



Embedded Convolution Modulation - Future Standard for Mobile Communications

Sector(s): Information and Communications Technologies, Electronics, Sensors and Photonics

About Opportunity

Mobile devices are a pervasive part of modern living. As these devices become more sophisticated, the size and complexity of the data transferred introduces a number of performance issues for the user.

Glasgow Caledonian University (GCU) has developed a new telecommunications method to improve the performance of broadband mobile.

The Embedded Convolution Modulation Technology (ECM) addresses the information-transfer speed problems which currently exist on wireless mobile networks.

Novel and innovative adaptive algorithms have been developed which allow simultaneous reduction of Peak-to-Average-Power Ratio (PAPR), the elimination of rapid-fading multi-path channel distortion, the improvement of Carrier Frequency Offset correction (CFO) and an additional layer of security in wireless and multicarrier communication systems.

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Key Benefits

- Reduced cost of power amplifiers for handsets and base stations
- Significantly improved reliability of data transmission and reception
- Improved quality of service for fixed and mobile users
- Higher data rates possible for faster speed vehicular mobility
- Improved secure/encrypted data transmissions
- Compatible with higher layer encryption (DES, RC4, WPA)
- Improved battery life

Applications

- Mobile manufacturers and carriers
- Silicon and base station solution developers
- Communications software platform developers

IP Status

The technology is protected by two patent families. The University welcomes contact from organisations interested in developing, licensing or exploiting this technology.



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