UNIVERSITÀ DEGLI STUDI DI MILANO

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TTC decoding tests in EMF

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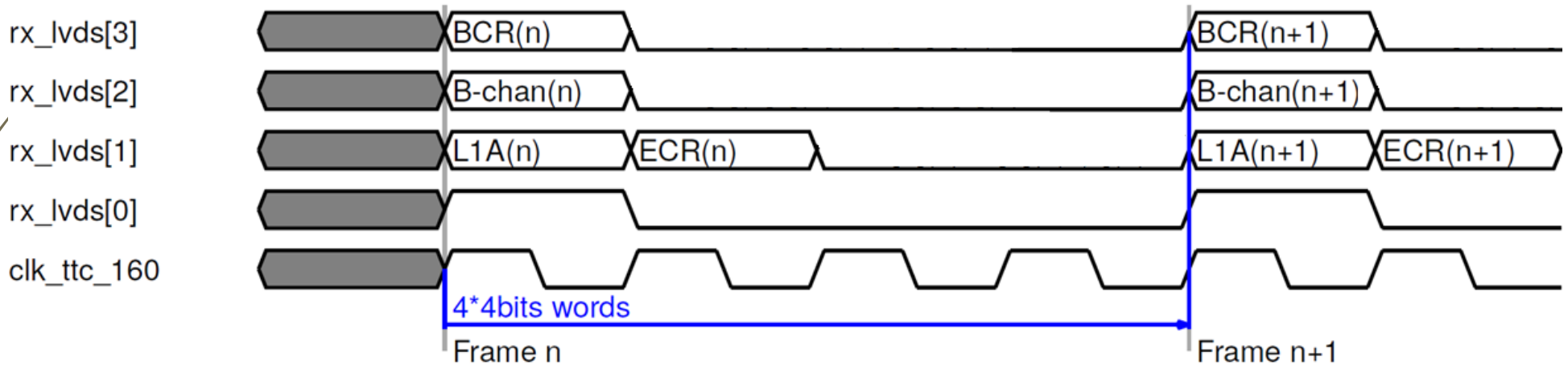
Expected protocol

Expected protocol between Carrier and Latome on the LVDS links:



(ECR and BCR in standard configuration)

Test1 and test2

TEST 1

Latome – ttc firmware:
- no pin swap
- ttc signals (ecr and bcr) swap
- *rising edge*
- old Nico repo

Carrier – Kade not integrated firmware
(Carrier_GBT-v4p1_16p4_amcClkPh180)
- Pin swap
- Updates in timing

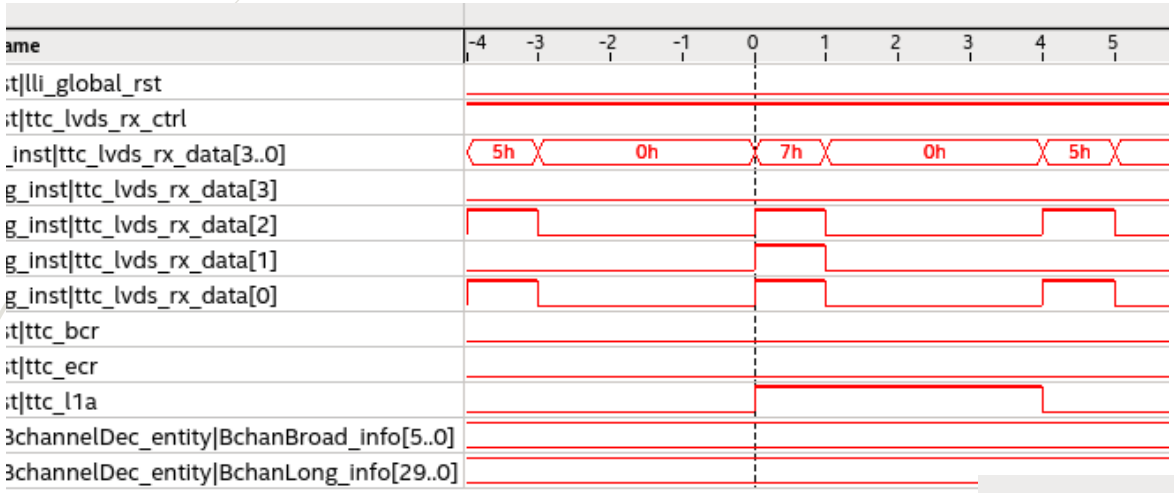
TEST 2

Latome – ttc firmware:
- no pin swap
- ttc signals (ecr and bcr) swap
- *falling edge*
- old Nico repo

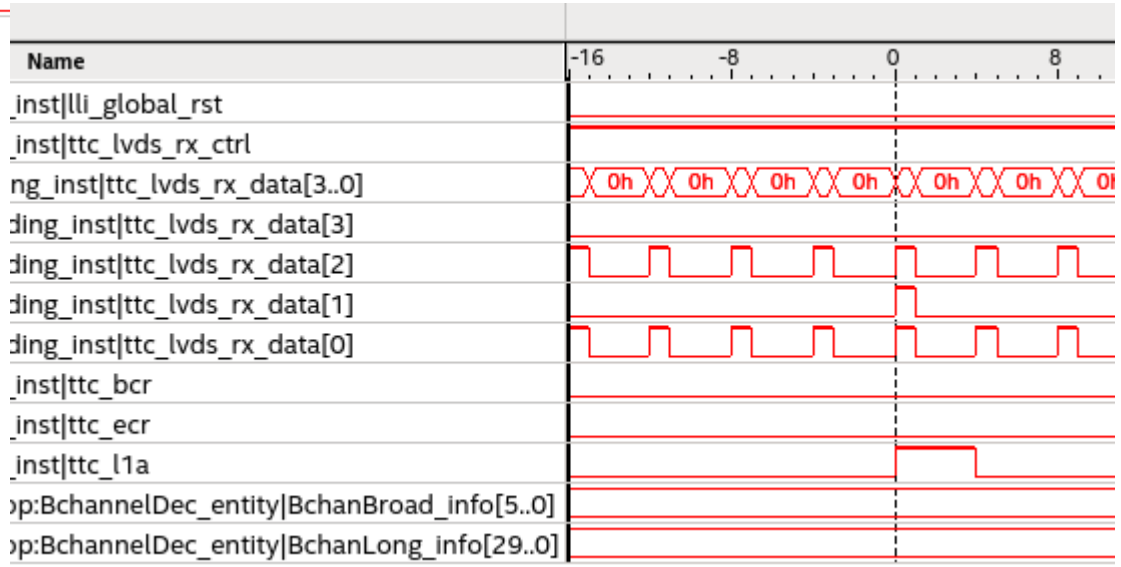
Carrier – Kade not integrated firmware
(Carrier_GBT-v4p1_16p4_amcClkPh180)
- Pin swap
- Updates in timing

Only difference

L1A comparison

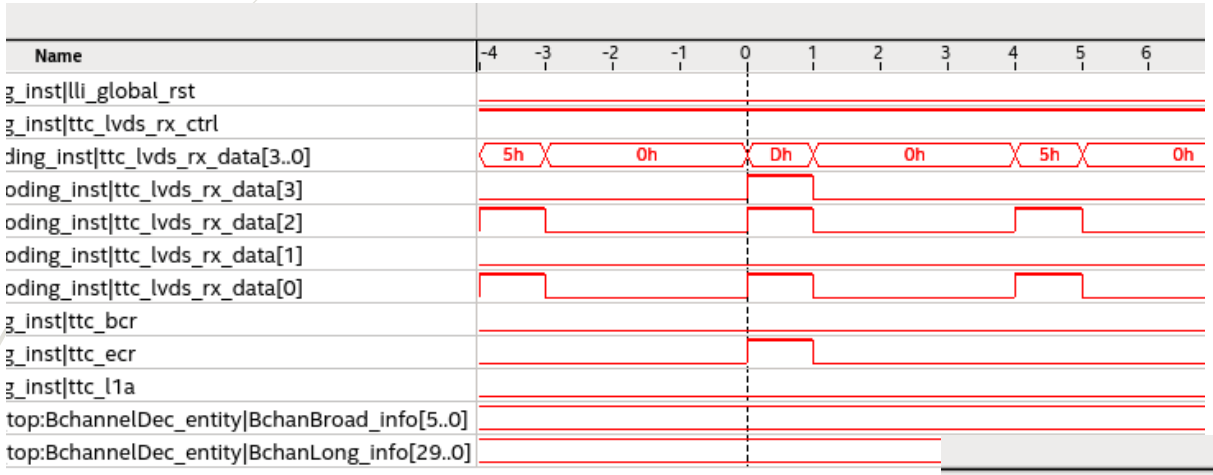


TEST 1
L1A signal **ok**: 4 clk cycles long

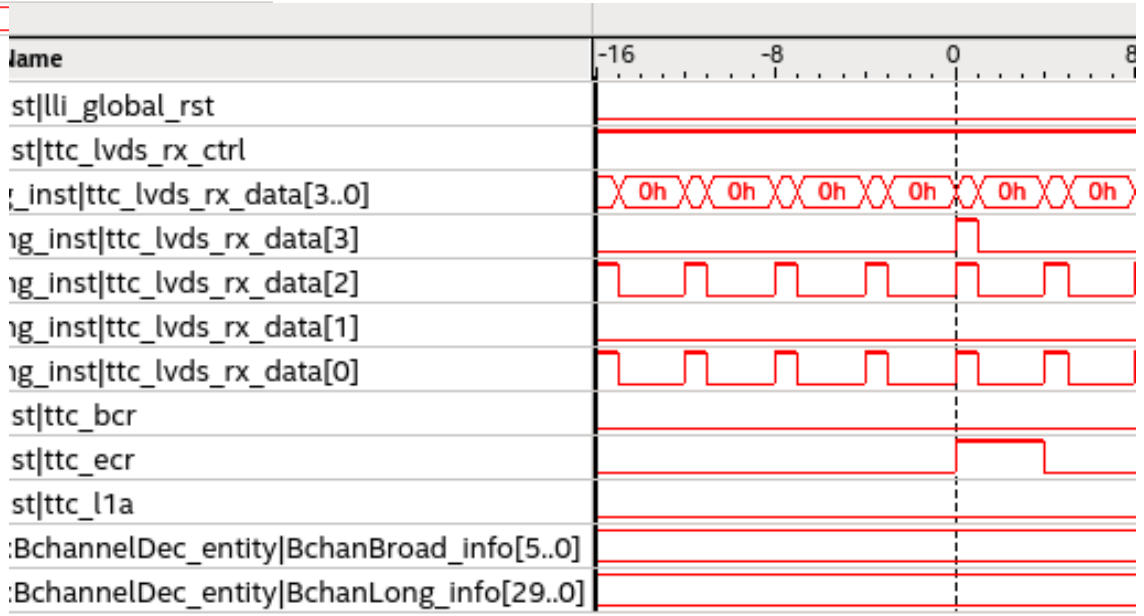


TEST 2
L1A signal **ok**: 4 clk cycles long (as expected)

ECR comparison

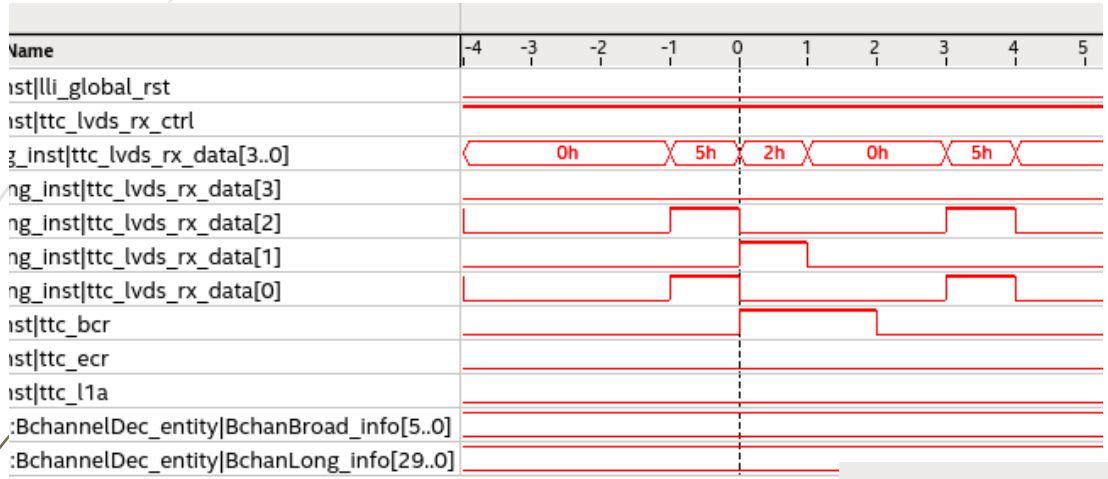


TEST 1
ECR signal **not ok**: 1 clk cycle long

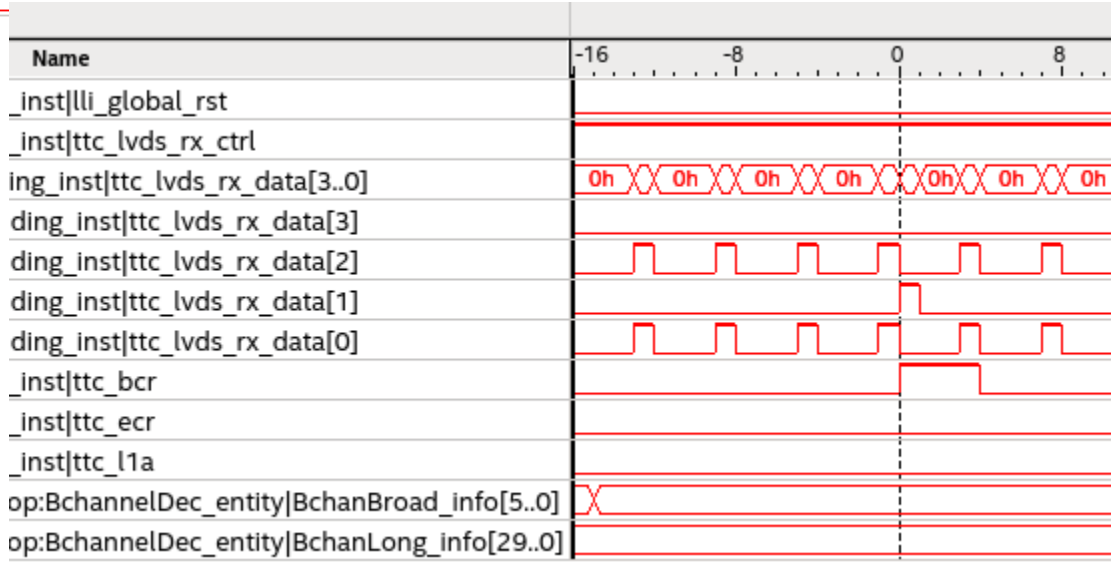


TEST 2
ECR signal **ok**: 4 clk cycles long (as expected)

BCR comparison



TEST 1
BCR signal **not ok**: 2 clk cycles long



TEST 2
BCR signal **ok**: 4 clk cycles long (as expected)

TType comparison

```
nters.l1a_info.l1a_counter: 197=0xc5
nters.l1a_info.l1a_muliplicty: 0=0x0
nters.ttype_info.ttype_counter: 193=0xc1
nters.ttype_info.ttype_muliplicty: 0=0x0
nters.bcr_info.bcr_counter: 1864905=0x1c74c9
nters.bcr_info.bcr_muliplicty: 0=0x0
nters.ecr_info.ecr_counter: 0=0x0
nters.ecr_info.ecr_muliplicty: 0=0x0
```

TEST 1
TType signal **not ok**

```
unters.l1a_info.l1a_counter: 250=0xfa
unters.l1a_info.l1a_muliplicty: 0=0x0
unters.ttype_info.ttype_counter: 244=0xf4
unters.ttype_info.ttype_muliplicty: 0=0x0
unters.bcr_info.bcr_counter: 251=0xfb
unters.bcr_info.bcr_muliplicty: 0=0x0
unters.ecr_info.ecr_counter: 1=0x1
unters.ecr_info.ecr_muliplicty: 0=0x0
```

TEST 2
TType signal **not ok**

But this value needs a better understanding also from the system point of view

- Already under investigation