Xineos-1515

CMOS Flat Detector for Dynamic X-Ray Imaging

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

The Xineos-1515 CMOS flat detector sets a new benchmark in low dose imaging performance. Built with our sixth generation CMOS technology, Xineos-1515 offers switchable saturation dose to maximize dynamic range or sensitivity on demand.

With a 15x15 cm active area, the Xineos-1515 images from the top of the 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. 15x1 cm @ 300 fps), a single detector can deliver optimized image quality for different procedures, e.g. both Dental CBCT and Panoramic 2-in-1 systems.

Industry-leading low-dose performance and high resolution make Xineos-1515 ideal for orthopedic interventions. The Gigabit Ethernet version features built-in gain/offset (flat-field) and advanced defect pixel correction ensure optimal raw image quality.

The Xineos-1515 also features the industry's smallest shoulder edge distance (7.3 mm), enabling better 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.

Key Features

- Latest generation CMOS technology; even lower noise, lower power consumption
- Switchable pixel sensitivity for highest sensitivity AND highest dynamic range
- Unmatched image quality at low doses, best-in-class DQE at all doses
- High frame rates: 30 fps full resolution, up to 300 fps with adjustable ROI mode
- Serves dental CBCT and Panoramic with the same detector
- Smallest shoulder edge distance in industry for better patient access
- Negligible image lag

Typical Applications

- Dental CBCT + Panoramic
- Orthopedic Surgery
- Industrial / Non-Destructive Testing

Specifications (Typical Values @ RQA5)

Resolution	1548x1548
Pixel Size	99x99 μm
Area	153 x 153 mm
Saturation Dose	
- High Dynamic Range Mode	14 uGy (1.6 mR)
- High Sensitivity Mode	3 uGy (0.3 mR)
Frame Rates	
- Full area, full resolution	30 fps (CamLink), 22 fps (GigE)
- Full area, 2x2 pixel binning	60 fps
- 15x1 cm ROI, full resolution	300 fps
ADC Conversion	14 bits (16384 levels)
Dynamic Range	
- High Dynamic Range Mode	76 dB (6300:1)
- High Sensitivity Mode	71 dB (3500:1)
Dark Signal @ 40°C (internal)	
- High Dynamic Range Mode	150 LSB/s
- High Sensitivity Mode	30 LSB/s
DQE (@ 0 lp/mm, RQA5)	70%
MTF (@ 1 lp/mm, RQA5)	60%
Image Lag	<0.1%
Data and Control Interface	Gigabit Ethernet or CameraLink (Base)
Power Supply	+12 Vdc
Power Consumption	7 W (GigE), 6 W (CamLink)
Weight	2.9kg

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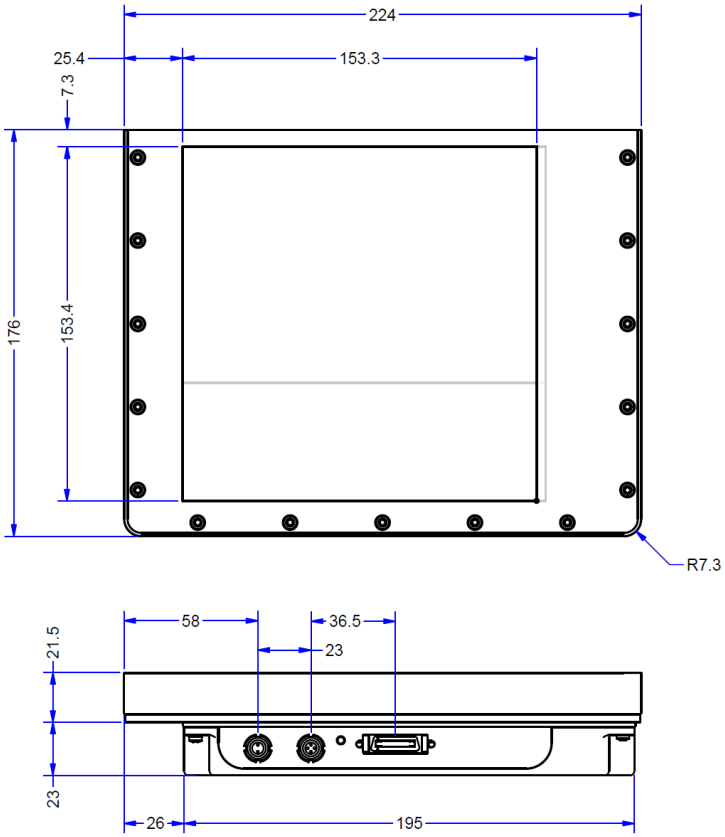
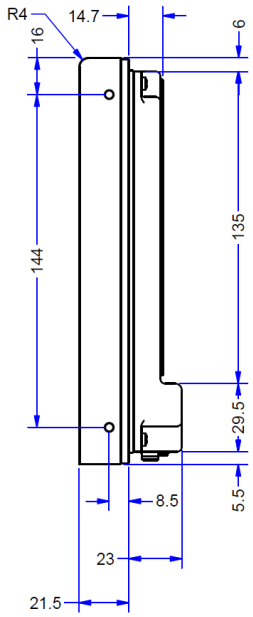
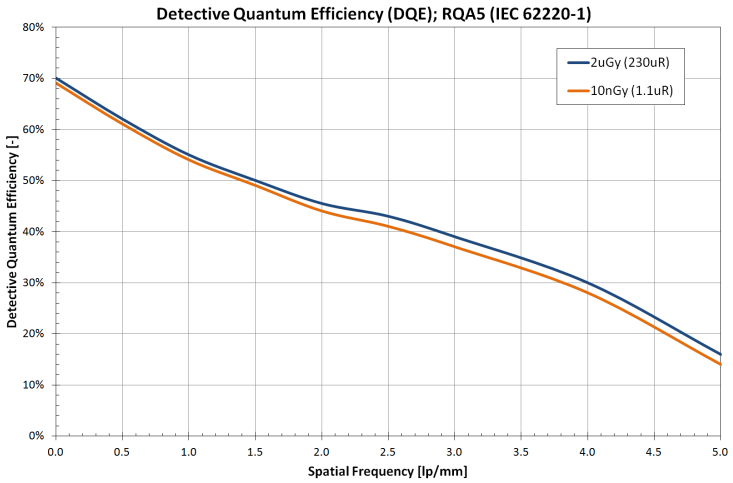




Detective Quantum Efficiency (DQE):

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 2 uGy (230 µR), the detector performance is not compromised at 10 nGy (1.1 µR) entrance dose level.



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