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|-------------------------|-----------------------|-----------|---------------|-------------------|--------|-------------|---|
| StackName: Rigid 1 | Version: | Revision: | Modification: | Date of Revision: | Editor | Page 1/6 |  |
| Date: 27/05/2011 | Associated Documents: | | | | | | |
| Author: Richard Attrill | | | | | | | |
| Department: Engineering | | | | | | | |
| Site: | | | | | | | |

| Layer | Stack up | Description | Copper Layer Type | Base Thickness | Processed Thickness | Resin Content | εr | Loss Tangent | Impedance ID |
|-------|----------|----------------------------|-------------------|----------------|---------------------|---------------|-------|--------------|--------------|
| 1 | | Photoimageable Solder Mask | | | 17.780 | | 4.000 | 0.0000 | |
| 2 | | FR4 Core | Signal | 48.250 | 48.250 | | | | |
| 3 | | PrePreg 1080 | Plane | 125.000 | 125.000 | 50.000 | 4.200 | 0.0195 | |
| 4 | | PrePreg 1080 | | 18.000 | 18.000 | | | | |
| 5 | | Coverlay | | 65.670 | 65.670 | 60.000 | 4.200 | 0.0195 | |
| 6 | | Coverlay | | 65.670 | 65.670 | 60.000 | 4.200 | 0.0195 | |
| 7 | | Flex Core | Plane | 50.000 | 50.000 | | 3.500 | 0.0195 | |
| 8 | | Flex Core | Signal | 18.000 | 18.000 | | | | |
| 9 | | Coverlay | | 50.000 | 50.000 | | 3.500 | 0.0195 | |
| 10 | | PrePreg 1080 | | 65.670 | 65.670 | 60.000 | 4.200 | 0.0195 | |
| 11 | | PrePreg 1080 | | 65.670 | 65.670 | 60.000 | 4.200 | 0.0195 | |
| 12 | | Coverlay | | 50.000 | 50.000 | | 3.500 | 0.0195 | |
| 13 | | Flex Core | Plane | 18.000 | 18.000 | | 4.200 | 0.0195 | |
| 14 | | Flex Core | Signal | 50.000 | 50.000 | 0.000 | 4.200 | 0.0195 | |
| 15 | | Coverlay | | 18.000 | 18.000 | | | | |
| 16 | | Coverlay | | 50.000 | 50.000 | | 3.500 | 0.0195 | |
| 17 | | PrePreg 1080 | | 65.670 | 65.670 | 60.000 | 4.200 | 0.0195 | |
| 18 | | PrePreg 1080 | | 65.670 | 65.670 | 60.000 | 4.200 | 0.0195 | |
| 19 | | Coverlay | | 50.000 | 50.000 | | 3.500 | 0.0195 | |
| 20 | | Flex Core | Plane | 18.000 | 18.000 | | 4.200 | 0.0195 | |
| 21 | | Flex Core | Signal | 50.000 | 50.000 | 0.000 | 4.200 | 0.0195 | |
| 22 | | Coverlay | | 18.000 | 18.000 | | | | |
| 23 | | FR4 Core | | 125.000 | 125.000 | 50.000 | 4.200 | 0.0195 | |
| 24 | | FR4 Core | Signal | 48.250 | 48.250 | | | | |
| 25 | | Photoimageable Solder Mask | | | 17.780 | | 4.000 | 0.0000 | |

1148.52

Copper Thickness = 204.500 | Dielectric Thickness = 944.020 | Solder Mask Thickness = 35.560 | Stack Up Thickness = 1148.520 | Stack Up Thickness with Soldermask = 1184.080
Stack Up Cost = 25.50

| 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 |
|---------------|----------------------|----------------------------|------------|--------------|----------------|-----------|------------|----------------|------------|
| Generic | SM/005 | Photoimageable Solder Mask | SolderMask | 500-004 | 2 | 0.50 | 1.00 | 2 | 1.00 |
| Polar Samples | CO/010 | FR4 Core | FR4 | 400-010 | 2 | 2.00 | 4.00 | 2 | 4.00 |

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| Site: | | | | | |



| Supplier | Supplier Description | Description | Type | Stock Number | Stack Quantity | Unit Cost | Stack Cost | Total Quantity | Total Cost |
|---------------|----------------------|--------------|------------|--------------|----------------|-----------|------------|----------------|------------|
| Polar Samples | PP/001 | PrePreg 1080 | Dielectric | 300-001 | 6 | 1.00 | 6.00 | 6 | 6.00 |
| Polar Samples | Clay/001 | Coverlay | Cover | 800-001 | 4 | 1.00 | 4.00 | 4 | 4.00 |
| Polar Samples | FC/001 | Flex Core | Poly | 600-001 | 2 | 2.00 | 4.00 | 2 | 4.00 |
| | | | | | | | 19.00 | | 19.00 |

No. of Panels = 1 | Circuits Per Panel = 1 | Price Per Circuit = 19.00 |
Notes

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|-------------------------|-----------------------|-----------|---------------|-------------------|--------|--|
| StackName: Rigid 1 | Version: | Revision: | Modification: | Date of Revision: | Editor | Page 3/6  |
| Date: 27/05/2011 | Associated Documents: | | | | | |
| Author: Richard Attrill | | | | | | |
| Department: Engineering | | | | | | |
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| Layer | Stack up | Description | Copper Layer Type | Base Thickness | Processed Thickness | Resin Content | εr | Loss Tangent | Impedance ID | |
|-------|----------|-------------|-------------------|----------------|---------------------|---------------|-------|--------------|--------------|--|
| 3 | | Coverlay | | 50.000 | 50.000 | | 3.500 | 0.0195 | | |
| 4 | | Flex Core | Plane | 18.000 | 18.000 | | | | | |
| | | | Signal | | 50.000 | 50.000 | 0.000 | 4.200 | 0.0195 | |
| | | | | | 18.000 | 18.000 | | | | |
| 5 | | Coverlay | | 50.000 | 50.000 | | 3.500 | 0.0195 | | |
| 6 | | Flex Core | Signal | 18.000 | 18.000 | | | | | |
| | | | Plane | | 50.000 | 50.000 | 0.000 | 4.200 | 0.0195 | |
| | | | | | 18.000 | 18.000 | | | | |
| | | Coverlay | | 50.000 | 50.000 | | 3.500 | 0.0195 | | |

Copper Thickness = 72.000 | Dielectric Thickness = 300.000 | Solder Mask Thickness = 0.000 | Stack Up Thickness = 372.000 | Stack Up Thickness with Soldermask = 372.000
 Stack Up Cost = 6.00

| Drill Image | 1st Layer | 2nd Layer | Column Position | Drill Type |
|-------------|-----------|-----------|-----------------|----------------|
| | 3 | 4 | 1 | Mechanical PTH |
| | 5 | 6 | 1 | Mechanical PTH |

| Supplier | Supplier Description | Description | Type | Stock Number | Stack Quantity | Unit Cost | Stack Cost | Total Quantity | Total Cost |
|---------------|----------------------|----------------------------|------------|--------------|----------------|-----------|------------|----------------|------------|
| Generic | SM/005 | Photoimageable Solder Mask | SolderMask | 500-004 | 2 | 0.50 | 1.00 | 2 | 1.00 |
| Polar Samples | CO/010 | FR4 Core | FR4 | 400-010 | 2 | 2.00 | 4.00 | 2 | 4.00 |
| Polar Samples | PP/001 | PrePreg 1080 | Dielectric | 300-001 | 6 | 1.00 | 6.00 | 6 | 6.00 |
| Polar Samples | Clay/001 | Coverlay | Cover | 800-001 | 4 | 1.00 | 4.00 | 4 | 4.00 |
| Polar Samples | FC/001 | Flex Core | Poly | 600-001 | 2 | 2.00 | 4.00 | 2 | 4.00 |
| | | | | | | | 19.00 | | 19.00 |

No. of Panels = 1 | Circuits Per Panel = 1 | Price Per Circuit = 19.00 |

Notes

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|-------------------------|-----------------------|-----------|---------------|-------------------|--------|-----------------|
| StackName: Flex | Version: | Revision: | Modification: | Date of Revision: | Editor | Page 4/6 |
| Date: 27/05/2011 | Associated Documents: | | | | | |
| Author: Richard Attrill | | | | | | |
| Department: Engineering | | | | | | |
| Site: | | | | | | |

| Layer | Stack up | Description | Copper Layer Type | Base Thickness | Processed Thickness | Resin Content | εr | Loss Tangent | Impedance ID |
|-------|----------|----------------------------|-------------------|----------------|---------------------|---------------|-------|--------------|--------------|
| 1 | | Photoimageable Solder Mask | | | 17.780 | | 4.000 | 0.0000 | |
| 2 | | FR4 Core | Signal | 48.250 | 48.250 | | | | |
| 3 | | PrePreg 1080 | Plane | 125.000 | 125.000 | 50.000 | 4.200 | 0.0195 | |
| 4 | | PrePreg 1080 | | 18.000 | 18.000 | | | | |
| 5 | | Coverlay | | 65.670 | 65.670 | 60.000 | 4.200 | 0.0195 | |
| 6 | | Coverlay | | 65.670 | 65.670 | 60.000 | 4.200 | 0.0195 | |
| 7 | | Flex Core | Plane | 50.000 | 50.000 | | 3.500 | 0.0195 | |
| 8 | | Flex Core | Signal | 18.000 | 18.000 | 0.000 | 4.200 | 0.0195 | |
| 9 | | Coverlay | | 50.000 | 50.000 | | 3.500 | 0.0195 | |
| 10 | | PrePreg 1080 | | 65.670 | 65.670 | 60.000 | 4.200 | 0.0195 | |
| 11 | | PrePreg 1080 | | 65.670 | 65.670 | 60.000 | 4.200 | 0.0195 | |
| 12 | | Coverlay | | 50.000 | 50.000 | | 3.500 | 0.0195 | |
| 13 | | Flex Core | Signal | 18.000 | 18.000 | | | | |
| 14 | | Flex Core | Plane | 50.000 | 50.000 | 0.000 | 4.200 | 0.0195 | |
| 15 | | Coverlay | | 18.000 | 18.000 | | | | |
| 16 | | Coverlay | | 50.000 | 50.000 | | 3.500 | 0.0195 | |
| 17 | | PrePreg 1080 | | 65.670 | 65.670 | 60.000 | 4.200 | 0.0195 | |
| 18 | | PrePreg 1080 | | 65.670 | 65.670 | 60.000 | 4.200 | 0.0195 | |
| 19 | | Coverlay | | 50.000 | 50.000 | | 3.500 | 0.0195 | |
| 20 | | Flex Core | Plane | 18.000 | 18.000 | | | | |
| 21 | | FR4 Core | Signal | 50.000 | 50.000 | 50.000 | 4.200 | 0.0195 | |
| 22 | | FR4 Core | | 125.000 | 125.000 | | | | |
| 23 | | FR4 Core | | 48.250 | 48.250 | | | | |
| 24 | | Photoimageable Solder Mask | | | 17.780 | | 4.000 | 0.0000 | |

1148.52

Copper Thickness = 204.500 | Dielectric Thickness = 944.020 | Solder Mask Thickness = 35.560 | Stack Up Thickness = 1148.520 | Stack Up Thickness with Soldermask = 1184.080
Stack Up Cost = 25.50

| 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 |
|---------------|----------------------|----------------------------|------------|--------------|----------------|-----------|------------|----------------|------------|
| Generic | SM/005 | Photoimageable Solder Mask | SolderMask | 500-004 | 2 | 0.50 | 1.00 | 2 | 1.00 |
| Polar Samples | CO/010 | FR4 Core | FR4 | 400-010 | 2 | 2.00 | 4.00 | 2 | 4.00 |

| | | | | | |
|-------------------------|-----------------------|-----------|---------------|-------------------|--------|
| StackName: Rigid 2 | Version: | Revision: | Modification: | Date of Revision: | Editor |
| Date: 27/05/2011 | Associated Documents: | | | | |
| Author: Richard Attrill | | | | | |
| Department: Engineering | | | | | |
| Site: | | | | | |



| Supplier | Supplier Description | Description | Type | Stock Number | Stack Quantity | Unit Cost | Stack Cost | Total Quantity | Total Cost |
|---------------|----------------------|--------------|------------|--------------|----------------|-----------|------------|----------------|------------|
| Polar Samples | PP/001 | PrePreg 1080 | Dielectric | 300-001 | 6 | 1.00 | 6.00 | 6 | 6.00 |
| Polar Samples | Clay/001 | Coverlay | Cover | 800-001 | 4 | 1.00 | 4.00 | 4 | 4.00 |
| Polar Samples | FC/001 | Flex Core | Poly | 600-001 | 2 | 2.00 | 4.00 | 2 | 4.00 |
| | | | | | | | 19.00 | | 19.00 |

No. of Panels = 1 | Circuits Per Panel = 1 | Price Per Circuit = 19.00 |
 Notes

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