



Australian Government

Assessment Requirements for ICTBWN301 Perform tests on optical communication system and components

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 2.0.

Performance Evidence

Evidence of the ability to:

- carry out work according to job specifications and work health and safety (WHS) regulations
- determine and plan optical tests and measurements
- use optical measuring instruments and devices
- perform and record optical measurements
- assess and make recommendations from the test results
- document and present test outcomes.

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:

- explain the consequences of mating contaminated optical connectors
- summarise downstream and upstream signals
- discuss dense wavelength division multiplexing (DWDM) metro and long haul system architecture
- outline hybrid fibre coaxial (HFC) architecture (optical section)
- explain logarithmic power levels (decibels and dBm)
- discuss optical connector types
- summarise optical fibre and laser safety, practices, handling and application
- identify optical spectrum limits, wavelengths used in various applications and International Telecommunications Union (ITU) grid
- explain the role of optical transmitters and receivers
- explain passive optical network (PON) architecture

- discuss transmission system line rates:
 - optical ethernet
 - synchronous digital hierarchy (SDH)
- summarise wavelength division multiplexing (WDM), coarse wavelength division multiplexing (CWDM) and DWDM principles, and optical multiplexers.

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 must be typical of those experienced in the telecommunications – broadband and wireless networks field of work and include access to:

- a site where installation of supporting infrastructure may be conducted
- plant, tools and equipment currently used in industry
- relevant regulatory and equipment documentation that impacts on work activities.

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.education.gov.au/Pages/TrainingDocs.aspx?q=a53af4e4-b400-484e-b778-71c9e9d6aff2>