



Australian Government

Assessment Requirements for ICTRFN804 Produce radio link budgets

Release: 1

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Modification History

Release	Comments
Release 1	This version first released with ICT Information and Communications Technology Training Package Version 7.0.

Performance Evidence

The candidate must demonstrate the ability to complete the tasks outlined in the elements, performance criteria and foundation skills of this unit, including evidence of the ability to:

- produce at least two fixed radio link budgets and at least two mobile radio link budgets.

In the course of the above, the candidate must:

- analyse signal degradation characteristics of radio paths and calculate power budgets for various distances and antenna heights versus transmitted power
- research at least two constraints imposed by mobile phone frequency allocations and simulate carrier to interference radiation patterns around a cell site
- create evaluation reports on radio system performance
- document at least two processes used to determine power link budget.

Knowledge Evidence

The candidate must be able to demonstrate knowledge to complete the tasks outlined in the elements, performance criteria and foundation skills of this unit, including knowledge of:

- high frequency (HF), very high frequency (VHF), ultra-high frequency (UHF) and microwave receiving techniques
- functions and features of modulation methods, including:
 - AM
 - FM
 - digital
- functions and features of:
 - multiplexing systems
 - operation of transmitters and receivers
 - propagation methods
 - radio communication systems

- weigh factors affecting radio frequency (RF) path loss
- RF technologies
- personal safety issues
- spectral efficiency of functional elements on mobile radio systems
- antennas
- radio system evaluation reports and system improvements
- organisational policies and procedures, covering:
 - personal safety
 - communication methods with relevant personnel
- evaluation reports on radio system performance
- • required legislation, codes, company work practices, regulations and standards, work health and safety (WHS) requirements for scoped work.

Assessment Conditions

Skills in this unit must be demonstrated in a workplace or simulated environment where the conditions are typical of those in a working environment in this industry.

This includes access to:

- a telecommunications operations site
- mobile telephony devices and equipment
- networked computers and required software.

Assessors of this unit must satisfy the requirements for assessors in applicable vocational education and training legislation, frameworks and/or standards.

Links

Companion Volume Implementation Guide is found on VETNet -

<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=a53af4e4-b400-484e-b778-71c9e9d6aff2>