

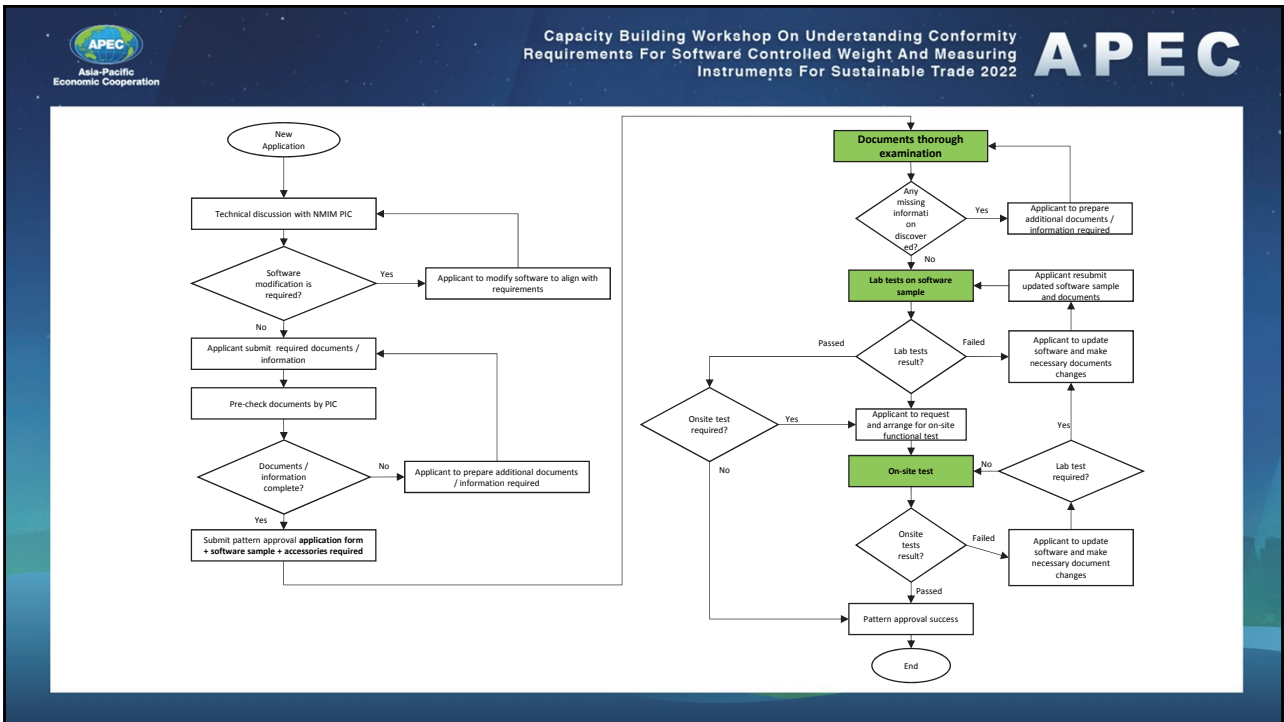
APEC Asia-Pacific Economic Cooperation


SIRIM

NMIM NATIONAL METROLOGY INSTITUTE OF MALAYSIA


MUHAMMAD AZWAN IBRAHIM

Challenges in Examining Software for Measuring Instrument





Capacity Building Workshop On Understanding Conformity Requirements For Software Controlled Weight And Measuring Instruments For Sustainable Trade 2022



Document Information Guide

Software Document Information Guide 4.1

Software for weighbridge pattern approval
Document preparation instruction guide

Company Name: _____
Software Name: _____
Software Version: _____
Date of preparation: _____
List of documents: _____
(Subject to this information guide)

Each module of documents shall contain the following information:

- Title of the document
- Description and scope of the document
- Author
- Version
- Date of publish
- Changes history

General notes:

1) Operations that are considered as legally relevant:

- data recording
- data processing
- data storage
- data transfer
- data backup
- data recovery
- data deletion
- data archiving
- data migration
- data integration
- data synchronization
- data validation
- data verification
- data authentication
- data authorization
- data confidentiality
- data integrity
- data availability
- data reliability
- data accuracy
- data precision
- data consistency
- data completeness
- data timeliness
- data traceability
- data accountability
- data transparency
- data openness
- data interoperability
- data portability
- data reusability
- data sustainability
- data resilience
- data robustness
- data security
- data privacy
- data protection
- data governance
- data stewardship
- data ethics
- data lawfulness
- data fairness
- data non-discrimination
- data proportionality
- data minimization
- data limitation
- data retention
- data erasure
- data portability
- data accountability
- data transparency
- data openness
- data interoperability
- data portability
- data reusability
- data sustainability
- data resilience
- data robustness
- data security
- data privacy
- data protection
- data governance
- data stewardship
- data ethics
- data lawfulness
- data fairness
- data non-discrimination
- data proportionality
- data minimization
- data limitation
- data retention
- data erasure

2) This document is intended to assist in preparing technical documents for submission. Results from this document will guarantee the correct data that will be used in the final submission of pattern approval.

3) Review results are not final and subject to change from time to time.

Common errors self-check


No.	Information required	Document ID & applied version	Page No.	Author's comment	Need correct input?
1	The number of documents (legal and soft) that enter as displayed from the actual digit? Software and user interface is the software.				
2	The number of documents (legal and soft) that enter as shown through the software and printed medium.				
3	The "X" and "Y" related to each screen and on printed medium was read letter to both "X" and "Y". The application through the document and software user interface.				
4	The number of documents (legal and soft) that enter as shown through the software and printed medium is correct.				
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Please fill in all the information as required below.


INTRODUCTION AND GENERAL INFORMATION OF THE SOFTWARE.

No.	Information required	Document ID & applied version	Page No.	Author's comment	Need correct input?
1	Introduction and description of the software (legal and soft) system and the hardware system.				
2	Description of software scope and applicability.				
3	Description of software scope and applicability.				
4	Description of software scope and applicability.				
5	Description of software scope and applicability.				
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9	Description of software scope and applicability.				
10	Description of software scope and applicability.				

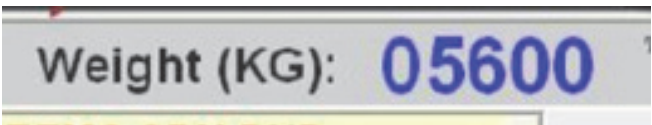
No.	Information required	Document ID & applied version	Page No.	Author's comment	Need correct input?
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9	Description of software scope and applicability.				
10	Description of software scope and applicability.				

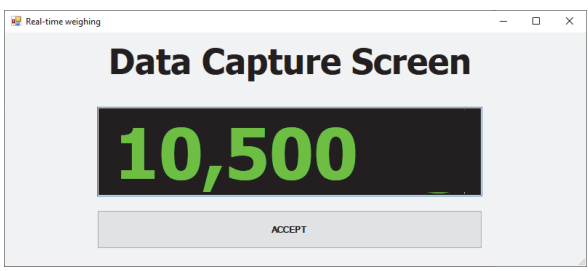


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Weight unit: "kg" for kilogram and "t" for tonne Presenting weight value without a weight unit



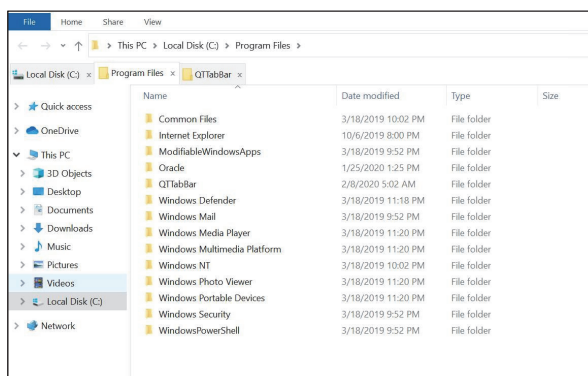


Description given is difficult to understand. Software is poorly described.

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- Inconsistent file naming / variable / parameter declaration
- Inconsistent usage of terms – Specific terms such as encryption key, hidden string, secret key, etc.
- Repeating similar mistakes on various parts of the document



```

1  IntWrp A() {
2      IntWrp i;
3      i = someProcessing();
4      return (i);
5  }
6
7  IntWrp B(IntWrp x) {
8      IntWrp j, k;
9      // Independent data operation
10     k = someProcessing();
11     // Dependent data operation
12     j = someProcessing(x, k);
13
14     return (j);
15 }
16
17 void processAB() {
18     IntWrp value;
19     value = A();
20     value = B(value);
21 }
  
```

- Descriptions/diagrams are inaccurate/too general
- Software tests contradict documentation
- Incomplete declaration of legally relevant functions and parameters
- Contradicted information within the document



Applicants don't have the knowledge on the OIML requirement.

INTERNATIONAL
RECOMMENDATION

OIML R 76-1
Edition 2006 (E)

Non-automatic weighing instruments

Part 1: Metrological and technical requirements - Tests

T.2.8 Software

T.2.8.1 Legally relevant software

Programs, data, type-specific and device-specific or module, and define or fulfill functions which a

Examples: Final results of the measurement, the decimal sign and the unit), identifier (if several load receptors have been

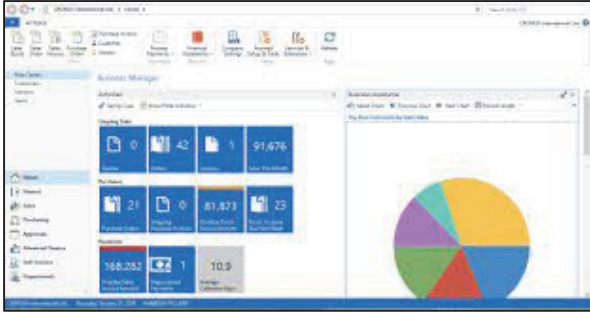


T.2.8.2 Legally relevant parameter

Parameter of a measuring instrument or a module. Legally relevant parameters can be distinguished parameters.

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Broad types of software development environment

Clarion

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