

Radioberry juice

beta 2



Windows

Getting your radioberry and radioberry juice running the following activities must be executed.

Get release and unzip t

Connect the radioberry juice board (USB-C) to a computer

- Do not apply the 12V
- Do not connect the radioberry.
- **Execute :**
 - Setup the radioberry juice board.

Use the radio

- Click the radioberry on top of the radioberry juice.
- Apply 12 V to the juice board via the power jack.
- Connect USB cable.
- **Execute:**
 - Run the firmware radioberry-juice.exe
 - Start SDR program.

The execute steps are described in more detail on the next pages.

Setup the radioberry juice board.

For the boards i have delivered this step is already done.

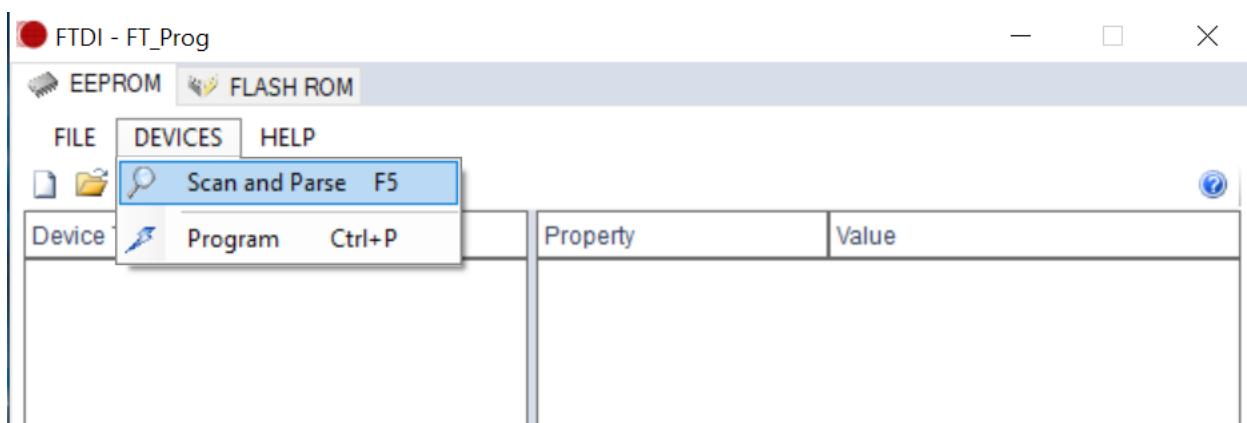
@Windows

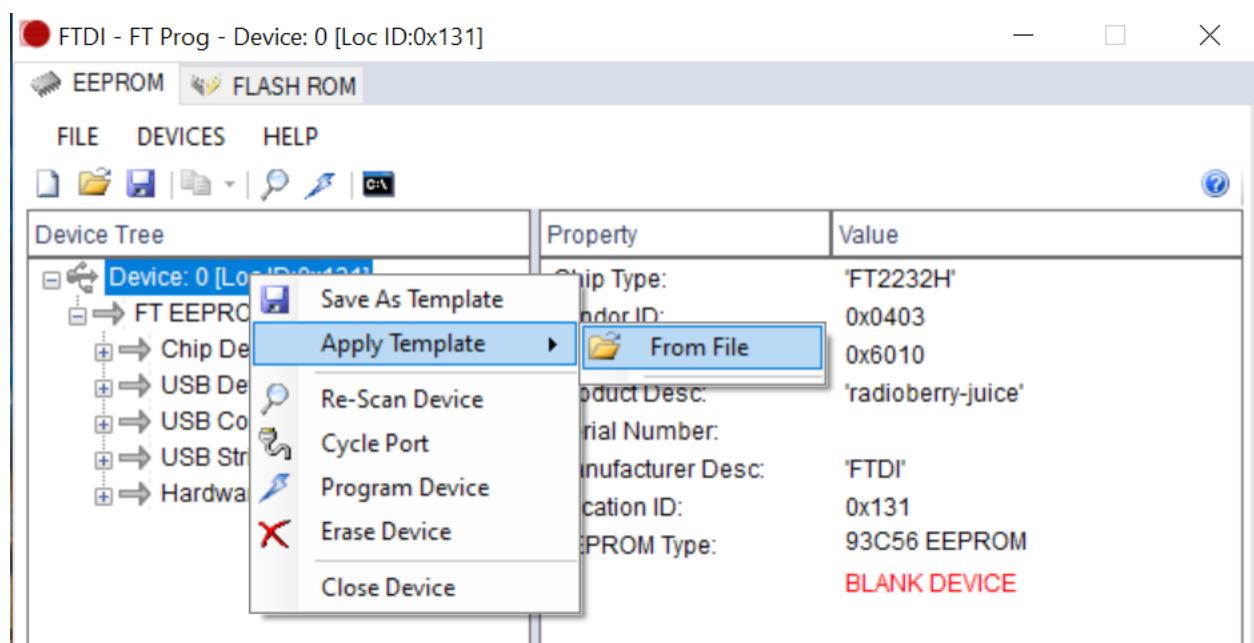
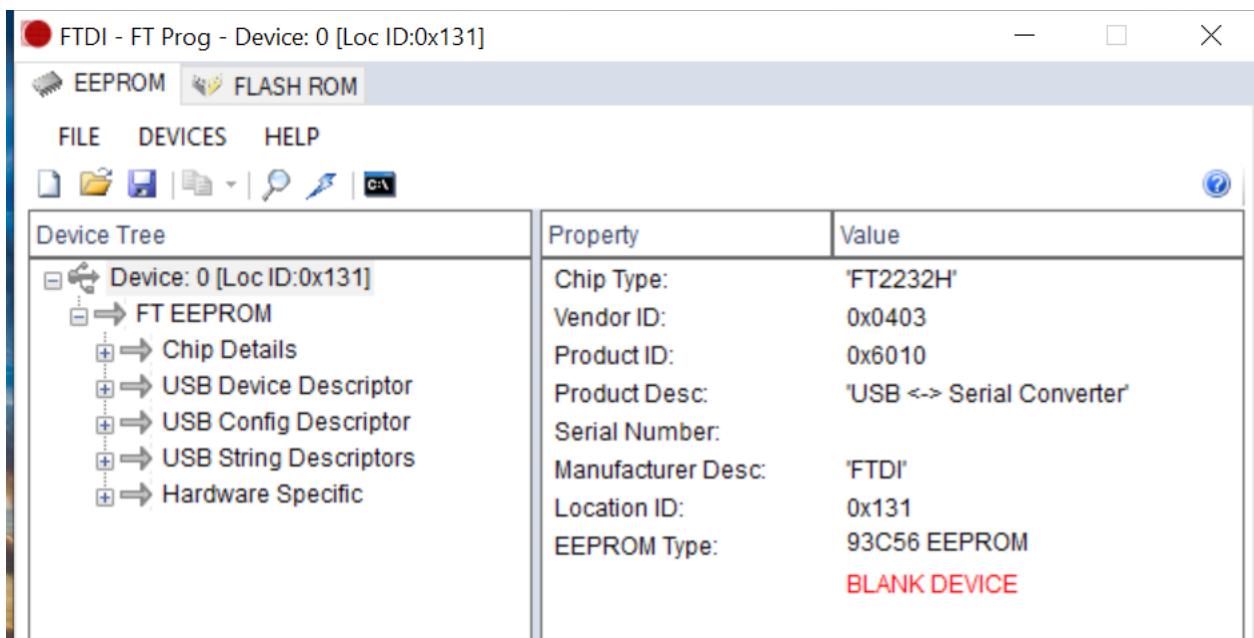
The radioberry juice board uses an eeprom to configure the FTDI FT2232H chip.

FTDI does provide a program called 'FT_Prog' for setting FTDI chips.

In the release folder a ft2232h-radiojuice-template is provided.

The print screen is guiding to setup the juice board.





FTDI - FT Prog - Device: 0 [Loc ID:0x131]

EEPROM FLASH ROM

FILE DEVICES HELP

Device Tree Property Value

Device: 0 [Loc ID:0x131]	Type: 'FT2232H'
FT EEPROM	Vendor ID: 0x0403
Chip Details	Product ID: 0x6010
USB Device Descriptor	Product Desc: 'radioberry-juice'
USB Config Descriptor	Serial Number:
USB String Descriptors	Manufacturer Desc: 'FTDI'
Hardware Specific	Location ID: 0x131
	EEPROM Type: 93C56 EEPROM
	BLANK DEVICE

Save As Template
Apply Template
Re-Scan Device
Cycle Port
Program Device
Erase Device
Close Device

EEPROM FLASH ROM

FILE DEVICES HELP

Device Tree Property Value

Device: 0 [Loc ID:0x131]	Chip Type: 'FT2232H'
FT EEPROM	Vendor ID: 0x0403
Chip Details	Product ID: 0x6010
USB Device Descriptor	Product Desc: 'radioberry-juice'
USB Config Descriptor	Serial Number:
USB String Descriptors	Manufacturer Desc: 'FTDI'
Hardware Specific	Location ID: 0x131
	EEPROM Type: 93C56 EEPROM
	BLANK DEVICE

Operation Successful

The template was successfully applied.

OK

This view gives a representation for more detail.

FTDI - FT Prog - Device: 0 [Loc ID:0x131]

EEPROM FLASH ROM

FILE DEVICES HELP

Device Tree

	Property	Value
Device: 0 [Loc ID:0x131]	Chip Type:	'FT2232H'
FT EEPROM	Vendor ID:	0x0403
Chip Details	Product ID:	0x6010
USB Device Descriptor	Product Desc:	'radioberry-juice'
USB Config Descriptor	Serial Number:	FT6N6IW5
USB String Descriptors	Manufacturer Desc:	'FTDI'
Hardware Specific	Location ID:	0x131
	EEPROM Type:	93C56 EEPROM

Use the radio

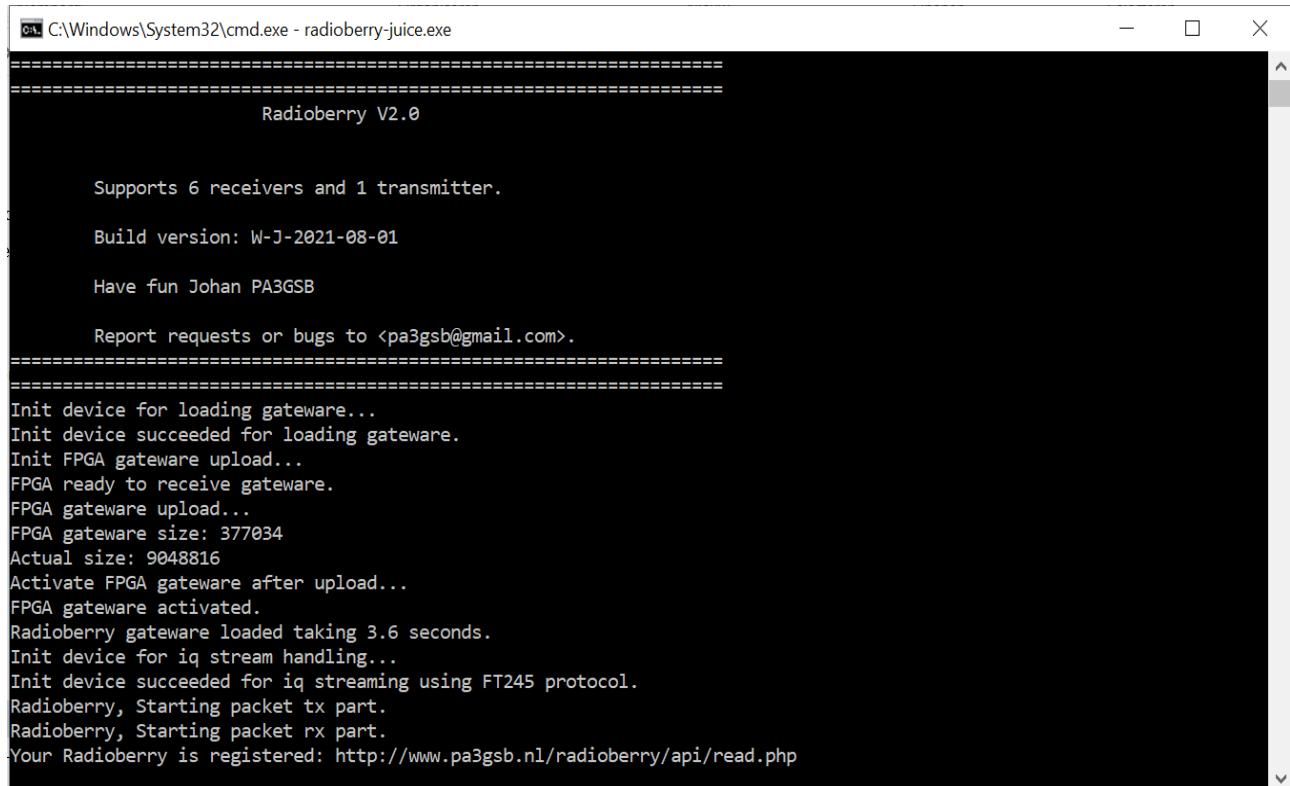
The radioberry connected on top of the juice board.

Start the radioberry-juice application;

start a command window; executed radioberry-juice.

This application is doing the following:

- is loading the gateware into the FPGA of the radioberry
- registering your radio : <http://www.pa3gsb.nl/radioberry/api/read.php>
- does start the openhpsdr protocol 1 which makes it possible to control the radioberry from a SDR program like Thetis.



C:\Windows\System32\cmd.exe - radioberry-juice.exe

```
=====
===== Radioberry V2.0 =====

Supports 6 receivers and 1 transmitter.

Build version: W-J-2021-08-01

Have fun Johan PA3GSB

Report requests or bugs to <pa3gsb@gmail.com>.

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Init device for loading gateware...
Init device succeeded for loading gateware.
Init FPGA gateware upload...
FPGA ready to receive gateware.
FPGA gateware upload...
FPGA gateware size: 377034
Actual size: 9048816
Activate FPGA gateware after upload...
FPGA gateware activated.
Radioberry gateware loaded taking 3.6 seconds.
Init device for iq stream handling...
Init device succeeded for iq streaming using FT245 protocol.
Radioberry, Starting packet tx part.
Radioberry, Starting packet rx part.
Your Radioberry is registered: http://www.pa3gsb.nl/radioberry/api/read.php
```

To get your call registered please modify the radioberry.props file:

#Replace CALL by your call

call=CALL

#Replace LOC by your locator

locator=LOC

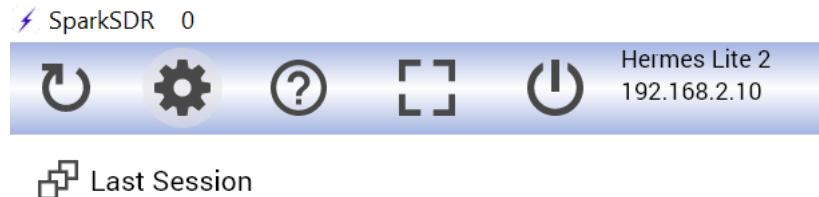
<http://www.pa3gsb.nl/radioberry/api/read.php>

F4:8C:50:FD:AB:D3	-	-	73.0	02.12.36	W-J-2021-08-01	CL025	2022-01-03 16:33:20
F4:8C:50:FD:AB:D3	PA3GSB	JO22XE	73.0	02.12.36	W-J-2021-08-01	CL025	2022-01-03 16:37:46

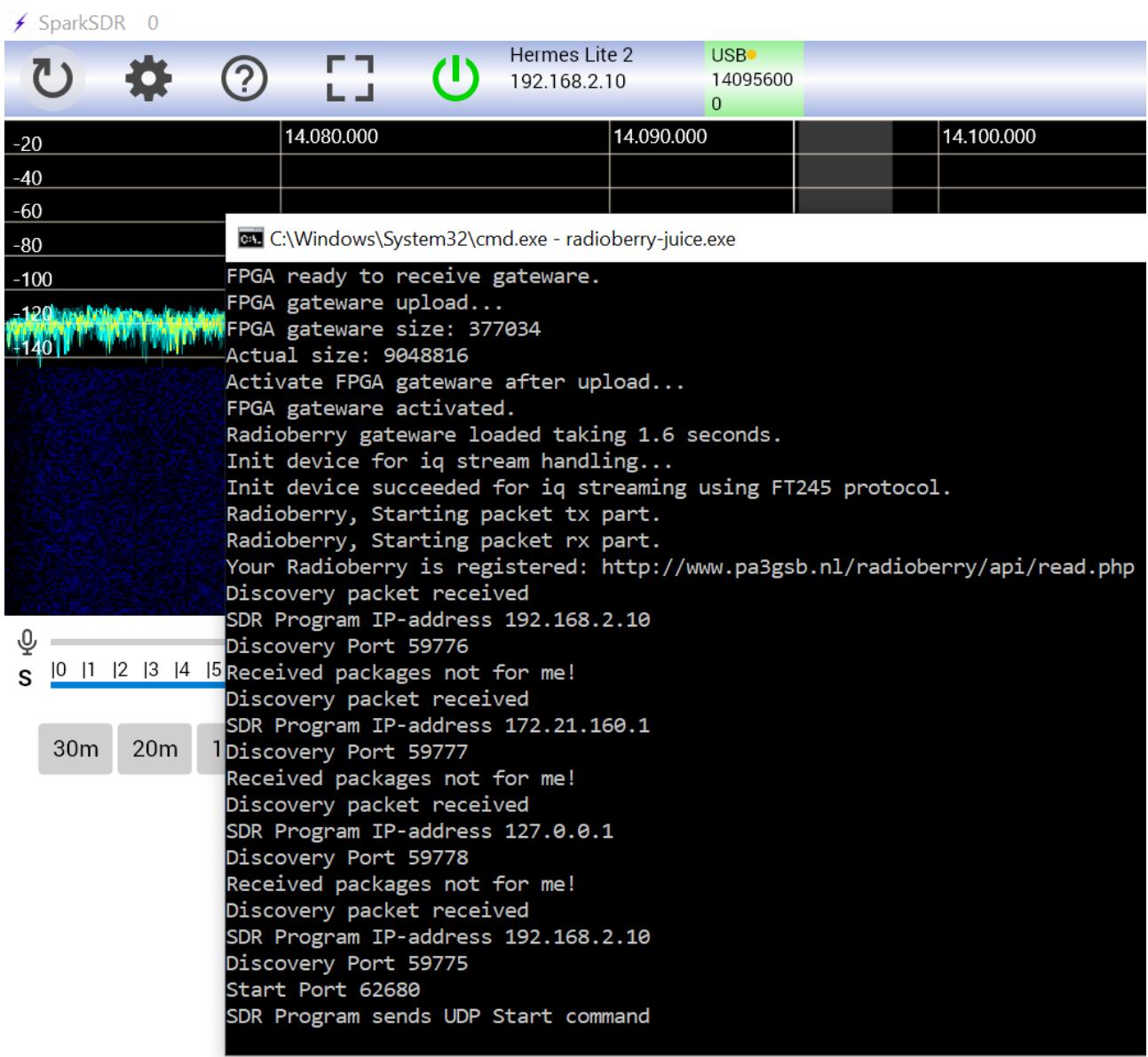
Start Spark SDR

```
C:\Windows\System32\cmd.exe - radioberry-juice.exe
Init device succeeded for loading gateware.
Init FPGA gateware upload...
FPGA ready to receive gateware.
FPGA gateware upload...
FPGA gateware size: 377034
Actual size: 9048816
Activate FPGA gateware after upload...
FPGA gateware activated.
Radioberry gateware loaded taking 1.6 seconds.
Init device for iq stream handling...
Init device succeeded for iq streaming using FT245 protocol.
Radioberry, Starting packet tx part.
Radioberry, Starting packet rx part.
Your Radioberry is registered: http://www.pa3gsb.nl/radioberry/api/read.php
Discovery packet received
SDR Program IP-address 192.168.2.10
Discovery Port 59776
Received packages not for me!
Discovery packet received
SDR Program IP-address 172.21.160.1
Discovery Port 59777
Received packages not for me!
Discovery packet received
SDR Program IP-address 127.0.0.1
Discovery Port 59778
Received packages not for me!
Discovery packet received
SDR Program IP-address 192.168.2.10
Discovery Port 59775
```

Succesfull Discovery:



Spark SDR started:



SDR Stopped:

SparkSDR 0



Hermes Lite 2
192.168.2.10

Last Session

```
C:\Windows\System32\cmd.exe - radioberry-juice.exe
FPGA gateware size: 377034
Actual size: 9048816
Activate FPGA gateware after upload...
FPGA gateware activated.
Radioberry gateware loaded taking 1.6 seconds.
Init device for iq stream handling...
Init device succeeded for iq streaming using FT245 protocol.
Radioberry, Starting packet tx part.
Radioberry, Starting packet rx part.
Your Radioberry is registered: http://www.pa3gsb.nl/radioberry/api/read.php
Discovery packet received
SDR Program IP-address 192.168.2.10
Discovery Port 59776
Received packages not for me!
Discovery packet received
SDR Program IP-address 172.21.160.1
Discovery Port 59777
Received packages not for me!
Discovery packet received
SDR Program IP-address 127.0.0.1
Discovery Port 59778
Received packages not for me!
Discovery packet received
SDR Program IP-address 192.168.2.10
Discovery Port 59775
Start Port 62680
SDR Program sends UDP Start command
SDR Program sends Stop command
SDR Program sends UDP Stop command
```

– End –