

LIST OF FIGURES

2.1	Network model of IEEE 802.11ah adopted from [12]	5
2.2	Channelization in US	6
2.3	MAC Architecture adopted from [16]	6
2.4	AID Basic frame structure adopted from [22]	9
2.5	DTIM and TIM Structures	10
2.6	Adoption of IEEE 802.11ah in the United States	12
2.7	Adoption of IEEE 802.11ah in Japan	13
2.8	Adoption of IEEE 802.11ah in South Korea	13
2.9	Adoption of IEEE 802.11ah in Europe	13
2.10	Adoption of IEEE 802.11ah in China	14
2.11	Adoption of IEEE 802.11ah in Singapore	14
2.12	Indonesia's sub GHz Frequency Allocation	16
2.13	Adoption for GSM Technology	17
3.1	Research Framework	22
3.2	Simulation Model	23
3.3	Simulation Flowchart Design of 802.11ah	24
3.4	Node Simulation in NS3	26
3.5	Simulation Scenario	28
3.6	Bandung Raya Captures Map	28
4.1	Throughput on 1 MHz Bandwidth	31
4.2	Throughput on 2 MHz Bandwidth	32
4.3	Throughput Comparison	33
4.4	Delay on 1 MHz Bandwidth	34
4.5	Delay on 2 MHz Bandwidth	35
4.6	Delay Comparison	35
4.7	Energy on 1 MHz Bandwidth	37
4.8	Energy on 2 MHz Bandwidth	37
4.9	Energy Comparison	38
4.10	Simulator Setup for RAW Slot 20	39
4.11	Throughput with RAW Slot 20	40
4.12	Delay with RAW Slot 20	41
4.13	Energy with RAW Slot 20	41