**1- Package Content Overview & Revision History**

**2014 FCA HFE 845RE Transmission Mapping**

The following is a listing of the contents of this Test Data Package along with the suggested citation format and revision history of the material. Use of any NCAT documents listed below, included as part of the complete test data package, should reference the suggested citation provided. Note that SAE Papers included in the package should utilize the designated SAE CITATION format.

**SUGGESTED CITATION:**

*2014 FCA HFE 845RE Transmission Mapping – Test Data Package*. Version 2019-04. Ann Arbor, MI: US EPA, National Vehicle and Fuel Emissions Laboratory, National Center for Advanced Technology, 2019.

**TEST PACKAGE CONTENTS:**

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| 1– Package Content & Revision History | Brief overview document listing the contents, revision history & suggested citation format of the package |
| 2– Related NCAT Packages | Listing of related NCAT Test Data and ALPHA Engine Map Packages |
| 3a– 2014 FCA HFE 845RE Transmission – Test Report.docx | NCAT report outlining the test method and benchmarking results for mapping the transmission used to support this testing |
| 3b- 2014 FCA HFE 845RE Final Transmission Benchmark Presentation by FEV.pdf | Final presentation prepared by FEV Engine Technology under EPA Contract EP-C-12-014, describing test procedures performed by FEV on the 845RE transmission |
| 4a- 2014 FCA HFE 845RE Input and Output Driven Inertia (FEV) – Test Data Set.xlsx | Inertia study data comparing both input and output driven inertia |
| 4b- 2014 FCA HFE 845RE Line Pressure Map (FEV) – Test Data Set.xlsx | Vehicle data file of transmission hydraulic line pressure in each gear as a function of speed & load |
| 4c- 2014 FCA HFE 845RE Loaded Efficiency (FEV) – Test Data Set.xlsx | Transmission test stand data file containing transmission efficiency as a function of gear, input speed, input load, and temperature |
| 4d- 2014 FCA HFE 845RE Neutral Coast Down (FEV) – Test Data Set.xlsx | Transmission test stand data file containing required torque to back-drive transmission when in neutral |
| 4e- 2014 FCA HFE 845RE Oil Pump Efficiency (FEV) – Test Data Set.xlsx | Transmission oil pump efficiency and leakage as a function of temperature, pressure, and speed |
| 4f- 2014 FCA HFE 845RE On-Road Coast Downs 50mph (FEV) – Test Data Set.xlsx | Vehicle data recording vehicle speed and gear shifting during on-road coast downs |
| 4g- 2014 FCA HFE 845RE Spin-Loss and Inertia (FEV) – Test Data Set.xlsx | Transmission test stand data file containing input torque required to spin transmission as a function of gear, speed, and temperature; line pressure sensitivity and inertia calculations are also included |
| 4h- 2014 FCA HFE 845RE Torque Converter Efficiency (FEV) – Test Data Set.xlsx | Transmission test stand data file containing torque converter speed and torque ratios |
| 5– SAE 2016-01-1142 | SAE paper outlining the study which used data from this report to compare the effect of five- and eight-speed transmissions. Published in *SAE International Journal of Engines*, Vol. 9 No. 3 |

**REVISION HISTORY:**

Version 04-19: Modified title page layout, added citation reference on both the title page and in the supporting documents section, added reference section, added revision history and modified supporting documents file names to align with updated naming convention

Version 06-16: Initial release