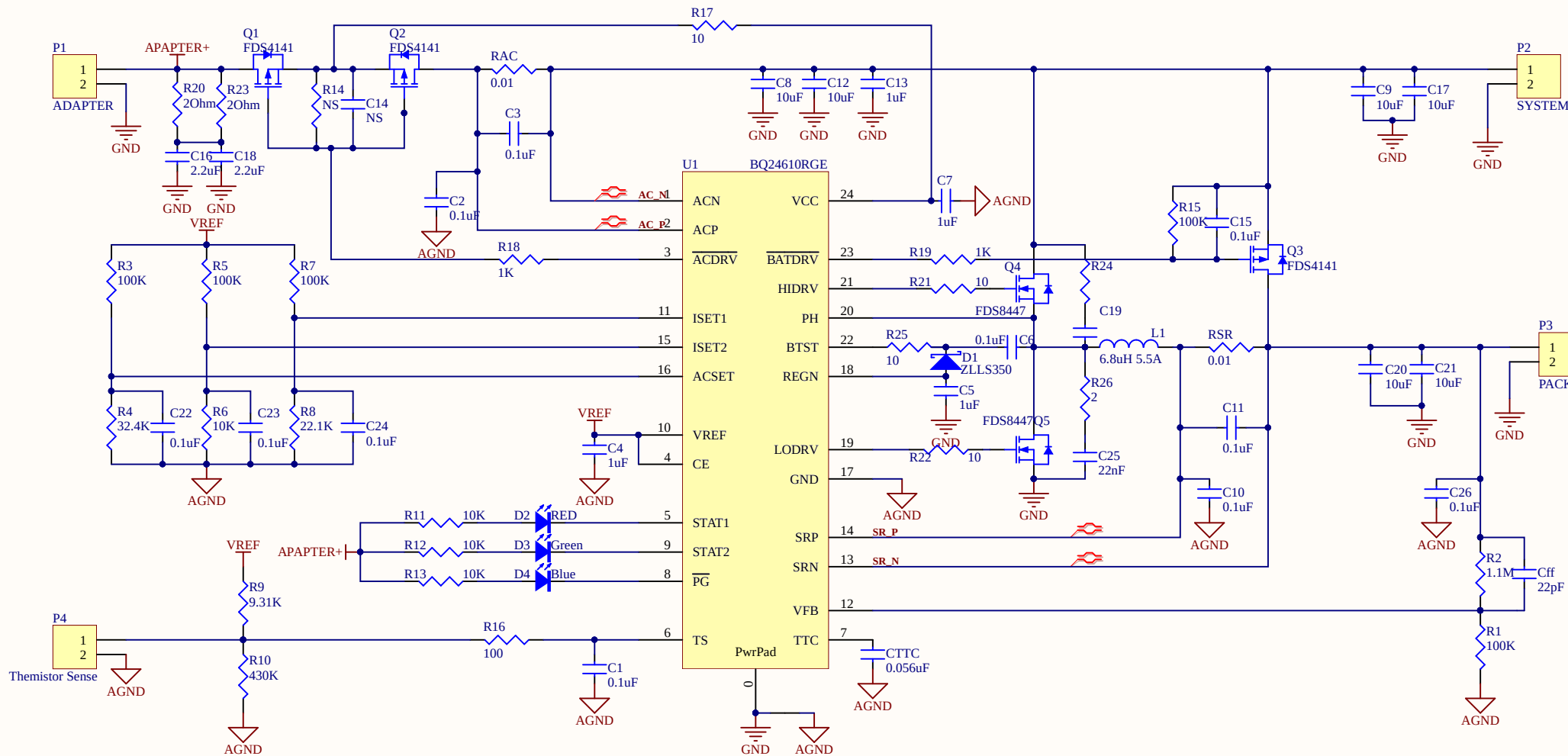




|                                             |                         |                              |  |
|---------------------------------------------|-------------------------|------------------------------|--|
| Document title: Charge Management Schematic |                         | Revision: v0.1               |  |
| Project: BP-A1-CM_D                         |                         | 2016-01-18                   |  |
| Author: 郭世全 guoshiquan@bpeer.com            |                         | Page: * / 1                  |  |
| Team: Bpeer Robotics R&D                    | Last modified: 2016/4/5 | Timestamp: 10:46:28 2016/4/7 |  |



LAYER USAGE

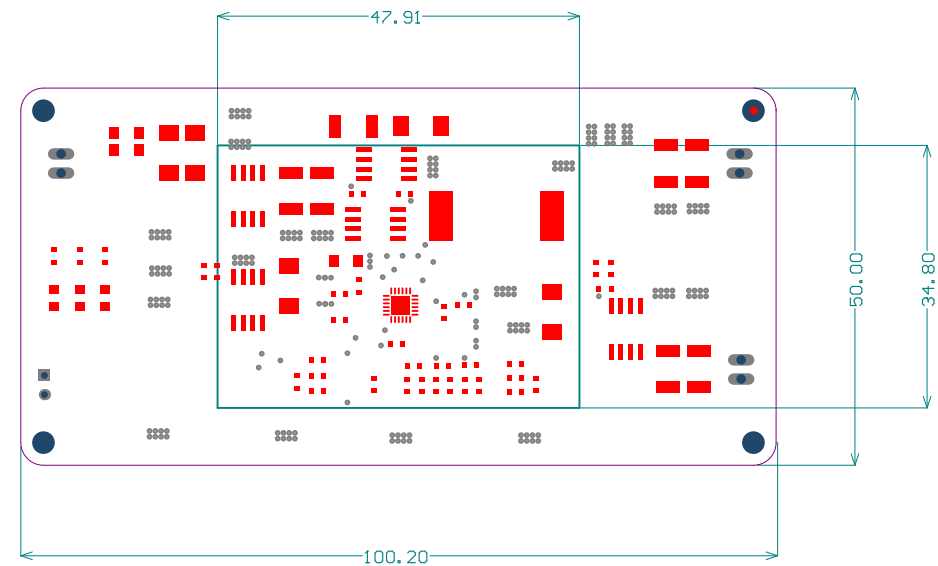
DRILL DRAWING

BOARD OUTLINE

MULTILAYER

DIMENSIONS

| BUILD STATISTICS |             |
|------------------|-------------|
| GENERAL          |             |
| NETS             | 38          |
| COMPONENTS       | 73          |
| PRIMITIVES       |             |
| FILLS            | 21          |
| TRACKS           | 1005        |
| STRINGS          | 129         |
| ARCS             | 551         |
| LANDS            |             |
| PADS             | 202         |
| VIA'S            | 233         |
| PRINT SCALE      |             |
| SCALE            | SCALE: 1.00 |
| PRINT DATE       | 2016/4/7    |
| PRINT TIME       | 10:46:30    |



| Symbol | Hit Count | Finished Hole Size | Plated | Hole Type |
|--------|-----------|--------------------|--------|-----------|
| □      | 2         | 0.9mm              | PTH    | Round     |
| □      | 4         | 3.0mm              | NPTH   | Round     |
| ✱      | 6         | 1.3mm              | PTH    | Round     |
| ◎      | 233       | 0.3mm              | PTH    | Round     |
|        | 245 Total |                    |        |           |

| Layer Stack Up Detail for: 2 Layer Seed Fusion template |                 |                  |                   |                     |                     |                 |
|---------------------------------------------------------|-----------------|------------------|-------------------|---------------------|---------------------|-----------------|
| Layer Name                                              | Gerber Document | Copper Thickness | Dielectric Height | Dielectric Material | Dielectric Constant | Dielectric Type |
| Top Solder Mask                                         | (.GTS)          |                  | 0.0102mm          | Solder Resist       | 3.50                |                 |
| Top                                                     | (.GTL)          | 0.035mm          |                   |                     |                     |                 |
| Bottom                                                  | (.GBL)          | 0.035mm          | 1.6mm             | FR-4                | 4.58                | Core            |
| Bottom Solder Mask                                      | (.GBS)          |                  | 0.0102mm          | Solder Resist       | 3.50                |                 |

LAYER USAGE

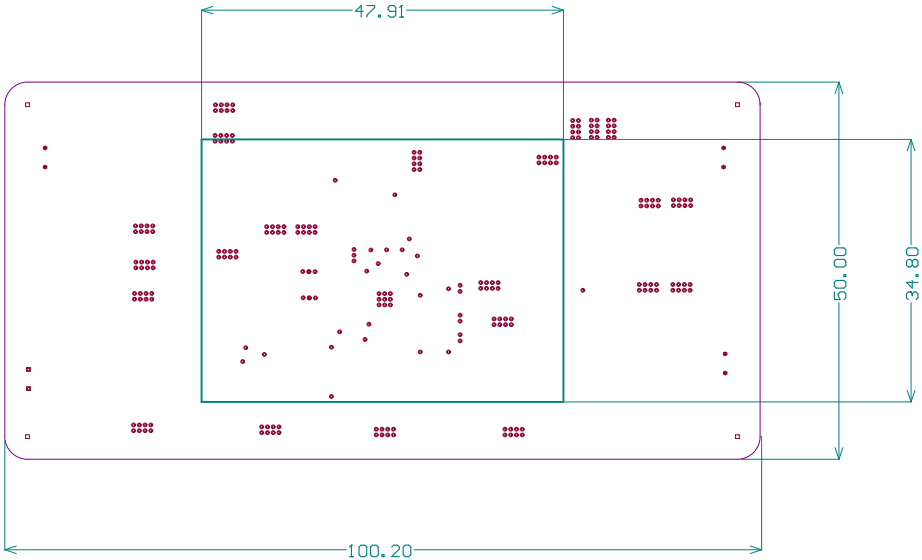
DRILL DRAWING

BOARD OUTLINE

MULTILAYER

DIMENSIONS

| BUILD STATISTICS |             |
|------------------|-------------|
| GENERAL          |             |
| NETS             | 38          |
| COMPONENTS       | 73          |
| PRIMITIVES       |             |
| FILLS            | 21          |
| TRACKS           | 1005        |
| STRINGS          | 129         |
| ARCS             | 551         |
| LANDS            |             |
| PADS             | 202         |
| VIA'S            | 233         |
| PRINT SCALE      |             |
| SCALE            | SCALE: 1.00 |
| PRINT DATE       | 2016/4/7    |
| PRINT TIME       | 10:46:31    |



| Symbol | Hit Count | Finished Hole Size | Plated | Hole Type |
|--------|-----------|--------------------|--------|-----------|
| ■      | 2         | 0.9mm              | PTH    | Round     |
| □      | 4         | 3.0mm              | NPTH   | Round     |
| ✱      | 6         | 1.3mm              | PTH    | Round     |
| ◎      | 233       | 0.3mm              | PTH    | Round     |
|        | 245 Total |                    |        |           |

Layer Stack Up Detail for: 2 Layer Seed Fusion template

| Layer Name         | Gerber Document | Copper Thickness | Dielectric Height | Dielectric Material | Dielectric Constant | Dielectric Type |
|--------------------|-----------------|------------------|-------------------|---------------------|---------------------|-----------------|
| Top Solder Mask    | (.GTS)          |                  | 0.0102mm          | Solder Resist       | 3.50                |                 |
| Top                | (.GTL)          | 0.035mm          |                   |                     |                     |                 |
| Bottom             | (.GBL)          | 0.035mm          | 1.6mm             | FR-4                | 4.58                | Core            |
| Bottom Solder Mask | (.GBS)          |                  | 0.0102mm          | Solder Resist       | 3.50                |                 |

Project:BP-A1-CM\_D

Team: Bpeer Robotics R&D

More info: [www.bpeer.com](http://www.bpeer.com)

PCB file name: BP-A1-CM\_D.PcbDoc

Revision date: 2016-01-18

Rev: v0.1

LAYER USAGE

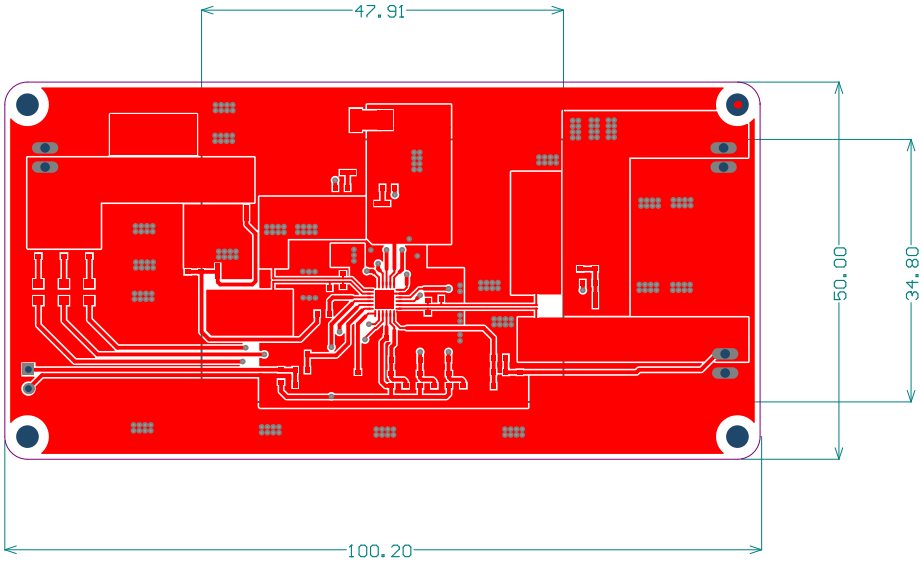
TOP LAYER

BOARD OUTLINE

MULTILAYER

DIMENSIONS

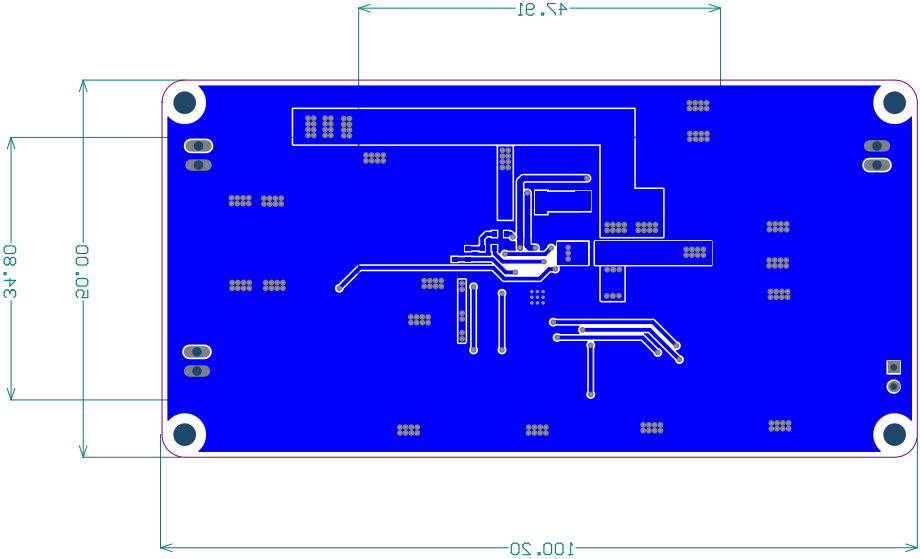
| BUILD STATISTICS |             |
|------------------|-------------|
| GENERAL          |             |
| NETS             | 38          |
| COMPONENTS       | 73          |
| PRIMITIVES       |             |
| FILLS            | 21          |
| TRACKS           | 1005        |
| STRINGS          | 129         |
| ARCS             | 551         |
| LANDS            |             |
| PADS             | 202         |
| VIA'S            | 233         |
| PRINT SCALE      |             |
| SCALE            | SCALE: 1.00 |
| PRINT DATE       | 2016/4/7    |
| PRINT TIME       | 10:46:31    |



Layer Stack Up Detail for: 2 Layer Seed Fusion template

| Layer Name         | Gerber Document | Copper Thickness | Dielectric Height | Dielectric Material | Dielectric Constant | Dielectric Type |
|--------------------|-----------------|------------------|-------------------|---------------------|---------------------|-----------------|
| Top Solder Mask    | (.GTS)          |                  | 0.0102mm          | Solder Resist       | 3.50                |                 |
| Top                | (.GTL)          | 0.035mm          | 1.6mm             | FR-4                | 4.58                | Core            |
| Bottom             | (.GBL)          | 0.035mm          |                   |                     |                     |                 |
| Bottom Solder Mask | (.GBS)          |                  | 0.0102mm          | Solder Resist       | 3.50                |                 |

| Layer Stack Up Detail for: 2 Layer Seed Fusion template |                 |                  |                   |                     |                     |                 |
|---------------------------------------------------------|-----------------|------------------|-------------------|---------------------|---------------------|-----------------|
| Layer Name                                              | Gerber Document | Copper Thickness | Dielectric Height | Dielectric Material | Dielectric Constant | Dielectric Type |
| Top Solder Mask                                         | (>GTS)          | 0.035mm          | 0.0102mm          | Solder Resist       | 3.50                |                 |
| Top                                                     | (>GL)           | 0.035mm          | 1.5mm             | FR-4                | 4.58                | Core            |
| Bottom                                                  | (>BL)           | 0.035mm          |                   |                     |                     |                 |
| Bottom Solder Mask                                      | (>BBS)          | 0.035mm          | 0.0102mm          | Solder Resist       | 3.50                |                 |



| BUILD STATISTICS |             |
|------------------|-------------|
| PRINT TIME       | 10:48:25    |
| PRINT DATE       | 2016/11/17  |
| SCALE            | SCALE: 1.00 |
| PRINT SCALE      |             |
| AVERAGE          | 3.23        |
| PROB             | 30.5        |
| LANDS            |             |
| AREAS            | 251         |
| STRINGS          | 129         |
| TRACES           | 1005        |
| PLTS             | 21          |
| PRIMITIVES       |             |
| COMPONENTS       | 23          |
| NETS             | 28          |
| GENERAL          |             |

| LAYER USAGE   |  |
|---------------|--|
| DIMENSIONS    |  |
| MULTILAYER    |  |
| BOARD OUTLINE |  |
| BOTTOM LAYER  |  |

|                                                             |                           |           |
|-------------------------------------------------------------|---------------------------|-----------|
| Project: BP-A1-CM_D                                         |                           |           |
| Team: Bpeer Robotics R&D                                    |                           |           |
| More info: <a href="http://www.bpeer.com">www.bpeer.com</a> |                           |           |
| PCB file name: BP-A1-CM_D.cpbDoc                            | Revision date: 2016-01-18 | Rev: v0.1 |

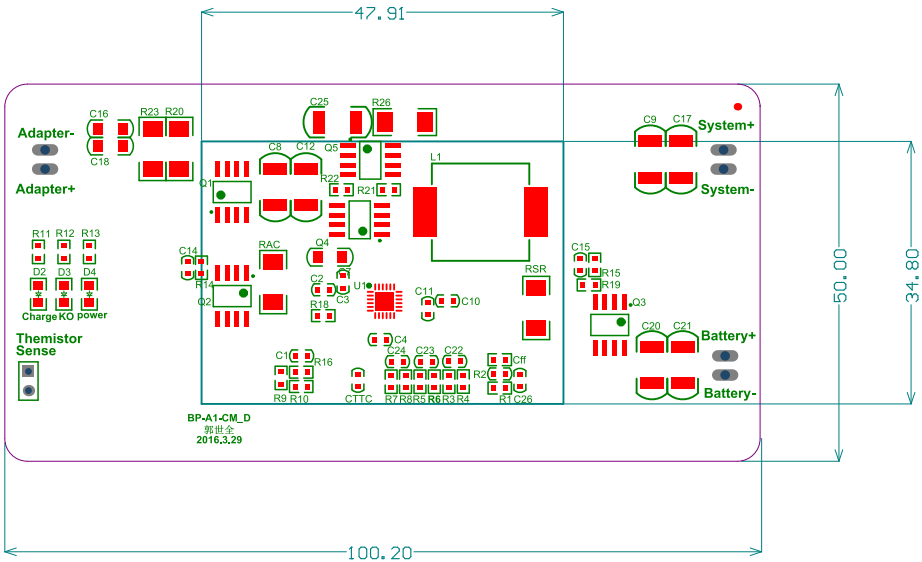
LAYER USAGE

TOP OVERLAY

BOARD OUTLINE

DIMENSIONS

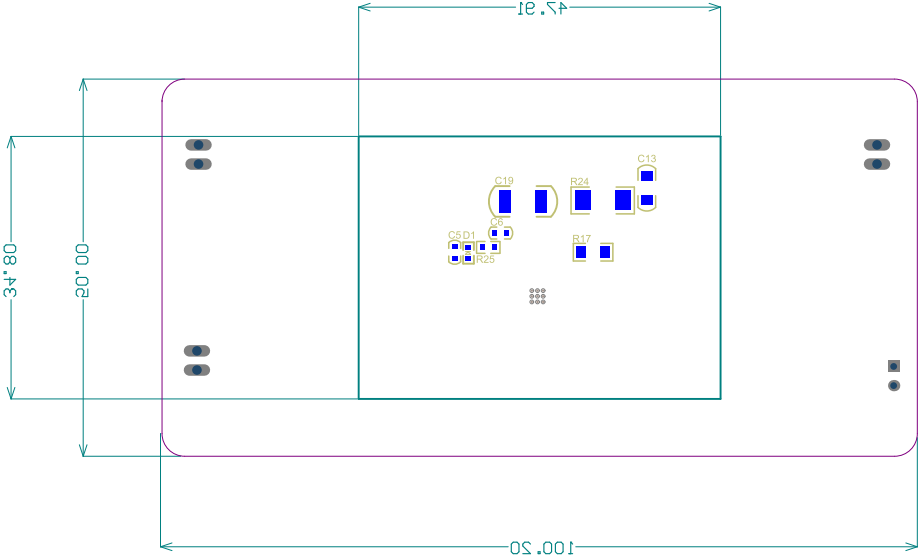
| BUILD STATISTICS |             |
|------------------|-------------|
| GENERAL          |             |
| NETS             | 38          |
| COMPONENTS       | 73          |
| PRIMITIVES       |             |
| FILLS            | 21          |
| TRACKS           | 1005        |
| STRINGS          | 129         |
| ARCS             | 551         |
| LANDS            |             |
| PADS             | 202         |
| VIA'S            | 233         |
| PRINT SCALE      |             |
| SCALE            | SCALE: 1.00 |
| PRINT DATE       | 2016/4/7    |
| PRINT TIME       | 10:46:32    |



#### Layer Stack Up Detail for: 2 Layer Seed Fusion template

| Layer Name         | Gerber Document | Copper Thickness | Dielectric Height | Dielectric Material | Dielectric Constant | Dielectric Type |
|--------------------|-----------------|------------------|-------------------|---------------------|---------------------|-----------------|
| Top Solder Mask    | (.GTS)          |                  | 0.0102mm          | Solder Resist       | 3.50                |                 |
| Top                | (.GTL)          | 0.035mm          |                   |                     |                     |                 |
| Bottom             | (.GBL)          | 0.035mm          | 1.6mm             | FR-4                | 4.58                | Core            |
| Bottom Solder Mask | (.GBS)          |                  | 0.0102mm          | Solder Resist       | 3.50                |                 |

| Layer Stack Up Detail for: 2 Layer Seed Fusion template |                 |                  |                   |                     |                     |      |  |  |  |
|---------------------------------------------------------|-----------------|------------------|-------------------|---------------------|---------------------|------|--|--|--|
| Layer Name                                              | Gerber Document | Copper Thickness | Dielectric Height | Dielectric Material | Dielectric Constant | Type |  |  |  |
| Top Solder Mask                                         | (.GTS)          | 0.035mm          | 0.0102mm          | Solder Resist       | 3.50                |      |  |  |  |
| Top                                                     | (.GTL)          | 0.035mm          | 1.5mm             | FR-4                | 4.58                | Core |  |  |  |
| Bottom                                                  | (.GBL)          | 0.035mm          |                   |                     |                     |      |  |  |  |
| Bottom Solder Mask                                      | (.GBS)          |                  | 0.0102mm          | Solder Resist       | 3.50                |      |  |  |  |



| BUILD STATISTICS |             |
|------------------|-------------|
| PRINT TIME       | 10:48:23    |
| PRINT DATE       | 2016/1/1    |
| SCALE            | SCALE: 1.00 |
| PRINT SCALE      |             |
| AVERAGE          | 3.23        |
| PROB             | 303         |
| LAYS             |             |
| AREAS            | 251         |
| STRINGS          | 129         |
| TRACES           | 1005        |
| PLTS             | 21          |
| PRIMITIVES       |             |
| COMPONENTS       | 12          |
| NETS             | 28          |
| GENERAL          |             |

| LAYER USAGE    |  |
|----------------|--|
| DIMENSIONS     |  |
| BOARD OUTLINE  |  |
| BOTTOM OVERLAY |  |

|                                  |  |                                                             |          |
|----------------------------------|--|-------------------------------------------------------------|----------|
| PCB file name: BP-A1-CM_D.pcbDoc |  | Revision date: 2016-01-18                                   | Rev: 1.0 |
| Team: Bpeer Robotics R&D         |  | More info: <a href="http://www.bpeer.com">www.bpeer.com</a> |          |
| Project: BP-A1-CM_D              |  |                                                             |          |



Project:BP-A1-CM\_D

Team: Bpeer Robotics R&D

More info: [www.bpeer.com](http://www.bpeer.com)

PCB file name: BP-A1-CM\_D.PcbDoc

Revision date: 2016-01-18

Rev: v0.1

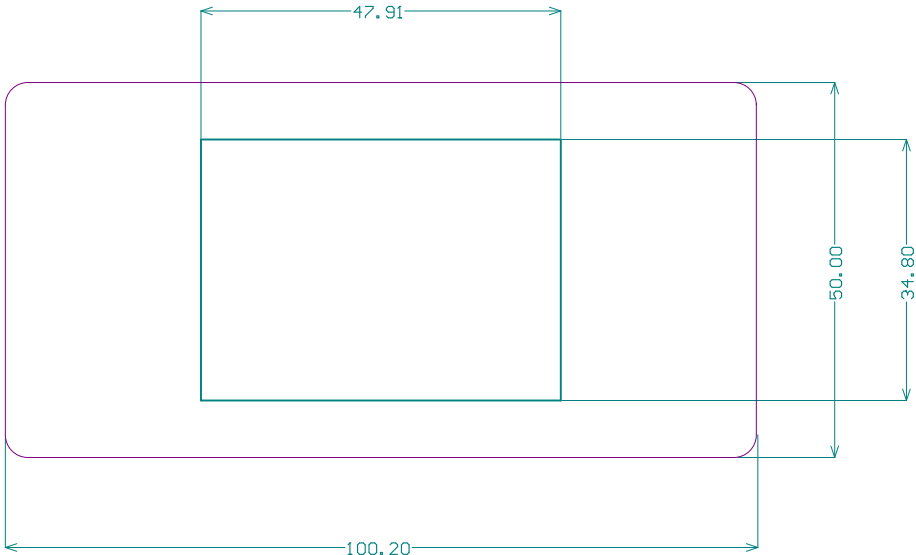
LAYER USAGE

BOARD OUTLINE

MULTILAYER

TOP ASSEMBLY

DIMENSIONS



BUILD STATISTICS

|             |             |
|-------------|-------------|
| GENERAL     |             |
| NETS        | 38          |
| COMPONENTS  | 73          |
| PRIMITIVES  |             |
| FILLS       | 21          |
| TRACKS      | 1005        |
| STRINGS     | 129         |
| ARC'S       | 551         |
| LANDS       |             |
| PADS        | 202         |
| VIA'S       | 233         |
| PRINT SCALE |             |
| SCALE       | SCALE: 1.95 |
| PRINT DATE  | 2016/4/7    |
| PRINT TIME  | 10:46:34    |

Layer Stack Up Detail for: 2 Layer Seed Fusion template

| Layer Name         | Gerber Document | Copper Thickness | Dielectric Height | Dielectric Material | Dielectric Constant | Dielectric Type |
|--------------------|-----------------|------------------|-------------------|---------------------|---------------------|-----------------|
| Top Solder Mask    | (.GTS)          |                  | 0.0102mm          | Solder Resist       | 3.50                |                 |
| Top                | (.GTL)          | 0.035mm          | 1.6mm             | FR-4                | 4.58                | Core            |
| Bottom             | (.GBL)          | 0.035mm          |                   |                     |                     |                 |
| Bottom Solder Mask | (.GBS)          |                  | 0.0102mm          | Solder Resist       | 3.50                |                 |

Layer Usage

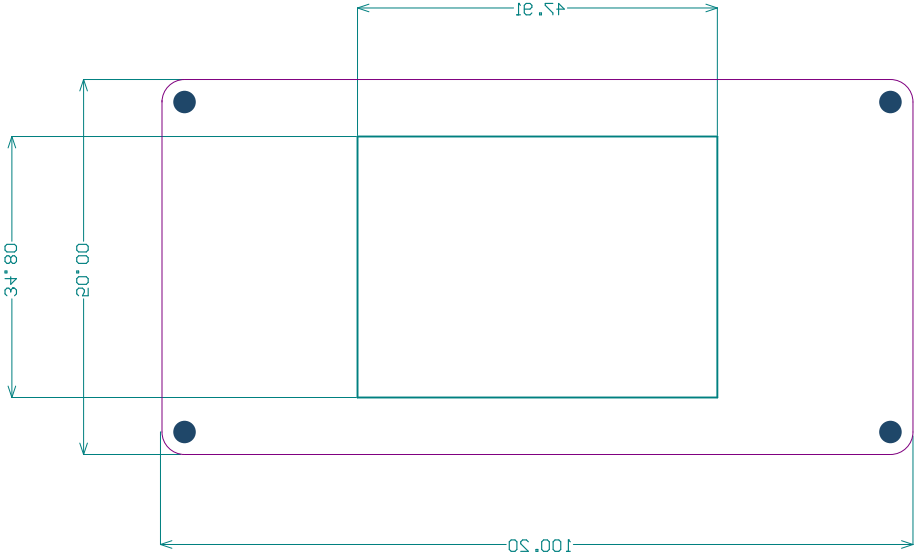
BOARD OUTLINE

MULTILAYER

BOTTOM ASSEMBLY

DIMENSIONS

| BUILD STATISTICS |             |
|------------------|-------------|
| GENERAL          |             |
| NETS             | 28          |
| COMPONENTS       | 12          |
| PRIMITIVES       |             |
| PADS             | 21          |
| TRACES           | 1002        |
| STRAIGHT         | 128         |
| ARC2             | 251         |
| LANDS            |             |
| PADS             | 202         |
| AV2              | 232         |
| PRINT SCALE      |             |
| SCALE            | SCALE: 1.82 |
| PRINT DATE       | 2018/11     |
| PRINT TIME       | 10:48:24    |



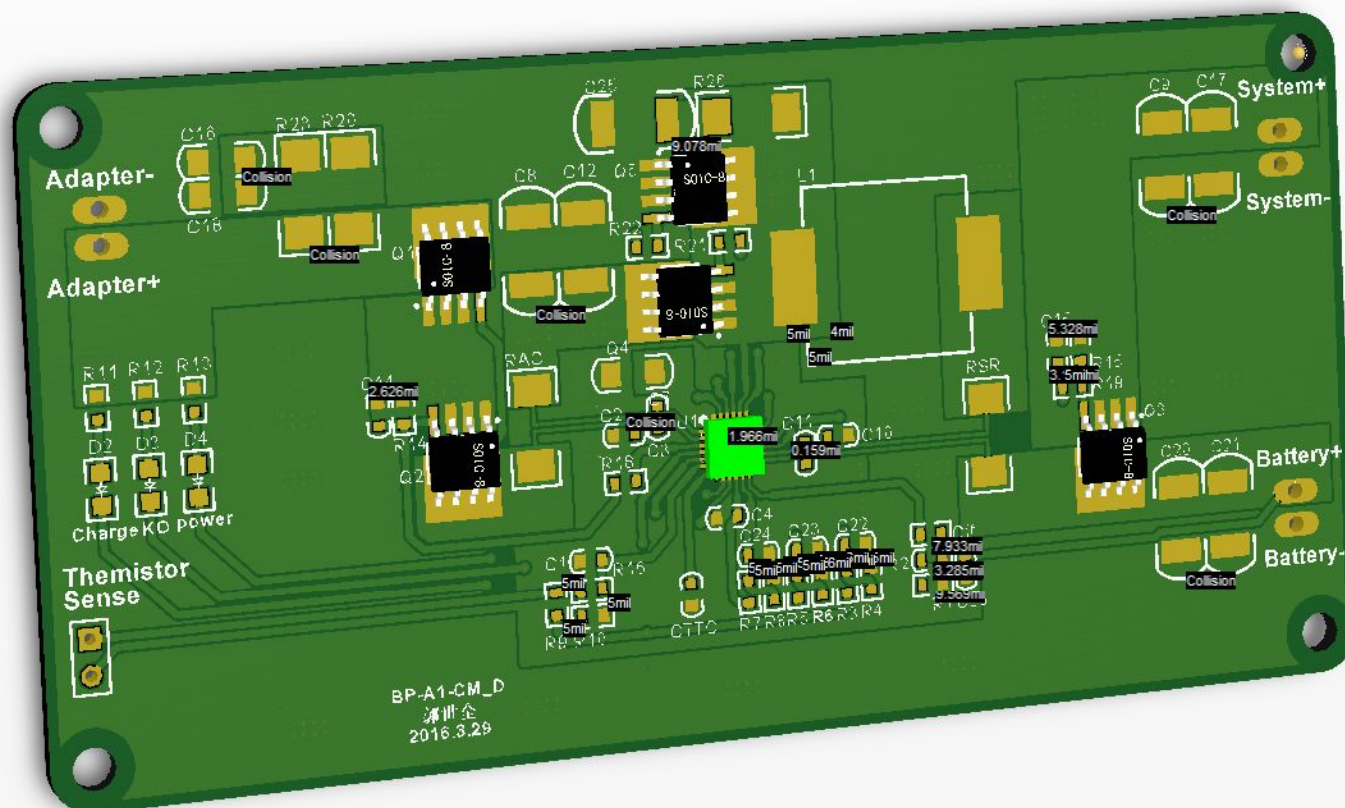
|                                  |                           |           |
|----------------------------------|---------------------------|-----------|
| Project: BP-A1-CM_D              |                           |           |
| Team: Bbeer Robotics R&D         |                           |           |
| PCB file name: BP-A1-CM_D.pcbDoc | More info: www.bbeer.com  |           |
|                                  | Revision date: 2018-01-18 | Rev: v0.1 |

| Layer Stack Up Detail for: 2 Layer Seed Fusion template |                    |            |          |               |            |          |
|---------------------------------------------------------|--------------------|------------|----------|---------------|------------|----------|
| Layer                                                   | Name               | Dielectric | Height   | Material      | Dielectric | Constant |
| Top                                                     | Top Solder Mask    | (.012)     | 0.032mm  | FR-4          | 1.58       | Core     |
| Bottom                                                  | Bottom Solder Mask | (.012)     | 0.032mm  | FR-4          | 1.58       | Core     |
| Top                                                     | Top Solder Mask    | (.012)     | 0.0103mm | Solder Resist | 3.50       |          |
| Bottom                                                  | Bottom Solder Mask | (.012)     | 0.0103mm | Solder Resist | 3.50       |          |

LAYER

TOM LAYER

## MULTILAYER





Electrical Rules Check Report

| Class | Document | Message                                  |
|-------|----------|------------------------------------------|
|       |          | Successful Compile for BP-A1-CM_D.PrjPcb |
|       |          |                                          |

**Difference Report For Project BP-A1-CM\_D.PrjPcb and BP-A1-CM\_D.PcbDoc**

No differences were detected.

|  |
|--|
|  |
|--|

## Design Rules Verification Report

Filename : D:\Users\DK\Desktop\DHLX2 Projects\1 Work\BP-A1-CM\_A\PCB\BP-A1-CM\_D.PcbDoc

Warnings 0  
Rule Violations 132

| Warnings |   |
|----------|---|
| Total    | 0 |

| Rule Violations                                                                                                |     |
|----------------------------------------------------------------------------------------------------------------|-----|
| Clearance Constraint (Gap=12mil) (InNet('GND')), (InComponent('U1'))                                           | 24  |
| Clearance Constraint (Gap=3.937mil) (IsVia), (IsPad)                                                           | 9   |
| Minimum Annular Ring (Minimum=7.874mil) (All)                                                                  | 15  |
| Clearance Constraint (Gap=7.874mil) (All), (All)                                                               | 0   |
| Width Constraint (Min=6.299mil) (Max=120mil) (Preferred=23.622mil) (All)                                       | 0   |
| Power Plane Connect Rule(Direct Connect )(Expansion=20mil) (Conductor Width=10mil) (Air Gap=10mil) (Entries=4) | 0   |
| Routing Layers(All)                                                                                            | 0   |
| Routing Via (MinHoleWidth=11.811mil) (MaxHoleWidth=35.433mil) (PreferredHoleWidth=23.622mil)                   | 9   |
| Short-Circuit Constraint (Allowed=No) (All), (All)                                                             | 1   |
| Un-Routed Net Constraint ( All )                                                                               | 2   |
| Component Clearance Constraint ( Horizontal Gap = 10mil, Vertical Gap = 10mil ) (All), (All)                   | 37  |
| Hole Size Constraint (Min=11.811mil) (Max=248.031mil) (All)                                                    | 0   |
| Fabrication Testpoint Style (Under Component=Yes) (Disabled)(All)                                              | 0   |
| Fabrication Testpoint Usage (Valid =One Required, Allow multiple per net=No) (Disabled)(All)                   | 0   |
| Pads and Vias to follow the Drill pairs settings                                                               | 0   |
| Height Constraint (Min=0mil) (Max=1000mil) (Prefered=500mil) (All)                                             | 0   |
| Differential Pairs Uncoupled Length using the Gap Constraints (Min=8mil) (Max=10mil) (Prefered=8mil) and Width | 1   |
| Hole To Hole Clearance (Gap=11.811mil) (All), (All)                                                            | 2   |
| Minimum Solder Mask Sliver (Gap=3.937mil) (All), (All)                                                         | 32  |
| Net Antennae (Tolerance=0mil) (All)                                                                            | 0   |
| Assembly Testpoint Style (Under Component=Yes) (Disabled)(All)                                                 | 0   |
| Assembly Testpoint Usage (Valid =One Required, Allow multiple per net=No) (Disabled)(All)                      | 0   |
| Clearance Constraint (Gap=11.811mil) (InPolygonClass('GNDpolygons')), (All)                                    | 0   |
| Clearance Constraint (Gap=3.937mil) (InComponent('U1')), (All)                                                 | 0   |
| Total                                                                                                          | 132 |

**Clearance Constraint (Gap=12mil) (InNet('GND')), (InComponent('U1'))**

|                                                                                                                               |
|-------------------------------------------------------------------------------------------------------------------------------|
| Clearance Constraint: (7.874mil < 12mil) Between Pad U1-9(1970.158mil,760.197mil) on Top And Pad U1-0(1980mil,835mil) on Top  |
| Clearance Constraint: (7.874mil < 12mil) Between Pad U1-8(1950.473mil,760.197mil) on Top And Pad U1-0(1980mil,835mil) on Top  |
| Clearance Constraint: (7.912mil < 12mil) Between Pad U1-7(1930.787mil,760.197mil) on Top And Pad U1-0(1980mil,835mil) on Top  |
| Clearance Constraint: (7.912mil < 12mil) Between Pad U1-24(1930.787mil,909.803mil) on Top And Pad U1-0(1980mil,835mil) on Top |
| Clearance Constraint: (7.874mil < 12mil) Between Pad U1-23(1950.473mil,909.803mil) on Top And Pad U1-0(1980mil,835mil) on Top |
| Clearance Constraint: (7.874mil < 12mil) Between Pad U1-22(1970.158mil,909.803mil) on Top And Pad U1-0(1980mil,835mil) on Top |
| Clearance Constraint: (7.912mil < 12mil) Between Pad U1-12(2029.213mil,760.197mil) on Top And Pad U1-0(1980mil,835mil) on Top |
| Clearance Constraint: (7.874mil < 12mil) Between Pad U1-11(2009.528mil,760.197mil) on Top And Pad U1-0(1980mil,835mil) on Top |
| Clearance Constraint: (7.874mil < 12mil) Between Pad U1-20(2009.528mil,909.803mil) on Top And Pad U1-0(1980mil,835mil) on Top |
| Clearance Constraint: (7.912mil < 12mil) Between Pad U1-19(2029.213mil,909.803mil) on Top And Pad U1-0(1980mil,835mil) on Top |
| Clearance Constraint: (7.874mil < 12mil) Between Pad U1-10(1989.843mil,760.197mil) on Top And Pad U1-0(1980mil,835mil) on Top |
| Clearance Constraint: (7.874mil < 12mil) Between Pad U1-16(2054.803mil,844.842mil) on Top And Pad U1-0(1980mil,835mil) on Top |
| Clearance Constraint: (7.874mil < 12mil) Between Pad U1-15(2054.803mil,825.157mil) on Top And Pad U1-0(1980mil,835mil) on Top |
| Clearance Constraint: (7.874mil < 12mil) Between Pad U1-14(2054.803mil,805.472mil) on Top And Pad U1-0(1980mil,835mil) on Top |
| Clearance Constraint: (7.874mil < 12mil) Between Pad U1-5(1905.197mil,805.472mil) on Top And Pad U1-0(1980mil,835mil) on Top  |
| Clearance Constraint: (7.874mil < 12mil) Between Pad U1-4(1905.197mil,825.157mil) on Top And Pad U1-0(1980mil,835mil) on Top  |
| Clearance Constraint: (7.874mil < 12mil) Between Pad U1-3(1905.197mil,844.842mil) on Top And Pad U1-0(1980mil,835mil) on Top  |
| Clearance Constraint: (7.874mil < 12mil) Between Pad U1-21(1989.843mil,909.803mil) on Top And Pad U1-0(1980mil,835mil) on Top |
| Clearance Constraint: (7.912mil < 12mil) Between Pad U1-18(2054.803mil,884.212mil) on Top And Pad U1-0(1980mil,835mil) on Top |
| Clearance Constraint: (7.912mil < 12mil) Between Pad U1-1(1905.197mil,884.212mil) on Top And Pad U1-0(1980mil,835mil) on Top  |
| Clearance Constraint: (7.874mil < 12mil) Between Pad U1-17(2054.803mil,864.528mil) on Top And Pad U1-0(1980mil,835mil) on Top |
| Clearance Constraint: (7.912mil < 12mil) Between Pad U1-13(2054.803mil,785.787mil) on Top And Pad U1-0(1980mil,835mil) on Top |
| Clearance Constraint: (7.912mil < 12mil) Between Pad U1-6(1905.197mil,785.787mil) on Top And Pad U1-0(1980mil,835mil) on Top  |
| Clearance Constraint: (7.874mil < 12mil) Between Pad U1-2(1905.197mil,864.528mil) on Top And Pad U1-0(1980mil,835mil) on Top  |

**Clearance Constraint (Gap=3.937mil) (IsVia),(IsPad)**

|                                                                                                                                          |
|------------------------------------------------------------------------------------------------------------------------------------------|
| Clearance Constraint: (Collision < 3.937mil) Between Via (1950.473mil,835mil) from Top to Bottom And Pad U1-0(1980mil,835mil) on Top     |
| Clearance Constraint: (Collision < 3.937mil) Between Via (1950.473mil,805.472mil) from Top to Bottom And Pad U1-0(1980mil,835mil) on Top |
| Clearance Constraint: (Collision < 3.937mil) Between Via (2009.528mil,835mil) from Top to Bottom And Pad U1-0(1980mil,835mil) on Top     |
| Clearance Constraint: (Collision < 3.937mil) Between Via (2009.528mil,805.472mil) from Top to Bottom And Pad U1-0(1980mil,835mil) on Top |
| Clearance Constraint: (Collision < 3.937mil) Between Via (1950.473mil,864.528mil) from Top to Bottom And Pad U1-0(1980mil,835mil) on Top |
| Clearance Constraint: (Collision < 3.937mil) Between Via (2009.528mil,864.528mil) from Top to Bottom And Pad U1-0(1980mil,835mil) on Top |
| Clearance Constraint: (Collision < 3.937mil) Between Via (1980mil,835mil) from Top to Bottom And Pad U1-0(1980mil,835mil) on Top         |
| Clearance Constraint: (Collision < 3.937mil) Between Via (1980mil,805.472mil) from Top to Bottom And Pad U1-0(1980mil,835mil) on Top     |
| Clearance Constraint: (Collision < 3.937mil) Between Via (1980mil,864.528mil) from Top to Bottom And Pad U1-0(1980mil,835mil) on Top     |

**Minimum Annular Ring (Minimum=7.874mil) (All)**

|                                                                                                                                    |
|------------------------------------------------------------------------------------------------------------------------------------|
| Minimum Annular Ring: (4.999mil < 7.874mil) Pad P3-2(3755mil,450mil) on Multi-Layer (Annular Ring=5mil) On (Top Layer)             |
| Minimum Annular Ring: (4.999mil < 7.874mil) Pad P3-1(3755mil,550mil) on Multi-Layer (Annular Ring=5mil) On (Top Layer)             |
| Minimum Annular Ring: (4.999mil < 7.874mil) Pad P2-1(3746.714mil,1625mil) on Multi-Layer (Annular Ring=5mil) On (Top Layer)        |
| Minimum Annular Ring: (4.999mil < 7.874mil) Pad P2-2(3746.714mil,1525mil) on Multi-Layer (Annular Ring=5mil) On (Top Layer)        |
| Minimum Annular Ring: (4.999mil < 7.874mil) Pad P1-2(210mil,1625mil) on Multi-Layer (Annular Ring=5mil) On (Top Layer)             |
| Minimum Annular Ring: (4.999mil < 7.874mil) Pad P1-1(210mil,1525mil) on Multi-Layer (Annular Ring=5mil) On (Top Layer)             |
| Minimum Annular Ring: (3.937mil < 7.874mil) Via (1950.473mil,805.472mil) from Top to Bottom (Annular Ring=3.937mil) On (Top Layer) |
| Minimum Annular Ring: (3.937mil < 7.874mil) Via (1950.473mil,835mil) from Top to Bottom (Annular Ring=3.937mil) On (Top Layer)     |
| Minimum Annular Ring: (3.937mil < 7.874mil) Via (2009.528mil,805.472mil) from Top to Bottom (Annular Ring=3.937mil) On (Top Layer) |
| Minimum Annular Ring: (3.937mil < 7.874mil) Via (2009.528mil,835mil) from Top to Bottom (Annular Ring=3.937mil) On (Top Layer)     |
| Minimum Annular Ring: (3.937mil < 7.874mil) Via (1950.473mil,864.528mil) from Top to Bottom (Annular Ring=3.937mil) On (Top Layer) |
| Minimum Annular Ring: (3.937mil < 7.874mil) Via (1980mil,805.472mil) from Top to Bottom (Annular Ring=3.937mil) On (Top Layer)     |
| Minimum Annular Ring: (3.937mil < 7.874mil) Via (1980mil,835mil) from Top to Bottom (Annular Ring=3.937mil) On (Top Layer)         |
| Minimum Annular Ring: (3.937mil < 7.874mil) Via (1980mil,864.528mil) from Top to Bottom (Annular Ring=3.937mil) On (Top Layer)     |
| Minimum Annular Ring: (3.937mil < 7.874mil) Via (2009.528mil,864.528mil) from Top to Bottom (Annular Ring=3.937mil) On (Top Layer) |



**Routing Via (MinHoleWidth=11.811mil) (MaxHoleWidth=35.433mil) (PreferredHoleWidth=23.622mil) (MinWidth=27.559mil)**

Routing Via Style: Via (1950.473mil,805.472mil) from Top to Bottom Actual Size : 19.685mil Actual Hole Size : 11.811mi

Routing Via Style: Via (1950.473mil,835mil) from Top to Bottom Actual Size : 19.685mil Actual Hole Size : 11.811mi

Routing Via Style: Via (2009.528mil,805.472mil) from Top to Bottom Actual Size : 19.685mil Actual Hole Size : 11.811mi

Routing Via Style: Via (2009.528mil,835mil) from Top to Bottom Actual Size : 19.685mil Actual Hole Size : 11.811mi

Routing Via Style: Via (1950.473mil,864.528mil) from Top to Bottom Actual Size : 19.685mil Actual Hole Size : 11.811mi

Routing Via Style: Via (1980mil,805.472mil) from Top to Bottom Actual Size : 19.685mil Actual Hole Size : 11.811mi

Routing Via Style: Via (1980mil,835mil) from Top to Bottom Actual Size : 19.685mil Actual Hole Size : 11.811mi

Routing Via Style: Via (1980mil,864.528mil) from Top to Bottom Actual Size : 19.685mil Actual Hole Size : 11.811mi

Routing Via Style: Via (2009.528mil,864.528mil) from Top to Bottom Actual Size : 19.685mil Actual Hole Size : 11.811mi

**Short-Circuit Constraint (Allowed=No) (All),(All)**

Short-Circuit Constraint: Between Pad Free-(3818.898mil,1850.394mil) on Multi-Layer And Pad F2-(3818.898mil,1850.394mil) on Top Location : [X =

**Un-Routed Net Constraint ( All )**

Un-Routed Net Constraint: Net AGND Between Pad Tie1-2(2020mil,864.528mil) on Top And Pad U1-17(2054.803mil,864.528mil) on Top

Un-Routed Net Constraint: Net GND Between Via (2009.528mil,864.528mil) from Top to Bottom And Pad Tie1-1(2040mil,864.528mil) on Top

**Component Clearance Constraint ( Horizontal Gap = 10mil, Vertical Gap = 10mil ) (All),(All)**

Component Clearance Constraint (Collision &lt; 10mil) Between SMT Small Component C20-10uF (3373.286mil,596.299mil) on Top And SMT Smal

Component Clearance Constraint (Collision &lt; 10mil) Between SMT Small Component C9-10uF (3365mil,1670mil) on Top And SMT Small Componen

Component Clearance Constraint (Collision &lt; 10mil) Between SMT Small Component C15-0.1uF (3000mil,1057mil) on Top And SMT Smal

Component Clearance Constraint (Collision &lt; 10mil) Between SMT Small Component R19-1K (3045mil,920mil) on Top And SMT Small Componen

Component Clearance Constraint (Collision &lt; 10mil) Between SMT Small Component R19-1K (3045mil,920mil) on Top And SMT Small Componen

Component Clearance Constraint (Collision &lt; 10mil) Between LCC Component U1-BQ24610RGE (1980mil,835mil) on Top And SMT Smal

Component Clearance Constraint (Collision &lt; 10mil) Between SMT Small Component C25-22nF (1640mil,1770mil) on Top And SMT Smal

Component Clearance Constraint (Collision &lt; 10mil) Between SMT Small Component D1-ZLS350 (2341.441mil,1061mil) on Bottom And SMT Smal

Component Clearance Constraint (Collision &lt; 10mil) Between SMT Small Component C6-0.1uF (2204mil,1165mil) on Bottom And SMT Smal

Component Clearance Constraint (Collision &lt; 10mil) Between SMT Small Component R20-20hm (910mil,1630mil) on Top And SMT Smal

Component Clearance Constraint (Collision &lt; 10mil) Between SMT Small Component R1-100K (2580mil,382mil) on Top And SMT Small Componen

Component Clearance Constraint (Collision &lt; 10mil) Between SMT Small Component Cf-22pF (2547.874mil,455.969mil) on Top And SMT Smal

Component Clearance Constraint (Collision &lt; 10mil) Between SMT Small Component R2-1.1M (2580mil,530mil) on Top And SMT Small Componen

Component Clearance Constraint (Collision &lt; 10mil) Between SMT Small Component R8-22.1K (2088.731mil,415mil) on Top And SMT Smal

Component Clearance Constraint (Collision &lt; 10mil) Between SMT Small Component R7-100K (2013.731mil,415mil) on Top And SMT Smal

Component Clearance Constraint (Collision &lt; 10mil) Between SMT Small Component R8-22.1K (2088.731mil,415mil) on Top And SMT Smal

Component Clearance Constraint (Collision &lt; 10mil) Between SMT Small Component R5-100K (2164mil,415mil) on Top And SMT Small Componen

Component Clearance Constraint (Collision &lt; 10mil) Between SMT Small Component R6-10K (2239mil,415mil) on Top And SMT Small Componen

Component Clearance Constraint (Collision &lt; 10mil) Between SMT Small Component R6-10K (2239mil,415mil) on Top And SMT Small Componen

Component Clearance Constraint (Collision &lt; 10mil) Between SMT Small Component R3-100K (2315mil,415mil) on Top And SMT Small Componen

Component Clearance Constraint (Collision &lt; 10mil) Between SMT Small Component R4-32.4K (2390mil,416mil) on Top And SMT Small Componen

Component Clearance Constraint (Collision &lt; 10mil) Between SMT Small Component C16-2.2uF (615mil,1735mil) on Top And SMT Smal

Component Clearance Constraint (Collision &lt; 10mil) Between SMT Small Component C3-0.1uF (1763mil,903mil) on Top And SMT Small Componen

Component Clearance Constraint (Collision &lt; 10mil) Between SMT Small Component D1-ZLS350 (2341.441mil,1061mil) on Bottom And SMT Smal

Component Clearance Constraint (Collision &lt; 10mil) Between SMT Small Component C12-10uF (1570mil,1335mil) on Top And SMT Smal

Component Clearance Constraint (Collision &lt; 10mil) Between SMT Small Component C11-0.1uF (2205mil,828mil) on Top And SMT Smal

Component Clearance Constraint (Collision &lt; 10mil) Between SMT Small Component R14-NS (1025mil,1010mil) on Top And SMT Small Componen

Component Clearance Constraint (Collision &lt; 10mil) Between SMT Small Component R1-100K (2580mil,382mil) on Top And SMT Small Componen

Component Clearance Constraint (Collision &lt; 10mil) Between SMT Small Component R2-1.1M (2580mil,530mil) on Top And SMT Small Componen

Component Clearance Constraint (Collision &lt; 10mil) Between SMT Small Component R6-10K (2239mil,415mil) on Top And SMT Small Componen

Component Clearance Constraint (Collision &lt; 10mil) Between SMT Small Component R4-32.4K (2390mil,416mil) on Top And SMT Small Componen

Component Clearance Constraint (Collision &lt; 10mil) Between SMT Small Component R8-22.1K (2088.731mil,415mil) on Top And SMT Smal

Component Clearance Constraint (Collision &lt; 10mil) Between SMT Small Component R6-10K (2239mil,415mil) on Top And SMT Small Componen

Component Clearance Constraint (Collision &lt; 10mil) Between SMT Small Component R8-22.1K (2088.731mil,415mil) on Top And SMT Smal

Component Clearance Constraint (Collision &lt; 10mil) Between SMT Small Component R10-430K (1545mil,390mil) on Top And SMT Small Componen

Component Clearance Constraint (Collision &lt; 10mil) Between SMT Small Component R16-100 (1545mil,465mil) on Top And SMT Small Componen

Component Clearance Constraint (Collision &lt; 10mil) Between SMT Small Component R16-100 (1545mil,465mil) on Top And SMT Small Componen

**Differential Pairs Uncoupled Length using the Gap Constraints (Min=8mil) (Max=10mil) (Preferred=8mil) and Width Con:**

Differential Pairs Routing: Between Net SR\_P And Net SR\_N [Uncoupled Length = 1364.703mil], [Maximum Uncoupled Length = 500mil]

**Hole To Hole Clearance (Gap=11.811mil) (All),(All)**

Hole To Hole Clearance Constraint: (Collision &lt; 11.811mil) Between Via (1585mil,979mil) from Top to Bottom And Via (1585mil,979mil) from Top to Bottom

Hole To Hole Clearance Constraint: (Collision &lt; 11.811mil) Between Via (1587mil,842mil) from Top to Bottom And Via (1587mil,842mil) from Top to Bottom

**Minimum Solder Mask Sliver (Gap=3.937mil) (All),(All)**

Minimum Solder Mask Sliver Constraint: (1.969mil &lt; 3.937mil) Between Pad U1-3(1905.197mil,844.842mil) on Top And Pad U1-3(1905.197mil,844.842mil) on Bottom

Minimum Solder Mask Sliver Constraint: (1.969mil &lt; 3.937mil) Between Pad U1-1(1905.197mil,884.212mil) on Top And Pad U1-1(1905.197mil,884.212mil) on Bottom

Minimum Solder Mask Sliver Constraint: (1.969mil &lt; 3.937mil) Between Pad U1-4(1905.197mil,825.157mil) on Top And Pad U1-4(1905.197mil,825.157mil) on Bottom

Minimum Solder Mask Sliver Constraint: (1.969mil &lt; 3.937mil) Between Pad U1-5(1905.197mil,805.472mil) on Top And Pad U1-5(1905.197mil,805.472mil) on Bottom

Minimum Solder Mask Sliver Constraint: (1.969mil &lt; 3.937mil) Between Pad U1-6(1905.197mil,785.787mil) on Top And Pad U1-6(1905.197mil,785.787mil) on Bottom

Minimum Solder Mask Sliver Constraint: (1.969mil &lt; 3.937mil) Between Pad U1-8(1950.473mil,760.197mil) on Top And Pad U1-8(1950.473mil,760.197mil) on Bottom

Minimum Solder Mask Sliver Constraint: (1.969mil &lt; 3.937mil) Between Pad U1-9(1970.158mil,760.197mil) on Top And Pad U1-9(1970.158mil,760.197mil) on Bottom

Minimum Solder Mask Sliver Constraint: (1.969mil &lt; 3.937mil) Between Pad U1-10(1989.843mil,760.197mil) on Top And Pad U1-10(1989.843mil,760.197mil) on Bottom

Minimum Solder Mask Sliver Constraint: (1.969mil &lt; 3.937mil) Between Pad U1-11(2009.528mil,760.197mil) on Top And Pad U1-11(2009.528mil,760.197mil) on Bottom

Minimum Solder Mask Sliver Constraint: (1.969mil &lt; 3.937mil) Between Pad U1-12(2029.213mil,760.197mil) on Top And Pad U1-12(2029.213mil,760.197mil) on Bottom

Minimum Solder Mask Sliver Constraint: (1.969mil &lt; 3.937mil) Between Pad U1-14(2054.803mil,805.472mil) on Top And Pad U1-14(2054.803mil,805.472mil) on Bottom

Minimum Solder Mask Sliver Constraint: (1.969mil &lt; 3.937mil) Between Pad U1-15(2054.803mil,825.157mil) on Top And Pad U1-15(2054.803mil,825.157mil) on Bottom

Minimum Solder Mask Sliver Constraint: (1.969mil &lt; 3.937mil) Between Pad U1-16(2054.803mil,844.842mil) on Top And Pad U1-16(2054.803mil,844.842mil) on Bottom

Minimum Solder Mask Sliver Constraint: (1.969mil &lt; 3.937mil) Between Pad U1-17(2054.803mil,864.528mil) on Top And Pad U1-17(2054.803mil,864.528mil) on Bottom

Minimum Solder Mask Sliver Constraint: (1.969mil &lt; 3.937mil) Between Pad U1-18(2054.803mil,884.212mil) on Top And Pad U1-18(2054.803mil,884.212mil) on Bottom

Minimum Solder Mask Sliver Constraint: (1.969mil &lt; 3.937mil) Between Pad U1-20(2009.528mil,909.803mil) on Top And Pad U1-20(2009.528mil,909.803mil) on Bottom

Minimum Solder Mask Sliver Constraint: (1.969mil &lt; 3.937mil) Between Pad U1-21(1989.843mil,909.803mil) on Top And Pad U1-21(1989.843mil,909.803mil) on Bottom

Minimum Solder Mask Sliver Constraint: (1.969mil &lt; 3.937mil) Between Pad U1-22(1970.158mil,909.803mil) on Top And Pad U1-22(1970.158mil,909.803mil) on Bottom

Minimum Solder Mask Sliver Constraint: (1.969mil &lt; 3.937mil) Between Pad U1-23(1950.473mil,909.803mil) on Top And Pad U1-23(1950.473mil,909.803mil) on Bottom

Minimum Solder Mask Sliver Constraint: (1.969mil &lt; 3.937mil) Between Pad U1-24(1930.787mil,909.803mil) on Top And Pad U1-24(1930.787mil,909.803mil) on Bottom

Minimum Solder Mask Sliver Constraint: (1.969mil &lt; 3.937mil) Between Via (1950.473mil,835mil) from Top to Bottom And Via (1950.473mil,835mil) from Bottom to Top

Minimum Solder Mask Sliver Constraint: (1.968mil &lt; 3.937mil) Between Via (1980mil,805.472mil) from Top to Bottom And Via (1980mil,805.472mil) from Bottom to Top

Minimum Solder Mask Sliver Constraint: (1.968mil &lt; 3.937mil) Between Via (1950.473mil,864.528mil) from Top to Bottom And Via (1950.473mil,864.528mil) from Bottom to Top

Minimum Solder Mask Sliver Constraint: (1.968mil &lt; 3.937mil) Between Via (1980mil,835mil) from Top to Bottom And Via (1950.473mil,835mil) from Bottom to Top

Minimum Solder Mask Sliver Constraint: (1.969mil &lt; 3.937mil) Between Via (2009.528mil,835mil) from Top to Bottom And Via (2009.528mil,835mil) from Bottom to Top

Minimum Solder Mask Sliver Constraint: (1.969mil &lt; 3.937mil) Between Via (1980mil,805.472mil) from Top to Bottom And Via (1980mil,805.472mil) from Bottom to Top

Minimum Solder Mask Sliver Constraint: (1.968mil &lt; 3.937mil) Between Via (2009.528mil,864.528mil) from Top to Bottom And Via (2009.528mil,864.528mil) from Bottom to Top

Minimum Solder Mask Sliver Constraint: (1.969mil &lt; 3.937mil) Between Via (1980mil,835mil) from Top to Bottom And Via (2009.528mil,835mil) from Bottom to Top

Minimum Solder Mask Sliver Constraint: (1.968mil &lt; 3.937mil) Between Via (1980mil,864.528mil) from Top to Bottom And Via (1980mil,864.528mil) from Bottom to Top

Minimum Solder Mask Sliver Constraint: (1.969mil &lt; 3.937mil) Between Via (1980mil,835mil) from Top to Bottom And Via (1980mil,805.472mil) from Bottom to Top

Minimum Solder Mask Sliver Constraint: (1.968mil &lt; 3.937mil) Between Via (1980mil,864.528mil) from Top to Bottom And Via (1980mil,835mil) from Bottom to Top

Minimum Solder Mask Sliver Constraint: (1.969mil &lt; 3.937mil) Between Via (2009.528mil,864.528mil) from Top to Bottom And Via (2009.528mil,864.528mil) from Bottom to Top