

I-STEM Software Request - Guide Approval Form

User Details

- **Name of Researcher:** Naman Thapliyal
- **User Type:** ☐ Ph.D. Scholar ☐ Postdoctoral Researcher ☒ Bachelor's ☐ Masters
- **Institution Name** : Acharya Narendra Dev college, University of Delhi
- **Institutional Contact No:** 9811346445
- **Research Topic:** Thermal management of GaN HEMT

Software Request Details

- **Software Name:** COSMOS
- **Justification for Software Request:** To support my research on thermal management in Gallium Nitride (GaN) High Electron Mobility Transistors (HEMTs), I require COSMOS software to perform detailed heat transfer simulations. COSMOS provides powerful finite element analysis (FEA) tools that allow accurate modeling of heat conduction, convection, and radiation within GaN HEMT structures. Using this software, I can analyze temperature distribution, identify hot spots, and study the effects of thermal stress on device performance. Its advanced meshing and thermal-mechanical analysis capabilities will enable me to simulate complex geometries and assess potential failure mechanisms caused by heat buildup. Overall, COSMOS is essential for optimizing the thermal design and improving the reliability and performance of GaN HEMTs in high-power applications

Guide/Supervisor Approval

I, Udaibir Singh (Guide/Supervisor Name),

- Confirm that the above-mentioned researcher is affiliated with our institution
- Have reviewed the software request and its relevance to the researcher's academic work
- Approve the software request for research purposes

Approval Confirmation

- I approve the software request
- The software aligns with the researcher's research objectives
- The request meets the institutional research guidelines

Guide/Supervisor Signature:

Udaibir Singh

Date: 05/11/25

Official Stamp/Seal: [Space for Institutional Stamp]



Important Notes

1. This form must be signed and scanned
2. The scanned copy must be uploaded with the software request
3. Electronic signatures are acceptable if from an official institutional email