

ABSTRACT

The hotel is the first choice when vacationing to a place and the need for mobile phone has become the primary needs in human needs so that the availability of two things become important. Hotel Marbella Suites is a hotel that is located in the tourist area of Bandung city so it is very strategic to be a choice of occupancy when on vacation. Based on the measurements on one floor of the 9th floor, the RSRP obtained at the hotel is the worst condition worth -93.44 dBm with RSRQ parameters worth -30 dB with measurement throughput uplink 32 Kbps and downlink 56 Kbps on LTE network.

Based on the above problems then performed treatment to improve the condition it is necessary to do indoor building solution. In this case offered 3 solutions that can be done that is the upgrade carrier module, repeater addition, and IBC planning. For the method of upgrading the carrier module is done using the software Atoll 3.2.1 by changing the carrier in engpar becomes larger, so that there is an increase of RF parameters. As for the addition of repeater and IBC planning it is necessary to do dimensioning in capacity and scope to determine the amount of FAP, using RPS 5.4 software simulated based on number of antenna, then obtained RF parameter of RSL and SNR based on addition repeater method and IBC planning. Marbella Suites hotel building, the difference of room layout only on the 1st floor, while for the 2nd floor to 17th floor, the position of the room and the shape of the room is identical.

Based on the results of the analysis and simulation, the results obtained on the method of upgrading the carrier module to 15 MHz with 36.568 Mbps throughput and mean RSL - 87.46 dBm. For the method of adding repeaters on the 1st floor we obtained the need for 7 antennas with mean RSRP -30.87 dBm and SIR mean of 9.91 dB, while for 2nd floor required 3 antennas with mean RSRP -60.10 dBm and mean SIR 34.74 dB. While for IBC planning method on the 1st floor we got 5 FAP requirement with mean value RSRP -33.16 dBm and mean SIR 10.33 dB, while for 2nd floor it takes 3 FAP with mean RSRP -63.75 dBm and mean SIR 34.72 dB. Then based on comparative analysis then decided the most effective method is planning IBC.

Keywords: LTE, IBS, carrier, repeater, IBC, coverage, capacity, FAP, RSRP, SIR