

## **ABSTRACT**

*Kawasan Budaya Sabilulungan is an area which consists of three buildings; Budaya Sabilulungan Auditorium, Science Center and Bale Rame Sabilulungan. Located in the heart of Soreang District, the area can be use for various activites, so that the area has a large visitor capacity, yet it still doesn't have a proper telecommunication infrastructure to cover all the outdoor and indoor cellular coverage. Even though the area is often used for various events such as live concert, educational tours, festival and National Sports events.*

*There are two methods of HSPA+ network planning that were used in this final assignment ; coverage and capacity planning. There are two main parts of network planning, outdoor site planning and indoor planning for each buildings in Kawasan Budaya Sabilulungan. Two softwares were used in order to simulate the calculation, Atoll 3.3 for the outdoor simulation and RPS 5.4 for indoor simulation.*

*The results of both indoor and outdoor planning meet the required minimum KPI for each parameters. One cell is needed to provide a satisfactory performance for outdoor planning, resulting a 91.3% coverage on signal strength above -75 dBm, 94.88% signal quality above -9 dB and 96.29% throughput above 1.4 Mbps. Indoor planning for each buildings resulting a total of 12 antennas in Gedung Budaya Sabilulungan to provide a 100% coverage above -75 dBm (first floor) and 99.36% coverage (second floor), 9 antennas in Gedung Science Center for 96.58% coverage above -75 dBm (first floor) and 100% (second and third floor) and 1 antenna in Bale Rame Sabilulungan for 90.52% coverage above -75 dBm.*

***Keywords : HSPA+, coverage planning, capacity planning, indoor building coverage***