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REFERENCE : MF/CPR/CONT/7	Zigbee Interface NXP JN5188	

APPLICATION :

This document defines manufacturing, control and test of Zigbee modules NXP JN5188

DESTINATION :

Manufacturing services
Quality services
R&D services
Sub contractors

Related documents :

Modifications of the document	
A 15/09/2022	First release

	DATE	NAME	SERVICE	VISA
Written :	15/09/2022	F. BEAUCAMP	STC	
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Scope of document

This document describes programming and test of NXP JN5188 Zigbee interfaces
PCB ref : 6LA19470
Board ref : 6LA12230

This board replaces PAN 4561M module, and are fitted on several PCB

Table 1 describes :

- the product (motherboard) where this module will be used

Product	Motherboard
WilQ 3 – WilQ 4	6LA12159 6LA12135
CAN Logger	6LA12184
USB Dongle	6LA11876
Charger Dongle	6LA11897

Table 1

The document describes the programming and test of Charger Dongle Ref : 6LA11897

Programmer installation

DK6 Production Flash Programmer is a tool needed for programming the firmware binary files using USART0 interface of JN518X.

Download it from the NXP using SDK Builder for MCUXpresso SDK webpage below:

<https://mcuxpresso.nxp.com/en/builder?hw=JN5189DK6>

It will generate the SDK package named e.g. SDK_2.6.3_JN5189DK6.zip and you'll find inside the tool:

\\tools\\JN-SW-4407-DK6-Flash-Programmer\\JN-SW-4407 DK6 Production Flash Programmer v2282.exe and
\\tools\\JN-SW-4407-DK6-Flash-Programmer\\DK6-RN-0065-Production-Flash-Programmer.pdf

Programmer configuration

Build a .bat file with the following command :

DK6Programmer.exe -V2 -P 1000000 -s COM5 -p FLASH=jn5189dk6_Enersys.bin

COM5 is the number of the serial port where the programmer is connected
jn5189dk6_Enersys.bin is the file to be programmed

Programming interface

Necessary components

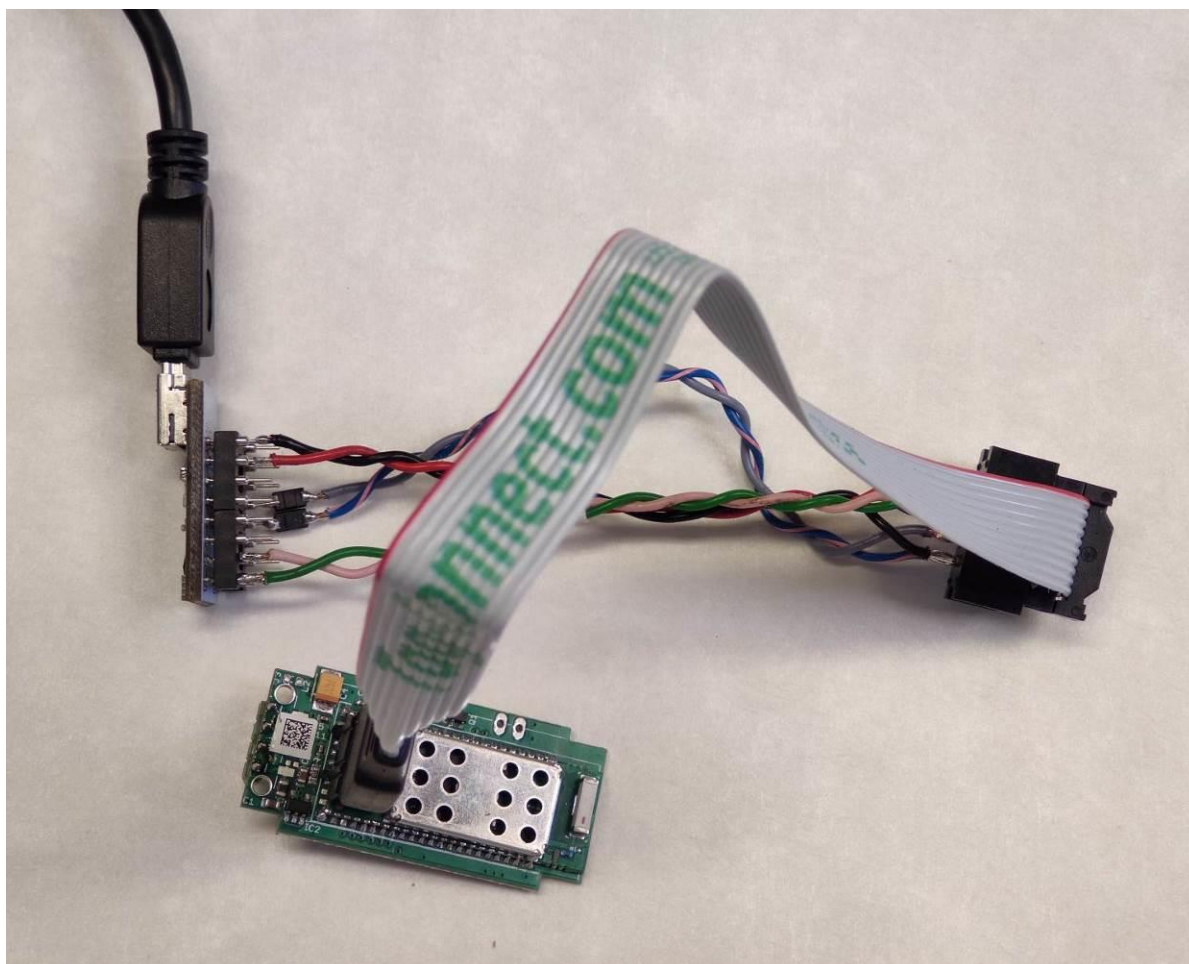
USB FTDI interface UMFT230XA-01
Tag Connect TC2050-IDC
2 Schottky diodes

Connect the target JN5188 as indicated in Table 2 (be careful with diodes polarity : cathode on the FTDI side for both)

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Programming embedded software

Connect DUT, interface and PC as indicated on



Picture 1 : SWD to FTDI interface

Execute the .bat file with the indicated command

Answer Y for programming the device

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C:\Windows\system32\cmd.exe
C:\Prive\Fichiers\Periph\Periph\PAN4561\NewPana\Future\Software>C:\Prive\Soft\nxp\DK6\DK6Programmer\DK6Programmer.exe -V2 -P 1000000 -s COM16 -p FLASH=jn5189dk6_iqtrans_release_verW3.1.bin
COM16: Connected at 115200
COM16: Detected JN5188 with MAC address 00:15:8D:00:05:D1:19:EA
COM16: Chip ID: 0x1100C686
COM16: Bootloader Version: 0xCC000014
COM16: Selected memory: FLASH
COM16: Programming FLASH at 0x0
COM16: Partial erase required on memory FLASH, addr=0x00000000, length=56720
COM16: The area to erase is not an exact multiple of the erase block size. Erase data from 0x00000000 to 0x0000de00?
Y/N
COM16: Erasing FLASH
COM16: 0
COM16: Completed
COM16: Programming FLASH
COM16: 0
COM16: Programming FLASH
COM16: 0
COM16: Programming FLASH
COM16: 0
COM16: Programming FLASH
COM16: 1
COM16: Programming FLASH
COM16: 2

```

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Testing of 6LA12230 Board

Necessary Equipment

WilQ (any series) connected to a 24 V supply.

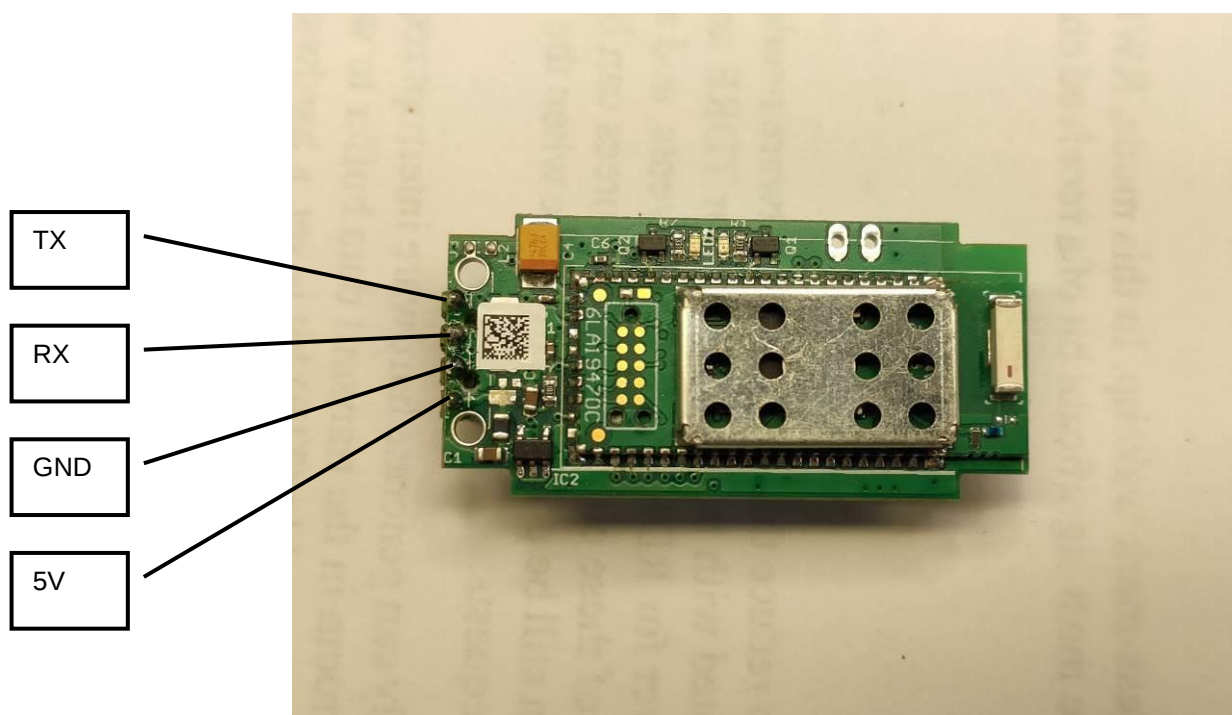
FT232RL interface (5 V)

(Supply to the board must be provided by the interface, an external supply could also be used)

EnerSys SoftKeyGen software



Picture 2 : FT232RL interface



Picture 3 : Connexions to board

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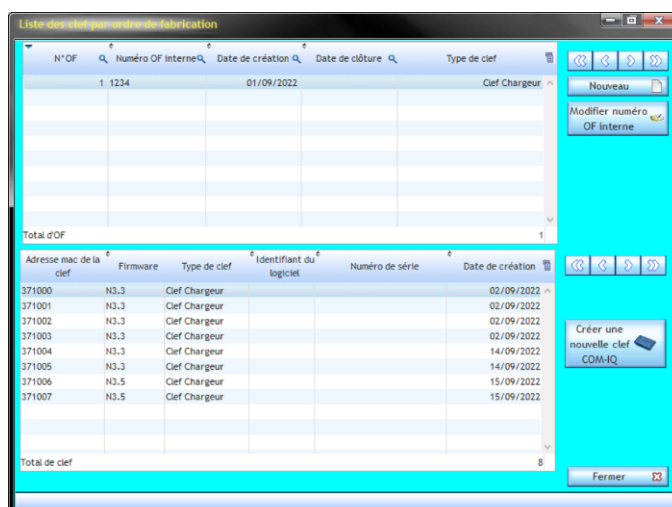
TEST

Switch WiIQ ON
Connect board to FT232 RL interface
Connect interface to PC

Run SoftKeyGen



Click on “Create a new COM-IQ key” (upper left menu)



Click on “Create a new COM-IQ key”

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The program will scroll all COM ports and find the Dongle on the correct port



Then it will scan for the WiQ



When found, serial number programmed in the board.



If test fails, it's possible to program the device once again and test.

STICKER

Put a sticker with at minimum:

- Serial number returned by SoftKeyGen
- Manufacturing date
- Reference of the board (6LA11xxx or 6LA12xxx)
- Software revision

Manufacturer can add Barr Code or QR Code

Sticker must be located on the top of the metallic shielding