The Deep Space Systems 03-01-WLA-00-501 cameras are derived from the highly capable GoPro Hero 4 camera electronics. The 03-01-WLA-00-501 cameras include a wide range of features including a 12 MP camera with 4K video recording capability.

**Size, Weight and Power:**
- Size: 3.0 x 2.6 x 2.0 in. (W x D x H)
- Weight 0.28 lbs.
- 5 VDC, Power: 10 W Peak Heater Mode, 5 W Avg Camera Recording (No LED), 2.5 W Avg Camera Idle (No LED), 1 W LED

**Performance:**
- 12 Megapixel (3840 X 2160) CMOS Image Sensor
- 4K Video @ 30fps at Full Resolution recorded to memory card.
- 640 x 720 @ 30 fps while in 1080p-sv @ 30 fps video mode recording for real-time WiFi streaming.
- 5.8 GHz RF SMA Interface
- Onboard data storage, fully Flight Programmable

The capabilities added by Deep Space Systems’ installation of a Heater-Illumination-Power (HIP) board include:
- Built In Closed Loop Heater Control (enabled upon command)
- Over-temperature shutdown protection
- 60 Lumens LED Illuminator with beam focusing lens
- Power supply diodes for over-voltage and electro-static discharge (ESD) protection

**Environmental Qualification**
- Qualified operational baseplate temperature range in vacuum: -31°F to 153°F
- Radiation Tolerant (proton and heavy ion radiation tested)
- Random Vibration: 22.93 G_rms Qual for 660 seconds
- Shock: 1700 Gs, Qual Peak Gs
- Aluminum-to-aluminum and connector body to aluminum bonding < 2.5 milliohms

**Lenses**
- Lenses are ruggedized and space qualified
  - M12 wide angle lens (VFOV = 94.4°, HFOV = 122.6°)

**Other Specifications**
- 4K Video @ 30 fps (recording)
- 1080p-sv Video @ 30 fps (recording)
- 12 MP Full resolution stills
- Up to 640 x 720 @ 30 fps streaming via WiFi
- Auto Shutter Control and Exposure
- Auto control of White Balance, Color, ISO Limit
- Sharpness, Shutter, and Exposure Value Compensation
- .jpg and .mp4 files stored in internal 64 GB MicroSD Card
- HTTP/FTP file transfer via WiFi
- 5.8 GHz WiFi
- 3 qualified lenses (many optional lenses available)
- May be operated in a fully wired mode (Near zero RF emissions)

**Video Modes:**

<table>
<thead>
<tr>
<th>Mode</th>
<th>Recording Only Resolution</th>
<th>Streaming Only Resolution</th>
<th>Streaming While Recording</th>
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</thead>
<tbody>
<tr>
<td>4K @ 30 fps</td>
<td>3840x2160</td>
<td>432x240</td>
<td>432x240</td>
</tr>
<tr>
<td>1080p-sv @ 30 fps</td>
<td>1920x1080</td>
<td>848x480</td>
<td>640x720</td>
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<tr>
<td>720p @ 30 fps</td>
<td>1280x720</td>
<td>432x240</td>
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