TMTC

- Nominal transmission (commanded by MCU)
  - Nominal command reception
  - Nominal beacon transmission (from MCU)
- Raspberry SDR trasmission
- Emergency beacon (standalone beacon generation)
- Emergency command reception actuation
  - Transmission shutdown
  - MCU reboot

RadEx

Every measurement cycle it will make 230 measurements on two ADCs.

32-bit ADC generates 230*4 = 920B
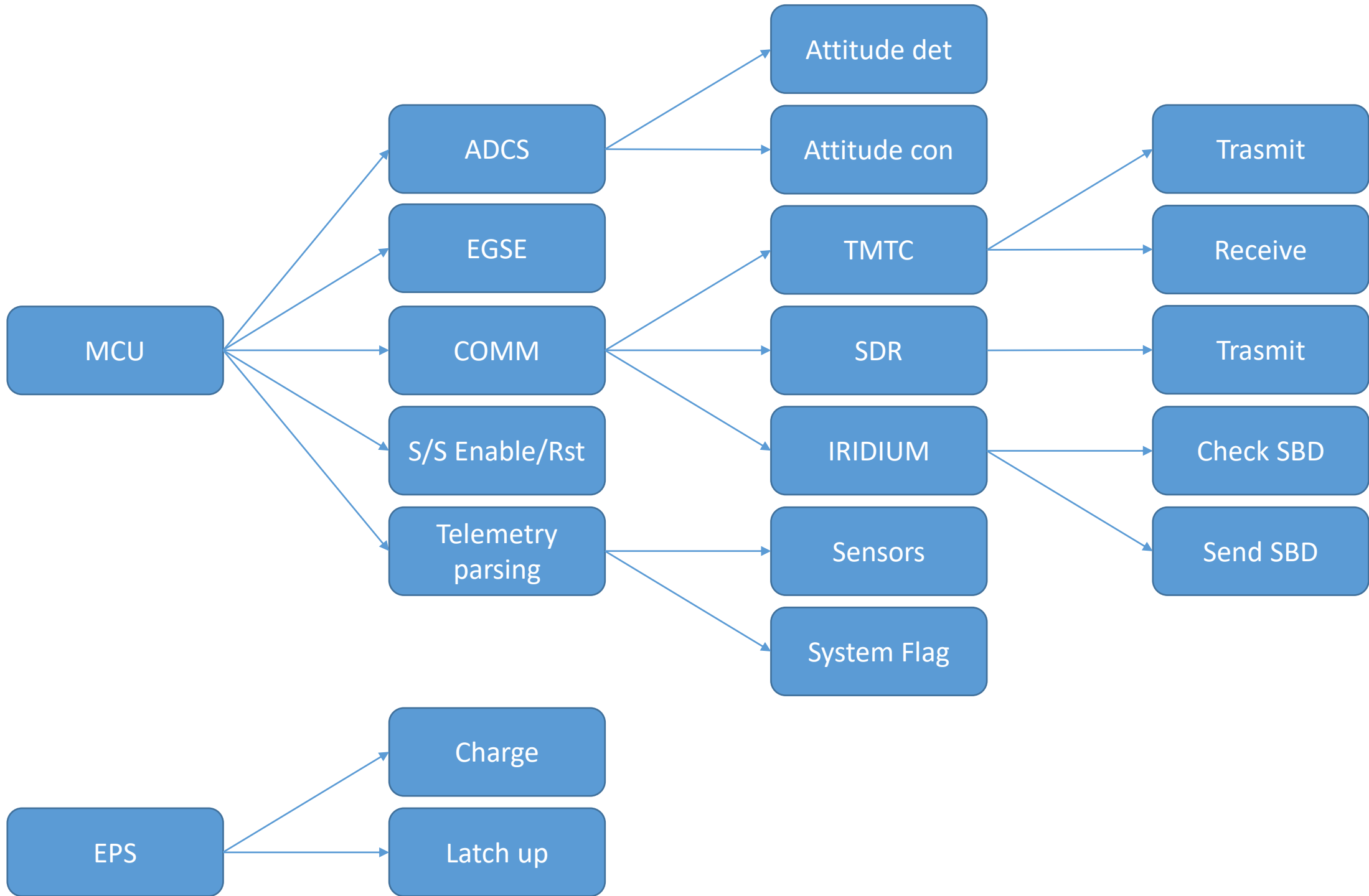
24-bit ADC generates 230*3 = 690B

in total 1610 bytes = 1.57kB

we have a measurement cycle evey 30 minutes for 3-5 minutes, so we have 48 meas. cycles per day

48*1.6 = 76.8kB

IRIDIUM

- Nominal
  - Inbox listening for requests
    - Telemetry request
    - Mode switch
  - Transmission of basic telemetry
- Safe mode
  - Inbox listening for requests
    - Telemetry request
    - Mode Switch
    - Reboot (TMTC, MCU)
    - Switch off (TMTC)
- Immediate application of Iridium received commands
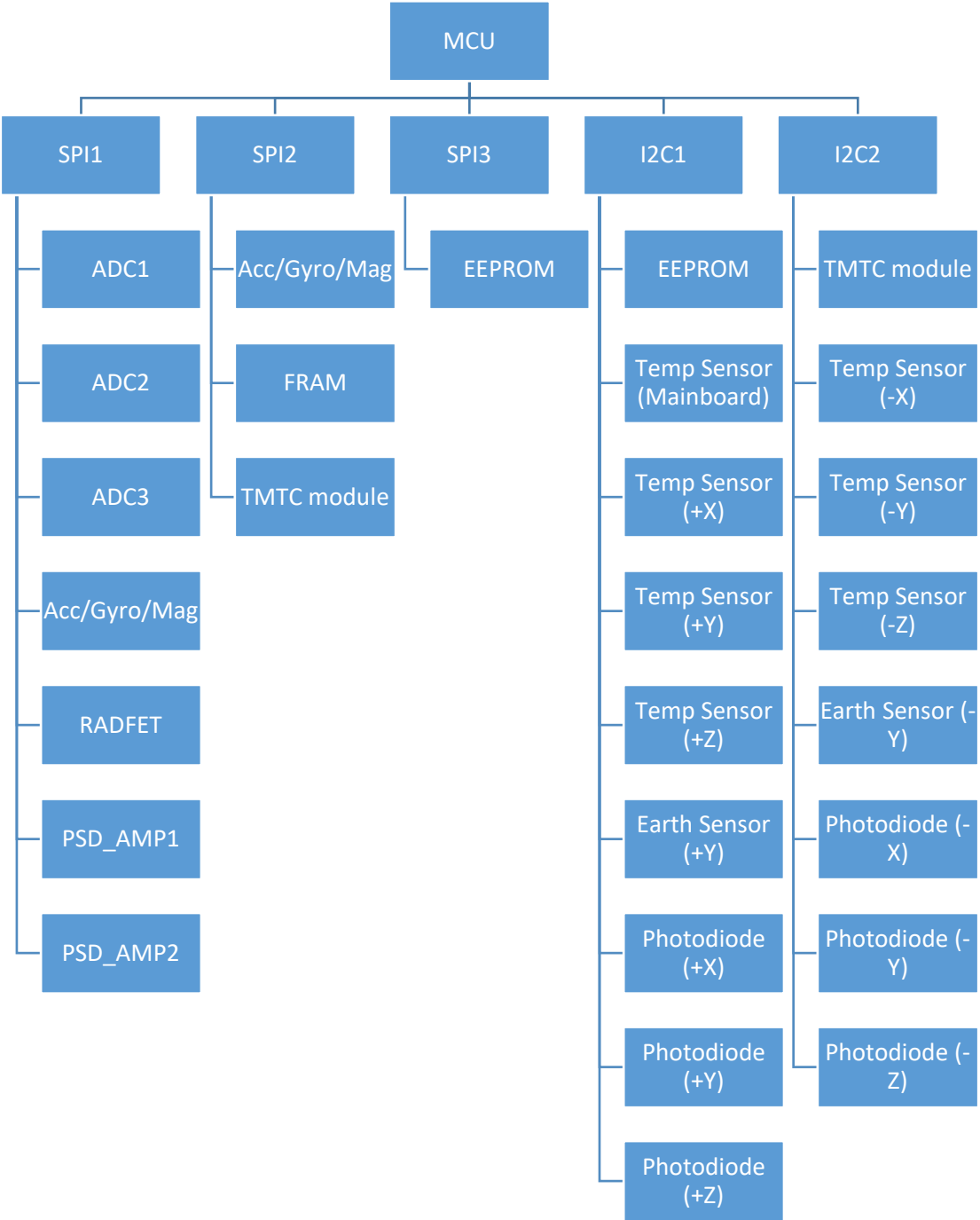- Precedency of Iridium command table over standard command table

```
MCU ──┬──→ ADCS ──────┬──→ Attitude det
      │               └──→ Attitude con
      │
      ├──→ EGSE
      │
      ├──→ COMM ──────┬──→ TMTC ──────┬──→ Trasmit
      │               │               └──→ Receive
      │               ├──→ SDR ───────────→ Trasmit
      │               └──→ IRIDIUM ───┬──→ Check SBD
      │                               └──→ Send SBD
      ├──→ S/S Enable/Rst
      │
      └──→ Telemetry parsing ──┬──→ Sensors
                               └──→ System Flag

EPS ──┬──→ Charge
      └──→ Latch up
```

Methods to count reboots

- MCU reboot
  - Whatchdog (verify if log can be identified)
  - Latch up switch off (reboot counts)
  - TMTC command (reboot counts + TMTC memory)
  - Power off due to EPS (battery) failure (reboot counts + EPS telemetry reading)

New Configuration.