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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 | | |
| | | Copper Foil | Signal | 17.780 | 48.260 | | | | | |
| | | PrePreg 1080 | | 65.670 | 65.670 | 60.000 | 4.200 | 0.0195 | | |
| | | PrePreg 1080 | | 65.670 | 65.670 | 60.000 | 4.200 | 0.0195 | | |
| 2 | | | Signal | 18.000 | 18.000 | | | | | |
| 3 | | | FR4 Core | Plane | 125.000 | 125.000 | 50.000 | 4.200 | 0.0195 | |
| | | | Plane | 18.000 | 18.000 | | | | | |
| | | | PrePreg 1080 | | 65.670 | 65.670 | 60.000 | 4.200 | 0.0195 | |
| | | | PrePreg 1080 | | 65.670 | 65.670 | 60.000 | 4.200 | 0.0195 | |
| 4 | | | Coverlay | | 50.000 | 50.000 | | 3.500 | 0.0195 | |
| | | Plane | 18.000 | 18.000 | | | | | | |
| 5 | | Flex Core | Signal | 50.000 | 50.000 | 0.000 | 4.200 | 0.0195 | | |
| | | Signal | 18.000 | 18.000 | | | | | | |
| 6 | | Bondply 3 | | 75.000 | 75.000 | 60.000 | 4.000 | 0.0195 | | |
| | | Signal | 18.000 | 18.000 | | | | | | |
| 7 | | Flex Core | Plane | 50.000 | 50.000 | 0.000 | 4.200 | 0.0195 | | |
| | | Plane | 18.000 | 18.000 | | | | | | |
| | | Coverlay | | 50.000 | 50.000 | | 3.500 | 0.0195 | | |
| | | PrePreg 1080 | | 65.670 | 65.670 | 60.000 | 4.200 | 0.0195 | | |
| | | PrePreg 1080 | | 65.670 | 65.670 | 60.000 | 4.200 | 0.0195 | | |
| 8 | | FR4 Core | Plane | 18.000 | 18.000 | | | | | |
| | | Plane | 125.000 | 125.000 | 50.000 | 4.200 | 0.0195 | | | |
| 9 | | Signal | 18.000 | 18.000 | | | | | | |
| | | PrePreg 1080 | | 65.670 | 65.670 | 60.000 | 4.200 | 0.0195 | | |
| | | PrePreg 1080 | | 65.670 | 65.670 | 60.000 | 4.200 | 0.0195 | | |
| 10 | | Copper Foil | Signal | 17.780 | 48.260 | | | | | |
| | | Photoimageable Solder Mask | | | 17.780 | | 4.000 | 0.0000 | | |

Copper Thickness = 240.520 | Dielectric Thickness = 1050.360 | Solder Mask Thickness = 35.560 | Stack Up Thickness = 1290.880 | Stack Up Thickness with Soldermask = 1326.440
Stack Up Cost = 34.00

| Drill Image | 1st Layer | 2nd Layer | Column Position | Drill Type |
|-------------|-----------|-----------|-----------------|----------------|
| | 1 | 2 | 2 | Laser PTH |
| | 1 | 10 | 1 | Mechanical PTH |
| | 10 | 9 | 2 | Laser PTH |

| Supplier | Supplier Description | Description | Type | Stock Number | Stack Quantity | Unit Cost | Stack Cost | Total Quantity | Total Cost |
|----------|----------------------|-------------|------|--------------|----------------|-----------|------------|----------------|------------|
| | | | | | | | | | |

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| Author: Richard Attrill | | | | | |
| Department: Engineering | | | | | |
| Site: | | | | | |



| 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 | 1.00 | 2.00 | 2 | 2.00 |
| Generic | | Copper Foil | Copper | | 2 | 1.00 | 2.00 | 2 | 2.00 |
| Polar Samples | PP/001 | PrePreg 1080 | Dielectric | 300-001 | 8 | 1.00 | 8.00 | 8 | 8.00 |
| Polar Samples | CO/010 | FR4 Core | FR4 | 400-010 | 2 | 10.00 | 20.00 | 2 | 20.00 |
| Polar Samples | Clay/001 | Coverlay | Cover | 800-001 | 2 | 1.00 | 2.00 | 2 | 2.00 |
| Polar Samples | FC/001 | Flex Core | Poly | 600-001 | 2 | 0.00 | 0.00 | 2 | 0.00 |
| Polar Samples | BP/002 | Bondply 3 | Dielectric | 400-002 | 1 | 0.00 | 0.00 | 1 | 0.00 |
| | | | | | | | 34.00 | | 34.00 |

No. of Panels = 1 | Circuits Per Panel = 1 | Price Per Circuit = 34.00 |
 Notes

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|-------------------------|-----------------------|-----------|---------------|-------------------|--------|-------------|--|
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| Author: Richard Attrill | | | | | | | |
| Department: Engineering | | | | | | | |
| Site: | | | | | | | |



| Layer | Stack up | Description | Copper Layer Type | Base Thickness | Processed Thickness | Resin Content | εr | Loss Tangent | Impedance ID |
|-------|----------|-------------|-------------------|----------------|---------------------|---------------|-------|--------------|--------------|
| 4 | | Coverlay | | 50.000 | 50.000 | | 3.500 | 0.0195 | |
| 5 | | Flex Core | Plane | 18.000 | 18.000 | | 4.200 | 0.0195 | |
| 6 | | Bondply 3 | Signal | 18.000 | 18.000 | 0.000 | 4.200 | 0.0195 | |
| 7 | | Flex Core | Signal | 75.000 | 75.000 | 60.000 | 4.000 | 0.0195 | |
| 8 | | Flex Core | Plane | 18.000 | 18.000 | | 4.200 | 0.0195 | |
| 9 | | Flex Core | Signal | 50.000 | 50.000 | 0.000 | 4.200 | 0.0195 | |
| 10 | | Coverlay | Plane | 18.000 | 18.000 | | 4.200 | 0.0195 | |

Copper Thickness = 72.000 | Dielectric Thickness = 275.000 | Solder Mask Thickness = 0.000 | Stack Up Thickness = 347.000 | Stack Up Thickness with Soldermask = 347.000
Stack Up Cost = 2.00

| Drill Image | 1st Layer | 2nd Layer | Column Position | Drill Type |
|-------------|-----------|-----------|-----------------|----------------|
| | 4 | 7 | 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 | 1.00 | 2.00 | 2 | 2.00 |
| Generic | | Copper Foil | Copper | | 2 | 1.00 | 2.00 | 2 | 2.00 |
| Polar Samples | PP/001 | PrePreg 1080 | Dielectric | 300-001 | 8 | 1.00 | 8.00 | 8 | 8.00 |
| Polar Samples | CO/010 | FR4 Core | FR4 | 400-010 | 2 | 10.00 | 20.00 | 2 | 20.00 |
| Polar Samples | Clay/001 | Coverlay | Cover | 800-001 | 2 | 1.00 | 2.00 | 2 | 2.00 |
| Polar Samples | FC/001 | Flex Core | Poly | 600-001 | 2 | 0.00 | 0.00 | 2 | 0.00 |
| Polar Samples | BP/002 | Bondply 3 | Dielectric | 400-002 | 1 | 0.00 | 0.00 | 1 | 0.00 |
| | | | | | | | 34.00 | 34.00 | |

No. of Panels = 1 | Circuits Per Panel = 1 | Price Per Circuit = 34.00 |
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 | |
| | | Copper Foil | Signal | 17.780 | 48.260 | | | | |
| | | PrePreg 1080 | | 65.670 | 65.670 | 60.000 | 4.200 | 0.0195 | |
| 2 | | PrePreg 1080 | | 65.670 | 65.670 | 60.000 | 4.200 | 0.0195 | |
| | | FR4 Core | Signal | 18.000 | 18.000 | 50.000 | 4.200 | 0.0195 | |
| 3 | | Plane | 18.000 | 18.000 | | | | | |
| | | PrePreg 1080 | | 65.670 | 65.670 | 60.000 | 4.200 | 0.0195 | |
| | | PrePreg 1080 | | 65.670 | 65.670 | 60.000 | 4.200 | 0.0195 | |
| 4 | | Coverlay | | 50.000 | 50.000 | | 3.500 | 0.0195 | |
| | | Plane | 18.000 | 18.000 | | | | | |
| 5 | Flex Core | Signal | 50.000 | 50.000 | 0.000 | 4.200 | 0.0195 | | |
| | Signal | 18.000 | 18.000 | | | | | | |
| 6 | Bondply 3 | | 75.000 | 75.000 | 60.000 | 4.000 | 0.0195 | | |
| | Signal | 18.000 | 18.000 | | | | | | |
| 7 | Flex Core | Plane | 50.000 | 50.000 | 0.000 | 4.200 | 0.0195 | | |
| | Plane | 18.000 | 18.000 | | | | | | |
| | Coverlay | | 50.000 | 50.000 | | 3.500 | 0.0195 | | |
| | PrePreg 1080 | | 65.670 | 65.670 | 60.000 | 4.200 | 0.0195 | | |
| | PrePreg 1080 | | 65.670 | 65.670 | 60.000 | 4.200 | 0.0195 | | |
| 8 | Plane | 18.000 | 18.000 | | | | | | |
| | FR4 Core | Signal | 125.000 | 125.000 | 50.000 | 4.200 | 0.0195 | | |
| 9 | Signal | 18.000 | 18.000 | | | | | | |
| | PrePreg 1080 | | 65.670 | 65.670 | 60.000 | 4.200 | 0.0195 | | |
| | PrePreg 1080 | | 65.670 | 65.670 | 60.000 | 4.200 | 0.0195 | | |
| 10 | Copper Foil | Signal | 17.780 | 48.260 | | | | | |
| | Photoimageable Solder Mask | | | 17.780 | | 4.000 | 0.0000 | | |

Copper Thickness = 240.520 | Dielectric Thickness = 1050.360 | Solder Mask Thickness = 35.560 | Stack Up Thickness = 1290.880 | Stack Up Thickness with Soldermask = 1326.440
Stack Up Cost = 34.00

| Drill Image | 1st Layer | 2nd Layer | Column Position | Drill Type |
|-------------|-----------|-----------|-----------------|----------------|
| | 1 | 2 | 2 | Laser PTH |
| | 1 | 10 | 1 | Mechanical PTH |
| | 10 | 9 | 2 | Laser PTH |

| Supplier | Supplier Description | Description | Type | Stock Number | Stack Quantity | Unit Cost | Stack Cost | Total Quantity | Total Cost |
|----------|----------------------|-------------|------|--------------|----------------|-----------|------------|----------------|------------|
| | | | | | | | | | |

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|-------------------------|-----------------------|-----------|---------------|-------------------|--------|
| StackName: Rigid 2 | Version: | Revision: | Modification: | Date of Revision: | Editor |
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| Author: Richard Attrill | | | | | |
| Department: Engineering | | | | | |
| Site: | | | | | |






| 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 | 1.00 | 2.00 | 2 | 2.00 |
| Generic | | Copper Foil | Copper | | 2 | 1.00 | 2.00 | 2 | 2.00 |
| Polar Samples | PP/001 | PrePreg 1080 | Dielectric | 300-001 | 8 | 1.00 | 8.00 | 8 | 8.00 |
| Polar Samples | CO/010 | FR4 Core | FR4 | 400-010 | 2 | 10.00 | 20.00 | 2 | 20.00 |
| Polar Samples | Clay/001 | Coverlay | Cover | 800-001 | 2 | 1.00 | 2.00 | 2 | 2.00 |
| Polar Samples | FC/001 | Flex Core | Poly | 600-001 | 2 | 0.00 | 0.00 | 2 | 0.00 |
| Polar Samples | BP/002 | Bondply 3 | Dielectric | 400-002 | 1 | 0.00 | 0.00 | 1 | 0.00 |
| | | | | | | | 34.00 | | 34.00 |

No. of Panels = 1 | Circuits Per Panel = 1 | Price Per Circuit = 34.00 |

Notes

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