```
Release 14.7 - xst P.20131013 (nt64)
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--> Parameter TMPDIR set to xst/projnav.tmp


Total REAL time to Xst completion: 0.00 secs
Total CPU time to Xst completion: 0.14 secs

--> Parameter xsthdpdir set to xst


Total REAL time to Xst completion: 0.00 secs
Total CPU time to Xst completion: 0.14 secs

--> Reading design: ac_controller.prj

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=========================================================================
*                      Synthesis Options Summary                        *
=========================================================================
---- Source Parameters
Input File Name                    : "ac_controller.prj"
Input Format                       : mixed
Ignore Synthesis Constraint File   : NO

---- Target Parameters
Output File Name                   : "ac_controller"
Output Format                      : NGC
Target Device                      : xc3s50-5-pq208

---- Source Options
Top Module Name                    : ac_controller
Automatic FSM Extraction           : YES
FSM Encoding Algorithm             : Auto
Safe Implementation                : No
FSM Style                          : LUT
RAM Extraction                     : Yes
RAM Style                          : Auto
ROM Extraction                     : Yes
Mux Style                          : Auto
Decoder Extraction                 : YES
Priority Encoder Extraction        : Yes
Shift Register Extraction          : YES
Logical Shifter Extraction         : YES
XOR Collapsing                     : YES
```

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ROM Style                           : Auto
Mux Extraction                      : Yes
Resource Sharing                    : YES
Asynchronous To Synchronous         : NO
Multiplier Style                    : Auto
Automatic Register Balancing        : No

---- Target Options
Add IO Buffers                      : YES
Global Maximum Fanout               : 500
Add Generic Clock Buffer(BUFG)      : 8
Register Duplication                : YES
Slice Packing                       : YES
Optimize Instantiated Primitives    : NO
Use Clock Enable                    : Yes
Use Synchronous Set                 : Yes
Use Synchronous Reset               : Yes
Pack IO Registers into IOBs         : Auto
Equivalent register Removal         : YES

---- General Options
Optimization Goal                   : Speed
Optimization Effort                 : 1
Keep Hierarchy                      : No
Netlist Hierarchy                   : As_Optimized
RTL Output                          : Yes
Global Optimization                 : AllClockNets
Read Cores                          : YES
Write Timing Constraints            : NO
Cross Clock Analysis                : NO
Hierarchy Separator                 : /
Bus Delimiter                       : <>
Case Specifier                      : Maintain
Slice Utilization Ratio             : 100
BRAM Utilization Ratio              : 100
Verilog 2001                        : YES
Auto BRAM Packing                   : NO
Slice Utilization Ratio Delta       : 5

=========================================================================


=========================================================================
*                           HDL Compilation                             *
=========================================================================
Compiling verilog file "sensor_memory.v" in library work
Compiling verilog file "ac_controller.v" in library work
Module <sensor_memory> compiled
Module <ac_controller> compiled
No errors in compilation
Analysis of file <"ac_controller.prj"> succeeded.


=========================================================================
*                       Design Hierarchy Analysis                       *
=========================================================================
Analyzing hierarchy for module <ac_controller> in library <work> with parameters.
        latest1 = "1000"
        latest2 = "1100"
        ma20_1 = "1001"
        ma20_2 = "1101"
```

```
        ma40_1 = "1010"
        ma40_2 = "1110"
        ma60_1 = "1011"
        ma60_2 = "1111"
        reset_memory = "0000"

Analyzing hierarchy for module <sensor_memory> in library <work>.


=========================================================================
*                            HDL Analysis                               *
=========================================================================
Analyzing top module <ac_controller>.
        latest1 = 4'b1000
        latest2 = 4'b1100
        ma20_1 = 4'b1001
        ma20_2 = 4'b1101
        ma40_1 = 4'b1010
        ma40_2 = 4'b1110
        ma60_1 = 4'b1011
        ma60_2 = 4'b1111
        reset_memory = 4'b0000
Module <ac_controller> is correct for synthesis.

Analyzing module <sensor_memory> in library <work>.
Module <sensor_memory> is correct for synthesis.


=========================================================================
*                           HDL Synthesis                               *
=========================================================================

Performing bidirectional port resolution...

Synthesizing Unit <sensor_memory>.
    Related source file is "sensor_memory.v".
WARNING:Xst:646 - Signal <temps<1:199>> is assigned but never used. This unconnected
signal will be trimmed during the optimization process.
WARNING:Xst:646 - Signal <sum> is assigned but never used. This unconnected signal will be
trimmed during the optimization process.
    Found 8-bit register for signal <average_temp>.
    Found 8-bit comparator greater for signal <old_sum_10$cmp_lt0000> created at line 44.
    Found 8-bit comparator greater for signal <old_sum_100$cmp_lt0000> created at line 44.
    Found 8-bit comparator greater for signal <old_sum_101$cmp_lt0000> created at line 44.
    Found 8-bit comparator greater for signal <old_sum_102$cmp_lt0000> created at line 44.
    Found 8-bit comparator greater for signal <old_sum_103$cmp_lt0000> created at line 44.
    Found 8-bit comparator greater for signal <old_sum_104$cmp_lt0000> created at line 44.
    Found 8-bit comparator greater for signal <old_sum_105$cmp_lt0000> created at line 44.
    Found 8-bit comparator greater for signal <old_sum_106$cmp_lt0000> created at line 44.
    Found 8-bit comparator greater for signal <old_sum_107$cmp_lt0000> created at line 44.
    Found 8-bit comparator greater for signal <old_sum_108$cmp_lt0000> created at line 44.
    Found 8-bit comparator greater for signal <old_sum_109$cmp_lt0000> created at line 44.
    Found 8-bit comparator greater for signal <old_sum_11$cmp_lt0000> created at line 44.
    Found 8-bit comparator greater for signal <old_sum_110$cmp_lt0000> created at line 44.
    Found 8-bit comparator greater for signal <old_sum_111$cmp_lt0000> created at line 44.
    Found 8-bit comparator greater for signal <old_sum_112$cmp_lt0000> created at line 44.
    Found 8-bit comparator greater for signal <old_sum_113$cmp_lt0000> created at line 44.
    Found 8-bit comparator greater for signal <old_sum_114$cmp_lt0000> created at line 44.
    Found 8-bit comparator greater for signal <old_sum_115$cmp_lt0000> created at line 44.
    Found 8-bit comparator greater for signal <old_sum_116$cmp_lt0000> created at line 44.
    Found 8-bit comparator greater for signal <old_sum_117$cmp_lt0000> created at line 44.
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Found 8-bit comparator greater for signal <old_sum_118$cmp_lt0000> created at line 44.
Found 8-bit comparator greater for signal <old_sum_119$cmp_lt0000> created at line 44.
Found 8-bit comparator greater for signal <old_sum_12$cmp_lt0000> created at line 44.
Found 8-bit comparator greater for signal <old_sum_120$cmp_lt0000> created at line 44.
Found 8-bit comparator greater for signal <old_sum_121$cmp_lt0000> created at line 44.
Found 8-bit comparator greater for signal <old_sum_122$cmp_lt0000> created at line 44.
Found 8-bit comparator greater for signal <old_sum_123$cmp_lt0000> created at line 44.
Found 8-bit comparator greater for signal <old_sum_124$cmp_lt0000> created at line 44.
Found 8-bit comparator greater for signal <old_sum_125$cmp_lt0000> created at line 44.
Found 8-bit comparator greater for signal <old_sum_126$cmp_lt0000> created at line 44.
Found 8-bit comparator greater for signal <old_sum_127$cmp_lt0000> created at line 44.
Found 8-bit comparator greater for signal <old_sum_128$cmp_lt0000> created at line 44.
Found 8-bit comparator greater for signal <old_sum_129$cmp_lt0000> created at line 44.
Found 8-bit comparator greater for signal <old_sum_13$cmp_lt0000> created at line 44.
Found 8-bit comparator greater for signal <old_sum_130$cmp_lt0000> created at line 44.
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Found 8-bit comparator greater for signal <old_sum_132$cmp_lt0000> created at line 44.
Found 8-bit comparator greater for signal <old_sum_133$cmp_lt0000> created at line 44.
Found 8-bit comparator greater for signal <old_sum_134$cmp_lt0000> created at line 44.
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Found 8-bit comparator greater for signal <old_sum_136$cmp_lt0000> created at line 44.
Found 8-bit comparator greater for signal <old_sum_137$cmp_lt0000> created at line 44.
Found 8-bit comparator greater for signal <old_sum_138$cmp_lt0000> created at line 44.
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Found 8-bit comparator greater for signal <old_sum_170$cmp_lt0000> created at line 44.
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Found 8-bit comparator greater for signal <old_sum_173$cmp_lt0000> created at line 44.
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Found 8-bit comparator greater for signal <old_sum_19$cmp_lt0000> created at line 44.
Found 8-bit comparator greater for signal <old_sum_190$cmp_lt0000> created at line 44.
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Found 8-bit comparator greater for signal <old_sum_192$cmp_lt0000> created at line 44.
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Found 8-bit comparator greater for signal <old_sum_197$cmp_lt0000> created at line 44.
Found 8-bit comparator greater for signal <old_sum_198$cmp_lt0000> created at line 44.
Found 8-bit comparator greater for signal <old_sum_199$cmp_lt0000> created at line 44.
Found 8-bit comparator greater for signal <old_sum_20$cmp_lt0000> created at line 44.
Found 8-bit comparator greater for signal <old_sum_200$cmp_lt0000> created at line 44.
Found 8-bit comparator greater for signal <old_sum_201$cmp_lt0000> created at line 44.
Found 8-bit comparator greater for signal <old_sum_202$cmp_lt0000> created at line 44.
Found 8-bit comparator greater for signal <old_sum_21$cmp_lt0000> created at line 44.
Found 8-bit comparator greater for signal <old_sum_22$cmp_lt0000> created at line 44.
Found 8-bit comparator greater for signal <old_sum_23$cmp_lt0000> created at line 44.
Found 8-bit comparator greater for signal <old_sum_24$cmp_lt0000> created at line 44.
Found 8-bit comparator greater for signal <old_sum_25$cmp_lt0000> created at line 44.
Found 8-bit comparator greater for signal <old_sum_26$cmp_lt0000> created at line 44.
Found 8-bit comparator greater for signal <old_sum_27$cmp_lt0000> created at line 44.
Found 8-bit comparator greater for signal <old_sum_28$cmp_lt0000> created at line 44.
Found 8-bit comparator greater for signal <old_sum_29$cmp_lt0000> created at line 44.
Found 8-bit comparator greater for signal <old_sum_30$cmp_lt0000> created at line 44.
Found 8-bit comparator greater for signal <old_sum_31$cmp_lt0000> created at line 44.
Found 8-bit comparator greater for signal <old_sum_32$cmp_lt0000> created at line 44.
Found 8-bit comparator greater for signal <old_sum_33$cmp_lt0000> created at line 44.
Found 8-bit comparator greater for signal <old_sum_34$cmp_lt0000> created at line 44.
Found 8-bit comparator greater for signal <old_sum_35$cmp_lt0000> created at line 44.
Found 8-bit comparator greater for signal <old_sum_36$cmp_lt0000> created at line 44.
Found 8-bit comparator greater for signal <old_sum_37$cmp_lt0000> created at line 44.
Found 8-bit comparator greater for signal <old_sum_38$cmp_lt0000> created at line 44.
Found 8-bit comparator greater for signal <old_sum_39$cmp_lt0000> created at line 44.
Found 8-bit comparator greater for signal <old_sum_4$cmp_lt0000> created at line 44.
Found 8-bit comparator greater for signal <old_sum_40$cmp_lt0000> created at line 44.
Found 8-bit comparator greater for signal <old_sum_41$cmp_lt0000> created at line 44.
Found 8-bit comparator greater for signal <old_sum_42$cmp_lt0000> created at line 44.
Found 8-bit comparator greater for signal <old_sum_43$cmp_lt0000> created at line 44.
Found 8-bit comparator greater for signal <old_sum_44$cmp_lt0000> created at line 44.
Found 8-bit comparator greater for signal <old_sum_45$cmp_lt0000> created at line 44.
Found 8-bit comparator greater for signal <old_sum_46$cmp_lt0000> created at line 44.
Found 8-bit comparator greater for signal <old_sum_47$cmp_lt0000> created at line 44.
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Found 8-bit comparator greater for signal <old_sum_48$cmp_lt0000> created at line 44.
Found 8-bit comparator greater for signal <old_sum_49$cmp_lt0000> created at line 44.
Found 8-bit comparator greater for signal <old_sum_5$cmp_lt0000> created at line 44.
Found 8-bit comparator greater for signal <old_sum_50$cmp_lt0000> created at line 44.
Found 8-bit comparator greater for signal <old_sum_51$cmp_lt0000> created at line 44.
Found 8-bit comparator greater for signal <old_sum_52$cmp_lt0000> created at line 44.
Found 8-bit comparator greater for signal <old_sum_53$cmp_lt0000> created at line 44.
Found 8-bit comparator greater for signal <old_sum_54$cmp_lt0000> created at line 44.
Found 8-bit comparator greater for signal <old_sum_55$cmp_lt0000> created at line 44.
Found 8-bit comparator greater for signal <old_sum_56$cmp_lt0000> created at line 44.
Found 8-bit comparator greater for signal <old_sum_57$cmp_lt0000> created at line 44.
Found 8-bit comparator greater for signal <old_sum_58$cmp_lt0000> created at line 44.
Found 8-bit comparator greater for signal <old_sum_59$cmp_lt0000> created at line 44.
Found 8-bit comparator greater for signal <old_sum_6$cmp_lt0000> created at line 44.
Found 8-bit comparator greater for signal <old_sum_60$cmp_lt0000> created at line 44.
Found 8-bit comparator greater for signal <old_sum_61$cmp_lt0000> created at line 44.
Found 8-bit comparator greater for signal <old_sum_62$cmp_lt0000> created at line 44.
Found 8-bit comparator greater for signal <old_sum_63$cmp_lt0000> created at line 44.
Found 8-bit comparator greater for signal <old_sum_64$cmp_lt0000> created at line 44.
Found 8-bit comparator greater for signal <old_sum_65$cmp_lt0000> created at line 44.
Found 8-bit comparator greater for signal <old_sum_66$cmp_lt0000> created at line 44.
Found 8-bit comparator greater for signal <old_sum_67$cmp_lt0000> created at line 44.
Found 8-bit comparator greater for signal <old_sum_68$cmp_lt0000> created at line 44.
Found 8-bit comparator greater for signal <old_sum_69$cmp_lt0000> created at line 44.
Found 8-bit comparator greater for signal <old_sum_7$cmp_lt0000> created at line 44.
Found 8-bit comparator greater for signal <old_sum_70$cmp_lt0000> created at line 44.
Found 8-bit comparator greater for signal <old_sum_71$cmp_lt0000> created at line 44.
Found 8-bit comparator greater for signal <old_sum_72$cmp_lt0000> created at line 44.
Found 8-bit comparator greater for signal <old_sum_73$cmp_lt0000> created at line 44.
Found 8-bit comparator greater for signal <old_sum_74$cmp_lt0000> created at line 44.
Found 8-bit comparator greater for signal <old_sum_75$cmp_lt0000> created at line 44.
Found 8-bit comparator greater for signal <old_sum_76$cmp_lt0000> created at line 44.
Found 8-bit comparator greater for signal <old_sum_77$cmp_lt0000> created at line 44.
Found 8-bit comparator greater for signal <old_sum_78$cmp_lt0000> created at line 44.
Found 8-bit comparator greater for signal <old_sum_79$cmp_lt0000> created at line 44.
Found 8-bit comparator greater for signal <old_sum_8$cmp_lt0000> created at line 44.
Found 8-bit comparator greater for signal <old_sum_80$cmp_lt0000> created at line 44.
Found 8-bit comparator greater for signal <old_sum_81$cmp_lt0000> created at line 44.
Found 8-bit comparator greater for signal <old_sum_82$cmp_lt0000> created at line 44.
Found 8-bit comparator greater for signal <old_sum_83$cmp_lt0000> created at line 44.
Found 8-bit comparator greater for signal <old_sum_84$cmp_lt0000> created at line 44.
Found 8-bit comparator greater for signal <old_sum_85$cmp_lt0000> created at line 44.
Found 8-bit comparator greater for signal <old_sum_86$cmp_lt0000> created at line 44.
Found 8-bit comparator greater for signal <old_sum_87$cmp_lt0000> created at line 44.
Found 8-bit comparator greater for signal <old_sum_88$cmp_lt0000> created at line 44.
Found 8-bit comparator greater for signal <old_sum_89$cmp_lt0000> created at line 44.
Found 8-bit comparator greater for signal <old_sum_9$cmp_lt0000> created at line 44.
Found 8-bit comparator greater for signal <old_sum_90$cmp_lt0000> created at line 44.
Found 8-bit comparator greater for signal <old_sum_91$cmp_lt0000> created at line 44.
Found 8-bit comparator greater for signal <old_sum_92$cmp_lt0000> created at line 44.
Found 8-bit comparator greater for signal <old_sum_93$cmp_lt0000> created at line 44.
Found 8-bit comparator greater for signal <old_sum_94$cmp_lt0000> created at line 44.
Found 8-bit comparator greater for signal <old_sum_95$cmp_lt0000> created at line 44.
Found 8-bit comparator greater for signal <old_sum_96$cmp_lt0000> created at line 44.
Found 8-bit comparator greater for signal <old_sum_97$cmp_lt0000> created at line 44.
Found 8-bit comparator greater for signal <old_sum_98$cmp_lt0000> created at line 44.
Found 8-bit comparator greater for signal <old_sum_99$cmp_lt0000> created at line 44.
Found 8-bit comparator greater for signal <sum$cmp_lt0000> created at line 44.
Found 8-bit register for signal <temps<0>>.
Summary:
    inferred  16 D-type flip-flop(s).
```

```
        inferred 199 Adder/Subtractor(s).
        inferred 200 Comparator(s).
Unit <sensor_memory> synthesized.


Synthesizing Unit <ac_controller>.
    Related source file is "ac_controller.v".
    Found 1-bit register for signal <ac>.
    Found 1-bit register for signal <fan>.
    Found 1-bit register for signal <fan_high>.
    Found 8-bit register for signal <subcommand_out>.
    Found 10-bit subtractor for signal <$sub0000> created at line 110.
    Found 8-bit register for signal <duration>.
    Found 8-bit comparator greatequal for signal <fan$cmp_ge0000> created at line 107.
    Found 8-bit comparator greatequal for signal <fan$cmp_ge0001> created at line 103.
    Found 8-bit comparator greater for signal <fan$cmp_gt0000> created at line 100.
    Found 8-bit comparator lessequal for signal <fan$cmp_le0000> created at line 107.
    Found 8-bit comparator lessequal for signal <fan$cmp_le0001> created at line 100.
    Found 10-bit comparator greater for signal <fan_high$cmp_gt0000> created at line 110.
    Found 8-bit comparator less for signal <fan_high$cmp_lt0000> created at line 103.
    Found 8-bit comparator less for signal <fan_high$cmp_lt0001> created at line 103.
    Summary:
        inferred  19 D-type flip-flop(s).
        inferred   1 Adder/Subtractor(s).
        inferred   8 Comparator(s).
Unit <ac_controller> synthesized.


=========================================================================
HDL Synthesis Report

Macro Statistics
# Adders/Subtractors                                   : 399
 10-bit subtractor                                     : 1
 16-bit adder                                          : 398
# Registers                                            : 9
 1-bit register                                        : 3
 8-bit register                                        : 6
# Comparators                                          : 408
 10-bit comparator greater                             : 1
 8-bit comparator greatequal                           : 2
 8-bit comparator greater                              : 401
 8-bit comparator less                                 : 2
 8-bit comparator lessequal                            : 2

=========================================================================

=========================================================================
*                      Advanced HDL Synthesis                           *
=========================================================================

WARNING:Xst:1710 - FF/Latch <duration_0> (without init value) has a constant value of 0 in
block <ac_controller>. This FF/Latch will be trimmed during the optimization process.
WARNING:Xst:1895 - Due to other FF/Latch trimming, FF/Latch <duration_1> (without init
value) has a constant value of 0 in block <ac_controller>. This FF/Latch will be trimmed
during the optimization process.
WARNING:Xst:1895 - Due to other FF/Latch trimming, FF/Latch <duration_6> (without init
value) has a constant value of 0 in block <ac_controller>. This FF/Latch will be trimmed
during the optimization process.
WARNING:Xst:1895 - Due to other FF/Latch trimming, FF/Latch <duration_7> (without init
value) has a constant value of 0 in block <ac_controller>. This FF/Latch will be trimmed
```

during the optimization process.

===
Advanced HDL Synthesis Report

Macro Statistics
Adders/Subtractors   : 399
 10-bit subtractor   : 1
 16-bit adder   : 392
 8-bit adder   : 6
Registers   : 51
 Flip-Flops   : 51
Comparators   : 408
 10-bit comparator greater   : 1
 8-bit comparator greatequal   : 2
 8-bit comparator greater   : 401
 8-bit comparator less   : 2
 8-bit comparator lessequal   : 2

===

===
*   Low Level Synthesis   *
===
WARNING:Xst:1710 - FF/Latch <duration_0> (without init value) has a constant value of 0 in block <ac_controller>. This FF/Latch will be trimmed during the optimization process.
WARNING:Xst:1895 - Due to other FF/Latch trimming, FF/Latch <duration_1> (without init value) has a constant value of 0 in block <ac_controller>. This FF/Latch will be trimmed during the optimization process.
WARNING:Xst:1895 - Due to other FF/Latch trimming, FF/Latch <duration_6> (without init value) has a constant value of 0 in block <ac_controller>. This FF/Latch will be trimmed during the optimization process.
WARNING:Xst:1895 - Due to other FF/Latch trimming, FF/Latch <duration_7> (without init value) has a constant value of 0 in block <ac_controller>. This FF/Latch will be trimmed during the optimization process.

Optimizing unit <ac_controller> ...

Optimizing unit <sensor_memory> ...

Mapping all equations...
Building and optimizing final netlist ...
Found area constraint ratio of 100 (+ 5) on block ac_controller, actual ratio is 190.
Optimizing block <ac_controller> to meet ratio 100 (+ 5) of 768 slices :
WARNING:Xst:2254 - Area constraint could not be met for block <ac_controller>, final ratio is 161.
FlipFlop duration_2 has been replicated 1 time(s)
FlipFlop duration_3 has been replicated 4 time(s)
FlipFlop duration_4 has been replicated 5 time(s)
FlipFlop duration_5 has been replicated 4 time(s)
FlipFlop memory_1/temps_0_0 has been replicated 1 time(s)
FlipFlop memory_1/temps_0_1 has been replicated 1 time(s)
FlipFlop memory_1/temps_0_2 has been replicated 1 time(s)
FlipFlop memory_1/temps_0_3 has been replicated 1 time(s)
FlipFlop memory_1/temps_0_4 has been replicated 1 time(s)
FlipFlop memory_1/temps_0_5 has been replicated 1 time(s)
FlipFlop memory_1/temps_0_6 has been replicated 1 time(s)
FlipFlop memory_2/temps_0_0 has been replicated 1 time(s)
FlipFlop memory_2/temps_0_1 has been replicated 1 time(s)
FlipFlop memory_2/temps_0_2 has been replicated 1 time(s)
FlipFlop memory_2/temps_0_3 has been replicated 1 time(s)

```
FlipFlop memory_2/temps_0_4 has been replicated 1 time(s)
FlipFlop memory_2/temps_0_5 has been replicated 1 time(s)
FlipFlop memory_2/temps_0_6 has been replicated 1 time(s)

Final Macro Processing ...

=========================================================================
Final Register Report

Macro Statistics
# Registers                                          : 75
 Flip-Flops                                          : 75

=========================================================================

=========================================================================
*                            Partition Report                           *
=========================================================================

Partition Implementation Status
-------------------------------

  No Partitions were found in this design.

-------------------------------

=========================================================================
*                             Final Report                              *
=========================================================================
Final Results
RTL Top Level Output File Name     : ac_controller.ngr
Top Level Output File Name         : ac_controller
Output Format                      : NGC
Optimization Goal                  : Speed
Keep Hierarchy                     : No

Design Statistics
# IOs                              : 42

Cell Usage :
# BELS                             : 5176
#      GND                         : 1
#      INV                         : 1
#      LUT1                        : 1016
#      LUT2                        : 234
#      LUT2_D                      : 2
#      LUT3                        : 183
#      LUT3_D                      : 14
#      LUT4                        : 576
#      LUT4_D                      : 49
#      LUT4_L                      : 8
#      MULT_AND                    : 2
#      MUXCY                       : 1455
#      MUXF5                       : 10
#      VCC                         : 1
#      XORCY                       : 1624
# FlipFlops/Latches                : 75
#      FDE                         : 18
#      FDR                         : 46
#      FDRE                        : 11
# Clock Buffers                    : 1
```

```
#      BUFGP                          : 1
# IO Buffers                          : 41
#      IBUF                           : 30
#      OBUF                           : 11
=========================================================================

Device utilization summary:
---------------------------

Selected Device : 3s50pq208-5

 Number of Slices:                     1137  out of    768   148% (*)
 Number of Slice Flip Flops:             75  out of   1536     4%
 Number of 4 input LUTs:               2083  out of   1536   135% (*)
 Number of IOs:                          42
 Number of bonded IOBs:                  42  out of    124    33%
 Number of GCLKs:                         1  out of      8    12%

WARNING:Xst:1336 -  (*) More than 100% of Device resources are used

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Partition Resource Summary:
---------------------------

  No Partitions were found in this design.

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=========================================================================
TIMING REPORT

NOTE: THESE TIMING NUMBERS ARE ONLY A SYNTHESIS ESTIMATE.
      FOR ACCURATE TIMING INFORMATION PLEASE REFER TO THE TRACE REPORT
      GENERATED AFTER PLACE-and-ROUTE.

Clock Information:
------------------
-----------------------------------+------------------------+-------+
Clock Signal                       | Clock buffer(FF name)  | Load  |
-----------------------------------+------------------------+-------+
clock                              | BUFGP                  | 75    |
-----------------------------------+------------------------+-------+

Asynchronous Control Signals Information:
----------------------------------------
No asynchronous control signals found in this design

Timing Summary:
---------------
Speed Grade: -5

   Minimum period: 208.604ns (Maximum Frequency: 4.794MHz)
   Minimum input arrival time before clock: 206.219ns
   Maximum output required time after clock: 6.280ns
   Maximum combinational path delay: No path found

Timing Detail:
--------------
All values displayed in nanoseconds (ns)
```

```
================================================================================
Timing constraint: Default period analysis for Clock 'clock'
  Clock period: 208.604ns (frequency: 4.794MHz)
  Total number of paths / destination ports: 18162364966233 / 48
--------------------------------------------------------------------------------
Delay:               208.604ns (Levels of Logic = 210)
  Source:            duration_4_2 (FF)
  Destination:       memory_2/average_temp_7 (FF)
  Source Clock:      clock rising
  Destination Clock: clock rising

  Data Path: duration_4_2 to memory_2/average_temp_7
                                Gate     Net
    Cell:in->out      fanout   Delay   Delay  Logical Name (Net Name)
    ----------------------------------------  ------------
     FDE:C->Q             33   0.626   1.639  duration_4_2 (duration_4_2)
     LUT4:I2->O           12   0.479   1.120  memory_2/old_sum_6_cmp_lt000011_1
(memory_2/old_sum_6_cmp_lt000011)
     LUT2:I1->O            1   0.479   0.681  memory_2/old_sum_5_and00071
(memory_2/old_sum_5_and0007)
     MUXCY:CI->O           1   0.055   0.000  memory_2/Madd__old_sum_5_Madd_cy<0>
(memory_2/Madd__old_sum_5_Madd_cy<0>)
     XORCY:CI->O           2   0.786   0.768  memory_2/Madd__old_sum_5_Madd_xor<1>
(memory_2/_old_sum_5<1>)
     LUT4:I3->O            1   0.479   0.000  memory_2/Madd__old_sum_7R4
(memory_2/Madd__old_sum_7R)
     XORCY:LI->O           1   0.541   0.976  memory_2/Madd__old_sum_7_Madd_xor<1>
(memory_2/_old_sum_7<1>)
     LUT1:I0->O            1   0.479   0.000  memory_2/Madd__old_sum_9_Madd_cy<1>_rt
(memory_2/Madd__old_sum_9_Madd_cy<1>_rt)
     XORCY:LI->O           3   0.541   0.830  memory_2/Madd__old_sum_9_Madd_xor<1>
(memory_2/_old_sum_9<1>)
     LUT3:I2->O            1   0.479   0.000  memory_2/Madd__old_sum_11R7
(memory_2/Madd__old_sum_11R)
     XORCY:LI->O           1   0.541   0.976  memory_2/Madd__old_sum_11_Madd_xor<1>
(memory_2/_old_sum_11<1>)
     LUT1:I0->O            1   0.479   0.000  memory_2/Madd__old_sum_13_Madd_cy<1>_rt
(memory_2/Madd__old_sum_13_Madd_cy<1>_rt)
     XORCY:LI->O           2   0.541   0.768  memory_2/Madd__old_sum_13_Madd_xor<1>
(memory_2/_old_sum_13<1>)
     LUT4:I3->O            1   0.479   0.000  memory_2/Madd__old_sum_15R7
(memory_2/Madd__old_sum_15R)
     XORCY:LI->O           1   0.541   0.976  memory_2/Madd__old_sum_15_Madd_xor<1>
(memory_2/Madd__old_sum_17R)
     LUT1:I0->O            1   0.479   0.000  memory_2/Madd__old_sum_17_Madd_cy<1>_rt
(memory_2/Madd__old_sum_17_Madd_cy<1>_rt)
     XORCY:LI->O           2   0.541   0.804  memory_2/Madd__old_sum_17_Madd_xor<1>
(memory_2/_old_sum_17<1>)
     LUT3:I2->O            1   0.479   0.000  memory_2/Madd__old_sum_19R7
(memory_2/Madd__old_sum_19R)
     XORCY:LI->O           1   0.541   0.976  memory_2/Madd__old_sum_19_Madd_xor<1>
(memory_2/_old_sum_19<1>)
     LUT1:I0->O            1   0.479   0.000  memory_2/Madd__old_sum_21_Madd_cy<1>_rt
(memory_2/Madd__old_sum_21_Madd_cy<1>_rt)
     XORCY:LI->O           2   0.541   0.804  memory_2/Madd__old_sum_21_Madd_xor<1>
(memory_2/_old_sum_21<1>)
     LUT3:I2->O            1   0.479   0.000  memory_2/Madd__old_sum_23R7
(memory_2/Madd__old_sum_23R)
     XORCY:LI->O           1   0.541   0.976  memory_2/Madd__old_sum_23_Madd_xor<1>
(memory_2/_old_sum_23<1>)
     LUT1:I0->O            1   0.479   0.000  memory_2/Madd__old_sum_25_Madd_cy<1>_rt
```

```
(memory_2/Madd__old_sum_25_Madd_cy<1>_rt)
     XORCY:LI->O           2   0.541   0.804  memory_2/Madd__old_sum_25_Madd_xor<1>
(memory_2/_old_sum_25<1>)
     LUT3:I2->O            1   0.479   0.000  memory_2/Madd__old_sum_27R7
(memory_2/Madd__old_sum_27R)
     XORCY:LI->O           1   0.541   0.976  memory_2/Madd__old_sum_27_Madd_xor<1>
(memory_2/_old_sum_27<1>)
     LUT1:I0->O            1   0.479   0.000  memory_2/Madd__old_sum_29_Madd_cy<1>_rt
(memory_2/Madd__old_sum_29_Madd_cy<1>_rt)
     XORCY:LI->O           2   0.541   0.768  memory_2/Madd__old_sum_29_Madd_xor<1>
(memory_2/_old_sum_29<1>)
     LUT4:I3->O            1   0.479   0.000  memory_2/Madd__old_sum_31R7
(memory_2/Madd__old_sum_31R)
     XORCY:LI->O           1   0.541   0.976  memory_2/Madd__old_sum_31_Madd_xor<1>
(memory_2/Madd__old_sum_33R)
     LUT1:I0->O            1   0.479   0.000  memory_2/Madd__old_sum_33_Madd_cy<1>_rt
(memory_2/Madd__old_sum_33_Madd_cy<1>_rt)
     XORCY:LI->O           2   0.541   0.768  memory_2/Madd__old_sum_33_Madd_xor<1>
(memory_2/_old_sum_33<1>)
     LUT4:I3->O            1   0.479   0.000  memory_2/Madd__old_sum_35R7
(memory_2/Madd__old_sum_35R)
     XORCY:LI->O           2   0.541   0.804  memory_2/Madd__old_sum_35_Madd_xor<1>
(memory_2/_old_sum_35<1>)
     LUT3:I2->O            1   0.479   0.000  memory_2/Madd__old_sum_37R7
(memory_2/Madd__old_sum_37R)
     XORCY:LI->O           2   0.541   0.768  memory_2/Madd__old_sum_37_Madd_xor<1>
(memory_2/_old_sum_37<1>)
     LUT4:I3->O            1   0.479   0.000  memory_2/Madd__old_sum_39R7
(memory_2/Madd__old_sum_39R)
     XORCY:LI->O           1   0.541   0.976  memory_2/Madd__old_sum_39_Madd_xor<1>
(memory_2/_old_sum_39<1>)
     LUT1:I0->O            1   0.479   0.000  memory_2/Madd__old_sum_41_Madd_cy<1>_rt
(memory_2/Madd__old_sum_41_Madd_cy<1>_rt)
     XORCY:LI->O           2   0.541   0.768  memory_2/Madd__old_sum_41_Madd_xor<1>
(memory_2/_old_sum_41<1>)
     LUT4:I3->O            1   0.479   0.000  memory_2/Madd__old_sum_43R7
(memory_2/Madd__old_sum_43R)
     XORCY:LI->O           1   0.541   0.976  memory_2/Madd__old_sum_43_Madd_xor<1>
(memory_2/_old_sum_43<1>)
     LUT1:I0->O            1   0.479   0.000  memory_2/Madd__old_sum_45_Madd_cy<1>_rt
(memory_2/Madd__old_sum_45_Madd_cy<1>_rt)
     XORCY:LI->O           2   0.541   0.804  memory_2/Madd__old_sum_45_Madd_xor<1>
(memory_2/_old_sum_45<1>)
     LUT3:I2->O            1   0.479   0.000  memory_2/Madd__old_sum_47R7
(memory_2/Madd__old_sum_47R)
     XORCY:LI->O           1   0.541   0.976  memory_2/Madd__old_sum_47_Madd_xor<1>
(memory_2/Madd__old_sum_49R)
     LUT1:I0->O            1   0.479   0.000  memory_2/Madd__old_sum_49_Madd_cy<1>_rt
(memory_2/Madd__old_sum_49_Madd_cy<1>_rt)
     XORCY:LI->O           2   0.541   0.768  memory_2/Madd__old_sum_49_Madd_xor<1>
(memory_2/_old_sum_49<1>)
     LUT4:I3->O            1   0.479   0.704  memory_2/Madd__old_sum_51C6
(memory_2/Madd__old_sum_51C)
     LUT4:I3->O            1   0.479   0.000  memory_2/Madd__old_sum_51_Madd_lut<2>
(memory_2/Madd__old_sum_51_Madd_lut<2>)
     XORCY:LI->O           2   0.541   0.768  memory_2/Madd__old_sum_51_Madd_xor<2>
(memory_2/_old_sum_51<2>)
     LUT4:I3->O            1   0.479   0.704  memory_2/Madd__old_sum_53C11
(memory_2/Madd__old_sum_53C1)
     LUT4:I3->O            1   0.479   0.000  memory_2/Madd__old_sum_53_Madd_lut<3>
(memory_2/Madd__old_sum_53_Madd_lut<3>)
```

```
     XORCY:LI->O           2   0.541   0.768  memory_2/Madd__old_sum_53_Madd_xor<3>
(memory_2/_old_sum_53<3>)
     LUT4:I3->O            1   0.479   0.704  memory_2/Madd__old_sum_55C21
(memory_2/Madd__old_sum_55C2)
     LUT4:I3->O            1   0.479   0.000  memory_2/Madd__old_sum_55_Madd_lut<4>
(memory_2/Madd__old_sum_55_Madd_lut<4>)
     XORCY:LI->O           1   0.541   0.851  memory_2/Madd__old_sum_55_Madd_xor<4>
(memory_2/_old_sum_55<4>)
     LUT2:I1->O            1   0.479   0.000  memory_2/Madd__old_sum_57_Madd_lut<4>
(memory_2/Madd__old_sum_57_Madd_lut<4>)
     XORCY:LI->O           2   0.541   0.768  memory_2/Madd__old_sum_57_Madd_xor<4>
(memory_2/_old_sum_57<4>)
     LUT4:I3->O            1   0.479   0.704  memory_2/Madd__old_sum_59C31
(memory_2/Madd__old_sum_59C3)
     LUT4:I3->O            1   0.479   0.000  memory_2/Madd__old_sum_59_Madd_lut<5>
(memory_2/Madd__old_sum_59_Madd_lut<5>)
     XORCY:LI->O           2   0.541   0.768  memory_2/Madd__old_sum_59_Madd_xor<5>
(memory_2/_old_sum_59<5>)
     LUT4:I3->O            1   0.479   0.704  memory_2/Madd__old_sum_61C41
(memory_2/Madd__old_sum_61C4)
     LUT4:I3->O            1   0.479   0.000  memory_2/Madd__old_sum_61_Madd_lut<6>
(memory_2/Madd__old_sum_61_Madd_lut<6>)
     XORCY:LI->O           2   0.541   0.768  memory_2/Madd__old_sum_61_Madd_xor<6>
(memory_2/_old_sum_61<6>)
     LUT4:I3->O            1   0.479   0.000  memory_2/Madd__old_sum_63_Madd_lut<6>
(memory_2/Madd__old_sum_63_Madd_lut<6>)
     XORCY:LI->O           1   0.541   0.976  memory_2/Madd__old_sum_63_Madd_xor<6>
(memory_2/Madd__old_sum_65R5)
     LUT1:I0->O            1   0.479   0.000  memory_2/Madd__old_sum_65_Madd_cy<6>_rt
(memory_2/Madd__old_sum_65_Madd_cy<6>_rt)
     XORCY:LI->O           1   0.541   0.976  memory_2/Madd__old_sum_65_Madd_xor<6>
(memory_2/Madd__old_sum_67R5)
     LUT1:I0->O            1   0.479   0.000  memory_2/Madd__old_sum_67_Madd_cy<6>_rt
(memory_2/Madd__old_sum_67_Madd_cy<6>_rt)
     XORCY:LI->O           1   0.541   0.976  memory_2/Madd__old_sum_67_Madd_xor<6>
(memory_2/Madd__old_sum_69R5)
     LUT1:I0->O            1   0.479   0.000  memory_2/Madd__old_sum_69_Madd_cy<6>_rt
(memory_2/Madd__old_sum_69_Madd_cy<6>_rt)
     XORCY:LI->O           1   0.541   0.976  memory_2/Madd__old_sum_69_Madd_xor<6>
(memory_2/Madd__old_sum_71R5)
     LUT1:I0->O            1   0.479   0.000  memory_2/Madd__old_sum_71_Madd_cy<6>_rt
(memory_2/Madd__old_sum_71_Madd_cy<6>_rt)
     XORCY:LI->O           1   0.541   0.976  memory_2/Madd__old_sum_71_Madd_xor<6>
(memory_2/Madd__old_sum_73R5)
     LUT1:I0->O            1   0.479   0.000  memory_2/Madd__old_sum_73_Madd_cy<6>_rt
(memory_2/Madd__old_sum_73_Madd_cy<6>_rt)
     XORCY:LI->O           1   0.541   0.976  memory_2/Madd__old_sum_73_Madd_xor<6>
(memory_2/Madd__old_sum_75R5)
     LUT1:I0->O            1   0.479   0.000  memory_2/Madd__old_sum_75_Madd_cy<6>_rt
(memory_2/Madd__old_sum_75_Madd_cy<6>_rt)
     XORCY:LI->O           1   0.541   0.976  memory_2/Madd__old_sum_75_Madd_xor<6>
(memory_2/Madd__old_sum_77R5)
     LUT1:I0->O            1   0.479   0.000  memory_2/Madd__old_sum_77_Madd_cy<6>_rt
(memory_2/Madd__old_sum_77_Madd_cy<6>_rt)
     XORCY:LI->O           1   0.541   0.976  memory_2/Madd__old_sum_77_Madd_xor<6>
(memory_2/Madd__old_sum_79R5)
     LUT1:I0->O            1   0.479   0.000  memory_2/Madd__old_sum_79_Madd_cy<6>_rt
(memory_2/Madd__old_sum_79_Madd_cy<6>_rt)
     XORCY:LI->O           1   0.541   0.976  memory_2/Madd__old_sum_79_Madd_xor<6>
(memory_2/Madd__old_sum_81R5)
     LUT1:I0->O            1   0.479   0.000  memory_2/Madd__old_sum_81_Madd_cy<6>_rt
```

```
(memory_2/Madd__old_sum_81_Madd_cy<6>_rt)
     XORCY:LI->O           1   0.541   0.976  memory_2/Madd__old_sum_81_Madd_xor<6>
(memory_2/Madd__old_sum_83R5)
     LUT1:I0->O            1   0.479   0.000  memory_2/Madd__old_sum_83_Madd_cy<6>_rt
(memory_2/Madd__old_sum_83_Madd_cy<6>_rt)
     XORCY:LI->O           1   0.541   0.976  memory_2/Madd__old_sum_83_Madd_xor<6>
(memory_2/Madd__old_sum_85R5)
     LUT1:I0->O            1   0.479   0.000  memory_2/Madd__old_sum_85_Madd_cy<6>_rt
(memory_2/Madd__old_sum_85_Madd_cy<6>_rt)
     XORCY:LI->O           1   0.541   0.976  memory_2/Madd__old_sum_85_Madd_xor<6>
(memory_2/Madd__old_sum_87R5)
     LUT1:I0->O            1   0.479   0.000  memory_2/Madd__old_sum_87_Madd_cy<6>_rt
(memory_2/Madd__old_sum_87_Madd_cy<6>_rt)
     XORCY:LI->O           1   0.541   0.976  memory_2/Madd__old_sum_87_Madd_xor<6>
(memory_2/Madd__old_sum_89R5)
     LUT1:I0->O            1   0.479   0.000  memory_2/Madd__old_sum_89_Madd_cy<6>_rt
(memory_2/Madd__old_sum_89_Madd_cy<6>_rt)
     XORCY:LI->O           1   0.541   0.976  memory_2/Madd__old_sum_89_Madd_xor<6>
(memory_2/Madd__old_sum_91R5)
     LUT1:I0->O            1   0.479   0.000  memory_2/Madd__old_sum_91_Madd_cy<6>_rt
(memory_2/Madd__old_sum_91_Madd_cy<6>_rt)
     XORCY:LI->O           1   0.541   0.976  memory_2/Madd__old_sum_91_Madd_xor<6>
(memory_2/Madd__old_sum_93R5)
     LUT1:I0->O            1   0.479   0.000  memory_2/Madd__old_sum_93_Madd_cy<6>_rt
(memory_2/Madd__old_sum_93_Madd_cy<6>_rt)
     XORCY:LI->O           1   0.541   0.976  memory_2/Madd__old_sum_93_Madd_xor<6>
(memory_2/Madd__old_sum_95R5)
     LUT1:I0->O            1   0.479   0.000  memory_2/Madd__old_sum_95_Madd_cy<6>_rt
(memory_2/Madd__old_sum_95_Madd_cy<6>_rt)
     XORCY:LI->O           1   0.541   0.976  memory_2/Madd__old_sum_95_Madd_xor<6>
(memory_2/Madd__old_sum_97R5)
     LUT1:I0->O            1   0.479   0.000  memory_2/Madd__old_sum_97_Madd_cy<6>_rt
(memory_2/Madd__old_sum_97_Madd_cy<6>_rt)
     XORCY:LI->O           1   0.541   0.976  memory_2/Madd__old_sum_97_Madd_xor<6>
(memory_2/Madd__old_sum_99R5)
     LUT1:I0->O            1   0.479   0.000  memory_2/Madd__old_sum_99_Madd_cy<6>_rt
(memory_2/Madd__old_sum_99_Madd_cy<6>_rt)
     XORCY:LI->O           1   0.541   0.976  memory_2/Madd__old_sum_99_Madd_xor<6>
(memory_2/Madd__old_sum_101R5)
     LUT1:I0->O            1   0.479   0.000  memory_2/Madd__old_sum_101_Madd_cy<6>_rt
(memory_2/Madd__old_sum_101_Madd_cy<6>_rt)
     XORCY:LI->O           1   0.541   0.976  memory_2/Madd__old_sum_101_Madd_xor<6>
(memory_2/Madd__old_sum_103R5)
     LUT1:I0->O            1   0.479   0.000  memory_2/Madd__old_sum_103_Madd_cy<6>_rt
(memory_2/Madd__old_sum_103_Madd_cy<6>_rt)
     XORCY:LI->O           1   0.541   0.976  memory_2/Madd__old_sum_103_Madd_xor<6>
(memory_2/Madd__old_sum_105R5)
     LUT1:I0->O            1   0.479   0.000  memory_2/Madd__old_sum_105_Madd_cy<6>_rt
(memory_2/Madd__old_sum_105_Madd_cy<6>_rt)
     XORCY:LI->O           1   0.541   0.976  memory_2/Madd__old_sum_105_Madd_xor<6>
(memory_2/Madd__old_sum_107R5)
     LUT1:I0->O            1   0.479   0.000  memory_2/Madd__old_sum_107_Madd_cy<6>_rt
(memory_2/Madd__old_sum_107_Madd_cy<6>_rt)
     XORCY:LI->O           1   0.541   0.976  memory_2/Madd__old_sum_107_Madd_xor<6>
(memory_2/Madd__old_sum_109R5)
     LUT1:I0->O            1   0.479   0.000  memory_2/Madd__old_sum_109_Madd_cy<6>_rt
(memory_2/Madd__old_sum_109_Madd_cy<6>_rt)
     XORCY:LI->O           1   0.541   0.976  memory_2/Madd__old_sum_109_Madd_xor<6>
(memory_2/Madd__old_sum_111R5)
     LUT1:I0->O            1   0.479   0.000  memory_2/Madd__old_sum_111_Madd_cy<6>_rt
(memory_2/Madd__old_sum_111_Madd_cy<6>_rt)
```

```
     XORCY:LI->O           1   0.541   0.976  memory_2/Madd__old_sum_111_Madd_xor<6>
(memory_2/Madd__old_sum_113R5)
     LUT1:I0->O            1   0.479   0.000  memory_2/Madd__old_sum_113_Madd_cy<6>_rt
(memory_2/Madd__old_sum_113_Madd_cy<6>_rt)
     XORCY:LI->O           1   0.541   0.976  memory_2/Madd__old_sum_113_Madd_xor<6>
(memory_2/Madd__old_sum_115R5)
     LUT1:I0->O            1   0.479   0.000  memory_2/Madd__old_sum_115_Madd_cy<6>_rt
(memory_2/Madd__old_sum_115_Madd_cy<6>_rt)
     XORCY:LI->O           1   0.541   0.976  memory_2/Madd__old_sum_115_Madd_xor<6>
(memory_2/Madd__old_sum_117R5)
     LUT1:I0->O            1   0.479   0.000  memory_2/Madd__old_sum_117_Madd_cy<6>_rt
(memory_2/Madd__old_sum_117_Madd_cy<6>_rt)
     XORCY:LI->O           1   0.541   0.976  memory_2/Madd__old_sum_117_Madd_xor<6>
(memory_2/Madd__old_sum_119R5)
     LUT1:I0->O            1   0.479   0.000  memory_2/Madd__old_sum_119_Madd_cy<6>_rt
(memory_2/Madd__old_sum_119_Madd_cy<6>_rt)
     XORCY:LI->O           1   0.541   0.976  memory_2/Madd__old_sum_119_Madd_xor<6>
(memory_2/Madd__old_sum_121R5)
     LUT1:I0->O            1   0.479   0.000  memory_2/Madd__old_sum_121_Madd_cy<6>_rt
(memory_2/Madd__old_sum_121_Madd_cy<6>_rt)
     XORCY:LI->O           1   0.541   0.976  memory_2/Madd__old_sum_121_Madd_xor<6>
(memory_2/Madd__old_sum_123R5)
     LUT1:I0->O            1   0.479   0.000  memory_2/Madd__old_sum_123_Madd_cy<6>_rt
(memory_2/Madd__old_sum_123_Madd_cy<6>_rt)
     XORCY:LI->O           1   0.541   0.976  memory_2/Madd__old_sum_123_Madd_xor<6>
(memory_2/Madd__old_sum_125R5)
     LUT1:I0->O            1   0.479   0.000  memory_2/Madd__old_sum_125_Madd_cy<6>_rt
(memory_2/Madd__old_sum_125_Madd_cy<6>_rt)
     XORCY:LI->O           1   0.541   0.976  memory_2/Madd__old_sum_125_Madd_xor<6>
(memory_2/Madd__old_sum_127R5)
     LUT1:I0->O            1   0.479   0.000  memory_2/Madd__old_sum_127_Madd_cy<6>_rt
(memory_2/Madd__old_sum_127_Madd_cy<6>_rt)
     XORCY:LI->O           1   0.541   0.976  memory_2/Madd__old_sum_127_Madd_xor<6>
(memory_2/Madd__old_sum_129R5)
     LUT1:I0->O            1   0.479   0.000  memory_2/Madd__old_sum_129_Madd_cy<6>_rt
(memory_2/Madd__old_sum_129_Madd_cy<6>_rt)
     XORCY:LI->O           1   0.541   0.976  memory_2/Madd__old_sum_129_Madd_xor<6>
(memory_2/Madd__old_sum_131R5)
     LUT1:I0->O            1   0.479   0.000  memory_2/Madd__old_sum_131_Madd_cy<6>_rt
(memory_2/Madd__old_sum_131_Madd_cy<6>_rt)
     XORCY:LI->O           1   0.541   0.976  memory_2/Madd__old_sum_131_Madd_xor<6>
(memory_2/Madd__old_sum_133R5)
     LUT1:I0->O            1   0.479   0.000  memory_2/Madd__old_sum_133_Madd_cy<6>_rt
(memory_2/Madd__old_sum_133_Madd_cy<6>_rt)
     XORCY:LI->O           1   0.541   0.976  memory_2/Madd__old_sum_133_Madd_xor<6>
(memory_2/Madd__old_sum_135R5)
     LUT1:I0->O            1   0.479   0.000  memory_2/Madd__old_sum_135_Madd_cy<6>_rt
(memory_2/Madd__old_sum_135_Madd_cy<6>_rt)
     XORCY:LI->O           1   0.541   0.976  memory_2/Madd__old_sum_135_Madd_xor<6>
(memory_2/Madd__old_sum_137R5)
     LUT1:I0->O            1   0.479   0.000  memory_2/Madd__old_sum_137_Madd_cy<6>_rt
(memory_2/Madd__old_sum_137_Madd_cy<6>_rt)
     XORCY:LI->O           1   0.541   0.976  memory_2/Madd__old_sum_137_Madd_xor<6>
(memory_2/Madd__old_sum_139R5)
     LUT1:I0->O            1   0.479   0.000  memory_2/Madd__old_sum_139_Madd_cy<6>_rt
(memory_2/Madd__old_sum_139_Madd_cy<6>_rt)
     XORCY:LI->O           1   0.541   0.976  memory_2/Madd__old_sum_139_Madd_xor<6>
(memory_2/Madd__old_sum_141R5)
     LUT1:I0->O            1   0.479   0.000  memory_2/Madd__old_sum_141_Madd_cy<6>_rt
(memory_2/Madd__old_sum_141_Madd_cy<6>_rt)
     XORCY:LI->O           1   0.541   0.976  memory_2/Madd__old_sum_141_Madd_xor<6>
```

```
(memory_2/Madd__old_sum_143R5)
     LUT1:I0->O            1   0.479   0.000  memory_2/Madd__old_sum_143_Madd_cy<6>_rt
(memory_2/Madd__old_sum_143_Madd_cy<6>_rt)
     XORCY:LI->O           1   0.541   0.976  memory_2/Madd__old_sum_143_Madd_xor<6>
(memory_2/Madd__old_sum_145R5)
     LUT1:I0->O            1   0.479   0.000  memory_2/Madd__old_sum_145_Madd_cy<6>_rt
(memory_2/Madd__old_sum_145_Madd_cy<6>_rt)
     XORCY:LI->O           1   0.541   0.976  memory_2/Madd__old_sum_145_Madd_xor<6>
(memory_2/Madd__old_sum_147R5)
     LUT1:I0->O            1   0.479   0.000  memory_2/Madd__old_sum_147_Madd_cy<6>_rt
(memory_2/Madd__old_sum_147_Madd_cy<6>_rt)
     XORCY:LI->O           1   0.541   0.976  memory_2/Madd__old_sum_147_Madd_xor<6>
(memory_2/Madd__old_sum_149R5)
     LUT1:I0->O            1   0.479   0.000  memory_2/Madd__old_sum_149_Madd_cy<6>_rt
(memory_2/Madd__old_sum_149_Madd_cy<6>_rt)
     XORCY:LI->O           1   0.541   0.976  memory_2/Madd__old_sum_149_Madd_xor<6>
(memory_2/Madd__old_sum_151R5)
     LUT1:I0->O            1   0.479   0.000  memory_2/Madd__old_sum_151_Madd_cy<6>_rt
(memory_2/Madd__old_sum_151_Madd_cy<6>_rt)
     XORCY:LI->O           1   0.541   0.976  memory_2/Madd__old_sum_151_Madd_xor<6>
(memory_2/Madd__old_sum_153R5)
     LUT1:I0->O            1   0.479   0.000  memory_2/Madd__old_sum_153_Madd_cy<6>_rt
(memory_2/Madd__old_sum_153_Madd_cy<6>_rt)
     XORCY:LI->O           1   0.541   0.976  memory_2/Madd__old_sum_153_Madd_xor<6>
(memory_2/Madd__old_sum_155R5)
     LUT1:I0->O            1   0.479   0.000  memory_2/Madd__old_sum_155_Madd_cy<6>_rt
(memory_2/Madd__old_sum_155_Madd_cy<6>_rt)
     XORCY:LI->O           1   0.541   0.976  memory_2/Madd__old_sum_155_Madd_xor<6>
(memory_2/Madd__old_sum_157R5)
     LUT1:I0->O            1   0.479   0.000  memory_2/Madd__old_sum_157_Madd_cy<6>_rt
(memory_2/Madd__old_sum_157_Madd_cy<6>_rt)
     XORCY:LI->O           1   0.541   0.976  memory_2/Madd__old_sum_157_Madd_xor<6>
(memory_2/Madd__old_sum_159R5)
     LUT1:I0->O            1   0.479   0.000  memory_2/Madd__old_sum_159_Madd_cy<6>_rt
(memory_2/Madd__old_sum_159_Madd_cy<6>_rt)
     XORCY:LI->O           1   0.541   0.976  memory_2/Madd__old_sum_159_Madd_xor<6>
(memory_2/Madd__old_sum_161R5)
     LUT1:I0->O            1   0.479   0.000  memory_2/Madd__old_sum_161_Madd_cy<6>_rt
(memory_2/Madd__old_sum_161_Madd_cy<6>_rt)
     XORCY:LI->O           1   0.541   0.976  memory_2/Madd__old_sum_161_Madd_xor<6>
(memory_2/Madd__old_sum_163R5)
     LUT1:I0->O            1   0.479   0.000  memory_2/Madd__old_sum_163_Madd_cy<6>_rt
(memory_2/Madd__old_sum_163_Madd_cy<6>_rt)
     XORCY:LI->O           1   0.541   0.976  memory_2/Madd__old_sum_163_Madd_xor<6>
(memory_2/Madd__old_sum_165R5)
     LUT1:I0->O            1   0.479   0.000  memory_2/Madd__old_sum_165_Madd_cy<6>_rt
(memory_2/Madd__old_sum_165_Madd_cy<6>_rt)
     XORCY:LI->O           1   0.541   0.976  memory_2/Madd__old_sum_165_Madd_xor<6>
(memory_2/Madd__old_sum_167R5)
     LUT1:I0->O            1   0.479   0.000  memory_2/Madd__old_sum_167_Madd_cy<6>_rt
(memory_2/Madd__old_sum_167_Madd_cy<6>_rt)
     XORCY:LI->O           1   0.541   0.976  memory_2/Madd__old_sum_167_Madd_xor<6>
(memory_2/Madd__old_sum_169R5)
     LUT1:I0->O            1   0.479   0.000  memory_2/Madd__old_sum_169_Madd_cy<6>_rt
(memory_2/Madd__old_sum_169_Madd_cy<6>_rt)
     XORCY:LI->O           1   0.541   0.976  memory_2/Madd__old_sum_169_Madd_xor<6>
(memory_2/Madd__old_sum_171R5)
     LUT1:I0->O            1   0.479   0.000  memory_2/Madd__old_sum_171_Madd_cy<6>_rt
(memory_2/Madd__old_sum_171_Madd_cy<6>_rt)
     XORCY:LI->O           1   0.541   0.976  memory_2/Madd__old_sum_171_Madd_xor<6>
(memory_2/Madd__old_sum_173R5)
```

```
     LUT1:I0->O            1   0.479   0.000  memory_2/Madd__old_sum_173_Madd_cy<6>_rt
(memory_2/Madd__old_sum_173_Madd_cy<6>_rt)
     XORCY:LI->O           1   0.541   0.976  memory_2/Madd__old_sum_173_Madd_xor<6>
(memory_2/Madd__old_sum_175R5)
     LUT1:I0->O            1   0.479   0.000  memory_2/Madd__old_sum_175_Madd_cy<6>_rt
(memory_2/Madd__old_sum_175_Madd_cy<6>_rt)
     XORCY:LI->O           1   0.541   0.976  memory_2/Madd__old_sum_175_Madd_xor<6>
(memory_2/Madd__old_sum_177R5)
     LUT1:I0->O            1   0.479   0.000  memory_2/Madd__old_sum_177_Madd_cy<6>_rt
(memory_2/Madd__old_sum_177_Madd_cy<6>_rt)
     XORCY:LI->O           1   0.541   0.976  memory_2/Madd__old_sum_177_Madd_xor<6>
(memory_2/Madd__old_sum_179R5)
     LUT1:I0->O            1   0.479   0.000  memory_2/Madd__old_sum_179_Madd_cy<6>_rt
(memory_2/Madd__old_sum_179_Madd_cy<6>_rt)
     XORCY:LI->O           1   0.541   0.976  memory_2/Madd__old_sum_179_Madd_xor<6>
(memory_2/Madd__old_sum_181R5)
     LUT1:I0->O            1   0.479   0.000  memory_2/Madd__old_sum_181_Madd_cy<6>_rt
(memory_2/Madd__old_sum_181_Madd_cy<6>_rt)
     XORCY:LI->O           1   0.541   0.976  memory_2/Madd__old_sum_181_Madd_xor<6>
(memory_2/Madd__old_sum_183R5)
     LUT1:I0->O            1   0.479   0.000  memory_2/Madd__old_sum_183_Madd_cy<6>_rt
(memory_2/Madd__old_sum_183_Madd_cy<6>_rt)
     XORCY:LI->O           1   0.541   0.976  memory_2/Madd__old_sum_183_Madd_xor<6>
(memory_2/Madd__old_sum_185R5)
     LUT1:I0->O            1   0.479   0.000  memory_2/Madd__old_sum_185_Madd_cy<6>_rt
(memory_2/Madd__old_sum_185_Madd_cy<6>_rt)
     XORCY:LI->O           1   0.541   0.976  memory_2/Madd__old_sum_185_Madd_xor<6>
(memory_2/Madd__old_sum_187R5)
     LUT1:I0->O            1   0.479   0.000  memory_2/Madd__old_sum_187_Madd_cy<6>_rt
(memory_2/Madd__old_sum_187_Madd_cy<6>_rt)
     XORCY:LI->O           1   0.541   0.976  memory_2/Madd__old_sum_187_Madd_xor<6>
(memory_2/Madd__old_sum_189R5)
     LUT1:I0->O            1   0.479   0.000  memory_2/Madd__old_sum_189_Madd_cy<6>_rt
(memory_2/Madd__old_sum_189_Madd_cy<6>_rt)
     XORCY:LI->O           1   0.541   0.976  memory_2/Madd__old_sum_189_Madd_xor<6>
(memory_2/Madd__old_sum_191R5)
     LUT1:I0->O            1   0.479   0.000  memory_2/Madd__old_sum_191_Madd_cy<6>_rt
(memory_2/Madd__old_sum_191_Madd_cy<6>_rt)
     XORCY:LI->O           1   0.541   0.976  memory_2/Madd__old_sum_191_Madd_xor<6>
(memory_2/Madd__old_sum_193R5)
     LUT1:I0->O            1   0.479   0.000  memory_2/Madd__old_sum_193_Madd_cy<6>_rt
(memory_2/Madd__old_sum_193_Madd_cy<6>_rt)
     XORCY:LI->O           1   0.541   0.976  memory_2/Madd__old_sum_193_Madd_xor<6>
(memory_2/Madd__old_sum_195R5)
     LUT1:I0->O            1   0.479   0.000  memory_2/Madd__old_sum_195_Madd_cy<6>_rt
(memory_2/Madd__old_sum_195_Madd_cy<6>_rt)
     XORCY:LI->O           1   0.541   0.976  memory_2/Madd__old_sum_195_Madd_xor<6>
(memory_2/Madd__old_sum_197R5)
     LUT1:I0->O            1   0.479   0.000  memory_2/Madd__old_sum_197_Madd_cy<6>_rt
(memory_2/Madd__old_sum_197_Madd_cy<6>_rt)
     XORCY:LI->O           1   0.541   0.976  memory_2/Madd__old_sum_197_Madd_xor<6>
(memory_2/Madd__old_sum_199R5)
     LUT1:I0->O            1   0.479   0.000  memory_2/Madd__old_sum_199_Madd_cy<6>_rt
(memory_2/Madd__old_sum_199_Madd_cy<6>_rt)
     XORCY:LI->O           1   0.541   0.976  memory_2/Madd__old_sum_199_Madd_xor<6>
(memory_2/Madd__old_sum_200_Madd_lut<6>)
     LUT1:I0->O            1   0.479   0.000  memory_2/Madd__old_sum_200_Madd_cy<6>_rt
(memory_2/Madd__old_sum_200_Madd_cy<6>_rt)
     XORCY:LI->O           1   0.541   0.976  memory_2/Madd__old_sum_200_Madd_xor<6>
(memory_2/Madd__old_sum_201_Madd_lut<6>)
     LUT1:I0->O            1   0.479   0.000  memory_2/Madd__old_sum_201_Madd_cy<6>_rt
```

```
(memory_2/Madd__old_sum_201_Madd_cy<6>_rt)
     XORCY:LI->O           1   0.541   0.976  memory_2/Madd__old_sum_201_Madd_xor<6>
(memory_2/Madd__old_sum_202_Madd_lut<6>)
     LUT1:I0->O            1   0.479   0.000  memory_2/Madd__old_sum_202_Madd_cy<6>_rt
(memory_2/Madd__old_sum_202_Madd_cy<6>_rt)
     MUXCY:S->O            0   0.435   0.000  memory_2/Madd__old_sum_202_Madd_cy<6>
(memory_2/Madd__old_sum_202_Madd_cy<6>)
     XORCY:CI->O           1   0.786   0.000  memory_2/Madd__old_sum_202_Madd_xor<7>
(memory_2/_old_sum_202<7>)
     FDR:D                     0.176          memory_2/average_temp_7
    ----------------------------------------
    Total                    208.604ns (107.677ns logic, 100.928ns route)
                                       (51.6% logic, 48.4% route)

=========================================================================
Timing constraint: Default OFFSET IN BEFORE for Clock 'clock'
  Total number of paths / destination ports: 218021832241 / 161
-------------------------------------------------------------------------
Offset:              206.219ns (Levels of Logic = 210)
  Source:            sensor2<0> (PAD)
  Destination:       memory_2/average_temp_7 (FF)
  Destination Clock: clock rising

  Data Path: sensor2<0> to memory_2/average_temp_7
                                Gate     Net
    Cell:in->out      fanout   Delay   Delay  Logical Name (Net Name)
    ----------------------------------------  ------------
     IBUF:I->O             3   0.715   1.066  sensor2_0_IBUF (sensor2_0_IBUF)
     LUT3:I0->O            1   0.479   0.000  memory_2/Madd__old_sum_5_Madd_lut<0>1
(memory_2/Madd__old_sum_5_Madd_lut<0>)
     MUXCY:S->O            1   0.435   0.000  memory_2/Madd__old_sum_5_Madd_cy<0>
(memory_2/Madd__old_sum_5_Madd_cy<0>)
     XORCY:CI->O           2   0.786   0.768  memory_2/Madd__old_sum_5_Madd_xor<1>
(memory_2/_old_sum_5<1>)
     LUT4:I3->O            1   0.479   0.000  memory_2/Madd__old_sum_7R4
(memory_2/Madd__old_sum_7R)
     XORCY:LI->O           1   0.541   0.976  memory_2/Madd__old_sum_7_Madd_xor<1>
(memory_2/_old_sum_7<1>)
     LUT1:I0->O            1   0.479   0.000  memory_2/Madd__old_sum_9_Madd_cy<1>_rt
(memory_2/Madd__old_sum_9_Madd_cy<1>_rt)
     XORCY:LI->O           3   0.541   0.830  memory_2/Madd__old_sum_9_Madd_xor<1>
(memory_2/_old_sum_9<1>)
     LUT3:I2->O            1   0.479   0.000  memory_2/Madd__old_sum_11R7
(memory_2/Madd__old_sum_11R)
     XORCY:LI->O           1   0.541   0.976  memory_2/Madd__old_sum_11_Madd_xor<1>
(memory_2/_old_sum_11<1>)
     LUT1:I0->O            1   0.479   0.000  memory_2/Madd__old_sum_13_Madd_cy<1>_rt
(memory_2/Madd__old_sum_13_Madd_cy<1>_rt)
     XORCY:LI->O           2   0.541   0.768  memory_2/Madd__old_sum_13_Madd_xor<1>
(memory_2/_old_sum_13<1>)
     LUT4:I3->O            1   0.479   0.000  memory_2/Madd__old_sum_15R7
(memory_2/Madd__old_sum_15R)
     XORCY:LI->O           1   0.541   0.976  memory_2/Madd__old_sum_15_Madd_xor<1>
(memory_2/Madd__old_sum_17R)
     LUT1:I0->O            1   0.479   0.000  memory_2/Madd__old_sum_17_Madd_cy<1>_rt
(memory_2/Madd__old_sum_17_Madd_cy<1>_rt)
     XORCY:LI->O           2   0.541   0.804  memory_2/Madd__old_sum_17_Madd_xor<1>
(memory_2/_old_sum_17<1>)
     LUT3:I2->O            1   0.479   0.000  memory_2/Madd__old_sum_19R7
(memory_2/Madd__old_sum_19R)
     XORCY:LI->O           1   0.541   0.976  memory_2/Madd__old_sum_19_Madd_xor<1>
```

```
(memory_2/_old_sum_19<1>)
     LUT1:I0->O            1   0.479   0.000  memory_2/Madd__old_sum_21_Madd_cy<1>_rt
(memory_2/Madd__old_sum_21_Madd_cy<1>_rt)
     XORCY:LI->O           2   0.541   0.804  memory_2/Madd__old_sum_21_Madd_xor<1>
(memory_2/_old_sum_21<1>)
     LUT3:I2->O            1   0.479   0.000  memory_2/Madd__old_sum_23R7
(memory_2/Madd__old_sum_23R)
     XORCY:LI->O           1   0.541   0.976  memory_2/Madd__old_sum_23_Madd_xor<1>
(memory_2/_old_sum_23<1>)
     LUT1:I0->O            1   0.479   0.000  memory_2/Madd__old_sum_25_Madd_cy<1>_rt
(memory_2/Madd__old_sum_25_Madd_cy<1>_rt)
     XORCY:LI->O           2   0.541   0.804  memory_2/Madd__old_sum_25_Madd_xor<1>
(memory_2/_old_sum_25<1>)
     LUT3:I2->O            1   0.479   0.000  memory_2/Madd__old_sum_27R7
(memory_2/Madd__old_sum_27R)
     XORCY:LI->O           1   0.541   0.976  memory_2/Madd__old_sum_27_Madd_xor<1>
(memory_2/_old_sum_27<1>)
     LUT1:I0->O            1   0.479   0.000  memory_2/Madd__old_sum_29_Madd_cy<1>_rt
(memory_2/Madd__old_sum_29_Madd_cy<1>_rt)
     XORCY:LI->O           2   0.541   0.768  memory_2/Madd__old_sum_29_Madd_xor<1>
(memory_2/_old_sum_29<1>)
     LUT4:I3->O            1   0.479   0.000  memory_2/Madd__old_sum_31R7
(memory_2/Madd__old_sum_31R)
     XORCY:LI->O           1   0.541   0.976  memory_2/Madd__old_sum_31_Madd_xor<1>
(memory_2/Madd__old_sum_33R)
     LUT1:I0->O            1   0.479   0.000  memory_2/Madd__old_sum_33_Madd_cy<1>_rt
(memory_2/Madd__old_sum_33_Madd_cy<1>_rt)
     XORCY:LI->O           2   0.541   0.768  memory_2/Madd__old_sum_33_Madd_xor<1>
(memory_2/_old_sum_33<1>)
     LUT4:I3->O            1   0.479   0.000  memory_2/Madd__old_sum_35R7
(memory_2/Madd__old_sum_35R)
     XORCY:LI->O           2   0.541   0.804  memory_2/Madd__old_sum_35_Madd_xor<1>
(memory_2/_old_sum_35<1>)
     LUT3:I2->O            1   0.479   0.000  memory_2/Madd__old_sum_37R7
(memory_2/Madd__old_sum_37R)
     XORCY:LI->O           2   0.541   0.768  memory_2/Madd__old_sum_37_Madd_xor<1>
(memory_2/_old_sum_37<1>)
     LUT4:I3->O            1   0.479   0.000  memory_2/Madd__old_sum_39R7
(memory_2/Madd__old_sum_39R)
     XORCY:LI->O           1   0.541   0.976  memory_2/Madd__old_sum_39_Madd_xor<1>
(memory_2/_old_sum_39<1>)
     LUT1:I0->O            1   0.479   0.000  memory_2/Madd__old_sum_41_Madd_cy<1>_rt
(memory_2/Madd__old_sum_41_Madd_cy<1>_rt)
     XORCY:LI->O           2   0.541   0.768  memory_2/Madd__old_sum_41_Madd_xor<1>
(memory_2/_old_sum_41<1>)
     LUT4:I3->O            1   0.479   0.000  memory_2/Madd__old_sum_43R7
(memory_2/Madd__old_sum_43R)
     XORCY:LI->O           1   0.541   0.976  memory_2/Madd__old_sum_43_Madd_xor<1>
(memory_2/_old_sum_43<1>)
     LUT1:I0->O            1   0.479   0.000  memory_2/Madd__old_sum_45_Madd_cy<1>_rt
(memory_2/Madd__old_sum_45_Madd_cy<1>_rt)
     XORCY:LI->O           2   0.541   0.804  memory_2/Madd__old_sum_45_Madd_xor<1>
(memory_2/_old_sum_45<1>)
     LUT3:I2->O            1   0.479   0.000  memory_2/Madd__old_sum_47R7
(memory_2/Madd__old_sum_47R)
     XORCY:LI->O           1   0.541   0.976  memory_2/Madd__old_sum_47_Madd_xor<1>
(memory_2/Madd__old_sum_49R)
     LUT1:I0->O            1   0.479   0.000  memory_2/Madd__old_sum_49_Madd_cy<1>_rt
(memory_2/Madd__old_sum_49_Madd_cy<1>_rt)
     XORCY:LI->O           2   0.541   0.768  memory_2/Madd__old_sum_49_Madd_xor<1>
(memory_2/_old_sum_49<1>)
```

```
     LUT4:I3->O            1   0.479   0.704  memory_2/Madd__old_sum_51C6
(memory_2/Madd__old_sum_51C)
     LUT4:I3->O            1   0.479   0.000  memory_2/Madd__old_sum_51_Madd_lut<2>
(memory_2/Madd__old_sum_51_Madd_lut<2>)
     XORCY:LI->O           2   0.541   0.768  memory_2/Madd__old_sum_51_Madd_xor<2>
(memory_2/_old_sum_51<2>)
     LUT4:I3->O            1   0.479   0.704  memory_2/Madd__old_sum_53C11
(memory_2/Madd__old_sum_53C1)
     LUT4:I3->O            1   0.479   0.000  memory_2/Madd__old_sum_53_Madd_lut<3>
(memory_2/Madd__old_sum_53_Madd_lut<3>)
     XORCY:LI->O           2   0.541   0.768  memory_2/Madd__old_sum_53_Madd_xor<3>
(memory_2/_old_sum_53<3>)
     LUT4:I3->O            1   0.479   0.704  memory_2/Madd__old_sum_55C21
(memory_2/Madd__old_sum_55C2)
     LUT4:I3->O            1   0.479   0.000  memory_2/Madd__old_sum_55_Madd_lut<4>
(memory_2/Madd__old_sum_55_Madd_lut<4>)
     XORCY:LI->O           1   0.541   0.851  memory_2/Madd__old_sum_55_Madd_xor<4>
(memory_2/_old_sum_55<4>)
     LUT2:I1->O            1   0.479   0.000  memory_2/Madd__old_sum_57_Madd_lut<4>
(memory_2/Madd__old_sum_57_Madd_lut<4>)
     XORCY:LI->O           2   0.541   0.768  memory_2/Madd__old_sum_57_Madd_xor<4>
(memory_2/_old_sum_57<4>)
     LUT4:I3->O            1   0.479   0.704  memory_2/Madd__old_sum_59C31
(memory_2/Madd__old_sum_59C3)
     LUT4:I3->O            1   0.479   0.000  memory_2/Madd__old_sum_59_Madd_lut<5>
(memory_2/Madd__old_sum_59_Madd_lut<5>)
     XORCY:LI->O           2   0.541   0.768  memory_2/Madd__old_sum_59_Madd_xor<5>
(memory_2/_old_sum_59<5>)
     LUT4:I3->O            1   0.479   0.704  memory_2/Madd__old_sum_61C41
(memory_2/Madd__old_sum_61C4)
     LUT4:I3->O            1   0.479   0.000  memory_2/Madd__old_sum_61_Madd_lut<6>
(memory_2/Madd__old_sum_61_Madd_lut<6>)
     XORCY:LI->O           2   0.541   0.768  memory_2/Madd__old_sum_61_Madd_xor<6>
(memory_2/_old_sum_61<6>)
     LUT4:I3->O            1   0.479   0.000  memory_2/Madd__old_sum_63_Madd_lut<6>
(memory_2/Madd__old_sum_63_Madd_lut<6>)
     XORCY:LI->O           1   0.541   0.976  memory_2/Madd__old_sum_63_Madd_xor<6>
(memory_2/Madd__old_sum_65R5)
     LUT1:I0->O            1   0.479   0.000  memory_2/Madd__old_sum_65_Madd_cy<6>_rt
(memory_2/Madd__old_sum_65_Madd_cy<6>_rt)
     XORCY:LI->O           1   0.541   0.976  memory_2/Madd__old_sum_65_Madd_xor<6>
(memory_2/Madd__old_sum_67R5)
     LUT1:I0->O            1   0.479   0.000  memory_2/Madd__old_sum_67_Madd_cy<6>_rt
(memory_2/Madd__old_sum_67_Madd_cy<6>_rt)
     XORCY:LI->O           1   0.541   0.976  memory_2/Madd__old_sum_67_Madd_xor<6>
(memory_2/Madd__old_sum_69R5)
     LUT1:I0->O            1   0.479   0.000  memory_2/Madd__old_sum_69_Madd_cy<6>_rt
(memory_2/Madd__old_sum_69_Madd_cy<6>_rt)
     XORCY:LI->O           1   0.541   0.976  memory_2/Madd__old_sum_69_Madd_xor<6>
(memory_2/Madd__old_sum_71R5)
     LUT1:I0->O            1   0.479   0.000  memory_2/Madd__old_sum_71_Madd_cy<6>_rt
(memory_2/Madd__old_sum_71_Madd_cy<6>_rt)
     XORCY:LI->O           1   0.541   0.976  memory_2/Madd__old_sum_71_Madd_xor<6>
(memory_2/Madd__old_sum_73R5)
     LUT1:I0->O            1   0.479   0.000  memory_2/Madd__old_sum_73_Madd_cy<6>_rt
(memory_2/Madd__old_sum_73_Madd_cy<6>_rt)
     XORCY:LI->O           1   0.541   0.976  memory_2/Madd__old_sum_73_Madd_xor<6>
(memory_2/Madd__old_sum_75R5)
     LUT1:I0->O            1   0.479   0.000  memory_2/Madd__old_sum_75_Madd_cy<6>_rt
(memory_2/Madd__old_sum_75_Madd_cy<6>_rt)
     XORCY:LI->O           1   0.541   0.976  memory_2/Madd__old_sum_75_Madd_xor<6>
```

```
(memory_2/Madd__old_sum_77R5)
     LUT1:I0->O            1   0.479   0.000  memory_2/Madd__old_sum_77_Madd_cy<6>_rt
(memory_2/Madd__old_sum_77_Madd_cy<6>_rt)
     XORCY:LI->O           1   0.541   0.976  memory_2/Madd__old_sum_77_Madd_xor<6>
(memory_2/Madd__old_sum_79R5)
     LUT1:I0->O            1   0.479   0.000  memory_2/Madd__old_sum_79_Madd_cy<6>_rt
(memory_2/Madd__old_sum_79_Madd_cy<6>_rt)
     XORCY:LI->O           1   0.541   0.976  memory_2/Madd__old_sum_79_Madd_xor<6>
(memory_2/Madd__old_sum_81R5)
     LUT1:I0->O            1   0.479   0.000  memory_2/Madd__old_sum_81_Madd_cy<6>_rt
(memory_2/Madd__old_sum_81_Madd_cy<6>_rt)
     XORCY:LI->O           1   0.541   0.976  memory_2/Madd__old_sum_81_Madd_xor<6>
(memory_2/Madd__old_sum_83R5)
     LUT1:I0->O            1   0.479   0.000  memory_2/Madd__old_sum_83_Madd_cy<6>_rt
(memory_2/Madd__old_sum_83_Madd_cy<6>_rt)
     XORCY:LI->O           1   0.541   0.976  memory_2/Madd__old_sum_83_Madd_xor<6>
(memory_2/Madd__old_sum_85R5)
     LUT1:I0->O            1   0.479   0.000  memory_2/Madd__old_sum_85_Madd_cy<6>_rt
(memory_2/Madd__old_sum_85_Madd_cy<6>_rt)
     XORCY:LI->O           1   0.541   0.976  memory_2/Madd__old_sum_85_Madd_xor<6>
(memory_2/Madd__old_sum_87R5)
     LUT1:I0->O            1   0.479   0.000  memory_2/Madd__old_sum_87_Madd_cy<6>_rt
(memory_2/Madd__old_sum_87_Madd_cy<6>_rt)
     XORCY:LI->O           1   0.541   0.976  memory_2/Madd__old_sum_87_Madd_xor<6>
(memory_2/Madd__old_sum_89R5)
     LUT1:I0->O            1   0.479   0.000  memory_2/Madd__old_sum_89_Madd_cy<6>_rt
(memory_2/Madd__old_sum_89_Madd_cy<6>_rt)
     XORCY:LI->O           1   0.541   0.976  memory_2/Madd__old_sum_89_Madd_xor<6>
(memory_2/Madd__old_sum_91R5)
     LUT1:I0->O            1   0.479   0.000  memory_2/Madd__old_sum_91_Madd_cy<6>_rt
(memory_2/Madd__old_sum_91_Madd_cy<6>_rt)
     XORCY:LI->O           1   0.541   0.976  memory_2/Madd__old_sum_91_Madd_xor<6>
(memory_2/Madd__old_sum_93R5)
     LUT1:I0->O            1   0.479   0.000  memory_2/Madd__old_sum_93_Madd_cy<6>_rt
(memory_2/Madd__old_sum_93_Madd_cy<6>_rt)
     XORCY:LI->O           1   0.541   0.976  memory_2/Madd__old_sum_93_Madd_xor<6>
(memory_2/Madd__old_sum_95R5)
     LUT1:I0->O            1   0.479   0.000  memory_2/Madd__old_sum_95_Madd_cy<6>_rt
(memory_2/Madd__old_sum_95_Madd_cy<6>_rt)
     XORCY:LI->O           1   0.541   0.976  memory_2/Madd__old_sum_95_Madd_xor<6>
(memory_2/Madd__old_sum_97R5)
     LUT1:I0->O            1   0.479   0.000  memory_2/Madd__old_sum_97_Madd_cy<6>_rt
(memory_2/Madd__old_sum_97_Madd_cy<6>_rt)
     XORCY:LI->O           1   0.541   0.976  memory_2/Madd__old_sum_97_Madd_xor<6>
(memory_2/Madd__old_sum_99R5)
     LUT1:I0->O            1   0.479   0.000  memory_2/Madd__old_sum_99_Madd_cy<6>_rt
(memory_2/Madd__old_sum_99_Madd_cy<6>_rt)
     XORCY:LI->O           1   0.541   0.976  memory_2/Madd__old_sum_99_Madd_xor<6>
(memory_2/Madd__old_sum_101R5)
     LUT1:I0->O            1   0.479   0.000  memory_2/Madd__old_sum_101_Madd_cy<6>_rt
(memory_2/Madd__old_sum_101_Madd_cy<6>_rt)
     XORCY:LI->O           1   0.541   0.976  memory_2/Madd__old_sum_101_Madd_xor<6>
(memory_2/Madd__old_sum_103R5)
     LUT1:I0->O            1   0.479   0.000  memory_2/Madd__old_sum_103_Madd_cy<6>_rt
(memory_2/Madd__old_sum_103_Madd_cy<6>_rt)
     XORCY:LI->O           1   0.541   0.976  memory_2/Madd__old_sum_103_Madd_xor<6>
(memory_2/Madd__old_sum_105R5)
     LUT1:I0->O            1   0.479   0.000  memory_2/Madd__old_sum_105_Madd_cy<6>_rt
(memory_2/Madd__old_sum_105_Madd_cy<6>_rt)
     XORCY:LI->O           1   0.541   0.976  memory_2/Madd__old_sum_105_Madd_xor<6>
(memory_2/Madd__old_sum_107R5)
```

```
     LUT1:I0->O            1   0.479   0.000  memory_2/Madd__old_sum_107_Madd_cy<6>_rt
(memory_2/Madd__old_sum_107_Madd_cy<6>_rt)
     XORCY:LI->O           1   0.541   0.976  memory_2/Madd__old_sum_107_Madd_xor<6>
(memory_2/Madd__old_sum_109R5)
     LUT1:I0->O            1   0.479   0.000  memory_2/Madd__old_sum_109_Madd_cy<6>_rt
(memory_2/Madd__old_sum_109_Madd_cy<6>_rt)
     XORCY:LI->O           1   0.541   0.976  memory_2/Madd__old_sum_109_Madd_xor<6>
(memory_2/Madd__old_sum_111R5)
     LUT1:I0->O            1   0.479   0.000  memory_2/Madd__old_sum_111_Madd_cy<6>_rt
(memory_2/Madd__old_sum_111_Madd_cy<6>_rt)
     XORCY:LI->O           1   0.541   0.976  memory_2/Madd__old_sum_111_Madd_xor<6>
(memory_2/Madd__old_sum_113R5)
     LUT1:I0->O            1   0.479   0.000  memory_2/Madd__old_sum_113_Madd_cy<6>_rt
(memory_2/Madd__old_sum_113_Madd_cy<6>_rt)
     XORCY:LI->O           1   0.541   0.976  memory_2/Madd__old_sum_113_Madd_xor<6>
(memory_2/Madd__old_sum_115R5)
     LUT1:I0->O            1   0.479   0.000  memory_2/Madd__old_sum_115_Madd_cy<6>_rt
(memory_2/Madd__old_sum_115_Madd_cy<6>_rt)
     XORCY:LI->O           1   0.541   0.976  memory_2/Madd__old_sum_115_Madd_xor<6>
(memory_2/Madd__old_sum_117R5)
     LUT1:I0->O            1   0.479   0.000  memory_2/Madd__old_sum_117_Madd_cy<6>_rt
(memory_2/Madd__old_sum_117_Madd_cy<6>_rt)
     XORCY:LI->O           1   0.541   0.976  memory_2/Madd__old_sum_117_Madd_xor<6>
(memory_2/Madd__old_sum_119R5)
     LUT1:I0->O            1   0.479   0.000  memory_2/Madd__old_sum_119_Madd_cy<6>_rt
(memory_2/Madd__old_sum_119_Madd_cy<6>_rt)
     XORCY:LI->O           1   0.541   0.976  memory_2/Madd__old_sum_119_Madd_xor<6>
(memory_2/Madd__old_sum_121R5)
     LUT1:I0->O            1   0.479   0.000  memory_2/Madd__old_sum_121_Madd_cy<6>_rt
(memory_2/Madd__old_sum_121_Madd_cy<6>_rt)
     XORCY:LI->O           1   0.541   0.976  memory_2/Madd__old_sum_121_Madd_xor<6>
(memory_2/Madd__old_sum_123R5)
     LUT1:I0->O            1   0.479   0.000  memory_2/Madd__old_sum_123_Madd_cy<6>_rt
(memory_2/Madd__old_sum_123_Madd_cy<6>_rt)
     XORCY:LI->O           1   0.541   0.976  memory_2/Madd__old_sum_123_Madd_xor<6>
(memory_2/Madd__old_sum_125R5)
     LUT1:I0->O            1   0.479   0.000  memory_2/Madd__old_sum_125_Madd_cy<6>_rt
(memory_2/Madd__old_sum_125_Madd_cy<6>_rt)
     XORCY:LI->O           1   0.541   0.976  memory_2/Madd__old_sum_125_Madd_xor<6>
(memory_2/Madd__old_sum_127R5)
     LUT1:I0->O            1   0.479   0.000  memory_2/Madd__old_sum_127_Madd_cy<6>_rt
(memory_2/Madd__old_sum_127_Madd_cy<6>_rt)
     XORCY:LI->O           1   0.541   0.976  memory_2/Madd__old_sum_127_Madd_xor<6>
(memory_2/Madd__old_sum_129R5)
     LUT1:I0->O            1   0.479   0.000  memory_2/Madd__old_sum_129_Madd_cy<6>_rt
(memory_2/Madd__old_sum_129_Madd_cy<6>_rt)
     XORCY:LI->O           1   0.541   0.976  memory_2/Madd__old_sum_129_Madd_xor<6>
(memory_2/Madd__old_sum_131R5)
     LUT1:I0->O            1   0.479   0.000  memory_2/Madd__old_sum_131_Madd_cy<6>_rt
(memory_2/Madd__old_sum_131_Madd_cy<6>_rt)
     XORCY:LI->O           1   0.541   0.976  memory_2/Madd__old_sum_131_Madd_xor<6>
(memory_2/Madd__old_sum_133R5)
     LUT1:I0->O            1   0.479   0.000  memory_2/Madd__old_sum_133_Madd_cy<6>_rt
(memory_2/Madd__old_sum_133_Madd_cy<6>_rt)
     XORCY:LI->O           1   0.541   0.976  memory_2/Madd__old_sum_133_Madd_xor<6>
(memory_2/Madd__old_sum_135R5)
     LUT1:I0->O            1   0.479   0.000  memory_2/Madd__old_sum_135_Madd_cy<6>_rt
(memory_2/Madd__old_sum_135_Madd_cy<6>_rt)
     XORCY:LI->O           1   0.541   0.976  memory_2/Madd__old_sum_135_Madd_xor<6>
(memory_2/Madd__old_sum_137R5)
     LUT1:I0->O            1   0.479   0.000  memory_2/Madd__old_sum_137_Madd_cy<6>_rt
```

```
(memory_2/Madd__old_sum_137_Madd_cy<6>_rt)
     XORCY:LI->O           1   0.541   0.976  memory_2/Madd__old_sum_137_Madd_xor<6>
(memory_2/Madd__old_sum_139R5)
     LUT1:I0->O            1   0.479   0.000  memory_2/Madd__old_sum_139_Madd_cy<6>_rt
(memory_2/Madd__old_sum_139_Madd_cy<6>_rt)
     XORCY:LI->O           1   0.541   0.976  memory_2/Madd__old_sum_139_Madd_xor<6>
(memory_2/Madd__old_sum_141R5)
     LUT1:I0->O            1   0.479   0.000  memory_2/Madd__old_sum_141_Madd_cy<6>_rt
(memory_2/Madd__old_sum_141_Madd_cy<6>_rt)
     XORCY:LI->O           1   0.541   0.976  memory_2/Madd__old_sum_141_Madd_xor<6>
(memory_2/Madd__old_sum_143R5)
     LUT1:I0->O            1   0.479   0.000  memory_2/Madd__old_sum_143_Madd_cy<6>_rt
(memory_2/Madd__old_sum_143_Madd_cy<6>_rt)
     XORCY:LI->O           1   0.541   0.976  memory_2/Madd__old_sum_143_Madd_xor<6>
(memory_2/Madd__old_sum_145R5)
     LUT1:I0->O            1   0.479   0.000  memory_2/Madd__old_sum_145_Madd_cy<6>_rt
(memory_2/Madd__old_sum_145_Madd_cy<6>_rt)
     XORCY:LI->O           1   0.541   0.976  memory_2/Madd__old_sum_145_Madd_xor<6>
(memory_2/Madd__old_sum_147R5)
     LUT1:I0->O            1   0.479   0.000  memory_2/Madd__old_sum_147_Madd_cy<6>_rt
(memory_2/Madd__old_sum_147_Madd_cy<6>_rt)
     XORCY:LI->O           1   0.541   0.976  memory_2/Madd__old_sum_147_Madd_xor<6>
(memory_2/Madd__old_sum_149R5)
     LUT1:I0->O            1   0.479   0.000  memory_2/Madd__old_sum_149_Madd_cy<6>_rt
(memory_2/Madd__old_sum_149_Madd_cy<6>_rt)
     XORCY:LI->O           1   0.541   0.976  memory_2/Madd__old_sum_149_Madd_xor<6>
(memory_2/Madd__old_sum_151R5)
     LUT1:I0->O            1   0.479   0.000  memory_2/Madd__old_sum_151_Madd_cy<6>_rt
(memory_2/Madd__old_sum_151_Madd_cy<6>_rt)
     XORCY:LI->O           1   0.541   0.976  memory_2/Madd__old_sum_151_Madd_xor<6>
(memory_2/Madd__old_sum_153R5)
     LUT1:I0->O            1   0.479   0.000  memory_2/Madd__old_sum_153_Madd_cy<6>_rt
(memory_2/Madd__old_sum_153_Madd_cy<6>_rt)
     XORCY:LI->O           1   0.541   0.976  memory_2/Madd__old_sum_153_Madd_xor<6>
(memory_2/Madd__old_sum_155R5)
     LUT1:I0->O            1   0.479   0.000  memory_2/Madd__old_sum_155_Madd_cy<6>_rt
(memory_2/Madd__old_sum_155_Madd_cy<6>_rt)
     XORCY:LI->O           1   0.541   0.976  memory_2/Madd__old_sum_155_Madd_xor<6>
(memory_2/Madd__old_sum_157R5)
     LUT1:I0->O            1   0.479   0.000  memory_2/Madd__old_sum_157_Madd_cy<6>_rt
(memory_2/Madd__old_sum_157_Madd_cy<6>_rt)
     XORCY:LI->O           1   0.541   0.976  memory_2/Madd__old_sum_157_Madd_xor<6>
(memory_2/Madd__old_sum_159R5)
     LUT1:I0->O            1   0.479   0.000  memory_2/Madd__old_sum_159_Madd_cy<6>_rt
(memory_2/Madd__old_sum_159_Madd_cy<6>_rt)
     XORCY:LI->O           1   0.541   0.976  memory_2/Madd__old_sum_159_Madd_xor<6>
(memory_2/Madd__old_sum_161R5)
     LUT1:I0->O            1   0.479   0.000  memory_2/Madd__old_sum_161_Madd_cy<6>_rt
(memory_2/Madd__old_sum_161_Madd_cy<6>_rt)
     XORCY:LI->O           1   0.541   0.976  memory_2/Madd__old_sum_161_Madd_xor<6>
(memory_2/Madd__old_sum_163R5)
     LUT1:I0->O            1   0.479   0.000  memory_2/Madd__old_sum_163_Madd_cy<6>_rt
(memory_2/Madd__old_sum_163_Madd_cy<6>_rt)
     XORCY:LI->O           1   0.541   0.976  memory_2/Madd__old_sum_163_Madd_xor<6>
(memory_2/Madd__old_sum_165R5)
     LUT1:I0->O            1   0.479   0.000  memory_2/Madd__old_sum_165_Madd_cy<6>_rt
(memory_2/Madd__old_sum_165_Madd_cy<6>_rt)
     XORCY:LI->O           1   0.541   0.976  memory_2/Madd__old_sum_165_Madd_xor<6>
(memory_2/Madd__old_sum_167R5)
     LUT1:I0->O            1   0.479   0.000  memory_2/Madd__old_sum_167_Madd_cy<6>_rt
(memory_2/Madd__old_sum_167_Madd_cy<6>_rt)
```

```
     XORCY:LI->O           1   0.541   0.976  memory_2/Madd__old_sum_167_Madd_xor<6>
(memory_2/Madd__old_sum_169R5)
     LUT1:I0->O            1   0.479   0.000  memory_2/Madd__old_sum_169_Madd_cy<6>_rt
(memory_2/Madd__old_sum_169_Madd_cy<6>_rt)
     XORCY:LI->O           1   0.541   0.976  memory_2/Madd__old_sum_169_Madd_xor<6>
(memory_2/Madd__old_sum_171R5)
     LUT1:I0->O            1   0.479   0.000  memory_2/Madd__old_sum_171_Madd_cy<6>_rt
(memory_2/Madd__old_sum_171_Madd_cy<6>_rt)
     XORCY:LI->O           1   0.541   0.976  memory_2/Madd__old_sum_171_Madd_xor<6>
(memory_2/Madd__old_sum_173R5)
     LUT1:I0->O            1   0.479   0.000  memory_2/Madd__old_sum_173_Madd_cy<6>_rt
(memory_2/Madd__old_sum_173_Madd_cy<6>_rt)
     XORCY:LI->O           1   0.541   0.976  memory_2/Madd__old_sum_173_Madd_xor<6>
(memory_2/Madd__old_sum_175R5)
     LUT1:I0->O            1   0.479   0.000  memory_2/Madd__old_sum_175_Madd_cy<6>_rt
(memory_2/Madd__old_sum_175_Madd_cy<6>_rt)
     XORCY:LI->O           1   0.541   0.976  memory_2/Madd__old_sum_175_Madd_xor<6>
(memory_2/Madd__old_sum_177R5)
     LUT1:I0->O            1   0.479   0.000  memory_2/Madd__old_sum_177_Madd_cy<6>_rt
(memory_2/Madd__old_sum_177_Madd_cy<6>_rt)
     XORCY:LI->O           1   0.541   0.976  memory_2/Madd__old_sum_177_Madd_xor<6>
(memory_2/Madd__old_sum_179R5)
     LUT1:I0->O            1   0.479   0.000  memory_2/Madd__old_sum_179_Madd_cy<6>_rt
(memory_2/Madd__old_sum_179_Madd_cy<6>_rt)
     XORCY:LI->O           1   0.541   0.976  memory_2/Madd__old_sum_179_Madd_xor<6>
(memory_2/Madd__old_sum_181R5)
     LUT1:I0->O            1   0.479   0.000  memory_2/Madd__old_sum_181_Madd_cy<6>_rt
(memory_2/Madd__old_sum_181_Madd_cy<6>_rt)
     XORCY:LI->O           1   0.541   0.976  memory_2/Madd__old_sum_181_Madd_xor<6>
(memory_2/Madd__old_sum_183R5)
     LUT1:I0->O            1   0.479   0.000  memory_2/Madd__old_sum_183_Madd_cy<6>_rt
(memory_2/Madd__old_sum_183_Madd_cy<6>_rt)
     XORCY:LI->O           1   0.541   0.976  memory_2/Madd__old_sum_183_Madd_xor<6>
(memory_2/Madd__old_sum_185R5)
     LUT1:I0->O            1   0.479   0.000  memory_2/Madd__old_sum_185_Madd_cy<6>_rt
(memory_2/Madd__old_sum_185_Madd_cy<6>_rt)
     XORCY:LI->O           1   0.541   0.976  memory_2/Madd__old_sum_185_Madd_xor<6>
(memory_2/Madd__old_sum_187R5)
     LUT1:I0->O            1   0.479   0.000  memory_2/Madd__old_sum_187_Madd_cy<6>_rt
(memory_2/Madd__old_sum_187_Madd_cy<6>_rt)
     XORCY:LI->O           1   0.541   0.976  memory_2/Madd__old_sum_187_Madd_xor<6>
(memory_2/Madd__old_sum_189R5)
     LUT1:I0->O            1   0.479   0.000  memory_2/Madd__old_sum_189_Madd_cy<6>_rt
(memory_2/Madd__old_sum_189_Madd_cy<6>_rt)
     XORCY:LI->O           1   0.541   0.976  memory_2/Madd__old_sum_189_Madd_xor<6>
(memory_2/Madd__old_sum_191R5)
     LUT1:I0->O            1   0.479   0.000  memory_2/Madd__old_sum_191_Madd_cy<6>_rt
(memory_2/Madd__old_sum_191_Madd_cy<6>_rt)
     XORCY:LI->O           1   0.541   0.976  memory_2/Madd__old_sum_191_Madd_xor<6>
(memory_2/Madd__old_sum_193R5)
     LUT1:I0->O            1   0.479   0.000  memory_2/Madd__old_sum_193_Madd_cy<6>_rt
(memory_2/Madd__old_sum_193_Madd_cy<6>_rt)
     XORCY:LI->O           1   0.541   0.976  memory_2/Madd__old_sum_193_Madd_xor<6>
(memory_2/Madd__old_sum_195R5)
     LUT1:I0->O            1   0.479   0.000  memory_2/Madd__old_sum_195_Madd_cy<6>_rt
(memory_2/Madd__old_sum_195_Madd_cy<6>_rt)
     XORCY:LI->O           1   0.541   0.976  memory_2/Madd__old_sum_195_Madd_xor<6>
(memory_2/Madd__old_sum_197R5)
     LUT1:I0->O            1   0.479   0.000  memory_2/Madd__old_sum_197_Madd_cy<6>_rt
(memory_2/Madd__old_sum_197_Madd_cy<6>_rt)
     XORCY:LI->O           1   0.541   0.976  memory_2/Madd__old_sum_197_Madd_xor<6>
```

```
(memory_2/Madd__old_sum_199R5)
     LUT1:I0->O            1   0.479   0.000  memory_2/Madd__old_sum_199_Madd_cy<6>_rt
(memory_2/Madd__old_sum_199_Madd_cy<6>_rt)
     XORCY:LI->O           1   0.541   0.976  memory_2/Madd__old_sum_199_Madd_xor<6>
(memory_2/Madd__old_sum_200_Madd_lut<6>)
     LUT1:I0->O            1   0.479   0.000  memory_2/Madd__old_sum_200_Madd_cy<6>_rt
(memory_2/Madd__old_sum_200_Madd_cy<6>_rt)
     XORCY:LI->O           1   0.541   0.976  memory_2/Madd__old_sum_200_Madd_xor<6>
(memory_2/Madd__old_sum_201_Madd_lut<6>)
     LUT1:I0->O            1   0.479   0.000  memory_2/Madd__old_sum_201_Madd_cy<6>_rt
(memory_2/Madd__old_sum_201_Madd_cy<6>_rt)
     XORCY:LI->O           1   0.541   0.976  memory_2/Madd__old_sum_201_Madd_xor<6>
(memory_2/Madd__old_sum_202_Madd_lut<6>)
     LUT1:I0->O            1   0.479   0.000  memory_2/Madd__old_sum_202_Madd_cy<6>_rt
(memory_2/Madd__old_sum_202_Madd_cy<6>_rt)
     MUXCY:S->O            0   0.435   0.000  memory_2/Madd__old_sum_202_Madd_cy<6>
(memory_2/Madd__old_sum_202_Madd_cy<6>)
     XORCY:CI->O           1   0.786   0.000  memory_2/Madd__old_sum_202_Madd_xor<7>
(memory_2/_old_sum_202<7>)
     FDR:D                     0.176          memory_2/average_temp_7
    ----------------------------------------
    Total                    206.219ns (107.666ns logic, 98.553ns route)
                                       (52.2% logic, 47.8% route)

=========================================================================
Timing constraint: Default OFFSET OUT AFTER for Clock 'clock'
  Total number of paths / destination ports: 11 / 11
-------------------------------------------------------------------------
Offset:              6.280ns (Levels of Logic = 1)
  Source:            subcommand_out_7 (FF)
  Destination:       subcommand_out<7> (PAD)
  Source Clock:      clock rising

  Data Path: subcommand_out_7 to subcommand_out<7>
                                Gate     Net
    Cell:in->out      fanout   Delay   Delay  Logical Name (Net Name)
    ----------------------------------------  ------------
     FDRE:C->Q             2   0.626   0.745  subcommand_out_7 (subcommand_out_7)
     OBUF:I->O                 4.909          subcommand_out_7_OBUF (subcommand_out<7>)
    ----------------------------------------
    Total                     6.280ns (5.535ns logic, 0.745ns route)
                                       (88.1% logic, 11.9% route)

=========================================================================


Total REAL time to Xst completion: 41.00 secs
Total CPU time to Xst completion: 40.66 secs

-->

Total memory usage is 4586296 kilobytes

Number of errors   :    0 (   0 filtered)
Number of warnings :   14 (   0 filtered)
Number of infos    :    0 (   0 filtered)
```