

MICRO DRONE RACE & DRONE AUTO 2025

1. Description

FPV Micro Drone Race is a drone race where the drone is controlled by a pilot who uses FPV (First Person View) goggles. FPV glasses function to display images from the camera mounted on the drone so that the pilot can know the surroundings of the drone.

The Autonomous Drone Race is a thrilling competition where drones navigate a designated course entirely on their own—no human pilot, no remote controller. In this division, each team must design and program a drone capable of sensing its environment, making real-time decisions, and maintaining precise flight paths to complete the race as quickly and accurately as possible.

2. Participant

- 1) Students in categories at elementary, middle school, high school and open Category
- 2) Consists of a minimum of 3 students and a maximum of 5 students.
- 3) Fulfill administrative requirements (Registration and Payment)

3. Robot

- 1) Each team is only allowed to use 1 robot to compete in the arena. Each team has their own robot
- 2) Dimension Robot M2M (Motor to Motor) maximum length of 100mm.

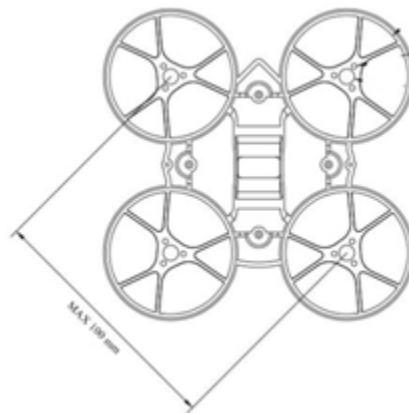


Fig 1. Dimension

3) Motor Type

- Drone Race Elementary : Brushed
- Drone Race Junior, Senior High School, Open : Brushed/Brushless
- Drone Auto : Brushed/Brushless

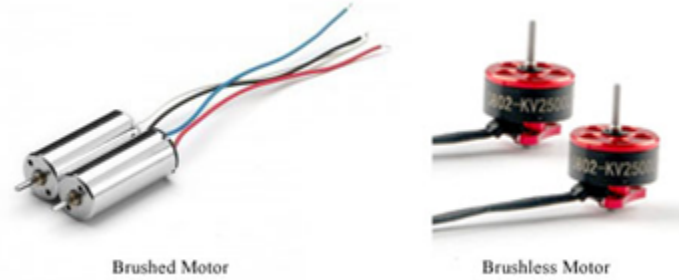


Fig 2. Motor type

4) Battery

- Drone Race Elementary : 1S (1 cell)
- Drone Race Junior, Senior High School, Open : 1S or 2S (1-2 cell)
- Drone Auto : 1S or 2S (1-2 cell)

5) Drone Race : Robot controlled using a remote (wireless) with 2.4Ghz with all protocol (Bayang, FRSKY, FLYSKY, ELRS, etc).

Drone Auto : Robot Programmed by laptop / other device

6) FPV Set (Drone Race)

- Camera with transmitter
- Goggles



Fig 3. Set FPV

4. Race Arena

1) START / FINISH

This is the place where the drone is placed before the match is held. It is also the place where the drone has to stop at the end of the game. The start and finish lines are a gate / goal whose detailed description is in section b below.

2) GATE

Gate must be passed by drones on the inner side. If the drone does not enter the gate then the drone is prohibited from continuing to the next challenge. Here are the gates used.



Fig 4. gate

3) Flag

The flag is an obstacle in the arena of competition in the form of a pole with a flag tied at the top as a marker. The flag must be passed on the right side or left side depending on the shape of the arena in the section.



Fig 5. Flag

4) Secret Obstacle

In this race there will be 1 or no obstacle that is still a secret (*like a box, tube etc).

5) Arena Size and configuration

Arena Size and configuration obstacle (gate, flag, etc) will be show in competition.

5. Competition

1) Before Competition

- Committee will check several things as follows (robot power supply voltage, robot dimensions, robot ownership/label)
- If the robot does not comply with the provisions, the team is given 5 minutes to adjust the robot's specifications immediately. If it still does not comply with the specified limits. The team can not following this competition

1) Competition Session

- Every obstacle that is passed will be counted a score or battle 2 team.
- Each obstacle must be passed by the participant, if the participant does not pass it must be repeated again or receive a time and point penalty.

6. Scoring

- 1) Single Team by point and time or battle.
- 2) winner is determined by:
 - Point (single)
 - Fastest time (single/battle)
- 3) When the Robot Retry in each assessment session, the retry is only for the robot, the time continues.

7. Violation

- 1) Touching the robot during the game is not permitted unless explicitly permitted by the referee.
- 2) Robot does not comply with the specified provisions

Rules are adopted from various National and International robot competition activities