

Injection card / Reinjection card S1 for 4-way In-vehicle Camera Video

Solution for hardware of Auto Pilot DATA in the loop simulation HIL



AUMO



Product Introduction:

Injection card S1 for 4-way In-vehicle camera video is an optimization solution independently developed by ALINX Electronic Technology (Shanghai) Co., Ltd, it meets the requirements for inputting 4-channel HDMI to 4-channel GMSL2 video injection, and the board also reserves PCIE X4 interface, which has the characteristics of high integration and high reliability, saving space for customers, reducing energy consumption, and reducing the cost of the entire equipment.

I. Key parameters:

Item	Content	Item	Content
Serializer	Simulate MAX96717 / MAX96717F / MAX9295A / MAX96715	Corresponding Deserializer	Support MAX96712 / MAX9296A and so on
GMSL Output	Support 4096×2160@30fps output	GMSL Channels	4-way GMSL video output
Video format	YUV422、RAW12	PCIE	PCI Express Gen 3 x4
HDMI Input	Support 4096×2160@30fps input	HDMI Channels	4-way HDMI video input
Ethernet	Support gPTP timestamp with time service, with the accuracy of less than 1 ms	Cable length	Under GMSL1 mode can reach 40m (3Gbps) Under GMSL2 mode can reach 20m(6Gbps)
Upgrade	Support firmware upgrade of the network port	FAKRA	4-in-1 Amphenal Z code mini-Fakra
Working temperature	-40°C ∼70°C	Storage temperature	-40°C∼85°C
Working Humidity	10%~90%	Storage Humidity	0~90%
Power supply	PCIE Power supply / 12V Power supply	Weight	400g
Size	Length* Width : 111.15 * 189.99 (mm)	MTBF	5 years



II. Interface description:

4 mini-HDMI input interface, one 4-in-1 Amphenol mini-Fakra interface (4-way video output) are led out at baffle as the external interfaces.



III. Size and Structure:



IV. Power consumption test:

Item	Power Consumption (W)	Remark
Static power consumption	7.14	
Dynamic power consumption	16.47	



V. Typical cases

Hardware-in-the-loop testing of HIL solutions enables multi-board parallel expansion of injection channels.





Version control:

Version	Time	Description
1.0	2023/4/10	Initial version
1.1	2023/5/17	Update "2. Interface Description" and "3. Fakra Interface Definition"
1.2	2023/11/13	Simplify descriptive and tabular content

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