**1- Package Content & Revision History**

**Toyota 2.5L TNGA Prototype Engine from 2016 Aachen Paper**

The following is a listing of the contents of this ALPHA Map 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:**

*Toyota 2.5L TNGA Prototype Engine from 2016 Aachen Paper – ALPHA Map Package*. Version 2017-12. Ann Arbor, MI: US EPA, National Vehicle and Fuel Emissions Laboratory, National Center for Advanced Technology, 2017.

**TEST PACKAGE CONTENTS:**

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| 1– Package Content & Revision History.docx | Brief overview document listing the contents, revision history & suggested citation format of the package |
| 2– Related NCAT Packages.docx | Listing of related NCAT Test Data and ALPHA Engine Map Packages |
| 3– Toyota 2.5L TNGA Prototype Engine from 2016 Aachen Paper – ALPHA Generation Process.html | NCAT summary report describing the process followed to generate a full engine fuel consumption map |
| 4a– Toyota 2.5L TNGA Prototype Engine from 2016 Aachen Paper – BSFC.pdf | Contour plot of the BSFC results of the mapping over the full operational area of the engine |
| 4b– Toyota 2.5L TNGA Prototype Engine from 2016 Aachen Paper – BSFC.emf | Contour plot of the BSFC results of the mapping over the full operational area of the engine |
| 5a - Toyota 2.5L TNGA Prototype Engine from 2016 Aachen Paper – Efficiency.pdf | Contour plot of the Brake Thermal Efficiency results of the mapping over the full operational area of the engine |
| 5b– Toyota 2.5L TNGA Prototype Engine from 2016 Aachen Paper – Efficiency.emf | Contour plot of the Brake Thermal Efficiency results of the mapping over the full operational area of the engine |
| 6- Toyota 2.5L TNGA Prototype Engine from 2016 Aachen Paper – Fuel Map Data.xlsx | Data collected during engine testing related to the fuel rate to confirm expected trends in the output fuel map |
| 7– engine\_2016\_toyota\_TNGA\_2L5\_  paper\_image.m | ALPHA output result text file |

**REVISION HISTORY:**

Version 2017-12: Modified generation process report layout, added supporting documents to the package, added citation reference and modified supporting documents file names to align with updated naming convention, processed updated test data thru ALPHA for enhanced quality control provisions

Version 2017-01: Initial release