

Hardware Database Updates

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HWDB Basics

- We need to be able to store and access information on all components in use
- Must be able to easily find their:
 - Full testing history
 - Log of current and previous connections to other components
 - Unique identifying number and barcode
- Can upload items through web interface or curl commands
- Testing database currently exists to experiment with

Component Types

- Every kind of hardware component has an assigned component ID
- For current ColdADC the component ID is D0810020001
- Items of this type will be assigned an ID such as D0810020001-0001

Project	System Name	System ID	Subsystem Name	Subsystem ID	Item Type Name	Item Type ID
D	FD1-HD TPC Electronics and FD2-VD Bottom Drift Elect	081	LArASIC	001	P5 version preproduction 1	0001
D	FD1-HD TPC Electronics and FD2-VD Bottom Drift Elect	081	LArASIC	001	P5B version preproduction 1	0002
D	FD1-HD TPC Electronics and FD2-VD Bottom Drift Elect	081	LArASIC	001	to be decided	0003
D	FD1-HD TPC Electronics and FD2-VD Bottom Drift Elect	081	LArASIC	001	to be decided	0004
D	FD1-HD TPC Electronics and FD2-VD Bottom Drift Elect	081	LArASIC	001	to be decided	0005
D	FD1-HD TPC Electronics and FD2-VD Bottom Drift Elect	081	ColdADC	002	P2 version preproduction	0001
D	FD1-HD TPC Electronics and FD2-VD Bottom Drift Elect	081	ColdADC	002	P2 version batch 1	0002
D	FD1-HD TPC Electronics and FD2-VD Bottom Drift Elect	081	ColdADC	002	P2 version batch 2	0003
D	FD1-HD TPC Electronics and FD2-VD Bottom Drift Elect	081	ColdADC	002	P2 version batch 3	0004
D	FD1-HD TPC Electronics and FD2-VD Bottom Drift Elect	081	COLDATA	003	E4 version preproduction	0001
D	FD1-HD TPC Electronics and FD2-VD Bottom Drift Elect	081	COLDATA	003	E4 version batch 1	0002
D	FD1-HD TPC Electronics and FD2-VD Bottom Drift Elect	081	COLDATA	003	E4 version batch 2	0003
D	FD1-HD TPC Electronics and FD2-VD Bottom Drift Elect	081	COLDATA	003	E4 version batch 3	0004

Component Type

- Users create and define properties of components
- Can define test types from here
- ColdADC component type is now properly defined and can receive items

Edit Component Type

SPECS LOG IMAGES

Type Name ColdADC version P2 preproduction

Type ID 00001

Full Name D.FD1-HD TPC_Elec. and FD2-VD Bottom_Elec..ColdADC.ColdADC version P2 preproduction

Part Type ID D08100200001

Comments

Category generic

Managed by × tester × type-manager

Manufacturers × Louisiana State University

Created 2023-12-08 14:05:54

Created by Jacob Goudeau

Specifications

Version 0

Created 2023-12-08 14:01:27-06:00

Created by Jacob Goudeau

Datasheet

```
{ }
```

Connectors

select a type

SAVE DONE

JSON Input Files

- Customizable but must have the following to work:
 - Country code (ex. "US")
 - Institution number (ex. 144 = LSU)
 - Specifications
- Can specify manufacturer, serial number, other desired fields
- Images and test logs can be uploaded in a separate file and connected to the item

```
{
  "component_type": {
    "part_type_id": "D08100200001"
  },
  "serial_number": "goudeauTest4",
  "country_code": "US",
  "comments": "Test!",
  "institution": {
    "id": 144
  },
  "manufacturer": {
    "id": 32
  },
  "specifications": {
    "Testing Temperature": "LN",
    "Regs Read Test": "PASSED",
    "Soft Reset Test": "PASSED",
    "External VDDA Voltage": 2.3,
    "External VDDA Power DIFF": 0.33,
    "External VDDA Power SE mode": 0.326,
    "Average ADC Noise": 187.932
  }
}
```


Using CURL to upload

```
CURL -H "Content-Type: application/json" -X POST -d @Add_AnItem_Test_Parts_1.json  
'APIPATH/component-types/Z00100100048/components'
```

```
CURL -H "Content-Type: application/json" -X POST -d @Generated_test_1.json 'APIPATH/  
components/Z00100100048-00033/tests'
```

```
CURL -H "comments=testing from curl" -F "image=@10-0_10-1-6k_small.pdf" 'APIPATH/  
components/Z00100100048-00033/images'
```

Results

Edit Item D08100200001-00004

QR SPECS LOG STRUCTURE LOG CONTAINER LOG TEST LOG IMAGES

Component Type D.FD1-HD TPC_Elec. and FD2-VD Bottom_Elec..ColdADC.ColdADC version P2 preproduction

Part ID D08100200001-00004-US144

Serial Number goudeauTest4

Country of Origin United States

Resp. Institution Louisiana State University

Manufacturer Louisiana State University

Batch ID --SELECT--

Created 2023-12-15 09:47:47

Created by Jacob Goudeau

Specs Version

Comments Test!

Enabled

Contained in N/A

Specifications

Sub-components

SAVE DONE

For Item: [D08100200001-00004](#)

ADD NEW... FILTER...

Image_name	Library	Item	Comments	Created	Image	Creator
Test3image.pdf	comp	D08100200001-00004		2023-12-15 09:48:58UTC-06:00		Jacob Goudeau

Specification history for [D08100200001-00004](#)

Created	Creator	Properties
2023-12-15 09:47:47.894823-06:00	Jacob Goudeau	Regs Read Test: PASSED Soft Reset Test: PASSED Average ADC Noise: 187.932 Testing Temperature: LN External VDDA Voltage: 2.3 External VDDA Power DIFF: 0.33 External VDDA Power SE mode: 0.326

Other things you can do



- Link items to each other by adding subcomponents
- Download QR code linking to database entry
- Upload many items at once



ColdADC Database Status

- Component ID is now fully initialized on the testing database
- Goal is to create a program that automatically creates these .json files from the testing resorts and uploads them
- Need to decide exactly what we want included in the data we upload

test_report_COLDADC_enr_4-133_ln.txt
~133

Open  Save 

QC Test Report ColdADC for ASIC with SN enr 4-133

Operator Name: mmote
Test Results Folder: /home/dune/ColdADC/test_results/coldadc_enr_4-133_ln_20220401T095312

Testing Temperatura: LIQUID NITROGEN
Communication Mode: I2C
Input Signal: DIFFERENTIAL
Reference Voltages:

Register,	Reg Value,	Meas Voltage (V)
24,	0xdb,	1.95
25,	0x31,	0.445
26,	0x86,	1.2
27,	0x64,	0.896

Registers Read Test: PASSED

Read Calibration Weights:

ADC,	Stage,	W0 Diff,	W2 Diff
0,	0,	-0x9b,	0x98
0,	1,	-0x5b,	0x55
0,	2,	-0x3a,	0x38
0,	3,	-0x15,	0x15
0,	4,	-0x9,	0x7
0,	5,	-0x3,	0x2
0,	6,	-0x1,	0x0
1,	0,	-0xbe,	0xcc
1,	1,	-0x6e,	0x6c
1,	2,	-0x41,	0x3f
1,	3,	-0x1b,	0x1a
1,	4,	-0xb,	0xa
1,	5,	-0x4,	0x3
1,	6,	-0x1,	0x1

Soft Reset Test: PASSED

Plain Text ▾ Tab Width: 8 ▾ Ln 24, Col 30 ▾

Thank You!