EMLAB: EVERYTHING YOU NEED TO DESIGN, PLAN AND PERFORM YOUR ANTENNA SYSTEMS AND NETWORKS!

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EMLAB
RF SOFTWARE TOOL

ANTENNA SYSTEMS DESIGN
Design antenna systems.
Manage complex arrays.
3D irradiation solid.

COVERAGE AREA / INTERFERENCES CALCULATION
Reports on Google™ Earth/Maps.
Population analysis.
Link Profiles.

NETWORK PLANNING
Plan SFN/MFN networks with real-time optimization.
SFN interferences problem discovering.

EM HEALTH SAFETY CONTROL
Control and reduction of EM field emissions for Health Safety purposes.

WHO IS USING EMLAB:
TLC & Broadcasters Operatos
TV & Radio Stations
Supervisory & Telecommunications Authorities
Government Environmental Protection Agencies
System Integrators
Engineers consultants - Universities - Research Centers

LEARN ALL ABOUT EMLAB.
Support, training and more.

Highly interactive and intuitive graphical user interface allow our Customers to quickly become familiar with EMLAB. Simple how-to and video tutorials help you to get the most out of EMLAB.

It is possible discover EMLAB software features by new interactive services that Aldena proposes (e-learning, webinar, remote technical support) or by participating in one of the EMLAB-Days held at the new Aldena headquarters.

COMPETENCE AND PROFESSIONALISM IN SERVICES

ALDENA staff is always available all over in the world ! A Customer-oriented approach is part of our mission.

We are able to offer consultancy and training services in RF wireless area, radio television broadcasting and telecommunications area.

Basic and Advanced EMLAB training.
Training & Consultancy on technical aspects.
Training & Consultancy on regulatory issues.
On-Line Services (technical support, e-learning, webinar).
Training facilities in ALDENA Headquarters.

Contact us for a web demonstration, e-learning, webinar and training sessions.
aldena@aldena.it

Try EMLAB free for 15 days. Download the trial version of EMLAB and try it for your self.
www.aldena.it

ANIE FEDERAZIONE NAZIONALE IMPRESE ELETTROTECNICHE ED ELETTRONICHE
COMITATO ELETTROTECNICO ITALIANO
ISO 9001 BUREAU VERITAS Certification
ANITEC ASSOCIAZIONE NAZIONALE INDUSTRIE INFORMATICA, TELECOMUNICAZIONI ED ELETTRONICA DI CONSUMO
CONFINDUSTRIA

Powered by Aldena The Reliable Antennas

EMLAB
PLANNING UNLEASHED

ALDENA redefines what a RF calculation software can do: powerful, versatile and revolutionary, EMLAB is a ALL-IN-ONE solution, a work platform for Broadcasters and Telecommunication Operators, but also a reference tool for public and private organizations.

EMLAB has been defined as *"the calculation software tool you were waiting for"* not because it is necessarily the best tool, given the plethora of alternative solutions currently on the market, but because it is developed by a Company which not only manufactures antennas but also uses its own software products, and is therefore guaranteed to meet the full range of needs of professionals in the sector to best effect.

Based on a SQL Data Base platform and thanks to a REAL-TIME data evaluation, EMLAB allows the professional design of even most complex antenna systems composed by different antenna arrays, to evaluate either the final irradiation solid, the environmental impact for health purposes, and radioelectric coverage on orogrographic basis of a complete network.

EMLAB is proposed in modular versions to meet every Customer needs:

EMLAB BASE	EMLAB EVOLUTION	EMLAB COVERAGE	EMLAB MULTICOVERAGE
Entry level Antenna system design	Professional design Avanced system optimization 3D irradiation solid views	3D Area coverage calculation Area served with population analisys Link Budget	MFN / SFN network planning Interference calculations and analysis SFN optimization
			NEW

ENVIRONMENT *Option*
Environmental impact calculation for a group of Antenna Systems
Health Safety and Field Strenght Exposure management
3D urban reconstruction
NEW

EMLAB ENVIRONMENT is available - as option - in any of current main EMLAB versions.

SFN DIGITAL READY

DVB-T2, ISDB-T, DAB, DRM ...and more

Powered by Aldena

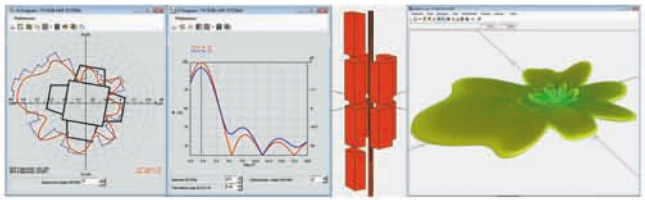
Windows 7
Windows 8
64-bit

EMLAB BASE
Easy Management.

EMLAB works on 3 main information levels: Elementary Base Antennas, Antenna Systems and Network (group of Antenna Systems).
The elementary antennas can be chosen from a wide data base supplied together with EMLAB and periodically update by Aldena free of charge, or it can be updated by the User.
EMLAB BASE is the entry level version of the EMLAB platform with which it is possible to create the RF radiation pattern generated by an indefinite number of elementary antennas arranged on a support structure in a heterogeneous manner and all fed by the same transmitter.
This array is called "Antenna System".

EMLAB EVOLUTION **ADVANCED GAIN CALCULATION**
Powerful Antenna System Design.

EMLAB EVOLUTION is the professional solution to design an Antenna System and manage complex antenna arrays. The software helps the user to obtain H and V patterns modification, calculating the phase differences needed to obtain electric tilts, fill the first null, and obtain protection nulls.
The user can make any type of mechanical (position) or electrical (phase/power) change of each antenna of the system and assess the results in real-time.
The radiation solid generated can be analysed in 3D, superimposed on custom maps or on a DTM (Digital Terrain Model).
As well as the maps chosen and georeferenced by the user, ERP reference masks and indications of the RX check points/locations can be displayed on the horizontal and vertical diagrams helping to the antenna system design.



EMLAB COVERAGE **EXPORT ON GOOGLE™ EARTH/MAPS**
Get your coverage.

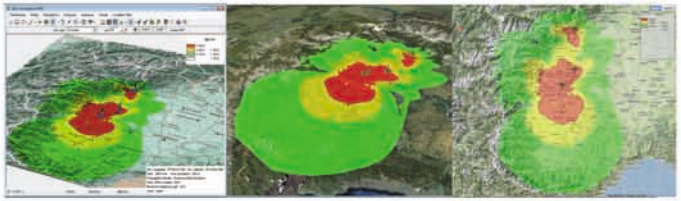
Antenna System Design and Area Coverage calculation are generally carried out by separate software, EMLAB COVERAGE merges them on the same platform and interact in real-time, enabling an accurate assessment.
EMLAB COVERAGE calculates the radioelectric coverage, thanks to a detailed DTM (Digital Terrain Model) supplied together with EMLAB.
This module includes various mathematical algorithms and propagation models (Line-of-sight, Free Space + Reflections and Multiple Diffraction [RMD], Hokumura-Hata ITU529, Hokumura-Hata Davidson, Cost 231, ITU-R 1546, ITU-R 1546 + RMD ... and more).
Different maps and check points (RX localitions) can be displayed on the 3D DTM.
With 3D terrain, it's possible to calculate the link budget/profiles of any STL and manage in easy way.

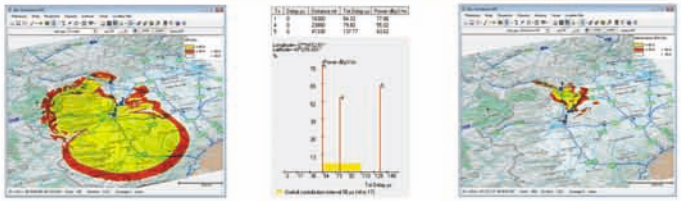
EMLAB MULTI-COVERAGE **DVB-T2, ISDB-T, DAB, ... and more**
Network Planning.

EMLAB MULTICOVERAGE is the version that must be used to manage and plan any MFN/SFN networks for analogue or digital signals.

Create a group of several Antenna Systems in a geographical area, and make coverage or interference calculations.
Plan the necessary modifications for each Antenna System and view the final results in real-time.

- Real time network planning and optimization;
- Coverage Area / Interference calculation for MFN/SFN networks;
- SFN problem discovering;
- Easy SFN Network parameters management (synchronization, modulation, code rate, guard interval, RX antennas, TX delay management, ITU-ETSI regulations, etc);
- Advanced reports (export on Google™ Earth/Maps, Covered/served population);





ENVIRONMENT Option
Health Safety - Field Strenght Exposure Management.

Solve the EM pollution problem! EMLAB ENVIRONMENT is used to identify health EM risks and to study EM re-solutions. Manage, control and evaluate the EM fields generated by several trasmitting Antenna Systems.
ENVIRONMENT uses "far field in free space" calculation algorithms according to TEM propagation theory, for a conservative evaluation. It takes into account all essential data to perform accurate forecast calculations conforming to applicable legislations or standards (ITU, ETSI, FCC, CEI).

- Calculate the power reduction needed to be comply to permitted EM levels;
- Calculate the isolevel curves for different EM field values;
- Control EM field strength exposure in various Check Points defined by user;
- Rebuild the surrounding urban area, simulating any nearby buildings in 3D and calculate the EM field distribution over buildings surfaces.