CAREL – Confidential



**REQUIREMENTS SPECIFICATION**

Gateway Middle End

rev. 0.01

DRAFT CONFIDENTIAL

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Revision

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| --- | --- | --- | --- |
| Rev. | Rev. date | Author | Note |
| *0.01* | *xx/09/2018* | *A.Bilato* | Initial draft |
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Definitions, acronyms, and abbreviations

GME = Gateway Middle End  
GSM = refer to 2G connection  
FW = firmware

IoT = Internet of Things

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

OTA = Over The Air

SW = software

CAREL server = the cloud system of CAREL  
CCL = CAREL Cloud Library

1. Introduction
   1. Scope of RS

This is the requirement specification for the Gateway Middle End (GME) that will be available in two version 2G and WiFi, in short this device will be able to:

1. monitoring one (1) device through an RS485 port through Modbus protocol
2. log some variables in the internal memory (RAM) for a very limited time slot,  
   this to reduce the number of transfer to the cloud
3. transfer the logged variables to the CAREL cloud through MQTT
4. Receive some variables values from the CAREL cloud MQTT and transmit it to the connected device.
5. Transfer data to a target via Modbus file transfer
6. receive a device model definition file from the CAREL cloud,  
   this file contain the map of the variables that the GME read from the connected target
7. receive security certificate file from the CAREL cloud
8. Hardware Requirement Specification
   1. Memory summary

A quick recap of the required memory previously agreed with USR and common to all models.

|  |  |
| --- | --- |
| **Use** | **Available Area Size** |
| Security certificate | 4K bytes (2 files x 2K bytes) |
| Device model | 2K bytes |
| Space to store some CAREL information in a file format.  ie. Configuration parameters | TBD: USR give us available maximum space, today CAREL require xxxx bytes of space. |

* 1. 2G Model

As already agreed with USR the idea is to implement a device based/like the USR-GPRS-730 model but with the GM35/V2 module inside, this to meet the memory requirement needed to fit our application (ie. OTA upgrade).  
Other requirements are:

1. A new polycarbonate (graphic design by CAREL)
2. RS485 with 3 pole removable screw terminal 3.81mm type (or 5.08mm)  
   CAREL standard. The RS232 port is not required, as previously agreed.
3. A side label with some informations (see label documentation <GME_Labeling.ppt>):
   * Product Code
   * Serial number (serialized by USR)
   * IMEI
   * Carel Control Code
   * QR Code
4. All the rest of the characteristics are the same of the USR-GPRS-730
5. A magnetic antenna with up to 3 meters of cable is part of the offer.
6. There are two models :  
   a. One with a SIM card provided by CAREL and installed by USR.  
   b. One witouth any pre-installed SIM
7. The HW must be certified for CE/RED.
   1. WiFi Model

The WiFi model will use the current CAREL model GTW000WT hardware.   
  
Other requirements are:

1. A new polycarbonate (graphic design by CAREL)
2. A side label with some informations (see label documentation <GME_Labeling.ppt>):
   * Product Code
   * Serial number (serialized by USR)
   * MAC address
   * Carel Control Code
   * QR Code
3. The HW is already certified CE/RED and FCC/IC but we wish to be reassured that there are no certification problems when changing FW and product code.  
   Jevy 20190926 :   
   Dekra said that is possible to extend the current omologation,   
   for both CE/RED and FCC/IC is it confirmed ?