Claims

1. Immersive cooling system for cooling electronic components, comprising:
an immersive cooling unit, for cooling electronic components, comprising:
- at least one closed heating channel, defined by at least one circumferential heating channel wall having a start and an end, accommodating one or more printed circuit boards, wherein one or more heat dissipating electronic components are provided on each printed circuit board,
- at least one closed cooling channel, defined by at least one circumferential cooling channel wall, wherein a start of the cooling channel is connected to an end of the heating channel, and wherein an end of the cooling channel is connected to the start of the heating channel such that a closed circuit is formed between the channels,
wherein the at least one heating and cooling channel are configured for holding an immersive liquid coolant, for cooling the electronic components, said coolant at least filling the channels and submerging the printed circuit, wherein the channels each allow a coolant flow having at least a vertical component
wherein
-an active heat exchanger is positioned in the cooling channel, said heat exchanger provided with an internal circuit for liquid cooling, and fluid circuitry for circulating such cooling liquid with the exterior side of said cooling channel wall or immersive cooling unit; and
a holder, said holder comprising:
- at least one holding space formed by at least a holding bottom and at least one circumferential holding wall, wherein the at least one holding wall is dimensioned to receive a cooling unit, wherein the immersive cooling unit is inserted in the at least one holding space,
- fluid circuitry, and
- a least one heat extracting unit, for actively extracting heat from cooling liquid of the fluid circuitry of the active heat exchanger,
wherein an exterior side of the immersive cooling unit and the holder are each provided with co-acting fluid connections, such that the fluid circuitry of

the immersive cooling unit and the fluid circuitry of the holder are fluidly connected.

2. The immersive cooling system according to claim 1, wherein the at least one heating channel and the at least one cooling channel are separated by a heat insulating wall, said heat insulating wall forming at least a part of the circumferential cooling channel wall and at least a part of the circumferential heating channel wall of the channels said insulating wall separates, wherein said insulating wall prevents heat exchange between said channels.

3. The immersive cooling system according to any one of the preceding claims, wherein the cooling unit comprises at least two closed cooling channels, each defined by at least one circumferential cooling channel wall, and wherein a start of each cooling channel is connected to an end of the heating channel, and wherein an end of each cooling channel is connected to the start of the heating channel such that a closed circuit is formed between the channels.

4. The immersive cooling system according to any one of the preceding claims, wherein the printed circuit boards are vertically accommodated in the heating channel, and wherein the electronic components on the printed circuit board are arranged, in a direction from the start of the heating channel to the end of the heating channel, according to their heat generation during use, wherein the component generating the most heat is placed closest to the start of the heating channel.

5. The immersive cooling system according to any one of the preceding claims, comprising a common housing, said housing comprising a bottom, a top cover, and a housing wall, wherein the circumferential heating channel wall and/or circumferential cooling channel wall form at least a part of the housing wall.

6. The immersive cooling system according to claim 5, wherein handles are provided to the top cover, for handling the cooling unit.

7. The immersive cooling system according to any one of the preceding claims, further comprising a valve, wherein the valve provides an access to the closed circuit formed by the at least one heating and cooling channel.

8. The immersive cooling system according to any one of the preceding claims, wherein at least one printed circuit board and/or a System on a Chip (SoC) is configured for measuring the temperature of an inserted cooling unit, preferably the coolant temperature inside an inserted cooling unit.

9. The immersive cooling system according to any one of the preceding claims, wherein the holder comprises a plurality of holding spaces, each holding space:

- formed by at least a holding bottom and at least one holding wall, wherein the at least one holding wall is dimensioned to receive an independent cooling unit, wherein a plurality of immersive cooling units are inserted in the plurality of holding spaces,

wherein the heat extracting unit is a central heat extracting unit, for actively extracting heat from the cooling liquid of the fluid circuitry of the active heat exchanger of each inserted cooling unit.

10. The immersive cooling system according to claim 9, wherein the holder is configured for independently and separately regulating the heat extraction rate and/or temperature of each inserted cooling unit.

11. The immersive cooling system according to any one of claims 8 to 10, wherein the heat extraction rate and/or temperature of each inserted cooling unit is regulated based on measurements of an external or internal temperature of each inserted cooling unit.

12. The immersive cooling system according to any one of claims 9 to 11, wherein the cooling unit further comprises at least one connector, wherein the at least one connector is connected to the printed circuit board by at least one wire, for electronically connecting at last one printed circuit board to an external device and/or wherein the holder comprises a holding connector, wherein the holding connector is positioned to receive the

connector of an inserted cooling unit, forming an electronic connection between the one or more printed circuit boards and the holder.

13. The immersive cooling system according to any one of claims 9 to 12, wherein the holder, preferably the holding space, further comprises a guide, for guiding the housing into the holding space.

14. The immersive cooling system according to any one of the preceding claims, wherein at least a part of the heating channel wall and the cooling channel wall are insulated walls.

15. Method of using a system according to any one of the claims 1-14, for actively cooling electronic components.