TELEDYNE

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X-Ray Solutions

XINEOS-1515 (CD76M212)

CMOS Flat Panel Detector for Dental 2-in-1 and Mini C-arm Systems

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: 21 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

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

The Xineos-1515 detector sets a new benchmark in low dose imaging performance. Built with our sixth generation CMOS technology, Xineos-1515 offers a software switchable saturation dose to maximize dynamic range or low-dose sensitivity on demand. This critical feature enables cost-effective design of dental imaging systems using a single detector for both 3D Cone Beam Computed Tomography and Panoramic imaging modalities, without compromising clinical image quality required for confidence in diagnostics.

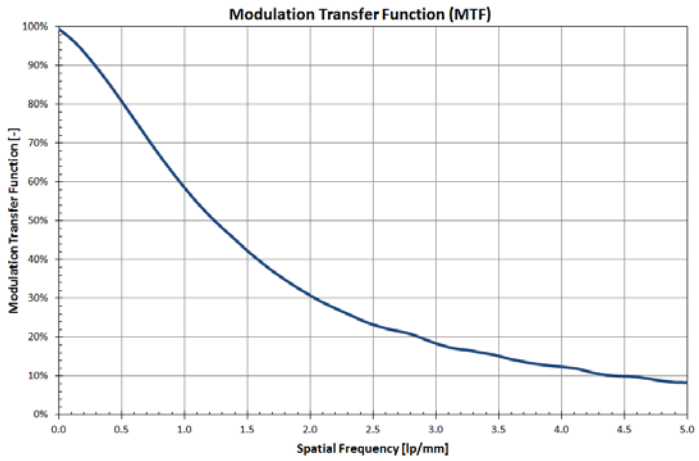
Industry-leading low-dose performance and high resolution make Xineos-1515 ideal for orthopedic interventions. The Gigabit Ethernet version features built-in gain/offset (flat-field) and advanced defect pixel correction ensure optimal raw image quality.

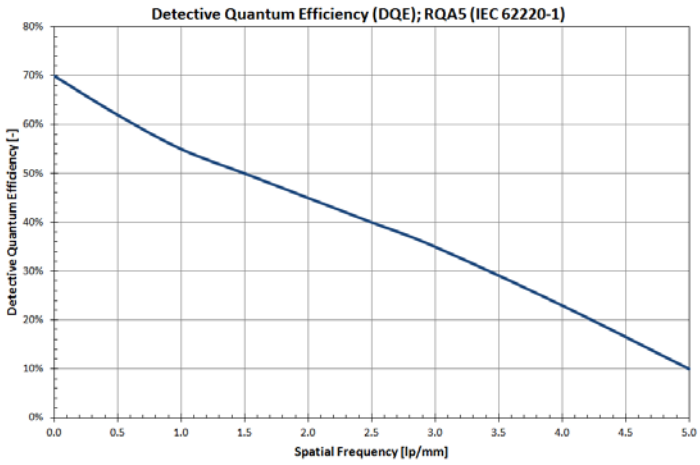
The Xineos-1515 also features the industry's smallest shoulder edge distance (7.3 mm), enabling better patient access and compact enclosure designs. The low power consumption and elimination of forced detector cooling further simplify system design and extend battery lifetime in portable applications.

SPECIFICATIONS

Parameter	Specification (RQA5) Xineos-1515
Pixel Pitch	99 µm
Active Area	153.3 x 151.7 mm^2
Resolution	1548 x 1548 pixels
Binning Support	1 x 1 / 2 x 2
Scintillator	Medical-grade Columnar CsI
Seamless Switchable Saturation Modes	2 Modes, Software Switchable
Saturation Dose, RQA5 (per mode)	2.2/10 µGy
Dynamic Range (per mode)	71 /75 dB
MTF @ 1, 2 lp/mm	60% / 30%
DQE (0), RQA5	70%
Non-linearity (typ.)	<1%
Image Lag (1st Frame @ 30 fps)	<0.1%
ADC Conversion	14 bit
Data Interface	Gigabit Ethernet (GigE)
Frame Rate • Full Size, Full Resolution • Full Size, 2 x 2 Binning • 1548 x 100 pxl ROI, Full Resolution	 21 fps 60 fps 300 fps
ROI Readout	Programmable (x,y) position & size
Trigger Modes	Continuous or Synchronized
X-Ray Energy Range	40-125 kVp
Power Consumption (Active)	10 W
Dimensions (W x H x D)	170 x 196 x 44 mm
Weight	2.4 kg (approx.)

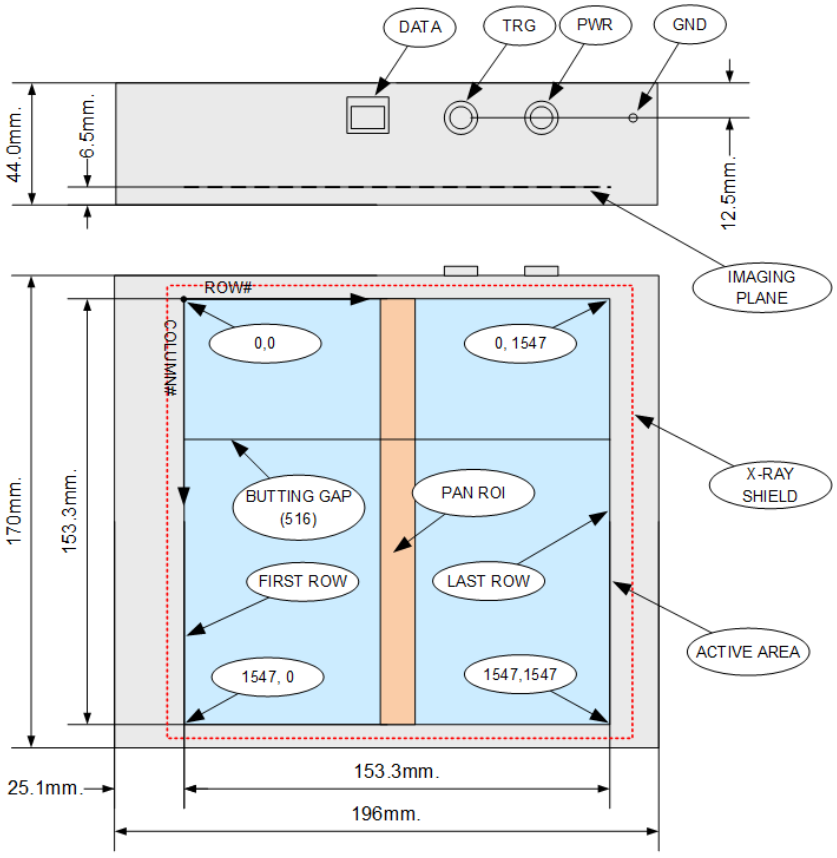
SPECIFICATIONS





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.



Notes:
- *CMOS-sensor data is read in row-by-row sequence*
- *Coordinates refer to output image as shown on computer monitor*
- *ROW# readout direction can be reversed; default BottomToTop direction shown*

FOR MORE INFORMATION CONTACT:

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