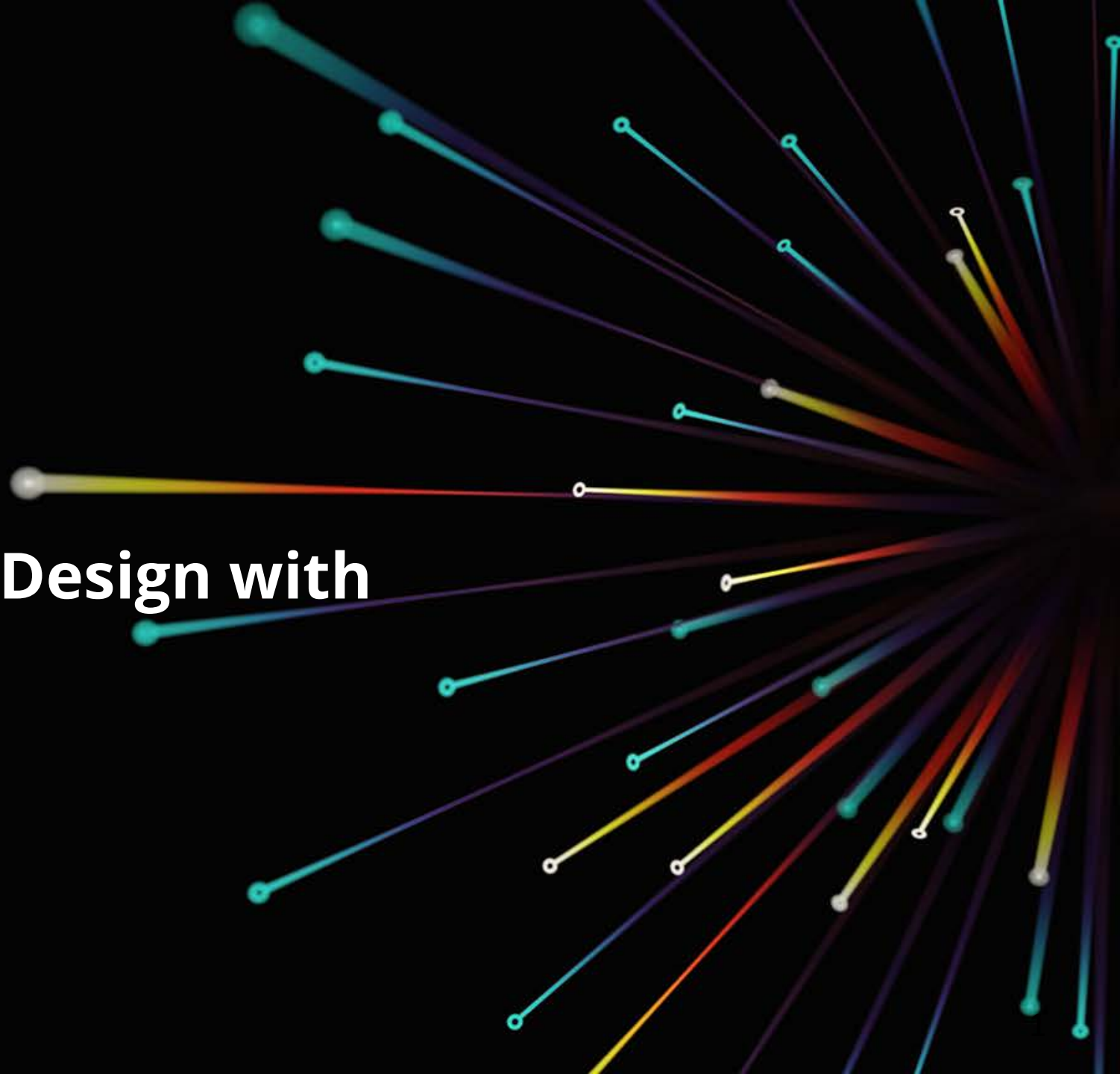


Altium®

AltiumLive 2017:
Introduction to PCB Design with
Altium Designer 18

Damien Kirscher
Field Application Engineer



Agenda

1

Introduction to Altium Designer

2

PCB Design Challenges & Solutions

3

Q & A

Introduction to AD18

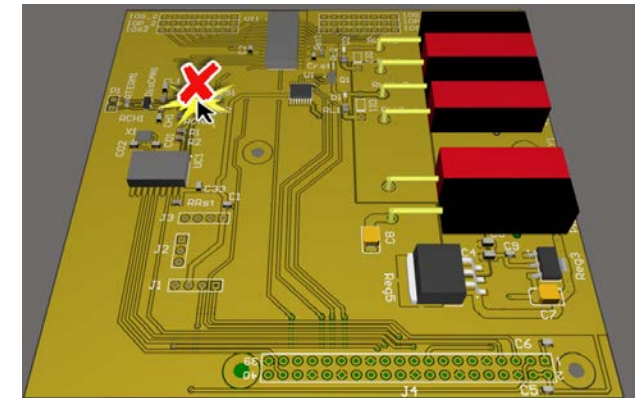
- Same project based approach we know and love
- Continues to leverage the Unified Data Module
- Streamlines the GUI for more effective use

Presenter:

Damien Kirscher




1. How do designers provide consistent and standardized project files?
2. How do designers find or create the right parts for their design?
3. How is design intent maintained and validated across design domains?
4. How do designers track changes throughout the design?
5. How do designers manage today's higher performance designs?
6. Have you released a design that was incorrect or incomplete?



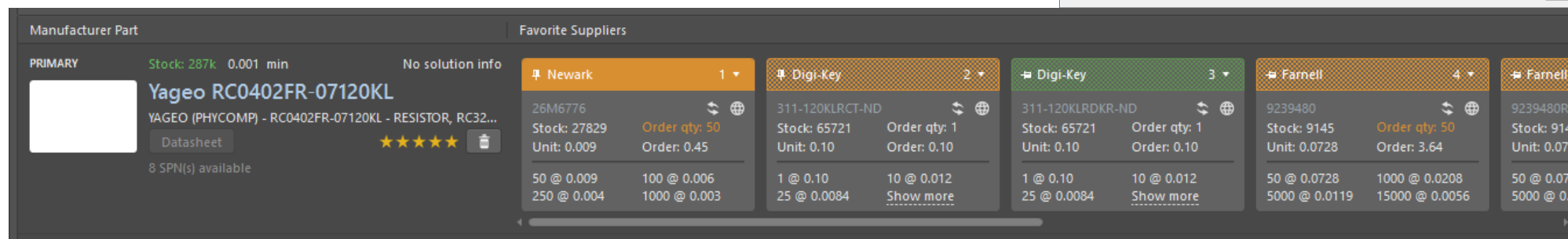
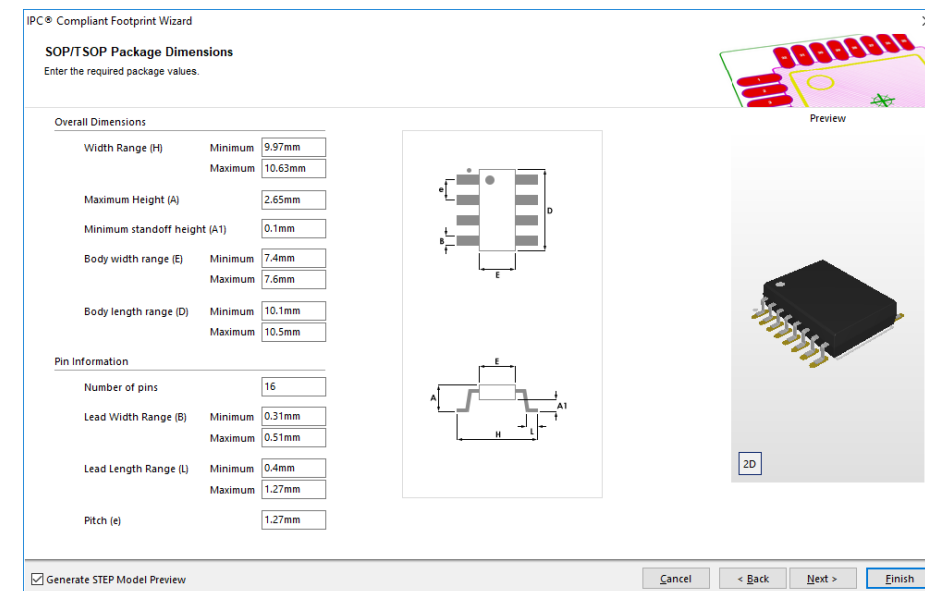
How do designers provide consistent project files that maintain professional standards?

- Ensures product/process guidelines and regulatory compliance are consistently met
- Eases post-design processes such as fabrication, certification and maintenance

Title <i>Spirit Level - Spartan 2E</i>			<i>Altium Inc. 4225 Executive Square Level 7 La Jolla, CA 92037 USA</i>	
Size: B	Number: 5	Revision: CI		
Date: 8/25/2017	Time: 4:28:42 PM	Sheet 5 of 5		
File: C:\Users\Public\Documents\Altium\AD18_BETA\Examples\SpiritLevel-SL1\SL1 Xilinx Spartan-IIE PQ208 Rev1.01\SchDoc				
5			6	

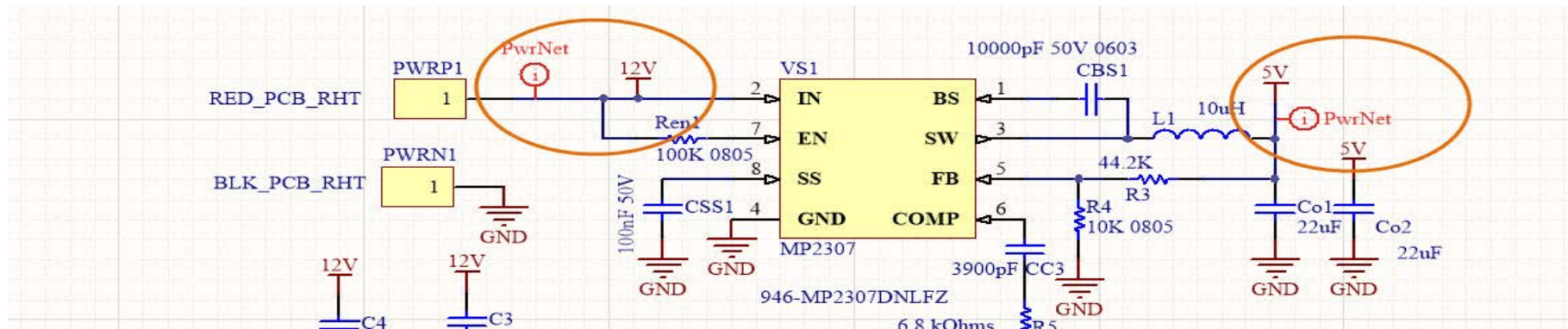
How do designers find or create the right parts for their designs? Today's engineers need to be focused on the main task of designing products.

- Missing components look to Altium Content Vault
- Manual creation of components
- BOM data needs to constantly update
- Non-normalized parameters across various suppliers



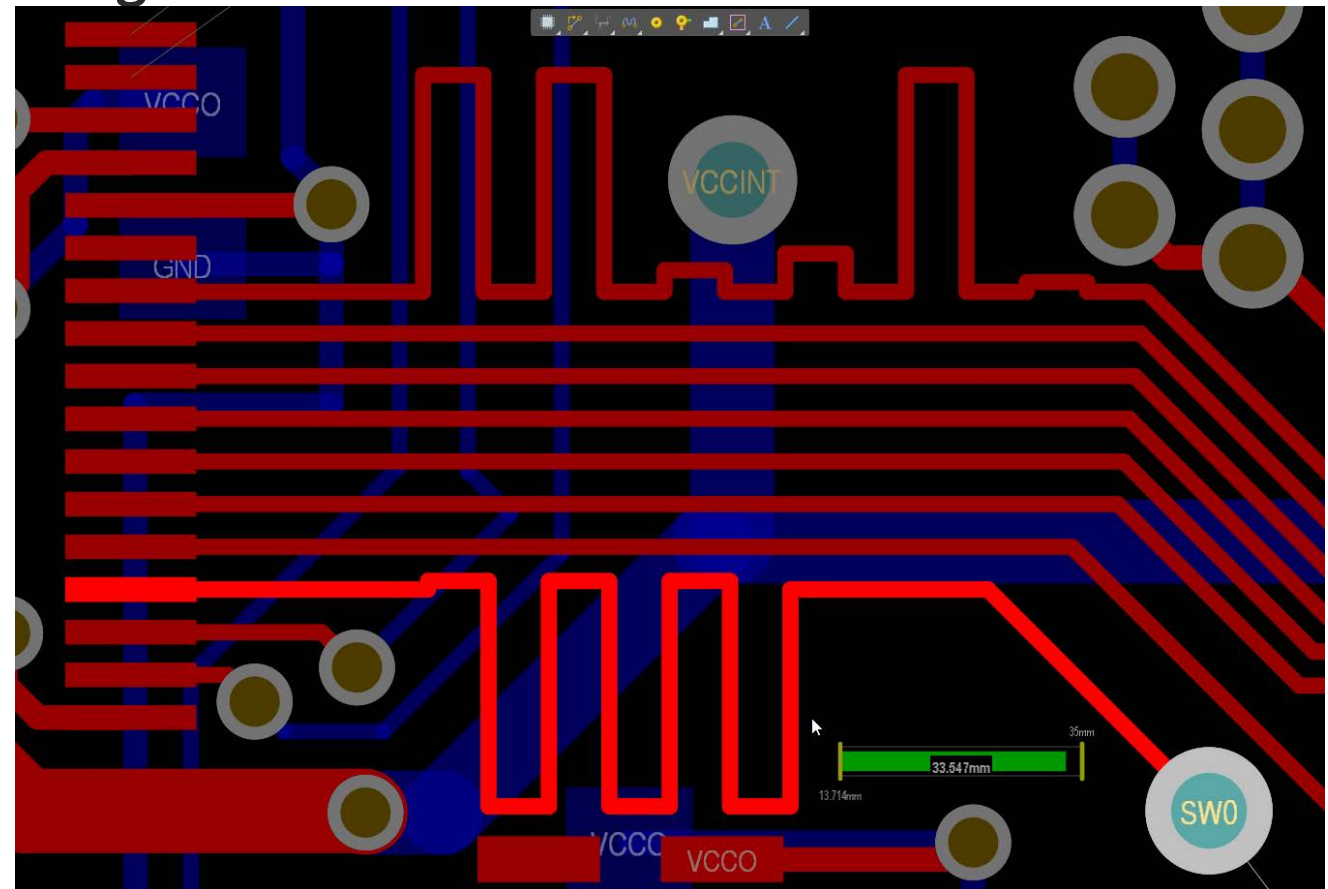
How is design intent maintained and validated across design domains?

- Requires significant effort involving emails, meetings and design updates
- Engineering Change Orders (ECO) automatically generated
- Rule Checks must be carried out in both domains
- With Outjobs the generation of fabrication files is automated



The tighter constraints of today's complex designs mean that previously advanced design techniques have now become mainstream. How does the PCB designer effectively meet these design challenges?

- Differential pair
- Length tuning
- High speed design rules
- Blind/buried vias



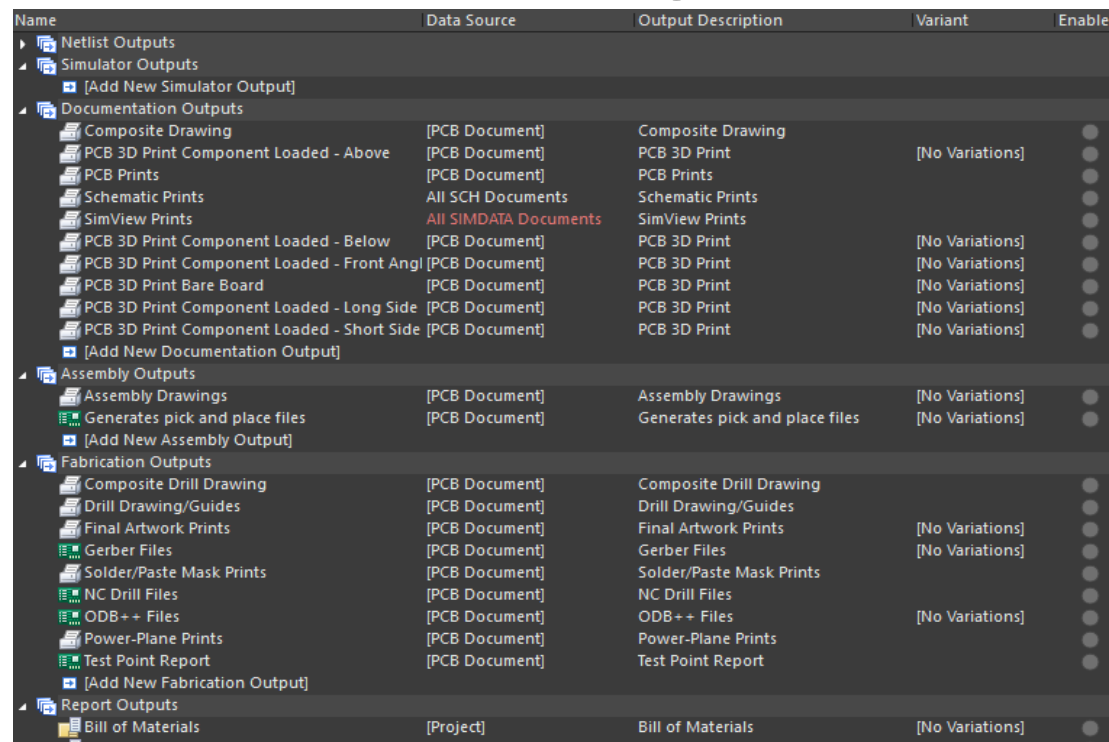
The dynamic nature of the design process requires tracking changes on both schematics and the PCB. How does the design team track these changes?

- Central repository hosting projects and their versions
- Track, compare and revert between versions
- Avoid messy renaming of individual file versions

Name	Type	Size
Managed	File folder	
Assembly.OutJob	Altium Output Job File	15 KB
Bluetooth - Final.SchDoc	Altium Schematic Document	24 KB
Bluetooth - Rev1.SchDoc	Altium Schematic Document	24 KB
Bluetooth - Rev2.SchDoc	Altium Schematic Document	24 KB
Bluetooth.SchDoc	Altium Schematic Document	24 KB
Bluetooth_Sentinel - Post_route Final Final.PcbDoc	Altium PCB Document	16,832 KB
Bluetooth_Sentinel - Post_route Final.PcbDoc	Altium PCB Document	16,832 KB
Bluetooth_Sentinel - Post_route Rev1.PcbDoc	Altium PCB Document	16,832 KB
Bluetooth_Sentinel - Post_route Rev2.PcbDoc	Altium PCB Document	16,832 KB
Bluetooth_Sentinel - Post_route Rev3.PcbDoc	Altium PCB Document	16,832 KB
Bluetooth_Sentinel - Pre_route.PcbDoc	Altium PCB Document	16,832 KB
Bluetooth_Sentinel - Rev1.SchDoc	Altium Schematic Document	21 KB
Bluetooth_Sentinel.Annotation	ANNOTATION File	14 KB
Bluetooth_Sentinel.PcbDoc	Altium PCB Document	16,832 KB
Bluetooth_Sentinel.PrjPcb	Altium PCB Project	52 KB
Bluetooth_Sentinel.PrjPcbStructure	PRJPCBSTRUCTURE File	8 KB
Bluetooth_Sentinel.SchDoc	Altium Schematic Document	21 KB
Documentation.OutJob	Altium Output Job File	13 KB
Fabrication.OutJob	Altium Output Job File	9 KB

Have you ever released a design that was incorrect or incomplete? Releasing a design to fabrication while under the gun to get it finished can be risky, but it doesn't have to be if you use Outjobs.

- Complete, error-free outputs for fabrication, documentation and testing
- Outputs must adhere to assembly variants
- Outputs must be consistent with company or fabricator guidelines



Name	Data Source	Output Description	Variant	Enabled
▶ Netlist Outputs				
▶ Simulator Outputs				
[Add New Simulator Output]				
▶ Documentation Outputs				
Composite Drawing	[PCB Document]	Composite Drawing		●
PCB 3D Print Component Loaded - Above	[PCB Document]	PCB 3D Print	[No Variations]	●
PCB Prints	[PCB Document]	PCB Prints		●
Schematic Prints	All SCH Documents	Schematic Prints		●
SimView Prints	All SIMDATA Documents	SimView Prints		●
PCB 3D Print Component Loaded - Below	[PCB Document]	PCB 3D Print	[No Variations]	●
PCB 3D Print Component Loaded - Front Angl	[PCB Document]	PCB 3D Print	[No Variations]	●
PCB 3D Print Bare Board	[PCB Document]	PCB 3D Print	[No Variations]	●
PCB 3D Print Component Loaded - Long Side	[PCB Document]	PCB 3D Print	[No Variations]	●
PCB 3D Print Component Loaded - Short Side	[PCB Document]	PCB 3D Print	[No Variations]	●
[Add New Documentation Output]				
▶ Assembly Outputs				
Assembly Drawings	[PCB Document]	Assembly Drawings	[No Variations]	●
Generates pick and place files	[PCB Document]	Generates pick and place files	[No Variations]	●
[Add New Assembly Output]				
▶ Fabrication Outputs				
Composite Drill Drawing	[PCB Document]	Composite Drill Drawing		●
Drill Drawing/Guides	[PCB Document]	Drill Drawing/Guides		●
Final Artwork Prints	[PCB Document]	Final Artwork Prints	[No Variations]	●
Gerber Files	[PCB Document]	Gerber Files	[No Variations]	●
Solder/Paste Mask Prints	[PCB Document]	Solder/Paste Mask Prints		●
NC Drill Files	[PCB Document]	NC Drill Files		●
ODB++ Files	[PCB Document]	ODB++ Files	[No Variations]	●
Power-Plane Prints	[PCB Document]	Power-Plane Prints		●
Test Point Report	[PCB Document]	Test Point Report		●
[Add New Fabrication Output]				
▶ Report Outputs				
Bill of Materials	[Project]	Bill of Materials	[No Variations]	●

**Thank you for your attention.
Questions?**