

**Notice of Proposed Rule Making
of JCAR Part-DDP
Unmanned Aircraft Design and Production**

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The drone industry is diverse, innovative and international. It has an enormous potential for growth with the associated possibility to create jobs.

To ensure a safe, secure and environmentally friendly development, and to respect the citizens' legitimate concerns for privacy and data protection, Jordan Civil Aviation Regulatory Commission (CARC) hereby releases a new Issue of Part DDP (Unmanned Aircraft Design and Production) to develop a regulatory framework for drone Design and production as well as concrete proposals for the regulation of low-risk drone operations.

The objective of this NPRM is to announce the proposed issue and to seek concerned parties' comments regarding the above mentioned regulations and to facilitate enhanced public involvement in the process.

The CARC encourages comments concerning these regulations to be directed to the following address:

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The closing date of comments 11 / 05 /2020



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Chief Commissioner/CEO
Civil Aviation Regulatory Commission**



Part-DDP

JCAR-Unmanned Aircraft Design and Production

This new part of the Jordanian Civil Aviation Regulation is hereby issued under the authority and provisions of the Jordanian Civil Aviation Law 41/2007 and its amendments.

**Capt. Haitham Misto
Chief Commissioner/CEO
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DDP.002 Application for a design and production of unmanned aircraft systems (DDP)

(a) The application for an unmanned aircraft and equipment to control unmanned aircraft remotely design and production or an amendment to an existing unmanned aircraft design and production shall be made by any natural or legal person established within Jordan in a form and manner established by CARC.

(b) Applicants for an initial design and production of unmanned aircraft and equipment to control unmanned aircraft remotely shall provide CARC with documentation demonstrating how they will comply with this Part.

DDP.010 Subject matter

(a) This Part lays down the requirements for the design and production of unmanned aircraft and equipment to control unmanned aircraft remotely intended to be operated and of remote identification add-ons. It also defines the type of unmanned aircraft whose design, production and maintenance shall be subject to certification.

(b) It also establishes rules on making unmanned aircraft and equipment to control unmanned aircraft remotely intended for use in the 'open' category and remote identification add-ons available on the market and on their free movement in Jordan.

(c) This Part does not apply to the design and production of unmanned aircraft and equipment to control unmanned aircraft remotely by military and security.

DDP.020 Scope

(a) this Part applies to the following products:

(1) UAS intended to be operated under the rules and conditions applicable to the 'open' category of UAS operations, and bearing a class identification label as set out in Subparts 1 to 5 of the Annex-A to this Part indicating to which of the five UAS classes referred to;

(2) remote identification add-ons as set out in Subpart 6 of the Annex-A to this Part.

(b) this Part applies to unmanned aircraft and equipment to control unmanned aircraft remotely operated under the rules and conditions applicable to the 'certified' and 'specific' categories of unmanned aircraft operations.

(c) this Part applies to unmanned aircraft and equipment to control unmanned aircraft remotely operators that have their principal place of business, are established, or reside in Jordan.

(d) This Part does not apply to unmanned aircraft and equipment to control unmanned aircraft remotely intended to be exclusively operated indoors and for military and security use.

DDP.030 Definitions

For the purposes of this Part, the following definitions apply:

- (a) 'unmanned aircraft' (UA) means any aircraft operating or designed to operate autonomously or to be piloted remotely without a pilot on board;
- (b) 'equipment to control unmanned aircraft remotely' means any instrument, equipment, mechanism, apparatus, appurtenance, software or accessory that is necessary for the safe operation of a unmanned aircraft other than a part and which is not carried on board that unmanned aircraft;
- (c) 'unmanned aircraft system' ('UAS') means an unmanned aircraft and the equipment to control it remotely;
- (d) 'unmanned aircraft system operator' ('UAS operator') means any legal or natural person operating or intending to operate one or more UAS;
- (e) 'conformity assessment' means the process demonstrating whether the specified requirements relating to a product have been fulfilled;
- (f) 'conformity assessment body' means a body that performs conformity assessment activities including calibration, testing, certification and inspection;
- (g) 'CE marking' means a marking by which the manufacturer indicates that the product is in conformity with the applicable requirements set out in European Union providing for its affixing;
- (h) 'manufacturer' means any natural or legal person who manufactures a product or has a product designed or manufactured, and markets that product under their name or trademark;
- (i) 'authorized representative' means any natural or legal person established within Jordan who has received a written mandate from a manufacturer to act on his behalf in relation to specified tasks;
- (j) 'importer' means any natural or legal person established within Jordan who places a product from a foreign country on the Jordanian market;
- (k) 'distributor' means any natural or legal person in the supply chain, other than the manufacturer or the importer, who makes a product available on the market;
- (l) 'economic operators' means the manufacturer, the authorized representative of the manufacturer, the importer, and the distributor of the UAS;
- (m) 'technical specification' means a document that establishes technical requirements to be fulfilled by a product, process or service;
- (n) 'privately built UAS' means a UAS assembled or manufactured for the builder's own use, not including UAS assembled from a set of parts placed on the market by the manufacturer as a single ready-to-assemble kit;
- (o) 'remote pilot' means a natural person responsible for safely conducting the flight of a unmanned aircraft by operating its flight controls, either manually or, when the unmanned aircraft flies automatically, by monitoring its course and remaining able to intervene and change its course at any time;
- (p) 'maximum take-off mass' ('MTOM') means the maximum unmanned aircraft mass, including payload and fuel, as defined by the manufacturer or the builder, at which the unmanned aircraft can be operated;

- (q) 'payload' means any instrument, mechanism, equipment, part, apparatus, appurtenance, or accessory, including communications equipment, that is installed in or attached to the unmanned aircraft, and is not used or intended to be used in operating or controlling an unmanned aircraft in flight, and is not part of an airframe, engine, or propeller;
- (r) 'follow-me mode' means a mode of operation of a UAS where the unmanned aircraft constantly follows the remote pilot within a predetermined radius;
- (s) 'direct remote identification' means a system that ensures the local broadcast of information about an unmanned aircraft in operation, including the marking of the unmanned aircraft, so that this information can be obtained without physical access to the unmanned aircraft;
- (t) 'geo-awareness' means a function that, based on the data provided by CARC, detects a potential breach of airspace limitations and alerts the remote pilots so that they can take effective immediate action to prevent that breach;
- (u) 'sound power level *LWA*' means the A-weighted sound power in dB in relation to 1 pW as defined in EN ISO 3744:2010 as amended;
- (v) 'measured sound power level' means a sound power level as determined from measurements as laid down in Subpart 13 of Annex-A; measured values may be determined either from a single unmanned aircraft representative for the type of equipment or from the average of a number of unmanned aircraft;
- (w) 'guaranteed sound power level' means a sound power level determined in accordance with the requirements laid down in Subpart 13 of Annex-A which includes the uncertainties due to production variation and measurement procedures and where the manufacturer, or his authorized representative established in Jordan, confirms that according to the technical instruments applied and referred to in the technical documentation it is not exceeded;
- (x) 'hovering' means staying in the same geographical position in the air;
- (y) 'assemblies of people' means gatherings where persons are unable to move away due to the density of the people present.

DDP.040 Product requirements

- (a) The products referred to in paragraph (a) of *DDP.020* shall meet the requirements set out in Subparts 1 to 6 of Annex-A.
- (b) UAS that are not toys shall comply with the relevant health and safety requirements only in relation to risks other than those linked to the safety of the unmanned aircraft flight.
- (c) Any updates of software of the products that have already been made available on the market may be made only if such updates do not affect the compliance of the product.

DDP.050 Making available on the market and free movement of products

- (a) Products shall only be made available on the market if they satisfy the requirements of this Part and do not endanger the health or safety of persons, animals or property.
- (b) CARC shall not prohibit, restrict or impede, for the aspects covered by this Part, the making available on the market of products that comply with this Part.

DDP.060 Obligations of manufacturers

- (a) When placing their product on the Jordanian market, manufacturers shall ensure that it has been designed and manufactured in compliance with the requirements set out in Subparts 1 to 6 of Annex-A.
- (b) Manufacturers shall draw up the technical documentation provided for in DDP.170 and carry out the relevant conformity assessment procedure referred to in DDP.130 or have it outsourced. Where compliance of the product with the requirements set out in Subparts 1 to 6 of Annex-A has been demonstrated by that conformity assessment procedure, manufacturers shall draw up a declaration of conformity and affix the CE marking.
- (c) Manufacturers shall keep the technical documentation and the declaration of conformity for 10 years after the product has been placed on the market.
- (d) Manufacturers shall ensure that procedures are in place for series production to remain in conformity with this Part. Changes in product design, characteristics or software, and changes in the standards or in technical specifications by reference to which conformity of a product is declared shall be adequately taken into account. When deemed appropriate with regard to the risks presented by a product, manufacturers shall, to protect the health and safety of consumers, carry out sample testing of marketed products, investigate, and, if necessary, keep a register of complaints, of non-conforming products and product recalls and shall keep distributors informed of any such monitoring.
- (e) Manufacturers of UAS shall ensure that the unmanned aircraft bears a type and a unique serial number allowing for its identification, and if applicable, compliant with the requirements defined in the corresponding Subparts 2 to 4 of Annex-A. Manufacturers of remote identification add-ons shall ensure that the remote identification add-on bears a type and a unique serial number allowing for their identification and compliant with the requirements defined in Subpart 6 of Annex-A. In both cases, manufacturers shall ensure that a unique serial number is also affixed to the declaration of conformity or to the simplified declaration of conformity referred to in DDP.140.
- (f) Manufacturers shall indicate on the product their name, registered trade name or registered trademark, website address and the postal address at which they can be contacted or, where that is not possible, on its packaging, or in a document accompanying it. The address shall indicate a single point at which the manufacturer can be contacted. The contact details shall be indicated in Arabic and English languages to be easily understood by end-users and authorities.

(g) Manufacturers shall ensure that the product is accompanied by the manual and information notice required by Subparts 1 to 6 of Annex-A in Arabic and English languages which can be easily understood by consumers and other end-users. Such manual and information notice, as well as any labelling, shall be clear, understandable and legible.

(h) Manufacturers shall ensure that each product is accompanied by a copy of the declaration of conformity. Where a declaration of conformity is provided, it shall contain the exact internet address where the full text of the declaration of conformity can be obtained.

(i) Manufacturers who consider or have reason to believe that products which they have placed on the market are not in conformity with this Part shall immediately take the corrective measures necessary to bring that product into conformity, to withdraw it or recall it, if appropriate. Where the product presents a risk, manufacturers shall immediately inform CARC and authorities which they made the product available on the market to that effect, giving details, in particular, of the non-compliance, of any corrective measures taken and of the results thereof.

(j) Manufacturers shall, further to a reasoned request from CARC, provide it with all the information and documentation in paper or electronic form necessary to demonstrate the conformity of the product with this Part. They shall cooperate with CARC, at its request, on any action taken to eliminate the risks posed by the product which they have placed on the market.

DDP.070 Authorized representatives

(a) A manufacturer may, by a written mandate, appoint an authorized representative. The obligations laid down in paragraph (a) of DDP.060 and the obligation to draw up the technical documentation referred to in paragraph (b) of DDP.060 shall not form part of the authorized representative's mandate. (b) An authorized representative shall perform the tasks specified in the mandate received from the manufacturer. The mandate shall allow the authorized representative to do at least the following:

- (1) keep the declaration of conformity and the technical documentation at the disposal of CARC for 10 years after the product has been placed on the Jordanian market;
- (2) further to a reasoned request from CARC, provide CARC with all the information and documentation necessary to demonstrate the conformity of the product;
- (3) cooperate with CARC, at their request, on any action taken to eliminate the non-conformity of the products covered by the authorized representative's mandate or the safety risks posed by it.

DDP.O80 Obligations of importers

- (a) Importers shall only place products compliant with the requirements set out in this Part on the Jordanian market.
- (b) Before placing a product on the Jordanian market, importers shall ensure that:
- (1) the appropriate conformity assessment procedure referred to in DDP.130 has been carried out by the manufacturer;
 - (2) the manufacturer has drawn up the technical documentation referred to in DDP.170;
 - (3) the product bears the CE marking and, when required, the unmanned aircraft class identification label and the indication of the sound power level;
 - (4) the product is accompanied by the documents referred to in paragraph 7 and 8 of DDP.060;
 - (5) the manufacturer has complied with the requirements set out in paragraphs (e) and (f) of DDP.060. Where an importer considers or has reasons to believe that a product is not in conformity with the requirements set out in Subparts 1 to 6 of the Annex-A, he shall not place the product on the market until it has been brought into conformity. Furthermore, where the product presents a risk for the health and safety of consumers and third parties, the importer shall inform the manufacturer and CARC to that effect.
- (c) Importers shall indicate on the product their name, registered trade name or registered trademark, website and the postal address at which they can be contacted or, where that is not possible, on its packaging or in a document accompanying the product. The contact details shall be in Arabic and English languages to be easily understood by end-users and authorities.
- (d) Importers shall ensure that the product is accompanied by the manual and information notice required by Subparts 1 to 6 of Annex-A in a language which can be easily understood by consumers and other end-users. That manual and information notice, as well as any labelling, shall be clear, understandable and legible.
- (e) Importers shall ensure that, while the product is under their responsibility, its storage or transport conditions do not jeopardize its compliance with the requirements set out in DDP.040.
- (g) When deemed appropriate with regard to the risks presented by a product, importers shall, in order to protect the health and safety of end-users and third parties, carry out sample testing of products made available on the market, investigate, and, if necessary, keep a register of complaints, of non-conforming of products and product recalls, and shall keep distributors informed of any such monitoring.
- (h) Importers who consider or have reason to believe that a product which they have placed on the market is not in conformity with the applicable CARC regulations shall immediately take the corrective measures necessary to bring that product into conformity, to withdraw it or recall it, if appropriate. Furthermore, where the product presents a risk, importers shall immediately inform CARC and

authorities which they made the product available on the market to that effect, giving details, in particular, of the non-compliance and of any corrective measures taken.

(i) Importers shall, for 10 years after the product has been placed on the market, keep a copy of the declaration of conformity at the disposal of CARC and ensure that the technical documentation can be made available to CARC, upon request.

(j) Importers shall, further to a reasoned request from CARC, provide it with all the information and documentation in paper or electronic form necessary to demonstrate the conformity of the product. They shall cooperate with CARC, at its request, on any action taken to eliminate the risks posed by the product which they have placed on the market.

DDP.090 Obligations of distributors

(a) When making a product available on the Jordanian market, distributors shall act with due care in relation to the requirements set out in this Part.

(b) Before making a product available on the market, distributors shall verify that the product bears the CE marking and, when applicable, the unmanned aircraft class identification label and the indication of the sound power level, is accompanied by the documents referred to in paragraphs (g) and (h) of DDP.060 and that the manufacturer and the importer have complied with the requirements set out in paragraphs (e) and (f) of DDP.060 and in paragraph (c) of DDP.080. Distributors shall ensure that the product is accompanied by the manual and information notice required by Subparts 1 to 6 of Annex-A. That manual and information notice, as well as any labelling, shall be clear, understandable and legible. Where a distributor considers or has reason to believe that a product is not in conformity with the requirements set out in DDP.040, he shall not make the product available on the market until it has been brought into conformity. Furthermore, where the product presents a risk, the distributor shall inform the manufacturer or the importer to that effect, as well as CARC.

(c) Distributors shall ensure that, while a product is under their responsibility, its storage or transport conditions do not jeopardize its compliance with the requirements set out in DDP.040.

(d) Distributors who consider or have reasons to believe that a product which they have made available on the market is not in conformity with the applicable CARC regulations shall make sure that the corrective measures necessary to bring that product into conformity, to withdraw it or recall it, if appropriate, are taken. Furthermore, where the product presents a risk, distributors shall immediately inform CARC to that effect, giving details, in particular, of the non-compliance and of any corrective measures taken.

(e) Distributors shall, further to a reasoned request from CARC, provide it with all the information and documentation in paper or electronic form necessary to demonstrate the conformity of the product. They shall cooperate with CARC, at

its request, on any action taken to eliminate the risks posed by the product which they have made available on the market.

DDP.100 Cases in which obligations of manufacturers apply to importers and distributors

An importer or distributor shall be considered a manufacturer for the purposes of this Part and shall be subject to the obligations of manufacturers pursuant to DDP.060, where they place a product on the market under their name or trademark or modify the product already placed on the market in such a way that compliance with this Part may be affected.

DDP.110 Identification of economic operators

- (a) Economic operators shall, on request, identify the following to CARC:
 - (1) any economic operator who has supplied them with a product;
 - (2) any economic operator to whom they have supplied a product.
- (b) Economic operators shall be able to present the information referred to in paragraph (a):
 - (1) for 10 years after they have been supplied with the product;
 - (2) for 10 years after they have supplied the product.

DDP.120-Reserved

DDP.130 Conformity assessment procedures

- (a) The manufacturer shall perform a conformity assessment of the product using one of the following procedures with a view to establishing its compliance with the requirements set out in Subparts 1 to 6 of Annex-A. The conformity assessment shall take into account all intended and foreseeable operating conditions.
- (b) The procedures available to conduct the conformity assessment shall be the following:
 - (1) internal production control as set out in Subpart 7 of the Annex-A, when assessing the compliance of a product with the requirements set out in Subparts 1, 5 or 6 of the Annex-A, subject to the condition that the manufacturer has applied standards for all the requirements for which such standards exist;
 - (2) type examination followed by conformity to type based on internal production control as set out in Subpart 8 of the Annex-A;
 - (3) conformity based on full quality assurance as set out in Subpart 9 of the Annex-A, excepted when assessing the compliance of a product which is a toy.

DDP.140 Declaration of conformity

- (a) The declaration of conformity referred to in paragraph (h) of DDP.060 shall state that compliance of the product with the requirements set out in Subparts 1 to 6 of Annex-A has been demonstrated and, for UAS, identify its class.
- (b) The declaration of conformity shall have the model structure set out in Subpart 11 of Annex-A, shall contain the elements set out in that Subpart and shall be continuously updated.
- (c) The declaration of conformity referred to in paragraph (h) of DDP.060 shall contain the elements set out in Subpart 12 of Annex-A and shall be continuously updated. The full text of the declaration of conformity shall be available at the internet address referred to in the simplified declaration of conformity .
- (d) By drawing up the declaration of conformity, the manufacturer shall assume responsibility for the compliance of the product with the requirements laid down in this Part.

DDP.150 General principles of the CE marking

The CE marking shall be subject to the following general principles of the CE marking

- (a) The CE marking shall be affixed only by the manufacturer or his authorized representative.
- (b) The CE marking shall be affixed only to products to which are in compliance with the CE marking requirements.
- (c) By affixing or having affixed the CE marking, the manufacturer indicates that he takes responsibility for the conformity of the product with all applicable CE marking requirements set out.
- (d) The CE marking shall be the only marking which attests the conformity of the product with the applicable requirements for its affixing.
- (e) The affixing to a product of markings, signs or inscriptions which are likely to mislead CARC and end users regarding the meaning or form of the CE marking shall be prohibited. Any other marking may be affixed to the product provided that the visibility, legibility and meaning of the CE marking is not thereby impaired.
- (f) CARC shall ensure the correct implementation of the regime governing the CE marking and take appropriate action in the event of improper use of the marking. CARC shall also provide for penalties for infringements in accordance Jordan Civil Aviation Law, regulations and procedures.

DDP.160 Rules and conditions for affixing the CE marking, the UAS class identification label and the indication of the sound power level

- (a) The CE marking shall be affixed visibly, legibly and indelibly to the product or to the data plate attached to it. Where that is not possible or not warranted on account of the size of the product, it shall be affixed to the packaging.

(b) The unmanned aircraft class identification label shall be affixed visibly, legibly and indelibly to the unmanned aircraft and its packaging and shall be at least 5 mm high. The affixing to a product of markings, signs or inscriptions which are likely to mislead CARC and end-users regarding the meaning or form of the class identification label shall be prohibited.

(c) The indication of the sound power level provided for in Subpart 14 of Annex-A shall be affixed, when applicable, visibly, legibly and indelibly on the unmanned aircraft, unless that is not possible or not warranted on account of the size of the product, and on the packaging.

(d) The CE marking and, when applicable, the indication of the sound power level and the unmanned aircraft class identification label shall be affixed before the product is placed on the market.

(e) The CE marking shall be followed by the identification number of the conformity assessment body where the conformity assessment procedure set out in Subpart 9 of Annex-A is applied. The identification number of the conformity assessment bodies shall be affixed by the conformity assessment body itself or, under its instructions, by the manufacturer or his authorized representative.

(f) CARC shall build upon existing mechanisms to ensure correct application of the regime governing the CE marking and shall take appropriate action in the event of improper use of that marking.

DDP.170 Technical documentation

(a) The technical documentation shall contain all relevant data and details of the means used by the manufacturer to ensure that the product complies with the requirements set out in Subpart 1 to 6 of Annex-A. It shall, at least, contain the elements set out in Subpart 10 of Annex-A.

(b) The technical documentation shall be drawn up before the product is placed on the market and shall be continuously updated.

(c) The technical documentation and correspondence relating to any CARC type examination procedure or the assessment of the quality system of the manufacturer shall be drawn up.

(d) Where the technical documentation does not comply with paragraphs (a), (b) or (c) above, CARC may ask the manufacturer or the importer to have a test performed by a body acceptable to CARC at the expense of the manufacturer or the importer within a specified period in order to verify compliance of the product with the requirements set out in Subparts 1 to 6 of Annex-A which applies to it.

DDP.180-DDP.210 Reserved

DDP.220 Requirements relating to conformity assessment bodies

(a) Conformity assessment bodies and their personnel shall carry out the conformity assessment activities with the highest degree of professional integrity

and the requisite technical competence in the specific field and shall be free from all pressures and inducements, particularly financial, which might influence their judgement or the results of their conformity assessment activities, especially as regards persons or groups of persons with an interest in the results of those activities.

(b) A conformity assessment body shall be capable of carrying out all the conformity assessment tasks assigned to it by Subpart 8 or 9 of Annex-A, whether those tasks are carried out by the conformity assessment body itself or on its behalf and under its responsibility. At all times and for each conformity assessment procedure and each kind or category of product in relation to which it has been assigned, a conformity assessment body shall have at its disposal the necessary:

- (1) personnel with technical knowledge and sufficient and appropriate experience to perform the conformity assessment tasks;
- (2) descriptions of procedures in accordance with which conformity assessment is carried out, ensuring the transparency and the ability of reproduction of those procedures; it shall have appropriate policies and procedures in place that distinguish between tasks it carries out as a notified body and other activities;
- (3) procedures for the performance of activities which take due account of the size of an undertaking, the sector in which it operates, its structure, the degree of complexity of the product in question and the mass or serial nature of the production process.

(c) A conformity assessment body shall have the means necessary to perform the technical and administrative tasks connected with the conformity assessment activities in an appropriate manner and shall have access to all necessary equipment or facilities.

(d) The personnel responsible for carrying out conformity assessment tasks shall have the following:

- (1) sound technical and vocational training covering all the conformity assessment activities in relation to which the conformity assessment body has been notified;
- (2) satisfactory knowledge of the requirements of the assessments they carry out and adequate authority to carry out those assessments;
- (3) appropriate knowledge and understanding of the requirements, of the applicable standards and of the relevant provisions of CARC legislation;
- (4) the ability to draw up CARC type examination certificates or quality system approvals, records and reports demonstrating that assessments have been carried out.

(e) The impartiality of the conformity assessment bodies, their top-level management and of the personnel responsible for carrying out the conformity assessment tasks shall be guaranteed.

The remuneration of the top-level management and of the personnel responsible for carrying out the conformity assessment tasks of a conformity assessment body shall not depend on the number of assessments carried out or on the results of those assessments.

(f) Conformity assessment bodies shall take out liability insurance unless liability is assumed by CARC in accordance with national law, or CARC itself is directly responsible for the conformity assessment.

(g) The personnel of a conformity assessment body shall observe professional secrecy with regard to all information obtained in carrying out their tasks under Subparts 8 and 9 of the Annex-A or any provision of national law giving effect to them, except in relation to CARC in which its activities are carried out. Proprietary rights shall be protected. Conformity assessment body shall participate in, or ensure that their personnel responsible for carrying out the conformity assessment tasks are informed of, the relevant standardization activities, the regulatory activities in the area of UAS and frequency planning, and the activities of the coordination group established under the relevant CARC regulations and shall apply, as general guidance, the administrative decisions and documents produced as a result of the work of that group.

DDP.230-DDP.290 Reserved

DDP.300 Operational obligations of conformity assessment bodies

(a) Conformity assessment body shall carry out conformity assessments in accordance with the conformity assessment procedures provided in Subparts 8 and 9 of Annex-A.

(b) Conformity assessments shall be carried out in a proportionate manner, avoiding unnecessary burdens for economic operators. Conformity assessment bodies shall perform their activities taking due account of the size of an undertaking, the sector in which it operates, its structure, the degree of complexity of the product in question, and the mass or serial nature of the production process. In doing so, they shall nevertheless respect the degree of rigor and the level of protection required for the compliance of the unmanned aircraft or UAS with this Part.

(c) Where a conformity assessment body finds that the requirements set out in Subparts 1 to 6 of Annex-A or in corresponding standards or other technical specifications have not been met by a manufacturer, it shall require the manufacturer to take appropriate corrective measures and shall not issue a CARC type examination certificate or a quality system approval.

(d) Where, in the course of the monitoring of conformity following the issue of a CARC type examination certificate or a quality system approval, a conformity assessment body finds that a product no longer complies, it shall require the manufacturer to take appropriate corrective measures and shall suspend or

withdraw the CARC type examination certificate or the quality system approval if necessary.

(e) Where corrective measures are not taken or do not have the required effect, the conformity assessment body shall restrict, suspend or withdraw any CARC type examination certificates or quality system approvals, as appropriate.

DDP.310-DDP.350 Reserved

DDP.360 Procedure for dealing with products presenting a risk at national level

(a) Where there is a sufficient reason to believe that a product presents a risk to the health or safety of persons or to other aspects of public interest protection covered by this Part, an evaluation in relation to the product concerned shall be carried out, covering all applicable requirements laid down in this Part. The relevant economic operators shall cooperate as necessary with CARC for that purpose. Where, in the course of the evaluation referred to in the first subparagraph, CARC find that the product does not comply with the requirements laid down in this Part, CARC shall, without delay, require the relevant economic operator to take all appropriate corrective actions to bring the product into compliance with those requirements, to withdraw the product from the market, or to recall it within a reasonable period, commensurate with the nature of the risk, as they may prescribe. CARC shall inform the concerned accordingly.

(b) Where CARC consider that non-compliance is not restricted to Jordanian territory, they shall inform the States of the results of the evaluation and of the actions which they have required the economic operator to take.

(c) The economic operator shall ensure that all appropriate corrective action is taken in respect of all products concerned that it has made available on the market.

(d) Where the relevant economic operator does not take adequate corrective action within the period referred to in the second subparagraph of paragraph (a), CARC shall take all appropriate provisional measures to prohibit or restrict the product being made available on the national market, to withdraw the product from that market or to recall it.

(e) The information referred to in paragraph (d) shall include all available details, in particular the data necessary for the identification of the non-compliant product, the origin of the product, the nature of the non-compliance alleged and the risk involved, the nature and duration of the measures taken and the arguments put forward by the relevant economic operator. In particular, CARC shall indicate whether the non-compliance is due to either of the following:

- (1) failure of the product to meet the requirements set out in DDP.040;
- (2) shortcomings in the standards.

(f) CARC shall, without delay, inform all concerned States of any measures adopted and of any additional information at their disposal relating to the non-compliance of the product concerned.

(g) CARC shall ensure that appropriate restrictive measures, such as withdrawal of the product from the market, are taken in respect of the product concerned without delay.

DDP.370 Reserved

DDP.380 Compliant product which presents a risk

(a) Where, having carried out an evaluation under paragraph (a) of DDP.360, CARC finds that, although the product is in compliance with this Part, it presents a risk to the health or safety of persons or to other aspects of public interest protection covered by this Part, it shall require the relevant economic operator to take all appropriate measures to ensure that the product concerned, when placed on the market, no longer presents that risk, to withdraw the product from the market or to recall it within a reasonable period, commensurate with the nature of the risk, as it may prescribe.

(b) The economic operator shall ensure that corrective action is taken in respect of all the products concerned that he has made available on the market.

(c) That information shall include all available details, in particular the data necessary for the identification of the product concerned, the origin and the supply chain of product, the nature of the risk involved and the nature and duration of the measures taken.

(d) CARC shall, without delay, enter into consultation with the relevant economic operator or operators and shall evaluate the measures taken. On the basis of the results of that evaluation, CARC shall decide whether the measure is justified or not and, where necessary, propose appropriate measures.

(e) CARC shall address its decision to and shall immediately communicate it to the relevant economic operator or operators.

DDP.390 Formal non-compliance

(a) Without prejudice to DDP.360, where CARC makes one of the following findings concerning products covered by this Part, it shall require the relevant economic operator to put an end to the non-compliance concerned:

- (1) the CE marking has been affixed in violation of this Part;
- (2) the CE marking or type has not been affixed;
- (3) the identification number, where the conformity assessment procedure set out in Subpart 9 of the Annex is applied, has been affixed in violation of DDP.160 or has not been affixed;
- (4) the unmanned aircraft class identification label has not been affixed;
- (5) the indication of the sound power level if required has not been affixed;
- (6) the serial number has not been affixed or has not the correct format;

- (7) the manual or the information notice is not available;
 - (8) the declaration of conformity is missing or has not been drawn up;
 - (9) the declaration of conformity has not been drawn up correctly;
 - (10) technical documentation is either not available or not complete;
 - (11) manufacturer's or importer's name, registered trade name or registered trademark, website address or postal address are missing.
- (b) Where the non-compliance referred to in paragraph (a) persists, CARC concerned shall take all appropriate measures to restrict or prohibit the product being made available on the market or ensure that it is withdrawn or recalled from the market.

DDP.400 Requirements for UAS operated in the 'certified' and 'specific' categories

- (a) The design, production and maintenance of UAS shall be certified if the UAS meets any of the following conditions:
- (1) it has a characteristic dimension of 3 m or more, and is designed to be operated over assemblies of people;
 - (2) it is designed for transporting people;
 - (3) it is designed for the purpose of transporting dangerous goods and requiring a high level of robustness to mitigate the risks for third parties in case of accident;
 - (4) it is used in the 'specific' category of operations and the operational authorization issued by CARC, following a risk assessment, considers that the risk of the operation cannot be adequately mitigated without the certification of the UAS.
- (b) A UAS subject to certification shall comply with the applicable requirements set out in JCAR Part 21 and JCAR Part M.
- (c) Unless it needs to be certified in accordance with paragraph (a), a UAS used in the 'specific' category shall feature the technical capabilities set out in the operational authorization issued by CARC.

DDP.410 Initial of Airworthiness

(a) To establish the procedure for issuing airworthiness certificates. Any natural or legal person under whose name an unmanned aircraft is registered or will be registered by CARC, or its representative, shall be eligible as an applicant for an airworthiness certificate for that aircraft under this Part. Certificates of airworthiness shall be issued to aircraft which conform to the requirements of this Part, the certificate of airworthiness shall be valid for no more than two years. An application for an airworthiness certificate shall be made in a form and manner established by CARC.

Each application for a certificate of airworthiness shall include:

- (1) the class of airworthiness certificate applied for;
- (2) with regard to new unmanned aircraft:

- (i) a statement of conformity, a statement that the aircraft conforms to a the requirements of this Part;
 - (ii) a weight and balance report;
 - (iii) the flight manual, when required for the particular unmanned aircraft;
- (3) with regard to used unmanned aircraft:
- (i) an airworthiness certificate and airworthiness review certificate, if applicable, previously issued by the competent authority of the State where the aircraft is, or was, registered;
 - (ii) a statement by the competent authority of the State where the aircraft is, or was, registered, reflecting the airworthiness status of the aircraft on its register at time of transfer,
 - (iii) a weight and balance report,
 - (iv) the flight manual when such manual is required for the particular unmanned aircraft,
 - (v) historical records to establish the production, modification, and maintenance standard of the unmanned aircraft and its components, including all limitations,
 - (vi) a recommendation for the issuance of a certificate of airworthiness and an airworthiness review certificate following an airworthiness review in accordance with Part-DMO. Unless otherwise agreed with CARC, the statements referred to shall be issued no more than 120 days before presentation of the aircraft to CARC.

ANNEX-A

Subpart 1 Requirements for a class C0 Unmanned aircraft system

A class C0 UAS shall comply with the following:

- (a) have an MTOM of less than 250 g, including payload;
- (b) have a maximum speed in level flight of 19 m/s;
- (c) have a maximum attainable height above the take-off point limited to 120 m;
- (d) be safely controllable with regards to stability, maneuverability and data link performance, by a remote pilot following the manufacturer's instructions, as necessary under all anticipated operating conditions including following the failure of one or, if appropriate, more systems;
- (e) be designed and constructed in such a way as to minimize injury to people during operation, sharp edges shall be avoided, unless technically unavoidable under good design and manufacturing practice. If equipped with propellers, it shall be designed in such a way as to limit any injury that may be inflicted by the propeller blades;
- (f) be powered by electricity and have a nominal voltage not exceeding 24 V direct current (DC) or the equivalent alternating current (AC) voltage; its accessible parts shall not exceed 24 V DC or the equivalent AC voltage; internal voltages shall not exceed 24 V DC or the equivalent AC voltage unless it is ensured that the voltage and current combination generated does not lead to any risk or harmful electric shock even when the UAS is damaged;
- (g) if equipped with a follow-me mode and when this function is on, be in a range not exceeding 50 m from the remote pilot, and make it possible for the remote pilot to regain control of the UA;
- (h) be placed on the market with a user's manual providing:
 - (1) the characteristics of the UA including but not limited to the:
 - (i) UA class
 - (ii) UA mass (with a description of the reference configuration) and the maximum take-off mass (MTOM);
 - (iii) general characteristics of allowed payloads in terms of mass dimensions, interfaces with the UA and other possible restrictions;
 - (iv) equipment and software to control the UA remotely;
 - (v) and a description of the behavior of the UA in case of a loss of data link;
 - (2) clear operational instructions;
 - (3) operational limitations (including but not limited to meteorological conditions and day/night operations); and
 - (4) appropriate description of all the risks related to UAS operations adapted for the age of the user.
- (i) include an information notice published by CARC providing applicable limitations and obligations.
- (j) Points (d), (e) and (f) do not apply to UAS that are toys.

Subpart 2 Requirements for a class C1 Unmanned aircraft system

A class C1 UAS shall comply with the following:

- (a) be made of materials and have performance and physical characteristics such as to ensure that in the event of an impact at terminal velocity with a human head, the energy transmitted to the human head is less than 80 J, or, as an alternative, shall have an MTOM of less than 900 g, including payload;
- (b) have a maximum speed in level flight of 19 m/s;
- (c) have a maximum attainable height above the take-off point limited to 120 m or be equipped with a system that limits the height above the surface or above the take-off point to 120 m or to a value selectable by the remote pilot. If the value is selectable, clear information about the height of the UA above the surface or take-off point during flight shall be provided to the remote pilot.
- (d) be safely controllable with regards to stability, maneuverability and data link performance, by a remote pilot following the manufacturer's instructions, as necessary under all anticipated operating conditions including following the failure of one or, if appropriate, more systems;
- (e) have the requisite mechanical strength, including any necessary safety factor, and, where appropriate, stability to withstand any stress to which it is subjected to during use without any breakage or deformation that might interfere with its safe flight;
- (f) be designed and constructed in such a way as to minimize injury to people during operation, sharp edges shall be avoided, unless technically unavoidable under good design and manufacturing practice. If equipped with propellers, it shall be designed in such a way as to limit any injury that may be inflicted by the propeller blades;
- (g) in case of a loss of data link, have a reliable and predictable method for the UA to recover the data link or terminate the flight in a way that reduces the effect on third parties in the air or on the ground;
- (h) unless it is a fixed-wing UA, have a guaranteed A-weighted sound power level LWA determined as per Subpart 13 not exceeding the levels established in Subpart 15;
- (i) unless it is a fixed-wing UA, have the indication of the guaranteed A-weighted sound power level affixed on the UA and/or its packaging as per Subpart 14;
- (j) be powered by electricity and have a nominal voltage not exceeding 24 V DC or the equivalent AC voltage; its accessible parts shall not exceed 24 V DC or the equivalent AC voltage; internal voltages shall not exceed 24 V DC or the equivalent AC voltage unless it is ensured that the voltage and current combination generated does not lead to any risk or harmful electric shock even when the UAS is damaged;
- (k) have a unique physical serial number compliant with standard ANSI/CTA-2063 Small Unmanned Aerial Systems Serial Numbers;
- (l) have a direct remote identification that:

- (1) allows the upload of the UAS operator registration number in accordance with applicable Jordanian Civil Aviation Regulations and exclusively following the process provided by the registration system;
- (2) ensures, in real time during the whole duration of the flight, the direct periodic broadcast from the UA using an open and documented transmission protocol, of the following data, in a way that they can be received directly by existing mobile devices within the broadcasting range:
 - (i) the UAS operator registration number;
 - (ii) the unique physical serial number of the UA;
 - (iii) the geographical position of the UA and its height above the surface or take-off point;
 - (iv) the route course measured clockwise from true north and ground speed of the UA; and
 - (v) the geographical position of the remote pilot or, if not available, the take-off point;
- (3) ensures that the user cannot modify the data mentioned under paragraph (2) points (ii), (iii), (iv) and (v);
- (m) be equipped with a geo-awareness system that provides:
 - (1) an interface to load and update data containing information on airspace limitations related to UA position and altitude imposed by the geographical zones, as defined by applicable Jordanian Civil Aviation Regulations, which ensures that the process of loading or updating such data does not degrade its integrity and validity;
 - (2) a warning alert to the remote pilot when a potential breach of airspace limitations is detected; and
 - (3) information to the remote pilot on the UA's status as well as a warning alert when its positioning or navigation systems cannot ensure the proper functioning of the geo-awareness system;
- (n) if the UA has a function that limits its access to certain airspace areas or volumes, this function shall operate in such a manner that it interacts smoothly with the flight control system of the UA without adversely affecting flight safety; in addition, clear information shall be provided to the remote pilot when this function prevents the UA from entering these airspace areas or volume;
- (o) provide the remote pilot with clear warning when the battery of the UA or its control station reaches a low level so that the remote pilot has sufficient time to safely land the UA;
- (p) be equipped with lights for the purpose of:
 - (1) the controllability of the UA,
 - (2) the conspicuity of the UA at night, the design of the lights shall allow a person on the ground, to distinguish the UA from a manned aircraft;
- (q) if equipped with a follow-me mode and when this function is on, be in a range not exceeding 50 m from the remote pilot, and make it possible for the remote pilot to regain control of the UA;

- (r) be placed on the market with a user's manual providing:
- (1) the characteristics of the UA including but not limited to the:
 - (i) class of the UA;
 - (ii) UA mass (with a description of the reference configuration) and the maximum take-off mass (MTOM);
 - (iii) general characteristics of allowed payloads in terms of mass dimensions, interfaces of with the UA and other possible restrictions;
 - (iv) equipment and software to control the UA remotely;
 - (v) reference of the transmission protocol used for the direct remote identification emission;
 - (vi) sound power level;
 - (vii) and a description of the behavior of the UA in case of a loss of data link;
 - (2) clear operational instructions;
 - (3) procedure to upload the airspace limitations;
 - (4) maintenance instructions;
 - (5) troubleshooting procedures;
 - (6) operational limitations (including but not limited to meteorological conditions and day/night operations); and
 - (7) appropriate description of all the risks related to UAS operations;
- (s) include an information notice published by CARC providing applicable limitations and obligations.

Subpart 3 Requirements for a class C2 Unmanned aircraft system

A class C2 UAS shall comply with the following:

- (a) have an MTOM of less than 4 kg, including payload;
- (b) have a maximum attainable height above the take-off point limited to 120 m or be equipped with a system that limits the height above the surface or above the take-off point to 120 m or to a value selectable by the remote pilot. If the value is selectable, clear information about the height of the UA above the surface or take-off point during flight shall be provided to the remote pilot.;
- (c) be safely controllable with regards to stability, maneuverability and data link performance, by a remote pilot with adequate competency and following the manufacturer's instructions, as necessary under all anticipated operating conditions including following the failure of one or, if appropriate, more systems;
- (d) have the requisite mechanical strength including any necessary safety factor and, where appropriate, stability to withstand any stress to which it is subjected to during use without any breakage or deformation that might interfere with its safe flight;
- (e) in the case of a tethered UA, have a tensile length of the tether that is less than 50 m and a mechanical strength that is no less than:
 - (1) for heavier-than-air aircraft, 10 times the weight of the aerodyne at maximum mass;

- (2) for lighter-than-air aircraft, 4 times the force exerted by the combination of the maximum static thrust and the aerodynamic force of the maximum allowed wind speed in flight;
- (f) be designed and constructed in such a way as to minimize injury to people during operation, sharp edges shall be avoided, unless technically unavoidable under good design and manufacturing practice. If equipped with propellers, it shall be designed in such a way as to limit any injury that may be inflicted by the propeller blades;
- (g) unless tethered, in case of a loss of data link, have a reliable and predictable method for the UA to recover the data link or terminate the flight in a way that reduces the effect on third parties in the air or on the ground;
- (h) unless tethered, be equipped with a data link protected against unauthorized access to the command and control functions;
- (i) unless it is a fixed-wing UA, be equipped with a low-speed mode selectable by the remote pilot and limiting the maximum cruising speed to no more than 3 m/s.
- (j) unless it is a fixed-wing UA, have a guaranteed A-weighted sound power level LWA determined as per Subpart 13 not exceeding the levels established in Subpart 15;
- (k) unless it is a fixed-wing UA, have the indication of the guaranteed A-weighted sound power level affixed on the UA and/or its packaging as per Subpart 14;
- (l) be powered by electricity and have a nominal voltage not exceeding 48 V DC or the equivalent AC voltage; its accessible parts shall not exceed 48 V DC or the equivalent AC voltage; internal voltages shall not exceed 48 V DC or the equivalent AC voltage unless it is ensured that the voltage and current combination generated does not lead to any risk or harmful electric shock even when the UAS is damaged;
- (m) have a unique physical serial number compliant with standard ANSI/CTA-2063 Small Unmanned Aerial Systems Serial Numbers;
- (n) unless tethered, have a direct remote identification that:
 - (1) allows the upload of the UAS operator registration number in accordance with applicable Jordanian Civil Aviation Regulations and exclusively following the process provided by the registration system;
 - (2) ensures, in real time during the whole duration of the flight, the direct periodic broadcast from the UA using an open and documented transmission protocol, of the following data, in a way that they can be received directly by existing mobile devices within the broadcasting range:
 - (i) the UAS operator registration number;
 - (ii) the unique physical serial number of the UA compliant with standard ANSI/CTA-2063;
 - (iii) the geographical position of the UA and its height above the surface or take-off point;

- (iv) the route course measured clockwise from true north and ground speed of the UA; and
 - (v) the geographical position of the remote pilot;
- (3) ensures that the user cannot modify the data mentioned under paragraph (2) points (ii), (iii), (iv) and (v);
- (o) be equipped with a geo-awareness function that provides:
 - (1) an interface to load and update data containing information on airspace limitations related to UA position and altitude imposed by the geographical zones, which ensures that the process of loading or updating of this data does not degrade its integrity and validity;
 - (2) a warning alert to the remote pilot when a potential breach of airspace limitations is detected; and
 - (3) information to the remote pilot on the UA's status as well as a warning alert when its positioning or navigation cannot ensure the proper functioning of the geo-awareness system;
- (p) if the UA has a function that limits its access to certain airspace areas or volumes, this function shall operate in such a manner that it interacts smoothly with the flight control system of the UA without adversely affecting flight safety; in addition, clear information shall be provided to the remote pilot when this function prevents the UA from entering these airspace areas or volumes;
- (q) provide the remote pilot with clear warning when the battery of the UA or its control station reaches a low level such that the remote pilot has sufficient time to safely land the UA;
- (r) be equipped with lights for the purpose of:
 - (1) controllability of the UA;
 - (2) conspicuity of the UA at night, the design of the lights shall allow a person on the ground to distinguish the UA from manned aircraft;
- (s) be placed on the market with a user's manual providing:
 - (1) the characteristics of the UA including but not limited to the:
 - (i) class of the UA;
 - (ii) UA mass (with a description of the reference configuration) and the maximum take-off mass (MTOM);
 - (iii) general characteristics of allowed payloads in terms of mass dimensions, interfaces with the UA and other possible restrictions;
 - (iv) equipment and software to control the UA remotely;
 - (v) reference of the transmission protocol used for the direct remote identification emission;
 - (vi) sound power level;
 - (vii) and a description of the behavior of the UA in case of a loss of data link;
 - (2) clear operational instructions;
 - (3) procedure to upload the airspace limitations;
 - (4) maintenance instructions;

- (5) troubleshooting procedures;
 - (6) operational limitations (including but not limited to meteorological conditions and day/night operations); and
 - (7) appropriate description of all the risks related to UAS operations;
- (t) include an information notice published by CARC with applicable limitations and obligations.

Subpart 4 Requirements for a class C3 Unmanned aircraft system

A class C3 UAS shall comply with the following:

- (a) have an MTOM of less than 25 kg, including payload, and have a maximum characteristic dimension of less than 3 m;
- (b) have a maximum attainable height above the take-off point limited to 120 m or be equipped with a system that limits the height above the surface or above the take-off point to 120 m or to a value selectable by the remote pilot. If the value is selectable, clear information about the height of the UA above the surface or take-off point during flight shall be provided to the remote pilot;
- (c) be safely controllable with regards to stability, maneuverability and data link performance, by a pilot with adequate competency and following the manufacturer's instructions, as necessary under all anticipated operating conditions including following the failure of one or, if appropriate, more systems;
- (d) in the case of a tethered UA, have a tensile length of the tether that is less than 50 m and a mechanical strength of no less than:
 - (1) for heavier-than-air aircraft, 10 times the weight of the aerodyne at maximum mass;
 - (2) for lighter-than-air aircraft, 4 times the force exerted by the combination of the maximum static thrust and the aerodynamic force of the maximum allowed wind speed in flight;
- (e) unless tethered, in case of a loss of data link, have a reliable and predictable method for the UA to recover the data link or terminate the flight in a way that reduces the effect on third parties in the air or on the ground;
- (f) unless it is a fixed-wing UA, have the indication of the guaranteed A-weighted sound power level LWA determined as per Subpart 13 affixed on the UA and/or its packaging as per Subpart 14;
- (g) be powered by electricity and have a nominal voltage not exceeding 48 V DC or the equivalent AC voltage; its accessible parts shall not exceed 48 V DC or the equivalent AC voltage; internal voltages shall not exceed 48 V DC or the equivalent AC voltage unless it is ensured that the voltage and current combination generated does not lead to any risk or harmful electric shock even when the UAS is damaged;
- (h) have a unique physical serial number compliant with standard ANSI/CTA-2063 Small Unmanned Aerial Systems Serial Numbers;
- (i) unless tethered, have a direct remote identification that:

- (1) allows the upload of the UAS operator registration number in accordance with applicable regulations and exclusively following the process provided by the registration system;
- (2) ensures, in real time during the whole duration of the flight, the direct periodic broadcast from the UA using an open and documented transmission protocol, of the following data, in a way that they can be received directly by existing mobile devices within the broadcasting range:
 - (i) the UAS operator registration number;
 - (ii) the unique physical serial number of the UA compliant with standard ANSI/CTA-2063;
 - (iii) the geographical position of the UA and its height above the surface or take-off point;
 - (iv) the route course measured clockwise from true north and ground speed of the UA; and v the geographical position of the remote pilot;
- (3) ensures that the user cannot modify the data mentioned under paragraph (2) points (ii), (iii), (iv) and (v).
- (j) be equipped with a geo-awareness function that provides:
 - (1) an interface to load and update data containing information on airspace limitations related to UA position and altitude imposed by the geographical zones, as defined by applicable regulation, which ensures that the process of loading or updating of this data does not degrade its integrity and validity;
 - (2) a warning alert to the remote pilot when a potential breach of airspace limitations is detected; and
 - (3) information to the remote pilot on the UA's status as well as a warning alert when its positioning or navigation cannot ensure the proper functioning of the geo-awareness system;
- (k) if the UA has a function that limits its access to certain airspace areas or volumes, this function shall operate in such a manner that it interacts smoothly with the flight control system of the UA without adversely affecting flight safety; in addition, clear information shall be provided to the remote pilot when this function prevents the UA from entering these airspace areas or volumes;
- (l) unless tethered, be equipped with a data link protected against unauthorized access to the command and control functions;
- (m) provide the remote pilot with clear warning when the battery of the UA or its control station reaches a low level such that the remote pilot has sufficient time to safely land the UA;
- (n) be equipped with lights for the purpose of:
 - (1) controllability of the UA;
 - (2) conspicuity of the UA at night, the design of the lights shall allow a person on the ground to distinguish the UA from a manned aircraft;
- (o) be placed on the market with a user's manual providing:
 - (1) the characteristics of the UA including but not limited to the: — class of the UA; — UA mass (with a description of the reference configuration) and

- the maximum take-off mass (MTOM); — general characteristics of allowed payloads in terms of mass dimensions, interfaces with the UA and other possible restrictions; — equipment and software to control the UA remotely; — reference of the transmission protocol used for the direct remote identification emission; — sound power level; — and a description of the behavior of the UA in case of a loss of data link);
- (2) clear operational instructions;
 - (3) procedure to upload the airspace limitations;
 - (4) maintenance instructions;
 - (5) troubleshooting procedures
 - (6) operational limitations (including but not limited to meteorological conditions and day/night operations); and
 - (7) appropriate description of all the risks related to UAS operations;
- (p) include an information notice published by CARC providing applicable limitations and obligations.

Subpart 5 Requirements for a class C4 Unmanned aircraft system

A class C4 UAS shall comply with the following:

- (a) have an MTOM of less than 25 kg, including payload;
- (b) be safely controllable and maneuverable by a remote pilot following the manufacturer's instructions, as necessary under all anticipated operating conditions including following the failure of one or, if appropriate, more systems;
- (c) not be capable of automatic control modes except for flight stabilization assistance with no direct effect on the trajectory and lost link assistance provided that a pre-determined fixed position of the flight controls in case of lost link is available;
- (d) be placed on the market with a user's manual providing:
 - (1) the characteristics of the UA including but not limited to the: — class of the UA — UA mass (with a description of the reference configuration) and the maximum take-off mass (MTOM); — general characteristics of allowed payloads in terms of mass dimensions, interfaces with the UA and other possible restrictions; — equipment and software to control the UA remotely; — and a description of the behavior of the UA in case of a loss of data link;
 - (2) clear operational instructions;
 - (3) maintenance instructions;
 - (4) troubleshooting procedures;
 - (5) operational limitations (including but not limited to meteorological conditions and day/night operations); and
 - (6) appropriate description of all the risks related to UAS operations;
- (e) include an information notice published by CARC providing applicable limitations and obligations.

Subpart 6 Requirements for a direct remote identification add-on

(a) allows the upload of the UAS operator registration number in accordance with applicable regulation and exclusively following the process provided by the registration system;

(b) has a physical serial number compliant with standard ANSI/CTA-2063 Small Unmanned Aerial Systems Serial Numbers, affixed to the add-on and its packaging or its user's manual in a legible manner;

(c) ensures, in real time during the whole duration of the flight, the direct periodic broadcast from the UA using an open and documented transmission protocol, of the following data, in a way that they can be received directly by existing mobile devices within the broadcasting range:

(i) the UAS operator registration number;

(ii) the unique physical serial number of the add-on compliant with standard ANSI/CTA-2063;

(iii) the geographical position of the UA and its height above the surface or take-off point;

(iv) the route course measured clockwise from true north and ground speed of the UA; and

(v) the geographical position of the remote pilot or, if not available, the take-off point;

(d) ensures that the user cannot modify the data mentioned under paragraph (c) points (ii), (iii), (iv) and (v);

(e) is placed on the market with a user's manual providing the reference of the transmission protocol used for the direct remote identification emission and the instruction to:

(1) install the module on the UA;

(2) upload the UAS operator registration number.

Subpart 7 Conformity assessment Module A - Internal production control

(a) Internal production control is the conformity assessment procedure whereby the manufacturer fulfils the obligations set out in points (b), (c) and (d) of this Subpart, and ensures and declares on their sole responsibility that the products concerned satisfy the requirements set out in Subparts 1, 5 or 6 which apply to them.

(b) **Technical documentation** The manufacturer shall develop the technical documentation in accordance with DDP.170 of this Part.

(c) **Manufacturing** The manufacturer shall take all measures necessary so that the manufacturing process and its monitoring ensure compliance of the manufactured product with the technical documentation referred to in point (b) of this Subpart and with the requirements set out in Subparts 1, 5 or 6 which apply to them.

(d) **CE marking and declaration of conformity**

(1) In accordance with DDP.150 and DDP.160 of this Part, the manufacturer shall affix the CE marking and, when applicable, the UA class identification label, to each individual product that satisfies the applicable requirements set out in Subparts 1, 5 or 6 which apply to them.

(2) The manufacturer shall draw up a written declaration of conformity for each product model and keep it together with the technical documentation at the disposal of CARC for 10 years after the product has been placed on the market. The declaration of conformity shall clearly identify the product for which it has been drawn up. A copy of the declaration of conformity shall be made available to CARC upon request.

(e) Authorized representative

The manufacturers' obligations set out in point (d) may be fulfilled by an authorized representative, on their behalf and under their responsibility, provided that they are specified in the mandate.

Subpart 8 Conformity assessment Modules B and C - CARC-type examination and conformity to type based on internal production control

When reference is made to this Subpart, the conformity assessment procedure shall follow Modules B (CARC-type examination) and C (Conformity to type based on internal production control) of this Part.

Module B CARC-type examination

(a) CARC-type examination is the part of a conformity assessment procedure in which CARC examines the technical design of the product and verifies and attests that the technical design of the product meets the applicable requirements set out in Subparts 1 to 6.

(b) CARC-type examination shall be carried out by an assessment of the adequacy of the technical design of the product through examination of the technical documentation and supporting evidence referred to in point (c), plus examination of specimens, representative of the production envisaged, of one or more critical parts of the product (combination of production type and design type).

(c) The manufacturer shall lodge an application for CARC-type examination . The application shall include:

(1) the name and address of the manufacturer and, if the application is lodged by the authorized representative, his name and address as well;

(2) a written declaration that the same application has not been lodged with any other notified body;

(3) the technical documentation. The technical documentation shall make it possible to assess the product's conformity with the applicable requirements of this Part and shall include an adequate analysis and assessment of the risk(s). The technical documentation shall contain, wherever applicable, the elements set out in DDP.170 of this Part;

- (4) the specimens representative of the production envisaged. CARC may request further specimens if needed for carrying out the test program;
 - (5) the supporting evidence for the adequacy of the technical design solution. This supporting evidence shall mention any documents that have been used, in particular where the relevant standards and/or technical specifications have not been applied or have not been applied in full;. The supporting evidence shall include, where necessary, the results of tests carried out in accordance with other relevant technical specifications by the appropriate laboratory of the manufacturer or by another testing laboratory on his behalf and under his responsibility.
- (d) CARC shall:
- For the product:
- (1) examine the technical documentation and supporting evidence to assess the adequacy of the product's technical design.
- For the specimen(s):
- (2) verify that the specimen(s) has (have) been manufactured in conformity with the technical documentation, and identify the elements which have been designed in accordance with the applicable provisions of the relevant standards and/or technical specifications, as well as the elements which have been designed without applying the relevant provisions of those standards;
 - (3) carry out appropriate examinations and tests, or have them carried out, to check whether, where the manufacturer has chosen to apply the solutions in the relevant standards and/or technical specifications, these have been applied correctly;
 - (4) carry out appropriate examinations and tests, or have them carried out, to check whether, where the solutions in the relevant standards and/or technical specifications have not been applied, the solutions adopted by the manufacturer meet the corresponding essential requirements of the legislative instrument;
 - (5) agree with the manufacturer on a location where the examinations and tests will be carried out.
- (e) CARC shall draw up an evaluation report that records the activities undertaken in accordance with point (d) and their outcomes. Without prejudice to its obligations as provided in point (h), CARC shall release the content of this report, in full or in part, only with the agreement of the manufacturer.
- (f) Where the type meets the requirements of this Part, CARC shall issue CARC-type examination certificate to the manufacturer. This certificate shall contain the name and address of the manufacturer, the conclusions of the examination, the relevant aspects of the requirements covered by the examination, the conditions (if any) for its validity, and the data necessary for the identification of the approved type. The certificate may have one or more annexes attached to it. CARC certificate and its annexes shall contain all relevant information to allow the conformity of manufactured products with the examined

type to be evaluated and to allow for in service control. Where the type does not satisfy the applicable requirements of this Part, CARC shall refuse to issue a CARC-type examination certificate and shall inform the applicant accordingly, giving detailed reasons for its refusal.

(g) CARC shall keep itself apprised of any changes in the generally acknowledged state of the art which indicates that the approved type may no longer comply with the applicable requirements of this Part, and shall determine whether such changes require further investigation. If so, CARC shall inform the manufacturer accordingly. The manufacturer shall inform CARC that holds the technical documentation relating to the CARC-type examination certificate of all modifications to the approved type that may affect the product's conformity with the essential requirements of this Part or the conditions for the certificate's validity. Such modifications shall require additional approval and attached to the original CARC-type examination certificate.

(h) CARC shall inform concerned regarding CARC-type examination certificates and/or any additions thereto which it has issued or withdrawn, and shall, periodically or upon request, make available a list of certificates and/or any additions thereto refused, suspended or otherwise restricted. CARC shall keep a copy of the CARC-type examination certificate, its annexes and additions, as well as the technical file including the documentation submitted by the manufacturer for 10 years after the product has been assessed or until the validity of the certificate expires.

(i) The manufacturer shall keep a copy of CARC-type examination certificate, its annexes and additions together with the technical documentation at the disposal of CARC for 10 years after the product has been placed on the market.

(j) The manufacturer's authorized representative may lodge the application referred to in point (c) and fulfil the obligations set out in points (g) and (i), provided that they are specified in the mandate.

Module C - Conformity to type based on internal production control

(a) Conformity to type based on internal production control is the part of a conformity assessment procedure whereby the manufacturer fulfils the obligations laid down in points (b) and (c), and ensures and declares that the products concerned are in conformity with the type described in CARC-type examination certificate and satisfy the applicable requirements of this Part.

(b) The manufacturer shall take all measures necessary so that the manufacturing process and its monitoring ensure conformity of the manufactured product with the approved type described in CARC-type examination certificate and with the applicable requirements set out in Subparts 1 to 6.

(c) CE marking and declaration of conformity

(1) The manufacturer shall affix the CE marking and, when relevant, the UA class identification label in accordance with DDP.150 and DDP.160 of this Part to each product that is in conformity with the type described in the

CARC-type examination certificate and satisfies the applicable requirements set out in Subparts 1 to 6.

(2) The manufacturer shall draw up a written declaration of conformity for each product type and keep it at the disposal of CARC for 10 years after the product has been placed on the market. The declaration of conformity shall clearly identify the product type for which it has been drawn up. A copy of the declaration of conformity shall be made available to CARC upon request.

(d) The manufacturer's obligations set out in point (c) may be fulfilled by their authorized representative, on their behalf and under their responsibility, provided that this is specified in the mandate.

Subpart 9 Conformity assessment Module H - Conformity based on full quality assurance

(a) Conformity based on full quality assurance is the conformity assessment procedure whereby the manufacturer fulfils the obligations set out in points (b) and (e), and ensures and declares on his sole responsibility that the product concerned satisfies the applicable requirements set out in Subparts 1 to 6.

(b) The manufacturer shall operate an approved quality system for design, manufacture, final inspection and testing of the product concerned as specified in point (c) and shall be subject to surveillance as specified in point (d).

(c) Quality system

(1) The manufacturer shall lodge an application for the assessment of his quality system with CARC of their choice, for the product concerned. The application shall include:

(i) the name and address of the manufacturer and, if the application is lodged by the authorized representative, their name and address as well;

(ii) the technical documentation for each type of product intended to be manufactured, containing the elements set out in Subpart 10 where applicable;

(iii) the documentation concerning the quality system;

(2) The quality system shall ensure compliance of the product with the requirements of this Part. All the elements, requirements and provisions adopted by the manufacturer shall be documented in a systematic and orderly manner in the form of written policies, procedures and instructions. This quality system documentation shall permit a consistent interpretation of the quality program, plans, manuals and records. The documentation shall, in particular, contain an adequate description of:

(i) the quality objectives and the organizational structure, responsibilities and powers of the management with regard to product design and quality;

(ii) the technical design specifications, including standards, that will be applied and, where the relevant standards will not be applied in full, the means that will be used to ensure that the requirements of this Part are met;

(iii) the design control and design verification techniques, processes and systematic actions that will be used when designing the products pertaining to the product type covered;

(iv) the corresponding manufacturing, quality control and quality assurance techniques, processes and systematic actions that will be used;

(v) the examinations and tests that will be carried out before, during and after manufacture, and the frequency with which they will be carried out;

(vi) the quality records, such as inspection reports and test data, calibration data, reports concerning the qualifications or approvals of the personnel concerned, etc.;

(vii) the means of monitoring the achievement of the required design and product quality and the effective operation of the quality system.

(3) CARC shall assess the quality system to determine whether it satisfies the requirements referred to in point (c)(2). It shall presume conformity with those requirements in respect of elements of the quality system that comply with the corresponding specifications of the relevant standard. In addition to experience in quality management systems, the auditing team shall have at least one member experienced as an assessor in the relevant product field and product technology concerned, and knowledge of the applicable requirements of this Part. The audit shall include an assessment visit on the manufacturer's premises. The auditing team shall review the technical documentation referred to in point (c)(1)(b) to verify the manufacturer's ability to identify the applicable requirements of this Part and to carry out the necessary examinations with a view to ensuring the product's compliance with these requirements. The manufacturer or his authorized representative shall be notified of the decision. The notification shall contain the conclusions of the audit and the reasoned assessment decision.

(4) The manufacturer shall undertake to fulfil the obligations arising out of the quality system as approved and to maintain it so that it remains adequate and efficient. The manufacturer shall keep CARC informed of any intended change to the quality system.

(5) CARC shall evaluate any proposed changes and decide whether the modified quality system will continue to satisfy the requirements referred to in point (c)(2) or whether a reassessment is necessary. CARC shall notify the manufacturer of its decision. The notification shall contain the conclusions of the examination and the reasoned assessment decision.

(d) Surveillance under the responsibility of CARC

(1) The purpose of surveillance is to make sure that the manufacturer duly fulfils the obligations arising out of the approved quality system.

(2) The manufacturer shall, for assessment purposes, allow CARC access to the design, manufacture, inspection, testing and storage sites, and shall provide it with all necessary information, in particular:

(i) the quality system documentation;

- (ii) the quality records as provided for by the design part of the quality system, such as results of analyses, calculations, tests, etc.;
 - (iii) the quality records as provided for by the manufacturing part of the quality system, such as inspection reports and test data, calibration data, reports concerning the qualifications of the personnel, etc.
- (3) CARC shall carry out periodic audits to make sure that the manufacturer maintains and applies the quality system and shall provide the manufacturer with an audit report.
- (4) In addition, CARC may pay unexpected visits to the manufacturer. During such visits, CARC may, if necessary, carry out UA or UAS tests, or have them carried out, in order to check the proper functioning of the quality system. It shall provide the manufacturer with a visit report and, if tests have been carried out, with a test report.
- (e) CE marking and declaration of conformity
- (1) The manufacturer shall affix the CE marking and, when relevant, the UAS class identification label in accordance with DDP.150 and DDP.160 of this Part and, under the responsibility of the notified body referred to in point (c)(1) of this Part, the latter's identification number to each individual product that satisfies the applicable requirements of this Part.
 - (2) The manufacturer shall draw up a written declaration of conformity for each product type and keep it at the disposal of CARC for 10 years after the product has been placed on the market. The declaration of conformity shall identify the product type for which it has been drawn up. A copy of the declaration of conformity shall be made available to CARC upon request.
- (f) The manufacturer shall, for a period ending 10 years after the product has been placed on the market, keep at the disposal of CARC:
- (1) the technical documentation referred to in point (c)(1);
 - (2) the documentation concerning the quality system referred to in point (c)(1);
 - (3) the change referred to in point (c)(5), as approved;
 - (4) the decisions and reports of CARC referred to in points (c)(5), (d)(3) and (d)(4).
- (g) The manufacturer shall maintain the quality system approvals issued or withdrawn, and shall, periodically or upon request, make available to CARC the list of the quality system approvals it has refused, suspended or otherwise restricted.
- (h) The manufacturer's obligations set out in points (d)(1), (d)(5), (e) and (f) may be fulfilled by their authorized representative, on their behalf and under their responsibility, provided that this is specified in the mandate.

Subpart 10 Contents of the technical documentation

The manufacturer shall establish the technical documentation. The documentation shall make it possible to assess the product's conformity to the

applicable requirements. The technical documentation shall, wherever applicable, contain at least the following elements,:

- (a) a complete description of the product including:
 - (1) photographs or illustrations showing its external features, markings and internal layout;
 - (2) the versions of any software or firmware involved in compliance with the requirements set by this Part;
 - (3) user's manual and installation instructions;
- (b) conceptual design and manufacturing drawings and schemes of components, sub-assemblies, circuits and other relevant similar elements;
- (c) descriptions and explanations necessary for the understanding of those drawings and schemes and the operation of the product;
- (d) a list of the standards applied in full or in part, and, where those standards have not been applied, descriptions of the solutions adopted to meet the essential requirements set out in DDP.040, including a list of other relevant technical specifications applied. In the event of partly applied standards, the technical documentation shall specify the parts which have been applied;
- (e) copy of the declaration of conformity;
- (f) where the conformity assessment module in Subpart 8 has been applied, copy of CARC type examination certificate and its annexes as delivered by CARC;
- (g) results of design calculations made, examinations carried out, and other relevant similar elements;
- (h) test reports;
- (i) copies of the documents that the manufacturer has submitted to CARC
- (j) the supporting evidence for the adequacy of the technical design solution. This supporting evidence shall mention any documents that have been used, in particular where the relevant standards and/or technical specifications have not been applied in full. The supporting evidence shall include, where necessary, the results of tests carried out by the appropriate laboratory of the manufacturer, or by another testing laboratory on his behalf and under his responsibility;
- (k) addresses of places of manufacture and storage.

Subpart 11 declaration of conformity

- (a) The product (type, batch and serial number).
- (b) Name and address of the manufacturer or his representative.
- (c) This declaration of conformity is issued under the sole responsibility of the manufacturer.
- (d) Object of the declaration [identification of the product allowing traceability; it may include a color image of sufficient resolution where necessary for the identification of the products].
- (e) The object of the declaration described above is of class ... [include for UAS the class number as defined by Parts 1 to 5 of this annex].

- (f) The guaranteed sound power level for this UAS equipment is ... dB(A) [for non fixed-wing UAS classes 1 to 3 only]
- (g) The object of the declaration described above is in conformity with the relevant CARC regulations: — [include the reference to this Part and the Annex relevant to the class of the product].
- (h) References to the relevant standards used or references to the other technical specifications in relation to which conformity is declared. References must be listed with their identification number and version and, where applicable, date of issue.
- (i) Where applicable, the issued CARC-type examination certificate.
- (j) Where applicable, a description of accessories and components, including software, which allow the unmanned aircraft or unmanned aircraft system to operate as intended and covered by the declaration of conformity.
- (k) Additional information: Signed for and on behalf of: ... [place and date of issue]: [name, function] [signature]:

Subpart 12 Simplified EU declaration of conformity

The simplified declaration of conformity referred to in DDP.140(3) shall be provided as follows:

- (a) [Name of manufacturer] hereby declares that the UAS [identification of the UAS: type or serial number] is of class ... [include the class number of the product as defined in Subparts 1 to 5 of this Annex] and has a guaranteed sound power level of ... dB(A) [for non fixed-wing UAS classes 1 to 3 only], and
- (b) in compliance with Part ... [list all the Regulations that the product complies with].

Subpart 13 Noise test code

This Part lays down the methods of measurement of airborne noise that shall be used for the determination of the A-weighted sound power levels of UA classes 1, 2 and 3. It lays down the basic noise emission standard and detailed test code for measuring the sound pressure level on a measurement surface enveloping the source and for calculating the sound power level produced by the source.

- (a) BASIC NOISE EMISSION STANDARD For the determination of the A-weighted sound power level LWA of UA, the basic noise emission standards EN ISO 3744:2010 as amended will be used subject to the following supplements:
- (b) INSTALLATION AND MOUNTING CONDITIONS Test area: The UA will be hovering above one reflecting (acoustically hard) plane. The UA shall be located at a sufficient distance from any reflecting wall or ceiling or any reflecting object so that the requirements given in Annex A of EN ISO 3744:2010 as amended are satisfied on the measurement surface. Mounting of the noise source: The UA shall be hovering 0.5 m above the reflecting plane. The configuration of the UA (propellers, accessories, setting) will be the

configuration of the UA as placed on the market. Sound measurement surface and microphone array: The UA will be completely enclosed in a hemispherical measurement surface as par § 7.2.3 of EN ISO 3744:2010 as amended. The number and position of the microphones is defined by Annex F of EN ISO 3744:2010 as amended. The measurement surface shall have its origin at the point O lying in the ground plane directly below the UA.

(c) **OPERATING CONDITIONS DURING TEST** The noise tests shall be carried out with the UA being flown in a stable position, laterally and vertically, 0,5 m above the origin of the measurement hemisphere (point (O) under MTOM, and with the battery of the UA fully charged. If the UA is placed on the market with accessories that can be fitted to it, it will be tested with and without these accessories in all possible UA configurations.

(d) **CALCULATION OF SURFACE TIME-AVERAGED SOUND PRESSURE LEVEL** The A-weighted surface time-averaged sound pressure level shall be determined at least three times for each UA configuration. If at least two of the determined values do not differ by more than 1 dB, further measurements will not be necessary; otherwise the measurements shall be continued until two values differing by no more than 1 dB are obtained. The surface time-averaged sound pressure level to be used for calculating the sound power level of a UA configuration is the arithmetic mean of the two highest values that do not differ by more than 1 dB.

(e) **INFORMATION TO BE REPORTED** The report shall contain the technical data necessary to identify the source under test as well as the noise test code and the acoustical data. The A-weighted sound power level value to be reported is the highest value of the different UA configurations tested rounded to the nearest whole number (less than 0.5 use the lower number; greater than or equal to 0.5 use the higher number).

Subpart 14 Indication of the guaranteed sound power level

The indication of the guaranteed sound power level must consist of the single number of the guaranteed sound power in dB, the sign LWA and a pictogram taking the following form: If the indication is reduced according to the size of the equipment the proportions given in the above drawing must be respected. However, the vertical dimension of the indication should, if possible, not be less than 20 mm.

Subpart 15 Maximum sound power level per class of UA (including transition periods)

UA class	MTOM m in gram	Maximum sound power level L_{WA} in dB		
		as from entry into force	as from 2 years after entry into force	as from 4 years after entry into force

C1	$250 \leq m < 900$	85	83	81
C2	$900 \leq m < 4000$	$85 + 18.5 \lg \frac{m}{900}$	$83 + 18.5 \lg \frac{m}{900}$	$81 + 18.5 \lg \frac{m}{900}$