

LIST OF FIGURE

Figure 1.1 Methodology.....	4
Figure 2.1. M2M Communication Segments.....	9
Figure 2.2. Device to Device Communication in MQTT Example.....	10
Figure 2.3. D2D – Aware Handover Solution	11
Figure 2.4. D2D – Triggered Handover Solution	11
Figure 2.5. Gantry Crane Smart-port 5G	12
Figure 2.6. 4G Configuration of site at Jayapura Port	13
Figure 2.7. Site Jayapura Port Network Measurement Sector-1.....	14
Figure 2.8. Site Jayapura Port Network Measurement Sector-2.....	14
Figure 2.9. Site Jayapura Port Network Measurement Sector-3.....	15
Figure 2.10. Header of OSHA Rule for Remote Crane Operational	16
Figure 3.1.Forks Atoll Simulation	18
Figure 3.2. Block Diagram.....	19
Figure 3.3. Jayapura Port	20
Figure 4.1 Camera Position on Gantry Crane	23
Figure 4.2. Camera Position on Port Crane	24
Figure 4.3. Cisco Packet Tracer Interface.....	24
Figure 4.4. 5G Network Topology.....	27
Figure 4.5. Example test result	29
Figure 4.6. Forks Atoll Signal Level Legend	31
Figure 4.7. Jayapura Port Area	32
Figure 4.8. Forks Atoll Simulation	32
Figure 4.9. First Coverage Simulation.....	33
Figure 4.10. Second Coverage Simulation	33
Figure 4.11. Third Coverage Simulation	33
Figure 4.12. Fourth Coverage Simulation.....	34
Figure 4.13. Fifth Coverage Simulation	34
Figure 4.14. Profitability Index Graph.....	38
Figure 4.15. 4 Variables Sensitivity Graph.....	40