

E1/T1 Hardware Interface - Feature #3966

Feature # 3965 (In Progress): ICE40 based USB E1 adapter

finish the USB-E1 ICE40 prototype

04/30/2019 08:49 AM - laforge

Status: Resolved	Start date: 04/30/2019
Priority: Normal	Due date:
Assignee: tnt	% Done: 100%
Category:	
Target version:	
Spec Reference:	
Description the USB and E1 cores seem to be "mostly ready", with some Chapter 9 related USB issues to be resolved and the actual interconnection between USB and E1 missing.	

History

#1 - 07/20/2020 10:49 PM - tnt

- % Done changed from 0 to 50

Still plenty to do on the firmware side, but it was enough to at least validate the hardware.

USB compliance should still be checked, not sure if all issues were solved.

#2 - 07/21/2020 08:28 AM - laforge

On Mon, Jul 20, 2020 at 10:49:13PM +0000, tnt [REDMINE] wrote:

Still plenty to do on the firmware side, but it was enough to at least validate the hardware.

Would it make sense to collect a TODO list (or feature tickets) here to break things down

USB compliance should still be checked, not sure if all issues were solved.

Should we (sysmocom) give it another run on the USB-IF Chapter9 test?

If I had known yesterday, I could have taken the ICE40 to the sysmocom office (where the CH9 test laptop is). But I guess it's fine to do it next week, when I'm here the next time.

#3 - 07/21/2020 10:49 AM - tnt

1) A big part is tidying up the code and adding the missing features at the same time. Mostly what I can think of ATM is :

- Support for the GPSDO function
- Expose the GPS UART as a CDC device
- Actually fill the RX header and use the TX header for CRC error reporting / link status / ...
- Add and document vendor commands for several things like :
 - Clock tuning control (factory / manual / locked to GPS / maybe even locked to E1 ?)
 - E1 'tick' control (master / slave)
 - E1 feature control (Things like CRC4 enable / auto-E bits / ...)
- Reset when iso alt setting is reset to 0
- ...

2) Yeah, if you could re-run the test, that would be useful ! I think the last time I tried I couldn't get it to work unless I used an external usb 2.0 hub ... which I don't have anymore.

#4 - 09/04/2020 08:52 AM - laforge

- Status changed from In Progress to Resolved

- % Done changed from 50 to 100

I have created specific tickets for the missing software/firmware bits [link](#) listed in his last update. The hardware prototype is finished, resolving this ticket.