

# CMWrun User Guide

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# 1 CMWrun Installation and Configuration

## 1.1 Installing the CMWrun

**NOTE! Due to local conditions, some of the dialog screens may differ from the ones stated below.**

R&S CMWrun can be either installed on an external PC (Microsoft Windows PC) or directly on an R&S CMW instrument. For best performance, the PC installation is recommended.

The R&S CMWrun sequencer software requires at least the following PC hardware and software:

Processor: 1300 MHz (x86)

Minimum memory: 256 MB minimum

HDD space: 80 MB minimum

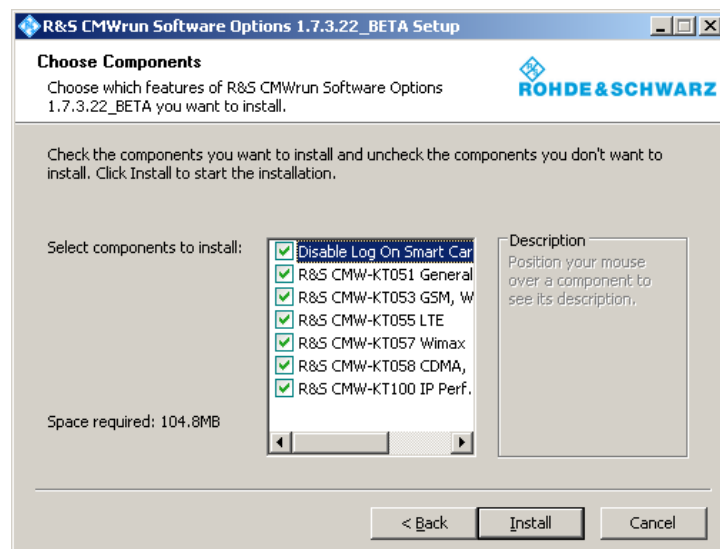
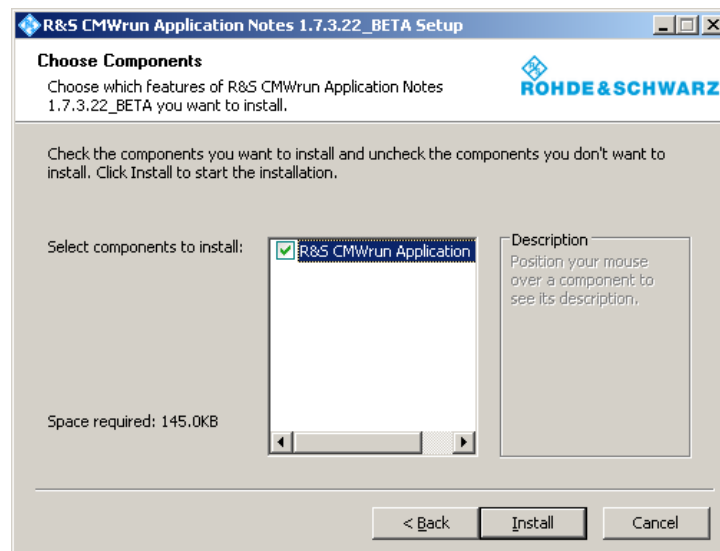
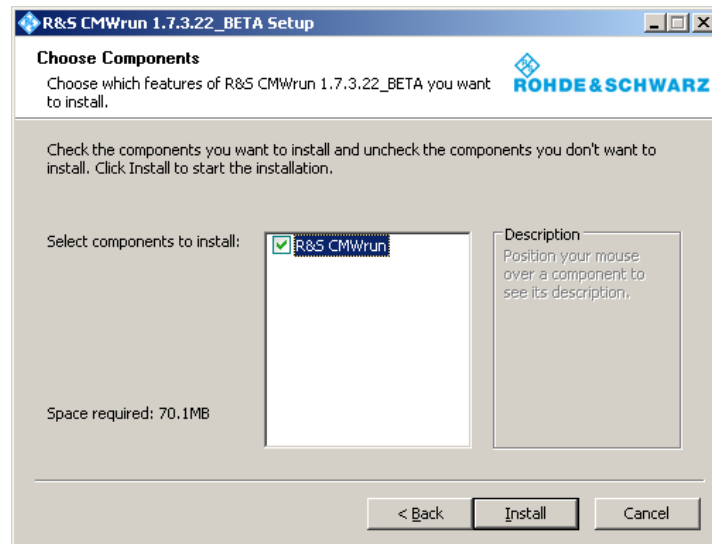
Operating system: Windows XP (32-bit edition with SP2) or Windows 7 (32-bit or 64-bit version)

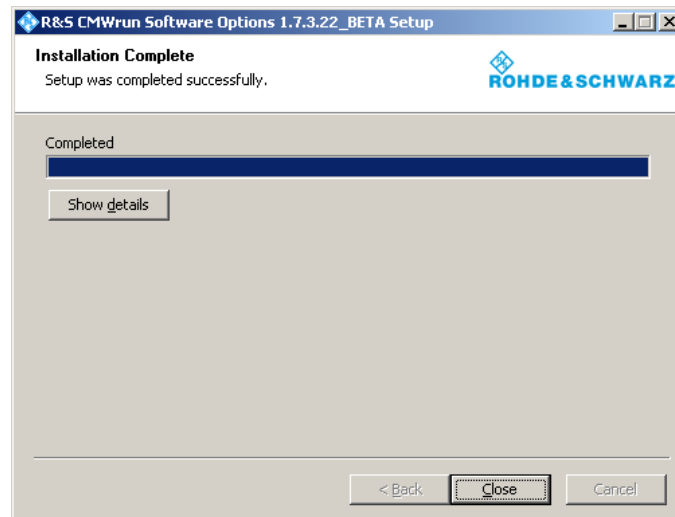
Software: Microsoft .Net Framework version 2.0 or higher

You need administration rights on your computer to perform the installation.

1. Download CMWrun installation file from [R&S CMW Customer Web on GLORIS Global Rohde & Schwarz Information System](#) (On the R&S CMW Customer Web, go to "Software Tools > CMWrun", requires a registration when accessed for the first time) or ask your local Rohde & Schwarz support engineer for the latest version of RSCMWrunSetup-x.y.z.exe.

2. Install the CMWrun, we recommend that you install all the option that show up during the installation as below:





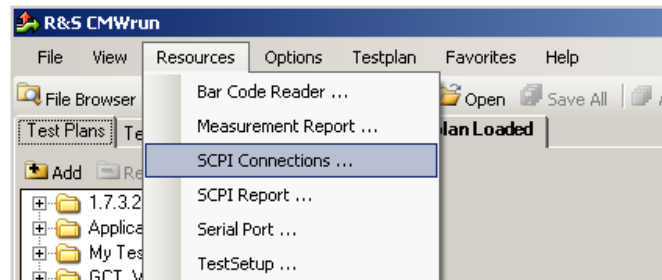
R&S CMWrun is now installed in the ...\\Program Files\\Rohde-Schwarz folder.

## 1.2 Configuring the CMWrun

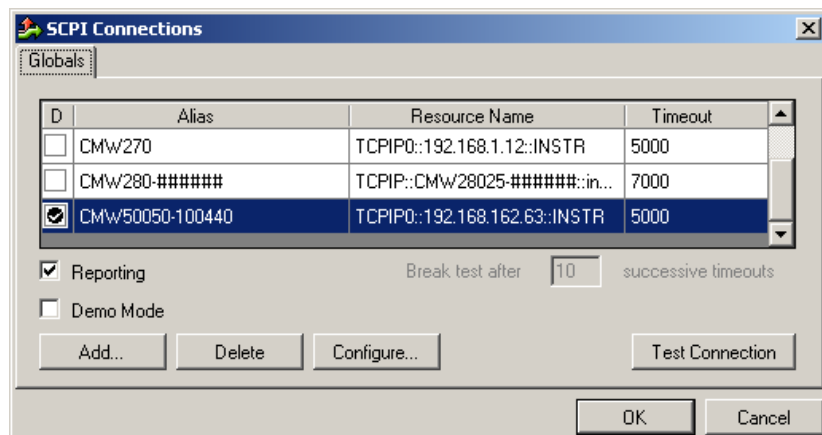
### 1.2.1 Setup Connection to CMW500

Note: Please configure the CMW500 first follow the instruction (see [Establishing Remote Control to CMW500](#)), then configure the CMWrun to setup connection.

1. Start CMWrun on the computer, on the “Resources” menu, click on “SCPI Connections...”

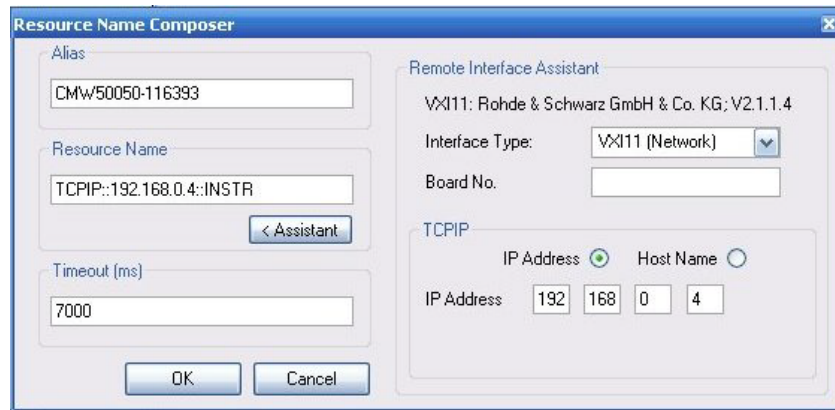


2. Double click the CMW50050-XXXXXX if available, if not, click “add” to add a new instrument, then click “Configure...”



3. Fill the “Alias”, i.e. an arbitrary name that you choose to identify the connection.

Click “Assistant”, set the “Remote Interface Assistant” as the below picture exactly to make sure the “Resource name” is “TCPIP::192.168.0.4::INSTR”, it’s critical setting for running the test script correctly, then click “OK”



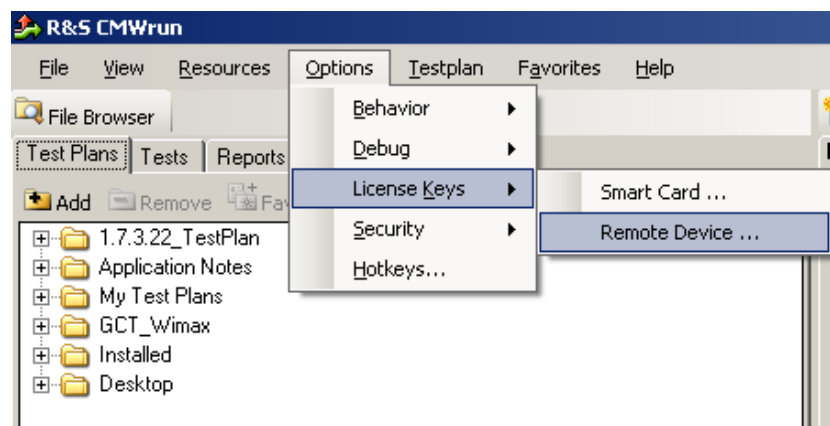
4. On the “SCPI connection” panel, click “Test Connection” to check the connection to the CMW500.



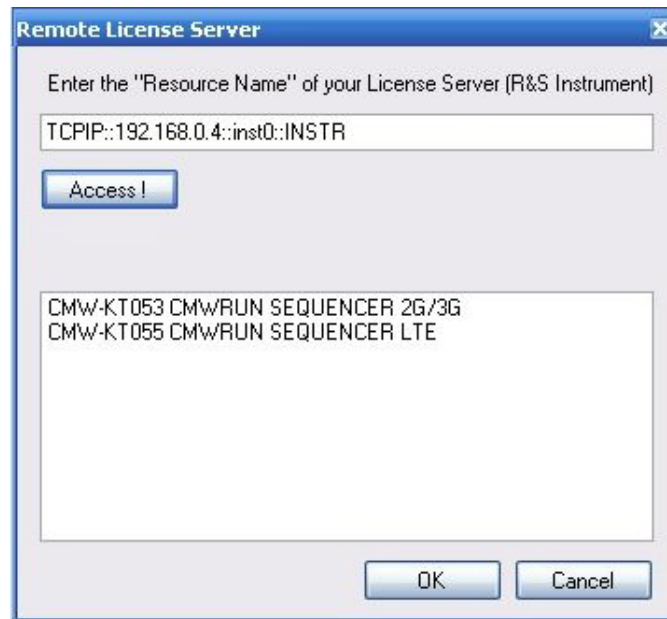
## 1.2.2 Activating License Keys

Note: The license keys should be purchased and loaded in CMW500 first.

1. On “Options->License Keys”, click “Remote Device...”



2. On “Remote License server” panel, fill the “Resource name” with “TCPIP::192.168.0.4::INSTR”, then click “Access”, the CMWrun will load license keys from CMW500 as below:



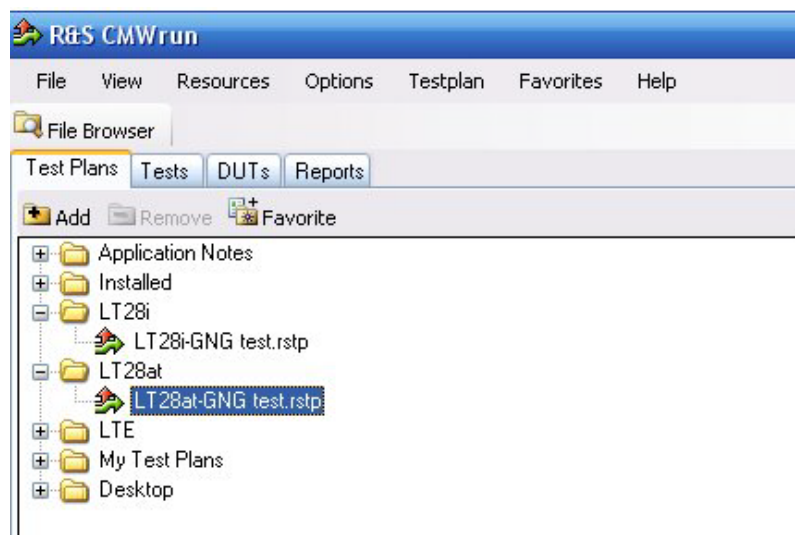
Click "OK" and restart CMWrun.

## 2 Running a Test Plan (Test Script)

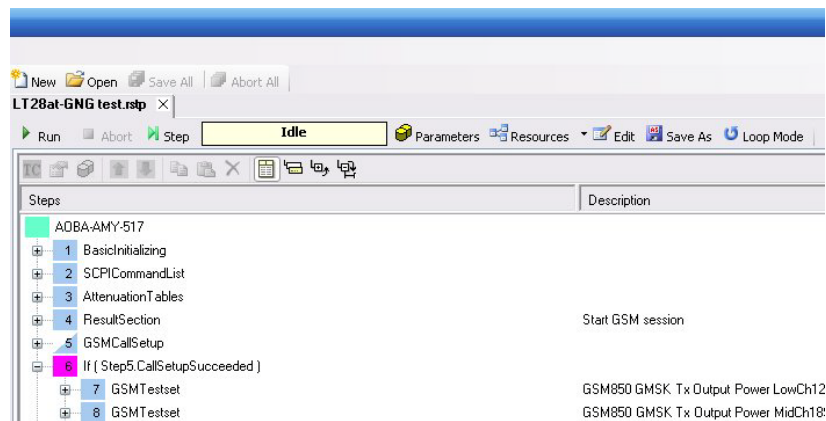
If you have configured the SCPI connection and loaded the license keys successfully, you can start the testing.

### 2.1.1 Opening a Test Plan

1. Find the test plan in the "Test Plans" tab of the File Browser.



2. Double-click the test plan.

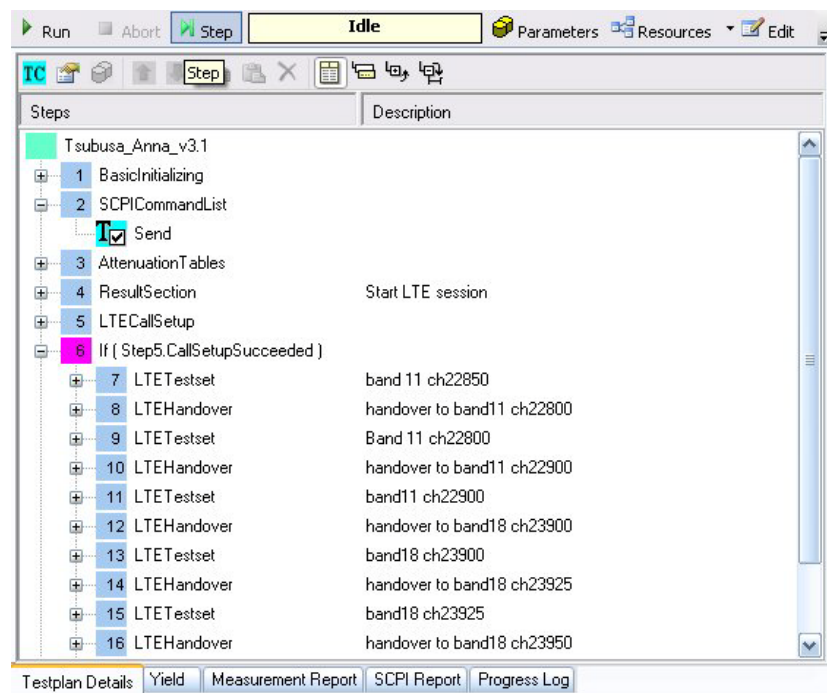


A tab with the test plan opens. If the test plan already has been opened, it is activated and shown in the test plans pane but not opened again.

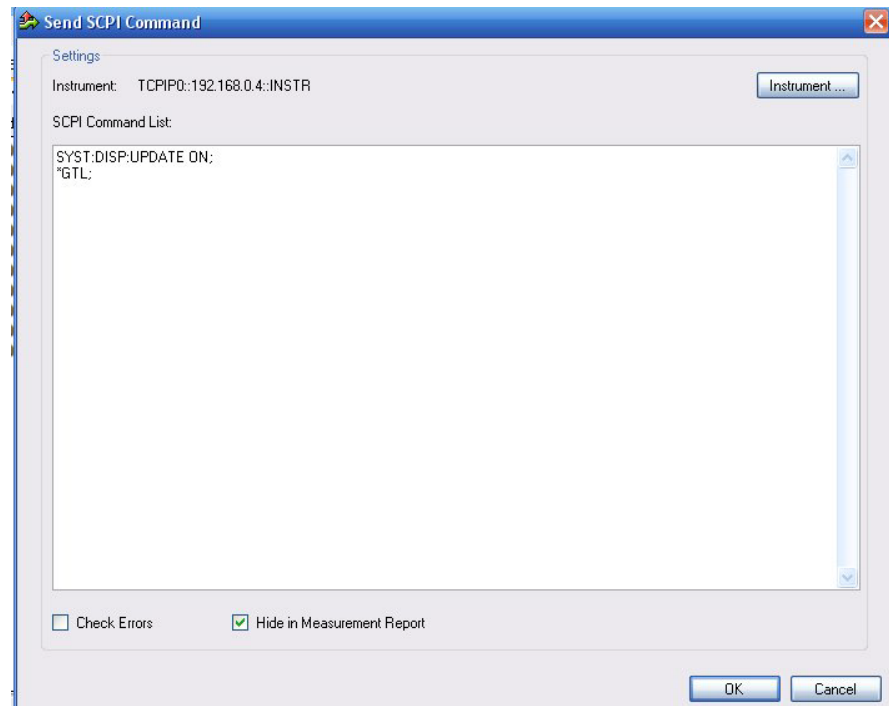
## 2.1.2 Configuring Test Plan (if needed)

The following process is to set instrument for corresponding SCPI command only if the SCIP Command List is checked.

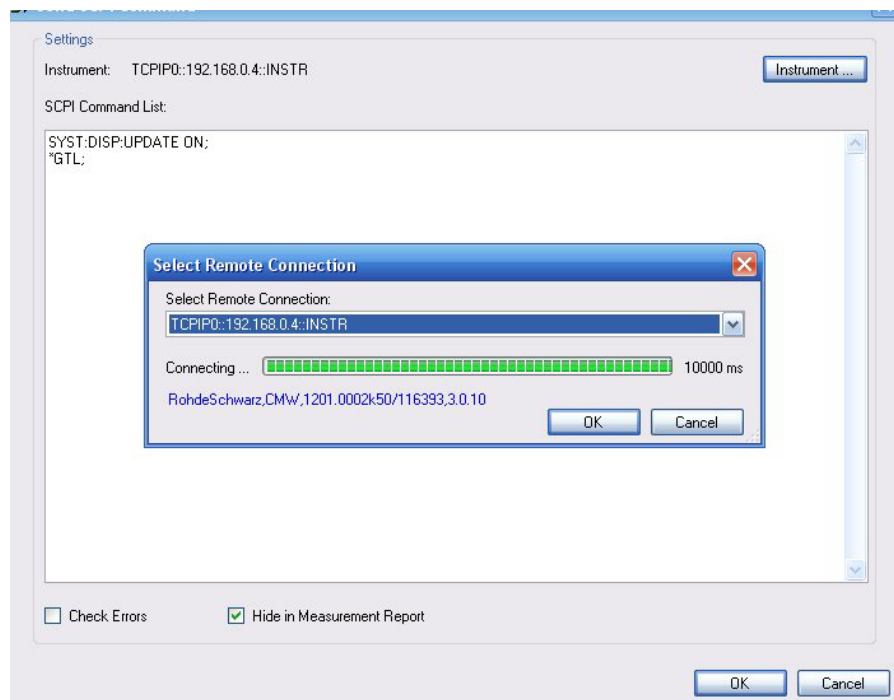
1. In the Testplan details tab, double click "SCPI Command List".







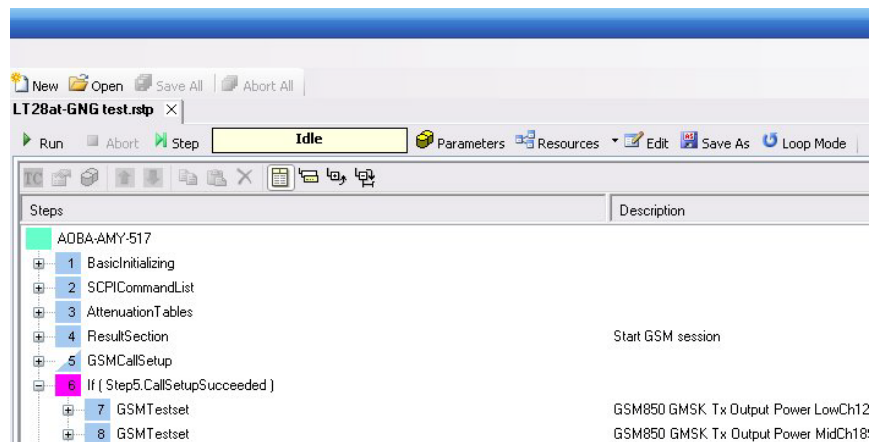
2. In the pop-up window, click “Instrument” and select the instrument in use, then click “OK”, if fail to select, please check instrument connection.



Make sure all SCPI Command Lists in the test plan are configured.

## 2.1.3 Running the Test Plan

In the test plan tab, click "Run".



When the window pops up, power on the DUT, turn on the Airplane mode and then off to perform network restart, put the DUT into shield box in position (please find the corresponding grid position in Repair\_Instruction\_Test\_and\_Calibration), and close the shield box.

The test will begin.

Open the shield box to answer the call when the window below pops up, then close the shield box.

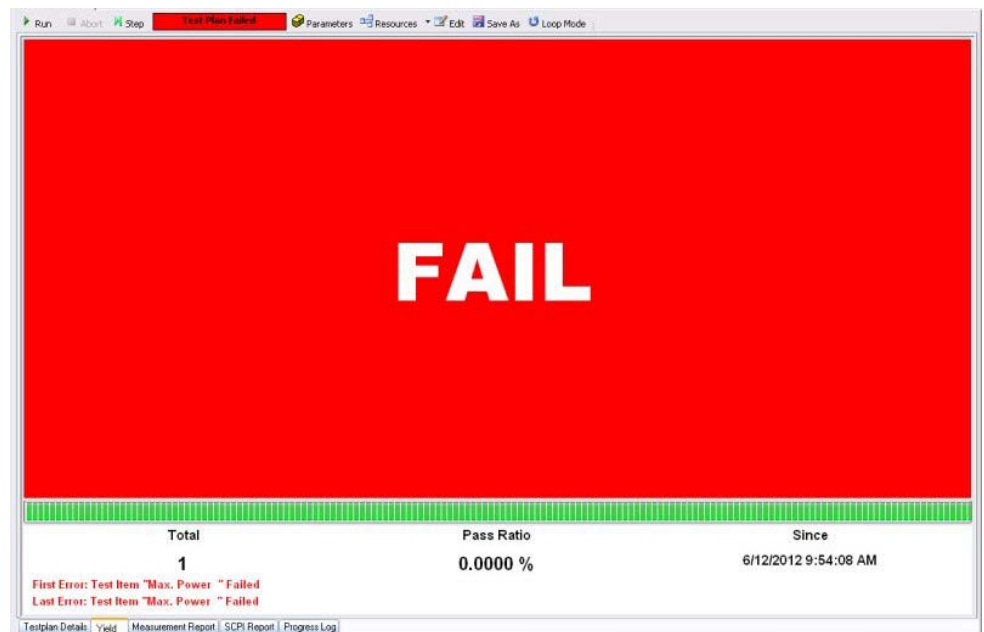


You see the processing status in the status box of the tab toolbar. You can manually control the progress with "Pause" and "Abort".

GSM Call Setup: Base Station Enable					
Base Station is on!					
GSM Call Setup: Power On Mobile Dialogue					
GSM Call Setup: Registration Process					
Registration Process		Timeout	Elapsed Time	Unit	Status
DUT is registered		400	35	s	Passed
GSM Call Setup: DUT Info					
DUT Info		Lower Limit	Upper Limit	Measured	Status
IMSI				1010123456063	Passed
IMEI				352267050000024	Passed
GSM Call Setup: Call Process					
Call Process		Timeout	Elapsed Time	Unit	Status
GSM: Call to Mobile		400	23	s	Passed
GSM Testset: TX and RX Tests					
Test Item		Lower Limit	Upper Limit	Measured	Status
Power @ GSM 850, Channel 128, PCL 7, DL Level -68.00 dBm, Measure slot 3					
Average Power 10 frames		25	33	28.61	Passed
Test Item		Lower Limit	Upper Limit	Measured	Status
Modulation @ GSM 850, Channel 128, PCL 7, DL Level -68.00 dBm, Measure slot 3					
Phase Error RMS 10 frames		-5	5	0.82	Passed
Test Item		Lower Limit	Upper Limit	Measured	Status
Rx Quality @ GSM 850, Channel 128, PCL 7, DL Level -68.00 dBm, Measure slot 3					
RX QUAL			3	0	Passed
RX LEV		34	50	43	Passed

The detailed processing messages you find in the "Progress Log" tab, and the test results appear in the "Measurement Report" tab according to the settings of the Measurement Report resource.

When the test is finished, you can judge the result in the "Yield" panel.



You can check the "Measurement Report" panel for details.

**LT28i-GNG test.nip**

Run Abort Step Test Plan Finished Parameters Resources Edit Save As Loop Mode

Back Forward Filter -> PDF -> XML -> CSV -> TXT Print

Test Item	Lower Limit	Upper Limit	Measured	Unit	Status
EVM RMS high	---	17.5	2.66	%	Passed
IQ Offset	---	-25.00	-37.07	dB	Passed
Frequency Error	---	0.1 ppm	-0.62	Hz	Passed
Timing Error	---	---	-13.97	Sym	Passed

**LTEHandover: Handover**

Handover	Timeout	Elapsed Time	Unit	Status
LTE Inter Cell	120	0.2	s	Passed

**LTE Testset: LTE FDD**

Test Item	Lower Limit	Upper Limit	Measured	Unit	Status
Power @ UL: Band17 / Ch. 23800 (711 MHz), BW = 10.0 MHz, QPSK, RB No.: N50	---	---	6.37	dBm	Passed
TX Power	---	---	23.09	dBm	Passed
Max. Output Power	19.00	27.00	---	---	---

Test Item	Lower Limit	Upper Limit	Measured	Unit	Status
Modulation @ UL: Band17 / Ch. 23800 (711 MHz), BW = 10.0 MHz, QPSK, RB No.: N50	---	---	2.57	%	Passed
EVM RMS low	---	17.5	2.57	%	Passed
EVM RMS high	---	17.5	2.57	%	Passed
IQ Offset	---	-25.00	-36.8	dB	Passed
Frequency Error	---	0.1 ppm	-0.72	Hz	Passed
Timing Error	---	---	-15.92	Sym	Passed

**LTE Call Disconnect: Base Station disable**

Base Station disabled in 0.1s

**Annex: Result Sections**

Section	Verdict
GSM	Passed
WCDMA	Passed
LTE	Passed

Testplan Details Yield Measurement Report SCPI Report Progress Log

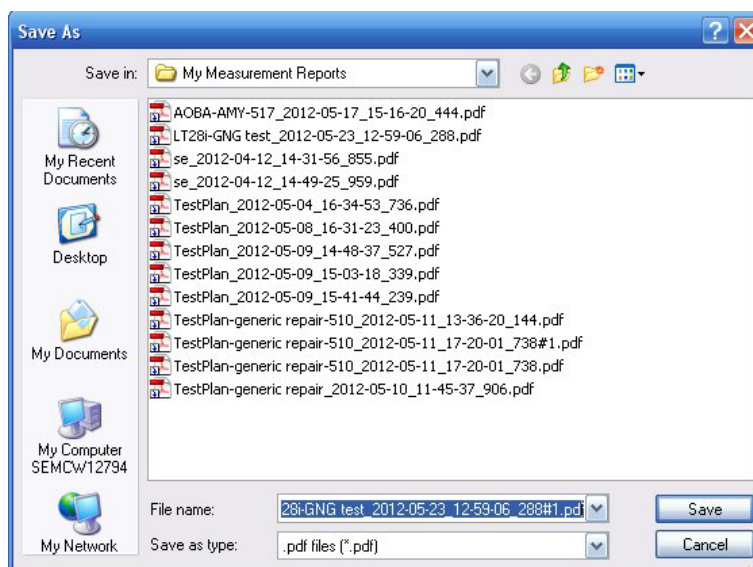
## 2.1.4 Exporting the Measurement Report

Measurement reports can be exported to XML, CSV (Excel) and PDF files. The XML and CSV formats are designed for further processing, while PDF is used for reading and printing.

1. In the "Measurement Report" tab, click "-> PDF" or "->XML" or "->CSV".



2. Select the folder where you want to store the file. You can also change the file name, click "OK".



## 3 Establishing Remote Control to CMW500

The instrument supports different interfaces for remote control, we recommend use LAN connection.

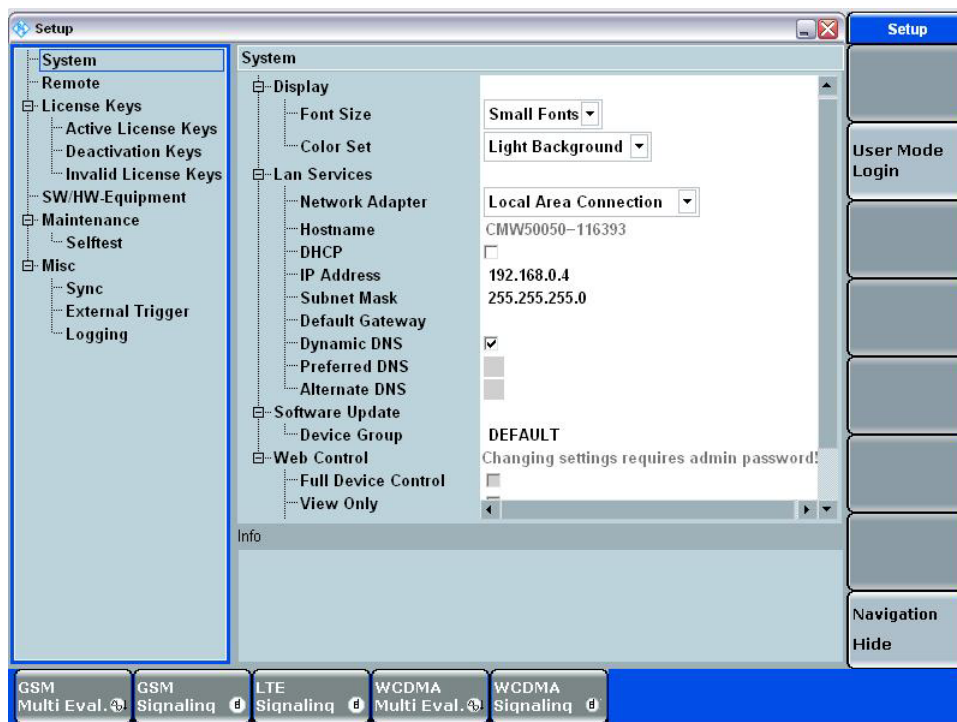
### 3.1 Configuring the CMW500

1. Connect your R&S CMW500 to the computer using the LAN REMOTE connector at the front panel.
2. Switch the CMW500, wait until the startup procedure is complete and press the SETUP key to the left of the display.



3. In the Setup Dialog, look up the "IP Address" assigned to the R&S CMW500.

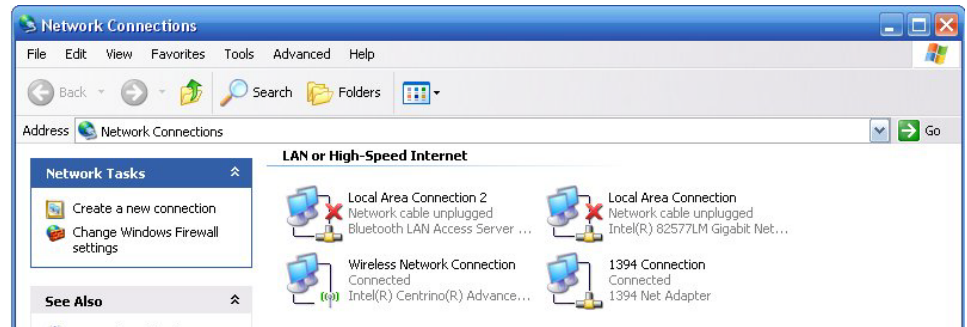
Select the "Network Adapter" as "Local Area Connection", then set the "IP Address" as "192.168.0.4", "Subnet Mask": "255.255.255.0", this is critical setting for running the test scripts correctly.



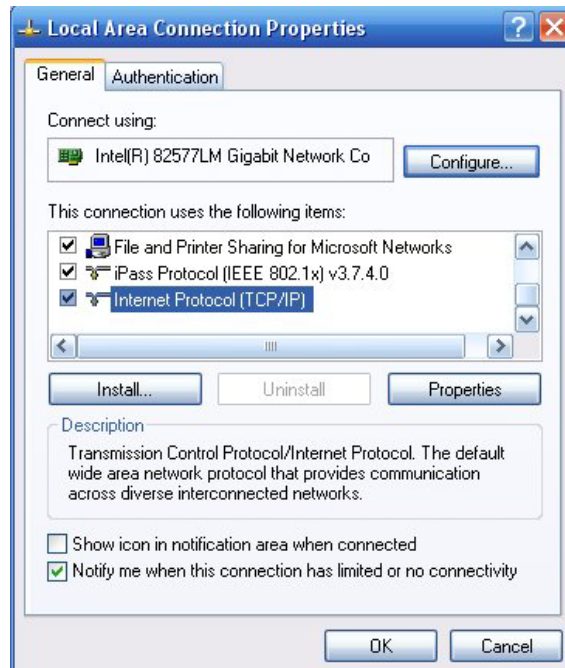
4. Restart the CMW application in the CMW500 to make the configuration take effect.

### 3.2 Configuring the Computer

1. Open the "Network Connections" panel on your computer and double click the corresponding network connection that connects to CMW500. In this case, we select the "Local Area Connection".

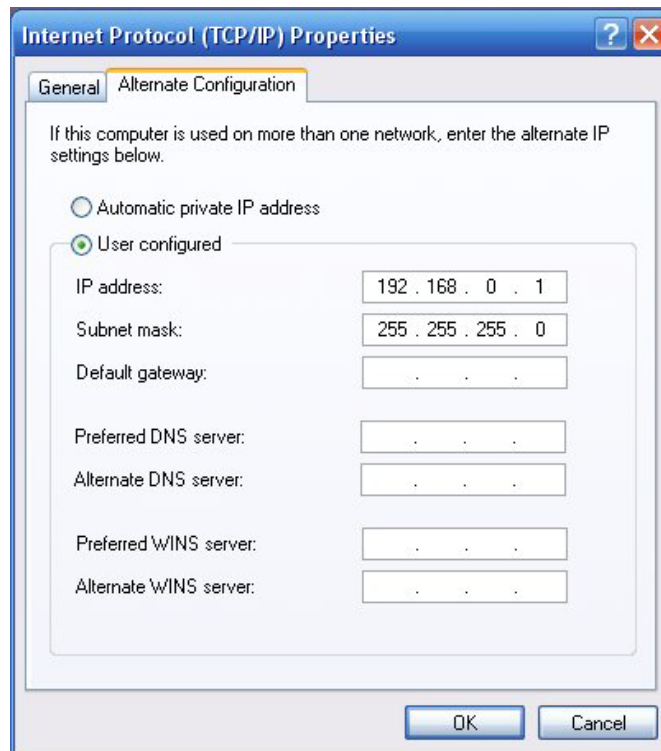


2. On the “General” tab, double click the “Internet Protocol (TCP/IP)”.



3. On the “Alternate Configuration” tab, check “User configured”, specify the IP address as the same network segment as CMW500, e.g. “192.168.0.1”, Subnet mask : “255.255.255.0”, then click “OK”.





4. The remote control connection is established as below.

#### LAN or High-Speed Internet

