Loranger QFN Socket with Compliant Cover and Heat Pipe with Optional Heat Sink

Compliant Socket Cover: A spring-loaded pin within the socket cover exerts the downward force on the package, and allows for variations in package height.

The heat pipe is typically made of copper with gold plating over nickel. The heat pipe can also have an optional embedded plunger style pin for electrical contact.

The heat pipe solders into a PTH in the printed circuit board. The bottom center pad of the package sits on top of the heat pipe. Heat from the center package pad flows through the heat pipe and into the printed circuit board. The heat pipe can be sized to fit the package center pad.
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Example of heat pipe for a 4.0 mm square QFN package with a 2.58 mm square center bottom pad. The heat pipe can connect to an optional finned aluminum heat sink instead of the printed circuit board. The heat sink is mounted to the bottom side of the board, as shown below.

Optional bottom mounted finned heat sink

Heat pipe from the heat sink to the bottom center pad of the package.