# **Measurement Guide**



### CMWrun 快速使用

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版本	作者	备注
V1.0	Huang Jingming	创建
V1.1	Ren Xunli	格式修改并添加 2.8,2.9 and 2.10

### 1 快速使用

#### 1.1 软件安装.

安装过程如下列图片:

🚸 R&S CMWrun 1.7.3.22_BETA S	etup	
Choose Components Choose which features of R&S CM to install.	Wrun 1.7.3.22_BETA you want	ROHDE&SCHWARZ
Check the components you want I install. Click Install to start the ins	to install and uncheck the compor tallation.	ents you don't want to
Select components to install:	R&S CMWrun	Description Position your mouse over a component to see its description,
Space required: 70.1MB		
	< <u>B</u> ack	Install Cancel





R&S CMWrun Application N	otes 1.7.3.22_BETA Setup	
Choose Components Choose which features of R&S 1.7.3.22_BETA you want to ins	CMWrun Application Notes stall.	ROHDE&SCHWARZ
Check the components you wai install. Click Install to start the	nt to install and uncheck the comp installation.	ponents you don't want to
Select components to install:	R&S CMWrun Application	Description Position your mouse over a component to see its description.
Space required: 145.0KB		
	< <u>B</u> ack	<u>I</u> nstall Cancel

🚸 R&S CMWrun 1.7.3.22_BETA Setup 🛛 🔀
You can now install the R&S CMWrun Software Options. It is required to purchase key codes from Rohde&Schwarz to use them. If you do not have the key codes right now, you can unlock the software options later.
Install R&S CMWrun Software Options?
<u>Yes</u> <u>N</u> o

选择需要安装的功能选件,可默认选择安装所有的。

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🚸 R&S CMWrun Software Opl	tions 1.7.3.22_BETA Setup	
Choose Components Choose which features of R&S 1.7.3.22_BETA you want to in	CMWrun Software Options stall.	<b>ROHDE&amp;SCHWARZ</b>
Check the components you wa install. Click Install to start the	ant to install and uncheck the comp installation.	onents you don't want to
Select components to install:	<ul> <li>Disable Log On Smart Car</li> <li>R&amp;S CMW-KT051 General</li> <li>R&amp;S CMW-KT053 GSM, W</li> <li>R&amp;S CMW-KT055 LTE</li> <li>R&amp;S CMW-KT057 Wimax</li> <li>R&amp;S CMW-KT058 CDMA,</li> <li>R&amp;S CMW-KT100 IP Perf.</li> </ul>	Description Position your mouse over a component to see its description,
Space required: 104.8MB	<b>↓</b>	
	< <u>B</u> ack	<u>I</u> nstall Cancel

R&S CMWrun Software Options 1.7.3.22_BETA Setup	
Installation Complete Setup was completed successfully.	ROHDE&SCHWARZ
Completed	
Show <u>d</u> etails	
< <u>B</u> ack	Cancel

安装完毕之后,默认在 C 盘中创建如下路径:

"C:\Program Files\Rohde-Schwarz\CMWrun\1.7.3.22"

该文件夹中主要存放了运行环境,帮助文件,测试脚本及相关测试组件库。

🖕 1.7.3.22							
Eile Edit View Favorites Iools Help							
🕞 Back 🗸 💮 🗸 🎲 💕 🍠 Search р Folders 🔢 🗸							
Address 🔂 5:1Program Files!Rohde-5chwarz1CMWrun\1.7.3.22							
	Name A Size Type Date Modified						
File and Folder Tasks 🛛 🛠	Bin		Folder	2011-11-2 18:14			
Ante a peu folder	CeneralStatements		Folder	2011-7-13 10:47			
	🛅 Testplans		Folder	2011-7-13 10:50			
Publish this folder to the	🚞 Tests		Folder	2011-9-6 15:07			
Share this folder	🎯 modern-uninstall.ico	14 KB	Icon	2010-8-25 23:56			
Sharo and roldor	RsDiamond_16_32_48.ico	3 KB	Icon	2010-8-25 23:56			
	🚸 Uninstall.exe	43 KB	Application	2011-11-2 22:00			
Other Places 🕆	The second secon	43 KB	Application	2011-11-2 22:09			
~	WUninstallSWOpt.exe	43 KB	Application	2011-11-2 22:10			
CMWrun	UninstallVSTpl.exe	43 KB	Application	2011-9-6 14:19			
My Documents							
🧕 Jimmy's PC							
🧐 My Network Places							
Details *							
<b>1.7.3.22</b> Folder							
Date Modified: 2011年8月17日, 14:06							

同时在"My Documents"下面创建"CMWrun Files"文件夹,里面存放的测试数据。

#### 1.2 软件配置

在运行 CMWrun 之前,需要设置其与仪表的连接。 点击菜单: "Resources->SCPI Connections…",如下图

🍰 R&S CMWru	IN				
File View	Resources	Resources Options Testplan		Favorites	Help
🔯 File Browser	Rile Browser Bar Code Reader		🍃 Open 🧯	🖡 Save All 🗍 🗊 A	
Test Plans Te	Measu	Measurement Report		lan Loadeo	1
Add 🖻 Re	SCPI C	SCPI Connections			
	SCPI R	SCPI Report			
🕀 🫅 Applica 🛛 Serial I		Port			
⊕		tup			

点击菜单: "Resources->SCPI Connections…", 进入到 "SCPI Connection" 界面, 如下图所示:

SCPI Connections						
Globals						
D Alias	Resource Name	Timeout 🔺				
CMW270	TCPIP0::192.168.1.12::INSTR	5000				
CMW280-######	TCPIP::CMW28025-#######::in	7000				
CMW50050-100440	TCPIP0::192.168.162.63::INSTR	5000				
Reporting	Break test after 10	successive timeouts				
🗖 Demo Mode						
Add Delete Co	Test Connection					
		OK Cancel				

可以添加一个设备,然后点击"Configure...",配置其连接属性,如下图所示:

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Res	source Name Composer	×
	CMW50050-100440	
	Resource Name	
	TCPIP0::192.168.162.63::INSTR	
	Assistant >	
[	Timeout (ms)	
	5000	
l		
	OK Cancel	

Alias 部分输入 CMW 的别名, Resource Name 部分输入 CMW 的地址,用户可以点击 "Assistant >" 使用向 导进行配置,如下图所示:

Resource Name Composer			×
Alias CMW50050-100440 Resource Name TCPIP0::192.168.162.63::INSTR <a href="https://www.stant.org"></a> Timeout (ms) 5000	Remote Interface Assista VISA: National Instrume Interface Type: Board No.	nt ents; V5.0.3f0 Select VXI11 (Network) GPIB USB Serial Socket (Network) Select	
OK Cancel			

Resource Name Composer	×
Alias CMW50050-100440	Remote Interface Assistant VISA: National Instruments; V5.0.3f0
Resource Name	Interface Type: VXI11 (Network)
TCPIP0::192.168.162.63::INSTR	Board No. 0
< Assistant	TCPIP IP Address  Host Name  IP Address 192 168 162 63

Timeout(ms)部分可以设置 SCPI 命令执行时超时时间。

设置完之后,在"SCPI Connection"界面点击"Test Connection"可以测试是否能够和 CMW 连接上,如下 图所示:



确认连接上 CMW 之后,需要选择 CMWrun 使用时需要的 License Keys 来源,点击菜单 "Options->License Keys->Remote Device...",如下图所示:

🍰 R&S CMWrun				
<u>File V</u> iew <u>R</u> esources	Options <u>T</u> e	estplan F <u>a</u>	avorites <u>H</u> elp	
📮 File Browser	<u>B</u> ehavio	r ►		9
Test Plans   Tests   Reports	<u>D</u> ebug	•		ľ
🔊 Add 🔄 Remove 📓 Fay	License	<u>K</u> eys 🕨	Smart Card	
	<u>S</u> ecurity	•	Remote Device	
Application Notes	<u>H</u> otkeys			
📑 💼 My Test Plans				
🗎 🕀 🧰 GCT_Wimax				
🗄 🛅 Installed				
🗄 🛅 Desktop				

会弹出 "Remote License Server" 界面,在编辑框中填入 CMW 的 "Resource Name", 然后点击 "Access!" 查询 CMW 中支持 License 的信息,如下图所示:

Remote License Server	×
Enter the "Resource Name" of your CMW	
TCPIP0::192.168.162.63::INSTR	
Access !	
CMW-K0 CMW DEMO 12M	-
OK Cancel	

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如果该仪表支持你所要使用的 CMWrun 功能的 Lincense,则可以使用 CMWrun 进行测试。 设置完毕之后,重启 CMWrun.

如果 CMW 中没有支持 CMWrun 的 Lincense,则 CMWrun 界面中 Tests 处的功能模块为灰色不可用状态,如 下图所示:



否则,则 CMWrun 界面中 Tests 处的功能模块为可用状态,如下图所示:

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#### 1.3 运行测试

用户可以选择示例的 TestPlan 进行测试,也可以自己编辑 TestPlan.双击已经存在的 TestPlan,然后用户可以 看到该 TestPlan 被加载,点击 "Run"即可执行该 TestPlan 的测试,如下图所示:

R&S CMWrun - gprs_900_testset_2011-12-05_16-10-20	0_343.rsmrp						_8×
Ele View Resources Options Testplan Favorites	Heb						
File Browser	New 🥁 Open 🖼 Save All 💷 Abort All						
est Plans   Tests   DUTs   Reports	GPRS_900_TestSet.nstp × GSM_900_TestSet.nstp * × gprs_900_testset_2011-12-05_16-10-20_343.rsmp ×						
Add Remove	← Back → Forward V Filter • M -> PDF -> XML -> CSV -> TXT I Print						
e- 🚞 My Test Plans							
E C Application Notes							
E WCDMA	Base Station is onl						
	COM Call Sature Bauer On Mahila Dialamus						
E CDMA2000	Gow Can Setup. Fower Of Mobile Dialogue						
🕀 🦳 General Purpose	GSM Call Setup: Registration Process						
🖻 😂 GSM	oon our ooup ogion and						
EGPRS_1800_BLER_vs_CH.mtp	Registration Process		Timeout	Elapsed Time	Unit	Status	
GPBS_1800_TestSet_ATcmdDemo.rstp	DUT is registered		60	23	S	Passed	
GPRS 900 TextSet.rstp GPRS 900_TextSet_ATcmdDemo.rstp GSM 1900_CharaeScan.rstp	GSM Call Setup: DUT Info						
SSM_1800_Testee(VsPCL.rstp	DUT Info	Lower Limit	Upper Limit	Measured	Unit	Status	٦ -
GSM_1800_TestSet_ATcmdDemo.rstp	IMSI			1012345678901		Passed	1 📕
- A GSM_900_ChannelScan.rstp	INE	***		357939040057968		Passed	
→ SSM_9000_TestSet.rtp     → SSM_FindAttenuation_ntp     GSM_FindAttenuation_AT cmd.rstp     GSM_FindAttenuation_AT cmd.rstp     UTB     Utilities	no. Idla for GSM with tec 35793904 on CMW or local Folder: C\Documenta and SettingsAll UserdApplication D GSM Call Setup: Call Process	ata0Rohde-SchwarzhCMWr	uni1.7.6.39/TAC_DBRF_C	abiel			
III 🗁 WCDMA	Call Process		Timeout	Flapsed Time	Unit	Status	٦ 🗌
E Consisten	GPRS: Call to Mobile		30	2	s	Passed	1
	GSM Testset: TX and RX Tests	Lawer Limit	Unnor Limit	Mosturad	Unit	Statue	-
	Power @ GSM 900, Channel 70, Gamma 13, DL Level -60.00 dBm, Measure slot 3	Lower Link	opper Linix	measureu	onin	oratus	-
	Average Power 10 frames	10	16	10.41	dBm	Passed	1
	Peak Power 10 frames	10	16	10.59	dBm	Passed	
	Template Match 10 frames		0	0.00	%	Passed	
	Timing Error 10 frames	-10	10	-0.07	Sym	Passed	
	Test Item	Lower Limit	Upper Limit	Measured	Unit	Status	٦ (
	Modulation @ GSM 900, Channel 70, Gamma 13, DL Level -60.00 dBm, Measure slot 3						
	Phase Error RMS 10 trames	-5	5	0.98	•	Passed	
	Phase Error Peak 10 frames	-20	20	3.07		Passed	
	IQ Origin Offset 10 frames		-30	-55.45	dBc	Passed	
	N Inivitaire 70 agrings		-30	-58.23	0B	r assed	1.×

#### 1.4 结果查看

测试完之后,用户在窗口中可以看到测试报告及数据。

用户可以通过点击工具栏的 "->PDF", "->XML", "->CSV" 把测试报告转成 PDF、XML 以及 CSV 文件。 测试之后的数据可以通过 Reports 页面进行查看:



#### 2 常用功能介绍

#### 2.1 控制接口

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CMW 主要有三种控制方式来控制仪表: GPIB, LAN, USB, 如下图所示:



CMWrun 中同样提供相应的控制方式,用户在设置可通过菜单: "Resources->SCPI Connections...",进入 "Resource Name Composer"中进行设置。如下图所示:

Resource Name Composer		×
Alias	Remote Interface Assist VISA: National Instrum	ant nents; V5.0.3f0
Resource Name TCPIP0::192.168.162.63::INSTR	Interface Type: Board No.	VXI11 (Network) GPIB USB
< Assistant       Timeout (ms)       [5000       OK     Cancel		Serial Socket (Network) Select

#### 2.2 衰减设置

CMWrun 通用模块中提供"AttenuationTables"的衰减设置组件可以设置仪表的衰减值,如下图所示。

File View Resources Options Testolan Favorites Help		
2 File Browser	New Cone Save Al Abort Al	
Test Plans Tests DUTs Reports	GPRS_900_TestSet.rstp × GSM_900_TestSet.rstp ×	
Add Remove Favorite	🕨 Run 💷 Abort 🕅 Step 🛛 Idle 🥪 Param	neters 🖙 Resources 🔹 🗹 Edit 📓 Save As 🕴 Loop Mode
Constant Note     Constant Section 2015	Tenglan Databi Viet Messammer Report SCP Report Progress La	2

主要提供三种方式:

- 1) 设置常量
- 2) 设置为本机中衰减表格文件
- 3) 设置为 CMW 中衰减表格文件

如下图所示:



#### 2.3 密钥使用

CMWrun 提供两种密钥使用方式,一种是安装在 CMW 中的,一种将其安装于 Smart Card 中,如下图所示。



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用户可以根据当前自己的使用方式在 CMW run 软件中进行设置,如在菜单"Options->License Keys->Remote Device...",如下图所示:

🍰 R&S CMWrun					
<u>File V</u> iew <u>R</u> esources	Options	<u>T</u> estplan	Fġ	avorites <u>H</u> elp	
🛱 File Browser	<u>B</u> eh	avior	۲		1
Test Plans   Tests   Reports	<u>D</u> eb	ug	•		Ĩ
Add Remove	Lice	nse <u>K</u> eys	×	Smart Card	
	<u>S</u> ec	urity	×	Remote Device	
🗄 🛅 Application Notes	<u>H</u> ot	keys			Ē
📋 🕀 🛅 My Test Plans 👘	🗄 🗁 My Test Plans				
🗐 🕀 🛅 GCT_Wimax					
🗄 🛅 Installed					
🗄 🛅 Desktop					

#### 2.4 运行控制

CMWrun 提供运行控制的功能能够协助客户调试测试中发现的问题。主要提供"Run","Pause","Abort", "Step"几种功能,如果用户在测试某一项的时候出错,可以执行"Pause"进行调试,然后再进行下一步的 测试。



#### 2.5 编辑脚本

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用户可以根据自己的需要对测试脚本进行编辑,可以通过点击工具栏中的"Edit"按钮进行操作,如下图所示:



点击 "Edit" 按钮之后, 会弹出对话框供用户对测试脚本进行编辑, 如下图所示:

A R&S CMWrun - Edit C:\Program Files\Rohde-Schwarz\CMWrur	\1.7.6.33\TestPlans\Installed\G5M\G5M	_900_TestSet.rstp
Test Plans Tests Commands	🔽 🔗 🤗 🔹 🥾 🗡 🧮	= ७, 법
Add Remove B Favorite	Steps	Description
CMW-KT053 GSM, WCDMA     Gold     Gold	GSM_900_TestSet Global input param Global input param Global singt Global Strup GSMCallSetup GSMCallSetupSucceeded ) GSMTestset GSMCallDisconnect	reset instrument set attenuation to 4.00 dB
Item Description	Step Description	
Vrag items to the test plan structure on the right No description available	Uhange Description:	
Show Descriptions		<u>D</u> k <u>C</u> ancel

用户可以移动测试项目的位置,也可以增加或者删除测试项目。 下面以 GSM 为例,测试流程中主要有两种结构:条件和循环,如下图所示:

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#### 2.6 历史数据查询

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测试后的数据会自动保存至 My Documents 路径下"CMWrun Files"中如下图所示:

Name 🔻	Size Type	Date
🗀 My Test Plans	Folder	2011
🚞 My SCPI Reports	Folder	2011
C My Measurement Reports	Folder	2011
	Folder	2011

其中"My SCPI Reports"下面存放的是 SCPI 执行记录。

其中 "My Measurement Reports"下面存放的是执行测试报告记录。 用户同样可以在 CMWrun 中查询到这些记录部分,如下图所示:



其中绿色图标的文件表示测试成功, 红色的表明测试过程中出现问题, 结果文件以测试项目及时间命名。

#### 2.7 参考数据编程

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通过使用 CMW 我们可以快速得到测试结果,同时也可以得到测试需要执行的 SCPI 命令,利用这些命令 我们也可以帮助用户在自己的平台中快速编程,实现相应的测试功能。如下图显示的是 GSM 测试时使用的 SCPI 命令过程:



#### 2.8 终端自动开关

CMWrun 默认手动对终端进行开启与断电,通过对话框提示终端断掉和开启。如果要进行挂机测试,就需要自动对终端上电和断电,有一下几种方式:外部电源,AT 命令和用户自定义方式。

#### 2.8.1 外部电源

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选择外部电源: 右键点击用例的"Property", 点击"DUT Power Cycles",选择 Automation 方式为"External Power Supply", 如下图所示。

Steps Steps Steps Steps	? ×
Steps       LTE 3GPP TS36.521 Configuration         LTE       DUT Power Cycles         Power Cycles       Power Cycles         DUT Supports RRCReconfiguration for SIB change (LTE FW >=3.0.30)         Keep RRC Connection (LTE FW >= 2.1.30)         Frequency Change       Power Cycle         Derating Band Change       Power Cycle         BandWidth Change       Power Cycle         Automation       External Power Supply         External Power Supply       Instrument         Voltage Setup Command       VULT 4.0         Current Setup Command       CURR 3.0         Output UFF Command       OUTP OFF         Power up delay [ms]:       5000	P       6 Transmitter Characteristics         G       6 Transmitter Characteristics         G       6.2.2 UE Maximum Output Power         G       6.2.3 Maximum Power Reduction (         G       6.2.4 Additional Maximum Power Reduction (         G       6.2.4 Additional Maximum Power F         G       6.2.5 Configured UE Transmitted C         G       6.3.2 Minimum Output Power         G       6.3.2 Minimum Output Power         G       6.3.4 <i>I Genesal ON/OFF lime Mask</i> G       6.3.4.2 SRS Time Mask         G       6.3.5.1 Power Control Absolute Po         G       6.3.5.2 Power Control Relative Por         G       6.3.5.3 PUSCH Aggregate Power         G       6.3.5.3 PUSCH Aggregate Power         G       6.5.1 Frequency Error         G       6.5.2 I PUSCH EVM (Error Vector         G       6.5.2.1 A PUSCH EVM with Exclus         G       6.5.2.3 PUSCH In-Band Emissions         G       6.5.2.4 EVM Equalizer Spectrum F         G       6.6.1 Cocupied Bandwidth         G       6.6.2.1 Spectrum Emission Mask
Select Remote Connection	DUT Power Cycles
< Default >           LocalHost@TCPIP0::127.0.0.1::INSTR           DMW270-######@TCPIP::CMW27075-#######:inst0::INSTR           CMW280-######@TCPIP::CMW28025-#######:inst0::INSTR           CMW500-129889@TCPIP::CMW50050-129889::inst0::INSTR	OK Cancel

设置外部电源的端口:点 Instrument,在弹出的对话框中选择已经设置的外部电源;外部电源的 GPIB 地址在 Test Plan->SCPI Connections 中添加,如下图所示。

D       Alias       Resource Name       Timeout         CMW280-######       TCPIP::CMW28025-#######::in       20000         CMW500-129889       TCPIP::CMW50050-129889::inst       20000         Power Supply       GPIB0::22::0::INSTR       10000         Reporting       Break test after       10       successive timeouts         Demo Mode	SCPI Connections This test plan uses the "Global" To add "Test Plan Specific" settin Globals	SCPI Connections settings. ngs click Create Specific Setting	8
Reporting     Break test after     10     successive timeouts       Demo Mode	D         Alias           CMW280-#######           CMW500-129889           Power Supply	Resource Name           TCPIP::CMW28025-#######::in           TCPIP::CMW50050-129889::inst           GPIB0::22::0::INSTR	Timeout     ▲       20000
	Reporting     Demo Mode     Add     Delete     C	Break test after 10	successive timeouts

设置电源的参数:在电源的设置有电源供电电压及开关命令。

#### 2.8.2 AT 命令

选择 AT 命令:选择 AT 命令方式后,可以输入终端开关机的 AT 命令。

DUT Power Cycles	s	×
Power Cycles		
DUT Supports RRCRe	econfiguration for SIB cha	nge (LTE FW >=3.0.30)
🔽 Keep RRC Connection	n ( LTE FW >= 2.1.30)	
Frequency Change	Power Cycle 💌	(Blind Handover and
Operating Band Change	Power Cycle 💌	Frequency Redirection are only supported from
BandWidth Change	Power Cycle 💌	LTE Firmware 2.1.30 )
Automation		
Automation AT	Modem Commands	<b>•</b>
AT Modem Commands		
RF OFF Command	AT+CFUN=0	
Wait after OFF [ms]	1000 🔅	
RF ON Command	AT+CFUN=1	
		ОК

T poin. 在 Resources->Senai Poin 中反直 AT Poin			
🍰 Serial Port	×		
Globals			
Port	Parameter		
Port COM1	Databits 8		
Open on Test Plan Run 🔽	Parity None 💌		
Initialization Latency None 💌	Stopbits One		
	Handshake RequestToSend 💌		
Error Handling None	Baudrate 9600 💌		
Reporting 🔽			
Demo Mode 🗖	Term. Char. \r\n		
Timeout	Use Default Codepage:		
Enable 🔽	(936) Chinese Simplified (GB2312)		
Timeout [ms]	CP1252_Windows		
	OK Cancel		

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1.3 用户自定义方式

选择自定义方式可以使用自定义的电源,AT 命令的工程来控制终端的开关。

0

DL	JT Power Cy	/cles	×
Г	Power Cycles		
	🔽 DUT Supports F	RCReconfiguration for SIB change (LTE FW >=3.0.30)	
	🔲 Keep RRC Conr	nection ( LTE FW >= 2.1.30)	
	Frequency Change	Redirection  (Blind Handover and Frequency Redirection	
	Operating Band Cha Devolution Changes	ange Redirection are only supported from	
	Automation	Hedirection	
(	Automation	Customized Lest Disc	
l l	Automation		
	Customized Testpla	n for Power Cycle	
	RF OFF Testplan	Browse	
	0:\DATA\CMWru	n Files\My Test Plans\power_off.rstp	
	RF ON Testplan	Browse	
	0:\DATA\CMWru	n Files\My Test Plans\power_on.rstp	
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Den		OK	?×
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Den Look in: Installed Installed Installed Installed	<ul> <li>Installed</li> <li>1xEVDO</li> <li>CDMA2000</li> <li>General Purp</li> <li>GSM</li> <li>InterRAT</li> <li>LTE</li> <li>Utilities</li> <li>WCDMA</li> <li>Wimax</li> <li>WLAN</li> <li>LTE3GPP_Bat</li> <li>power_off.rs</li> <li>power_on.rs</li> </ul>	oose nd7.rstp tp power_on.rstp ↓	· ·

被调用的工程可以自定义方式实现,下图是命令控制电源的 Power\_on.rstp.

wwwer_on.rstp × LTE_3GPP_Band22.rstp ×					
🕨 Run 💷 Abort 🕅 Step	Idle	🥑 Parameters 📑 Resourc	es 🔹 🗹 Edit 🔡 Save As	೮ Loop Mode	
TC 🕈 🖗 🗈 🗏 🗅 🖻	ւ 🗙 🔚 🖙 եր				0.8 kb
Steps	Send SCPI Comm	and			×
Steps	Send SCPI Comm Settings Instrument: TCPIP::CMW SCPI Command List: VOLT \$voltage OUTP ON	50050-101581::INSTR			Instrument
					-
	Check Errors	Hide in Measurement Report			

#### 2.9 双信令并行测试

CMW500 可以支持双信令的测试,在 CMWrun 中也实现了选择子仪表的设置,不同的工程可以设置采用某一个子仪表测试,如果两个工程同时运行就可以实现双信令同时测试。

步骤 1 点 Test Plan->CMW Instrument->Create Specific Settings 添加测试用例中 sub instrument 设置。 步骤 2 设置 sub instrument.

🍰 CMW Instrument	X
This test plan uses <u>"Test Plan Specific"</u> CMW Instrument settings To use "Global" setings click Remove Specific Settings	
Globals LTE3GPP_Band7.rstp	
RF Connector Toggle Service Enable Toggles the RF IN/OUT Connectors on subsequent test plan runs. CMW Subinstruments 2 More than one subinstrument requires symmetric hardware equipment.	
OK Canc	əl

采用同样的方法设置打开另一工程,设置另一个 Subinstruments。两个工程就可以同时运行了。

#### 2.10 CMWrun 选件功能

选件	功能
CMW-KT050 CMWrun Suit Signaling Basic	包括各种信令制式的呼叫建立和基本测试
CMW-KT051 CMWrun General Purpose	包括所有制式的 E2E 应用测试功能
CMW-KT054 CMWrun TD-SCDMA	包括 TD-SCDMA 制式射频测试功能
CMW-KT055 CMWrun LTE FDD and TDD	包括 LTE FDD and TDD 制式射频测试功能
CMW-KT057 CMWrun WiMAX WLAN and BT	包括 WiMAX WLAN and BT 的射频测试功能
CMW-KT058 CMWrun CDMA2000 1xRTT/1xEV-DO	包括 CDMA2000 1xRTT/1xEV-DO 的射频测试功能
CMW-KT100 CMWrun LTE MIMO Performance	包括 Fading 条件下 LTE 的性能测试(AMU200 可选)
CMW-KT105 CMWrun Video distortion analysis with	包括 LTE 制式 Smart Phone 传输 Video 的性能分析
VTE	(需要 R&S VTE)