DAFTAR PUSTAKA

Admindinkes10. Penyakit Jantung Koroner. Artikel referensi, dinkes.kulonprogokab.go.id (Diakses pada 19 September 2024) https://dinkes.kulonprogokab.go.id/detil/181/penyakit-jantung-koroner

Akhsan, G., Kilickesmez, K.O., *et al*. (2016) "The Relationship Between Epicardial Adipose Tissue Volume and Coronary Plaque Structure in Diabetics," *Journal of Clinical and Analytical Medicine*, pp. 1-6.

Anam, C., Dougherty, G., *et al*. (2022). IndoQCT Software for Evaluating the Quality of Computed Tomography Images. Malang: ResearchGate.

Anam, C., Dougherty, G., *et al*. (2024) "A Novel Method for Developing Contrast-detail; Curves from Clinical Patient Images Based on Statistical Low-contrast Detectability," *Biomedical Physics & Engineering Express*. 10, pp. 1-14.

Anonim. Jantung Koroner: Penyebab, Gejala, Pengobatan, dan Langkah Pencegahannya. Arikel referensi, royalprogress.com (Diakses pada 19 September 2024) https://royalprogress.com/id/blog/spesialisasi-medis/kesehatan-jantung/jantung-koroner-penyebab-gejala-pengobatan-dan-langkah-pencegahannya/

Anonim. Penyakit Jantung Koroner (PJK). Artikel referensi, Gleneagles.com.sg (Diakses pada 19 September 2024) https://www.gleneagles.com.sg/id/conditions-diseases/coronary-artery-disease/symptoms-causes

Aquarista, N.C. (2017) "Perbedaan Karakteristik Penderita Diabetes Melitus Tipe 2 Dengan dan Tanpa Penyakit Jantung Koroner," *Jurnal Berkala Epidemiologi*, 5(1), pp. 37-47.

Ariawan, A. (2023). Metode Penelitian Kuantitatif. Aceh: Yayasan Penerbit Muhammad Zaini Anggota IKAPI (026/DIA/2021).

Eny, S. (2014). Evaluasi Skor Kalsium Berdasarkan Pemeriksaan CT Cardiac Non Kontras Pada Penyakit Ginjal Kronik Hemodialisis (PGK-HD). Skripsi. Tidak Diterbitkan. Fakultas Kedokteran, Universitas Hasanuddin: Makassar.

Fatimah Azhara, M., Dewang, S., Dewi Astuty, S., Rosyidah, U., *and* Abdul Samad, B. (2023). *ANALISIS MODULATION TRANSFER FUNCTION (MTF) DAN CONTRAS-TO-NOISE RATIO (CNR) UNTUK OPTIMASI KUALITAS CITRA CT SCAN* (Vol. 26, Issue 1).

Fitrianti Hasan, A., Lana Prasetya, I.M., *and* Mughnie, B. (2023) "Analisis CT-Scan Cardia Klinis Chest Pain di Rumah Sakit Bhayangkara Makassar," *Jurnal Multi Disiplin Indonesia*, 2(3), pp. 514-533.

Gulliksrud, K., Stokke, C., *and* Trægde Martinsen, A. C. (2014). How to measure CT image quality: Variations in CT-numbers, uniformity and low contrast resolution ıality assurance phantom. *Physica Medica*, *30*(4), 521–526. 10.1016/j.ejmp.2014.01.006

Program Quality Control Pesawat CT Scan Merk Siemens Type Di Intlalasi Radiologi Rumah Sakit Kanker Darmais. Skripsi. Tidak eknik Radiodiagnostik dan Radioterapi. Politeknik Kesehatan esehatan Jakarta II: Jakarta.

Hendayanto, S. Mengenal Jantung Koroner. Artikel referensi, herminahospital.com (Diakses pada 19 September 2024)

Herlindah, S., Fitriyani, D. *and* Marzuki, M. (2019) "Analisis Pengaruh Kuat Arus dan Tegangan Terhadap Kualitas Citra *Computed Tomograpy* (CT) *Scan Siemens Perspective* di RSUP Dr. M. Djamil Padang," *Jurnal Positron, 9(1), pp. 39-43.*

Jessning Gamalita Mberato, A., Nyoman Ratini, N., Made Yuliara, I., *and* Irhas, R. (2023). Analysis of The Effect of The X-Ray Tube Current on Uniformity Image Noise Value. Indonesian Physical Review, 6(1), 11–19. https://doi.org/10.29303/ip

Kusumaningsih, L. P. R., Suryatika, I. B. M., Trisnawati, N. L. P., & Irhas, R. (2023). Pengaruh Slice Thickness terhadap Signal to Noise Ratio (SNR) dari Hasil Penyinaran CT-Scan di RSUP Prof. Dr. I.G.N.G Ngoerah. *Kappa Journal*, *7*(2), 326–330. https://doi.org/10.29408/kpj.v7i2.7675

Mustofa, E.E., Purwono, J. *and* Ludiana. (2022) "Penerapan Senam Kaki Terhadap Kadar Glukosa Darah Pada Pasien Diabetes Melitus di Wilayah Kerja Puskesmas Purwosari Kec. Metro Utara Tahun 2021," *Jurnal Cendekia Muda, 2*(1), pp. 78-86.

Nastiti Nariswari, N. (2018). Analisis Variasi Faktor Eksposi Dan Ketebalan Irisan Terhadap CTDI Dan Kualitas Citra Pada Computed Tomography (CT) Scan. Skripsi. Tidak Diterbitkan. Fakultas Matematika Dan Ilmu Pengetahuan Alam, Universitas Jember: Jember.

Olesen Kevin, K.W., *et al*. (2019) "Risk stratification by assessment of coronary artery disease using coronary computed tomography angiography in diabetes and non-diabetes patients: a study from the Wester Denmark Cardiac Computed Tomography Registry," *European Heart Journal,* 20, pp. 1271-1278.

Pakaya, N. (2022) "Faktor Risiko Kejadian Penyakit Jantung Koroner (PJK) Pada Pasien Diabetes Melitus Tipe II," *Jambura Noursing Journal*, 4(1), pp. 57-67.

Patimang, K.P. (2022). Hubungan Faktor Resiko Pada Penderita Diabetes Melitus Tipe 2 Dengan Kejadian Penyakit Jantung Koroner di Pusat Jantung Terpadu RSUP Dr. Wahidin Sudirohusodo. Skripsi. Tidak Diterbitkan. Fakultas Kedokteran. Universitas Hasanuddin: Makassar.

Pundziute, G., *et al*. (2008) "Evaluation of plaque characteristics in acute coronary syndromes: on-invasive assessment with multi-slice computed tomography and invasive evaluation wih intravascular ultrasound radiofrequency data analysis," *European Heart Journal,* 29, pp. 2373-2381.

Purba, B. (2017) "Aplikasi Perbaikan Kualitas Citra Hasil Penginderaan Jauh (Remot Sensing) dengan Metode Contrast Stretching," *Jurnal TIMES*, VI (2), pp. 26-36.

Rachmawan, Y. P. Mengenal Penyakit Jantung Koroner (PJK). Artikel referensi, rspelabuhan.com (Diakses pada 19 September 2024) https://rspelabuhan.com/id/info/info-sehat/385-mengenal-penyakit-jantung-

Y., *et al*. (2020) "Hubungan Diabetes Melitus Dengan Penyakit ıer Pada Pasien Yang Berobat di Poli Jantung," *Jurnal Kesehatan* 8(1), pp. 56-62.

alisis Nilai SNR dan CNR Phantom Hasil Pemeriksaan CT-Scan e Axial dan Helical di RS Haji Makassar. Skripsi. Tidak Diterbitkan.

Fakultas Matematika dan Ilmu Pengetahuan Alam. Universitas Hasanuddin: Makassar.

Santosa, W.N. *and* Baharuddin. (2020) "Penyakit Jantung Koroner dan Antioksidan," *Jurnal Ubaya*, 1(2), pp. 95-100.

Sardae, Z.A., Kartikasari, Y., *et al*. (2023). Analisis Perbedaan Antara Nilai Signal to Noise Ratio (SNR), Contrast to Noise Ratio (CNR), dan Dose-length Product (DLP) Pada Variasi Pitch Protokol CT-Scan Kepala (Study Pada Water Phantom). Semarang: DIV T. Radiodiagnostik dan Radioterapi Semarang.

Saremi, F. *and* Achencach, S. (2015) "Coronary Plaque Characteriza Using CT," *American Jurnal of Roentgenology*, 204(3). https://doi.org/10.2214/AJR.14.13760

Tampubolon, L.F., Ginting, A. *and* Turnip, F.E.S. (2023) "Gambaran Faktor yang Mempengaruhi Kejadian Penyakit Jantung Koroner (PJK) di Pusat Jantung Terpadu (PJT)," *Jurnal Ilmiah Permas: Jurnal Ilmiah STIKES Kendal*, 13(3), pp. 1043-1052.

Torawoba, O.R., Nelwan, J.E. and Asrifuddin, A. (2021) "Diabetes Melitus dan Penyakit Jantung Koroner Pada Pasien Rawat Jalan Rumah Sakit," *Jurnal KESMAS*, 10(4), pp. 87-92.

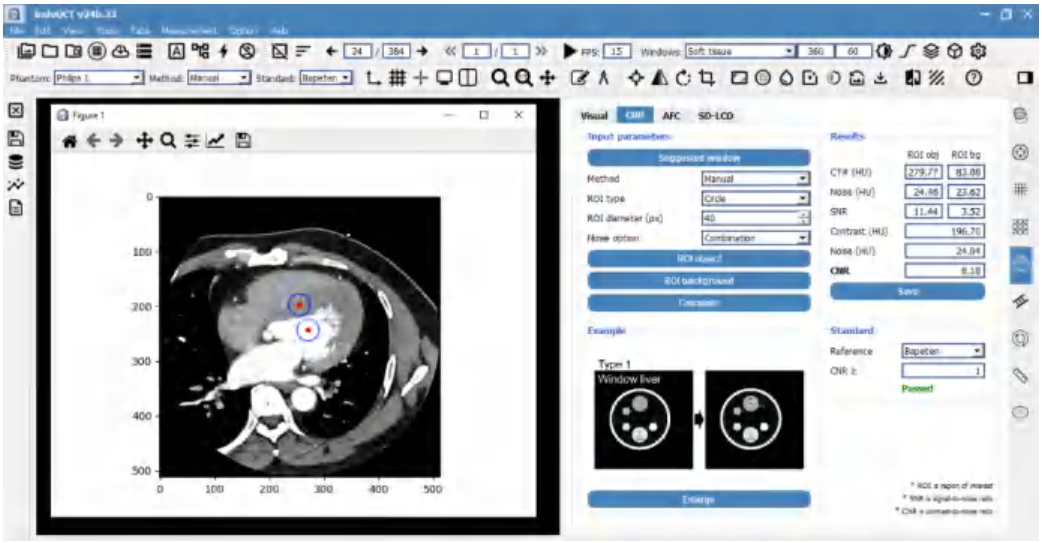
Wahyuni, S. *and* Amalia, L. (2022) "Perkembangan dan Prinsip Kerja *Computed Tomography* (CT SCAN)," *Jurnal Kedokteran dan Kesehata Malikussaleh*, 1(2), pp. 88-96.

LAMPIRAN

Lampiran 1. Pengukuran CT *Number* (HU) dan *Noise* (HU) untuk Penentuan Nilai SNR

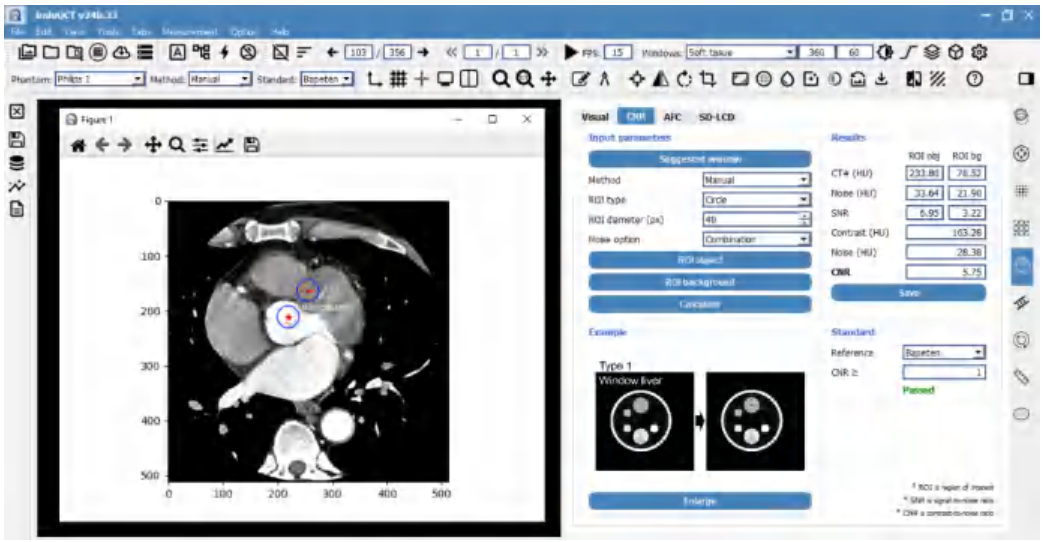
1. Citra Pasien Plak Koroner *non*-DM

a. Pasien 1

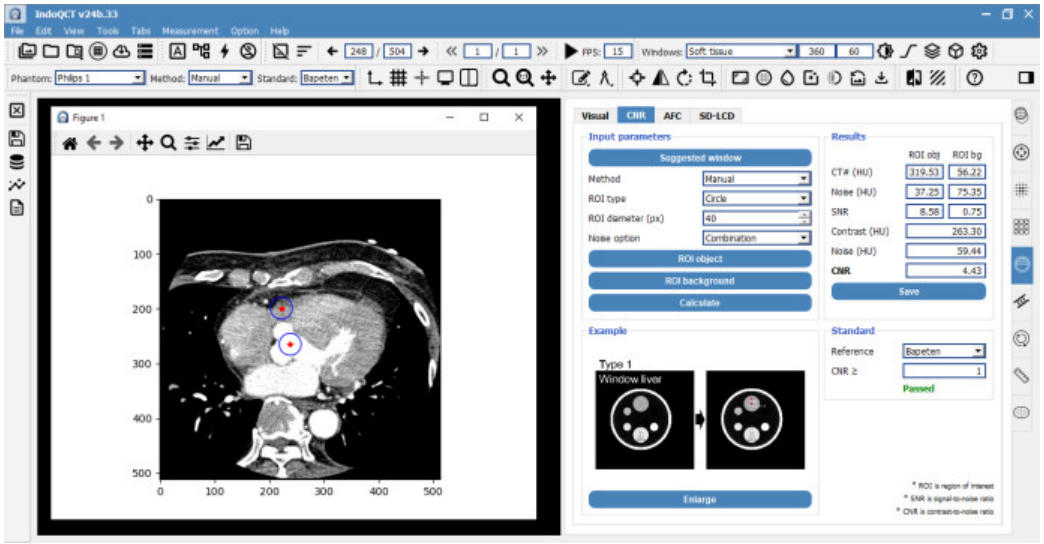


b. Pasien 2

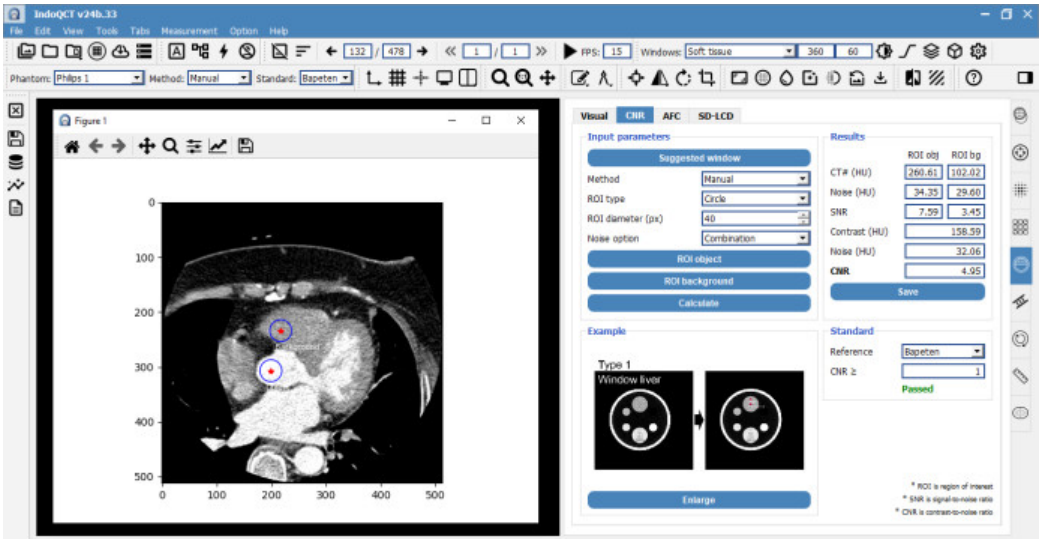
c. Pasien 3



d. Pasien 4

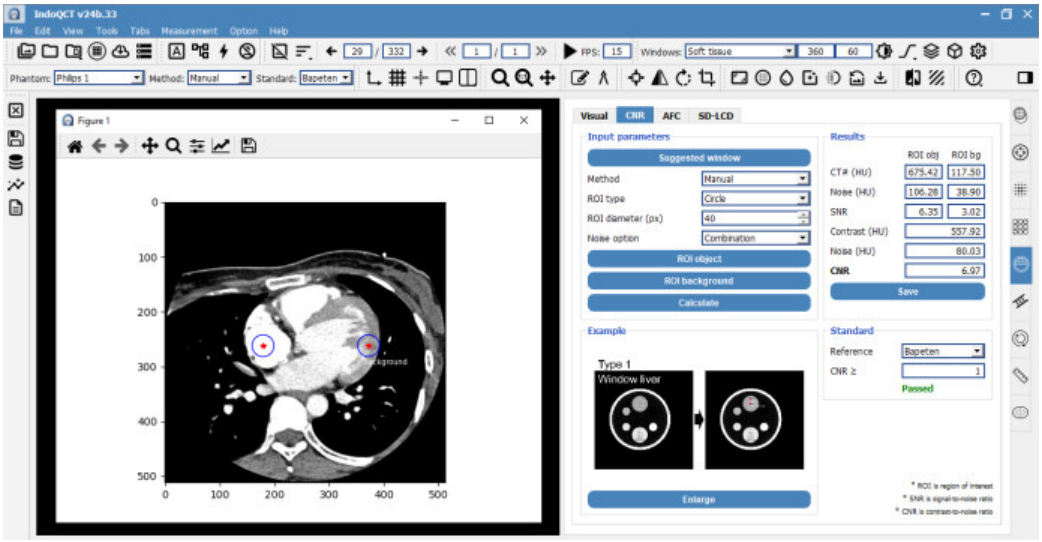


e. Pasien 5

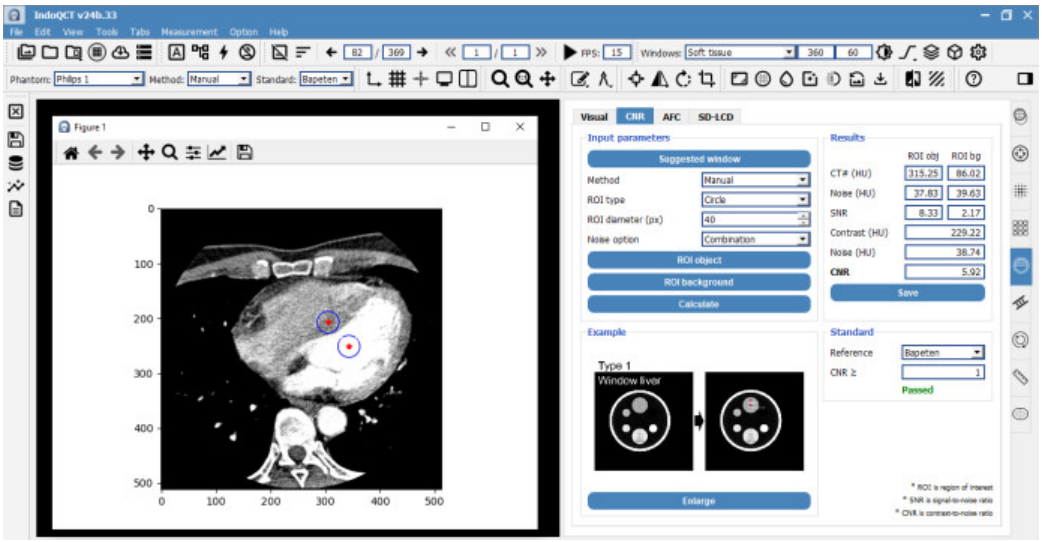


2. Citra Pasien Plak Koroner dengan DM

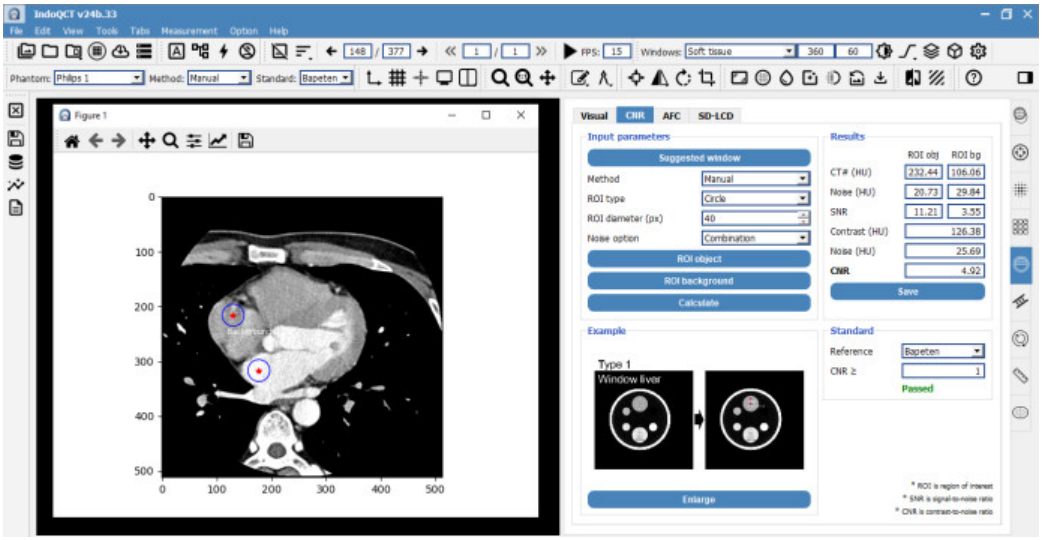
a. Pasien 1



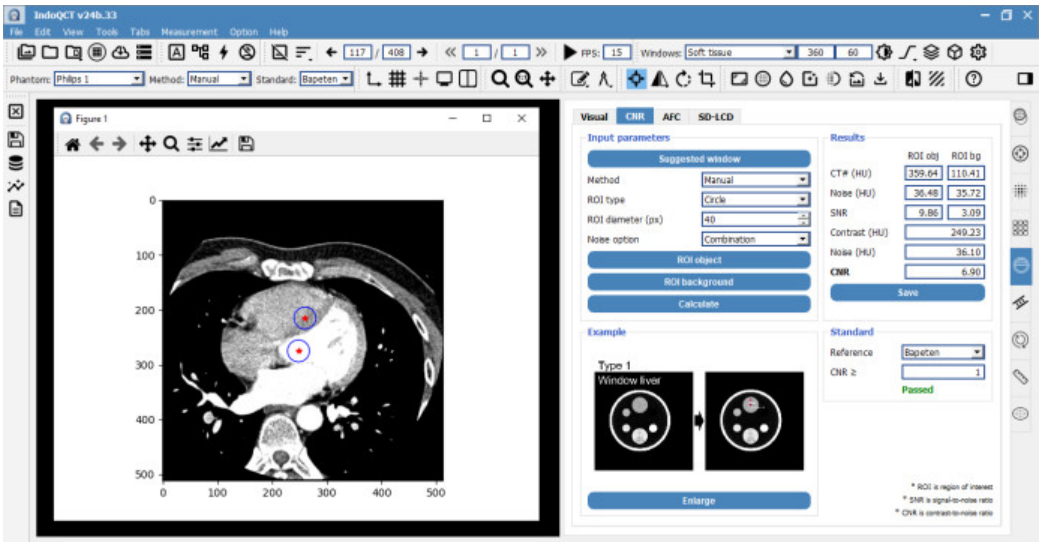
b. Pasien 2



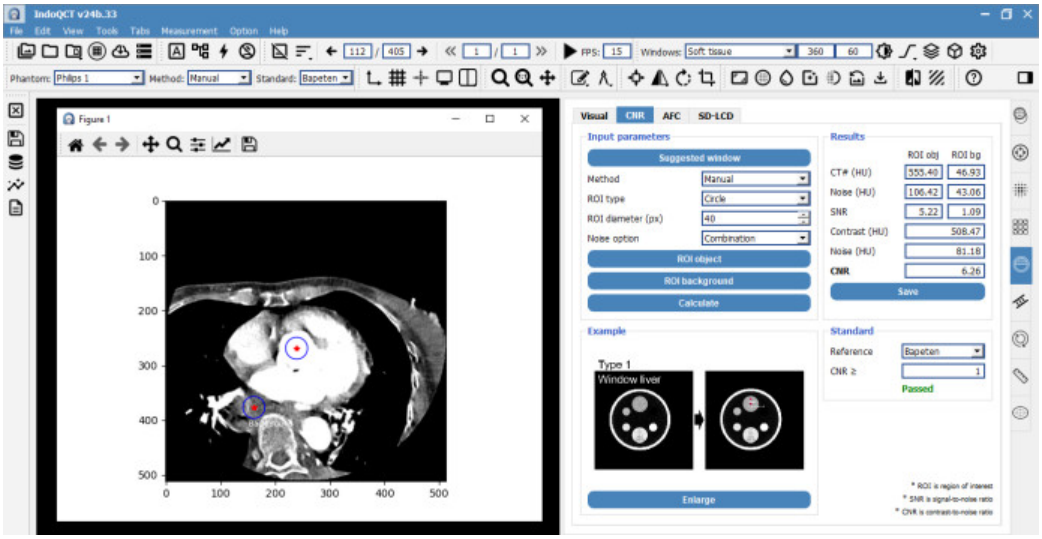
c. Pasien 3



d. Pasien 4



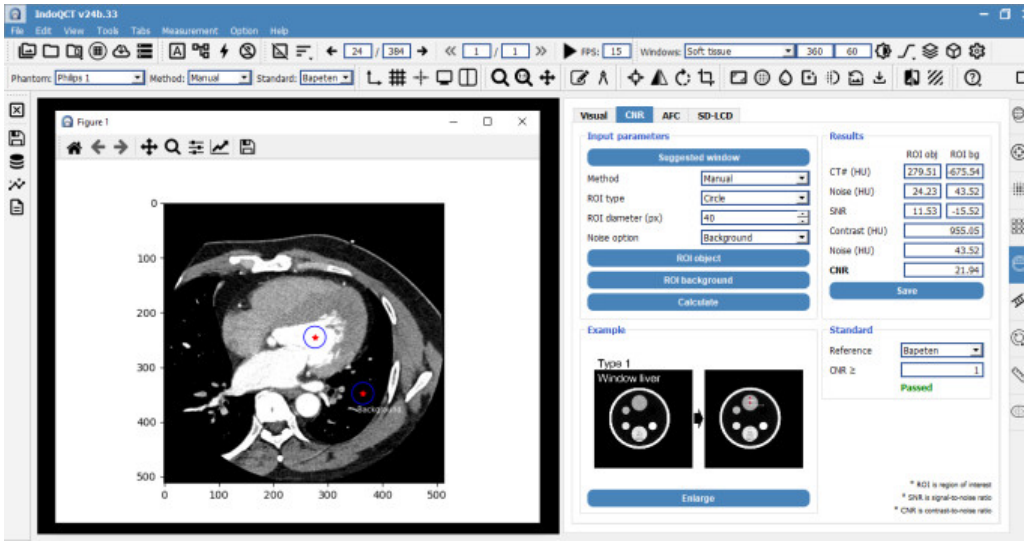
e. Pasien 5



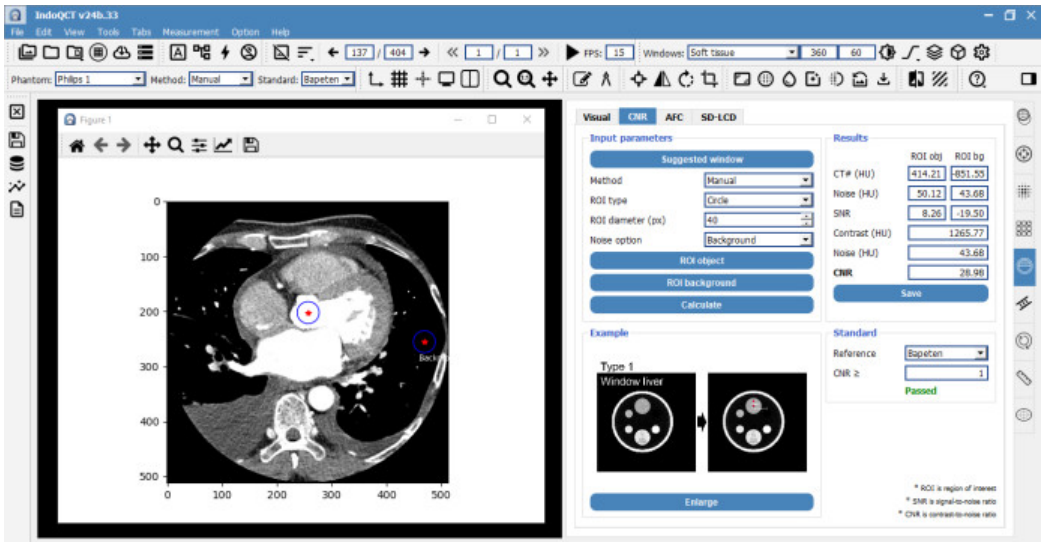
Lampiran 2. Pengukuran CT *Number* (HU) dan *Noise* (HU) untuk Penentuan Nilai CNR

1. Citra pasie plak koroner *non*-DM

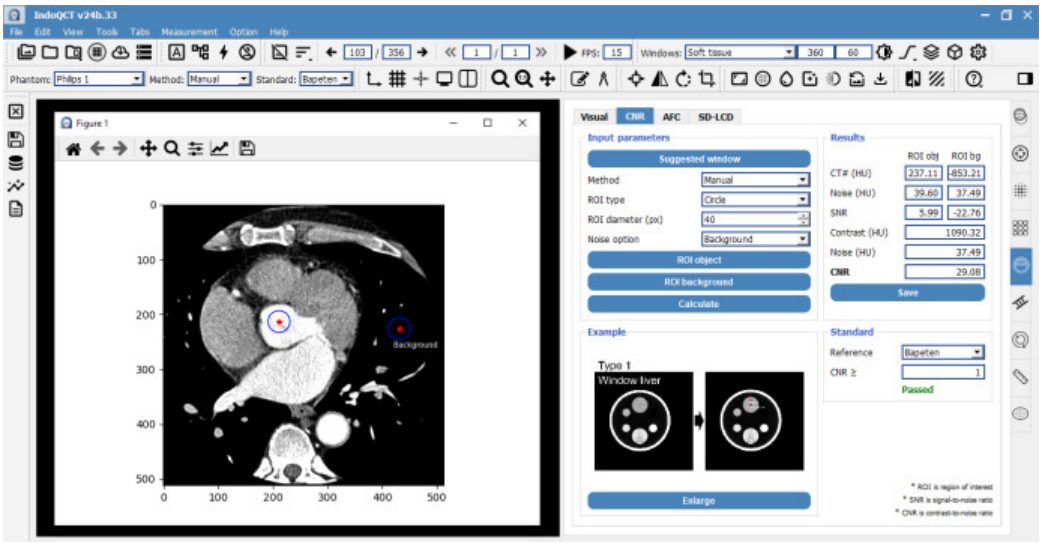
a. Pasien 1



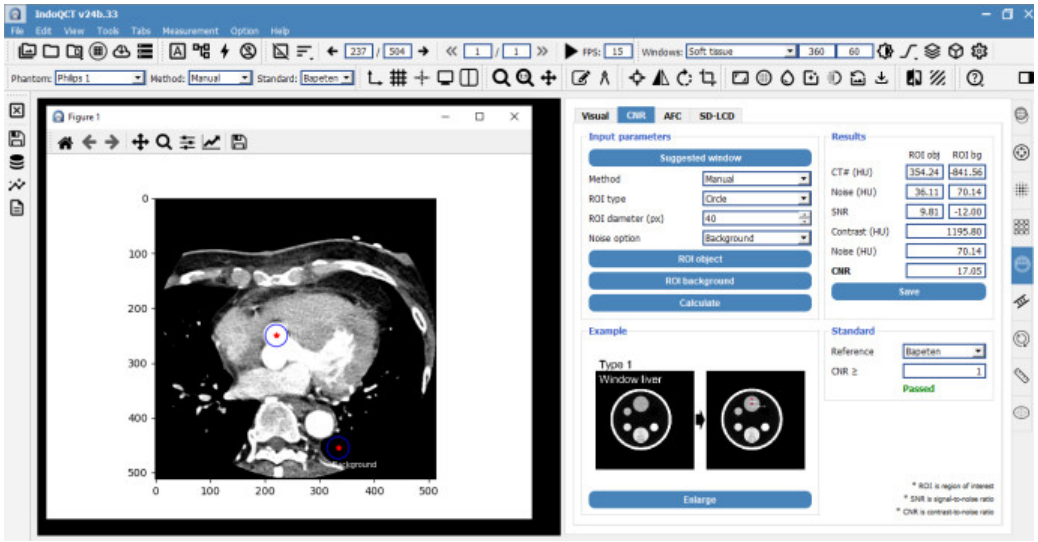
b. Pasien 2



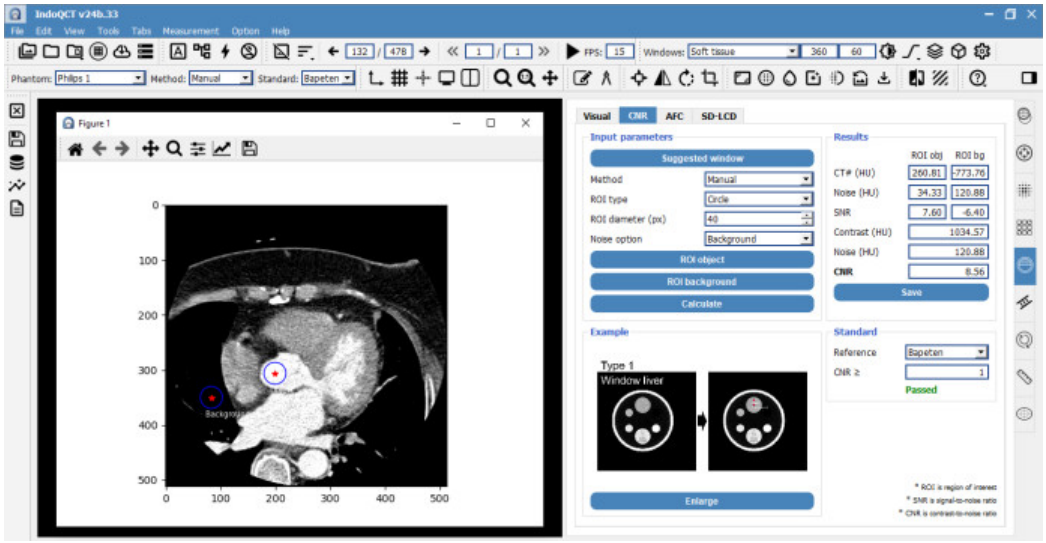
c. Pasien 3



d. Pasien 4

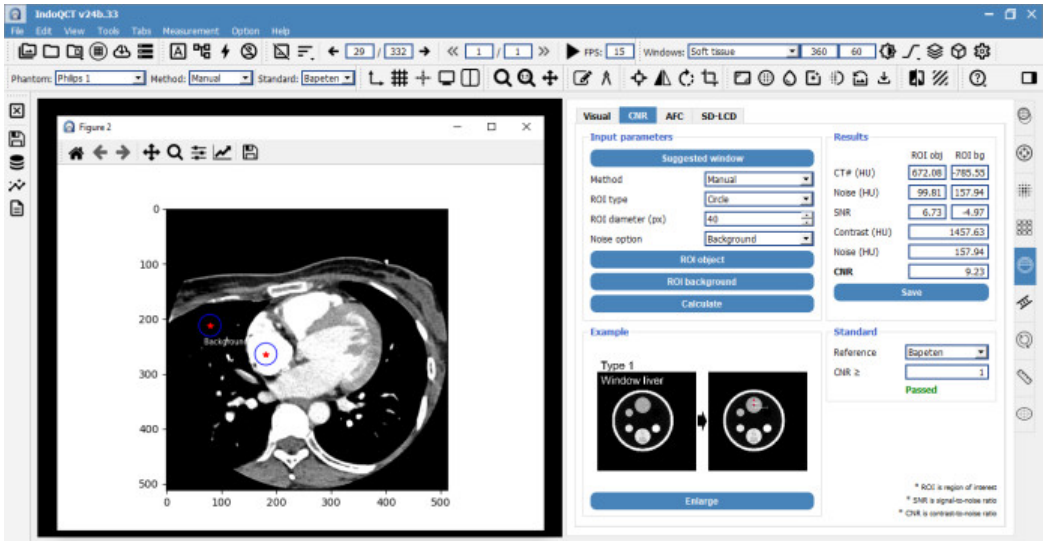


e. Pasien 5

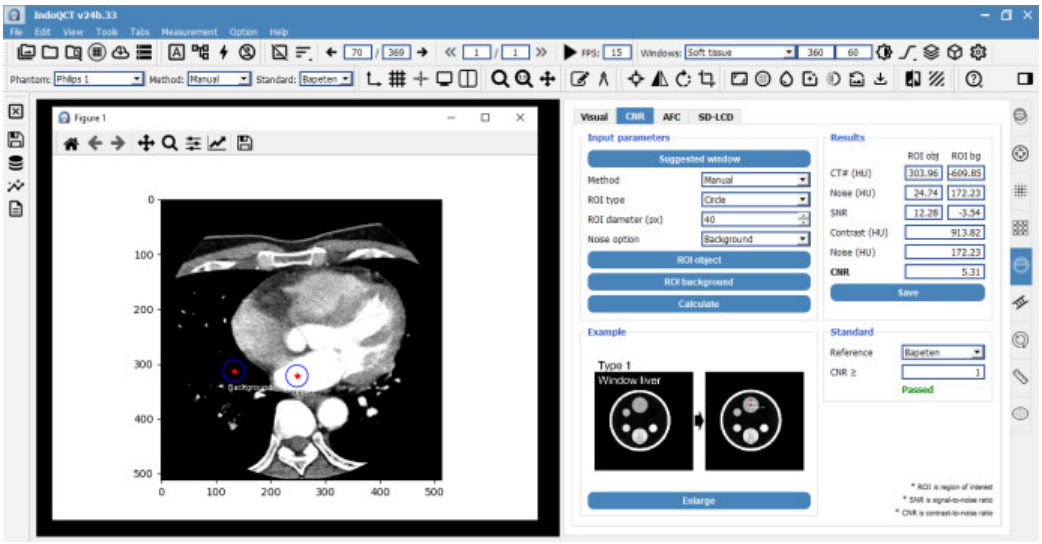


2. Citra pasien plak koroner dengan DM

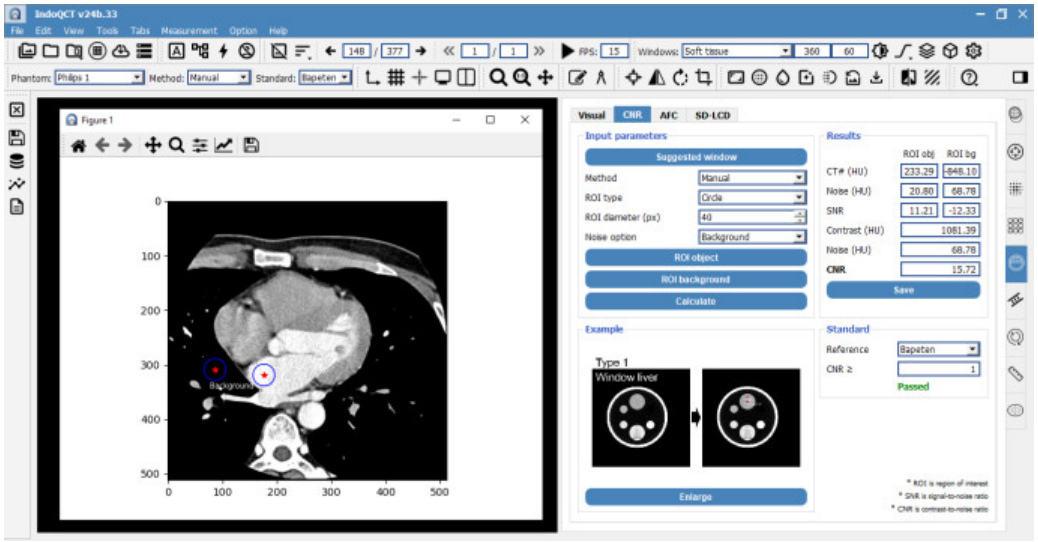
a. Pasien 1



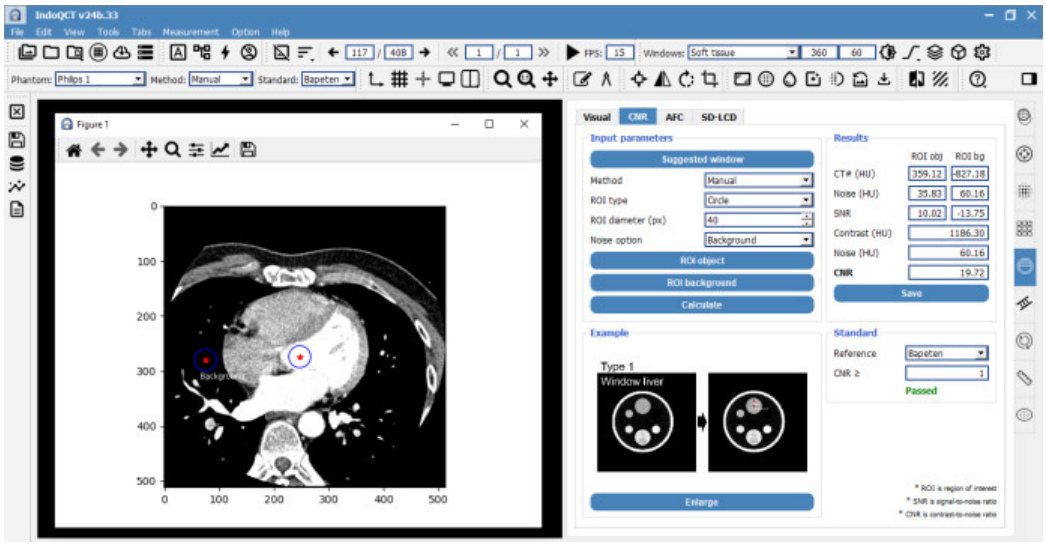
b. Pasien 2



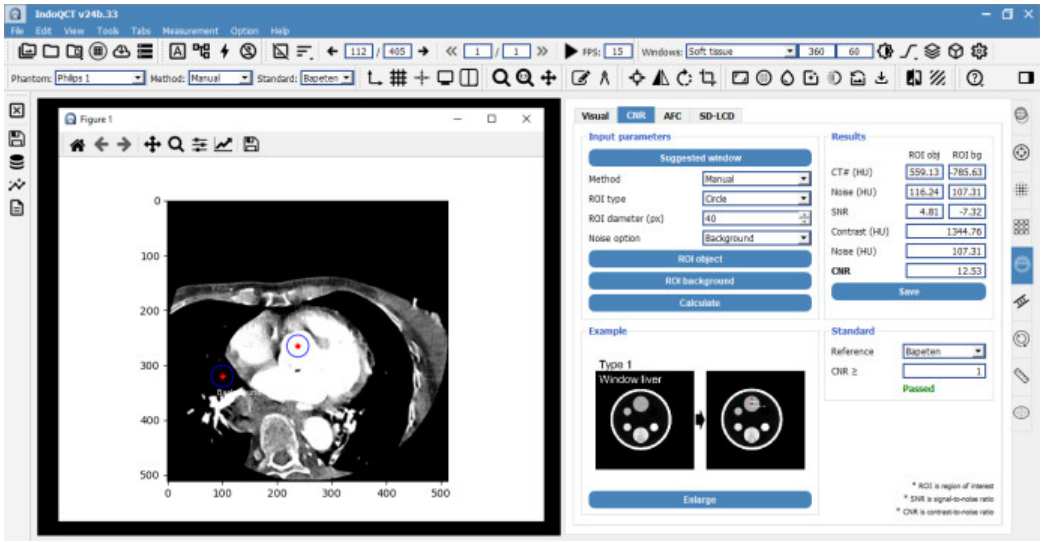
c. Pasien 3



d. Pasien 4



e. Pasien 5



Lampiran 3. Analisis Pengukuran Nilai SNR

$$\text{SNR} = \frac{Mean_{object} - Mean_{background}}{\sqrt{\frac{\left(\text{SD}_{object}\right)^2 + \left(\text{SD}_{background}\right)^2}{2}}}$$

a. Kelompok pasien plak koroner *non*-DM

1. Pasien 1

$$\text{SNR} = \frac{279{,}77 - 83{,}08}{\sqrt{\frac{(24{,}46)^2 + (23{,}62)^2}{2}}}$$

$$\text{SNR} = 8{,}18$$

2. Pasien 2

$$\text{SNR} = \frac{314{,}78 - 115{,}40}{\sqrt{\frac{(33{,}76)^2 + (33{,}82)^2}{2}}}$$

$$\text{SNR} = 5{,}90$$

3. Pasien 3

$$\text{SNR} = \frac{233{,}80 - 70{,}52}{\sqrt{\frac{(33{,}64)^2 + (21{,}90)^2}{2}}}$$

$$\text{SNR} = 5{,}75$$

4. Pasien 4

$$\text{SNR} = \frac{319{,}53 - 56{,}22}{\sqrt{\frac{(37{,}25)^2 + (75{,}35)^2}{2}}}$$

$$\text{SNR} = 4{,}43$$

5. Pasien 5

$$\text{SNR} = \frac{260{,}61 - 102{,}02}{\sqrt{\frac{(34{,}35)^2 + (29{,}60)^2}{2}}}$$

$$\text{SNR} = 4{,}95$$

b. Kelompok pasien plak koroner dengan DM

1. Pasien 1

$$\text{SNR} = \frac{675{,}42 - 117{,}50}{\sqrt{\frac{(106{,}28)^2 + (38{,}90)^2}{2}}}$$

$$\text{SNR} = 6{,}97$$

2. Pasien 2

$$\frac{315{,}25 - 86{,}02}{\sqrt{\frac{33)^2 + (39{,}63)^2}{2}}}$$

3. Pasien 3

$$\text{SNR} = \frac{232{,}44 - 106{,}06}{\sqrt{\frac{(20{,}73)^2 + (29{,}84)^2}{2}}}$$

$$\text{SNR} = 4{,}92$$

4. Pasien 4

$$\text{SNR} = \frac{359{,}64 - 110{,}41}{\sqrt{\frac{(36{,}48)^2 + (35{,}72)^2}{2}}}$$

$$\text{SNR} = 6{,}90$$

5. Pasien 5

$$\text{SNR} = \frac{555{,}40 - 46{,}93}{\sqrt{\frac{(106{,}42)^2 + (43{,}06)^2}{2}}}$$

$$\text{SNR} = 6{,}26$$

Lampiran 4. Analisis Pengukuran Nilai CNR

$$\text{CNR} = \frac{Mean_{object} - Mean_{background}}{\text{SD}_{background}}$$

a. Kelompok pasien plak koroner *non*-DM

1. Pasien 1

$$\text{CNR} = \frac{279{,}51 - (-675{,}54)}{43{,}52}$$

$$\text{CNR} = 21{,}94$$

2. Pasien 2

$$\text{CNR} = \frac{414{,}21 - (-851{,}55)}{43{,}68}$$

$$\text{CNR} = 28{,}98$$

3. Pasien 3

$$\text{CNR} = \frac{237{,}11 - (-853{,}21)}{37{,}49}$$

$$\text{CNR} = 29{,}08$$

4. Pasien 4

$$\text{CNR} = \frac{354{,}24 - (-841{,}56)}{70{,}14}$$

$$\text{CNR} = 17{,}05$$

5. Pasien 5

$$\text{CNR} = \frac{260{,}81 - (-773{,}76)}{120{,}88}$$

$$\text{CNR} = 8{,}56$$

b. Kelompok pasien plak koroner dengan DM

1. Pasien 1

$$\text{CNR} = \frac{672{,}08 - (-785{,}55)}{157{,}94}$$

$$\text{CNR} = 9{,}23$$

2. Pasien 2

$$\text{CNR} = \frac{303{,}96 - (-609{,}85)}{172{,}23}$$

$$\text{CNR} = 5{,}31$$

3. Pasien 3

$$\text{CNR} = \frac{233{,}29 - (-848{,}10)}{68{,}78}$$

$$\text{CNR} = 15{,}72$$

4. Pasien 4

$$\frac{2 - (-827{,}18)}{60{,}16}$$

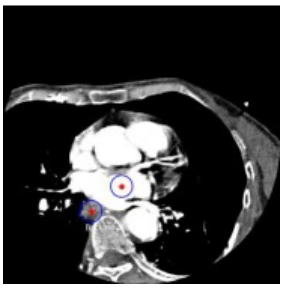
$$\frac{3 - (-785{,}63)}{107{,}31}$$

Lampiran 5. Perbandingan Distribusi Plak Koroner

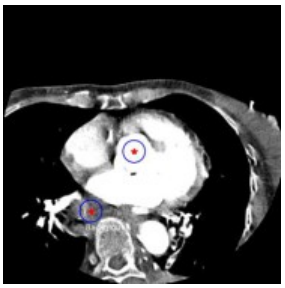
1. SNR

a. Pasien plak koroner dengan DM

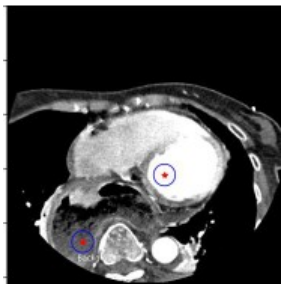
- *Slice* 70



- *Slice* 120



- *Slice* 178



b. Pasien plak koroner *non*-DM

- *Slice* 181

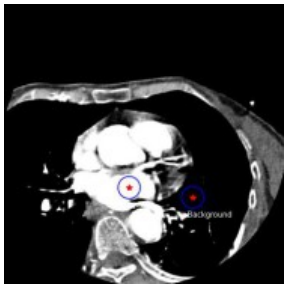
- *Slice* 248

- *Slice* 310

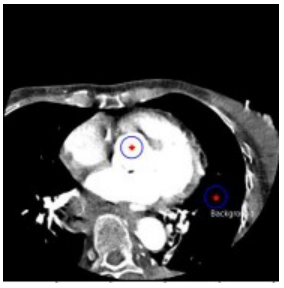
2. CNR

a. Pasien plak koroner dengan DM

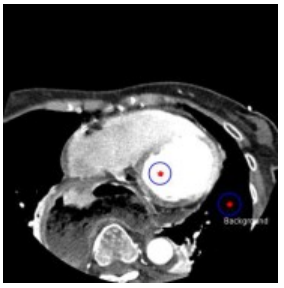
- *Slice* 70



- *Slice* 112



- *Slice* 178



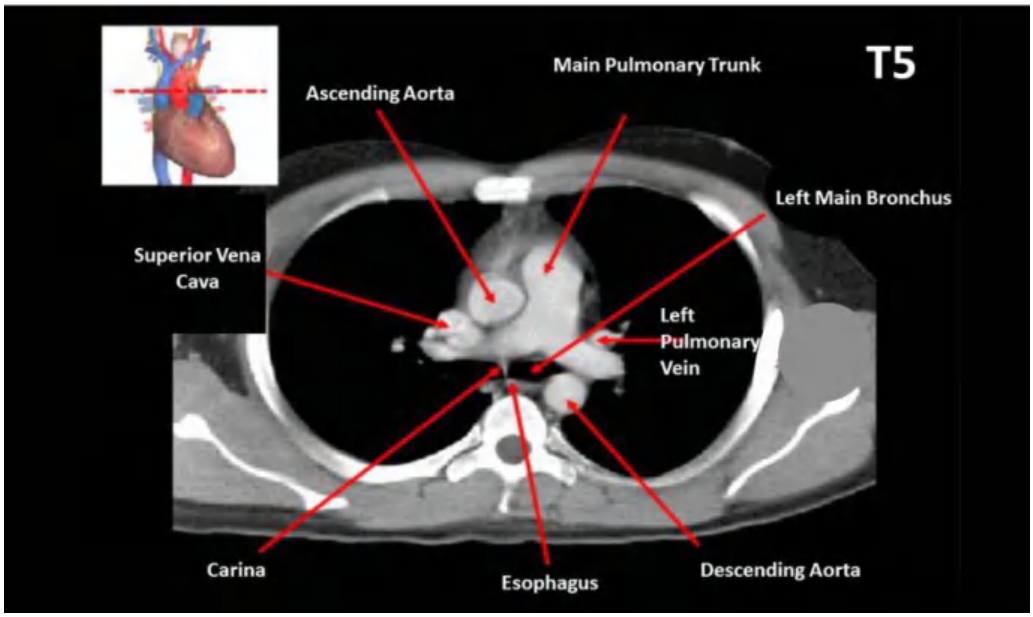
b. Pasien plak koroner *non*-DM

- *Slice* 181

- *Slice* 237

- *Slice* 310

Lampiran 6. Anatomi CT Jantung



Lampiran 7. Data Uji Statistik

Sampel	Noise	SNR	CNR
1	106.28	6.97	9.23
1	110.67	6.73	9.32
1	117.52	6.55	9.51
2	37.83	5.92	5.31
2	40.45	5.72	5.68
2	43.99	5.47	5.93
3	20.73	4.92	15.72
3	24.56	4.62	15.99
3	28.83	4.31	16.12
4	36.48	6.90	19.72
4	39.17	6.65	19.93
4	42.29	6.37	20,11
5	106.42	6.26	12.53
5	110.88	6.04	12,76
5	115.34	5.84	12,97
6	24.46	8.18	21.94
6	27.35	7.69	22.23
6	30.87	7.15	22.46
7	33.76	5.90	28.98
7	36.12	5.69	29.13
7	40.67	5.33	29.40
8	33.64	5.75	29.08
8	36.45	5.43	29.33
8	39.92	5.07	29.78
9	37.25	4.43	17.05
9	40.78	4.34	17.48
9	43.56	4.27	17.67
10	34.35	4.95	8.56
10	37.29	4.71	8.92
10	40.88	4.44	9.06

Keterangan:

Kelompok pasien plak koroner dengan DM

Kelompok pasien plak koroner *non*-DM
Sampel 6: Pasien 6
Sampel 7: Pasien 7
Sampel 8: Pasien 8
Sampel 9: Pasien 9
Sampel 10: Pasien 10

Lampiran 8. Tabel homogenitas Noise, SNR dan CNR

Dependent Variable		(I) Sampel	(J) Sampel	*Mean Difference* (I-J)	Std. Error	Sig.	95% *Confidence Interval for Mean*	
							Lower Bound	*Upper Bound*
Noise	**Tukey HSD**	Pasien 1	Pasien 2	70.73333*	3.05117	0.000	59.9288	81.5378
			Pasien 3	86.78333*	3.05117	0.000	75.9788	97.5878
			Pasien 4	72.17667*	3.05117	0.000	61.3722	82.9812
			Pasien 5	0.61000	3.05117	1.000	-10.1945	11.4145
			Pasien 6	83.93000*	3.05117	0.000	73.1255	94.7345
			Pasien 7	74.64000*	3.05117	0.000	63.8355	85.4445
			Pasien 8	74.82000*	3.05117	0.000	64.0155	85.6245
			Pasien 9	70.96000*	3.05117	0.000	60.1555	81.7645
			Pasien 10	73.98333*	3.05117	0.000	63.1788	84.7878
SNR	**Tukey HSD**	Pasien 1	Pasien 2	1.04667*	0.23643	0.008	0.2094	1.8839
			Pasien 3	2.13333*	0.23643	0.000	1.2961	2.9706
			Pasien 4	0.11000	0.23643	1.000	-0.7272	0.9472
			Pasien 5	0.70333	0.23643	0.149	-0.1339	1.5406
			Pasien 6	-.92333*	0.23643	0.023	-1.7606	-0.0861
			Pasien 7	1.11000*	0.23643	0.004	0.2728	1.9472
			Pasien 8	1.33333*	0.23643	0.001	0.4961	2.1706
			Pasien 9	2.40333*	0.23643	0.000	1.5661	3.2406
			Pasien 10	2.05000*	0.23643	0.000	1.2128	2.8872
CNR	**Tukey HSD**	Pasien 1	Pasien 2	3.71333*	0.20855	0.000	2.9749	4.4518
			Pasien 3	-6.59000*	0.20855	0.000	-7.3285	-5.8515
			Pasien 4	-10.56667*	0.20855	0.000	-11.3051	-9.8282
			Pasien 5	-3.40000*	0.20855	0.000	-4.1385	-2.6615
			Pasien 6	-12.85667*	0.20855	0.000	-13.5951	-12.1182
			Pasien 7	-19.81667*	0.20855	0.000	-20.5551	-19.0782
			Pasien 8	-20.04333*	0.20855	0.000	-20.7818	-19.3049
			Pasien 9	-8.04667*	0.20855	0.000	-8.7851	-7.3082
			Pasien 10	0.50667	0.20855	0.360	-0.2318	1.2451