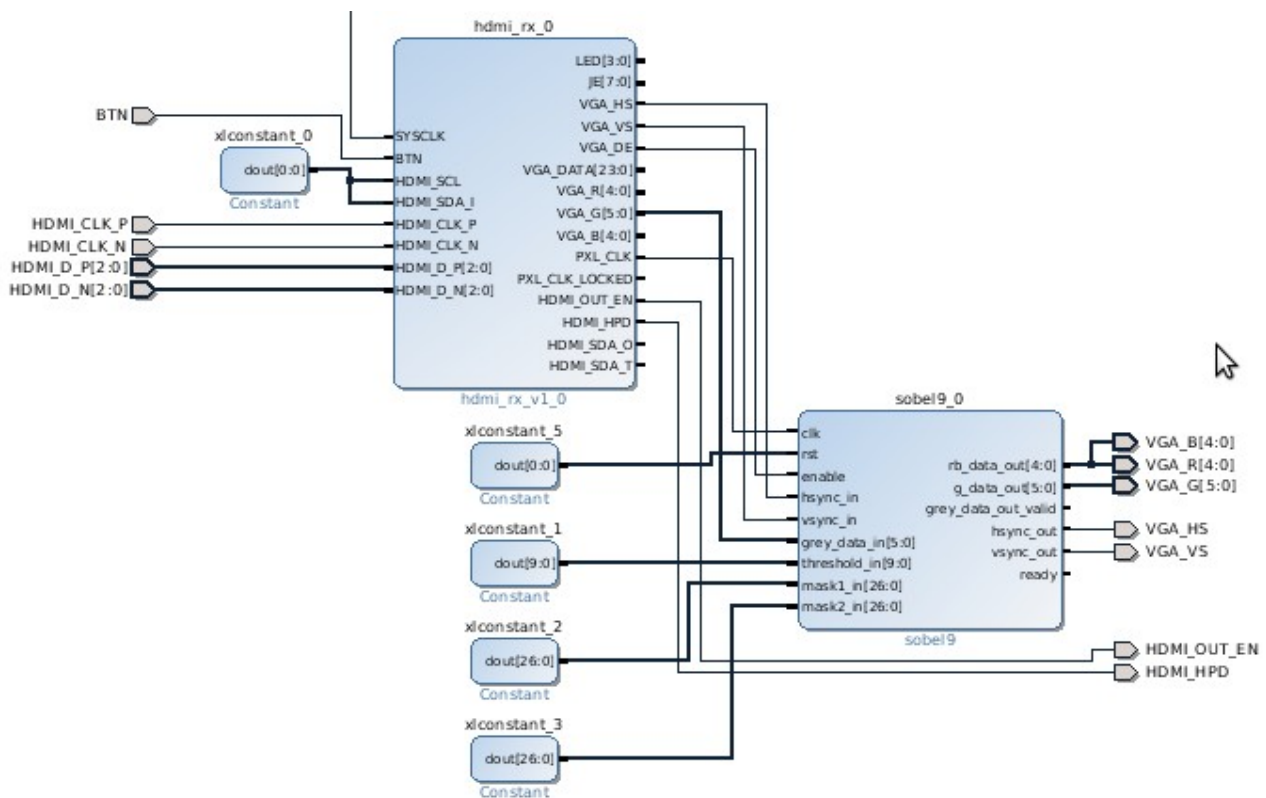


## Image Processing

Steps to connect Dataflow + Sobel to minimal Vivado HDMI → VGA design:

- Packaged and created Vivado IP-Core from dataflow.vhd.
- Dataflow In-Ports:
  - Clock is driven by HDMI-Pixel clock.
  - Enable is driven by VGA\_DE.
  - Mask\_1, Mask\_2 and Threshold via constants.
  - Data-Input only uses green-values (red and blue are not used).
- Dataflow Out-Ports:
  - VGA-red, -blue and -green are driven by grey data out (either '1' or '0').
- VSYNC and HSYNC will be passed through delayed.



Results:

- Edges are visible but the pictures is incorrect.
- Frame is overlapped multiple times.
- Parts of unfiltered picture are still visible.

