**Test Case ##**

Author Version

Project Date

|  |  |  |
| --- | --- | --- |
| **Name of Test Case** | |  |
| **Narrative and Test Objective**  What is to be found out with this test? | |  |
| **Function(s) under Investigation** (*FuI*)  “relevant function realized by the object under investigation” | |  |
| **Object under Investigation** (*OuI*)  "component(s) (1..n) that are to be qualified by the test” | |  |
| **Domain under Investigation** (*DuI*)  “relevant domains or sub-domains of test parameters and connectivity.” | |  |
| **Purpose of Investigation** *(PoI)*  Numbered list of test purpose(s) in terms of Characterization, Verification, or Validation. | |  |
|  | | |
| **System under Test** (*SuT*):  Systems, subsystems, components included in the test case or test setup. | |  |
| **Functions under Test** (*FuT*)  Functions relevant to the operation of the system under test, including FuI and relevant interactions btw. OuI and SuT. | |  |
|  | | |
| **Test criteria** *(TCR)*  Formulation of criteria for each PoI based on properties of SuT; encompasses properties of test signals and output measures. | |  |
|  | **Target Metrics** *(TM)*  Measures required to quantify each identified test criteria |  |
| **Variability Attributes** *(VA)*  controllable or uncontrollable factors and the required variability; ref. to PoI. |  |
| **Quality Attributes** *(QA)*  threshold levels for test result quality as well as pass/fail criteria. |  |
| **Detailed PoI and Factor Analysis** | | *Yes / no [filename or link to Uncertainty Structure Analysis Template (USAT)]* |
| **Relevant Data Sets (input)** | | *Are there existing key data sets that will be relevant for the test design and experiment execution?* |
| **Relevant Data Sets Produced (output)** | | *Will this work produce a data set that may be relevant beyond the scope of this specific test? What is the scope of the data?* |

**Qualification Strategy**

*<Insert here a table and a free text explanation of the Qualification Strategy: how are the PoI to be met by the different tests and how will the test results be combined to yield the desired PoI outcomes (see guideline on qualification strategy)>*

Table 1 List of Sub-Test Specifications and their relation to TC PoI.

|  |  |  |  |
| --- | --- | --- | --- |
| **TS ID** | **Test Specification Title** | **Associated PoI** | **Remarks** |
| TS1.1 | … | e.g. PoI1, PoI3 | e.g. characterize lab equipment |
| … |  |  |  |

**Test Specification ##.##**

|  |  |
| --- | --- |
| **Title of Test Specification** | *<Title of Test Specification>* |
| **Reference to Test Case** |  |
| **Test Rationale** | *<motivation and explanation of this test* |
| **Specific Test System** | *<graphic + text>* |
| **Target measures** |  |
| **Input and output parameters** |  |
| **Source of uncertainty** |  |
| **Reference to detailed analysis** |  |
| **Test Design** |  |
| **Initial**  **system state** |  |
| **Evolution of system state and test signals** |  |
| **Other parameters** |  |
| **Temporal resolution** |  |
| **Suspension criteria / Stopping criteria** |  |

**Mapping to Research Infrastructure**

*<Insert here a table and free text on how the Test Specifications are mapped to experimental facilities / research infrastructure: how is it planned to distribute (map) and execute the specified test system in a given research infrastructure (free text); this section can be used to list the intended Experiment specifications.>*

Table 2 List of Experiment Specifications and their relation to existing Test Specifications

|  |  |  |  |
| --- | --- | --- | --- |
| **ES ID** | **Experiment Specification Title** | **Research Infrastructure(s)** | **Rationale** |
| ES1.1.1 | … | e.g. SYSLAB, SmartEST Lab | e.g. unique equipment |
| … |  |  |  |

**Experiment Specification ##.##.##**

|  |  |
| --- | --- |
| **Title** of Experiment |  |
| **Reference to Test Specification** |  |
| **Research Infrastructure** |  |
| **Experiment Realisation** |  |
| **Experiment Setup** (concrete lab equipment) |  |
| **Experimental Design and  Justification** |  |
| **Uncertainty Management** |  |
| **Experimental Setup uncertainties** |  |
| **Precision of equipment** |  |
| **Measurement uncertainty** |  |
| **Storage of experiment data** |  |