



Australian Government

Assessment Requirements for ICTOPN504 Test and commission a dense wavelength division multiplexing transmission system

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 ability to:

- plan and coordinate commissioning
- test and commission dense wavelength division multiplexing (DWDM) transmission system
- complete commissioning documentation.

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 possible causes of alarms in long term stability test
- summarise principles of operation of DWDM
- explain standard electrostatic discharge precautions
- outline features and operating requirements of test equipment including:
 - a hand-held optical power meter
 - a transmission test set
 - an optical spectrum analyser
- describe functions of an optical add drop multiplexer
- explain how to set up the following:
 - internet protocol (IP) addressing
 - subnet mask
 - dynamic host configuration protocol (DHCP)
 - default gateway

- summarise the International Telecommunications Union (ITU) wavelength grid for DWDM
- identify optical fibre connector types and characteristics
- identify optical fibre types and characteristics
- explain path protection and protection switching
- summarise physical optical loopbacks and software loopbacks
- describe protocols used on optical DWDM systems
- summarise ring topologies and linear network topologies
- outline specific health and safety requirements that impact the safe inspection of optical connectors and the safe measurement of optical power from laser transmission systems.

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 – Optical Networks field of work and include access to:

- test equipment currently used in industry
- manufacturer's technical documentation.

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>