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LAMPIRAN

Lampiran 1: Pengisian *phantom* AAPM dengan *aquabides*.



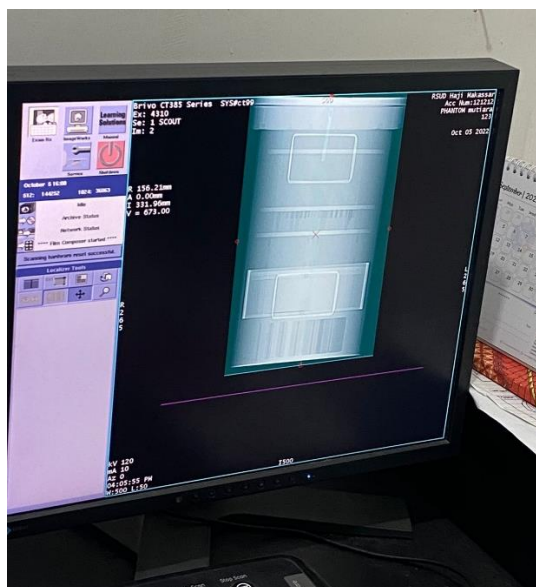
Lampiran 2: Penempatan *phantom* AAPM pada *head holder*.



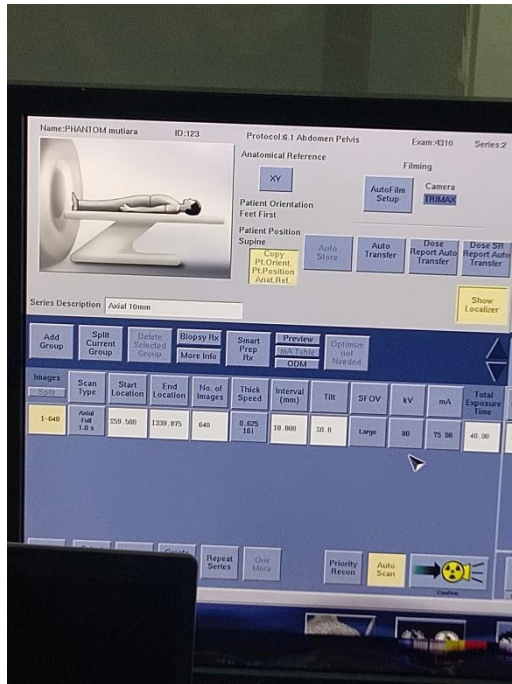
Lampiran 3: Tes *phantom* dan kalibrasi pesawat CT scan.



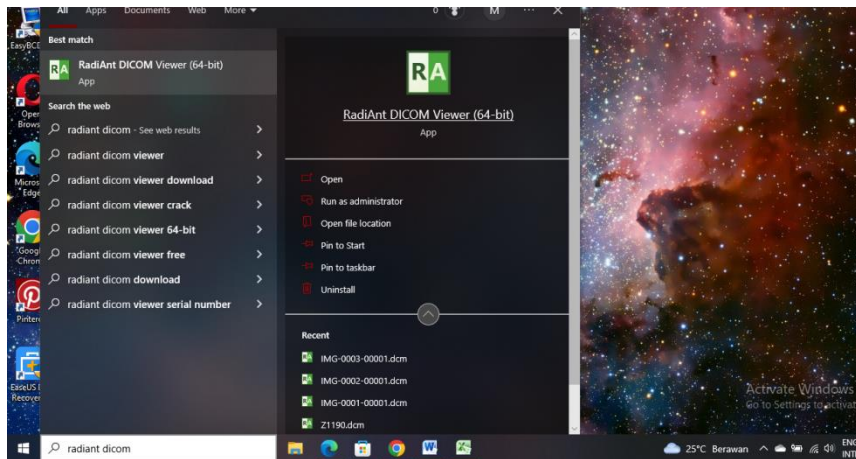
Lampiran 4: Pengaturan area *scanning* pada *phantom*.



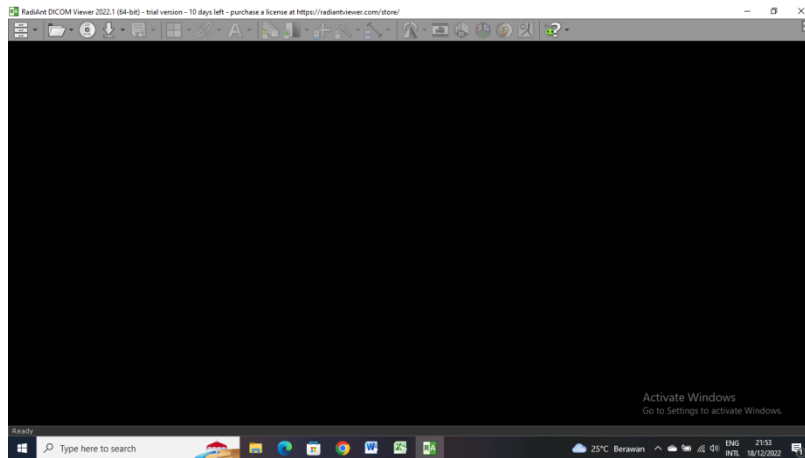
Lampiran 5: Pengaturan parameter scan.



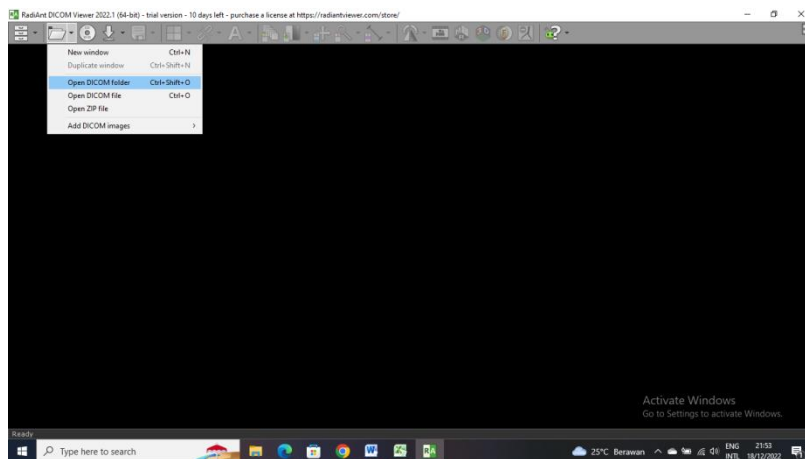
Lampiran 6: Pengukuran pada software Radiant DICOM.



Gambar 1. Membuka software Radiant DICOM



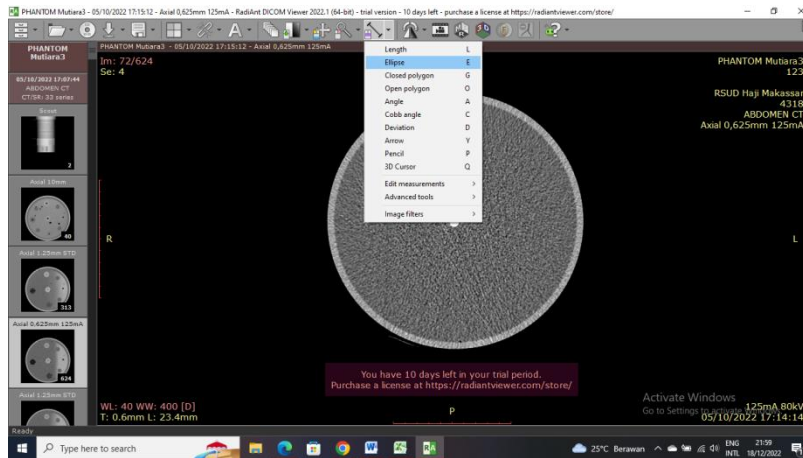
Gambar 2. Tampilan awal ketika membuka *software* Radiant DICOM



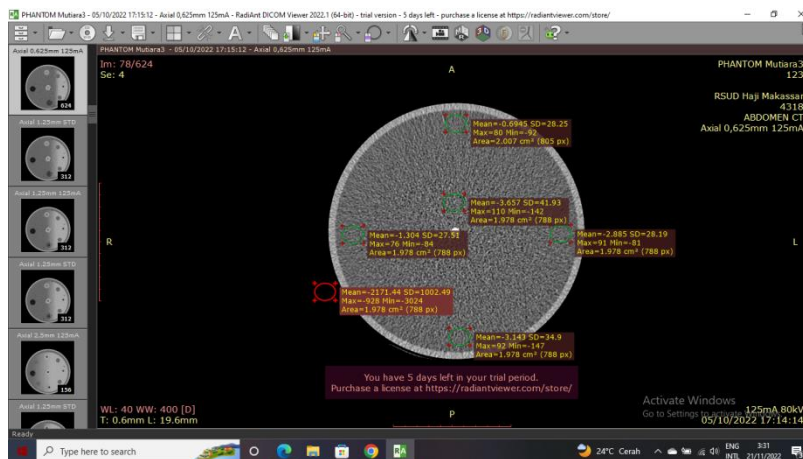
Gambar 3. Memilih *open DICOM folder*



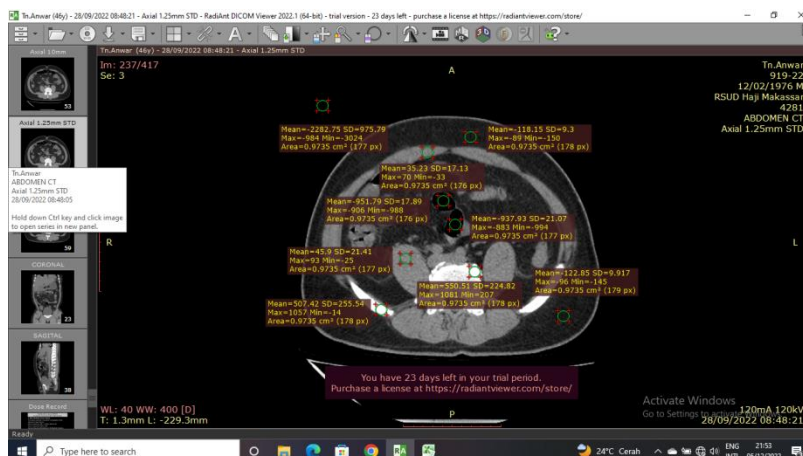
Gambar 4. Tampilan *phantom* yang sudah di-*scan*



Gambar 5. Memilih *ellipse* untuk membuat ROI

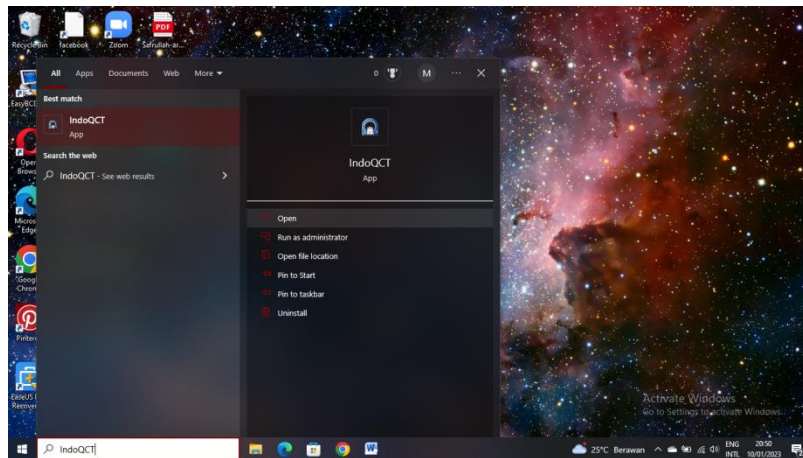


Gambar 6. Membuat ROI di pusat, tepi, dan *background* gambar untuk pengukuran resolusi kontras rendah.

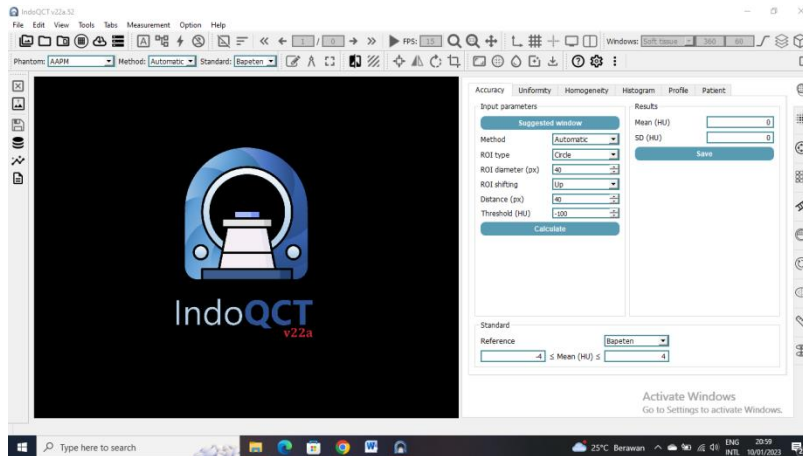


Gambar 7. Membuat ROI untuk pengukuran resolusi kontras rendah pada citra abdomen.

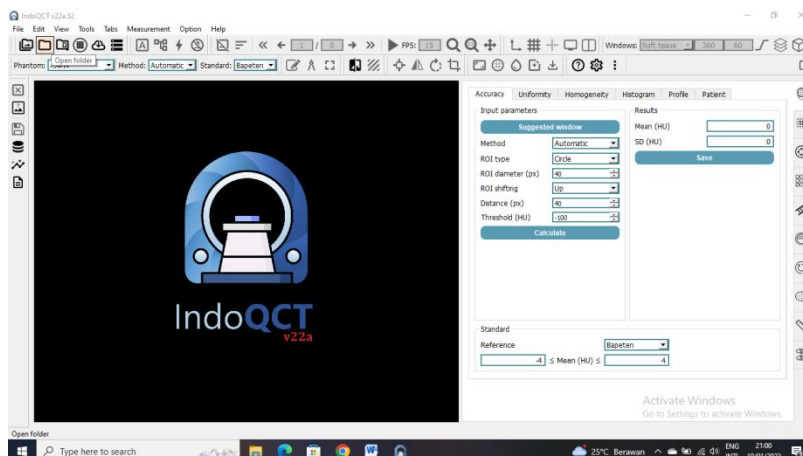
Lampiran 7: Pengukuran pada *software* IndoQCT.



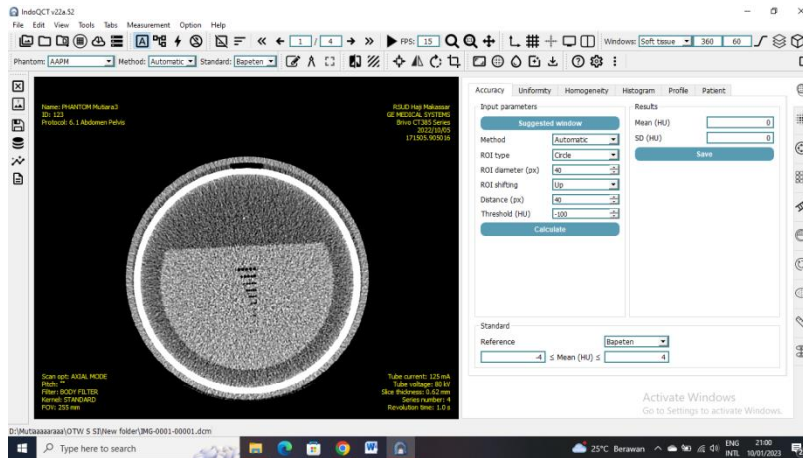
Gambar 1. Membuka *software* IndoQCT



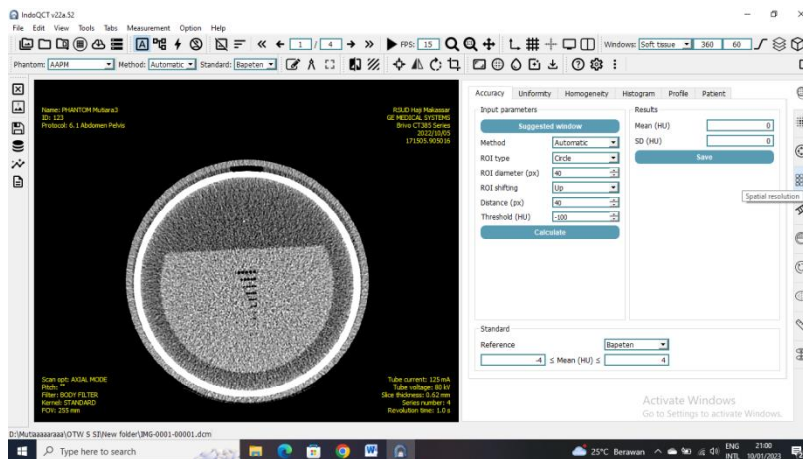
Gambar 2. Tampilan awal ketika membuka *software* IndoQCT



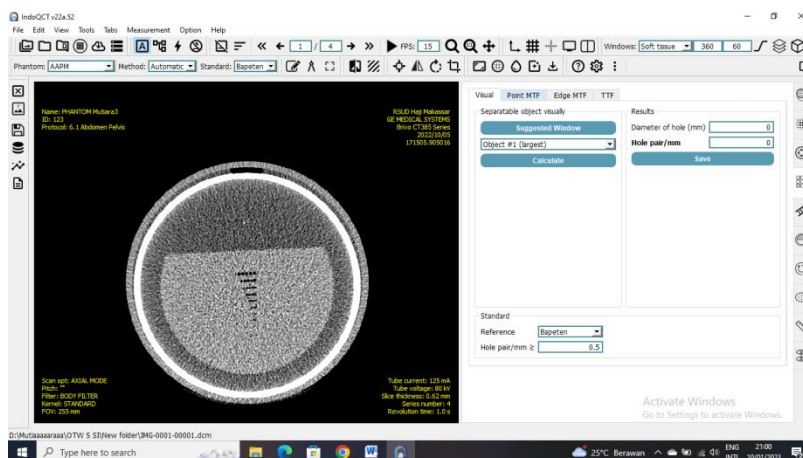
Gambar 3. Memilih *open DICOM folder*



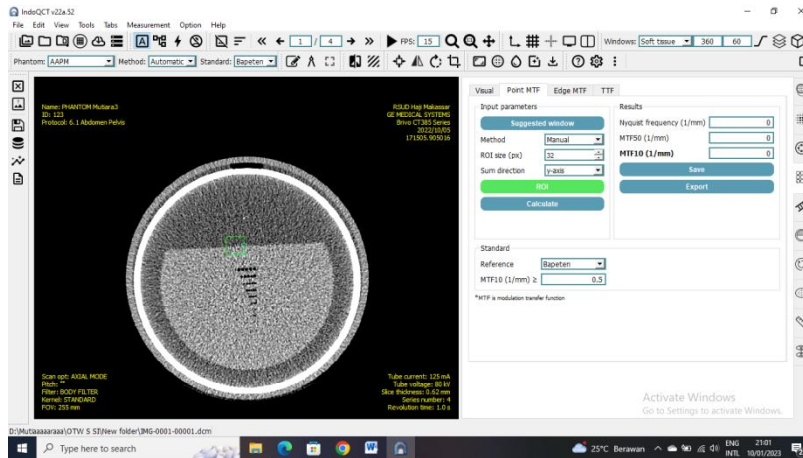
Gambar 4. Tampilan *phantom* yang sudah di-*scan*



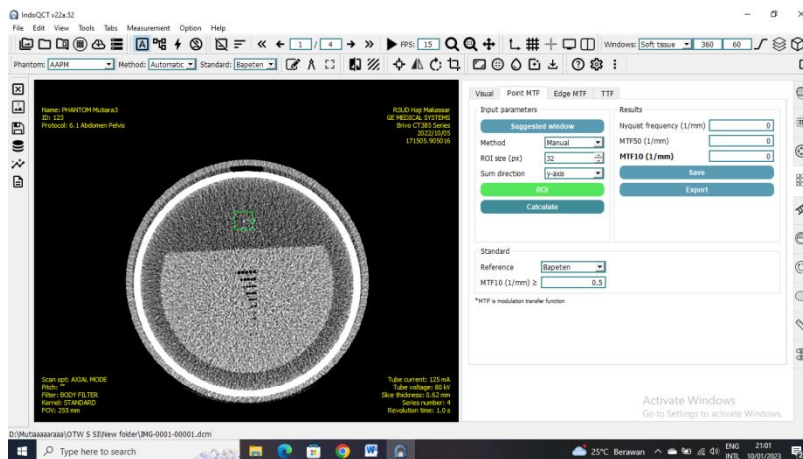
Gambar 5. Memilih *spatial resolution* untuk menghitung nilai MTF.



Gambar 6. Memilih point MTF untuk menghitung nilai MTF berdasarkan point MTF.

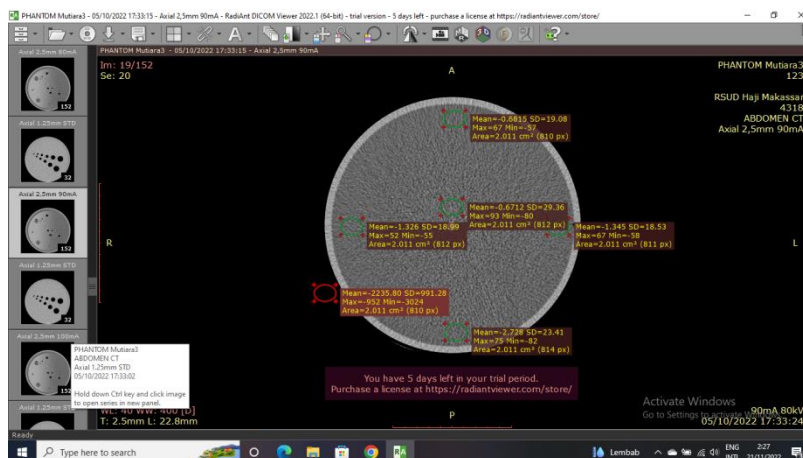


Gambar 7. Memilih ROI.

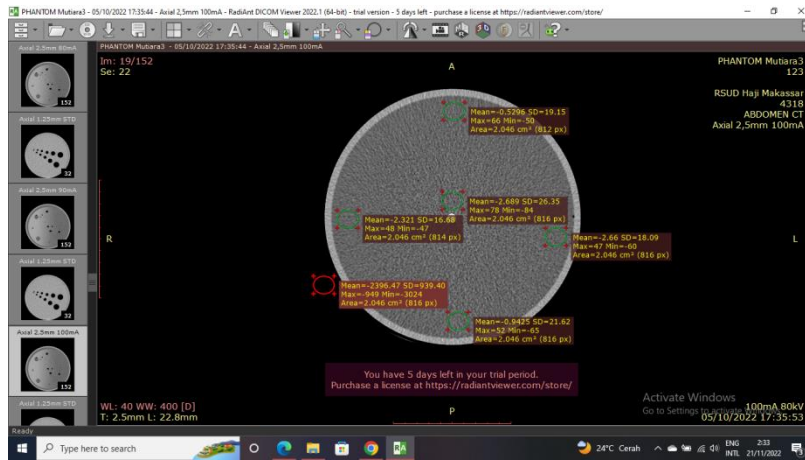


Gambar 8. Menempatkan ROI pada titik berwarna putih.

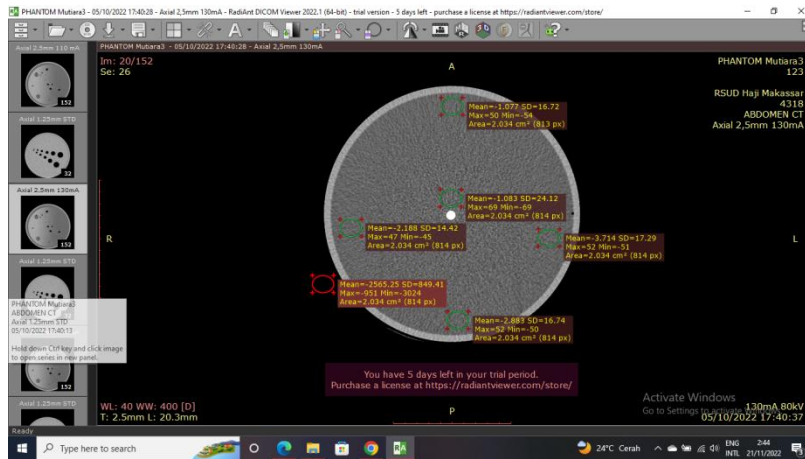
Lampiran 8: Hasil pengukuran nilai CTN berdasarkan ROI tiap posisi pada software radiant DICOM (phantom)



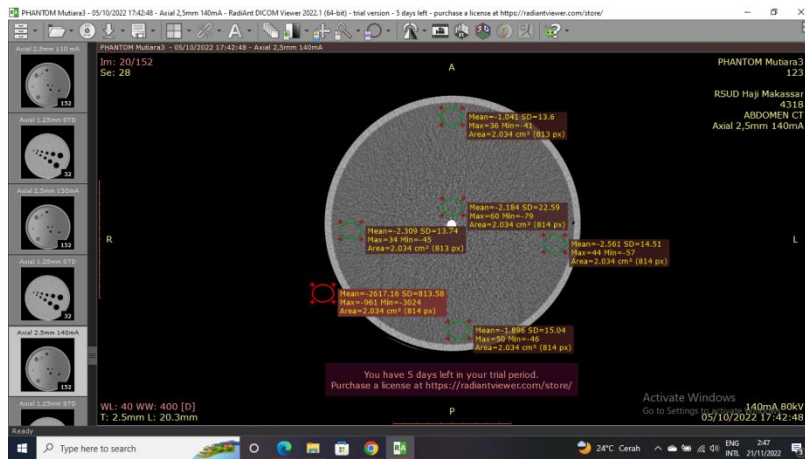
(a)



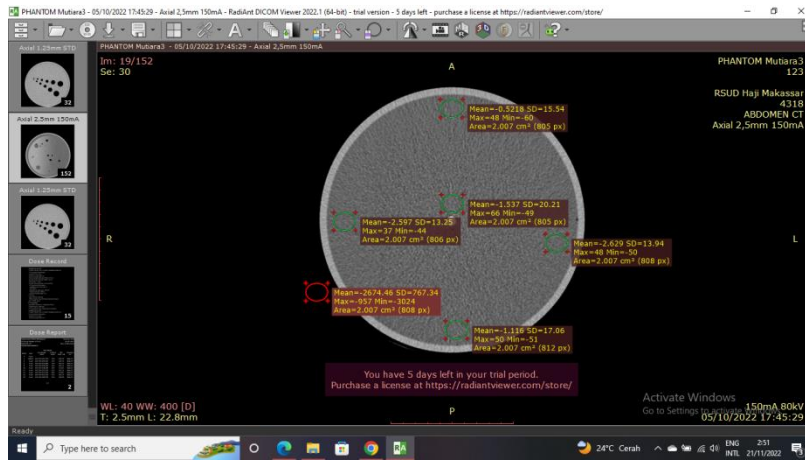
(b)



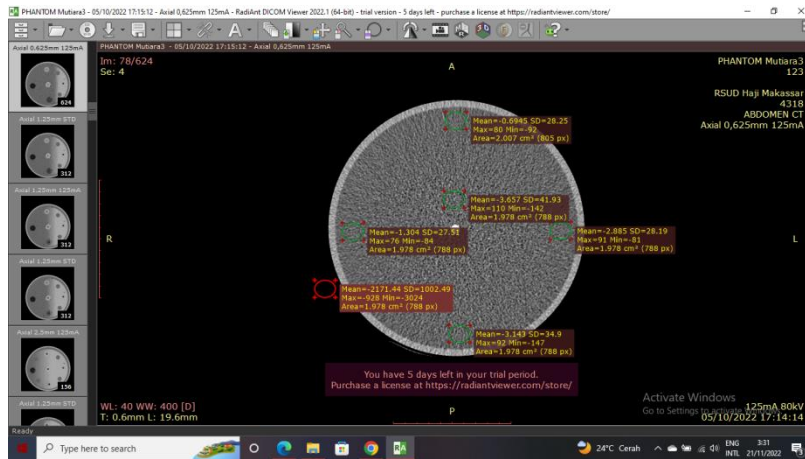
(c)



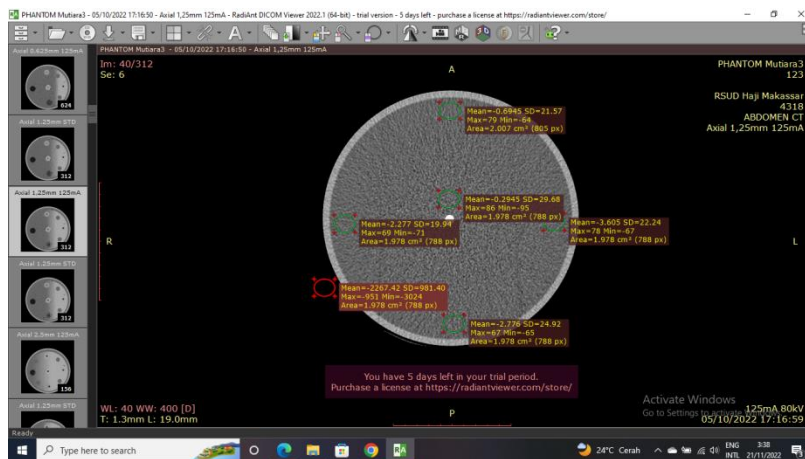
(d)



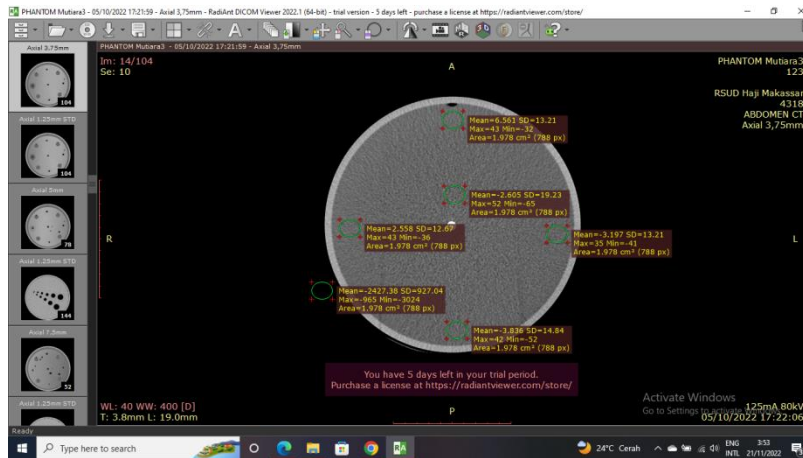
(e)



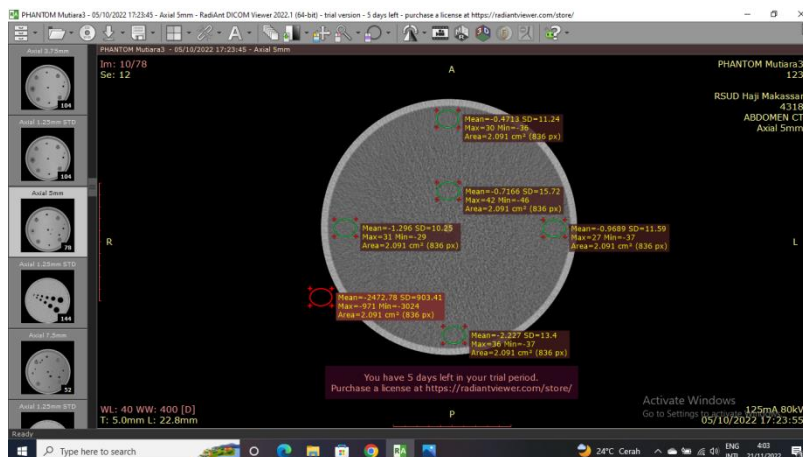
(f)



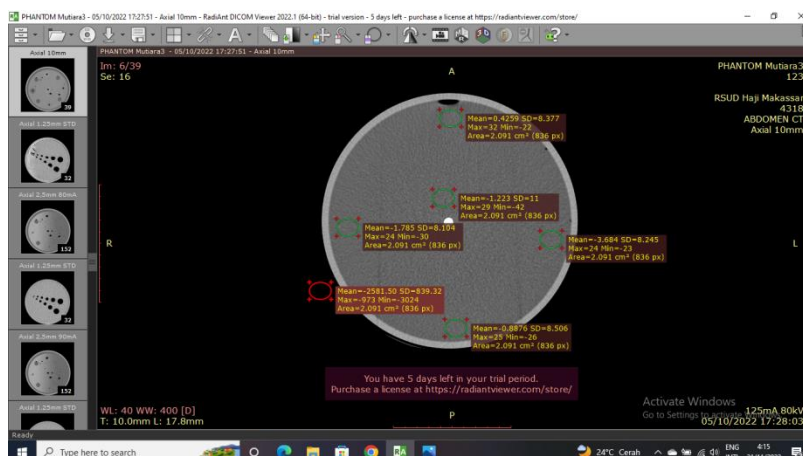
(g)



(h)



(i)



(j)

Nilai CTN (a) arus tabung 90 mA, tebal irisan 2,5 mm, (b) arus tabung 100 mA, tebal irisan 2,5 mm, (c) arus tabung 130 mA, tebal irisan 2,5 mm, (d) arus tabung

140 mA, tebal irisan 2,5 mm, (e) arus tabung 150 mA, tebal irisan 2,5 mm, (f) arus tabung 125 mA, tebal irisan 0,625 mm, (g) arus tabung 125 mA, tebal irisan 1,25 mm, (h) arus tabung 125 mA, tebal irisan 3,75 mm, (i) arus tabung 125 mA, tebal irisan 5 mm, (j) arus tabung 125 mA, tebal irisan 10 mm.

Lampiran 9: Data hasil pengukuran nilai CNR pada citra *phantom* variasi arus tabung

$$CNR = \frac{|A - B|}{SD}$$

$$CNR = \frac{|(-1,345) - (-2235,8)|}{991,28}$$

$$CNR = \frac{|2234,4|}{991,28}$$

$$CNR = 2,254$$

Arus Tabung (mA)	Tebal Irisan (mm)	Nilai CNR					Nilai Rata-Rata CNR
		Tepi 1	Tepi 2	Tepi 3	Tepi 4	Pusat	
90	2,5	2,254	2,252	2,254	2,254	2,254	2,253
100		2,548	2,550	2,548	2,550	2,548	2,548
130		3,015	3,016	3,017	3,018	3,018	3,016
140		3,213	3,214	3,214	3,215	3,214	3,214
150		3,481	3,483	3,481	3,484	3,483	3,482

Lampiran 10: Data hasil pengukuran nilai CNR pada citra *phantom* variasi tebal irisan.

$$CNR = \frac{|A - B|}{SD}$$

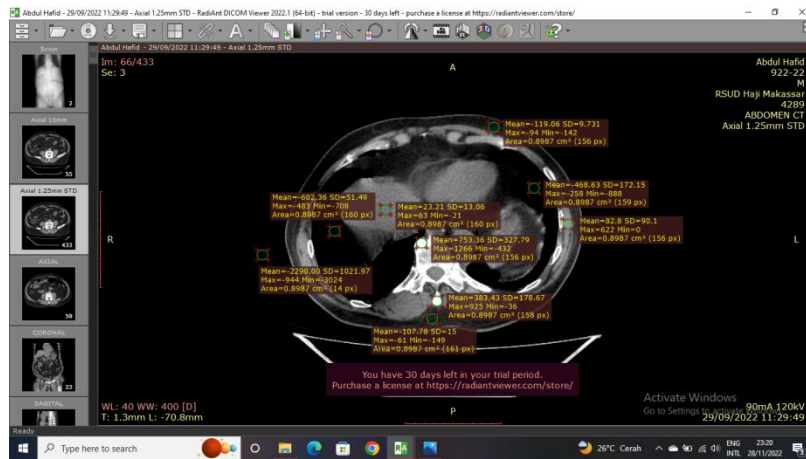
$$CNR = \frac{|(-2,885) - (-2171,4)|}{1002,49}$$

$$CNR = \frac{|2168,51|}{1002,49}$$

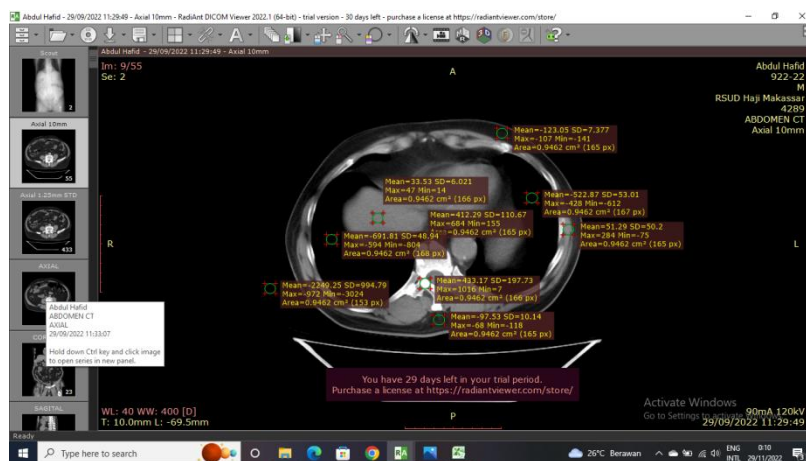
$$CNR = 2,163$$

Tebal Irisan (mm)	Arus Tabung (mA)	Nilai CNR					Nilai Rata-Rata CNR
		Tepi 1	Tepi 2	Tepi 3	Tepi 4	Pusat	
0,625	125	2,163	2,162	2,164	2,165	2,162	2,163
1,25		2,306	2,307	2,308	2,309	2,310	2,308
3,75		2,614	2,614	2,615	2,611	2,615	2,613
5		2,736	2,734	2,735	2,736	2,736	2,735
10		3,071	3,074	3,073	3,075	3,074	3,073

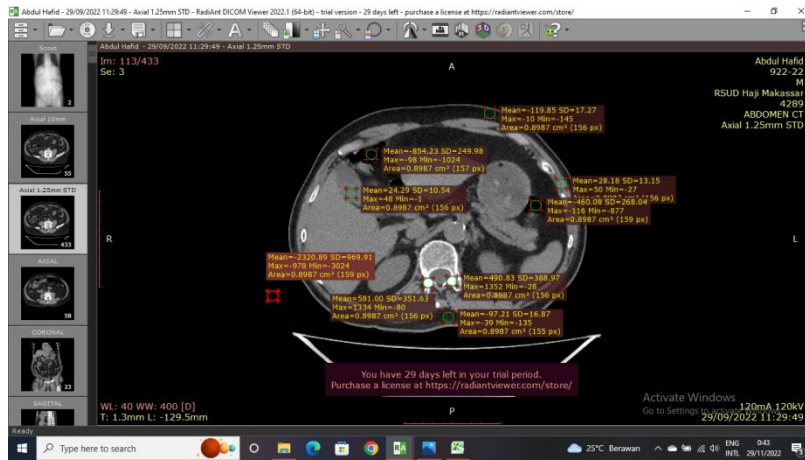
Lampiran 11: Hasil pengukuran nilai CTN berdasarkan ROI tiap posisi pada *software* radiant DICOM pada citra abdomen



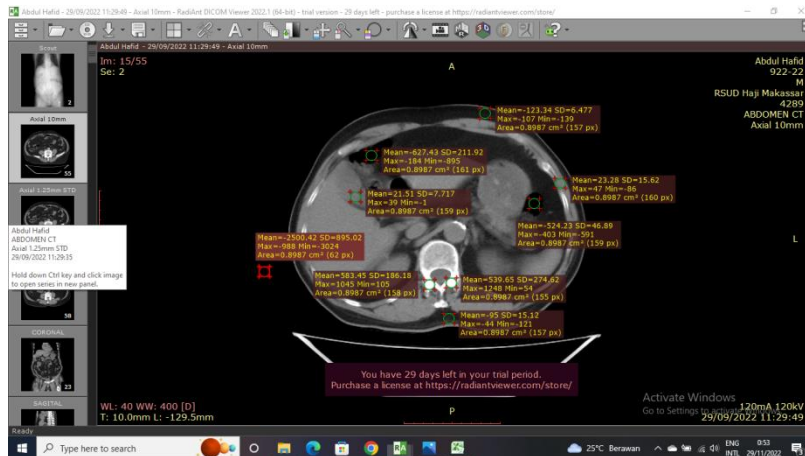
(a)



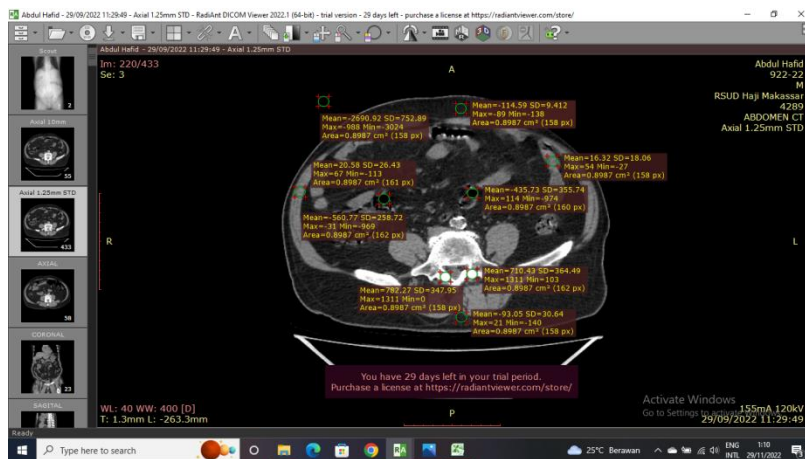
(b)



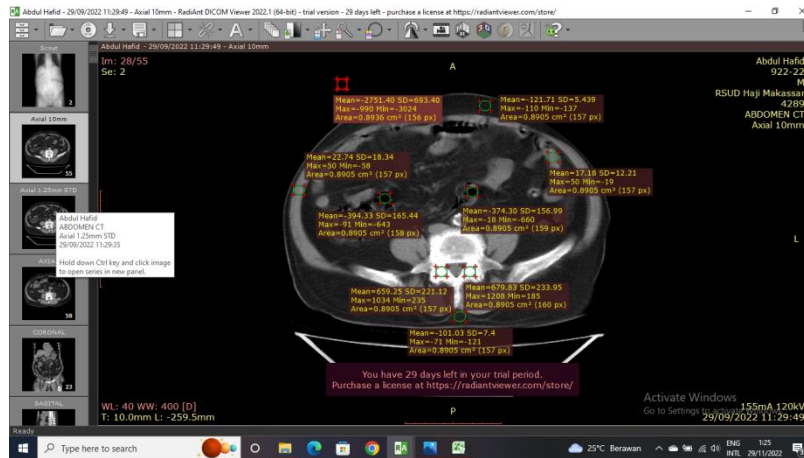
(c)



(d)



(e)



(f)

Nilai CTN (a) arus tabung 90 mA, tebal irisan 1,25 mm, (b) arus tabung 90 mA, tebal irisan 10 mm, (c) arus tabung 120 mA, tebal irisan 1,25 mm, (d) arus tabung 120 mA, tebal irisan 10 mm, (e) arus tabung 155 mA, tebal irisan 1,25 mm, (f) arus tabung 155 mA, tebal irisan 10 mm.

Lampiran 12: Data hasil pengukuran nilai CNR pada citra abdomen.

$$CNR = \frac{|A - B|}{SD}$$

$$CNR = \frac{|(-119,06) - (-2290)|}{1021,97}$$

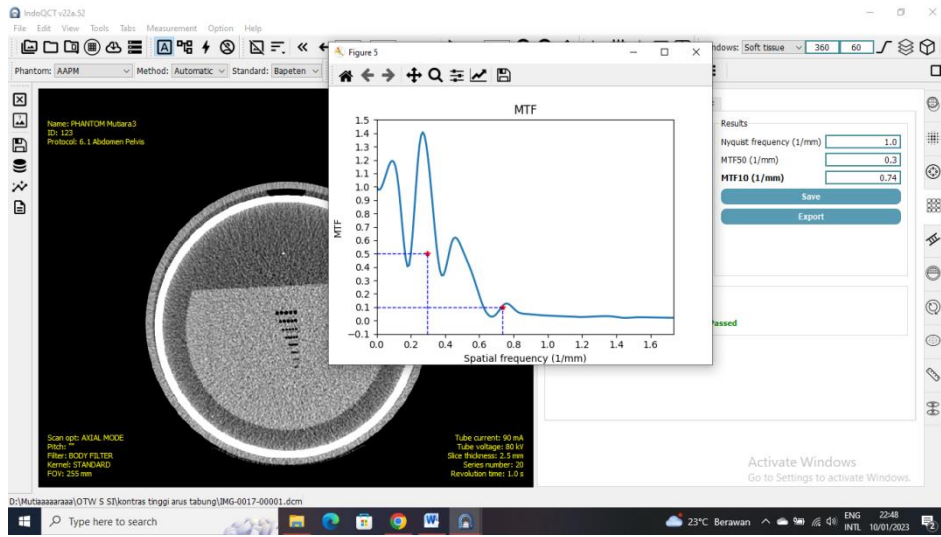
$$CNR = \frac{|2170,94|}{1021,97}$$

$$CNR = 2,124$$

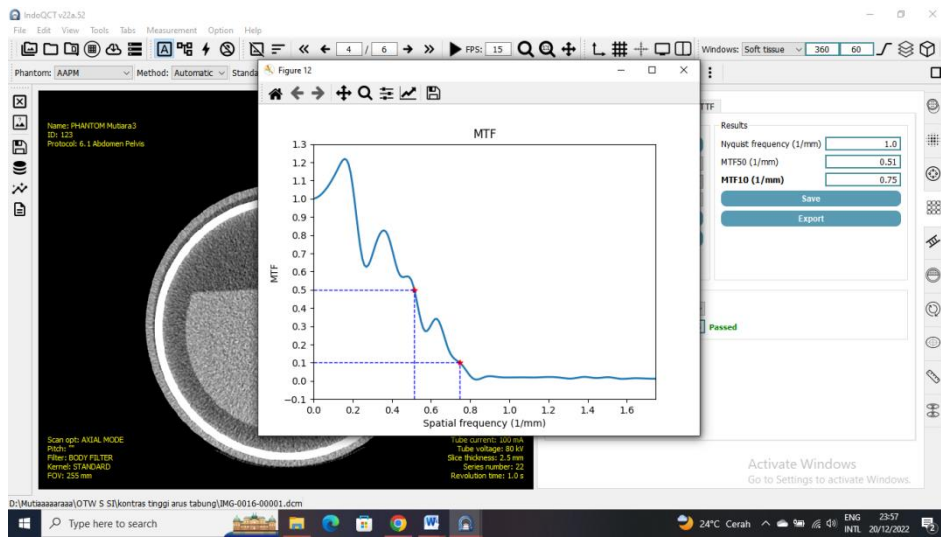
Objek	Arus Tabung 90 mA	
	Tebal Irisan 1,25 mm	Tebal Irisan 10 mm
ROI 1	2,12	2,13
ROI 2	1,78	1,73
ROI 3	2,15	2,20
ROI 4	1,86	1,82
ROI 5	2,13	2,16
ROI 6	1,65	1,56

ROI 7	2,21	2,22
ROI 8	1,50	1,84
	CNR Rata-Rata = 1,93	CNR Rata-Rata = 1,96
Objek	Arus Tabung 120 mA	
	Tebal Irisan 1,25 mm	Tebal Irisan 10 mm
ROI 1	2,26	2,65
ROI 2	1,91	2,20
ROI 3	2,36	2,76
ROI 4	1,88	2,19
ROI 5	2,29	2,68
ROI 6	1,79	2,14
ROI 7	2,36	2,76
ROI 8	1,51	2,09
	CNR Rata-Rata = 2,05	CNR Rata-Rata = 2,43
Objek	Arus Tabung 155 mA	
	Tebal Irisan 1,25 mm	Tebal Irisan 10 mm
ROI 1	3,42	3,79
ROI 2	2,99	3,42
ROI 3	3,55	3,94
ROI 4	2,63	2,98
ROI 5	3,45	3,82
ROI 6	2,53	3,01
ROI 7	3,54	3,93
ROI 8	2,82	3,39
	CNR Rata-Rata = 3,12	CNR Rata-Rata = 3,54

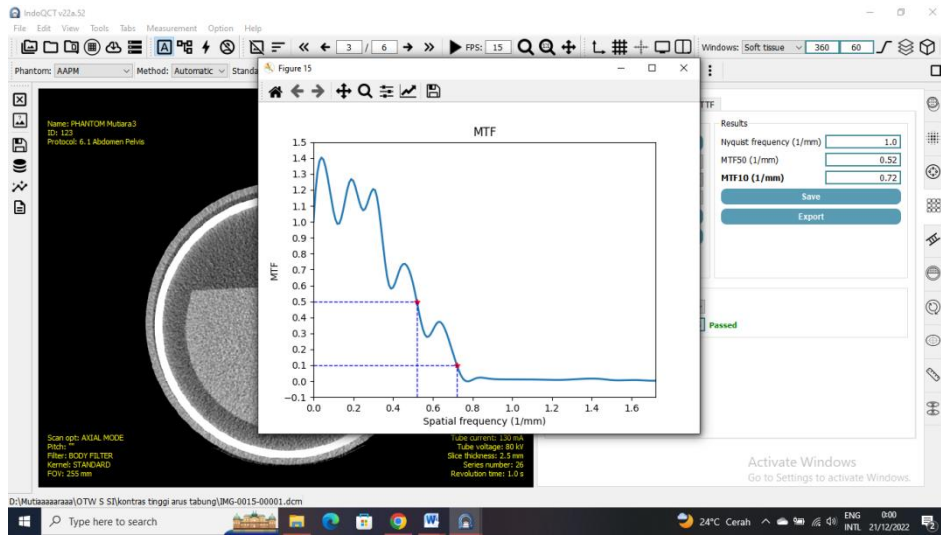
Lampiran 13: Hasil pengukuran nilai MTF% berdasarkan ROI pada software IndoQCT



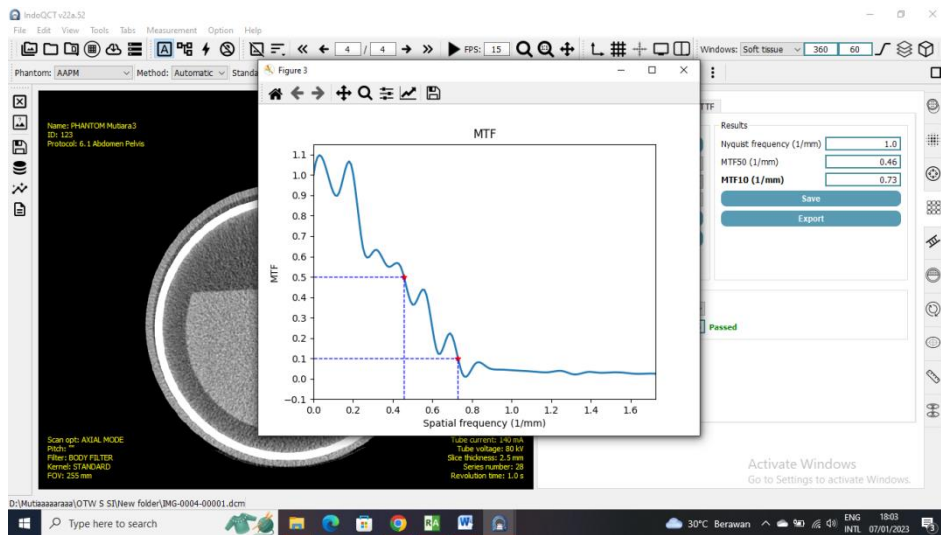
(a)



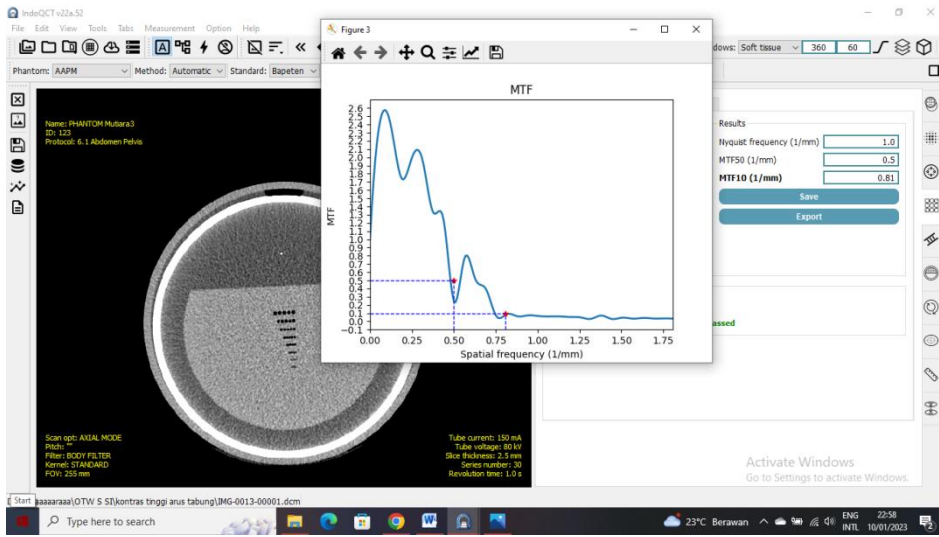
(b)



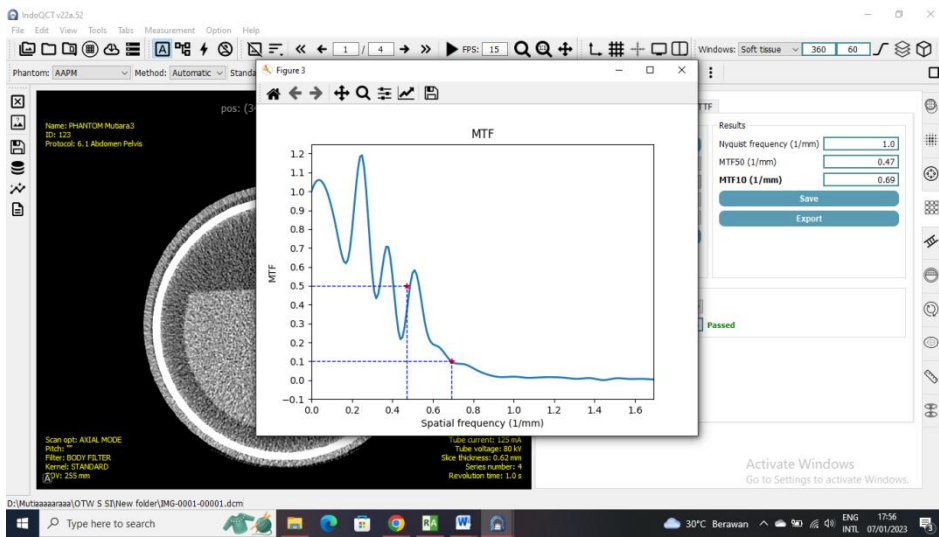
(c)



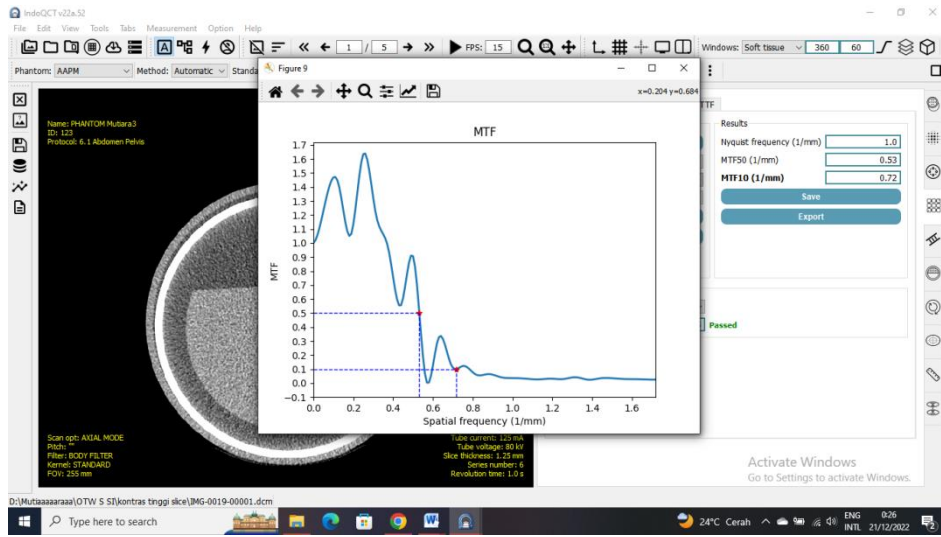
(d)



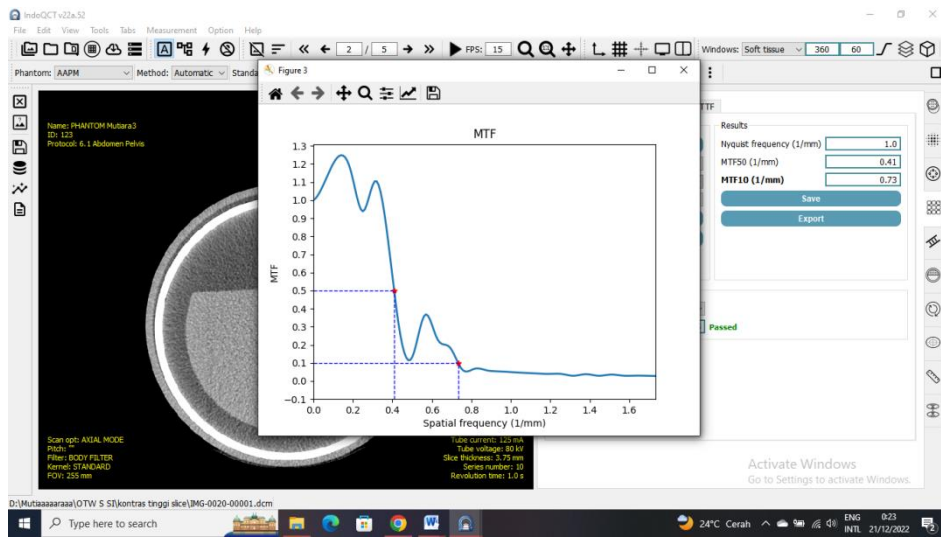
(e)



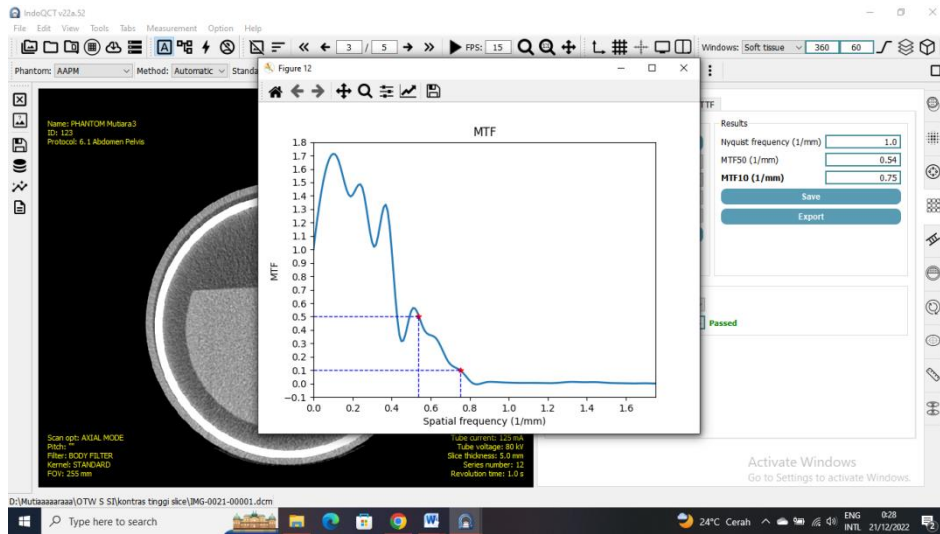
(f)



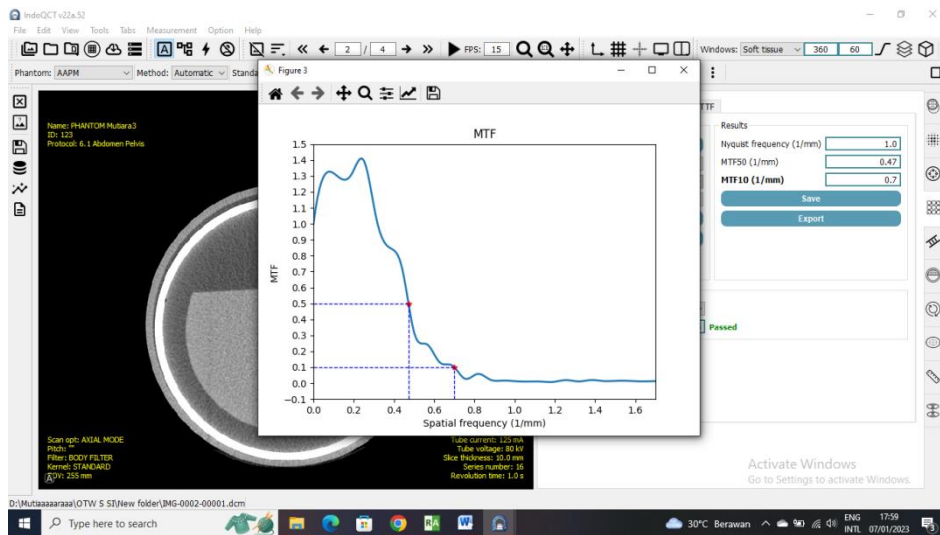
(g)



(h)



(i)



(j)

Nilai Standar Deviasi (a) arus tabung 90 mA, tebal irisan 2,5 mm, (b) arus tabung 100 mA, tebal irisan 2,5 mm, (c) arus tabung 130 mA, tebal irisan 2,5 mm, (d) arus tabung 140 mA, tebal irisan 2,5 mm, (e) arus tabung 150 mA, tebal irisan 2,5 mm, (f) arus tabung 125 mA, tebal irisan 0,625 mm, (g) arus tabung 125 mA, tebal irisan 1,25 mm, (h) arus tabung 125 mA, tebal irisan 3,75 mm, (i) arus tabung 125 mA, tebal irisan 5 mm, (j) arus tabung 125 mA, tebal irisan 10 mm.