Accurate Radio Coverage Assessment Methods: Investigation of Mobile Networks Based on Subscribers Mobile Phones

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Abstract — **The most common used terms by telecommunication actors especially those in the mobile network sector are coverage, signal strength, quality of service etc. These related terms are major source of concern not only for regulators, operators, mobile service providers, but also users of the networks. To verify compliance of mobile networks specifications, measurement campaigns are often carried out and the most used method of which is drive test. This method is considered expensive because of the license software used, including logistics and personnel. Several alternative solutions have been developed but these involve mainly smartphone users. Information collection by these solutions are made from mobile phones, centralized and processed. However, the major obstacles in these solutions are reluctance of users, impact on user equipment and reliability of the results. The objective of this research is to evaluate reliability of these measurement solutions and compared them with drive test. The study further explore the impact of these measurements on the integration of collection applications on the users' phones.**

Keywords— 2G,3G, 4G, Radio, Coverage assessment, Drive test, mobile networks, CPICH RSCP, P-CCPH RSCP, RSRP, SRQ

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