FLT\_MCM1031

* Software changed: May 28, 2019
* PWB S/N: 404
  + R1 removed
  + Jumper SJ1 set for battery power
* Flight name\mode messages
  + PRE\_MSG "1031\_PRE"
  + TRK\_MSG "1031\_TRK"
  + TRK\_GPS "1031\_GPS"
  + PING\_ID 31
* Timing parameters for the flight
  + PreFlight Time = 2 hours (120 minutes), APRS XMIT every 10 minutes
    - PREFLIGHT\_APRS\_TX\_PERIOD 10
    - MAX\_PREFLIGHT\_PACKETS 12
    - 10\*12 = 120
    - GPS search time: 2 minutes
  + Flight Time = 2 hours
    - FLIGHT\_TIME 120
    - GPS search time: 2 minutes
  + Hibernate\Sleep time
    - Launch: Wednesday, May 29, 2019, Julian Day: 149
    - Wake up: Friday, November 1, 2019, Julian Day: 305
    - Number of days to hibernate 305 – 149 = 156
    - HIBERNATE\_PERIOD 156
    - GPS search time: 5 minutes
  + Track mode
    - Update GPS position every 24 hours
      * TRACK\_GPS\_PERIOD 24
    - Send APRS GPS position every 10 minutes when in Track mode
      * TRACK\_APRS\_TX\_PERIOD 10
    - Send pings every 15 seconds when in Track mode
      * TRACK\_PING\_TX\_PERIOD 15
      * Three Audio pings 75 msec at 700 Hz per minute
      * One encoded data ping per minute
    - GPS search time: 3 minutes

**Changes from FLT\_1030**

* Changed Output\_Ping\_tone() function so it passes tone frequency and tone pulse length parameters
* Changed audio ping from 500 Hz to 704 Hz
  + 704 Hz seems more audible than 500 Hz

Initial Power up Test

* Five Flashes
* First three messages after power up:

9:18:19, PRE\_\_FLT, 000/001, 0000.00N, 00000.00E

9:29:59, 1031\_PRE, 000/002, 7750.86S, 16639.94E

9:40:00,1 031\_PRE, 000/003, 7750.86S, 16639.94E

* GPS position is correct
  + Crary Lab: 77° 50.86 (77.847°), 166° 39.94’ (166.665°),

28 May 2019

* Initial Battery Voltage = 3.657V
* Super Capacitor Charge Voltage = 3.700V
* Installed initial battery voltage = 3.664 V
* Installed battery and plugged in voltage = 3.600 V

