

## DAFTAR ISI

|  |             |
|--|-------------|
| <b>ABSTRACT</b> .....  | <b>i</b>    |
| <b>ABSTRAKSI</b> .....   | <b>ii</b>   |
| <b>KATA PENGANTAR</b> .....  | <b>iii</b>  |
| <b>UCAPAN TERIMA KASIH</b> .....   | <b>iv</b>   |
| <b>DAFTAR ISI</b> .....  | <b>vi</b>   |
| <b>DAFTAR GAMBAR</b> .....   | <b>ix</b>   |
| <b>DAFTAR TABEL</b> .....  | <b>x</b>    |
| <b>DAFTAR SINGKATAN</b> .....  | <b>xi</b>   |
| <b>DAFTAR LAMPIRAN</b> .....   | <b>xiii</b> |
| <br>   |             |
| <b>BAB I PENDAHULUAN</b> .....   | <b>1</b>    |
| 1.1 LATAR BELAKANG .....   | 1           |
| 1.2 PERUMUSAN MASALAH .....  | 2           |
| 1.3 BATASAN MASALAH .....  | 2           |
| 1.4 TUJUAN PENELITIAN .....  | 3           |
| 1.5 METODE PENELITIAN .....  | 3           |
| 1.6 SISTEMATIKA PENULISAN .....  | 3           |
| <br>   |             |
| <b>BAB II DASAR TEORI</b> .....  | <b>5</b>    |
| 2.1 PERKEMBANGAN SISTEM KOMUNIKASI BERGERAK .....                                  | 5           |
| 2.2 DESKRIPSI UMUM HSDPA .....   | 6           |
| 2.3 ARSITEKTUR JARINGAN HSDPA .....  | 7           |
| 2.4 KANAL PADA HSDPA .....   | 10          |
| 2.4.1 HS-DSCH ( <i>High Speed Downlink Shared Channel</i> ) .....                  | 10          |
| 2.4.2 HS-SCCH ( <i>High Speed Shared Control Channel</i> ).....                    | 11          |
| 2.4.3 HS-DPCCH ( <i>Uplink High Speed Dedicated Physical Control Channel</i> ).... | 11          |
| 2.5 FITUR-FITUR PADA HSDPA .....   | 11          |
| 2.5.1 <i>Adaptive Modulation And Coding (AMC)</i> .....                            | 12          |
| 2.5.2 <i>Channel Quality Indicator (CQI)</i> .....                                 | 12          |

|   |           |
|---|-----------|
| 2.5.3 HARQ ( <i>Hybrid Automatic Repeat and Request</i> ).....                      | 13        |
| 2.5.4 <i>Fast Scheduling</i> .....  | 13        |
| <b>BAB III PERENCANAAN IMPLEMENTASI HSDPA.....</b>                                  | <b>14</b> |
| 3.1 <i>FLOWCHART</i> PERENCANAAN.....   | 14        |
| 3.2 KLASIFIKASI DAERAH.....   | 15        |
| 3.3 KONDISI <i>SITE</i> 3G UMTS DI DAERAH URBAN BANDUNG.....                        | 16        |
| 3.4 <i>LINK BUDGET</i> HSDPA.....   | 17        |
| 3.4.1 <i>Link Budget</i> HSDPA Arah <i>Uplink</i> .....                             | 17        |
| 3.4.1.1 Model Propagasi COST 231-Hatta.....   | 24        |
| 3.4.1.2 Radius Site HSDPA Arah <i>Uplink</i> .....                                  | 25        |
| 3.4.2 <i>Link Budget</i> HSDPA Arah <i>Downlink</i> .....                           | 26        |
| 3.4.2.1 Radius <i>Site</i> HSDPA Arah <i>Downlink</i> .....                         | 29        |
| 3.5 PERENCANAAN JUMLAH SITE BERDASARKAN PREDIKSI TRAFIK DAN<br>KAPASITAS HSDPA..... | <b>30</b> |
| 3.5.1 Penentuan Jenis <i>User</i> .....   | 30        |
| 3.5.2 Kebutuhan Kapasitas Trafik.....   | 31        |
| 3.5.2.1 Perhitungan Jumlah Pelanggan.....   | 31        |
| 3.5.2.2 Metode Trafik.....  | 32        |
| 3.5.2.3 Perhitungan <i>Throughput Demand</i> .....                                  | 32        |
| 3.5.3 Kapasitas <i>Site</i> HSDPA .....   | 33        |
| 3.5.4 Perhitungan Jumlah <i>Site</i> .....  | 35        |
| <b>BAB IV ANALISIS DAN TOOLS PERENCANAAN .....</b>                                  | <b>36</b> |
| 4.1 ANALISIS COVERAGE HSDPA .....   | 36        |
| 4.2 ANALISIS KEBUTUHAN TRAFIK HSDPA .....   | 36        |
| 4.3 ANALISIS KAPASITAS SISTEM HSDPA.....  | 37        |
| 4.4 ANALISIS SITE HSDPA.....  | 38        |
| 4.5 VISUALISASI LETAK SITE HSDPA .....  | 39        |
| 4.6 ANALISIS DAN <i>TOOLS</i> PERENCANAAN.....                                      | 41        |

|   |            |
|---|------------|
| <b>BAB V KESIMPULAN DAN SARAN .....</b> | <b>46</b>  |
| 5.1 KESIMPULAN .....                    | 46         |
| 5.2 SARAN .....                         | 47         |
| <br>                                    |            |
| <b>DAFTAR PUSTAKA.....</b>              | <b>48</b>  |
| <b>LAMPIRAN .....</b>                   | <b>xiv</b> |