

imQuest ACR Phantom Report

Report generated on 28-Mar-2022

[Series Info](#)

[Results Summary](#)

[HU Accuracy](#)

[Contrast-to-noise Ratio](#)

[Uniformity](#)

[High Contrast Resolution](#)

[Task Transfer Function](#)

[Noise Power Spectrum](#)

[Detectability Index](#)

[imQuest Version Info](#)

[1](#)
[2](#)
[3](#)
[4](#)
[5](#)
[6](#)
[7](#)
[8](#)
[9](#)
[10](#)

Series Info

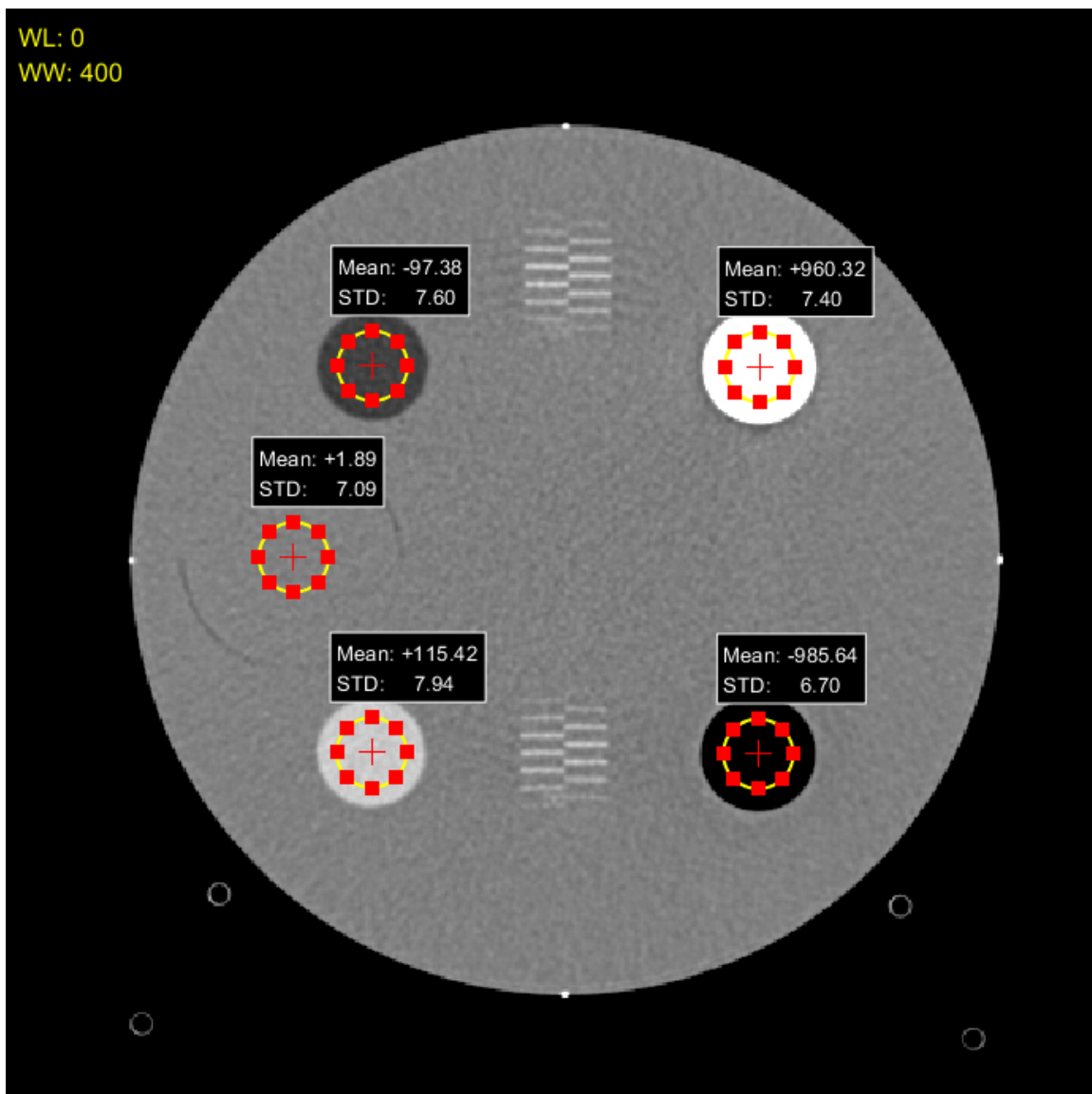
- InstitutionName:
- Manufacturer: SIEMENS
- ManufacturerModelName: SOMATOM Definition Edge
- StationName:
- PatientName: AN_NM_20180726123817
- StudyDescription: Abdomen^35_ACR_4 (Adult)
- SeriesDescription: 200mAs (3) I40
- StudyDate: 20180725
- SeriesDate: 20180725
- AccessionNumber: 20180726123817
- ProtocolName: 35_ACR_4
- SeriesNumber: 12
- AcquisitionNumber: 4
- FilterType: FLAT
- BodyPartExamined: ABDOMEN
- KVP: 100
- ExposureTime: 500
- SingleCollimationWidth: 0.6
- TotalCollimationWidth: 38.4
- TableFeedPerRotation: 23
- SpiralPitchFactor: 0.6
- CTDIvol: 7.8857
- DataCollectionDiameter: 500
- ReconstructionDiameter: 250
- PixelSpacing: [0.48828, 0.48828]
- ConvolutionKernel: I40f3
- SliceThickness: 4
- SeriesInstanceUID: 1.3.12.2.1107.5.1.4.83594.30000018072422111848900104361
- IrradiationEventUID: 1.3.12.2.1107.5.1.4.83594.30000018072422092803800000322
- SeriesImageSize: [512, 512, 57]
- Slice Interval: -3

Results Summary

Test	Result
HU Water	Pass
HU Poly	Pass
HU Bone	Pass
HU Air	Pass
HU Acrylic	Pass
Uniformity	Pass
CNR	0.77
TTF f50% Poly	0.41 cycles/mm
TTF f50% Bone	0.39 cycles/mm
TTF f50% Air	0.37 cycles/mm
TTF f50% Acrylic	0.41 cycles/mm
Noise magnitude	8.10 HU
NPS fav	0.30 cycles/mm
NPS fpeak	0.22 cycles/mm

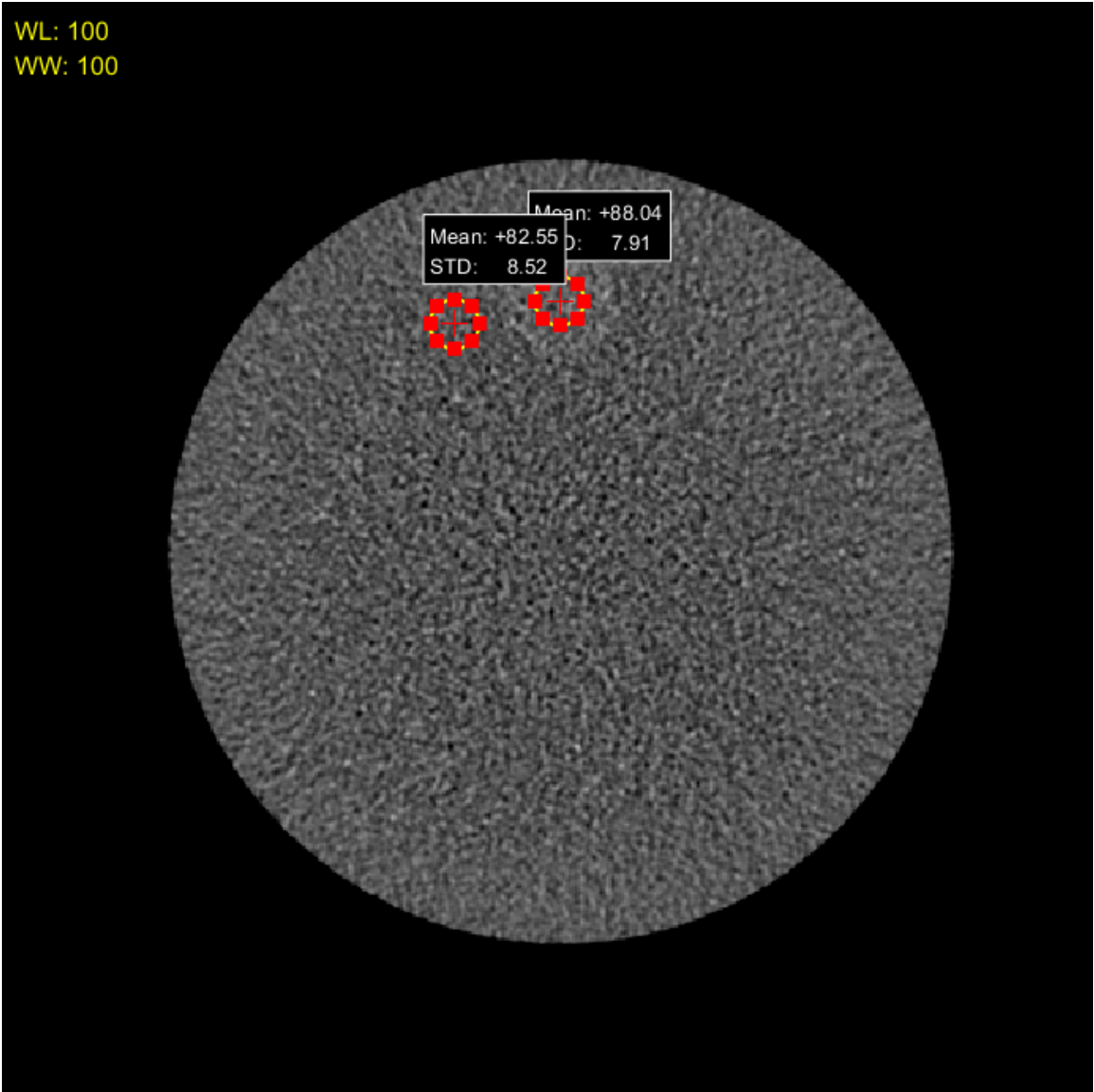
HU Accuracy

Material	Mean [HU]	Tolerance [HU]		Pass/Fail?
Water	2.4	-7	7	Pass
Poly	-97.1	-107	-84	Pass
Bone	958.8	850	970	Pass
Air	-984.8	-1005	-970	Pass
Acrylic	116.0	110	135	Pass



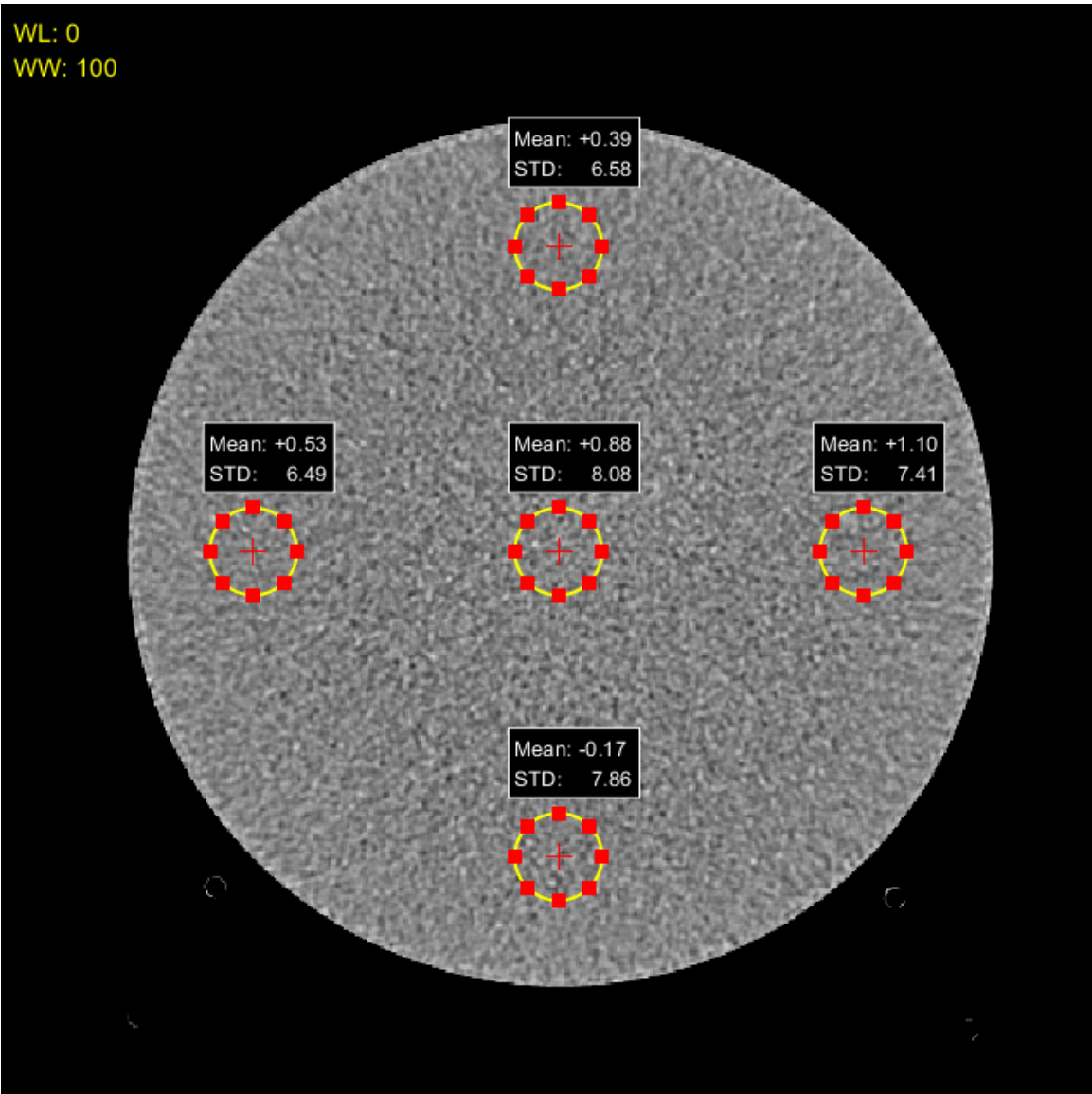
Contrast-to-noise Ratio

Signal [HU]	Bkg [HU]	Noise [HU]	Contrast [HU]	CNR
88.14	82.12	7.81	6.01	0.77



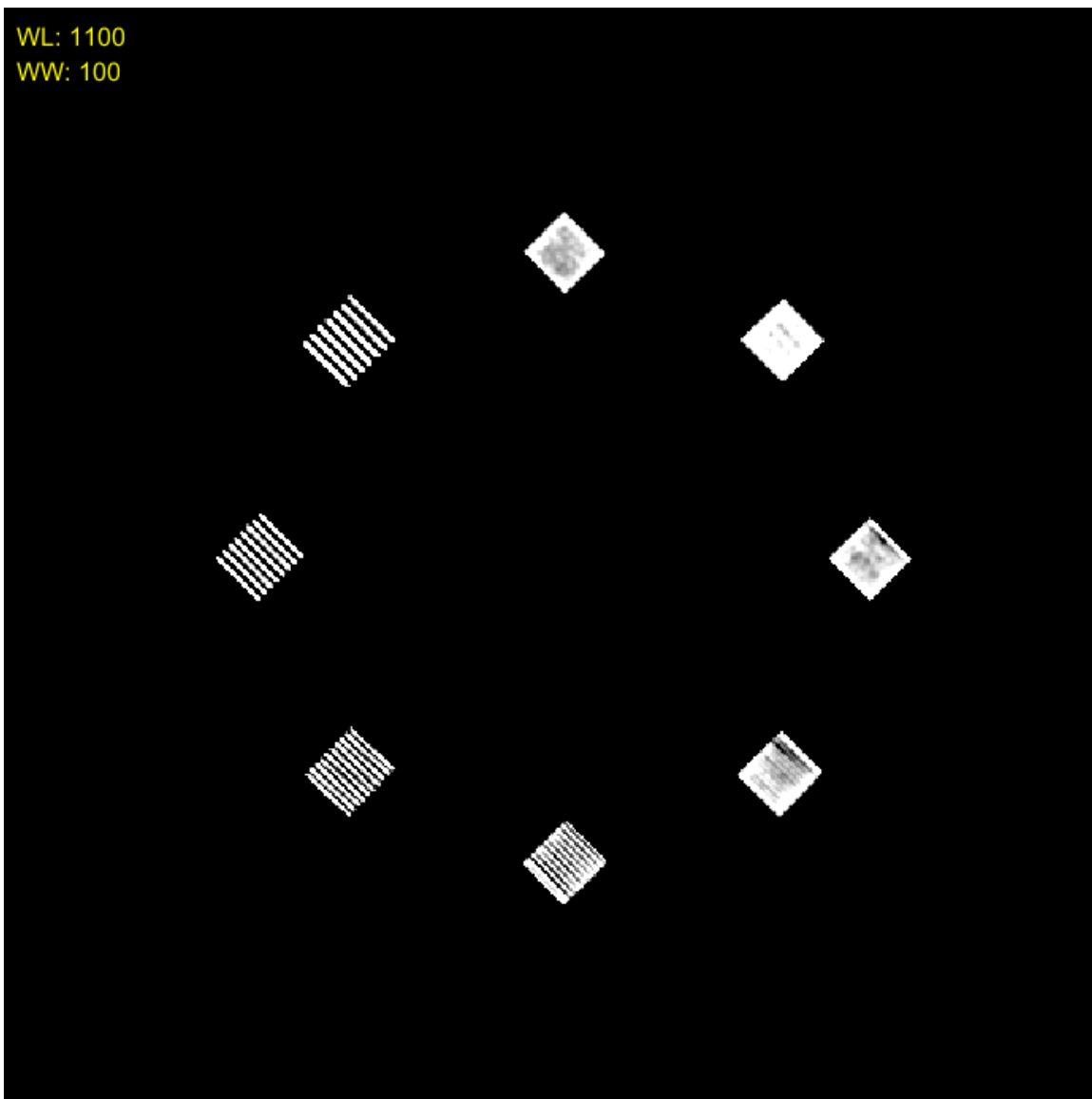
Uniformity

Position	Mean [HU]	Diff from center [HU]	Tolerance [HU]	Pass/Fail?	Noise [HU]
Center	0.7	-	-	-	8.5
12:00	1.2	0.5	5	Pass	6.8
03:00	0.9	0.3	5	Pass	7.0
06:00	1.0	0.3	5	Pass	7.5
09:00	1.1	0.5	5	Pass	6.8
Overall	-	-	-	Pass	-



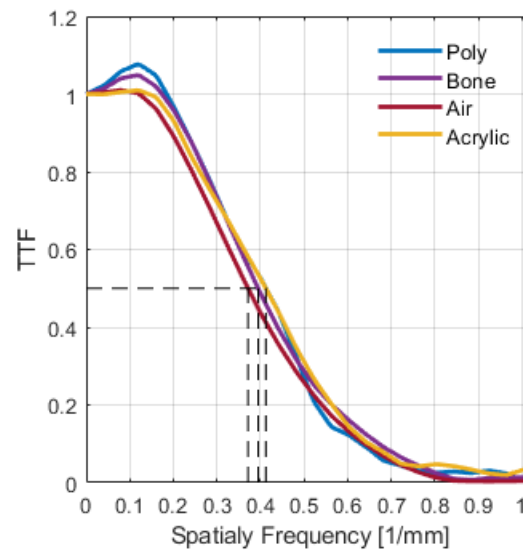
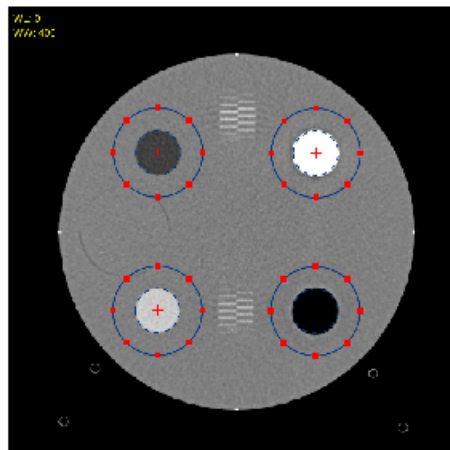
High Contrast Resolution

WL: 1100
WW: 100



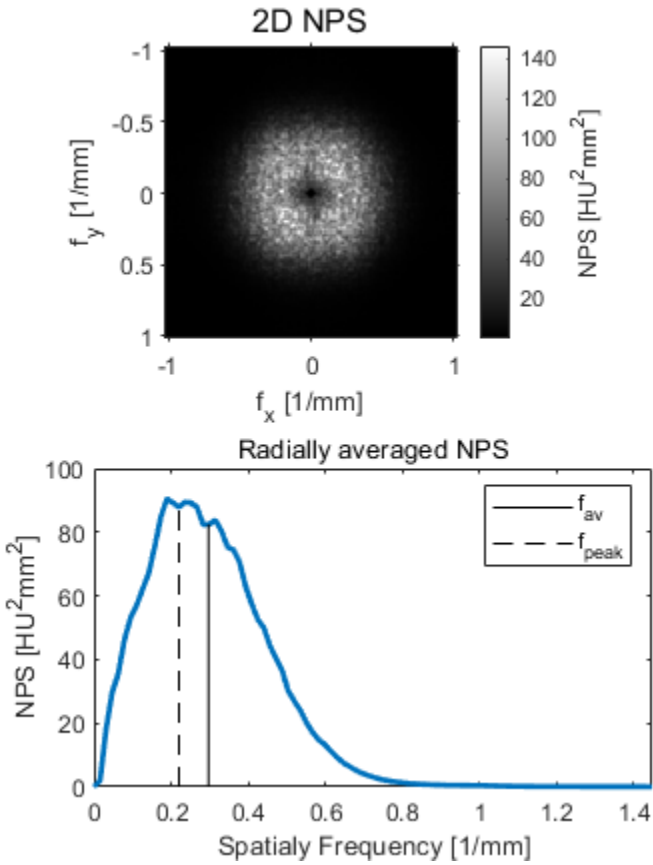
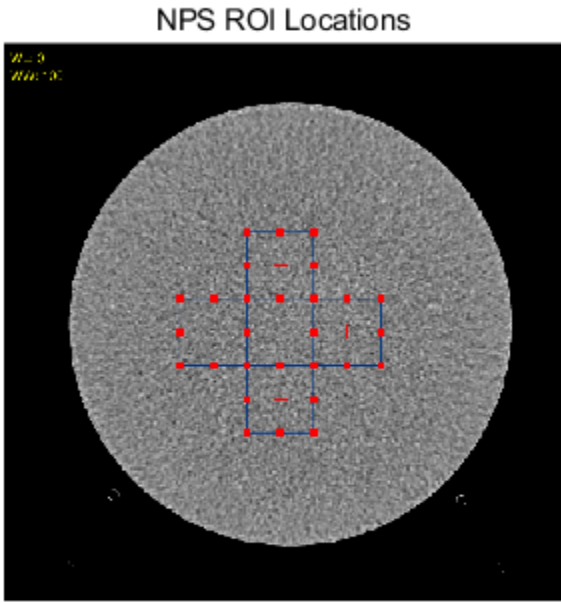
Task Transfer Function

Material	Contrast [HU]	Bkg. Noise [HU]	f50 [1/mm]	f10 [1/mm]
Poly	-95.7	7.6	0.41	1.97
Bone	964.9	8.1	0.39	0.67
Air	-972.7	7.3	0.37	0.64
Acrylic	119.6	7.9	0.41	1.74

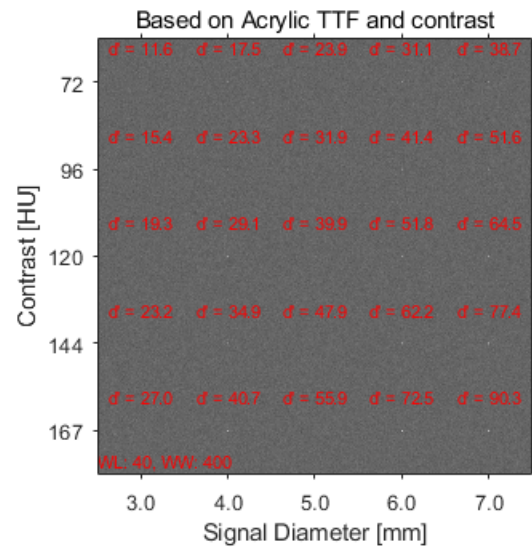
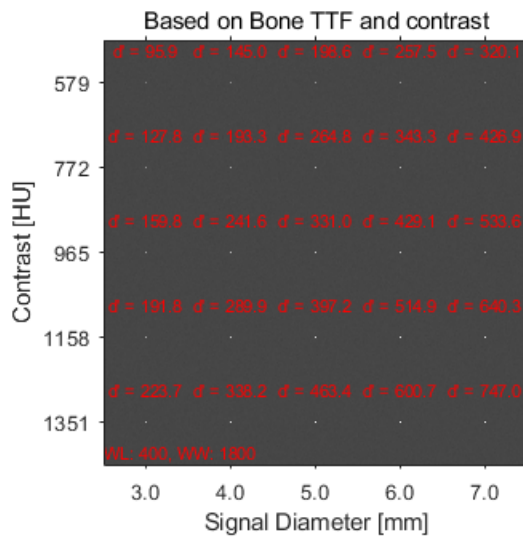
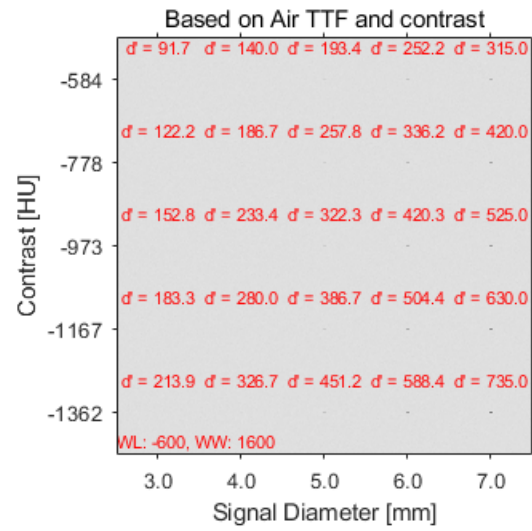
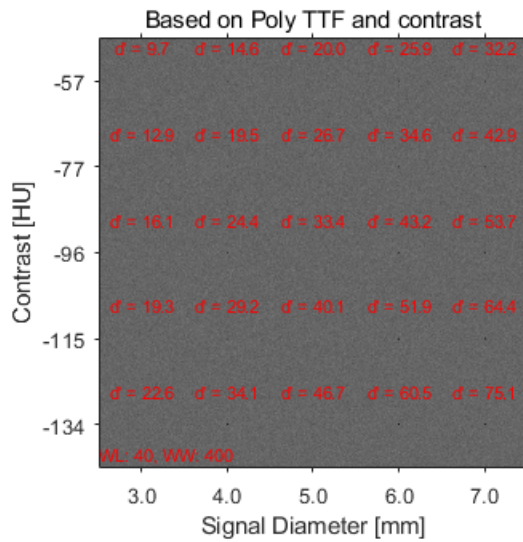


Noise Power Spectrum

Noise Magnitude [HU]	fpeak [1/mm]	fav [1/mm]
8.1	0.22	0.30



Detectability Index



imQuest Version Info

- imquest, GitID: , Branch:
- ImageQuality, GitID: , Branch:
- imtool3D, GitID: , Branch:
- UsefulTools, GitID: , Branch: