



ring Stick Up Cam with Quick Release Battery Teardown

ring Stick Up Camera with quick release rechargeable battery with WiFi support

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INTRODUCTION

A look inside the ring Stick Up Camera.

TOOLS:

- T15 Torx Screwdriver (1)
 - Spudger (1)
 - Flathead 3/32" or 2.5 mm Screwdriver (1)
 - Phillips #00 Screwdriver (1)
 - iFixit Opening Picks set of 6 (1)
 - Phillips #2 Screwdriver (1)
-

Step 1 — ring Stick Up Cam Battery Teardown



● Features:

- Inside / Outside, Ceiling / Wall Mounting, Quick Release Battery Pack
- Night Vision
- Two Way Talk
- Adjustable Motion Sensors
- 1080p HD Video
- 115° Field of View
- 2.4GHz Wireless B/G/N WiFi Connectivity

Step 2



- Remove the screw holding the mounting bracket to the ring camera with a Torx T15 Tool.

Step 3



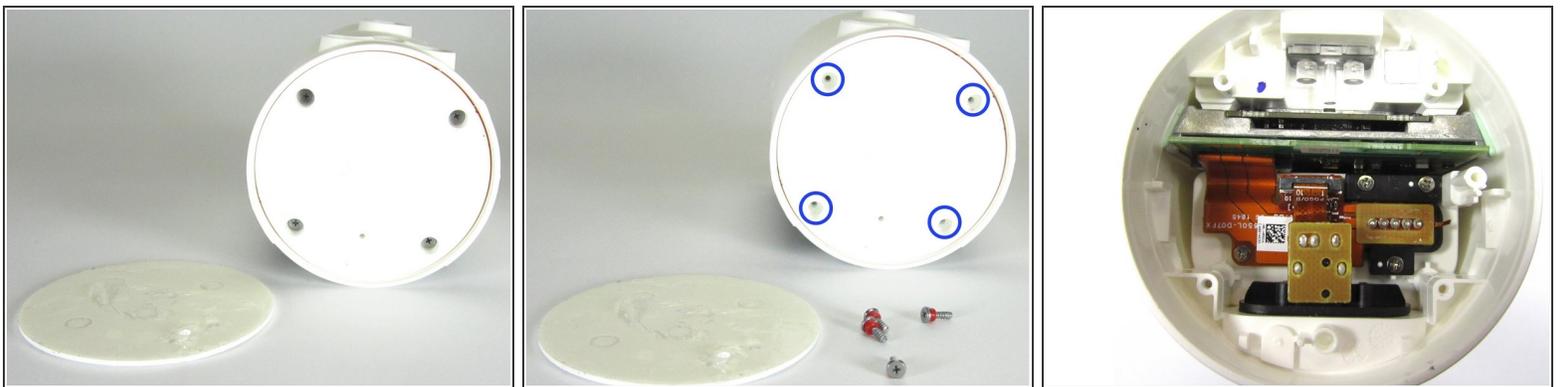
- Twist off bottom cover to access PH00 screws
- Remove the PH00 screws at the top of the battery compartment.

Step 4



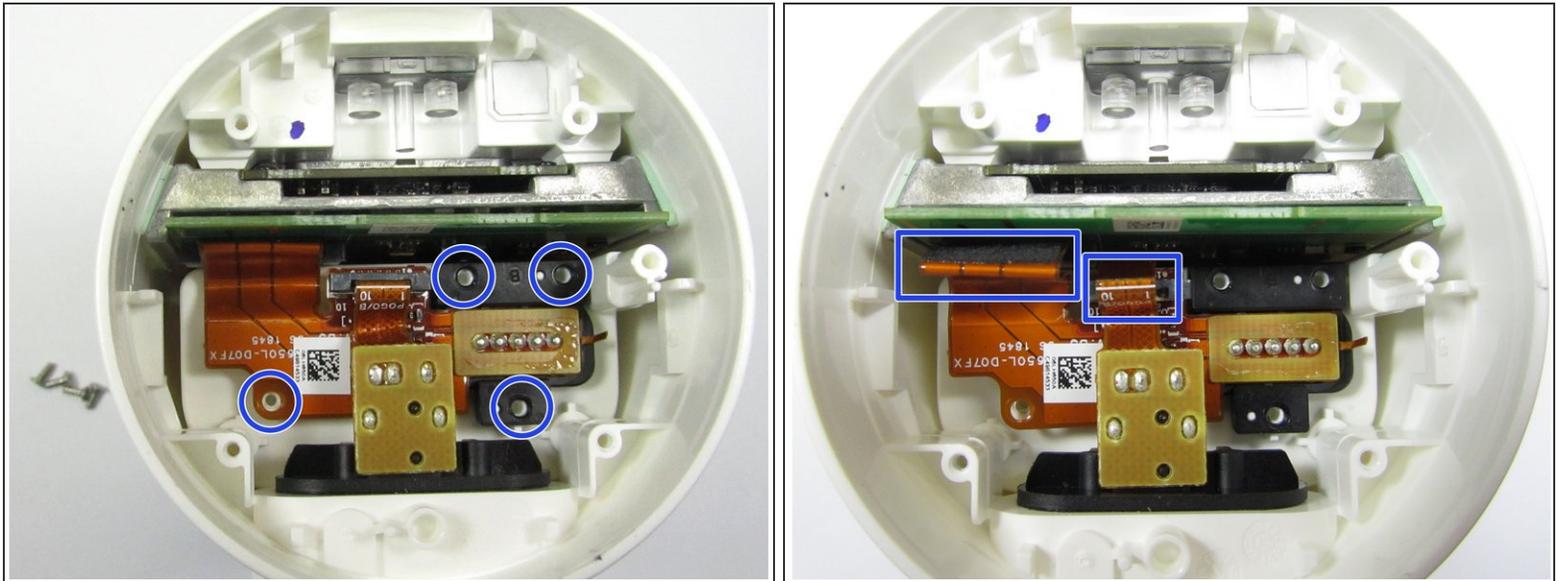
- Remove rubber pad in the battery cover with the Spudger Tool or flat head screwdriver to reveal PH00 screws that hold the battery compartment to the ring camera enclosure. Remove the PH00 screws.

Step 5



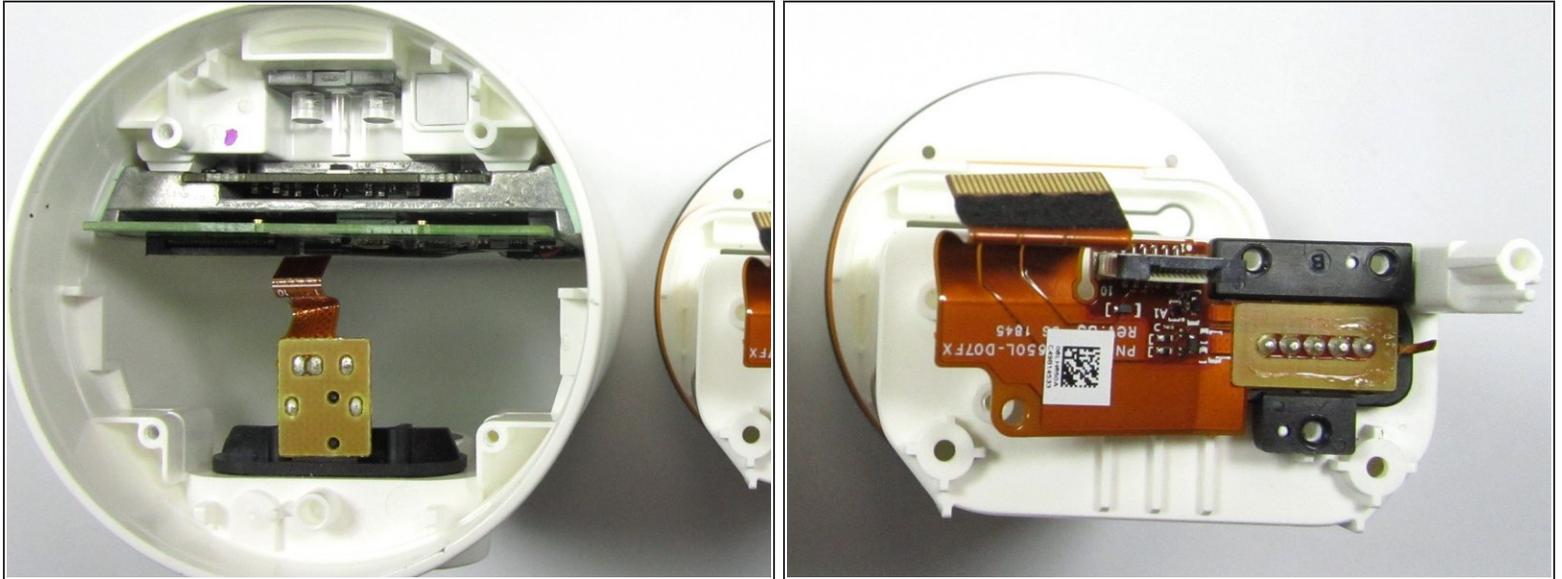
- Pry off the top cover with the Spudger Tool or a flat head screwdriver. The top cover pad is glued on and may be hard to pry loose. The top cover is thin, so no need to go too deep to pry off top cover
- Remove the top cover PH00 screws.
- Pry off the top cover to reveal internal electronic components. The top cover is held in place with an O-Ring.

Step 6



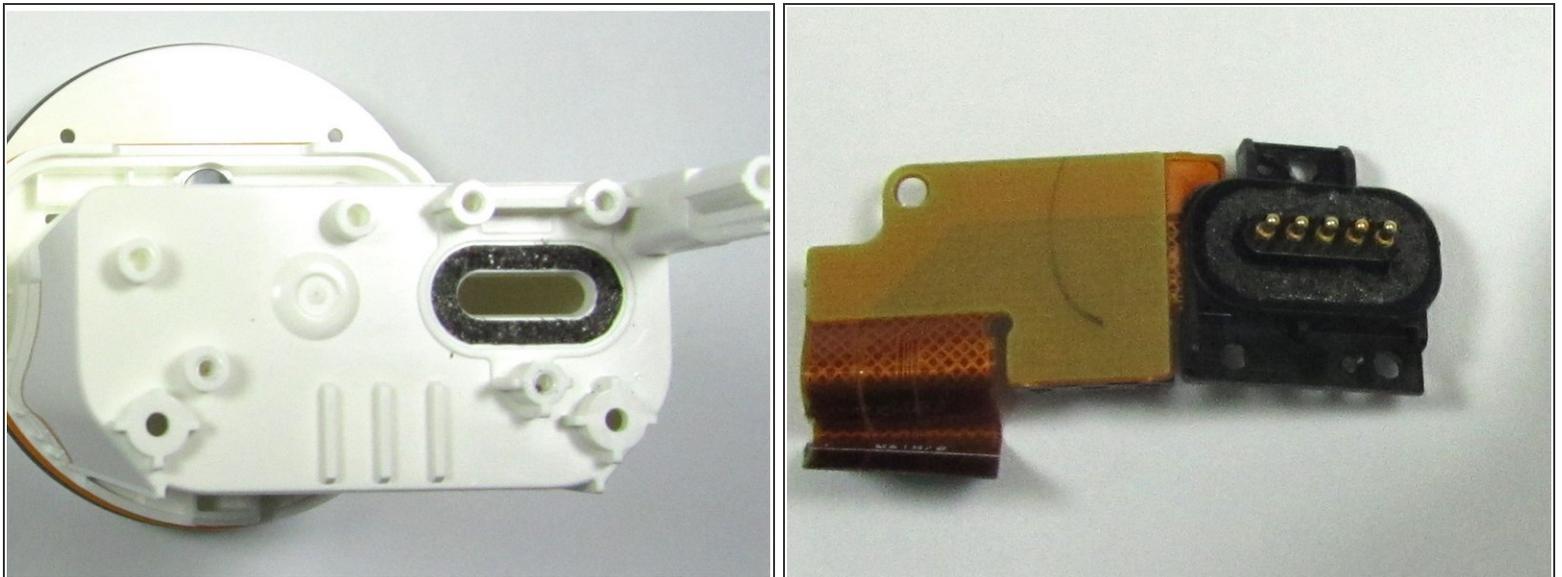
- Remove the four PH00 screws that hold the Power and Battery Connector PCBs
- Then, gently, loosen the flex ribbon cables from their connectors with the Spudger Tool, and pull the flex cables away from the connectors.

Step 7



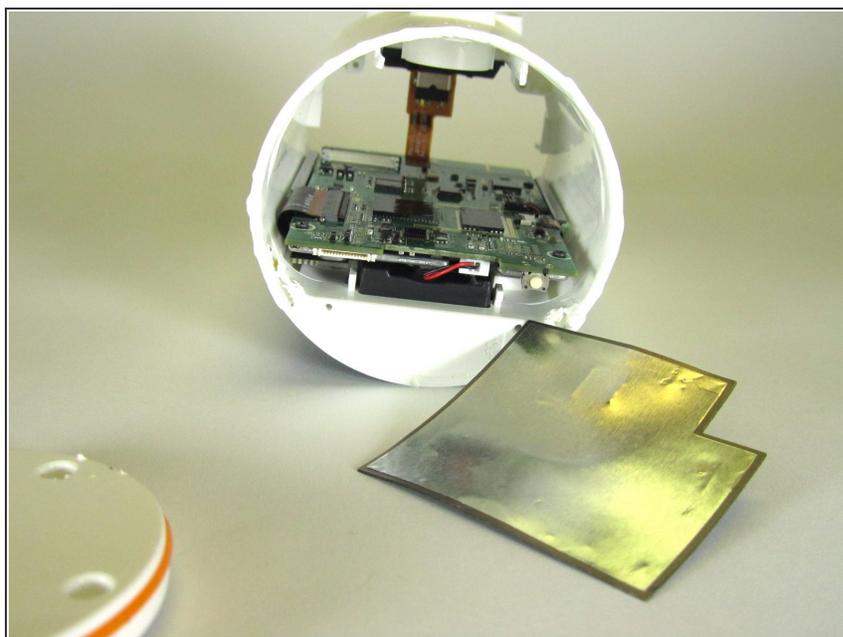
- With Spudger Tool, gently press down on the Battery Holder from the topside until it become loose. The Battery Holder, at this step, is held in place via an O-Ring. Once the Battery Holder becomes loose, gently pull it out the rest of way via the bottom of the ring camera enclosure.

Step 8



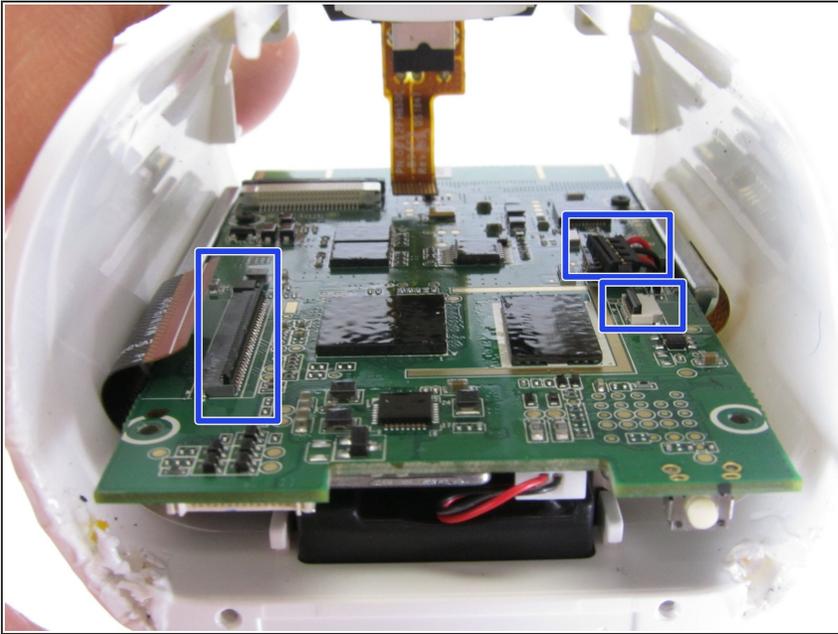
- Once the battery holder compartment has been separated from the ring camera enclosure, the battery interface PCB can be pried off the battery holder compartment using the Spudger Tool.

Step 9



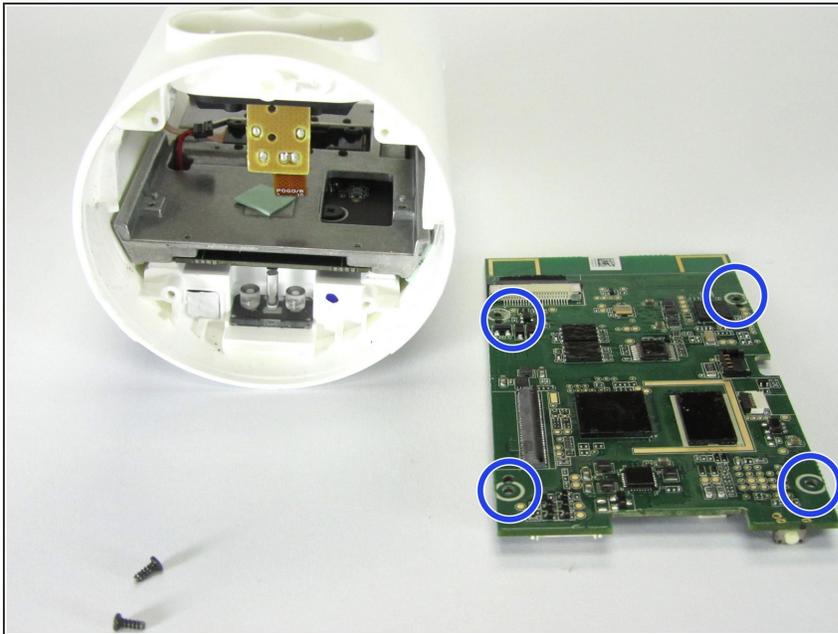
- Remove the RF Shield with the Spudger Tool. This can be removed during this step or after the PCB has been removed from the ring camera enclosure. Removing the RF Shield now helps simplify additional steps that may be needed in the teardown.

Step 10



- Loosen the two flex cables by using the Spudger Tool to pry up the flex connector tension strip. Then use the Spudger Tool to pry up the four-wire connector cable. This cable will pop up from the connector

Step 11



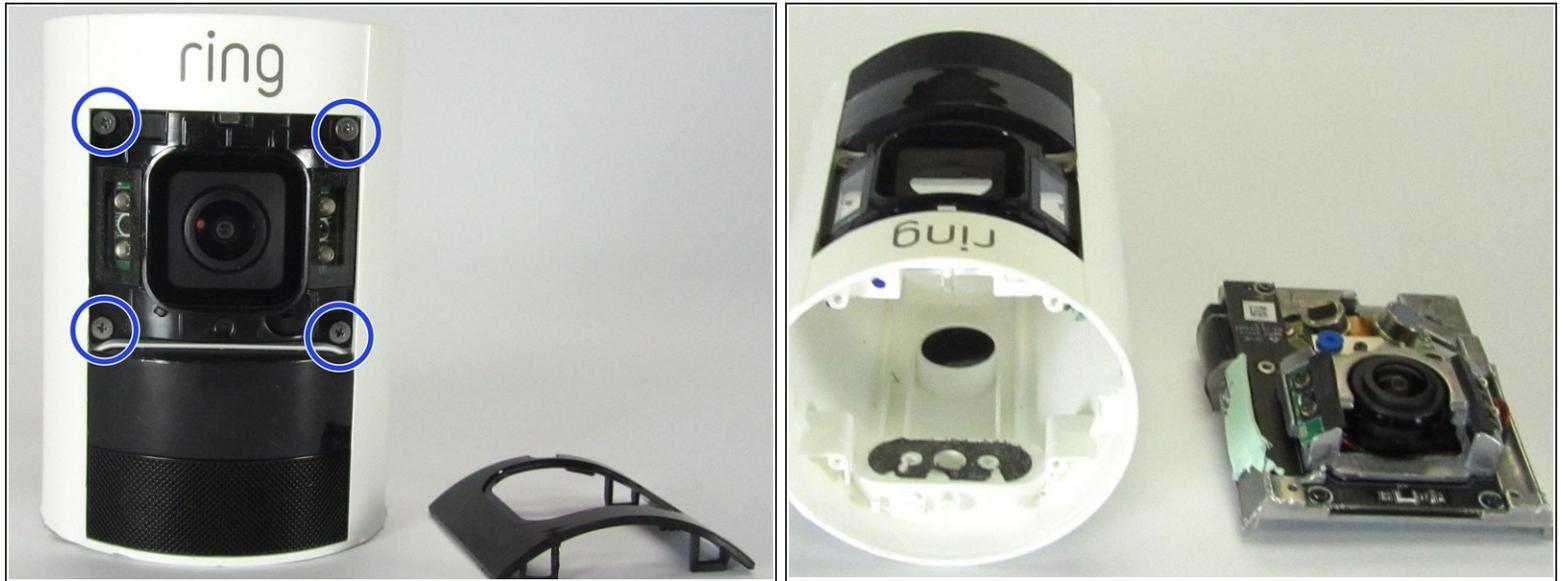
- Remove the four PH00 screws holding the PCB in place. Then use the Spudger Tool to gently pry the PCB from the double stick tape holding the PCB.

Step 12



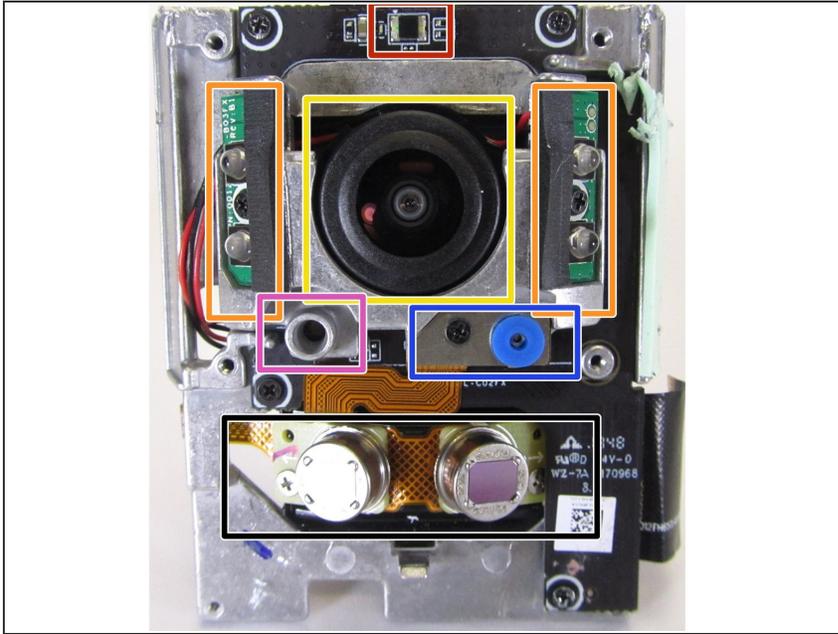
- Remove the two screws on either side of the power connector located on the top back of the ring camera enclosure using the PH2 tool.
- Then using the Spudger Tool, pop off the rubber covers on either side of the power connector cover in the back, and pry off the power connector cover. This will reveal two PH00 screws that hold the external power interface to ring camera enclosure.
- Remove the two PH00 screws on either side of the external power connector. Then gently using the Spudger Tool pry the external power connector from the ring camera enclosure.

Step 13



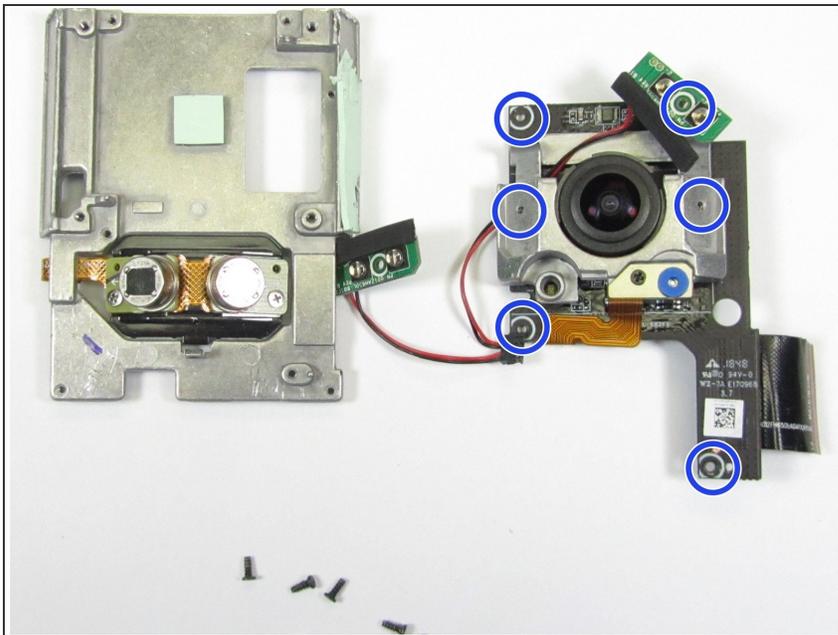
- Use the Opening Pick Tool to remove the face from around the ring camera. Insert the Opening Pick Tool between the camera face and ring camera enclosure, and work the Opening Pick Tool around the edges to release the retention clips of the camera faceplate. The Spudger Tool can also be used to pry off the camera faceplate.
- Remove the four PH00 screws located around the camera face. Once the four PH00 screws have been removed. Use the Spudger Tool to push the camera body loose from the ring camera enclosure. Then remove the camera body from the ring camera enclosure. This will remove the internal metal assembly that hold the camera, and PCBs.

Step 14



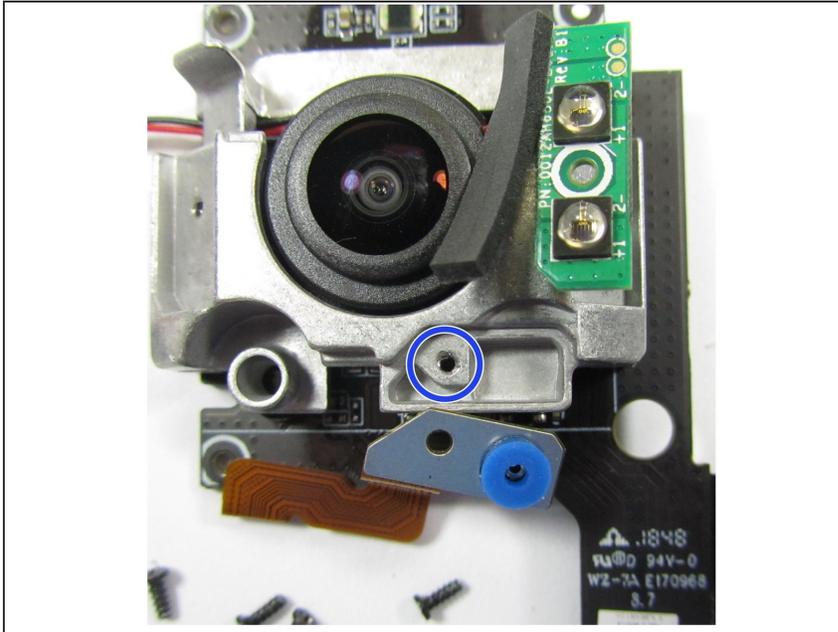
- With the camera body removed from the ring camera enclosure, we can do a review of the components that make up the camera body.
- Light Sensor
- Camera / Camera Len
- Multi-Color LED
- [Vesper VM1010 Wake-On-Sound MEMS Microphone](#)
- [PYD1698 Excelites Tech Low Power Motion PIR Sensors](#)
- Infrared LED Lights

Step 15



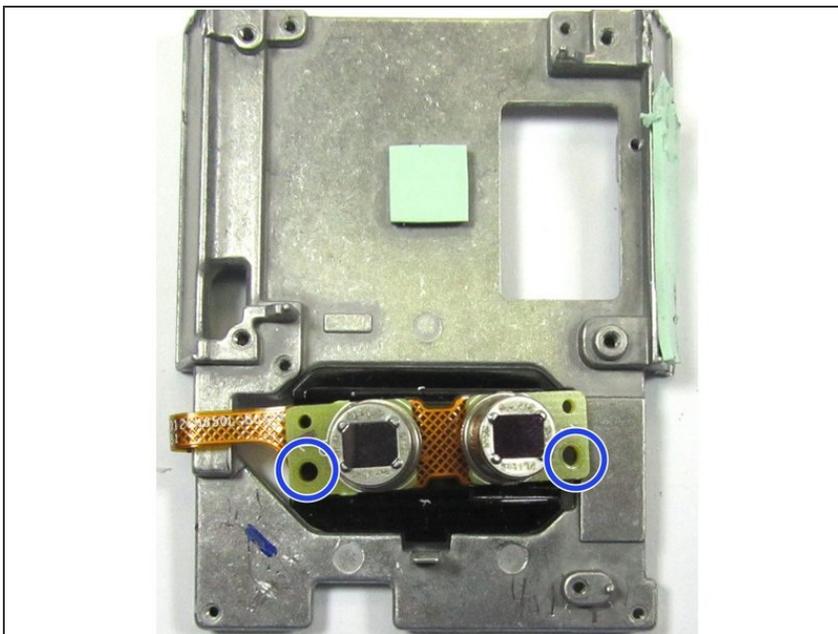
- To separate camera, and IR Light LEDs, from camera body remove the six PH00 headed screws.

Step 16



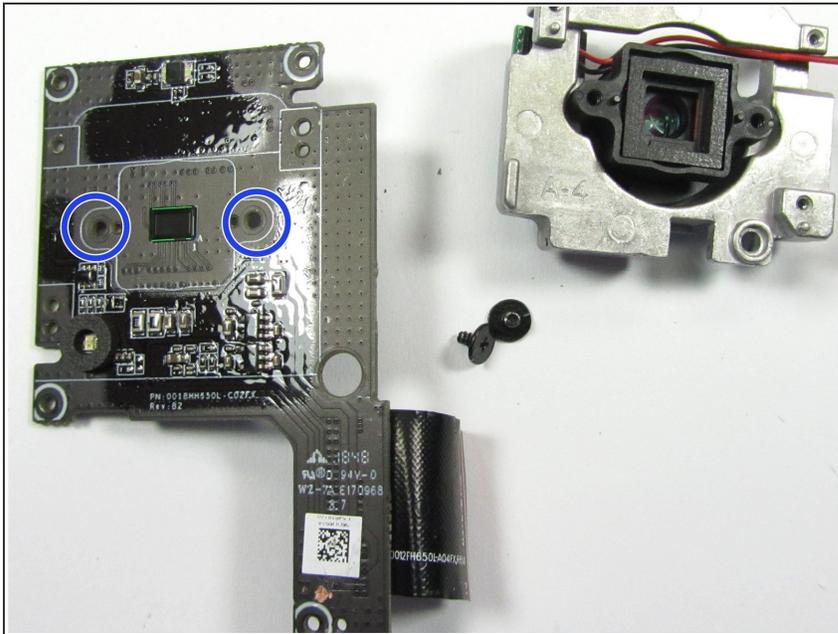
- To remove the MEMS Microphone, remove the PH00 screw.

Step 17



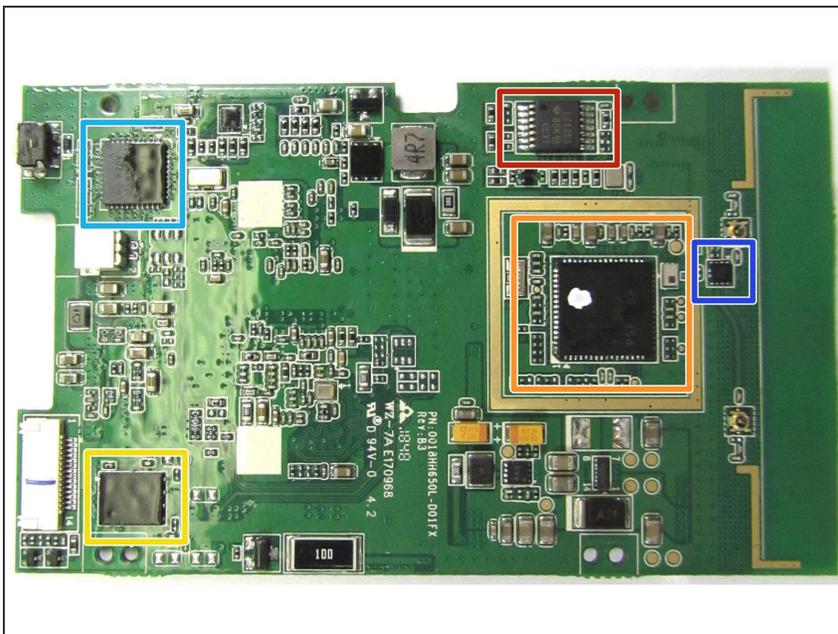
- To remove the PIR Sensors, remove the two PH00 screws holding the PIR Sensor board to the Camera Body.

Step 18



- To separate the camera Lens from the Camera Sensor PCB, remove the two PH00 screws from the back of the PCB.

Step 19

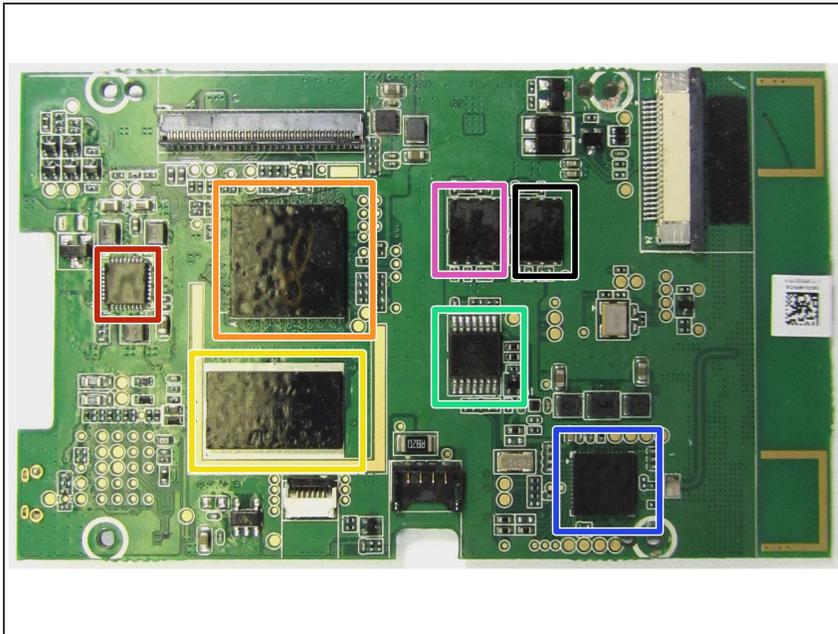


- Turning our attention back to the Main System PCB removed in an early step we can see the following

components that are on the backside of the PCB. The PCB is partially conformal coated.

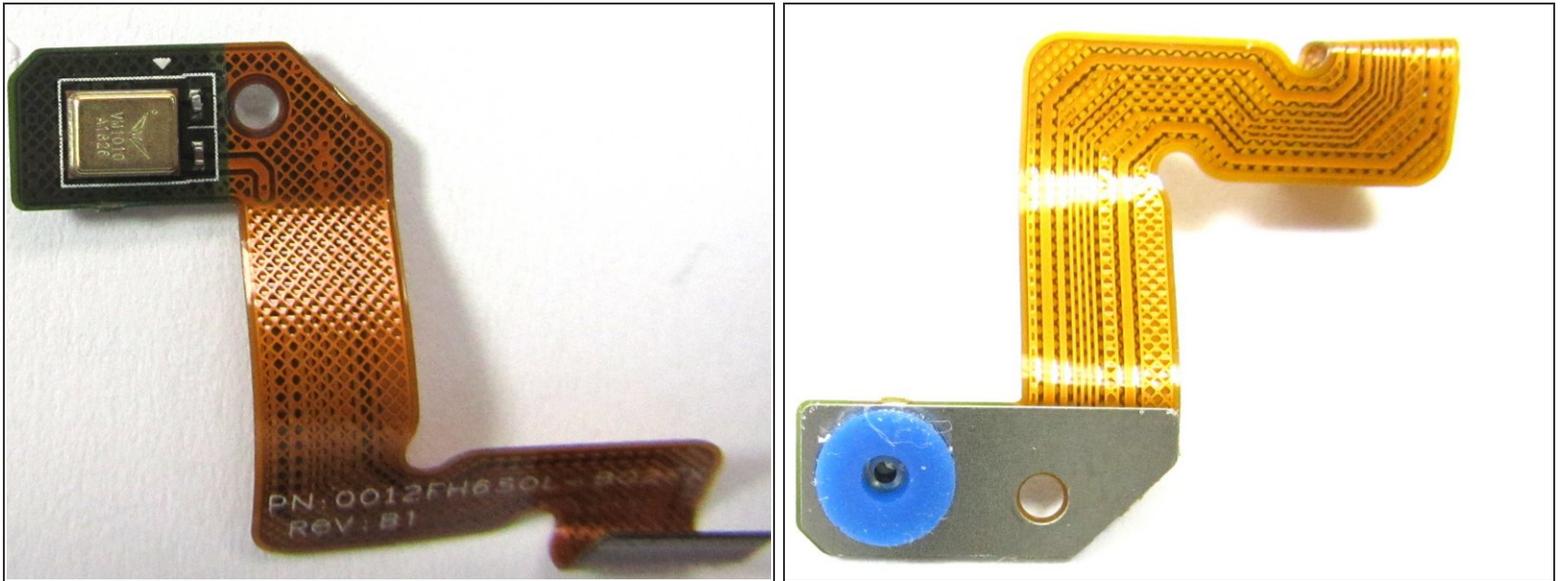
- [TI CC3220S WIFI Controller – Single-Chip Wireless MCU](#)
- [Skyworks SKY0100F](#)
- [TI LC125A – Quad Buss Buffer Gate with 3-State Outputs](#)
- [TI MSP430FR5739 MCU](#)
- [WINBond 25Q64FWIG – 64Mb Flash](#)

Step 20



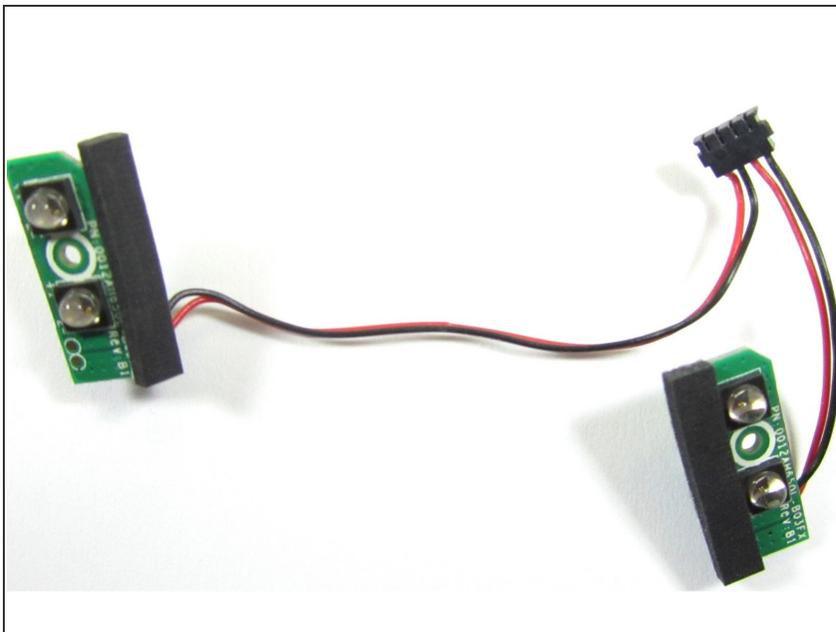
- Turning our attention back to the Main System PCB removed in an early step we can see the following components that are on the frontside of the PCB. The PCB is partially conformal coated.
 - [Omni Vision OV00798-B56G-IC - Camera Video Processor](#)
 - [WinBond W631GU6M3121 – 64M x 16 SDRAM](#)
 - [WinBond 25Q32JV10 – 32Mb Flash](#)
 - [WinBond 25Q64JV10 – 64Mb Flash](#)
 - [TI LC125A – Quad Buss Buffer Gate with 3-State Outputs](#)
 - ES 5J SEN
 - [Nordic N52832 Bluetooth 5/Bluetooth Mesh – Not listed on packaging / Product Specifications](#)

Step 21



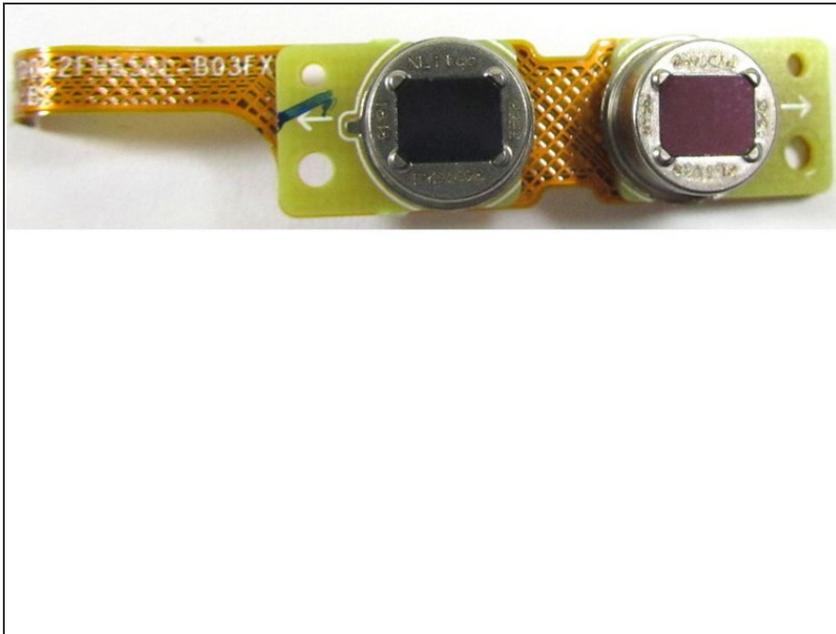
- Frontside close up view of the MEMS Microphone.
 - [Vesper VM1010 Wake-On-Sound MEMS Microphone](#)
- Backside close up view of the MEMS Microphone, which shows the Microphone port.

Step 22



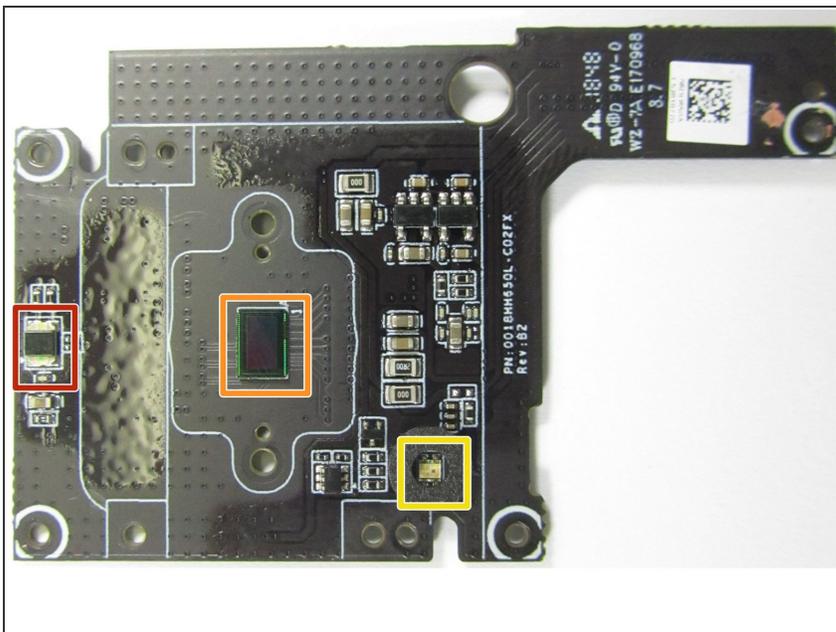
- Close up view of the IR Light LEDs

Step 23



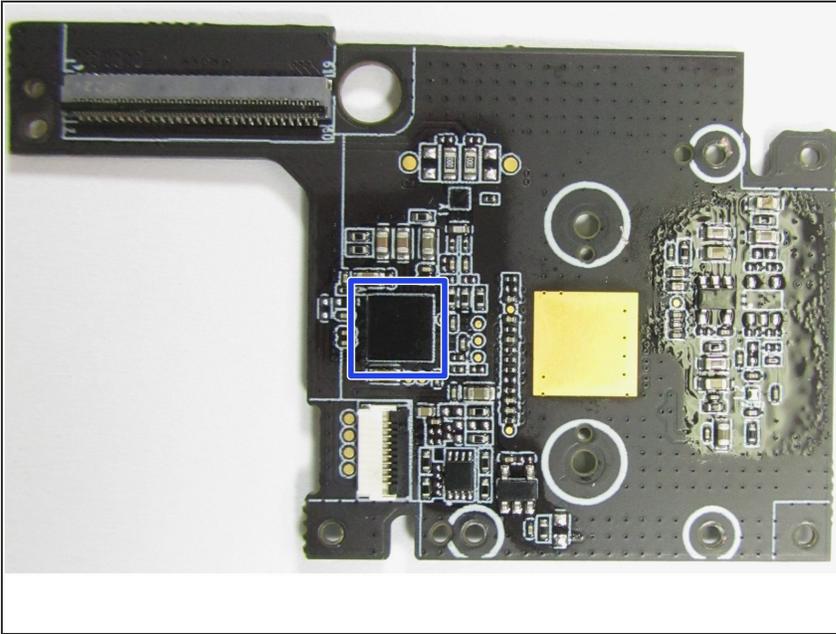
- Close up view of the PIR Sensors
- [PYD1698 Excelites Tech Low Power Motion PIR Sensors](#)

Step 24



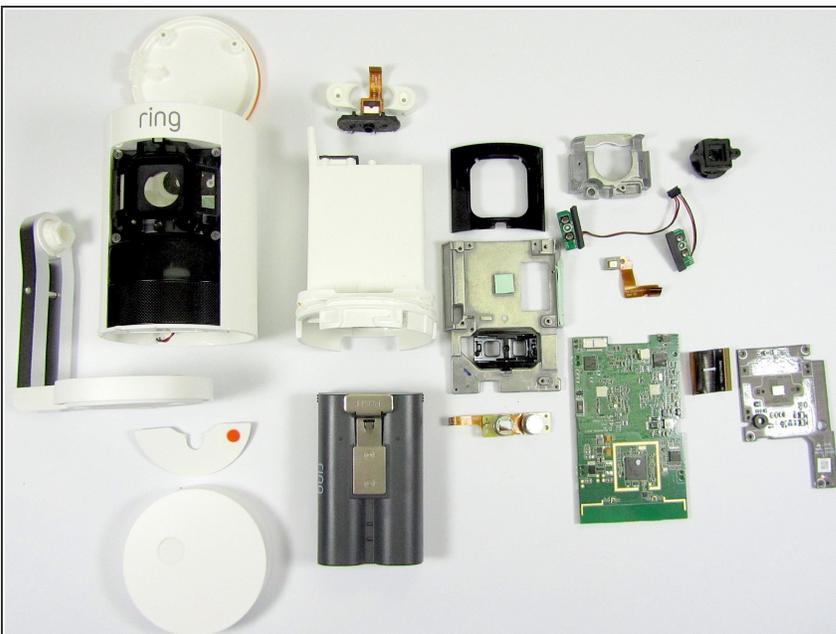
- Close up view of the camera sensor board frontside
- Image Sensor - Possibly from Omni Vision. Since Omni Vision Camera IC is used in the ring camera
- Light Sensor
- Multi-color LED

Step 25



- Close up view of the camera sensor board backside
 - TI 7BC098B1 A1C3021

Step 26



- Teardown Exploded View of the ring Stick Up Camera