

DICOM Conformance Statement

HFA II – *i* series Instrument

Version 4.2.2

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This document is structured as suggested in the DICOM Standard (PS 3.2, 2008).

SOP Classes	User of Service (SCU)	Provider of Service (SCP)
Transfer		
Multi-frame Grayscale Byte Secondary Capture Image Storage	Yes	No
Encapsulated PDF Storage	Yes	No
Workflow Management		
Modality Worklist Information Model - FIND	Yes	No

The HFA V4.2.2 does not support Media Interchange via Network Broker. Thus Media Interchange is not in the scope of this document.

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2 Introduction

2.1 Revision History

Document Version	Author	Date	NB Version
A	Dana Wheeler	4/9/2009	1.3.4
B	Dana Wheeler	9/8/2009	1.3.5

2.2 Audience

This document is intended for hospital staff, health system integrators, software designers or implementers. The reader should have a basic understanding of DICOM.

2.3 Remarks

If another device matches this conformance statement based on the comparison with its own conformance statement, there is a chance, but no guarantee, that they interoperate. DICOM only deals with communication; it does not specify what is needed for certain applications to run on a device.

2.4 Definitions, Terms and Abbreviations

Abbreviation	Definition
AE	Application Entity
AET	Application Entity Title
DICOM	Digital Imaging and Communications in Medicine
ILE	Implicit Little Endian
IOD	Information Object Definition
JPG-1	JPEG Coding Process 1; JPEG Baseline; ISO 10918-1
MWL	Modality Work List
NB	Network Broker
RLE	Run Length Encoding
SCP	Service Class Provider
SCU	Service Class User
SOP	Service Object Pair, pair of user and provider.
TCP/IP	Transmission Control Protocol / Internet Protocol
UID	Unique Identifier
	Presence Values
VNAP	Value Not Always Present (attribute sent zero length if no value is present)
ANAP	Attribute Not Always Present
ALWAYS	Attribute Always Present with a value
EMPTY	Attribute is sent without a value
	Source Values
USER	Attribute value source is from User input
AUTO	Attribute value is generated automatically
MWL	Attribute value received via MWL
MPPS	Attribute value received via MPPS message
CONFIG	Attribute value source is a configurable parameter

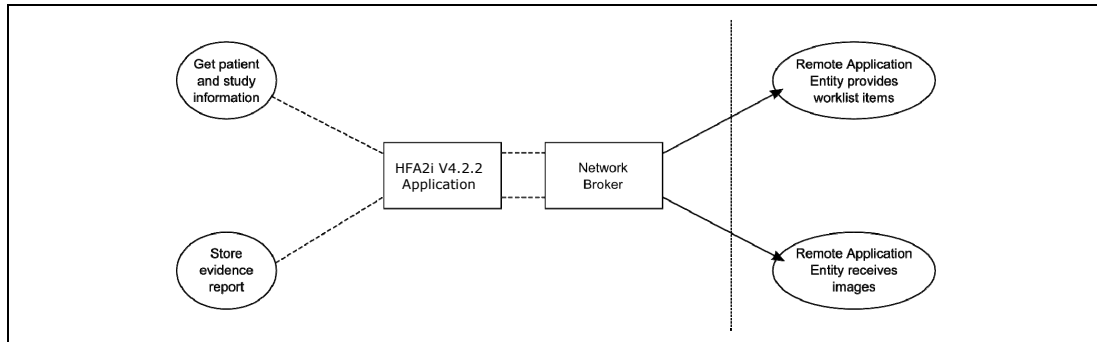
2.5 References

- Digital Imaging and Communications in Medicine (DICOM), NEMA PS 3.1-3.18, 2008.

3 Networking

3.1 Implementation Model

3.1.1 Application Data Flow



The HFA V4.2.2 Software works together with a DICOM interface module referred to as Network Broker throughout this document. The HFA Software V4.2.2 runs on the HFA instrument, while the Network Broker 1.3.3 software runs on a PC on the user’s network.

3.1.2 Functional Definition Of AEs

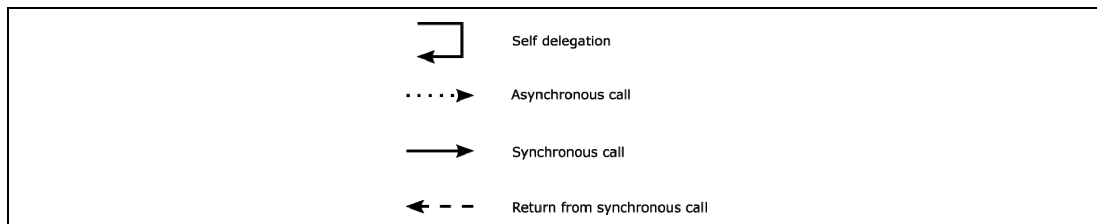
3.1.2.1 Functional Definition Of HFA

The HFA V4.2.2 Application provides comprehensive glaucoma analysis. Features include:

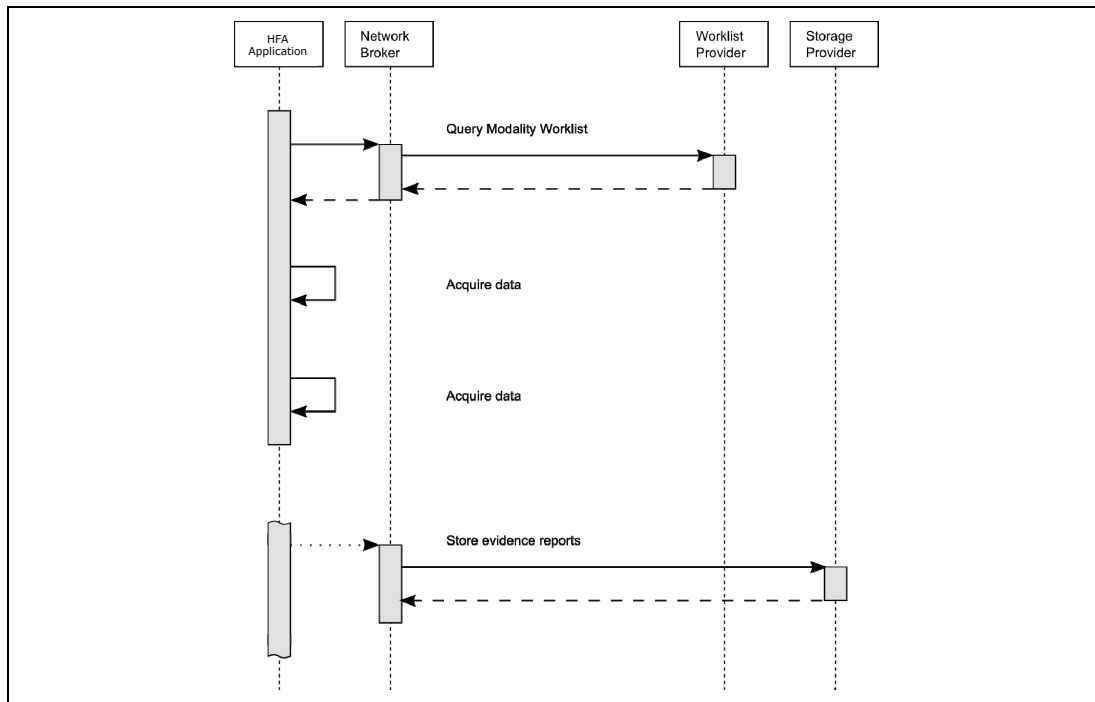
- Analysis of single visual field measurement (SFA Report)
- Guided Progression Analysis of patient’s entire visual field history in a one-page report (GPA Summary Report)

3.1.3 Sequencing of Real-World Activities

To realize the real world activities, the different entities work together. The sequence diagrams shall depict the intended workflow.



The diagrams uses slightly modified UML symbols. The asynchronous call is not depicted as suggested in UML. Some objects do have more than one dashed line. It symbolizes more than one thread.



All activities are initiated by an operator.

Query Modality Worklist

When the patient arrives at the HFA V4.2.2, then the operator queries the work list. He types in search criteria and gets matches back. Those matches are listed in a table, so the operator can select the correct entry. According to the transferred data HFA V4.2.2 creates an entry in the local database (Patient, Study, Visit for the current day). Procedure Step related information is kept in the HFA V4.2.2 application. The list of imported patients is displayed to the operator. The operator can now select the patient for data acquisition from the Patient Browser.

Acquire data

The operator acquires data from patient’s eye using HFA.

Store evidence reports

The operator can trigger this activity by a click on a button. Storage can also be configured to be performed simultaneously with saving the image.

3.2 AE Specifications

3.2.1 Network Broker Application Entity Specification

3.2.1.1 SOP Classes

SOP Class Name	SOP Class UID	SCU	SCP
Verification	1.2.840.10008.1.1	Yes	No
Modality Worklist Information Model - FIND	1.2.840.10008.5.1.4.31	Yes	No
Multi-frame Grayscale Byte Secondary Capture Image Storage	1.2.840.10008.5.1.4.1.1.7.2	Yes	No
Encapsulated PDF Storage	1.2.840.10008.5.1.4.1.1.104.1	Yes	No

3.2.1.2 Associations Policies

3.2.1.2.1 General

DICOM standard Application Context Name is DICOM 3.0.

Application Context Name	1.2.840.10008.3.1.1.1
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3.2.1.2.2 Number of Associations

The number of simultaneous associations results in two since the activities “Query Modality Worklist” and “Store Images” can run in parallel.

Maximum number of simultaneous associations	2
---	---

3.2.1.2.3 Asynchronous Nature

Network Broker does not support asynchronous communication (multiple outstanding transactions over a single Association).

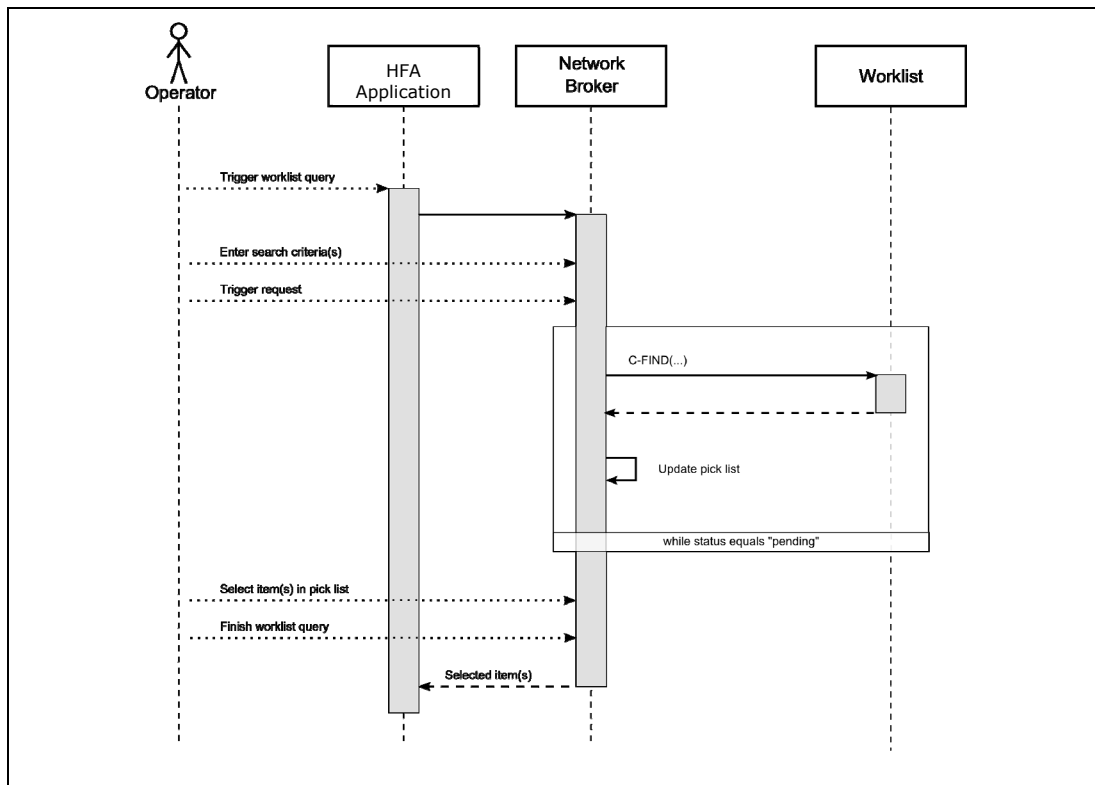
3.2.1.2.4 Implementation Identifying Information

Implementation Class UID	1.2.276.0.75.2.5.10
Implementation Version Name	1.3.5.0635

3.2.1.3 Association Initiation Policy

3.2.1.3.1 Activity – Query Modality Worklist

3.2.1.3.1.1 Description and Sequencing of Activities



HFA V4.2.2 supports broad query by default. The scheduled procedure step start date, Modality and scheduled station AET are always present in the query.

Optionally, patient based query can be performed on the HFA V4.2.2. Patient based query allows the operator to query on the following attributes:

1. Patient ID
2. Accession Number
3. Family Name (Last Name)
4. Scheduled Procedure Step ID
5. Patient's Birth Date

The patient based query also includes modality, scheduled station ae title and scheduled procedure step start date as is included in the broad query.

3.2.1.3.1.2 Proposed Presentation Contexts

Presentation Context Table

Abstract Syntax		Transfer Syntax		Role	Ext. Neg.
Name	UID	Name List	UID List		
Modality Worklist Information Model – FIND	1.2.840.10008.5.1.4.31	ILE	1.2.840.10008.1.2	SCU	No

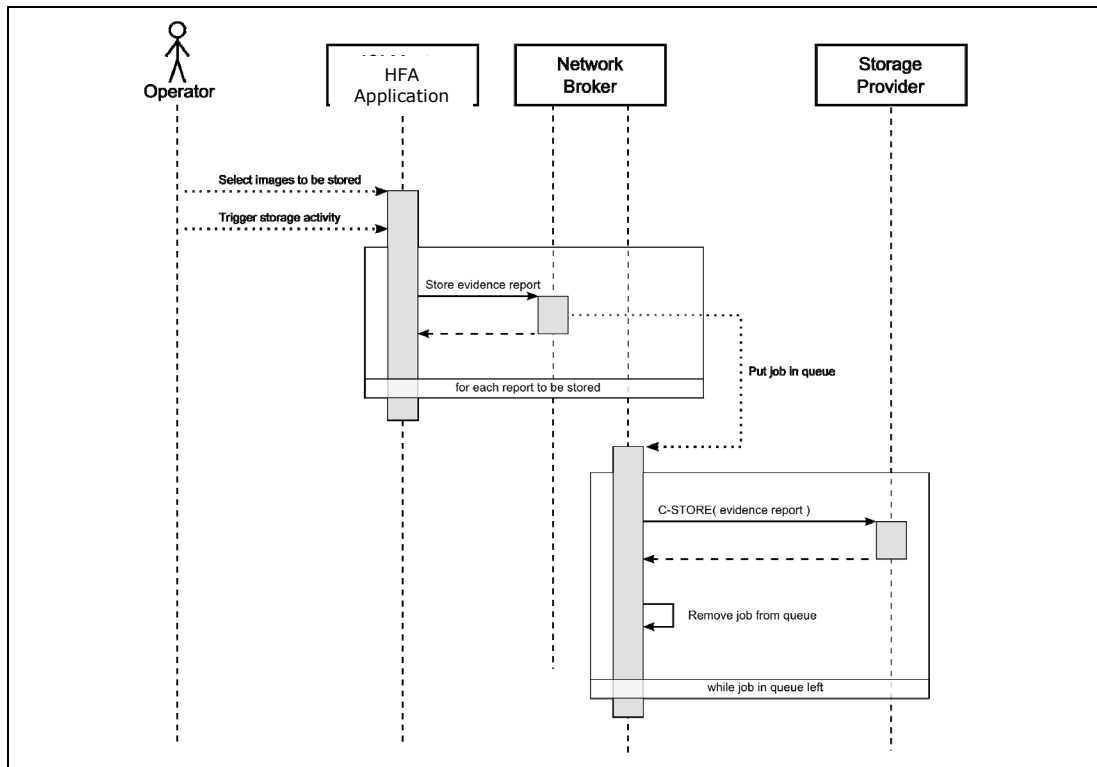
3.2.1.3.1.3 SOP Specific Conformance for Modality Worklist SOP Class

Service Status	Further Meaning	Error Code	Behavior
Success	Matching is complete	0000	The Network Broker finishes receiving worklist items. The user can select items in pick list.
Pending	Matches are continuing	FF00, FF01	Network Broker puts received worklist item into the pick list. If the number of received items oversteps 50 then the SCU sends an ABORT to the SCP and the operator gets a request to specify query keys more accurate.
*	*	Any other status code	The status label of the dialog shows an error message.

Tags	Tag Name	Query key, editable by operator	Imported in App from MWL	Displayed in App	Editable	Exported in ImageID
Patient						
(0008,1120)	Referenced Patient Sequence					
(0010,0010)	Patients Name		Y	Y	Y	Y
(0010,0020)	Patient ID		Y	Y	Y	Y
(0010,0021)	Issuer Of Patient ID		Y			Y
(0010,0030)	Patients Birth Date		Y	Y	Y	Y
(0010,0040)	Patients Sex		Y	Y		Y
(0010,0032)	Patients Birth Time					
(0010,1000)	Other Patient IDs		Y			Y
(0010,1001)	Other Patient Names					
(0010,2160)	Ethnic Group					
(0010,4000)	Patient Comments					
(0010,2000)	Medical Alerts					
(0010,2110)	Contrast Allergies					
(0010,21C0)	Pregnancy Status					
(0038,0050)	Special Needs					
(0038,0500)	Patient State					
Study						
(0008,0050)	Accession Number		Y	Y		Y
(0008,0090)	Referring Physicians Name					
(0020,000D)	Study Instance UID		Y			Y
(0032,1032)	Requesting Physician					
(0032,4000)	Study Comments		Y			Y
Requested Procedure						
(0008,1110)	Referenced Study Sequence					
(0032,1060)	Requested Procedure Description					
(0032,1064)	Requested Procedure Code Sequence					
(0040,1001)	Requested Procedure ID					
Scheduled Procedure Step (SPS)						
(0040,0100)	Scheduled Procedure Step Sequence					
>(0008,0060)	Modality					
>(0040,0001)	Scheduled Station Application Entity Title					
>(0040,0003)	Scheduled Procedure Step Start Time					
>(0040,0002)	Scheduled Procedure Step Start Date					
>(0040,0006)	Scheduled Performing Physicians Name					
>(0040,0007)	Scheduled Procedure Step Description					
>(0040,0008)	Scheduled Protocol Code Sequence					
>(0040,0009)	Scheduled Procedure Step ID					
>(0040,2016)	Placer Order Number Imaging Service Request					

3.2.1.3.2 Activity – Store evidence reports

3.2.1.3.2.1 Description and Sequencing of Activities



After finishing the examination, the whole Study can be submitted. The operator can initiate sending evidence reports from an Analysis screen to the storage entities.

The HFA V4.2.2 Application passes data to the Network Broker. The Network Broker creates immediately DICOM objects and puts a send-job for that DICOM object in a queue. The transmission of the DICOM objects is processed in the background (that means it is performed while operator can continue work with HFA V4.2.2 Application).

The storage progress is reflected in a dialog. The operator can even control the storage progress. It's up to the operator if the storage progress dialog is visible or not.

3.2.1.3.2.2 Proposed Presentation Contexts

Presentation Context Table						
Name	Abstract Syntax		Transfer Syntax		Role	Ext. Neg.
	UID	Name List	UID List			
Multi-frame Grayscale Byte Secondary Capture Image Storage	1.2.840.10008.5.1.4.1.1.7.2	ILE	1.2.840.10008.1.2		SCU	No
		JPG-1	1.2.840.10008.1.2.4.50		SCU	No
		RLE	1.2.840.10008.1.2.5		SCU	No
Encapsulated PDF Storage	1.2.840.10008.5.1.4.1.1.104.1	ILE	1.2.840.10008.1.2		SCU	No

3.2.1.3.2.3 SOP Specific Conformance for Image Storage SOP Class

Service Status	Further Meaning	Error Code	Behavior
Success	Success	0000	The belonging job gets a success state and will be removed from list.
*	*	Any other status code	The job gets an error state.

3.2.1.4 Association Acceptance Policy

The Network Broker does not accept Associations.

3.3 Network Interfaces

3.3.1 Physical Network Interface

The physical network interface is not visible for the applications. The application uses the communication stack as offered by the Operating System.

3.3.2 Additional Protocols

No additional protocols are supported.

3.4 Configuration

3.4.1 AE Title/Presentation Address Mapping

The mapping from AE Title to TCP/IP addresses and ports is configurable and set at the time of installation by Installation Personnel.

3.4.1.1 Local AE Titles

The IP is not configurable by the Network Broker Configuration Tool. The IP is administrated by the Operating System. The calling AET is configurable. The calling AET is the AET of the Network Broker.

3.4.1.2 Remote AE Titles

The mapping of external AE Titles to TCP/IP addresses and ports is configurable. The Network Broker allows setting up one AE as Modality Worklist Provider and one AE as Storage Provider. For both AEs, the host or IP, the Port and the Application Entity Title must be known.

3.4.2 Parameters

3.4.2.1 General Parameters

3.4.2.2 Modality Worklist SCU Parameters

The association initiation timeout is configurable. Default is 10 seconds.

3.4.2.3 Storage SCU Parameters

The association initiation timeout is configurable. Default is 10 seconds.

For HFA V4.2.2 the selectable compressions for the IODs are:

- Multi-frame True Color Secondary Capture
 - No Compression
 - RLE Compression
- Encapsulated PDF
 - No selection possible

4 Media Interchange

Media Interchange is not scope of this document since Media Interchange is not supported via Network Broker.

5 Support Of Character Sets

Network Broker supports the DICOM default character repertoire as well as the specific character set ISO_IR 100 ("Latin alphabet No. 1").

6 Security

The DICOM capabilities of the HFA V4.2.2 Application do not support any specific security measures.

It is assumed that HFA V4.2.2 Application is used within a secured environment. It is assumed that a secured environment includes at a minimum:

- Firewall or router protections to ensure that only approved external hosts have network access to the DICOM Gateway Application.
- Firewall or router protections to ensure that Network Broker Application only has network access to approved external hosts and services.
- Any communication with external hosts and services outside the locally secured environment use appropriate secure network channels (e.g. such as a Virtual Private Network (VPN))

Other network security procedures such as automated intrusion detection may be appropriate in some environments. Additional security features may be established by the local security policy and are beyond the scope of this conformance statement.

7 Annexes

7.1 IOD Contents

7.1.1 Created SOP Instance(s)

Abbreviations used for presence of values:

VNAP	Value Not Always Present (attribute sent zero length if no value is present)
ANAP	Attribute Not Always Present
ALWAYS	Always Present with a value
EMPTY	Attribute is sent without a value

Abbreviations used for sources of data:

USER	the attribute value source is from User input
AUTO	the attribute value is generated automatically
MWL, MPPS, etc.	the attribute value is the same as the value received using a DICOM service such as Modality Worklist, Modality Performed Procedure Step, etc.
CONFIG	the attribute value source is a configurable parameter

7.1.1.1 Encapsulated PDF IOD

The following table shows the content of the **Encapsulated PDF IOD**.

The rows of not supported modules or tags are grey.

IE	Module	Reference	Usage	Presence of Module
Patient	Patient	C.7.1.1	M	ALWAYS
Study	General Study	C.7.2.1	M	ALWAYS
	Patient Study	C.7.2.2	U	ALWAYS
Series	Encapsulated Document Series	C.24.1	M	ALWAYS
Equipment	General Equipment	C.7.5.1	M	ALWAYS
	SC Equipment	C.8.6.1	M	ALWAYS
Encapsulated Document	Encapsulated Document	C.24.2	M	ALWAYS
	SOP Common	C.12.1	M	ALWAYS

Tag	VR	Name	Value	Presence of Value	Source
Information Entity 'Patient'					
Module 'Patient'					
(0008,1120)	SQ	Referenced Patient Sequence	A sequence that provides reference to a Patient SOP Class/Instance pair. Only a single Item shall be permitted in this Sequence.	NEVER	
>(0008,1150)	UI	Referenced SOP Class UID	Uniquely identifies the referenced SOP Class. Required if Referenced Patient Sequence (0008,1120) is sent.	NEVER	
>(0008,1155)	UI	Referenced SOP Instance UID	Uniquely identifies the referenced SOP Instance. Required if Referenced Patient Sequence (0008,1120) is sent.	NEVER	
(0010,0010)	PN	Patient's Name	Patient's full name.	ALWAYS	MWL or USER
(0010,0020)	LO	Patient ID	Primary hospital identification number or code for the patient.	ALWAYS	MWL or USER
(0010,0021)	LO	Issuer of Patient ID	Identifier of the Assigning Authority that issued the Patient	VNAP	MWL

				ID.		
	(0010,0030)	DA	Patient's Birth Date	Birth date of the patient.	ALWAYS	MWL or USER
	(0010,0032)	TM	Patient's Birth Time	Birth time of the Patient.	EMPTY	
	(0010,0040)	CS	Patient's Sex	Sex of the named patient. Enumerated Values: M = male F = female O = other	VNAP	MWL
	(0010,1000)	LO	Other Patient IDs	Other identification numbers or codes used to identify the patient.	VNAP	MWL
	(0010,1001)	PN	Other Patient Names	Other names used to identify the patient.	EMPTY	
	(0010,2160)	SH	Ethnic Group	Ethnic group or race of the patient.	EMPTY	
	(0010,4000)	LT	Patient Comments	User-defined additional information about the patient.	EMPTY	
Information Entity 'Study'						
Module 'General Study'						
	(0008,0020)	DA	Study Date	Date the Study started.	ALWAYS	AUTO
	(0008,0030)	TM	Study Time	Time the Study started.	ALWAYS	AUTO
	(0008,0050)	SH	Accession Number	A RIS generated number that identifies the order for the Study.	VNAP	MWL
	(0008,0090)	PN	Referring Physician's Name	Name of the patient's referring physician	EMPTY	
	(0008,1030)	LO	Study Description	Institution-generated description or classification of the Study (component) performed.	EMPTY	
	(0008,1032)	SQ	Procedure Code Sequence	A Sequence that conveys the type of procedure performed. One or more Items may be included in this Sequence. Included macro 'Code Sequence Macro', context 'No Baseline Context ID is defined.'	NEVER	
	>(0008,0100)	SH	Code Value	See Section 8.1. Required if a sequence item is present.	NEVER	
	>(0008,0102)	SH	Coding Scheme Designator	See Section 8.2. Required if a sequence item is present.	NEVER	
	>(0008,0103)	SH	Coding Scheme Version	See Section 8.2. Required if a sequence item is present and the value of Coding Scheme Designator (0008,0102) is not sufficient to identify the Code Value (0008,0100) unambiguously.	NEVER	
	>(0008,0104)	LO	Code Meaning	See Section 8.3. Required if a sequence item is present.	NEVER	
	(0008,1048)	PN	Physician(s) of Record	Names of the physician(s) who are responsible for overall patient care at time of Study (see Section C.7.3.1 for Performing Physician)	NEVER	
	(0008,1060)	PN	Name of Physician(s) Reading Study	Names of the physician(s) reading the Study.	NEVER	
	(0008,1110)	SQ	Referenced Study Sequence	A sequence that provides reference to a Study SOP Class/Instance pair. The sequence may have zero or more Items.	NEVER	

	>(0008,1150)	UI	Referenced SOP Class UID	Uniquely identifies the referenced SOP Class. Required if Referenced Study Sequence (0008,1110) is sent.	NEVER	
	>(0008,1155)	UI	Referenced SOP Instance UID	Uniquely identifies the referenced SOP Instance. Required if Referenced Study Sequence (0008,1110) is sent.	NEVER	
	(0020,000D)	UI	Study Instance UID	Unique identifier for the Study. Constant UID Root if the value has been generated by the application: 1.2.276.0.75.2.2.30.2.1	ALWAYS	MWL, AUTO
	(0020,0010)	SH	Study ID	User or equipment generated Study identifier.	EMPTY	
Module 'Patient Study'						
	(0008,1080)	LO	Admitting Diagnoses Description	Description of the admitting diagnosis (diagnoses)	NEVER	
	(0010,1010)	AS	Patient's Age	Age of the Patient.	NEVER	
	(0010,1020)	DS	Patient's Size	Length or size of the Patient, in meters.	NEVER	
	(0010,1030)	DS	Patient's Weight	Weight of the Patient, in kilograms.	NEVER	
	(0010,2180)	SH	Occupation	Occupation of the Patient.	NEVER	
	(0010,21B0)	LT	Additional Patient's History	Additional information about the Patient's medical history.	NEVER	
Information Entity 'Series'						
	(0020,0060)	CS	Laterality	Laterality of (paired) body part examined.	ALWAYS	AUTO
Module 'Encapsulated Document Series'						
	(0008,0060)	CS	Modality	OPV	ALWAYS	AUTO
	(0008,103E)	LO	Series Description	User provided description of the Series	EMPTY	
	(0008,1111)	SQ	Referenced Performed Procedure Step Sequence	Uniquely identifies the Performed Procedure Step SOP Instance for which the Series is created. Only a single Item shall be permitted in this sequence. Note: The Performed Procedure Step referred to by this Attribute is the Step during which this Document is generated.	NEVER	
	>(0008,1150)	UI	Referenced SOP Class UID	Uniquely identifies the referenced SOP Class.	NEVER	
	>(0008,1155)	UI	Referenced SOP Instance UID	Uniquely identifies the referenced SOP Instance.	NEVER	
	(0020,000E)	UI	Series Instance UID	Unique identifier of the Series. UID Root: 1.2.276.0.75.2.2.30.2.2	ALWAYS	AUTO
	(0020,0011)	IS	Series Number	A number that identifies the Series.	ALWAYS	AUTO
	(0040,0244)	DA	Performed Procedure Step Start Date	Date on which the Performed Procedure Step started.	NEVER	
	(0040,0245)	TM	Performed Procedure Step Start Time	Time on which the Performed Procedure Step started.	NEVER	
	(0040,0253)	SH	Performed Procedure Step ID	User or equipment generated identifier of that part of a Procedure that has been carried	NEVER	

				out within this step.		
	(0040,0254)	LO	Performed Procedure Step Description	Institution-generated description or classification of the Procedure Step that was performed.	NEVER	
	(0040,0260)	SQ	Performed Protocol Code Sequence	Sequence describing the Protocol performed for this Procedure Step. One or more Items may be included in this Sequence. Included macro 'Code Sequence Macro', context 'No Baseline Context ID is defined.'	NEVER	
	>(0008,0100)	SH	Code Value	See Section 8.1. Required if a sequence item is present.	NEVER	
	>(0008,0102)	SH	Coding Scheme Designator	See Section 8.2. Required if a sequence item is present.	NEVER	
	>(0008,0103)	SH	Coding Scheme Version	See Section 8.2. Required if a sequence item is present and the value of Coding Scheme Designator (0008,0102) is not sufficient to identify the Code Value (0008,0100) unambiguously.	NEVER	
	>(0008,0104)	LO	Code Meaning	See Section 8.3. Required if a sequence item is present.	NEVER	
	(0040,0275)	SQ	Request Attributes Sequence	Sequence that contains attributes from the Imaging Service Request. The sequence may have one or more Items.	NEVER	
	>(0040,0007)	LO	Scheduled Procedure Step Description	Institution-generated description or classification of the Scheduled Procedure Step to be performed.	NEVER	
	>(0040,0008)	SQ	Scheduled Protocol Code Sequence	Sequence describing the Scheduled Protocol following a specific coding scheme. This sequence contains one or more Items. Included macro 'Code Sequence Macro', context 'No Baseline Context ID is defined.'	NEVER	
	>>(0008,0100)	SH	Code Value	See Section 8.1. Required if a sequence item is present.	NEVER	
	>>(0008,0102)	SH	Coding Scheme Designator	See Section 8.2. Required if a sequence item is present.	NEVER	
	>>(0008,0103)	SH	Coding Scheme Version	See Section 8.2. Required if a sequence item is present and the value of Coding Scheme Designator (0008,0102) is not sufficient to identify the Code Value (0008,0100) unambiguously.	NEVER	
	>>(0008,0104)	LO	Code Meaning	See Section 8.3. Required if a sequence item is present.	NEVER	
	>(0040,0009)	SH	Scheduled Procedure Step ID	Identifier that identifies the Scheduled Procedure Step. Required if Sequence Item is present.	NEVER	
	>(0040,1001)	SH	Requested Procedure ID	Identifier that identifies the Requested Procedure in the Imaging Service Request. Required if Sequence Item is present.	NEVER	
	(0040,0280)	ST	Comments on the Performed Procedure	User-defined comments on the Performed Procedure Step.	VNAP	USER

		Step			
Information Entity 'Equipment'					
Module 'General Equipment'					
	(0008,0070)	LO	Manufacturer	Manufacturer of the equipment that produced the composite instances. "Carl Zeiss Meditec, Inc."	ALWAYS AUTO
	(0008,0080)	LO	Institution Name	Institution where the equipment that produced the composite instances is located.	VNAP CONFIG
	(0008,0081)	ST	Institution Address	Mailing address of the institution where the equipment that produced the composite instances is located.	EMPTY
	(0008,1010)	SH	Station Name	User defined name identifying the machine that produced the composite instances.	ALWAYS CONFIG
	(0008,1040)	LO	Institutional Department Name	Department in the institution where the equipment that produced the composite instances is located.	EMPTY
	(0008,1090)	LO	Manufacturer's Model Name	Manufacturer's model name of the equipment that produced the composite instances. "HFA"	ALWAYS AUTO
	(0018,1000)	LO	Device Serial Number	Manufacturer's serial number of the equipment that produced the composite instances. Note: This identifier corresponds to the device that actually created the images, such as a CR plate reader or a CT console, and may not be sufficient to identify all of the equipment in the imaging chain, such as the generator or gantry or plate.	ALWAYS AUTO
	(0018,1020)	LO	Software Versions	Manufacturer's designation of software version of the equipment that produced the composite instances.	ALWAYS AUTO
	(0018,1050)	DS	Spatial Resolution	The inherent limiting resolution in mm of the acquisition equipment for high contrast objects for the data gathering and reconstruction technique chosen. If variable across the images of the series, the value at the image center.	NEVER
	(0018,1200)	DA	Date of Last Calibration	Date when the image acquisition device calibration was last changed in any way. Multiple entries may be used for additional calibrations at other times. See C.7.5.1.1.1 for further explanation.	EMPTY
	(0018,1201)	TM	Time of Last Calibration	Time when the image acquisition device calibration was last changed in any way. Multiple entries may be used. See C.7.5.1.1.1 for further explanation.	EMPTY
	(0028,0120)	US/SS	Pixel Padding Value	Value of pixels not present in the native image added to an image to pad to rectangular format. See C.7.5.1.1.2 for further	NEVER

				explanation. Note: The Value Representation of this Attribute is determined by the value of Pixel Representation (0028,0103).		
Module 'SC Equipment'						
	(0008,0064)	CS	Conversion Type	"SYN" - Synthetic Image	ALWAYS	AUTO
Information Entity 'Encapsulated Document'						
Module 'Encapsulated Document'						
	(0008,0023)	DA	Content Date	The date the document content creation was started.	ALWAYS	AUTO
	(0008,002A)	DT	Acquisition Datetime	The date and time that the original generation of the data in the document started.	ALWAYS	AUTO
	(0008,0033)	TM	Content Time	The time the document content creation was started.	ALWAYS	AUTO
	(0020,0013)	IS	Instance Number	A number that identifies this SOP Instance. The value shall be unique within a series.	ALWAYS	AUTO
	(0028,0301)	CS	Burned In Annotation	"NO"	ALWAYS	AUTO
	(0040,A043)	SQ	Concept Name Code Sequence	Has never an item.	EMPTY	
	(0042,0010)	ST	Document Title	The value of the "Title" entry in the "Document Information Directory" as encoded in the PDF data.	ALWAYS	AUTO
	(0042,0011)	OB	Encapsulated Document	Encapsulated Document stream, containing a document encoded according to the MIME Type.	ALWAYS	AUTO
	(0042,0012)	LO	MIME Type of Encapsulated Document	"application/pdf"	ALWAYS	AUTO
Module 'SOP Common'						
	(0008,0012)	DA	Instance Creation Date	Date the SOP Instance was created.	ALWAYS	AUTO
	(0008,0013)	TM	Instance Creation Time	Time the SOP Instance was created.	ALWAYS	AUTO
	(0008,0014)	UI	Instance Creator UID	Uniquely identifies device which created the SOP Instance.	NEVER	
	(0008,0016)	UI	SOP Class UID	"1.2.840.10008.5.1.4.1.1.104.1"	ALWAYS	AUTO
	(0008,0018)	UI	SOP Instance UID	Uniquely identifies the SOP Instance. See C.12.1.1.1 for further explanation. See also PS 3.4. Constant Prefix: 1.2.276.0.75.2.2.30.2.3.	ALWAYS	AUTO

7.1.1.2 Multi-frame Grayscale Byte SC IOD

The rows of not supported modules or tags are grey.

IE	Module	Reference	Usage	Presence of Module
Patient	Patient	C.7.1.1	M	ALWAYS
Study	General Study	C.7.2.1	M	ALWAYS
	Patient Study	C.7.2.2	U	ALWAYS
Series	General Series	C.7.3.1	M	ALWAYS
	CZM HFA Series			ALWAYS
Equipment	General Equipment	C.7.5.1	U	ALWAYS
	SC Equipment	C.8.6.1	M	ALWAYS
Image	General Image	C.7.6.1	M	ALWAYS
	Image Pixel	C.7.6.3	M	ALWAYS
	Multi-frame	C.7.6.6	M	ALWAYS
	SC Multi-frame Image	C.8.6.3	M	ALWAYS
	SC Multi-frame Vector	C.8.6.4	C - Required if Number of Frames is greater than 1	
	SOP Common	C.12.1	M	ALWAYS
	CZM HFA Analysis		Presence of Module: ALWAYS	ALWAYS

Tag	VR	Name	Value	Presence of Value	Source
Information Entity 'Patient'					
Module 'Patient'					
(0008,1120)	SQ	Referenced Patient Sequence	A sequence that provides reference to a Patient SOP Class/Instance pair. Only a single Item shall be permitted in this Sequence.	NEVER	
>(0008,1150)	UI	Referenced SOP Class UID	Uniquely identifies the referenced SOP Class. Required if Referenced Patient Sequence (0008,1120) is sent.	NEVER	
>(0008,1155)	UI	Referenced SOP Instance UID	Uniquely identifies the referenced SOP Instance. Required if Referenced Patient Sequence (0008,1120) is sent.	NEVER	
(0010,0010)	PN	Patient's Name	Patient's full name.	ALWAYS	MWL or USER
(0010,0020)	LO	Patient ID	Primary hospital identification number or code for the patient.	ALWAYS	MWL or USER
(0010,0021)	LO	Issuer of Patient ID	Identifier of the Assigning Authority that issued the Patient ID.	VNAP	MWL
(0010,0030)	DA	Patient's Birth Date	Birth date of the patient.	ALWAYS	MWL or USER
(0010,0032)	TM	Patient's Birth Time	Birth time of the Patient.	EMPTY	
(0010,0040)	CS	Patient's Sex	Sex of the named patient. Enumerated Values: M = male F = female O = other	VNAP	MWL
(0010,1000)	LO	Other Patient IDs	Other identification numbers or codes used to identify the patient.	VNAP	MWL
(0010,1001)	PN	Other Patient Names	Other names used to identify the patient.	EMPTY	

	(0010,2160)	SH	Ethnic Group	Ethnic group or race of the patient.	EMPTY	
	(0010,4000)	LT	Patient Comments	User-defined additional information about the patient.	EMPTY	
Information Entity 'Study'						
Module 'General Study'						
	(0008,0020)	DA	Study Date	Date the Study started.	ALWAYS	AUTO
	(0008,0030)	TM	Study Time	Time the Study started.	ALWAYS	AUTO
	(0008,0050)	SH	Accession Number	A RIS generated number that identifies the order for the Study.	VNAP	MWL
	(0008,0090)	PN	Referring Physician's Name	Name of the patient's referring physician	EMPTY	
	(0008,1030)	LO	Study Description	Institution-generated description or classification of the Study (component) performed.	EMPTY	
	(0008,1032)	SQ	Procedure Code Sequence	A Sequence that conveys the type of procedure performed. One or more Items may be included in this Sequence. Included macro 'Code Sequence Macro', context 'No Baseline Context ID is defined.'	NEVER	
	>(0008,0100)	SH	Code Value	See Section 8.1. Required if a sequence item is present.	NEVER	
	>(0008,0102)	SH	Coding Scheme Designator	See Section 8.2. Required if a sequence item is present.	NEVER	
	>(0008,0103)	SH	Coding Scheme Version	See Section 8.2. Required if a sequence item is present and the value of Coding Scheme Designator (0008,0102) is not sufficient to identify the Code Value (0008,0100) unambiguously.	NEVER	
	>(0008,0104)	LO	Code Meaning	See Section 8.3. Required if a sequence item is present.	NEVER	
	(0008,1048)	PN	Physician(s) of Record	Names of the physician(s) who are responsible for overall patient care at time of Study (see Section C.7.3.1 for Performing Physician)	NEVER	
	(0008,1060)	PN	Name of Physician(s) Reading Study	Names of the physician(s) reading the Study.	NEVER	
	(0008,1110)	SQ	Referenced Study Sequence	A sequence that provides reference to a Study SOP Class/Instance pair. The sequence may have zero or more Items.	NEVER	
	>(0008,1150)	UI	Referenced SOP Class UID	Uniquely identifies the referenced SOP Class. Required if Referenced Study Sequence (0008,1110) is sent.	NEVER	
	>(0008,1155)	UI	Referenced SOP Instance UID	Uniquely identifies the referenced SOP Instance. Required if Referenced Study Sequence (0008,1110) is sent.	NEVER	
	(0020,000D)	UI	Study Instance UID	Unique identifier for the Study. Constant UID Root if the value has been generated by the application: 1.2.276.0.75.2.2.30.2.1	ALWAYS	MWL, AUTO

	(0020,0010)	SH	Study ID	User or equipment generated Study identifier.	EMPTY	
Information Entity 'Series'						
Module 'General Series'						
	(0008,0021)	DA	Series Date	Date the Series started.	ALWAYS	AUTO
	(0008,0031)	TM	Series Time	Time the Series started.	ALWAYS	AUTO
	(0008,103E)	LO	Series Description	User provided description of the Series	EMPTY	
	(0008,1050)	PN	Performing Physicians' Name	Name of the physician(s) administering the Series.	EMPTY	
	(0008,1111)	SQ	Referenced Performed Procedure Step Sequence	Uniquely identifies the Performed Procedure Step SOP Instance to which the Series is related (e.g. a Modality or General-Purpose Performed Procedure Step SOP Instance). The Sequence shall have zero or one Item.	NEVER	
	>(0008,1150)	UI	Referenced SOP Class UID	Uniquely identifies the referenced SOP Class. Required if Referenced Performed Procedure Step Sequence (0008,1111) is sent.	NEVER	
	>(0008,1155)	UI	Referenced SOP Instance UID	Uniquely identifies the referenced SOP Instance. Required if Referenced Performed Procedure Step Sequence (0008,1111) is sent.	NEVER	
	(0018,0015)	CS	Body Part Examined	"HEAD"	NEVER	
	(0018,1030)	LO	Protocol Name	User-defined description of the conditions under which the Series was performed. Note: This attribute conveys series-specific protocol identification and may or may not be identical to the one presented in the Performed Protocol Code Sequence (0040,0260).	NEVER	
	(0018,5100)	CS	Patient Position	Patient position descriptor relative to the equipment. Required for CT and MR images; shall not be present if Patient Orientation Code Sequence (0054,0410) is present; may be present otherwise. See C.7.3.1.1.2 for Defined Terms and further explanation.	EMPTY	
	(0020,000E)	UI	Series Instance UID	UID starts with root UID 1.2.276.0.75.2.2.30.2.2	ALWAYS	AUTO
	(0020,0011)	IS	Series Number	A number that identifies this Series.	ALWAYS	AUTO
	(0020,0060)	CS	Laterality	Laterality of (paired) body part examined. Required if the body part examined is a paired structure and Image Laterality (0020,0062) or Frame Laterality (0020,9072) are not sent. Enumerated Values: R = right L = left Note: Some IODs support Image Laterality (0020,0062) at the Image level or Frame Laterality(0020,9072) at the Frame level in the Frame Anatomy functional group macro,	ALWAYS	AUTO

				which can provide a more comprehensive mechanism for specifying the laterality of the body part(s) being examined.		
	(0028,0108)	US/SS	Smallest Pixel Value in Series	The minimum value of all images in this Series.	NEVER	
	(0028,0109)	US/SS	Largest Pixel Value in Series	The maximum value of all images in this Series.	NEVER	
	(0040,0244)	DA	Performed Procedure Step Start Date	Date on which the Performed Procedure Step started.	NEVER	
	(0040,0245)	TM	Performed Procedure Step Start Time	Time on which the Performed Procedure Step started.	NEVER	
	(0040,0253)	SH	Performed Procedure Step ID	User or equipment generated identifier of that part of a Procedure that has been carried out within this step.	NEVER	
	(0040,0254)	LO	Performed Procedure Step Description	Institution-generated description or classification of the Procedure Step that was performed.	NEVER	
	(0040,0260)	SQ	Performed Protocol Code Sequence	Sequence describing the Protocol performed for this Procedure Step. One or more Items may be included in this Sequence. Included macro 'Code Sequence Macro', context 'No Baseline Context ID is defined.'	NEVER	
	>(0008,0100)	SH	Code Value	See Section 8.1. Required if a sequence item is present.	NEVER	
	>(0008,0102)	SH	Coding Scheme Designator	See Section 8.2. Required if a sequence item is present.	NEVER	
	>(0008,0103)	SH	Coding Scheme Version	See Section 8.2. Required if a sequence item is present and the value of Coding Scheme Designator (0008,0102) is not sufficient to identify the Code Value (0008,0100) unambiguously.	NEVER	
	>(0008,0104)	LO	Code Meaning	See Section 8.3. Required if a sequence item is present.	NEVER	
	(0040,0275)	SQ	Request Attributes Sequence	Sequence that contains attributes from the Imaging Service Request. The sequence may have one or more Items. Included macro 'Request Attributes Macro', context 'No Baseline Context IDs defined'	NEVER	
	>(0032,1060)	LO	Requested Procedure Description	Institution-generated administrative description or classification of Requested Procedure.	NEVER	
	>(0040,0007)	LO	Scheduled Procedure Step Description	Institution-generated description or classification of the Scheduled Procedure Step to be performed.	NEVER	
	>(0040,0008)	SQ	Scheduled Protocol Code Sequence	Sequence describing the Scheduled Protocol following a specific coding scheme. This sequence contains one or more Items. Included macro 'Code Sequence Macro', context 'Context ID may be defined in the macro invocation.'	NEVER	

	>>(0008,0100)	SH	Code Value	See Section 8.1. Required if a sequence item is present.	NEVER	
	>>(0008,0102)	SH	Coding Scheme Designator	See Section 8.2. Required if a sequence item is present.	NEVER	
	>>(0008,0103)	SH	Coding Scheme Version	See Section 8.2. Required if a sequence item is present and the value of Coding Scheme Designator (0008,0102) is not sufficient to identify the Code Value (0008,0100) unambiguously.	NEVER	
	>>(0008,0104)	LO	Code Meaning	See Section 8.3. Required if a sequence item is present.	NEVER	
	>(0040,0009)	SH	Scheduled Procedure Step ID	Identifier that identifies the Scheduled Procedure Step.	NEVER	
	>(0040,1001)	SH	Requested Procedure ID	Identifier that identifies the Requested Procedure in the Imaging Service Request.	NEVER	
	(0040,0280)	ST	Comments on the Performed Procedure Step	User-defined comments on the Performed Procedure Step.	VNAP	USER
Information Entity 'Equipment'						
Module 'General Equipment'						
	(0008,0070)	LO	Manufacturer	"Carl Zeiss Meditec Inc."	ALWAYS	AUTO
	(0008,0080)	LO	Institution Name	Institution where the equipment that produced the composite instances is located.	VNAP	CONFIG
	(0008,0081)	ST	Institution Address	Mailing address of the institution where the equipment that produced the composite instances is located.	NEVER	
	(0008,1010)	SH	Station Name	User defined name identifying the machine that produced the composite instances.	ALWAYS	CONFIG
	(0008,1040)	LO	Institutional Department Name	Department in the institution where the equipment that produced the composite instances is located.	NEVER	
	(0008,1090)	LO	Manufacturer's Model Name	"HFA"	ALWAYS	AUTO
	(0018,1000)	LO	Device Serial Number	Manufacturer's serial number of the equipment that produced the composite instances. Note: This identifier corresponds to the device that actually created the images, such as a CR plate reader or a CT console, and may not be sufficient to identify all of the equipment in the imaging chain, such as the generator or gantry or plate.	ALWAYS	AUTO
	(0018,1020)	LO	Software Versions	2 items, 1. "4.2.2" 2. "1.3.5"	ALWAYS	AUTO
	(0018,1050)	DS	Spatial Resolution	The inherent limiting resolution in mm of the acquisition equipment for high contrast objects for the data gathering and reconstruction technique chosen. If variable across the images of the series, the value at the image center.	NEVER	

	(0018,1200)	DA	Date of Last Calibration	Date when the image acquisition device calibration was last changed in any way. Multiple entries may be used for additional calibrations at other times. See C.7.5.1.1.1 for further explanation.	NEVER	
	(0018,1201)	TM	Time of Last Calibration	Time when the image acquisition device calibration was last changed in any way. Multiple entries may be used. See C.7.5.1.1.1 for further explanation.	NEVER	
	(0028,0120)	US/SS	Pixel Padding Value	Value of pixels not present in the native image added to an image to pad to rectangular format. See C.7.5.1.1.2 for further explanation. Note: The Value Representation of this Attribute is determined by the value of Pixel Representation (0028,0103).	NEVER	
Module 'SC Equipment'						
	(0008,0060)	CS	Modality	"OT" - Other	ALWAYS	AUTO
	(0008,0064)	CS	Conversion Type	"SYN" - Synthetic Image	ALWAYS	AUTO
Information Entity 'Image'						
Module 'General Image'						
	(0008,0022)	DA	Acquisition Date	The date the acquisition of data that resulted in this image started	EMPTY	
	(0008,002A)	DT	Acquisition Datetime	The date and time that the acquisition of data that resulted in this image started. Note: The synchronization of this time with an external clock is specified in the Synchronization Module in Acquisition Time Synchronized (0018,1800).	ALWAYS	AUTO
	(0008,0032)	TM	Acquisition Time	The time the acquisition of data that resulted in this image started	EMPTY	
	(0008,1140)	SQ	Referenced Image Sequence	A sequence that references other images significantly related to this image (e.g. post-localizer CT image or Mammographic biopsy or partial view images). One or more Items may be included in this sequence. Included macro 'Image SOP Instance Reference Macro', context "	NEVER	
	>(0008,1150)	UI	Referenced SOP Class UID	Uniquely identifies the referenced SOP Class.	NEVER	
	>(0008,1155)	UI	Referenced SOP Instance UID	Uniquely identifies the referenced SOP Instance.	NEVER	
	>(0008,1160)	IS	Referenced Frame Number	Identifies the frame numbers within the Referenced SOP Instance to which the reference applies. The first frame shall be denoted as frame number 1. Note: This Attribute may be multi-valued. Required if the Referenced SOP Instance is a multi-frame image and the	NEVER	

				reference does not apply to all frames, and Referenced Segment Number (0062,000B) is not present.		
	>(0040,A170)	SQ	Purpose of Reference Code Sequence	Describes the purpose for which the reference is made. Only a single Item shall be permitted in this sequence. Included macro 'Code Sequence Macro', context 'Defined Context ID is 7201.'	NEVER	
	>>(0008,0100)	SH	Code Value	See Section 8.1. Required if a sequence item is present.	NEVER	
	>>(0008,0102)	SH	Coding Scheme Designator	See Section 8.2. Required if a sequence item is present.	NEVER	
	>>(0008,0103)	SH	Coding Scheme Version	See Section 8.2. Required if a sequence item is present and the value of Coding Scheme Designator (0008,0102) is not sufficient to identify the Code Value (0008,0100) unambiguously.	NEVER	
	>>(0008,0104)	LO	Code Meaning	See Section 8.3. Required if a sequence item is present.	NEVER	
	(0008,2111)	ST	Derivation Description	A text description of how this image was derived. See C.7.6.1.1.3 for further explanation.	ALWAYS	AUTO
	(0008,2112)	SQ	Source Image Sequence	A Sequence that identifies the set of Image SOP Class/Instance pairs of the Images that were used to derive this Image. Zero or more Items may be included in this Sequence. See C.7.6.1.1.4 for further explanation. Included macro 'Image SOP Instance Reference Macro', context "	NEVER	
	>(0008,1150)	UI	Referenced SOP Class UID	Uniquely identifies the referenced SOP Class.	NEVER	
	>(0008,1155)	UI	Referenced SOP Instance UID	Uniquely identifies the referenced SOP Instance.	NEVER	
	>(0008,1160)	IS	Referenced Frame Number	Identifies the frame numbers within the Referenced SOP Instance to which the reference applies. The first frame shall be denoted as frame number 1. Note: This Attribute may be multi-valued. Required if the Referenced SOP Instance is a multi-frame image and the reference does not apply to all frames, and Referenced Segment Number (0062,000B) is not present.	NEVER	
	>(0040,A170)	SQ	Purpose of Reference Code Sequence	Describes the purpose for which the reference is made, that is what role the source image or frame(s) played in the derivation of this image. Only a single Item shall be permitted in this sequence. Included macro 'Code Sequence Macro', context 'Defined Context ID is 7202.'	NEVER	

	>>(0008,0100)	SH	Code Value	See Section 8.1. Required if a sequence item is present.	NEVER	
	>>(0008,0102)	SH	Coding Scheme Designator	See Section 8.2. Required if a sequence item is present.	NEVER	
	>>(0008,0103)	SH	Coding Scheme Version	See Section 8.2. Required if a sequence item is present and the value of Coding Scheme Designator (0008,0102) is not sufficient to identify the Code Value (0008,0100) unambiguously.	NEVER	
	>>(0008,0104)	LO	Code Meaning	See Section 8.3. Required if a sequence item is present.	NEVER	
	(0008,9215)	SQ	Derivation Code Sequence	A coded description of how this image was derived. See C.7.6.1.1.3 for further explanation. One or more Items may be included in this Sequence. More than one Item indicates that successive derivation steps have been applied. Included macro 'Code Sequence Macro', context 'Defined Context ID is 7203.'	NEVER	
	>(0008,0100)	SH	Code Value	See Section 8.1. Required if a sequence item is present.	NEVER	
	>(0008,0102)	SH	Coding Scheme Designator	See Section 8.2. Required if a sequence item is present.	NEVER	
	>(0008,0103)	SH	Coding Scheme Version	See Section 8.2. Required if a sequence item is present and the value of Coding Scheme Designator (0008,0102) is not sufficient to identify the Code Value (0008,0100) unambiguously.	NEVER	
	>(0008,0104)	LO	Code Meaning	See Section 8.3. Required if a sequence item is present.	NEVER	
	(0020,0012)	IS	Acquisition Number	A number identifying the single continuous gathering of data over a period of time that resulted in this image.	EMPTY	
	(0020,0020)	CS	Patient Orientation	Patient direction of the rows and columns of the image. Required if image does not require Image Orientation (Patient) (0020,0037) and Image Position (Patient) (0020,0032). See C.7.6.1.1.1 for further explanation. Note: IOD's may have attributes other than Patient Orientation, Image Orientation, or Image Position (Patient) to describe orientation in which case this attribute will be zero length.	EMPTY	
	(0020,1002)	IS	Images in Acquisition	Number of images that resulted from this acquisition of data	NEVER	
	(0020,4000)	LT	Image Comments	User-defined comments about the image	EMPTY	
	(0028,0300)	CS	Quality Control Image	Indicates whether or not this image is a quality control or phantom image. Enumerated Values: YES, NO If this Attribute	NEVER	

				is absent, then the image may or may not be a quality control or phantom image. The phantom device in the image can be described using the Device Module. See C.7.6.12		
	(0028,2110)	CS	Lossy Image Compression	"00" - Image has NOT been subjected to lossy compression.	ALWAYS	AUTO
Module 'Image Pixel '						
	(0028,0002)	US	Samples per Pixel	"1"	ALWAYS	AUTO
	(0028,0004)	CS	Photometric Interpretation	"MONOCHROME2"	ALWAYS	AUTO
	(0028,0010)	US	Rows	Number of rows in the image.	ALWAYS	AUTO
	(0028,0011)	US	Columns	Number of columns in the image	ALWAYS	AUTO
	(0028,0100)	US	Bits Allocated	"8"	ALWAYS	AUTO
	(0028,0101)	US	Bits Stored	"8"	ALWAYS	AUTO
	(0028,0102)	US	High Bit	"7"	ALWAYS	AUTO
	(0028,0103)	US	Pixel Representation	"0"	ALWAYS	AUTO
	(7FE0,0010)	OW /OB	Pixel Data	A data stream of the pixel samples that comprise the Image.	ALWAYS	AUTO
Module 'Multi-frame '						
	(0028,0008)	IS	Number of Frames		ALWAYS	AUTO
Module 'SC Multi-frame Image '						
	(0028,0009)	AT	Frame Increment Pointer	"(0018,2001)" - Page Number Vector Present if number of pages is greater than 1.	ANAP	AUTO
	(0028,0301)	CS	Burned In Annotation	"NO"	ALWAYS	AUTO
	(0028,1052)	DS	Rescale Intercept	"0" - This specifies an identity Modality LUT transformation.	ALWAYS	AUTO
	(0028,1053)	DS	Rescale Slope	"1" - This specifies an identity Modality LUT transformation.	ALWAYS	AUTO
	(0028,1054)	LO	Rescale Type	"US" = Unspecified - This specifies an identity Modality LUT transformation.	ALWAYS	AUTO
	(2050,0020)	CS	Presentation LUT Shape	"IDENTITY"	ALWAYS	AUTO
Module 'SC Multi-frame Vector '						
	(0018,2001)	IS	Page Number Vector	Contains page numbers in increasing order. Present if number of pages is greater than 1.	ALWAYS	AUTO
Module 'SOP Common'						
	(0008,0012)	DA	Instance Creation Date	Date the SOP Instance was created.	ALWAYS	AUTO
	(0008,0013)	TM	Instance Creation Time	Time the SOP Instance was created.	ALWAYS	AUTO
	(0008,0014)	UI	Instance Creator UID	Uniquely identifies device which created the SOP Instance.	NEVER	
	(0008,0016)	UI	SOP Class UID	1.2.840.10008.5.1.4.1.1.7.2	ALWAYS	AUTO
	(0008,0018)	UI	SOP Instance UID	UID starts with root UID "1.2.276.0.75.2.2.30.2.3."	ALWAYS	AUTO
	(0020,0013)	IS	Instance Number	A number that identifies this	ALWAYS	AUTO

				Composite object instance.		
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Private Data:

	Tag	VR	Attribute Name	Value	Presence of value	Source
Module 'CZM HFA Series'						
	(22A1,xx01)	LO	Document Type	Type of Report	ALWAYS	AUTO
	(7717,00xx)	LO	Private Creator	"99CZM"	ALWAYS	AUTO
	(7717,xx01)	LO	Test Name		ALWAYS	AUTO
	(7717,xx02)	LO	Test Strategy		ALWAYS	AUTO
	(7717,xx03)	CS	Stimulus Size		VNAP	AUTO
	(7717,xx04)	SH	Stimulus Color		ALWAYS	AUTO
	(7717,xx05)	SH	Background State		ALWAYS	AUTO
	(7717,xx06)	CS	Foveal Result		ALWAYS	AUTO
	(7717,xx07)	LO	Screening Mode		ANAP	AUTO
	(7717,xx08)	IS	Fixation Trials		ALWAYS	AUTO
	(7717,xx09)	IS	Fixation Errors		ALWAYS	AUTO
	(7717,xx10)	DS	False Positive Percent		ANAP	AUTO
	(7717,xx11)	IS	False Positive Trials		ANAP, VNAP	AUTO
	(7717,xx12)	IS	False Positive Errors		ANAP, VNAP	AUTO
	(7717,xx13)	DS	False Negative Percent		ANAP	AUTO
	(7717,xx14)	IS	False Negative Trials		ANAP, VNAP	AUTO
	(7717,xx15)	IS	False Negative Errors		ANAP, VNAP	AUTO
	(7717,xx24)	LO	Fixation Monitor		ALWAYS	AUTO
	(7717,xx25)	LO	Fixation Target		ALWAYS	AUTO
	(7717,xx26)	DS	Pupil Diameter		VNAP	AUTO, USER
	(7717,xx27)	DS	Sphere		VNAP	AUTO, USER
	(7717,xx28)	DS	Cylinder		VNAP	AUTO, USER
	(7717,xx29)	IS	Axis		VNAP	AUTO, USER
	(7717,xx30)	SH	Visual Acuity		VNAP	USER
	(7717,xx32)	DA	Test Date		ALWAYS	AUTO
	(7717,xx33)	TM	Test Time		ALWAYS	AUTO
Module 'CZM HFA Analysis'						
	(7717,xx16)	DS	Mean Deviation		ALWAYS	AUTO
	(7717,xx17)	SH	Mean Deviation Probability		ALWAYS	AUTO
	(7717,xx18)	DS	Pattern Standard Deviation		ALWAYS	AUTO
	(7717,xx19)	SH	Pattern Standard Deviation Probability		ALWAYS	AUTO
	(7717,xx20)	DS	Short-term Fluctuation		VNAP	AUTO
	(7717,xx21)	DS	Corrected Pattern Standard Deviation		VNAP	AUTO
	(7717,xx22)	SH	Corrected Pattern Standard Deviation Probability		VNAP	AUTO
	(7717,xx23)	LO	Glaucoma Hemifield Test		VNAP	AUTO
	(7717,xx31)	SH	Short-term Fluctuation Probability		VNAP	AUTO
	(7717,xx34)	DS	Visual Field Index		ANAP	AUTO

7.2 Coded Terminology And Templates

Not applicable

7.3 Grayscale Image Consistency

Not applicable.

7.4 Standard Extended / Specialized/ Private SOP Classes

Specialized or Private SOP Classes are supported.

7.5 Private Transfer Syntaxes

No Private Transfer Syntaxes are supported.