DIONE

X-ray · AI-Powered Diagnostic System

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X-RAY · AI-POWERED DIAGNOSTIC SYSTEM

Explore the transformative potential of an innovative
X-ray AI-Powered Diagnostic System
that enhances healthcare efficiency and accuracy.

BONTECH

X-RAY · AI-POWERED DIAGNOSTIC SYSTEM

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Key Components and Functionalities

HANDHELD X-RAY GENERATOR

A portable device that enables quick X-ray imaging in various settings, enhancing patient accessibility.

LAPTOP WITH INTEGRATED SOFTWARE

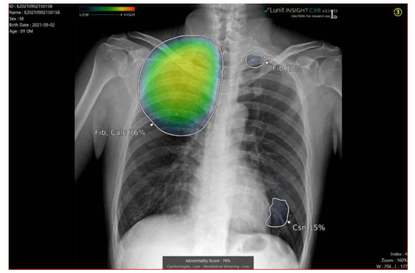
Features specialized software that streamlines image processing and allows for easy data management.

DIGITAL DETECTOR PLATE

Transmits high-quality images instantly, reducing the time needed for analysis and improving diagnostic accuracy.

AI DIAGNOSIS SYSTEM

Analyzes X-ray images, providing quick and precise diagnostic suggestions.



iRayA6 ADX6000FB Handheld X-ray Generator

1. **Compact & Portable:** Designed for easy handling and mobility. The collimator's light helps to ensure accurate aiming and optimal shooting distance in order to acquire clear images.
2. **Advanced Imaging Technology:** Features adjustable tube voltage (kV) and current (mA) for precise imaging.
3. **User-Friendly Interface:** 4.3″ **Touch Panel TFT LCD** for intuitive control.
4. The system uses a **Long lasting 5 Cell High-capacity rechargeable battery** that allows an adequate amount (up to 200) of shots with a fully charged battery.
5. **Enhanced Safety Features:** Low radiation exposure with optimized **radiation field control**.

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1

1/7th lower radiation dose than wall mounted X-ray.

2

Ensure both user and patient's safety by reducing radiation exposure.

3

The converter type Digital generator and collimator are shielded with thick multilayered lead to prevent radiation leakage.

4

Robust and convenient Handle provide a stable exposure as well as convenience.

5

The Exposure button only emits radiation on the second push of the button, which prevents accidental radiation exposure.

Advanced Protection

Radiation Safety

- The implementation of a Skin Guard (SSD Cage) ensures minimal distance between the device and the patient, prioritizing patient safety and well-being.
- Internal Multiple Lead wrapping guarantees complete containment of radiation, leaving no room for any leakage.
- The generator are wrapped with lead, preventing radiation leakage.
- The ADX6000FB has been deemed a secure device for operation by esteemed professionals, including Professor David M. Hamby, a renowned health physics expert at Oregon State University.

DIONE BT-DA22W Wireless X-ray Detector

1. **High-Resolution Imaging:** 16-bit grayscale (65,536 shades) for superior image clarity.
2. **Fast Image Acquisition:** Preview available in under 6 seconds.
3. **Wireless & Wired Connectivity:** Supports Wi-Fi (802.11ac) and Gigabit Ethernet for seamless data transfer.
4. **Durable & Portable:** IP67-rated for dust and water resistance, with a lightweight 2.92kg design.
5. **Long Battery Life:** Operates for over 4 hours on a single charge.
6. **Optimized for Medical Use:** Works with AI-based advanced medical software for enhanced diagnostics.

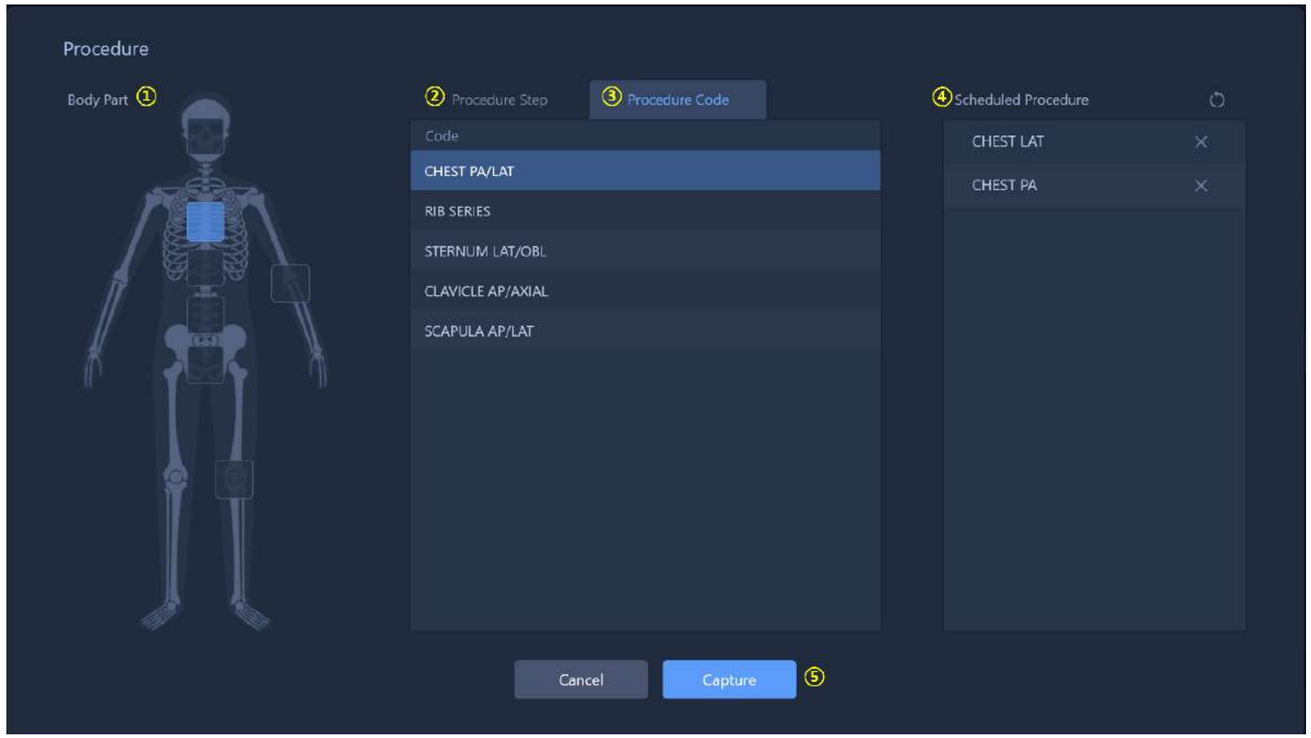
Raw Image Quality

DIONE Laptop & Advanced Medical Software

1. **High-Performance Processing:** Equipped with an **Intel Core i5** for fast data handling.
2. **Medical-Grade Display:** 15.6” Full HD screen for clear X-ray image analysis.
3. **Integrated Advanced medical Software:** Manages X-ray images, patient records, and AI-assisted diagnostics.
4. **Secure & Compliant:** Encrypted storage ensures data privacy and regulatory compliance.
5. **Seamless Connectivity:** Supports Wi-Fi, Ethernet, and PACS integration for efficient workflow.

Advanced Medical Software

An **advanced medical imaging software** designed for **X-ray system consoles**, ensuring **seamless integration with X-ray detectors and generators**. It provides **efficient image management**, **AI-assisted analysis**, and **DICOM compatibility** for hospital PACS (Picture Archiving and Communication Systems).

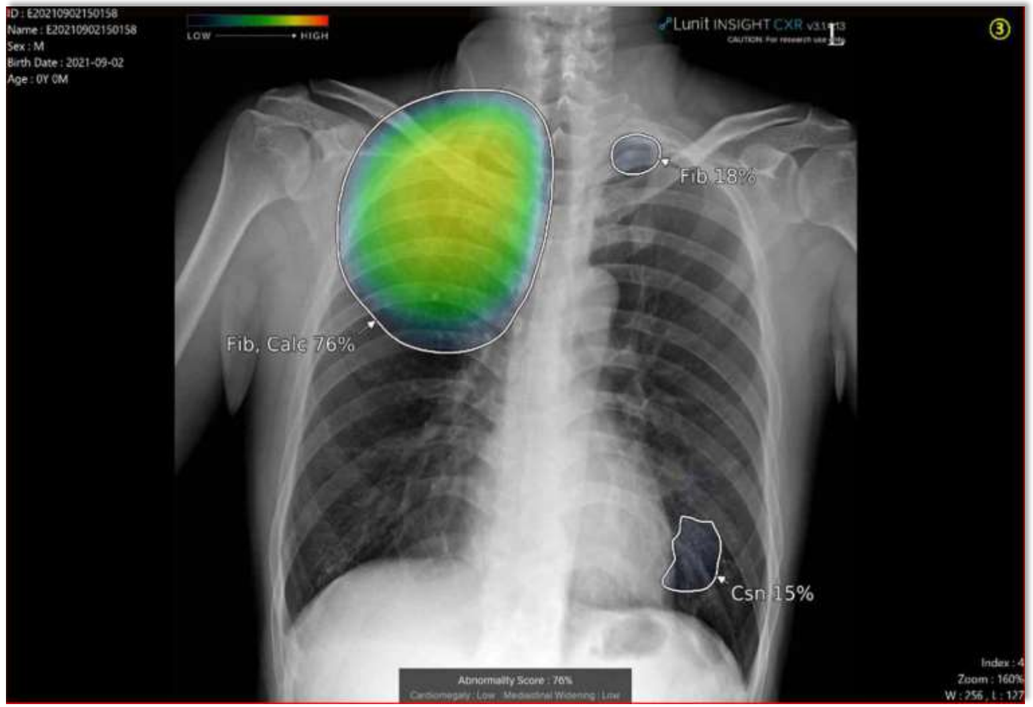


Advanced Medical Software

- **Real-time Image Review:** Instantly display captured X-ray images for rapid assessment.
- **Advanced Image Processing Tools:** Contrast adjustments, rotation, inversion, ROI selection, and windowing.
- **DICOM & PACS Integration:** Ensures smooth transmission and storage of medical images.
- **Patient Worklist Management:** Retrieve and manage patient data from the PACS system.
- **User Access Control:** Secure login system with role-based access.
- **Study Management:** Organizes captured images with filtering, sorting, and AI integration.
- **DICOM Printing & PACS Transmission:** Enables **seamless medical data sharing** within hospitals.

AI Diagnosis System

1. **Instant Medical Analysis:** AI detects abnormalities in X-ray images within 20 seconds.
2. **High Accuracy & Reliability:** Advanced deep learning algorithms reduce human error and improve diagnostic confidence.
3. **Automated Anomaly Detection:** Identifies fractures, infections, lung diseases, and other critical conditions.
4. **Seamless PACS Integration:** AI-generated reports and marked images can be securely stored and shared with radiologists.
5. **Continuous Learning:** Machine learning algorithms improve over time with ongoing data training.



Detection of 10 Abnormal Findings

Nodule	Pneumothorax	Consolidation
Pleural Effusion	Cardiomegaly	Pneumoperitoneum
Atelectasis	Calcification	Fibrosis
Mediastinal Widening	Tuberculosis	

Components

A. Pelican Case Type

B. Backpack Type

C. Stand (Option)

Certificates

The **DIONE X-ray System** meets **international medical safety and quality standards**, ensuring **high reliability and compliance** in clinical environments:

✓ **IP67 Certification** – The X-ray detector is **dustproof and water-resistant**, ensuring durability in various conditions.

✓ **DICOM Compliance** – Supports **DICOM protocols** for seamless integration with **PACS (Picture Archiving and Communication Systems)** used in hospitals and clinics.

✓ **Radiation Safety Standards** – Designed following **medical radiation protection guidelines**, ensuring **low exposure levels** and safe operation.

✓ **CE & ISO Compliance** (assumed based on medical standards) – Manufactured according to **stringent medical regulations** for **imaging accuracy and patient safety**.

✓ **AI-Based Medical Imaging Standards** – Uses **deep learning algorithms** for **high-accuracy diagnostics**, improving efficiency while reducing human error.

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Dione	General X-Ray
	
✓ Movable	X Stationary
✓ Low X-Ray Dose	X High X-Ray Dose
✓ No Electric Power	X High Electric Power
✓ No Shielding Room	X Shielding Room
✓ Easy Install	X Big Volume
✓ Low Invest	X High Invest
✓ 0 Cost Use	X High Cost Use

VS

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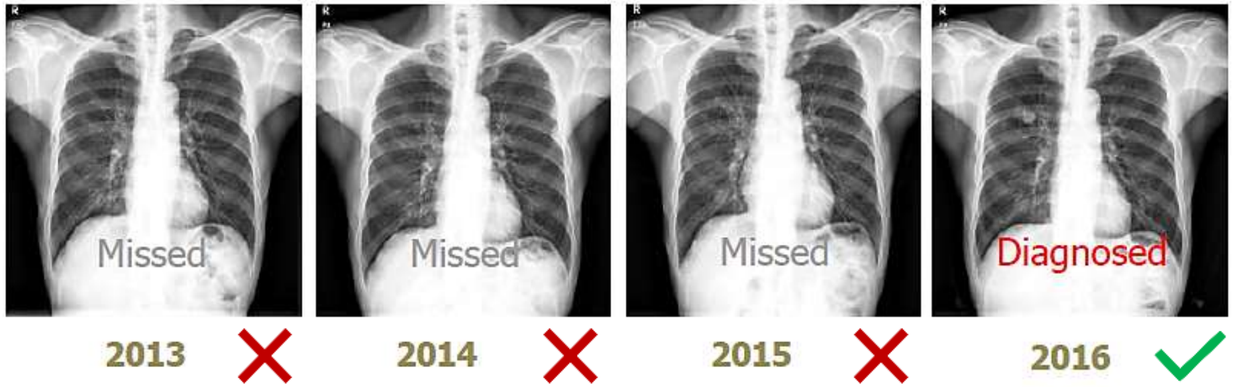
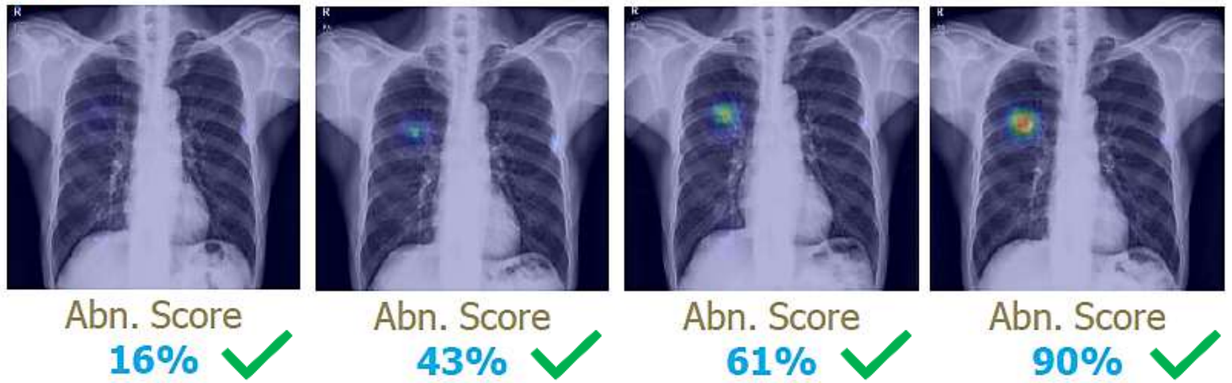
Doctor



AI



Human and AI Diagnostic Cases

An X-ray of a 54-year-old male lung cancer patient was taken every year. Doctors diagnosed lung cancer in 2016, while AI already detected the risk of lung cancer in 2013.

X-Ray Attenuation

A. Wood

Wood HVL (half value layer) :
39.8 mm

Wood TVL (Tenthvaluelayer) :
131.3 mm

	80kV/5mA/0.5sec	
	Exposure Time (ms)	Exposure Dose (μGy)
1	517.4364	162.52775
2	512.9197	161.73675
3	512.4178	162.17425
		162.14625
	Exposure Time (ms)	Exposure Dose (μGy)
1	512.4374	134.498
2	512.9201	133.5705
1	517.9573	110.31125
2	513.9234	110.348
	wood HVL	39.81668217

B. Concrete

Concrete HVL (half value layer) :
10.93 mm

Concrete TVL (Tenthvaluelayer) :
36.33 mm

	Lead (mm)		Concrete (mm)	
	HVL	TVL	HVL	TVL
70	0.17	0.52	8.40	28.00
80	0.20	0.64	10.93	36.33
100	0.27	0.88	16.00	53.00

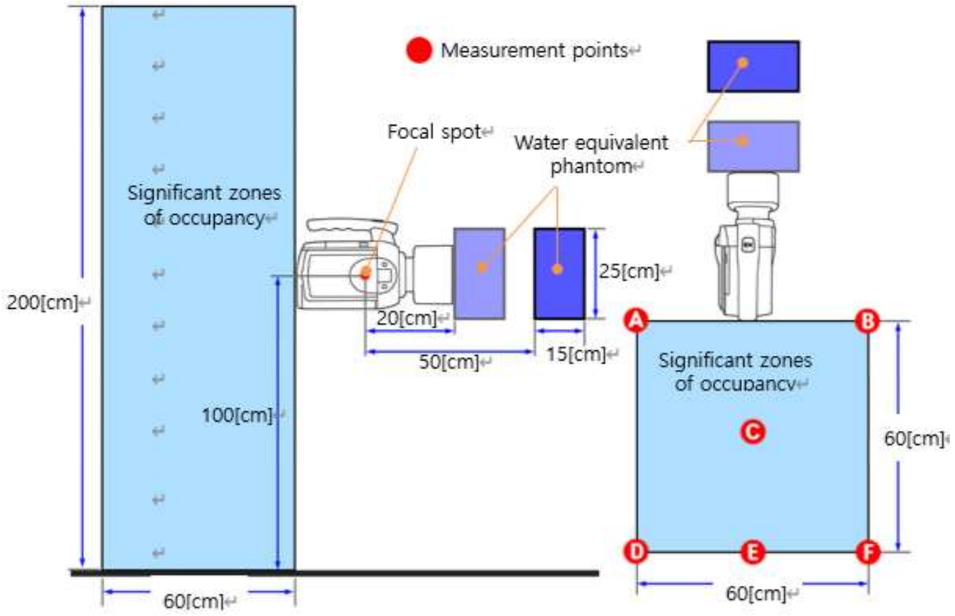
C. Iron

Iron HVL (half value layer) :
0.28 mm

Iron TVL (Tenthvaluelayer) :
0.93 mm

	80kV/5mA/0.5sec	
	Exposure Time (ms)	Exposure Dose (μGy)
1	507.8	162.7
2	507.9	162.3
3	507.4	162.4
		162.4666667
	Exposure Time (ms)	Exposure Dose (μGy)
1	489.3	14.07
2	501.3	14.16
3	497.8	14.06
4	499.8	14.1
5	495.8	14.02
6	497.8	14.12
		14.08
	Iron HVL	0.283420998

Radiation Leakage Measurements



DIRECTION	HORIZONTAL			VERTICAL		
Section	Test 1	Test2	Test3	Test1	Test2	Test3
0°(360°)	ND	ND	ND	ND	ND	ND
45°	ND	ND	ND	ND	ND	ND
90°	ND	ND	ND	ND	ND	ND
165°	ND	ND	ND	ND	ND	ND
180°	ND	ND	ND	ND	ND	ND
225°	ND	ND	ND	ND	ND	ND
270°	ND	ND	ND	ND	ND	ND
315°	ND	ND	ND	ND	ND	ND

1m from the Case Surface

Unit: [mR/h, (mGy/h)]
ND: Not Detected

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History of Bontech

2013 **Estd. Digital X-ray Detector Division**

2015 **Medical Detector Launching**
- ISO13485/GMP/KFDACertificated

2016 **Launching and exported detectors for VET** (HongKong,Southeast Asia)
- CECertificated

2017 **North America export**
- FDA registration.

2019 **Launched X-Ray system for veterinary**

2020 **Launch of EOD system and Supply to national organizations**
- Presidential Security Service Team, etc

2021 **Launched a detector for breast cancer Diagnosis (Mammo)**

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AI technology significantly reduces diagnostic errors and accelerates the interpretation process, improving patient outcomes and radiologist efficiency.