

LIST OF FIGURES

Figure 2. 1 Integration scheme of satellite communications.....	8
Figure 2. 2 Spot Beam HTS.....	12
Figure 2. 3 Illustration of HTS spot beam in Indonesia.....	13
Figure 2. 4 Spot beam VHTS in APAC region.....	14
Figure 2. 5 VHTS Spot Beam.....	15
Figure 2. 6 Multiple Spot Beam.....	17
Figure 2. 7 Beam Orthogonality.....	17
Figure 2. 8 Frequency Reuse.....	18
Figure 2. 9 Antenna Gain.....	19
Figure 2. 10 Frequency overlap in downlink only.....	24
Figure 2. 11 Frequency overlap in uplink only.....	25
Figure 2. 12 Frequency overlap in both links.....	25
Figure 2. 13 Azimuth and Elevation Angle.....	28
Figure 2. 14 The Geometry of Elevation Angle.....	28
Figure 2. 15 The geometry of the visibility calculation.....	31
Figure 2. 16 Round Trip Time.....	31
Figure 3. 1 Research Framework.....	33
Figure 3. 2 Location of SATRIA-1 and ViaSat-3 Satellite Coordinates.....	34
Figure 3. 3 Western & Eastern Zone.....	35
Figure 3. 4 Overlap Frequency Uplink Western.....	35
Figure 3. 5 Overlap Frequency Uplink Eastern.....	36
Figure 3. 6 Overlap Frequency Downlink Western.....	36
Figure 3. 7 Overlap Frequency Downlink Eastern.....	37
Figure 3. 8 Beam Overlap SATRIA-1 & ViaSat-3.....	37
Figure 3. 9 SATRIA-1 ES & UT location.....	38
Figure 3. 10 Number of Beam SATRIA-1.....	39
Figure 3. 11 Number of Beam ViaSat-3 APAC.....	40
Figure 3. 12 Number of Beams ViaSat-3 in Indonesia.....	41
Figure 3. 13 ViaSat-3 ES & UT location.....	41
Figure 3. 14 Scenario-1 Western.....	43
Figure 3. 15 Scenario-2 Eastern.....	43
Figure 3. 16 Uplink ViaSat-3 interfering RTN Uplink SATRIA-1.....	44
Figure 3. 17 RTN Uplink SATRIA-1 interfering RTN Uplink ViaSat-3.....	44
Figure 3. 18 FWD Uplink ES SATRIA-1 Interfering FWD Uplink ES ViaSat-3.....	45
Figure 3. 19 FWD Uplink ES ViaSat-3 Interfering FWD Uplink ES SATRIA-1.....	45
Figure 3. 20 FWD Downlink ViaSat-3 interfering FWD SATRIA-1.....	46
Figure 3. 21 FWD Downlink SATRIA-1 interfering FWD ViaSat-3.....	46
Figure 3. 22 RTN Downlink SATRIA-1 interfering RTN downlink ViaSat-3.....	47
Figure 3. 23 RTN Downlink ViaSat-3 interfering RTN downlink SATRIA-1.....	47
Figure 4. 1 Link budget & Interference SATRIA-1.....	50
Figure 4. 2 Link budget & Interference ViaSat-1.....	52
Figure 4. 3 Capacity Analysis SATRIA-1.....	55
Figure 4. 4 Capacity Analysis ViaSat-3.....	56
Figure 4. 5 Round Trip Time SATRIA-1 & ViaSat-3.....	57