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**Performance Requirements and Testing Methods for
Around View Monitoring System of Vehicles**

汽车全景影像监测系统性能要求及试验方法

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Foreword

This document was drafted in accordance with the rules provided in GB/T 1.1-2020 *Directives for Standardization - Part 1: Rules for the Structure and Drafting of Standardizing Documents*.

Please be noted that certain content of this document may involve patents. The institution issuing this document does not undertake the responsibility of identifying these patents.

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The drafting organizations of this document: Anhui Jianghuai Automobile Group Co., Ltd.; China Automotive Technology & Research Center Co., Ltd.; CHERY Automobile Co., Ltd.; Dongfeng Trucks Co., Ltd.; Chongqing Yu Microelectronics Technology Research Institute Co., Ltd.; Dongfeng Motor Group Co., Ltd.; Shenzhen Longhorn Automotive Electronic Equipment Co., Ltd.; Hangzhou HikAuto Technology Co., Ltd.; Daimler Greater China Investment Co., Ltd.; Chongqing Chang'an Auto Co., Ltd.; Shanghai Baolong Automotive Technology Co., Ltd.; Tsinghua University; VOLVO Car Asia Pacific Investment Holdings Co., Ltd.; Beijing Automotive Technology Center; Hefei SOFTEC Auto Electronic Co., Ltd.; Changzhou Xingyu Auto Lighting Co., Ltd.; Shanghai NIO Co., Ltd.

The main drafters of this document: Zhang Lei, Chen Zhenyu, Zhu Zijia, Zhang Shiqi, Shen Hongrong, Li Yang, Huang Huili, Zhang Shan, Qi Qi, Wang Zhen, Li Yunbin, Wang Jin, Li Yinan, Cao Bintao, Xu Dingchao, Li Keqiang, Qian Demeng, Huang Fang, Zhuang Yunlong, Xu Yonghua, Zhang Tong, Jin Xiulian.

Performance Requirements and Testing Methods for Around View Monitoring System of Vehicles

1 Scope

This document specifies the general requirements and performance requirements for around view monitoring system when the vehicle is stationary and driving at a low speed and describes the test methods.

This document is applicable to Category-M and Category-N non-articulated vehicles equipped with the around view monitoring system. Other types of vehicles may take this as a reference.

2 Normative References

The contents of the following documents constitute indispensable clauses of this document through the normative references in the text. In terms of references with a specified date, only versions with a specified date are applicable to this document. In terms of references without a specified date, the latest version (including all the modifications) is applicable to this document.

GB 34660 Road Vehicles - Requirements and Test Methods of Electromagnetic Compatibility
GB/T 39263 Road Vehicles - Advanced Driver Assistance Systems -
Terms and Definitions

3 Terms and Definitions

The terms and definitions defined in GB/T 39263, and the following are applicable to this document.

3.1 around view monitoring system; AVMS

A system that provides the driver with real-time image information of the environment within a 360° range around the vehicle.

3.2 blind spot of AVMS

Due to camera placement and vehicle structure limitations, the area around the vehicle that cannot be monitored by the AVMS.

3.3 single view image

A view that separately displays the images collected by a certain camera.

NOTE: single view images are generally divided into front single view images, rear single view images, left single view images and right single view images.

3.4 splicing view plane

A plan view showing the surrounding environment information of the vehicle obtained by processing the images collected by various cameras.

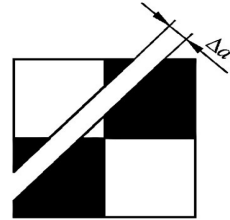
3.5 splicing gap

In the splicing view plane (3.4), the image gap generated by splicing images collected by adjacent cameras.

NOTE: see Figure 1.



a) Ideal Splicing Effect



b) Splicing Gap

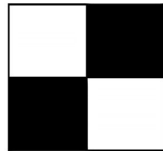
NOTE: the area shown by Δd is the splicing gap.

Figure 1 -- Schematic Diagram of Splicing Gap

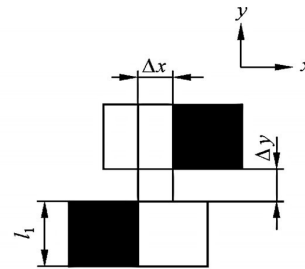
3.6 splicing dislocation

In the splicing view plane (3.4), the offset of the image display position after splicing of images collected by adjacent cameras.

NOTE: see Figure 2.



a) Ideal Splicing Effect



b) Splicing Dislocation

NOTE: Δx is splicing dislocation in the x direction, Δy is splicing dislocation in the y direction, and l_1 is the side length of the checkerboard graphic card cells on the image.

Figure 2 -- Schematic Diagram of Splicing Dislocation