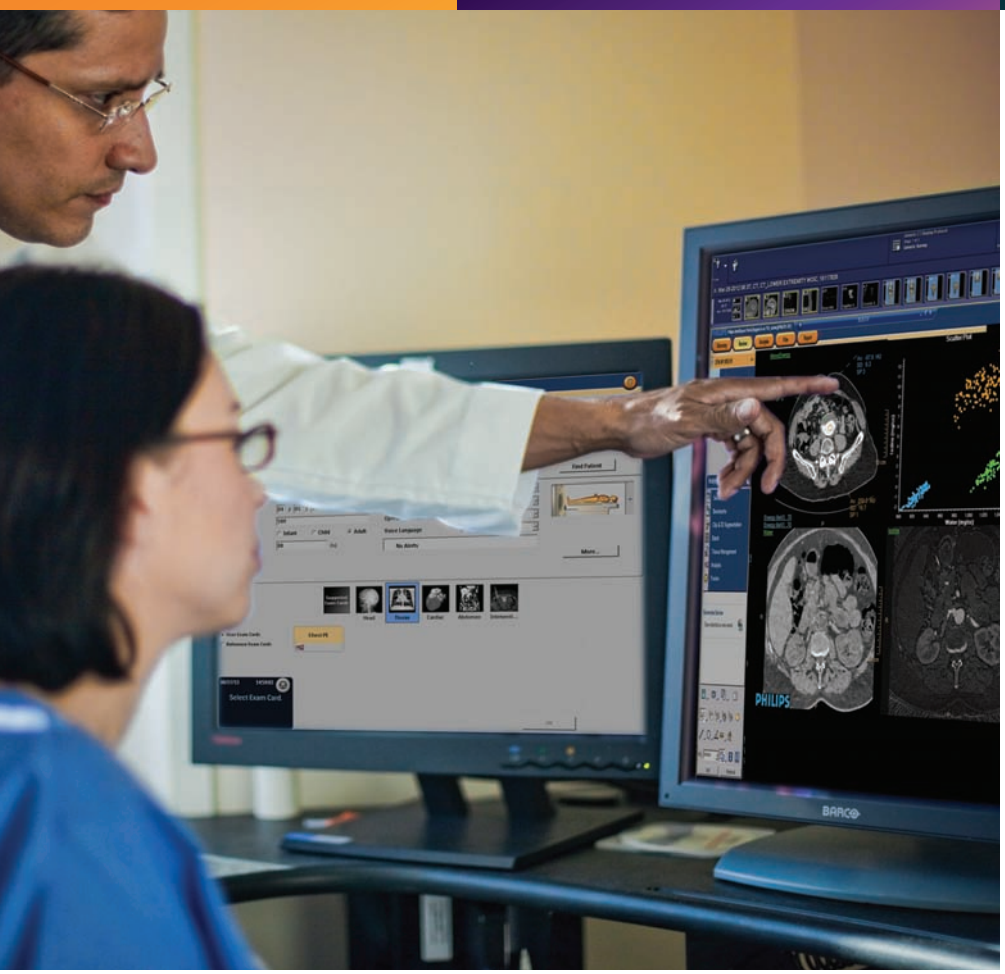

PHILIPS
Computed tomography
Iconic color quantification
Philips IQon Spectral CT

At long last, color

The Philips IQon Spectral CT is the world's first and only spectral-detector CT, built from the ground up for spectral imaging. It delivers on-demand color quantification and material characterization that's radically simple and low dose. Now, with the IQon Spectral CT, every scan can be spectral on demand.



Iconic quantification

Color quantification adds spectral resolution to your image quality delivering not just anatomical information but the ability to identify and characterize structures based on material content.

On-demand spectral analysis

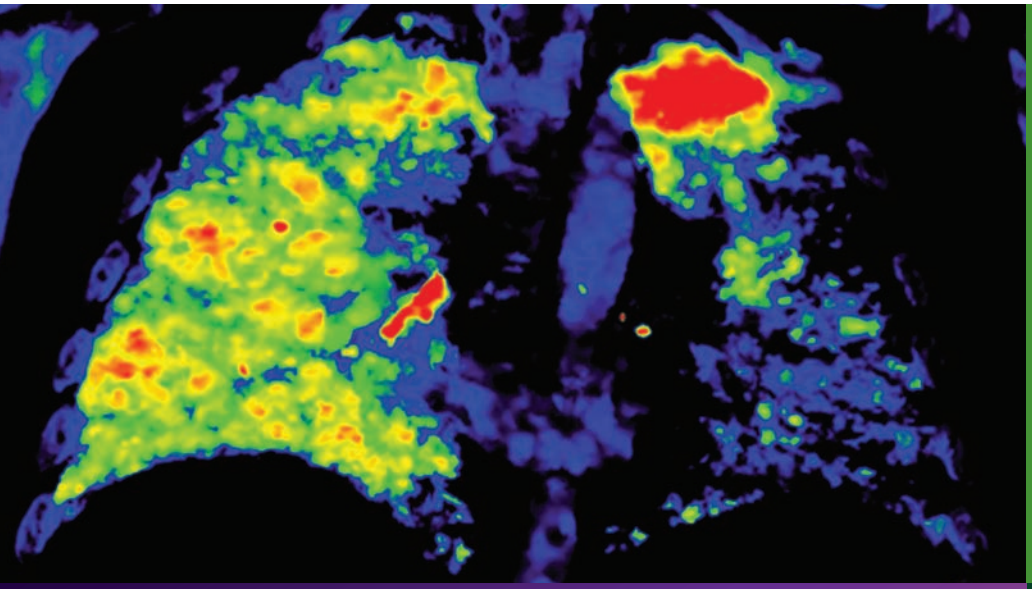
Prospective and retrospective spectral results in one scan – without the need for special modes.

Iconic innovation

World's first spectral-detector CT built from the ground up for spectral imaging. And you get all this without complexity and at low dose. This is truly an iconic moment in the history of imaging. Your CT world is now in living color.

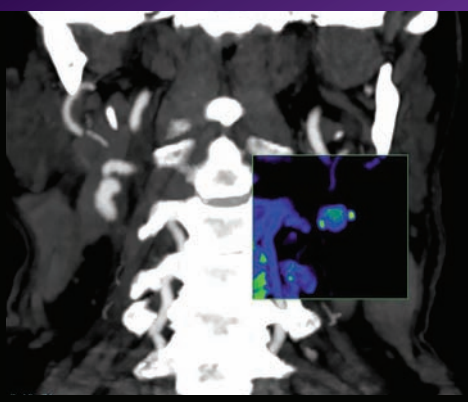
The IQon Spectral CT is not yet CE Marked. Not available for sale in all regions.

Color **informs**. Color **quantifies**. Color **clarifies**.

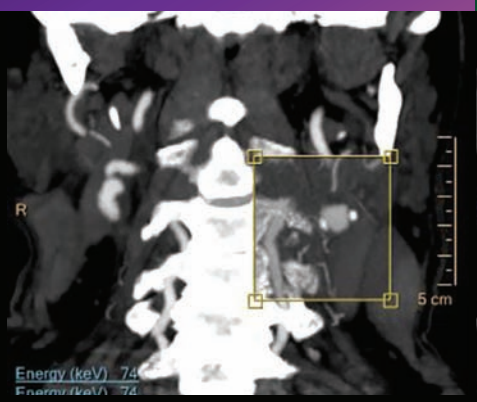


Identify and quantify

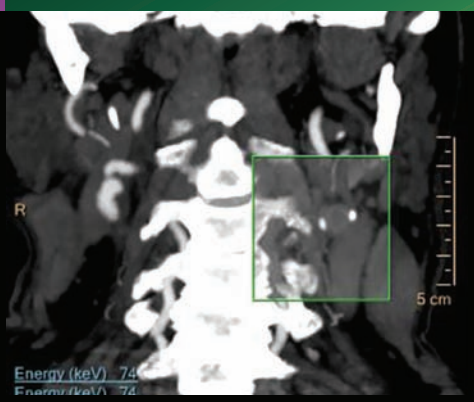
Featuring first-of-its-kind technology, the IQon Spectral CT allows you to use color within CT images to identify the composition of what you see. Through this quantitative approach, you add spectral resolution to your image quality. So you not only get the anatomical information that you are used to with CT, but also uncover the characterization of tissue and structures based on material content. This is designed to help you improve your patient's care.



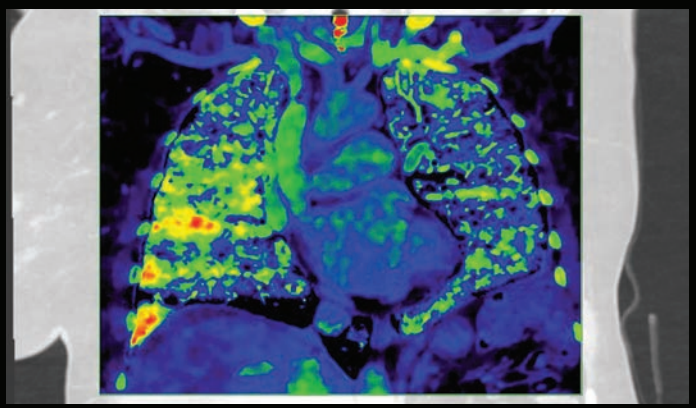
CT Angio Neck with effective atomic number Spectral Magic Glass



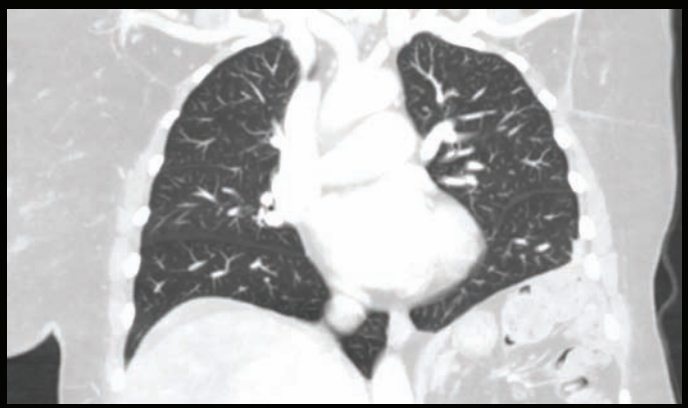
CT Angio Neck with iodine density Spectral Magic Glass



CT Angio Neck with water density Spectral Magic Glass



Chest PE study evaluated at 50 keV with effective atomic number Spectral Magic Glass



Chest PE study evaluated at 50 keV

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Spectral on-demand made **simple**

Philips IQon Spectral CT allows for on-demand retrospective data analysis with your traditional workflow and without a special acquisition mode. This takes the guesswork out of multi-energy acquisitions, making it easy to use and allowing for routine spectral use. Retrospective spectral analysis is made possible through the iPatient platform, so you can experience spectral CT without the need for any special protocols.

Keep your traditional workflow

We designed Philips advances like iPatient with IQon Spectral CT in mind. With IQon Spectral CT, integrate the personalized quantitation of IQon Spectral CT directly into your scanning and reading workflow with full dose management.

You scan as you normally do and the spectral information is there, at your fingertips, when you need it. Now with the Philips IQon Spectral CT, every scan can be spectral on demand.

Routine clinical protocols and workflow are maintained

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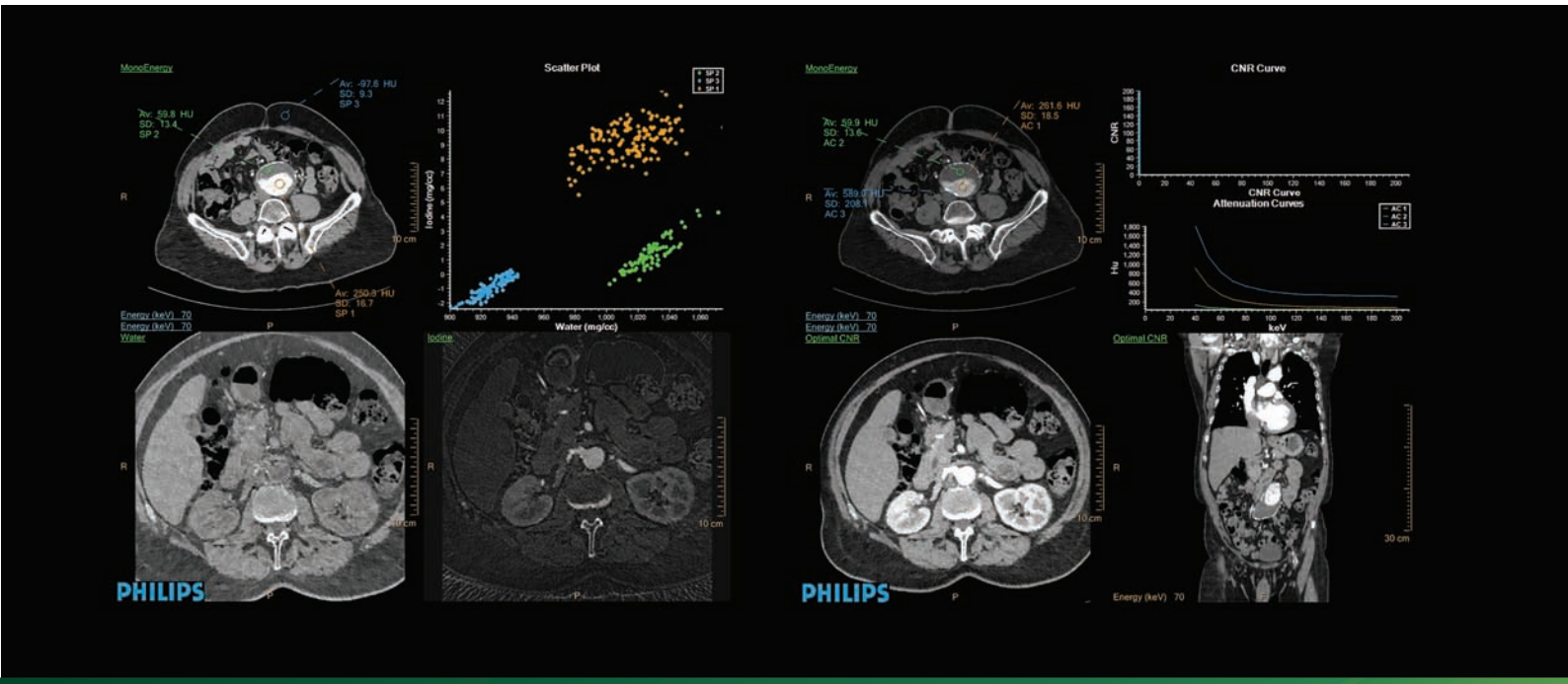
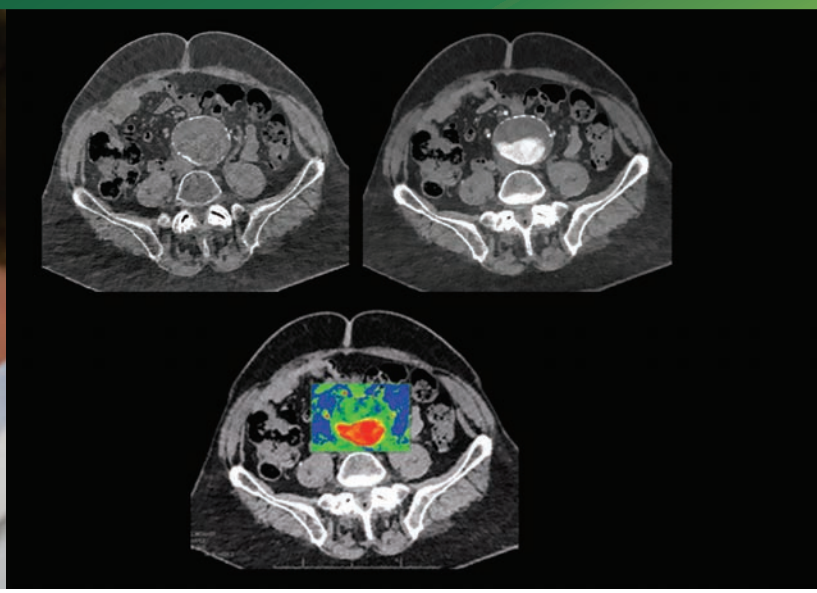
Spectral is **always** on

With IQon Spectral CT, no prospective decision is required.
Enjoy spectral results anytime with the Spectral CT Viewer.



Precision imaging tools allow for retrospective analysis that automatically generates spectral results with interactive analysis.



Results are ready to read on the PACS.

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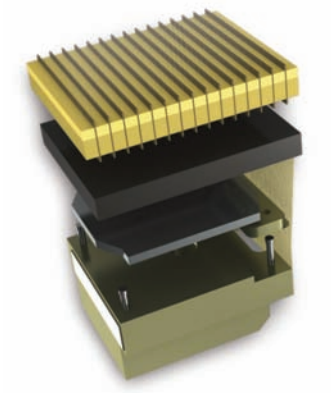
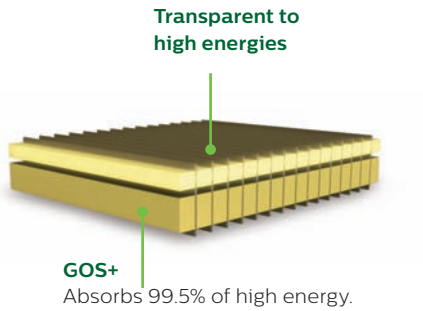
Iconic **innovation**

With the launch of the IQon Spectral CT, we enrich the realm of clinical information and enable the "**and**" in CT. Through the uniqueness of the Philips detector-based spectral approach – **and** the NanoPanel Prism design – high and low energies live in the same time and space.

Advances in material science

The uniqueness of the Philips detector-based spectral approach and the NanoPanel Prism design allows you to get the conventional anatomical information that you are used to from your CT **and**, at the same time, get color quantification **and** material characterization **and** monoenergetic image information. All in one scan, simultaneously. **And** you get it without increased complexity **and** at low dose.





NanoPanel Prism

- Low-dose, simultaneous spectral energy separation
- Low noise with Elite electronics
- No sensitivity to afterglow and no dead time

Yttrium-based scintillator

- Optimized for energy separation and with low image noise
- High light output at low energy
- Simultaneous detection in both time and space with no intra-layer scatter

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Low dose spectral

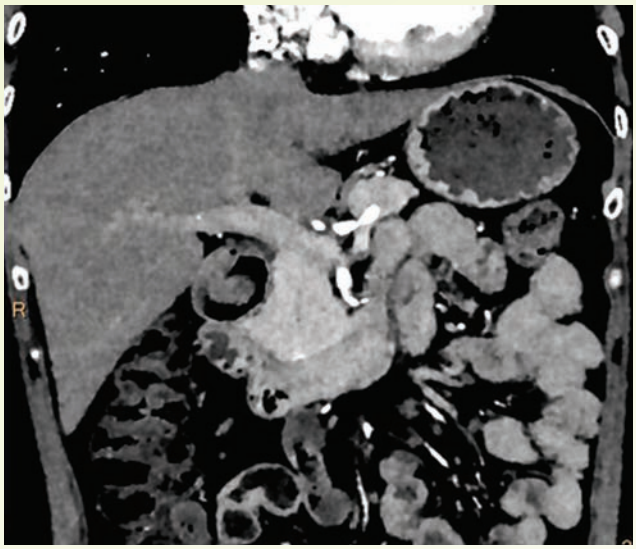
Superb in black and white and now color, Philips is taking CT image quality at low dose to new heights with the introduction of IQon Spectral CT. Now you add spectral resolution to your image quality and maintain the high-quality image improvements you have come to expect in noise reduction, spatial resolution, and low-contrast resolution.

Designed with Philips Spectral CT in mind IMR

IMR* achieves 60–80% dose reduction and improves conventional image quality from spectral acquisitions. These benefits are achieved simultaneously.

- 60–80% lower dose and IQ improvement
- 73–90% image noise reduction
- 2.5x–3.6x low contrast detectability
- 1.2x–1.7x spatial resolution

IMR off



IMR on

* In clinical practice, the use of IMR may reduce CT patient dose depending on the clinical task, patient size, anatomical location, and clinical practice. A consultation with a radiologist and a physicist should be made to determine the appropriate dose to obtain diagnostic image quality for the particular clinical task. Lower image noise, improved spatial resolution, improved low-contrast detectability, and/or dose reduction, were tested using reference body protocols. All metrics were tested on phantoms. Dose reduction assessments were performed using 0.8 mm slices, and tested on the MITA CT IQ Phantom (CCT183, The Phantom Laboratory), using human observers. Data on file.

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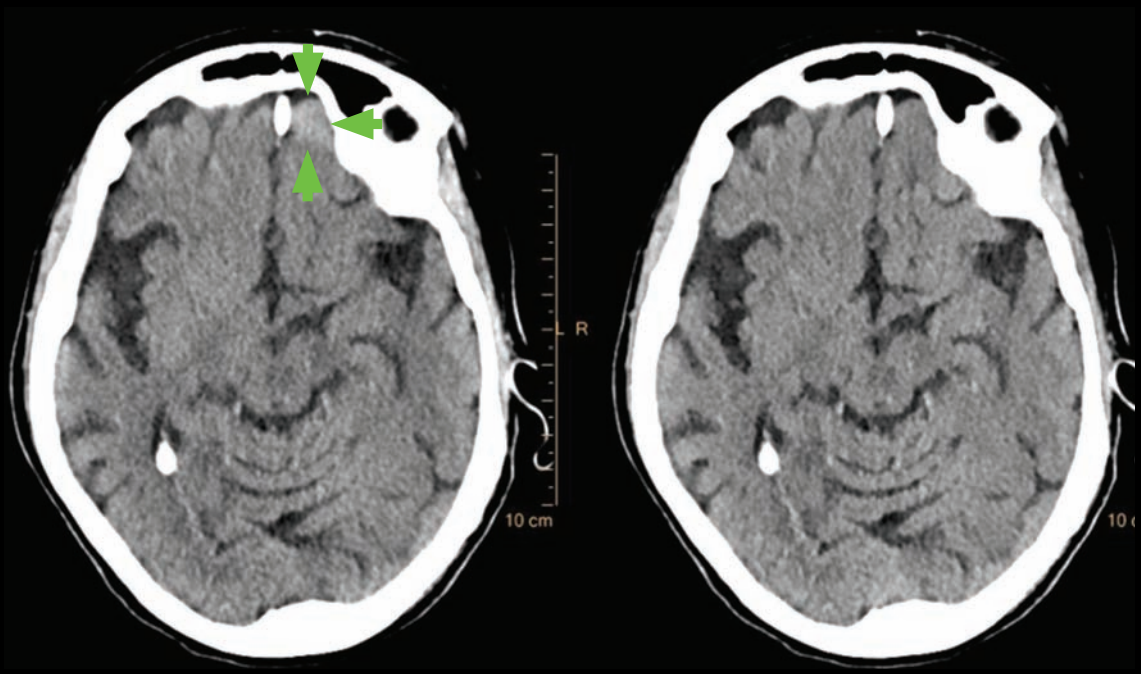
IQon Spectral CT image gallery

Beam hardening improvement in the frontal brain

Scan parameters
120 kVp
330 mAs
iDose^4 – Level 3
Coverage – 16.8 cm
Scan time – 6.2 s
$CTDI_{vol}$ – 58.8 mGy



Images courtesy of Hadassah Medical Center.

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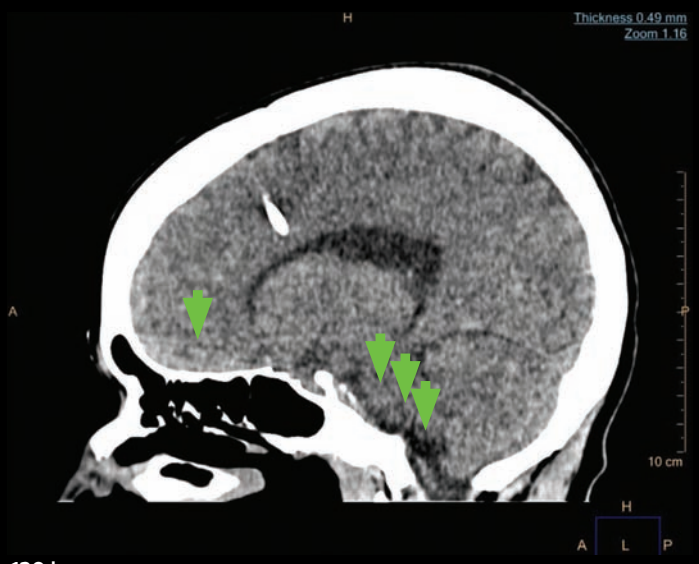


120 kvp

80 keV

Beam hardening demonstrated on a MonoE 80 keV compared to the conventional CT of the sagittal brain

Scan parameters

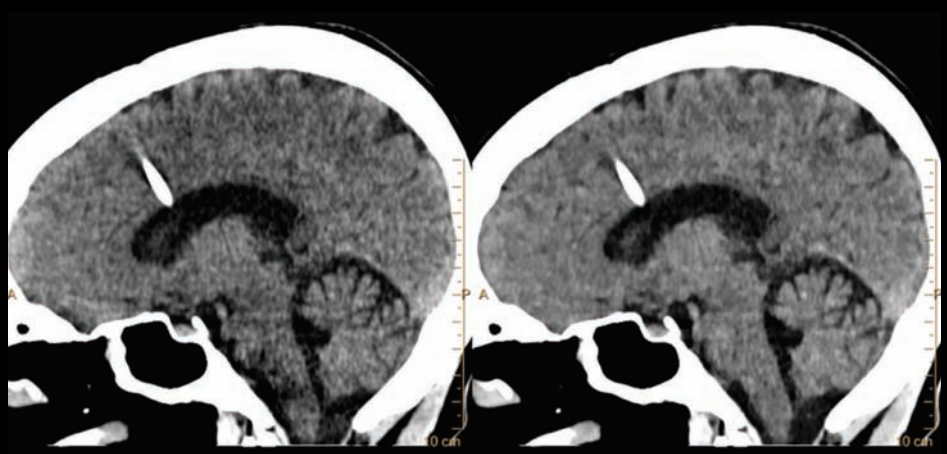
120 kVp

330 mAs

Coverage – 16.8 cm

Scan time – 10.8 s

$CTDI_{vol}$ – 58.8 mGy



Images courtesy of University Hospitals Case Medical Center.

The IQon Spectral CT is not yet CE Marked. Not available for sale in all regions.

CTA carotid with Spectral Results MonoE 64 keV without and with Magic Glass Effective Z

Showing calcified and uncalcified plaques

Scan parameters

120 kVp

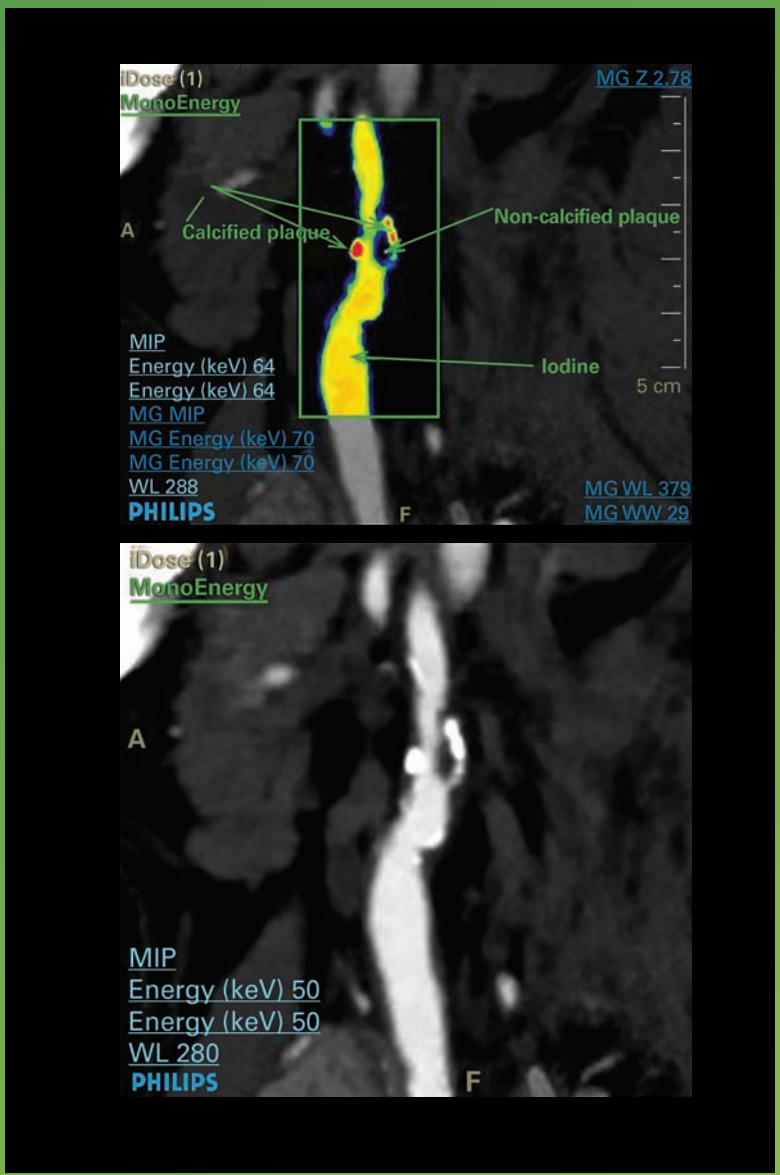
250 mAs

iDose^4 – Level 3

Coverage – 30.6 cm

Scan time – 3.3 s

$CTDI_{vol}$ – 23.8 mGy



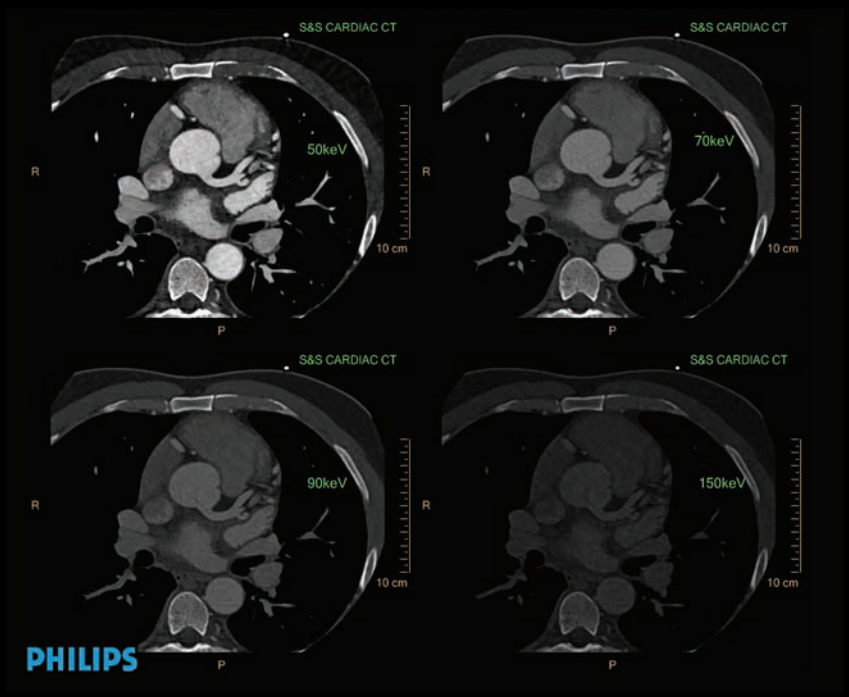
Images courtesy of University Hospitals Case Medical Center.

The IQon Spectral CT is not yet CE Marked. Not available for sale in all regions.

Step & Shoot Cardiac with spectral results comparing 50 keV, 70 keV, 90 keV, and 150 keV

Scan parameters

120 kVp
300 mAs
iDose^4 – Level 3
Coverage – 16.1 cm
Scan time – 0.3 s
$CTDI_{vol}$ – 37.5 mGy



Images courtesy of University Hospitals Case Medical Center.

The IQon Spectral CT is not yet CE Marked. Not available for sale in all regions.

Chest PE with spectral results. MonoE 50 keV with Spectral Magic Glass effective Z

Scan parameters

120 kVp

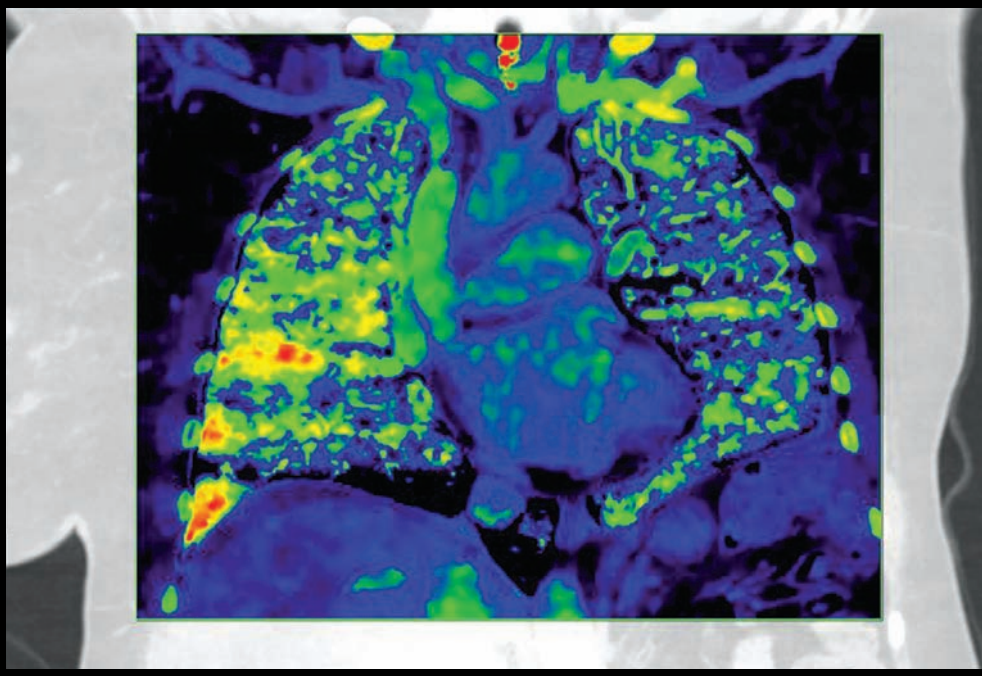
182 mAs

iDose^4 – Level 4

Coverage – 64.0 cm

Scan time – 10.6 s

$CTDI_{vol}$ – 17.3 mGy



120 kVp and 45 keV chest with contrast comparison

Scan parameters

120 kVp

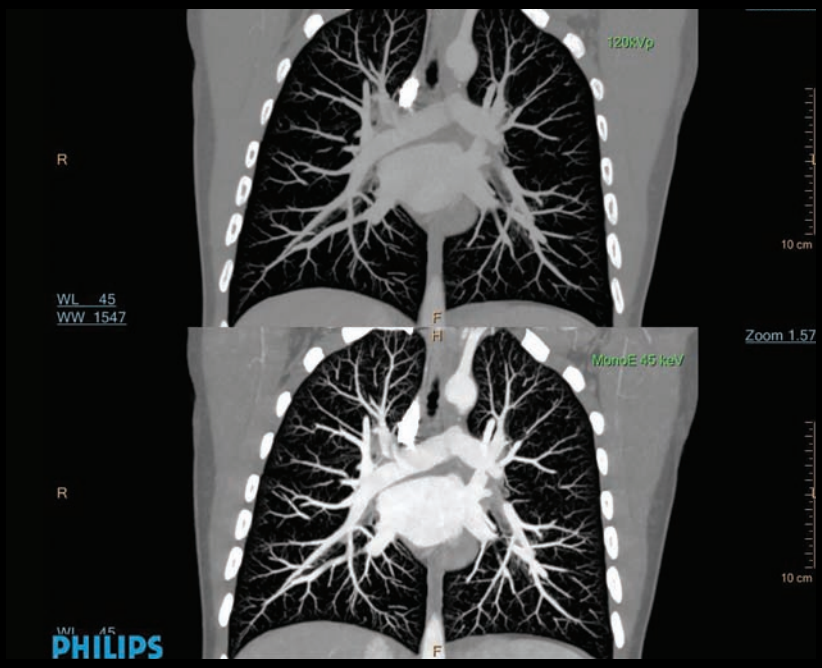
111 mAs

iDose^4 – Level 3

Coverage – 29.0 cm

Scan time – 2.6 s

$CTDI_{vol}$ – 10.5 mGy



Images courtesy of University Hospitals Case Medical Center.

The IQon Spectral CT is not yet CE Marked. Not available for sale in all regions.

CTA comparing 120 kVp to 50 keV of the thoracic abdominal aorta

Scan parameters

120 kVp

130 mAs

iDose^4 – Level 3

Coverage – 32.1 cm

Scan time – 0.21 s

$CTDI_{vol}$ – 19.4 mGy

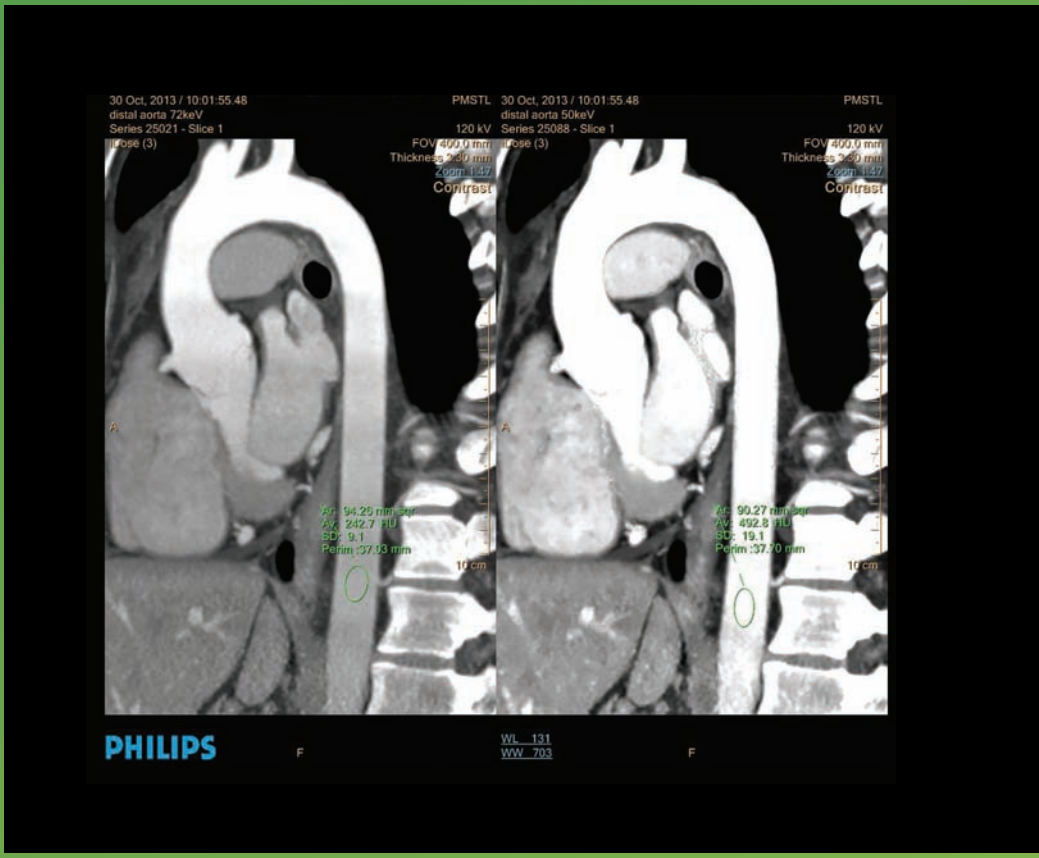


Image courtesy of University Hospitals Case Medical Center.

The IQon Spectral CT is not yet CE Marked. Not available for sale in all regions.

CTA abdomen with spectral results of the pancreas

Scan parameters

120 kVp

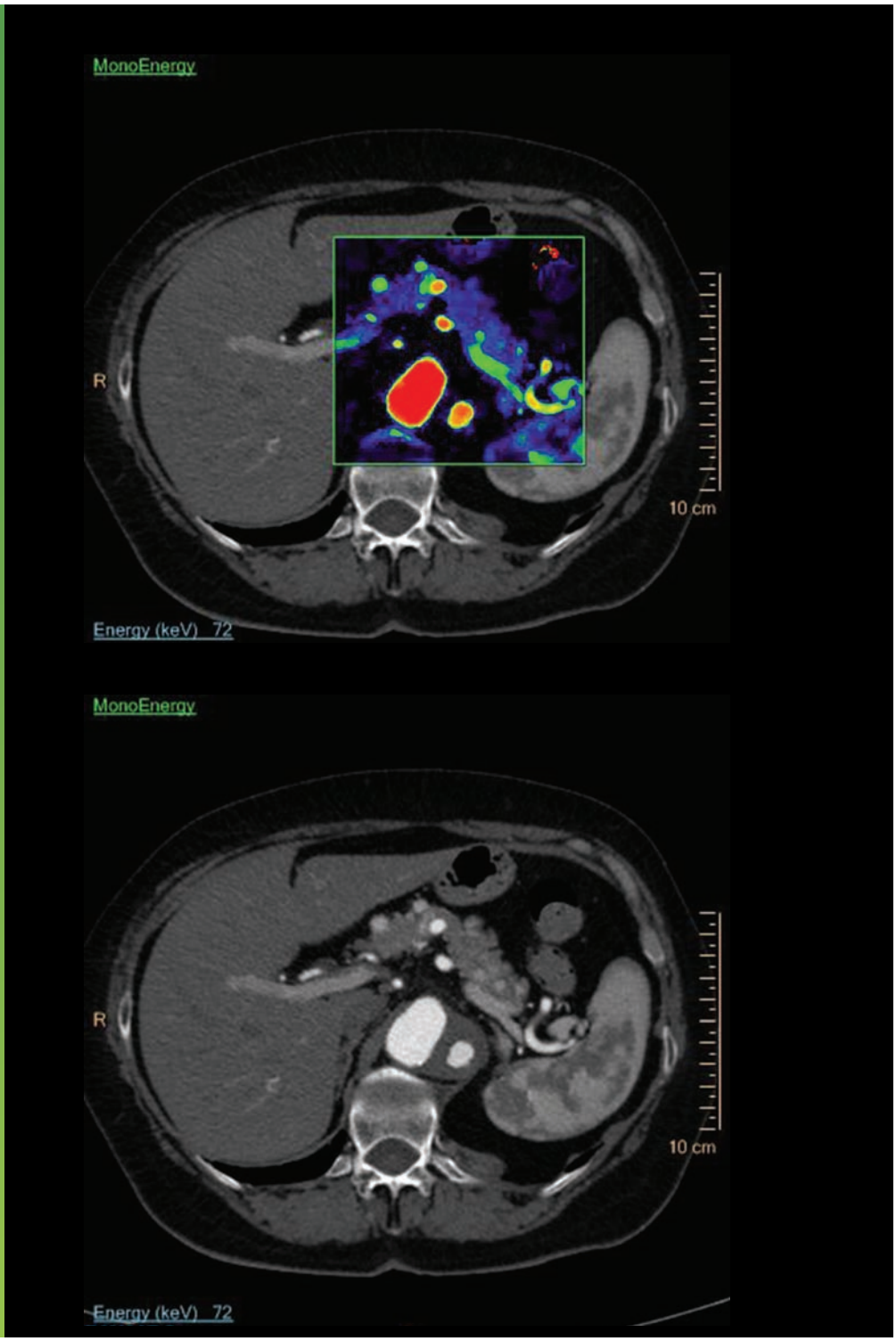
125 mAs

iDose^4 – Level 2

Coverage – 60.3 cm

Scan time – 5.0 s

$CTDI_{vol}$ – 11.9 mGy



Images courtesy of University Hospitals Case Medical Center.

The IQon Spectral CT is not yet CE Marked. Not available for sale in all regions.

CTA abdomen MonoE 70 keV demonstrating different spectral capabilities

Scan parameters

120 kVp

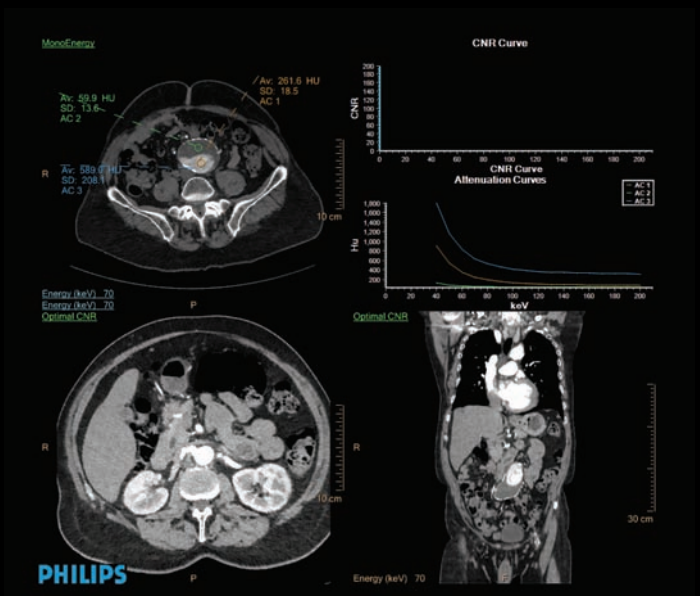
115 mAs

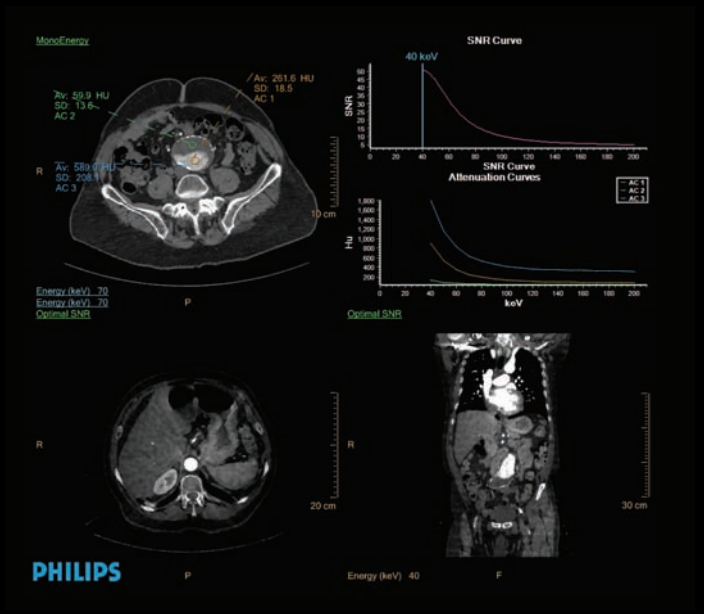
iDose^4 – Level 3

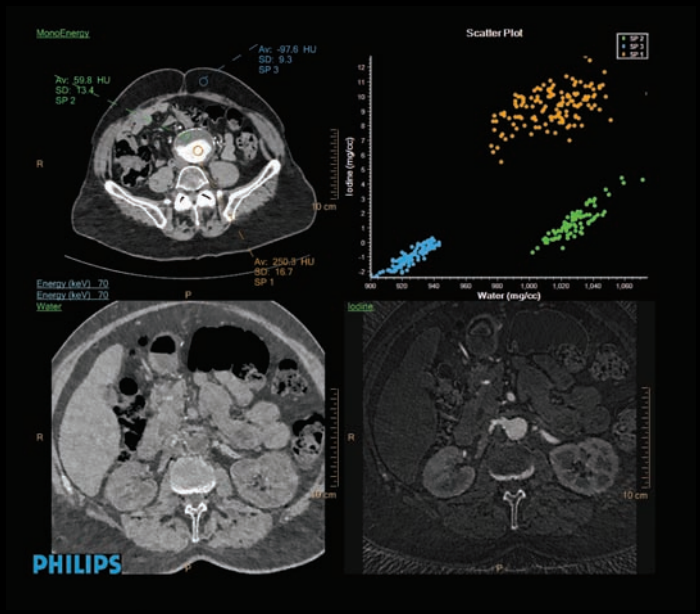
Coverage – 43.4 cm

Scan time – 13.8 s

$CTDI_{vol}$ – 10.9 mGy







Images courtesy of University Hospitals Case Medical Center.

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IQon Spectral CT abdomen and pelvis images of IMR off and IMR on

Scan parameters

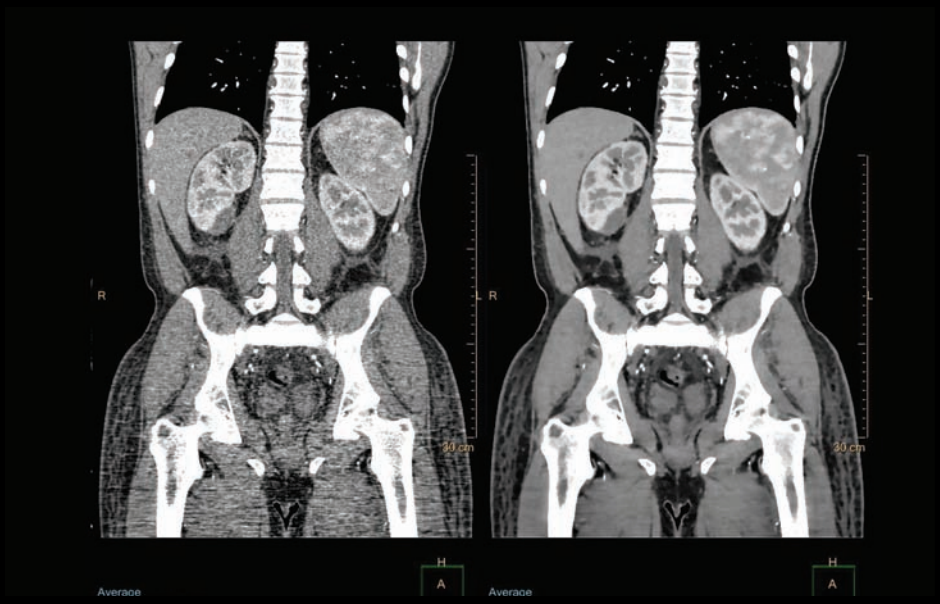
120 kVp

170 mAs

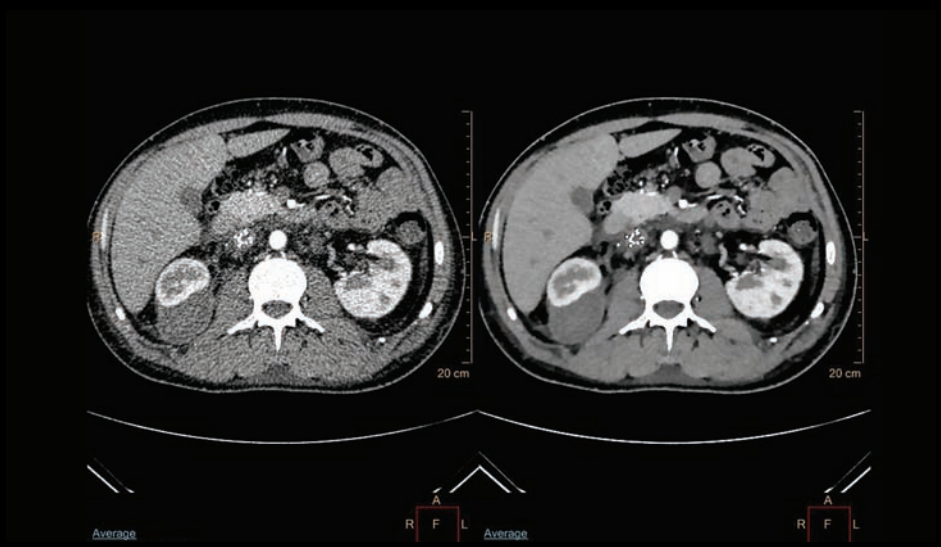
Coverage – 137.0 cm

Scan time – 25.6 s

$CTDI_{vol}$ – 19.1 mGy



IMR off IMR on



IMR off IMR on

Images courtesy of Hadassah Medical Center.

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120 kVp and 50 keV
70 second injection delay

Scan parameters

120 kVp

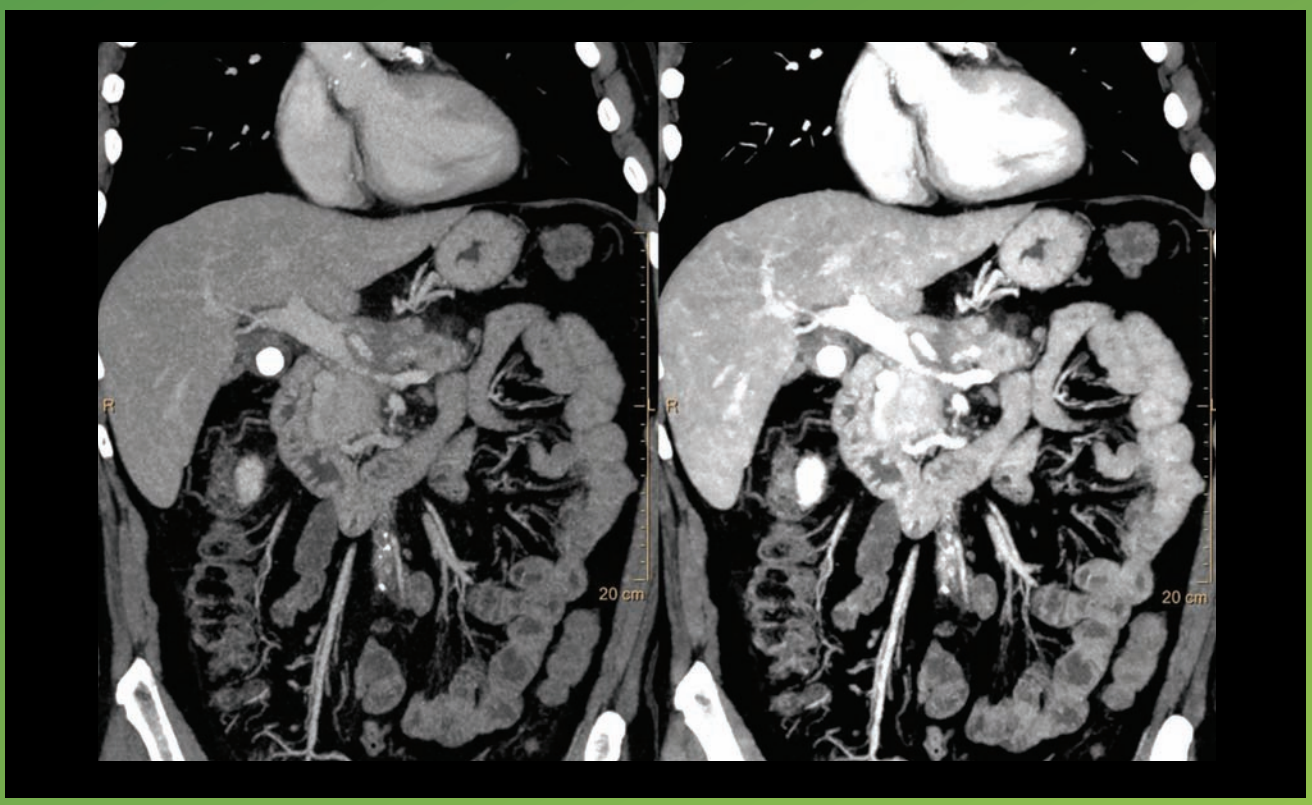
181 mAs

iDose^4 – Level 4

Coverage – 69.0 cm

Scan time – 10.2 s

$CTDI_{vol}$ – 16.2 mGy



Images courtesy of University Hospitals Case Medical Center.

The IQon Spectral CT is not yet CE Marked. Not available for sale in all regions.

CTA abdomen with 70-second injection delay at MonoE 40 keV

Scan parameters

120 kVp
242 mAs
iDose^4 – Level 2
Coverage – 65.4 cm
Scan time – 9.6 s
$CTDI_{vol}$ – 23.0 mGy

Image courtesy of University Hospitals Case Medical Center.

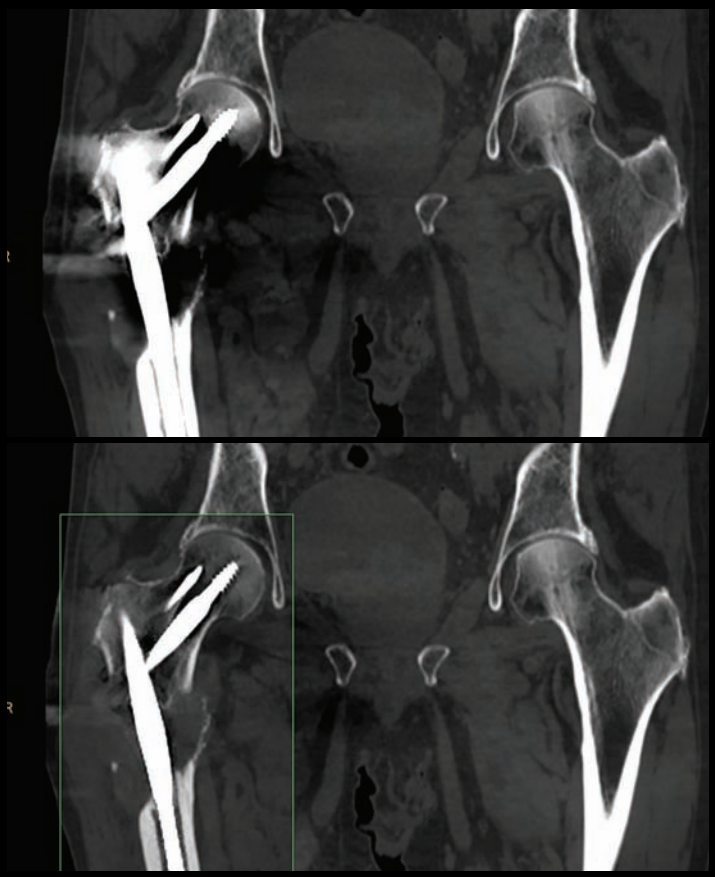
The IQon Spectral CT is not yet CE Marked. Not available for sale in all regions.

Ankle spectral results comparing 70 keV MonoE with Spectral Magic Glass 150 keV

Scan parameters
120 kVp
150 mAs
iDose^4 – Level 3
Coverage – 25.9 cm
Scan time – 13.9 s
$CTDI_{vol}$ – 16.7 mGy

Left hip spectral results comparing 70 keV MonoE with Spectral Magic Glass 200 keV

Scan parameters
120 kVp
270 mAs
iDose^4 – Level 3
Coverage – 25.2 cm
Scan time – 7.7 s
$CTDI_{vol}$ – 16.3 mGy



Images courtesy of Hadassah Medical Center.

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Enhancing the capabilities of your existing iCT and Ingenuity CT family scanners, the SmartPath upgrade offers easy access to knowledge-based iterative reconstruction.

Optimize your system's performance both now and in the future with regular and ongoing updates, including functionality improvements and remote technical support.

Enhance your equipment with regular technology upgrades, and take advantage of the newest features and capabilities.

Transform your investment at the end of your system's life by transitioning seamlessly to a next-generation solution or refurbished option.

The images and descriptions contained herein provide technical specifications and optional features which may not be included with the standard system configuration. Contact your local Philips Representative for complete specific system details.

Some or all of the products, features, and accessories shown or described herein may not be available in your market. Please contact your local Philips Representative for availability.

CT performance specifications represent typical measured values.
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Please visit **www.philips.com/IQonSpectralCT**

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