

# DICOM Conformance Statement

Application Annex:

## MR Applications on Philips IntelliSpace Portal V4.0



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## 1. Introduction

This DICOM Conformance Statement annex is applicable to the MR Applications on Philips IntelliSpace Portal V4.0 hosting platform, later referred to as MR Applications. In general the MR Applications are used for viewing and analyzing MR Images.

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

- MR Subtraction
- MR Accumulation
- MR Diffusion
- MR T1 Perfusion
- MR Neuro Perfusion
- MR Permeability
- MR Cartilage

### 1.1. Revision History

The revision history below provides dates and differences among individual document versions.

**Table 1: Revision History**

Document Version	Date of Issue	Status	Description
00	01 Jul 2011	Final version	Updated after review.

### 1.2. Terminology

DICOM	Digital Imaging and Communications in Medicine
IOD	Information Object Definition
UID	Unique Identifier
VR	Value Representation

## 2. Data Specifications

### 2.1. Supported IOD's

This section specifies each IOD accepted and / or created by MR Applications.

**ACCEPTED** The applicable IOD is accepted for storage in the repository of the hosting platform and supported for import in MR Applications for viewing and analysis.

**CREATED** The MR Applications supports generation of derived data by using the applicable IOD and is able to store this data in the repository of the hosting platform.

**Table 2: Supported IOD's**

IOD		Support	
Name	UID	ACCEPTED	CREATED
MR Image Storage SOP Class	1.2.840.10008.5.1.4.1.1.4	Yes	Yes
Secondary Capture Image Storage SOP Class	1.2.840.10008.5.1.4.1.1.7	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

#### 2.1.1. Acceptance Criteria

This section specifies the acceptance criteria applied by MR Applications to which a dataset should adhere before it can be imported into the application. This can be criteria on the highest level (e.g. data from a certain manufacturer or system model) or certain DICOM attributes mandatory to be present into the dataset holding a specific value. In case one or more Philips private attributes are required, then a list of supported Philips system models will be mentioned.

**Table 3: Accepted system models**

Manufacturer	Modality	System Model Name(s)
Not applicable	Not applicable	Not applicable

**Table 4: Accepted transfer syntaxes per IOD**

IOD		Transfer Syntax	
Name	UID	Name	UID
MR Image Storage SOP Class	1.2.840.10008.5.1.4.1.1.4	CT-private-ELE	1.3.46.670589.33.1.4.1
		Explicit VR Little Endian	1.2.840.10008.1.2.1
		Implicit VR Little Endian	1.2.840.10008.1.2
		JPEG Lossless, Non-Hierarchical, FOP (Process 14)	1.2.840.10008.1.2.4.70
Secondary Capture Image Storage SOP Class	1.2.840.10008.5.1.4.1.1.7	CT-private-ELE	1.3.46.670589.33.1.4.1
		Explicit VR Little Endian	1.2.840.10008.1.2.1
		Implicit VR Little Endian	1.2.840.10008.1.2
		JPEG Lossless, Non-Hierarchical, FOP (Process 14)	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 Little Endian	1.2.840.10008.1.2.1
		Implicit VR Little Endian	1.2.840.10008.1.2

**Table 5: Accepted attribute values**

Attribute Name	Attribute Number	Values / Comments
Not applicable	Not applicable	Not applicable.

## 2.1.2. 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
ANAPCV	The attribute is present under specified condition – if present then its Value is Not Always Present (attribute sent zero length if condition applies and no value is present)
ANAPEV	The attribute is present under specified condition – if present then it will not have any 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
MPSS	The attribute value is the same as that use for Modality Performed Procedure Step
COPY	The attribute value source is a Modality Worklist
USER	The attribute value source is explicit user input

### 2.1.2.1. MR Image Storage SOP Class

**Table 6: 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
Series	General 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	MR Image Module	ALWAYS
Image	Overlay Plane Module	CONDITIONAL
Image	VOI LUT Module	CONDITIONAL
Image	SOP Common Module	ALWAYS
	Extended Dicom and Private attributes	CONDITIONAL

**Table 7: Patient Module**

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Patient's Name	0010,0010	PN		ALWAYS	COPY	-
Patient ID	0010,0020	LO		ALWAYS	COPY	-

Patient's Birth Date	0010,0030	DA		ALWAYS	COPY	-
Patient's Sex	0010,0040	CS		ALWAYS	COPY	-
Other Patient IDs	0010,1000	LO		VNAP	COPY	-
Ethnic Group	0010,2160	SH		ANAPCV	COPY	-
Patient Comments	0010,4000	LT		ANAPCV	COPY	-

Table 8: General Study Module

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Study Date	0008,0020	DA		ALWAYS	COPY	-
Study Time	0008,0030	TM		ALWAYS	COPY	-
Accession Number	0008,0050	SH		ALWAYS	COPY	-
Referring Physician's Name	0008,0090	PN		VNAP	COPY	-
Study Description	0008,1030	LO		VNAP	COPY	-
Procedure Code Sequence	0008,1032	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	-
>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		ALWAYS	COPY	-
>Context Group Extension Creator UID	0008,010D	UI		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		ALWAYS	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		ALWAYS	COPY	-

Table 9: Patient Study Module

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

Table 10: General Series Module

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Series Date	0008,0021	DA		ALWAYS	AUTO	-
Series Time	0008,0031	TM		ALWAYS	AUTO	-
Modality	0008,0060	CS		ALWAYS	COPY	-
Series Description	0008,103E	LO		ANAP	AUTO, USER	-

Performing Physician's Name	0008,1050	PN		ANAP	COPY	-
Operators' Name	0008,1070	PN		VNAP	COPY	-
Referenced Performed Procedure Step Sequence	0008,1111	SQ		ALWAYS	COPY	-
Body Part Examined	0018,0015	CS		ANAP	COPY	-
Protocol Name	0018,1030	LO		ALWAYS	COPY	-
Patient Position	0018,5100	CS		ALWAYS	COPY	-
Series Instance UID	0020,000E	UI		ALWAYS	AUTO	-
Series Number	0020,0011	IS		ALWAYS	AUTO	-
Laterality	0020,0060	CS		ANAPCV	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		ANAPCV	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		ANAPCV	COPY	-
Performed Protocol Code Sequence	0040,0260	SQ		ANAPCV	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		ANAPCV	COPY	-

Table 11: 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		EMPTY	FIXED	-

Table 12: General Equipment Module

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Manufacturer	0008,0070	LO		ALWAYS	COPY	-
Institution Name	0008,0080	LO		ALWAYS	COPY	-
Institution Address	0008,0081	ST		ALWAYS	COPY	-
Station Name	0008,1010	SH		ANAP	COPY	-
Institutional Department Name	0008,1040	LO		ALWAYS	COPY	-



Manufacturer's Model Name	0008,1090	LO		ANAP	COPY	-
Device Serial Number	0018,1000	LO		ALWAYS	FIXED	System serial number.
Software Version(s)	0018,1020	LO	4.0	ALWAYS	COPY	4.0

Table 13: General Image Module

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Acquisition Date	0008,0022	DA		ALWAYS	COPY	-
Content Date	0008,0023	DA		ALWAYS	COPY	-
Acquisition Datetime	0008,002A	DT		ANAP	COPY	-
Acquisition Time	0008,0032	TM		ALWAYS	COPY	-
Content Time	0008,0033	TM		ALWAYS	COPY	-
Referenced Image Sequence	0008,1140	SQ		VNAP	AUTO	-
>Referenced SOP Class UID	0008,1150	UI		ALWAYS	IMPLICIT	-
>Referenced SOP Instance UID	0008,1155	UI		ALWAYS	IMPLICIT	-
Acquisition Number	0020,0012	IS		ALWAYS	COPY	-
Instance Number	0020,0013	IS		ALWAYS	AUTO	-
Patient Orientation	0020,0020	CS		ANAPCV	COPY	-
Lossy Image Compression	0028,2110	CS		ALWAYS	FIXED	Applied value: 00
Presentation LUT Shape	2050,0020	CS		ANAP	FIXED	Applied value: IDENTITY

Table 14: Image Plane Module

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Slice Thickness	0018,0050	DS		ALWAYS	COPY, USER	-
Image Position (Patient)	0020,0032	DS		ALWAYS	AUTO	-
Image Orientation (Patient)	0020,0037	DS		ALWAYS	AUTO	-
Slice Location	0020,1041	DS		ALWAYS	AUTO	Value is shortest distance between TLHC of the images from TLHC of first image of the series.
Pixel Spacing	0028,0030	DS		ALWAYS	AUTO	-

Table 15: Image Pixel Module

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Planar Configuration	0028,0006	US		ANAP	AUTO	-
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		ALWAYS	FIXED	Applied value: (1\1)
Bits Stored	0028,0101	US		ALWAYS	IMPLICIT	-
High Bit	0028,0102	US		ALWAYS	IMPLICIT	-
Pixel Representation	0028,0103	US		ALWAYS	IMPLICIT	Applied value: 0
Pixel Data	7FE0,0010	O W/ OB		ALWAYS	IMPLICIT	-

Table 16: 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	COPY	-
Sequence Variant	0018,0021	CS		ALWAYS	COPY	-
Scan Options	0018,0022	CS		VNAP	COPY	-
MR Acquisition Type	0018,0023	CS		ALWAYS	COPY	-
Sequence Name	0018,0024	SH		ANAP	AUTO	-
Angio Flag	0018,0025	CS		ANAP	AUTO	-
Repetition Time	0018,0080	DS		ANAPCV	COPY	-
Echo Time	0018,0081	DS		ALWAYS	COPY	-
Inversion Time	0018,0082	DS		ANAP	IMPLICIT	-
Number of Averages	0018,0083	DS		ALWAYS	IMPLICIT	-
Imaging Frequency	0018,0084	DS		ALWAYS	IMPLICIT	-
Imaged Nucleus	0018,0085	SH		ALWAYS	IMPLICIT	-
Echo Number(s)	0018,0086	IS		VNAP	IMPLICIT	-
Magnetic Field Strength	0018,0087	DS		VNAP	COPY	-
Spacing Between Slices	0018,0088	DS		ALWAYS	IMPLICIT	-
Number of Phase Encoding Steps	0018,0089	IS		VNAP	IMPLICIT	-
Echo Train Length	0018,0091	IS		VNAP	COPY	-
Percent Sampling	0018,0093	DS		VNAP	IMPLICIT	-
Percent Phase Field of View	0018,0094	DS		VNAP	IMPLICIT	-
Pixel Bandwidth	0018,0095	DS		ALWAYS	AUTO	-
Trigger Time	0018,1060	DS		VNAP	COPY	Will only have a value if Dynamic Series (2001,1012) Equals 1
Nominal Interval	0018,1062	IS		ANAP	AUTO	-
Beat Rejection Flag	0018,1080	CS		ANAP	AUTO	-
Low R-R Value	0018,1081	IS		ANAPCV	IMPLICIT	-
High R-R Value	0018,1082	IS		ANAPCV	IMPLICIT	-
Intervals Acquired	0018,1083	IS		ANAP	IMPLICIT	-
Intervals Rejected	0018,1084	IS		ANAPCV	IMPLICIT	-
PVC Rejection	0018,1085	LO		ANAP	AUTO	-
Skip Beats	0018,1086	IS		ANAP	AUTO	-
Heart Rate	0018,1088	IS		ANAPCV	IMPLICIT	-
Cardiac Number of Images	0018,1090	IS		ANAP	AUTO	-
Trigger Window	0018,1094	IS		ANAPCV	IMPLICIT	-
Reconstruction Diameter	0018,1100	DS		VNAP	COPY	Value is a copy of the largest value of the Field of View.
Receive Coil Name	0018,1250	SH		ALWAYS	IMPLICIT	-
Transmit Coil Name	0018,1251	SH		ALWAYS	IMPLICIT	-
Acquisition Matrix	0018,1310	US		VNAP	IMPLICIT	-
In-plane Phase Encoding Direction	0018,1312	CS		VNAP	IMPLICIT	-
Flip Angle	0018,1314	DS		VNAP	IMPLICIT	-
Variable Flip Angle Flag	0018,1315	CS		ANAP	AUTO	-
SAR	0018,1316	DS		VNAP	IMPLICIT	-

dB/dt	0018,1318	DS		ANAPCV	AUTO	-
Temporal Position Identifier	0020,0100	IS		VNAP	IMPLICIT	-
Number of Temporal Positions	0020,0105	IS		VNAP	IMPLICIT	-
Temporal Resolution	0020,0110	DS		ANAP	AUTO	-
Samples per Pixel	0028,0002	US		ALWAYS	FIXED	Applied value: 1
Photometric Interpretation	0028,0004	CS	MONOCHROME2	ALWAYS	FIXED	Applied value: MONOCHROME2
Bits Allocated	0028,0100	US		ALWAYS	FIXED	Applied value: 16

Table 17: 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		ANAPEV	AUTO	-
Overlay Type	6000,0040	CS		ALWAYS	AUTO	-
Overlay Subtype	6000,0045	LO		ANAPEV	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		ANAPEV	AUTO	-
ROI Mean	6000,1302	DS		ANAPEV	AUTO	-
ROI Standard Deviation	6000,1303	DS		ANAPEV	AUTO	-
Overlay Label	6000,1500	LO		EMPTY	FIXED	-
Overlay Data	6000,3000	O W/ OB		ALWAYS	AUTO	-

Table 18: 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		ALWAYS	AUTO	-
VOI LUT Sequence	0028,3010	SQ		ANAP	AUTO	-
>LUT Descriptor	0028,3002	US /SS	Value 1: 0, Value 2: 0, Value 3: 0	ALWAYS	AUTO	-
>LUT Explanation	0028,3003	LO		EMPTY	AUTO	-
>LUT Data	0028,3006	US /O W	Value 1: 0	ALWAYS	AUTO	-

Table 19: 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		ALWAYS	AUTO	-
Instance Creation Time	0008,0013	TM		ALWAYS	AUTO	-
Instance Creator UID	0008,0014	UI		ALWAYS	AUTO	-
SOP Class UID	0008,0016	UI		ALWAYS	FIXED	-
SOP Instance UID	0008,0018	UI		ALWAYS	AUTO	-

Table 20: 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		ALWAYS	AUTO	-
Coding Scheme Version	0008,0103	SH		ALWAYS	AUTO	-
Code Meaning	0008,0104	LO		VNAP	AUTO	-
Derivation Image Sequence	0008,9124	SQ		ANAP	AUTO	-
>Source Image Sequence	0008,2112	SQ		ALWAYS	AUTO	-
>>Referenced SOP Class UID	0008,1150	UI		ALWAYS	AUTO	-
>>Referenced SOP Instance UID	0008,1155	UI		ALWAYS	AUTO	-
>Derivation Code Sequence	0008,9215	SQ		ALWAYS	AUTO	-
>>Code Value	0008,0100	SH		ALWAYS	AUTO	From CID 7203
>>Coding Scheme Designator	0008,0102	SH		ALWAYS	AUTO	From CID 7203
>>Coding Scheme Version	0008,0103	SH		ANAP	AUTO	From CID 7203
>>Code Meaning	0008,0104	LO		ALWAYS	AUTO	From CID 7203
Medical Alerts	0010,2000	LO		ANAPCV	COPY	-
Allergies	0010,2110	LO		ANAPCV	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		ALWAYS	AUTO	When a value is present and not 0, then this value shall be used in the scaling calculation for the correct Window setting.
Rescale Slope	0028,1053	DS		ALWAYS	AUTO	When a value is present and not 0, then this value shall be used in the scaling calculation for the correct Window setting.
Rescale Type	0028,1054	LO		ALWAYS	AUTO	Applied value(s): cm/sec, milliradians, milliseconds, mm <sup>2</sup> /sec, liter/min, normalized, seconds, US. Values apply in case of quantitative images like QFLOW or Functional maps.
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	Maximally 32 characters copied from (0040, 0280) Comments on the Performed Procedure Steps.
Special Needs	0038,0050	LO		ANAPCV	COPY	-
Patient State	0038,0500	LO		ANAPCV	COPY	-
Scheduled Performing Physician's Name	0040,0006	PN		VNAP	COPY	-
Performed Station AE Title	0040,0241	AE		ALWAYS	CONFIG	-
Performed Station Name	0040,0242	SH		ANAPCV	CONFIG	-
Performed Location	0040,0243	SH		ANAPCV	CONFIG	-
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		ALWAYS	AUTO	-
>Real World Value Intercept	0040,9224	FD		ALWAYS	AUTO	-
>Real World Value Slope	0040,9225	FD		ALWAYS	AUTO	-
Private Creator Group 2001	2001,0010	LO		ALWAYS	FIXED	-
Chemical Shift	2001,1001	FL		ANAPCV	COPY	-
Chemical Shift Number MR	2001,1002	IS		ANAPCV	COPY	-
Diffusion B-Factor	2001,1003	FL		ANAPCV	COPY	-
Diffusion Direction	2001,1004	CS		ANAPCV	COPY	-
Image Enhanced	2001,1006	CS		VNAP	COPY	-
Image Type ED ES	2001,1007	CS		VNAP	COPY	-
Phase Number	2001,1008	IS		VNAP	COPY	-
Image Prepulse Delay	2001,1009	FL		ALWAYS	COPY	-
Slice Number MR	2001,100A	IS		VNAP	IMPLICIT	-
Slice Orientation	2001,100B	CS		ALWAYS	IMPLICIT	-
Arrhythmia Rejection	2001,100C	CS		ALWAYS	COPY	-
Cardiac Cycled	2001,100E	CS		ALWAYS	COPY	-
Cardiac Gate Width	2001,100F	SS		ALWAYS	COPY	-
Cardiac Sync	2001,1010	CS		ALWAYS	COPY	-
Diffusion Echo Time	2001,1011	FL		ANAPCV	IMPLICIT	-
Dynamic Series	2001,1012	CS		VNAP	COPY	-
EPI Factor	2001,1013	SL		ALWAYS	COPY	-
Number of Echoes	2001,1014	SL		VNAP	COPY	-
Number of Locations	2001,1015	SS		VNAP	COPY	-
Number of PC Directions	2001,1016	SS		VNAP	COPY	-
Number of Phases MR	2001,1017	SL		VNAP	COPY	-
Number of Slices MR	2001,1018	SL		VNAP	IMPLICIT, USER	-
Partial Matrix Scanned	2001,1019	CS		VNAP	COPY	-
PC Velocity	2001,101A	FL		ALWAYS	COPY	-

Prepulse Delay	2001,101B	FL		VNAP	COPY	-
Prepulse Type	2001,101C	CS		VNAP	COPY	-
Reconstruction Number MR	2001,101D	IS		VNAP	IMPLICIT	-
Respiration Sync	2001,101F	CS		VNAP	COPY	-
Series Type	2001,106E	LO		ANAPCV	COPY	-
Stack Sequence	2001,105F	SQ		ANAPCV	COPY	-
Scanning Technique	2001,1020	LO		ALWAYS	COPY	-
SPIR	2001,1021	CS		VNAP	COPY	-
Water Fat Shift	2001,1022	FL		VNAP	COPY	-
Flip Angle Philips	2001,1023	DS		ALWAYS	COPY	-
Series is Interactive	2001,1024	CS		VNAP	COPY	-
Echo Time Display	2001,1025	SH		VNAP	COPY	-
Contrast Transfer Taste	2001,1058	UL		ALWAYS	COPY	-
Number of Stacks	2001,1060	SL		VNAP	IMPLICIT	-
Series Transmitted	2001,1061	CS		VNAP	AUTO	-
Acquisition_No	2001,107B	IS		ALWAYS	COPY	-
No_Dynamic_Scans	2001,1081	IS		VNAP	COPY	-
IsrawImage	2001,10A1	CS		ANAP	COPY	-
Prospective Motion Correction	2001,10F1	FL		ANAP	COPY	Only applicable if retrospective correction is done on the data.
Retrospective Motion Correction	2001,10F2	FL		ANAP	COPY	Only applicable if retrospective correction is done on the data.
Private Creator Group 2005	2005,0010	LO		ALWAYS	FIXED	Applied value: Philips MR Imaging DD 001
Number of Chemical Shift	2005,1020	SL		ANAPCV	COPY	Only applicable for spectro 2dsi.
Syncra Scan Type	2005,10A1	CS		ANAPCV	COPY	If syncra scan. Applied values: SENSE, SYN_CLASSIC, SYN_COCA
Diffusion Direction RL	2005,10B0	FL		ANAP	COPY	Only applicable if Diffusion Direction is Oblique.
Diffusion Direction AP	2005,10B1	FL		ANAP	COPY	Only applicable if Diffusion Direction is Oblique.
Diffusion Direction FH	2005,10B2	FL		ANAP	COPY	Only applicable if Diffusion Direction is Oblique.

### 2.1.2.2. Secondary Capture Image Storage SOP Class

Table 21: 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
Series	General Series Module	ALWAYS
Equipment	General Equipment Module	CONDITIONAL
Equipment	SC Equipment Module	ALWAYS
Image	General Image Module	ALWAYS
Image	Image Pixel Module	ALWAYS
Image	SC Image Module	ALWAYS
Image	SOP Common Module	ALWAYS
	Extended Dicom and Private attributes	

Table 22: Patient Module

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

Table 23: General Study Module

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Study Date	0008,0020	DA		ALWAYS	COPY	-
Study Time	0008,0030	TM		ALWAYS	COPY	-
Accession Number	0008,0050	SH		ALWAYS	COPY	-
Referring Physician's Name	0008,0090	PN		VNAP	COPY	-
Study Description	0008,1030	LO		VNAP	COPY	-
Procedure Code Sequence	0008,1032	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	-
>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		ALWAYS	COPY	-
>Context Group Extension Creator UID	0008,010D	UI		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		ALWAYS	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		ALWAYS	COPY	-

Table 24: Patient Study Module

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

Table 25: General Series Module

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Series Date	0008,0021	DA		ALWAYS	AUTO	-
Series Time	0008,0031	TM		ALWAYS	AUTO	-
Series Description	0008,103E	LO		ANAP	AUTO, USER	-
Performing Physician's Name	0008,1050	PN		ANAP	COPY	-
Operators' Name	0008,1070	PN		EMPTY	AUTO	-
Referenced Performed Procedure Step Sequence	0008,1111	SQ		ANAPCV	COPY	-
>Referenced SOP Class UID	0008,1150	UI		ALWAYS	AUTO	-
>Referenced SOP Instance UID	0008,1155	UI		ALWAYS	AUTO	-
Body Part Examined	0018,0015	CS		ANAP	COPY	-
Protocol Name	0018,1030	LO		ALWAYS	COPY	-
Patient Position	0018,5100	CS		ANAP	COPY	-
Series Instance UID	0020,000E	UI		ALWAYS	AUTO	-
Series Number	0020,0011	IS		ALWAYS	AUTO	-
Laterality	0020,0060	CS		ANAPCV	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		ANAPCV	COPY	-
>Scheduled Procedure Step Description	0040,0007	LO		VNAP	COPY	-
>Scheduled Protocol Code Sequence	0040,0008	SQ		ANAPCV	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		ANAPCV	COPY	-
>>Context Group Extension Creator UID	0008,010D	UI		ANAP	COPY	-
>>Context Identifier	0008,010F	CS		ANAPCV	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		VNAP	COPY	-
Performed Protocol Code Sequence	0040,0260	SQ		ANAPCV	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	-
>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	-
Comments on the Performed Procedure Step	0040,0280	ST		ANAPCV	COPY	-

Table 26: General Equipment Module

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Manufacturer	0008,0070	LO		ALWAYS	COPY	-
Institution Name	0008,0080	LO		ALWAYS	COPY	-
Institution Address	0008,0081	ST		ANAPCV	COPY	-
Station Name	0008,1010	SH		ALWAYS	COPY	-
Institutional Department Name	0008,1040	LO		ALWAYS	COPY	-
Manufacturer's Model Name	0008,1090	LO		ALWAYS	COPY	-
Device Serial Number	0018,1000	LO		ALWAYS	FIXED	-
Software Version(s)	0018,1020	LO	4.0	ANAPCV	FIXED	4.0

Table 27: SC Equipment Module

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

Table 28: General Image Module

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Content Date	0008,0023	DA		ALWAYS	AUTO	-
Content Time	0008,0033	TM		ALWAYS	AUTO	-
Acquisition Number	0020,0012	IS		ALWAYS	COPY	-
Instance Number	0020,0013	IS		ALWAYS	AUTO	-
Patient Orientation	0020,0020	CS		EMPTY	COPY	-
Image Comments	0020,4000	LT		EMPTY	AUTO	-
Lossy Image Compression	0028,2110	CS		ALWAYS	COPY	Applied value: 00

Table 29: Image Pixel Module

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Samples per Pixel	0028,0002	US		ALWAYS	AUTO	Applied value: 1, 3
Photometric Interpretation	0028,0004	CS		ALWAYS	IMPLICIT	Applied values: MONOCHROME2, RGB
Planar Configuration	0028,0006	US		ANAP	AUTO	-
Rows	0028,0010	US		ALWAYS	AUTO	-
Columns	0028,0011	US		ALWAYS	AUTO	-
Pixel Aspect Ratio	0028,0034	IS		ALWAYS	AUTO	Applied value: (1,1)

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	-
Pixel Data	7FE0,0010	O W/ OB		ALWAYS	AUTO	-

Table 30: SC Image Module

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

Table 31: 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		ALWAYS	AUTO	-
Instance Creation Time	0008,0013	TM		ALWAYS	AUTO	-
Instance Creator UID	0008,0014	UI		ALWAYS	AUTO	-
SOP Class UID	0008,0016	UI		ALWAYS	AUTO	-
SOP Instance UID	0008,0018	UI		ALWAYS	AUTO	-

Table 32: Extended DICOM and private attributes for Secondary Capture Image Storage SOP Class Instances

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Medical Alerts	0010,2000	LO		ANAPCV	COPY	-
Allergies	0010,2110	LO		ANAPCV	COPY	-
Pregnancy Status	0010,21C0	US		VNAP	COPY	-
Special Needs	0038,0050	LO		ANAPCV	COPY	-
Patient State	0038,0500	LO		ANAPCV	COPY	-
Scheduled Performing Physician's Name	0040,0006	PN		ANAP	COPY	-
Performed Station AE Title	0040,0241	AE		ALWAYS	AUTO	-
Performed Procedure Step End Time	0040,0251	TM		ALWAYS	AUTO	-
Comments on the Performed Procedure Step	0040,0280	ST		ALWAYS	AUTO	-
Film Consumption Sequence	0040,0321	SQ		EMPTY	AUTO	-
Private Creator Group 2001	2001,0010	LO		ALWAYS	AUTO	-
Series Transmitted	2001,1061	CS		ALWAYS	AUTO	-
Series Committed	2001,1062	CS		ALWAYS	AUTO	-
Examination Source	2001,1063	CS		ALWAYS	AUTO	-

## 2.1.2.3. Encapsulated PDF Storage

Table 33: IOD of Created Encapsulated PDF Storage Instances

Information Entity	Module	Presence Of Module
Patient	Patient Module	ALWAYS
Study	General Study Module	ALWAYS
Study	Patient Study Module	CONDITIONAL
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 34: Patient Module

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

Table 35: General Study Module

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Study Date	0008,0020	DA		ALWAYS	COPY	-
Study Time	0008,0030	TM		ALWAYS	COPY	-
Accession Number	0008,0050	SH		ALWAYS	COPY	-
Referring Physician's Name	0008,0090	PN		VNAP	COPY	-
Study Description	0008,1030	LO		VNAP	COPY	-
Procedure Code Sequence	0008,1032	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	-
>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		ALWAYS	COPY	-
>Context Group Extension Creator UID	0008,010D	UI		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		ALWAYS	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		ALWAYS	COPY	-

**Table 36: Patient Study Module**

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

**Table 37: 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	QC date-time-status	ANAPCV	AUTO	Describes date and time of QC procedure and pass/fail status.
Series Instance UID	0020,000E	UI		ALWAYS	AUTO	-
Series Number	0020,0011	IS	1	ALWAYS	AUTO	-

**Table 38: General Equipment Module**

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Manufacturer	0008,0070	LO		ALWAYS	COPY	-
Institution Name	0008,0080	LO		ANAPCV	COPY	-
Institution Address	0008,0081	ST		ANAPCV	COPY	-
Station Name	0008,1010	SH		ALWAYS	COPY	-
Institutional Department Name	0008,1040	LO		ANAPCV	COPY	-
Manufacturer's Model Name	0008,1090	LO		ALWAYS	COPY	-
Device Serial Number	0018,1000	LO		ANAPCV	COPY	-
Software Version(s)	0018,1020	LO	4.0	ALWAYS	COPY	4.0
Spatial Resolution	0018,1050	DS		ANAPCV	COPY	-
Date of Last Calibration	0018,1200	DA		ANAPCV	COPY	-
Time of Last Calibration	0018,1201	TM		ANAPCV	COPY	-
Pixel Padding Value	0028,0120	US/SS		ANAPCV	COPY	-

**Table 39: 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	-

**Table 40: Encapsulated Document Module**

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Content Date	0008,0023	DA		ANAP	AUTO	-
Acquisition Datetime	0008,002A	DT		ANAP	AUTO	-
Content Time	0008,0033	TM		ANAP	AUTO	-
Instance Number	0020,0013	IS	1	ALWAYS	AUTO	-
Burned In Annotation	0028,0301	CS	YES	ALWAYS	AUTO	-

Concept Name Code Sequence	0040,A043	SQ		EMPTY	AUTO	-
Document Title	0042,0010	ST		EMPTY	AUTO	-
Encapsulated Document	0042,0011	OB		ALWAYS	AUTO	-
MIME Type of Encapsulated Document	0042,0012	LO	application - PDF	ALWAYS	AUTO	-

Table 41: 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		ALWAYS	AUTO	-
Instance Creation Time	0008,0013	TM		ALWAYS	AUTO	-
Instance Creator UID	0008,0014	UI		ANAPCV	AUTO	-
SOP Class UID	0008,0016	UI		ALWAYS	COPY	-
SOP Instance UID	0008,0018	UI		ALWAYS	AUTO	-
Timezone Offset From UTC	0008,0201	SH		ANAPCV	COPY	-
Contributing Equipment Sequence	0018,A001	SQ		ANAP	AUTO	-
>Manufacturer	0008,0070	LO	Philips	ANAP	FIXED	PHILIPS.
>Institution Address	0008,0081	ST	IntelliSpace Portal	ANAP	FIXED	IntelliSpace Portal.
>Station Name	0008,1010	SH	IntelliSpace Portal	ANAP	CONFIG	IntelliSpace Portal.
>Institutional Department Name	0008,1040	LO	IntelliSpace Portal	ANAP	FIXED	IntelliSpace Portal.
>Software Version(s)	0018,1020	LO	4.0	ANAP	FIXED	4.0
>Device Serial Number	0018,1000	LO	IntelliSpace Portal	ANAP	FIXED	IntelliSpace Portal.
>Institution Name	0008,0080	LO	IntelliSpace Portal	ANAP	FIXED	IntelliSpace Portal.
>Manufacturer's Model Name	0008,1090	LO	IntelliSpace Portal	ANAP	FIXED	IntelliSpace Portal.
>Purpose of Reference Code Sequence	0040,A170	SQ		ANAP	FIXED	-
>>Code Value	0008,0100	SH	109102	ANAP	FIXED	109102
>>Coding Scheme Designator	0008,0102	SH	DCM	ANAP	FIXED	DCM
>>Code Meaning	0008,0104	LO	Processing Equipment	ANAP	FIXED	Processing Equipment

#### 2.1.2.4. Grayscale Softcopy Presentation State Storage SOP Class

Table 42: 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
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
	Extended Dicom and Private attributes	

Table 43: Patient Module

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

Table 44: General Study Module

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Study Date	0008,0020	DA		ALWAYS	COPY	-
Study Time	0008,0030	TM		ALWAYS	COPY	-
Accession Number	0008,0050	SH		ALWAYS	COPY	-
Referring Physician's Name	0008,0090	PN		VNAP	COPY	-
Study Description	0008,1030	LO		VNAP	COPY	-
Procedure Code Sequence	0008,1032	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	-
>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		ALWAYS	COPY	-
>Context Group Extension Creator UID	0008,010D	UI		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		ALWAYS	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		ALWAYS	COPY	-

Table 45: Patient Study Module

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

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

Table 46: General Series Module

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Series Date	0008,0021	DA		ALWAYS	AUTO	-
Series Time	0008,0031	TM		ALWAYS	AUTO	-
Series Description	0008,103E	LO		ANAP	AUTO, USER	-
Operators' Name	0008,1070	PN		EMPTY	AUTO	-
Referenced Performed Procedure Step Sequence	0008,1111	SQ		ALWAYS	AUTO	-
>Referenced SOP Class UID	0008,1150	UI		ALWAYS	AUTO	-
>Referenced SOP Instance UID	0008,1155	UI		ALWAYS	AUTO	-
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		ALWAYS	AUTO	-
Laterality	0020,0060	CS		ANAPCV	COPY	-
Request Attributes Sequence	0040,0275	SQ		ANAPCV	COPY	-
>Scheduled Procedure Step Description	0040,0007	LO		VNAP	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		ANAPCV	AUTO	-
Performed Protocol Code Sequence	0040,0260	SQ		VNAP	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	AUTO	-
>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		ANAPCV	AUTO	-
Comments on the Performed Procedure Step	0040,0280	ST		ANAPCV	COPY	Maximum of 64 characters, Comments added on MR

Table 47: Presentation Series Module

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

**Table 48: General Equipment Module**

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Manufacturer	0008,0070	LO		ALWAYS	COPY	-
Institution Name	0008,0080	LO		ALWAYS	COPY	-
Station Name	0008,1010	SH		ALWAYS	COPY	-
Institutional Department Name	0008,1040	LO		ALWAYS	COPY	-
Manufacturer's Model Name	0008,1090	LO		ALWAYS	COPY	-
Device Serial Number	0018,1000	LO		ALWAYS	FIXED	-
Software Version(s)	0018,1020	LO	4.0	ALWAYS	FIXED	4.0

**Table 49: 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		ALWAYS	AUTO	Applied values: AS LAST SEEN, NEW AT IMPORT
Content Description	0070,0081	LO		VNAP	AUTO	-
Content Creator's Name	0070,0084	PN		VNAP	AUTO	Same as Manufacturer's Module name.

**Table 50: 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 51: 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 52: 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		ANAPEV	AUTO	-
Overlay Type	6000,0040	CS		ALWAYS	AUTO	-
Overlay Subtype	6000,0045	LO		ANAPEV	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		ANAPEV	AUTO	-
ROI Mean	6000,1302	DS		ANAPEV	AUTO	-
ROI Standard Deviation	6000,1303	DS		ANAPEV	AUTO	-
Overlay Label	6000,1500	LO		EMPTY	AUTO	-



Overlay Data	6000,3000	O W/ OB		ALWAYS	AUTO	-
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Table 53: Overlay Activation Module

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

Table 54: 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	Applied values: MAGNIFY, SCALE TO FIT
>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	-
>Zoom Mode	2001,103F	CS		VNAP	IMPLICIT	-

Table 55: Graphic Annotation Module

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Graphic Annotation Sequence	0070,0001	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	-
>Graphic Layer	0070,0002	CS		ALWAYS	IMPLICIT	-
>Text Object Sequence	0070,0008	SQ		ANAP	IMPLICIT	-
>>Anchor Point Annotation Units	0070,0004	CS		ALWAYS	IMPLICIT	-
>>Unformatted Text Value	0070,0006	ST		ALWAYS	IMPLICIT	-
>>Anchor Point	0070,0014	FL		ALWAYS	IMPLICIT	-
>>Anchor Point Visibility	0070,0015	CS		ALWAYS	IMPLICIT	-
>Graphic Object Sequence	0070,0009	SQ		ANAP	AUTO	-
>>Graphic Annotation Units	0070,0005	CS		ALWAYS	IMPLICIT	-
>>Graphic Dimensions	0070,0020	US		ALWAYS	IMPLICIT	-
>>Number of Graphic Points	0070,0021	US		ALWAYS	IMPLICIT	-
>>Graphic Data	0070,0022	FL		ALWAYS	IMPLICIT	-
>>Graphic Type	0070,0023	CS		ALWAYS	IMPLICIT	-
>>Graphic Filled	0070,0024	CS		ANAP	IMPLICIT	-

**Table 56: Spatial Transformation Module**

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

**Table 57: 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 58: 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, l/min, millirads, milliseconds, mm <sup>2</sup> /sec, normalized, seconds, US	ALWAYS	COPY	Applied value(s): cm/sec, milliradians, milliseconds, mm <sup>2</sup> /sec, liter/min, normalized, seconds, US

**Table 59: 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 60: 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 /O W		ALWAYS	AUTO	-
Presentation LUT Shape	2050,0020	CS		ALWAYS	AUTO	-

**Table 61: 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		ALWAYS	AUTO	-
Instance Creator UID	0008,0014	UI		ALWAYS	AUTO	-
SOP Class UID	0008,0016	UI	1.2.840.10008.5.1.4.1.1.11.1	ALWAYS	AUTO	Applied Value(s): 1.2.840.10008.5.1.4.1.1.11.1
SOP Instance UID	0008,0018	UI		ALWAYS	AUTO	-

**Table 62: Extended DICOM and private attributes for Grayscale Softcopy Presentation State Storage SOP Class Instances**

Attribute Name	Tag	VR	Value	Presence of Value	Source	Comment
Medical Alerts	0010,2000	LO		ANAPCV	COPY	-
Allergies	0010,2110	LO		ANAPCV	COPY	-
Pregnancy Status	0010,21C0	US		VNAP	COPY	-
Requesting Physician	0032,1032	PN		VNAP	COPY	-
Requesting Service	0032,1033	LO		VNAP	COPY	-
Requested Procedure Description	0032,1060	LO		ALWAYS	AUTO	-
Study Comments (retired)	0032,4000	LT		ANAP	AUTO, USER	Comments added on MR
Special Needs	0038,0050	LO		ANAPCV	COPY	-
Patient State	0038,0500	LO		ANAPCV	COPY	-
Scheduled Performing Physician's Name	0040,0006	PN		ANAPCV	AUTO	-
Performed Procedure Step End Time	0040,0251	TM		ALWAYS	AUTO	-
Performed Procedure Step Status	0040,0252	CS		ALWAYS	AUTO	-
Requested Procedure ID	0040,1001	SH		ALWAYS	AUTO	-
Requested Procedure Comments	0040,1400	LT		ALWAYS	COPY, USER	-
Imaging Service Request Comments	0040,2400	LT		ALWAYS	COPY, USER	-
Private Creator Group 2001	2001,0010	LO		ALWAYS	AUTO	-
Private Creator Group 2001 (90)	2001,0090	LO		ALWAYS	AUTO	-
Presentation State Subtraction Active	2001,1026	CS		ALWAYS	AUTO	-
Series Transmitted	2001,1061	CS		ALWAYS	AUTO	-
Series Committed	2001,1062	CS		ALWAYS	AUTO	-
Examination Source	2001,1063	CS		ALWAYS	AUTO	-
LinearPresentationGLTrafoShapeSub	2001,1067	CS		VNAP	AUTO	-
GL TrafoType	2001,1077	CS		ALWAYS	AUTO	-
Pixel Processing Kernel Size	2001,109F	US		ALWAYS	AUTO	-