Certificate no.:
TAA00003FX

TYPE APPROVAL CERTIFICATE

This is to certify:

that the Miscellaneous

with type designation(s)
HMAP Pte. navigation systems platforms

issued to
HMAP Pte Ltd
Singapore, **Singapore**

is found to comply with
IMO Res. A.694(17) General requirements for shipborne radio equipment forming part of the global maritime distress and safety system (GMDSS) and for electronic navigational aids
MSC.191(79) Performance standards for presentation of navigation-related information on shipborne navigational displays

Application:

This type approval certificate is only valid as part of the EU type examination certificate MEDB0000976, MEDB0000977, MEDB0000978, MEDB0000979 and MEDB000097B.

Issued at **Hamburg** on **2024-09-30**
This Certificate is valid until **2027-09-05**.
DNV local unit: **Kuala Lumpur Verification**

for **DNV**

Approval Engineer: **Jörg Rebel**

This Certificate is subject to terms and conditions overleaf. Any significant change in design or construction may render this Certificate invalid.
The validity date relates to the Type Approval Certificate and not to the approval of equipment/systems installed.

LEGAL DISCLAIMER: Unless otherwise stated in the applicable contract with the holder of this document, or following from mandatory law, the liability of DNV AS, its parent companies and their subsidiaries as well as their officers, directors and employees ("DNV") arising from or in connection with the services rendered for the purpose of the issuance of this document or reliance thereon, whether in contract or in tort (including negligence), shall be limited to direct losses and under any circumstance be limited to 300,000 USD.

Product description
See appendix for details of the HMAP Pte. navigation systems platforms

Application/Limitation
- Installation is to be performed according to the manufacturer's documentation.
- This certificate only identifies hardware and software used in HMAP Pte. navigation systems and is intended to be read in conjunction with the individual certificates covering the various HMAP Pte. navigation systems.
- For details on compliance to system requirements, please see individual certificates for HMAP Pte. navigation systems where reference is made to this certificate.

Tests carried out
- Environmental and EMC testing: IEC 60945 (2002) incl. Corrigendum 1 (2008)
- Presentation testing: IEC 62288 (2021)*

* Note: only applicable hardware-related tests

Type Approval documentation

DNV No.	Document ID	Rev.	Description
1	HLD-TEST REPORTS FOR NAVIGATION SYSTEMS	V1.7	List of reports for environmental and presentation testing for HLD navigation systems

Marking of product
Marking to be in accordance with requirements in Marine Equipment Directive (MED) 2014/90/EU.
See individual MED-B certificates for details.

Periodical assessment
Periodical assessment is granted by the annual MED module-D audits.

APPENDIX

Product description

No.	Designation	Type Designation	Software version no.
1•	**Transceiver Units**	• **if HRD-900/HRD-900C and/or HRD-900S is included**	
	Radar Antenna	a) HLD-AT106 (X-Band) b) HLD-AT108 (X-Band) c) HLD-AT112 (S-Band)	
	Radar Transceiver	a) HLD-TU125 (X-Band) b) HLD-TU130 (S-Band) c) HLD-TU225 (S-Band) d) HLD-TU230 (X-Band)	1.x 1.x 2.x 2.x
2	**Main Processing Units** (alternatively)	a) HLD-MCU200 b) HLD-MCU600 c) HLD-MCU770	
	Operating system	Microsoft Windows 7 SP1	
3	**Display Units 250mm** (for Radar CAT 2 & ECDIS, alternatively)	a) HLD-DU134 (Monitor TFT 24") b) HLD-DU140 (Monitor TFT 24")	
4	**Display Units 320mm** (for Radar CAT 1 & ECDIS alternatively)	a) HLD-DU135 (Monitor TFT 26") b) HLD-DU136 (Monitor TFT 26") c) HLD-DU137 (Monitor TFT 26") d) HLD-DU138 (Monitor TFT 27") e) HLD-DU141 (Monitor TFT 26")	
5	**Operator Units** (alternatively)	a) HLD-IU600 (Human Interface Unit)	1.x
6	**Sensor Interfaces** (alternatively)	a) HLD-SCU600 (Signal Convert Unit)	
7	**Network Switches** (alternatively)	a) HLD-LS600 (LAN Switch 24 ports)	
8	**Optional Components**	a) HLD-PCU600 (Power Conversion Unit) b) PC SMART-UPS RT 1000VA 230V (UPS SURT1000 XLIM) c) APC SMART-UPS RT 2200VA 230V (UPS SURTD2200 XLIM) d) SURT023M-APC 3000VA FILTER (EMC Filter SURT023M)	

Table of combinations of radar equipment

No.	Type designation	CAT 1, CAT 1C		CAT 2, CAT 2C	
		X-Band	S-Band	X-Band	S-Band
1	HLD-MCU 200 or HLD-MCU 600 or HLD-MCU 770	X	X	X	X
2.1	HLD-TU125	X		X	
2.2	HLD-TU130		X		X
2.3	HLD-TU225		X		X
2.4	HLD-TU230	X		X	
3.1	HLD-AT106 or HLD-AT108	X		X	
3.2	HLD-AT112		X		X
4	HLD-PCU600	X	X	X	X
5	HLD-IU600	X	X	X	X
6.1	HLD-DU134 or HLD-DU140			X	X
6.2	HLD-DU135 or HLD-DU136 or HLD-DU137 or HLD-DU138	X	X		

Acceptance or use of the product as ECDIS system (if ECDIS is included)

Chart data formats:
The system supports the display and use of digital chart data in the following formats:

- S-52 Ed. 6.1 and Pres. Lib. 4.0 (IHO)
- S-57 Ed. 3.1 (IHO)
- S-61 Ed. 1.0 (IHO)
- S-63 Ed. 1.2 (IHO)

- S-64 Ed. 3.0 (IHO)

Backup arrangements (ECDIS):
If a secondary ECDIS as backup is installed in order to continue ships navigation in the case of a primary ECDIS failure, following arrangements fulfill the IMO requirements for a backup ECDIS:
Installation of a secondary system Type: HES-600
according to manufacturer's instructions including connection to the primary system via local system area network connection (Ethernet LAN) for exchange of route data.

END OF CERTIFICATE