



22 December 2017

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Department of Motor Vehicles
Licensing Operations Division
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Sacramento, CA 95818-2606

Annual Report of Autonomous Mode Disengagements

Dear Mr and Mrs,

Pursuant to California Code of Regulations title 13, article 3.7, section §227.46, we hereby report a summary of disengagements from automated mode. As a global company, we are developing and testing automated vehicles in several countries globally and several states in the US. In this report, we only list disengagements and miles driven in the state of California.

Yours sincerely

A handwritten signature in black ink, appearing to read 'S. Zimmermann'.

Sven Zimmermann
Director Engineering Automated Driving
Robert Bosch LLC

Month	Number of miles in automated mode on public roads in California, USA per month for vehicle 049M272	Number of miles in automated mode on public roads in California, USA per month for vehicle 007M285	Number of miles in automated mode on public roads in California, USA per month for vehicle 7MZC086	Total number of disengagements on public roads in California, USA per month	Total number of disengagements on interstates / freeways / state highways / public rural roads or other streets / parking facilities in California, USA per month	Total number of disengagements on public roads or other streets in California, USA per month due to weather conditions / road surface conditions / construction / emergencies / accidents or collisions / planned test of technology
Dec-16	0	149	0	95	86/9/0/0/0	0/0/0/0/0/95
Jan-17	0	406	0	198	180/18/0/0/0	0/0/0/0/0/198
Feb-17	0	64	0	57	56/1/0/0/0	0/0/0/0/0/57
Mar-17	11	49	337	148	143/5/0/0/0	0/0/0/0/0/148
Apr-17	0	75	117	41	36/5/0/0/0	0/0/0/0/0/41
May-17	0	161	0	30	20/10/0/0/0	0/0/0/0/0/30
Jun-17	0	76	0	26	22/4/0/0/0	0/0/0/0/0/26
Jul-17	0	9	0	3	3/0/0/0/0	0/0/0/0/0/3
Aug-17	0	0	0	0	0/0/0/0/0	0/0/0/0/0/0
Sep-17	0	0	0	0	0/0/0/0/0	0/0/0/0/0/0
Oct-17	0	0	0	0	0/0/0/0/0	0/0/0/0/0/0
Nov-17	0	0	0	0	0/0/0/0/0	0/0/0/0/0/0

The table above does not include the period of time elapsed from when the autonomous vehicle test driver was alerted of a technology failure and the driver assumed manual control of the vehicle. This is due to the following reason: as previously stated to the DMV, we are unable to measure this time period for every single disengagement because not all driving situations do require measurable driver input. Rather, when a disengagement from automated mode occurs, the driver is immediately alerted audibly and visually and then immediately reassumes control. However, reassuming control does not necessarily mean the driver must perform an immediate, measurable input on the steering wheel, brake or gas pedal or any other input device. Our test vehicle safety approach, therefore, includes the process of transition from automated to manual mode to be included in a specific test driver training. Only trained drivers are allowed to operate a test vehicle and they



constantly monitor the vehicle's operation. This safety approach has been reviewed by an independent 3rd party safety organization (TUEV Sued).

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