RINA

TYPE APPROVAL CERTIFICATE
No. **ELE142324XG**

This is to certify that the product below is found to be in compliance with the applicable requirement of the RINA type approval system.

Description	**Personal computer**
Type	**HP Z4 G5 Workstation**
	Used in Conjunction with Mariner Kit MS3110, MS3120
Applicant	**MARINER SYSTEMS UK LTD**
	OAKLANDS PARK WOKINGHAM BERKSHIRE RG41 2FD
	UNITED KINGDOM
Manufacturer	**HEWLETT PACKARD**
Place of manufacture	**1501 Page Mill Road, Palo Alto, CA 94303**
	1112
	UNITED STATES OF AMERICA
Reference standards	**Rules for the classification of ships.- Part C - Machinery, systems and fire protection. - Ch.3, Sect. 6, Table 1.**

Issued in **Hamburg** on **August 5, 2024**. *This Certificate is valid until* **August 4, 2029**

RINA Services S.p.A.
Giuseppe Russo

This certificate consists of this page and 1 enclosure

Product description:

The **HP Z4 G5 Workstation** is a personal desk computer for marine environmental conditions in conjunction with Mariner Kits.

Technical specification:

Processor:
All processors up to and including Intel Xeon with 4.0GHz (4.8GHz turbo),
37.5MB cache, 20 cores.

Memory:
Up to 512 GB DDR5-4800 DIMM

Hard Disk:
- 1TB SATA 3.5" Ent HDD (7200 rpm)
- 2TB SATA 3.5" Ent HDD (7200 rpm)
- 4TB SATA 3.5" Ent HDD (7200 rpm)
- 8TB SATA 3.5" Ent HDD (7200 rpm)
- 512GB Z Turbo TLC / Opal2 TLC SSD
- 1TB Z Turbo TLC / Opal2 TLC SSD

- 2TB Z Turbo TLC / Opal2 TLC SSD
- 4TB Z Turbo TLC / Opal2 TLC SSD
- Z Turbo Drive Dual Pro PCIe-4x4 NVMe Carrier
- Z Turbo Drive Quad Pro PCIe-4x16 NVMe Carrier
- Z Turbo Drive Dual Pro 512GB/1TB TLC SSD
- Z Turbo Drive Quad Pro 512GB/1TB TLC SSD

Optical Drive:
- HP 9.5mm Slim DVD-ROM Drive

- HP 9.5mm Slim SuperMulti DVD Writer

Graphics Card:
- NVIDIA T400 4GB
- NVIDIA T1000 4GB
- NVIDIA T1000/T1000E 8GB

- AMD Radeon RX 6400 4GB
- AMD Radeon Pro W6600 8GB

Network Interface Card:
- Integrated 1GbE RJ-45 LAN port
- HP Flex 1GbE Single Port NIC
- Intel I225-T1 Single Port 2.5GbE NIC
- Intel i350-T2 Dual Port 1GbE NIC

- Intel i350-T4 4-Port 1GbE NIC
- Intel X550-T2 Dual Port 10GbE NIC
- Allied Telesis AT-2911T/2-901 Dual Port 16bE NIC

Keyboard:
- HP 320K Wired Keyboard

Mouse:
- HP Wired 320M Mouse
- HP 125 Wired Mouse

Miscellaneous:
- Intel VROC NVMe SSD Standard Controller Module
- HP SD 4 Card Reader
- HP Serial Port
- HP Serial+PS/2 Port
- HP Entry FIO Module

- HP Premium FIO Module
- HP Fan & Front Card Guide Kit
- HP Memory Cooling Solution
- HP miniDP-to-DP Adapter

Operating system: (Not in scope of Society)

Mariner Kits used in conjunction with HP Z4 G5 Workstation:
MS3110 Assembly
MS3120 Assembly

Documents:
Data sheet: - RF 1010-MST-A
Drawings: - MS3110,A,1; MS3120,A,1
Specification: - HP Z4 G5 Workstation ver 22

Test Reports:
TL24009, MS Testing, dated 16 April 2024,
TL24010, MS Testing, dated 16 April 2024,

Remarks:
- The products fulfill **EC-Code: 31.**
- The EMC requirements for installation on the Bridge and Deck Zones will be fulfilled by the equipment if in-line power filter:
RF 1010-MST-A will be used.
- HP Elite 800 G9 TWR PC: Steering, Standby and Emergency Compass Safe Distance 1.0 Degree deflection: 800 mm Standard Compass
Safe Distance 0.3 Degree deflection 1000mm
- HP Z4 G5 Workstation: Steering, Standby and Emergency Compass Distance 1.0 Degree deflection: 900mm (Unit A)/ 1100mm (Unit B); Standard Compass Safe Distance 0.3 Degree deflection 1000mm (Unit A)/ 1300mm (Unit B)
- Documents relating to each application are to be submitted to the Society's examination prior fitting on board.

   Hamburg August 5, 2024

Giuseppe Russo