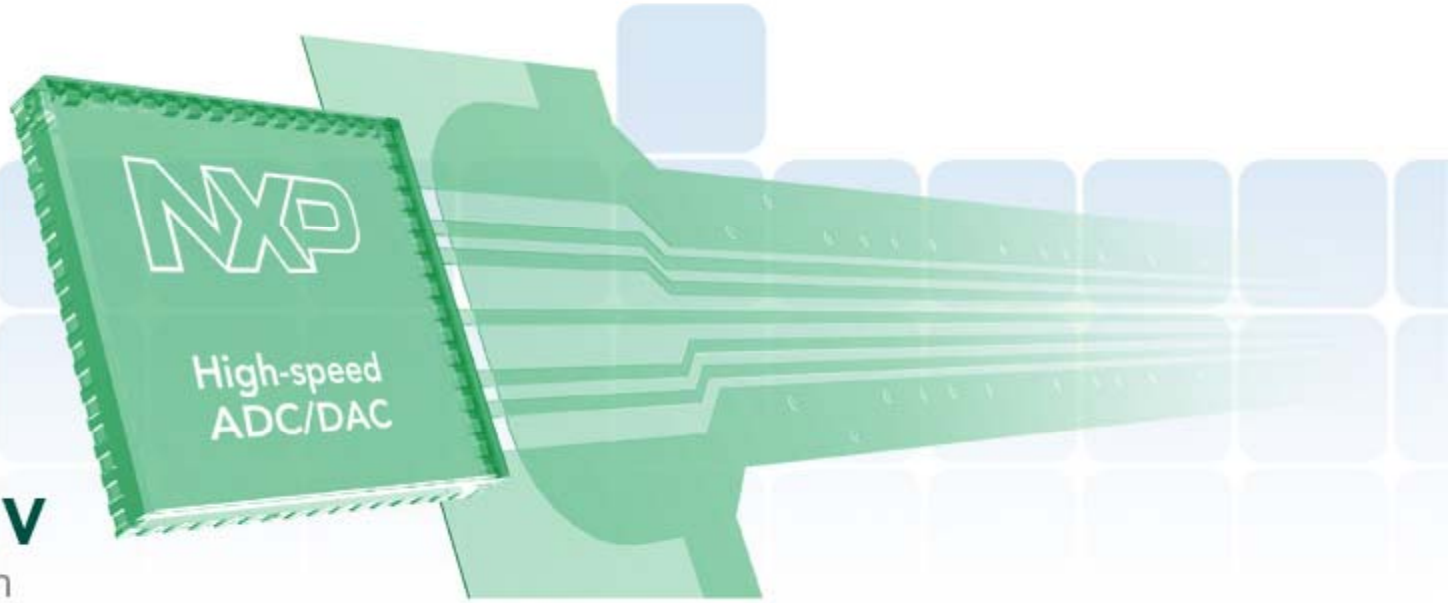


JESD204A CGV

Fast track your design

High Speed Converters Hands-on Demo

Initial Demo Setup

Initial Demo Setup: Install LabVIEW RTE

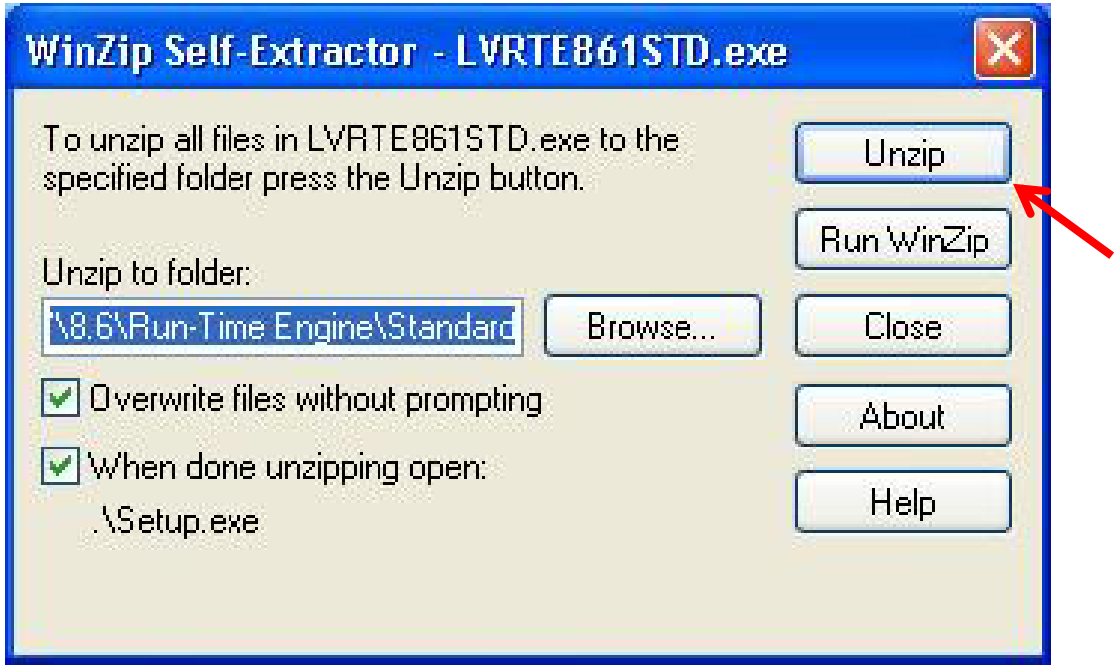
Install the National Instruments LabVIEW RunTimeEngine **v8.6.1:**

- Copy the zip file from the CD / USB stick to the local c: drive
- Alternatively, download at http://joule.ni.com/nidu/cds/view/p/id/1244/lang/en
- Select « Standard Download LVRTE861STD.exe »

Initial Demo Setup: Install LabVIEW RTE (cont'd)

- The LabVIEW RunTimeEngine zip file is self-extracting
- Double click on the LVRTE861STD.exe file
- Click « OK » when the self-extracting notification window appears
- Click « Unzip » when the window below appears
- After the unzip process has completed successfully, click « OK » (→ setup is launched)

Both boxes checked



Initial Demo Setup: Install LabVIEW RTE (cont'd)

- The LabVIEW RunTimeEngine setup wizard will launch automatically after the unzip process has completed successfully and « OK » is clicked
- Follow the steps for installing the LabVIEW RunTimeEngine. The default setup for each step can be used, so just click on "Next" for each step.
- After the setup is completed, reboot your PC when prompted

Initial Demo Setup: Install USB Driver

- USB Driver installation works for all demo boards
- Copy the USB Driver folder from the CD / USB stick to the local c: drive

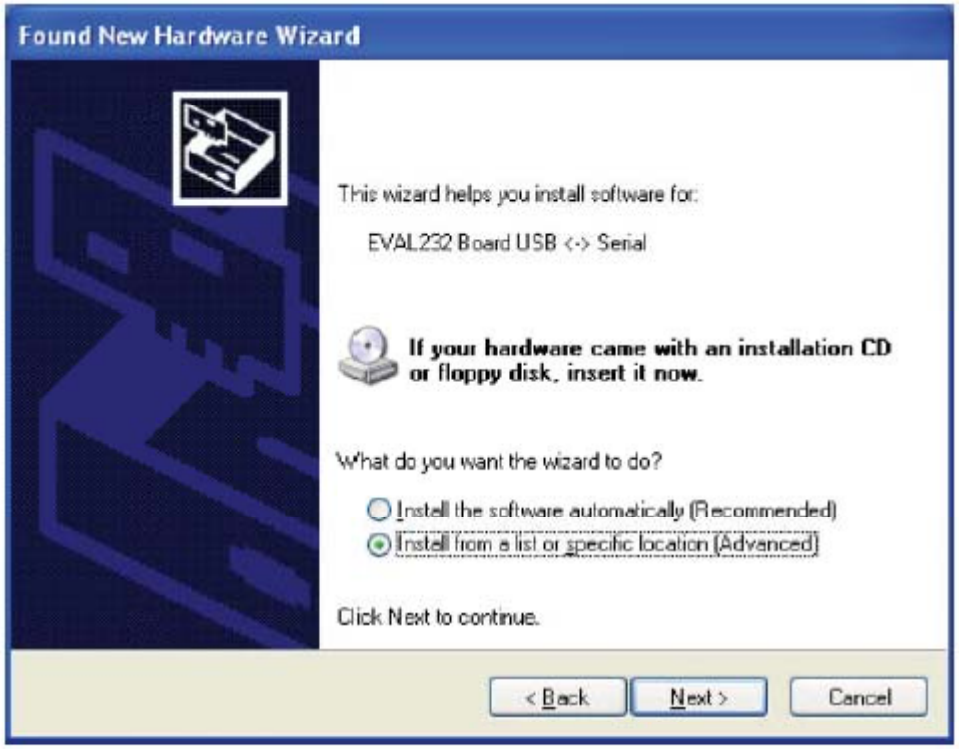
Step 1:

Connect the device to a USB port on your PC. Windows '**Found New Hardware Wizard**' will be launched. Select '**No, not this time**' from the options available and then click '**Next**' to proceed with the installation.

Initial Demo Setup: Install USB Driver (cont'd)

Step 2:

Select '**Install from a list or specific location (Advanced)**' as shown below and then click '**Next**'.

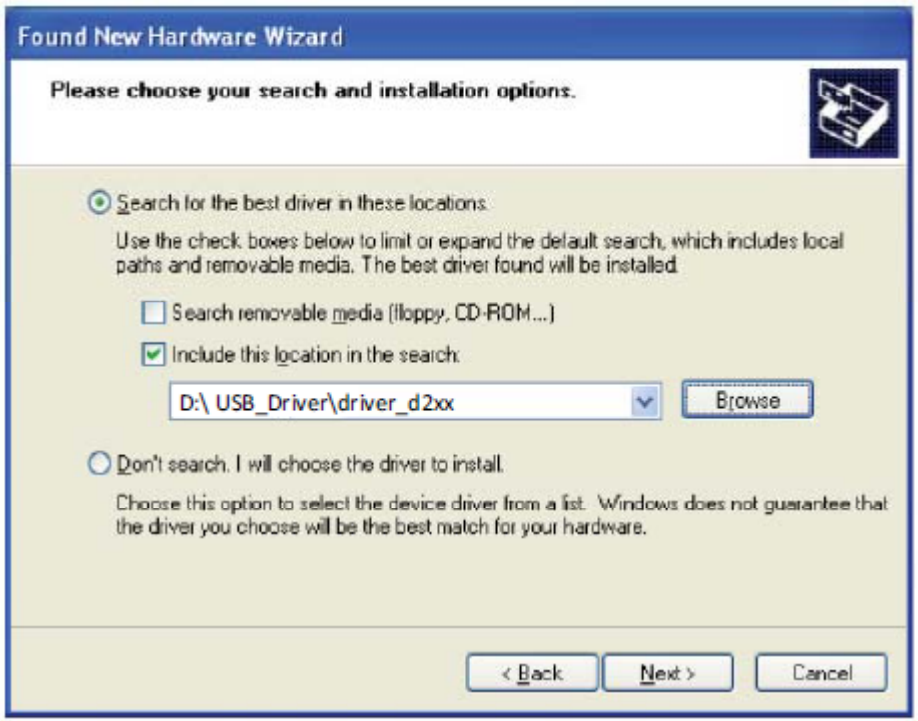


Initial Demo Setup: Install USB Driver (cont'd)

Step 3:

Select '**Search for the best driver in these locations**' and enter the file path of the folder : **\USB Driver \driver_d2xx**' in the combo-box or browse to it by clicking the browse button.

Once the file path has been entered in the box, click "next" to proceed.



Initial Demo Setup: Install USB Driver (cont'd)

Step 4:

Windows should then display a message indicating that the installation was successful. Click '**Finish**' to complete the installation for the first port of the device.

The PC usually requires that the USB Driver be installed twice. Repeat steps 1 through 4 when prompted.

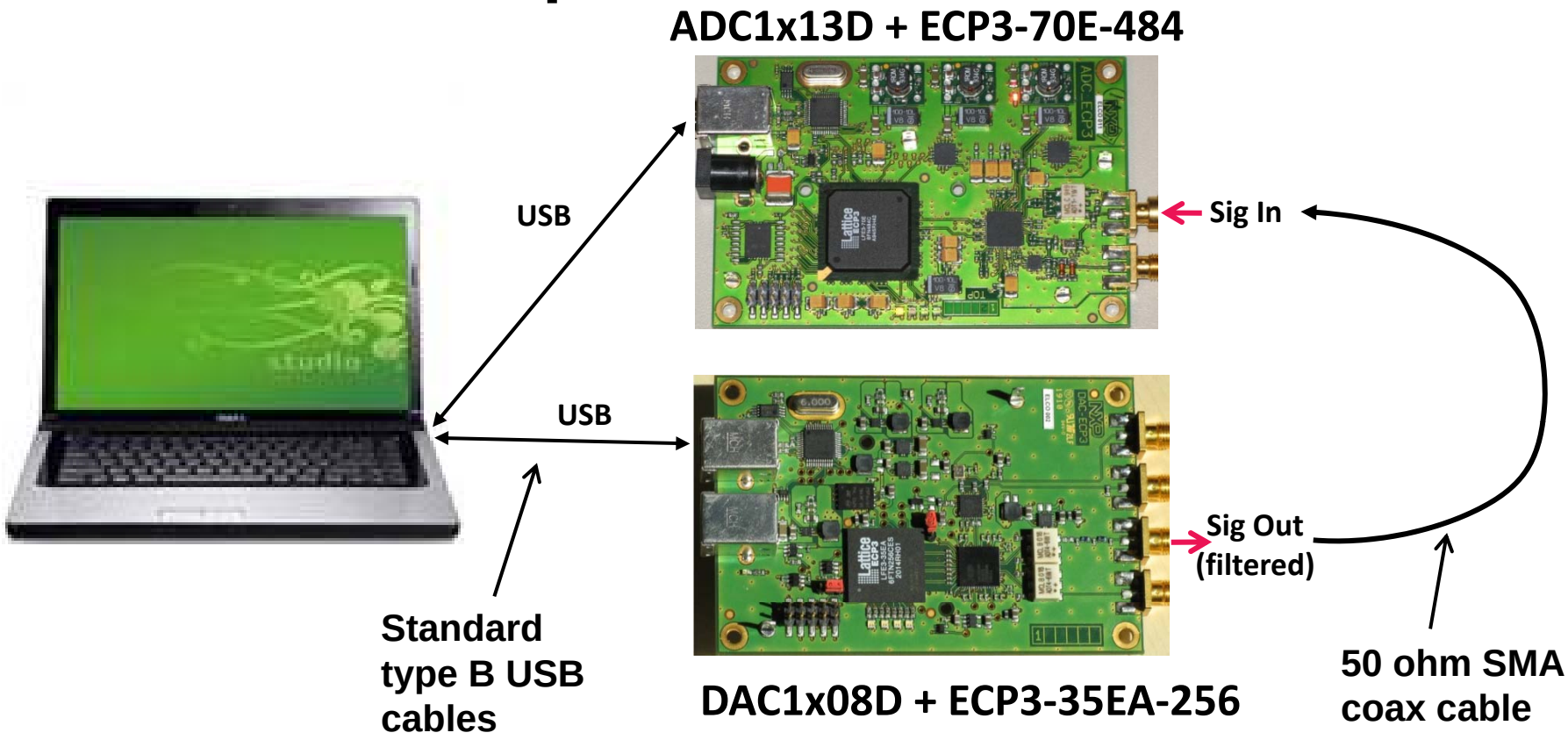
Initial Demo Setup: Create “\Temp”

- Create “**Temp**” Folder
- Path **C:\Temp** (if it does not already exist on your PC)
- Storage location for raw ADC data during FFT captures

ADC+DAC Demo Boards

Hardware Connection

Hardware Setup:



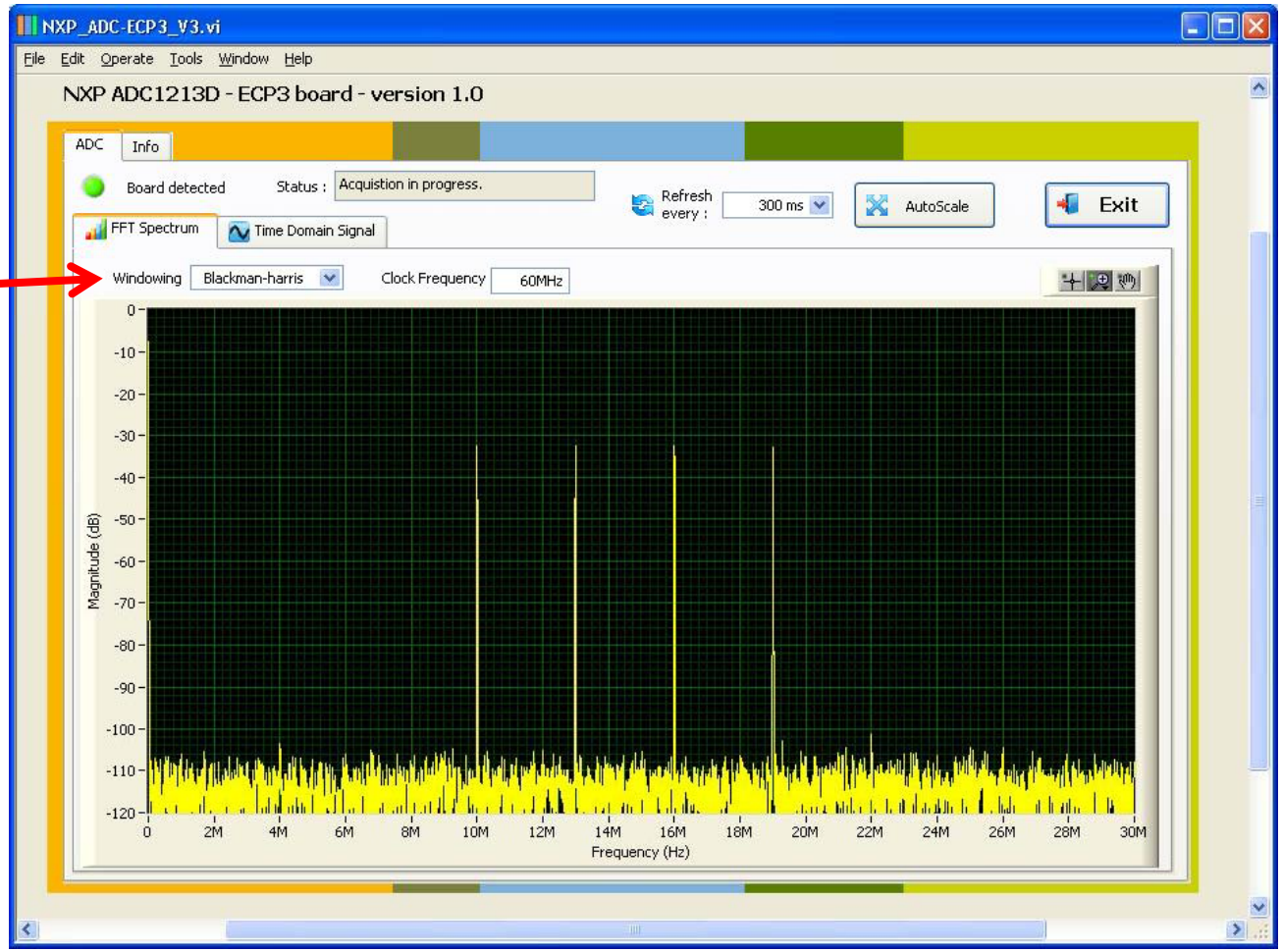
- On DAC board, 1 solid green LED and 1 blinking green LED
- On ADC board, both yellow LEDs blinking

ADC1x13D + ECP3-70 board Software

ADC Software:

- Launch ADC LabVIEW executable “NXP_ADC_ECP3_v1.0.exe”
- USB stick: \JAKIT1W2 Demo Kit\ADC board and sw\NXP_ADC_ECP3_v1.0

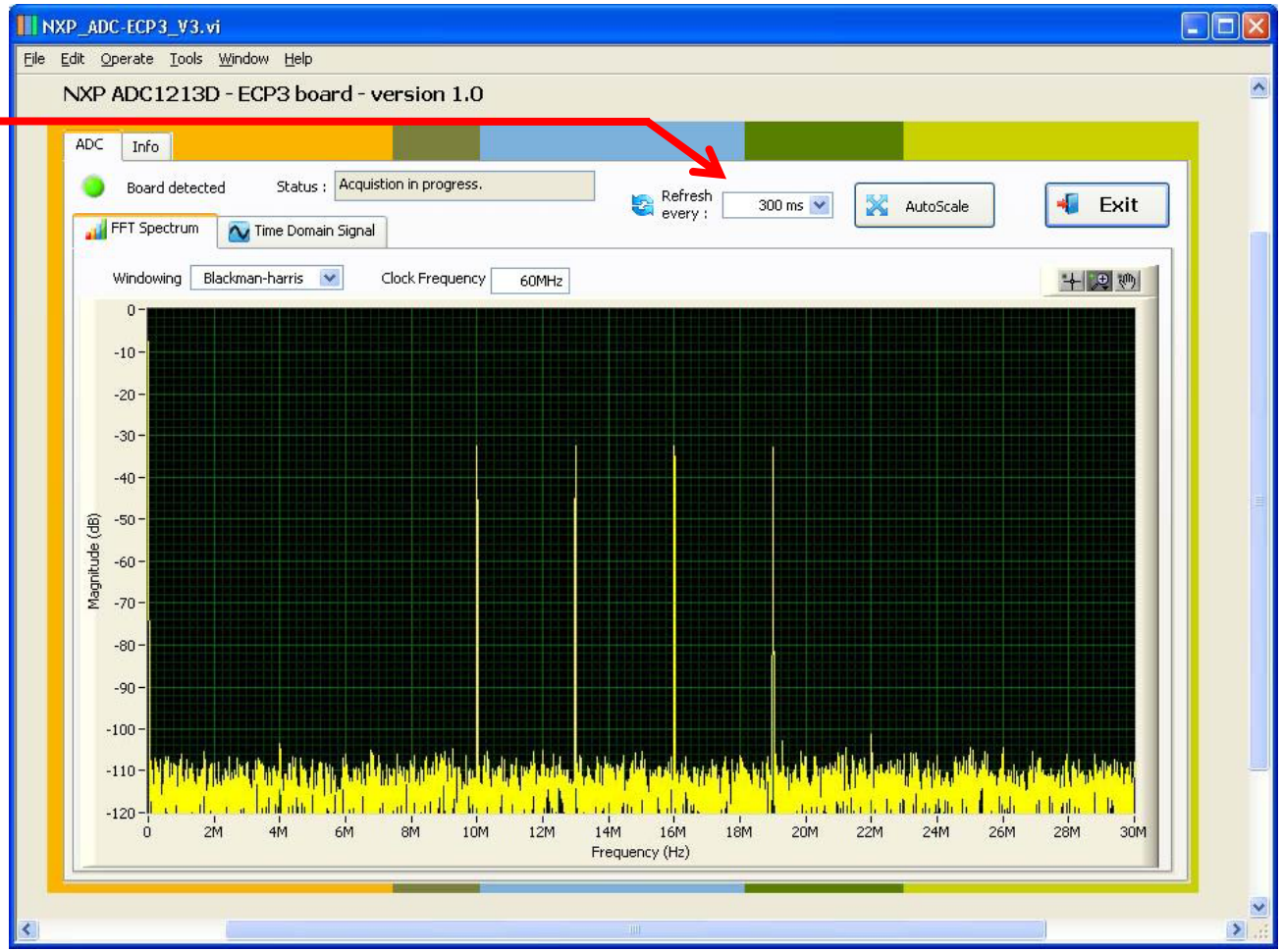
FFT Window is selectable via drop down menu



ADC Software:

- Change refresh rate for compatibility with DAC software (not required if DAC software is not to be used):

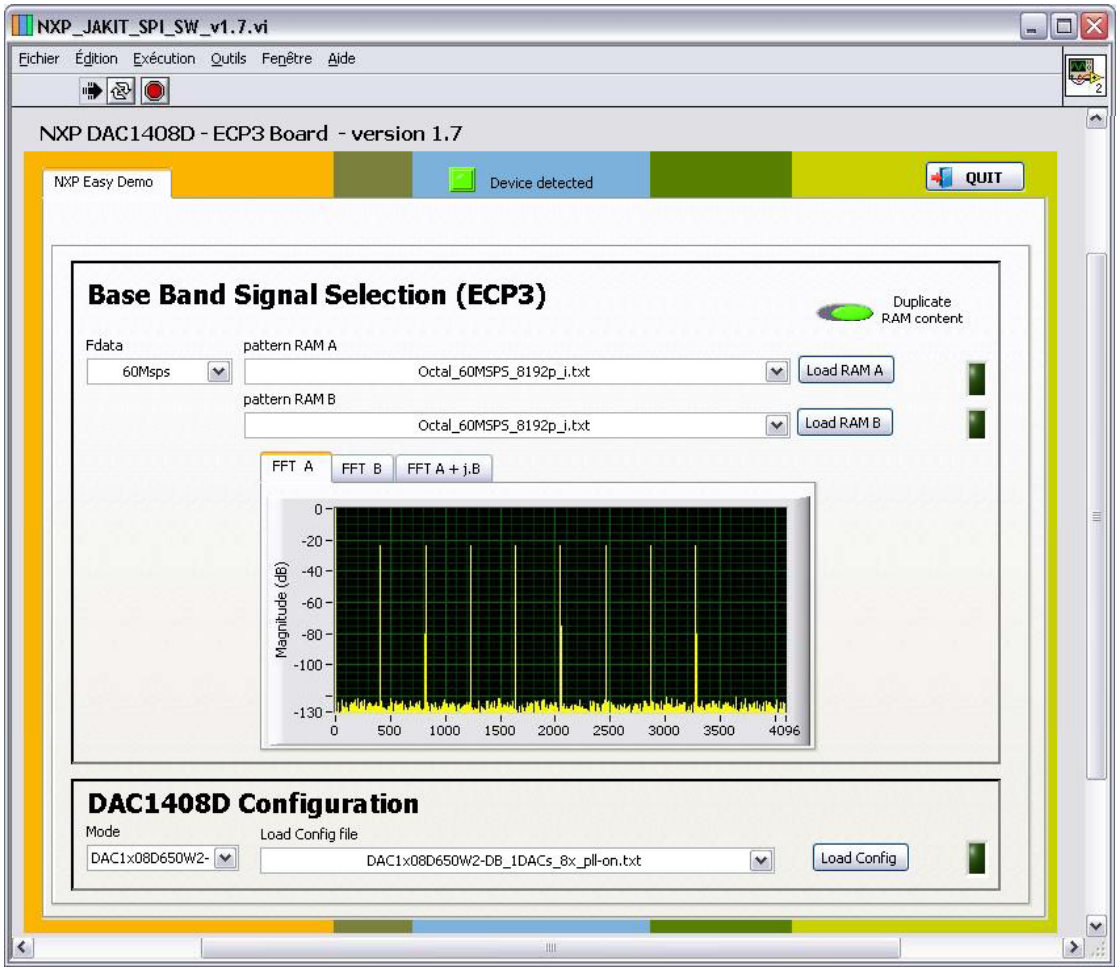
Select 5000ms Refresh



DAC1x08D + ECP3-35EA board Software

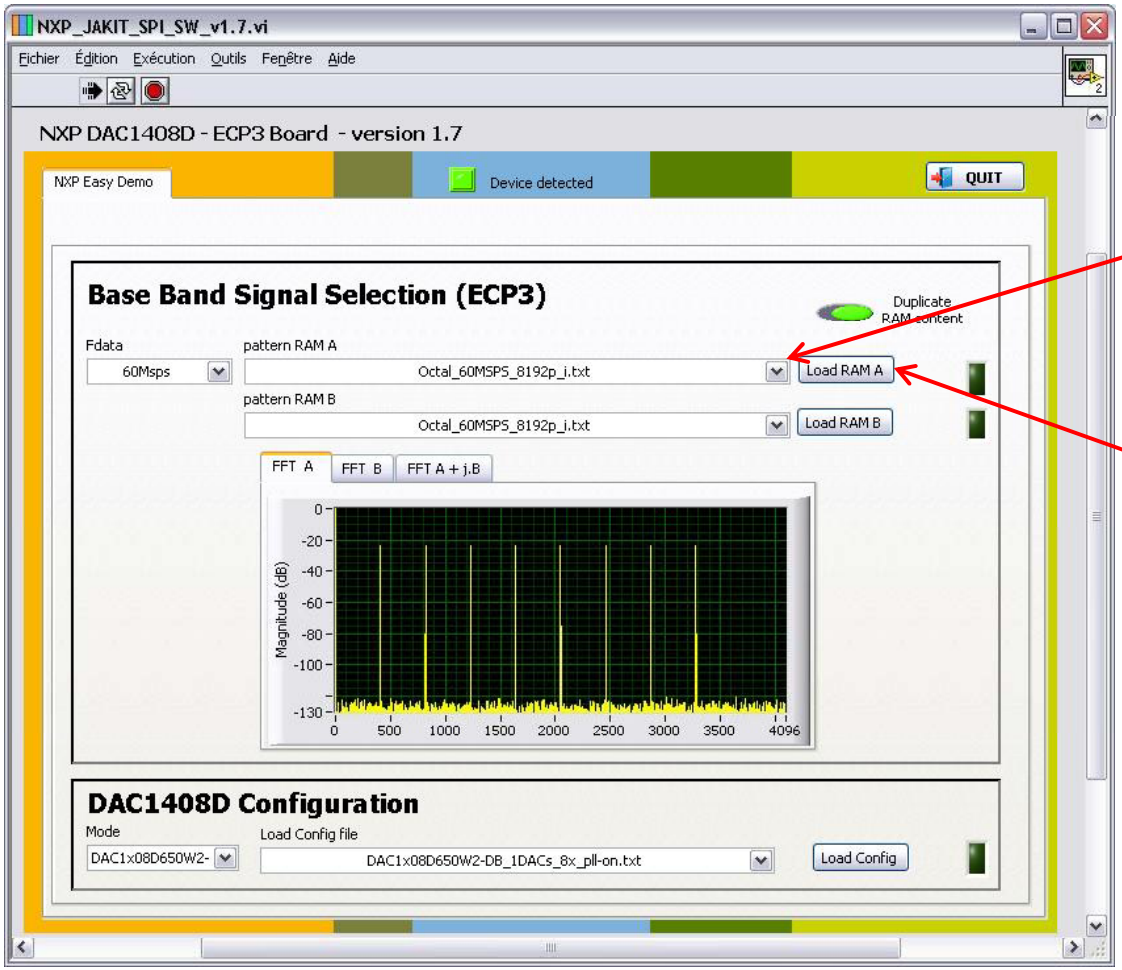
DAC Software:

- Launch DAC LabVIEW executable “NXP_DAC_ECP3_v1.7.exe”
- USB stick: \JAKIT1W2 Demo Kit\DAC board and sw\NXP_DAC_ECP3_v1.7



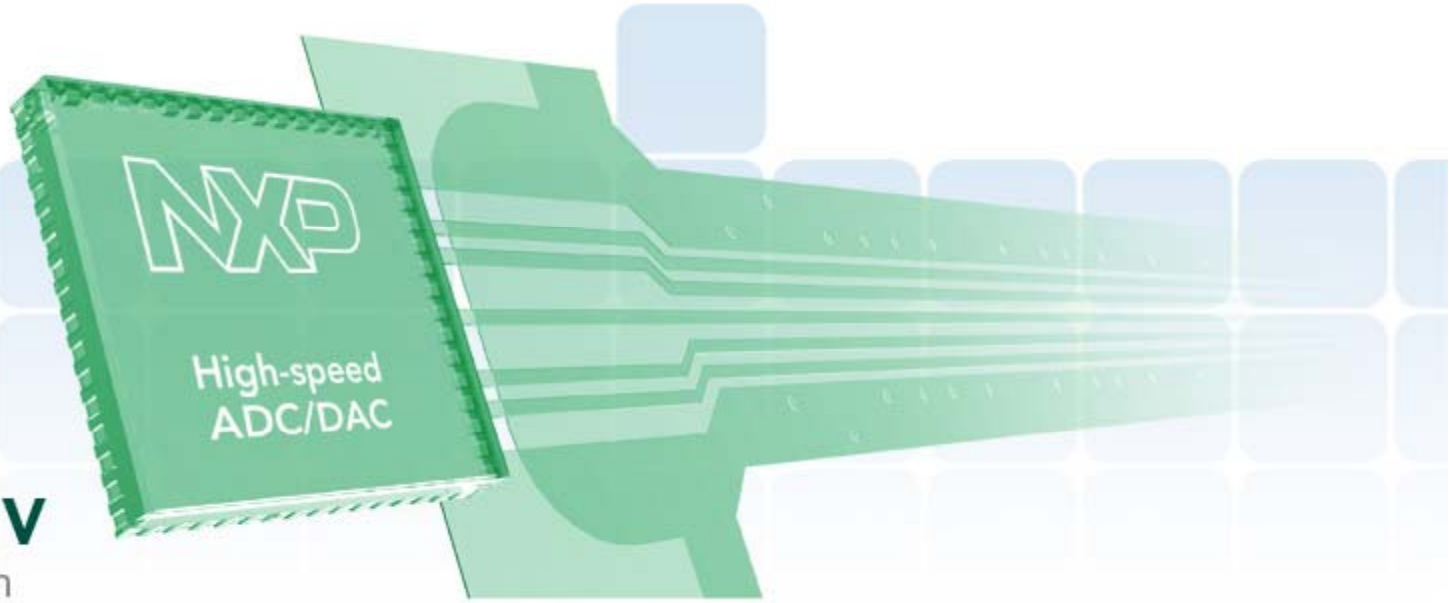
DAC Software: Output Waveform Selection

- **Output waveform is selectable via downloading predefined waveform**
- On “NXP Easy Demo” tab:



Select desired “xxx_60MSPS_8192p_i.txt” waveform from drop down menu

Click “Load RAM A”



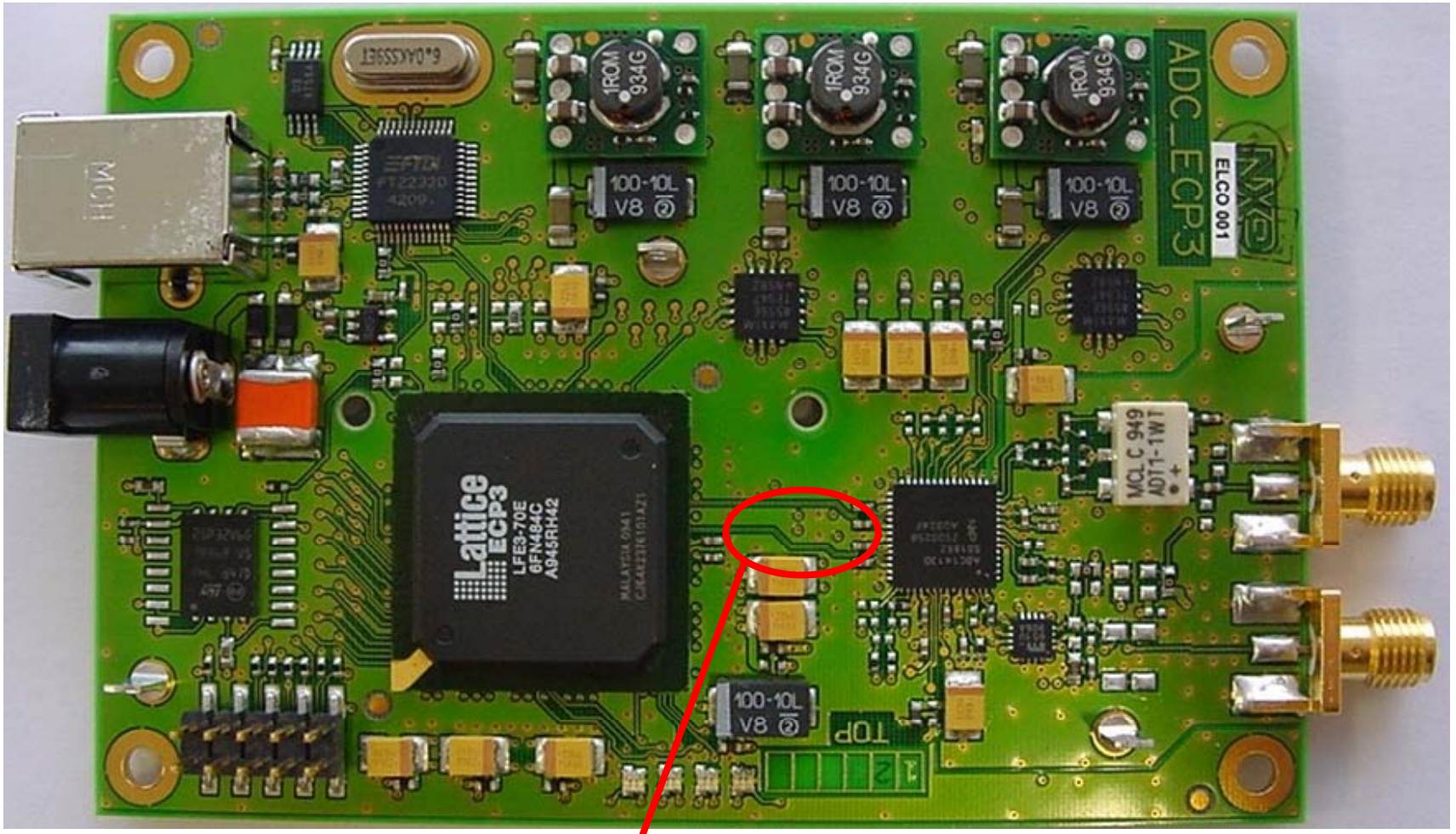
JESD204A CGV

Fast track your design

Lattice ECP3 based Demos: Overview

ADC1413D + Lattice ECP3 USB Powered Board

Low cost demo board for distribution programs (<$300)



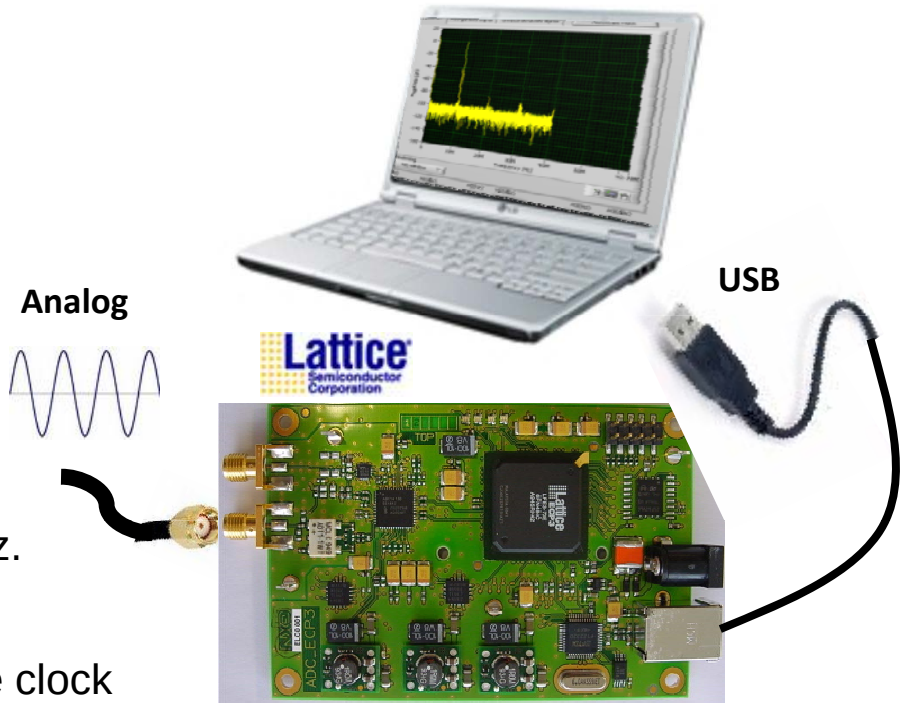
JEDEC JESD204A Data Lanes

http://www.latticesemi.com/products/intellectualproperty/ipcores/jesd204a.cfm

Lattice JESD204A IP now supported via their website and IPexpress Server

Demo boards platform dual/single channel ADC with JESD204A outputs

ADC1613D125/105/080/065
ADC1413D125/105/080/065
ADC1213D125/105/080/065
ADC1113D125
ADC1613S125/105/080/065
ADC1413S125/105/080/065
ADC1213S125/105/080/065
ADC1113S125



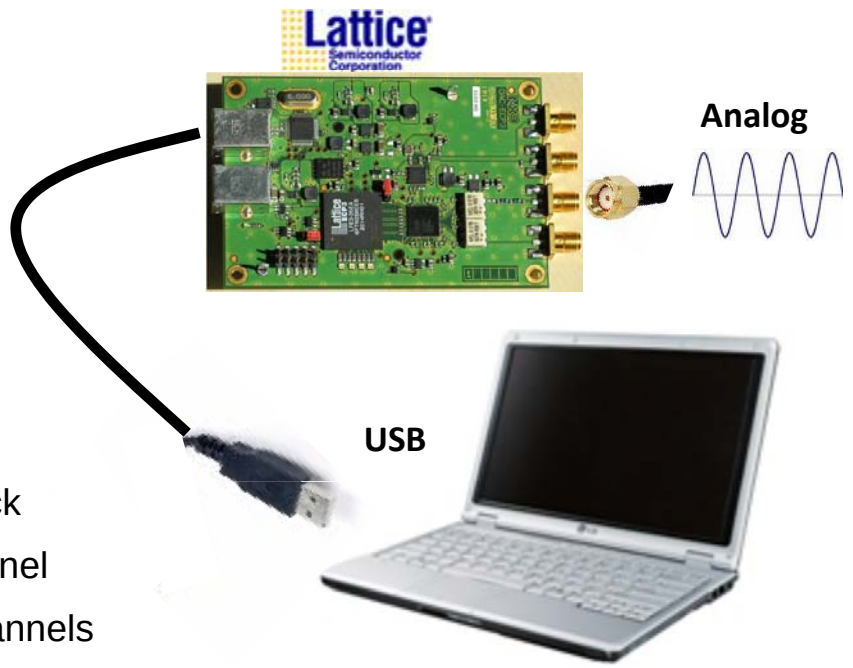
Features

- USB-powered demonstration board
- Support analog input frequency up to 30Mhz.
- SMA connectors for analog signal input
- 60 MHz on Board Oscillator for ADC sample clock
- Optional external ADC sample clock . (via SMA connector 65 up to 80Msps)
- Access to one ADC channel
- ADC Resolution : 12,14 bits
- ADC Sample rate: : 65 up to 80Mps

Our ADC demonstration board with on board Lattice ECP3-70 FPGA enables usage of JESD204A full features sets .
This demonstration board enable one channel ADC dynamic performance evaluation for analog input up to 30Mhz

Demo boards platform dual channel DAC with JESD204A inputs

DAC1408D650/750
DAC1208D650/750
DAC1008D650/750

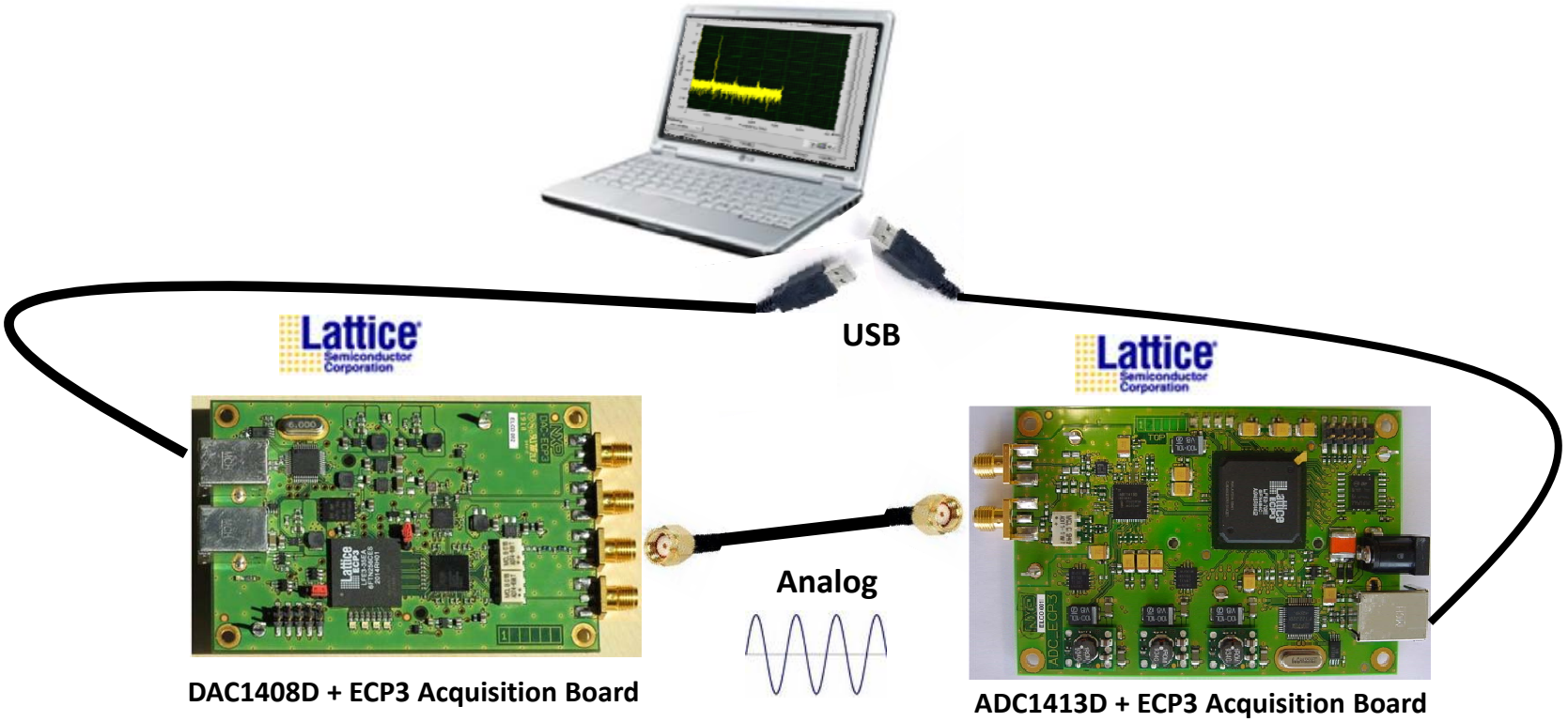


Features

- USB-powered demonstration board
- 60MHz on Board Oscillator for input DAC sample clock
- One USB connection allows access to one DAC channel
- Two USB connections allows access to both DAC channels
- 14-bit Resolution
- Optional external DAC sample clock . (via SMA connector)

Our DAC demonstration board with on board Lattice ECP3-35 FPGA enable usage of JESD204A full features sets .
This demonstration board enable one DAC dynamic performance evaluation for analog outputs up to 240 MHz

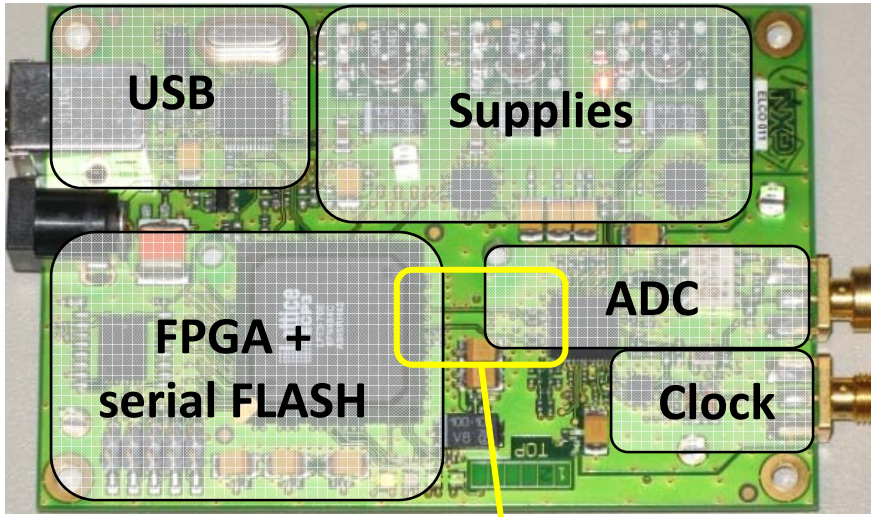
USB-powered JESD204A ADC /DAC Demonstration Platform
Low Power / Low Pin Count / Low Cost Lattice ECP3

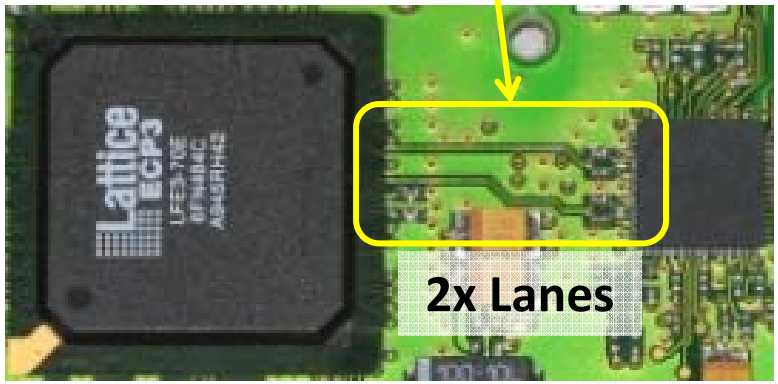


- Demonstrate JESD204A full features sets and full functionalities
- Cannot demonstrate BIC ACLR,NSD,SFDR
- Board for limited resolution/speed options
- Tool for Sales / Disti FAE

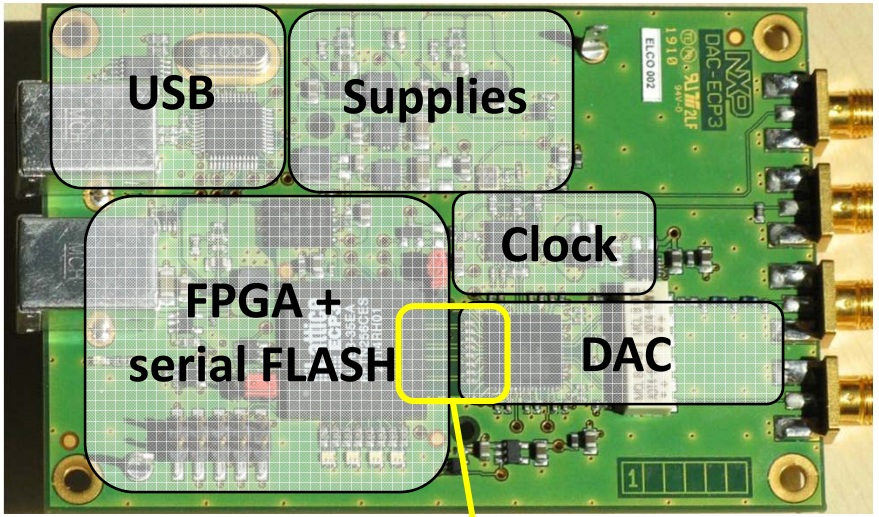
Boards overview:

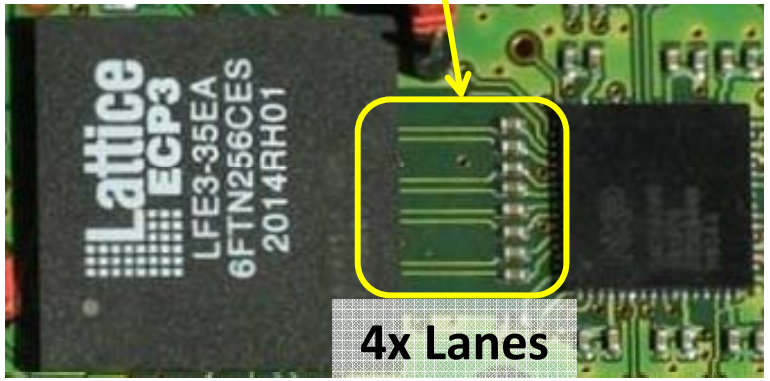
ADC1x13D + ECP3-70E-484





DAC1x08D + ECP3-35EA-256

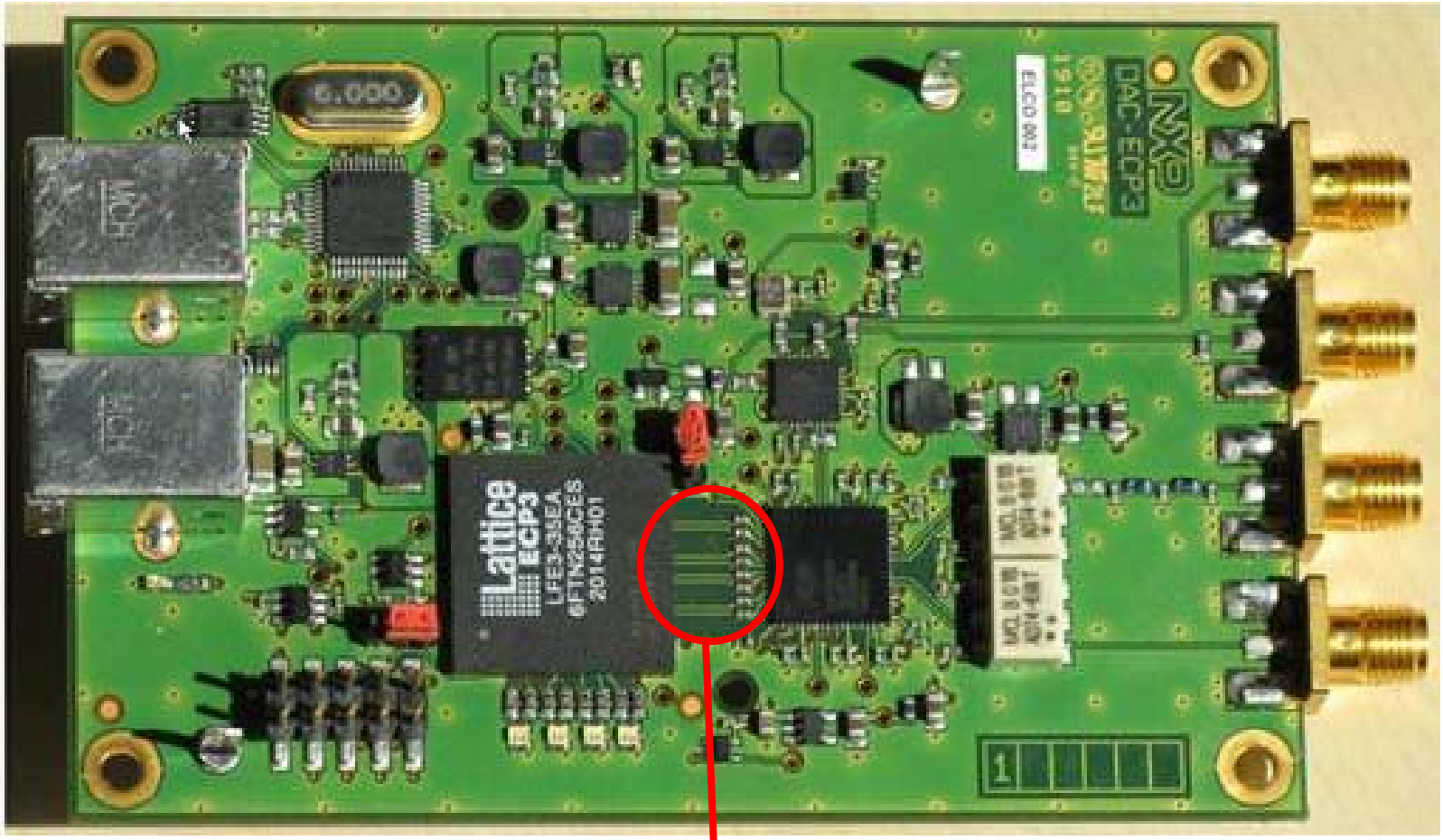




DAC1x08D + ECP3-35EA board

DAC1408D + Lattice ECP3 USB Powered Board

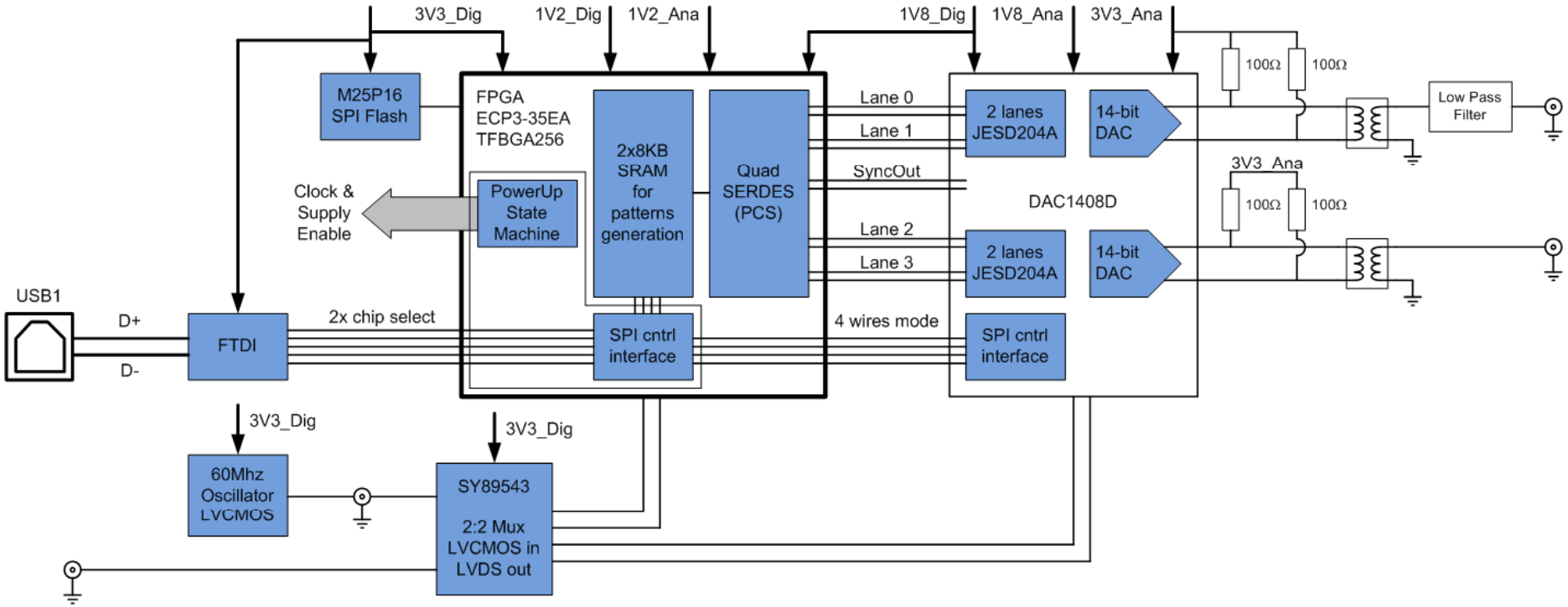
Low cost demo board for distribution programs (<$300)



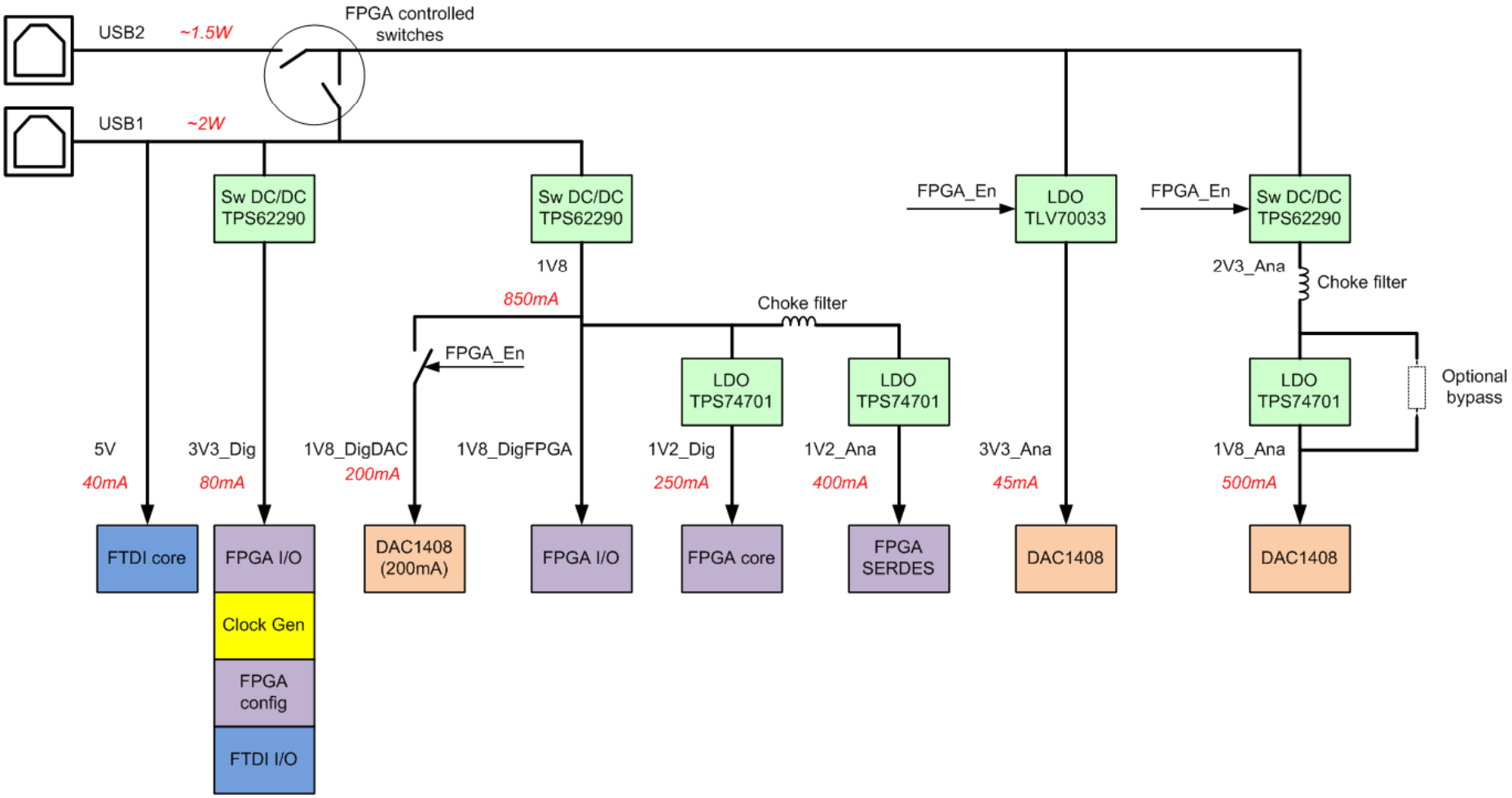
http://www.latticesemi.com/products/intellectualproperty/ipcores/jesd204a.cfm

Lattice JESD204A IP now supported via their website and IPexpress Server

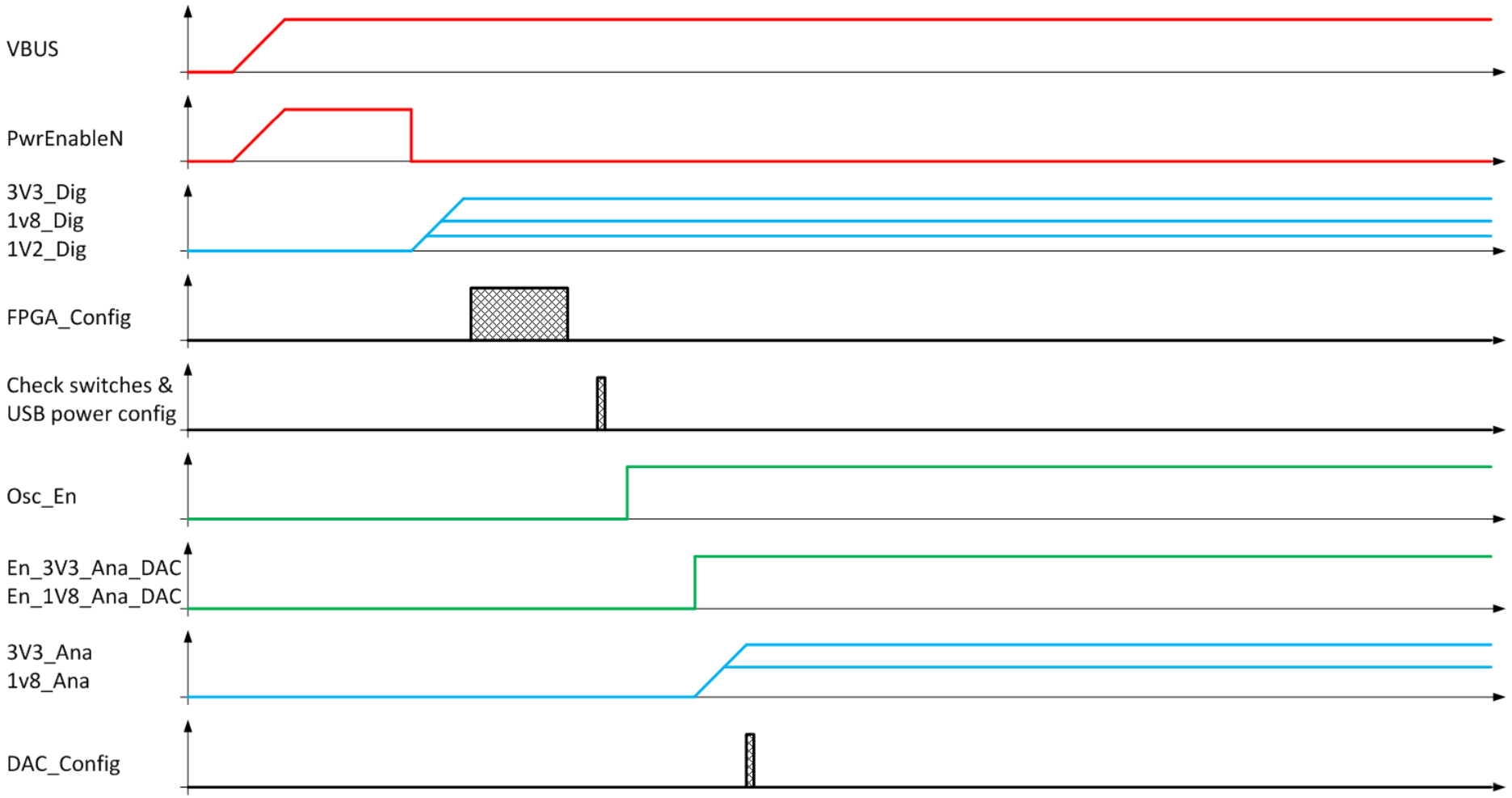
1. Functional block diagram



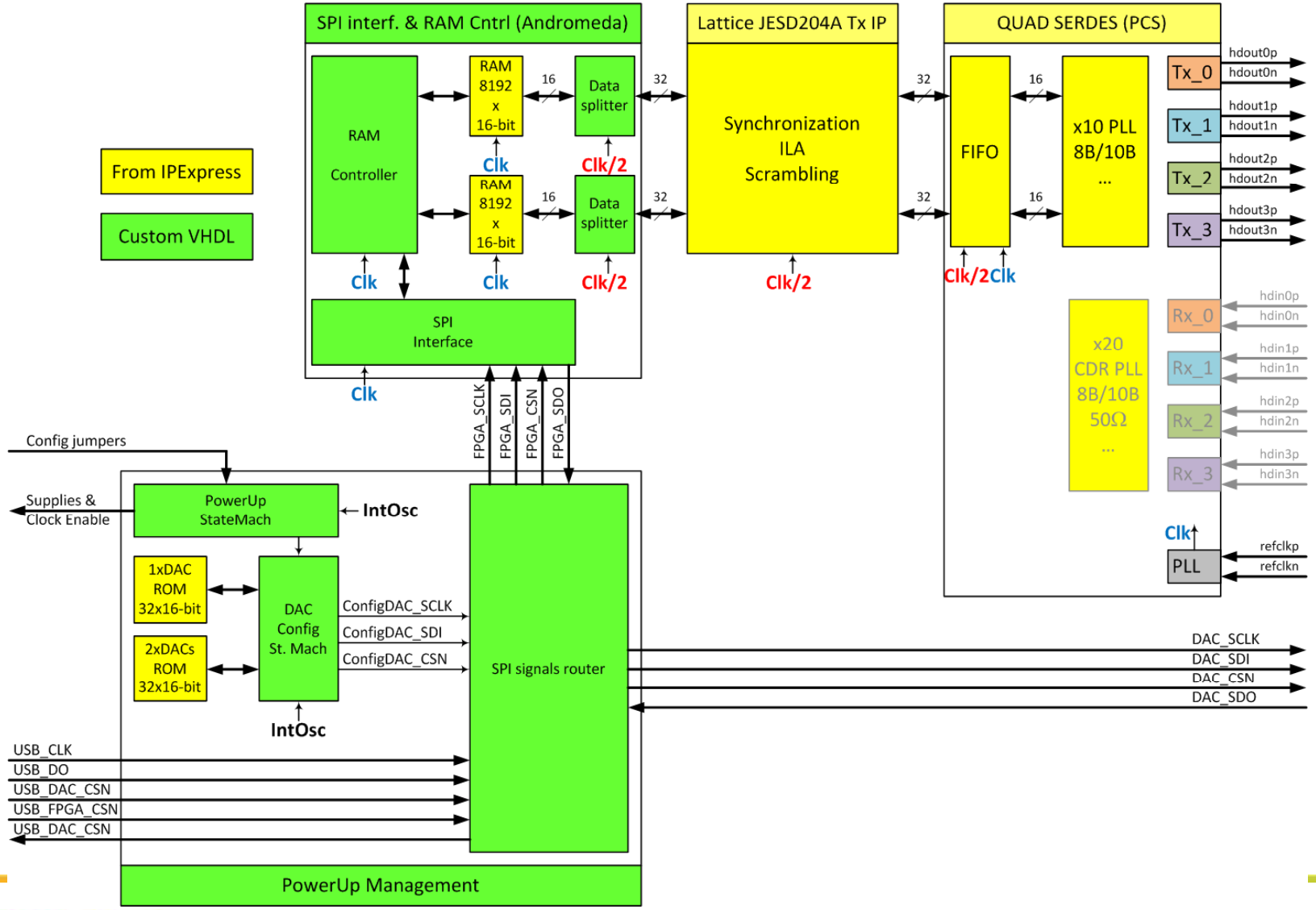
2. Supply management concept



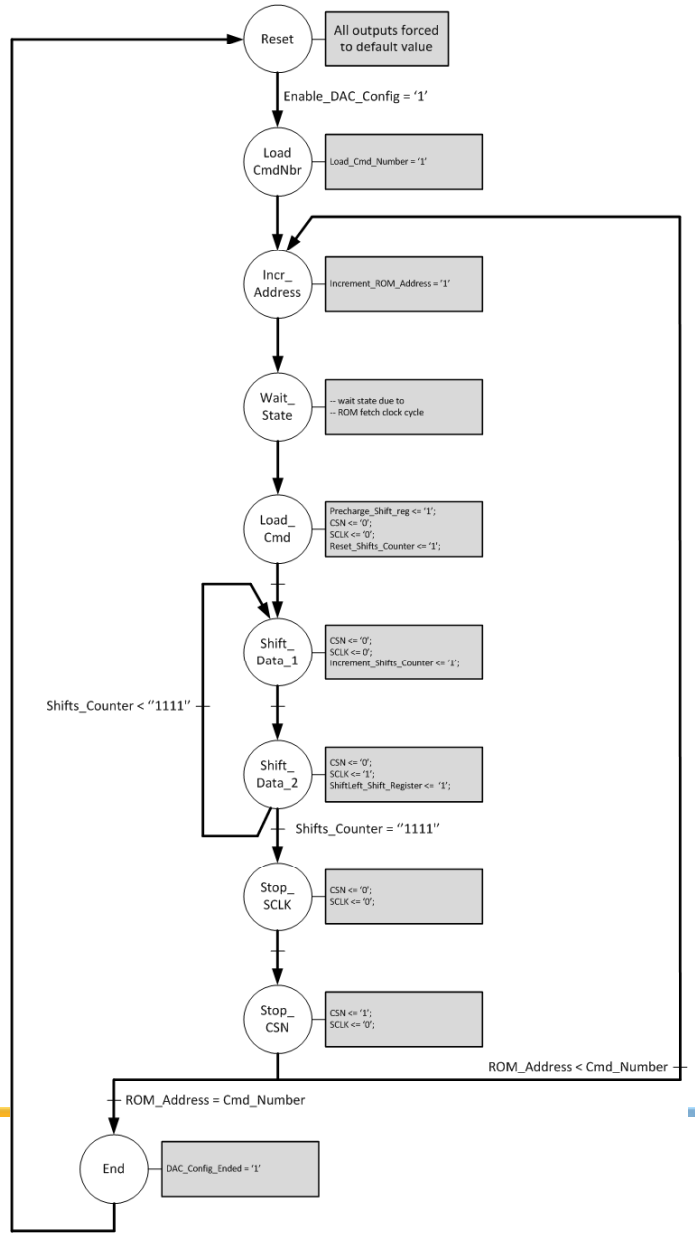
3. Start-Up Sequence



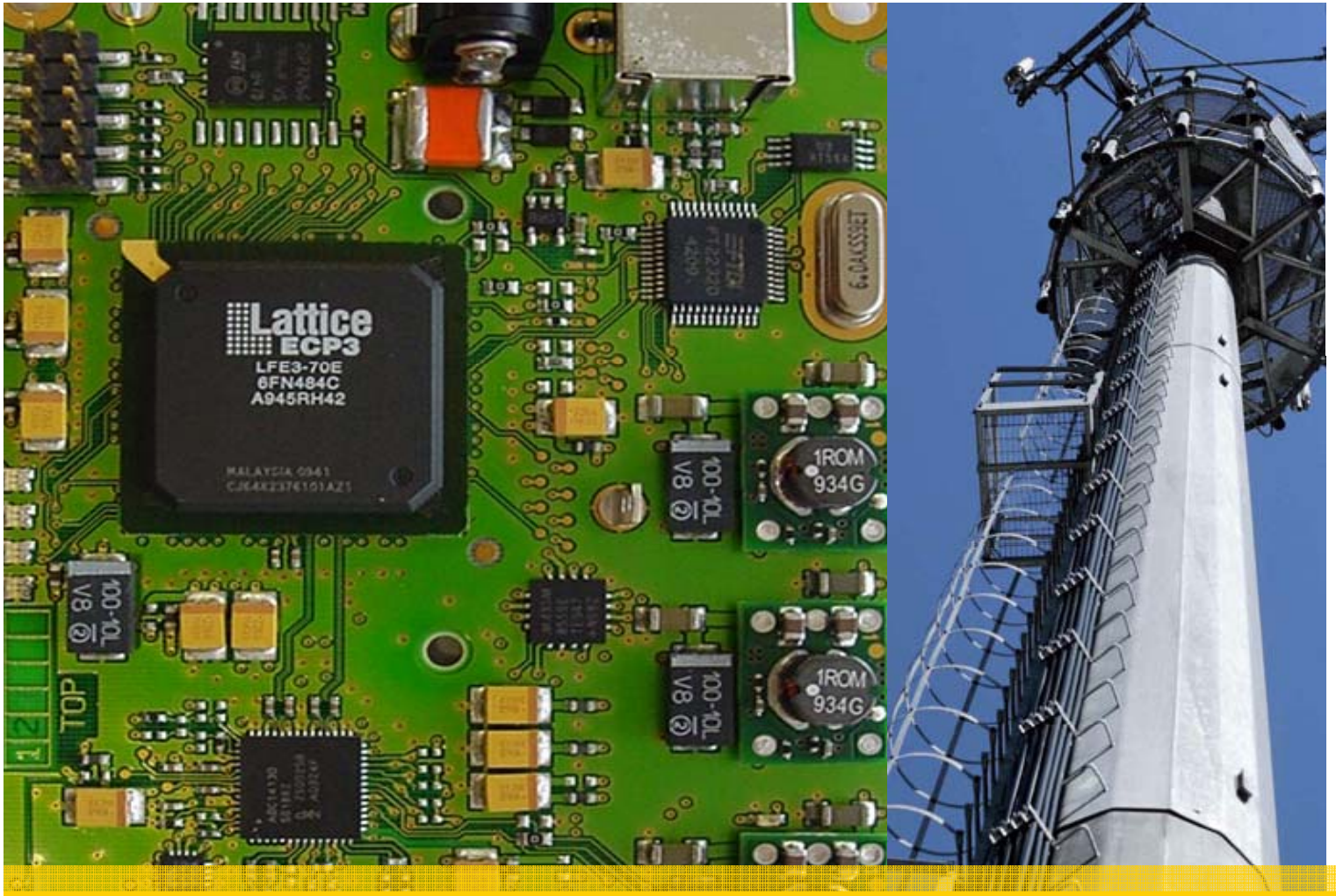
4. FPGA top content



5. DAC Config state machine



ROM Address	ROM Data
0	N = Nbr of Cmds
1	Cmd_1
2	Cmd_2
3	Cmd_3
4	Cmd_4
5	Cmd_5
6	Cmd_6
7	Cmd_7
8	Cmd_8
9	Cmd_9
10	Cmd_10
11	Cmd_11
12	Cmd_N
13	0
14	0
15	0
16	0
17	0
18	0
19	0
20	0
21	0
22	0
23	0
24	0
25	0
26	0
27	0
28	0
29	0
30	0
31	0



Thank you

Fast track your design