raditeq

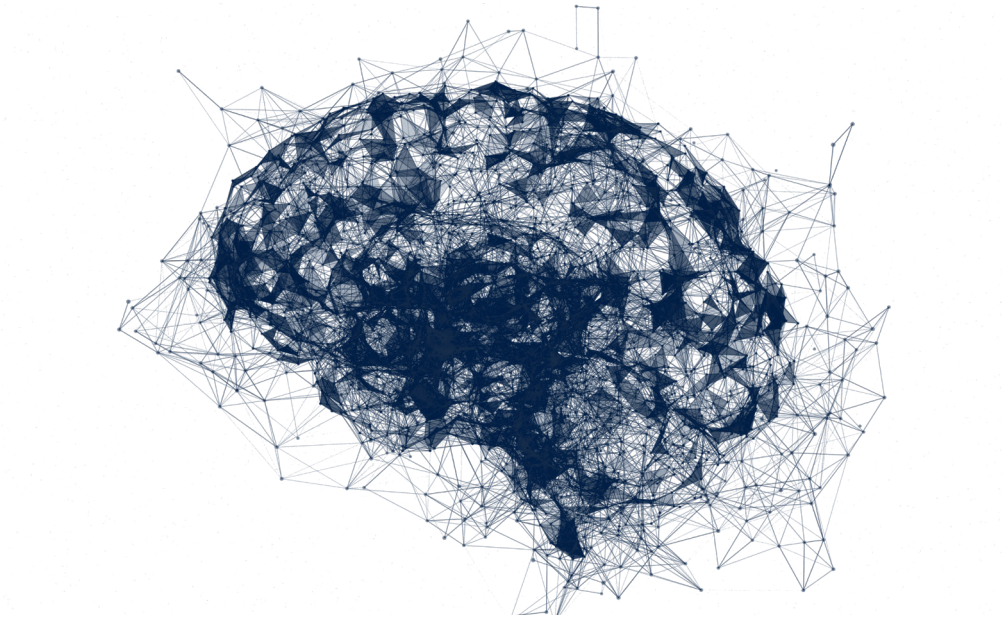
Data Sheet

Pro Series

RadiMation Pro®

Automated EMC/RF Software

Flexible | Versatile | Extensible



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Integral EMI/EMS Test & Measurement Software

The leader in EMC testing software for more than 25 years

Flexible | **Versatile** | **Extensible**

RadiMation® Pro EMC test & measurement software combines conducted- and radiated emission and immunity (including pulsed immunity) testing and generating automated test reports into one integrated package. Instead of automating one single EMC test, RadiMation® Pro allows the user to perform complete EUT (Equipment Under Test) testing. RadiMation® Pro has been developed and optimized for usage in EMC test facilities. The software is open to use any brand of EMC test & measurement equipment and supports different industrial EMC standards, like consumer electronics, automotive, military, telecom, medical and aerospace with one package. EUT information and EMC test results can be automatically merged into a custom-made test report. RadiMation® Pro makes automated full compliant EMC testing a reality, without getting complex.

Intuitive User Interface

All test modules in RadiMation® Pro have the same look and feel. An engineer that is familiar with one module is also directly up to speed with another test module. For each EMC test module all major test settings are either selectable from a pick list or can be numerically entered into the configuration screen. In this way the engineer gets a clear overview of the test parameters settings without the need of any programming skills. As RadiMation® Pro is developed in a Microsoft Windows environment it will operate under all currently supported Windows operating systems.

Modular

The modular approach of RadiMation® Pro allows flexible and cost-effective configuration of the required software functionality that is needed for a specific EMC test setup. The core of the software is included in the USB license (software protection) on which one or more of the following modules can be activated:

• Radiated Immunity	• Pulsed Immunity (ESD, EFT, Surge & Voltage dips/interrupts)	• Conducted Emission	• Reverb Chamber testing
• Conducted Immunity	• Radiated Emission	• Report Generator	

Supports all standards

RadiMation® Pro supports all common EMC test standards in one single software package and even enables the user to define customer specific tests. Currently RadiMation® Pro is used at well recognized and worldwide located companies in the following fields:

• Automotive	• Telecom	• Medical
• Consumer Electronics	• Accredited Test Labs	• Technical University
• Aerospace/Military/Aviation	• Research & Engineering	• Industrial

Open

The RadiMation® Pro software is open in three different ways. First and foremost, it can control most commercially available EMC test & measurement equipment, if the instrument has a control interface like GPIB, USB, RS-232 or LAN. Secondly, all data that is gathered with RadiMation® Pro can be exported into other Microsoft applications and information from external databases, like customer or instrumentation management data, can be imported into RadiMation® Pro. In the third place the software is user configurable to a great extent, where all functionality can be made available to everyone or by including a number of limitation levels. All these points provide the customer with freedom of choice.

RadiMation

High Speed

Performing EMC tests and measurements can be a very time-consuming activity. The RadiMation® Pro software has been optimized for speed, but without loss of quality. New EMC tests, mostly based on EMC test standards, can easily be made and configured in RadiMation® Pro and stored as Test Set-up File (TSF). Running a test can simply be arranged by opening the applicable TSF file and press 'Start test', which speeds up the day to day test work and reduce risks in making test errors.

Checking Device Drivers

Currently, RadiMation® Pro has a database of over 6000 instrument device drivers, and 160 different manufacturers. All available device drivers are standard included in the software package and new drivers will be developed free of charge for white-listed(*) brands, commercially available and supported EMC test equipment. Device drivers for not white-listed or obsolete EMC equipment and special devices drivers can be developed on customer request for additional costs. The RadiMation® Pro software does not just send commands to the EMC instruments but, unlike other EMC test software packages, checks whether the instrument processed the command in a proper way thus ensuring fault free testing. Apart from this, customer configurable device drivers are delivered for several type of instruments, to enable customers to control specific test- or EUT monitoring equipment.

Multi-band

The RadiMation® Pro software includes 'so-called' multiband test functionality, enabling the user to configure one test consisting of multiple frequency bands. For each band, the frequency and test settings as well as the sequence of testing can be configured independently. In this way it is possible to change the modulation before the frequency is changed, thus reducing the time needed for settling the power per frequency point. Apart from this all other parameters can be changed per defined frequency band, like EMI receiver settings, limit lines, antenna polarization/ height, turntable angle and used equipment as well as the changing order per frequency band. The result will be one single test graph showing all combined results of the individual frequency bands. This functionality turns RadiMation® Pro into the most powerful and flexible EMC test software package available in the market.

Automated Report Generation

As most data for a report is available in RadiMation® Pro, almost the complete test report can be automatically generated using the report generator module. The test engineer only needs to write the remarks and the conclusion. All test data, pass / fail statements, measurement graphs, used test equipment and EUT related data is transferred to standard word processors like Microsoft Word or Microsoft Excel. The appearance of reports, including company logo, can be entirely customised since it uses free format templates with keyword identifiers to represent test data.

Supports the Engineer

EMC test engineers are very often highly educated and experienced people. From a motivational point of view, as well as for cost reasons, it is important to free the engineer as much as possible from annoying tasks like: EUT monitoring, writing test reports, keeping track of measurement data and waiting time. RadiMation® Pro provides functionality covering all these aspects and thus reliefs the test engineer from these tasks.

Specifications are subject to change without notice

Quality

RadiMation® Pro is a commercially 'off-the-shelf' software package but has been designed to comply with ISO/IEC 17025 quality requirements. For quality control and error checking afterwards, it is mandatory that not only processed results, but also all 'raw' data is stored. In the event of a strange phenomenon, RadiMation® Pro allows recalculation based on the 'raw' data. Before a test is started several checks are performed to ascertain the full operationally of the test set-up.

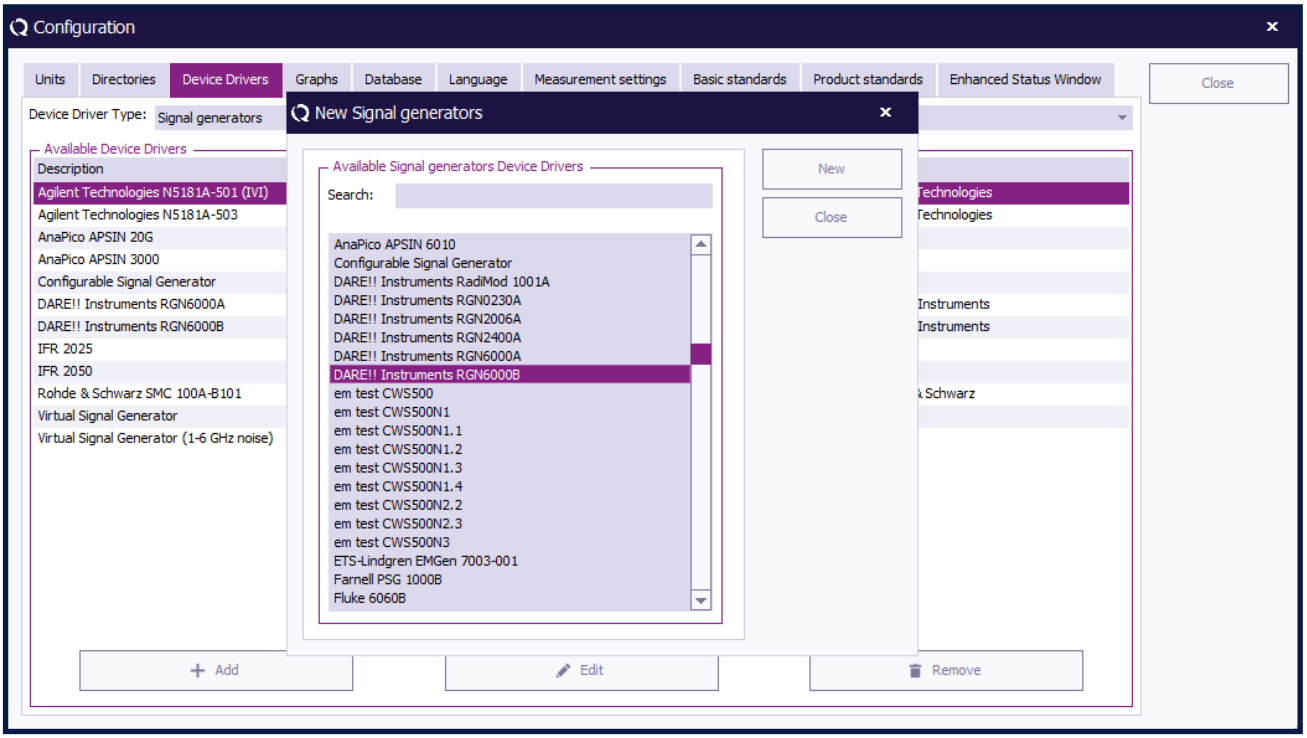
Backwards compatible

RadiMation® Pro software has been around for 30 years and will continuously be improved and extended with new and/or improved functionality. New versions are extensively tested before final release, where special care is taken to guarantee that test files and EUT data from earlier versions of RadiMation® Pro can be re-opened and processed. This backwards compatibility feature ensures the protection and possibility to view and/or use of your valuable historic test data.

Reverb Chamber Testing

RadiMation also features support for immunity testing in reverberation chambers, a capability that has been seamlessly integrated into the software. Whether utilizing tuned mode or stirred mode operations, RadiMation accommodates various testing configurations, including support for multiple stirrers from different manufacturers. Our software ensures compliance with essential industry standards such as MIL-STD-461G, IEC 61000-4-21:2011, and DO-160G. Users can calibrate and characterize their reverberation chambers, assessing parameters like Standard Deviation, Antenna Validation Factor (AVF), Insertion Loss (IL), and Lowest Usable Frequency (LUF). Additionally, separate validation tests are available to determine loading conditions with the Equipment Under Test (EUT), offering insights into Quality (Q) factor and chamber time constant for precise testing. Customized testing on the EUT, while considering calibrated data, allows for flexibility in field strength levels and (pulse) modulations.

New Device Driver List



RadiMation Pro® Functionalities

Features	RadiMation® Ess.	RadiMation® Pro
Control individual instruments	✓	✓
Create / open / modify EUT files & TSF files	✓	✓
Reverb Chamber testing	✓	✓
Print or export test data (graph/table)	✓	✓
Multi-language user interface (English, French, German, Chinese)	✓	✓
User definable limit lines	✓	✓
Customizable graph lines	✓	✓
Run EMC emission / immunity test (Civil, Automotive, MilStd, DO-160 standards)	✓	✓
GTEM emission/immunity test (EUT orientations)	1x EUT orientation	3x EUT orientations
Maximum bands for multiband emission / immunity	3 bands	100 bands
Automatic peak detection and final measurement	✓	✓
Unlimited number of EUT monitoring channels	✓	✓
User definable change order testing	✓	✓
Attenuation / gain calibration measurements	✓	✓
Ambient suppression	✓	✓
Support 3rd party video monitoring systems	✓	✓
Sequence testing	✓	✓
Maximum frequency for calibration and/or test	6 GHz	120 GHz
Support for EUT controllers	✗	✓
Polar- and height plot of emssion measurements	✗	✓
Hide RadiMation logo in graphs	✗	✓
GTEM emission OATS correlation calculation	✗	✓
Support automatic report generator	✗	✓
Control antenna tower/turntable	✗	✓
Control RF switch matrix systems	✗	✓
Dedicated device driver creation	✗	✓

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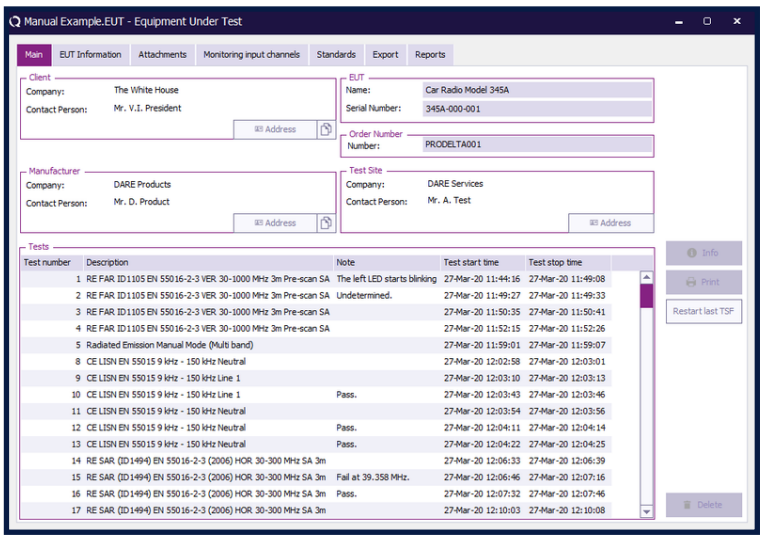
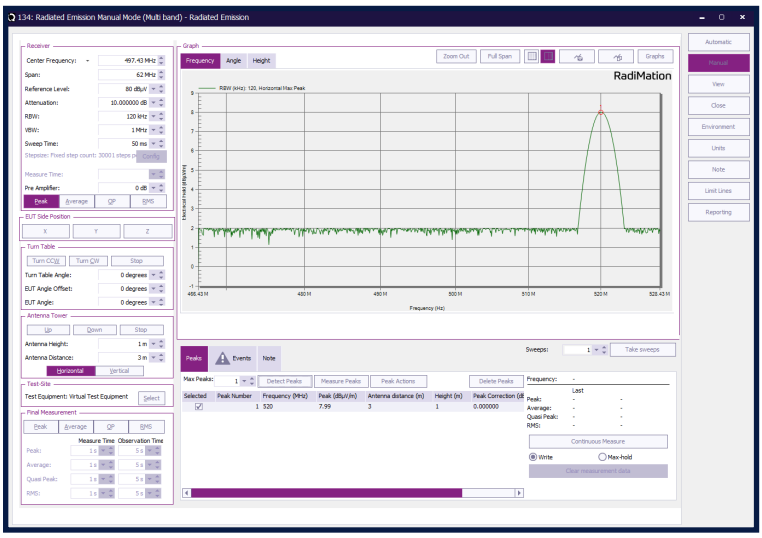
Equipment Under Test

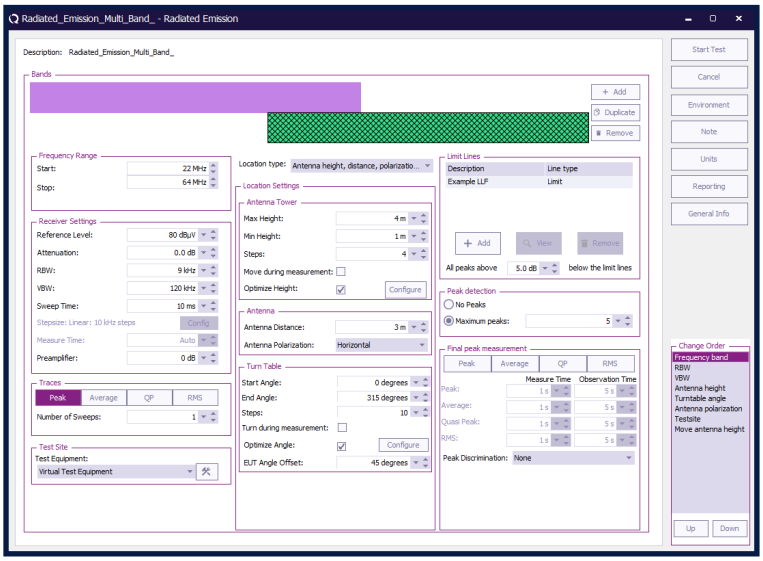


Screenshot of the RadiMation® software

Radiated Emission MultiBand Test



Radiated Emission MultiBand Configuration Window



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