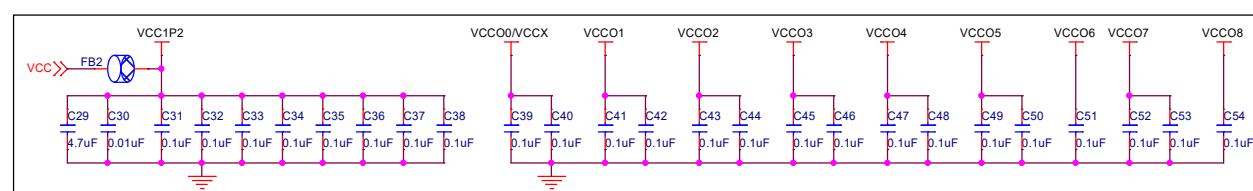
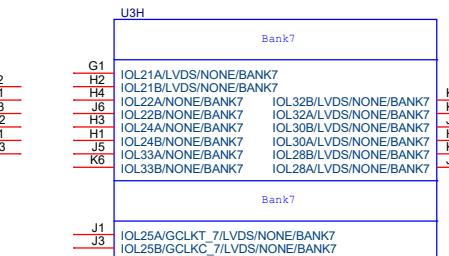
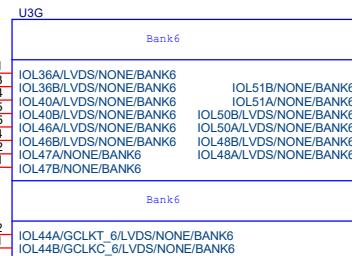
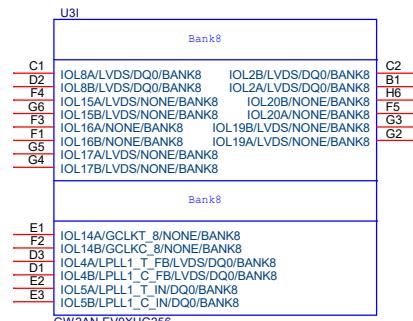
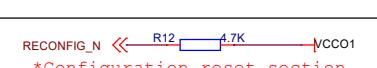
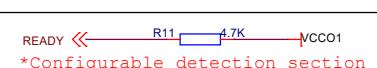
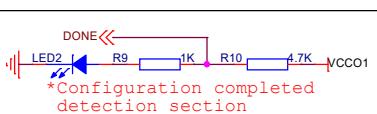
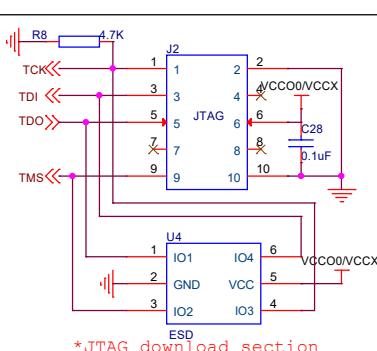
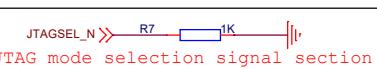
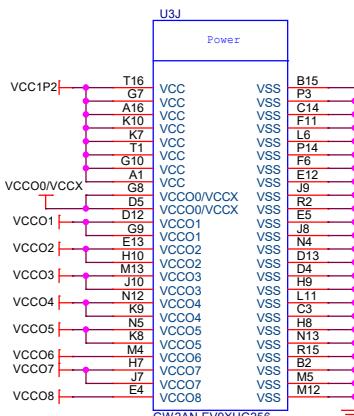
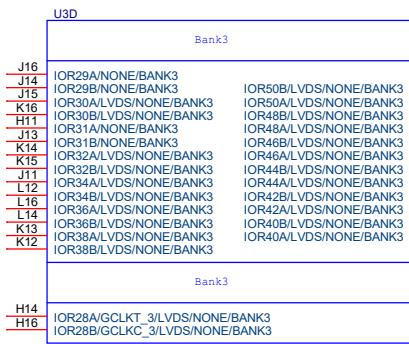
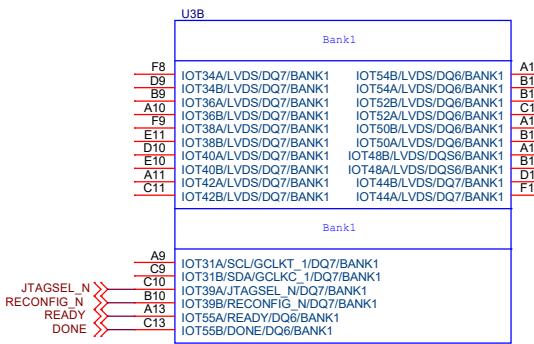
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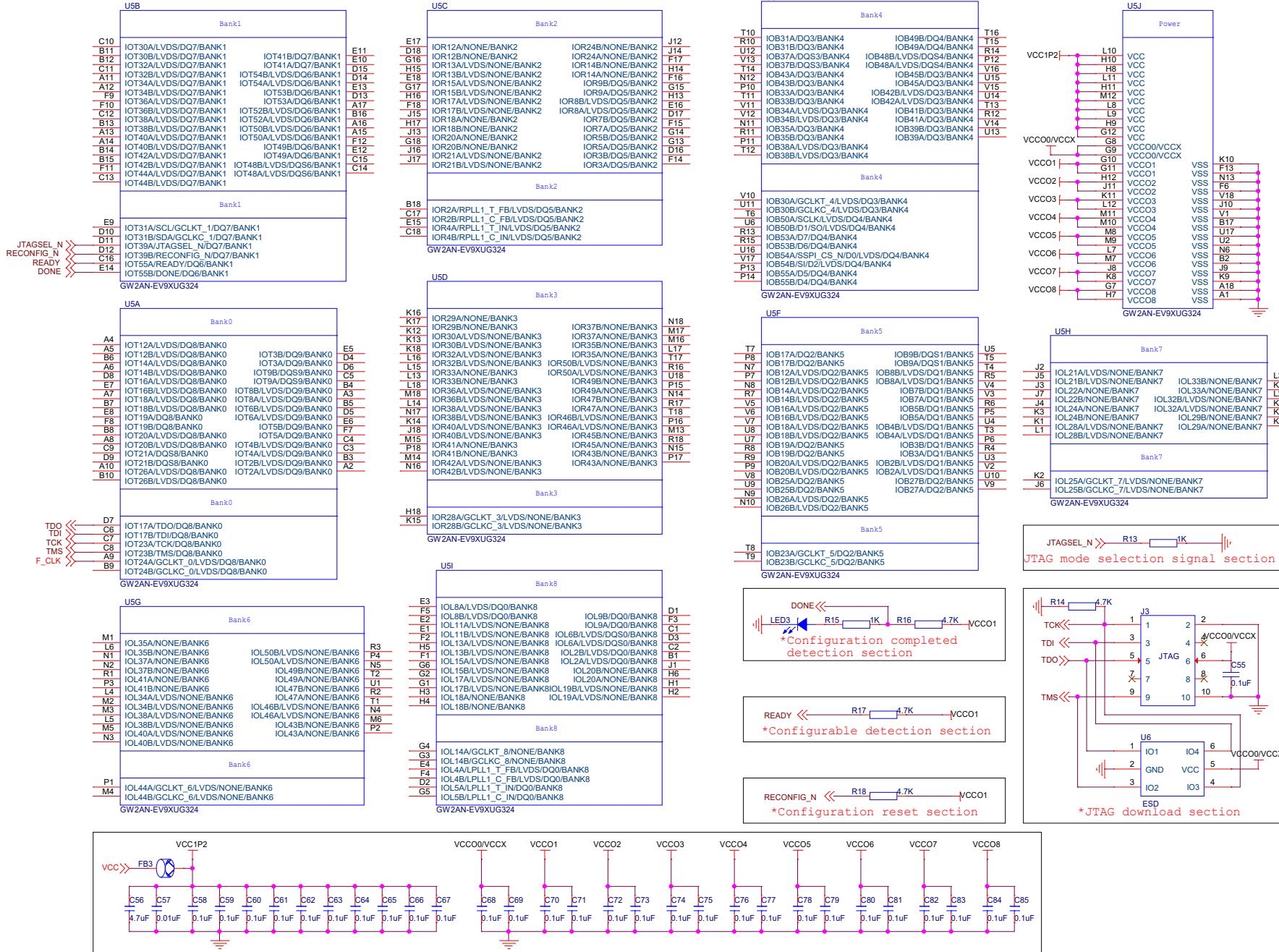
- F CLK signal is an external input clock signal.  
It is recommended that F CLK signal be provided through an active oscillator crystal.
- External Flash memory is used to store downloaded programs.  
For details about SPI Flash model selection, see Chapter 10 SPI Flash Selection in UG290.
- It is recommended that add an ESD protection chip to the JTAG download circuit.

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**Notes:**

1. F\_CLK signal is an external input clock signal.  
It is recommended that F\_CLK signal be provided through an active oscillator crystal.
2. External Flash memory is used to store downloaded programs.  
For details about SPI Flash model selection, see Chapter 10 SPI Flash Selection in UG290.
3. It is recommended that add an ESD protection chip to the JTAG download circuit.

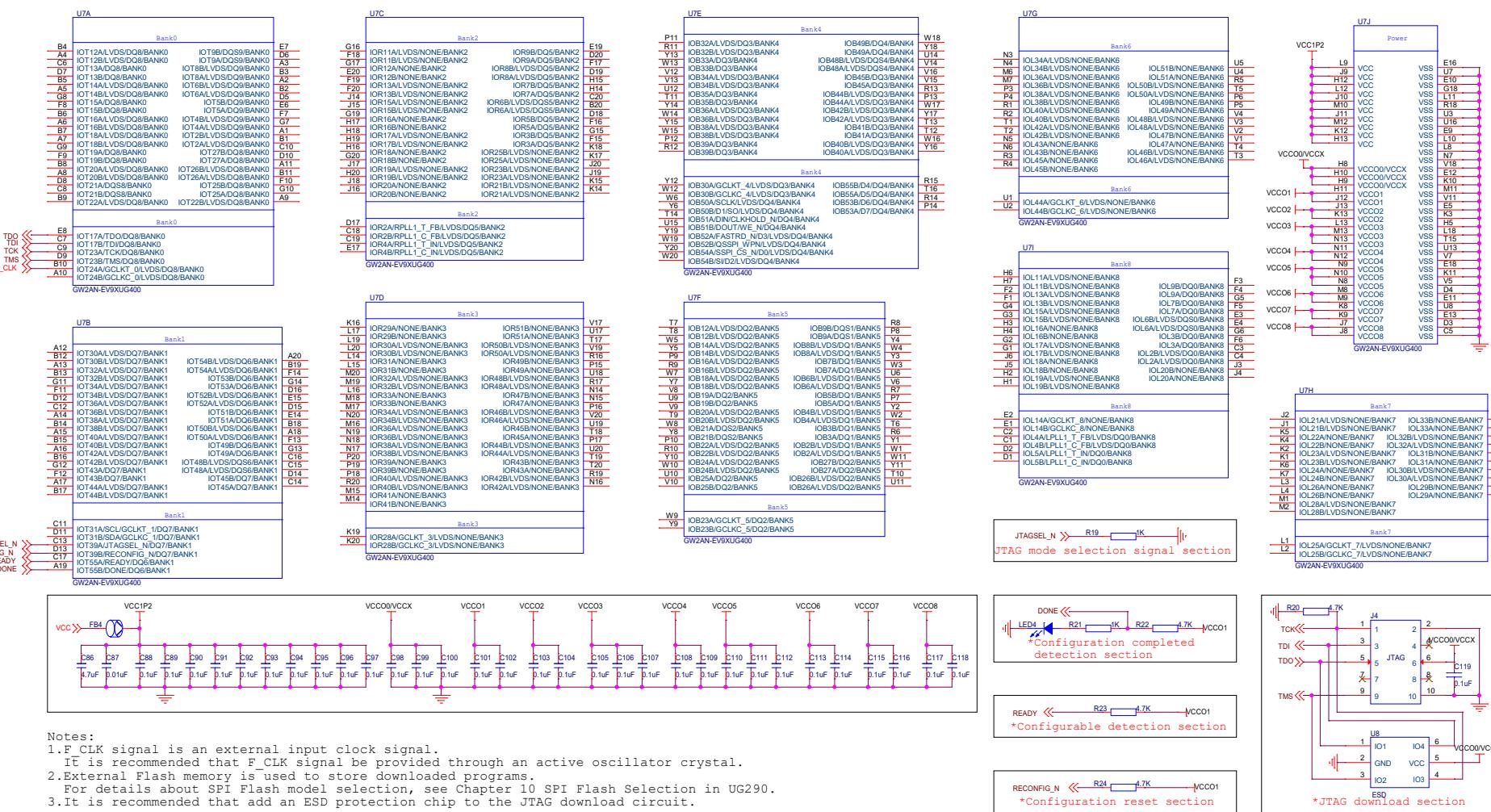
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#### Notes:

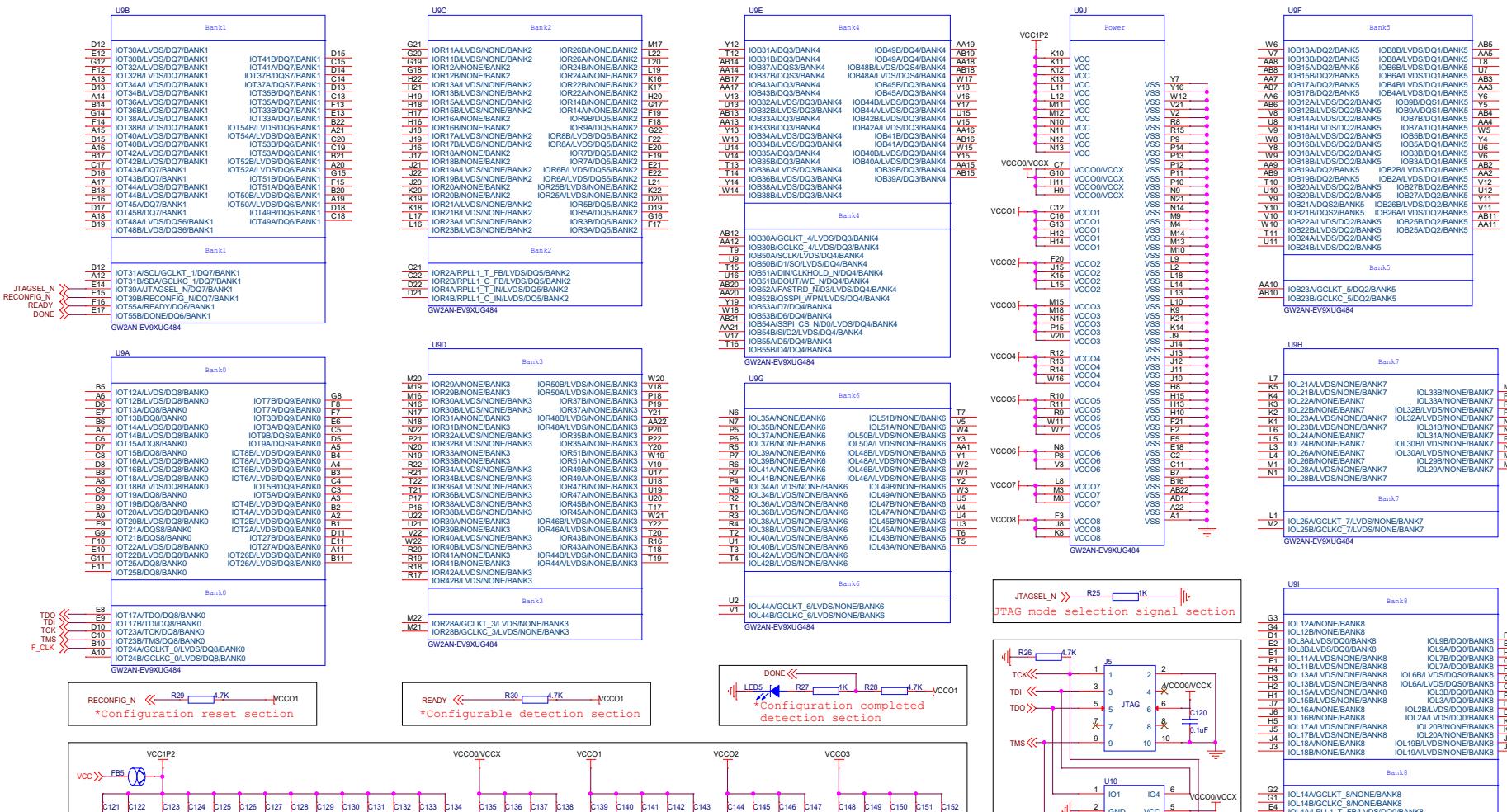
- Notes:**

  - 1.F\_CLK signal is an external input clock signal.  
It is recommended that F\_CLK signal be provided through an active oscillator crystal.
  - 2.External Flash memory is used to store downloaded programs.  
For details about SPI Flash model selection, see Chapter 10 SPI Flash Selection in UG290
  - 3.It is recommended that add an ESD protection chip to the JTAG download circuit.

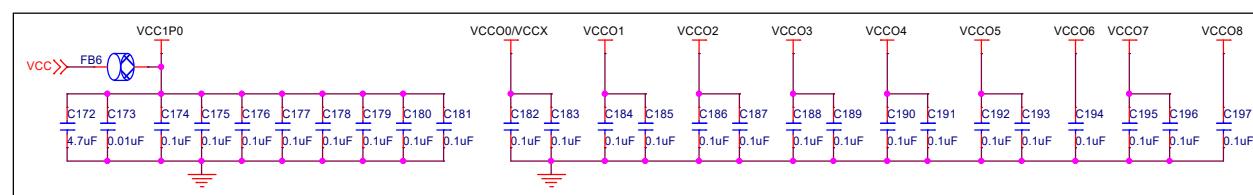
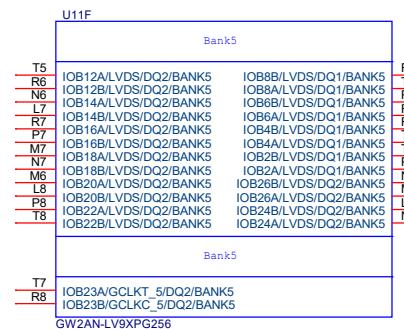
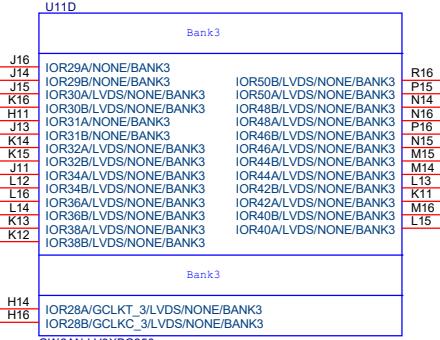
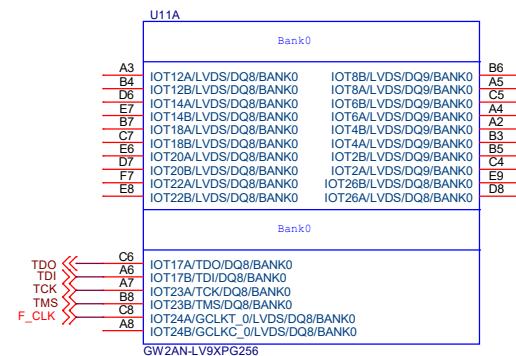
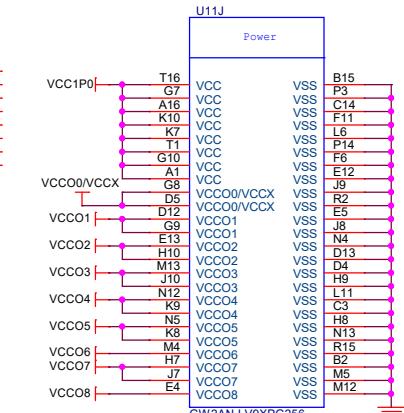
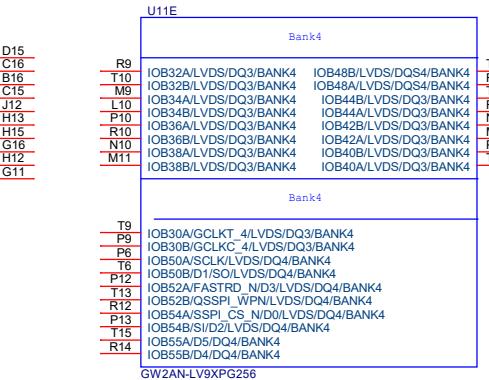
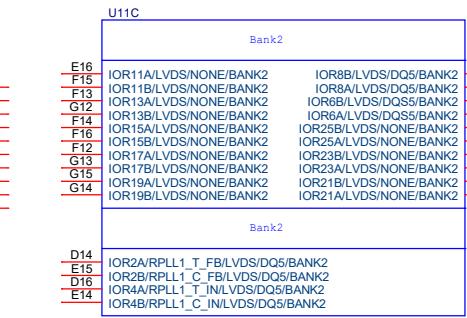
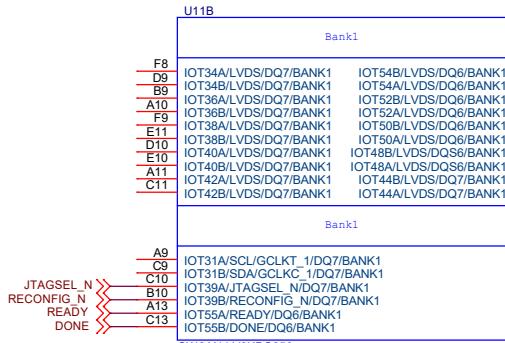


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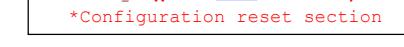
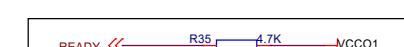
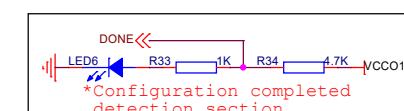
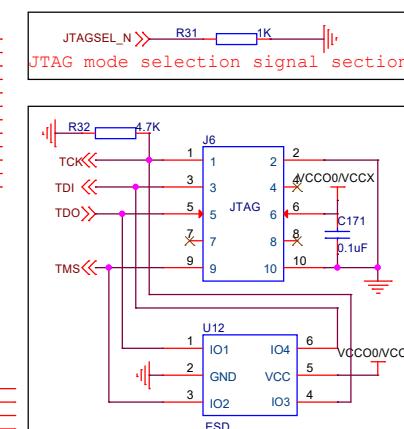
1. F CLK signal is an external input clock signal.
- It is recommended that F\_CLK signal be provided through an active oscillator crystal.
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- For details about SPI Flash model selection, see Chapter 10 SPI Flash Selection in UG290.
3. It is recommended that add an ESD protection chip to the JTAG download circuit.

**Notes:**

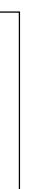
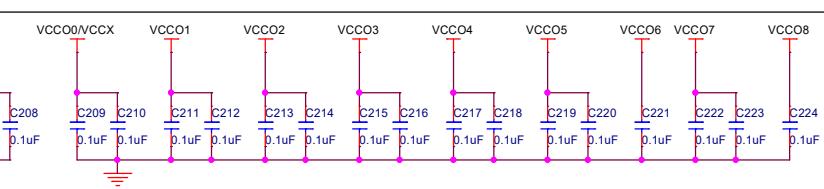
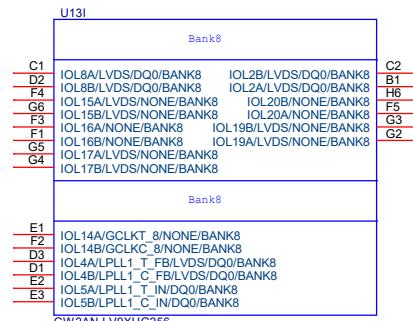
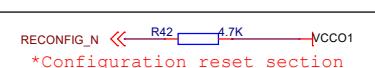
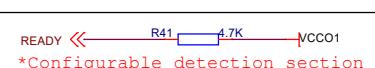
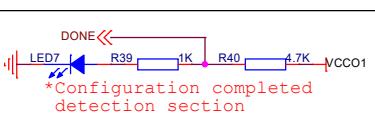
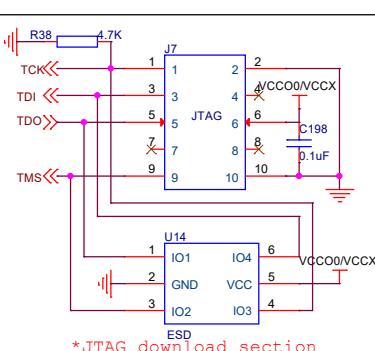
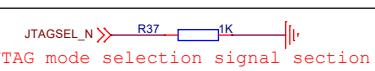
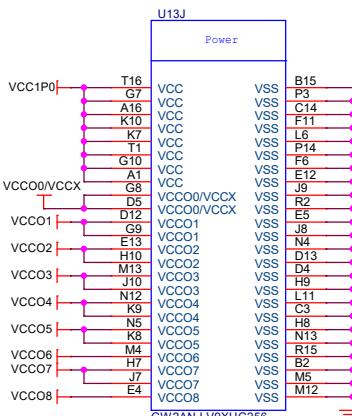
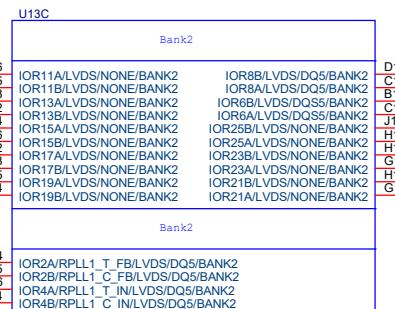
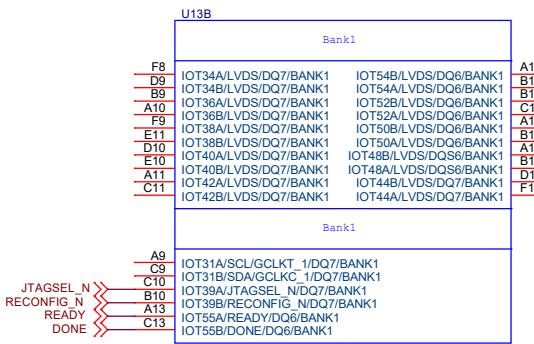
- F CLK signal is an external input clock signal.  
It is recommended that F CLK signal be provided through an active oscillator crystal.
- External Flash memory is used to store downloaded programs.  
For details about SPI Flash model selection, see Chapter 10 SPI Flash Selection in UG290.
- It is recommended that add an ESD protection chip to the JTAG download circuit.

**Notes:**

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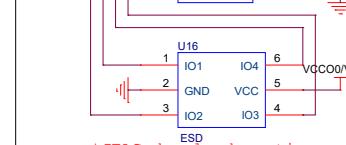
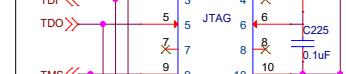
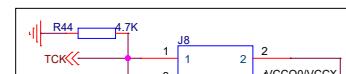
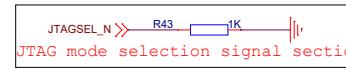
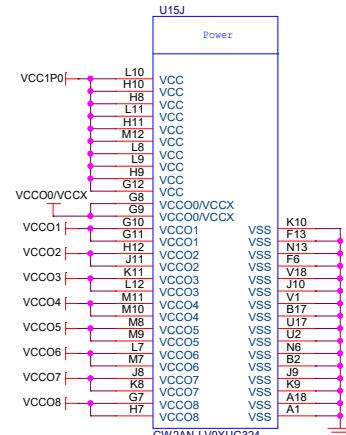
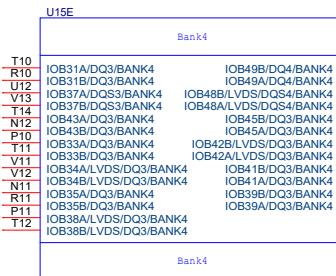
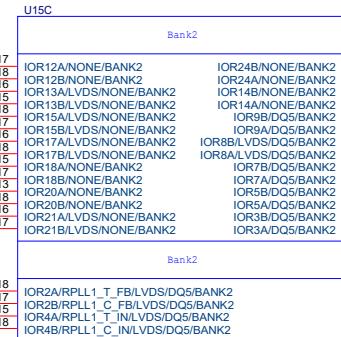
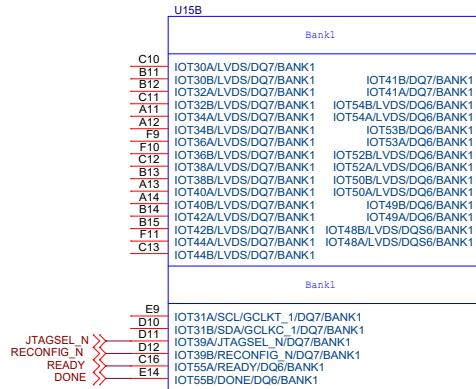


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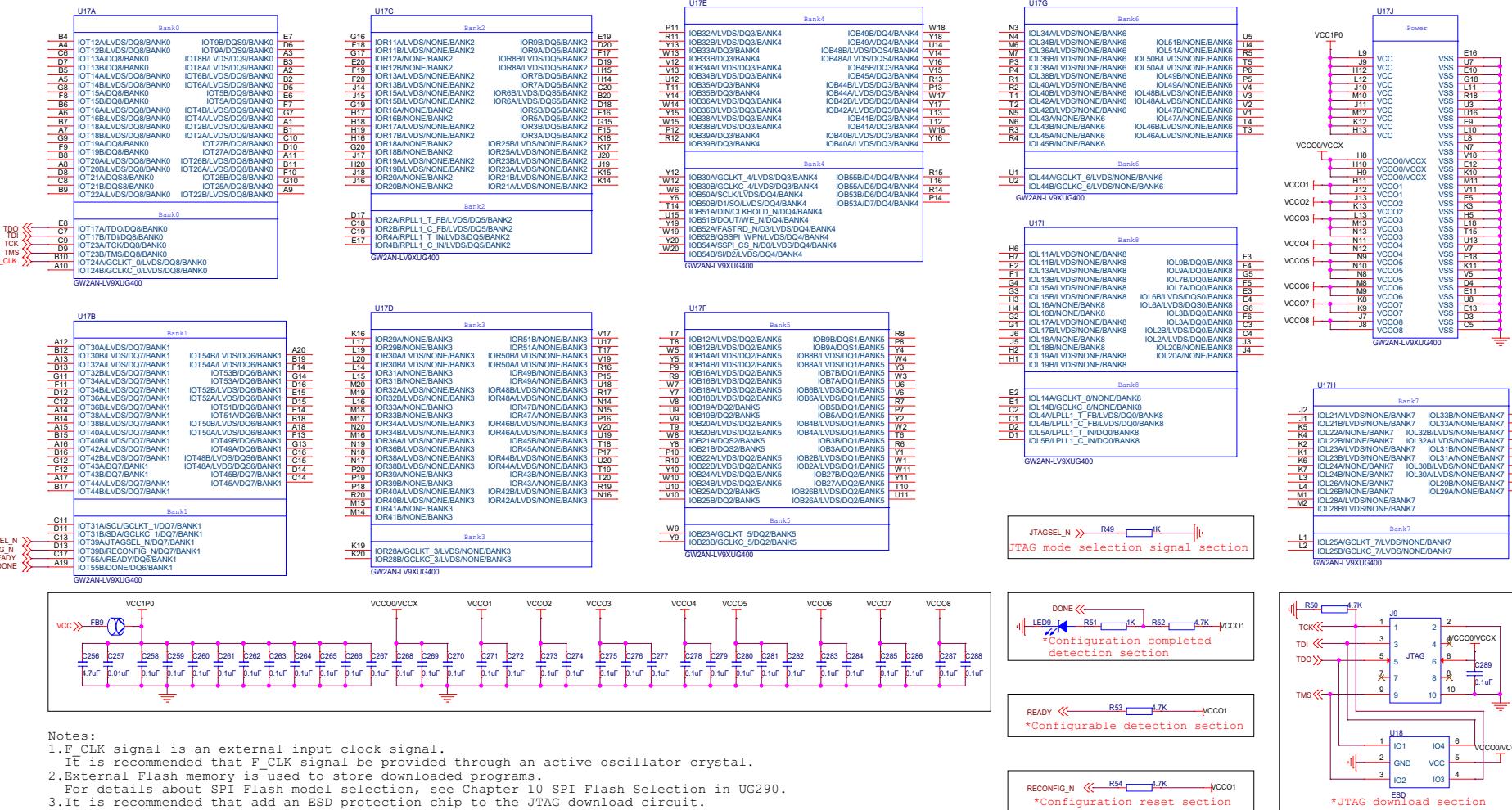
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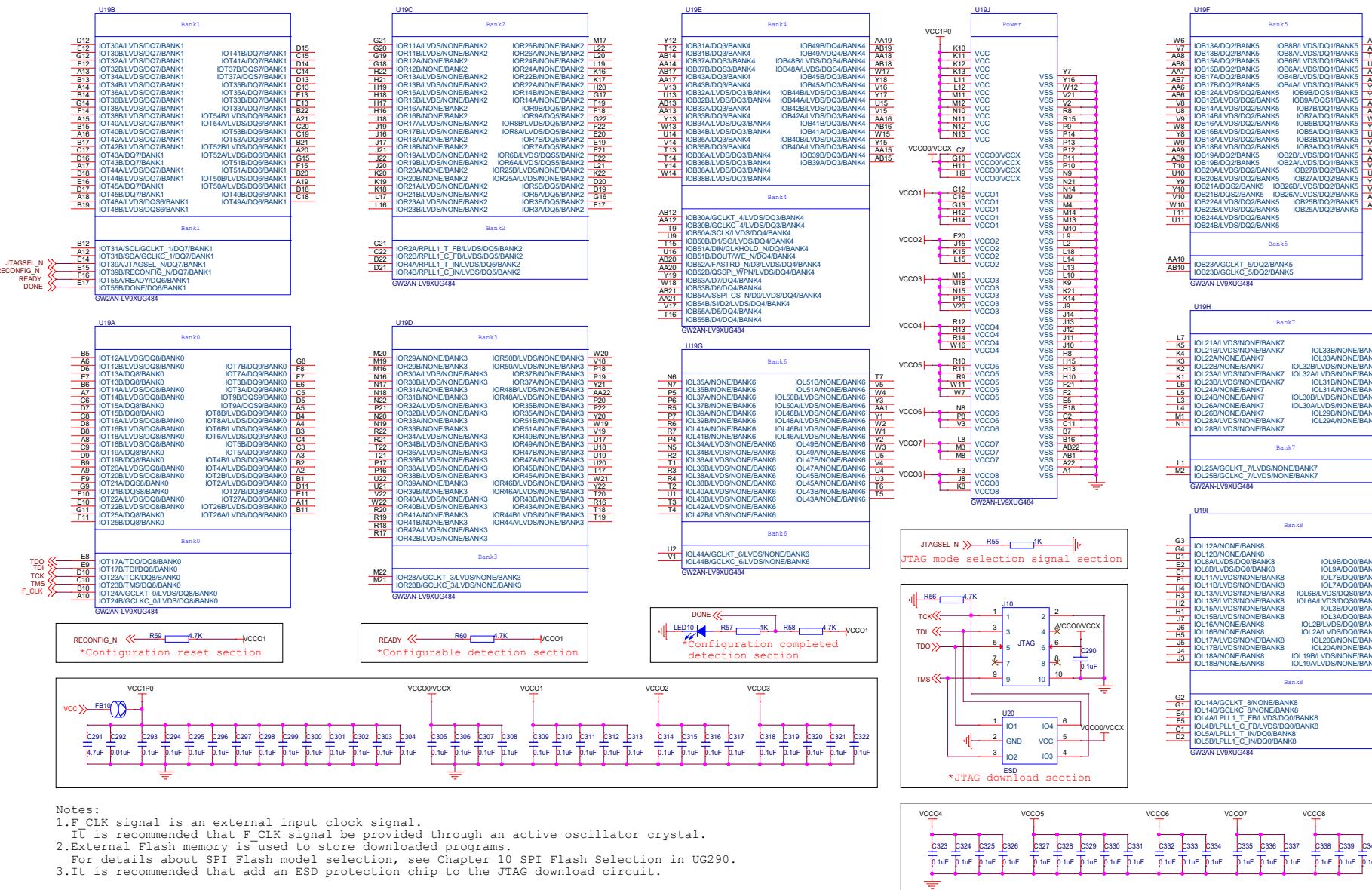
1. F\_CLK signal is an external input clock signal.  
It is recommended that F\_CLK signal be provided through an active oscillator crystal.
2. External Flash memory is used to store downloaded programs.  
For details about SPI Flash model selection, see Chapter 10 SPI Flash Selection in UG290.
3. It is recommended that add an ESD protection chip to the JTAG download circuit.

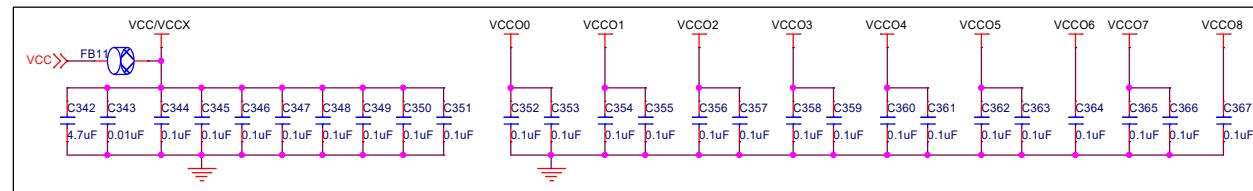
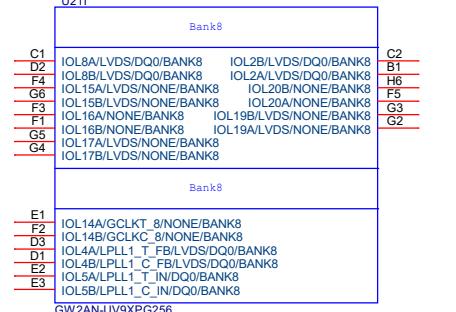
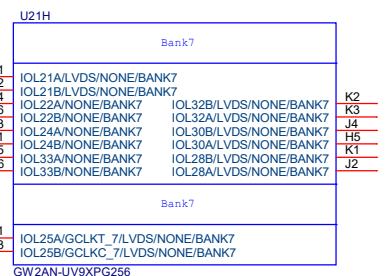
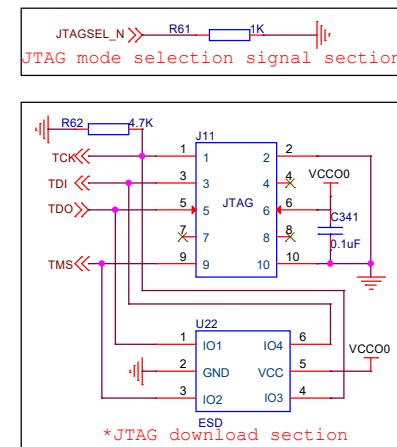
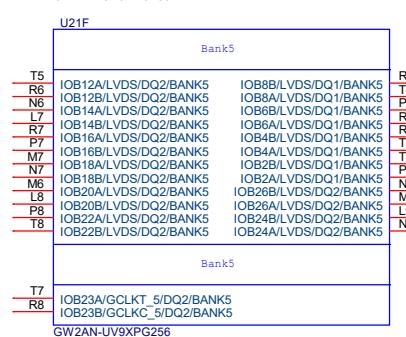
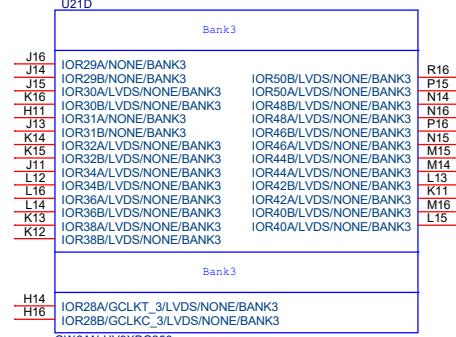
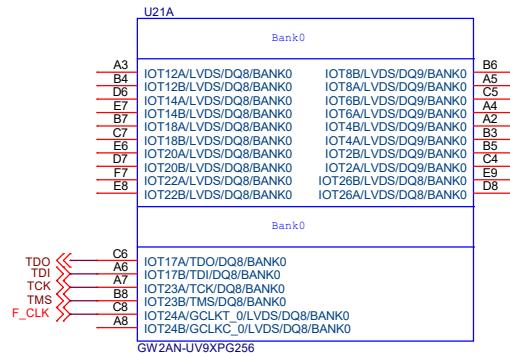
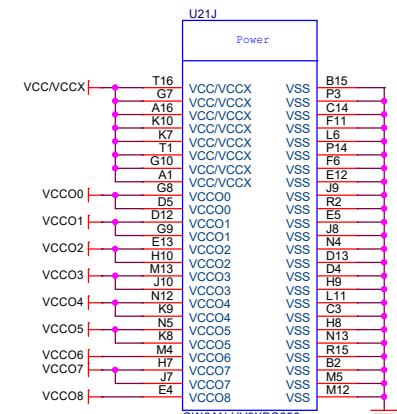
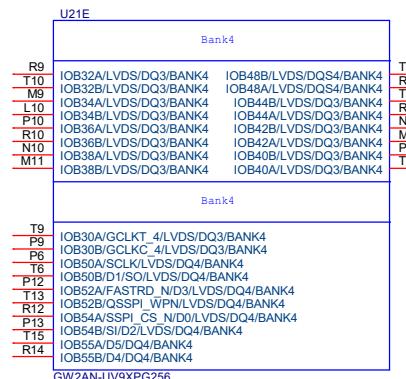
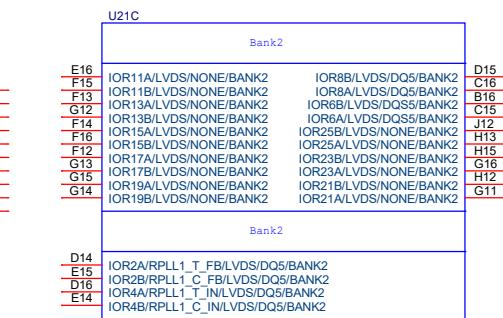
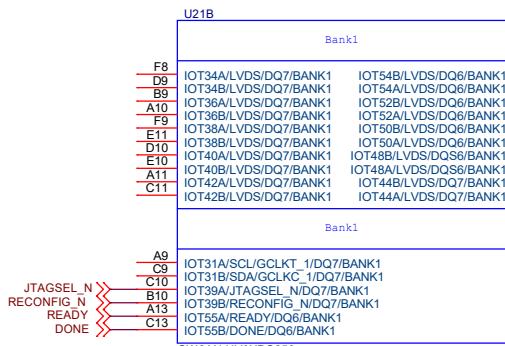
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**Notes:**

1. F CLK signal is an external input clock signal.  
It is recommended that F\_CLK signal be provided through an active oscillator crystal.
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For details about SPI Flash model selection, see Chapter 10 SPI Flash Selection in UG290.
3. It is recommended that add an ESD protection chip to the JTAG download circuit.







## Notes:

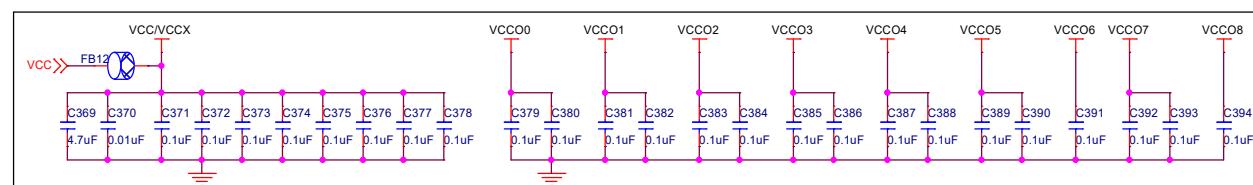
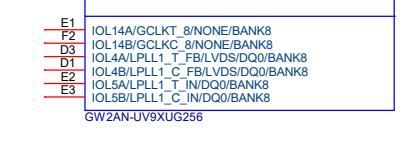
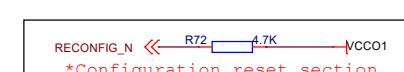
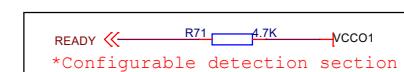
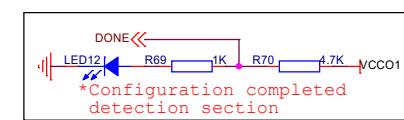
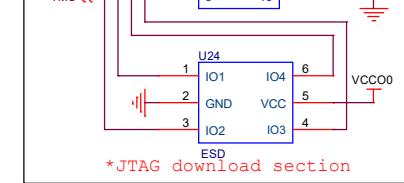
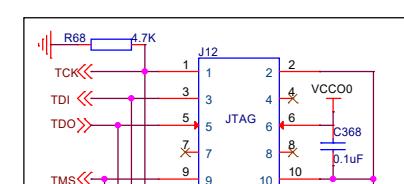
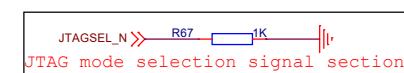
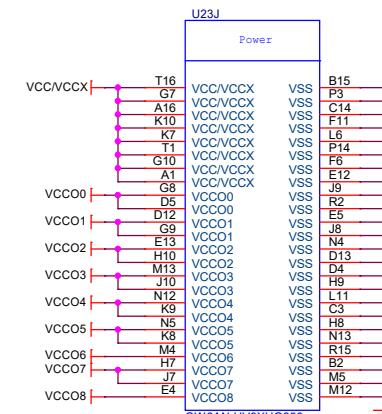
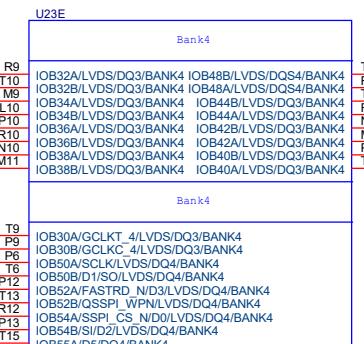
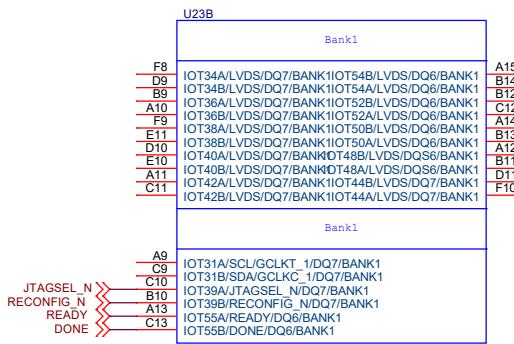
1. F CLK signal is an external input clock signal.  
It is recommended that F CLK signal be provided through an active oscillator crystal.
2. External Flash memory is used to store downloaded programs.  
For details about SPI Flash model selection, see Chapter 10 SPI Flash Selection in UG290.
3. It is recommended that add an ESD protection chip to the JTAG download circuit.

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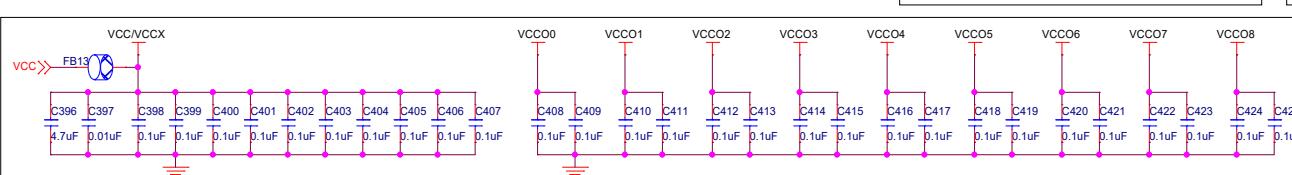
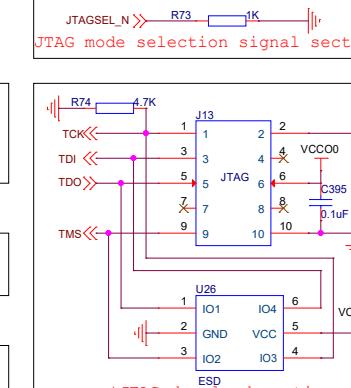
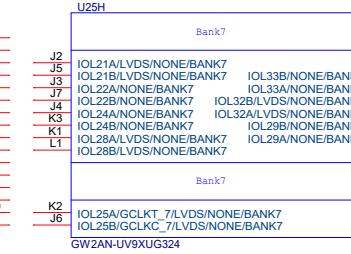
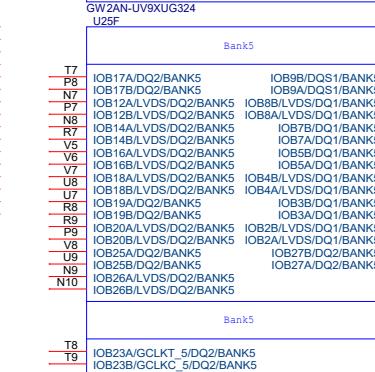
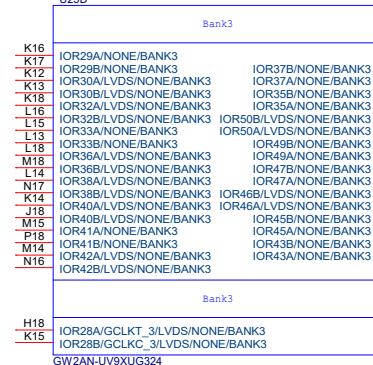
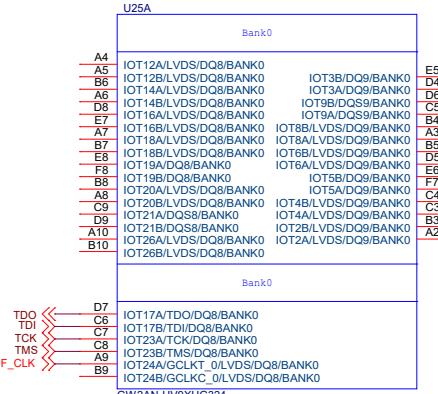
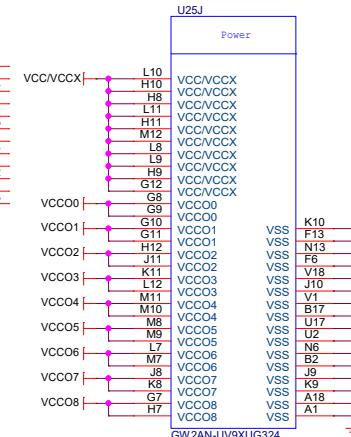
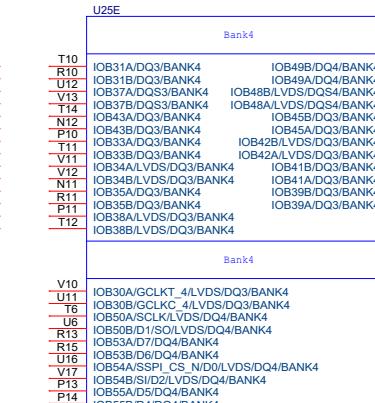
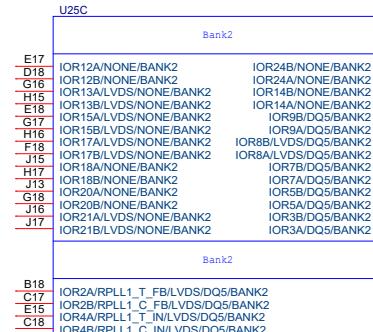
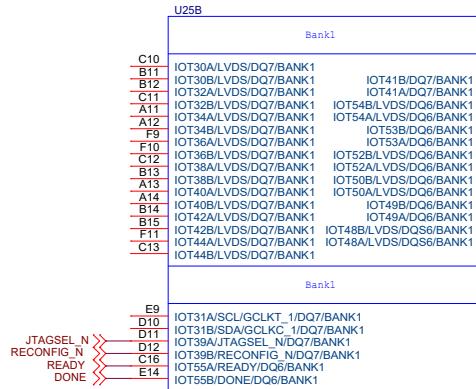


#### Notes:

- Notes:

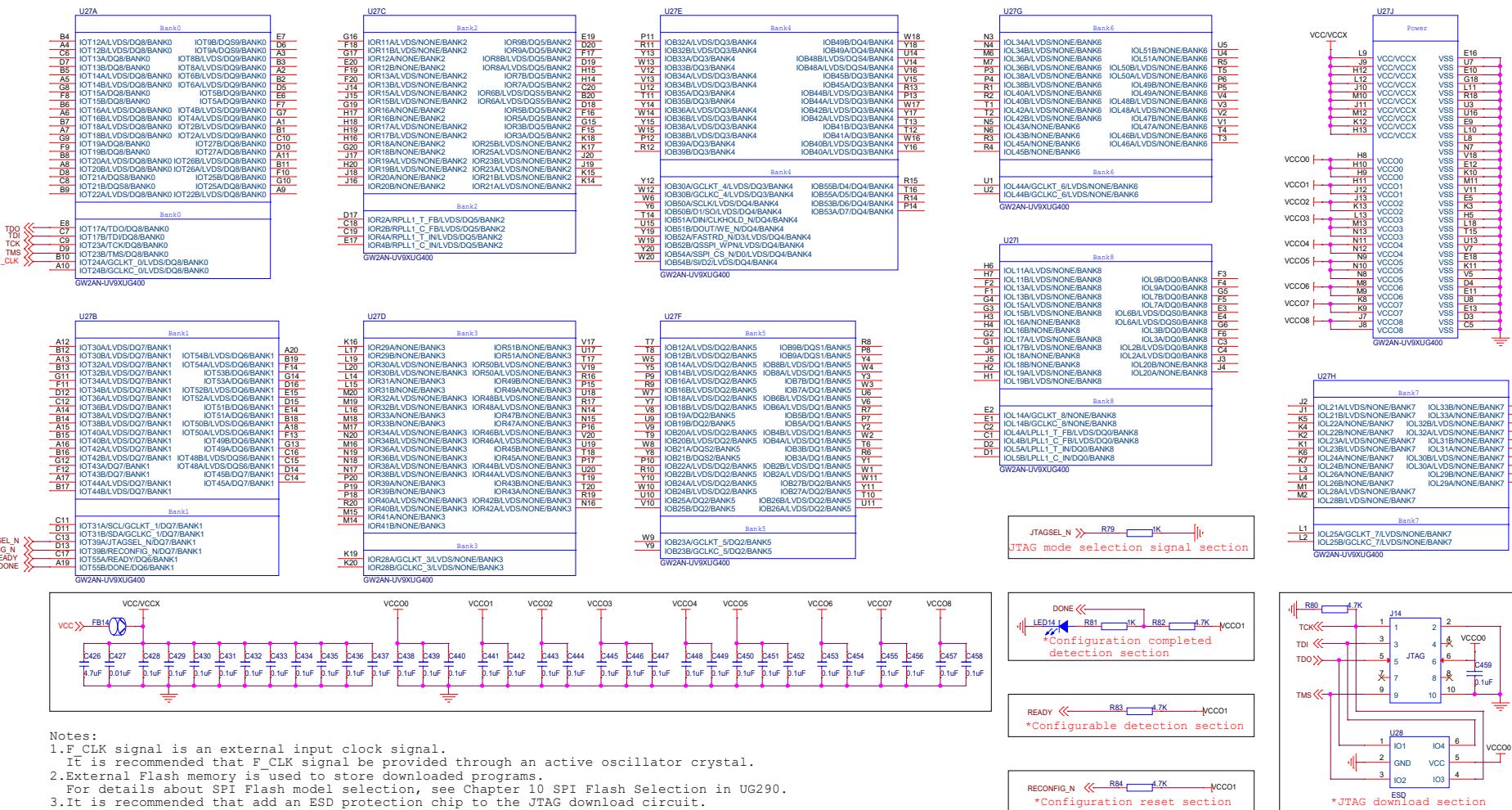
  - 1.F\_CLK signal is an external input clock signal.  
It is recommended that F\_CLK signal be provided through an active oscillator crystal.
  - 2.External Flash memory is used to store downloaded programs.  
For details about SPI Flash model selection, see Chapter 10 SPI Flash Selection in UG290
  - 3.It is recommended that add an ESD protection chip to the JTAG download circuit.

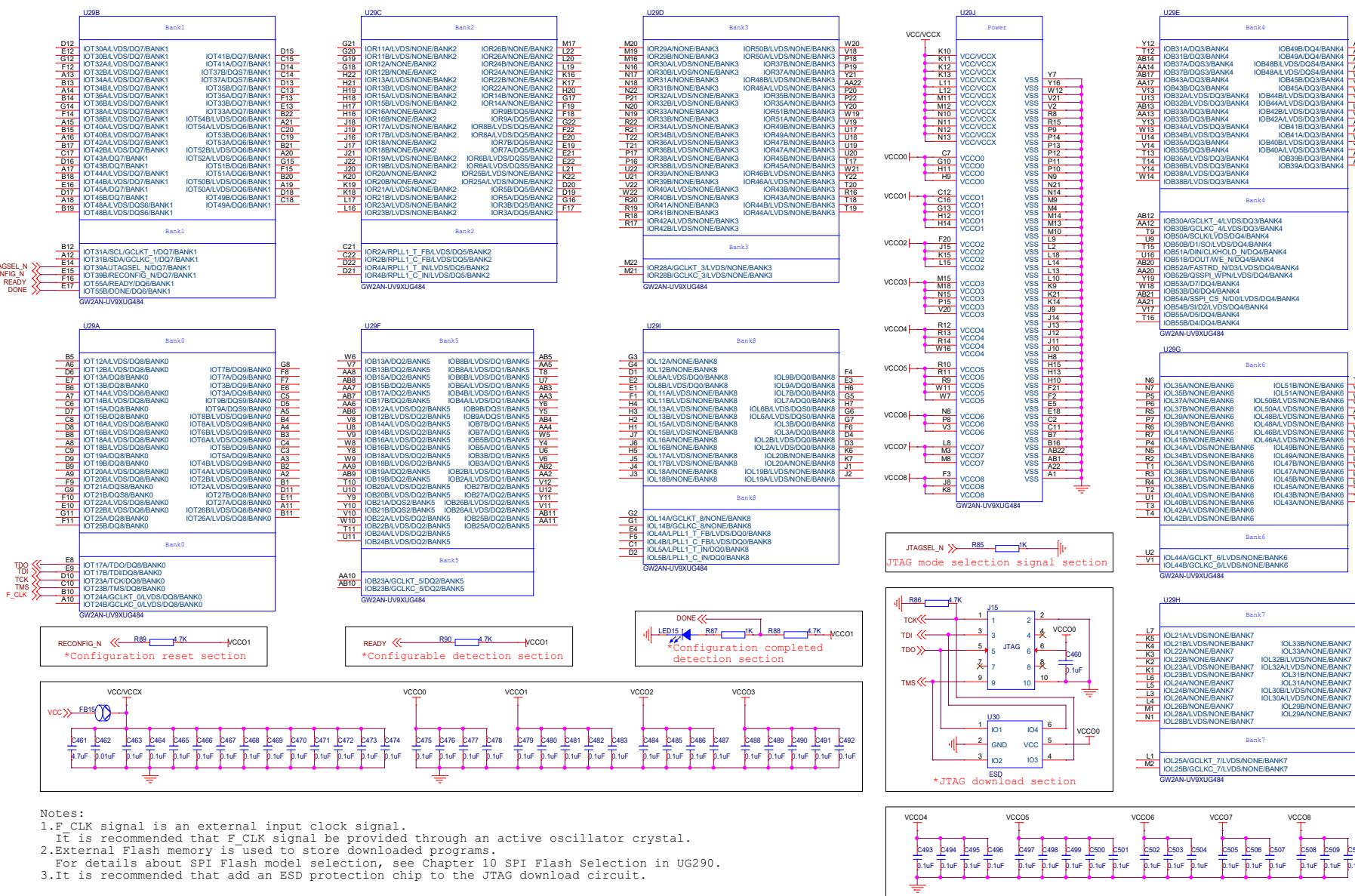
Title		
GOWIN Minimum System Diagram		
Size A3	Document Number GW2AN-UV9XUG256	Rev 2.0
Date:	Thursday, April 06, 2023	Sheet 12 of 15



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