|  |  |  |  |
| --- | --- | --- | --- |
| **NAME** | **Description** | **Strenghts** | **Weakness** |
| PRTG | App na Playstore | Monitoring WiFi coverage (speed, signal strength)  Performing pings to other devices or services from the mobile point of view .  Monitoring loading times of webpages via HTTP  Monitoring environmental data  🡪 light intensity, temperature, pressure, humidity Monitoring the battery status of your device and disk space, CPU, etc  Showing location and tracking movement of your device | Instalation/Setup on PRTG Servers with Acess key |
| Xperience (Streambow)  ---------------- Customer feedback app  <http://www.h-log.fr/uploads/Xperience-Datasheet-Customer-Feedback%20App.pdf> | Telcos performs QoS in car drive tests  ----------------------------- | * Probing with continuously QoS measurements * Central configuration of all probes(device Apps) * Http upload/download, Browsing tests, ICMP test with trip time, jitter and packet loss (ACTIVE TESTS) * Device information, network and wi-fi data, mobile radio data, location and time stamping (PASSIVE) * Customization, detailed, flexible, integrated, aggregated QoS (REPORTS)   -------------------------------------------- | Android Version > 4.1  --------------- |
| **XCAL-Ranger** (Accuver) | Benchmark network performance  Carry out QoS, QoE measurements  Carry out end-to-end application testing (MMS, SMS, video etc)  Minimise OPEX by automating many labour-intensive workflows  Intelligently manage massive volumes of drive test data, maps and performance counters  Conduct indoor and outdoor network performance analysis  Optimise handover performances  Carry out Multiple data sessions on each test terminal  Carry out ADB Script for Smart Phone Performance Measurement  POLQA ou PESQ | * Technology independent: GSM, GPRS, EDGE, WCDMA, Mobile WiMAX, LTE… * Intuitive - very simple to use with minimal / no training involved * Highly customisable, stable and robust (eg. New features/functions) are encouraged and custom delivered * User modifications * Easy and low cost maintenance   (+Specific)   * Allowing installation in motor vehicles, trains, ships… * Provide Auto Recovery feature when Error occurs   + Automatically performs Recovery for errors during measurement   + Provides Full Rest using keep alive features * Automatically executes upon Power   + Automatically executes XCAL-Ranger system upon startup   + APK is automatically executed after internal system is started * Provides status report feature   + Reports current device status for Remote Monitoring feature * **Supports Automated call feature**   + Supports various types of measurement including Voice, VoLTE, FTP, HTTP, Youtube and etc. * **Provides Schedule feature for measurement**   + Provides various Schedule feature to perform Automated measurement according to the configured Schedule   + Schedule Setting Type: Set Date, Set Time, Always * **Provides generating and uploading individual log file for failed calls**   + Log file can be generated and uploaded to the server based on call failure   + It helps engineers to analyze the problem quickly * **Provides Auto Log File Upload feature**   + Log files can be uploaded automatically based on Log File Auto Upload option setting provided by XCAL-Auto server * Provides Auto Log File Delete feature after upload   + Log files in XCAL-Ranger can be deleted automatically after time configured by log file Auto delete feature * Provides Auto Update feature   + New Application installed in smart phone for XCAL-Ranger can be upgraded automatically with the help of XCAL-Auto server | The probe is the remote test element of the XCAL-Auto platform that is remotely controlled and all recorded data is then feed back to the sever for automated processing |
| Nemo Handy (Annite) | Uplink Voice Quality  PESQ E POLQA | * Your regular smartphone/tablet and measurement tool in one device * Supports measurements on GSM, CDMA, EVDO, WCDMA, HSDPA, HSUPA, HSPA+ and LTE * Scripted and manual application testing (voice call, HTML browsing, FTP and HTTP data transfers, SMS messaging, and ping) * Live outdoor maps with BTS file support * Indoor measurements with route plans * Playback support | **NOKIA ONLY** |
| **TEMS Investigation** **Drive Tester** Solution (Ascom) http://www.tems.com/products-for-radio-and-core-networks/radio-network-engineering/portable-testing-for-wireless-networks  http://www.tems.com/tems-investigation-trial | Agente controlador (PC / Tablet)  ^  Really easy to Use and control/Activate the devices we want  Pesq e polqa | Controller Agent – In the palm of your hand  * Maximize test coverage by controlling up to 14 devices simultaneously * Completely wireless – no additional cables, hubs or hardware required * Execute scripts, monitor progress and position measurements for all agents at once with a single controller   (+Specific)  **Dial, Hang Up, Voice Quality, FTP Download**  **Actiate, Wait, HTTP GET/POST, Network Connect/Disconnect**  **Ping, Idle** |  |
| Arcatech Audemat  [cheetahtech](http://www.cheetahtech.com/)´  … …. Tem algumas que não são smartphones probes | Mobile ? | QoS, QoV-PESQ | but not what we looking for  tb não vi referencias á mobile/smarphone probe |
| Borasys (korean) | Polqa e pesq |  | Pareceu-me só ter soft phones deles, não para dispositivos androids no geral |
| Carrieriq agora at&T (companhia americana) | Nada de mobile probing network  (estão a mover o sistema para cloud(noticia de agosto-2016)) |  | Rekt by law  (software can be used to track user activity and send information to carriers without the users’ knowledge.) |
| www.amanzitel.com/customer-iq/features**Amanzitel - CustomerIQ**[dinglicom](http://www.dinglicom.com/en/products.php) | Deployment -> [www.amanzitel.com/](http://www.amanzitel.com/)  Customer-iq/deployment | Android e IoS :DEliminates guess work The Customer IQ solution enables customers’ devices to directly provide feedback about customer experience on network quality and performance. It eliminates guesswork by automatically providing accurate, real-time data directly from customers' mobiles that are correlated with network recordings and probe recordings. E2E Customer experience The Customer IQ solution uses network performance, network recordings, and mobile device performance and correlates that with subscriber information to show the actual end-customer experience and quality of service Active and passive Flexible, chats and graphs Layer 3 recording Full layer 3 information is captured   * This enables troubleshooting of network faults based on actual customer usage and experiences.  All technologies100% Visibility Customer IQ can monitor customer experience in both WiFi and mobile network for phone and tablet users. |  |
| **XGMA SP**(Focus infocom) | Supported Technologies  GSM, GPRS, EDGE, UMTS, HSDPA, HSUPA, HSPA+,  LTE™, LTE-A Carrier Aggregation, HetNet  Measurement Data  IP trace data, detailed session events, GPS data,  voice & video quality data, (Qualcomm®) chipset  data | * Voz e dados * Self testing self configuration * Youtube-multi-rab(data) e qualidade de voz também * Testa outras apps(Skype, fb), como???   QoS/Service Tests  KPI according to ETSI and beyond  Voice:  MOC, MTC  Multi-RAB  PESQ® (ITU-T P 862.1)  POLQA® (ITU-T P 863)  Voice over IP (Skype™ etc.)/OTT: task specific  Further Services (e.g. voicemail, video telephony)  on request  VoLTE ready (free upgrade option available)  QoS/Service Tests cont‘d  Data:  Web browsing (various browsers)  HTTPS web browsing  HTTP up- and download  Web 2.0\*  FTP up  - and download  PING  UDP\*  Messaging  Email (POP3, SM  TP, IMAP)\*  SMS\*  MMS\*  Streaming  Video streaming (YouTube™  ®  etc.)  Video streaming MOS  Mobile TV\*  Web Radio\*  Apps  Messaging apps, e.g. WhatsApp™, Joyn™  Music streaming, e.g. Spotify™ etc.  Video streaming, e.g. YouTube™, Vine™  Social Media, e.g. Facebook™, Twitter™  VoIP apps, e.g. Skype™  Ne  s apps, e.g. Spiegel Online™, Guardian™, La  Repubblica™, CHIP Online™ et | Só android |
| Iqsim | Chat c/ operator |  | No smartphone just mobile passive probing |
| Keynote SIGOS | App no googleplay internet speed  map coverage  Testa:  HD VoiceQuality for 3G voice calls, SMS, CSFB, VoLTE, HTTP/FTP, YouTube Streaming Video Quality, Skype Voice Quality, Speedtest.net, Joyn etc. | * Ad-hoc measurements at any location * Quick rollout and easy data collection on temporary events (sports stadium, race circuit etc.) * Easy deployment and KPI collection in points of interest (shops, offices etc.) * Available for your private SITE system as well as on GlobalRoamer * Available for iOS and Android |  |
| **The TrueSite Solution** **(VIAVI)**  [http://www.viavisolutions.com /sites/](http://www.viavisolutions.com/sites/)default/files/  technical-library-items /truesite-solution-sg-nsd-tm-ae.pdf | Key Features  Tablet app controls up to six devices and  one receiver  Automatically identifies missing/faulty  antennas and macro-ingress issues during  collection  Fully iBwave and RANPlan design  compatible and floor plans can be added  as picture files (jpg/gif/bmp)  Supports LTE, WCDMA, GSM, CDMA/EV-DO,  RRC/NAS, LibPCAP, and VoLTE  Qualcomm DLF format logging  StrataSync asset management including  flexible license management and new  floating licenses transferable between  different phones  y  Customer installable\* | Key Benefits  Helps quickly deploy and troubleshoot  DAS and small cells  Tests faster with real-time problem  resolution  Enables unobtrusive, discreet testing  Verifies hot spots quickly with active/  passive WiFi testing  Quickly validates services without writing  scripts  Ultra-portable with an intuitive user  Interface  TESTA:  AUTOSEND — uploads log files via FTP or HTTPS  Circuit switch fall back (CSFB) — key for evaluating LTE and 3G service  delivery  E-mail — tests if an e-mail can be sent to itself within a certain time  EV-DOCH — checks the current EV-DO channel and compares it with  the requested channel  Force band  Force RAT/PCI  FTP — uploads and downloads files from any FTP site such as YouTube.  Within the FTP test settings, you can configure the test to maintain the  FTP session, eliminating the need to reconnect to the FTP server each  time. The test shows the average and total throughput for session, and  it can be configured to show throughput at user-defined periods during  the session.  HTTP — configurable to connect to any URL  iPERF — measures maximum TCP and UDP bandwidth  MMS — tests if an MMS can be sent to itself within a certain time  MT voice — tests for incoming calls  PDPACT — performs a PDP activation  PING — test simple network connectivity, round-trip time, and PING  connectivity  POLQA voice quality test (refer to the configuration guide or contact  Viavi for a list of supported devices)  RFTOGGLE — enables airline mode for the configured period  SMS — tests if an SMS can be sent to itself within a certain time  TECHCHK — checks if the device is registered to a specific technology  such as LTE or WCDMA  Trace RT/Trace RT change — in normal mode, this test runs a trace route  on a data connection and diagnostically determines the route taken to  a destination by sending Internet control message protocol (ICMP) echo  packets with varying time-to-live (TTL) values to the destination. When  configured in change mode, it will alert to any changes in the IP route  from the normal test.  Video — displays video on any available network including WiFi  Voice — includes a universal voice test that includes a circuit switch and  VoLTE modes  Sequencer loop — within a test’s additional settings, you can configure  a sequence to loop indefinitely with results stored in a single log | ANDROID 4.1+ > |
| **Sigma-ML (Meritech)** | Sigma-ML is an application running on smartphones to measure and troubleshoot mobile wireless network. It automatically downloads data via FTP and HTTP and sends Ping commands while measuring Throughput, RSSI and other network parameters.   FTP DL/UL, HTTP DL, Voice Call Origination/Termination, SMS Test, ping. | * Sigma-ML calculates the throughput for every second and displays maximum, minimum, and average value on a table and a chart. The measured RSSI and throughput value can be exported to CSV file with the time stamp and the longitude/latitude. * It has functions such as to specify the start time of a measurement for scheduled test, to create test scenario by combining different kind of test cases. * With options installed, Sigma-ML collects L1, L2, and L3 log data from the phone, analyzes & displays it in real-time and saves it to the SD card simultaneously. Real time decoding of Layer 3 protocol data allows user to make quick analysis. | **Only Android** |
| FalconProbe (FalconSmart) | FalconProbe supports CSSR, CST, CCR, Data Throughput testing | Features:Consumer Centric QoS Measurements  * Activity Generation & KPI reporting * Conversational (voice, video conferencing..) * Interactive (web, WAP, telnet, Game..), * Streaming (Audio and Video..), * Background (email, messaging, FTP..) * KPIs/KQIs capturing as per ETSI and ITU for network, services, applications, devices    Operation & Maintenance  * 24×7 monitoring, operation and reporting of KPIs/KQIs * Remote management * Download/Upgrade option via OTA, pre-installed or app store * Charging options supports DC/AC with standalone battery life upto 6 hrs * Option to clamp anywhere and environmental resistant * Configurable size of box * Alarm Management via remotely configured Triggers    Technology  * GSM/EDGE/UMTS/HSPA/CDMA/Wifi/ WiMAX/LTE | **Only android 2.2+ >** |
| [**rohde-schwarz**](http://www.rohde-schwarz.pt/pt/produtos/test_and_measurement/Drive_Test_Tools/ROMES2GO.html) | **Tec:**  **GSM, GPRS, EDGE, WCDMA, HSDPA, HSUPA, LTE** | * Autonomous 3GPP walk test solution for indoor and outdoor applications * Easy operation * Voice and data testing: FTP, HTTP transfer, HTTP browsing and ping |  |
| Netmizer | * L1, L2, L3 status and events | |  | | --- | | **Data Call** | | * FTP download/upload, HTTP download, * Ping test, E-mail send/receive, SMS * Simultaneous FTP throughput test for * multiple mobile phones in a single * platform | | Ten(10) Mobiles |
| **QualyProc android Swissqual ([rohde-schwarz](http://www.rohde-schwarz.pt/pt/produtos/test_and_measurement/Drive_Test_Tools/ROMES2GO.html" \t "_blank))** | Tem uma caixinha para o smartphone  controlado remotamente  Pode ser colocado em sítios críticos em em carros como táxis  Realtime 24/7 problem identification | * It includes call tests, voice quality (including POLQA, PESQ, and SQuad08), VoLTE as well as data tests, app service (Facebook, Dropbox), video streaming, and video quality. * QualiPoc Android Probes send test results directly and continuously to the back end application SmartMonitor. * Podem ser conectadas multiplas probes(smartphones) * more than 200 KPIs in real-time.   SwissQual’s QualiPoc platform supports extensive functionalities for voice, data, video, and messaging to measure QoS and QoE:   * GSM, GPRS, EDGE, WCDMA, HSDPA, HSUPA, HSDPA DC, LTE-FDD & TD-LTE, CDMA2000®, EVDO Rev.0/A. * full recording and decoding of protocol layers on the supported technologies: 3GPP, L2, L3, TCP/IP, IMS, SIP. * direct decoding of L3 text messages and TCP/IP, RTP packets on smartphones. |  |
| SQlive (Telchemy) | **4G LTE Mobile Video & Voice****Video Streaming & IPTV****IP Videoconferencing** | * Supports widest range of codecs, including latest HD voice and Ultra HD video codecs * Video, Audio and Audiovisual QoE scores (MOS) for video calls and streamed video content * Listening and Conversational Quality MOS for VoIP calls * Detailed performance metrics - packet loss, jitter, delay, throughput, and more * Levels of detail, motion, panning; detects abnormal content (freezing, blank frames) * Playout buffer statistics for streaming video   Voice and Video MOS, performance metrics and diagnostics for every mobile video session and VoIP call. |  |
| Gemalto | **Android e IoS** **Benefits for mobile network operators:**   * ​Highly cost effective, flexible and scalable probes with easy and economical upgrade and expansion capabilities * Supports a wide range of use cases - high volume deployments for countrywide 24/7 service monitoring, drive-testing, etc * Leverages the QoE backend infrastructure with no need for additional hardware or software components | QoE:   * Detect failed or dropped calls * Data plans limit data usage * Help to save battery and disk space notifications * Network data collection   QoS:   * Multi technology - GPRS/EDGE/UMTS R99/HSPA/HSPA+/LTE * Featuring full radio network trace collection: Layer 1, Layer 2 and Layer 3 * Supporting Ping, HS Ping, FTP DL, FTP UL, Web Browsing (with real browser launch and measuring download time), HTTP Put, HTTP Get, HTTP Put Parallel Streams, HTTP Get Parallel Streams, Full Working Order, MOC Calls, MTC Calls , Videostreaming tasks available * Full Layer 3 decoding and logging and IP trace pcap file creation, compatible with Wireshark * Tests creation and assignment over the air and automatic upload of testing results * SW Watchdog able to restart the USB modems-based probes |  |
| Gl communications | measure quality metrics such as MOS, echo, noise, and delay and can be networked (with WebViewer™) for centralized control and monitoring. | [Voice Quality Testing (VQT)](http://www.gl.com/voice-quality-testing.html) for audio quality analysis is performed according to widely accepted ITU voice comparison algorithms (POLQA, PESQ LQ/LQO/WB).  The [Drive Testing](http://www.gl.com/VQTdrivetesting.html)solution plots all results and call control information along with co-ordinates using GPS receiver option in VQuad™, and Google Maps option within WebViewer™.  Tests include TCP, UDP, HTTP, VoIP, FTP, DNS, SMS, and Email, basically a full array of tests to definitively confirm the performance of the network (and the Smartphone device).  **Advantages**   * Bullet proof, 24 x 7 operation, Auto reboot and recovery, Watchdog capability, No worries * Unattended, Remote management, Full automation * Deploy into small or large networks, Control and Access via the Central System * Voice Quality (POLQA and PESQ), Data Quality, Video Quality * 2-wire analog FXO, 4-wire analog (Tx/Rx), Bluetooth for mobile phone connections, VoIP SIP User Agent * Simple Configuration using VQuad™ Scripts; set it and forget it for unattended operation |  |
| PocketEthernet | **Android e IoS** Tem app associada |  | **Custa 199€ e é dispositivo exclusido, c/ sm** |
| Spirent Epitiro | [**https://www.spirent.com/-/media/Brochures/Spirent\_Epitiro.pdf**](https://www.spirent.com/-/media/Brochures/Spirent_Epitiro.pdf) |  | **Foca em wifi** |

Quadro Resumo

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Nome do Produto | Android | IoS | VoLTE | POLQA | Device Stats | L2 info | Wifi Metrics | Video/Apps |
| PRTG | x |  |  |  | x |  | x |  |
| Xperience  (Streambow) | x |  |  |  | x |  | x |  |
| Xcal-Ranger  (accuver) |  |  | x | x |  | x |  | x |
| Nemo Handy  (annite) |  |  |  | x |  |  |  |  |
| TEMS (Ascom): |  |  |  | x |  |  |  |  |
| Amanzitel – Customer IQ | x | x |  | x |  |  |  |  |
| XGMA SP  (FocusInfocom) | x |  | x | x |  |  |  | x |
| Keynote (SIGOS) | x | x |  | x |  |  |  | x |
| The TrueSite Solution (VIAVI) | x |  | x |  |  |  |  |  |
| Sigma -ML  (Meritech) | x |  |  | x | x | x |  |  |
| FalconProbe | x |  |  |  |  |  |  | x |
| QualityProc android Swissqual | x |  | x | x | x | x | x | x |
| SQlive (Telchemy) |  |  |  |  |  |  |  | x |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Nome do Produto | Error recuperation | Programação de testes | Testes base |  |
| PRTG | x |  | x |  |
| Xperience | x |  | x |  |
| Xcal-Ranger |  | x | x |  |
| Nemo Handy |  |  | x |  |
| TEMS (Ascom): |  |  | x |  |
| Amanzitel – Customer IQ |  |  |  |  |
| XGMA SP |  |  | x |  |
| Keynote |  |  | x |  |
| The TrueSite Solution | x | x | x |  |
| Sigma -ML | x | x | x |  |
| FalconProbe | x |  | x |  |
| QualityProc android Swissqual | x |  | x |  |
| SQlive (Telchemy) |  |  | x |  |

Testes base = HTTP, FTP, SMS, PING

Nota: Por não ter X, não quer dizer que não tenha determinada especificação, pode essa informação não estar disponível na informação do produto