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Overview

The aim of this document is to provide Wavecom customers with a full description of the API associated with the Open AT® Q64 library.
<table>
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<th>Level</th>
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<td>001</td>
<td>November 1 2006</td>
<td>Creation</td>
<td>Wavecom</td>
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1 Introduction

1.1 Related documents

None
# Abbreviations and Glossary

<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>Definition</th>
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<tbody>
<tr>
<td>ADL</td>
<td>Application Development Layer</td>
</tr>
<tr>
<td>API</td>
<td>Application Programming Interface</td>
</tr>
<tr>
<td>AT</td>
<td>Attention</td>
</tr>
<tr>
<td>CPU</td>
<td>Central Processing Unit</td>
</tr>
<tr>
<td>IN/OUT/GLB</td>
<td>In, Out or Global. See glossary</td>
</tr>
<tr>
<td>IP</td>
<td>Internet Protocol</td>
</tr>
<tr>
<td>OS</td>
<td>Operating System</td>
</tr>
<tr>
<td>TCP</td>
<td>Transfer Control Protocol</td>
</tr>
<tr>
<td>WIP</td>
<td>Wavecom TCP/IP stack</td>
</tr>
</tbody>
</table>
1.3  Glossary

In/Out/Glb: used in function parameters:

- “In” if the parameter is given to the function
- “Out” if the parameter is the result of the function
- “Glb” (for Global) if the parameter is used for both
2 Global architecture

2.1 Feature description

Wavecom customers are provided with an Open AT® library, accessible through an API, which enriches their Open AT® application with the GR64 AT commands set.

This allows the Open AT® application running on the Q64 Wireless CPU® to communicate with the external world using GR64 AT commands set.

In order to support GR64 TCP/IP AT commands, the Q64 library is provided with the Wavecom TCP/IP stack (WIP library).

Figure 1 : Q64 library and Open AT® application architecture
2.2 Use case

The Q64 library can be used on Q64 Wireless CPU® by Open AT® applications that require providing the GR64 AT commands set to the final user.
3 Initialization of the Q64 Library

The Q64 library must be initialized by the Open AT® application. During initialization, internal parameters and default configuration are initialized.

During Q64 library initialization, the associated Wavecom TCP/IP stack (WIP library) is also initialized internally with a default configuration.
Initialization of the Q64 library
Required header file

3.1 Required header file

The header file for the Q64 library initialization is q64_init.h.
3.2 The q64_Main_Init function

The q64_Main_Init function initializes the Q64 library and the associated Wavecom TCP/IP stack (WIP library).

This function must be first called by the Open AT® application before using any GR64 AT command and any IP communication library service.

3.2.1 Prototype

s8 q64_Main_Init ( void );

3.2.2 Parameters

None

3.2.3 Returned Values

This function returns

- 0 if the Q64 library successfully initialized
- in case of an error, the function returns the negative error code Q64_ERR_INIT_FAILURE
4 Example of application

4.1 Initialization of Q64 library

This example shows how to initialize the Q64 library.

#include "adl_global.h"
#include "q64_init.h"

// Mandatory ADL variable
const u16 wm_apmCustomStackSize = 1024;

// Function name: adl_main
// Purpose: ADL main entry function
// Variables name | IN | OUT | GLB | Usage
// InitType | X | | ADL initialization type
void adl_main ( adl_InitType_e InitType )
{
    q64_Main_Init(); // Q64 library initialization
}
## 5 Error code

### 5.1 Q64 library initialization error code

<table>
<thead>
<tr>
<th>Error Code</th>
<th>Error Value</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Q64_ERR_INIT_FAILURE</td>
<td>-1</td>
<td>Q64 initialization failure</td>
</tr>
</tbody>
</table>
## 6 Compatibility

### 6.1 Q64 library & WIP library compatibility

<table>
<thead>
<tr>
<th>Q64 library version</th>
<th>WIP library compatibility</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.02</td>
<td>3.10</td>
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