Checklist (to be updated as things are checked off):

1. New config (RadMap\_je.json) to clean up config and deal with merger conflicts
2. Run the diagnostic mode, to make sure parameters are set IN HARDWARE:
   1. In terminal “python data\_subscriber.py -i [ips] -f [configs] -v”,
   2. the -v flag will spit out the set parameters as read back from the boards before running for 5 seconds total with 2 seconds between reads
   3. The total run time can be changed by changing “max\_time” in this line:



* 1. The time between reads can be changed by appending “-g 50” where 50 would extend the time between reads to 50 seconds

1. There will be a dump of the set parameters at both the group level (0, 1, 2, 3) and the channel (0, 1, ..15) level. The channels are grouped in bunches of 4 as they are on the card (so group 0 parameters are features broadcast to channels 0, 1, 2, 3 for example). Certain features we want to check specifically:
   1. Underneath “=FPGA Group <X> Values =”, check that “Header: <X>” is the same <X> value. If it is, this means the HARDWARE is currently going to label the channel number correctly for all events
   2. Underneath every channel “=Channel <Y> Value=” check that Event Types, Peaking Time, Gap Time, and Threshold are Correct. For Event types you should see “invert”. Threshold will return the threshold value + 0x8000000 (so if set to 100 you’ll see 134217828). This will mean the trigger settings are set correctly IN HARDWARE
2. As it runs it will spit out the dictionary you are used to after every generation seconds (default is 2 remember) from all channels. But you will also get “Channel <X> Actual Memory Address: <Z>” and “Channel <X> Previous Memory Address: <W>” for every single channel on each read where it is saying how many words are currently stored in 1 of 2 memory banks for the channel. When events are triggering for the channel these numbers will always be changing and non-zero. If they are, then the triggers are working for the channel
3. The steps above are a step towards isolating if it’s a parameter/hardware issue or a software issue. Please send me the copy-paste of that parameter dump at the start if possible.