R&S® TM G5
Test Management Software G5
Getting Started

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Test & Measurement

Getting Started

ROHDE&SCHWARZ

The Getting Started Manual describes the following R&S® software product:

- Test Management Software G5

The following abbreviations are used throughout this manual:
Test Management Software G5 is abbreviated as TM G5.

Table of Contents

1 How to use the manual

1.1 Introduction

This document contains a brief overview of performing a device test and printing an Customer Test Report by means of the Test Management Software G5. For further information see the User Manual.

The program runs under the Microsoft Windows XP operating system. It is assumed that the user has some basic knowledge in the operation of the Windows™ user interface.

Do not make any manual settings on the individual devices or changes in the cabling of the DUT (Device Under Test) while the program is running unless requested to do so by the program.

Device-specific error messages will not be dealt with in this manual.

The symbols used in the manual are explained in this section.

Information: Important or supplementary information.

1. Working step 1 to indicate order of tasks to be performed.
2. Working step 2 to indicate order of tasks to be performed.

► Only one working step or working steps without defined order.

The following text markers are used throughout this documentation:

Convention	Description
"Graphical user interface elements"	All names of graphical user interface elements on the screen, such as dialog boxes, menus, options, buttons, and softkeys are enclosed by quotation marks.
KEYS	Key names are written in capital letters.
`File names, commands, program code`	File names, commands, coding samples and screen output are distinguished by their font.
Input	Input to be entered by the user is displayed in italics.
Links	Links that you can click are displayed in blue font.
"References"	References to other parts of the documentation are enclosed by quotation marks.

For detailed information on the Test Management Software G5 refer to "User Manual – Test Management Software G5".

1.2 Glossary

Customer Test Report	Test Report containing all Tests provided for the customer.
Device Test	Entirety of Tests required to determine the presence, quality, or truth of all DUT properties.
Master Test Sequence	Test Sequence containing all Tests which are required for a Device Test and can be performed automatically without user intervention.
Master Test Sequence Appendix	Test Sequence containing all Tests which are required for a Device Test and need user intervention.
Test	Smallest executable procedure for critical evaluation. A means of determining the presence, quality, or truth of DUT properties.
Test Application	Combination of Test Management Software and Test Program.
Test Management Software	Entirety of runtime environment, drivers and components required to perform a Device Test.
Test Manager	Software program providing a GUI to perform Tests and controlling the test procedure.
Test Overview	Test Report containing the Tests of the Master Test Sequence and the Master Test Sequence Appendix.
Test Program	Software program controlling the Test System and the DUT to perform a Device Test.
Test Report	Document presenting the Test results in detail.
Test Report Manager	Software program administrating and displaying the Test results.
Test Sequence	Collection of Tests.
Test System	Entirety of instruments and measurement equipment used to perform a Device Test.

1.3 Abbreviations

DUT	Device under test
TM G5	Test Management Software G5
UCS	Universal Calibration System
UGB	Uncertainty Guard Band

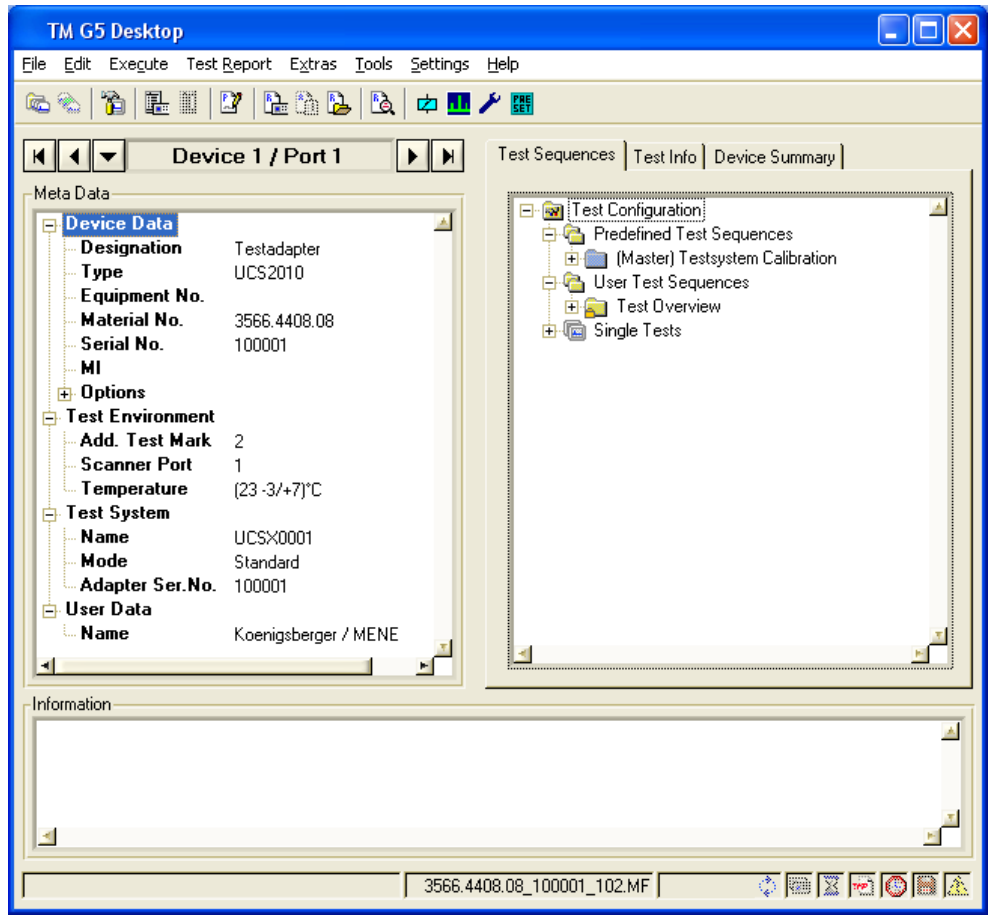
2 Starting the Test Program

The TM G5 is not intended to run as a standalone package. The TM G5 runs in the background with a specific DUT Test Program.

For each DUT (-family) there is separate Test Program.

► Double click on the icon presented by the Test Program (e.g. UCS2010 for SMU/SMA or UCS2150 for CMU/CRTU) to start the Test Program.

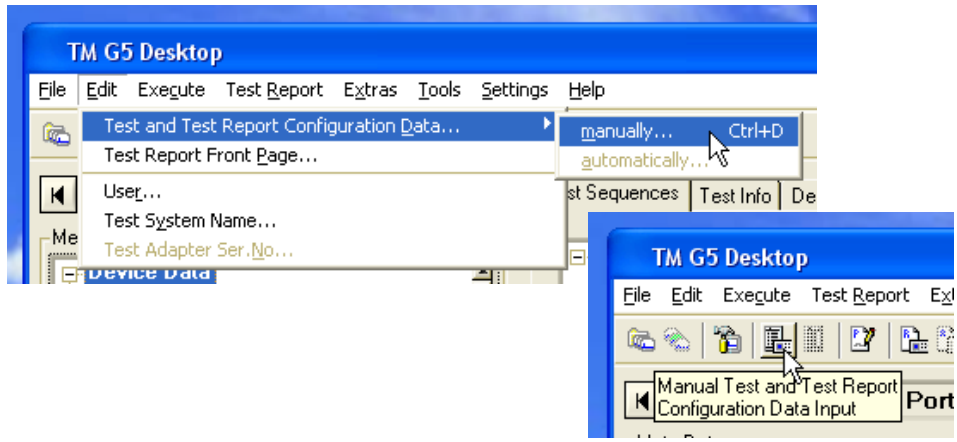
The Test Program shows a Splash Screen during the initialization and opens the TM G5 Desktop afterwards.

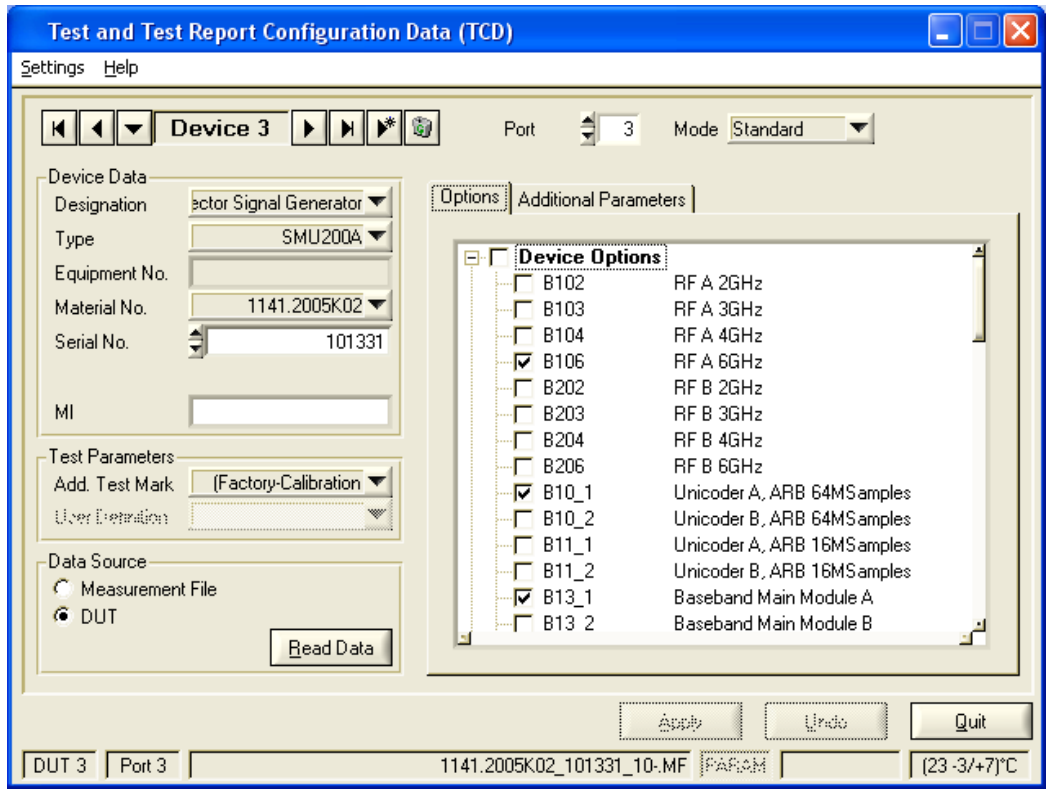


3 Setting up DUT and Test Configuration

Before starting a DUT test, some device and test specific data has to be completed.

► Use the menu entry or click on the toolbar button marked below to open the Test and Test Report Configuration Data panel.





► Click the "Apply" button to apply the DUT and test configuration data.

The "Apply" button will be active only if the DUT and test configuration data has been modified.

► Click the "Undo" button to undo the DUT and test configuration data modifications.

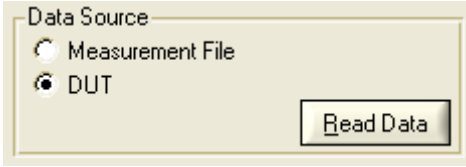
The "Undo" button will be active only if the DUT and test configuration data has been modified.

► Click the "Quit" button to close the DUT and test configuration data panel. If the DUT and test configuration data has been modified a popup will appear to apply or discard the new data.

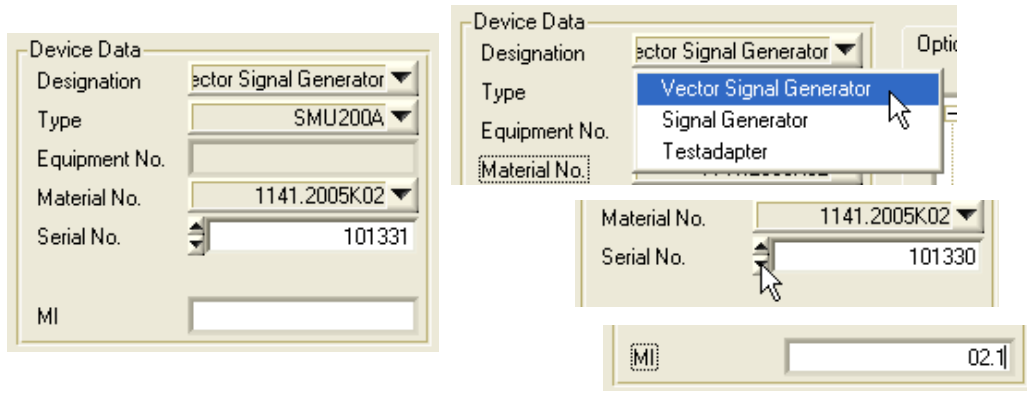
3.1 Filling in DUT specific Data

It is important to complete this step before starting a DUT test. The selected serial number must match with the connected DUT. Failure to complete, will result in the generation of a warning message and the tests procedure will not run.

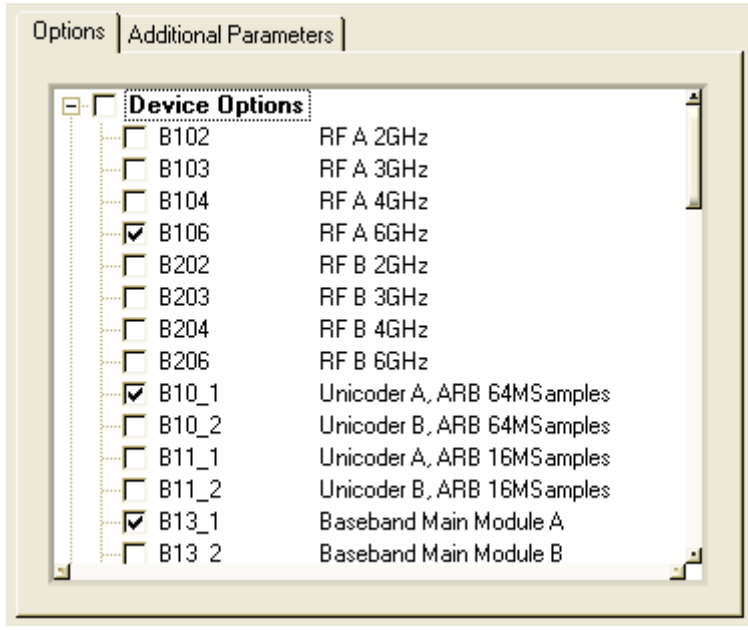
► Select the "DUT" option button and click on "Read Data" to fill in automatically. If the DUT is connected to the test system, the DUT specific data may be read directly from the DUT and filled in automatically to the correct fields.



► Manual data fill-in: Use the input controls within the Device Data section. Several input procedures are available depending on the Test Program. Lists, numeric controls and text boxes are used to define the DUT specific data.

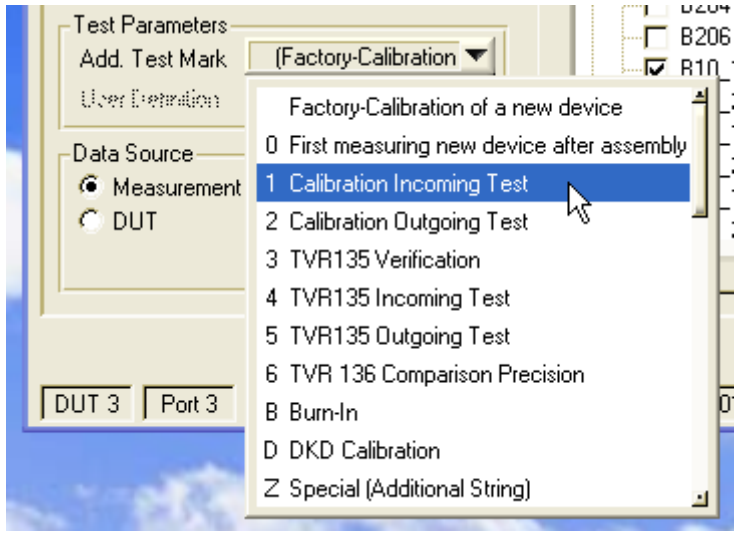


► The DUT options are read in and set in the panel below during the "Read Data" sequence. Check the DUT options and select or deselect options where necessary.



3.2 Filling in Test specific Data

► Select the additional test mark which identify the nature of test in more detail.



4 Performing a DUT Test

A complete DUT test normally consists of two separate test sequences:

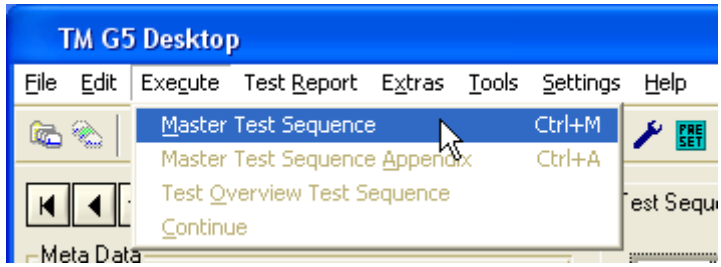
- The "Master Test Sequence" which contains all tests which can be performed automatically without user intervention.
- The "Master Test Sequence Appendix" which contains the additional tests that need user intervention.

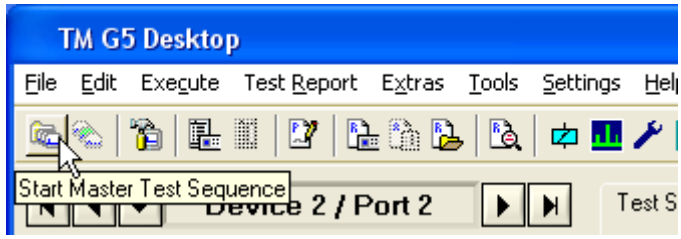
The "Test Overview Test Sequence" represents a test sequence which also can be used to complete a DUT test. By default, this test sequence contains the tests of the "Master Test Sequence" and the "Master Test Sequence Appendix". A test can be added to or removed from "Test Overview Test Sequence", respectively, by means of the "Test Overview panel".

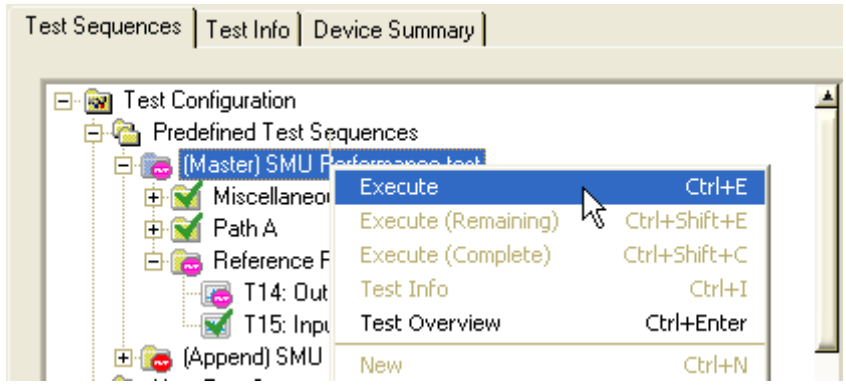
4.1 Performing the Master Test Sequence

To start the Master Test Sequence:

1. Use the "Master Test Sequence" command of the menu bar.
2. Click the "Start Master Test Sequence" button of the toolbar.
3. Right click on the "Master Test Sequence" and use the "Execute" command from the context menu.
4. Left double click on the "Master Test Sequence".





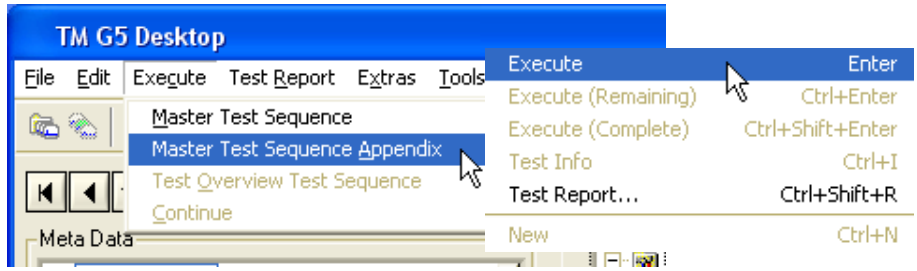


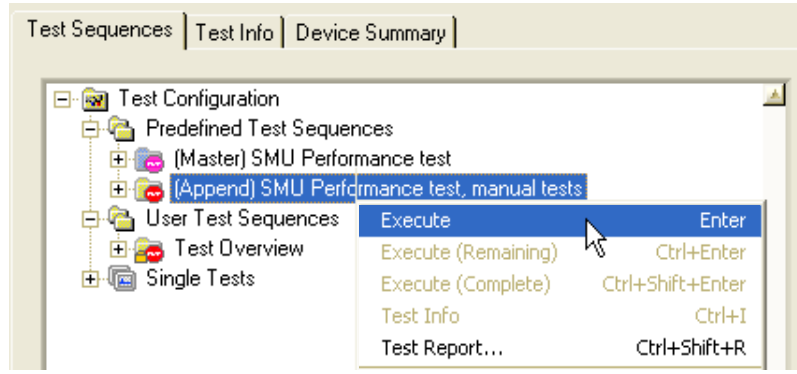
4.2 Performing the Master Test Sequence Appendix

As previously described, all of the tests that require manual user interaction are collected together in one test sequence.

To start the "Master Test Sequence Appendix":

1. Use the "Master Test Sequence Appendix" command of the menu bar.
2. Right click on the "Master Test Sequence Appendix" and use the "Execute" command from the context menu.
3. Left double click on the "Master Test Sequence Appendix".

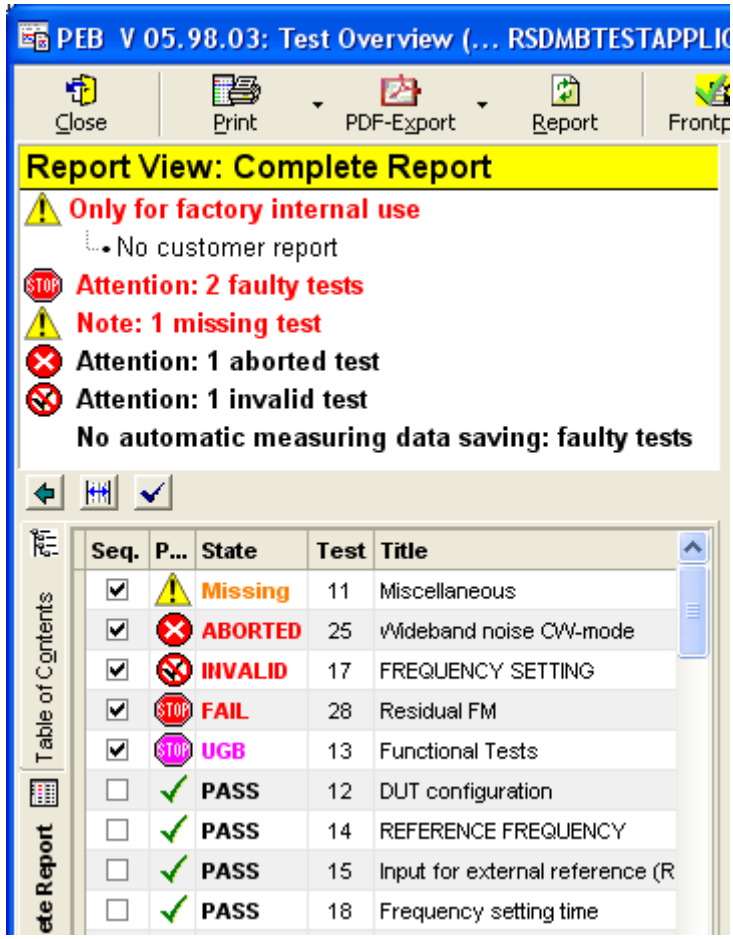




If user intervention is necessary, a popup will appear containing a detailed description of what to do.

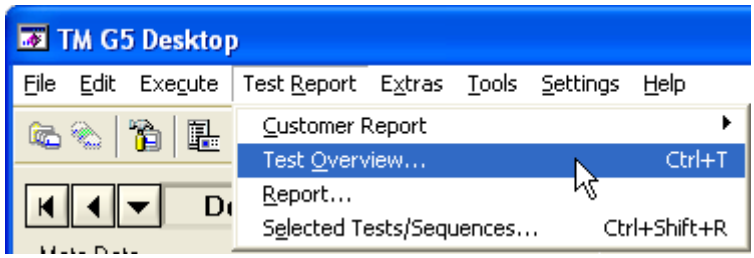
4.3 Viewing the Test Overview

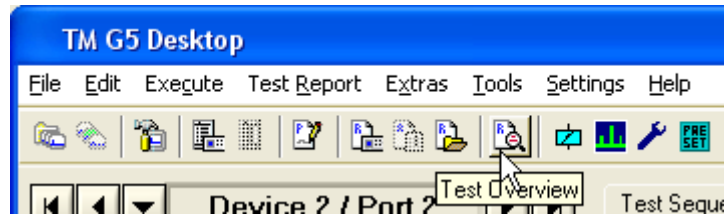
The Test Overview panel is used to take a closer look at the test result state. This panel lists all test contained in the "Master Test Sequence" and "Master Test Sequence Appendix", and is displayed automatically after the "Master Test Sequence" and "Master Test Sequence Appendix" (see section 4.1 "Performing the Master Test Sequence" and section 4.2 "Performing the Master Test Sequence Appendix") has been performed.



All missing, aborted, invalid, failed and UGB tests are collected together at the top of the list and give a quick overview of the tests which may have to be repeated.

► Use the "Test Overview" command of the menu bar or "Test Overview" button of the toolbar to open the Test Overview.



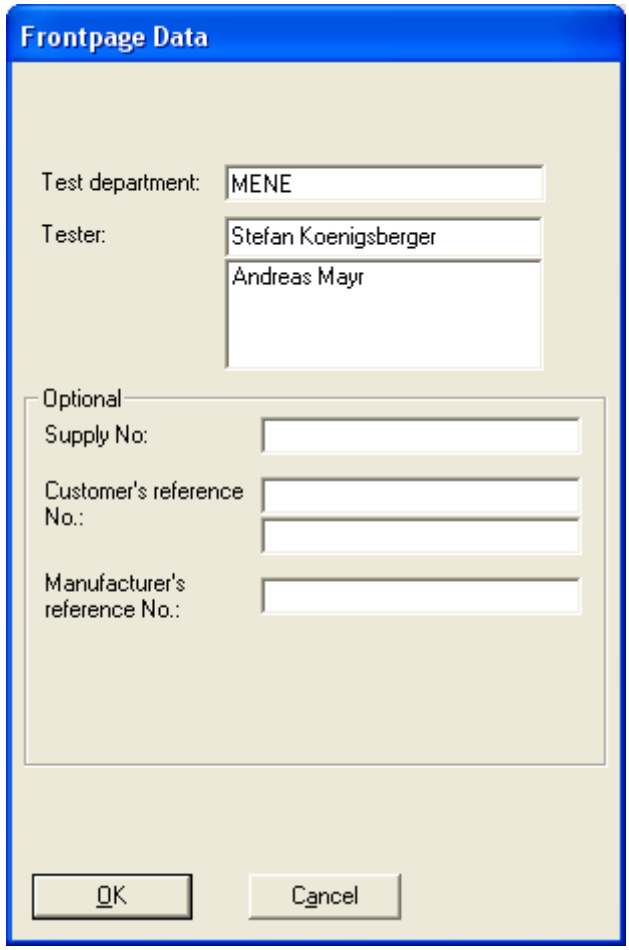


The Test Overview panel automatically opens after execution of the Master Test Sequence, the Master Test Sequence Appendix or the Test Overview Test Sequence.

4.4 Filling in Test Report Front Page Data

Every time the "Test Overview" is opened, the presence of the Test Report Front Page Data is checked. As this data is part of the Customer Test Report it should be available before a Test Report is printed. Therefore, there is an automatic query routine which checks that the data is present.

If this data is not complete, a popup will request the information:



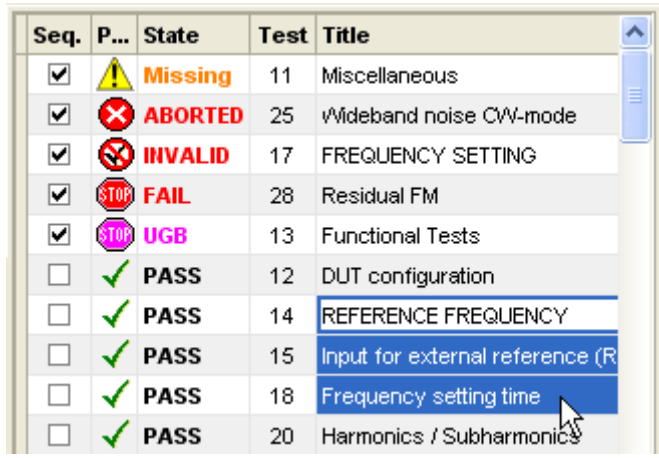
5 Completing a DUT Test

5.1 Adjusting the Test Overview Test Sequence

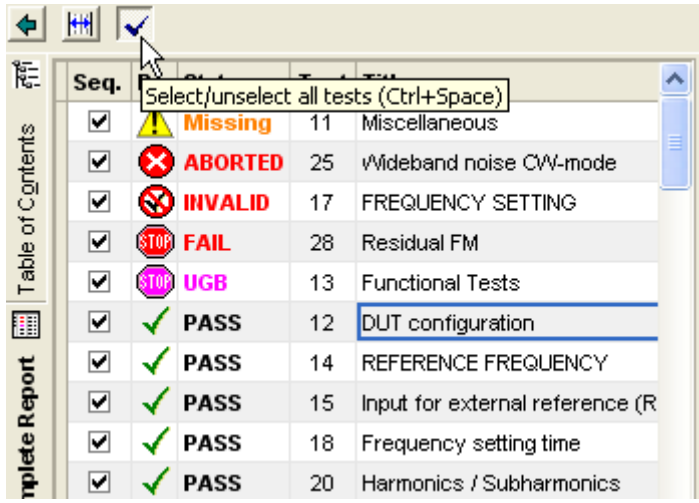
The Test Overview provides the opportunity to select tests for execution after leaving the Test Overview. For that purpose, the test check boxes have to be activated.

By default all missing, aborted, invalid, failed and UGB tests are selected.

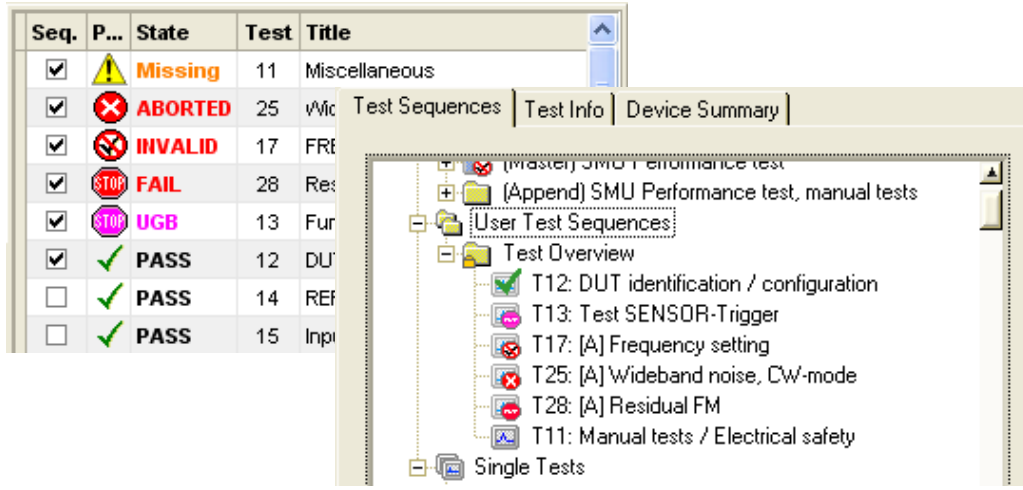
► Push the SPACE key to alter the check box state of the selected tests. Alternatively, alter the check box state by left clicking on the check box.



► Mark the check button on the top of the test list to alter the check box state of all tests.



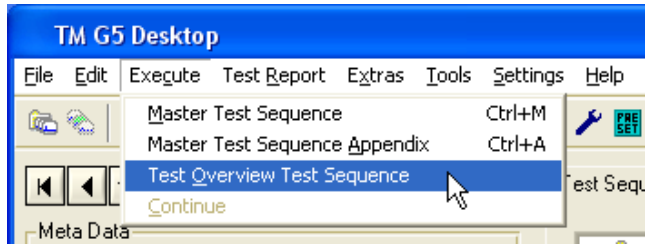
► Close the "Test Overview" panel. All selected tests will be found in the "Test Overview" Test Sequence.

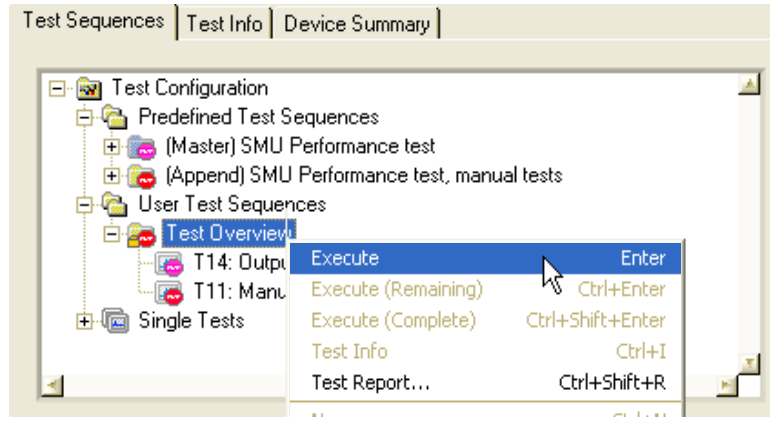


5.2 Performing the Test Overview Test Sequence

To start the Test Overview Test Sequence:

1. Use the "Test Overview Test Sequence" command of the menu bar.
2. Right click on the "Test Overview Test Sequence" and use the "Execute" command from the context menu.
3. Left double click on the "Test Overview Test Sequence".





6 Interrupting and Aborting a Test Sequence

For interrupting and aborting a running test sequence the Interrupt Panel is used.

► Use one of the termination buttons which are available during a running test sequence.

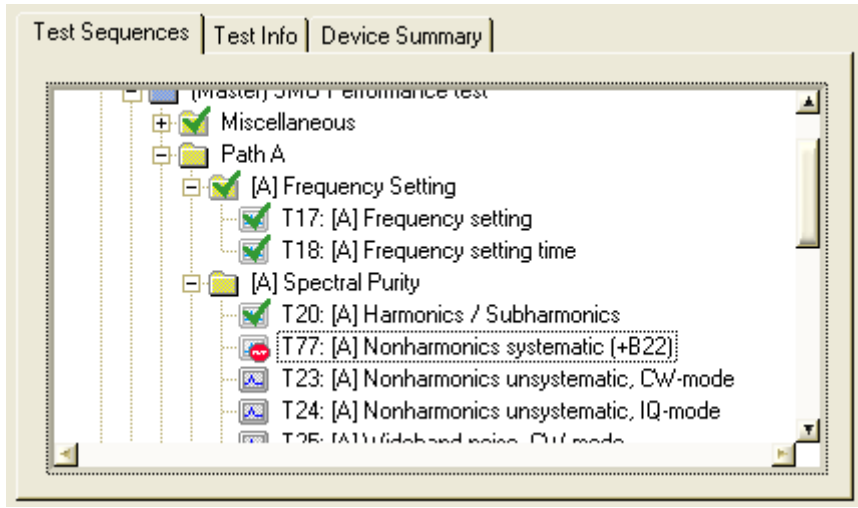
The "Terminate" button completely aborts the execution of the current test sequence.

The "Interrupt" button pauses the execution of the current test.

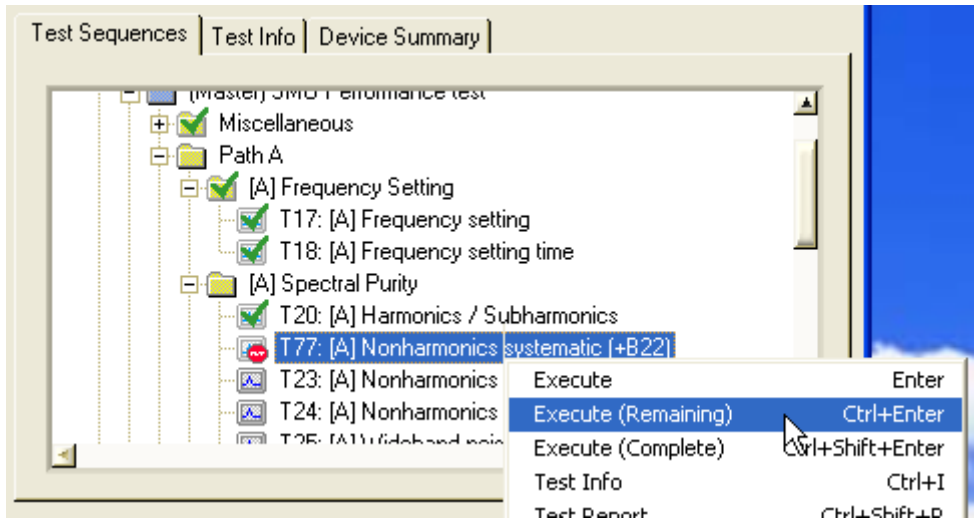
The "Next Test" button terminates the current test, but will allow execution of the rest of the test sequence by starting the next test

6.1 Continuing the Master Test Sequence (Appendix)

If a test sequence has been aborted, some tests will remain untested, as can be seen in the test sequence overview below. In this example the test `T20: [A] Harmonics / Subharmonics` was the last completed test. During the test `T77: [A] Nonharmonics systematic (+B22)` the execution was aborted. The aborted test is marked with a stop sign.



► Right click on the "Test Sequence" tab and use the "Execute (Remaining)" command from the context menu to continue the "Master Test Sequence" or the "Master Test Sequence Appendix", starting with the selected test or test sequence.

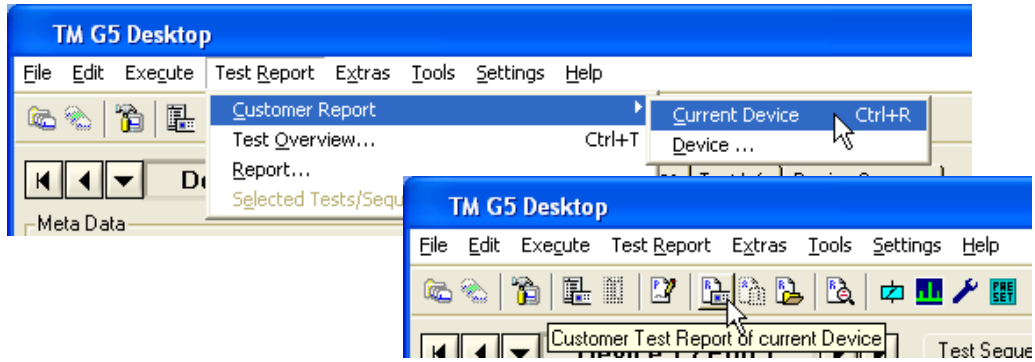


The "Execute (Complete)" command also continues the Master Test Sequence or Master Test Sequence Appendix starting with the selected test or test sequence. However, if the Master Test Sequence or Master Test Sequence Appendix end is reached the test sequence restarts. All tests and test sequences are executed until the previously selected test or test sequence is reached.

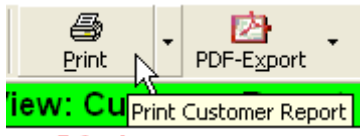
7 Printing of the current Customer Test Report

Once a test sequence or at least a single test has been executed, a Customer Test Report can be viewed and printed.

1. Use the "Current Device" command of the menu bar or "Customer Test Report of current Device" button of the toolbar to open the "Customer Test Report" of the current device.



2. Use the "Print" button of the "Customer Test Report" to print the entire report.



8 Transferring Measurement Files

Measurement files are stored on the local drive in the measurement file directory which is a sub-directory of the Test Program directory.

The measurement file name is built of the material and serial number of the DUT as well the test conditions. This storage system may lead to a problem if the DUT test is completed and the state of all tests is PASS. If the same DUT is retested, e.g. after repair or for re-calibration, the results will be overwritten. Therefore, the measurement file name must be unique.

The TM G5 provides a mechanism to rename the measurement file names. Additionally, this mechanism compresses the measurement file and moves the file to the Measurement File Repository. This compressing, renaming and moving procedure is called Measurement File Transfer.

To make the file handling more safe and comfortable, an automatic transfer mechanism is implemented within the TM G5. Measurement files which are found as completed can be transferred to the repository automatically.

8.1 Automatic Transfer

By default a measurement file will be transferred automatically to the Measurement File Repository if the following conditions are fulfilled:

- The Measurement File Repository has been defined.
- The Automatic Transfer mechanism has been switched on.
- All of the required tests for the current DUT have been executed, see 4.1 "Performing the Master Test Sequence".
- All of the executed tests have a PASS status.
- The front page data have been entered, see section 4.4 "Filling in Test Report Front Page Data".

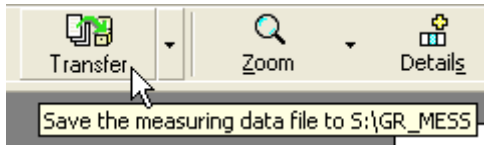
The transfer of a completed measurement file to the repository should be the last action for a DUT. Therefore, after a successful transfer the original measurement file will be removed from the measurement file directory.

8.2 Manual Transfer

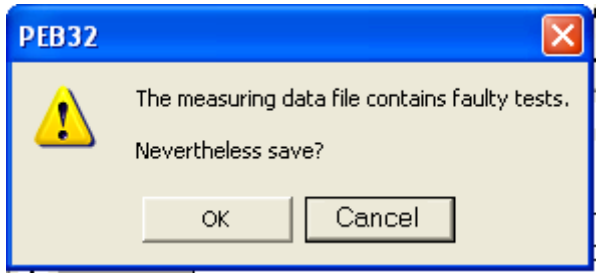
A measurement file can also be transferred manually, if the preconditions for an automatic transfer (see section 8.1 "Automatic Transfer") are not fulfilled or the automatic transfer is switched off.

One reason to transfer a measurement file manually might be that not all DUT tests have been completed.

1. Open a Test Report (see chapter 7 "Printing of the current Customer Test Report").
2. Use the "Transfer" button of the Test Report toolbar to transfer the current measurement.



3. Confirm the query.



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