



Arlo Pro 3 - 2K QHD Wire-Free Security Camera Teardown

Arlo Pro 3 - 2K QHD Wire-Free Security Camera

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INTRODUCTION

A look inside the Arlo Pro 3 Security Camera



TOOLS:

- [Phillips #00 Screwdriver](#) (1)
 - [Spudger](#) (1)
 - [Probe and Pick Set](#) (1)
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Step 1 — Arlo Pro 3 - 2K QHD Wire-Free Security Camera Teardown



- Features:
 - 2K Video with HRD
 - Color Night Vision
 - Integrated Spotlight
 - 2-Way Audio
 - Weather Resistant
- In the Box:
 - Camera, Battery Pack, USB Charging Cable, and Magnetic Mounting Base

Step 2



- To open the Arlo Pro 3 Camera, press the Button on the bottom, and pull the Camera Face (Camera Body) away from the Camera Enclosure
- Charging port for internal battery pack

Step 3



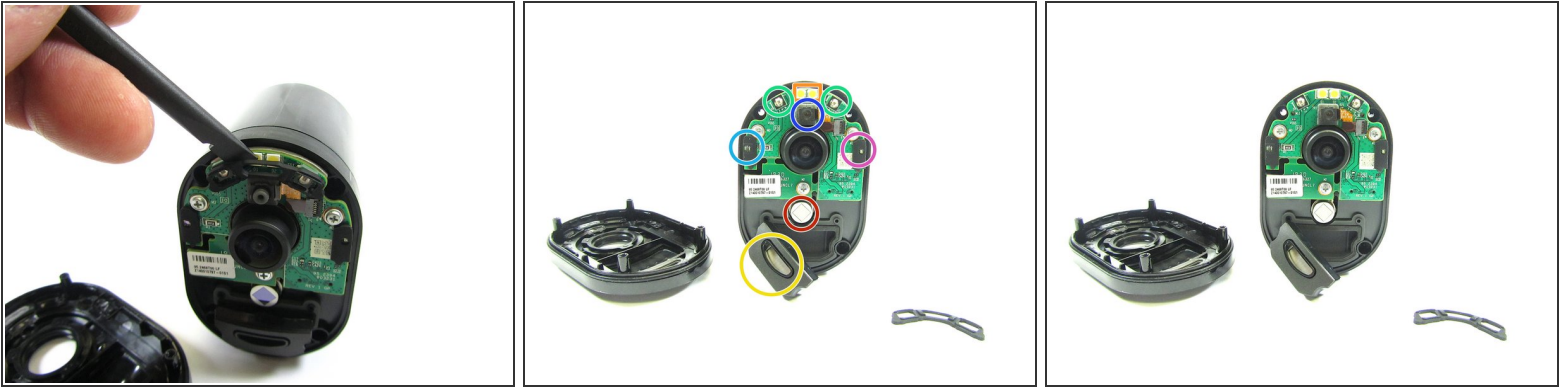
- Remove the Battery from the Camera Body by gently pulling the Battery away from the Camera Body
- The Battery Capacity is 4800mAh

Step 4



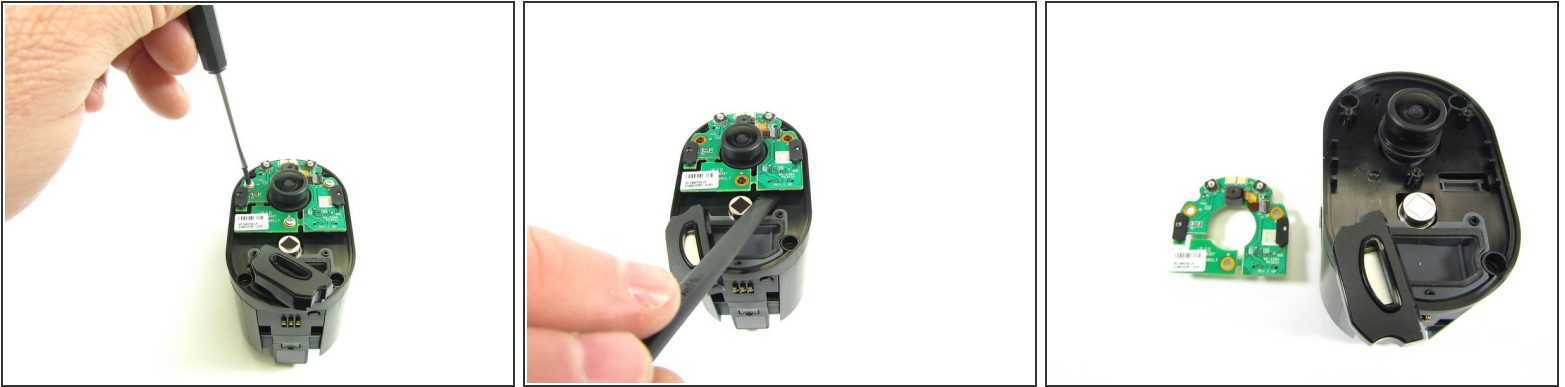
- To remove the Camera Face Plate from the Camera Body, remove the four PH00 screws in the Battery Compartment area that secure the Camera Face Plate to the Camera Body
- Use the Spudger Tool to pop off the Camera Faceplate

Step 5



- Once the Camera Face Plate has been removed, remove the small rubber gasket on the front with a Spudger Tool. At this point, we get the first look at the electronics that make up the Arlo Pro 3 Security Camera
 - Spot Light LEDs
 - Infrared Light LEDs
 - [Vesper VM1010 Wake-On-Sound MEMS Microphone](#)
 - Light Detector
 - LED
 - [PYD1548/7660 Excelites Tech Low Power Motion PIR Sensors](#)
 - Speaker / Siren - ARFALCON R01 BSE <PC> K 1-1 B9804 CB

Step 6



- The small PCB behind the camera face plate contains Sensors, LED lighting components, and Infrared Lighting LEDs. This PCB is held in place with three PH00 screws
- Remove these screws to remove the PCB
- Use a Spudger Tool to pry the PCB loose

Step 7



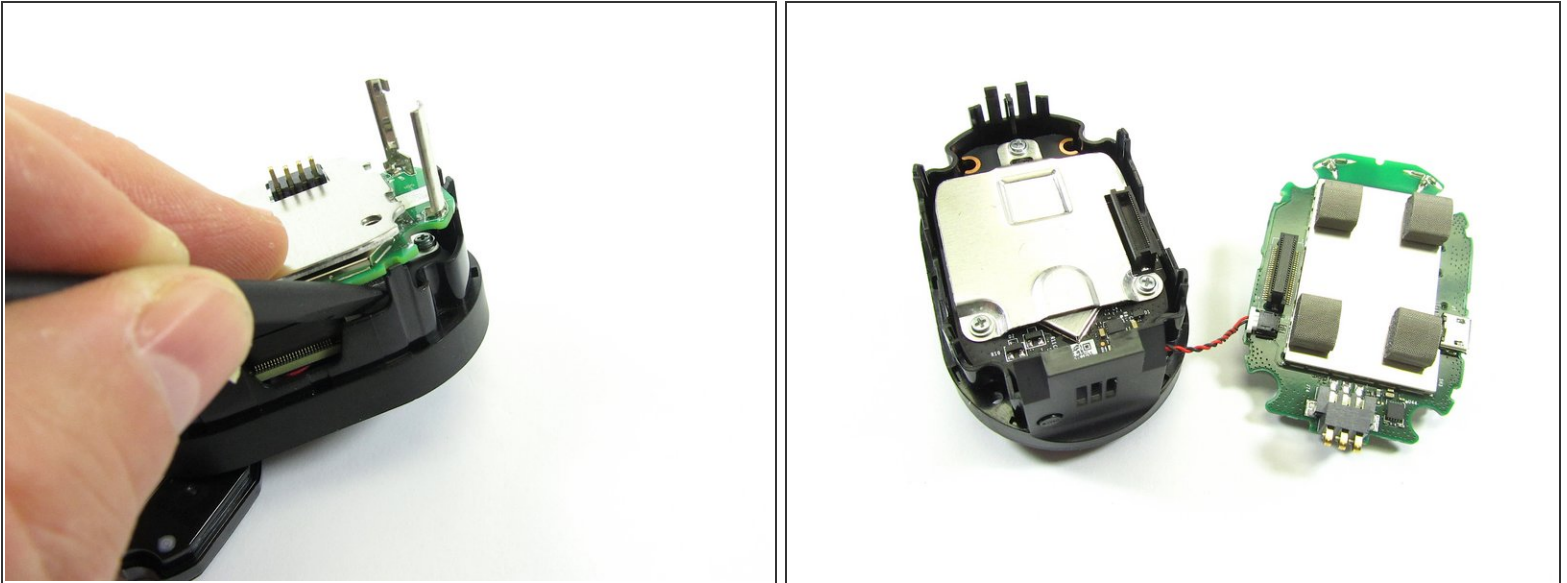
- The microphone on the PCB is held in place with a rubber gasket, and connected via flex cable
- To remove the Microphone, use a Spudger Tool to flip up the retention clip that holds the flex cable in place, and gently pop the microphone gasket from the PCB
- The microphone rubber gasket can be separated from the Microphone
- The Microphone is a [Vesper VM1010 Wake-On-Sound MEMS Microphone](#)

Step 8



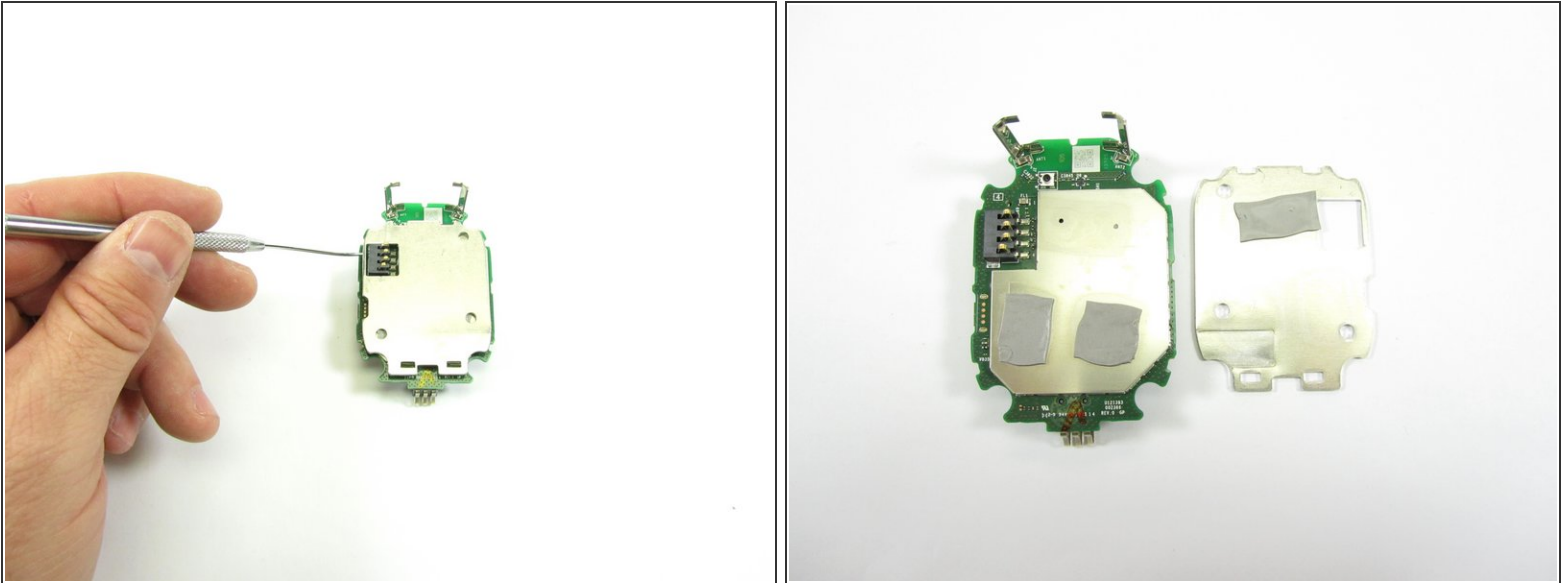
- With the PCB removed in the previous steps, use the Spudger Tool to pry the Camera face from the Camera Body
- Pull the Camera face away from the Camera Body

Step 9



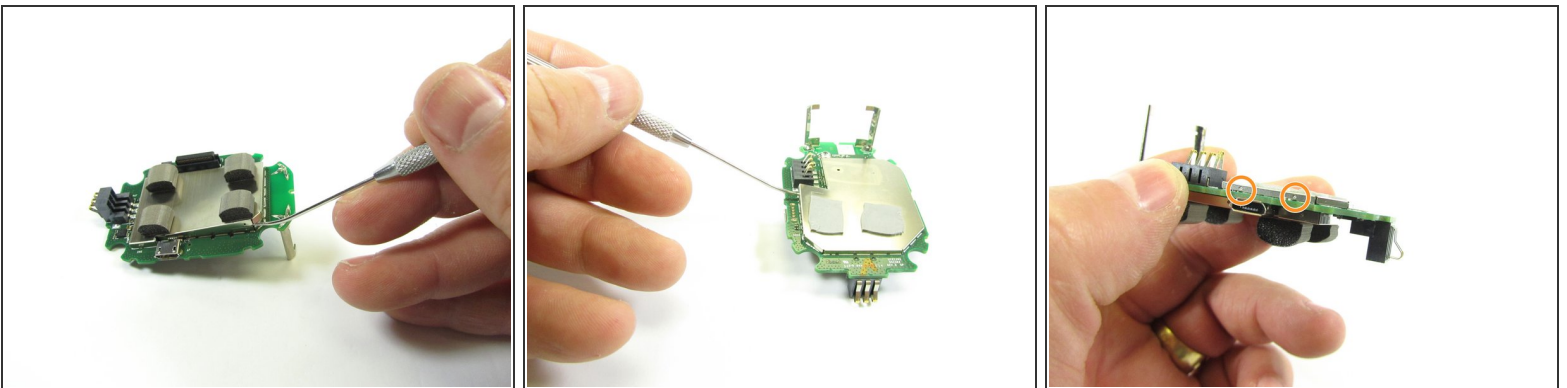
- There are two more PCBs in the camera face assembly. The Top PCB is held in place via a zero force insertion connector.
- A Spudger Tool can be used to remove the Top PCB by gently prying the Top PCB loose near the zero force insertion connector, and working around the outside of the Top PCB prying it loose further with the Spudger Tool
- The Siren/Speaker is also connected to the Top PCB and can be unplugged.

Step 10



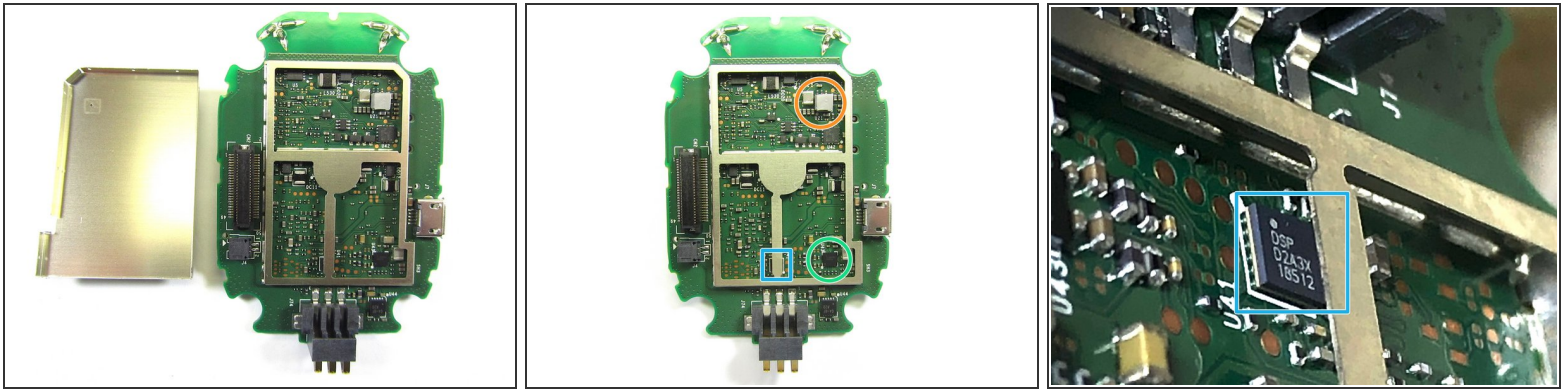
- The Top PCB has a Heatsink on it that can be removed with a Spudger or Dental Pick Tool
- The Heatsink is held in place with Thermally Conductive Adhesive Transfer Tape

Step 11



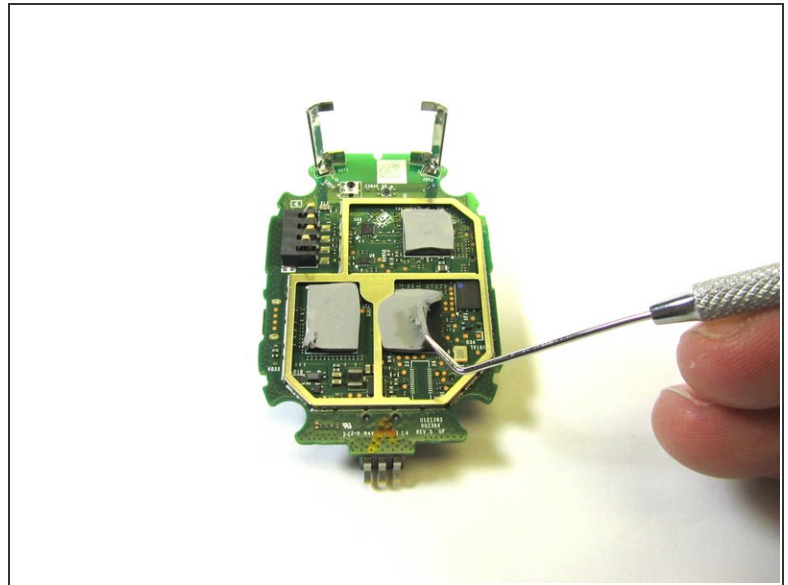
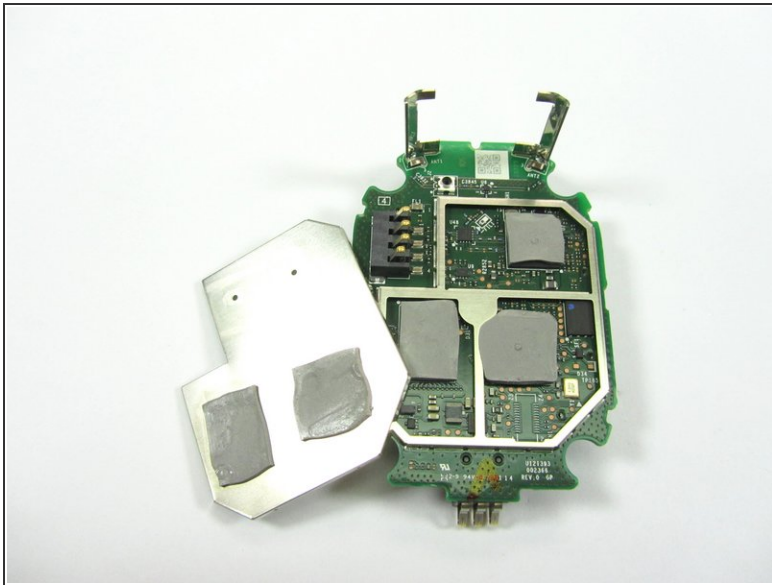
- Once the Heatsink has been removed, the Top PCB can be inspected. The Top PCB has RF Shielding on both sides
- The RF Shielding can be removed using a Dental Pick Tool
 - Pro-tip, if the RF shielding has a small circle indentation on it, there is a good chance the shield was snapped in place, and not soldered to the PCB, which makes it easier to remove

Step 12



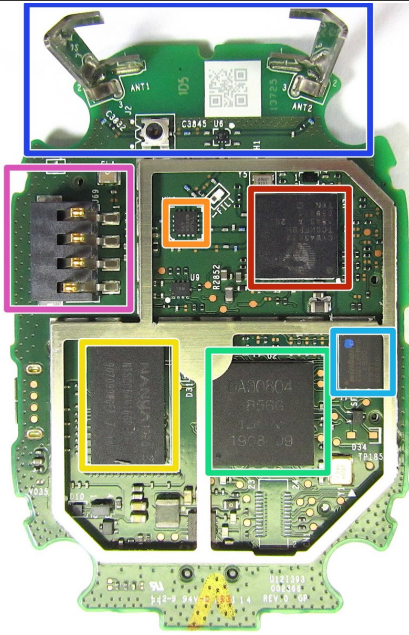
- One side of the Top PCB appears to be Power and Audio. Three components were crossed on this PCB. One Part was located up under the RF shielding Frame
 - [BQ25898](#) - I2C Controlled Single Cell 4-A Fast Charger with MaxCharge™ for High Input
 - [TAS2560](#) - 5.6W Class-D Mono Audio Amplifier with IV Sense
 - [DSP Group D2A3X](#) - Audio DSP

Step 13



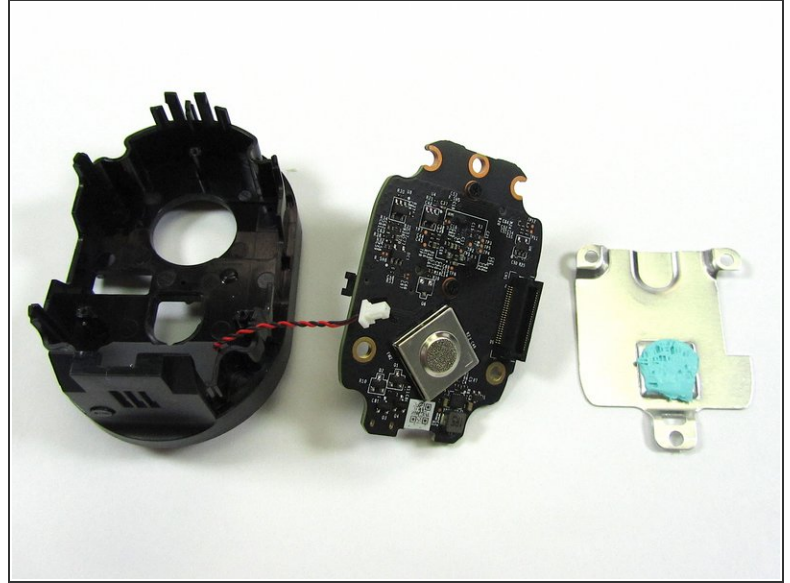
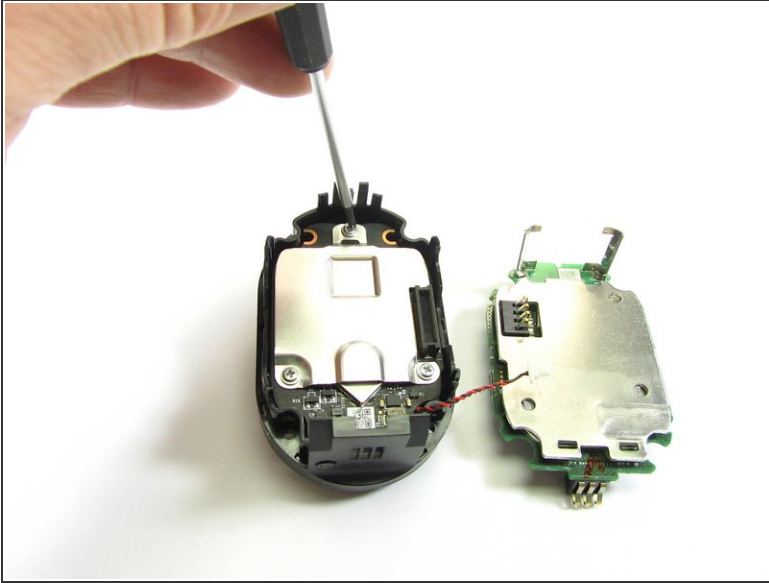
- The other side of the Top PCB has the Camera Video Image Processor, RAM, FLASH, and Wireless Communications
- These components are covered in Thermally Conductive Adhesive Transfer Tape, which can be removed with a Dental Pick Tool

Step 14



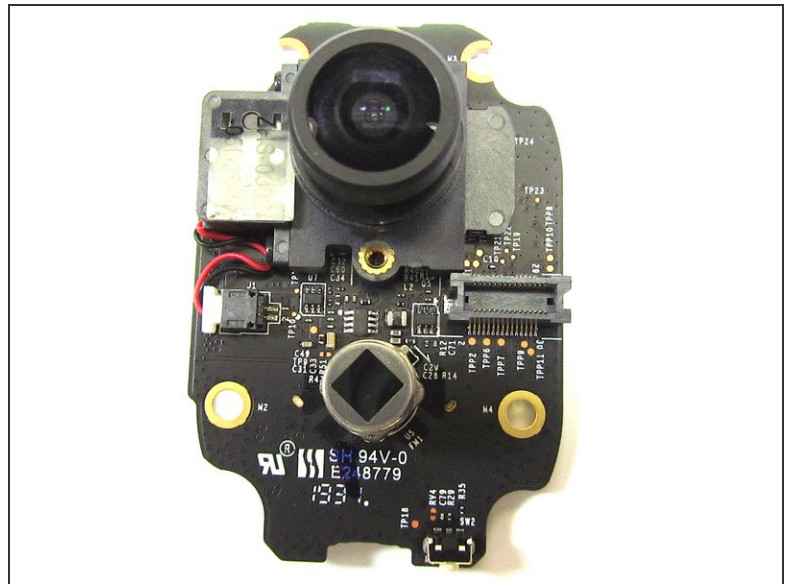
- Components on this side of the Top PCB contain the Camera Video Image Processor, RAM, FLASH, and Wireless Communications
 - [CYPRESS WiFi Chip - CYW43012](#)
 - [Skyworks WiFi Power Amplifier - SKY85329](#)
 - [Nanya Technology 2Gb/16 DDR3 RAM - NT5CC128M16](#)
 - Appears to be a video image processor - OA00804-B56G
 - [Winbon 128Mb Serial NOR FLASH - 25Q128FW](#)
 - WiFi Antenna and connector for an u.fl antenna
 - Battery Connector

Step 15



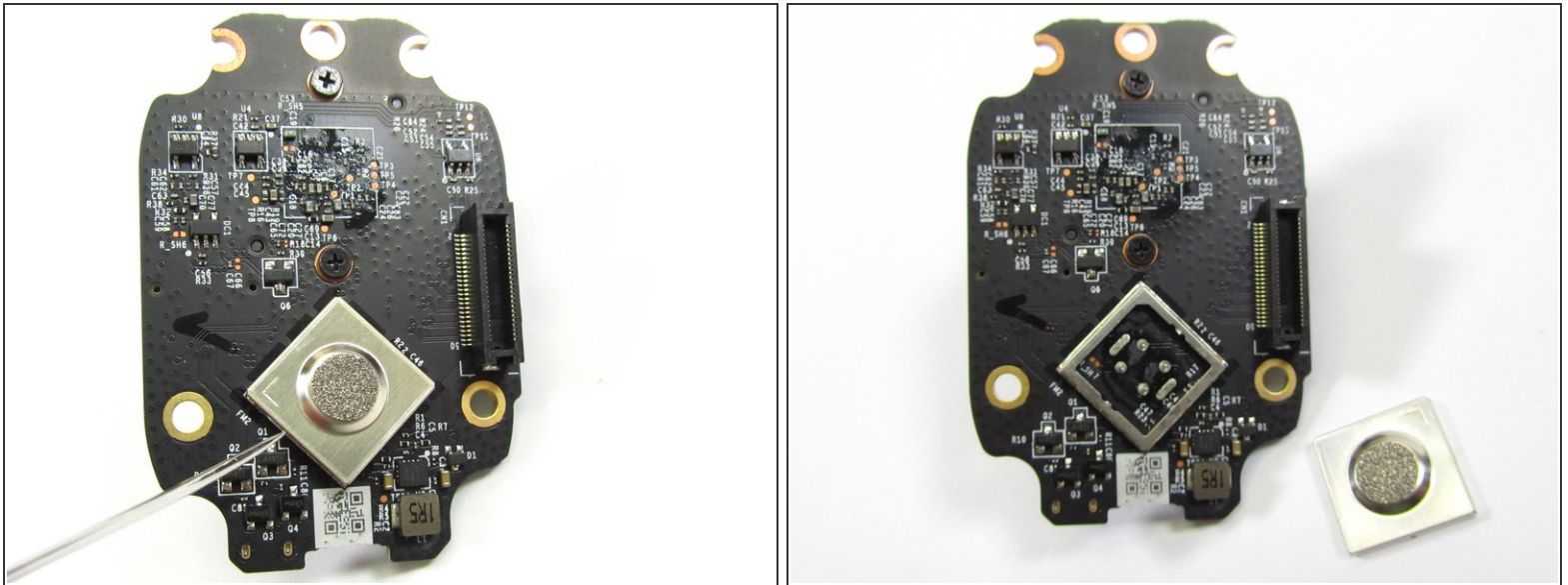
- Turning our attention to the other board in the Camera Face, we see that it is held in place with three PH00 Screws
- To remove this PCB, remove the three PH00, remove the heatsink, and then pull out the PCB

Step 16



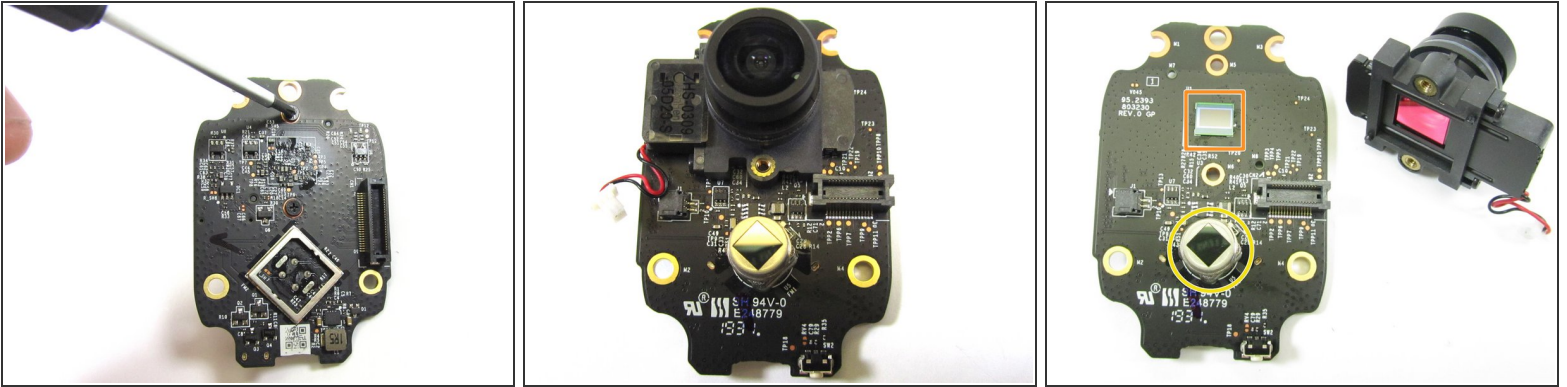
- Looking at this PCB, we see one side has a heatsink, and the other side has the Camera Lens, Camera Image Sensor, and PIR Motion detector

Step 17



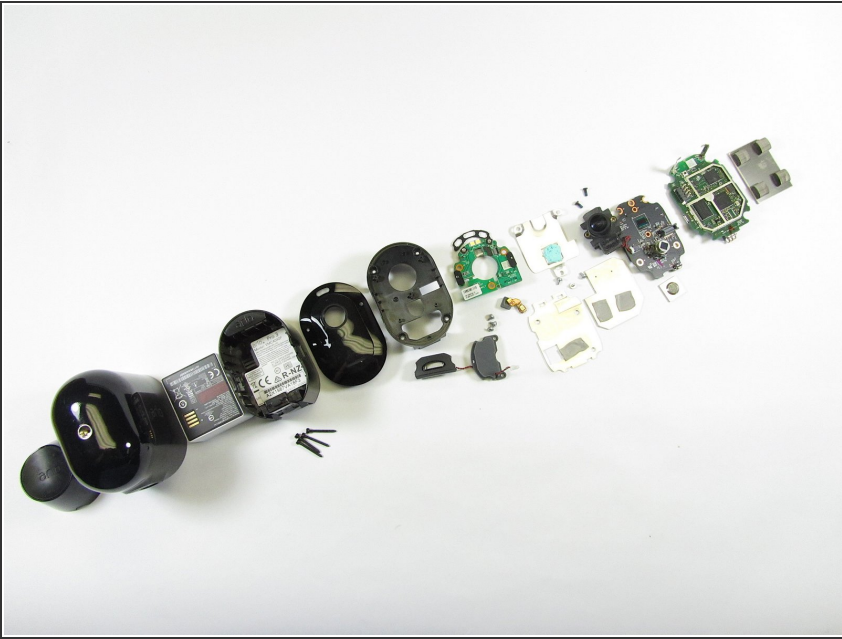
- Using a Dental Pick Tool, remove the heatsink.
- The heatsink is for the [PYD1548/7660 Excelites Tech Low Power Motion PIR Sensor](#). PIR Sensors can be kept cool to improve sensing performance
- Other components on this side of the board appear to be for power and control functions

Step 18



- On this side of the PCB, there are two PH00 screws that hold the Camera Lens in place. Remove these screws to release the Camera Lens
- The Camera Lens is motorized. There is a control wire and connector for the Camera Lens. Remove the Camera Lens wire from the connector, and pull the Camera Lens free to reveal the 2K QHD Camera Sensor
- Components:
 - 2K QHD Camera Sensor - Not marked
 - [PYD1548/7660 Excelites Tech Low Power Motion PIR Sensor](#)

Step 19



- Teardown Exploded View
 - Arlo Pro 3 2K QHD Wire-Free Security Camera