

**AUTORITATEA AERONAUTICĂ CIVILĂ
REPUBLICA MOLDOVA**



**Mijloace acceptabile de conformitate
Electronic Flight Bag
(EFB)**

Ediția 01/februarie 2014



Civil Aviation Authority of the Republic of Moldova
Acceptable Mean of Compliance – Electronic Flight Bag
Log of Signatures

Log of Signatures

Taken action	Function	Name / Surname	Date	Signature
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Civil Aviation Authority of the Republic of Moldova
Acceptable Mean of Compliance – Electronic Flight Bag
Log of Revision

Log of Revision

Reference	Version no.	Revision no.	Effective Date
First Issue	01	00	07.02.2014



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List of Effective Pages

List of Effective Pages

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Log of Revision	01 / 00	07.02.2014
List of Effective Pages	01 / 00	07.02.2014
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Civil Aviation Authority of the Republic of Moldova
Acceptable Mean of Compliance – Electronic Flight Bag

Acceptable Mean of Electronic Flight Bag's (EFB) Approval

1. Purpose

This publication provides acceptable method of compliance and technical instructions for the certification, airworthiness and operational approval for both portable and installed Electronic Flight Bag (EFB) aircraft computing devices.

2. Status

This is the first edition of this publication and it will remain current until withdrawn or superseded.

3. Content of AMC

For electronic flight bags (EFB's) approval refer to JAA Administrative & Guidance Material, Section Four: Operations, Part Three: Temporary Guidance Leaflets (JAR-OPS), Leaflet No. 36: approval of electronic flight bags (EFB's).

4. Contents of Operations Manual

The training and qualification requirements as well as operational procedures and instructions detailing the tasks of EFB shall be described in compliance with TGL No. 36 and CAA RM "Acceptable means of EFB approval" in the relevant parts of the Operations Manual:

I. Electronic Flight Bag (EFB)

(1) Definitions

Operations Manual Part A, Chapter 8 "Operating Procedures",

- All used abbreviations regarding EFB shall be listed.

(2) Operations Specification "EFB"

Operations Manual Part A, Chapter 0.1 "Introduction",

- The Operations Specification EFB must be included in the list of Operations Specifications.

(3) Classification of EFB Systems

Operations Manual Part B, Chapter 1 "Certification Status and Operational Limitations",

- A list specifying the certification status and operational limitations.



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(4) EFB Administrator

Operations Manual Part A, Chapter 1.1 “Organizational Structure” and 1.3 Duties and “Responsibilities of Operations Management Personnel”,

- The EFB Administrator presented on the organizational structure;
- The EFB Administrator subordinated to the Post holder Flight Operations.

(5) Operational Risk Analysis

Operations Manual Part A, Chapter 8.3.19 , “Policy on the use of EFB-Systems”,

- Electromagnetic Interference (EMI);
- Lithium Batteries;
- Electrical Power Source;
- Data Connectivity;
- Risk Mitigation.

(6) Quality Assurance & Security

Operations Manual Part A, Chapter 8.3.19, “Policy on the use of EFB-System”,

- Statements addressing individual behavior and personal attitude to prevent security related interference.

(7) Loading Policy

Operations Manual Part B, Chapter 7, “Loading”,

- The Loading-Policy integrated in the software-application; or, at least, must be described and implemented in a respective crew procedure.

(8) MEL Policy

Operations Manual Part B, Chapter 9, “Minimum Equipment List”,

- Class 2 and 3 EFB will contain limitations affecting the use of the EFB system in case of a total or partial failure.

(9) Aircraft systems

Operations Manual Part B, Chapter 12, “Aeroplane systems”

- EFB systems, related controls and indications and operating instructions – applicable for Class 2 and 3.

(10) Navigation Documents & Charts

Operations Manual Part C, EFB- Navigation Documents & Charts,

- The description of the concept for EFB-Navigation Documents & Charts;



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- The format of the data provided to the users shall be defined clearly. (paper-format and/or electronic format).

(11) Data Validation / Updating Process

Operations Manual Part C, “Data Validation / Updating Process”,

- The description of the validation and updating process.

II. Operating Procedures

(1) Flight Crew Operating Procedures

Operations Manual Part A, “Chapter 8.3.19, Policy on the use of EFB-Systems”,

- Description comprising:
 - (a) The purpose of the electronic flight bag in general and its specific use by the operator;
 - (b) An explanation of the architecture of the system in relation to hardware and software;
 - (c) The used terms and definitions shall be explained in a comprehensive manner.
- A general description of the philosophy and policy on the use of the EFB-System on the flight deck;
- All installed software on EFB shall be approved by CAA RM;
- The restrictions and limitations on the use of the EFB-system on the flight deck;
- Validity-Check for Software and Database revision status including the appropriate action required in case of recognition of deficiency (Up-dating process);
- A policy on the control and workload-management on the flight deck while using the EFB-System;
- A procedure applicable to the flight crew in regard to Security-Matters for the EFB-System;
- The Back-up System shall be described in case of complete EFB-failure including the related procedures and tasks to be followed.

(2) Human Machine Interface

Operations Manual Part A, Chapter 8.3.19 “Policy on the use of EFB-Systems”,

- General statements and explanations on the Human-Machine-Interface, CRM- and human-factor.

(3) Handling of the EFB-System

Operations Manual Part B Chapter 2 “Normal Procedures”,



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- The normal use of the application shall be integrated in the standard operating procedure (SOP) and detailed instruction shall be provided for correct and efficient use in the daily operation environment:
 - (a) Power-up procedure for the EFB-System;
 - (b) Application of the different linked modules of the EFB-system;
 - (c) Shut-down and securing of the EFB.

(4) Performance Calculation

Operations Manual Part B, Chapter 4 , “Performance”,

- The description of the Performance Calculation Software shall include:
 - (a) the relevant data provided to the crew (RW specific performance calculation for take-off and landing);
 - (b) the procedure how the resulted data are used after the calculation process

(5) Mass & Balance Calculation

Operations Manual Part B, Chapter 6 , Mass & Balance,

- Basic Data;
- The Input-Screen of the Module;
- The Output-Screen of the Module;
- The Mass & Balance Manifest (Load-Sheet).

III. Training

(1) Training & Checking

Operations Manual Part D, Chapter 2 , “Training Syllabi and Checking Programme”

- The EFB System Training and Checking Module shall be implemented within “Key Courses”;
- EFB-system Training and Checking Module.

5. **Formal Approval of EFB’s**

The initial inquiry will be done by letter to CAA RM:

- For AOC initial certification or variation, **AOC certification / variation / renewal application form** (Refer to Annex 2 **RAC-AOC**) will be submitted as a part of AOC formal application request.
- In addition, the **EFB’s application form** (Refer to Annex 1 of this publication) will be attached to **AOC certification / variation / renewal application form**.



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A complete application shall contain the following:

- AOC certification / variation / renewal application form (Refer to Annex 2 RAC-AOC);
- EFB approval application form (Annex1 of this publication) signed by Accountable Manager;
- Notice of Proposed Revision/Amendment (NPRA) form containing the respective OM revision / amendment (Annex 3);
- Aircraft flight manual;
- Maintenance Program;
- EFB Software application and integrity;
- Operations Manual A, B, C and D;
- System considerations;
- MEL (with EFB Adaptation).

Approval to operate with EFB will be granted by a letter of Approval issued by CAA RM and the Operations Specifications page of the AOC. This will normally be issued as a EFB approval. Approvals will be valid until revoked by CAA RM.



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Acceptable Mean of Compliance – Electronic Flight Bag
Annex 1 - EFB Approval Application Form
Submit at least one month before the intended date of operations

ANNEX 1

EFB's Approval Application Form



Civil Aviation Authority of the Republic of Moldova
Acceptable Mean of Compliance – Electronic Flight Bag

Annex 1 - EFB Approval Application Form

Submit at least one month before the intended date of operations

Section A - Organization

1. Organization Details.

a Company Details	
• Registered name	
• Trading name if different	
• Mailing address	
• Telephone	
• Fax	
• E-mail	

c	Proposed Start Date

d AOC variation Focal Point Contact Details		
Name	Phone No.	E-Mail

Section B - EFBs Approval Details

2. EFBs Approval.

<input type="checkbox"/>	Initial AOC Certification	<input type="checkbox"/>	AOC Variation
<input type="checkbox"/>	Initial Request	<input type="checkbox"/>	Additional Request
<input type="checkbox"/>	Approval for Class 1 EFB		
<input type="checkbox"/>	Approval for Class 2 EFB		
<input type="checkbox"/>	Approval for Class 3 EFB		

3. Approval Application Attachments.

<input type="checkbox"/>	• Notice of Proposed Revision / Amendment (NPRA)		
<input type="checkbox"/>	• Aircraft flight manual	<input type="checkbox"/>	• Maintenance Program
<input type="checkbox"/>	• EFB Software application and integrity	<input type="checkbox"/>	• Operations Manual A, B, C and D
<input type="checkbox"/>	• System considerations	<input type="checkbox"/>	• MEL (with EFB Adaptation)

Section D - Accountable Manager Declaration.

The undersigned certify that statements and answers provided in this application form and attachments are complete and true to the best of my knowledge and agree that they are to be considered as part of the basis for issuance of EFBs approval in accordance with JAR OPS 1 and TGL 36.

Name	Signature	Date

Section E - For CAA RM use only

Received by CAA RM		
Name	Signature	Date
Received by Flight Operation Division		
Received by Airworthiness Division		



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Annex 2 - EFB Approval Process Form

ANNEX 2
EFB's Approval Process Form



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Annex 2 - EFB Approval Process Form

When the approval process form has been accepted by CAA RM, it becomes the official schedule which will be used during the approval process

• Operator Name			
• Address			
• AOC Certification/Variation Focal Point	Name	Telephone No.	E-Mail

No.	Aircraft Manufacturer, Model and Series	List Relevant Make and Model of Related Navigation Equipment

1 PHASE ONE - PRE-APPLICATION	Remarks
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a	Applicant making an initial inquiry by letter to CAA RM	
(1)	For AOC initial certification submit EFBs approval application form as a part of AOC formal application attachments	
(2)	For AOC variation submit AOC variation application form as a part of AOC formal variation application attachments	

b	Initial Contact. Provide the applicant with relevant guidance related to the application, attachments and the approval process	
(1)	For AOC initial certification it will be part of certification process meetings	
(2)	For AOC variation a meeting with the applicant representative will be set	

c	Applicant preparation for EFBs approval	
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2 PHASE TWO - FORMAL APPLICATION	Proposed Date	Accomplished Date	Remarks
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a	Forward the EFBs Approval Application Form			
(1)	EFBs approval team members name:			
(a)	Project manager - Flight Operations Inspector			
(b)	Airworthiness Inspector			
(2)	Approval team review of the applicant EFBs approval application form			

b	Formal application meeting			
(1)	Objective. the reception of EFBs approval application attachments, review the approval process and establish a common understanding on the future procedure for the approval process			
(2)	Attendees:			
(a)	Certification team			
(b)	Applicant Flight operations, Crew training & Maintenance system post holder or			



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When the approval process form has been accepted by CAA RM, it becomes the official schedule which will be used during the approval process

	their permanent representative		
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2	PHASE TWO - FORMAL APPLICATION <i>Continue</i>	Proposed Date	Accomplished Date	Remarks
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c	EFBs Application Attachements			
(1)	Operations Manual A, B, C and D			
(2)	MEL (with EFB Adaptation)			
(3)	AFM / AFM suppliments			
(4)	System considerations			
(5)	EFB Software application and integrity			
(6)	Maintenance Program			

3	PHASE THREE - DOCUMENTS EVALUATION	TGL No. 36	Operator Documents Reference	Remarks
3 A	Airworthiness evaluation			

a	Airworthiness documents & Hardware Approval. AFM, AFM revision, supplement, or Type certificate data sheet (TCDS),	6		
(1)	Class 1 EFB. Configuration List Approved by the manufacturer state NAA Approval or certificate of test evidence to comply with (6.1.1 a, b & c)	6.1.1		
(a)	EMI Demonstrations			
(b)	Lithium Batteries			
(c)	Power Source			
(d)	Data Connectivity			
(2)	Class 2 EFB. AFM, AFM supplements, revisions containing any limitations affecting the use FEB system. (Airworthiness approval Required)	6.1.2		
(a)	Design of Mounting Device			
(b)	Placement of Mounting Device			
(c)	EMI Demonstrations			
(d)	Lithium Batteries			
(e)	Power Source			
(f)	Data Connectivity			
(3)	Class 3 EFB. AFM, Type certificate or configuration list approved by the manufacturer NAA.	6.1.3		

b	Certification Documents:	6.1.4		
(1)	AFM	6.1.4 (a)		
(2)	Guidelines for EFB Application Developer	6.1.4.(b)		

c	EFB Software Applications (Type A & B)	6.2		
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Annex 2 - EFB Approval Process Form

When the approval process form has been accepted by CAA RM, it becomes the official schedule which will be used during the approval process

3	PHASE THREE - DOCUMENTS EVALUATION	TGL No. 36	Operator Documents Reference	Remarks
3 B	Flight operation evaluation			

a	Operational Approval	7		
(1)	Risk Analysis	7.1		
(2)	Human- Machine interface assessment for Type A & B software applications	7.2		
(3)	Crew Operating Procedures:	7.3		
(a)	Procedures for using EFB with other flight deck systems	7.3.1		
(b)	Flight Crew awareness of EFB software/database revisions	7.3.2		
(c)	Procedures to mitigate and or reduce work load	7.3.3		
(d)	Define flight crew responsibilities for performance calculations	7.3.4		

b	Quality Assurance	7.4		
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c	Role of the administrator	7.5		
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d	Flight Crew Training	7.6		
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3	PHASE THREE - DOCUMENTS EVALUATION	Accomplished date	Remarks
3 C	Operator information		

a	Evaluation Results of Respective Divisions		
(1)	Flight Operation Division		
(2)	Airworthiness Division		

b	Official letter for Operator regarding non-conformities		
(1)	Flight Operation Division		

c	Corrected Documents/Manuals/Procedures		
(1)			
(2)			
(3)			
(4)			
(5)			
(6)			
(7)			
(8)			
(9)			
(10)			



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Annex 2 - EFB Approval Process Form

When the approval process form has been accepted by CAA RM, it becomes the official schedule which will be used during the approval process

4	PHASE FOUR - DEMONSTRATION AND INSPECTION	Accomplished date	Remarks
a	Operational Test & Evaluation (TGL 36 7.7)		
(1)	Initial retention of paper Back Up (TGL 36 7.7.1)		
(2)	Commencement of operations without paper (TGL 36 7.7.1)		
b	Inspection Assessment Results of Respective Divisions		
(1)	Flight Operation Division		
(2)	Airworthiness Division		
c	Official letter for Operator regarding non-conformities		
(1)	Flight Operation Division		
d	Correction action plan received		
(1)			
(2)			
(3)			
(4)			
(5)			
5	PHASE FIVE – EFB APPROVAL	Accomplished date	Remarks
a	EFBs Approval Report Contents		
(1)	EFBs approval application form		
(2)	Approval process form		
(3)	Airworthiness Division letter declaring that, the applicant meets airworthiness requirements for EFBs approval		
b	Director Civil Aviation Authority of Republic of Moldova approval		
(1)	EFBs approval letter		
(2)	Amendment of the OPS SPECS for EFB approval		
c	Log of Signatures	Signature	Date
Airworthiness Inspector Name			
Head of Airworthiness Division Name			
Flight Operation Inspector Name			
Head of Flight Operation Division Name			



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Annex 3 – Notice of Proposed Revision / Amendment

ANNEX 3

Notice of Proposed Revision / **Amendment (NPRA)**



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Annex 3 – Notice of Proposed Revision / Amendment

The NPRA shall be submitted at least 30 days before the proposed effective date

Notice of Proposed Revisions/Amendments (NPRA)

Applicants Name	<input type="text"/>	AOC No:	<input type="text"/>
Contact person	<input type="text"/>	Official phone	<input type="text"/>
Function	<input type="text"/>	Mobile phone	<input type="text"/>
Company Address	<input type="text"/>		
e-mail	<input type="text"/>		

Class No:
Assigned inspector
Date in:
CAA RM Formal Approval
The proposed revision/amendment is released for incorporation in the respective documentation with the effective date stated below
Effective date:
For official use only
Date:
Signature

Document	<input type="text" value="Choose an item"/>	<input type="text" value="Choose an item"/>	<input type="text"/>
		Kind of change	Change ident
Aircraft Type/variant	<input type="text"/>	<input type="text" value="Choose an item"/>	
Reason for change	<input type="text" value="Chose an item"/>	Proposed effective date::	<input type="text" value="Click here to enter a"/>
Additional information	<input type="text"/>		
Submitted doc medium	<input type="text" value="Choose an item"/>		

Note: The effective date of revision/amendment will be fixed by the CAA RM in accordance with the applicant, who shall state the proposed effective date only.

Date:	<input type="text" value="Click here to enter a date."/>	Signature:	<input type="text"/>
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The amendment/revision does affect material requiring formal approval by the CAA RM. Formal approval will be granted on specific documentation and will be effective only after the operator has received the respective documentation, signed by the DGCA.

List of Revision(s)/Amendment(s)

Reference <small>e.g. OPS 1.940</small>	Finding No: <small>Audit & Inspection Report number</small>	Document <small>Document, part and chapter e.g. OM A, chapter 4.2</small>	Reason and Highlight of Revision / Amendment <small>Describe reason and highlight of change e.g. "Rules applicable to the designation of the commander changed"</small>	Compliance checked by <small>(responsible CAA RM Inspector)</small>



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Acceptable Mean of Compliance – Electronic Flight Bag
Annex 3 – Notice of Proposed Revision / Amendment

The NPRA shall be submitted at least 30 days before the proposed effective date

Operator's Compliance Statement

(to be submitted together with each Operations Manual Revision)

- We, the undersigned, declare that the intended Revision – as submitted to Civil Aviation Authority of Republic of Moldova (CAA RM) – has been established in accordance with all applicable national rules and regulations as well as ICAO standards and recommended practices.
- Before submitting the Revision, its content has been thoroughly evaluated internally for compliance with applicable regulations. By our internal quality assurance processes as defined in OM A, Chapter 3, we ensure further that the submitted Revision complies with the scope of the AOC.

Accountable Manager

Name:

Signature: _____

Post Holder Flight Operations

Name:

Signature: _____

Post Holder Crew Training

Name:

Signature: _____

Post Holder Maintenance

Name:

Signature: _____

Post Holder Ground Operations

Name:

Signature: _____



Civil Aviation Authority of the Republic of Moldova
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Annex 4 - EFB Letter of Approval Form

ANNEX 4
EFB Letter of Approval Form



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Annex 4 - EFB Letter of Approval Form

**LETTER OF APPROVAL
FOR
EFB's OPERATIONS**

Air Operator:

Address:

Name:

Title:

The Civil Aviation Authority of Republic of Moldova is satisfied that the following operator and aircraft meet the requirements for operations with Electronic Flight Bag's, in accordance with **JAA Administrative & Guidance Material, Section Four: Operations, Part Three: Temporary Guidance Leaflets (JAR-OPS), Leaflet No. 36: approval of electronic flight bags (EFB's)**.

This approval is subject to the equipment being operative and credible, the crew has recency training and that all operations are conducted in accordance with the approved Operations Manual.

This Approval shall have effect from the date hereof until varied, suspended or revoked.

Date: xx.xx.xxxx

If you require any additional information please contact the undersigned.

Yours truly,

Director CAA RM

Iurie ARMAȘ