Q64 OPEN AT® APPLICATION DEVELOPMENT GUIDE

Revision: **001**
Date: **November 1, 2007**

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Q64 Open AT® application development guide

Reference: WM_DEV_Q64_UGD_002

Revision: 001

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WM_DEV_Q64_UGD_002

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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.

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Document history

Level	Date	History of the evolution	Writer
001	November 1 2006	Creation	Wavecom

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1 Introduction

1.1 Related documents

None

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1.2   Abbreviations and glossary

ADL	Application Development Layer
API	Application Programming Interface
AT	Attention
CPU	Central Processing Unit
IN/OUT/GLB	In, Out or Global. See glossary
IP	Internet Protocol
OS	Operating System
TCP	Transfer Control Protocol
WIP	Wavecom TCP/IP stack

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).
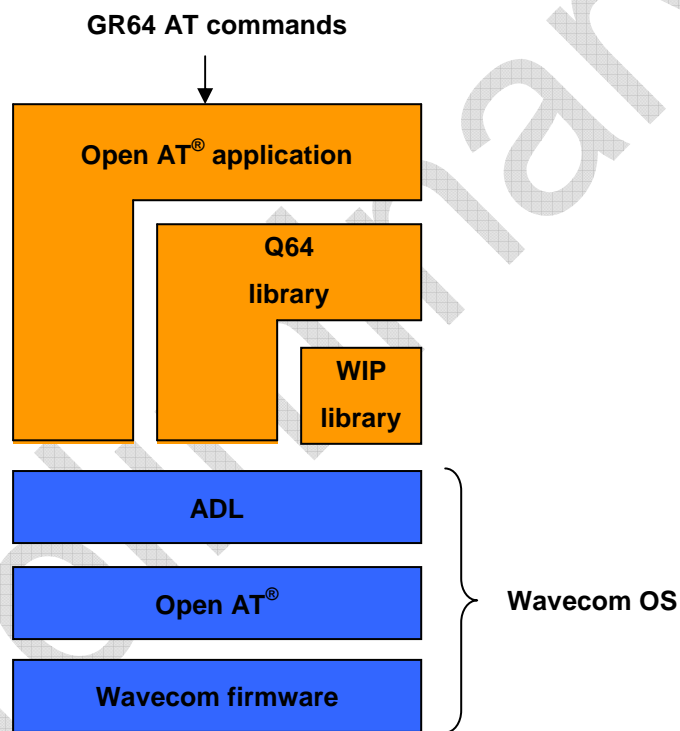
GR64 AT commands

Open AT® application

Q64 library

WIP library

ADL

Open AT®

Wavecom firmware

Wavecom OS

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.

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

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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

Error Code	Error Value	Description
Q64_ERR_INIT_FAILURE	-1	Q64 initialization failure

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6   Compatibility

6.1   Q64 library & WIP library compatibility

Q64 library version	WIP library compatibility
1.02	3.10