

<b>DR 100e</b>	Type 6012	No. 47
<b>DR 100s</b>	Type 6013	No. 46
<b>DR 400</b>	Type 5520	No. 165
<b>DR 600</b>	Type 5530/100	No. 210
<b>DR 800</b>	Type 6010	No. 55
<b>DR Retrofit</b>	Type 5400	No. 131
<b>DX-D 100</b>	Type 5410	No. 137
<b>DX-D 100 Wireless</b>	Type 5411	No. 186
<b>DX-D 300</b>	Type 8207	No. 170
<b>DX-D 400</b>	Type 5420	No. 125
<b>DX-D 600</b>	Type 5430	No. 191
<b>Valory</b>	Type 5540	No. 09

Document ID: 79488020

## Service Bulletin

### Service Quality Test Tool version 2.2 released

#### Task

Timing	Category	Scope
<input checked="" type="radio"/> Next service as agreed with customer	<input type="radio"/> Apply at all sites	<input checked="" type="radio"/> Problem Record: PRB2000674 PRB2000683 PRB2000723 PRB2000786
	<input checked="" type="radio"/> Apply at affected sites as listed below	
	<input type="radio"/> Optional to improve functionality of product	

#### Task Tracking

After completion of your task the following entry in your Service Report is required:

79488020

\*

\* Insert the document number into the field "Comment" (SMS form).

Purpose of this document:

This document announces the release of Service Quality Test (SQT) Tool version 2.2.

Affected systems:

The Service Quality Test Tool is used for all DR systems listed on the front page of this document.

**The solutions described in this Service Bulletin have been reviewed and are NOT reportable because no actions are taken to reduce a "Risk to Health" according to our risk assessment process.**

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# 1 Introduction

Version 2.2 of the Service Quality Test Tool (SQT) is available for download.

It replaces the previous version 2.1.

Purpose of SQT 2.2: Solve some issues in SQT 2.1.

It is recommended to use only the SQT 2.2 (or later version) from now on.



## NOTE:

For more information to the SQT Tool see also:

- Service Bulletin “Service ATPs replaced by unified Service Quality Test Tool”, Document ID [54799858](#).
- Service Bulletin “Service Quality Test Tool version 2.0 available”, Document ID [71066340](#)

## 1.1 Solved Problem Records



## NOTE:

The symptom mentioned in sections 1.1.1, 1.1.2 and 1.1.3 have the same PRB number “PRB2000674”, as these issues are all originated in the SQT requirements.

### 1.1.1 SQT test 1.2 (mA Accuracy) for systems with Sedecal Generator: Wrong acceptance value for 1<sup>st</sup> test set [PRB2000674]

**Symptom** The SQT test 1.2 (mA Accuracy) for systems with Sedecal Generator (DX-D 100, DX-D 100 Wireless, DX-D 300, DX-D 400, DX-D 600) fails in most times: The max. mA value for the 1<sup>st</sup> set of parameters is too close to the min. mA value.

01_02_00 - mA Accuracy															
Estimated test time: 15 min															
Tube: T1															
Overall Test success:															
Modality Pos & Det. Type	kV	mAs	mA	ms	Focus	Anode Power	Number of exposures	Collimation	Internal Filter	External Filter	SID [cm]	Test Object	Min. mA	Max. mA	Me
1	FREE	60 kV	80 mAs	160 mA	500 ms	SMALL	80%	1	20 cm x 20 cm	0 mm AL	NONE	115 cm	NONE	154.2	156.8
2		80 kV	25 mAs	400 mA	63 ms or closest setting	LARGE								387	413
3		100 kV	10 mAs	100 mA	100 ms	SMALL								96	104
4		120 kV	16 mAs	40 mA	400 ms	SMALL								37.8	42.2

Figure 1

**Cause** Typo in SQT requirements: Max. mA value of 156.8 mA instead of 165.8 mA.

**Workaround** None.

**Solution** In SQT 2.2 the max. mA value for test set # 1 is corrected (156.8 mA → 165.8 mA).

### 1.1.2 SQT test 3.1 (AEC cut-off dose) for DR 400 / DR 600: Wrong attenuation factor used [PRB2000674]

**Symptom** In SQT test 3.1 (AEC cut-off dose) for DR 400 and DR 600, there is a mismatch between the setup instructions (with inserted antiscatter grid) and the used attenuation factor for Table and Wallstand (value 1.17 = value without antiscatter grid instead of 1.9 = value with antiscatter grid). This way the test always fails.

**Cause** Fault in SQT requirements.

**Workaround** None

**Solution** In SQT 2.2 test 3.1 for DR 400 and DR 600 the correct attenuation factor "1.9" for Table and Wallstand is used.

### 1.1.3 SQT test 3.1 (AEC cut-off dose) for DX-D 300, DX-D 400, DX-D 600: Unclear instructions with respect to antiscatter grid [PRB2000674]

**Symptom** In SQT test 3.1 (AEC cut-off dose) for DX-D 300, DX-D 400 and DX-D 600, it is possible to select whether an antiscatter grid is present or not. However, when selecting "Without Grid", the SQT 3.1 setup instructions still indicate that the antiscatter grid should be inserted.

SQT Tool

Help

03\_01\_00 - AEC cut-off dose – Table

Estimated test time: 15 min

Test Position: **Table**

Overall Test success: 🟡

Please select system type: DX-D 400 - Detector Type: GOS Grid: Without Grid

Use customer acceptance values? ☒ N

Modality Pos & Det. Type	kV	Focus	AEC	Dose Level S	Density D	Patient Size	Anode Power	Number of exposures	Dosimeter Position	Detector Position	Antiscatter Grid	Collimation
1 DR TABLE	80 kV	LARGE	CENTER	LOW	0	MIDDLE OF 5	80%	1	ON TABLE	IN TABLE BUCKY	INSERTED	DETECTOR SIZE
2			LEFT	LOW								

Figure 2

**Cause** Fault in SQT requirements

**Workaround** None

**Solution** In SQT 2.2 test 3.1 for DX-D 300, DX-D 400 and DX-D 600, a reference is made to the “system type” selection to resolve the ambiguity.

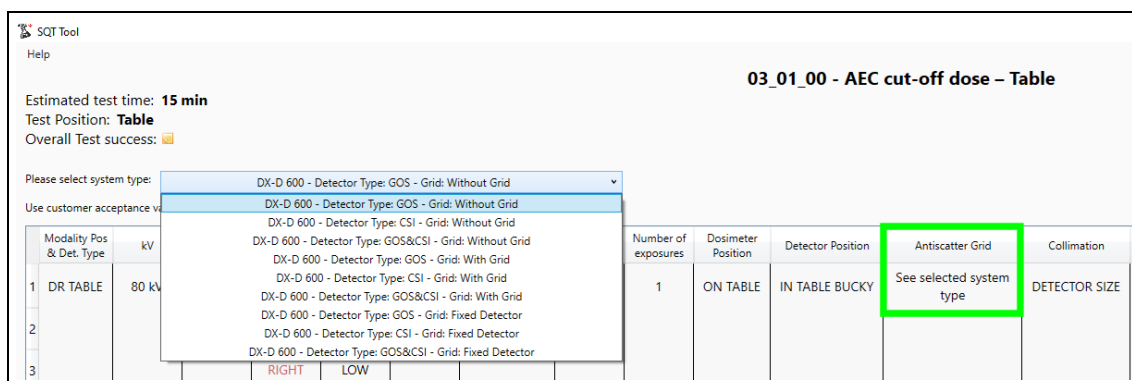


Figure 3

#### 1.1.4 SQT test 1.3 (ms Accuracy) for DR 100e: Wrong acceptance values for optional tube 0.6 mm / 1.3 mm [PRB2000683]

**Symptom** DR 100e is available with two different X-ray tubes:

- Default: Dual focal spot 0.8 mm / 1.3 mm
- Optional: Dual focal spot 0.6 mm / 1.3 mm

In SQT test 1.3, ms Accuracy, the acceptance values perfectly fit to the default X-ray tube, but do not fit to the optional X-ray tube with focal spot sizes 0.6 mm / 1.3 mm.

01\_03\_00 - n

Estimated test time: 15 min  
Tube: T1  
Overall Test success: 🟡

	Modality Pos & Det. Type	kV	mAs	Focus	Number of exposures	Collimation	Internal Filter	External Filter	SID [cm]	Test Object	Min. ms	Max. ms
1	FREE	60 kV	80 mAs	SMALL	1	20 cm x 20 cm	0 mm AL	NONE	115 cm	NONE	646.2	789.8
2		80 kV	25 mAs	LARGE							69.3	84.7
3		100 kV	10 mAs	SMALL							61.2	74.8
4		120 kV	16 mAs	SMALL							150.3	183.7

Figure 4

**Cause** Requirement problem: The acceptance values do not differentiate between the two different X-ray tubes.

**Workaround** None

**Solution** In SQT 2.2 test 1.3, ms Accuracy, a drop down menu is implemented for DR 100e to select the available X-ray tube.

This allows to load different acceptance criteria for the two X-ray tubes.

SQT Tool  
Help

Estimated test time: **15 min**  
Tube: **T1**  
Overall Test success: 🟡

Please select system variant: Focal spot 0.6/1.3

	Modality Pos & Det. Type	kV			Exposures		Filter	Filter	SID [cm]	Test Object	Min. ms	Max. ms
1	FREE	60 kV	80 mAs	SMALL	1	20 cm x 20 cm	0 mm AL	NONE	115 cm	NONE	684.9	837.1
2		80 kV	25 mAs	LARGE							71.1	86.9
3		100 kV	10 mAs	SMALL							96.3	117.7
4		120 kV	16 mAs	SMALL							229.5	280.5

Figure 5

### 1.1.5 SQT Test 5.1 (Sensitivity DR Detector) for XD Detector fails frequently [PRB2000723]

**Symptom** For some DX-D 40 and XD Detectors the SQT test “5.1 Sensitivity DR Detector” fails. Also the EI (Exposure Index) test fails, which is performed in some countries.

**Cause**

1. SQT test 5.1 limit values not optimal for XD Detectors.
2. Correction factor for sensitivity not optimal for XD Detectors, resulting in too large deviation in Exposure Index reading by NX.

**Workaround** None

**Solution** Part 1: SQT 2.2 contains updated PVI 5 min. / max. values. Refer to the table below.  
Part 2: VDI 4.1 contains updated Detector model files with optimized correction factor for sensitivity. For details refer to VDI 4.1 release SB with Document ID [77994774](#).

Detector	Old PVI 5 min	Old PVI 5 max	New PVI 5 min	New PVI 5 max
XD 10/14/17	44900	47300	43316	47203
XD*10/14/17	46200	48600	45220	49155

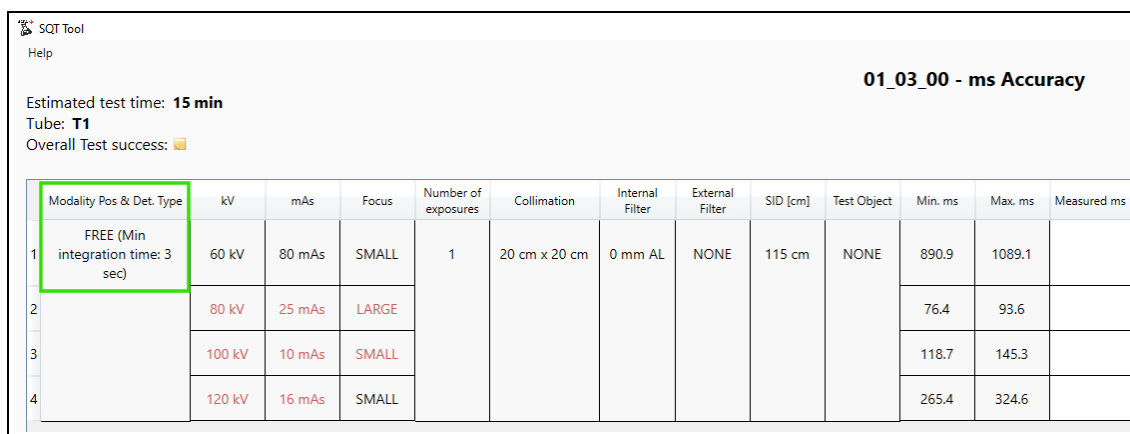
### 1.1.6 SQT tests 1.2 (ma Accuracy) and 1.3 (ms Accuracy) for DR 100s with DR 10e / DR 14e fail with 1 sec. integration time [PRB2000786]

**Symptom** When using Detector integration time of 1 second for test 1.2 (ma Accuracy) and 1.3 (ms Accuracy) for DR 100s with Detectors DR 10e / DR 14e the test fails. It only works with 3 seconds integration time.

**Cause** Requirement issue: Required integration time not clear.

**Workaround** None

**Solution** In SQT 2.2 a text is added for tests 1.2 and 1.3 which instructs to use integration time of 3 seconds for DR 100s when a DR 10e / DR 14e is in use.



	Modality Pos & Det. Type	kV	mAs	Focus	Number of exposures	Collimation	Internal Filter	External Filter	SID [cm]	Test Object	Min. ms	Max. ms	Measured ms
1	FREE (Min integration time: 3 sec)	60 kV	80 mAs	SMALL	1	20 cm x 20 cm	0 mm AL	NONE	115 cm	NONE	890.9	1089.1	
2		80 kV	25 mAs	LARGE							76.4	93.6	
3		100 kV	10 mAs	SMALL							118.7	145.3	
4		120 kV	16 mAs	SMALL							265.4	324.6	

Figure 6

## 1.2 Additional solved issues

- The attenuation factor used in the AEC tests for Valory Table and Wallstand has been corrected (Old value: 2.9. New value: 2.1).
- Some details in the SQT Service Manual (Document ID [54513844](#)) have been improved.

## 1.3 Open issues

In recent months, the maintenance instructions of several DR systems have been revised. In the context of this, the number of SQT tests to be performed was also reduced. Future versions of the SQT will be adapted accordingly, but this is not yet taken up in the SQT 2.2.

## 2 Prerequisites



### SOFTWARE:

- Service Quality Test Tool 2.2 ZIP File (≈ 13 MB), Document ID [55022710](#), comprising:
  - SQT\_2.2.0000.exe incl. test instructions\* (Online help)
  - Using the SQT.PDF (short instructions)
- Excel ≥ 2007
- Adobe Acrobat Reader or Adobe Acrobat.  
Other PDF readers in general also work, but they will not open the SQT instructions with the specific page for the test.

Download the SQT 2.2 from the Agfa Medimg Library or directly from the AgfaBox. For details refer to the Service Information Bulletin “AgfaBox replaces Fileshare for software downloads”, Document ID [71987422](#).

\* SQT instructions can also be downloaded separately with Document ID [54513844](#).

## 3 Instructions



### REQUIRED TIME:

- 5 minutes: Download of SQT 2.2
- 1 minute: SQT 2.2 installation
- 5 minutes: Installation of .NET Framework 4.8 if not yet available

- (1) Download and install the SQT 2.2.  
SQT 2.2 automatically uninstalls SQT 2.1 (or earlier versions) and preserves the available SQT site and system database. The SQT is installed in directory C:\Agfa\HealthCare\SQT.



### IMPORTANT:

- The list of “Incomplete Test Runs” is not preserved during SQT upgrade.
- When installing the same or previous SQT version, the “site and system database” (function “Select from History”) is deleted. Reason: When the same or previous version is installed, it is assumed that it was intended to repair the SQT.

## 4 Verification

- (1) Start the SQT 2.2 using the shortcut in the start menu



- (2) Confirm that the SQT 2.2 start page appears.

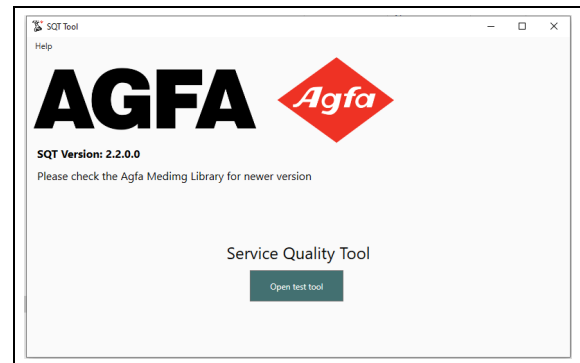


Figure 7

- (3) If error message **This application requires ... .NETFramework,Version=v4.8** appears, click **Yes** and follow the instructions to install it.

This error should only appear for new SQT installations.

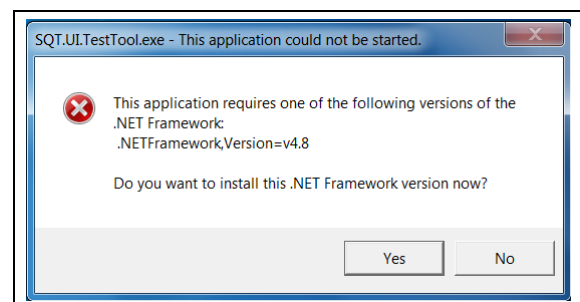


Figure 8

## 5 Keywords

SQT, ATP

## 6 Version history

Version	Change	Date
1.0	Initial Version	05-2022