SKILLS FRAMEWORK FOR INFOCOMM TECHNOLOGY
TECHNICAL SKILLS & COMPETENCIES (TSC) REFERENCE DOCUMENT

TSC Category	Development and Implementation					
TSC Title	Radio Frequency Engineering					
TSC Description	Design, deploy and maintain radio frequency infrastructure for IT systems and wireless communication networks					
TSC Proficiency Description	**Level 1**	**Level 2**	**Level 3**	**Level 4**	**Level 5**	**Level 6**
			ICT-DIT-3027-1.1	**ICT-DIT-4027-1.1**	**ICT-DIT-5027-1.1**	
			Set up and tune radio frequency (RF) and analyse faults	Manage system-wide radio frequency (RF) faults to optimise performance	Design and evaluate radio frequency (RF) performance	
Knowledge			• RF components and principles • RF design and circuits • RF propogations • RF spectrums and bandwidths • Spectrum allocation, assignment and refarming impacts	• Cell site design • Long-Term Evolution (LTE) networking and LTE-Advanced technologies • RF antenna design and integration • RF conditioning • RF design theory • Radio-Frequency Integrated Circuit (RFIC) design and tools	• Cloud Radio Access Networks (C-RANs) and Cell Virtualisation • Industry best practice on RF architecture • Multi-Antenna Transmission multiple-input and multiple-output (MIMO) and Massive MIMO • RF testing and test architecture • Small cells and frequency reuse	
Abilities			• Configure and deploy RF and analogue elements using appropriate tools and test equipment • Incorporate hardware and/or firmware modifications • Monitor performance indications of system and equipment • Identify faults and escalate where necessary in accordance with organisational procedures • Conduct unit testing and user confidence checks	• Identify requirements of RF sub-systems and perform integration • Simulate RF circuit designs and components • Investigate and resolve system-wide fault conditions • Calibrate and tune equipment and systems to optimise RF performance • Develop maintenance schedules and procedures for RF equipment and systems • Analyse performance to recommend	• Establish RF requirements and performance standards • Develop RF system architectures and ensure compliance to regulatory standards • Establish test specifications and methods • Oversee upgrades and modifications of equipment and systems • Apply best practices in the design of RF equipment and systems • Evaluate performance to prioritise improvements	

				improvements to RF equipment and systems	of RF equipment and systems	
Range of Application						