Testing of 8 production cards

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Status of testing at SINP

- 8 µHTR cards v1.3 assembled in India.
  - **used machine assembly now.**
- Testing of cards is ongoing at SINP.
  - Firmare used for Front FPGA = 00.0b.20
  - Firmare used for Back FPGA = 00.0d.40
- Following tests are performed :
  - I2C communication(with small issue initially with 2 cards) working fine.
  - For PPODs
    - **IBER Test @ 4.8 Gbps and 6.4 Gbps using µTCA crate.**
    - Worked fine in 7 cards
    - Random behaviour in 1 card : Ibert console not coming
      - **Front Link works upto 6.4 Gbps**

Resistance Problem

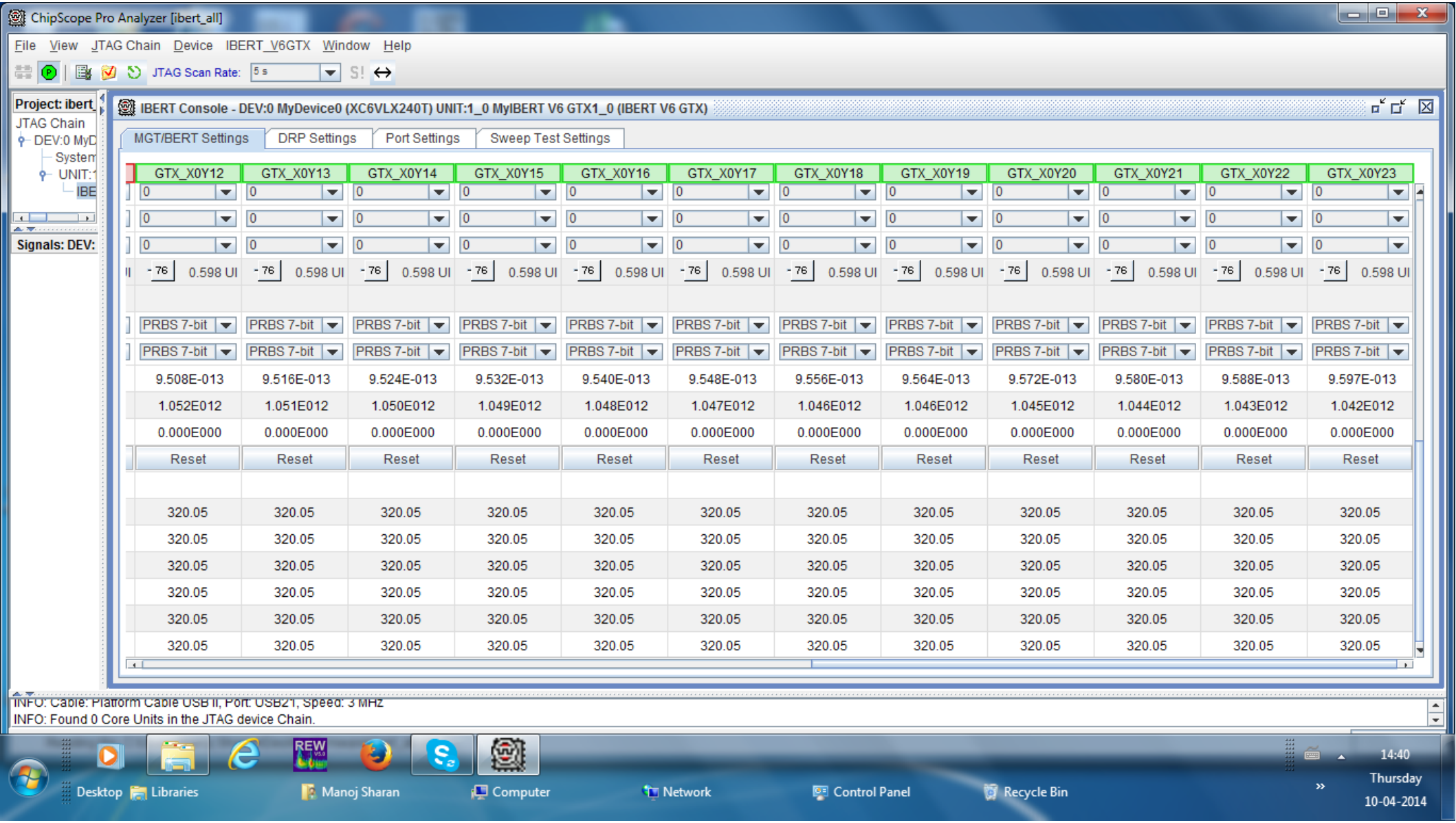
- 2 cards were not showing correct I2C information for 1V PM.
- Card 106 – Resistance near C402 was dry soldered (33 Kohm)
- Card 104 – Resistance near C503 was dry soldered (33 Kohm)
- These resistors were connected with 1V PM.
- After doing the soldering properly, I2c communation was working fine.
- Next Steps :
  - SFPs and front-back link testing.

RESET
OFF
vadatech
DA200
PWR
ON
OFF
MINR
MAJR
CRIT
ACT1
ACT2
PM 2
AMC 1
AMC 2
AMC 3
AMC 4
AMC 5
AMC 6
MCH 2
AMC 7
AMC 8
AMC 9
AMC 10
AMC 11
AMC 12
PM 1
Hot Swap
Fail
OK
Upgrade
MCH 1
VT892
μHTR
JTAG
MISC
SFP 1
SFP 0
RX 1
RX 0
TX
SERIAL
-48V RET
FUSE
-48V
Dual EMI Air Filter

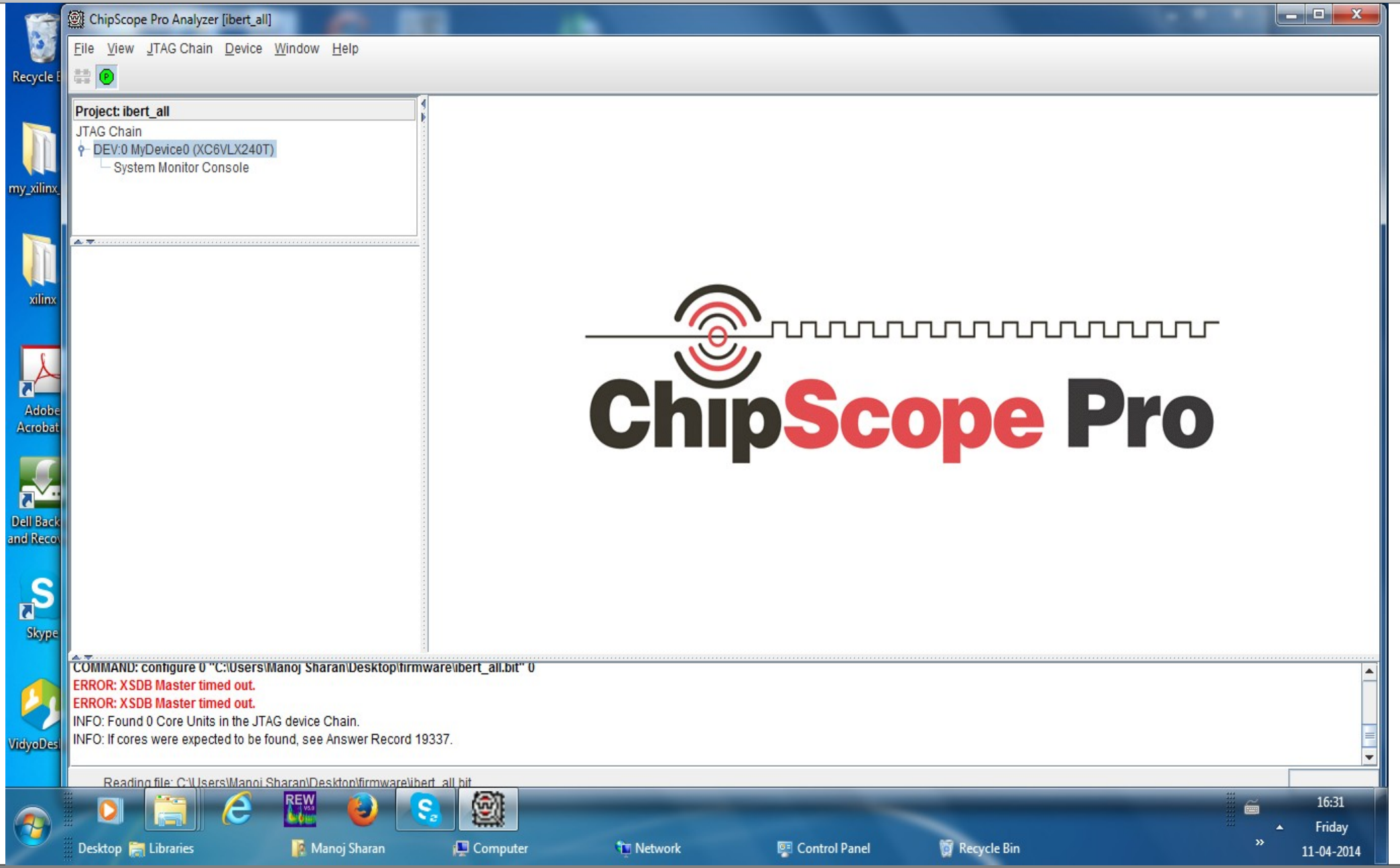
I2C communication

pm_1VA -- 00:1e:c0:80:e4:38 (S/N = 1015)
Id-Version = 1 Mezz Type = 1 / 1 (PM1.0)
Tested 7-2-2014 at 'SINP-INDIA' by 'Raman' using release 1.0.2
pm_1VB -- 00:1e:c0:81:6f:af (S/N = 1006)
Id-Version = 1 Mezz Type = 1 / 1 (PM1.0)
Tested 15-1-2014 at 'SINP-INDIA' by 'Debarati' using release 1.0.2
pm_3_3V -- 00:1e:c0:80:fa:7e (S/N = 1006)
Id-Version = 1 Mezz Type = 1 / 3 (PM3.3)
Tested 3-2-2014 at 'SINP-INDIA' by 'Debarati' using release 1.0.2
apm_1_8V -- 00:04:a3:a5:f8:7a (S/N = 1009)
Id-Version = 1 Mezz Type = 2 / 1 (APM1.8)
Tested 28-1-2014 at 'SINP-INDIA' by 'Bhawna' using release 1.0.2
Layer 1 : asked for 8 , found 8
apm_2_5V -- 00:1e:c0:81:01:c3 (S/N = 1003)
Id-Version = 1 Mezz Type = 2 / 1 (APM1.8)
Tested 3-2-2014 at 'SINP-INDIA' by 'Debarati' using release 1.0.2
cpld_mezz -- 00:04:a3:8f:15:46 (S/N = 65535)
Invalid ID block observed

IBER Test 6.4 Gbps :: PPODs



IBER Test 4.8 Gbps :: Error for 1 card



Summary

- 8 µHTR cards v1.3 assembled in India.
- Preliminary testing at SINP shows good results.
- I2C communication passed for all mezzanines.
- IBER Test using crate worked for 7 production cards.
- IBER Test randomly working with 1 card (104)

Comments & Suggestions

Backup

I2C communication

```
  back FPGA (sysmon) -- 0.98 V   2.53 V   47.0 degC
  front FPGA (sysmon) -- 0.99 V   2.52 V   46.8 degC
  pm_1VA       -- 1.01 V            40.9 degC
  pm_1VB       -- 1.01 V            38.9 degC
  pm_3_3V      -- 3.35 V            37.6 degC
  apm_1_8V     -- 1.62 V            45.8 degC
Layer 1 : asked for 8 , found 8
  apm_2_5V     -- 2.53 V            53.0 degC
  ppod_rx0     -- 2.51 V   3.27 V   28.6 degC
Layer 1 : asked for 8 , found e8
  ppod_rx1     -- 2.51 V   3.28 V   26.5 degC
  ppod_tx      -- 2.43 V   3.23 V   39.2 degC
```