

SAFESIGHT

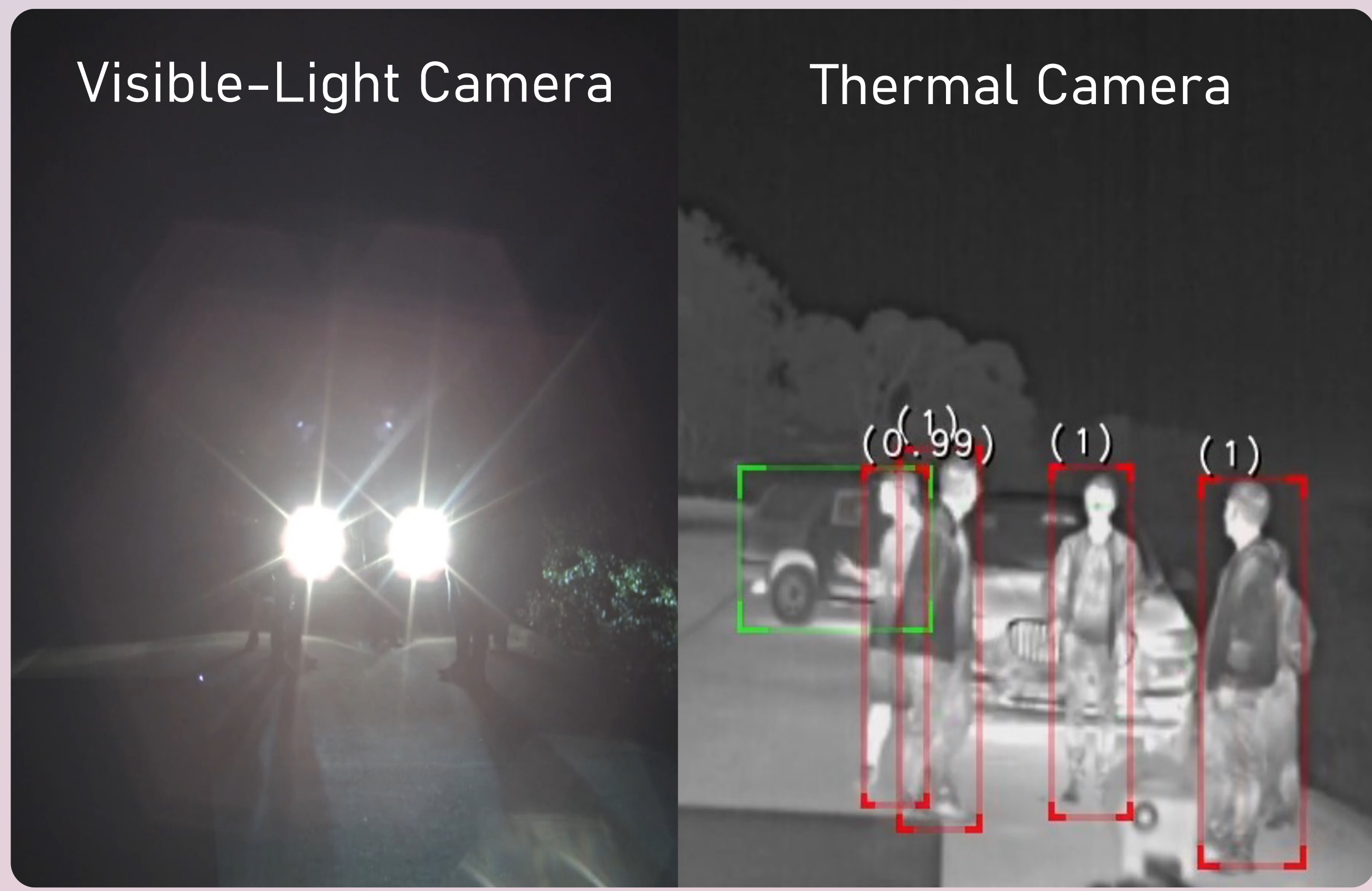
EYES THAT SAVE LIVES

Luke Huang, Mitchel Lee, Micah Morales, Sebastian Ramos, Isaac Rivera, Isaac-Neil Zanoria, Tiffany Cheung, Andrew Mah, Kian Ahzadmeh-heravi, Alvin Yang, Brandon Virnig, Brian Butler

In one year, vehicle accidents in the US **kill 6,000+** and **injure 100,000+ pedestrians.**

75% of these fatalities occur at night.

Source: NHTSA (2019)



FLIR SafeSight is an aftermarket, windshield-mounted system that fuses FLIR's Boson thermal camera with visible-light camera technology to detect pedestrians through their heat signatures at all times of the day. SafeSight consists of two state-of-the-art modules that wirelessly power and communicate with each other, allowing for video footage and data to be sent to the driver and the vehicle.



Built to Last

75°C Max Operating Temp

IPX7 Waterproof

5+ Year Lifespan

Shock and Vibration Tested



Hassle-Free

Fully Wireless Data and Power

Install or Remove in 30 Minutes

Theft-Deterrent Design



**Compact
Simple & Reversible Install**

Prism AI Data Farming

Quick & Effective Demos

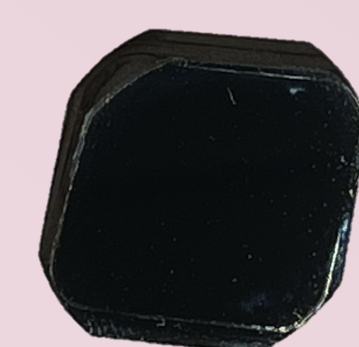
Aftermarket Product



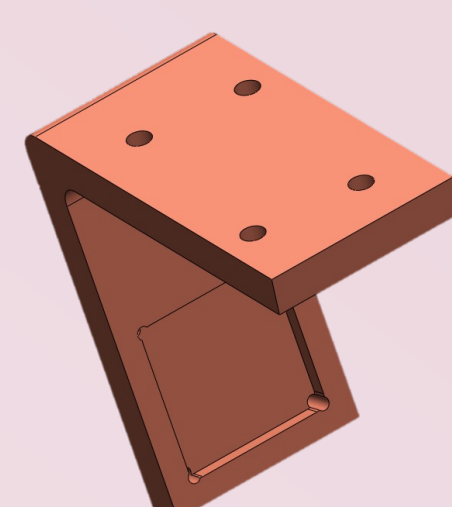
SAFESIGHT

EYES THAT SAVE LIVES

UC SANTA BARBARA
College of Engineering



FLIR ADK Window
Optical-Grade Silicon
1

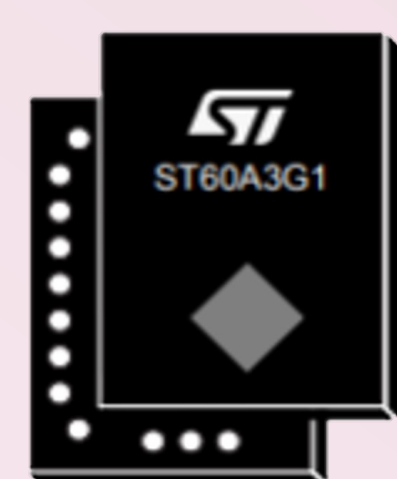


Mounting Bracket
Copper 110
2



FLIR Boson
Thermal Camera
3

Exterior PCB

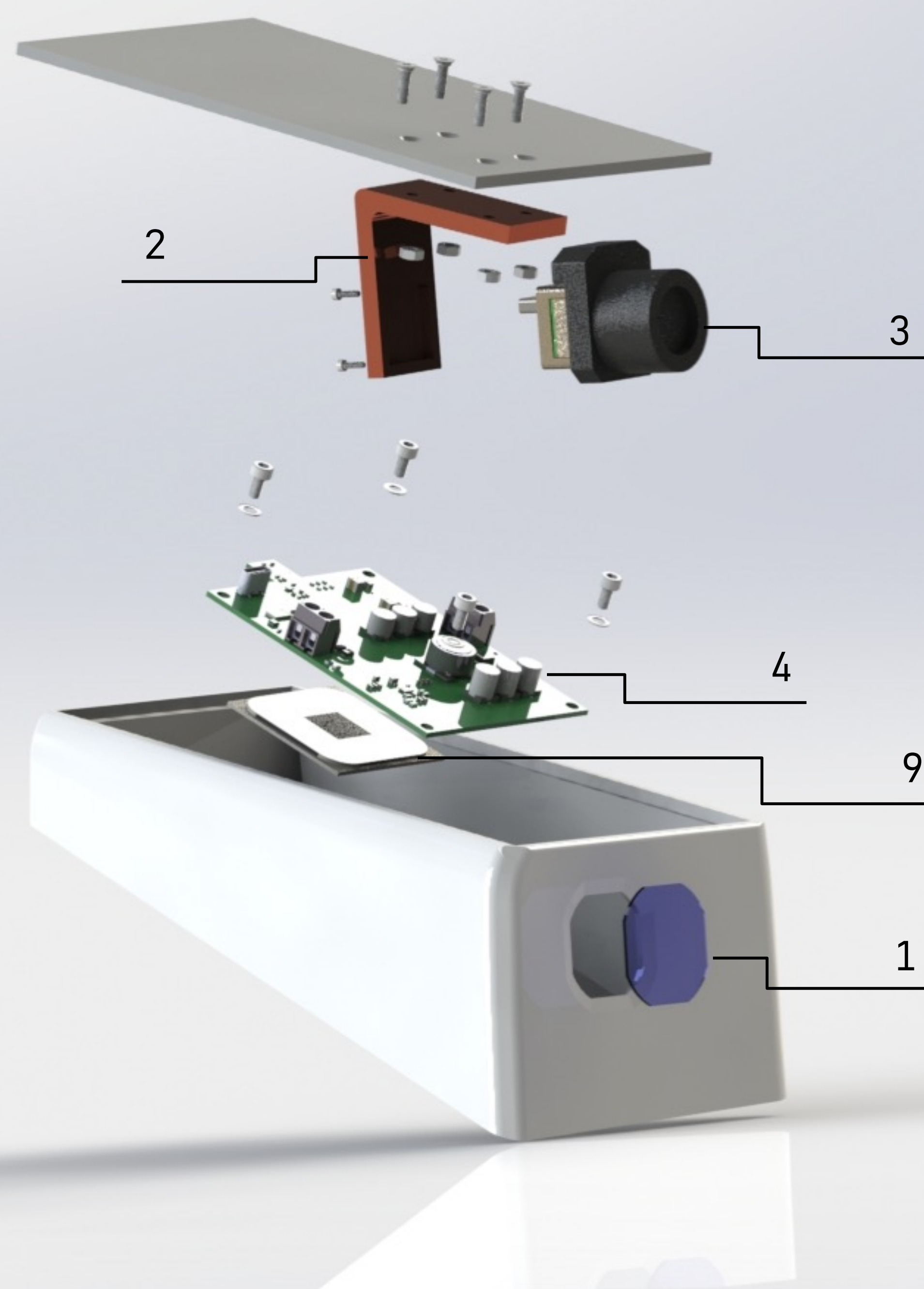


ST60A3
60GHz mmWave
Transceiver

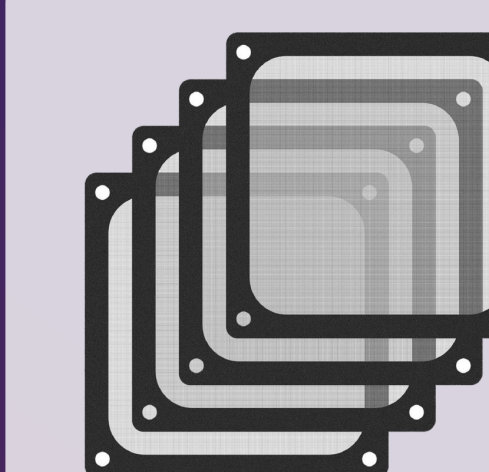
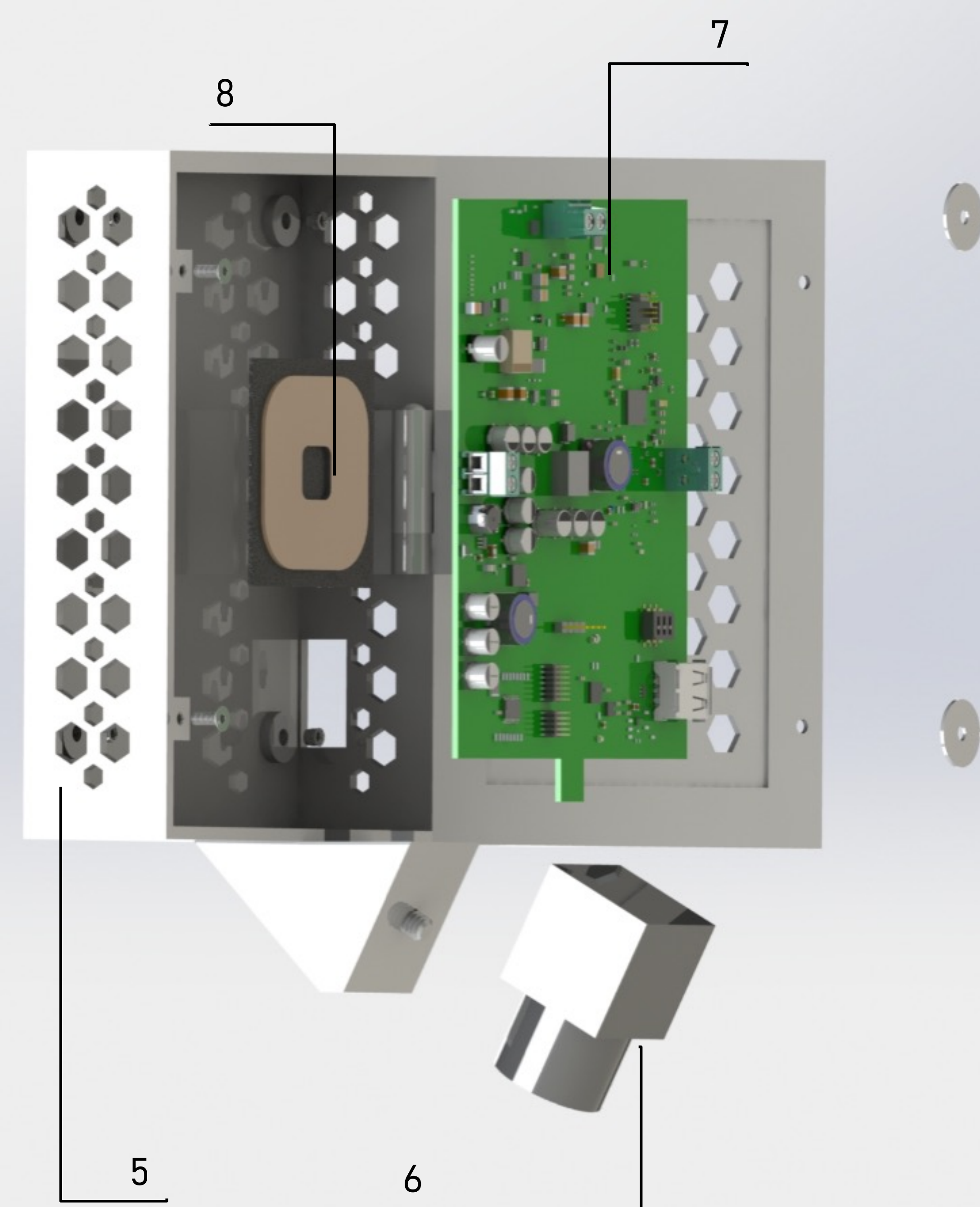


STWLC38RX
Wireless Power
Receiver IC
4

External Unit



Internal Unit

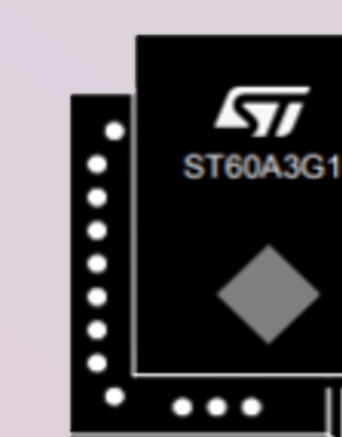


Honeycomb Mesh
Dustproof Filter
5



FLIR Blackfly S
Visible-Light Camera
6

Interior PCB



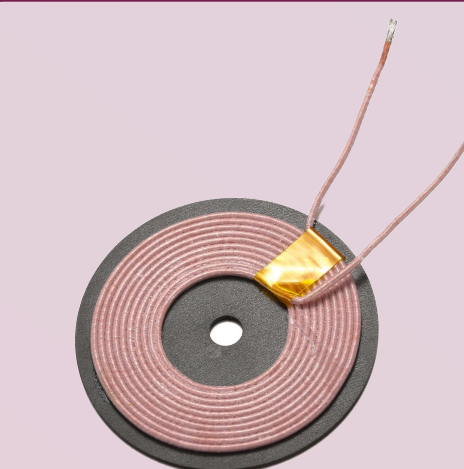
ST60A3
60GHz mmWave
Transceiver



STWBC2
Wireless Power
Transmitter IC



STM32
Microcontroller
7

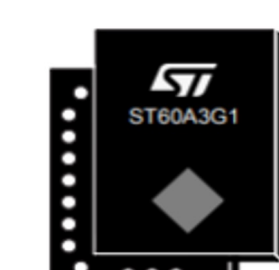


Inductive Coil
≤20mm Spacing
8

Exterior Unit



FLIR Boson
Thermal Camera

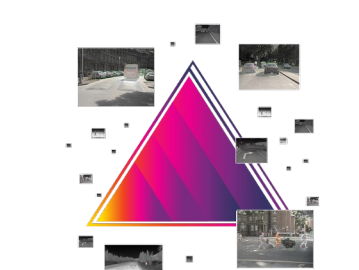


ST60A3
60GHz Transceiver

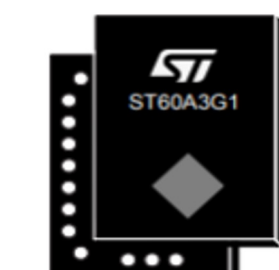


Wireless Power
Receiving Coil

Interior Unit



Laptop
with FLIR Prism AI



ST60A3
60GHz Transceiver



Wireless Power
Transmit Coil



FLIR Blackfly S
Visible Light Camera

Car 12V DC

Future Improvements

- Smaller device footprint, injection-molding friendly design
- Lower energy consumption and reduced heat dissipation
- Reduce complexity and cost of circuit design
- IP6K9K certification for high-pressure water/dustproofing
- Improved theft-deterrence and serviceability
- Embed Prism AI functionality into SafeSight without a laptop