## 唤醒睡眠详细过程

**1. Sleep -> Wake up MCU.**

HS3或HS4上有任何报文即唤醒MCU.

**2. MCU wake up -> Wake up SoC. 下面6个条件满足一个即可,**

2.1. 门锁状态是unlock. 监控的门锁状态为

   0x331   Locking\_Systems\_2\_HS3   Veh\_Lock\_Status.

2.2. 四个车门由close到ajar或者ajar到close（动作，监测跳变）~~且此时需要播放开机动画~~. 监控的车门状态信号为

    0x3B2       BodyInfo\_HS3  DrStatDrv\_B\_Actl

    0x3B2       BodyInfo\_HS3  DrStatPsngr\_B\_Actl

    0x3B2       BodyInfo\_HS3  DrStatRr\_B\_Actl

0x3B2       BodyInfo\_HS3  DrStatRl\_B\_Actl

0x3B2  DrStatTgate\_B\_Actl

2.3. Ignition状态如下~~，直接进入主页~~

    0x3B2       BodyInfo\_HS3  Ignition\_Status = Accessory/Run/Start

2.4. Delay ACC状态

0x3B2       BodyInfo\_HS3  Delay\_Accy = ON

2.5. Power\_Up\_Chime\_Modules状态

    0x225       IPC\_Infotainment    Power\_Up\_Chime\_Modules = Active

此状态下需要支持播放Chime，根据延锋架构设计需要唤醒SoC支持Chime.

2.6. TCU请求唤醒SoC, CAN请求报文待定，HS3和HS4都需要支持此功能。

2.7.按Audio OFF/Home按键唤醒。~~（若从睡眠状态唤醒，则播放开机动画，否则直接进入主页）~~

注意2.1, 2.3, 2.4是状态判断，2.2是动作判断。

**3.保持AHU的屏幕展示内容（有背光，有内容显示, Functional Mode）的,**

3.1. 收到的signal,

    0x3B2       BodyInfo\_HS3  Ignition\_Status = Accessory/Run/Start 或

   0x3B2       BodyInfo\_HS3  Delay\_Accy = ON

注意，HMIAudioMode\_St这个是我们发出去，不是接收的。

3.2 Audio OFF/Home按键进入EP模式

**4. 在如下条件下，AHU要保持MCU和SoC和HS3网络不能睡眠，具体参见AHU SPSS** “PWRMAN-REQ-014466-Network Management”

4.1.收到CAN signal

    0x225       IPC\_Infotainment    Power\_Up\_Chime\_Modules = Active

4.2 用户操作

   用户的操作需要和其它ECU通讯。

**5.系统睡眠**

HS3且HS4网络睡眠后SoC和MCU尽快进入睡眠，控制在10秒内。

## 运输模式功能列表(Ignition = ON)

**支持的功能**

1. Climate Control(包括UFC)

2. Illumination

3. Clock

6. SW upgrade（不支持OTA，支持CAN和USB）

5. Bezel Diagnostic/工程模式

6. SDM（hard button）

7. Launcher（不支持的功能置灰）

8. USB Charging

9. RVC

10. Multi camera

11. PDC

12. CTA

13. 开关机动画

10. RCCM Climate control

13. ICP（除霜除雾支持，Calm screen， audio on/off button能工作，但是相应的功能不反馈，setting不能触发setting页面。）

14. Hazard switch(CD539)

15. CD391 导航button按下不动作

**不支持/不响应的功能**

1. Audio Chime

2. VR

3. Remote start

4. ANC

5. All Media (Audio/Video/BT Phone)

6. Setting

7. TCS Off

8. Calm Screen

9. Display Off

10. Wireless charging notification

12. Vehicle Locator

13. WIFI connection

14. BT connection

16. Notification Center

17. Account

18. Payment

19. RNR实名认证

20. CAQ&AAR

21. HUD support/IPC support

22. 车控家

23. 个性化底图

24. Navigation

25. Contour Seat

26. Find My car

27. 车况监控

28. SWC

29. APA

30. RACM

31． EP mode

## 开机动画补充细化

触发开机动画：

|  |  |
| --- | --- |
| **Pre-conditions** | Doors are closed（所有车门包括后备箱都是关的）  Power mode = Sleep/Standby  Ignition Status is OFF  Delayed Accessory is OFF  Load Shed is not active  Transport Mode is not active |
| **Scenario Description** | User opens the driver or passenger door to enter the vehicle  0x3B2       BodyInfo\_HS3  DrStatDrv\_B\_Actl = closed -> ajar  0x3B2       BodyInfo\_HS3  DrStatPsngr\_B\_Actl = close -> ajar  0x3B2       BodyInfo\_HS3  DrStatRr\_B\_Actl = closed -> ajar  0x3B2       BodyInfo\_HS3  DrStatRl\_B\_Actl = closed -> ajar  在下一个关机动画触发之前，一个周期内门开触发的开机动只值播放最先触发的一次。 |
| **Post-conditions** | The Welcome HMI is displayed |

触发开机动画 (补充) ：

|  |  |
| --- | --- |
| **Pre-conditions** | Doors are closed（所有车门包括后备箱都是关的）  Power mode = Sleep  Ignition Status is OFF  Delayed Accessory is OFF  Load Shed is not active  Transport Mode is not active |
| **Scenario Description** | 用户在车内直接ignition = on. |
| **Post-conditions** | The Welcome HMI is displayed，播放完后进主页 |

触发开机动画 (补充) ：

|  |  |
| --- | --- |
| **Pre-conditions** | Doors are closed（所有车门包括后备箱都是关的）  Power mode = Standby  Ignition Status is OFF  Delayed Accessory is OFF  Load Shed is not active  Transport Mode is not active |
| **Scenario Description** | 用户直接ignition = on |
| **Post-conditions** | The Welcome HMI is displayed，不播放开机动画直接进入主页。 |

触发开机动画 (补充) ：

|  |  |
| --- | --- |
| **Pre-conditions** | Doors are closed（所有车门包括后备箱都是关的）  Power mode = Sleep  Ignition Status is OFF  Delayed Accessory is OFF  Load Shed is not active  Transport Mode is not active |
| **Scenario Description** | 用户在车内直接按audio off. |
| **Post-conditions** | The Welcome HMI is displayed ,结束后进入EP，显示主页。 |

不触发开机动画 (补充) ：

|  |  |
| --- | --- |
| **Pre-conditions** | Doors are closed（所有车门包括后备箱都是关的）  Power mode = Standby  Ignition Status is OFF  Delayed Accessory is OFF  Load Shed is not active  Transport Mode is not active |
| **Scenario Description** | 用户直接按audio off., |
| **Post-conditions** | 不播放开机动画，直接进入EP模式，显示主页。 |

触发开机动画：

|  |  |
| --- | --- |
| **Pre-conditions** | Power mode = Functional(包括transport下的Functional)/Phone Mode/EP  Load Shed is not active |
| **Scenario Description** | 用户执行Master Reset，reset后开机。  或用户长按Audio OFF按键触发强制重启。 |
| **Post-conditions** | The Welcome HMI is displayed |

触发开机动画：

|  |  |
| --- | --- |
| **Pre-conditions** | Power mode = Standby  Load Shed is not active |
| **Scenario Description** | 用户长按Audio OFF按键触发强制重启。 |
| **Post-conditions** | The Welcome HMI is displayed ，开机动画结束后关屏。 |

结束开机动画（完整播放，正常结束）：

|  |  |
| --- | --- |
| **Pre-conditions** | Welcome HMI Active(开机动画正在播放中)  Power mode = standby  Ignition Status is OFF  Delayed Accessory is OFF  Load Shed is not active  Transport Mode is not active |
| **Scenario Description** | The Welcome Timer expires  (开机动画播放结束) |
| **Post-conditions** | The Welcome HMI is exited |

结束开机动画：

|  |  |
| --- | --- |
| **Pre-conditions** | Welcome HMI Active(开机动画正在播放中，不是按键进入EP触发的开机动画)  Power mode = standby  Ignition Status is OFF  Delayed Accessory is OFF  Load Shed is not active  Transport Mode is not active |
| **Scenario Description** | The user turns ON the infotainment system.  This could be entering conditions such as changing ignition status to Run/ACC or turning on Extended play.  (Ignition = Run/Acc, 或用户按Audio OFF按键进入EP模式。~~注意，此时Delay\_acc一定是on,所以不用判断)~~ |
| **Post-conditions** | The Welcome HMI is exited  （开机动画自收到上述CAN信号和按键信号后，立刻结束，不等待整个开机动画播放完） |

触发关机动画：

|  |  |
| --- | --- |
| **Pre-conditions** | Power Mode = Functional/Phone Mode  Ignition\_Status = OFF  Delay\_acc = ON |
| **Scenario Description** | Delay\_Acc = ON->OFF（此时门开不是条件，Delay\_Acc由ON变成OFF才是条件） |
| **Post-conditions** | The Farewell HMI is displayed |

触发关机动画：

|  |  |
| --- | --- |
| **Pre-conditions** | Power Mode = EP mode  Ignition\_Status = OFF  Delay\_Acc = OFF |
| **Scenario Description** | 用户按Audio OFF按键退出EP模式 |
| **Post-conditions** | The Farewell HMI is displayed |

退出关机动画逻辑：

|  |  |
| --- | --- |
| **Actors** | Vehicle Occupant |
| **Pre-conditions** | Farewell HMI is active  Power Mode = standby  Ignition Status is OFF  Delayed Accessory is OFF  Load Shed is not active  Transport Mode is not active |
| **Scenario Description** | Farewell Timer expires |
| **Post-conditions** | The Farewell HMI is exited |
| **Interfaces** | Vehicle System Interface |

退出关机动画逻辑：

|  |  |
| --- | --- |
| **Actors** | Vehicle Occupant |
| **Pre-conditions** | Farewell HMI Active  Power Mode = standby  Ignition Status is OFF  Delayed Accessory is OFF  Load Shed is not active  Transport Mode is not active |
| **Scenario Description** | The user closes the door and then locks the door while exiting the vehicle    0x3B2       BodyInfo\_HS3  DrStatDrv\_B\_Actl = closed  &&     0x3B2       BodyInfo\_HS3  DrStatPsngr\_B\_Actl= closed &&     0x3B2       BodyInfo\_HS3  DrStatRr\_B\_Actl= closed &&     0x3B2       BodyInfo\_HS3  DrStatRl\_B\_Actl= closed &&  &&  0x331   Locking\_Systems\_2\_HS3   Veh\_Lock\_Status = locked  (注意，此条件在关机动画之前是要提前结束关机动画) |
| **Post-conditions** | The Farewell HMI is exited |
| **Interfaces** | Vehicle System Interface |

退出关机动画逻辑：

|  |  |
| --- | --- |
| **Actors** | Vehicle Occupant |
| **Pre-conditions** | Farewell HMI Active  Power Mode = standby  Ignition Status is OFF  Delayed Accessory is OFF  Load Shed is not active  Transport Mode is not active |
| **Scenario Description** | Ignition = Run/Acc, 或用户按Audio OFF按键进入EP模式  （注意，如条件满足在关机动画结束之前，提前结束关机动画） |
| **Post-conditions** | The Farewell HMI is exited |
| **Interfaces** | Vehicle System Interface |

异常处理 – 按Audio OFF触发开机动画播放中反复按Audio OFF

|  |  |
| --- | --- |
| **Pre-conditions** | Welcome HMI Active(开机动画正在播放中, Audio OFF按键触发EP播放的开机动画)  Power mode = EP - Standby  Ignition Status is OFF  Delayed Accessory is OFF  Load Shed is not active  Transport Mode is not active |
| **Scenario Description** | 用户反复按Audio OFF按键 |
| **Post-conditions** | 第一次按键触发的开机动画播放完成之前，所有的Audio OFF按键不做处理。开机动画结束进入EP模式，此时Audio OFF按键按触发关机动画处理。 |