**J.SPA.EFB – non-AOC EFB compliance and approval job aid**

# Applicant details

| **Name of applicant** |  | |
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| **Approval requested** | **Portable** | **Installed** |

# Review of Documents

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| --- | --- | --- | --- | --- | --- |
| **To be completed by the operator** | | | **To be completed by the authority**  **C = Compliant; NC = Not compliant; NA = Not applicable** | | |
| **ICAO Doc 10020** | **Documents / Procedures** | **Operator means of compliance (enter OM reference)** | **✓** | **C/NC/NA** | **Remarks** |
| **PART 1 – HARDWARE** | |  |  |  |  |
| 1.1 c | **H1.** 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? |  |  |  |  |
| 1.2  1.3 | **H2.** 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? |  |  |  |  |
| 1.3.2 | **H3.** Will the display be readable in all the ambient lighting conditions, both day and night, encountered on the flight deck? |  |  |  |  |
| 1.3.4 | **H4.** Has the operator demonstrated that the EFB will not electromagnetically interfere with the operation of aircraft equipment? |  |  |  |  |
| 1.3.3 | **H5.** Has the EFB been tested to confirm operation in the anticipated environmental conditions (e.g. temperature range, low humidity, altitude, etc.)? |  |  |  |  |
| 1.3.6.1 | **H6.** Have procedures been developed to establish the level of battery capacity degradation during the life of the EFB? |  |  |  |  |
| 1.2.2.1 | **H7.** Is the capability of connecting the EFB to certified aircraft systems covered by an airworthiness approval? |  |  |  |  |
| 1.3.4 | **H8.** 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? |  |  |  |  |
| 1.3.10  1.2.2 | **H9.** 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? |  |  |  |  |
| 1.3.2  1.2.1 a | **H10.** Can the brightness or contrast of the EFB display be easily adjusted by the flight crew for various lighting conditions? |  |  |  |  |
| **PART 2 - INSTALLATION** | |  |  |  |  |
| 1.2 | **I1.** Has the installation of the mounting device been approved in accordance with the appropriate airworthiness regulations? |  |  |  |  |
| 1.2.1 c | **I2.** 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.? |  |  |  |  |
| 1.2.1 b | **I3.** Has it been confirmed that the mounted EFB location does not impede crew ingress, egress and emergency egress path? |  |  |  |  |
| 1.2.1 b | **I4.** Is it evident that the mounted EFB does not obstruct visual or physical access to aircraft displays or controls? |  |  |  |  |
| 1.2.1 a | **I5.** Does the mounted EFB location minimize the effects of glare and/or reflections? |  |  |  |  |
| 1.2.1 a | **I6.** Does the mounting method for the EFB allow easy access to the EFB controls and a clear unobstructed view of the EFB display? |  |  |  |  |
| 1.2.1 a | **I7.** Is the EFB mounting easily adjustable by flight crew to compensate for glare and reflections? |  |  |  |  |
| 1.3.9 | **I8.** Does the placement of the EFB allow sufficient airflow around the unit, if required? |  |  |  |  |
| **PART 3 – SOFTWARE** Questions S1 to S7 should be completed separately for each Type B ‘safety critical’ software application being used, i.e. each app needs to be assessed separately. Please copy and paste **Part 3 – SOFTWARE** for each Type B application requiring approval. | |  |  |  |  |
|  | **Software Application name:** |  |  |  |  |
| Appendix A | **S1.** Has the software application been evaluated to confirm that the information being provided to the pilot is true and accurate representation of the documents or charts being replaced? |  |  |  |  |
| Appendix A | **S2.** 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), etc.)? |  |  |  |  |
| 1.5.3 | **S3.** Does the software application have adequate security measures to ensure data integrity (e.g. preventing unauthorized manipulation)? |  |  |  |  |
| 6.2.1.1 | **S4.** Does the EFB system provide, in general, a consistent and intuitive user interface, within and across  the various hosted applications? |  |  |  |  |
| 6.2.1 / 3.3 | **S5.** Has the EFB software been evaluated to consider HMI and workload aspects? |  |  |  |  |
| 6.2.1 | **S6.** Does the software application follow Human Factors guidance? |  |  |  |  |
| 6.3.1.3  3.2 | **S7.** Can the flight crew easily determine the validity and currency of the software application and databases installed on the EFB, if required? |  |  |  |  |
| **PART 4** | **POWER - Connection / Batteries / Cabling** |  |  |  |  |
| 1.3.6.3 | **P1.** 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)? |  |  |  |  |
| 1.3.6.2 | **P2.** Is the power source suitable for the device? |  |  |  |  |
| 1.3.7.2 | **P3.** Have guidance/procedures been provided for battery failure or malfunction? |  |  |  |  |
| 1.3.6.1 | **P4.** Is power to the EFB, either by battery and/or supplied power, available to the extent required for the intended operation? |  |  |  |  |
| 1.3.7.1 | **P5.** Has the operator ensured that the batteries are compliant to acceptable standards? |  |  |  |  |
| 1.3.8 | **P6.** Has the operator ensured that any cabling attached to the EFB, whether in the dedicated mounting or when hand-held does not present an operational or safety hazard (e.g. it does not interfere with flight controls movement, egress, oxygen mask deployment, etc.)? |  |  |  |  |
| **PART 5** | **STOWAGE** |  |  |  |  |
| 1.3.13 | **St.1** If there is no mounting device available, can the EFB be easily stowed securely and readily accessible in flight? |  |  |  |  |
| 1.3.13 | **St2.** Is it evident that stowage does not cause any hazard during aircraft operations? |  |  |  |  |
| 1.3.13 | **St3.** Has the operator documented the location of its viewable stowage? |  |  |  |  |
| 1.3.13 | **St4.** Has the operator ensured that the stowage characteristics remain within acceptable limits for the proposed operations? |  |  |  |  |
| 1.3.13 | **St5.** 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 members? |  |  |  |  |
| **PART 6** | **CREW PROCEDURES** |  |  |  |  |
| 3.1.4 | **SOP1.** Are the requirements for EFB availability in the operations manual and/or as part of the minimum equipment list (MEL)? |  |  |  |  |
| 8.2 | **SOP2.** Is the user manual for each EFB application available to the pilot? |  |  |  |  |
| 8.3 | **SOP3.** Has each pilot undergone familiarisation training for each EFB application? Also for any software updates? |  |  |  |  |
| 8.4 a – d | **SOP4.** Are the EFB Risk Assessment requirements detailed in ICAO Doc 10020 section 8.4 included in SOPs? |  |  |  |  |
| 8.5 | **SOP5.** Are the limitations of various Type B software detailed in ICAO Doc 10020 section 8.5 included in SOPs? |  |  |  |  |