Functional Description

Users can choose the starting charging or stopping charging on IVI\_IFT ；Unlock/lock the

charging gun

1) Enabling conditions (a&b&c):

a. The power mode of the vehicle is CGW\_VehicleState=Standby-Normal/ StandbyOnlyLVon/Drive-Normal;

b. The user can operate the display;

c. IVI\_IFT can receive the status signal of the corresponding controller;

2) Trigger conditions (a|b|c|d):

a. IVI receives vehicle/{VIN}/hardware/battery/chargingState=0x5: AC Charging/0x6: DC Charging/0xA: AC Preheating/0xB: DC Preheating; a. IVI receive vehicle/{VIN}/hardware/battery/chargingState=0x5: AC Charging/0x6: DC Charging/0xA: AC Preheating/0xB: DC Preheating; b. IVI receive vehicle/Powertrain/TractionBattery/Charging/ChargeFormSet=0x2: Appointment charging & vehicle/{VIN}/hardware/battery/chargingPileState =0x2: 9V PWM& vehicle/{VIN}/hardware/battery/chargingConnectorState =0x2：1500 Ohm/0x3：680 Ohm/0x4：220 Ohm/0x5：100 Ohm; b. IVI receive vehicle/Powertrain/TractionBattery/Charging/ChargeFormSet=0x2: Appointment charging& vehicle/{VIN}/hardware/battery/chargingPileState =0x2: 9V PWM& vehicle/{VIN}/hardware/battery/chargingConnectorState =0x2：1500 Ohm/0x3：680 Ohm/0x4：220 Ohm/0x5：100 Ohm; c. IVI received vehicle/{VIN}/hardware/battery/chargingState=0x2: AC Plug Detected/0x4:V2L Plug Detected /0x8: Charging Completed/0x9: Fault /0xC: V2L completed /0xE:V2L Fault & vehicle/{VIN}/hardware/battery/chargingLockState =0x1: close c. IVI receive vehicle/{VIN}/hardware/battery/chargingLockState =0x1: close d. IVI receive vehicle/{VIN}/ hardware/battery/chargingConnectorState =0x2:1500Ohm /0x3:680Ohm /0x4:220Ohm /0x5:100Ohm /0x6:2000Ohm /0x7:2700Ohm & vehice/{VIN}/hardware/battery/chargingLockState =0x0：open e.. IVI receive vehicle/{VIN}/hardware/battery/chargingConnectorState

=0x2:1500Ohm/0x3:680Ohm/0x4:220 Ohm/0x5:100Ohm/0x6:2000Ohm/

0x7:2700Ohm & vehicle/{VIN}/hardware/battery/chargingLockState =0x0:open

3) Execution output/ Execution output ((a|b|c|d)&e):

a. IVI\_IFT displays the "Stop Charging" switch. After the user clicks it, IVI\_IFT sends

vehicle/{VIN}/hardware/battery/chargingAppointCommand=0x2:Charge OFF to

SGW, and SGW sends IVI\_AppointChargeCmd=0x2:Charge OFF to VCU; IVI does not display the "stop charging" switch, and after the user clicks, IVI\_IFT sends vehicle/{VIN }/hardware/battery/chargingAppointCommand=0x2:Charge OFF to SGW, SGW sends IVI\_ AppointChargeCmd=0x2:Charge OFF to VCU; When vehicle/{VIN}/hardware/battery/chargingState≠0x5: AC Charging/0x6: DC Charging/0xA: AC Preheating/0xB: DC Preheating, IVI does not display the "stop

charging" switch

b. IVI\_IFT displays the "immediate charging" switch. After the user clicks it, IVI\_IFT sends

vehicle/{VIN}/hardware/battery/chargingAppointCommand=0x1:Charge ON to

SGW, SGW sends IVI\_AppointChargeCmd=0x1:Charge ON to VCU; when

vehicle/{VIN}/battery/chargingModeState ≠0x2: Appointment charging or

vehicle/{VIN}/hardware/battery/chargingPileState ≠0x2: 9V PWM or

vehicle/{VIN}/hardware/battery/chargingConnectorState ≠0x2: 1500 Ohm/0x3: 680 Ohm/0x4: 220 Ohm/0x5: 100 Ohm, IVI does not display the "Charge immediately" switch, and after the user clicks, IVI\_IFT sends vehicle/{VIN}/hardware/battery/chargingAppointCommand=0x1:Charge ON to SGW, SGW sends IVI\_ AppointChargeCmd=0x1:Charge ON to VCU; When vehicle/{VIN}/battery/chargingModeState ≠0x2: Appointment charging or vehicle/{VIN}/hardware/battery/chargingPileState ≠0x2: 9V PWM or vehicle/{VIN}/hardware/battery/chargingConnectorState ≠0x2: 1500 Ohm/0x3:

680 Ohm/0x4: 220 Ohm/0x5: 100 Ohm, IVI does not display the " Charge

immediately " switch

c. IVI\_IFT displays the "Unlock Electronic Lock" switch. After the user clicks it, IVI\_IFT sends

vehicle/{VIN}/hardware/battery/chargingPlugLockCommand = 0x2: Unlock to SGW,

SGW sends IVI\_LockACPlug = 0x1: Unlock to VCU; When

vehicle/{VIN}/hardware/battery/chargingState≠0x2: AC Plug Detected/0x4:V2L

Plug Detected /0x8: Charging Completed/0x9: Fault /0xC: V2L completed or vehicle/{VIN}/hardware/battery/chargingLockState ≠0x1：close c. lug =0x1: Unlock ON to VCU; When vehicle/{VIN}/hardware/battery/chargingState≠0x2: AC Plug Detected/0x4:V2L Plug Detected /0x8: Charging Completed/0x9: Fault /0xC: V2L completed or vehicle/{VIN}/hardware/battery/chargingLockState ≠0x1: close, IVI does not

display the " Unlocking electronic lock " switch

d. IVI\_IFT displays the " Locking electronic lock " switch. After the user clicks it, IVI\_IFT sends

vehicle/{VIN}/hardware/battery/chargingPlugLockCommand = 0x1: lock to SGW,

SGW sends