




| Layer | Stack up | Supplier Description | Description | Type | Processed Thickness | er | Base Thickness | Finish Thickness | Isolation Distance | Impedance ID |
|-------|----------|----------------------|-------------|------|---------------------|----|----------------|------------------|--------------------|--------------|
|-------|----------|----------------------|-------------|------|---------------------|----|----------------|------------------|--------------------|--------------|

| Layer            | Stack up | Supplier Description | Description                 | Type       | Processed Thickness | er    | Base Thickness | Finish Thickness | Isolation Distance | Impedance ID |   |
|------------------|----------|----------------------|-----------------------------|------------|---------------------|-------|----------------|------------------|--------------------|--------------|---|
| <b>Primary</b>   |          |                      |                             |            |                     |       |                |                  |                    |              |   |
|                  |          | PE/001               | Peelable Mask               | Peelable   |                     |       |                |                  |                    |              |   |
|                  |          | ID/001               | Screened Ident              | Ident      |                     |       |                |                  |                    |              |   |
|                  |          | SM/001               | Liquid Photolimageable Mask | SolderMask | 4.000               |       |                |                  |                    |              |   |
| 1                |          | FO/001               | Copper Foil                 | Copper     | 1.400               |       | 0.700          | 1.400            |                    | 1            |   |
|                  |          | PP/003               | PrePreg 3113                | Dielectric | 3.400               | 4.200 | 4.000          | 3.400            | 3.400              |              |   |
| 2                |          | PP/003               | PrePreg 3113                | Dielectric | 3.400               | 4.200 | 4.000          | 3.400            | 3.400              |              |   |
| 3                |          | CO/017               | FR4 Core                    | FR4        | 2.100               | 1.400 | 1.400          | 2.100            | 2.100              |              | 2 |
|                  |          | PP/003               | PrePreg 3113                | Dielectric | 3.600               | 4.200 | 4.000          | 3.600            | 3.600              |              |   |
|                  |          | PP/003               | PrePreg 3113                | Dielectric | 3.600               | 4.200 | 4.000          | 3.600            | 3.600              |              |   |
| 4                |          | CO/017               | FR4 Core                    | FR4        | 1.400               | 1.400 | 1.400          | 1.400            | 1.400              |              |   |
|                  |          | PP/003               | PrePreg 3113                | Dielectric | 8.000               | 4.200 | 8.000          | 8.000            | 8.000              |              |   |
| 5                |          | CO/017               | FR4 Core                    | FR4        | 1.400               | 1.400 | 1.400          | 1.400            | 1.400              |              |   |
|                  |          | PP/003               | PrePreg 3113                | Dielectric | 3.600               | 4.200 | 4.000          | 3.600            | 3.600              |              |   |
|                  |          | PP/003               | PrePreg 3113                | Dielectric | 3.600               | 4.200 | 4.000          | 3.600            | 3.600              |              |   |
| 6                |          | CO/017               | FR4 Core                    | FR4        | 1.400               | 1.400 | 1.400          | 1.400            | 1.400              |              | 3 |
|                  |          | PP/003               | PrePreg 3113                | Dielectric | 8.000               | 4.200 | 8.000          | 8.000            | 8.000              |              |   |
| 7                |          | CO/017               | FR4 Core                    | FR4        | 2.100               | 1.400 | 2.100          | 2.100            | 2.100              |              | 4 |
|                  |          | PP/003               | PrePreg 3113                | Dielectric | 3.400               | 4.200 | 4.000          | 3.400            | 3.400              |              |   |
|                  |          | PP/003               | PrePreg 3113                | Dielectric | 3.400               | 4.200 | 4.000          | 3.400            | 3.400              |              |   |
| 8                | FO/001   | Copper Foil          | Copper                      | 1.400      |                     | 0.700 | 1.400          |                  |                    | 5            |   |
|                  |          | SM/001               | Liquid Photolimageable Mask | SolderMask | 4.000               |       |                |                  |                    |              |   |
| <b>Secondary</b> |          |                      |                             |            |                     |       |                |                  |                    |              |   |

| Structure Image | Impedance ID | Structure Name  | Impedance Signal Layer | Target Impedance | Lower Trace Width (W1) | Upper Trace Width (W2) | Trace Thickness (T1) | Substrate 1 Height (H1) | Substrate 2 Height (H2) | Trace Separation (S1) | Ref. Plane 1 in Layer | Ref. Plane 2 in Layer | Coating Above Substrate (C1) |
|-----------------|--------------|---|------------------------|------------------|------------------------|------------------------|----------------------|-------------------------|-------------------------|-----------------------|-----------------------|-----------------------|------------------------------|
|                 | 1            | Coated Microstrip 1B                                    | 1                      | 50.000           | 11.500                 | 10.500                 | 1.400                | 6.800                   | 0.000                   | 0.000                 | 2                     | 0                     | 1.000                        |
|                 | 2            | Offset Coplanar Strips 1B1A                             | 3                      | 28.000           | 14.500                 | 13.500                 | 1.400                | 8.000                   | 7.200                   | 0.000                 | 2                     | 4                     | 0.000                        |
|                 | 3            | Offset Stripline 1B1A                                   | 6                      | 25.000           | 17.500                 | 16.500                 | 1.400                | 8.000                   | 7.200                   | 0.000                 | 5                     | 7                     | 0.000                        |
|                 | 4            | Diff Embedded Coplanar Waveguide With Lower Ground 1B1A | 7                      | 100.000          | 10.000                 | 9.000                  | 2.100                | 15.200                  | 8.900                   | 11.000                | 5                     | 0                     | 0.000                        |
|                 | 5            | Coated Microstrip 1B                                    | 8                      | 75.000           | 20.000                 | 19.000                 | 1.400                | 24.100                  | 0.000                   | 0.000                 | 5                     | 0                     | 1.000                        |

| Drill Image | 1st Layer | 2nd Layer | Column Position | Drill Type      |
|-------------|-----------|-----------|-----------------|-----------------|
|             | 1         | 2         | 1               | Laser PTH       |
|             | 1         | 6         | 3               | Mechanical PTH  |
|             | 1         | 8         | 6               | Mechanical NPTH |
|             | 1         | 8         | 5               | Mechanical PTH  |

|                                 |                       |           |               |                   |        |             |
|---------------------------------|-----------------------|-----------|---------------|-------------------|--------|-------------|
| StackName: 8-Layer Sample Stack | Version: A            | Revision: | Modification: | Date of Revision: | Editor | Page<br>1/2 |
| Date: 17/10/2016                | Associated Documents: | Rev. 3    | Mod 1         | 17/10/2016        | RB     |             |
| Author: Bob Jones               |                       |           |               |                   |        |             |
| Department: Engineering         |                       |           |               |                   |        |             |
| Site: Waterlooville             |                       |           |               |                   |        |             |

| Drill Image   | 1st Layer | 2nd Layer | Column Position | Drill Type      |
|---|-----------|-----------|-----------------|-----------------|
|  | 2         | 7         | 2               | Mechanical PTH  |
|  | 8         | 6         | 3               | Mechanical NPTH |
|  | 8         | 7         | 1               | Laser PTH       |

**Notes**

PCB Thickness = 1.6 mm (+/- 10%) -

- 1) Finished thicknesses (i.e. isolation distances) must be complied (within a +/- 10 % manufacturing tolerance) with to ensure consistent crosstalk characteristics and impedance.
- 2) Track and gap width may be modified to meet target impedances. This must be approved by engineering Dept. before PCB manufacture can commence.
- 3) If impedance targets cannot be met by modifying track geometries alone then dielectric thicknesses may be modified. This must be approved by engineering Dept. before PCB manufacture can commence.
- 4) To aid manufacturing via sizes may be modified and Cross-hatching may be added to outer layers, but must be placed a least 250 thou (6.35mm) away from any tracks, pads or board outline.
- 5) PCB must be tested to CAD net list supplied.
- 6) Min plating down barrels of holes 25um.
- 7) This PCB is to be supplied 2 up per panel. Scrap in panel acceptable.

|                                 |                       |           |               |                   |        |             |
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|                                 |                       |           |               |                   |        |             |