

Acceptable Means of Compliance and Guidance Material for the certification and declaration of air traffic management/air navigation services systems and air traffic management/air navigation services constituents

AMC & GM to Annex II (Part- ATM/ANS.EQMT.CERT) to Commission Delegated Regulation (EU) 2023/1768

Issue 1

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¹ For the date of entry into force of this Issue, kindly refer to ED Decision 2024/001/R at the [Official Publication](#) of EASA.

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GM1 ATM/ANS.EQMT.CERT.015(b)(2) Application for an ATM/ANS equipment certificate

DEFINITION OF CERTIFICATION PROGRAMME

The certification programme is a document used to establish a protocol of communication between the applicant and EASA in the context of certification of ATM/ANS equipment under Article 4 of Delegated Regulation (EU) 2023/1768, which allows to manage and control the evolving design, as well as the process of compliance demonstration and its verification.

The certification programme may be based on modules/sections that may be updated independently.

GM2 ATM/ANS.EQMT.CERT.015(b)(2) Application for an ATM/ANS equipment certificate

CONTENT OF THE CERTIFICATION PROGRAMME

The following information is typically included in a certification programme:

Description of the ATM/ANS equipment

An overview of the equipment will be provided, covering, as a minimum, the description of the following:

- type of system, architecture and functions;
- performance;
- dimensions, if applicable;
- materials, if applicable, and technologies;
- operational limitations;
- electronic hardware, and software;
- additional features, characteristics or functionalities not covered by applicable detailed specifications, as per point ATM/ANS.EQMT.AR.B.001(b);
- considerations of intended use of the equipment and operating characteristics; and
- other items, if considered to be more appropriate, that are relevant to the specific ATM/ANS equipment.

A special emphasis on novelties being part of the design (e.g. new technologies, new materials, etc.) and peculiarities of the configuration will be included. The certification programme must be detailed enough, in particular on aspects related to novelty and complexity, to allow EASA to properly estimate its level of involvement as required by point ATM/ANS.EQMT.AR.B.010.

Certification aspects

The following information related to certification will be provided:

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- a proposal for the initial certification basis, in accordance with point ATM/ANS.EQMT.CERT.015(b)(2)(iv), including applicable detailed specifications, reference to special conditions, and reference to equivalent safety findings;
 - a proposal for deviations that are requested at the time of establishing the certification programme, which provide an equivalent level of safety;
 - a proposal for limitations that are expected at the time of establishing the certification programme; and
 - the identification of applicable industry standards, certification memoranda, and guidance material. Where AMC to detailed specifications specifies a certain industry standard(s), and the applicant does not elect to comply with it (them) (partly or completely), the certification programme must identify the request to deviate from the AMC, propose alternative industry standard(s), and demonstrate its (their) equivalence.

For equipment embedding software, the description will identify the main failure conditions that will drive the architecture of the equipment, the classification of the software assurance level (SWAL) to use, and any associated assumption made to define the SWAL.

Equipment configuration

The certification programme must define the equipment model name, part number, and provide the means to configure anticipated minor changes when previously agreed with EASA as part of the DPO change management procedure as required in point DPO.OR.B.005(b) of Implementing Regulation (EU) 2023/1769.

Demonstration of compliance

The certification programme will include the following, as far as this information is available at the time of submission to EASA:

- the proposed means of compliance, and the related compliance document(s) as specified in Appendix 1;
- identification of technical procedures, technical documents and specifications that were followed in the demonstration of compliance;
- when the compliance demonstration involves testing, a description of the test article(s), test method(s), test location(s), test schedule, test house(s), test conditions, as well as of the intent/objective(s) of the testing; and
- when the compliance demonstration involves analyses/calculations, a description/identification of the tools (e.g. name and version/release of the software programmes) and methods used, the associated assumptions, limitations and/or conditions, as well as of the intended use and purpose; furthermore, the validation and verification of such tools and methods will be addressed.

For every aspect mentioned above, the applicant will clearly identify whether the demonstration of compliance involves any method (analysis or test) which is novel to or unusual for the applicant.

The applicant will detail the list of documents generated during the development and that will be used to demonstrate compliance with the applicable certification basis.

The applicant will break down the certification programme into one or more meaningful groups of compliance-demonstration activities and data, in accordance with point ATM/ANS.EQMT.CERT.015(b)(2)(v), hereafter referred to as compliance-demonstration items (CDIs), and provide their proposal for EASA’s Lol.

A CDI will be used as a meaningful group of compliance-demonstration activities and data identified in the certification programme which can be considered in isolation for the purpose of performing the certification risk assessment that allows EASA to determine its Lol using a risk-based approach.

The applicant must provide sufficient detailed information about the novelty, complexity, and criticality aspects of the proposed CDI.

Desing organisation and schedule aspects

- Identification of the relevant personnel who make decisions affecting safety, security and interoperability, and who will interface with EASA, unless otherwise communicated to EASA (e.g. within the DPO procedures);
- A project schedule including the major milestones;
- Subcontracting arrangements for design and/or production.

Appendix 1 to GM2 ATM/ANS.EQMT.CERT.015(b)(2) Application for an ATM/ANS equipment certificate

| Type of compliance | Means of compliance | Associated compliance documents |
|-------------------------|---|---|
| Engineering evaluation | MCO: (a) compliance statement (b) reference to design data (c) election of methods, factors, etc. (d) definitions | (a) Design data (b) Recorded statements |
| | MC1: design review | (c) Descriptions (d) Drawings |
| | MC2: calculation/analysis | (e) Substantiation reports |
| | MC3: safety assessment | (f) Safety analysis |
| Tests | MC4: laboratory tests | |
| | MC5: tests on related ATM/ANS equipment | (g) Test programmes (h) Test reports |
| | MC6: simulation | (i) Test interpretations |
| Inspection | MC7: design inspection/audit | (j) Inspection or audit reports Note: Equipment qualification is a process that may include all previous means of compliance at equipment level. |
| Equipment qualification | MC8: ATM/ANS equipment qualification | |

GM1 ATM/ANS.EQMT.CERT.025(e) Demonstration of compliance with the ATM/ANS equipment certification basis

DECLARATION AT THE END OF COMPLIANCE DEMONSTRATION

Upon completion of all compliance-demonstration activities, the DPO will provide a final declaration indicating that all compliance-demonstration activities have been performed in accordance with the certification programme. This declaration will be provided in the form of a document signed by the DPO accountable manager. The document will typically contain the following:

- a description of the final equipment configuration;
- a statement confirming the completion of all compliance-demonstration activities that are performed in accordance with the certification programme as accepted by the Agency;
- a list of all the applicable life cycle data that supports the demonstration of compliance;
- a list of the applicable deviations;
- a list of the applicable limitations;
- a declaration that:
 - it has demonstrated compliance with the certification basis, as established and notified by the Agency;
 - no feature or characteristic has been identified that may render the ATM/ANS equipment unsuitable for its intended use; and
 - the features, characteristics or functions that do not form part of the certification basis have no interference or detrimental effect on the suitability of the ATM/ANS equipment for its intended use.