

## Guidelines on Standard Authorisation to Fly (ATF) Form

### 1 What does a Standard Authorisation to Fly (ATF) is used for?

ATF stands for “Authorisation To Fly”. It is an authorisation for a low-risk UA/drone/model aircraft operation.

According to Regulation 140 under Civil Aviation Regulation 2016, any person who wants to fly an unmanned aircraft system must have authorisation from the Civil Aviation Authority of Malaysia (CAAM)

Types of approval from the CAAM are the following:

Ser.	Type of Approval/ Authorisation	Description
1	<b>Standard Authorisation to Fly</b>	Low risk drone operations such as: <ul style="list-style-type: none"><li>• Flown within Visual Line of Sight or Extended Visual Line of Sight (with a maximum of one (1) visual observer)</li><li>• No spraying or dispensation operations</li><li>• No carriage of item</li><li>• 1 Remote Pilot to 1 Drone</li></ul>
2	<b>Certificate of Approval</b>	Given to Remote Pilot Training Organisation (RPTO) to carry out competency training and evaluation for RCOC-B and its Modules. (Refer to CAD 6011 Part I)
3	<b>Aerial Work Certificate</b>	When a drone is used for agricultural UAS Operations such as: <ul style="list-style-type: none"><li>• Dispensing any ‘agricultural payload’ intended for plant nourishment, soil treatment, propagation of plant life, or pest control; or</li><li>• Engaging in dispensing ‘agricultural payload’ and surveillance activities directly affecting agriculture, horticulture, or forest preservation, but not including the dispensing of live insects.</li></ul> (Refer to CAD 6011 Part II)
4	<b>Special UAS Project</b>	When a drone is used for the following operations:

		<ul style="list-style-type: none"> <li>• Carriage of items, inclusive of carriage of Dangerous Goods;</li> <li>• Beyond Visual Line Of Sight;</li> <li>• Research and Development;</li> <li>• Any other operations that require an additional operational support activity from the CAAM due to the additional risks it involves.</li> </ul> <p>(Refer to CAD 6011 Part V)</p>
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Table 01: Types of Approval issued by CAAM with regards to UAS.

Note: This guideline is strictly for Standard Authorisation to Fly Form.

## 2 Guidance on Standard ATF Form

### BORANG CAAM/BOP/UAS/ATF/02-00

This form is to be filled up by the person having management of the UA, and not another person who may, for example, have contracted with the operator to have work done. **Application form and supporting documents needs to be submitted at least 14 working days before the proposed activity date to [drone.atf@caam.gov.my](mailto:drone.atf@caam.gov.my).** However, please take note that certain approval may take a longer period due to its complexity (e.g., operations within the airport).

### 2.1 SECTION I: PERSONAL PARTICULARS OF THE ACCOUNTABLE MANAGER

#### 2.1.1 Accountable manager

- a) The Accountable Manager (AM) usually termed as CEO or Director is the personnel who is accountable for safety and corporate compliance. This person shall provide the necessary resources to ensure all operations and maintenance can be safely conducted to meet the obligations, goals and objectives including finance and human resources. The AM is accountable to ensure that any operation conducted is within the compliance of the legislation - Civil Aviation Regulation 2016 and any other State or Local Law pertaining UAS activity. For individual applicants, the applicant shall be the Accountable Manager.
- b) The details should be fill up as below.

#### SECTION I : PERSONAL PARTICULARS OF THE ACCOUNTABLE MANAGER

Full Name	
Passport/NRIC	
Name of Company	
Company Registration Number	
Postal Address	
Telephone / Mobile No	
Fax Number	
Email	

Figure 1: Particulars of the Accountable Manager

**Note: The section highlighted in red in table above is mandatory to be filled up and the rest are if applicable.**

## 2.2 SECTION II: REMOTE PILOT DETAILS

### 2.2.1 Remote Pilot

Applicant need to fill up the RP details as:

SECTION II : REMOTE PILOT DETAILS							
<i>Please add on to the list if there are any additional pilots</i>							
No.	Name	Passport/NRIC	Nationality	Brand/Model of UAS	Details of training/course(s) attended	Details	
1.						Total Hours	
						Last Date Flown	
2.						Total Hours	
						Last Date Flown	
3.						Total Hours	
						Last Date Flown	
4.						Total Hours	
						Last Date Flown	
5.						Total Hours	
						Last Date Flown	
6.						Total Hours	
						Last Date Flown	

Figure 2: Remote Pilot Details.

**Note: The section highlighted in red in the table above is mandatory to be filled up and the rest are if applicable.**

In this Section applicants need to state down the experience of their remote pilot (RP). Applicant must state that either the remote pilot has ever joined any kind of drone course or not (physical or online). It is not mandatory for applicant to have joined a course under Remote Pilot Training Organisation.

## 2.3 SECTION III: UNMANNED AIRCRAFT SYSTEM SPECIFICATION

### 2.3.1 Specification

Applicant must fill up the specification of the drone they're using as below:

#### SECTION III : UNMANNED AIRCRAFT SYSTEM SPECIFICATIONS

Please add on to the list for each model if more than one model of UAS being used.

Brand/model of Unmanned Aircraft (UA)	:	
Type of UAS (Quadcopter, Hexacopter, VTOL, Fixed wing, etc.)	:	
UA Serial Number	:	
SIRIM UAS Certification	:	
1. Company:		
a. MCMC Label Serial Number;		
b. Type Approval / Certificate of Conformity (Serial Number); or	:	
c. Special Approval Certificate (Serial Number).		
2. Individual:		
a. MCMC Label Serial Number; or		
b. Special Approval Clearance Letter (CL Number).		
Weight (kg) <sup>1</sup>	:	
Length (m)	:	
Wingspan (m)	:	
Power source	:	
Maximum flight duration (minutes)	:	
Maximum speed (m/s)	:	
Maximum height capable (m)	:	
Maximum distance capable (m)	:	
List the brands and models of all wireless transmitting devices used, including radio controller, video, etc	:	
List the frequencies used by each model	:	
List the output power of each model	:	
<b>TOTAL NUMBERS OF UNMANNED AIRCRAFT USED:</b>	:	

Figure 3: Unmanned Aircraft Specification Table

Note: The section highlighted in table above is mandatory to be filled up and the rest are if applicable.

**Before applying ATF, applicants must have to make sure that their drone is SIRIM certified with MCMC label.**

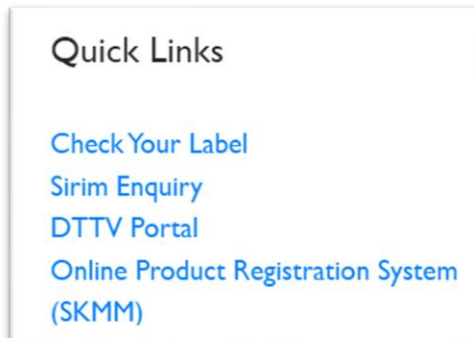
Please add on to the list for each model if more than one model of UAS being used.

Brand/model of Unmanned Aircraft (UA)	:	DJI mavic 2
Type of UAS (Quadcopter, Hexacopter, VTOL, Fixed wing, etc.)	:	Quadcopter
UA Serial Number	:	
SIRIM UAS Certification.	:	1. SZ DJI TECHNOLOGY 2. FCC ID: SS3-MA2UE1N1911
1. Company:		
a. MCMC Label Serial Number;		
b. Type Approval / Certificate of Conformity (Serial Number); or	:	
c. Special Approval Certificate (Serial Number).		
2. Individual:		
a. MCMC Label Serial Number; or		
b. Special Approval Clearance Letter (CL Number).		
Weight (kg) <sup>1</sup>	:	570 g
Length (m)	:	183
Wingspan (m)	:	257
Power source	:	11.55 V
Maximum flight duration (minutes)	:	34 minute
Maximum speed (m/s)	:	3 m/s
Maximum height capable (m)	:	500 m
Maximum distance capable (m)	:	18.5 KM
List the brands and models of all wireless transmitting devices used, including radio controller, video, etc	:	DJI mavic 2
List the frequencies used by each model	:	2.400-2.4835 GHZ
List the output power of each model	:	11.5 V
<b>TOTAL NUMBERS OF UNMANNED AIRCRAFT USED:</b>	:	1 nos

Figure 4: Example of table of unmanned aircraft system specification

### 2.3.2 Steps how to check 'check my label'

Step 1; [https://ecofmm.sirim.my/SirimEnquiry/search\\_ProductSerialNo.aspx](https://ecofmm.sirim.my/SirimEnquiry/search_ProductSerialNo.aspx)



Step 2; Click on "Check your label"

A screenshot of the 'Label Serial No. Enquiry' page. The page has a header with the SIRIM QAS logo and the text 'Welcome to e-ComM online certification for communication and Multimedia products'. The main heading is 'Label Serial No. Enquiry'. Below this is a form with the label 'Label Serial No.' and three input fields. Below the input fields is a note: '\* example of Label Serial No. format : 'BD123436C' or 'bd123436c' | 'BD123436G' or 'bd123436g' | 'BD123436V' or 'bd123436v''. There are two orange buttons labeled 'Search' and 'Reset'. Below these are two blue buttons labeled 'Back to Home Screen' and 'Back to Main Screen'. There are also two links: 'Search IMEI Information' and 'Search Product Serial No. Information'.

Step 3; Click on "Search Product Serial No. Information"

## Product Serial No. Enquiry

Product Serial No.

Model / Marketing Name

Brand

Search

Reset

Back to Home Screen

Back to Main Screen

## Product Serial No. Enquiry

Product Serial No. **16 \*\*\* FR0A7 \*\*\***

Model / Marketing Name **Mavic 2 Pro**

Brand **DJI**

Search

Reset

No.	Product Serial No.	Model	Brand	Product Category	Self Labeling ID	Principal	Cert Holder	TAC	Approved Date
1	163CJ4FR ***	Mavic 2 Pro (Aircraft: L1P [Frequency: 2400MHz - 2483.5MHz & 5725MHz - 5875MHz]) (Remote Controller: RC1B [Frequency: 2400MHz - 2483.5MHz & 5725MHz - 5875MHz])	DJI	REMOTELY OPERATED AERIAL VEHICLE (ROAV) (HYBRID - TOY)	HIDF2 ***	<a href="#">View Details</a>	AZURE TELECOMMUNICATION SDN BHD	ROAV/69A/0E 2971)	*** -2021-05-12

Back to Home Screen

Back to Main Screen

Step 4; Applicant need to fill the form above.

### 2.3.3 Allocated frequency band for UAS under Class Assignment by MCMC

Frequency Bands (MHz)	Maximum EIRP	Type of Radio Communications
433 – 435	100 mW	a. Command and Control b. Payload
2400 – 2500	500 mW	
5725 – 5875	1 W	

Table 02: Technical parameters for UAS under CA

- 2.3.3.1 The full CA document can be downloaded [here](#).
- 2.3.3.2 No submission of application for assignment is required to MCMC for use of these frequencies under CA. However, the radiocommunication equipment shall be certified by the MCMC or its appointed certifying agency.
- 2.3.3.3 As the use of frequency will be shared with other services/applications, hence the protection from interference and quality of service cannot be ensured.



## 2.4 SECTION IV: RISK ASSESSMENT

The purpose of the Risk Assessment Section is for the operator to consider all hazards which are possible during the intended UAS operation. There are 2 sections in the Risk Assessment Form to be completed.

<b><u>Section A: Risk Assessment for Required Type of Operation(s)</u></b>
Based on the type of operation(s) required for the application (e.g. aerial photography, inspection, etc.), this section should detail all possible hazards associated with the identified type of operation(s).
<b><u>Section B: Risk Assessment for Area of Operations</u></b>
This section should detail all possible hazards encountered in the vicinity of the area of operations as requested in the application.

### **Filling in the Risk Assessment Form**

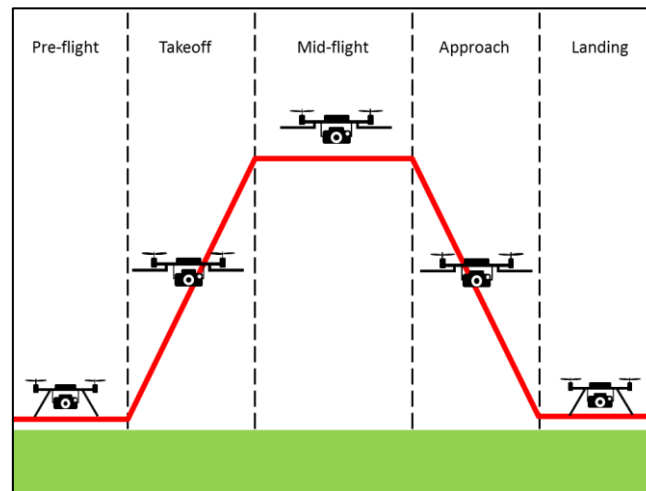
#### **Hazard**

The following hazards associated with the normal operation of the UAS should minimally be considered:

- 1) Mid-air collision with other UAS / public structure(s)
- 2) Loss of UAS control in-flight due to strong wind or turbulence
- 3) UAS catches fire during flight
- 4) Uncontrolled crash landing
- 5) Others (e.g. collision with other property, environmental considerations, etc)

### Phase(s) of Flight

This corresponds to the various phase(s) of flight in which the identified hazard can occur:



### Consequence(s)

This should detail the potential consequences that would result if the identified hazard should occur.

### Causal Factor(s)

The various factors that would potentially contribute to the identified hazard.

### Control/Recovery Measures

This should detail the mitigation actions to be taken for the identified hazard.

### Risk Level after Measures

The risk severity and probability have to be assessed in association with the identified hazard after the mitigation measures are in-placed, using the risk severity category table below.

### Personnel-in-charge

Include the pilot and personnel-in-charge/safety personnel and his/her/their role in the UAS operation.

### Risk Severity Category

CAAM Guideline for Standard ATF Form (Rev 02-01)

Risk Probability Either qualitative or quantitative assessment	Risk Severity				
	Catastrophic	Hazardous	Major	Minor	No effect
<b>Probable</b> <i>Anticipate to occur <math>\geq 1x</math> during the entire system/operational life of an item: or</i>	High	High	Medium	Low	Low
<b>Remote</b> <i>Unlikely to occur to each item during its total life. May occur several times in the life of an entire system or fleet: or</i>	High	High	Medium	Low	Low
<b>Extremely Remote</b> <i>Not anticipated to occur to each item during its total life. May occur a few times in the life of an entire system or fleet: or</i>	Medium	Medium	Medium	Low	Low
<b>Extremely Improbable</b> <i>It is not anticipated to occur during the entire operational life of an entire system or fleet: or</i>	Low	Low	Low	Low	Low
<p><b><u>Failure Condition in a UAS:</u></b></p> <p>A condition having an effect on the UAS, either direct or consequential, which is caused or contributed to by one or more failures or errors considering flight phase and relevant adverse operational or environmental conditions or external events</p> <p><b>Catastrophic:</b> Failure would prevent continued safe flight and landing resulting in (a) one or more fatalities or serious injury to persons or major property damage external to the UAS, (b) uncontrolled loss of aircraft</p> <p><b>Hazardous:</b> Failure would reduce the capability of the aircraft or the ability of the crew to cope with adverse operating conditions to the extent that there would be the following:</p> <ul style="list-style-type: none"> <li>a) Physical distress to persons or property damage external to the UAS possibly including injuries</li> <li>b) A large reduction in safety margins or functional capabilities</li> <li>c) Higher workload such that the flight crew cannot be relied upon to perform their tasks accurately or completely.</li> </ul> <p><b>Major:</b> Failure would reduce the capability of the aircraft or the ability of the crew to cope with adverse operating conditions to the extent that there would be</p> <ul style="list-style-type: none"> <li>a) Potential for physical discomfort to persons or minor property damage external to UAS</li> <li>b) A significant reduction in safety margin or functional capabilities</li> <li>c) A significant increase in crew workload or in conditions impairing crew efficiency</li> </ul>					

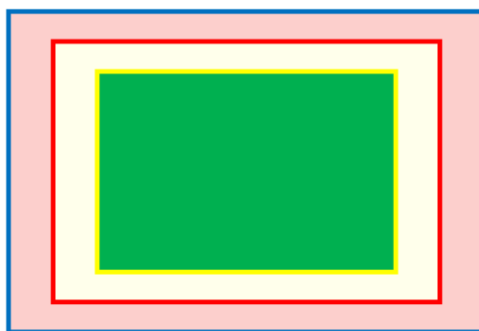
S/N	Hazard	Phase(s) of Flight	Consequence(s)	Causal Factor(s)	Control / Recovery Measures	Risk Level after Measures	Personnel in-charge
<b>Section A: Risk Assessment for Required Type of Operations</b>							
E.g .	Accidental flying into restricted airspace	Take-off, Mid-flight, Approach , Landing	Collision with manned aircraft	Lapse in active monitoring of UAS's position/altitude/heading	<p><u>Consider people, machine &amp; environment</u></p> <p>Pilot must actively monitor UAS flight parameters and maintain UAS within stipulated area of operations.</p> <p>Ensure continuous radio link between UAS operator and Unmanned aircraft throughout flying phase.</p> <p>Monitor wind speed in area of operation. Terminate UAS flying when wind speed excess stipulated limits.</p>	High	Pilot Tan Lee & Safety officer Lim Bee Seng
1.							
2.							

S/N	Hazard	Phase(s) of Flight	Consequence(s)	Causal Factor(s)	Control Recovery Measures /	Risk Level after Measures	Personnel- in-charge
<b>Section B: Risk Assessment for Area of Operations</b>							
E.g.	Built-up areas in the vicinity of the area of operations	Mid-flight	Drone collides with building and crash lands on nearby people and/or neighbouring building(s).	Loss of visual line of sight between UAS and operator	<u>Consider people, machine &amp; environment</u> Pilot must maintain visual contact with UAS at all times.  Operate UAS within published radio range.  Maintain safe distance from public roads, buildings and personnel.	Medium	Pilot Tan Lee & Safety officer Lim Bee Seng
1.							
2.							
3.							

## 2.5 SECTION V: FLIGHT PLANNING OF OPERATION

### 2.5.1 PART A: Illustration of the entire activity area

The applicant shall submit the entire activity area using a map application (e.g., Google Map etc.) with annotation **of take-off / landing site**.



The entire operating zone should be marked and its GPS co-ordinates, as suggested in the list below:

**Green Area (Activity Area):** Activity area for all intended RPA flight phases (Take-off, Mid-flight, Approach and landing)

**Yellow Line (Caution Area):** Yellow line is operator's declared boundary to make sure that the RP is in a standby condition/mode in case where the RPA accidentally encroached the yellow line. The RP is expected to fly manually, or the flight control system is programmed to return back to green area safely.

**Red Line (Emergency Zone):** Red line starts as the operator's declared boundary dedicated for any emergency sequence that may arise during the conduct of UA operations. Emergency sequence may vary from manufacturer to manufacturer. The main purpose of this sequence is to ensure that the RPA lands safely or, to ensure that the ground risk towards people/vehicles/buildings is reduced.

**Blue Line (Boundary Line)** may act as the worst-case fall zone in case of emergency procedures carried out on passing the red zone. At no time the UA can be operated out of the blue boundary line.

The distance of the Green Area to the Blue Boundary shall be the same distance as the height. Example:

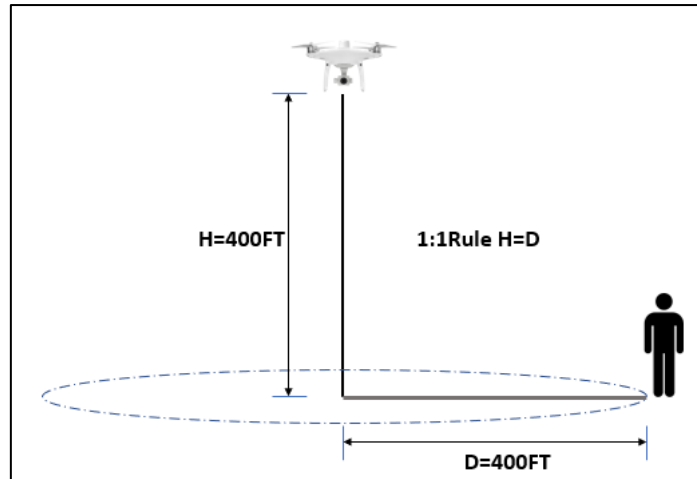


Figure above is an explanation on 1:1 rule.

#### 2.5.2 How to create a .kmz file

We found some of the following youtube videos helpful in creating a .kmz file using Google Earth Pro:

- [Creating a KMZ in Google Earth Pro - YouTube](#)
- [\(111\) Creating a KMZ file - YouTube](#)

#### 2.5.3 PART B: Flight Mission (If applicable)

The Accountable Manager shall submit the flight mission (screenshot) if UAS activity utilizing automated flight assistance for its navigation and operation.

The flight mission details shall include: -

No	Flight Mission	Description
1	Flight Mission Planner Application Name	
2	Flight Mission Planner Platform (Android/iOS/Windows/Others)	
3	Mission Type (Survey, Inspection, etc)	
4	Total Distance Travel (km)	
5	Mission Speed (m/s)	
6	Total Mission Time Estimation (min)	
7	Mission Altitude (m)	
8	No. of Battery Use	

Figure 1.5.2.1 is the table for flight mission.

**This section is applicable for the automated flight mission only**

#### 2.5.4 **PART C: Personnel list for the UAS operation**

The applicant shall submit the details of all personnel involved for the UAS operation in form below:

Example of people involved could be:

- Remote Pilot
- Visual Observer

## 2.6 Fees and Charges

The Schedule Item for the Fees and Charges of an Standard Authorisation to Fly is stated in the Civil Aviation (Fees and Charges) Regulation 2016. The extract of the regulation can be found below:

96.	Application for authorization to fly an unmanned aircraft system	An unmanned aircraft system with a mass of more than 20 kilogrammes without its fuel	1,000
97.	Application for authorization to fly small unmanned surveillance aircraft	Any small unmanned surveillance aircraft	250

CAAM limits an application based on the area of the location.

A radius of 15 nautical mile radius or 30 nautical miles diameter is considered as one location.

An application to fly at several locations nearby and if it can be plotted in one 15nm radius is considered as one application.

Example:

Number of UA	Number of Operations	Number of Location (within one circle of 15nm radius)	Total Cost
1 small unmanned surveillance aircraft	300	1	RM 250
3 small unmanned surveillance aircraft	1	1	RM 750
1 small unmanned surveillance aircraft	10	2	RM 500
1 unmanned aircraft system (weighing more than 20kg)	2	1	RM 1000
2 unmanned aircraft system (weighing more than 20kg)	1	1	RM 2000
1 unmanned aircraft system (weighing more than 20kg)	10	2	RM 2000



## 2.7 DOCUMENT SUBMISSION CHECKLIST

**PLEASE TAKE NOTE:** Applicant must make sure all the requirements and documents are completed before submitting the application to CAAM.

### DOCUMENT SUBMISSIONS CHECKLIST

No.	Documents	Yes	No	Remarks
1.	Accountable Manager Details:			
	a. Identification Card / Passport; and			
	b. Company Registration Certificate.			
2.	SIRIM Approval / Certificate.			
3.	MCMC Approval / Certificate <sup>1</sup> (if applicable).			
4.	JUPEM Approval <sup>2</sup> (if required).			
5.	Appointment Letter or Landowner permission, undertaking the company for the said task.			
6.	Pilot:			
	a. Competency Evidence <sup>3</sup> ; and			
	b. Identification Card / Passport.			
7.	.kml or .kmz file (Google Earth)			
8.	UAS User Manual / Specifications Brochure.			

\*Application form and supporting documents needs to be submitted at least 14 days before the proposed activity date to [drone.atf@caam.gov.my](mailto:drone.atf@caam.gov.my) to avoid any delay.

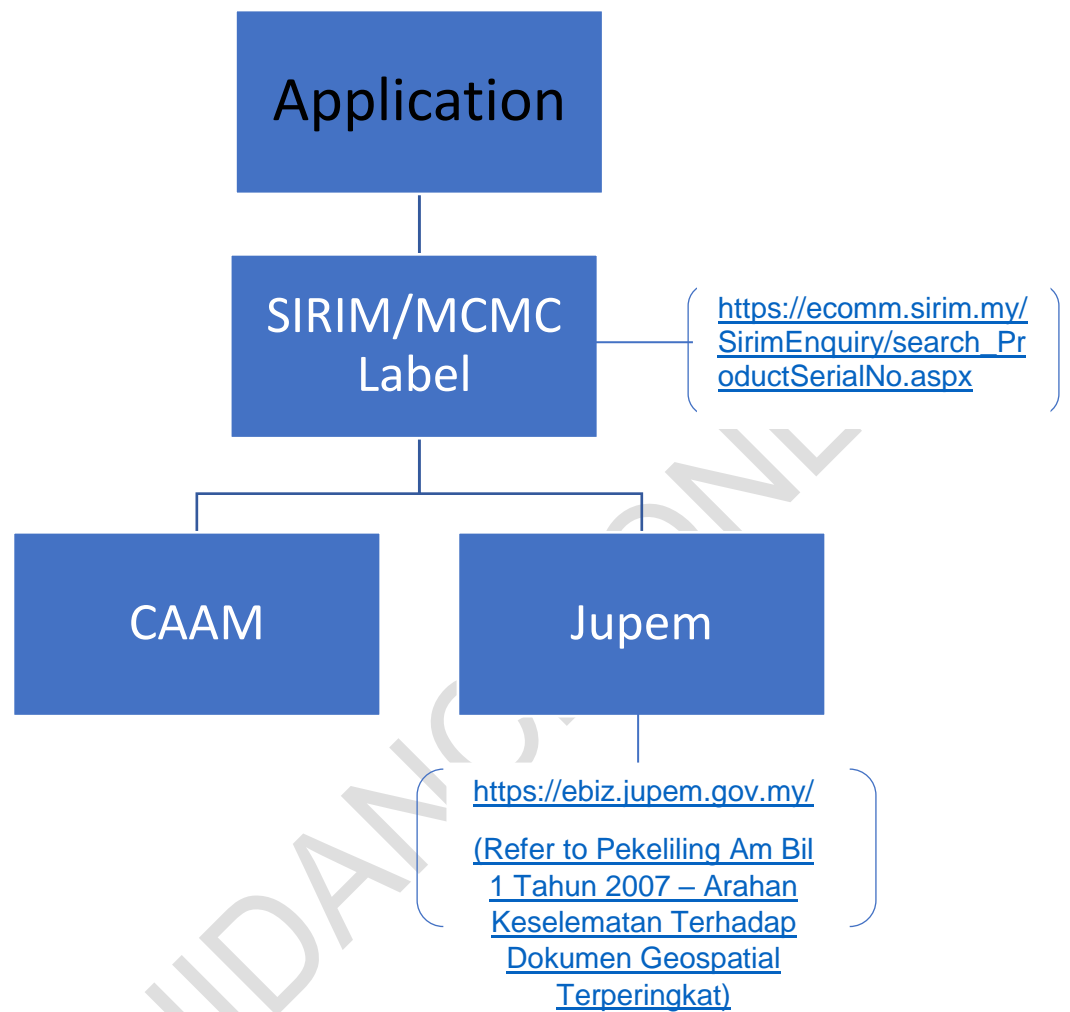
<sup>1</sup> If UAS requires an Apparatus Assignment. (UAS using Class Assignment – 433 - 435 MHz, 2400 - 2500MHz, 5725 - 5875 MHz falls into Class Assignment and does not required an Apparatus Assignment).

<sup>2</sup> If UAS carries camera as payload.

<sup>3</sup> Attach remote pilot competency if available. It is not a mandatory requirement as CAAM will evaluate the competency of the pilot via the Risk Assessment.

**PLEASE TAKE NOTE:** CAAM only accept google drive link or attached file only in word or PDF format through the email given, [drone.atf@caam.gov.my](mailto:drone.atf@caam.gov.my).

### 3 Flowchart



## 4 Quick links

Websites	Links
CAAM Website	<a href="https://www.caam.gov.my/">https://www.caam.gov.my/</a>
ATF Form	<a href="https://www.caam.gov.my/wp-content/uploads/2021/06/APPLICATION_FOR_UNMANNED_AIRCRAFT_SYSTEM_110621.docx">https://www.caam.gov.my/wp-content/uploads/2021/06/APPLICATION FOR UNMANNED AIRCRAFT SYSTEM 110621.docx</a>
CAR 2016	<a href="https://www.caam.gov.my/wp-content/uploads/2021/02/1.-Civil-Aviation-Regulations-2016-1.pdf">https://www.caam.gov.my/wp-content/uploads/2021/02/1.-Civil-Aviation-Regulations-2016-1.pdf</a>
SIRIM/MCMC (Check your label)	<a href="https://ecomm.sirim.my/Login_External.aspx">https://ecomm.sirim.my/Login External.aspx</a>
JUPEM	<a href="https://ebiz.jupem.gov.my/">https://ebiz.jupem.gov.my/</a>

This guidance is not a directive nor a regulation. It is subjected to changes from time to time. Any queries can be made to UAS Unit via:

- (a) Telephone: 03-87704382
- (b) Email: [drone@caam.gov.my](mailto:drone@caam.gov.my)