



Australian Government

ICTCBL304 Perform cable and system test on customer premises

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.

Application

This unit describes the skills and knowledge required to test the performance of copper telecommunications cable on customer premises for the purpose of commissioning, fault identification or routine maintenance. It includes ensuring a safe and secure work environment while work is being undertaken.

It applies to field officers, technicians or technical supervisors from carriers, contractors or other service providers carrying out domestic, commercial or industrial installations in both indoor and outdoor environments. Communications applications include digital and analog, telephony, data, video, digital broadcasting, computer networks, local area networks (LAN), wide area networks (WAN) and multimedia.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Unit Sector

Telecommunications – cabling

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
1 Prepare for cable and system test	1.1 Establish purpose of test to be conducted on cables and systems with customer 1.2 Confirm customer's requirements and methods to comply with relevant legislation, codes, regulations and standards 1.3 Select required tests according to site conditions, customer documentation and manufacturer's specifications

ELEMENT	PERFORMANCE CRITERIA
	1.4 Arrange access to site and confirm service is available for testing 1.5 Select test equipment, tools and materials to meet required industry standards
2 Perform tests	2.1 Use tools and test equipment according to manufacturer's specifications 2.2 Perform work safely to remove risk of injury to operator, other users and equipment 2.3 Perform checks and adjustments to ensure operating environmental factors will not prejudice test results 2.4 Perform optical time domain reflectometer (OTDR) testing for multi-mode (MM) and single-mode (SM) fibre links, point to point networks or passive optical networks (PON) to determine fibre and event characteristics to meet customer or enterprise specifications and manufacturer's warranties 2.5 Perform structured cabling certification testing for categorised unshielded twisted pair (UTP) and shielded twisted pair (STP) copper links and point to point networks to determine cable system characteristics to meet customer or enterprise specifications and manufacturers' warranties
3 Interpret test results and determine action	3.1 Read test results accurately and compare with manufacturer's and site specifications for cable performance 3.2 Evaluate test results, taking into account measurement error margins against a known reference where appropriate 3.3 Assess test results fairly and accurately using verifiable data 3.4 Rectify any faults or escalate to appropriate level
4 Complete records and clean up site	4.1 Document test results and ensure test results remain current 4.2 Verify test results and provide to customer where required 4.3 Update site and installation files to ensure information on system performance is traceable 4.4 Reinstate site according to customer and company requirements 4.5 Notify customer and obtain sign off

Foundation Skills

This section describes language, literacy, numeracy and employment skills incorporated in the performance criteria that are required for competent performance.

Skill	Performance Criteria	Description
Reading	1.3, 1.5, 2.1, 3.1-3.3, 4.2	Read, analyse and interpret plans, specifications and other documentation relevant to cable and systems testing
Writing	1.4, 4.1, 4.3, 4.5	- Prepare written technical reports and documentation for test results - Record notes on communications and provide written feedback to customers
Oral Communication	1.1, 1.2, 1.4, 4.5	Discuss parameters for the tests and provide oral feedback on results as required, using language appropriate to the understanding of the customer
Numeracy	3.1-3.3, 4.2	Carry out calculations and analyse results as appropriate for the tests being performed
Navigate the world of work	1.2, 2.2	Takes personal responsibility for following implicit policies, procedures and legislative requirements, particularly as they apply to safety
Interact with others	1.1, 1.2, 3.4, 4.5	Selects and uses appropriate conventions and protocols when communicating with customers and co-workers
Get the work done	1.1, 1.3-1.5, 2.1-2.5, 3.3, 3.4, 4.2, 4.4	Takes responsibility for planning, sequencing and prioritising tasks and own workload for efficiency and effective outcomes

Unit Mapping Information

Code and title current version	Code and title previous version	Comments	Equivalence status
ICTCBL304 Perform cable and system test on customer premises	ICTCBL3013A Perform cable and system test on customer premises	Updated to meet Standards for Training Packages Added new Performance Criteria to clarify intent	Equivalent unit

Links

Companion Volume implementation guides are found in VETNet -

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

Assessment Requirements for ICTCBL304 Perform cable and system test on customer premises

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Performance Evidence

Evidence of the ability to:

- perform tests on at least 10 cables
- use a range of test devices including:
 - pulse echo tester
 - resistance fault locator
- use advanced multifunction test equipment to test:
 - an active public switched telephone network (PSTN) line
 - to perform a frequency response plot of a cable pair
- use exchange based testing equipment to test an active PSTN line
- identify at least 5 separate cable faults using test equipment
- interpret test results
- demonstrate appropriate methods of escalation of cable faults affecting service delivery
- report on the completed cable and system test.

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:

- recognise cabling types, connectors and cabling structures
- identify connections to carrier infrastructure or equipment, such as main distribution frame (MDF) or customer interface units (CIU)
- identify electrical and/or optical properties to be measured
- evaluate test results derived from test equipment and interpret test results against expected cable system performance specifications
- describe typical performance parameters and faults that may be encountered in customer cabling and related connection and transmission equipment

- select types of equipment suitable for tests to be carried out.

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 – cabling field of work and include access to:

- sites where cable and system tests may be conducted
- cable and system testing equipment currently used in industry
- relevant regulatory and cable specifications that impact on cable and system testing installation activities.

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

Links

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