Toyota Statement in Response to Exponent Reports on ETCS and EMI

September 24, 2012

Toyota today published (ETCS-i report) Exponent's comprehensive, independent analysis of the Electronic Throttle Control System with Intelligence (ETCS-i) in Toyota and Lexus vehicles. As part of this unprecedented research effort, Exponent also tested the potential impact of electromagnetic interference (EMI) on Toyota's ETCS-i system (EMI report).

Exponent found no defect in Toyota electronics and software that could be responsible for causing unintended acceleration in Toyota and Lexus vehicles and concluded that Toyota's robust network of safety features and overall system design will trigger failsafe responses that would prevent any such occurrence. Exponent also found no real world conditions where EMI could result in substantial, uncommanded increases in throttle position or engine speed.

Steve St. Angelo, senior vice president of Toyota North America, said: "We are pleased that the conclusions of Exponent's comprehensive technical analysis of our vehicles affirm the safety of Toyota's Electronic Throttle Control System and are consistent with those that the NHTSA and NASA published last year."

St. Angelo continued: "Exponent's independent testing found that our Electronic Throttle Control System is well designed and does not have a defect that causes uncommanded acceleration. We believe these results further validate the quality and reliability of our throttle technology and should reinforce our customers' confidence in the safety of their vehicles."

In 2010, in response to reports of unintended acceleration in Toyota and Lexus vehicles using ETCS-i, Toyota gave Exponent an unfettered mandate — without limitations on timing or budget — to conduct an independent, comprehensive investigation of the company's technology and committed to making the results public. In performing this inquiry, Exponent subjected Toyota vehicles, systems and components to an exhaustive array of tests to stress the ETCS-i in different ways and observe whether it responded with substantial increases in throttle position or engine speed.

The firm's analysis included, but was not limited to, an exhaustive examination of possible ways that the ETCS-i system might fail, an exploration of the potential impact of tin whiskers, a review of software test documents from Toyota and a line-by-line analysis of sections of the source code that govern throttle control.

The relevant components, subsystems and vehicles were also subjected to tests with EMI hundreds or thousands of times stronger than anything found in the real world. In fact, engineers bombarded Toyota vehicle systems with EMI on a scale so significant that it on occasion resulted in physical damage to vehicle components.

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