

### Appendix 3

#### Comparison of Proposed Emissions Limits for Automotive Wireless Power Transfer Systems to Current FCC Part 15 and Part 18 Limits

A Petition for Rulemaking, RM-11815, has proposed that automotive wireless-power transfer (AWPT) systems be authorized at a power level that would result in emissions of +74.4 dBuV/m at a measurement distance of 10 meters.

This table correlates that limit with existing Part 15 and Part 18 limits.

Table 1: Comparison Between the Proposed AWPT Systems and Current Limits

Proposed H-field limit at 10 meters	74.dBuA/m
H field strength at 10 meters	0.0052 A/m
E field strength at 10 meters	2 V/m
E field strength at 10 meters	125.9 dBuV/m
Part 15 limit for 90 kHz, unintentional emitter	None
Part 15 limit for 90 kHz, intentional emitter at 300 meters	26.7 dBuV/m
Part 18 limit for spurious emissions at 300 meters	23.5 dBuV/m
Part 18 limit for spurious emission, extrapolated to 10 meters (60 dB/decade <sup>1</sup> )	112.1m dBuV/m
Part 15 limit for 90 kHz, intentional emitter, extrapolated to 10 meters (40 dB/decade <sup>2</sup> )	85.8 dBuV/m
Part 15 limit for 90 kHz, intentional emitters, extrapolated to 10 meters (20 dB/decade <sup>3</sup> )	50.2 dBuV/m
Part 15 limit for 90 kHz, intentional emitters, extrapolated to 10 meters (60 dB/decade <sup>4</sup> )	115.3 dBuV/m
Part 15 limit for HF range, intentional emitters, at 30 meters	29.5 dBuV/m
Part 15 limit for HF range, intentional emitters, extrapolated to 10 meters (40 dB/decade)	48.6 dBuV/m

<sup>1</sup> Part 15 and Part 18 rules set specific extrapolation factors, but allow actual extrapolation to be measured. The actual extrapolation will typically be 60 dB/decade (or more) in the near-field region.

<sup>2</sup> Part 15 rules allow extrapolation vs distance using a 40 dB/decade extrapolation factor.

<sup>3</sup> Part 18 rules allow extrapolation using a 20 dB/decade extrapolation factor.

<sup>4</sup> Part 15 and Part 18 rules allow actual extrapolation to be measured. This will typically yield an extrapolation value of 60 dB/decade in the near-field region. This is typically what is done for emitters that are operating at levels close to the emissions limits.