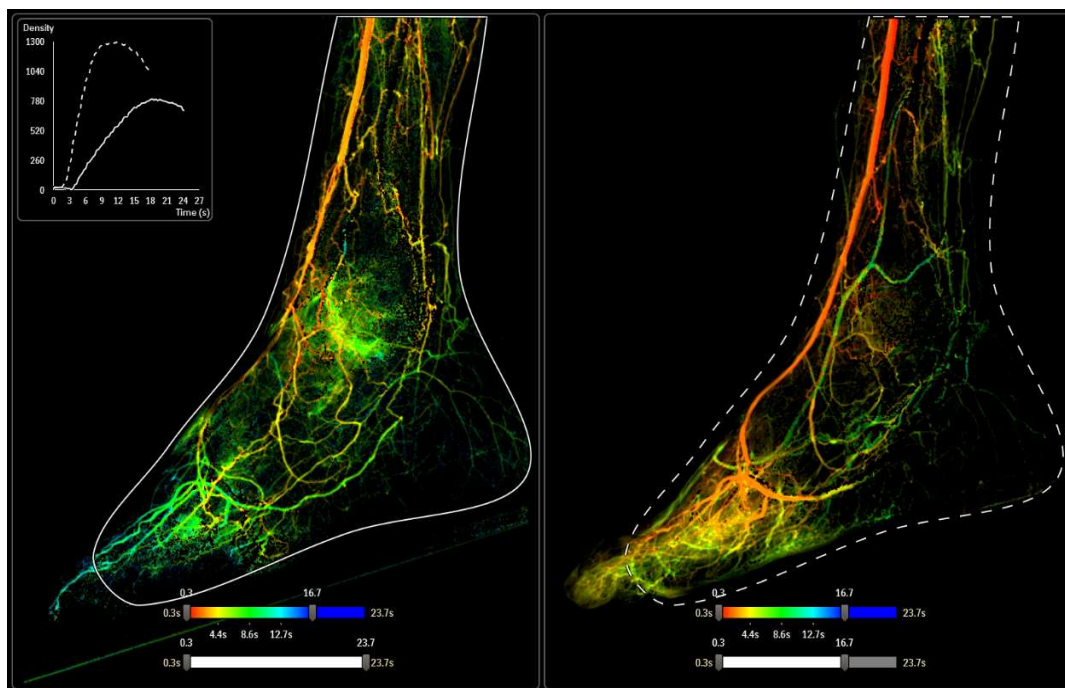


# DICOM Conformance Statement

Application Annex:

## SmartPerfusion R1.1

## On Interventional Workspot R1.6



- This page is left intentionally empty -

## 1. Table of Contents

1.	TABLE OF CONTENTS .....	3
2.	INTRODUCTION .....	4
2.1.	REVISION HISTORY .....	4
2.2.	AUDIENCE .....	4
2.3.	REMARKS .....	4
2.4.	DEFINITIONS, TERMS AND ABBREVIATIONS.....	5
2.5.	REFERENCES.....	5
3.	ANNEXES OF APPLICATION "SMARTPERFUSION R1.1 APPLICATION" .....	6
3.1.	IOD CONTENTS .....	6
3.1.1.	Created SOP Instance .....	6
3.1.1.1.	List of created SOP Classes .....	6
3.1.2.	Acceptance Criteria.....	6
3.1.3.	Contents of Created IOD's .....	6
3.1.3.1.	X-Ray Angiographic Image Storage SOP Class .....	7
3.1.3.2.	Secondary Capture Image Storage SOP class.....	13
3.1.3.3.	Multiframe True Color Secondary Capture Image Storage SOP class .....	16

## 2. Introduction

SmartPerfusion R 1.1 is a software product (Interventional Tool) that provides color coded representation of a digital subtraction angiography (DSA). It can visualize multiple functional parameters related to the time density function. It also provides a comparison between pre-, peri-, and post-procedural color coded images.

SmartPerfusion R 1.1 runs on a separate PC based platform, which is called the Interventional Workspot R1.6. The Interventional Workspot workstation is placed either in the control room or in the technical room of an interventional suite or (hybrid) operating room and is connected to the Philips Interventional X-ray System via a private network connection. The control mechanisms are the mouse and keyboard and/or touch screen module in the control room and the touch screen module and optionally mouse in the examination room.

### 2.1. Revision History

The revision history provides dates and differences of the different releases.

**Table 1: Revision History**

Document Version	Date of Issue	Description of change
00	02-Mar-2020	First Release for SmartPerfusion R1.1 on Interventional Workspot R1.6
01	04-Aug-2022	<ul style="list-style-type: none"> <li>Updated Value Under “General Equipment” Table for “Software Version” attribute.</li> <li>Updated Attribute Name, Tag and Value columns in Table Nos. 7, 14, 22, 34 for created SOP Classes as mentioned in Section 3.1.3 are updated for correctness, no change in the product behavior.</li> </ul>

### 2.2. Audience

This Conformance Statement is intended for:

- (Potential) customers
  - System integrators of medical equipment
  - Marketing staff interested in system functionality
  - Software designers implementing DICOM interfaces
- It is assumed that the reader is familiar with the DICOM standard.

### 2.3. Remarks

The DICOM Conformance Statement is contained in chapter 4 through 8 and follows the contents and structuring requirements of DICOM PS 3.2.

This DICOM Conformance Statement by itself does not guarantee successful interoperability of Philips equipment with non-Philips equipment. The user (or user's agent) should be aware of the following issues:

- **Interoperability**  
Interoperability refers to the ability of application functions, distributed over two or more systems, to work successfully together. The integration of medical devices into an IT environment may require application functions that are not specified within the scope of DICOM. Consequently, using only the information provided by this Conformance Statement does not guarantee interoperability of Philips equipment with non-Philips equipment.  
It is the user's responsibility to analyze thoroughly the application requirements and to specify a solution that integrates Philips equipment with non-Philips equipment.
- **Validation**  
Philips equipment has been carefully tested to ensure that the actual implementation of the DICOM interface corresponds with this Conformance Statement.  
Where Philips equipment is linked to non-Philips equipment, the first step is to compare the relevant Conformance Statements. If the Conformance Statements indicate that successful information exchange should be possible, additional validation tests will be necessary to ensure the functionality, performance, accuracy and stability of image and image related data. It is the responsibility of the user (or user's agent) to specify the appropriate test suite and to carry out the additional validation tests.

- **New versions of the DICOM Standard**

The DICOM Standard will evolve in future to meet the user's growing requirements and to incorporate new features and technologies. Philips is actively involved in this evolution and plans to adapt its equipment to future versions of the DICOM Standard. In order to do so, Philips reserves the right to make changes to its products or to discontinue its delivery. The user should ensure that any non-Philips provider linking to Philips equipment also adapts to future versions of the DICOM Standard. If not, the incorporation of DICOM enhancements into Philips equipment may lead to loss of connectivity (in case of networking) and incompatibility (in case of media).

## 2.4. Definitions, Terms and Abbreviations

**Table 2: Definitions, Terms and Abbreviations**

Abbreviation/Term	Explanation
DICOM	Digital Imaging and Communications in Medicine
IOD	Information Object Definition
UID	Unique Identifier
VR	Value Representation
XA	X-Ray Angiography

## 2.5. References

[DICOM] Digital Imaging and Communications in Medicine, Parts 1 - 22 (NEMA PS 3.1- PS 3.22),

National Electrical Manufacturers Association

1300 North 17th Street

Suite 900

Arlington, Virginia 22209

Internet: <https://www.dicomstandard.org/current>

Note that at any point in time the official standard consists of the most recent yearly edition of the base standard (currently 2022) plus all the supplements and correction items that have been approved as Final Text.

## 3. Annexes of application "SmartPerfusion R1.1 application"

### 3.1. IOD Contents

#### 3.1.1. Created SOP Instance

This section specifies each IOD created by this application.

This section specifies each IOD created (including private IOD's). It should specify the attribute name, tag, VR, and value. The value should specify the range and source (e.g. user input, Modality Worklist, automatically generated, etc.). For content items in templates, the range and source of the concept name and concept values should be specified. Whether the value is always present or not shall be specified.

Abbreviations used in the IOD tables for the column "Presence of Module" are:

ALWAYS            The module is always present  
 CONDITIONAL    The module is used under specified condition

Abbreviations used in the Module table for the column "Presence of Value" are:

ALWAYS            The attribute is always present with a value  
 EMPTY            The attribute is always present without any value (attribute sent zero length)  
 VNAP              The attribute is always present and its Value is Not Always Present  
 (attribute sent zero length if no value is present)  
 ANAP              The attribute is present under specified condition – if present then it will always have a value

The abbreviations used in the Module table for the column "Source" are:

AUTO                The attribute value is generated automatically  
 CONFIG            The attribute value source is a configurable parameter  
 COPY               The attribute value source is another SOP instance  
 FIXED              The attribute value is hard-coded in the application  
 IMPLICIT          The attribute value source is a user-implicit setting  
 MPPS               The attribute value is the same as that use for Modality Performed Procedure Step  
 MWL                The attribute value source is a Modality Worklist  
 USER              The attribute value source is explicit user input

#### 3.1.1.1. List of created SOP Classes

Table 3: List of created SOP Classes

IOD	Support		
		ACCEPTED	CREATED
Name	UID		
X-Ray Angiographic Image Storage SOP Class	1.2.840.10008.5.1.4.1.1.12.1	Yes	Yes
Secondary Capture Image Storage SOP Class	1.2.840.10008.5.1.4.1.1.7	No	Yes
Multi Frame True Color Secondary Capture SOP Class	1.2.840.10008.5.1.4.1.1.7.4	No	Yes

Note: SmartPerfusion can create movies up to 180 seconds.

### 3.1.2. Acceptance Criteria

SmartPerfusion accepts all XA objects that are available in the Interventional Workspot hosting platform.

### 3.1.3. Contents of Created IOD's

This section specifies in detail the attribute contents of created data objects. Attributes are grouped together by its corresponding module as specified by DICOM standard. Philips private attributes are excluded for specification.

Abbreviations used in the Module table for the column "Presence of Value" are:

ALWAYS	The attribute is always present with a value
EMPTY	The attribute is always present without any value (attribute sent zero length)
VNAP	The attribute is always present and its Value is Not Always Present (attribute sent zero length if no value is present)
ANAP	The attribute is present under specified condition – if present then it will always have a value

The abbreviations used in the Module table for the column "Source" are:

AUTO	The attribute value is generated automatically
CONFIG	The attribute value source is a configurable parameter
COPY	The attribute value source is another SOP instance
FIXED	The attribute value is hard-coded in the application
IMPLICIT	The attribute value source is a user-implicit setting
MPPS	The attribute value is the same as that use for Modality Performed Procedure Step
MWL	The attribute value source is a Modality Worklist
USER	The attribute value source is explicit user input

### 3.1.3.1. X-Ray Angiographic Image Storage SOP Class

Table 4: IOD of Created X-Ray Angiographic Image Storage Instances

Information Entity	Module	Presence Of Module
Patient	Patient Module	ALWAYS
Study	General Study Module	ALWAYS
Series	General Series Module	ALWAYS
Equipment	General Equipment Module	ALWAYS
Image	General Image Module	ALWAYS
	Image Pixel Module	ALWAYS
	Display Shutter Module	ALWAYS
	X-Ray Image Module	ALWAYS
	X-Ray Acquisition Module	ALWAYS
	X-Ray Table Module	ALWAYS
	XA Positioner Module	ALWAYS
	DX Detector Module	ALWAYS
	VOI LUT Module	ALWAYS
	SOP Common Module	ALWAYS

Table 5: Patient Module

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Patient's Name	0010,0010	PN		VNAP	COPY	Obtained from X-Ray System or Media or DICOM Source.
Patient ID	0010,0020	LO		VNAP	COPY	Obtained from X-Ray System or Media or DICOM Source.
Patient's Birth Date	0010,0030	DA		VNAP	COPY	Obtained from X-Ray System or Media or DICOM Source.
Patient's Sex	0010,0040	CS		VNAP	COPY	Obtained from X-Ray System or Media or DICOM Source.

**Table 6: General Study Module**

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Study Date	0008,0020	DA		VNAP	COPY	Obtained from X-Ray System or Media or DICOM Source.
Study Time	0008,0030	TM		VNAP	COPY	Obtained from X-Ray System or Media or DICOM Source.
Accession Number	0008,0050	SH		VNAP	COPY	Obtained from X-Ray System or Media or DICOM Source.
Referring Physician's Name	0008,0090	PN		VNAP	COPY	Obtained from X-Ray System or Media or DICOM Source.
Study Instance UID	0020,000D	UI		ALWAYS	AUTO	
Study ID	0020,0010	SH		VNAP	COPY	Obtained from X-Ray System or Media or DICOM Source.

**Table 7: General Series Module**

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Series Date	0008,0021	DA		ANAP	COPY	Obtained from X-Ray System or Media or DICOM Source.
Series Time	0008,0031	TM		ANAP	COPY	Obtained from X-Ray System or Media or DICOM Source.
Modality	0008,0060	CS		ALWAYS	COPY	Obtained from X-Ray System or Media or DICOM Source.
Series Description	0008,103E	LO		ANAP	COPY	Obtained from X-Ray System or Media or DICOM Source.
Performing Physician's Name	0008,1050	PN		ANAP	COPY	Obtained from X-Ray System or Media or DICOM Source.
Related Series Sequence	0008,1250	SQ		ANAP	COPY	Obtained from X-Ray System or Media or DICOM Source.
>Study Instance UID	0020,000D	UI		ALWAYS	AUTO	
>Series Instance UID	0020,000E	UI		ALWAYS	AUTO	
>Purpose of Reference Code Sequence	0040,A170	SQ		VNAP	COPY	Obtained from X-Ray System or Media or DICOM Source.
Series Instance UID	0020,000E	UI		ALWAYS	AUTO	
Series Number	0020,0011	IS		VNAP	COPY	Obtained from X-Ray System or Media or DICOM Source.
Performed Procedure Step Start Date	0040,0244	DA		ANAP	COPY	Obtained from X-Ray System or Media or DICOM Source.



Performed Procedure Step Start Time	0040,0245	TM		ANAP	COPY	Obtained from X-Ray System or Media or DICOM Source.
Performed Procedure Step ID	0040,0253	SH		ANAP	COPY	Obtained from X-Ray System or Media or DICOM Source.

**Table 8: General Equipment Module**

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Manufacturer	0008,0070	LO	Philips	ALWAYS	FIXED	
Institution Name	0008,0080	LO		VNAP	AUTO	
Manufacturer's Model Name	0008,1090	LO	Interventional Workspot	ALWAYS	CONFIG	
Device Serial Number	0018,1000			ANAP	CONFIG	
Software Versions	0018,1020	LO	1.1.x	ALWAYS	CONFIG	where "x" is the application SW version.

**Table 9: General Image Module**

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Image Type	0008,0008	CS		ANAP	COPY	Obtained from X-Ray System or Media or DICOM Source.
Acquisition Date	0008,0022	DA		ANAP	COPY	Obtained from X-Ray System or Media or DICOM Source.
Content Date	0008,0023	DA		VNAP	COPY	Obtained from X-Ray System or Media or DICOM Source.
Acquisition Time	0008,0032	TM		ANAP	COPY	Obtained from X-Ray System or Media or DICOM Source.
Content Time	0008,0033	TM		VNAP	COPY	Obtained from X-Ray System or Media or DICOM Source.
Instance Number	0020,0013	IS		VNAP	COPY	Obtained from X-Ray System or Media or DICOM Source.
Patient Orientation	0020,0020	CS		ANAP	COPY	Obtained from X-Ray System or Media or DICOM Source.
Lossy Image Compression	0028,2110	CS		ANAP	COPY	Obtained from X-Ray System or Media or DICOM Source.
Icon Image Sequence	0088,0200	SQ		ANAP	COPY	Obtained from X-Ray System or Media or DICOM Source.
>Samples per Pixel	0028,0002	US	MONOCHROME2	ALWAYS	COPY	Obtained from X-Ray System or Media or DICOM Source.
>Photometric Interpretation	0028,0004	CS		ALWAYS	COPY	Obtained from X-Ray System or Media or DICOM Source.

>Rows	0028,0010	US	128	ALWAYS	COPY	Obtained from X-Ray System or Media or DICOM Source.
>Columns	0028,0011	US	128	ALWAYS	COPY	Obtained from X-Ray System or Media or DICOM Source.
>Bits Allocated	0028,0100	US	8	ALWAYS	COPY	Obtained from X-Ray System or Media or DICOM Source.
>Bits Stored	0028,0101	US	8	ALWAYS	COPY	Obtained from X-Ray System or Media or DICOM Source.
>High Bit	0028,0102	US	7	ALWAYS	COPY	Obtained from X-Ray System or Media or DICOM Source.
>Pixel Representation	0028,0103	US	0	ALWAYS	COPY	Obtained from X-Ray System or Media or DICOM Source.
>Pixel Data	7FE0,0010	OW/OB		ANAP	COPY	Obtained from X-Ray System or Media or DICOM Source.

**Table 10: Image Pixel Module**

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Samples per Pixel	0028,0002	US	1	ALWAYS	COPY	Obtained from X-Ray System or Media or DICOM Source.
Photometric Interpretation	0028,0004	CS	MONOCHROME2	ALWAYS	COPY	Obtained from X-Ray System or Media or DICOM Source.
Rows	0028,0010	US		ALWAYS	COPY	Obtained from X-Ray System or Media or DICOM Source.
Columns	0028,0011	US		ALWAYS	COPY	Obtained from X-Ray System or Media or DICOM Source.
Bits Allocated	0028,0100	US	16	ALWAYS	COPY	Obtained from X-Ray System or Media or DICOM Source.
Bits Stored	0028,0101	US	16	ALWAYS	COPY	Obtained from X-Ray System or Media or DICOM Source.
High Bit	0028,0102	US	15	ALWAYS	COPY	Obtained from X-Ray System or Media or DICOM Source.
Pixel Representation	0028,0103	US	0	ALWAYS	COPY	Obtained from X-Ray System or Media or DICOM Source.
Pixel Data	7FE0,0010	OB/OW		VNAP	COPY	Obtained from X-Ray System or Media or DICOM Source.

**Table 11: Display Shutter Module**

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Shutter Shape	0018,1600	CS		ALWAYS	COPY	Obtained from X-Ray System or Media or DICOM Source.
Shutter Left Vertical Edge	0018,1602	IS		ALWAYS	COPY	Obtained from X-Ray System or Media or DICOM Source.
Shutter Right Vertical Edge	0018,1604	IS		ALWAYS	COPY	Obtained from X-Ray System or Media or DICOM Source.
Shutter Upper Horizontal Edge	0018,1606	IS		ALWAYS	COPY	Obtained from X-Ray System or Media or DICOM Source.
Shutter Lower Horizontal Edge	0018,1608	IS		ALWAYS	COPY	Obtained from X-Ray System or Media or DICOM Source.

**Table 12: X-Ray Image Module**

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Image Type	0008,0008	CS		ALWAYS	COPY	Obtained from X-Ray System
Samples per Pixel	0028,0002	US		ALWAYS	COPY	Obtained from X-Ray System
Photometric Interpretation	0028,0004	CS	MONOCHROME2	ALWAYS	COPY	Obtained from X-Ray System
Frame Increment Pointer	0028,0009	AT		ALWAYS	COPY	Obtained from X-Ray System
Bits Allocated	0028,0100	US	16	ALWAYS	COPY	Obtained from X-Ray System
Bits Stored	0028,0101	US	16	ALWAYS	COPY	Obtained from X-Ray System
High Bit	0028,0102	US	15	ALWAYS	COPY	Obtained from X-Ray System
Pixel Representation	0028,0103	US	0	ALWAYS	COPY	Obtained from X-Ray System
Pixel Intensity Relationship	0028,1040	CS	LIN	ALWAYS	COPY	Obtained from X-Ray System
Lossy Image Compression	0028,2110	CS	00	ALWAYS	COPY	Obtained from X-Ray System

**Table 13: X-Ray Acquisition Module**

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
KVP	0018,0060	DS		VNAP	COPY	Obtained from X-Ray System
Exposure Time	0018,1150	IS		VNAP	COPY	Obtained from X-Ray System
Radiation Setting	0018,1155	CS		ALWAYS	COPY	Obtained from X-Ray System

Imager Pixel Spacing	0018,1164	DS		ANAP	COPY	Obtained from X-Ray System
Pixel Spacing	0028,0030	DS		ALWAYS	COPY	Obtained from X-Ray System

**Table 14: X-Ray Table Module**

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Table Motion	0018,1134	DS		VNAP	COPY	Obtained from X-Ray System
Table Angle	0018,1138	DS		ANAP	COPY	Obtained from X-Ray System

**Table 15: XA Positioner Module**

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Distance Source to Detector	0018,1110	DS	-	ANAP	COPY	Obtained from X-Ray System
Distance Source to Patient	0018,1111	DS		ANAP	COPY	Obtained from X-Ray System
Positioner Motion	0018,1500	CS		VNAP	COPY	Obtained from X-Ray System
Positioner Primary Angle	0018,1510	DS		VNAP	COPY	Obtained from X-Ray System
Positioner Secondary Angle	0018,1511	DS		VNAP	COPY	Obtained from X-Ray System
Positioner Primary Angle Increment	0018,1520	DS		VNAP	COPY	Obtained from X-Ray System
Positioner Secondary Angle Increment	0018,1521	DS		VNAP	COPY	Obtained from X-Ray System

**Table 16: DX Detector Module**

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Imager Pixel Spacing	0018,1164	DS		ALWAYS	COPY	Obtained from X-Ray System
Pixel Spacing	0028,0030	DS		ALWAYS	COPY	Obtained from X-Ray System

**Table 17: VOI LUT Module**

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Window Center	0028,1050	DS		ALWAYS	COPY	Obtained from X-Ray System
Window Width	0028,1051	DS		ALWAYS	COPY	Obtained from X-Ray System

**Table 18: SOP Common Module**

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Instance Creation Date	0008,0012	DA		ANAP	COPY	Obtained from X-Ray System or Media or DICOM Source.
Instance Creation Time	0008,0013	TM		ANAP	COPY	Obtained from X-Ray System or Media or DICOM Source.
SOP Class UID	0008,0016	UI	1.2.840.10008.5.1.4.1.1.12.1	ALWAYS	COPY	Obtained from X-Ray System or Media or DICOM Source.
SOP Instance UID	0008,0018	UI		ALWAYS	AUTO	
Instance Number	0020,0013	IS		ANAP	COPY	Obtained from X-Ray System or Media or DICOM Source.

### 3.1.3.2. Secondary Capture Image Storage SOP class

**Table 19: IOD of Created Secondary Capture Image Storage SOP Class Instances**

Information Entity	Module	Presence Of Module
Patient	Patient Module	ALWAYS
Study	General Study Module	ALWAYS
Series	General Series Module	ALWAYS
Equipment	General Equipment Module	CONDITIONAL
	SC Equipment Module	ALWAYS
Image	General Image Module	ALWAYS
	Image Pixel Module	ALWAYS
	SOP Common Module	ALWAYS

**Table 20: Patient Module**

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Patient's Name	0010,0010	PN		ALWAYS	COPY	Obtained from X-Ray System or Media or DICOM Source.
Patient ID	0010,0020	LO		ALWAYS	COPY	Obtained from X-Ray System or Media or DICOM Source.
Patient's Birth Date	0010,0030	DA		ALWAYS	COPY	Obtained from X-Ray System or Media or DICOM Source.
Patient's Sex	0010,0040	CS		ALWAYS	COPY	Obtained from X-Ray System or Media or DICOM Source.

**Table 21: General Study Module**

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Study Date	0008,0020	DA		ALWAYS	COPY	Obtained from X-Ray System or Media or DICOM Source.
Study Time	0008,0030	TM		ALWAYS	COPY	Obtained from X-Ray System or Media or DICOM Source.

Accession Number	0008,0050	SH		VNAP	COPY	Obtained from X-Ray System or Media or DICOM Source.
Referring Physician's Name	0008,0090	PN		VNAP	COPY	Obtained from X-Ray System or Media or DICOM Source.
Study Instance UID	0020,000D	UI		ALWAYS	COPY	Obtained from X-Ray System or Media or DICOM Source.
Study ID	0020,0010	SH		ALWAYS	COPY	Obtained from X-Ray System or Media or DICOM Source.

**Table 22: General Series Module**

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Series Date	0008,0021	DA		ALWAYS	AUTO	
Series Time	0008,0031	TM		ALWAYS	AUTO	
Modality	0008,0060	CS	XA	ALWAYS	FIXED	
Series Description	0008,103E	LO		ANAP	FIXED	Value is removed.
Series Instance UID	0020,000E	UI		ALWAYS	AUTO	
Series Number	0020,0011	IS		VNAP	AUTO	
Performed Procedure Step Start Date	0040,0244	DA		ANAP	COPY	From Study Date
Performed Procedure Step Start Time	0040,0245	TM		ANAP	COPY	From Study Time
Performed Procedure Step ID	0040,0253	SH		ANAP	COPY	From Study ID
Related Series Sequence	0008,1250	SQ		VNAP	AUTO	
>Study Instance UID	0020,000D	UI		ALWAYS	AUTO	
>Series Instance UID	0020,000E	UI		ALWAYS	AUTO	
>Purpose of Reference Code Sequence	0040,A170	SQ		EMPTY	AUTO	

**Table 23: General Equipment Module**

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Manufacturer	0008,0070	LO	Philips	ALWAYS	FIXED	
Institution Name	0008,0080	LO		VNAP	AUTO	
Manufacturer's Model Name	0008,1090	LO	Interventional Workspot	ALWAYS	FIXED	
Device Serial Number	0018,1000			ANAP	CONFIG	
Software Versions	0018,1020	LO	1.1.x	ALWAYS	CONFIG	where "x" is the application SW version.

**Table 24 : SC Equipment Module**

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Modality	0008,0060	CS	XA	ANAP	COPY	Obtained from X-Ray System or Media or DICOM Source.
Conversion Type	0008,0064	CS	WSD	ALWAYS	COPY	Obtained from X-Ray System or Media or DICOM Source.

**Table 25: General Image Module**

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Image Type	0008,0008	CS		ANAP	FIXED	SNAPSHOT DERIVED\SECONDARY\PADESSION
Content Date	0008,0023	DA		VNAP	AUTO	
Content Time	0008,0033	TM		VNAP	AUTO	
Instance Number	0020,0013	IS		ALWAYS	AUTO	
Patient Orientation	0020,0020	CS		VNAP	AUTO	

**Table 26: Image Pixel Module**

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Samples per Pixel	0028,0002	US	3	ALWAYS	FIXED	
Photometric Interpretation	0028,0004	CS		ALWAYS	FIXED	
Planar Configuration	0028,0006	US		VNAP	FIXED	
Rows	0028,0010	US		ALWAYS	AUTO	
Columns	0028,0011	US		ALWAYS	AUTO	
Bits Allocated	0028,0100	US		ALWAYS	FIXED	
Bits Stored	0028,0101	US		ALWAYS	FIXED	
High Bit	0028,0102	US		ALWAYS	FIXED	
Pixel Representation	0028,0103	US		ALWAYS	AUTO	
Pixel Data	7FE0,0010	OW/OB		ALWAYS	AUTO	

**Table 27: SC Image Module**

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Date of Secondary Capture	0018,1012	DA		ANAP	AUTO	
Time of Secondary Capture	0018,1014	TM		ANAP	AUTO	

**Table 28: VOI LUT Module**

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Window Center	0028,1050	DS				
Window Width	0028,1051	DS				

**Table 29: SOP Common Module**

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
SOP Class UID	0008,0016	UI	1.2.840.10008.5.1.4.1.1.7	ALWAYS	FIXED	
Specific Character Set	0008,0005	CS		ALWAYS	AUTO	As supported by hosting platform
SOP Instance UID	0008,0018	UI		ALWAYS	AUTO	
Instance Creation Date	0008,0012	DA		ANAP	AUTO	
Instance Creation Time	0008,0013	TM		ANAP	AUTO	
Instance Number	0020,0013	IS		ANAP	AUTO	

### 3.1.3.3. Multiframe True Color Secondary Capture Image Storage SOP class

**Table 30: IOD of Created Multiframe True Color Secondary Capture Image Storage SOP Class Instances**

Information Entity	Module	Presence Of Module
Patient	Patient Module	ALWAYS
Study	General Study Module	ALWAYS
Series	General Series Module	ALWAYS
Equipment	General Equipment Module	CONDITIONAL
	SC Equipment Module	ALWAYS
Image	General Image Module	ALWAYS
	Image Pixel Module	ALWAYS
	Cine Module	CONDITIONAL
	Multi-Frame Module	ALWAYS
	Multi-Frame Functional Groups Module	OPTIONAL
	SC Multi-frame Image Module	ALWAYS
	SOP Common Module	ALWAYS
	Extended DICOM and private attributes	CONDITIONAL

**Table 31: Patient Module**

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Patient's Name	0010,0010	PN		VNAP	COPY	Obtained from X-Ray System or Media or DICOM Source.
Patient ID	0010,0020	LO		VNAP	COPY	Obtained from X-Ray System or Media or DICOM Source.
Patient's Birth Date	0010,0030	DA		VNAP	COPY	Obtained from X-Ray System or Media or DICOM Source.
Patient's Sex	0010,0040	CS		VNAP	COPY	Obtained from X-Ray System or Media or DICOM Source.

**Table 32: General Study Module**

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Study Date	0008,0020	DA		VNAP	COPY	Obtained from X-Ray System or Media or DICOM Source.
Study Time	0008,0030	TM		VNAP	COPY	Obtained from X-Ray System or Media or DICOM Source.
Accession Number	0008,0050	SH		VNAP	COPY	Obtained from X-Ray System or Media or DICOM Source.
Referring Physician's Name	0008,0090	PN		VNAP	COPY	Obtained from X-Ray System or Media or DICOM Source.
Study Instance UID	0020,000D	UI		ALWAYS	COPY	Obtained from X-Ray System or Media or DICOM Source.
Study ID	0020,0010	SH		VNAP	COPY	Obtained from X-Ray System or Media or DICOM Source.



**Table 33: General Series Module**

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Series Date	0008,0021	DA		ANAP	AUTO	
Series Time	0008,0031	TM		ANAP	AUTO	
Modality	0008,0060	CS	XA	ALWAYS	FIXED	
Series Description	0008,103E	LO		ANAP	FIXED	Value is removed.
Series Instance UID	0020,000E	UI		ALWAYS	AUTO	
Series Number	0020,0011	IS		ANAP	AUTO	
Related Series Sequence	0008,1250	SQ		ANAP	AUTO	
>Study Instance UID	0020,000D	UI		ALWAYS	AUTO	
>Series Instance UID	0020,000E	UI		ALWAYS	AUTO	
>Purpose of Reference Code Sequence	0040,A170	SQ		VNAP	AUTO	
Performed Procedure Step Start Date	0040,0244	DA		ANAP	COPY	From Study Date
Performed Procedure Step Start Time	0040,0245	TM		ANAP	COPY	From Study Time
Performed Procedure Step ID	0040,0253	SH		ANAP	COPY	From Study ID

**Table 34: Frame Of Reference Module**

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Frame of Reference UID	0020,0052	UI		ALWAYS	ANAP	
Position Reference Indicator	0020,1040	LO		VNAP	ANAP	

**Table 35: General Equipment Module**

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Manufacturer	0008,0070	LO	Philips	ALWAYS	FIXED	
Institution Name	0008,0080	LO		VNAP	AUTO	
Manufacturer's Model Name	0008,1090	LO	Interventional Workspot	ALWAYS	CONFIG	
Software Versions	0018,1020	LO	1.1.x	ALWAYS	CONFIG	where "x" is the application SW version.

**Table 36 : SC Equipment Module**

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Modality	0008,0060	CS	XA	ANAP	FIXED	
Conversion Type	0008,0064	CS	WSD	ALWAYS	FIXED	

**Table 37: General Image Module**

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Image Type	0008,0008	CS	Snapshot	ANAP	FIXED	
Content Date	0008,0023	DA		VNAP	AUTO	
Content Time	0008,0033	TM		VNAP	AUTO	
Icon Image Sequence	0088,0200	SQ		ANAP	AUTO	
> Samples per Pixel	0028,0002	US	1	ALWAYS	FIXED	
> Photometric Interpretation	0028,0004	CS	MONOCHROME2	ALWAYS	FIXED	
> Rows	0028,0010	US	128	ALWAYS	FIXED	

> Columns	0028,0011	US	128	ALWAYS	FIXED	
> Bits Allocated	0028,0100	US	8	ALWAYS	FIXED	
> Bits Stored	0028,0101	US	8	ALWAYS	FIXED	
> High Bit	0028,0102	US	7	ALWAYS	FIXED	
> Pixel Representation	0028,0103	US	0	ALWAYS	FIXED	
> Pixel Data	7FE0,0010	OB		ALWAYS	AUTO	
Instance Number	0020,0013	IS		VNAP	AUTO	
Patient Orientation	0020,0020	CS		VNAP	FIXED	Value is removed.
Burned in Annotation	0028,0301	CS		ANAP	AUTO	

**Table 38: Image Pixel Module**

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Samples per Pixel	0028,0002	US	3	ALWAYS	FIXED	
Photometric Interpretation	0028,0004	CS	RGB	ALWAYS	FIXED	
Planar Configuration	0028,0006	US	0	ALWAYS	FIXED	
Rows	0028,0010	US		ALWAYS	AUTO	
Columns	0028,0011	US		ALWAYS	AUTO	
Bits Allocated	0028,0100	US	8	ALWAYS	FIXED	
Bits Stored	0028,0101	US	8	ALWAYS	FIXED	
High Bit	0028,0102	US	7	ALWAYS	FIXED	
Pixel Representation	0028,0103	US	0000	ALWAYS	AUTO	
Pixel Data	7FE0,0010	OW/OB		ALWAYS	AUTO	

**Table 39: Cine Module**

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Cine Rate	0018,0040	IS		ANAP	AUTO	
Frame Time	0018,1063	DS		ALWAYS	AUTO	

**Table 40: Multi-Frame Module**

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Number of Frames	0028,0008	DS		ALWAYS	AUTO	
Frame Increment Pointer	0028,0009	AT		ALWAYS	AUTO	

**Table 41: Multi-Frame Functional Groups Module**

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Content Date	0008,0023	DA		ALWAYS	AUTO	
Content Time	0008,0033	TM		ALWAYS	AUTO	
Instance Number	0020,0013	IS		ALWAYS	AUTO	
Number of Frames	0028,0008	IS		ALWAYS	AUTO	

**Table 42: SC Image Module**

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Date of Secondary Capture	0018,1012	DA		ANAP	AUTO	
Time of Secondary Capture	0018,1014	TM		ANAP	AUTO	

**Table 43: SC Multi-Frame Image Module**

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Frame Increment Pointer	0028,0009	AT		ALWAYS	AUTO	
Burned In Annotation	0028,0301	CS		ALWAYS	AUTO	

**Table 44: SOP Common Module**

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
SOP Class UID	0008,0016	UI	1.2.840.10008.5.1.4.1.1.7.4	ALWAYS	FIXED	
SOP Instance UID	0008,0018	UI		ALWAYS	AUTO	
Instance Creation Date	0008,0012	DA		ANAP	AUTO	
Instance Creation Time	0008,0013	TM		ANAP	AUTO	
Instance Number	0020,0013	IS		ANAP	AUTO	

- This part of the page is left intentionally empty -

## Issued by:

Philips Medical Systems Nederland BV, a Philips Healthcare company,  
P.O. Box 10.000  
5680 DA Best  
The Netherlands

Internet : <https://www.philips.com/DICOM>

Doc Id: HSDP- 953933

Date: 04-Aug-2022

