

I MAV 2018 Safety and Security

Version 1.0

All participants are required to be familiar with the safety rules and comply with them. By signing this document, team captains declare that they acknowledge the safety procedures that they have to enforce or demonstrate during the competition and prior to any flights.

Safety rules

- Maximum weight (indoor and outdoor): 2 kg
- Maximum flight altitude above ground (outdoor): 30 metres
- Safety areas as described in the rules document: No-fly zones indicated as areas highlighted in red on the maps (outdoor and indoor competitions). All MAVs should stay inside the allowed flight area. When crossing this limit, a MAV should disarm, land or turn back immediately inside the flight area.
- Inside the no-fly zone, any MAV crossing this line should turn OFF its motors (fixed-wing aircraft may glide upon the control of the safety pilot and land as fast as possible).
- Emergency kill switch (turns OFF all motors immediately) mandatory for all MAVs:
 - A separated remote control (RC) with the kill switch is mandatory for all MAVs. Emergency landing should be triggered immediately in case of RC loss and motors should be stopped after 5 seconds of RC loss. Automatic Disarm or landing should be triggered if RC is lost. Allowed frequencies and maximum power:

Frequency Band	Power Limit	Notes
915 – 928 Mhz	3 milli Watts (0.003 W) EIRP	RFD900 Radio Modems are highly recommended.
433.05 – 434.79 Mhz	25 milli Watts (0.025 W) EIRP	
2.4 GHz – 2.4835 GHz	10 milli Watts (0.01 W) EIRP	
5.725 GHz – 5.875 GHz	25 milli Watts (0.025 W) EIRP.	

Important Notes:

- 433 MHz or 868MHz is **NOT** permitted for use in Australia.
- Operation of FPV equipment in the 960 – 1215 MHz is **strictly prohibited**. This band is utilised by Aeronautical Radio Navigation Services, which includes aircraft collision avoidance radar systems.
- Failure to abide by the boundaries and frequencies can lead to a **penalty or disqualification**.

Safety checks

Before flight:

- The implementation of the flight area protection is the responsibility of each team. Any infringements of the flight area borders may lead to penalty or disqualification.
- Before each flight, each team has to demonstrate the emergency kill switch mechanism to the judges.
- Safety briefings might be held before or during the competitions. All information and instructions given during these briefings should be carefully applied.
- Weight, size and power of the MAVs will be checked before the flights.

During the flights:

- If one of the judges or the flight director, requests the landing of one or all the MAVs, this should be performed without delay with respect to the safety of the people.
- If one of the judges or the flight director is requesting to stop motors from the kill switch for one or all the MAVs, this should be performed without delay.