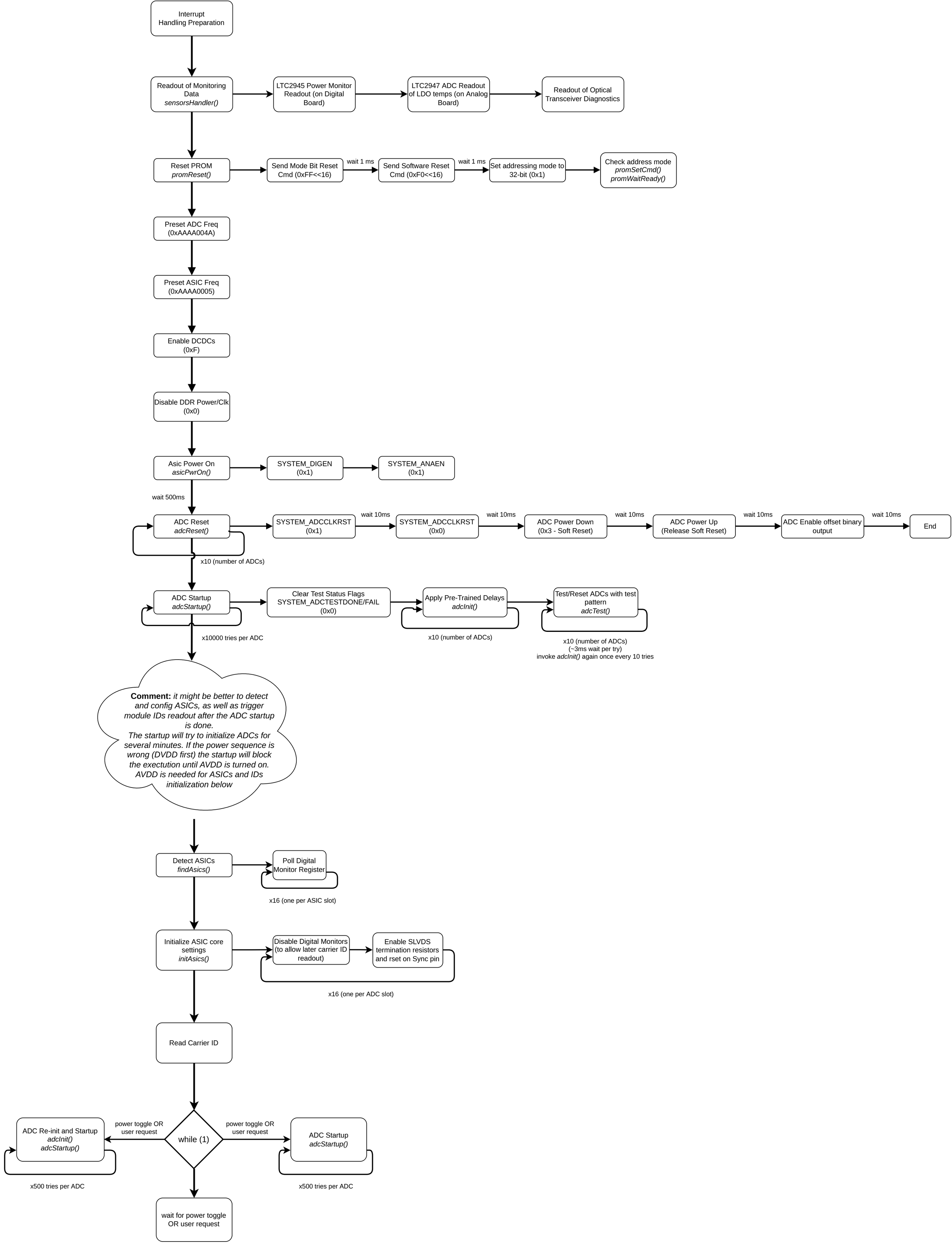
Interrupt Handling Preparation
Readout of Monitoring Data sensorsHandler()
LTC2945 Power Monitor Readout (on Digital Board)
LTC2947 ADC Readout of LDO temps (on Analog Board)
Readout of Optical Transceiver Diagnostics
Reset PROM promReset()
Send Mode Bit Reset Cmd (0xFF<<16)
wait 1 ms
Send Software Reset Cmd (0xF0<<16)
wait 1 ms
Set addressing mode to 32-bit (0x1)
Check address mode promSetCmd() promWaitReady()
Preset ADC Freq (0xAAAA004A)
Preset ASIC Freq (0xAAAA0005)
Enable DCDCs (0xF)
Disable DDR Power/Clk (0x0)
Asic Power On asicPwrOn()
SYSTEM_DIGEN (0x1)
SYSTEM_ANAEN (0x1)
wait 500ms
ADC Reset adcReset()
SYSTEM_ADCCLKRST (0x1)
wait 10ms
SYSTEM_ADCCLKRST (0x0)
wait 10ms
ADC Power Down (0x3 - Soft Reset)
wait 10ms
ADC Power Up (Release Soft Reset)
wait 10ms
ADC Enable offset binary output
wait 10ms
End
x10 (number of ADCs)
ADC Startup adcStartup()
Clear Test Status Flags SYSTEM_ADCTESTDONE/FAIL (0x0)
Apply Pre-Trained Delays adcInit()
Test/Reset ADCs with test pattern adcTest()
x10000 tries per ADC
x10 (number of ADCs)
x10 (number of ADCs) (~3ms wait per try) invoke adcInit() again once every 10 tries
Comment: it might be better to detect and config ASICs, as well as trigger module IDs readout after the ADC startup is done. The startup will try to initialize ADCs for several minutes. If the power sequence is wrong (DVDD first) the startup will block the exectution until AVDD is turned on. AVDD is needed for ASICs and IDs initialization below
Detect ASICs findAsics()
Poll Digital Monitor Register
x16 (one per ASIC slot)
Initialize ASIC core settings initAsics()
Disable Digital Monitors (to allow later carrier ID readout)
Enable SLVDS termination resistors and rset on Sync pin
x16 (one per ADC slot)
Read Carrier ID
while (1)
power toggle OR user request
ADC Re-init and Startup adcInit() adcStartup()
x500 tries per ADC
power toggle OR user request
ADC Startup adcStartup()
x500 tries per ADC
wait for power toggle OR user request