CNPEM
Brazilian Center for Research
in Energy and Materials

Manufacturing specifications for the FMC_ADC_250M hardware

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Brazilian Synchrotron Light Laboratory

Beam Diagnostics Group (DIG)

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PCB Fabrication Specification

Design references			
Name	FMC_ADC_250M	Date:	05/23/2015
File name			
Designers	Fernando Cambauva SantAnna		
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Fone	+55 19 3512-5071		
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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)	0.05mm / 2mils
Min Hole size (mm/mils)	0.2mm / 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

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	GND(SMAGND)	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	1.515 mm