


<b>OPERATIONS ADVISORY NOTICE (OAN)</b>		 <b>Transport Malta</b> Civil Aviation Directorate Malta Transport Centre Pantar Road Lija LJA 2021 Malta
OAN Number: <b>01/19</b>	Issue Date: <b>15 January 2019</b>	
<b>Subject: Use of Electronic Signatures</b>		

## 1.0 INTRODUCTION

This OAN provides operators with information to operators on methods of compliance for the use of electronic signatures.

## 2.0 SCOPE

The scope of this OAN is to ensure that Operators comply with the Inspectorate's expectations for the use of Electronic Signatures used in Operational Flight Plans and Mass & Balance software in PED's.

## 3.0 DEVELOPMENT

It is evident that use of Electronic Signatures is posing a concern for operators wishing to implement paperless cockpit utilizing PED software readily available on the market. Recent software programmes intended to replace paper mass and balance sheets do not necessarily comply with the requirements of CAT.POL.MAB.100.

TM-CAD has developed acceptable methods to the requirements as detailed in AMC20-25 sub paragraph 7.10 and CAT.POL.MAB.100 for the use of Alternative means to a pen and paper for electronic 'signing' without entering a personal identification number (PIN) code with appropriate Security, which may reduce the lack of assurance if the commander actually accepted the load and confirmed them with aircraft limitations.

#### **4.0 ASSESSMENT**

Operators are expected to perform a risk assessment on the use of Apple iPencil (or other type of devices), or by 'own finger' signatures. This risk assessment shall be completed and provided to the flight operations inspectorate before commencing use of such applications.

Any amendments to operator procedures for use of E-OFP's and E-M&B are to be detailed in the respective EFB Policy and Procedures Manuals, and other controlled documents where applicable.

#### **4.0 RISK ASSESSMENT**

It is recommended that the risk assessment contain the elements in the attached Appendix. Operators are expected to provide their risk assessment customised for their operation (size, scale and scope). A soft copy of the RA template may be made available upon request.

**Flight Operations Inspectorate**

### Appendix A - Safety Risk Assessment Template

						Option 1		Option 2	
Requirement	Hazard	Risk	Risk Score		Mitigation		Mitigation		
CAT.POL.M AB XX	electronic 'signing' by entering a personal identification number (PIN) code with appropriate Security etc.	Insecure login into application or security breach	Unsure if commander actually accepted the load and confirmed them with aircraft limitations	5D	Use of Alternative means to a pen and paper	Apple Pencil is packed with technology designed to make using it completely intuitive. With imperceptible lag and pixel-perfect precision, it feels like a familiar writing and drawing tool you've always used	5E	Use of finger to sign the document	5E

#### In case of use if iPencil (or similar devices) only

	Hazard	Risk	Risk Score	Mitigation	Risk Score	
1	Fire due to charging	The new Apple Pencil starts charging when you place the flat part on the right side of your iPad Pro.	2C	Not to be charged during flight	2D	N/A
2	EMI Interference	automatically pairs with your device	2D	To check how it does this and if it's possible in airplane mode	1E	
3	Loss of iPencil	Small in size obstruction with controls if dropped	2D	Keep magnetically attached to iPad	1E	

#### In case of use if iPencil (or similar devices) and 'hand entered' signature

Requirement	Hazard	Risk	Risk Score	Mitigation	Risk Score	Mitigation (A)	Mitigation (B)
name and professional capacity on the relevant document(s) in such a way that it is evident, to anyone having a need for that information, who has signed the document	Third parties not associated with role signing / releasing the document	Unauthorised signatures on official documentation	4D			Unique e-mail company account for each commander password protected	Document screen shot e-mailed from company commanders account to OCC before flight
In case of no Mitigation B		No Wifi	2D	iPads to incorporate use of Sim card	1E	No further mitigations	No further mitigations
In case of no Mitigation B		No GSM Signal	2D	Use Wifi	1E	No further mitigations	No further mitigations
In case of no Mitigation B		No Wi-Fi and No GSM	3D	OCC to submit documents to ground handling company	2D	Manually signed by commander	Manually signed by commander
In case of no Mitigation B		No ground handling company	1D	Commander to manually fill load sheet	1E	Manually signed by commander	Manually signed by commander

	Requirement		Requirement Not Met	Risk Score	Means of Compliance in case requirement not met	Mitigation (A)		Mitigation (B)	
	<b>the computer system logs information to indicate when and where each PIN code has been entered</b>		System does not provide this information	3E	Unique e-mail sent via company account for each commander password protected has time stamp incorporated and location can be manually typed in e-mail	Insert location in mail if different fro that of OFP	1E	Insert location in mail if different fro that of OFP	1E
	<b>from a legal and responsibility point of view, considered to be fully equivalent to signature by hand</b>		Document screen shot e-mailed from company commanders account to OCC before flight	2D	E-mails are recognised from a legal perspective	No further Mitigation	1E	No further Mitigation	1E
	<b>all personnel concerned are made aware of the conditions associated with electronic signature and this is documented.</b>		Update of EFB/OMA	2D	Ensure that EFB documentation describes the operator procedures and mitigations	No further Mitigation	1E	No further Mitigation	1E

**In case of use finger signature ONLY**

		<b>AMC 20-25 Requirements not Met</b>	<b>Risk Score</b>		<b>Acceptable Means to Comply (Mitigation)</b>			<b>Risk Score</b>
		<b>uniqueness signature should identify a specific individual and be difficult to duplicate;</b>	3E	Operator to ensure that hand signature of EFB is that of commander	N/A for iPencil (or other device)	N/A	Commander will sign on EFB for several times and a snapshot of each is taken. These will be printed and commander using pen on paper signs declaration of their uniqueness	1E
		<b>the significance:</b> An individual using an electronic signature should take deliberate and recognisable action to affix his or her signature;	3E	Commander is responsible to sign document before departure	N/A for iPencil (or other device)	N/A	Signed document screen shot e-mailed from company commanders account to OCC before flight	1E
		<b>the scope:</b> The scope of information being affirmed with an electronic signature should be clear to the signatory and to subsequent readers of the record, record entry, or document;	3E		N/A for iPencil (or other device)	N/A	Signed document screen shot e-mailed from company commanders account to OCC before flight	1E
		<b>the signature security:</b> The security of an individual's handwritten signature is maintained by ensuring that it is difficult for another individual to duplicate or alter it;	3D	Use of finger to sign the document	N/A for iPencil (or other device)	N/A	Commander will sign on EFB for several times and a snapshot of each is taken. These will be printed and commander using pen on paper signs declaration of their uniqueness. This will be kept secured at OCC offices	1E
		<b>the non-repudiation:</b> An electronic signature should prevent a signatory from denying that he or she affixed a signature to a specific record, record entry, or document. The more difficult it is to duplicate a signature, the likelier the signature was created by the signatory;	2C	Use of finger to sign the document	N/A for iPencil (or other device)	N/A	Commander will sign on EFB for several times and a snapshot of each is taken. These will be printed and commander using pen on paper signs declaration of their uniqueness. This will be kept secured at OCC offices. Signed document screen shot e-mailed from company commanders account to OCC before flight	1E
		<b>the traceability:</b> An electronic signature should provide positive traceability to the individual who signed a record, record entry, or any other document.	2C	Signed document screen shot e-mailed from company commanders account to OCC before flight	Company e-mail shall be backed up at regular intervals	2D	Company e-mail shall be backed up at regular intervals	2D
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