SAMPLE TESTING AGREEMENT

This Agreement is signed between **Beijing Tusen Zhitu Technology Co., Ltd.** （北京图森智途科技有限公司）, a company registered at Shunyi Zone of Zhongguancun Science and Techonlogy Park, No.1 Linkong 2nd Road, Shunyi District, Beijing, China (**Beijing Tusen**), and TuSimple JAPAN Co., Ltd. , a company registered in Room 401, 1-7-1 Shirokane, Minato-ku, Tokyo, Japan, (**Tusimple Japan**).

Beijing Tusen and Tusimple Japan hereinafter shall be referred to collectively as the "Parties" or individually as the "Party."

Beijing Tusen will provide autonomous driving equipment samples described in Exhibit 1 of this Agreement ("**Test Samples**") to its brother company Tusimple Japan. Tusimple Japan will conduct product testing on this batch of samples.

Now, therefore, the Parties agree on the following terms:

1. Use of Test Samples

1.1 Tusimple Japan can only install, use and operate Test Samples on equipment expressly approved by Beijing Tusen for the purpose of collecting test data and evaluating the function of the Test Samples, and shall not use Test Samples or conduct research on them for any other purpose (including but not limited to commercial operations, technical research).

1.2 Beijing Tusen agrees that the Test Samples are free of any charges.

1.3 TuSimple Japan shall not disassemble, reverse engineering the Test Samples, disassemble or decompile any software within the Test Samples and shall not provide the Test Samples to any third Party for whatever purpose.

1.4 In order to achieve good test results, Tusimple Japan agrees to provide regular feedback on questions, opinions, suggestions and needs during the test service period, and to regularly participate in meetings or discussions organized for the purpose of test services.

2. Intellectual property rights

2.1 The Parties agree that Beijing Tusen retains all intellectual property rights (including but not limited to trademark rights, patent rights, trade secrets and other intellectual property rights under intellectual property laws) and interests in and to the Test Samples and associated materials of the Test Samples. TuSimple Japan acquires no licenses or any other right in respect of any intellectual property rights of Beijing Tusen under this Agreement.

2.2 Without written consent, Tusimple Japan shall not use test products and related materials to develop any intellectual property rights.

3. Use at own risk, No Warranty

3.1 The Test Samples are provided "as is" and without express, implied or statutory warranty, and TuSimple Japan hereby confirms that it has inspected the Test Samples prior to the execution of this agreement (or will do so immediately upon receipt) and accepts Test Samples' current condition. In no event shall Beijing Tusen be liable for warranty of any kind, including any implied warranty of merchantability, fitness for a particular purpose or non-infringement.

3.2 TuSimple Japan acknowledges that the use of the Test Samples and any test and evaluation that it performs with regards to such is done entirely at TuSimple Japan's own risk. TuSimple Japan shall have the sole responsibility for adequate protection of its data and other property used in connection with the Test Samples and shall not make any claim against Beijing Tusen resulting from its use of the Test Samples.

4. Confidentiality

4.1 Each party to this agreement is obliged to keep confidential the data, technical information and business secrets that the other party has not disclosed to the public, as well as the cooperation details under this agreement, that it knows or obtains during the cooperation process ("**Confidential Information**"). Without the written permission of the other party, neither party shall disclose Confidential Information to a third party, make public or use it for any purpose other than solely in connection with testing and evaluating the Test Samples. Otherwise the breaching Party shall bear the liability for breach of contract and compensate for the loss suffered by the other Party.

4.2 Each party understands and agrees that the confidentiality obligations pertaining to the Confidential Information shall survive any termination or expiration of this Agreement.

4.3 Disclosure of confidential information by any party under any of the following circumstances shall not be deemed a violation of this agreement:

(1) The information was already known to the public at the time of disclosure;

(2) The information is disclosed pursuant to the prior written consent of the other party;

(3) A party discloses in accordance with the requirements of the judicial and other departments of the government that have jurisdiction over it when performing official duties in accordance with applicable laws and regulations, provided that one party notifies the other party in writing of the exact nature of the disclosed confidential information before disclosure.

5. Other

5.1 This Agreement shall be governed by the laws of the People's Republic of China. Any dispute related to or arising from this Agreement shall be resolved by the people's court where Beijing Tusen is located.

5.2 If the Parties are satisfied with the testing result of the Test Samples, the two parties will conduct further communication on the cooperation regarding the autonomous driving equipment.

TuSimple JAPAN Co., Ltd.

Date: May 20, 2023

Beijing Tusen Zhitu Technology Co., Ltd.

Date: May 20, 2023

Exhibit 1

Test Samples Information

		Name	Specifications	quantity	Unit price	Toatal (CNY)
1	Camera	Camera F20-V5	Short focus	11	100	1100
2		Camera F20-V5	telephoto	2	100	200
3		Camera Holder V3.0	Fixed Camera Angle Bracket	20	10	200
4	TSU	TSU		2	1571	3142
5		TSU1 CMC1	TU4010012-S2	1	10	10
6		TSU-FPD2 8.5M	TU4010003-S1	1	5	5
7		TSU-FPD3 8.5M	TU4010004-S1	1	5	5
8		TSU-FPD4 8.5M	TU4010005-S1	1	5	5
9		TSU-HSAL	TU4010006-S1	3	5	15
10		TSU XGbE2	TU4010007-S1	1	5	5
11		TSU GbE2	TU4010008-S1	1	5	5
12		HSALTOT		1	5	5
13		HSALTOT1 0.3M	TU4010011-S1	1	5	5
14		Media Converter		4	5	20
15		Mini Fit 2m	TU4012005-S1	2	5	10
16		TSU1 GbE1	TU4010014-S1	5	4	20
17		RJ45 socket	LP24 type RJ45 socket	1	5	5
18		CMC power cable		1	2	2
19	Lidar system	Hesai LiDAR Pandar40P		3	800	2400
20		40P wiring harness (self-made)		4	6	24
21		Tele-15 (12V)		1	5	5
22		DC24V to 12V		4	5	20
23		Tele-15 wiring harness	TU4002001-S2	1	5	5
24		Tele-15 wiring harness (direct connection)	TU4002001-S3	1	5	5
25		Pandar QT		5	300	1500
26		Lidar11 5m	TU4002006-S2	1	5	5
27		Lidar13 5m	TU4002007-S1	1	5	5
28		Lidar12 7m	TU4002008-S1	1	5	5
29	Radar system	Millimeter wave radar ARS408		9	230	2070
30		Radar1 8M	TU4003003-S1	2	5	10
31		Radar2 8M	TU4003004-S1	2	5	10

32		Radar3 8M	TU4003005-S1	2	5	10
33		Radar4 Extension Cable (CAN, Power)	TU4003006-S1 Extended to 20m production adapter cable	2	6	12
34		Radar5 extension cable (CAN, power supply)	TU4003007-S1 Extended to 20m production adapter cable	2	6	12
35		Radar6 Extension Cable (CAN, Power)	TU4003008-S1 Extended to 20m production adapter cable	2	6	12
36	**Navigation system**	Pwrpak7D-E1 Kit		1	10	10
37		Pwrpak7 IO	TU4009004-S1	1	8	8
38		Pwrpak7_ANT1	TU4009001-S1	1	8	8
39		Pwrpak7_ANT2	TU4009002-S1	1	8	8
40		Category 6 network cable	2m	2	5	10
41	**7U Server**	7U server	DC 3090	2	9980	19960
42		7U power cord		2	10	20
43		Category 7 network cable	2m	4	5	20
44	**AP**	AP panel (12V)		1	100	100
45		DC24V to 12V		2	10	20
46		AP 5m	TU4006003-S1	1	5	5
47	**Control**	TTC580		2	500	1000
48		TTC580_1-96way	TU4007010-S2	2	10	20
49		TTC580_1-58way	TU4007011-S2	2	10	20
50		TTC580 CAN	TU4007003-S1	2	10	20
51		CAN logger	TU4007003-S3	8	8	64
52		Zhou Ligong CANDTU		2	5	10
53		Termination Resistor Adapter Cable	TU4024001-S1	5	5	25
54		Take Over Button Set		1	5	5
55	**Accessories**	LinkPi ENCSH	/	1	100	100
56		MOKOSE SHD50	2.5MM	1	10	10
57		SDI camera cable	75 Ohm, 5m	1	15	15
58		Microphone	3.5mm plug, 3.5m cable	1	5	5

59		HDMI cable	5m	2	5	10
60		Category 6 network cable	5m	2	5	10
61		FortiGate 61F	/	2	10	20
62		Category 6 network cable	1m	8	10	80
63	alternator	180A generator		2	230	460
64		Generator bracket combination (including two brackets)		2	120	240
65		mounting bolts		2	20	40
66	Power cable	Battery to E-BOX positive wire harness	RV50 square single-core multi-strand power cord (red)	1	200	200
67		Battery to E-BOX negative wire harness	RV50 square single-core multi-strand power cord (black)	1	200	200
68		Alternator to battery positive wire harness		2	30	60
69		1 fuse box and 150A fuse		2	15	30
70		1 fuse box and 200A insurance		2	15	30
71		fuse box		2	5	10
72		Fuse box and electrical cable		2	5	10
73		terminal wire		2	10	20
74		Copper wire nose 300A		2	2	4
75	power supply system	PDU	EB301	2	2000	4000
76		E-BOX_Charge to BAT1+ Harness	modified homemade	2	20	40
77		E_BOX	TU3700001-S2	2	5000	10000
78		E-BOX 16P-F wiring harness	TU4017002-S2	2	5	10
79		Charge Power Harness	TU4011002-S2	2	5	10
80		PDU 24V+	TU4011005-S2	2	5	10

81		camera cleaning system		2	100	200
82		novatel antenna bracket (old model with holes)		2	35	70
83		Cab rear window threading hole connector L type		2	5	10
84		Cab rear window threading line card		2	5	10
85		Cable tie 5*350		1	10	10
86		Cable tie 4*150		1	10	10
87		3M adhesive Velcro 2cm*3m		1	5	5
88		3M double-sided tape 3CM		1	5	5
89		Positioning piece 40*40		1	5	5
90		Bellows		1	40	40
91		Open self-rolling casing 25#		1	20	20
92	Accessories	Braided mesh flame retardant conduit 6#		1	5	5
93		Braided flame retardant wire protection pipe 10#		1	5	5
94		Braided flame retardant wire protection pipe 16#		1	5	5
95		Cable tie 5*200		1	3	3
96		40# L-shaped aluminum angle		1	10	10
97		Chint hydraulic pliers terminal pliers		1	30	30
98		Ram Nail M6		1	1	1
99		Ram Nail M8		1	1	1
100		M6x16 bolts		1	1	1
101		M6x20 bolt		1	1	1
102		M8x20 bolt		1	1	1

103		M6, M8 gasket		1	1	1
104		cloth tape		1	2	2
105		Electrical tape black		1	2	2
106		Hexagon socket screw M6*1.6cm		1	1	1
107		M8*1.5cm inner hexagon screw		1	1	1
108		M6*1.2cm inner hexagon screw		1	1	1
109		slider		1	1	1
110		Duct tape (wide)		1	2	2
111		Crimping Tool		1	5	5
112	**Fixture**	Cab rear window aluminum alloy plate		2	35	70
113		Hino Novtel Mounting Bracket		2	5	10
114		Hino 40P Left Mounting Bracket Combination		2	15	30
115		Hino 40P+Radar left mounting shell combination		2	20	40
116		Hino 40P Right Mounting Bracket Combination		2	20	40
117		Hino 40P+Radar right mounting shell combination		2	20	40
118		Hino front face QT mounting bracket (LiDAR12)		2	15	30
119		Hino front face QT mounting shell		2	15	30
120		Hino Front Radar Mounting Bracket Combination		2	15	30
121		Hino Front Radar Mount Enclosure		2	15	30
122		Hino Rear Radar Left Mounting Bracket		2	10	20

123		Mounting Bracket for Hino Rear Radar		2	10	20
124		Right Mounting Bracket for Hino Rear Radar		2	10	20
125		Hino cabinet front base positioning connection plate		5	10	50
126		Hino upper left camera mounting bracket		2	20	40
127		Hino upper right camera mounting bracket		2	10	20
128		Hino upper left QT mounting bracket combination		2	30	60
129		Hino upper right QT mounting bracket combination		2	30	60
130		Hino Cabinet Tray		8	20	160
131		Hino Cabinet Tray Mounting Brackets		32	10	320
132		Hino cabinet cover combination		2	30	60
133		Hino Cabinet 7U Anpei Tray Assembly		2	15	30
134		Hino cabinet 7U installation column assembly		2	10	20
135		Fixing plate on Hino cabinet		4	10	40
136		Hino roof beam seat connecting plate - left		2	10	20
137		Hino Roof Beam Shoulder Seat Connecting Plate-Right		2	10	20
138		Hino Roof Beam Mount - Left Front		2	10	20

139		Hino Roof Beam Base - Right Front		2	10	20
140		Hino roof cross member base - left rear		2	10	20
141		Hino roof beam base - right rear		2	10	20
142		Hino cabinet. bottom rear installation base combination		2	35	70
143		Hino cabinet bottom left and right installation base combination		2	35	70
144		The front installation base at the bottom of the Hino cabinet fits together		2	30	60
145		Hino upper left mounting base		2	20	40
146		Hino upper right mounting base		2	20	40
147		Hino Kettle Mounting Bracket		4	10	40
Sum (in CNY)						**50000**

个人简历

基本信息：

姓名：张思源

籍贯：河北省涿州市

年龄：26 岁

电话：(+86)15230206309

邮箱：zsy1594577991@foxmail.com

联系地址：河北省涿州市

教育背景：

2021 年毕业

河北科技大学

电子信息工程专业

兴趣：旅游摄影，滑雪

本人照片：

工作经历：

工作时长：工作总时长三年半。2021 年 1 月初开始在图森实习，6 月份毕业，2023 年作为硬件集成工程师转移至日本图森工作

工作经历：公司：图森未来

2021 年自己独自支持公司本部门河北地区业务一年，2022 年到 2023 年在上海工作两年。2023 下半年至今在日本图森工作。

工作内容：

在日本期间负责硬件集成组及车身控制组、IT 组、改装组的所有测试任务及调研任务及部分开发任务。

进行过全车所有 AD 设备测试及调试及车身控制部分的测试。以及车身电池转向机的安装及改装设计。

负责日本工程部硬件及车身控制的部门文档搭建及输出。

同时负责过 L4 及 L2 无人驾驶卡车全车硬件集成的硬件配置调试标定测试等工作

以及负责过现场测试问题实时远程支持与问题解决。主要负责雷达、导航、相机传感器等整车硬件的硬件及软件测试。

- 自动驾驶系统熟练使用与操作，熟练排查雷达导航和相机等相关问题。
- 为自动驾驶提供传感器与电气部分安装方案解决和配置调试及测试(包括主从系统的服务器，导航，相机，雷达，TBOX，V2X，C2S，交换机，黑匣子，树莓派，以及公司自主研发的设备等)，以及相机雷达导航等传感器的标定等工作。
- 为现场测试同事解决车身 AD 的所有硬件问题，与 IT、VCI、infra、研发以及测试等一起工作，还会和硬件采购商的技术支持人员配合测试和排查。有无人驾驶上路测试经验。
- 参与公司的文档的输出。传感器配置流程文档。整车设备从无到有的工作流程文档。地图车改装手册，使用手册，硬件线路拓扑图，电气线路拓扑图。
- 多种雷达型号(激光雷达 pandar/M1/hap/图达通,毫米波雷达 ars408/oculii/ars548,单线雷达,)多场景点云的采集,雷达选型测试。
- 负责过导航及 DTU 的测试及新设备调试使用
- 有培训本岗位新人经验。

工作技能：

1. 有对接国外的项目经验。有支持德国业务和日本业务的经验。
2. 熟悉 Linux 系统。掌握 Ubuntu 各种插件软件(OTA,Minicom,Docker,rviz,vim,Jumpserver,ssh,ftp,wget,tar,gcc,python,ros 等)的使用，掌握 Windows 多中硬件配置插件(PcanView,HXD,DTUconfig 等)的使用
3. 熟悉雷达点云采集及 compare 点云剪切分析，熟悉导航的使用及根据手册分析导航状态，熟悉相机的环境测试.掌握对导航，雷达，相机等传感器的配置与测试及自动驾驶系统的使用。
4. 有过传感器震动及高温压测经验有服务器的 GPU 及 CPU 压测经验有海外网络测速经验
5. 掌握基础电路知识，万用表，示波器等硬件的使用；掌握车上各种硬件连接线束及接口。
6. 掌握使用 vector 等硬件使用 Canalyzer 的 panel 进行实车 retadar 及转向等测试。并根据 can 数据向量表简单分析数据 看过 capl 代码。熟悉 can 数据的采集及 VCU 和 can 记录仪的使用配置。
7. 掌握 python
8. 会使用 Git
9. 掌握 C 语言熟悉 ARM 汇编，曾用开发板做过嵌入式移植以及简单的驱动代码的学习。
10. 有 stm32 开发经验，熟悉单片机
11. 熟悉 ROS 系统使用。
12. 可以看懂 shell 代码
13. 使用过 CATIA

项目经历：

主机厂对接：

1. 与国内外主机厂进行智驾域的对接。
2. 出差吉利对接研究院的整车无人驾驶设备的项目，为主机厂提供技术支持及全车 AD 设备搭建及测试
3. 出差日本日野帮助日野进行全车 AD 设备测试，及 VUC 到 IFU 再到 ECU 的线路设计及 can 协议的对齐支持工作
4. 支持国内中通物流项目的设备问题排查

地图采集：

5. 地图车的基站搭建，Novatel 移动站采集，以及后处理数据交付。
6. 培训公司测试部门人员使用地图车如何采集高精地图。
7. 测试新型地图车设备，参与改进方案讨论。
8. 公司新型地图车设备使用手册与改装手册的书写。

卡车队列项目： (卡车队列，头车人为驾驶，后车无人驾驶自动跟随)

1. 负责每天测试车辆问题记录与汇总。
2. 全程参与公司与福田开展的卡车队列测试：主要负责 V2X 的丢包数据检测与记录，记录后车跟随距离与情况；车队全车硬件的 安装与整车硬件问题解决；做车上图传设备的硬件选型与延迟等相关测试。

德国项目：

1. MAN 第一辆 L4 卡车全车硬件支持的参与和推进
2. 参与了整车硬件设备及线路图的制作
3. 独自配置与调试卡车硬件直至系统节点全部正常交付并打包邮寄德国。
4. 德国地图车全车硬件调试测试与交付。

日本项目：

1. 22 年曾短期出差日本。
2. 日本第一辆无人车从 0 到上路全程搭建及测试。
3. 日本地图车全车硬件调试测试与交付，及日本地图的采集。

Oversight 项目： (无人卡车的港口倒车入库项目)

1. 主要负责卡车与监控车的 V2X 设备的丢包跟踪与距离测试记录与图传设备解码器延迟调试与记录。

学校经历：

1、华北五省的比赛(2019)：作品是智慧厕所项目，功能为检测模块报警模块通过 ZigBee 模块连接到 STM32 再通过 NB-iot 模块联网把数据传到云平台再到相关网页，实现可上传可下发的控制系统。

我主要负责南向的 NBIOT 与 stm32 的连接与华为云平台的连接测试还参与了各个模块间的 ZigBee 连接。

2、全国大学生创业大赛(2020 年)：作品是智能充电宝项目，已此项专利进行申请，功能是用来监测充电宝的电流电压电容等实时数据，来进行充电宝的使用情况健康状态和可回收的判断。

我负责南向的 ONENET 对接与电路的参数算法的设计讨论。

3、上学期间除了学校的课设，还跟着老师的研究生团队做过华为云与 ONENET 的物联网的一些相关的项目

自学技能：

1、 掌握 C 语言，熟悉 GCC 的一系列编译工具

2、 掌握 Linux 内核的各种 IO 操作、进程的通信、线程的控制以及的 TCP 和 UDP 的网络编程

3、 掌握 ARM 的汇编指令以及一些伪汇编指令，会简单地根据反汇编查看执行文件

4、 掌握 Makefile 与链接脚本的制作，了解 shell 脚本编程

5、 掌握 bootloader 的 u-boot 源码以及命令，熟悉启动过程

6、 掌握内核与文件系统 移植

7、 掌握字符驱动等 驱动开发

8、 掌握 FPGA 的一些基础模块的操作，用 I2C 做过一个小实验

9、 掌握单片机用 STM32 做过一些小项目，用过 NBiot、BC26 与 zigbee 等模块

10、掌握计算机系统与执行流程

11、掌握 ARM 的裸板 SOC 上的各个控制器的操作(中断、UART、DDR 等)，熟悉参考手册和电路图

12、掌握 RS232、RS485 等接口、了解 ROS 机器人操作系统