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| **Contact:** | Brian Copsey | Tel: +Fax: +Email: bc@copsey-comms.com |

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| **Keywords:** | Spectrum interference; accessibility |
| **Abstract:** | This document provides information related to spectrum interference threats and issues as of October 2017.  |

### Spectrum Threats

Wireless Power Transfer (WPT): *the ability to charge batteries without physical connection*

Two sets of problems:

* Vehicle Charging: up to 22-32kW peak charge, is likely to be located in domestic and public garages. Dependant on the radio frequency in use interference can be generated to medium and long wave radios plus a range of T-Coil and other neck loop receivers.
* Domestic and business use: items such as electric kettles (2-3kW), tool batteries and phones etc. Dependant on the radio frequency in use interference can be generated to medium and long wave radios plus a range of T-Coil and other neck loop receivers

Currently working with Broadcasters and radio amateurs (hams) in both practical testing and preparing a report for CEPT-ITU on the impact of WPT and working to restrict interference radiation from these systems via standards and regulation.

### Internet of Things: *the ability to interconnect via the web (internet) a wide range of domestic devices from washing machines to toasters*

Some of the spectrum identified for these devices is also used by ALDs; we are attempting to ensure that the regulations protect ALDs by limiting their transmitting power (currently they want 500mW and ALDs use about 2mW) and spurious transmissions

### Standardisation:

* ETSI EN 300-328: this standard is used to place a wide range of ALDs and Wi-Fi (RLANS) onto the European market, in the 2,4 GHz also used worldwide.

Due to the vulnerability of Wi-Fi receivers to the 2.3-2.4 mobile phone allocations the standard is being tightened up to reduce the probability of interference, unfortunately some of the proposals would prevent ALDs in their present form being able to use the standard. We are seeking to ensure that there is a suitable solution for ALDs

* EN 300-422 part 4: used for the vast majority of ALDs including T-Coil receivers. We are updating the standard to include neck loops and PAPs
* IEC-CENELEC: attempting to prevent a standardisation initiative by the PAP industry to write a standard which would pander to their equipment to the detriment of those using the devices

### PAP

Working with Tony Murphy of Phonak to prepare a detailed technical report identifying the problems with this equipment. This is taking longer than I hoped as we need to use the correct dummy and equipment to measure the audio output level’s and the effect of radio interference on the audio output if the report is to be accepted by various international bodies.

This information will also allow us to improve the ETSI work on EN 300-422-4

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