

# Running the Flusher

This document provides directions on how to use the flusher.

## a. Prerequisites:

- i. **Measure and Correct the Accumulator Tunes:** From P44, measure and correct the Accumulator tunes.
  - 1) The default values are  $q_h=0.683$  and  $q_v=0.681$ .
  - 2) For stacks larger than 120mA, sometimes emittances are better when we run the vertical tune a little higher ( $q_v=0.6815$  to  $0.6820$ ), so that the tunes are closer together.
- ii. **Verify Stabilizing RF Frequency:** Before the flusher is started, verify that the ARF2 Stabilizing RF frequency A:R2DDS1 is set to approximately A:CENFRQ + 3Hz.
- iii. **Core 2-4GHz power:** When the flusher is running, we should maintain 10-12 watts on the Core 2-4GHz momentum cooling.
- iv. **Core 4-8GHz power:** When the flusher is running, we should
  - 1) When stacking: Run the 4-8GHz momentum at 1-2 watts.
  - 2) When not stacking: Turn the 4-8GHz momentum off.
- v. **Stacktail:** When not stacking, turn off the stacktail momentum cooling.

## b. Configuring the Flusher:

- i. **For stacks > 80mA**
  - 1) Setup The Flusher configuration parameters on P38 MISC <15>. Set
    - a) A:FSHUFR = 628906 Hz.
    - b) A:FSHLFR = 628902 Hz
    - c) A:FSHSTP = 0.1 Hz
    - d) Run the default ARF2 voltage:
      - i) A setting of A:R2LLAM = 0.855 V, corresponds to
      - ii) An ARF2 voltage of A:R2HLFL ~ 20V.
    - e) Note: ALFSHUFR and A:FSHLFR should never be set to less than the value of A:CENFRQ.
- ii. **For stacks > 120mA**
  - 1) Set the ARF2 amplitude from P38 MISC <15>.
    - a) Raise the value of A:R2LLAM so that A:R2HLFL is at least 35V (A:R2LLAM ~ 0.915V).
    - b) Feel free to run the voltage a little higher (up to A:R2HLFL = 80V) if emittances like it better. If you start blowing beam out the right side of the core on CATV Pbar #28, then you will need to back off.

## c. Starting the Flusher:

- i. From P64, go to the Pbar Studies sequencer (Mode 5)
- ii. Run **The Flusher** aggregate.
- iii. The Flusher starts a fast time plot that shows the ARF2 frequency ramping. If The Flusher is working A:R2DDS1 will ramp between the values of A:FSHLFR and A:FSHUFR.
- iv. If The Flusher stops working or is unintentionally aborted, simply restart the aggregate.

## d. Problems?

- i. If you have any problems or questions, contact the Pbar on call.