

Xineos-1511

CMOS Flat X-ray Detectors for cost-effective Dental 3D+Panoramic



Key Features

- Best in class low-dose image quality
- 99 μ m pixel pitch
- 30fps at full resolution
- 300fps in Panoramic ROI mode
- 16-bit advanced 3D/CBCT readout mode
- Negligible image lag
- Stable offset calibration
- Low power dissipation
- Integrated gain-, offset- and defect pixel correction
- Gigabit Ethernet data interface (LVDS option available on request)

Typical Applications

- Dental CBCT
- Dental 3D + Panoramic

Xineos CMOS Flat X-ray Detectors: Better Images, Lower Dose

The Xineos-1511 CMOS flat detector sets a new benchmark in low dose imaging performance. Built with our sixth generation CMOS technology, Xineos-1511 offers switchable saturation dose to maximize dynamic range or sensitivity on demand.

Offering a 15x11cm active area, the Xineos-1511 images from the top of the Temporomandibular joint (TMJ) to the bottom of the adult mandible, and with a programmable region of interest (ROI) that is flexible in size, position and frame rate (e.g. 15x1cm @ 300fps). A single detector can deliver optimized image quality for different procedures, e.g. for use in Dental 3D/CBCT and Panoramic 2-in-1 combo systems.

Industry-leading low-dose diagnostic image quality and high resolution make Xineos-1511 perfectly suitable for extra-oral dental diagnosis and implant planning. The detector features built-in offset and gain (flat-field) correction, and advanced defect pixel correction to ensure optimal raw image quality, and a 16-bit 2x2 pixel binning mode to extend computational signal integrity for advanced 3D reconstruction algorithms.

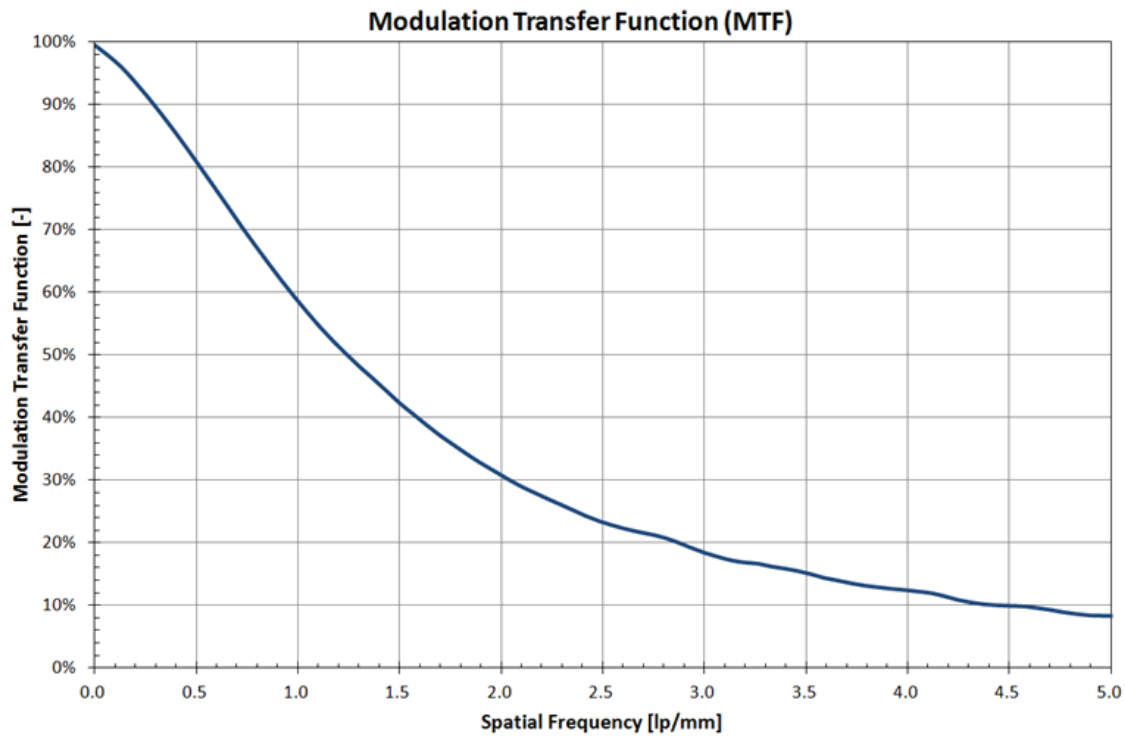
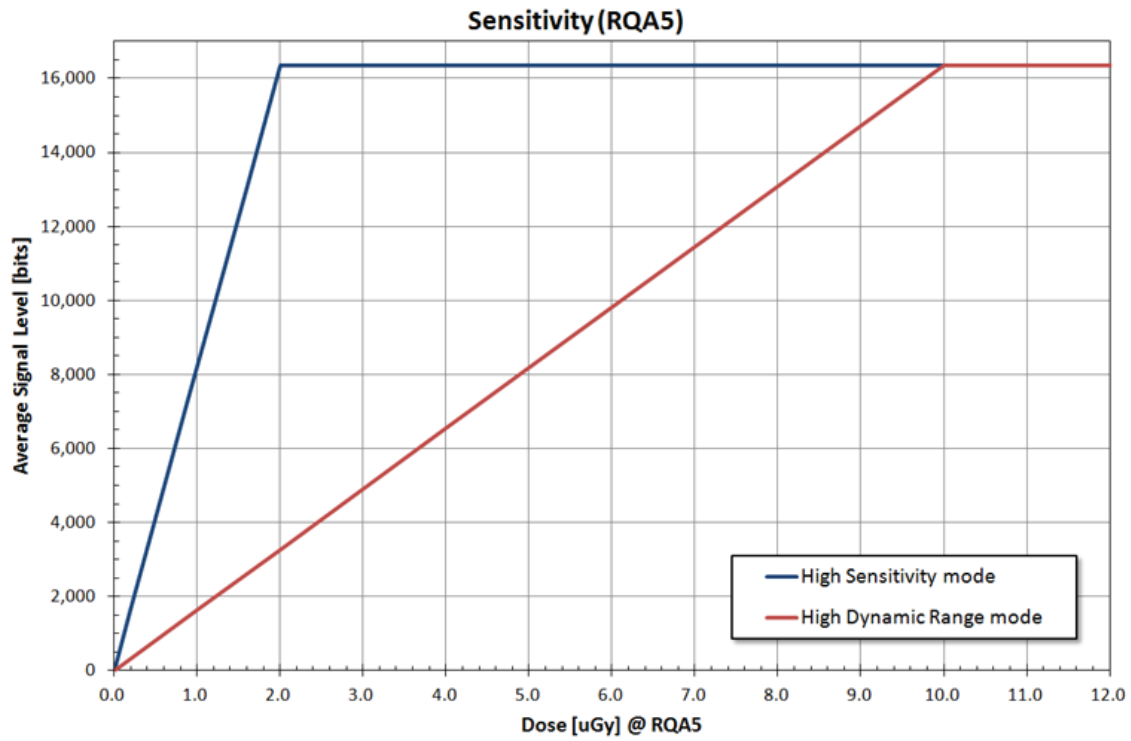
The Xineos-1511 also features the industry's smallest shoulder edge distance (7.3 mm), enabling improved patient access and compact enclosure designs. With no need for active cooling, this low power CMOS X-Ray detector delivers increased reliability in heavy-duty applications.

SPECIFICATIONS (TYPICAL VALUES @ RQA5)

Parameter	Xineos-1511
Pixel Pitch	99 μ m
Active Area	147.3x113.7mm ²
Resolution	1488x1148
Binning support	1x1 / 2x2
Scintillator	Medical-grade columnar CsI
Seamless switchable saturation modes	2 modes, software switchable
Saturation Dose, RQA5 (per mode)	2uGy / 10uGy
Dynamic Range (per mode)	71dB / 75dB
MTF @ 1lp/mm / 2lp/mm	60% / 30%
DQE(0), RQA5	70%
Non-linearity	<1%
Image Lag (1st frame @ 30fps)	<0.1%
ADC Conversion	14-bit (16-bit 2x2 mode available)
Data Interface	Gigabit Ethernet (GigE)
Frame Rate	
- Full size, full resolution	30fps
- Full size, 2x2 binning	60fps
- 1488x100pxl ROI, full resolution	300fps
ROI readout	Programmable (x,y) position & size
Trigger modes	Continuous or Synchronized
X-Ray Energy Range	40..125kVp
Power Consumption (active)	8W
Dimensions (WxHxD)	178x176x45mm
Weight	2.5kg

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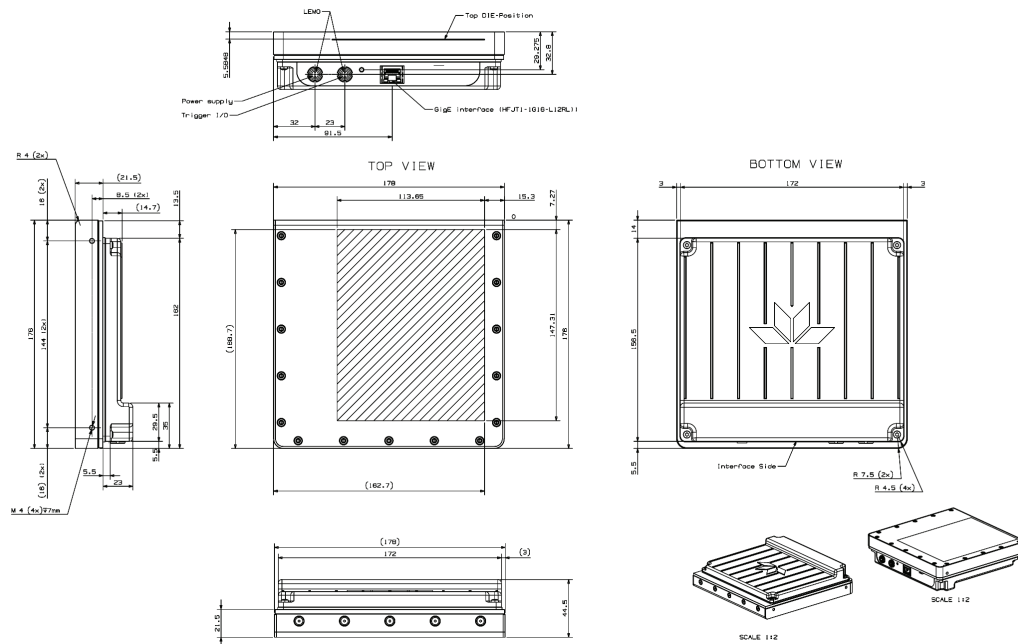
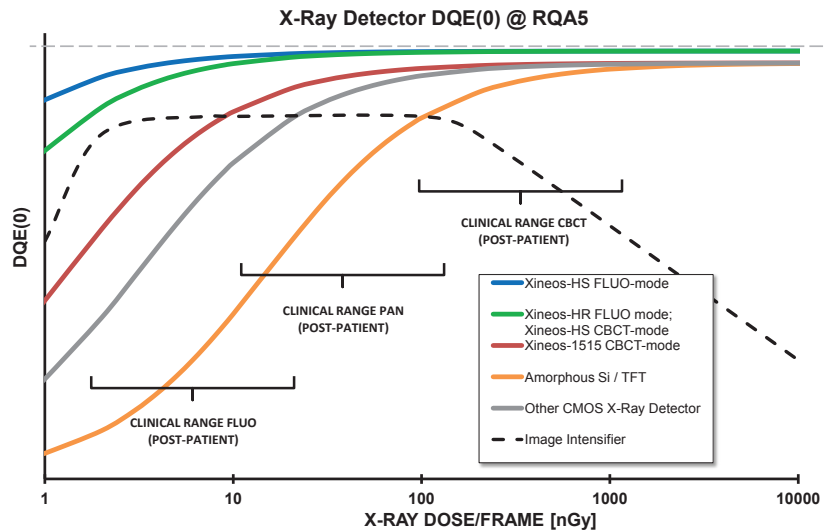


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Detective Quantum Efficiency (DQE):

To become an accurate indicator of detector performance, DQE value must be reported at a specific dose value. For dynamic X-ray applications the meaningful doses should be very low. This requirement is the primary goal of the Xineos architecture. While Xineos routinely achieves 70% or higher DQE at doses of 200 μR , the detector performance is not compromised at 1 μR entrance dose level.



www.teledynedalsa.com

Americas

Waterloo, ON
+1 519-886-6000
sales.sensors@teledynedalsa.com

Europe

Eindhoven, The Netherlands
+31 40-259-9000
sales.sensors@teledynedalsa.com

Asia Pacific

Tokyo, Japan
+81 3-5960-6353
sales.sensors@teledynedalsa.com

Shanghai, China
+86 21-3368-0027
sales.sensors@teledynedalsa.com

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