Pseudo Code for CommService Hierarchical State Machine

Module variables: CurrentState, MyPriority, LastCommandSent

CurrentState could be: WaitingComm, SendingComm

InitCommSM

takes uint8\_t Priority value assigned to current service, returns bool for success or failure of init

Set MyPriority as Priority input

Initialize ES\_event with ES\_ENTRY as event type

Call StartCommSM with this event

return true

end InitCommSM

PostCommSM

takes ThisEvent which is the event to be posted to CommService and returns bool

call ES\_PostToService with MyPriority and Event to be posted

end PostCommSM

RunCommSM

takes ES\_Event which is the current event being handled and returns ES\_Event which could be a pending event or no event

Assign CurrentState to NextState assuming that there is no transition of State

Initialize EventryEventKind and default to ES\_ENTRY

Initialize ReturnEvent and default to ES\_NO\_EVENT

If state is WaitingComm

If Event is ES\_SPIWrite

Initialize new event ES\_SendCMD with the parameter from the ES\_SPIWrite and post it to self

Set LastCommandSent to current event parameter

Change Next state to be SendingComm and turn MakeTransition true to indicate transition in state

endif

endif

If state is SendingComm

Call DuringSendingComm and assign the return value to CurrentEvent

if CurrentEvent is ES\_TIMEOUT and Event parameter is PacTimer

Change next state ot be WaitingComm

Consume the Current event

Post ES\_SPIWriteDone to all service that use CommService to indicate that SPI is ready for new command

endif

endif

end RunCommSM

StartCommSM

takes CurrentEvent and returns nothing

Set current state to our entry state: WaitingComm

Call RunCommSM with CurrentEvent

end StartCommSM

DuringSendingComm

Takes ES\_Event and returns ES\_Event

Set ReturnEvent to input event

if event is ES\_Entry or ES\_Entry\_History

Call sub-state machine StartSendingComm with input Event

else if event is ES\_Exit

Call sub-state machine RunSendingComm with exit Event to exit it

assign function call return to ReturnEvent

else

Call sub-state machine RunSendingComm with whatever event that was passed in

assign function call return to ReturnEvent

endif

return ReturnEvent

end DuringSendingComm