| PDRA characterisation and conditions | | | | | | | | |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Topic | Assurance level | | Condition | | | Demonstration of integrity [[1]](#footnote-1) | | Demonstration of assurance38 |
| **1. Operational characterisation (scope and limitations)** | | | | | | | | |
| Level of human intervention | Self-declaration | | 1.1 No autonomous operations: the remote pilot should have the ability to maintain control of the UA, except in case of a loss of the command-and-control (C2) link. | | | *Please include a reference to the relevant chapter/section of the OM.* | | ‘I declare compliance.’ |
| 1.2 The remote pilot should operate only one UA at a time. | | | *Please include a reference to the relevant chapter/section of the OM.* | | ‘I declare compliance.’ |
| 1.3 The remote pilot should not operate the UA from a moving vehicle. | | | *Please include a reference to the relevant chapter/section of the OM.* | | ‘I declare compliance.’ |
| 1.4 The remote pilot should not hand the control of the UA over to another command unit. | | | *Please include a reference to the relevant chapter/section of the OM.* | | ‘I declare compliance.’ |
| UA range limit | Self-declaration | | 1.5 VLOS distance from the remote pilot at all times. | | | *Please include a reference to the relevant chapter/section of the OM.* | | ‘I declare compliance.’ |
| Overflown areas | Self-declaration | | 1.6 UAS operations should be conducted over a controlled ground area. | | | *Please include a reference to the relevant chapter/section of the OM.* | | ‘I declare compliance.’ |
| 1.7 For the operation of a tethered UA, the area should have a radius equal to the tether length plus 5 m, and should be centred on the point of the surface of the Earth where the tether is fixed. | | | *Please include a reference to the relevant chapter/section of the OM.* | | ‘I declare compliance.’ |
| UA limitations | Self-declaration | | 1.8 The UA should have an MTOM of less than 25 kg, including payload. | | | *Please include a reference to the relevant chapter/section of the OM.* | | ‘I declare compliance.’ |
| 1.9 The UA should have a maximum characteristic dimension (e.g. wingspan, rotor diameter/area or maximum distance between rotors in case of a multirotor) of less than 3 m. | | | *Please include a reference to the relevant chapter/section of the OM.* | | ‘I declare compliance.’ |
| Flight height limit | Self-declaration | | 1.10 The remote pilot should maintain the UA within 120 m (unless making use of the option defined in point 1.12) from the closest point of the surface of the Earth. The measurement of the distances should be adapted according to the geographical characteristics of the terrain, such as plains, hills, and mountains. | | | *Please include a reference to the relevant chapter/section of the OM.* | | ‘I declare compliance.’ |
| 1.11 When flying a UA within a horizontal distance of 50 m from an artificial obstacle that is taller than 105 m, the maximum height of the UAS operation may be increased up to 15 m above the height of the obstacle, at the request of the entity responsible for the obstacle. | | | *Please include a reference to the relevant chapter/section of the OM.* | | ‘I declare compliance.’ |
| 1.12 When UAS operators intend to operate at a height above 120 m, up to 150 m, they should define a risk buffer according to point 3.8 below. | | | *Please include a reference to the relevant chapter/section of the OM.* | | ‘I declare compliance.’ |
|  | Self-declaration | | 1.13 The UA should be operated: | | |  | |  |
| 1.13.1 in uncontrolled airspace, unless different limitations are provided for by the Member States for their UAS geographical zones in areas where the probability of encountering manned aircraft is not low; or | | | *Please include a reference to the relevant chapter/section of the OM.* | | ‘I declare compliance.’ |
| 1.13.2  in controlled airspace after coordination and flight authorisation in accordance with the published procedures for the area of operation, to ensure that the probability of encountering manned aircraft is low.  *Note: Airspace with an air risk that is classified as not higher than ARC-b can be considered having a low probability of encountering manned aircraft.* | | | *Please include a reference to the relevant chapter/section of the OM.* | | ‘I declare compliance.’ |
| Visibility | Self-declaration | | 1.14 The flight visibility should allow the remote pilot to conduct the entire flight in VLOS. | | | *Please include a reference to the relevant chapter/section of the OM.* | | ‘I declare compliance.’ |
| Others | Self-declaration | | 1.15 The UA should not be used to carry dangerous goods, except for dropping items in connection with agricultural, horticultural or forestry activities where the carriage of such items does not contravene any other applicable regulations. | | | *Please include a reference to the relevant chapter/section of the OM.* | | ‘I declare compliance.’ |
| 2. Operational risk classification (according to the classification defined in AMC1 to Article 11 of the UAS Regulation) | | | | | | | | |
| Final GRC | 3 | **Final ARC** | | ARC-b | **SAIL** | | II | |
| 3. Operational mitigations | | | | | | | | |
| Operational volume  (see Figure 2  of AMC1 Article 11) | Self-declaration | | 3.1 The UAS operator should define the operational volume for the intended operation, including: | | | *Please include a reference to the relevant chapter/section of the OM.* | | ‘I declare compliance.’ |
| 3.1.1 the flight geography; and | | | *Please include a reference to the relevant chapter/section of the OM.* | | ‘I declare compliance.’ |
| 3.1.2 the contingency volume, with its external limit(s) at least 10 m beyond the limit(s) of the flight geography if the operation is conducted with untethered UA. | | | *Please include a reference to the relevant chapter/section of the OM.* | | ‘I declare compliance.’ |
| 3.2 To determine the operational volume, the UAS operator should consider the position-keeping capabilities of the UAS in 4D space (latitude, longitude, height, and time). | | | *Please include a reference to the relevant chapter/section of the OM.* | | ‘I declare compliance.’ |
| 3.3 In particular, the accuracy of the navigation solution, the flight technical error of the UAS, as well as the flight path definition error (e.g. map error) and latencies should be considered and addressed when determining the operational volume. | | | *Please include a reference to the relevant chapter/section of the OM.* | | ‘I declare compliance.’ |
| 3.4 The remote pilot should apply emergency procedures as soon as there is an indication that the UA may exceed the limits of the operational volume, as per point 5.3.8 d) below. | | | *Please include a reference to the relevant chapter/section of the OM.* | | ‘I declare compliance.’ |
| Ground risk | Self-declaration | | 3.5 The UAS operator should establish a ground risk buffer to protect third parties on the ground outside the operational volume. | | | *Please include a reference to the relevant chapter/section of the OM.* | | ‘I declare compliance.’ |
| 3.6 For the operation of untethered UA, the ground risk buffer should cover a distance beyond the external limit(s) of the contingency area. That distance should be at least as defined below:   |  |  |  | | --- | --- | --- | | Max height AGL[[2]](#footnote-2) | Minimum distance for ground risk buffer | | | with MTOM of up to 10 kg | with MTOM greater than 10 kg | | 30 m | 10 m | 20 m | | 60 m | 15 m | 30 m | | 90 m | 20 m | 45 m | | 120 m | 25 m | 60 m | | 150 m | 30 m | 75 m | | | | *Please include a reference to the relevant chapter/section of the OM.* | | ‘I declare compliance.’ |
| 3.7 For the operation of tethered UA, the ground risk buffer is considered in point 1.7 above. | | | *Please include a reference to the relevant chapter/section of the OM.* | | ‘I declare compliance.’ |
| Air risk | Declaration supported by data | | 3.8 If the UAS operation is performed above 120 m and up to 150 m, the UAS operator should: | | | *Please include a reference to the relevant chapter/section of the OM.* | | ‘I declare compliance.’ |
| 3.8.1 establish an air risk buffer to protect third parties in the air outside the operational volume; and | | | *Please include a reference to the relevant chapter/section of the OM.* | | ‘I declare compliance and that supporting evidence is included in the OM.’  Justification supporting the reduction of the air risk buffer is documented in […]. |
| 3.8.2 if the air risk buffer is part of controlled airspace, coordinate the operation with the respective ANSP; | | | *Please include a reference to the relevant chapter/section of the OM.* | | ‘I declare compliance and that supporting evidence is included in the OM.’ |
| 3.8.3 develop appropriate procedures to not jeopardise other airspace users. | | | *Please include a reference to the relevant chapter/section of the OM.*  *Please describe how the remote pilots and, if employed, the AOs are able to assess the height of the UA compared to other airspace users[[3]](#footnote-3).* | | ‘I declare compliance and that supporting evidence is included in the OM.’ |
| Self-declaration | | 3.9 The operational volume should be outside any geographical zone corresponding to a flight restriction zone of a protected aerodrome or of any other type, as defined by the responsible authority, unless the UAS operator has been granted appropriate permission. | | | *Please include a reference to the relevant chapter/section of the OM.* | | ‘I declare compliance.’ |
| 3.10 Prior to the flight, the UAS operator should assess the proximity of the planned operation to manned aircraft activity. | | | *Please include a reference to the relevant chapter/section of the OM.* | | ‘I declare compliance.’ |
| Observers |  | | Airspace observers (AOs): n/a  UA observers: refer to point 5.3.8(b) below. | | |  | |  |
| **4. UAS operator and UAS operations conditions** | | | | | | | | |
| UAS operator and UAS operations | Declaration supported by data | | 4.1 The UAS operator should: | | |  | |  |
| 4.1.1 develop an operations manual (OM) (for the template, refer to AMC1 UAS.SPEC.030(3)(e) and to the complementary information in GM1 UAS.SPEC.030(3)(e)); | | | *Please describe how this condition is met.* | | ‘I declare compliance and that supporting evidence is included in the OM.’ |
| 4.1.2 define the operational volume and ground risk buffer for the intended operation, as per points 3.1 to 3.6 above, and include them in the OM; | | | *Please describe how this condition is met.* | | ‘I declare compliance and that supporting evidence is included in the OM.’ |
| 4.1.3 develop procedures to ensure that the security requirements applicable to the area of operations are complied with during the intended operation; | | | *Please include a reference to the relevant chapter/section of the OM.* | | ‘I declare compliance and that supporting evidence is included in the OM.’ |
| 4.1.4 develop measures to protect the UAS against unlawful interference and unauthorised access; | | | *Please include a reference to the relevant chapter/section of the OM.* | | ‘I declare compliance and that supporting evidence is included in the OM.’ |
| 4.1.5 develop procedures to ensure that all operations comply with Regulation (EU) 2016/679 on the protection of natural persons with regard to the processing of personal data and on the free movement of such data. In particular, the UAS operator should carry out a data protection impact assessment, when this is required by the data protection national authority of the Member State with regard to the application of Article 35 of that Regulation; | | | *Please include a reference to the relevant chapter/section of the OM.* | | ‘I declare compliance and that supporting evidence is included in the OM.’ |
| 4.1.6 develop guidelines for its remote pilots to plan UAS operations in a manner that minimises nuisance, including noise and other emissions-related nuisance, to people and animals; | | | *Please include a reference to the relevant chapter/section of the OM.* | | ‘I declare compliance and that supporting evidence is included in the OM.’ |
| 4.1.7 ensure the adequacy of the contingency and emergency procedures and prove it through any of the following:  (a) dedicated flight tests; or  (b) simulations, provided that the representativeness of the simulation means is proven for the intended purpose with positive results; or  (c) any other means acceptable to the competent authority; and | | | *Please describe how this condition is met.* | | ‘I declare compliance and that evidence is available to the competent authority for review.’ |
| 4.1.8 develop an emergency response plan (ERP) that is suitable for the intended operation in accordance with the conditions for a ‘medium’ level of robustness (please refer to AMC3 UAS.SPEC.030(3)(e); | | | *Please describe how this condition is met.* | | ‘I declare compliance and that the ERP is available to the competent authority for review*.*’ |
| 4.1.9 upload updated information into the geo-awareness function, if such system is installed on the UAS, when required by the UAS geographical zone for the intended location of the operation; | | | *Please describe how this condition is met.* | | ‘I declare compliance and that supporting evidence is included in the OM.’ |
| 4.1.10 ensure that before starting the operation, the controlled ground area is in place, effective, and compliant with the minimum distance that is defined in points 3.1 and 3.5 above and, when required, coordinate with the appropriate authorities; | | | *Please describe how this condition is met.* | | ‘I declare compliance and that supporting evidence is included in the OM.’ |
| 4.1.11 ensure that before starting the operation, all persons that are present in the controlled ground area: | | |  | |  |
| (a) have been informed of the risks of the operation; | | | *Please describe how this condition is met.* | | ‘I declare compliance and that supporting evidence is included in the OM.’ |
| (b) have been briefed on or trained in, as appropriate, the safety precautions and measures that the UAS operator has established for their protection; and | | | *Please describe how this condition is met.* | | ‘I declare compliance and that supporting evidence is included in the OM.’ |
| (c) have explicitly agreed to participate in the operation; | | | *Please describe how this condition is met.* | | ‘I declare compliance and that supporting evidence is included in the OM.’ |
| 4.1.12 designate for each flight a remote pilot with adequate competency and other personnel in charge of duties essential to the UAS operation if needed; | | | *Please include a reference to the relevant chapter/section of the OM.* | | ‘I declare compliance and that supporting evidence is included in the OM.’ |
| 4.1.13 ensure that the UAS operation effectively uses and supports the efficient use of the radio spectrum in order to avoid harmful interference; | | | *Please include a reference to the relevant chapter/section of the OM.* | | ‘I declare compliance and that supporting evidence is included in the OM.’ |
| 4.1.14 keep for a minimum of 3 years and maintain up to date a record of the information on UAS operations, including any unusual technical or operational occurrences and other data as required by the declaration or by the operational authorisation. | | | *Please include a reference to the relevant chapter/section of the OM.* | | ‘I declare compliance and that record-keeping data is available to the competent authority.’ |
| UAS maintenance | Self-declaration | | 4.2 The UAS operator should: | | | *Please include a reference to the relevant chapter/section of the OM.* | | ‘I declare compliance.’ |
| 4.2.1 ensure that the UAS maintenance instructions that are defined by the UAS operator are included in the OM and cover at least the UAS manufacturer’s instructions and requirements when applicable; | | | *Please include a reference to the relevant chapter/section of the OM.* | | ‘I declare compliance.’ |
| 4.2.2 ensure that the maintenance staff follow the UAS maintenance instructions when performing maintenance; | | | *Please include a reference to the relevant chapter/section of the OM.* | | ‘I declare compliance.’ |
| 4.2.3 keep for a minimum of 3 years and maintain up to date a record of the maintenance activities conducted on the UAS; | | | *Please include a reference to the relevant chapter/section of the OM.* | | ‘I declare compliance.’ |
| 4.2.4 establish and maintain up to date a list of the maintenance staff employed by the operator to carry out maintenance activities; | | | *Please include a reference to the relevant chapter/section of the OM.* | | ‘I declare compliance.’ |
| 4.2.5 comply with point UAS.SPEC.100, if the UAS uses certified equipment. | | | *Please include a reference to the relevant chapter/section of the OM or n/a.* | | ‘I declare compliance.’ or ‘n/a’ |
| External services | Self-declaration | | 4.3 The UAS operator should ensure that the level of performance for any externally provided service that is necessary for the safety of the flight is adequate for the intended operation. The UAS operator should declare that this level of performance is adequately achieved. | | | *Please describe how this condition is met.* | | ‘I declare compliance.’ |
| 4.4 The UAS operator should define and allocate the roles and responsibilities between the UAS operator and the external service provider(s), if applicable. | | | *Please describe how this condition is met.* | | ‘I declare compliance.’ |
| **5. Conditions for the personnel in charge of duties essential to the UAS operation** | | | | | | | | |
| General |  | | 5.1 The UAS operator should keep and maintain up to date a record of all the relevant qualifications and training courses completed by the remote pilot and the other personnel in charge of duties essential to the UAS operation and by the maintenance staff for at least 3 years after those persons have ceased to be employed by the organisation or have changed position within the organisation. | | | *Please describe how this condition is met.* | | ‘I declare compliance.’  Record-keeping data is available for inspection at the request of the competent authority. |
| 5.2 The remote pilot should have the authority to cancel or delay any or all flight operations under the following conditions: | | | *Please include a reference to the relevant chapter/section of the OM.* | | ‘I declare compliance.’ |
| 5.2.1 the safety of persons is jeopardised; or | | | *Please include a reference to the relevant chapter/section of the OM.* | | ‘I declare compliance.’ |
| 5.2.2 property on the ground is jeopardised; or | | | *Please include a reference to the relevant chapter/section of the OM.* | | ‘I declare compliance.’ |
| 5.2.3 other airspace users are in jeopardy; or | | | *Please include a reference to the relevant chapter/section of the OM.* | | ‘I declare compliance.’ |
| 5.2.4 there is a violation of the terms of the operational authorisation. | | | *Please include a reference to the relevant chapter/section of the OM.* | | ‘I declare compliance.’ |
| Remote pilot | Self-declaration | | 5.3 The remote pilot should: | | |  | |  |
| 5.3.1 not perform any duties under the influence of psychoactive substances or alcohol, or when they are unfit to perform their tasks due to injury, fatigue, medication, sickness or other causes; | | | *Please include a reference to the relevant chapter/section of the OM.* | | ‘I declare compliance.’ |
| 5.3.2 be familiar with the manufacturer’s instructions provided by the manufacturer of the UAS; | | | *Please include a reference to the relevant chapter/section of the OM.* | | ‘I declare compliance.’ |
| 5.3.3 ensure that the UA remains clear of clouds; | | | *Please include a reference to the relevant chapter/section of the OM.* | | ‘I declare compliance.’ |
| 5.3.4 hold a certificate of remote pilot theoretical knowledge, in accordance with Attachment A to Chapter I of Appendix 1 to the Annex to the UAS Regulation , which is issued by the competent authority or by an entity that is designated by the competent authority of a Member State; | | | *Please describe how this condition is met.* | | ‘I declare compliance.’ |
| 5.3.5 hold an accreditation of completion of a practical-skills training course for this PDRA, in accordance with Attachment A to Chapter I of Appendix 1 to the Annex to the UAS Regulation, which is issued by:  (a) an entity that has declared compliance with the requirements of Appendix 3 to the Annex to the UAS Regulation and is recognised by the competent authority of a Member State; or  (b) a UAS operator that has been authorised by the competent authority of the Member State of registration to operate according to this PDRA (or declared to the same competent authority, compliance with STS-01) and with the requirements of Appendix 3 to the Annex to the UAS Regulation. | | | *Please describe how this condition is met.* | | ‘I declare compliance.’ |
| 5.3.6 If operations are conducted at a height between 120 and 150 m, the remote pilot should undergo additional theoretical knowledge training in the following topics: | | |  | |  |
| (a) raising awareness about the air risk and about the existence of other airspace users; | | | *Please describe how this condition is met.* | | ‘I declare compliance and that the training syllabus is available for inspection at the request of the competent authority.’ |
| (b) checking height determination/ limitation devices; and | | | *Please describe how this condition is met.* | | ‘I declare compliance and that the training syllabus is available for inspection at the request of the competent authority.’ |
| (c) using applicable procedures in case a manned aircraft is detected. | | | *Please describe how this condition is met.* | | ‘I declare compliance and that the training syllabus is available for inspection at the request of the competent authority.’ |
| 5.3.7 Before starting the UAS operation, the remote pilot should: | | |  | |  |
| (a) verify that the means to terminate the UA flight and the remote identification system are operational; | | | *Please describe how this condition is met.* | | ‘I declare compliance.’ |
| (b) obtain updated information relevant to the intended operation about any geographical zones defined in accordance with Article 15 of the UAS Regulation; and | | | *Please include a reference to the relevant chapter/section of the OM.* | | ‘I declare compliance.’ |
| (c) ensure that the UAS is in a safe condition to complete the intended flight safely and, if applicable, check whether the direct remote identification is active and up to date. | | | *Please include a reference to the relevant chapter/section of the OM.* | | ‘I declare compliance.’ |
| 5.3.8 During the flight: | | |  | |  |
| (a) keep the UA in VLOS and maintain thorough visual scan of the airspace that surrounds the UA to avoid any risk of collision with manned aircraft; the remote pilot should discontinue the flight if the operation poses a risk to other aircraft, people, animals, environment or property; | | | *Please describe how this condition is met.* | | ‘I declare compliance.’ |
| (b) for the purpose of point (a) above, be possibly being assisted by a UA observer[[4]](#footnote-4); clear and effective communication should be established between the remote pilot and the UA observer; | | | *Please describe how this condition is met.* | | ‘I declare compliance.’ |
| (c) use the contingency procedures that are defined by the UAS operator for abnormal situations, including situations where the remote pilot has an indication that the UA may exceed the limits of the flight geography; and | | | *Please describe how this condition is met.* | | ‘I declare compliance.’ |
| (d) use the emergency procedures that are defined by the UAS operator for emergencies, including triggering the means to terminate the flight when the remote pilot has an indication that the UA may exceed the limits of the operational volume; the means to terminate the flight should be triggered at least 10 m before the UA reaches the limits of the operational volume; | | | *Please describe how this condition is met.* | | ‘I declare compliance.’ |
| (e) keep the UA at a ground speed of less than 5 m/s in case of untethered UA; | | | *Please describe how this condition is met.* | | ‘I declare compliance.’ |
| (f) activate the direct remote identification system[[5]](#footnote-5). | | | *Please include a reference to the relevant chapter/section of the OM.* | | ‘I declare compliance.’ |
| **6. Technical conditions** | | | | | | | | |
| UAS | Self-declaration[[6]](#footnote-6) | | 6.1  The UAS operator should use a UAS marked as class C5 and complies with the requirements of that class, as defined in Part 16 of the Annex to Regulation (EU) 2019/945. | | |  | | ‘I declare that the UAS is marked with a class C5 identification label.’ or ‘n/a’ |
| 6.2 As an alternative to point 6.1, the UAS operator may use a UAS that complies with the requirements of Part 16 of the Annex to Regulation (EU) 2019/945, except that the UAS does not need to: | | | *Please describe how this condition is met.* | | ‘I declare compliance.’ or ‘n/a’ |
| 6.2.1 bear a class C3 UAS or a class C5 UAS identification label; | | |  | |  |
| 6.2.2 be exclusively powered by electricity, if the UAS operator ensures that the environmental impact that is caused by the use of non-electric UAS is minimised; | | |  | |  |
| 6.2.3 include a notice that is published by EASA and provides the applicable limitations and obligations, as required by the UAS Regulation; and | | |  | |  |
| 6.2.4 include the manufacturer’s instructions for the UAS if it is privately built; however, information on its operation and maintenance, as well as on the training of the remote pilot, should be included in the OM.  ***Note 1:*** *The UAS can comply with point (9) of Part 4 of the Annex to Regulation (EU) 2019/945 by using an add-on that complies with Part 6 of the Annex to that Regulation.*  ***Note 2:*** *If the UA does not bear a physical serial number that is compliant with standard ANSI/CTA-2063-A ‘Small Unmanned Aerial Systems Serial Numbers’ and/or does not have an integrated system of direct remote identification, it can comply with point (9) of Part 4 of the Annex to Regulation (EU) 2019/945 by using an add-on that complies with Part 6 of the Annex to that Regulation.*  ***Note 3****: If the UAS is privately built, there may be no identification on the UA of its MTOM. In that case, the UAS operator should ensure that the MTOM of the UA, in the configuration of the UA before take-off, does not exceed 25 kg.* | | |  | |  |

1. To be filled in by the UAS operator. [↑](#footnote-ref-1)
2. The closest point from the Earth should be considered. [↑](#footnote-ref-2)
3. The UAS operator should demonstrate that they have sufficient confidence in the accuracy of the information about the height of the UA and the means to advert and avoid other airspace users and obstacles in the vicinity of the UA. [↑](#footnote-ref-3)
4. Please refer to point UAS.STS-02.050 for the responsibilities of the UA observer. [↑](#footnote-ref-4)
5. Applicable from 1 July 2022. [↑](#footnote-ref-5)
6. The containment requirements (reference to point 5 of Part 16 of Regulation (EU) 2019/945) should be demonstrated with a medium assurance level. [↑](#footnote-ref-6)