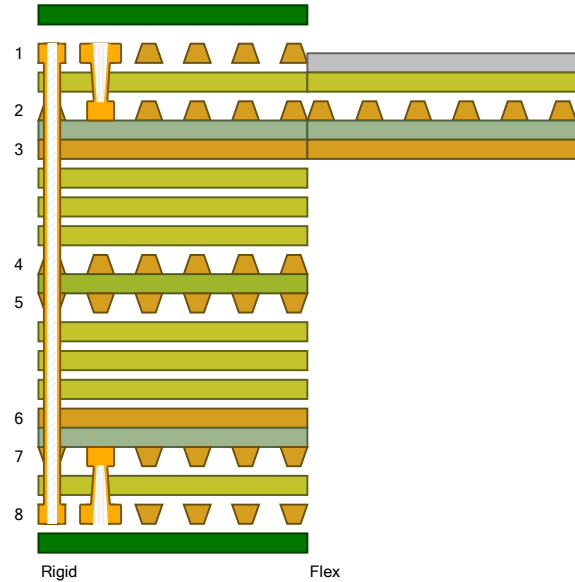




|                  |                       |           |               |                   |        |             |  |
|------------------|-----------------------|-----------|---------------|-------------------|--------|-------------|--|
| StackName: Rigid | Version:              | Revision: | Modification: | Date of Revision: | Editor | Page<br>1/4 |  |
| Date:            | Associated Documents: |           |               |                   |        |             |  |
| Author:          |                       |           |               |                   |        |             |  |
| Department:      |                       |           |               |                   |        |             |  |
| Site:            |                       |           |               |                   |        |             |  |



| Layer | Stack up | Description                 | Copper Layer Type | Base Thickness | Processed Thickness | Resin Content | εr    | Loss Tangent | Impedance ID |  |
|-------|----------|-----------------------------|-------------------|----------------|---------------------|---------------|-------|--------------|--------------|--|
|       |          | Liquid PhotolImageable Mask |                   |                | 25.000              |               | 4.000 | 0.0195       |              |  |
| 1     |          | Copper Foil                 | Signal            | 17.780         | 17.780              |               |       |              |              |  |
|       |          | PrePreg 106                 |                   | 50.000         | 50.000              | 60.000        | 4.200 | 0.0195       |              |  |
| 2     |          |                             | Signal            | 35.000         | 35.000              |               |       |              |              |  |
|       |          | Flex Core                   |                   | 75.000         | 75.000              | 0.000         | 4.200 | 0.0195       |              |  |
| 3     |          |                             | Plane             | 35.000         | 35.000              |               |       |              |              |  |
|       |          | PrePreg 1080                |                   | 75.000         | 75.000              | 60.000        | 4.200 | 0.0195       |              |  |
|       |          | PrePreg 1651                |                   | 150.000        | 150.000             | 47.000        | 4.200 | 0.0195       |              |  |
|       |          | PrePreg 1651                |                   | 150.000        | 150.000             | 47.000        | 4.200 | 0.0195       |              |  |
| 4     |          |                             | Signal            | 35.000         | 35.000              |               |       |              |              |  |
|       |          | FR4 Core                    |                   | 300.000        | 300.000             | 46.000        | 4.200 | 0.0195       |              |  |
| 5     |          |                             | Signal            | 35.000         | 35.000              |               |       |              |              |  |
|       |          | PrePreg 1651                |                   | 150.000        | 150.000             | 47.000        | 4.200 | 0.0195       |              |  |
|       |          | PrePreg 1080                |                   | 75.000         | 75.000              | 60.000        | 4.200 | 0.0195       |              |  |
|       |          | PrePreg 3080                |                   | 75.000         | 75.000              | 60.000        | 4.200 | 0.0195       |              |  |
| 6     |          |                             | Plane             | 35.000         | 35.000              |               |       |              |              |  |
|       |          | Flex Core                   |                   | 75.000         | 75.000              | 0.000         | 4.200 | 0.0195       |              |  |
| 7     |          |                             | Signal            | 35.000         | 35.000              |               |       |              |              |  |
|       |          | PrePreg 106                 |                   | 50.000         | 50.000              | 60.000        | 4.200 | 0.0195       |              |  |
| 8     |          | Copper Foil                 | Signal            | 17.780         | 17.780              |               |       |              |              |  |
|       |          | Liquid PhotolImageable Mask |                   |                | 25.000              |               | 4.000 | 0.0195       |              |  |

Copper Thickness = 245.560 | Dielectric Thickness = 1225.000 | Solder Mask Thickness = 50.000 | Stack Up Thickness = 1470.560 | Stack Up Thickness with Soldermask = 1520.560  
Stack Up Cost = 23.00

| Drill Image | 1st Layer | 2nd Layer | Column Position | Drill Type     |  |
|-------------|-----------|-----------|-----------------|----------------|--|
|             | 1         | 2         | 2               | Laser PTH      |  |
|             | 1         | 8         | 1               | Mechanical PTH |  |
|             | 8         | 7         | 2               | Laser PTH      |  |

| Supplier      | Supplier Description | Description                 | Type       | Stock Number | Stack Quantity | Unit Cost | Stack Cost | Total Quantity | Total Cost |  |
|---------------|----------------------|-----------------------------|------------|--------------|----------------|-----------|------------|----------------|------------|--|
| Polar Samples | SM/001               | Liquid PhotolImageable Mask | SolderMask | 500-001      | 2              | 0.50      | 1.00       | 2              | 1.00       |  |
| Polar Samples |                      | Stiffener                   | Stiffener  |              | 1              | 2.00      | 2.00       | 1              | 2.00       |  |
| Polar Samples | FO/001               | Copper Foil                 | Copper     | 100-001      | 2              | 1.00      | 2.00       | 2              | 2.00       |  |

|                  |                       |           |               |                   |        |          |  |
|------------------|-----------------------|-----------|---------------|-------------------|--------|----------|--|
| StackName: Rigid | Version:              | Revision: | Modification: | Date of Revision: | Editor | Page 2/4 |  |
| Date:            | Associated Documents: |           |               |                   |        |          |  |
| Author:          |                       |           |               |                   |        |          |  |
| Department:      |                       |           |               |                   |        |          |  |
| Site:            |                       |           |               |                   |        |          |  |

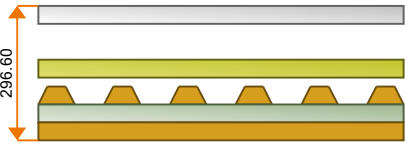


| Supplier      | Supplier Description | Description  | Type       | Stock Number | Stack Quantity | Unit Cost | Stack Cost | Total Quantity | Total Cost |  |
|---------------|----------------------|--------------|------------|--------------|----------------|-----------|------------|----------------|------------|--|
| Polar Samples | PP/006               | PrePreg 106  | Dielectric | 300-006      | 2              | 1.00      | 2.00       | 2              | 2.00       |  |
| Polar Samples | FC/001               | Flex Core    | Poly       | 600-001      | 2              | 2.00      | 4.00       | 2              | 4.00       |  |
| Polar Samples | PP/001               | PrePreg 1080 | Dielectric | 300-001      | 2              | 1.00      | 2.00       | 2              | 2.00       |  |
| Polar Samples | PP/004               | PrePreg 1651 | Dielectric | 300-004      | 3              | 1.00      | 3.00       | 3              | 3.00       |  |
| Polar Samples | CO/020               | FR4 Core     | FR4        | 400-020      | 1              | 2.00      | 2.00       | 1              | 2.00       |  |
| Polar Samples | PP/002               | PrePreg 3080 | Dielectric | 300-002      | 1              | 2.00      | 2.00       | 1              | 2.00       |  |
|               |                      |              |            |              |                |           | 20.00      |                | 20.00      |  |

No. of Panels = 1   |   Circuits Per Panel = 1   |   Price Per Circuit = 20.00   |  
Notes

|                  |                       |           |               |                   |        |             |  |
|------------------|-----------------------|-----------|---------------|-------------------|--------|-------------|--|
| StackName: Rigid | Version:              | Revision: | Modification: | Date of Revision: | Editor | Page<br>3/4 |  |
| Date:            | Associated Documents: |           |               |                   |        |             |  |
| Author:          |                       |           |               |                   |        |             |  |
| Department:      |                       |           |               |                   |        |             |  |
| Site:            |                       |           |               |                   |        |             |  |



| Layer  | Stack up                                                                          | Description | Copper Layer Type | Base Thickness | Processed Thickness | Resin Content | εr    | Loss Tangent | Impedance ID |
|--------|-----------------------------------------------------------------------------------|-------------|-------------------|----------------|---------------------|---------------|-------|--------------|--------------|
| 2<br>3 |  | Stiffener   |                   | 101.600        | 101.600             | 53.000        | 0.000 | 0.0000       |              |
|        |                                                                                   | PrePreg 106 |                   | 50.000         | 50.000              | 60.000        | 4.200 | 0.0195       |              |
|        |                                                                                   | Flex Core   | Signal            | 35.000         | 35.000              | 0.000         | 4.200 | 0.0195       |              |
|        |                                                                                   |             | Plane             | 35.000         | 35.000              |               |       |              |              |

Copper Thickness = 70.000 | Dielectric Thickness = 226.600 | Solder Mask Thickness = 0.000 | Stack Up Thickness = 296.600 | Stack Up Thickness with Soldermask = 296.600  
Stack Up Cost = 5.00

| Supplier      | Supplier Description | Description                | Type       | Stock Number | Stack Quantity | Unit Cost | Stack Cost | Total Quantity | Total Cost |
|---------------|----------------------|----------------------------|------------|--------------|----------------|-----------|------------|----------------|------------|
| Polar Samples | SM/001               | Liquid Photolmageable Mask | SolderMask | 500-001      | 2              | 0.50      | 1.00       | 2              | 1.00       |
| Polar Samples |                      | Stiffener                  | Stiffener  |              | 1              | 2.00      | 2.00       | 1              | 2.00       |
| Polar Samples | FO/001               | Copper Foil                | Copper     | 100-001      | 2              | 1.00      | 2.00       | 2              | 2.00       |
| Polar Samples | PP/006               | PrePreg 106                | Dielectric | 300-006      | 2              | 1.00      | 2.00       | 2              | 2.00       |
| Polar Samples | FC/001               | Flex Core                  | Poly       | 600-001      | 2              | 2.00      | 4.00       | 2              | 4.00       |
| Polar Samples | PP/001               | PrePreg 1080               | Dielectric | 300-001      | 2              | 1.00      | 2.00       | 2              | 2.00       |
| Polar Samples | PP/004               | PrePreg 1651               | Dielectric | 300-004      | 3              | 1.00      | 3.00       | 3              | 3.00       |
| Polar Samples | CO/020               | FR4 Core                   | FR4        | 400-020      | 1              | 2.00      | 2.00       | 1              | 2.00       |
| Polar Samples | PP/002               | PrePreg 3080               | Dielectric | 300-002      | 1              | 2.00      | 2.00       | 1              | 2.00       |
|               |                      |                            |            |              |                |           | 20.00      |                | 20.00      |

No. of Panels = 1 | Circuits Per Panel = 1 | Price Per Circuit = 20.00 |  
Notes

|                 |                       |           |               |                   |        |
|-----------------|-----------------------|-----------|---------------|-------------------|--------|
| StackName: Flex | Version:              | Revision: | Modification: | Date of Revision: | Editor |
| Date:           | Associated Documents: |           |               |                   |        |
| Author:         |                       |           |               |                   |        |
| Department:     |                       |           |               |                   |        |
| Site:           |                       |           |               |                   |        |

