ABSTRACT

Telecommunications now become a basic will not escape from the community, especially in the place as Hospitals Santo Borromeus.A hospital was the health care providers, because it was necessary the quality of services communication very high.Hospitals Santo Borromeus having 3 the building with each 5 and 3 the floor.The walls every the thick enough and the building block in hospitals saint borromeus.Coupled with patients, visitors, nurses, doctors and workers in hospital borromeus cause to be cellular is improving the quality of their capacity and scope to handle users in the area.From the walktest before done on buildings elizabeth showed the average RSRP of -104 dBm and the average RSRQ of -13 dB, but this hospital saint borromeus worth picocell development.

To deal with this problem will be the construction of lte picocell in the tissues at the frequency of 1825.7MHz with the bandwidth based on 20 MHz coverage in the area .In the planning this picocell uses software tems to do walktest before that they would know that the quality of the signals in the hospital saint borromeus , do coverage planning , uses software simulation for the deployment of the rps 5.4 antennae and RSRP value has been calculated , SIR after picocell exercise their planning

Based on the results of the analysis to planning a picocell at the Elizabeth in the line of duty this final result planning based on coverage area .An antenna that obtained from the results of coverage planning of 6 antenna on the floor and 2 1 , 3 and 5 antenna on the 2 antennas on the 4 and 5 .Using 2 scenario the antenna yielding on 1 has a scenario RSRP -58.91dBm average value of , -56,48 dBm , -62,72 dBm , -73,34 dBm and -62,89 dBm, to value SIR obtained the average 35,68 dB , 18,21 dB , 45,90 dB ,33,05 dB, and 54,22 dB .In the scenario 2 obtained a mean RSRP average value of -62,89 dBm , -57,98 dBm , -64,60 dBm , -86,25 dBm and -68,89 dBm, to value SIR obtained the average 35,02 dB , 29,97 dB , 63,88 dB ,49,97 dB, and 85,93 dB . Seen from the either scenario planning and in their final task it uses scenario 1 in assignment antenna , caused by 2 scenario in some floors still having value that does not fit the standard KPI.

Keywords : Picocell, LTE, Coverage Planning, Signal to Interference Ratio (SIR), Reference Signal Received Power (RSRP), Reference Signal Received Quality (RSRQ), Walktest.