



An In-Motion Vehicle Charging System Proof of Abilities Stage - Specifications & Requirements

Volume C

1 Proof of Abilities stage- Requirements

- 1.1 The Bidder that has proven compliance with the threshold conditions is required to convey to the Company POD (Proof of Design) or POC (Proof of Concept) reports concerning the experimentation conducted on the system under the following conditions:
 - 1.1.1 The tested vehicle belongs to one of the vehicle types relevant to the project, as detailed in Section 1.4 of Volume D.
 - 1.1.2 The tested vehicle is a serial electric road vehicle, entitled to travel on a highway with modification for roadway charging.
 - 1.1.3 The test track is a circumferential route of at least 500 m, with charging segments in a general net length of at least 100 m.
 - 1.1.4 In each scenario, the test vehicle has travels as follows:
 - 1.1.4.1 On the test track for a net continuous drive of at least thirty (30) minutes, and the energy capacity at its conclusion has not decrease any more than 5% from its starting energy capacity.
 - 1.1.4.2 At a speed faster than 30 km/h.
 - 1.1.5 The system's test scenarios include:
 - 1.1.5.1 Daytime travel in which the ambient temperature is at least 30°C in the shade.
 - 1.1.5.2 Travel on a rainy day with precipitation of at least 10 mm rain in an hour.
 - 1.1.5.3 When two RPEV's are traveling on the road (the same test route at the same time).
 - 1.1.5.3.1 The charging of the two vehicles is on the same charging segment.
 - 1.1.5.3.2 Identification of each vehicle, measurement of the electricity transfer to each vehicle for billing.
 - 1.1.5.3.3 Travel in congested traffic at an average speed of 15 km/h.
 - 1.1.6 For each critical malfunction that occurs during proving, a malfunction investigation report shows the source of the malfunction and the design change for preventing its reoccurrence.
 - 1.1.7 As part of the POD/POC report, results are to be provided, including the energy transfer capability to the vehicle under the various travel conditions - in capacity (kw), in energy (kwh), and charging system efficiency (the energy stored in the vehicle vis-a-vis the energy taken from the power grid).
 - 1.2 The transfer of availability and reliability test reports or the transfer of full-scale reliability and availability analysis. As part of the reliability reports, it is necessary to propose compliance (The availability and reliability reports should be conducted) in the following conditions:
 - 1.2.1 The proposed system in the version that has undergone POC/POD or a more advanced version has undergone full-scale operations of at least 30 working hours in total.
 - 1.2.2 For each critical malfunction that occurs during the system's operation, a malfunction investigation report shows the source of the malfunction and the design change for preventing its reoccurrence, or note that the malfunction investigation has yet to be concluded.
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1.2.3 No system can be proposed with a critical malfunction in which its investigation is still open.

1.3 Transfer of a risk analysis report after full-scale development (FSD).

Appendix A' - A List of Abbreviations

Abbreviation	Meaning
EM	Electromagnetism
ea.	Each
AH	Ayalon Highways
SII	Standard Institute of Israel
EMC	Electro-Magnetic Compatibility
EN	European standards
ENV	Environmental
FCC	Federal Communications Commission (USA)
IEC	International Electrotechnical Commission
ISO	International Organization for Standardization
LVD	Low Voltage Directive
POC	Proof Of Concept
POD	Proof Of Design
SAE	Society of Automotive Engineers
TBD	To Be Determined
TBR	To Be Revised
UL	Underwriters Laboratories
