



**APIM Function  
Specification\_Enhancement DAT  
APA&RPA\_V1.1  
<<Logical Function>>**

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## Function Specification APA/RPA

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### ***Important Note***

You need to use the RE specification macros provided by the "RE\_SpecificationMacroTemplate.dotm" (refer to "Utilities" on [page "Specification Templates" in the RE Wiki](#)) to allow seamless VSEM import of the specification content. **Use only these RE specification macros to create requirements** in this specification. Refer to "[How to use the Specification Templates](#)" on how to enable and use the macros and the requirements templates in this specification.



# Function Specification APA/RPA

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# 1 FUNCTION SPECIFICATION

## 1.1 Function Overview

### 1.1.1 Function Description

#### APA/RPA Function

The Automated Parking Assist (APA) and Remote Parking Assist (RPA) client is the interface between the driver and the features. The APA and RPA in-vehicle HMI allows the driver to search for and select suitable parking spaces, also provides the driver with necessary instruction to perform the APA and RPA.

### 1.1.2 Function Variants

No Variants identified for APA/RPA Function

### 1.1.3 Input Requirements/Documents

Reference (Reference as listed in ch. "Error! Reference source not found.")	Section/Requirement	Description	Derived Requirement (optional – reference to requirement in ch. "Error! Reference source not found.")
Feature Requirements			
Ford Engineering Standards			
	<Example: some SDS (requirement)>		
Legal Regulations			
Industry Standards			
Other Sources			


Table 1: Input Requirements/Documents

### 1.1.4 Assumptions

No Assumptions specified.

## 1.2 Function Scope

The  – “APA/RPA Function” function is called by the following functions:

-  – “[I/O Block](#)”



## Function Specification APA/RPA

### 1.2.1 I/O Block

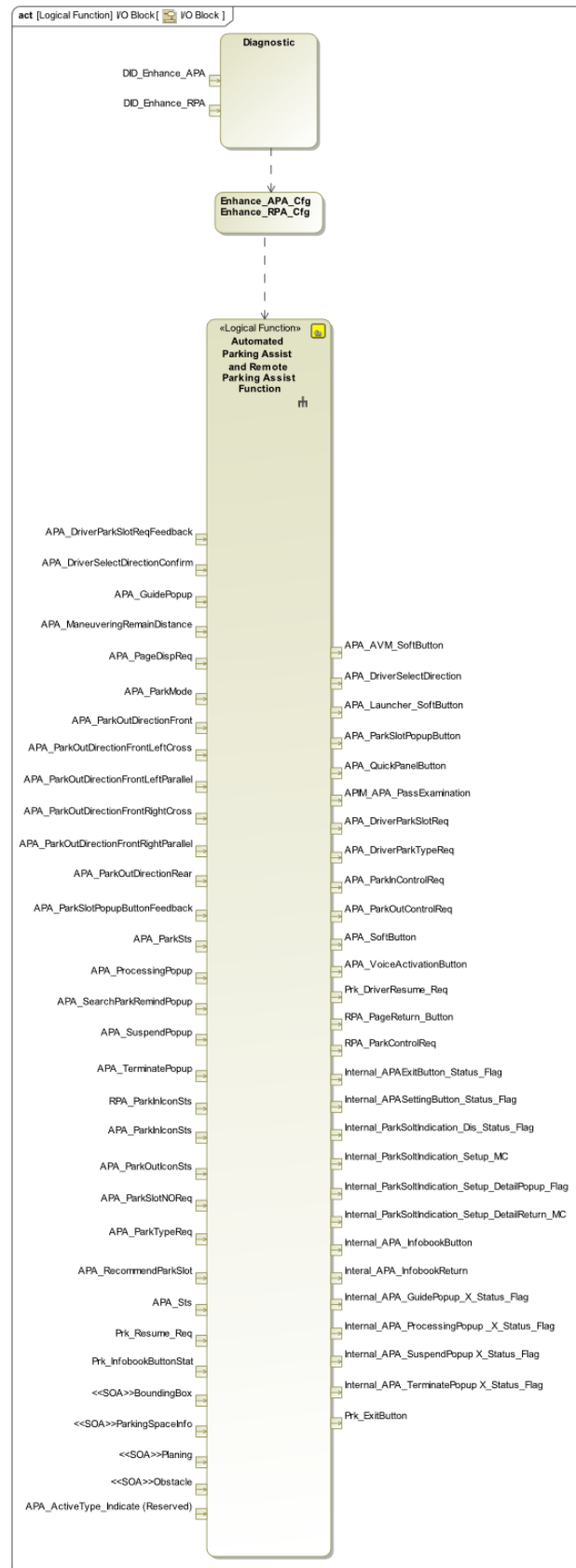


Figure 1: Activity Diagram of “I/O Block” calling “APA/RPA Function”



## Function Specification APA/RPA

### 1.3 Function Interfaces

#### 1.3.1 Logical Inputs

Signal Name	Description
<<ETHERNET>>Obstacle Type:  <<ETHERNET>>Obstacle	This signal indicates the type, id, offset angle, etc, of obstacles which will displayed on APIM screen.
BoundingBox Type:  <<ETHERNET>>BoundingBox	This signal indicates the location of obstacles which will displayed on APIM screen.
<<ETHERNET>>ParkingSpaceInfo Type:  ParkingSpaceInfo	This signal indicates the id, type, location, status, etc, of parking slots which will displayed on APIM screen.
<<ETHERNET>>Planing Type:  <<ETHERNET>>Planing	This signal indicates the APA parking trajectory line equation.
APA_ParkSlotPopupButtonFeedback Type:  APA_ParkSlotPopupButtonFeedback	This signal indicates that ACU receive APA popup setting request.
APA_SearchParkRemindPopup Type:  APA_SearchParkRemindPopup	This signal indicates that popup shall be sent when park slot is searched eventhough APA is not to be activated.
APA_Sts (Reserved) Type:  APA_Sts	The APA status signal represents the current state of the APA statemachine contained in IPMB.
APA_PageDispReq Type:  APA_PageDispReq	This signal indicates the different APA pages request for APIM.
APA_ParkTypeReq (Reserved) Type:  APA_ParkTypeReq	This signal indicates the recommend APA parking mode by IPMB.
APA_ParkSts (Reserved) Type:  APA_ParkSts	This signal indicates the current parking state.
APA_ParkMode (Reserved) Type:  APA_ParkMode	This signal indicates the current parking mode.










## Function Specification APA/RPA

APA_ParkInIconSts Type:  <a href="#">APA_ParkInIconSts</a>	This signal indicates the APA parking in activation button display status on APIM screen.
RPA_ParkInIconSts Type:  <a href="#">RPA_ParkInIconSts</a>	This signal indicates the RPA activation button display status on APIM screen.
APA_ParkOutIconSts Type:  <a href="#">APA_ParkOutIconSts</a>	This signal indicates the APA parking out activation button display status on APIM screen.
APA_ParkSlotNOReq Type:  <a href="#">APA_ParkSlotNOReq</a>	This signal indicates the flag of parking slots NO. whether displayed on APIM screen.
APA_RecommendParkSlot Type:  <a href="#">APA_RecommendParkSlot</a>	This signal indicates the recommend APA parking slot by IPMB, which is nearest slot to the vehicle.
APA_DriverParkSlotReqFeedback Type:  <a href="#">APA_DriverParkSlotReqFeedback</a>	This signal indicates the APA send feedback to confirm selected parking slot by user on APIM screen.
APA_ParkOutDirectionFront Type:  <a href="#">APA_ParkOutDirectionFront</a>	This signal indicates whether the front of vehicle could support parking out.
APA_ParkOutDirectionRear Type:  <a href="#">APA_ParkOutDirectionRear</a>	This signal indicates whether the rear of vehicle could support parking out.
APA_ParkOutDirectionFrontLeftCross Type:  <a href="#">APA_ParkOutDirectionFrontLeftCross</a>	This signal indicates whether the left front of vehicle could support vertical parking out.
APA_ParkOutDirectionFrontRightCross Type:  <a href="#">APA_ParkOutDirectionFrontRightCross</a>	This signal indicates whether the right front of vehicle could support vertical parking out.
APA_ParkOutDirectionFrontRightParallel Type:  <a href="#">APA_ParkOutDirectionFrontRightParallel</a>	This signal indicates whether the right front of vehicle could support horizontal parking out.
APA_ParkOutDirectionFrontLeftParallel Type:  <a href="#">APA_ParkOutDirectionFrontLeftParallel</a>	This signal indicates whether the left front of vehicle could support horizontal parking out.





## Function Specification APA/RPA

APA_DriverSelectDirectionConfirm Type:  <a href="#">APA_DriverSelectDirectionConfirm</a>	This signal indicates the ACU confirm receive APA parking out direction which is selected by user on APIM screen.
APA_ManeuveringRemainDistance Type:  <a href="#">APA_ManeuveringRemainDistance</a>	This signal indicates the remain distance of APA maneuvering.
APA_GuidePopup Type:  <a href="#">APA_GuidePopup</a>	This signal indicates the popup prompt after APA ON, which is dispalyed on APIM screen.
APA_ProcessingPopup Type:  <a href="#">APA_ProcessingPopup</a>	This signal indicates the popup prompt after APA ON, which is dispalyed on virtual screen.
APA_SuspendPopup Type:  <a href="#">APA_SuspendPopup</a>	This signal indicates the popup prompt after APA suspend, which is dispalyed on APIM screen.
APA_TerminatePopup Type:  <a href="#">APA_TerminatePopup</a>	This signal indicates the popup prompt after APA terminate, which is dispalyed on APIM screen.
Prk_Resume_Req Type:  <a href="#">Prk_Resume_Req</a>	This signal indicates parking function suspend recovery, which is send by IPMB.
APA_ActiveType_Indicate (Reserved)	This signal indicates the different activation ways of the APA.
Prk_IVIFunc_Req	This signal indicates parking feature request for IVI to have function ON, include APA/AVM/Backtrack/HAVP.
ApaMde_D_Stat2_IVI	This signal represents the current state of the APA (Automatic Parking Assist) Modes

### 1.3.1.1 IR-REQ-XXXXXX/X-INTERNAL:

- 
- 

### 1.3.1.2 MUX signals on the ETHERNET from IPMB

#### 1 <<ETHERNET>>Obstacle

Method Type	?
QoS Level	?



## Function Specification APA/RPA

Retained	?						
R/O	Name	Type	Units	Value	Description	Min	Max
?	Id	int32	-			-	-
?	timestamp	uint64	us			-	-
?	type	enum	-		OBSTACLE_TYPE_CAR = 0; // 汽车 OBSTACLE_TYPE_PEDESTRIAN = 1; // 行人 OBSTACLE_TYPE_PEDESTRIAN = 2; // 行人 OBSTACLE_TYPE_CONE = 3; // 锥筒	0	2
?	speed_heading	double	Rad			- $\pi$	- $\pi$
?	bounding_box	?	-			-	-

Satisfied by:

- Functions:
  - APA/RPA Function

Requirement ID: 1							
Rationale							
Acceptance Criteria							
Notes							
Source					Owner		
Source Req.					V&V Method		
Type		Priority			Status	In-Progress	

## 2 <<ETHERNET>>BoundingBox

Method Type	?						
QoS Level	?						
Retained	?						
R/O	Name	Type	Units	Value	Description	Min	Max
?	left_front	Point	m		coordinate figure	-	-
?	right_front	Point	m		coordinate figure	-	-
?	left_back	Point	m		coordinate figure	-	-
?	right_back	Point	m		coordinate figure	-	-

Satisfied by:

- Functions:
  - APA/RPA Function

Requirement ID: 1							
Rationale							
Acceptance Criteria							
Notes							
Source					Owner		



## Function Specification APA/RPA

Source Req.		V&V Method	
Type	Priority	Status	In-Progress
Req. Template Version 6.0			End of Requirement

### 3 <<ETHERNET>>ParkingSpaceInfo

Method Type	?						
QoS Level	?						
Retained	?						
R/O	Name	Type	Units	Value	Description	Min	Max
?	bounding_point	Point	-			-	-
?	parkspace_type	enum	-		NO_TYPE = 0; CROSS = 1; //垂直车位 PARALLEL = 2; //平行车位 DIAGNOAL = 3; //斜车位	-	-
?	parking_lot_status	enum	-		NO_COMMENT = 0x0; PARKING_LOT_AVAIL = 0x1;空车位 PARKING_LOT_UNAVAIL = 0x2 被占用车位	-	-
?	id	int32	-			-	-

Satisfied by:

- Functions:
  - APA/RPA Function

Requirement ID: 2			
Rationale			
Acceptance Criteria			
Notes			
Source		Owner	
Source Req.		V&V Method	
Type	Priority	Status	In-Progress
Req. Template Version 6.0			End of Requirement

### 4 <<ETHERNET>>Planing

Method Type	?						
QoS Level	?						
Retained	?						
R/O	Name	Type	Units	Value	Description	Min	Max
?	trajectory	Point	-		trajectory point	-	-
?	trajectoryDir	double	-		trajectory direction	-	-



## Function Specification APA/RPA

Satisfied by:

- Functions:
  - APA/RPA Function

Requirement ID: 3				
Rationale				
Acceptance Criteria				
Notes				
Source			Owner	
Source Req.			V&V Method	
Type		Priority	Status	In-Progress
Req. Template Version 6.0				End of Requirement

### 1.3.1.3 MUX signals on the CAN Bus from IPMB

#### 1 SIG-REQ-XXXXXX/X-Prk\_InfobookButtonStat

This signal indicates the status of Infobook button , if parking feature activated, IPMB will request APIM to display the button in grey.

Signal Name	Size (bits)	Detail	Units	Res.	Offset	State Encoded	Min	Max
Prk_InfobookButtonStat	2		-	1	0		0	3
		Normal				0x0		
		Gray				0x1		
		Not display				0x2		

Satisfied by:

- Functions:
  - APA/RPA Function

Requirement ID: 31				
Rationale				
Acceptance Criteria				
Notes				
Source			Owner	
Source Req.			V&V Method	
Type		Priority	Status	In-Progress

#### 2 SIG-REQ-XXXXXX/X-APA\_ParkSlotPopupButtonFeedback Signal

This signal indicates that ACU receive APA popup setting request.

Signal Name	Size (bits)	Detail	Units	Res.	Offset.	State Encoded	Min	Max
APA_ParkSlotPopupButtonFeedback	1			1	0		0	1
		ON				0x0		



## Function Specification APA/RPA

		OFF				0x1		
--	--	-----	--	--	--	-----	--	--

Satisfied by:

- Functions:
  - APA/RPA Function

Requirement ID: 9								
Rationale								
Acceptance Criteria								
Notes								
Source					Owner			
Source Req.					V&V Method			
Type		Priority			Status	In-Progress		

### 3 SIG-REQ-XXXXXX/X-APA\_SearchParkRemindPopup Signal

This signal indicates that popup shall be sent when park slot is searched eventhough APA is not be activated.

Signal Name	Size (bits)	Detail	Units	Res.	Offset	State Encoded	Min	Max
APA_SearchParkRemindPopup	1		-	1	0		0	1
		ON				0x0		
		OFF				0x1		

Satisfied by:

- Functions:
  - APA/RPA Function

Requirement ID: 12					
Rationale					
Acceptance Criteria					
Notes					
Source				Owner	
Source Req.				V&V Method	
Type		Priority		Status	In-Progress
Req. Template Version 6.0					
End of Requirement					

### 4 SIG-REQ-XXXXXX/X-APA\_Sts Signal (not used)

The APA status signal represents the current state of the APA statemachine contained in IPMB.

Signal Name	Size (bits)	Detail	Units	Res.	Offset	State Encoded	Min	Max
APA_Sts	4		-	1	0		0	15
		OFF				0x0		
		Disable				0x1		



## Function Specification APA/RPA

		Failure				0x2		
		Standby				0x3		
		Searching_Active				0x4		
		Searching_Suspend				0x5		
		Parking_Active				0x6		
		Parking_suspend				0x7		
		Terminated				0x8		
		Completed				0x9		
		Initialization				0xA		
		Reserved				0xB~0xF		

Satisfied by:

- Functions:
  - APA/RPA Function

Requirement ID: 21				
Rationale				
Acceptance Criteria				
Notes				
Source			Owner	
Source Req.			V&V Method	
Type		Priority	Status	In-Progress
Req. Template Version 6.0				End of Requirement

### 5 SIG-REQ-XXXXXX/X-APA\_PageDispReq Signal

This signal indicates the different APA pages request for APIM.

Signal Name	Size (bits)	Detail	Units	Res.	Offset.	State Encoded	Min	Max
APA_PageDispReq	4			1	0		0	15
		No Req				0x0		
		ParkIn_ParkOut_Selecti on				0x1		
		Searching_Moving				0x2		
		Searching_Stop				0x3		
		Manuaring_ParkIn				0x4		
		ParkIn_Completed				0x5		



## Function Specification APA/RPA

		ParkOut_SelectDirection				0x6		
		Manuaring_ParkOut				0x7		
		ParkOut_Completed				0x8		
		RemotePark_Remind				0x9		
		RemotePark_PhoneControl				0xA		
		Reserved				0x9~0xF		

Satisfied by:

- Functions:
  - APA/RPA Function

Requirement ID: 20				
Rationale				
Acceptance Criteria				
Notes				
Source			Owner	
Source Req.			V&V Method	
Type		Priority	Status	In-Progress
Req. Template Version 6.0				End of Requirement

### 6 SIG-REQ-XXXXXX/X-APA\_ParkTypeReq (Reserved)

This signal indicates the recommend APA parking mode by IPMB.

Signal Name	Size (bits)	Detail	Units	Res.	Offset	State Encoded	Min	Max
APA_ParkTypeReq	3		-	1	0		0	7
		No_Req				0x0		
		Park_In				0x1		
		Park_Out				0x2		
		Park_In_Out				0x3		
		Reserved				0x4		
		Reserved				0x5		
		Reserved				0x6		
		Reserved				0x7		

Satisfied by:

- Functions:
  - APA/RPA Function

Requirement ID: 18	
Rationale	



## Function Specification APA/RPA

Acceptance Criteria				
Notes				
Source			Owner	
Source Req.			V&V Method	
Type		Priority	Status	In-Progress
<a href="#">Req. Template</a> Version 6.0				End of Requirement
<a href="#">Req. Template</a> Version 6.0				End of Requirement

### 7 SIG-REQ-XXXXXX/X-APA\_ParkSts (Reserved) Signal

This signal indicates the current parking state.

Signal Name	Size (bits)	Detail	Units	Res.	Offset.	State Encoded	Min	Max
APA_ParkSts	2			1	0		0	3
		No_Req				0x0		
		Park_In				0x1		
		Park_Out				0x2		
		Reserved				0x3		

Satisfied by:

- Functions:
  - APA/RPA Function

Requirement ID: 6				
Rationale				
Acceptance Criteria				
Notes				
Source			Owner	
Source Req.			V&V Method	
Type		Priority	Status	In-Progress

### 8 SIG-REQ-XXXXXX/X-APA\_ParkMode (Reserved) Signal

This signal indicates the current parking mode.

Signal Name	Size (bits)	Detail	Units	Res.	Offset.	State Encoded	Min	Max
APA_ParkMode	2			1	0		0	3
		No_Req				0x0		
		APA				0x1		
		RPA				0x2		
		Reserved				0x3		

Satisfied by:

- Functions:





## Function Specification APA/RPA

- APA/RPA Function

Requirement ID: 13				
Rationale				
Acceptance Criteria				
Notes				
Source			Owner	
Source Req.			V&V Method	
Type		Priority	Status	In-Progress
<a href="#">Req. Template</a> Version 6.0				End of Requirement

### 9 SIG-REQ-XXXXXX/X-APA\_ParkInIconSts Signal

This signal indicates the APA parking in activation button display status on APIM screen.

Signal Name	Size (bits)	Detail	Units	Res.	Offset	State Encoded	Min	Max
APA_ParkInIconSts	2		-	1	0		0	3
		No Display				0x0		
		Display_Hight				0x1		
		Display_Gray				0x2		
		Reserved				0x3		

Satisfied by:

- Functions:
  - APA/RPA Function

Requirement ID: 16				
Rationale				
Acceptance Criteria				
Notes				
Source			Owner	
Source Req.			V&V Method	
Type		Priority	Status	In-Progress
<a href="#">Req. Template</a> Version 6.0				End of Requirement

### 10 SIG-REQ-XXXXXX/X-RPA\_ParkInIconSts Signal

This signal indicates the RPA activation button display status on APIM screen.

Signal Name	Size (bits)	Detail	Units	Res.	Offset	State Encoded	Min	Max
RPA_ParkInIconSts	2		-	1	0		0	3
		No Display				0x0		
		Display_Hight				0x1		
		Display_Gray				0x2		



## Function Specification APA/RPA

		Reserved				0x3		
--	--	----------	--	--	--	-----	--	--

Satisfied by:

- Functions:
  - APA/RPA Function

Requirement ID: 27					
Rationale					
Acceptance Criteria					
Notes					
Source				Owner	
Source Req.				V&V Method	
Type		Priority		Status	In-Progress
Req. Template		Version	6.0		End of Requirement

### 11 SIG-REQ-XXXXXX/X-APA\_ParkOutIconSts Signal

This signal indicates the APA parking out activation button display status on APIM screen.

Signal Name	Size (bits)	Detail	Units	Res.	Offset	State Encoded	Min	Max
APA_ParkOutIconSts	2		-	1	0		0	3
		No Display				0x0		
		Display_Hight				0x1		
		Display_Gray				0x2		
		Reserved				0x3		

Satisfied by:

- Functions:
  - APA/RPA Function

Requirement ID: 10									
Rationale									
Acceptance Criteria									
Notes									
Source						Owner			
Source Req.						V&V Method			
Type			Priority			Status		In-Progress	
Req. Template Version 6.0 <span>End of Requirement</span>									

### 12 SIG-REQ-XXXXXX/X-APA\_ParkSlotNOReq Signal

This signal indicates the flag of parking slots NO. whether displayed on APIM screen.

Signal Name	Size (bits)	Detail	Units	Res.	Offset	State Encoded	Min	Max
APA_DriverParkTypeReq	1		-	1	0		0	1
		No Display				0x0		



## Function Specification APA/RPA

		Display				0x1		
--	--	---------	--	--	--	-----	--	--

Satisfied by:

- Functions:
  - APA/RPA Function

Requirement ID: 23													
Rationale													
Acceptance Criteria													
Notes													
Source						Owner							
Source Req.						V&V Method							
Type				Priority				Status		In-Progress			
Req. Template		Version		6.0								End of Requirement	

### 13 SIG-REQ-XXXXXX/X-APA\_RecommendParkSlot

This signal indicates the recommend APA parking slot by IPMB, which is nearest slot to the vehicle.

Signal Name	Size (bits)	Detail	Units	Res.	Offset	State Encoded	Min	Max
APA_RecommendPark Slot	4		-	1	0		0	15
		No_Req				0x0		
		Slot_L1				0x1		
		Slot_L2				0x2		
		Slot_L3				0x3		
		Slot_L4				0x4		
		Slot_L5				0x5		
		Slot_R1				0x6		
		Slot_R2				0x7		
		Slot_R3				0x8		
		Slot_R4				0x9		
		Slot_R5				0xA		
		Reserved				0xB~0xF		

Satisfied by:

- Functions:
  - APA/RPA Function

Requirement ID: 17								
Rationale								
Acceptance Criteria								



## Function Specification APA/RPA

Notes				
Source			Owner	
Source Req.			V&V Method	
Type		Priority	Status	In-Progress
Req. Template Version 6.0				End of Requirement

### 14 SIG-REQ-XXXXXX/X-APA\_DriverParkSlotReqFeedback Signal

This signal indicates the APA send feedback to confirm selected parking slot by user on APIM screen.

Signal Name	Size (bits)	Detail	Units	Res.	Offset	State Encoded	Min	Max
APA_DriverParkSlotReqFeedback	4		-	1	0		0	15
		No_Req				0x0		
		Slot_L1				0x1		
		Slot_L2				0x2		
		Slot_L3				0x3		
		Slot_L4				0x4		
		Slot_L5				0x5		
		Slot_R1				0x6		
		Slot_R2				0x7		
		Slot_R3				0x8		
		Slot_R4				0x9		
		Slot_R5				0xA		
		Reserved				0xB~0xF		

Satisfied by:

- Functions:
  - APA/RPA Function

Requirement ID: 15				
Rationale				
Acceptance Criteria				
Notes				
Source			Owner	
Source Req.			V&V Method	
Type		Priority	Status	In-Progress
Req. Template Version 6.0				End of Requirement

### 15 SIG-REQ-XXXXXX/X-APA\_ParkOutDirectionFront Signal

This signal indicates whether the front of vehicle could support parking out.



## Function Specification APA/RPA

Signal Name	Size (bits)	Detail	Units	Res.	Offset.	State Encoded	Min	Max
APA_ParkOutDirection Front	1			1	0		0	1
		Available				0x0		
		Unavailable				0x1		

Satisfied by:

- Functions:
  - APA/RPA Function

Requirement ID: 26											
Rationale											
Acceptance Criteria											
Notes											
Source						Owner					
Source Req.						V&V Method					
Type				Priority				Status		In-Progress	
Req. Template		Version		6.0		End of Requirement					

### 16 SIG-REQ-XXXXXX/X-APA\_ParkOutDirectionRear Signal

This signal indicates whether the rear of vehicle could support parking out.

Signal Name	Size (bits)	Detail	Units	Res.	Offset.	State Encoded	Min	Max
APA_ParkOutDirection Rear	1			1	0		0	1
		Available				0x0		
		Unavailable				0x1		

Satisfied by:

- Functions:
  - APA/RPA Function

Requirement ID: 7								
Rationale								
Acceptance Criteria								
Notes								
Source					Owner			
Source Req.					V&V Method			
Type		Priority			Status		In-Progress	

### 17 SIG-REQ-XXXXXX/X-APA\_ParkOutDirectionFrontLeftCross Signal

This signal indicates whether the left front of vehicle could support vertical parking out.

Signal Name	Size (bits)	Detail	Units	Res.	Offset.	State Encoded	Min	Max
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## Function Specification APA/RPA

APA_ParkOutDirection FrontLeftCross	1			1	0		0	1
		Available				0x0		
		Unavailable				0x1		

Satisfied by:

- Functions:
  - APA/RPA Function

Requirement ID: 22				
Rationale				
Acceptance Criteria				
Notes				
Source			Owner	
Source Req.			V&V Method	
Type		Priority	Status	In-Progress
<a href="#">Req. Template</a> Version 6.0				
End of Requirement				

### 18 SIG-REQ-XXXXXX/X-APA\_ParkOutDirectionFrontRightCross Signal

This signal indicates whether the right front of vehicle could support vertical parking out.

Signal Name	Size (bits)	Detail	Units	Res.	Offset	State Encoded	Min	Max
APA_ParkOutDirection FrontRightCross	1			1	0		0	1
		Available				0x0		
		Unavailable				0x1		

Satisfied by:

- Functions:
  - APA/RPA Function

Requirement ID: 5				
Rationale				
Acceptance Criteria				
Notes				
Source			Owner	
Source Req.			V&V Method	
Type		Priority	Status	In-Progress
<a href="#">Req. Template</a> Version 6.0				
End of Requirement				
<a href="#">Req. Template</a> Version 6.0				
End of Requirement				
<a href="#">Req. Template</a> Version 6.0				
End of Requirement				

### 19 SIG-REQ-XXXXXX/X-APA\_ParkOutDirectionFrontRightParallel Signal

This signal indicates whether the right front of vehicle could support horizontal parking out.



## Function Specification APA/RPA

Signal Name	Size (bits)	Detail	Units	Res.	Offset.	State Encoded	Min	Max
APA_ParkOutDirectionFrontRightParallel	1			1	0		0	1
		Available				0x0		
		Unavailable				0x1		

Satisfied by:

- Functions:
  - APA/RPA Function

Requirement ID: 11											
Rationale											
Acceptance Criteria											
Notes											
Source						Owner					
Source Req.						V&V Method					
Type				Priority				Status		In-Progress	
Req. Template		Version		6.0		End of Requirement					

### 20 SIG-REQ-XXXXXX/X-APA\_ParkOutDirectionFrontLeftParallel Signal

This signal indicates whether the left front of vehicle could support horizontal parking out.

Signal Name	Size (bits)	Detail	Units	Res.	Offset.	State Encoded	Min	Max
APA_ParkOutDirectionFrontLeftParallel	1			1	0		0	1
		Available				0x0		
		Unavailable				0x1		

Satisfied by:

- Functions:
  - APA/RPA Function

Requirement ID: 25									
Rationale									
Acceptance Criteria									
Notes									
Source					Owner				
Source Req.					V&V Method				
Type		Priority			Status	In-Progress			
Req. Template Version 6.0									
End of Requirement									

### 21 SIG-REQ-XXXXXX/X-APA\_DriverSelectDirectionConfirm Signal

This signal indicates the ACU confirm receive APA parking out direction which is selected by user on APIM screen.



## Function Specification APA/RPA

Signal Name	Size (bits)	Detail	Units	Res.	Offset.	State Encoded	Min	Max
APA_DriverSelectDirectionConfirm	3			1	0		0	7
		No_Park_Out_Direction				0x0		
		Park_Out_Front_Left_Parallel				0x1		
		Park_Out_Front_Left_Cross				0x2		
		Park_Out_Front_Right_Parallel				0x3		
		Park_Out_Front_Right_Cross				0x4		
		Park_Out_Front				0x5		
		Park_Out_Backward				0x6		

Satisfied by:

- Functions:
  - APA/RPA Function

Requirement ID: 28					
Rationale					
Acceptance Criteria					
Notes					
Source				Owner	
Source Req.				V&V Method	
Type		Priority		Status	In-Progress

[Req. Template](#) Version 6.0

End of Requirement

### 22 SIG-REQ-XXXXXX/X-APA\_ManeuveringRemainDistance Signal

This signal indicates the remain distance of APA maneuvering.

Signal Name	Size (bits)	Detail	Units	Res.	Offset	State Encoded	Min	Max
APA_ManeuveringRemainDistance	8		m	0.1	0		0	25.5

Satisfied by:

- Functions:
  - APA/RPA Function

Requirement ID: 8
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## Function Specification APA/RPA

Rationale				
Acceptance Criteria				
Notes				
Source			Owner	
Source Req.			V&V Method	
Type		Priority	Status	In-Progress
<a href="#">Req. Template</a> Version 6.0				End of Requirement
<a href="#">Req. Template</a> Version 6.0				End of Requirement

### 23 SIG-REQ-XXXXXX/X-APA\_GuidePopup Signal

This signal indicates the popup prompt after APA ON, which is displayed on APIM screen.

Signal Name	Size (bits)	Detail	Units	Res.	Offset	State Encoded	Min	Max
APA_GuidePopup	4		-	1	0		0	15
		No Popup				0x0		
		Functional Conflict				0x1		
		Speed Too High				0x2		
		Not Normal Mode				0x3		
		No Dynamics				0x4		
		eCALL				0x5		
		Mobile Control				0x6		
		Under Developing				0x7		
		Log In				0x8		
		Authorization				0x9		
		Require Exam				0xA		
		Wake Up				0xB		
		APA Failure				0xC		
		ACU Updating				0xD		
		HAVP is creating learning map				0xE		
		Reserved				0xF		

Satisfied by:

- Functions:
  - APA/RPA Function

Requirement ID: 14	
Rationale	
Acceptance Criteria	



## Function Specification APA/RPA

Notes				
Source			Owner	
Source Req.			V&V Method	
Type		Priority	Status	In-Progress
Req. Template Version 6.0				End of Requirement

### 24 SIG-REQ-XXXXXX/X-APA\_ProcessingPopup Signal

This signal indicates the popup prompt after APA ON, which is displayed on virtual screen.

Signal Name	Size (bits)	Detail	Units	Res.	Offset	State Encoded	Min	Max
APA_ProcessingPopup	6		-	1	0		0	63
		No req				0x0		
		Select park in or park out				0x1		
		Searching park slot				0x2		
		Slow down to search park slot				0x3		
		Searching paused				0x4		
		Searching continue				0x5		
		Stop to park in				0x6		
		Close doors				0x7		
		Close hood door				0x8		
		Close back door				0x9		
		Fasten seat belt				0xA		
		Press brake pedal				0xB		
		Shift N or P				0xC		
		Stop to select park slot				0xD		
		Release EPB				0xE		
		Select button				0xF		
		Select RPA button				0x10		
		Parking In				0x11		



## Function Specification APA/RPA

		Select Recover button				0x12		
		Park in completed				0x13		
		Phone controing				0x14		
		Select park direction				0x15		
		Park direction unavailable				0x16		
		Select "Park Out" button				0x17		
		Don't press accelerator				0x18		
		All parking out direction unavailable				0x19		
		Parking out completed				0x1A		
		Parking out				0x1B		
		Please pull out charging gun				0x1C		
		Please close charging port cover				0x1D		
		Please go to flat road to activate auto park				0x1E		
		Please select available park slot				0x1F		
		Reserved				0x20~0x3F		

Satisfied by:

- Functions:
  - APA/RPA Function

Requirement ID: 24					
Rationale					
Acceptance Criteria					
Notes					
Source			Owner		
Source Req.			V&V Method		
Type		Priority		Status	In-Progress
Req. Template			Version	6.0	End of Requirement



## Function Specification APA/RPA

### 25 SIG-REQ-XXXXXX/X-APA\_SuspendPopup Signal

This signal indicates the popup prompt after APA suspend, which is displayed on APIM screen.

Signal Name	Size (bits)	Detail	Units	Res.	Offset	State Encoded	Min	Max
APA_SuspendPopup	5		-	1	0		0	31
		No req				0x0		
		Req_Paused_Waiting obstacles remove				0x1		
		Req_Paused_Close Door				0x2		
		Req_Paused_Close HoodDoor				0x3		
		Req_Paused_Close BackDoor				0x4		
		Req_Paused_FastenSeatBelt				0x5		
		Req_Paused_ReleaseBrakePedal				0x6		
		Req_Paused_Charging or filler flap				0x7		
		Reserved				0x8~ 0x1F		

Satisfied by:

- Functions:
  - APA/RPA Function

Requirement ID: 30				
Rationale				
Acceptance Criteria				
Notes				
Source			Owner	
Source Req.			V&V Method	
Type		Priority	Status	In-Progress

### 26 SIG-REQ-XXXXXX/X-APA\_TerminatePopup Signal

This signal indicates the popup prompt after APA terminate, which is displayed on APIM screen..

Signal Name	Size (bits)	Detail	Units	Res.	Offset	State Encoded	Min	Max
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## Function Specification APA/RPA

APA_TerminatePopup	7		-	1	0		0	127
		No Request				0x0		
		Req_Quit_Car mode invalid				0x1		
		Req_Quit_OTA active				0x2		
		Req_Quit_ADAS				0x3		
		Req_Quit_ABS active				0x4		
		Req_Quit_TCS active				0x5		
		Req_Quit_ESC active				0x6		
		Req_Quit_eCALL				0x7		
		Req_Quit_Camera Blockage				0x8		
		Req_Quit_USS Blockage				0x9		
		Req_Quit_Slope_T oo large				0xA		
		Req_Quit_Speed high				0xB		
		Req_Quit_Tire Pressure Too Low				0xC		
		Req_Quit_Remote start forbid				0xD		
		Req_Quit_PT READY FAILED				0xE		
		Req_Quit_Vehicle Low Battery				0xF		
		Req_Quit_Trailer connected				0x10		
		Req_Quit_Traction Control System off				0x11		



## Function Specification APA/RPA

		Req_Quit_Powerpack torque status changes to not available				0x12		
		Req_Quit_Power management failure				0x13		
		Req_Quit_LSC error				0x14		
		Req_Quit_EPAS error				0x15		
		Req_Quit_ABS error				0x16		
		Req_Quit_BCM error				0x17		
		Req_Quit_BLEM_failure				0x18		
		Req_Quit_Remote Device error				0x19		
		Req_Quit_Unexpected deactivation of LSC				0x1A		
		Req_Quit_Unexpected deactivation of ABS				0x1B		
		Req_Quit_Unexpected deactivation of EPAS				0x1C		
		Req_Quit_External ECU failure				0x1D		
		Req_Quit_Sys_Failure				0x1E		
		Req_Quit_CAN_Communication_failure				0x1F		
		Req_Quit_Function on check overtime				0x20		



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		Req_Quit Terminate Button Pressed HMI Cancel				0x21		
		Req_Quit_App exit				0x22		
		Req_Quit_Gear Intervention				0x23		
		Req_Quit_EPB_Ap ply				0x24		
		Req_Quit_Steering Wheel Intervention				0x25		
		Req_Quit_Mirror fold				0x26		
		Req_Quit_Unsafe_ Behavior				0x27		
		Req_Quit_Vehcle_ Charging				0x28		
		Req_PowerOFF				0x29		
		Req_Quit_Insurmou ntable obstacle detected				0x2A		
		Req_Quit_Timing overtime				0x2B		
		Req_Quit_Matime overtime				0x2C		
		Req_Quit_Recover y Timeout				0x2D		
		Req_Quit_Interrupt Times Overflow				0x2E		
		Req_Quit_Remote move distance out of range				0x2F		
		Req_Quit_Handsha ke failed				0x30		



## Function Specification APA/RPA

		Req_Quit_Steering Angle_Out_of_Limit				0x31		
		Req_Quit_Shift_Op erate_Failed				0x32		
		Req_Quit_Trajector y				0x33		
		Req_Quit_Path planning error				0x34		
		Req_Quit_Space limit				0x35		
		Parking succeed				0x36		
		Req_Quit_Searchin g_Timeout				0x37		
		Req_Quit_Searchin g_Overspeed				0x38		
		Req_Quit_ChargeG un				0x39		
		Req_Quit_Actuator feedback abnormal				0x3A		
		Searching speed too high				0x3B		
		Vehicle is not in safe state				0x3C		
		Reserved				0x3D ~0x7F		

Satisfied by:

- Functions:
  - APA/RPA Function

Requirement ID: 29					
<b>Rationale</b>					
<b>Acceptance Criteria</b>					
<b>Notes</b>					
<b>Source</b>				<b>Owner</b>	
<b>Source Req.</b>				<b>V&amp;V Method</b>	
<b>Type</b>		<b>Priority</b>		<b>Status</b>	In-Progress
<a href="#">Req. Template</a> Version 6.0					End of Requirement
<a href="#">Req. Template</a> Version 6.0					End of Requirement

### 27 SIG-REQ-XXXXXX/X-Prk\_Resume\_Req Signal





## Function Specification APA/RPA

This signal indicates parking function suspend recovery, which is send by IPMB.

Signal Name	Size (bits)	Detail	Units	Res.	Offset	State Encoded	Min	Max
Prk_Resume_Req	1		-	1	0		0	1
		No request				0x0		
		Request				0x1		

Satisfied by:

- Functions:
  - APA/RPA Function

Requirement ID: 19				
Rationale				
Acceptance Criteria				
Notes				
Source			Owner	
Source Req.			V&V Method	
Type		Priority	Status	In-Progress

### 28 SIG-REQ-XXXXXX/X- APA\_ActiveType\_Indicate (Reserved) Signal

This signal indicates the different activation ways of the APA.

Signal Name	Size (bits)	Detail	Units	Res.	Offset	State Encoded	Min	Max
APA_ActiveType_Indicate	3		-	1	0		0	7
		OFF				0x0		
		APA activated by soft button				0x1		
		APA activated by voice button				0x2		
		APA activated by hard button				0x3		
		APA activated by launcher button				0x4		
		APA activated by quick panel button				0x5		
		Reserved				0x6		
		Reserved				0x7		

### 29 SIG-REQ-XXXXXX/X- Prk\_IVIFunc\_Req Signal



## Function Specification APA/RPA

This signal indicates parking feature request for IVI to have function ON, include APA/AVM/Backtrack/HAVP.

Signal Name	Size (bits)	Detail	Units	Res.	Offset	State Encoded	Min	Max
Prk_IVIFunc_Req	3		-	1	0		0	7
		No req				0x0		
		AVM ON req				0x1		
		APA ON req				0x2		
		Backtrack ON req				0x3		
		HAVP ON req				0x4		
		RPA ON req				0x5		
		Reserved				0x6		
		Reserved				0x7		

### 30 SIG-REQ-XXXXXX/X- ApaMde\_D\_Stat2\_IVI Signal

This signal represents the current state of the APA (Automatic Parking Assist) Modes

Signal Name	Size (bits)	Detail	Units	Res.	Offset	State Encoded	Min	Max
ApaMde_D_Stat2_IVI	4		-	1	0		0	15
		OFF				0x0		
		Disable				0x1		
		Failure				0x2		
		Standby				0x3		
		Searching_Active				0x4		
		Searching_Suspend				0x5		
		Parking_Active				0x6		
		Parking_suspend				0x7		
		Terminated				0x8		
		Completed				0x9		
		NotUsed_1				0xA		



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		NotUsed_2				0xB		
		NotUsed_3				0xC		
		NotUsed_4				0xD		
		NotUsed_5				0xE		
		NotUsed_6				0xF		

### 1.3.2 Logical Outputs

Signal Name	Description
Internal_APAExitButton_Status_Flag	This signal is used to control the state of the APA Exit Button.
Internal_APASettingButton_Status_Flag	This signal is used to control the state of the APA Setting Button.
Internal_ParkSlotIndication_Display_Status_Flag	This signal is used to control the state of the Park Slot Indication Popup.
Internal_ParkSlotIndication_Setup_MC	This signal is used to control the setting menu display output for Park Slot Indication selection.
Internal_ParkSlotIndication_Setup_DetailPopup_Flag	This signal is used to control the state of the Park Slot Setup infobook Popup
Internal_ParkSlotIndication_Setup_DetailReturn_MC	This signal indicates the Park Slot Setup InfoBook confirm Button status, which means user could click this button to exit Park Slot Setup infobook Popup.
Internal_APA_InfobookButton	This signal indicates the InfoBook Button status, which means user could click this button to enter the infobook.
Internal_APA_InfobookReturn	This signal indicates the InfoBook Button status, which means user could click this button to exit infobook and went to APA page or launcher.
Internal_APA_GuidePopup_X_Status_Flag	This signal is used to control the state of the Guide Popup.









## Function Specification APA/RPA

Internal_APA_ProcessingPopup_X_Status_Flag	This signal is used to control the state of the Processing Popup.
Internal_APA_SuspendPopup_X_Status_Flag	This signal is used to control the state of the Suspend Popup.
Internal_APA_TerminatePopup_X_Status_Flag	This signal is used to control the state of the Terminate Popup.
APA_SoftButton (Reserved) Type:  <a href="#">APA_SoftButton</a>	This signal indicates the soft button of APA on APIM screen, if user click this button, APIM will sent pressed status to IPMB.
APA_Launcher_SoftButton Type:  <a href="#">APA_Launcher_SoftButton</a>	This signal indicates the soft button of APA on launcher page, if user click this button, APIM will sent pressed status to IPMB.
APA_QuickPanelButton (Reserved) Type:  <a href="#">APA_QuickPanelButton</a>	This signal indicates the soft button of APA on APIM quick panel page, if user click this button, APIM will sent pressed status to IPMB.
APA_AVM_SoftButton Type:  <a href="#">APA_AVM_SoftButton</a>	This signal indicates the soft button of APA on AVM main page, if user click this button, APIM will sent pressed status to IPMB.
APA_VoiceActivationButton Type:  <a href="#">APA_VoiceActivationButton</a>	This signal indicates the voice activation of APA, if user request APA ON by voice, APIM will sent this signal to IPMB.
APIM_APA_PassExamination Type:  <a href="#">APIM_APA_PassExamination</a>	This signal indicates whether APA is enabled, log in with authentication, test passed, configured, etc.
APA_ParkSlotPopupButton Type:  <a href="#">APA_ParkSlotPopupButton</a>	This signal indicates that user can turn off popup reminder when park slot is searched eventhough APA is not be activated.
APA_DriverParkTypeReq Type:  <a href="#">APA_DriverParkTypeReq</a>	This signal indicates the request APA parking mode by user selected on APIM screen.
APA_ParkInControlReq Type:  <a href="#">APA_ParkInControlReq</a>	This signal indicates the selected status of APA parking in activation button.



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APA_ParkOutControlReq Type:  <a href="#">APA_ParkOutControlReq</a>	This signal indicates the selected status of APA parking out activation button.
RPA_ParkControlReq Type:  <a href="#">RPA_ParkControlReq</a>	This signal indicates the selected status of RPA activation button.
APA_DriverParkSlotReq Type:  <a href="#">APA_DriverParkSlotReq</a>	This signal indicates the selected APA parking slot by user on APIM screen.
APA_DriverSelectDirection Type:  <a href="#">APA_DriverSelectDirection</a>	This signal indicates the APA parking out direction which is selected by user on APIM screen.
Prk_DriverResume_Req Type:  <a href="#">Prk_DriverResume_Req</a>	This signal indicates whether user click the parking function resume button on APIM screen after suspend recovery.
RPA_PageReturn_Button Type:  <a href="#">RPA_PageReturn_Button</a>	This signal indicates the exit button status of RPA page, which means user could click this button to exit RPA and went to APA page when waiting for bluetooth connecting.
Prk_ExitButton	This signal indicates parking feature request for APIM to have function OFF, include APA/AVM/Backtrack/HAVP.
IVI_Prk_DisStat	This signal indicates which parking feature is displayed on APIM, include APA/AVM/Backtrack/HAVP.

### 1.3.2.1 IR-REQ-XXXXXX/X-INTERNAL:

- Internal\_APAExitButton\_Status\_Flag, which is used to control the state of the APA Exit Button.
- Internal\_APASettingButton\_Status\_Flag, which is used to control the state of the APA Setting Button.
- Internal\_ParkSlotIndication\_Status\_Flag, which is used to control the state of the Park Slot Indication Popup.
- Internal\_ParkSlotIndication\_Setup\_DetailPopup\_Flag, This signal is used to control the state of the Park Slot Setup infobook Popup.
- Internal\_ParkSlotIndication\_Setup\_DetailReturn\_MC, This signal indicates the Park Slot Setup InfoBook confirm Button status, which means user could click this button to exit Park Slot Setup infobook Popup.
- Internal\_APA\_InfobookButton, this signal indicates the InfoBook Button status, which means user could click this button to enter the infobook.
- Internal\_APA\_InfobookReturn, this signal indicates the InfoBook Button status, which means user could click this button to exit infobook and went to APA page or launcher.
- Internal\_APA\_GuidePopup\_X\_Status\_Flag, which is used to control the state of the Guide Popup.
- Internal\_APA\_ProcessingPopup\_X\_Status\_Flag, which is used to control the state of the Processing Popup.
- Internal\_APA\_SuspendPopup\_X\_Status\_Flag, which is used to control the state of the Suspend Popup.
- Internal\_APA\_TerminatePopup\_X\_Status\_Flag, which is used to control the state of the Terminate Popup.



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### 1.3.2.2 MUX signals on the CAN from IPMB

#### 1 SIG-REQ-XXXXXX/X-APA\_SoftButton (Reserved) Signal

This signal indicates the soft button of APA on APIM screen, if user click this button, APIM will sent pressed status to IPMB.

Signal Name	Size (bits)	Detail	Units	Res.	Offset.	State Encoded	Min	Max
APA_SoftButton	1			1	0		0	1
		OFF				0x0		
		ON				0x1		

Satisfied by:

- Functions:
  - APA/RPA Function

Requirement ID: 33									
Rationale									
Acceptance Criteria									
Notes									
Source						Owner			
Source Req.						V&V Method			
Type			Priority			Status		In-Progress	
<a href="#">Req. Template</a>		Version		6.0		End of Requirement			

#### 2 SIG-REQ-XXXXXX/X-APA\_Launcher\_SoftButton Signal

This signal indicates the soft button of APA on launcher page, if user click this button, APIM will sent pressed status to IPMB.

Signal Name	Size (bits)	Detail	Units	Res.	Offset.	State Encoded	Min	Max
APA_Launcher_SoftButton	1			1	0		0	1
		OFF				0x0		
		ON				0x1		

Satisfied by:

- Functions:
  - APA/RPA Function

Requirement ID: 42									
Rationale									
Acceptance Criteria									
Notes									
Source				Owner					
Source Req.				V&V Method					
Type			Priority		Status		In-Progress		
Req. Template		Version		6.0		End of Requirement			



## Function Specification APA/RPA

### 3 SIG-REQ-XXXXXX/X-APA\_QuickPanelButton (Reserved) Signal

This signal indicates the soft button of APA on APIM quick panel page, if user click this button, APIM will sent pressed status to IPMB.

Signal Name	Size (bits)	Detail	Units	Res.	Offset.	State Encoded	Min	Max
APA_QuickPanelButton	1			1	0		0	1
		OFF				0x0		
		ON				0x1		

Satisfied by:

- Functions:
  - APA/RPA Function

Requirement ID: 38				
Rationale				
Acceptance Criteria				
Notes				
Source			Owner	
Source Req.			V&V Method	
Type		Priority	Status	In-Progress
<a href="#">Req. Template</a> Version 6.0				End of Requirement

### 4 SIG-REQ-XXXXXX/X-APA\_AVM\_SoftButton Signal

This signal indicates the soft button of APA on AVM main page, if user click this button, APIM will sent pressed status to IPMB.

Signal Name	Size (bits)	Detail	Units	Re s.	Offset.	State Encoded	Min	Max
APA_AVM_SoftButton	1			1	0		0	1
		OFF				0x0		
		ON				0x1		

Satisfied by:

- Functions:
  - APA/RPA Function

Requirement ID: 32				
Rationale				
Acceptance Criteria				
Notes				
Source			Owner	
Source Req.			V&V Method	
Type		Priority	Status	In-Progress
<a href="#">Req. Template</a> Version 6.0				End of Requirement



## Function Specification APA/RPA

### 5 SIG-REQ-XXXXXX/X-APA\_VoiceActivationButton Signal

This signal indicates the voice activation of APA, if user request APA ON by voice, APIM will sent this signal to IPMB.

Signal Name	Size (bits)	Detail	Units	Res.	Offset	State Encoded	Min	Max
APA_VoiceActivationButton	2		-	1	0		0	3
		No request				0x0		
		ON				0x1		
		OFF				0x2		
		Reserved				0x3		

Satisfied by:

- Functions:
  - APA/RPA Function

Requirement ID: 37				
Rationale				
Acceptance Criteria				
Notes				
Source			Owner	
Source Req.			V&V Method	
Type		Priority	Status	In-Progress
Req. Template Version 6.0				End of Requirement

### 6 SIG-REQ-XXXXXX/X-APIM\_APA\_PassExamination Signal

This signal indicates whether APA/RPA is enabled, log in with authentication, test passed, configured, etc...

Signal Name	Size (bits)	Detail	Units	Res.	Offset	State Encoded	Min	Max
APIM_APA_PassExamination	1			1	0		0	1
		Unactivated				0x0		
		Activated				0x1		

Satisfied by:

- Functions:
  - APA/RPA Function

Requirement ID: 41				
Rationale				
Acceptance Criteria				
Notes				
Source			Owner	
Source Req.			V&V Method	





## Function Specification APA/RPA

Type		Priority		Status	In-Progress
<a href="#">Req. Template</a>	Version 6.0				End of Requirement

### 7 SIG-REQ-XXXXXX/X-APA\_ParkSlotPopupButton Signal

This signal indicates that user can turn off popup reminder when park slot is searched eventhough APA is not be activated.

Signal Name	Size (bits)	Detail	Units	Res.	Offset.	State Encoded	Min	Max
APA_ParkSlotPopupButton	1			1	0		0	1
		ON				0x0		
		OFF				0x1		

Satisfied by:

- Functions:
  - APA/RPA Function

Requirement ID: 34					
Rationale					
Acceptance Criteria					
Notes					
Source				Owner	
Source Req.				V&V Method	
Type		Priority		Status	In-Progress
<a href="#">Req. Template</a>	Version 6.0				End of Requirement

### 8 SIG-REQ-XXXXXX/X-APA\_DriverParkTypeReq

This signal indicates the request APA parking mode by user selected on APIM screen.

Signal Name	Size (bits)	Detail	Units	Res.	Offset	State Encoded	Min	Max
APA_DriverParkTypeReq	2		-	1	0		0	3
		No_Req				0x0		
		Park_In				0x1		
		Park_Out				0x2		
		Reserved				0x3		

Satisfied by:

- Functions:
  - APA/RPA Function

Requirement ID: 35					
Rationale					
Acceptance Criteria					
Notes					



## Function Specification APA/RPA

Source		Owner	
Source Req.		V&V Method	
Type		Priority	In-Progress
Req. Template Version 6.0		End of Requirement	

### 9 SIG-REQ-XXXXXX/X-APA\_ParkInControlReq Signal

This signal indicates the selected status of APA parking in activation button.

Signal Name	Size (bits)	Detail	Units	Res.	Offset.	State Encoded	Min	Max
APA_ParkInControlReq	1			1	0		0	1
		OFF				0x0		
		ON				0x1		

Satisfied by:

- Functions:
  - APA/RPA Function

Requirement ID: 46			
Rationale			
Acceptance Criteria			
Notes			
Source		Owner	
Source Req.		V&V Method	
Type		Priority	In-Progress
Req. Template Version 6.0		End of Requirement	

### 10 SIG-REQ-XXXXXX/X-APA\_ParkOutControlReq Signal

This signal indicates the selected status of APA parking out activation button.

Signal Name	Size (bits)	Detail	Units	Res.	Offset.	State Encoded	Min	Max
APA_ParkOutControlReq	1			1	0		0	1
		OFF				0x0		
		ON				0x1		

Satisfied by:

- Functions:
  - APA/RPA Function

Requirement ID: 45			
Rationale			
Acceptance Criteria			
Notes			
Source		Owner	
Source Req.		V&V Method	
Type		Priority	In-Progress
Req. Template Version 6.0		End of Requirement	



## Function Specification APA/RPA

### 11 SIG-REQ-XXXXXX/X-RPA\_ParkControlReq Signal

This signal indicates the selected status of RPA activation button.

Signal Name	Size (bits)	Detail	Units	Res.	Offset.	State Encoded	Min	Max
RPA_ParkControlReq	1			1	0		0	1
		OFF				0x0		
		ON				0x1		

Satisfied by:

- Functions:
  - APA/RPA Function

Requirement ID: 40				
Rationale				
Acceptance Criteria				
Notes				
Source			Owner	
Source Req.			V&V Method	
Type		Priority	Status	In-Progress
Req. Template Version 6.0				End of Requirement

### 12 SIG-REQ-XXXXXX/X-APA\_DriverParkSlotReq Signal

This signal indicates the selected APA parking slot by user on APIM screen.

Signal Name	Size (bits)	Detail	Units	Res.	Offset	State Encoded	Min	Max
APA_DriverParkSlotReq	4		-	1	0		0	15
		No_Req				0x0		
		Slot_L1				0x1		
		Slot_L2				0x2		
		Slot_L3				0x3		
		Slot_L4				0x4		
		Slot_L5				0x5		
		Slot_R1				0x6		
		Slot_R2				0x7		
		Slot_R3				0x8		
		Slot_R4				0x9		



## Function Specification APA/RPA

		Slot_R5				0xA		
		Reserved				0xB~0xF		

Satisfied by:

- Functions:
  - APA/RPA Function

Requirement ID: 44				
Rationale				
Acceptance Criteria				
Notes				
Source			Owner	
Source Req.			V&V Method	
Type		Priority	Status	In-Progress
<a href="#">Req. Template</a> Version 6.0				
End of Requirement				

### 13 SIG-REQ-XXXXXX/X-APA\_DriverSelectDirection Signal

This signal indicates the APA parking out direction which is selected by user on APIM screen.

Signal Name	Size (bits)	Detail	Units	Res.	Offset.	State Encoded	Min	Max
APA_DriverSelectDirection	3			1	0		0	7
		No_Park_Out_Direction				0x0		
		Park_Out_Front_Left_Parallel				0x1		
		Park_Out_Front_Left_Cross				0x2		
		Park_Out_Front_Right_Parallel				0x3		
		Park_Out_Front_Right_Cross				0x4		
		Park_Out_Front				0x5		
		Park_Out_Backward				0x6		

Satisfied by:

- Functions:
  - APA/RPA Function

Requirement ID: 43				
Rationale				
Acceptance Criteria				
Notes				



## Function Specification APA/RPA

Source		Owner	
Source Req.		V&V Method	
Type		Priority	
Req. Template	Version 6.0	Status	In-Progress
End of Requirement			

### 14 SIG-REQ-XXXXXX/X-Prk\_DriverResume\_Req Signal

This signal indicates whether user click the parking function resume button on APIM screen after suspend recovery.

Signal Name	Size (bits)	Detail	Units	Res.	Offset	State Encoded	Min	Max
Prk_DriverResume_Req	1		-	1	0		0	1
		No Pressed				0x0		
		Pressed				0x1		

Satisfied by:

- Functions:
  - APA/RPA Function

Requirement ID: 36			
Rationale			
Acceptance Criteria			
Notes			
Source		Owner	
Source Req.		V&V Method	
Type		Priority	
Req. Template	Version 6.0	Status	In-Progress
End of Requirement			

### 15 SIG-REQ-XXXXXX/X-RPA\_PageReturn\_Button Signal

This signal indicates the exit button status of RPA page, which means user could click this button to exit RPA and went to APA page when waiting for bluetooth connecting.

Signal Name	Size (bits)	Detail	Units	Res.	Offset	State Encoded	Min	Max
RPA_PageReturn_Button	1			1	0		0	1
		No Pressed				0x0		
		Pressed				0x1		

Satisfied by:

- Functions:
  - APA/RPA Function

Requirement ID: 39			
Rationale			
Acceptance Criteria			
Notes			
Source		Owner	



## Function Specification APA/RPA

Source Req.		V&V Method	
Type	Priority	Status	In-Progress
Req. Template Version 6.0			End of Requirement

### 16 SIG-REQ-XXXXXX/X-Prk\_ExitButton Signal

This signal indicates parking feature request for APIM to have function OFF, include APA/AVM/Backtrack/HAVP.

Signal Name	Size (bits)	Detail	Units	Res.	Offset.	State Encoded	Min	Max
Prk_ExitButton	1			1	0		0	1
		No Pressed				0x0		
		Pressed				0x1		

### 17 SIG-REQ-XXXXXX/X-IVI\_Prk\_DisStat Signal

This signal indicates which parking feature is displayed on APIM, include APA/AVM/Backtrack/HAVP.

Signal Name	Size (bits)	Detail	Units	Res.	Offset.	State Encoded	Min	Max
IVI_Prk_DisStat	3			1	0		0	7
		No req				0x0		
		AVM ON req				0x1		
		APA ON req				0x2		
		Backtrack ON req				0x3		
		HAVP ON req				0x4		
		RPA ON req				0x5		
		Reserved				0x6		
		Reserved				0x7		

### 1.3.3 Logical Parameters

(No parameters have been defined)



1.4 Function Modeling

1.4.1 State Charts

No state chart associated to specified function.

1.4.2 Activity Diagrams

1.4.2.1 Automated Parking Assist and Remote Parking Assist Diagnostic Configuration Flowchart

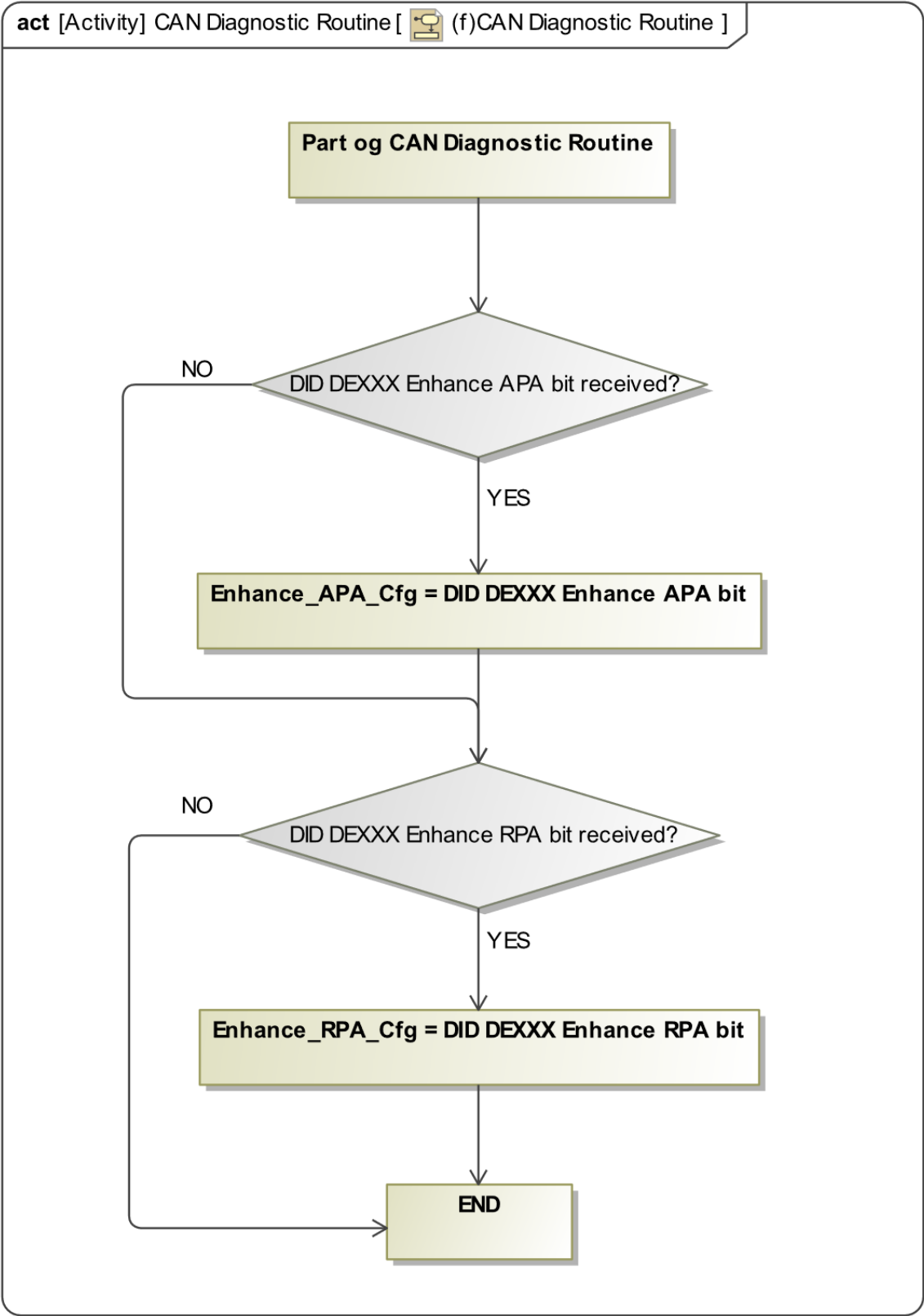


Figure 2: Automated Parking Assist and Remote Parking Assist Diagnostic Configuration Flowchart



## Function Specification APA/RPA

### 1.4.2.2 Automated Parking Assist and Remote Parking Assist Activation Process Flowchart

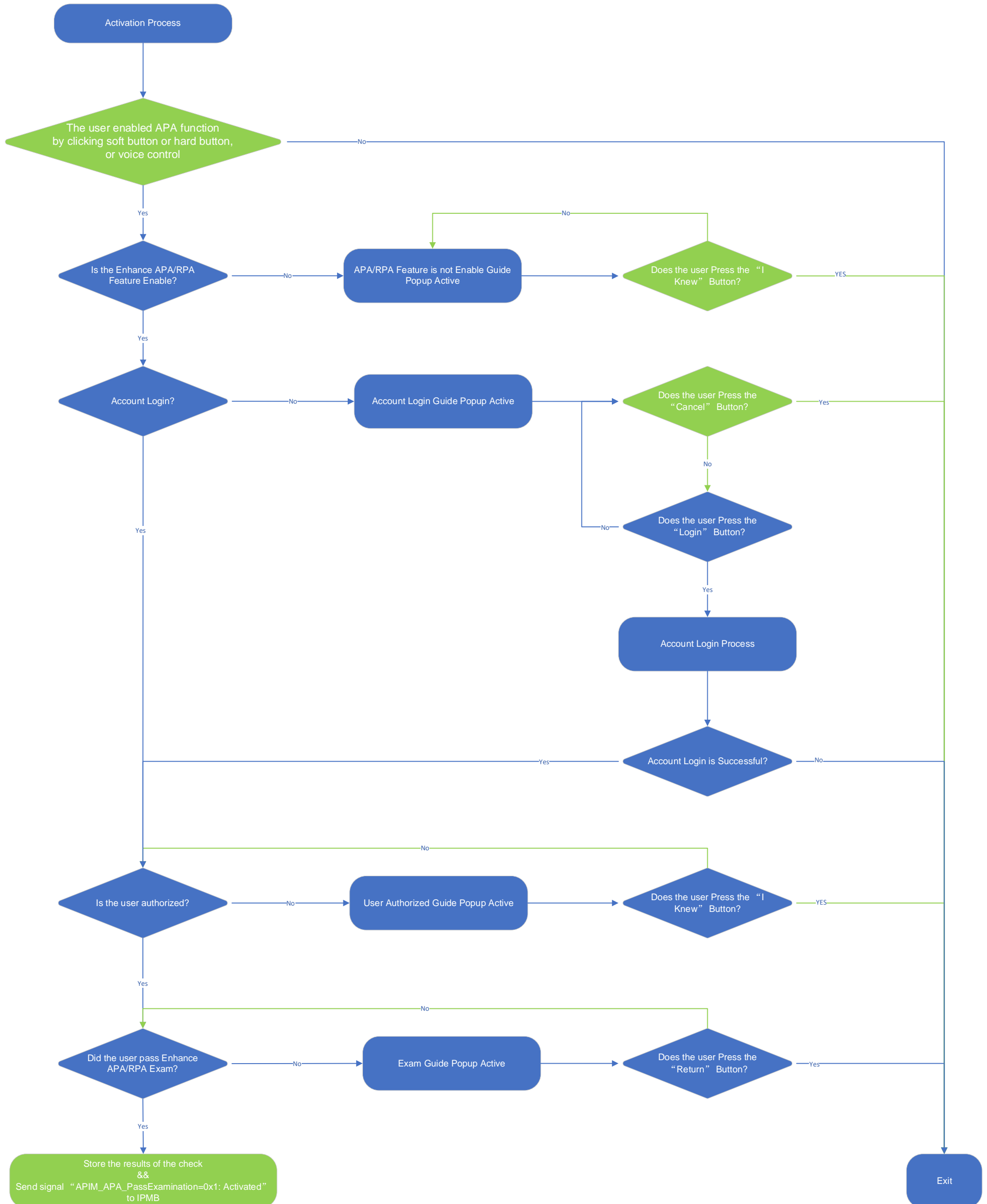


Figure 3: Activity Diagram of Automated Parking Assist and Remote Parking Assist Activation Process Flow Chart





## Function Specification APA/RPA

### 1.4.2.3 Automated Parking Assist and Remote Parking Assist Parking Assist Precondition Checking Process Flowchart

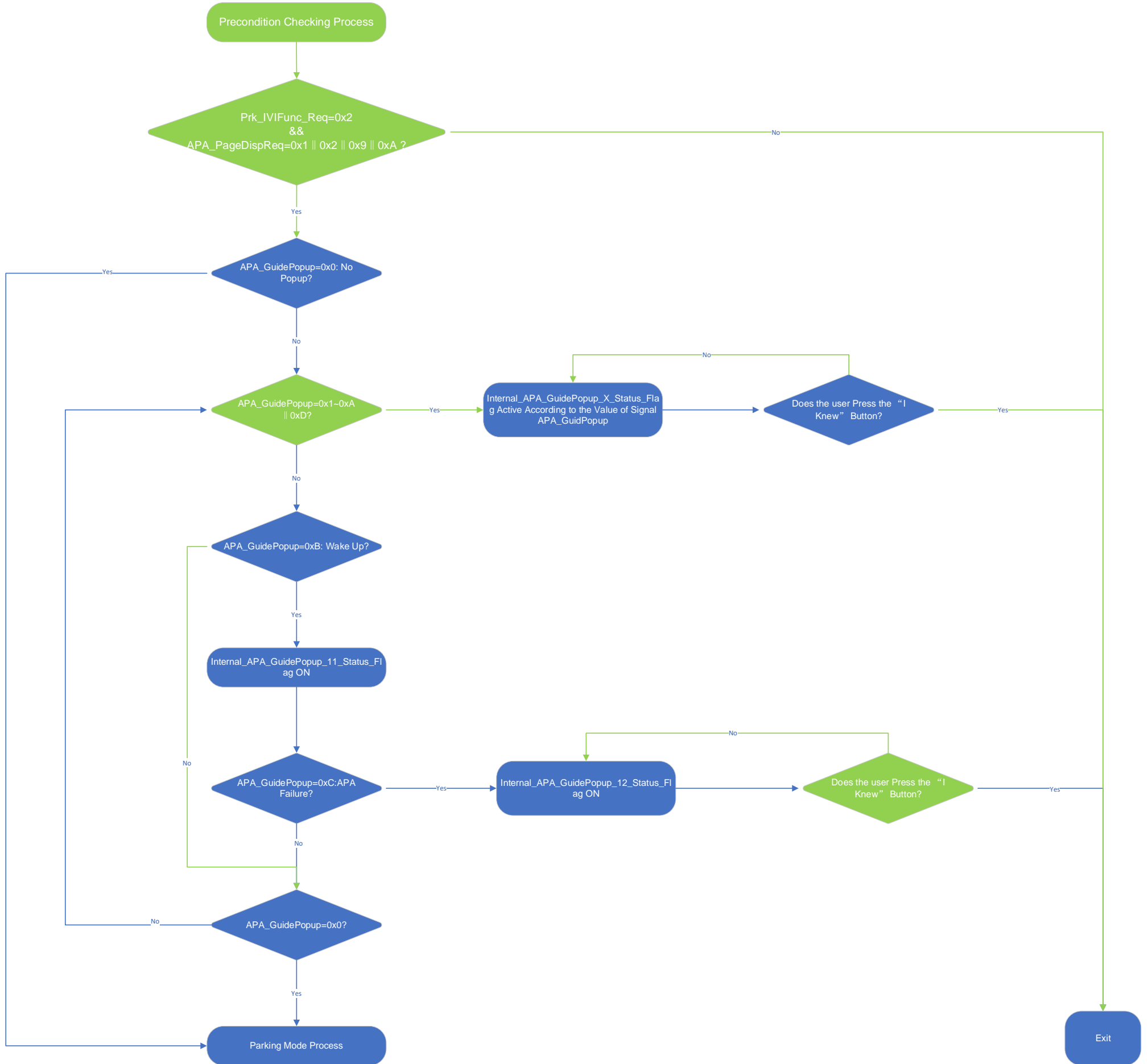


Figure 4: Activity Diagram of Automated Parking Assist and Remote Parking Assist Precondition Checking Flow Chart



## Function Specification APA/RPA

### 1.4.2.4 Automated Parking Assist and Remote Parking Assist Parking Mode Process Flowchart

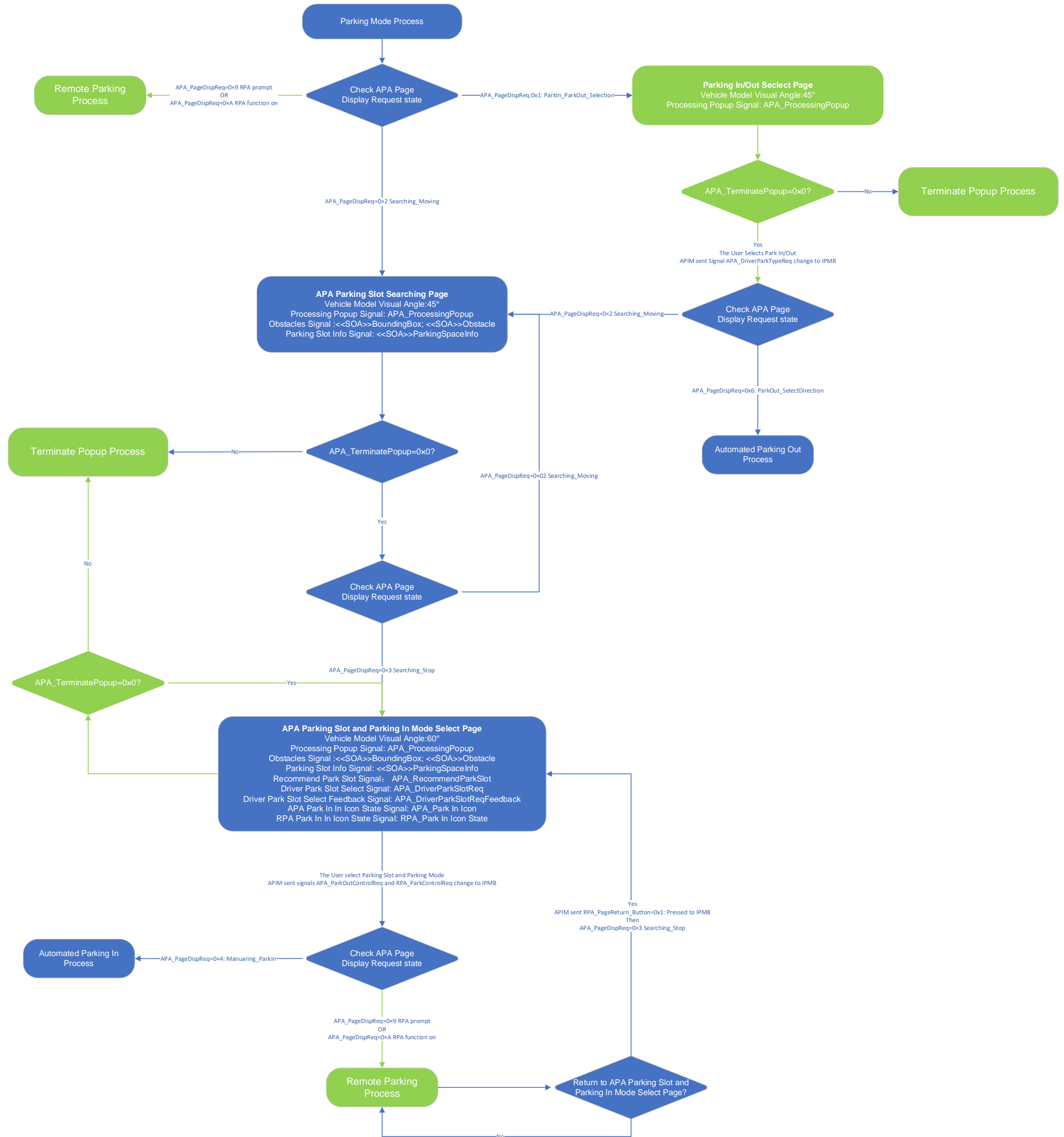


Figure 5: Automated Parking Assist and Remote Parking Assist Parking Mode Process Flowchart



1.4.2.5 Automated Parking Assist Parking In Process Flowchart

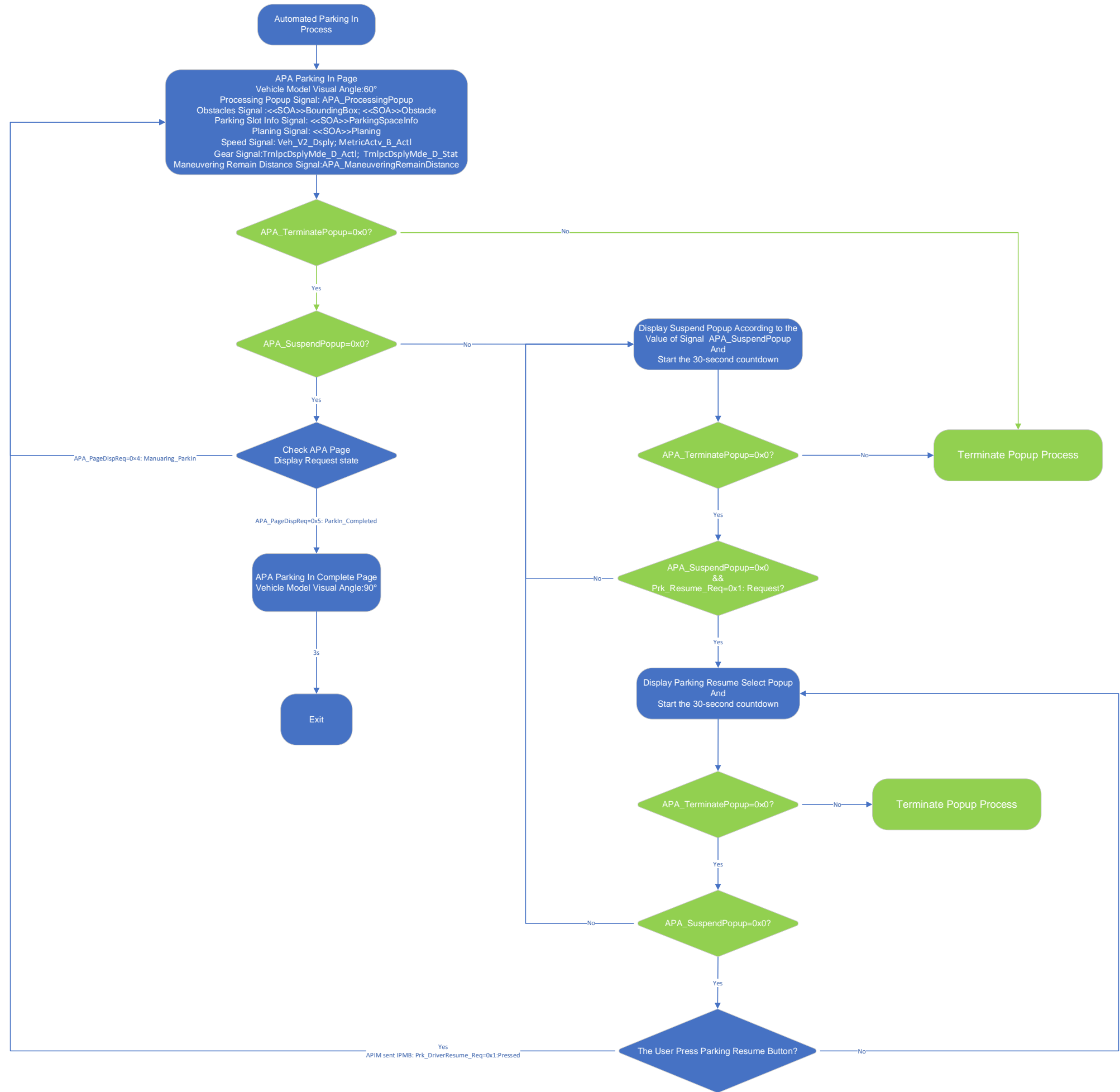


Figure6: Automated Parking Assist Parking In Process Flowchart



## Function Specification APA/RPA

### 1.4.2.6 Automated Parking Assist Parking Out Process Flowchart

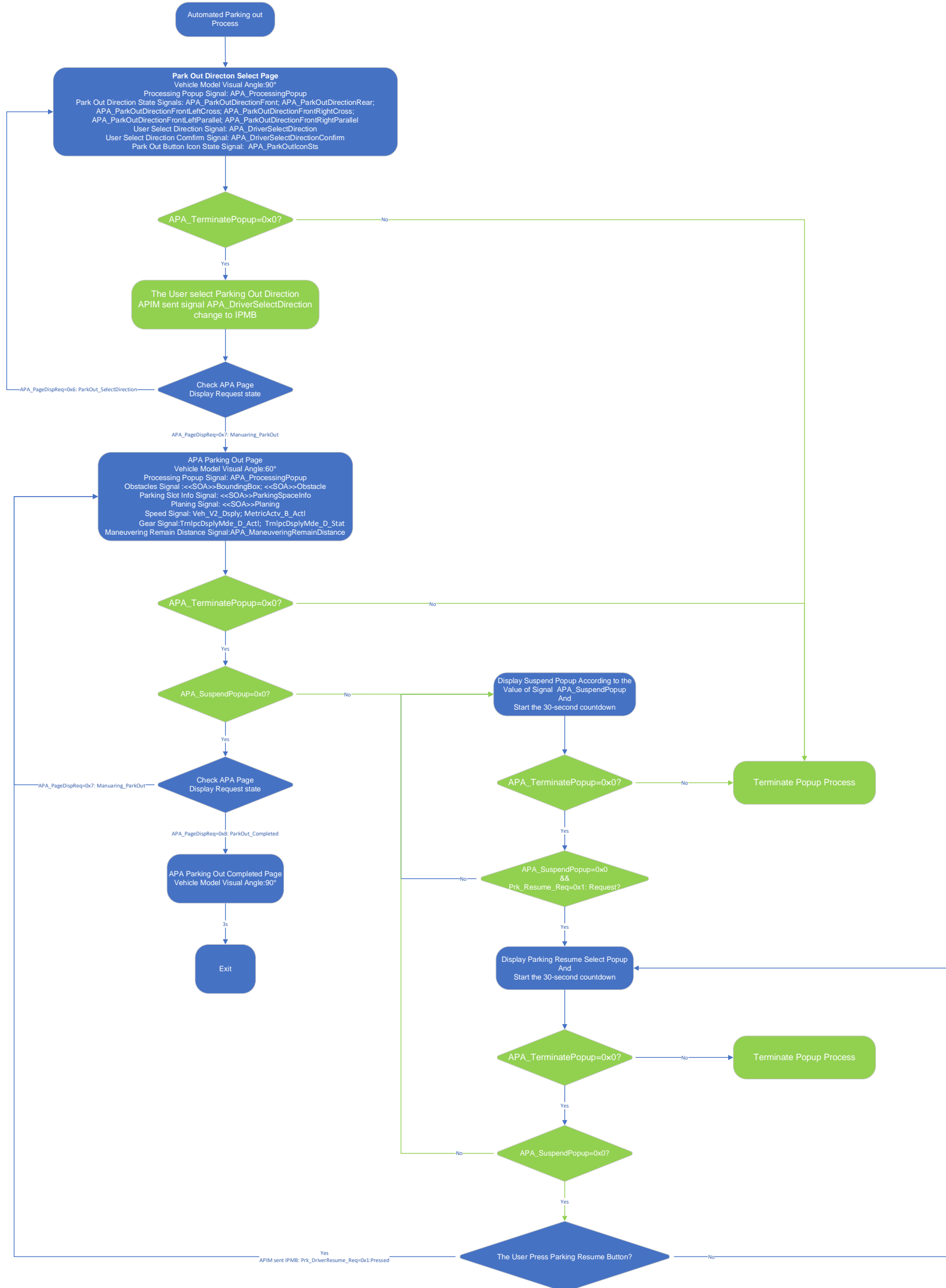


Figure 7: Automated Parking Assist Parking Out Process Flowchart



#### 1.4.2.7 Remote Parking Assist Parking Process Flowchart

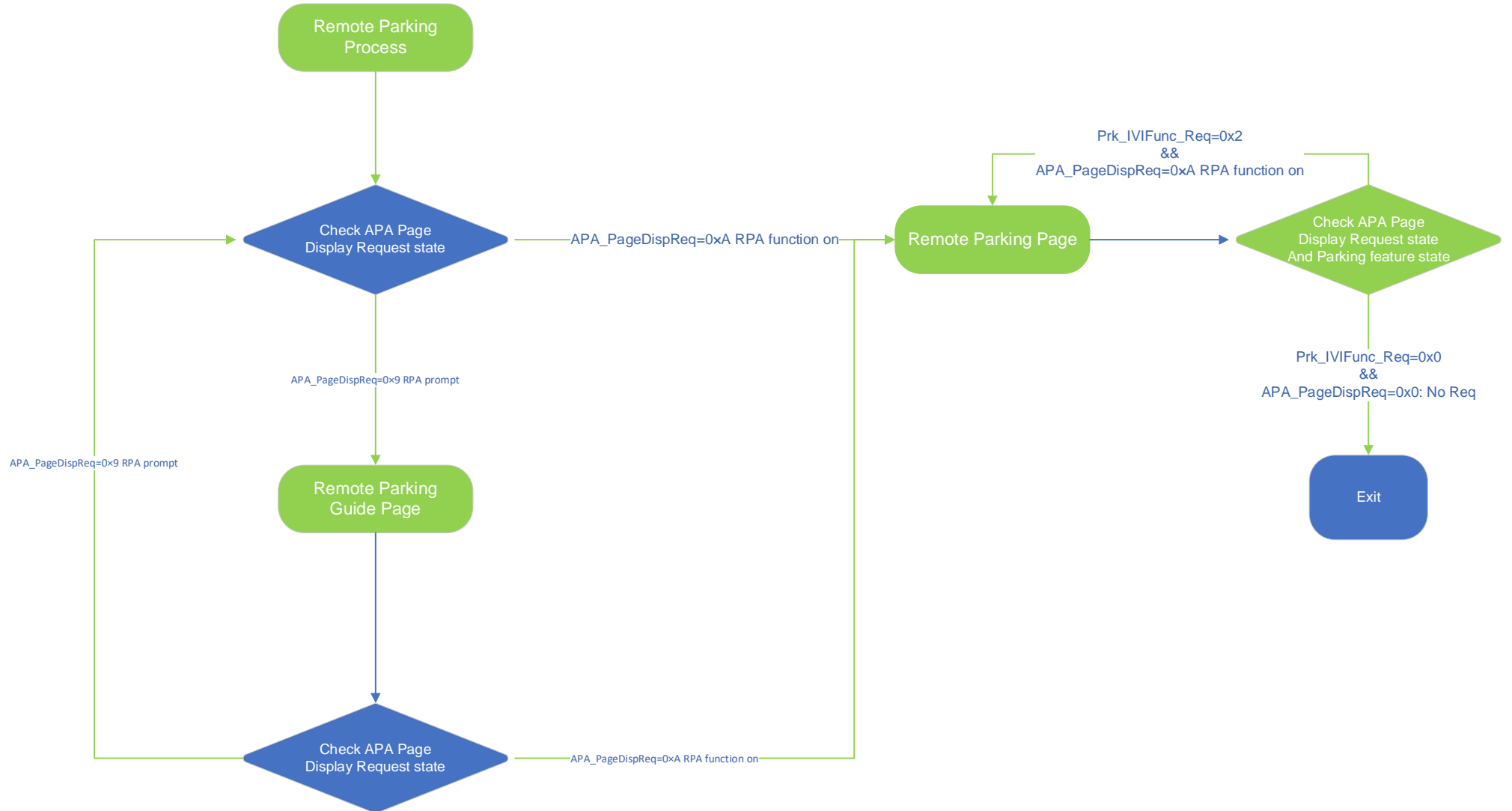


Figure 8: Remote Parking Assist Parking Process Flowchart

#### 1.4.2.8 Terminate Popup Process Flowchart

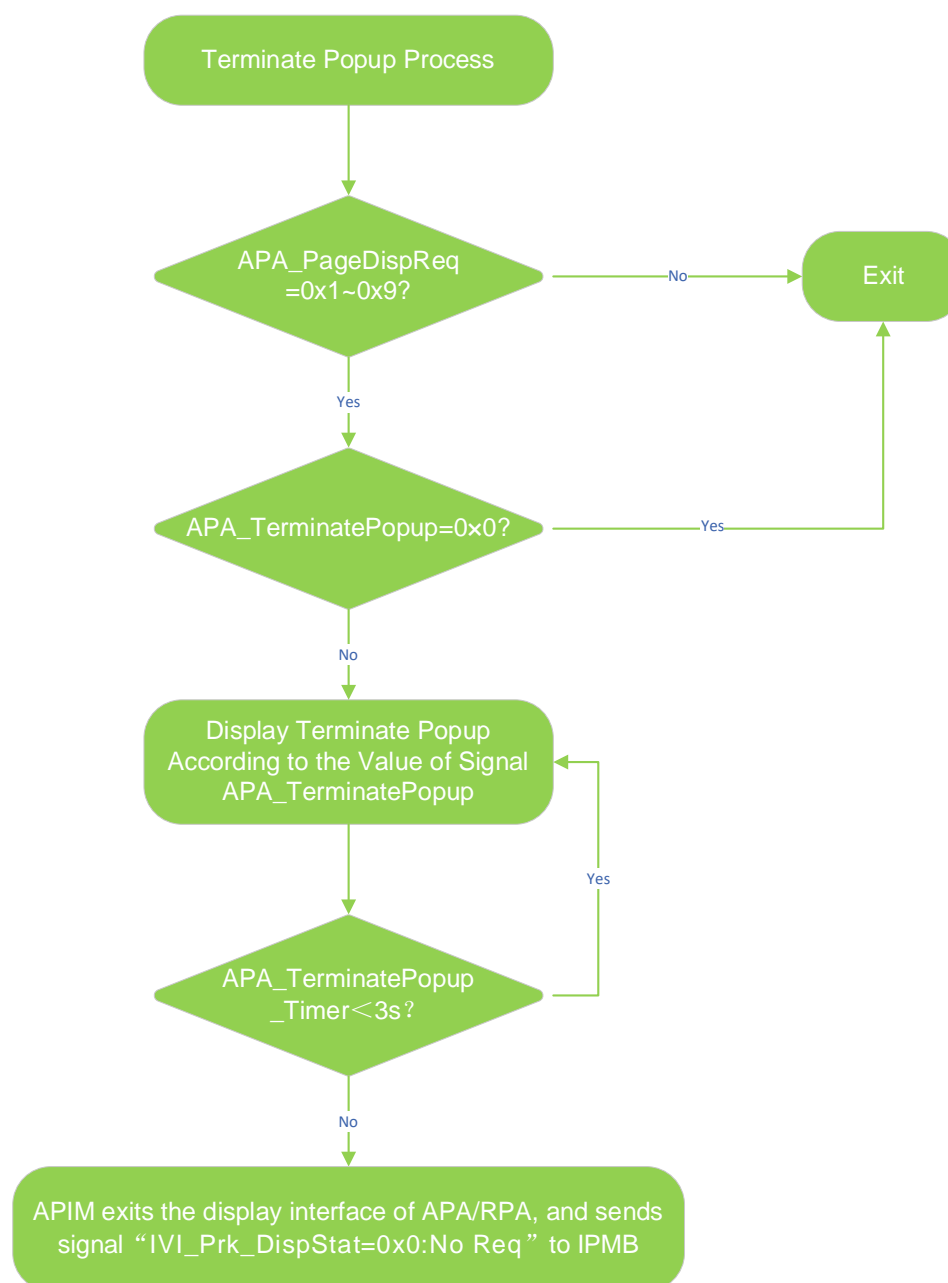
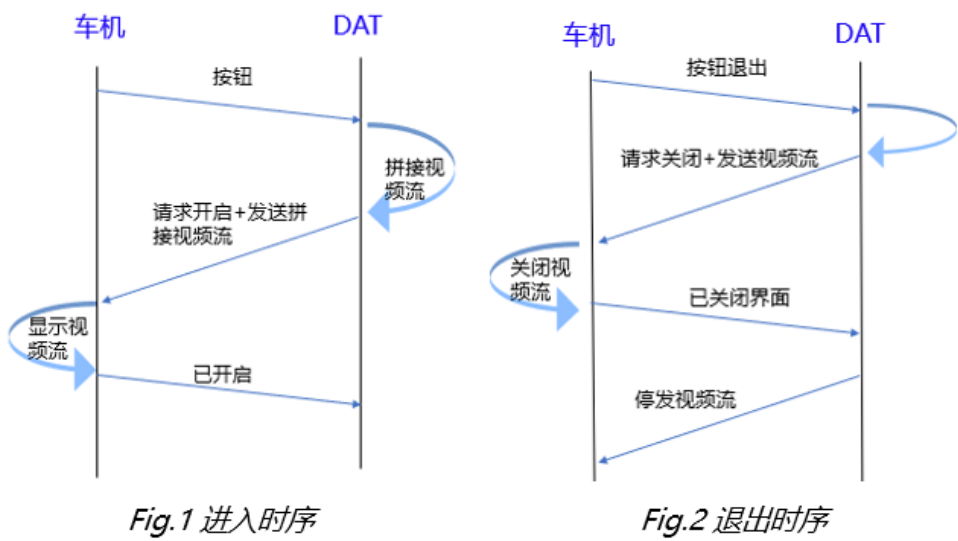


Figure 9: Terminate Popup Process Flowchart



1.4.2.9 APIM Display status signal Flowchart



When APIM displays APA/RPA information, APIM send the signal “IVI\_Prk\_DispNet=0×2: APA ON req” to APA/RPA sever.

1.4.3 Sequence Diagrams

No sequence diagram associated to specified function.

1.4.4 Decision Tables

No Decision Tables found in the Magicdraw model.



## 1.5 Function requirements

### 1.5.1 F-REQ-XXXXXX/x-Operational Modes

Mode	Differentiating Vehicle Conditions
Sleep Mode	The Automated Parking Assist and Remote Parking Assist Display Inactive
Limited Mode	The Automated Parking Assist and Remote Parking Assist Display Inactive
Normal Mode	The Automated Parking Assist and Remote Parking Assist Display Active
Crank Mode	The Automated Parking Assist and Remote Parking Assist Display Inactive



## 1.5.2 Human-Machine Interface

### 1.5.2.1 Indicator Graphics / Display Format

#### 1.5.2.1.1 F-REQ-XXXXXX/X State Matrix for APA Interface Display Information

APIM will display different content in different stages of the Automated Parking Assist and Remote Parking Assist function.

Operational_Mode	Feature Config	APA_PageDispReq Signal	Park Slot Popup	APA Exit Button	HAVP Soft Botton	APA Setting Button	Info Book Button	Guide Popup	Processing Popup	Suspend Popup	Terminate Popup	Parking In/Out button	APA_Parking In Activation Button	RPA Parking In Activation Button	APA_Parking Out Activation Button	RPA_Return_Button	Vehicle Model	Obstacles	Parking Slot Info	APA_ParkOutDirection	Planing & speed & Gear & Maneuvering Remain Distance
Normal	Enhance_APA_Cfg = 0x1 (Enabled) and Enhance_RPA_Cfg = 0x1 (Enabled)	0x0: No req	Active	Inactive	Inactive	Inactive	Inactive	Active	Inactive	Inactive	Inactive	Inactive	Inactive	Inactive	Inactive	Inactive	Inactive	Inactive	Inactive	Inactive	Inactive
		0x1: ParkIn_ParkOut_Selection	Inactive	Active	Active	Active	Active	Inactive	Active	Inactive	Active	Active	Inactive	Inactive	Inactive	Inactive	Active	Active	Inactive	Inactive	Inactive
		0x2: Searching_Moving	Inactive	Active	Active	Active	Active	Inactive	Active	Inactive	Active	Inactive	Inactive	Inactive	Inactive	Inactive	Active	Active	Active	Inactive	Inactive
		0x3: Searching_Stop	Inactive	Active	Active	Active	Active	Inactive	Active	Inactive	Active	Inactive	Active	Active	Inactive	Inactive	Active	Active	Active	Inactive	Inactive
		0x4: Manuaring_ParkIn	Inactive	Active	Active	Inactive	Inactive	Inactive	Active	Active	Active	Inactive	Inactive	Inactive	Inactive	Inactive	Active	Active	Active	Inactive	Active
		0x5: ParkIn_Completed	Inactive	Active	Inactive	Inactive	Inactive	Inactive	Active	Inactive	Active	Inactive	Inactive	Inactive	Inactive	Inactive	Active	Inactive	Inactive	Inactive	Inactive
		0x6: ParkOut_SelectDirection	Inactive	Active	Active	Active	Active	Inactive	Active	Inactive	Active	Inactive	Inactive	Inactive	Active	Inactive	Active	Inactive	Inactive	Active	Inactive
		0x7: Manuaring_ParkOut	Inactive	Active	Active	Inactive	Inactive	Inactive	Active	Active	Active	Inactive	Inactive	Inactive	Inactive	Inactive	Active	Active	Active	Inactive	Active
		0x8: ParkOut_Completed	Inactive	Active	Inactive	Inactive	Inactive	Inactive	Active	Inactive	Active	Inactive	Inactive	Inactive	Inactive	Inactive	Active	Inactive	Inactive	Inactive	Inactive
		0x9: RemotePark_Remind	Inactive	Inactive	Inactive	Inactive	Inactive	Inactive	Inactive	Inactive	Active	Inactive	Inactive	Inactive	Inactive	Active	Inactive	Inactive	Inactive	Inactive	Inactive
		0xA: RPA function on	Inactive	Inactive	Inactive	Inactive	Inactive	Inactive	Inactive	Inactive	Inactive	Inactive	Inactive	Inactive	Inactive	Inactive	Inactive	Inactive	Inactive	Inactive	Inactive
		0xB~0xF: Reserved	Inactive	Inactive	Inactive	Inactive	Inactive	Inactive	Inactive	Inactive	Inactive	Inactive	Inactive	Inactive	Inactive	Inactive	Inactive	Inactive	Inactive	Inactive	Inactive
All Other Cases		X (Don't Care)	Inactive	Inactive	Inactive	Inactive	Inactive	Inactive	Inactive	Inactive	Inactive	Inactive	Inactive	Inactive	Inactive	Inactive	Inactive	Inactive	Inactive	Inactive	Inactive





#### 1.5.2.1.2 F-REQ-XXXXXX/X APA Exit Button

The driver can make APA/RPA function exit by pressing the “APA Exit Button”, the client communicates the driver’s intention via the signal **Prk\_ExitButton** to the server.

When the driver presses the APA Exit Button, if the vehicle is not in the process of Automated parking in or out, it will exit the APA directly. If the vehicle is in the process of Automated parking in or out (**APA\_PageDispReq Signal = 0x4 or 0x7**), it will display the Terminate Popup for 3s first, and then exit the APA.



State Matrix for Internal\_APAExitButton\_Status\_Flag

Operational_Mode	Feature Config	APA_PageDispReq Signal	Internal_APAExitButton_Status_Flag
Normal	Enhance_APA_Cfg = 0x1 (Enabled) and Enhance_RPA_Cfg = 0x1 (Enabled)	0x0: No req	Inactive
		0x1: ParkIn_ParkOut_Selection	Active
		0x2: Searching_Moving	Active
		0x3: Searching_Stop	Active
		0x4: Manuaring_ParkIn	Active
		0x5: ParkIn_Completed	Active
		0x6: ParkOut_SelectDirection	Active
		0x7: Manuaring_ParkOut	Active
		0x8: ParkOut_Completed	Active
		0x9: RemotePark_Remind	Inactive



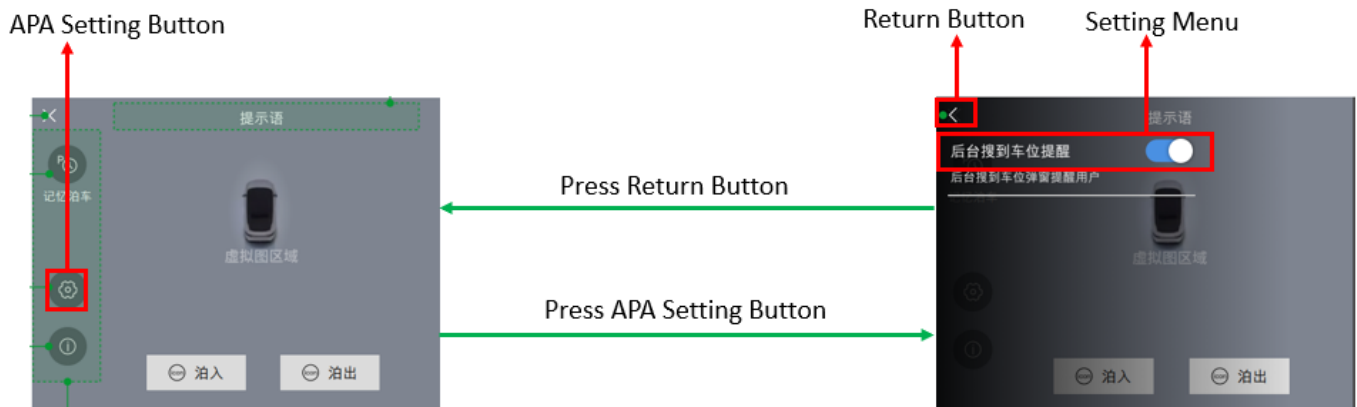
## Function Specification APA/RPA

		0xA: RemotePark_PhoneControl	Inactive
		0xB~0xF: Reserved	Inactive
All Other Cases		X (Don't Care)	Inactive

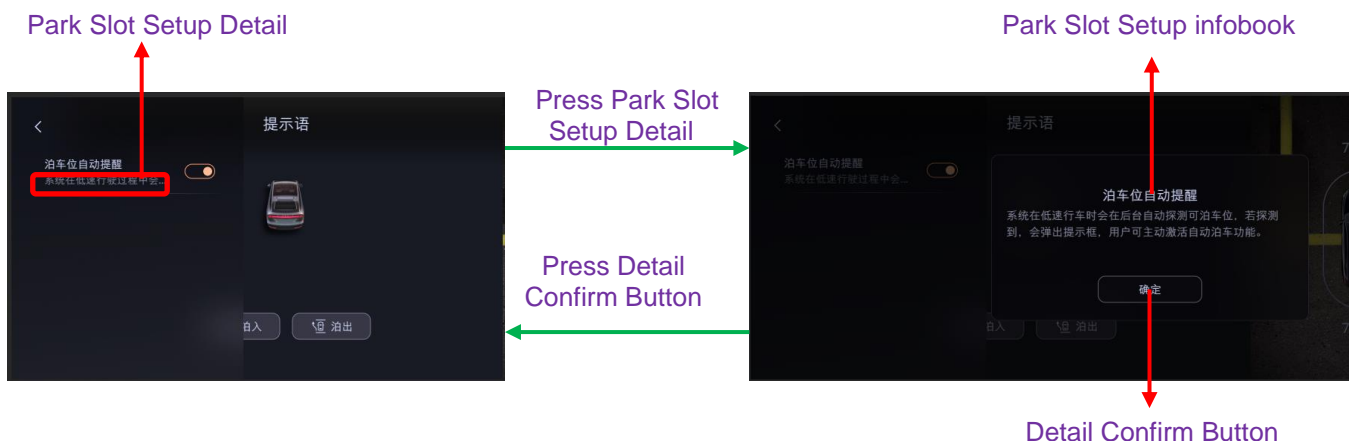
### 1.5.2.1.3 F-REQ-XXXXXX/X Park Slot Indication

Park Slot Indication Menu is a settings menu, that allows the user to enable or disable the Parking Slot Notification. The pictures below will clarify this, but keep in mind the pictures are for information purposes ONLY and not a solid requirement that forces the Client HMI to look in certain way. The text and the “looks” of the menu could be different.

The option to control the Parking Slot Reminder whether to show or not show it, is controlled by the “Setting Menu” shown below. The client communicates the driver’s intention via the signal APA\_ParkSlotPopupButton to the server. The setting menu shows the state of the server as communicated by signal APA\_ParkSlotPopupButtonFeedback.



If the driver presses the Park Slot Setup Detail, APIM will display the Park Slot Setup infobook, and when the driver pressed the Detail Confirm Button, APIM will back to display Setting Menu.





## Function Specification APA/RPA

Menu level 0	Menu level 1	Menu level 2	Comments
APA/RPA	APA Setting	Park Slot Indication Setting <ul style="list-style-type: none"><li>ON</li><li>OFF</li></ul>	Enhance_APA_Cfg = 0x1 (Enabled) and Enhance_RPA_Cfg = 0x1 (Enabled)

The below bar, circled in red, is the Parking Slot reminder. It is triggered from the states of signal **APA\_SearchParkRemindPopup**, and it also follow the strategy of APIM toast display, which is:

- If the time that “APA\_SearchParkRemindPopup= 0x0: ON” is greater than or equal to 3s, then the Park Slot Reminder Popup will disappear after 3s;
- If the time that “APA\_SearchParkRemindPopup= 0x0: ON” is less than 3s, then the Park Slot Reminder Popup will disappear when the signal APA\_SearchParkRemindPopup changes to “0x1: OFF”.



### 1 Status Matrix for Internal\_APASettingButton\_Status\_Flag

Operational_Mode	Feature Config	APA_PageDispReq Signal	Internal_APASettingButton_Status_Flag
Normal	Enhance_APA_Cfg = 0x1 (Enabled) and Enhance_RPA_Cfg = 0x1 (Enabled)	0x0: No req	Inactive
		0x1: ParkIn_ParkOut_Selection	Active
		0x2: Searching_Moving	Active
		0x3: Searching_Stop	Active
		0x4: Manuaring_ParkIn	Inactive
		0x5: ParkIn_Completed	Inactive
		0x6: ParkOut_SelectDirection	Active
		0x7: Manuaring_ParkOut	Inactive



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		0x8: ParkOut_Completed	Inactive
		0x9~0xF: Reserved	Inactive
		0x9: RPA prompt	Inactive
		0xA: RemotePark_PhoneControl	Inactive
		0xB~0xF: Reserved	Inactive
All Other Cases		X (Don't Care)	Inactive



## Function Specification APA/RPA

### 2 Status Matrix for Internal\_ParkSlotIndication\_Status\_Flag

Operational_Mode	Feature Config	APA_PageDispReq Signal	APA_ParkSlotPopUp ButtonFeedback Signal	APA_SearchParkRem indPopUp signal	Internal_ParkSlotIndi cation_Status_Flag
Normal	Enhance_APA_Cfg = 0x1 (Enabled) and Enhance_RPA_Cfg = 0x1 (Enabled)	0x0: No req	0x0: ON	0x0: ON	Active
		0x0: No req	0x0: ON	0x1: OFF	Inactive
		0x0: No req	0x1: OFF	0x0: ON	Inactive
		0x0: No req	0x1: OFF	0x1: OFF	Inactive
		0x1: ParkIn_ParkOut_Sele ction	X (Don't Care)		Inactive
		0x2: Searching_Moving	X (Don't Care)		Inactive
		0x3: Searching_Stop	X (Don't Care)		Inactive
		0x4: Manuaring_ParkIn	X (Don't Care)		Inactive
		0x5: ParkIn_Completed	X (Don't Care)		Inactive
		0x6: ParkOut_SelectDirect ion	X (Don't Care)		Inactive
		0x7: Manuaring_ParkOut	X (Don't Care)		Inactive
		0x8: ParkOut_Completed	X (Don't Care)		Inactive
		0x9: RemotePark_Remind	X (Don't Care)		Inactive
		0xA: RemotePark_Phone Control	X (Don't Care)		Inactive
		0xB~0xF: Reserved	X (Don't Care)		Inactive
All Other Cases		X (Don't Care)	X (Don't Care)		Inactive



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### 1.5.2.1.4 F-REQ-XXXXXX/X APA Info Book

#### Example Graphics:



The driver can enter the introduction interface of the APA feature by pressing the “Info Book Button”, the driver also can return to the APA launcher HMI by pressing the “Info Book Return Button”.

The content of Info Book is ultimately subject to the HMI, the pictures are for information purposes only.

#### Status Matrix for Internal\_APAInfoBookButton\_Status\_Flag

Operational_Mode	Feature Config	APA_PageDispReq Signal	Internal_APAInfoBookButton_Status_Flag
Normal	Enhance_APA_Cfg = 0x1 (Enabled) and Enhance_RPA_Cfg = 0x1 (Enabled)	0x0: No req	Inactive
		0x1: ParkIn_ParkOut_Selection	Active
		0x2: Searching_Moving	Active
		0x3: Searching_Stop	Active
		0x4: Manuaring_ParkIn	Inactive
		0x5: ParkIn_Completed	Inactive
		0x6: ParkOut_SelectDirection	Active
		0x7: Manuaring_ParkOut	Inactive
		0x8: ParkOut_Completed	Inactive




## Function Specification APA/RPA

		0x9: RemotePark_Remind	Inactive
		0xA: RemotePark_PhoneControl	Inactive
		0xB~0xF: Reserved	Inactive
All Other Cases		X (Don't Care)	Inactive

### 1.5.2.1.5 F-REQ-XXXXXX/X HotKey Shortcut Menu General Introduction

There are 4 ways to activate the Automated Parking Assist and Remote Parking Assist feature for the driver: Hard Button | P | , two soft buttons and voice control.

If the driver wants to activate the Automated Parking Assist and Remote Parking Assist feature by soft buttons or voice control, the APIM will transmit the corresponding signal to IPMB, but when the driver presses the Hard Button | P | , the Hard Button will transmit signal to IPMB directly, not through APIM.

NO.	items	Example Graphics	transmit signals	comment
1	Hard Button   P	Hard Button, no HMI	/	
2	Soft Button in Launcher		APA_Launcher_SoftButton	This signal indicates the soft button of APA on launcher page, if user click this button, APIM will sent pressed status to IPMB.
3	<del>Soft Button in Quick Panel</del>	<del>TBD</del>	<del>APA_QuickPanelButton</del>	<del>This signal indicates the soft button of APA on APIM quick panel page, if user click this button, APIM will sent pressed status to IPMB.</del>



## Function Specification APA/RPA

4	Soft Button in AVM		APA_AVM_SoftButton	This signal indicates the soft button of APA on AVM main page, if user click this button, APIM will sent pressed status to IPMB.
5	Voice Control	/	APA_VoiceActivationButton	This signal indicates the voice activation of APA, if user request APA ON by voice, APIM will sent this signal to IPMB.

### 1.5.2.1.6 F-REQ-XXXXXX/X Guide Popup Text Information

Example Graphics (final graphics and texts to be provided by HMI wallpaper):



### 1 APA Guide Popup Status Flag to Guide Popup Text Information

Internal_APA_GuidePopup_X_Status_Flag	Text ID	Text content
Internal_APA_GuidePopup_1_Status_Flag	TBD	功能冲突，自动泊车无法启动
Internal_APA_GuidePopup_2_Status_Flag	TBD	车速过高，自动泊车无法启动
Internal_APA_GuidePopup_3_Status_Flag	TBD	非普通模式，自动泊车无法启动
Internal_APA_GuidePopup_4_Status_Flag	TBD	车辆无动力，自动泊车无法启动
Internal_APA_GuidePopup_5_Status_Flag	TBD	紧急呼叫中，自动泊车无法启动
Internal_APA_GuidePopup_6_Status_Flag	TBD	手机控车中，自动泊车无法启动
Internal_APA_GuidePopup_7_Status_Flag	TBD	泊车功能暂未开放，敬请期待！
Internal_APA_GuidePopup_8_Status_Flag	TBD	请先登录账号，再使用自动泊车功能
Internal_APA_GuidePopup_9_Status_Flag	TBD	该用户未被授权，无法使用自动泊车
Internal_APA_GuidePopup_10_Status_Flag	TBD	1st line: 自动泊车考试指南（此为标题，非正文） 2nd line: 请使用手机扫码并通过考试，再使用自动泊车功能
Internal_APA_GuidePopup_11_Status_Flag	TBD	功能启动中，请稍候...
Internal_APA_GuidePopup_12_Status_Flag	TBD	自动泊车功能启动失败





## Function Specification APA/RPA

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Internal_APA_GuidePopup_13_Status_Flag	TBD	系统升级中，请稍后再试
Internal_APA_GuidePopup_14_Status_Flag	TBD	记忆泊车建图中，无法激活



APA/RPAAPIM Function Specification\_Enhancement DAT  
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2 Status Matrix for Internal\_APA\_GuidePopup\_X\_Status\_Flag

Operational_Mode	Feature Config	APA_PageDispReq Signal	APA_GuidePopup Signal	Internal_APA_GuideP opup_1_Status_Flag	Internal_APA_GuideP opup_2_Status_Flag	Internal_APA_GuideP opup_3_Status_Flag	Internal_APA_GuideP opup_4_Status_Flag	Internal_APA_GuideP opup_5_Status_Flag	Internal_APA_GuideP opup_6_Status_Flag	Internal_APA_GuideP opup_7_Status_Flag	Internal_APA_GuideP opup_8_Status_Flag	Internal_APA_GuideP opup_9_Status_Flag	Internal_APA_GuideP opup_10_Status_Flag	Internal_APA_GuideP opup_11_Status_Flag	Internal_APA_GuideP opup_12_Status_Flag	Internal_APA_GuideP opup_13_Status_Flag	Internal_APA_GuideP opup_14_Status_Flag
Normal	Enhance_APA_Cfg = 0x1 (Enabled) and Enhance_RPA_Cfg = 0x1 (Enabled)	0x0: No req	0x0: No Popup	Inactive	Inactive	Inactive	Inactive	Inactive	Inactive	Inactive	Inactive	Inactive	Inactive	Inactive	Inactive	Inactive	Inactive
		0x0: No req	0x1: Functional Conflict	Active	Inactive	Inactive	Inactive	Inactive	Inactive	Inactive	Inactive	Inactive	Inactive	Inactive	Inactive	Inactive	Inactive
		0x0: No req	0x2: Speed Too High	Inactive	Active	Inactive	Inactive	Inactive	Inactive	Inactive	Inactive	Inactive	Inactive	Inactive	Inactive	Inactive	Inactive
		0x0: No req	0x3: Not Normal Mode	Inactive	Inactive	Active	Inactive	Inactive	Inactive	Inactive	Inactive	Inactive	Inactive	Inactive	Inactive	Inactive	Inactive
		0x0: No req	0x4: No Dynamics	Inactive	Inactive	Inactive	Active	Inactive	Inactive	Inactive	Inactive	Inactive	Inactive	Inactive	Inactive	Inactive	Inactive
		0x0: No req	0x5: eCALL	Inactive	Inactive	Inactive	Inactive	Active	Inactive	Inactive	Inactive	Inactive	Inactive	Inactive	Inactive	Inactive	Inactive
		0x0: No req	0x6: Mobile Control	Inactive	Inactive	Inactive	Inactive	Inactive	Active	Inactive	Inactive	Inactive	Inactive	Inactive	Inactive	Inactive	Inactive
		0x0: No req	0x7: Under Developing	Inactive	Inactive	Inactive	Inactive	Inactive	Inactive	Active	Inactive	Inactive	Inactive	Inactive	Inactive	Inactive	Inactive
		0x0: No req	0x8: Log In	Inactive	Inactive	Inactive	Inactive	Inactive	Inactive	Inactive	Active	Inactive	Inactive	Inactive	Inactive	Inactive	Inactive
		0x0: No req	0x9: Authorization	Inactive	Inactive	Inactive	Inactive	Inactive	Inactive	Inactive	Inactive	Active	Inactive	Inactive	Inactive	Inactive	Inactive
		0x0: No req	0xA: Require Exam	Inactive	Inactive	Inactive	Inactive	Inactive	Inactive	Inactive	Inactive	Inactive	Active	Inactive	Inactive	Inactive	Inactive
		0x0: No req	0xB: Wake Up	Inactive	Inactive	Inactive	Inactive	Inactive	Inactive	Inactive	Inactive	Inactive	Inactive	Active	Inactive	Inactive	Inactive
		0x0: No req	0xC: APA Failure	Inactive	Inactive	Inactive	Inactive	Inactive	Inactive	Inactive	Inactive	Inactive	Inactive	Inactive	Active	Inactive	Inactive
		0x0: No req	0xD: ACU Updating	Inactive	Inactive	Inactive	Inactive	Inactive	Inactive	Inactive	Inactive	Inactive	Inactive	Inactive	Inactive	Active	Inactive
		0x0: No req	0xE: Reserved	Inactive	Inactive	Inactive	Inactive	Inactive	Inactive	Inactive	Inactive	Inactive	Inactive	Inactive	Inactive	Inactive	Active
		0x0: No req	0xF: Reserved	Inactive	Inactive	Inactive	Inactive	Inactive	Inactive	Inactive	Inactive	Inactive	Inactive	Inactive	Inactive	Inactive	Inactive
		0x1: ParkIn_ParkOut_Selection	X (Don't Care)	Inactive	Inactive	Inactive	Inactive	Inactive	Inactive	Inactive	Inactive	Inactive	Inactive	Inactive	Inactive	Inactive	Inactive



# Function Specification APA/RPA

		0x2: Searching_Moving	X (Don't Care)	Inactive	Inactive	Inactive	Inactive	Inactive	Inactive	Inactive	Inactive	Inactive	Inactive	Inactive	Inactive	Inactive	Inactive
		0x3: Searching_Stop	X (Don't Care)	Inactive	Inactive	Inactive	Inactive	Inactive	Inactive	Inactive	Inactive	Inactive	Inactive	Inactive	Inactive	Inactive	Inactive
		0x4: Manuaring_ParkIn	X (Don't Care)	Inactive	Inactive	Inactive	Inactive	Inactive	Inactive	Inactive	Inactive	Inactive	Inactive	Inactive	Inactive	Inactive	Inactive
		0x5: ParkIn_Completed	X (Don't Care)	Inactive	Inactive	Inactive	Inactive	Inactive	Inactive	Inactive	Inactive	Inactive	Inactive	Inactive	Inactive	Inactive	Inactive
		0x6: ParkOut_SelectDirect ion	X (Don't Care)	Inactive	Inactive	Inactive	Inactive	Inactive	Inactive	Inactive	Inactive	Inactive	Inactive	Inactive	Inactive	Inactive	Inactive
		0x7: Manuaring_ParkOut	X (Don't Care)	Inactive	Inactive	Inactive	Inactive	Inactive	Inactive	Inactive	Inactive	Inactive	Inactive	Inactive	Inactive	Inactive	Inactive
		0x8: ParkOut_Completed	X (Don't Care)	Inactive	Inactive	Inactive	Inactive	Inactive	Inactive	Inactive	Inactive	Inactive	Inactive	Inactive	Inactive	Inactive	Inactive
		0x9: RemotePark_Remind	X (Don't Care)	Inactive	Inactive	Inactive	Inactive	Inactive	Inactive	Inactive	Inactive	Inactive	Inactive	Inactive	Inactive	Inactive	Inactive
		0xA: RemotePark_Phone Control	X (Don't Care)	Inactive	Inactive	Inactive	Inactive	Inactive	Inactive	Inactive	Inactive	Inactive	Inactive	Inactive	Inactive	Inactive	Inactive
		0xB~0xF: Reserved	X (Don't Care)	Inactive	Inactive	Inactive	Inactive	Inactive	Inactive	Inactive	Inactive	Inactive	Inactive	Inactive	Inactive	Inactive	Inactive
All Other Cases		X (Don't Care)	X (Don't Care)	Inactive	Inactive	Inactive	Inactive	Inactive	Inactive	Inactive	Inactive	Inactive	Inactive	Inactive	Inactive	Inactive	



#### 1.5.2.1.7 F-REQ-XXXXXX/X APA Processing Popup Text Information

Example Graphics (final graphics and texts to be provided by HMI wallpaper):



#### 1 APA Processing Popup Status Flag to Processing Popup Text Information

Internal_APA_ProcessingPopup_X_Status_Flag	Text ID	Text content
Internal_APA_ProcessingPopup_1_Status_Flag	TBD	请选择泊入或泊出
Internal_APA_ProcessingPopup_2_Status_Flag	TBD	正在搜索车位
Internal_APA_ProcessingPopup_3_Status_Flag	TBD	请减速搜车位
Internal_APA_ProcessingPopup_4_Status_Flag	TBD	搜车位暂停, 请减速搜车位
Internal_APA_ProcessingPopup_5_Status_Flag	TBD	继续为您搜索车位
Internal_APA_ProcessingPopup_6_Status_Flag	TBD	已搜索到车位, 如需泊入请停车
Internal_APA_ProcessingPopup_7_Status_Flag	TBD	请关闭车门
Internal_APA_ProcessingPopup_8_Status_Flag	TBD	请关闭前舱盖
Internal_APA_ProcessingPopup_9_Status_Flag	TBD	请关闭后备箱
Internal_APA_ProcessingPopup_10_Status_Flag	TBD	请踩刹车
Internal_APA_ProcessingPopup_11_Status_Flag	TBD	请挂N挡开始自动泊车, 挂P挡开始遥控泊车
Internal_APA_ProcessingPopup_12_Status_Flag	TBD	请停车后再选择车位
Internal_APA_ProcessingPopup_13_Status_Flag	TBD	请松开手刹
Internal_APA_ProcessingPopup_14_Status_Flag	TBD	请松开手刹
Internal_APA_ProcessingPopup_15_Status_Flag	TBD	请选择“遥控泊车”开始泊车
Internal_APA_ProcessingPopup_16_Status_Flag	TBD	可选择“自动泊车”为你泊车
Internal_APA_ProcessingPopup_17_Status_Flag	TBD	正在泊入, 请注意观察周围环境
Internal_APA_ProcessingPopup_18_Status_Flag	TBD	请点击“恢复”继续泊车
Internal_APA_ProcessingPopup_19_Status_Flag	TBD	泊车完成 (泊车完成画面, 非引导语)



## Function Specification APA/RPA

Internal_APA_ProcessingPopup_20_Status_Flag	TBD	手机控车中，自动泊车无法启动
Internal_APA_ProcessingPopup_21_Status_Flag	TBD	请点击箭头选择泊出方向
Internal_APA_ProcessingPopup_22_Status_Flag	TBD	该方向不可用，请重新选择
Internal_APA_ProcessingPopup_23_Status_Flag	TBD	请点击“开始泊出”
Internal_APA_ProcessingPopup_24_Status_Flag	TBD	请不要踩油门
Internal_APA_ProcessingPopup_25_Status_Flag	TBD	当前无可用泊出方向
Internal_APA_ProcessingPopup_26_Status_Flag	TBD	泊出完成（泊出完成画面，非引导语）
Internal_APA_ProcessingPopup_27_Status_Flag	TBD	正在泊出，请注意观察周围环境
Internal_APA_ProcessingPopup_28_Status_Flag	TBD	请关闭充电枪
Internal_APA_ProcessingPopup_29_Status_Flag	TBD	请关闭充电口盖
Internal_APA_ProcessingPopup_30_Status_Flag	TBD	请开至平坦道路再激活该功能
Internal_APA_ProcessingPopup_31_Status_Flag	TBD	该车位不可用，请重新选择
Internal_APA_ProcessingPopup_32_Status_Flag	TBD	请松开刹车



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2 Status Matrix for Internal\_APA\_ProcessingPopup\_X\_Status\_Flag

Operational_Mode	Feature Config	APA_PageDispReq Signal	APA_ProcessingPopup Signal	Internal_APA_ProcessingPopup_1_Status_Flag	Internal_APA_ProcessingPopup_2_Status_Flag	Internal_APA_ProcessingPopup_3_Status_Flag	Internal_APA_ProcessingPopup_4_Status_Flag	Internal_APA_ProcessingPopup_5_Status_Flag	Internal_APA_ProcessingPopup_6_Status_Flag	Internal_APA_ProcessingPopup_7_Status_Flag	Internal_APA_ProcessingPopup_8_Status_Flag	Internal_APA_ProcessingPopup_9_Status_Flag	Internal_APA_ProcessingPopup_10_Status_Flag	Internal_APA_ProcessingPopup_11_Status_Flag	Internal_APA_ProcessingPopup_12_Status_Flag	Internal_APA_ProcessingPopup_13_Status_Flag	Internal_APA_ProcessingPopup_14_Status_Flag	Internal_APA_ProcessingPopup_15_Status_Flag	Internal_APA_ProcessingPopup_16_Status_Flag	Internal_APA_ProcessingPopup_17_Status_Flag	Internal_APA_ProcessingPopup_18_Status_Flag	Internal_APA_ProcessingPopup_19_Status_Flag	Internal_APA_ProcessingPopup_20_Status_Flag	Internal_APA_ProcessingPopup_21_Status_Flag	Internal_APA_ProcessingPopup_22_Status_Flag	Internal_APA_ProcessingPopup_23_Status_Flag	Internal_APA_ProcessingPopup_24_Status_Flag	Internal_APA_ProcessingPopup_25_Status_Flag	Internal_APA_ProcessingPopup_26_Status_Flag	Internal_APA_ProcessingPopup_27_Status_Flag
Normal	Enhance_APA_Cfg = 0x1 (Enabled) and Enhance_RPA_Cfg = 0x1 (Enabled)	0x0: No req	X (Don't Care)	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina
		0x1: ParkIn_ParkOut_Selection  OR  0x2: Searching_Moving  OR  0x3: Searching_Stop  OR  0x4: Manuaring_ParkIn  OR  0x6: ParkOut_SelectDirect ion  0x7: Manuaring_ParkOut	0x0: No req	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina
			0x1: Select park in or park out	Act	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina
			0x2: Searching park slot	Ina	Act	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina
			0x3: Slow down to search park slot	Ina	Ina	Act	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina
			0x4: Searching paused	Ina	Ina	Ina	Act	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina
			0x5: Searching continue	Ina	Ina	Ina	Ina	Act	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina
			0x6: Stop to park in	Ina	Ina	Ina	Ina	Ina	Act	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina
			0x7: Close doors	Ina	Ina	Ina	Ina	Ina	Ina	Act	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina
			0x8: Close hood door	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Act	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina
			0x9: Close back door	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Act	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina
			0xA: Fasten seat belt	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Act	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina



# Function Specification APA/RPA

			0xB: Presse brake pedal	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Act	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina		
			0xC: Shift N or P	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Act	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	
			0xD: Stop to select park slot	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Act	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	
			0xE: Release EPB	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Act	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	
			0xF: Select button	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Act	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	
			0x10: Select RPA button	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Act	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	
			0x11: Parking In	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Act	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina		
			0x12: Select Recover button	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Act	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	
			0x13: Park in completed	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Act	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	
			0x14: Phone controing	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Act	Ina	Ina	Ina	Ina	Ina	Ina	Ina	
			0x15: Select park direction	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Act	Ina	Ina	Ina	Ina	Ina	Ina	
			0x16: Park direction unavailable	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Act	Ina	Ina	Ina	Ina	
			0x17: Select "Park Out" button	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Act	Ina	Ina	Ina	
			0x18: Don't press accelerator	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Act	Ina	Ina
			0x19: All parking out direction unavailable	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Act	Ina	Ina
			0x1A: Parking out completed	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Act	Ina
0x1B: Parking out	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina			
0x1C: Please pull out charging gun	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina			
0x1D: Please close charging port cover	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina			



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			0x1E: Please go to flat road to activate auto park	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina
			0x1F: RPlease select available park slot	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina
			0x20-0x3F: Reserved	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina
		0x5: ParkIn_Completed	X (Don't Care)	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina
		0x8: ParkOut_Completed	X (Don't Care)	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina
		0x9: RemotePark_Remind	X (Don't Care)	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina
		0xA: RemotePark_Phone Control	X (Don't Care)	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina
		0xB~0xF: Reserved	X (Don't Care)	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina
	All Other Cases	X (Don't Care)	X (Don't Care)	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina

Operational_Mode	Feature Config	APA_PageDispReq Signal	APA_ProcessingPopup Signal	Internal_APA_ProcessingPopup_28_Status_Flag				
				Internal_APA_ProcessingPopup_29_Status_Flag				
				Internal_APA_ProcessingPopup_30_Status_Flag				
Normal	Enhance APA_Cfg = 0x1 (Enabled)	0x0: No req	X (Don't Care)	Ina	Ina	Ina	Ina	Ina
		0x1:	0x0: No req	Ina	Ina	Ina	Ina	Ina





Function Specification  
APA/RPA

		ParkIn_ParkOut_Selection	0x1: Select park in or park out	Ina	Ina	Ina	Ina	Ina
		OR	0x2: Searching park slot	Ina	Ina	Ina	Ina	Ina
		0x2: Searching_Moving	0x3: Slow down to search park slot	Ina	Ina	Ina	Ina	Ina
		OR	0x4: Searching paused	Ina	Ina	Ina	Ina	Ina
		0x3: Searching_Stop	0x5: Searching continue	Ina	Ina	Ina	Ina	Ina
		OR	0x6: Stop to park in	Ina	Ina	Ina	Ina	Ina
		0x4: Manuaring_ParkIn	0x7: Close doors	Ina	Ina	Ina	Ina	Ina
		OR	0x8: Close hood door	Ina	Ina	Ina	Ina	Ina
		0x6: ParkOut_SelectDirection	0x9: Close back door	Ina	Ina	Ina	Ina	Ina
		0x7: Manuaring_ParkOut	0xA: Fasten seat belt	Ina	Ina	Ina	Ina	Ina
			0xB: Presse brake pedal	Ina	Ina	Ina	Ina	Ina
			0xC: Shift N or P	Ina	Ina	Ina	Ina	Ina
			0xD: Stop to select park slot	Ina	Ina	Ina	Ina	Ina
			0xE: Release EPB	Ina	Ina	Ina	Ina	Ina
			0xF: Select button	Ina	Ina	Ina	Ina	Ina
			0x10: Select RPA button	Ina	Ina	Ina	Ina	Ina
			0x11: Parking In	Ina	Ina	Ina	Ina	Ina
			0x12: Select Recover button	Ina	Ina	Ina	Ina	Ina
			0x13: Park in completed	Ina	Ina	Ina	Ina	Ina
			0x14: Phone controing	Ina	Ina	Ina	Ina	Ina
			0x15: Select park direction	Ina	Ina	Ina	Ina	Ina



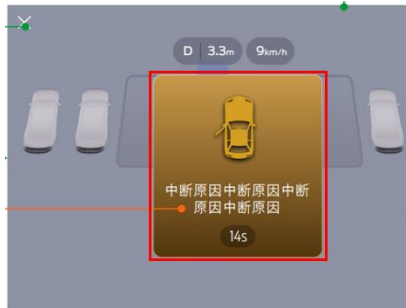
# Function Specification APA/RPA

			0x16: Park direction unavailable	Ina	Ina	Ina	Ina	Ina
			0x17: Select "Park Out" button	Ina	Ina	Ina	Ina	Ina
			0x18: Don't press accelerator	Ina	Ina	Ina	Ina	Ina
			0x19: All parking out direction unavailable	Ina	Ina	Ina	Ina	Ina
			0x1A: Parking out completed	Ina	Ina	Ina	Ina	Ina
			0x1B: Parking out	Act	Ina	Ina	Ina	Ina
			0x1C: Please pull out charging gun	Ina	Act	Ina	Ina	Ina
			0x1D: Please close charging port cover	Ina	Ina	Act	Ina	Ina
			0x1E: Please go to flat road to activate auto park	Ina	Ina	Ina	Act	Ina
			0x1F: RPlease select available park slot	Ina	Ina	Ina	Ina	Act
			0x20-0x3F: Reserved	Ina	Ina	Ina	Ina	Ina
		0x5: ParkIn_Completed	X (Don't Care)	Ina	Ina	Ina	Ina	Ina
		0x8: ParkOut_Completed	X (Don't Care)	Ina	Ina	Ina	Ina	Ina
		0x9: RemotePark_Remind	X (Don't Care)	Ina	Ina	Ina	Ina	Ina
		0xA: RemotePark_Phone Control	X (Don't Care)	Ina	Ina	Ina	Ina	Ina
		0xB~0xF: Reserved	X (Don't Care)	Ina	Ina	Ina	Ina	Ina
	All Other Cases	X (Don't Care)	X (Don't Care)	Ina	Ina	Ina	Ina	Ina



#### 1.5.2.1.8 F-REQ-XXXXXX/X APA Suspend Popup Text Information

Example Graphics (final graphics and texts to be provided by HMI wallpaper):



### 1 APA Suspend Popup Status Flag to Suspend Popup Text Information

Internal_APA_SuspendPopup_X_Status_Flag	Text ID	Text content
Internal_APA_SuspendPopup_1_Status_Flag	TBD	1 <sup>st</sup> line: 检测到障碍物 2 <sup>nd</sup> line: 请移除后点击恢复
Internal_APA_SuspendPopup_2_Status_Flag	TBD	1 <sup>st</sup> line: 车门未关闭 2 <sup>nd</sup> line: 请关闭后点击恢复
Internal_APA_SuspendPopup_3_Status_Flag	TBD	1 <sup>st</sup> line: 前舱盖未关闭 2 <sup>nd</sup> line: 请移除后点击恢复
Internal_APA_SuspendPopup_4_Status_Flag	TBD	1 <sup>st</sup> line: 后备箱未关闭 2 <sup>nd</sup> line: 请移除后点击恢复
Internal_APA_SuspendPopup_5_Status_Flag	TBD	请系上安全带
Internal_APA_SuspendPopup_6_Status_Flag	TBD	请松开刹车
Internal_APA_SuspendPopup_7_Status_Flag	TBD	1 <sup>st</sup> line: 充电枪未拔出 2 <sup>nd</sup> line: 请拔出后点击恢复



## Function Specification APA/RPA

### 2 Status Matrix for Internal\_APA\_SuspendPopup\_X\_Status\_Flag

Operational_Mode	Feature Config	APA_PageDispReq Signal	APA_ProcessingPopupSignal	Internal_APA_SuspendPopup_1_Status_FI ag	Internal_APA_SuspendPopup_2_Status_FI ag	Internal_APA_SuspendPopup_3_Status_FI ag	Internal_APA_SuspendPopup_4_Status_FI ag	Internal_APA_SuspendPopup_5_Status_FI ag	Internal_APA_SuspendPopup_6_Status_FI ag	Internal_APA_SuspendPopup_7_Status_FI ag
Normal	Enhance_APA_Cfg = 0x1 (Enabled) and Enhance_RPA_Cfg = 0x1 (Enabled)	0x0: No req	X (Don't Care)	Ina	Ina	Ina	Ina	Ina	Ina	Ina
		0x1: ParkIn_ParkOut_Selection	X (Don't Care)	Ina	Ina	Ina	Ina	Ina	Ina	Ina
		0x2: Searching_Moving	X (Don't Care)	Ina	Ina	Ina	Ina	Ina	Ina	Ina
		0x3: Searching_Stop	X (Don't Care)	Ina	Ina	Ina	Ina	Ina	Ina	Ina
		0x4: Manuaring_ParkIn  OR  0x7: Manuaring_ParkOut	0x0: No req	Ina	Ina	Ina	Ina	Ina	Ina	Ina
			0x1: Req_Paused_Waiting obstacles remove	Act	Ina	Ina	Ina	Ina	Ina	Ina
			0x2: Req_Paused_CloseDoor	Ina	Act	Ina	Ina	Ina	Ina	Ina
			0x3: Req_Paused_CloseHoodDoor	Ina	Ina	Act	Ina	Ina	Ina	Ina
			0x4: Req_Paused_CloseBackDoor	Ina	Ina	Ina	Act	Ina	Ina	Ina
			0x5: Req_Paused_FastenSeatBelt	Ina	Ina	Ina	Ina	Act	Ina	Ina
			0x6: Req_Paused_ReleaseBrakePedal	Ina	Ina	Ina	Ina	Ina	Act	Ina
			0x7: Req_Paused_Charging or filler flap	Ina	Ina	Ina	Ina	Ina	Ina	Act



## Function Specification APA/RPA

			0x8~0x1F: Reserved	Ina	Ina	Ina	Ina	Ina	Ina	Ina
		0x5: ParkIn_Completed	X (Don't Care)	Ina	Ina	Ina	Ina	Ina	Ina	Ina
		0x6: ParkOut_SelectDirect ion	X (Don't Care)	Ina	Ina	Ina	Ina	Ina	Ina	Ina
		0x8: ParkOut_Completed	X (Don't Care)	Ina	Ina	Ina	Ina	Ina	Ina	Ina
		0x9: RemotePark_Remind	X (Don't Care)	Ina	Ina	Ina	Ina	Ina	Ina	Ina
		0xA: RemotePark_Phone Control	X (Don't Care)	Ina	Ina	Ina	Ina	Ina	Ina	Ina
		0xB~0xF: Reserved	X (Don't Care)	Ina	Ina	Ina	Ina	Ina	Ina	Ina
	All Other Cases	X (Don't Care)	X (Don't Care)	Ina	Ina	Ina	Ina	Ina	Ina	Ina

### 1.5.2.1.9 F-REQ-XXXXXX/X APA Terminate Popup Text Information

Example Graphics (final graphics and texts to be provided by HMI wallpaper):



### 1 APA Terminate Popup Status Flag to Terminate Popup Text Information

Internal_APA_TerminatePopup_X_Status_Flag	Text ID	Text content
Internal_APA_TerminatePopup_1_Status_Flag	TBD	1 <sup>st</sup> line: 非普通模式 2 <sup>nd</sup> line: 泊车即将退出
Internal_APA_TerminatePopup_2_Status_Flag	TBD	1 <sup>st</sup> line: 系统升级中 2 <sup>nd</sup> line: 泊车即将退出
Internal_APA_TerminatePopup_3_Status_Flag	TBD	1 <sup>st</sup> line: 功能冲突 2 <sup>nd</sup> line: 泊车即将退出
Internal_APA_TerminatePopup_4_Status_Flag	TBD	1 <sup>st</sup> line: 功能冲突 2 <sup>nd</sup> line: 泊车即将退出



## Function Specification APA/RPA

Internal_APA_TerminatePopup_5_Status_Flag	TBD	1 <sup>st</sup> line: 功能冲突 2 <sup>nd</sup> line: 泊车即将退出
Internal_APA_TerminatePopup_6_Status_Flag	TBD	1 <sup>st</sup> line: 功能冲突 2 <sup>nd</sup> line: 泊车即将退出
Internal_APA_TerminatePopup_7_Status_Flag	TBD	1 <sup>st</sup> line: 紧急呼叫开启 2 <sup>nd</sup> line: 泊车即将退出
Internal_APA_TerminatePopup_8_Status_Flag	TBD	1 <sup>st</sup> line: 摄像头被遮挡 2 <sup>nd</sup> line: 泊车即将退出
Internal_APA_TerminatePopup_9_Status_Flag	TBD	1 <sup>st</sup> line: 雷达遮挡 2 <sup>nd</sup> line: 泊车即将退出
Internal_APA_TerminatePopup_10_Status_Flag	TBD	1 <sup>st</sup> line: 坡度过大 2 <sup>nd</sup> line: 泊车即将退出
Internal_APA_TerminatePopup_11_Status_Flag	TBD	1 <sup>st</sup> line: 车速过高 2 <sup>nd</sup> line: 泊车即将退出
Internal_APA_TerminatePopup_12_Status_Flag	TBD	1 <sup>st</sup> line: 胎压过低 2 <sup>nd</sup> line: 泊车即将退出
Internal_APA_TerminatePopup_13_Status_Flag	TBD	1 <sup>st</sup> line: 远程启动被禁止 2 <sup>nd</sup> line: 泊车即将退出
Internal_APA_TerminatePopup_14_Status_Flag	TBD	1 <sup>st</sup> line: 车辆就绪失败 2 <sup>nd</sup> line: 泊车即将退出
Internal_APA_TerminatePopup_15_Status_Flag	TBD	1 <sup>st</sup> line: 车辆低电量 2 <sup>nd</sup> line: 泊车即将退出
Internal_APA_TerminatePopup_16_Status_Flag	TBD	1 <sup>st</sup> line: 拖车模式中 2 <sup>nd</sup> line: 泊车即将退出
Internal_APA_TerminatePopup_17_Status_Flag	TBD	1 <sup>st</sup> line: 系统故障 2 <sup>nd</sup> line: 泊车即将退出
Internal_APA_TerminatePopup_18_Status_Flag	TBD	1 <sup>st</sup> line: 系统故障 2 <sup>nd</sup> line: 泊车即将退出
Internal_APA_TerminatePopup_19_Status_Flag	TBD	1 <sup>st</sup> line: 系统故障 2 <sup>nd</sup> line: 泊车即将退出
Internal_APA_TerminatePopup_20_Status_Flag	TBD	1 <sup>st</sup> line: 系统故障 2 <sup>nd</sup> line: 泊车即将退出
Internal_APA_TerminatePopup_21_Status_Flag	TBD	1 <sup>st</sup> line: 系统故障 2 <sup>nd</sup> line: 泊车即将退出
Internal_APA_TerminatePopup_22_Status_Flag	TBD	1 <sup>st</sup> line: 系统故障 2 <sup>nd</sup> line: 泊车即将退出



## Function Specification APA/RPA

Internal_APA_TerminatePopup_23_Status_Flag	TBD	1 <sup>st</sup> line: 系统故障 2 <sup>nd</sup> line: 泊车即将退出
Internal_APA_TerminatePopup_24_Status_Flag	TBD	1 <sup>st</sup> line: 系统故障 2 <sup>nd</sup> line: 泊车即将退出
Internal_APA_TerminatePopup_25_Status_Flag	TBD	1 <sup>st</sup> line: 系统故障 2 <sup>nd</sup> line: 泊车即将退出
Internal_APA_TerminatePopup_26_Status_Flag	TBD	1 <sup>st</sup> line: 系统故障 2 <sup>nd</sup> line: 泊车即将退出
Internal_APA_TerminatePopup_27_Status_Flag	TBD	1 <sup>st</sup> line: 系统故障 2 <sup>nd</sup> line: 泊车即将退出
Internal_APA_TerminatePopup_28_Status_Flag	TBD	1 <sup>st</sup> line: 系统故障 2 <sup>nd</sup> line: 泊车即将退出
Internal_APA_TerminatePopup_29_Status_Flag	TBD	1 <sup>st</sup> line: 系统故障 2 <sup>nd</sup> line: 泊车即将退出
Internal_APA_TerminatePopup_30_Status_Flag	TBD	1 <sup>st</sup> line: 泊车控制系统故障 2 <sup>nd</sup> line: 泊车即将退出
Internal_APA_TerminatePopup_31_Status_Flag	TBD	1 <sup>st</sup> line: 系统故障 2 <sup>nd</sup> line: 泊车即将退出
Internal_APA_TerminatePopup_32_Status_Flag	TBD	1 <sup>st</sup> line: 功能开启超时 2 <sup>nd</sup> line: 泊车即将退出
Internal_APA_TerminatePopup_33_Status_Flag	TBD	1 <sup>st</sup> line: 车端退出 2 <sup>nd</sup> line: 泊车即将退出
Internal_APA_TerminatePopup_34_Status_Flag	TBD	1 <sup>st</sup> line: 手机端退出 2 <sup>nd</sup> line: 泊车即将退出
Internal_APA_TerminatePopup_35_Status_Flag	TBD	1 <sup>st</sup> line: 档位干预 2 <sup>nd</sup> line: 泊车即将退出
Internal_APA_TerminatePopup_36_Status_Flag	TBD	1 <sup>st</sup> line: 电子手刹干预 2 <sup>nd</sup> line: 泊车即将退出
Internal_APA_TerminatePopup_37_Status_Flag	TBD	1 <sup>st</sup> line: 方向盘干预 2 <sup>nd</sup> line: 泊车即将退出
Internal_APA_TerminatePopup_38_Status_Flag	TBD	1 <sup>st</sup> line: 后视镜被折叠 2 <sup>nd</sup> line: 泊车即将退出
Internal_APA_TerminatePopup_39_Status_Flag	TBD	1 <sup>st</sup> line: 不安全行为 2 <sup>nd</sup> line: 泊车即将退出
Internal_APA_TerminatePopup_40_Status_Flag	TBD	1 <sup>st</sup> line: 车辆充电 2 <sup>nd</sup> line: 泊车即将退出



## Function Specification APA/RPA

Internal_APA_TerminatePopup_41_Status_Flag	TBD	1 <sup>st</sup> line: 车辆下电 2 <sup>nd</sup> line: 泊车即将退出
Internal_APA_TerminatePopup_42_Status_Flag	TBD	1 <sup>st</sup> line: 摄像头被遮挡 2 <sup>nd</sup> line: 泊车即将退出
Internal_APA_TerminatePopup_43_Status_Flag	TBD	1 <sup>st</sup> line: 操作超时 2 <sup>nd</sup> line: 泊车即将退出
Internal_APA_TerminatePopup_44_Status_Flag	TBD	1 <sup>st</sup> line: 泊车控车超时 2 <sup>nd</sup> line: 泊车即将退出
Internal_APA_TerminatePopup_45_Status_Flag	TBD	1 <sup>st</sup> line: 恢复超时 2 <sup>nd</sup> line: 泊车即将退出
Internal_APA_TerminatePopup_46_Status_Flag	TBD	1 <sup>st</sup> line: 中断次数超限 2 <sup>nd</sup> line: 泊车即将退出
Internal_APA_TerminatePopup_47_Status_Flag	TBD	1 <sup>st</sup> line: 车控距离大于30m 2 <sup>nd</sup> line: 泊车即将退出
Internal_APA_TerminatePopup_48_Status_Flag	TBD	1 <sup>st</sup> line: 关联系统握手失败 2 <sup>nd</sup> line: 泊车即将退出
Internal_APA_TerminatePopup_49_Status_Flag	TBD	1 <sup>st</sup> line: 方向盘角度超限 2 <sup>nd</sup> line: 泊车即将退出
Internal_APA_TerminatePopup_50_Status_Flag	TBD	1 <sup>st</sup> line: 换挡失败 2 <sup>nd</sup> line: 泊车即将退出
Internal_APA_TerminatePopup_51_Status_Flag	TBD	1 <sup>st</sup> line: 偏离轨迹 2 <sup>nd</sup> line: 泊车即将退出
Internal_APA_TerminatePopup_52_Status_Flag	TBD	1 <sup>st</sup> line: 路径规划失败
Internal_APA_TerminatePopup_53_Status_Flag	TBD	1 <sup>st</sup> line: 空间超限 2 <sup>nd</sup> line: 泊车即将退出
Internal_APA_TerminatePopup_54_Status_Flag	TBD	1 <sup>st</sup> line: 泊车完成 (泊车完成画面, 非弹窗)
Internal_APA_TerminatePopup_55_Status_Flag	TBD	1 <sup>st</sup> line: 搜索车位超时 2 <sup>nd</sup> line: 泊车即将退出
Internal_APA_TerminatePopup_56_Status_Flag	TBD	1 <sup>st</sup> line: 车速过高 2 <sup>nd</sup> line: 泊车即将退出
Internal_APA_TerminatePopup_57_Status_Flag	TBD	1 <sup>st</sup> line: 充电枪插入 2 <sup>nd</sup> line: 泊车即将退出
Internal_APA_TerminatePopup_58_Status_Flag	TBD	1 <sup>st</sup> line: 系统故障, 泊车功能退出 2 <sup>nd</sup> line: 泊车即将退出





## Function Specification APA/RPA

Internal_APA_TerminatePopup_59_Status_Flag	TBD	车速过高，搜车位退出
Internal_APA_TerminatePopup_60_Status_Flag	TBD	车辆未达安全状态（P+EPB）



APA/RPAAPIM Function Specification\_Enhancement DAT  
APA&RPA\_V1.1

2 Status Matrix for Internal\_APA\_TerminatePopup\_X\_Status\_Flag

Operational_Mode	Feature Config	APA_PageDispReq Signal	APA_TerminatePopup Signal	Internal_APA_TerminatePopup_1_Status_Flag	Internal_APA_TerminatePopup_2_Status_Flag	Internal_APA_TerminatePopup_3_Status_Flag	Internal_APA_TerminatePopup_4_Status_Flag	Internal_APA_TerminatePopup_5_Status_Flag	Internal_APA_TerminatePopup_6_Status_Flag	Internal_APA_TerminatePopup_7_Status_Flag	Internal_APA_TerminatePopup_8_Status_Flag	Internal_APA_TerminatePopup_9_Status_Flag	Internal_APA_TerminatePopup_10_Status_Flag	Internal_APA_TerminatePopup_11_Status_Flag	Internal_APA_TerminatePopup_12_Status_Flag	Internal_APA_TerminatePopup_13_Status_Flag	Internal_APA_TerminatePopup_14_Status_Flag	Internal_APA_TerminatePopup_15_Status_Flag	Internal_APA_TerminatePopup_16_Status_Flag	Internal_APA_TerminatePopup_17_Status_Flag	Internal_APA_TerminatePopup_18_Status_Flag	Internal_APA_TerminatePopup_19_Status_Flag	Internal_APA_TerminatePopup_20_Status_Flag	Internal_APA_TerminatePopup_21_Status_Flag	Internal_APA_TerminatePopup_22_Status_Flag	Internal_APA_TerminatePopup_23_Status_Flag	Internal_APA_TerminatePopup_24_Status_Flag	Internal_APA_TerminatePopup_25_Status_Flag	Internal_APA_TerminatePopup_26_Status_Flag	Internal_APA_TerminatePopup_27_Status_Flag	Internal_APA_TerminatePopup_28_Status_Flag	Internal_APA_TerminatePopup_29_Status_Flag	Internal_APA_TerminatePopup_30_Status_Flag
Normal	Enhance_APA_Cfg = 0x1 (Enabled) and Enhance_RPA_Cfg = 0x1 (Enabled)	0x0: No req	X (Don't Care)	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	
		0x1: ParkIn_ParkOut_Selection  OR  0x2: Searching_Moving  OR  0x3: Searching_Stop  OR  0x4: Manuaring_ParkIn  OR  0x5: ParkIn_Completed  OR  0x6: ParkOut_SelectDirect ion  0x7:	0x0: No req	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	
			0x1: Req_Quit_Car mode invalid	Act	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina
			0x2: Req_Quit_OTA active	Ina	Act	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina
			0x3: Req_Quit_ADAS	Ina	Ina	Act	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina
			0x4: Req_Quit_ABS active	Ina	Ina	Ina	Act	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina
			0x5: Req_Quit_TCS active	Ina	Ina	Ina	Ina	Act	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina
			0x6: Req_Quit_ESC active	Ina	Ina	Ina	Ina	Ina	Act	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina
			0x7: Req_Quit_eCALL	Ina	Ina	Ina	Ina	Ina	Ina	Act	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina
			0x8: Req_Quit_Camera Blockage	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Act	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina
			0x9: Req_Quit_USS Blockage	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Act	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina
			0xA: Req_Quit_Slope_Too large	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Act	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina



# Function Specification APA/RPA

Manuaring_ParkOut  OR  0x8: ParkOut_Completed  OR  0x9: RemotePark_Remind	0xB: Req_Quit_Speed high	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Act	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	
	0xC: Req_Quit_Tire Pressure Too Low	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Act	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	
	0xD: Req_Quit_Remot e start forbid	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Act	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	
	0xE: Req_Quit_PT READY FAILED	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Act	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	
	0xF: Req_Quit_Vehicle Low Battery	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Act	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	
	0x10: Req_Quit_Trailer connected	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Act	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	
	0x11: Req_Quit_Traction Control System off	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Act	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	
	0x12: Req_Quit_Powerp ack torque status changes to not available	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Act	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	
	0x13: Req_Quit_Power management failure	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Act	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina
	0x14: Req_Quit_LSC error	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Act	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina
	0x15: Req_Quit_EPAS error	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Act	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina
	0x16: Req_Quit_ABS error	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Act	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina
	0x17: Req_Quit_BCM error	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Act	Ina	Ina	Ina	Ina	Ina	Ina	Ina
	0x18: Req_Quit_BLEM_ failure	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Act	Ina	Ina	Ina	Ina	Ina	Ina
	0x19: Req_Quit_Remot e Device error	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Act	Ina	Ina	Ina	Ina	Ina
	0x1A: Req_Quit_Unexpe cted deactivation of LSC	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Act	Ina	Ina	Ina	Ina
	0x1B: Req_Quit_Unexpe cted deactivation of ABS	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Act	Ina	Ina	Ina



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# Function Specification APA/RPA

			0x2D: Req_Quit_Recovery Timeout	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina
			0x2E: Req_Quit_Interrupt Times Overflow	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina
			0x2F: Req_Quit_Remote move distance out of range	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina
			0x30: Req_Quit_Handshake failed	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina
			0x31: Req_Quit_SteeringAngle_Out_of_Limit	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina
			0x32: Req_Quit_Shift_Operate_Failed	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina
			0x33: Req_Quit_Trajectory	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina
			0x34: Req_Quit_Path planning error	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina
			0x35: Req_Quit_Space limit	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina
			0x36: Parking succeed	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina
			0x37: Req_Quit_Searching_Timeout	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina
			0x38: Req_Quit_Searching_Overspeed	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina
			0x39: Req_Quit_Charge Gun	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina
			0x3A: Req_Quit_Actuator feedback abnormal	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina
			0x3B-0x3F: Not used	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina
		0xA: RemotePark_Phone Control	X (Don't Care)	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina
		0xB~0xF: Reserved	X (Don't Care)	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina
All Other Cases		X (Don't Care)	X (Don't Care)	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	



Function Specification  
APA/RPA

Operational_Mode	Feature Config	APA_PageDispReq Signal	APA_TerminatePopup Signal	Internal_APA_TerminatePopup_31_Status_Flag	Internal_APA_TerminatePopup_32_Status_Flag	Internal_APA_TerminatePopup_33_Status_Flag	Internal_APA_TerminatePopup_34_Status_Flag	Internal_APA_TerminatePopup_35_Status_Flag	Internal_APA_TerminatePopup_36_Status_Flag	Internal_APA_TerminatePopup_37_Status_Flag	Internal_APA_TerminatePopup_38_Status_Flag	Internal_APA_TerminatePopup_39_Status_Flag	Internal_APA_TerminatePopup_40_Status_Flag	Internal_APA_TerminatePopup_41_Status_Flag	Internal_APA_TerminatePopup_42_Status_Flag	Internal_APA_TerminatePopup_43_Status_Flag	Internal_APA_TerminatePopup_44_Status_Flag	Internal_APA_TerminatePopup_45_Status_Flag	Internal_APA_TerminatePopup_46_Status_Flag	Internal_APA_TerminatePopup_47_Status_Flag	Internal_APA_TerminatePopup_48_Status_Flag	Internal_APA_TerminatePopup_49_Status_Flag	Internal_APA_TerminatePopup_50_Status_Flag	Internal_APA_TerminatePopup_51_Status_Flag	Internal_APA_TerminatePopup_52_Status_Flag	Internal_APA_TerminatePopup_53_Status_Flag	Internal_APA_TerminatePopup_54_Status_Flag	Internal_APA_TerminatePopup_55_Status_Flag	Internal_APA_TerminatePopup_56_Status_Flag	Internal_APA_TerminatePopup_57_Status_Flag	Internal_APA_TerminatePopup_58_Status_Flag	Internal_APA_TerminatePopup_59_Status_Flag	Internal_APA_TerminatePopup_60_Status_Flag
Normal	Enhance_APA_Cfg = 0x1 (Enabled) and Enhance_RPA_Cfg = 0x1 (Enabled)	0x0: No req	X (Don't Care)	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina
		ParkIn_ParkOut_Selection  OR 0x2: Searching_Moving  OR 0x3: Searching_Stop  OR 0x4: Manuaring_ParkIn  OR 0x5: ParkIn_Completed  OR 0x6: ParkOut_SelectDirect ion  0x7:	0x0: No req	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina
			0x1: Req_Quit_Car mode invalid	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina
			0x2: Req_Quit_OTA active	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina
			0x3: Req_Quit_ADAS	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina
			0x4: Req_Quit_ABS actvie	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina
			0x5: Req_Quit_TCS active	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina
			0x6: Req_Quit_ESC active	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina
			0x7: Req_Quit_eCALL	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina
			0x8: Req_Quit_Camera Blockage	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina
			0x9: Req_Quit_USS Blockage	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina
			0xA: Req_Quit_Slope_Too large	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina



## Function Specification APA/RPA

Manuaring_ParkOut OR 0x8: ParkOut_Completed OR 0x9: RemotePark_Remind	0xB: Req_Quit_Speed high	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina
	0xC: Req_Quit_Tire Pressure Too Low	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina
	0xD: Req_Quit_Remot e start forbid	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina
	0xE: Req_Quit_PT READY FAILED	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina
	0xF: Req_Quit_Vehicle Low Battery	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina
	0x10: Req_Quit_Trailer connected	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina
	0x11: Req_Quit_Traction Control System off	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina
	0x12: Req_Quit_Powerp ack torque status changes to not available	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina
	0x13: Req_Quit_Power management failure	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina
	0x14: Req_Quit_LSC error	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina
	0x15: Req_Quit_EPAS error	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina
	0x16: Req_Quit_ABS error	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina
	0x17: Req_Quit_BCM error	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina
	0x18: Req_Quit_BLEM_ failure	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina
	0x19: Req_Quit_Remot e Device error	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina
	0x1A: Req_Quit_Unexpe cted deactivation of LSC	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina
	0x1B: Req_Quit_Unexpe cted deactivation of ABS	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina



## Function Specification APA/RPA

			0x1C: Req_Quit_Unexpected deactivation of EPAS	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina
			0x1D: Req_Quit_External ECU failure	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina
			0x1E: Req_Quit_System Failure	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina
			0x1F: Req_Quit_CAN_Communication failure	Act	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina
			0x20: Req_Quit_Function on check overtime	Ina	Act	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina
			0x21: Req_Quit Terminate Button Pressed HMI Cancel	Ina	Ina	Act	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina
			0x22: Req_Quit_Application exit	Ina	Ina	Ina	Act	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina
			0x23: Req_Quit_Gear Intervention	Ina	Ina	Ina	Ina	Act	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina
			0x24: Req_Quit_EPB_Application	Ina	Ina	Ina	Ina	Ina	Act	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina
			0x25: Req_Quit_Steering Wheel Intervention	Ina	Ina	Ina	Ina	Ina	Ina	Act	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina
			0x26: Req_Quit_Mirror fold	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Act	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina
			0x27: Req_Quit_Unsafe Behavior	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Act	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina
			0x28: Req_Quit_Vehicle Charging	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Act	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina
			0x29: Req_PowerOFF	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Act	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina
			0x2A: Req_Quit_Insurmountable obstacle detected	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Act	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina
			0x2B: Req_Quit_Timing overtime	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Act	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina
			0x2C: Req_Quit_Matime overtime	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Act	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina





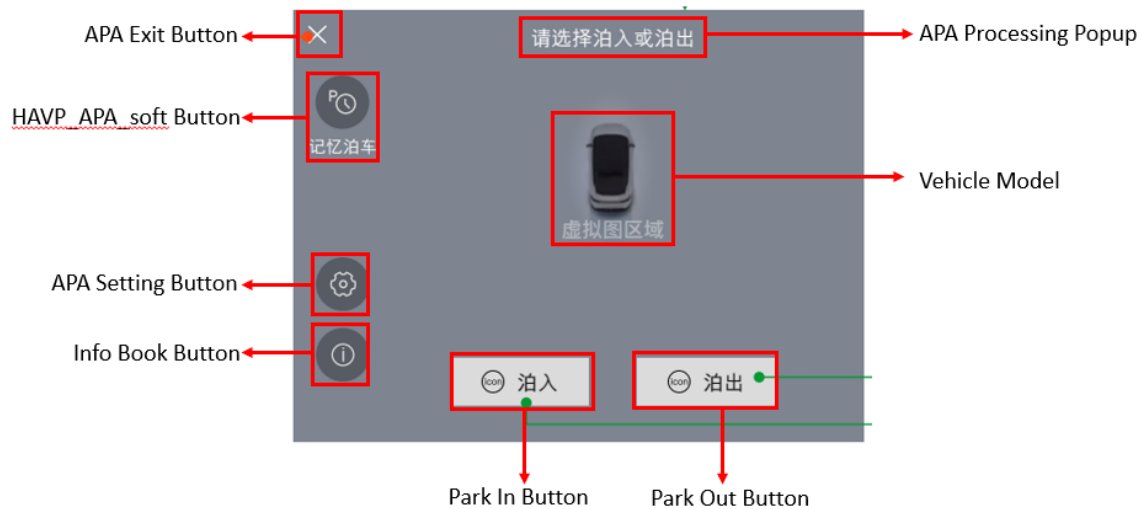
## Function Specification APA/RPA

			0x2D: Req_Quit_Recovery Timeout	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Act	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina		
			0x2E: Req_Quit_Interrupt Times Overflow	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Act	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	
			0x2F: Req_Quit_Remote move distance out of range	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Act	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	
			0x30: Req_Quit_Handshake failed	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Act	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	
			0x31: Req_Quit_SteeringAngle_Out_of_Limit	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Act	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	
			0x32: Req_Quit_Shift_Operate_Failed	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Act	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	
			0x33: Req_Quit_Trajectory	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Act	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	
			0x34: Req_Quit_Path planning error	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Act	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	
			0x35: Req_Quit_Space limit	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Act	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina
			0x36: Parking succeed	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Act	Ina	Ina	Ina	Ina	Ina	Ina
			0x37: Req_Quit_Searching_Timeout	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Act	Ina	Ina	Ina	Ina	Ina
			0x38: Req_Quit_Searching_Overspeed	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Act	Ina	Ina	Ina	Ina
			0x39: Req_Quit_Charge Gun	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Act	Ina	Ina	Ina
			0x3A: Req_Quit_Actuator feedback abnormal	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Act	Ina	Ina
			0x3B-0x3F: Not used	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Act	
All Other Cases		0xA: RemotePark_Phone Control	X (Don't Care)	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Act		
		0xB~0xF: Reserved	X (Don't Care)	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	
		X (Don't Care)	X (Don't Care)	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	Ina	



#### 1.5.2.1.10 F-REQ-XXXXXX/X APA Parking In/Out Seclect Page

Example Graphics (final graphics and texts to be provided by HMI wallpaper):



The display information of APA/RPA client on the APA Parking In/Out Seclect Page includes the following:

- APA Processing Popup
- Vehicle Model
- Parking In Button
- Parking Out Button
- APA Exit Button
- HAVP\_APA\_soft Button
- APA Setting Button
- Info Book Button

The visual angle of vehicle model in APA Parking In/Out Select Page is 45°.

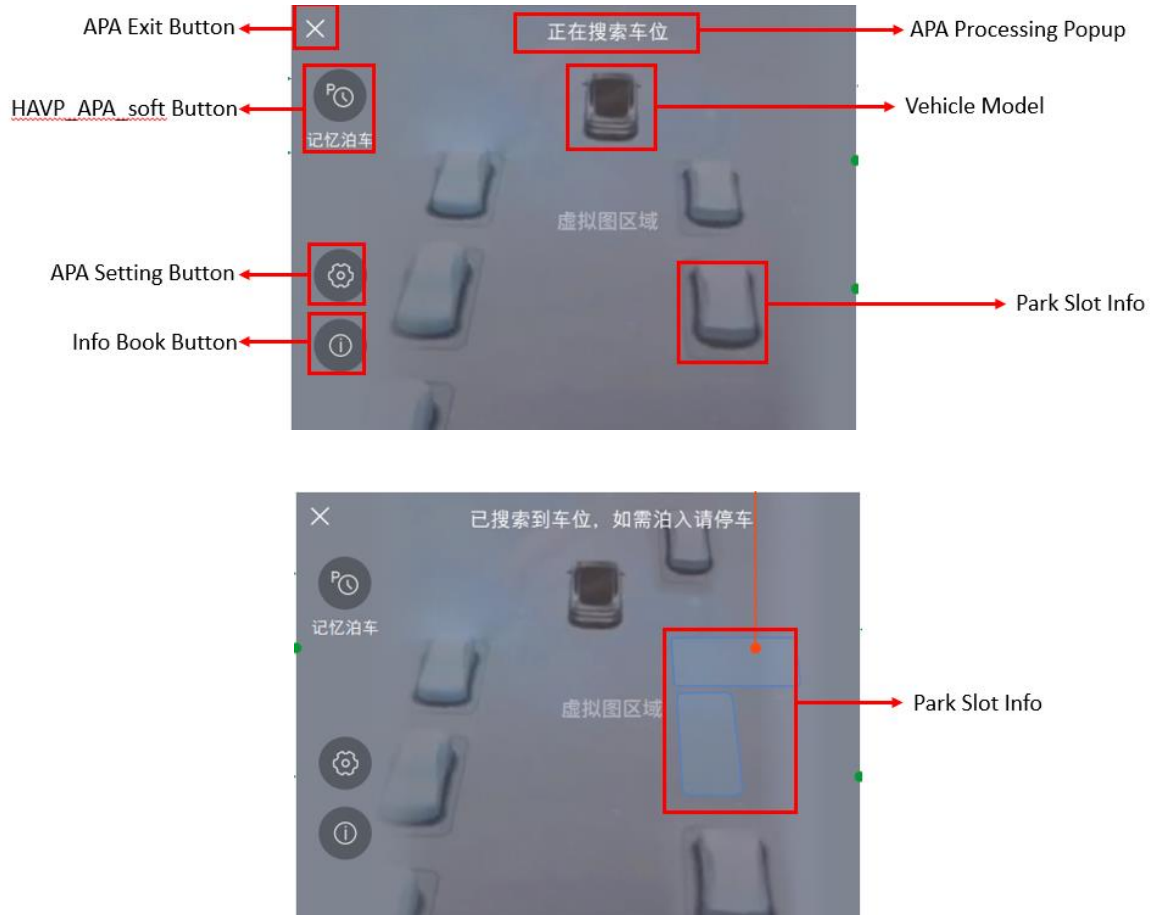
The driver can select whether to park the vehicle into the park slot or drive out of the park slot by clicking the Parking In Button or the Parking out Button. When the driver clicks the button, APIM will convey the driver's intention to APA/RPA sever by signal "APA\_DriverParkTypeReq".



## Function Specification APA/RPA

### 1.5.2.1.11 F-REQ-XXXXXX/X APA Parking Slot Searching Page

Example Graphics (final graphics and texts to be provided by HMI wallpaper):



The display information of APA/RPA client on the APA Parking Slot Searching Page includes the following:

- APA Processing Popup
- Vehicle Model
- Park Slot Info
- Obstacle
- APA Exit Button
- HAMP\_APA\_soft Button
- APA Setting Button
- Info Book Button

The visual angle of vehicle model in APA Parking In/Out Select Page is 45°.

The Park Slot Info shows what is determined by the Ethernet signal "ParkingSpaceInfo", and up to 5 park slots can be displayed on the left and right sides. The Park Slot Info contains the id of park slot, the coordinates of park slot, the type of park slot, the status of the park slot. The Park Slot can be divided into three types: cross, parallel, and diagonal.



## Function Specification APA/RPA

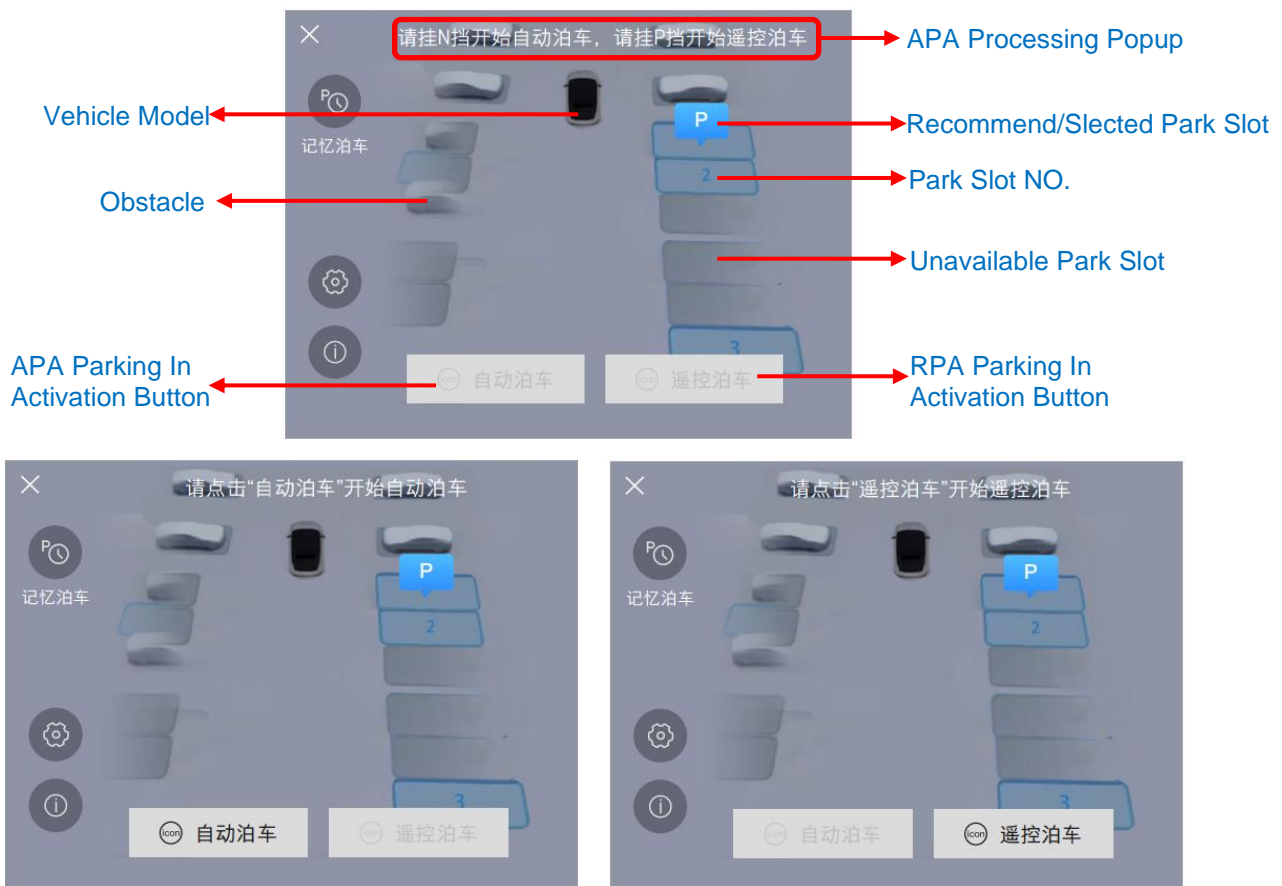
The Park Slot includes two statuses: available and unavailable. The Park Slot appears as a blue box when it is available, and the Park Slot appears as a gray box when it is unavailable.

The Obstacle shows what is determined by the **Ethernet** signals “Obstacle” and “bounding\_box”. There are 3 types of obstacles, which are: other cars, pedestrian, and cone. The **Ethernet** signal “Obstacle” describes the contents of the obstacle, and the **Ethernet** signal “bounding\_box” describes the coordinates of the obstacle.

If the driver clicks the available park slot in this page, APIM will send the driver’s intention to the APA/RPA sever via the signal “APA\_DriverParkSlotReq”.

### 1.5.2.1.12 F-REQ-XXXXXX/X APA Parking Slot and Parking In Mode Select Page

Example Graphics (final graphics and texts to be provided by HMI wallpaper):



The display information of APA/RPA client on the APA Parking Slot and Parking In Mode Select Page includes the following:

- APA Processing Popup
- Vehicle Model
- Park Slot Info
- Park Slot NO.
- Recommend/Selected Park Slot
- Obstacle
- APA Parking In Activation Button



## Function Specification APA/RPA

- RPA Parking In Activation Button
- APA Exit Button
- HAVP\_APA\_soft Button
- APA Setting Button
- Info Book Button

The visual angle of vehicle model in APA Parking In/Out Select Page is 60°.

The numbering strategy of the Park Slot No. is implemented by APIM, and the specific numbering strategy is as follows: APIM numbers the available park slots according to the distance from the local car, and the numbering starts from the right side.

For example: if there are 3 available park slots on the right side and 4 available park slots on the left side, the available parking slots on the right are numbered 1, 2 and 3 respectively according to their distance from the near to the far; the available parking slots on the left are numbered 4, 5, 6 and 7 respectively according to their distance from the near to the far.

The APA/RPA server determines the optimal available park slot and sends it via the signal "APA\_RecommendParkSlot". APIM needs to mark "P" on the Recommend Park Slot according to the value of signal "APA\_RecommendParkSlot", and the Park Slot No. is not displayed on the Recommend Park Slot.

The driver can select other available park slot in addition to the recommended one.

If the driver wants to select another park slot, he/she needs to click the available park slot identifier on APIM, and the driver's intention will be sent to the APA/RPA server by the signal "APA\_DriverParkSlotReq". After receiving the driver's intention, the APA/RPA server will feedback the signal "APA\_DriverParkSlotReqFeedback". According to the value of the signal "APA\_DriverParkSlotReqFeedback", APIM marks "P" on the corresponding available park slot, and that park slot no longer displays the Park Slot Number.

The status of APA Parking In Activation Button is controlled by the signal "APA\_ParkInIconSts", the specific strategy is as follows:

- APA\_ParkInIconSts = 0x0, APA Parking In Activation Button is not displayed.
- APA\_ParkInIconSts = 0x1, APA Parking In Activation Button is displayed, and the status of APA Parking In Activation Button is clickable.
- APA\_ParkInIconSts = 0x2, APA Parking In Activation Button is displayed, but the status of APA Parking In Activation Button is not clickable.
- APA\_ParkInIconSts = 0x3, APA Parking In Activation Button is not displayed.

When the driver clicks the APA Parking In Activation Button, APIM will convey the driver's intention to APA/RPA server by signal "APA\_ParkInControlReq".

The status of RPA Parking In Activation Button is controlled by the signal "RPA\_ParkInIconSts", the specific strategy is as follows:

- RPA\_ParkInIconSts = 0x0, RPA Parking In Activation Button is not displayed.
- RPA\_ParkInIconSts = 0x1, RPA Parking In Activation Button is displayed, and the status of RPA Parking In Activation Button is clickable.
- RPA\_ParkInIconSts = 0x2, RPA Parking In Activation Button is displayed, but the status of RPA Parking In Activation Button is not clickable.
- RPA\_ParkInIconSts = 0x3, RPA Parking In Activation Button is not displayed.

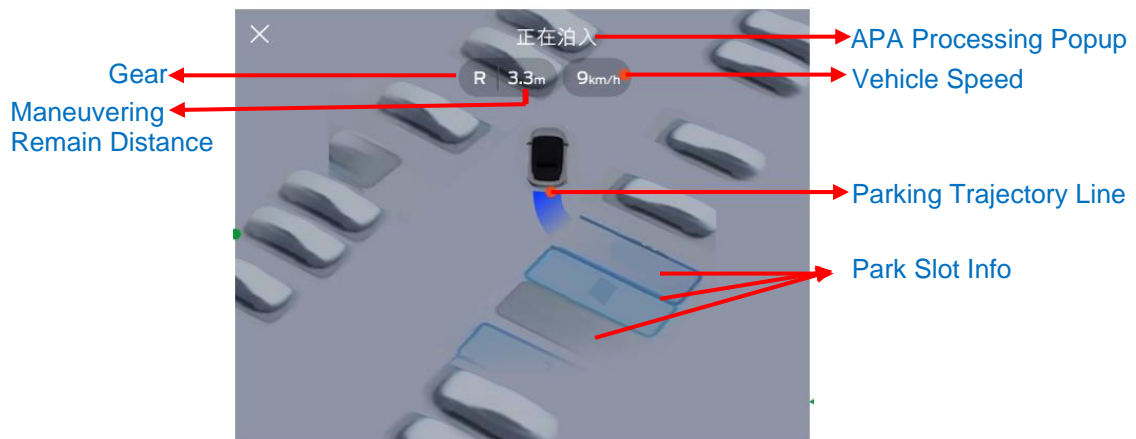


## Function Specification APA/RPA

When the driver clicks the RPA Parking In Activation Button, APIM will convey the driver's intention to APA/RPA sever by signal "RPA\_ParkInControlReq".

### 1.5.2.1.13 F-REQ-XXXXXX/X APA Parking In Page

Example Graphics (final graphics and texts to be provided by HMI wallpaper):



The display information of APA/RPA client on the APA Parking In Page includes the following:

- APA Processing Popup
- Vehicle Model
- Park Slot Info
- Obstacle
- Gear
- Vehicle Speed
- Maneuvering Remain Distance
- Parking Trajectory Line
- APA Exit Button

The visual angle of vehicle model in APA Parking In/Out Select Page is 60°.

When parking starts, the target park slot is shown as an open blue rectangle, other available park slots are shown as a closed blue rectangle, and the unavailable park slots are shown as gray rectangle.

Please refer to the spec < EPRNDL ES v2022.2\_[VDOC000567\_S] > for display of gear.

Please refer to the spec < Speedometer Secondary Scale Control Function - CGEA1.3\_v4.3\_[VDOC041624\_G] > for display of Vehicle Speed.

The display range of Maneuvering Remain Distance is 0~25.5 meters. The value of Maneuvering Remain Distance comes from signal "APA\_ManeuveringRemainDistance", and the resolution rate is 0.1 meter.

The Parking Trajectory Line is fitted according to the information from ETHERNET signal Planing.

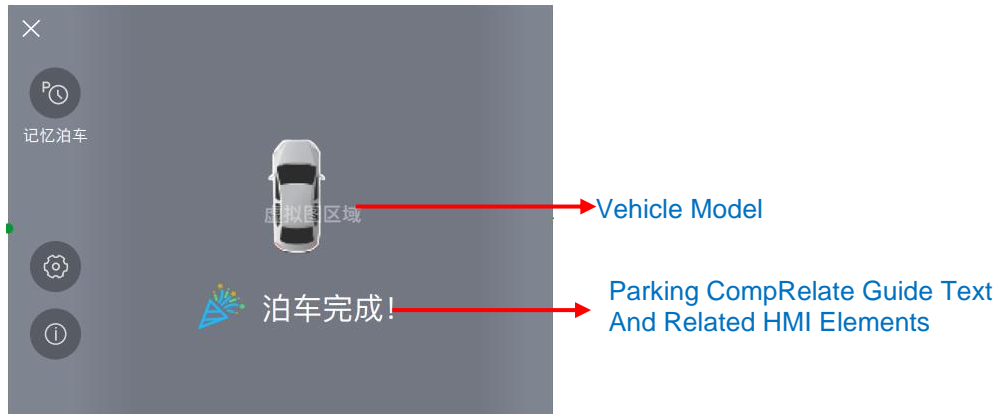




## Function Specification APA/RPA

### 1.5.2.1.14 F-REQ-XXXXXX/X APA Parking In Complete Page

Example Graphics (final graphics and texts to be provided by HMI wallpaper):



The display information of APA/RPA client on the APA Parking In Complete Page includes the following:

- Vehicle Model
- Parking Complete Guide Text and Related HMI Elements
- APA Exit Button

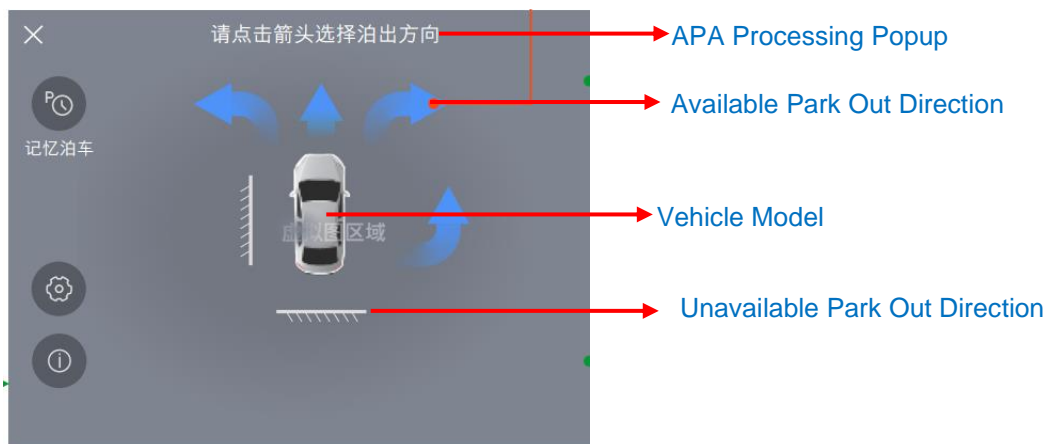
The visual angle of vehicle model in APA Parking In Complete Page is 90°.

After the APA Parking In Complete Page is displayed for 3s, it will automatically exit to the launcher page.

If the driver clicks the APA Exit Button within 3s, it will also exit directly to the launcher page.

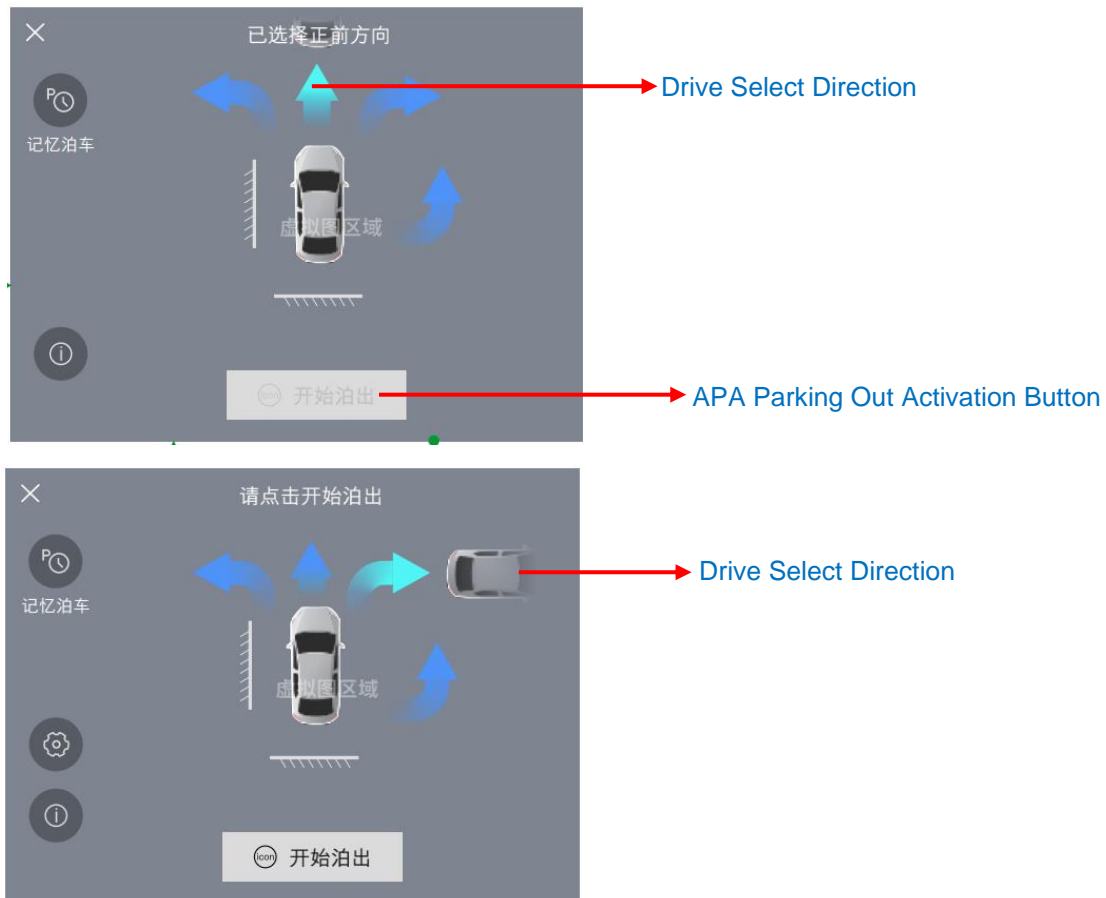
### 1.5.2.1.15 F-REQ-XXXXXX/X APA Parking Out Direction Select Page

Example Graphics (final graphics and texts to be provided by HMI wallpaper):





## Function Specification APA/RPA



The display information of APA/RPA client on the APA Parking Out Direction Select Page includes the following:

- APA Processing Popup
- Vehicle Model
- Feasibility of Parking Out Direction
- Driver Select Direction
- APA Parking Out Activation Button
- APA Exit Button
- HAVP\_APA\_soft Button
- APA Setting Button
- Info Book Button

The visual angle of vehicle model in APA Parking Out Direction Select Page is 90°.

The Feasibility of the six Parking Out Directions (front, rear, left front, right front, left front and right front) are controlled by the signals “APA\_ParkOutDirectionFront” “APA\_ParkOutDirectionRear” “APA\_ParkOutDirectionFrontLeftCross” “APA\_ParkOutDirectionFrontRightCross” “APA\_ParkOutDirectionFrontLeftParallel” “APA\_ParkOutDirectionFrontRightParallel” respectively.

When the signal value is “0x0”, it indicates that the corresponding Parking Out Direction is available. And when the signal value is “0x1”, it indicates that the corresponding Parking Out Direction is unavailable.





## Function Specification APA/RPA

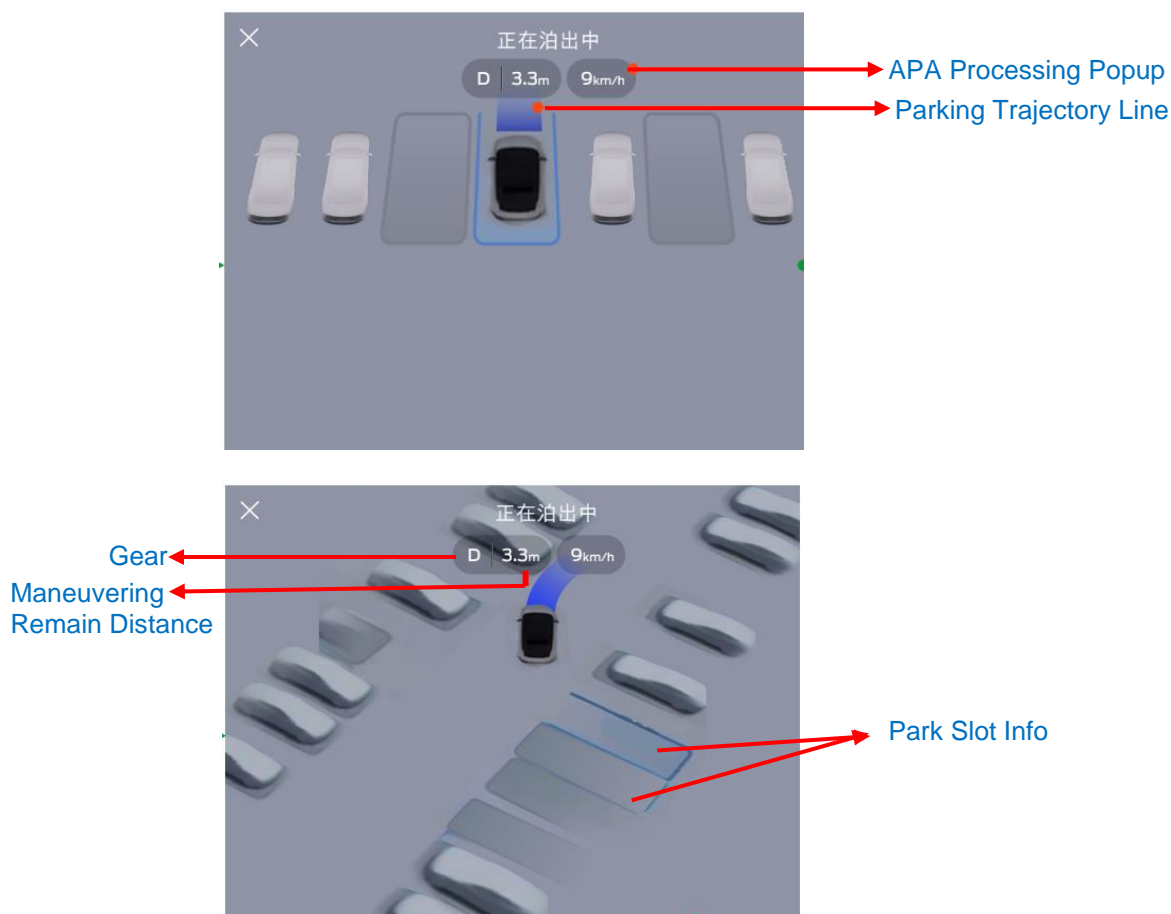
The Driver can select the one he/she wants among the available parking out directions by clicking the corresponding icon on APIM. And the driver's intention will be sent to the APA/RPA sever by the signal "APA\_DriverSelectDirection". After receiving the driver's intention, the APA/RPA sever will feedback the signal "APA\_DriverSelectDirectionConfirm". According to the value of the signal "APA\_DriverSelectDirectionConfirm", APIM highline the corresponding parking out direction.

The status of Parking Out Activation Button is controlled by the signal "APA\_ParkOutIconSts", the specific strategy is as follows:

- APA\_ParkOutIconSts = 0x0, Parking Out Activation Button is not displayed.
- APA\_ParkOutIconSts = 0x1, Parking Out Activation Button is displayed, and the status of Parking Out Activation Button is clickable.
- APA\_ParkOutIconSts = 0x2, Parking Out Activation Button is Displayed, but the status of Parking Out Activation Button is not clickable.
- APA\_ParkOutIconSts = 0x3, Parking Out Activation Button is not diplayed.

### 1.5.2.1.16 F-REQ-XXXXXX/X APA Parking Out Page

Example Graphics (final graphics and texts to be provided by HMI wallpaper):





## Function Specification APA/RPA

The display information of APA/RPA client on the APA Parking Out Page includes the following:

- APA Processing Popup
- Vehicle Model
- Park Slot Info
- Obstacle
- Gear
- Vehicle Speed
- Parking Trajectory Line
- APA Exit Button

The visual angle of vehicle model in APA Parking Out Page is 60°.

The park slot which the local vehicle has been parked is shown

where the vehicle has been parked is shown as an open rectangle as an open blue rectangle, other available park slots are shown as a closed blue rectangle, and the unavailable park slots are shown as gray rectangle.

Please refer to the spec < [EPRNDL ES v2022.2 \[VDOC000567\\_S\]](#) > for display of gear.

Please refer to the spec < [Speedometer Secondary Scale Control Function - CGEA1.3\\_v4.3 \[VDOC041624\\_G\]](#) > for display of Vehicle Speed.

The display range of Maneuvering Remain Distance is 0~25.5 meters. The value of Maneuvering Remain Distance comes from signal “APA\_ManeuveringRemainDistance”, and the resolution rate is 0.1 meter.

The Parking Trajectory Line is fitted according to the information from [Ethernet](#) signal Planing.

### 1.5.2.1.17 F-REQ-XXXXXX/X APA Parking Out Complete Page

Example Graphics (final graphics and texts to be provided by HMI wallpaper):





## Function Specification APA/RPA

The display information of APA/RPA client on the APA Parking Out Complete Page includes the following:

- Vehicle Model
- Parking Complete Guide Text and Related HMI Elements

The visual angle of vehicle model in APA Parking Out Complete Page is 90°.

After the APA Parking Out Complete Page is displayed for 3s, it will automatically exit to the launcher page.

If the driver clicks the APA Exit Button within 3s, it will also exit directly to the launcher page.

### 1.5.2.1.18 F-REQ-XXXXXX/X Remote Parking Guide Page

Example Graphics (final graphics and texts to be provided by HMI wallpaper):



The display information of APA/RPA client on the RPA Parking Guide Page includes the following:

- RPA Page Return Button
- Remote Parking Guide Popup and Related HMI Elements

When the driver clicks the RPA Return Button, APIM will send the driver's intention to return to the APA Parking Slot Searching Page to APA/RPA sever by signal "RPA\_PageReturn\_Button". After receiving the driver's intention, the APA/RPA sever will feedback the new value (0X3) of signal "APA\_PageDispReq". According to the new value of signal "APA\_PageDispReq", APIM returns to the APA Parking Slot Searching Page.

### 1.5.2.1.19 F-REQ-XXXXXX/X Remote Parking Page

Example Graphics (final graphics and texts to be provided by HMI wallpaper):



## Function Specification APA/RPA



The display information of APA/RPA client on the RPA Parking Page includes the following:

- Mobile Control Guide Text and Related HMI Elements

When the vehicle is in Remote Parking Process, APIM will display the “mobile controlling” prompt, at the same time, and APIM cannot perform any operations.

### 1.5.3 Voice Control

TBD

### 1.5.4 PFM-REQ-XXXXXX/X-Syatem Accuracy

Within a 100 msec of receiving a message that results in a change of state the APIM will update the display to the proper status.

### 1.5.5 FS-REQ-XXXXXX/X-Function Safety Classification (EMC)

Class B

### 1.5.6 Functional Safety Requirements

QM

### 1.5.7 NVM-REQ-XXXXXX/X-Memory Storage Parameters

Parameter Name	Description	Value at Battery Connect	Value at Wake-up
Enhance_APA_Cfg	State indicator for feature presence controlled via CAN at EOL at VO plant.	Use Stored Value	Use Stored Value
Enhance_RPA_Cfg	State indicator for feature presence controlled via CAN at EOL at VO plant.	Use Stored Value	Use Stored Value
Internal_ParkSlotIndication_Setup_MC	control the setting menu display output for Park Slot Indication selection.	Inactive	Use Stored Value
Internal_APAExitButton_Status_Flag	Output display status flag used to activate APA Exit Button.	Inactive	Inactive



## Function Specification APA/RPA

Parameter Name	Description	Value at Battery Connect	Value at Wake-up
Internal_APASettingButton_Status_Flag	Output display status flag used to activate APA Setting Button.	Inactive	Inactive
Internal_ParkSlotIndication_Dis_Status_Flag	Output display status flag used to activate APA Park Slot Indication.	Inactive	Inactive
Internal_ APAInfoBookButton_Status_Flag	Output display status flag used to activate APA InfoBook Button.	Inactive	Inactive
Internal_ APAInfoBook_Status_Flag	Output display status flag used to activate APA InfoBook Popup.	Inactive	Inactive
Internal_APA_GuidePopup_X_Status_Flag	Output display status flag used to activate Popup.	Inactive	Inactive
Internal_APA_ProcessingPopup _X_Status_Flag	Output display status flag used to activate Popup.	Inactive	Inactive
Internal_APA_SuspendPopup X_Status_Flag	Output display status flag used to activate Popup.	Inactive	Inactive
Internal_APA_TerminatePopup X_Status_Flag	Output display status flag used to activate Popup.	Inactive	Inactive
APA_SoftButton Signal	This signal indicates the soft button of APA on APIM screen, if user click this button, APIM will sent pressed status to IPMB.	0x0	Do Not Init
APA_Launcher_SoftButton Signal	This signal indicates the soft button of APA on launcher page, if user click this button, APIM will sent pressed status to IPMB.	0x0	Do Not Init
APA_QuickPanelButton Signal	This signal indicates the soft button of APA on APIM quick panel page, if user click this button, APIM will sent pressed status to IPMB.	0x0	Do Not Init
APA_AVM_SoftButton Signal	This signal indicates the soft button of APA on AVM main page, if user click this button, APIM will sent pressed status to IPMB.	0x0	Do Not Init
APA_VoiceActivationButton Signal	This signal indicates the voice activation of APA, if user request APA ON by voice, APIM will sent this signal to IPMB.	0x0	Do Not Init
APIM_APA_PassExamination Signal	This signal indicates whether APA is enabled, log in with authentication, test passed, configured, etc.	0x0	Do Not Init
APA_ParkSlotPopupButton Signal	This signal indicates that user can turn off popup reminder when park slot is searched eventhough APA is not be activated.	0x0	Do Not Init



## Function Specification APA/RPA

Parameter Name	Description	Value at Battery Connect	Value at Wake-up
APA_DriverParkTypeReq	This signal indicates the request APA parking mode by user selected on APIM screen.	0x0	Do Not Init
APA_ParkInControlReq Signal	This signal indicates the selected status of APA parking in activation button.	0x0	Do Not Init
APA_ParkOutControlReq Signal	This signal indicates the selected status of APA parking out activation button.	0x0	Do Not Init
RPA_ParkControlReq Signal	This signal indicates the selected status of RPA activation button.	0x0	Do Not Init
APA_DriverParkSlotReq Signal	This signal indicates the selected APA parking slot by user on APIM screen.	0x0	Do Not Init
APA_DriverSelectDirection Signal	This signal indicates the APA parking out direction which is selected by user on APIM screen.	0x0	Do Not Init
Prk_DriverResume_Req Signal	This signal indicates whether user click the parking function resume button on APIM screen after suspend recovery.	0x0	Do Not Init
RPA_PageReturn_Button Signal	This signal indicates the exit button status of RPA page, which means user could click this button to exit RPA and went to APA page when waiting for bluetooth connecting.	0x0	Do Not Init

\* Refer to Message Center X Display\_Y Button Interface Section, where X and Y are appropriate values in this document.

### 1.5.8 Prove Out

No Applicable.

### 1.5.9 Diagnostics

#### 1.5.9.1 Self Test

None.

#### 1.5.9.2 Engineering Test Mode

Reference section "Dealer / Engineering Test Mode (ETM)".

#### 1.5.9.3 DTC-REQ-343117/A-Supported Diagnostic Trouble Codes (DTCs)

DTC	Description
TBD	Lost Communication with IPMA (Image Processing Module "B")
TBD	Invalid Data from IPMA (Image Processing Module "B")



### **1.5.10 Non-Functional Requirements**

*No Non-Functional Requirements specified.*

### **1.5.11 Other Requirements**

*No Other Requirements specified.*

### **1.5.12 Design Requirements**

*No Design Requirements specified.*



## 2 OPEN CONCERNS

*No Open Concerns (Ford Modeling Action Items) in the Magicdraw model.*





## Function Specification APA/RPA

### 3 REVISION HISTORY

Version	Rev.	Date	Description	Responsible
1.0		2022-12-07	Initial version	TongJingwei
1.1		2023-02-17	<ul style="list-style-type: none"><li>1.2.1 chapter: update I/O Block</li><li>1.3.1 chapter: change "SOA" to "Enthernet" , add 3 signals "APA_ActiveType_Indicate (Reserved)" "Prk_IVIFunc_Req" "ApaMde_D_Stat2_IVI"</li><li>1.3.1.2 chapter: change "SOA" to "Enthernet"</li><li>1.3.1.3 chapter: add 3 signals "APA_ActiveType_Indicate (Reserved)" "Prk_IVIFunc_Req" "ApaMde_D_Stat2_IVI"</li><li>1.3.1.3 chapter: Modify the signal value definition of signals "APA_PageDispReq" "APA_ProcessingPopup" "APA_TerminatePopup"</li><li>1.3.2 chapter: Add 6 signals "Internal_ParkSoltIndication_Setup_DetailPopup_Flag" "Internal_ParkSoltIndication_Setup_DetailReturn_MC" "Internal_APA_InfobookButton" "Internal_APA_InfobookReturn" "Prk_ExitButton" "IVI_Prk_DispStat"</li><li>1.3.2.1 chapter: Add 4 signals "Internal_ParkSoltIndication_Setup_DetailPopup_Flag" "Internal_ParkSoltIndication_Setup_DetailReturn_MC" "Internal_APA_InfobookButton" "Internal_APA_InfobookReturn"</li><li>1.3.2.2 chapter: Add 2 signals "Prk_ExitButton" "IVI_Prk_DispStat"</li><li>1.4.2 chapter: Delete Park Slot Indication Display Flowchart</li><li>1.4.2 chapter: Add APIM Display status signal Flowchart</li><li>1.4.2 chapter: Modify all flowcharts except 1.4.2.1</li><li>1.4.2.1 chapter: Modify the flowchat name</li><li>1.5.2.1.1 chapter: Modify the truth table description</li><li>1.5.2.1.2 chapter: Supplementary signal name "Prk_ExitButton"</li></ul>	TongJingwei



## Function Specification APA/RPA

		<ul style="list-style-type: none"><li>• 1.5.2.1.2 chapter: Supplementary a description of the corresponding signal values for parking in/out interface</li><li>• 1.5.2.1.3 chapter: Add the Park Slot Setup Detail Popup</li><li>• 1.5.2.1.3 chapter: Modify the Status Matrix for Internal_APASettingButton_Status_Flag</li><li>• 1.5.2.1.4 chapter: Modify Status Matrix for Internal_APAINfoBookButton_Status_Flag</li><li>• 1.5.2.1.5 chapter: Delete Soft Button in Quick Panel</li><li>• 1.5.2.1.6 chapter: Modify "text content" and "Status Matrix for Internal_APA_GuidePopup_X_Status_Flag"</li><li>• 1.5.2.1.7 chapter: add 5 popups</li><li>• 1.5.2.1.7 chapter: Modify "text content" and "Status Matrix for Internal_APA_ProcessingPopup_X_Status_Flag"</li><li>• 1.5.2.1.8 chapter: Modify "text content" and "Status Matrix for Internal_APA_SuspendPopup_X_Status_Flag"</li><li>• 1.5.2.1.9 chapter: add 2 popups</li><li>• 1.5.2.1.9 chapter: Modify "text content" and "Status Matrix for Internal_APA_TerminatePopup_X_Status_Flag"</li><li>• 1.5.2.1.10 chapter: Added a detailed description of the display information</li><li>• 1.5.2.1.11 chapter: Added a detailed description of the display information</li><li>• 1.5.2.1.12 chapter: Added a detailed description of the display information</li><li>• 1.5.2.1.13 chapter: Added a detailed description of the display information</li><li>• 1.5.2.1.14 chapter: Added a detailed description of the display information</li><li>• 1.5.2.1.15 chapter: Added a detailed description of the display information</li><li>• 1.5.2.1.16 chapter: Added a detailed description of the display information</li><li>• 1.5.2.1.17 chapter: Added a detailed description of the display information</li><li>• 1.5.2.1.18 chapter: Added a detailed description of the display information</li></ul>	
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			<ul style="list-style-type: none"><li>1.5.2.1.19 chapter: Added a detailed description of the display information</li></ul>	



## 4 APPENDIX

### 4.1 Data Dictionary

#### 4.1.1 Logical Signals

*No "Logical Interface Table" or "Logical Signals" tables found.*

#### 4.1.2 Logical Parameters

*(No parameters have been defined)*

#### 4.1.3 Encoding Types



## Function Specification APA/RPA

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