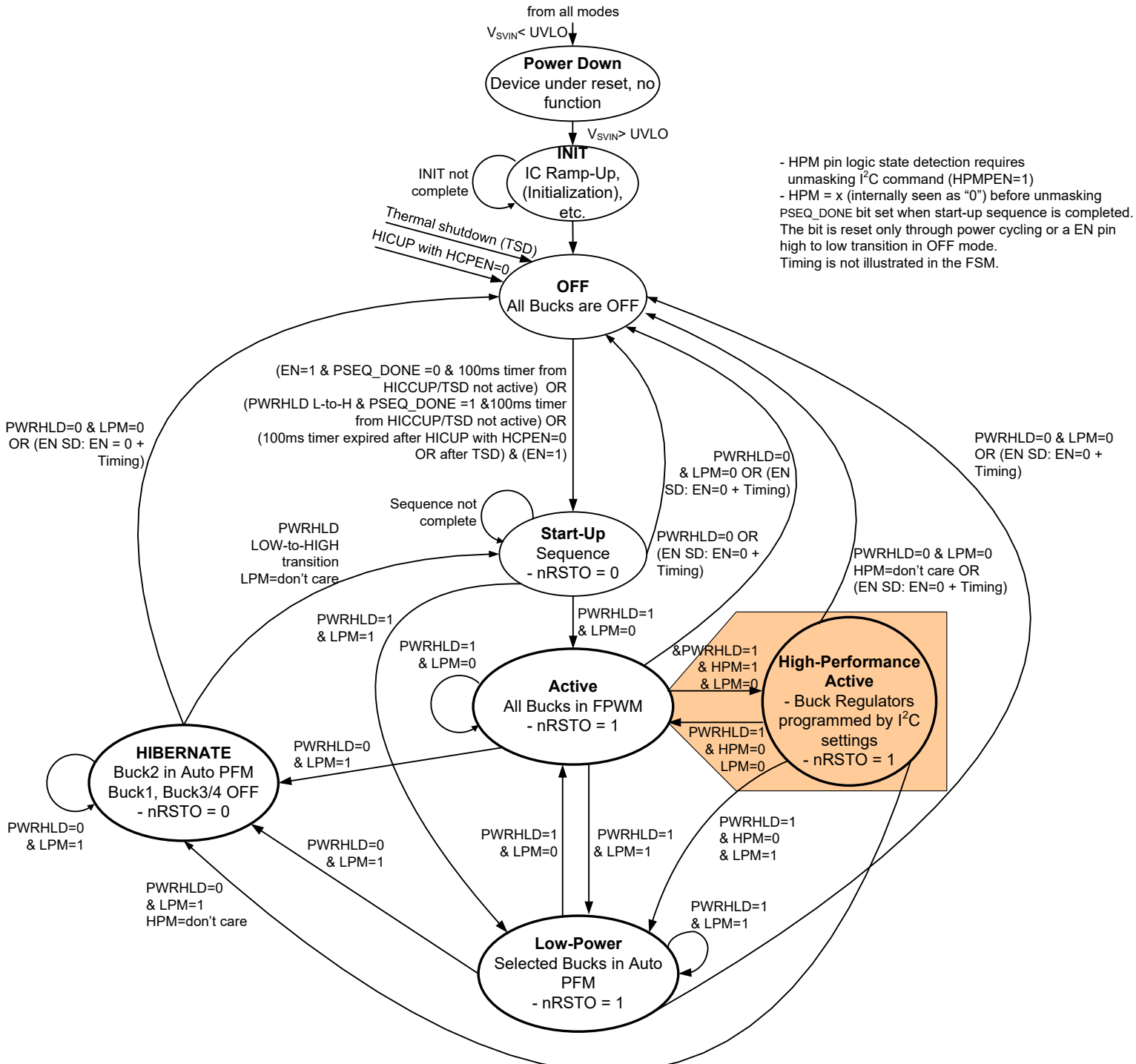
from all modes
V_{SVIN}< UVLO
Power Down
Device under reset, no function
V_{SVIN}> UVLO
INIT
IC Ramp-Up, (Initialization), etc.
INIT not complete
Thermal shutdown (TSD)
HICUP with HCPEN=0
OFF
All Bucks are OFF
- HPM pin logic state detection requires unmasking I2C command (HPMPEN=1)
- HPM = x (internally seen as "0") before unmasking PSEQ_DONE bit set when start-up sequence is completed. The bit is reset only through power cycling or a EN pin high to low transition in OFF mode.
Timing is not illustrated in the FSM.
(EN=1 & PSEQ_DONE =0 & 100ms timer from HICCUP/TSD not active) OR (PWRHLD L-to-H & PSEQ_DONE =1 &100ms timer from HICCUP/TSD not active) OR (100ms timer expired after HICUP with HCPEN=0 OR after TSD) & (EN=1)
PWRHLD=0 & LPM=0 OR (EN SD: EN = 0 + Timing)
PWRHLD=0 & LPM=0 OR (EN SD: EN=0 + Timing)
PWRHLD=0 & LPM=0 OR (EN SD: EN=0 + Timing)
Sequence not complete
Start-Up
Sequence
- nRSTO = 0
PWRHLD LOW-to-HIGH transition LPM=don't care
PWRHLD=0 OR (EN SD: EN=0 + Timing)
PWRHLD=0 & LPM=0 HPM=don't care OR (EN SD: EN=0 + Timing)
PWRHLD=1 & LPM=1
PWRHLD=1 & LPM=0
PWRHLD=1 & LPM=0
Active
All Bucks in FPWM
- nRSTO = 1
&PWRHLD=1 & HPM=1 & LPM=0
High-Performance Active
- Buck Regulators programmed by I2C settings
- nRSTO = 1
PWRHLD=1 & HPM=0 LPM=0
PWRHLD=0 & LPM=1
HIBERNATE
Buck2 in Auto PFM
Buck1, Buck3/4 OFF
- nRSTO = 0
PWRHLD=0 & LPM=1
PWRHLD=0 & LPM=1
PWRHLD=1 & LPM=0
PWRHLD=1 & LPM=1
PWRHLD=1 & HPM=0 & LPM=1
PWRHLD=0 & LPM=1 HPM=don't care
PWRHLD=1 & LPM=1
Low-Power
Selected Bucks in Auto PFM
- nRSTO = 1