



# SPECIFICATION

Version No.: V2.0

常州昊翔电子有限公司  
Changzhou HaoXiang Electronic Co., LTD

客户名称

CUSTOMER NAMED : \_\_\_\_\_

产品名称

COMMODITY : Speaker (报警器)

产品型号

MODEL NO : TDA-B7979CC4H740W30

客户料号

PART NO : \_\_\_\_\_

审核

秦皓

主办

牛成洋 Nov.1.2023

## 客户承认栏

承认

拒收

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## A. MODEL: TDA-B7979CC4H740W30

## B. SPECIFICATION

Test condition: Temperature: 15~35°C Related Humidity:25~75% (GB/T9396-1996)

No.	Item	Specification	Condition
1	Dimension	79*79xH73mm	
2	Impedance	4±15%Ω	At 1KHz
3	Output Sound Pressure Level	Max 85±3dB (1M, 3W)	Input power 3W
4	Response Frequency	350±20%Hz	参考 LMS 的阻抗曲线
5	Frequency Range	F0 ~ 20KHz	
6	Distortion	≤10%	At 1KHz
7	Power Rating	Normal: 3W Maximum 4W	
8	Storage temperature	- 40 ~ +85°C	
9	Operating temperature	- 40 ~ +85°C	
9	Abnormal Sound test	Speaker Must be normal at sine wave3.46V@100~5KHz	
10	Polarity	When a positive current is supplied form the speaker the terminal marked (+) and a negative to the other terminal the diaphragm must move toward the front.	
11	RoHS	The Speaker is RoHS compliant.	

## C.ENVIRONMENT TEST

No.	Item	Condition	Evaluation standard
1	High Temperature	After being placed in a chamber at +85±2°C and 20~25%(RH) Relative Humidity for 96 hours	Being placed for 4 hours at room temperature, speaker shall be measured. The sound pressure as specified shall neither deviate more than ±3dB from the initial value, nor any significant damage after any of following testing.
2	Low Temperature	After being placed in a chamber at -40±3°C for 96 hours.	
3	Humidity	After being placed in a chamber at +40 2°Cand 90~95%(RH) Relative Humidity for 48 hours.	

## D.RELIABILTY TEST

No.	Item	Test conditions	Evaluation standard
1	Load test	3.0W pink noise(EIA filter) is applied for 100hours.	The sound pressure as specified shall neither deviate more than ±3dB from the initial value, nor any significant damage after any of following testing.

## E. MEASURING METHOD(SPEAKER MODE)

### F-1. Test Condition

#### (a)STANDARD:

Temperature : 15 ~ 35°C, Relative humidity : 45% ~ 85%,

Atmospheric pressure : 860mbar to 1060mbar

#### (b)JUDGEMENT:

Temperature :  $20 \pm 3^\circ\text{C}$ , Relative humidity : 60% ~ 70%,

Atmospheric pressure : 860mbar to 1060mbar

### F-2. Standard Test Fixture

1. Input Power : 3W

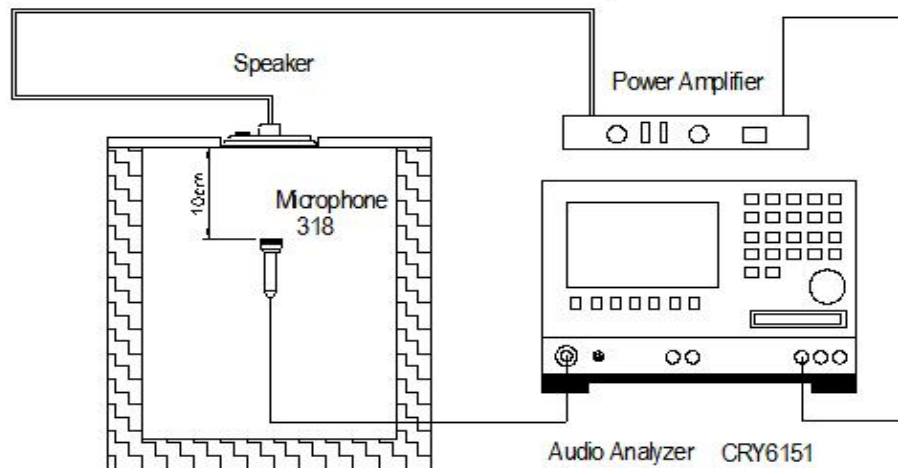
2. Zero Level : -dB

3. Mode : TSR

4. potentiometer Range : 50dB

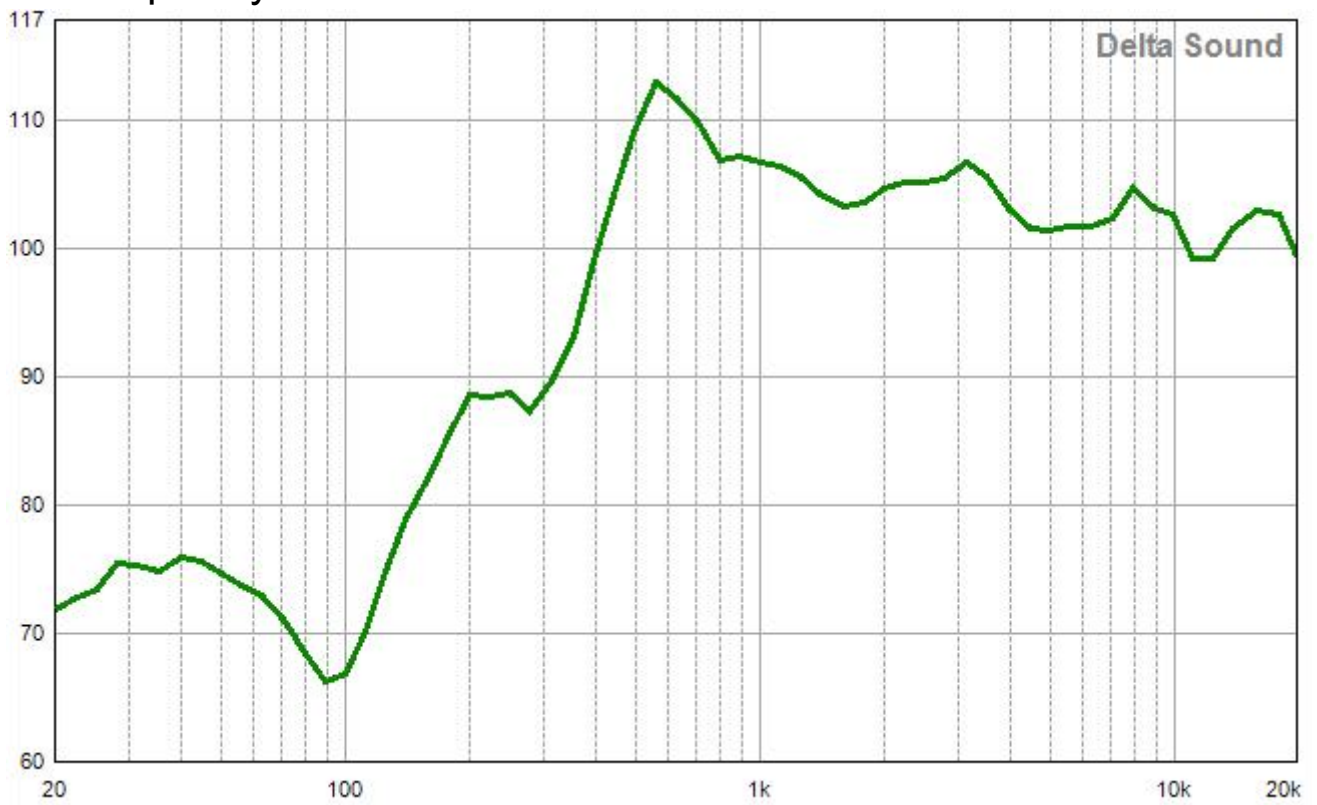
5. Sweep Time : 0.5sec

Standard test condition of speaker

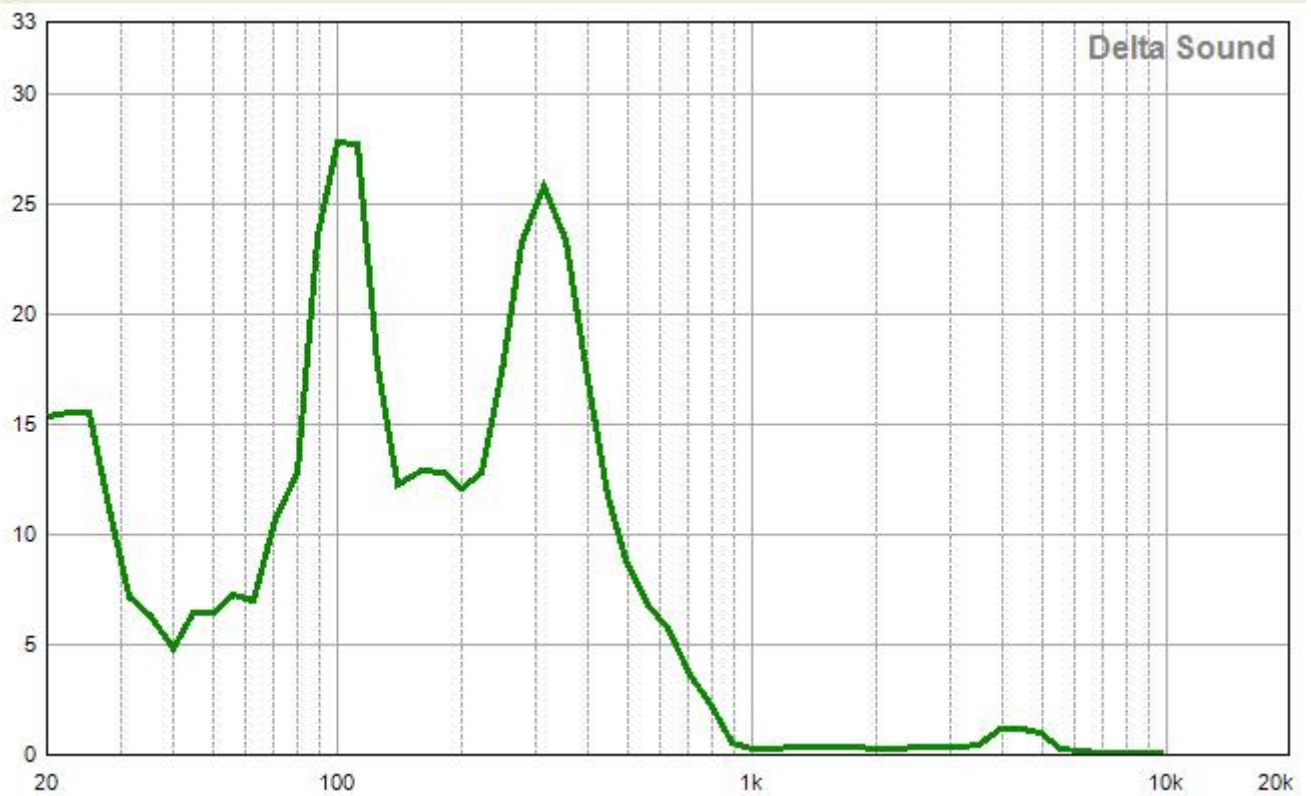


## F.FREQUENCY CURVE (speaker)

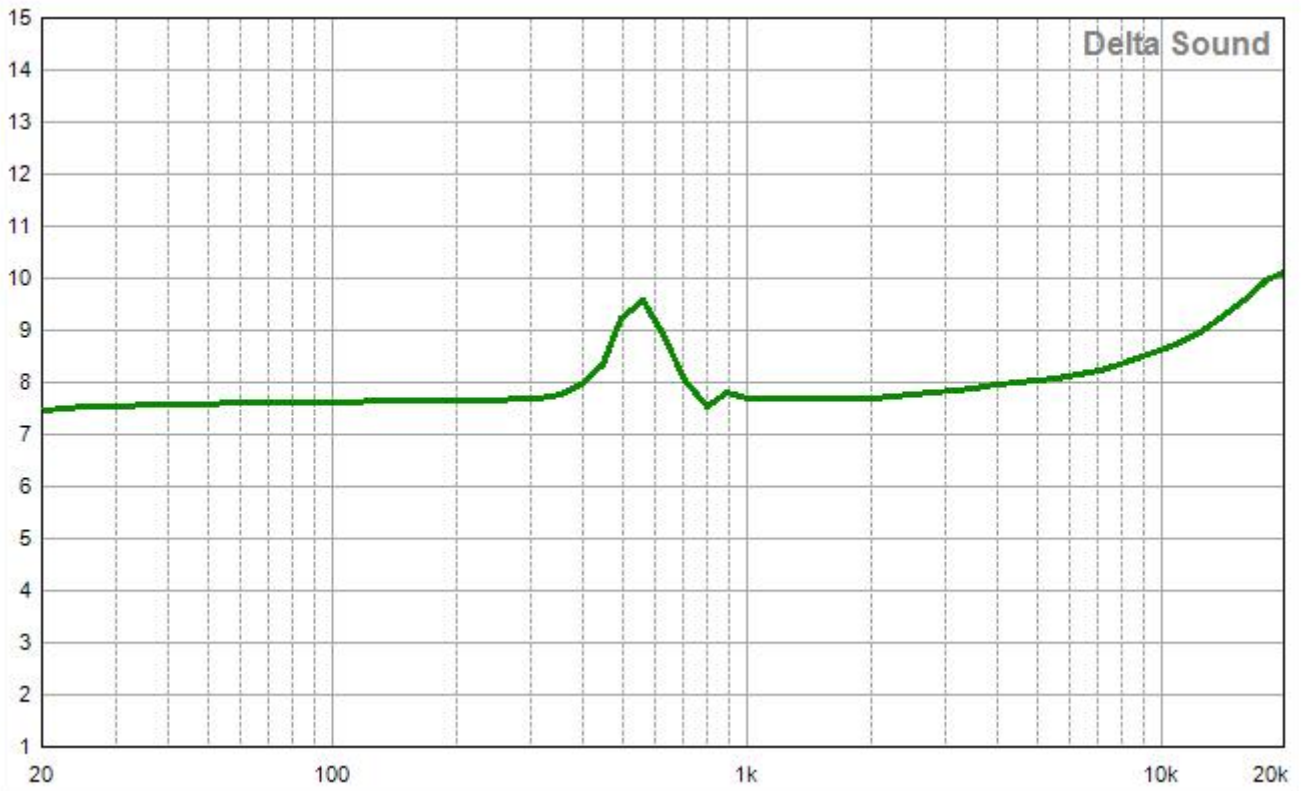
(1) frequency curve



(2) distortion curve (speaker)

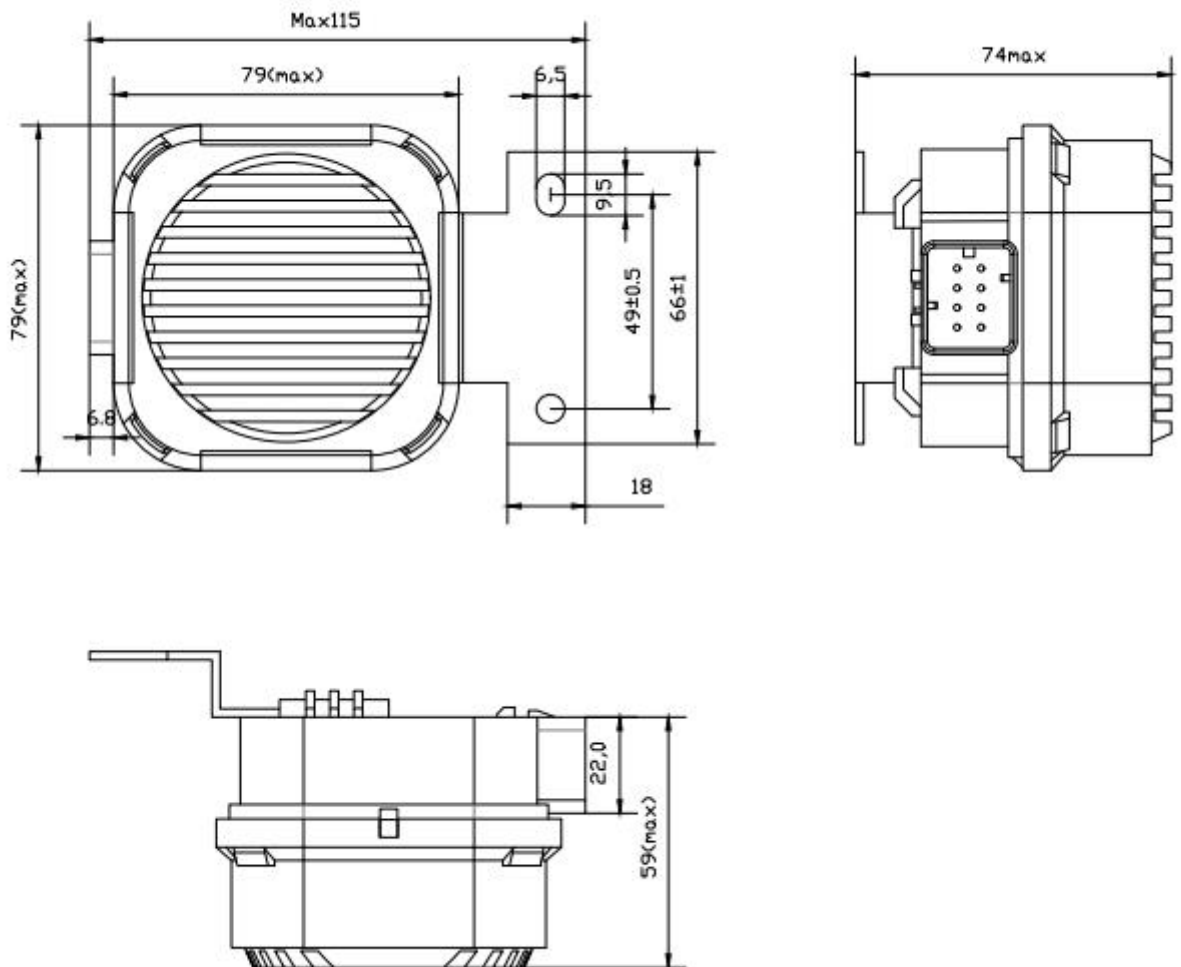


(3) Impedance curve (speaker)



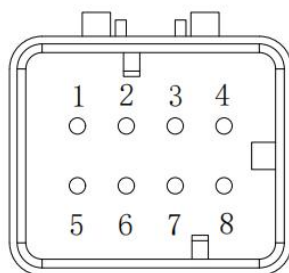
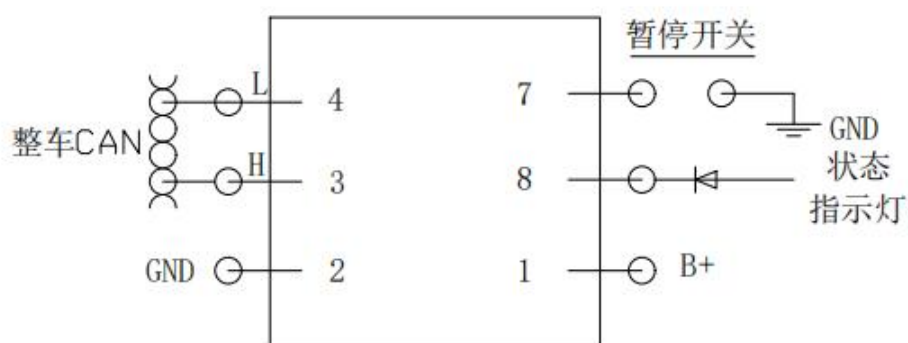
**G. APPEARANCE DRAWING**

Unit:mm Tolerance :  $\pm 1$ mm



PIN	引脚定义	备注
1	B+	电源
2	GND	地
3	CAN_H	总线高
4	CAN_L	总线低
5	NC	空
6	NC	空
7	暂停开关	低电平脉冲
8	指示灯	低边输出

CAN类型：SAEJ1939, 波特率：500K.



适配线束端：  
AMP776494-1

## 技术要求 Technical requirement

1. 标称电压: DC 9V~32V ; Nominal voltage: DC 9V~32V;
2. 工作温度: -40℃~85℃; Operating temperature: -40℃ ~85℃  
存储温度: -40℃~85℃; Storage temperature: -40℃ ~85℃
3. 防护等级: IP67 (连接器插上线束); Protection level: IP67 (connector plug-in wiring harness);
4. 扬声器功率: 3W, 声压级: 60dB~85dB; Speaker power: 3W, sound pressure level: 60dB~85dB;
5. 静态电流: ≤1mA, 工作电流: ≤2A; Static current: 1 mA, working current: 2A;
6. 电磁辐射骚扰抗扰性满足 GB/T 17619 50V/m; Electromagnetic radiation harassment and immunity to meet GB / T 17619 50V / m;
7. 电磁瞬变抗扰性满足 GB/T 21437 等级 3; Electromagnetic transient disturbance resistance meets GB / T 21437 grade 3;
8. 电磁骚扰特性全部频段满足 GB/T 18655 等级 3; Electromagnetic harassment characteristics all frequency bands meet GB / T 18655 level 3;
9. 满足 QC/T 413 《汽车电气设备基本技术条件》; Meet QC / T 413 Basic Technical Conditions for Automotive Electrical Equipment;
10. 满足 GB/T 37153 《电动汽车低速提示音》; Meet the GB / T 37153 "Electric Vehicle Low Speed Message Voice".  
The test product works normally, and the speaker performance does not change;  
试产品工作正常, 扬声器性能无变化;
11. 盐雾试验要求: 产品应能经受不小于 144h 的盐雾试验, 试验后产品应无腐蚀现象 Salt spray test requirements: the product shall be able to withstand the salt spray test of no less than 144h, and the product shall be free of corrosion after the test product function:

## 产品功能 Function

1. 低速行驶提示音功能 Low-speed driving prompt tone function
  - 1.1 低速提示音为模拟发动机声音; Low speed prompt is simulated engine sound;
  - 1.2 点火锁 ACC 或 OFF 档时, 低速提示音不工作; When the ignition lock is in ACC or OFF gear, the low-speed prompt tone does not work;
  - 1.3 点火锁 ON 档时, 低速提示音状态有关闭和开启两种状态, 默认为开启; When the ignition lock is ON, the low speed prompt state is off and on, and the default is on;
    - 1.3.1 提示状态开启时, 满足低速提示音发声条件时, 发出模拟发动机声音; When the prompt state is on, when the low speed prompt sound sound condition is met, the simulated engine sound will be issued;
    - 1.3.2 提示状态关闭时, 停止发出模拟发动机声音; When the prompt state is off, stop the analog engine sound;
    - 1.3.3 暂停开关:Pause switch:
    - 1.3.4 暂停开关信号检测为低有效, 低电平电压门限为 3V; The pause switch signal is detected as low effective, and the low level voltage threshold is 3V;
    - 1.3.5 默认开关悬空状态电平: 高电平; Default switch suspended state level: high level;
    - 1.3.6 信号防抖: 输入电平为低电平, 并持续 100ms 以上; Signal stabilization: the input level is low and lasts for more than 100ms;
  - 1.4 低速提示音 (模拟发动机声音) 提示状态:Low speed tone (simulated engine sound) prompt status:
    - 1.4.1 每次点火锁由 OFF 或 ACC 档切换为 ON 档, 低速提示音(模拟发动机声音)提示状态默认为开启; Each ignition lock is switched from OFF or ACC to ON gear, and the low speed prompt sound (analog engine sound) prompt state is enabled by default;

- 1.4.2 提示状态为开启时, 点火锁 ON 档 且 暂停开关有效一次, 提示状态转换为关闭; When the prompt state is on the ignition lock ON gear and the pause switch is valid once, and the prompt state is switched to off;
- 1.4.3 提示状态为关闭时, 点火锁 ON 档 且 暂停开关有效一次, 提示状态转换为开启; When the prompt state is off the ignition lock ON gear and the pause switch is valid once, and the prompt state is converted to on;
- 1.5 低速提示音状态指示灯:Low-speed prompt tone status indicator lamp:
- 1.5.1 点火锁 ON 档时: 指示灯点亮, 指示低速提示音状态关闭; 指示灯熄灭, 指示低速提示音状态开启; When ignition lock ON: the indicator light is on indicating the low speed tone is off; the indicator light is off and the low speed tone is on;
- 1.5.2 点火锁 ACC 或 OFF 档时: 指示灯熄灭; When the ignition lock is in ACC or OFF gear: the indicator light is off;
- 1.6 低速提示音:Low speed prompt tone:
- 1.6.1 点火锁 ON 档 且 整车上高压且 提示状态为开启时, 按下述要求发出低速提示音; When the ignition lock is ON and the high pressure on the vehicle is open, issue the low speed prompt sound according to the following requirements;
- 1.6.1.1 车速为 0km/h 时, 无低速提示音; No low-speed prompt sound at 0 km/h speed;
- 1.6.1.2 车速 0km/h~20km/h 时, 随车速增加, 频率线性加快, 声压线性增大; When the speed is 0 km/h ~ 20 km/h, as the speed increases linearly, the frequency accelerates linearly and the sound pressure increases linearly; When the speed is 20 km/h ~ 30 km/h, the speed increases linearly and the sound pressure decreases linearly;
- 1.6.1.3 车速 20km/h~30km/h 时, 随车速增加, 频率线性加快, 声压线性减小;
- 1.6.1.4 车速大于 30km/h 时, 无低速提示音; When the speed is greater than 30 km/h, no low speed prompt sound;
- 2 闭锁成功提示音: 点火锁 OFF 档 且 检测到遥控闭锁成功 CAN 信号, 发出语音提示“上锁成功”一次; Lock success prompt sound: ignition lock OFF gear and detected remote lock successful CAN signal, send a voice prompt "lock successfully" once;
- 3 闭锁失败提示音: 点火锁 OFF 档 且 检测到遥控闭锁失败 CAN 信号, 发出语音提示“上锁失败”一次; lock failure prompt sound: ignition lock OFF gear and detected remote lock failure CAN signal, send a voice prompt "lock failure" once;
- 4 解锁成功提示音: 点火锁 OFF 档 且 检测到遥控解锁成功 CAN 信号, 发出语音提示“解锁成功”一次; Unlock successful prompt sound: ignition lock OFF file and detected remote control unlock successful CAN signal, send a voice prompt "unlock success" once;
- 5 门未闭锁提示音: 点火锁 OFF 档 且 检测到门未上锁 CAN 信号时, 发出语音提示“车门未锁”一次; Door unlocked prompt sound: when the ignition lock is OFF and the CAN signal is detected unlocked, send a voice prompt "the door is not locked" once;
- 6 启动充电提示音: 检测到充电 CAN 信号由其他状态变为充电中, 播放“正在充电”语音提示一次; Start charging prompt sound: if the charging CAN signal changes from other states to charging, and the voice prompt "charging" is played once;
- 7 充电完成提示音: 检测到充电 CAN 信号由其他状态变为充电完成, 播放“充电完成”语音提示三次; Completion of charging prompt: the charging CAN signal changes from other states to charging, and the voice prompt of "Completion of charging" is played for three times;
- 8 驾驶员离开提示音: 点火锁 ON 档 且 Ready = 1 且 检测到驾驶员离开 CAN 信号, 播放“驾驶员离开”语音提示一次; Driver leave prompt: ignition lock ON and Ready = 1 and the driver leave CAN signal is detected to play the "Driver leaves" voice Tip once;
- 9 语音提示采用标准普通话, 内容清晰可辨; The voice prompt adopts standard Mandarin, and the content is clear and recognizable;
- 10.休眠条件: 所在总线 CAN 信号消失 5S 后进入休眠; 唤醒条件: 总线上有 CAN 信号立即被唤醒并能工作; Dormant condition: After the bus CAN signal disappears 5S; awakening condition: the CAN signal on the bus is immediately



awakened and works;

11.具备 CAN 升级软件功能： With the CAN upgrade software function;

12.AVAS 主控硬件版本号： HXXX;

AVAS 主控软件版本号： AVAS3819030-VE0101SXXX.YYYC255.255; AVAS Main control hardware version number

HXXX; AVAS master software version number: AVAS3819030-VE0101SXXX.YYYC255.255; 13. 整机符合

DFACC713 的要求： The whole machine meets the requirements of DFACC713;

14. 产品应符合数字化定义,未注线性尺寸公差按照 GB/T 1804 m 级执行; The product shall meet the digital definition, and the unlinear dimensional tolerance shall be GB / T 1804 m level; 15.

15. 标识为永久性标识： The logo is a permanent logo;

16. 产品的材料必须满足 GB/T 30512《汽车禁用物质要求》; The materials of the product must meet the GB / T 30512 "Automobile Disabled Substances Requirements";

17. 产品平均首次故障里程为6万公里,可靠性里程20万公里。The average first fault mileage of the product is 60,000 kilometers, and the reliability mileage is 200,000 kilometers.

## H. PACKING DRAWING

## I. NOTICE ON PRODUCT STORAGE

a. Please store the products in room where the temperature / humidity is stable. And avoid such places where there are large temperature changes. Please store the products under the following conditions :

Temperature : -10 to +40 (degree C)

Humidity : 15 to 85% R.H.

b. Expire date (Shelf life) of the products is 6 months after delivery under the conditions of a sealed and an unopened package. Please use the products within 6 months after delivery.If you store the products for a long time (more than 6months), use carefully because the products may be degraded in the solder-ability and/or rusty.

Please confirm solder-ability and characteristics for the products regularly.

c. Please use the products immediately after the package is opened, because the characteristics may be reduced in quality, and/or be degraded in the solder-ability due to storage under the poor condition.

## J. REVISION

No.	DATE	DESCRIPTION	REMARK	VERSION
1	Nov.1.2023	Initial condition	TDA-B7979CC4H740W30	V2.0