



Introduction

Public interest in the potential health issues relating to mobile phone base stations, and other radio communications facilities, has highlighted the importance of having readily accessible and easy to understand information on electromagnetic energy (EME) emission levels.

In response to the increasing demand for environmental EME assessments from multiple transmitter sites, Telstra has developed a multi-site application, based on the popular Mobile Base Station Field Intensity Plotter (MBSFIP) software.

The application is RF-Map and the cumulative EME level from multiple sites in a local community can now be assessed from the desktop in real time. This is a major advance in desktop EME assessment.

Telstra's original FIP software, launched in 2000 has greatly enhanced the capability of telecommunications and cellular companies, EME & planning consultants, local governments and other organisations to conduct environmental EME assessments. This has in-turn enabled environmental EME assessments to be produced as a "standard report" to communities for site planning, consultation and information purposes. Standardised reports, once agreed to, are easier for operators and consultants to produce, and more readily understood by local councils and the community.

Community Benefit

Communities will benefit from the provision of cumulative emission levels, easy to read maps & reports. Radio site operators will have flexibility in producing reports that suit specific community needs.

For example, RF-Map's automated report template conforms to the requirements of the Australian Radiation and Nuclear Safety Agency (ARPANSA) protocol, and this can be easily adapted to cater for UK or other European style of reporting.

The new software RF-MAP has been specially designed using the latest software development tools to allow greater flexibility for future expansion beyond current technologies. RF-MAP is set for release in May -June 2002 as part of Telstra's commitment to sharing its expertise, and enhancing scientific and community relations.

RF-Map Specifications

Key Features	
<ul style="list-style-type: none"> • Multi-site, Multi system • All types of Radio Systems <ul style="list-style-type: none"> - all cellular, broadcast, radio comms • Cumulative / individual EME Assessments • Plan assessment view • Elevation assessment view • Marker height-scan assessment • Automated Reports – user settable 	<ul style="list-style-type: none"> • Advanced map imaging <ul style="list-style-type: none"> – import maps / drawings - user defined scale - advanced Zoom in capability – up to 200% • Database compatible <ul style="list-style-type: none"> - centralised antenna data - sample Antenna pattern libraries included - editor to input your own antenna data
Feature Details	
<ul style="list-style-type: none"> • Cellular Systems A large number of possible cellular radio system categories including CDMA 800, AMPS 800, GSM 900, GSM 1800, 3G, • Non Cellular Systems Broadcast, radio comms, paging, amateur, two-way • Site Design Parameters <ul style="list-style-type: none"> - relative height - latitude, longitude - X & Y coordinates - no. of radio systems - antenna type - mount height - bearing, tilt, offset - feeder loss - tx power, no. of carriers • EME Assessment Parameters <ul style="list-style-type: none"> - survey area - units – W/m², mW/cm², uW/cm², equivalent V/m, dBuV/m, % public exposure limit, number of times public exposure limit, Regulator & ICNIRP Standards - direct and 2-Ray propagation models (ground. reflection with adjustable ground constants) - standard far-field formulae & near-field level correction 	<ul style="list-style-type: none"> • EME Plot Parameters <ul style="list-style-type: none"> - elevation - plan - marker height scan - contour lines - colour scheme - continuous cursor display of field strength with position - single location RF calculator • Reports & Outputs <ul style="list-style-type: none"> - automatic table of field strength & distance - suitable for development & council reports - user friendly presentation format - outputs exported to a standard report - bit map or pdf • Antenna Database <ul style="list-style-type: none"> - sample antenna library - import of new antenna pattern files - stored in local database of antenna information - future capability for advanced database options planned • User Interface <ul style="list-style-type: none"> - easy to operate and increases productivity - tree view of whole design allowing easy duplication of sites, radio transmitter stations, antennas and transmitters • System <ul style="list-style-type: none"> - stand alone EME / EMI Assessment Tool - Windows 95, 98, NT4, 2000, XP

RF-MAP has an enhanced user interface which, for example, makes it quick and simple to copy and duplicate sites by a two mouse-click process. This saves time in setting up other sites, antennas and transmitters. Site configurations can be saved as generic templates for later re-use.

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Visit Telstra's EME Web Site www.telstra.com.au/ememanagement/softwr.htm