

Module Q/C & Reception Test Portal

Module Q/C General Information

- Inner System module [Q/C taskforce test specification document](#)
- Indico Meetings: [Module WG](#), [RD53 testing](#), [DAQ readout/DCS](#)
- Mattermost: <https://mattermost.web.cern.ch/itkpixel/>
- [RD53 main site](#)
 - [RD53A testing](#), [RD53A manual](#), [RD53A Single Chip Card \(SCC\)](#)
 - [RD53B testing](#), [RD53B manual](#), [RD53B Single Chip Card \(SCC\)](#)
- [ITk Pixel Module Twiki Portal](#)
- Module design info:
 - [Planar sensor FDR](#)
 - [Hybridization FDR](#)
 - Module Interface ICD: [AT2-IP-MG-0006](#)
 - [RD53a quad hybrid design](#)
 - [ITkPix Quad hybrid](#)
 - [ITkPix L0 Triplet hybrid](#)
 - [ITkPix R0 Triplet hybrid](#)
 - [ITkPix R0.5 Triplet hybrid](#)
- [Module carriers](#)
- ITkPix Test adaptors
 - Triplet
 - [Repo of integrated triplet adaptor cards and pigtails](#)
 - Quad:
 - [Quad readout adaptor](#)
 - [Quad power adaptor](#)
 - [Quad data pigtail](#)
 - [Quad power pigtail](#)

Module Testing Infrastructure

- Module Visual Inspection Setup
- Module Test LV/HV Control Setup:
 - [Keithley 2400 HV individual module test setup](#) (student lab)
 - [Agilent E3646A LV individual module test setup](#) (student lab)
- Fan Cooling Setups for SCC and Modules
- [Module Q/C insulated package and chiller cooling setup](#)
- [B33 test setup component status](#)
- Database
 - [LBNL module test LocalDB](#)

Module Testing Readout Instructions

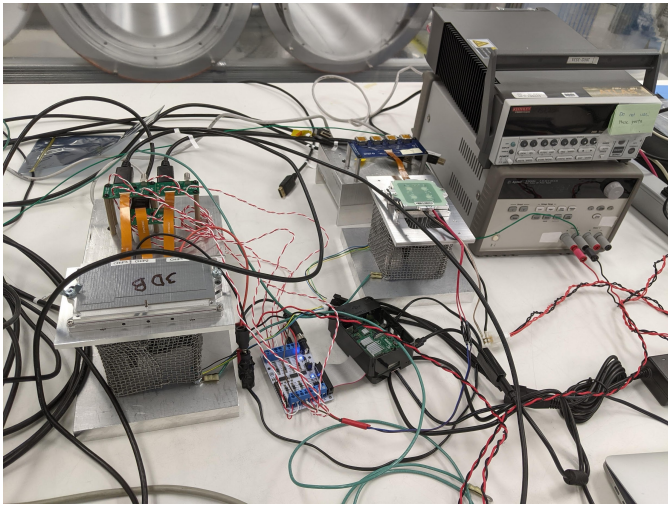
- DAQ platform independent instructions (GUI, test navigation)
 - [RD53A SCC Jumper Setup](#)
 - [Travelling module RD53 SCC testing procedure](#) (including info on voltage trimming)
- SLAC Local DAQ platform specific information: [RCE](#), [YARR](#), [FELIX](#)
- [Triplet test instructions from Elodie Essegue \(LBNL\)](#)

19-1 testing and loading

[worksheet for 19-1 testing and loading](#)

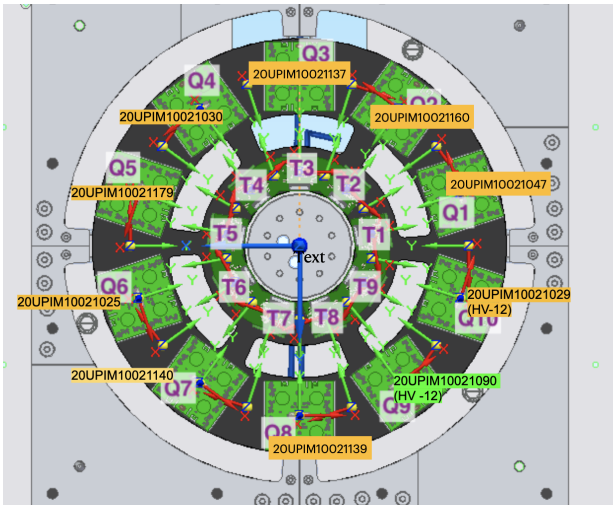
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>>>>>> Module Reception Procedure for 19-1 <<<<<<



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>>>>> Module Inventory and Reception Results for 19-1 <<<<<<



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## Module Inventory

### RD53A SCC

| Board | Chip ID | Sensor Type                   | Comments                                    |
|-------|---------|-------------------------------|---------------------------------------------|
| 12    | 0x75A   | NONE                          |                                             |
| 149   | 0x0B88  | MPP W4-5-50x50, 100um, PT     | Readout errors never cleared since assembly |
| 150   | 0x0A97  | MPP W9-3-25x100, 150um, No PT |                                             |
| 151   | 0x0B53  | MPP W6-5-50x50, 150um, PT     | Chip zapped at SLAC                         |
| 343   | 0x032A  | NONE                          |                                             |
| 352   | 0x0334  | NONE                          |                                             |

RD53 database information on sensors at SLAC: <https://rd53db.web.cern.ch/rd53db/rd53a/mysite.fcgi/rd53a-chip/loc?id=SLAC>

### ITkPixV1 SCC

| Board | Chip ID | Sensor Type | Date at SLAC | Comments |
|-------|---------|-------------|--------------|----------|
|       | 0x10175 | NONE        | Oct/2020     |          |

## RD53 A Modules

| ID                 | Type           | Sensor Type | Chip 1 | Chip 2 | Chip 3 | Chip 4 | Date at SLAC | Comments                                                                                                                                                                                                            |
|--------------------|----------------|-------------|--------|--------|--------|--------|--------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 20UPGMC 0210121    | Quad           | NONE        | 1F49   | 1F52   | 1F65   | 1F76   | Jul/2020     | Chip 1,4 defective so Vin wire bonds removed for them. Expects 2.2A and measure 1.55V across module. <a href="#">V3.6 RD53A hybrid</a> . More details from Aleksandra in <a href="#">Quad-20UPGMC0210121.docx</a> . |
| 20UPGMC 0210119    | Quad           | NONE        |        |        |        |        |              |                                                                                                                                                                                                                     |
| "3DB"              | Linear Triplet | 3D          | 2144   | 2151   | 2142   | -      | Oct/2021     |                                                                                                                                                                                                                     |
| Carrier "Genova"   | Linear Triplet | NONE        | 426B   | 4298   | 4299   | -      | Oct/2021     |                                                                                                                                                                                                                     |
| Pseudo quad "1105" | Pseudo Triplet | NONE        | 1F93   | 1F68   | 1F43   | -      | Oct/2021     |                                                                                                                                                                                                                     |

## Pre-production and production module reception test

Reception setup

LocalDB and ProductionDB

Readout