FDV6-W

Data Communication Protocol Specification - 2.4G Wi-Fi Product Manual (Ver.1.1)



Content

1. Overview 1
2. Device Function Properties 1
2.1 Device Online/Offline Status（online） 1
2.2 Initialization Complete（initFinish） 1
2.3 Heartbeat（heartBeat） 2
2.4 Hardware Model（hardwareModel） 2
2.5 WIFI Firmware Version（firmwareVersionWiFi） 3
2.6 Radar Firmware Version（firmwareVersion） 3
2.7 Install Height（installHeight） 4
2.8 Product Firmware Version（firmwareVersionProduct） 5
2.9 Human Detection Function Switch（humanSwitch） 6
2.10 Human Presence Status（someoneExists） 7
2.11 Human Motion Status（motionStatus） 7
2.12 Movement Signs Parameters（movementSigns） 8
2.13 No Presence Duration（unmannedTime） N/A Currently 9
2.14 Fall Height Threshold（fallingAndBreakingHeight） N/A Currently 10
2.15 Track Point Information Report Switch（TrackPointInfoReportSwitch） N/A Currently 10
2.16 Track Point Information（TrackPointInfo） N/A Currently 11
2.17 Fall Switch（fallSwitch） 12
2.18 Fall Status（fallStatus） 13
2.19 Fall Position（fallPosition） 13
2.20 Stationary Presence Status（residentStatus） 14
2.21 Stationary Presence Duration（residentWarningDuration） 15
2.22 Stationary Presence Detection Switch（residentWarningDurationSwitch） 16
2.23 Fall Duration（fallDuration） 17
2.24 Voice Function Switch（US518FunctionSwitch） 18
2.25 Voice Learning Mode (US518LearningFunction) 19
3. Restricted Function Property Reporting 20
4. QoS (Quality of Service) Settings 22
5. OTA Update 23
5.1 OTA Module Update（otaModule） 23
5.2 OTA Update Information（otaInform） 23
5.3 Update Progress（downloadProgress） 24
6. Historical Version Update Notes 24

MQTT Data Format Description（V1.1）

1. Overview

This document describes the MQTT data communication protocol for the FDV6-W Human Presence and Fall Detection Device. It explains how to obtain device data and control device functions, enabling developers to integrate and use the device efficiently. All data is transmitted in JSON format.

The Human Presence and Fall Detection Device uses two MQTT topics (the Device ID is unique), as described below:

（1）Topic：/Radar60FL/Device ID/sys/property/post

Publish Topic – Used by the device to publish sensor data and responses to configuration commands.

（2）Topic：/Radar60FL/Device ID/sys/property/set

Subscribe Topic – Used by the client to publish commands to the radar device.

2. Device Function Properties

2.1 Device Online/Offline Status（online）

Reporting Method: Active reporting.

The property status is defined as follows:

- 0: Offline
- 1: Online

The device actively reports this property whenever its status changes.

```
{
    "version":"1.0",
    "method":"post",
    "params": {
            "online":  "0"
    }
}
```

2.2 Initialization Complete（initFinish）

Reporting Method: Not supported for active reporting.

Data range:

- 0: Initialization not complete
- 1: Initialization complete

This property supports querying. The query format is as follows:

```
{
    "version":"1.0",
    "method":"get",
    "params": {
```

```
                "initFinish":           "?"
        }
}
```

Query response format is as follows:

```
{
        "version":"1.0",
        "opt":      "get",
        "res":      "success" //"fail" when the query fails, "success" when the query succeeds
        "params": {
                "initFinish":           "XXXX"
        }
}
```

2.3 Heartbeat（heartBeat）

Reporting Method: Active reporting.

The property status is defined as follows:

- 0: Abnormal
- 1: Normal

The device actively reports this property whenever its status changes.

```
{
        "version":"1.0",
        "method":"post",
        "params": {
                "heartBeat":           "0"
        }
}
```

2.4 Hardware Model（hardwareModel）

Reporting Method: Not supported for active reporting.

This property supports querying. The query format is as follows:

```
{
        "version":"1.0",
        "method":"get",
        "params": {
                "hardwareModel":   "?"
        }
}
```

Query response format is as follows:

```
{
        "version":"1.0",
        "opt":      "get",
        "res":      "success" //"fail" when the query fails, "success" when the query succeeds
        "params": {
```

```
                "hardwareModel":    "XXXX"
        }
}
```

2.5 WIFI Firmware Version（firmwareVersionWiFi）

The device actively reports this information when it powers on and connects to the server. The specific format is as follows:

```
{
        "version":"1.0",
        "method":"post",
        "params": {
                "firmwareVersionWiFi":          "xxxxxxx"
        }
}
```

This property supports querying. The query format is as follows:

```
{
        "version":"1.0",
        "method":"get",
        "params": {
                "firmwareVersionWiFi":          "?"
        }
}
```

Query response format is as follows:

```
{
        "version":"1.0",
        "opt":      "get",
        "res":      "success"  //"fail" when the query fails, "success" when the query succeeds
        "params": {
                "firmwareVersionWiFi":          "XXXX"
        }
}
```

2.6 Radar Firmware Version（firmwareVersion）

Reporting Method: Active reporting. The device reports this property when it connects to the server.

```
{
        "version":"1.0",
        "method":"post",
        "params": {
                "firmwareVersion":  "xxxx"
        }
```

```
}
```

This property supports querying. The query format is as follows:

```
{
        "version":"1.0",
        "method":"get",
        "params": {
                        "firmwareVersion":  "?"
        }
}
```

Query response format is as follows:

```
{
        "version":"1.0",
        "opt":      "get",
        "res":      "success"  //"fail" when the query fails, "success" when the query succeeds
        "params": {
                        "firmwareVersion":  "XXXX"
        }
}
```

2.7 Install Height（installHeight）

Reporting Method: Not supported for active reporting.

- Value range: 170−310
- Unit: cm

This property supports querying. The query format is as follows:

```
{
        "version":"1.0",
        "method":"get",
        "params": {
                        "installHeight":        "?"
        }
}
```

Query response format is as follows:

```
{
        "version":"1.0",
        "opt":      "get",
      "res":        "success" //"fail" when the query fails, "success" when the query succeeds
        "params": {
                        "installHeight":        "1"
        }
}
```

This property supports configuration. The format is as follows:

```
{
        "version":"1.0",
        "method":"set",
        "params": {
                        "installHeight":        "2"
        }
}
```

The configuration result format is as follows:

```
{
        "version":     "1.0",
        "opt":          "set",
      "res":          "success"  //"fail" when the query fails, "success" when the query succeeds
        "params": {
                        "installHeight":        "2"
        }
}
```

2.8 Product Firmware Version（firmwareVersionProduct）

Reporting Method: Active reporting. The device reports this property when it connects to the server.。

```
{
        "version":"1.0",
        "method":"post",
        "params": {
                                "firmwareVersionProduct":
                                "YF_60GFL_tongyongWIFI_2024.1.3_V2.0.0"
        }
}
```

This property supports querying. The query format is as follows:

```
{
        "version":"1.0",
        "method":"get",
        "params": {
                        "firmwareVersionProduct":      "?"
        }
}
```

Query response format is as follows:

```
{
        "version":"1.0",
        "opt":       "get",
```

```
        "res":      "success"
        "params": {
                                "firmwareVersionProduct":
                                "YF_60GFL_tongyongWIFI_2024.1.3_V2.0.0"
        }
}
```

2.9 Human Detection Function Switch（humanSwitch）

Reporting Method: Not supported for active reporting.

Value range:

- 1: Function enabled
- 0: Function disabled

This property supports querying. The query format is as follows:

```
{
        "version":"1.0",
        "method":"get",
        "params": {
                "humanSwitch":      "?"
        }
}
```

Query response format is as follows:

```
{
        "version":"1.0",
        "opt":      "get",
      "res":        "success"  //"fail" when the query fails, "success" when the query succeeds
        "params": {
                "humanSwitch":      "1"
        }
}
```

This property supports configuration. The format is as follows:

```
        {
        "version":"1.0",
        "method":"set",
        "params": {
                "humanSwitch":      "1"
        }
}
```

The configuration result format is as follows:

```
{
        "version":      "1.0",
```

```
    "opt":      "set",
  "res":        "success"  //"fail" when the query fails, "success" when the query succeeds
    "params": {
                "humanSwitch":      "1"
    }
}
```

2.10 Human Presence Status（someoneExists）

Reporting Method: Not supported for active reporting.

Value range:

- 1: Person detected
- 0: No person detected

This property supports querying. The query format is as follows:

```
{
    "version":"1.0",
    "method":"post",
    "params": {
                "someoneExists":    "1"   // Person detected in the current environment
    }
}
```

This property supports querying. The query format is as follows:

```
{
    "version":"1.0",
    "method":"get",
    "params": {
                "someoneExists":    "?"
    }
}
```

Query response format is as follows:

```
{
    "version":"1.0",
    "opt":      "get",
  "res":        "success"  //"fail" when the query fails, "success" when the query succeeds
    "params": {
                "someoneExists":    "1"
    }
}
```

2.11 Human Motion Status（motionStatus）

Reporting Method: Active reporting.

The property value is defined as follows:

- 0: None
- 1: Stationary
- 2: Active

The device reports this property whenever its status changes.

```
{
	"version":"1.0",
	"method":"post",
	"params": {
		"motionStatus":	"1"	// Stationary
	}
}
```

This property supports querying. The query format is as follows:

```
{
	"version":"1.0",
	"method":"get",
	"params": {
		"motionStatus":	"?"
	}
}
```

Query response format is as follows:

```
{
	"version":"1.0",
	"opt":	"get",
    "res":	"success" //"fail" when the query fails, "success" when the query succeeds
	"params": {
		"motionStatus":	"1"
	}
}
```

2.12 Movement Signs Parameters（movementSigns）

Reporting Method: Active reporting.

- Value range: 0–100

The device reports this data periodically.

```
{
	"version":"1.0",
	"method":"post",
	"params": {
		"movementSigns":	"100"
	}
}
```

2.13 No Presence Duration（unmannedTime） N/A Currently

Reporting Method: Not supported for active reporting.

The property value is 4 Bytes.

- Value range: 10−1800 s

This property supports querying. The query format is as follows:

```
{
        "version":"1.0",
        "method":"get",
        "params": {
                    "unmannedTime":    "?"
        }
}
```

Query response format is as follows:

```
{
        "version":"1.0",
        "opt":       "get",
      "res":         "success"  //"fail" when the query fails, "success" when the query succeeds
        "params": {
                    "unmannedTime":    "1"
        }
}
```

This property supports configuration. The format is as follows:

```
{
        "version":"1.0",
        "method":"set",
        "params": {
                    "unmannedTime":    "1"
        }
}
```

The configuration result format is as follows:

```
{
        "version":         "1.0",
        "opt":           "set",
      "res":         "success"  //"fail" when the query fails, "success" when the query succeeds
        "params": {
                    "unmannedTime":    "1"
        }
}
```

2.14 Fall Height Threshold（fallingAndBreakingHeight） N/A Currently

Reporting Method: Not supported for active reporting.

- Value range: 0–150 cm

This property supports querying. The query format is as follows:

```
{
        "version":"1.0",
        "method":"get",
        "params": {
                    "fallingAndBreakingHeight":  "?"
        }
}
```

Query response format is as follows:

```
{
        "version":"1.0",
        "opt":      "get",
      "res":        "success"  //"fail" when the query fails, "success" when the query succeeds
        "params": {
                    "fallingAndBreakingHeight":  "1"
        }
}
```

This property supports configuration. The format is as follows:

```
        {
        "version":"1.0",
        "method":"set",
        "params": {
                    "fallingAndBreakingHeight":  "1"
        }
}
```

The configuration result format is as follows:

```
{
        "version":       "1.0",
        "opt":         "set",
      "res":        "success"  //"fail" when the query fails, "success" when the query succeeds
        "params": {
                    "fallingAndBreakingHeight":  "1"
        }
}
```

2.15 Track Point Information Report Switch（TrackPointInfoReportSwitch） N/A Currently

Reporting Method: Not supported for active reporting.

- Value range: 1Byte

This property supports querying. The query format is as follows:

```
{
        "version":"1.0",
        "method":"get",
        "params": {
                        "TrackPointInfoReportSwitch":                "?"
        }
}
```

Query response format is as follows:

```
{
        "version":"1.0",
        "opt":       "get",
      "res":         "success" //"fail" when the query fails, "success" when the query succeeds
        "params": {
                        "TrackPointInfoReportSwitch":                "1"
        }
}
```

This property supports configuration. The format is as follows:

```
        {
        "version":"1.0",
        "method":"set",
        "params": {
                        "TrackPointInfoReportSwitch":                "1"
        }
}
```

The configuration result format is as follows:

```
{
        "version":         "1.0",
        "opt":          "set",
      "res":         "success" //"fail" when the query fails, "success" when the query succeeds
        "params": {
                        "TrackPointInfoReportSwitch":                "1"
        }
}
```

2.16 Track Point Information（TrackPointInfo） N/A Currently

Reporting Method: Active reporting.

- Value range: 2Byte

The device reports this data periodically

```
{
        "version":"1.0",
        "method":"post",
        "params": {
        "TrackPointInfo":  {
                                "x":  "xxx",
                                "y":  "xxx",
                        }
        }
}
```

2.17 Fall Switch（fallSwitch）

Reporting Method: Not supported for active reporting.

Value range:

- 1: Function enabled
- 0: Function disabled

This property supports querying. The query format is as follows:

```
{
        "version":"1.0",
        "method":"get",
        "params": {
                    "fallSwitch":           "?"
        }
}
```

Query response format is as follows:

```
{
        "version":"1.0",
        "opt":      "get",
      "res":        "success"  //"fail" when the query fails, "success" when the query succeeds
        "params": {
                    "fallSwitch":           "1"
        }
}
```

This property supports configuration. The format is as follows:

```
        {
        "version":"1.0",
        "method":"set",
        "params": {
                    "fallSwitch":           "1" // Set to enabled
        }
}
```

The configuration result format is as follows:

```
{
        "version":       "1.0",
        "opt":         "set",
      "res":        "success"  //"fail" when the query fails, "success" when the query succeeds
        "params": {
                    "fallSwitch":           "1"
        }
```

```
}
```

2.18 Fall Status（fallStatus）

Reporting Method: Active reporting.

The property value is defined as follows:

- 0: No fall detected
- 1: Fall detected

The device reports this property whenever its status changes.

```
{
    "version":"1.0",
    "method":"post",
    "params": {
            "fallStatus":       "100"
    }
}
```

This property supports querying. The query format is as follows:

```
{
    "version":"1.0",
    "method":"get",
    "params": {
            "fallStatus":       "?"
    }
}
```

Query response format is as follows:

```
{
    "version":"1.0",
    "opt":      "get",
   "res":       "success"  //"fail" when the query fails, "success" when the query succeeds
    "params": {
            "fallStatus":       "1"        //Fall detected
    }
}
```

2.19 Fall Position（fallPosition）

Reporting Method: Active reporting.

The property value is defined as follows:

The X and Y coordinates of the fall location, ranging from 0 to 65535. This property is reported when a fall occurs.

```
{
    "version":"1.0",
    "method":"post",
```

```
        "params": {
                "fallPosition": {"x": "xxx", "y":  "xxx"}
        }
}
```

This property supports querying. The query format is as follows:

```
{
        "version":"1.0",
        "method":"get",
        "params": {
                "fallPosition": {"x": "?","y": "?"}
        }
}
```

Query response format is as follows:

```
{
        "version":"1.0",
        "opt":      "get",
      "res":        "success" //"fail" when the query fails, "success" when the query succeeds
        "params": {
                "fallPosition": {"x": "xxx","y": "xxx"}
        }
}
```

2.20 Stationary Presence Status（residentStatus）

Reporting Method: Active reporting.

The property value is defined as follows:

- 0: No stationary presence
- 1: Stationary presence detected

The device reports this property whenever its status changes.

```
{
        "version":"1.0",
        "method":"post",
        "params": {
                "residentStatus":      "1" //Stationary presence detected
        }
}
```

This property supports querying. The query format is as follows:

```
{
        "version":"1.0",
        "method":"get",
        "params": {
                "residentStatus":      "?"
        }
}
```

Query response format is as follows:

```
{
        "version":"1.0",
        "opt":      "get",
     "res":         "success"  //"fail" when the query fails, "success" when the query succeeds
        "params": {
                    "residentStatus":      "1"
        }
}
```

2.21 Stationary Presence Duration（residentWarningDuration）

Reporting Method: Not supported for active reporting.

- Value range: 0−65535
- Unit: s

This property supports querying. The query format is as follows:

```
{
        "version":"1.0",
        "method":"get",
        "params": {
                    "residentWarningDuration":    "?"
        }
}
```

Query response format is as follows:

```
{
        "version":"1.0",
        "opt":      "get",
     "res":         "success"  //"fail" when the query fails, "success" when the query succeeds
        "params": {
                    "residentWarningDuration":    "1"
        }
}
```

This property supports configuration. The format is as follows:

```
        {
        "version":"1.0",
        "method":"set",
        "params": {
                    "residentWarningDuration":    "2"
        }
}
```

The configuration result format is as follows:

```
{
```

```
        "version":      "1.0",
        "opt":      "set",
      "res":      "success"  //"fail" when the query fails, "success" when the query succeeds
        "params"Ff:         {
                "residentWarningDuration":    "2"
        }
}
```

2.22 Stationary Presence Detection Switch（residentWarningDurationSwitch）

Reporting Method: Not supported for active reporting.

Value range:

- 1: Function enabled
- 0: Function disabled

This property supports querying. The query format is as follows:

```
{
        "version":"1.0",
        "method":"get",
        "params": {
                "residentWarningDurationSwitch":      "?"
        }
}
```

Query response format is as follows:

```
{
        "version":"1.0",
        "opt":      "get",
        "res":      "success"  //"fail" when the query fails, "success" when the query succeeds
        "params": {
                "residentWarningDurationSwitch":      "1"
        }
}
```

This property supports configuration. The format is as follows:

```
        {
        "version":"1.0",
        "method":"set",
        "params": {
                "residentWarningDurationSwitch":      "1" // Set to enabled
        }
}
```

The configuration response format is as follows:

```
{
        "version":      "1.0",
```

```
        "opt":          "set",
        "res":      "success"  //"fail" when the query fails, "success" when the query succeeds
        "params": {
                    "residentWarningDurationSwitch":          "1"
        }
}
```

2.23 Fall Duration（fallDuration）

Reporting Method: Not supported for active reporting.

- Value range: 0−65535
- Unit: s

This property supports querying. The query format is as follows:

```
{
        "version":"1.0",
        "method":"get",
        "params": {
                    "fallDuration":         "?"
        }
}
```

Query response format is as follows:

```
{
        "version":"1.0",
        "opt":      "get",
    "res":          "success"  //"fail" when the query fails, "success" when the query succeeds
        "params": {
                    "fallDuration":         "1"
        }
}
```

This property supports configuration. The format is as follows:

```
{
        "version":"1.0",
        "method":"set",
        "params": {
                    "fallDuration":         "2"
        }
}
```

The configuration result format is as follows:

```
{
        "version":        "1.0",
        "opt":          "set",
     "res":          "success"  //"fail" when the query fails, "success" when the query succeeds
```

```
        "params": {
                "fallDuration":        "2"
        }
}
```

2.24 Voice Function Switch（US518FunctionSwitch）

Reporting Method: Not supported for active reporting.

Value range:

- 1: Function enabled
- 0: Function disabled

The default setting is enabled.

When this function is enabled, the device can perform voice inquiries. When the function is disabled, the device directly reports the detected status.

This property supports both configuration and querying. The format is as follows:

```
{
        "version":"1.0",
        "method":"get",
        "params": {
                "US518FunctionSwitch": "?"
        }
}
```

Query response format is as follows:

```
{
        "version":"1.0",
        "opt":      "get",
      "res":        "success"  //"fail" when the query fails, "success" when the query succeeds
        "params": {
                "US518FunctionSwitch":   "1"
        }
}
```

This property supports configuration. The format is as follows:

```
        {
        "version":"1.0",
        "method":"set",
        "params": {
                "US518FunctionSwitch":"1" // Set to enabled
        }
}
```

The configuration result format is as follows:

```
{
```

```
        "version":        "1.0",
        "opt":          "set",
      "res":          "success"  //"fail" when the query fails, "success" when the query succeeds
        "params": {
                    "US518FunctionSwitch":   "1"
        }
}
```

2.25 Voice Learning Mode (US518LearningFunction)

Note: When setting this property, the device must be in the human presence detected state. Otherwise, the setting cannot be completed correctly, and the response value will be "nobody".

Reporting Method: Not supported for active reporting.

Value range:

- 1: Enter learning mode
- 0: Not in learning mode

The default status is 0.

Note: After the voice learning mode is triggered, the device must complete the learning process before it can be triggered again. Currently, the trigger frequency is limited to once within 60 seconds. After the 60-second period expires, the device actively reports the status.

This property supports querying. The query format is as follows:

```
{
        "version":"1.0",
        "method":"get",
        "params": {
                    "US518LearningFunction":      "?"
        }
}
```

Query response format is as follows:

```
{
        "version":"1.0",
        "opt":       "get",
      "res":          "success"
        "params": {
                    "US518LearningFunction":"1"
        }
}
```

This property supports configuration. The format is as follows:

```
        {
        "version":"1.0",
```

```
        "method":"set",
        "params": {
                "US518LearningFunction":    "1"
        }
}
```

The configuration result format is as follows:

```
{
        "version":      "1.0",
        "opt":      "set",
      "res":      "success"
        "params": {
                "US518LearningFunction":"1" /When a person is present, the device returns 1 or 0. When no person is present, it returns nobody.
        }
}
```

3. Restricted Function Property Reporting

This function is mainly used for function properties that generate frequent active reporting data. It can be used to disable reporting for these properties or block specific function properties from being reported.

For each property, the corresponding value is defined as follows:

- 1: Reporting is disabled for this property
- 0: Reporting is enabled for this property

The setting commands with the **method** value of **"limit_set"** or the query commands with the **method** value of **"limit_get"** support configuring or querying multiple properties at the same time.

The query format for "Disable Reporting Data" is as follows:

```
{
        "version":"1.0",
        "method":"limit_get",
        "params": {
                "workDuration":    "?",
                "locationOutOfBounds":      "?",
                "someoneExists":    "?",
                "motionStatus":     "?",
                "movementSigns":    "?",
                "humanDistance":    "?",
                "humanPosition":    "?",
                "heartBeat":        "?",
                "proportionOfHeight":       "?"
        }
}
```

The response data format is as follows:

```
{
    "version":"1.0",
    "opt":    "limit_get",
    "res":    "success"  //"fail" when the query fails, "success" when the query succeeds
    "params": {
            "workDuration":    "0",
            "locationOutOfBounds":    "0",
            "someoneExists":    "0",
            "motionStatus":    "0",
            "movementSigns":    "0",
            "humanDistance":    "0",
            "humanPosition":    "0",
            "heartBeat":    "0",
            "proportionOfHeight":    "0"
    }
}
```

The configuration format for "Disable Reporting Data" is as follows:

```
{
    "version":"1.0",
    "method":"limit_set",
    "params": {
            "workDuration":    "0",
            "locationOutOfBounds":    "0",
            "someoneExists":    "0",
            "motionStatus":    "0",
            "movementSigns":    "0",
            "humanDistance":    "0",
            "humanPosition":    "0",
            "heartBeat":    "0",
            "proportionOfHeight":    "0"

    }
}
```

The response data format is as follows:

```
{
    "version":"1.0",
    "opt":    "limit_set",
    "res":    "success"  //"fail" when the query fails, "success" when the query succeeds
    "params": {
            "workDuration":    "0",
            "locationOutOfBounds":    "0",
            "someoneExists":    "0",
```

```
                "motionStatus":     "0",
                "movementSigns":    "0",
                "humanDistance":    "0",
                "humanPosition":    "0",
                "heartBeat":        "0",
                "proportionOfHeight":          "0"

        }
}
```

4. QoS (Quality of Service) Settings

The default QoS (Quality of Service) level is QoS 1.
The value definitions are as follows:

- 0: QoS 0
- 1: QoS 1
- 2: QoS 2

The query function for QoS (Quality of Service) is as follows:

```
{
        "version":"1.0",
        "method":"qos_get",
        "params": {
                "Qos_post":         "?"
        }
}
```

The query response data format is as follows:

```
{
        "version":"1.0",
        "opt":      "qos_set",
        "res":      "success"  //"fail" when the query fails, "success" when the query succeeds
        "params": {
                "Qos_post":         "0"
        }
}
```

The QoS (Quality of Service) configuration format is as follows:

```
{
        "version":"1.0",
        "method":"qos_set",
        "params": {
                "Qos_post":         "0"
        }
}
```

The response data format is as follows:

```
{
    "version":"1.0",
    "opt":    "qos_set",
    "res":    "success"  //"fail" when the query fails, "success" when the query succeeds
    "params": {
            "Qos_post":          "0"
    }
}
```

5. OTA Update

5.1 OTA Module Update（otaModule）

This property requires a command to specify the module to be upgraded.
Value definitions:

- 0: Wi-Fi module
- 1: Radar module

The default value is 0.

This control command must be sent before each OTA upgrade.。

```
{
    "version":"1.0",
    "method":"ota_set",
    "params": {
            "module":"0"
    }
}
```

5.2 OTA Update Information（otaInform）

The upgrade information sent to the device includes the firmware URL and port number. After receiving this information, the device downloads the firmware from the specified URL and port, and then starts the upgrade process.

If the upgrade fails, the device returns a failure response. After a successful upgrade, the module restarts and reports the updated firmware version.

The customer needs to set up and maintain their own web server for firmware hosting.

```
{
    "version":"1.0",
    "method":"ota_set",
    "params": {
        "otaInform":  {
            "firmwareUrl":  "http://192.168.31.88/app.rbl",
```

```
                "port":  "8090"  // Port number
            }
        }
    }
```

The format of the response when the upgrade fails is as follows:

```
{
    "version":"1.0",
    "opt":      "otaInform",
    "res":   "fail",
    "msg":   "ota failed!"
}
```

5.3 Update Progress（downloadProgress）

During the upgrade process, the device actively reports the upgrade progress.

- Value range: 0−100

The specific format is as follows:

```
{
    "version":"1.0",
    "method":"ota_post",
    "params": {
            "downloadProgress":          "0"
    }
}
```

6. Historical Version Update Notes

Revision	Release Date	Summary	Auther
V1.0	2024/02/26	Initial release	OF_Frank
V1.1	2024/10/08	Add functions about voice	OF_Frank