MEDICAL PHYSICIST'S MAMMOGRAPHY QC TEST SUMMARY
Full-Field Digital – Lorad

Site Name	Essentia Health - Ashland Clinic	**Report Date**	5/16/2019
Address	1625 Maple Lane, Ashland, WI 54806	**Survey Date**	4/17/2019
Medical Physicist's Name	**Steven T. Nicholas**	**Signature**	
X-Ray Unit Manufacturer	*Lorad*	**Model**	*Selenia*
Date of Installation	**11/18/2010, moved 4/28/2016**	**Room ID**	Mammo

QC Manual Version: *(check one; **must** use version applicable to unit tested; contact mfr if questions)*

☐ MAN-00093, Rev. 008 ☑ OTHER (write in): **MAN-01476 Rev. 001 June 2009**

Accessory Equipment:	Manufacturer	Model	Location	QC Manual Version
Review Workstation*	Barco/Hologic	5621/SecureView	☐ On-site ☑ Off-site	MAN-01476 Rev. 001 June 2009
Laser Film Printer*	NA	NA	☐ On-site ☑ Off-site	NA

FDA **recommends that only monitors and printers specifically cleared for FFDM use by FDA's Office of Device Evaluation (ODE) be used, but the use of others is also legal. See FDA's Policy Guidance Help System Modification Document #9 (page 27).*

Survey Type: ☐ Mammo Eqpt Evaluation of new unit (include MQSA Rqmts for Mammo Eqpt checklist) ☑ Annual Survey

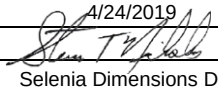
Medical Physicist's QC Tests

			PASS/FAIL
1.	**Mammographic Unit Assembly Evaluation**		
	Performs according to 1999 ACR Mammography Quality Control Manual		**Pass**
	Autodecompression can be overridden to maintain compression (& status displayed)		**Pass**
	Manual emergency compression release can be activated in the event of power failure		**Pass**
2.	**Collimation Assessment**		
	Deviation between X-ray field and light field ≤ 2% of SID		**Pass**
	X-ray field does not extend beyond any side of the IR by >2% of SID		**Pass**
	X-ray field covers all of the IR on the chest wall side		**Pass**
	Paddle chest wall edge does not extend beyond IR by >1% of SID or appear on mammogram		**Pass**
3.	**Artifact Evaluation** *(no significant artifacts visible)*		**Pass**
4.	**kVp Accuracy and Reproducibility**		
	Measured average kVp within ±5% of indicated kVp		**Pass**
	kVp coefficient of variation ≤ 0.02		**Pass**
5.	**Beam Quality Assessment - HVL Measurement**		**Pass**
			Pass
7.	**Automatic Exposure Control (AEC) Function Performance** *(NA for systems without AEC)*		
	Each pixel value (2-8 cm; all operating modes) within ±10% of mean		**Pass**
	Exposure compensation steps performance within acceptable limits		**Pass**
8.	**Breast Entrance Exposure, AEC Reproducibility and Average Glandular Dose**		
	Average glandular dose for average breast is ≤ 3 mGy (300 mrad)	124 mrad	**Pass**
	Coefficient of variation for either R or mAs ≤ 0.05 (NA for systems without AEC)		**Pass**
9.	**Radiation Output Rate** *(>7.0 mGy air kerma/sec (800 mR/sec) @ 28 kVp, Mo/Mo)*		**Pass**
10.	**Phantom Image Quality Evaluation**		
	5 largest fibers, 4 largest speck groups and 4 largest masses are visible*		**Pass**
	(*4.5 fibers, 4.0 speck groups and 3.5 masses may be acceptable under certain circumstances)		
	Phantom image quality scores: Fibers 6.0 Specks 4.0 Masses 4.0		
	Hard copy background density must be ≥ 1.20 (with operating level ≥ 1.40)		**NA**
	Hard copy density difference (DD) over acrylic disk must be within acceptable limits		**NA**
	Optical densities: Background **NA** Disk **NA** DD **NA**		
11.	**Signal-To-Noise Ratio (SNR) and Contrast-To-Noise Ratio (CNR) Measurement** *(values required for all tests)*		
	SNR is ≥ 40	SNR **61.0**	**Pass**
	CNR should not vary by more than ±15% *(NA for Equipment Evaluation)*	CNR **12.84**	**Pass**
12.	**Viewbox Luminance and Room Illuminance**		
	Mammographic viewbox is capable of a luminance of at least 3000 cd/sq m (nit)		**Pass**
	Room illuminance (viewbox surface as seen by observer) is ≤ 50 lux		**Pass**
	Room illuminance (monitor surface) is ≤ 20 lux for softcopy reading		**Pass**
13.	**Review Workstation (RWS) Tests* (for all RWS, even if located offsite)**		
	Overall Results *("Pass" means all tests pass; indicate "Fail" if any test fails)*		**Pass**

***FDA requires that all RWS comply with a QC program that is **substantially the same** as that recommended by the **image receptor manufacturer**. If the RWS is FDA-approved, the RWS's QC manual is considered to be "substantially the same" and you may follow it. (Check with the RWS manufacturer for their FDA clearance status and QC manual.) If the RWS is **not** FDA-approved for FFDM, you **must** follow the QC manual provided by the image receptor manufacturer. (Check with the image receptor manufacturer for their required tests.)*

****** YOUR MEDICAL PHYSICIST MUST SUMMARIZE HIS/HER RESULTS ON THIS FORM ******

MEDICAL PHYSICIST'S MAMMOGRAPHY QC TEST SUMMARY
Full-Field Digital – Lorad/Hologic

Site Name	St. Francis Regional Medical Center	**Report Date**	Prelim 4/24/2019
Address	1455 St. Francis Ave., Shakopee, MN 55379	**Survey Date**	4/24/2019
Medical Physicist's Name	Steven T. Nicholas	**Signature**	
X-Ray Unit Manufacturer	Lorad/Hologic	**Model**	Selenia Dimensions DBT
Date of Installation	4/24/2019	**Room ID**	Mammo
		SN	SDM131700475

QC Manual Version # **MAN-03706, Rev. 008 (Dec 2018)** (*use any version applicable to model; contact mfr if questions*)

Accessory Equipment	Manufacturer	Model	Location	QC Manual Version #
Review Workstation*	Hologic	SecureView	**On-Site**	MAN-03706, Rev. 008 (Dec 2018)
Film Printer*	NA	NA	**NA**	NA

**FDA recommends that only monitors and printers specifically cleared for FFDM use by FDA's Office of Device Evaluation (ODE) be used. See FDA's Policy Guidance Help System (www.accessdata.fda.gov/cdrh_docs/presentations/pghs/Polic_Guidance_Help_System.htm).*

Survey Type-Features- **Mammo Eqpt Evaluation (MEE) of new unit (include MQSA Rqmts for Mammo Eqpt checklist)** **2D** and **Digital Breast Tomosynthesis (DBT)**

Medical Physicist's QC Tests

("Pass" means all components of the test passes; indicate "Fail" if any component fails. Tests must be done for both on and off-site equipment.)

				PASS/FAIL
1.	**Mammographic Unit Assembly Evaluation**			**Pass**
2.	**Collimation Assessment**			**Pass**
3.	**Artifact Evaluation**			**Pass**
4.	**kVp Accuracy and Reproducibility**			**Pass**
5.	**Beam Quality Assessment - HVL Measurement**			**Pass**
6.	**Evaluation of System Resolution**			**Pass**
7.	**Automatic Exposure Control (AEC) Function Performance** *(NA for systems without AEC)*			**Pass**
8.	**Breast Entrance Exposure, AEC Reproducibility and Average Glandular Dose**			
	Average glandular dose for average breast is ≤3 mGy (300 mrad) *(conventional)*	115	mrad	**Pass**
	Average glandular dose for average breast is ≤3 mGy (300 mrad) ***(DBT)***	141	mrad	**Pass**
9.	**Radiation Output Rate**			**Pass**

10. Phantom Image Quality Evaluation

	Fibers	Specks	Masses	
Phantom image scores *(conventional)*	6.0	4.0	4.5	**Pass**
Phantom image scores ***(DBT)***	6.0	4.0	4.5	**Pass**

11. Signal-To-Noise Ratio and Contrast-To-Noise Ratio Measurements *(values required for all tests)*

SNR *(value)*	53.6		**Pass**
CNR *(value)*	10.51	*(required for new unit MEE and Annual Survey)*	
CNR should not vary by more than ±15% *(NA for MEE)*			**NA**

12.	**Diagnostic Review Workstation (RWS) QC** *(for all RWS, even if located offsite; NA if only hardcopy read)*	**Pass**
13.	**DICOM Printer QC** *(if applicable, MEE only)*	**NA**
14.	**Detector Flat Field Calibration** *(MEE only)*	**Pass**
15.	**Geometry Calibration For Tomosynthsis** ***(DBT MEE only)***	**Pass**
16.	**Compression Thickness Indicator** *(MEE only)*	**Pass**
17.	**Compression** *(MEE only)*	**Pass**
18.	**Detector Ghosting** *(troubleshooting only)*	**NA**

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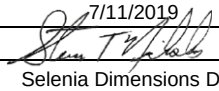
MEDICAL PHYSICIST'S MAMMOGRAPHY QC TEST SUMMARY
Full-Field Digital – Lorad/Hologic

Site Name	CMDI at FirstLight Health System	**Report Date**	7/11/2019
Address	1425 N Main Street, Pine City, MN 55063	**Survey Date**	7/11/2019
Medical Physicist's Name	Steven T. Nicholas	**Signature**	
X-Ray Unit Manufacturer	Lorad/Hologic	**Model**	Selenia Dimensions DBT
Date of Installation	7/10/2019	**Room ID**	Mammo
		SN	SDM131900771
QC Manual Version #	**MAN-03706, Rev. 008 (Dec 2018)**	*(use any version applicable to model; contact mfr if questions)*	

Accessory Equipment	Manufacturer	Model	Location	QC Manual Version #
Review Workstation*	Barco/Hologic	MDMG-5221	☐ On-site ☑ Off-site	MAN-04959, Rev. 002
Film Printer*	NA	NA	**NA**	NA

**FDA recommends that only monitors and printers specifically cleared for FFDM use by FDA's Office of Device Evaluation (ODE) be used. See FDA's Policy Guidance Help System (www.accessdata.fda.gov/cdrh_docs/presentations/pghs/Polic_Guidance_Help_System.htm).*

Survey Type-Features- **Mammo Eqpt Evaluation (MEE) of new unit (include MQSA Rqmts for Mammo Eqpt checklist)** **2D** and **Digital Breast Tomosynthesis (DBT)**

Medical Physicist's QC Tests

("Pass" means all components of the test passes; indicate "Fail" if any component fails. Tests must be done for both on and off-site equipment.)

				PASS/FAIL
1.	**Mammographic Unit Assembly Evaluation**			**Pass**
2.	**Collimation Assessment**			**Pass**
3.	**Artifact Evaluation**			**Pass**
4.	**kVp Accuracy and Reproducibility**			**Pass**
5.	**Beam Quality Assessment - HVL Measurement**			**Pass**
6.	**Evaluation of System Resolution**			**Pass**
7.	**Automatic Exposure Control (AEC) Function Performance** *(NA for systems without AEC)*			**Pass**
8.	**Breast Entrance Exposure, AEC Reproducibility and Average Glandular Dose**			
	Average glandular dose for average breast is ≤3 mGy (300 mrad) *(conventional)*	117	mrad	**Pass**
	Average glandular dose for average breast is ≤3 mGy (300 mrad) ***(DBT)***	143	mrad	**Pass**
9.	**Radiation Output Rate**			**Pass**

10. Phantom Image Quality Evaluation

	Fibers	Specks	Masses	
Phantom image scores *(conventional)*	6.0	4.0	4.5	**Pass**
Phantom image scores ***(DBT)***	5.0	4.0	4.0	**Pass**

11. Signal-To-Noise Ratio and Contrast-To-Noise Ratio Measurements *(values required for all tests)*

SNR *(value)*	56.9		**Pass**
CNR *(value)*	11.42	*(required for new unit MEE and Annual Survey)*	
CNR should not vary by more than ±15% *(NA for MEE)*			**NA**

12.	**Diagnostic Review Workstation (RWS) QC** *(for all RWS, even if located offsite; NA if only hardcopy read)*	**Pass**
13.	**DICOM Printer QC** *(if applicable, MEE only)*	**NA**
14.	**Detector Flat Field Calibration** *(MEE only)*	**Pass**
15.	**Geometry Calibration For Tomosynthsis** ***(DBT MEE only)***	**Pass**
16.	**Compression Thickness Indicator** *(MEE only)*	**Pass**
17.	**Compression** *(MEE only)*	**Pass**
18.	**Detector Ghosting** *(troubleshooting only)*	**NA**

****** YOUR MEDICAL PHYSICIST MUST SUMMARIZE HIS/HER RESULTS ON THIS FORM ******

MEDICAL PHYSICIST'S MAMMOGRAPHY QC TEST SUMMARY
Full-Field Digital – Lorad

Site Name	Riverwood Clinic McGregor	**Report Date**	5/13/2019
Address	2 East Center Ave., Mcgregor, MN 55760	**Survey Date**	4/15/2019
Medical Physicist's Name	**Steven T. Nicholas**	**Signature**	
X-Ray Unit Manufacturer	*Lorad/Hologic*	**Model**	*Selenia*
Date of Installation	**7/13/2011**	**Room ID**	138 Mammography

QC Manual Version: *(check one; **must** use version applicable to unit tested; contact mfr if questions)*

☐ MAN-00093, Rev. 008 ☒ OTHER (write in): **MAN-01476 Rev. 001 June 2009**

Accessory Equipment:	Manufacturer	Model	Location	QC Manual Version
Review Workstation*	Hologic/Barco	MDMG-5221	☐ On-site ☒ Off-site	MAN-04959, Rev. 002
Laser Film Printer*	NA	NA	NA	NA

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Survey Type: ☐ Mammo Eqpt Evaluation of new unit (include MQSA Rqmts for Mammo Eqpt checklist) ☒ Annual Survey

Medical Physicist's QC Tests

		PASS/FAIL
1.	**Mammographic Unit Assembly Evaluation**	
	Performs according to 1999 ACR Mammography Quality Control Manual	**Pass**
	Autodecompression can be overridden to maintain compression (& status displayed)	**Pass**
	Manual emergency compression release can be activated in the event of power failure	**Pass**
2.	**Collimation Assessment**	
	Deviation between X-ray field and light field ≤ 2% of SID	**Pass**
	X-ray field does not extend beyond any side of the IR by >2% of SID	**Pass**
	X-ray field covers all of the IR on the chest wall side	**Pass**
	Paddle chest wall edge does not extend beyond IR by >1% of SID or appear on mammogram	**Pass**
3.	**Artifact Evaluation** *(no significant artifacts visible)*	**Pass**
4.	**kVp Accuracy and Reproducibility**	
	Measured average kVp within ±5% of indicated kVp	**Pass**
	kVp coefficient of variation ≤ 0.02	**Pass**
5.	**Beam Quality Assessment - HVL Measurement**	**Pass**
6.	**Evaluation of System Resolution** *(system limiting spatial resolution >7 cycles/mm (lp/mm))*	**Pass**
7.	**Automatic Exposure Control (AEC) Function Performance** *(NA for systems without AEC)*	
	Each pixel value (2-8 cm; all operating modes) within ±10% of mean	**Pass**
	Exposure compensation steps performance within acceptable limits	**Pass**
8.	**Breast Entrance Exposure, AEC Reproducibility and Average Glandular Dose**	
	Average glandular dose for average breast is ≤ 3 mGy (300 mrad) — 182 mrad	**Pass**
	Coefficient of variation for either R or mAs ≤ 0.05 (NA for systems without AEC)	**Pass**
9.	**Radiation Output Rate** *(Mo/Mo > 800 mR/sec, W/Rh > 230 mR/sec)*	**Pass**
10.	**Phantom Image Quality Evaluation**	
	5 largest fibers, 4 largest speck groups and 4 largest masses are visible*	**Pass**
	(*4.5 fibers, 4.0 speck groups and 3.5 masses may be acceptable under certain circumstances)	
	Phantom image quality scores: Fibers 6.0 Specks 4.0 Masses 4.5	
	Hard copy background density must be ≥ 1.20 (with operating level ≥ 1.40)	**NA**
	Hard copy density difference (DD) over acrylic disk must be within acceptable limits	**NA**
	Optical densities: Background **NA** Disk **NA** DD **NA**	
11.	**Signal-To-Noise Ratio (SNR) and Contrast-To-Noise Ratio (CNR) Measurement** *(values required for all tests)*	
	SNR is ≥ 40 — SNR **44.3**	**Pass**
	CNR should not vary by more than ±15% *(NA for Equipment Evaluation)* — CNR **10.35**	**Pass**
12a.	**DICOM Printer QC** *(required for MEE only)*	**NA**
12b.	**Viewbox Luminance and Room Illuminance**	
	Mammographic viewbox is capable of a luminance of at least 3000 cd/sq m (nit)	**Pass**
	Room illuminance (viewbox surface as seen by observer) is ≤ 50 lux	**Pass**
	Room illuminance (monitor surface) is ≤ 20 lux for softcopy reading	**Pass**
13.	**Review Workstation (RWS) Tests* (for all RWS, even if located offsite)**	
	Overall Results *("Pass" means all tests pass; indicate "Fail" if any test fails)*	**Pass**
14.	**Detector Flat Field Calibration** *(required for MEE only)*	**NA**
15.	**Compression Thickness Indicator** *(required for MEE only)*	**Pass**
16.	**Compression** *(required for MEE only)*	**NA**

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****** YOUR MEDICAL PHYSICIST MUST SUMMARIZE HIS/HER RESULTS ON THIS FORM ******

MEDICAL PHYSICIST'S MAMMOGRAPHY QC TEST SUMMARY
Full-Field Digital – Lorad

Site Name	Riverwood Garrison Clinic	**Report Date**	5/13/2019
Address	27278 State Highway 18, Garrison, MN 56450	**Survey Date**	4/15/2019
Medical Physicist's Name	Steven T. Nicholas	**Signature**	
X-Ray Unit Manufacturer	*Lorad/Hologic*	**Model**	*Selenia*
Date of Installation	7/20/2011	**Room ID**	110 Mammography

QC Manual Version: *(check one; **must** use version applicable to unit tested; contact mfr if questions)*

☐ MAN-00093, Rev. 008 ☒ OTHER (write in): **MAN-01476 Rev. 001 June 2009**

Accessory Equipment:	Manufacturer	Model	Location	QC Manual Version
Review Workstation*	Hologic/Barco	MDNG-5121 BB	☐ On-site ☒ Off-site	MAN-01476 Rev. 001 June 2009
Laser Film Printer*	NA	NA	NA	NA

FDA **recommends that only monitors and printers specifically cleared for FFDM use by FDA's Office of Device Evaluation (ODE) be used, but the use of others is also legal. See FDA's Policy Guidance Help System Modification Document #9 (page 27).*

Survey Type: ☐ Mammo Eqpt Evaluation of new unit (include MQSA Rqmts for Mammo Eqpt checklist) ☒ Annual Survey

Medical Physicist's QC Tests

		PASS/FAIL
1.	**Mammographic Unit Assembly Evaluation**	
	Performs according to 1999 ACR Mammography Quality Control Manual	**Pass**
	Autodecompression can be overridden to maintain compression (& status displayed)	**Pass**
	Manual emergency compression release can be activated in the event of power failure	**Pass**
2.	**Collimation Assessment**	
	Deviation between X-ray field and light field ≤ 2% of SID	**Pass**
	X-ray field does not extend beyond any side of the IR by >2% of SID	**Pass**
	X-ray field covers all of the IR on the chest wall side	**Pass**
	Paddle chest wall edge does not extend beyond IR by >1% of SID or appear on mammogram	**Pass**
3.	**Artifact Evaluation** *(no significant artifacts visible)*	**Pass**
4.	**kVp Accuracy and Reproducibility**	
	Measured average kVp within ±5% of indicated kVp	**Pass**
	kVp coefficient of variation ≤ 0.02	**Pass**
5.	**Beam Quality Assessment - HVL Measurement**	**Pass**
6.	**Evaluation of System Resolution** *(system limiting spatial resolution >7 cycles/mm (lp/mm))*	**Pass**
7.	**Automatic Exposure Control (AEC) Function Performance** *(NA for systems without AEC)*	
	Each pixel value (2-8 cm; all operating modes) within ±10% of mean	**Pass**
	Exposure compensation steps performance within acceptable limits	**Pass**
8.	**Breast Entrance Exposure, AEC Reproducibility and Average Glandular Dose**	
	Average glandular dose for average breast is ≤ 3 mGy (300 mrad) — 159 mrad	**Pass**
	Coefficient of variation for either R or mAs ≤ 0.05 (NA for systems without AEC)	**Pass**
9.	**Radiation Output Rate** *(Mo/Mo > 800 mR/sec, W/Rh > 230 mR/sec)*	**Pass**
10.	**Phantom Image Quality Evaluation**	
	5 largest fibers, 4 largest speck groups and 4 largest masses are visible*	**Pass**
	(*4.5 fibers, 4.0 speck groups and 3.5 masses may be acceptable under certain circumstances)	
	Phantom image quality scores: Fibers 6.0 Specks 4.0 Masses 4.5	
	Hard copy background density must be ≥ 1.20 (with operating level ≥ 1.40)	**NA**
	Hard copy density difference (DD) over acrylic disk must be within acceptable limits	**NA**
	Optical densities: Background **NA** Disk **NA** DD **NA**	
11.	**Signal-To-Noise Ratio (SNR) and Contrast-To-Noise Ratio (CNR) Measurement** *(values required for all tests)*	
	SNR is ≥ 40 — SNR **44.1**	**Pass**
	CNR should not vary by more than ±15% *(NA for Equipment Evaluation)* — CNR **10.65**	**Pass**
12a.	**DICOM Printer QC** *(required for MEE only)*	**NA**
12b.	**Viewbox Luminance and Room Illuminance**	
	Mammographic viewbox is capable of a luminance of at least 3000 cd/sq m (nit)	**Pass**
	Room illuminance (viewbox surface as seen by observer) is ≤ 50 lux	**Pass**
	Room illuminance (monitor surface) is ≤ 20 lux for softcopy reading	**Pass**
13.	**Review Workstation (RWS) Tests* (for all RWS, even if located offsite)**	
	Overall Results *("Pass" means all tests pass; indicate "Fail" if any test fails)*	**Pass**
14.	**Detector Flat Field Calibration** *(required for MEE only)*	**NA**
15.	**Compression Thickness Indicator** *(required for MEE only)*	**Pass**
16.	**Compression** *(required for MEE only)*	**NA**

***FDA requires that all RWS comply with a QC program that is **substantially the same** as that recommended by the **image receptor manufacturer**. If the RWS is FDA-approved, the RWS's QC manual is considered to be "substantially the same" and you may follow it. (Check with the RWS manufacturer for their FDA clearance status and QC manual.) If the RWS is **not** FDA-approved for FFDM, you **must** follow the QC manual provided by the image receptor manufacturer. (Check with the image receptor manufacturer for their required tests.)*

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MEDICAL PHYSICIST'S MAMMOGRAPHY QC TEST SUMMARY
Full-Field Digital – Lorad

Site Name	St Luke's - Chequamegon Clinic	**Report Date**	5/16/2019
Address	2201 Lakeshore Drive E, Ashland, WI 54806	**Survey Date**	4/17/2019
Medi Steven T. Nicholas	Steven T. Nicholas	**Signature**	
X-Ray Unit Manufacturer	Hologic	**Model**	Selenia Dimensions DBT
Date of Installation	3/14/18	**Room ID**	Mammography/DEXA Room #129
		SN	SDM131900240

QC Manual Version # **MAN-03706, Rev. 006 (June 2017)** (*use any version applicable to model; contact mfr if questions*)

Accessory Equipment	Manufacturer	Model	Location	QC Manual Version #
Review Workstation*	Barco/Hologic	MDMG-5221	☐ On-site ☑ Off-site	MAN-04959, Rev. 002
Film Printer*	NA	NA	NA	NA

**FDA recommends that only monitors and printers specifically cleared for FFDM use by FDA's Office of Device Evaluation (ODE) be used. See FDA's Policy Guidance Help System www.fda.gov/CDRH/MAMMOGRAPHY/robohelp/START.HTM.*

Survey Type ☐ Mammo Eqpt Evaluation of new unit (include MQSA Rqmts for Mammo Eqpt checklist) ☑ Annual Survey

Medical Physicist's QC Tests

("Pass" means all components of the test passes; indicate "Fail" if any component fails. Tests must be done for both on and off-site equipment.)

	PASS/FAIL
1. Mammographic Unit Assembly Evaluation	**Pass**
2. Collimation Assessment	**Pass**
3. Artifact Evaluation	**Pass**
4. kVp Accuracy and Reproducibility	**Pass**
5. Beam Quality Assessment - HVL Measurement	**Pass**
6. Evaluation of System Resolution	**Pass**
7. Automatic Exposure Control (AEC) Function Performance *(NA for systems without AEC)*	**Pass**
8. Breast Entrance Exposure, AEC Reproducibility and Average Glandular Dose	**Pass**
Average glandular dose for average breast is ≤3 mGy (300 mrad) — 111 mrad	
9. Radiation Output Rate	**Pass**
10. Phantom Image Quality Evaluation	**Pass**
Phantom image scores: Fibers 6.0 Specks 4.0 Masses 4.5	
11. Signal-To-Noise Ratio and Contrast-To-Noise Ratio Measurements *(values required for all tests)*	
SNR *(value)* 52.3	**Pass**
CNR *(value)* 10.18 *(Required for both new unit Mammography Equipment Evaluations and Annual Surveys)*	
CNR should not vary by more than ±15% *(NA for Equipment Evaluation)*	**Pass**
12. Diagnostic Review Workstation (RWS) QC *(for all RWS, even if located offsite; NA if only hardcopy read)*	**Pass**
13. DICOM Printer QC *(Mammography Equipment Evaluations only)*	**NA**
14. Detector Flat Field Calibration *(Mammography Equipment Evaluations only)*	**NA**
15. Compression Thickness Indicator *(Mammography Equipment Evaluations only)*	**Pass**
16. Compression *(Mammography Equipment Evaluations only)*	**Pass**
17. Geometry Calibration	**Pass**

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