NEMO

NEMO OUTDOOR

Air Interface Measurement Tool

Nemo Outdoor is an extremely versatile and portable engineering tool for measuring and monitoring the air interface of wireless networks. Nemo Outdoor collects measurement results and geographical coordinates (if equipped with a GPS receiver). Measurement results provide useful information for network planning, roll-out, tuning, verification, optimization, and maintenance purposes. With Nemo Outdoor network operators can perform benchmarking measurements on multiple networks and even on multiple technologies at the same time. Despite its name, Nemo Outdoor is ideal for indoor measurements as well. Our close cooperation with several mobile and scanner manufacturers ensures our customers a wide selection of the latest test equipment.

Please note that all features described below do not apply to all terminals. Refer to the specific terminal data sheets for more detailed information.

Features

Supported Technologies
- GSM, TDMA, cdmaOne
- TETRA
- HSCSD, GPRS, EDGE, PoC
- WCDMA, CDMA2000 1xRTT, CDMA2000 1xEV-DO
- HSDPA 16QAM
- UMA
- DVB-H

Supported Terminals
- GSM:
  - SAGEM OT260/OT268
  - DTI SeeGull LX scanner
- TDMA:
  - Nokia 6160, 6360, 6560
  - DTI SeeGull LX scanner
- TETRA:
  - Nokia THR850
  - EADS THR880, THR880i, TMR880
- GSM/GPRS:
  - SAGEM OT290/OT298
  - Motorola V600, V635
  - Nokia 6125
- GSM/GPRS/EDGE:
  - Nokia 6125, 6200, 6220, 6230
  - SAGEM OT490
- GSM/GPRS/EDGE/PoC:
  - Nokia 5140, 6230i

- GSM/GPRS/WCDMA:
  - Nokia 6650, 6651, 7600
  - Motorola A835, A845, E1000, E1070, V980
  - Qualcomm TM6250
  - Samsung Z105, Z107, Z140, Z500, ZV10, P920
  - Vodafone 3G datacard
  - Merlin U530 datacard
  - DTI SeeGull LX scanner
  - Anritsu ML8720B, ML8720C, ML8740A, ML8740A scanners
- GSM/GPRS/EDGE/WCDMA:
  - Nokia 6280, 6630, 6680, 7376, N80, N92
  - Motorola V3X
- CDMA2000 1x:
  - Nokia 2280, 3105, 3585, 3586(i), 3587(i), 6255
  - LG VX8300, LG C680
  - Motorola V3C
  - Zapp Telemodem Z020
- CDMA2000 1xEV-DO:
  - LG VX8000, VX8100
  - UTStarcom/Audiovox PC5740 datacard
  - Kyocera KPC650 datacard
- HSDPA:
  - Qualcomm TM6275,TM6280
  - Merlin U740, U870 datacard
  - Sierra Wireless AirCard 850/860 datacard
  - Option GlobeTrotter 3G+ datacard, GT MAX 7.2

  datacard, GT MAX E datacard
  - Motorola V3XX
  - Samsung Z560, ZX20
- UMA:
  - Nokia 6136
- DVB-H
  - Samsung P920
  - Nokia N92
  - LG U900, KU950

Measurement Modes
- Manual measurements (commands easily accessible from toolbar and from menus)
- Automated measurements (user-configurable scripts and measurement lists)
- Video call quality measurements

Measurement Options
- Voice measurements
- CS data measurements
- PS data measurements
- Multi measurements (multiple devices, technologies, and data connections)
- Indoor measurements
- Scanner measurements
- Voice quality
- Streaming video quality
- MMS measurements
- SMS measurements

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-Video call measurements
-FTP testing for file transfers
-HTTP testing for web browsing
-SMTP/POP3 for email testing
-WAP testing
-RTSP streaming
-PoC measurements
-IP packet capturing
-Missing neighbor measurements for GSM and WCDMA (mobile+scanner)

User Interface

-Flexible and customizable user interface
-Grahs, grids etc. can be saved to workspace
-All measurement device related settings can be saved to device configuration file
-Custom views can be saved

Graphs
-Graph types: line, bar and scatter
  -Line graph types: continuous, discrete or dotted
-Averaging: off, sample based or

time based
-Multiple layers from same or different device
-Stacked and single mode
-User-definable x and y axes and line width
-Data in graphical format
-User-configurable
-Multiple layers for multiple parameters
-Notification icons
-Line thickness defined for each layer

Grids
-Data in numerical format
-User-configurable
-Statistics, layer messages (also decoded), events, individual parameters
-Filtering and coloring for easier viewing
-Data can be exported to a text file
-Color sets can be used in grids or table windows

Maps
-MapX support for MapInfo® compatible maps
-Measurement route(s) displayed on a map (requires a GPS)
-Base station icons
-Event notification icons
-Parameter-based route coloring
-Support for multiple routes
-Floorplans can be used as maps in indoor measurements
-Line drawing to serving cell and neighbors with base station information

Other Features

Nemo File Format
-Open ASCII file format
-Can be exported directly to various third-party analysis tools; no conversion or parsing needed
-Detailed description of the file format included in user documentation