AIMS

Interference Location

The Need for Interference Location

Faulty or illegal equipment which interferes with the quality of your communications system can be responsible for heavy losses in revenue. One estimate puts the cost of an intractable interference problem to a UK mobile network operator at over £1M per year per base station in a city centre location. This does not include the impact on customer perception of network quality or the costs of deploying field teams in vain because standard detection equipment is not capable of resolving the problem. The need to identify and locate interference problems quickly is therefore clear.

Concept

Multiple AIMS receivers are deployed to different sites in the vicinity of the interfering signal and left to monitor for a period of time - a few minutes or a few hours, depending on how intermittent the interfering signal is. The units combine their outputs to yield a time difference of arrival (TDOA) based position fix of the interfering signal. An error analysis is then performed to enable the field operator to judge whether redeployment is necessary to home in on the interferer, or whether the fix is accurate enough to trigger an enforcement activity. The results are displayed on an easy to interpret map-based graphical user interface.

Elliptical area shows most probable interferer location at intersection of TDOA lines

Features

- Location accuracy ~ tens of metres depending on environment
- Expandable architecture – more receivers yields greater location accuracy
- Ability to discriminate height of interferer
- Remote or local control
- Ethernet / 3G / GPRS / WiFi connectivity
- Map-based results
- Highly portable and quick to deploy
- IP55 environmental protection
- GPS time synchronisation

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