



February 6, 2020

VIA ELECTRONIC FILING

Mr. James Owens
Acting Administrator
National Highway Traffic Safety Administration
1200 New Jersey Avenue, S.E., West Building
Washington, DC 20590

Re: National Highway Traffic Safety Administration (NHTSA) 49 CFR Part 571: Federal Motor Vehicle Safety Standard No. 111 Rear Visibility; 84 Fed. Reg. 54533; October 10, 2019 (Docket No. NHTSA-2018-0021)

Dear Mr. Owens:

Texas Instruments Incorporated (Texas Instruments) is submitting the following written comments in response to NHTSA's publication of an Advanced Notice of Proposed Rulemaking (ANPRM) published October 10, 2019, seeking public comment on permitting camera-based rear visibility systems (CMS) as an alternative to inside rearview and outside side view mirrors. Texas Instruments strongly supports updating the current FMVSS 111 to permit CMS.

CMS cameras are designed to replace the physical mirrors of an automobile with a combined camera, image signal processor and display. The replacement of side mirrors with CMS provides the necessary visibility with additional features and analytics while also offering improved fuel economy through greater vehicle aerodynamics. CMS can provide superior image quality and expanded field of view, offer increased information and analytics, and help mitigate challenges such as glare, weather, or other obstructions. Drivers are already experiencing the benefits of camera systems through applications like rear backup cameras and displays, as well as CMS deployment in other regions such as Europe. Texas Instruments' auto-grade analog and embedded processing semiconductors enable high-resolution images to provide rear and side visibility to the driver under a variety of conditions. Our products help customers build CMS that provide reliability in harsh automotive environments to mitigate visibility challenges and that can provide constant monitoring to help ensure the CMS is connected and operating as designed.

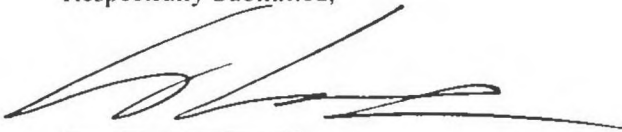
CMS is also a building block to provide drivers with greater driving assistance when combined with additional features. CMS can provide safety relevant information through augmented reality images displaying the distance and speed of objects. The addition of radar sensors can validate the camera information or supplement the camera in low visibility conditions, providing the driver more time to react. Also, unlike traditional mirrors, CMS can be used to continuously scan the environment to evaluate the conditions and reduce the probability of crashes from blind spots, fast approaching vehicles and road hazards. CMS can support the use of multiple cameras to stitch together images to provide seamless viewing behind and around the vehicle. As such, any amendments to FMVSS 111 should provide flexibility to allow the combination of various cameras and displays. If NHTSA permits the deployment of CMS, it can spur deployment of not only CMS, but additional advanced driving assistance systems.

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Texas Instruments thanks NHTSA for its efforts to support vehicle safety innovations and strongly recommends NHTSA move to modernize FMVSS 111 by proceeding with rulemaking to allow CMS as an additional compliance option.

Texas Instruments appreciates the opportunity to comment. If you have any questions, please contact Hannah Izon, Director of Government Relations at 202-220-9468 or h-izon@ti.com.

Respectfully Submitted,

A handwritten signature in black ink, appearing to read 'Curt Moore', with a long horizontal flourish extending to the right.

Curt Moore
Product Line Manager, Automotive Processors
Texas Instruments Incorporated