

3D Virtualization through Data Collected from Measurements of Mobile Signal Reception Power Levels (LTE) Band at Escuela Superior Politécnica de Chimborazo in Riobamba-Ecuador

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Abstract : This project addresses a representation of a virtual environment based on the analysis of the RSRP (Reference Signal Received Power) obtained by the Network Cell Info Lite application at the Escuela Superior Politécnica de Chimborazo (ESPOCH) considering the open areas of the Business Administration Department in the 4G LTE Frequency (band 2) of Claro Telephony at a frequency of 1967.5 MHz, where measurements were performed from 17:00 UTC-05:00. The indicators required for the simulation of the environment designed in sketchup were focused especially on the power levels obtained where it was possible to represent the scenario with real power values obtained in each concentric radius of a total of 3 campaigns of 200 samples each, where the values vary between 84.6 dBm to 115.5 dBm having average power values for each of the 23 radiuses which are introduced in a virtual environment, allowing users to immerse themselves in it, where they can explore 3D virtual environments, generating a color scale from 0 to 10 with red being the weakest signal and green the signal with the best intensity.

Keywords : virtualization, LTE, radios, power intensity levels colors, mobile signal reception power

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