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================================================================
== Synthesis Summary Report of 'moller_hls'
================================================================
+ General Information:
    * Date:           Fri Jul 14 11:28:54 2023
    * Version:        2023.1 (Build 3854077 on May  4 2023)
    * Project:        LargeData
    * Solution:       wPragmas (Vivado IP Flow Target)
    * Product family: kintex7
    * Target device:  xc7k160t-fbg484-1


+ Performance & Resource Estimates:

    PS: '+' for module; 'o' for loop; '*' for dataflow

+-----------------------------------------+------+------+---------+-----------+----------+---------+------+---------
-+---------+----+-----------+-------------+-----+
    |                Modules                | Issue|      | Latency |  Latency  | Iteration|         | Trip |
|         |    |           |             |     |
    |                & Loops                | Type | Slack| (cycles)|    (ns)   |  Latency | Interval| Count|
Pipelined|  BRAM   | DSP|     FF    |     LUT     | URAM|

+-----------------------------------------+------+------+---------+-----------+----------+---------+------+---------
-+---------+----+-----------+-------------+-----+
    |+ moller_hls                           |     -|  0.18|      354|  3.540e+03|         -|      355|     -|
no|  4 (~0%)|   -|  4230 (2%)|  11221 (11%)|    -|
    | + make_event                          |     -|  6.45|        0|      0.000|         -|        0|     -|
no|        -|   -|          -|     31 (~0%)|    -|
    | + make_event                          |     -|  6.45|        0|      0.000|         -|        0|     -|
no|        -|   -|          -|     31 (~0%)|    -|
    | + moller_hls_Pipeline_VITIS_LOOP_71_4 |     -|  0.18|      227|  2.270e+03|         -|      227|     -|
no|  2 (~0%)|   -|  500 (~0%)|    1269 (1%)|    -|
    |  o VITIS_LOOP_71_4                    |     -|  7.30|      225|  2.250e+03|         3|        1|   224|
yes|        -|   -|          -|            -|    -|
    | + moller_hls_Pipeline_VITIS_LOOP_133_1|     -|  4.06|       10|    100.000|         -|       10|     -|
no|        -|   -|   14 (~0%)|    115 (~0%)|    -|
    |  o VITIS_LOOP_133_1                   |     -|  7.30|        8|     80.000|         1|        1|     8|
yes|        -|   -|          -|            -|    -|

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================================================================
== HW Interfaces
================================================================
* AP_FIFO
+----------------+-----------+------------+
| Interface      | Direction | Data Width |
+----------------+-----------+------------+
| s_fadc_hits    | out       | 3584       |
| s_ring_all_t   | out       | 512        |
| s_ring_trigger | out       | 8          |
| s_trigger      | out       | 64         |
+----------------+-----------+------------+

* Other Ports
+------------------+---------+-----------+----------+
| Port             | Mode    | Direction | Bitwidth |
+------------------+---------+-----------+----------+
| energy_threshold | ap_none | in        | 13       |
| ring_threshold   | ap_none | in        | 16       |
+------------------+---------+-----------+----------+

* TOP LEVEL CONTROL
+-----------+------------+-----------------------------------+
| Interface | Type       | Ports                             |
+-----------+------------+-----------------------------------+
| ap_clk    | clock      | ap_clk                            |
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| ap_rst    | reset      | ap_rst                             |
| ap_ctrl   | ap_ctrl_hs | ap_done ap_idle ap_ready ap_start |
+-----------+------------+------------------------------------+


================================================================
== SW I/O Information
================================================================
* Top Function Arguments
+------------------+-----------+---------------------------+
| Argument         | Direction | Datatype                  |
+------------------+-----------+---------------------------+
| energy_threshold | in        | ap_uint<13>               |
| ring_threshold   | in        | ap_uint<16>               |
| s_fadc_hits      | in        | stream<fadc_hits_t, 0>&   |
| s_trigger        | out       | stream<trigger_t, 0>&     |
| s_ring_trigger   | out       | stream<ring_trigger_t, 0>& |
| s_ring_all_t     | out       | stream<ring_all_t, 0>&    |
+------------------+-----------+---------------------------+

* SW-to-HW Mapping
+------------------+------------------+-----------+
| Argument         | HW Interface     | HW Type   |
+------------------+------------------+-----------+
| energy_threshold | energy_threshold | port      |
| ring_threshold   | ring_threshold   | port      |
| s_fadc_hits      | s_fadc_hits      | interface |
| s_trigger        | s_trigger        | interface |
| s_ring_trigger   | s_ring_trigger   | interface |
| s_ring_all_t     | s_ring_all_t     | interface |
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== Bind Op Report
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+---------------------------------------+-----+--------+--------------+-----+--------+---------+
| Name                                  | DSP | Pragma | Variable     | Op  | Impl   | Latency |
+---------------------------------------+-----+--------+--------------+-----+--------+---------+
| + moller_hls                          | 0   |        |              |     |        |         |
|  + moller_hls_Pipeline_VITIS_LOOP_71_4 | 0   |        |              |     |        |         |
|    add_ln71_fu_755_p2                 | -   |        | add_ln71     | add | fabric | 0       |
|    allr_e_8_fu_960_p2                 | -   |        | allr_e_8     | add | fabric | 0       |
|    allr_nhits_8_fu_998_p2             | -   |        | allr_nhits_8 | add | fabric | 0       |
|  + moller_hls_Pipeline_VITIS_LOOP_133_1 | 0   |        |              |     |        |         |
|    add_ln133_fu_137_p2                | -   |        | add_ln133    | add | fabric | 0       |
+---------------------------------------+-----+--------+--------------+-----+--------+---------+


================================================================
== Bind Storage Report
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+---------------------------------------+------+------+--------+--------------------------+---------+------+-------
--+
| Name                                  | BRAM | URAM | Pragma | Variable                 | Storage | Impl |
Latency |
+---------------------------------------+------+------+--------+--------------------------+---------+------+-------
--+
| + moller_hls                          | 4    | 0    |        |                          |         |      |
|
|   arr_event_e_U                       | 1    | -    |        | arr_event_e              | ram_t2p | auto | 1
|
|   arr_event_t_U                       | -    | -    |        | arr_event_t              | ram_t2p | auto | 1
|
|   fadc_hits_pre_e_U                   | 1    | -    |        | fadc_hits_pre_e          | ram_t2p | auto | 1
|
|   fadc_hits_pre_t_U                   | -    | -    |        | fadc_hits_pre_t          | ram_t2p | auto | 1
|
|  + moller_hls_Pipeline_VITIS_LOOP_71_4 | 2    | 0    |        |                          |         |      |
|
|    arr_chan_map_DET_ID_U              | -    | -    |        | arr_chan_map_DET_ID      | rom_1p  | auto | 1
|
|    arr_chan_map_SEG_NUM_U             | 1    | -    |        | arr_chan_map_SEG_NUM     | rom_1p  | auto | 1
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|
|    arr_chan_map_SUB_ELEMENT_U          | 1    | -    |        | arr_chan_map_SUB_ELEMENT | rom_1p  | auto | 1
|
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================================================================
== Pragma Report
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* Valid Pragma Syntax
+-----------------+-------------------------------------------------+-----------------------------------------------
-----------------------------------------------+
| Type            | Options                                         | Location
|
+-----------------+-------------------------------------------------+-----------------------------------------------
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| array_partition | dim=1 type=complete variable=time_bitmap.trig | ../../../../Documents/Vitis/LargerDataSet
/moller_hls.cpp:52 in moller_hls, time_bitmap.trig |
| array_partition | dim=1 type=complete variable=allr.r           | ../../../../Documents/Vitis/LargerDataSet
/moller_hls.cpp:54 in moller_hls, allr.r           |
| unroll          |                                                 | ../../../../Documents/Vitis/LargerDataSet
/moller_hls.cpp:65 in moller_hls                   |
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