

GSM Location Augmentation Beacon

GSM beacon for enhancing device location estimates on GSM, UMTS and LTE networks

The EXTENT Location Augmentation Beacon allows a network operator or other provider of cellular services to identify or track the location of mobile devices more accurately without the cost and complexity of adding more cells to the network.

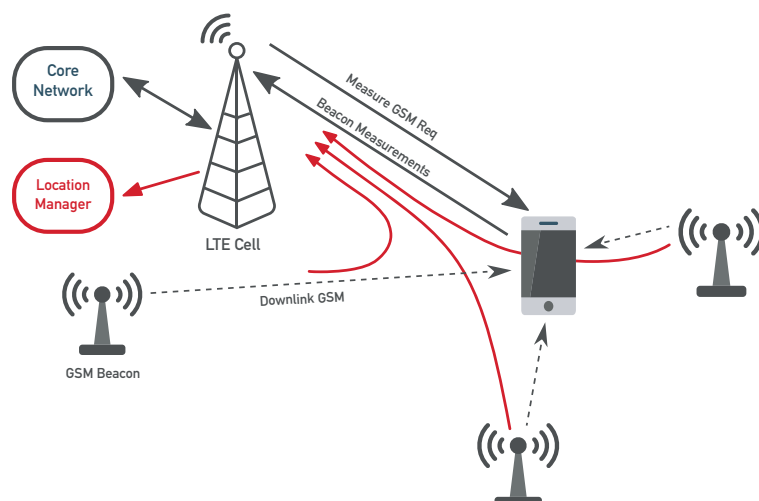
Examples include geo-fencing to restrict access to a network based on location, enhancing conventional DAS systems to locate users and geo-locating individuals making calls.

The beacons are trivial to configure and install and have no external requirement other than power. Multiple beacons are positioned in the coverage area and the mobile device is commanded to measure their signal strength. By triangulation of multiple results, the position of the device may be determined.

For example, in the diagram below a phone camped on to an LTE network is commanded to measure the signal strength of 3 GSM beacons. The LTE cell provides these measurements to the Location Manager which processes the measurements and triangulates to estimate the phone location.

This process requires the co-operation of the LTE cell in order to command the phone to make the measurements and to extract the measurement results and pass them to the Location Manager. The cellXica eNodeB provides this interface, independently from the core network.

The EXTENT beacon may also be deployed in GSM and UMTS networks in a similar fashion.



For further information please contact sales on +44 (0) 1223 755 115 or email sales@cellXica.net

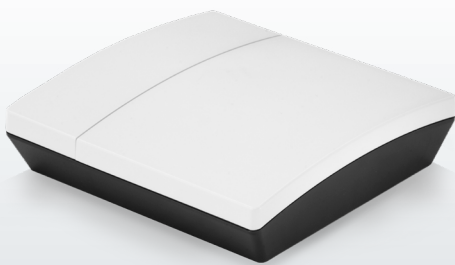
KEY FEATURES & BENEFITS

- GSM downlink
 - Transmit-only GSM system information
 - Configurable BSIC, ARFCN and TX power
- Standalone operation
 - External cabling for power only
 - No backhaul requirement
 - No external timing source requirement
- Trivial configuration and installation
 - DIP switches select BSIC, ARFCN and TX power
 - Wall mount with conventional fixings
 - Status LEDs indicate operational state
- Flexibility and accuracy
 - Density of beacons drives accuracy
 - Low cost and ease of installation allows an experimental approach

APPLICATIONS

- Geo-fencing and Managed Access Systems
 - Allow, prevent or restrict access to the network based on location
- DAS location awareness
 - Extend conventional DAS systems to identify locations of users
- Emergency call geo-location
 - Identify the location where the call is being made from
 - May form part of a solution depending on local legal requirements

HARDWARE



- Power-over-Ethernet or external DC power supply (8-15 VDC)
- Internal antennas
- Status LEDs indicate error conditions and operation state
- Power consumption: 4.5 W average, 8 W max
- Operating temperature: 0 to 50°C ambient

www.cellXica.net

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