

# imQuest ACR Phantom Report

Report generated on 28-Mar-2022

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## Series Info

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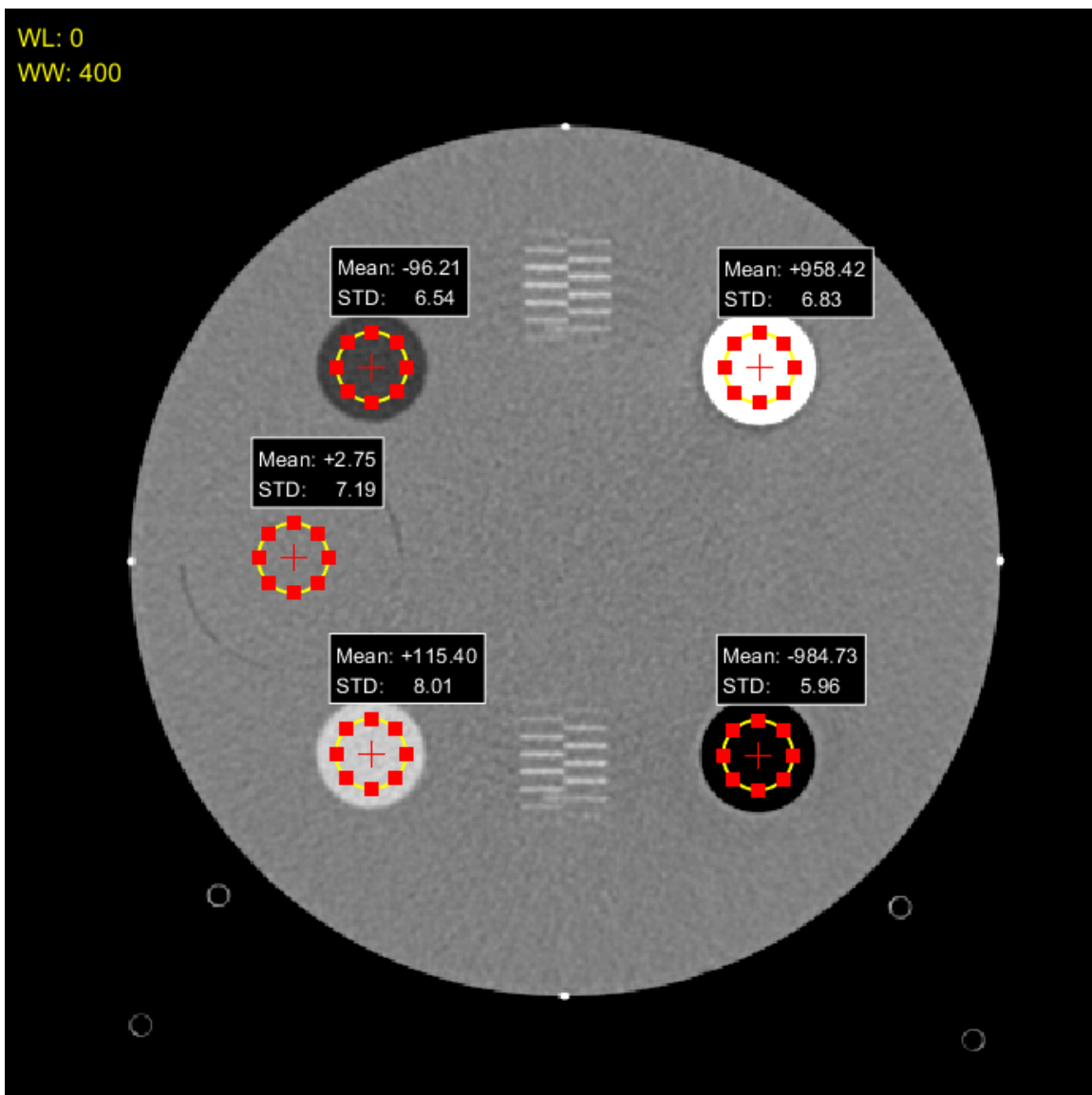
- InstitutionName:
- Manufacturer: SIEMENS
- ManufacturerModelName: SOMATOM Definition Edge
- StationName:
- PatientName: AN\_NM\_20180726132450
- StudyDescription: Abdomen^37\_ACR\_6 (Adult)
- SeriesDescription: 200mAs I40
- StudyDate: 20180725
- SeriesDate: 20180725
- AccessionNumber: 20180726132450
- ProtocolName: 37\_ACR\_6
- SeriesNumber: 2
- AcquisitionNumber: 2
- 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: 1.3.12.2.1107.5.1.4.83594.30000018072422111848900123237
- IrradiationEventUID: 1.3.12.2.1107.5.1.4.83594.30000018072422092803800000348
- 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	0.76
TTF f50% Poly	0.40 cycles/mm
TTF f50% Bone	0.39 cycles/mm
TTF f50% Air	0.37 cycles/mm
TTF f50% Acrylic	0.39 cycles/mm
Noise magnitude	8.15 HU
NPS fav	0.29 cycles/mm
NPS fpeak	0.24 cycles/mm

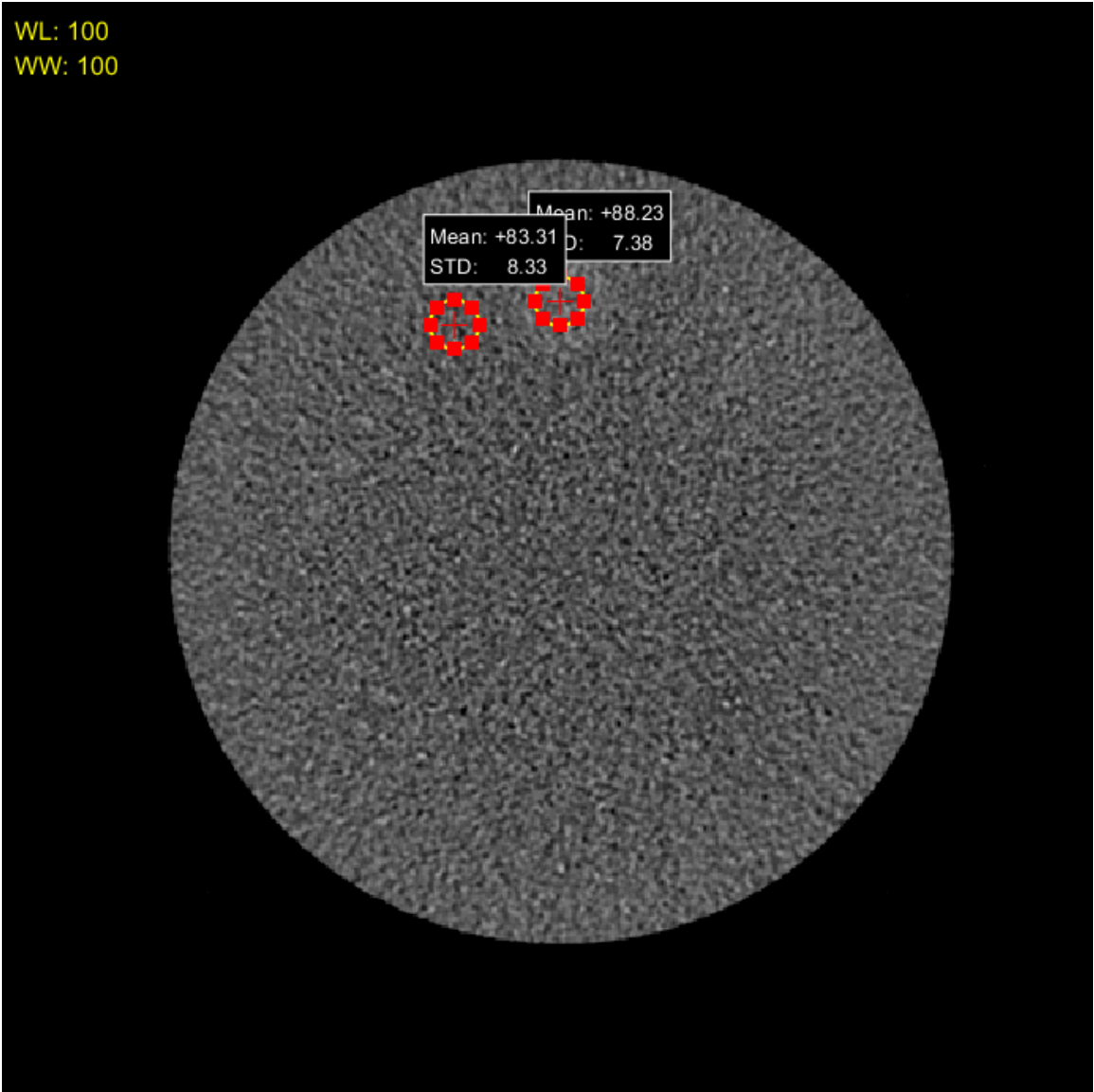
## HU Accuracy

Material	Mean [HU]	Tolerance [HU]		Pass/Fail?
Water	2.9	-7	7	Pass
Poly	-96.4	-107	-84	Pass
Bone	957.4	850	970	Pass
Air	-983.2	-1005	-970	Pass
Acrylic	115.5	110	135	Pass



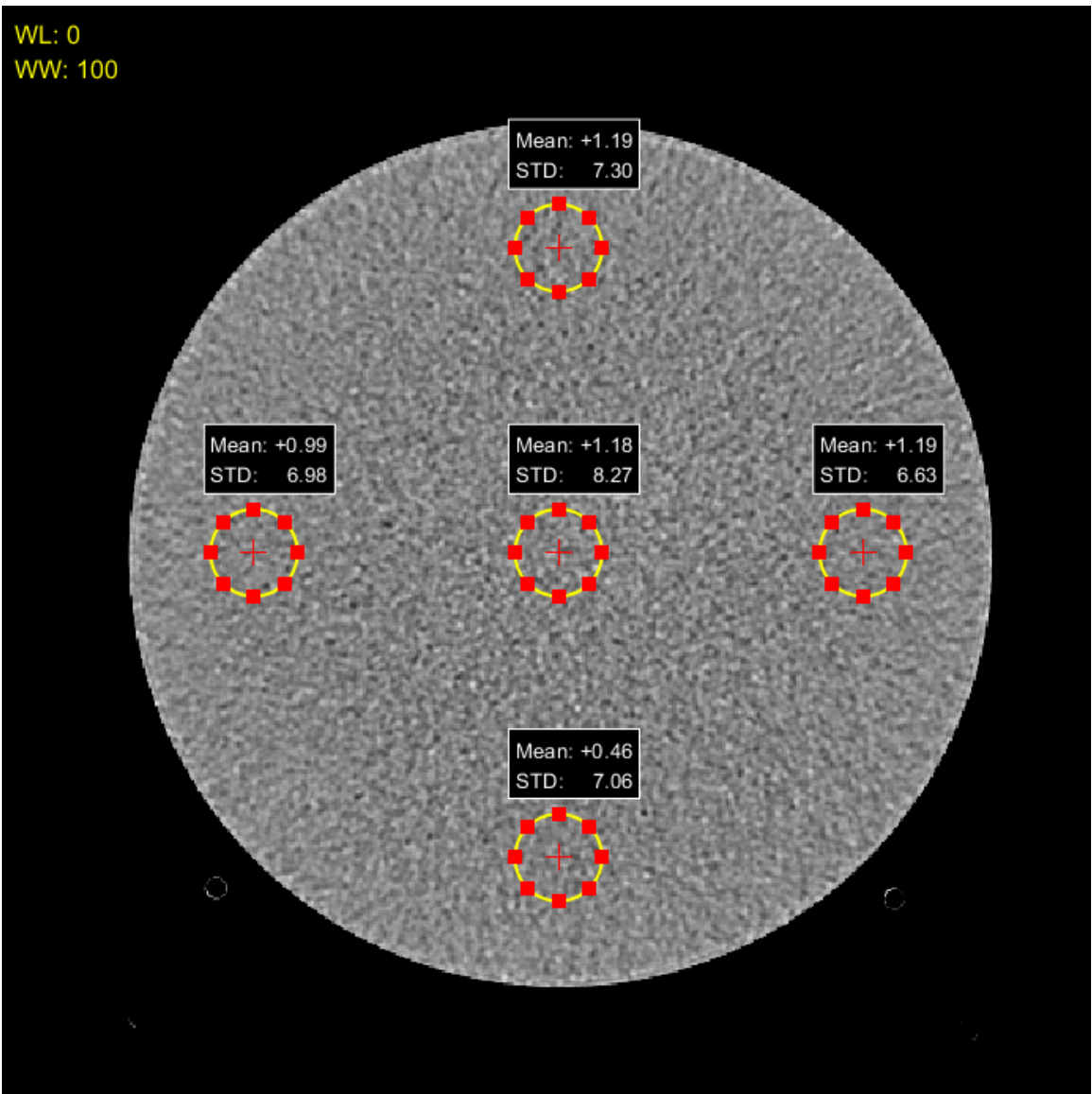
Contrast-to-noise Ratio

Signal [HU]	Bkg [HU]	Noise [HU]	Contrast [HU]	CNR
88.95	82.87	7.98	6.08	0.76



Uniformity

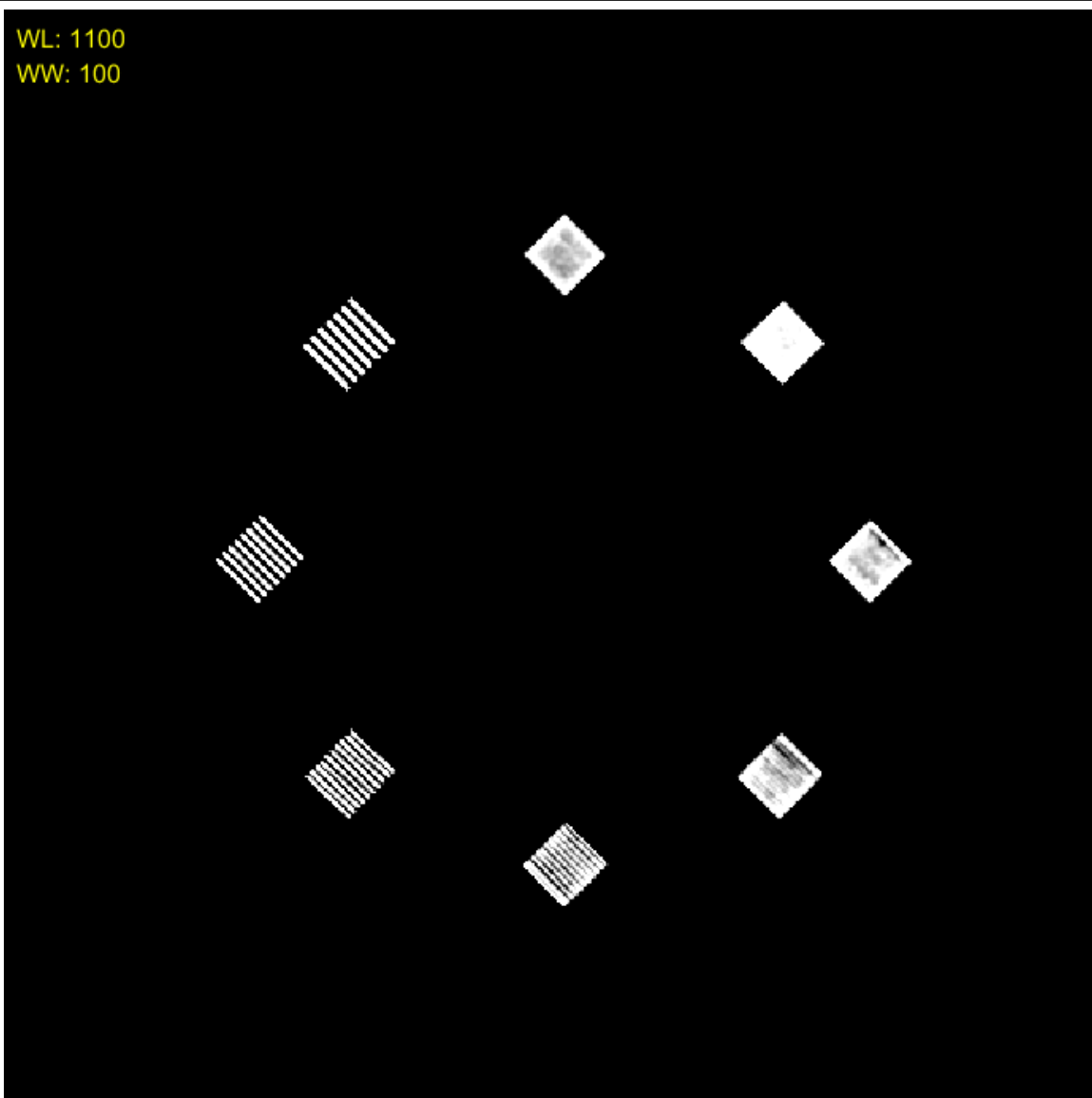
Position	Mean [HU]	Diff from center [HU]	Tolerance [HU]	Pass/Fail?	Noise [HU]
Center	1.5	-	-	-	8.7
12:00	1.9	0.4	5	Pass	7.1
03:00	1.8	0.3	5	Pass	6.9
06:00	1.7	0.2	5	Pass	7.2
09:00	1.8	0.3	5	Pass	7.0
Overall	-	-	-	Pass	-



## High Contrast Resolution

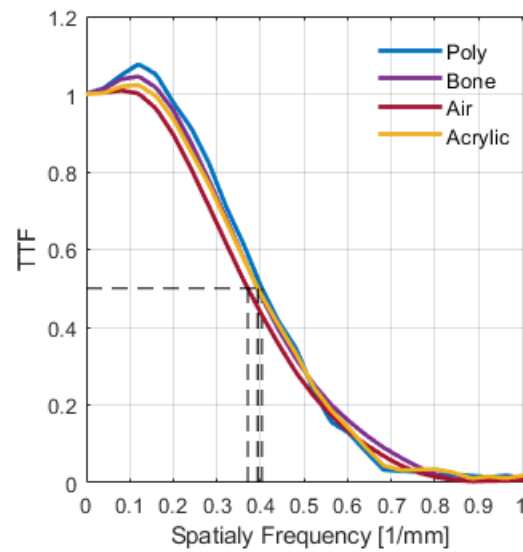
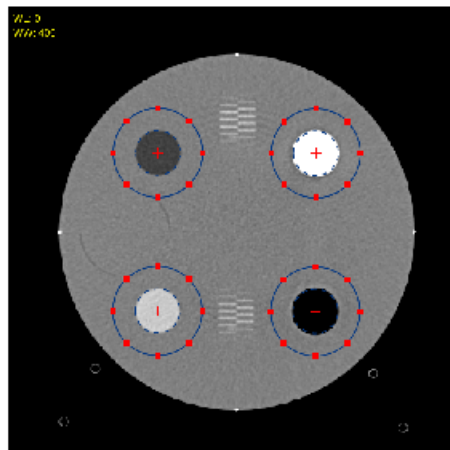
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WL: 1100  
WW: 100



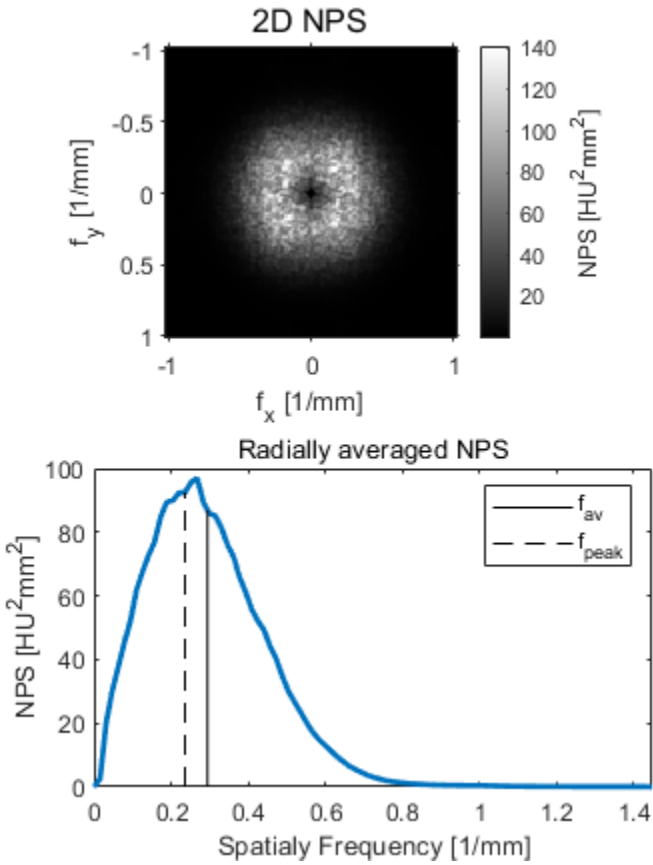
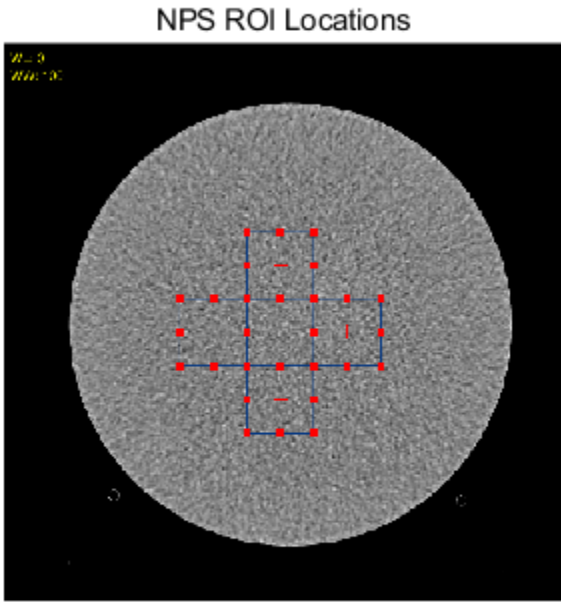
## Task Transfer Function

Material	Contrast [HU]	Bkg. Noise [HU]	f50 [1/mm]	f10 [1/mm]
Poly	-97.2	7.6	0.40	1.84
Bone	964.3	8.2	0.39	0.67
Air	-970.8	7.3	0.37	0.64
Acrylic	118.8	7.8	0.39	1.90



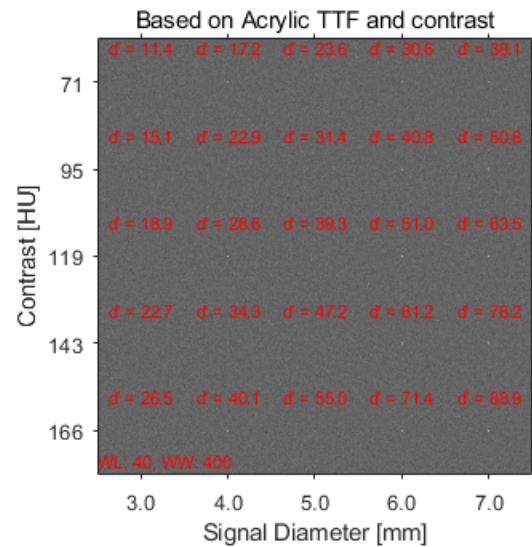
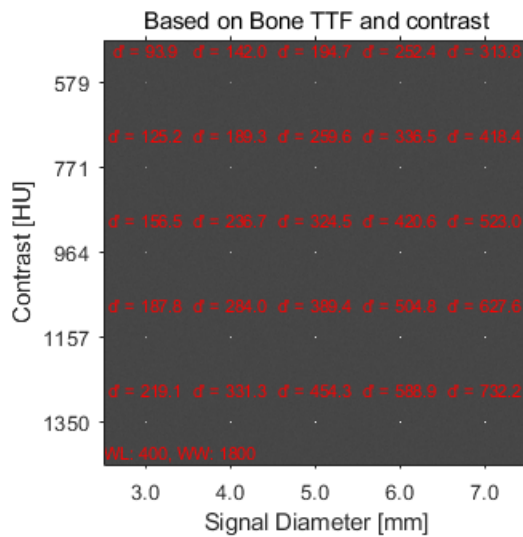
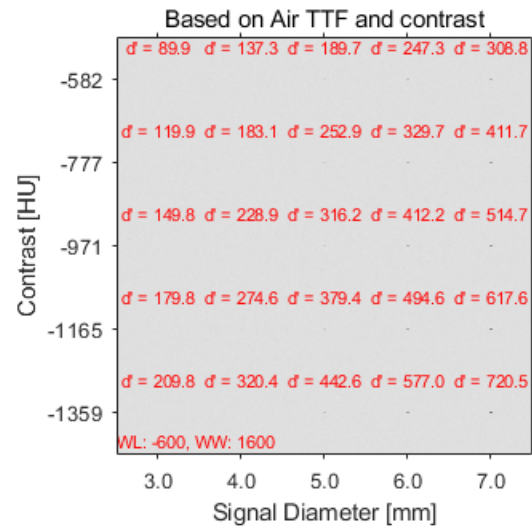
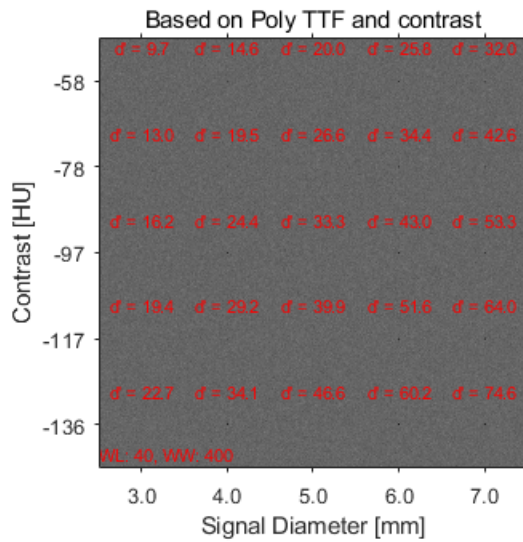
Noise Power Spectrum

Noise Magnitude [HU]	fpeak [1/mm]	fav [1/mm]
8.1	0.24	0.29





## Detectability Index



## imQuest Version Info

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