection
* Optional brightness 250~1200 cd/m2 for different application environments
* -20° ~ +60° C wide range operating temperature
* 5-wire resistive and optional P-cap (dual touch is supported) touch screen solution
* Combo touch interface: RS-232 and USB
* Dual signal interface with VGA & DVI
* Integrated bracket for easy installation
* Versatile mounting methods for rear mounting and VESA mounting
* Anti-Reflective treatment (optional)
* Optical bonding (optional)

**4.2 Keyboard Specifications**

**Part No: SB-97-TP Keyboard**

* CABLE LENGTH: 5.25' straight USB (1.6 m)
* KEY SWITCHMATERIAL: Industrial Silicone rubber
* LIFE: Greater than 10 million cycles
* POWER SPECTRAL DENSITY: 0.04g/Hz
* FREQUENCY RANGE: 20Hz - 2kHz Duration of Test Per Axis:3 hours
* POWER USB: 200mA@5V (from CPU port)
* COMPATIBILITY: All Windows and Macintosh OS
* TEMPERATURE RANGE: Storage -40°C to +90°C (-40F to +194F); Operating -40°C to +70°C(-40F to +158F)
* WEIGHT: 1.2 lbs +/- 0.10 lbs (0.64 kg +/- 0.05kg)
* DIMENSIONS: 14.934" x 5.89" x 0.50"

**4.3 KVM TEST REPORTS**

**4.3.1 KVM CHECK LIST**

**Test Procedure**: Checklist for the unit will be checked between the two connectors and respective pins mentioned below

1. PROCEDURE: keep Multi-meter in continuity mode
2. Connect any one end pin to multi-meter positive terminal and connect negative terminal to the other end pin as per the details given below

Expected: Resistance <5Ω/Beep sound

**WIRING DETAILS OF SIMULATOR KVM**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **CIRCULAR**  **MS3470-W16-26S**  **KVM I/P** | **VGA CPU CARD**  **DB15P** | **KB / TP**  **SB-97-TP**  **USB** | **GUAGE** | **COLOUR** | **SIGNAL NAME** | **REMARKS** |
| A | 1 | - | 20AWG | WHITE | Red |  |
| B | 2 | - | 20AWG | WHITE | Green |  |
| C | 3 | - | 20AWG | WHITE | Blue |  |
| D | 5 | - | 20AWG | WHITE | GND |  |
| E | 6 | - | 20AWG | WHITE | GND |  |
| F | 7 | - | 20AWG | WHITE | GND |  |
| G | 8 | - | 20AWG | WHITE | GND |  |
| J | 10 | - | 20AWG | WHITE | GND |  |
| K | 12 | - | 20AWG | WHITE | DDC DATA |  |
| L | 13 | - | 20AWG | WHITE | HSYNC |  |
| M | 14 | - | 20AWG | WHITE | VSYNC |  |
| N | 15 | - | 20AWG | WHITE | DDC CLK |  |
| U |  | USB PIN1 | 20AWG | WHITE | USB VCC |  |
| V |  | USB PIN2 | 20AWG | WHITE | USB DATA - |  |
| W |  | USB PIN3 | 20AWG | WHITE | USB DATA + |  |
| X |  | USB PIN4 | 20AWG | WHITE | USB GND |  |
| b |  | - | 20AWG | WHITE | PWR (+12V) |  |
| c |  | - | 20AWG | WHITE | GND |  |

**OBSERVATIONS:**

**TEST Cleared / Not Cleared**

**PROJ QC Firm rep SSQAG REP**

**4.3.2 KVM COLD TEST**

The cold check involves the use of the Multi-meter. The resistance is measured between the two conductors and for the chassis in the same connector.

**PROCEDURE:** The positive probe is connected with the pin to test and the negative probe is connected to the all other pins listed in the table and the body of the connector. For certain signals the resistance with the other signals and ground will be indicated as 0 ohms, this is because of signals having a common ground point and common source these are mentioned in remarks.

**ACCEPTNCE CRITERIA:** The resistance measured should be as indicated in the table. (Exceptions mentioned in case of some signals)

**KVM INPUT**

| **Connector MS3470-W16-26P** | | | | | | | |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **PIN No.** | **Pin to Body IR** | | **PIN No.** | | **Pin to Pin IR** | | **Remarks** |
|  | **Expected Resistance** | **Measured Resistance** | **FROM** | **TO** | **Expected Resistance** | **Measured Resistance** |  |
| A | > 20 MΩ |  | A | B to c | > 20 MΩ |  |  |
| B | > 20 MΩ |  | B | C to c | > 20 MΩ |  |  |
| C | > 20 MΩ |  | C | D to c | > 20 MΩ |  |  |
| D | > 20 MΩ |  | D | E to c | > 20 MΩ |  |  |
| E | > 20 MΩ |  | E | F to c | > 20 MΩ |  |  |
| F | > 20 MΩ |  | F | G to c | > 20 MΩ |  |  |
| G | > 20 MΩ |  | G | H to c | > 20 MΩ |  |  |
| H | > 20 MΩ |  | H | J to c | > 20 MΩ |  |  |
| J | > 20 MΩ |  | J | K to c | > 20 MΩ |  |  |
| K | > 20 MΩ |  | K | L to c | > 20 MΩ |  |  |
| L | > 20 MΩ |  | L | M to c | > 20 MΩ |  |  |
| M | > 20 MΩ |  | M | N to c | > 20 MΩ |  |  |
| N | > 20 MΩ |  | N | U to c | > 20 MΩ |  |  |
| U | > 20 MΩ |  | U | V to c | > 20 MΩ |  |  |
| V | > 20 MΩ |  | V | W to c | > 20 MΩ |  |  |
| W | > 20 MΩ |  | W | X to c | > 20 MΩ |  |  |
| X | > 20 MΩ |  | X | b to c | > 20 MΩ |  |  |
| b | > 20 MΩ |  | b | c | > 20 MΩ |  |  |
| c | > 20 MΩ |  |  |  |  |  |  |

**UNUSED PINS:** S, T, Y, Z, a, d, e, P

**OBSERVATIONS:**

**TEST Cleared / Not Cleared**

**PROJ QC Firm rep SSQAG REP**

**4.3.3 KVM RETENTION TEST**

**Procedure:** Before starting retention test, use correct retention tool as per the connector, retention tool to be inserted on the contact vertically. The unit / cable should be firm at one place during the test. If the unit / cable shake during test it damages the contact. Apply by hand and check retention of pin/sockets one by one, contacts required to check the retention is as below.

| **KVM I/P:**  **MS3470-W16-26P** | **RETENTION TOOL HT210-20\**  **OK/ Not OK** | **REMARKS** |
| --- | --- | --- |
| A |  |  |
| B |  |  |
| C |  |  |
| D |  |  |
| E |  |  |
| F |  |  |
| G |  |  |
| H |  |  |
| J |  |  |
| K |  |  |
| L |  |  |
| M |  |  |
| N |  |  |
| U |  |  |
| V |  |  |
| W |  |  |
| X |  |  |
| b |  |  |
| c |  |  |

**UNUSED PINS:** S, T, Y, Z, a, d ,e ,P

**OBSERVATIONS:**

**TEST Cleared / Not Cleared**

**PROJ QC Firm rep SSQAG REP**

**5.0 SIMULATOR PC TO KVM CABLE LOOMS TEST REPORTS**

**5.1 CONTINUITY TEST**

**Test Procedure**: Checklist for the unit will be checked between the two connectors and respective pins mentioned below

1. PROCEDURE: keep Multi-meter in continuity mode
2. Connect any one end pin to multi-meter positive terminal and connect negative terminal to the other end pin as per the details given below

Expected: Resistance <5Ω/Beep sound



| **KVM POWER**  **MS3475-W16-26P** | **KVM I/P**  **MS3475-W16-26S** | **Continuity Check**  **OK/ Not OK** | **REMARKS** |
| --- | --- | --- | --- |
| A | A |  |  |
| B | B |  |  |
| C | C |  |  |
| D | D |  |  |
| E | E |  |  |
| F | F |  |  |
| G | G |  |  |
| H | H |  |  |
| J | J |  |  |
| K | K |  |  |
| L | L |  |  |
| M | M |  |  |
| N | N |  |  |
| S | S |  |  |
| T | T |  |  |
| U | U |  |  |
| V | V |  |  |
| W | W |  |  |
| X | X |  |  |
| Y | Y |  |  |
| Z | Z |  |  |
| a | a |  |  |
| b | b |  |  |
| c | c |  |  |
| d | d |  |  |
| e | e |  |  |

**OBSERVATIONS:**

**Cleared / Not Cleared**

**PROJ QC FIRM REP SSQAG**

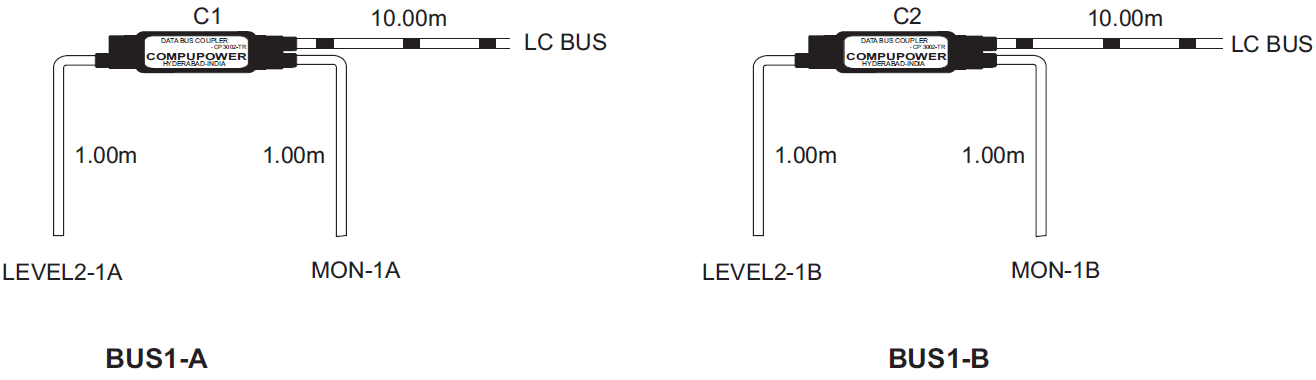


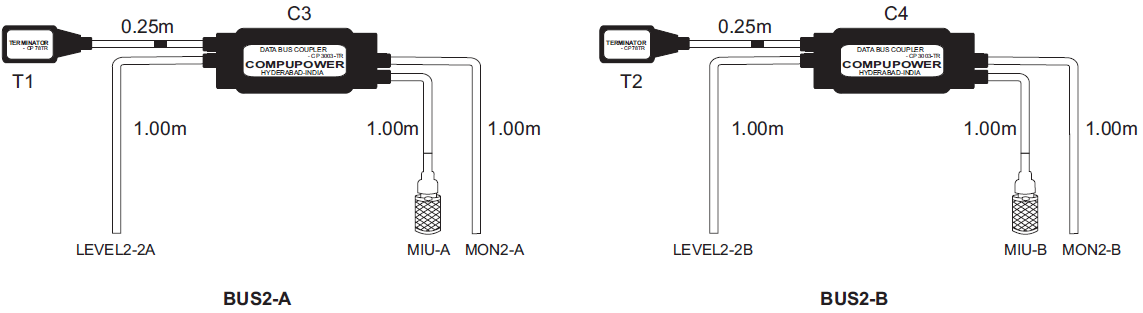
|  |  |  |  |
| --- | --- | --- | --- |
| **MS3475-W12-3S**  **AC I/P** | **AC PLUG 6A** | **Continuity Check**  **OK/ Not OK** | **REMARKS** |
| A | LINE |  |  |
| B | NEUTRAL |  |  |
| C | EARTH |  |  |

**OBSERVATIONS:**

**Cleared / Not Cleared**

**PROJ QC FIRM REP SSQAG**

****

****

NOTE: CABLE: RAYCHEM 10614-9

LEVEL2-1A, LEVEL2-1B, LEVEL2-2A, LEVEL2-2B: D38999-26WB-35PN (1no).

MON-1A, MON-1B, MON2-A, MON2-B: CJ70-47 (4nos).

LC BUS: MS3475-W12-10PN (1no).

C1, C2: CP 3002-TR IN-LINE DUAL STUB COUPLER WITH TERMINATOR

C3, C4: CP 3003-TR IN-LINE THREE STUB COUPLER WITH TERMINATOR

T1, T2: CP 78TR MOULDED TERMINATOR

MIU-A, MIU-B: RAYCHEM DK621-0411S

**BUS INDICATION (**AT REGULAR INTERVALS OF 0.2m APPROXIMATELY)

**BUS2-A: YELLOW COLOR**

**BUS2-B: GREEN COLOR**

TOLERANCE ON CABLE LENGTHS: \_500mm IS +50mm

>500mm I +100mm

THE CABLE LENGTHS ARE TAKEN AS BARE CABLE LENGTHS ONLY AND DO NOT INCLUDE COUPLER/CONNECTOR LENGTHS.

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **BNC** | **1553**  **P/N: D38999-26WB-35PN** | **Coupler** | **LC Bus**  **P/N:**  **MS3475 W12 10PN** | **MIU**  **P/N**  **DK-621- 0411 SN** | **MON** | **Continuity Check**  **OK / Not OK** | **REMARKS** |
| BUS A 1 (+) | 1 | C1 |  |  | 1A (+) |  |  |
| BUS A 1 (-) | 2 |  |  | 1A (-) |  |  |
| SHIELD | 3 |  |  |  | SHIELD |  |  |
| BUS B 1 (+) | 9 | C2 |  |  | 1B (+) |  |  |
| BUS B 1 (-) | 10 |  |  | 1B (-) |  |  |
| SHIELD | 11 |  |  |  | SHIELD |  |  |
| BUS A 2 (+) | 4 | C3 |  | MIU A (+) | 2A (+) |  |  |
| BUS A 2 (-) | 5 |  | MIU A (-) | 2A (-) |  |  |
| SHIELD | 12 |  |  | SHIELD | SHIELD |  |  |
| BUS B 2 (+) | 7 | C4 |  | MIU B (+) | 2B (+) |  |  |
| BUS B 2 (-) | 8 |  | MIU B (-) | 2B (-) |  |  |
| SHIELD | 13 |  |  | SHIELD | SHIELD |  |  |

**OBSERVATIONS:**

**Cleared / Not Cleared**

**PROJ QC FIRM REP SSQAG**

**5.2 MEGGER TEST**

The insulation resistance check involves the use of the megger instrument. The insulation of the conductor is determined with respect to the other conductors in the same connector.

**PROCEDURE:** The positive probe is connected with the pin to test and the negative probe is connected to the all other pins listed in the table and the body of the connector. For certain signals the insulation resistance with the other signals and ground will be indicated as 0 ohms, this is because of signals having a common ground point and common source these are mentioned in remarks.

**ACCEPTNCE CRITERIA:** The insulation resistance as indicated by the MEGGER for the conductors of the connectors shall not be less than 20M ohms. (Exceptions mentioned in case of some signals)

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **Connector1553:D38999-20WB-35SN** | | |  |
| **PROBE (+)** | **Pin to pin and Body IR** | | | **Remarks** |
| **PROBE(-)** | **Expected Resistance** | **Measured Resistance** |
| 1 | 2 TO13 | > 20 MΩ |  |  |
| 2 | 3 TO 13 | > 20 MΩ |  |  |
| 3 | 4 TO 13 | > 20 MΩ |  |  |
| 4 | 5 TO 13 | > 20 MΩ |  |  |
| 5 | 7 TO 13 | > 20 MΩ |  |  |
| 7 | 8 TO 13 | > 20 MΩ |  |  |
| 8 | 9 TO 13 | > 20 MΩ |  |  |
| 9 | 10 TO 13 | > 20 MΩ |  |  |
| 10 | 11 TO 13 | > 20 MΩ |  |  |
| 11 | 12 , 13 | > 20 MΩ |  |  |
| 12 | 13 | > 20 MΩ |  |  |

**Unused pins**: 6

**OBSERVATIONS:**

**Cleared / Not Cleared**

**PROJ QC FIRM REP SSQAG**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **ConnectorJ1:MS3470 W12-3PN** | | |  |
| **PROBE (+)** | **Pin to pin and Body IR** | | | **Remarks** |
| **PROBE(-)** | **Expected Resistance** | **Measured Resistance** |
| A | B to C | > 20 MΩ |  |  |
| B | C | > 20 MΩ |  |  |

**OBSERVATIONS:**

**Cleared / Not Cleared**

**PROJ QC FIRM REP SSQAG**

|  | **Connector KVM: MS 3470-W16-26P** | | |  |
| --- | --- | --- | --- | --- |
| **PROBE (+)** | **Pin to pin and Body IR** | | | **Remarks** |
| **PROBE(-)** | **Expected Resistance** | **Measured Resistance** |
| A | B to e | > 20 MΩ |  |  |
| B | C to e | > 20 MΩ |  |  |
| C | D to e | > 20 MΩ |  |  |
| D | E to e | > 20 MΩ |  |  |
| E | F to e | > 20 MΩ |  |  |
| F | G to e | > 20 MΩ |  |  |
| G | H to e | > 20 MΩ |  |  |
| H | J to e | > 20 MΩ |  |  |
| J | K to e | > 20 MΩ |  |  |
| K | L to e | > 20 MΩ |  |  |
| L | M to e | > 20 MΩ |  |  |
| M | N to e | > 20 MΩ |  |  |
| N | P to e | > 20 MΩ |  |  |
| P | R to e | > 20 MΩ |  |  |
| R | S to e | > 20 MΩ |  |  |
| S | T to e | > 20 MΩ |  |  |
| T | U to e | > 20 MΩ |  |  |
| U | V to e | > 20 MΩ |  |  |
| V | W to e | > 20 MΩ |  |  |
| W | X to e | > 20 MΩ |  |  |
| X | Y to e | > 20 MΩ |  |  |
| Y | Z to e | > 20 MΩ |  |  |
| Z | a to e | > 20 MΩ |  |  |
| a | b to e | > 20 MΩ |  |  |
| b | c to e | > 20 MΩ |  |  |
| c | d to e | > 20 MΩ |  |  |
| d | e | > 20 MΩ |  |  |

**OBSERVATIONS:**

**Cleared / Not Cleared**

**PROJ QC FIRM REP SSQAG**

**5.3 RETENTION TEST**

**Procedure:** Before starting retention test, use correct retention tool as per the connector, retention tool to be inserted on the contact vertically. The unit / cable should be firm at one place during the test. If the unit / cable shake during test it damages the contact. Apply by hand and check retention of pin/sockets one by one, contacts required to check the retention is as below.

| **KVM:**  **MS 3470-W16-26P** | **RETENTION TOOL HT210-20\**  **OK/ Not OK** | **REMARKS** |
| --- | --- | --- |
| A |  |  |
| B |  |  |
| C |  |  |
| D |  |  |
| E |  |  |
| F |  |  |
| G |  |  |
| H |  |  |
| J |  |  |
| K |  |  |
| L |  |  |
| M |  |  |
| N |  |  |
| P |  |  |
| R |  |  |
| S |  |  |
| T |  |  |
| U |  |  |
| V |  |  |
| W |  |  |
| X |  |  |
| Y |  |  |
| Z |  |  |
| a |  |  |
| b |  |  |
| c |  |  |
| d |  |  |
| e |  |  |

**UNUSED PINS:** NIL

**OBSERVATIONS:**

**Cleared / Not Cleared**

**PROJ QC FIRM REP SSQAG**

| **KVM I/P:**  **MS 3470-W16-26S** | **RETENTION TOOL HT210-20\**  **OK/ Not OK** | **REMARKS** |
| --- | --- | --- |
| A |  |  |
| B |  |  |
| C |  |  |
| D |  |  |
| E |  |  |
| F |  |  |
| G |  |  |
| H |  |  |
| J |  |  |
| K |  |  |
| L |  |  |
| M |  |  |
| N |  |  |
| P |  |  |
| R |  |  |
| S |  |  |
| T |  |  |
| U |  |  |
| V |  |  |
| W |  |  |
| X |  |  |
| Y |  |  |
| Z |  |  |
| a |  |  |
| b |  |  |
| c |  |  |
| d |  |  |
| e |  |  |

**UNUSED PINS:** NIL

**OBSERVATIONS:**

**Cleared / Not Cleared**

**PROJ QC FIRM REP SSQAG**

**1553 LOOM**

|  |  |  |
| --- | --- | --- |
| **1553:D38999-20WB-35PN** | **RETENTION TOOL HT210-20\**  **OK / Not OK** | **REMARKS** |
| 1 |  |  |
| 2 |  |  |
| 3 |  |  |
| 4 |  |  |
| 5 |  |  |
| 7 |  |  |
| 8 |  |  |
| 9 |  |  |
| 10 |  |  |
| 11 |  |  |
| 12 |  |  |
| 13 |  |  |

**UNUSED PINS:** 6

**OBSERVATIONS:**

**Cleared / Not Cleared**

**PROJ QC FIRM REP SSQAG**

**6.0 SIMULATOR PC (DBPL-LEVEL2SIM-SPC)**

It (at unit level, i.e. on completed / final product) consists of functional testing and environmental testing. The following are the details for test plan.

Testing of L2 Simulator PC consists of three parts namely:

|  |  |
| --- | --- |
| **S/N** | **Test** |
| 1 | Functional Test |
| 2 | Acceptance Test |
| 3 | Endurance test |

**Functional Test**: These tests are done at ambient condition to check for its functionality (i.e., to demonstrate the performance of the system as per the ASL specifications) after the completely assembled units are offered for test/inspection. All the units should undergo functional testing (at room temperature).

**Functional Test Applicability**: The units shall undergo functional testing as per below table.

Below mentioned tests are carried out as part of Functional test:

|  |  |
| --- | --- |
| **Section** | **Test** |
| 6.1 | VGA |
| 6.2 | CPU |
| 6.3 | RAM |
| 6.4 | HDD |
| 6.5 | SATA DOM |
| 6.6 | ETHERNET |
| 6.7 | USB |
| 6.8 | DDC 1553 CARD TEST |

### 

### 6.1 VGA Test

##### Resources Required

Resource required for setting up the connection

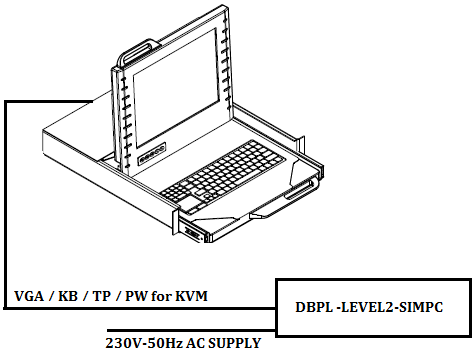
|  |  |  |
| --- | --- | --- |
| **Sl. No.** | **Item** | **Qty.** |
| 1 | DBPL-Level II SIM –SimPC | 1 |
| 2 | Circular Power Cable for SIMPC | 1 |
| 3 | KVM Cable (VGA / KEYBOARD / TP / PWR for KVM) | 1 |

##### Procedure

|  |  |
| --- | --- |
| VGA (DISPLAY): | |
| TEST OBJECTIVE | To Check the Display Resolution |
| TEST PREREQUISITES | 1. AC Power input for switching ON the SIMPC unit. |
| TEST PROCEDURE | 1. Boot with Linux OS Open the console Screen and Type #**xrandr** then check for 1024x768 resolutions. |
| EXPECTED OUTPUT | The screen resolution should be 1024x768 and the display should be clearly visible. |

##### Test Setup Diagram

Ensure that the connections are as per the following block Diagram for testing of CPU, MEMORY, HDD& SATADOM.



##### Functional Test Report

|  |  |  |  |
| --- | --- | --- | --- |
| Function | Resolution | OK/ Not OK | Remarks |
| VGA | 1024 X 768 |  |  |

### 

**Cleared / Not Cleared**

**Datasol Rep Internal QC SSQAG**

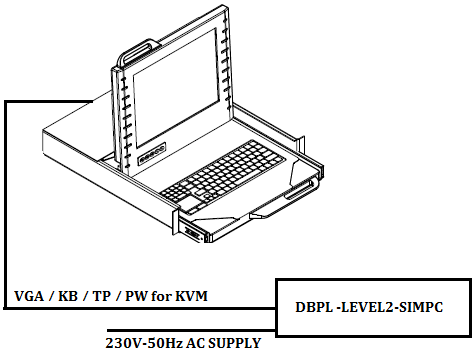
### 6.2 CPU Speed, Main Memory, HDD & SATA DOM tests

##### a. Resources Required

Resource required for setting up the connection

|  |  |  |
| --- | --- | --- |
| **Sl. No.** | **Item** | **Qty.** |
| 1 | DBPL-Level II SIM –SimPC | 1 |
| 2 | Circular Power Cable for SIMPC | 1 |
| 3 | KVM Cable (VGA / KEYBOARD / TP / PWR for KVM) | 1 |

##### b. Test Setup Diagram



##### c. Procedure

|  |  |
| --- | --- |
| **CPU SPEED:** | |
| TEST OBJECTIVE | To check for the CPU type & speed. |
| TEST PREREQUISITES | 1. AC Power input for switching ON the SIMPC unit |
| TEST PROCEDURE | 1. Boot in Linux OS, go to the Console Screen, Type # **cat /proc/cpu info.** 2. This will provide all the necessary information regarding the CPU. |
| EXPECTED OUTPUT | Check in “**model name”** tab for model of cpu installed. It should be Intel core i7 4770TE & “**cpu core**” tab to find the number of core in cpu. |

##### d. Functional Test Report

|  |  |  |  |
| --- | --- | --- | --- |
| Function | CPU check | OK/ Not OK | Remarks |
| CPU speed | Intel i7 -4770 TE Processor @ 2.3 GHz. |  |  |

**Cleared / Not Cleared**

**Datasol Rep Internal QC SSQAG**

**6.3 Test Procedure for MAIN MEMORY**

|  |  |
| --- | --- |
| MAIN MEMORY: | |
| TEST OBJECTIVE | To check for System RAM Capacity |
| TEST PREREQUISITES | AC Power input for switching ON the SIMPC unit |
| TEST PROCEDURE | Boot in Linux OS, go to the Console Screen, Type # cat /proc/meminfoThis will provide all the necessary information regarding the memory installed. Check in for “**memtotal**” tab it shows the total size of the memory installed. It should be 4GB. |
| EXPECTED OUTPUT | 4 GB DDR3-1333/1600 |

|  |  |  |  |
| --- | --- | --- | --- |
| Function | Speed of RAM | OK/ Not OK | Remarks |
| MAIN MEMORY | 4 GB DDR3-1333/1600 |  |  |

**Cleared / Not Cleared**

**Datasol Rep Internal QC SSQAG**

**6.4 Test Procedure for HARD DISK DRIVE**

|  |  |
| --- | --- |
| HARD DISK DRIVE: | |
| TEST OBJECTIVE | To check the Hard Disk Drive |
| TEST PREREQUISITES | 1. AC Power input for switching ON the SIMPC unit |
| TEST PROCEDURE | 1. Boot in Linux OS, go to the Console Screen, Type # **fdisk -l** 2. This will provide all the necessary information regarding the HDD installed and the free space available. |
| EXPECTED OUTPUT | Size of the Hard Disk should be ~500 GB and 1 No. |
| |  |  |  |  | | --- | --- | --- | --- | | Function | HDD size | OK/ Not OK | Remarks | | HDD Size | 500 GB |  |  |   **Datasol Rep Internal QC SSQAG** | |

**6.5 Test Procedure for SATADOM**

|  |  |
| --- | --- |
| SATA DOM: | |
| TEST OBJECTIVE | To check the functioning of SATA DOM |
| TEST PREREQUISITES | 1. AC Power input for switching ON the SIMPC unit |
| TEST PROCEDURE | 1. Boot in Linux OS, go to the Console Screen, Type # **fdisk -l** 2. This will provide all the necessary information regarding the SATA DOM installed. |
| EXPECTED OUTPUT | Size of the SATA DOM should be 32GB and 1 Nos. |

##### Functional Test Report

|  |  |  |  |
| --- | --- | --- | --- |
| Function | SATA DOM size | OK/ Not OK | Remarks |
| SATADOM | 32GB |  |  |

**Cleared / Not Cleared**

**Datasol Rep Internal QC SSQAG**

### 6.6 Test Procedure for Ethernet Port

##### Resources Required

Resource required for setting up the connection

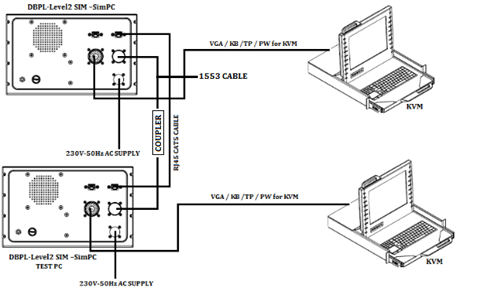
|  |  |  |
| --- | --- | --- |
| **Sl. No.** | **Item** | **Qty.** |
| 1 | DBPL-Level II SIM –SimPC | 2 |
| 2 | Circular Power Cable for SIMPC | 2 |
| 3 | KVM | 1 |
| 4 | KVM Cable (VGA / KEYBOARD / TP / PWR for KVM) | 2 |
| 5 | RJ45 PATCH CABLE | 2 |
| 6 | KEYBOARD | 1 |

##### Procedure

|  |  |
| --- | --- |
| ETHERNET PORTS: | |
| TEST OBJECTIVE | To check the functioning of the Ethernet Port. |
| TEST PREREQUISITES | 1. AC Power inputs for switching ON the unit, boot into Linux OS, configure IP Address to be set for LAN port as 192.168.1.100 and subnet mask as 255.255.255.0. 2. For the host system set the IP Address for LAN port as 192.168.1.101 and subnet mask as 255.255.255.0. |
| TEST PROCEDURE | 1. Open the console screen and type # **ifconfig** 2. This will give you all the IP address information. In console type **# ping 192.168.1.101**IP address of the host system pinging should happen without packet loss or any errors. 3. Repeat the test with the other LAN port |
| EXPECTED OUTPUT | Self-Pinging should happen without any Packet Loss and errors. |
| EXPECTED OUTPUT | The above testing should be same in all ports. | |

##### Test Setup Diagram

Ensure that the connections are as per the following block Diagram for testing of Ethernet Ports.



##### d. Functional Test Report

|  |  |  |  |
| --- | --- | --- | --- |
| Function | Pinging | OK / Not OK | Remarks |
| LAN 1 | Ping should be done without any packet loss |  |  |
| LAN 2 | Ping should be done without any packet loss |  |  |

**Datasol Rep Internal QC SSQAG**

### 6.7 USB Test

##### Resources Required

Resource required for setting up the connection

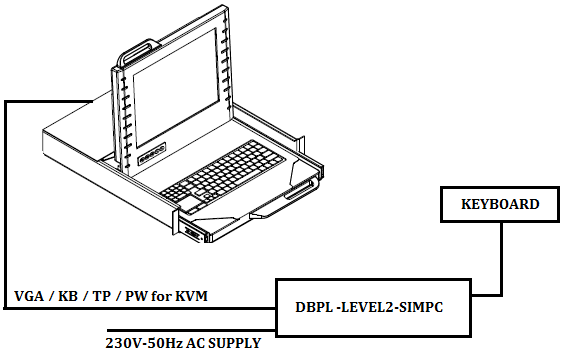
|  |  |  |
| --- | --- | --- |
| **Sl. No.** | **Item** | **Qty.** |
| 1 | DBPL-Level II SIM –SimPC | 1 |
| 2 | Circular Power Cable for SIMPC | 1 |
| 3 | KVM Cable (VGA / KEYBOARD / TP / PWR for KVM) | 1 |
| 4 | USB KEYBOARD | 1 |

##### Procedure:

|  |  |
| --- | --- |
| USB PORT: | |
| TEST OBJECTIVE | To Check the functionality of USB Port |
| TEST PREREQUISITES | 1. AC Power input for switching ON the unit. |
| TEST PROCEDURE | 1. Connect USB Keyboard to Standard USB 1 Connector in front panel of the unit & Switch ON the unit. 2. Check that any no. Keys (randomly selected) on the Keyboard are functioning correctly. And, observe the NUM Lock & Caps Lock LEDs ON/OFF operation. 3. Repeat the above step for USB 2 & 3 Standard Connectors of SIMPC. |
| EXPECTED OUTPUT | The above testing should be same in all 3 USB ports. |

##### Test Setup Diagram

Ensure that the connections are as per the following block Diagram for testing of USB Ports.



##### Functional Test Report

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Function | Keyboard | **OK / Not OK** | | Remarks |
| USB | Check that any no. Keys (randomly selected) on the Keyboard are functioning correctly and observe the NUM Lock & Caps Lock LED’s ON/OFF operation. | USB 1 |  |  |
| USB 2 |  |
| USB 3 |  |

**Datasol Rep Internal QC SSQAG**

**6.8 DDC 1553 CARD TEST**

**6.8.1 Installation of AceXtreme® C SDK (BU-69092S1v3.13.0)**

**Installation procedure in Linux:**

1. Download theAceXtreme® C SDK BU-69092S1v3.13.0

2. Create new folder by name DDC1553v3\_13\_0

3. Extract the downloadable file and copy BU-69092S1v3\_13\_0 folder toDDC1553v3\_9\_0 folder.

4. Enter into super user mode (root mode) - Very Important

5. For installation kindly follow the below steps

6. Open a terminal and enter into super user mode (Very Important) & type the below commands

* cd BU-69092S1v3\_13\_0/acexInstall (browse to the path whereacexInstall script is present)
* chmod +x acexInstall (change the file permission, making scripts executable)./acexInstall (run the script & follow the instruction displayed onthe screen)

7. This script will install all the libraries, it will compile & launch ddccm, it will compile the drivers as selected by the users and it will also compile the sample applications.

8. Before launching the ddccm make sure that card is connected to the PC by typing # **lspci –v** thencheck for **“communication controller ILC corp unknown device 1e00 (revba)”** should be displayed on the screen.

# 

# Test Setup:

This section describes the setup required for conducting the tests under this ATP.

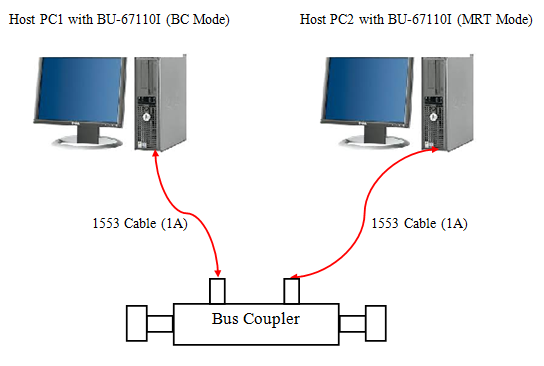
## Setup for MIL-STD-1553 tests

Operating System : Linux on both host PC

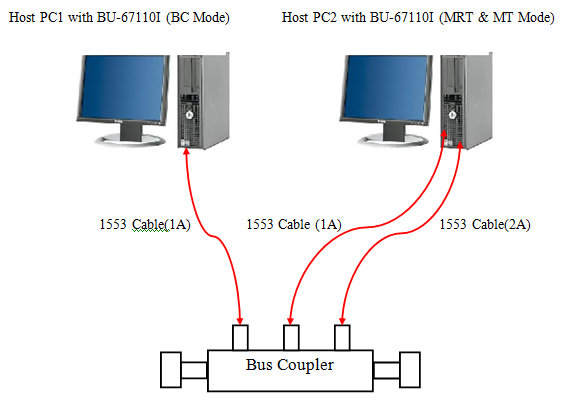
MIL-STD-1553SDK : BU-69092S1v3.13.0 (AceXtreme® C SDK for Simulation and Analysis Card)

DDC Cards : BU-67110I200R-JL0 (UUT), Simulation and Analysis Card – Two nos

Accessories : 2/4-Stub Bus Couplers with two terminators and two/three MIL-1553 cables - One set



**5.1.8 (Fig-1). MIL-STD-1553 Hardware Connections for BC & MRT Mode**



**5.1.8 (Fig-2). MIL-STD-1553 Hardware Connections for BC, MRT & MT Mode**

1. Inset the DDC PCI card (BU-67110I200R-JL0*)* & its connector in the Host PC1.
2. Install AceXtreme C SDK(v3.13.0) on the first Host PC1 (Please use “AceXtreme\_C\_SDK\_Installation\_Steps to install SDK).
3. Repeat the step1 to step2 for the host PC2.
4. Connect MIL-STD-1553 connections as shown in Fig-1/Fig2 based on the test case.

# 

# 6.9 MIL-STD-1553 Tests

## Test Case: Configure the cards in BC & MRT mode

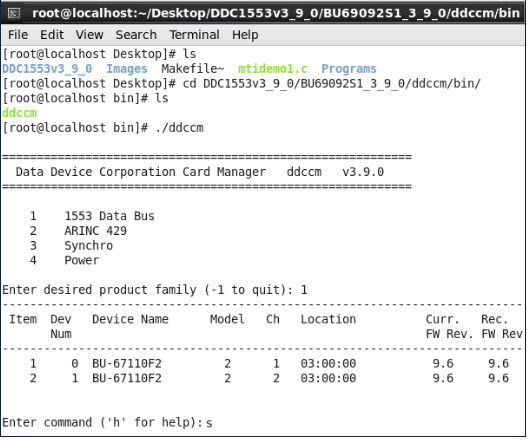
### Test Case ID: TC\_01

### Test Setup

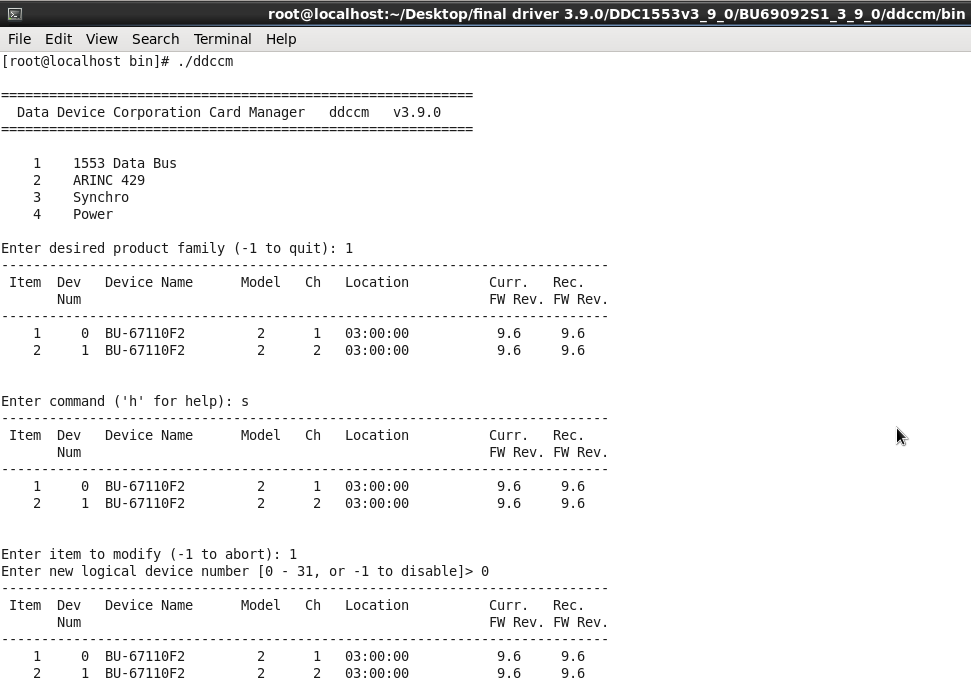
As in section 5.1.8 (Fig.1)

### Test Procedure

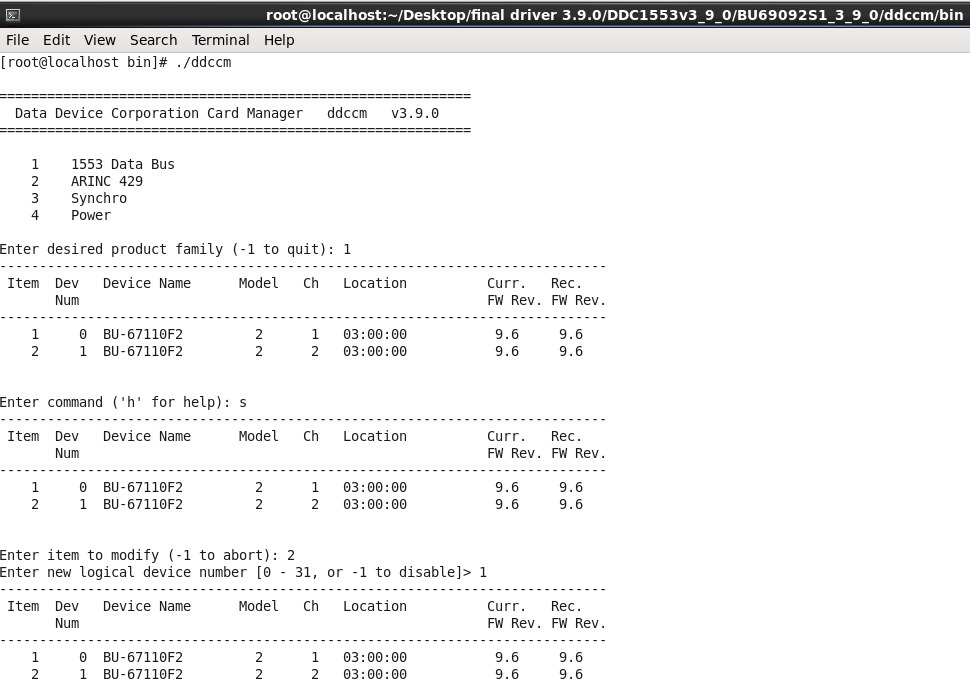
1. Open the DDC Card Manager for that migrate to the folder ddccm in the SDK installed path (Ex. “cd DDC1553v3\_9\_0/BU69092S1\_3\_9\_0/ddccm/bin/”) & assign the Logical Device Number to the channels as shown in fig below. Repeat the same for the Host PC2.



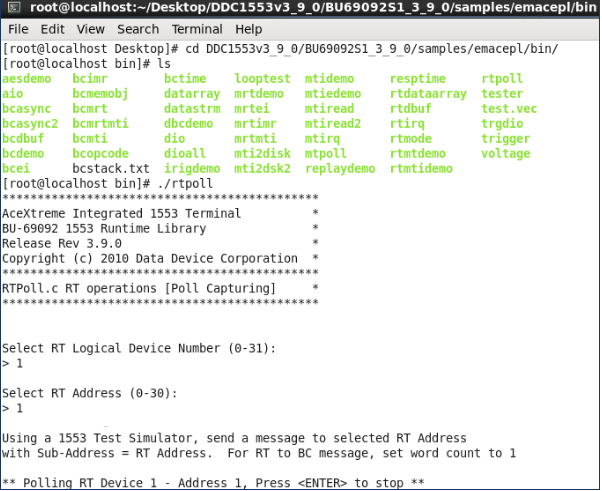
Press “s” in the Enter command as shown in above fig, then “1” (it is the item no 1 used to assign the DevNum) assign the DevNum for item 1 as “0” (Ref below images).



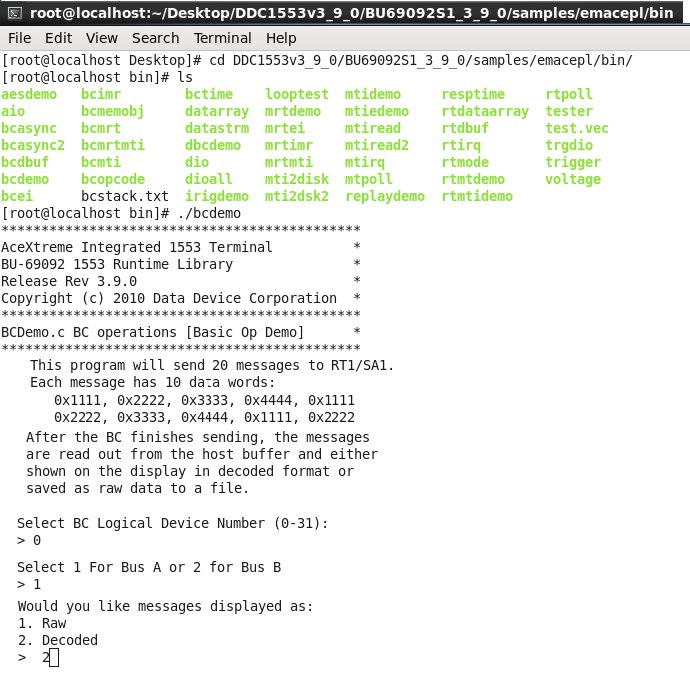
Press “s” in the Enter command as shown in above fig, then “2” (it is the item no 1 used to assign the DevNum) assign the DevNum for item 1as “1”



On Host PC2 run the “rtpoll“sample program present in “cd DDC1553v3\_9\_0/BU69092S1\_3\_9\_0/samples/emacepl/bin/”which will configure the card as RT & follow the instruction on the terminal as shown in fig below.



1. On Host PC1 run the “bcdemo” sample program present in “cd DDC1553v3\_9\_0/BU69092S1\_3\_9\_0/samples/emacepl/bin/” which will configure the card as BC & follow the instruction on the terminal as show in fig below.



### Test Pass Criteria

The both samples should show the following:

* Total numbers of messages on both the output command window should be 20.
* For BC to RT message the data words are “0x1111, 0x2222, 0x3333, 0x4444, 0x1111, 0x2222, 0x3333, 0x4444, 0x1111, 0x2222” on both window.

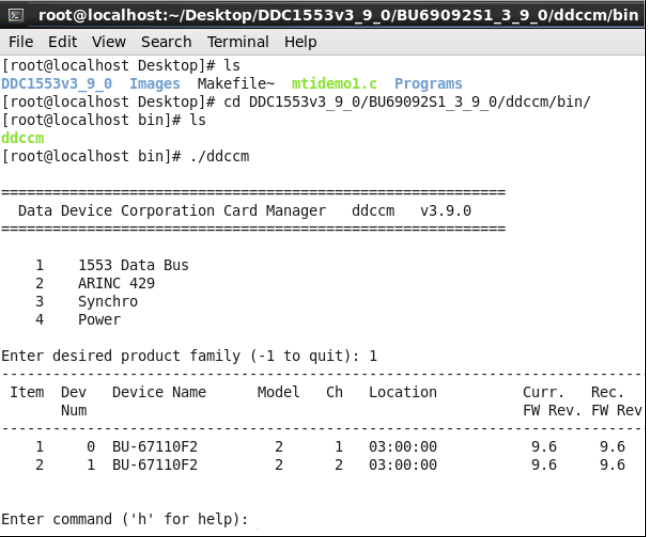
## Test Case: Configure the card as MT

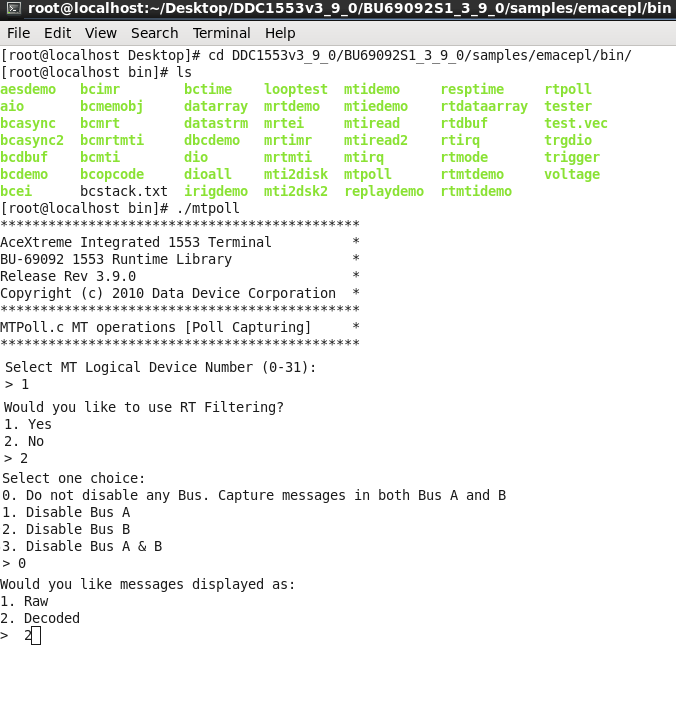
### Test Case ID: TC\_02

### Test Setup

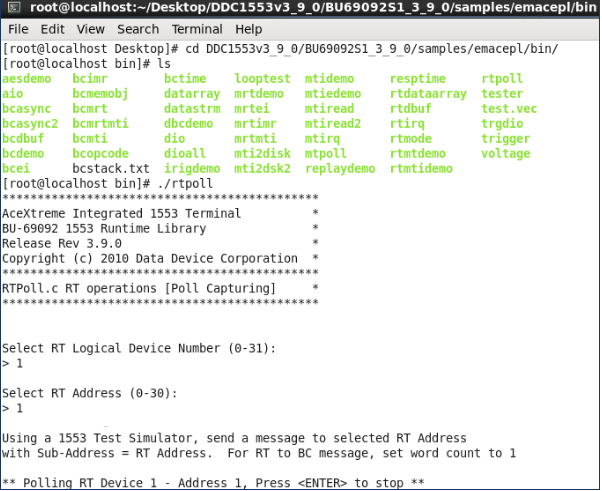
As in section 5.1.8 (Fig2)

### Test Procedure

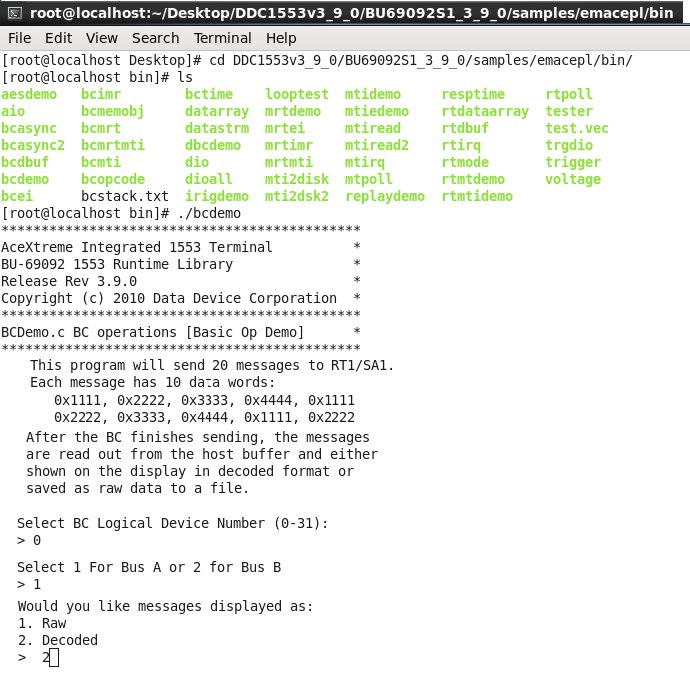
1. Open the DDC Card Manager for that migrate to the folder ddccm in the SDK installed path (Ex. “cd DDC1553v3\_ 9\_0/BU69092S1\_3\_9\_0/ddccm/bin/”) & assign the Logical Device Number to the channels as shown in fig below. Repeat the same for the host PC2.
2. On Host PC2 run the “mtpoll“ sample program present in “cd DDC1553v3\_9\_0/BU69092S1\_3\_9\_0/samples/emacepl/bin/”which will configure the card as MT & follow the instruction on the terminal as shown in fig below.



1. On Host PC2 run the “rtpoll“sample program present in “cd DDC1553v3\_9\_0/BU69092S1\_3\_9\_0/samples/emacepl/bin/”which will configure the card as RT & follow the instruction on the terminal as shown in fig below.



1. On Host PC1 run the “bcdemo“ sample program present in “cd DDC1553v3\_9\_0/BU69092S1\_3\_9\_0/samples/emacepl/bin/”which will configure the card as BC & follow the instruction on the terminal as shown in fig below.



### Test Pass Criteria

The “mtpoll” sample should show the following:

* Total numbers of messages should be 20.
* For MT to RT message the data words are “0x1111, 0x2222, 0x3333, 0x4444, 0x1111, 0x2222, 0x3333, 0x4444, 0x1111, 0x2222” on both window.

# Test Results

|  |  |  |  |
| --- | --- | --- | --- |
| **ID** | **Test Case Description** | **Test Result OK / Not OK** | **Remarks** |
| TC\_01 | Configure the cards in BC & RT mode |  |  |
| TC\_02 | Configure the card in MT mode |  |  |

**Datasol Rep Internal QC SSQAG**

**7.0 SIMULATOR INTERFACE UNIT**

**IDENTIFICATION:**

The “Level II simulator” supplied by Datasol to ASL, Hyderabad will be here after identified as given below.

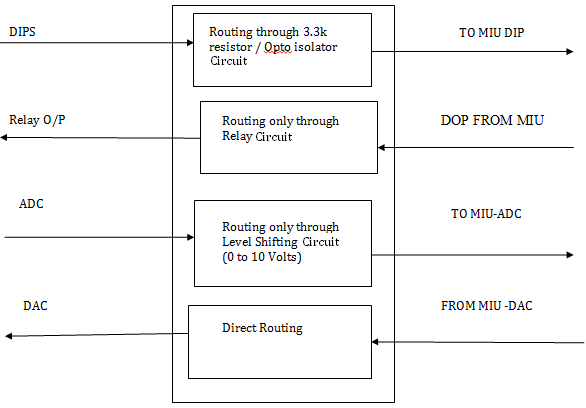
**SYSTEM DESCRIPTION : SIMULATOR INTERFACE UNIT**

**PART NO : DBPL-L2SIM-SIU**

**7.1 SYSTEM OVERVIEW:**

This unit contains the signal conditioning of the signals from the checkout system to meet the MIU input specifications. It interfaces umbilical signals from checkout system to the MIU. MIU has got the resources such as Digital Input, Digital Output, ADC and DACs.

The overview of the signals routing is as shown below.



|  |  |
| --- | --- |
| **Capture 3.JPG**  **FRONT VIEW** | **Capture 9.JPG**  **TOP ISOMETRIC VIEW** |
| **Capture 4.JPG**  **REAR VIEW** |

**A5 CONNECTIVITY DRAWING**

**A4 CONNECTIVITY DRAWING**



**A3 CONNECTIVITY DRAWING**



The following circuits are incorporated on PCBs inside SIU to ensure that umbilical signals meet the MIU resource specifications.

* Current limiting resistor
* OPTO Isolator circuit
* Voltage level shifting Circuit
* Relay circuit which will be operated by MIU DOPs
* Required (MIU & SIMULATOR) Power supplies.

The above circuits are realised on PCB named as SCB (Signal Conditioning Board).

Each board contains number of resources as shown below.

* + - 1. Current Limit Resistor: 44 Ch’s.
      2. OPTO Isolation: 8 Ch’s.
      3. Voltage Level Shifter: 24 Ch’s.
      4. Relay Outputs: 8 Ch’s.

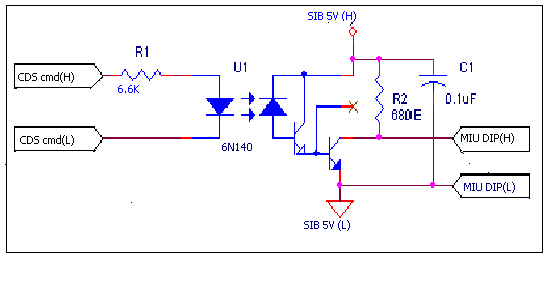
We have used SCB1 & SCB2 in SIU. Each SCB contains the above mentioned resources. But the SCB1 contains one DC-DC module to convert 28VDC to 5VDC for OPTO circuit output. The same DC-DC is routed to SCB2 for powering other 8ch’s of OPTO Isolation.

**7.1.1 CURRENT LIMITING RESISTOR and OPTO ISOLATOR CIRCUIT:**

The MIU digital input channels are designed for taking an input of 5V, but the requirement is to read an input of 35V. To limit the current to opto isolator for the input voltage of 35V, a current limiting resistor of 3.3K / 0.25W is provided at the input of each channel.

Thus for each channel, one 3.3K resistor is used for all 86 DIP channels at SIU.



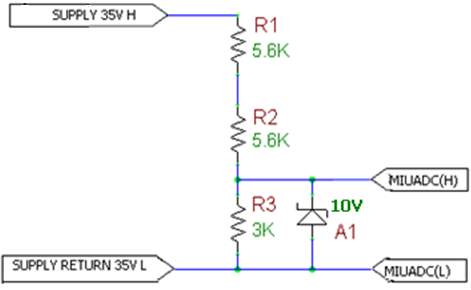


**Fig 13: opto isolator circuit**

There are few umbilical signals namely CDS1 & CDS2, whose outputs are through low brake in checkout systems. In MIU all DIP lows are shorted, thus when CDS high is permanently connected to DIP (H) and whenever a signal comes through low brake, all CDS DIPS will be read. To avoid this situation all the CDS channels are isolated with each other. Thus the above opto – isolator circuit is used for all CDS lines.

**7.1.2 VOLTAGE LEVEL SHIFTING CIRCUIT:**

The MIU analog input channels are designed for taking an input of 10V, but the requirement is to read input of 35V. Hence the voltage divider network to bring down the voltage level from 35V to 10V or less than 10V. The following voltage divider network is used. Where the output voltage will be 7.4V for input of 35V. The 10V zener provides the protection in case of resistor failure.

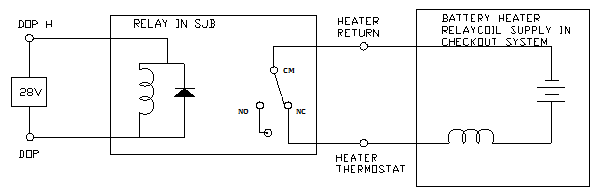


**Fig 14: level shifting circuit**

For all the 48 channels of ADC, the input has to pass through the above circuit and then to MIU ADC channels.

**7.1.3 RELAY CIRCUIT TO BE OPERATED BY MIU DOP:**

The relays are used for switching the relay coil supply of heater lines in the checkout system as shown below and to switch simulated battery supply to discharge voltage Monitoring lines will be operated by digital output from MIU



**Fig 15: Relay circuit**

**7.1.4 BATTERY SIMULATION:**

The battery simulation circuit requires a power source, a current limiting resistor to limit the current in case discharge load is connected and a relay to switch ON or OFF the simulated battery based on the command from checkout system. Digital outputs as to drive the relays for which a source of 28V (coil supply for relays is require and will be provided by MIU).

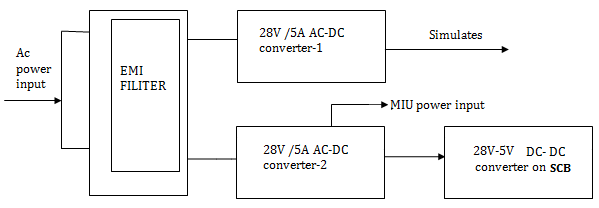
Battery discharge line of the checkout systems can be cleared by battery simulation with 28V / 5A AC to DC Converter. This converter simulates either two battery whose total load current will be 33.42A or a single battery whose load current will be 4.5A. since this load current cannot be supplied by simulated battery (28V / 5A AC to DC converter), a current limiting resistor of value 10K / 0.25W is put on umbilical line in SIU that takes the simulated battery line in to the discharge load. So battery high line requires a brake which is simulated by SPDT toggle switch (SW 3) provided on simulator junction box.

Two relays will be used for routing AC-DC output lines to discharge load resistors while simulating 2 batteries and a single relay will be used while simulating single battery. These relays are operated by MIU DOP based on command from checkout system.



**7.1.5 POWER SUPPLY CIRCUIT:**

Two AC-DC Converters with output of 28V/5A are used. One to provide input power to MIU and SCB, another one for simulate battery. DC-DC converter mounted on SCB1 is provides Vcc for optoisolators on the PCB (SCB1 & SCB2) in SIU. Both power supply modules are mounted inside the simulator interface unit. Toggle switch is providing for AC input and MIU power supply DC output in the simulator interface unit, EMI filter is used in the power input line to the AC-DC converter. Shielded twisted pair cables are used for wiring of the power lines from the connector to the input of AC-DC converter.



**7.1.6 POWER SUPPLY SPECIFICATIONS:**

Power supply will be mounted inside the simulator junction box as shown in the and the termination of the supply will be through terminal blocks mounted on rail and distributed to the opto boards and relay contacts.

Input: 230VAC



Outputs: SIM 28V: 28V @5Amps, MIU 28V: 28V @5Amps

The following models of MEANWELL will be used in the system

POWER SUPPLY (AC-DC):

RSP-150-27: 28V @ 5Amps (SIM 28V& MIU 28V).

MODEL: RSP-150-27

**SPECIFICATION**

DC OUTPUT VOLTAGE: 28V

OUTPUT V. TOLERANCE: ±1%

OUTPUT V. RANGE: 25.7V - 29.7V

OUTPUT RATED CURRENT: 5.6A

OUTPUT CURRENT RANGE: 0-5.6A

RIPPLE & NOISE: 240mV (p-p)

EFFICIENCY: 89%

Two AC-DC converters of 28V/5A output required. One to provide input power to MIU and DC-DC converter and another one to simulate battery.DC –DC converter output provides 5V

DC-DC Converter specs:

Make: Murata

Part no: UWR-5/2000-D24E-C

Input voltage: 18-36V

Output: 5V/2A-10W

Efficiency>80%

Line regulation: ±0.2%

Load regulation: ±0.5%

**7.2 ELECTRICAL CONFIGURATION FOR SIU:**

All the cables used for wiring will be of LCSO approved PTFE/TEFLON insulated silver-plated copper wire. The following cables used for wiring.

Teflon cables: 22/19/34E for signal wiring and 20/19/32E, for power wiring. The type of cable used on each connector is mentioned in the following table.

| **SL NO.** | **CONNECTOR REF** | **CONNECTOR PART NO** | **NO. OF WIRES** | **AWG** | **USED PINS** | **UNUSED PINS** |
| --- | --- | --- | --- | --- | --- | --- |
| 1 | J1 | MS3470-W12-3PN | 3 | 20AWG | A,B,C | NIL |
| 2 | J101 | MS3470-W12-10SN | 4 | 20AWG | A,B,C,D | E,F,G,H,J,K |
| 3 | M1 | MS3470-W24-61SN | 60 | 20AWG | A to Z,a to Z,AA to NN | PP |
| 4 | M2 | MS3470-W24-61PN | 60 | 20AWG | A to Z,a to Z,AA to NN | PP |
| 5 | M3 | MS3470-W22-55PN | 52 | 20AWG | A to Z,a to Z,AA to GG | y, GG, HH |
| 6 | M4 | D38999-20WG 35PN | 78 | 22AWG | 1 to 78 | 79 |
| 7 | M5 | D38999-20WH-35PN | 99 | 22AWG | 1 to 99 | 100 |
| 8 | DOP-J103 | D38999 20WF35PN | 35 | 22AWG | 1 to 20, 22 to 35, | 21, 36 to 66 |
| 9 | DIP-J104 | D38999 20WJ 35PN | 96 | 22AWG | 1 to 88, 95 to102 | 89 to 94, 103 to 128 |
| 10 | DAC/ADC-J102 | D38999-20WJ-35SN | 69 | 22AWG | 1 to 57, 61 to 72 | 58 to 60, 73 to 128 |

**7.2.1CHECK LIST**

Test Procedure: Checklist for the unit will be checked between the two connectors and respective pins mentioned below

1. PROCEDURE: keep Multi-meter in continuity mode
2. Connect any one end pin to multi-meter positive terminal and connect negative terminal to the other end pin as per the details given below

Expected: Resistance <5Ω/Beep sound

**PROJECT: UNIT No: CLASS OF TEST: DATE:**

1. **J1 CONNECTOR**

**P/N: MS3470 W12 3PN**

|  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **J1** | **EMI FLTR** | **SIU PW SWITCH** |  | **SIU PW SWITCH** | **TB** | **MIU PWR SUPP** | **SIM PWR SUPP** | **WIRE** | **COLOUR** | **SIGNAL** | **REMARKS** |
| A | P | COM 1 | NO 1, | TB 1 | L | L | 20AWG | RED | AC LINE |  |
| B | N | COM2 | NO 2, | TB 2 | N | N | 20AWG | BLACK | AC NEUTRAL |  |
| C | - |  |  |  | TB 3 | E | E | 20AWG | GREEN | EARTH |  |

**OBSERVATIONS:**

**TEST Cleared / Not Cleared**

**PROJ QC Firm rep SSQAG REP**

**B. J101 CONNECTOR**

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **J101** | **TB** | **MIU PW SWITCH** |  | **SCB CONN / MIU PW SWITCH** | **TB** | **MIU PWR SUPP** | **WIRE** | **COLOUR** | **SIGNAL** | **REMARKS** |
| A | TB6 | NO1, | B1P2,61 | TB 4 | H | 20AWG | RED | 28V HIGH |  |
| C | COM 1 |
| B | TB5 | NO2 | B1P2,62 | TB 5 | L | 20AWG | BLACK | 28V LOW |  |
| D | COM2 |

**P/N: MS3470 W12 10SN**

**OBSERVATIONS:**

**TEST Cleared / Not Cleared**

**PROJ QC Firm rep SSQAG REP**

1. **J102 CONNECTOR**

**P/N: D38999 20WJ-35SN**

| **J102** | **TB** | **SCB CONNECTOR** | **GUAGE** | **COLOUR** | **Resource allocated** | **REMARKS** |
| --- | --- | --- | --- | --- | --- | --- |
| J102.01 |  | B1D6, 1 | 22AWG | WHITE | ADC0 |  |
| J102.49 | TB 10 | B1D6, 2 | 22AWG | WHITE | AGND |  |
| J102.02 |  | B1D6, 3 | 22AWG | WHITE | ADC1 |  |
| J102.50 | TB 10 | B1D6, 4 | 22AWG | WHITE | AGND |  |
| J102.03 |  | B1D6, 5 | 22AWG | WHITE | ADC2 |  |
| J102.51 | TB 10 | B1D6, 6 | 22AWG | WHITE | AGND |  |
| J102.04 |  | B1D6, 7 | 22AWG | WHITE | ADC3 |  |
| J102.52 | TB 10 | B1D6, 8 | 22AWG | WHITE | AGND |  |
| J102.05 |  | B1D6, 9 | 22AWG | WHITE | ADC4 |  |
| J102.53 | TB 10 | B1D6, 10 | 22AWG | WHITE | AGND |  |
| J102.06 |  | B1D6, 11 | 22AWG | WHITE | ADC5 |  |
| J102.54 | TB 10 | B1D6, 12 | 22AWG | WHITE | AGND |  |
| J102.07 |  | B1D6, 13 | 22AWG | WHITE | ADC6 |  |
| J102.55 | TB 10 | B1D6, 14 | 22AWG | WHITE | AGND |  |
| J102.08 |  | B1D6, 15 | 22AWG | WHITE | ADC7 |  |
| J102.56 | TB 10 | B1D6, 16 | 22AWG | WHITE | AGND |  |
| J102.09 |  | B1D6, 17 | 22AWG | WHITE | ADC8 |  |
| J102.57 | TB 10 | B1D6, 18 | 22AWG | WHITE | AGND |  |
| J102.10 |  | B1D6, 19 | 22AWG | WHITE | ADC9 |  |
|  | TB 10 | B1D6, 20 | 22AWG | WHITE | AGND |  |
| J102.11 |  | B1D6, 21 | 22AWG | WHITE | ADC10 |  |
|  | TB 10 | B1D6, 22 | 22AWG | WHITE | AGND |  |
| J102.12 |  | B1D6, 23 | 22AWG | WHITE | ADC11 |  |
|  | TB 10 | B1D6, 24 | 22AWG | WHITE | AGND |  |
| J102.13 |  | B1D6, 25 | 22AWG | WHITE | ADC12 |  |
|  | TB 10 | B1D6, 26 | 22AWG | WHITE | AGND |  |
| J102.14 |  | B1D6, 27 | 22AWG | WHITE | ADC13 |  |
|  | TB 10 | B1D6, 28 | 22AWG | WHITE | AGND |  |
| J102.15 |  | B1D6, 29 | 22AWG | WHITE | ADC14 |  |
|  | TB 10 | B1D6, 30 | 22AWG | WHITE | AGND |  |
| J102.16 |  | B1D6, 31 | 22AWG | WHITE | ADC15 |  |
|  | TB 10 | B1D6, 32 | 22AWG | WHITE | AGND |  |
| J102.17 |  | B1D6, 33 | 22AWG | WHITE | ADC16 |  |
|  | TB 10 | B1D6, 34 | 22AWG | WHITE | AGND |  |
| J102.18 |  | B1D6,35 | 22AWG | WHITE | ADC17 |  |
|  | TB 10 | B1D6, 36 | 22AWG | WHITE | AGND |  |
| J102.19 |  | B1D6, 37 | 22AWG | WHITE | ADC18 |  |
|  | TB 10 | B1D6,38 | 22AWG | WHITE | AGND |  |
| J102.20 |  | B1D6, 39 | 22AWG | WHITE | ADC19 |  |
|  | TB 10 | B1D6, 40 | 22AWG | WHITE | AGND |  |
| J102.21 |  | B1D6, 41 | 22AWG | WHITE | ADC20 |  |
|  | TB 10 | B1D6, 42 | 22AWG | WHITE | AGND |  |
| J102.22 |  | B1D6, 43 | 22AWG | WHITE | ADC21 |  |
|  | TB 10 | B1D6, 44 | 22AWG | WHITE | AGND |  |
| J102.23 |  | B1D6, 45 | 22AWG | WHITE | ADC22 |  |
|  | TB 10 | B1D6, 46 | 22AWG | WHITE | AGND |  |
| J102.24 |  | B1D6, 47 | 22AWG | WHITE | ADC23 |  |
|  | TB 10 | B1D6, 48 | 22AWG | WHITE | AGND |  |
| J102.25 |  | B2D6, 1 | 22AWG | WHITE | ADC24 |  |
|  | TB 10 | B2D6, 2 | 22AWG | WHITE | AGND |  |
| J102.26 |  | B2D6, 3 | 22AWG | WHITE | ADC25 |  |
|  | TB 10 | B2D6, 4 | 22AWG | WHITE | AGND |  |
| J102.27 |  | B2D6, 5 | 22AWG | WHITE | ADC26 |  |
|  | TB 10 | B2D6, 6 | 22AWG | WHITE | AGND |  |
| J102.28 |  | B2D6, 7 | 22AWG | WHITE | ADC27 |  |
|  | TB 10 | B2D6, 8 | 22AWG | WHITE | AGND |  |
| J102.29 |  | B2D6, 9 | 22AWG | WHITE | ADC28 |  |
|  | TB 10 | B2D6, 10 | 22AWG | WHITE | AGND |  |
| J102.30 |  | B2D6, 11 | 22AWG | WHITE | ADC29 |  |
|  | TB 10 | B2D6, 12 | 22AWG | WHITE | AGND |  |
| J102.31 |  | B2D6, 13 | 22AWG | WHITE | ADC30, |  |
|  | TB 10 | B2D6, 14 | 22AWG | WHITE | AGND, RLY1(CM) |  |
| J102.32 |  | B2D6, 15 | 22AWG | WHITE | ADC31 |  |
|  | TB 10 | B2D6, 16 | 22AWG | WHITE | AGND,RLY2(CM) |  |
| J102.33 |  | B2D6, 17 | 22AWG | WHITE | ADC32 |  |
|  | TB 10 | B2D6, 18 | 22AWG | WHITE | AGND, RLY3(CM) |  |
| J102.34 |  | B2D6, 19 | 22AWG | WHITE | ADC33, |  |
|  | TB 10 | B2D6, 20 | 22AWG | WHITE | AGND, RLY4(CM) |  |
| J102.35 |  | B2D6, 21 | 22AWG | WHITE | ADC34 |  |
|  | TB 10 | B2D6, 22 | 22AWG | WHITE | AGND, RLY5(CM) |  |
| J102.36 |  | B2D6, 23 | 22AWG | WHITE | ADC 35 |  |
|  | TB 10 | B2D6, 24 | 22AWG | WHITE | AGND |  |
| J102.37 |  | B2D6, 25 | 22AWG | WHITE | ADC 36 |  |
|  | TB 10 | B2D6, 26 | 22AWG | WHITE | AGND |  |
| J102.38 |  | B2D6, 27 | 22AWG | WHITE | ADC37 |  |
|  | TB 10 | B2D6, 28 | 22AWG | WHITE | AGND |  |
| J102.39 |  | B2D6, 29 | 22AWG | WHITE | ADC 38 |  |
|  | TB 10 | B2D6, 30 | 22AWG | WHITE | AGND |  |
| J102.40 |  | B2D6, 31 | 22AWG | WHITE | ADC 39 |  |
|  | TB 10 | B2D6, 32 | 22AWG | WHITE | AGND |  |
| J102.41 |  | B2D6,33 | 22AWG | WHITE | ADC 40 |  |
|  | TB 10 | B2D6, 34 | 22AWG | WHITE | AGND |  |
| J102.42 |  | B2D6, 35 | 22AWG | WHITE | ADC 41 |  |
|  | TB 10 | B2D6, 36 | 22AWG | WHITE | AGND |  |
| J102.43 |  | B2D6, 37 | 22AWG | WHITE | ADC 42 |  |
|  | TB 10 | B2D6, 38 | 22AWG | WHITE | AGND |  |
| J102.44 |  | B2D6, 39 | 22AWG | WHITE | ADC 43 |  |
|  | TB 10 | B2D6, 40 | 22AWG | WHITE | AGND |  |
| J102.45 |  | B2D6, 41 | 22AWG | WHITE | ADC 44 |  |
|  | TB 10 | B2D6, 42 | 22AWG | WHITE | AGND |  |
| J102.46 |  | B2D6, 43 | 22AWG | WHITE | ADC 45 |  |
|  | TB 10 | B2D6, 44 | 22AWG | WHITE | AGND |  |
| J102.47 |  | B2D6, 45 | 22AWG | WHITE | ADC 46 |  |
|  | TB 10 | B2D6, 46 | 22AWG | WHITE | AGND |  |
| J102.48 |  | B2D6, 47 | 22AWG | WHITE | ADC 47 |  |
|  | TB 10 | B2D6, 48 | 22AWG | WHITE | AGND |  |

**OBSERVATIONS:**

**TEST Cleared / Not Cleared**

**PROJ QC Firm rep SSQAG REP**

1. **J103 CONNECTOR**

**P/N: D38999 20WF 35PN**

| **J103** | **SCB CONNECTOR** | **GUAGE** | **COLOUR** | **Resource allocated** | **REMARKS** |
| --- | --- | --- | --- | --- | --- |
| J103.1 | B1D4, 20 | 22AWG | WHITE | DOP 01(L) |  |
|  | B1D4, 1 | 22AWG | WHITE |  |  |
| J103.2 | B1D4, 21 | 22AWG | WHITE | DOP 02(L) |  |
|  | B1D4, 2 | 22AWG | WHITE |  |  |
| J103.3 | B1D4, 22 | 22AWG | WHITE | DOP 03(L) |  |
|  | B1D4, 3 | 22AWG | WHITE |  |  |
| J103.4 | B1D4, 23 | 22AWG | WHITE | DOP 04(L) |  |
|  | B1D4, 4 | 22AWG | WHITE |  |  |
| J103.5 | B1D4, 24 | 22AWG | WHITE | DOP 05(L) |  |
|  | B1D4, 5 | 22AWG | WHITE |  |  |
| J103.6 | B1D4, 25 | 22AWG | WHITE | DOP06(L) |  |
|  | B1D4, 6 | 22AWG | WHITE |  |  |
| J103.7 | B1D4, 26 | 22AWG | WHITE | DOP08(L) |  |
|  | B1D4, 7 | 22AWG | WHITE |  |  |
| J103.8 | B1D4, 27 | 22AWG | WHITE | DOP09(L) |  |
|  | B1D4, 8 | 22AWG | WHITE |  |  |
| J103.9 | B1D4, 28 | 22AWG | WHITE | DOP10(L) |  |
|  | B1D4, 9 | 22AWG | WHITE |  |  |
| J103.10 | B1D4, 29 | 22AWG | WHITE | DOP11(L) |  |
|  | B1D4, 10 | 22AWG | WHITE |  |  |
| J103.11 | B1D4, 30 | 22AWG | WHITE | DOP12(L) |  |
|  | B1D4, 11 | 22AWG | WHITE |  |  |
| J103.12 | B1D4, 31 | 22AWG | WHITE | DOP13(L) |  |
|  | B1D4,12 | 22AWG | WHITE |  |  |
| J103.13 | B1D4, 32 | 22AWG | WHITE | DOP15(L) |  |
|  | B1D4, 13 | 22AWG | WHITE |  |  |
| J103.14 | B1D4, 33 | 22AWG | WHITE | DOP16(L) |  |
|  | B1D4, 14 | 22AWG | WHITE |  |  |
| J103.15 | B1D4, 34 | 22AWG | WHITE | DOP17(L) |  |
|  | B1D4, 15 | 22AWG | WHITE |  |  |
| J103.16 | B1D4, 35 | 22AWG | WHITE | DOP18(L) |  |
|  | B1D4, 16 | 22AWG | WHITE |  |  |
| J103.17 | B2D4, 20 | 22AWG | WHITE | DOP19(L) |  |
|  | B2D4, 1 | 22AWG | WHITE |  |  |
| J103.18 | B2D4, 21 | 22AWG | WHITE | DOP20(L) |  |
|  | B2D4, 2 | 22AWG | WHITE |  |  |
| J103.22 | B2D4, 22 | 22AWG | WHITE | DOP22(L) |  |
| **J103** | **SCB CONNECTOR** | **GUAGE** | **COLOUR** | **Resource allocated** | **REMARKS** |
|  | B2D4, 3 | 22AWG | WHITE |  |  |
| J103.23 | B2D4, 23 | 22AWG | WHITE | DOP23(L) |  |
|  | B2D4, 4 | 22AWG | WHITE |  |  |
| J103.24 | B2D4, 24 | 22AWG | WHITE | DOP24(L) |  |
|  | B2D4, 5 | 22AWG | WHITE |  |  |
| J103.25 | B2D4, 25 | 22AWG | WHITE | DOP25(L) |  |
|  | B2D4, 6 | 22AWG | WHITE |  |  |
| J103.26 | B2D4, 26 | 22AWG | WHITE | DOP26(L) |  |
|  | B2D4, 7 | 22AWG | WHITE |  |  |
| J103.27 | B2D4, 27 | 22AWG | WHITE | DOP27(L) |  |
|  | B2D4, 8 | 22AWG | WHITE |  |  |
| J103.28 | B2D4, 28 | 22AWG | WHITE | DOP29(L) |  |
|  | B2D4, 9 | 22AWG | WHITE |  |  |
| J103.29 | B2D4, 29 | 22AWG | WHITE | DOP30(L) |  |
|  | B2D4, 10 | 22AWG | WHITE |  |  |
| J103.30 | B2D4, 30 | 22AWG | WHITE | DOP31(L) |  |
|  | B2D4, 11 | 22AWG | WHITE |  |  |
| J103.31 | B2D4, 31 | 22AWG | WHITE | DOP32(L) |  |
|  | B2D4, 12 | 22AWG | WHITE |  |  |
| J103.32 | B2D4, 32 | 22AWG | WHITE | DOP33(L) |  |
|  | B2D4, 13 | 22AWG | WHITE |  |  |
| J103.33 | B2D4, 33 | 22AWG | WHITE | DOP34(L) |  |
|  | B2D4, 14 | 22AWG | WHITE |  |  |
| J103.34 | B2D4, 34 | 22AWG | WHITE | DOP36(L) |  |
|  | B2D4, 15 | 22AWG | WHITE |  |  |
| J103.35 | B2D4, 35 | 22AWG | WHITE | DOP37(L) |  |
|  | B2D4, 16 | 22AWG | WHITE |  |  |
| J103.19 |  | 22AWG | WHITE | COIL SUPPLY—28VH |  |
| J103.20 |  | 22AWG | WHITE | COIL SUPPLY—28VH |  |
| J103.21 |  | 22AWG | WHITE | SHIELD |  |

**OBSERVATIONS:**

**TEST Cleared / Not Cleared**

**PROJ QC Firm rep SSQAG REP**

1. **J104 CONNECTOR**

**P/N: D38999 20WJ-35PN**

| **J104** | **TB** | **SCB CONNECTOR** | **GUAGE** | **COLOUR** | **Resource allocated** | **REMARKS** |
| --- | --- | --- | --- | --- | --- | --- |
| J104.1 |  | B1D5, 7 | 22AWG | WHITE | DIP0 |  |
| J104.2 |  | B1D5, 8 | 22AWG | WHITE | DIP1 |  |
| J104.3 |  | B1D5, 9 | 22AWG | WHITE | DIP2 |  |
| J104.4 |  | B1D5, 10 | 22AWG | WHITE | DIP3 |  |
| J104.5 |  | B1D5, 11 | 22AWG | WHITE | DIP4 |  |
| J104.6 |  | B1D5, 12 | 22AWG | WHITE | DIP5 |  |
| J104.7 |  | B1D5, 13 | 22AWG | WHITE | DIP6 |  |
| J104.8 |  | B1D5, 14 | 22AWG | WHITE | DIP7 |  |
| J104.9 |  | B1D5, 15 | 22AWG | WHITE | DIP8 |  |
| J104.10 |  | B1D5, 16 | 22AWG | WHITE | DIP9 |  |
| J104.11 |  | B1D5, 17 | 22AWG | WHITE | DIP10 |  |
| **J104** | **TB** | **SCB CONNECTOR** | **GUAGE** | **COLOUR** | **Resource allocated** | **REMARKS** |
| J104.12 |  | B1D5, 18 | 22AWG | WHITE | DIP11 |  |
| J104.13 |  | B1D5, 19 | 22AWG | WHITE | DIP12 |  |
| J104.14 |  | B1D5, 20 | 22AWG | WHITE | DIP13 |  |
| J104.15 |  | B1D5, 21 | 22AWG | WHITE | DIP14 |  |
| J104.16 |  | B1D5, 28 | 22AWG | WHITE | DIP15 |  |
| J104.17 |  | B1D5, 29 | 22AWG | WHITE | DIP16 |  |
| J104.18 |  | B1D5, 30 | 22AWG | WHITE | DIP17 |  |
| J104.19 |  | B1D5, 31 | 22AWG | WHITE | DIP18 |  |
| J104.20 |  | B1D5, 32 | 22AWG | WHITE | DIP19 |  |
| J104.21 |  | B1D5, 33 | 22AWG | WHITE | DIP20 |  |
| J104.22 |  | B1D5, 34 | 22AWG | WHITE | DIP21 |  |
| J104.23 |  | B1D5, 35 | 22AWG | WHITE | DIP22 |  |
| J104.24 |  | B1D5, 36 | 22AWG | WHITE | DIP23 |  |
| J104.25 |  | B1D5, 37 | 22AWG | WHITE | DIP24 |  |
| J104.26 |  | B1D5, 38 | 22AWG | WHITE | DIP25 |  |
| J104.27 |  | B1D5, 39 | 22AWG | WHITE | DIP26 |  |
| J104.28 |  | B1D5, 40 | 22AWG | WHITE | DIP27 |  |
| J104.29 |  | B1D5, 41 | 22AWG | WHITE | DIP28 |  |
| J104.30 |  | B1D5, 42 | 22AWG | WHITE | DIP29 |  |
| J104.31 |  | B1D5, 47 | 22AWG | WHITE | DIP30 |  |
| J104.32 |  | B1D5, 48 | 22AWG | WHITE | DIP31 |  |
| J104.33 |  | B1D5, 49 | 22AWG | WHITE | DIP32 |  |
| J104.34 |  | B1D5, 50 | 22AWG | WHITE | DIP33 |  |
| J104.35 |  | B1D5, 51 | 22AWG | WHITE | DIP34 |  |
| J104.36 |  | B1D5, 52 | 22AWG | WHITE | DIP35 |  |
| J104.37 |  | B1D5, 53 | 22AWG | WHITE | DIP36 |  |
| J104.38 |  | B1D5, 54 | 22AWG | WHITE | DIP 37 |  |
| J104.39 |  | B1D5, 55 | 22AWG | WHITE | DIP 38 |  |
| J104.40 |  | B1D5, 56 | 22AWG | WHITE | DIP39 |  |
| J104.41 |  | B1D5, 57 | 22AWG | WHITE | DIP40 |  |
| J104.42 |  | B1D5, 58 | 22AWG | WHITE | DIP41 |  |
| J104.43 |  | B1D5, 59 | 22AWG | WHITE | DIP42 |  |
| J104.44 |  | B1D5, 60 | 22AWG | WHITE | DIP43 |  |
| J104.45 |  | B2D5, 7 | 22AWG | WHITE | DIP44 |  |
| J104.46 |  | B2D5, 8 | 22AWG | WHITE | DIP45 |  |
| J104.47 |  | B2D5, 9 | 22AWG | WHITE | DIP46 |  |
| J104.48 |  | B2D5, 10 | 22AWG | WHITE | DIP47 |  |
| J104.49 |  | B2D5, 11 | 22AWG | WHITE | DIP48 |  |
| J104.50 |  | B2D5, 12 | 22AWG | WHITE | DIP49 |  |
| J104.51 |  | B2D5, 13 | 22AWG | WHITE | DIP50 |  |
| J104.52 |  | B2D5, 14 | 22AWG | WHITE | DIP51 |  |
| J104.53 |  | B2D5, 15 | 22AWG | WHITE | DIP52 |  |
| J104.54 |  | B2D5, 16 | 22AWG | WHITE | DIP53 |  |
| J104.55 |  | B2D5, 17 | 22AWG | WHITE | DIP54 |  |
| J104.56 |  | B2D5, 18 | 22AWG | WHITE | DIP55 |  |
| J104.57 |  | B2D5, 19 | 22AWG | WHITE | DIP56 |  |
| J104.58 |  | B2D5, 20 | 22AWG | WHITE | DIP57 |  |
| J104.59 |  | B2D5, 21 | 22AWG | WHITE | DIP58 |  |
| J104.60 |  | B2D5, 28 | 22AWG | WHITE | DIP59 |  |
| J104.61 |  | B2D5, 29 | 22AWG | WHITE | DIP60 |  |
| J104.62 |  | B2D5, 30 | 22AWG | WHITE | DIP61 |  |
| **J104** | **TB** | **SCB CONNECTOR** | **GUAGE** | **COLOUR** | **Resource allocated** | **REMARKS** |
| J104.63 |  | B2D5, 31 | 22AWG | WHITE | DIP62 |  |
| J104.64 |  | B2D5, 32 | 22AWG | WHITE | DIP63 |  |
| J104.65 |  | B2D5, 33 | 22AWG | WHITE | DIP64 |  |
| J104.66 |  | B2D5, 34 | 22AWG | WHITE | DIP65 |  |
| J104.67 |  | B2D5, 35 | 22AWG | WHITE | DIP66 |  |
| J104.68 |  | B2D5, 36 | 22AWG | WHITE | DIP67 |  |
| J104.69 |  | B2D5, 37 | 22AWG | WHITE | DIP68 |  |
| J104.70 |  | B2D5, 38 | 22AWG | WHITE | DIP 69 |  |
| J104.71 |  | B2D5, 39 | 22AWG | WHITE | DIP 70 |  |
| J104.72 |  | B2D5, 40 | 22AWG | WHITE | DIP 71 |  |
| J104.73 |  | B2D5, 41 | 22AWG | WHITE | DIP 72 |  |
| J104.74 |  | B2D5, 42 | 22AWG | WHITE | DIP 73 |  |
| J104.75 |  | B2D5, 47 | 22AWG | WHITE | DIP74 |  |
| J104.76 |  | B2D5, 48 | 22AWG | WHITE | DIP75 |  |
| J104.77 |  | B2D5, 49 | 22AWG | WHITE | DIP76 |  |
| J104.78 |  | B2D5, 50 | 22AWG | WHITE | DIP77 |  |
| J104.79 |  | B2D5, 51 | 22AWG | WHITE | DIP78 |  |
| J104.80 |  | B2D5, 52 | 22AWG | WHITE | DIP79 |  |
| J104.81 |  | B1D5, 1 | 22AWG | WHITE | DIP80 |  |
| J104.82 |  | B1D5, 22 | 22AWG | WHITE | DIP81 |  |
| J104.83 |  | B1D5, 2 | 22AWG | WHITE | DIP82 |  |
| J104.84 |  | B1D5, 23 | 22AWG | WHITE | DIP83 |  |
| J104.85 |  | B1D5, 3 | 22AWG | WHITE | DIP84 |  |
| J104.86 |  | B1D5, 24 | 22AWG | WHITE | DIP85 |  |
| J104.87 |  | B1D5, 4 | 22AWG | WHITE | DIP86 |  |
| J104.88 |  | B1D5, 25 | 22AWG | WHITE | DIP87 |  |
| J104.95 | TB 10 |  | 22AWG | WHITE |  |  |
| J104.96 | TB 10 |  | 22AWG | WHITE |  |  |
| J104.97 | TB 10 |  | 22AWG | WHITE |  |  |
| J104.98 | TB 10 |  | 22AWG | WHITE |  |  |
| J104.99 | TB 10 |  | 22AWG | WHITE |  |  |
| J104.100 | TB 10 |  | 22AWG | WHITE |  |  |
| J104.101 | TB 10 |  | 22AWG | WHITE |  |  |
| J104.102 | TB 10 |  | 22AWG | WHITE |  |  |

**OBSERVATIONS:**

**TEST Cleared / Not Cleared**

**PROJ QC Firm rep SSQAG REP**

1. **M1 CONNECTOR**

**P/N: MS3470-W24-61SN**

| **M1** | **TB** | **SCB CONNECTOR** | **GUAGE** | **COLOUR** | **Resource allocated** | **REMARKS** |
| --- | --- | --- | --- | --- | --- | --- |
| M1.A |  | B1D2, 7 | 20AWG | WHITE | DIP0 |  |
| M1.B |  | B1D2, 8 | 20AWG | WHITE | DIP1 |  |
| M1.C |  | B1D2, 9 | 20AWG | WHITE | DIP2 |  |
| M1.D |  | B1D2, 10 | 20AWG | WHITE | DIP3 |  |
| M1.E |  | B1D2, 11 | 20AWG | WHITE | DIP4 |  |
| M1.F |  | B1D2, 12 | 20AWG | WHITE | DIP5 |  |
| M1.G |  | B1D2, 13 | 20AWG | WHITE | DIP6 |  |
| **M1** | **TB** | **SCB CONNECTOR** | **GUAGE** | **COLOUR** | **Resource allocated** | **REMARKS** |
| M1.H |  | B1D2, 14 | 20AWG | WHITE | DIP7 |  |
| M1.J |  | B1D2, 15 | 20AWG | WHITE | DIP8 |  |
| M1.K |  | B1D2, 16 | 20AWG | WHITE | DIP9 |  |
| M1.L |  | B1D2, 17 | 20AWG | WHITE | DIP10 |  |
| M1.M |  | B1D2, 18 | 20AWG | WHITE | DIP11 |  |
| M1.N |  | B1D2, 19 | 20AWG | WHITE | DIP12 |  |
| M1.P |  | B1D2, 20 | 20AWG | WHITE | DIP13 |  |
| M1.R |  | B1D2, 21 | 20AWG | WHITE | DIP14 |  |
| M1.S |  | B1D2, 28 | 20AWG | WHITE | DIP15 |  |
| M1.T |  | B1D2, 29 | 20AWG | WHITE | DIP16 |  |
| M1.U |  | B1D2, 30 | 20AWG | WHITE | DIP17 |  |
| M1.V |  | B1D2, 31 | 20AWG | WHITE | DIP18 |  |
| M1.W |  | B1D2, 32 | 20AWG | WHITE | DIP19 |  |
| M1.X |  | B1D2, 33 | 20AWG | WHITE | DIP20 |  |
| M1.Y |  | B1D2, 34 | 20AWG | WHITE | DIP21 |  |
| M1.Z |  | B1D2, 35 | 20AWG | WHITE | DIP22 |  |
| M1.a |  | B1D2, 36 | 20AWG | WHITE | DIP23 |  |
| M1.b |  | B1D2, 37 | 20AWG | WHITE | DIP24 |  |
| M1.c |  | B1D2, 38 | 20AWG | WHITE | DIP25 |  |
| M1.d |  | B1D2, 39 | 20AWG | WHITE | DIP26 |  |
| M1.e |  | B1D2, 40 | 20AWG | WHITE | DIP27 |  |
| M1.f |  | B1D2, 2 | 20AWG | WHITE | DIP80 |  |
| M1.g |  | B1D2, 23 | 20AWG | WHITE | DIP81 |  |
| M1.h |  | B1D2, 44 | 20AWG | WHITE | DIP82 |  |
| M1.i |  | B1D2, 4 | 20AWG | WHITE | DIP83 |  |
| M1.j |  | B1D2, 25 | 20AWG | WHITE | DIP84 |  |
| M1.k |  | B1D2, 46 | 20AWG | WHITE | DIP85 |  |
| M1.m |  | B1D2, 6 | 20AWG | WHITE | DIP86 |  |
| M1.n |  | B1D2, 27 | 20AWG | WHITE | DIP87 |  |
| M1.p | TB 8 | B1D2, 1,22,43,3 | 20AWG | WHITE |  |  |
| M1.q | TB 9 | B1D2, 24,45,5,26 | 20AWG | WHITE |  |  |
| M1.r |  | B1D2, 41 | 20AWG | WHITE | DIP28 |  |
| M1.s | TB 10 |  | 20AWG | WHITE |  |  |
| M1.t |  | B1D2, 42 | 20AWG | WHITE | DIP29 |  |
| M1.u | TB 10 |  | 20AWG | WHITE |  |  |
| M1.v |  | B1D2, 47 | 20AWG | WHITE | DIP30 |  |
| M1.w | TB 10 |  | 20AWG | WHITE |  |  |
| M1.x |  | B1D2, 48 | 20AWG | WHITE | DIP31 |  |
| M1.y | TB 10 |  | 20AWG | WHITE |  |  |
| M1.z |  | B1D2, 49 | 20AWG | WHITE | DIP32 |  |
| M1.AA |  | B1D2, 50 | 20AWG | WHITE | DIP33 |  |
| M1.BB | TB 10 |  | 20AWG | WHITE |  |  |
| M1.CC | TB 10 |  | 20AWG | WHITE |  |  |
| M1.DD | TB 10 |  | 20AWG | WHITE |  |  |
| M1.EE | TB 10 |  | 20AWG | WHITE |  |  |
| M1.FF | TB 10 |  | 20AWG | WHITE |  |  |
| M1.GG | TB 10 |  | 20AWG | WHITE |  |  |
| M1.HH | TB 10 |  | 20AWG | WHITE |  |  |
| M1.JJ | TB 10 |  | 20AWG | WHITE |  |  |
| M1.KK | TB 10 |  | 20AWG | WHITE |  |  |
| M1.LL | TB 10 |  | 20AWG | WHITE |  |  |
| **M1** | **TB** | **SCB CONNECTOR** | **GUAGE** | **COLOUR** | **Resource allocated** | **REMARKS** |
| M1.MM | TB 10 |  | 20AWG | WHITE |  |  |
| M1.NN | TB 10 |  | 20AWG | WHITE |  |  |

**OBSERVATIONS:**

**TEST Cleared / Not Cleared**

**PROJ QC Firm rep SSQAG REP**

1. **M2 CONNECTOR**

**P/N: MS3470-W24-61PN**

| **M2** | **TB** | **SCB CONNECTOR** | **GUAGE** | **COLOUR** | **Resource allocated** | **REMARKS** |
| --- | --- | --- | --- | --- | --- | --- |
| M2.A |  | B1D3, 1 | 20AWG | WHITE | ADC0 |  |
| M2.B |  | B1D3, 2 | 20AWG | WHITE | AGND |  |
| M2.C |  | B1D3, 3 | 20AWG | WHITE | ADC1 |  |
| M2.D |  | B1D3, 4 | 20AWG | WHITE | AGND |  |
| M2.E |  | B1D3, 5 | 20AWG | WHITE | ADC2 |  |
| M2.F |  | B1D3, 6 | 20AWG | WHITE | AGND |  |
| M2.G |  | B1D3, 7 | 20AWG | WHITE | ADC3 |  |
| M2.H |  | B1D3, 8 | 20AWG | WHITE | AGND |  |
| M2.J |  | B1D3, 9 | 20AWG | WHITE | ADC4 |  |
| M2.K |  | B1D3, 10 | 20AWG | WHITE | AGND |  |
| M2.L |  | B1D3, 11 | 20AWG | WHITE | ADC5 |  |
| M2.M |  | B1D3, 12 | 20AWG | WHITE | AGND |  |
| M2.N |  | B1D3, 13 | 20AWG | WHITE | ADC6 |  |
| M2.P |  | B1D3, 14 | 20AWG | WHITE | AGND |  |
| M2.R |  | B1D3, 15 | 20AWG | WHITE | ADC7 |  |
| M2.S |  | B1D3, 16 | 20AWG | WHITE | AGND |  |
| M2.T |  | B1D3, 17 | 20AWG | WHITE | ADC8 |  |
| M2.U |  | B1D3, 18 | 20AWG | WHITE | AGND |  |
| M2.V |  | B1D3, 19 | 20AWG | WHITE | ADC9 |  |
| M2.W |  | B1D3, 20 | 20AWG | WHITE | AGND |  |
| M2.X |  | B1D3, 21 | 20AWG | WHITE | ADC10 |  |
| M2.Y |  | B1D3, 22 | 20AWG | WHITE | AGND |  |
| M2.Z |  | B1D3, 23 | 20AWG | WHITE | ADC11 |  |
| M2.a |  | B1D3, 24 | 20AWG | WHITE | AGND |  |
| M2.b |  | B1D3, 25 | 20AWG | WHITE | ADC12 |  |
| M2.c |  | B1D3, 26 | 20AWG | WHITE | AGND |  |
| M2.d |  | B1D3, 27 | 20AWG | WHITE | ADC13 |  |
| M2.e |  | B1D3, 28 | 20AWG | WHITE | AGND |  |
| M2.f |  | B1D3, 29 | 20AWG | WHITE | ADC14 |  |
| M2.g |  | B1D3, 30 | 20AWG | WHITE | AGND |  |
| M2.h |  | B1D3, 31 | 20AWG | WHITE | ADC15 |  |
| M2.i |  | B1D3, 32 | 20AWG | WHITE | AGND |  |
| M2.j |  | B1D3, 33 | 20AWG | WHITE | ADC16 |  |
| M2.k |  | B1D3, 34 | 20AWG | WHITE | AGND |  |
| M2.m |  | B1D3, 35 | 20AWG | WHITE | ADC17 |  |
| M2.n |  | B1D3, 36 | 20AWG | WHITE | AGND |  |
| M2.p |  | B1D3, 37 | 20AWG | WHITE | ADC18 |  |
| M2.q |  | B1D3, 38 | 20AWG | WHITE | AGND |  |
| **M2** | **TB** | **SCB CONNECTOR** | **GUAGE** | **COLOUR** | **Resource allocated** | **REMARKS** |
| M2.r |  | B1D3, 39 | 20AWG | WHITE | ADC19 |  |
| M2.s |  | B1D3, 40 | 20AWG | WHITE | AGND |  |
| M2.t |  | B1D3, 41 | 20AWG | WHITE | ADC20 |  |
| M2.u |  | B1D3, 42 | 20AWG | WHITE | AGND |  |
| M2.v |  | B1D3, 43 | 20AWG | WHITE | ADC21 |  |
| M2.w |  | B1D3, 44 | 20AWG | WHITE | AGND |  |
| M2.x |  | B1D3, 45 | 20AWG | WHITE | ADC22 |  |
| M2.y |  | B1D3, 46 | 20AWG | WHITE | AGND |  |
| M2.z |  | B1D3, 47 | 20AWG | WHITE | ADC23 |  |
| M2.AA |  | B1D3, 48 | 20AWG | WHITE | AGND |  |
| M2.BB |  | B2D3, 1 | 20AWG | WHITE | ADC24 |  |
| M2.CC |  | B2D3, 2 | 20AWG | WHITE | AGND |  |
| M2.DD |  | B2D3, 3 | 20AWG | WHITE | ADC25 |  |
| M2.EE |  | B2D3, 4 | 20AWG | WHITE | AGND |  |
| M2.FF |  | B2D3, 5 | 20AWG | WHITE | ADC26 |  |
| M2.GG |  | B2D3, 6 | 20AWG | WHITE | AGND |  |
| M2.HH |  | B2D3, 7 | 20AWG | WHITE | ADC27 |  |
| M2.JJ |  | B2D3, 8 | 20AWG | WHITE | AGND |  |
| M2.KK |  | B2D3, 9 | 20AWG | WHITE | ADC28 |  |
| M2.LL |  | B2D3, 10 | 20AWG | WHITE | AGND |  |
| M2.MM |  | B2D3, 11 | 20AWG | WHITE | ADC29 |  |
| M2.NN |  | B2D3, 12 | 20AWG | WHITE | AGND |  |

**OBSERVATIONS:**

**TEST Cleared / Not Cleared**

**PROJ QC Firm rep SSQAG REP**

1. **M3 CONNECTOR**

**P/N: MS3470-W22-55PN**

| **M3** | **TB** | **SCB CONNECTOR / TOGGLE SW** | **GUAGE** | **COLOUR** | **Resource allocated** | **REMARKS** |
| --- | --- | --- | --- | --- | --- | --- |
| M3.A |  | B2D3, 13 | 20AWG | WHITE | ADC30, |  |
| M3.B | TB 24 | B2D3, 14, B1D1, 18 | 20AWG | WHITE | AGND, RLY1(CM) |  |
| M3.C |  | B1D1, 34 | 20AWG | WHITE | RLY1(NC) |  |
| M3.D |  | B2D3, 15 | 20AWG | WHITE | ADC31 |  |
| M3.E | TB 25 | B2D3, 16, B1D1, 19 | 20AWG | WHITE | AGND,RLY2(CM) |  |
| M3.F |  | B1D1, 35 | 20AWG | WHITE | RLY2(NC) |  |
| M3.G |  | B2D3, 17 | 20AWG | WHITE | ADC32 |  |
| M3.H | TB 26 | B2D3, 18, B1D1, 20 | 20AWG | WHITE | AGND, RLY3(CM) |  |
| M3.J |  | B1D1, 36 | 20AWG | WHITE | RLY3(NC) |  |
| M3.K |  | B2D3, 19 | 20AWG | WHITE | ADC33, |  |
| M3.L | TB 27 | B2D3, 20, B1D1, 21 | 20AWG | WHITE | AGND, RLY4(CM) |  |
| M3.M |  | B1D1, 37 | 20AWG | WHITE | RLY3(NC) |  |
| M3.N |  | B2D3, 21 | 20AWG | WHITE | ADC34 |  |
| M3.P | TB 28 | B2D3, 22, B1D1, 22 | 20AWG | WHITE | AGND, RLY5(CM) |  |
| M3.R |  | B1D1, 38 | 20AWG | WHITE | RLY5(NC) |  |
| M3.S | TB 11 | B1D2, 56 | 20AWG | WHITE | DIP39, input to toggle switches |  |
| CCSC-1, 2 & 3 NC |
| M3.T | TB 10 |  | 20AWG | WHITE |  |  |
| **M3** | **TB** | **SCB CONNECTOR / TOGGLE SW** | **GUAGE** | **COLOUR** | **Resource allocated** | **REMARKS** |
| M3.U | TB 12 | B1D2, 57 | 20AWG | WHITE | DIP40, input to toggle switches |  |
| CCSC-4 & 5 NC |
| M3.W | TB 11 | CCSC-1 TS COM | 20AWG | WHITE | CCSC-1 |  |
| M3.X | TB 11 | CCSC-2 TS COM | 20AWG | WHITE | CCSC-2 |  |
| M3.Y | TB 11 | CCSC-3 TS COM | 20AWG | WHITE | CCSC-3 |  |
| M3.Z | TB 12 | CCSC-4 TS COM | 20AWG | WHITE | CCSC-4 |  |
| M3.a | TB 12 | CCSC-5 TS COM | 20AWG | WHITE | CCSC-5 |  |
| M3.b | TB 18 |  | 20AWG | WHITE | U1 CMS |  |
| M3.c | TB 18 |  | 20AWG | WHITE | U1 CMS |  |
| M3.d | TB 19 |  | 20AWG | WHITE | U2 CMS |  |
| M3.e | TB 19 |  | 20AWG | WHITE | U2 CMS |  |
| M3.f | TB 20 |  | 20AWG | WHITE | U3 CMS |  |
| M3.g | TB 20 |  | 20AWG | WHITE | U3 CMS |  |
| M3.h | TB 21 |  | 20AWG | WHITE | GG CMS |  |
| M3.i | TB 21 |  | 20AWG | WHITE | GG CMS |  |
| M3.j | TB 22 |  | 20AWG | WHITE | OM CMS |  |
| M3.k | TB 22 |  | 20AWG | WHITE | OM CMS |  |
| M3.m | TB 23 |  | 20AWG | WHITE | CO CMS |  |
| M3.n | TB 23 |  | 20AWG | WHITE | CO CMS |  |
| M3.p | TB 16H |  | 20AWG | WHITE | 28V(H) |  |
| M3.q | TB 16H |  | 20AWG | WHITE | 28V(H) |  |
| M3.r | TB 13 | B1D1,23 | 20AWG | WHITE | RLY 6(CM) |  |
| M3.s | TB 13 | B1D1,23 | 20AWG | WHITE | RLY 6(CM) |  |
| M3.t | TB 13 | B1D1,23 | 20AWG | WHITE | RLY 6(CM) |  |
| M3.u | TB 13 | B1D1,23 | 20AWG | WHITE | RLY 6(CM) |  |
| M3.v | TB 14 | B1D1, 24 | 20AWG | WHITE | RLY 7(CM) |  |
| M3.w | TB 14 | B1D1, 24 | 20AWG | WHITE | RLY 7(CM) |  |
| M3.x | TB 14 | B1D1, 24 | 20AWG | WHITE | RLY 7(CM) |  |
| M3.y | TB 14 | B1D1, 24 | 20AWG | WHITE |  |  |
| M3.z | TB 17 | B1D1, 39, B1D1, 40 | 20AWG | WHITE | RLY 6(NC) ,RLY 7(NC) |  |
| M3.AA | TB 17 | B1D1, 39, B1D1, 40 | 20AWG | WHITE | RLY 6(NC) ,RLY 7(NC) |  |
| M3.BB | TB 17 | B1D1, 39, B1D1, 40 | 20AWG | WHITE | RLY 6(NC) ,RLY 7(NC) |  |
| M3.CC | TB 17 | B1D1, 39, B1D1, 40 | 20AWG | WHITE | RLY 6(NC) ,RLY 7(NC) |  |
| M3.DD | TB 17 | B1D1, 39, B1D1, 40 | 20AWG | WHITE | RLY 6(NC) ,RLY 7(NC) |  |
| M3.EE | TB 17 | B1D1, 39, B1D1, 40 | 20AWG | WHITE | RLY 6(NC) ,RLY 7(NC) |  |
| M3.FF | TB 17 | B1D1, 39, B1D1, 40 | 20AWG | WHITE | RLY 6(NC) ,RLY 7(NC) |  |
| M3.GG | TB 17 | B1D1, 39, B1D1, 40 | 20AWG | WHITE | RLY 6(NC) ,RLY 7(NC) |  |
| M3.B | TB 24 | B1D1, 18 | 20AWG | WHITE | RLY 1(CM) |  |
| M3.E | TB 25 | B1D1, 19 | 20AWG | WHITE | RLY 2(CM) |  |
| M3.H | TB 26 | B1D1, 20 | 20AWG | WHITE | RLY 3(CM) |  |
| M3.L | TB 27 | B1D1, 21 | 20AWG | WHITE | RLY 4(CM) |  |
| M3.P | TB 28 | B1D1, 22 | 20AWG | WHITE | RLY 5(CM) |  |

**OBSERVATIONS:**

**TEST Cleared / Not Cleared**

**PROJ QC Firm rep SSQAG REP**

1. **M4 CONNECTOR**

**P/N: D38999 20WG 35PN**

| **M4** | **TB** | **SCB CONNECTOR** | **GUAGE** | **COLOUR** | **Resource allocated** | **REMARKS** |
| --- | --- | --- | --- | --- | --- | --- |
| M4.1 |  | B1D2, 51 | 22AWG | WHITE | DIP34 |  |
| M4. 2 | TB 10 |  | 22AWG | WHITE |  |  |
| M4. 3 |  | B1D2, 52 | 22AWG | WHITE | DIP35 |  |
| M4.4 | TB 10 |  | 22AWG | WHITE |  |  |
| M4.5 |  | B1D2,53 | 22AWG | WHITE | DIP36 |  |
| M4. 6 | TB 10 |  | 22AWG | WHITE |  |  |
| M4.7 |  | B1D2,54 | 22AWG | WHITE | DIP 37 |  |
| M4. 8 | TB 10 |  | 22AWG | WHITE |  |  |
| M4. 9 |  | B1D2, 55 | 22AWG | WHITE | DIP 38 |  |
| M4.10 | TB 10 |  | 22AWG | WHITE |  |  |
| M4. 11 |  | B1D2,58 | 22AWG | WHITE | DIP41 |  |
| M4.12 | TB 10 |  | 22AWG | WHITE |  |  |
| M4.13 |  | B1D2,59 | 22AWG | WHITE | DIP42 |  |
| M4. 14 | TB 10 |  | 22AWG | WHITE |  |  |
| M4.15 |  | B1D2,60 | 22AWG | WHITE | DIP43 |  |
| M4. 16 | TB 10 |  | 22AWG | WHITE |  |  |
| M4. 17 |  | B2D2, 7 | 22AWG | WHITE | DIP44 |  |
| M4. 18 | TB 10 |  | 22AWG | WHITE |  |  |
| M4. 19 |  | B2D2, 8 | 22AWG | WHITE | DIP45 |  |
| M4.20 | TB 10 |  | 22AWG | WHITE |  |  |
| M4.21 |  | B2D2, 9 | 22AWG | WHITE | DIP46 |  |
| M4.22 | TB 10 |  | 22AWG | WHITE |  |  |
| M4.23 |  | B2D2, 10 | 22AWG | WHITE | DIP47 |  |
| M4.24 | TB 10 |  | 22AWG | WHITE |  |  |
| M4. 25 |  | B2D2, 11 | 22AWG | WHITE | DIP48 |  |
| M4.26 | TB 10 |  | 22AWG | WHITE |  |  |
| M4.27 |  | B2D2, 12 | 22AWG | WHITE | DIP49 |  |
| M4. 28 | TB 10 |  | 22AWG | WHITE |  |  |
| M4. 29 |  | B2D2, 13 | 22AWG | WHITE | DIP50 |  |
| M4.30 | TB 10 |  | 22AWG | WHITE |  |  |
| M4.31 |  | B2D2, 14 | 22AWG | WHITE | DIP51 |  |
| M4.32 | TB 10 |  | 22AWG | WHITE |  |  |
| M4. 33 |  | B2D2,15 | 22AWG | WHITE | DIP52 |  |
| M4.34 | TB 10 |  | 22AWG | WHITE |  |  |
| M4. 35 |  | B2D2,16 | 22AWG | WHITE | DIP53 |  |
| M4.36 | TB 10 |  | 22AWG | WHITE |  |  |
| M4. 37 |  | B2D2,17 | 22AWG | WHITE | DIP54 |  |
| M4. 38 | TB 10 |  | 22AWG | WHITE |  |  |
| M4.39 |  | B2D2,18 | 22AWG | WHITE | DIP55 |  |
| M4.40 | TB 10 |  | 22AWG | WHITE |  |  |
| M4.41 |  | B2D2, 19 | 22AWG | WHITE | DIP56 |  |
| M4.42 | TB 10 |  | 22AWG | WHITE |  |  |
| M4.43 |  | B2D2, 20 | 22AWG | WHITE | DIP57 |  |
| M4.44 | TB 10 |  | 22AWG | WHITE |  |  |
| M4.45 |  | B2D2, 21 | 22AWG | WHITE | DIP58 |  |
| M4.46 | TB 10 |  | 22AWG | WHITE |  |  |
| M4.47 |  | B2D2, 28 | 22AWG | WHITE | DIP59 |  |
| **M4** | **TB** | **SCB CONNECTOR** | **GUAGE** | **COLOUR** | **Resource allocated** | **REMARKS** |
| M4.48 | TB 10 |  | 22AWG | WHITE |  |  |
| M4.49 |  | B2D2, 29 | 22AWG | WHITE | DIP60 |  |
| M4. 50 | TB 10 |  | 22AWG | WHITE |  |  |
| M4.51 |  | B2D2, 30 | 22AWG | WHITE | DIP61 |  |
| M4.52 | TB 10 |  | 22AWG | WHITE |  |  |
| M4.53 |  | B2D2, 31 | 22AWG | WHITE | DIP62 |  |
| M4. 54 | TB 10 |  | 22AWG | WHITE |  |  |
| M4.55 |  | B2D2, 32 | 22AWG | WHITE | DIP63 |  |
| M4.56 | TB 10 |  | 22AWG | WHITE |  |  |
| M4.57 |  | B2D2, 33 | 22AWG | WHITE | DIP64 |  |
| M4.58 | TB 10 |  | 22AWG | WHITE |  |  |
| M4.59 |  | B2D2, 34 | 22AWG | WHITE | DIP65 |  |
| M4.60 | TB 10 |  | 22AWG | WHITE |  |  |
| M4.61 |  | B2D2, 35 | 22AWG | WHITE | DIP66 |  |
| M4.62 | TB 10 |  | 22AWG | WHITE |  |  |
| M4.63 |  | B2D2, 36 | 22AWG | WHITE | DIP67 |  |
| M4. 64 | TB 10 |  | 22AWG | WHITE |  |  |
| M4.65 |  | B2D3, 23 | 22AWG | WHITE | ADC 35 |  |
| M4.66 |  | B2D3,24 | 22AWG | WHITE | AGND |  |
| M4.67 |  | B2D3, 25 | 22AWG | WHITE | ADC 36 |  |
| M4.68 |  | B2D3, 26 | 22AWG | WHITE | AGND |  |
| M4.69 |  | B2D3, 27 | 22AWG | WHITE | ADC37 |  |
| M4.70 |  | B2D3, 28 | 22AWG | WHITE | AGND |  |
| M4.71 |  | B2D3, 29 | 22AWG | WHITE | ADC 38 |  |
| M4.72 |  | B2D3, 30 | 22AWG | WHITE | AGND |  |
| M4.73 |  | B2D3, 31 | 22AWG | WHITE | ADC 39 |  |
| M4.74 |  | B2D3, 32 | 22AWG | WHITE | AGND |  |
| M4.75 |  | B2D3,33 | 22AWG | WHITE | ADC 40 |  |
| M4.76 |  | B2D3, 34 | 22AWG | WHITE | AGND |  |
| M4.77 |  | B2D3, 35 | 22AWG | WHITE | ADC 41 |  |
| M4.78 |  | B2D3, 36 | 22AWG | WHITE | AGND |  |

**OBSERVATIONS:**

**TEST Cleared / Not Cleared**

**PROJ QC Firm rep SSQAG REP**

1. **M5 CONNECTOR**

**P/N: D38999 20WH 35PN**

| **M5** | **TB** | **SCB CONNECTOR** | **GUAGE** | **COLOUR** | **Resource allocated** | **REMARKS** |
| --- | --- | --- | --- | --- | --- | --- |
| M5.1 |  | B2D3, 37 | 22AWG | WHITE | ADC 42 |  |
| M5.2 |  | B2D3, 38 | 22AWG | WHITE | AGND |  |
| M5.3 |  | B2D3, 39 | 22AWG | WHITE | ADC 43 |  |
| M5.4 |  | B2D3, 40 | 22AWG | WHITE | AGND |  |
| M5.5 |  | B2D3, 41 | 22AWG | WHITE | ADC 44 |  |
| M5.6 |  | B2D3, 42 | 22AWG | WHITE | AGND |  |
| M5.7 |  | B2D3, 43 | 22AWG | WHITE | ADC 45 |  |
| M5.8 |  | B2D3, 44 | 22AWG | WHITE | AGND |  |
| M5.9 |  | B2D3, 45 | 22AWG | WHITE | ADC 46 |  |
| M5.10 |  | B2D3, 46 | 22AWG | WHITE | AGND |  |
| **M5** | **TB** | **SCB CONNECTOR** | **GUAGE** | **COLOUR** | **Resource allocated** | **REMARKS** |
| M5.11 |  | B2D3, 47 | 22AWG | WHITE | ADC 47 |  |
| M5.12 |  | B2D3, 48 | 22AWG | WHITE | AGND |  |
| M5.13 |  | B2D2, 37 | 22AWG | WHITE | DIP68 |  |
| M5.14 |  | B2D2, 38 | 22AWG | WHITE | DIP 69 |  |
| M5.15 |  | B2D2, 39 | 22AWG | WHITE | DIP 70 |  |
| M5.16 |  | B2D2, 40 | 22AWG | WHITE | DIP 71 |  |
| M5.17 |  | B2D2, 41 | 22AWG | WHITE | DIP 72 |  |
| M5.18 |  | B2D2, 42 | 22AWG | WHITE | DIP 73 |  |
| M5.19 |  | B2D2, 47 | 22AWG | WHITE | DIP74 |  |
| M5.20 |  | B2D2, 48 | 22AWG | WHITE | DIP75 |  |
| M5.21 |  | B2D2, 49 | 22AWG | WHITE | DIP76 |  |
| M5.22 |  | B2D2, 50 | 22AWG | WHITE | DIP77 |  |
| M5.23 |  | B2D2, 51 | 22AWG | WHITE | DIP78 |  |
| M5.24 |  | B2D2, 52 | 22AWG | WHITE | DIP79 |  |
| M5.25 |  | B1D1, 41 | 22AWG | WHITE | RLY 8(NC) |  |
| M5.26 |  | B1D1, 8 | 22AWG | WHITE | RLY 8(NO) |  |
| M5.27 |  | B1D1, 25 | 22AWG | WHITE | RLY 8(CM) |  |
| M5.28 |  | B1D1, 42 | 22AWG | WHITE | RLY 9(NC) |  |
| M5.29 |  | B1D1, 9 | 22AWG | WHITE | RLY 9(NO) |  |
| M5.30 |  | B1D1, 26 | 22AWG | WHITE | RLY 9(CM) |  |
| M5.31 |  | B1D1, 43 | 22AWG | WHITE | RLY 10(NC) |  |
| M5.32 |  | B1D1, 10 | 22AWG | WHITE | RLY 10(NO) |  |
| M5.33 |  | B1D1, 27 | 22AWG | WHITE | RLY 10(CM) |  |
| M5.34 |  | B1D1, 44 | 22AWG | WHITE | RLY 11(NC) |  |
| M5.35 |  | B1D1, 11 | 22AWG | WHITE | RLY 11(NO) |  |
| M5.36 |  | B1D1, 28 | 22AWG | WHITE | RLY 11(CM) |  |
| M5.37 |  | B1D1, 45 | 22AWG | WHITE | RLY 12(NC) |  |
| M5.38 |  | B1D1, 12 | 22AWG | WHITE | RLY 12(NO) |  |
| M5.39 |  | B1D1, 29 | 22AWG | WHITE | RLY 12(CM) |  |
| M5.40 |  | B1D1, 46 | 22AWG | WHITE | RLY 13(NC) |  |
| M5.41 |  | B1D1, 13 | 22AWG | WHITE | RLY 13(NO) |  |
| M5.42 |  | B1D1, 30 | 22AWG | WHITE | RLY 13(CM) |  |
| M5.43 |  | B1D1, 47 | 22AWG | WHITE | RLY 14(NC) |  |
| M5.44 |  | B1D1, 14 | 22AWG | WHITE | RLY 14(NO) |  |
| M5.45 |  | B1D1, 31 | 22AWG | WHITE | RLY 14(CM) |  |
| M5.46 |  | B1D1, 48 | 22AWG | WHITE | RLY 15(NC) |  |
| M5.47 |  | B1D1, 15 | 22AWG | WHITE | RLY 15(NO) |  |
| M5.48 |  | B1D1, 32 | 22AWG | WHITE | RLY 15(CM) |  |
| M5.49 |  | B1D1, 49 | 22AWG | WHITE | RLY 16(NC) |  |
| M5.50 |  | B1D1, 16 | 22AWG | WHITE | RLY 16(NO) |  |
| M5.51 |  | B1D1, 33 | 22AWG | WHITE | RLY 16(CM) |  |
| M5.52 |  | B2D1, 34 | 22AWG | WHITE | RLY 17(NC) |  |
| M5.53 |  | B2D1, 1 | 22AWG | WHITE | RLY 17(NO) |  |
| M5.54 |  | B2D1, 18 | 22AWG | WHITE | RLY 17(CM) |  |
| M5.55 |  | B2D1, 35 | 22AWG | WHITE | RLY 18(NC) |  |
| M5.56 |  | B2D1, 2 | 22AWG | WHITE | RLY 18(NO) |  |
| M5.57 |  | B2D1, 19 | 22AWG | WHITE | RLY 18(CM) |  |
| M5.58 |  | B2D1, 36 | 22AWG | WHITE | RLY 19(NC) |  |
| M5.59 |  | B2D1, 3 | 22AWG | WHITE | RLY 19(NO) |  |
| M5.60 |  | B2D1, 20 | 22AWG | WHITE | RLY 19(CM) |  |
| M5.61 |  | B2D1, 37 | 22AWG | WHITE | RLY 20(NC) |  |
| **M5** | **TB** | **SCB CONNECTOR** | **GUAGE** | **COLOUR** | **Resource allocated** | **REMARKS** |
| M5.62 |  | B2D1, 4 | 22AWG | WHITE | RLY 20(NO) |  |
| M5.63 |  | B2D1, 21 | 22AWG | WHITE | RLY 20(CM) |  |
| M5.64 |  | B2D1, 38 | 22AWG | WHITE | RLY 21(NC) |  |
| M5.65 |  | B2D1, 5 | 22AWG | WHITE | RLY 21(NO) |  |
| M5.66 |  | B2D1, 22 | 22AWG | WHITE | RLY 21(CM) |  |
| M5.67 |  | B2D1, 39 | 22AWG | WHITE | RLY 22(NC) |  |
| M5.68 |  | B2D1, 6 | 22AWG | WHITE | RLY 22(NO) |  |
| M5.69 |  | B2D1, 23 | 22AWG | WHITE | RLY 22(CM) |  |
| M5.70 |  | B2D1, 40 | 22AWG | WHITE | RLY 23(NC) |  |
| M5.71 |  | B2D1, 7 | 22AWG | WHITE | RLY 23(NO) |  |
| M5.72 |  | B2D1, 24 | 22AWG | WHITE | RLY 23(CM) |  |
| M5.73 |  | B2D1, 41 | 22AWG | WHITE | RLY 24(NC) |  |
| M5.74 |  | B2D1, 8 | 22AWG | WHITE | RLY 24(NO) |  |
| M5.75 |  | B2D1, 25 | 22AWG | WHITE | RLY 24(CM) |  |
| M5.76 |  | B2D1, 42 | 22AWG | WHITE | RLY 25(NC) |  |
| M5.77 |  | B2D1, 9 | 22AWG | WHITE | RLY 25(NO) |  |
| M5.78 |  | B2D1,26 | 22AWG | WHITE | RLY 25(CM) |  |
| M5.79 |  | B2D1, 43 | 22AWG | WHITE | RLY 26(NC) |  |
| M5.80 |  | B2D1, 10 | 22AWG | WHITE | RLY 26(NO) |  |
| M5.81 |  | B2D1, 27 | 22AWG | WHITE | RLY 26(CM) |  |
| M5.82 |  | B2D1, 44 | 22AWG | WHITE | RLY 27(NC) |  |
| M5.83 |  | B2D1, 11 | 22AWG | WHITE | RLY 27(NO) |  |
| M5.84 |  | B2D1,28 | 22AWG | WHITE | RLY 27(CM) |  |
| M5.85 |  | B2D1, 45 | 22AWG | WHITE | RLY 28(NC) |  |
| M5.86 |  | B2D1, 12 | 22AWG | WHITE | RLY 28(NO) |  |
| M5.87 |  | B2D1, 29 | 22AWG | WHITE | RLY 28(CM) |  |
| M5.88 |  | B2D1,46 | 22AWG | WHITE | RLY 29(NC) |  |
| M5.89 |  | B2D1, 13 | 22AWG | WHITE | RLY 29(NO) |  |
| M5.90 |  | B2D1, 30 | 22AWG | WHITE | RLY 29(CM) |  |
| M5.91 |  | B2D1, 47 | 22AWG | WHITE | RLY 30(NC) |  |
| M5.92 |  | B2D1, 14 | 22AWG | WHITE | RLY 30(NO) |  |
| M5.93 |  | B2D1, 31 | 22AWG | WHITE | RLY 30(CM) |  |
| M5.94 |  | B2D1, 48 | 22AWG | WHITE | RLY 31(NC) |  |
| M5.95 |  | B2D1, 15 | 22AWG | WHITE | RLY 31(NO) |  |
| M5.96 |  | B2D1, 32 | 22AWG | WHITE | RLY 31(CM) |  |
| M5.97 |  | B2D1, 49 | 22AWG | WHITE | RLY 32(NC) |  |
| M5.98 |  | B2D1, 16 | 22AWG | WHITE | RLY 32(NO) |  |
| M5.99 |  | B2D1, 33 | 22AWG | WHITE | RLY 32(CM) |  |

**OBSERVATIONS:**

**TEST Cleared / Not Cleared**

**PROJ QC Firm rep SSQAG REP**

**7.2.2 COLD TEST REPORT:**

The cold check involves the use of the Multi-meter. The resistance is measured between the two conductors and for the chassis in the same connector.

**PROCEDURE:** The positive probe is connected with the pin to test and the negative probe is connected to the all other pins listed in the table and the body of the connector. For certain signals the resistance with the other signals and ground will be indicated as 0 ohms, this is because of signals having a common ground point and common source these are mentioned in remarks.

**ACCEPTNCE CRITERIA:** The resistance measured should be as indicated in the table. (Exceptions mentioned in case of some signals)

**PROJECT: UNIT No: CLASS OF TEST: DATE:**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Connector J1:MS3470 W12-3PN** | | | | | | |
| **PIN No.** | **Pin to Body IR** | | **PIN No.** | **Pin to Pin IR** | | **Remarks** |
|  | **Expected Resistance** | **Measured Resistance** | **Expected Resistance** | **Measured Resistance** |
| A | > 20 MΩ |  | A(All) | > 20 MΩ |  |  |
| B | > 20 MΩ |  | B(All) | > 20 MΩ |  |  |
| C | < 5Ω |  | C(All) | > 20 MΩ |  | SHORT WITH BODY |

**UNUSED PINS:** NIL

**OBSERVATIONS:**

**TEST Cleared / Not Cleared**

**PROJ QC Firm rep SSQAG REP**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Connector J101:MS3470 W12-10SN** | | | | | | |
| **PIN No.** | **Pin to Body IR** | | **PIN No.** | **Pin to Pin IR** | | **Remarks** |
|  | **Expected Resistance** | **Measured Resistance** | **Expected Resistance** | **Measured Resistance** |
| A | > 20 MΩ |  | B,D | > 20 MΩ |  | Short with C |
| C | < 5Ω |
| C | > 20 MΩ |  | D | > 20 MΩ |  |  |
| B | > 20 MΩ |  | C | > 20 MΩ |  | Short with D |
| D | < 5Ω |
| D | > 20 MΩ |  |  |  |  |  |

**UNUSED PINS:** E to H

**OBSERVATIONS:**

**TEST Cleared / Not Cleared**

**PROJ QC Firm rep SSQAG REP**

| **Connector J102: D38999 20WJ-35SN** | | | | | | | |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **PIN No.** | **Pin to Body IR** | | **PIN No.** | | **Pin to Pin IR** | | **Remarks** |
|  | **Expected Resistance** | **Measured Resistance** | **FROM** | **TO** | **Expected Resistance** | **Measured Resistance** |  |
| J102.01 | > 20 MΩ |  | 1 | 2 TO 48 | ~6 KΩ |  |  |
| 49 TO 57 | ~3 KΩ |  |  |
| J102.02 | > 20 MΩ |  | 2 | 3 TO 48 | ~6 KΩ |  |  |
| 49 TO 57 | ~3 KΩ |  |  |
| J102.03 | > 20 MΩ |  | 3 | 4 TO 48 | ~6 KΩ |  |  |
| 49 TO 57 | ~3 KΩ |  |  |
| J102.04 | > 20 MΩ |  | 4 | 5 TO 48 | ~6 KΩ |  |  |
| 49 TO 57 | ~3 KΩ |  |  |
| J102.05 | > 20 MΩ |  | 5 | 6 TO 48 | ~6 KΩ |  |  |
| 49 TO 57 | ~3 KΩ |  |  |
| J102.06 | > 20 MΩ |  | 6 | 7 TO 48 | ~6 KΩ |  |  |
| 49 TO 57 | ~3 KΩ |  |  |
| J102.07 | > 20 MΩ |  | 7 | 8 TO 48 | ~6 KΩ |  |  |
| 49 TO 57 | ~3 KΩ |  |  |
| J102.08 | > 20 MΩ |  | 8 | 9 TO 48 | ~6 KΩ |  |  |
| 49 TO 57 | ~3 KΩ |  |  |
| J102.09 | > 20 MΩ |  | 9 | 10 TO 48 | ~6 KΩ |  |  |
| 49 TO 57 | ~3 KΩ |  |  |
| J102.10 | > 20 MΩ |  | 10 | 11 TO 48 | ~6 KΩ |  |  |
| 49 TO 57 | ~3 KΩ |  |  |
| J102.11 | > 20 MΩ |  | 11 | 12 TO 48 | ~6 KΩ |  |  |
| 49 TO 57 | ~3 KΩ |  |  |
| J102.12 | > 20 MΩ |  | 12 | 13 TO 48 | ~6 KΩ |  |  |
| 49 TO 57 | ~3 KΩ |  |  |
| J102.13 | > 20 MΩ |  | 13 | 14 TO 48 | ~6 KΩ |  |  |
| 49 TO 57 | ~3 KΩ |  |  |
| J102.14 | > 20 MΩ |  | 14 | 15 TO 48 | ~6 KΩ |  |  |
| 49 TO 57 | ~3 KΩ |  |  |
| J102.15 | > 20 MΩ |  | 15 | 16 TO 48 | ~6 KΩ |  |  |
| 49 TO 57 | ~3 KΩ |  |  |
| J102.16 | > 20 MΩ |  | 16 | 17 TO 48 | ~6 KΩ |  |  |
| 49 TO 57 | ~3 KΩ |  |  |
| J102.17 | > 20 MΩ |  | 17 | 18 TO 48 | ~6 KΩ |  |  |
| 49 TO 57 | ~3 KΩ |  |  |
| J102.18 | > 20 MΩ |  | 18 | 19 TO 48 | ~6 KΩ |  |  |
| 49 TO 57 | ~3 KΩ |  |  |
| J102.19 | > 20 MΩ |  | 19 | 20 TO 48 | ~6 KΩ |  |  |
| 49 TO 57 | ~3 KΩ |  |  |
| J102.20 | > 20 MΩ |  | 20 | 21 TO 48 | ~6 KΩ |  |  |
| 49 TO 57 | ~3 KΩ |  |  |
| J102.21 | > 20 MΩ |  | 21 | 22 TO 48 | ~6 KΩ |  |  |
| 49 TO 57 | ~3 KΩ |  |  |
| J102.22 | > 20 MΩ |  | 22 | 23 TO 48 | ~6 KΩ |  |  |
| 49 TO 57 | ~3 KΩ |  |  |
| J102.23 | > 20 MΩ |  | 23 | 24 TO 48 | ~6 KΩ |  |  |
| 49 TO 57 | ~3 KΩ |  |  |
| J102.24 | > 20 MΩ |  | 24 | 25 TO 48 | ~6 KΩ |  |  |
| 49 TO 57 | ~3 KΩ |  |  |
| J102.25 | > 20 MΩ |  | 25 | 26 TO 48 | ~6 KΩ |  |  |
| 49 TO 57 | ~3 KΩ |  |  |
| J102.26 | > 20 MΩ |  | 26 | 27 TO 48 | ~6 KΩ |  |  |
| 49 TO 57 | ~3 KΩ |  |  |
| J102.27 | > 20 MΩ |  | 27 | 28 TO 48 | ~6 KΩ |  |  |
| 49 TO 57 | ~3 KΩ |  |  |
| J102.28 | > 20 MΩ |  | 28 | 29 TO 48 | ~6 KΩ |  |  |
| 49 TO 57 | ~3 KΩ |  |  |
| J102.29 | > 20 MΩ |  | 29 | 30 TO 48 | ~6 KΩ |  |  |
| 49 TO 57 | ~3 KΩ |  |  |
| J102.30 | > 20 MΩ |  | 30 | 31 TO 48 | ~6 KΩ |  |  |
| 49 TO 57 | ~3 KΩ |  |  |
| J102.31 | > 20 MΩ |  | 31 | 32 TO 48 | ~6 KΩ |  |  |
| 49 TO 57 | ~3 KΩ |  |  |
| J102.32 | > 20 MΩ |  | 32 | 33 TO 48 | ~6 KΩ |  |  |
| 49 TO 57 | ~3 KΩ |  |  |
| J102.33 | > 20 MΩ |  | 33 | 34 TO 48 | ~6 KΩ |  |  |
| 49 TO 57 | ~3 KΩ |  |  |
| J102.34 | > 20 MΩ |  | 34 | 35 TO 48 | ~6 KΩ |  |  |
| 49 TO 57 | ~3 KΩ |  |  |
| J102.35 | > 20 MΩ |  | 35 | 36 TO 48 | ~6 KΩ |  |  |
| 49 TO 57 | ~3 KΩ |  |  |
| J102.36 | > 20 MΩ |  | 36 | 37 TO 48 | ~6 KΩ |  |  |
| 49 TO 57 | ~3 KΩ |  |  |
| J102.37 | > 20 MΩ |  | 37 | 38 TO 48 | ~6 KΩ |  |  |
| 49 TO 57 | ~3 KΩ |  |  |
| J102.38 | > 20 MΩ |  | 38 | 39 TO 48 | ~6 KΩ |  |  |
| 49 TO 57 | ~3 KΩ |  |  |
| J102.39 | > 20 MΩ |  | 39 | 40 TO 48 | ~6 KΩ |  |  |
| 49 TO 57 | ~3 KΩ |  |  |
| J102.40 | > 20 MΩ |  | 40 | 41 TO 48 | ~6 KΩ |  |  |
| 49 TO 57 | ~3 KΩ |  |  |
| J102.41 | > 20 MΩ |  | 41 | 42 TO 48 | ~6 KΩ |  |  |
| 49 TO 57 | ~3 KΩ |  |  |
| J102.42 | > 20 MΩ |  | 42 | 43 TO 48 | ~6 KΩ |  |  |
| 49 TO 57 | ~3 KΩ |  |  |
| J102.43 | > 20 MΩ |  | 43 | 44 TO 48 | ~6 KΩ |  |  |
| 49 TO 57 | ~3 KΩ |  |  |
| J102.44 | > 20 MΩ |  | 44 | 45 TO 48 | ~6 KΩ |  |  |
| 49 TO 57 | ~3 KΩ |  |  |
| J102.45 | > 20 MΩ |  | 45 | 46 TO 48 | ~6 KΩ |  |  |
| 49 TO 57 | ~3 KΩ |  |  |
| J102.46 | > 20 MΩ |  | 46 | 47 TO 48 | ~6 KΩ |  |  |
| 49 TO 57 | ~3 KΩ |  |  |
| J102.47 | > 20 MΩ |  | 47 | 48 | ~6 KΩ |  |  |
| 49 TO 57 | ~3 KΩ |  |  |
| J102.48 | > 20 MΩ |  | 48 | 49 TO 57 | ~3 KΩ |  |  |
| J102.49 | > 20 MΩ |  | 49 | 50 TO 57 | < 5Ω |  | Short with 50 to 57 |
| J102.50 | > 20 MΩ |  | 50 | 51 TO 57 | < 5Ω |  | Short with 51 to 57 |
| J102.51 | > 20 MΩ |  | 51 | 52 TO 57 | < 5Ω |  | Short with 52 to 57 |
| J102.52 | > 20 MΩ |  | 52 | 53 TO 57 | < 5Ω |  | Short with 53 to 57 |
| J102.53 | > 20 MΩ |  | 53 | 54 TO 57 | < 5Ω |  | Short with 54 to 57 |
| J102.54 | > 20 MΩ |  | 54 | 55 TO 57 | < 5Ω |  | Short with 55 to 57 |
| J102.55 | > 20 MΩ |  | 55 | 56 TO 57 | < 5Ω |  | Short with 56 to 57 |
| J102.56 | > 20 MΩ |  | 56 | 57 | < 5Ω |  | Short with 57 |
| J102.57 | > 20 MΩ |  |  |  |  |  |  |

**UNUSED PINS:** 58 to 60, 73 to 128

**OBSERVATIONS:**

**TEST Cleared / Not Cleared**

**PROJ QC Firm rep SSQAG REP**

| **Connector J103: D38999 20WF-35PN** | | | | | | | |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **PIN No.** | **Pin to Body IR** | | **PIN No.** | | **Pin to Pin IR** | | **Remarks** |
|  | **Expected Resistance** | **Measured Resistance** | **FROM** | **TO** | **Expected Resistance** | **Measured Resistance** |  |
| J103.1 | > 20 MΩ |  | 1 | 2 TO 36 | ~5.6 KΩ |  |  |
| 19,20 | ~2.8 KΩ |  |  |
| J103.2 | > 20 MΩ |  | 2 | 3 TO 36 | ~5.6 KΩ |  |  |
| 19,20 | ~2.8 KΩ |  |  |
| J103.3 | > 20 MΩ |  | 3 | 4 TO 36 | ~5.6 KΩ |  |  |
| 19,20 | ~2.8 KΩ |  |  |
| J103.4 | > 20 MΩ |  | 4 | 5 TO 36 | ~5.6 KΩ |  |  |
| 19,20 | ~2.8 KΩ |  |  |
| J103.5 | > 20 MΩ |  | 5 | 6 TO 36 | ~5.6 KΩ |  |  |
| 19,20 | ~2.8 KΩ |  |  |
| J103.6 | > 20 MΩ |  | 6 | 7 TO 36 | ~5.6 KΩ |  |  |
| 19,20 | ~2.8 KΩ |  |  |
| J103.7 | > 20 MΩ |  | 7 | 8 TO 36 | ~5.6 KΩ |  |  |
| 19,20 | ~2.8 KΩ |  |  |
| J103.8 | > 20 MΩ |  | 8 | 9 TO 36 | ~5.6 KΩ |  |  |
| 19,20 | ~2.8 KΩ |  |  |
| J103.9 | > 20 MΩ |  | 9 | 10 TO 36 | ~5.6 KΩ |  |  |
| 19,20 | ~2.8 KΩ |  |  |
| J103.10 | > 20 MΩ |  | 10 | 11 TO 36 | ~5.6 KΩ |  |  |
| 19,20 | ~2.8 KΩ |  |  |
| J103.11 | > 20 MΩ |  | 11 | 12 TO 36 | ~5.6 KΩ |  |  |
| 19,20 | ~2.8 KΩ |  |  |
| J103.12 | > 20 MΩ |  | 12 | 13 TO 36 | ~5.6 KΩ |  |  |
| 19,20 | ~2.8 KΩ |  |  |
| J103.13 | > 20 MΩ |  | 13 | 14 TO 36 | ~5.6 KΩ |  |  |
| 19,20 | ~2.8 KΩ |  |  |
| J103.14 | > 20 MΩ |  | 14 | 15 TO 36 | ~5.6 KΩ |  |  |
| 19,20 | ~2.8 KΩ |  |  |
| J103.15 | > 20 MΩ |  | 15 | 16 TO 36 | ~5.6 KΩ |  |  |
| 19,20 | ~2.8 KΩ |  |  |
| J103.16 | > 20 MΩ |  | 16 | 17 TO 36 | ~5.6 KΩ |  |  |
| 19,20 | ~2.8 KΩ |  |  |
| J103.17 | > 20 MΩ |  | 17 | 18 TO 36 | ~5.6 KΩ |  |  |
| 19,20 | ~2.8 KΩ |  |  |
| J103.18 | > 20 MΩ |  | 18 | 22 TO 36 | ~5.6 KΩ |  |  |
| 19,20 | ~2.8 KΩ |  |  |
| J103.19 | > 20 MΩ |  | 19 | 22TO 36 | ~2.8 KΩ |  |  |
| 20 | < 5 Ω |  | Short with 20 |
| J103.20 | > 20 MΩ |  | 20 | 22 TO 36 | ~2.8 KΩ |  | Short with 19 |
| J103.21 | < 5 Ω |  | 21 | 22TO 36 | > 20 MΩ |  | Short with body |
| 19,20 | > 20 MΩ |  |
| J103.22 | > 20 MΩ |  | 22 | 23TO 36 | ~5.6 KΩ |  |  |
| J103.23 | > 20 MΩ |  | 23 | 24 TO 36 | ~5.6 KΩ |  |  |
| J103.24 | > 20 MΩ |  | 24 | 25 TO 36 | ~5.6 KΩ |  |  |
| J103.25 | > 20 MΩ |  | 25 | 26 TO 36 | ~5.6 KΩ |  |  |
| J103.26 | > 20 MΩ |  | 26 | 27 TO 36 | ~5.6 KΩ |  |  |
| J103.27 | > 20 MΩ |  | 27 | 28 TO 36 | ~5.6 KΩ |  |  |
| J103.28 | > 20 MΩ |  | 28 | 29 TO 36 | ~5.6 KΩ |  |  |
| J103.29 | > 20 MΩ |  | 29 | 30 TO 36 | ~5.6 KΩ |  |  |
| J103.30 | > 20 MΩ |  | 30 | 31 TO 36 | ~5.6 KΩ |  |  |
| J103.31 | > 20 MΩ |  | 31 | 32 TO 36 | ~5.6 KΩ |  |  |
| J103.32 | > 20 MΩ |  | 32 | 33 TO 36 | ~5.6 KΩ |  |  |
| J103.33 | > 20 MΩ |  | 33 | 34 TO 36 | ~5.6 KΩ |  |  |
| J103.34 | > 20 MΩ |  | 34 | 35 TO 36 | ~5.6 KΩ |  |  |
| J103.35 | > 20 MΩ |  | 35 | 36 | ~5.6 KΩ |  |  |
| J103.36 | > 20 MΩ |  |  |  |  |  |  |

**UNUSED PINS:** 36 to 66

**OBSERVATIONS:**

**TEST Cleared / Not Cleared**

**PROJ QC Firm rep SSQAG REP**

| **Connector J104: D38999 20WJ-35PN** | | | | | | | |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **PIN No.** | **Pin to Body IR** | | **PIN No.** | | **Pin to Pin IR** | | **Remarks** |
|  | **Expected Resistance** | **Measured Resistance** | **FROM** | **TO** | **Expected Resistance** | **Measured Resistance** |  |
| J104.01 | > 20 MΩ |  | 1 | 2 TO 88 | ~1.3 KΩ |  |  |
| 95 TO 102 | ~4.2 KΩ |  |  |
| J104.02 | > 20 MΩ |  | 2 | 3 TO 88 | ~1.3 KΩ |  |  |
| 95 TO 102 | ~4.2 KΩ |  |  |
| J104.03 | > 20 MΩ |  | 3 | 4 TO 88 | ~1.3 KΩ |  |  |
| 95 TO 102 | ~4.2 KΩ |  |  |
| J104.04 | > 20 MΩ |  | 4 | 5 TO 88 | ~1.3 KΩ |  |  |
| 95 TO 102 | ~4.2 KΩ |  |  |
| J104.05 | > 20 MΩ |  | 5 | 6 TO 88 | ~1.3 KΩ |  |  |
| 95 TO 102 | ~4.2 KΩ |  |  |
| J104.06 | > 20 MΩ |  | 6 | 7 TO 88 | ~1.3 KΩ |  |  |
| 95 TO 102 | ~4.2 KΩ |  |  |
| J104.07 | > 20 MΩ |  | 7 | 8 TO 88 | ~1.3 KΩ |  |  |
| 95 TO 102 | ~4.2 KΩ |  |  |
| J104.08 | > 20 MΩ |  | 8 | 9 TO 88 | ~1.3 KΩ |  |  |
| 95 TO 102 | ~4.2 KΩ |  |  |
| J104.09 | > 20 MΩ |  | 9 | 10 TO 88 | ~1.3 KΩ |  |  |
| 95 TO 102 | ~4.2 KΩ |  |  |
| J104.10 | > 20 MΩ |  | 10 | 11 TO 88 | ~1.3 KΩ |  |  |
| 95 TO 102 | ~4.2 KΩ |  |  |
| J104.11 | > 20 MΩ |  | 11 | 12 TO 88 | ~1.3 KΩ |  |  |
| 95 TO 102 | ~4.2 KΩ |  |  |
| J104.12 | > 20 MΩ |  | 12 | 13 TO 88 | ~1.3 KΩ |  |  |
| 95 TO 102 | ~4.2 KΩ |  |  |
| J104.13 | > 20 MΩ |  | 13 | 14 TO 88 | ~1.3 KΩ |  |  |
| 95 TO 102 | ~4.2 KΩ |  |  |
| J104.14 | > 20 MΩ |  | 14 | 15 TO 88 | ~1.3 KΩ |  |  |
| 95 TO 102 | ~4.2 KΩ |  |  |
| J104.15 | > 20 MΩ |  | 15 | 16 TO 88 | ~1.3 KΩ |  |  |
| 95 TO 102 | ~4.2 KΩ |  |  |
| J104.16 | > 20 MΩ |  | 16 | 17 TO 88 | ~1.3 KΩ |  |  |
| 95 TO 102 | ~4.2 KΩ |  |  |
| J104.17 | > 20 MΩ |  | 17 | 18 TO 88 | ~1.3 KΩ |  |  |
| 95 TO 102 | ~4.2 KΩ |  |  |
| J104.18 | > 20 MΩ |  | 18 | 19 TO 88 | ~1.3 KΩ |  |  |
| 95 TO 102 | ~4.2 KΩ |  |  |
| J104.19 | > 20 MΩ |  | 19 | 20 TO 88 | ~1.3 KΩ |  |  |
| 95 TO 102 | ~4.2 KΩ |  |  |
| J104.20 | > 20 MΩ |  | 20 | 21 TO 88 | ~1.3 KΩ |  |  |
| 95 TO 102 | ~4.2 KΩ |  |  |
| J104.21 | > 20 MΩ |  | 21 | 22 TO 88 | ~1.3 KΩ |  |  |
| 95 TO 102 | ~4.2 KΩ |  |  |
| J104.22 | > 20 MΩ |  | 22 | 23 TO 88 | ~1.3 KΩ |  |  |
| 95 TO 102 | ~4.2 KΩ |  |  |
| J104.23 | > 20 MΩ |  | 23 | 24TO 88 | ~1.3 KΩ |  |  |
| 95 TO 102 | ~4.2 KΩ |  |  |
| J104.24 | > 20 MΩ |  | 24 | 25 TO 88 | ~1.3 KΩ |  |  |
| 95 TO 102 | ~4.2 KΩ |  |  |
| J104.25 | > 20 MΩ |  | 25 | 26 TO 88 | ~1.3 KΩ |  |  |
| 95 TO 102 | ~4.2 KΩ |  |  |
| J104.26 | > 20 MΩ |  | 26 | 27 TO 88 | ~1.3 KΩ |  |  |
| 95 TO 102 | ~4.2 KΩ |  |  |
| J104.27 | > 20 MΩ |  | 27 | 28 TO 88 | ~1.3 KΩ |  |  |
| 95 TO 102 | ~4.2 KΩ |  |  |
| J104.28 | > 20 MΩ |  | 28 | 29 TO 88 | ~1.3 KΩ |  |  |
| 95 TO 102 | ~4.2 KΩ |  |  |
| J104.29 | > 20 MΩ |  | 29 | 30 TO 88 | ~1.3 KΩ |  |  |
| 95 TO 102 | ~4.2 KΩ |  |  |
| J104.30 | > 20 MΩ |  | 30 | 31 TO 88 | ~1.3 KΩ |  |  |
| 95 TO 102 | ~4.2 KΩ |  |  |
| J104.31 | > 20 MΩ |  | 31 | 32 TO 88 | ~1.3 KΩ |  |  |
| 95 TO 102 | ~4.2 KΩ |  |  |
| J104.32 | > 20 MΩ |  | 32 | 33 TO 88 | ~1.3 KΩ |  |  |
| 95 TO 102 | ~4.2 KΩ |  |  |
| J104.33 | > 20 MΩ |  | 33 | 34 TO 88 | ~1.3 KΩ |  |  |
| 95 TO 102 | ~4.2 KΩ |  |  |
| J104.34 | > 20 MΩ |  | 34 | 35 TO 88 | ~1.3 KΩ |  |  |
| 95 TO 102 | ~4.2 KΩ |  |  |
| J104.35 | > 20 MΩ |  | 35 | 36 TO 88 | ~1.3 KΩ |  |  |
| 95 TO 102 | ~4.2 KΩ |  |  |
| J104.36 | > 20 MΩ |  | 36 | 37 TO 88 | ~1.3 KΩ |  |  |
| 95 TO 102 | ~4.2 KΩ |  |  |
| J104.37 | > 20 MΩ |  | 37 | 38 TO 88 | ~1.3 KΩ |  |  |
| 95 TO 102 | ~4.2 KΩ |  |  |
| J104.38 | > 20 MΩ |  | 38 | 39 TO 88 | ~1.3 KΩ |  |  |
| 95 TO 102 | ~4.2 KΩ |  |  |
| J104.39 | > 20 MΩ |  | 39 | 40 TO 88 | ~1.3 KΩ |  |  |
| 95 TO 102 | ~4.2 KΩ |  |  |
| J104.40 | > 20 MΩ |  | 40 | 41 TO 88 | ~1.3 KΩ |  |  |
| 95 TO 102 | ~4.2 KΩ |  |  |
| J104.41 | > 20 MΩ |  | 41 | 42 TO 88 | ~1.3 KΩ |  |  |
| 95 TO 102 | ~4.2 KΩ |  |  |
| J104.42 | > 20 MΩ |  | 42 | 43 TO 88 | ~1.3 KΩ |  |  |
| 95 TO 102 | ~4.2 KΩ |  |  |
| J104.43 | > 20 MΩ |  | 43 | 44 TO 88 | ~1.3 KΩ |  |  |
| 95 TO 102 | ~4.2 KΩ |  |  |
| J104.44 | > 20 MΩ |  | 44 | 45 TO 88 | ~1.3 KΩ |  |  |
| 95 TO 102 | ~4.2 KΩ |  |  |
| J104.45 | > 20 MΩ |  | 45 | 46 TO 88 | ~1.3 KΩ |  |  |
| 95 TO 102 | ~4.2 KΩ |  |  |
| J104.46 | > 20 MΩ |  | 46 | 47 TO 88 | ~1.3 KΩ |  |  |
| 95 TO 102 | ~4.2 KΩ |  |  |
| J104.47 | > 20 MΩ |  | 47 | 48 TO 88 | ~1.3 KΩ |  |  |
| 95 TO 102 | ~4.2 KΩ |  |  |
| J104.48 | > 20 MΩ |  | 48 | 49 TO 88 | ~1.3 KΩ |  |  |
| 95 TO 102 | ~4.2 KΩ |  |  |
| J104.49 | > 20 MΩ |  | 49 | 50 TO 88 | ~1.3 KΩ |  |  |
| 95 TO 102 | ~4.2 KΩ |  |  |
| J104.50 | > 20 MΩ |  | 50 | 51 TO 88 | ~1.3 KΩ |  |  |
| 95 TO 102 | ~4.2 KΩ |  |  |
| J104.51 | > 20 MΩ |  | 51 | 52 TO 88 | ~1.3 KΩ |  |  |
| 95 TO 102 | ~4.2 KΩ |  |  |
| J104.52 | > 20 MΩ |  | 52 | 53 TO 88 | ~1.3 KΩ |  |  |
| 95 TO 102 | ~4.2 KΩ |  |  |
| J104.53 | > 20 MΩ |  | 53 | 54 TO 88 | ~1.3 KΩ |  |  |
| 95 TO 102 | ~4.2 KΩ |  |  |
| J104.54 | > 20 MΩ |  | 54 | 55 TO 88 | ~1.3 KΩ |  |  |
| 95 TO 102 | ~4.2 KΩ |  |  |
| J104.55 | > 20 MΩ |  | 55 | 56 TO 88 | ~1.3 KΩ |  |  |
| 95 TO 102 | ~4.2 KΩ |  |  |
| J104.56 | > 20 MΩ |  | 56 | 57 TO 88 | ~1.3 KΩ |  |  |
| 95 TO 102 | ~4.2 KΩ |  |  |
| J104.57 | > 20 MΩ |  | 57 | 58 TO 88 | ~1.3 KΩ |  |  |
| 95 TO 102 | ~4.2 KΩ |  |  |
| J104.58 | > 20 MΩ |  | 58 | 59 TO 88 | ~1.3 KΩ |  |  |
| 95 TO 102 | ~4.2 KΩ |  |  |
| J104.59 | > 20 MΩ |  | 59 | 60 TO 88 | ~1.3 KΩ |  |  |
| 95 TO 102 | ~4.2 KΩ |  |  |
| J104.60 | > 20 MΩ |  | 60 | 61 TO 88 | ~1.3 KΩ |  |  |
| 95 TO 102 | ~4.2 KΩ |  |  |
| J104.61 | > 20 MΩ |  | 61 | 62 TO 88 | ~1.3 KΩ |  |  |
| 95 TO 102 | ~4.2 KΩ |  |  |
| J104.62 | > 20 MΩ |  | 62 | 63 TO 88 | ~1.3 KΩ |  |  |
| 95 TO 102 | ~4.2 KΩ |  |  |
| J104.63 | > 20 MΩ |  | 63 | 64 TO 88 | ~1.3 KΩ |  |  |
| 95 TO 102 | ~4.2 KΩ |  |  |
| J104.64 | > 20 MΩ |  | 64 | 65 TO 88 | ~1.3 KΩ |  |  |
| 95 TO 102 | ~4.2 KΩ |  |  |
| J104.65 | > 20 MΩ |  | 65 | 66 TO 88 | ~1.3 KΩ |  |  |
| 95 TO 102 | ~4.2 KΩ |  |  |
| J104.66 | > 20 MΩ |  | 66 | 67 TO 88 | ~1.3 KΩ |  |  |
| 95 TO 102 | ~4.2 KΩ |  |  |
| J104.67 | > 20 MΩ |  | 67 | 68 TO 88 | ~1.3 KΩ |  |  |
| 95 TO 102 | ~4.2 KΩ |  |  |
| J104.68 | > 20 MΩ |  | 68 | 69 TO 88 | ~1.3 KΩ |  |  |
| 95 TO 102 | ~4.2 KΩ |  |  |
| J104.69 | > 20 MΩ |  | 69 | 70 TO 88 | ~1.3 KΩ |  |  |
| 95 TO 102 | ~4.2 KΩ |  |  |
| J104.70 | > 20 MΩ |  | 70 | 71 TO 88 | ~1.3 KΩ |  |  |
| 95 TO 102 | ~4.2 KΩ |  |  |
| J104.71 | > 20 MΩ |  | 71 | 72 TO 88 | ~1.3 KΩ |  |  |
| 95 TO 102 | ~4.2 KΩ |  |  |
| J104.72 | > 20 MΩ |  | 72 | 73 TO 88 | ~1.3 KΩ |  |  |
| 95 TO 102 | ~4.2 KΩ |  |  |
| J104.73 | > 20 MΩ |  | 73 | 74 TO 88 | ~1.3 KΩ |  |  |
| 95 TO 102 | ~4.2 KΩ |  |  |
| J104.74 | > 20 MΩ |  | 74 | 75 TO 88 | ~1.3 KΩ |  |  |
| 95 TO 102 | ~4.2 KΩ |  |  |
| J104.75 | > 20 MΩ |  | 75 | 76 TO 88 | ~1.3 KΩ |  |  |
| 95 TO 102 | ~4.2 KΩ |  |  |
| J104.76 | > 20 MΩ |  | 76 | 77 TO 88 | ~1.3 KΩ |  |  |
| 95 TO 102 | ~4.2 KΩ |  |  |
| J104.77 | > 20 MΩ |  | 77 | 78 TO 88 | ~1.3 KΩ |  |  |
| 95 TO 102 | ~4.2 KΩ |  |  |
| J104.78 | > 20 MΩ |  | 78 | 79 TO 88 | ~1.3 KΩ |  |  |
| 95 TO 102 | ~4.2 KΩ |  |  |
| J104.79 | > 20 MΩ |  | 79 | 80 TO 88 | ~1.3 KΩ |  |  |
| 95 TO 102 | ~4.2 KΩ |  |  |
| J104.80 | > 20 MΩ |  | 80 | 81 TO 88 | ~1.3 KΩ |  |  |
| 95 TO 102 | ~4.2 KΩ |  |  |
| J104.81 | > 20 MΩ |  | 81 | 82 TO 88 | ~1.3 KΩ |  |  |
| 95 TO 102 | ~4.2 KΩ |  |  |
| J104.82 | > 20 MΩ |  | 82 | 83 TO 88 | ~1.3 KΩ |  |  |
| 95 TO 102 | ~4.2 KΩ |  |  |
| J104.83 | > 20 MΩ |  | 83 | 84 TO 88 | ~1.3 KΩ |  |  |
| 95 TO 102 | ~4.2 KΩ |  |  |
| J104.84 | > 20 MΩ |  | 84 | 85 TO 88 | ~1.3 KΩ |  |  |
| 95 TO 102 | ~4.2 KΩ |  |  |
| J104.85 | > 20 MΩ |  | 85 | 86 TO 88 | ~1.3 KΩ |  |  |
| 95 TO 102 | ~4.2 KΩ |  |  |
| J104.86 | > 20 MΩ |  | 86 | 87 TO 88 | ~1.3 KΩ |  |  |
| 95 TO 102 | ~4.2 KΩ |  |  |
| J104.87 | > 20 MΩ |  | 87 | 88 | ~1.3 KΩ |  |  |
| 95 TO 102 | ~4.2 KΩ |  |  |
| J104.88 | > 20 MΩ |  | 88 | 95 TO 102 | ~4.2 KΩ |  |  |
| J104.95 | > 20 MΩ |  | 95 | 96 TO 102 | < 5Ω |  | Short with 96 to 102 |
| J104.96 | > 20 MΩ |  | 96 | 97 TO 102 | < 5Ω |  | Short with 97 to 102 |
| J104.97 | > 20 MΩ |  | 97 | 98 TO 102 | < 5Ω |  | Short with 98 to 102 |
| J104.98 | > 20 MΩ |  | 98 | 99 TO 102 | < 5Ω |  | Short with 99 to 102 |
| J104.99 | > 20 MΩ |  | 99 | 100 TO 102 | < 5Ω |  | Short with 100 to 102 |
| J104.100 | > 20 MΩ |  | 100 | 101 TO 102 | < 5Ω |  | Short with 101 and102 |
| J104.101 | > 20 MΩ |  | 101 | 102 | < 5Ω |  | Short with 102 |
| J104.102 | > 20 MΩ |  |  |  |  |  |  |

**UNUSED PINS:** 89 to 94,103 to 128

**OBSERVATIONS:**

**TEST Cleared / Not Cleared**

**PROJ QC Firm rep SSQAG REP**

| **Connector M1:MS3470-W24-61SN** | | | | | | | |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **PIN No.** | **Pin to Body IR** | | **PIN No.** | | **Pin to Pin IR** | | **Remarks** |
|  | **Expected Resistance** | **Measured Resistance** | **FROM** | **TO** | **Expected Resistance** | **Measured Resistance** |  |
| A | > 20 MΩ |  | A | B TO NN | > 20 MΩ |  |  |
| B | > 20 MΩ |  | B | C TO NN | > 20 MΩ |  |  |
| C | > 20 MΩ |  | C | D TO NN | > 20 MΩ |  |  |
| D | > 20 MΩ |  | D | E TO NN | > 20 MΩ |  |  |
| E | > 20 MΩ |  | E | F TO NN | > 20 MΩ |  |  |
| F | > 20 MΩ |  | F | G TO NN | > 20 MΩ |  |  |
| G | > 20 MΩ |  | G | H TO NN | > 20 MΩ |  |  |
| H | > 20 MΩ |  | H | J TO NN | > 20 MΩ |  |  |
| J | > 20 MΩ |  | J | K TO NN | > 20 MΩ |  |  |
| K | > 20 MΩ |  | K | L TO NN | > 20 MΩ |  |  |
| L | > 20 MΩ |  | L | M TO NN | > 20 MΩ |  |  |
| M | > 20 MΩ |  | M | N TO NN | > 20 MΩ |  |  |
| N | > 20 MΩ |  | N | P TO NN | > 20 MΩ |  |  |
| P | > 20 MΩ |  | P | R TO NN | > 20 MΩ |  |  |
| R | > 20 MΩ |  | R | S TO NN | > 20 MΩ |  |  |
| S | > 20 MΩ |  | S | T TO NN | > 20 MΩ |  |  |
| T | > 20 MΩ |  | T | U TO NN | > 20 MΩ |  |  |
| U | > 20 MΩ |  | U | V TO NN | > 20 MΩ |  |  |
| V | > 20 MΩ |  | V | W TO NN | > 20 MΩ |  |  |
| W | > 20 MΩ |  | W | X TO NN | > 20 MΩ |  |  |
| X | > 20 MΩ |  | X | Y TO NN | > 20 MΩ |  |  |
| Y | > 20 MΩ |  | Y | Z TO NN | > 20 MΩ |  |  |
| Z | > 20 MΩ |  | Z | a TO NN | > 20 MΩ |  |  |
| A | > 20 MΩ |  | a | b TO NN | > 20 MΩ |  |  |
| B | > 20 MΩ |  | b | c TO NN | > 20 MΩ |  |  |
| C | > 20 MΩ |  | c | d TO NN | > 20 MΩ |  |  |
| D | > 20 MΩ |  | d | e TO NN | > 20 MΩ |  |  |
| E | > 20 MΩ |  | e | f TO NN | > 20 MΩ |  |  |
| F | > 20 MΩ |  | f | g TO NN | > 20 MΩ |  |  |
| G | > 20 MΩ |  | g | h TO NN | > 20 MΩ |  |  |
| H | > 20 MΩ |  | h | i TO NN | > 20 MΩ |  |  |
| I | > 20 MΩ |  | i | j TO NN | > 20 MΩ |  |  |
| J | > 20 MΩ |  | j | k TO NN | > 20 MΩ |  |  |
| K | > 20 MΩ |  | k | m TO NN | > 20 MΩ |  |  |
| M | > 20 MΩ |  | m | n TO NN | > 20 MΩ |  |  |
| N | > 20 MΩ |  | n | p TO NN | > 20 MΩ |  |  |
| P | > 20 MΩ |  | p | q TO NN | > 20 MΩ |  |  |
| Q | > 20 MΩ |  | q | r TO NN | > 20 MΩ |  |  |
| R | > 20 MΩ |  | r | s TO NN | > 20 MΩ |  |  |
| S | > 20 MΩ |  | s | t, v, x, z, AA | > 20 MΩ |  | Short with u to NN |
| u to NN | < 5Ω |  |
| T | > 20 MΩ |  | t | u TO NN | > 20 MΩ |  |  |
| U | > 20 MΩ |  | u | v, x, z, AA | > 20 MΩ |  | Short with w to NN |
| w to NN | < 5Ω |  |
| V | > 20 MΩ |  | v | w TO NN | > 20 MΩ |  |  |
| W | > 20 MΩ |  | w | x, z, AA | > 20 MΩ |  | Short with y to NN |
| y to NN | < 5Ω |  |
| X | > 20 MΩ |  | x | y TO NN | > 20 MΩ |  |  |
| Y | > 20 MΩ |  | y | t , v, x, z, AA | > 20 MΩ |  | Short with BB to NN |
| BB to NN | < 5Ω |  |
| Z | > 20 MΩ |  | z | AA TO NN | > 20 MΩ |  |  |
| AA | > 20 MΩ |  | AA | BB to NN | > 20 MΩ |  |  |
| BB | > 20 MΩ |  | BB | CC TO NN | < 5Ω |  | Short with CC to NN |
| CC | > 20 MΩ |  | CC | DD TO NN | < 5Ω |  | Short with DD to NN |
| DD | > 20 MΩ |  | DD | EE TO NN | < 5Ω |  | Short with EE to NN |
| EE | > 20 MΩ |  | EE | FF TO NN | < 5Ω |  | Short with FF to NN |
| FF | > 20 MΩ |  | FF | GG TO NN | < 5Ω |  | Short with GG to NN |
| GG | > 20 MΩ |  | GG | HH TO NN | < 5Ω |  | Short with HH to NN |
| HH | > 20 MΩ |  | HH | JJ TO NN | < 5Ω |  | Short with JJ to NN |
| JJ | > 20 MΩ |  | JJ | KK TO NN | < 5Ω |  | Short with KK to NN |
| KK | > 20 MΩ |  | KK | LL TO NN | < 5Ω |  | Short with LL to NN |
| LL | > 20 MΩ |  | LL | MM , NN | < 5Ω |  | Short with MM to NN |
| MM | > 20 MΩ |  | MM | NN | < 5Ω |  | Short with NN |
| NN | > 20 MΩ |  |  |  |  |  |  |

**UNUSED PINS:** PP

**OBSERVATIONS:**

**TEST Cleared / Not Cleared**

**PROJ QC Firm rep SSQAG REP**

| **Connector M2:MS3470-W24-61PN** | | | | | | | |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **PIN No.** | **Pin to Body IR** | | **PIN No.** | | **Pin to Pin IR** | | **Remarks** |
|  | **Expected Resistance** | **Measured Resistance** | **FROM** | **TO** | **Expected Resistance** | **Measured Resistance** |  |
| A | > 20 MΩ |  | A | C to MM(alt pins) | ~28.2 KΩ |  |  |
| B to NN(alt pins) | ~14.1 KΩ |  |  |
| B | > 20 MΩ |  | B | C to MM(alt pins) | ~28.2 KΩ |  |  |
| D to NN(alt pins) | ~14.1 KΩ |  |  |
| C | > 20 MΩ |  | C | E to MM(alt pins) | ~28.2 KΩ |  |  |
| D to NN(alt pins) | ~14.1 KΩ |  |  |
| D | > 20 MΩ |  | D | E to MM(alt pins) | ~28.2 KΩ |  |  |
| F to NN(alt pins) | ~14.1 KΩ |  |  |
| E | > 20 MΩ |  | E | G to MM(alt pins) | ~28.2 KΩ |  |  |
| F to NN(alt pins) | ~14.1 KΩ |  |  |
| F | > 20 MΩ |  | F | G to MM(alt pins) | ~28.2 KΩ |  |  |
| H to NN(alt pins) | ~14.1 KΩ |  |  |
| G | > 20 MΩ |  | G | J to MM(alt pins) | ~28.2 KΩ |  |  |
| H to NN(alt pins) | ~14.1 KΩ |  |  |
| H | > 20 MΩ |  | H | J to MM(alt pins) | ~28.2 KΩ |  |  |
| K to NN(alt pins) | ~14.1 KΩ |  |  |
| J | > 20 MΩ |  | J | L to MM(alt pins) | ~28.2 KΩ |  |  |
| K to NN(alt pins) | ~14.1 KΩ |  |  |
| K | > 20 MΩ |  | K | L to MM(alt pins) | ~28.2 KΩ |  |  |
| M to NN(alt pins) | ~14.1 KΩ |  |  |
| L | > 20 MΩ |  | L | N to MM(alt pins) | ~28.2 KΩ |  |  |
| M to NN(alt pins) | ~14.1 KΩ |  |  |
| M | > 20 MΩ |  | M | N to MM(alt pins) | ~28.2 KΩ |  |  |
| P to NN(alt pins) | ~14.1 KΩ |  |  |
| N | > 20 MΩ |  | N | R to MM(alt pins) | ~28.2 KΩ |  |  |
| P to NN(alt pins) | ~14.1 KΩ |  |  |
| P | > 20 MΩ |  | P | R to MM(alt pins) | ~28.2 KΩ |  |  |
| S to NN(alt pins) | ~14.1 KΩ |  |  |
| R | > 20 MΩ |  | R | T to MM(alt pins) | ~28.2 KΩ |  |  |
| S to NN(alt pins) | ~14.1 KΩ |  |  |
| S | > 20 MΩ |  | S | T to MM(alt pins) | ~28.2 KΩ |  |  |
| U to NN(alt pins) | ~14.1 KΩ |  |  |
| T | > 20 MΩ |  | T | V to MM(alt pins) | ~28.2 KΩ |  |  |
| U to NN(alt pins) | ~14.1 KΩ |  |  |
| U | > 20 MΩ |  | U | V to MM(alt pins) | ~28.2 KΩ |  |  |
| W to NN(alt pins) | ~14.1 KΩ |  |  |
| V | > 20 MΩ |  | V | X to MM(alt pins) | ~28.2 KΩ |  |  |
| W to NN(alt pins) | ~14.1 KΩ |  |  |
| W | > 20 MΩ |  | W | X to MM(alt pins) | ~28.2 KΩ |  |  |
| Y to NN(alt pins) | ~14.1 KΩ |  |  |
| X | > 20 MΩ |  | X | Z to MM(alt pins) | ~28.2 KΩ |  |  |
| Y to NN(alt pins) | ~14.1 KΩ |  |  |
| Y | > 20 MΩ |  | Y | Z to MM(alt pins) | ~28.2 KΩ |  |  |
| a to NN(alt pins) | ~14.1 KΩ |  |  |
| Z | > 20 MΩ |  | Z | b to MM(alt pins) | ~28.2 KΩ |  |  |
| a to NN(alt pins) | ~14.1 KΩ |  |  |
| a | > 20 MΩ |  | a | b to MM(alt pins) | ~28.2 KΩ |  |  |
| c to NN(alt pins) | ~14.1 KΩ |  |  |
| b | > 20 MΩ |  | b | d to MM(alt pins) | ~28.2 KΩ |  |  |
| c to NN(alt pins) | ~14.1 KΩ |  |  |
| c | > 20 MΩ |  | c | d to MM(alt pins) | ~28.2 KΩ |  |  |
| e to NN(alt pins) | ~14.1 KΩ |  |  |
| d | > 20 MΩ |  | d | f to MM(alt pins) | ~28.2 KΩ |  |  |
| e to NN(alt pins) | ~14.1 KΩ |  |  |
| e | > 20 MΩ |  | e | f to MM(alt pins) | ~28.2 KΩ |  |  |
| g to NN(alt pins) | ~14.1 KΩ |  |  |
| f | > 20 MΩ |  | f | h to MM(alt pins) | ~28.2 KΩ |  |  |
| g to NN(alt pins) | ~14.1 KΩ |  |  |
| g | > 20 MΩ |  | g | h to MM(alt pins) | ~28.2 KΩ |  |  |
| i to NN(alt pins) | ~14.1 KΩ |  |  |
| h | > 20 MΩ |  | h | j to MM(alt pins) | ~28.2 KΩ |  |  |
| i to NN(alt pins) | ~14.1 KΩ |  |  |
| i | > 20 MΩ |  | i | j to MM(alt pins) | ~28.2 KΩ |  |  |
| k to NN(alt pins) | ~14.1 KΩ |  |  |
| j | > 20 MΩ |  | j | m to MM(alt pins) | ~28.2 KΩ |  |  |
| k to NN(alt pins) | ~14.1 KΩ |  |  |
| k | > 20 MΩ |  | k | m to MM(alt pins) | ~28.2 KΩ |  |  |
| n to NN(alt pins) | ~14.1 KΩ |  |  |
| m | > 20 MΩ |  | m | p to MM(alt pins) | ~28.2 KΩ |  |  |
| n to NN(alt pins) | ~14.1 KΩ |  |  |
| n | > 20 MΩ |  | n | p to MM(alt pins) | ~28.2 KΩ |  |  |
| q to NN(alt pins) | ~14.1 KΩ |  |  |
| p | > 20 MΩ |  | p | r to MM(alt pins) | ~28.2 KΩ |  |  |
| q to NN(alt pins) | ~14.1 KΩ |  |  |
| q | > 20 MΩ |  | q | r to MM(alt pins) | ~28.2 KΩ |  |  |
| s to NN(alt pins) | ~14.1 KΩ |  |  |
| r | > 20 MΩ |  | r | t to MM(alt pins) | ~28.2 KΩ |  |  |
| s to NN(alt pins) | ~14.1 KΩ |  |  |
| s | > 20 MΩ |  | s | t to MM(alt pins) | ~28.2 KΩ |  |  |
| u to NN(alt pins) | ~14.1 KΩ |  |  |
| t | > 20 MΩ |  | t | v to MM(alt pins) | ~28.2 KΩ |  |  |
| u to NN(alt pins) | ~14.1 KΩ |  |  |
| u | > 20 MΩ |  | u | v to MM(alt pins) | ~28.2 KΩ |  |  |
| w to NN(alt pins) | ~14.1 KΩ |  |  |
| v | > 20 MΩ |  | v | x to MM(alt pins) | ~28.2 KΩ |  |  |
| w to NN(alt pins) | ~14.1 KΩ |  |  |
| w | > 20 MΩ |  | w | x to MM(alt pins) | ~28.2 KΩ |  |  |
| y to NN(alt pins) | ~14.1 KΩ |  |  |
| x | > 20 MΩ |  | x | z to MM(alt pins) | ~28.2 KΩ |  |  |
| y to NN(alt pins) | ~14.1 KΩ |  |  |
| y | > 20 MΩ |  | y | z to MM(alt pins) | ~28.2 KΩ |  |  |
| AA to NN(alt pins) | ~14.1 KΩ |  |  |
| z | > 20 MΩ |  | z | BB to MM(alt pins) | ~28.2 KΩ |  |  |
| AA to NN(alt pins) | ~14.1 KΩ |  |  |
| AA | > 20 MΩ |  | AA | BB to MM(alt pins) | ~28.2 KΩ |  |  |
| CC to NN(alt pins) | ~14.1 KΩ |  |  |
| BB | > 20 MΩ |  | BB | DD to MM(alt pins) | ~28.2 KΩ |  |  |
| CC to NN(alt pins) | ~14.1 KΩ |  |  |
| CC | > 20 MΩ |  | CC | DD to MM(alt pins) | ~28.2 KΩ |  |  |
| EE to NN(alt pins) | ~14.1 KΩ |  |  |
| DD | > 20 MΩ |  | DD | FF to MM(alt pins) | ~28.2 KΩ |  |  |
| EE to NN(alt pins) | ~14.1 KΩ |  |  |
| EE | > 20 MΩ |  | EE | FF to MM(alt pins) | ~28.2 KΩ |  |  |
| GG to NN(alt pins) | ~14.1 KΩ |  |  |
| FF | > 20 MΩ |  | FF | HH to MM(alt pins) | ~28.2 KΩ |  |  |
| GG to NN(alt pins) | ~14.1 KΩ |  |  |
| GG | > 20 MΩ |  | GG | HH to MM(alt pins) | ~28.2 KΩ |  |  |
| JJ to NN(alt pins) | ~14.1 KΩ |  |  |
| HH | > 20 MΩ |  | HH | KK to MM(alt pins) | ~28.2 KΩ |  |  |
| JJ to NN(alt pins) | ~14.1 KΩ |  |  |
| JJ | > 20 MΩ |  | JJ | KK to MM(alt pins) | ~28.2 KΩ |  |  |
| LL to NN(alt pins) | ~14.1 KΩ |  |  |
| KK | > 20 MΩ |  | KK | MM | ~28.2 KΩ |  |  |
| LL , NN | ~14.1 KΩ |  |  |
| LL | > 20 MΩ |  | LL | MM | ~28.2 KΩ |  |  |
| NN | ~14.1 KΩ |  |  |
| MM | > 20 MΩ |  | MM | NN | ~14.1 KΩ |  |  |
| NN | > 20 MΩ |  |  |  |  |  |  |

**UNUSED PINS:** PP

**OBSERVATIONS:**

**TEST Cleared / Not Cleared**

**PROJ QC Firm rep SSQAG REP**

| **Connector M3:MS3470-W22-55PN** | | | | | | | |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **PIN No.** | **Pin to Body IR** | | **PIN No.** | | **Pin to Pin IR** | | **Remarks** |
|  | **Expected Resistance** | **Measured Resistance** | **FROM** | **TO** | **Expected Resistance** | **Measured Resistance** |  |
| A | > 20 MΩ |  | A | D,G,K,N | ~28.2 KΩ |  |  |
| B,E,H,L,P | ~14.1 KΩ |  |
| F,J,M,R to GG | > 20 MΩ |  |
| B | > 20 MΩ |  | B | D,G,K,N | ~14.1 KΩ |  | Short with E,H,L,P |
| E,H,L,P | < 5Ω |  |
| F,J,M,R to GG | > 20 MΩ |  |
| C | > 20 MΩ |  | C | D,G,K,N | > 20 MΩ |  | Short with E,H,L,P |
| E,H,L,P | < 5Ω |  |
| F,J,M,R to GG | > 20 MΩ |  |
| D | > 20 MΩ |  | D | G,K,N | ~28.2 KΩ |  |  |
| E,H,L,P | ~14.1 KΩ |  |
| F,J,M,R to GG | > 20 MΩ |  |
| E | > 20 MΩ |  | E | G,K,N | ~14.1 KΩ |  | Short with H,L,P |
| H,L,P | < 5Ω |  |
| F,J,M,R to GG | > 20 MΩ |  |
| F | > 20 MΩ |  | F | G,K,N | > 20 MΩ |  | Short with H,L,P |
| H,L,P | < 5Ω |  |
| J,M,R to GG | > 20 MΩ |  |
| G | > 20 MΩ |  | G | K,N | ~28.2 KΩ |  |  |
| H,L,P | ~14.1 KΩ |  |  |
| J,M,R to GG | > 20 MΩ |
| H | > 20 MΩ |  | H | K,N | ~14.1 KΩ |  | Short with L,P |
| L,P | < 5Ω |  |
| J,M,R to GG | > 20 MΩ |  |
| J | > 20 MΩ |  | J | K,N | > 20 MΩ |  | Short with L,P |
| L,P | < 5Ω |  |
| M,R to GG | > 20 MΩ |  |
| K | > 20 MΩ |  | K | N | ~28.2 KΩ |  |  |
| L,P | ~14.1 KΩ |  |
| M,R to GG | > 20 MΩ |  |
| L | > 20 MΩ |  | L | N | > 20 MΩ |  | Short with P |
| P | < 5Ω |  |
| M,R to GG | > 20 MΩ |  |
| M | > 20 MΩ |  | M | N | > 20 MΩ |  |  |
| P | ~14.1 KΩ |  |
| R to GG | > 20 MΩ |  |
| N | > 20 MΩ |  | N | P | ~14.1 KΩ |  |  |
| R to GG | > 20 MΩ |  |
| P | > 20 MΩ |  | P | R | < 5Ω |  | Short with R |
| S to GG | > 20 MΩ |
| R | > 20 MΩ |  | R | S to GG | > 20 MΩ |  |  |
| S | > 20 MΩ |  | S | W,X,Y | < 5Ω |  | Short with W,X,Y |
| T,U,Z to GG | > 20 MΩ |
| T | > 20 MΩ |  | T | U to GG | > 20 MΩ |  |  |
| U | > 20 MΩ |  | U | Z, a | < 5Ω |  | Short with Z, a |
| W, X, Y, b to GG | > 20 MΩ |
| W | > 20 MΩ |  | W | X,Y | < 5Ω |  | Short with X,Y |
| Z to GG | > 20 MΩ |
| X | > 20 MΩ |  | X | Y | < 5Ω |  | Short with Y |
| Z to GG | > 20 MΩ |
| Y | > 20 MΩ |  | Y | Z to GG | > 20 MΩ |  |  |
| Z | > 20 MΩ |  | Z | a | < 5Ω |  | Short with a |
| B to GG | > 20 MΩ |
| A | > 20 MΩ |  | a | b to GG | > 20 MΩ |  |  |
| B | > 20 MΩ |  | b | c | < 5Ω |  | Short with c |
| d to GG | > 20 MΩ |
| C | > 20 MΩ |  | c | d to GG | > 20 MΩ |  |  |
| D | > 20 MΩ |  | d | e | < 5Ω |  | Short with e |
| f to GG | > 20 MΩ |
| E | > 20 MΩ |  | e | f to GG | > 20 MΩ |  |  |
| F | > 20 MΩ |  | f | g | < 5Ω |  | Short with g |
| h to GG | > 20 MΩ |
| G | > 20 MΩ |  | g | h to GG | > 20 MΩ |  |  |
| H | > 20 MΩ |  | h | i | < 5Ω |  | Short with i |
| j to GG | > 20 MΩ |
| I | > 20 MΩ |  | i | j to GG | > 20 MΩ |  |  |
| J | > 20 MΩ |  | j | k | < 5Ω |  | Short with k |
| l to GG | > 20 MΩ |
| K | > 20 MΩ |  | k | m to GG | > 20 MΩ |  |  |
| M | > 20 MΩ |  | m | n | < 5Ω |  | Short with n |
| P to GG | > 20 MΩ |
| N | > 20 MΩ |  | n | p to GG | > 20 MΩ |  |  |
| P | > 20 MΩ |  | p | q | < 5Ω |  | Short with q |
| r to | > 20 MΩ |
| Q | > 20 MΩ |  | q | r to GG | > 20 MΩ |  |  |
| R | > 20 MΩ |  | r | s to GG | < 5Ω |  | Short with s to GG |
| S | > 20 MΩ |  | s | t to GG | < 5Ω |  | Short with t to GG |
| T | > 20 MΩ |  | t | u to GG | < 5Ω |  | Short with u to GG |
| U | > 20 MΩ |  | u | v to GG | < 5Ω |  | Short with v to GG |
| V | > 20 MΩ |  | v | w to GG | < 5Ω |  | Short with w to GG |
| W | > 20 MΩ |  | w | x to GG | < 5Ω |  | Short with x to GG |
| X | > 20 MΩ |  | x | y to GG | < 5Ω |  | Short with y to GG |
| Y | > 20 MΩ |  | y | z to GG | < 5Ω |  | Short with z to GG |
| Z | > 20 MΩ |  | z | AA to GG | < 5Ω |  | Short with AA to GG |
| AA | > 20 MΩ |  | AA | BB to GG | < 5Ω |  | Short with BB to GG |
| BB | > 20 MΩ |  | BB | CC to GG | < 5Ω |  | Short with CC to GG |
| CC | > 20 MΩ |  | CC | DD to GG | < 5Ω |  | Short with DD to GG |
| DD | > 20 MΩ |  | DD | EE to GG | < 5Ω |  | Short with EE to GG |
| EE | > 20 MΩ |  | EE | FF to GG | < 5Ω |  | Short with FF to GG |
| FF | > 20 MΩ |  | FF | GG | < 5Ω |  | Short with GG |
| GG | > 20 MΩ |  |  |  |  |  |  |

**UNUSED PINS:** HH

**OBSERVATIONS:**

**TEST Cleared / Not Cleared**

**PROJ QC Firm rep SSQAG REP**

| **Connector M4:D38999 20WG 35PN** | | | | | | | |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **PIN No.** | **Pin to Body IR** | | **PIN No.** | | **Pin to Pin IR** | | **Remarks** |
|  | **Expected Resistance** | **Measured Resistance** | **FROM** | **TO** | **Expected Resistance** | **Measured Resistance** |  |
| 1 | > 20 MΩ |  | 1 | 2 to 78(even) | > 20 MΩ |  |  |
| 3 to 77(odd) | > 20 MΩ |  |  |
| 2 | > 20 MΩ |  | 2 | 4 to 78(even) | < 5Ω |  | Short with 4 to 78(even) |
| 3 to 77(odd) | > 20 MΩ |  |  |
| 3 | > 20 MΩ |  | 3 | 4 to 78(even) | > 20 MΩ |  |  |
| 5 to 77(odd) | > 20 MΩ |  |  |
| 4 | > 20 MΩ |  | 4 | 6 to 78(even) | < 5Ω |  | Short with 6 to 78(even) |
| 5 to 77(odd) | > 20 MΩ |  |  |
| 5 | > 20 MΩ |  | 5 | 6 to 78(even) | > 20 MΩ |  |  |
| 7 to 77(odd) | > 20 MΩ |  |  |
| 6 | > 20 MΩ |  | 6 | 8 to 78(even) | < 5Ω |  | Short with 8 to 78(even) |
| 7 to 77(odd) | > 20 MΩ |  |  |
| 7 | > 20 MΩ |  | 7 | 8 to 78(even) | > 20 MΩ |  |  |
| 9 to 77(odd) | > 20 MΩ |  |  |
| 8 | > 20 MΩ |  | 8 | 10 to 78(even) | < 5Ω |  | Short with 10 to 78(even) |
| 9 to 77(odd) | > 20 MΩ |  |  |
| 9 | > 20 MΩ |  | 9 | 10 to 78(even) | > 20 MΩ |  |  |
| 11 to 77(odd) | > 20 MΩ |  |  |
| 10 | > 20 MΩ |  | 10 | 12 to 78(even) | < 5Ω |  | Short with 12 to 78(even) |
| 11 to 77(odd) | > 20 MΩ |  |  |
| 11 | > 20 MΩ |  | 11 | 12 to 78(even) | > 20 MΩ |  |  |
| 13 to 77(odd) | > 20 MΩ |  |  |
| 12 | > 20 MΩ |  | 12 | 14 to 78(even) | < 5Ω |  | Short with 14 to 78(even) |
| 13 to 77(odd) | > 20 MΩ |  |  |
| 13 | > 20 MΩ |  | 13 | 14 to 78(even) | > 20 MΩ |  |  |
| 15 to 77(odd) | > 20 MΩ |  |  |
| 14 | > 20 MΩ |  | 14 | 16 to 78(even) | < 5Ω |  | Short with 16 to 78(even) |
| 15 to 77(odd) | > 20 MΩ |  |  |
| 15 | > 20 MΩ |  | 15 | 16 to 78(even) | > 20 MΩ |  |  |
| 17 to 77(odd) | > 20 MΩ |  |  |
| 16 | > 20 MΩ |  | 16 | 18 to 78(even) | < 5Ω |  | Short with 18 to 78(even) |
| 17 to 77(odd) | > 20 MΩ |  |  |
| 17 | > 20 MΩ |  | 17 | 18 to 78(even) | > 20 MΩ |  |  |
| 19 to 77(odd) | > 20 MΩ |  |  |
| 18 | > 20 MΩ |  | 18 | 20 to 78(even) | < 5Ω |  | Short with 20 to 78(even) |
| 19 to 77(odd) | > 20 MΩ |  |  |
| 19 | > 20 MΩ |  | 19 | 20 to 78(even) | > 20 MΩ |  |  |
| 21 to 77(odd) | > 20 MΩ |  |  |
| 20 | > 20 MΩ |  | 20 | 22 to 78(even) | < 5Ω |  | Short with 22 to 78(even) |
| 21 to 77(odd) | > 20 MΩ |  |  |
| 21 | > 20 MΩ |  | 21 | 22 to 78(even) | > 20 MΩ |  |  |
| 23 to 77(odd) | > 20 MΩ |  |  |
| 22 | > 20 MΩ |  | 22 | 24 to 78(even) | < 5Ω |  | Short with 24 to 78(even) |
| 23 to 77(odd) | > 20 MΩ |  |  |
| 23 | > 20 MΩ |  | 23 | 24 to 78(even) | > 20 MΩ |  |  |
| 25 to 77(odd) | > 20 MΩ |  |  |
| 24 | > 20 MΩ |  | 24 | 26 to 78(even) | < 5Ω |  | Short with 26 to 78(even) |
| 25 to 77(odd) | > 20 MΩ |  |  |
| 25 | > 20 MΩ |  | 25 | 26 to 78(even) | > 20 MΩ |  |  |
| 27 to 77(odd) | > 20 MΩ |  |  |
| 26 | > 20 MΩ |  | 26 | 28 to 78(even) | < 5Ω |  | Short with 28 to 78(even) |
| 27 to 77(odd) | > 20 MΩ |  |  |
| 27 | > 20 MΩ |  | 27 | 28 to 78(even) | > 20 MΩ |  |  |
| 29 to 77(odd) | > 20 MΩ |  |  |
| 28 | > 20 MΩ |  | 28 | 30 to 78(even) | < 5Ω |  | Short with 30 to 78(even) |
| 29 to 77(odd) | > 20 MΩ |  |  |
| 29 | > 20 MΩ |  | 29 | 30 to 78(even) | > 20 MΩ |  |  |
| 31 to 77(odd) | > 20 MΩ |  |  |
| 30 | > 20 MΩ |  | 30 | 32 to 78(even) | < 5Ω |  | Short with 32 to 78(even) |
| 31 to 77(odd) | > 20 MΩ |  |  |
| 31 | > 20 MΩ |  | 31 | 32 to 78(even) | > 20 MΩ |  |  |
| 33 to 77(odd) | > 20 MΩ |  |  |
| 32 | > 20 MΩ |  | 32 | 34 to 78(even) | < 5Ω |  | Short with 34 to 78(even) |
| 33 to 77(odd) | > 20 MΩ |  |  |
| 33 | > 20 MΩ |  | 33 | 34 to 78(even) | > 20 MΩ |  |  |
| 35 to 77(odd) | > 20 MΩ |  |  |
| 34 | > 20 MΩ |  | 34 | 36 to 78(even) | < 5Ω |  | Short with 36 to 78(even) |
| 35 to 77(odd) | > 20 MΩ |  |  |
| 35 | > 20 MΩ |  | 35 | 36 to 78(even) | > 20 MΩ |  |  |
| 37 to 77(odd) | > 20 MΩ |  |  |
| 36 | > 20 MΩ |  | 36 | 38 to 78(even) | < 5Ω |  | Short with 38 to 78(even) |
| 37 to 77(odd) | > 20 MΩ |  |  |
| 37 | > 20 MΩ |  | 37 | 38 to 78(even) | > 20 MΩ |  |  |
| 39 to 77(odd) | > 20 MΩ |  |  |
| 38 | > 20 MΩ |  | 38 | 40 to 78(even) | < 5Ω |  | Short with 40 to 78(even) |
| 39 to 77(odd) | > 20 MΩ |  |  |
| 39 | > 20 MΩ |  | 39 | 40 to 78(even) | > 20 MΩ |  |  |
| 41 to 77(odd) | > 20 MΩ |  |  |
| 40 | > 20 MΩ |  | 40 | 42 to 78(even) | < 5Ω |  | Short with 42 to 78(even) |
| 41 to 77(odd) | > 20 MΩ |  |  |
| 41 | > 20 MΩ |  | 41 | 42 to 78(even) | > 20 MΩ |  |  |
| 43 to 77(odd) | > 20 MΩ |  |  |
| 42 | > 20 MΩ |  | 42 | 44 to 78(even) | < 5Ω |  | Short with 44 to 78(even) |
| 43 to 77(odd) | > 20 MΩ |  |  |
| 43 | > 20 MΩ |  | 43 | 44 to 78(even) | > 20 MΩ |  |  |
| 45 to 77(odd) | > 20 MΩ |  |  |
| 44 | > 20 MΩ |  | 44 | 46 to 78(even) | < 5Ω |  | Short with 46 to 78(even) |
| 45 to 77(odd) | > 20 MΩ |  |  |
| 45 | > 20 MΩ |  | 45 | 46 to 78(even) | > 20 MΩ |  |  |
| 47 to 77(odd) | > 20 MΩ |  |  |
| 46 | > 20 MΩ |  | 46 | 48 to 78(even) | < 5Ω |  | Short with 48 to 78(even) |
| 47 to 77(odd) | > 20 MΩ |  |  |
| 47 | > 20 MΩ |  | 47 | 48 to 78(even) | > 20 MΩ |  |  |
| 49 to 77(odd) | > 20 MΩ |  |  |
| 48 | > 20 MΩ |  | 48 | 50 to 78(even) | < 5Ω |  | Short with 50 to 78(even) |
| 49 to 77(odd) | > 20 MΩ |  |  |
| 49 | > 20 MΩ |  | 49 | 50 to 78(even) | > 20 MΩ |  |  |
| 51 to 77(odd) | > 20 MΩ |  |  |
| 50 | > 20 MΩ |  | 50 | 52 to 78(even) | < 5Ω |  | Short with 52 to 78(even) |
| 51 to 77(odd) | > 20 MΩ |  |  |
| 51 | > 20 MΩ |  | 51 | 52 to 78(even) | > 20 MΩ |  |  |
| 53 to 77(odd) | > 20 MΩ |  |  |
| 52 | > 20 MΩ |  | 52 | 54 to 78(even) | < 5Ω |  | Short with 54 to 78(even) |
| 53 to 77(odd) | > 20 MΩ |  |  |
| 53 | > 20 MΩ |  | 53 | 54 to 78(even) | > 20 MΩ |  |  |
| 55 to 77(odd) | > 20 MΩ |  |  |
| 54 | > 20 MΩ |  | 54 | 56 to 78(even) | < 5Ω |  | Short with 56 to 78(even) |
| 55 to 77(odd) | > 20 MΩ |  |  |
| 55 | > 20 MΩ |  | 55 | 56 to 78(even) | > 20 MΩ |  |  |
| 57 to 77(odd) | > 20 MΩ |  |  |
| 56 | > 20 MΩ |  | 56 | 58 to 78(even) | < 5Ω |  | Short with 58 to 78(even) |
| 57 to 77(odd) | > 20 MΩ |  |  |
| 57 | > 20 MΩ |  | 57 | 58 to 78(even) | > 20 MΩ |  |  |
| 59 to 77(odd) | > 20 MΩ |  |  |
| 58 | > 20 MΩ |  | 58 | 60 to 78(even) | < 5Ω |  | Short with 60 to 78(even) |
| 59 to 77(odd) | > 20 MΩ |  |  |
| 59 | > 20 MΩ |  | 59 | 60 to 78(even) | > 20 MΩ |  |  |
| 61 to 77(odd) | > 20 MΩ |  |  |
| 60 | > 20 MΩ |  | 60 | 62 to 78(even) | < 5Ω |  | Short with 62 to 78(even) |
| 61 to 77(odd) | > 20 MΩ |  |  |
| 61 | > 20 MΩ |  | 61 | 62 to 78(even) | > 20 MΩ |  |  |
| 63 to 77(odd) | > 20 MΩ |  |  |
| 62 | > 20 MΩ |  | 62 | 64 to 78(even) | < 5Ω |  | Short with 64 to 78(even) |
| 63 to 77(odd) | > 20 MΩ |  |  |
| 63 | > 20 MΩ |  | 63 | 64 to 78(even) | > 20 MΩ |  |  |
| 65 to 77(odd) | > 20 MΩ |  |
| 64 | > 20 MΩ |  | 64 | 66 to 78(even) | < 5Ω |  | Short with 66 to 78(even) |
| 65 to 77(odd) | > 20 MΩ |  |  |
| 65 | > 20 MΩ |  | 65 | 66 to 78(even) | ~14.1 KΩ |  |  |
| 67 to 77(odd) | ~28.2 KΩ |  |
| 66 | > 20 MΩ |  | 66 | 68 to 78(even) | < 5Ω |  | Short with 68 to 78(even) |
| 67 to 77(odd) | ~14.1 KΩ |  |
| 67 | > 20 MΩ |  | 67 | 68 to 78(even) | ~14.1 KΩ |  |  |
| 69 to 77(odd) | ~28.2 KΩ |  |
| 68 | > 20 MΩ |  | 68 | 70 to 78(even) | < 5Ω |  | Short with 70 to 78(even) |
| 69 to 77(odd) | ~14.1 KΩ |  |
| 69 | > 20 MΩ |  | 69 | 70 to 78(even) | ~14.1 KΩ |  |  |
| 71 to 77(odd) | ~28.2 KΩ |  |
| 70 | > 20 MΩ |  | 70 | 72 to 78(even) | < 5Ω |  | Short with 72 to 78(even) |
| 71 to 77(odd) | ~14.1 KΩ |  |
| 71 | > 20 MΩ |  | 71 | 72 to 78(even) | ~14.1 KΩ |  |  |
| 73 to 77(odd) | ~28.2 KΩ |  |
| 72 | > 20 MΩ |  | 72 | 74 to 78(even) | < 5Ω |  | Short with 74 to 78(even) |
| 73 to 77(odd) | ~14.1 KΩ |  |
| 73 | > 20 MΩ |  | 73 | 74 to 78(even) | ~14.1 KΩ |  |  |
| 75 to 77(odd) | ~28.2 KΩ |  |
| 74 | > 20 MΩ |  | 74 | 76 to 78(even) | < 5Ω |  | 76 , 78 |
| 75 to 77(odd) | ~14.1 KΩ |  |
| 75 | > 20 MΩ |  | 75 | 76 , 78 | ~14.1 KΩ |  |  |
| 77 | ~28.2 KΩ |  |
| 76 | > 20 MΩ |  | 76 | 78 | < 5Ω |  | 78 |
| 77 | ~14.1 KΩ |  |
| 77 | > 20 MΩ |  | 77 | 78 | ~14.1 KΩ |  |  |
| 78 | > 20 MΩ |  |  |  |  |  |  |

**UNUSED PINS:** 79

**OBSERVATIONS:**

**TEST Cleared / Not Cleared**

**PROJ QC Firm rep SSQAG REP**

| **Connector M5:D38999 20WH 35PN** | | | | | | | |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **PIN No.** | **Pin to Body IR** | | **PIN No.** | | **Pin to Pin IR** | | **Remarks** |
|  | **Expected Resistance** | **Measured Resistance** | **FROM** | **TO** | **Expected Resistance** | **Measured Resistance** |  |
| 1 | > 20 MΩ |  | 1 | 2,4,6,8,10,12 | ~14.1 KΩ |  |  |
| 3,5,7,9,11 | ~28.2 KΩ |  |
| 13 to 99 | > 20 MΩ |  |
| 2 | > 20 MΩ |  | 2 | 4,6,8,10,12 | < 5Ω |  | Short with 4 6 8 10 12 |
| 3,5,7,9,11 | ~14.1 KΩ |  |
| 13 to 99 | > 20 MΩ |  |
| 3 | > 20 MΩ |  | 3 | 4,6,8,10,12 | ~14.1 KΩ |  |  |
| 5,7,9,11 | ~28.2 KΩ |  |
| 13 to 99 | > 20 MΩ |  |
| 4 | > 20 MΩ |  | 4 | 6,8,10,12 | < 5Ω |  | Short with 6 8 10 12 |
| 5,7,9,11 | ~14.1 KΩ |  |
| 13 to 99 | > 20 MΩ |  |
| 5 | > 20 MΩ |  | 5 | 6,8,10,12 | ~14.1 KΩ |  |  |
| 7,9,11 | ~28.2 KΩ |  |
| 13 to 99 | > 20 MΩ |  |
| 6 | > 20 MΩ |  | 6 | 8,10,12 | < 5Ω |  | Short with 8 10 12 |
| 7,9,11 | ~14.1 KΩ |  |
| 13 to 99 | > 20 MΩ |  |
| 7 | > 20 MΩ |  | 7 | 8,10,12 | ~14.1 KΩ |  |  |
| 9,11 | ~28.2 KΩ |  |  |
| 13 to 99 | > 20 MΩ |
| 8 | > 20 MΩ |  | 8 | 10,12 | < 5Ω |  | Short with 10 12 |
| 9,11 | ~14.1 KΩ |  |
| 13 to 99 | > 20 MΩ |  |
| 9 | > 20 MΩ |  | 9 | 10,12 | ~14.1 KΩ |  |  |
| 11 | ~28.2 KΩ |  |
| 13 to 99 | > 20 MΩ |  |
| 10 | > 20 MΩ |  | 10 | 12 | < 5Ω |  | Short with 12 |
| 11 | ~14.1 KΩ |  |
| 13 to 99 | > 20 MΩ |  |
| 11 | > 20 MΩ |  | 11 | 12 | ~14.1 KΩ |  |  |
| 13 to 99 | > 20 MΩ |  |
| 12 | > 20 MΩ |  | 12 | 13 to 99 | > 20 MΩ |  |  |
| 13 | > 20 MΩ |  | 13 | 13 to 99 | > 20 MΩ |  |  |
| 14 | > 20 MΩ |  | 14 | 13 to 99 | > 20 MΩ |  |  |
| 15 | > 20 MΩ |  | 15 | 13 to 99 | > 20 MΩ |  |  |
| 16 | > 20 MΩ |  | 16 | 13 to 99 | > 20 MΩ |  |  |
| 17 | > 20 MΩ |  | 17 | 13 to 99 | > 20 MΩ |  |  |
| 18 | > 20 MΩ |  | 18 | 13 to 99 | > 20 MΩ |  |  |
| 19 | > 20 MΩ |  | 19 | 13 to 99 | > 20 MΩ |  |  |
| 20 | > 20 MΩ |  | 20 | 13 to 99 | > 20 MΩ |  |  |
| 21 | > 20 MΩ |  | 21 | 13 to 99 | > 20 MΩ |  |  |
| 22 | > 20 MΩ |  | 22 | 13 to 99 | > 20 MΩ |  |  |
| 23 | > 20 MΩ |  | 23 | 13 to 99 | > 20 MΩ |  |  |
| 24 | > 20 MΩ |  | 24 | 13 to 99 | > 20 MΩ |  |  |
| 25 | > 20 MΩ |  | 25 | 27 | < 5Ω |  | Short with 27 |
| 26,28 to 99 | > 20 MΩ |  |
| 26 | > 20 MΩ |  | 26 | 27 to 99 | > 20 MΩ |  |  |
| 27 | > 20 MΩ |  | 27 | 28 to 99 | > 20 MΩ |  |  |
| 28 | > 20 MΩ |  | 28 | 30 | < 5Ω |  | Short with 30 |
| 29,31 to 99 | > 20 MΩ |  |
| 29 | > 20 MΩ |  | 29 | 30 to 99 | > 20 MΩ |  |  |
| 30 | > 20 MΩ |  | 30 | 31 to 99 | > 20 MΩ |  |  |
| 31 | > 20 MΩ |  | 31 | 33 | < 5Ω |  | Short with 33 |
| 32,34 to 99 | > 20 MΩ |  |
| 32 | > 20 MΩ |  | 32 | 33 to 99 | > 20 MΩ |  |  |
| 33 | > 20 MΩ |  | 33 | 34 to 99 | > 20 MΩ |  |  |
| 34 | > 20 MΩ |  | 34 | 36 | < 5Ω |  | Short with 36 |
| 35,37 to 99 | > 20 MΩ |  |
| 35 | > 20 MΩ |  | 35 | 36 to 99 | > 20 MΩ |  |  |
| 36 | > 20 MΩ |  | 36 | 37 to 99 | > 20 MΩ |  |  |
| 37 | > 20 MΩ |  | 37 | 39 | < 5Ω |  | Short with 39 |
| 38,40 to 99 | > 20 MΩ |  |
| 38 | > 20 MΩ |  | 38 | 39 to 99 | > 20 MΩ |  |  |
| 39 | > 20 MΩ |  | 39 | 40 to 99 | > 20 MΩ |  |  |
| 40 | > 20 MΩ |  | 40 | 42 | < 5Ω |  | Short with 42 |
| 41,43 to 99 | > 20 MΩ |  |
| 41 | > 20 MΩ |  | 41 | 42 to 99 | > 20 MΩ |  |  |
| 42 | > 20 MΩ |  | 42 | 43 to 99 | > 20 MΩ |  |  |
| 43 | > 20 MΩ |  | 43 | 45 | < 5Ω |  | Short with 45 |
| 44,46 to 99 | > 20 MΩ |  |
| 44 | > 20 MΩ |  | 44 | 45 to 99 | > 20 MΩ |  |  |
| 45 | > 20 MΩ |  | 45 | 46 to 99 | > 20 MΩ |  |  |
| 46 | > 20 MΩ |  | 46 | 48 | < 5Ω |  | Short with 48 |
| 47,49 to 99 | > 20 MΩ |  |
| 47 | > 20 MΩ |  | 47 | 48 to 99 | > 20 MΩ |  |  |
| 48 | > 20 MΩ |  | 48 | 49 to 99 | > 20 MΩ |  |  |
| 49 | > 20 MΩ |  | 49 | 51 | < 5Ω |  | Short with 51 |
| 50,52 to 99 | > 20 MΩ |  |
| 50 | > 20 MΩ |  | 50 | 51 to 99 | > 20 MΩ |  |  |
| 51 | > 20 MΩ |  | 51 | 52 to 99 | > 20 MΩ |  |  |
| 52 | > 20 MΩ |  | 52 | 54 | < 5Ω |  | Short with 54 |
| 53,55 to 99 | > 20 MΩ |  |
| 53 | > 20 MΩ |  | 53 | 54 to 99 | > 20 MΩ |  |  |
| 54 | > 20 MΩ |  | 54 | 55 to 99 | > 20 MΩ |  |  |
| 55 | > 20 MΩ |  | 55 | 57 | < 5Ω |  | Short with 57 |
| 56,58 to 99 | > 20 MΩ |  |
| 56 | > 20 MΩ |  | 56 | 57 to 99 | > 20 MΩ |  |  |
| 57 | > 20 MΩ |  | 57 | 58 to 99 | > 20 MΩ |  |  |
| 58 | > 20 MΩ |  | 58 | 60 | < 5Ω |  | Short with 60 |
| 59,61 to 99 | > 20 MΩ |  |
| 59 | > 20 MΩ |  | 59 | 60 to 99 | > 20 MΩ |  |  |
| 60 | > 20 MΩ |  | 60 | 61 to 99 | > 20 MΩ |  |  |
| 61 | > 20 MΩ |  | 61 | 63 | < 5Ω |  | Short with 63 |
| 62,64 to 99 | > 20 MΩ |  |
| 62 | > 20 MΩ |  | 62 | 63 to 99 | > 20 MΩ |  |  |
| 63 | > 20 MΩ |  | 63 | 64 to 99 | > 20 MΩ |  |  |
| 64 | > 20 MΩ |  | 64 | 66 | < 5Ω |  | Short with 66 |
| 65,67 to 99 | > 20 MΩ |  |
| 65 | > 20 MΩ |  | 65 | 66 to 99 | > 20 MΩ |  |  |
| 66 | > 20 MΩ |  | 66 | 67 to 99 | > 20 MΩ |  |  |
| 67 | > 20 MΩ |  | 67 | 69 | < 5Ω |  | Short with 69 |
| 68,70 to 99 | > 20 MΩ |  |
| 68 | > 20 MΩ |  | 68 | 69 to 99 | > 20 MΩ |  |  |
| 69 | > 20 MΩ |  | 69 | 70 to 99 | > 20 MΩ |  |  |
| 70 | > 20 MΩ |  | 70 | 72 | < 5Ω |  | Short with 72 |
| 71,73 to 99 | > 20 MΩ |  |
| 71 | > 20 MΩ |  | 71 | 72 to 99 | > 20 MΩ |  |  |
| 72 | > 20 MΩ |  | 72 | 73 to 99 | > 20 MΩ |  |  |
| 73 | > 20 MΩ |  | 73 | 75 | < 5Ω |  | Short with 75 |
| 74,76 to 99 | > 20 MΩ |  |
| 74 | > 20 MΩ |  | 74 | 75 to 99 | > 20 MΩ |  |  |
| 75 | > 20 MΩ |  | 75 | 76 to 99 | > 20 MΩ |  |  |
| 76 | > 20 MΩ |  | 76 | 78 | < 5Ω |  | Short with 78 |
| 77,79 to 99 | > 20 MΩ |  |
| 77 | > 20 MΩ |  | 77 | 78 to 99 | > 20 MΩ |  |  |
| 78 | > 20 MΩ |  | 78 | 79 to 99 | > 20 MΩ |  |  |
| 79 | > 20 MΩ |  | 79 | 81 | < 5Ω |  | Short with 81 |
| 80,82 to 99 | > 20 MΩ |  |
| 80 | > 20 MΩ |  | 80 | 81 to 99 | > 20 MΩ |  |  |
| 81 | > 20 MΩ |  | 81 | 82 to 99 | > 20 MΩ |  |  |
| 82 | > 20 MΩ |  | 82 | 84 | < 5Ω |  | Short with 84 |
| 83,85 to 99 | > 20 MΩ |  |
| 83 | > 20 MΩ |  | 83 | 84 to 99 | > 20 MΩ |  |  |
| 84 | > 20 MΩ |  | 84 | 85 to 99 | > 20 MΩ |  |  |
| 85 | > 20 MΩ |  | 85 | 87 | < 5Ω |  | Short with 87 |
| 86, 88 to 99 | > 20 MΩ |  |
| 86 | > 20 MΩ |  | 86 | 87 to 99 | > 20 MΩ |  |  |
| 87 | > 20 MΩ |  | 87 | 88 to 99 | > 20 MΩ |  |  |
| 88 | > 20 MΩ |  | 88 | 90 | < 5Ω |  | Short with 90 |
| 89,91 to 99 | > 20 MΩ |  |
| 89 | > 20 MΩ |  | 89 | 90 to 99 | > 20 MΩ |  |  |
| 90 | > 20 MΩ |  | 90 | 91 to 99 | > 20 MΩ |  |  |
| 91 | > 20 MΩ |  | 91 | 93 | < 5Ω |  | Short with 93 |
| 92,94 to 99 | > 20 MΩ |  |
| 92 | > 20 MΩ |  | 92 | 93 to 99 | > 20 MΩ |  |  |
| 93 | > 20 MΩ |  | 93 | 94 to 99 | > 20 MΩ |  |  |
| 94 | > 20 MΩ |  | 94 | 96 | < 5Ω |  | Short with 96 |
| 95,97,98,99 | > 20 MΩ |  |
| 95 | > 20 MΩ |  | 95 | 96 to 99 | > 20 MΩ |  |  |
| 96 | > 20 MΩ |  | 96 | 97 to 99 | > 20 MΩ |  |  |
| 97 | > 20 MΩ |  | 97 | 99 | < 5Ω |  | Short with 99 |
| 98 | > 20 MΩ |  |
| 98 | > 20 MΩ |  | 98 | 99 | > 20 MΩ |  |  |
| 99 | > 20 MΩ |  |  |  |  |  |  |

**UNUSED PINS:** 100

**OBSERVATIONS:**

**TEST Cleared / Not Cleared**

**PROJ QC Firm rep SSQAG REP**

**7. 2.3RETENTION TEST**

**Procedure:** Before starting retention test, use correct retention tool as per the connector, retention tool to be inserted on the contact vertically. The unit / cable should be firm at one place during the test. If the unit / cable shake during test it damages the contact. Apply by hand and check retention of pin/sockets one by one, contacts required to check the retention is as below.

|  |  |  |
| --- | --- | --- |
| **J1:MS3470 W12-3PN** | **RETENTION TOOL HT210-16**  **OK / Not OK** | **REMARKS** |
| A |  |  |
| B |  |  |
| C |  |  |

**UNUSED PINS:** NIL

**OBSERVATIONS:**

**TEST Cleared / Not Cleared**

**PROJ QC Firm rep SSQAG REP**

|  |  |  |
| --- | --- | --- |
| **J101:MS3470 W12 10S** | **RETENTION TOOL HT210-20**  **OK / Not OK** | **REMARKS** |
| A |  |  |
| B |  |  |
| C |  |  |
| D |  |  |

**UNUSED PINS:** E to H

**OBSERVATIONS:**

**TEST Cleared / Not Cleared**

**PROJ QC Firm rep SSQAG REP**

| **J102: D38999 20WJ-35SN** | **RETENTION TOOL HT210-22**  **OK / Not OK** | **REMARKS** |
| --- | --- | --- |
| J102.01 |  |  |
| J102.02 |  |  |
| J102.03 |  |  |
| J102.04 |  |  |
| J102.05 |  |  |
| J102.06 |  |  |
| J102.07 |  |  |
| J102.08 |  |  |
| J102.09 |  |  |
| J102.10 |  |  |
| J102.11 |  |  |
| J102.12 |  |  |
| J102.13 |  |  |
| J102.14 |  |  |
| J102.15 |  |  |
| J102.16 |  |  |
| J102.17 |  |  |
| J102.18 |  |  |
| J102.19 |  |  |
| J102.20 |  |  |
| J102.21 |  |  |
| J102.22 |  |  |
| J102.23 |  |  |
| J102.24 |  |  |
| J102.25 |  |  |
| J102.26 |  |  |
| J102.27 |  |  |
| J102.28 |  |  |
| J102.29 |  |  |
| J102.30 |  |  |
| J102.31 |  |  |
| J102.32 |  |  |
| J102.33 |  |  |
| J102.34 |  |  |
| J102.35 |  |  |
| J102.36 |  |  |
| J102.37 |  |  |
| J102.38 |  |  |
| J102.39 |  |  |
| J102.40 |  |  |
| J102.41 |  |  |
| J102.42 |  |  |
| J102.43 |  |  |
| J102.44 |  |  |
| J102.45 |  |  |
| J102.46 |  |  |
| J102.47 |  |  |
| J102.48 |  |  |
| J102.49 |  |  |
| J102.50 |  |  |
| J102.51 |  |  |
| J102.52 |  |  |
| J102.53 |  |  |
| J102.54 |  |  |
| J102.55 |  |  |
| J102.56 |  |  |
| J102.57 |  |  |
| J102.61 |  |  |
| J102.62 |  |  |
| J102.63 |  |  |
| J102.64 |  |  |
| J102.65 |  |  |
| J102.66 |  |  |
| J102.67 |  |  |
| J102.68 |  |  |
| J102.69 |  |  |
| J102.70 |  |  |
| J102.71 |  |  |
| J102.72 |  |  |

**UNUSED PINS:** 58 to 60, 73 to 128

**OBSERVATIONS:**

**TEST Cleared / Not Cleared**

**PROJ QC Firm rep SSQAG REP**

| **J103: D38999-20WF-35PN** | **RETENTION TOOL HT210-22**  **OK / Not OK** | **REMARKS** |
| --- | --- | --- |
| J103.1 |  |  |
| J103.2 |  |  |
| J103.3 |  |  |
| J103.4 |  |  |
| J103.5 |  |  |
| J103.6 |  |  |
| J103.7 |  |  |
| J103.8 |  |  |
| J103.9 |  |  |
| J103.10 |  |  |
| J103.11 |  |  |
| J103.12 |  |  |
| J103.13 |  |  |
| J103.14 |  |  |
| J103.15 |  |  |
| J103.16 |  |  |
| J103.17 |  |  |
| J103.18 |  |  |
| J103.22 |  |  |
| J103.23 |  |  |
| J103.24 |  |  |
| J103.25 |  |  |
| J103.26 |  |  |
| J103.27 |  |  |
| J103.28 |  |  |
| J103.29 |  |  |
| J103.30 |  |  |
| J103.31 |  |  |
| J103.32 |  |  |
| J103.33 |  |  |
| J103.34 |  |  |
| J103.35 |  |  |
| J103.21 |  |  |
| J103.19 |  |  |
| J103.20 |  |  |
| J103.36 |  |  |
| J103.37 |  |  |
| J103.38 |  |  |
| J103.39 |  |  |
| J103.40 |  |  |
| J103.41 |  |  |
| J103.42 |  |  |
| J103.43 |  |  |

**UNUSED PINS:** 36 to 66

**OBSERVATIONS:**

**TEST Cleared / Not Cleared**

**PROJ QC Firm rep SSQAG REP**

| **J104:D38999-20WJ-35PN** | **RETENTION TOOL HT210-22**  **OK / Not OK** | **REMARKS** |
| --- | --- | --- |
| J104.1 |  |  |
| J104.2 |  |  |
| J104.3 |  |  |
| J104.4 |  |  |
| J104.5 |  |  |
| J104.6 |  |  |
| J104.7 |  |  |
| J104.8 |  |  |
| J104.9 |  |  |
| J104.10 |  |  |
| J104.11 |  |  |
| J104.12 |  |  |
| J104.13 |  |  |
| J104.14 |  |  |
| J104.15 |  |  |
| J104.16 |  |  |
| J104.17 |  |  |
| J104.18 |  |  |
| J104.19 |  |  |
| J104.20 |  |  |
| J104.21 |  |  |
| J104.22 |  |  |
| J104.23 |  |  |
| J104.24 |  |  |
| J104.25 |  |  |
| J104.26 |  |  |
| J104.27 |  |  |
| J104.28 |  |  |
| J104.29 |  |  |
| J104.30 |  |  |
| J104.31 |  |  |
| J104.32 |  |  |
| J104.33 |  |  |
| J104.34 |  |  |
| J104.35 |  |  |
| J104.36 |  |  |
| J104.37 |  |  |
| J104.38 |  |  |
| J104.39 |  |  |
| J104.40 |  |  |
| J104.41 |  |  |
| J104.42 |  |  |
| J104.43 |  |  |
| J104.44 |  |  |
| J104.45 |  |  |
| J104.46 |  |  |
| J104.47 |  |  |
| J104.48 |  |  |
| J104.49 |  |  |
| J104.50 |  |  |
| J104.51 |  |  |
| J104.52 |  |  |
| J104.53 |  |  |
| J104.54 |  |  |
| J104.55 |  |  |
| J104.56 |  |  |
| J104.57 |  |  |
| J104.58 |  |  |
| J104.59 |  |  |
| J104.60 |  |  |
| J104.61 |  |  |
| J104.62 |  |  |
| J104.63 |  |  |
| J104.64 |  |  |
| J104.65 |  |  |
| J104.66 |  |  |
| J104.67 |  |  |
| J104.68 |  |  |
| J104.69 |  |  |
| J104.70 |  |  |
| J104.71 |  |  |
| J104.72 |  |  |
| J104.73 |  |  |
| J104.74 |  |  |
| J104.75 |  |  |
| J104.76 |  |  |
| J104.77 |  |  |
| J104.78 |  |  |
| J104.79 |  |  |
| J104.80 |  |  |
| J104.81 |  |  |
| J104.82 |  |  |
| J104.83 |  |  |
| J104.84 |  |  |
| J104.85 |  |  |
| J104.86 |  |  |
| J104.87 |  |  |
| J104.88 |  |  |
| J104.95 |  |  |
| J104.96 |  |  |
| J104.97 |  |  |
| J104.98 |  |  |
| J104.99 |  |  |
| J104.100 |  |  |
| J104.101 |  |  |
| J104.102 |  |  |

**UNUSED PINS:** 89 to 94,103 to 128

**OBSERVATIONS:**

**TEST Cleared / Not Cleared**

**PROJ QC Firm rep SSQAG REP**

| **M1:MS3470-W24-61SN** | **RETENTION TOOL HT210-20**  **OK / Not OK** | **REMARKS** |
| --- | --- | --- |
| A |  |  |
| B |  |  |
| C |  |  |
| D |  |  |
| E |  |  |
| F |  |  |
| G |  |  |
| H |  |  |
| J |  |  |
| K |  |  |
| L |  |  |
| M |  |  |
| N |  |  |
| P |  |  |
| R |  |  |
| S |  |  |
| T |  |  |
| U |  |  |
| V |  |  |
| W |  |  |
| X |  |  |
| Y |  |  |
| Z |  |  |
| a |  |  |
| b |  |  |
| c |  |  |
| d |  |  |
| e |  |  |
| f |  |  |
| g |  |  |
| h |  |  |
| i |  |  |
| j |  |  |
| k |  |  |
| m |  |  |
| n |  |  |
| p |  |  |
| q |  |  |
| r |  |  |
| s |  |  |
| t |  |  |
| u |  |  |
| v |  |  |
| w |  |  |
| x |  |  |
| y |  |  |
| z |  |  |
| AA |  |  |
| BB |  |  |
| CC |  |  |
| DD |  |  |
| EE |  |  |
| FF |  |  |
| GG |  |  |
| HH |  |  |
| JJ |  |  |
| KK |  |  |
| LL |  |  |
| MM |  |  |
| NN |  |  |

**UNUSED PINS:** PP

**OBSERVATIONS:**

**TEST Cleared / Not Cleared**

**PROJ QC Firm rep SSQAG REP**

| **M2:MS3470-W24-61PN** | **RETENTION TOOL HT210-20**  **OK / Not OK** | **REMARKS** |
| --- | --- | --- |
| A |  |  |
| B |  |  |
| C |  |  |
| D |  |  |
| E |  |  |
| F |  |  |
| G |  |  |
| H |  |  |
| J |  |  |
| K |  |  |
| L |  |  |
| M |  |  |
| N |  |  |
| P |  |  |
| R |  |  |
| S |  |  |
| T |  |  |
| U |  |  |
| V |  |  |
| W |  |  |
| X |  |  |
| Y |  |  |
| Z |  |  |
| a |  |  |
| b |  |  |
| c |  |  |
| d |  |  |
| e |  |  |
| f |  |  |
| g |  |  |
| h |  |  |
| i |  |  |
| j |  |  |
| k |  |  |
| m |  |  |
| n |  |  |
| p |  |  |
| q |  |  |
| r |  |  |
| s |  |  |
| t |  |  |
| u |  |  |
| v |  |  |
| w |  |  |
| x |  |  |
| y |  |  |
| z |  |  |
| AA |  |  |
| BB |  |  |
| CC |  |  |
| DD |  |  |
| EE |  |  |
| FF |  |  |
| GG |  |  |
| HH |  |  |
| JJ |  |  |
| KK |  |  |
| LL |  |  |
| MM |  |  |
| NN |  |  |

**UNUSED PINS:** PP

**OBSERVATIONS:**

**TEST Cleared / Not Cleared**

**PROJ QC Firm rep SSQAG REP**

| **M3:MS3470-W22-55PN** | **RETENTION TOOL HT210-20**  **OK / Not OK** | **REMARKS** |
| --- | --- | --- |
| A |  |  |
| B |  |  |
| C |  |  |
| D |  |  |
| E |  |  |
| F |  |  |
| G |  |  |
| H |  |  |
| J |  |  |
| K |  |  |
| L |  |  |
| M |  |  |
| N |  |  |
| P |  |  |
| R |  |  |
| S |  |  |
| T |  |  |
| U |  |  |
| V |  |  |
| W |  |  |
| X |  |  |
| Y |  |  |
| Z |  |  |
| a |  |  |
| b |  |  |
| c |  |  |
| d |  |  |
| e |  |  |
| f |  |  |
| g |  |  |
| h |  |  |
| i |  |  |
| j |  |  |
| k |  |  |
| m |  |  |
| n |  |  |
| p |  |  |
| q |  |  |
| r |  |  |
| s |  |  |
| t |  |  |
| u |  |  |
| v |  |  |
| w |  |  |
| x |  |  |
| y |  |  |
| z |  |  |
| AA |  |  |
| BB |  |  |
| CC |  |  |
| DD |  |  |
| EE |  |  |
| FF |  |  |
| GG |  |  |

**UNUSED PINS:** HH

**OBSERVATIONS:**

**TEST Cleared / Not Cleared**

**PROJ QC Firm rep SSQAG REP**

| **M4:D38999 20WG 35PN** | **RETENTION TOOL HT210-22**  **OK / Not OK** | **REMARKS** |
| --- | --- | --- |
| 1 |  |  |
| 2 |  |  |
| 3 |  |  |
| 4 |  |  |
| 5 |  |  |
| 6 |  |  |
| 7 |  |  |
| 8 |  |  |
| 9 |  |  |
| 10 |  |  |
| 11 |  |  |
| 12 |  |  |
| 13 |  |  |
| 14 |  |  |
| 15 |  |  |
| 16 |  |  |
| 17 |  |  |
| 18 |  |  |
| 19 |  |  |
| 20 |  |  |
| 21 |  |  |
| 22 |  |  |
| 23 |  |  |
| 24 |  |  |
| 25 |  |  |
| 26 |  |  |
| 27 |  |  |
| 28 |  |  |
| 29 |  |  |
| 30 |  |  |
| 31 |  |  |
| 32 |  |  |
| 33 |  |  |
| 34 |  |  |
| 35 |  |  |
| 36 |  |  |
| 37 |  |  |
| 38 |  |  |
| 39 |  |  |
| 40 |  |  |
| 41 |  |  |
| 42 |  |  |
| 43 |  |  |
| 44 |  |  |
| 45 |  |  |
| 46 |  |  |
| 47 |  |  |
| 48 |  |  |
| 49 |  |  |
| 50 |  |  |
| 51 |  |  |
| 52 |  |  |
| 53 |  |  |
| 54 |  |  |
| 55 |  |  |
| 56 |  |  |
| 57 |  |  |
| 58 |  |  |
| 59 |  |  |
| 60 |  |  |
| 61 |  |  |
| 62 |  |  |
| 63 |  |  |
| 64 |  |  |
| 65 |  |  |
| 66 |  |  |
| 67 |  |  |
| 68 |  |  |
| 69 |  |  |
| 70 |  |  |
| 71 |  |  |
| 72 |  |  |
| 73 |  |  |
| 74 |  |  |
| 75 |  |  |
| 76 |  |  |
| 77 |  |  |
| 78 |  |  |

**UNUSED PINS:** 79

**OBSERVATIONS:**

**TEST Cleared / Not Cleared**

**PROJ QC Firm rep SSQAG REP**

| **M5:D38999 20WH 35PN** | **RETENTION TOOL HT210-20\**  **OK / Not OK** | **REMARKS** |
| --- | --- | --- |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |

**UNUSED PINS:** 100

**OBSERVATIONS:**

**TEST Cleared / Not Cleared**

**PROJ QC Firm rep SSQAG REP**

**8.0 MIU TO SIU LOOMS**

**SIU to MIU Cable Electrical Configurations.**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **SL NO.** | **CONNECTOR REF** | **CONNECTOR PART NO** | **NO. OF WIRES** | **AWG** | **USED PINS** | **UNUSED PINS** |
| 1 | P101 | MS3475-W12-10S | 4 | 20AWG | A to D | E to K |
| 2 | P102 | D38999-26WJ-35SN | 71 | 22AWG | 1 to 4,8 to 15,29 to 32,34 to39,41,43,46,52 to 65,68 to 74 ,76,79 to 82,85,86,87,90 to 99,101 to 105,112,113 | 5,6,7,16 to 28,33,40 ,42,44,45,47 to 51,66,67,75,77,78,83,84,88,89,100,106 to111,114 to 128 |
| 3 | P103 | D38999-26WE-35PN | 38 | 22AWG | 29 to39,42to44 | 1 to 28,40,41,45 to 55 |
| 4 | P104 | D38999-26WE-35PN | 14 | 22AWG | 29 to 39,42 to 44 | 1 to 28,40,41,45 to 55 |
| 5 | P105 | D38999-26WJ-35PN | 99 | 22AWG | 1 to 20,22 to 35,44 to 51,55 to 61,64 to 74,76 to104,107,108 | 21,36 to43,52 to54, 62,63,75,106,105,109 to128 |
| 7 | P108 | D38999-26WE-35SN | 9 | 22AWG | 22 to30, | 1 to 21,31 to 55 |
| 8 | PJ1O1 | MS3475-W12-10P | 4 | 20AWG | A to D | E to K |
| 9 | PJ102 | D38999-26WJ-35PN | 69 | 22AWG | 1 to 57, 61 to 72 | 58 to 60,73 to 128 |
| 10 | PJ103 | D38999-26WF-35SN | 66 | 22AWG | 1 to 35 | 36 to 66 |
| 11 | PJ104 | D38999-26WJ-35SN | 96 | 22AWG | 1 to 88,95 to 102 | 89 to 94, 103 to 128 |

**8.1 CONTINUITY REPORT**

Continuity of The loom will be checked between the two connectors and respective pins mentioned below

**PROCEDURE:** (1) keep MultiMeter in continuity mode

(2) Connect any one end pin to multimeter positive terminal and connect negative

Terminal to the other end pin as per the details given below

(3)**Expected**: Resistance <5Ω/Beep sound



|  |  |  |  |
| --- | --- | --- | --- |
| **MS3475-W12-3S**  **P J1** | **AC PLUG 6A** | **Continuity Check**  **OK / Not OK** | **REMARKS** |
| A | LINE |  |  |
| B | NEUTRAL |  |  |
| C | EARTH |  |  |

**OBSERVATIONS:**

**Cleared / Not Cleared**

**PROJ QC FIRM REP SSQAG**



**Loom No: DATE:**

|  |  |  |  |
| --- | --- | --- | --- |
| **P101:MS3475W12-10P** | **PJ101:MS3475W12-10S** | **Continuity Check**  **OK / Not OK** | **REMARKS** |
| A | A |  |  |
| C | C |  |  |
| B | B |  |  |
| D | D |  |  |

**OBSERVATIONS:**

**Cleared / Not Cleared**

**PROJ QC FIRM REP SSQAG**



**Loom No: DATE:**

| **PJ102: D38999 26WP-35PN** | **P102:D38999/26WP-35SN** | **Continuity Check**  **OK / Not OK** | **REMARKS** |
| --- | --- | --- | --- |
| PJ102.01 | P102.29 |  |  |
| PJ102.02 | P102.31 |  |  |
| PJ102.03 | P102.34 |  |  |
| PJ102.04 | P102.36 |  |  |
| PJ102.05 | P102.38 |  |  |
| PJ102.06 | P102.41 |  |  |
| PJ102.07 | P102.43 |  |  |
| PJ102.08 | P102.46 |  |  |
| PJ102.09 | P102.52 |  |  |
| PJ102.10 | P102.53 |  |  |
| PJ102.11 | P102.58 |  |  |
| PJ102.12 | P102.59 |  |  |
| PJ102.13 | P102.60 |  |  |
| PJ102.14 | P102.61 |  |  |
| PJ102.15 | P102.62 |  |  |
| PJ102.16 | P102.63 |  |  |
| PJ102.17 | P102.64 |  |  |
| PJ102.18 | P102.65 |  |  |
| PJ102.19 | P102.68 |  |  |
| PJ102.20 | P102.69 |  |  |
| PJ102.21 | P102.70 |  |  |
| PJ102.22 | P102.71 |  |  |
| PJ102.23 | P102.72 |  |  |
| PJ102.24 | P102.73 |  |  |
| PJ102.25 | P102.74 |  |  |
| PJ102.26 | P102.76 |  |  |
| PJ102.27 | P102.79 |  |  |
| PJ102.28 | P102.80 |  |  |
| PJ102.29 | P102.81 |  |  |
| PJ102.30 | P102.82 |  |  |
| PJ102.31 | P102.85 |  |  |
| PJ102.32 | P102.86 |  |  |
| PJ102.33 | P102.87 |  |  |
| PJ102.34 | P102.90 |  |  |
| PJ102.35 | P102.91 |  |  |
| PJ102.36 | P102.92 |  |  |
| PJ102.37 | P102.93 |  |  |
| PJ102.38 | P102.94 |  |  |
| PJ102.39 | P102.95 |  |  |
| PJ102.40 | P102.96 |  |  |
| PJ102.41 | P102.97 |  |  |
| PJ102.42 | P102.98 |  |  |
| PJ102.43 | P102.99 |  |  |
| PJ102.44 | P102.101 |  |  |
| PJ102.45 | P102.102 |  |  |
| PJ102.46 | P102.103 |  |  |
| PJ102.47 | P102.104 |  |  |
| PJ102.48 | P102.105 |  |  |
| PJ102.49 | P102.30 |  |  |
| PJ102.50 | P102.32 |  |  |
| PJ102.51 | P102.35 |  |  |
| PJ102.52 | P102.37 |  |  |
| PJ102.53 | P102.39 |  |  |
| PJ102.54 | P102.54 |  |  |
| PJ102.55 | P102.55 |  |  |
| PJ102.56 | P102.56 |  |  |
| PJ102.57 | P102.57 |  |  |
| PJ102.61 | P102.1 |  |  |
| PJ102.62 | P102.2 |  |  |
| PJ102.63 | P102.3 |  |  |
| PJ102.64 | P102.4 |  |  |
| PJ102.65 | P102.8 |  |  |
| PJ102.66 | P102.9 |  |  |
| PJ102.67 | P102.10 |  |  |
| PJ102.68 | P102.11 |  |  |
| PJ102.69 | P102.12 |  |  |
| PJ102.70 | P102.13 |  |  |
| PJ102.71 | P102.14 |  |  |
| PJ102.72 | P102.15 |  |  |

**OBSERVATIONS:**

**Cleared / Not Cleared**

**PROJ QC FIRM REP SSQAG**



**Loom No: DATE:**

| **P103:D38999-26WF-35SN** | **P105:D38999/26WP-35PN** | **Continuity Check**  **OK / Not OK** | **REMARKS** |
| --- | --- | --- | --- |
| PJ103.1 | P105.1 |  |  |
| PJ103.2 | P105.2 |  |  |
| PJ103.3 | P105.3 |  |  |
| PJ103.4 | P105.4 |  |  |
| PJ103.5 | P105.5 |  |  |
| PJ103.6 | P105.6 |  |  |
| PJ103.7 | P105.7 |  |  |
| PJ103.8 | P105.8 |  |  |
| PJ103.9 | P105.9 |  |  |
| PJ103.10 | P105.10 |  |  |
| PJ103.11 | P105.11 |  |  |
| PJ103.12 | P105.12 |  |  |
| PJ103.13 | P105.13 |  |  |
| PJ103.14 | P105.14 |  |  |
| PJ103.15 | P105.15 |  |  |
| PJ103.16 | P105.16 |  |  |
| PJ103.17 | P105.17 |  |  |
| PJ103.18 | P105.18 |  |  |
| PJ103.22 | P105.22 |  |  |
| PJ103.23 | P105.23 |  |  |
| PJ103.24 | P105.24 |  |  |
| PJ103.25 | P105.25 |  |  |
| PJ103.26 | P105.26 |  |  |
| PJ103.27 | P105.27 |  |  |
| PJ103.28 | P105.28 |  |  |
| PJ103.29 | P105.29 |  |  |
| PJ103.30 | P105.30 |  |  |
| PJ103.31 | P105.31 |  |  |
| PJ103.32 | P105.32 |  |  |
| PJ103.33 | P105.33 |  |  |
| PJ103.34 | P105.34 |  |  |
| PJ103.35 | P105.35 |  |  |
| PJ103.21 | P105.21 |  |  |
| PJ103.19 | P105.19 |  |  |
| PJ103.20 | P105.20 |  |  |
| PJ103.36 | P105.36 |  |  |
| PJ103.37 | P105.37 |  |  |
| PJ103.38 | P105.38 |  |  |
| PJ103.39 | P105.39 |  |  |
| PJ103.40 | P105.40 |  |  |
| PJ103.41 | P105.41 |  |  |
| PJ103.42 | P105.42 |  |  |
| PJ103.43 | P105.43 |  |  |

**OBSERVATIONS:**

**Cleared / Not Cleared**

**PROJ QC FIRM REP SSQAG**



**Loom No: DATE**:

| **PJ104**  **D38999-26WP-35SN** | **P102,P103,P104,P105,P108** | **Continuity Check**  **OK / Not OK** | **REMARKS** |
| --- | --- | --- | --- |
| PJ104.1 | P105.44 |  |  |
| PJ104.2 | P105.45 |  |  |
| PJ104.3 | P105.46 |  |  |
| PJ104.4 | P105.47 |  |  |
| PJ104.5 | P105.48 |  |  |
| PJ104.6 | P105.49 |  |  |
| PJ104.7 | P105.50 |  |  |
| PJ104.8 | P105.51 |  |  |
| PJ104.9 | P105.55 |  |  |
| PJ104.10 | P105.56 |  |  |
| PJ104.11 | P105.57 |  |  |
| PJ104.12 | P105.58 |  |  |
| PJ104.13 | P105.59 |  |  |
| PJ104.14 | P105.60 |  |  |
| PJ104.15 | P105.61 |  |  |
| PJ104.16 | P105.64 |  |  |
| PJ104.17 | P105.65 |  |  |
| PJ104.18 | P105.66 |  |  |
| PJ104.19 | P105.67 |  |  |
| PJ104.20 | P105.68 |  |  |
| PJ104.21 | P105.69 |  |  |
| PJ104.22 | P105.70 |  |  |
| PJ104.23 | P105.71 |  |  |
| PJ104.24 | P105.72 |  |  |
| PJ104.25 | P105.73 |  |  |
| PJ104.26 | P105.74 |  |  |
| PJ104.27 | P105.76 |  |  |
| PJ104.28 | P105.77 |  |  |
| PJ104.29 | P105.78 |  |  |
| PJ104.30 | P105.79 |  |  |
| PJ104.31 | P105.80 |  |  |
| PJ104.32 | P105.81 |  |  |
| PJ104.33 | P105.82 |  |  |
| PJ104.34 | P105.83 |  |  |
| PJ104.35 | P105.84 |  |  |
| PJ104.36 | P105.85 |  |  |
| PJ104.37 | P105.86 |  |  |
| PJ104.38 | P105.87 |  |  |
| PJ104.39 | P105.88 |  |  |
| PJ104.40 | P105.89 |  |  |
| PJ104.41 | P105.90 |  |  |
| PJ104.42 | P105.91 |  |  |
| PJ104.43 | P105.92 |  |  |
| PJ104.44 | P105.93 |  |  |
| PJ104.45 | P105.94 |  |  |
| PJ104.46 | P105.95 |  |  |
| PJ104.47 | P105.96 |  |  |
| PJ104.48 | P105.97 |  |  |
| PJ104.49 | P105.98 |  |  |
| PJ104.50 | P105.99 |  |  |
| PJ104.51 | P105.100 |  |  |
| PJ104.52 | P105.101 |  |  |
| PJ104.53 | P105.102 |  |  |
| PJ104.54 | P105.103 |  |  |
| PJ104.55 | P105.104 |  |  |
| PJ104.95 | P105.107 |  |  |
| PJ104.96 | P105.108 |  |  |
| PJ104.56 | P102.112 |  |  |
| PJ104.57 | P102.113 |  |  |
| PJ104.58 | P103.29 |  |  |
| PJ104.59 | P103.30 |  |  |
| PJ104.60 | P103.31 |  |  |
| PJ104.61 | P103.32 |  |  |
| PJ104.62 | P103.33 |  |  |
| PJ104.63 | P103.34 |  |  |
| PJ104.64 | P103.35 |  |  |
| PJ104.65 | P103.36 |  |  |
| PJ104.66 | P103.37 |  |  |
| PJ104.67 | P103.38 |  |  |
| PJ104.68 | P103.39 |  |  |
| PJ104.97 | P103.42 |  |  |
| PJ104.98 | P103.43 |  |  |
| PJ104.100 | P103.42 |  |  |
| PJ104.101 | P103.43 |  |  |
| PJ104.102 | P103.44 |  |  |
| PJ104.69 | P104.29 |  |  |
| PJ104.70 | P104.30 |  |  |
| PJ104.71 | P104.31 |  |  |
| PJ104.72 | P104.32 |  |  |
| PJ104.73 | P104.33 |  |  |
| PJ104.74 | P104.34 |  |  |
| PJ104.75 | P104.35 |  |  |
| PJ104.76 | P104.36 |  |  |
| PJ104.77 | P104.37 |  |  |
| PJ104.78 | P104.38 |  |  |
| PJ104.79 | P104.39 |  |  |
| PJ104.99 | P104.39 |  |  |
| PJ104.80 | P108.22 |  |  |
| PJ104.81 | P108.23 |  |  |
| PJ104.82 | P108.24 |  |  |
| PJ104.83 | P108.25 |  |  |
| PJ104.84 | P108.26 |  |  |
| PJ104.85 | P108.27 |  |  |
| PJ104.86 | P108.28 |  |  |
| PJ104.87 | P108.29 |  |  |
| PJ104.88 | P108.30 |  |  |

**OBSERVATIONS:**

**Cleared / Not Cleared**

**PROJ QC FIRM REP SSQAG**

**8.2 MEGGER TEST REPORT**

**INSULATION RESISTANCE CHECK**

The insulation resistance check involves the use of the Megger instrument. The insulation of the conductor is determined with respect to the other conductors in the same connector.

**PROCEDURE:** The positive probe is connected with the pin to test and the negative probe is connected to the all other pins listed in the table and the body of the connector. For certain signals the insulation resistance with the other signals and ground will be indicated as 0 ohms, this is because of signals having a common ground point and common source these are mentioned in remarks.

**ACCEPTNCE CRITERIA:** The insulation resistance as indicated by the MEGGER for the conductors of the connectors shall not be less than 20M ohms. (Exceptions mentioned in case of some signals)

**PROJECT: UNIT No: CLASS OF TEST: DATE:**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **Connector J1:MS3470 W12-3PN** | | |  |
| **PROBE (+)** | **Pin to pin and Body IR** | | | **Remarks** |
| **PROBE(-)** | **Expected Resistance** | **Measured Resistance** |
| A | B,C | > 20 MΩ |  |  |
| B | C | > 20 MΩ |  |  |

**Unused pins**: NIL

**OBSERVATIONS:**

**TEST Cleared / Not Cleared**

**PROJ QC Firm rep SSQAG REP**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **Connector PJ101 MS3475 W12 10P** | | |  |
| **PROBE (+)** | **Pin to pin and Body IR** | | | **Remarks** |
| **PROBE(-)** | **Expected Resistance** | **Measured Resistance** |
| A | B TO D | > 20 MΩ |  |  |
| B | C TO D | > 20 MΩ |  |  |
| C | D | > 20 MΩ |  |  |

**Unused pins**: E to J

**OBSERVATIONS:**

**TEST Cleared / Not Cleared**

**PROJ QC Firm rep SSQAG REP**

|  | **Connector PJ102: D38999 26WJ-35PN** | | |  |
| --- | --- | --- | --- | --- |
| **PROBE (+)** | **Pin to pin and Body IR** | | | **Remarks** |
| **PROBE(-)** | **Expected Resistance** | **Measured Resistance** |
| PJ102.01 | 2 to 72 | > 20 MΩ |  |  |
| PJ102.02 | 3 to 72 | > 20 MΩ |  |  |
| PJ102.03 | 4 to 72 | > 20 MΩ |  |  |
| PJ102.04 | 5 to 72 | > 20 MΩ |  |  |
| PJ102.05 | 6 to 72 | > 20 MΩ |  |  |
| PJ102.06 | 7 to 72 | > 20 MΩ |  |  |
| PJ102.07 | 8 to 72 | > 20 MΩ |  |  |
| PJ102.08 | 9 to 72 | > 20 MΩ |  |  |
| PJ102.09 | 10 to 72 | > 20 MΩ |  |  |
| PJ102.10 | 11 to 72 | > 20 MΩ |  |  |
| PJ102.11 | 12 to 72 | > 20 MΩ |  |  |
| PJ102.12 | 13 to 72 | > 20 MΩ |  |  |
| PJ102.13 | 14 to 72 | > 20 MΩ |  |  |
| PJ102.14 | 15 to 72 | > 20 MΩ |  |  |
| PJ102.15 | 16 to 72 | > 20 MΩ |  |  |
| PJ102.16 | 17 to 72 | > 20 MΩ |  |  |
| PJ102.17 | 18 to 72 | > 20 MΩ |  |  |
| PJ102.18 | 19 to 72 | > 20 MΩ |  |  |
| PJ102.19 | 20 to 72 | > 20 MΩ |  |  |
| PJ102.20 | 21 to 72 | > 20 MΩ |  |  |
| PJ102.21 | 22 to 72 | > 20 MΩ |  |  |
| PJ102.22 | 23 to 72 | > 20 MΩ |  |  |
| PJ102.23 | 24 to 72 | > 20 MΩ |  |  |
| PJ102.24 | 25 to 72 | > 20 MΩ |  |  |
| PJ102.25 | 26 to 72 | > 20 MΩ |  |  |
| PJ102.26 | 27 to 72 | > 20 MΩ |  |  |
| PJ102.27 | 28 to 72 | > 20 MΩ |  |  |
| PJ102.28 | 29 to 72 | > 20 MΩ |  |  |
| PJ102.29 | 30 to 72 | > 20 MΩ |  |  |
| PJ102.30 | 31 to 72 | > 20 MΩ |  |  |
| PJ102.31 | 32 to 72 | > 20 MΩ |  |  |
| PJ102.32 | 33 to 72 | > 20 MΩ |  |  |
| PJ102.33 | 34 to 72 | > 20 MΩ |  |  |
| PJ102.34 | 35 to 72 | > 20 MΩ |  |  |
| PJ102.35 | 36 to 72 | > 20 MΩ |  |  |
| PJ102.36 | 37 to 72 | > 20 MΩ |  |  |
| PJ102.37 | 38 to 72 | > 20 MΩ |  |  |
| PJ102.38 | 39 to 72 | > 20 MΩ |  |  |
| PJ102.39 | 40 to 72 | > 20 MΩ |  |  |
| PJ102.40 | 41 to 72 | > 20 MΩ |  |  |
| PJ102.41 | 42 to 72 | > 20 MΩ |  |  |
| PJ102.42 | 43 to 72 | > 20 MΩ |  |  |
| PJ102.43 | 44 to 72 | > 20 MΩ |  |  |
| PJ102.44 | 45 to 72 | > 20 MΩ |  |  |
| PJ102.45 | 46 to 72 | > 20 MΩ |  |  |
| PJ102.46 | 47 to 72 | > 20 MΩ |  |  |
| PJ102.47 | 48 to 72 | > 20 MΩ |  |  |
| PJ102.48 | 49 to 72 | > 20 MΩ |  |  |
| PJ102.49 | 50 to 72 | > 20 MΩ |  |  |
| PJ102.50 | 51 to 72 | > 20 MΩ |  |  |
| PJ102.51 | 52 to 72 | > 20 MΩ |  |  |
| PJ102.52 | 53 to 72 | > 20 MΩ |  |  |
| PJ102.53 | 54 to 72 | > 20 MΩ |  |  |
| PJ102.54 | 55 to 72 | > 20 MΩ |  |  |
| PJ102.55 | 56 to 72 | > 20 MΩ |  |  |
| PJ102.56 | 57 to 72 | > 20 MΩ |  |  |
| PJ102.57 | 61 to 72 | > 20 MΩ |  |  |
| PJ102.61 | 62 to 72 | > 20 MΩ |  |  |
| PJ102.62 | 63 to 72 | > 20 MΩ |  |  |
| PJ102.63 | 64 to 72 | > 20 MΩ |  |  |
| PJ102.64 | 65 to 72 | > 20 MΩ |  |  |
| PJ102.65 | 66 to 72 | > 20 MΩ |  |  |
| PJ102.66 | 67 to 72 | > 20 MΩ |  |  |
| PJ102.67 | 68 to 72 | > 20 MΩ |  |  |
| PJ102.68 | 69 to 72 | > 20 MΩ |  |  |
| PJ102.69 | 70 to 72 | > 20 MΩ |  |  |
| PJ102.70 | 71 to 72 | > 20 MΩ |  |  |
| PJ102.71 | 72 | > 20 MΩ |  |  |

**Unused pins**: 58,59,60,73 to 128

**OBSERVATIONS:**

**TEST Cleared / Not Cleared**

**PROJ QC Firm rep SSQAG REP**

|  | **Connector PJ103: D38999-26WF-35SN** | | |  |
| --- | --- | --- | --- | --- |
| **PROBE (+)** | **Pin to pin and Body IR** | | | **Remarks** |
| **PROBE(-)** | **Expected Resistance** | **Measured Resistance** |
| PJ103.1 | 2 to 43 | > 20 MΩ |  |  |
| PJ103.2 | 3 to 43 | > 20 MΩ |  |  |
| PJ103.3 | 4 to 43 | > 20 MΩ |  |  |
| PJ103.4 | 5 to 43 | > 20 MΩ |  |  |
| PJ103.5 | 6 to 43 | > 20 MΩ |  |  |
| PJ103.6 | 7 to 43 | > 20 MΩ |  |  |
| PJ103.7 | 8 to 43 | > 20 MΩ |  |  |
| PJ103.8 | 9 to 43 | > 20 MΩ |  |  |
| PJ103.9 | 10 to 43 | > 20 MΩ |  |  |
| PJ103.10 | 11 to 43 | > 20 MΩ |  |  |
| PJ103.11 | 12 to 43 | > 20 MΩ |  |  |
| PJ103.12 | 13 to 43 | > 20 MΩ |  |  |
| PJ103.13 | 14to 43 | > 20 MΩ |  |  |
| PJ103.14 | 15 to 43 | > 20 MΩ |  |  |
| PJ103.15 | 16 to 43 | > 20 MΩ |  |  |
| PJ103.16 | 17 to 43 | > 20 MΩ |  |  |
| PJ103.17 | 18 to 43 | > 20 MΩ |  |  |
| PJ103.18 | 22 to 43 | > 20 MΩ |  |  |
| PJ103.22 | 23 to 43 | > 20 MΩ |  |  |
| PJ103.23 | 24 to 43 | > 20 MΩ |  |  |
| PJ103.24 | 25 to 43 | > 20 MΩ |  |  |
| PJ103.25 | 26 to 43 | > 20 MΩ |  |  |
| PJ103.26 | 27 to 43 | > 20 MΩ |  |  |
| PJ103.27 | 28 to 43 | > 20 MΩ |  |  |
| PJ103.28 | 29 to 43 | > 20 MΩ |  |  |
| PJ103.29 | 30 to 43 | > 20 MΩ |  |  |
| PJ103.30 | 31 to 43 | > 20 MΩ |  |  |
| PJ103.31 | 32 to 43 | > 20 MΩ |  |  |
| PJ103.32 | 33 to 43 | > 20 MΩ |  |  |
| PJ103.33 | 34 to 43 | > 20 MΩ |  |  |
| PJ103.34 | 35 to 43 | > 20 MΩ |  |  |
| PJ103.35 | 21 to 43 | > 20 MΩ |  |  |
| PJ103.21 | 19 to 43 | > 20 MΩ |  |  |
| PJ103.19 | 20 to 43 | > 20 MΩ |  |  |
| PJ103.20 | 36 to 43 | > 20 MΩ |  |  |
| PJ103.36 | 37 to 43 | > 20 MΩ |  |  |
| PJ103.37 | 38 to 43 | > 20 MΩ |  |  |
| PJ103.38 | 39 to 43 | > 20 MΩ |  |  |
| PJ103.39 | 40 to 43 | > 20 MΩ |  |  |
| PJ103.40 | 41 to 43 | > 20 MΩ |  |  |
| PJ103.41 | 42 to 43 | > 20 MΩ |  |  |
| PJ103.42 | 43 | > 20 MΩ |  |  |

**Unused pins**: 21, 36 to 66

**OBSERVATIONS:**

**TEST Cleared / Not Cleared**

**PROJ QC Firm rep SSQAG REP**

|  | **Connector PJ104: D38999-26WJ-35SN** | | |  |
| --- | --- | --- | --- | --- |
| **PROBE (+)** | **Pin to pin and Body IR** | | | **Remarks** |
| **PROBE(-)** | **Expected Resistance** | **Measured Resistance** |
| PJ104.1 | 2 to 102 | > 20 MΩ |  |  |
| PJ104.2 | 3 to 102 | > 20 MΩ |  |  |
| PJ104.3 | 4 to 102 | > 20 MΩ |  |  |
| PJ104.4 | 5 to 102 | > 20 MΩ |  |  |
| PJ104.5 | 6 to 102 | > 20 MΩ |  |  |
| PJ104.6 | 7 to 102 | > 20 MΩ |  |  |
| PJ104.7 | 8 to 102 | > 20 MΩ |  |  |
| PJ104.8 | 9 to 102 | > 20 MΩ |  |  |
| PJ104.9 | 10 to 102 | > 20 MΩ |  |  |
| PJ104.10 | 11to 102 | > 20 MΩ |  |  |
| PJ104.11 | 12 to 102 | > 20 MΩ |  |  |
| PJ104.12 | 13 to 102 | > 20 MΩ |  |  |
| PJ104.13 | 14 to 102 | > 20 MΩ |  |  |
| PJ104.14 | 15 to 102 | > 20 MΩ |  |  |
| PJ104.15 | 16 to 102 | > 20 MΩ |  |  |
| PJ104.16 | 17 to 102 | > 20 MΩ |  |  |
| PJ104.17 | 18 to 102 | > 20 MΩ |  |  |
| PJ104.18 | 19 to 102 | > 20 MΩ |  |  |
| PJ104.19 | 20 to 102 | > 20 MΩ |  |  |
| PJ104.20 | 21 to 102 | > 20 MΩ |  |  |
| PJ104.21 | 22 to 102 | > 20 MΩ |  |  |
| PJ104.22 | 23 to 102 | > 20 MΩ |  |  |
| PJ104.23 | 24 to 102 | > 20 MΩ |  |  |
| PJ104.24 | 25 to 102 | > 20 MΩ |  |  |
| PJ104.25 | 26 to 102 | > 20 MΩ |  |  |
| PJ104.26 | 27 to 102 | > 20 MΩ |  |  |
| PJ104.27 | 28 to 102 | > 20 MΩ |  |  |
| PJ104.28 | 29 to 102 | > 20 MΩ |  |  |
| PJ104.29 | 30 to 102 | > 20 MΩ |  |  |
| PJ104.30 | 31 to 102 | > 20 MΩ |  |  |
| PJ104.31 | 32 to 102 | > 20 MΩ |  |  |
| PJ104.32 | 33 to 102 | > 20 MΩ |  |  |
| PJ104.33 | 34 to 102 | > 20 MΩ |  |  |
| PJ104.34 | 35 to 102 | > 20 MΩ |  |  |
| PJ104.35 | 36 to 102 | > 20 MΩ |  |  |
| PJ104.36 | 37 to 102 | > 20 MΩ |  |  |
| PJ104.37 | 38 to 102 | > 20 MΩ |  |  |
| PJ104.38 | 39 to 102 | > 20 MΩ |  |  |
| PJ104.39 | 40 to 102 | > 20 MΩ |  |  |
| PJ104.40 | 41 to 102 | > 20 MΩ |  |  |
| PJ104.41 | 42 to 102 | > 20 MΩ |  |  |
| PJ104.42 | 43 to 102 | > 20 MΩ |  |  |
| PJ104.43 | 44 to 102 | > 20 MΩ |  |  |
| PJ104.44 | 45 to 102 | > 20 MΩ |  |  |
| PJ104.45 | 46 to 102 | > 20 MΩ |  |  |
| PJ104.46 | 47 to 102 | > 20 MΩ |  |  |
| PJ104.47 | 48 to 102 | > 20 MΩ |  |  |
| PJ104.48 | 49 to 102 | > 20 MΩ |  |  |
| PJ104.49 | 50 to 102 | > 20 MΩ |  |  |
| PJ104.50 | 51 to 102 | > 20 MΩ |  |  |
| PJ104.51 | 52 to 102 | > 20 MΩ |  |  |
| PJ104.52 | 53 to 102 | > 20 MΩ |  |  |
| PJ104.53 | 54 to 102 | > 20 MΩ |  |  |
| PJ104.54 | 55 to 102 | > 20 MΩ |  |  |
| PJ104.55 | 56 to 102 | > 20 MΩ |  |  |
| PJ104.56 | 57 to 102 | > 20 MΩ |  |  |
| PJ104.57 | 58 to 102 | > 20 MΩ |  |  |
| PJ104.58 | 59 to 102 | > 20 MΩ |  |  |
| PJ104.59 | 60 to 102 | > 20 MΩ |  |  |
| PJ104.60 | 61 to 102 | > 20 MΩ |  |  |
| PJ104.61 | 62 to 102 | > 20 MΩ |  |  |
| PJ104.62 | 63 to 102 | > 20 MΩ |  |  |
| PJ104.63 | 64 to 102 | > 20 MΩ |  |  |
| PJ104.64 | 65 to 102 | > 20 MΩ |  |  |
| PJ104.65 | 66 to 102 | > 20 MΩ |  |  |
| PJ104.66 | 67 to 102 | > 20 MΩ |  |  |
| PJ104.67 | 68 to 102 | > 20 MΩ |  |  |
| PJ104.68 | 69 to 102 | > 20 MΩ |  |  |
| PJ104.69 | 70 to 102 | > 20 MΩ |  |  |
| PJ104.70 | 71 to 102 | > 20 MΩ |  |  |
| PJ104.71 | 72 to 102 | > 20 MΩ |  |  |
| PJ104.72 | 73 to 102 | > 20 MΩ |  |  |
| PJ104.73 | 74 to 102 | > 20 MΩ |  |  |
| PJ104.74 | 75 to 102 | > 20 MΩ |  |  |
| PJ104.75 | 76 to 102 | > 20 MΩ |  |  |
| PJ104.76 | 77 to 102 | > 20 MΩ |  |  |
| PJ104.77 | 78 to 102 | > 20 MΩ |  |  |
| PJ104.78 | 79 to 102 | > 20 MΩ |  |  |
| PJ104.79 | 80 to 102 | > 20 MΩ |  |  |
| PJ104.80 | 81 to 102 | > 20 MΩ |  |  |
| PJ104.81 | 82 to 102 | > 20 MΩ |  |  |
| PJ104.82 | 83 to 102 | > 20 MΩ |  |  |
| PJ104.83 | 84 to 102 | > 20 MΩ |  |  |
| PJ104.84 | 85 to 102 | > 20 MΩ |  |  |
| PJ104.85 | 86 to 102 | > 20 MΩ |  |  |
| PJ104.86 | 87 to 102 | > 20 MΩ |  |  |
| PJ104.87 | 88 to 102 | > 20 MΩ |  |  |
| PJ104.88 | 95 to 102 | > 20 MΩ |  |  |
| PJ104.95 | 96 to 102 | > 20 MΩ |  |  |
| PJ104.96 | 97 to 102 | > 20 MΩ |  |  |
| PJ104.97 | 98 to 102 | > 20 MΩ |  |  |
| PJ104.98 | 99 to 102 | > 20 MΩ |  |  |
| PJ104.99 | 100 to 102 | > 20 MΩ |  |  |
| PJ104.100 | 101 | > 20 MΩ |  |  |
| PJ104.101 | 102 | > 20 MΩ |  |  |

**Unused pins**: 89, 90, 91, 92, 93, 94 and 103 to 128

**OBSERVATIONS:**

**TEST Cleared / Not Cleared**

**PROJ QC Firm rep SSQAG REP**

**8.3 RETENTION TEST:**

**Procedure:** Before starting retention test, use correct retention tool as per the connector, retention tool to be inserted on the contact vertically. The unit / cable should be firm at one place during the test. If the unit / cable shake during test it damages the contact. Apply by hand and check retention of pin/sockets one by one, contacts required to check the retention is as below.

**SIU AC POWER LOOM**

|  |  |  |
| --- | --- | --- |
| **J1:MS3470 W12-3PN** | **RETENTION TOOL HT210-16**  **OK / Not OK** | **REMARKS** |
| A |  |  |
| B |  |  |
| C |  |  |

**Unused pins**: NIL

**OBSERVATIONS:**

**TEST Cleared / Not Cleared**

**PROJ QC Firm rep SSQAG REP**

**MIU TO SIU CABLE LOOMS**

|  |  |  |
| --- | --- | --- |
| **PJ101:MS3475 W12 10p** | **RETENTION TOOL HT210-20**  **OK / Not OK** | **REMARKS** |
| A |  |  |
| B |  |  |
| C |  |  |
| D |  |  |

**Unused pins**: E to J

**OBSERVATIONS:**

**TEST Cleared / Not Cleared**

**PROJ QC Firm rep SSQAG REP**

| **PJ102: D38999 26WJ-35PN** | **RETENTION TOOL HT210-22**  **OK / Not OK** | **REMARKS** |
| --- | --- | --- |
| PJ102.01 |  |  |
| PJ102.02 |  |  |
| PJ102.03 |  |  |
| PJ102.04 |  |  |
| PJ102.05 |  |  |
| PJ102.06 |  |  |
| PJ102.07 |  |  |
| PJ102.08 |  |  |
| PJ102.09 |  |  |
| PJ102.10 |  |  |
| PJ102.11 |  |  |
| PJ102.12 |  |  |
| PJ102.13 |  |  |
| PJ102.14 |  |  |
| PJ102.15 |  |  |
| PJ102.16 |  |  |
| PJ102.17 |  |  |
| PJ102.18 |  |  |
| PJ102.19 |  |  |
| PJ102.20 |  |  |
| PJ102.21 |  |  |
| PJ102.22 |  |  |
| PJ102.23 |  |  |
| PJ102.24 |  |  |
| PJ102.25 |  |  |
| PJ102.26 |  |  |
| PJ102.27 |  |  |
| PJ102.28 |  |  |
| PJ102.29 |  |  |
| PJ102.30 |  |  |
| PJ102.31 |  |  |
| PJ102.32 |  |  |
| PJ102.33 |  |  |
| PJ102.34 |  |  |
| PJ102.35 |  |  |
| PJ102.36 |  |  |
| PJ102.37 |  |  |
| PJ102.38 |  |  |
| PJ102.39 |  |  |
| PJ102.40 |  |  |
| PJ102.41 |  |  |
| PJ102.42 |  |  |
| PJ102.43 |  |  |
| PJ102.44 |  |  |
| PJ102.45 |  |  |
| PJ102.46 |  |  |
| PJ102.47 |  |  |
| PJ102.48 |  |  |
| PJ102.49 |  |  |
| PJ102.50 |  |  |
| PJ102.51 |  |  |
| PJ102.52 |  |  |
| PJ102.53 |  |  |
| PJ102.54 |  |  |
| PJ102.55 |  |  |
| PJ102.56 |  |  |
| PJ102.57 |  |  |
| PJ102.61 |  |  |
| PJ102.62 |  |  |
| PJ102.63 |  |  |
| PJ102.64 |  |  |
| PJ102.65 |  |  |
| PJ102.66 |  |  |
| PJ102.67 |  |  |
| PJ102.68 |  |  |
| PJ102.69 |  |  |
| PJ102.70 |  |  |
| PJ102.71 |  |  |
| PJ102.72 |  |  |

**Unused pins**: 58,59,60,73 to 128

**OBSERVATIONS:**

**TEST Cleared / Not Cleared**

**PROJ QC Firm rep SSQAG REP**

| **PJ103: D38999-26WF-35SN** | **RETENTION TOOL HT210-22**  **OK / Not OK** | **REMARKS** |
| --- | --- | --- |
| PJ103.1 |  |  |
| PJ103.2 |  |  |
| PJ103.3 |  |  |
| PJ103.4 |  |  |
| PJ103.5 |  |  |
| PJ103.6 |  |  |
| PJ103.7 |  |  |
| PJ103.8 |  |  |
| PJ103.9 |  |  |
| PJ103.10 |  |  |
| PJ103.11 |  |  |
| PJ103.12 |  |  |
| PJ103.13 |  |  |
| PJ103.14 |  |  |
| PJ103.15 |  |  |
| PJ103.16 |  |  |
| PJ103.17 |  |  |
| PJ103.18 |  |  |
| PJ103.22 |  |  |
| PJ103.23 |  |  |
| PJ103.24 |  |  |
| PJ103.25 |  |  |
| PJ103.26 |  |  |
| PJ103.27 |  |  |
| PJ103.28 |  |  |
| PJ103.29 |  |  |
| PJ103.30 |  |  |
| PJ103.31 |  |  |
| PJ103.32 |  |  |
| PJ103.33 |  |  |
| PJ103.34 |  |  |
| PJ103.35 |  |  |
| PJ103.21 |  |  |
| PJ103.19 |  |  |
| PJ103.20 |  |  |
| PJ103.36 |  |  |
| PJ103.37 |  |  |
| PJ103.38 |  |  |
| PJ103.39 |  |  |
| PJ103.40 |  |  |
| PJ103.41 |  |  |
| PJ103.42 |  |  |
| PJ103.43 |  |  |

**Unused pins**: 36 to 66

**OBSERVATIONS:**

**TEST Cleared / Not Cleared**

**PROJ QC Firm rep SSQAG REP**

| **PJ104:D38999-26WJ-35SN** | **RETENTION TOOL HT210-22**  **OK / Not OK** | **REMARKS** |
| --- | --- | --- |
| PJ104.1 |  |  |
| PJ104.2 |  |  |
| PJ104.3 |  |  |
| PJ104.4 |  |  |
| PJ104.5 |  |  |
| PJ104.6 |  |  |
| PJ104.7 |  |  |
| PJ104.8 |  |  |
| PJ104.9 |  |  |
| PJ104.10 |  |  |
| PJ104.11 |  |  |
| PJ104.12 |  |  |
| PJ104.13 |  |  |
| PJ104.14 |  |  |
| PJ104.15 |  |  |
| PJ104.16 |  |  |
| PJ104.17 |  |  |
| PJ104.18 |  |  |
| PJ104.19 |  |  |
| PJ104.20 |  |  |
| PJ104.21 |  |  |
| PJ104.22 |  |  |
| PJ104.23 |  |  |
| PJ104.24 |  |  |
| PJ104.25 |  |  |
| PJ104.26 |  |  |
| PJ104.27 |  |  |
| PJ104.28 |  |  |
| PJ104.29 |  |  |
| PJ104.30 |  |  |
| PJ104.31 |  |  |
| PJ104.32 |  |  |
| PJ104.33 |  |  |
| PJ104.34 |  |  |
| PJ104.35 |  |  |
| PJ104.36 |  |  |
| PJ104.37 |  |  |
| PJ104.38 |  |  |
| PJ104.39 |  |  |
| PJ104.40 |  |  |
| PJ104.41 |  |  |
| PJ104.42 |  |  |
| PJ104.43 |  |  |
| PJ104.44 |  |  |
| PJ104.45 |  |  |
| PJ104.46 |  |  |
| PJ104.47 |  |  |
| PJ104.48 |  |  |
| PJ104.49 |  |  |
| PJ104.50 |  |  |
| PJ104.51 |  |  |
| PJ104.52 |  |  |
| PJ104.53 |  |  |
| PJ104.54 |  |  |
| PJ104.55 |  |  |
| PJ104.56 |  |  |
| PJ104.57 |  |  |
| PJ104.58 |  |  |
| PJ104.59 |  |  |
| PJ104.60 |  |  |
| PJ104.61 |  |  |
| PJ104.62 |  |  |
| PJ104.63 |  |  |
| PJ104.64 |  |  |
| PJ104.65 |  |  |
| PJ104.66 |  |  |
| PJ104.67 |  |  |
| PJ104.68 |  |  |
| PJ104.69 |  |  |
| PJ104.70 |  |  |
| PJ104.71 |  |  |
| PJ104.72 |  |  |
| PJ104.73 |  |  |
| PJ104.74 |  |  |
| PJ104.75 |  |  |
| PJ104.76 |  |  |
| PJ104.77 |  |  |
| PJ104.78 |  |  |
| PJ104.79 |  |  |
| PJ104.80 |  |  |
| PJ104.81 |  |  |
| PJ104.82 |  |  |
| PJ104.83 |  |  |
| PJ104.84 |  |  |
| PJ104.85 |  |  |
| PJ104.86 |  |  |
| PJ104.87 |  |  |
| PJ104.88 |  |  |
| PJ104.95 |  |  |
| PJ104.96 |  |  |
| PJ104.97 |  |  |
| PJ104.98 |  |  |
| PJ104.99 |  |  |
| PJ104.100 |  |  |
| PJ104.101 |  |  |
| PJ104.102 |  |  |

**Unused pins**: 89, 90, 91, 92, 93, 94, 103 to 128

**OBSERVATIONS:**

**TEST Cleared / Not Cleared**

**PROJ QC Firm rep SSQAG REP**

| **P102: D38999/26WJ-35SN** | **RETENTION TOOL HT210-22\**  **OK / Not OK** | **REMARKS** |
| --- | --- | --- |
| P102.1 |  |  |
| P102.2 |  |  |
| P102.3 |  |  |
| P102.4 |  |  |
| P102.8 |  |  |
| P102.9 |  |  |
| P102.10 |  |  |
| P102.11 |  |  |
| P102.12 |  |  |
| P102.13 |  |  |
| P102.14 |  |  |
| P102.15 |  |  |
| P102.29 |  |  |
| P102.30 |  |  |
| P102.31 |  |  |
| P102.32 |  |  |
| P102.34 |  |  |
| P102.35 |  |  |
| P102.36 |  |  |
| P102.37 |  |  |
| P102.38 |  |  |
| P102.39 |  |  |
| P102.41 |  |  |
| P102.43 |  |  |
| P102.46 |  |  |
| P102.52 |  |  |
| P102.53 |  |  |
| P102.54 |  |  |
| P102.55 |  |  |
| P102.56 |  |  |
| P102.57 |  |  |
| P102.58 |  |  |
| P102.59 |  |  |
| P102.60 |  |  |
| P102.61 |  |  |
| P102.62 |  |  |
| P102.63 |  |  |
| P102.64 |  |  |
| P102.65 |  |  |
| P102.68 |  |  |
| P102.69 |  |  |
| P102.70 |  |  |
| P102.71 |  |  |
| P102.72 |  |  |
| P102.73 |  |  |
| P102.74 |  |  |
| P102.76 |  |  |
| P102.79 |  |  |
| P102.80 |  |  |
| P102.81 |  |  |
| P102.82 |  |  |
| P102.85 |  |  |
| P102.86 |  |  |
| P102.87 |  |  |
| P102.90 |  |  |
| P102.91 |  |  |
| P102.92 |  |  |
| P102.93 |  |  |
| P102.94 |  |  |
| P102.95 |  |  |
| P102.96 |  |  |
| P102.97 |  |  |
| P102.98 |  |  |
| P102.99 |  |  |
| P102.101 |  |  |
| P102.102 |  |  |
| P102.103 |  |  |
| P102.104 |  |  |
| P102.105 |  |  |
| P102.112 |  |  |
| P102.113 |  |  |

**UNUSED PINS:** 5, 6,7,16 to 28,33,40,42,44,45,47 to 51,66,67,75,77,78,83,84,88,89,100,106 to 111,114 to128

**OBSERVATIONS:**

**TEST Cleared / Not Cleared**

**PROJ QC Firm rep SSQAG REP**

| **P103: D38999/26WE-35PN** | **RETENTION TOOL HT210-22\**  **OK / Not OK** | **REMARKS** |
| --- | --- | --- |
| P103.29 |  |  |
| P103.30 |  |  |
| P103.31 |  |  |
| P103.32 |  |  |
| P103.33 |  |  |
| P103.34 |  |  |
| P103.35 |  |  |
| P103.36 |  |  |
| P103.37 |  |  |
| P103.38 |  |  |
| P103.39 |  |  |
| P103.42 |  |  |
| P103.43 |  |  |
| P103.42 |  |  |
| P103.43 |  |  |
| P103.44 |  |  |

**UNUSED PINS:** 1 to 28,40,41,45 to 55

**OBSERVATIONS:**

**TEST Cleared / Not Cleared**

**PROJ QC Firm rep SSQAG REP**

| **P104: D38999/26WE-35PN** | **RETENTION TOOL HT210-22\**  **CLEARED/ NOT CLEARED** | **REMARKS** |
| --- | --- | --- |
| P104.29 |  |  |
| P104.30 |  |  |
| P104.31 |  |  |
| P104.32 |  |  |
| P104.33 |  |  |
| P104.34 |  |  |
| P104.35 |  |  |
| P104.36 |  |  |
| P104.37 |  |  |
| P104.38 |  |  |
| P104.39 |  |  |
| P104.39 |  |  |

**UNUSED PINS:** 1 to 28,40,41,45 to 55

**OBSERVATIONS:**

**TEST Cleared / Not Cleared**

**PROJ QC Firm rep SSQAG REP**

| **P105: D38999/26WJ-35PN** | **RETENTION TOOL HT210-22\**  **OK / Not OK** | **REMARKS** |
| --- | --- | --- |
| P105.1 |  |  |
| P105.2 |  |  |
| P105.3 |  |  |
| P105.4 |  |  |
| P105.5 |  |  |
| P105.6 |  |  |
| P105.7 |  |  |
| P105.8 |  |  |
| P105.9 |  |  |
| P105.10 |  |  |
| P105.11 |  |  |
| P105.12 |  |  |
| P105.13 |  |  |
| P105.14 |  |  |
| P105.15 |  |  |
| P105.16 |  |  |
| P105.17 |  |  |
| P105.18 |  |  |
| P105.22 |  |  |
| P105.23 |  |  |
| P105.24 |  |  |
| P105.25 |  |  |
| P105.26 |  |  |
| P105.27 |  |  |
| P105.28 |  |  |
| P105.29 |  |  |
| P105.30 |  |  |
| P105.31 |  |  |
| P105.32 |  |  |
| P105.33 |  |  |
| P105.34 |  |  |
| P105.35 |  |  |
| P105.21 |  |  |
| P105.19 |  |  |
| P105.20 |  |  |
| P105.36 |  |  |
| P105.37 |  |  |
| P105.38 |  |  |
| P105.39 |  |  |
| P105.40 |  |  |
| P105.41 |  |  |
| P105.42 |  |  |
| P105.43 |  |  |
| P105.44 |  |  |
| P105.45 |  |  |
| P105.46 |  |  |
| P105.47 |  |  |
| P105.48 |  |  |
| P105.49 |  |  |
| P105.50 |  |  |
| P105.51 |  |  |
| P105.55 |  |  |
| P105.56 |  |  |
| P105.57 |  |  |
| P105.58 |  |  |
| P105.59 |  |  |
| P105.60 |  |  |
| P105.61 |  |  |
| P105.64 |  |  |
| P105.65 |  |  |
| P105.66 |  |  |
| P105.67 |  |  |
| P105.68 |  |  |
| P105.69 |  |  |
| P105.70 |  |  |
| P105.71 |  |  |
| P105.72 |  |  |
| P105.73 |  |  |
| P105.74 |  |  |
| P105.76 |  |  |
| P105.77 |  |  |
| P105.78 |  |  |
| P105.79 |  |  |
| P105.80 |  |  |
| P105.81 |  |  |
| P105.82 |  |  |
| P105.83 |  |  |
| P105.84 |  |  |
| P105.85 |  |  |
| P105.86 |  |  |
| P105.87 |  |  |
| P105.88 |  |  |
| P105.89 |  |  |
| P105.90 |  |  |
| P105.91 |  |  |
| P105.92 |  |  |
| P105.93 |  |  |
| P105.94 |  |  |
| P105.95 |  |  |
| P105.96 |  |  |
| P105.97 |  |  |
| P105.98 |  |  |
| P105.99 |  |  |
| P105.100 |  |  |
| P105.101 |  |  |
| P105.102 |  |  |
| P105.103 |  |  |
| P105.104 |  |  |
| P105.107 |  |  |
| P105.108 |  |  |

**UNUSED PINS:** 21, 36 to 43,52,53,54,62,63,75,105,106,109 to 128

**OBSERVATIONS:**

**TEST Cleared / Not Cleared**

**PROJ QC Firm rep SSQAG REP**

| **P108:D38999/26WE-35SN** | **RETENTION TOOL HT210-22\**  **OK / Not OK** | **REMARKS** |
| --- | --- | --- |
| P108.22 |  |  |
| P108.23 |  |  |
| P108.24 |  |  |
| P108.25 |  |  |
| P108.26 |  |  |
| P108.27 |  |  |
| P108.28 |  |  |
| P108.29 |  |  |
| P108.30 |  |  |

**UNUSED PINS:** 1 to 21, 31 to 55

**OBSERVATIONS:**

**TEST Cleared / Not Cleared**

**PROJ QC Firm rep SSQAG REP**

**9.0 SIU TO UMBILICAL LOOMS**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **SIU to LJB A5 LOOM ELECTRICAL CONFIGURATION** | | | | |
| **S.NO** | **CONNECTOR REFERENCE** | **CONNECTOR PART NO** | **USED PIN** | **UNUSED PIN** |
| 1 | M1 | MS3475-W24-61PN | E to H, R to a, c to LL. | A to D, J to P, b, MM to PP |
| 2 | M2 | MS3475-W24-61SN | A to NN | PP |
| 3 | M3 | MS3475-W22-55SN | A to U, W top, r to t, z to BB | V, q, u to y, CC to HH |
| 4 | M4 | D38999 26 WG 35SN | 1 to 64 | 65 to 79 |
| 1 | U1 | MS3475-W24-61SN | A to C, F,G, K, L, P, R, U, V, Y, Z, c to CC, EE, FF, PP | D, E, H, J, M, N, S, T, W, X, a, b, DD, GG, to NN, |
| 2 | U2 | MS3475-W24-61PN | A to t, w to EE, PP | u, v, FF to NN |
| 3 | U3 | MS3475-W22-55PN | A to f, h to r | g, s to HH |
| 4 | U4 | MS3475-W14-19PN | A to P | R to V |
| 5 | U5 | MS3475-W22-55PN | A to k | m to HH |
| 6 | U6 | MS3475-W20-41PN | A to k | m to t |

**9.1 CONTINUITY REPORT**



**9.1.1 A5 LOOMS (TYPE 3)**

**Loom No: DATE:**

| **M1:MS3475-W24-61PN** | **U1,U2,U3,GG(U4)** | **Continuity Check**  **OK / Not OK** | **REMARKS** |
| --- | --- | --- | --- |
| M1.c | U1.EE |  |  |
| M1.KK | U1.FF |  |  |
| M1.R | U2.B |  |  |
| M1.S | U2.s |  |  |
| M1.a | U2.w |  |  |
| M1.FF | U2.C |  |  |
| M1.GG | U2.t |  |  |
| M1.E | U3.N |  |  |
| M1.F | U3.P |  |  |
| M1.G | U3.S |  |  |
| M1.H | U3.T |  |  |
| M1.T | U3.E |  |  |
| M1.U | U3.F |  |  |
| M1.V | U3.G |  |  |
| M1.W | U3.P |  |  |
| M1.X | U3.K |  |  |
| M1.Y | U3.L |  |  |
| M1.Z | U3.f |  |  |
| M1.d | U3.p |  |  |
| M1.e | U3.B |  |  |
| M1.f | U3.V |  |  |
| M1.g | U3.b |  |  |
| M1.h | U3.W |  |  |
| M1.i | U3.c |  |  |
| M1.P | U3.Y |  |  |
| M1.k | U3.d |  |  |
| M1.m | U3.Z |  |  |
| M1.n | U3.e |  |  |
| M1.p | U3.X |  |  |
| M1.q | U3.a |  |  |
| M1.DD | U3.R |  |  |
| M1.EE | U3.U |  |  |
| M1.HH | U3.H |  |  |
| M1.PJ | U3.M |  |  |
| M1.LL | U3.C |  |  |
| M1.r | GG.(P703)A |  |  |
| M1.s | GG.B |  |  |
| M1.t | GG.C |  |  |
| M1.u | GG.D |  |  |
| M1.v | GG.E |  |  |
| M1.w | GG.F |  |  |
| M1.x | GG.G |  |  |
| M1.y | GG.H |  |  |
| M1.z | GG.L |  |  |
| M1.AA | GG.M |  |  |
| M1.BB | GG.N |  |  |
| M1.CC | GG.P |  |  |

**OBSERVATIONS:**

**TEST Cleared / Not Cleared**

**PROJ QC Firm rep SSQAG REP**



**Loom No: DATE:**

| **M2: MS3475-W24-61SN** | **U1,U2** | **Continuity Check**  **OK / Not OK** | **REMARKS** |
| --- | --- | --- | --- |
| M2.x | U1.B |  |  |
| M2.y | U1.C |  |  |
| M2.z | U1.F |  |  |
| M2.AA | U1.G |  |  |
| M2.BB | U1.K |  |  |
| M2.CC | U1.L |  |  |
| M2.DD | U1.P |  |  |
| M2.EE | U1.R |  |  |
| M2.FF | U1.U |  |  |
| M2.GG | U1.V |  |  |
| M2.HH | U1.Y |  |  |
| M2.PJ | U1.Z |  |  |
| M2.KK | U1.t |  |  |
| M2.LL | U1.u |  |  |
| M2.MM | U1.v |  |  |
| M2.NN | U1.w |  |  |
| M2.A | U2.D |  |  |
| M2.B | U2.E |  |  |
| M2.C | U2.F |  |  |
| M2.D | U2.G |  |  |
| M2.E | U2.H |  |  |
| M2.F | U2.P |  |  |
| M2.G | U2.K |  |  |
| M2.H | U2.L |  |  |
| M2.P | U2.M |  |  |
| M2.K | U2.N |  |  |
| M2.L | U2.P |  |  |
| M2.M | U2.R |  |  |
| M2.N | U2.S |  |  |
| M2.P | U2.T |  |  |
| M2.R | U2.U |  |  |
| M2.S | U2.V |  |  |
| M2.T | U2.W |  |  |
| M2.U | U2.X |  |  |
| M2.V | U2.Y |  |  |
| M2.W | U2.Z |  |  |
| M2.X | U2.a |  |  |
| M2.Y | U2.b |  |  |
| M2.Z | U2.c |  |  |
| M2.a | U2.d |  |  |
| M2.b | U2.e |  |  |
| M2.c | U2.f |  |  |
| M2.d | U2.g |  |  |
| M2.e | U2.h |  |  |
| M2.f | U2.i |  |  |
| M2.g | U2.P |  |  |
| M2.h | U2.k |  |  |
| M2.i | U2.m |  |  |
| M2.P | U2.n |  |  |
| M2.k | U2.p |  |  |
| M2.m | U2.q |  |  |
| M2.n | U2.r |  |  |
| M2.p | U2.x |  |  |
| M2.q | U2.y |  |  |
| M2.r | U2.z |  |  |
| M2.s | U2.AA |  |  |
| M2.t | U2.BB |  |  |
| M2.u | U2.CC |  |  |
| M2.v | U2.DD |  |  |
| M2.w | U2.EE |  |  |

**OBSERVATIONS:**

**Cleared / Not Cleared**

**PROJ QC FIRM REP SSQAG**

**Loom No: DATE:**

| **M3: MS3475-W22-55SN** | **U1,U2,U3,GG(U4), OM(U5),CO(U6)** | **Continuity Check**  **OK / Not OK** | **REMARKS** |
| --- | --- | --- | --- |
| M3.A | U1.c |  |  |
| M3.B | U1.e |  |  |
| M3.D | U1.f |  |  |
| M3.E | U1.h |  |  |
| M3.G | U1.i |  |  |
| M3.H | U1.k |  |  |
| M3.K | U1.m |  |  |
| M3.L | U1.p |  |  |
| M3.N | U1.q |  |  |
| M3.P | U1.s |  |  |
| M3.C | U1.d |  |  |
| M3.F | U1.g |  |  |
| M3.P | U1.P |  |  |
| M3.M | U1.n |  |  |
| M3.R | U1.r |  |  |
| M3.b | U1.A |  |  |
| M3.c | U1.PJ |  |  |
| M3.r | U1.x |  |  |
| M3.s | U1.z |  |  |
| M3.t | U1.BB |  |  |
| M3.z | U1.y |  |  |
| M3.AA | U1.AA |  |  |
| M3.BB | U1.CC |  |  |
| M3.d | U2.A |  |  |
| M3.e | U2.PJ |  |  |
| M3.S | U3.r |  |  |
| M3.T | U3.q |  |  |
| M3.U | U3.D |  |  |
| M3.W | U3.i |  |  |
| M3.X | U3.P |  |  |
| M3.Y | U3.k |  |  |
| M3.Z | U3.m |  |  |
| M3.a | U3.n |  |  |
| M3.f | U3.A |  |  |
| M3.g | U3.HH |  |  |
| M3.p | U3.h |  |  |
| M3.h | GG.P |  |  |
| M3.i | GG.K |  |  |
| M3.P | OM.P |  |  |
| M3.k | Om.k |  |  |
| M3.m | *Co*.P |  |  |
| M3.n | Co.k |  |  |

**OBSERVATIONS:**

**Cleared / Not Cleared**

**PROJ QC FIRM REP SSQAG**



**Loom No: DATE:**

| **M4: D38999 26WG 35SN** | **OM(U5),CO(U6)** | **Continuity Check**  **OK / Not OK** | **REMARKS** |
| --- | --- | --- | --- |
| M4.1 | OM.A(P704) |  |  |
| M4. 3 | OM.C |  |  |
| M4.5 | OM.E |  |  |
| M4.7 | OM.G |  |  |
| M4. 9 | OM.P |  |  |
| M4. 11 | OM.L |  |  |
| M4.13 | OM.N |  |  |
| M4.15 | OM.R |  |  |
| M4. 17 | OM.T |  |  |
| M4. 19 | OM.V |  |  |
| M4.21 | OM.X |  |  |
| M4.23 | OM.Z |  |  |
| M4. 25 | OM.b |  |  |
| M4.27 | OM.d |  |  |
| M4. 29 | OM.f |  |  |
| M4.31 | OM.h |  |  |
| M4. 2 | OM.B(P704) |  |  |
| M4.4 | OM.D |  |  |
| M4. 6 | OM.F |  |  |
| M4. 8 | OM.H |  |  |
| M4.10 | OM.K |  |  |
| M4.12 | OM.M |  |  |
| M4. 14 | OM.P |  |  |
| M4. 16 | OM.S |  |  |
| M4. 18 | OM.U |  |  |
| M4.20 | OM.W |  |  |
| M4.22 | OM.Y |  |  |
| M4.24 | OM.a |  |  |
| M4.26 | OM.c |  |  |
| M4. 28 | OM.e |  |  |
| M4.30 | OM.g |  |  |
| M4.32 | OM.i |  |  |
| M4. 33 | CO.A(P705) |  |  |
| M4. 35 | CO.C |  |  |
| M4. 37 | CO.E |  |  |
| M4.39 | CO.G |  |  |
| M4.41 | CO.P |  |  |
| M4.43 | CO.L |  |  |
| M4.45 | CO.N |  |  |
| M4.47 | CO.R |  |  |
| M4.49 | CO.T |  |  |
| M4.51 | CO.V |  |  |
| M4.53 | CO.X |  |  |
| M4.55 | CO.Z |  |  |
| M4.57 | CO.b |  |  |
| M4.59 | CO.d |  |  |
| M4.61 | CO.f |  |  |
| M4.63 | CO.h |  |  |
| M4.34 | CO.B(P705) |  |  |
| M4.36 | CO.D |  |  |
| M4. 38 | CO.F |  |  |
| M4.40 | CO.H |  |  |
| M4.42 | CO.K |  |  |
| M4.44 | CO.M |  |  |
| M4.46 | CO.P |  |  |
| M4.48 | CO.S |  |  |
| M4. 50 | CO.U |  |  |
| M4.52 | CO.W |  |  |
| M4. 54 | CO.Y |  |  |
| M4.56 | CO.a |  |  |
| M4.58 | CO.c |  |  |
| M4.60 | CO.e |  |  |
| M4.62 | CO.g |  |  |
| M4. 64 | CO.i |  |  |

**OBSERVATIONS:**

**Cleared / Not Cleared**

**PROJ QC FIRM REP SSQAG**

**9.1.2 A4LOOMS (TYPE 2)**

**A4 UMBILICAL LOOMS**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **SIU to LJB A4 LOOM ELECTRICAL CONFIGUARATION** | | | | |
| **S/N** | **CONNECTOR REFRENCE NO** | **CONNECTOR PART NO** | **USED PIN** | **UNUSED PIN** |
| 1 | M1 | MS3475-W24-61PN | A to q, y, BB, NN | r to x, z, AA, PP |
| 2 | M2 | MS3475-W24-61SN | A to CC | DD to PP |
| 3 | M3 | MS3475-W22-55SN | A V M, S to Z, b to g, p , r to u, z to CC | N to R, a, h to n, q,v to y, DD to HH |
| 4 | U1 | MS3475-W24-61PN | A to t, y to BB, EE to PP, | u to x, CC , DD, |
| 5 | U2 | MS3475-W22-55SN | F to X, a to f, I to m, w, x, BB to GG | A to E, y, z, g, h, n to v, y to AA, HH |
| 6 | U3 | MS3475-W22-55PN | A to P, X to e, j to y, BB, EE, FF, GG, | R to W, g to i, z, AA, CC, DD, HH |



**Loom No: DATE:**

| **M1: MS3475-W24-61PN** | **U1,U2,U3,** | **Continuity Check**  **OK / Not OK** | **REMARKS** |
| --- | --- | --- | --- |
| M1.A | U1.X |  |  |
| M1.B | U1.Y |  |  |
| M1.C | U1.b |  |  |
| M1.D | U1.c |  |  |
| M1.E | U1.e |  |  |
| M1.F | U1.f |  |  |
| M1.G | U1.g |  |  |
| M1.H | U1.h |  |  |
| M1.J | 1.q |  |  |
| M1.K | U1.s |  |  |
| M1.b | U1.y |  |  |
| M1.c | U1.AA |  |  |
| M1.d | U1.N |  |  |
| M1.y | U1.z |  |  |
| M1.BB | U1.r |  |  |
| M1.CC | U1.t |  |  |
| M1.DD | U1.Z |  |  |
| M1.EE | U1.d |  |  |
| M1.MM | U1.BB |  |  |
| M1.NN | U1.P |  |  |
| M1.L | U2.K |  |  |
| M1.M | U2.L |  |  |
| M1.N | U2.N |  |  |
| M1.P | U2.P |  |  |
| M1.R | U2.i |  |  |
| M1.S | U2.k |  |  |
| M1.Z | U2.e |  |  |
| M1.a | U2.f |  |  |
| M1.f | U2.BB |  |  |
| M1.g | U2.CC |  |  |
| M1.h | U2.DD |  |  |
| M1.i | U2.EE |  |  |
| M1.j | U2.GG |  |  |
| M1.k | U2.a |  |  |
| M1.m | U2.b |  |  |
| M1.n | U2.c |  |  |
| M1.p | U2.FF |  |  |
| M1.q | U2.d |  |  |
| M1.FF | U2.M |  |  |
| M1.GG | U2.R |  |  |
| M1.HH | U2.j |  |  |
| M1.JJ | U2.m |  |  |
| M1.T | U3.X |  |  |
| M1.U | U3. Y |  |  |
| M1.V | U3.Z |  |  |
| M1.W | U3.b |  |  |
| M1.X | U3.c |  |  |
| M1.Y | U3.d |  |  |
| M1.s | U3.CC |  |  |
| M1.e | U3.DD |  |  |
| M1.KK | U3.a |  |  |
| M1.LL | U3.e |  |  |

**OBSERVATIONS:**

**Cleared / Not Cleared**

**PROJ QC FIRM REP SSQAG**



**Loom No: DATE:**

| **M2: MS3475-W24-61SN** | **U1,U2,U3,** | **Continuity Check**  **OK / Not OK** | **REMARKS** |
| --- | --- | --- | --- |
| M2.A | U1.A |  |  |
| M2.B | U1.B |  |  |
| M2.C | U1.C |  |  |
| M2.D | U1.D |  |  |
| M2.E | U1.E |  |  |
| M2.F | U1.F |  |  |
| M2.G | U1.G |  |  |
| M2.H | U1.H |  |  |
| M2.J | U1.J |  |  |
| M2.K | U1.K |  |  |
| M2.L | U1.L |  |  |
| M2.M | U1.M |  |  |
| M2.v | U1.T |  |  |
| M2.w | U1.U |  |  |
| M2.x | U1.V |  |  |
| M2.y | U1.W |  |  |
| M2.r | U2.F |  |  |
| M2.s | U2.G |  |  |
| M2.t | U2.H |  |  |
| M2.u | U2.J |  |  |
| M2.N | U3.A |  |  |
| M2.P | U3.B |  |  |
| M2.R | U3.C |  |  |
| M2.S | U3.D |  |  |
| M2.T | U3.E |  |  |
| M2.U | U3.F |  |  |
| M2.V | U3.G |  |  |
| M2.W | U3.H |  |  |
| M2.X | U3.J |  |  |
| M2.Y | U3.K |  |  |
| M2.Z | U3.L |  |  |
| M2.a | U3.M |  |  |
| M2.b | U3.N |  |  |
| M2.c | U3.P |  |  |
| M2.d | U3.j |  |  |
| M2.e | U3.k |  |  |
| M2.f | U3.m |  |  |
| M2.g | U3.n |  |  |
| M2.h | U3.p |  |  |
| M2.i | U3.q |  |  |
| M2.j | U3.r |  |  |
| M2.k | U3.s |  |  |
| M2.m | U3.t |  |  |
| M2.n | U3.u |  |  |
| M2.p | U3.v |  |  |
| M2.q | U3.w |  |  |

**OBSERVATIONS:**

**Cleared / Not Cleared**

**PROJ QC FIRM REP SSQAG**



**Loom No: DATE**:

| **M3: MS3475-W22-55SN** | **U1,U2,U3,** | **Continuity Check**  **OK / Not OK** | **REMARKS** |
| --- | --- | --- | --- |
| M3.G | U1.j |  |  |
| M3.H | U1.k |  |  |
| M3.K | U1.n |  |  |
| M3.L | U1.p |  |  |
| M3.J | U1.i |  |  |
| M3.M | U1.m |  |  |
| M3.S | U1.R |  |  |
| M3.W | U1.S |  |  |
| M3.X | U1.a |  |  |
| M3.b | U1.GG |  |  |
| M3.c | U1.HH |  |  |
| M3.r | U1.EE |  |  |
| M3.s | U1.JJ |  |  |
| M3.t | U1.KK |  |  |
| M3.z | U1.FF |  |  |
| M3.AA | U1.MM |  |  |
| M3.BB | U1.NN |  |  |
| M3.u | U1.LL |  |  |
| M3.CC | U1.PP |  |  |
| M3.A | U2.W |  |  |
| M3.B | U2.X |  |  |
| M3.D | U2.T |  |  |
| M3.E | U2.U |  |  |
| M3.C | U2.V |  |  |
| M3.F | U2.S |  |  |
| M3.d | U2.w |  |  |
| M3.e | U2.x |  |  |
| M3.U | U3.BB |  |  |
| M3.Y | U3.EE |  |  |
| M3.Z | U3.GG |  |  |
| M3.f | U3.x |  |  |
| M3.g | U3.y |  |  |
| M3.p | U3.FF |  |  |

**OBSERVATIONS:**

**Cleared / Not Cleared**

**PROJ QC FIRM REP SSQAG**

**9.1.3 A3LOOMS**

**A3 UMBILICAL LOOMS**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **SIU to LJB A3 LOOM ELECTRICAL CONFIGUARATION** | | | | |
| **S.NO** | **CONNECTOR REFRENCE** | **CONNECTOR PART NO** | **USED PIN** | **UNUSED PIN** |
| 1 | M1 | MS3475-W24-61PN | A to K, R to a, c, e to q, DD to KK, NN | L to P, b, d, r to CC, LL, MM, PP |
| 2 | M2 | MS3475-W24-61SN | A to CC | DD to PP |
| 3 | M3 | MS3475-W22-55SN | A to M, b to g, p to t, v to x, z to BB, DD to FF | N to a, h to n, u, y, CC, GG, HH |
| 1 | U1 | MS3475-W24-61SN | A,P to p, t | B to N, q to s, u to PP |
| 2 | U2 | MS3475-W24-61PN | A to b, i to m, t, v to JJ, MM to PP | C to h, n to s, u, LL |
| 3 | U3 | MS3475-W22-55PN | A to G, J to c, h to BB, DD to HH | H, d to g,CC |



**Loom No: DATE:**

| **M1: MS3475-W24-61PN** | **U2,U3,** | **Continuity Check**  **OK / Not OK** | **REMARKS** |
| --- | --- | --- | --- |
| M1.J | U2.MM |  |  |
| M1.K | U2.PJ |  |  |
| M1.R | U2.i |  |  |
| M1.S | U2.k |  |  |
| M1.FF | U2.j |  |  |
| M1.GG | U2.m |  |  |
| M1.A | U3.L |  |  |
| M1.B | U3.M |  |  |
| M1.C | U3.S |  |  |
| M1.D | U3.T |  |  |
| M1.E | U3.J |  |  |
| M1.F | U3.K |  |  |
| M1.G | U3.P |  |  |
| M1.H | U3.R |  |  |
| M1.T | U3.Z |  |  |
| M1.U | U3.a |  |  |
| M1.V | U3.b |  |  |
| M1.W | U3.V |  |  |
| M1.X | U3.W |  |  |
| M1.Y | U3.X |  |  |
| M1.Z | U3.t |  |  |
| M1.a | U3.v |  |  |
| M1.c | U3.w |  |  |
| M1.e | U3.B |  |  |
| M1.f | U3.h |  |  |
| M1.g | U3.i |  |  |
| M1.h | U3.j |  |  |
| M1.i | U3.k |  |  |
| M1.j | U3.n |  |  |
| M1.k | U3.p |  |  |
| M1.m | U3.q |  |  |
| M1.n | U3.r |  |  |
| M1.p | U3.m |  |  |
| M1.q | U3.s |  |  |
| M1.DD | U3.N |  |  |
| M1.EE | U3.U |  |  |
| M1.HH | U3.c |  |  |
| M1.JJ | U3.Y |  |  |
| M1.KK | U3.x |  |  |
| M1.NN | U3.C |  |  |

**OBSERVATIONS:**

**Cleared / Not Cleared**

**PROJ QC FIRM REP SSQAG**



**Loom No: DATE:**

| **M2: MS3475-W24-61SN** | **U1,U2,** | **Continuity Check**  **OK / Not OK** | **REMARKS** |
| --- | --- | --- | --- |
| M2.r | U1.P |  |  |
| M2.s | U1.R |  |  |
| M2.t | U1.S |  |  |
| M2.u | U1.T |  |  |
| M2.v | U1.U |  |  |
| M2.w | U1.V |  |  |
| M2.x | U1.W |  |  |
| M2.y | U1.X |  |  |
| M2.z | U1.Y |  |  |
| M2.AA | U1.Z |  |  |
| M2.BB | U1.a |  |  |
| M2.CC | U1.b |  |  |
| M2.A | U2.B |  |  |
| M2.B | U2.C |  |  |
| M2.C | U2.D |  |  |
| M2.D | U2.E |  |  |
| M2.E | U2.F |  |  |
| M2.F | U2.G |  |  |
| M2.G | U2.H |  |  |
| M2.H | U2.J |  |  |
| M2.J | U2.K |  |  |
| M2.K | U2.L |  |  |
| M2.L | U2.M |  |  |
| M2.M | U2.N |  |  |
| M2.N | U2.P |  |  |
| M2.P | U2.R |  |  |
| M2.R | U2.S |  |  |
| M2.S | U2.T |  |  |
| M2.T | U2.U |  |  |
| M2.U | U2.V |  |  |
| M2.V | U2.W |  |  |
| M2.W | U2.X |  |  |
| M2.X | U2.Y |  |  |
| M2.Y | U2.Z |  |  |
| M2.Z | U2.a |  |  |
| M2.a | U2.b |  |  |
| M2.b | U2.v |  |  |
| M2.c | U2.w |  |  |
| M2.d | U2.x |  |  |
| M2.e | U2.y |  |  |
| M2.f | U2.z |  |  |
| M2.g | U2.AA |  |  |
| M2.h | U2.BB |  |  |
| M2.i | U2.CC |  |  |
| M2.j | U2.DD |  |  |
| M2.k | U2.EE |  |  |
| M2.m | U2.FF |  |  |
| M2.n | U2.GG |  |  |
| M2.p | U2.HH |  |  |
| M2.q | U2.JJ |  |  |

**OBSERVATIONS:**

**Cleared / Not Cleared**

**PROJ QC FIRM REP SSQAG**



**Loom No: DATE:**

| **M3: MS3475-W22-55SN** | **U1,U2,U3** | **Continuity Check**  **OK / Not OK** | **REMARKS** |
| --- | --- | --- | --- |
| M3.A | U1.c |  |  |
| M3.B | U1.e |  |  |
| M3.D | U1.f |  |  |
| M3.E | U1.h |  |  |
| M3.G | U1.i |  |  |
| M3.H | U1.k |  |  |
| M3.K | U1.m |  |  |
| M3.L | U1.p |  |  |
| M3.C | U1.d |  |  |
| M3.F | U1.g |  |  |
| M3.J | U1.j |  |  |
| M3.M | U1.n |  |  |
| M3.b | U1.A |  |  |
| M3.c | U1.t |  |  |
| M3.d | U2.A |  |  |
| M3.e | U2.t |  |  |
| M3.q | U2.NN |  |  |
| M3.r | U3.D |  |  |
| M3.s | U3.y |  |  |
| M3.t | U3.z |  |  |
| M3.z | U3.AA |  |  |
| M3.AA | U3.BB |  |  |
| M3.BB | U3.F |  |  |
| M3.DD | U3.GG |  |  |
| M3.EE | U3.HH |  |  |
| M3.FF | U3.G |  |  |
| M3.v | U3.E |  |  |
| M3.w | U3.EE |  |  |
| M3.x | U3.FF |  |  |
| M3.f | U3.A |  |  |
| M3.g | U3.DD |  |  |
| M3.p | U3.u |  |  |

**OBSERVATIONS:**

**Cleared / Not Cleared**

**PROJ QC FIRM REP SSQAG**

**9.2MEGGER TEST REPORT**

The insulation resistance check involves the use of the Megger instrument. The insulation of the conductor is determined with respect to the other conductors in the same connector.

**PROCEDURE:** The positive probe is connected with the pin to test and the negative probe is connected to the all other pins listed in the table and the body of the connector. For certain signals the insulation resistance with the other signals and ground will be indicated as 0 ohms, this is because of signals having a common ground point and common source these are mentioned in remarks.

**ACCEPTNCE CRITERIA:** The insulation resistance as indicated by the MEGGER for the conductors of the connectors shall not be less than 20M ohms. (Exceptions mentioned in case of some signals)

**9.2**.**1 A5 LOOMS**

|  | **Connector M1:MS3475-W24-61PN** | | |  |
| --- | --- | --- | --- | --- |
| **PROBE (+)** | **Pin to pin and Body IR** | | | **Remarks** |
| **PROBE(-)** | **Expected Resistance** | **Measured Resistance** |
| M1.E | F to LL | > 20 MΩ |  |  |
| M1.F | G to LL | > 20 MΩ |  |  |
| M1.G | H to LL | > 20 MΩ |  |  |
| M1.H | R to LL | > 20 MΩ |  |  |
| M1.R | S to LL | > 20 MΩ |  |  |
| M1.S | T to LL | > 20 MΩ |  |  |
| M1.T | V to LL | > 20 MΩ |  |  |
| M1.V | W to LL | > 20 MΩ |  |  |
| M1.W | X to LL | > 20 MΩ |  |  |
| M1.X | Y to LL | > 20 MΩ |  |  |
| M1.Y | Z to LL | > 20 MΩ |  |  |
| M1.Z | a to LL | > 20 MΩ |  |  |
| M1.a | c to LL | > 20 MΩ |  |  |
| M1.c | d to LL | > 20 MΩ |  |  |
| M1.d | e to LL | > 20 MΩ |  |  |
| M1.e | f to LL | > 20 MΩ |  |  |
| M1.f | g to LL | > 20 MΩ |  |  |
| M1.g | h to LL | > 20 MΩ |  |  |
| M1.h | i to LL | > 20 MΩ |  |  |
| M1.i | j to LL | > 20 MΩ |  |  |
| M1.j | k to LL | > 20 MΩ |  |  |
| M1.k | m to LL | > 20 MΩ |  |  |
| M1.m | n to LL | > 20 MΩ |  |  |
| M1.n | p to LL | > 20 MΩ |  |  |
| M1.p | q to LL | > 20 MΩ |  |  |
| M1.q | r to LL | > 20 MΩ |  |  |
| M1.r | s to LL | > 20 MΩ |  |  |
| M1.s | t to LL | > 20 MΩ |  |  |
| M1.t | u to LL | > 20 MΩ |  |  |
| M1.u | v to LL | > 20 MΩ |  |  |
| M1.v | w to LL | > 20 MΩ |  |  |
| M1.w | x to LL | > 20 MΩ |  |  |
| M1.x | y to LL | > 20 MΩ |  |  |
| M1.y | z to LL | > 20 MΩ |  |  |
| M1.z | AA to LL | > 20 MΩ |  |  |
| M1.AA | BB to LL | > 20 MΩ |  |  |
| M1.BB | CC to LL | > 20 MΩ |  |  |
| M1.CC | DD to LL | > 20 MΩ |  |  |
| M1.DD | EE TO LL | > 20 MΩ |  |  |
| M1.EE | FF TO LL | > 20 MΩ |  |  |
| M1.FF | GG TO LL | > 20 MΩ |  |  |
| M1.GG | HH TO LL | > 20 MΩ |  |  |
| M1.HH | JJ TO LL | > 20 MΩ |  |  |
| M1.JJ | KK TO LL | > 20 MΩ |  |  |
| M1.KK | LL | > 20 MΩ |  |  |

**Unused pins**: A, B, C, D, J, K, L, M, P, b, MM, NN, PP

**OBSERVATIONS:**

**TEST CLEARED/NOT CLEARED**

**PROJ QC Firm rep SSQAG REP**

|  | **Connector M2: MS3475-W24-61SN** | | |  |
| --- | --- | --- | --- | --- |
| **PROBE (+)** | **Pin to pin and Body IR** | | | **Remarks** |
| **PROBE(-)** | **Expected Resistance** | **Measured Resistance** |
| M2.A | B to NN | > 20 MΩ |  |  |
| M2.B | C to NN | > 20 MΩ |  |  |
| M2.C | D to NN | > 20 MΩ |  |  |
| M2.D | E to NN | > 20 MΩ |  |  |
| M2.E | F to NN | > 20 MΩ |  |  |
| M2.F | G to NN | > 20 MΩ |  |  |
| M2.G | H to NN | > 20 MΩ |  |  |
| M2.H | J to NN | > 20 MΩ |  |  |
| M2.J | K to NN | > 20 MΩ |  |  |
| M2.K | L to NN | > 20 MΩ |  |  |
| M2.L | M to NN | > 20 MΩ |  |  |
| M2.M | N to NN | > 20 MΩ |  |  |
| M2.N | P to NN | > 20 MΩ |  |  |
| M2.P | R to NN | > 20 MΩ |  |  |
| M2.R | S to NN | > 20 MΩ |  |  |
| M2.S | T to NN | > 20 MΩ |  |  |
| M2.T | U to NN | > 20 MΩ |  |  |
| M2.U | V to NN | > 20 MΩ |  |  |
| M2.V | W to NN | > 20 MΩ |  |  |
| M2.W | X to NN | > 20 MΩ |  |  |
| M2.X | Y to NN | > 20 MΩ |  |  |
| M2.Y | Z to NN | > 20 MΩ |  |  |
| M2.Z | a to NN | > 20 MΩ |  |  |
| M2.a | b to NN | > 20 MΩ |  |  |
| M2.b | c to NN | > 20 MΩ |  |  |
| M2.c | d to NN | > 20 MΩ |  |  |
| M2.d | e to NN | > 20 MΩ |  |  |
| M2.e | f to NN | > 20 MΩ |  |  |
| M2.f | g to NN | > 20 MΩ |  |  |
| M2.g | h to NN | > 20 MΩ |  |  |
| M2.h | i to NN | > 20 MΩ |  |  |
| M2.i | j to NN | > 20 MΩ |  |  |
| M2.j | k to NN | > 20 MΩ |  |  |
| M2.k | m to NN | > 20 MΩ |  |  |
| M2.m | n to NN | > 20 MΩ |  |  |
| M2.n | p to NN | > 20 MΩ |  |  |
| M2.p | q to NN | > 20 MΩ |  |  |
| M2.q | r to NN | > 20 MΩ |  |  |
| M2.r | s to NN | > 20 MΩ |  |  |
| M2.s | t to NN | > 20 MΩ |  |  |
| M2.t | u to NN | > 20 MΩ |  |  |
| M2.u | v to NN | > 20 MΩ |  |  |
| M2.v | w to NN | > 20 MΩ |  |  |
| M2.w | x to NN | > 20 MΩ |  |  |
| M2.x | y to NN | > 20 MΩ |  |  |
| M2.y | z to NN | > 20 MΩ |  |  |
| M2.z | AA to NN | > 20 MΩ |  |  |
| M2.AA | BB to NN | > 20 MΩ |  |  |
| M2.BB | CC to NN | > 20 MΩ |  |  |
| M2.CC | DD to NN | > 20 MΩ |  |  |
| M2.DD | EE to NN | > 20 MΩ |  |  |
| M2.EE | FF to NN | > 20 MΩ |  |  |
| M2.FF | GG to NN | > 20 MΩ |  |  |
| M2.GG | HH to NN | > 20 MΩ |  |  |
| M2.HH | JJ to NN | > 20 MΩ |  |  |
| M2.JJ | KK to NN | > 20 MΩ |  |  |
| M2.KK | LL to NN | > 20 MΩ |  |  |
| M2.LL | MM to NN | > 20 MΩ |  |  |
| M2.MM | NN | > 20 MΩ |  |  |

**Unused pins**: PP

**OBSERVATIONS:**

**TEST CLEARED/NOT CLEARED**

**PROJ QC Firm rep SSQAG REP**

|  | **Connector M3: MS3475-W22-55SN** | | |  |
| --- | --- | --- | --- | --- |
| **PROBE (+)** | **Pin to pin and Body IR** | | | **Remarks** |
| **PROBE(-)** | **Expected Resistance** | **Measured Resistance** |
| M3.A | B to BB | > 20 MΩ |  |  |
| M3.B | C to BB | > 20 MΩ |  |  |
| M3.C | D to BB | > 20 MΩ |  |  |
| M3.D | E to BB | > 20 MΩ |  |  |
| M3.E | F to BB | > 20 MΩ |  |  |
| M3.F | G to BB | > 20 MΩ |  |  |
| M3.G | H to BB | > 20 MΩ |  |  |
| M3.H | J to BB | > 20 MΩ |  |  |
| M3.J | K to BB | > 20 MΩ |  |  |
| M3.K | L to BB | > 20 MΩ |  |  |
| M3.L | M to BB | > 20 MΩ |  |  |
| M3.M | N to BB | > 20 MΩ |  |  |
| M3.N | P to BB | > 20 MΩ |  |  |
| M3.P | R to BB | > 20 MΩ |  |  |
| M3.R | S to BB | > 20 MΩ |  |  |
| M3.S | T to BB | > 20 MΩ |  |  |
| M3.T | U to BB | > 20 MΩ |  |  |
| M3.U | W to BB | > 20 MΩ |  |  |
| M3.W | X to BB | > 20 MΩ |  |  |
| M3.X | Y to BB | > 20 MΩ |  |  |
| M3.Y | Z to BB | > 20 MΩ |  |  |
| M3.Z | a to BB | > 20 MΩ |  |  |
| M3.a | b to BB | > 20 MΩ |  |  |
| M3.b | c to BB | > 20 MΩ |  |  |
| M3.c | d to BB | > 20 MΩ |  |  |
| M3.d | e to BB | > 20 MΩ |  |  |
| M3.e | f to BB | > 20 MΩ |  |  |
| M3.f | g to BB | > 20 MΩ |  |  |
| M3.g | h to BB | > 20 MΩ |  |  |
| M3.h | i to BB | > 20 MΩ |  |  |
| M3.i | j to BB | > 20 MΩ |  |  |
| M3.j | k to BB | > 20 MΩ |  |  |
| M3.k | m to BB | > 20 MΩ |  |  |
| M3.m | n to BB | > 20 MΩ |  |  |
| M3.n | p to BB | > 20 MΩ |  |  |
| M3.p | r to BB | > 20 MΩ |  |  |
| M3.r | s to BB | > 20 MΩ |  |  |
| M3.s | t to BB | > 20 MΩ |  |  |
| M3.t | z to BB | > 20 MΩ |  |  |
| M3.z | AA to BB | > 20 MΩ |  |  |
| M3.AA | BB | > 20 MΩ |  |  |

**Unused pins**: V, q, u, v, w, x, y, CC,DD,EE,FF,GG,HH,

**OBSERVATIONS:**

**TEST CLEARED/NOT CLEARED**

**PROJ QC Firm rep SSQAG REP**

|  | **Connector M4: D38999 26WG 35SN** | | |  |
| --- | --- | --- | --- | --- |
| **PROBE (+)** | **Pin to pin and Body IR** | | | **Remarks** |
| **PROBE(-)** | **Expected Resistance** | **Measured Resistance** |
| M4.1 | 2 to 75 | > 20 MΩ |  |  |
| M4. 2 | 3 to 75 | > 20 MΩ |  |  |
| M4. 3 | 4 to 75 | > 20 MΩ |  |  |
| M4.4 | 5 to 75 | > 20 MΩ |  |  |
| M4.5 | 6 to 75 | > 20 MΩ |  |  |
| M4. 6 | 7 to 75 | > 20 MΩ |  |  |
| M4.7 | 8 to 75 | > 20 MΩ |  |  |
| M4. 8 | 9 to 75 | > 20 MΩ |  |  |
| M4. 9 | 10 to 75 | > 20 MΩ |  |  |
| M4.10 | 11 to 75 | > 20 MΩ |  |  |
| M4. 11 | 12 to 75 | > 20 MΩ |  |  |
| M4.12 | 13 to 75 | > 20 MΩ |  |  |
| M4.13 | 14 to 75 | > 20 MΩ |  |  |
| M4. 14 | 15 to 75 | > 20 MΩ |  |  |
| M4.15 | 16 to 75 | > 20 MΩ |  |  |
| M4. 16 | 17 to 75 | > 20 MΩ |  |  |
| M4. 17 | 18 to 75 | > 20 MΩ |  |  |
| M4. 18 | 19 to 75 | > 20 MΩ |  |  |
| M4. 19 | 20 to 75 | > 20 MΩ |  |  |
| M4.20 | 21 to 75 | > 20 MΩ |  |  |
| M4.21 | 22 to 75 | > 20 MΩ |  |  |
| M4.22 | 23 to 75 | > 20 MΩ |  |  |
| M4.23 | 24 to 75 | > 20 MΩ |  |  |
| M4.24 | 25 to 75 | > 20 MΩ |  |  |
| M4. 25 | 26 to 75 | > 20 MΩ |  |  |
| M4.26 | 27 to 75 | > 20 MΩ |  |  |
| M4.27 | 28 to 75 | > 20 MΩ |  |  |
| M4. 28 | 29 to 75 | > 20 MΩ |  |  |
| M4. 29 | 30 to 75 | > 20 MΩ |  |  |
| M4.30 | 31 to 75 | > 20 MΩ |  |  |
| M4.31 | 32 to 75 | > 20 MΩ |  |  |
| M4.32 | 33 to 75 | > 20 MΩ |  |  |
| M4.33 | 34 to 75 | > 20 MΩ |  |  |
| M4.34 | 35 to 75 | > 20 MΩ |  |  |
| M4. 35 | 36 to 75 | > 20 MΩ |  |  |
| M4.36 | 37 to 75 | > 20 MΩ |  |  |
| M4. 37 | 38 to 75 | > 20 MΩ |  |  |
| M4. 38 | 39 to 75 | > 20 MΩ |  |  |
| M4.39 | 40 to 75 | > 20 MΩ |  |  |
| M4.40 | 41 to 75 | > 20 MΩ |  |  |
| M4.41 | 42 to 75 | > 20 MΩ |  |  |
| M4.42 | 43 to 75 | > 20 MΩ |  |  |
| M4.43 | 44 to 75 | > 20 MΩ |  |  |
| M4.44 | 45 to 75 | > 20 MΩ |  |  |
| M4.45 | 46 to 75 | > 20 MΩ |  |  |
| M4.46 | 47 to 75 | > 20 MΩ |  |  |
| M4.47 | 48 to 75 | > 20 MΩ |  |  |
| M4.48 | 49 to 75 | > 20 MΩ |  |  |
| M4.49 | 50 to 75 | > 20 MΩ |  |  |
| M4. 50 | 51 to 75 | > 20 MΩ |  |  |
| M4.51 | 52 to 75 | > 20 MΩ |  |  |
| M4.52 | 53 to 75 | > 20 MΩ |  |  |
| M4.53 | 54 to 75 | > 20 MΩ |  |  |
| M4. 54 | 55 to 75 | > 20 MΩ |  |  |
| M4.55 | 56 to 75 | > 20 MΩ |  |  |
| M4.56 | 57 to 75 | > 20 MΩ |  |  |
| M4.57 | 58 to 75 | > 20 MΩ |  |  |
| M4.58 | 59 to 75 | > 20 MΩ |  |  |
| M4.59 | 60 to 75 | > 20 MΩ |  |  |
| M4.60 | 61 to 75 | > 20 MΩ |  |  |
| M4.61 | 62 to 75 | > 20 MΩ |  |  |
| M4.62 | 63 to 75 | > 20 MΩ |  |  |
| M4.63 | 64 to 75 | > 20 MΩ |  |  |
| M4. 64 | 65 to 75 | > 20 MΩ |  |  |
| M4.65 | 67 to 75 | > 20 MΩ |  |  |
| M4.67 | 69 to 75 | > 20 MΩ |  |  |
| M4.69 | 71 to 75 | > 20 MΩ |  |  |
| M4.71 | 73 to 75 | > 20 MΩ |  |  |
| M4.73 | 75 | > 20 MΩ |  |  |

**unused pins**:66,68,70,72,74,76,77,78,79

**OBSERVATIONS:**

**TEST Cleared / Not Cleared**

**PROJ QC Firm rep SSQAG REP**

**9.2.2 A4 LOOMS**

|  | **Connector M1: MS3475-W24-61PN** | | |  |
| --- | --- | --- | --- | --- |
| **PROBE (+)** | **Pin to pin and Body IR** | | | **Remarks** |
| **PROBE(-)** | **Expected Resistance** | **Measured Resistance** |
| M1.A | B to NN | > 20 MΩ |  |  |
| M1.B | C to NN | > 20 MΩ |  |  |
| M1.C | D to NN | > 20 MΩ |  |  |
| M1.D | E to NN | > 20 MΩ |  |  |
| M1.E | F to NN | > 20 MΩ |  |  |
| M1.F | G to NN | > 20 MΩ |  |  |
| M1.G | H to NN | > 20 MΩ |  |  |
| M1.H | J to NN | > 20 MΩ |  |  |
| M1.J | J to NN | > 20 MΩ |  |  |
| M1.K | L to NN | > 20 MΩ |  |  |
| M1.L | M to NN | > 20 MΩ |  |  |
| M1.M | N to NN | > 20 MΩ |  |  |
| M1.N | P to NN | > 20 MΩ |  |  |
| M1.P | R to NN | > 20 MΩ |  |  |
| M1.R | S to NN | > 20 MΩ |  |  |
| M1.S | T to NN | > 20 MΩ |  |  |
| M1.T | U to NN | > 20 MΩ |  |  |
| M1.U | V to NN | > 20 MΩ |  |  |
| M1.V | W to NN | > 20 MΩ |  |  |
| M1.W | X to NN | > 20 MΩ |  |  |
| M1.X | Y to NN | > 20 MΩ |  |  |
| M1.Y | Z to NN | > 20 MΩ |  |  |
| M1.Z | a to NN | > 20 MΩ |  |  |
| M1.a | b to NN | > 20 MΩ |  |  |
| M1.b | c to NN | > 20 MΩ |  |  |
| M1.c | d to NN | > 20 MΩ |  |  |
| M1.d | e to NN | > 20 MΩ |  |  |
| M1.e | f to NN | > 20 MΩ |  |  |
| M1.f | g to NN | > 20 MΩ |  |  |
| M1.g | h to NN | > 20 MΩ |  |  |
| M1.h | i to NN | > 20 MΩ |  |  |
| M1.i | j to NN | > 20 MΩ |  |  |
| M1.j | k to NN | > 20 MΩ |  |  |
| M1.k | m to NN | > 20 MΩ |  |  |
| M1.m | n to NN | > 20 MΩ |  |  |
| M1.n | p to NN | > 20 MΩ |  |  |
| M1.p | q to NN | > 20 MΩ |  |  |
| M1.q | y to NN | > 20 MΩ |  |  |
| M1.y | BB to NN | > 20 MΩ |  |  |
| M1.BB | CC to NN | > 20 MΩ |  |  |
| M1.CC | DD to NN | > 20 MΩ |  |  |
| M1.DD | EE to NN | > 20 MΩ |  |  |
| M1.EE | FF to NN | > 20 MΩ |  |  |
| M1.FF | GG to NN | > 20 MΩ |  |  |
| M1.GG | HH to NN | > 20 MΩ |  |  |
| M1.HH | JJ to NN | > 20 MΩ |  |  |
| M1.JJ | KK to NN | > 20 MΩ |  |  |
| M1.KK | LL to NN | > 20 MΩ |  |  |
| M1.LL | MM to NN | > 20 MΩ |  |  |
| M1.MM | NN | > 20 MΩ |  |  |

**Unused pins**: AA, r, s, t, u, v, w, x, z, PP

**OBSERVATIONS:**

**TEST Cleared / Not Cleared**

**PROJ QC Firm rep SSQAG REP**

|  | **Connector M2: MS3475-W24-61SN** | | |  |
| --- | --- | --- | --- | --- |
| **PROBE (+)** | **Pin to pin and Body IR** | | | **Remarks** |
| **PROBE(-)** | **Expected Resistance** | **Measured Resistance** |
| M2.A | B to y | > 20 MΩ |  |  |
| M2.B | C to y | > 20 MΩ |  |  |
| M2.C | D to y | > 20 MΩ |  |  |
| M2.D | E to y | > 20 MΩ |  |  |
| M2.E | F to y | > 20 MΩ |  |  |
| M2.F | G to y | > 20 MΩ |  |  |
| M2.G | H to y | > 20 MΩ |  |  |
| M2.H | J to y | > 20 MΩ |  |  |
| M2.J | K to y | > 20 MΩ |  |  |
| M2.K | L to y | > 20 MΩ |  |  |
| M2.L | M to y | > 20 MΩ |  |  |
| M2.M | N to y | > 20 MΩ |  |  |
| M2.N | P to y | > 20 MΩ |  |  |
| M2.P | R to y | > 20 MΩ |  |  |
| M2.R | S to y | > 20 MΩ |  |  |
| M2.S | T to y | > 20 MΩ |  |  |
| M2.T | U to y | > 20 MΩ |  |  |
| M2.U | V to y | > 20 MΩ |  |  |
| M2.V | W to y | > 20 MΩ |  |  |
| M2.W | X to y | > 20 MΩ |  |  |
| M2.X | Y to y | > 20 MΩ |  |  |
| M2.Y | Z to y | > 20 MΩ |  |  |
| M2.Z | a to y | > 20 MΩ |  |  |
| M2.a | b to y | > 20 MΩ |  |  |
| M2.b | c to y | > 20 MΩ |  |  |
| M2.c | d to y | > 20 MΩ |  |  |
| M2.d | e to y | > 20 MΩ |  |  |
| M2.e | f to y | > 20 MΩ |  |  |
| M2.f | g to y | > 20 MΩ |  |  |
| M2.g | h to y | > 20 MΩ |  |  |
| M2.h | i to y | > 20 MΩ |  |  |
| M2.i | j to y | > 20 MΩ |  |  |
| M2.j | k to y | > 20 MΩ |  |  |
| M2.k | m to y | > 20 MΩ |  |  |
| M2.m | n to y | > 20 MΩ |  |  |
| M2.n | p to y | > 20 MΩ |  |  |
| M2.p | q to y | > 20 MΩ |  |  |
| M2.q | r to y | > 20 MΩ |  |  |
| M2.r | s to y | > 20 MΩ |  |  |
| M2.s | t to y | > 20 MΩ |  |  |
| M2.t | u to y | > 20 MΩ |  |  |
| M2.u | v to y | > 20 MΩ |  |  |
| M2.v | w to y | > 20 MΩ |  |  |
| M2.w | x to y | > 20 MΩ |  |  |
| M2.x | y | > 20 MΩ |  |  |

**unused pins**: z, AA,BB,CC,DD,EE,FF,GG,HH,JJ,KK,LL,MM,NN,PP

**OBSERVATIONS:**

**TEST Cleared / Not Cleared**

**PROJ QC Firm rep SSQAG REP**

|  | **Connector M3: MS3475-W22-55SN** | | |  |
| --- | --- | --- | --- | --- |
| **PROBE (+)** | **Pin to pin and Body IR** | | | **Remarks** |
| **PROBE(-)** | **Expected Resistance** | **Measured Resistance** |
| M3.A | B to CC | > 20 MΩ |  |  |
| M3.B | C to CC | > 20 MΩ |  |  |
| M3.C | D to CC | > 20 MΩ |  |  |
| M3.D | E to CC | > 20 MΩ |  |  |
| M3.E | F to CC | > 20 MΩ |  |  |
| M3.F | G to CC | > 20 MΩ |  |  |
| M3.G | H to CC | > 20 MΩ |  |  |
| M3.H | K to CC | > 20 MΩ |  |  |
| M3.K | L to CC | > 20 MΩ |  |  |
| M3.L | J to CC | > 20 MΩ |  |  |
| M3.J | M to CC | > 20 MΩ |  |  |
| M3.M | S to CC | > 20 MΩ |  |  |
| M3.S | U to CC | > 20 MΩ |  |  |
| M3.U | W to CC | > 20 MΩ |  |  |
| M3.W | X to CC | > 20 MΩ |  |  |
| M3.X | Y to CC | > 20 MΩ |  |  |
| M3.Y | Z to CC | > 20 MΩ |  |  |
| M3.Z | b to CC | > 20 MΩ |  |  |
| M3.b | c to CC | > 20 MΩ |  |  |
| M3.c | d to CC | > 20 MΩ |  |  |
| M3.d | e to CC | > 20 MΩ |  |  |
| M3.e | f to CC | > 20 MΩ |  |  |
| M3.f | g to CC | > 20 MΩ |  |  |
| M3.g | p to CC | > 20 MΩ |  |  |
| M3.p | r to CC | > 20 MΩ |  |  |
| M3.r | s to CC | > 20 MΩ |  |  |
| M3.s | t to CC | > 20 MΩ |  |  |
| M3.t | u to CC | > 20 MΩ |  |  |
| M3.u | z to CC | > 20 MΩ |  |  |
| M3.z | AA to CC | > 20 MΩ |  |  |
| M3.AA | BB to CC | > 20 MΩ |  |  |
| M3.BB | CC | > 20 MΩ |  |  |

**unused pins**: N, P, R, T, V, a, h, i, j, k, m, n, q, v, w, x, y, DD,EE,FF,GG,HH

**OBSERVATIONS:**

**TEST Cleared / Not Cleared**

**PROJ QC Firm rep SSQAG REP**

**9.2.3 A3 LOOMS**

|  | **Connector M1: MS3475-W24-61PN** | | |  |
| --- | --- | --- | --- | --- |
| **PROBE (+)** | **Pin to pin and Body IR** | | | **Remarks** |
| **PROBE(-)** | **Expected Resistance** | **Measured Resistance** |
| M1.A | B to NN | > 20 MΩ |  |  |
| M1.B | C to NN | > 20 MΩ |  |  |
| M1.C | D to NN | > 20 MΩ |  |  |
| M1.D | E to NN | > 20 MΩ |  |  |
| M1.E | F to NN | > 20 MΩ |  |  |
| M1.F | G to NN | > 20 MΩ |  |  |
| M1.G | H to NN | > 20 MΩ |  |  |
| M1.H | J to NN | > 20 MΩ |  |  |
| M1.J | K to NN | > 20 MΩ |  |  |
| M1.K | R to NN | > 20 MΩ |  |  |
| M1.R | S to NN | > 20 MΩ |  |  |
| M1.S | T to NN | > 20 MΩ |  |  |
| M1.T | U to NN | > 20 MΩ |  |  |
| M1.U | V to NN | > 20 MΩ |  |  |
| M1.V | W to NN | > 20 MΩ |  |  |
| M1.W | X to NN | > 20 MΩ |  |  |
| M1.X | Y to NN | > 20 MΩ |  |  |
| M1.Y | Z to NN | > 20 MΩ |  |  |
| M1.Z | a to NN | > 20 MΩ |  |  |
| M1.a | c to NN | > 20 MΩ |  |  |
| M1.c | e to NN | > 20 MΩ |  |  |
| M1.e | f to NN | > 20 MΩ |  |  |
| M1.f | g to NN | > 20 MΩ |  |  |
| M1.g | h to NN | > 20 MΩ |  |  |
| M1.h | i to NN | > 20 MΩ |  |  |
| M1.i | j to NN | > 20 MΩ |  |  |
| M1.j | k to NN | > 20 MΩ |  |  |
| M1.k | m to NN | > 20 MΩ |  |  |
| M1.m | n to NN | > 20 MΩ |  |  |
| M1.n | p to NN | > 20 MΩ |  |  |
| M1.p | q to NN | > 20 MΩ |  |  |
| M1.q | DD to NN | > 20 MΩ |  |  |
| M1.DD | EE to NN | > 20 MΩ |  |  |
| M1.EE | FF to NN | > 20 MΩ |  |  |
| M1.FF | GG to NN | > 20 MΩ |  |  |
| M1.GG | HH to NN | > 20 MΩ |  |  |
| M1.HH | JJ to NN | > 20 MΩ |  |  |
| M1.JJ | KK to NN | > 20 MΩ |  |  |
| M1.KK | NN | > 20 MΩ |  |  |

**Unused pins**: L, M, N, P ,b, d, r, s, t, u, v, w, x, y, z, AA,BB,CC,LL,MM,PP

**OBSERVATIONS:**

**TEST Cleared / Not Cleared**

**PROJ QC Firm rep SSQAG REP**

|  | **Connector M2: MS3475-W24-61SN** | | |  |
| --- | --- | --- | --- | --- |
| **PROBE (+)** | **Pin to pin and Body IR** | | | **Remarks** |
| **PROBE(-)** | **Expected Resistance** | **Measured Resistance** |
| M2.A | B to CC | > 20 MΩ |  |  |
| M2.B | C to CC | > 20 MΩ |  |  |
| M2.C | D to CC | > 20 MΩ |  |  |
| M2.D | E to CC | > 20 MΩ |  |  |
| M2.E | F to CC | > 20 MΩ |  |  |
| M2.F | G to CC | > 20 MΩ |  |  |
| M2.G | H to CC | > 20 MΩ |  |  |
| M2.H | J to CC | > 20 MΩ |  |  |
| M2.J | K to CC | > 20 MΩ |  |  |
| M2.K | L to CC | > 20 MΩ |  |  |
| M2.L | M to CC | > 20 MΩ |  |  |
| M2.M | N to CC | > 20 MΩ |  |  |
| M2.N | P to CC | > 20 MΩ |  |  |
| M2.P | R to CC | > 20 MΩ |  |  |
| M2.R | S to CC | > 20 MΩ |  |  |
| M2.S | T to CC | > 20 MΩ |  |  |
| M2.T | U to CC | > 20 MΩ |  |  |
| M2.U | V to CC | > 20 MΩ |  |  |
| M2.V | W to CC | > 20 MΩ |  |  |
| M2.W | X to CC | > 20 MΩ |  |  |
| M2.X | Y to CC | > 20 MΩ |  |  |
| M2.Y | Z to CC | > 20 MΩ |  |  |
| M2.Z | a to CC | > 20 MΩ |  |  |
| M2.a | b to CC | > 20 MΩ |  |  |
| M2.b | c to CC | > 20 MΩ |  |  |
| M2.c | d to CC | > 20 MΩ |  |  |
| M2.d | e to CC | > 20 MΩ |  |  |
| M2.e | f to CC | > 20 MΩ |  |  |
| M2.f | g to CC | > 20 MΩ |  |  |
| M2.g | h to CC | > 20 MΩ |  |  |
| M2.h | i to CC | > 20 MΩ |  |  |
| M2.i | j to CC | > 20 MΩ |  |  |
| M2.j | k to CC | > 20 MΩ |  |  |
| M2.k | m to CC | > 20 MΩ |  |  |
| M2.m | n to CC | > 20 MΩ |  |  |
| M2.n | p to CC | > 20 MΩ |  |  |
| M2.p | q to CC | > 20 MΩ |  |  |
| M2.q | r to CC | > 20 MΩ |  |  |
| M2.r | s to CC | > 20 MΩ |  |  |
| M2.s | t to CC | > 20 MΩ |  |  |
| M2.t | u to CC | > 20 MΩ |  |  |
| M2.u | v to CC | > 20 MΩ |  |  |
| M2.v | w to CC | > 20 MΩ |  |  |
| M2.w | x to CC | > 20 MΩ |  |  |
| M2.x | y to CC | > 20 MΩ |  |  |
| M2.y | z to CC | > 20 MΩ |  |  |
| M2.z | AA to CC | > 20 MΩ |  |  |
| M2.AA | BB to CC | > 20 MΩ |  |  |
| M2.BB | CC | > 20 MΩ |  |  |

**unused pins**: DD,EE,FF,GG,HH,JJ,KK,LL,MM,NN,PP

**OBSERVATIONS:**

**TEST Cleared / Not Cleared**

**PROJ QC Firm rep SSQAG REP**

|  | **Connector M3: MS3475-W22-55SN** | | |  |
| --- | --- | --- | --- | --- |
| **PROBE (+)** | **Pin to pin and Body IR** | | | **Remarks** |
| **PROBE(-)** | **Expected Resistance** | **Measured Resistance** |
| M3.A | B to FF | > 20 MΩ |  |  |
| M3.B | C to FF | > 20 MΩ |  |  |
| M3.C | D to FF | > 20 MΩ |  |  |
| M3.D | E to FF | > 20 MΩ |  |  |
| M3.E | F to FF | > 20 MΩ |  |  |
| M3.F | G to FF | > 20 MΩ |  |  |
| M3.G | H to FF | > 20 MΩ |  |  |
| M3.H | J to FF | > 20 MΩ |  |  |
| M3.J | K to FF | > 20 MΩ |  |  |
| M3.K | L to FF | > 20 MΩ |  |  |
| M3.L | M to FF | > 20 MΩ |  |  |
| M3.M | b to FF | > 20 MΩ |  |  |
| M3.b | c to FF | > 20 MΩ |  |  |
| M3.c | d to FF | > 20 MΩ |  |  |
| M3.d | e to FF | > 20 MΩ |  |  |
| M3.e | f to FF | > 20 MΩ |  |  |
| M3.f | g to FF | > 20 MΩ |  |  |
| M3.g | p to FF | > 20 MΩ |  |  |
| M3.p | q to FF | > 20 MΩ |  |  |
| M3.q | r to FF | > 20 MΩ |  |  |
| M3.r | s to FF | > 20 MΩ |  |  |
| M3.s | t to FF | > 20 MΩ |  |  |
| M3.t | v to FF | > 20 MΩ |  |  |
| M3.v | w to FF | > 20 MΩ |  |  |
| M3.w | x to FF | > 20 MΩ |  |  |
| M3.x | z to FF | > 20 MΩ |  |  |
| M3.z | AA to FF | > 20 MΩ |  |  |
| M3.AA | BB to FF | > 20 MΩ |  |  |
| M3.BB | DD to FF | > 20 MΩ |  |  |
| M3.DD | EE to FF | > 20 MΩ |  |  |
| M3.EE | FF | > 20 MΩ |  |  |

**unused pins**: N, R,S ,P, T, V, W, X, Y, Z, a, h, i, j, k, m, n, q, v, w, x, y, DD,EE,FF,GG,HH

**OBSERVATIONS:**

**TEST Cleared / Not Cleared**

**PROJ QC Firm rep SSQAG REP**

**9.3 RETENTION TEST REPORT**

**Procedure:** Before starting retention test, use correct retention tool as per the connector, retention tool to be inserted on the contact vertically. The unit / cable should be firm at one place during the test. If the unit / cable shake during test it damages the contact. Apply by hand and check retention of pin/sockets one by one, contacts required to check the retention is as below.

**9.3.1 A5 LOOMS**

| **M1:MS3475-W24-61PN** | **RETENTION TOOL HT210-20**  **OK / Not OK** | **REMARKS** |
| --- | --- | --- |
| M1.E |  |  |
| M1.F |  |  |
| M1.G |  |  |
| M1.H |  |  |
| M1.R |  |  |
| M1.S |  |  |
| M1.T |  |  |
| M1.U |  |  |
| M1.V |  |  |
| M1.W |  |  |
| M1.X |  |  |
| M1.Y |  |  |
| M1.Z |  |  |
| M1.a |  |  |
| M1.c |  |  |
| M1.d |  |  |
| M1.e |  |  |
| M1.f |  |  |
| M1.g |  |  |
| M1.h |  |  |
| M1.i |  |  |
| M1.j |  |  |
| M1.k |  |  |
| M1.m |  |  |
| M1.n |  |  |
| M1.p |  |  |
| M1.q |  |  |
| M1.r |  |  |
| M1.s |  |  |
| M1.t |  |  |
| M1.u |  |  |
| M1.v |  |  |
| M1.w |  |  |
| M1.x |  |  |
| M1.y |  |  |
| M1.z |  |  |
| M1.AA |  |  |
| M1.BB |  |  |
| M1.CC |  |  |
| M1.DD |  |  |
| M1.EE |  |  |
| M1.FF |  |  |
| M1.GG |  |  |
| M1.HH |  |  |
| M1.JJ |  |  |
| M1.LL |  |  |
| M1.KK |  |  |

**Unused pins**: A, B, C, D, J, K, L, M, P, b, MM,NN,PP

**OBSERVATIONS:**

**TEST Cleared / Not Cleared**

**PROJ QC Firm rep SSQAG REP**

| **M2:MS3475-W24-61SN** | **RETENTION TOOL HT210-20**  **OK / Not OK** | **REMARKS** |
| --- | --- | --- |
| M2.A |  |  |
| M2.B |  |  |
| M2.C |  |  |
| M2.D |  |  |
| M2.E |  |  |
| M2.F |  |  |
| M2.G |  |  |
| M2.H |  |  |
| M2.J |  |  |
| M2.K |  |  |
| M2.L |  |  |
| M2.M |  |  |
| M2.N |  |  |
| M2.P |  |  |
| M2.R |  |  |
| M2.S |  |  |
| M2.T |  |  |
| M2.U |  |  |
| M2.V |  |  |
| M2.W |  |  |
| M2.X |  |  |
| M2.Y |  |  |
| M2.Z |  |  |
| M2.a |  |  |
| M2.b |  |  |
| M2.c |  |  |
| M2.d |  |  |
| M2.e |  |  |
| M2.f |  |  |
| M2.g |  |  |
| M2.h |  |  |
| M2.i |  |  |
| M2.j |  |  |
| M2.k |  |  |
| M2.m |  |  |
| M2.n |  |  |
| M2.p |  |  |
| M2.q |  |  |
| M2.r |  |  |
| M2.s |  |  |
| M2.t |  |  |
| M2.u |  |  |
| M2.v |  |  |
| M2.w |  |  |
| M2.x |  |  |
| M2.y |  |  |
| M2.z |  |  |
| M2.AA |  |  |
| M2.BB |  |  |
| M2.CC |  |  |
| M2.DD |  |  |
| M2.EE |  |  |
| M2.FF |  |  |
| M2.GG |  |  |
| M2.HH |  |  |
| M2.JJ |  |  |
| M2.KK |  |  |
| M2.LL |  |  |
| M2.MM |  |  |
| M2.NN |  |  |

**Unused pins**: PP

**OBSERVATIONS:**

**TEST Cleared / Not Cleared**

**PROJ QC Firm rep SSQAG REP**

| **M3:MS3475-W22-55SN** | **RETENTION TOOL HT210-20**  **OK / Not OK** | **REMARKS** |
| --- | --- | --- |
| M3.A |  |  |
| M3.B |  |  |
| M3.C |  |  |
| M3.D |  |  |
| M3.E |  |  |
| M3.F |  |  |
| M3.G |  |  |
| M3.H |  |  |
| M3.J |  |  |
| M3.K |  |  |
| M3.L |  |  |
| M3.M |  |  |
| M3.N |  |  |
| M3.P |  |  |
| M3.R |  |  |
| M3.S |  |  |
| M3.T |  |  |
| M3.U |  |  |
| M3.W |  |  |
| M3.X |  |  |
| M3.Y |  |  |
| M3.Z |  |  |
| M3.a |  |  |
| M3.b |  |  |
| M3.c |  |  |
| M3.d |  |  |
| M3.e |  |  |
| M3.f |  |  |
| M3.g |  |  |
| M3.h |  |  |
| M3.i |  |  |
| M3.j |  |  |
| M3.k |  |  |
| M3.m |  |  |
| M3.n |  |  |
| M3.p |  |  |
| M3.r |  |  |
| M3.s |  |  |
| M3.t |  |  |
| M3.z |  |  |
| M3.AA |  |  |
| M3.BB |  |  |

**Unused pins**: V, q, u, v, w, x, y, CC, DD, EE, FF, GG, HH

**OBSERVATIONS:**

**TEST Cleared / Not Cleared**

**PROJ QC Firm rep SSQAG REP**

| **M4:D38999 26WG 35SN** | **RETENTION TOOL HT210-22**  **OK / Not OK** | **REMARKS** |
| --- | --- | --- |
| M4.1 |  |  |
| M4. 2 |  |  |
| M4. 3 |  |  |
| M4.4 |  |  |
| M4.5 |  |  |
| M4. 6 |  |  |
| M4.7 |  |  |
| M4. 8 |  |  |
| M4. 9 |  |  |
| M4.10 |  |  |
| M4. 11 |  |  |
| M4.12 |  |  |
| M4.13 |  |  |
| M4. 14 |  |  |
| M4.15 |  |  |
| M4. 16 |  |  |
| M4. 17 |  |  |
| M4. 18 |  |  |
| M4. 19 |  |  |
| M4.20 |  |  |
| M4.21 |  |  |
| M4.22 |  |  |
| M4.23 |  |  |
| M4.24 |  |  |
| M4. 25 |  |  |
| M4.26 |  |  |
| M4.27 |  |  |
| M4. 28 |  |  |
| M4. 29 |  |  |
| M4.30 |  |  |
| M4.31 |  |  |
| M4.32 |  |  |
| M4.33 |  |  |
| M4.34 |  |  |
| M4. 35 |  |  |
| M4.36 |  |  |
| M4. 37 |  |  |
| M4. 38 |  |  |
| M4.39 |  |  |
| M4.40 |  |  |
| M4.41 |  |  |
| M4.42 |  |  |
| M4.43 |  |  |
| M4.44 |  |  |
| M4.45 |  |  |
| M4.46 |  |  |
| M4.47 |  |  |
| M4.48 |  |  |
| M4.49 |  |  |
| M4. 50 |  |  |
| M4.51 |  |  |
| M4.52 |  |  |
| M4.53 |  |  |
| M4. 54 |  |  |
| M4.55 |  |  |
| M4.56 |  |  |
| M4.57 |  |  |
| M4.58 |  |  |
| M4.59 |  |  |
| M4.60 |  |  |
| M4.61 |  |  |
| M4.62 |  |  |
| M4.63 |  |  |
| M4. 64 |  |  |
| M4.65 |  |  |
| M4.67 |  |  |
| M4.69 |  |  |
| M4.71 |  |  |
| M4.73 |  |  |
| M4.75 |  |  |

**unused pins**:66,68,70,72,74,76,77,78,79

**OBSERVATIONS:**

**TEST Cleared / Not Cleared**

**PROJ QC Firm rep SSQAG REP**

| **U1:MS3475W24-61SN** | **RETENTION TOOL HT210-20**  **OK / Not OK** | **REMARKS** |
| --- | --- | --- |
| U1.A |  |  |
| U1.B |  |  |
| U1.C |  |  |
| U1.F |  |  |
| U1.G |  |  |
| U1.K |  |  |
| U1.L |  |  |
| U1.P |  |  |
| U1.R |  |  |
| U1.U |  |  |
| U1.V |  |  |
| U1.Y |  |  |
| U1.Z |  |  |
| U1.c |  |  |
| U1.d |  |  |
| U1.e |  |  |
| U1.f |  |  |
| U1.g |  |  |
| U1.h |  |  |
| U1.i |  |  |
| U1.j |  |  |
| U1.k |  |  |
| U1.m |  |  |
| U1.n |  |  |
| U1.p |  |  |
| U1.q |  |  |
| U1.r |  |  |
| U1.s |  |  |
| U1.t |  |  |
| U1.u |  |  |
| U1.v |  |  |
| U1.w |  |  |
| U1.x |  |  |
| U1.y |  |  |
| U1.z |  |  |
| U1.AA |  |  |
| U1.BB |  |  |
| U1.CC |  |  |
| U1.EE |  |  |
| U1.FF |  |  |
| U1.GG |  |  |
| U1.HH |  |  |
| U1.JJ |  |  |
| U1.KK |  |  |
| U1.LL |  |  |
| U1.MM |  |  |
| U1.PP |  |  |

**unused pins**: D, E, H, J,M ,N,S ,T,W ,X ,a ,b, DD,GG to NN

**OBSERVATIONS:**

**TEST Cleared / Not Cleared**

**PROJ QC Firm rep SSQAG REP**

| **U2:MS3475-W24-61PN** | **RETENTION TOOL HT210-20\**  **OK / Not OK** | **REMARKS** |
| --- | --- | --- |
| U2.A |  |  |
| U2.B |  |  |
| U2.C |  |  |
| U2.D |  |  |
| U2.E |  |  |
| U2.F |  |  |
| U2.G |  |  |
| U2.H |  |  |
| U2.J |  |  |
| U2.K |  |  |
| U2.L |  |  |
| U2.M |  |  |
| U2.N |  |  |
| U2.P |  |  |
| U2.R |  |  |
| U2.S |  |  |
| U2.T |  |  |
| U2.U |  |  |
| U2.V |  |  |
| U2.W |  |  |
| U2.X |  |  |
| U2.Y |  |  |
| U2.Z |  |  |
| U2.a |  |  |
| U2.b |  |  |
| U2.c |  |  |
| U2.d |  |  |
| U2.e |  |  |
| U2.f |  |  |
| U2.g |  |  |
| U2.h |  |  |
| U2.i |  |  |
| U2.j |  |  |
| U2.k |  |  |
| U2.m |  |  |
| U2.n |  |  |
| U2.p |  |  |
| U2.q |  |  |
| U2.r |  |  |
| U2.s |  |  |
| U2.t |  |  |
| U2.w |  |  |
| U2.x |  |  |
| U2.y |  |  |
| U2.z |  |  |
| U2.AA |  |  |
| U2.BB |  |  |
| U2.CC |  |  |
| U2.DD |  |  |
| U2.EE |  |  |
| U2.PP |  |  |

**Unused pins**: u, v, FF to NN

**OBSERVATIONS:**

**TEST Cleared / Not Cleared**

**PROJ QC Firm rep SSQAG REP**

| **U3:MS3475-W22-55PN** | **RETENTION TOOL HT210-20**  **OK / Not OK** | **REMARKS** |
| --- | --- | --- |
| U3.A |  |  |
| U3.B |  |  |
| U3.C |  |  |
| U3.D |  |  |
| U3.E |  |  |
| U3.F |  |  |
| U3.G |  |  |
| U3.H |  |  |
| U3.J |  |  |
| U3.K |  |  |
| U3.L |  |  |
| U3.M |  |  |
| U3.N |  |  |
| U3.P |  |  |
| U3.R |  |  |
| U3.S |  |  |
| U3.T |  |  |
| U3.U |  |  |
| U3.V |  |  |
| U3.W |  |  |
| U3.X |  |  |
| U3.Y |  |  |
| U3.Z |  |  |
| U3.a |  |  |
| U3.b |  |  |
| U3.c |  |  |
| U3.d |  |  |
| U3.e |  |  |
| U3.f |  |  |
| U3.h |  |  |
| U3.i |  |  |
| U3.j |  |  |
| U3.k |  |  |
| U3.m |  |  |
| U3.n |  |  |
| U3.p |  |  |
| U3.q |  |  |
| U3.r |  |  |
| U3.HH |  |  |

**Unused pins**: g, s to HH

**OBSERVATIONS:**

**TEST Cleared / Not Cleared**

**PROJ QC Firm rep SSQAG REP**

| **GG(U4):MS 3475-W14-19PN** | **RETENTION TOOL HT210-20**  **CLEARED/ NOT CLEARED** | **REMARKS** |
| --- | --- | --- |
| GG.(P703)A |  |  |
| GG.B |  |  |
| GG.C |  |  |
| GG.D |  |  |
| GG.E |  |  |
| GG.F |  |  |
| GG.G |  |  |
| GG.H |  |  |
| GG.J |  |  |
| GG.K |  |  |
| GG.L |  |  |
| GG.M |  |  |
| GG.N |  |  |
| GG.P |  |  |

**Unused pins**: R to V

**OBSERVATIONS:**

**TEST Cleared / Not Cleared**

**PROJ QC Firm rep SSQAG REP**

| **OM(U5):MS3475-W22-55PN** | **RETENTION TOOL HT210-20**  **OK / Not OK** | **REMARKS** |
| --- | --- | --- |
| OM.A(P704) |  |  |
| OM.B(P704) |  |  |
| OM.C |  |  |
| OM.D |  |  |
| OM.E |  |  |
| OM.F |  |  |
| OM.G |  |  |
| OM.H |  |  |
| OM.J |  |  |
| OM.K |  |  |
| OM.L |  |  |
| OM.M |  |  |
| OM.N |  |  |
| OM.P |  |  |
| OM.R |  |  |
| OM.S |  |  |
| OM.T |  |  |
| OM.U |  |  |
| OM.V |  |  |
| OM.W |  |  |
| OM.X |  |  |
| OM.Y |  |  |
| OM. Z |  |  |
| OM. A |  |  |
| OM. B |  |  |
| OM. C |  |  |
| OM. D |  |  |
| OM. E |  |  |
| OM. F |  |  |
| OM. G |  |  |
| OM. H |  |  |
| OM. I |  |  |
| OM. J |  |  |
| OM. K |  |  |

**Unused pins**: M TO HH

**OBSERVATIONS:**

**TEST Cleared / Not Cleared**

**PROJ QC Firm rep SSQAG REP**

| **CO(U6):MS3475-W20-41PN** | **RETENTION TOOL HT210-20\**  **OK / Not OK** | **REMARKS** |
| --- | --- | --- |
| CO.A(P705) |  |  |
| CO.B(P705) |  |  |
| CO.C |  |  |
| CO.D |  |  |
| CO.E |  |  |
| CO.F |  |  |
| CO.G |  |  |
| CO.H |  |  |
| CO.J |  |  |
| CO.K |  |  |
| CO.L |  |  |
| CO.M |  |  |
| CO.N |  |  |
| CO.P |  |  |
| CO.R |  |  |
| CO.S |  |  |
| CO.T |  |  |
| CO.U |  |  |
| CO.V |  |  |
| CO.W |  |  |
| CO.X |  |  |
| CO.Y |  |  |
| CO.Z |  |  |
| CO.a |  |  |
| CO.b |  |  |
| CO.c |  |  |
| CO.d |  |  |
| CO.e |  |  |
| CO.f |  |  |
| CO.g |  |  |
| CO.h |  |  |
| CO.i |  |  |
| *Co*.j |  |  |
| Co.k |  |  |

**Unused pins**: M TO t

**OBSERVATIONS:**

**TEST Cleared / Not Cleared**

**PROJ QC Firm rep SSQAG REP**

**9.3.2A4 LOOMS**

| **M1:MS3475-W24-61PN** | **RETENTION TOOL HT210-20**  **OK / Not OK** | **REMARKS** |
| --- | --- | --- |
| M1.A |  |  |
| M1.B |  |  |
| M1.C |  |  |
| M1.D |  |  |
| M1.E |  |  |
| M1.F |  |  |
| M1.G |  |  |
| M1.H |  |  |
| M1.J |  |  |
| M1.K |  |  |
| M1.L |  |  |
| M1.M |  |  |
| M1.N |  |  |
| M1.P |  |  |
| M1.R |  |  |
| M1.S |  | ` |
| M1.T |  |  |
| M1.U |  |  |
| M1.V |  |  |
| M1.W |  |  |
| M1.X |  |  |
| M1.Y |  |  |
| M1.Z |  |  |
| M1.a |  |  |
| M1.b |  |  |
| M1.c |  |  |
| M1.d |  |  |
| M1.e |  |  |
| M1.f |  |  |
| M1.g |  |  |
| M1.h |  |  |
| M1.i |  |  |
| M1.j |  |  |
| M1.k |  |  |
| M1.m |  |  |
| M1.n |  |  |
| M1.p |  |  |
| M1.q |  |  |
| M1.s |  |  |
| M1.y |  |  |
| M1.BB |  |  |
| M1.CC |  |  |
| M1.DD |  |  |
| M1.EE |  |  |
| M1.FF |  |  |
| M1.GG |  |  |
| M1.HH |  |  |
| M1.JJ |  |  |
| M1.KK |  |  |
| M1.LL |  |  |
| M1.MM |  |  |
| M1.NN |  |  |

**Unused pins**: AA, r, s, t, u, v ,w, x, z, PP

**OBSERVATIONS:**

**TEST Cleared / Not Cleared**

**PROJ QC Firm rep SSQAG REP**

| **M2:MS3475-W24-61SN** | **RETENTION TOOL HT210-20**  **OK / Not OK** | **REMARKS** |
| --- | --- | --- |
| M2.A |  |  |
| M2.B |  |  |
| M2.C |  |  |
| M2.D |  |  |
| M2.E |  |  |
| M2.F |  |  |
| M2.G |  |  |
| M2.H |  |  |
| M2.J |  |  |
| M2.K |  |  |
| M2.L |  |  |
| M2.M |  |  |
| M2.N |  |  |
| M2.P |  |  |
| M2.R |  |  |
| M2.S |  |  |
| M2.T |  |  |
| M2.U |  |  |
| M2.V |  |  |
| M2.W |  |  |
| M2.X |  |  |
| M2.Y |  |  |
| M2.Z |  |  |
| M2.a |  |  |
| M2.b |  |  |
| M2.c |  |  |
| M2.d |  |  |
| M2.e |  |  |
| M2.f |  |  |
| M2.g |  |  |
| M2.h |  |  |
| M2.i |  |  |
| M2.j |  |  |
| M2.k |  |  |
| M2.m |  |  |
| M2.n |  |  |
| M2.p |  |  |
| M2.q |  |  |
| M2.r |  |  |
| M2.s |  |  |
| M2.t |  |  |
| M2.u |  |  |
| M2.v |  |  |
| M2.w |  |  |
| M2.x |  |  |
| M2.y |  |  |

**unused pins**: EE,FF,GG,HH,JJ,KK,LL,MM,NN,PP

**OBSERVATIONS:**

**TEST Cleared / Not Cleared**

**PROJ QC Firm rep SSQAG REP**

| **M3:MS3475-W22-55SN** | **RETENTION TOOL HT210-20**  **OK / Not OK** | **REMARKS** |
| --- | --- | --- |
| M3.A |  |  |
| M3.B |  |  |
| M3.C |  |  |
| M3.D |  |  |
| M3.E |  |  |
| M3.F |  |  |
| M3.G |  |  |
| M3.H |  |  |
| M3.J |  |  |
| M3.K |  |  |
| M3.L |  |  |
| M3.M |  |  |
| M3.S |  |  |
| M3.U |  |  |
| M3.W |  |  |
| M3.X |  |  |
| M3.Y |  |  |
| M3.Z |  |  |
| M3.b |  |  |
| M3.c |  |  |
| M3.d |  |  |
| M3.e |  |  |
| M3.f |  |  |
| M3.g |  |  |
| M3.p |  |  |
| M3.r |  |  |
| M3.s |  |  |
| M3.t |  |  |
| M3.u |  |  |
| M3.z |  |  |
| M3.AA |  |  |
| M3.BB |  |  |
| M3.CC |  |  |

**unused pins**: N, P, R, T, a, h, i, j, k, m, n, q, v, w, x, y, DD,EE,FF,GG,HH

**OBSERVATIONS:**

**TEST Cleared / Not Cleared**

**PROJ QC Firm rep SSQAG REP**

| **U1:MS3475-W24-61PN** | **RETENTION TOOL HT210-20**  **OK / Not OK** | **REMARKS** |
| --- | --- | --- |
| U1.A |  |  |
| U1.B |  |  |
| U1.C |  |  |
| U1.D |  |  |
| U1.E |  |  |
| U1.F |  |  |
| U1.G |  |  |
| U1.H |  |  |
| U1.J |  |  |
| U1.K |  |  |
| U1.L |  |  |
| U1.M |  |  |
| U1.N |  |  |
| U1.P |  |  |
| U1.R |  |  |
| U1.S |  |  |
| U1.T |  |  |
| U1.U |  |  |
| U1.V |  |  |
| U1.W |  |  |
| U1.X |  |  |
| U1.Y |  |  |
| U1.Z |  |  |
| U1.a |  |  |
| U1.b |  |  |
| U1.c |  |  |
| U1.d |  |  |
| U1.e |  |  |
| U1.f |  |  |
| U1.g |  |  |
| U1.h |  |  |
| U1.i |  |  |
| U1.j |  |  |
| U1.k |  |  |
| U1.m |  |  |
| U1.n |  |  |
| U1.p |  |  |
| U1.q |  |  |
| U1.r |  |  |
| U1.s |  |  |
| U1.t |  |  |
| U1.y |  |  |
| U1.z |  |  |
| U1.AA |  |  |
| U1.BB |  |  |
| U1.GG |  |  |
| U1.HH |  |  |
| U1.EE |  |  |
| U1.JJ |  |  |
| U1.KK |  |  |
| U1.FF |  |  |
| U1.MM |  |  |
| U1.NN |  |  |
| U1.LL |  |  |
| U1.PP |  |  |

**Unused pins**: u, v, w, x, CC, DD

**OBSERVATIONS:**

**TEST Cleared / Not Cleared**

**PROJ QC Firm rep SSQAG REP**

| **U2:MS3475-W22-55SN** | **RETENTION TOOL HT210-20**  **OK / Not OK** | **REMARKS** |
| --- | --- | --- |
| U2.F |  |  |
| U2.G |  |  |
| U2.H |  |  |
| U2.J |  |  |
| U2.K |  |  |
| U2.L |  |  |
| U2.M |  |  |
| U2.N |  |  |
| U2.P |  |  |
| U2.R |  |  |
| U2.S |  |  |
| U2.T |  |  |
| U2.U |  |  |
| U2.V |  |  |
| U2.W |  |  |
| U2.X |  |  |
| U2.a |  |  |
| U2.b |  |  |
| U2.c |  |  |
| U2.d |  |  |
| U2.e |  |  |
| U2.f |  |  |
| U2.i |  |  |
| U2.j |  |  |
| U2.k |  |  |
| U2.m |  |  |
| U2.w |  |  |
| U2.x |  |  |
| U2.BB |  |  |
| U2.CC |  |  |
| U2.DD |  |  |
| U2.EE |  |  |
| U2.FF |  |  |
| U2.GG |  |  |

**Unused pins**: A TO E, Y, Z, g, h, n to v, y, z, AA, HH

**OBSERVATIONS:**

**TEST Cleared / Not Cleared**

**PROJ QC Firm rep SSQAG REP**

| **U3:MS3475-W22-55PN** | **RETENTION TOOL HT210-20**  **OK / Not OK** | **REMARKS** |
| --- | --- | --- |
| U3.A |  |  |
| U3.B |  |  |
| U3.C |  |  |
| U3.D |  |  |
| U3.E |  |  |
| U3.F |  |  |
| U3.G |  |  |
| U3.H |  |  |
| U3.J |  |  |
| U3.K |  |  |
| U3.L |  |  |
| U3.M |  |  |
| U3.N |  |  |
| U3.P |  |  |
| U3.X |  |  |
| U3. Y |  |  |
| U3.Z |  |  |
| U3.a |  |  |
| U3.b |  |  |
| U3.c |  |  |
| U3.d |  |  |
| U3.e |  |  |
| U3.j |  |  |
| U3.k |  |  |
| U3.m |  |  |
| U3.n |  |  |
| U3.p |  |  |
| U3.q |  |  |
| U3.r |  |  |
| U3.s |  |  |
| U3.t |  |  |
| U3.u |  |  |
| U3.v |  |  |
| U3.w |  |  |
| U3.x |  |  |
| U3.y |  |  |
| U3.BB |  |  |
| U3.CC |  |  |
| U3.DD |  |  |
| U3.EE |  |  |
| U3.FF |  |  |
| U3.GG |  |  |

**Unused pins**: R TO W, g to I, z, AA,DD, HH

**OBSERVATIONS:**

**TEST Cleared / Not Cleared**

**PROJ QC Firm rep SSQAG REP**

**9.3.3 A3 LOOMS**

| **M1:MS3475-W24-61PN** | **RETENTION TOOL HT210-20**  **OK / Not OK** | **REMARKS** |
| --- | --- | --- |
| M1.A |  |  |
| M1.B |  |  |
| M1.C |  |  |
| M1.D |  |  |
| M1.E |  |  |
| M1.F |  |  |
| M1.G |  |  |
| M1.H |  |  |
| M1.J |  |  |
| M1.K |  |  |
| M1.R |  |  |
| M1.S |  |  |
| M1.T |  |  |
| M1.U |  |  |
| M1.V |  |  |
| M1.W |  |  |
| M1.X |  |  |
| M1.Y |  |  |
| M1.Z |  |  |
| M1.a |  |  |
| M1.c |  |  |
| M1.e |  |  |
| M1.f |  |  |
| M1.g |  |  |
| M1.h |  |  |
| M1.i |  |  |
| M1.j |  |  |
| M1.k |  |  |
| M1.m |  |  |
| M1.n |  |  |
| M1.p |  |  |
| M1.q |  |  |
| M1.DD |  |  |
| M1.EE |  |  |
| M1.FF |  |  |
| M1.GG |  |  |
| M1.HH |  |  |
| M1.JJ |  |  |
| M1.KK |  |  |
| M1.NN |  |  |

**unused pins**:L,M,N,P,b,d,r,s,t,u,v,w,x,y,z,AA,BB,CC,LL,MM,PP

**OBSERVATIONS:**

**TEST Cleared / Not Cleared**

**PROJ QC Firm rep SSQAG REP**

| **M2:MS3475-W24-61SN** | **RETENTION TOOL HT210-20**  **OK / Not OK** | **REMARKS** |
| --- | --- | --- |
| M2.A |  |  |
| M2.B |  |  |
| M2.C |  |  |
| M2.D |  |  |
| M2.E |  |  |
| M2.F |  |  |
| M2.G |  |  |
| M2.H |  |  |
| M2.J |  |  |
| M2.K |  |  |
| M2.L |  |  |
| M2.M |  |  |
| M2.N |  |  |
| M2.P |  |  |
| M2.R |  |  |
| M2.S |  |  |
| M2.T |  |  |
| M2.U |  |  |
| M2.V |  |  |
| M2.W |  |  |
| M2.X |  |  |
| M2.Y |  |  |
| M2.Z |  |  |
| M2.a |  |  |
| M2.b |  |  |
| M2.c |  |  |
| M2.d |  |  |
| M2.e |  |  |
| M2.f |  |  |
| M2.g |  |  |
| M2.h |  |  |
| M2.i |  |  |
| M2.j |  |  |
| M2.k |  |  |
| M2.m |  |  |
| M2.n |  |  |
| M2.p |  |  |
| M2.q |  |  |
| M2.r |  |  |
| M2.s |  |  |
| M2.t |  |  |
| M2.u |  |  |
| M2.v |  |  |
| M2.w |  |  |
| M2.x |  |  |
| M2.y |  |  |
| M2.z |  |  |
| M2.AA |  |  |
| M2.BB |  |  |
| M2.CC |  |  |

**unused pins**: DD,EE,FF,GG,HH,JJ,KK,LL,MM,NN,PP

**OBSERVATIONS:**

**TEST Cleared / Not Cleared**

**PROJ QC Firm rep SSQAG REP**

| **M3:MS3475-W22-55SN** | **RETENTION TOOL HT210-20**  **OK / Not OK** | **REMARKS** |
| --- | --- | --- |
| M3.A |  |  |
| M3.B |  |  |
| M3.C |  |  |
| M3.D |  |  |
| M3.E |  |  |
| M3.F |  |  |
| M3.G |  |  |
| M3.H |  |  |
| M3.J |  |  |
| M3.K |  |  |
| M3.L |  |  |
| M3.M |  |  |
| M3.b |  |  |
| M3.c |  |  |
| M3.d |  |  |
| M3.e |  |  |
| M3.f |  |  |
| M3.g |  |  |
| M3.p |  |  |
| M3.q |  |  |
| M3.r |  |  |
| M3.s |  |  |
| M3.t |  |  |
| M3.v |  |  |
| M3.w |  |  |
| M3.x |  |  |
| M3.z |  |  |
| M3.AA |  |  |
| M3.BB |  |  |
| M3.DD |  |  |
| M3.EE |  |  |
| M3.FF |  |  |

**unused pins**: N, R, P, T, V, W, X, Y, Z, a, h ,i, j, k, m, n, q ,v, w, x, y, DD,EE,FF,GG,HH

**OBSERVATIONS:**

**TEST Cleared / Not Cleared**

**PROJ QC Firm rep SSQAG REP**

| **U1:MS3475-W20-41PN** | **RETENTION TOOL HT210-20\**  **OK / Not OK** | **REMARKS** |
| --- | --- | --- |
| U1.A |  |  |
| U1.P |  |  |
| U1.R |  |  |
| U1.S |  |  |
| U1.T |  |  |
| U1.U |  |  |
| U1.V |  |  |
| U1.W |  |  |
| U1.X |  |  |
| U1.Y |  |  |
| U1.Z |  |  |
| U1.a |  |  |
| U1.b |  |  |
| U1.c |  |  |
| U1.d |  |  |
| U1.e |  |  |
| U1.f |  |  |
| U1.g |  |  |
| U1.h |  |  |
| U1.i |  |  |
| U1.j |  |  |
| U1.k |  |  |
| U1.m |  |  |
| U1.n |  |  |
| U1.p |  |  |
| U1.t |  |  |

**Unused pins**: B TO N, q, r, s

**OBSERVATIONS:**

**TEST Cleared / Not Cleared**

**PROJ QC Firm rep SSQAG REP**

| **U2:MS3475-W24-61PN** | **RETENTION TOOL HT210-20\**  **OK / Not OK** | **REMARKS** |
| --- | --- | --- |
| U2.A |  |  |
| U2.B |  |  |
| U2.C |  |  |
| U2.D |  |  |
| U2.E |  |  |
| U2.F |  |  |
| U2.G |  |  |
| U2.H |  |  |
| U2.J |  |  |
| U2.K |  |  |
| U2.L |  |  |
| U2.M |  |  |
| U2.N |  |  |
| U2.P |  |  |
| U2.R |  |  |
| U2.S |  |  |
| U2.T |  |  |
| U2.U |  |  |
| U2.V |  |  |
| U2.W |  |  |
| U2.X |  |  |
| U2.Y |  |  |
| U2.Z |  |  |
| U2.a |  |  |
| U2.b |  |  |
| U2.i |  |  |
| U2.j |  |  |
| U2.k |  |  |
| U2.m |  |  |
| U2.t |  |  |
| U2.v |  |  |
| U2.w |  |  |
| U2.x |  |  |
| U2.y |  |  |
| U2.z |  |  |
| U2.AA |  |  |
| U2.BB |  |  |
| U2.CC |  |  |
| U2.DD |  |  |
| U2.EE |  |  |
| U2.FF |  |  |
| U2.GG |  |  |
| U2.HH |  |  |
| U2.JJ |  |  |
| U2.MM |  |  |
| U2.NN |  |  |
| U2.PP |  |  |

**Unused pins**: c to h, n to s, LL

**OBSERVATIONS:**

**TEST Cleared / Not Cleared**

**PROJ QC Firm rep SSQAG REP**

| **U3:MS3475-W22-55PN** | **RETENTION TOOL HT210-20\**  **OK / Not OK** | **REMARKS** |
| --- | --- | --- |
| U3.A |  |  |
| U3.B |  |  |
| U3.C |  |  |
| U3.D |  |  |
| U3.E |  |  |
| U3.F |  |  |
| U3.G |  |  |
| U3.J |  |  |
| U3.K |  |  |
| U3.L |  |  |
| U3.M |  |  |
| U3.N |  |  |
| U3.P |  |  |
| U3.R |  |  |
| U3.S |  |  |
| U3.T |  |  |
| U3.U |  |  |
| U3.V |  |  |
| U3.W |  |  |
| U3.X |  |  |
| U3.Y |  |  |
| U3.Z |  |  |
| U3.a |  |  |
| U3.b |  |  |
| U3.c |  |  |
| U3.h |  |  |
| U3.i |  |  |
| U3.j |  |  |
| U3.k |  |  |
| U3.m |  |  |
| U3.n |  |  |
| U3.p |  |  |
| U3.q |  |  |
| U3.r |  |  |
| U3.s |  |  |
| U3.t |  |  |
| U3.u |  |  |
| U3.v |  |  |
| U3.w |  |  |
| U3.x |  |  |
| U3.y |  |  |
| U3.z |  |  |
| U3.AA |  |  |
| U3.BB |  |  |
| U3.DD |  |  |
| U3.EE |  |  |
| U3.FF |  |  |
| U3.GG |  |  |
| U3.HH |  |  |

**Unused pins**: H, d to g, y, CC

**OBSERVATIONS:**

**TEST Cleared / Not Cleared**

**PROJ QC Firm rep SSQAG REP**

**9.4 SIMULATOR INTERFACE UNIT (SIU Unit Level Test)**

* + - * 1. **Resource Required**

|  |  |  |  |
| --- | --- | --- | --- |
| **S.NO** | **ITEMS REQUIRED** | **QUANTITY** | **Remarks** |
| 1 | MIU TESTJIG | 1 NO |  |
| 2 | UMBILICAL RESOURCES TESTJIG | 1 NO |  |
| 3 | SIMULATOR INTERFACE UNIT | 1 NO |  |
| 4 | TESTJIG INTERFACE CABLE LOOMS | 1 SET |  |

* 1. **Procedure**

|  |  |
| --- | --- |
| **Functional Test Procedure:** | |
| Functional check of DIP | The DIP signal is tested through following procedure, the action performed in UMB test jig by using toggle switch on, the signal pass through looms &SIUunit, outputof SIU passes through looms to MIU test jig there expected is corresponding LED should glow as per switch as given in test procedure |
| Functional check of ADC | The ADC signal are tested through following procedure, the action performed in both MIU/UMB test jig by using Rotary switch adjust to corresponding position as per the procedure, the signal pass through looms &SIUunit, outputof SIU passes through looms to MIU test jig there expected is corresponding voltage(0-6V) should display in DPM: |
| Functional check of DOP | The DOP signal are tested through following procedure, the action performed in MIU test jig by using toggle switch (ON/OFF), the signal pass through looms &SIUunit, outputof SIU passes through looms to MIU test jig there expected is corresponding LED should glow as per switch as given in test procedure |
| Functional check of CMS | The CMS signal are tested through following procedure, the action performed in MIU test jig by using toggle switch (ON/OFF), the signal pass through looms &SIUunit, outputof SIU passes through looms to MIU test jig there expected is corresponding LED should glow as per switch as given in test procedure |

* 1. **FUNCTIONAL TEST REPORT OF SIMULATOR INTERFACE UNIT**

**USING MIU INTERFACE TEST-JIG & UMB INTERFACE TEST-JIG:**



**Connect all the test jig cable looms as shown below.**

|  |  |
| --- | --- |
| **SIU TO MIU TEST JIG**   1. **PJ101 TO MIU PWR** 2. **PJ102 TO ADC/DAC** 3. **PJ103 TO DOP** 4. **PJ104 TO DIP** | **SIU TO UMB TEST JIG**   1. **M1 TO U1** 2. **M2 TO U2** 3. **M3 TO U3** 4. **M4 TO U4** 5. **M5 TO U5** |

**Connect AC power to SIU & UMB INTERFACE TEST JIG.**

**9.4.1 MIU TEST JIG MONITORING PANEL**.



**9.4.2 UMB TEST JIG MONITORING PANEL.**



**Pre-requisite:** All Test-jig switches should be in off condition and no LED should be glowing in test jig before test, all respective connectors should be connected PROJerly. UMB test jig connected through 230V AC power supply, in MIU & UMB Test jig keep Rotary Switches RS1, RS2, RS3 & RS4 in 1st position and RS5 in position RS1. The Potentiometer counter dial on UMB test-jig should be zero position.

Start testing as per the following procedure

**Action required on SIU.**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **S.NO** | **SIGNAL** | **ACTION ON SIU** | **EXPECTED** | **PREET** | **INSET** | **POET** |
| 1 | SIU ON | SIU POWER SW ON  MIU POWER SW ON | SIU PWR LED ON  MIU PWR LED ON |  |  |  |

**Action required on MIU TESTJIG.**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **S.NO** | **SIGNAL** | **ACTION ON MIU TJ** | **EXPECTED** | **PREET** | **INSET** | **POET** |
| 1 | MIU PW ON | MIU PWR-SW ON | MIU PWR LED ON  ADC DPM  Display 000 (+/-1) |  |  |  |

**Action required on UMB TESTJIG.**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **S.NO** | **SIGNAL** | **ACTION ON UMB TJ** | **EXPECTED ON UMB** | **PREET** | **INSET** | **POET** |
| 1 | UMB PW ON | UMB PWR SW ON | UMB PWR LED ON  M3 LED 01 to 05 ON  M3 LPST LED ON  M3 S2 LPST LED ON  M3 LED 06L -2nos ON  M3 LED 07L -1no ON  M5 LED 08 to 32 ON |  |  |  |

**Pre-requisite:** The DIPS signal are tested through following procedure ,the action performed in UMB test jig by using respective toggle switch ON ,the signal pass through looms & SIU unit ,output of SIU passes through looms to MIU test jig there expected is corresponding LED should glow as given in test procedure:

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **S.NO** | **SIGNAL** | **ACTION ON UMB** | **EXPECTED ON MIU** | **PREET** | **INSET** | **POET** |
| 1 | DIP-00 | M1-SW 00 ON  M1-SW 00 OFF | DIPS-LED 00 ON  DIPS- LED 00 OFF |  |  |  |
| 2 | DIP-01 | M1-SW 01 ON  M1-SW 01 OFF | DIPS- LED 01 ON  DIPS- LED 01 OFF |  |  |  |
| 3 | DIP-02 | M1-SW 02 ON  M1-SW 02 OFF | DIPS-LED 02 ON  DIPS- LED 02 OFF |  |  |  |
| 4 | DIP-03 | M1-SW 03 ON  M1-SW 03 OFF | DIPS-LED 03 ON  DIPS-LED 03 OFF |  |  |  |
| 5 | DIP-04 | M1-SW 04 ON  M1-SW 04 OFF | DIPS-LED 04 ON  DIPS-LED 04 OFF |  |  |  |
| 6 | DIP-05 | M1-SW 05 ON  M1-SW 05 OFF | DIPS-LED 05 ON  DIPS-LED 05 OFF |  |  |  |
| 7 | DIP-06 | M1-SW 06 ON  M1-SW 06 OFF | DIPS-LED 06 ON  DIPS-LED 06 OFF |  |  |  |
| 8 | DIP-07 | M1-SW 07 ON  M1-SW 07 OFF | DIPS-LED 07 ON  DIPS-LED 07 OFF |  |  |  |
| 9 | DIP-08 | M1-SW 08 ON  M1-SW 08 OFF | DIPS-LED 08 ON  DIPS-LED 08 OFF |  |  |  |
| 10 | DIP-9 | M1-SW 09 ON  M1-SW 09 OFF | DIPS-LED 09 ON  DIPS-LED 09 OFF |  |  |  |
| 11 | DIP-10 | M1-SW 10 ON  M1-SW 10 OFF | DIPS-LED 10 ON  DIPS-LED 10 OFF |  |  |  |
| 12 | DIP-11 | M1-SW 11 ON  M1-SW 11 OFF | DIPS-LED 11 ON  DIPS-LED 11 OFF |  |  |  |
| 13 | DIP-12 | M1-SW 12 ON  M1-SW 12 OFF | DIPS-LED 12 ON  DIPS-LED 12 OFF |  |  |  |
| 14 | DIP-13 | M1-SW 13 ON  M1-SW 13 OFF | DIPS-LED 13 ON  DIPS-LED 13 OFF |  |  |  |

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **S.NO** | **SIGNAL** | **ACTION ON UMB** | **EXPECTED ON MIU** | **PREET** | **INSET** | **POET** |
| 15 | DIP-14 | M1-SW 14 ON  M1-SW 14 OFF | DIPS-LED 14 ON  DIPS-LED 14 OFF |  |  |  |
| 16 | DIP-15 | M1-SW 15 ON  M1-SW 15 OFF | DIPS-LED 15 ON  DIPS-LED 15 OFF |  |  |  |
| 17 | DIP-16 | M1-SW 16 ON  M1-SW 16 OFF | DIPS-LED 16 ON  DIPS-LED 16 OFF |  |  |  |
| 18 | DIP-17 | M1-SW 17 ON  M1-SW 17 OFF | DIPS-LED 17 ON  DIPS-LED 17 OFF |  |  |  |
| 19 | DIP-18 | M1-SW 18 ON  M1-SW 18 OFF | DIPS-LED 18 ON  DIPS-LED 18 OFF |  |  |  |
| 20 | DIP-19 | M1-SW 19 ON  M1-SW 19 OFF | DIPS-LED 19 ON  DIPS-LED 19 OFF |  |  |  |
| 21 | DIP-20 | M1-SW 20 ON  M1-SW 20 OFF | DIPS-LED 20 ON  DIPS-LED 20 OFF |  |  |  |
| 22 | DIP-21 | M1-SW 21 ON  M1-SW 21 OFF | DIPS-LED 21 ON  DIPS-LED 21 OFF |  |  |  |
| 23 | DIP-22 | M1-SW 22 ON  M1-SW 22 OFF | DIPS-LED 22 ON  DIPS-LED 22 OFF |  |  |  |
| 24 | DIP-23 | M1-SW 23 ON  M1-SW 23 OFF | DIPS-LED 23 ON  DIPS-LED 23 OFF |  |  |  |
| 25 | DIP-24 | M1-SW 24 ON  M1-SW 24 OFF | DIPS-LED 24 ON  DIPS-LED 24 OFF |  |  |  |
| 26 | DIP-25 | M1-SW 25 ON  M1-SW 25 OFF | DIPS-LED 25 ON  DIPS-LED 25 OFF |  |  |  |
| 27 | DIP-26 | M1-SW 26 ON  M1-SW 26 OFF | DIPS-LED 26 ON  DIPS-LED 26 OFF |  |  |  |
| 28 | DIP-27 | M1-SW 27 ON  M1-SW 27 OFF | DIPS-LED 27 ON  DIPS-LED 27 OFF |  |  |  |
| 29 | DIP-28 | M1-SW 28 ON  M1-SW 28 OFF | DIPS-LED 28 ON  DIPS-LED 28 OFF |  |  |  |
| 30 | DIP-29 | M1-SW 29 ON  M1-SW 29 OFF | DIPS-LED 29 ON  DIPS-LED 29 OFF |  |  |  |

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **S.NO** | **SIGNAL** | **ACTION ON UMB** | **EXPECTED ON MIU** | **PREET** | **INSET** | **POET** |
| 31 | DIP-30 | M1-SW 30 ON  M1-SW 30 OFF | DIPS-LED 30 ON  DIPS-LED 30 OFF |  |  |  |
| 32 | DIP-31 | M1-SW 31 ON  M1-SW 31 OFF | DIPS-LED 31 ON  DIPS-LED 31 OFF |  |  |  |
| 33 | DIP-32 | M1-SW 32 ON  M1-SW 32 OFF | DIPS-LED 32 ON  DIPS-LED 32 OFF |  |  |  |
| 34 | DIP-33 | M1-SW 33 ON  M1-SW 33 OFF | DIPS-LED 33 ON  DIPS-LED 33 OFF |  |  |  |
| 35 | DIP-80 | M1-SW 80 ON  M1-SW80 OFF | DIPS-LED81 ON  DIPS-LED81 OFF |  |  |  |
| 36 | DIP-81 | M1-SW 81 ON  M1-SW81 OFF | DIPS-LED82 ON  DIPS-LED82 OFF |  |  |  |
| 37 | DIP-82 | M1-SW82 ON  M1-SW82 OFF | DIPS-LED83 ON  DIPS-LED83 OFF |  |  |  |
| 38 | DIP-83 | M1-SW83 ON  M1-SW83 OFF | DIP-LED83 ON  DIPS-LED83 OFF |  |  |  |
| 39 | DIP-84 | M1-SW84 ON  M1-SW84 OFF | DIPS-LED84 ON  DIPS-LED84 OFF |  |  |  |
| 40 | DIP-85 | M1-SW85 ON  M1-SW85 OFF | DIPS-LED85 ON  DIPS-LED85 OFF |  |  |  |
| 41 | DIP-86 | M1-SW86 ON  M1-SW86 OFF | DIPS-LED86 ON  DIPS-LED86 OFF |  |  |  |
| 42 | DIP-87 | M1-SW87 ON  M1-SW87 OFF | DIPS-LED87 ON  DIPS-LED87 OFF |  |  |  |
| 43 | DIP-34 | M4-SW34 ON  M4-SW34 OFF | DIPS-LED34 ON  DIPS-LED34 OFF |  |  |  |
| 44 | DIP-35 | M4-SW35 ON  M4-SW35 OFF | DIPS-LED35 ON  DIP-LED35 OFF |  |  |  |
| 45 | DIP-36 | M4-SW36 ON  M4-SW36 OFF | DIP-LED36 ON  DIP-LED36 OFF |  |  |  |

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **S.NO** | **SIGNAL** | **ACTION ON UMB** | **EXPECTED ON MIU** | **PREET** | **INSET** | **POET** |
| 46 | DIP-37 | M4-SW37 ON  M4-SW37 OFF | DIPS-LED37ON  DIPS-LED37 OFF |  |  |  |
| 47 | DIP-38 | M4-SW38 ON  M4-SW38 OFF | DIPS-LED38 ON  DIPS-LED38 OFF |  |  |  |
| 48 | DIP-41 | M4-SW41 ON  M4-SW41 OFF | DIPS-LED41 ON  DIPS-LED41 OFF |  |  |  |
| 49 | DIP-42 | M4-SW42 ON  M4-SW42 OFF | DIPS-LED42 ON  DIPS-LED42 OFF |  |  |  |
| 50 | DIP-43 | M4-SW43 ON  M4-SW43 OFF | DIPS-LED43 ON  DIPS-LED43 OFF |  |  |  |
| 51 | DIP-44 | M4-SW44 ON  M4-SW44 OFF | DIPS-LED44 ON  DIPS-LED44 OFF |  |  |  |
| 52 | DIP-45 | M4-SW45 ON  M4-SW45 OFF | DIPS-LED45 ON  DIPS-LED45 OFF |  |  |  |
| 53 | DIP-46 | M4-SW46 ON  M4-SW46 OFF | DIPS-LED46 ON  DIPS-LED46 OFF |  |  |  |
| 54 | DIP-47 | M4-SW47 ON  M4-SW47 OFF | DIPS-LED47 ON  DIPS-LED47 OFF |  |  |  |
| 55 | DIP-48 | M4-SW48 ON  M4-SW48 OFF | DIPS-LED48 ON  DIPS-LED48 OFF |  |  |  |
| 56 | DIP-49 | M4-SW49 ON  M4-SW49 OFF | DIPS-LED49 ON  DIPS-LED49 OFF |  |  |  |
| 57 | DIP-50 | M4-SW50 ON  M4-SW50 OFF | DIPS-LED50 ON  DIPS-LED50 OFF |  |  |  |
| 58 | DIP-51 | M4-SW51 ON  M4-SW51 OFF | DIPS-LED51 ON  DIPS-LED51 OFF |  |  |  |
| 59 | DIP-52 | M4-SW52 ON  M4-SW52 OFF | DIPS-LED52 ON  DIPS-LED52 OFF |  |  |  |
| 60 | DIP-53 | M4-SW53 ON  M4-SW53 OFF | DIPS-LED53 ON  DIPS-LED53 OFF |  |  |  |

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **S.NO** | **SIGNAL** | **ACTION ON UMB** | **EXPECTED ON MIU** | **PREET** | **INSET** | **POET** |
| 61 | DIP-54 | M4-SW54 ON  M4-SW54 OFF | DIPS-LED54 ON  DIPS-LED54 OFF |  |  |  |
| 62 | DIP-55 | M4-SW55 ON  M4-SW55 OFF | DIPS-LED55 ON  DIPS-LED55 OFF |  |  |  |
| 63 | DIP-56 | M4-SW56 ON  M4-SW56 OFF | DIPS-LED56 ON  DIPS-LED56 OFF |  |  |  |
| 64 | DIP-57 | M4-SW57 ON  M4-SW57 OFF | DIPS-LED57 ON  DIPS-LED57 OFF |  |  |  |
| 65 | DIP-58 | M4-SW58 ON  M4-SW58 OFF | DIPS-LED58 ON  DIPS-LED58 OFF |  |  |  |
| 66 | DIP-59 | M4-SW59 ON  M4-SW59 OFF | DIPS-LED59 ON  DIPS-LED59 OFF |  |  |  |
| 67 | DIP-60 | M4-SW60 ON  M4-SW60 OFF | DIPS-LED60 ON  DIPS-LED60 OFF |  |  |  |
| 68 | DIP-61 | M4-SW61 ON  M4-SW61 OFF | DIPS-LED61 ON  DIPS-LED61 OFF |  |  |  |
| 69 | DIP-62 | M4-SW62 ON  M4-SW62 OFF | DIPS-LED62 ON  DIPS-LED62 OFF |  |  |  |
| 70 | DIP-63 | M4-SW63 ON  M4-SW63 OFF | DIPS-LED63 ON  DIPS-LED63 OFF |  |  |  |
| 73 | DIP-64 | M4-SW64 ON  M4-SW64 OFF | DIPS-LED64 ON  DIPS-LED64 OFF |  |  |  |
| 74 | DIP-65 | M4-SW65 ON  M4-SW65 OFF | DIPS-LED65 ON  DIPS-LED65 OFF |  |  |  |
| 75 | DIP-66 | M4-SW66 ON  M4-SW66 OFF | DIPS-LED66 ON  DIPS-LED66 OFF |  |  |  |
| 76 | DIP-67 | M4-SW67 ON  M4-SW67 OFF | DIPS-LED67 ON  DIPS-LED67 OFF |  |  |  |
| 77 | DIP-68 | M5-SW68 ON  M5-SW68 OFF | DIPS-LED68 ON  DIPS-LED68 OFF |  |  |  |

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **S.NO** | **SIGNAL** | **ACTION ON UMB** | **EXPECTED ON MIU** | **PREET** | **INSET** | **POET** |
| 78 | DIP-69 | M5-SW69 ON  M5-SW69 OFF | DIPS-LED69 ON  DIPS-LED69 OFF |  |  |  |
| 79 | DIP-70 | M5-SW70 ON  M5-SW70 OFF | DIPS-LED70 ON  DIPS-LED70 OFF |  |  |  |
| 80 | DIP-71 | M5-SW71 ON  M5-SW71 OFF | DIPS-LED71 ON  DIPS-LED71 OFF |  |  |  |
| 81 | DIP-72 | M5-SW72 ON  M5-SW72 OFF | DIPS-LED72 ON  DIPS-LED72 OFF |  |  |  |
| 82 | DIP-73 | M5-SW73 ON  M5-SW73 OFF | DIPS-LED73 ON  DIPS-LED73 OFF |  |  |  |
| 83 | DIP-74 | M5-SW74 ON  M5-SW74 OFF | DIPS-LED74 ON  DIPS-LED74 OFF |  |  |  |
| 84 | DIP-75 | M5-SW75 ON  M5-SW75 OFF | DIPS-LED75 ON  DIPS-LED75 OFF |  |  |  |
| 85 | DIP-76 | M5-SW76 ON  M5-SW76 OFF | DIPS-LED76 ON  DIPS-LED76 OFF |  |  |  |
| 86 | DIP-77 | M5-SW77 ON  M5-SW77 OFF | DIPS-LED77 ON  DIPS-LED77 OFF |  |  |  |
| 87 | DIP-78 | M5-SW78 ON  M5-SW78 OFF | DIPS-LED78 ON  DIPS-LED78 OFF |  |  |  |
| 88 | DIP-79 | M5-SW79 ON  M5-SW79 OFF | DIPS-LED79 ON  DIPS-LED79 OFF |  |  |  |

**Pre-requisite:** The ADC signals are tested through following test procedure. The same position (channel) need to be selected on both MIU/UMB test jig by using Rotary switch. For respective rotary switch need to be selected using RS5. Vary the voltage in UMB test jig using rotary potentiometer and monitor the voltage on DPM in MIU test jig.

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **S.NO** | **SIGNAL** | **ACTION ON MIU /UMB** | **EXPECTED ON MIU (approx)** | **PREET** | **INSET** | **POET** |
| 1 | ADC-00 | MIU:  ADC-RS1- SELECT POSITION 00  ADC-RS5- SELECT POSITION RS1 UMB:  ADC-RS1- SELECT POSITION 00  ADC-RS5- SELECT POSITION RS1  ROTATE POTENTIOMETER(0-28V) | 0-6V ON DPM |  |  |  |
| 2 | ADC-01 | MIU:  ADC-RS1- SELECT POSITION 01  ADC-RS5- SELECT POSITION RS1 UMB:  ADC-RS1- SELECT POSITION 01  ADC-RS5- SELECT POSITION RS1  ROTATE POTENTIOMETER(0-28V) | 0-6V ON DPM |  |  |  |
| 3 | ADC-02 | MIU:  ADC-RS1- SELECT POSITION 02  ADC-RS5- SELECT POSITION RS1 UMB:  ADC-RS1- SELECT POSITION 02  ADC-RS5- SELECT POSITION RS1  ROTATE POTENTIOMETER(0-28V) | 0-6V ON DPM |  |  |  |
| 4 | ADC-03 | MIU:  ADC-RS1- SELECT POSITION 03  ADC-RS5- SELECT POSITION RS1 UMB:  ADC-RS1- SELECT POSITION 03  ADC-RS5- SELECT POSITION RS1  ROTATE POTENTIOMETER(0-28V) | 0-6V ON DPM |  |  |  |
| 5 | ADC-04 | MIU:  ADC-RS1- SELECT POSITION 04  ADC-RS5- SELECT POSITION RS1 UMB:  ADC-RS1- SELECT POSITION 04  ADC-RS5- SELECT POSITION RS1  ROTATE POTENTIOMETER(0-28V) | 0-6V ON DPM |  |  |  |
| 6 | ADC-05 | MIU:  ADC-RS1- SELECT POSITION 05  ADC-RS5- SELECT POSITION RS1 UMB:  ADC-RS1- SELECT POSITION 05  ADC-RS5- SELECT POSITION RS1  ROTATE POTENTIOMETER(0-28V) | 0-6V ON DPM |  |  |  |
| 7 | ADC-06 | MIU:  ADC-RS1- SELECT POSITION 06  ADC-RS5- SELECT POSITION RS1 UMB:  ADC-RS1- SELECT POSITION 06  ADC-RS5- SELECT POSITION RS1  ROTATE POTENTIOMETER(0-28V) | 0-6V ON DPM |  |  |  |

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **S.NO** | **SIGNAL** | **ACTION ON MIU /UMB** | **EXPECTED ON MIU** | **PREET** | **INSET** | **POET** |
| 8 | ADC-07 | MIU:  ADC-RS1- SELECT POSITION 07  ADC-RS5- SELECT POSITION RS1 UMB:  ADC-RS1- SELECT POSITION 07  ADC-RS5- SELECT POSITION RS1  ROTATE POTENTIOMETER(0-28V) | 0-6V ON DPM |  |  |  |
| 9 | ADC-08 | MIU:  ADC-RS1- SELECT POSITION 08  ADC-RS5- SELECT POSITION RS1 UMB:  ADC-RS1- SELECT POSITION 08  ADC-RS5- SELECT POSITION RS1  ROTATE POTENTIOMETER(0-28V) | 0-6V ON DPM |  |  |  |
| 10 | ADC-09 | MIU:  ADC-RS1- SELECT POSITION 09  ADC-RS5- SELECT POSITION RS1 UMB:  ADC-RS1- SELECT POSITION 09  ADC-RS5- SELECT POSITION RS1  ROTATE POTENTIOMETER(0-28V) | 0-6V ON DPM |  |  |  |
| 11 | ADC-10 | MIU:  ADC-RS1- SELECT POSITION 10  ADC-RS5- SELECT POSITION RS1 UMB:  ADC-RS1- SELECT POSITION 10  ADC-RS5- SELECT POSITION RS1  ROTATE POTENTIOMETER(0-28V) | 0-6V ON DPM |  |  |  |
| 12 | ADC-11 | MIU:  ADC-RS1- SELECT POSITION 11  ADC-RS5- SELECT POSITION RS1 UMB:  ADC-RS1- SELECT POSITION 11  ADC-RS5- SELECT POSITION RS1  ROTATE POTENTIOMETER(0-28V) | 0-6V ON DPM |  |  |  |
| 13 | ADC-12 | MIU:  ADC-RS2- SELECT POSITION 12  ADC-RS5- SELECT POSITION RS2 UMB:  ADC-RS2- SELECT POSITION 12  ADC-RS5- SELECT POSITION RS2  ROTATE POTENTIOMETER(0-28V) | 0-6V ON DPM |  |  |  |
| 14 | ADC-13 | MIU:  ADC-RS2- SELECT POSITION 13  ADC-RS5- SELECT POSITION RS2 UMB:  ADC-RS2- SELECT POSITION 13  ADC-RS5- SELECT POSITION RS2  ROTATE POTENTIOMETER(0-28V) | 0-6V ON DPM |  |  |  |
| 15 | ADC-14 | MIU:  ADC-RS2- SELECT POSITION 14  ADC-RS5- SELECT POSITION RS2 UMB:  ADC-RS2- SELECT POSITION 14  ADC-RS5- SELECT POSITION RS2  ROTATE POTENTIOMETER(0-28V) | 0-6V ON DPM |  |  |  |

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **S.NO** | **SIGNAL** | **ACTION ON MIU /UMB** | **EXPECTED ON MIU** | **PREET** | **INSET** | **POET** |
| 16 | ADC-15 | MIU:  ADC-RS2- SELECT POSITION 15  ADC-RS5- SELECT POSITION RS2 UMB:  ADC-RS2- SELECT POSITION 15  ADC-RS5- SELECT POSITION RS2  ROTATE POTENTIOMETER(0-28V) | 0-6V ON DPM |  |  |  |
| 17 | ADC-16 | MIU:  ADC-RS2- SELECT POSITION 16  ADC-RS5- SELECT POSITION RS2 UMB:  ADC-RS2- SELECT POSITION 16  ADC-RS5- SELECT POSITION RS2  ROTATE POTENTIOMETER(0-28V) | 0-6V ON DPM |  |  |  |
| 18 | ADC-17 | MIU:  ADC-RS2- SELECT POSITION 17  ADC-RS5- SELECT POSITION RS2 UMB:  ADC-RS2- SELECT POSITION 17  ADC-RS5- SELECT POSITION RS2  ROTATE POTENTIOMETER(0-28V) | 0-6V ON DPM |  |  |  |
| 19 | ADC-18 | MIU:  ADC-RS2- SELECT POSITION 18  ADC-RS5- SELECT POSITION RS2 UMB:  ADC-RS2- SELECT POSITION 18  ADC-RS5- SELECT POSITION RS2  ROTATE POTENTIOMETER(0-28V) | 0-6V ON DPM |  |  |  |
| 20 | ADC-19 | MIU:  ADC-RS2- SELECT POSITION 19  ADC-RS5- SELECT POSITION RS2 UMB:  ADC-RS2- SELECT POSITION 19  ADC-RS5- SELECT POSITION RS2  ROTATE POTENTIOMETER(0-28V) | 0-6V ON DPM |  |  |  |
| 21 | ADC-20 | MIU:  ADC-RS2- SELECT POSITION 20  ADC-RS5- SELECT POSITION RS2 UMB:  ADC-RS2- SELECT POSITION 20  ADC-RS5- SELECT POSITION RS2  ROTATE POTENTIOMETER(0-28V) | 0-6V ON DPM |  |  |  |
| 22 | ADC-21 | MIU:  ADC-RS2- SELECT POSITION 21  ADC-RS5- SELECT POSITION RS2 UMB:  ADC-RS2- SELECT POSITION 21  ADC-RS5- SELECT POSITION RS2  ROTATE POTENTIOMETER(0-28V) | 0-6V ON DPM |  |  |  |
| 23 | ADC-22 | MIU:  ADC-RS2- SELECT POSITION 22  ADC-RS5- SELECT POSITION RS2 UMB:  ADC-RS2- SELECT POSITION 22  ADC-RS5- SELECT POSITION RS2  ROTATE POTENTIOMETER(0-28V) | 0-6V ON DPM |  |  |  |

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **S.NO** | **SIGNAL** | **ACTION ON MIU /UMB** | **EXPECTED ON MIU** | **PREET** | **INSET** | **POET** |
| 24 | ADC-23 | MIU:  ADC-RS2- SELECT POSITION 23  ADC-RS5- SELECT POSITION RS2 UMB:  ADC-RS2- SELECT POSITION 23  ADC-RS5- SELECT POSITION RS2  ROTATE POTENTIOMETER(0-28V) | 0-6V ON DPM |  |  |  |
| 25 | ADC-24 | MIU:  ADC-RS3- SELECT POSITION 24  ADC-RS5- SELECT POSITION RS3 UMB:  ADC-RS3- SELECT POSITION 24  ADC-RS5- SELECT POSITION RS3  ROTATE POTENTIOMETER(0-28V) | 0-6V ON DPM |  |  |  |
| 26 | ADC-25 | MIU:  ADC-RS3- SELECT POSITION 25  ADC-RS5- SELECT POSITION RS3 UMB:  ADC-RS3- SELECT POSITION 25  ADC-RS5- SELECT POSITION RS3  ROTATE POTENTIOMETER(0-28V) | 0-6V ON DPM |  |  |  |
| 27 | ADC-26 | MIU:  ADC-RS3- SELECT POSITION 26  ADC-RS5- SELECT POSITION RS3 UMB:  ADC-RS3- SELECT POSITION 26  ADC-RS5- SELECT POSITION RS3  ROTATE POTENTIOMETER(0-28V) | 0-6V ON DPM |  |  |  |
| 28 | ADC-27 | MIU:  ADC-RS3- SELECT POSITION 27  ADC-RS5- SELECT POSITION RS3 UMB:  ADC-RS3- SELECT POSITION 27  ADC-RS5- SELECT POSITION RS3  ROTATE POTENTIOMETER(0-28V) | 0-6V ON DPM |  |  |  |
| 29 | ADC-28 | MIU:  ADC-RS3- SELECT POSITION 28  ADC-RS5- SELECT POSITION RS3 UMB:  ADC-RS3- SELECT POSITION 28  ADC-RS5- SELECT POSITION RS3  ROTATE POTENTIOMETER(0-28V) | 0-6V ON DPM |  |  |  |
| 30 | ADC-29 | MIU:  ADC-RS3- SELECT POSITION 29  ADC-RS5- SELECT POSITION RS3 UMB:  ADC-RS3- SELECT POSITION 29  ADC-RS5- SELECT POSITION RS3  ROTATE POTENTIOMETER(0-28V) | 0-6V ON DPM |  |  |  |
| 31 | ADC-30 | MIU:  ADC-RS3- SELECT POSITION 30  ADC-RS5- SELECT POSITION RS3 UMB:  ADC-RS3- SELECT POSITION 30  ADC-RS5- SELECT POSITION RS3  ROTATE POTENTIOMETER(0-28V) | 0-6V ON DPM |  |  |  |

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **S.NO** | **SIGNAL** | **ACTION ON MIU /UMB** | **EXPECTED ON MIU** | **PREET** | **INSET** | **POET** |
| 32 | ADC-31 | MIU:  ADC-RS3- SELECT POSITION 31  ADC-RS5- SELECT POSITION RS3 UMB:  ADC-RS3- SELECT POSITION 31  ADC-RS5- SELECT POSITION RS3  ROTATE POTENTIOMETER(0-28V) | 0-6V ON DPM |  |  |  |
| 33 | ADC-32 | MIU:  ADC-RS3- SELECT POSITION 32  ADC-RS5- SELECT POSITION RS3 UMB:  ADC-RS3- SELECT POSITION 32  ADC-RS5- SELECT POSITION RS3  ROTATE POTENTIOMETER(0-28V) | 0-6V ON DPM |  |  |  |
| 34 | ADC-33 | MIU:  ADC-RS3- SELECT POSITION 33  ADC-RS5- SELECT POSITION RS3 UMB:  ADC-RS3- SELECT POSITION 33  ADC-RS5- SELECT POSITION RS3  ROTATE POTENTIOMETER(0-28V) | 0-6V ON DPM |  |  |  |
| 35 | ADC-34 | MIU:  ADC-RS3- SELECT POSITION 34  ADC-RS5- SELECT POSITION RS3 UMB:  ADC-RS3- SELECT POSITION 34  ADC-RS5- SELECT POSITION RS3  ROTATE POTENTIOMETER(0-28V) | 0-6V ON DPM |  |  |  |
| 36 | ADC-35 | MIU:  ADC-RS3- SELECT POSITION 35  ADC-RS5- SELECT POSITION RS3 UMB:  ADC-RS3- SELECT POSITION 35  ADC-RS5- SELECT POSITION RS3  ROTATE POTENTIOMETER(0-28V) | 0-6V ON DPM |  |  |  |
| 37 | ADC-36 | MIU:  ADC-RS4- SELECT POSITION 36  ADC-RS5- SELECT POSITION RS4 UMB:  ADC-RS4- SELECT POSITION 36  ADC-RS5- SELECT POSITION RS4  ROTATE POTENTIOMETER(0-28V) | 0-6V ON DPM |  |  |  |
| 38 | ADC-37 | MIU:  ADC-RS4- SELECT POSITION 37  ADC-RS5- SELECT POSITION RS4 UMB:  ADC-RS4- SELECT POSITION 37  ADC-RS5- SELECT POSITION RS4  ROTATE POTENTIOMETER(0-28V) | 0-6V ON DPM |  |  |  |
| 39 | ADC-38 | MIU:  ADC-RS4- SELECT POSITION 38  ADC-RS5- SELECT POSITION RS4 UMB:  ADC-RS4- SELECT POSITION 38  ADC-RS5- SELECT POSITION RS4  ROTATE POTENTIOMETER(0-28V) | 0-6V ON DPM |  |  |  |

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **S.NO** | **SIGNAL** | **ACTION ON MIU /UMB** | **EXPECTED ON MIU** | **PREET** | **INSET** | **POET** |
| 40 | ADC-39 | MIU:  ADC-RS4- SELECT POSITION 39  ADC-RS5- SELECT POSITION RS4 UMB:  ADC-RS4- SELECT POSITION 39  ADC-RS5- SELECT POSITION RS4  ROTATE POTENTIOMETER(0-28V) | 0-6V ON DPM |  |  |  |
| 41 | ADC-40 | MIU:  ADC-RS4- SELECT POSITION 40  ADC-RS5- SELECT POSITION RS4 UMB:  ADC-RS4- SELECT POSITION 40  ADC-RS5- SELECT POSITION RS4  ROTATE POTENTIOMETER(0-28V) | 0-6V ON DPM |  |  |  |
| 42 | ADC-41 | MIU:  ADC-RS4- SELECT POSITION 41  ADC-RS5- SELECT POSITION RS4 UMB:  ADC-RS4- SELECT POSITION 41  ADC-RS5- SELECT POSITION RS4  ROTATE POTENTIOMETER(0-28V) | 0-6V ON DPM |  |  |  |
| 43 | ADC-42 | MIU:  ADC-RS4- SELECT POSITION 42  ADC-RS5- SELECT POSITION RS4 UMB:  ADC-RS4- SELECT POSITION 42  ADC-RS5- SELECT POSITION RS4  ROTATE POTENTIOMETER(0-28V) | 0-6V ON DPM |  |  |  |
| 44 | ADC-43 | MIU:  ADC-RS4- SELECT POSITION 43  ADC-RS5- SELECT POSITION RS4 UMB:  ADC-RS4- SELECT POSITION 43  ADC-RS5- SELECT POSITION RS4  ROTATE POTENTIOMETER(0-28V) | 0-6V ON DPM |  |  |  |
| 45 | ADC-44 | MIU:  ADC-RS4- SELECT POSITION 44  ADC-RS5- SELECT POSITION RS4 UMB:  ADC-RS4- SELECT POSITION 44  ADC-RS5- SELECT POSITION RS4  ROTATE POTENTIOMETER(0-28V) | 0-6V ON DPM |  |  |  |
| 46 | ADC-45 | MIU:  ADC-RS4- SELECT POSITION 45  ADC-RS5- SELECT POSITION RS4 UMB:  ADC-RS4- SELECT POSITION 45  ADC-RS5- SELECT POSITION RS4  ROTATE POTENTIOMETER(0-28V) | 0-6V ON DPM |  |  |  |

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **S.NO** | **SIGNAL** | **ACTION ON MIU /UMB** | **EXPECTED ON MIU** | **PREET** | **INSET** | **POET** |
| 47 | ADC-46 | MIU:  ADC-RS4- SELECT POSITION 46  ADC-RS5- SELECT POSITION RS4 UMB:  ADC-RS4- SELECT POSITION 46  ADC-RS5- SELECT POSITION RS4  ROTATE POTENTIOMETER(0-28V) | 0-6V ON DPM |  |  |  |
| 48 | ADC-47 | MIU:  ADC-RS4- SELECT POSITION 47  ADC-RS5- SELECT POSITION RS4 UMB:  ADC-RS4- SELECT POSITION 47  ADC-RS5- SELECT POSITION RS4  ROTATE POTENTIOMETER(0-28V) | 0-6V ON DPM |  |  |  |

**Pre-requisite:** The DOPS are tested through following procedure. The action performed in MIU test jig by using toggle switch (ON/0FF ) ,the signal pass through SIU unit to MIU test jig there expected is corresponding LED should glow.

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **S.NO** | **SIGNAL** | **ACTION ON MIU** | **EXPECTED ON MIU** | **PREET** | **INSET** | **POET** |
| 1 | DOP-01 | DOPS-SW 01-ON  DOPS-SW 01-OFF | M3-LED 01 ON  M3-LED 01 OFF |  |  |  |
| 2 | DOP-02 | DOPS-SW 02-ON  DOPS-SW 02-OFF | M3-LED 02 ON  M3-LED 02 OFF |  |  |  |
| 3 | DOP-03 | DOPS-SW 03-ON  DOPS-SW 03-OFF | M3-LED 03 ON  M3-LED 03 OFF |  |  |  |
| 4 | DOP-04 | DOPS-SW 04-ON  DOPS-SW 04-OFF | M3-LED 04 ON  M3-LED 04 OFF |  |  |  |
| 5 | DOP-05 | DOPS-SW 05-ON  DOPS-SW 05-OFF | M3-LED 05 ON  M3-LED 05 OFF |  |  |  |
| 6 | DOP-06 | DOPS-SW 06-ON  DOPS-SW 06-OFF | M3-LED 06H ON  M3-LED 06H ON  M3-LED 06L OFF  M3-LED 06L OFF  M3-LED 06L ON  M3-LED 06L ON  M3-LED 06H OFF  M3-LED 06H OFF |  |  |  |

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **S.NO** | **SIGNAL** | **ACTION ON MIU** | **EXPECTED ON MIU** | **PREET** | **INSET** | **POET** |
| 7 | DOP-08 | DOPS-SW 08-ON  DOPS-SW 08-OFF | M3-LED 07H ON  M3-LED 07H ON  M3-LED 07L OFF  M3-LED 07L OFF  M3-LED 07L ON  M3-LED 07L ON  M3-LED 07H OFF  M3-LED 07H OFF |  |  |  |
| 8 | DOP-09 | DOPS-SW 09-ON  DOPS-SW 09-OFF | M5-LED 08 ON  M5-LED 08 OFF |  |  |  |
| 9 | DOP-10 | DOPS-SW 10-ON  DOPS-SW 10-OFF | M5-LED 09 ON  M5-LED 09 OFF |  |  |  |
| 10 | DOP-11 | DOPS-SW 11-ON  DOPS-SW 11-OFF | M5-LED 10 ON  M5-LED 10 OFF |  |  |  |
| 11 | DOP-12 | DOPS-SW 12-ON  DOPS-SW 12-OFF | M5-LED 11 ON  M5-LED 11 OFF |  |  |  |
| 12 | DOP-13 | DOPS-SW 13-ON  DOPS-SW 13-OFF | M5-LED 12 ON  M5-LED 12 OFF |  |  |  |
| 13 | DOP-15 | DOPS-SW 15-ON  DOPS-SW 15-OFF | M5-LED 13 ON  M5-LED 13 OFF |  |  |  |
| 14 | DOP-16 | DOPS-SW 16-ON  DOPS-SW 16-OFF | M5-LED 14 ON  M5-LED 14 OFF |  |  |  |
| 15 | DOP-17 | DOPS-SW 17-ON  DOPS-SW 17-OFF | M5-LED 15 ON  M5-LED 15 OFF |  |  |  |
| 16 | DOP-18 | DOPS-SW 18-ON  DOPS-SW 18-OFF | M5-LED 16 ON  M5-LED 16 OFF |  |  |  |
| 17 | DOP-19 | DOPS-SW 19-ON  DOPS-SW 19-OFF | M5-LED 17 ON  M5-LED 17 OFF |  |  |  |
| 18 | DOP-20 | DOPS-SW 20-ON  DOPS-SW 20-OFF | M5-LED 18 ON  M5-LED 18 OFF |  |  |  |
| 19 | DOP-22 | DOPS-SW 22-ON  DOPS-SW 22-OFF | M5-LED 19 ON  M5-LED 19 OFF |  |  |  |
| 20 | DOP-23 | DOPS-SW 23-ON  DOPS-SW 23-OFF | M5-LED 20 ON  M5-LED 20 OFF |  |  |  |

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **S.NO** | **SIGNAL** | **ACTION ON MIU** | **EXPECTED ON MIU** | **PREET** | **INSET** | **POET** |
| 21 | DOP-24 | DOPS-SW 24-ON  DOPS-SW 24-OFF | M5-LED 21 ON  M5-LED 21 OFF |  |  |  |
| 22 | DOP-25 | DOPS-SW 25-ON  DOPS-SW 25-OFF | M5-LED 22 ON  M5-LED 22 OFF |  |  |  |
| 23 | DOP-26 | DOPS-SW 26-ON  DOPS-SW 26-OFF | M5-LED 23 ON  M5-LED 23 OFF |  |  |  |
| 24 | DOP-27 | DOPS-SW 27-ON  DOPS-SW 27-OFF | M5-LED 24 ON  M5-LED 24 OFF |  |  |  |
| 25 | DOP-29 | DOPS-SW 29-ON  DOPS-SW 29-OFF | M5-LED 25 ON  M5-LED 25 OFF |  |  |  |
| 26 | DOP-30 | DOPS-SW 30-ON  DOPS-SW 30-OFF | M5-LED 26 ON  M5-LED 26 OFF |  |  |  |
| 27 | DOP-31 | DOPS-SW 31-ON  DOPS-SW 31-OFF | M5-LED 27 ON  M5-LED 27 OFF |  |  |  |
| 28 | DOP-32 | DOPS-SW 32-ON  DOPS-SW 32-OFF | M5-LED 28 ON  M5-LED 28 OFF |  |  |  |
| 29 | DOP-33 | DOPS-SW 33-ON  DOPS-SW 33-OFF | M5-LED 29 ON  M5-LED 29 OFF |  |  |  |
| 30 | DOP-34 | DOPS-SW 34-ON  DOPS-SW 34-OFF | M5-LED 30 ON  M5-LED 30 OFF |  |  |  |
| 31 | DOP-36 | DOPS-SW 36-ON  DOPS-SW 36-OFF | M5-LED 31 ON  M5-LED 31 OFF |  |  |  |
| 32 | DOP-37 | DOPS-SW 37-ON  DOPS-SW 37-OFF | M5-LED 32 ON  M5-LED 32 OFF |  |  |  |

**Pre-requisite:** The CMS signals are tested through following procedure ,the action require to perform in UMB test jig by using toggle switch (ON/OFF ) ,the signal pass through SIU unit to UMB test jig there expected is corresponding LED should glow.

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **S.NO** | **SIGNAL** | **ACTION ON MIU** | **EXPECTED ON MIU** | **PREET** | **INSET** | **POET** |
| 1 | U1 CMS | M3-SW U1 ON  M3-SW U1 OFF | M3 LED U1 ON  M3 LED U1 OFF |  |  |  |
| 2 | U2 CMS | M3-SW U2 ON  M3-SW U2 OFF | M3 LED U2 ON  M3 LED U2 OFF |  |  |  |
| 3 | U3 CMS | M3-SW U3 ON  M3-SW U3 OFF | M3 LED U3 ON  M3 LED U3 OFF |  |  |  |
| 4 | U4 CMS | M3-SW U4 ON  M3-SW U4 OFF | M3 LED U4 ON  M3 LED U4 OFF |  |  |  |
| 5 | U5 CMS | M3-SW U5 ON  M3-SW U5 OFF | M3 LED U5 ON  M3 LED U5 OFF |  |  |  |
| 6 | U6 CMS | M3-SW U6 ON  M3-SW U6 OFF | M3 LED U6 ON  M3 LED U6 OFF |  |  |  |

**Pre-requisite:** The CCSC signals are tested through following procedure ,the action require to perform in UMB test jig by using toggle switch (ON/OFF ) ,the signal pass through SIU unit to MIU for DIPS status. The toggle switches on SIU need to operate and check the status on UMB test jig corresponding LED should glow. During INSET in thermal tests SIU switches need to keep in OFF condition.

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **S.NO** | **SIGNAL** | **ACTION ON UMB** | **EXPECTED ON MIU/UMB** | **PREET** | **INSET** | **POET** |
| 1 | DIP39 | M3-SW 39 ON  M3-SW 39 OFF | MIU: DIPS LED 39 ON  UMB: M3 LED C1 ON  UMB: M3 LED C2 ON  UMB: M3 LED C3 ON  MIU: DIPS LED 39 OFF  UMB: M3 LED C1 OFF  UMB: M3 LED C2 OFF  UMB: M3 LED C3 OFF |  |  |  |
| 2 | DIP40 | M3-SW 40 ON  M3-SW 40 OFF | MIU: DIPS LED 40 ON  UMB: M3 LED C4 ON  UMB: M3 LED C5 ON  MIU: DIPS LED 40 OFF  UMB: M3 LED C4 OFF  UMB: M3 LED C5 OFF |  |  |  |
| 3 | CCSC1 | M3-SW 39 ON  SIU-CCSC1 ON  SIU-CCSC1 OFF  M3-SW 39 OFF | MIU: DIPS LED 39 ON  UMB: M3 LED C1 ON  UMB: M3 LED CCSC2 ON  UMB: M3 LED CCSC3 ON  MIU: DIPS LED 39 ON  UMB: M3 LED C1 OFF  UMB: M3 LED C2 ON  UMB: M3 LED C3 ON  MIU: DIPS LED 39 ON  UMB: M3 LED C1 ON  UMB: M3 LED C2 ON  UMB: M3 LED C3 ON  MIU: DIPS LED 39 OFF  UMB: M3 LED C1 OFF  UMB: M3 LED C2 OFF  UMB: M3 LED C3 OFF |  |  |  |

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **S.NO** | **SIGNAL** | **ACTION ON UMB** | **EXPECTED ON MIU/UMB** | **PREET** | **INSET** | **POET** |
| 4 | CCSC2 | M3-SW 39 ON  SIU-CCSC2 ON  SIU-CCSC2 OFF  M3-SW 39 OFF | MIU: DIPS LED 39 ON  UMB: M3 LED C1 ON  UMB: M3 LED CCSC2 ON  UMB: M3 LED CCSC3 ON  MIU: DIPS LED 39 ON  UMB: M3 LED C1 ON  UMB: M3 LED C2 OFF  UMB: M3 LED C3 ON  MIU: DIPS LED 39 ON  UMB: M3 LED C1 ON  UMB: M3 LED C2 ON  UMB: M3 LED C3 ON  MIU: DIPS LED 39 OFF  UMB: M3 LED C1 OFF  UMB: M3 LED C2 OFF  UMB: M3 LED C3 OFF |  |  |  |
| 5 | CCSC3 | M3-SW 39 ON  SIU-CCSC3 ON  SIU-CCSC3 OFF  M3-SW 39 OFF | MIU: DIPS LED 39 ON  UMB: M3 LED C1 ON  UMB: M3 LED CCSC2 ON  UMB: M3 LED CCSC3 ON  MIU: DIPS LED 39 ON  UMB: M3 LED C1 ON  UMB: M3 LED C2 ON  UMB: M3 LED C3 OFF  MIU: DIPS LED 39 ON  UMB: M3 LED C1 ON  UMB: M3 LED C2 ON  UMB: M3 LED C3 ON  MIU: DIPS LED 39 OFF  UMB: M3 LED C1 OFF  UMB: M3 LED C2 OFF  UMB: M3 LED C3 OFF |  |  |  |

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **S.NO** | **SIGNAL** | **ACTION ON UMB** | **EXPECTED ON MIU/UMB** | **PREET** | **INSET** | **POET** |
| 6 | CCSC4 | M3-SW 40 ON  SIU-CCSC4 ON  SIU-CCSC4 OFF  M3-SW 40 OFF | MIU: DIPS LED 40 ON  UMB: M3 LED C4 ON  UMB: M3 LED C5 ON  MIU: DIPS LED 40 ON  UMB: M3 LED C4 OFF  UMB: M3 LED C5 ON  MIU: DIPS LED 40 ON  UMB: M3 LED C4 ON  UMB: M3 LED C5 ON  MIU: DIPS LED 40 OFF  UMB: M3 LED C4 OFF  UMB: M3 LED C5 OFF |  |  |  |
| 7 | CCSC5 | M3-SW 40 ON  SIU-CCSC5 ON  SIU-CCSC5 OFF  M3-SW 40 OFF | MIU: DIPS LED 40 ON  UMB: M3 LED C4 ON  UMB: M3 LED C5 ON  MIU: DIPS LED 40 ON  UMB: M3 LED C4 ON  UMB: M3 LED C5 OFF  MIU: DIPS LED 40 ON  UMB: M3 LED C4 ON  UMB: M3 LED C5 ON  MIU: DIPS LED 40 OFF  UMB: M3 LED C4 OFF  UMB: M3 LED C5 OFF |  |  |  |

**OBSERVATIONS:**

**Cleared / Not Cleared**

**PROJ QC FIRM REP SSQAG**

**10.0 ENVIRONMENTAL TESTING (ENTEST):** These tests are done to test and evaluate performance of the time(s) at the specified environmental conditions.

1. **Qualification-level Environmental testing: NOT APPLICABLE**
2. **Acceptance level Environmental testing: APPLICABLE**
3. **SAMPLING: at *Batch level.***
4. Batch level acceptance test (also called performance verification test) shall be carried out for Level-2 Simulator (consisting of simulator PC and simulator interface box).
5. ***Only one unit / set of Level-2 Simulator shall be selected randomly out of every lot of 06 nos,*** and it shall undergo **ESS, Damp Heat & EMI / EMC** tests. **Refer tests 1 through 3 in table-3.*For 17 units, a total of 3 sample units should be selected randomly for the tests.***
6. The remaining units of the lot(s) shall undergo **Random Vibration only.**  Refer **test 4** in table-3.
7. **Detailed AT-Level test specifications: Refer tables -2 & 3.**

iii. Clearance report for **MIU** (an FIM from ASL) should be submitted to QC by checkout.

**c**) Endurance test of the unit should be carried out after satisfactorily completing all the Environmental & EMI/EMC tests. The endurance testing at room temperature shall be done for duration of 8 hrs with rack doors in open condition. After completing the Endurance test, the functionality of the unit will be tested.

# CLASSIFICATION OF GSEs and QT/AT APPLICABILITY MATRIX

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **TABLE 1: Classification of GSEs and QT / AT Applicability Matrix** | | | | | | |
| Sl No | Item | GSE Class | Functional Test | Entest (QT) | Entest (AT) | Reference |
| 1 | Level -2 Simulator (Simulator PC with Simulator I/F box) | 2 | Y | N | Y | ASL/21/42, Dated 20/12/2004 |
| 2 | Simulator Test Jig | -- | Y | N | N | ASL/21/42, Dated 20/12/2004 |

**Y: Applicable N: Not Applicable**

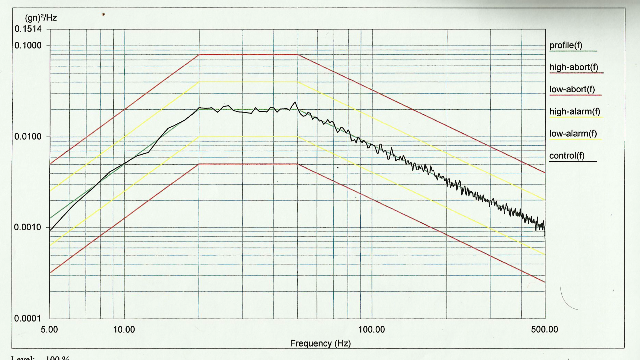
|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **TABLE 2: ENTEST Applicability Matrix** | | | | | |
| Sl No | Item | ESS 1 | Damp Heat | EMI / EMC | Remarks |
| 1 | Level -2 Simulator (Simulator PC with Simulator I/F box) | A | A | A2 | * 1 Unit out of every lot of 6 units shall undergo ESS, Damp Heat & EMI / EMC tests. Refer Tests 1 through 3 in table-3 * Remaining units of the lot(s) shall undergo random vibration only. Refer test 4 in table-3   **Note:** KVM to be kept outside the chamber during Thermal cycle. |
| 2 | Simulator Test Jig | NA | NA | NA |

1. ESS involves random vibration (Pre & Post) and thermal cycling (Refer table-3).
2. All the EMI / EMC tests mentioned in **Table-3 & 4** shall be carried out.
3. NA: Not Applicable.
4. Clearance report for **MIU** (an FIM from ASL) should be submitted to QC by checkout.

| **Table-3: Batch-level ENTEST Specifications for Level-2 Simulator** | | | |
| --- | --- | --- | --- |
| **Sl. No.** | **Description** | **Specification** | **Remarks** |
| 1 | ESS |  |  |
| a. | Random Vibration (Along all the three axis) | **Random Vibration:** 5-20 Hz, 6db per octave. (desirable that is, only if vibration machine capability permits). 20-50 Hz:0.02g2/Hz  then rolling up to 0.001g2/Hz at 500 Hz.  **Duration:** 15 minutes cumulative in three axis | PREET & POET |
| b. | Temperature Cycling | **Temperature Levels:** -  For simulator PC with KVM: 0°C to +550C.  For simulator interface unit: -20°C to +550C. **Dwell time:** 60 minutes.  **Rate of change of Temperature:** 50 C/minute (minimum)  Total 6 Cycles. | PREET at ambient.  INSET to be done 2 times every cycle:  First before switching OFF (at the end of 550 C condition, during the last 15 minutes of dwelling period) and Second after switching ON (at the end of -200 C condition, during the last 15 minutes of dwelling period). POET at ambient |
| c. | Random Vibration (Along all the three axis) | **Random Vibration:** 5-20 Hz 6db per octave (desirable that is, only if vibration machine capability permits). 20-50Hz:0.02g2/Hz  Then rolling up to 0.001g2/Hz at 500 Hz.  **Duration:** 15 minutes cumulative in three axis. | PREET and POET |
| 2 | Damp Heat | 450 C (RH 95%)for 8 Hrs. | PREET at ambient  INSET at 7 ½ Hrs.  POET at ambient |
| 3 | EMI/EMC | All the EMI / EMC tests mentioned in the table are applicable for the simulator. | Refer table -4 for detailed specifications |

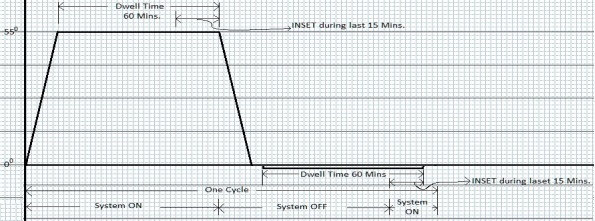
**10.1 ENVIRONMENTAL TEST GRAPHS**

### 10.1.1 RANDOM VIBRATION

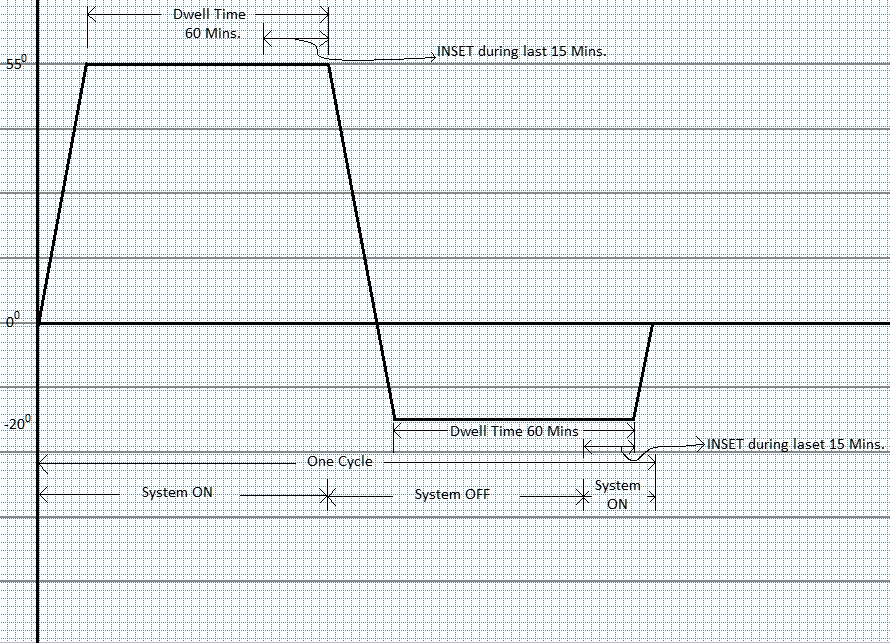


### 

### 10.1.2 TEMPERATURE CYCLING {For simulator PC with KVM}



**10.1.3 TEMPERATURE CYCLING {For simulator interface unit}**

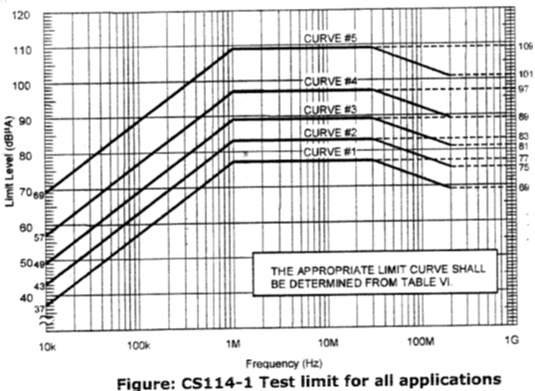


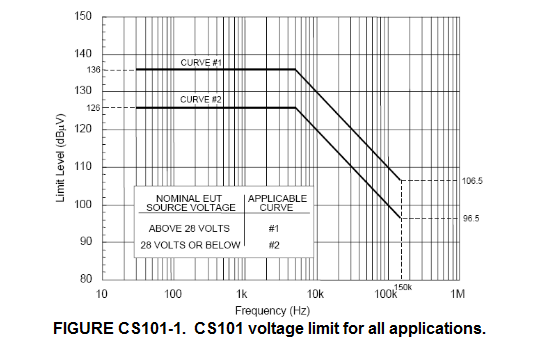
### 10.2 EMI/EMC TESTS SPECIFICATIONS:

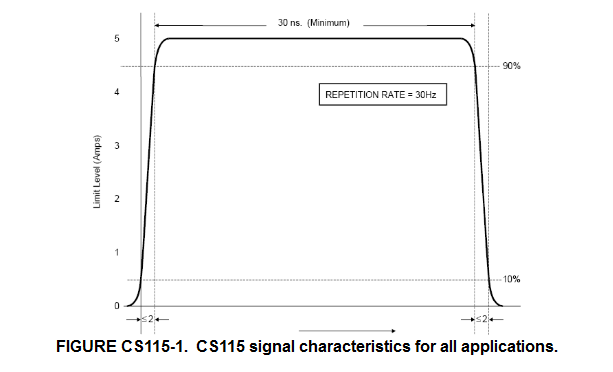
During these EMI/EMC test the unit will be in ON condition & the equipment shall not exhibit any malfunction & degradation of performance or deviation from specific indications/tolerance. When subjected to signal voltage levels.

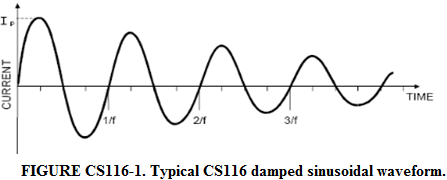
| **TABLE-4: DETAILED EMI / EMC TEST SPECIFICATION AS PER 461E** | | | | | |
| --- | --- | --- | --- | --- | --- |
| ***SL NO*** | ***TEST*** | ***TEST DESCRIPTION*** | ***Applicability / Limit Line / Test Procedure*** | ***Test Duration*** | ***Remarks*** |
| 1 | CS 101 | Conducted Susceptibility power leads, 30Hz to 150KHz. | **Applicability:** Applicable to subsystem AC and DC input power leads, not including returns. On AC lines this requirement is applicable starting from the second harmonic of the equipment under test power frequency.  **Spec. Limit Line**: The equipment shall not exhibit any malfunction, degradation of performance, or deviation from specified indications / tolerances, when subjected to signal voltage levels. CURVE #1 for source. | The test signal voltage shall be applied on to each power lead separately for the complete band of frequency. That is approx. 30 minutes for each test run. | PREET/ INSET /POET |
| 2 | CS114 | Conducted Susceptibility, Bulk Cable Injection, 10KHz to 200 MHz | **Applicability**: Applicable to all interconnecting cable bundles, power cable, and separately on positive (high) line / wire, excluding neutral / ground lines.  **Spec. Limit Line: The** equipment shall not exhibit any malfunction or degradation of performance when subjected to signal voltage (1kHz pulse modulation, 50% duty cycle).  Current limit CURVES #3 and #4 are applicable.  **Curve #3** is applicable in the frequency band of 10 kHz to 2MHz and **curve #4** from 2MHz to 200MHz.  Test setup and Test procedure: As per Mil - Std-461E. | The test signal current shall be applied on to each cable bunch / line separately for the complete band frequency. That is approx. 90 minutes for each test run. | PREET/ INSET /POET |
| 3 | CS115 | Conducted Susceptibility, Bulk Cable Injection, Impulse Excitation. | **Applicability**: Applicable to all interconnecting cable bundles, power cable, and separately on positive (high) line / wire, excluding neutral / ground lines.  **Spec. Limit Line: The** equipment shall not exhibit any malfunction or degradation of performance when subjected to signal characteristics as shown in fig CS115-1  Test setup and test procedure as per Mil - Std-461E. | The test pluses shall be applied on each cable bunch / line separately for duration of 60 seconds. | PREET/ INSET /POET |
| 4 | CS 116 | Conducted Susceptibility, damped sinusoidal transients 10kHz to 100MHz | **Applicability**: Applicable to all interconnecting cable bundles, power cable, and separately on positive (high) line / wire, excluding neutral / ground lines.  **Spec. Limit Line**: The equipment shall not exhibit any malfunction or degradation of performance when subjected to the signal in fig CS116-1 & CS116-2, for minimum of six spot frequencies. That is 10kHz, 100kHz, 1MHz, 10MHz and 100MHz.  Test setup and test procedure as per Mil - Std-461E. | The test signal current shall be applied on to each cable for of six spot frequencies. It takes approx. 45 minutes for each cable / wire. | PREET/ INSET /POET |
| 5 | HESD | Human Electrostatic Discharge | **Applicability**: Applicable to all the interfacing connectors mounted on the equipment and chassis.  **Spec. Limit Line**: The equipment shall not exhibit any malfunction or degradation of performance, when discharged a 20kV pulse with RC network of 150 Ohms and 150 pF.  Test setup and test procedure as per IEC 61000-4-2 / Mil - Std-461E. | 2 Pulses to be discharged on each connector and equipment chassis. | PREET/ INSET /POET |
| 6 | RS103 | Radiated Susceptibility Electric Field, 2MHz to 18GHz | **Applicability**: Applicable to all Equipment / Subsystem enclosures with interconnecting cables.  **Spec. Limit Line**: The equipment shall not exhibit any malfunction or degradation of performance when subjected to field strength of 50V / min the frequency range of 2MHz and 18GHz with 1kHz pulse modulation, 50% duty cycle at 1mtr from equipment for both vertical and horizontal polarization.  Test setup and test procedure as per Mil - Std-461E. | The electrical field shall be applied for complete band of frequency with the scan rates specified in Mil - Std-461E.  (Susceptibility testing times). | PREET/ INSET /POET |
| 7 | RE102 | Radiated Emissions, electric field, 2MHz to 18 GHz | **Applicability**: Emissions from equipment and their interconnecting cables at 1meter distance from the equipment shall be measured.  **Spec. Limit Line:** Emissions from equipment shall not be radiated more than those shown in fig RE102-4 (Navy Mobile & Army).  Test setup and test procedure as per Mil - Std-461E. | NA | PREET/ INSET /POET |
| 8 | CE 102 | Conducted Emissions, power leads, 10KHz to 10MHz | Applicability: Applicable on AC and DC input power leads, including returns (which are not grounded internally), that obtain power from other sources.  **Spec. Limit Line:** Emissions on 28V power leads shall not be exceeded the values shown in fig. CE102-1 (basic curve).  Test setup and test procedure as per Mil - Std-461E. | NA | PREET/ INSET /POET |

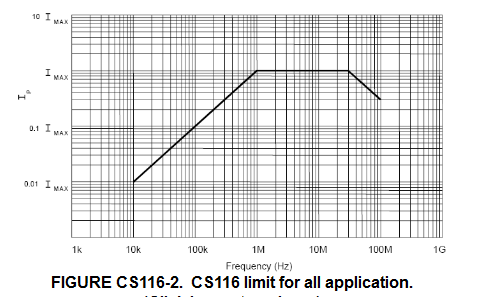
**10.2.1 EMI / EMC TEST GRAPHS**

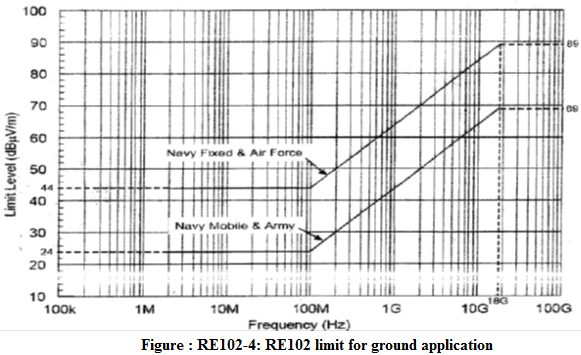


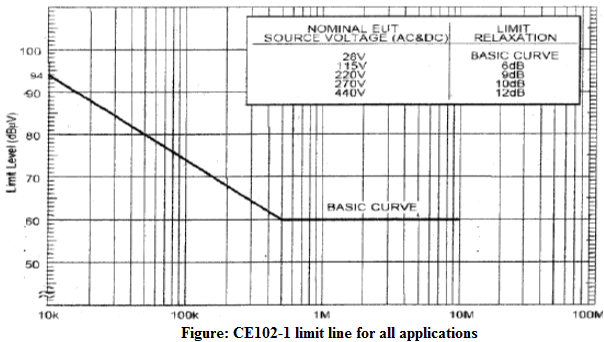






****





### 10.3 ENDURANCE TESTS SPECIFICATIONS:

Endurance test of the unit should be carried out after satisfactorily completing all the Environmental & EMI/EMC tests. The endurance testing at room temperature shall be done for duration of 8 hrs with rack doors in open condition. After completing the Endurance test, the functionality of the unit will be tested.

| **TABLE-5: DETAILED ENDURANCE TEST SPECIFICATION AS PER 461E** | | | | | |
| --- | --- | --- | --- | --- | --- |
| ***SL NO*** | ***TEST*** | ***TEST DESCRIPTION*** | ***Applicability / Limit Line / Test Procedure*** | ***Test Duration*** | ***Remarks*** |
| 1 | Endurance Test | The endurance testing at room temperature shall be done for duration of 8 hrs | All 17 unit will be tested for 8 hrs at room temperature with rack doors in open condition. | 8 hrs | PREET & POET |