

Electronic Flight Bag

Specific Approval Checklist EFB

This specific approval checklist EFB is an integrated part of the formal application.

**To be filled in by the operator:**

**Operator:**

**Date of filling:**

AOC No:

I Note: In the following table the column Reference in Documents shall be filled in by the operator. The documents include OM’s, AFM, TC(DS), STC, SB, etc. Tick N/A (not applicable) if the corresponding question does not apply to you and state the reason why it does not apply using the Remarks box at the bottom of this form.

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| 1) | Hardware | Reference | Reference in Documents | Yes | N/A |
| 1. | Have the installed EFB resources been certified by a CAA to accepted aviation standards either during the certification of the aircraft, service bulletin by the original equipment manufacturer, or by a third-party STC? | AMC 20-25A, 5.1.1 |  | □ | □ |
| 2. | Has the operator assessed the physical use of the device on the flight deck to include safe stowage, crashworthiness (mounting devices and EFBs, if installed), safety and use under normal environmental conditions including turbulence? | AMC 20-25A, 5.1.1.1  AMC1 CAT.GEN.MPA.141(a), para (h) |  | □ | □ |
| 3. | Will the display be readable in all the ambient lighting conditions, both day and night, encountered on the flight deck? | AMC 20-25A, 5.1.1.2 |  | □ | □ |
| 4. | Has the operator demonstrated that the EFB will not electromagnetically interfere with the operation of aircraft equipment? | AMC1 CAT.GEN.MPA.141(a), para (f)  AMC1 CAT.GEN.MPA.140, para (b), (c), (d) |  | □ | □ |
| 5. | Has the EFB been tested to confirm operation in the anticipated environmental conditions (e.g. temperature range, low humidity, altitude)? | AMC1 SPA.EFB.100(b), para (d) |  | □ | □ |
| 6. | Have procedures been developed to establish the level of battery capacity degradation during the life of the EFB? |  |  | □ | □ |
| 7. | Is the capability of connecting the EFB to certified aircraft systems covered by an airworthiness approval? | AMC 20-25A, 5.1.1.3  AMC1 CAT.GEN.MPA.141(a), para (d) |  | □ | □ |
| 8. | When using the transmitting functions of a portable EFB during flight, has the operator ensured that the device does not electromagnetically interfere with the operation of the aircraft equipment in any way? | AMC1 CAT.GEN.MPA.140 |  | □ | □ |

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| 9. | If two or more EFBs on the flight deck are connected to each other, has the operator demonstrated that this connection does not negatively affect otherwise independent EFB platforms? | ICAO Doc 10020, 1.3.10 |  | □ | □ |
| 10. | Can the brightness or contrast of the EFB display be easily adjusted by the flight crew for various lighting conditions? | AMC 20-25A, 5.1.1.2 (b)  AMC1 SPA.EFB.100(b), para (b) |  | □ | □ |
| 11. | Does the COTS position source meet the criterias for receiver characterisation and are installation aspects considered? | AMC7 SPA.EFB.100(b)(3), para (a)(b) |  | □ | □ |
| 12. | Has a practical evaluation of the COTS position source been taken place? | AMC7 SPA.EFB.100(b)(3), para (c) |  | □ | □ |

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| 2) | Mounting | Reference | Reference in Manual | Yes | N/A |
| 1. | Has the installation of the mounting device been approved in accordance with the appropriate airworthiness regulations? | AMC 20-25A, 5.1.1.1  GM1 Annex I, para (fc)  GM1 SPA.EFB.100(b), para (c) |  | □ | □ |
| 2. | Is it evident that there are no mechanical interference issues between the EFB in its mounting device and any of the flight controls in terms of full and free movement, under all operating conditions and no interference with other equipment such as buckles, oxygen hoses, etc? | AMC 20-25A, 5.1.1.1  AMC1 CAT.GEN.MPA.141(a), para (h)(5) |  | □ | □ |
| 3. | Has it been confirmed that the mounted EFB location does not impede crew ingress, egress and emergency egress path? | AMC1 CAT.GEN.MPA.141(a), para (h)(4) |  | □ | □ |
| 4. | Is it evident that the mounted EFB does not obstruct visual or physical access to aircraft displays or controls? | AMC 20-25A, 5.1.1.1,5.1.1.2  AMC1 CAT.GEN.MPA.141(a), para (b), (h) |  | □ | □ |
| 5. | Does the mounted EFB location minimize the effects of glare and/or reflections? Is the EFB mounting easily adjustable by flight crew to compensate for glare and reflections? | AMC 20-25A, 5.1.1.2  AMC1 CAT.GEN.MPA.141(a), para (b) |  | □ | □ |
| 6. | Does the mounting method for the EFB allow easy access to the EFB controls and a clear unobstructed view of the EFB display? | AMC 20-25A, 5.1.1.1  AMC1 CAT.GEN.MPA.141(a), para (h) |  | □ | □ |
| 7. | Does the placement of the EFB allow sufficient airflow around the unit, if required? | ICAO Doc 10020, 1.3.9 |  | □ | □ |

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| 3) | Software Application: Name | Reference | Reference in Manual | Yes | N/A |
| 1. | Is the application considered an EFB Type B application? | AMC1 CAT.GEN.MPA.141(b)  AMC3 CAT.GEN.MPA.141(b)  AMC4 SPA.EFB.100(b) |  | □ | □ |
| 2. | Has the software application been evaluated to confirm that the information being provided to the pilot is a true and accurate representation of the documents or charts being replaced? | AMC1 SPA.EFB.100.(b)(1), para (a) (5) |  | □ | □ |
| 3. | Has the software application been evaluated to confirm that the computational solution(s) being provided to the pilot is a true and accurate solution (e.g. performance, and mass and balance (M&B))? | AMC5 SPA.EFB.100(b)(3)  AMC1 CAT.POL.MAB.105(b) |  | □ | □ |
| 4. | Does the software application have adequate security measures to ensure data integrity (e.g. preventing unauthorized manipulation)? | AMC3 SPA.EFB.100(b)(3), para (f) |  | □ | □ |
| 5. | Does the EFB system provide, in general, a consistent and intuitive user interface, within and across the various hosted applications? | AMC1 SPA.EFB.100(b)(2), para (b) |  | □ | □ |
| 6. | Has the EFB software been evaluated to consider HMI and workload aspects? | AMC1 SPA.EFB.100(b)(2), para (a), (b)(12)  AMC3 SPA.EFB.100(b)(3), para (c) |  | □ | □ |

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| 7. | Does the software application follow Human  Factors guidance? | AMC1 SPA.EFB.100(b)(2)  For M&B applications:  AMC5 SPA.EFB.100(b)(3), point (f) |  | □ | □ |
| 8. | Can the flight crew easily determine the validity and currency of the software application and databases installed on the EFB, if required? | AMC3 SPA.EFB.100(b)(3), point (b) |  | □ | □ |
| 9. | Has it been demonstrated that the criterias for the use of IFW (In-flight weather) applications are fulfilled? | AMC9 SPA.EFB.100(b)(3) |  | □ | □ |
| 10. | Has it been demonstrated that the criterias for the use of applications displaying own-ship position in-flight (OSPIF) are fulfilled? | AMC10 SPA.EFB.100(b)(3) |  | □ | □ |
| 11. | Has it been demonstrated that the criterias for the use of airport moving map display (AMMD) applications with own-ship position are fulfilled? | AMC6 SPA.EFB.100(b)(3) |  | □ | □ |
| 12. | Has it been demonstrated that the criterias for the use of chart applications are fulfilled? | AMC8 SPA.EFB.100(b)(3) |  | □ | □ |

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| 4) | Power Connection / Batteries | Reference | Reference in Manual | Yes | N/A |
| 1. | Is there a means, other than a circuit-breaker, to turn off the power source (e.g. can the pilot easily remove the plug from the installed outlet)? | ICAO Doc 10020, 1.3.6.3 |  | □ | □ |
| 2. | Is the power source suitable for the device? | AMC1 CAT.GEN.MPA.141(c), para  (c) |  | □ | □ |
| 3. | Have guidance/procedures been provided for battery failure or malfunction? | ICAO Doc 10020, 1.3.7.2 |  | □ | □ |
| 4. | Is power to the EFB, either by battery and/or supplied power, available to the extent required for the intended operation? | AMC1 SPA.EFB.100(b), para (c) |  | □ | □ |
| 5. | Has the operator ensured that batteries are compliant to acceptable standards? | AMC1 CAT.GEN.MPA.140, para (f) |  | □ | □ |

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| 5) | Cabling | Reference | Reference in Manual | Yes | N/A |
| 1. | Has the operator ensured that any cabling attached to the EFB, whether in the dedicated mounting or when handheld, does not present an operational or safety hazard (e.g. it does not interfere with flight controls movement, egress, oxygen mask deployment)? | AMC 20-25A, 5.1.1.4  AMC1 CAT.GEN.MPA.141(a), para (e) |  | □ | □ |

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| 6) | Stowage | Reference | Reference in Manual | Yes | N/A |
| 1. | If there is no mounting device available, can the EFB be easily and securely stowed and readily accessible in-flight? | ICAO Doc 10020, 1.3.13.1 |  | □ | □ |
| 2. | Is it evident that stowage does not cause any hazard during aircraft operations? | AMC 20.25A, 5.1.1.1, para (d)  AMC1 CAT.GEN.MPA.141(a), para (h) |  | □ | □ |
| 3. | Has the operator documented the location of its viewable stowage? | AMC1 CAT.GEN.MPA.141(a), para (h) |  | □ | □ |
| 4. | Has the operator ensured that the stowage characteristics remain within acceptable limits for the proposed operations? | AMC1 CAT.GEN.MPA.141(a), para (h) |  | □ | □ |
| 5. | Has the operator demonstrated that if the EFB moves or is separated from its stowage, or if the viewable stowage is unsecured from the aircraft (as a result of turbulence, manoeuvring, or other action), it will not interfere with flight controls, damage flight-deck equipment or injure flight crew? | AMC1 CAT.GEN.MPA.141(a), para (h) |  | □ | □ |

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| 7) | EFB Management | Reference | Reference in Manual | Yes | N/A |
| 1. | Is there an EFB management system in place? | SPA.EFB.100, para (3) |  | □ | □ |
| 2. | Does one person possess an overview of the complete EFB system and responsibilities within the operator's management structure? | AMC1 SPA.EFB.100(b)(3) |  | □ | □ |
| 3. | Are the authorities and responsibilities clearly defined within the EFB management system? | AMC1 SPA.EFB.100(b)(3) |  | □ | □ |
| 4. | Are there adequate resources assigned for managing the EFB? | AMC1 SPA.EFB.100(b)(3) |  | □ | □ |
| 5. | Are third party (e.g. software vendor) responsibilities clearly defined? | AMC2 SPA.EFB.100(b)(3), para (a) |  | □ | □ |
| 6. | Are internal inspections/audits of the EFB system integrated in the compliance monitoring system? | ORO.GEN.200, para (a)(6)  AMC1 ORO.GEN.200(a)(6) |  | □ | □ |
| 7. | Is there a list and description of the software applications contained in the operations manual? | AMC3 ORO.MLR.100, para (a)  AMC2 SPA.EFB.100(b)(3) |  | □ | □ |
| 8. | Are there procedures established by the operator to notify crews about changes in the EFB system? | SPA.EFB.100, para (b)(3)(ii) |  | □ | □ |
| 9. | Are there procedures established by the operator to notify the competent authority about changes in the EFB system? | AMC2 SPA.EFB.100(b) |  | □ | □ |

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| 8) | Crew Procedures | Reference | Reference in Manual | Yes | N/A |
| 1. | Is there a clear description of the system, its operational philosophy and operational limitations? | AMC2 SPA.EFB.100(b)(3) |  | □ | □ |
| 2. | Are the requirements for EFB availability in the operations manual and/or as part of the minimum equipment list (MEL)? | AMC2 SPA.EFB.100(b)(3) |  | □ | □ |
| 3. | Have crew procedures for EFB operation been integrated within the existing operations manual? | AMC2 SPA.EFB.100(b)(3) |  | □ | □ |
| 4. | Are there suitable crew cross-checks for verifying safety-critical data (e.g. performance, mass and balance (M&B) calculations)? | AMC5 SPA.EFB.100(b)(3), para (c) CAT. POL.MPA. 105(b) |  | □ | □ |
| 5. | If an EFB generates information similar to that generated by existing flight-deck systems, do procedures identify which information will be primary? | AMC3 SPA.EFB.100(b)(3) |  | □ | □ |
| 6. | Are there procedures when information provided by an EFB does not agree with that from other flight-deck sources or, if more than one EFB is used, when one EFB disagrees with another? | AMC3 SPA.EFB.100(b)(3) |  | □ | □ |
| 7. | Are there procedures that specify what actions to take if the software applications or databases loaded on the EFB are out of date? | AMC2 SPA.EFB.100(b)(3)  AMC3 SPA.EFB.100(b)(3) |  | □ | □ |
| 8. | Are there procedures in place to prevent the use of erroneous information by flight crews? | AMC1 SPA.EFB.100(b)(1) |  | □ | □ |
| 9. | Is there a reporting system for system failures? | AMC3 SPA.EFB.100(b)(3), para (e) |  | □ | □ |
| 10. | Have crew operating procedures been designed to mitigate and/or control additional workload created by using an EFB? | AMC1 SPA.EFB.100(b)(2), para (a)  (2), (b)(12) |  | □ | □ |
| 11. | Are there procedures in place to inform maintenance and flight crews about a fault or failure of the EFB, including actions to isolate it until corrective action is taken? | AMC3 SPA.EFB.100(b)(3), para (e) |  | □ | □ |

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| 9) | EFB Risk Assessment | Reference | Reference in Manual | Yes | N/A |
| 1. | Has an EFB risk assessment been performed? | AMC1 SPA.EFB.100(b)(1) |  | □ | □ |
| 2. | Are there procedures/guidance for loss of data and identification of corrupt/erroneous outputs? | AMC1 SPA.EFB.100(b)(1), para (a) |  | □ | □ |

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| 3. | Are there contingency procedures for total or partial EFB failure? | AMC1 SPA.EFB.100(b)(1), para (a) |  | □ | □ |
| 4. | Is there a procedure in the event of a dual EFB failure (e.g. use of a paper checklist or a third  EFB)? | AMC1 SPA.EFB.100(b)(1), para (b) |  | □ | □ |
| 5. | Have the EFB dispatch requirements (e.g. minimum number of EFBs on board) been incorporated into the operations manual? | AMC3 SPA.EFB.100(b)(3), para (d) |  | □ | □ |
| 6. | Have MEL or procedures in case of EFB failure been considered and published? | AMC3 SPA.EFB.100(b)(3), para (d) |  | □ | □ |

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| 10) | Training | Reference | Reference in Manual | Yes | N/A |
| 1. | Is the training material appropriate with respect to the EFB equipment and published procedures? Is it integrated in the respective OM? | AMC4 SPA.EFB.100(b)(3) |  | □ | □ |

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| 11) | Hardware Management Procedures | Reference | Reference in Manual | Yes | N/A |
| 1. | Are there documented procedures for the control of EFB hardware configuration? | AMC2 SPA.EFB.100(b)(3) |  | □ | □ |
| 2. | Do the procedures include maintenance of EFB equipment? | AMC3 SPA.EFB.100(b)(3), para (e) |  | □ | □ |

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| 12) | Software Management Procedures | Reference | Reference in Manual | Yes | N/A |
| 1. | Are there documented procedures for the configuration control of loaded software and software access rights to the EFB? | AMC2 SPA.EFB.100(b)(3) |  | □ | □ |
| 2. | Are there adequate controls to prevent corruption of operating systems, software and databases? | AMC1 SPA.EFB.100(b)(1), para (b)(2) |  | □ | □ |
| 3. | Are there adequate security measures to prevent system degradation, malware and unauthorized access? | AMC3 SPA.EFB.100(b)(3), para (f) |  | □ | □ |
| 4. | Are procedures defined to track database expiration/updates? | AMC3 SPA.EFB.100(b)(3), para (b) |  | □ | □ |
| 5. | Are there documented procedures for the management of data integrity? | AMC1 SPA.EFB.100(b)(3), para (e) |  | □ | □ |
| 6. | If the hardware is assigned to the flight crew, does a policy on private use exist? | AMC1 SPA.EFB.100(b)(3), para (c) |  | □ | □ |

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| 13) | Final Operational Report | Reference | Reference in Manual | Yes | N/A |
| 1. | Is the final operational report included in the EFB application? | SPA.EFB.100, para (b)(4) |  | □ | □ |

**Remarks:**

The undersigned person(s) certifies the enclosed information to be complete, true and in compliance with the current requirements. This includes:

Name, surname: Position: Signature:

Name, surname: Position: Signature:

The undersigned Nominated Person Continuing Airworthiness (NPCA) confirms that he/she has read the requirements relating to airworthiness aspects and that the information provided in the completed form above is correct.

NPCA

*Name and Surname Function Date Signature*

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The following to be filled by Transport Competence Agency inspectors

FLIGHT OPERATIONS INSPECTOR

**Review results:**

Recommendation:

Name, surname: Position: Signature:

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AIRWORTHINESS INSPECTOR

**Review results:**

Recommendation:

Name, surname: Position: Signature:

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