



Australian Government

ICTRFN505 Test and measure cellular phone and network equipment performance

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 7.0.

Application

This unit describes the skills and knowledge required to analyse test results and recommend modifications to the network.

It applies to individuals working as field officers and supervisors from network carriers, service providers, contractors and other public or private organisations who perform measurements during equipment upgrades or during commissioning and routine maintenance on cellular network equipment.

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

Unit Sector

Telecommunications – radio frequency networks

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 to test cellular phone and network equipment	1.1 Obtain work details from relevant personnel and arrange for site access in compliance with required security arrangements, legislation, codes, regulations and standards 1.2 Review manufacturer technical documentation and network procedures 1.3 Obtain required test equipment in compliance with manufacturer specifications 1.4 Prepare cellular equipment for testing according to manufacturer test procedure 1.5 Notify relevant personnel of test and measurement schedule

ELEMENT	PERFORMANCE CRITERIA
2. Test and measure cellular phone and network equipment	2.1 Configure network equipment for testing and set options to record test results in compliance with required work health and safety (WHS) and environmental regulations 2.2 Block alarms that may interfere with test 2.3 Run performance measurement software with options set and record test results 2.4 Ensure all equipment and testing locations are restored to their normal state and notify relevant personnel of test completion
3. Analyse measurement and prepare cellular phone and network equipment evaluation report	3.1 Determine performance level of cellular equipment and compatibility within the network 3.2 Prepare evaluation report, making recommendations on network modifications and changes to configuration settings 3.3 Present test results and evaluation report to relevant personnel according to enterprise policy

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential to performance but not explicit in the performance criteria.

SKILL	DESCRIPTION
Numeracy	Evaluates and interprets technical data and results according to predetermined specifications
Oral communication	- Liaises with internal and external personnel about technical requirements using specific and required language - Uses listening and questioning techniques
Reading	Recognises and interprets regulatory and technical information from required sources to determine all specifications and frameworks
Writing	Uses clear, specific and industry related terminology to complete and update workplace documentation and when presenting information to work associates, supervisors, team members and clients
Planning and organising	- Determines job priorities and works logically and systematically to undertake clearly defined and familiar tasks - Implements actions according to a predetermined plan, making slight adjustments if necessary and addressing some unexpected issues
Problem solving	Takes responsibility for routine decision making by selecting from a range of predetermined options in routine situations, identifying

SKILL	DESCRIPTION
	and taking some situational factors into account • Diagnoses faults in different situations, adapts procedures and modifies activities depending on operational contingencies, risk situations and environments
Self-management	• Determines the nature and purpose of own role and associated responsibilities • Takes personal responsibility for adherence to procedures relevant to legal and regulatory requirements, with specific reference to safety
Technology	• Determines the purposes and specific functions of common digital systems and uses them to complete routine tasks

Unit Mapping Information

Supersedes and is equivalent to ICTRFN502 Test and measure cellular phone and network equipment performance.

Links

Companion Volume Implementation Guide is found on VETNet -

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

Assessment Requirements for ICTRFN505 Test and measure cellular phone and network equipment performance

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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:

- test and measure at least three different types of cellular phone and network equipment performances.

In the course of the above, the candidate must:

- plan and coordinate test activities and equipment
- test cellular phone and network equipment according to test procedures
- analyse test results
- make recommendations on performance in an evaluation report.

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:

- organisational procedures regarding:
 - accessing third-party sites
 - security arrangements
- functions and features of evaluation reports
- application of manufacturer technical documentation, test procedures, specifications and network procedures
- requirements of measurement schedules
- features and operational requirements of cellular test equipment, including the digital cellular test set, spectrum analyser and radio frequency (RF) power meter
- alarm-blocking procedures
- network components, functions and approved specifications
- information about transmission lines, transmitter and receiver architecture and associated cellular networks

- information about cellular antenna and feedlines, and their impact on mobile spectrum interference
- procedures to test network components
- types of adjustments needed when measuring cellular transmission
- types of networks that influence radio transmission paths and transmission lines
- 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:

- sites on which cellular network testing may be conducted
- test equipment currently used in industry
- manufacturer and enterprise technical documentation.

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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