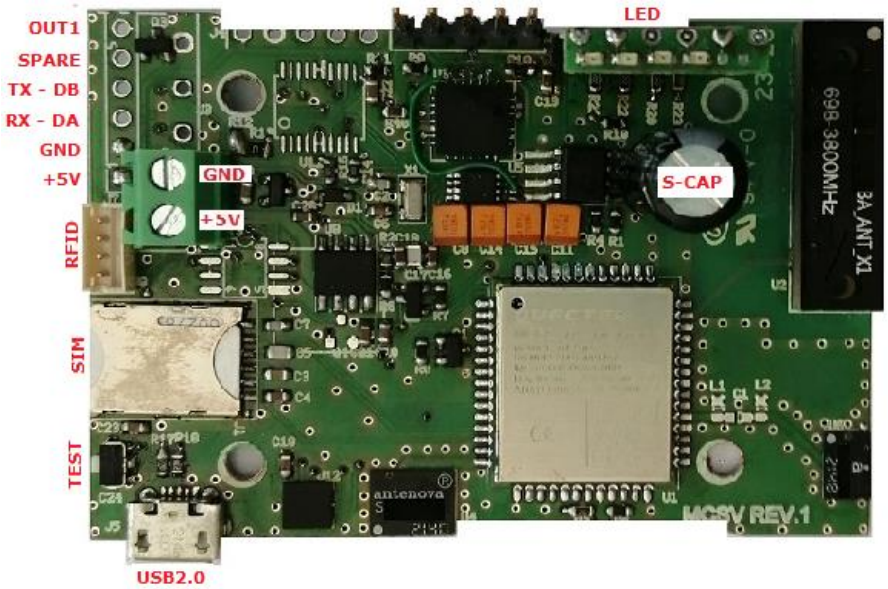
MCSV BOARD

MCSV is a quick way to connect your equipment to a **SERVER** via **GPRS 2G** or to a **PC** via **BLE4.2**.
The serial connection to your field operate in SPONTANEOUS MODE on the TTL SERIAL RX-TX.
MCSV collect DATA (SERIAL CODE, EPC, OTHER) generated by your readers and create a LOG AREA of 4000 records in a circular buffer mode.
A filtering avoid to repeat the storing of the same DATA.
The LOG are sent automatically to the SERVER.
No operation required, the unit works continuously on the field side as on the communication side.
The status can be viewed on 4 LEDS.



BOARD SIZE 65.3 x 45.5 mm

"FIELD DATA" STRUCTURE

The DATA sent by your DEVICE to the MCSV module shall have this structure:

STX	ADX	LENGTH	STATUS	DATA min1/max24 bytes	BCC
02H	00H	09H	04H	01-02-03-04-05-06-07	HEX

Ex: DATA LEN 7 bytes
LENGTH = DATA LEN+2

STX	ADX	LENGTH	STATUS	BCC
02H	00H	02H	04H	HEX

MCSV reply with COMMAND OK

STX	ADX	LENGTH	STATUS	BCC
02H	00H	02H	20H	HEX

or COMMAND ERROR or NO REPLY

Your DEVICE has to verify the COMMAND OK before to send a NEW DATA.

"RECORD DATA" STRUCTURE

Inside the board the "FIELD DATA" received are encapsulated into a 24Byte structure corresponding to the max data size admitted (UHF Code EPC 24).

DATA LEN max. 24bytes

Ex. 01-02-03-04-05-06-07-08-09-10-11-12-13-14-15-16-17-18-19-20-21-22-23-24 **24 byte EPC**
Ex. 01-02-03-04-05-06-07-08-09-10-11-12-00-00-00-00-00-00-00-00-00-00-00-00 **12 byte EPC**
Ex. 01-02-03-04-05-06-07-00-00-00-00-00-00-00-00-00-00-00-00-00-00-00-00-00 **7 byte MIFARE**
Ex. 01-02-03-04-00-00-00-00-00-00-00-00-00-00-00-00-00-00-00-00-00-00-00-00 **4 byte MIFARE**
Ex. 01-02-03-04-05-00-00-00-00-00-00-00-00-00-00-00-00-00-00-00-00-00-00-00 **5 byte UNIQUE**

Or **any other type of string** limited from the 24 bytes LENGTH.

"LOG RECORD" STRUCTURE

The "RECORD DATA" are encapsulated in a LOG RECORD together with the CURRENT DATE and the GPS POSITION and will be written in the LOG AREA.
LOG RECORD (example for a code MIFARE 7bytes) RECORD length 41 bytes

DATA LEN 1 byte	DATA 24 bytes	CURRENT DATE 6 bytes	GPS POS 10 bytes
07 (Max 24 bytes)	01-02-03-04-05-06-07-00-00-00-00-00- 00-00-00-00-00-00-00-00-00-00-00-00	12-02-23-15-59-36	40-66-85-38-"4E" 16-59-41-42-"45"

"LOG PACKET" via GPRS 2G

The LOG are sent in PACKET format.
Each PACKET has build as follow:

HEADER	HEADER	0xFE	1BYTE
NDEVH-L	DEVICE that send this PACKET	0000H a FFFFH	2BYTE
TYPE	LOG	83H	1BYTE
NPACK	PACKET number - incremented at any send ok received	01H a FFH	1BYTE
DATAPACK	Number of Records in current DATAPACK , max.50 records	01H a 32H	1BYTE

At any LOG PACKET received the SERVER replay with a string "VALID" .

"CURRENT DATE" REQUEST

In case of "CURRENT DATE" ERROR the MCSV automatically send a CURRENT DATE REQUEST string to the SERVER to receive the correct date.

HEADER	HEADER	0xFE	1BYTE
NDEVH-L	DEVICE that send this PACKET	0000H a FFFFH	2BYTE
TYPE	DATE	20H	1BYTE
NPACK	PACKET number	01H	1BYTE
DATAPACK	Number of Records in current DATAPACK , no records	00H	1BYTE

The SERVER replay with a string "VALID DD-MM-YY-HH-MM-SS" .

"LOG PACKET" via BLE4.2"

The LOG AREA can be interrogated by using a POLLING mode procedure.

POLL COMMAND

STX	ADX	LENGTH	FUNCTION	STATUS	BCC
02H	00H	03H	72H - 77H	00H - 01H	HEX

READ NEXT LOG 72H STATUS=1 Read sequentially the next events.
This is the command used in normal operativity.
READ SAME LOG 77H STATUS=0 Read the same event in the log area.
To be used if need to repeat the send of the same string was received before.

STX	ADX	LEN	FUNC	DATA 24bytes	CURRENT DATE	GPS POS 10 bytes	BCC
02H	00H	20H	04H	01-02-03-04-05-06-07-00-00-00-00-00- 00-00-00-00-00-00-00-00-00-00-00-00	12-02-23-15-59-36	40-66-85-38-"4E" 16-59-41-42-"45"	HEX

REPLY LOG EXAMPLE of a 7bytes code **MIFARE**

STX	ADX	LENGTH	STATUS	BCC
02H	00N	02H	04H	HEX

REPLY END OF LOG The log area is void. All the logs has been transmitted.

NOTE

1)The MCSV can be used also as **GENERAL PURPOSE** data collector because the 24 byte RECORD can be of any type you need but with the limit of 24 bytes.
The BOARD can be inserted in your DEVICES observing some procedure as no metal cover and a good positioning in ambient with no RF shields.
The TEST BUTTON permit to verify the quality of the positioning using LED signalisations.
2)The MCSV has mounted a SuperCap that grant for max 24 hour of STAND-BY to maintains the parameters when 5V fault. After this time the Current Date will go in failure and the GPS lost the last Satellite positioning.
This means to need about 90 second to restart with Valid Coordinates.
The Current Date will be automatically recovered with the REQUEST at power on.
3)OPTIONAL USB: the MCSV can be provided of an USB2.0 module to set operating parameters and read LOG AREA.
The same operations can be made by the standard BLE4.2.

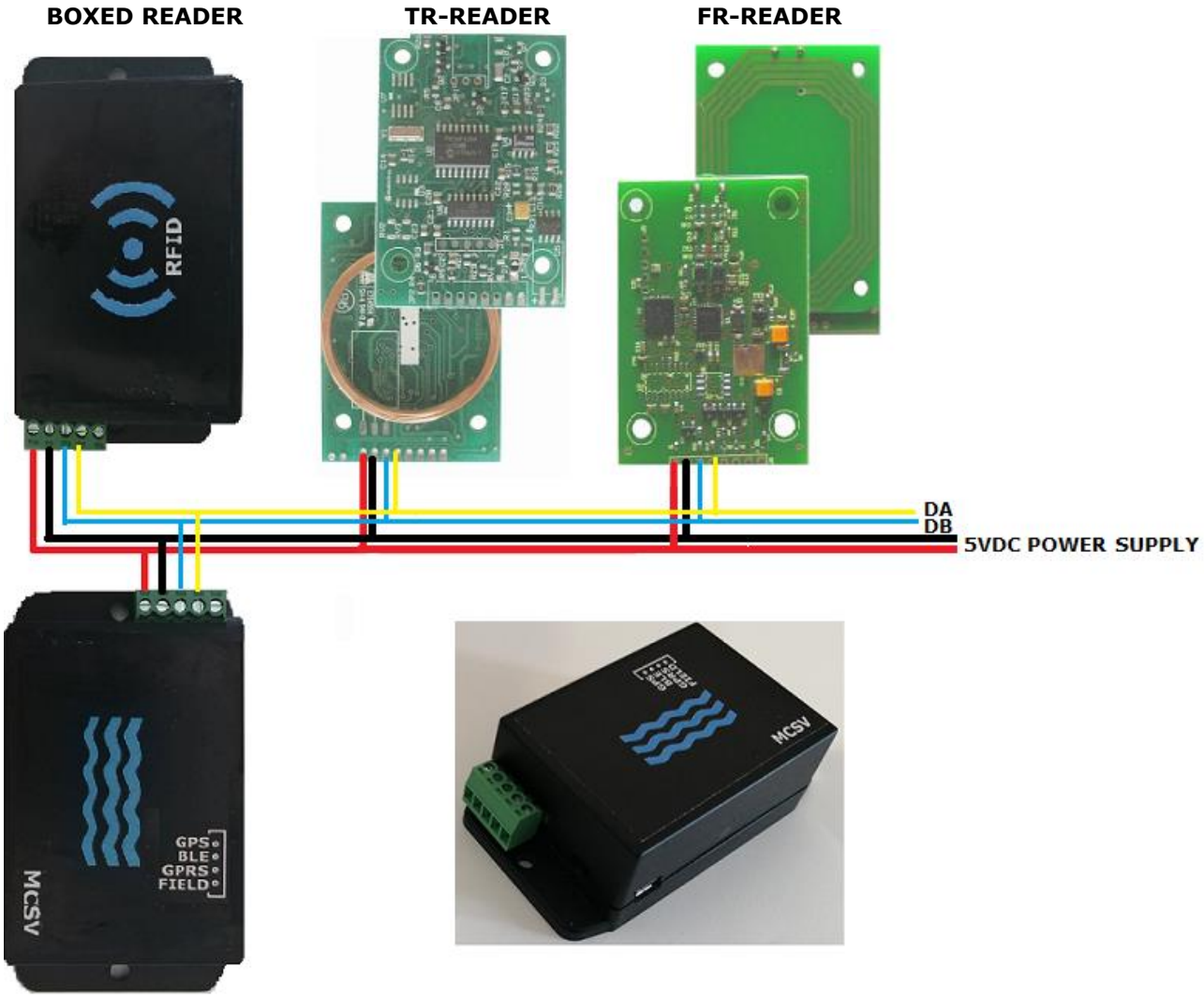
MCSV-RFID BOXED

MCSV can be supplied in a BOX containing the MCSV BOARD internally connected to one reader TR, FR and UHF SERIES mounted into the BOX COVER to obtain a complete RFID BOX connectable via GPRS 2G or BLE4.2.
To operate it needs only the 5VDC power supply placed on an internal terminal board.
The RFID module has to be of the type SPONTANEOUS MODE. Ex: TR-TTL-QH-5 or FR-TTL-MH-5

READER inside the cover.

MCSV-RS485

This unit collect DATA via RS485 from our LF/HF standard readers.
LF ex: TR-485-QS-5
HF ex: FR-485-MS-5
The models can be also available into a BOXED version with screw connector.



MCSV-RS485

The Power consumption of the part MCSV-RS485 is max.300mA.
Can consider max 30mA for each Reader connected.
Depending by the quantity of Readers can be chosen the right POWER SUPPLY.
The standard model of Power Supply is 1A as for Smart Phone charger.

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