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**REQUIREMENTS SPECIFICATION**

CloudGateMini

PLCM 9772

rev. See history

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1. Revision

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| --- | --- | --- | --- |
| Rev. | Rev. date | Author | Note |
| *1.0* | 19/11/2021 | A.Chiebao | 1st revision |
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1. Introduction

Scope of the document

This document refers to the realization of some enhancement to the current FW of the CloudGateMini (this improvement affect both model, GTW000MWT0 and GTW000MGP0).

Definitions, acronyms and abbreviations

AP = WiFi access point to connect to

CGM\_AP = gateway that act as an access point  
CGM\_WIFI = CloudGateMini WiFi

CGM = CloudGateMini  
GSM = refer to 2G/4G/NB IoT connection  
FW = firmware

IoT = Internet of Things

MonDev = the device connected to the GME through the RS485 interface

OTA = Over The Air

SW = software  
MFT = Modbus File Transfer

GTW000MWT0 = the GME-WiFi model

GTW000MGP0 = the GME-2G model with CAREL SIM installed

GTW000MGT0 = the GME-2G model without SIM

GTW000M2W0 = the GME-2G+WiFi model without SIM

1. Alignment of the ESP32 chip SDK

The aim of this PLCM is to align the firmware gateway project (GTW000MWT0 and GTW000MGP0) to the latest revision of the idf sdk.

The actual revision firmware (started in 2018) are based on the esp-idf v4.0.

Now the esp-idf has reached version 4.3.1 in which the Espressif developers have fixed some bugs and added some new features (for example the support of the new micro family).

To use the new esp-idf 4.31 some requirement has to be respected:

* Is necessary to create a new linux virtual machine with a long time support (we use a 20.04.3 version) in order to install python 3.
* Install a version of eclipse equal or greater than 2020-12 (we use 2021-06)
* Follow the steps shown on the following page in order to install all the prerequisites for the toolchain useful to compile the code.

<https://docs.espressif.com/projects/esp-idf/en/latest/esp32/get-started/linux-setup.html#install-prerequisites>

Link to the github esp-idf project where founding the differences between the both version:

<https://github.com/espressif/esp-idf/tree/v4.0>

<https://github.com/espressif/esp-idf/tree/v4.3.1>

Summary of the main changes founded

* Modbus library
* Http library ( A patch has been made to avoid changing our whole OTA range download part. The same problem was found on some github comments:

<https://github.com/espressif/esp-idf/commit/6337ce9c3c3e12608d933e920a8791d4d7584d57> )

* tcpip library (now called esp\_netif)
* Modem library (we use the same used in the previously implementation with esp-idf 4.0)

The change of this libraries has affected some of our code but generally the design of the code is remain the same as we have done with the esp-idf V4.0 .