



NIPPON KAIJI KYOKAI

TYPE APPROVAL CERTIFICATE FOR AUTOMATIC DEVICES AND EQUIPMENT

Certificate No. TA24458M

This is to certify that the undernoted product(s) has/have been approved in accordance with the requirements specified in Chapter 1, Part 7 of “Guidance for the Approval and Type Approval of Materials and Equipment for Marine Use” and the relevant Society's Rules.

This certificate is issued to

Manufacturer:	Mariner System (UK) Ltd.
Place of Manufacturing:	Oaklands Park, Wokingham, Berkshire, RG41 2FD, UK
Product description:	Personal Computer
Model:	HP Z4 G5 Workstation with Mariner Kit MS3110 or MS3120
Approval No.:	24A018
Valid until:	13 August 2029

The details are described in the attached sheet(s).

Issued at Tokyo on 14 August 2024.

S. Oishi
S. Oishi
General Manager
Machinery Department

Note: The manufacturer, if desired, is requested to apply to the Society for renewal prior to the expiration date.

Specification & documents:

1. Particulars:

Rated Voltage Range: 100-240Vac

Rated Line Frequency: 50-60Hz

2. Components and reference drawings:

Component	Component Description
Processor	All Intel Xeon processors up to and including 4.0GHz (4.8GHz turbo) frequency, 37.5MB cache, 20 cores
Power Supply	775W 90% efficient, 1125W 90% efficient
Memory	Up to 512GB DDR5 4800 DIMM ECC Reg Memory (16GB/32GB)
Storage	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 1GbE NIC

- To be continued -

Component	Component Description
Keyboard	HP 320K Wired Keyboard
Mouse	HP Wired 320M Mouse, HP 125 Wired Mouse
Miscellaneous	Intel VROC NVMe SSDStandard 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	Windows 11 Pro for Workstations, Windows 11 Pro for Workstations (downgraded to Windows 10 Pro), Ubuntu Linux 22.04, HP Linux Ready, Red Hat Enterprise Linux

3. Documentation and Test Reports:

Documentation: HP Z4 G5 Workstation Components v1 – 17 April 2024

HP Z4 G5 Component Options-History

c08482306 - DA 17147 - Worldwide - Version 22 - April 1, 2024

MS3110 Assembly, Dwg. No: MS3110_A, Issue: No.1, Date: 14 MAR 2024.

MS3120 Assembly, Dwg. No: MS3120_A, Issue: No.1, Date: 14 MAR 2024.

Filter Type RF 1010-MST-A, Dwg.No. DS 106-MST, Issue No. 1.1.

Test Report:

Marine Type Approval Test Requirements-Issue 17 June 2023.

Test Report TL24010, HP Z4 G5 Workstation - Unit A dated 16 April 2024.

Test Report TL24009, HP Z4 G5 Workstation - Unit B dated 16 April 2024.

- To be continued -

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Attached sheet -3/3 to the Certificate No. TA24458M

Test items & approval conditions:

1. Test items:

(Applied testing items are marked with X.)

ENVIRONMENTAL TESTS (IACS UR E10 Rev.8 basis)		Mark
External examination		X
Operation test and performance test		X
Electric power supply failure test		X
Power supply fluctuation test	Electric	X
	Pneumatic and Hydraulic	--
Insulation resistance test		X
High voltage test		X
Pressure test (Pneumatic and Hydraulic)		--
Dry heat test (Temperature 70°C × 16 hours)		X
Damp heat test		X
Vibration test (Acceleration ±0.7g × 2 hours)		X
Inclination test		X
Cold test (Temperature -25°C × 16 hours)		X
Salt mist test		--
Electrostatic discharge immunity test		X
Radiated radio frequency immunity test ^{*1}		X
Conducted low frequency immunity test		X
Conducted high frequency immunity test		X
Burst / Fast transient immunity test		X
Surge immunity test		X
Radiated emission test ^{*1}		X
Conducted emission test ^{*1}		X
Flame retardant test ^{*2}		X

* Note: *1 Test requirement for equipment installed in the bridge or deck zone is applied.

*2 Flame retardant test for Anti-vibration mount, In-line power filter and rubber strip.

2. Approved condition:

- a) The product is not allowed to be installed on open deck.

- The End -