

The OpenAir™ API builds on the high quality 5G/4G/3G/2G small cell software applications from ip.access to provide enhanced functionality and flexibility out of the box

# OpenAir™ API

Leveraging carrier grade Access Points for specialised Vertical Applications

5G SOLUTION

4G SOLUTION

3G SOLUTION

2G SOLUTION

## OpenAir™ API

OpenAir API enhances the standard 5G/LTE/3G/2G applications by allowing deep analysis of air interface activity and the opportunity to directly influence subsequent events. There are two API categories:

- Information API - efficiently streams detailed information to an external listening application, where it can be decoded for real-time analysis or post-processed
- Command API - allows an external application to send commands to the AP to influence the air interface behaviour

### Phase 1 LTE Capabilities

The Information API provides details captured from periodic measurement reports.

The Command API can trigger Forced Handover of a UE to a target cell at a specified time.

### Phase 1 3G Capabilities

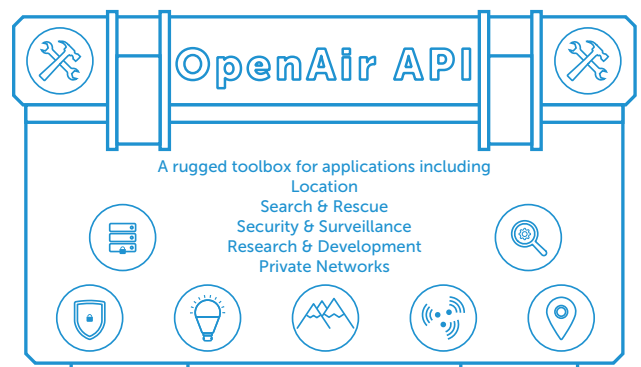
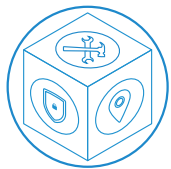
The Information API enables an information stream containing RRC and NBAP messages. The UE identifier in the exported messages is easily correlated using the SRNTI along with other UE identities such as NBCCID, Context ID and IMSI.

The Command API allows a 3G AP to increase a UE's Transmit Power to either the maximum or a configured value for locating the UE with an external directional finder (DF) instrument.

## OpenAir™ API Phase 2 and Onwards

Future OpenAir API capabilities may include:

- Extending the LTE Information API to cover all RRC messages with further enhancements to include FAPI information from L2 and/or PHY
- UE Tx power increase and decrease on LTE
- Obtain GPS information from UEs (3G and LTE)
- Command API for Triggered Redirection to a target cell and RAT (GSM, 3G and LTE)
- LTE stand-alone mode, where the AP exchanges RRC messages with a UE without a connection to an EPC (that is, no S1AP connection established)
- OpenAir API on GSM
- OpenAir API on 5G for SUP1 capture



## AP Platforms for OpenAir™ API

The OpenAir AP is available on the multi-band multi-RAT S60z AP module. The S60z AP module also supports SSH access.

## Standards Compliant Access Point Functionality

Use the OpenAir AP to leverage the carrier grade 5G, LTE, UMTS and GSM stacks in the S60z AP for a variety of applications beyond the standard capacity and coverage AP capabilities.

## OpenAir™ API Applications

In conjunction with controlling the functionality of the AP application layer with the usual configuration methods, customer-developed applications for OpenAir API can deliver a wide range of solutions including:

- Search and Rescue - use the UE transmit power up command to locate UEs to help find and rescue the owners
- Private Networks - set up secure communications
- Research and Development - analyse UE behaviour in different scenarios and help to ensure prototype UEs are functioning as expected
- Network Restoration - for scenarios including disaster recovery

