

### **Chronology of Defect/Noncompliance Determination**

In mid-July 2020, MBAG launched an investigation after receiving reports from the field describing situations where the rearview image in various vehicle platforms remained blank after the transmission was placed in reverse. The initial information that MBAG received from these reports was general in nature and did not point to any particular reason for the anomaly. MBAG proceeded to obtain a vehicle from the field for additional analysis in late summer of 2020. In cooperation with the MBUX system supplier, MBAG conducted an analysis of the vehicle throughout autumn of 2020. During the course of the testing, MBAG became aware of other reports from the field that indicated a possible issue with the performance of the MBUX system and rearview camera display. In these instances, customers reported a brief interruption of the rearview image after which it would immediately reappear. In the winter of 2020 and into 2021 MBAG worked to identify the conditions that appeared to affect the performance of the MBUX system under these two potential failure mechanisms. These aspects were further considered including whether they were related issues and any influence on each other.

MBAG's investigation revealed that the MBUX system may not initialize as intended depending on a specific combination of conditions such as component tolerances and temperatures. If those conditions were to occur, the rearview camera image might not be displayed.

Further, through the investigation it was found that there is a possibility that an ongoing writing operation on the hard drive of the MBUX multimedia system could be interrupted during the "shut down" phase of the system. If this were to occur, the unprocessed data could be stored on the hard drive and the next time the MBUX system was initiated, while the system would restart as intended, it then could reboot itself approximately 50 seconds after system initiation. While the reboot process was ongoing, the rearview image would be interrupted and would not be displayed, but would immediately reappear after the conclusion of the reboot process. MBAG further evaluated the length of the reboot process and it was found that while in many instances the reboot lasted for only one second or less, there was at least one instance where the reboot process lasted several seconds.

On May 7, 2021, MBAG determined that the vehicles do not meet the requirements of FMVSS 111 section 5 & 14 if either of the conditions were to occur and decided to conduct a non-compliance recall to address these issues.