



Australian Government

Assessment Requirements for ICTRFN805 Analyse cellular mobile network systems

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.

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:

- produce at least two analytical reports that analyse the implications of integrating at least two emerging technologies into a cellular mobile network system.

In the course of the above, the candidate must:

- research existing and emerging technologies in cellular mobile network systems
- plan frequency allocations for at least one cellular network
- analyse techniques to increase system capacity for a fixed spectrum bandwidth
- develop a plan for integration of emerging cellular technologies
- functions and features of interfaces between mobile networks and clients
- research and report the interfacing of major subsystems to other network subsystems.

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:

- allocations and bandwidth requirements of cellular systems
- efficiency and system capacity given the spectrum allocation, number of channels required and grade of service
- equipment subsystem diagnosis and repair procedures
- features and differences between major frequency bands and their allocation of licences
- features and operating requirements of cellular test equipment
- key features of cellular mobile radio systems
- major element functions of a mobile radio system
- major frequency bands and their allocation of licences
- features of microcellular systems

- features of minimising latency
- components and functions of network components
- features of transmission lines, transmitter and receiver architecture
- restrictions and characteristics of radio spectrum in use
- hazards of radio frequency (RF) and electromagnetic energy (EME)
- components and impacts of antenna performance and mobile components on mobile spectrum interference
- spectrum efficiency
- system configuration procedures
- testing network components
- types of adjustments required to measure cellular transmission
- types of networks that influence radio path/line transmission.

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 analysis, research and simulation may be conducted
- test equipment currently used in industry
- manufacturer's 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

Companion Volume Implementation Guide is found on VETNet -

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