

ITRAINONLINE MMTK

Trainers' notes: Radio Link Calculation

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Introduction	A general introduction to radio link calculation with many hands-on exercises.
Timing/duration	Circa 2 hours + exercises, depending on local possibilities (access to online tools).
Content outline and main topics covered	<ul style="list-style-type: none">• Elements of a link budget<ul style="list-style-type: none">• Transmitter side• Free space• Receiver side• Examples• Other relevant calculations and approaches<ul style="list-style-type: none">• Antenna tilt• Bearing• Sources of latitude/longitude and elevation data
Target audience	IT experts, wireless practitioners
Prerequisite skills/knowledge	<ul style="list-style-type: none">• General understanding of wireless networking and hardware• Basic radio physics• Basic maths skills
Unit objectives/expected outcomes	By the end of the unit participants should be able to understand, perform and discuss a full radio link calculation.
Pre-workshop activities	
Notes on using exercises	<p>For this unit, group and individual exercises are central. They may be integrated with the presentation or done after the full presentation.</p> <p>Prepare data and maps related to workshop location , use RadioMobile and geographical databases before the session. Hence, the images included in the slide presentation should be replaced with local content.</p> <p>Trainers may want to prepare CDs for the participants with calculators, the RadioMobile program, and sample data.</p>
Resources included with unit	<ul style="list-style-type: none">• Handout• Exercises• List of additional resources

	<ul style="list-style-type: none"> • Trainers' notes • Slides • Calculation spreadsheet • Copyright statement • Materials evaluation form (for trainers) • Workshop evaluation form (for trainees)
Additional trainer resources	The trainer needs to be familiar with the online resources and the RadioMobile program.
Equipment needed	<ul style="list-style-type: none"> • Whiteboard, pens • PC (Windows or emulated Windows), internet connection, data projector.
Comments	