**PCB Specification**

|  |  |  |  |
| --- | --- | --- | --- |
| Date: | 1 June 2011 |  |  |
| Company: | SKA SA |  |  |
| Billing Address: | 17 Baker St, Rosebank, Johannesburg, South Africa | | |
|  | PO Box 522940, Saxonwold, 2132 | | |
| Postal Address: | To be defined | | |
|  |  |  |  |
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Board name: **ROACH 2**

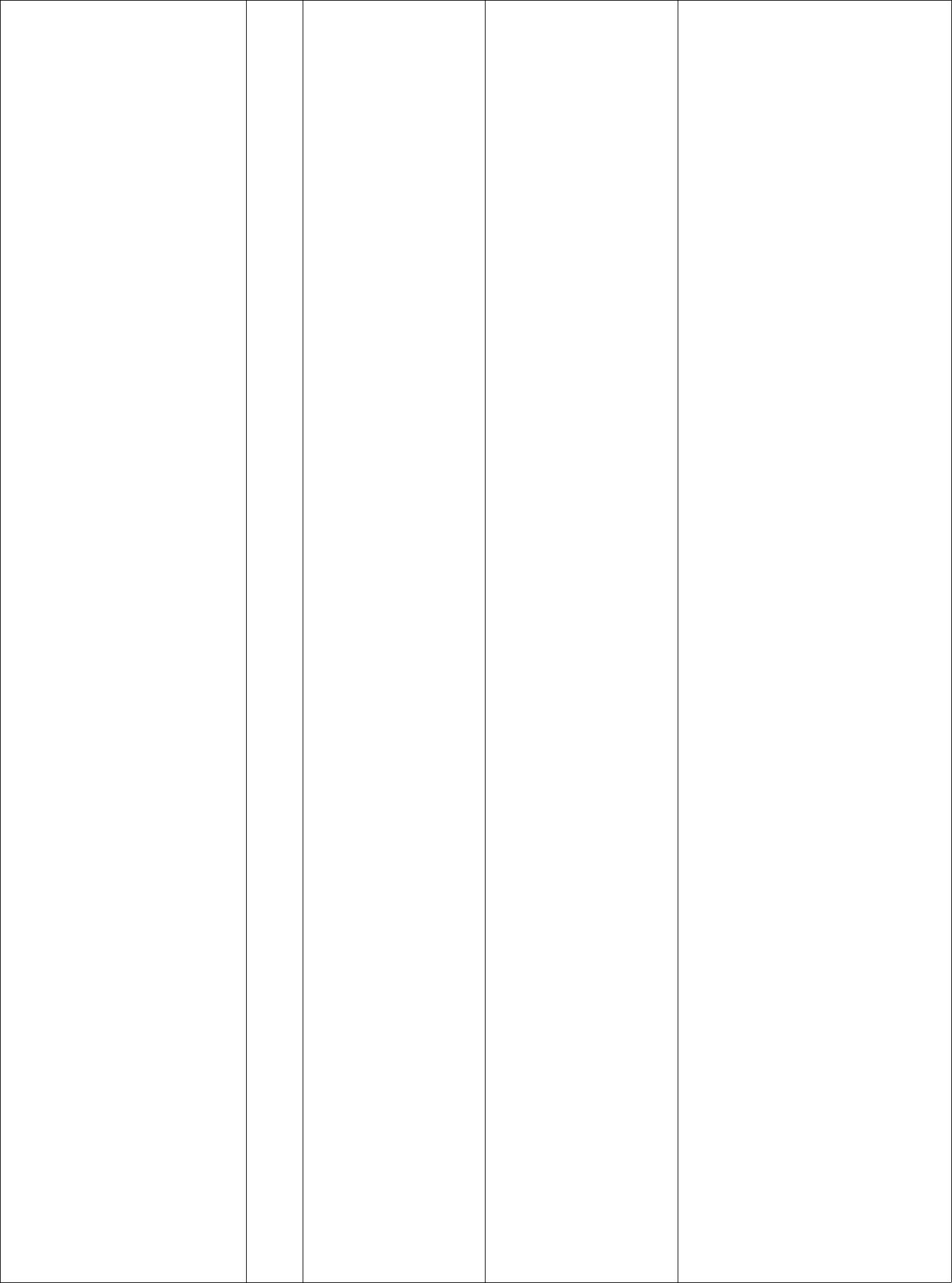
Revision: **2**

Release: **A**

**PCB Details**

|  |  |
| --- | --- |
| *PCB Specifications:* | IPC 6012 Class 2 |
| *Finished Board Size:* | 12 x 9.6 inches [305x244 mm] |
| *PCB Type:* | Multi-layer |
| *Layer Count:* | 16 |
| *Dielectric:* | All dielectric layers to be Isola 370HR high temperature laminate |
| *Nominal board Thickness:* | 93 mil (2.38 mm); tolerance +/-10% |
| *Hole tolerance:* | +3mil for vias; +/- 3mil for component holes and slots |
| *Finish:* | ENIG |
| *Soldermask:* | Green |
| *Silkscreen:* | White |
| *Minimum clearance:* | 4 mil |
| *Handling rails:* | .5 inch (12.7mm) rails, V-scored |

**PCB Stackup**



|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Layer | # | Copper (oz) | Dieletric (mil)\*\* | Filename |
| Pastemask Top |  | - | - | roach2.GTP |
| Silkscreen Top |  | - | - | roach2.GTO |
| Soldermask Top |  | - | - | roach2.GTS |
| Signal Top | 1 | 0.5 |  | roach2.GTL |
|  |  |  | 3mil |  |
| Ground 1 | 2 | 0.5 |  | roach2.GP1 |
|  |  |  | 5mil |  |
| Signal 1 | 3 | 0.5 |  | roach2.G1 |
|  |  |  | 5mil |  |
| Ground 2 | 4 | 0.5 |  | roach2.GP2 |
|  |  |  | 5mil |  |
| Signal 2 | 5 | 0.5 |  | roach2.G2 |
|  |  |  | 5mil |  |
| Power 1 | 6 | 1 |  | roach2.GP3 |
|  |  |  | \*\* |  |
| Ground 3 | 7 | 1 |  | roach2.GP4 |
|  |  |  | 4mil |  |
| Signal 3 | 8 | 0.5 |  | roach2.G3 |
|  |  |  | 4mil |  |
| Signal 4 | 9 | 0.5 |  | roach2.G4 |
|  |  |  | 4mil |  |
| Power 2 | 10 | 1 |  | roach2.GP5 |
|  |  |  | \*\* |  |
| Power 3 | 11 | 1 |  | roach2.GP6 |
|  |  |  | 5mil |  |
| Signal 5 | 12 | 0.5 |  | roach2.G5 |
|  |  |  | 5mil |  |
| Power 4 | 13 | 0.5 |  | roach2.GP7 |
|  |  |  | 5mil |  |
| Signal 6 | 14 | 0.5 |  | roach2.G6 |
|  |  |  | 5mil |  |
| Ground 4 | 15 | 0.5 |  | roach2.GP8 |
|  |  |  | 3mil |  |
| Signal Bottom | 16 | 0.5 |  | roach2.GBL |
| Soldermask Bottom |  | - | - | roach2.GBS |
| Silkscreen Bottom |  | - | - | roach2.GBO |
| Pastemask Bottom |  | - | - | roach2.GBP |

\* Thickness may be adjusted to achieve nominal total thickness of 93 mil, to satisfy impedance targets and to accommodate manufacturing processes.

**Impedance Controlled Traces**

All impedance matching to +/- 10%

***Microstrip***

Layers: Signal Top (#1), Signal Bottom (#16)

Target Impedance: 50 ohm

Trace thickness: 5 mil ( 127um )

***Stripline***

Layers: Layers: Signal 1 (#3), Signal 2 (#5), Signal 5 (#12), Signal 6 (#14)

Target Impedance: 50 ohm

Trace thickness: 3.8 mil ( 96.52 um )

Asymmetrical Stripline

Layers: Signal 3 (#8), Signal 4 (#9)

Target Impedance: 50 ohm

Trace thickness: 3.8 mil ( 96.52 um )