

**SKILLS FRAMEWORK FOR ELECTRONICS
TECHNICAL SKILLS & COMPETENCIES (TSC) REFERENCE DOCUMENT**

TSC Category	Product Development and Testing					
TSC	New Product Introduction					
TSC Description	Support new production by validating build plan to achieve cost-effective production and assembly as well as meeting design specifications					
TSC Proficiency Description	Level 1	Level 2	Level 3	Level 4	Level 5	Level 6
			ELE-NPD-3002-1.1	ELE-NPD-4002-1.1	ELE-NPD-5002-1.1	
			Develop build plan for the manufacture and assembly of a new product designs using a systematic approach to design	Review production trial results to achieve requisite product quality and production requirements	Guide new product introduction by evaluating build plan for the manufacture and assembly of a new product design using a systematic approach to design and evaluating the practicality of design	
Knowledge			<ul style="list-style-type: none"> Principles of electronics engineering Product and equipment specifications used in manufacturing and assembly processes Types of design constraints Different types of build plans Principles and techniques of Design for Manufacture (DFM) Principles and techniques of Design for Assembly (DFA) Principles and techniques of Process Failure Mode and Effects Analysis (PFMEA) Principles of risk assessment Organisational and legislative requirements 	<ul style="list-style-type: none"> Product specifications and production requirements Trial objectives and results Re-trial objectives and results Criteria for analysing trial and re-trial results 	<ul style="list-style-type: none"> Principles of electronics engineering Types of manufacturing processes Component and/or part design Principle of design rules Product and Process Design for Easy Assembly Design for Easy Assembly Design of Assembly Systems 	
Abilities			<ul style="list-style-type: none"> Perform analysis of product requirements and determine suitable manufacturing and assembly process Perform analysis and determine design, manufacturing and assembly constraints Develop a build plan for the manufacture and assembly of the new product Determine feasibility of achieving desired build plan Record details of build plan, consultation, evaluation process Present build plan to seek endorsement 	<ul style="list-style-type: none"> Confirm trial objectives as a basis for comparison Review trial product quality results and compare with trial objectives to identify variations Specify re-trial objectives and priorities to procedures Carry out re-trial variations to achieve trial objectives Record trial results to procedures 	<ul style="list-style-type: none"> Review engineering components build plan for structural integrity and Design for Manufacturing and Assembly (DFMA) Evaluate materials selection in accordance with DFMA principles Evaluate machining plan in accordance with DFMA principles Evaluate assembly plan in accordance with DFMA principles Formulate and propose an engineering solution in dealing with complex and/or vaguely defined design tasks 	

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			<ul style="list-style-type: none"> • Monitor and track implementation of build plan • Evaluate the build plan against DFM and DFA criteria 		<ul style="list-style-type: none"> • Submit a full evaluation report on whether the engineering design meets functional requirements 	
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