

This form is designed to elicit all the required information from those operators requiring approval for the use of an EFB System in place of, or as an alternative to paper-based information. The completed form, matrix and supporting documentation should be submitted to the Flight Operations.

References:

1. Commission Regulation (EU) No 965/2012
2. ED Decision 2014/001/R 09/02/2014 Annex II AMC 20-25

Section I: Applicant / Operator

Name				
Address				
Tel		Fax		e-mail
Contact person (EFB Administrator)				

Section II Aircraft Details:

Aircraft Mfg		Aircraft Type	
Aircraft S/N	<i>If more than one pls attach list</i>	Aircraft Registration	<i>If more than one pls attach list</i>

Section III: Hardware Type / Operating System (mark as applicable):

		Provide appropriate Section of AFM/AFMS /STC etc	
Installed EFB (considered as an aircraft part, covered, thus, by the aircraft airworthiness approval)	<input type="checkbox"/>	<i>Pls attach ref docs</i> Note: Refer to AMC20-25 Par.6.1.2	
Portable EFBs		Manufacturer & Model	Operating System <i>(e.g. MS Windows, MAC, Linux or Android)</i>
Portable EFB without installed resources	<input type="checkbox"/>	<i>Pls attach ref docs</i>	<i>Pls attach ref docs</i>
Portable EFB with installed resources	<input type="checkbox"/>	<i>Pls attach ref docs</i>	<i>Pls attach ref docs</i>
List the Installed Resources components to be used with EFB.	input/output components external to the EFB host platform itself, such as an installed remote display, a control device (e.g. a keyboard, pointing device, switches, etc.) <input type="checkbox"/> or a docking station. <input type="checkbox"/>		
Notes:			
<ol style="list-style-type: none"> 1. An installed EFB is managed under the aircraft type design configuration. Additional details are contained in AMC 20-25 5.1.2. An EFB host platform installed in the aircraft and considered as an aircraft part, covered, thus, by the aircraft airworthiness approval. 2. Portable EFB's are controlled PED's. An expanded definition of a portable EFB is found in GM1 CAT.GEN.MPA.140. 3. Portable EFB's with Installed Resources are subject to airworthiness approval. Installed Resources constitute those elements that are part of the certified aircraft configuration with the intended function to mount the EFB to the aircraft and/or connect other systems. Refer to AMC 20-25 6.1.1.1 for examples of such. 			

4. Portable EFBs may be used in all phases of the flight if secured to a certified mount or securely attached to a viewable stowage device in a manner which allows its normal use (see 6.1.1.1.1, 6.1.1.1.2, and 6.2.1.6).

Section IV: Mounting device:

Brief Description of the mounting device :	Operator respond:
Does Mounting Device certified ?	Note :- If “NOT “ refer to Par.5.1.1 of AMC 20-25 - Refer and complete “EFB Stowage Device Matrix”
Provide photo of the mounting device as installed :	Note: photos should be provided with the application

Section V :Power source

Dedicated Power Source part of aircraft design:	Yes: <input type="checkbox"/> Note: If Yes describe /provide evidence
New installed Power Source (Refer to Part 21 DOA approval) :	Yes: <input type="checkbox"/> Note: If Yes describe/ provide evidence
N/A (In none of the above)	Yes: <input type="checkbox"/> describe/ provide evidence
Mitigation Action: 1) Adopt operational procedures to assure an adequate level of safety (for example minimum level of charge at pre-flight); 2) Redundant EFB on board 3) Availability of back up battery packs	Yes: <input type="checkbox"/> Yes: <input type="checkbox"/> Yes: <input type="checkbox"/> Note: If Yes describe/ provide evidence

**Section VI : Hardware Operational assesment / Operational evaluation test****A) Hardware Operational assesment**

Method 1	
1) Conduct an EMI test in accordance with ED-14()/DO-160(), section 21, category M.	Yes: <input type="checkbox"/> Pls attach ref evidence
2) Testing is specific to each aircraft model in which the PED will be operated.	Yes: <input type="checkbox"/> Pls attach ref evidence
Method 2	
Operator to perform: - a non-interference testing for all phases in each aircraft using standard industry practices (or credit from another aircraft Type/Model with some avionics) - Display characteristics	Yes: <input type="checkbox"/> Note: Operator has to submit flights performed / results. Pls attach ref evidence

B) Operational evaluation test

1) When no paper backup is retained	Yes: <input type="checkbox"/>
Starting date of the operational evaluation test	Operator to propose dates:
Duration;	Operator to propose duration:
EFB hardware and type(s) of software(s)	
EFB detailed risk assessment simulator ,LOFT session programme, and Proposed flights for the competent authority observation flights.	Operator respond: Pls attach ref evidence
2. Where paper is initially retained as backup, the operational evaluation test should consist of an in-service proving period no longer than six months (or 3 months)	
	Yes: : <input type="checkbox"/>
The purpose of the in-service proving period is for the operator to demonstrate that the EFB system provides an acceptable level of accessibility	

<p>a) The flight crews are able to operate the EFB applications without reference to paper;</p> <p>(b) the operator's administration procedures are in place and function correctly;</p> <p>(c) the operator is capable of providing timely updates to the applications on the EFB, where a database is involved;</p>	<p>Operator respond Pls attach ref evidence</p>
<p>Proposed date starting the operational evaluation test</p>	<p>Operator respond</p>

Section VII : Operational risk assessment

<p>a) Prior to the entry into operation of any EFB system, the operator should carry out a risk assessment as part of its hazard identification and risk management process required by ORO.GEN.200.</p> <p>Note: Refer to AMC20-25 Par.7.2</p>	<p>Note: Operator has to submit the risk assessment</p>
<p>b) Risk assessment to include EFB fire/smoke in the cockpit .</p> <p>c) Operator has to include in their manuals how to handle EFB smoke/fire in the cockpit.</p>	

Section VIII: Dispatch considerations

<p>The operator should establish dispatch criteria for EFB system. The operator should ensure that the availability of the EFB system is confirmed by pre-flight checks and Instructions to flight crew should clearly define the actions to be taken in the event of any EFB system deficiency.</p>	<p>Operator respond Pls attach ref evidence</p>
<p>- replacement of batteries at defined intervals as required</p>	<p>Operator respond Pls attach ref evidence</p>
<p>- fully charged backup battery on board</p>	<p>Operator respond Pls attach ref evidence</p>
<p>- procedures for the flight crew to check the battery charging level before departure;</p>	<p>Operator respond Pls attach ref evidence</p>
<p>- procedures for the flight crew to switch off the EFB in a timely manner when the aircraft power source is lost.</p>	

<p>-In case of partial or complete failure of the EFB, alternative dispatch procedures should be followed. These procedures should be included either in the Minimum Equipment List (MEL) or in the Operations Manual and ensure an acceptable level of safety.</p>	<p>Operator respond <i>Pls attach ref evidence</i></p> <p>Note:Provide MEL references</p>
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Section IX: Flight Crew training

<p>Provide Training Syllabus as defined in AMC20-25 Par.7.13 (and Appendix E) and evidence that training has been performed</p>	<p>Operator respond <i>Pls attach ref evidence</i></p>
<p>Provide Recurrent EFB training</p>	<p>Operator respond <i>Pls attach ref evidence</i></p>

Section X : Installed Software (mark as applicable):

		Application /Provider	
<p>Type A (Refer to AMC 20-25, 5.2.1)</p>	<input type="checkbox"/>	<p>Type A: (for example)</p>	
<p>Type B (Refer to AMC 20-25, 5.2.2)</p>	<input type="checkbox"/>	<p>AFM/MEL/O.M.</p>	<p>Operator</p>
<p>Miscellaneous (non-EFB) (Refer to 5.2.3)</p>	<input type="checkbox"/>		
<p>Operator has to refer in detail Type A Applications (for ex. AFM/MEL/O.M./etc) or</p>			
<p>Type B Applications (for ex. Aeronautical Charts/ Airport Surface Maps /Aircraft Performance Applications/Tech Log System/Load Calculation/etc) as installed in the EFB.</p>		<p>Type B: (for example)</p>	
<p>Take off/Landing Performance</p>		<p>XYZ.....</p>	
<p>Load Sheet</p>		<p>YXZ</p>	
<p>Fuel Consumption</p>		<p>ZYX</p>	
<p>Aeronautical Charts</p>		<p>ABC.....</p>	
<p>Type A applications are EFB applications whose malfunction or misuse have no safety effect</p>		<p>Type B applications are applications:</p>	

(a) whose malfunction or misuse are limited to a minor failure condition; and
(b) which do neither substitute nor duplicate any system or functionality required by airworthiness regulations, airspace requirements, or operational rules³.

Pls attach ref docs

Examples of Types of Software Applications are found in AMC 20-25 Appendix A and B.

Section XI : EFB Administrator:

Name of EFB Administrator			
Contact details	Phone No:		Mobile No:
	Fax No:		e-mail:

EFB Administrator Role:

For all the applications installed, and for providing support to the EFB users on these applications	Operator respond Pls attach ref evidence
To check potential security issues associated with the application installed; For hardware and software configuration management and for ensuring, in particular, that no unauthorised software is installed	Operator respond Pls attach ref evidence
For ensuring that only a valid version of the application software and current data packages are installed on the EFB system; and	Operator respond Pls attach ref evidence
For ensuring the integrity of the data packages used by the applications installed	Operator respond Pls attach ref evidence
HCAA Note : EFB Administrator Role could be described in the EFB POLICY AND PROCEDURES MANUAL (refer to Section XII)	

Section XII : EFB POLICY AND PROCEDURES MANUAL

These are the typical contents of an EFB policy and procedures manual that can be part of the Operation Manual. The proposed outline is very extensive. It may be adapted to the specific EFBs system and to the size and complexity of the operations in which the operator is Involved.

The Following sections could be included in the EFB POLICY AND PROCEDURES MANUAL

**Section VIII: Dispatch considerations
Section IX: Flight Crew training
Section XI : EFB Administrator role**

Section XIII : Compliance Monitoring

<p>The operator should include the EFB system in its compliance monitoring programme that is required in accordance with ORO.GEN.200.</p>	<p>Operator respond Pls attach ref evidence</p>
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HCAA Note : 1) From the date that the this Application is accepted a Formal Letter will be issued by HCAA which will identify the starting date of the Operational Evaluation period (Section VI .B. 2).

2) Evaluation period will start from the date the provisions below will be accepted:

- Section VI : Hardware Operational assessement performed
- Section VII : Operational risk assessment performed
- Section VIII: Dispatch considerations prepared
- Section IX: Flight Crew training performed
- Section XII : EFB POLICY AND PROCEDURES MANUAL accepted
- Mitigating actions prepared (for example as per Section V)

Section XIV: EFB Applicant Statement:

<p><i>The undersigned certifies that: the information supplied on this application indicate that the EFB installation, continuing airworthiness of systems, minimum equipment for dispatch, operating procedures and flight crew training are in accordance with the manufacturers/operators procedures; that the details recorded on this application are an accurate description of the operator's EFB system for which approval is sought; that the use of the EFB does not interfere with equipment or systems required for flight.</i></p>	
Date:	
Name Flight Operations Manager	
Signature	
Name of EFB Administrator	
Signature	

APPENDIX A – EXAMPLES OF TYPE A SOFTWARE APPLICATIONS

TICK AS APPROPRIATE OR ADD ADDITIONAL APPLICATIONS

Type A applications are EFB applications whose malfunction or misuse would have no adverse effect on the safety of any flight operation, i.e. a hazard level defined as no greater than a 'no safety effect' failure condition classification.

Such applications might typically be, but not limited to:

(a) browser displaying:

(1) the certificates and other documents required to be carried by the applicable operational regulations and where copies are acceptable such as:

(i) the noise certificate, and its English translation if applicable;;

(ii) the air operator certificate (AOC);



(iii) the operations specifications relevant to the aircraft type, issued with the AOC; and

(iv) the Third-Party Liability Insurance Certificate(s);

(2) some manuals and additional information and forms required to be carried by the applicable operational regulations such as:

(i) notification of special categories of passenger (SCPs) and special loads; and

(ii) passenger and cargo manifests, if applicable; and

(3) other information within the operator's aircraft library such as:

(i) airport diversion policy guidance, including a list of special designated airports and/or approved airports with emergency medical service (EMS) support facilities;

(ii) maintenance manuals;

(iii) Emergency response guidance for aircraft incidents involving dangerous goods (ICAO Doc 9481-AN/928);

(iv) aircraft parts manuals;

(v) service bulletins/published Airworthiness Directives, etc.;

(vi) current fuel prices at various airports;

(vii) trip scheduling and bid lists;

(viii) passenger information requests;

(ix) check airman and flight instructor records; and

(x) Flight crew currency requirements.

(b) interactive applications for crew rest calculation in the framework of flight time limitation;

(c) interactive forms to comply with the reporting requirements of the competent authority and the operator.

APPENDIX B – TYPE B SOFTWARE APPLICATIONS

TICK AS APPROPRIATE OR ADD ADDITIONAL APPLICATIONS

A non-exhaustive list of possible Type B software applications, that are to be evaluated, is provided in this Appendix.

– Document Browser displaying the following documents, interactive or not, or not in pre-composed format, and not driven by sensed aircraft parameters:

The manuals and additional information and forms required to be carried by Regulations such as:

The Operations Manual (including the MEL and CDL);

The Aircraft Flight Manual;

The Operational Flight Plan;

The aircraft continuing airworthiness records, including the technical Log;

Meteorological information including with graphical interpretation;

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- ATS Flight Plan;
 - notices to airmen (NOTAMs) and aeronautical information service (AIS) briefing documentation;
 - Electronic aeronautical chart applications including en route, area, approach, and airport surface maps; these applications may offer features such as panning, zooming, scrolling, and rotation, centring and page turning, but without display of aircraft/own-ship position.
 - Use of Airport Moving Map Displays (AMMD) applications that are compliant with the means set forth in Appendix H paragraph H.2, in particular with the ETSO-C165a approval.
 - Applications that make use of the internet and/or other aircraft operational communications (AAC) or company maintenance-specific data links to collect, process, and then disseminate data for uses such as spare parts and budget management, spares/inventory control, unscheduled maintenance scheduling, etc.
 - Cabin-mounted video and aircraft exterior surveillance camera displays;
 - Aircraft performance calculation application that uses algorithmic data or calculates using software algorithms to provide:
 - take-off, en route, approach and landing, missed approach, etc. performance calculations providing limiting masses, distances, times and/or speeds;
 - power settings, including reduced take-off thrust settings;
 - mass and balance calculation application used to establish the mass and centre of gravity of the aircraft and to determine that the load and its distribution is such that the mass and balance limits of the aircraft are not exceeded.
 - Airport Moving Map Displays (AMMD) applications not covered by an ETSO-C165a approval;
 - Other Type B applications not listed in this appendix.

Section : Policy & Guidance Notes

Note: All reference paragraphs below, are referred to AMC 20-25.

1	Applicability
	<p>Applications from operators to use an EFB system will be considered on a case by case basis.</p> <p><i>It should be noted that any acceptance issued by HCAA does not imply the approval of the EFB hardware, operating systems or database information. Acceptance confirms only that the system is capable of performing its intended functions to an acceptable standard.</i></p> <p>It will be necessary for the operator to propose the required changes to the Operations Manual and nominate an EFB Administrator. The EFB Administrator will need to receive appropriate training and have a good working knowledge of the proposed system hardware and operating system.</p>

	<p>Mounting devices, Installed Resources for Portable EFB's and Installed EFB's require the HCAA's Airworthiness approval. The HCAA Airworthiness Section will evaluate all maintenance/airworthiness factors and advise the Flight Operations Inspectorate when Airworthiness approval has been granted.</p> <p>Type "A" applications hosted in Portable EFB's can be used by properly trained pilots when exercising their privileges and without the need for any notification or application for operational approval to the HCAA. <u>In all other cases, before using an application hosted on EFB, operators shall apply to the HCAA for operational acceptance.</u></p> <p>The evaluation will be conducted by the HCAA when the system hosts Type B applications or Miscellaneous (non-EFB) software applications.</p>
2	Application Form and Matrix
	<p>The completed matrix must be submitted together with the application form. The application form and matrix must be completed with the support of AMC 20-25.</p> <p>All applicants should complete Column 3 of this matrix in full. A separate matrix and application form must be completed for different aircraft types and/or EFB model computing device.</p> <p>All relevant documentation must be submitted in paper format. These should include:</p> <ul style="list-style-type: none"> • Applicable extracts from the Operations Manual Parts A, B, D, Compliance Monitoring Manual and MEL; <p><i>Note: Instead, a dedicated 'EFB Policy and Procedures Manual' can be created to include all EFB relevant information, policies and procedures. This manual will then be considered as part of the Operations Manual suite of documentation. The manual must be first approved by the Respective PH and Compliance Monitoring Manager.</i></p> <ul style="list-style-type: none"> • EMI demonstration report; • Environment testing; • Details of Operational Risk Analysis conducted; • Validation result for Type B software applications; • AFM supplement and/or STC as applicable for mounting device and installed EFB • Amendments to maintenance programme where applicable. • The forms must be signed by the responsible Post Holder and when stated by the Compliance Monitoring Manager. <p>Failure to complete the matrix may result in a delay in processing your application.</p>

3	EFB Administrator (EFBA)
	<p>The name and surname of nominated EFB Administrator is to be stated in the Operations Manual and shown in the company's organisation structure. He should report to the nominated post holder for flight operations.</p> <p>Please remember that the EFBA has to be suitably qualified and have received appropriate training to discharge his EFB duties.</p>
4	Documents to be included with the application
	<p>Copies of all documents referred to in Column 3 of the matrix should be included when returning the completed application form to the HCAA. Original documents should not be sent, photocopies are sufficient. Do not send complete manuals, only the relevant sections/pages will be required.</p>

	Failure to include all relevant documentation may result in a delay in processing your application.
5	Operational Evaluation Test (7.14)
	<p>The operator is required to conduct an operational evaluation test only after the evaluation of the application and receipt of authorisation from HCAA. The operator shall inform HCAA of the intention to commence the operational evaluation test. It should be noted that sufficient time should be given to HCAA to review the submitted information.</p> <p>The notification of the test should at least include:</p> <ul style="list-style-type: none"> • Starting date of the operational evaluation test; • Duration; • Aircraft Involved; <p>At the end of the operational evaluation test, the operator shall submit a report verifying that the elements covered in matrix have been satisfied.</p> <p><i>Applications replacing paper products with an initial retention of paper backup</i></p> <p>The paper backup shall initially be retained as a backup. The operational evaluation test should consist of an in-service proving period no longer than six months. Operators wishing to reduce this proving period shall justify this by submitting further information. The information should at least cover elements in 7.14.1.</p>
6	Final Operational report (7.15)
	<p>At the end of the Operational Evaluation Test, the operator should produce and retain a final operational report, which summaries all the activities conducted and the means of compliance used, supporting the operational use of the EFB system. An example of typical items that the operator should include in this report in AMC 20-25 Appendix I.</p>