

**Comments on ECC Deliverable ‘Draft ECC Report 289’
“Wireless Power Transmission (WPT) systems for electrical vehicles (EV) operating within 79-90 kHz band”**

0 Sources

Administration/Company/Entity:



Radio Society of Great Britain (RSGB)

Name and Appointment of contributor: Murray Niman, RSGB Spectrum Chair

1 General Comments

Whilst recognising there is significant technical content, the report conclusions and executive summary do not follow the format of many other ECC reports in clearly indicating which radio services have been studied in-band, adjacent and out-of-band

In our comments below we have just focussed on the summary and conclusions. However we would encourage the original authors to review the rest of the report in conjunction with advice from ECO on style, cross referencing etc

2 Proposals related to the ECC Deliverables

Comment number	Section number/ Clause	Paragraph Figure/ Table	Type of comment (General/ Technical/Editorial)	COMMENTS	Proposed change
RSGB/1	Exec Summary	Para-1	General/Editorial	<p>Paragraph-1 includes: “and considering the fact that there was no contribution from some existing radio services below 30 MHz, it can be assumed”</p> <p>The language is too subjective and speculative</p> <p>The summary also does not follow established practice for ECC reports and briefly identify what services have been studied (or not)</p>	<p>Replace Paragraph-1 with the following:-</p> <p>The impact of Wireless Power Transmission for Electric Vehicles (WPT-EV) in 79-90 kHz on radiocommunication services operating below 30 MHz is considered in this Report.</p> <p>The study covers radio services in-band, adjacent and in the spurious domain. In brief, those considered are:-</p> <ul style="list-style-type: none"> - Inband: Services identified, but no new specific studies. The range 14-148.5 kHz is a NATO harmonised band and essential for naval communications and tactical non-directional beacons. - Adjacent: Standard Frequency and Time Service (notably DCF77) - Spurious: Broadcasting Service, Amateur Radio service, Radiolocation Service <p>ECC Recommendations and limits for inductive SRDs in 70-03 and 74-01 are of particular relevance.</p> <p>In some cases it is clear there is a serious risk of harmful interference if not mitigated. For other radio services (including those where no study contribution has been received), a review of results from ECC Reports has been undertaken and it also assumed that the current SRD regulations and limits (ECC Recommendations 70-03 and 74-01) will also be relevant.</p>
RSGB/2	Exec Summary	Figures	Editorial	<p>It is hard to easily assess the figures in the summary as they are spread over too many pages</p>	<p>Reduce the figure size/spacing slightly so that there are 2 per page, similar in style to the conclusions</p>
RSGB/2	Exec Summary and Conclusions	Figure 6 and Figure 39	Editorial	<p>The Figure Caption is wrong</p> <ul style="list-style-type: none"> - Align with referring-to text 	<p>Change Caption to:</p> <p>Results for the emission values for the range 150 kHz – 30 MHz if the operating frequency/signal of the WPT-EV is aligned with the broadcasting raster</p>

RSGB/3	List of Abbreviations	Page-9	Editorial	rms	Explanation should be: Root Mean Square (typo in suare)
RSGB/4	List of Abbreviations		Editorial	Need to add TCAM	TCAM - [European] Telecommunication Conformity Assessment and Market Surveillance Committee
RSGB/5	Introduction	Para-1	General	Introduction needs expanding to give full context for WPT-EV The TCAM sentence re comms is a secondary issue but also needs some context	Insert new First Para - and Modify start of next: Wireless Power Transmission for Electric Vehicles (WPT-EV) is an emerging high power technology that can recharge an electric car or other vehicle. The preferred frequencies for WPT-EV are generally relatively low but may involve power levels of many kilowatts. In this report the form of WPT-EV considered is essentially an inductive power transfer system via a pad under the vehicle. In addition there may be a low power signal for exchanging charging status/control information. A European Commission TCAM decision in 2012....
RSGB/6	Introduction	Para-2	General	CISPR has no power to create an ISM band. Clarify that such a change is the role of ITU-R but that the expectation based on inputs to WRC-19 under AI-9.1.6 is that there would be No-Change to frequency allocations in the Radio Regs	Replace Para-2 with:- In parallel CISPR is working on a standard (CISPR 11) which would cover WPT-EV under the ISM framework. However it should be noted that the usage would be outside existing ISM bands and it is not expected that ITU-R will agree to create any new ISM allocations for WPT-EV. Whilst it is not a radio service, WPT-EV is being considered as a radio application under ITU-R WRC-19 Agenda Item 9.1.6.
RSGB/7	Conclusions		General/Technical	Some deployment scenarios are quite dense compared to the separation distance (eg in urban areas, car parks etc) leading to aggregation from multiple systems Another potential problem that has not been studied has been radiation from high power supply wiring to the charging pads	Insert Para-6:- An assessment of separation distances in urban scenarios indicates that there may only be 3-10m between WPT-EV chargers and radio receivers which is significantly less than 74-01 assumes. It has also not been possible to assess the impact of this on aggregation or coupling into or radiation from adjacent wiring (including high power charging supply leads)