 

*Manufacturing specifications for the FMC\_ADC\_130M hardware*

April 2016



*Beam Diagnostics Group (DIG)*

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# PCB Fabrication Specification

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| **Design references** | | | |
| *Name* | FMC\_ADC\_130M | Date: | 04/27/2015 |
| *File name* |  |  |  |
| *Designers* | Rafael Antonio Baron | Fernando Cambauva SantAnna |  |
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|  |  |
| --- | --- |
| **Mechanical characteristics** | |
| External size (mm) | 77 x 69 mm |
| Thickness (mm) | 1.4 mm |
| Layers | 8 |
| Min track width (mm/mils) | 3mils |
| Min Hole size (mm/mils) | 7.8mils |
| Laminate | FR-4 – TG150 |
| Pre-preg | FR-4 – TG150 |
|  | |
| **Finish Copper** | |
| External layers (µm) | 35 µm |
| Holes walls (µm) | 25 µm |
| Internal Layers-Planes (µm) | 35 µm |
| Internal Layers-Signals (µm) | 35 µm |
| **Board finishing requirements** | |
|  |  |
| Mask Solder color | Red for prototype and Blue for production |
| Silkscreen on top layer (color) | White |
| Silkscreen on bottom layer (color) | White |
|  |  |
| Surface Finishing | ENIG – Electroless Nickel / Immersion Gold according to IPC-4552 |
| Thickness | Ni: 3 µm min, 6 µm máx. Au: 0.05 µm min, 0.125 µm máx |
|  |  |

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| **Additional Information** | |
| Impedance test | No |
| Packaging requirements | No |
| Documentation to be delivered | No |
| Additional control quality requirements | No |

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  | | **Board Stackup Information** | | | | |
|  | Name: | |  | Laminate/pre-preg | Thickness (mm/mils) |
| Layer 1 | Top Layer | | RF signals |  |  |
| Layer 2 | GND1 | | RF Ground Plane | FR-4 | 0.11mm |
| Layer 3 | L3 | | Digital signals | FR-4 | 0.1mm |
| Layer 4 | GND2 | | RF Ground Plane + Digital Ground plane | FR-4 | 0.29mm |
| Layer 5 | L5 | | Digital signals | FR-4 | 0.1mm |
| Layer 6 | GND3 | | RF Ground Plane + Digital Ground plane | FR-4 | 0.29mm |
| Layer 7 | Power | | Power | FR-4 | 0.1mm |
| Layer 8 | Bottom Layer | | Digital signals | FR-4 | 0.11mm |
| Total |  | |  | Total | 1.481 mm |
|  | |  | | | | |