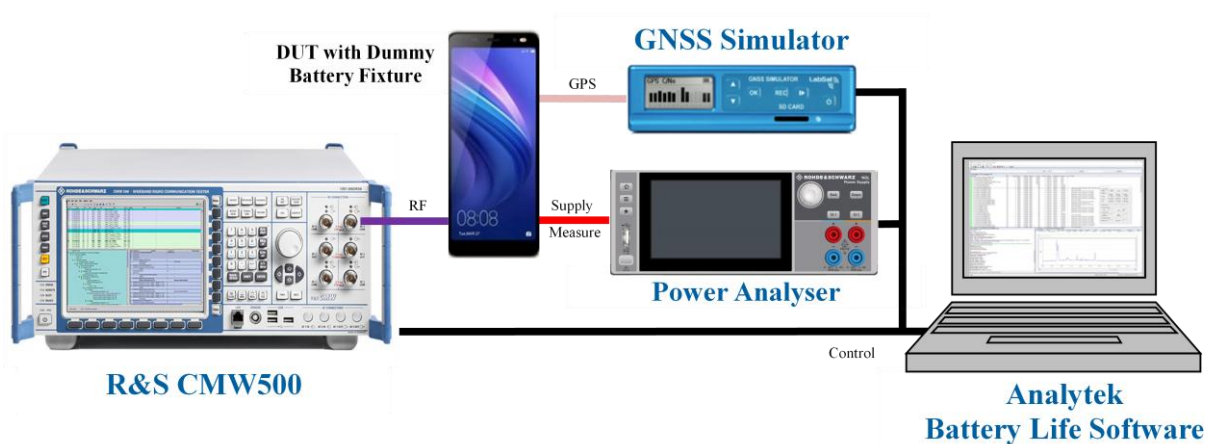


T-Mobile Battery Life Test Software

The T-Mobile Battery Life TRD document provides details of the Network Configuration setup and the measurement requirements for devices destined for their Network.

Analytek provides the following solution, in partnership with Rohde & Schwarz, with all tests implemented utilising a control PC, Network Simulator, Power Analyser and, optionally, a GNSS Simulator. This Test Suite contains the LTE based tests.

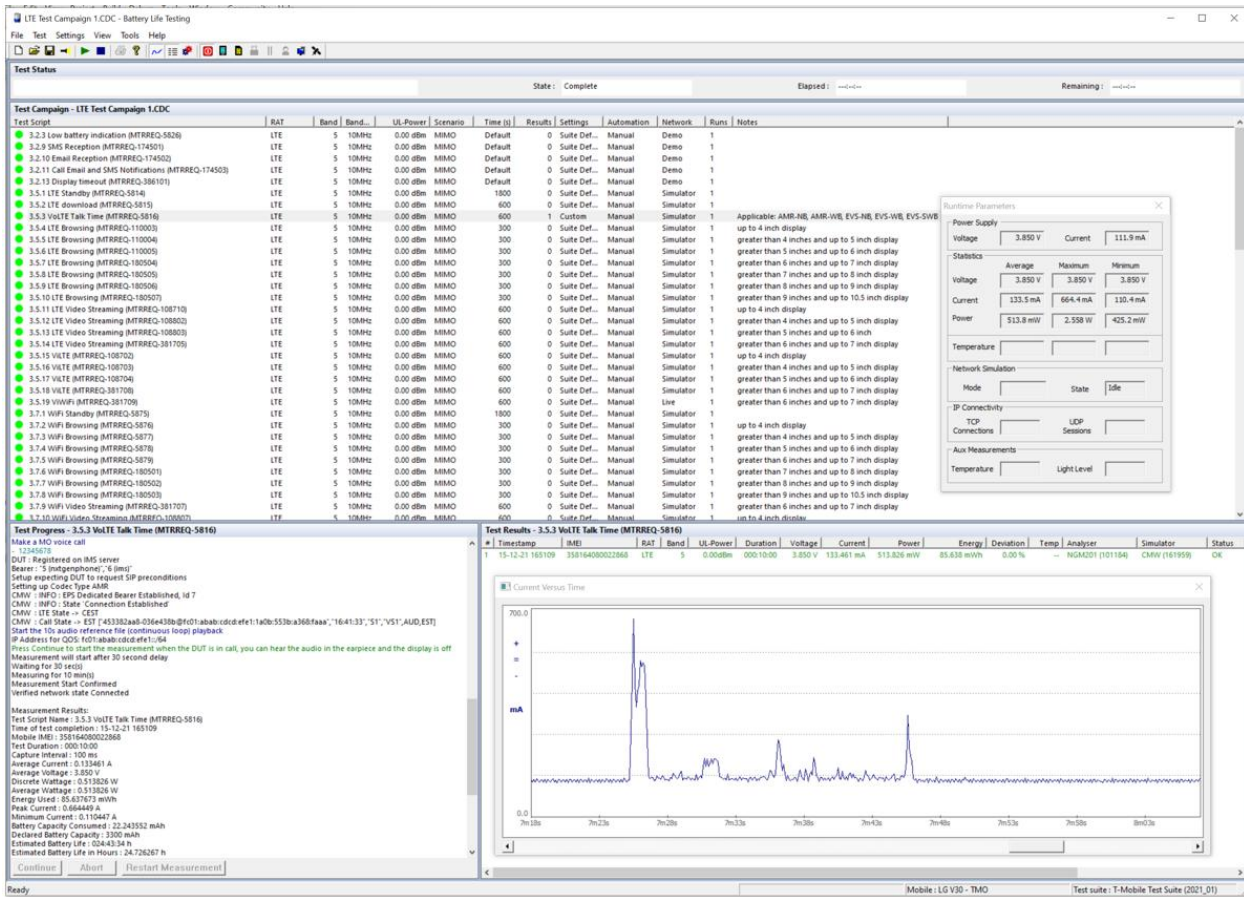
Hardware for T-Mobile Battery Life Testing



Analytek Software Features

- o Easy to use Windows application
- o Test Suite supplied with T-Mobile specified Test Scripts.
- o Default Template provided to generate new Test Campaigns with all required Tests and their specified settings.
- o Scripted scenarios allow customisation for analysis.
- o Result output provided in TXT, CSV and HTML report formats.
- o Verdict Generation based on T-Mobile requirements
- o Runtime graphic and result presentation.
- o Software provides complete control of the Network Simulator and Power Analyser at runtime.
- o Optional support for runtime GNSS Simulation and temperature measurements.
- o Archive and export features for offline analysis.
- o Test Suite option for T-Mobile's 5G Standard available.
- o Test Suites available for other Operator and GSMA, GCF and CTIA Standards.

Analytek Battery Life Measurement Current Drain Measurement Software



Equipment Requirements

R&S@CMW500 Radio Communication Tester

- RF Frontend (2x) CMW-590D
- RF Converter (4x) CMW-B570H
- Signalling Unit (2x) CMW-B500
- LTE FDD Signalling Software CMW-KS500, CMW-KS510, CMW-KS520
- Data Application Unit CMW-B450I
- Application Software CMW-KA100, CMW-KA150, CMW-KAA20 and CMW-KM050
- All additional hardware/software to support the above.

- R&S NGM201 Power Analyser with B301 option (other Power Analysers supported).
- PC or Laptop
- Windows Win7, Win10/11
- National Instruments GPIB card and/or R&S/NI VISA

*Configuration variations are possible but should be discussed with Rohde & Schwarz

Ordering Information

Part Number	Name	Description
ANA-TS-TMO-LTE	T-Mobile Battery Life	T-Mobile LTE Test Suite

T-Mobile Master Terminal Requirements List

Heading	Test Name	GID Number
3.1	Battery Certification	GID-FLD-5820
3.2.3	Low battery Indication ^{Note 1}	GID-MTRREQ-5826
3.2.9	SMS Reception ^{Note 1}	GID-MTRREQ-174501
3.2.10	Email Reception ^{Note 1}	GID-MTRREQ-174502
3.2.11	Call, Email, and SMS Notifications ^{Note 1}	GID-MTRREQ-174503
3.2.13	Display timeout ^{Note 1}	GID-MTRREQ-386101
3.5	LTE Current Drain, Browsing, and Practical Use Cases	GID-FLD-5813
3.5.1	LTE Standby Current Drain	GID-MTRREQ-5814
3.5.2	LTE Download Current Drain	GID-MTRREQ-5815
3.5.3	VoLTE TalkTime Current Drain for NB, WB and SWB	GID-MTRREQ-5816
3.5.4	LTE Browsing for terminals (according to screen size)	GID-MTRREQ-110003
3.5.5		GID-MTRREQ-110004
3.5.6		GID-MTRREQ-110005
3.5.7		GID-MTRREQ-180504
3.5.8		GID-MTRREQ-180505
3.5.9		GID-MTRREQ-180506
3.5.10		GID-MTRREQ-180507
3.5.11	LTE Video Streaming for terminals (according to display size)	GID-MTRREQ-108710
3.5.12		GID-MTRREQ-108802
3.5.13		GID-MTRREQ-108803
3.5.14		GID-MTRREQ-381705
3.5.15	ViLTE for terminals (according to display size)	GID-MTRREQ-108702
3.5.16		GID-MTRREQ-108703
3.5.17		GID-MTRREQ-108704
3.5.18		GID-MTRREQ-108708
3.5.19		GID-MTRREQ-108709
3.7	Wi-Fi Current Drain	GID-FLD-5874
3.7.1	Wi-Fi Standby	GID-MTRREQ-5875
3.7.2	Wi-Fi Browsing (according to display size)	GID-MTRREQ-5876
3.7.3		GID-MTRREQ-5877
3.7.4		GID-MTRREQ-5878
3.7.5		GID-MTRREQ-5879
3.7.6		GID-MTRREQ-180501
3.7.7		GID-MTRREQ-180502
3.7.8	GID-MTRREQ-180503	
3.7.9	Wi-Fi Video Streaming for terminals (according to display size)	GID-MTRREQ-381707
3.7.10		GID-MTRREQ-108807
3.7.11		GID-MTRREQ-108808
3.7.12		GID-MTRREQ-108809
3.7.13	ViWiFi for terminals (according to display size) ^{Note 2}	GID-MTRREQ-108705
3.7.14		GID-MTRREQ-108706
3.7.15		GID-MTRREQ-108707
3.8	Wi-Fi Calling Current Drain	GID-FLD-5880
3.8.1	Wi-Fi Calling 1.0(IMS) Standby ^{Note 2}	GID-MTRREQ-5882
3.8.2	Wi-Fi Calling 2.0(ePDG) Standby ^{Note 2}	GID-MTRREQ-5883
3.8.3	Wi-Fi Calling talk time ^{Note 2}	GID-MTRREQ-5885
3.8.4	Wi-Fi Calling talk time for 802.11ac devices ^{Note 2}	GID-MTRREQ-110001
3.8.5	Wi-Fi Calling standby ^{Note 2}	GID-MTRREQ-5888
3.8.6	Wi-Fi Calling talk time ^{Note 2}	GID-MTRREQ-5890
3.9.3	Mobile Hotspot Standby Current Drain ^{Note 2}	GID-MTRREQ-5892
3.9.4	Mobile Hotspot Standby Current Drain ^{Note 2}	GID-MTRREQ-5893
3.10	Media (Music, Video, Audio) Current Drain	GID-FLD-5832
3.10.1	Music playback through speakerphone	GID-MTRREQ-5834
3.10.3	Local Video playback (according to display size)	GID-MTRREQ-5837
3.10.4		GID-MTRREQ-5838
3.10.5		GID-MTRREQ-5839
3.10.6		GID-MTRREQ-5840
3.10.7		GID-MTRREQ-174806
3.10.8		GID-MTRREQ-174809
3.10.9		GID-MTRREQ-174810
3.10.10	Audio Streaming through speakerphone	GID-MTRREQ-5842

Analytek Battery Life Measurement

3.11	Camera and Video Recording Current Drain	GID-FLD-110103
3.11.1	Image capture using rear facing camera for terminals (requirement according to display size)	GID-MTRREQ-111901
3.11.2		GID-MTRREQ-111902
3.11.3		GID-MTRREQ-111903
3.11.4		GID-MTRREQ-111904
3.11.5		GID-MTRREQ-111905
3.11.6		GID-MTRREQ-111906
3.11.7	Image capture using front facing camera for terminals (according to display size)	GID-MTRREQ-381701
3.11.8		GID-MTRREQ-381702
3.11.9	Rear Camera Video Recording for terminals (according to display)	GID-MTRREQ-108812
3.11.10		GID-MTRREQ-108901
3.11.11		GID-MTRREQ-108902
3.11.12	Front Camera Video Recording for terminals (according to display)	GID-MTRREQ-108903
3.11.13		GID-MTRREQ-108905
3.11.14		GID-MTRREQ-108907
3.11.15	Rear Camera Video Recording for Terminals	GID-MTRREQ-381703
3.11.16	Front Camera Video Recording for Terminals	GID-MTRREQ-381704
3.12	UI ON Current Drain	GID-FLD-5844
3.12.1	UI on current drain without keystroke	GID-MTRREQ-5846
3.12.2		GID-MTRREQ-5847
3.12.3		GID-MTRREQ-5848
3.12.4		GID-MTRREQ-5849
3.12.5	UI on current drain with keystroke	GID-MTRREQ-5851
3.12.6		GID-MTRREQ-5852
3.12.7		GID-MTRREQ-5853
3.12.8		GID-MTRREQ-5854
3.12.9	UI on current drain with keystroke	GID-MTRREQ-179601
3.12.10		GID-MTRREQ-179602
3.12.11		GID-MTRREQ-179603
3.12.12	UI on current drain without keystroke	GID-MTRREQ-179604
3.12.13		GID-MTRREQ-179605
3.12.14		GID-MTRREQ-179606
3.13	LTE, 5G FR1 NSA, 5G FR1 SA and 5G FR2 User Profiles	GID-FLD-5855
3.13.3	Days between charging ^{Note 1}	GID-MTRREQ-5858
3.13.4	Days between charging ^{Note 1}	GID-MTRREQ-5859
3.13.7	Days between charging ^{Note 1}	GID-MTRREQ-306514
3.14.2	Terminal Charging Time ^{Note 1}	GID-MTRREQ-5864
3.14.4	Terminal Charging Time for High Tier ^{Note 1}	GID-MTRREQ-5866
3.15	Airplane Mode	GID-FLD-5871
3.15.1	Airplane mode requirement for terminals (according to memory size)	GID-MTRREQ-5872
3.15.2		GID-MTRREQ-111803
3.15.3		GID-MTRREQ-111804
3.15.4		GID-MTRREQ-480566
3.15.5		GID-MTRREQ-480567
3.16	Navigation Current Drain Requirements	GID-FLD-306405
3.16.1	Navigation requirement for terminals (according to display size) ^{Note 3}	GID-MTRREQ-306406
3.16.2		GID-MTRREQ-306407
3.16.3		GID-MTRREQ-306408
3.16.4		GID-MTRREQ-306409
3.17.5	Always on display current drain	GID-MTRREQ-306508
3.17.6	Always on display current drain for 0-20 lux scenario	GID-MTRREQ-306510
3.20	Network Scan	GID-FLD-480568
3.20.1	Network scan for out of coverage scenario	GID-MTRREQ-480569

Note1 – No Current Drain Measurement required (Instructional Script supplied for recording Verdict).

Note2 – Requires to be performed on Live Network with T-Mobile SIM Card.

Note3 – Requires GNSS Simulator with dynamic profile playing.