SONY

Altair

MQTT Service

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Revision	Date	Description	SW Version
1	11/2019	Initiated	RKAPP_02_01_02_00_20
2	03/2020	Added link to the "Altair_SW_501_AT_Commands_Guide_RK... .pdf".	
3	12/2020	◆ New Cover Page Format ◆ Added comment about the advised BR and big certification files loading	
4	1/2021	◆ Edited by tech-writer and converted into the Sony format.	

Table of Contents

1 About This Document

This document describes the usage of the MQTT service provided by the ALT125X software.

1.1 References

For all documentation references, go to ALT125X Customer Documentation Index.

Important: *For all AT commands in this document, refer to the Altair_SW_501_..._AT_Command_Guide.pdf that matches your SW version.*

1.2 Overview

MQTT designed specifically to suit battery operated devices and constrained wireless environment with low bandwidth, high link failure and short message length. The supported MQTT version is MQTT Version 3.1.1.

2 Examples

This chapter provides several examples of MQTT Service usage.

Important: *It is recommended to use 921600 baudrate with the AT interface for the best performance. Refer to Altair_SW_500_User_Manual.pdf, section Port Mapping for the detailed configuration description.*

2.1 Simple Connection

This example shows minimal non-secure connection. For this example used HiveMQ open source server broker https://www.hivemq.com/public-mqtt-broker/. The following example publishes the data on the topic and receives it by subscribing it previously.

1. Enable MQTT events:

```
AT%MQTTEV="all",1
OK
```

2. Configure node parameters:

```
AT%MQTTCFG="nodes",1,"Client_name","broker.hivemq.com"
OK
```

3. Configure node parameter:

```
AT%MQTTCFG="PROTOCOL",1,0,1200,1
OK
```

4. Establish connection:

```
AT%MQTTCMD="connect",1
OK
```

5. Receive connection establishment confirmation URC:

```
%MQTTEVU:"CONCONF",1,0
<0> - success

Subscribe (register) to the topic on the endpoint:
AT%MQTTCMD="subscribe",1,2,"Topic_name"
%MQTTCMD: 1
OK
```

6. Wait for subscription confirmation URC:

```
%MQTTEVU:"SUBCONF",1,1,0
```

<0> - success

7. Publish data to broker:

   <5> - print 5 characters to publish.

   ```
   AT%MQTTCMD="publish",1,2,0,"Topic_name",5
   11111
   ```

8. Wait for MQTTCMD event:

   ```
   %MQTTCMD:2
   OK
   ```

9. Publication message URC received from endpoint:

   ```
   %MQTTEVU:"PUBRCV",1,51,"Topic_name",5
   11111
   %MQTTEVU:"PUBCONF",1,2,0
   ```

2.2 Secured Connection

1. Enable MQTT events:

   ```
   AT%MQTTCFG="ALL",1
   OK
   ```

2. Configure node parameters:

   ```
   AT%MQTTCFG="NODES",1,"ALTTest","a2gn98vggcm0y9.iot.us-west2.amazonaws.com"
   OK
   ```

3. Configure IP connection port is important since the default 1883. For secure connection port 8883 used (configurable):

   ```
   AT%MQTTCFG="IP",1,,0,8883
   OK
   ```

4. Configure connection TLS layer, refer to %CERTCFG to define profile to be used with TLS connection:

   ```
   AT%MQTTCFG="TLS",1,0,0
   OK
   ```

   Note: *For all topic related to certification files loading refer to AT%CERTCFG and AT%CERTCMD commands. For certification files that exceed 3 KB , load file to disc b: using the File Transfer Tool (Altair_SW_529_File_Transfer_Tool), then use AT%CERTCMD with "COPY" option.*

5. Establish connection:

```
AT%MQTTCMD="CONNECT",1
OK
```

6. Receive connection establishment confirmation URC:

```
%MQTTEVU:"CONCONF",1,0
```

7. Subscribe to broker publication:

```
AT%MQTTCMD="SUBSCRIBE",1,1,"TESTTopic"
%MQTTCMD: 1
OK
```

8. Receive subscription confirmation URC:

```
%MQTTEVU:"SUBCONF",1,1,0
```

9. Publish data to broker:

```
AT%MQTTCMD="PUBLISH",1,0,0,"TESTTopic",10
1234567890
%MQTTCMD: 2
OK
```

10. Receive published data back from broker:

```
%MQTTEVU:"PUBRCV",1,0,"TESTTopic",10
1234567890
```

11. Unsubscribe from broker publication:

```
AT%MQTTCMD="UNSUBSCRIBE",1,"TESTTopic"
%MQTTCMD: 3
OK
```

12. Receive unsubscription confirmation URC:

```
%MQTTEVU:"UNSCONF",1,3,0
```

13. Subscribe to broker publication, which will be stored into file:

```
AT%MQTTCMD="SUBSCRIBE",1,1,"TESTTopic","file"
%MQTTCMD: 4
OK
```

14. Receive subscription confirmation URC:

```
%MQTTEVU:"SUBCONF",1,4,0
```

15. Publish data to broker from file:

```
AT%MQTTCMD="PUBLISH",1,0,0,"TESTTopic",0,"b:/file1"
%MQTTCMD: 5
OK
```

16. Receive published data back from broker into file:

```
%MQTTEVU:"PUBRCV",1,0,"TESTTopic",0,9,"file"
```