Abstract

In this paper, a map building function which will display spatial data for the region surrounding a proposed base transceiver station (BTS) location has been developed. The agitation for more base stations and issues of non-compliance of most Global system for mobile telecommunications (GSM) base stations in the country to stipulated safety requirement by regulatory agencies in Nigeria necessitated this research work. The placement of Base stations in cellular network is determined during the site selection process in radio network planning. Development of a digital spatial map for base station placement was born out of the need to make improved decisions on placement of base stations in built-up areas. The territory map was developed using a MATLAB scripts which converts coordinate data (longitude and latitude) to equivalent vector locations using binary codes. The model development process involve preprocessing of data, location generation and map plotting. The developed digital map gives a clear picture of the infrastructure on ground in form of square rasters. The developed map building model was implemented using spatial data collected from selected areas in Minna, Nigeria. The results reveal a 100% representation of the structures on ground.
- Guardian Newspaper
- "Nesrea-Ncc-Continue-Fight-over-Base-Stations"; Tuesday 08 May 2012 http://www.ngrguardiannews.com

**Index Terms**

Computer Science
Telecommunication

**Keywords**
Base transceiver station
Map building
Regulation
Site
Selection