

TEMS™ Pocket

Personal air interface test tool for WCDMA and GSM



Four packages for unequalled flexibility

TEMS Pocket is a convenient and powerful product for verification, monitoring, and troubleshooting of mobile networks and also for basic cell-planning tasks. All these capabilities are integrated into commercial handsets which can be used both as everyday phones and as testing devices.

The product is available in four packages, each with its own set of functions. TEMS Pocket Classic, TEMS Pocket Professional, TEMS Pocket Remote, and TEMS Pocket Premium make it easy to select the right tool for each user.

TEMS Pocket collects measurements and event data for immediate monitoring or processing at a later time by other tools. Its combination of small size and powerful testing features makes TEMS Pocket a uniquely convenient tool.

Because TEMS Pocket is designed as an integral part of the phone, it can be used continually, not only by engineers and technicians, but by people throughout the operator's organization. With many users employing it as their primary phone, TEMS Pocket constantly and reliably captures large amounts of data from all areas of the mobile network.

The tool is installed in a range of highly regarded phone models from Sony Ericsson and Nokia, devices that are popular with operators around the world.



The smallest, most powerful test tool available

An integrated TEMS solution

TEMS Pocket works with TEMS Investigation and TEMS Automatic to provide the most complete solution for network optimization. TEMS Pocket generates data with the same level of detail as TEMS Automatic MTU and TEMS Investigation logfiles, including both L1 measurements and L3 signaling, and TEMS Pocket data can be analyzed in these products. This allows for great flexibility in network monitoring and promotes multiple uses of the same data.

Engineers can now collect valuable information with normal handsets, any time, and at any site. All this translates into more efficient overall use of the operator's network monitoring equipment.

Available handsets

- Sony Ericsson Z750i
- Nokia N95 EU/US
- Nokia N96 EU/US
- Nokia 6121
- Sony Ericsson W760
- Sony Ericsson C702



TEMS Pocket Packages

» **TEMS Pocket Classic** is the most basic package. It performs real-time monitoring of the mobile network with results displayed directly via graphical symbols. This is the ideal test tool for the engineer who works in the field and has no need to record information for later processing.

The tool's mobile standby display clearly presents essential network data as well as channel information and performance measurements during WAP browsing. It generates network event notifications of abnormal situations, which are indicated by audio so that no event is missed when the phone is in the user's pocket or purse.

TEMS Pocket Classic provides control functions including locking on RAT; locking on cell, channel, and band; modifying cell barred behavior; controlling voice codec; and controlling technology capabilities where supported by the device.

» **TEMS Pocket Professional** is designed for the professional RF engineer who wants to carry the best available tool. It has all the features of TEMS Pocket Classic with additional functions that make it an extremely cost-effective and convenient measurement tool.

TEMS Pocket Professional can also record network data together with GPS information, and can perform scripted voice and data testing. This version of TEMS Pocket also allows manual setup of service testing to troubleshoot important services such as WAP/HTTP, e-mail, MMS, and SMS. The captured information can be transmitted over the air for efficient integration with TEMS post-processing tools as well as with a number of well-known third-party products. TEMS Pocket Professional makes it possible to capture data in areas that are difficult to cover with traditional drive test tools.



Four distinct packages to fulfill every operator's needs

» **TEMS Pocket Remote** acts as a remotely controlled test probe that captures data without affecting the use of the device as a conventional phone. The user is completely undisturbed by the testing functions. This version of TEMS Pocket, fully integrated into the TEMS Automatic solution, is remotely controlled from well-known user interfaces. Control is achieved via work orders sent directly to the device as it unobtrusively collects network data wherever the user goes.

The data is collected at scheduled times and presented in TEMS Automatic. Because the monitoring and data collection functions are completely unattended, anyone who carries TEMS Pocket Remote while moving through the service area contributes to improved network quality.

» **TEMS Pocket Premium** is the advanced configuration that gives TEMS Pocket the most versatility. TEMS Pocket Premium can perform measurements both as an unattended remote probe for TEMS Automatic or as a real-time device with the same capabilities as TEMS Pocket Professional. TEMS Pocket Premium users can switch between the two modes easily for a flexible, powerful measurement solution.

Benefits of TEMS Pocket

- Convenient size with simple setup and configuration
- Logging of network events with direct indication and counters to summarize information
- Strong support for mobile behavior control making it a powerful test tool for RF engineers
- Support for a range of phone devices from several vendors
- Capture of network information wherever the user goes
- Capturing of valuable data by typical users
- Integration with TEMS Automatic and TEMS Investigation to create a complete network monitoring solution with cost-effective network data collection
- Four distinct packages to fulfill every operator's needs

Sony Ericsson C702

(Available for the Classic, Professional, Remote, and Premium packages)

WCDMA/HSDPA 2100 MHz, Quad-band GSM/GPRS/EDGE 850/900/1800/1900 MHz

Perfect for tough working environments, this splash- and dust-proof device is perfect as a working tool, complete with all the expressive data views that have been available in earlier releases of TEMS Pocket.

All data views are carefully designed with help from experienced RF engineers to make it a tool for the professional user directly out of the box without the need for tedious configuration. Supported data views include both WCDMA/GSM Cells, HSDPA/GPRS Data, GSM C/I Info and GSM AMR. These show detailed cell information, GPRS/EDGE coding schemes used, as well as LLC/RLC performance, C/I measurements, and AMR codec utilization, respectively. With its integrated GPS, the Sony Ericsson C702 is a very good companion for daily work.

The introduction of TEMS Pocket Remote for C702 and W760 also makes it possible to perform automated testing of HTTP in addition to Voice, FTP, Idle, and E-911 testing.

Sony Ericsson W760

(Available for the Classic, Professional, Remote, and Premium packages)

WCDMA/HSDPA 850/1900/2100 MHz, Quad-band GSM/GPRS/EDGE 850/900/1800/1900 MHz

This model has the same features as the C702 but it can also handle more bands for WCDMA. Sony Ericsson W760 is a true Walkman device that can handle personal entertainment and also be ready to act on anomalies in the network exactly as TEMS Pocket is meant to. The W760 also contains an integrated GPS that provides position information that so that all measurements can be mapped! TEMS Pocket on the Sony Ericsson W760 will be available in a version that has menus in simplified Chinese characters.

Sony Ericsson Z750i

(Available for the Professional and Remote packages)

WCDMA/HSDPA 850/1900/2100 MHz, Quad-band GSM/GPRS/EDGE 850/900/1800/1900 MHz

TEMS Pocket adds external Bluetooth support to the integrated GPS of this new-generation device, enhancing its ability to obtain location information. The Sony Ericsson Z750i also supports both WCDMA/HSDPA and EDGE/GPRS, resulting in a very impressive test tool for many technologies and bands.

The new HSDPA data view presents material about CQI, block size, number of codes used, BLER, and transport channel bit rate – critical information concerning the data bearer. TEMS Pocket Remote for the Sony Ericsson Z750i integrates fully into TEMS Automatic. The automated voice, FTP, idle, and E-911 testing it performs is remotely controlled by work orders sent directly to the device. The user is not affected in any way.

Nokia N96 EU/US

(Available for the Professional package)

WCDMA/HSDPA 900/2100 MHz, Quad-band GSM/GPRS/EDGE 850/900/1800/1900 MHz (EU) / WCDMA/HSDPA 850/1900 MHz, Quad-band GSM/GPRS/EDGE 850/900/1800/1900 MHz (US)

TEMS Pocket Professional for the Nokia N95 is the first test probe that can utilize AMR-WB in WCDMA networks to obtain superior audio for the user. It also has improvements in the data upload functions, making it easier than ever to use with TEMS post-processing tools.

This version integrates all the existing features from earlier Nokia devices for all bands and technologies while also supporting multi-media functionality. It also includes graph monitors and a flexible command sequence. All together, these features make this the natural replacement terminal for previous Nokia-based releases. Its impressive performance and clear, easy-to-use applications fulfill many needs for testing with only a phone device.

Nokia N95 (EU/US)

(Available for the Professional package)

WCDMA/HSDPA 2100 MHz, Quad-band GSM/GPRS/EDGE 850/900/1800/1900 MHz (EU) / WCDMA/HSDPA 850/1900 MHz, Quad-band GSM/GPRS/EDGE 850/900/1800/1900 MHz (US)

TEMS Pocket Professional for the Nokia N95 continues the extremely successful series of handheld test tools for the professional RF engineer. This version further extends the set of data views with a combined WCDMA channel/HSDPA view. In addition, the tool now has the ability to automate script-controlled testing of voice, FTP, and idle.

TEMS Pocket for the Nokia N95 offers user-configurable graph monitors that present parameters with a historical view. As a result, TEMS Pocket expresses trend information in a way that never has been possible before.

Nokia 6121

(Available for the Professional package)

WCDMA/HSDPA 900/2100 MHz, Quad-band GSM/GPRS/EDGE 850/900/1800/1900 MHz

TEMS Pocket Professional for the Nokia 6121 extends the number of supported bands for WCDMA and further extends the number of supported devices. This device is very valuable for operators who are expanding their networks with new frequencies. The Nokia 6121 is a strong test device with support for data views, logfile handling, and test scripts for automated testing of voice, FTP, and idle mode. It includes a graph monitor that can be configured by the user for unparalleled monitoring of network quality.

TEMS Pocket is a line of handheld test devices that take testing of mobile networks to a new level when it comes to portability, performance, and usability. It has never been easier to capture and share information about network status – and anyone can be part of the new network-testing community.