The Hub Company Limited
184 Shepherds Bush Road,
London
United Kingdom
W6 7NL

8th November 2024

ITSO The Hub Validator SCV500 Compliance Certificate

Certificate Number: C00236
Product/Service name: The Hub Validator SCV500, version 2.00
Compliant with: ITSO TS 1000 Specification Version 2.1.4 Corrigendum 9

Dear Dubem,

ITSO received a request submitted by The Hub Company Limited, for the certification of The Hub Validator SCV500 (software version 2.00). As indicated in Certification Test Report (ref. Test Report POST - 1699956375 - The Hub Validator SCV500– New Certification), ITSO has found reasonable evidence that the submitted product/service complies to ITSO TS 1000 Specification Version 2.1.4 Corrigendum 9.

Your product/service will be included in the certified products list, published on ITSO website.

Please note that the present Certification is subject to the following general terms and conditions along with conditions/constraints as detailed in Schedule B:

  i.   The present certification is granted based on the ITSO Certification & Compliance Policy, with its validity specified on the Certificate page. For a product or service that utilises a valid ITSO certified sub-assembly, the certificate's validity will correspond to the sub-assembly's expiry date.

  ii.   If the Product version number is changed, The Hub Company Limited must notify ITSO of this fact in writing by supplying the release notes. Any change in the Product that may generate a different behaviour with respect to the ITSO TS 1000 Specification version 2.1.4 corrigendum 9 standards may be considered a major modification subject to a new evaluation in order to maintain the present Certification.

  iii. The present Certification granted to The Hub Company Limited for the above referenced Product is non-transferable to any other vendor.

  iv.   When request by an ITSO Licenced Operator, the ITSO Registered Supplier must supply a copy of the Test Report.

Schedule A

The Hub Validator is a POST to be used on platform, in station or onboard. It can be pole mounted via bracket, wall mounted or simply inserted in a pedestal platform for a gate solution or stand alone.

Passengers will be able to tap on/tap off using their plastic or virtual ITSO cards, EMV cards and finally QR code.

The CM supported by this device is shown in the following table:

CM	CMD2	CMD4	CMD7	mCMD2
Customer Media Definition	✓		✓	✓

The IPEs supported are represented in the following table:

IPE	Accept	Create	Modify	Delete*
TYP 0 – Private Application				
TYP 2 – Stored Travel Rights				
TYP 3 – Loyalty (Type 1)				
TYP 4 – CTA (Mode 1)				
TYP 5 – CTA (Mode 2)				
TYP 14 – Entitlement	✓			
TYP 16 – ITSO ID & Entitlement	✓			
TYP 17 – Loyalty (Type 2)				
TYP 22 FR1 – Area Based Ticket	✓	✓	✓	✓
TYP 22 FR2 – Area Based Ticket	✓	✓	✓	✓
TYP 23 FR1 – Journey Ticket	✓	✓	✓	✓
TYP 23 FR2 – Journey Ticket	✓	✓	✓	✓
TYP 24 – Journey Ticket with Reservations and Special Restrictions				
TYP 25 – Travel Voucher				
TYP 26 – Open System Tolling				
TYP 27 – Period Pass (space saving)				
TYP 28 – Carnet (space saving)				
TYP 29 – Multi Journey Ticket (space saving) – FR1				
TYP 29 – Multi Journey Ticket (space saving) – FR2				
Transient Ticket Log FR 1			n/a	n/a
Transient Ticket Log FR 2	✓		n/a	n/a
Transient Ticket Log FR 3			n/a	n/a
Transient Ticket Log FR 4	✓	✓	n/a	n/a

IPE Data Group modification via Actionlist only.
**IPE Deletion via ActionToTake 15 (0xF).*

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Schedule A (cont.)

The optional functionality supported by this device is shown in the following tables:

Hot listing support				
Single (0C02)	**Multi (0602)**	**Manually Block**	**Manually Unblock**	**Storage**
✓	✓			**750000 items**

Action list support		
Single (OC03)	**Multi (0603)**	**Storage**
✓	✓	**100000 items**

Action list Action to Take (ATT) support															
1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**13**	**14**	**15**	**16**
✓									✓	✓				✓	

Interoperability/parameter list support/multi record receipt of multiple types				
ListFR1 Receive 0Axx	**List FR1 Receive 0Bxx**	**List FR2 Receive 0Axx**	**List FR2 Receive 0Bxx**	**Receive multiple types 0600**

Miscellaneous						
POST HOPS queries	**Additional Shell Data 0807**	**Log 1**	**UD Frames Generate 0Exx**	**UD Frames Receive 0Exx**	**UD Frames Generate 0Fxx**	**UD Frames Receive 0Fxx**

Benchmarking Times

POST.0085 - CMD2: IPE with Transient Ticket Record Creation

Trace 1	Trace 2	Trace 3	Average
399ms	415ms	375ms	396ms

POST.0781 - CMD2: IPE with Value Record Data Group Modification

Trace 1	Trace 2	Trace 3	Average
452ms	395ms	403ms	417ms

POST.0117 – CMD7: IPE with Transient Ticket Record Creation

Trace 1	Trace 2	Trace 3	Average
380ms	396ms	380ms	385ms

POST.0783 - CMD7: IPE with Value Record Data Group Modification

Trace 1	Trace 2	Trace 3	Average
371.48ms	385ms	378ms	378ms

Image of The Hub Validator SCV500 Components
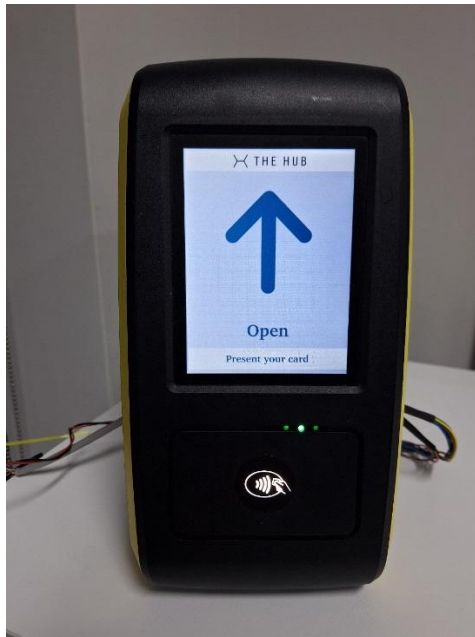
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Schedule B

List of conditions and/or constraints applied by ITSO:

- TransactionReversal not supported.
- POST does not support manual IPE creation, deletion and IPE Data Group modification.
- CompanionAllowed not supported.

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ITSO Certificate of Compliance

Supplier: **The Hub Company Limited**

Product/service: **The Hub Validator SCV500**
Version: **2.00**

This is to certify that the above product/service has been tested as required by ITSO for compliance against:

ITSO TS 1000 Specification Version: 2.1.4 Corrigendum 9

**Test Report Ref: Test Report POST - 1699956375 - The Hub Validator SCV500–
New Certification**

This product supports the functions: ITSO The Hub Validator SCV500 and communicates within an ITSO environment as listed in Schedule A of this Certificate.

This product may only be used by ITSO Licensed Members complying with the conditions and constraints listed in Schedule B.

Signed for and on behalf of ITSO:

Name: **Darren Marshall-Sewell**

Title: **Technology Manager**

Dated: **8th November 2024**

Certificate Valid until: **23rd November 2028**

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