AUGUST 3-7
EMC+ SIPI 2026
DALLAS, TEXAS

2026 IEEE EMC SOCIETY STUDENT HARDWARE DESIGN COMPETITION

"Characterize the EMC of a Working Gadget"

Inspire – Measure – Mitigate

The IEEE Electromagnetic Compatibility (EMC) Society invites student teams to participate in the

2026 STUDENT HARDWARE DESIGN COMPETITION,

focused on developing practical skills in EMC measurement, analysis, and problem solving. This year's challenge asks students to characterize the electromagnetic compatibility (EMC) performance of a working electronic device — an Arduino-based system and to communicate results clearly and creatively.

The competition emphasizes real-world engineering practice: designing test setups, collecting meaningful data, interpreting results, and proposing or demonstrating mitigation techniques.

TECHNICAL CHALLENGE

Teams will:

1. Purchase a L298N Motor Drive Controller Board Stepper Motor Control Module Dual H-Bridge with DC Motor and Smart Car Wheel Compatible with Arduino – Develop a working robot/car and characterize it under varying scenarios – be creative!
2. Measure and characterize its EMC behavior, possibly consider:
   - Radiated and conducted emissions
   - Power-supply ripple or noise
   - Susceptibility or immunity to defined disturbances (ESD, ripple injection, nearby RF source)
3. Develop a concise measurement plan, use accessible tools (e.g., SDR, LISN substitute, current probe, log detector), and present quantitative results.
4. Summarize findings, identify major coupling paths or emission sources, and — optionally — implement one verified mitigation (e.g., layout, filter, shielding, or firmware change).

www.2026.emcsipi.org

#IEEE_ESP26

CROSSTALK

IEEE | EMC SOCIETY

ELIGIBILITY

- Teams of 2–5 students currently enrolled in undergraduate or graduate or PhD programs.
- Each team must have one faculty or industry mentor (IEEE member encouraged but not required).
- Work must be primarily student-led.
- Each university or organization may submit up to two teams.

AWARDS

Top teams will receive:

1st Place: $2000 + certificate
2nd Place: $1000 + certificate
3rd Place: $500 + certificate

All finalist teams will be invited to demonstrate their projects at the IEEE EMC+SIPI Symposium.

KEY DATES AND DELIVERABLES

FEBRUARY 13, 2026
Team Registration and Initial Abstract (≤1 page)

APRIL 30, 2026
Preliminary Report (≤3 pages) – test plan, setup photos, early data

JUNE 30, 2026
Final Submission – Technical report (≤5 pages) describing objectives, setup, measurements, data, and conclusions and a 3-minute video showing the device, measurement process, and key results

AUGUST 2026
Live Demonstrations & Judging at IEEE EMC+SIPI Symposium (Poster or PPT presentation, remote/hybrid)

DURING SYMPOSIUM
Winners Announced at Awards Luncheon

JUDGING CRITERIA (equal weighting)

Measurement Rigor:	Clarity, calibration, and repeatability of the test setup.
Data Quality & Interpretation:	Completeness of emissions/immunity coverage and meaningful analysis.
Creativity & Innovation:	Ingenuity in methods, fixtures, or mitigation solutions.
Educational Value:	Clear communication, reproducibility, and insight for other students.
Documentation:	Quality of written report and video presentation.

ALL FINALIST TEAMS WILL BE INVITED TO DEMONSTRATE THEIR PROJECTS AT THE IEEE EMC+SIPI SYMPOSIUM

SUBMISSION INSTRUCTIONS

All materials must be submitted electronically by completing the application form at 2026.emcsipi.org/programs/student-hardware-competition.

CONTACT

Questions may be directed to the EMC Society Student Hardware Design Competition Chair:
Prof. Chuck Bunting, Ph.D., F.IEEE at **reverb@okstate.edu**