QualiPoc Freerider II
THE LIGHT PORTABLE BENCHMARKER

BENCHMARKING
OPTIMIZATION
SERVICE QUALITY MONITORING
TROUBLESHOOTING
ACCEPTANCE TESTING

DRIVE TEST
WALK TEST

CHANNELS MEASURED: UP TO 6 CHANNELS
The Light Portable Benchmarker

Worldwide mobile data traffic, which happens indoors, is increasing massively. This requires denser networks and new mobile network infrastructure in locations such as airports; shopping malls; event venues; and, generally, in pedestrian zones and public areas. This increases the complexity for mobile network operators dramatically and requires adequate test solutions.

Therefore, SwissQual has engineered Freerider II: a portable, light-weight, multi-channel benchmarking solution for walk-test-based quality of experience benchmarking campaigns; especially for indoor locations, pedestrian zones, and public transport.

QualiPoc Freerider II provides extensive functionalities to test voice, data, video, and messaging to assess quality of service (QoS) and quality of experience (QoE) from a real end-user perspective.

Freerider II offers network operators and service providers the capabilities to more effectively and economically analyze and benchmark their services; optimize their wireless network coverage and capacity; and, ultimately, improve end-user experience.

Thanks to its compact and discreet design, its ease-of-use and flexibility, Freerider II allows efficient performance of walk-test-based measurements at lower operational costs.
KEY USE CASE

Cost-efficient, multi-channel walk-test-based measurements

Use Freerider II for cost-efficient ad-hoc and recurring walk-test-based benchmarking campaigns in indoor locations, pedestrian zones, and public transport. It is the optimal solution to assess the competitive situation, for example at an upcoming sports event, and to get an instant view of the competitive network status; Freerider II is also ideal to assess regular service verification in critical indoor locations.

The light, portable benchmarker is a highly flexible automated testing solution with a user-friendly operational interface, which also allows low skilled users to operate it efficiently and trouble-free. This makes Freerider II the unique solution to perform multi-channel QoS and QoE measurements at lower operational costs.

Find more use cases of QualiPoc Freerider II at www.swissqual.com

AT A GLANCE

- Portable, smartphone-based, multi-channel solution for walk-test-based quality of experience benchmarking campaigns
- Equipped with up to 6 Android smartphones (slaves) which are controlled by a master tablet
- Fully configured backpack system, including robust core element and battery, weighs less than 6 kg (13.3 lb)
User-friendly Campaign Management

The Campaign Management is an exclusive feature of SwissQual’s QualiPoc platform. It is an intuitive graphical user interface on the controlling master tablet to clearly structure and to efficiently configure even complex measurement campaigns. It enables, for example, a pre-configuration of standard measurements in a user specific library. Thanks to multi-touch control functions, such as copy-paste or drag-and-drop, the whole measurement campaign configuration process is simplified, standardized, and more efficient.

Enhanced Map Monitor

The enhanced Map Monitor offers comprehensive and valuable benefits to simplify indoor measurements. It combines outdoor and indoor navigation on one monitor. QualiPoc’s Map Monitor offers, for example, the integration of geo-referenced floor plans, which reduces the complexity for combined outdoor and indoor measurements in locations such as shopping malls, airports, or similar. In addition, it supports the import and export of iBwave files with multi-floor plan navigation as well as the loading of predefined GPX tracks to navigate an operator to a specific location. This exclusive SwissQual feature helps to reduce errors and improve operational efficiency for indoor and outdoor measurements.
QUALIPOC FREERIDER II

Discreet yet powerful and versatile
KEY PRODUCT FEATURES

Intuitive and easy-to-use interface

SwissQual’s QualiPoc platform is well-known for its reliability and performance; its flexibility; and, in particular, for its intuitive ease-of-use. This enables also low skilled users to operate Freerider II.

Via the graphical user interface on the master tablet, multi-channel tests and measurements are intuitively and efficiently configured and controlled.

The master tablet displays KPIs from up to 6 channels in parallel and in real-time, including the complete history of every measurement channel.

A comprehensive range of benchmarking and service tests as well as voice, data, video, and messaging QoS and QoE measurements can be selected from a library; these can easily be configured for an automated multi-channel measurement campaign.

SwissQual – Experts in Mobile Network Testing

It is the attention to detail, the unique expertise, and the innovative mindset that distinguish SwissQual’s quality products. SwissQual, together with Rohde & Schwarz, is the preferred supplier of specialist equipment for global top-tier mobile operators, infrastructure vendors, testing service providers, regulators and authorities as well as multiple innovators in different industries.

Expertise

SwissQual employs specialists for applied research for voice and video quality assessment and for fundamental QoE/QoS testing methods. Our specialists are active members in international standardization bodies, such as ITU, ETSI, and VQEG, and help to define industry standards for HD voice and video quality testing.

Swiss Engineering

SwissQual products are known for their future-proof and ruggedized design, their ease-of-use and versatility, and for their system stability and accuracy. This results in more efficient operation and ensures a maximum level of Qos/QoE data quality and conformity at lower total cost of ownership.
KEY BENEFITS

Using QualiPoc Freerider II will reward you with long-term values, including:

– lower total cost of ownership thanks to higher operational efficiency and multi-purpose product concept.
– secure cost-intensive investments due to a highly flexible, multi-purpose, and future-proof product concept which allows adaptable and economic technology and device upgrades.
– a maximum level of QoS/QoE data quality and conformity as a reliable foundation for strategic decisions.

Reflecting the real end-user perception

QualiPoc Freerider II supports up to 6 smartphones to implement automated multi-channel measurements based on standard Android-based end-user devices.

Ever since its launch, SwissQual’s QualiPoc application has been supported on a wide range of Android smartphones and tablets, including the latest Samsung Galaxy product families, HTC, LG, and Sony Xperia products. New Android smartphone models are continuously integrated into the QualiPoc platform.

SwissQual’s hardware is based on a future-proof concept and provides a multi-device ready fixation feature to ensure a flexible integration of new smartphone models.

As a result, Freerider II is a future-proof investment enabling the assessment of a mobile network’s performance and competitive situation – always based on the latest end-user devices. This guarantees a true representation of end-user perception of services and therefore, Freerider II enables the immediate identification of quality issues.
TECHNICAL SPECIFICATIONS

Software specifications

Technologies
Extensive technology test support including: GSM, GPRS, EDGE, WCDMA, HSDPA, HSUPA, HSPA+, CDMA, EVDO, LTE, LTE-A (Cat6)

Devices
Support of a wide range of Android smartphones, including Samsung Galaxy S5, S4, LG G2 and G3, Sony Xperia Z2 and Z1, and Samsung Note 10.1 LTE

System Architecture
Android tablet controlling and monitoring multiple (up to 6) smartphones connected via Bluetooth. The scalable Freerider architecture allows distribution of data collection running on dedicated phones for true benchmarking testing.

Time synchronization controlled by Android tablet ensures reliability on all KPI calculations on all end-to-end performed testing (voice, video calls, and messaging testing).

Protocol Layers
Full logging and decoding of multiple protocol layers on all technologies: 3GPP, L2, L3, TCP/IP, IMS, SIP and text decoding of L3 messages, TCP/IP and RTP packets.

User Interface
Intuitive and fully touchscreen adapted user interface with predefined workspaces and monitors automatically adapts to the used technology with choice between light and dark theme. Map navigation monitor available based on Google Maps or OpenStreetMap with optional BTS position display. Easy in-building positioning using dynamic indoor floor plan pictures or iBwave design multi-floor .ibwc files.

Service Testing Options
Benchmarking or service testing with wide range of services:
– Voice telephony: call to any number, speech MOS
– Data: Ping, FTP DL/UL, HTTP DL/UL, PING, Capacity DL, Iperf UDP/TCP
– Browsing: HTTP
– Messaging: SMS, MMS, e-mail (SMTP, POP3, IMAP)
– Video streaming (YouTube)

Speech Quality (MOS)
Speech quality testing to Diversity or QualiPoc Android answering stations. Standard algorithms integrated for intrusive voice MOS assessments on narrowband and wideband channels:
– ITU-T P.863 (POLQA)
– ITU-T P.862 (PESQ)
– SwissQual SQquad

VoLTE
Speech quality using POLQA along with many VoLTE specific KPIs are supported on VoLTE capable devices.

Positioning
This discreet system is able to reach non-drive places and supports full location logging: GPS for outdoor testing (internal or external Bluetooth GPS) and indoor mapping (incl. iBwave) for indoor testing.

Control and Analysis
Device configuration, real-time results display, and KPIs provided on the QualiPoc Freerider running on a tablet or smartphone.

Data Management
Data collection performed directly on the smartphones and scheduled data upload to the master tablet provided by all measurement devices.

Measurements Events
Standard and configurable real-time status information and measurement related events available on controlling device.

KPI Analysis
More than 250 key performance indicators (incl. ETSI) available in real-time as well as in post processing.

Post Processing Platform
NetQual NQDI with in-depth data analysis, network troubleshooting, report generation, and historical performance trending. Flexible and customizable data selection and filtering capabilities, including time and data, network technology, operator, device type, map polygon regions, service quality threshold, layer 3 messages, and more. Customizable Excel reports based on KPIs with a powerful report generator.

Post Processing Compatibility
Compatibility with major third party post processing vendors.

Hardware specifications

Dimensions Core
45 x 28 x 10 cm (17.72 x 11.02 x 3.54”)

Dimensions Backpack Large
56 x 32 x 18 cm (22.05 x 12.60 x 7.09”)

Dimensions Backpack Medium
53 x 35 x 16 cm (20.87 x 13.78 x 6.30”)

Weight
Fully configured less than 6 kg (13.3 lb)

Battery Capacity
1 x 73 Wh

GPS
Built-in or external Bluetooth GPS

Temperature
Temperature operational range: 0-45 °C (32-113 °F)

Humidity
Operating relative humidity: 0-80%

Elevation
Operating elevation: 0-2000 meters (0-6500 ft)

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