



**Software Test
Description of
Paperless GMP**

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**Software Test
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Paperless GMP**

TITLE :	
AUTHORING GROUP :	
DATE :	
SUPERSEDE PROTOCOL NO. :	

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1 Introduction

1.1 Document overview

This document is the software test description of the Paperless GMP software development project. It contains the description of tests list in software test plan ref. xxx. These tests are executed during Paperless GMP integration and verification:

- Software Integration tests,
- Software Verification tests.

The structure of this template is simple compared to others.

1.2 Abbreviations and Glossary

1.2.1 Abbreviations

Add here abbreviations

1.2.2 Glossary

Add here words definitions

1.3 References

1.3.1 Project References

#	Document Identifier	Document Title
[R1]	ID	Add your documents references. One line per document

1.3.2 Standard and regulatory References

#	Document Identifier	Document Title
[STD1]		Add your documents references. One line per document

1.4 Conventions

Add here conventions

2 Tests preparations

This section contains tasks and recommendations before executing tests.

Describe the tests preparation tasks, for a phase, a category of tests, or even a single test (in this case, use the test identifier).

Give a name to sub-sections, which matches the scope of described tasks.

2.1 Choose sub-section name

The sub-section name may be:

- Testing phase xxx
- or category of test xxx
- or test xxx if a single test deserves special preparation
- or some other logic to group tests

The tests impacted by the preparation shall be listed, add a list or add a reference to a list of tests made in the software test plan or a list of test in test description.

2.1.1 Hardware preparation

Describe platform configuration operations, like specific hardware to be used, physical network configuration.

You may add a diagram and steps to set up hardware for use.

Note: these steps are different from those in the software test plan, where the installation of the whole platform is described.

2.1.2 Software preparation

Describe software set-up and configuration operations, like simulators or software test tool to be used, logical network configuration.

You may add a diagram and steps to set up software for use.

2.1.3 Other test preparation

Describe here any other specific task to do before tests.

2.1.4 Safety, security and privacy precautions

Add here warnings or precautions about safety, security and privacy.

3 Tests descriptions

You may organize tests by testing phases or by groups or list them in alphabetical order. The most effective way is to list them in chronological order of execution for each phase. Testers won't waste time searching for tests in the document. The drawback of this method is that tests executed during in more than one phase shall be either duplicated (max chance of errors when modifying the test) or referenced.

Each test defined in the test plan shall be described here.

3.1 Choose sub-section name

Section name may be:

- Testing phase xxx
- or category of test xxx
- or some other logic to group tests

Describe each test with the pattern below.

For most of tests, only a subset of fields in the table is used, mark N/A (non applicable) the unused fields.

Test ID	Same ID as in test plan	
Test description	Same as in test plan	
Verified Requirement	SRS-REQ-001	Verification method: I,A,D,T
Initial conditions	The state of software before test	You may reference a procedure or it may be the result of previous test
Tests inputs	Input data from any test tool, input files name and location	You may reference a procedure to use the test tool
Data collection actions	Recording and post processing of output data	You may reference a procedure to record data with a test tool
Tests outputs	Output data files names and location, logs ...	Give unique name out output data files.
Assumptions and constraints	If any, may be limited access to a tool, license ...	
Expected results and criteria	List here the results of test	And the criteria to evaluate the result
Test procedure		
Step number	Operator actions	Expected result and evaluation criteria
1	Start foo	Foo is started

Examples of tests:

Inspection

Test ID	T-SRS-REQ-001	
Test desc.	Verify that the user manual contains the intended use	
Verif. Req.	SRS-REQ-001,	Inspection
Init. Cond.	XXX Software is started and idle	
Tests inputs	N/A	
Data collection	N/A	
Tests outputs	N/A	
Assum & constr	N/A	
Expected results and criteria	The user manual contains the intended use	Same IU as the one found in risk analysis report ref. xxx
Test procedure		
Step number	Operator actions	Expected result and eval crit
1	Open user manual, doc ref xxx, section: Introduction	The IU is located in the introduction, the text is the same as the one found in risk analysis report ref. xxx
2	Open Help/User manual	The online user manual is opened
3	Go to Section 1	The section 1 is displayed, it contains the IU as the one found in risk analysis report ref. xxx

Demonstration

Test ID	T-SRS-REQ-001	
Test desc.	Verify that the xxx software allows to choose on protocol in the list of recorded protocols	
Verif. Req.	SRS-REQ-001,	Demonstration
Init. Cond.	XXX Software is started and idle	
Tests inputs	N/A	
Data collection	N/A	
Tests outputs	N/A	
Assum & constr	N/A	
Expected results and	Chosen protocol is selected	See last step for criteria

criteria		
Test procedure		
Step number	Operator actions	Expected result and eval crit
1	Open the list of protocols	The list of protocol is displayed
2	Select a protocol	The protocol summary is displayed
3	Validate the choice	The protocol is selected. The name of the protocol is displayed at the top of the screen.

Analysis

Test ID	T-SRS-REQ-001	
Test desc.	Verify that the Paperless GMP software computes the xxx result with yyy algorithm	
Verif. Req.	SRS-REQ-001,	Analysis
Init. Cond.	Paperless GMP Software is started and set in "Verbose" mode	
Tests inputs	Script xxx to generate data	See procedure xxx on how to use script
Data collection	Log file xxx-verbose.log and post-processor script	
Tests outputs	Output file post-processor script and graph: xxx-post-process.txt and xxx-post-process.png	See procedure xxx on how to use script
Assum & constr	Do not run data generator script with more than 1000 loops, or post process is too long	
Expected results and criteria	xxx-post-process.txt and xxx-post-process.png	The post process graph is a gaussian The post process values are: Chi2 = ... Mean = ... stdev= ...
Test procedure		
Step number	Operator actions	Expected result and eval crit
1	Set log mode in "verbose" and restart software	Software is started, log file name xxx-verbose.log is created in xxx directory
2	Run xxx data generator script	Data binary file generated
3	Open data file with software	Software processes the file and a msg is displayed when finished
4	Run xxx post process and wait	xxx-post-process.txt and xxx-

	end of post processing	post-process.png are generated
5	Open files	The post process graph is a gaussian The post process values are: Chi2 = ... Mean = ... stdev= ...

Test

Test ID	T-SRS-REQ-001	
Test desc.	Verify that the Paperless GMP software receives data from yyy	
Verif. Req.	SRS-REQ-001,	Test
Init. Cond.	Paperless GMP Software is started YYY simulator is started	See procedure yyy on how to use YYY simulator
Tests inputs	N/A	
Data collection	N/A	
Tests outputs	N/A	
Assum & constr	YYY simulator work only in the range of zzz	
Expected results and criteria	Data received and processed	See below
Test procedure		
Step number	Operator actions	Expected result and eval crit
1	Send data with YYY simulator	Simulator displays msg "data sent"
2	Open xxx window of Paperless GMP software	Sent data are displayed, with date-time of reception
3	Press run button	Sent data are processed, result is displayed. Value of result is ...



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Test

Test ID	T-SRS-REQ-001	
Test desc.	Verify that a user displays result in less than one minute	
Verif. Req.	SRS-REQ-001,	Test
Init. Cond.	Paperless GMP Software is started	
Tests inputs	N/A	
Data collection	Stopwatch	
Tests outputs	N/A	
Assum & constr	Users shall have received basic training to use	
Expected results and criteria	Results displayed in less than one minute	
Test procedure		
Step number	Operator actions	Expected result and eval crit
1	For 3 users, run the main use scenario 3 times.	Note duration of execution for each run of each user.
2	Compute the mean of durations	Mean is less than 1 minute.