



Algorithm Implementation

Name	FDK Algorithm Implementation		
Category (IP/ Reusable)	IP	Component type (HW/SW/product etc)	Software
HW Platform	Intel	SW Platform /OS	Windows XP/VISTA /WINDOWS7
Applications / applicable products	Medical diagnostic imaging equipment		
Market/ industries applicable	Healthcare		
Product Description	Cone Beam CT reconstruction Algorithm (FDK) implementation in CPU and GPU. GPU version is implemented using NVIDIA CUDA to reduce reconstruction time		
Technical specifications	C++/.NET , NVIDIA , CUDA		
Features /benefits			
Other relevant details	Developed for integrating with Diagnostic Equipments		
Readiness	Available		

Name	High Speed Matrix Calculation		
Category (IP/ Reusable)	Knowledge	Component type (HW/SW/product etc)	Software
HW Platform	Intel P4 or higher	SW Platform /OS	Windows XP
Applications / applicable products	Medical diagnostic imaging equipment, Ultrasound Machine		
Market/ industries applicable	Healthcare		
Product Description	HSMC helps to reduce the time duration for applying image filters like Wall Filter, Power and Auto-correlation filters etc on filters on Software Color Doppler processing. In Software Color Doppler processing, Wall Filter, Power and Auto Correlation calculations are the most time consuming blocks. All these steps involve matrix multiplication, which is computationally intensive.		
Technical specifications	Open MP, SSE 2 /SSE 3.		
Features /benefits	Achieved performance improvement of 2x times.		
Other relevant details	Developed for integrating with Diagnostic Equipments		
Readiness	Available		



Name		Scan Conversion - GPU Implementation	
Category (IP/ Reusable)	Knowledge	Component type (HW/SW/product etc)	Software
HW Platform	Intel , NVidia	SW Platform /OS	Windows XP
Applications / applicable products	Medical diagnostic imaging equipment.		
Market/ industries applicable	Healthcare		
Product Description	Real Time Scan Conversion is a software solution for the Scan converter ASIC. Aimed to cut down the cost of Ultrasound scanners by replacing dedicated ASICs with commonly available GPU cards		
Technical specifications	Direct X, Open GL, Cg		
Features /benefits	Support display modes like B mode, BC mode, FUND ADF mode, CHI ADF mode, VRI mode, TDI mode, P-mode, Physio and Trace data.		
Other relevant details			
Readiness	Available		

Name		MI based Image Registration - GPU/CPU Implementation.	
Category (IP/ Reusable)	Knowledge	Component type (HW/SW/product etc)	Software
HW Platform	Intel , NVidia	SW Platform /OS	Windows XP
Applications / applicable products	Medical diagnostic imaging equipment.		
Market/ industries applicable	Healthcare		
Product Description	Mutual Information (MI) based 3D image registration. The Translation and rotation of floating image is optimized using Downhill Simplex method.		
Technical specifications	Direct X, Open GL, Cg		
Features /benefits	<ul style="list-style-type: none"> • Supports multi modality (US-US and US-CT) registration. • Achieves registration performance of 10 Hz in US. • Morphological features selected using ROI for better registration. 		
Other relevant details			
Readiness	Available		