

VM1502-PA-VSVA2197  
VM1802-PA-VSVA2197  
VE1752-PA-VSVA2197  
VC1502-PA-VSVA2197  
VC1702-PA-VSVA2197  
VC1802-PA-VSVA2197  
VC1902-PA-VSVA2197



## Xilinx Power Test Adaptor (PTA) - to test power delivery network (PDN) to Versal ACAP VSVA2197 series FPGAs

ProGrAnalog Corp.  
08/18/2023  
Rev 3.2

### Features

- Set of 3 Xilinx Power Test Adaptors (PTA) for PDN testing AMD Xilinx Versal ACAP AI VSVA2197 series FPGAs
- Options available for VM1502, VM1802, VE1752, VC1502, VC1702, VC1802, VC1902
- 6 Samtec connectors to slam: VCCINT, VCC\_IO, VCC\_SOC, VGTY\_AVTT, VCCAUX, AVCC
- 8 SMP connectors for measuring: VCCINT\_SENSE, GND\_SENSE, GND, VCC\_IO, VCC\_SOC, VGTY\_AVTT, VCCAUX, AVCC
- PTA with BGA footprint reflows onto VSVA2197 PCB pads.
- Remote Vsense on Samtec connectors and SMP mini connectors.
- Most rails can be tested with an LSP200 controller.
- VCCINT >100A support with an LSP1000RS controller.
- GUI supports transient, pulse train, impedance and 3D plots.

### Typical Test Setup

- Xilinx PTA reflowed onto the test board.
- LSP1000RS connected into VCCINT connector.

Pack of 3 -VSVA2197 Series Xilinx PTA's



## LoadSlammer GUI

Workspace
 

Test - 1 x


 Available Tests
 

Name: 

Test - 1

 Rail: 

None

**Transient Test**  
 Transient load step with adjustable rise times, current, and pulse width.

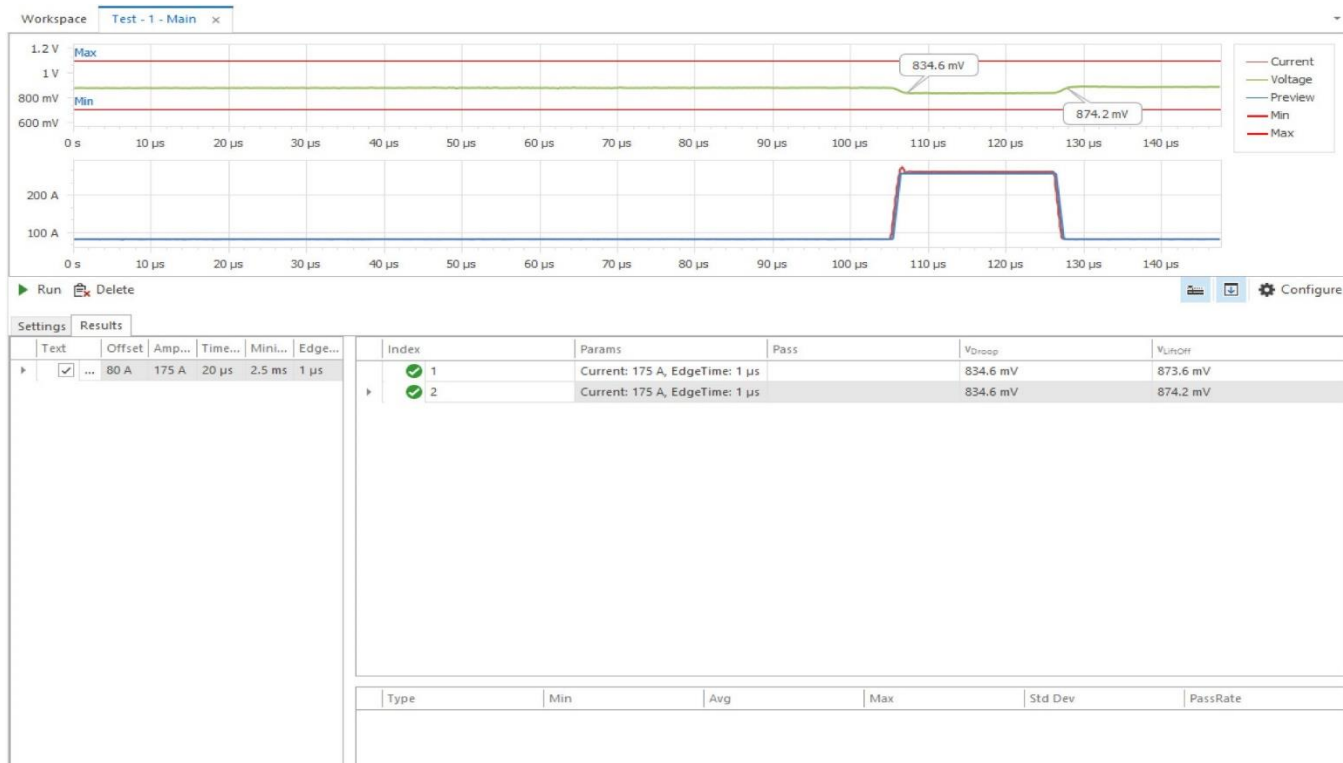
**Pulse Train**  
 Repeating load steps with a configurable frequency and duty cycle.

**Impedance (Z)**  
 Large signal output impedance with adjustable current amplitude and offset.

**DC Load**  
 DC Load with timer.

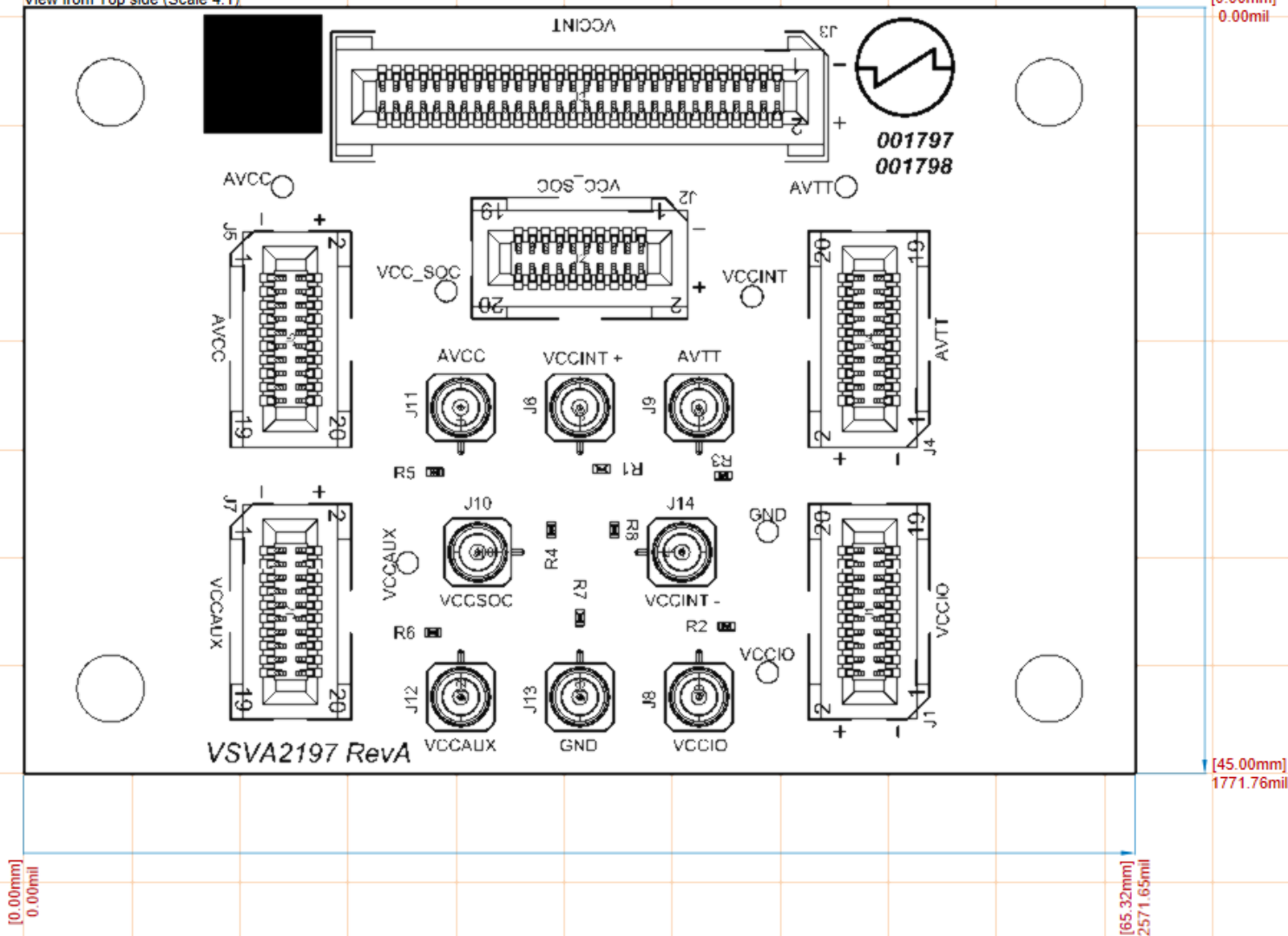
**Delay**  
 Timed delay.

## Transient test



## Mechanical Specs

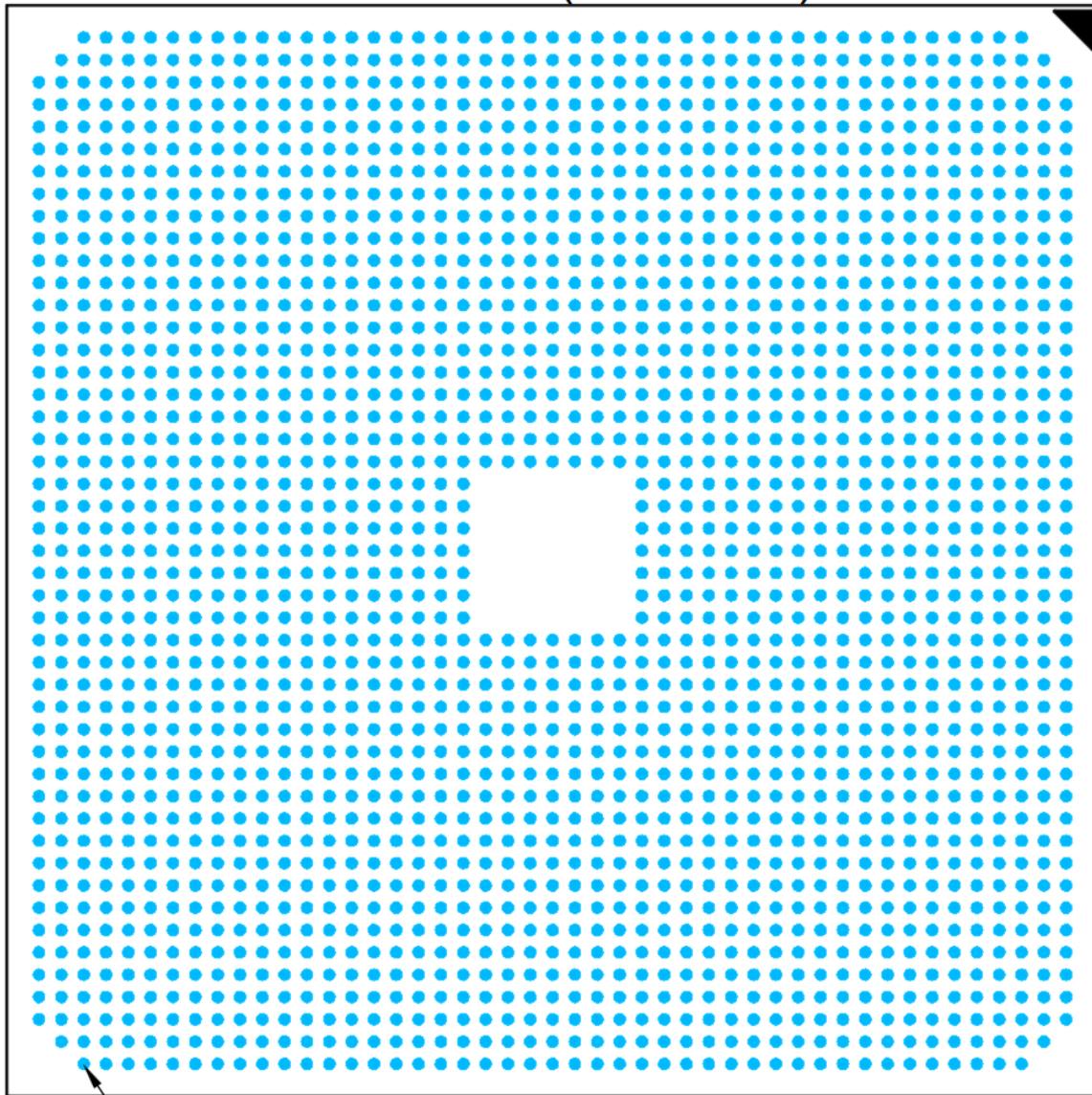
View from Top side (Scale 4:1)





Pin 1 I.D.

View from Bottom side (Scale 3:1)



0.92mm BGA Pitch

**Sn96.5-Ag3.0-Cu0.5 0.6mm balls**



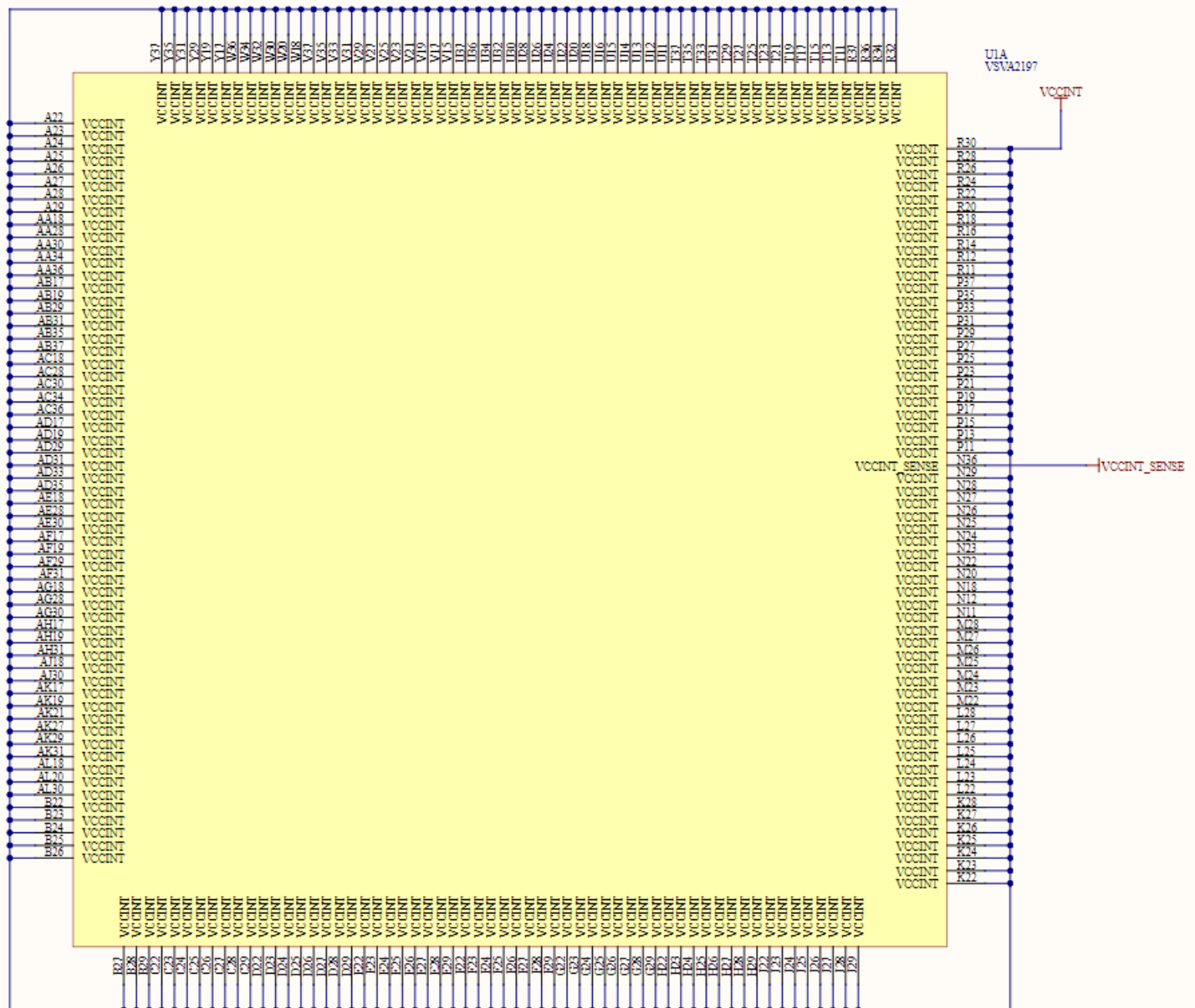
## Packing Tray Specs

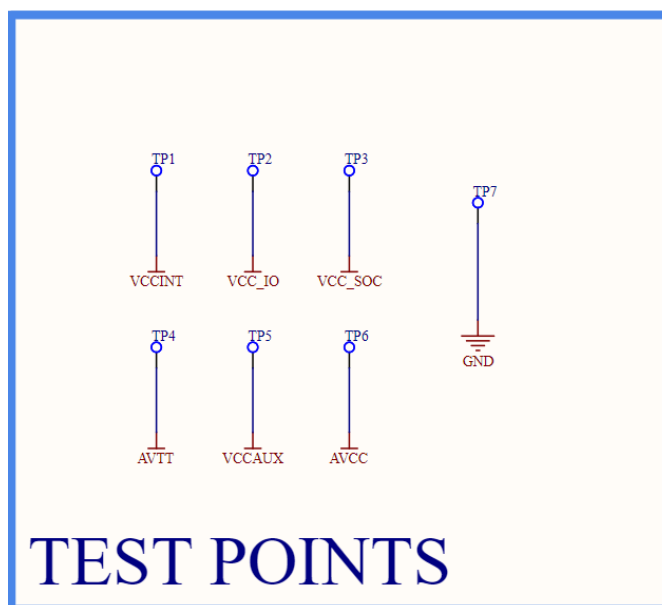
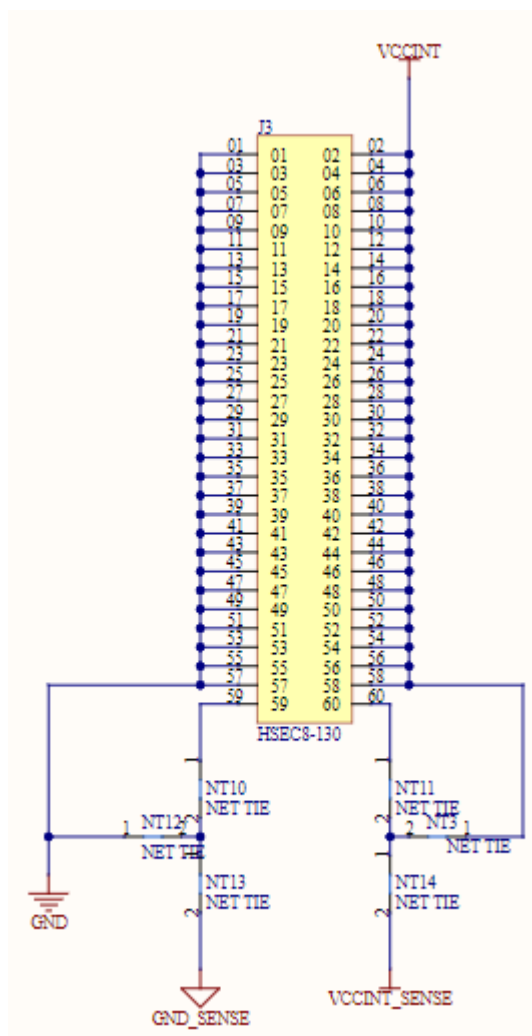
45 by 45mm package will have a 102x102x15mm tray

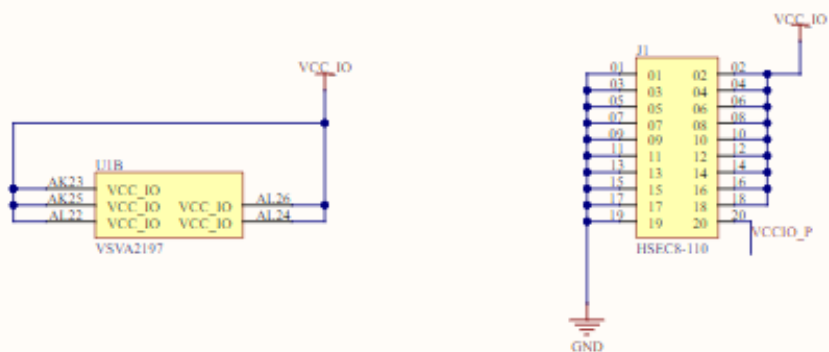
A1 top left corner



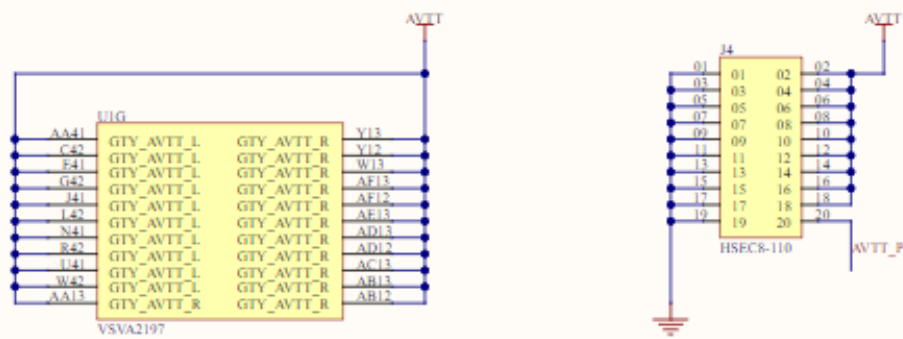
## Schematics



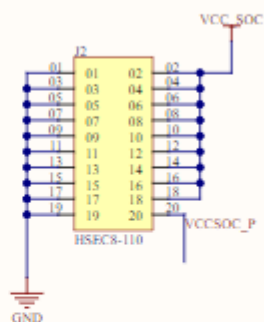
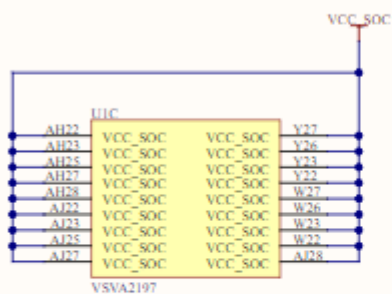




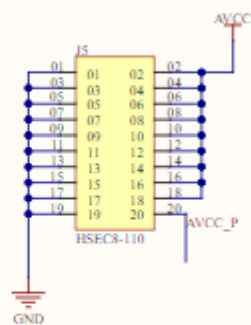
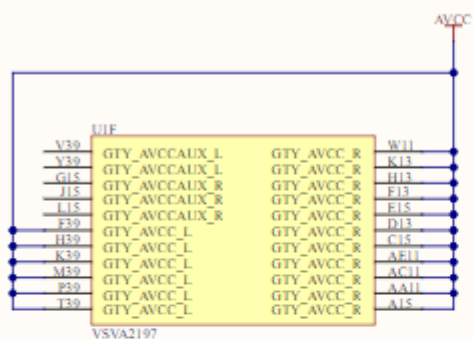
VCC\_IO



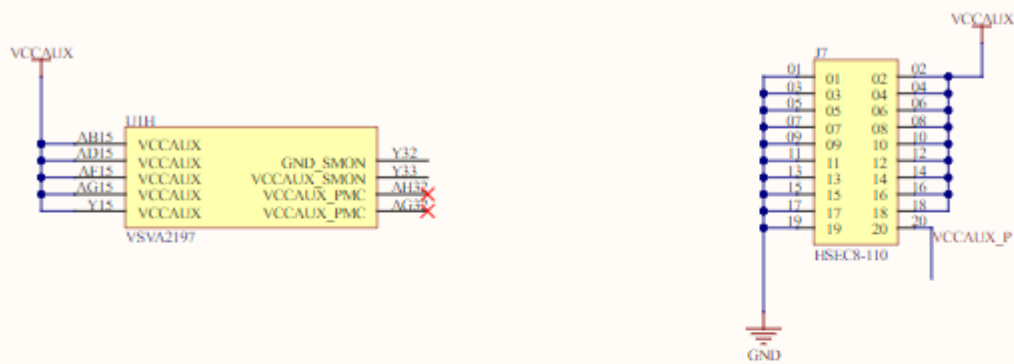
AVTT



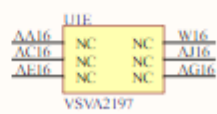
# VCC\_SOC



# AVCC



VCCAUX



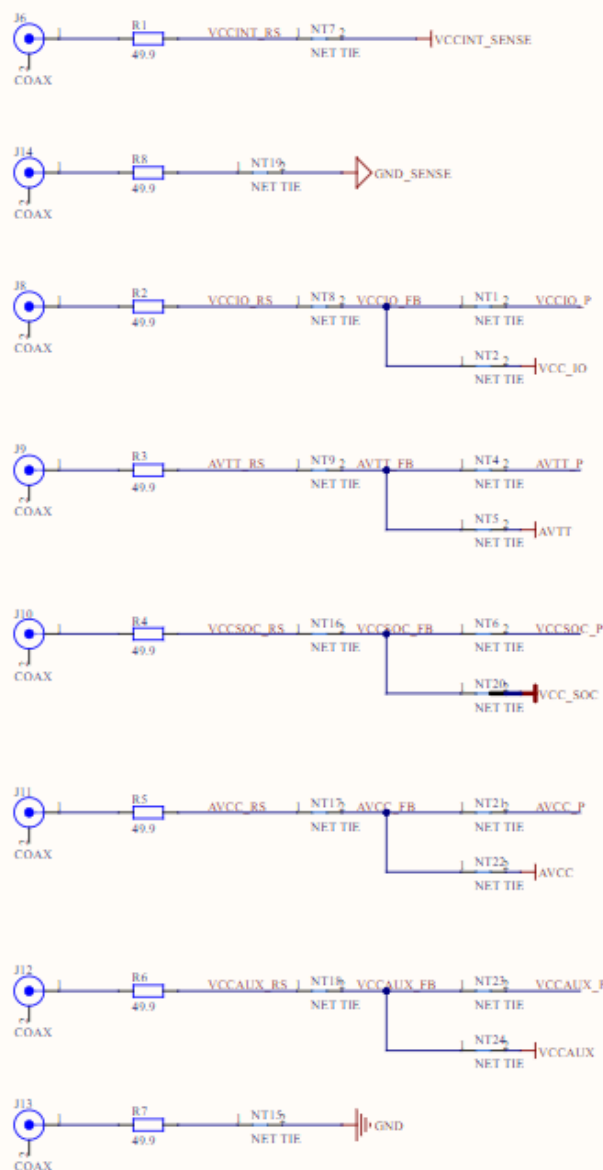
NC

UID

|      |          |          |      |
|------|----------|----------|------|
| AG33 | VCC_BATT |          | AJ20 |
| AF33 | VCC_FUSE | VCC_RAM  | AG10 |
| AJ33 | VCC_PMC  | VCC_RAM  | AG10 |
| AK32 | VCC_PMC  | VCC_RAM  | AE20 |
| AL32 | VCC_PMC  | VCC_RAM  | AC20 |
| AH34 | VCC_PSF  | VCC_RAM  | AA20 |
| AJ34 | VCC_PSF  | VCC_PSLP | AH35 |
| AK33 | VCC_PSF  | VCC_PSLP | AG35 |
| AL34 | VCC_PSF  | VCC_PSLP | AF34 |

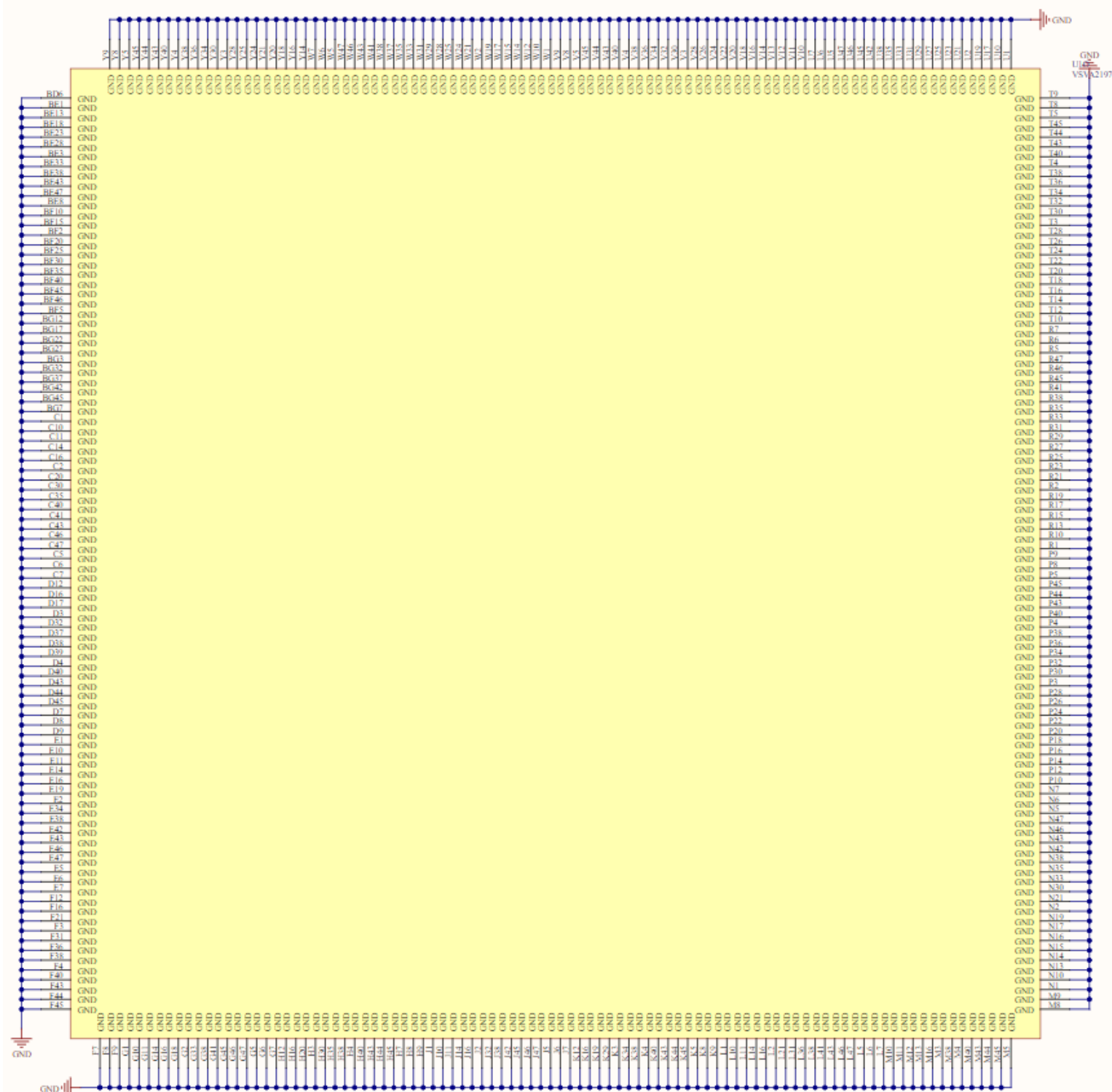
VSVA2197

# VCC MISC



# COAX SMP





[illegible]



| UIM  |                  |                  |      |
|------|------------------|------------------|------|
| W40  | GTY_REFCLKN0_103 | GTY_TXP3_106     | A43  |
| U40  | GTY_REFCLKN1_103 | GTY_TXP2_106     | B41  |
| W39  | GTY_REFCLKP0_103 | GTY_TXP1_106     | D41  |
| U39  | GTY_REFCLKP1_103 | GTY_TXP0_106     | F41  |
| AB47 | GTY_RXN0_103     | GTY_TXN3_106     | A44  |
| AA45 | GTY_RXN1_103     | GTY_TXN2_106     | B42  |
| Y47  | GTY_RXN2_103     | GTY_TXN1_106     | D42  |
| W45  | GTY_RXN3_103     | GTY_TXN0_106     | F42  |
| AB46 | GTY_RXP0_103     | GTY_RXP3_106     | C44  |
| AA44 | GTY_RXP1_103     | GTY_RXP2_106     | D46  |
| Y46  | GTY_RXP2_103     | GTY_RXP1_106     | E44  |
| W44  | GTY_RXP3_103     | GTY_RXP0_106     | F46  |
| AB42 | GTY_TXN0_103     | GTY_RXN3_106     | C45  |
| Y42  | GTY_TXN1_103     | GTY_RXN2_106     | D47  |
| W42  | GTY_TXN2_103     | GTY_RXN1_106     | E45  |
| U44  | GTY_TXN3_103     | GTY_RXN0_106     | F47  |
| AB41 | GTY_TXP0_103     | GTY_REFCLKP1_106 | E39  |
| Y41  | GTY_TXP1_103     | GTY_REFCLKP0_106 | G39  |
| W41  | GTY_TXP2_103     | GTY_REFCLKN1_106 | F40  |
| U43  | GTY_TXP3_103     | GTY_REFCLKN0_106 | G40  |
| R40  | GTY_REFCLKN0_104 | GTY_TXP3_105     | G43  |
| N40  | GTY_REFCLKN1_104 | GTY_TXP2_105     | H41  |
| R39  | GTY_REFCLKP0_104 | GTY_TXP1_105     | J43  |
| N39  | GTY_REFCLKP1_104 | GTY_TXP0_105     | K41  |
| W47  | GTY_RXN0_104     | GTY_TXN3_105     | G44  |
| T47  | GTY_RXN1_104     | GTY_TXN2_105     | H42  |
| P47  | GTY_RXN2_104     | GTY_TXN1_105     | J44  |
| N45  | GTY_RXN3_104     | GTY_TXN0_105     | K42  |
| V46  | GTY_RXP0_104     | GTY_RXP3_105     | H46  |
| T46  | GTY_RXP1_104     | GTY_RXP2_105     | K46  |
| P46  | GTY_RXP2_104     | GTY_RXP1_105     | L44  |
| N44  | GTY_RXP3_104     | GTY_RXP0_105     | M46  |
| T42  | GTY_TXN0_104     | GTY_RXN3_105     | H47  |
| R44  | GTY_TXN1_104     | GTY_RXN2_105     | K47  |
| P42  | GTY_TXN2_104     | GTY_RXN1_105     | L45  |
| M42  | GTY_TXN3_104     | GTY_RXN0_105     | M47  |
| T41  | GTY_TXP0_104     | GTY_REFCLKP1_105 | AA39 |
| R43  | GTY_TXP1_104     | GTY_REFCLKP0_105 | J39  |
| P41  | GTY_TXP2_104     | GTY_REFCLKN1_105 | L39  |
| M41  | GTY_TXP3_104     | GTY_REFCLKN0_105 | J40  |
| AA40 | GTY_AVTTICAL_L   |                  | L40  |

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| UIL |                  |                  |     |
|-----|------------------|------------------|-----|
| D15 | GTY_REFCLKP1_205 |                  |     |
| G3  | GTY_RXN0_205     | GTY_TXP3_206     | A13 |
| F1  | GTY_RXN1_205     | GTY_TXP2_206     | A9  |
| F5  | GTY_RXN2_205     | GTY_TXP1_206     | B11 |
| E3  | GTY_RXN3_205     | GTY_TXP0_206     | C9  |
| G4  | GTY_RXP0_205     | GTY_TXN3_206     | A12 |
| F2  | GTY_RXP1_205     | GTY_TXN2_206     | A8  |
| F6  | GTY_RXP2_205     | GTY_TXN1_206     | B10 |
| E4  | GTY_RXP3_205     | GTY_TXN0_206     | C8  |
| G8  | GTY_TXN0_205     | GTY_RXP3_206     | B6  |
| F10 | GTY_TXN1_205     | GTY_RXP2_206     | C4  |
| E8  | GTY_TXN2_205     | GTY_RXP1_206     | D6  |
| D10 | GTY_TXN3_205     | GTY_RXP0_206     | D2  |
| G9  | GTY_TXP0_205     | GTY_RXN3_206     | B5  |
| F11 | GTY_TXP1_205     | GTY_RXN2_206     | C3  |
| E9  | GTY_TXP2_205     | GTY_RXN1_206     | D5  |
| D11 | GTY_TXP3_205     | GTY_RXN0_206     | D1  |
| C12 | GTY_REFCLKN0_206 | GTY_REFCLKP1_206 | B15 |
| B14 | GTY_REFCLKN1_206 | GTY_REFCLKP0_206 | C13 |

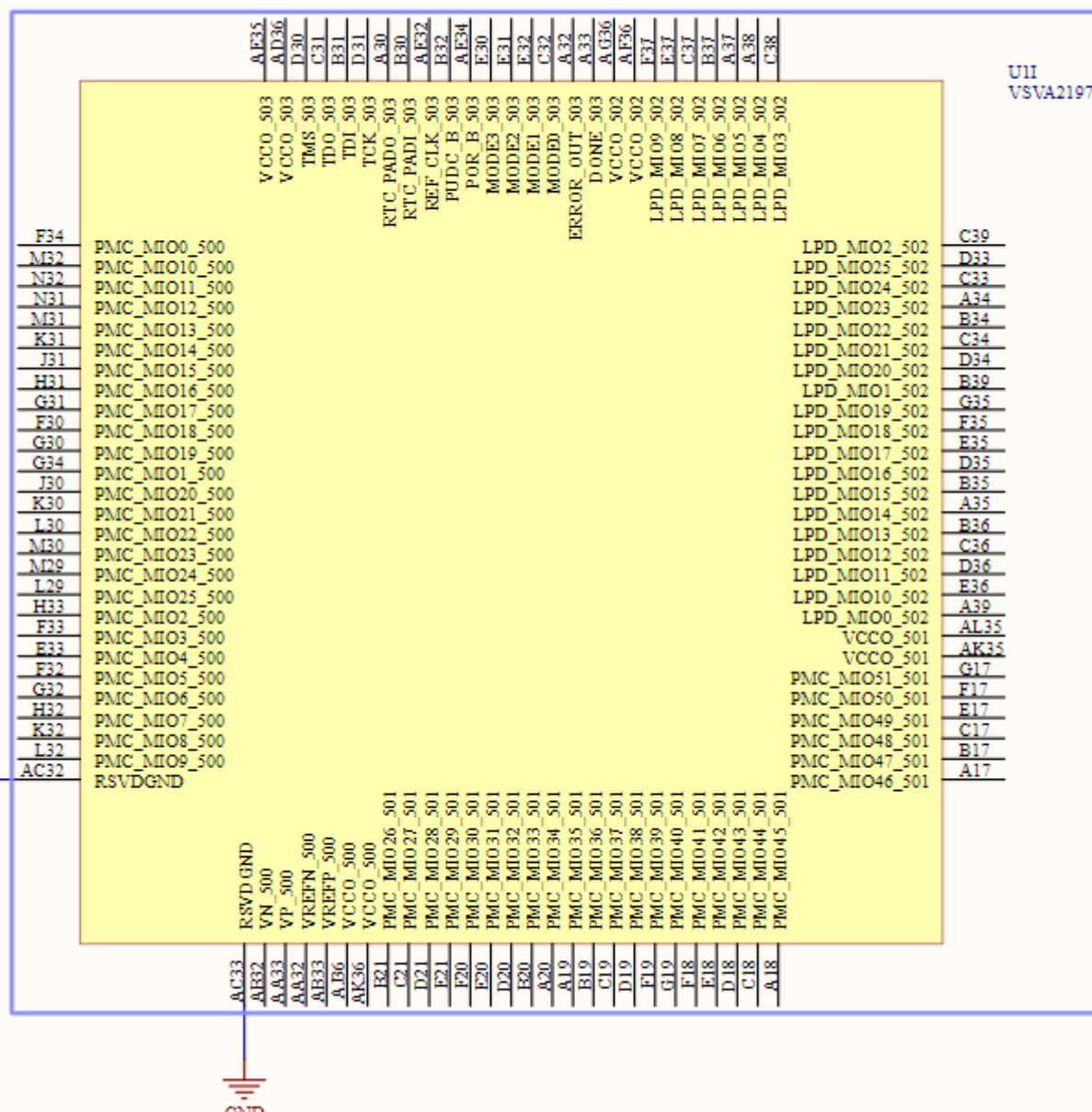
VSVA2197

| U1K |             |                 |     |
|-----|-------------|-----------------|-----|
| L37 | IO_L0N_306  | VCCO_306        | M33 |
| M37 | IO_L0P_306  | VCCO_306        | J37 |
| G37 | IO_L10N_306 | IO_L9P_306      | J34 |
| G36 | IO_L10P_306 | IO_L9N_306      | J35 |
| M34 | IO_L1N_306  | IO_L8P_306      | H36 |
| N34 | IO_L1P_306  | IO_L8N_306      | H37 |
| M36 | IO_L2N_306  | IO_L7P_306      | J33 |
| M35 | IO_L2P_306  | IO_L7N_306      | H34 |
| K33 | IO_L3N_306  | IO_L6P_HDGC_306 | L35 |
| L33 | IO_L3P_306  | IO_L6N_HDGC_306 | K36 |
| J36 | IO_L4N_306  | IO_L5P_HDGC_306 | L34 |
| K37 | IO_L4P_306  | IO_L5N_HDGC_306 | K35 |

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| U1J |             |                 |     |
|-----|-------------|-----------------|-----|
| M21 | IO_L0N_406  | VCCO_406        | M18 |
| M20 | IO_L0P_406  | VCCO_406        | J17 |
| G21 | IO_L10N_406 | IO_L9P_406      | H19 |
| H21 | IO_L10P_406 | IO_L9N_406      | G20 |
| L17 | IO_L1N_406  | IO_L8P_406      | J20 |
| M17 | IO_L1P_406  | IO_L8N_406      | J21 |
| L19 | IO_L2N_406  | IO_L7P_406      | H17 |
| M19 | IO_L2P_406  | IO_L7N_406      | H18 |
| K17 | IO_L3N_406  | IO_L6P_HDGC_406 | K20 |
| L18 | IO_L3P_406  | IO_L6N_HDGC_406 | J19 |
| K21 | IO_L4N_406  | IO_L5P_HDGC_406 | K18 |
| L20 | IO_L4P_406  | IO_L5N_HDGC_406 | J18 |

VSVA2197



## Availability

| Xilinx part number | ProGrAnalog part number |
|--------------------|-------------------------|
| VM1502-VSVA2197    | PA-KIT-VM1502-VSVA2197  |
| VM1802-VSVA2197    | PA-KIT- VM1802-VSVA2197 |
| VE1752-VSVA2197    | PA-KIT- VE1752-VSVA2197 |
| VC1502-VSVA2197    | PA-KIT- VC1502-VSVA2197 |
| VC1702-VSVA2197    | PA-KIT- VC1702-VSVA2197 |
| VC1802-VSVA2197    | PA-KIT- VC1802-VSVA2197 |
| VC1902-VSVA2197    | PA-KIT- VC1902-VSVA2197 |

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