



LocalDB

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LocalDB missions

- Supporting QC for { module, bare module, PCB, OB loaded cell } (so far)
- Store components info and previous QC results conducted by other sites (e.g. bare module IV)
- Issuing **Module serial number** on assembly
- Storage of atomic YARR scans
- Brokerage of tests: centralized **mqat**-analysis of each **mqt**-supported tests (incl. non-elec tests)
- Book-keeping of FE config revisions
- **[new]** Administration of QC flags
- Consistent QC progress state administration → components **stage coherency**
- E-summary and subsequent Stage sign-off → push QC results and FE configs to PDB.
- Browsing visualization and UI/UX for **fast and intuitive** operation of QC processes
- Robustness: Functions not disturbed by tests pushed by other tools to PDB or PDB changes...

Main software dependencies

- [mongodb](#): storage of all relevant information for conducting QC
- [itkdb](#): portal interface to sync data with ITkPD
- [module-qc-analysis-tools \(mqat\)](#): QC tests analysis
- [module-qc-database-tools \(mqdbt\)](#): various APIs.
 - In particular, support mqt results pushing to LocalDB, backend administration of FE configs, referring to bare module IV, etc.
 - Used in both server and client sides.
- [module-qc-nonelec-gui \(mqneg\)](#): Client platform interface for non-elec tests.
 - The web service itself is not dependent on mqneg.
- [YARR/localdb](#) scripts: Supporting scan uploading [to-be-migrated to [mqdbt](#)]
- [Flask+jinja2](#): python-based web engine constructing the web user interface

Key Concepts

- LocalDB service codes are written so that it does not need to know the peculiarity of components or QC tests.
 - For example, a bare localdb service just installed doesn't have component breakdown structure nor stage lists.
 - Similarly, localdb does not classify elec/non-elec tests, except for limited special cases like visual inspection, handling E-summary or fetching bare module IV results. This helps minimizing the maintenance.
 - All the rest details are injected from dependency packages or from data downloaded from ITkPD.
 - Major tasks of localdb is storage of FE configs, buffering & brokerage of QC test results, stage/test state administration, sync of the information, visualization and guide workflow to opeartors.

LocalDB MongoDB collections

```
localdb> show collections
```

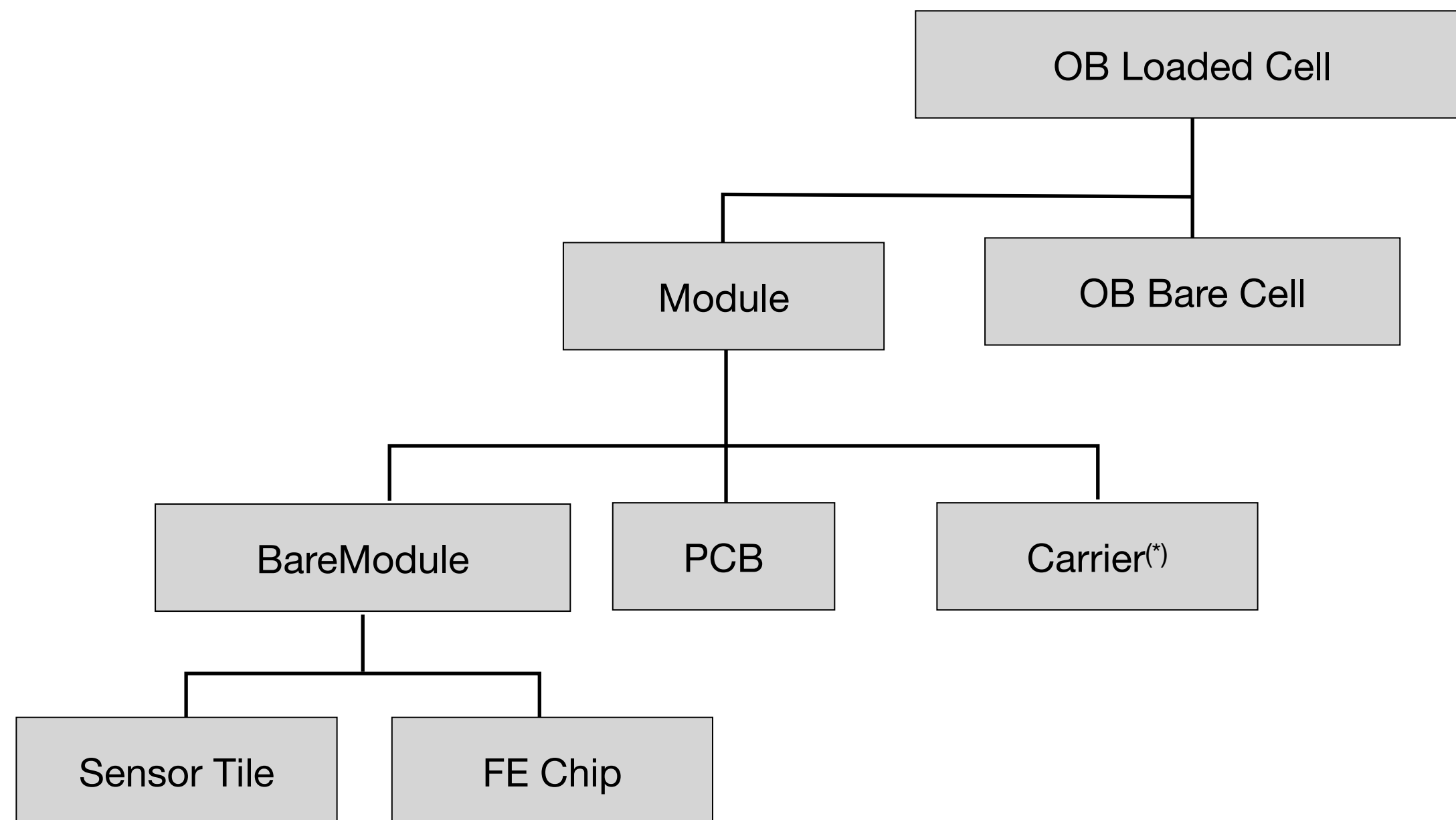
```
childParentRelation  
comments  
component  
componentTestRun  
config  
fe_config_revision  
fe_configs  
fs.chunks  
fs.files  
institution  
pd.institution  
QC.module.status  
QC.result  
QC.testRAW  
QC.testRuns_pdb_ldb_map  
testRun  
user
```

```
localdbtools> show collections
```

```
componentType  
message  
QC.analysisProcess  
QC.checkout  
QC.module.types  
QC.stages  
QC.tests  
viewer.query  
viewer.tag.categories  
viewer.tag.docs  
viewer.user
```

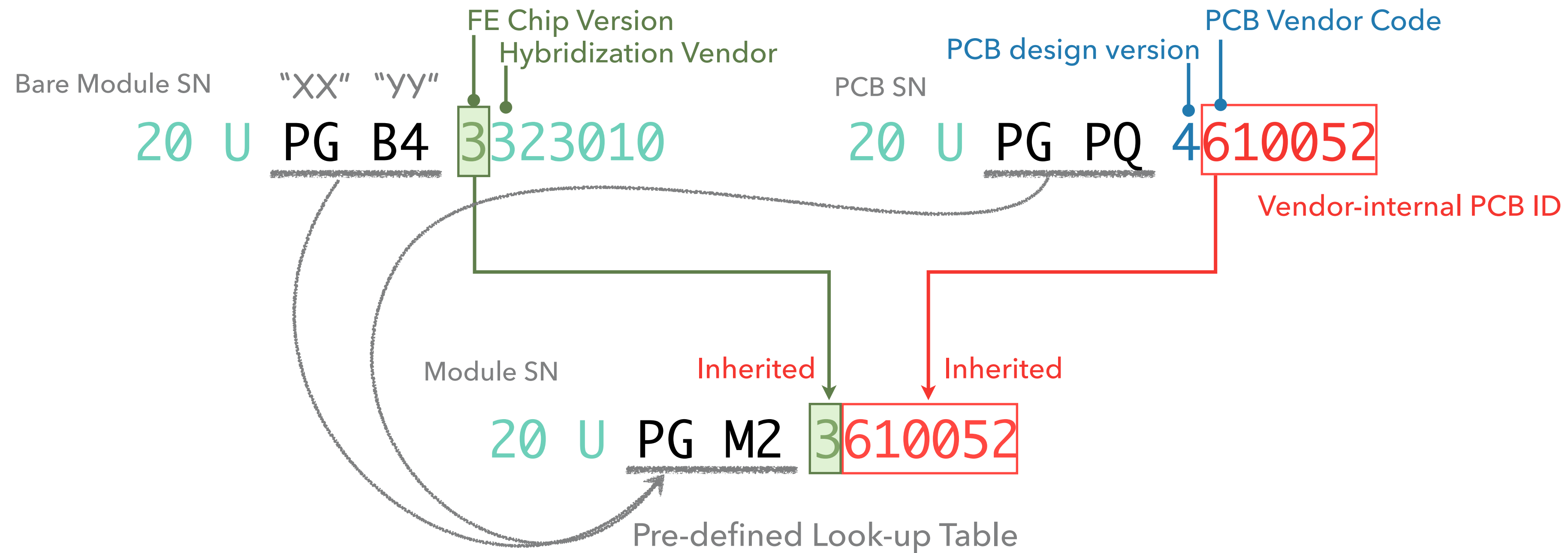
- 2 databases, referred to as `localdb` and `localdbtools`
 - `localdb`: for storage of components or main test records, configs, QC status, etc.
 - `localdbtools`: infrastructural informations (component type, stage definitions, messages, etc.)

Components



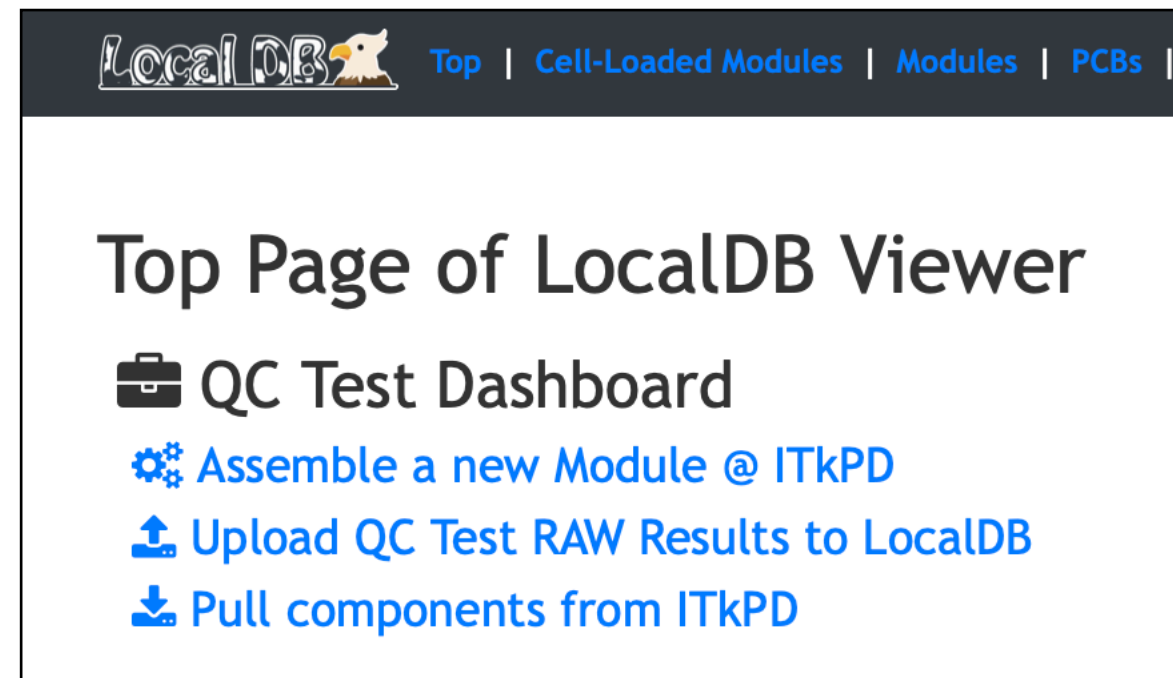
- Supporting assembly breakdown structure of components.
- Implemented in two mongodb collections
 - [localdb.component](#)
 - Store information of each individual component
 - [locladb.childParentRelation](#)
 - Linkage between parents and children

Module SN synthesis



- Pre-requisite: **all** sub-components must be gathered in the same site (on PDB).
- Permitted to assemble **only** the BM-PCB types permutation that are pre-defined in the SN specification doc.
- LocalDB offers a dedicated algorithm to synthesize Module SN according to the definition rule.

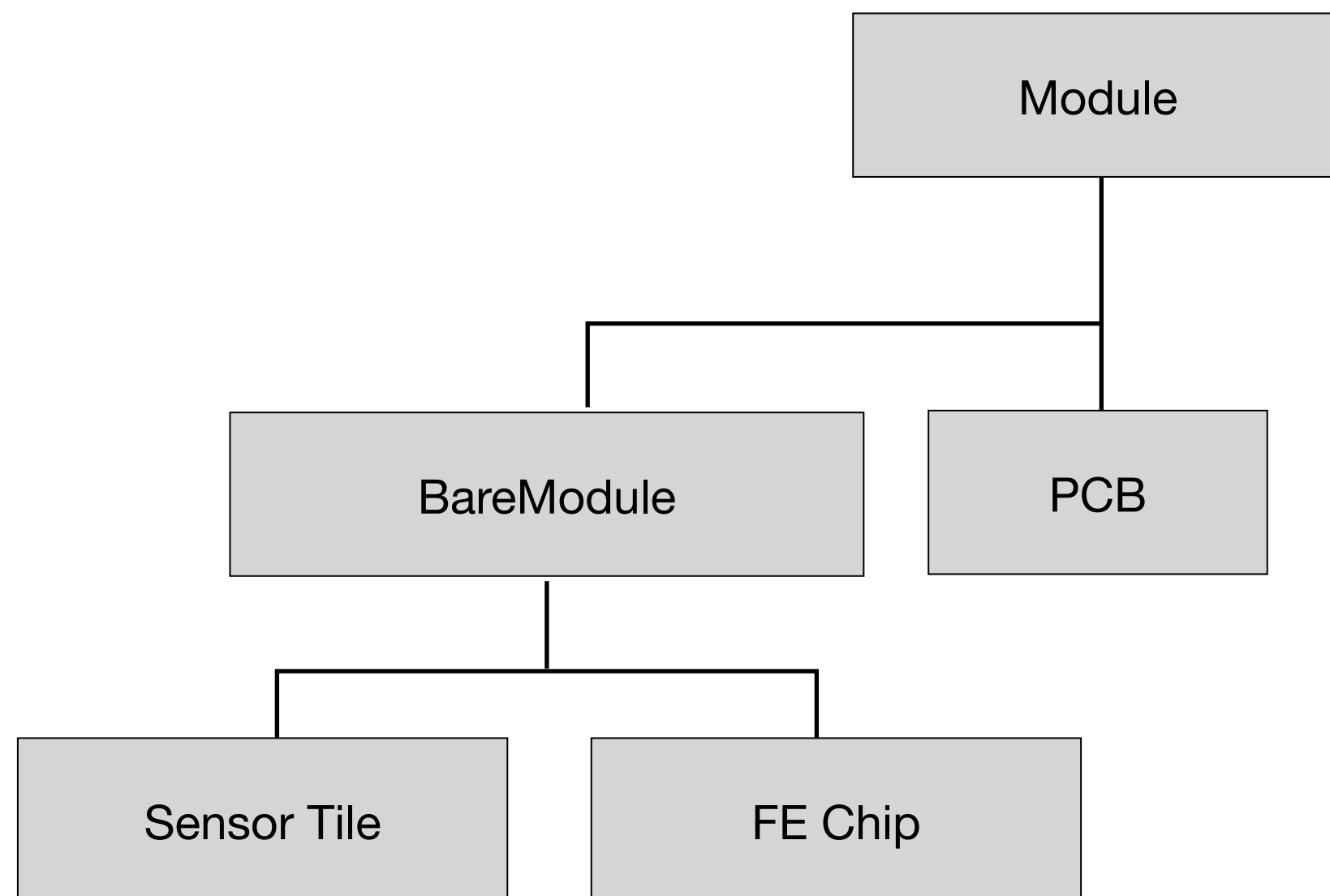
Module SN synthesis



The screenshot shows a form titled 'Please enter the Information about the Module.' with a pencil icon. The form includes a checkbox for 'triplet?' and three required fields marked with a red asterisk: 'Bare Module serial number*', 'PCB serial number*', and 'Module Carrier serial number'. The 'Bare Module serial number*' field has three input boxes: 'Bare Module serial number 1', 'Bare Module serial number 2 (** for triplet only **)', and 'Bare Module serial number 3 (** for triplet only **)'. The 'PCB serial number*' field has one input box: 'PCB serial number'. The 'Module Carrier serial number' field has one input box: 'Module Carrier serial number'. A blue 'Confirm' button is located at the bottom right of the form.

- Pre-requisite: **all** sub-components must be gathered in the same site (on PDB).
- Permitted to assemble **only** the BM–PCB types permutation that are pre-defined in the SN specification doc.
- LocalDB offers a dedicated algorithm to synthesize Module SN according to the definition rule.

Stages



- QC process has multiple waterflow stages.
- General integrity policy: store only a **single** (representative) test record on a stage.
- We have tests associated either to the top-level component or to sub-components.
 - ADC calibration on FE
 - IV scan on Module
- Stage coherency: FE-level tests and Module-level tests should be registered on the identical stage.
- These rules constrain subcomponents stage structure:
 - intrinsic (standalone) stages, **AND**
 - super-component stages

Stages and Tests

FE Stages/Tests

Module Stages/Tests

Stage	Tests
TESTONWAFER	<ul style="list-style-type: none"> Electrical FE chip tests (FECHIP_TEST)
HYBRIDISATION	
UNUSABLE	
BAREMODULEASSEMBLY	
BAREMODULERECEPTION	<ul style="list-style-type: none"> Minimal Health Test (MIN_HEALTH_TEST) Analog Readback (ANALOG_READBACK)
MODULE/INIT	
MODULE/ASSEMBLY	
MODULE/WIREBONDING	
MODULE/INITIAL_WARM	<ul style="list-style-type: none"> ADC Calibration (ADC_CALIBRATION) Analog Readback (ANALOG_READBACK) SLDO (SLDO) VCAL Calibration (VCAL_CALIBRATION) Low Power Mode (LP_MODE) Overvoltage Protection (OVERVOLTAGE_PROTECTION) Undershunt Protection (UNDERSHUNT_PROTECTION) Data Transmission (DATA_TRANSMISSION) Injection Capacitance (INJECTION_CAPACITANCE) Minimal Health Test (MIN_HEALTH_TEST) Tuning (TUNING) Pixel Failure Analysis (PIXEL_FAILURE_ANALYSIS)

Stage	Tests
MODULE/INIT	
MODULE/ASSEMBLY	<ul style="list-style-type: none"> Mass Measurement (MASS_MEASUREMENT) Glue Information Module+Flex Attach (GLUE_MODULE_FLEX_ATTACH) Triplet Module Metrology (TRIPLET_METROLOGY) Visual Inspection (VISUAL_INSPECTION) Flatness (FLATNESS) Quad Module Metrology (QUAD_MODULE_METROLOGY)
MODULE/WIREBONDING	<ul style="list-style-type: none"> Wirebonding Information (WIREBONDING) Wirebond pull test (WIREBOND_PULL_TEST) Visual Inspection (VISUAL_INSPECTION)
MODULE/INITIAL_WARM	<ul style="list-style-type: none"> Electrical Test (e-test) Module Summary (E_SUMMARY) IV measurement (IV_MEASURE)

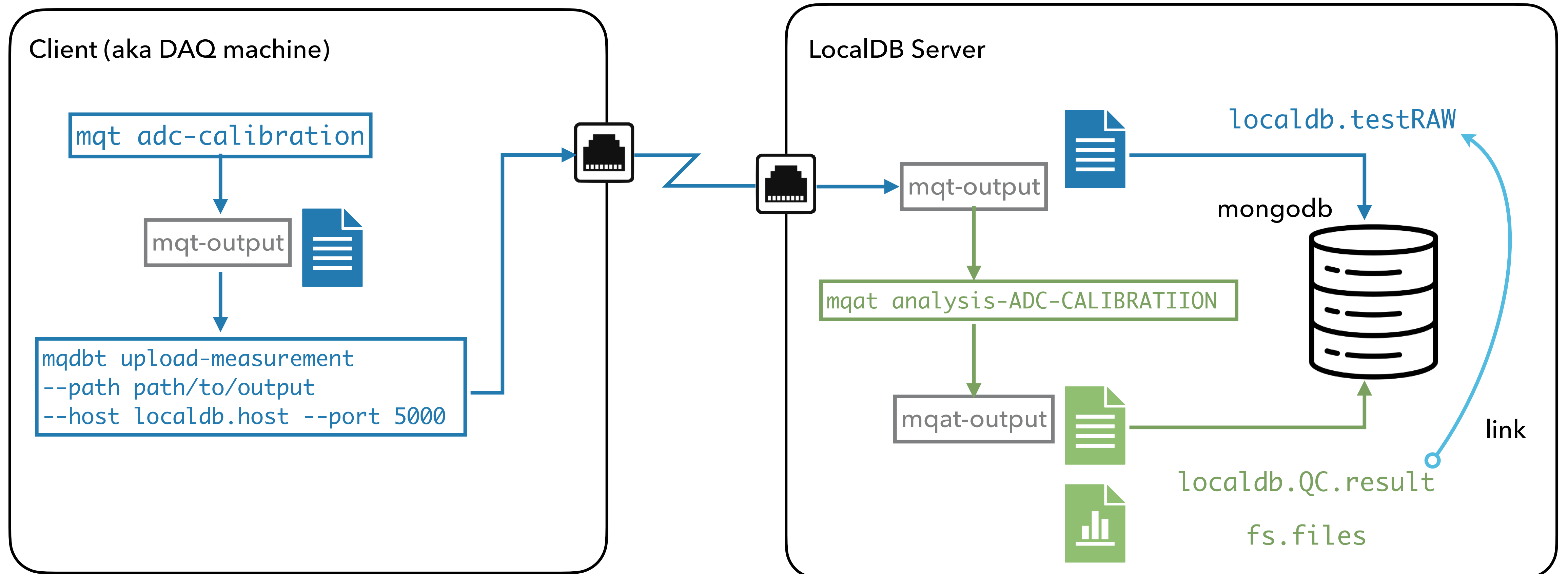
Downloading Tests

- Downloading past test records on PDB to LocalDB is made automatically when pulling a component.
 - This process conducted by [RecursiveComponentSynchronizer](#) will take certain time when stage is progressed.
- Tests on PDB should be either:
 - **mqt-mqat-localdb-compliant**: on top of the TestRun format, additional attachment files referred to as [RAW](#) and [attachment_pack.zip](#) are present. TestRun's [RunNumber \(string\)](#) is identical to localdb's test instance [ObjectId](#).
 - [RAW](#) is effectively identical to mqt measurement output for electrical tests. **Re-analysis is supported.**
 - [attachment_pack.zip](#) aggregates all mqat output files (e.g. png files)
 - **plain**: only TestRun format. RunNumber convention is undefined.
 - Typically [WAFERPROBING](#) data and non-electrical data uploaded by other tools like WebApp.
 - We try to develop LocalDB to not crash by the presence of such data. **Features are limited.**

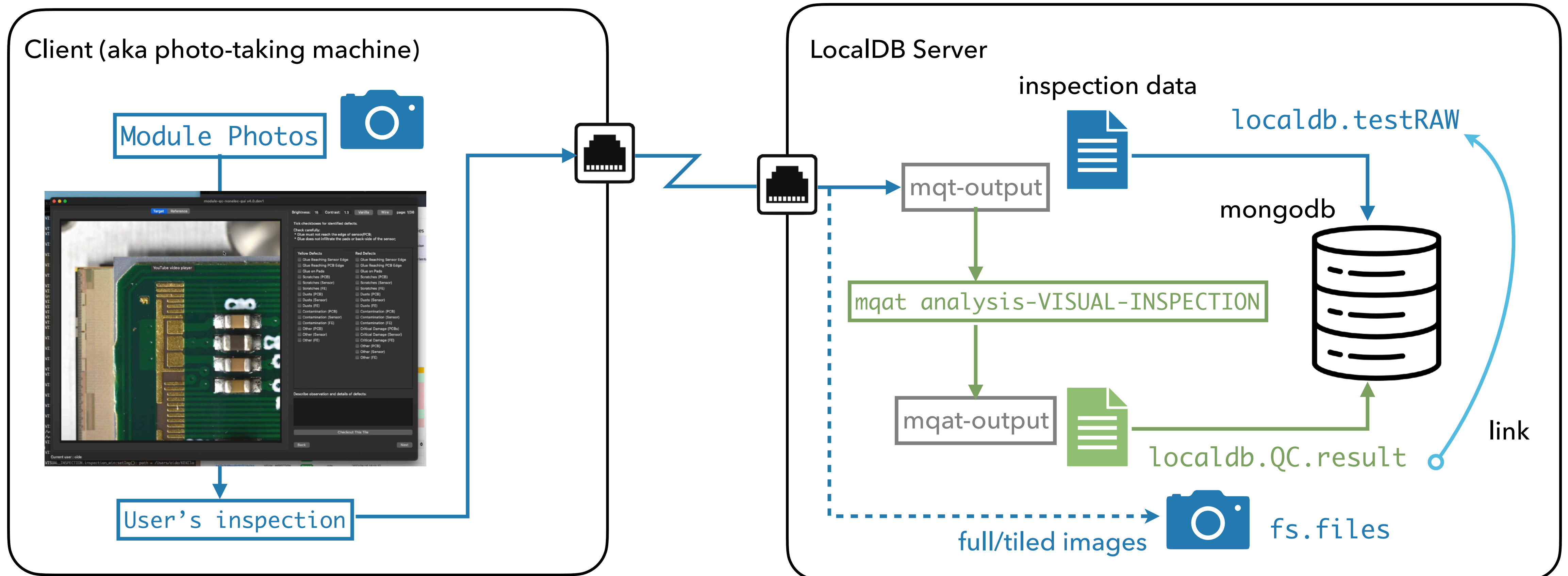
Recording Tests to LocalDB

- Multiple data flow paths exist according to natural data paths.
 - **(1) mqt-mqdbt CLI**: standard for electrical QC, except for MHT/TUN/PFA.
 - **(2) YARR scans**: a dedicated scan-uploading scripts (i.e. the “-W” option)
 - **(3) nonelec-gui**: non-elec but format-standardized input needed: visual inspection, wirebond pull test, etc.
 - **(4) LocalDB browser**: small info inputs: mass measurement, thermal cycling, parylene coating, etc.
- In all tests, mqtat runs in the LocalDB server → generates the PDB-compliant TestRun format.
 - Some tests might not have so serious “analysis”, but just reformatting the input plus attaching the QC pass/fail flag is a generalized “analysis” operation.

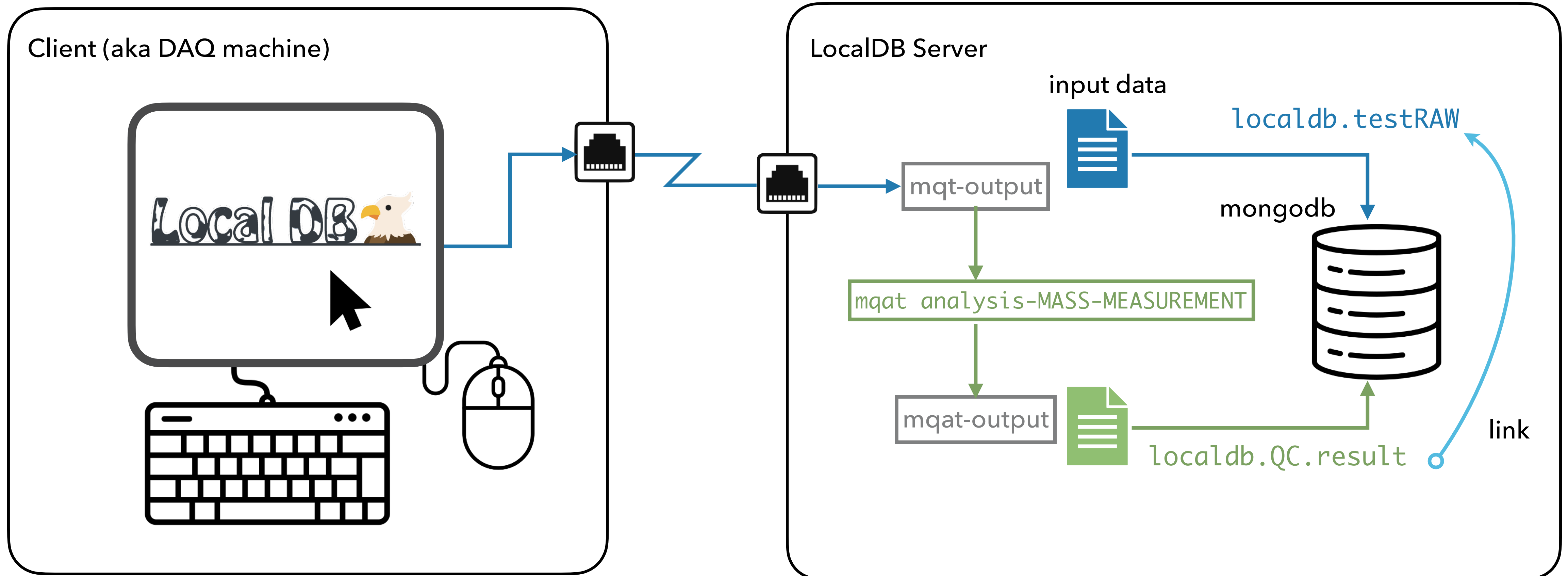
module-qc-tools workflow



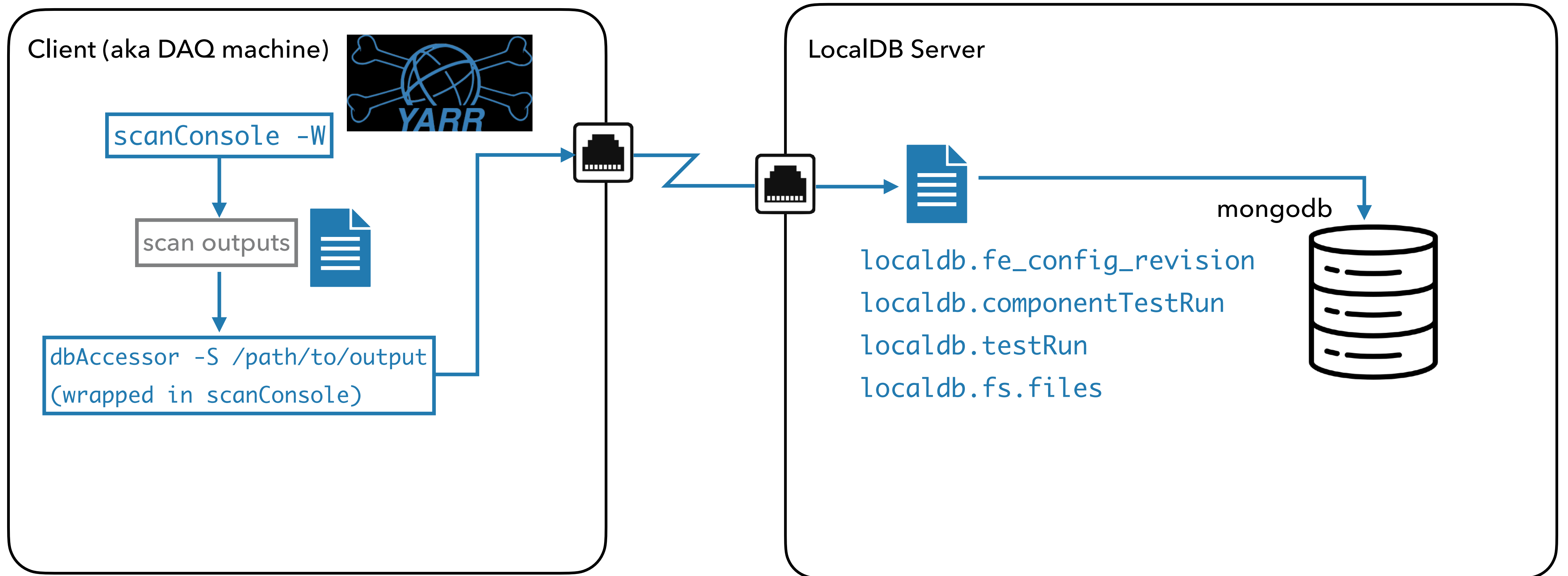
nonelec-gui workflow



Browser input workflow




YARR Scan workflow (very different!!)



- Historically, this part is one of the oldest code of the LocalDB, even before ITkPD started to use.
- Still works quite well for storing ~all YARR scan outputs, but should be migrated to [mqdbt](#).

FE Config

 Config Revisions

Stage: MODULE/INITIAL_COLD
Mode: warm

Index	Revision ID	Timestamp	Message
HEAD	6780...cef631	2025-01-10 14:24:04 JST(+0900)	Submitted by YARR-dbAccessor (hostname: repicdaq2, user: admin)

Mode: cold

Index	Revision ID	Timestamp	Message
HEAD	6788...0e1ce0	2025-01-16 17:14:12 JST(+0900)	Submitted by YARR-dbAccessor (hostname: repicdaq5, user: admin)
HEAD^1	6788...436abf	2025-01-16 16:53:40 JST(+0900)	Submitted by YARR-dbAccessor (hostname: repicdaq5, user: admin)
HEAD^2	6788...2385e3	2025-01-16 16:47:40 JST(+0900)	Submitted by YARR-dbAccessor (hostname: repicdaq5, user: admin)
HEAD^3	6788...3d49db	2025-01-16 16:43:14 JST(+0900)	Submitted by YARR-dbAccessor (hostname: repicdaq5, user: admin)
HEAD^4	6788...79d079	2025-01-16 16:40:42 JST(+0900)	Submitted by YARR-dbAccessor (hostname: repicdaq5, user: admin)
HEAD^5	6788...fc581b	2025-01-16 16:38:04 JST(+0900)	Submitted by YARR-dbAccessor (hostname: repicdaq5, user: admin)
HEAD^6	6788...b23769	2025-01-16 16:34:56 JST(+0900)	Submitted by YARR-dbAccessor (hostname: repicdaq5, user: admin)
HEAD^7	6788...7a55e0	2025-01-16 16:29:03 JST(+0900)	Submitted by YARR-dbAccessor (hostname: repicdaq5, user: admin)
HEAD^8	6788...c839ed	2025-01-16 16:23:58 JST(+0900)	Submitted by YARR-dbAccessor (hostname: repicdaq5, user: admin)
HEAD^9	6788...4d17f0	2025-01-16 16:21:51 JST(+0900)	Submitted by YARR-dbAccessor (hostname: repicdaq5, user: admin)
HEAD^10	6788...ba0320	2025-01-16 16:18:29 JST(+0900)	Submitted by YARR-dbAccessor (hostname: repicdaq5, user: admin)
HEAD^11	6788...2557ca	2025-01-16 16:15:21 JST(+0900)	Submitted by YARR-dbAccessor (hostname: repicdaq5, user: admin)
HEAD^12	6788...11fcc0	2025-01-16 16:10:03 JST(+0900)	Submitted by YARR-dbAccessor (hostname: repicdaq5, user: admin)
HEAD^13	6785...c2d264	2025-01-14 14:53:59 JST(+0900)	Submitted by YARR-dbAccessor (hostname: repicdaq6, user: admin)
HEAD^14	6785...7c5188	2025-01-14 14:40:26 JST(+0900)	Submitted by YARR-dbAccessor (hostname: repicdaq6, user: admin)
HEAD^15	6785...bc392a	2025-01-14 14:37:30 JST(+0900)	Submitted by YARR-dbAccessor (hostname: repicdaq6, user: admin)
HEAD^16	6785...57ca51	2025-01-14 14:34:36 JST(+0900)	Submitted by YARR-dbAccessor (hostname: repicdaq6, user: admin)
HEAD^17	6785...6c660a	2025-01-14 14:27:39 JST(+0900)	Submitted by YARR-dbAccessor (hostname: repicdaq6, user: admin)
HEAD^18	6785...98fb09	2025-01-14 14:21:17 JST(+0900)	Submitted by YARR-dbAccessor (hostname: repicdaq6, user: admin)
HEAD^19	6785...d56f6a	2025-01-14 14:19:16 JST(+0900)	Submitted by YARR-dbAccessor (hostname: repicdaq6, user: admin)
HEAD^20	6785...ab4809	2025-01-14 14:14:42 JST(+0900)	Submitted by YARR-dbAccessor (hostname: repicdaq6, user: admin)
HEAD^21	6785...b48bcb	2025-01-14 14:10:32 JST(+0900)	Submitted by YARR-dbAccessor (hostname: repicdaq6, user: admin)
HEAD^22	6785...cde814	2025-01-14 14:04:06 JST(+0900)	Submitted by YARR-dbAccessor (hostname: repicdaq6, user: admin)
HEAD^23	6785...6c126a	2025-01-14 13:57:41 JST(+0900)	Submitted by YARR-dbAccessor (hostname: repicdaq6, user: admin)
HEAD^24	6785...4a1d6b	2025-01-14 13:54:31 JST(+0900)	Submitted by YARR-dbAccessor (hostname: repicdaq6, user: admin)
HEAD^25	6785...fd6ca3	2025-01-14 13:51:06 JST(+0900)	Submitted by YARR-dbAccessor (hostname: repicdaq6, user: admin)
HEAD^26	6785...81c1ad	2025-01-14 12:51:57 JST(+0900)	Submitted by YARR-dbAccessor (hostname: repicdaq6, user: admin)
HEAD^27	6785...1332cd	2025-01-14 12:28:18 JST(+0900)	Submitted by YARR-dbAccessor (hostname: repicdaq6, user: admin)

- Revision history of FE config is reserved in LocalDB.
- Revision is a series divided by stage and [warm,cold,LP]
- The root config is downloaded from ITkPD when the stage increments.
- [mqdbt](#) has an API to download latest or specific revision config.

MHT/TUN/PFA registration

- MHT/TUN/PFA needs a set of scan results, but each scan type **may have multiple scans** within a stage.
- A dedicated interface in the browser to select scans and then submit.
 - Select a FE, choose MHT, submit
→ by default, apply same set of scans to all FEs together.

Tuning (TUNING)	No TestRun!	Checkout Scans
Minimal Health Test (MIN_HEALTH_TEST)	No TestRun!	Checkout Scans
Pixel Failure Analysis (PIXEL_FAILURE_ANALYSIS)	No TestRun!	Checkout Scans

Test: MIN_HEALTH_TEST -- Sign off

Component: 20UPGFC0088407, Stage: MODULE/INITIAL_COLD

- Please select one run for each scan.
- If no candidate scan is present, select "skip" (temporary solution).

std_digitalscan

Select	View	YARR Scan Run Number	Scan Type
<input type="radio"/>			Skip std_digitalscan

std_analogscan

Select	View	YARR Scan Run Number	Scan Type
<input type="radio"/>			Skip std_analogscan

std_thresholdscan_hr

Select	View	YARR Scan Run Number	Scan Type
<input type="radio"/>			Skip std_thresholdscan_hr

std_totscan

Select	View	YARR Scan Run Number	Scan Type
<input type="radio"/>			Skip std_totscan

- Use the same set of YARR scans for the rest FE Chips of the module.

Proceed

E-Summary

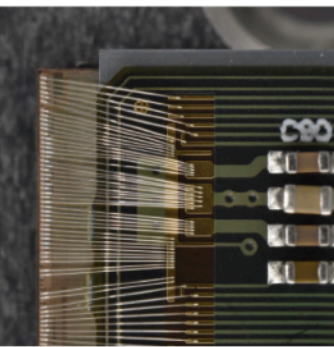
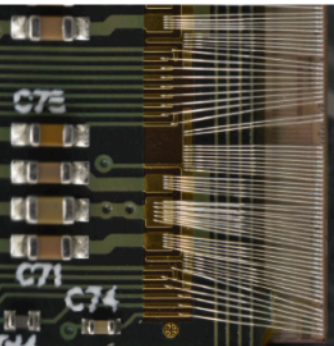
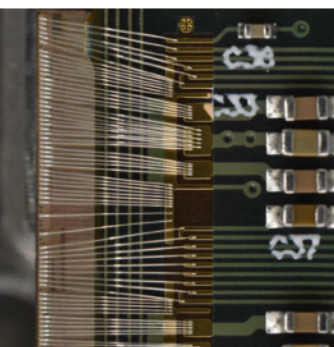
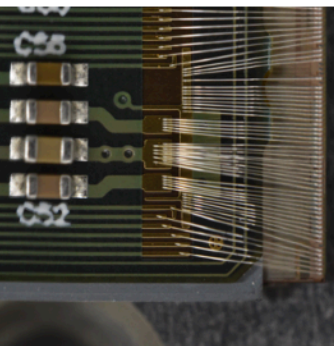
- E-summary is an aggregation place of gathering links to all FE-level electrical tests.
- Registration done via LocalDB, by selecting a representative test for each FE/test.
- Some high-level summary numbers, e.g. total bad pixels.

- A typical electrical-QC-only stage comprises:
 - Module-level: IV-measure, E-Summary
 - FE-level: ADC-Calibration, Analog Readback, SLDO, ...

Result Visualization

Visual Inspection Defects

[Download front_image](#)

Filename	Contents	Defects	Comment
front_tile0			Confirmed Iref Trim 9
Download front_tile0			
front_tile17			Confirmed Iref trim 12
Download front_tile17			
front_tile18			
Download front_tile18			
front_tile35			
Download front_tile35			

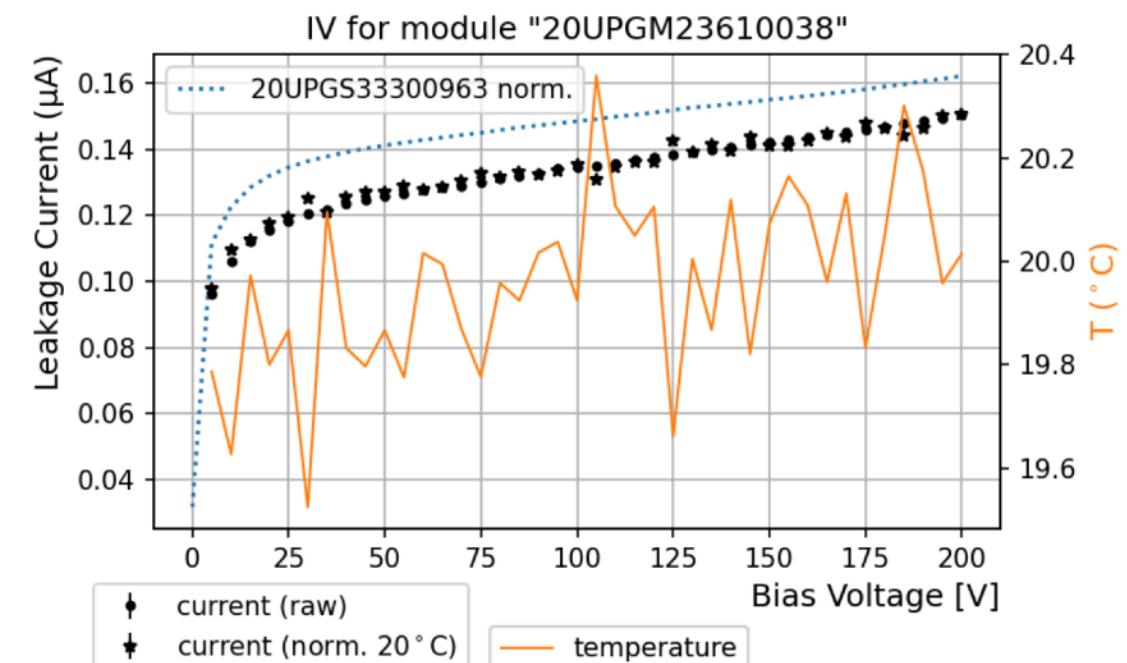
RAW Results Record

- [Expand RAW Record](#)
- [Download RAW](#)

ProductionDB Record

- [Expand ProductionDB Record](#)

Attachments

Filename	Contents																																
output.log	Download																																
20UPGM23610038_plot.png																																	
20UPGM23610038_summary.png	<table border="1"> <thead> <tr> <th colspan="4">IV_MEASURE for 20UPGM23610038</th> </tr> <tr> <th>Parameter</th> <th>Analysis result</th> <th>QC criteria</th> <th>Pass</th> </tr> </thead> <tbody> <tr> <td>BREAKDOWN_VOLTAGE</td> <td>-999</td> <td>[138.88, 999]</td> <td>True</td> </tr> <tr> <td>BREAKDOWN_REDUCTION</td> <td>0</td> <td>[0, 10]</td> <td>True</td> </tr> <tr> <td>MAXIMUM_VOLTAGE</td> <td>200.0</td> <td>-</td> <td>-</td> </tr> <tr> <td>LEAK_CURRENT</td> <td>0.14</td> <td>-</td> <td>-</td> </tr> <tr> <td>LEAK_INCREASE_FACTOR</td> <td>1.15</td> <td>[0, 2]</td> <td>True</td> </tr> <tr> <td>LEAK_PER_AREA</td> <td>0.01</td> <td>[0, 1.5]</td> <td>True</td> </tr> </tbody> </table>	IV_MEASURE for 20UPGM23610038				Parameter	Analysis result	QC criteria	Pass	BREAKDOWN_VOLTAGE	-999	[138.88, 999]	True	BREAKDOWN_REDUCTION	0	[0, 10]	True	MAXIMUM_VOLTAGE	200.0	-	-	LEAK_CURRENT	0.14	-	-	LEAK_INCREASE_FACTOR	1.15	[0, 2]	True	LEAK_PER_AREA	0.01	[0, 1.5]	True
IV_MEASURE for 20UPGM23610038																																	
Parameter	Analysis result	QC criteria	Pass																														
BREAKDOWN_VOLTAGE	-999	[138.88, 999]	True																														
BREAKDOWN_REDUCTION	0	[0, 10]	True																														
MAXIMUM_VOLTAGE	200.0	-	-																														
LEAK_CURRENT	0.14	-	-																														
LEAK_INCREASE_FACTOR	1.15	[0, 2]	True																														
LEAK_PER_AREA	0.01	[0, 1.5]	True																														

Results

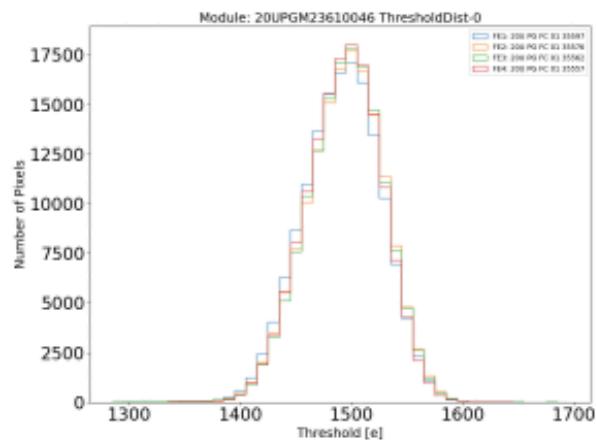
Key	Data
MODULE_TEMPERATURE	-15
ANALYSIS_VERSION	localdb-tools v2.2.38
QUAD-MODULE_ADC_CALIBRATION	1 4 2 3
QUAD-MODULE_SLDO	1 4 2 3
QUAD-MODULE_VCAL_CALIBRATION	1 4 2 3
QUAD-MODULE_ANALOG_READBACK	1 4 2 3
QUAD-MODULE_LP_MODE	1 4 2 3
QUAD-MODULE_OVERVOLTAGE_PROTECTION	1 4 2 3
QUAD-MODULE_INJECTION_CAPACITANCE	1 4 2 3
QUAD-MODULE_MIN_HEALTH_TEST	1 4 2 3
QUAD-MODULE_TUNING	1 4 2 3
QUAD-MODULE_PIXEL_FAILURE_ANALYSIS	1 4 2 3
MODULE_BAD_PIXEL_NUMBER	1625
MODULE_ELECTRICALLY_BAD_PIXEL_NUMBER	1625
MODULE_DISCONNECTED_PIXEL_NUMBER	0
MODULE_HIGHEST_NUMBER_BAD_PIXELS_CLUSTER	N/A
QUAD-MODULE_UNDERSHUNT_PROTECTION	1 4 2 3
QUAD-MODULE_DATA_TRANSMISSION	1 4 2 3

Result Visualization

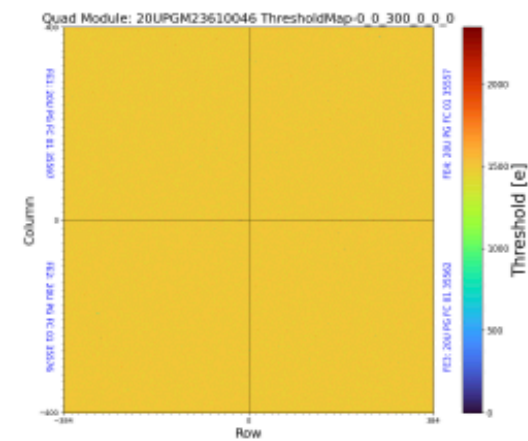
⚙️ Result Plots

Regenerate Plots

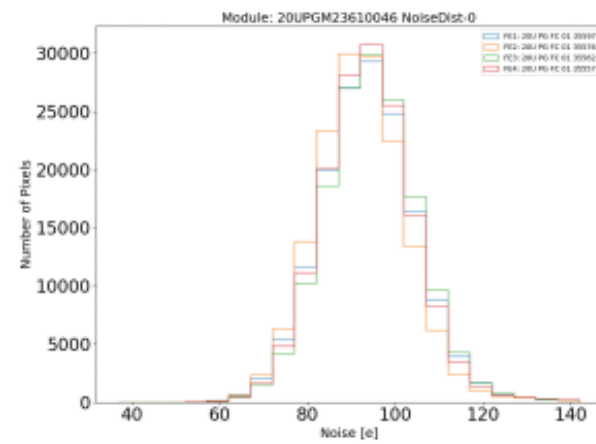
ThresholdDist-0



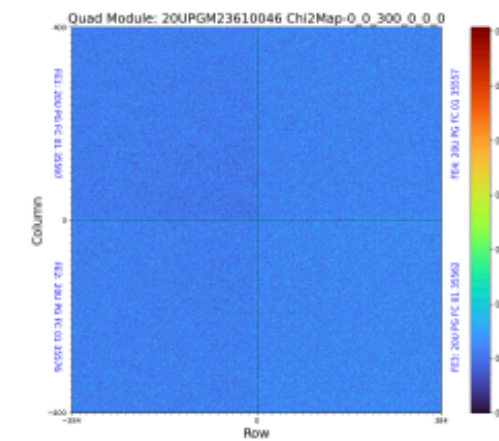
ThresholdMap-0_0_300_0_0_0



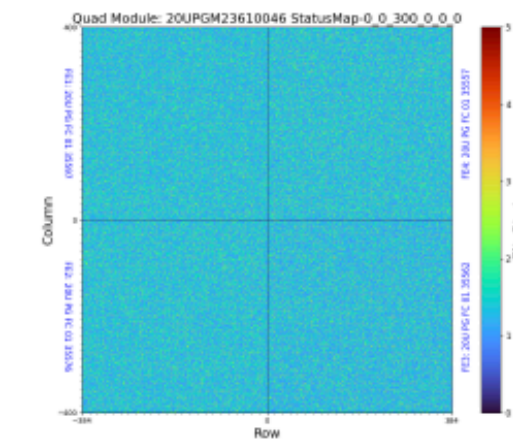
NoiseDist-0



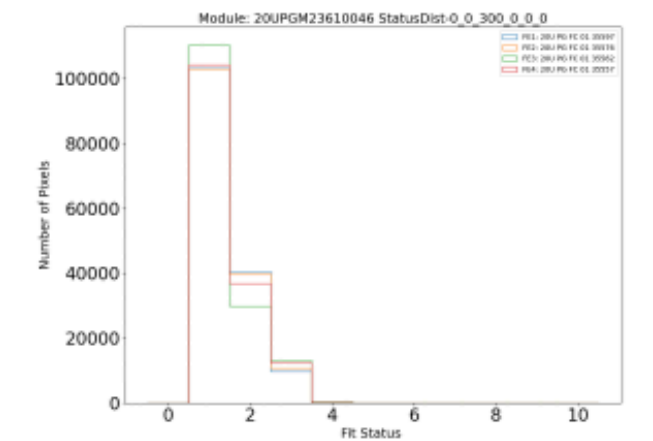
Chi2Map-0_0_300_0_0_0



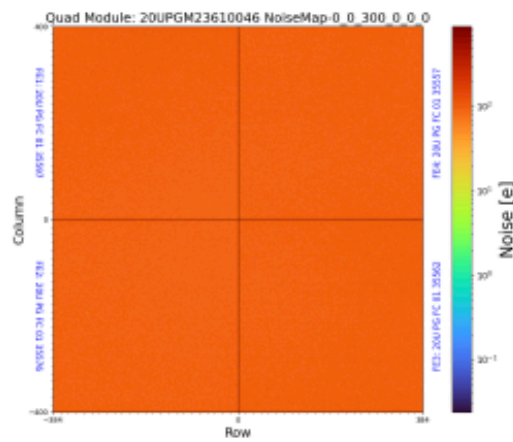
StatusMap-0_0_300_0_0_0



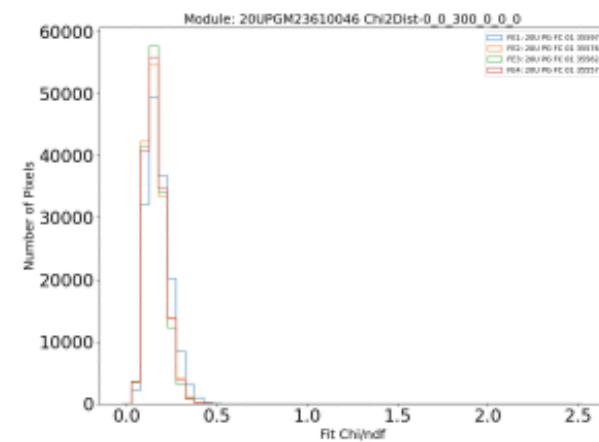
StatusDist-0_0_300_0_0_0



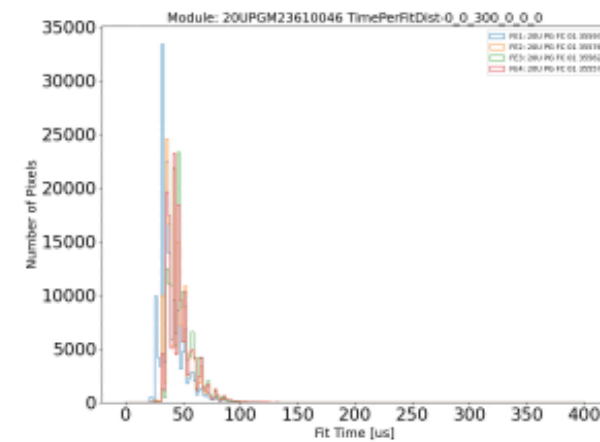
NoiseMap-0_0_300_0_0_0



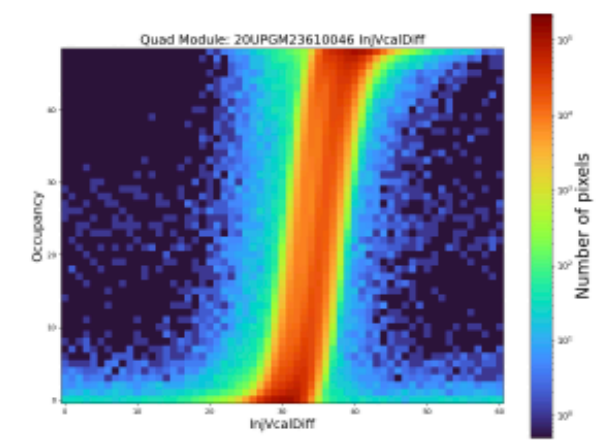
Chi2Dist-0_0_300_0_0_0



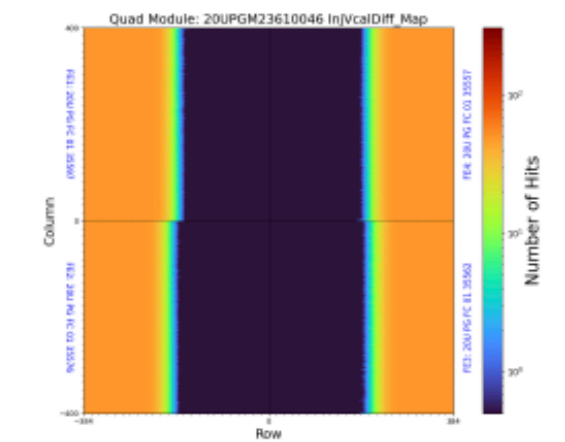
TimePerFitDist-0_0_300_0_0_0



InjVcalDiff



InjVcalDiff_Map



Sign-off & Uploading

- With Sign-off, the stage in localdb increments.
 - At this point, by default uploading the previous stage tests to ITkPD will be made.
 - For each test, the following informations are uploaded.
 - TestRun (the nominal ITkPD Test format)
 - RAW result
 - attachment_pack.zip (plots or any other auxiliary files that mqat outputs).
 - N.B. mostly the binary data resides in EOS disk space, while ITkPD attachment records its metadata.
 - FE config (only for the TUNING test)
 - ITkPD test run's "RunNumber" is identical to the localdb's TestRun ObjectId, and the ObjectId of the TestRun on ITkPD is stored in LocalDB as the "receipt" of successful uploading.
- When needed, user can jump to an alternative stage.

Recycling analysis

- Given mqat analysis evolves over time, tests conducted in the back log could be renewed using latest deployed mqat.
- “Recycle Analysis” button is equipped in each TestRun page.
- For E-summary, a bulk recycling of all registered tests is supported.

» Test: **DATA_TRANSMISSION** **QC Passed**
(Stage: MODULE/INITIAL_COLD)

Download TestRun

Recycle Simple Analysis

(Server's version: 2.3.0)

A new devel in this workshop: QC Customization

Configuring Front-end Chip QC Menu

Standard Stages

Stage:: MODULE/INITIAL_WARM

Test:: ADC_CALIBRATION

Test:: ANALOG_READBACK

Test:: SLDO

Test:: VCAL_CALIBRATION

Test:: LP_MODE

Disabled Test:: OVERVOLTAGE_PROTECTION

Disabled Test:: UNDERSHUNT_PROTECTION

Test:: DATA_TRANSMISSION

Test:: INJECTION_CAPACITANCE

Test:: MIN_HEALTH_TEST

Test:: TUNING

Test:: PIXEL_FAILURE_ANALYSIS

Current Stage: Initial Cold

Test Type	Local Result	Action
ADC Calibration (ADC_CALIBRATION)	No TestRun!	Submit RAW Result
Analog Readback (ANALOG_READBACK)	No TestRun!	Submit RAW Result
SLDO (SLDO)	No TestRun!	Submit RAW Result
VCAL Calibration (VCAL_CALIBRATION)	No TestRun!	Submit RAW Result
Injection Capacitance (INJECTION_CAPACITANCE)	No TestRun!	Submit RAW Result
Tuning (TUNING)	No TestRun!	Checkout Scans
Minimal Health Test (MIN_HEALTH_TEST)	No TestRun!	Checkout Scans
Pixel Failure Analysis (PIXEL_FAILURE_ANALYSIS)	No TestRun!	Checkout Scans
Low Power Mode (LP_MODE)	No TestRun!	Submit RAW Result
Data Transmission (DATA_TRANSMISSION)	TestRun Present	Submit RAW Result

- Enabling skipping of specific tests or entire stage.
- Reflection in the test list or in the stage.
- Now working: reflection in E-Summary pass flag.
- Mixture of Quad/Triplet – unsupported so far.

Sign-off & Uploading

- With Sign-off, the stage in localdb increments.
 - At this point, by default uploading the previous stage tests to ITkPD will be made.
 - For each test, the following informations are uploaded.
 - TestRun (the nominal ITkPD Test format)
 - RAW result
 - attachment_pack.zip (plots or any other auxiliary files that mqat outputs).
 - N.B. mostly the binary data resides in EOS disk space, while ITkPD attachment records its metadata.
 - FE config (only for the TUNING test)
 - ITkPD test run's "RunNumber" is identical to the localdb's TestRun ObjectId, and the ObjectId of the TestRun on ITkPD is stored in LocalDB as the "receipt" of successful uploading.
- When needed, user can jump to an alternative stage.

Resources

- <http://atlas-itk-pixel-localdb.docs.cern.ch/>
- <https://gitlab.cern.ch/YARR/localdb-tools>
- <https://mattermost.web.cern.ch/itkpixel/channels/local-database>