Development Tools Intro

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Development Tools Intro

ADC_RTL

Flow Status	Successful - Tue Sep 2 12:26:36 2025
Quartus Prime Version	24.1std.0 Build 1077 03/04/2025 SC Lite Edition
Revision Name	DE10_Lite
Top-level Entity Name	DE10_Lite
Family	MAX 10
Device	10M50DAF484C7G
Timing Models	Final
Total logic elements	1,966 / 49,760 (4 %)
Total registers	951
Total pins	187 / 360 (52 %)
Total virtual pins	0
Total memory bits	63,488 / 1,677,312 (4 %)
Embedded Multiplier 9-bit elements	0 / 288 (0 %)
Total PLLs	1 / 4 (25 %)
UFM blocks	0 / 1 (0 %)
ADC blocks	1 / 2 (50 %)

This Project displays the voltage of the selected ADC on the 7-segment Display. the ADC is selected via the last 3 switches. it occasionaly blinks the LEDs, it is unclear what that indicates.

Inputs: Switches

Outputs: LEDs, Seven-Segment Display

GSensor

Flow Status	Successful - Tue Sep 2 12:45:22 2025
Quartus Prime Version	24.1std.0 Build 1077 03/04/2025 SC Lite Edition
Revision Name	DE10_LITE_GSensor
Top-level Entity Name	DE10_LITE_GSensor
Family	MAX 10
Device	10M50DAF484C7G
Timing Models	Final
Total logic elements	187 / 49,760 (< 1 %)
Total registers	114
Total pins	101 / 360 (28 %)
Total virtual pins	0
Total memory bits	0 / 1,677,312 (0 %)
Embedded Multiplier 9-bit elements	0 / 288 (0 %)
Total PLLs	1 / 4 (25 %)
UFM blocks	0 / 1 (0 %)
ADC blocks	0 / 2 (0 %)

This Project displays the output of the Accelerometer on the LED. it does this by lighting the “Top” LED based on Gravity.

Inputs: Accelerometer

Outputs: LED

Default

Flow Status	Successful - Tue Sep 2 12:52:38 2025
Quartus Prime Version	24.1std.0 Build 1077 03/04/2025 SC Lite Edition
Revision Name	DE10_LITE_Default
Top-level Entity Name	DE10_LITE_Default
Family	MAX 10
Device	10M50DAF484C7G
Timing Models	Final
Total logic elements	657 / 49,760 (1 %)
Total registers	236
Total pins	185 / 360 (51 %)
Total virtual pins	0
Total memory bits	307,200 / 1,677,312 (18 %)
Embedded Multiplier 9-bit elements	0 / 288 (0 %)
Total PLLs	1 / 4 (25 %)
UFM blocks	0 / 1 (0 %)
ADC blocks	0 / 2 (0 %)

This project displays an increasing counter on the seven-segment display, it also displays various patterns on the leds, as well as the terrasic logo on the VGA display. if the first switch is set, the LEDs behave the same as they do in GSensor, and if the first button is pressed all the LEDs are set to on.

Inputs: Accelerometer, Buttons, Switches

Outputs: LEDs, Seven-Segment Display, VGA