



**Australian Government**

# **Assessment Requirements for ICTRFN202 Install a terrestrial antenna**

**Release: 1**

# Assessment Requirements for ICTRFN202 Install a terrestrial antenna

## Modification History

Release	Comments
Release 1	This version first released with ICT Information and Communications Technology Training Package Version 2.0.

## Performance Evidence

Evidence of the ability to:

- organise the site and obtain relevant resources in preparation for installation
- assemble, install, align and test a terrestrial antenna according to plans and specifications, and site specific safety requirements
- conduct performance tests according to manufacturer's specifications and enterprise guidelines.

Note: If a specific volume or frequency is not stated, then evidence must be provided at least once.

## Knowledge Evidence

To complete the unit requirements safely and effectively, the individual must:

- outline the following features of an antenna:
  - directivity
  - front to back ratio
  - optimum placement
  - pattern
  - polarisation
- discuss bit error ratio (BER)
- summarise coaxial cable types and properties
- discuss electromagnetic waves including:
  - absorption by trees and buildings
  - awareness of exposure to electromagnetic radiation (EMR)
  - reflection

- outline legislation, codes of practice and other formal agreements that directly impact on antenna installation
- explain modulation including:
  - bandwidth
  - individual spectrum shape of analog and digital television signals and digital audio broadcasting plus (DAB+) digital radio signals
- discuss modulation error ratio (MER)
- outline radio frequency (RF) spectrum including:
  - Australian DAB+ digital radio channel frequencies
  - Australian television ultra high frequency (UHF) and very high frequency (VHF) channel plan (digital and analog)
  - terminology related to bands used for broadcasting (Bands I, II, III, IV and V)
- explain signal level expressed in dBuV units
- discuss specific work health and safety (WHS) requirements that impact on the installation of terrestrial antenna equipment
- summarise television antenna product knowledge.

## Assessment Conditions

Gather evidence to demonstrate consistent performance in conditions that are safe and replicate the workplace. Noise levels, production flow, interruptions and time variances should be typical of those experienced in the telecommunications – radio frequency networks field of work and include access to:

- a suitable site for satellite antenna installation
- a range of antennas and cables currently used in industry
- a range of general and test equipment required for satellite antenna installation and testing.

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 guides are found in VETNet -

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