The following table provides typical examples where an applicant or DOA holder gets help in the decision process to classify a design change as Minor or Major. As this is a living document, changes can be made without expressive notice. Operational aspects are not subject of this table, e.g. change from VFR to IFR.

Abbreviations are explained at the end of the table.

Subject	Classification	Restriction/Assumption	Specific Guidance Material	Notes/Boundaries/Test requirements/Documentation
e.g. GNS 3xx/4xx GNS 3xxW/4xxW UNS	Minor	Single Installation no new functionality or technology not linked to Auto Pilot BRNAV only SBAS must be disabled No embedded TAWS VHF Comms not affected.	AMC 20-4 AMC 20-5 FAA AC 20-138A	for additional installation only, or VFR operation upgrade of operational rule need separate approval BOUNDARIES: SINGLE SYSTEM FOR SITUATIONAL AWARENESS ONLY NOT TOO COMPELLING TO BE USED AS PRIMARY MEANS OF NAVIGATION AND/OR TERRAIN AVOIDANCE NOT TO BE USED FOR PRNAV, LNP-RNAV ETC. NO INTERFACES WITH AUTOPILOT, TAWS OR ADS-B TRANSMITTER SBAS DISABLED TEST REQUIERENTS: NOT SPECIFIED DOCUMENTATION: AFM SUPPLEMENT AS REQUIRED, BASED ON OPERATIONAL USE (EASA FORM 33)
	Major	Single installation with linkage to Auto Pilot (-> use like FMS) Dual Installation All other RNAV operations	AMC 20-4	BOUNDARIES: NONE TEST REQUIERENTS: NOT SPECIFIED DOCUMENTATION: CERT. PROGRAM

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TAWS (Brand Name: EGPWS) With- or without RAAS functionality	Minor	Class B without a Display Forward looking mode is predicted by using GPS data 1) Class B with partial Class A functionality, 2) Class A	RAAS Generic CRI TGL No. 12 RAAS Generic CRI	SSA AFM SUPPLEMENT AS REQUIRED, BASED ON OPERATIONAL USE (EASA FORM 33) ICA NOTE: PILOT-SYSTEM INTERFACE, PROCEDURES AND CHANGES TO THE AFM MUST BE TAKEN INTO CONSIDERATION WHEN CERTIFYING TAWS B. BOUNDARIES: RAAS FOR ON GROUND USE ONLY (<40 KTS) TEST REQUIERENTS: AS REQUIRED PER TGL No. 12. AND RAAS GENERIC CRI DOCUMENTATION: AFM SUPPLEMENT (EASA FORM 33) ICA BOUNDARIES: NONE TEST REQUIERENTS:
XPDR Mode S, ELS	Minor	No penetration of pressure vessel	TGL No. 13, Rev. 1 (classification in AMC 20-13)	AS REQUIRED PER TGL No. 12. AND RAAS GENERIC CRI DOCUMENTATION: CERT. PROGRAM SSA AFM SUPPLEMENT (EASA FORM 33) ICA BOUNDARIES: REPLACEMENT OF EXISTING TRANSPONDER WITH ELS CAPABLE UNIT. NO SUBSTANTIAL CHANGES TO INTERFACING, ANTENNA INSTALLATION. TEST REQUIREMENTS: PER TGL No. 13, Rev 1

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Disclaimer:

				DOCUMENTATION: • AFM SUPPLEMENT (EASA FORM 33) • ICA
XPDR Mode S, Antenna Diversity (ELS)	Minor	If existing antennas can be used, no penetration of pressure vessel, no new antennas	TGL 13, Rev. 1 (classification in AMC 20- 13)	NOTE: SIMILAR TO NON-DIVERSITY ELS TRANSPONDER. BOUNDARIES: REPLACEMENT OF EXISTING TRANSPONDER WITH ELS CAPABLE UNIT. NO SUBSTANTIAL CHANGES TO INTERFACING, ANTENNA INSTALLATION. TEST REQUIREMENTS: PER TGL No. 13, Rev 1 DOCUMENTATION: AFM SUPPLEMENT (EASA FORM 33) ICA
	Major	penetration of pressure vessel, new antenna	TGL 13 (classification in AMC 20-13)	NOTE: NO FLIGHT TEST REQUIRED FOR UPPER ANTENNA BOUNDARIES: NONE TEST REQUIREMENTS: PER TGL No. 13, Rev 1 DOCUMENTATION: CERT. PROGRAM SSA AFM SUPPLEMENT (EASA FORM 33) ICA
XPDR, Mode S, EHS	Major	No boundaries	AMC 20-13	BOUNDARIES: • NONE TEST REQUIREMENTS: • PER AMC 20-13 DOCUMENTATION:

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Disclaimer:

IFE (In Flight Entertainment)	Minor	Exchange of components in existing system		CERT. PROGRAM SSA AFM SUPPLEMENT (EASA FORM 33) ICA
	Major	New installation or major alteration	TGL 17	TEST REQUIREMENTS: • AS DEFINED IN TGL 17 DOCUMENTATION: • AS DEFINED IN TGL 17
Upgrade of Avionics, INCLUDING "GLASS COCKPIT"	Minor	Exchange of single units with no change to basic technology, e.g. change to high integrated units / glass cockpit or functionality No change from electromechanical installation to a "glass type cockpit"	CPR analysis may be required	BOUNDARIES: EXCHANGE OF UNITS FOR PRODUCT-IMPROVEMENT ALLOWED NO ADDED FUNCTIONALITY NO CHANGES TO PILOT-SYSTEM INTERFACE NOT APPLICABLE TO AUTOPILOT AND PRECISION LANDING SYSTEMS (CAT II / III or equivalent) TEST REQUIREMENTS: AS REQUIRED TO DEMONSTRATE COMPLIANCE WITH 23.1301. DOCUMENTATION: ICA
	Major	New functionality, change of basic technology (change to high integrated units / glass cockpit) EVS, SVS functionality HUD Installation Change from electromechanical installation to a "glass type cockpit"	CPR analysis required HUDS requirements Generic CRIs for SVS and/or EVS	BOUNDARIES: NONE. TEST REQUIREMENTS: AS REQUIRED DOCUMENTATION: CERT. PROGRAM SSA AFM SUPPLEMENT (EASA FORM 33) ICA

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Disclaimer:

TCAS I or TAS	Minor	No commercial use of the aircraft	TGL not applicable	NOTE: TCAS 1 WHISPER-SHOUT ALGORITHMS ARE A SOURCE OF RF POLLUTION, THEREFORE INSTALLATION OF TCAS 1 IS NOT RECOMMENDED.
				BOUNDARIES: • ANTENNA INSTALLATION IN PRESSURIZED A/C IS MAJOR • FOLLOW ON INSTALLATION – NO FLIGHT TEST REQUIRED FOR TESTING.
				TEST REQUIREMENTS: • AS REQUIRED TO DEMONSTRATE COMPLIANCE WITH 23.1301.
				DOCUMENTATION: ICA AFMS (Form 33) or Operational Procedures
ACAS (TCAS II)	Major		TGL No. 8, Rev. 2	BOUNDARIES: NONE
				TEST REQUIREMENTS: • PER TGL No. 8, Rev 2
				DOCUMENTATION: CERT. PROGRAM SSA AFM SUPPLEMENT (EASA FORM 33)
Telemetric Equipment	Major			ICA interface with avionics or new antennas or outside pods or linked to major changes of structures
				(No interface with avionics, attachment already approved, etc. possibly minor)
COM with 8.33 KHz Channel spacing	Minor	Change of Radios and Radio Tuning/Control Panels, if applicable.	TGL No. 7, Rev. 1	NOTES: 8.33 KHz. CHANNEL SPACING REQUIRED FOR ALL FLIGHTS ABOVE FL 245
				LOSS OF ALL COMMUNICATION IS CONSEDERED A

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Disclaimer:

				MAJOR/HAZARDOUS FAILURE CONDITION. THIS SHOULD BE CONSIDERED WITH THE CLASSIFICATION OF THE CHANGE.
				BOUNDARIES: EXCHANGE OF UNITS ONLY. NO ADDED FUNCTIONALITY NO CHANGES TO PILOT-SYSTEM INTERFACE
				TEST REQUIREMENTS: • PER TGL No. 7, Rev 1
				DOCUMENTATION: • ICA
WX Radar	Minor	Upgrade with use of existing locations; no significant weight increase		NOTES; THIS IS COVERED UNDER MINOR UPGRADE OF AVIONICS (SEE ABOVE). INSTALLATION OF NEW INDICATION MEANS MAY CLASSIFY AS A MAJOR CHANGE.
				STRUCTURAL ASSUMPTIONS FOR THE INITIAL INSTALLATION NEED TO BE CONSIDERED
	Major	New Installation, major alteration to existing installation		BOUNDARIES: NONE.
				TEST REQUIREMENTS: • AS REQUIRED
				DOCUMENTATION: CERT. PROGRAM SSA AFM SUPPLEMENT (EASA FORM 33)
EFB	CLASS I: No	CLASS I No airworthiness	TGL No. 36	ICA NOTE:
	classification required	approval required		WHETHER OR NOT PAPER WILL STILL BE REQUIRED IS AN OPERATIONAL CONCERN, NOT RELATED TO AIRWORTHINESS.
	CLASS II Major depending of the interface	CLASS II Installation approval Only		BOUNDARIES: NONE.

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Disclaimer:

	with the aircraft CLASS III Major	CLASS III airworthiness approval	TEST REQUIREMENTS: AS REQUIRED TO DEMONSTRATE COMPLIANCE WITH 23.1301. DOCUMENTATION: CERT. PROGRAM SSA AFM SUPPLEMENT (EASA FORM 33) ICA
ELT	Minor		BOUNDARIES: NO EXTERNAL ANTENNA NO INTERFACE WITH PRIMARY NAV SYSTEMS. TEST REQUIREMENTS: AS REQUIRED TO DEMONSTRATE COMPLIANCE WITH 23.1301. DOCUMENTATION: ICA
	Major	ELT with NAV linkage	
Antenna Installation	Major	pressurized vessel installation of large antenna on unpressurized vessel	DOCUMENTATION: • ICA
SATCOM	Minor	Equipment upgrade. (for standard type and for iridium type), no antenna installation	NOTES: UPGRADE OF SATCOM EQUIPMENT IS COVERED UNDER MINOR UPGRADE OF AVIONICS (SEE ABOVE). STRUCTURAL ASSUMPTIONS FOR THE INITIAL INSTALLATION NEED TO BE CONSIDERED
	Major	for standard type and iridium type (if new antenna installation on pressurized vessels)	BOUNDARIES: NONE. TEST REQUIREMENTS: AS REQUIRED

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Disclaimer:

		-	DOCUMENTATION:
			CERT. PROGRAM
			AFM SUPPLEMENT (EASA FORM 33)
			• ICA
COM VHF	Minor	if no antenna installation is necessary	BOUNDARIES: • IF FAILURE CONDITION FOR TOTAL LOSS OF COM HAS ALREADY BEEN SATISFIED BY THE INSTALLATION OF VHF RADIOS.
			TEST REQUIREMENTS:
			AS REQUIRED TO DEMONSTRATE COMPLIANCE WITH 23.1301.
			500000000000000000000000000000000000000
			DOCUMENTATION:
	+		• ICA
RVSM	Major	TGL 6, Rev 2	BOUNDARIES:
			NONE.
			TECT DECUMPANTA
			TEST REQUIREMENTS:
			AS REQUIRED
			DOGUMENTATION
			DOCUMENTATION:
			CERT. PROGRAM
			• SSA
			AFM SUPPLEMENT (EASA FORM 33)
			• ICA
steep approach	Major		BOUNDARIES:
			NONE.
			TEST REQUIREMENTS:
			AS REQUIRED
			DOCUMENTATION:
			CERT. PROGRAM
			SSA
			AFM SUPPLEMENT (EASA FORM 33)
			ICA

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Disclaimer:

AOA system	Minor	Non-required and used in an advisory or supplementary manner. Not used in lieu of the airspeed indicator or stall warning system No operational credit. No pressurized aircraft. No additional openings in wing or primary structure	NOTES: STRUCTURAL ASSUMPTIONS FOR THE INITIAL INSTALLATION NEED TO BE CONSIDERED. INSTALLATION ONLY ON INSPECTION PANELS OF WING AND FUSELAGE OR IN AN AREA OF THE FUSELAGE THAT COULD ACCOMMODATE A LIKE INSTALLATION OF AN ANTENNA. BOUNDARIES: ACCURACY CONSERVATIVE AS COMPARED TO EXISTING STALL WARNING DEVICES. NO INTERFERENCE WITH CONTROL SURFACES, PITOT- STATIC SYSTEM OR AIRCRAFT STALL WARNING SYSTEM NO INTERFACE WITH PITOT-STATIC SYSTEM OR ANY SYSTEM THAT CONTROLS THE AIRCRAFT (e.g autopilot, stick pusher) NO AURAL NUISANCE WARNINGS TEST REQUIREMENTS: AS REQUIRED DOCUMENTATION: CERT. PROGRAM ELECTRICAL LOAD ANALYSIS AFM SUPPLEMENT (EASA FORM 33)

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Disclaimer:



Acronyms:

A/C	Aircraft
A/P	Autopilot
ACAS	Airborne Collision Avoidance System
ADS-B	Automatic Dependent Surveillance-Broadcast
AFM	Airplane Flight Manual
AFMS	Airplane Flight Manual Supplement
AMC	Acceptable Means of Compliance
AOA	Angle of Attack
BRNAV	Basic Area Navigation
CAT	Category (for All-Weather Operations)
CERT	Certification
COM	Communication
CPR	Changed Product Rule
CRI	Certification Review Item
DOA	Design Organization Approval
EFB	Electronic Flight Bag
EGPWS	Enhanced Ground Proximity Warning System
EHS	Enhanced Surveillance
ELS	Elementary Surveillance
ELT	Emergency Locator Equipment
EVS	Enhanced Vision System
FAQ	Frequently Asked Questions
FL	Flight Level
FMS	Flight Management System
GA	General Aviation
GM	Guidance Material
GNS-xxx	A Garmin Brand Name

GPS	Global Positioning System	
HUD	Head-Up-Display	
ICA	Instruction for Continued Airworthiness	
IFE	Inflight Entertainment system	
IFR	Instrument Flight Rules	
KHz	Kilo Hertz	
KTS	Knots	
LNP	Lateral Navigation Performance	
NAV	Navigation	
PRNAV	Precision Area Navigation	
RAAS	Runway Awareness and Alerting System	
RF	Radio Frequency	
RVSM	Reduced Vertical Separation Minima	
SATCOM	Satellite Communication	
SBAS	Space Based Augmentation Signal	
SSA	System Safety Assessment	
SVS	Synthetic Vision System	
TAS	Traffic Advisory System	
TAWS	Terrain Awareness Warning System	
TCAS	Traffic and Collision Avoidance System	
TGL	Temporary Guidance Leaflet	
UNS-xxx	A Universal Brand Name	
VFR	Visual Flight Rules	
VHF	Very High Frequency	
WX	Weather	
XPDR	Transponder	

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