



AGATA Electronics Update

Nov 2009



Overview of talk

- Status of AGATA electronics
- AGATA phase 1 Electronics– do we need to change anything?
- AGATA phase 1 Electronics– the plan



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LNL Status

- 2 triples with full electronics working
- Enough electronics for 4 triples ready now
- Firmware refinements continue (e.g. slow control improvements)
- AGAVA working with AGATA (test with PRISMA just finished)



Summary

Item	3 triples	6 triples	Ready now	Under test	To be made
Digitiser	9	18	12	6	none
Pre-processing carrier	18	36	20+5/6	13	none
Pre-processing ADC mezzanine	63	126	102	8	~20
Pre-processing GTS	9	18	20+5prot		10
GTS for trigger	5	9	ditto		ditto
LinkO data receiver	18	36	14+8 loan	New design	??



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Reasons for change

- Obsolescence
- Reduce size
- Improve functionality



Obsolescence



Product Discontinuation Notice Virtex-4 LX25 FPGA FF(G)676 Devices

XCN09028 (v1.0) October 19, 2009

Product Discontinuation Notice

Overview

The purpose of this notification is to communicate the discontinuance of the FF676 and FFG676 packages of the Virtex®-4 LX25 FPGA devices.

Description

Due to raw material supply constraints for the FF676 and FFG676 product packages, Xilinx's substrate manufacturer will stop supporting the laser substrate for these packages by Nov 20th 2009. Xilinx will order extra substrates prior to Nov 20th 2009 to cover the estimated customer Last Time Buy (LTB) quantities expected and in response to this notification.

Products Affected

This change affects all speed, package, and temperature variations of the commercial (C) and industrial (I) grade devices in the FF676 and FFG676 packages of the XC4VLX25 FPGA device. The affected part numbers are listed in [Table 1](#) and [Table 2](#). All SCDs associated with the listed part numbers are included in this notice (see Appendix A).

Table 1: Virtex-4 FPGA Products Affected

Xilinx Product	Replacement Parts	Xilinx Product	Replacement Parts
XC4VLX25-10FF676C	No direct replacement	XC4VLX25-10FF676CS2	No direct replacement
XC4VLX25-10FF676I	No direct replacement	XC4VLX25-10FFG676CS2	No direct replacement
XC4VLX25-10FFG676C	No direct replacement	XC4VLX25-11FF676CS2	No direct replacement
XC4VLX25-10FFG676I	No direct replacement	XC4VLX25-11FFG676CS2	No direct replacement
XC4VLX25-11FF676C	No direct replacement	XC4VLX25-12FF676CS2	No direct replacement
XC4VLX25-11FF676I	No direct replacement	XC4VLX25-12FFG676CS2	No direct replacement
XC4VLX25-11FFG676C	No direct replacement		
XC4VLX25-11FFG676I	No direct replacement	XC4VLX25-10FF676IS2	No direct replacement
XC4VLX25-12FF676C	No direct replacement	XC4VLX25-10FFG676IS2	No direct replacement
XC4VLX25-12FFG676C	No direct replacement	XC4VLX25-11FF676IS2	No direct replacement

Key Dates and Ordering Information

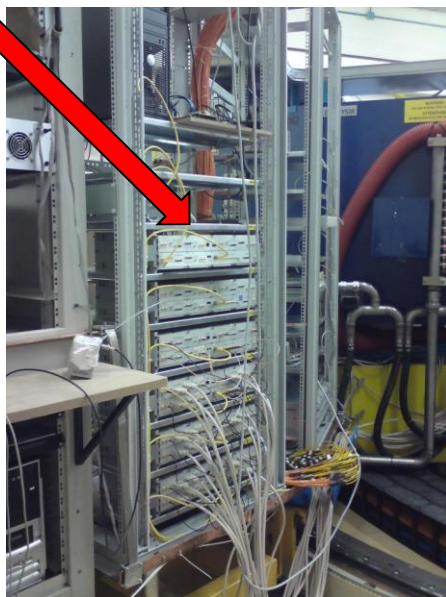
Final orders are accepted until Apr 26, 2010.
Final deliveries must occur on or before Oct 25, 2010.
Last RMA case request: Apr 25, 2011.

Recommendations

Xilinx recommends customers to place their LTB orders by Nov 12th, 2009 as the supplier will stop supporting the laser substrate on Nov 20th, 2009.

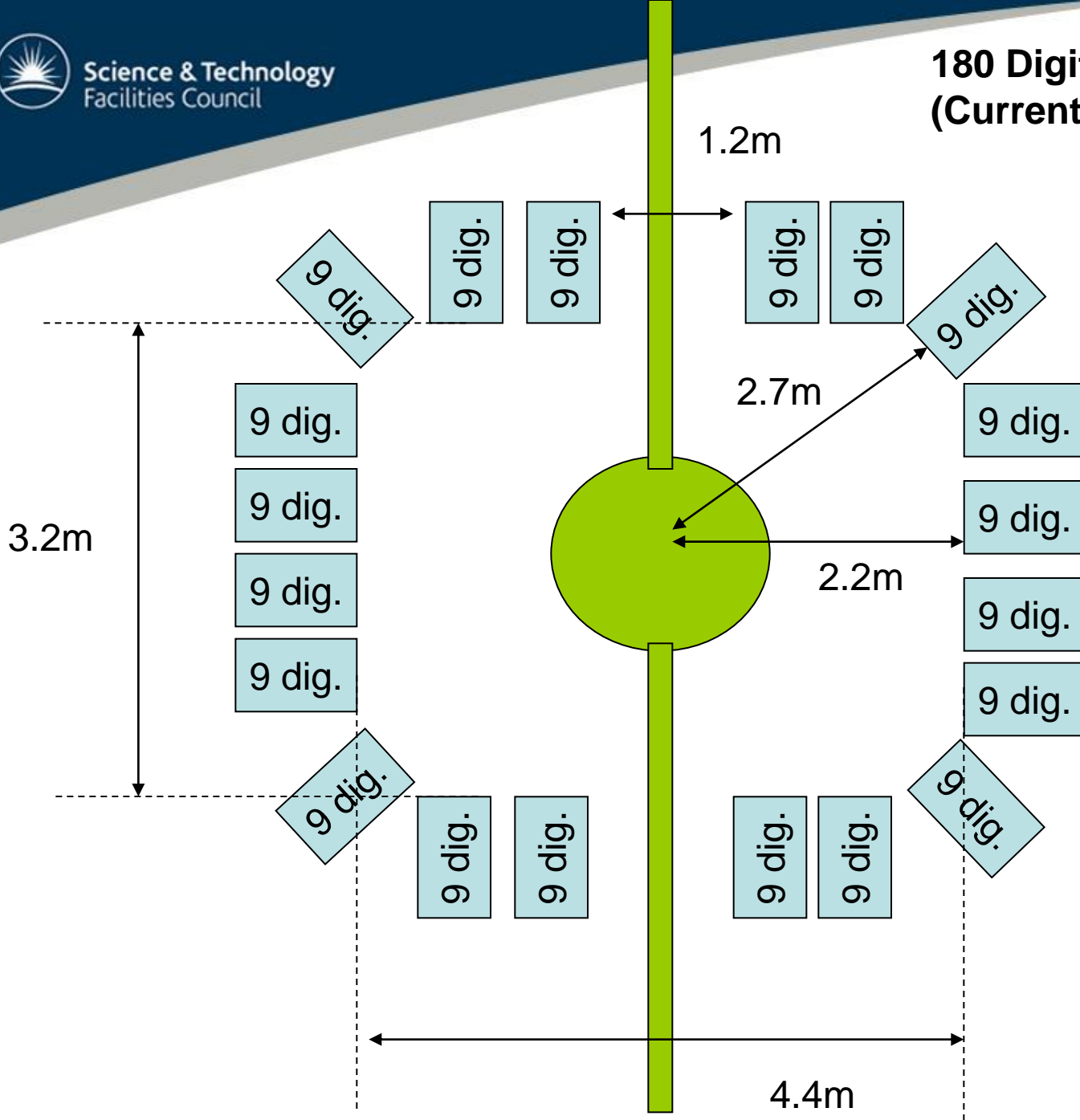


Size reduction



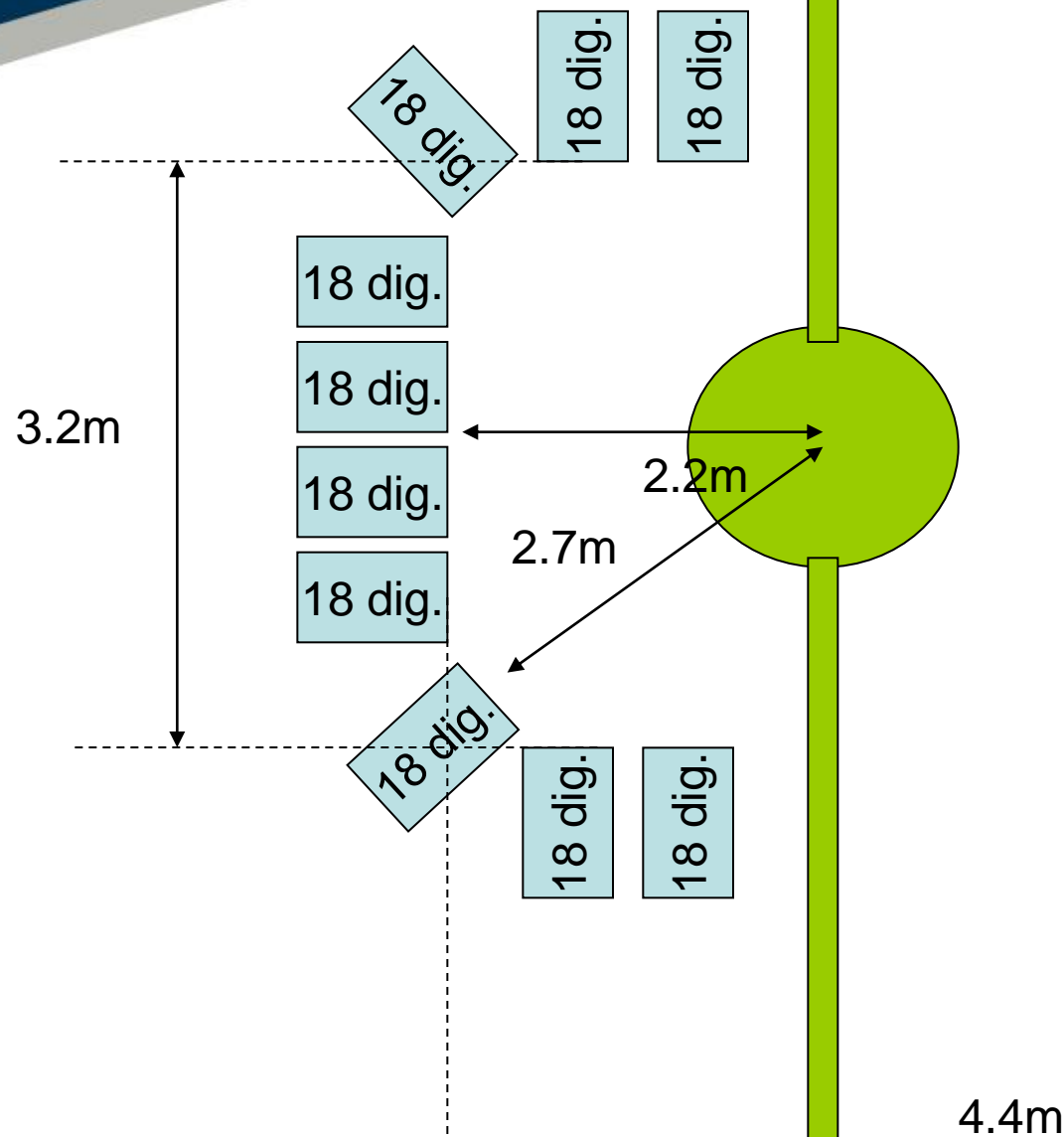


180 Digitisers around AGATA (Current design; 9 per rack)





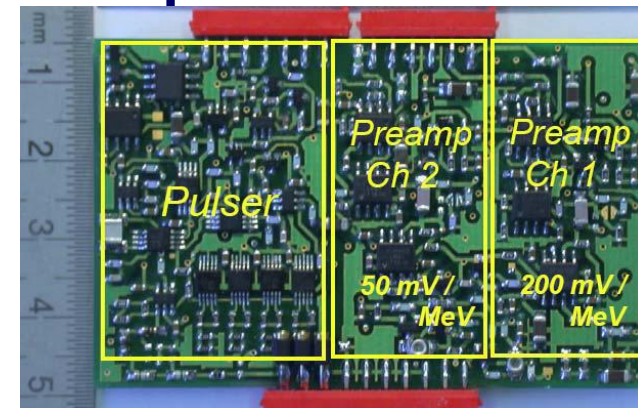
180 Digitisers around AGATA (half size modification; 18 per rack)



Improved functionality

Examples

- Implement Time Over Threshold (ToT)
 - Measure very high energies (to 180MeV) by timing preamp de-saturation (c.f. Wilkinson ADC)
 - Firmware starting soon
- Support for dual range preamps
 - 0–5MeV, 0–20MeV
 - pulser
 - better signals for ToT





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AGATA Phase 1 plan

- First 8 triples (24 detectors)
 - Use copies of existing electronics
 - Building 7 more digitisers now
 - Buys us time for redesigns
- Remainder of Phase 1 (and beyond)
 - Discuss options from early 2010



Summary

- Status of AGATA electronics
 - Ready for 4 triples now, remaining electronics coming soon
- AGATA phase 1 Electronics– do we need to change anything?
 - Probably, yes
 - Obsolescence
 - Compactness
 - Extra functionality
- AGATA phase 1 Electronics– the plan
 - More of the same for first few detectors
 - Discussions start next year for the rest