



U.S. Department
of Transportation
**Federal Aviation
Administration**

Aviation Safety
Aircraft Certification Service
Compliance & Airworthiness Division

Seattle ACO Branch
2200 S 216th Street
Des Moines, WA 98198-6547

September 14, 2020

In Reply

Refer To: 783-20-11330

Mr. Frank Hummel
Director of Engineering
Spectralux Corporation
12335 134th Ct NE
Redmond, WA 98052

Dear Mr. Hummel:

Subject: Technical Standard Order (TSO) Authorization (TSOA) Application C113b and C160a

This is in reply to your submittal letter, FAACL-20200818, dated August 18, 2020, requesting TSO authorization for your Envoy Data Link All-in-One. We accept your statement certifying that your article meets the requirements of TSO-C113b and TSO-C160a and that you meet the requirements of Title 14 Code of Federal Regulations (14 CFR) part 21, subpart O.

We also accept the data you submitted in support of the non-TSO functions listed in attachment 1 on a non-interference basis.

Effective this date, we authorize you to identify the following Envoy Data Link All-in-One with the marking requirements defined in 14 CFR 21.616(d)(e) and in TSO-C113b and TSO-C160a.

LRU Part Number for which TSO Approval is Requested

Model	Part Number	Description
Envoy	15000-10-000-[XX]	Envoy Data Link All-in-One

We consider your quality system, as defined in your quality control manual, document number SLC-1, Revision H, dated May 14, 2020, satisfactory for production of this article at your 12335 134th Court NE, Redmond, WA 98052 USA facility. Spectralux Corporation must furnish the following statement to the original owner or installer of each article (or multiple articles if furnished to one source):

The conditions and tests required for TSO approval of this article are minimum performance standards. Those installing this article either on or within a specific type or class of aircraft must determine that the aircraft installation conditions are within the TSO standards, which include any accepted integrated non-TSO functions. TSO

articles and any accepted integrated non-TSO function(s) must have separate approval for installation in an aircraft.} The article may be installed only according to 14 CFR part 43 or the applicable airworthiness requirements.

Your letter FAACL-20170909, submitted September 9, 2017, requested deviations, from the requirements of TSO-C113b and TSO-C160a, to use RTCA/DO-178C instead of RTCA/DO178B, for the development of Envoy TM Data Link, was reviewed by the Federal Aviation Administration (FAA) Seattle Aircraft Certification Office (ACO) Branch. Approval was granted for the deviations to TSO-C113b and TSO-C160a via Seattle ACO Branch Action Stamp Number 783-17-2683, dated November 29, 2017.

The following design data, submitted with your letter, has been added to our TSO file:

Spectralux Doc ID	Spectralux Doc Title	Rev
PSCP-15000	Project Specific Certification Plan	B
PSAC-15000-1	Plan for Software Aspects of Certification	B
QAP-15000-1	Quality Assurance Plan	C
STP-15000-1	System Test Plan	B
SWVP-15000-1	Software Verification Plan	A
MDL-15000-1	Master Document List	D
SLC-1	Quality Manual	H
INST-15000-1	Installation Manual	B
UG-15000	User Guide for the Envoy Data Link	A
15000-10	Top Level Drawing	H
ICD-15000-1	Interface Control Document	-
15000-10-000-00	End Item Bill of Materials (BOM)	K
PDI-15707-1	Envoy Data Link Aircraft Configuration Database PDI	A
PDI-15707-2	Envoy Data Link Customer Configuration Database PDI	B
QTP-15000-1	Qualification Test Procedures	A
QTR-15000	Qualification Test Results	-
SAS-15000-1	Software Accomplishment Summary for the Envoy Data Link	C
SCI-15100-1	Software Configuration Index, SAM Main Application	E
SCI-15120-1	Software Configuration Index, SAM Bootloader	D
SCI-15200-1	Software Configuration Index, DUKB Application	D
SCI-15220-1	Software Configuration Index, DUKB Bootloader	D
SCI-15310-1	Software Configuration Index, VDL MA	E
SCI-15320-1	Software Configuration Index, VDL M2	E
SSA-15000-10-000	System Safety Assessment	-
STR-15000-1	System Test Results	-
SVC-15000-1	Software Verification Test Cases	C
SVP-15000-1	Software Verification Procedures	C
SVR-15000-1	Software Verification Results	B

This TSOA, issued pursuant to 14 CFR 21.611, is effective until surrendered, withdrawn or otherwise terminated under the provisions of 14 CFR 21.613. With notice, we may withdraw this TSOA if articles are not in compliance with the applicable TSO performance standards pursuant to 14 CFR 21.2.

You must provide one copy or online access to data listed as a furnished data requirement in the TSO to the original owner/installer of each article or multiple articles if furnished to one source (e.g., an operator, type certificate holder, or repair station).

You must obtain FAA approval before making any changes to the location of your manufacturing facilities pursuant to 14 CFR 21.609(b).

Without further FAA approval, we do not allow a manufacturer to mark articles after it changes its company name, address, or ownership. You must notify the Seattle ACO Branch and Seattle MIDO Section of name, address, or proposed ownership changes.

Pursuant to 14 CFR 21.614, a holder of a TSOA may not transfer it. If you wish to transfer it, you must request a transfer from the FAA.

Send to the office below any design change(s) for this TSO article as outlined in 14 CFR 21.619(a). You must notify us of minor design changes within six months. Also, as recipient of this authorization, we require you to report any failure, malfunction, or defect relating to articles produced under this authorization pursuant to 14 CFR 21.3.

Please note that technical data the FAA retains may be subject to Freedom of Information Act requests. This office will notify you of any request(s) pertaining to your data and give you the opportunity to protect the data from public disclosure.

If you have any questions regarding this authorization, contact Mr. David Sumner at phone number 206-231-3538 or via email at david.sumner@faa.gov.

Sincerely,

DOUGLAS Y TSUJI
TSUJI

Digitally signed by
DOUGLAS Y TSUJI
Date: 2020.09.14
10:40:53 -07'00'

For Ian Won
Aviation Safety
Manager, Seattle ACO Branch
Compliance & Airworthiness Division
Aircraft Certification Service

Enclosure



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Accepted Non-TSO Functions

We accept, as valid data, the data supporting the non-TSO functions listed as below. **This TSO authorization is not an approval for the non-TSO function(s) or for installation.** You must apply for a separate installation approval so we can determine if the data are applicable and sufficient to show compliance to the airworthiness regulations for the product(s) where the article is installed.

P/N	Non-TSO Function	Description	Performance Standard	Documentation
15000-10-000-[XX]	Mode A	Mode A VHF	DO-281B TSO-C160a	IM INST-15000-1 PSAC-15000-1 QTS-15000 SSA-15000-10-000
	ACARS	Aircraft Communications Addressing and Reporting System	ARINC 724B	
	AOA	ACARS over Aviation VHF Link Control	ARINC 619	
	ATN	functionality above the VDL Mode 2 protocol layers	DO-2810B	
	Fans 1/A		DO-305A	
	ADS-C		DO-212	

We accept the data supporting the non-TSO functions listed in the above table with the following conditions:

1. The non-TSO functions do not interfere with the article's compliance with the TSO.
2. Spectralux Corporation controls the design and quality of the article, including the validity of the non-TSO functions' data listed in the table above.
3. Spectralux Corporation evaluates design changes pursuant to §21.619 to ensure the article continues to comply with the TSO.
4. Spectralux Corporation evaluates design changes to confirm the validity of the accepted non-TSO function's data. If the design change affects the validity of the data supporting the accepted non-TSO function (i.e., a change to intended function, not a bug fix or

minor adjustment), you must obtain approval from the FAA before integrating the design change into your article design. If the design change does not affect the validity of the data supporting the accepted non-TSO function, you must report it when you report other minor design changes. If we accept the change, Spectralux Corporation must notify all recipients of the previous data of the change. If all of the previous recipients of the data cannot be identified, Spectralux Corporation must change the part number of the article. We require a new installation approval for an article with a new part number.