

协议定义

老版协议

支持的相机

C312/C313/C314/L313/L314/M112/M114/M202/L116/F801W

获取支持的功能

```
1  {
2      "cmd": "support"
3  }
4
5  respond:
6  {
7      "cmd": "support",
8      "support": {
9          "cmds":
10         "set_img_mirror_flip,set_osd_timestamp,default_wireless_ipv4,wireless,set_w
11         ireless_ipv4,name,img_mirror_flip,default_wireless,system,set_img_mode,ntp,
12         set_img_roi,set_stream_pic,support,ntp_sync,img_drc,ipv4,stream,img_exposur
13         e,default_img_flick_hz,set_img_hdr_gamma,img_focallength,default_img_drc,de
14         fault_stream,default_img_rotate,set_img_color_temp,set_img_rotate,set_image
15         ,open_stream,img_mode,get_stream,default_img_mode,close_stream,default_img_
16         cac,comdmicx,set_stream,set_wireless,img_color_temp,default_img_focallength
17         ,login,motor_demist,default_ntp,default_ipv4,default_img_color_temp,img_cac
18         ,wireless_ipv4,osd_timestamp,default_img_mirror_flip,set_img_focallength,se
19         t_img_meexposure,img_flick_hz,default_img_meexposure,img_meexposure,img_rot
20         ate,set_motor_demist,set_img_drc,set_ntp,set_img_cac,default_motor_demist,d
21         efault_img_awb,hello,default_img_roi,default_img_hdr_gamma,default_stream_p
22         ic,stream_pic,img_hdr_gamma,default_name,set_ipv4,set_img_exposure,default_
23         image,default_img_exposure,default_osd_timestamp,logout,set_img_awb,img_roi
24         ,img_awb,get_image,image,set_img_flick_hz,info_img_awb",
25         "code": 0
26     }
27 }
```

获取名称

```
1  {
2    "cmd": "name"
3  }
4
5  respond:
6  {
7    "cmd": "name",
8    "name": {
9      "code": 0,
10     "name": "IPC"
11   }
12 }
```

获取Ntp校时

```
1  {
2    "cmd": "ntp"
3  }
4
5  respond:
6  {
7    "cmd": "ntp",
8    "ntp": {
9      "code": 0,
10     "enable": false,
11     "interval": 604800,
12     "port": 123,
13     "range": {
14       "interval": {
15         "max": 5184000,
16         "min": 3600
17       },
18       "port": {
19         "max": 65535,
20         "min": 1
21       }
22     },
23     "recommend": {
24       "server": [
25         "ntp1.aliyun.com",
26         "ntp2.aliyun.com"
27       ]
28     },
29     "server": "ntp1.aliyun.com"
30   }
31 }
```

值域	类型	备注
code	数值(r)	错误码
enable	布尔(rw)	是否使能NTP
server	字符串(rw)	NTP服务器IPv4或域名
port	数值(rw)	NTP服务器端口
interval	数值(rw)	NTP校时时间间隔(单位秒)

- ntp.recommend.server : {...} 表示推荐使用的的时间同步服务器

支持的视频流格式

```
1  {
2      "cmd": "default_stream",
3      "default_stream": {
4          "chnn": 0,
5          "idx": 0
6      }
7  }
8
9  respond:
10 {
11     "cmd": "default_stream",
12     "default_stream": {
13         "bitrate": 76800,
14         "chnn": 0,
15         "code": 0,
16         "fmt": "mjpeg",
17         "frame_rate": 30,
18         "i_interval": 90,
19         "idx": 0,
20         "quality": "high",
21         "range": {
22             "bitrate": {
23                 "max": 86000,
24                 "min": 256
25             },
26             "fmt": [
27                 "mjpeg",
28                 "h264"
29             ],
30             "frame_rate": {
31                 "max": 60,
32                 "min": 1
33             },
34             "i_interval": {
35                 "max": 90,
36                 "min": 25
37             },
38             "quality": [
39                 "highest",
40                 "higher",
41                 "high",
```

```

42         "middle",
43         "low",
44         "lower",
45         "lowest"
46     ],
47     "rc_mode": [
48         "vbr",
49         "cbr"
50     ],
51     "wh": [
52         "3840*2160",
53         "1920*1080",
54     ]
55 },
56 "rc_mode": "cbr",
57 "wh": "3840*2160"
58 }
59 }

```

默认有线IP地址

```

1  {
2      "cmd": "default_ipv4",
3      "default_ipv4": {
4          "chnn": 0,
5          "idx": 0
6      }
7  }
8
9  respond:
10 {
11     "cmd": "default_ipv4",
12     "default_ipv4": {
13         "code": 0,
14         "dhcp": false,
15         "dns1": "192.168.1.1",
16         "dns2": "",
17         "gateway": "192.168.1.1",
18         "ip": "192.168.1.247",
19         "mac": "00:22:33:44:55:01",
20         "netmask": "255.255.255.0"
21     }
22 }

```

默认无线相关信息

```

1  {
2      "cmd": "default_wireless",
3      "default_wireless": {
4          "chnn": 0,
5          "idx": 0
6      }
7  }
8
9  respond:
10 {

```

```

11     "cmd": "default_wireless",
12     "default_wireless": {
13         "code": 0,
14         "enc": "wpa2-psk",
15         "net": "5g",
16         "passwd": "87654321",
17         "range": {
18             "enc": [
19                 "none",
20                 "psk",
21                 "wpa2 psk",
22                 "wpa-wpa2 psk"
23             ],
24             "net": [
25                 "2.4g",
26                 "5g"
27             ],
28             "type": [
29                 "ap",
30                 "sta"
31             ]
32         },
33         "ssid": "SLGD_CAMERA",
34         "type": "ap"
35     }
36 }

```

默认无线IP地址

```

1  {
2      "cmd": "default_wireless_ipv4",
3      "default_wireless_ipv4": {
4          "chnn": 0,
5          "idx": 0
6      }
7  }
8
9  respond:
10 {
11     "cmd": "default_wireless_ipv4",
12     "default_wireless_ipv4": {
13         "code": 0,
14         "dhcp": true,
15         "dns1": "192.168.9.1",
16         "dns2": "",
17         "gateway": "192.168.9.1",
18         "ip": "192.168.9.247",
19         "mac": "00:00:00:00:00:01",
20         "netmask": "255.255.255.0"
21     }
22 }

```

默认名称

```

1  {
2      "cmd": "default_name"
3  }
4
5  respond:
6  {
7      "cmd": "default_name",
8      "default_name": {
9          "code": 0,
10         "name": "IPC"
11     }
12 }

```

默认Ntp校时

```

1  {
2      "cmd": "default_ntp"
3  }
4
5  respond:
6  {
7      "cmd": "default_ntp",
8      "default_ntp": {
9          "code": 0,
10         "enable": false,
11         "interval": 604800,
12         "port": 123,
13         "range": {
14             "interval": {
15                 "max": 5184000,
16                 "min": 3600
17             },
18             "port": {
19                 "max": 65535,
20                 "min": 1
21             }
22         },
23         "recommend": {
24             "server": [
25                 "ntp1.aliyun.com",
26                 "ntp2.aliyun.com"
27             ]
28         },
29         "server": "ntp1.aliyun.com"
30     }
31 }

```

部分图像参数范围(曝光亮度, 对比度, 变倍, 聚焦值, 色度, 饱和度, 锐度)

```

1  {
2      "cmd": "default_image",
3      "default_image": {
4          "chnn": 0
5      }

```

```

6  }
7
8  reslut:
9  {
10     "cmd": "default_image",
11     "default_image": {
12         "bright": 40,
13         "chnn": 0,
14         "code": 0,
15         "contrast": 50,
16         "ezoom_value": 0,
17         "focus_mode": 0,
18         "focus_value": 0,
19         "hue": 50,
20         "range": {
21             "bright": {
22                 "max": 255,
23                 "min": 0
24             },
25             "contrast": {
26                 "max": 100,
27                 "min": 0
28             },
29             "ezoom_value": {
30                 "max": 50,
31                 "min": 0
32             },
33             "focus_mode": [
34                 0,
35                 1,
36                 2
37             ],
38             "focus_value": {
39                 "max": 375,
40                 "min": -25
41             },
42             "hue": {
43                 "max": 100,
44                 "min": 0
45             },
46             "saturation": {
47                 "max": 255,
48                 "min": 0
49             },
50             "sharpness": {
51                 "max": 15,
52                 "min": 0
53             }
54         },
55         "saturation": 128,
56         "sharpness": 8
57     }
58 }

```

聚焦区域范围

```
1  {
```

```
2     "cmd": "default_img_roi",
3     "default_img_roi": {
4         "chnn": 0
5     }
6 }
7
8 other respond:
9 {
10     "cmd": "default_img_roi",
11     "default_img_roi": {
12         "chnn": 0,
13         "code": 0,
14         "roi": true,
15         "roi_mode": 0,
16         "roi_x": 8,
17         "roi_y": 7
18     }
19 }
20
21 c313t 1.5.0 respond:
22 {
23     "cmd": "default_img_roi",
24     "default_img_roi": {
25         "chnn": 0,
26         "code": 0,
27         "range": {
28             "roi_big_x": {
29                 "max": 4,
30                 "min": 0
31             },
32             "roi_big_y": {
33                 "max": 4,
34                 "min": 0
35             },
36             "roi_x": {
37                 "max": 16,
38                 "min": 0
39             },
40             "roi_y": {
41                 "max": 14,
42                 "min": 0
43             }
44         },
45         "roi": true,
46         "roi_mode": 0,
47         "roi_x": 8,
48         "roi_y": 7
49     }
50 }
```


值域	类型	备注
roi	布尔	区域聚焦默认使能状态
roi_mode	布尔	默认聚焦框大小, 0-小框, 1-大框
roi_x	数值	聚焦区域x位置
roi_y	数值	聚焦区域y位置
range		大小框各自的x, y范围, 带big的为大框, 另外的为小框范围

曝光补偿范围(曝光亮度-目前弃用, 使用bright代替)

```

1  {
2      "cmd": "default_img_exposure",
3      "default_img_exposure": {
4          "chnn": 0
5      }
6  }
7
8  respond:
9  {
10     "cmd": "default_img_exposure",
11     "default_img_exposure": {
12         "chnn": 0,
13         "code": 0,
14         "compensation": 56,
15         "range": {
16             "compensation": {
17                 "max": 255,
18                 "min": 0
19             }
20         }
21     }
22 }
23

```

手动曝光范围

```

1  {
2      "cmd": "default_img_meexposure",
3      "default_img_meexposure": {
4          "chnn": 0
5      }
6  }
7
8  respond:
9  {
10     "cmd": "default_img_meexposure",
11     "default_img_meexposure": {
12         "code": 0,
13         "chnn": 0,
14         "expo_type": 0,
15         "a_gain": 0,
16         "shuttertime": 0,

```

```

17         "range": {
18             "a_gain": {
19                 "max": 33,
20                 "min": 0
21             },
22             "expo_type": {
23                 "max": 1,
24                 "min": 0
25             },
26             "shuttertime": {
27                 "max": 333,
28                 "min": 0
29             }
30         }
31     }
32 }

```

白平衡范围

```

1  {
2      "cmd": "default_img_awb",
3      "default_img_awb": {
4          "chnn": 0
5      }
6  }
7
8  respond:
9  {
10     "cmd": "default_img_awb",
11     "default_img_awb": {
12         "awb": "manual",
13         "b": 456,
14         "chnn": 0,
15         "code": 0,
16         "gb": 256,
17         "gr": 256,
18         "r": 513,
19         "range": {
20             "awb": [
21                 "auto",
22                 "manual"
23             ],
24             "b": {
25                 "max": 4095,
26                 "min": 1
27             },
28             "gb": {
29                 "max": 4095,
30                 "min": 1
31             },
32             "gr": {
33                 "max": 4095,
34                 "min": 1
35             },
36             "r": {
37                 "max": 4095,
38                 "min": 1

```

```
39     }
40   }
41 }
42 }
```

gamma值范围

```
1  {
2    "cmd": "default_img_hdr_gamma",
3    "default_img_hdr_gamma": {
4      "chnn": 0
5    }
6  }
7
8  respond:
9  {
10    "cmd": "default_img_hdr_gamma",
11    "default_img_hdr_gamma": {
12      "code": 0,
13      "chnn": 0,
14      "level": 1,
15      "range": {
16        "level": {
17          "max": 3,
18          "min": 0
19        }
20      }
21    }
22  }
```

消反光范围

```
1  {
2    "cmd": "default_img_drc",
3    "default_img_drc": {
4      "chnn": 0
5    }
6  }
7
8  respond:
9  {
10    "cmd": "default_img_drc",
11    "default_img_drc": {
12      "chnn": 0,
13      "code": 0,
14      "drc": 150,
15      "range": {
16        "drc": {
17          "max": 255,
18          "min": 0
19        }
20      }
21    }
22  }
```

获取视频流格式 (F801W)

```
1  {
2    "cmd": "stream",
3    "stream": {
4      "chnn": 0,
5      "idx": 0
6    }
7  }
8
9  respond:
10 {
11   "cmd": "stream",
12   "stream": {
13     "idx": 0,
14     "range": {
15       "rc_mode": [
16         "vbr",
17         "cbr"
18       ],
19       "quality": [
20         "highest",
21         "higher",
22         "high",
23         "middle",
24         "low",
25         "lower",
26         "lowest"
27       ],
28       "frame_rate": {
29         "max": 25,
30         "min": 1
31       },
32       "bitrate": {
33         "max": 24576,
34         "min": 2
35       },
36       "i_interval": {
37         "max": 90,
38         "min": 25
39       },
40       "wh": [
41         "1920*1080",
42         "1280*720",
43         "960*540"
44       ],
45       "fmt": [
46         "h264"
47       ]
48     },
49     "wh": "1920*1080",
50     "frame_rate": 25,
51     "chnn": 0,
52     "fmt": "h264",
53     "i_interval": 90,
54     "rc_mode": "cbr",
55     "quality": "high",
```

```
56     "bitrate": 20000,  
57     "code": 0  
58   }  
59 }
```

获取当前图像参数

```
1  {  
2    "cmd": "get_image",  
3    "get_image": {  
4      "chnn": 0,  
5      "idx": 0  
6    }  
7  }  
8  
9  respond:  
10 {  
11   "cmd": "get_image",  
12   "get_image": {  
13     "code": 0,  
14     "chnn": 0,  
15     "idx": 0,  
16     "bright": 40,  
17     "contrast": 50,  
18     "ezoom_value": 0,  
19     "focus_mode": 0,  
20     "focus_value": 275,  
21     "hue": 50,  
22     "saturation": 128,  
23     "sharpness": 8  
24   }  
25 }  
26  
27 // F801w  
28 {  
29   "cmd": "image",  
30   "image": {  
31     "chnn": 0,  
32     "idx": 0  
33   }  
34 }  
35  
36 respond:  
37 {  
38   "cmd": "image",  
39   "image": {  
40     "bright": 50,  
41     "saturation": 50,  
42     "code": 0,  
43     "hue": 50,  
44     "contrast": 50,  
45     "chnn": 0  
46   }  
47 }
```

获取当前聚焦区域

```

1  {
2      "cmd": "img_roi",
3      "img_roi": {
4          "chnn": 0,
5          "idx": 0
6      }
7  }
8
9  respond:
10 {
11     "cmd": "img_roi",
12     "img_roi": {
13         "chnn": 0,
14         "code": 0,
15         "idx": 0,
16         "roi": true,
17         "roi_mode": 0,
18         "roi_x": 8,
19         "roi_y": 7
20     }
21 }

```

获取当前手动曝光值

```

1  {
2      "cmd": "img_meexposure",
3      "img_meexposure": {
4          "chnn": 0
5      }
6  }
7
8  respond:
9  {
10     "cmd": "img_meexposure",
11     "img_meexposure": {
12         "a_gain": 8,
13         "chnn": 0,
14         "code": 0,
15         "expo_type": 0,
16         "range": {
17             "a_gain": {
18                 "max": 33,
19                 "min": 0
20             },
21             "expo_type": {
22                 "max": 1,
23                 "min": 0
24             },
25             "shuttertime": {
26                 "max": 333,
27                 "min": 0
28             }
29         },
30         "shuttertime": 243
31     }
32 }

```

获取当前白平衡模式（其余值均有误）

```
1  {
2      "cmd": "img_awb",
3      "img_awb": {
4          "chnn": 0
5      }
6  }
7
8  other respond:
9  {
10     "cmd": "img_awb",
11     "img_awb": {
12         "awb": "auto",
13         "b": 421,
14         "chnn": 0,
15         "code": 0,
16         "gb": 2346,
17         "gr": 2346,
18         "r": 1899,
19         "range": {
20             "awb": [
21                 "auto",
22                 "manual"
23             ],
24             "b": {
25                 "max": 4095,
26                 "min": 0
27             },
28             "gb": {
29                 "max": 4095,
30                 "min": 0
31             },
32             "gr": {
33                 "max": 4095,
34                 "min": 0
35             },
36             "r": {
37                 "max": 4095,
38                 "min": 0
39             }
40         }
41     }
42 }
43
44 c313t 1.5.0 respond:
45 {
46     "cmd": "img_awb",
47     "img_awb": {
48         "code": 0,
49         "chnn": 0,
50         "awb": "auto",
51         "b": 378,
52         "gb": 256,
53         "gr": 256,
54         "r": 667
55     }
```

```
56 | }
57 |
```

获取白平衡当前值

```
1  {
2      "cmd": "info_img_awb",
3      "info_img_awb": {
4          "chnn": 0
5      }
6  }
7
8  other respond:
9  {
10     "cmd": "info_img_awb",
11     "info_img_awb": {
12         "b": 456,
13         "chnn": 0,
14         "code": 0,
15         "gb": 256,
16         "gr": 256,
17         "r": 513
18     }
19 }
20
21 c313t 1.5.0 respond:
22 {
23     "cmd": "img_awb",
24     "img_awb": {
25         "code": 0,
26         "chnn": 0,
27         "awb": "auto",
28         "b": 378,
29         "gb": 256,
30         "gr": 256,
31         "r": 667
32     }
33 }
34
```

获取镜像翻转状态

```
1  {
2      "cmd": "img_mirror_flip",
3      "img_mirror_flip": {
4          "chnn": 0
5      }
6  }
7
8  respond:
9  {
10     "cmd": "img_mirror_flip",
11     "img_mirror_flip": {
12         "chnn": 0,
13         "code": 0,
14         "flip": false,
```



```
15     "mirror": false
16   }
17 }
```

获取当前gamma值

```
1  {
2    "cmd": "img_hdr_gamma",
3    "img_hdr_gamma": {
4      "chnn": 0,
5      "idx": 0
6    }
7  }
8
9  respond:
10 {
11   "cmd": "img_hdr_gamma",
12   "img_hdr_gamma": {
13     "chnn": 0,
14     "code": 0,
15     "idx": 0,
16     "level": 1
17   }
18 }
```

获取除雾状态

```
1  {
2    "cmd": "motor_demist",
3    "motor_demist": {
4      "chnn": 0
5    }
6  }
7
8  respond:
9  {
10   "cmd": "motor_demist",
11   "motor_demist": {
12     "code": 0,
13     "demist": false
14   }
15 }
```

获取抗频闪状态(false-60hz, true-50hz)

```
1  {
2    "cmd": "img_flick_hz",
3    "img_flick_hz": {
4      "chnn": 0
5    }
6  }
7
8  respond
9  {
```

```
10     "cmd": "img_flick_hz",
11     "img_flick_hz": {
12         "chnn": 0,
13         "code": 0,
14         "flick": false
15     }
16 }
```

获取当前系统信息

```
1  {
2      "cmd": "system"
3  }
4
5  respond:
6  {
7      "cmd": "system",
8      "system": {
9          "build_time": "Jul 19 2024 15:17:17",
10         "chnn_num": 1,
11         "code": 0,
12         "dev_type": "ipc",
13         "disk_num": 0,
14         "hw_ver": "h1.5.0",
15         "mac": "00:13:09:FE:45:78",
16         "mac_wireless": "00:13:09:FE:45:79",
17         "model": "C313_IPC",
18         "model_suffix": "T", // C313T/L116T新增字段
19         "sn": "YDFE4EFD FESHEDFR",
20         "sw_ver": "v1.5.0",
21         "wifi": true // WIFI相机新增字段
22     }
23 }
```

获取IP信息

```
1  {
2      "cmd": "ipv4"
3  }
4
5  respond:
6  {
7      "cmd": "ipv4",
8      "ipv4": {
9          "code": 0,
10         "dhcp": false,
11         "dns1": "192.168.1.1",
12         "dns2": "",
13         "gateway": "192.168.3.1",
14         "ip": "192.168.3.212",
15         "mac": "",
16         "netmask": "255.255.255.0"
17     }
18 }
```

获取无线IP地址

```
1  {
2    "cmd": "wireless_ipv4"
3  }
4
5  respond:
6  {
7    "cmd": "wireless_ipv4",
8    "wireless_ipv4": {
9      "code": 0,
10     "dhcp": false,
11     "dns1": "192.168.1.1",
12     "dns2": "",
13     "gateway": "192.168.3.1",
14     "ip": "192.168.3.212",
15     "mac": "",
16     "netmask": "255.255.255.0"
17   }
18 }
```

获取无线网口参数

```
1  {
2    "cmd": "wireless"
3  }
4
5  respond:
6  {
7    "cmd": "wireless",
8    "wireless": {
9      "code": 0,
10     "sta_ssid": "HUAWEI_5G",
11     "sta_passwd": "SL123456",
12     "ap_ssid": "SL_WIFI_Camera1",
13     "ap_passwd": "123456789",
14     "net": "5g",
15     "type": "sta",
16     "enc": "wpa-wpa2 psk",
17     "range": {
18       "net": [
19         "2.4g",
20         "5g"
21       ],
22       "enc": [
23         "none",
24         "psk",
25         "wpa2 psk",
26         "wpa-wpa2 psk"
27       ],
28       "type": [
29         "ap",
30         "sta",
31         "concurrent"
32       ]
33     }
34   }
35 }
```

```
34     }
35 }
```

设置图像参数(聚焦, 变倍, 色度, 饱和度, 对比度, 锐度, 曝光亮度)

```
1  {
2      "cmd": "set_image",
3      "set_image": {
4          "bright": 56,
5          "chnn": 0,
6          "contrast": 50,
7          "ezoom_value": -1,
8          "focus_mode": 0,
9          "focus_value": 0,
10         "hue": 50,
11         "saturation": 128,
12         "sharpness": 8
13     }
14 }
15
16 respond:
17 {
18     "cmd": "set_image",
19     "set_image": {
20         "code": 0
21     }
22 }
```

设置聚焦区域

```
1  {
2      "cmd": "set_img_roi",
3      "set_img_roi": {
4          "chnn": 0,
5          "roi": true,
6          "roi_mode": 0,
7          "roi_x": 8,
8          "roi_y": 7
9      }
10 }
11
12 respond:
13 {
14     "cmd": "set_img_roi",
15     "set_img_roi": {
16         "code": 0
17     }
18 }
```

设置曝光参数(模式, 增益, 快门)

```

1  {
2      "cmd": "set_img_meexposure",
3      "set_img_meexposure": {
4          "a_gain": 0,
5          "chnn": 0,
6          "expo_type": 0,
7          "shuttertime": 150
8      }
9  }
10
11 respond:
12 {
13     "cmd": "set_img_meexposure",
14     "set_img_meexposure": {
15         "code": 0
16     }
17 }

```

设置白平衡

```

1  {
2      "cmd": "set_img_awb",
3      "set_img_awb": {
4          "awb": "manual",
5          "b": 421,
6          "chnn": 0,
7          "gb": 256,
8          "gr": 256,
9          "r": 628
10     }
11 }
12
13 respond:
14 {
15     "cmd": "set_img_awb",
16     "set_img_awb": {
17         "code": 0
18     }
19 }

```

设置翻转(水平翻转, 垂直翻转)

```

1  {
2      "cmd": "set_img_mirror_flip",
3      "set_img_mirror_flip": {
4          "chnn": 0,
5          "flip": false,
6          "mirror": false
7      }
8  }
9
10 respond:
11 {
12     "cmd": "set_img_mirror_flip",
13     "set_img_mirror_flip": {
14         "code": 0

```

```
15     }
16 }
```

设置抗频闪(false-60hz, true-50hz)

```
1  {
2      "cmd": "set_img_flick_hz",
3      "set_img_flick_hz": {
4          "chnn": 0,
5          "flick": false
6      }
7  }
8
9  respond:
10 {
11     "cmd": "set_img_flick_hz",
12     "set_img_flick_hz": {
13         "code": 0
14     }
15 }
```

设置除雾状态

```
1  {
2      "cmd": "set_motor_demist",
3      "set_motor_demist": {
4          "chnn": 0,
5          "demist": false
6      }
7  }
8
9  respond:
10 {
11     "cmd": "set_motor_demist",
12     "set_motor_demist": {
13         "code": 0
14     }
15 }
```

设置gamma值

```
1  {
2      "cmd": "set_img_hdr_gamma",
3      "set_img_hdr_gamma": {
4          "chnn": 0,
5          "level": 1
6      }
7  }
8
9  respond:
10 {
11     "cmd": "set_img_hdr_gamma",
12     "set_img_hdr_gamma": {
13         "code": 0
14     }
15 }
```

```
14     }
15 }
```

设置有线IP地址

```
1  {
2      "cmd": "set_ipv4",
3      "set_ipv4": {
4          "chnn": 0,
5          "dhcp": false,
6          "dns1": "114.114.114.114",
7          "dns2": "8.8.8.8",
8          "gateway": "192.168.3.1",
9          "ip": "192.168.3.222",
10         "netmask": "255.255.255.0",
11         "mac": "00:13:09:FE:45:78"
12     }
13 }
14
15 respond:
16 {
17     "cmd": "set_ipv4",
18     "set_ipv4": {
19         "code": 0
20     }
21 }
```

设置无线IP地址

```
1  // (WIFI相机)
2  {
3      "cmd": "set_wireless_ipv4",
4      "set_wireless_ipv4": {
5          "chnn": 0,
6          "dhcp": false,
7          "dns1": "192.168.7.1",
8          "dns2": "",
9          "gateway": "192.168.7.1",
10         "ip": "192.168.7.254",
11         "mac": "00:00:00:00:00:06",
12         "netmask": "255.255.255.0"
13     }
14 }
15
16 respond:
17 {
18     "cmd": "set_wireless_ipv4",
19     "set_wireless_ipv4": {
20         "code": 0
21     }
22 }
```

设置无线网口参数

```

1 // (F801W)
2 {
3     "cmd": "set_wireless",
4     "set_wireless": {
5         "chnn": 0,
6         "enc": "wpa2 psk",
7         "net": "5g",
8         "passwd": "tagye1207",
9         "ssid": "SHUNLI-WIFI",
10        "type": "ap"
11    }
12 }
13
14 respond:
15 {
16     "cmd": "set_wireless",
17     "set_wireless": {
18         "code": 0
19     }
20 }
21
22 // (其余WIFI相机)
23 {
24     "cmd": "set_wireless",
25     "set_wireless": {
26         "chnn": 0,
27         "type": "sta",
28         "net": "5g",
29         // 以下两个字段用于老型号
30         // STA模式下，路由器无线名称及密码
31         // AP模式下，相机AP名称及密码
32         "ssid": "HUAWEI_5G",
33         "passwd": "SL123456",
34         "sta_ssid": "HUAWEI_5G",
35         "sta_passwd": "SL123456",
36         "ap_ssid": "SL_WIFI_Camera1",
37         "ap_passwd": "123456789",
38         "enc": "wpa-wpa2 psk",
39     }
40 }
41
42 respond:
43 {
44     "cmd": "set_wireless",
45     "set_wireless": {
46         "code": 0
47     }
48 }
49

```

升级

```

1 {
2     "cmd": "upgrade",
3     "ip": "192.168.3.222",
4     "port": 80,
5     "path": "D:/c313_update.1pk",

```



```

6     "upgrade": {
7         "username": "admin",
8         "passwd": "123456"
9     }
10 }
11
12 respond:
13 {
14     "cmd": "upgrade",
15     "upgrade": {
16         "code": 0
17     }
18 }

```

获取当前升级状态

```

1  {
2      "cmd": "status_upgrade",
3      "ip": "192.168.3.222",
4      "port": 80
5  }
6
7  respond:
8  {
9      "cmd": "status_upgrade",
10     "status_upgrade": {
11         "code": 0,
12         "percentage": 87,
13         "status": "doing"
14     }
15 }
16
17 upgrade success respond:
18 {
19     "cmd": "status_upgrade",
20     "status_upgrade": {
21         "code": 0,
22         "percentage": 100,
23         "status": "done"
24     }
25 }

```

获取当前场景(0-生物, 1-工业)

```

1  {
2      "cmd": "img_mode",
3      "img_mode": {
4          "chnn": 0,
5          "idx": 0
6      }
7  }
8
9  respond:
10 {
11     "cmd": "img_mode",
12     "img_mode": {

```

```
13         "chnn": 0,  
14         "code": 0,  
15         "idx": 0,  
16         "mode": 0  
17     }  
18 }
```

设置当前场景

```
1  {  
2      "cmd": "set_img_mode",  
3      "set_img_mode": {  
4          "chnn": 0,  
5          "mode": 0  
6      }  
7  }  
8  
9  respond:  
10 {  
11     "cmd": "set_img_mode",  
12     "set_img_mode": {  
13         "code": 0  
14     }  
15 }
```

设置消反光(c313t 1.5.0新增)

```
1  {  
2      "cmd": "set_img_drc",  
3      "set_img_drc": {  
4          "chnn": 0,  
5          "drc": 50  
6      }  
7  }  
8  
9  respond:  
10 {  
11     "cmd": "set_img_drc",  
12     "set_img_drc": {  
13         "code": 0  
14     }  
15 }
```

设置去紫边(c313t 1.5.0新增)

```
1  {  
2      "cmd": "set_img_cac",  
3      "set_img_cac": {  
4          "cac": true,  
5          "chnn": 0  
6      }  
7  }  
8  
9  respond:
```

```
10 {
11     "cmd": "set_img_cac",
12     "set_img_cac": {
13         "code": 0
14     }
15 }
```

获取消反光

```
1 {
2     "cmd": "img_drc",
3     "img_drc": {
4         "chnn": 0,
5         "idx": 0
6     }
7 }
8
9 respond:
10 {
11     "cmd": "img_drc",
12     "img_drc": {
13         "code": 0,
14         "drc": 50
15     }
16 }
```

获取去紫边

```
1 {
2     "cmd": "img_cac",
3     "img_cac": {
4         "chnn": 0,
5         "idx": 0
6     }
7 }
8
9 respond:
10 {
11     "cmd": "img_cac",
12     "img_cac": {
13         "code": 0,
14         "cac": true
15     }
16 }
```

登录

```
1 {
2   "cmd": "login",
3   "ip": "192.168.3.182",
4   "login": {
5     "passwd": "123456",
6     "username": "admin"
7   },
8   "port": 80
9 }
```

设置视频流格式

```
1 {
2   "cmd": "set_stream",
3   "set_stream": {
4     "bitrate": 30000,
5     "chnn": 0,
6     "fmt": "mjpeg",
7     "frame_rate": 60,
8     "i_interval": 120,
9     "idx": 0,
10    "quality": "high",
11    "rc_mode": "cbr",
12    "wh": "1920*1080"
13  }
14 }
15
16 respond:
17 {
18   "cmd": "set_stream",
19   "set_stream": {
20     "code": 0
21   }
22 }
```

获取视频流参数

```
1 {
2   "cmd": "get_stream",
3   "get_stream": {
4     "chnn": 0,
5     "idx": 0
6   }
7 }
8
9 respond:
10 {
11   "cmd": "get_stream",
12   "get_stream": {
13     "idx": 0,
14     "wh": "1920*1080",
15     "frame_rate": 60,
16     "chnn": 0,
17     "fmt": "mjpeg",
18     "i_interval": 120,
```

```
19         "rc_mode": "cbr",
20         "quality": "high",
21         "bitrate": 86000,
22         "code": 0
23     }
24 }
```

打开视频流

```
1  {
2      "cmd": "open_stream",
3      "open_stream": {
4          "chnn": 0,
5          "idx": 0
6      }
7  }
8
9  respond:
10 {
11     "cmd": "open_stream",
12     "open_stream": {
13         "code": 0
14     }
15 }
```

关闭视频流

```
1  {
2      "cmd": "close_stream",
3      "close_stream": {
4          "chnn": 0,
5          "idx": 0
6      }
7  }
8
9  respond:
10 {
11     "cmd": "close_stream",
12     "close_stream": {
13         "code": 0
14     }
15 }
```

设置图片流参数 (idx必须为64)

```
1  {
2      "cmd": "set_stream_pic",
3      "set_stream_pic": {
4          "chnn": 0,
5          "idx": 64,
6          "fmt": "jpeg",
7          "wh": "4000*3000",
8          "quality": "high",
9          "interval_ms": 333
10     }
11 }
```

```

10     }
11 }
12
13 respond:
14 {
15     "cmd": "set_stream_pic",
16     "set_stream_pic": {
17         "code": 0
18     }
19 }

```

获取图片流参数 (idx必须为64)

```

1  {
2      "cmd": "stream_pic",
3      "stream_pic": {
4          "chnn": 0,
5          "idx": 64
6      }
7  }
8
9  respond:
10 {
11     "cmd": "stream_pic",
12     "stream_pic": {
13         "chnn": 0,
14         "idx": 64,
15         "range": {
16             "wh": [
17                 "5120*3840",
18                 "4000*3000",
19                 "3264*2448",
20                 "2304*1728"
21             ],
22             "fmt": [
23                 "jpeg"
24             ],
25             "interval_ms": {
26                 "min": 333,
27                 "max": 3600000
28             },
29             "quality": [
30                 "highest",
31                 "higher",
32                 "high",
33                 "middle",
34                 "low",
35                 "lower",
36                 "lowest"
37             ]
38         },
39         "wh": "4000*3000",
40         "fmt": "jpeg",
41         "code": 0,
42         "interval_ms": 333,
43         "quality": "high"
44     }

```

打开图片流 (idx必须为64)

```
1  {
2      "cmd": "open_stream",
3      "open_stream": {
4          "chnn": 0,
5          "idx": 64
6      }
7  }
8
9  respond:
10 {
11     "cmd": "open_stream",
12     "open_stream": {
13         "code": 0
14     }
15 }
```

关闭图片流 (idx必须为64)

```
1  {
2      "cmd": "close_stream",
3      "close_stream": {
4          "chnn": 0,
5          "idx": 64
6      }
7  }
8
9  respond:
10 {
11     "cmd": "close_stream",
12     "close_stream": {
13         "code": 0
14     }
15 }
```

新版协议

支持的相机

老版协议之外的相机

C312/C313/C314/L313/L314 (1.8.0版本开始仅支持新版)

L116 (1.7.0版本开始仅支持新版)

获取视频流能力集

```
1  {
2      "cmd": "get_stream_ability",
3      "get_stream_ability": {
4          "chnn": 0,
5          "idx": 0
6      }
```

```

7   }
8
9   respond:
10  {
11    "cmd": "get_stream_ability",
12    "get_stream_ability": {
13      "bitrate": {
14        "def": 163840,
15        "max": 163840,
16        "min": 512
17      },
18      "chnn": 0,
19      "code": 0,
20      "fmt": [
21        "mjpeg"
22      ],
23      "frame_rate": {
24        "def": 60,
25        "max": 60,
26        "min": 1
27      },
28      "i_interval": {
29        "def": 120,
30        "max": 120,
31        "min": 1
32      },
33      "quality": {
34        "def": 4,
35        "max": 6,
36        "min": 0
37      },
38      "rc_mode": [
39        "cbr",
40        "vbr"
41      ],
42      "wh": [
43        "960*540",
44        "1280*720",
45        "1920*1080"
46      ]
47    }
48  }

```

新版协议能力集的quality 6 5 4 3 2 1 0

分别对应老协议的 highest/higher/high/meddle/low/lower/lowest

但set_stream/get_stream接口中仍使用字符串, 用于兼容

获取图像参数能力集(范围、默认值)

```

1   {
2     "cmd": "get_image_ability",
3     "get_image_ability": {
4       "chnn": 0,
5       "idx": 0
6     }
7   }
8

```



```
9 respond:
10 {
11     "cmd": "get_image_ability",
12     "get_image_ability": {
13         "a_gain": {
14             "def": 0,
15             "max": 30,
16             "min": 0
17         },
18         "awb": [
19             0,
20             1
21         ],
22         "b": {
23             "def": 434,
24             "max": 4095,
25             "min": 1
26         },
27         "chnn": 0,
28         "code": 0,
29         "compensation": {
30             "def": 40,
31             "max": 255,
32             "min": 0
33         },
34         "contrast": {
35             "def": 60,
36             "max": 100,
37             "min": 0
38         },
39         "drc": {
40             "def": 100,
41             "max": 255,
42             "min": 0
43         },
44         "expo_type": [
45             0,
46             1
47         ],
48         "gamma": {
49             "def": 100,
50             "max": 170,
51             "min": 1
52         },
53         "gb": {
54             "def": 256,
55             "max": 4095,
56             "min": 1
57         },
58         "gr": {
59             "def": 256,
60             "max": 4095,
61             "min": 1
62         },
63         "hue": {
64             "def": 50,
65             "max": 100,
66             "min": 0
```

```

67     },
68     "r": {
69         "def": 518,
70         "max": 4095,
71         "min": 1
72     },
73     "saturation": {
74         "def": 128,
75         "max": 255,
76         "min": 0
77     },
78     "sharpness": {
79         "def": 4,
80         "max": 15,
81         "min": 0
82     },
83     "shuttertime": {
84         "def": 33,
85         "max": 66,
86         "min": 0
87     },
88     "contrast_enhance": {
89         "def": 0,
90         "max": 5,
91         "min": 0
92     },
93     "color_temperature":
94     {
95         "def": 7000,
96         "max": 15000,
97         "min": 2000
98     }
99 }
100 }

```

获取马达相关能力集(聚焦、聚焦区域、变倍范围)

```

1  {
2      "cmd": "get_motor_ability",
3      "get_motor_ability": {
4          "chnn": 0,
5          "idx": 0
6      }
7  }
8
9  respond:
10 {
11     "cmd": "get_motor_ability",
12     "get_motor_ability": {
13         "chnn": 0,
14         "code": 0,
15         "dzoom_value": {
16             "def": 0,
17             "max": 50,
18             "min": 0
19         },
20         "ezoom_speed": {

```

```

21         "def": 1,
22         "max": 2,
23         "min": 0
24     },
25     "ezoom_value": {
26         "def": 0,
27         "max": 41,
28         "min": 0
29     },
30     "focus_mode": [
31         0,
32         1,
33         2
34     ],
35     "focus_speed": {
36         "def": 3,
37         "max": 7,
38         "min": 0
39     },
40     "focus_value": {
41         "def": 200,
42         "max": 400,
43         "min": 0
44     },
45     "roi_large_x": {
46         "def": 2,
47         "max": 4,
48         "min": 0
49     },
50     "roi_large_y": {
51         "def": 2,
52         "max": 4,
53         "min": 0
54     },
55     "roi_mode": [
56         0,
57         1
58     ],
59     "roi_small_x": {
60         "def": 8,
61         "max": 16,
62         "min": 0
63     },
64     "roi_small_y": {
65         "def": 7,
66         "max": 14,
67         "min": 0
68     }
69 }
70 }

```

获取灯能力集

```

1  {
2      "cmd": "get_led_ability",
3      "get_led_ability": {
4          "chnn": 0,

```

```

5         "idx": 0
6     }
7 }
8
9 respond:
10 {
11     "cmd": "get_led_ability",
12     "get_led_ability": {
13         "chnn": 0,
14         "code": 0,
15         "level": {
16             "def": 100,
17             "max": 200,
18             "min": 0
19         },
20         "part_number": 4
21     }
22 }

```

获取当前图像参数值

```

1  {
2      "cmd": "get_image_value",
3      "get_image_value": {
4          "chnn": 0,
5          "idx": 0
6      }
7  }
8
9  respond:
10 {
11     "cmd": "get_image_value",
12     "get_image_value": {
13         "chnn": 0,
14         "code": 0,
15         "contrast": 60,
16         "drc": 100,
17         "gamma": 100,
18         "hue": 50,
19         "saturation": 128,
20         "sharpness": 4,
21         "contrast_enhance": 0
22     }
23 }

```

获取当前图像bool值

```

1  {
2      "cmd": "get_image_bool",
3      "get_image_bool": {
4          "chnn": 0,
5          "idx": 0
6      }
7  }
8
9  respond:

```

```

10 {
11     "cmd": "get_image_bool",
12     "get_image_bool": {
13         "cac": false,
14         "chnn": 0,
15         "code": 0,
16         "flick": false,
17         "flip": false,
18         "mirror": false,
19         "monochrome": false,
20         "enhance": false
21     }
22 }

```

获取当前聚焦信息

```

1 {
2     "cmd": "get_focus",
3     "get_focus": {
4         "chnn": 0,
5         "idx": 0
6     }
7 }
8
9 respond:
10 {
11     "cmd": "get_focus",
12     "get_focus": {
13         "chnn": 0,
14         "code": 0,
15         "focus_mode": 0,
16         "focus_speed": 4,
17         "focus_value": 225
18     }
19 }

```

获取当前变倍信息

```

1 {
2     "cmd": "get_zoom",
3     "get_zoom": {
4         "chnn": 0,
5         "idx": 0
6     }
7 }
8
9 respond:
10 {
11     "cmd": "get_zoom",
12     "get_zoom": {
13         "chnn": 0,
14         "code": 0,
15         "dzoom_value": 0,
16         "ezoom_speed": 1,
17         "ezoom_value": 0
18     }
19 }

```

获取当前聚焦区域信息

```
1  {
2      "cmd": "get_roi",
3      "get_roi": {
4          "chnn": 0,
5          "idx": 0
6      }
7  }
8
9  respond:
10 {
11     "cmd": "get_roi",
12     "get_roi": {
13         "chnn": 0,
14         "code": 0,
15         "roi": true,
16         "roi_mode": 0,
17         "roi_x": 8,
18         "roi_y": 7
19     }
20 }
```

获取当前曝光信息

```
1  {
2      "cmd": "get_exposure",
3      "get_exposure": {
4          "chnn": 0
5      }
6  }
7
8  respond:
9  {
10     "cmd": "get_exposure",
11     "get_exposure": {
12         "a_gain": 0,
13         "chnn": 0,
14         "code": 0,
15         "compensation": 40,
16         "expo_type": 0,
17         "shuttertime": 22
18     }
19 }
```

获取当前白平衡信息

```
1  {
2      "cmd": "get_white_balance",
3      "get_white_balance": {
4          "chnn": 0
5      }
6  }
```

```

6   }
7
8   respond:
9   {
10      "cmd": "get_white_balance",
11      "get_white_balance": {
12          "awb": 1,
13          "b": 434,
14          "chnn": 0,
15          "code": 0,
16          "gb": 256,
17          "gr": 256,
18          "r": 518,
19          "color_temperature": 6500
20      }
21  }

```

获取当前灯光信息

```

1  {
2      "cmd": "get_led",
3      "get_led": {
4          "chnn": 0,
5          "idx": 0
6      }
7  }
8
9  respond:
10 {
11     "cmd": "get_led",
12     "get_led": {
13         "chnn": 0,
14         "code": 0,
15         "led_info": [
16             {
17                 "index": 0,
18                 "enable": true, // A312 1.2.0 新版本新增字段
19                 "level": 100
20             },
21             {
22                 "index": 1,
23                 "enable": true,
24                 "level": 100
25             },
26             {
27                 "index": 2,
28                 "enable": true,
29                 "level": 100
30             },
31             {
32                 "index": 3,
33                 "enable": true,
34                 "level": 100
35             }
36         ]
37     }
38 }

```

获取当前有线IP信息

```
1  {
2    "cmd": "get_ipv4"
3  }
4
5  respond:
6  {
7    "cmd": "get_ipv4",
8    "get_ipv4": {
9      "code": 0,
10     "dhcp": false,
11     "dns1": "114.114.114.114",
12     "dns2": "8.8.8.8",
13     "gateway": "192.168.1.1",
14     "ip": "192.168.3.182",
15     "mac": "",
16     "netmask": "255.255.255.0"
17   }
18 }
```

获取无线IP地址

```
1  {
2    "cmd": "get_wireless_ipv4"
3  }
4
5  respond:
6  {
7    "cmd": "get_wireless_ipv4",
8    "get_wireless_ipv4": {
9      "code": 0,
10     "dhcp": false,
11     "dns1": "192.168.1.1",
12     "dns2": "",
13     "gateway": "192.168.3.1",
14     "ip": "192.168.3.212",
15     "mac": "",
16     "netmask": "255.255.255.0"
17   }
18 }
```

获取无线网口参数

```
1  {
2    "cmd": "get_wireless"
3  }
4
5  respond:
6  {
7    "cmd": "get_wireless",
8    "get_wireless": {
9      "code": 0,
10     "sta_ssid": "HUAWEI_5G",

```



```

11     "sta_passwd": "SL123456",
12     "ap_ssid": "SL_WIFI_Camera1",
13     "ap_passwd": "123456789",
14     "net": "5g",
15     "type": "sta",
16     "enc": "wpa-wpa2 psk",
17     "range": {
18         "net": [
19             "2.4g",
20             "5g"
21         ],
22         "enc": [
23             "none",
24             "psk",
25             "wpa2 psk",
26             "wpa-wpa2 psk"
27         ],
28         "type": [
29             "ap",
30             "sta",
31             "concurrent"
32         ]
33     }
34 }
35 }

```

获取当前系统信息

```

1  {
2      "cmd": "system"
3  }
4
5  respond:
6  {
7      "cmd": "system",
8      "system": {
9          "build_time": "Tue Jun  3 13:30:29 2025\n",
10         "chnn_num": 1,
11         "code": 0,
12         "dev_type": "ipc",
13         "disk_num": 0,
14         "hw_ver": "1.0.2",
15         "mac": "00:13:09:FE:45:78",
16         "mac_wireless": "00:13:09:FE:45:79",
17         "model": "A311_IPC",
18         "sn": "YDFE4EFD FESHEDFR",
19         "sw_ver": "1.0.2",
20         "wifi": true // WIFI相机新增字段
21     }
22 }

```

设置聚焦

```

1  {
2      "cmd": "set_focus",
3      "set_focus": {

```

```

4         "chnn": 0,
5         "focus_mode": 0,
6         "focus_speed": 0,
7         "focus_value": 0
8     }
9 }
10
11 respond:
12 {
13     "cmd": "set_focus",
14     "set_focus": {
15         "code": 0
16     }
17 }

```

设置聚焦区域

```

1  {
2      "cmd": "set_roi",
3      "set_roi": {
4          "chnn": 0,
5          "roi": true,
6          "roi_mode": 0,
7          "roi_x": 8,
8          "roi_y": 7
9      }
10 }
11
12 respond:
13 {
14     "cmd": "set_roi",
15     "set_roi": {
16         "code": 0
17     }
18 }

```

设置相对聚焦

relative - 1对应增加1点聚焦值，-1对应减少1点聚焦值

```

1  {
2      "cmd": "set_focus_relative",
3      "set_focus_relative": {
4          "chnn": 0,
5          "relative": 1
6      }
7  }
8
9  respond:
10 {
11     "cmd": "set_focus_relative",
12     "set_focus_relative": {
13         "code": 0
14     }
15 }

```

设置曝光

```
1  {
2    "cmd": "set_exposure",
3    "set_exposure": {
4      "a_gain": 0,
5      "chnn": 0,
6      "compensation": 40,
7      "expo_type": 0,
8      "shuttertime": 33
9    }
10 }
11
12 respond:
13 {
14   "cmd": "set_exposure",
15   "set_exposure": {
16     "code": 0
17   }
18 }
```

设置白平衡

```
1  {
2    "cmd": "set_white_balance",
3    "set_white_balance": {
4      "awb": 1,
5      "b": 434,
6      "chnn": 0,
7      "gb": 256,
8      "gr": 256,
9      "r": 518,
10     "color_temperature": 6500,
11     "use_temperature": true
12   }
13 }
14
15 respond:
16 {
17   "cmd": "set_white_balance",
18   "set_white_balance": {
19     "code": 0
20   }
21 }
```

设置变倍

```
1  {
2    "cmd": "set_zoom",
3    "set_zoom": {
4      "chnn": 0,
5      "dzoom_value": 0,
6      "ezoom_speed": 1,
7      "ezoom_value": 0
8    }
9  }
```

```
9   }
10
11  respond:
12  {
13      "cmd": "set_zoom",
14      "set_zoom": {
15          "code": 0
16      }
17  }
```

设置图像bool值(去紫边, 抗频闪, 垂直翻转, 水平翻转, 黑白, 锐度增强)

```
1  {
2      "cmd": "set_image_bool",
3      "set_image_bool": {
4          "cac": false,
5          "chnn": 0,
6          "flick": false,
7          "flip": false,
8          "mirror": false,
9          "monochrome": false,
10         "enhance": false
11     }
12 }
13
14 respond:
15 {
16     "cmd": "set_image_bool",
17     "set_image_bool": {
18         "code": 0
19     }
20 }
```

设置除雾状态

```
1  {
2      "cmd": "set_motor_demist",
3      "set_motor_demist": {
4          "chnn": 0,
5          "demist": false
6      }
7  }
8
9  respond:
10 {
11     "cmd": "set_motor_demist",
12     "set_motor_demist": {
13         "code": 0
14     }
15 }
```

获取除雾状态

```

1  {
2      "cmd": "get_motor_demist",
3      "get_motor_demist": {
4          "chnn": 0,
5          "idx": 0
6      }
7  }
8
9  respond:
10 {
11     "cmd": "get_motor_demist",
12     "get_motor_demist": {
13         "code": 0,
14         "demist": false
15     }
16 }

```

设置灯光亮度

```

1  {
2      "cmd": "set_led",
3      "set_led": {
4          "chnn": 0,
5          "index": 0,
6          "level": 100
7      }
8  }
9
10 respond:
11 {
12     "cmd": "set_led",
13     "set_led": {
14         "code": 0
15     }
16 }
17
18 // A312 1.2.0 新版本灯光接口
19 {
20     "cmd": "set_leds",
21     "set_leds": {
22         "chnn": 0,
23         "led0": 100, // 上
24         "led1": 100, // 左
25         "led2": 100, // 右
26         "led3": 100 // 下
27     }
28 }
29
30 respond:
31 {
32     "cmd": "set_leds",
33     "set_leds": {
34         "code": 0
35     }
36 }

```

设置图像参数值(色度, 对比度, 饱和度, 锐度, 消反光, gamma, 对比度增强)

```
1  {
2      "cmd": "set_image_value",
3      "set_image_value": {
4          "chnn": 0,
5          "contrast": 60,
6          "drc": 100,
7          "gamma": 100,
8          "hue": 50,
9          "saturation": 128,
10         "sharpness": 4,
11         "contrast_enhance": 0
12     }
13 }
14
15 respond:
16 {
17     "cmd": "set_image_value",
18     "set_image_value": {
19         "code": 0
20     }
21 }
```

设置有线IP地址

```
1  {
2      "cmd": "set_ipv4",
3      "set_ipv4": {
4          "chnn": 0,
5          "dhcp": false,
6          "dns1": "114.114.114.114",
7          "dns2": "8.8.8.8",
8          "gateway": "192.168.3.1",
9          "ip": "192.168.3.182",
10         "netmask": "255.255.255.0"
11     }
12 }
13
14 respond:
15 {
16     "cmd": "set_ipv4",
17     "set_ipv4": {
18         "code": 0
19     }
20 }
```

设置无线IP地址

```
1  {
2      "cmd": "set_wireless_ipv4",
3      "set_wireless_ipv4": {
4          "chnn": 0,
```

```

5         "dhcp": false,
6         "dns1": "192.168.7.1",
7         "dns2": "",
8         "gateway": "192.168.7.1",
9         "ip": "192.168.7.254",
10        "mac": "00:00:00:00:00:06",
11        "netmask": "255.255.255.0"
12    }
13 }
14
15 respond:
16 {
17     "cmd": "set_wireless_ipv4",
18     "set_wireless_ipv4": {
19         "code": 0
20     }
21 }

```

设置无线网口参数

```

1  {
2      "cmd": "set_wireless",
3      "set_wireless": {
4          "chnn": 0,
5          "type": "sta",
6          "net": "5g",
7          // 以下两个字段用于老型号
8          // STA模式下，路由器无线名称及密码
9          // AP模式下，相机AP名称及密码
10         "ssid": "HUAWEI_5G",
11         "passwd": "SL123456",
12         "sta_ssid": "HUAWEI_5G",
13         "sta_passwd": "SL123456",
14         "ap_ssid": "SL_WIFI_Camera1",
15         "ap_passwd": "123456789",
16         "enc": "wpa-wpa2 psk",
17     }
18 }
19
20 respond:
21 {
22     "cmd": "set_wireless",
23     "set_wireless": {
24         "code": 0
25     }
26 }
27

```

升级

```

1  {
2      "cmd": "upgrade",
3      "ip": "192.168.3.222",
4      "port": 80,
5      "path": "D:/c313_update.1pk",
6      "upgrade": {

```

```

7      "username": "admin",
8      "passwd": "123456"
9    }
10 }
11
12 respond:
13 {
14     "cmd": "upgrade",
15     "upgrade": {
16         "code": 0
17     }
18 }

```

获取当前升级状态

```

1  {
2      "cmd": "status_upgrade",
3      "ip": "192.168.3.222",
4      "port": 80
5  }
6
7  respond:
8  {
9      "cmd": "status_upgrade",
10     "status_upgrade": {
11         "code": 0,
12         "percentage": 87,
13         "status": "doing"
14     }
15 }
16
17 upgrade success respond:
18 {
19     "cmd": "status_upgrade",
20     "status_upgrade": {
21         "code": 0,
22         "percentage": 100,
23         "status": "done"
24     }
25 }

```

获取当前场景(0-生物, 1-工业)

```

1  {
2      "cmd": "get_scene_mode",
3      "get_scene_mode": {
4          "chnn": 0,
5          "idx": 0
6      }
7  }
8
9  respond:
10 {
11     "cmd": "get_scene_mode",
12     "get_scene_mode": {
13         "chnn": 0,

```



```
14     "code": 0,
15     "idx": 0,
16     "mode": 0
17   }
18 }
```

设置当前场景

```
1  {
2    "cmd": "set_scene_mode",
3    "set_scene_mode": {
4      "chnn": 0,
5      "mode": 0
6    }
7  }
8
9  respond:
10 {
11   "cmd": "set_scene_mode",
12   "set_scene_mode": {
13     "code": 0
14   }
15 }
```

登录

```
1  {
2    "cmd": "login",
3    "ip": "192.168.3.182",
4    "login": {
5      "passwd": "123456",
6      "username": "admin"
7    },
8    "port": 80
9  }
```

设置视频流参数

```
1  {
2    "cmd": "set_stream",
3    "set_stream": {
4      "bitrate": 86000,
5      "chnn": 0,
6      "fmt": "mjpeg",
7      "frame_rate": 60,
8      "i_interval": 120,
9      "idx": 0,
10     "quality": "high",
11     "rc_mode": "cbr",
12     "wh": "1920*1080"
13   }
14 }
15
16 respond:
```

```
17 {
18     "cmd": "set_stream",
19     "set_stream": {
20         "code": 0
21     }
22 }
```

获取视频流参数

```
1 {
2     "cmd": "stream",
3     "stream": {
4         "chnn": 0,
5         "idx": 0
6     }
7 }
8
9 respond:
10 {
11     "cmd": "stream",
12     "stream": {
13         "chnn": 0,
14         "code": 0,
15         "idx": 0,
16         "wh": "1920*1080",
17         "fmt": "mjpeg",
18         "frame_rate": 60,
19         "i_interval": 90,
20         "quality": "high",
21         "rc_mode": "cbr",
22         "bitrate": 86000,
23         "range": {
24             "bitrate": {
25                 "max": 86000,
26                 "min": 256
27             },
28             "fmt": [
29                 "mjpeg",
30                 "h264"
31             ],
32             "frame_rate": {
33                 "max": 30,
34                 "min": 1
35             },
36             "i_interval": {
37                 "max": 90,
38                 "min": 25
39             },
40             "quality": [
41                 "highest",
42                 "higher",
43                 "high",
44                 "middle",
45                 "low",
46                 "lower",
47                 "lowest"
48             ],
```

```

49         "rc_mode": [
50             "vbr",
51             "cbr"
52         ],
53         "wh": [
54             "3840*2160",
55             "1920*1080"
56         ]
57     }
58 }
59 }

```

打开视频流

```

1  {
2      "cmd": "open_stream",
3      "open_stream": {
4          "chnn": 0,
5          "idx": 0
6      }
7  }
8
9  respond:
10 {
11     "cmd": "open_stream",
12     "open_stream": {
13         "code": 0
14     }
15 }

```

关闭视频流

```

1  {
2      "cmd": "close_stream",
3      "close_stream": {
4          "chnn": 0,
5          "idx": 0
6      }
7  }
8
9  respond:
10 {
11     "cmd": "close_stream",
12     "close_stream": {
13         "code": 0
14     }
15 }

```

获取图片流能力集 (idx必须为64)

```

1  {
2      "cmd": "get_pic_ability",
3      "get_pic_ability": {
4          "chnn": 0,

```

```

5         "idx": 64
6     }
7 }
8
9 respond:
10 {
11     "cmd": "get_pic_ability",
12     "get_pic_ability": {
13         "chnn": 0,
14         "code": 0,
15         "fmt": ["jpeg"],
16         "interval_ms": {
17             "def": 33,
18             "max": 1000,
19             "min": 33
20         },
21         "quality": {
22             "def": 4,
23             "max": 6,
24             "min": 0
25         },
26         "wh": [
27             "1920*1080",
28             "3840*2160",
29             "3968*3000"
30         ]
31     }
32 }

```

新版协议能力集的quality 6 5 4 3 2 1 0

分别对应老协议的 highest/higher/high/meddle/low/lower/lowest

但set_stream_pic/get_stream_pic接口中仍使用字符串, 用于兼容

设置图片流参数 (idx必须为64)

```

1  {
2      "cmd": "set_stream_pic",
3      "set_stream_pic": {
4          "chnn": 0,
5          "idx": 64,
6          "fmt": "jpeg",
7          "wh": "4000*3000",
8          "quality": "high",
9          "interval_ms": 333
10     }
11 }
12
13 respond:
14 {
15     "cmd": "set_stream_pic",
16     "set_stream_pic": {
17         "code": 0
18     }
19 }

```

获取图片流参数 (idx必须为64)

```
1  {
2    "cmd": "get_stream_pic",
3    "get_stream_pic": {
4      "chnn": 0,
5      "idx": 64
6    }
7  }
8
9  respond:
10 {
11   "cmd": "get_stream_pic",
12   "get_stream_pic": {
13     "chnn": 0,
14     "idx": 64,
15     "wh": "4000*3000",
16     "fmt": "jpeg",
17     "interval_ms": 333,
18     "code": 0,
19     "quality": "high"
20   }
21 }
```

打开图片流 (idx必须为64)

```
1  {
2    "cmd": "open_stream",
3    "open_stream": {
4      "chnn": 0,
5      "idx": 64
6    }
7  }
8
9  respond:
10 {
11   "cmd": "open_stream",
12   "open_stream": {
13     "code": 0
14   }
15 }
```

关闭图片流 (idx必须为64)

```
1  {
2    "cmd": "close_stream",
3    "close_stream": {
4      "chnn": 0,
5      "idx": 64
6    }
7  }
8
9  respond:
10 {
11   "cmd": "close_stream",
12   "close_stream": {
13     "code": 0
14   }
15 }
```

```
14     }
15 }
```

流序号(idx)

- 注意需要根据设备实际情况来看是否有某序号流

16进制值	10进制值	备注
0x0000	0	第一视频流, 即主码流
0x0001	1	第二视频流, 即子码流
0x0002	2	第三视频流
0x0020	32	第一音频流
0x0021	33	第二音频流
0x0022	34	第三音频流
0x0040	64	第一图片流
0x0041	65	第二图片流
0x1000	4096	回看(历史)第一视频流, 即主码流
0x1001	4097	回看(历史)第二视频流, 即子码流
0x1002	4098	回看(历史)第三视频流
0x1020	4128	回看(历史)第一音频流
0x1021	4129	回看(历史)第二音频流
0x1022	4130	回看(历史)第三音频流
0x1040	4160	回看(历史)第一图片流
0x1041	4161	回看(历史)第二图片流

SDK错误码

- 系统错误码范围[0, 4095]

16进制	10进制值	备注
0x0000	0	成功
0x0001	1	SDK未初始化, 或初始化错误
0x0002	2	等待超时
0x0003	3	参数错误
0x0004	4	打开失败或没有打开对应的对象
0x0005	5	无数据,或没有新数据刷新

协议错误码

- 协议错误码范围[4096,32767]
- 协议错误码起始 B = 4096
- 协议错误码结束 E = 32767

相对值	10进制值	备注
B + 1	4097	不支持的协议命令
B + 2	4098	未找到; 没找到数据,配置项,网页等
B + 3	4099	协议参数错误