

DICOM Conformance Statement

Application Annex:

Multi-Modality Applications on Advanced Visualization Workspace V15





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1. DICOM Conformance Statement Overview

For information about this Section, please Refer HSDP-994234 DICOM Conformance Statement - Advanced Visualization Workspace V15 - General

2. Table of Contents

1.	DICOM CONFORMANCE STATEMENT OVERVIEW	3
2.	TABLE OF CONTENTS	4
3.	INTRODUCTION	5
3.1.	REVISION HISTORY	5
3.2.	AUDIENCE	5
3.3.	REMARKS	5
3.4.	DEFINITIONS, TERMS AND ABBREVIATIONS.....	6
3.5.	REFERENCES.....	7
4.	NETWORKING	8
5.	MEDIA INTERCHANGE	9
6.	SUPPORT OF CHARACTER SETS.....	10
7.	SECURITY.....	11
8.	ANNEXES OF APPLICATION "MULTI-MODALITY APPLICATIONS".....	12
8.1.	SUPPORTED IOD'S	12
8.1.1.	Acceptance Criteria.....	13
8.1.2.	Contents of Created IOD's	14
8.1.2.1.	Encapsulated PDF Storage	15
8.1.2.2.	Grayscale Softcopy Presentation State Storage SOP Class	18
8.1.2.3.	Positron Emission Tomography Image Storage SOP Class	24
8.1.2.4.	CT Image Storage SOP Class.....	33
8.1.2.5.	Ultrasound Image Storage (Retired).....	42
8.1.2.6.	Ultrasound Image Storage SOP Class	45
8.1.2.7.	Ultrasound Multi-frame Image Storage (Retired).....	49
8.1.2.8.	Ultrasound Multi-frame Image Storage	53
8.1.2.9.	Nuclear Medicine Image Storage SOP Class	58
8.1.2.10.	MR Image Storage SOP Class	68
8.1.2.11.	MR Spectroscopy Storage SOP Class	78
8.1.2.12.	RT Structure Set Storage SOP Class	91
8.1.2.13.	Secondary Capture Image Storage SOP Class.....	96
8.1.2.14.	Key Object Selection Document Storage SOP Class	104
8.1.2.15.	X-Ray Radio fluoroscopic Image Storage SOP Class	108
8.1.2.16.	X-Ray Angiographic Storage SOP Class.....	112

3. Introduction

This DICOM Conformance Statement annex is applicable to the Multi-Modality Applications on Advanced Visualization Workspace V15 hosting platform, later referred to as Multi-Modality Applications. In general, the Multi-Modality Applications are used for viewing and analyzing the images from multiple modalities.

The following analysis packages are offered by (licensing might be applicable):

- Multi-Modality Viewer
- Multi-Modality Tumor Tracking
- Multi-Modality Advanced Vessel Analysis (AVA)
- 3D modelling

Note: Basic 2D Ultrasound viewing is supported in Multi-Modality Viewer only.

Note: IntelliSpace Portal is rebranded to Advanced Visualization Workspace (AVW), therefore, throughout the document and annexures the name "IntelliSpace Portal (ISP)" is equivalent to the rebranded new name "Advanced Visualization Workspace V15 (AVW15)"

3.1. 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
1.0	30-Nov-2022	Initial version

3.2. 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.

3.3. 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).

3.4. Definitions, Terms and Abbreviations

Table 2: Definitions, Terms and Abbreviations

Abbreviation/Term	Explanation
AE	Application Entity
ANSI	American National Standard Institute
AP	Application Profile
AVW	Advanced Visualization Workspace
BOT	Basic Offset Table
CD	Compact Disc
CD-R	CD-Recordable
CD-M	CD-Medical
CR	Computed Radiography
CT	Computed Tomography
DCR	Dynamic Cardio Review
DICOM	Digital Imaging and Communications in Medicine
DIMSE	DICOM Message Service Element
DIMSE-C	DIMSE-Composite
DIMSE-N	DIMSE-Normalized
DX	Digital X-Ray
EBC	DICOM Explicit VR Big Endian
ELE	DICOM Explicit VR Little Endian
FSC	File-set Creator
FSR	File-set Reader
FSU	File-set Updater
GUI	Graphic User Interface
HIS	Hospital Information System
HL7	Health Level Seven
ILE	DICOM Implicit VR Little Endian
IOD	Information Object Definition
ISIS	Information System - Imaging System
MOD	Magneto-Optical Disk
MPPS	Modality Performed Procedure Step
MRI	Magnetic Resonance
NEMA	National Electrical Manufacturers Association
NM	Nuclear Medicine
PDU	Protocol Data Unit
RF	X-Ray Radiofluoroscopic
RIS	Radiology Information System
RT	Radiotherapy

Abbreviation/Term	Explanation
RWA	Real-World Activity
SC	Secondary Capture
SCM	Study Component Management
SCP	Service Class Provider
SCU	Service Class User
SOP	Service Object Pair
TCP/IP	Transmission Control Protocol/Internet Protocol
UID	Unique Identifier
US	Ultrasound
USMF	Ultrasound Multi-frame
VR	Value Representation
WLM	Worklist Management
XA	X-Ray Angiographic

3.5. References

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

National Electrical Manufacturers Association

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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.

4. Networking

This section contains the networking related services (vs. the media related ones).

For information about this Section, please Refer HSDP-994234 DICOM Conformance Statement - Advanced Visualization Workspace V15 - General



5. Media Interchange

For information about this Section, please Refer HSDP-994234 DICOM Conformance Statement - Advanced Visualization Workspace V15 - General

6. Support of Character Sets

Any support for character sets in Network and Media services is described here.

For information about this Section, please Refer HSDP-994234 DICOM Conformance Statement - Advanced Visualization Workspace V15 - General

7. Security

For information about this Section, please Refer HSDP-994234 DICOM Conformance Statement - Advanced Visualization Workspace V15 - General

8. Annexes of application "Multi-Modality Applications"

8.1. Supported IOD's

This section specifies each IOD accepted and / or created by Multi-Modality Applications.

ACCEPTED	The applicable IOD is accepted for storage in the repository of the hosting platform and supported for import in for viewing and analysis.
CREATED	The supports generation of derived data by using the applicable IOD and are able to store this data in the repository of the hosting platform.

Table 3: Supported IOD's

IOD	Name	UID	Support	
			ACCEPTED	CREATED
	Computed Radiography Image Storage SOP Class	1.2.840.10008.5.1.4.1.1.1	Yes	Yes
	Digital X-Ray Image Storage - For Pres. SOP	1.2.840.10008.5.1.4.1.1.1.1	Yes	Yes
	Digital X-Ray Image Storage - For Proc. SOP	1.2.840.10008.5.1.4.1.1.1.1.1	Yes	Yes
	Encapsulated PDF Storage	1.2.840.10008.5.1.4.1.1.104.1	No	Yes
	Grayscale Softcopy Presentation State Storage SOP Class	1.2.840.10008.5.1.4.1.1.11.1	Yes	Yes
	X-Ray Angiographic Image Storage SOP Class	1.2.840.10008.5.1.4.1.1.12.1	Yes	Yes
	X-Ray Radiofluoroscopic Image Storage SOP Class	1.2.840.10008.5.1.4.1.1.12.2	Yes	Yes
	Positron Emission Tomography Image Storage SOP Class	1.2.840.10008.5.1.4.1.1.128	Yes	Yes
	CT Image Storage SOP Class	1.2.840.10008.5.1.4.1.1.2	Yes	Yes
	Enhanced CT Image Storage SOP Class	1.2.840.10008.5.1.4.1.1.2.1	Yes	No
	Ultrasound Image Storage (Retired)	1.2.840.10008.5.1.4.1.1.6	Yes	Yes
	Ultrasound Image Storage SOP Class	1.2.840.10008.5.1.4.1.1.6.1	Yes	Yes
	Ultrasound Multi-frame Image Storage (Retired)	1.2.840.10008.5.1.4.1.1.3	Yes	Yes
	Ultrasound Multi-frame Image Storage SOP Class	1.2.840.10008.5.1.4.1.1.3.1	Yes	Yes
	Nuclear Medicine Image Storage SOP Class	1.2.840.10008.5.1.4.1.1.20	Yes	Yes
	MR Image Storage SOP Class	1.2.840.10008.5.1.4.1.1.4	Yes	Yes
	Enhanced MR Image Storage SOP Class	1.2.840.10008.5.1.4.1.1.4.1	Yes	No
	MR Spectroscopy Storage SOP Class	1.2.840.10008.5.1.4.1.1.4.2	Yes	Yes
	RT Structure Set Storage SOP Class	1.2.840.10008.5.1.4.1.1.481.3	Yes	Yes
	Secondary Capture Image Storage SOP Class	1.2.840.10008.5.1.4.1.1.7	Yes	Yes
	Multi-frame Single Bit Secondary Capture Image Storage SOP Class	1.2.840.10008.5.1.4.1.1.7.1	Yes	No
	Multi-frame Grayscale Byte SC Image Storage SOP Class	1.2.840.10008.5.1.4.1.1.7.2	Yes	No
	Multi-frame Grayscale Word SC Image Storage SOP Class	1.2.840.10008.5.1.4.1.1.7.3	Yes	No
	Multi-frame True Color Secondary Capture Image Storage	1.2.840.10008.5.1.4.1.1.7.4	Yes	No
	Key Object Selection Document	1.2.840.10008.5.1.4.1.1.88.59	Yes	Yes

Note:

- Multi-Modality Viewer will be able to support loading and display of MR images (not including Enhanced DICOM) from multiple vendors.
- Multi-Modality Tumor Tracking application is compliant with CT and NM data from other vendors for import and display (multi-vendor compliant).

- Multi-Modality Viewer (MMV) Application: MM Viewer shall be added to the Review applications of Portal with basic CT/MR/NM/US viewing capabilities (including support for Fusion). MM viewer shall be the default review application when data selection includes MRI or NM datasets.
- Multi-Modality Viewer cannot create Derived MR Spectroscopy images in Advanced Visualization Workspace V15
- Enhanced CT Images (1.2.840.10008.5.1.4.1.1.2.1) will be converted to Classic CT images (1.2.840.10008.5.1.4.1.1.2) upon arrival in Portal. Filters need to be set to enable exporting converted CT images of ECT to DICOM Nodes/CD/DVD/USB. All the generated Presentation States and Book Marks will not be exported and will be retained in Portal itself.
- Enhanced MR Images (1.2.840.10008.5.1.4.1.1.4.1) will be converted to Classic MR Image (1.2.840.10008.5.1.4.1.1.4) upon arrival in Portal for internal diagnostic/viewing purposes. While exporting the same studies to DICOM Nodes/CD/DVD/USB, only the original Enhanced MR data as it was arrived into Portal will be exported along with the Portal generated Secondary Captures, Derived Type images, Presentation States and Book Marks.
- The 3DM application is compliant with data from other vendors for import and display (multi-vendor compliant)
- Multi-Modality Advanced Vessel Analysis (AVA) Application spectral capabilities is covered under the CT application Annexure.

8.1.1. Acceptance Criteria

This section specifies the acceptance criteria applied by Multi-Modality Applications to which a dataset should adhere before it can be imported into the application.

All system model objects are accepted.

Table 4: Accepted transfer syntaxes per IOD

IOD		Transfer Syntax	
Name	UID	Name	UID
Computed Radiography Image Storage SOP Class	1.2.840.10008.5.1.4.1.1.1	Explicit VR LittleEndian Implicit VR LittleEndian JPEG Lossless, Non-Hierarchical, FOP (Process 14)	1.3.46.670589.33.1.4.1 1.2.840.10008.1.2.1 1.2.840.10008.1.2 1.2.840.10008.1.2.4.70
Digital X-Ray Image Storage - For Pres. SOP	1.2.840.10008.5.1.4.1.1.1.1	Explicit VR LittleEndian Implicit VR LittleEndian JPEG Lossless, Non-Hierarchical, FOP (Process 14)	1.3.46.670589.33.1.4.1 1.2.840.10008.1.2.1 1.2.840.10008.1.2 1.2.840.10008.1.2.4.70
Digital X-Ray Image Storage - For Proc. SOP	1.2.840.10008.5.1.4.1.1.1.1.1	Explicit VR LittleEndian Implicit VR LittleEndian JPEG Lossless, Non-Hierarchical, FOP (Process 14)	1.3.46.670589.33.1.4.1 1.2.840.10008.1.2.1 1.2.840.10008.1.2 1.2.840.10008.1.2.4.70
Grayscale Softcopy Presentation State Storage SOP Class	1.2.840.10008.5.1.4.1.1.11.1	Explicit VR LittleEndian Implicit VR LittleEndian	1.2.840.10008.1.2.1 1.2.840.10008.1.2
X-Ray Angiographic Image Storage SOP Class	1.2.840.10008.5.1.4.1.1.12.1	Explicit VR LittleEndian Implicit VR LittleEndian JPEG Lossless, Non-Hierarchical, FOP (Process 14)	1.3.46.670589.33.1.4.1 1.2.840.10008.1.2.1 1.2.840.10008.1.2 1.2.840.10008.1.2.4.70
X-Ray Radiofluoroscopic Image Storage SOP Class	1.2.840.10008.5.1.4.1.1.12.2	Explicit VR LittleEndian Implicit VR LittleEndian JPEG Lossless, Non-Hierarchical, FOP (Process 14)	1.3.46.670589.33.1.4.1 1.2.840.10008.1.2.1 1.2.840.10008.1.2 1.2.840.10008.1.2.4.70
Positron Emission Tomography Image Storage SOP Class	1.2.840.10008.5.1.4.1.1.128	CT-private-ELE Explicit VR LittleEndian Implicit VR LittleEndian JPEG Lossless, Non-Hierarchical, FOP (Process 14)	1.3.46.670589.33.1.4.1 1.2.840.10008.1.2.1 1.2.840.10008.1.2 1.2.840.10008.1.2.4.70
CT Image Storage SOP Class	1.2.840.10008.5.1.4.1.1.2	CT-private-ELE Explicit VR LittleEndian Implicit VR LittleEndian JPEG Lossless, Non-Hierarchical, FOP (Process 14)	1.3.46.670589.33.1.4.1 1.2.840.10008.1.2.1 1.2.840.10008.1.2 1.2.840.10008.1.2.4.70
Enhanced CT Image Storage SOP Class	1.2.840.10008.5.1.4.1.1.2.1	Explicit VR LittleEndian Implicit VR LittleEndian	1.2.840.10008.1.2.1 1.2.840.10008.1.2

Ultrasound Image Storage (Retired)	1.2.840.10008.5.1.4.1.1.6	Explicit VR Little Endian Implicit VR Little Endian RLE Lossless JPEG Baseline (Process 1) JPEG Lossless, Non-Hierarchical, FOP (Process 14)	1.2.840.10008.1.2.1 1.2.840.10008.1.2 1.2.840.10008.1.2.5 1.2.840.10008.1.2.4.50 1.2.840.10008.1.2.4.70
Ultrasound Image Storage SOP Class	1.2.840.10008.5.1.4.1.1.6.1	Explicit VR Little Endian Implicit VR Little Endian RLE Lossless JPEG Baseline (Process 1) JPEG Lossless, Non-Hierarchical, FOP (Process 14)	1.2.840.10008.1.2.1 1.2.840.10008.1.2 1.2.840.10008.1.2.5 1.2.840.10008.1.2.4.50 1.2.840.10008.1.2.4.70
Ultrasound Multi-frame Image Storage (Retired)	1.2.840.10008.5.1.4.1.1.3	Explicit VR Little Endian Implicit VR Little Endian RLE Lossless JPEG Baseline (Process 1) JPEG Lossless, Non-Hierarchical, FOP (Process 14)	1.2.840.10008.1.2.1 1.2.840.10008.1.2 1.2.840.10008.1.2.5 1.2.840.10008.1.2.4.50 1.2.840.10008.1.2.4.70
Ultrasound Multi-frame Image Storage SOP Class	1.2.840.10008.5.1.4.1.1.3.1	Explicit VR Little Endian Implicit VR Little Endian RLE Lossless JPEG Baseline (Process 1) JPEG Lossless, Non-Hierarchical, FOP (Process 14)	1.2.840.10008.1.2.1 1.2.840.10008.1.2 1.2.840.10008.1.2.5 1.2.840.10008.1.2.4.50 1.2.840.10008.1.2.4.70
Nuclear Medicine Image Storage SOP Class	1.2.840.10008.5.1.4.1.1.20	Explicit VR Little Endian Implicit VR Little Endian	1.2.840.10008.1.2.1 1.2.840.10008.1.2
MR Image Storage SOP Class	1.2.840.10008.5.1.4.1.1.4	CT-private-ELE Explicit VR Little Endian Implicit VR Little Endian JPEG Lossless, Non-Hierarchical, FOP (Process 14)	1.3.46.670589.33.1.4.1 1.2.840.10008.1.2.1 1.2.840.10008.1.2 1.2.840.10008.1.2.4.70
Enhanced MR Image Storage SOP Class	1.2.840.10008.5.1.4.1.1.4.1	CT-private-ELE JPEG Lossless, Non-Hierarchical, FOP (Process 14) Explicit VR Little Endian Implicit VR Little Endian	1.3.46.670589.33.1.4.1 1.2.840.10008.1.2.4.70 1.2.840.10008.1.2.1 1.2.840.10008.1.2
MR Spectroscopy Storage SOP Class	1.2.840.10008.5.1.4.1.1.4.2	Explicit VR Little Endian Implicit VR Little Endian	1.2.840.10008.1.2.1 1.2.840.10008.1.2
RT Structure Set Storage SOP Class	1.2.840.10008.5.1.4.1.1.481.3	Explicit VR Little Endian Implicit VR Little Endian	1.2.840.10008.1.2.1 1.2.840.10008.1.2
Secondary Capture Image Storage SOP Class	1.2.840.10008.5.1.4.1.1.7	CT-private-ELE Explicit VR Little Endian Implicit VR Little Endian JPEG Lossless, Non-Hierarchical, FOP (Process 14)	1.3.46.670589.33.1.4.1 1.2.840.10008.1.2.1 1.2.840.10008.1.2 1.2.840.10008.1.2.4.70
Multi-frame Single Bit Secondary Capture Image Storage SOP Class	1.2.840.10008.5.1.4.1.1.7.1	Explicit VR Little Endian Implicit VR Little Endian	1.2.840.10008.1.2.1 1.2.840.10008.1.2
Multi-frame Grayscale Byte SC Image Storage SOP Class	1.2.840.10008.5.1.4.1.1.7.2	Explicit VR Little Endian Implicit VR Little Endian	1.2.840.10008.1.2.1 1.2.840.10008.1.2
Multi-frame Grayscale Word SC Image Storage SOP Class	1.2.840.10008.5.1.4.1.1.7.3	Explicit VR Little Endian Implicit VR Little Endian	1.2.840.10008.1.2.1 1.2.840.10008.1.2
Multi-frame True Color Secondary Capture Image Storage	1.2.840.10008.5.1.4.1.1.7.4	Explicit VR Little Endian Implicit VR Little Endian	1.2.840.10008.1.2.1 1.2.840.10008.1.2
Key Object Selection Document	1.2.840.10008.5.1.4.1.1.88.59	Explicit VR Little Endian Implicit VR Little Endian	1.2.840.10008.1.2.1 1.2.840.10008.1.2

8.1.2. 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

8.1.2.1. Encapsulated PDF Storage

Table 5: IOD of Created Encapsulated PDF Storage Instances

Information Entity	Module	Presence Of Module
Patient	Patient Module	ALWAYS
Study	General Study Module	ALWAYS
Series	Encapsulated Document Series Module	ALWAYS
Equipment	General Equipment Module	ALWAYS
Equipment	SC Equipment Module	ALWAYS
Encapsulated Document	Encapsulated Document Module	ALWAYS
Encapsulated Document	SOP Common Module	ALWAYS

Table 6: Patient Module

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Referenced Patient Sequence	0008,1120	SQ		ANAP	COPY	-
>Referenced SOP Class UID	0008,1150	UI		ALWAYS	COPY	-
>Referenced SOP Instance UID	0008,1155	UI		ALWAYS	COPY	-
Patient's Name	0010,0010	PN		VNAP	COPY	-
Patient ID	0010,0020	LO		VNAP	COPY	-
Patient's Birth Date	0010,0030	DA		VNAP	USER	-
Patient's Birth Time	0010,0032	TM		ANAP	COPY	-
Patient's Sex	0010,0040	CS		VNAP	COPY	-
Other Patient IDs	0010,1000	LO		ANAP	COPY	-
Other Patient Names	0010,1001	PN		ANAP	COPY	-
Ethnic Group	0010,2160	SH		ANAP	COPY	-
Patient Comments	0010,4000	LT		ANAP	COPY	-
Issuer of Patient ID	0010,0021	LO		ANAP	COPY	-

Table 7: General Study Module

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Study Date	0008,0020	DA		VNAP	COPY	-
Study Time	0008,0030	TM		VNAP	COPY	-
Accession Number	0008,0050	SH		VNAP	COPY	-
Referring Physician's Name	0008,0090	PN		VNAP	COPY	-
Referring Physician Identification Sequence	0008,0096	SQ		ANAP	COPY	-
Study Description	0008,1030	LO		ANAP	COPY	-
Procedure Code Sequence	0008,1032	SQ		ANAP	COPY	-
Physician(s) of Record	0008,1048	PN		ANAP	COPY	-
Physician(s) of Record Identification Sequence	0008,1049	SQ		ANAP	COPY	-
Name of Physician(s) Reading Study	0008,1060	PN		ANAP	COPY	-
Physician(s) Reading Study Identification Sequence	0008,1062	SQ		ANAP	COPY	-
Referenced Study Sequence	0008,1110	SQ		ANAP	COPY	-
Study Instance UID	0020,000D	UI		ALWAYS	AUTO, COPY	-
Study ID	0020,0010	SH		VNAP	AUTO, COPY	-

Table 8: Encapsulated Document Series Module

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Modality	0008,0060	CS		ALWAYS	AUTO	-
Series Description	0008,103E	LO	Reports	ANAP	AUTO	Reports
Series Instance UID	0020,000E	UI		ALWAYS	AUTO	-
Series Number	0020,0011	IS		ALWAYS	AUTO	-
Performed Procedure Step Start Date	0040,0244	DA		ANAP	COPY	-
Performed Procedure Step Start Time	0040,0245	TM		ANAP	COPY	-
Performed Procedure Step ID	0040,0253	SH		ANAP	COPY	-
Performed Procedure Step Description	0040,0254	LO		ANAP	AUTO	-
Performed Protocol Code Sequence	0040,0260	SQ		ANAP	COPY	-
>Code Value	0008,0100	SH		ANAP	COPY	-
>Coding Scheme Designator	0008,0102	SH		ANAP	COPY	-
>Code Meaning	0008,0104	LO		ANAP	AUTO	-
>Context Group Local Version	0008,0107	DT		ANAP	COPY	-
>Context Group Extension Flag	0008,010B	CS		ANAP	COPY	-

Table 9: General Equipment Module

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Manufacturer	0008,0070	LO	Philips	VNAP	FIXED	-

Institution Name	0008,0080	LO	-	ANAP	CONFIG	-
Institution Address	0008,0081	ST	-	ANAP	CONFIG	-
Station Name	0008,1010	SH	-	ANAP	COPY	-
Institutional Department Name	0008,1040	LO	-	ANAP	CONFIG	-
Manufacturer's Model Name	0008,1090	LO	IntelliSpace Portal	ANAP	FIXED	-
Device Serial Number	0018,1000	LO	-	ANAP	COPY	-
Software Version(s)	0018,1020	LO	15.x	ANAP	FIXED	-
Spatial Resolution	0018,1050	DS		ANAP	COPY	-
Date of Last Calibration	0018,1200	DA		ANAP	COPY	-
Time of Last Calibration	0018,1201	TM		ANAP	COPY	-
Pixel Padding Value	0028,0120	US/SS		ANAP	COPY	-

Table 10: SC Equipment Module

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Modality	0008,0060	CS		ALWAYS	AUTO	-
Conversion Type	0008,0064	CS	WSD	ALWAYS	AUTO	-
Secondary Capture Device Manufacturer	0018,1016	LO	Philips Medical Systems	ANAP	AUTO	-
Secondary Capture Device Manufacturer's Model Name	0018,1018	LO	IntelliSpace Portal	ANAP	AUTO	-
Secondary Capture Device Software Version(s)	0018,1019	LO		ANAP	AUTO	-

Table 11: Encapsulated Document Module

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Content Date	0008,0023	DA		VNAP	AUTO	-
Acquisition Datetime	0008,002A	DT		VNAP	AUTO	-
Content Time	0008,0033	TM		VNAP	AUTO	-
Instance Number	0020,0013	IS		ALWAYS	AUTO	-
Burned In Annotation	0028,0301	CS	YES	ALWAYS	AUTO	-
Concept Name Code Sequence	0040,A043	SQ		VNAP	AUTO	-
Document Title	0042,0010	ST		VNAP	AUTO	-
Encapsulated Document	0042,0011	OB		ALWAYS	AUTO	-
MIME Type of Encapsulated Document	0042,0012	LO	Application/pdf	ALWAYS	AUTO	-
Source Instance Sequence	0042,0013	SQ		ANAP	AUTO	-
>Referenced SOP Class UID	0008,1150	UI		ALWAYS	AUTO	-
>Referenced SOP Instance UID	0008,1155	UI		ALWAYS	AUTO	-

Table 12: SOP Common Module

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Specific Character Set	0008,0005	CS		ANAP	AUTO, COPY	-
Instance Creation Date	0008,0012	DA		ANAP	AUTO	-
Instance Creation Time	0008,0013	TM		ANAP	AUTO	-
Instance Creator UID	0008,0014	UI		ANAP	AUTO	-

SOP Class UID	0008,0016	UI		ALWAYS	COPY	-
SOP Instance UID	0008,0018	UI		ALWAYS	AUTO	-
Timezone Offset From UTC	0008,0201	SH		ANAP	COPY	-
Contributing Equipment Sequence	0018,A001	SQ		ANAP	AUTO	-
>Manufacturer	0008,0070	LO		ALWAYS	COPY	-
>Institution Address	0008,0081	ST		ANAP	COPY	-
>Station Name	0008,1010	SH		ANAP	COPY	-
>Institutional Department Name	0008,1040	LO		ANAP	COPY	-
>Software Version(s)	0018,1020	LO		ANAP	COPY	-
>Device Serial Number	0018,1000	LO		ANAP	COPY	-
>Institution Name	0008,0080	LO		ANAP	COPY	-
>Manufacturer's Model Name	0008,1090	LO		ANAP	COPY	-
>Purpose of Reference Code Sequence	0040,A170	SQ		ALWAYS	COPY	-
>>Code Value	0008,0100	SH	109102	ALWAYS	FIXED	-
>>Coding Scheme Designator	0008,0102	SH	DCM	ALWAYS	FIXED	-
>>Code Meaning	0008,0104	LO	Processing Equipment	ALWAYS	FIXED	-

8.1.2.2. Grayscale Softcopy Presentation State Storage SOP Class

Table 13: IOD of Created Grayscale Softcopy Presentation State Storage SOP Class Instances

Information Entity	Module	Presence Of Module
Patient	Patient Module	ALWAYS
Study	General Study Module	ALWAYS
Study	Patient Study Module	CONDITIONAL – IF PRESENT IN THE SOURCE DATA
Series	General Series Module	ALWAYS
Series	Presentation Series Module	ALWAYS
Equipment	General Equipment Module	ALWAYS
Presentation State	Presentation State Identification Module	ALWAYS
Presentation State	Presentation State Relationship Module	ALWAYS
Presentation State	Display Shutter Module	CONDITIONAL
Presentation State	Overlay Plane Module	CONDITIONAL
Presentation State	Overlay Activation Module	CONDITIONAL
Presentation State	Displayed Area Module	CONDITIONAL
Presentation State	Graphic Annotation Module	CONDITIONAL
Presentation State	Spatial Transformation Module	CONDITIONAL
Presentation State	Graphic Layer Module	CONDITIONAL
Presentation State	Modality LUT Module	CONDITIONAL
Presentation State	Softcopy VOI LUT Module	CONDITIONAL
Presentation State	Softcopy Presentation LUT Module	ALWAYS
Presentation State	SOP Common Module	ALWAYS

Table 14: Patient Module

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Referenced Patient Sequence	0008,1120	SQ		ANAP	COPY	-
>Referenced SOP Class UID	0008,1150	UI		ANAP	COPY	-
>Referenced SOP Instance UID	0008,1155	UI		ANAP	COPY	-
Patient's Name	0010,0010	PN		VNAP	COPY	-
Patient ID	0010,0020	LO		VNAP	COPY	-
Patient's Birth Date	0010,0030	DA		VNAP	COPY	-
Patient's Birth Time	0010,0032	TM		ANAP	COPY	-
Patient's Sex	0010,0040	CS		VNAP	COPY	-
Other Patient IDs	0010,1000	LO		ANAP	COPY	-
Other Patient Names	0010,1001	PN		ANAP	COPY	-
Ethnic Group	0010,2160	SH		ANAP	COPY	-
Patient Comments	0010,4000	LT		ANAP	COPY	-
Issuer of Patient ID	0010,0021	LO		ANAP	COPY	-

Table 15: General Study Module

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Study Date	0008,0020	DA		VNAP	COPY	-
Study Time	0008,0030	TM		VNAP	COPY	-
Accession Number	0008,0050	SH		VNAP	COPY	-
Referring Physician's Name	0008,0090	PN		VNAP	COPY	-
Referring Physician Identification Sequence	0008,0096	SQ		ANAP	COPY	-
Study Description	0008,1030	LO		ANAP	COPY	-
Procedure Code Sequence	0008,1032	SQ		ANAP	COPY	-
Physician(s) of Record	0008,1048	PN		ANAP	COPY	-
Physician(s) of Record Identification Sequence	0008,1049	SQ		ANAP	COPY	-
Name of Physician(s) Reading Study	0008,1060	PN		ANAP	COPY	-
Physician(s) Reading Study Identification Sequence	0008,1062	SQ		ANAP	COPY	-
Referenced Study Sequence	0008,1110	SQ		ANAP	COPY	-
Study Instance UID	0020,000D	UI		ALWAYS	COPY	-
Study ID	0020,0010	SH		VNAP	COPY	-

Table 16: Patient Study Module

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Admitting Diagnoses Description	0008,1080	LO		ANAP	COPY	-
Admitting Diagnoses Code Sequence	0008,1084	SQ		ANAP	COPY	-
Patient's Age	0010,1010	AS		ANAP	COPY	-
Patient's Size	0010,1020	DS		ANAP	COPY	-

Patient's Weight	0010,1030	DS		ANAP	COPY	-
Occupation	0010,2180	SH		ANAP	COPY	-
Additional Patient History	0010,21B0	LT		ANAP	COPY	-

Table 17: 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		ANAP	COPY	-
Series Description	0008,103E	LO		ANAP	COPY	-
Performing Physician's Name	0008,1050	PN		ANAP	COPY	-
Operators' Name	0008,1070	PN		ANAP	COPY	-
Operator Identification Sequence	0008,1072	SQ		ANAP	COPY	-
Referenced Performed Procedure Step Sequence	0008,1111	SQ		ANAP	COPY	-
>Referenced SOP Class UID	0008,1150	UI		ALWAYS	COPY	-
>Referenced SOP Instance UID	0008,1155	UI		ALWAYS	COPY	-
Body Part Examined	0018,0015	CS		ANAP	COPY	-
Protocol Name	0018,1030	LO		ANAP	COPY	-
Patient Position	0018,5100	CS		ANAP	COPY	-
Series Instance UID	0020,000E	UI		ALWAYS	AUTO	-
Series Number	0020,0011	IS		VNAP	AUTO	-
Laterality	0020,0060	CS		ANAP	COPY	-
Smallest Pixel Value in Series	0028,0108	US/SS		ANAP	AUTO	-
Largest Pixel Value in Series	0028,0109	US/SS		ANAP	AUTO	-
Request Attributes Sequence	0040,0275	SQ		ANAP	COPY	-
Performed Procedure Step Start Date	0040,0244	DA		ANAP	COPY	-
Performed Procedure Step Start Time	0040,0245	TM		ANAP	COPY	-
Performed Procedure Step ID	0040,0253	SH		ANAP	COPY	-
Performed Procedure Step Description	0040,0254	LO		ANAP	COPY	-
Performed Protocol Code Sequence	0040,0260	SQ		ANAP	COPY	-
>Code Value	0008,0100	SH		ANAP	COPY	-
>Coding Scheme Designator	0008,0102	SH		ANAP	COPY	-
>Code Meaning	0008,0104	LO		ANAP	AUTO	-
>Context Group Extension Flag	0008,010B	CS		ANAP	COPY	-

Table 18: Presentation Series Module

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Modality	0008,0060	CS		ALWAYS	AUTO	-

Table 19: General Equipment Module

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Manufacturer	0008,0070	LO	Philips	VNAP	FIXED	
Institution Name	0008,0080	LO	-	ANAP	CONFIG	-
Station Name	0008,1010	SH	-	ANAP	CONFIG	Same as the host Name.
Institutional Department Name	0008,1040	LO	-	ANAP	CONFIG	-
Manufacturer's Model Name	0008,1090	LO	IntelliSpace Portal	ANAP	FIXED	
Device Serial Number	0018,1000	LO	-	ANAP	COPY	-
Software Version(s)	0018,1020	LO	15.x	ANAP	FIXED	

Table 20: Presentation State Identification Module

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Presentation Creation Date	0070,0082	DA		ALWAYS	AUTO	-
Presentation Creation Time	0070,0083	TM		ALWAYS	AUTO	-
Instance Number	0020,0013	IS		ALWAYS	AUTO	-
Content Label	0070,0080	CS	AS LAST SEEN	ALWAYS	AUTO	Applied values: AS LAST SEEN
Content Description	0070,0081	LO		VNAP	AUTO	-
Content Creator's Name	0070,0084	PN		VNAP	AUTO	-

Table 21: Presentation State Relationship Module

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Referenced Series Sequence	0008,1115	SQ		ALWAYS	AUTO	-
>Referenced Image Sequence	0008,1140	SQ		ANAP	AUTO	-
>>Referenced SOP Class UID	0008,1150	UI		ALWAYS	AUTO	-
>>Referenced SOP Instance UID	0008,1155	UI		ALWAYS	AUTO	-
>Series Instance UID	0020,000E	UI		ALWAYS	AUTO	-

Table 22: Display Shutter Module

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Shutter Presentation Value	0018,1622	US		ANAP	AUTO	Applied value: 0

Table 23: Overlay Plane Module

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Overlay Rows	6000,0010	US		ANAP	COPY	-
Overlay Columns	6000,0011	US		ANAP	COPY	-
Overlay Description	6000,0022	LO		ANAP	COPY	-
Overlay Type	6000,0040	CS		ANAP	COPY	-
Overlay Subtype	6000,0045	LO		ANAP	COPY	-
Overlay Origin	6000,0050	SS		ANAP	COPY	-
Overlay Bits Allocated	6000,0100	US		ANAP	COPY	-

Overlay Bit Position	6000,0102	US		ANAP	COPY	-
ROI Area	6000,1301	IS		ANAP	COPY	-
ROI Mean	6000,1302	DS		ANAP	COPY	-
ROI Standard Deviation	6000,1303	DS		ANAP	COPY	-
Overlay Label	6000,1500	LO		ANAP	COPY	-
Overlay Data	6000,3000	OW/OB		ANAP	COPY	-

Table 24: Overlay Activation Module

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Overlay Activation Layer	6000,1001	CS		ANAP	COPY	Applied value: 1

Table 25: Displayed Area Module

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Displayed Area Selection Sequence	0070,005A	SQ		ALWAYS	IMPLICIT	-
>Referenced Image Sequence	0008,1140	SQ		ANAP	IMPLICIT	-
>>Referenced SOP Class UID	0008,1150	UI		ALWAYS	IMPLICIT	-
>>Referenced SOP Instance UID	0008,1155	UI		ALWAYS	IMPLICIT	-
>Displayed Area Top Left Hand Corner	0070,0052	SL		ALWAYS	IMPLICIT	-
>Displayed Area Bottom Right Hand Corner	0070,0053	SL		ALWAYS	IMPLICIT	-
>Presentation Size Mode	0070,0100	CS	MAGNIFY, SCALE TO FIT	ALWAYS	IMPLICIT	-
>Presentation Pixel Spacing	0070,0101	DS		ANAP	IMPLICIT	Applied values: (0.0, 0.0)
>Presentation Pixel Aspect Ratio	0070,0102	IS		ANAP	IMPLICIT	-
>Presentation Pixel Magnification Ratio	0070,0103	FL		ANAP	IMPLICIT	Applied value: 1.0
>Zoom Mode	2001,103F	CS		ANAP	IMPLICIT	-

Table 26: Graphic Annotation Module

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Graphic Annotation Sequence	0070,0001	SQ		ANAP	USER	-
>Referenced Image Sequence	0008,1140	SQ		ANAP	USER	-
>>Referenced SOP Class UID	0008,1150	UI		ANAP	USER	-
>>Referenced SOP Instance UID	0008,1155	UI		ANAP	USER	-
>Graphic Layer	0070,0002	CS		ANAP	USER	-
>Text Object Sequence	0070,0008	SQ		ANAP	USER	-
>>Anchor Point Annotation Units	0070,0004	CS		ANAP	USER	-
>>Unformatted Text Value	0070,0006	ST		ANAP	USER	-
>>Anchor Point	0070,0014	FL		ANAP	USER	-
>>Anchor Point Visibility	0070,0015	CS		ANAP	USER	-
>Graphic Object Sequence	0070,0009	SQ		ANAP	USER	-

>>Graphic Annotation Units	0070,0005	CS		ANAP	USER	-
>>Graphic Dimensions	0070,0020	US		ANAP	USER	-
>>Number of Graphic Points	0070,0021	US		ANAP	USER	-
>>Graphic Data	0070,0022	FL		ANAP	USER	-
>>Graphic Type	0070,0023	CS		ANAP	USER	-
>>Graphic Filled	0070,0024	CS		ANAP	USER	-

Table 27: Spatial Transformation Module

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Image Horizontal Flip	0070,0041	CS		ANAP	COPY	-
Image Rotation	0070,0042	US		ANAP	COPY	-

Table 28: Graphic Layer Module

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Graphic Layer Sequence	0070,0060	SQ		ALWAYS	IMPLICIT	-
>Graphic Layer	0070,0002	CS		ALWAYS	IMPLICIT	-
>Graphic Layer Order	0070,0062	IS		ALWAYS	IMPLICIT	-

Table 29: Modality LUT Module

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Rescale Intercept	0028,1052	DS		ALWAYS	COPY	-
Rescale Slope	0028,1053	DS		ALWAYS	COPY	-
Rescale Type	0028,1054	LO	cm/sec, millirads, milliseconds, mm^2/sec, normalized, seconds, US	ALWAYS	COPY	-

Table 30: Softcopy VOI LUT Module

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Softcopy VOI LUT Sequence	0028,3110	SQ		ALWAYS	AUTO	-
>Referenced Image Sequence	0008,1140	SQ		ANAP	AUTO	-
>>Referenced SOP Class UID	0008,1150	UI		ALWAYS	AUTO	-
>>Referenced SOP Instance UID	0008,1155	UI		ALWAYS	AUTO	-
>Window Center	0028,1050	DS		ALWAYS	AUTO	-
>Window Width	0028,1051	DS		ALWAYS	AUTO	-

Table 31: Softcopy Presentation LUT Module

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Presentation LUT Sequence	2050,0010	SQ		ANAP	AUTO	Present if Presentation LUT Shape not present.
>LUT Descriptor	0028,3002	US/SS		ALWAYS	AUTO	-
>LUT Data	0028,3006	US/OW		ALWAYS	AUTO	-
Presentation LUT Shape	2050,0020	CS		ALWAYS	AUTO	-

Table 32: SOP Common Module

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Specific Character Set	0008,0005	CS		ANAP	AUTO	-
Instance Creation Date	0008,0012	DA		ANAP	AUTO	-
Instance Creator UID	0008,0014	UI		ANAP	AUTO	-
SOP Class UID	0008,0016	UI		ALWAYS	AUTO	Applied Value(s): 1.2.840.10008.5.1.4.1.11.1
SOP Instance UID	0008,0018	UI		ALWAYS	AUTO	-
Instance Number	0020,0013	IS		ANAP	AUTO	-

8.1.2.3. Positron Emission Tomography Image Storage SOP Class

Table 33: IOD of Created Positron Emission Tomography Image Storage SOP Class Instances

Information Entity	Module	Presence Of Module
Patient	Patient Module	ALWAYS
Study	General Study Module	ALWAYS
Study	Patient Study Module	CONDITIONAL – IF PRESENT IN THE SOURCE DATA
Series	General Series Module	ALWAYS
Series	PET Series Module	ALWAYS
Frame of Reference	Frame of Reference Module	ALWAYS
Equipment	General Equipment Module	ALWAYS
Image	General Image Module	ALWAYS
Image	Image Plane Module	ALWAYS
Image	Image Pixel Module	ALWAYS
Image	NM/PET Patient Orientation Module	ALWAYS
Image	PET Isotope Module	ALWAYS
Image	PET Multi-Gated Acquisition Module	CONDITIONAL – IF PRESENT IN THE SOURCE DATA
Image	PET Image Module	ALWAYS
Image	Overlay Plane Module	CONDITIONAL – IF PRESENT IN THE SOURCE DATA
Image	VOI LUT Module	CONDITIONAL – IF PRESENT IN THE SOURCE DATA
Image	SOP Common Module	ALWAYS

This SOP class can be extended with standard DICOM and private attributes as described in Table 51.

Table 34: Patient Module

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Referenced Patient Sequence	0008,1120	SQ		ANAP	COPY	-
>Referenced SOP Class UID	0008,1150	UI		ANAP	COPY	-
>Referenced SOP Instance UID	0008,1155	UI		ANAP	COPY	-
Patient's Name	0010,0010	PN		VNAP	COPY	-
Patient ID	0010,0020	LO		VNAP	COPY	-
Patient's Birth Date	0010,0030	DA		VNAP	COPY	-
Patient's Birth Time	0010,0032	TM		ANAP	COPY	-
Patient's Sex	0010,0040	CS		VNAP	COPY	-
Other Patient IDs	0010,1000	LO		ANAP	COPY	-
Other Patient Names	0010,1001	PN		ANAP	COPY	-
Ethnic Group	0010,2160	SH		ANAP	COPY	-
Patient Comments	0010,4000	LT		ANAP	COPY	-
Issuer of Patient ID	0010,0021	LO		ANAP	COPY	-

Table 35: General Study Module

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Study Date	0008,0020	DA		VNAP	COPY	-
Study Time	0008,0030	TM		VNAP	COPY	-
Accession Number	0008,0050	SH		VNAP	COPY	-
Referring Physician's Name	0008,0090	PN		VNAP	COPY	-
Referring Physician Identification Sequence	0008,0096	SQ		ANAP	COPY	-
Study Description	0008,1030	LO		ANAP	COPY	-
Procedure Code Sequence	0008,1032	SQ		ANAP	COPY	-
Physician(s) of Record	0008,1048	PN		ANAP	COPY	-
Physician(s) of Record Identification Sequence	0008,1049	SQ		ANAP	COPY	-
Name of Physician(s) Reading Study	0008,1060	PN		ANAP	COPY	-
Physician(s) Reading Study Identification Sequence	0008,1062	SQ		ANAP	COPY	-
Referenced Study Sequence	0008,1110	SQ		ANAP	COPY	-
Study Instance UID	0020,000D	UI		ALWAYS	AUTO, COPY	-
Study ID	0020,0010	SH		VNAP	AUTO, COPY	-

Table 36: Patient Study Module

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Admitting Diagnoses Description	0008,1080	LO		ANAP	COPY	-
Admitting Diagnoses Code Sequence	0008,1084	SQ		ANAP	COPY	-
Patient's Age	0010,1010	AS		ANAP	COPY	-
Patient's Size	0010,1020	DS		ANAP	COPY	-

Patient's Weight	0010,1030	DS		ANAP	COPY	-
Occupation	0010,2180	SH		ANAP	COPY	-
Additional Patient History	0010,21B0	LT		ANAP	COPY	-

Table 37: General Series Module

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Series Date	0008,0021	DA		ANAP	COPY	-
Series Time	0008,0031	TM		ANAP	COPY	-
Modality	0008,0060	CS		ALWAYS	COPY	-
Series Description	0008,103E	LO		ANAP	COPY	-
Operators' Name	0008,1070	PN		ANAP	COPY	-
Referenced Performed Procedure Step Sequence	0008,1111	SQ		ANAP	COPY	-
>Referenced SOP Class UID	0008,1150	UI		ALWAYS	COPY	-
>Referenced SOP Instance UID	0008,1155	UI		ALWAYS	COPY	-
Protocol Name	0018,1030	LO		ANAP	COPY	-
Patient Position	0018,5100	CS		ANAP	COPY	-
Series Instance UID	0020,000E	UI		ALWAYS	COPY	-
Series Number	0020,0011	IS		VNAP	COPY	-
Performed Procedure Step Start Date	0040,0244	DA		ANAP	COPY	-
Performed Procedure Step Start Time	0040,0245	TM		ANAP	COPY	-
Performed Procedure Step ID	0040,0253	SH		ANAP	COPY	-
Performed Procedure Step Description	0040,0254	LO		ANAP	COPY	-
Performed Protocol Code Sequence	0040,0260	SQ		ANAP	COPY	-
Request Attributes Sequence	0040,0275	SQ		ANAP	COPY	-

Table 38: PET Series Module

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Series Date	0008,0021	DA		ALWAYS	COPY	-
Series Time	0008,0031	TM		ALWAYS	COPY	-
Acquisition Start Condition	0018,0073	CS		ANAP	COPY	-
Acquisition Start Condition Data	0018,0074	IS		ANAP	COPY	-
Acquisition Termination Condition Data	0018,0075	IS		ANAP	COPY	-
Reconstruction Diameter	0018,1100	DS		ANAP	COPY	-
Field of View Shape	0018,1147	CS		ANAP	COPY	-
Field of View Dimensions	0018,1149	IS		ANAP	COPY	-
Collimator Type	0018,1181	CS		VNAP	COPY	-
Corrected Image	0028,0051	CS		VNAP	COPY	-
Number of R-R Intervals	0054,0061	US		ANAP	COPY	-
Number of Time Slots	0054,0071	US		ANAP	COPY	-
Number of Slices	0054,0081	US		ALWAYS	COPY	-
Type of Detector Motion	0054,0202	CS		ANAP	COPY	-
Series Type	0054,1000	CS		ALWAYS	COPY	-

Units	0054,1001	CS		ALWAYS	COPY	-
Counts Source	0054,1002	CS		ALWAYS	COPY	-
Randoms Correction Method	0054,1100	CS		ANAP	COPY	-
Attenuation Correction Method	0054,1101	LO		ANAP	COPY	-
Decay Correction	0054,1102	CS		ALWAYS	COPY	-
Reconstruction Method	0054,1103	LO		ANAP	COPY	-
Scatter Correction Method	0054,1105	LO		ANAP	COPY	-
Axial Mash	0054,1201	IS		ANAP	COPY	-
Coincidence Window Width	0054,1210	DS		ANAP	COPY	-

Table 39: Frame of Reference Module

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

Table 40: General Equipment Module

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Manufacturer	0008,0070	LO	Philips	VNAP	FIXED	-
Institution Name	0008,0080	LO	-	ANAP	CONFIG	-
Institution Address	0008,0081	ST	-	ANAP	CONFIG	-
Institutional Department Name	0008,1040	LO	-	ANAP	CONFIG	-
Manufacturer's Model Name	0008,1090	LO	Philips Portal	VNAP	FIXED	-
Software Version (s)	0018,1020	LO	15.x	ANAP	FIXED	-
Station Name	0008,1010	SH		ANAP	CONFIG	-
Spatial Resolution	0018,1050	DS		ANAP	COPY	-
Date of Last Calibration	0018,1200	DA		ANAP	COPY	-
Time of Last Calibration	0018,1201	TM		ANAP	COPY	-
Pixel Padding Value	0028,0120	US/SS		ANAP	COPY	-

Table 41: General Image Module

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Image Type	0008,0008	CS		ANAP	COPY	-
Acquisition Date	0008,0022	DA		ANAP	COPY	-
Content Date	0008,0023	DA		ANAP	COPY	-
Acquisition Datetime	0008,002A	DT		ANAP	COPY	-
Acquisition Time	0008,0032	TM		ANAP	COPY	-
Content Time	0008,0033	TM		ANAP	COPY	-
Referenced Image Sequence	0008,1140	SQ		ANAP	COPY	-
>Referenced SOP Class UID	0008,1150	UI		ALWAYS	COPY	-
>Referenced SOP Instance UID	0008,1155	UI		ALWAYS	COPY	-
Derivation Description	0008,2111	ST		ANAP	COPY	-
Source Image Sequence	0008,2112	SQ		ANAP	COPY	-
Derivation Code Sequence	0008,9215	SQ		ANAP	COPY	-
Instance Number	0020,0013	IS		VNAP	AUTO, COPY	-
Patient Orientation	0020,0020	CS		ANAP	COPY	-

Images in Acquisition	0020,1002	IS		ANAP	COPY	-
Quality Control Image	0028,0300	CS		ANAP	COPY	-
Burned In Annotation	0028,0301	CS		ANAP	COPY	-
Lossy Image Compression	0028,2110	CS		ANAP	COPY	-
Lossy Image Compression Ratio	0028,2112	DS		ANAP	COPY	-
Icon Image Sequence	0088,0200	SQ		ANAP	COPY	-
>Samples per Pixel	0028,0002	US		ALWAYS	COPY	-
>Photometric Interpretation	0028,0004	CS		ALWAYS	COPY	-
>Planar Configuration	0028,0006	US		ANAP	COPY	-
>Rows	0028,0010	US		ALWAYS	COPY	-
>Columns	0028,0011	US		ALWAYS	COPY	-
>Pixel Aspect Ratio	0028,0034	IS		ANAP	COPY	-
>Bits Allocated	0028,0100	US		ALWAYS	COPY	-
>Bits Stored	0028,0101	US		ALWAYS	COPY	-
>High Bit	0028,0102	US		ALWAYS	COPY	-
>Pixel Representation	0028,0103	US		ALWAYS	COPY	-
>Smallest Image Pixel Value	0028,0106	US/SS		ANAP	COPY	-
>Largest Image Pixel Value	0028,0107	US/SS		ANAP	COPY	-
>Red Palette Color Lookup Table Descriptor	0028,1101	US/SS		ANAP	COPY	-
>Green Palette Color Lookup Table Descriptor	0028,1102	US/SS		ANAP	COPY	-
>Blue Palette Color Lookup Table Descriptor	0028,1103	US/SS		ANAP	COPY	-
>Red Palette Color Lookup Table Data	0028,1201	OW		ANAP	COPY	-
>Green Palette Color Lookup Table Data	0028,1202	OW		ANAP	COPY	-
>Blue Palette Color Lookup Table Data	0028,1203	OW		ANAP	COPY	-
>Pixel Data	7FE0,0010	OW/OB		ANAP	COPY	-
Presentation LUT Shape	2050,0020	CS		ANAP	COPY	-

Table 42: Image Plane Module

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Slice Thickness	0018,0050	DS		VNAP	AUTO	-
Image Position (Patient)	0020,0032	DS		ALWAYS	AUTO	-
Image Orientation (Patient)	0020,0037	DS		ALWAYS	AUTO	-
Pixel Spacing	0028,0030	DS		ALWAYS	AUTO	-
Slice Location	0020,1041	DS		ANAP	COPY	-

Table 43: Image Pixel Module

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Samples per Pixel	0028,0002	US		ALWAYS	COPY	-
Photometric Interpretation	0028,0004	CS		ALWAYS	COPY	-
Planar Configuration	0028,0006	US		ANAP	COPY	-

Rows	0028,0010	US		ALWAYS	AUTO, COPY	-
Columns	0028,0011	US		ALWAYS	AUTO, COPY	-
Pixel Aspect Ratio	0028,0034	IS		ANAP	COPY	-
Pixel Representation	0028,0103	US		ALWAYS	AUTO, COPY	-
Smallest Image Pixel Value	0028,0106	US/SS		ANAP	COPY	-
Largest Image Pixel Value	0028,0107	US/SS		ANAP	COPY	-
Red Palette Color Lookup Table Descriptor	0028,1101	US/SS		ANAP	COPY	-
Green Palette Color Lookup Table Descriptor	0028,1102	US/SS		ANAP	COPY	-
Blue Palette Color Lookup Table Descriptor	0028,1103	US/SS		ANAP	COPY	-
Red Palette Color Lookup Table Data	0028,1201	OW		ANAP	COPY	-
Green Palette Color Lookup Table Data	0028,1202	OW		ANAP	COPY	-
Blue Palette Color Lookup Table Data	0028,1203	OW		ANAP	COPY	-
Pixel Data	7FE0,0010	OW/OB		ALWAYS	AUTO, COPY	-

Table 44: NM/PET Patient Orientation Module

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Patient Gantry Relationship Code Sequence	0054,0414	SQ		VNAP	COPY	-
>Code Meaning	0008,0104	LO		ALWAYS	COPY	-
>Code Value	0008,0100	SH		ALWAYS	COPY	-
>Coding Scheme Designator	0008,0102	SH		ALWAYS	COPY	-
Patient Orientation Code Sequence	0054,0410	SQ		VNAP	COPY	-
>Patient Orientation Modifier Code Sequence	0054,0412	SQ		ALWAYS	COPY	-
>>Code Meaning	0008,0104	LO		ALWAYS	COPY	-
>>Code Value	0008,0100	SH		ALWAYS	COPY	-
>>Coding Scheme Designator	0008,0102	SH		ALWAYS	COPY	-
>Code Meaning	0008,0104	LO		ALWAYS	COPY	-
>Code Value	0008,0100	SH		ALWAYS	COPY	-
>Coding Scheme Designator	0008,0102	SH		ALWAYS	COPY	-

Table 45: PET Isotope Module

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Radiopharmaceutical Information Sequence	0054,0016	SQ		VNAP	COPY	-
>Radionuclide Half Life	0018,1075	DS		ANAP	COPY	-
>Radionuclide Positron Fraction	0018,1076	DS		ANAP	COPY	-
>Radionuclide Total Dose	0018,1074	DS		ANAP	COPY	-
>Radiopharmaceutical	0018,0031	LO		ANAP	COPY	-
>Radiopharmaceutical Start Time	0018,1072	TM		ANAP	COPY	-
>Radiopharmaceutical Volume	0018,1071	DS		ANAP	COPY	-
>Radionuclide Code Sequence	0054,0300	SQ		ANAP	COPY	-
>>Code Meaning	0008,0104	LO		ALWAYS	COPY	-
>>Code Value	0008,0100	SH		ALWAYS	COPY	-
>>Coding Scheme Designator	0008,0102	SH		ALWAYS	COPY	-
>Radiopharmaceutical Code Sequence	0054,0304	SQ		ANAP	COPY	-
>>Code Meaning	0008,0104	LO		VNAP	COPY	-
>>Code Value	0008,0100	SH		VNAP	COPY	-
>>Coding Scheme Designator	0008,0102	SH		VNAP	COPY	-
Interventional Drug Information Sequence	0018,0026	SQ		ANAP	COPY	-

Table 46: PET Multi-Gated Acquisition Module

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Beat Rejection Flag	0018,1080	CS		VNAP	COPY	-
Trigger Source or Type	0018,1061	LO		ANAP	COPY	-
PVC Rejection	0018,1085	LO		ANAP	COPY	-
Skip Beats	0018,1086	IS		ANAP	COPY	-
Heart Rate	0018,1088	IS		ANAP	COPY	-
Cardiac Framing Type	0018,1064	LO		ANAP	COPY	-

Table 47: PET Image Module

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Image Type	0008,0008	CS	DERIVED/SECONDARY	ALWAYS	AUTO	-
Samples per Pixel	0028,0002	US		ALWAYS	AUTO	-
Photometric Interpretation	0028,0004	CS		ALWAYS	AUTO	-
Bits Allocated	0028,0100	US		ALWAYS	AUTO	-
Bits Stored	0028,0101	US		ALWAYS	AUTO	-
High Bit	0028,0102	US		ALWAYS	AUTO	-
Rescale Intercept	0028,1052	DS		ALWAYS	AUTO	-
Rescale Slope	0028,1053	DS		ALWAYS	AUTO	-
Acquisition Date	0008,0022	DA		VNAP	COPY	-
Acquisition Time	0008,0032	TM		VNAP	COPY	-
Actual Frame Duration	0018,1242	IS		VNAP	COPY	-
Decay Factor	0054,1321	DS		ANAP	COPY	-
Dose Calibration Factor	0054,1322	DS		ANAP	COPY	-
Frame Reference Time	0054,1300	DS		ALWAYS	COPY	-
Trigger Time	0018,1060	DS		ANAP	COPY	-
Frame Time	0018,1063	DS		ANAP	COPY	-
Low R R Value	0018,1081	IS		ANAP	COPY	-
High R R Value	0018,1082	IS		ANAP	COPY	-
Lossy Image Compression	0028,2110	CS		ANAP	COPY	-
Image Index	0054,1330	US		ALWAYS	COPY	-
Nominal Interval	0018,1062	IS		ANAP	COPY	-
Intervals Acquired	0018,1083	IS		ANAP	COPY	-
Intervals Rejected	0018,1084	IS		ANAP	COPY	-
Primary (Prompts) Counts Accumulated	0054,1310	IS		ANAP	COPY	-
Secondary Counts Accumulated	0054,1311	IS		ANAP	COPY	-
Slice Sensitivity Factor	0054,1320	DS		ANAP	COPY	-
Scatter Fraction Factor	0054,1323	DS		ANAP	COPY	-
Dead Time Factor	0054,1324	DS		ANAP	COPY	-
View Code Sequence	0054,0220	SQ		ANAP	COPY	-
Slice Progression Direction	0054,0500	CS		ANAP	COPY	-
Anatomic Region Sequence	0008,2218	SQ		ANAP	COPY	-

Table 48: Overlay Plane Module

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Overlay Rows	6000,0010	US		ALWAYS	AUTO	-
Overlay Columns	6000,0011	US		ALWAYS	AUTO	-
Overlay Description	6000,0022	LO		ANAP	AUTO	-
Overlay Type	6000,0040	CS		ALWAYS	AUTO	-
Overlay Subtype	6000,0045	LO		ANAP	AUTO	-
Overlay Origin	6000,0050	SS		ALWAYS	AUTO	-

Overlay Bits Allocated	6000,0100	US		ALWAYS	AUTO	-
Overlay Bit Position	6000,0102	US		ALWAYS	AUTO	-
ROI Area	6000,1301	IS		ANAP	AUTO	-
ROI Mean	6000,1302	DS		ANAP	AUTO	-
ROI Standard Deviation	6000,1303	DS		ANAP	AUTO	-
Overlay Label	6000,1500	LO		ANAP	AUTO	-
Overlay Data	6000,3000	OW/OB		ANAP	AUTO	-

Table 49: VOI LUT Module

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Window Center	0028,1050	DS		ALWAYS	AUTO	-
Window Width	0028,1051	DS		ANAP	AUTO	-
Window Center & Width Explanation	0028,1055	LO		ANAP	AUTO	-
VOI LUT Sequence	0028,3010	SQ		ANAP	AUTO	-

Table 50: SOP Common Module

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Instance Creation Date	0008,0012	DA		ANAP	AUTO, COPY	-
Instance Creation Time	0008,0013	TM		ANAP	AUTO, COPY	-
Instance Creator UID	0008,0014	UI		ANAP	AUTO, COPY	-
Specific Character Set	0008,0005	CS		ANAP	AUTO, COPY	-
SOP Class UID	0008,0016	UI	1.2.840.10008.5.1.4.1.1.128	ALWAYS	AUTO, COPY	-
SOP Instance UID	0008,0018	UI		ALWAYS	AUTO	-
Timezone Offset From UTC	0008,0201	SH		ANAP	COPY	-
Contributing Equipment Sequence	0018,A001	SQ		ANAP	AUTO	-
>Manufacturer	0008,0070	LO		ANAP	COPY	-
>Institution Address	0008,0081	ST		ANAP	COPY	-
>Station Name	0008,1010	SH		ANAP	COPY	-
>Institutional Department Name	0008,1040	LO		ANAP	COPY	-
>Software Version(s)	0018,1020	LO		ANAP	COPY	-
>Device Serial Number	0018,1000	LO		ANAP	CONFIG	-
>Institution Name	0008,0080	LO		ANAP	COPY	-
>Manufacturer's Model Name	0008,1090	LO		ANAP	COPY	-
>Purpose of Reference Code Sequence	0040,A170	SQ		ALWAYS	FIXED	-
>>Code Value	0008,0100	SH	109102	ALWAYS	FIXED	-
>>Coding Scheme Designator	0008,0102	SH	DCM	ALWAYS	FIXED	-
>>Code Meaning	0008,0104	LO	Processing Equipment	ALWAYS	FIXED	-

Table 51: Extended DICOM and private attributes for Positron Emission Tomography Image Storage SOP Class Instances

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Frame Number	2001,107C	IS		ANAP	AUTO	-
Slice Index	2001,10DE	DS		ANAP	AUTO	-

Referenced Overlay Sequence	0008,1130	SQ		ANAP	COPY	-
Reference Curve Sequence	0008,1145	SQ		ANAP	COPY	-
Primary Anatomic Structure Sequence	0008,2228	SQ		ANAP	COPY	-
Curve Dimensions	50xx,0005	US		ANAP	AUTO	-
Number of Points	50xx,0010	US		ANAP	AUTO	-
Type of Data	50xx,0020	CS		ANAP	AUTO	-
Data Value Representation	50xx,0103	US		ANAP	AUTO	-
Curve Data	50xx,3000	OB/OW		ANAP	AUTO	-
Curve Description	50xx,0022	LO		ANAP	AUTO	-
Axis Units	50xx,0030	SH		ANAP	AUTO	-
Axis Labels	50xx,0040	SH		ANAP	AUTO	-
Minimum Coordinate Value	50xx,0104	US		ANAP	AUTO	-
Maximum Coordinate Value	50xx,0105	US		ANAP	AUTO	-
Curve Range	50xx,0106	SH		ANAP	AUTO	-
Curve Data Descriptor	50xx,0110	US		ANAP	AUTO	-
Coordinate Start Value	50xx,0112	US		ANAP	AUTO	-
Coordinate Step Value	50xx,0114	US		ANAP	AUTO	-
Curve Label	50xx,2500	LO		ANAP	AUTO	-
Curve Referenced Overlay Sequence	50xx,2600	SQ		ANAP	AUTO	-
>Referenced SOP Class UID	0008,1150	UI		ANAP	AUTO	-
>Referenced SOP Instance UID	0008,1155	UI		ANAP	AUTO	-
>Referenced Overlay Group	50xx,2610	US		ANAP	AUTO	-
>Referenced Overlay Group	50xx,2610	US		ANAP	AUTO	-

8.1.2.4. CT Image Storage SOP Class

Table 52: IOD of Created CT Image Storage SOP Class Instances

Information Entity	Module	Presence Of Module
Patient	Patient Module	ALWAYS
Study	General Study Module	ALWAYS
Study	Patient Study Module	CONDITIONAL – IF PRESENT IN THE SOURCE DATA
Series	General Series Module	ALWAYS
Frame of Reference	Frame of Reference Module	ALWAYS
Equipment	General Equipment Module	ALWAYS
Image	General Image Module	ALWAYS
Acquisition	General Acquisition Module	ALWAYS
Image	Image Plane Module	ALWAYS
Image	Image Pixel Module	ALWAYS
Image	Contrast/Bolus Module	CONDITIONAL – IF PRESENT IN THE SOURCE DATA
Image	Device Module	CONDITIONAL – IF PRESENT IN THE SOURCE DATA
Image	CT Image Module	ALWAYS
Image	Overlay Plane Module	CONDITIONAL – IF PRESENT IN THE SOURCE DATA
Image	VOI LUT Module	CONDITIONAL – IF PRESENT IN THE SOURCE DATA
Image	SOP Common Module	ALWAYS

This SOP class can be extended with standard DICOM and private attributes as described in Table 69.

Table 53: Patient Module

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Referenced Patient Sequence	0008,1120	SQ		ANAP	COPY	-
>Referenced SOP Class UID	0008,1150	UI		ALWAYS	COPY	-
>Referenced SOP Instance UID	0008,1155	UI		ALWAYS	COPY	-
Patient's Name	0010,0010	PN		VNAP	COPY	-
Patient ID	0010,0020	LO		VNAP	COPY	-
Patient's Birth Date	0010,0030	DA		VNAP	COPY	-
Patient's Birth Time	0010,0032	TM		ANAP	COPY	-
Patient's Sex	0010,0040	CS		VNAP	COPY	-
Other Patient IDs	0010,1000	LO		ANAP	COPY	-
Other Patient Names	0010,1001	PN		ANAP	COPY	-
Ethnic Group	0010,2160	SH		ANAP	COPY	-
Patient Comments	0010,4000	LT		ANAP	COPY	-
Issuer of Patient ID	0010,0021	LO		ANAP	COPY	-

Table 54: General Study Module

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Study Date	0008,0020	DA		VNAP	COPY	-
Study Time	0008,0030	TM		VNAP	COPY	-
Accession Number	0008,0050	SH		VNAP	COPY	-
Referring Physician's Name	0008,0090	PN		VNAP	COPY	-
Referring Physician Identification Sequence	0008,0096	SQ		ANAP	COPY	-
Study Description	0008,1030	LO		ANAP	COPY	-
Procedure Code Sequence	0008,1032	SQ		ANAP	COPY	-
Physician(s) of Record	0008,1048	PN		ANAP	COPY	-
Physician(s) of Record Identification Sequence	0008,1049	SQ		ANAP	COPY	-
Name of Physician(s) Reading Study	0008,1060	PN		ANAP	COPY	-
Physician(s) Reading Study Identification Sequence	0008,1062	SQ		ANAP	COPY	-
Referenced Study Sequence	0008,1110	SQ		ANAP	COPY	-
Study Instance UID	0020,000D	UI		ALWAYS	AUTO, COPY	-
Study ID	0020,0010	SH		VNAP	AUTO, COPY	-

Table 55: Patient Study Module

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Admitting Diagnoses Description	0008,1080	LO		ANAP	COPY	-
Admitting Diagnoses Code Sequence	0008,1084	SQ		ANAP	COPY	-
Patient's Age	0010,1010	AS		ANAP	COPY	-
Patient's Size	0010,1020	DS		ANAP	COPY	-
Patient's Weight	0010,1030	DS		ANAP	COPY	-

Occupation	0010,2180	SH		ANAP	COPY	-
Additional Patient History	0010,21B0	LT		ANAP	COPY	-

Table 56: 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		ALWAYS	COPY	-
Series Description	0008,103E	LO		ANAP	COPY	-
Performing Physician's Name	0008,1050	PN		ANAP	COPY	-
Operators' Name	0008,1070	PN		ANAP	COPY	-
Operator Identification Sequence	0008,1072	SQ		ANAP	COPY	-
Referenced Performed Procedure Step Sequence	0008,1111	SQ		ANAP	COPY	-
>Referenced SOP Class UID	0008,1150	UI		ALWAYS	COPY	-
>Referenced SOP Instance UID	0008,1155	UI		ALWAYS	COPY	-
Body Part Examined	0018,0015	CS		ANAP	COPY	-
Protocol Name	0018,1030	LO		ANAP	COPY	-
Patient Position	0018,5100	CS		ANAP	COPY	-
Series Instance UID	0020,000E	UI		ALWAYS	AUTO	-
Series Number	0020,0011	IS		VNAP	AUTO	-
Laterality	0020,0060	CS		ANAP	COPY	-
Smallest Pixel Value in Series	0028,0108	US/SS		ANAP	AUTO, COPY	-
Largest Pixel Value in Series	0028,0109	US/SS		ANAP	AUTO, COPY	-
Request Attributes Sequence	0040,0275	SQ		ANAP	COPY	-
Performed Procedure Step Start Date	0040,0244	DA		ANAP	COPY	-
Performed Procedure Step Start Time	0040,0245	TM		ANAP	COPY	-
Performed Procedure Step Description	0040,0254	LO		ANAP	COPY	-
Performed Protocol Code Sequence	0040,0260	SQ		ANAP	COPY	-
Comments on the Performed Procedure Step	0040,0280	ST		ANAP	COPY	-

Table 57: Frame of Reference Module

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

Table 58: General Equipment Module

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Manufacturer	0008,0070	LO	Philips	VNAP	FIXED	-
Institution Name	0008,0080	LO		ANAP	CONFIG	-

Institution Address	0008,0081	ST		ANAP	CONFIG	-
Station Name	0008,1010	SH		ANAP	CONFIG	-
Institutional Department Name	0008,1040	LO		ANAP	CONFIG	-
Manufacturer's Model Name	0008,1090	LO	Philips Portal	ANAP	FIXED	-
Device Serial Number	0018,1000	LO		ANAP	COPY	-
Software Version(s)	0018,1020	LO	15.x	ANAP	FIXED	-
Spatial Resolution	0018,1050	DS		ANAP	COPY	-
Date of Last Calibration	0018,1200	DA		ANAP	COPY	-
Time of Last Calibration	0018,1201	TM		ANAP	COPY	-
Pixel Padding Value	0028,0120	US/SS		ANAP	COPY	-

Table 59: General Acquisition Module

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Acquisition Date	0008,0022	DA		ANAP	COPY	-
Acquisition DateTime	0008,002A	DT		ANAP	COPY	-
Acquisition Time	0008,0032	TM		ANAP	COPY	-
Acquisition Duration	0018,9073	FD		ANAP	COPY	
Acquisition Number	0020,0012	IS		ANAP	COPY	-

Table 60: General Image Module

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Image Type	0008,0008	CS		ALWAYS	AUTO	-
Acquisition Date	0008,0022	DA		ANAP	COPY	-
Content Date	0008,0023	DA		ANAP	COPY	-
Acquisition Datetime	0008,002A	DT		ANAP	COPY	-
Acquisition Time	0008,0032	TM		ANAP	COPY	-
Content Time	0008,0033	TM		ANAP	COPY	-
Referenced Image Sequence	0008,1140	SQ		ANAP	COPY	-
>Referenced SOP Class UID	0008,1150	UI		ANAP	COPY	-
>Referenced SOP Instance UID	0008,1155	UI		ANAP	COPY	-
Derivation Description	0008,2111	ST		ANAP	COPY	-
Source Image Sequence	0008,2112	SQ		ANAP	COPY	-
Derivation Code Sequence	0008,9215	SQ		ANAP	COPY	-
Instance Number	0020,0013	IS		VNAP	AUTO, COPY	-
Patient Orientation	0020,0020	CS		ANAP	COPY	-
Images in Acquisition	0020,1002	IS		ANAP	COPY	-
Quality Control Image	0028,0300	CS		ANAP	COPY	-
Burned In Annotation	0028,0301	CS		ANAP	COPY	-
Lossy Image Compression	0028,2110	CS		ANAP	COPY	-
Lossy Image Compression Ratio	0028,2112	DS		ANAP	COPY	-
Icon Image Sequence	0088,0200	SQ		ANAP	COPY	-
>Samples per Pixel	0028,0002	US		ALWAYS	COPY	-
>Photometric Interpretation	0028,0004	CS		ALWAYS	COPY	-
>Planar Configuration	0028,0006	US		ANAP	COPY	-
>Rows	0028,0010	US		ALWAYS	COPY	-

>Columns	0028,0011	US		ALWAYS	COPY	-
>Pixel Aspect Ratio	0028,0034	IS		ANAP	COPY	-
>Bits Allocated	0028,0100	US		ALWAYS	COPY	-
>Bits Stored	0028,0101	US		ALWAYS	COPY	-
>High Bit	0028,0102	US		ALWAYS	COPY	-
>Pixel Representation	0028,0103	US		ALWAYS	COPY	-
>Smallest Image Pixel Value	0028,0106	US/SS		ANAP	COPY	-
>Largest Image Pixel Value	0028,0107	US/SS		ANAP	COPY	-
>Red Palette Color Lookup Table Descriptor	0028,1101	US/SS		ANAP	COPY	-
>Green Palette Color Lookup Table Descriptor	0028,1102	US/SS		ANAP	COPY	-
>Blue Palette Color Lookup Table Descriptor	0028,1103	US/SS		ANAP	COPY	-
>Red Palette Color Lookup Table Data	0028,1201	OW		ANAP	COPY	-
>Green Palette Color Lookup Table Data	0028,1202	OW		ANAP	COPY	-
>Blue Palette Color Lookup Table Data	0028,1203	OW		ANAP	COPY	-
>Pixel Data	7FE0,0010	OW/OB		ANAP	COPY	-
Presentation LUT Shape	2050,0020	CS		ANAP	COPY	-

Table 61: Image Plane Module

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Slice Thickness	0018,0050	DS		VNAP	COPY	-
Image Position (Patient)	0020,0032	DS		ALWAYS	COPY	-
Image Orientation (Patient)	0020,0037	DS		ALWAYS	COPY	-
Slice Location	0020,1041	DS		ANAP	COPY	-
Pixel Spacing	0028,0030	DS		ALWAYS	COPY	-

Table 62: Image Pixel Module

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Planar Configuration	0028,0006	US		ANAP	COPY	-
Rows	0028,0010	US		ALWAYS	AUTO, COPY	-
Columns	0028,0011	US		ALWAYS	AUTO, COPY	-
Pixel Aspect Ratio	0028,0034	IS		ANAP	COPY	-
Pixel Representation	0028,0103	US		ALWAYS	COPY	-
Smallest Image Pixel Value	0028,0106	US/SS		ANAP	COPY	-
Largest Image Pixel Value	0028,0107	US/SS		ANAP	COPY	-
Red Palette Color Lookup Table Descriptor	0028,1101	US/SS		ANAP	COPY	-
Green Palette Color Lookup Table Descriptor	0028,1102	US/SS		ANAP	COPY	-
Blue Palette Color Lookup Table Descriptor	0028,1103	US/SS		ANAP	COPY	-

Red Palette Color Lookup Table Data	0028,1201	OW		ANAP	COPY	-
Green Palette Color Lookup Table Data	0028,1202	OW		ANAP	COPY	-
Blue Palette Color Lookup Table Data	0028,1203	OW		ANAP	COPY	-
Pixel Data	7FE0,0010	OW/OB		ANAP	COPY	-

Table 63: Contrast/Bolus Module

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Contrast/Bolus Agent	0018,0010	LO		VNAP	COPY	-
Contrast/Bolus Agent Sequence	0018,0012	SQ		ANAP	COPY	-
Contrast/Bolus Administration Route Sequence	0018,0014	SQ		ANAP	COPY	-
>Additional Drug Sequence	0018,002A	SQ		ANAP	COPY	-
Contrast/Bolus Route	0018,1040	LO		ANAP	COPY	-
Contrast/Bolus Volume	0018,1041	DS		ANAP	COPY	-
Contrast/Bolus Start Time	0018,1042	TM		ANAP	COPY	-
Contrast/Bolus Stop Time	0018,1043	TM		ANAP	COPY	-
Contrast/Bolus Total Dose	0018,1044	DS		ANAP	COPY	-
Contrast Flow Rate	0018,1046	DS		ANAP	COPY	-
Contrast Flow Duration	0018,1047	DS		ANAP	COPY	-
Contrast/Bolus Ingredient	0018,1048	CS		ANAP	COPY	-
Contrast/Bolus Ingredient Concentration	0018,1049	DS		ANAP	COPY	-

Table 64: Device Module

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Device Sequence	0050,0010	SQ		ANAP	COPY	-
>Manufacturer	0008,0070	LO		ANAP	COPY	-
>Manufacturer's Model Name	0008,1090	LO	Philips Portal	ANAP	COPY	-
>Device Serial Number	0018,1000	LO		ANAP	COPY	-
>Device ID	0018,1003	LO		ANAP	COPY	-
>Device Length	0050,0014	DS		ANAP	COPY	-
>Device Diameter	0050,0016	DS		ANAP	COPY	-
>Device Diameter Units	0050,0017	CS		ANAP	COPY	-
>Device Volume	0050,0018	DS		ANAP	COPY	-
>Intermarker Distance	0050,0019	DS		ANAP	COPY	-
>Device Description	0050,0020	LO		ANAP	COPY	-
>Code Value	0008,0100	SH		ALWAYS	COPY	-
>Coding Scheme Designator	0008,0102	SH		ALWAYS	COPY	-
>Coding Scheme Version	0008,0103	SH		ANAP	COPY	-
>Code Meaning	0008,0104	LO		ALWAYS	COPY	-
>Mapping Resource	0008,0105	CS		ANAP	COPY	-
>Context Group Version	0008,0106	DT		ANAP	COPY	-
>Context Group Local Version	0008,0107	DT		ANAP	COPY	-
>Context Group Extension Flag	0008,010B	CS		ANAP	COPY	-

>Context Group Extension	0008,010D	UI		ANAP	COPY	-
>Context Identifier	0008,010F	CS		ANAP	COPY	-

Table 65: CT Image Module

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Image Type	0008,0008	CS		ALWAYS	AUTO	-
Scan Options	0018,0022	CS		ANAP	AUTO, COPY	-
KVP	0018,0060	DS		VNAP	COPY	-
Data Collection Diameter	0018,0090	DS		ANAP	COPY	-
Reconstruction Diameter	0018,1100	DS		ANAP	COPY	-
Distance Source to Detector	0018,1110	DS		ANAP	COPY	-
Distance Source to Patient	0018,1111	DS		ANAP	COPY	-
Gantry/Detector Tilt	0018,1120	DS		ANAP	COPY	-
Table Height	0018,1130	DS		ANAP	COPY	-
Rotation Direction	0018,1140	CS		ANAP	COPY	-
Exposure Time	0018,1150	IS		ANAP	COPY	-
X-ray Tube Current	0018,1151	IS		ANAP	COPY	-
Exposure	0018,1152	IS		ANAP	COPY	-
Exposure in μ As	0018,1153	IS		ANAP	COPY	-
Filter Type	0018,1160	SH		ANAP	COPY	-
Generator Power	0018,1170	IS		ANAP	COPY	-
Focal Spot(s)	0018,1190	DS		ANAP	COPY	-
Convolution Kernel	0018,1210	SH		ANAP	COPY	-
Revolution Time	0018,9305	FD		ANAP	COPY	-
Single Collimation Width	0018,9306	FD		ANAP	COPY	-
Total Collimation Width	0018,9307	FD		ANAP	COPY	-
Table Speed	0018,9309	FD		ANAP	COPY	-
Table Feed per Rotation	0018,9310	FD		ANAP	COPY	-
Spiral Pitch Factor	0018,9311	FD		ANAP	COPY	-
Acquisition Number	0020,0012	IS		VNAP	COPY	-
Samples per Pixel	0028,0002	US		ALWAYS	COPY	-
Photometric Interpretation	0028,0004	CS		ALWAYS	COPY	-
Bits Allocated	0028,0100	US		ALWAYS	COPY	-
Bits Stored	0028,0101	US		ALWAYS	COPY	-
High Bit	0028,0102	US		ALWAYS	COPY	-
Rescale Intercept	0028,1052	DS		ALWAYS	COPY	-
Rescale Slope	0028,1053	DS		ALWAYS	COPY	-

Table 66: Overlay Plane Module

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Overlay Rows	6000,0010	US		ALWAYS	AUTO	-
Overlay Columns	6000,0011	US		ALWAYS	AUTO	-
Overlay Description	6000,0022	LO		ANAP	AUTO	-
Overlay Type	6000,0040	CS		ALWAYS	AUTO	-
Overlay Subtype	6000,0045	LO		ANAP	AUTO	-
Overlay Origin	6000,0050	SS		ALWAYS	AUTO	-

Overlay Bits Allocated	6000,0100	US		ALWAYS	AUTO	-
Overlay Bit Position	6000,0102	US		ALWAYS	AUTO	-
ROI Area	6000,1301	IS		ANAP	AUTO	-
ROI Mean	6000,1302	DS		ANAP	AUTO	-
ROI Standard Deviation	6000,1303	DS		ANAP	AUTO	-
Overlay Label	6000,1500	LO		ANAP	AUTO	-
Overlay Data	6000,3000	OW/OB		ALWAYS	AUTO	-

Table 67: VOI LUT Module

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Window Center	0028,1050	DS		ANAP	COPY	-
Window Width	0028,1051	DS		ANAP	COPY	-
Window Center & Width Explanation	0028,1055	LO		ANAP	COPY	-
VOI LUT Sequence	0028,3010	SQ		ANAP	COPY	-

Table 68: SOP Common Module

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Specific Character Set	0008,0005	CS		ANAP	AUTO, COPY	-
Instance Creation Date	0008,0012	DA		ANAP	AUTO	-
Instance Creation Time	0008,0013	TM		ANAP	AUTO	-
Instance Creator UID	0008,0014	UI		ANAP	AUTO	-
SOP Class UID	0008,0016	UI		ALWAYS	COPY	-
SOP Instance UID	0008,0018	UI		ALWAYS	AUTO	-
Timezone Offset From UTC	0008,0201	SH		ANAP	COPY	-
Contributing Equipment Sequence	0018,A001	SQ		ANAP	AUTO	-
>Manufacturer	0008,0070	LO		ALWAYS	COPY	-
>Institution Address	0008,0081	ST		ANAP	COPY	-
>Station Name	0008,1010	SH		ANAP	COPY	-
>Institutional Department Name	0008,1040	LO		ANAP	COPY	-
>Software Version(s)	0018,1020	LO		ANAP	COPY	-
>Device Serial Number	0018,1000	LO		ANAP	CONFIG	-
>Institution Name	0008,0080	LO		ANAP	COPY	-
>Manufacturer's Model Name	0008,1090	LO		ANAP	COPY	-
>Purpose of Reference Code Sequence	0040,A170	SQ		ALWAYS	FIXED	-
>>Code Value	0008,0100	SH	109102	ALWAYS	FIXED	-
>>Coding Scheme Designator	0008,0102	SH	DCM	ALWAYS	FIXED	-
>>Code Meaning	0008,0104	LO	Processing Equipment	ALWAYS	FIXED	-

Table 69: Extended DICOM and private attributes for CT Image Storage SOP Class Instances

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Modalities in Study	0008,0061	CS		ANAP	COPY	-

Medical Alerts	0010,2000	LO		ANAP	COPY	-
Allergies	0010,2110	LO		ANAP	COPY	-
Pregnancy Status	0010,21C0	US		ANAP	COPY	-
Spacing Between Slices	0018,0088	DS		ANAP	COPY	-
Heart Rate	0018,1088	IS		ANAP	COPY	-
Angular Position	0018,1141	DS		ANAP	COPY	-
Scan Arc	0018,1143	DS		ANAP	COPY	-
CT Exposure Sequence	0018,9321	SQ		ANAP	COPY	-
>Exposure Modulation Type	0018,9323	CS		ANAP	COPY	-
>Estimated Dose Saving	0018,9324	FD		ANAP	COPY	-
>Exposure Time in ms	0018,9328	FD		ANAP	COPY	-
>X-Ray Tube Current in mA	0018,9330	FD		ANAP	COPY	-
>Exposure in mAs	0018,9332	FD		ANAP	COPY	-
Number of Study Related Series	0020,1206	IS		ANAP	COPY	-
Number of Study Related Instances	0020,1208	IS		ANAP	COPY	-
Requesting Physician	0032,1032	PN		ANAP	COPY	-
Requesting Service	0032,1033	LO		ANAP	COPY	-
Requested Procedure Description	0032,1060	LO		ANAP	COPY	-
Requested Contrast Agent	0032,1070	LO		ANAP	COPY	-
Admission ID	0038,0010	LO		ANAP	COPY	-
Special Needs	0038,0050	LO		ANAP	COPY	-
Patient State	0038,0500	LO		ANAP	COPY	-
Confidentiality Constraint on Patient Data Description	0040,3001	LO		ANAP	COPY	-
DateTime	0040,A120	DT		ANAP	COPY	-
Curve Dimensions	50xx,0005	US		ANAP	AUTO	-
Number of Points	50xx,0010	US		ANAP	AUTO	-
Type of Data	50xx,0020	CS		ANAP	AUTO	-
Data Value Representation	50xx,0103	US		ANAP	AUTO	-
Curve Data	50xx,3000	OB/OW		ANAP	AUTO	-
Curve Description	50xx,0022	LO		ANAP	AUTO	-
Axis Units	50xx,0030	SH		ANAP	AUTO	-
Axis Labels	50xx,0040	SH		ANAP	AUTO	-
Minimum Coordinate Value	50xx,0104	US		ANAP	AUTO	-
Maximum Coordinate Value	50xx,0105	US		ANAP	AUTO	-
Curve Range	50xx,0106	SH		ANAP	AUTO	-
Curve Data Descriptor	50xx,0110	US		ANAP	AUTO	-
Coordinate Start Value	50xx,0112	US		ANAP	AUTO	-
Coordinate Step Value	50xx,0114	US		ANAP	AUTO	-
Curve Label	50xx,2500	LO		ANAP	AUTO	-
Referenced Overlay Sequence	50xx,2600	SQ		ANAP	AUTO	-
>Referenced SOP Class UID	0008,1150	UI		ANAP	AUTO	-
>Referenced SOP Instance UID	0008,1155	UI		ANAP	AUTO	-

8.1.2.5. Ultrasound Image Storage (Retired)

Table 70: IOD of Created Ultrasound Image Storage (Retired) Instances

Formation Entity	Module	Presence Of Module
Patient	Patient Module	ALWAYS
Study	General Study Module	ALWAYS
Series	General Series Module	ALWAYS
Frame of Reference	Frame of Reference Module	CONDITIONAL – IF PRESENT IN THE SOURCE DATA
Equipment	General Equipment Module	ALWAYS
Image	General Image Module	ALWAYS
Image	Image Pixel Module	ALWAYS
Image	Contrast/Bolus Module	CONDITIONAL – IF PRESENT IN THE SOURCE DATA
Image	US Image Module	ALWAYS
Image	VOI LUT Module	CONDITIONAL – IF PRESENT IN THE SOURCE DATA
Image	SOP Common Module	ALWAYS

This SOP class can be extended with standard DICOM and private attributes as described in Table 82.

Table 71: Patient Module

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Patient's Name	0010,0010	PN		VNAP	COPY	-
Patient ID	0010,0020	LO		VNAP	COPY	-
Patient's Birth Date	0010,0030	DA		VNAP	COPY	-
Patient's Sex	0010,0040	CS		VNAP	COPY	-
Patient Comments	0010,4000	LT		ANAP	COPY	-

Table 72: General Module

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Study Date	0008,0020	DA		VNAP	AUTO, COPY	-
Study Time	0008,0030	TM		VNAP	AUTO, COPY	-
Accession Number	0008,0050	SH		VNAP	COPY	-
Referring Physician's Name	0008,0090	PN		VNAP	COPY	-
Study Description	0008,1030	LO		ANAP	COPY	-
Procedure Code Sequence	0008,1032	SQ		ANAP	COPY	-
>Code Value	0008,0100	SH		ALWAYS	COPY	-
>Coding Scheme Designator	0008,0102	SH		ALWAYS	COPY	-
>Code Meaning	0008,0104	LO		ALWAYS	COPY	-
Study Instance UID	0020,000D	UI		ALWAYS	AUTO, COPY	-
Study ID	0020,0010	SH		VNAP	AUTO, COPY	-

Table 73: 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		ALWAYS	COPY	-
Series Description	0008,103E	LO		ANAP	AUTO, USER	-
Performing Physician's Name	0008,1050	PN		ANAP	COPY	-
Operators' Name	0008,1070	PN		ANAP	COPY	-
Body Part Examined	0018,0015	CS		ANAP	COPY	-
Protocol Name	0018,1030	LO		ANAP	COPY	-
Series Instance UID	0020,000E	UI		ALWAYS	AUTO	-
Series Number	0020,0011	IS		VNAP	AUTO	-
Request Attributes Sequence	0040,0275	SQ		ANAP	AUTO	-
>Scheduled Procedure Step ID	0040,0009	SH		ANAP	AUTO	-
>Requested Procedure ID	0040,1001	SH		ANAP	AUTO	-

Table 74: Frame of Module

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Position Reference Indicator	0020,1040	LO		VNAP	COPY	-

Table 75: General Equipment Module

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Manufacturer	0008,0070	LO	Philips	VNAP	FIXED	-
Institution Name	0008,0080	LO		ANAP	CONFIG	-
Station Name	0008,1010	SH		ANAP	CONFIG	-
Manufacturer's Model Name	0008,1090	LO	IntelliSpace Portal	ANAP	FIXED	-
Device Serial Number	0018,1000	LO		ANAP	COPY	-
Software Version(s)	0018,1020	LO	15.x	ANAP	FIXED	-

Table 76: General Image Module

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Image Type	0008,0008	CS		ANAP	AUTO	-
Acquisition Date	0008,0022	DA		ANAP	COPY	-
Content Date	0008,0023	DA		ANAP	COPY	-
Acquisition Time	0008,0032	TM		ANAP	COPY	-
Content Time	0008,0033	TM		ANAP	COPY	-
Derivation Description	0008,2111	ST		ANAP	COPY	-
Source Image Sequence	0008,2112	SQ		ANAP	COPY	-
>Spatial Locations Preserved	0028,135A	CS		ANAP	COPY	-
>Purpose of Reference Code Sequence	0040,A170	SQ		ANAP	COPY	-
>>Code Value	0008,0100	SH		ALWAYS	COPY	-

>>Coding Scheme Designator	0008,0102	SH		ALWAYS	COPY	-
>>Code Meaning	0008,0104	LO		ALWAYS	COPY	-
>Referenced SOP Class UID	0008,1150	UI		ALWAYS	AUTO	-
>Referenced SOP Instance UID	0008,1155	UI		ALWAYS	AUTO	-
Derivation Code Sequence	0008,9215	SQ		ANAP	COPY	-
>Code Value	0008,0100	SH		ALWAYS	COPY	-
>Coding Scheme Designator	0008,0102	SH		ALWAYS	COPY	-
>Code Meaning	0008,0104	LO		ALWAYS	COPY	-
Icon Image Sequence	0088,0200	SQ		ANAP	COPY	-
>Rows	0028,0010	US		ALWAYS	COPY	-
>Columns	0028,0011	US		ALWAYS	COPY	-
>Pixel Data	7FE0,0010	OW/ OB		ANAP	COPY	-

Table 77: Image Pixel Module

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Rows	0028,0010	US		ALWAYS	AUTO, COPY	-
Columns	0028,0011	US		ALWAYS	AUTO, COPY	-
Pixel Data	7FE0,0010	OW/ OB		ANAP	AUTO, COPY	-

Table 78: Contrast/Bolus Module

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Contrast/Bolus Agent	0018,0010	LO		VNAP	COPY	

Table 79: US Image Module

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Image Type	0008,0008	CS	DERIVED\SECONDARY	VNAP	COPY	-
Samples per Pixel	0028,0002	US		ALWAYS	AUTO, COPY	-
Photometric Interpretation	0028,0004	CS		ALWAYS	AUTO, COPY	-
Planar Configuration	0028,0006	US		ANAP	AUTO, COPY	-
Bits Allocated	0028,0100	US	8	ALWAYS	AUTO, COPY	-
Bits Stored	0028,0101	US	8	ALWAYS	AUTO, COPY	-
High Bit	0028,0102	US	7	ALWAYS	AUTO, COPY	-
Pixel Representation	0028,0103	US	0	ALWAYS	AUTO, COPY	-

Table 80: VOI LUT Module

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

Table 81: SOP Common Module

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Specific Character Set	0008,0005	CS		ANAP		-
SOP Class UID	0008,0016	UI	1.2.840.10008.5.1.4.1.1.6	ALWAYS		1.2.840.10008.5.1.4.1.1.6
SOP Instance UID	0008,0018	UI		ALWAYS		-
Contributing Equipment Sequence	0018,A001	SQ		ANAP	AUTO	-
>Manufacturer	0008,0070	LO		ALWAYS	COPY	-
>Institution Name	0008,0080	LO		ANAP	COPY	-
>Institution Address	0008,0081	ST		ANAP	COPY	-
>Station Name	0008,1010	SH		ANAP	COPY	-
>Institutional Department Name	0008,1040	LO		ANAP	COPY	-
>Manufacturer's Model Name	0008,1090	LO		ANAP	COPY	-
>Device Serial Number	0018,1000	LO		ANAP	CONFIG	-
>Software Version(s)	0018,1020	LO		ANAP	COPY	-
>Contribution Date Time	0018,A002	DT		ANAP	AUTO, COPY	-
>Contribution Description	0018,A003	ST		ANAP	AUTO, COPY	-
>Purpose of Reference Code Sequence	0040,A170	SQ		ALWAYS	FIXED	-
>>Code Value	0008,0100	SH		ALWAYS	FIXED	-
>>Coding Scheme Designator	0008,0102	SH		ALWAYS	FIXED	-
>>Code Meaning	0008,0104	LO		ALWAYS	FIXED	-
Instance Number	0020,0013	IS		ANAP		-

Table 82: Extended DICOM and private attributes for Ultrasound Image Storage SOP Class Instances

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Pixel Spacing	0028,0030	DS		ANAP	COPY	-

8.1.2.6. Ultrasound Image Storage SOP Class

Table 83: IOD of Created Ultrasound Image Storage SOP Class Instances

Information Entity	Module	Presence Of Module
Patient	Patient Module	ALWAYS
Study	General Study Module	ALWAYS
Study	Patient Study Module	CONDITIONAL – IF PRESENT IN THE SOURCE DATA
Series	General Series Module	ALWAYS
Frame of Reference	Frame of Reference Module	CONDITIONAL – IF PRESENT IN THE SOURCE DATA
Equipment	General Equipment Module	ALWAYS
Image	General Image Module	ALWAYS
Image	Image Pixel Module	ALWAYS
Image	Contrast/Bolus Module	CONDITIONAL – IF PRESENT IN THE SOURCE DATA
Image	US Image Module	ALWAYS
Image	VOI LUT Module	CONDITIONAL – IF PRESENT IN THE SOURCE DATA
Image	SOP Common Module	ALWAYS

This SOP class can be extended with standard DICOM and private attributes as described in Table 96.

Table 84: Patient Module

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Patient's Name	0010,0010	PN		VNAP	COPY	-
Patient ID	0010,0020	LO		VNAP	COPY	-
Patient's Birth Date	0010,0030	DA		VNAP	COPY	-
Patient's Sex	0010,0040	CS		VNAP	COPY	-
Other Patient IDs	0010,1000	LO		ANAP	COPY	-
Patient Comments	0010,4000	LT		ANAP	COPY	-
Issuer of Patient ID	0010,0021	LO		ANAP	COPY	-

Table 85: General Study Module

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Study Date	0008,0020	DA		VNAP	AUTO, COPY	-
Study Time	0008,0030	TM		VNAP	AUTO, COPY	-
Accession Number	0008,0050	SH		VNAP	COPY	-
Referring Physician's Name	0008,0090	PN		VNAP	COPY	-
Study Description	0008,1030	LO		ANAP	COPY	-
Name of Physician(s) Reading Study	0008,1060	PN		ANAP	COPY	-
Study Instance UID	0020,000D	UI		ALWAYS	AUTO, COPY	-
Study ID	0020,0010	SH		VNAP	AUTO, COPY	-

Table 86: Patient Study Module

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Admitting Diagnoses Description	0008,1080	LO		ANAP	COPY	-
Patient's Size	0010,1020	DS		ANAP	COPY	-
Patient's Weight	0010,1030	DS		ANAP	COPY	-

Table 87: 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		ALWAYS	COPY	-
Series Description	0008,103E	LO		ANAP	AUTO	-
Performing Physician's Name	0008,1050	PN		ANAP	COPY	-
Operators' Name	0008,1070	PN		ANAP	COPY	-
Body Part Examined	0018,0015	CS		ANAP	COPY	-
Protocol Name	0018,1030	LO		ANAP	COPY	-
Series Instance UID	0020,000E	UI		ALWAYS	AUTO	-
Series Number	0020,0011	IS		VNAP	AUTO	-
Request Attributes Sequence	0040,0275	SQ		ANAP	AUTO	-

>Scheduled Procedure Step ID	0040,0009	SH		ANAP	AUTO	-
>Requested Procedure ID	0040,1001	SH		ANAP	AUTO	-

Table 88: Frame of Reference Module

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Position Reference Indicator	0020,1040	LO		VNAP	COPY	-

Table 89: General Equipment Module

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Manufacturer	0008,0070	LO	Philips	VNAP	FIXED	-
Institution Name	0008,0080	LO		ANAP	CONFIG	-
Station Name	0008,1010	SH		ANAP	CONFIG	-
Manufacturer's Model Name	0008,1090	LO	IntelliSpace Portal	ANAP	FIXED	-
Device Serial Number	0018,1000	LO		ANAP	COPY	-
Software Version(s)	0018,1020	LO	15.x	ANAP	FIXED	-

Table 90: General Image Module

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Image Type	0008,0008	CS		ANAP	AUTO	-
Acquisition Date	0008,0022	DA		ANAP	COPY	-
Content Date	0008,0023	DA		ANAP	COPY	-
Acquisition Time	0008,0032	TM		ANAP	COPY	-
Content Time	0008,0033	TM		ANAP	COPY	-
Derivation Description	0008,2111	ST		ANAP	COPY	-
Source Image Sequence	0008,2112	SQ		ANAP	COPY	-
>Spatial Locations Preserved	0028,135A	CS		ANAP	COPY	-
>Purpose of Reference Code Sequence	0040,A170	SQ		ANAP	COPY	-
>>Code Value	0008,0100	SH		ALWAYS	COPY	-
>>Coding Scheme Designator	0008,0102	SH		ALWAYS	COPY	-
>>Code Meaning	0008,0104	LO		ALWAYS	COPY	-
>Referenced SOP Class UID	0008,1150	UI		ALWAYS	AUTO	-
>Referenced SOP Instance UID	0008,1155	UI		ALWAYS	AUTO	-
Derivation Code Sequence	0008,9215	SQ		ANAP	COPY	-
>Code Value	0008,0100	SH		ALWAYS	COPY	-
>Coding Scheme Designator	0008,0102	SH		ALWAYS	COPY	-
>Code Meaning	0008,0104	LO		ALWAYS	COPY	-
Icon Image Sequence	0088,0200	SQ		ANAP	COPY	-
>Rows	0028,0010	US		ALWAYS	COPY	-
>Columns	0028,0011	US		ALWAYS	COPY	-
>Pixel Data	7FE0,0010	O W/ OB		ANAP	COPY	-

Table 91:Image Pixel Module

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Rows	0028,0010	US		ALWAYS	AUTO, COPY	-
Columns	0028,0011	US		ALWAYS	AUTO, COPY	-
Pixel Data	7FE0,0010	OW/OB		ANAP	AUTO, COPY	-

Table 92: Contrast/Bolus Module

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Contrast/Bolus Agent	0018,0010	LO		VNAP	COPY	-

Table 93 :US Image Module

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Image Type	0008,0008	CS	DERIVED\SECONDARY	VNAP	COPY	-
Samples per Pixel	0028,0002	US		ALWAYS	AUTO, COPY	-
Photometric Interpretation	0028,0004	CS		ALWAYS	AUTO, COPY	-
Planar Configuration	0028,0006	US		ANAP	AUTO, COPY	-
Bits Allocated	0028,0100	US	8	ALWAYS	AUTO, COPY	-
Bits Stored	0028,0101	US	8	ALWAYS	AUTO, COPY	-
High Bit	0028,0102	US	7	ALWAYS	AUTO, COPY	-
Pixel Representation	0028,0103	US	0	ALWAYS	AUTO, COPY	-

Table 94: VOI LUT Module

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

Table 95 :SOP Common Module

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Specific Character Set	0008,0005	CS		ANAP	AUTO, COPY	-
SOP Class UID	0008,0016	UI	1.2.840.10008.5.1.4.1.1.6.1	ALWAYS	COPY	-
SOP Instance UID	0008,0018	UI		ALWAYS	AUTO	-
Contributing Equipment Sequence	0018,A001	SQ		ANAP	AUTO	-
>Manufacturer	0008,0070	LO		ALWAYS	COPY	-
>Institution Name	0008,0080	LO		ANAP	COPY	-
>Institution Address	0008,0081	ST		ANAP	COPY	-
>Station Name	0008,1010	SH		ANAP	COPY	-
>Institutional Department Name	0008,1040	LO		ANAP	COPY	-
>Manufacturer's Model Name	0008,1090	LO		ANAP	COPY	-
>Device Serial Number	0018,1000	LO	0	ANAP	COPY	-
>Software Version(s)	0018,1020	LO		ANAP	COPY	-
>Contribution Date Time	0018,A002	DT		ANAP	AUTO, COPY	-

>Contribution Description	0018,A003	ST		ANAP	AUTO, COPY	-
>Purpose of Reference Code Sequence	0040,A170	SQ		ALWAYS	FIXED	-
>>Code Value	0008,0100	SH	109103	ALWAYS	FIXED	-
>>Coding Scheme Designator	0008,0102	SH	DCM	ALWAYS	FIXED	-
>>Code Meaning	0008,0104	LO	Modifying Equipment	ALWAYS	FIXED	-
Instance Number	0020,0013	IS		ANAP		-

Table 96 :Extended DICOM and private attributes for Ultrasound Image Storage SOP Class Instances

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Pixel Spacing	0028,0030	DS		ANAP	COPY	-

8.1.2.7. Ultrasound Multi-frame Image Storage (Retired)

Table 97 :IOD of Created Ultrasound Multi-frame Image Storage (Retired) Instances

Information Entity	Module	Presence Of Module
Patient	Patient Module	ALWAYS
Study	General Study Module	ALWAYS
Series	General Series Module	ALWAYS
Frame of Reference	Frame of Reference Module	CONDITIONAL – IF PRESENT IN THE SOURCE DATA
Equipment	General Equipment Module	ALWAYS
Image	General Image Module	ALWAYS
Image	Image Pixel Module	ALWAYS
Image	Contrast/Bolus Module	CONDITIONAL – IF PRESENT IN THE SOURCE DATA
Image	Cine Module	ALWAYS
Image	Multi-Frame Module	ALWAYS
Image	US Region Calibration Module	CONDITIONAL – IF PRESENT IN THE SOURCE DATA
Image	US Image Module	ALWAYS
Image	SOP Common Module	ALWAYS

This SOP class can be extended with standard DICOM and private attributes as described in Table 111.

Table 98 :Patient Module

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Patient's Name	0010,0010	PN		VNAP	COPY	-
Patient ID	0010,0020	LO		VNAP	COPY	-
Patient's Birth Date	0010,0030	DA		VNAP	COPY	-
Patient's Sex	0010,0040	CS		VNAP	COPY	-
Patient Comments	0010,4000	LT		ANAP	COPY	-
Patient Comments	0010,4000	LT		ANAP	COPY	-

Table 99 :General Study Module

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Study Date	0008,0020	DA		VNAP	COPY	-

Study Time	0008,0030	TM		VNAP	COPY	-
Accession Number	0008,0050	SH		VNAP	COPY	-
Referring Physician's Name	0008,0090	PN		VNAP	COPY	-
Study Description	0008,1030	LO		ANAP	COPY	-
Procedure Code Sequence	0008,1032	SQ		ANAP	COPY	-
>Code Value	0008,0100	SH		ALWAYS	AUTO, COPY	-
>Coding Scheme Designator	0008,0102	SH		ALWAYS	AUTO, COPY	-
>Code Meaning	0008,0104	LO		ALWAYS	AUTO, COPY	-
Study Instance UID	0020,000D	UI		ALWAYS	AUTO	-
Study ID	0020,0010	SH		VNAP	AUTO, COPY	-

Table 100 :General Series Module

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Series Date	0008,0021	DA		ANAP	AUTO, COPY	-
Series Time	0008,0031	TM		ANAP	AUTO, COPY	-
Modality	0008,0060	CS		ALWAYS	COPY	-
Series Description	0008,103E	LO		ANAP	COPY	-
Performing Physician's Name	0008,1050	PN		ANAP	COPY	-
Operators' Name	0008,1070	PN		ANAP	COPY	-
Referenced Performed Procedure Step Sequence	0008,1111	SQ		ANAP	COPY	-
>Referenced SOP Class UID	0008,1150	UI		ANAP	COPY	-
>Referenced SOP Instance UID	0008,1155	UI		ANAP	COPY	-
Body Part Examined	0018,0015	CS		ANAP	COPY	-
Protocol Name	0018,1030	LO		ANAP	COPY	-
Series Instance UID	0020,000E	UI		ALWAYS	AUTO, COPY	-
Series Number	0020,0011	IS		VNAP	COPY	-
Performed Procedure Step Start Time	0040,0245	TM		ANAP	COPY	-
Request Attributes Sequence	0040,0275	SQ		ANAP	COPY	-
>Scheduled Procedure Step ID	0040,0009	SH		ANAP	COPY	-
>Requested Procedure ID	0040,1001	SH		ANAP	COPY	-

Table 101 :Frame of Reference Module

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Position Reference Indicator	0020,1040	LO		VNAP		-

Table 102 :General Equipment Module

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Manufacturer	0008,0070	LO	Philips	VNAP	FIXED	-
Institution Name	0008,0080	LO		ANAP	CONFIG	-
Station Name	0008,1010	SH		ANAP	CONFIG	-

Manufacturer's Model Name	0008,1090	LO	IntelliSpace Portal	ANAP	FIXED	-
Device Serial Number	0018,1000	LO		ANAP	COPY	-
Software Version(s)	0018,1020	LO	15.x	ANAP	FIXED	-

Table 103 :General Image Module

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Image Type	0008,0008	CS		ANAP	COPY	-
Acquisition Date	0008,0022	DA		ANAP	COPY	-
Content Date	0008,0023	DA		ANAP	COPY	-
Acquisition Time	0008,0032	TM		ANAP	COPY	-
Content Time	0008,0033	TM		ANAP	COPY	-
Derivation Description	0008,2111	ST		ANAP	COPY	-
Source Image Sequence	0008,2112	SQ		ANAP	COPY	-
>Purpose of Reference Code Sequence	0040,A170	SQ		ANAP	COPY	-
>>Code Value	0008,0100	SH		ALWAYS	COPY	-
>>Coding Scheme Designator	0008,0102	SH		ALWAYS	COPY	-
>>Code Meaning	0008,0104	LO		ALWAYS	COPY	-
>Referenced SOP Class UID	0008,1150	UI		ALWAYS	COPY	-
>Referenced SOP Instance UID	0008,1155	UI		ALWAYS	COPY	-
Derivation Code Sequence	0008,9215	SQ		ANAP	COPY	-
>Code Value	0008,0100	SH		ALWAYS	COPY	-
>Coding Scheme Designator	0008,0102	SH		ALWAYS	COPY	-
>Code Meaning	0008,0104	LO		ALWAYS	COPY	-
Burned In Annotation	0028,0301	CS		ANAP	COPY	-
Icon Image Sequence	0088,0200	SQ		ANAP	COPY	-
>Rows	0028,0010	US		ALWAYS	COPY	-
>Columns	0028,0011	US		ALWAYS	COPY	-
>Pixel Data	7FE0,0010	O W/ OB		ALWAYS	COPY	-
Presentation LUT Shape	2050,0020	CS		ANAP	COPY	-

Table 104 :Image Pixel Module

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Rows	0028,0010	US		ALWAYS	AUTO, COPY	-
Columns	0028,0011	US		ALWAYS	AUTO, COPY	-
Pixel Data	7FE0,0010	O/W/ OB		ALWAYS	AUTO, COPY	-

Table 105 :Contrast/Bolus Module

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Contrast/Bolus Agent	0018,0010	LO		VNAP	COPY	-

Table 106 :Cine Module

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Frame Time	0018,1063	DS		ANAP	AUTO	-

Table 107 :Multi-Frame Module

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

Table 108 :US Region Calibration Module

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Sequence of Ultrasound Regions	0018,6011	SQ		ALWAYS	AUTO, COPY	-
>Region Spatial Format	0018,6012	US		ALWAYS	AUTO, COPY	-
>Region Data Type	0018,6014	US		ALWAYS	AUTO, COPY	-
>Region Flags	0018,6016	UL		ALWAYS	AUTO, COPY	-
>Region Location Min X0	0018,6018	UL		ALWAYS	AUTO, COPY	-
>Region Location Min Y0	0018,601A	UL		ALWAYS	AUTO, COPY	-
>Region Location Max X1	0018,601C	UL		ALWAYS	AUTO, COPY	-
>Region Location Max Y1	0018,601E	UL		ALWAYS	AUTO, COPY	-
>Physical Units X Direction	0018,6024	US		ALWAYS	AUTO, COPY	-
>Physical Units Y Direction	0018,6026	US		ALWAYS	AUTO, COPY	-
>Physical Delta X	0018,602C	FD		ALWAYS	AUTO, COPY	-
>Physical Delta Y	0018,602E	FD		ALWAYS	AUTO, COPY	-

Table 109 :US Image Module

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Samples per Pixel	0028,0002	US		ALWAYS	AUTO, COPY	-
Photometric Interpretation	0028,0004	CS		ALWAYS	AUTO, COPY	-
Planar Configuration	0028,0006	US		ANAP	AUTO, COPY	-
Bits Allocated	0028,0100	US	8	ALWAYS	AUTO, COPY	-
Bits Stored	0028,0101	US	8	ALWAYS	AUTO, COPY	-
High Bit	0028,0102	US	7	ALWAYS	AUTO, COPY	-
Pixel Representation	0028,0103	US		ALWAYS	AUTO, COPY	-

Table 110 :SOP Common Module

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Specific Character set	0008,0005	CS		ANAP	AUTO, COPY	-
Instance Creation Date	0008,0012	DA		ANAP	AUTO, COPY	-
Instance Creation Time	0008,0013	TM		ANAP	AUTO, COPY	-

SOP Class UID	0008,0016	UI	1.2.840.10008.5.1.4.1.1.3	ANAP	COPY	-
SOP Instance UID	0008,0018	UI		ANAP	AUTO	-
Contributing Equipment Sequence	0018,A001	SQ		ANAP	AUTO	-
>Manufacturer	0008,0070	LO		ALWAYS	COPY	-
>Institution Name	0008,0080	LO		ANAP	COPY	-
>Institution Address	0008,0081	ST		ANAP	COPY	-
>Station Name	0008,1010	SH		ANAP	COPY	-
>Institutional Department Name	0008,1040	LO		ANAP	COPY	-
>Manufacturer's Model Name	0008,1090	LO		ANAP	COPY	-
>Device Serial Number	0018,1000	LO		ANAP	COPY	-
>Software Version(s)	0018,1020	LO		ANAP	COPY	-
>Contribution Date Time	0018,A002	DT		ANAP	AUTO, COPY	-
>Contribution Description	0018,A003	ST		ANAP	AUTO, COPY	-
>Purpose of Reference Code Sequence	0040,A170	SQ		ALWAYS	FIXED	-
>>Code Value	0008,0100	SH	109103	ALWAYS	FIXED	-
>>Coding Scheme Designator	0008,0102	SH	DCM	ALWAYS	FIXED	-
>>Code Meaning	0008,0104	LO	Modifying Equipment	ALWAYS	FIXED	-
Instance Number	0020,0013	IS		ANAP	AUTO	-

Table 111 :Extended DICOM and private attributes for Ultrasound Multi-frame Image Storage SOP Class Instances

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Pixel Spacing	0028,0030	DS		ANAP	COPY	-

8.1.2.8. Ultrasound Multi-frame Image Storage

Table 112 :IOD of Created Ultrasound Multi-frame Image Storage Instances

Information Entity	Module	Presence Of Module
Patient	Patient Module	ALWAYS
Study	General Study Module	ALWAYS
Study	Patient Study Module	CONDITIONAL – IF PRESENT IN THE SOURCE DATA
Series	General Series Module	ALWAYS
Frame of Reference	Frame of Reference Module	CONDITIONAL – IF PRESENT IN THE SOURCE DATA
Equipment	General Equipment Module	ALWAYS
Image	General Image Module	ALWAYS
Image	Image Pixel Module	ALWAYS
Image	Contrast/Bolus Module	CONDITIONAL – IF PRESENT IN THE SOURCE DATA
Image	Cine Module	ALWAYS
Image	Multi-Frame Module	ALWAYS
Image	US Region Calibration Module	CONDITIONAL – IF PRESENT IN THE SOURCE DATA
Image	US Image Module	ALWAYS
Image	SOP Common Module	ALWAYS

This SOP class can be extended with standard DICOM and private attributes as described in Table 127.

Table 113 :Patient Module

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Patient's Name	0010,0010	PN		VNAP	COPY	-
Patient ID	0010,0020	LO		VNAP	COPY	-
Patient's Birth Date	0010,0030	DA		VNAP	COPY	-
Patient's Sex	0010,0040	CS		VNAP	COPY	-
Patient Comments	0010,4000	LT		ANAP	COPY	-
Other Patient IDs	0010,1000	LO		ANAP	COPY	-
Ethnic Group	0010,2160	SH		ANAP	COPY	-
Patient Comments	0010,4000	LT		ANAP	COPY	-
Issuer of Patient ID	0010,0021	LO		ANAP	COPY	-

Table 114 :General Study Module

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Study Date	0008,0020	DA		VNAP	COPY	-
Study Time	0008,0030	TM		VNAP	COPY	-
Accession Number	0008,0050	SH		VNAP	COPY	-
Referring Physician's Name	0008,0090	PN		VNAP	COPY	-
Study Description	0008,1030	LO		ANAP	COPY	-
Name of Physician(s) Reading Study	0008,1060	PN		ANAP	COPY	-
Study Instance UID	0020,000D	UI		ALWAYS	AUTO	-
Study ID	0020,0010	SH		VNAP	AUTO, COPY	-

Table 115 :Patient Study Module

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Admitting Diagnoses Description	0008,1080	LO		ANAP	COPY	-
Patient's Size	0010,1020	DS		ANAP	COPY	-
Patient's Weight	0010,1030	DS		ANAP	COPY	-

Table 116 :General Series Module

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Series Date	0008,0021	DA		ANAP	AUTO, COPY	-
Series Time	0008,0031	TM		ANAP	AUTO, COPY	-
Modality	0008,0060	CS		ALWAYS	COPY	-
Series Description	0008,103E	LO		ANAP	COPY	-
Performing Physician's Name	0008,1050	PN		ANAP	COPY	-
Operators' Name	0008,1070	PN		ANAP	COPY	-
Referenced Performed Procedure Step Sequence	0008,1111	SQ		ANAP	COPY	-
>Referenced SOP Class UID	0008,1150	UI		ANAP	COPY	-
>Referenced SOP Instance UID	0008,1155	UI		ANAP	COPY	-
Body Part Examined	0018,0015	CS		ANAP	COPY	-

Protocol Name	0018,1030	LO		ANAP	COPY	-
Series Instance UID	0020,000E	UI		ALWAYS	AUTO, COPY	-
Series Number	0020,0011	IS		VNAP	COPY	-
Performed Procedure Step Start Time	0040,0245	TM		ANAP	COPY	-
Request Attributes Sequence	0040,0275	SQ		ANAP	COPY	-
>Scheduled Procedure Step ID	0040,0009	SH		ANAP	COPY	-
>Requested Procedure ID	0040,1001	SH		ANAP	COPY	-

Table 117 :Frame of Reference Module

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Position Reference Indicator	0020,1040	LO		VNAP		-

Table 118 :General Equipment Module

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Manufacturer	0008,0070	LO	Philips	VNAP	FIXED	-
Institution Name	0008,0080	LO		ANAP	CONFIG	-
Station Name	0008,1010	SH		ANAP	CONFIG	-
Manufacturer's Model Name	0008,1090	LO	IntelliSpace Portal	ANAP	FIXED	-
Device Serial Number	0018,1000	LO		ANAP	COPY	-
Software Version(s)	0018,1020	LO	15.x	ANAP	FIXED	-

Table 119 :General Image Module

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Image Type	0008,0008	CS		ANAP	COPY	-
Acquisition Date	0008,0022	DA		ANAP	COPY	-
Content Date	0008,0023	DA		ANAP	COPY	-
Acquisition Time	0008,0032	TM		ANAP	COPY	-
Content Time	0008,0033	TM		ANAP	COPY	-
Derivation Description	0008,2111	ST		ANAP	COPY	-
Source Image Sequence	0008,2112	SQ		ANAP	COPY	-
>Purpose of Reference Code Sequence	0040,A170	SQ		ANAP	COPY	-
>>Code Value	0008,0100	SH		ALWAYS	COPY	-
>>Coding Scheme Designator	0008,0102	SH		ALWAYS	COPY	-
>>Code Meaning	0008,0104	LO		ALWAYS	COPY	-
>Referenced SOP Class UID	0008,1150	UI		ALWAYS	COPY	-
>Referenced SOP Instance UID	0008,1155	UI		ALWAYS	COPY	-
Derivation Code Sequence	0008,9215	SQ		ANAP	COPY	-
>Code Value	0008,0100	SH		ALWAYS	COPY	-
>Coding Scheme Designator	0008,0102	SH		ALWAYS	COPY	-
>Code Meaning	0008,0104	LO		ALWAYS	COPY	-
Burned In Annotation	0028,0301	CS		ANAP	COPY	-
Icon Image Sequence	0088,0200	SQ		ANAP	COPY	-
>Rows	0028,0010	US		ALWAYS	COPY	-

>Columns	0028,0011	US		ALWAYS	COPY	-
>Pixel Data	7FE0,0010	O W/ OB		ALWAYS	COPY	-
Presentation LUT Shape	2050,0020	CS		ANAP	COPY	-

Table 120 : Image Pixel Module

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Rows	0028,0010	US		ALWAYS	AUTO, COPY	-
Columns	0028,0011	US		ALWAYS	AUTO, COPY	-
Pixel Data	7FE0,0010	OW/OB		ALWAYS	AUTO, COPY	-

Table 121 :Contrast/Bolus Module

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Contrast/Bolus Agent	0018,0010	LO		VNAP	COPY	-

Table 122 :Cine Module

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Frame Time	0018,1063	DS		ANAP	AUTO	-

Table 123 :Multi-Frame Module

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

Table 124 :US Region Calibration Module

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Sequence of Ultrasound Regions	0018,6011	SQ		ALWAYS	AUTO, COPY	-
>Region Spatial Format	0018,6012	US		ALWAYS	AUTO, COPY	-
>Region Data Type	0018,6014	US		ALWAYS	AUTO, COPY	-
>Region Flags	0018,6016	UL		ALWAYS	AUTO, COPY	-
>Region Location Min X0	0018,6018	UL		ALWAYS	AUTO, COPY	-
>Region Location Min Y0	0018,601A	UL		ALWAYS	AUTO, COPY	-
>Region Location Max X1	0018,601C	UL		ALWAYS	AUTO, COPY	-
>Region Location Max Y1	0018,601E	UL		ALWAYS	AUTO, COPY	-
>Physical Units X Direction	0018,6024	US		ALWAYS	AUTO, COPY	-
>Physical Units Y Direction	0018,6026	US		ALWAYS	AUTO, COPY	-
>Physical Delta X	0018,602C	FD		ALWAYS	AUTO, COPY	-
>Physical Delta Y	0018,602E	FD		ALWAYS	AUTO, COPY	-

Table 125 :US Image Module

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Samples per Pixel	0028,0002	US		ALWAYS	AUTO, COPY	-
Photometric Interpretation	0028,0004	CS		ALWAYS	AUTO, COPY	-
Planar Configuration	0028,0006	US		ANAP	AUTO, COPY	-
Bits Allocated	0028,0100	US		ALWAYS	AUTO, COPY	-
Bits Stored	0028,0101	US		ALWAYS	AUTO, COPY	-
High Bit	0028,0102	US		ALWAYS	AUTO, COPY	-
Pixel Representation	0028,0103	US		ALWAYS	AUTO, COPY	-

Table 126 :SOP Common Module

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Specific Character set	0008,0005	CS		ANAP	AUTO, COPY	-
Instance Creation Date	0008,0012	DA		ANAP	AUTO, COPY	-
Instance Creation Time	0008,0013	TM		ANAP	AUTO, COPY	-
SOP Class UID	0008,0016	UI		ANAP	COPY	-
SOP Instance UID	0008,0018	UI		ANAP	AUTO	-
Contributing Equipment Sequence	0018,A001	SQ		ANAP	AUTO	-
>Manufacturer	0008,0070	LO		ALWAYS	COPY	-
>Institution Name	0008,0080	LO		ANAP	COPY	-
>Institution Address	0008,0081	ST		ANAP	COPY	-
>Station Name	0008,1010	SH		ANAP	COPY	-
>Institutional Department Name	0008,1040	LO		ANAP	COPY	-
>Manufacturer's Model Name	0008,1090	LO		ANAP	COPY	-
>Device Serial Number	0018,1000	LO		ANAP	COPY	-
>Software Version(s)	0018,1020	LO		ANAP	COPY	-
>Contribution Date Time	0018,A002	DT		ANAP	AUTO, COPY	-
>Contribution Description	0018,A003	ST		ANAP	AUTO, COPY	-
>Purpose of Reference Code Sequence	0040,A170	SQ		ALWAYS	FIXED	-
>>Code Value	0008,0100	SH	109103	ALWAYS	FIXED	-
>>Coding Scheme Designator	0008,0102	SH	DCM	ALWAYS	FIXED	-
>>Code Meaning	0008,0104	LO	Modifying Equipment	ALWAYS	FIXED	-
Instance Number	0020,0013	IS		ANAP	AUTO	-

Table 127 :Extended DICOM and private attributes for Ultrasound Multi-frame Image Storage SOP Class Instances

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Pixel Spacing	0028,0030	DS		ANAP	COPY	-

8.1.2.9. Nuclear Medicine Image Storage SOP Class

Table 128 :IOD of Created Nuclear Medicine Image Storage SOP Class Instances

Information Entity	Module	Presence Of Module
Patient	Patient Module	ALWAYS
Study	General Study Module	ALWAYS
Study	Patient Study Module	CONDITIONAL – IF PRESENT IN THE SOURCE DATA
Series	General Series Module	ALWAYS
Frame of Reference	Frame of Reference Module	CONDITIONAL – IF PRESENT IN THE SOURCE DATA
Equipment	General Equipment Module	ALWAYS
Image	General Image Module	ALWAYS
Image	Image Pixel Module	ALWAYS
Image	Multi-Frame Module	ALWAYS
Image	NM/PET Patient Orientation Module	ALWAYS
Image	NM Image Pixel Module	ALWAYS
Image	NM Multi-Frame Module	ALWAYS
Image	NM Image Module	ALWAYS
Image	NM Isotope Module	ALWAYS
Image	NM Detector Module	ALWAYS
Image	NM Tomo Acquisition Module	CONDITIONAL – IF PRESENT IN THE SOURCE DATA
Image	NM Multi-gated Acquisition Module	CONDITIONAL – IF PRESENT IN THE SOURCE DATA
Image	NM Reconstruction Module	CONDITIONAL – IF PRESENT IN THE SOURCE DATA
Image	Overlay Plane Module	CONDITIONAL – IF PRESENT IN THE SOURCE DATA
Image	VOI LUT Module	CONDITIONAL – IF PRESENT IN THE SOURCE DATA
Image	SOP Common Module	ALWAYS
Image	NM Phase Module	CONDITIONAL – IF PRESENT IN THE SOURCE DATA

This SOP class can be extended with standard DICOM and private attributes as described in Table 151.

Table 129 :Patient Module

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Referenced Patient Sequence	0008,1120	SQ		ANAP	COPY	-
>Referenced SOP Class UID	0008,1150	UI		ALWAYS	COPY	-
>Referenced SOP Instance UID	0008,1155	UI		ALWAYS	COPY	-
Patient's Name	0010,0010	PN		VNAP	COPY	-
Patient ID	0010,0020	LO		VNAP	COPY	-
Patient's Birth Date	0010,0030	DA		VNAP	COPY	-
Patient's Birth Time	0010,0032	TM		ANAP	COPY	-
Patient's Sex	0010,0040	CS		VNAP	COPY	-
Other Patient IDs	0010,1000	LO		ANAP	COPY	-
Other Patient Names	0010,1001	PN		ANAP	COPY	-
Ethnic Group	0010,2160	SH		ANAP	COPY	-
Patient Comments	0010,4000	LT		ANAP	COPY	-
Issuer of Patient ID	0010,0021	LO		ANAP	COPY	-

Table 130 :General Study Module

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Study Date	0008,0020	DA		VNAP	COPY	-
Study Time	0008,0030	TM		VNAP	COPY	-
Accession Number	0008,0050	SH		VNAP	COPY	-
Referring Physician's Name	0008,0090	PN		VNAP	COPY	-
Referring Physician Identification Sequence	0008,0096	SQ		ANAP	COPY	-
Study Description	0008,1030	LO		ANAP	COPY	-
Procedure Code Sequence	0008,1032	SQ		ANAP	COPY	-
Physician(s) of Record	0008,1048	PN		ANAP	COPY	-
Physician(s) of Record Identification Sequence	0008,1049	SQ		ANAP	COPY	-
Name of Physician(s) Reading Study	0008,1060	PN		ANAP	COPY	-
Physician(s) Reading Study Identification Sequence	0008,1062	SQ		ANAP	COPY	-
Referenced Study Sequence	0008,1110	SQ		ANAP	COPY	-
Study Instance UID	0020,000D	UI		ALWAYS	AUTO, COPY	-
Study ID	0020,0010	SH		VNAP	AUTO, COPY	-

Table 131 :Patient Study Module

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Admitting Diagnoses Description	0008,1080	LO		ANAP	COPY	-
Admitting Diagnoses Code Sequence	0008,1084	SQ		ANAP	COPY	-
Patient's Age	0010,1010	AS		ANAP	COPY	-
Patient's Size	0010,1020	DS		ANAP	COPY	-
Patient's Weight	0010,1030	DS		ANAP	COPY	-
Occupation	0010,2180	SH		ANAP	COPY	-
Additional Patient History	0010,21B0	LT		ANAP	COPY	-

Table 132 :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		ALWAYS	COPY	-
Series Description	0008,103E	LO		ANAP	COPY	-
Performing Physician's Name	0008,1050	PN		ANAP	COPY	-
Operators' Name	0008,1070	PN		ANAP	COPY	-
Operator Identification Sequence	0008,1072	SQ		ANAP	COPY	-

Referenced Performed Procedure Step Sequence	0008,1111	SQ		ANAP	COPY	-
>Referenced SOP Class UID	0008,1150	UI		ALWAYS	COPY	-
>Referenced SOP Instance UID	0008,1155	UI		ALWAYS	COPY	-
Body Part Examined	0018,0015	CS		ANAP	COPY	-
Protocol Name	0018,1030	LO		ANAP	COPY	-
Patient Position	0018,5100	CS		ANAP	COPY	-
Series Instance UID	0020,000E	UI		ALWAYS	AUTO	-
Series Number	0020,0011	IS		VNAP	AUTO	-
Laterality	0020,0060	CS		ANAP	COPY	-
Smallest Pixel Value in Series	0028,0108	US/SS		ANAP	AUTO, COPY	-
Largest Pixel Value in Series	0028,0109	US/SS		ANAP	AUTO, COPY	-
Request Attributes Sequence	0040,0275	SQ		ANAP	COPY	-
Performed Procedure Step Start Date	0040,0244	DA		ANAP	COPY	-
Performed Procedure Step Start Time	0040,0245	TM		ANAP	COPY	-
Performed Procedure Step Description	0040,0254	LO		ANAP	COPY	-
Performed Protocol Code Sequence	0040,0260	SQ		ANAP	COPY	-
Comments on the Performed Procedure Step	0040,0280	ST		ANAP	COPY	-

Table 133 :Frame of Reference Module

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

Table 134 :General Equipment Module

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Manufacturer	0008,0070	LO	Philips	VNAP	FIXED	-
Institution Name	0008,0080	LO		ANAP	CONFIG	-
Institution Address	0008,0081	ST		ANAP	CONFIG	-
Institutional Department Name	0008,1040	LO		ANAP	CONFIG	-
Manufacturer's Model Name	0008,1090	LO	IntelliSpace Portal	VNAP	FIXED	-
Device Serial Number	0018,1000	LO		ANAP	COPY	-
Software Version (s)	0018,1020	LO	15.x	ANAP	FIXED	-
Station Name	0008,1010	SH		ANAP	COPY	-
Spatial Resolution	0018,1050	DS		ANAP	COPY	-
Date of Last Calibration	0018,1200	DA		ANAP	COPY	-
Time of Last Calibration	0018,1201	TM		ANAP	COPY	-
Pixel Padding Value	0028,0120	US/SS		ANAP	COPY	-

Table 135 :General Image Module

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Acquisition Date	0008,0022	DA		ANAP	COPY	-
Acquisition Datetime	0008,002A	DT		ANAP	COPY	-
Acquisition Time	0008,0032	TM		ANAP	COPY	-
Content Date	0008,0023	DA		ANAP	COPY	-
Content Time	0008,0033	TM		ANAP	COPY	-
Image Comments	0020,4000	LT		ANAP	COPY	-
Referenced Image Sequence	0008,1140	SQ		ANAP	COPY	-
>Referenced SOP Class UID	0008,1150	UI		ANAP	COPY	-
>Referenced SOP Instance UID	0008,1155	UI		ANAP	COPY	-
Derivation Description	0008,2111	ST		ANAP	COPY	-
Source Image Sequence	0008,2112	SQ		ANAP	COPY	-
Derivation Code Sequence	0008,9215	SQ		ANAP	COPY	-
Instance Number	0020,0013	IS		ALWAYS	AUTO, COPY	-
Patient Orientation	0020,0020	CS		ANAP	COPY	-
Images in Acquisition	0020,1002	IS		ANAP	COPY	-
Quality Control Image	0028,0300	CS		ANAP	COPY	-
Burned In Annotation	0028,0301	CS		ANAP	COPY	-
Lossy Image Compression Ratio	0028,2112	DS		ANAP	COPY	-
Icon Image Sequence	0088,0200	SQ		ANAP	COPY	-
>Samples per Pixel	0028,0002	US		ALWAYS	COPY	-
>Photometric Interpretation	0028,0004	CS		ALWAYS	COPY	-
>Planar Configuration	0028,0006	US		ANAP	COPY	-
>Rows	0028,0010	US		ALWAYS	COPY	-
>Columns	0028,0011	US		ALWAYS	COPY	-
>Pixel Aspect Ratio	0028,0034	IS		ANAP	COPY	-
>Bits Allocated	0028,0100	US		ALWAYS	COPY	-
>Bits Stored	0028,0101	US		ALWAYS	COPY	-
>High Bit	0028,0102	US		ALWAYS	COPY	-
>Pixel Representation	0028,0103	US		ALWAYS	COPY	-
>Smallest Image Pixel Value	0028,0106	US/SS		ANAP	COPY	-
>Largest Image Pixel Value	0028,0107	US/SS		ANAP	COPY	-
>Red Palette Color Lookup Table Descriptor	0028,1101	US/SS		ANAP	COPY	-
>Green Palette Color Lookup Table Descriptor	0028,1102	US/SS		ANAP	COPY	-
>Blue Palette Color Lookup Table Descriptor	0028,1103	US/SS		ANAP	COPY	-
>Red Palette Color Lookup Table Data	0028,1201	OW		ANAP	COPY	-
>Green Palette Color Lookup Table Data	0028,1202	OW		ANAP	COPY	-
>Blue Palette Color Lookup Table Data	0028,1203	OW		ANAP	COPY	-
>Pixel Data	7FE0,0010	OW/OB		ANAP	COPY	-
Presentation LUT Shape	2050,0020	CS		ANAP	COPY	-

Table 136 :Image Pixel Module

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Planar Configuration	0028,0006	US		ANAP	COPY	-
Rows	0028,0010	US		ALWAYS	AUTO, COPY	-
Columns	0028,0011	US		ALWAYS	AUTO, COPY	-
Pixel Aspect Ratio	0028,0034	IS		ANAP	COPY	-
Pixel Representation	0028,0103	US		ALWAYS	AUTO, COPY	-
Largest Image Pixel Value	0028,0107	US/SS		ANAP	COPY	-
Smallest Image Pixel Value	0028,0106	US/SS		ANAP	COPY	-
Red Palette Color Lookup Table Descriptor	0028,1101	US/SS		ANAP	COPY	-
Green Palette Color Lookup Table Descriptor	0028,1102	US/SS		ANAP	COPY	-
Blue Palette Color Lookup Table Descriptor	0028,1103	US/SS		ANAP	COPY	-
Red Palette Color Lookup Table Data	0028,1201	OW		ANAP	COPY	-
Green Palette Color Lookup Table Data	0028,1202	OW		ANAP	COPY	-
Blue Palette Color Lookup Table Data	0028,1203	OW		ANAP	COPY	-
Pixel Data	7FE0,0010	OW/OB		ALWAYS	AUTO	-

Table 137 :Multi-Frame Module

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Number of Frames	0028,0008	IS		ALWAYS	AUTO, COPY	-

Table 138 :NM/PET Patient Orientation Module

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Patient Gantry Relationship Code Sequence	0054,0414	SQ		VNAP	COPY	-
>Code Meaning	0008,0104	LO		ALWAYS	COPY	-
>Code Value	0008,0100	SH		ALWAYS	COPY	-
>Coding Scheme Designator	0008,0102	SH		ALWAYS	COPY	-
Patient Orientation Code Sequence	0054,0410	SQ		VNAP	COPY	-
>Patient Orientation Modifier Code Sequence	0054,0412	SQ		ALWAYS	COPY	-
>>Code Meaning	00080104	LO		ALWAYS	COPY	-
>>Code Value	0008,0100	SH		ALWAYS	COPY	-
>>Coding Scheme Designator	0008,0102	SH		ALWAYS	COPY	-
>Code Meaning	0008,0104	LO		ALWAYS	COPY	-
>Code Value	0008,0100	SH		ALWAYS	COPY	-
>Coding Scheme Designator	0008,0102	SH		ALWAYS	COPY	-

Table 139 :NM Image Pixel Module

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Samples per Pixel	0028,0002	US		ALWAYS	AUTO	-
Photometric Interpretation	0028,0004	CS		ALWAYS	AUTO	-
Pixel Spacing	0028,0030	DS		VNAP	AUTO	-
Bits Allocated	0028,0100	US		ALWAYS	AUTO	-
Bits Stored	0028,0101	US		ALWAYS	AUTO	-
High Bit	0028,0102	US		ALWAYS	AUTO	-

Table 140 :NM Multi-Frame Module

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Detector Vector	0054,0020	US		ANAP	COPY	-
Energy Window Vector	0054,0010	US		ANAP	COPY	-
Frame Increment Pointer	0028,0009	AT		ALWAYS	COPY	-
Number of Detectors	0054,0021	US		ANAP	COPY	-
Number of Energy Windows	0054,0011	US		ALWAYS	COPY	-
Number of R-R Intervals	0054,0061	US		ANAP	COPY	-
Number of Rotations	0054,0051	US		ANAP	COPY	-
Number of Slices	0054,0081	US		ANAP	COPY	-
Number of Time Slots	0054,0071	US		ANAP	COPY	-
R-R Interval Vector	0054,0060	US		ANAP	COPY	-
Rotation Vector	0054,0050	US		ANAP	COPY	-
Slice Vector	0054,0080	US		ANAP	COPY	-
Time Slot Vector	0054,0070	US		ANAP	COPY	-

Table 141 :NM Image Module

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Image Type	0008,0008	CS	DERIVED/SECONDARY	ALWAYS	AUTO	-
Acquisition Termination Condition	0018,0071	CS		ANAP	COPY	-
Corrected Image	0028,0051	CS		ANAP	COPY	-
Counts Accumulated	0018,0070	IS		VNAP	COPY	-
Image ID	0054,0400	SH		ANAP	COPY	-
Lossy Image Compression	0028,2110	CS		ANAP	COPY	-
Table Height	0018,1130	DS		ANAP	COPY	-
Table Traverse	0018,1131	DS		ANAP	COPY	-
Actual Frame Duration	0018,1242	IS		ANAP	COPY	-
Count Rate	0018,1243	IS		ANAP	COPY	-
Processing Function	0018,5020	LO		ANAP	COPY	-
Whole Body Technique	0018,1301	CS		ANAP	COPY	-
Scan Velocity	0018,1300	DS		ANAP	COPY	-
Scan Length	0018,1302	IS		ANAP	COPY	-

Trigger Source OR Type	0018,1061	LO		ANAP	COPY	-
Anatomic Region Sequence	0008,2218	SQ		ANAP	COPY	-

Table 142 :NM Isotope Module

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Energy Window Information Sequence	0054,0012	SQ		VNAP	COPY	-
>Energy Window Name	0054,0018	SH		VNAP	COPY	-
>Energy Window Range Sequence	0054,0013	SQ		VNAP	COPY	-
>>Energy Window Lower Limit	0054,0014	DS		VNAP	COPY	-
>>Energy Window Upper Limit	0054,0015	DS		VNAP	COPY	-
Radiopharmaceutical Information Sequence	0054,0016	SQ		VNAP	COPY	-
>Radionuclide Total Dose	0018,1074	DS		ALWAYS	COPY	-
>Radiopharmaceutical	0018,0031	LO		VNAP	COPY	-
>Radiopharmaceutical Start Time	0018,1072	TM		ALWAYS	COPY	-
>Radiopharmaceutical Volume	0018,1071	DS		VNAP	COPY	-
>Radionuclide Code Sequence	0054,0300	SQ		VNAP	COPY	-
>>Code Meaning	0008,0104	LO		ALWAYS	COPY	-
>>Code Value	0008,0100	SH		ALWAYS	COPY	-
>>Coding Scheme Designator	0008,0102	SH		ALWAYS	COPY	-
Intervention Drug Information Sequence	0018,0028	SQ		ANAP	COPY	-
Intervention Drug Sequence	0018,0028	SQ		ANAP	COPY	-

Table 143 :NM Detector Module

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Detector Information Sequence	0054,0022	SQ		VNAP	COPY	-
>Image Orientation (Patient)	0020,0037	DS		ALWAYS	COPY	-
>Zoom Center	0028,0032	DS		ANAP	COPY	-
>Collimator Type	0018,1181	CS		ALWAYS	COPY	-
>Collimator/grid Name	0018,1180	SH		ANAP	COPY	-

>Focal Distance	0018,1182	IS		VNAP	COPY	-
>Image Position (Patient)	0020,0032	DS		ALWAYS	COPY	-
>View Code Sequence	0054,0220	SQ		ANAP	COPY	-
>>Code Meaning	0008,0104	LO		VNAP	COPY	-
>>Code Value	0008,0100	SH		VNAP	COPY	-
>>Coding Scheme Designator	0008,0102	SH		VNAP	COPY	-

Table 144 :NM Tomo Acquisition Module

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Rotation Information Sequence	0054,0052	SQ		VNAP	COPY	-
>Actual Frame Duration	0018,1242	IS		VNAP	COPY	-
>Angular Step	0018,1144	DS		VNAP	COPY	-
>Number of Frames in Rotation	0054,0053	US		VNAP	COPY	-
>Rotation Direction	0018,1140	CS		VNAP	COPY	-
>Scan Arc	0018,1143	DS		VNAP	COPY	-
>Start Angle	0054,0200	DS		VNAP	COPY	-
>Table Height	0018,1130	DS		VNAP	COPY	-
>Table Traverse	0018,1131	DS		VNAP	COPY	-
Type of Detector Motion	0054,0202	CS		ANAP	COPY	-

Table 145 :NM Multi-gated Acquisition Module

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Gated Information Sequence	0054,0062	SQ		ANAP	COPY	-
>Data Information Sequence	0054,0063	SQ		VNAP	COPY	-
>>Frame Time	0018,1063	DS		VNAP	COPY	-
>>Time Slot Information Sequence	0054,0072	SQ		VNAP	COPY	-
>>>Time Slot Time	0054,0073	DS		ANAP	COPY	-
Beat Rejection Flag	0018,1080	CS		ANAP	COPY	-

PVC Rejection	0018,1085	LO		ANAP	COPY	-
Skip Beats	0018,1086	IS		ANAP	COPY	-
Heart Rate	0018,1088	IS		ANAP	COPY	-

Table 146 :NM Reconstruction Module

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Slice Thickness	0018,0050	DS		VNAP	AUTO	-
Spacing Between Slices	0018,0088	DS		VNAP	COPY	-
Reconstruction Diameter	0018,1100	DS		ANAP	COPY	-
Convolution Kernel	0018,1210	SH		ANAP	COPY	-
Slice Location	0020,1041	DS		ANAP	COPY	-
Slice Progression Direction	0054,0500	CS		ANAP	COPY	-

Table 147 :Overlay Plane Module

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Overlay Rows	6000,0010	US		ALWAYS	AUTO	-
Overlay Columns	6000,0011	US		ALWAYS	AUTO	-
Overlay Description	6000,0022	LO		ANAP	AUTO	-
Overlay Type	6000,0040	CS		ALWAYS	AUTO	-
Overlay Subtype	6000,0045	LO		ANAP	AUTO	-
Overlay Origin	6000,0050	SS		ALWAYS	AUTO	-
Overlay Bits Allocated	6000,0100	US		ALWAYS	AUTO	-
Overlay Bit Position	6000,0102	US		ALWAYS	AUTO	-
ROI Area	6000,1301	IS		ANAP	AUTO	-
ROI Mean	6000,1302	DS		ANAP	AUTO	-
ROI Standard Deviation	6000,1303	DS		ANAP	AUTO	-
Overlay Label	6000,1500	LO		ANAP	AUTO	-
Overlay Data	6000,3000	OW/OB		ANAP	AUTO	-

Table 148 :VOI LUT Module

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Window Center	0028,1050	DS		ALWAYS	AUTO	-
Window Width	0028,1051	DS		ANAP	AUTO	-
Window Center & Width Explanation	0028,1055	LO		ANAP	AUTO	-
VOI LUT Sequence	0028,3010	SQ		ANAP	AUTO	-

Table 149 :SOP Common Module

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Specific Character Set	0008,0005	CS		ANAP	AUTO, COPY	-
Instance Creation Date	0008,0012	DA		ANAP	AUTO, COPY	-
Instance Creation Time	0008,0013	TM		ANAP	AUTO, COPY	-

SOP Class UID	0008,0016	UI	1.2.840.10008.5.1.4.1.1.20	ALWAYS	COPY, AUTO	-
SOP Instance UID	0008,0018	UI		ALWAYS	AUTO	-
Timezone Offset From UTC	0008,0201	SH		ANAP	COPY	-
Contributing Equipment Sequence	0018,A001	SQ		ANAP	AUTO	-
>Manufacturer	0008,0070	LO		ALWAYS	COPY	-
>Institution Address	0008,0081	ST		ANAP	COPY	-
>Station Name	0008,1010	SH		ANAP	COPY	-
>Institutional Department Name	0008,1040	LO		ANAP	COPY	-
>Software Version(s)	0018,1020	LO		ANAP	COPY	-
>Device Serial Number	0018,1000	LO		ANAP	COPY	-
>Institution Name	0008,0080	LO		ANAP	COPY	-
>Manufacturer's Model Name	0008,1090	LO		ANAP	COPY	-
>Purpose of Reference Code Sequence	0040,A170	SQ		ALWAYS	FIXED	-
>>Code Value	0008,0100	SH	109102	ALWAYS	FIXED	-
>>Coding Scheme Designator	0008,0102	SH	DCM	ALWAYS	FIXED	-
>>Code Meaning	0008,0104	LO	Processing Equipment	ALWAYS	FIXED	-

Table 150 :NM Phase Module

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Phase Information Sequence	0054,0032			ANAP	COPY	-
>Phase Delay	0054,0036			ALWAYS	COPY	-
>Actual Frame Duration	0018,1242			ALWAYS	COPY	-
>Pause Between Frames	0054,0038			ALWAYS	COPY	-
>Number of Frames in Phase	0054,0033			ALWAYS	COPY	-
>Trigger Vector	0054,0210			ANAP	COPY	-
>Number of Triggers in Phase	0054,0211			ANAP	COPY	-
>Phase Description	0054,0039			ANAP	COPY	-

Table 151 :Extended DICOM and private attributes for Nuclear Medicine Image Storage SOP Class Instances

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Rescale Intercept	0028,1052	DS		ANAP	AUTO	-
Rescale Slope	0028,1053	DS		ANAP	AUTO	-
Series Type (PIIM)	2001,106E	SH		ANAP	AUTO	-
Frame Number	2001,107C	IS	1	ANAP	AUTO	-
Frame Pixel Data	2001,107D	OW/OB		ANAP	AUTO	-
Frame Index Pointer	2001,10D0	DS		ANAP	AUTO	-
Index Number Vector	2001,10D1	DS		ANAP	AUTO	-
Frame Slice Number	2001,10D7	DS	1	ANAP	AUTO	-
Curve Dimensions	50xx,0005	US		ANAP	AUTO	-
Number of Points	50xx,0010	US		ANAP	AUTO	-
Type of Data	50xx,0020	CS		ANAP	AUTO	-
Data Value Representation	50xx,0103	US		ANAP	AUTO	-
Curve Data	50xx,3000	OB/OW		ANAP	AUTO	-
Curve Description	50xx,0022	LO		ANAP	AUTO	-
Axis Units	50xx,0030	SH		ANAP	AUTO	-

Axis Labels	50xx,0040	SH		ANAP	AUTO	-
Minimum Coordinate Value	50xx,0104	US		ANAP	AUTO	-
Maximum Coordinate Value	50xx,0105	US		ANAP	AUTO	-
Curve Range	50xx,0106	SH		ANAP	AUTO	-
Curve Data Descriptor	50xx,0110	US		ANAP	AUTO	-
Coordinate Start Value	50xx,0112	US		ANAP	AUTO	-
Coordinate Step Value	50xx,0114	US		ANAP	AUTO	-
Curve Label	50xx,2500	LO		ANAP	AUTO	-
Curve Referenced Overlay Sequence	50xx,2600	SQ		ANAP	AUTO	-
>Referenced SOP Class UID	0008,1150	UI		ANAP	AUTO	-
>Referenced SOP Instance UID	0008,1155	UI		ANAP	AUTO	-
>Referenced Overlay Group	50xx,2610	US		ANAP	AUTO	-
Referenced Overlay Sequence	0008,1130	SQ		ANAP	COPY	-
Reference Curve Sequence	0008,1145	SQ		ANAP	COPY	-
Primary Anatomic Structure Sequence	0008,2228	SQ		ANAP	COPY	-

8.1.2.10. MR Image Storage SOP Class

Table 152 :IOD of Created MR Image Storage SOP Class Instances

Information Entity	Module	Presence Of Module
Patient	Patient Module	ALWAYS
Study	General Study Module	ALWAYS
Study	Patient Study Module	CONDITIONAL – IF PRESENT IN THE SOURCE DATA
Series	General Series Module	ALWAYS
Frame of Reference	Frame of Reference Module	ALWAYS
Equipment	General Equipment Module	ALWAYS
Acquisition	General Acquisition Module	ALWAYS
Image	General Image Module	ALWAYS
Image	Image Plane Module	ALWAYS
Image	Image Pixel Module	ALWAYS
Image	MR Image Module	ALWAYS
Image	Overlay Plane Module	CONDITIONAL – IF PRESENT IN THE SOURCE DATA
Image	VOI LUT Module	CONDITIONAL – IF PRESENT IN THE SOURCE DATA
Image	SOP Common Module	ALWAYS
Image	Contrast/Bolus Module	CONDITIONAL – IF PRESENT IN THE SOURCE DATA

This SOP class can be extended with standard DICOM and private attributes as described in Table 168.

Table 153 :Patient Module

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Referenced Patient Sequence	0008,1120	SQ		ANAP	COPY	-
>Referenced SOP Class UID	0008,1150	UI		ALWAYS	COPY	-
>Referenced SOP Instance UID	0008,1155	UI		ALWAYS	COPY	-
Patient's Name	0010,0010	PN		VNAP	COPY	-
Patient ID	0010,0020	LO		VNAP	COPY	-
Patient's Birth Date	0010,0030	DA		VNAP	COPY	-

Patient's Birth Time	0010,0032	TM		ANAP	COPY	-
Patient's Sex	0010,0040	CS		VNAP	COPY	-
Other Patient IDs	0010,1000	LO		ANAP	COPY	-
Other Patient Names	0010,1001	PN		ANAP	COPY	-
Ethnic Group	0010,2160	SH		ANAP	COPY	-
Patient Comments	0010,4000	LT		ANAP	COPY	-
Issuer of Patient ID	0010,0021	LO		ANAP	COPY	-

Table 154 :General Study Module

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Study Date	0008,0020	DA		VNAP	COPY	-
Study Time	0008,0030	TM		VNAP	COPY	-
Accession Number	0008,0050	SH		VNAP	COPY	-
Referring Physician's Name	0008,0090	PN		VNAP	COPY	-
Referring Physician Identification Sequence	0008,0096	SQ		ANAP	COPY	-
Study Description	0008,1030	LO		ANAP	COPY	-
Procedure Code Sequence	0008,1032	SQ		ANAP	COPY	-
Physician(s) of Record	0008,1048	PN		ANAP	COPY	-
Physician(s) of Record Identification Sequence	0008,1049	SQ		ANAP	COPY	-
Name of Physician(s) Reading Study	0008,1060	PN		ANAP	COPY	-
Physician(s) Reading Study Identification Sequence	0008,1062	SQ		ANAP	COPY	-
Referenced Study Sequence	0008,1110	SQ		ANAP	COPY	-
Study Instance UID	0020,000D	UI		ALWAYS	AUTO, COPY	-
Study ID	0020,0010	SH		VNAP	AUTO, COPY	-

Table 155 :Patient Study Module

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Admitting Diagnoses Description	0008,1080	LO		ANAP	COPY	-
Admitting Diagnoses Code Sequence	0008,1084	SQ		ANAP	COPY	-
Patient's Age	0010,1010	AS		ANAP	COPY	-
Patient's Size	0010,1020	DS		ANAP	COPY	-
Patient's Weight	0010,1030	DS		ANAP	COPY	-
Occupation	0010,2180	SH		ANAP	COPY	-
Additional Patient History	0010,21B0	LT		ANAP	COPY	-

Table 156 :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		ALWAYS	COPY	-

Series Description	0008,103E	LO		ANAP	COPY, USER	-
Performing Physician's Name	0008,1050	PN		ANAP	COPY	-
Operators' Name	0008,1070	PN		ANAP	COPY	-
Referenced Performed Procedure Step Sequence	0008,1111	SQ		ANAP	COPY	-
>Referenced SOP Class UID	0008,1150	UI		ALWAYS	COPY	-
>Referenced SOP Instance UID	0008,1155	UI		ALWAYS	COPY	-
Body Part Examined	0018,0015	CS		ANAP	COPY	-
Protocol Name	0018,1030	LO		ANAP	COPY	-
Patient Position	0018,5100	CS		ANAP	COPY	-
Series Instance UID	0020,000E	UI		ALWAYS	AUTO	Generated by Advanced Visualization Workspace 15.x
Series Number	0020,0011	IS		ALWAYS	AUTO	-
Laterality	0020,0060	CS		ANAP	COPY	-
Smallest Pixel Value in Series	0028,0108	US/SS		ANAP	COPY	-
Largest Pixel Value in Series	0028,0109	US/SS		ANAP	COPY	-
Request Attributes Sequence	0040,0275	SQ		VNAP	COPY	-
>Scheduled Procedure Step Description	0040,0007	LO		VNAP	COPY	-
>Scheduled Protocol Code Sequence	0040,0008	SQ		ANAP	COPY	-
>Scheduled Procedure Step ID	0040,0009	SH		ALWAYS	COPY	-
>Requested Procedure ID	0040,1001	SH		ALWAYS	COPY	-
Performed Procedure Step Start Date	0040,0244	DA		ALWAYS	COPY	-
Performed Procedure Step Start Time	0040,0245	TM		ALWAYS	COPY	-
Performed Procedure Step ID	0040,0253	SH		ALWAYS	COPY	-
Performed Procedure Step Description	0040,0254	LO		ANAP	COPY	-
Performed Protocol Code Sequence	0040,0260	SQ		ANAP	COPY	-
>Code Value	0008,0100	SH		ALWAYS	COPY	-
>Coding Scheme Designator	0008,0102	SH		ALWAYS	COPY	-
>Coding Scheme Version	0008,0103	SH		ANAP	COPY	-
>Mapping Resource	0008,0105	CS		ANAP	COPY	-
>Context Group Version	0008,0106	DT		ANAP	COPY	-
>Context Group Local Version	0008,0107	DT		ANAP	COPY	-
>Context Group Extension Flag	0008,010B	CS		ALWAYS	COPY	-
>Context Group Extension Creator UID	0008,010D	UI		ANAP	COPY	-
>Context Identifier	0008,010F	CS		VNAP	COPY	-
Comments on the Performed Procedure Step	0040,0280	ST		ANAP	COPY	-

Table 157 :Frame of Reference Module

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

Table 158 :General Equipment Module

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Manufacturer	0008,0070	LO		VNAP	FIXED	-
Institution Name	0008,0080	LO		ANAP	CONFIG	-
Institution Address	0008,0081	ST		ANAP	COPY	-
Station Name	0008,1010	SH		ANAP	CONFIG	-
Institutional Department Name	0008,1040	LO		ANAP	CONFIG	-
Manufacturer's Model Name	0008,1090	LO	IntelliSpace Portal	ANAP	FIXED	-
Device Serial Number	0018,1000	LO		ANAP	COPY	System serial number.
Software Version(s)	0018,1020	LO	15.x	ANAP	FIXED	-
Spatial Resolution	0018,1050	DS		ANAP	COPY	-
Date of Last Calibration	0018,1200	DA		ANAP	COPY	-
Time of Last Calibration	0018,1201	TM		ANAP	COPY	-
Pixel Padding Value	0028,0120	US/SS		ANAP	COPY	-

Table 159 :General Acquisition Module

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Acquisition Date	0008,0022	DA		ANAP	COPY	-
Acquisition DateTime	0008,002A	DT		ANAP	COPY	-
Acquisition Time	0008,0032	TM		ANAP	COPY	-
Acquisition Duration	0018,9073	FD		ANAP	COPY	
Acquisition Number	0020,0012	IS		ANAP	COPY	-

Table 160 :General Image Module

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Acquisition Date	0008,0022	DA		ANAP	COPY	-
Content Date	0008,0023	DA		ANAP	COPY	-
Acquisition Datetime	0008,002A	DT		ANAP	COPY	-
Acquisition Time	0008,0032	TM		ANAP	COPY	-
Content Time	0008,0033	TM		ANAP	COPY	-
Referenced Image Sequence	0008,1140	SQ		ANAP	AUTO	-
>Referenced SOP Class UID	0008,1150	UI		ANAP	IMPLICIT	-
>Referenced SOP Instance UID	0008,1155	UI		ANAP	IMPLICIT	-
Acquisition Number	0020,0012	IS		ALWAYS	COPY	-
Derivation Description	0008,2111	ST		ANAP	COPY	-
Source Image Sequence	0008,2112	SQ		ANAP	COPY	-
Derivation Code Sequence	0008,9215	SQ		ANAP	COPY	-

Instance Number	0020,0013	IS		ALWAYS	AUTO, COPY	-
Patient Orientation	0020,0020	CS		ANAP	COPY	-
Images in Acquisition	0020,1002	IS		ANAP	COPY	-
Quality Control Image	0028,0300	CS		ANAP	COPY	-
Burned In Annotation	0028,0301	CS		ANAP	COPY	-
Lossy Image Compression	0028,2110	CS		ANAP	COPY, FIXED	Applied value: 00
Lossy Image Compression Ratio	0028,2112	DS		ANAP	COPY	-
Icon Image Sequence	0088,0200	SQ		ANAP	COPY	-
>Samples per Pixel	0028,0002	US		ALWAYS	COPY	-
>Photometric Interpretation	0028,0004	CS		ALWAYS	COPY	-
>Planar Configuration	0028,0006	US		ANAP	COPY	-
>Rows	0028,0010	US		ALWAYS	COPY	-
>Columns	0028,0011	US		ALWAYS	COPY	-
>Pixel Aspect Ratio	0028,0034	IS		ANAP	COPY	-
>Bits Allocated	0028,0100	US		ALWAYS	COPY	-
>Bits Stored	0028,0101	US		ALWAYS	COPY	-
>High Bit	0028,0102	US		ALWAYS	COPY	-
>Pixel Representation	0028,0103	US		ALWAYS	COPY	-
>Smallest Image Pixel Value	0028,0106	US/SS		ANAP	COPY	-
>Largest Image Pixel Value	0028,0107	US/SS		ANAP	COPY	-
>Red Palette Color Lookup Table Descriptor	0028,1101	US/SS		ANAP	COPY	-
>Green Palette Color Lookup Table Descriptor	0028,1102	US/SS		ANAP	COPY	-
>Blue Palette Color Lookup Table Descriptor	0028,1103	US/SS		ANAP	COPY	-
>Red Palette Color Lookup Table Data	0028,1201	OW		ANAP	COPY	-
>Green Palette Color Lookup Table Data	0028,1202	OW		ANAP	COPY	-
>Blue Palette Color Lookup Table Data	0028,1203	OW		ANAP	COPY	-
>Pixel Data	7FE0,0010	OW/OB		ANAP	COPY	-
Presentation LUT Shape	2050,0020	CS		ANAP	COPY, FIXED	Applied value: IDENTITY

Table 161 :Image Plane Module

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Slice Thickness	0018,0050	DS		VNAP	AUTO, COPY	-
Image Position (Patient)	0020,0032	DS		ALWAYS	AUTO, COPY	-
Image Orientation (Patient)	0020,0037	DS		ALWAYS	AUTO, COPY	-
Slice Location	0020,1041	DS		ANAP	AUTO, COPY	Value is distance between the image plain and the reference point (0, 0, and 0). Value can be negative depending on the position of the plain to the reference point.
Pixel Spacing	0028,0030	DS		ALWAYS	AUTO, COPY	-

Table 162 :Image Pixel Module

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Planar Configuration	0028,0006	US		ANAP	AUTO, COPY	-
Rows	0028,0010	US		ALWAYS	IMPLICIT	Applied values: min: 64 - max: 2048
Columns	0028,0011	US		ALWAYS	IMPLICIT	Applied values: min: 64 - max: 2048
Pixel Aspect Ratio	0028,0034	IS		ANAP	COPY, FIXED	Applied value: (1\1)
Bits Stored	0028,0101	US		ALWAYS	COPY	-
High Bit	0028,0102	US		ALWAYS	COPY	-
Pixel Representation	0028,0103	US		ALWAYS	COPY	-
Smallest Image Pixel Value	0028,0106	US/SS		ANAP	COPY	-
Largest Image Pixel Value	0028,0107	US/SS		ANAP	COPY	-
Pixel Data	7FE0,0010	OW/OB		ALWAYS	IMPLICIT	-

Table 163 : MR Image Module

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Image Type	0008,0008	CS		ALWAYS	AUTO	Applied values: ({ORIGINAL, DERIVED}, PRIMARY, {T2_STAR, R2, R2_STAR, W, F, IP, OP, KTRANS, KEP, VE, VP}, {KTRANS, KEP, VE, VP}, {UNSPECIFIED})
Scanning Sequence	0018,0020	CS		ALWAYS	AUTO, COPY	-
Sequence Variant	0018,0021	CS		ALWAYS	AUTO, COPY	-
Scan Options	0018,0022	CS		VNAP	IMPLICIT	-
MR Acquisition Type	0018,0023	CS		ANAP	AUTO, COPY	-
Sequence Name	0018,0024	SH		ANAP	AUTO, COPY	-
Angio Flag	0018,0025	CS		ANAP	AUTO, COPY	-
Repetition Time	0018,0080	DS		ANAP	COPY	-
Echo Time	0018,0081	DS		ANAP	COPY	-
Inversion Time	0018,0082	DS		ANAP	COPY	-
Number of Averages	0018,0083	DS		ANAP	COPY	-
Imaging Frequency	0018,0084	DS		ANAP	COPY	-
Imaged Nucleus	0018,0085	SH		ANAP	COPY	-
Echo Number(s)	0018,0086	IS		ANAP	COPY	-
Magnetic Field Strength	0018,0087	DS		ANAP	COPY	-
Spacing Between Slices	0018,0088	DS		ANAP	COPY	-
Number of Phase Encoding Steps	0018,0089	IS		ANAP	COPY	-
Echo Train Length	0018,0091	IS		VNAP	COPY	-
Percent Sampling	0018,0093	DS		ANAP	COPY	-
Percent Phase Field of View	0018,0094	DS		ANAP	COPY	-
Pixel Bandwidth	0018,0095	DS		ANAP	COPY	-
Trigger Time	0018,1060	DS		ANAP	COPY	Will only have a value if Dynamic Series (2001,1012) Equals 1
Nominal Interval	0018,1062	IS		ANAP	COPY	-
Beat Rejection Flag	0018,1080	CS		ANAP	COPY	-

Low R-R Value	0018,1081	IS		ANAP	COPY	-
High R-R Value	0018,1082	IS		ANAP	COPY	-
Intervals Acquired	0018,1083	IS		ANAP	COPY	-
Intervals Rejected	0018,1084	IS		ANAP	COPY	-
PVC Rejection	0018,1085	LO		ANAP	COPY	-
Skip Beats	0018,1086	IS		ANAP	COPY	-
Heart Rate	0018,1088	IS		ANAP	COPY	-
Cardiac Number of Images	0018,1090	IS		ANAP	COPY	-
Trigger Window	0018,1094	IS		ANAP	COPY	-
Reconstruction Diameter	0018,1100	DS		ANAP	COPY	Value is a copy of the largest value of the Field of View.
Receive Coil Name	0018,1250	SH		ANAP	COPY	-
Transmit Coil Name	0018,1251	SH		ANAP	COPY	-
Acquisition Matrix	0018,1310	US		ANAP	COPY	-
In-plane Phase Encoding Direction	0018,1312	CS		ANAP	COPY	-
Flip Angle	0018,1314	DS		ANAP	COPY	-
Variable Flip Angle Flag	0018,1315	CS		ANAP	COPY	-
SAR	0018,1316	DS		ANAP	COPY	-
dB/dt	0018,1318	DS		ANAP	COPY	-
Temporal Position Identifier	0020,0100	IS		ANAP	COPY	-
Number of Temporal Positions	0020,0105	IS		ANAP	COPY	-
Temporal Resolution	0020,0110	DS		ALWAYS	COPY	-
Samples per Pixel	0028,0002	US		ALWAYS	COPY	-
Photometric Interpretation	0028,0004	CS		ALWAYS	COPY	-
Bits Allocated	0028,0100	US		ANAP	COPY	-
Bits Stored	0028,0101	US		ALWAYS	COPY	-
High Bit	0028,0102	US		ALWAYS	COPY	-
Rescale Intercept	0028,1052	DS		ALWAYS	COPY	-
Rescale Slope	0028,1053	DS		ALWAYS	COPY	-

Table 164 :Overlay Plane Module

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Overlay Rows	6000,0010	US		ALWAYS	AUTO	-
Overlay Columns	6000,0011	US		ALWAYS	AUTO	-
Overlay Description	6000,0022	LO		ANAP	AUTO	-
Overlay Type	6000,0040	CS		ALWAYS	AUTO	-
Overlay Subtype	6000,0045	LO		ANAP	AUTO	-
Overlay Origin	6000,0050	SS		ALWAYS	AUTO	-
Overlay Bits Allocated	6000,0100	US		ALWAYS	AUTO	-
Overlay Bit Position	6000,0102	US		ALWAYS	AUTO	-
ROI Area	6000,1301	IS		ANAP	AUTO	-
ROI Mean	6000,1302	DS		ANAP	AUTO	-
ROI Standard Deviation	6000,1303	DS		ANAP	AUTO	-
Overlay Label	6000,1500	LO		ANAP	AUTO	-
Overlay Data	6000,3000	OW/OB		ANAP	AUTO	-

Table 165 :VOI LUT Module

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Window Center	0028,1050	DS		ALWAYS	AUTO	-
Window Width	0028,1051	DS		ANAP	AUTO	-
Window Center & Width Explanation	0028,1055	LO		ANAP	AUTO	-

Table 166 :SOP Common Module

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Specific Character Set	0008,0005	CS		ANAP	AUTO, COPY	-
Instance Creation Date	0008,0012	DA		ANAP	AUTO	-
Instance Creation Time	0008,0013	TM		ANAP	AUTO	-
Instance Creator UID	0008,0014	UI		ANAP	AUTO	-
SOP Class UID	0008,0016	UI		ALWAYS	COPY, FIXED	-
SOP Instance UID	0008,0018	UI		ALWAYS	AUTO	-
Timezone Offset From UTC	0008,0201	SH		ANAP	COPY	-
Contributing Equipment Sequence	0018,A001	SQ		ANAP	AUTO	-
>Manufacturer	0008,0070	LO		ALWAYS	COPY	-
>Institution Address	0008,0081	ST		ANAP	COPY	-
>Station Name	0008,1010	SH		ANAP	COPY	-
>Institutional Department Name	0008,1040	LO		ANAP	COPY	-
>Software Version(s)	0018,1020	LO		ANAP	COPY	-
>Device Serial Number	0018,1000	LO		ANAP	COPY	-
>Institution Name	0008,0080	LO		ANAP	COPY	-
>Manufacturer's Model Name	0008,1090	LO		ANAP	COPY	-
>Purpose of Reference Code Sequence	0040,A170	SQ		ALWAYS	FIXED	-
>>Code Value	0008,0100	SH	109102	ALWAYS	FIXED	-
>>Coding Scheme Designator	0008,0102	SH	DCM	ALWAYS	FIXED	-
>>Code Meaning	0008,0104	LO	Processing Equipment	ALWAYS	FIXED	Processing Equipment

Table 167 :Contrast/Bolus Module

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Contrast/Bolus Agent	0018,0010	LO		VNAP	COPY	-
Contrast/Bolus Agent Sequence	0018,0012	SQ		ANAP	COPY	-
Contrast/Bolus Administration Route Sequence	0018,0014	SQ		ANAP	COPY	-
>Additional Drug Sequence	0018,002A	SQ		ANAP	COPY	-
Contrast/Bolus Route	0018,1040	LO		ANAP	COPY	-
Contrast/Bolus Volume	0018,1041	DS		ANAP	COPY	-
Contrast/Bolus Start Time	0018,1042	TM		ANAP	COPY	-

Contrast/Bolus Stop Time	0018,1043	TM		ANAP	COPY	-
Contrast/Bolus Total Dose	0018,1044	DS		ANAP	COPY	-
Contrast Flow Rate	0018,1046	DS		ANAP	COPY	-
Contrast Flow Duration	0018,1047	DS		ANAP	COPY	-
Contrast/Bolus Ingredient	0018,1048	CS		ANAP	COPY	-
Contrast/Bolus Ingredient Concentration	0018,1049	DS		ANAP	COPY	-

Table 168 :Extended DICOM and private attributes for MR Image Storage SOP Class Instances

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Code Value	0008,0100	SH		VNAP	AUTO	-
Coding Scheme Designator	0008,0102	SH		ANAP	AUTO	-
Coding Scheme Version	0008,0103	SH		ANAP	AUTO	-
Code Meaning	0008,0104	LO		VNAP	AUTO	-
Derivation Image Sequence	0008,9124	SQ		ANAP	AUTO	-
>Source Image Sequence	0008,2112	SQ		ANAP	AUTO	-
>>Referenced SOP Class UID	0008,1150	UI		ANAP	AUTO	-
>>Referenced SOP Instance UID	0008,1155	UI		ANAP	AUTO	-
>Derivation Code Sequence	0008,9215	SQ		ANAP	AUTO	-
>>Code Value	0008,0100	SH		ANAP	AUTO	From CID 7203
>>Coding Scheme Designator	0008,0102	SH		ANAP	AUTO	From CID 7203
>>Coding Scheme Version	0008,0103	SH		ANAP	AUTO	From CID 7203
>>Code Meaning	0008,0104	LO		ANAP	AUTO	From CID 7203
Medical Alerts	0010,2000	LO		ANAP	COPY	-
Allergies	0010,2110	LO		ANAP	COPY	-
Pregnancy Status	0010,21C0	US		VNAP	COPY	-
Acquisition Duration	0018,9073	FD		ANAP	COPY	-
Diffusion b-value	0018,9087	FD		ANAP	AUTO	-
Diffusion Gradient Orientation	0018,9089	FD		ANAP	AUTO	-
Rescale Intercept	0028,1052	DS		ANAP	COPY	-
Rescale Slope	0028,1053	DS		ANAP	COPY	-
Rescale Type	0028,1054	LO		ANAP	COPY	-
Requesting Physician	0032,1032	PN		VNAP	COPY	-
Requesting Service	0032,1033	LO		VNAP	COPY	-
Requested Procedure Description	0032,1060	LO		VNAP	COPY	-
Requested Contrast Agent	0032,1070	LO		VNAP	COPY	-
Study Comments (retired)	0032,4000	LT		VNAP	COPY	-
Special Needs	0038,0050	LO		ANAP	COPY	-
Patient State	0038,0500	LO		ANAP	COPY	-
Scheduled Performing Physician's Name	0040,0006	PN		VNAP	COPY	-
Performed Station AE Title	0040,0241	AE		ANAP	COPY	-
Performed Station Name	0040,0242	SH		ANAP	COPY	-
Performed Location	0040,0243	SH		ANAP	COPY	-
Performed Procedure Step End Date	0040,0250	DA		VNAP	COPY	-
Performed Procedure Step End Time	0040,0251	TM		VNAP	COPY	-

Performed Procedure Step Status	0040,0252	CS		ANAP	COPY	-
Film Consumption Sequence	0040,0321	SQ		EMPTY	AUTO	-
Requested Procedure ID	0040,1001	SH		VNAP	COPY	-
Reason for the Requested Procedure	0040,1002	LO		VNAP	COPY	-
Requested Procedure Priority	0040,1003	SH		VNAP	COPY	-
Patient Transport Arrangements	0040,1004	LO		VNAP	COPY	-
Requested Procedure Location	0040,1005	LO		VNAP	COPY	-
Requested Procedure Comments	0040,1400	LT		VNAP	COPY	-
Reason for the Imaging Service Request (retired)	0040,2001	LO		VNAP	COPY	-
Issue Date of Imaging Service Request	0040,2004	DA		VNAP	COPY	-
Issue Time of Imaging Service Request	0040,2005	TM		VNAP	COPY	-
Order Enterer's Location	0040,2009	SH		VNAP	COPY	-
Order Callback Phone Number	0040,2010	SH		VNAP	COPY	-
Imaging Service Request Comments	0040,2400	LT		VNAP	COPY	-
Real World Value Mapping Sequence	0040,9096	SQ		ANAP	AUTO	-
>Real World Value Intercept	0040,9224	FD		ANAP	AUTO	-
>Real World Value Slope	0040,9225	FD		ANAP	AUTO	-
Private Creator Group 2001	2001,00xx	LO		ANAP	FIXED	-
Chemical Shift	2001,xx01	FL		ANAP	COPY	-
Chemical Shift Number MR	2001,xx02	IS		ANAP	COPY	-
Diffusion B-Factor	2001,xx03	FL		ANAP	COPY	-
Diffusion Direction	2001,xx04	CS		ANAP	COPY	-
Image Enhanced	2001,xx06	CS		VNAP	COPY	-
Image Type ED ES	2001,xx07	CS		VNAP	COPY	-
Phase Number	2001,xx08	IS		VNAP	COPY	-
Image Prepulse Delay	2001,xx09	FL		ANAP	COPY	-
Slice Number MR	2001,xx0A	IS		VNAP	IMPLICIT	-
Slice Orientation	2001,xx0B	CS		ANAP	IMPLICIT	-
Arrhythmia Rejection	2001,xx0C	CS		ANAP	COPY	-
Cardiac Cycled	2001,xx0E	CS		ANAP	COPY	-
Cardiac Gate Width	2001,xx0F	SS		ANAP	COPY	-
Cardiac Sync	2001,xx10	CS		ANAP	COPY	-
Diffusion Echo Time	2001,xx11	FL		ANAP	IMPLICIT	-
Dynamic Series	2001,xx12	CS		VNAP	COPY	-
EPI Factor	2001,xx13	SL		ANAP	COPY	-
Number of Echoes	2001,xx14	SL		VNAP	COPY	-
Number of Locations	2001,xx15	SS		VNAP	COPY	-
Number of PC Directions	2001,xx16	SS		VNAP	COPY	-
Number of Phases MR	2001,xx17	SL		VNAP	COPY	-
Number of Slices MR	2001,xx18	SL		VNAP	IMPLICIT, USER	-
Partial Matrix Scanned	2001,xx19	CS		VNAP	COPY	-
PC Velocity	2001,xx1A	FL		ANAP	COPY	-
Prepulse Delay	2001,xx1B	FL		VNAP	COPY	-

Prepulse Type	2001,xx1C	CS		VNAP	COPY	-
Reconstruction Number MR	2001,xx1D	IS		VNAP	IMPLICIT	-
Respiration Sync	2001,xx1F	CS		VNAP	COPY	-
Scanning Technique	2001,xx20	LO		ANAP	COPY	-
SPIR	2001,xx21	CS		VNAP	COPY	-
Water Fat Shift	2001,xx22	FL		VNAP	COPY	-
Flip Angle Philips	2001,xx23	DS		ANAP	COPY	-
Series is Interactive	2001,xx24	CS		VNAP	COPY	-
Echo Time Display	2001,xx25	SH		VNAP	COPY	-
Contrast Transfer Taste	2001,xx58	UL		ANAP	COPY	-
Number of Stacks	2001,xx60	SL		VNAP	IMPLICIT	-
Series Transmitted	2001,xx61	CS		VNAP	AUTO	-
Acquisition Number	2001,xx7B	IS		ANAP	COPY	-
Number of Dynamic Scans	2001,xx81	IS		VNAP	COPY	-
IsRawImage	2001,xxA1	CS		ANAP	COPY	-
Prospective Motion Correction	2001,xxF1	FL		ANAP	COPY	-
Retrospective Motion Correction	2001,xxF2	FL		ANAP	COPY	-
Private Creator Group 2005	2005,00xx	LO		ANAP	FIXED	-
Number of Chemical Shift	2005,xx20	SL		ANAP	COPY	-
Syncra Scan Type	2005,xxA1	CS		ANAP	COPY	-
Diffusion Direction RL	2005,xxB0	FL		ANAP	COPY	-
Diffusion Direction AP	2005,xxB1	FL		ANAP	COPY	-
Diffusion Direction FH	2005,xxB2	FL		ANAP	COPY	-

8.1.2.11. MR Spectroscopy Storage SOP Class

Table 169 :IOD of Created MR Spectroscopy Storage SOP Class Instances

Information Entity	Module	Presence Of Module
Patient	Patient Module	ALWAYS
Study	General Study Module	ALWAYS
Study	Patient Study Module	CONDITIONAL – IF PRESENT IN THE SOURCE DATA
Series	General Series Module	ALWAYS
Series	MR Series Module	ALWAYS
Frame of Reference	Frame of Reference Module	ALWAYS
Equipment	General Equipment Module	ALWAYS
Equipment	Enhanced General Equipment Module	ALWAYS
MR Spectroscopy	Acquisition Context Module	ALWAYS
MR Spectroscopy	Multi-frame Functional Groups Module (MR Spectroscopy)	ALWAYS
MR Spectroscopy	Multi-frame Dimension Module	ALWAYS
MR Spectroscopy	Cardiac Synchronization Module	CONDITIONAL – IF PRESENT IN THE SOURCE DATA
MR Spectroscopy	Respiratory Synchronization Module	CONDITIONAL – IF PRESENT IN THE SOURCE DATA
MR Spectroscopy	Bulk Motion Synchronization Module	CONDITIONAL – IF PRESENT IN THE SOURCE DATA
MR Spectroscopy	MR Spectroscopy Module	ALWAYS
MR Spectroscopy	MR Spectroscopy Pulse Sequence Module	CONDITIONAL – IF PRESENT IN THE SOURCE DATA

MR Spectroscopy	MR Spectroscopy Data Module	ALWAYS
MR Spectroscopy	SOP Common Module	ALWAYS

This SOP class can be extended with standard DICOM and private attributes as described in Table 188.

Table 170 :Patient Module

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Patient's Name	0010,0010	PN		VNAP	COPY	-
Patient ID	0010,0020	LO		VNAP	COPY	-
Patient's Birth Date	0010,0030	DA		VNAP	COPY	-
Patient's Sex	0010,0040	CS		VNAP	COPY	-
Other Patient IDs	0010,1000	LO		ANAP	COPY	-
Ethnic Group	0010,2160	SH		ANAP	COPY	-
Patient Comments	0010,4000	LT		ANAP	COPY	-

Table 171 :General Study Module

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Study Date	0008,0020	DA		VNAP	COPY	-
Study Time	0008,0030	TM		VNAP	COPY	-
Accession Number	0008,0050	SH		VNAP	COPY	-
Referring Physician's Name	0008,0090	PN		VNAP	COPY	-
Study Description	0008,1030	LO		ANAP	COPY	-
Procedure Code Sequence	0008,1032	SQ		ANAP	COPY	-
>Code Value	0008,0100	SH		ALWAYS	COPY	-
>Coding Scheme Designator	0008,0102	SH		ANAP	COPY	-
>Coding Scheme Version	0008,0103	SH		ANAP	COPY	-
>Code Meaning	0008,0104	LO		ANAP	COPY	-
>Mapping Resource	0008,0105	CS		ANAP	COPY	-
>Context Group Version	0008,0106	DT		ANAP	COPY	-
>Context Group Local Version	0008,0107	DT		ANAP	COPY	-
>Context Group Extension Flag	0008,010B	CS		ANAP	COPY	-
>Context Group Extension Creator UID	0008,010D	UI		ANAP	COPY	-
>Context Identifier	0008,010F	CS		ANAP	COPY	-
Physician(s) of Record	0008,1048	PN		ANAP	COPY	-
Name of Physician(s) Reading Study	0008,1060	PN		ANAP	COPY	-
Referenced Study Sequence	0008,1110	SQ		ANAP	COPY	-
>Referenced SOP Class UID	0008,1150	UI		ALWAYS	COPY	-
>Referenced SOP Instance UID	0008,1155	UI		ALWAYS	COPY	-
Study Instance UID	0020,000D	UI		ALWAYS	COPY	-
Study ID	0020,0010	SH		VNAP	COPY	-

Table 172 :Patient Study Module

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Admitting Diagnoses Description	0008,1080	LO		ANAP	COPY	-
Patient's Age	0010,1010	AS		ANAP	COPY	-
Patient's Size	0010,1020	DS		ANAP	COPY	-
Patient's Weight	0010,1030	DS		ANAP	COPY	-
Occupation	0010,2180	SH		ANAP	COPY	-
Additional Patient History	0010,21B0	LT		ANAP	COPY	-

Table 173 :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	-
Series Description	0008,103E	LO		ANAP	AUTO, USER	-
Performing Physician's Name	0008,1050	PN		ANAP	COPY	-
Operators' Name	0008,1070	PN		ANAP	COPY	-
Body Part Examined	0018,0015	CS		ANAP	COPY	-
Protocol Name	0018,1030	LO		ANAP	AUTO	-
Patient Position	0018,5100	CS		ANAP	COPY	-
Series Instance UID	0020,000E	UI		ALWAYS	AUTO	-
Series Number	0020,0011	IS		VNAP	AUTO	-
Laterality	0020,0060	CS		ANAP	COPY	-
Request Attributes Sequence	0040,0275	SQ		ANAP	COPY	-
>Scheduled Procedure Step Description	0040,0007	LO		ANAP	COPY	-
>Scheduled Protocol Code Sequence	0040,0008	SQ		ANAP	COPY	-
>Scheduled Procedure Step ID	0040,0009	SH		ANAP	COPY	-
>Requested Procedure ID	0040,1001	SH		ANAP	COPY	-
Performed Procedure Step Start Date	0040,0244	DA		ANAP	COPY	-
Performed Procedure Step Start Time	0040,0245	TM		ANAP	COPY	-
Performed Procedure Step ID	0040,0253	SH		ANAP	COPY	-
Performed Procedure Step Description	0040,0254	LO		ANAP	COPY	-
Performed Protocol Code Sequence	0040,0260	SQ		ANAP	COPY	-
>Code Value	0008,0100	SH		ANAP	COPY	-
>Coding Scheme Designator	0008,0102	SH		ANAP	COPY	-
>Coding Scheme Version	0008,0103	SH		ANAP	COPY	-
>Code Meaning	0008,0104	LO		ANAP	COPY	-
>Mapping Resource	0008,0105	CS		ANAP	COPY	-

>Context Group Version	0008,0106	DT		ANAP	COPY	-
>Context Group Local Version	0008,0107	DT		ANAP	COPY	-
>Context Group Extension Flag	0008,010B	CS		ANAP	COPY	-
>Context Group Extension Creator UID	0008,010D	UI		ANAP	COPY	-
>Context Identifier	0008,010F	CS		ANAP	COPY	-
Comments on the Performed Procedure Step	0040,0280	ST		ANAP	COPY	-

Table 174 :MR Series Module

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Modality	0008,0060	CS		ALWAYS	COPY	-
Referenced Performed Procedure Step Sequence	0008,1111	SQ		ANAP	COPY	-

Table 175 :Frame of Reference Module

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

Table 176 :General Equipment Module

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Institution Name	0008,0080	LO		ANAP	CONFIG	-
Institution Address	0008,0081	ST		ANAP	CONFIG	-
Station Name	0008,1010	SH		ANAP	CONFIG	-
Institutional Department Name	0008,1040	LO		ANAP	CONFIG	-

Table 177 :Enhanced General Equipment Module

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Manufacturer	0008,0070	LO	Philips	VNAP	COPY	-
Manufacturer's Model Name	0008,1090	LO		ANAP	COPY	-
Device Serial Number	0018,1000	LO		ANAP	CONFIG	-
Software Version(s)	0018,1020	LO	15.x	ANAP	COPY	-

Table 178 :Acquisition Context Module

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Acquisition Context Sequence	0040,0555	SQ		ANAP	COPY	-

Table 179 :Multi-frame Functional Groups Module (MR Spectroscopy)

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Content Date	0008,0023	DA		ALWAYS	COPY	-
Content Time	0008,0033	TM		ALWAYS	COPY	-
Instance Number	0020,0013	IS		ALWAYS	COPY	-
Number of Frames	0028,0008	IS		ALWAYS	COPY	-
Shared Functional Groups Sequence	5200,9229	SQ		VNAP	COPY	Always present in combination with the Per-frame Functional Groups Sequence (5200,9230)
>Pixel Measures Sequence	0028,9110	SQ		ALWAYS	COPY	-
>>Slice Thickness	0018,0050	DS		ANAP	COPY	-
>>Pixel Spacing	0028,0030	DS		ANAP	COPY	-
>Plane Position Sequence	0020,9113	SQ		ALWAYS	COPY	-
>>Image Position (Patient)	0020,0032	DS		ANAP	COPY	-
>Plane Orientation Sequence	0020,9116	SQ		ALWAYS	COPY	-
>>Image Orientation (Patient)	0020,0037	DS		ANAP	COPY	-
>Referenced Image Sequence	0008,1140	SQ		ANAP	COPY	-
>>Purpose of Reference Code Sequence	0040,A170	SQ		ALWAYS	COPY	-
>>>Code Value	0008,0100	SH		ALWAYS	COPY	-
>>>Coding Scheme Designator	0008,0102	SH		ALWAYS	COPY	-
>>>Code Meaning	0008,0104	LO		ALWAYS	COPY	-
>>Referenced Frame Number	0008,1160	IS		ANAP	COPY	-
>Cardiac Synchronization Sequence	0018,9118	SQ		ANAP	COPY	-
>>Nominal Cardiac Trigger Delay Time	0020,9153	FD		ALWAYS	COPY	-
>>R - R Interval Time Nominal	0020,9251	FD		ANAP	COPY	-
>Respiratory Synchronization Sequence	0020,9253	SQ		ANAP	COPY	-
>>Respiratory Interval Time	0020,9254	FD		ALWAYS	COPY	-
>>Nominal Respiratory Trigger Delay Time	0020,9255	FD		ALWAYS	COPY	-
>MR Spectroscopy Frame Type Sequence	0018,9227	SQ		ALWAYS	COPY	-
>>Frame Type	0008,9007	CS		ALWAYS	COPY	-
>>Volumetric Properties	0008,9206	CS		ALWAYS	COPY	-
>>Volume Based Calculation Technique	0008,9207	CS		ALWAYS	COPY	-
>>Complex Image Component	0008,9208	CS		ALWAYS	COPY	-
>>Acquisition Contrast	0008,9209	CS		ALWAYS	COPY	-
>MR Timing and Related Parameters Sequence	0018,9112	SQ		ALWAYS	COPY	-
>>Repetition Time	0018,0080	DS		ANAP	COPY	-
>>Echo Train Length	0018,0091	IS		ANAP	COPY	-
>>Flip Angle	0018,1314	DS		ANAP	COPY	-
>>Operating Mode Sequence	0018,9176	SQ		ANAP	COPY	-
>>>Operating Mode Type	0018,9177	CS		ALWAYS	COPY	-
>>>Operating Mode	0018,9178	CS		ALWAYS	COPY	-
>>>Gradient Output Type	0018,9180	CS		ANAP	COPY	-

>>Gradient Output	0018,9182	FD		ANAP	COPY	-
>>Specific Absorption Rate Sequence	0018,9239	SQ		ANAP	COPY	-
>>>Specific Absorption Rate Definition	0018,9179	CS		ALWAYS	COPY	-
>>>Specific Absorption Rate Value	0018,9181	FD		ALWAYS	COPY	-
>>RF Echo Train Length	0018,9240	US		ANAP	COPY	-
>>Gradient Echo Train Length	0018,9241	US		ANAP	COPY	-
>MR Spectroscopy FOV/Geometry Sequence	0018,9103	SQ		ALWAYS	COPY	-
>>Percent Sampling	0018,0093	DS		ANAP	COPY	-
>>Percent Phase Field of View	0018,0094	DS		ANAP	COPY	-
>>Spectroscopy Acquisition Phase Rows	0018,9095	UL		ANAP	COPY	-
>>Spectroscopy Acquisition Data Columns	0018,9127	UL		ANAP	COPY	-
>>Spectroscopy Acquisition Out-of-plane Phase Steps	0018,9159	UL		ANAP	COPY	-
>>Spectroscopy Acquisition Phase Columns	0018,9234	UL		ANAP	COPY	-
>MR Echo Sequence	0018,9114	SQ		ALWAYS	COPY	-
>>Effective Echo Time	0018,9082	FD		ANAP	COPY	-
>MR Modifier Sequence	0018,9115	SQ		ALWAYS	COPY	-
>>Inversion Recovery	0018,9009	CS		ANAP	COPY	-
>>Flow Compensation	0018,9010	CS		ANAP	COPY	-
>>Spoiling	0018,9016	CS		ANAP	COPY	-
>>T2 Preparation	0018,9021	CS		ANAP	COPY	-
>>Spectrally Selected Excitation	0018,9026	CS		ANAP	COPY	-
>>Spatial Pre-saturation	0018,9027	CS		ANAP	COPY	-
>>Partial Fourier Direction	0018,9036	CS		ANAP	COPY	-
>>Parallel Reduction Factor In-plane	0018,9069	FD		ANAP	COPY	-
>>Parallel Acquisition	0018,9077	CS		ANAP	COPY	-
>>Parallel Acquisition Technique	0018,9078	CS		ANAP	COPY	-
>>Inversion Times	0018,9079	FD		ANAP	COPY	-
>>Partial Fourier	0018,9081	CS		ANAP	COPY	-
>>Parallel Reduction Factor out-of-plane	0018,9155	FD		ANAP	COPY	-
>>Parallel Reduction Factor Second In-plane	0018,9168	FD		ANAP	COPY	-
>>Flow Compensation Direction	0018,9183	CS		ANAP	COPY	-
>MR Receive Coil Sequence	0018,9042	SQ		ALWAYS	COPY	-
>>Receive Coil Name	0018,1250	SH		ANAP	COPY	-
>>Receive Coil Manufacturer Name	0018,9041	LO		EMPTY	COPY	-
>>Receive Coil Type	0018,9043	CS		ANAP	COPY	-
>>Quadrature Receive Coil	0018,9044	CS		ANAP	COPY	-
>>Multi-Coil Definition Sequence	0018,9045	SQ		ANAP	COPY	-
>>>Multi-Coil Element Name	0018,9047	SH		ALWAYS	COPY	-
>>>Multi-Coil Element Used	0018,9048	CS		ALWAYS	COPY	-

>MR Transmit Coil Sequence	0018,9049	SQ		ANAP	COPY	-
>>Transmit Coil Name	0018,1251	SH		ALWAYS	COPY	-
>>Transmit Coil Manufacturer Name	0018,9050	LO		EMPTY	COPY	-
>>Transmit Coil Type	0018,9051	CS		ANAP	COPY	-
>MR Diffusion Sequence	0018,9117	SQ		ANAP	COPY	-
>>Diffusion Directionality	0018,9075	CS		ANAP	COPY	-
>>Diffusion Gradient Direction Sequence	0018,9076	SQ		ANAP	COPY	-
>>>Diffusion Gradient Orientation	0018,9089	FD		ANAP	COPY	-
>>Diffusion b-value	0018,9087	FD		ANAP	COPY	-
>>Diffusion Anisotropy Type	0018,9147	CS		ANAP	COPY	-
>>Diffusion b-matrix Sequence	0018,9601	SQ		ANAP	COPY	-
>MR Averages Sequence	0018,9119	SQ		ALWAYS	COPY	-
>>Number of Averages	0018,0083	DS		ANAP	COPY	-
>MR Spatial Saturation Sequence	0018,9107	SQ		ANAP	COPY	-
>>Slab Thickness	0018,9104	FD		ALWAYS	COPY	-
>>Slab Orientation	0018,9105	FD		ALWAYS	COPY	-
>>Mid Slab Position	0018,9106	FD		ALWAYS	COPY	-
>MR Velocity Encoding Sequence	0018,9197	SQ		ANAP	COPY	-
>>Velocity Encoding Direction	0018,9090	FD		ANAP	COPY	-
>>Velocity Encoding Minimum Value	0018,9091	FD		ANAP	COPY	-
>>Velocity Encoding Maximum Value	0018,9217	FD		ANAP	COPY	-
>Frame Anatomy Sequence	0020,9071	SQ		ANAP	COPY	-
>>Frame Laterality	0020,9072	CS		ALWAYS	COPY	-
>>Anatomic Region Sequence	0008,2218	SQ		ALWAYS	COPY	-
>>>Code Value	0008,0100	SH		ALWAYS	COPY	-
>>>Coding Scheme Designator	0008,0102	SH		ALWAYS	COPY	-
>>>Code Meaning	0008,0104	LO		ALWAYS	COPY	-
Per-frame Functional Groups Sequence	5200,9230	SQ		ALWAYS	COPY	Always present in combination with the Shared Functional Groups Sequence (5200,9229)
>Pixel Measures Sequence	0028,9110	SQ		ALWAYS	COPY	-
>>Slice Thickness	0018,0050	DS		ANAP	COPY	-
>>Pixel Spacing	0028,0030	DS		ANAP	COPY	-
>Frame Content Sequence	0020,9111	SQ		ALWAYS	COPY	-
>>Frame Acquisition Datetime	0018,9074	DT		ANAP	COPY	-
>>Frame Reference Datetime	0018,9151	DT		ANAP	COPY	-
>>Frame Acquisition Duration	0018,9220	FD		ANAP	COPY	-
>>Stack ID	0020,9056	SH		ANAP	COPY	-
>>In-Stack Position Number	0020,9057	UL		ANAP	COPY	-
>Plane Position Sequence	0020,9113	SQ		ALWAYS	COPY	-
>>Image Position (Patient)	0020,0032	DS		ANAP	COPY	-
>Plane Orientation Sequence	0020,9116	SQ		ALWAYS	COPY	-
>>Image Orientation (Patient)	0020,0037	DS		ANAP	COPY	-
>Referenced Image Sequence	0008,1140	SQ		ANAP	COPY	-

>>Purpose of Reference Code Sequence	0040,A170	SQ		ALWAYS	COPY	-
>>>Code Value	0008,0100	SH		ALWAYS	COPY	-
>>>Coding Scheme Designator	0008,0102	SH		ALWAYS	COPY	-
>>>Code Meaning	0008,0104	LO		ALWAYS	COPY	-
>>Referenced Frame Number	0008,1160	IS		ANAP	COPY	-
>Cardiac Synchronization Sequence	0018,9118	SQ		ALWAYS	COPY	-
>>Nominal Cardiac Trigger Delay Time	0020,9153	FD		ALWAYS	COPY	-
>>R - R Interval Time Nominal	0020,9251	FD		ANAP	COPY	-
>MR Timing and Related Parameters Sequence	0018,9112	SQ		ALWAYS	COPY	-
>>Repetition Time	0018,0080	DS		ANAP	COPY	-
>>Echo Train Length	0018,0091	IS		ANAP	COPY	-
>>Flip Angle	0018,1314	DS		ANAP	COPY	-
>>Operating Mode Sequence	0018,9176	SQ		ANAP	COPY	-
>>>Operating Mode Type	0018,9177	CS		ALWAYS	COPY	-
>>>Operating Mode	0018,9178	CS		ALWAYS	COPY	-
>>Gradient Output Type	0018,9180	CS		ANAP	COPY	-
>>Gradient Output	0018,9182	FD		ANAP	COPY	-
>>Specific Absorption Rate Sequence	0018,9239	SQ		ANAP	COPY	-
>>>Specific Absorption Rate Definition	0018,9179	CS		ALWAYS	COPY	-
>>>Specific Absorption Rate Value	0018,9181	FD		ALWAYS	COPY	-
>>RF Echo Train Length	0018,9240	US		ANAP	COPY	-
>>Gradient Echo Train Length	0018,9241	US		ANAP	COPY	-
>MR Echo Sequence	0018,9114	SQ		ALWAYS	COPY	-
>>Effective Echo Time	0018,9082	FD		ANAP	COPY	-
>Respiratory Synchronization Sequence	0020,9253	SQ		ANAP	COPY	-
>>Respiratory Interval Time	0020,9254	FD		ALWAYS	COPY	-
>>Nominal Respiratory Trigger Delay Time	0020,9255	FD		ALWAYS	COPY	-
>MR Modifier Sequence	0018,9115	SQ		ALWAYS	COPY	-
>>Inversion Recovery	0018,9009	CS		ANAP	COPY	-
>>Flow Compensation	0018,9010	CS		ANAP	COPY	-
>>Spoiling	0018,9016	CS		ANAP	COPY	-
>>T2 Preparation	0018,9021	CS		ANAP	COPY	-
>>Spectrally Selected Excitation	0018,9026	CS		ANAP	COPY	-
>>Spatial Pre-saturation	0018,9027	CS		ANAP	COPY	-
>>Partial Fourier Direction	0018,9036	CS		ANAP	COPY	-
>>Parallel Reduction Factor In-plane	0018,9069	FD		ANAP	COPY	-
>>Parallel Acquisition	0018,9077	CS		ANAP	COPY	-
>>Parallel Acquisition Technique	0018,9078	CS		ANAP	COPY	-
>>Inversion Times	0018,9079	FD		ANAP	COPY	-
>>Partial Fourier	0018,9081	CS		ANAP	COPY	-
>>Parallel Reduction Factor out-of-plane	0018,9155	FD		ANAP	COPY	-

>>Parallel Reduction Factor	0018,9168	FD		ANAP	COPY	-
Second In-plane						
>>Flow Compensation Direction	0018,9183	CS		ANAP	COPY	-
>MR Receive Coil Sequence	0018,9042	SQ		ANAP	COPY	-
>>Receive Coil Name	0018,1250	SH		ALWAYS	COPY	-
>>Receive Coil Manufacturer Name	0018,9041	LO		EMPTY	COPY	-
>>Receive Coil Type	0018,9043	CS		ANAP	COPY	-
>>Quadrature Receive Coil	0018,9044	CS		ANAP	COPY	-
>>Multi-Coil Definition Sequence	0018,9045	SQ		ANAP	COPY	-
>>>Multi-Coil Element Name	0018,9047	SH		ALWAYS	COPY	-
>>>Multi-Coil Element Used	0018,9048	CS		ALWAYS	COPY	-
>MR Transmit Coil Sequence	0018,9049	SQ		ALWAYS	COPY	-
>>Transmit Coil Name	0018,1251	SH		ALWAYS	COPY	-
>>Transmit Coil Manufacturer Name	0018,9050	LO		EMPTY	COPY	-
>>Transmit Coil Type	0018,9051	CS		ANAP	COPY	-
>MR Diffusion Sequence	0018,9117	SQ		ANAP	COPY	-
>>Diffusion Directionality	0018,9075	CS		ANAP	COPY	-
>>Diffusion Gradient Direction Sequence	0018,9076	SQ		ANAP	COPY	-
>>>Diffusion Gradient Orientation	0018,9089	FD		ANAP	COPY	-
>>Diffusion b-value	0018,9087	FD		ANAP	COPY	-
>>Diffusion Anisotropy Type	0018,9147	CS		ANAP	COPY	-
>Frame Anatomy Sequence	0020,9071	SQ		ALWAYS	COPY	-
>>Frame Laterality	0020,9072	CS		ALWAYS	COPY	-
>>Anatomic Region Sequence	0008,2218	SQ		ALWAYS	COPY	-
>>>Code Value	0008,0100	SH		ALWAYS	COPY	-
>>>Coding Scheme Designator	0008,0102	SH		ALWAYS	COPY	-
>>>Code Meaning	0008,0104	LO		ALWAYS	COPY	-
>MR Spectroscopy Frame Type Sequence	0018,9227	SQ		ALWAYS	COPY	-
>>Frame Type	0008,9007	CS		ALWAYS	COPY	-
>>Volumetric Properties	0008,9206	CS		ALWAYS	COPY	-
>>Volume Based Calculation Technique	0008,9207	CS		ALWAYS	COPY	-
>>Complex Image Component	0008,9208	CS		ALWAYS	COPY	-
>>Acquisition Contrast	0008,9209	CS		ALWAYS	COPY	-
>MR Spectroscopy FOV/Geometry Sequence	0018,9103	SQ		ALWAYS	COPY	-
>>Percent Sampling	0018,0093	DS		ANAP	COPY	-
>>Percent Phase Field of View	0018,0094	DS		ANAP	COPY	-
>>Spectroscopy Acquisition Phase Rows	0018,9095	UL		ANAP	COPY	-
>>Spectroscopy Acquisition Data Columns	0018,9127	UL		ANAP	COPY	-
>>Spectroscopy Acquisition Out-of-plane Phase Steps	0018,9159	UL		ANAP	COPY	-
>>Spectroscopy Acquisition Phase Columns	0018,9234	UL		ANAP	COPY	-
>MR Averages Sequence	0018,9119	SQ		ALWAYS	COPY	-

>>Number of Averages	0018,0083	DS		ANAP	COPY	-
>MR Spatial Saturation Sequence	0018,9107	SQ		ANAP	COPY	-
>>Slab Thickness	0018,9104	FD		ALWAYS	COPY	-
>>Slab Orientation	0018,9105	FD		ALWAYS	COPY	-
>>Mid Slab Position	0018,9106	FD		ALWAYS	COPY	-
>MR Velocity Encoding Sequence	0018,9197	SQ		ANAP	COPY	-
>>Velocity Encoding Direction	0018,9090	FD		ANAP	COPY	-
>>Velocity Encoding Minimum Value	0018,9091	FD		ANAP	COPY	-
>>Velocity Encoding Maximum Value	0018,9217	FD		ANAP	COPY	-

Table 180 :Multi-frame Dimension Module

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Dimension Organization Sequence	0020,9221	SQ		ALWAYS	COPY	-
>Dimension Organization UID	0020,9164	UI		ALWAYS	COPY	-
Dimension Index Sequence	0020,9222	SQ		ALWAYS	COPY	-
>Dimension Organization UID	0020,9164	UI		ANAP	COPY	-
>Dimension Index Pointer	0020,9165	AT		ALWAYS	COPY	-
>Functional Group Pointer	0020,9167	AT		ANAP	COPY	-
>Dimension Index Private Creator	0020,9213	LO		ANAP	COPY	-
>Functional Group Private Creator	0020,9238	LO		ANAP	COPY	-

Table 181 :Cardiac Synchronization Module

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Low R-R Value	0018,1081	IS		ANAP	COPY	-
High R-R Value	0018,1082	IS		ANAP	COPY	-
Intervals Acquired	0018,1083	IS		ANAP	COPY	-
Intervals Rejected	0018,1084	IS		ANAP	COPY	-
Cardiac Synchronization Technique	0018,9037	CS		ANAP	COPY	-
Cardiac R-R Interval Specified	0018,9070	FD		ANAP	COPY	-
Cardiac Signal Source	0018,9085	CS		ANAP	COPY	-
Cardiac Beat Rejection Technique	0018,9169	CS		ANAP	COPY	-

Table 182 :Respiratory Synchronization Module

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Respiratory Motion Compensation Technique	0018,9170	CS		ANAP	COPY	-
Respiratory Signal Source	0018,9171	CS		ANAP	COPY	-

Respiratory Trigger Delay Threshold	0020,9256	FD		ANAP	COPY	-
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Table 183 :Bulk Motion Synchronization Module

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Bulk Motion Compensation Technique	0018,9172	CS		ANAP	COPY	-

Table 184 :MR Spectroscopy Module

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Image Type	0008,0008	CS	DERIVED/ SECONDARY/ SPECTROSCOPY/ NONE	ALWAYS	AUTO	-
Spectral Width	0018,9052	FD		ANAP	COPY	-
Chemical Shift Reference	0018,9053	FD		ANAP	COPY	-
Volume Localization Technique	0018,9054	CS		ANAP	COPY	-
De-coupling	0018,9059	CS		ANAP	COPY	-
De-coupled Nucleus	0018,9060	CS		ANAP	COPY	-
De-coupling Frequency	0018,9061	FD		ANAP	COPY	-
De-coupling Method	0018,9062	CS		ANAP	COPY	-
De-coupling Chemical Shift Reference	0018,9063	FD		ANAP	COPY	-
Time Domain Filtering	0018,9065	CS		ANAP	COPY	-
Number of Zero fills	0018,9066	US		ANAP	COPY	-
Baseline Correction	0018,9067	CS		ANAP	COPY	-
Transmitter Frequency	0018,9098	FD		ANAP	COPY	-
Frequency Correction	0018,9101	CS		ANAP	COPY	-
Volume Localization Sequence	0018,9126	SQ		ANAP	COPY	-
>Slab Thickness	0018,9104	FD		ALWAYS	COPY	-
>Slab Orientation	0018,9105	FD		ALWAYS	COPY	-
>Mid Slab Position	0018,9106	FD		ANAP	COPY	-
First Order Phase Correction	0018,9198	CS		ANAP	COPY	-
Water Referenced Phase Correction	0018,9199	CS		ANAP	COPY	-
Acquisition Datetime	0008,002A	DT		ANAP	COPY	-
Source Image Evidence Sequence	0008,9154	SQ		ANAP	COPY	-
>Referenced Series Sequence	0008,1115	SQ		ANAP	COPY	-
>>Referenced SOP Sequence	0008,1199	SQ		ALWAYS	COPY	-
>>>Referenced SOP Class UID	0008,1150	UI		ALWAYS	COPY	-
>>>Referenced SOP Instance UID	0008,1155	UI		ALWAYS	COPY	-
>>Series Instance UID	0020,000E	UI		ALWAYS	COPY	-
>Study Instance UID	0020,000D	UI		ALWAYS	COPY	-
Magnetic Field Strength	0018,0087	DS		ANAP	COPY	-
Content Qualification	0018,9004	CS		ALWAYS	COPY	-
k-space Filtering	0018,9064	CS		ANAP	COPY	-

Acquisition Duration	0018,9073	FD		ANAP	COPY	-
Resonant Nucleus	0018,9100	CS		ANAP	COPY	-
Applicable Safety Standard Agency	0018,9174	CS		ALWAYS	COPY	-
Acquisition Number	0020,0012	IS		ANAP	COPY	-
Image Comments	0020,4000	LT		ANAP	COPY	-
Volumetric Properties	0008,9206	CS		ALWAYS	COPY	-
Volume Based Calculation Technique	0008,9207	CS		ALWAYS	COPY	-
Complex Image Component	0008,9208	CS		ALWAYS	COPY	-
Acquisition Contrast	0008,9209	CS		ALWAYS	COPY	-

Table 185 :MR Spectroscopy Pulse Sequence Module

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Pulse Sequence Name	0018,9005	SH		ANAP	COPY	-
Echo Pulse Sequence	0018,9008	CS		ANAP	COPY	-
Multiple Spin Echo	0018,9011	CS		ANAP	COPY	-
Multi-planar Excitation	0018,9012	CS		ANAP	COPY	-
Steady State Pulse Sequence	0018,9017	CS		ANAP	COPY	-
Echo Planar Pulse Sequence	0018,9018	CS		ANAP	COPY	-
Spectrally Selected Suppression	0018,9025	CS		ANAP	COPY	-
Geometry of k-Space Traversal	0018,9032	CS		ANAP	COPY	-
Segmented k-Space Traversal	0018,9033	CS		ANAP	COPY	-
Rectilinear Phase Encode Reordering	0018,9034	CS		ANAP	COPY	-
Number of k-Space Trajectories	0018,9093	US		ANAP	COPY	-
Coverage of k-Space	0018,9094	CS		ANAP	COPY	-
MR Spectroscopy Acquisition Type	0018,9200	CS		ANAP	COPY	-

Table 186 :MR Spectroscopy Data Module

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Rows	0028,0010	US		ALWAYS	AUTO	-
Columns	0028,0011	US		ALWAYS	AUTO	-
Data Point Rows	0028,9001	UL		ALWAYS	AUTO	-
Data Point Columns	0028,9002	UL		ALWAYS	AUTO	-
Signal Domain Columns	0028,9003	CS		ALWAYS	AUTO	FREQUENCY
Data Representation	0028,9108	CS		ALWAYS	AUTO	-
First Order Phase Correction Angle	5600,0010	OF		ANAP	AUTO	-
Spectroscopy Data	5600,0020	OF		ALWAYS	AUTO	-

Table 187 :SOP Common Module

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Specific Character Set	0008,0005	CS		ANAP	AUTO, COPY	-

Instance Creation Date	0008,0012	DA		ANAP	AUTO	-
Instance Creation Time	0008,0013	TM		ANAP	AUTO	-
Instance Creator UID	0008,0014	UI		ANAP	AUTO	-
SOP Class UID	0008,0016	UI		ALWAYS	FIXED	-
SOP Instance UID	0008,0018	UI		ALWAYS	AUTO	-

Table 188 :Extended DICOM and private attributes for MR Spectroscopy Storage SOP Class Instances

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Acquisition Date	0008,0022	DA		ANAP	AUTO	-
Acquisition Time	0008,0032	TM		ANAP	AUTO	-
Derivation Image Sequence	0008,9124	SQ		ANAP	AUTO	-
>Source Image Sequence	0008,2112	SQ		ANAP	AUTO	-
>>Referenced SOP Class UID	0008,1150	UI		ANAP	AUTO	-
>>Referenced SOP Instance UID	0008,1155	UI		ANAP	AUTO	-
>Derivation Code Sequence	0008,9215	SQ		ANAP	AUTO	-
>>Code Value	0008,0100	SH		ANAP	AUTO	From CID 7203
>>Coding Scheme Designator	0008,0102	SH		ANAP	AUTO	From CID 7203
>>Coding Scheme Version	0008,0103	SH		ANAP	AUTO	From CID 7203
>>Code Meaning	0008,0104	LO		ANAP	AUTO	From CID 7203
Medical Alerts	0010,2000	LO		ANAP	COPY	-
Allergies	0010,2110	LO		ANAP	COPY	-
Pregnancy Status	0010,21C0	US		ANAP	COPY	-
Scanning Sequence	0018,0020	CS		ALWAYS	AUTO	{"RM"}
Sequence Variant	0018,0021	CS		ALWAYS	AUTO	{"NONE"}
Samples per Pixel	0028,0002	US	1	ALWAYS	AUTO	Applied value: 1
Photometric Interpretation	0028,0004	CS	MONOCHROME2	ALWAYS	AUTO	Applied values: MONOCHROME2
Planar Configuration	0028,0006	US		ANAP	AUTO	-
Window Center	0028,1050	DS		ANAP	AUTO	-
Window Width	0028,1051	DS		ANAP	AUTO	-
Bits Allocated	0028,0100	US		ALWAYS	AUTO	-
Bits Stored	0028,0101	US		ALWAYS	AUTO	-
High Bit	0028,0102	US		ALWAYS	AUTO	-
Pixel Representation	0028,0103	US		ALWAYS	AUTO	-
Rescale Intercept	0028,1052	DS		ANAP	AUTO	-
Rescale Slope	0028,1053	DS		ANAP	AUTO	-
Rescale Type	0028,1054	LO	normalized	ANAP	AUTO	Applied value(s): normalized
Special Needs	0038,0050	LO		ANAP	COPY	-
Patient State	0038,0500	LO		ANAP	COPY	-
Scheduled Performing Physician's Name	0040,0006	PN		ANAP	COPY	-
Pixel Data	7FE0,0010	O W/ OB		ANAP	AUTO	-

8.1.2.12. RT Structure Set Storage SOP Class

Table 189 :IOD of Created RT Structure Set Storage SOP Class Instances

Information Entity	Module	Presence Of Module
Patient	Patient Module	ALWAYS
Study	General Study Module	ALWAYS
Study	Patient Study Module	CONDITIONAL – IF PRESENT IN THE SOURCE DATA
Series	RT Series Module	ALWAYS
Equipment	General Equipment Module	ALWAYS
Structure Set	Structure Set Module	ALWAYS
Structure Set	ROI Contour Module	ALWAYS
Structure Set	RT ROI Observations Module	ALWAYS
Structure Set	SOP Common Module	ALWAYS

This SOP class can be extended with standard DICOM and private attributes as described in Table 200.

Table 190 :Patient Module

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Referenced Patient Sequence	0008,1120	SQ		ANAP	COPY	-
>Referenced SOP Class UID	0008,1150	UI		ALWAYS	COPY	-
>Referenced SOP Instance UID	0008,1155	UI		ALWAYS	COPY	-
Patient's Name	0010,0010	PN		ALWAYS	COPY	-
Patient ID	0010,0020	LO		ALWAYS	COPY	-
Patient's Birth Date	0010,0030	DA		VNAP	COPY	-
Patient's Birth Time	0010,0032	TM		ANAP	COPY	-
Patient's Sex	0010,0040	CS		VNAP	COPY	-
Other Patient IDs	0010,1000	LO		ANAP	COPY	-
Other Patient Names	0010,1001	PN		ANAP	COPY	-
Ethnic Group	0010,2160	SH		ANAP	COPY	-
Patient Comments	0010,4000	LT		ANAP	COPY	-
Issuer of Patient ID	0010,0021	LO		ANAP	COPY	-

Table 191 :General Study Module

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Study Date	0008,0020	DA		VNAP	COPY	-
Study Time	0008,0030	TM		VNAP	COPY	-
Accession Number	0008,0050	SH		VNAP	COPY	-
Referring Physician's Name	0008,0090	PN		VNAP	COPY	-
Referring Physician Identification Sequence	0008,0096	SQ		ANAP	COPY	-
Study Description	0008,1030	LO		ANAP	COPY	-
Procedure Code Sequence	0008,1032	SQ		ANAP	COPY	-
Physician(s) of Record	0008,1048	PN		ANAP	COPY	-

Physician(s) of Record Identification Sequence	0008,1049	SQ		ANAP	COPY	-
Name of Physician(s) Reading Study	0008,1060	PN		ANAP	COPY	-
Physician(s) Reading Study Identification Sequence	0008,1062	SQ		ANAP	COPY	-
Referenced Study Sequence	0008,1110	SQ		ANAP	COPY	-
Study Instance UID	0020,000D	UI		ALWAYS	AUTO	-
Study ID	0020,0010	SH		VNAP	AUTO	-

Table 192 :Patient Study Module

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Admitting Diagnoses Description	0008,1080	LO		ANAP	COPY	-
Admitting Diagnoses Code Sequence	0008,1084	SQ		ANAP	COPY	-
Patient's Age	0010,1010	AS	068Y	ANAP	COPY	-
Patient's Size	0010,1020	DS		ANAP	COPY	-
Patient's Weight	0010,1030	DS		ANAP	COPY	-
Occupation	0010,2180	SH		ANAP	COPY	-
Additional Patient History	0010,21B0	LT		ANAP	COPY	-

Table 193 :RT Series Module

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Modality	0008,0060	CS		ALWAYS	AUTO	-
Series Description	0008,103E	LO		ANAP	AUTO/USER	-
Series Description Code Sequence	0008,103F	SQ		ANAP	AUTO	-
Referenced Performed Procedure Step Sequence	0008,1111	SQ		ANAP	COPY	-
Series Instance UID	0020,000E	UI		ALWAYS	AUTO	-
Series Number	0020,0011	IS		VNAP	AUTO	-
Request Attributes Sequence	0040,0275	SQ		ANAP	COPY	-
Performed Procedure Step Start Date	0040,0244	DA		ANAP	COPY	-
Performed Procedure Step Start Time	0040,0245	TM		ANAP	COPY	-
Performed Procedure Step ID	0040,0253	SH		ANAP	COPY	-
Performed Procedure Step Description	0040,0254	LO		ANAP	COPY	-
Performed Protocol Code Sequence	0040,0260	SQ		ANAP	COPY	-
Comments on the Performed Procedure Step	0040,0280	ST		ANAP	COPY	-

Table 194 :General Equipment Module

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Manufacturer	0008,0070	LO		VNAP	FIXED	-
Institution Name	0008,0080	LO		ANAP	CONFIG	-
Institution Address	0008,0081	ST		ANAP	CONFIG	-
Station Name	0008,1010	SH		ANAP	CONFIG	-
Institutional Department Name	0008,1040	LO		ANAP	CONFIG	-
Manufacturer's Model Name	0008,1090	LO	IntelliSpace Portal	ANAP	FIXED	-
Device Serial Number	0018,1000	LO		ANAP	COPY	-
Software Version(s)	0018,1020	LO		ANAP	FIXED	-
Spatial Resolution	0018,1050	DS		ANAP	COPY	-
Date of Last Calibration	0018,1200	DA		ANAP	COPY	-
Time of Last Calibration	0018,1201	TM		ANAP	COPY	-
Pixel Padding Value	0028,0120	US/SS		ANAP	COPY	-

Table 195 :Structure Set Module

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Instance Number	0020,0013	IS		ANAP	AUTO	-
Structure Set Label	3006,0002	SH		ALWAYS	AUTO, USER	-
Structure Set Name	3006,0004	LO		ANAP	AUTO, USER	-
Structure Set Description	3006,0006	ST		ANAP	AUTO, USER	-
Structure Set Date	3006,0008	DA		VNAP	AUTO	-
Structure Set Time	3006,0009	TM		VNAP	AUTO	-
Referenced Frame of Reference Sequence	3006,0010	SQ		ANAP	AUTO	-
>Frame of Reference UID	0020,0052	UI		ALWAYS	AUTO	-
>RT Referenced Study Sequence	3006,0012	SQ		ANAP	AUTO	-
>>RT Referenced Series Sequence	3006,0014	SQ		ALWAYS	AUTO	-
>>>Series Instance UID	0020,000E	UI		ALWAYS	AUTO	-
>>>Contour Image Sequence	3006,0016	SQ		ALWAYS	AUTO	-
>>>>Referenced Frame Number	0008,1160	IS		ANAP	AUTO	-
>>>>Referenced Segment Number	0062,000B	US		ANAP	AUTO	-
>>>>Referenced SOP Class UID	0008,1150	UI		ALWAYS	AUTO	-
>>>>Referenced SOP Instance UID	0008,1155	UI		ALWAYS	AUTO	-
>>Referenced SOP Class UID	0008,1150	UI		ALWAYS	AUTO	-
>>Referenced SOP Instance UID	0008,1155	UI		ALWAYS	AUTO	-
>Frame of Reference Relationship Sequence	3006,00C0	SQ		ANAP	AUTO	-

Structure Set ROI Sequence	3006,0020	SQ		ANAP	AUTO	-
>Derivation Code Sequence	0008,9215	SQ		ANAP	AUTO	-
>ROI Number	3006,0022	IS		ALWAYS	AUTO	-
>Referenced Frame of Reference UID	3006,0024	UI		ALWAYS	AUTO	-
>ROI Name	3006,0026	LO		VNAP	AUTO	-
>ROI Description	3006,0028	ST		ANAP	AUTO	-
>ROI Volume	3006,002C	DS		ANAP	AUTO	-
>ROI Generation Algorithm	3006,0036	CS		VNAP	AUTO	-
>ROI Generation Description	3006,0038	LO		ANAP	AUTO	-

Table 196 :ROI Contour Module

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
ROI Contour Sequence	3006,0039	SQ		ALWAYS	AUTO	-
>ROI Display Color	3006,002A	IS		ANAP	AUTO	-
>Contour Sequence	3006,0040	SQ		ANAP	AUTO	-
>>Contour Image Sequence	3006,0016	SQ		ANAP	AUTO	-
	0008,1160	IS		ANAP	AUTO	-
>>>Referenced Segment Number	0062,000B	US		ANAP	AUTO	-
>>>Referenced SOP Class UID	0008,1150	UI		ALWAYS	AUTO	-
>>>Referenced SOP Instance UID	0008,1155	UI		ALWAYS	AUTO	-
>>>Referenced Frame Number	0008,1160	IS		ANAP	AUTO	-
>>Contour Geometric Type	3006,0042	CS		ALWAYS	AUTO	-
>>Contour Slab Thickness	3006,0044	DS		ANAP	AUTO	-
>>Contour Offset Vector	3006,0045	DS		ANAP	AUTO	-
>>Number of Contour Points	3006,0046	IS		ALWAYS	AUTO	-
>>Contour Number	3006,0048	IS		ANAP	AUTO	-
>>Attached Contours	3006,0049	IS		ANAP	AUTO	-
>>Contour Data	3006,0050	DS		ALWAYS	AUTO	-
>Referenced ROI Number	3006,0084	IS		ALWAYS	AUTO	-

Table 197 :RT ROI Observations Module

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
RT ROI Observations Sequence	3006,0080	SQ		ALWAYS	AUTO	-
>RT Related ROI Sequence	3006,0030	SQ		ANAP	AUTO	-
>> Referenced ROI Number	3006,0084	IS		ALWAYS	AUTO	-
>>RT ROI Relationship	3006,0033	IS		ANAP	AUTO	-
>Observation Number	3006,0082	IS		ALWAYS	AUTO	-
>Referenced ROI Number	3006,0084	IS		ALWAYS	AUTO	-
>ROI Observation Label	3006,0085	SH		ANAP	AUTO	-
>RT ROI Identification Code Sequence	3006,0086	SQ		ANAP	AUTO	-
>ROI Observation Description	3006,0088	ST		ANAP	AUTO	-
>Related RT ROI Observations Sequence	3006,00A0	SQ		ANAP	AUTO	-

>> Observation Number	3006,0082			ALWAYS	AUTO	-
>RT ROI Interpreted Type	3006,00A4	CS		VNAP	AUTO	-
>ROI Interpreter	3006,00A6	PN		VNAP	AUTO	-
>Material ID	300A,00E1	SH		ANAP	AUTO	-
>ROI Physical Properties Sequence	3006,00B0	SQ		ANAP	AUTO	-
>>ROI Physical Property	3006,00B2	CS		ALWAYS	AUTO	-
>>ROI Elemental Composition Sequence	3006,00B6	SQ		ANAP	AUTO	
>>>ROI Elemental Composition Atomic Number	3006,00B7	US		ALWAYS	AUTO	
>>>ROI Elemental Composition Atomic Mass Fraction	3006,00B8	FL		ALWAYS	AUTO	
>>ROI Physical Property Value	3006,00B4	DS		ALWAYS	AUTO	

Table 198 :Approval Module

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Approval Status	300E,0002	CS				Mirada

Table 199 :SOP Common Module

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Specific Character Set	0008,0005	CS		ANAP	AUTO, COPY	-
Instance Creation Date	0008,0012	DA		ANAP	AUTO	-
Instance Creation Time	0008,0013	TM		ANAP	AUTO	-
Instance Creator UID	0008,0014	UI		ANAP	AUTO	-
SOP Class UID	0008,0016	UI		ALWAYS	COPY	-
SOP Instance UID	0008,0018	UI		ALWAYS	AUTO	-
Timezone Offset From UTC	0008,0201	SH		ANAP	COPY	-
Contributing Equipment Sequence	0018,A001	SQ		ANAP	AUTO	-
>Manufacturer	0008,0070	LO		ALWAYS	COPY	-
>Institution Address	0008,0081	ST		ANAP	COPY	-
>Station Name	0008,1010	SH		ANAP	COPY	-
>Institutional Department Name	0008,1040	LO		ANAP	COPY	-
>Software Version(s)	0018,1020	LO		ANAP	COPY	-
>Device Serial Number	0018,1000	LO		ANAP	COPY	-
>Institution Name	0008,0080	LO		ANAP	COPY	-
>Manufacturer's Model Name	0008,1090	LO		ANAP	COPY	-
>Purpose of Reference Code Sequence	0040,A170	SQ		ALWAYS	FIXED	-
>>Code Value	0008,0100	SH	109102	ALWAYS	FIXED	-
>>Coding Scheme Designator	0008,0102	SH	DCM	ALWAYS	FIXED	-
>>Code Meaning	0008,0104	LO	Processing Equipment	ALWAYS	FIXED	-

Table 200 :Extended DICOM and private attributes for RT Structure Set Storage SOP Class Instances

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Modalities in Study	0008,0061	CS		ANAP	AUTO	-
Patient Orientation	0020,0020	CS		ANAP	AUTO	-
Other Patient ID	0010,1000	LO				-
ELSCINT1_DUAL_WINDOW_C ENTER	00E1,00xx	LO		ANAP	AUTO	-
ICAPMRAdditionalSCImageAttributes	00E1,xx86	UI		ANAP	AUTO	-
ELSCINTCT_REC_PARM_OPT	01E1,00xx	LO		ANAP	AUTO	-
PiimIcapmrApplicationResultSeries	01E1,xx45	CS		ANAP	AUTO	-
ELSCINTCT_ALIGN_STRUCTURES	01F7,00xx	LO		ANAP	AUTO	-
TAMAR_TAMAR_SOFTWARE_VERSION	07A1,00xx	LO		ANAP	AUTO	-
PiimIcapmrSoftwareVersion	07A1,xx10	LO		ANAP	AUTO	-

8.1.2.13. Secondary Capture Image Storage SOP Class

Table 201 :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
Study	Patient Study Module	CONDITIONAL – IF PRESENT IN THE SOURCE DATA
Series	General Series Module	ALWAYS
Equipment	General Equipment Module	ALWAYS
Equipment	SC Equipment Module	ALWAYS
Acquisition	General Acquisition Module	ALWAYS
Image	General Image Module	ALWAYS
Image	General Reference Module	CONDITIONAL – IF PRESENT IN THE SOURCE DATA
Image	Image Pixel Module	ALWAYS
Image	Device Module	CONDITIONAL – IF PRESENT IN THE SOURCE DATA
Image	SC Image Module	ALWAYS
Image	Overlay Plane Module	CONDITIONAL – IF PRESENT IN THE SOURCE DATA
Image	Modality LUT Module	CONDITIONAL – IF PRESENT IN THE SOURCE DATA
Image	VOI LUT Module	CONDITIONAL – IF PRESENT IN THE SOURCE DATA
Image	SOP Common Module	ALWAYS
Image	Common Instance Reference Module	CONDITIONAL - IF PRESENT IN THE SOURCE DATA

This SOP class can be extended with standard DICOM and private attributes as described in Table 218.

Table 202 :Patient Module

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Referenced Patient Sequence	0008,1120	SQ		ANAP	COPY	-
>Referenced SOP Class UID	0008,1150	UI		ALWAYS	COPY	-

>Referenced SOP Instance UID	0008,1155	UI		ALWAYS	COPY	-
Patient's Name	0010,0010	PN		VNAP	COPY	-
Patient ID	0010,0020	LO		VNAP	COPY	-
Patient's Birth Date	0010,0030	DA		VNAP	COPY	-
Patient's Birth Time	0010,0032	TM		ANAP	COPY	-
Patient's Sex	0010,0040	CS		VNAP	COPY	-
Other Patient IDs	0010,1000	LO		ANAP	COPY	-
Other Patient Names	0010,1001	PN		ANAP	COPY	-
Ethnic Group	0010,2160	SH		ANAP	COPY	-
Patient Comments	0010,4000	LT		ANAP	COPY	-
Issuer of Patient ID	0010,0021	LO		ANAP	COPY	-

Table 203 :General Study Module

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Study Date	0008,0020	DA		VNAP	COPY	-
Study Time	0008,0030	TM		VNAP	COPY	-
Accession Number	0008,0050	SH		VNAP	COPY	-
Referring Physician's Name	0008,0090	PN		VNAP	COPY	-
Referring Physician Identification Sequence	0008,0096	SQ		ANAP	COPY	-
Study Description	0008,1030	LO		ANAP	COPY	-
Procedure Code Sequence	0008,1032	SQ		ANAP	COPY	-
Physician(s) of Record	0008,1048	PN		ANAP	COPY	-
Physician(s) of Record Identification Sequence	0008,1049	SQ		ANAP	COPY	-
Name of Physician(s) Reading Study	0008,1060	PN		ANAP	COPY	-
Physician(s) Reading Study Identification Sequence	0008,1062	SQ		ANAP	COPY	-
Referenced Study Sequence	0008,1110	SQ		ANAP	COPY	-
Study Instance UID	0020,000D	UI		ALWAYS	AUTO, COPY	-
Study ID	0020,0010	SH		VNAP	AUTO, COPY	-

Table 204 :Patient Study Module

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Admitting Diagnoses Description	0008,1080	LO		ANAP	COPY	-
Admitting Diagnoses Code Sequence	0008,1084	SQ		ANAP	COPY	-
Patient's Age	0010,1010	AS		ANAP	COPY	-
Patient's Size	0010,1020	DS		ANAP	COPY	-
Patient's Weight	0010,1030	DS		ANAP	COPY	-
Occupation	0010,2180	SH		ANAP	COPY	-
Additional Patient History	0010,21B0	LT		ANAP	COPY	-

Table 205 :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		ALWAYS	COPY	-
Series Description	0008,103E	LO		ANAP	COPY	-
Performing Physician's Name	0008,1050	PN		ANAP	COPY	-
Operators' Name	0008,1070	PN		ANAP	COPY	-
Operator Identification Sequence	0008,1072	SQ		ANAP	COPY	-
Referenced Performed Procedure Step Sequence	0008,1111	SQ		ANAP	COPY	-
>Referenced SOP Class UID	0008,1150	UI		ALWAYS	COPY	-
>Referenced SOP Instance UID	0008,1155	UI		ALWAYS	COPY	-
Body Part Examined	0018,0015	CS		ANAP	COPY	-
Protocol Name	0018,1030	LO		ANAP	COPY	-
Patient Position	0018,5100	CS		ANAP	COPY	-
Series Instance UID	0020,000E	UI		ALWAYS	AUTO	-
Series Number	0020,0011	IS		VNAP	AUTO	-
Laterality	0020,0060	CS		ANAP	COPY	-
Smallest Pixel Value in Series	0028,0108	US/SS		ANAP	AUTO, COPY	-
Largest Pixel Value in Series	0028,0109	US/SS		ANAP	AUTO, COPY	-
Request Attributes Sequence	0040,0275	SQ		ANAP	COPY	-
Performed Procedure Step Start Date	0040,0244	DA		ANAP	COPY	-
Performed Procedure Step Start Time	0040,0245	TM		ANAP	COPY	-
Performed Procedure Step Description	0040,0254	LO		ANAP	COPY	-
Performed Protocol Code Sequence	0040,0260	SQ		ANAP	COPY	-
Comments on the Performed Procedure Step	0040,0280	ST		ANAP	COPY	-

Table 206 :General Equipment Module

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Manufacturer	0008,0070	LO	Philips	VNAP	FIXED	-
Institution Name	0008,0080	LO		ANAP	CONFIG	-
Institution Address	0008,0081	ST		ANAP	CONFIG	-
Station Name	0008,1010	SH		ANAP	CONFIG	-
Institutional Department Name	0008,1040	LO		ANAP	CONFIG	-
Manufacturer's Model Name	0008,1090	LO	IntelliSpace Portal	ANAP	FIXED	-
Device Serial Number	0018,1000	LO		ANAP	COPY	-
Software Version(s)	0018,1020	LO	15.x	ANAP	FIXED	-
Spatial Resolution	0018,1050	DS		ANAP	COPY	-

Date of Last Calibration	0018,1200	DA		ANAP	COPY	-
Time of Last Calibration	0018,1201	TM		ANAP	COPY	-
Pixel Padding Value	0028,0120	US/SS		ANAP	COPY	-

Table 207 :General Acquisition Module

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Acquisition Date	0008,0022	DA		ANAP	COPY	-
Acquisition DateTime	0008,002A	DT		ANAP	COPY	-
Acquisition Time	0008,0032	TM		ANAP	COPY	-
Acquisition Duration	0018,9073	FD		ANAP	COPY	
Acquisition Number	0020,0012	IS		ANAP	COPY	-

Table 208 :SC Equipment Module

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Modality	0008,0060	CS	OT	ANAP	AUTO, FIXED	-
Conversion Type	0008,0064	CS	WSD	ALWAYS	AUTO	-
Secondary Capture Device ID	0018,1010	LO		ANAP	AUTO	-
Secondary Capture Device Manufacturer	0018,1016	LO	Philips Medical Systems	ANAP	AUTO	-
Secondary Capture Device Manufacturer's Model Name	0018,1018	LO	IntelliSpace Portal	ANAP	AUTO	-
Secondary Capture Device Software Version(s)	0018,1019	LO		ANAP	AUTO	-
Video Image Format Acquired	0018,1022	SH		ANAP	AUTO	-
Digital Image Format Acquired	0018,1023	LO		ANAP	AUTO	-

Table 209 :General Image Module

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Image Type	0008,0008	CS	DERIVED/ SECONDARY	ANAP	AUTO	-
Acquisition Date	0008,0022	DA		ANAP	AUTO, COPY	-
Content Date	0008,0023	DA		ANAP	AUTO, COPY	-
Acquisition Datetime	0008,002A	DT		ANAP	COPY	-
Acquisition Time	0008,0032	TM		ANAP	COPY	-
Content Time	0008,0033	TM		ANAP	COPY	-
Referenced Waveform Sequence	0008,113A	SQ		ANAP	AUTO	-
Referenced Image Sequence	0008,1140	SQ		ANAP	AUTO, COPY	-
>Referenced SOP Class UID	0008,1150	UI		ANAP	COPY	-
>Referenced SOP Instance UID	0008,1155	UI		ANAP	COPY	-
Derivation Description	0008,2111	ST		ANAP	AUTO, COPY	-

Source Image Sequence	0008,2112	SQ		ANAP	AUTO, COPY	-
Derivation Code Sequence	0008,9215	SQ		ANAP	AUTO, COPY	-
Acquisition Number	0020,0012	IS		ANAP	COPY	-
Instance Number	0020,0013	IS		ANAP	AUTO, COPY	-
Patient Orientation	0020,0020	CS		ANAP	AUTO, COPY	-
Images in Acquisition	0020,1002	IS		ANAP	AUTO, COPY	-
Image Comments	0020,4000	LT		ANAP	AUTO, COPY	-
Quality Control Image	0028,0300	CS		ANAP	AUTO, COPY	-
Burned In Annotation	0028,0301	CS	YES	ANAP	AUTO, COPY	-
Lossy Image Compression	0028,2110	CS		ANAP	AUTO, COPY	-
Lossy Image Compression Ratio	0028,2112	DS		ANAP	AUTO, COPY	-
Lossy Image Compression Method	0028,2114	CS		ANAP	AUTO	-
Icon Image Sequence	0088,0200	SQ		ANAP	AUTO, COPY	-
>Samples per Pixel	0028,0002	US		ALWAYS	COPY	-
>Photometric Interpretation	0028,0004	CS		ALWAYS	COPY	-
>Planar Configuration	0028,0006	US		ANAP	COPY	-
>Rows	0028,0010	US		ALWAYS	COPY	-
>Columns	0028,0011	US		ALWAYS	COPY	-
>Pixel Aspect Ratio	0028,0034	IS		ANAP	COPY	-
>Bits Allocated	0028,0100	US		ALWAYS	COPY	-
>Bits Stored	0028,0101	US		ALWAYS	COPY	-
>High Bit	0028,0102	US		ALWAYS	COPY	-
>Pixel Representation	0028,0103	US		ALWAYS	COPY	-
>Smallest Image Pixel Value	0028,0106	US/SS		ANAP	COPY	-
>Largest Image Pixel Value	0028,0107	US/SS		ANAP	COPY	-
>Red Palette Color Lookup Table Descriptor	0028,1101	US/SS		ANAP	COPY	-
>Green Palette Color Lookup Table Descriptor	0028,1102	US/SS		ANAP	COPY	-
>Blue Palette Color Lookup Table Descriptor	0028,1103	US/SS		ANAP	COPY	-
>Red Palette Color Lookup Table Data	0028,1201	OW		ANAP	COPY	-
>Green Palette Color Lookup Table Data	0028,1202	OW		ANAP	COPY	-
>Blue Palette Color Lookup Table Data	0028,1203	OW		ANAP	COPY	-
>Pixel Data	7FE0,0010	OW/OB		ANAP	COPY	-
Presentation LUT Shape	2050,0020	CS		ANAP	AUTO, COPY	-

Table 210 :Image Pixel Module

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Samples per Pixel	0028,0002	US	3	ALWAYS	AUTO	-
Photometric Interpretation	0028,0004	CS		ALWAYS	AUTO	-
Planar Configuration	0028,0006	US		ANAP	AUTO, COPY	-
Rows	0028,0010	US		ALWAYS	AUTO, COPY	-
Columns	0028,0011	US		ALWAYS	AUTO, COPY	-
Pixel Aspect Ratio	0028,0034	IS		ANAP	AUTO, COPY	-
Bits Allocated	0028,0100	US	8	ALWAYS	AUTO	-
Bits Stored	0028,0101	US	8	ALWAYS	AUTO	-
High Bit	0028,0102	US	7	ALWAYS	AUTO	-
Pixel Representation	0028,0103	US	0	ALWAYS	AUTO, COPY	In 3DM, presence of value column is ANAP
Smallest Image Pixel Value	0028,0106	US/SS		ANAP	AUTO, COPY	-
Largest Image Pixel Value	0028,0107	US/SS		ANAP	AUTO, COPY	-
Red Palette Color Lookup Table Descriptor	0028,1101	US/SS		ANAP	AUTO, COPY	-
Green Palette Color Lookup Table Descriptor	0028,1102	US/SS		ANAP	AUTO, COPY	-
Blue Palette Color Lookup Table Descriptor	0028,1103	US/SS		ANAP	AUTO, COPY	-
Red Palette Color Lookup Table Data	0028,1201	OW		ANAP	AUTO, COPY	-
Green Palette Color Lookup Table Data	0028,1202	OW		ANAP	AUTO, COPY	-
Blue Palette Color Lookup Table Data	0028,1203	OW		ANAP	AUTO, COPY	-
Pixel Data	7FE0,0010	OW/OB		ANAP	AUTO, COPY	-

Table 211 :Device Module

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Device Sequence	0050,0010	SQ		ANAP	COPY	-
>Manufacturer	0008,0070	LO		ANAP	COPY	-
>Manufacturer's Model Name	0008,1090	LO	IntelliSpace Portal	ANAP	COPY	-
>Device Serial Number	0018,1000	LO		ANAP	COPY	-
>Device ID	0018,1003	LO		ANAP	COPY	-
>Device Length	0050,0014	DS		ANAP	COPY	-
>Device Diameter	0050,0016	DS		ANAP	COPY	-
>Device Diameter Units	0050,0017	CS		ANAP	COPY	-
>Device Volume	0050,0018	DS		ANAP	COPY	-

>Intermarker Distance	0050,0019	DS		ANAP	COPY	-
>Device Description	0050,0020	LO		ANAP	COPY	-
>Code Value	0008,0100	SH		ANAP	COPY	-
>Coding Scheme Designator	0008,0102	SH		ANAP	COPY	-
>Coding Scheme Version	0008,0103	SH		ANAP	COPY	-
>Code Meaning	0008,0104	LO		ANAP	COPY	-
>Mapping Resource	0008,0105	CS		ANAP	COPY	-
>Context Group Version	0008,0106	DT		ANAP	COPY	-
>Context Group Local Version	0008,0107	DT		ANAP	COPY	-
>Context Group Extension Flag	0008,010B	CS		ANAP	COPY	-
>Context Group Extension Creator UID	0008,010D	UI		ANAP	COPY	-
>Context Identifier	0008,010F	CS		ANAP	COPY	-

Table 212 :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	-
Pixel Spacing	0028,0030	DS		ANAP	AUTO	-

Table 213 :Overlay Plane Module

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Overlay Rows	6000,0010	US		ANAP	COPY	-
Overlay Columns	6000,0011	US		ANAP	COPY	-
Overlay Description	6000,0022	LO		ANAP	COPY	-
Overlay Type	6000,0040	CS		ANAP	COPY	-
Overlay Subtype	6000,0045	LO		ANAP	COPY	-
Overlay Origin	6000,0050	SS		ANAP	COPY	-
Overlay Bits Allocated	6000,0100	US		ANAP	COPY	-
Overlay Bit Position	6000,0102	US		ANAP	COPY	-
ROI Area	6000,1301	IS		ANAP	COPY	-
ROI Mean	6000,1302	DS		ANAP	COPY	-
ROI Standard Deviation	6000,1303	DS		ANAP	COPY	-
Overlay Label	6000,1500	LO		ANAP	COPY	-
Overlay Data	6000,3000	OW/OB		ANAP	COPY	-

Table 214 :Modality LUT Module

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Rescale Intercept	0028,1052	DS		ANAP	COPY	-
Rescale Slope	0028,1053	DS		ANAP	COPY	-
Rescale Type	0028,1054	LO		ANAP	COPY	-
Modality LUT Sequence	0028,3000	SQ		ANAP	COPY	-
>LUT Descriptor	0028,3002	US/SS		ANAP	COPY	-
>LUT Explanation	0028,3003	LO		ANAP	COPY	-
>Modality LUT Type	0028,3004	LO		ANAP	COPY	-
>LUT Data	0028,3006	US/OW		ANAP	COPY	-

Table 215 :VOI LUT Module

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Window Center	0028,1050	DS		ANAP	COPY	-
Window Width	0028,1051	DS		ANAP	COPY	-
Window Center & Width Explanation	0028,1055	LO		ANAP	COPY	-
VOI LUT Sequence	0028,3010	SQ		ANAP	COPY	-

Table 216 :SOP Common Module

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Specific Character Set	0008,0005	CS		ANAP	AUTO, COPY	-
Instance Creation Date	0008,0012	DA		ANAP	AUTO	-
Instance Creation Time	0008,0013	TM		ANAP	AUTO	-
Instance Creator UID	0008,0014	UI		ANAP	AUTO	-
SOP Class UID	0008,0016	UI	1.2.840.10008.5.1.4.1.1.7	ALWAYS	FIXED, COPY	-
SOP Instance UID	0008,0018	UI		ALWAYS	AUTO	-
Timezone Offset From UTC	0008,0201	SH		ANAP	COPY	-
Contributing Equipment Sequence	0018,A001	SQ		ANAP	AUTO	-
>Manufacturer	0008,0070	LO		ALWAYS	COPY	-
>Institution Address	0008,0081	ST		ANAP	COPY	-
>Station Name	0008,1010	SH		ANAP	COPY	-
>Institutional Department Name	0008,1040	LO		ANAP	COPY	-
>Software Version(s)	0018,1020	LO		ANAP	COPY	-
>Device Serial Number	0018,1000	LO		ANAP	COPY	-
>Institution Name	0008,0080	LO		ANAP	COPY	-
>Manufacturer's Model Name	0008,1090	LO		ANAP	COPY	-
>Purpose of Reference Code Sequence	0040,A170	SQ		ALWAYS	FIXED	-
>>Code Value	0008,0100	SH	109102	ALWAYS	FIXED	-
>>Coding Scheme Designator	0008,0102	SH	DCM	ALWAYS	FIXED	
>>Code Meaning	0008,0104	LO	Processing Equipment	ALWAYS	FIXED	-
Instance Number	0020,0013	IS		ANAP	AUTO	-

Table 217 :Common Instance Reference Model

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Referenced Series Sequence	0008,1115	SQ		ANAP	COPY	
>Referenced Instance Sequence	0008,114A	SQ		ALWAYS	COPY	
>> Referenced SOP Class UID	0008,1150	UI		ALWAYS	COPY	
>> Referenced SOP Instance UID	0008,1150	UI		ALWAYS	COPY	
> Series Instance UID	0020,000E	UI		ALWAYS	COPY	

Table 218 :Extended DICOM and private attributes for Secondary Capture Image Storage SOP Class Instances

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Curve Dimensions	50xx,0005	US		ANAP	AUTO	-
Number of Points	50xx,0010	US		ANAP	AUTO	-
Type of Data	50xx,0020	CS		ANAP	AUTO	-
Data Value Representation	50xx,0103	US		ANAP	AUTO	-
Curve Data	50xx,3000	OB/O/W		ANAP	AUTO	-
Curve Description	50xx,0022	LO		ANAP	AUTO	-
Axis Units	50xx,0030	SH		ANAP	AUTO	-
Axis Labels	50xx,0040	SH		ANAP	AUTO	-
Minimum Coordinate Value	50xx,0104	US		ANAP	AUTO	-
Maximum Coordinate Value	50xx,0105	US		ANAP	AUTO	-
Curve Range	50xx,0106	SH		ANAP	AUTO	-
Curve Data Descriptor	50xx,0110	US		ANAP	AUTO	-
Coordinate Start Value	50xx,0112	US		ANAP	AUTO	-
Coordinate Step Value	50xx,0114	US		ANAP	AUTO	-
Curve Label	50xx,2500	LO		ANAP	AUTO	-
Referenced Overlay Sequence	50xx,2600	SQ		ANAP	AUTO	-
>Referenced SOP Class UID	0008,1150	UI		ANAP	AUTO	-
>Referenced SOP Instance UID	0008,1155	UI		ANAP	AUTO	-
>Referenced Overlay Group	50xx,2610	US		ANAP	AUTO	-
Other Patient IDs	0010,1000	LO		ANAP	AUTO	Only applicable for 3DM
Slice Thickness	0018,0050	DS		ANAP	AUTO	Only applicable for 3DM
Frame of Reference UID	0020,0052	UI		ANAP	AUTO	Only applicable for 3DM
Slice Location	0020,1041	DS		ANAP	AUTO	Only applicable for 3DM
Private Creator Code 00E1	00E1,00xx	LO	ELSCINT1	ANAP	AUTO	Only applicable for 3DM
Elscint1_Image_Label	00E1,xx40	SH		ANAP	AUTO	Only applicable for 3DM
Private Creator Code 07A1	07A1,00xx	LO	ELSCINT1	ANAP	AUTO	Only applicable for 3DM
Private Creator Code 2001	2001,00xx	LO	Philips Imaging DD 001	ANAP	AUTO	Only applicable for 3DM
Series Type	2001,xx6E	SH	SCSERIES	ANAP	AUTO	Only applicable for 3DM
Data Set Trailing Padding	FFFC,FFF C	OB		ANAP	AUTO	Only applicable for 3DM
Contrast/Bolus Agent	0018,0010	LO		ANAP	COPY	
Image Position (Patient)	0020,0032	DS		ANAP	COPY	
Image Orientation (Patient)	0020,0037	DS		ANAP	COPY	

8.1.2.14. Key Object Selection Document Storage SOP Class

Table 219 : IOD of Created Key Object Selection Document Storage SOP Class Instances

Information Entity	Module	Presence Of Module
Patient	Patient Module	ALWAYS
Study	General Study Module	ALWAYS
Study	Patient Study Module	CONDITIONAL – IF PRESENT IN THE SOURCE DATA
Series	Key Object Document Series Module	ALWAYS

Equipment	General Equipment Module	ALWAYS
Document	Key Object Document Module	ALWAYS
	SR Document Content Module	ALWAYS
Document	SOP Common Module	ALWAYS

Table 220 :Patient Module

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Patient's Name	0010,0010	PN		VNAP	COPY	-
Patient ID	0010,0020	LO		VNAP	COPY	-
Patient's Birth Date	0010,0030	DA		VNAP	COPY	-
Patient's Sex	0010,0040	CS		VNAP	COPY	-
Other Patient IDs	0010,1000	LO		ANAP	COPY	-

Table 221 :General Study Module

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Study Date	0008,0020	DA		VNAP	COPY	-
Study Time	0008,0030	TM		VNAP	COPY	-
Accession Number	0008,0050	SH		VNAP	COPY	-
Referring Physician's Name	0008,0090	PN		VNAP	COPY	-
Procedure Code Sequence	0008,1032	SQ		ANAP	COPY	-
Study Description	0008,1030	LO		ANAP	COPY	-
Study Instance UID	0020,000D	UI		ALWAYS	COPY	-
Study ID	0020,0010	SH		VNAP	COPY	-
Study Description	0008,1030	LO		ANAP	COPY	-

Table 222 :Patient Study Module

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Patient's Age	0010,1010	AS		ANAP	COPY	-
Admitting Diagnoses Description	0008,1080	LO		ANAP	COPY	-

Table 223 :Key Object Document Series Module

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Series Instance UID	0020,000E	UI		ALWAYS	AUTO	-
Modality	0008,0060	CS		ALWAYS	COPY	-
Series Number	0020,0011	IS		VNAP	AUTO	-
Referenced Performed Procedure Step Sequence	0008,1111	SQ		ANAP	COPY	-

Table 224 :General Equipment Module

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Manufacturer	0008,0070	LO	Philips	VNAP	FIXED	-
Institution Address	0008,0081	ST		ANAP	CONFIG	-
Station Name	0008,1010	SH		ANAP	CONFIG	-
Institutional Department Name	0008,1040	LO		ANAP	CONFIG	-
Manufacturer's Model Name	0008,1090	LO	IntelliSpace Portal	ANAP	FIXED	-
Software Version(s)	0018,1020	LO	15.x	ANAP	FIXED	-
Institution Name	0008,0080	LO		ANAP	FIXED	-

Table 225 :Key Object Document Module

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Content Time	0008,0033	TM		ANAP	COPY	-
Content Date	0008,0023	DA		ANAP	COPY	-
Current Requested Procedure Evidence Sequence	0040,A375	SQ		ALWAYS	AUTO, COPY	-
>Study Instance UID	0020,000D	UI		ALWAYS	AUTO, COPY	-
>Referenced Series Sequence	0008,1115	SQ		ALWAYS	AUTO, COPY	-
>>Series Instance UID	0020,000E	UI		ALWAYS	AUTO, COPY	-
>>Referenced SOP Sequence	0008,1199	SQ		ALWAYS	AUTO, COPY	-
>>>Referenced SOP Class UID	0008,1150	UI		ALWAYS	AUTO, COPY	-
>>>Referenced SOP Instance UID	0008,1155	UI		ALWAYS	AUTO, COPY	-

Table 226 :SR Document Content Module

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Value Type	0040,A040	CS		ALWAYS	AUTO, COPY	-
Concept Name Code Sequence	0040,A043	SQ		ANAP	AUTO, COPY	-
>Code Value	0008,0100	SH		ALWAYS	AUTO, COPY	-
>Coding Scheme Designator	0008,0102	SH		ALWAYS	AUTO, COPY	-
>Code Meaning	0008,0104	LO		ALWAYS	AUTO, COPY	-
Observation Date Time	0040,A032	DT		ANAP	AUTO, COPY	-
Content Sequence	0040,A730	SQ		ANAP	AUTO, COPY	-
>Relationship Type	0040,A010	CS		ALWAYS	AUTO, COPY	-
>Referenced SOP Sequence	0008,1199	SQ		ALWAYS	AUTO, COPY	-

>>Referenced SOP Instance UID	0008,1155	UI		ALWAYS	AUTO, COPY	-
>>Referenced SOP Class UID	0008,1150	UI		ALWAYS	AUTO, COPY	-
>Value Type	0040,A040	CS		ALWAYS	AUTO, COPY	-
>Text Value	0040,A160	UT		ANAP	AUTO, COPY	-
>Concept Name Code Sequence	0040,A043	SQ		ANAP	AUTO, COPY	-
>>Code Value	0008,0100	SH		ALWAYS	AUTO, COPY	-
>>Coding Scheme Designator	0008,0102	SH		ALWAYS	AUTO, COPY	-
>>Code Meaning	0008,0104	LO		ALWAYS	AUTO, COPY	-
>Referenced SOP Sequence	0008,1199	SQ		ANAP	AUTO, COPY	-
>Continuity Of Content	0040,A050	CS		ALWAYS	AUTO, COPY	-
>Content Template Sequence	0040,A504	SQ		ANAP	AUTO, COPY	-
>>Mapping Resource	0008,0105	CS		ALWAYS	AUTO, COPY	-
>>Template Identifier	0040,DB00	CS		ALWAYS	AUTO, COPY	-

Table 227 :SOP Common Module

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
SOP Instance UID	0008,0018	UI		ALWAYS		-
Instance Number	0020,0013	IS		ANAP		-
Specific Character Set	0008,0005	CS		ANAP	AUTO	-
SOP Class UID	0008,0016	UI	1.2.840.10008.5.1.4.1.1.88. 59	ALWAYS		-
Contributing Equipment Sequence	0018,A001	SQ		ANAP	AUTO	-
>Manufacturer	0008,0070	LO		ALWAYS	COPY	-
>Institution Address	0008,0081	ST		ANAP	COPY	-
>Station Name	0008,1010	SH		ANAP	COPY	-
>Institutional Department Name	0008,1040	LO		ANAP	COPY	-
>Software Version(s)	0018,1020	LO		ANAP	COPY	-
>Device Serial Number	0018,1000	LO		ANAP	COPY	-
>Institution Name	0008,0080	LO		ANAP	COPY	-
>Manufacturer's Model Name	0008,1090	LO		ANAP	COPY	-
>Purpose of Reference Code Sequence	0040,A170	SQ		ALWAYS	FIXED	-
>>Code Value	0008,0100	SH	109102	ALWAYS	FIXED	-
>>Coding Scheme Designator	0008,0102	SH	DCM	ALWAYS	FIXED	-
>>Code Meaning	0008,0104	LO	Processing Equipment	ALWAYS	FIXED	-

8.1.2.15. X-Ray Radio fluoroscopic Image Storage SOP Class

Table 228 : IOD of Created X-Ray Radio fluoroscopic Storage SOP Class Instances

Information Entity	Module	Presence Of Module
Patient	Patient Module	ALWAYS
Study	General Study Module	ALWAYS
Study	Patient Study Module	CONDITIONAL – IF PRESENT IN THE SOURCE DATA
Series	General Series	ALWAYS
Equipment	General Equipment Module	ALWAYS
Image	General Image	ALWAYS
	Image Pixel	ALWAYS
	Contrast/Bolus Module	CONDITIONAL – IF PRESENT IN THE SOURCE DATA
	Cine Module	CONDITIONAL - IF PIXEL DATA IS MULTI-FRAME CINE DATA
	X-Ray Image Module	ALWAYS
	X-Ray Acquisition Module	ALWAYS
	VOI LUT Module	CONDITIONAL- IF PRESENT IN THE SOURCE DATA
	SOP Common Module	ALWAYS

Table 229 :Patient Module

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Patient's Name	0010,0010	PN		VNAP	COPY	-
Patient ID	0010,0020	LO		VNAP	COPY	-
Patient's Birth Date	0010,0030	DA		VNAP	COPY	-
Patient's Sex	0010,0040	CS		VNAP	COPY	-

Table 230 :General Study Module

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Study Date	0008,0020	DA		VNAP	COPY	-
Study Time	0008,0030	TM		VNAP	COPY	-
Accession Number	0008,0050	SH		VNAP	COPY	-
Referring Physician's Name	0008,0090	PN		VNAP	COPY	-
Name of Physician(s) Reading Study	0008,1060	PN		ANAP	COPY	-
Study Description	0008,1030	LO		ANAP	COPY	-
Study Instance UID	0020,000D	UI		ALWAYS	COPY	-
Study ID	0020,0010	SH		VNAP	COPY	-

Table 231 :Patient Study Module

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Patient's Age	0010,1010	AS		VNAP	COPY	-
Patient's Size	0010,1020	DS		VNAP	COPY	-
Patient's Weight	0010,1030	DS		VNAP	COPY	-

Table 232 :General Series Module

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Series Date	0008,0021	DA		ANAP	COPY	-
Series Time	0008,0031	TM		ANAP	COPY	-
Modality	0008,0060	CS		ALWAYS	COPY	-
Series Description	0008,103E	LO		ANAP	COPY	-
Performing Physicians' Name	0008,1050	PN		ANAP	COPY	-
Operators' Name	0008,1070	PN		ANAP	COPY	-
Body Part Examined	0018,0015	CS		ANAP	COPY	-
Protocol Name	0018,1030	LO		ANAP	COPY	-
Series Instance UID	0020,000E	UI		ALWAYS	COPY	-
Series Number	0020,0011	IS		VNAP	COPY	-

Table 233 :General Equipment Module

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Manufacturer	0008,0070	LO	Philips	VNAP	FIXED	-
Station Name	0008,1010	SH		ANAP	CONFIG	-
Manufacturer's Model Name	0008,1090	LO	IntelliSpace Portal	ANAP	FIXED	-
Software Version(s)	0018,1020	LO	15.x	ANAP	FIXED	-
Institution Name	0008,0080	LO		ANAP	CONFIG	-

Table 234 :General Image Module

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Image Type	0008,0008	CS		ALWAYS	COPY	-
Acquisition Date	0008,0022	DA		ANAP	COPY	-
Content Date	0008,0023	DA		ANAP	COPY	-
Acquisition Time	0008,0032	TM		ANAP	COPY	-
Content Time	0008,0033	TM		ANAP	COPY	-
Derivation Description	0008,2111	ST		ANAP	COPY	-
Source Image Sequence	0008,2112	SQ		ANAP	COPY	-
>Referenced SOP Class UID	0008,1150	UI		ALWAYS	COPY	-

>Referenced SOP Instance UID	0008,1155	UI		ALWAYS	COPY	-
>Spatial Locations Preserved	0028,135A	CS		ANAP	COPY	-
>Purpose of Reference Code Sequence	0040,A170	SQ		ANAP	COPY	-
>>Code Value	0008,0100	SH		ALWAYS	COPY	-
>>Coding Scheme Designator	0008,0102	SH		ALWAYS	COPY	-
>>Code Meaning	0008,0104	LO		ALWAYS	COPY	-
>Spatial Locations Preserved	0028,135A	CS		ANAP	COPY	-
>Purpose Of Reference Code Sequence	0040,A170	SQ		ANAP	COPY	-
>>Code Value	0008,0100	SH		ANAP	COPY	-
>>Coding Scheme Designator	0008,0102	SH		ANAP	COPY	-
>>Code Meaning	0008,0104	LO		ANAP	COPY	-
Derivation Code Sequence	0008,9215	SQ		ANAP	COPY	-
>Code Value	0008,0100	SH		ALWAYS	COPY	
>Coding Scheme Designator	0008,0102	SH		ALWAYS	COPY	-
>Code Meaning	0008,0104	LO		ALWAYS	COPY	-
Acquisition Number	0020,0012	IS		ANAP	COPY	-
Instance Number	0020,0013	IS		VNAP	AUTO	-
Patient Orientation	0020,0020	CS		VNAP	COPY	-

Table 235 :Image Pixel Module

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Samples per Pixel	0028,0002	US		ALWAYS	COPY	-
Photometric Interpretation	0028,0004	CS		ALWAYS	COPY	-
Rows	0028,0010	US		ALWAYS	COPY	-
Columns	0028,0011	US		ALWAYS	COPY	-
Bits Allocated	0028,0100	US		ALWAYS	COPY	-
Bits Stored	0028,0101	US		ALWAYS	COPY	-
High Bit	0028,0102	US		ALWAYS	COPY	-
Pixel Representation	0028,0103	US		ALWAYS	COPY	-
Pixel Data	7FE0,0010	OW		ALWAYS	COPY	-

Table 236 :Contrast/Bolus Module

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Contrast/Bolus Agent	0018,0010	LO		VNAP	COPY	-

Table 237 :Cine Module

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Frame Time Vector	0018,1065	DS		ALWAYS	COPY	-

Table 238 :X-Ray Image Module

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Image Type	0008,0008	CS		ALWAYS	FIXED	-
Derivation Description	0008,2111	ST		ANAP	COPY	-
Samples per Pixel	0028,0002	US		ALWAYS	COPY	-
Photometric Interpretation	0028,0004	CS		ALWAYS	COPY	-
Bits Allocated	0028,0100	US		ALWAYS	COPY	-
Bits Stored	0028,0101	US		ALWAYS	COPY	-
High Bit	0028,0102	US		ALWAYS	COPY	-
Pixel Representation	0028,0103	US		ALWAYS	COPY	-
Pixel Intensity Relationship	0028,1040	CS		ALWAYS	COPY	-

Table 239 :X-Ray Acquisition Module

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
KVP	0018,0060	DS		VNAP	COPY	-
Exposure Time	0018,1150	IS		ANAP	COPY	-
X-Ray Tube Current	0018,1151	IS		ANAP	COPY	-
Exposure	0018,1152	IS		ANAP	COPY	-
Radiation Setting	0018,1155	CS		ALWAYS	COPY	-

Table 240 :VOI LUT Module

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

Table 241 :SOP Common Module

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
SOP Instance UID	0008,0018	UI		ALWAYS	AUTO	-
Instance Number	0020,0013	IS		ANAP	COPY	-
Specific Character Set	0008,0005	CS		ALWAYS	COPY	-
SOP Class UID	0008,0016	UI		ALWAYS	COPY	-
Contributing Equipment Sequence	0018,A001	SQ		ANAP	COPY	-
>Manufacturer	0008,0070	LO		ALWAYS	COPY	-
>Institution Address	0008,0081	ST		ANAP	COPY	-
>Station Name	0008,1010	SH		ANAP	COPY	-
>Institutional Department Name	0008,1040	LO		ANAP	COPY	-
>Software Version(s)	0018,1020	LO		ANAP	COPY	-
>Device Serial Number	0018,1000	LO		ANAP	COPY	-
>Institution Name	0008,0080	LO		ANAP	COPY	-

>Manufacturer's Model Name	0008,1090	LO		ANAP	COPY	-
>Contribution DateTime	0018,A002	DT		ANAP	COPY	-
>Contribution Description	0018,A003	ST		ANAP	COPY	-
>Purpose of Reference Code Sequence	0040,A170	SQ		ALWAYS	COPY	-
>>Code Value	0008,0100	SH		ALWAYS	COPY	-
>>Coding Scheme Designator	0008,0102	SH		ALWAYS	COPY	-
>>Code Meaning	0008,0104	LO		ALWAYS	COPY	-

8.1.2.16. X-Ray Angiographic Storage SOP Class

Table 242 :IOD of Created X-Ray Angiographic Storage SOP Class Instances

Information Entity	Module	Presence Of Module
Patient	Patient Module	ALWAYS
Study	General Study Module	ALWAYS
Study	Patient Study Module	CONDITIONAL – IF PRESENT IN THE SOURCE DATA
Series	General Series	ALWAYS
Equipment	General Equipment Module	ALWAYS
Image	General Image	ALWAYS
	Image Pixel	ALWAYS
	Contrast/Bolus Module	CONDITIONAL – IF PRESENT IN THE SOURCE DATA
	Cine Module	CONDITIONAL- IF PIXEL DATA IS MULTI-FRAME CINE DATA
	Multi-Frame Module	CONDITIONAL- IF PIXEL DATA IS MULTI-FRAME CINE DATA
	Display Shutter Module	CONDITIONAL- IF PRESENT IN THE SOURCE DATA
	X-Ray Image Module	ALWAYS
	X-Ray Acquisition Module	ALWAYS
	VOI LUT Module	CONDITIONAL- IF PRESENT IN THE SOURCE DATA
	SOP Common Module	ALWAYS
	X-Ray Table Module	CONDITIONAL – IF PRESENT IN THE SOURCE DATA
	XA Positioner Module	ALWAYS
	DX Detector Module	CONDITIONAL- IF PRESENT IN THE SOURCE DATA
	Modality LUT Module	CONDITIONAL - If Pixel Intensity Relationship(0028,1040) is LOG

Table 243 :Patient Module

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Patient's Name	0010,0010	PN		VNAP	COPY	-
Patient ID	0010,0020	LO		VNAP	COPY	-
Patient's Birth Date	0010,0030	DA		VNAP	COPY	-
Patient's Sex	0010,0040	CS		VNAP	COPY	-

Table 244 :General Study Module

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Study Date	0008,0020	DA		VNAP	COPY	-
Study Time	0008,0030	TM		VNAP	COPY	-
Accession Number	0008,0050	SH		VNAP	COPY	-
Referring Physician's Name	0008,0090	PN		VNAP	COPY	-
Name of Physician(s) Reading Study	0008,1060	PN		ANAP	COPY	-
Study Description	0008,1030	LO		ANAP	COPY	-
Study Instance UID	0020,000D	UI		ALWAYS	COPY	-
Study ID	0020,0010	SH		VNAP	COPY	-

Table 245 :Patient Study Module

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Patient's Age	0010,1010	AS		ANAP	COPY	-
Patient's Size	0010,1020	DS		ANAP	COPY	-
Patient's Weight	0010,1030	DS		ANAP	COPY	-

Table 246 :General Series Module

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Series Date	0008,0021	DA		ANAP	COPY	-
Series Time	0008,0031	TM		ANAP	COPY	-
Modality	0008,0060	CS		ALWAYS	COPY	-
Series Description	0008,103E	LO		ANAP	COPY	-
Operators' Name	0008,1070	PN		ANAP	COPY	-
Referenced Performed Procedure Step Sequence	0008,1111	SQ		ANAP	COPY	-
> Referenced SOP Class UID	0008,1150	UI		ALWAYS	COPY	-
> Referenced SOP Instance UID	0008,1155	UI		ALWAYS	COPY	-
Protocol Name	0018,1030	LO		ANAP	COPY	-
Series Instance UID	0020,000E	UI		ALWAYS	COPY	-
Series Number	0020,0011	IS		VNAP	COPY	-
Laterality	0020,0060	CS		ANAP	COPY	-
Performed Procedure Step Start Date	0040,0244	DA		ANAP	COPY	-
Performed Procedure Step Start Time	0040,0245	TM		ANAP	COPY	-
Performed Procedure Step ID	0040,0253	SH		ANAP	COPY	-
Request Attributes Sequence	0040,0275	SQ		ANAP	COPY	-

Table 247 :General Equipment Module

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Manufacturer	0008,0070	LO	Philips	VNAP	FIXED	-
Station Name	0008,1010	SH		ANAP	COPY	-
Manufacturer's Model Name	0008,1090	LO	Intellispace Portal	ANAP	FIXED	-
Software Version(s)	0018,1020	LO	15.x	ANAP	FIXED	-
Institution Name	0008,0080	LO		ANAP	COPY	-
Device Serial Number	0018,1000	LO		ANAP	COPY	-
Institutional Department Name	0008,1040	LO		ANAP	COPY	-

Table 248 :General Image Module

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Image Type	0008,0008	CS	Derived	ALWAYS	FIXED	-
Content Date	0008,0023	DA		ANAP	COPY	-
Content Time	0008,0033	TM		ANAP	COPY	-
Instance Number	0020,0013	IS		VNAP	COPY	-
Patient Orientation	0020,0020	CS		ANAP	COPY	-
Lossy Image Compression	0028,2110	CS		ANAP	COPY	-

Table 249 :Image Pixel Module

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Samples per Pixel	0028,0002	US		ALWAYS	COPY	-
Photometric Interpretation	0028,0004	CS		ALWAYS	COPY	-
Rows	0028,0010	US		ALWAYS	COPY	-
Columns	0028,0011	US		ALWAYS	COPY	-
Bits Allocated	0028,0100	US		ALWAYS	COPY	-
Bits Stored	0028,0101	US		ALWAYS	COPY	-
High Bit	0028,0102	US		ALWAYS	COPY	-
Pixel Representation	0028,0103	US		ALWAYS	COPY	-
Pixel Data	7FE0,0010	OW		ALWAYS	COPY	-

Table 250 :Contrast/Bolus Module

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Contrast/Bolus Agent	0018,0010	LO		VNAP	COPY	-

Table 251 :Cine Module

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Frame Time Vector	0018,1065	DS		ALWAYS	COPY	-
Recommended Display Frame Rate	0008,2144	IS		ANAP	COPY	-
Cine Rate	0018,0040	IS		ANAP	COPY	-

Table 252 :Multi-Frame Module

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

Table 253 :Display Shutter Module

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Shutter Shape	0018,1600	CS		ALWAYS	COPY	-
Shutter Left Vertical Edge	0018,1602	IS		ALWAYS	COPY	-
Shutter Right Vertical Edge	0018,1604	IS		ALWAYS	COPY	-
Shutter Upper Horizontal Edge	0018,1606	IS		ALWAYS	COPY	-
Shutter Lower Horizontal Edge	0018,1608	IS		ALWAYS	COPY	-

Table 254 :X-Ray Image Module

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Image Type	0008,0008	CS	Derived	ALWAYS	FIXED	-
Lossy Image Compression	0028,2110	CS		ALWAYS	COPY	-
Samples per Pixel	0028,0002	US		ALWAYS	COPY	-
Photometric Interpretation	0028,0004	CS		ALWAYS	COPY	-
Bits Allocated	0028,0100	US		ALWAYS	COPY	-
Bits Stored	0028,0101	US		ALWAYS	COPY	-
High Bit	0028,0102	US		ALWAYS	COPY	-
Pixel Representation	0028,0103	US		ALWAYS	COPY	-
Pixel Intensity Relationship	0028,1040	CS		ALWAYS	COPY	-
Frame Increment Pointer	0028,0009	AT		ALWAYS	COPY	-

Table 255 :X-Ray Acquisition Module

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
KVP	0018,0060	DS		VNAP	COPY	-
Imager Pixel Spacing	0018,1164	DS		ANAP	COPY	-
Exposure	0018,1152	IS		ANAP	COPY	-
Radiation Setting	0018,1155	CS		ALWAYS	COPY	-

Table 256 :X-Ray Table Module

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Table Motion	0018,1134	CS		VNAP	COPY	-

Table 257 :XA Positioner Module

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Distance Source to Detector	0018,1110	DS		VNAP	COPY	-
Distance Source to Patient	0018,1111	DS		VNAP	COPY	-
Positioner Motion	0018,1500	CS		VNAP	COPY	-
Positioner Primary Angle	0018,1510	DS		VNAP	COPY	-
Positioner Secondary Angle	0018,1511	DS		VNAP	COPY	-

Table 258 :DX Detector Module

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Imager Pixel Spacing	0018,1164	DS		ALWAYS	COPY	-

Table 259 :Modality LUT Module

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Modality LUT Sequence	0028,3000	SQ		ANAP	COPY	-
> LUT Descriptor	0028,3002	US		ANAP	COPY	-
> Modality LUT Type	0028,3004	LO		ANAP	COPY	-
> LUT Data	0028,3006	US		ANAP	COPY	-

Table 260 :VOI LUT Module

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

Table 261 : SOP Common Module

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
SOP Instance UID	0008,0018	UI		ALWAYS	AUTO	-
Instance Number	0020,0013	IS		ANAP	COPY	-
Specific Character Set	0008,0005	CS		ALWAYS	COPY	-
SOP Class UID	0008,0016	UI		ALWAYS	COPY	-
Instance Creation Time	0008,0013	TM		ANAP	COPY	-

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