

Annexure-1

Technical Specifications for MMIC DIE

Fabrication and supply of MACK, EE, IIT Madras design provided in the GDS format softcopy to be fabricated in the TSMC, semiconductor foundry with following specifications.

Foundry	TSMC
Technology (nm)	65
Flavor	MS RF GP
Metal	1p9m_6X1Z1U
Bump	No
Wire bond or Flip chip	Wire bond
Die x (mm)	1.79
Die y (mm)	1.16
Area (mm ²)	2.08
Core (V)	1.0
I/O (V)	2.5
Wafer quantity	1
Sample quantity	50/100
Backgrind thickness(mils)	12

Die Details:

1. MOM caps used in the designs. TSMC MOM caps are used which has M1-M7 metal layers.
2. Inductors are used in the design but not in AP layer.
3. 45 degree metal routing lines are not used.
4. AP layer exist in the data base including the pads and its thickness is 14.5KA.
5. Seal ring is included in the GDSII.

