



**Australian Government**

# **Assessment Requirements for ICTRFN804 Produce radio link budgets**

**Release: 1**

# Assessment Requirements for ICTRFN804 Produce radio link budgets

## 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>